F-788

IONOSPHERIC DATA IN JAPAN

FOR AUGUST 2014

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≪Real Time Ionograms on the Web ・・・・・・・・・・・・http://wdc.nict.go.jp/index_eng.html≫

NATIONAL INSTITUTE OF INFORMATION
AND COMMUNICATIONS TECHNOLOGY
TOKYO, JAPAN

INTRODUCTION

This Series contains data on ionosphere (I) and solar radio emission (S) obtained at the following stations under the National Institute of Information and Communications Technology , Japan.

Stations	Geographic(WGS84)		Geomagnetic (IGRF-10(2005))		Technical Method
	Latitude	Longitude	Latitude	Longitude	
✳Wakkanai/Sarobetsu	45˚10'N	141˚45'E	36.4˚N	208.9˚	Vertical Sounding (I)
Kokubunji	35˚43'N	139˚29'E	26.8˚N	208.2˚	Vertical Sounding (I)
Yamagawa	31˚12'N	130˚37'E	21.7˚N	200.5˚	Vertical Sounding (I)
Okinawa	26˚41'N	128˚09'E	17.0˚N	198.6˚	Vertical Sounding (I)
Hiraiso	36˚22'N	140˚37'E	27.6˚N	209.1˚	Solar Radio Emission (S)

✳We moved the observation facilities at Wakkanai to Sarobetsu on February 2009. The new observatory is located at approximately 26km south from the old observatory. The observation at Sarobetsu commenced on March 6, 2009.

IONOSPHERE

Ionospheric observations are carried out at the above four stations in Japan by means of vertical sounding using ionosondes. The ionosonde produces ionograms, which are recorded digitally on a computer storage medium. The digitally-recorded ionograms are collected from each station by the central computer and reduced to numerical values and Summary Plots by the automatic processing system. The ionograms obtained at Kokubunji are manually scaled by experienced specialists to supplement automatically-scaled parameters.

A1. Automatic Scaling

Digital ionograms are automatically scaled by the pattern recognition method. The following five characteristics of the ionospheric are listed below. The reliability of these factors has been ascertained by comparison of the automatically-scaled parameters with the manually-scaled values of large amounts of test ionograms.

The published data consist of tabulations of hourly values of three factors (*foF2, fEs*, *fmin*) and monthly medians of two factors (*h'Es* ,*h'F*), daily Summary Plots and monthly medians plot of *foF2*.

a. Characteristics of Ionosphere

foF2	Ordinary wave critical frequency for the ***F2*** layer
fEs	Highest frequency of the ***Es*** layer whether it may be ordinary or extraordinary
fmin	Lowest frequency which shows vertical iono-spheric reflections
h'Es ***h'F***	Minimum virtual height on the ordinary wave for the ***Es*** and ***F*** layers, respectively

b. Descriptive Letters

The following descriptive letters are used in the tables.

A Impossible measurement because of the presence of a lower thin layer, for example *Es* (for *foF2*).

C Impossible measurement because of any failure in observation.

G Impossible automatic scaling because of very small ionization density of the layer (for *fEs*).

N Impossible automatic scaling because of complex echoes.

Blank No digital record because of problems occurring in the auto matic data processing system, but existence of film record.

c. Definitions of CNT, MED, UQ ,and LQ

Median count (**CNT**) is the number of numerical values from which the median has been computed. In addition to numerical values, the count may include a descriptive letter G.

Median (**MED**) is defined as the middle value when the numerical values are arranged in order of magnitude, or the average of the two middle values if there is an even number of values.

Upper quartile (**UQ**) is the median value of the upper half of the values when they are ranked according to magnitude; the ***lower quartile*** (**LQ**) is the median value of the lower half.

If CNT is less than 10, there are blank spaces left.

d. Reliability of Automatic Scaling

The results of the comparison between automatically-scaled values and manually-scaled ones showed that hourly values of *foF2 , fEs* and *fmin* were scaled within a difference of 1 MHz from about 90, 90 and 99%, respectively of the test ionograms.

e. Summary Plot

Daily Summary Plots which are made from quarter-hourly digital ionograms are published to present general ionosphere conditions. The upper and middle parts of a Summary Plot show the diurnal variation of the frequency range of the echoes reflected from the *F* and *E* regions, respectively. The two solid arcing lines indicate the predicted values of *fxE* and *foE* calculated by the method described in the CCIR report 340. The lower part shows the diurnal variation of the virtual height where the echo traces become horizontal.

A2. Manual Scaling

The published data consist of tabulations of hourly values of the ionospheric characteristics and figures of daily *f*-plot.

All symbols and terminology in the tables or figures of ionospheric data are used in accordance with the "URSI Hand-book of Ionogram Interpretation and Reduction (Second Edition) 1972 " and its revision of chapters I-4, published in July 1978.

a. Characteristics of Ionosphere

fxI	Top frequency of spread ***F*** trace
foF2 ***foF1*** ***foE*** ***foEs***	Ordinary wave critical frequency for the ***F2***, ***F1***, ***E,*** and ***Es*** (including particle type ***E)*** layers, respectively
fbEs	Blanketing frequency of the ***Es*** layer, e.g. the lowest ordinary wave frequency visible through ***Es***
fmin	Lowest frequency that shows vertical ionospheric reflections
M(3000)F2 ***M(3000)F1***	Maximum usable frequency factor for a path of 3000 km for transmission by the ***F2*** and ***F1*** layers, respectively
h'F2 ***h'F*** ***h'E*** ***h'Es***	Minimum virtual height on the ordinary wave for the ***F2,*** whole ***F, E*** and ***Es*** layers, respectively
Types of ***Es***	See below b. (iii)

b. Symbols

(i) Descriptive Letters

The following letters are entered after, or used to replaced a numerical value on the monthly tabulation sheets, if necessary.

A Measurement influenced by, or impossible because of, the presence of a lower thin layer, for example *Es*.

B Measurement influenced by, or impossible because of, absorption in the vicinity of *fmin*.

C Measurement influenced by, or impossible because of, any non-ionospheric reason.

D Measurement influenced by, or impossible because of, the upper limit of the normal frequency range in use.

E Measurement influenced by, or impossible because of, the lower limit of the normal frequency range in use.

F Measurement influenced by, or impossible because of, the presence of spread echoes.

G Measurement influenced by, or impossible because the ionization density of the layer is too small to enable it to be made accurately.

H Measurement influenced by, or impossible because of, the presence of a stratification.

K Presence of particle *E* layer.

L Measurement influenced or impossible because the trace has no sufficiently definite cusp between layers.

M Interpretation of measurement questionable because the ordinary and extraordinary components are not distinguishable.

N Conditions are such that the measurement cannot be interpreted.

O Measurement refers to the ordinary component.

P Man-made perturbations of the observed parameter; or spur type spread *F* present.

Q Range spread present.

R Measurement influenced by, or impossible because of, attenuation in the vicinity of a critical frequency.

S Measurement influenced by, or impossible because of, interference or atmospherics.

T Value determined by a sequence of observations, the actual observation being inconsistent or doubtful.

V Forked trace which may influence the measurement.

W Measurement influenced or impossible because the echo lies outside the height range recorded.

X Measurement refers to the extraordinary component.

Y Lacuna phenomena, severe layer tilt.

Z Third magneto-electronic component present.

(ii) Qualifying Letters

The following letters are entered in the first column before a numerical value on the monthly tabulation sheets, if necessary.

A Less than. Used only when *fbEs* is deduced from *foEs* because total blanketing of higher layer is present.

D Greater than.

E Less than.

I Missing value has been replaced by an interpolated value.

J Ordinary component characteristic deduced from the extraordinary component.

M Mode interpretation uncertain.

O Extraordinary component characteristic deduced from the ordinary component. (Used for x-characteristics only.)

T Value determined by a sequence of observations, the actual observation being inconsistent or doubtful.

U Uncertain or doubtful numerical value.

Z Measurement deduced from the third magneto-electronic component.

(iii) Description of Types of *Es*

When more than one type of *Es* trace are present on the ionogram, the type for the trace used to determine *foEs* must be written first. The number of multiple trace is indicated after the type letter.

The types are:

f An *Es* trace which shows no appreciable increase of height with frequency.

l A flat *Es* trace at or below the normal *E* layer minimum virtual height or below the part *E* layer minimum virtual height.

c An *Es* trace showing a relatively symmetrical cusp at or below *foE*. (Usually a daytime type.)

h An *Es* trace showing a discontinuity in height with the normal *E* layer trace at or above *foE*. The cusp is not symmetrical, the low frequency end of the *Es* trace lying clearly above the high frequency end of the normal *E* trace. (Usually a daytime type.)

q An *Es* trace which is diffuse and non-blanketing over a wide frequency range.

r An *Es* trace showing an increase in virtual height at the high frequency end similar to group retardation.

a An *Es* trace having a well-defined flat or gradually rising lower edge with stratified and diffuse traces present above it.

s A diffuse *Es* trace which rises steadily with frequency and usually emerges from another type *Es* trace.

d A weak diffuse trace at heights below 95 km as-sociated with high absorption and large *fmin.*

n The designation 'n' is used to denote an *Es* trace which cannot be classified into one of the standard types.

k The designation 'k' is used to show the presence of particle *E*. When *foEs* > *foE* (particle *E*) the *Es* type precedes k.

c. Definitions of the CNT, MED, UQ and LQ

Median count (**CND**) is the number of values from which the median has been computed. In addition to numerical values, the count may include certain descriptive letters.

Median (**MED**) is the middle value when the numerical values are arranged in order of magnitude, or the average of the two middle values if there is an even number of values.

Upper quartile (**UQ**) is the median value of the upper half of the values when they are ranked according to magnitude; the ***lower quartile*** (**LQ**) is the median value of the lower half.

HOURLY VALUES OF foF2 AT Wakkanai

AUG. 2014

LAT. 45°10.0′N LON. 141°45.0′E SWEEP 1.0MHz TO 30.0MHz AUTOMATIC SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	65	61	54	60	58	63	64	61	A	59	A	69	59	65	62		64	62	29	63	A	67	33	A
2		A	60	32	B	59	39	64	A	62			A	A	A	A	62	62	65	64	64	54	64	54
3	A	62	58	37	A	A	A	A	A	A	A	A		B			A	60	56	A	63	B	59	A
4	58	34	35	34	35	58	69	65	62	62	62	A		A	66	A	64	68	65	65	63	62	64	64
5	66	52	34	A	53	A	62	64		62	60	A	A		57	63	63	65	66	67	63	64	A	A
6	52	62	A	52	A	53	A	64				A				A		A	A	A	63	62	54	A
7	54	35	A	A	A	60	65	64	64	64			63		61	63	64	67	65	63	63	62	64	62
8	54	64	61	52	42	59	68	A	A	A					66	59	65	64	60	65	46	46	53	59
9	53	51	B	B	32	61	61	66	A	A	65	66	64	61	63	63	67	64	66	62	A	63	52	54
10	54	34	54	53	53	61	69	63	64	66	62	67	65	64	65	A	A	60	68	65	65	59	A	62
11	52	A	52	55	52	52	61	A	62	62		59	B	A	A	61	61	A	A	A	60	54	53	53
12	34	52	34	A	52	53	66	68	64	A	A	A	A	66	68	67	65	63	60	60	A	66	62	A
13	A	A	34	32	32	52	53	61	62	61	63	62	A	62	64	64	66	64	64	63	A	53	N	A
14	A	53	58	58	60	60	58	62	67	67	A	A		C		67	58	64	64	64	62	A	N	54
15	A	57	37	58	51	34	61	59	66	61	63			61	A	66	A	62	62	63	54	64	54	A
16	58	61	58	54	47	56	61	68	A	57	A	64		A	65	A	A	A	67	64	33		32	34
17	52	32	A	A	A	58	66	60	A	A	A	70	68	60	64	65	66	65	65	64	64	A	52	34
18	34	53	53	53	56	A	66	64	62	A	63	A	A	67	A	68	59	65	62	A	A	A	A	A
19		32	32	A	52	56	65	65	66	65	64	A	62	64	65	65	63	67	66	67	63	64	35	53
20	37	53	44	53	34	32	57	63	66	65	61				A	63	A	67	64	65	64	63	34	63
21	63	52	60	34	32	43	55	61	59	A	A	61		63		64	A	67	64	A	A	59	61	A
22	62	54	34	34	47	A	57	A	A		A		A	A	A	A	63	66	66	62	A	64	A	34
23	59	43	48	34	43	48	58	69	63	A			61	A	62	64	62	66	67	65	63	64	54	53
24	A	53	34	54	52	32	62	67	59	69	67	65	57	64	60		66	65	66	61	A	A	63	63
25	59	34	34	34	36	53	67	68	68	A	66	65	62		64	66	62	67	65	64	A	65	A	A
26	39	A	58	A	57	63	65	66	N	62	61	65		65	66	65	67	65	65	A	A	67	A	A
27	A	53	34	43	54	54	68	67	69	65	63	66	63	66	64	68	67	66	65	64	64	63	53	64
28	49	34	32	34	34	59		A	A		A		A	61	62	61	A	66	62	64	A	64	A	37
29	A	34	34	A	A	34	A	62	A		A			A				56	57	A	A	58	37	A
30	34	32	53	32	32	36	A	A	A	65			63	64	62	A	64	64	56	62	54	34	59	55
31	34	55	53	34	47	53	62	66		65	67	64	64	64	67	64	67	66	60	62	A	67	53	A
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	22	27	27	23	25	27	26	25	16	18	14	13	12	16	20	20	22	28	29	24	18	25	22	18
MED	54	52	48	43	47	54	62	64	64	63	63	65	63	64	64	64	64	65	65	64	63	63	54	54
U Q	59	55	58	54	53	59	66	66	66	65	65	66	64	65	65	66	66	66	66	65	64	64	61	62
L Q	39	34	34	34	34	48	58	62	62	62	62	63	61	61	62	63	62	63	61	62	60	58	52	53

HOURLY VALUES OF fEs AT Wakkanai

AUG. 2014

LAT. 45°10.0′N LON. 141°45.0′E SWEEP 1.0MHz TO 30.0MHz AUTOMATIC SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	59	41	34	38	30	G	33	50	69	68	70	44	58	52	47	G	50	50	33	49	40	60	59	67
2	G	24	33	G	B	G	G	42	54	G	G	G	58	59	80	64	54	34	35	G	35	G	36	28
3	32	38	G	32	38	40	65	72	65	62	68	51	G	B	G	G	62	36	40	72	38	B	G	38
4	G	G	G	G	26	G	35	G	G	45	G	63	G	50	G	57	39	36	61	39	G	33	23	28
5	G	G	G	25	G	40	39	G	G	G	G	46	51	G	G	54	38	40	37	G	G	51	59	39
6	39	43	71	39	46	38	50	G	G	G	G	56	G	G	G	60	G	72	72	57	40	32	32	44
7	36	37	38	73	70	49	42	G	40	52	G	G	G	G	G	G	G	G	G	G	G	33	40	32
8	26	G	34	G	G	29	40	57	63	58	G	G	G	G	G	G	G	39	G	28	G	G	G	G
9	G	G	B	B	G	34	38	38	73	75	G	62	64	51	62	G	G	55	39	38	38	39	G	G
10	G	27	32	29	30	28	35	G	G	G	G	G	G	G	55	72	93	89	81	37	G	59	59	49
11	39	40	33	29	32	G	49	90	60	68	G	69	B	57	72	51	49	76	127	58	65	60	40	39
12	G	37	32	33	28	G	40	63	45	66	68	68	70	50	G	G	G	40	34	37	48	49	50	59
13	39	38	26	24	G	G	36	44	40	G	G	68	66	G	50	G	100	34	38	39	38	28	34	60
14	39	58	40	G	33	G	36	G	52	52	61	58	G	C	G	G	G	38	35	36	34	35	39	40
15	56	38	28	28	30	G	G	39	G	G	G	G	G	G	64	57	70	G	38	30	44	G	G	36
16	34	27	24	34	39	40	49	59	74	52	57	61	G	72	58	115	65	57	55	40	28	G	25	26
17	29	29	42	40	39	G	37	54	65	65	71	56	G	G	G	G	39	G	32	29	41	42	33	G
18	25	28	27	32	37	44	56	57	66	84	57	73	102	G	70	40	G	35	30	73	58	51	60	60
19	G	25	28	40	35	G	40	G	51	63	64	67	49	48	G	G	38	39	36	39	60	G	G	G
20	G	29	G	G	G	G	G	G	G	G	G	G	G	G	76	57	72	66	60	29	G	40	G	40
21	39	30	26	38	33	35	40	G	39	65	72	G	G	G	G	G	70	69	35	102	59	34	27	45
22	37	34	G	G	28	45	39	67	55	G	46	G	46	57	68	67	58	53	39	36	67	41	35	29
23	27	G	26	G	G	27	G	G	51	50	G	G	G	49	59	40	51	40	34	30	G	G	G	G
24	39	34	28	G	30	G	G	G	41	G	52	G	46	G	G	G	G	64	62	57	65	59	G	G
25	29	30	26	26	G	31	40	53	54	73	G	G	G	G	G	G	40	40	53	62	70	25	72	39
26	34	36	34	36	29	40	68	61	50	71	66	59	G	G	G	G	G	40	50	54	48	58	39	52
27	39	28	28	G	G	34	35	40	G	49	51	G	G	G	G	G	G	49	50	37	36	33	G	G
28	G	G	29	30	G	G	G	51	42	G	72	G	49	G	G	G	67	59	49	37	61	69	65	G
29	36	27	G	34	40	36	38	39	40	G	57	G	G	51	G	G	G	37	32	44	40	37	34	37
30	G	G	G	23	G	36	48	39	71	G	G	G	G	G	G	41	G	G	G	G	G	G	G	G
31	G	G	G	G	G	G	G	G	G	50	G	G	G	G	G	G	G	40	40	30	39	39	33	28
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	31	30	30	30	31	31	31	31	31	31	31	30	29	31	31	31	31	31	31	31	30	31	31
MED	29	29	28	28	30	28	38	39	50	50	G	G	G	G	G	G	39	40	38	37	39	36	33	36
U Q	39	37	33	34	35	38	42	57	63	65	64	61	49	50	59	57	62	57	53	54	58	51	40	44
L Q	G	G	G	G	G	G	33	G	G	G	G	G	G	G	G	G	G	36	34	30	G	25	G	G

HOURLY VALUES OF fmin AT Wakkanai

AUG. 2014

LAT. 45°10.0′N LON. 141°45.0′E SWEEP 1.0MHz TO 30.0MHz AUTOMATIC SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	15	14	14	14	14	21	14	17	16	42	53	57	46	29	23	15	15	14	14	14	15	14	15	15
2	15	15	15	16	B	16	14	15	22	53	66	58	26	45	22	22	18	14	14	14	14	18	15	15
3	14	15	16	15	16	14	14	15	16	28	22	39	71	B	27	26	16	15	14	14	15	B	23	14
4	15	16	15	18	15	14	14	15	15	17	21	20	27	26	27	20	15	15	14	14	14	14	15	15
5	15	14	14	17	15	15	14	14	21	18	59	20	66	66	22	16	15	14	14	15	15	14	14	15
6	14	14	14	15	14	14	14	14	16	20	20	23	66	22	18	17	20	15	14	14	15	15	15	15
7	15	15	14	14	15	15	15	18	17	20	20	26	28	27	18	18	16	15	14	18	26	14	15	16
8	15	15	14	15	15	14	14	15	16	17	20	27	27	23	18	15	15	14	14	14	15	14	15	22
9	15	14	B	B	15	14	15	17	15	18	21	24	22	17	18	16	14	14	14	14	15	14	15	15
10	15	15	14	15	15	14	14	14	17	17	15	23	20	53	16	15	16	14	14	14	14	15	15	14
11	14	14	14	15	15	14	14	16	15	20	33	44	B	34	18	15	15	15	15	15	15	14	14	15
12	17	14	14	14	15	14	14	14	18	18	28	27	21	27	15	15	45	14	15	15	16	14	15	14
13	14	15	15	14	14	18	15	14	17	21	20	30	27	28	29	22	15	14	16	14	15	15	14	14
14	15	15	15	14	14	18	14	14	17	16	22	18	22	C	22	18	15	15	15	14	15	14	15	14
15	14	14	15	14	15	18	18	14	18	21	26	28	29	18	15	14	18	14	14	15	14	16	15	14
16	14	15	15	15	15	15	14	15	15	18	18	21	33	20	24	22	15	14	15	14	15	53	15	15
17	14	14	15	15	14	15	14	14	16	17	20	22	21	21	28	17	15	14	14	14	14	15	14	15
18	15	15	17	14	14	14	14	16	18	16	24	34	26	21	21	15	17	14	14	15	15	14	14	14
19	18	15	15	14	14	17	15	15	17	20	32	22	20	20	21	21	17	14	14	14	14	14	15	15
20	15	15	16	15	15	18	15	16	15	22	23	66	71	23	21	20	15	14	14	14	15	15	15	14
21	14	14	14	15	15	15	14	15	16	20	27	27	27	27	24	16	14	14	14	14	14	15	15	14
22	15	14	20	21	15	15	14	15	17	21	36	71	26	34	28	18	15	14	14	14	14	14	15	15
23	15	15	18	17	15	14	14	15	17	21	22	71	26	32	21	17	15	14	14	15	15	14	15	15
24	14	15	15	14	15	21	15	15	22	15	20	29	27	20	52	20	16	15	14	14	16	14	17	15
25	15	14	15	16	15	14	14	20	15	18	16	18	53	28	18	18	14	14	15	15	15	15	15	15
26	15	15	15	14	14	14	14	14	16	20	20	26	26	20	21	17	15	14	15	15	14	14	16	14
27	14	14	15	16	14	14	14	18	16	29	24	29	26	54	53	20	15	14	14	14	14	15	16	15
28	15	15	14	14	21	20	15	14	16	20	21	26	29	51	57	18	16	15	14	14	15	15	14	15
29	14	15	16	15	15	14	14	15	15	20	22	27	24	22	17	16	17	14	15	15	15	14	15	15
30	15	15	15	16	15	14	14	15	15	20	24	91	28	21	27	15	15	14	18	14	15	21	15	15
31	14	15	14	18	21	17	15	15	18	21	52	53	27	52	50	53	17	14	14	15	15	14	15	14
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	31	30	30	30	31	31	31	31	31	31	31	30	29	31	31	31	31	31	31	31	30	31	31
MED	15	15	15	15	15	15	14	15	16	20	22	27	27	27	22	17	15	14	14	14	15	14	15	15
U Q	15	15	15	16	15	17	15	16	17	21	28	44	29	34	27	20	17	15	15	15	15	15	15	15
L Q	14	14	14	14	14	14	14	14	15	18	20	23	26	21	18	15	15	14	14	14	14	14	15	14

HOURLY VALUES OF foF2 AT Kokubunji

AUG. 2014

LAT. 35°43.0′N LON. 139°29.0′E SWEEP 1.0MHz TO 30.0MHz AUTOMATIC SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	A	74	74	72	72	66	75	80	88	74	A		A	A	86	77	A	72	73	81	A	76	48	73
2	51	59	52	52	52	58	69	77	87		76	86	87	87	A	76	76	78	77	82	A	74	52	64
3	44	52	67	54	59	57	64	59	A	A	A	A				69	67	66	A	67	73	73	72	66
4	53	54	38	51	51		66	72	76		A	A	A	A	A	A	75	84	88	85	74	78	76	74
5	73	74	55	57	54	51	72	87	77	72	80	76	67	73	72	77	A	86	97	A	80	54	54	
6	67	66	53		49	A	A	82	86	A	72	73	48	A	72	75	A	80	72	70	72	52	55	51
7	66	52	58	52	57	52	74	73	71	61	A	58	A	76	81	90	82	75	66	66	53	72	52	54
8	54	52	64	53	52	51	67	73	71	A	A	A	75	75	90	94	90	74	80	76	A	54	51	
9	58	52	51	47	49	52	62	78	67	76	70	72	74	84	95	88	82	82	86	88	74	67	53	54
10	52	52	51	45	44	54	72	76	77	68		82	74	68	78	78	80	83	90	80	73	52	61	54
11		58	54	52	53	59	78	72	75	66	A	A	A		72	A	81	79	77	77	72	71	70	71
12	67	54	45	45	A	52	66	75	A	A	69	A	83	87	88	87	78	67	64	72	70	65	54	53
13	A		A	44	46	45	71	67	76	73	A	67	A	68	74	91	95	98	100	88	58	66	54	67
14	53	49	A	51	49	45	53	71	90	82	82	A	A	74	A	78	76	69	72	A	72	76	74	A
15	A	A	A	53	51	52	74	64	74	66	A	68	68	A	A	77	76	66	66	72	A	66	54	59
16	52	51	52	53	45	46	54	67	81	67	A	A	A	A	A	80	74	73	78	85	72	66	54	A
17	A	58	A	52	45	51	56	68	71	75	82	84	A	84	93	98	102	101	91	74	72	54	55	53
18	A	A	52	52	52	52	A	73	A	67	A	73	88	84	77	82	77	67	76	87	78	46	66	52
19	52	51	52	52	51	52	66	88	A	76		A	82	90	77	88	82	72	74	74	A	67	72	72
20	N	52	54	52	44	45	52	85	84	78	57	64	64	67	78	83	85	A	96	90	64	A	54	A
21		N		53	52	45	66	59	65	74	74	A	A	76	87	81	84	81	85	86	64	A	54	54
22	A	A	A	52	A	51	45	60	A	59		68		71	76	80	85	87	81	80	72	66	54	66
23	52	66	66	56	45			71	72	71			67		76	84	86	76	80	86	82	72	67	67
24	54	49	52	43	43	46	67	87	78	68	71	72	76	75	74	76	78	81	81	80	86	A	A	A
25	61	A	52	46	45	51	72	86	87	81	83	76	73	75	75	84	80	77	80	84	77	74	54	52
26	59		53	53	53	59	73	84	A	88	80	76	A	A	82	86	90	86	85	88	84	74	54	54
27	54	53	51	52	56	51	81	93	78	74	73	70	76	86	91	91	88	86	87	101	88	83	64	A
28	67	64	52	52	50	45	59	57	78	65	59	A			72	67	A	80	86	A	52	A	54	
29	58	52	A	52	53		A	58	54	A	48	A			68	64	64	67	67	54	63	54	52	A
30	52		51	44	48	A		67	67	72	A	A	75	80	77	74	75	74	74	55	54	59	54	54
31		58	54	51	49	58	66	74	68	75	75	76	81	76	81	84	78	77	77	76	70	54		52
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	21	23	24	30	29	26	26	31	25	24	16	17	17	20	25	29	27	30	30	28	26	27	29	22
MED	54	53	52	52	51	52	66	73	76	72	74	73	75	76	77	81	80	78	80	80	72	66	54	54
U Q	63	59	54	53	53	54	72	82	82	75	80	76	81	84	86	87	85	83	86	86	77	74	65	67
L Q	52	52	51	51	45	46	62	67	71	67	69	68	67	73	74	76	76	72	74	73	64	54	54	53

HOURLY VALUES OF fEs AT Kokubunji

AUG. 2014

LAT. 35°43.0′N LON. 139°29.0′E SWEEP 1.0MHz TO 30.0MHz AUTOMATIC SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	83	48	42	37	35	G	42	47	61	50	92		55	106	60	60	93	66	54	51	45	78	74	G
2	36	27	G	52	28	G	G	G	57		51	50	49	65	96	79	53	G	G	G	90	43	38	25
3	G	G	G	G	G	G	G	G	51	49	56	49		G		47	58	50	64	50	58	53	33	43
4	32	32	37	G	G	G	G	G	G		77	78	50	55	101	74	G	48	45	33	32	37	45	50
5	G	G	G	G	G	G	G	G	G	52	47	G	49	61	G	61	80	60	83	115	27	49	31	G
6	34	34	G	G	G	39	59	50	46	74	G	G	49	72	58	110	100	75	G	40	29	30	29	G
7	G	G	33	49	28	G	87	58	58	50	59	64	81	53	G	G	G	G	G	27	25	G	G	G
8	39	G	G	G	G	G	G	49	45	78	114	89	G	G	G	G	75	118	93	50	113	39	32	
9	G	G	G	G	G	G	G	46	55	54	G	G	G	G	54	66	40	46	45	51	58	46	34	39
10	35	49	30	26	29	G	37	52	50	64		G	G	G	G	54	62	114	60	29	24	G	44	26
11		G	G	G	G	G	37	36	55	43	83	153	101		G	77	70	62	43	G	57	37	45	46
12	31	29	31	33	45	34	68	59	132	72	105	70	G	50	52	G	G	G	G	23	G	33	35	34
13	58		59	39	29	G	G	G	G	55	61	55	72	G	72	50	G	G	33	27	28	45	52	G
14	24	39	39	50	43	31	79	48	54	49	77	88	58	47	90	55	79	64	55	69	40	G	46	59
15	70	79	50	27	36	33	G	G	G	64	72	G	49	69	79	G	G	51	32	58	83	33	51	59
16	53	30	35	40	27	29	G	37	G	58	74	113	129	116	70	G	G	62	52	30	33	27	30	72
17	78	45	72	36	30	33	40	77	66	66	59	69	78	65	80	78	47	G	34	77	55	35	57	45
18	54	59	40	49	57	40	73	59	104	55	74	71	59	51	G	G	G	G	29	36	G	27	29	28
19	29	49	43	30	33	G	35	55	154	61	G	53	G	80	58	60	62	69	86	72	72	G	34	37
20	29	35	34	G	24	G	35	51	50	60	G	G	G	G	G	47	G	55	31	39	30	33	G	25
21		G		G	G	G	G	G	G	55	G	46	59	G	G	G	52	50	39	46	26	60	40	55
22	57	59	86	58	50	40	39	G	70	54		G		G	G	G	G	36	48	45	79	36	41	35
23	31	32	G	G	G	G		G	G	G	G	G	G		G	G	49	40	31	60	43	31	26	G
24	G	G	G	G	G	G	G	G	G	G	46	G	G	G	G	G	G	G	40	73	73	115	69	45
25	37	67	33	38	30	G	39	53	45	47	G	G	49	58	G	55	58	46	50	40	27	26	26	28
26	G	G	G	G	G	G	G	47	78	65	70	73	102	78	53	G	G	43	45	57	84	31	33	53
27	49	41	26	27	G	G	44	78	61	G	61	G	48	47	51	57	60	61	49	58	34	60	56	59
28	48	40	25	45	32	G	G	50	G	51	G	60			G	G	96	78	52	77	27	25	G	
29	29	29	28	G	G		45	53	55	61	54	48			G	G	G	G	33	43	33	55	46	58
30	28		G	26	26	28		G	49	50	82	84	G	G	G	G	G	40	35	G	G	G	G	G
31	G	G	34	G	G	G	G	G	G	G	G	G	G	G	G	G	44	40	G	G	G	G		G
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	29	29	30	31	31	30	29	31	31	29	29	30	27	27	30	31	31	31	31	31	31	31	30	29
MED	32	32	30	26	26	G	35	47	50	54	59	50	49	50	G	47	47	48	43	45	33	33	34	35
U Q	51	46	39	39	32	29	43	53	61	62	75	71	59	65	60	60	62	62	52	58	58	46	46	51
L Q	12	G	G	G	G	G	G	G	G	49	G	G	G	G	G	G	G	G	31	29	27	26	29	G

HOURLY VALUES OF fmin AT Kokubunji

AUG. 2014

LAT. 35°43.0′N LON. 139°29.0′E SWEEP 1.0MHz TO 30.0MHz AUTOMATIC SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	14	13	14	15	14	15	18	31	21	38	40		38	40	36	33	36	15	13	14	15	14	13	24
2	17	13	14	14	14	21	13	41	33		39	39	42	40	39	38	35	17	29	17	17	14	14	14
3	22	23	18	14	14	20	13	17	35	38	38	40		42		31	20	13	18	22	17	14	14	15
4	14	13	14	13	14	20	15	17	42		40	40	39	40	38	40	55	15	13	14	15	14	13	14
5	14	14	18	18	13	20	15	20	42	39	43	59	40	39	50	39	20	17	17	15	14	13	13	25
6	14	14	14	20	18	13	14	17	43	37	59	52	42	43	39	34	21	15	18	13	13	14	14	13
7	20	17	13	15	13	17	15	39	33	35	35	39	37	42	55	56	42	39	24	14	17	15	22	18
8	18	13	18	17	17	29	14	17	35	36	36	34	53	54	53	44	21	13	13	13	14	13	14	
9	15	24	17	14	21	18	15	17	29	35	48	55	53	56	33	28	18	13	14	13	13	14	13	13
10	14	14	13	13	13	24	17	14	21	22		56	52	52	54	37	36	18	14	15	14	14	14	15
11		13	13	15	15	17	14	18	37	44	42	40	39		47	34	33	20	14	20	14	13	14	13
12	14	14	14	13	15	13	15	18	14	30	29	31	56	26	21	44	40	14	22	15	17	14	14	14
13	14		14	13	14	13	28	13	42	33	36	37	38	56	39	34	42	18	18	14	14	13	14	14
14	14	14	14	14	13	13	31	21	18	33	33	37	35	39	39	34	29	14	13	13	14	14	14	15
15	14	13	13	20	13	13	14	18	21	30	34	34	35	38	37	43	39	18	15	14	17	13	14	14
16	14	13	15	15	13	13	14	18	42	37	36	37	33	26	33	29	44	24	14	14	14	14	15	14
17	18	14	13	13	14	13	17	18	20	21	38	38	38	39	35	29	26	17	14	14	14	13	14	15
18	13	20	14	15	13	13	14	17	21	36	37	37	33	36	53	45	18	15	14	15	18	14	15	17
19	15	17	14	14	14	25	21	20	37	36	60	40	55	39	39	33	22	18	20	22	14	13	14	13
20	14	14	14	17	17	18	17	13	25	36	45	52	52	48	59	34	43	15	17	15	14	14	14	17
21		18		13	17	21	18	20	21	36	53	37	33	55	55	44	31	18	13	14	15	14	13	17
22	13	14	15	14	13	13	14	18	21	38		54		55	52	44	40	13	15	21	17	15	14	14
23	14	14	13	17	15	20		13	43	54	47	57	50		53	44	20	17	13	18	13	15	14	15
24	14	15	14	14	18	13	24	40	22	45	55	54	57	50	56	47	43	17	13	15	14	13	13	14
25	13	14	14	14	13	15	18	18	43	51	42	50	40	42	54	37	21	18	14	17	17	14	14	14
26	43	23	14	14	17	15	18	18	36	38	38	39	38	39	38	50	40	18	15	13	15	14	14	14
27	14	14	14	14	18	20	18	17	34	41	37	52	37	53	43	39	18	14	13	14	14	13	14	14
28	14	13	14	14	13	18	14	18	48	36	52	38			45	47	18	14	13	13	14	15	14	
29	14	15	14	15	15		13	15	21	34	35	36			22	43	42	33	17	14	14	14	14	13
30	14		18	17	14	13		17	36	41	37	40	54	53	53	25	18	17	13	14	20	21	14	14
31	42	42	13	14	18	14	34	18	37	42	58	53	57	54	55	43	34	20	21	34	14	14		15
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	29	29	30	31	31	30	29	31	31	29	29	30	27	27	30	31	31	31	31	31	31	31	30	29
MED	14	14	14	14	14	16	15	18	34	36	39	40	40	42	44	39	33	17	14	14	14	14	14	14
U Q	16	17	14	15	17	20	18	20	42	40	47	52	53	53	53	44	40	18	18	17	17	14	14	15
L Q	14	13	14	14	13	13	14	17	21	34	36	37	37	39	38	34	20	14	13	14	14	13	14	14

HOURLY VALUES OF foF2 AT Yamagawa

AUG. 2014

LAT. 31°12.0′N LON. 130°37.0′E SWEEP 1.0MHz TO 30.0MHz AUTOMATIC SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	84	87	78	51	68	68	74	81	80	55	A	A		89	87	83	81	78	80	80	81	A	53	78
2	73	72	67	67	64	64	67	74	78	75	A	77	83	88	A	86	85	A	112	89	88	75	52	52
3	54	67	54	71	57	61	60	75	68	65	A	A	A		79	A	82	A	80	A	75	72	73	71
4	78	67	66	54	54	50	52	81	72	65		73		B		69	72	86	88	85	51	77	54	58
5	78	52	76	A	53	53	67	81	77	70	72	70	73	68	77	78	88	87	97	92	77	54	53	52
6	78	54	52	53	54	47	50	73	64	78	70	72	71	77	85	82	85	84	86	78	66	76	55	53
7	73	42	64	53	58	50	42	69	66	68	65	73	76	83	86	92	90	80	68	71	75	76	72	52
8	54	52	62	54	52	51	59	65	70	A	76	A	82	87	90	96	95	93	74	88	A	76	52	54
9	52	59	66	52	51	A	54	72	78	76	72	76	81	84	91	96	93	90	90	88	86	47	50	53
10	54	54	46	49	47	42	60	67	70	73	84	86	82	80	82	78	86	80	A	86	77	72	54	54
11	58	52	54	54	57	57	77	77	A	A	A	73	78	82	86	88	91	92	88	80	73	67	54	54
12	52	A	52	48	53	52	51	72	67	77	71	A	A	90	95	86	81	70	71	75	74	73	55	53
13	51	46	A	44	45	46	66	72	60	79	A	A	A	78	88	94	100	111	116	88	46	63	52	51
14	A	A	A	54	46	42	47	70	76	84	66	69	A	78	76	82	82	84	91	86	79	78	77	76
15	49	47	48	45	45	40	52	63	75	A	62	75	72	72	76	82	86	90	87	80	70	A	66	67
16	54	66	58	52	47	41	47	69	80	70	58	68	A	74	75	82	83	91	84	87	86	51	51	51
17	51	52	A	45	44	40	52	67	A	A	A	A	77	74	98	113	110	109	91	72	72	A	50	52
18	53	54	62	64	57	A	N	77	76	62	69	63	85	83	A	86	97	103	95	90	78	54	52	52
19	52	54	54	56	46	46	54	78	76	74	63	A	78	A	90	90	80	A	90	81	76	67	59	52
20	53	66	52	50	52	42	46	86	77	62	71	66		72	84	86	98	107	110	A	84	A	54	66
21	54	51	54	53	51	49	50	67	72	84	66	71	73	83	96	95	98	A	A	86	67	66	54	67
22	42	52	58	61	50	48	63	A	64	A	A	73	C	C	84	92	96	91	91	88	80	52	54	67
23	67	66	74	54	47	43	52	73	72	70	66	68	72	84	86	97	86	77	91	87	85	70	54	66
24	52	54	54	52	50	47	40	88	70	70	71	76	85	86	92	90	96	90	90	90	86	74	54	63
25	43	52	67	58	A	51	52	80	86	84	86	72	90	90	94	98	90	A	A	90	88	80	76	74
26	70	67	67	54	54	44	60	80	81	84	77	75	79	86	90	97	101	98	110	110	89	73	71	68
27	76	67	77	72	54	57	77	88	72	A	72	77	88	N	98	96	94	98	97	107	A	87	A	A
28	67	A	64	54	52	54	66	67	55	74	77	64	70	78	77	77	81	85	80	54	A	54	55	54
29	54	52	51	51	45	50	47	61	A	69	69	64	67	77	81	75	75	84	85	77		51	53	51
30	54	52	52	52	44	40	48	61	67	72	63	A	81	86	82	78	81	86	80	73	A	A	44	54
31	52	54	65	51	48	44	53	70	67	72	72	76	78	88	91	91	98	98	91	84	80	72	67	54
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	30	28	28	30	30	29	30	30	28	25	23	23	22	26	28	30	31	26	28	29	26	26	30	30
MED	54	54	60	53	52	48	52	72	72	72	71	73	78	83	86	87	88	90	90	86	78	72	54	54
U Q	70	66	66	54	54	52	63	80	77	77	72	76	82	86	91	95	96	98	93	88	85	76	59	67
L Q	52	52	53	51	47	42	50	67	67	68	66	68	73	77	81	82	82	84	82	79	73	54	52	52

HOURLY VALUES OF fEs AT Yamagawa

AUG. 2014

LAT. 31°12.0′N LON. 130°37.0′E SWEEP 1.0MHz TO 30.0MHz AUTOMATIC SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	45	25	32	31	26	34	G	34	81	76	152	84	G	65	56	G	G	47	61	74	43	58	57	59
2	48	28	25	27	30	36	35	40	59	70	114	52	56	85	94	82	92	104	115	60	46	30	33	43
3	36	26	26	G	G	G	G	34	46	48	76	80	50	G	66	90	62	115	64	83	52	51	72	72
4	30	G	57	50	34	26	G	34	44	50	G	G	G	B	G	G	G	G	G	60	50	30	G	30
5	G	32	38	52	G	G	G	G	G	G	55	G	G	45	G	44	49	46	44	49	46	30	24	34
6	G	28	32	31	30	G	28	33	40	G	G	G	G	56	G	G	53	50	34	G	30	G	G	35
7	49	33	24	G	27	60	52	57	61	45	57	56	54	51	53	49	G	70	60	30	29	34	G	G
8	G	27	G	G	G	G	G	42	G	65	76	121	92	87	G	55	48	62	69	59	85	72	46	33
9	40	39	32	34	27	49	36	36	40	42	46	47	G	G	G	48	59	71	48	40	46	46	28	24
10	G	32	25	G	G	G	28	38	67	49	104	86	G	G	50	72	75	150	156	151	59	49	33	49
11	33	26	33	25	G	G	34	55	62	69	64	G	G	50	48	G	G	G	36	27	G	44	33	56
12	34	71	33	32	G	26	35	G	51	54	63	79	123	54	45	52	41	46	43	34	32	44	G	43
13	44	34	46	44	32	G	31	40	45	49	76	80	81	73	65	75	56	53	70	85	58	44	34	36
14	72	83	52	33	43	32	28	52	56	G	G	G	80	71	62	G	G	55	50	27	50	49	50	49
15	50	G	G	27	G	G	G	52	58	69	54	56	51	G	G	G	G	40	34	31	36	58	47	44
16	36	50	41	33	34	26	G	42	40	61	50	G	67	48	72	44	58	G	35	G	26	G	G	32
17	34	46	58	37	38	36	32	72	93	89	103	89	62	71	55	81	57	G	102	59	72	92	60	50
18	38	G	27	53	45	53	38	44	42	44	G	48	50	59	105	48	G	G	G	27	32	33	53	41
19	46	40	36	30	32	34	28	37	59	58	69	79	80	114	75	66	65	81	84	31	G	G	G	29
20	43	56	30	32	33	G	G	39	43	50	44	G	G	61	58	48	44	62	91	95	53	73	41	34
21	32	29	23	G	26	G	32	36	44	51	50	G	50	G	47	78	87	124	90	60	54	53	78	50
22	29	32	G	G	G	G	34	72	61	74	69	44	C	C	G	G	G	39	33	25	24	G	26	44
23	27	32	G	33	33	G	G	G	G	G	46	G	56	45	G	G	51	52	46	40	34	35	40	24
24	29	33	26	25	G	G	G	G	49	49	44	G	46	G	45	G	G	52	45	36	43	28	G	55
25	G	39	29	43	46	26	31	56	44	56	49	51	G	G	G	48	74	89	115	39	23	23	28	34
26	30	G	30	G	G	G	G	G	44	47	50	57	51	59	53	58	47	40	G	45	40	28	24	49
27	48	73	28	G	G	25	32	40	57	83	66	74	68	45	G	90	64	46	82	103	116	74	84	91
28	59	60	58	34	34	26	34	42	42	52	95	G	G	55	48	G	78	62	70	80	71	G	44	34
29	48	31	27	28	G	G	G	59	48	52	55	60	49	G	51	44	42	G	31	27		69	33	30
30	48	30	G	G	G	G	G	G	G	48	61	70	80	48	82	46	G	G	52	65	70	44	58	G
31	G	G	G	G	G	G	26	48	G	G	50	52	57	49	48	G	65	62	31	G	G	G	G	G
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	31	31	31	31	31	31	31	31	31	31	31	30	29	31	31	31	31	31	31	30	31	31	31
MED	36	32	29	30	26	G	28	40	45	50	55	52	50	50	48	48	49	52	50	40	44	44	33	36
U Q	48	40	36	34	33	32	34	52	59	65	76	79	67	63	62	66	64	70	82	65	54	53	50	49
L Q	29	26	24	G	G	G	G	34	40	45	46	G	G	G	G	G	G	39	34	27	30	28	G	30

HOURLY VALUES OF fmin AT Yamagawa

AUG. 2014

LAT. 31°12.0′N LON. 130°37.0′E SWEEP 1.0MHz TO 30.0MHz AUTOMATIC SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	14	14	14	14	14	15	23	20	17	18	38	38	N	33	33	21	22	17	14	14	14	15	14	15
2	14	14	15	14	15	15	23	16	18	18	38	35	36	36	38	36	21	18	14	14	15	15	14	14
3	14	15	14	17	21	14	20	17	18	27	38	35	38	63	40	27	21	17	16	16	15	14	14	14
4	14	15	15	14	14	15	15	15	20	23	91	36	81	B	55	23	18	14	15	15	15	14	15	14
5	15	14	14	15	15	15	21	18	17	54	38	48	53	52	57	36	22	16	14	14	14	14	14	14
6	14	15	15	14	15	15	14	15	16	18	18	23	55	40	29	18	18	14	14	17	14	16	14	14
7	14	14	14	17	17	15	14	18	17	24	29	27	35	35	28	32	20	17	15	15	15	14	17	15
8	17	15	14	14	14	17	14	17	18	22	27	27	33	32	34	18	18	14	14	15	14	14	15	14
9	14	14	15	14	14	14	14	14	15	16	27	29	54	29	22	27	22	16	14	14	15	15	14	15
10	15	14	15	18	14	16	14	14	16	15	18	30	28	28	27	20	17	15	14	14	15	15	15	15
11	14	15	15	15	15	14	15	14	17	20	26	56	53	40	36	47	21	14	14	14	16	15	15	14
12	14	14	14	14	14	15	14	14	17	17	24	18	26	24	22	18	14	14	14	14	15	14	17	15
13	15	15	14	14	14	14	14	15	18	21	32	33	36	37	38	34	20	18	14	14	15	15	14	14
14	14	14	15	14	15	14	15	14	17	17	20	21	39	27	22	20	16	14	14	15	15	14	14	14
15	14	15	15	15	17	14	14	14	17	28	30	27	29	53	20	21	18	18	14	14	17	16	14	14
16	15	18	15	16	14	20	18	14	17	18	20	48	28	27	23	20	15	14	15	17	17	18	15	14
17	14	16	14	15	15	14	14	16	17	18	24	26	34	33	28	23	21	16	14	15	15	15	14	15
18	14	21	18	14	14	15	14	14	17	18	26	24	33	34	28	22	18	14	14	16	15	15	14	14
19	14	14	15	14	14	14	15	14	16	17	22	34	36	27	35	22	22	17	14	14	15	14	14	15
20	14	14	14	15	15	14	17	14	17	18	22	42	34	38	24	27	20	16	15	14	14	14	14	15
21	14	15	15	15	14	14	14	15	16	20	27	48	30	53	38	18	17	15	15	14	16	15	14	14
22	17	17	17	16	15	15	14	14	15	18	34	34	C	C	21	20	17	15	14	14	15	15	15	14
23	15	15	14	14	14	16	18	14	35	18	22	47	38	54	53	23	18	16	14	14	14	15	14	15
24	14	14	15	14	15	15	17	15	15	21	23	51	52	50	55	51	20	14	14	14	14	15	16	15
25	15	15	15	15	14	14	14	14	14	17	23	38	38	54	28	20	15	14	14	14	15	15	15	14
26	15	14	14	14	14	24	20	15	15	21	20	33	35	30	28	23	17	15	14	14	14	14	15	14
27	14	14	14	14	20	16	15	14	16	21	22	33	33	35	27	27	18	15	14	14	14	14	14	14
28	15	14	14	14	14	14	14	14	16	17	21	50	54	38	38	21	17	16	14	14	14	15	14	14
29	14	14	14	15	17	16	14	14	14	18	20	28	30	39	28	24	26	15	14	14		14	14	14
30	14	14	14	15	15	15	21	14	16	35	34	28	30	34	30	22	17	14	14	15	14	14	14	16
31	15	15	15	15	14	15	15	14	16	18	26	36	36	38	35	29	22	16	14	15	16	15	30	14
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	31	31	31	31	31	31	31	31	31	31	31	29	29	31	31	31	31	31	31	30	31	31	31
MED	14	14	15	14	14	15	15	14	17	18	26	34	36	36	29	23	18	15	14	14	15	15	14	14
U Q	15	15	15	15	15	15	18	15	17	21	32	42	45	45	38	27	21	16	14	15	15	15	15	15
L Q	14	14	14	14	14	14	14	14	16	18	22	27	31	31	27	20	17	14	14	14	14	14	14	14

HOURLY VALUES OF foF2 AT Okinawa

AUG. 2014

LAT. 26°41.0′N LON. 128°09.0′E SWEEP 1.0MHz TO 30.0MHz AUTOMATIC SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	87	86	76	78	73	73	64	75	84	74	A	A	84	98	97	88	88	85	89	88	83	81	54	74
2	78	72	A	69	67	63	67	78	89	80	77	A	90	88	96	94	104	115	130	131	106	87	88	85
3	74	86	77	73	61	77	102	81	67	76	72	88	A	86	94	A	97	A	102	98	79	67	77	77
4	80	78	73	68	63	52	63	93	73	67	75	73	72	73	72	70	83	85	100	84	86	72	78	74
5	80	77	74	67	57	58	62	80	74	67	68	85	82	A	82	86	98	98	106	101	86	83	74	52
6	82	84	75	76	57	50	44	71	87	72	A	78	70	86	91	86	87	91	105	105	86	A	80	81
7	72	72	77	66	64	50	54	67	67	72	73	71	82	87	92	98	96	86	86	88	84	76	52	52
8	52	63	52	44	52	51	54	74	63	67	75	84	102	98	106	106	116	110	120	120	A	108	81	77
9	85	86	53	71	76	58	52	72	77	68	73	82	88	78	90	106	105	102	108	107	76	52	58	58
10	A	54	51	52	52	52	50	67	81	76	82	84	88	89	88	96	101	104	107	107	A	A	70	67
11	54	61	57	54	N	61	82	67	68	67		75	82	109	98	109	108	115	111	97	80	78	67	64
12	52	54	67	52	52	54	67	67	67	76	76	75	77	98	105	100	97	93	88	88	71	29	53	60
13	53	A	A	A	40	40	54	47	66	71	76	67	80	103	107	118	143	N	145	120	84	63	54	52
14	52	52	63	52	48	47	46	67	84	75	72	68	82	87	88	85	92	101	101	105	90	86	48	63
15	63	51	49	40	44	42	42	77	72	66	71	75	78	78	87	88	105	108	108	102	78	60	71	72
16	72	54	52	64	52	44	46	72	81	71	A	69	A	77	74	88	104	112	108	108	89	52	N	51
17	A	47	50	45	A	B	46	70	76	72	A	A	A	A	A	119	120	125	A	118	73	84	79	78
18	A	72	67	87	80	71	73	86	75	75	72	68	75	88	94	94	106	116	121	108	89	75	72	
19	88	85	82	72	63	54	54	82	76	70	A	A	75	96	104	93	93	107	101	83	81	79	54	52
20	53	54	54	61	52	42	44	86	77	60	75	77	A	79	97	105	118	127	125	110	88	76	A	A
21	A	77	73	63	58	54	52	67	78	68	A	82	83	99	108	116	120	108	102	A	A	A	63	54
22	52	52	66	55	48	44	53	66	A	A	A	A	97	106	118	121	119	122	119	129	110	87	76	69
23	A	72	72	51	47	44	47	87	77	67	72	74	80	106	110	101	100	97	111	118	87	48	67	A
24	67	64	53	53	52	54	76	67	67	80	85	88	90	107	118	130	133	126	130	118	107	71	80	78
25	B	67	68	54	54	A	53	75	88	89	73	80	108	127	130	132	130	122	130	122	108	88	88	86
26	78	76	75	71	61	47	53	87	82	82	74	A	90	107	104	108	108	119	131	129	105	71	74	82
27	83	87	90	88	72	62	81	85	64	74	80	82	102	123	128	118	117	108	108	115	108	A	54	67
28	67	67	53	54	52	52	62	A	A	84	81	76	84	87	84	100	104	98	90	67	54		55	52
29	53	52	58	47	43	50	48	58	76	67	72	82	77	A	97	96	94	108	104	88	86	70	52	53
30	53	53	A	46	47		42	51	74	A	68	68	88	105	102	100	98	103	90	86	67	52	72	54
31	52	72	54	52	52	42	47	66	70	71	74	81	86	100	108	107	121	131	116	110	107	103	86	79
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	25	30	28	30	29	28	31	30	29	29	23	25	27	28	30	30	31	29	30	30	28	26	29	28
MED	67	70	66	58	52	52	53	72	76	72	74	77	83	97	97	100	104	108	108	107	86	76	71	67
U Q	80	77	74	71	63	58	64	81	81	76	76	82	90	105	107	109	118	117	120	118	97	84	78	77
L Q	53	54	53	52	50	45	47	67	67	67	72	72	78	86	90	93	97	98	101	88	79	63	54	53

HOURLY VALUES OF fEs AT Okinawa

AUG. 2014

LAT. 26°41.0′N LON. 128°09.0′E SWEEP 1.0MHz TO 30.0MHz AUTOMATIC SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	43	G	G	G	34	28	35	42	56	52	137	145	64	79	G	58	G	70	49	57	45	35	59	58
2	58	59	79	57	39	G	G	34	87	52	62	77	68	104	66	61	48	104	123	65	58	34	38	49
3	32	G	G	G	G	G	G	36	G	G	G	G	103	79	90	107	76	96	48	26	44	27	G	G
4	33	32	28	58	43	G	G	42	40	G	G	G	G	G	G	G	59	60	41	34	G	G	G	G
5	G	G	G	G	G	G	G	G	G	50	G	69	48	95	48	G	53	66	36	31	35	48	G	G
6	G	G	G	G	26	33	36	32	G	G	52	G	G	G	G	G	56	56	39	58	52	81	43	G
7	28	28	G	G	G	35	G	36	G	47	50	53	G	G	G	56	56	61	39	G	36	33	G	G
8	G	G	G	G	G	G	G	32	42	47	52	82	64	86	52	62	54	65	58	36	49	G	G	25
9	29	G	G	G	G	G	G	51	51	49	G	G	50	71	50	46	56	79	64	40	65	50	45	43
10	39	26	G	G	G	G	26	45	53	56	83	G	G	48	65	54	91	87	50	46	111	94	G	40
11	40	36	26	G	G	G	G	36	G	41	G	G	48	125	86	53	68	G	48	G	50	34	G	G
12	G	49	28	G	38	31	26	42	56	51	52	G	G	G	81	55	G	44	37	36	26	G	36	36
13	G	56	54	50	30	33	G	46	G	57	54	G	G	49	58	G	56	79	62	46	39	54	70	26
14	G	56	28	37	24	G	41	56	40	50	G	G	G	57	54	51	61	G	G	G	36	58	25	48
15	54	65	28	G	28	G	32	36	47	50	53	60	50	G	G	G	G	55	59	40	59	G	G	44
16	40	G	46	36	33	G	G	G	44	51	78	56	46	62	G	G	G	51	42	31	36	G	G	37
17	37	40	43	33	36	B	28	46	55	71	96	77	94	169	123	90	83	75	151	90	37	35	33	27
18	26	G	G	28	45	49	52	52	50	42	G	G	G	G	G	G	47	G	38	30	G	G	G	G
19	50	42	G	G	25	G	27	50	68	50	68	70	52	G	61	60	68	G	G	G	G	G	G	G
20	26	46	46	27	G	G	29	62	43	47	G	G	53	64	45	74	G	95	57	47	53	44	59	71
21	67	36	G	G	G	G	G	52	50	G	78	78	G	G	G	G	50	54	74	93	82	82	26	30
22	58	43	G	28	38	28	G	58	115	137	116	136	53	57	G	G	G	42	52	66	59	49	26	G
23	32	28	36	G	G	26	29	G	G	G	G	G	G	G	G	58	48	56	52	49	48	51	34	28
24	G	28	G	28	G	G	G	G	G	G	G	45	G	G	G	G	G	G	39	44	36	49	33	G
25	B	34	G	26	28	25	26	36	48	50	54	53	G	G	55	59	78	46	38	82	40	28	34	49
26	24	G	G	G	G	G	G	G	43	G	56	63	58	90	53	53	56	60	60	64	49	40	G	28
27	38	51	43	30	G	G	G	34	53	72	92	57	60	66	50	78	62	57	61	29	59	92	59	40
28	36	32	39	28	G	G	46	59	60	60	G	G	G	G	48	G	49	G	G	G	26	G	49	40
29	34	G	25	G	G	G	G	42	43	50	50	76	67	124	59	67	61	50	61	40	43	G	G	G
30	G	G	55	28	28	G	G	57	50	78	56	94	50	54	52	80	60	46	56	50	53	36	36	27
31	34	G	G	G	G	G	G	G	G	G	G	G	58	65	74	90	50	G	G	G	G	G	G	G
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	30	31	31	31	31	30	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31
MED	32	28	G	G	G	G	G	42	44	50	52	53	48	57	50	54	56	56	49	40	44	35	26	27
U Q	40	43	39	28	33	26	29	51	53	52	68	76	58	79	61	62	61	70	60	57	53	50	38	40
L Q	G	G	G	G	G	G	G	32	G	G	G	G	G	G	G	G	47	42	38	29	36	G	G	G

HOURLY VALUES OF fmin AT Okinawa

AUG. 2014

LAT. 26°41.0′N LON. 128°09.0′E SWEEP 1.0MHz TO 30.0MHz AUTOMATIC SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	17	15	20	15	15	14	14	22	18	40	38	42	40	38	60	40	54	23	18	15	15	14	14	15
2	15	15	17	15	17	17	18	18	20	34	40	39	40	40	40	40	33	18	17	14	15	14	14	15
3	14	18	20	18	22	15	26	18	20	45	60	60	42	43	43	40	40	30	17	17	15	16	26	20
4	15	14	15	14	14	15	20	17	20	42	54	64	52	58	91	101	20	17	14	15	17	17	22	18
5	15	15	18	16	14	14	18	16	21	46	44	40	43	42	40	59	36	22	16	14	14	14	20	15
6	42	21	17	17	15	14	14	14	40	45	40	60	55	56	55	51	36	17	16	14	15	14	15	15
7	15	15	15	15	16	17	14	17	20	36	39	39	60	59	62	38	33	22	17	20	17	15	15	15
8	16	17	15	15	15	16	20	16	28	24	38	36	40	33	33	30	16	17	14	14	17	26	16	15
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12	42	14	15	17	16	14	15	14	15	21	26	52	101	61	23	22	17	15	14	14	14	14	15	15
13	18	14	15	14	14	14	18	20	18	23	38	48	53	56	40	54	33	20	16	14	15	14	15	42
14	34	17	14	15	14	15	14	14	15	17	46	50	58	42	40	28	23	20	15	17	14	15	16	16
15	15	14	15	15	15	15	14	15	18	20	40	38	39	49	54	50	44	20	18	17	18	18	20	16
16	15	38	16	14	15	21	20	17	18	23	32	33	34	30	64	56	45	14	14	15	15	17	18	14
17	15	16	15	15	14	B	15	18	18	33	36	38	39	40	38	32	29	21	18	15	15	14	15	15
18	17	22	15	17	15	14	14	15	18	21	45	52	55	54	48	54	20	18	14	14	20	17	18	66
19	14	15	15	18	17	17	15	17	18	24	36	38	40	55	39	39	24	20	26	20	15	15	15	18
20	16	14	16	16	21	20	14	18	17	22	40	53	39	39	56	38	44	18	15	15	16	16	15	15
21	15	16	22	20	17	18	18	17	20	42	39	42	54	50	50	48	39	17	14	16	15	14	15	15
22	14	15	15	15	14	14	18	14	18	38	36	39	39	29	27	49	21	15	14	14	14	15	16	18
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24	15	15	15	15	18	16	18	27	17	42	49	50	56	58	60	52	46	20	14	14	16	14	15	20
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29	15	20	15	20	20	23	21	14	15	28	36	39	38	39	36	36	29	18	14	15	14	20	16	22
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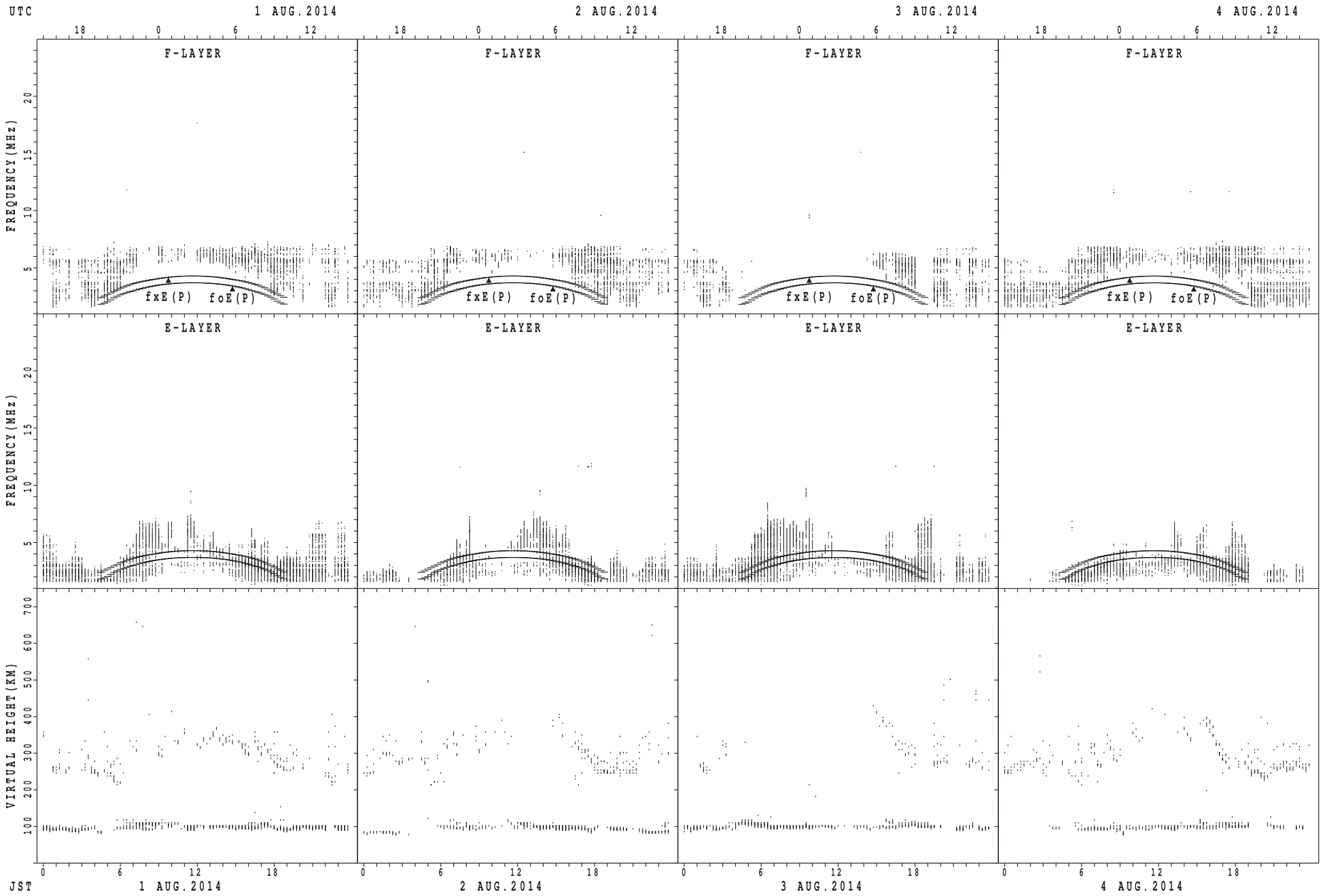
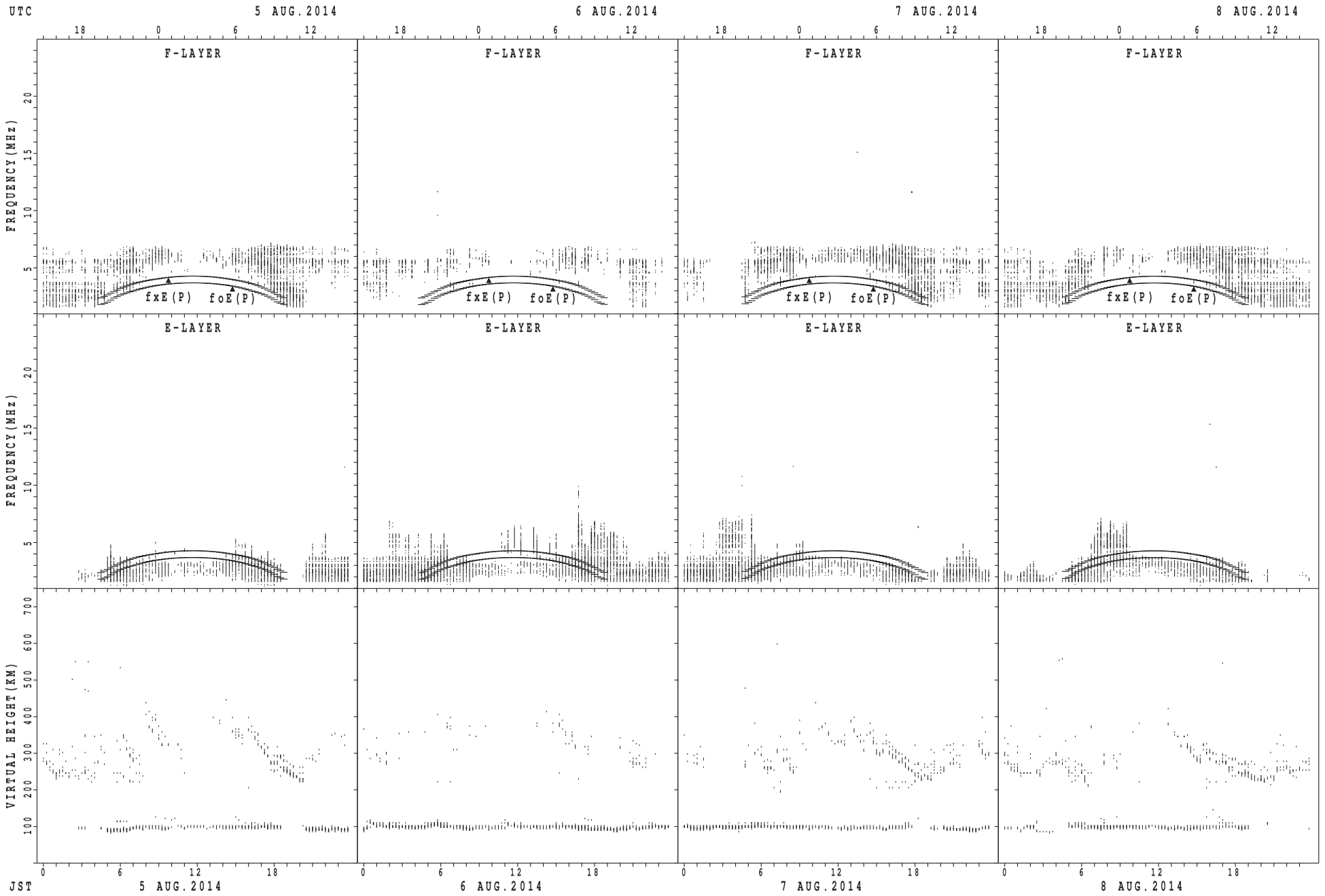
31	18	15	17	20	21	15	18	27	17	42	48	50	42	40	39	40	30	20	15	20	16	15	18	18
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	30	31	31	31	31	30	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31
MED	15	15	15	15	15	15	18	17	18	34	39	42	42	42	40	40	32	20	15	15	15	15	15	15
U Q	17	17	17	17	17	17	18	18	20	42	46	52	55	55	54	50	38	20	17	16	16	17	16	18
L Q	15	15	15	15	15	15	14	15	17	23	36	39	39	39	39	36	21	17	14	14	15	14	15	15

SUMMARY PLOTS AT Wakkanai



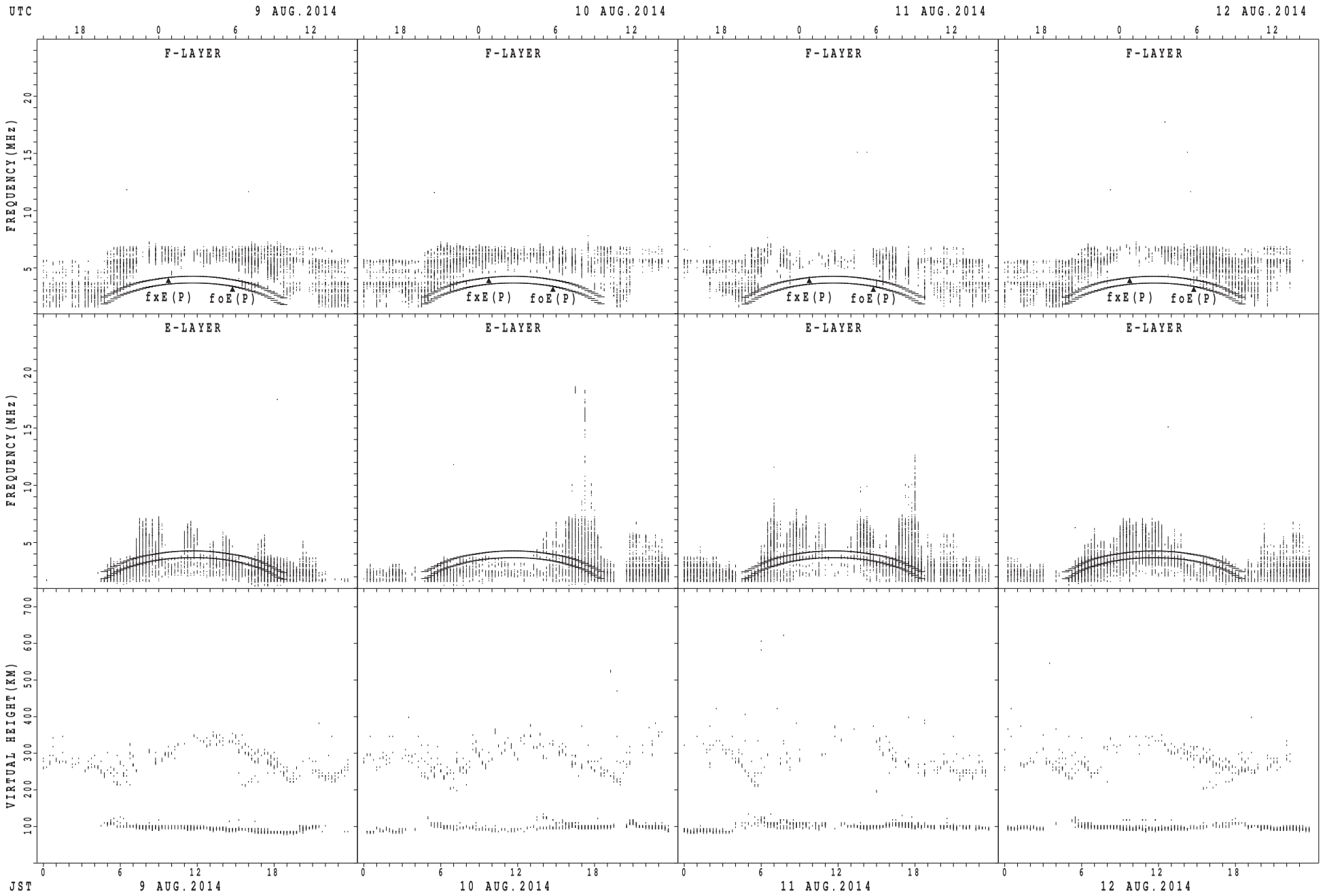
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



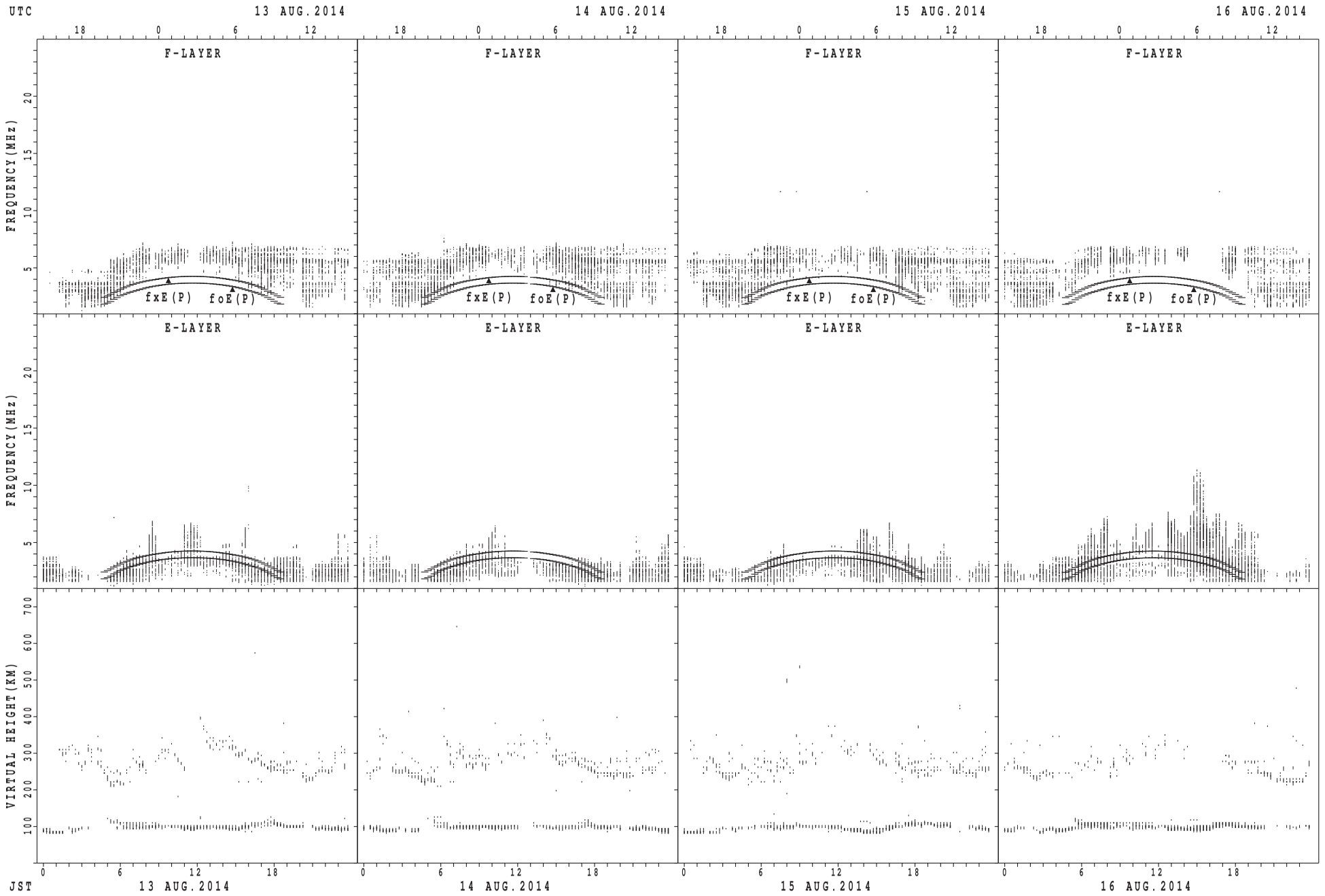
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



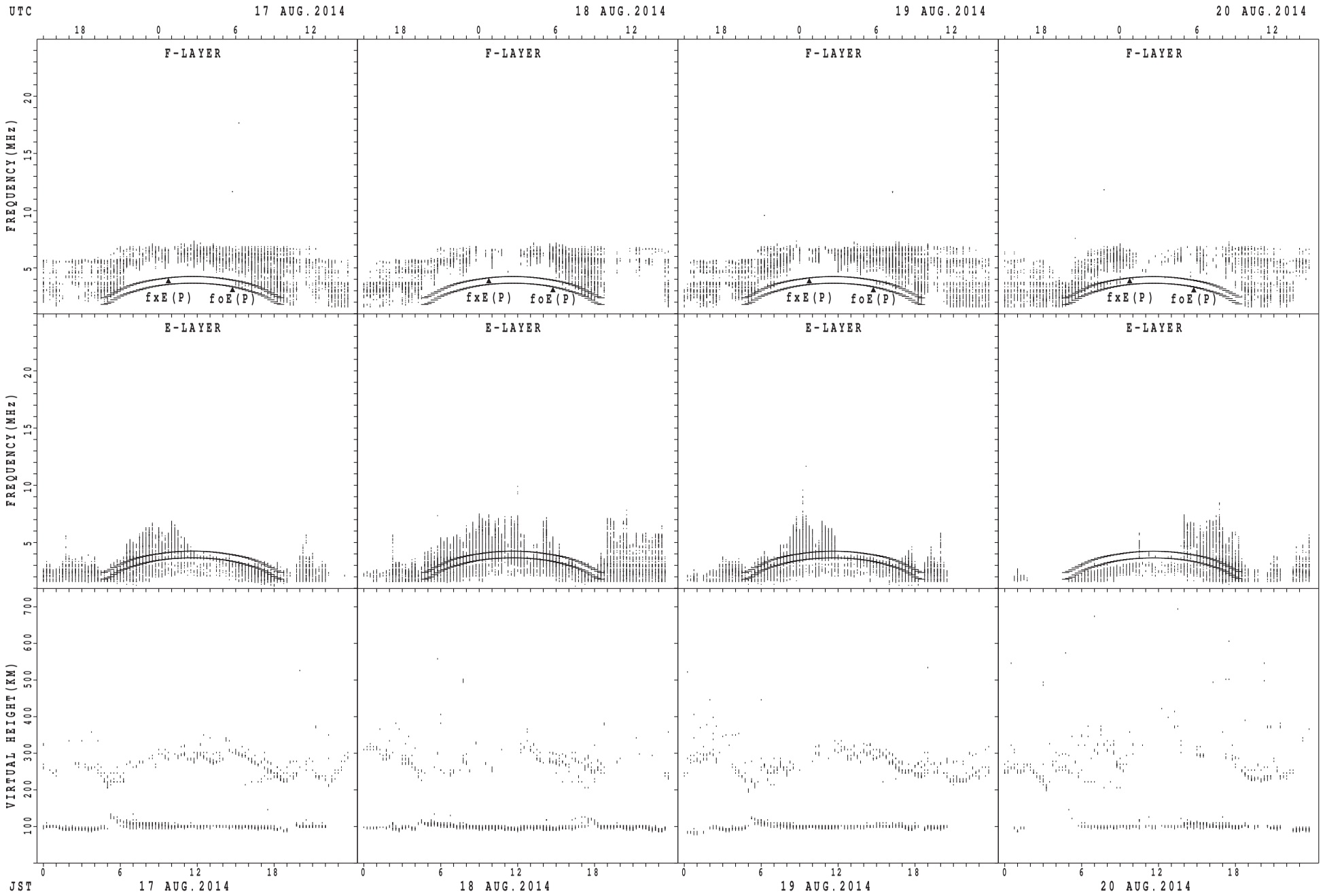
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai

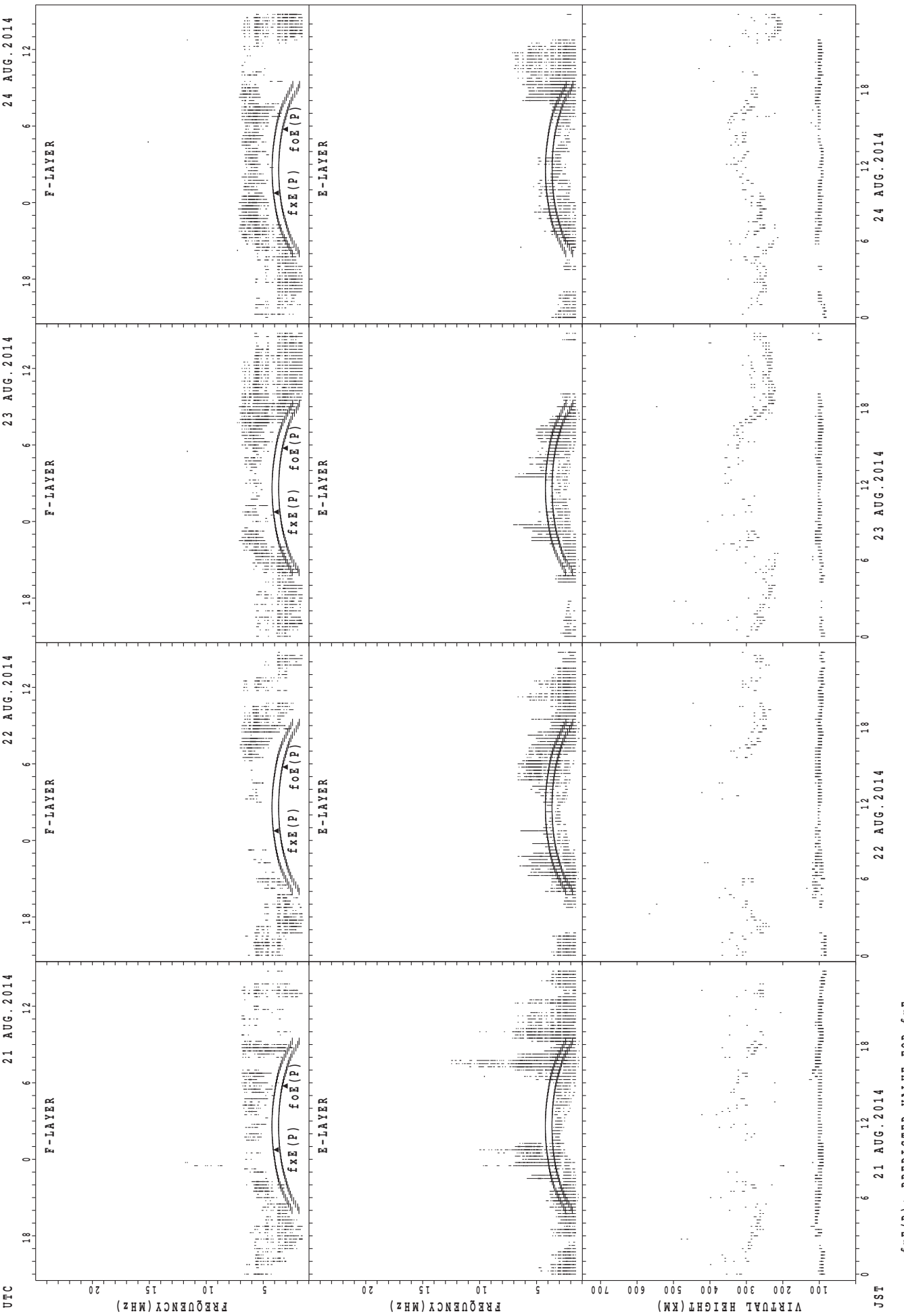


fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

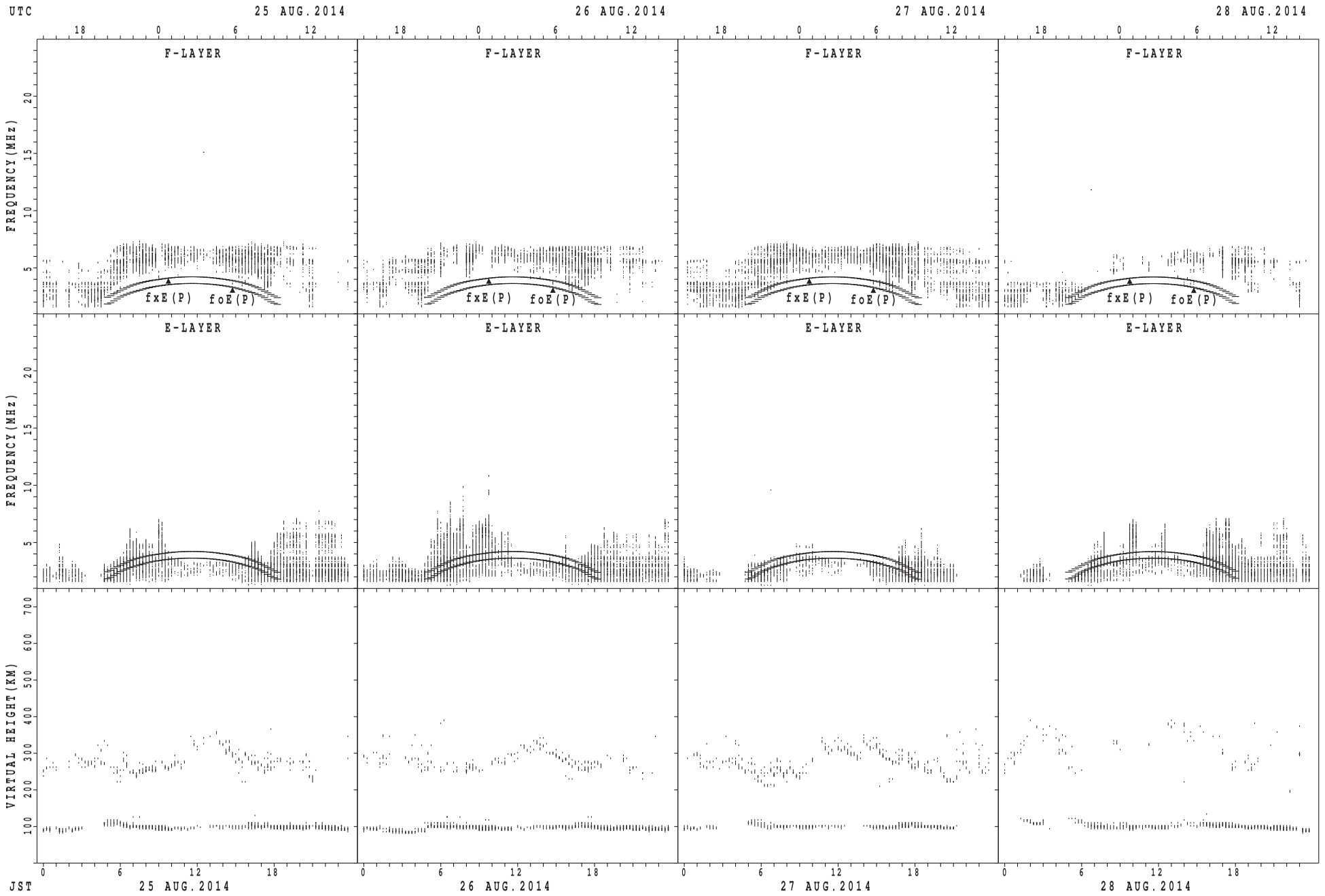
SUMMARY PLOTS AT Wakkanai



fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

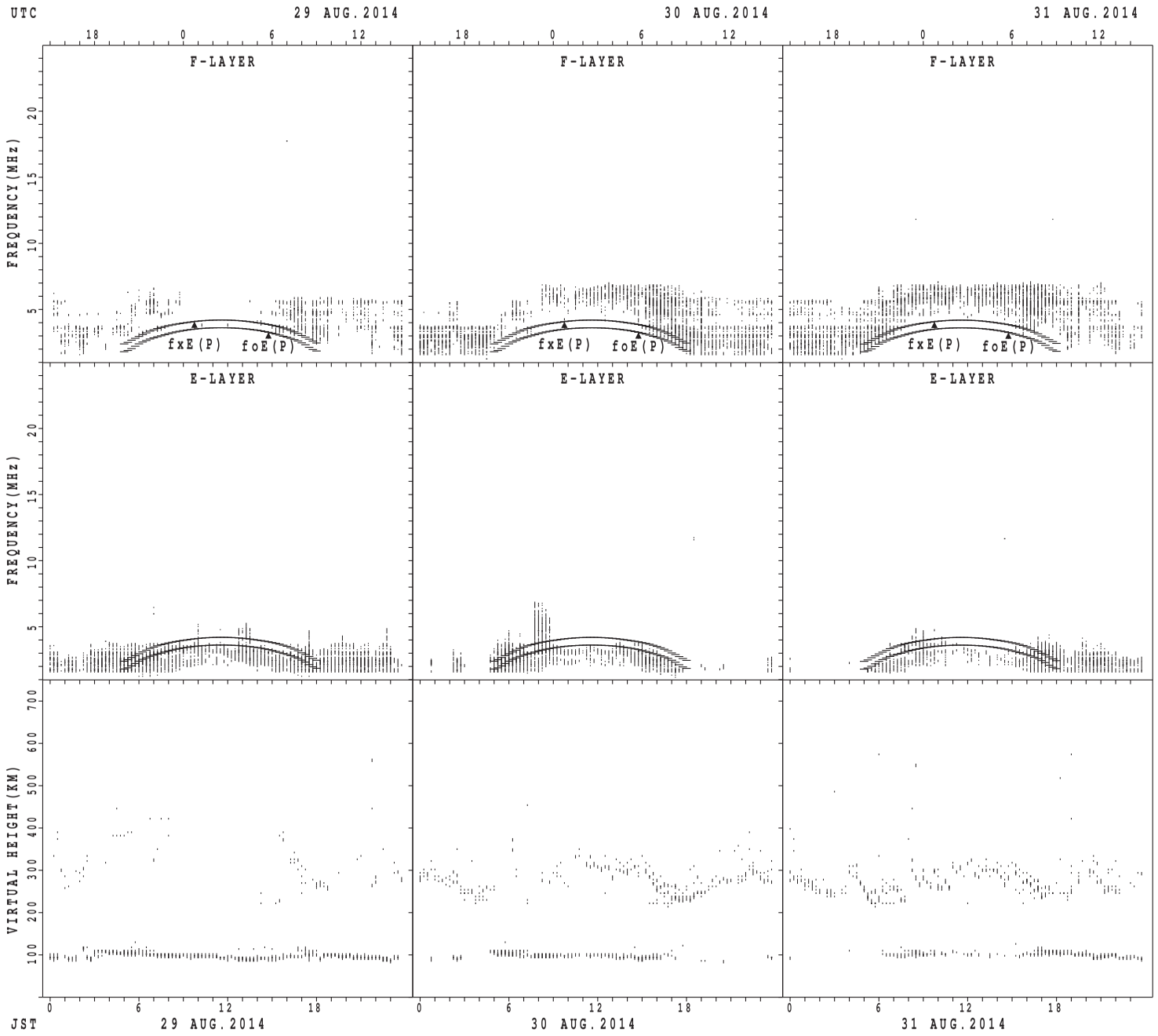

SUMMARY PLOTS AT Wakkanai
UTC
JST
21 AUG.2014
22 AUG.2014
23 AUG.2014
24 AUG.2014
F-LAYER
E-LAYER
fxE(P) foE(P)
FREQUENCY(MHz)
VIRTUAL HEIGHT(KM)
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



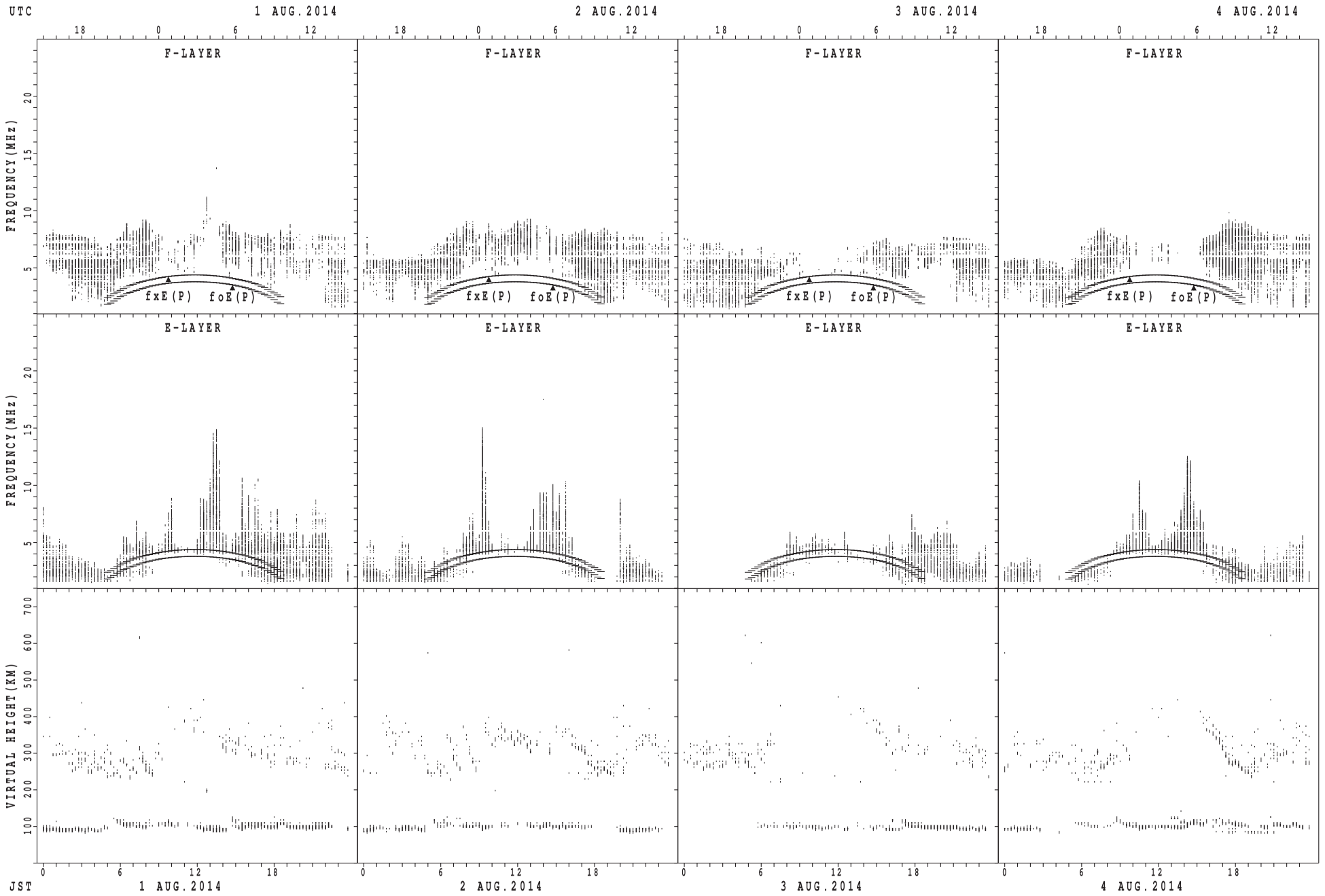
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Wakkanai



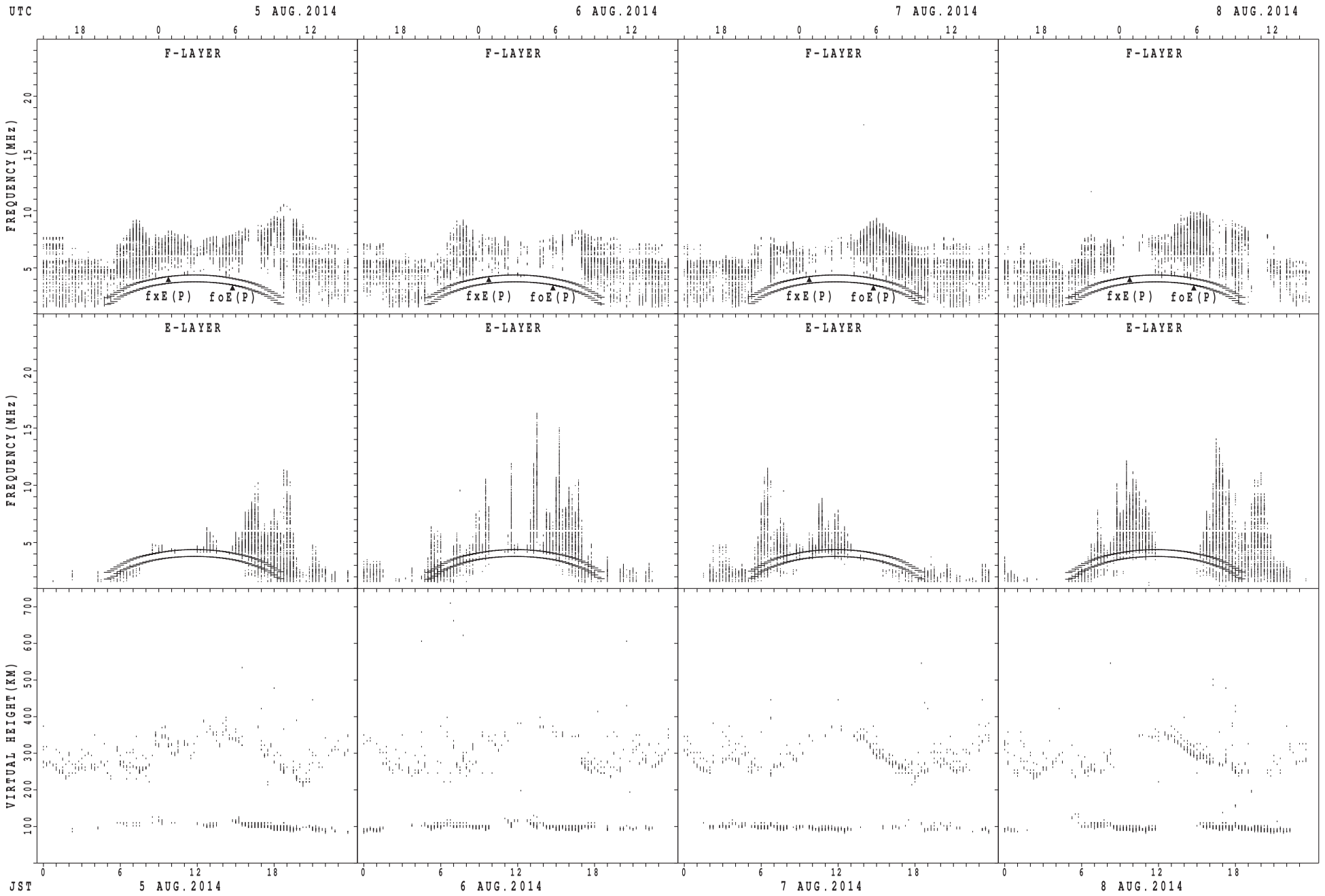
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



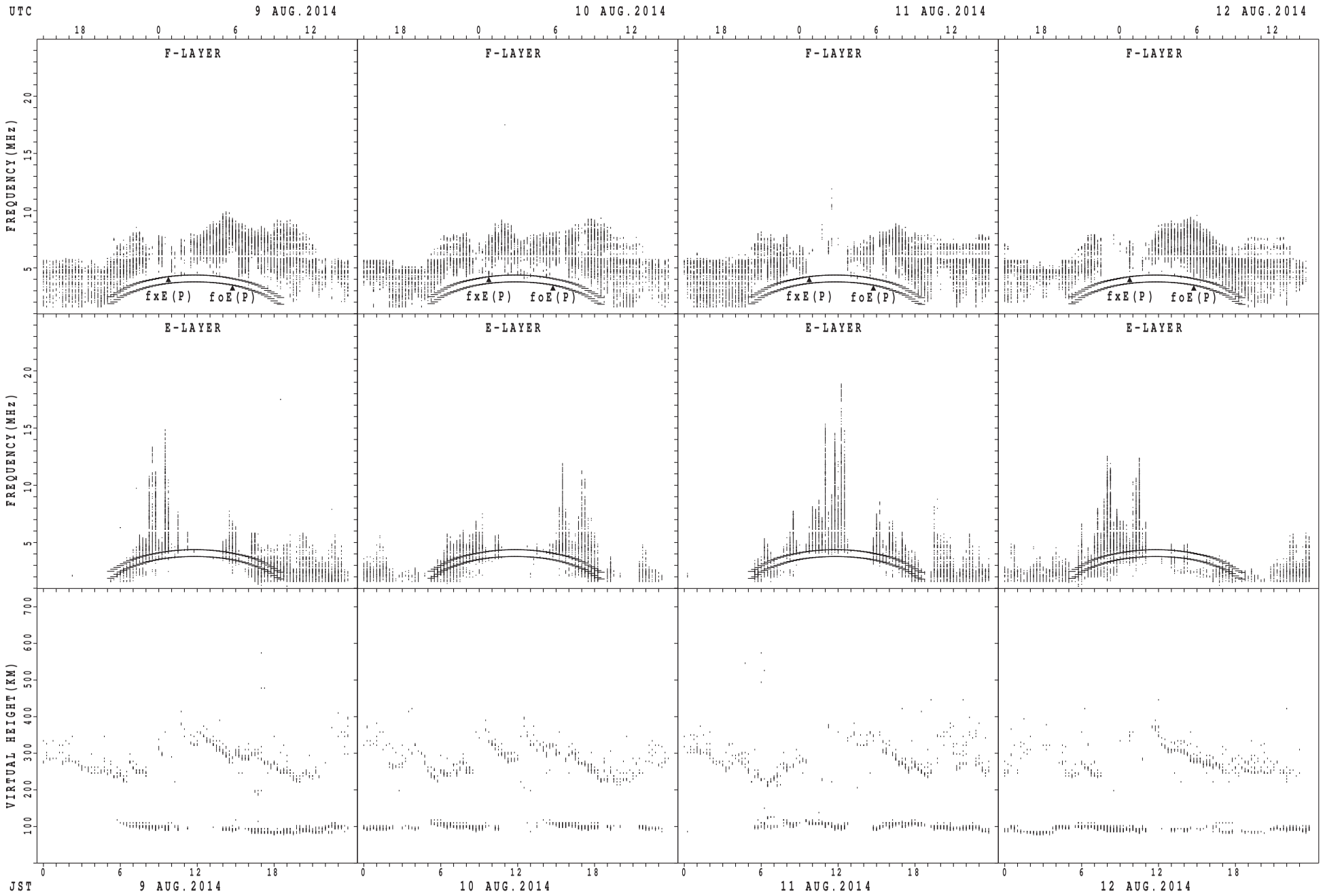
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



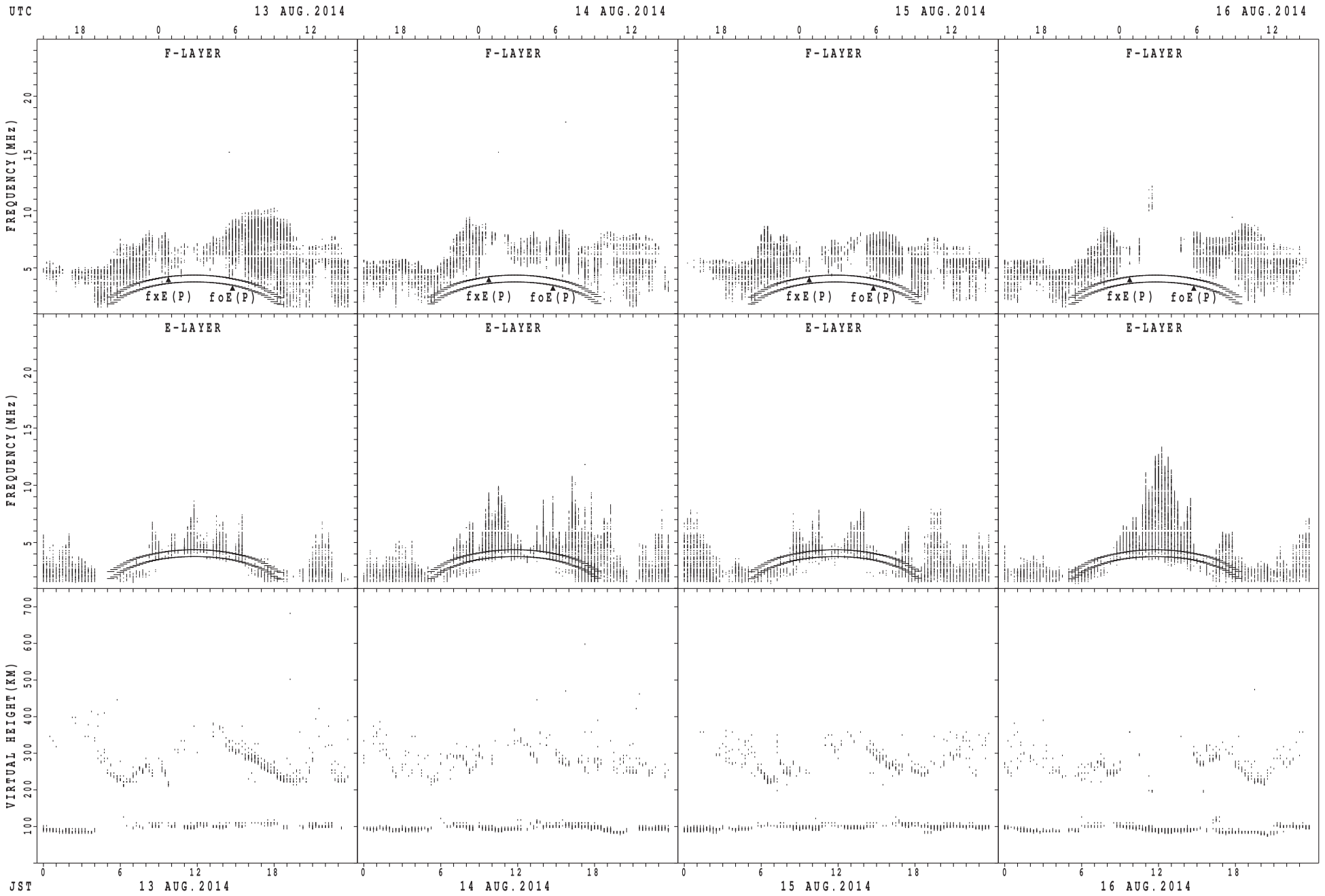
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



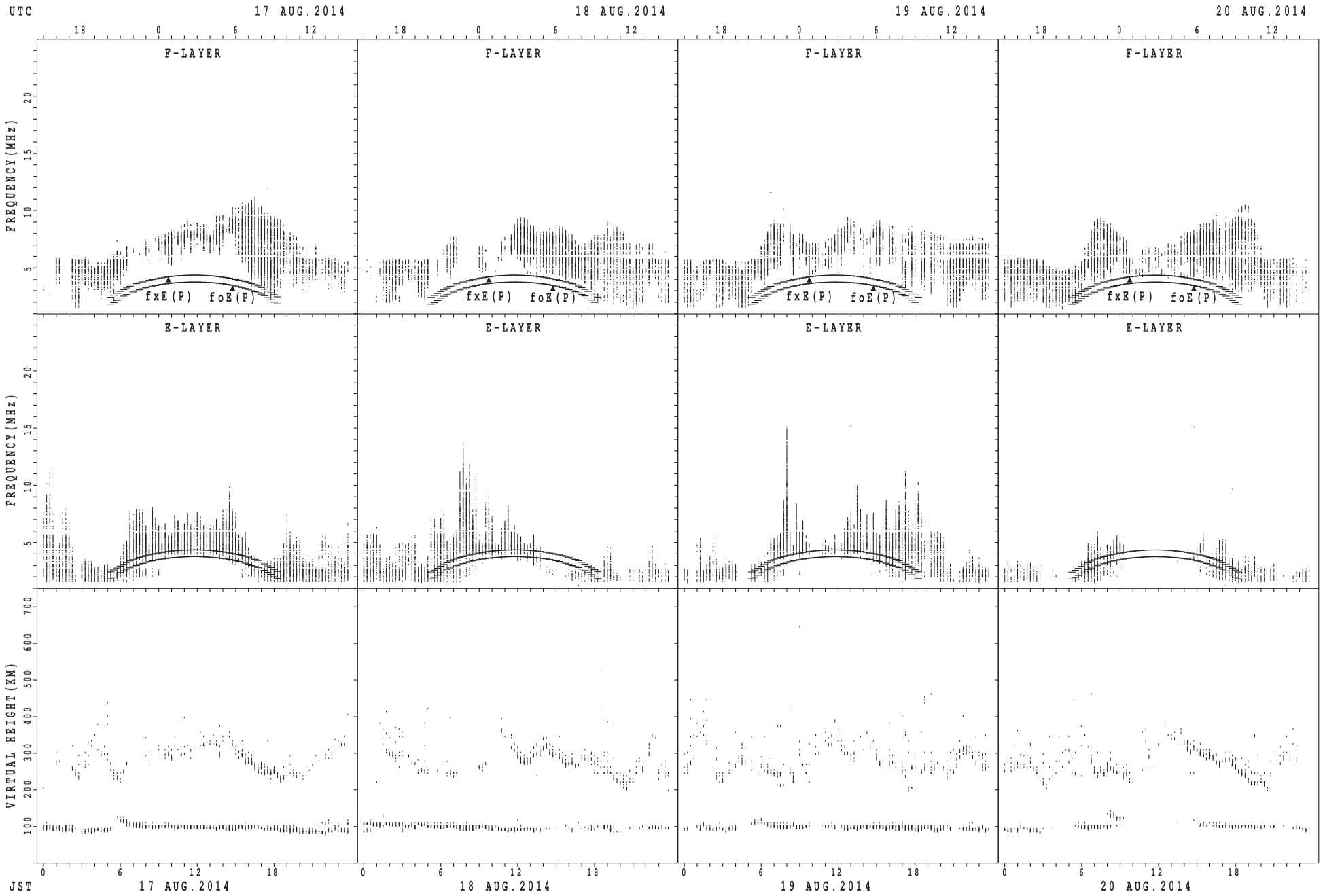
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



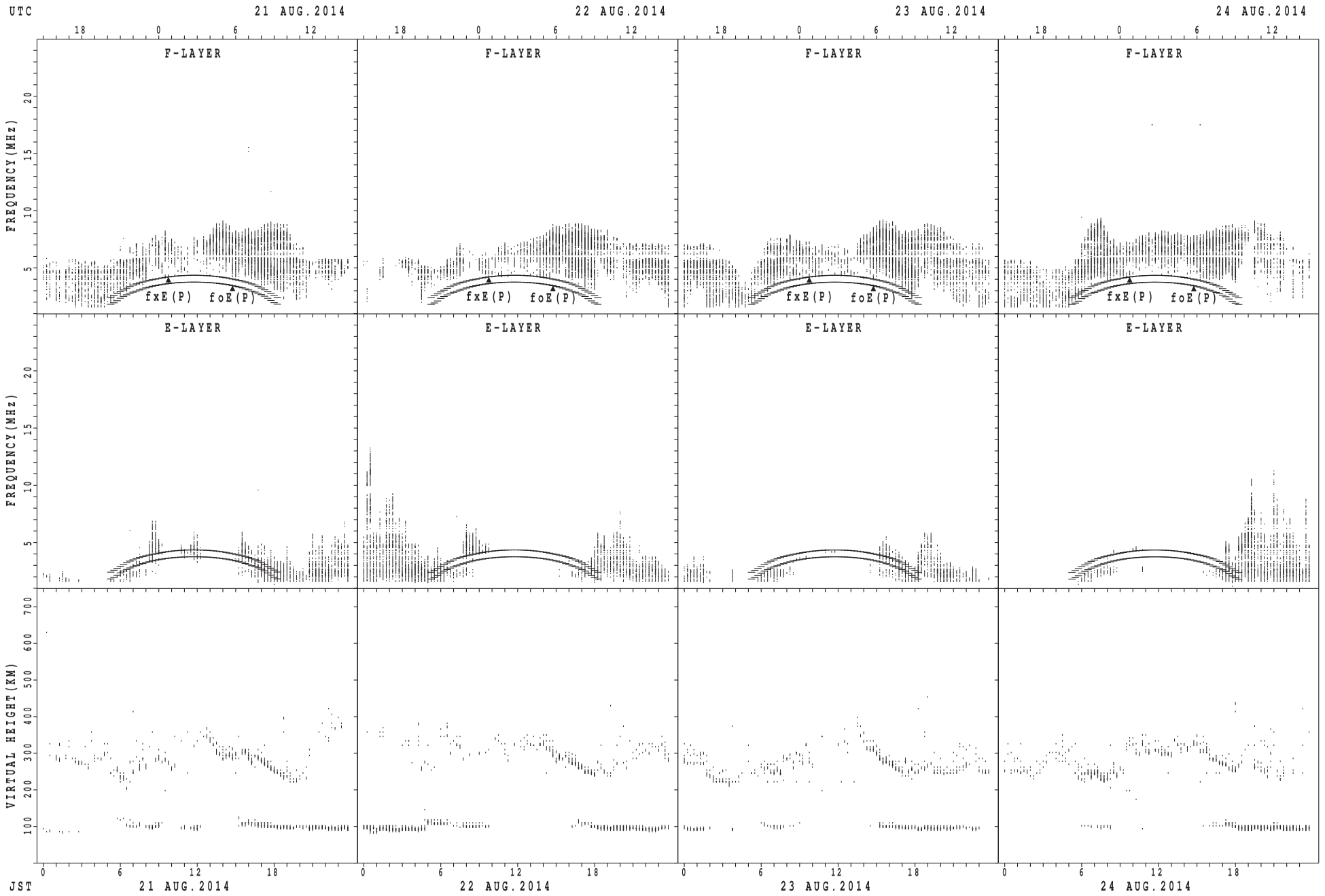
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



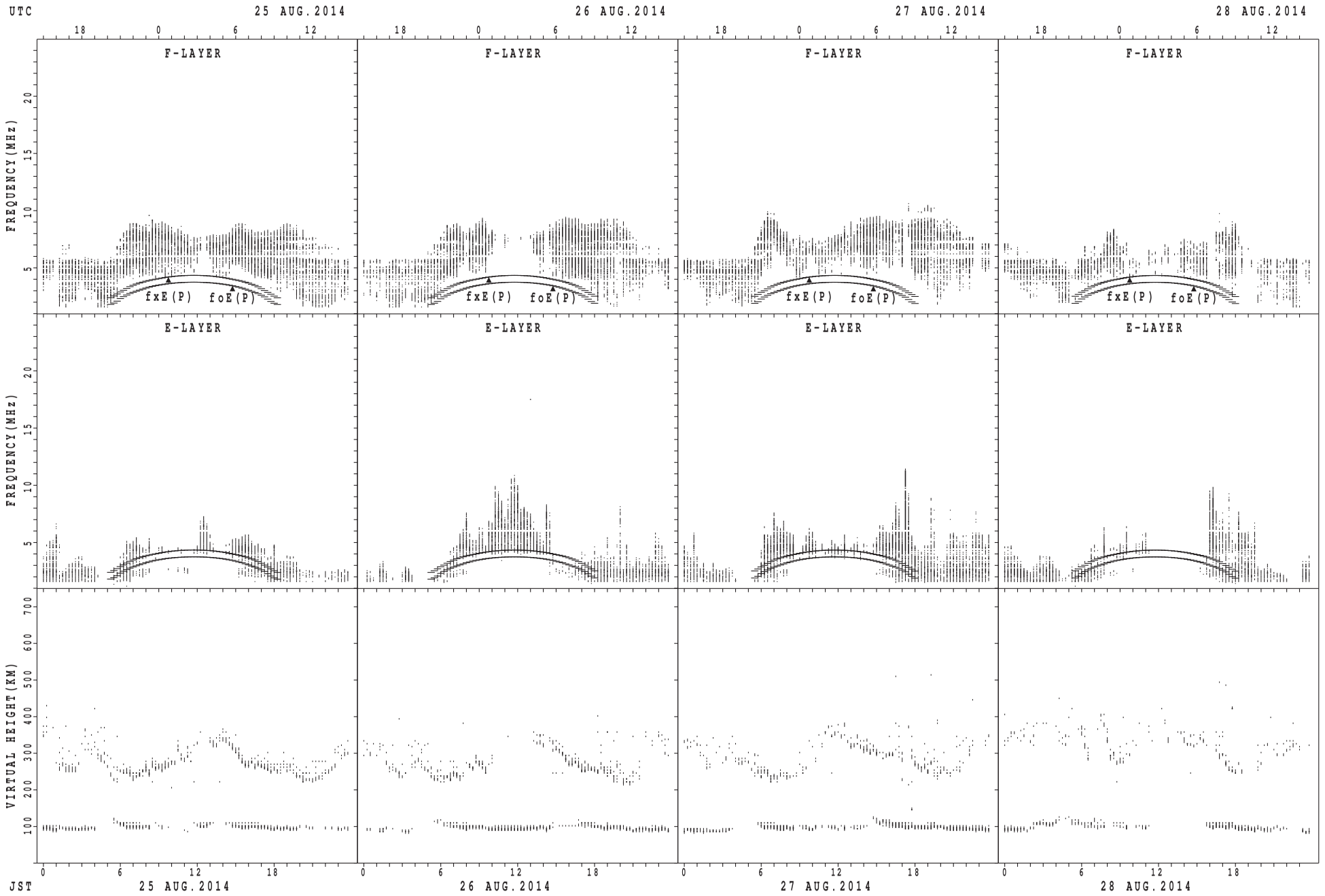
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



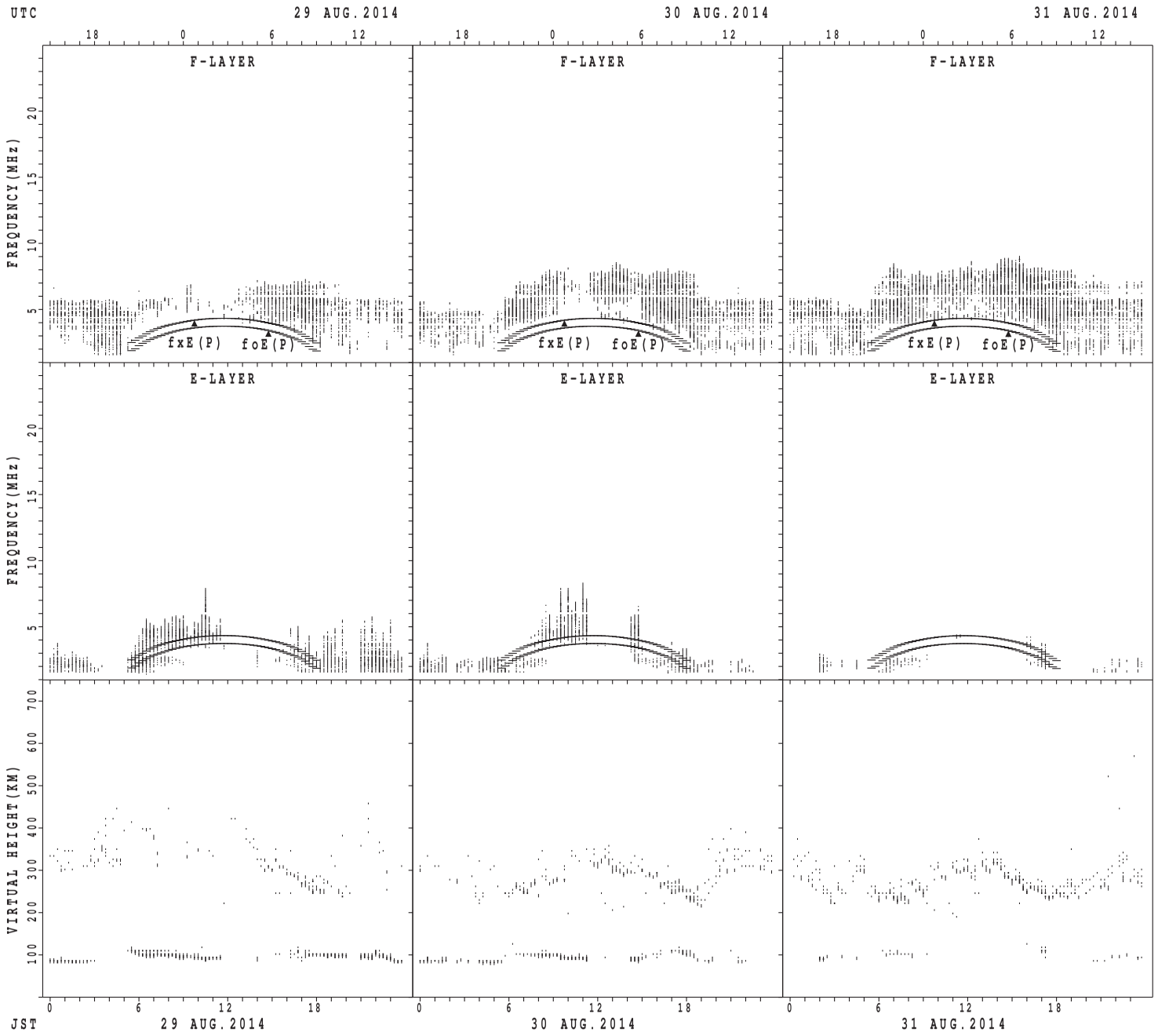
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



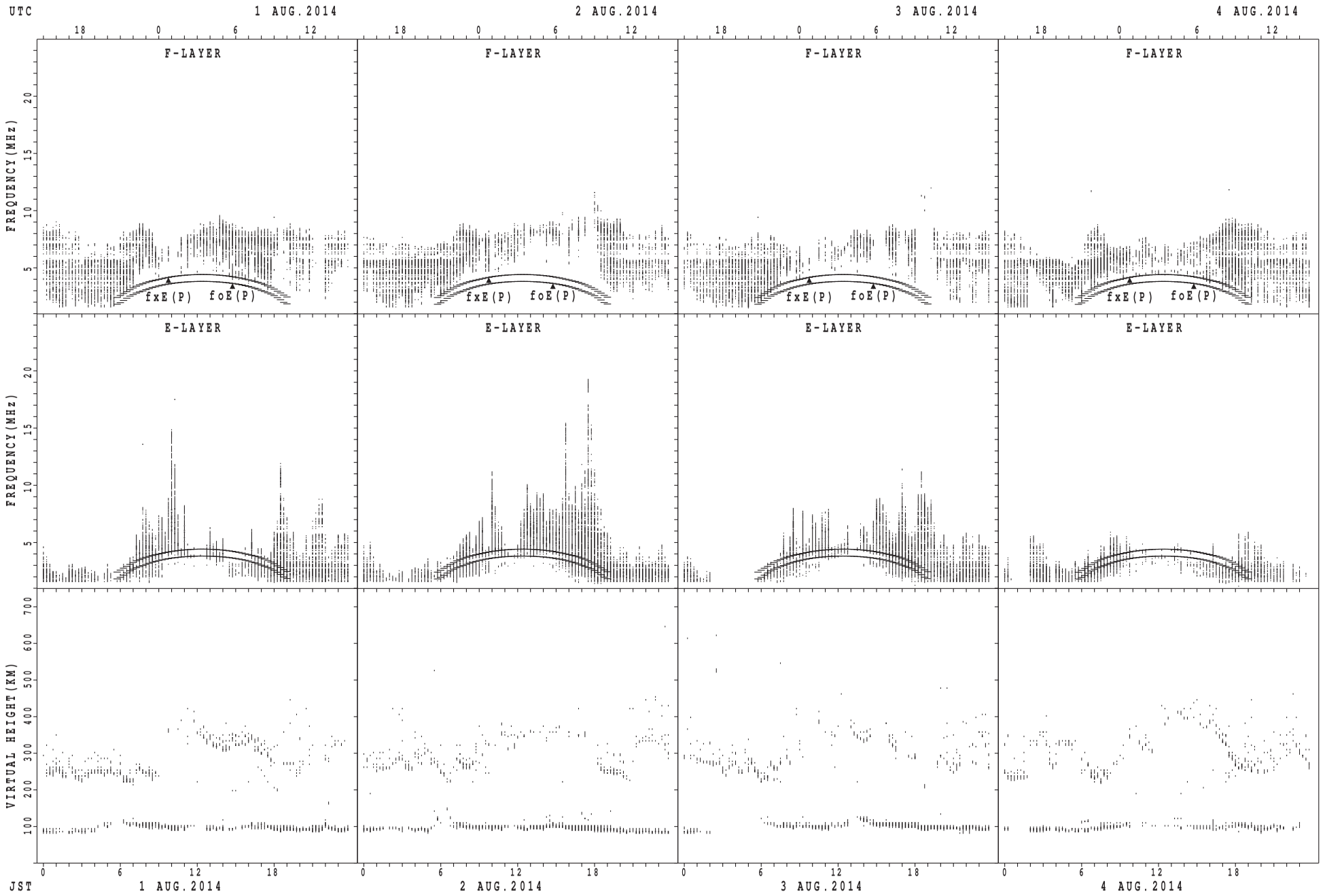
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Kokubunji



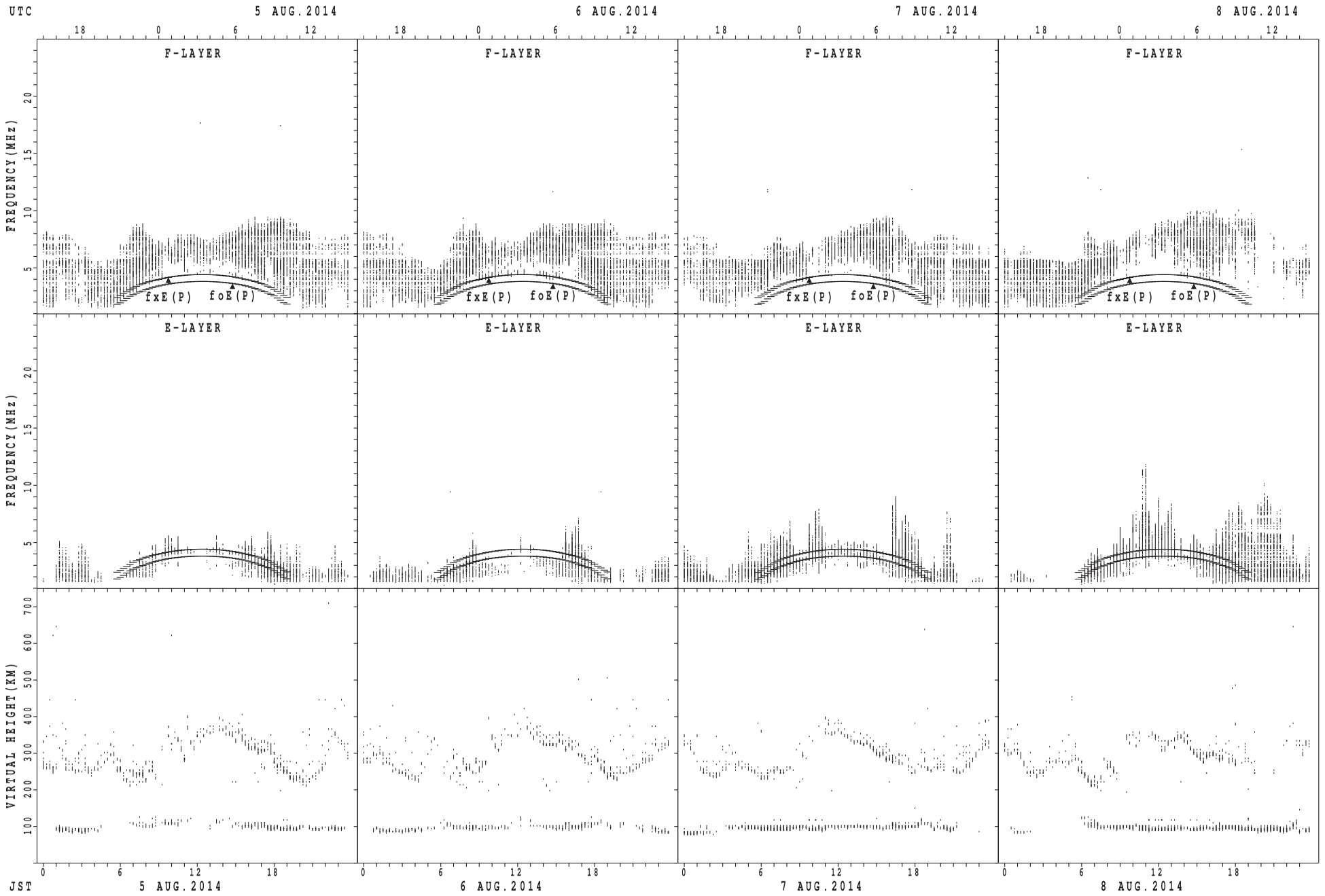
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



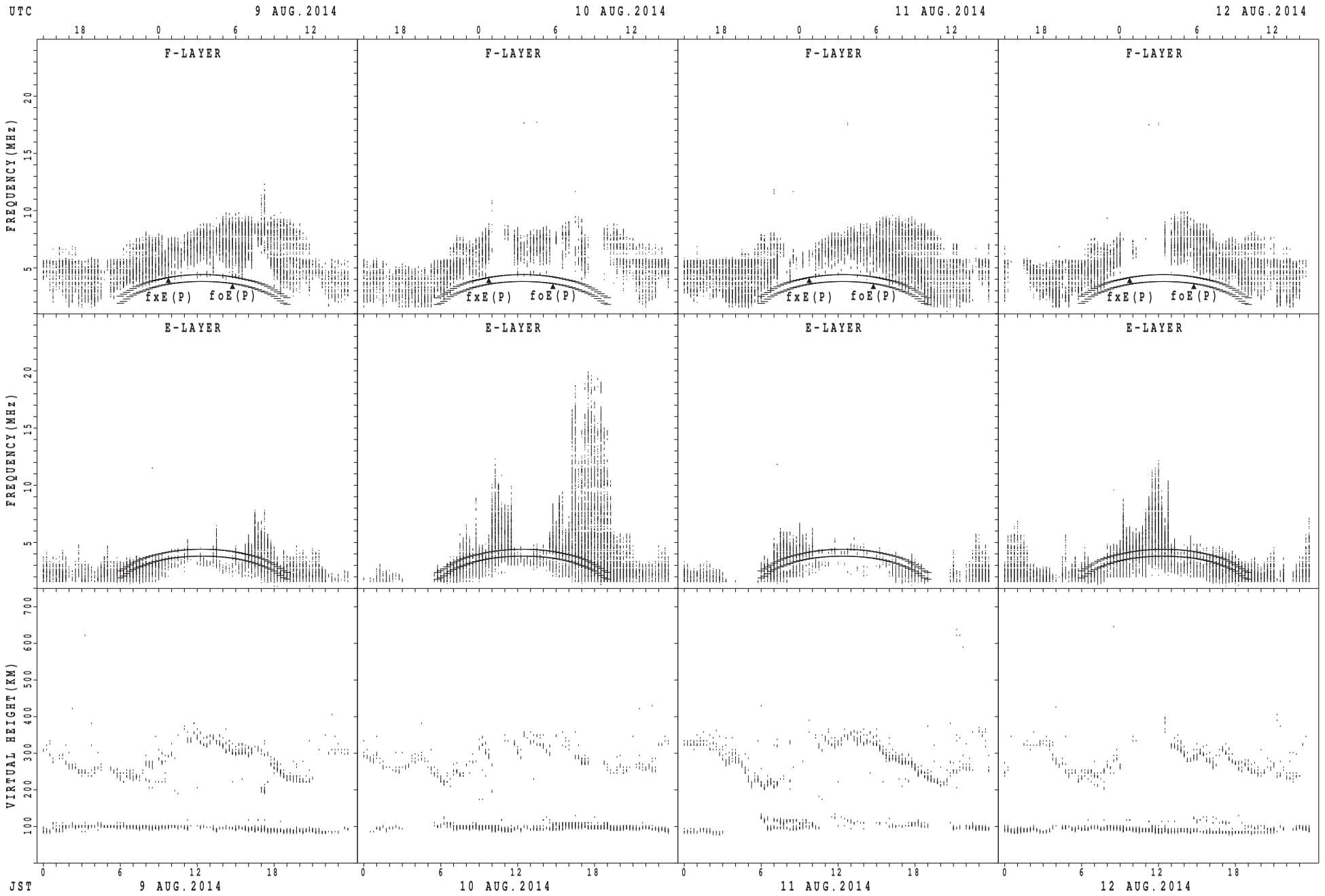
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



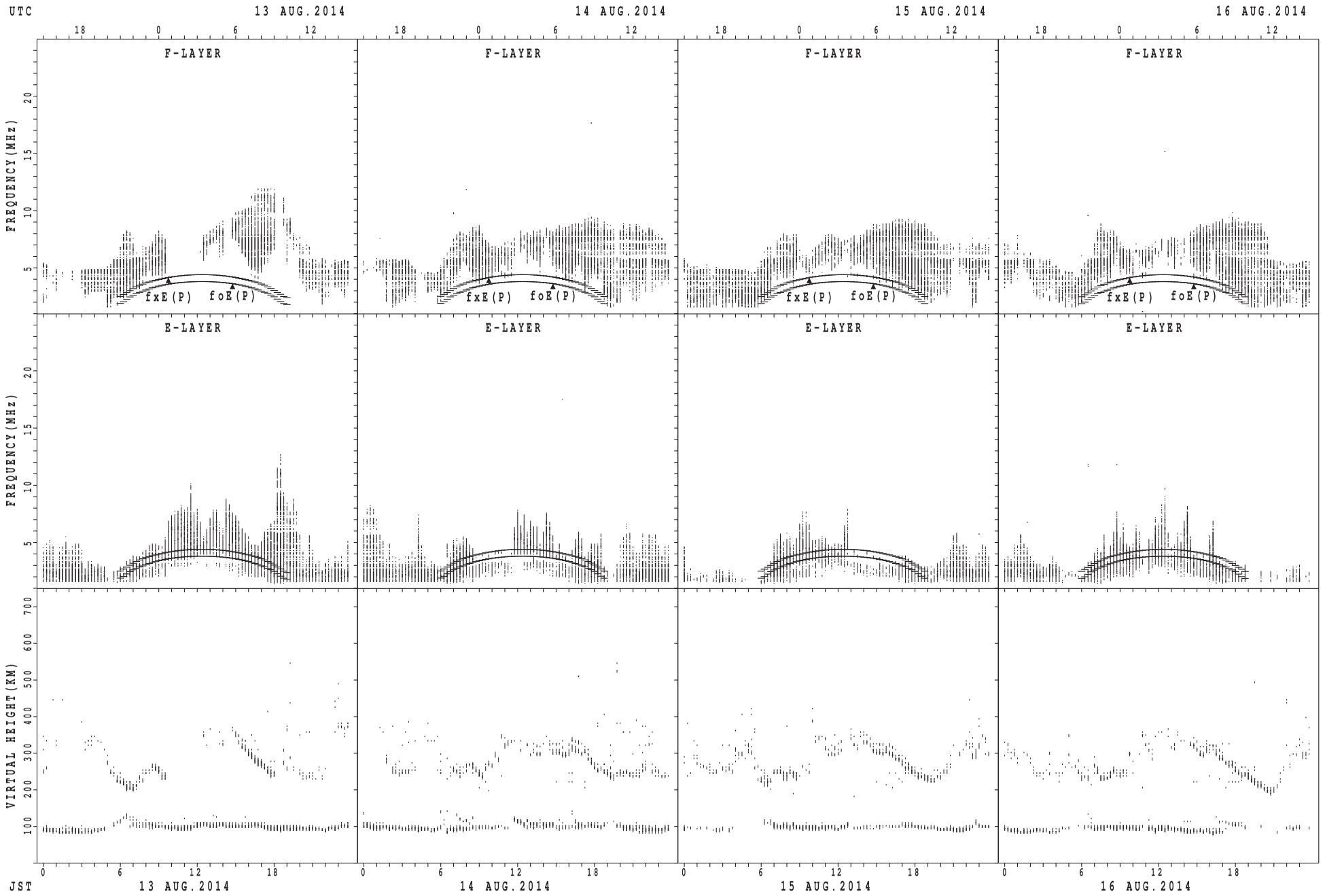
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



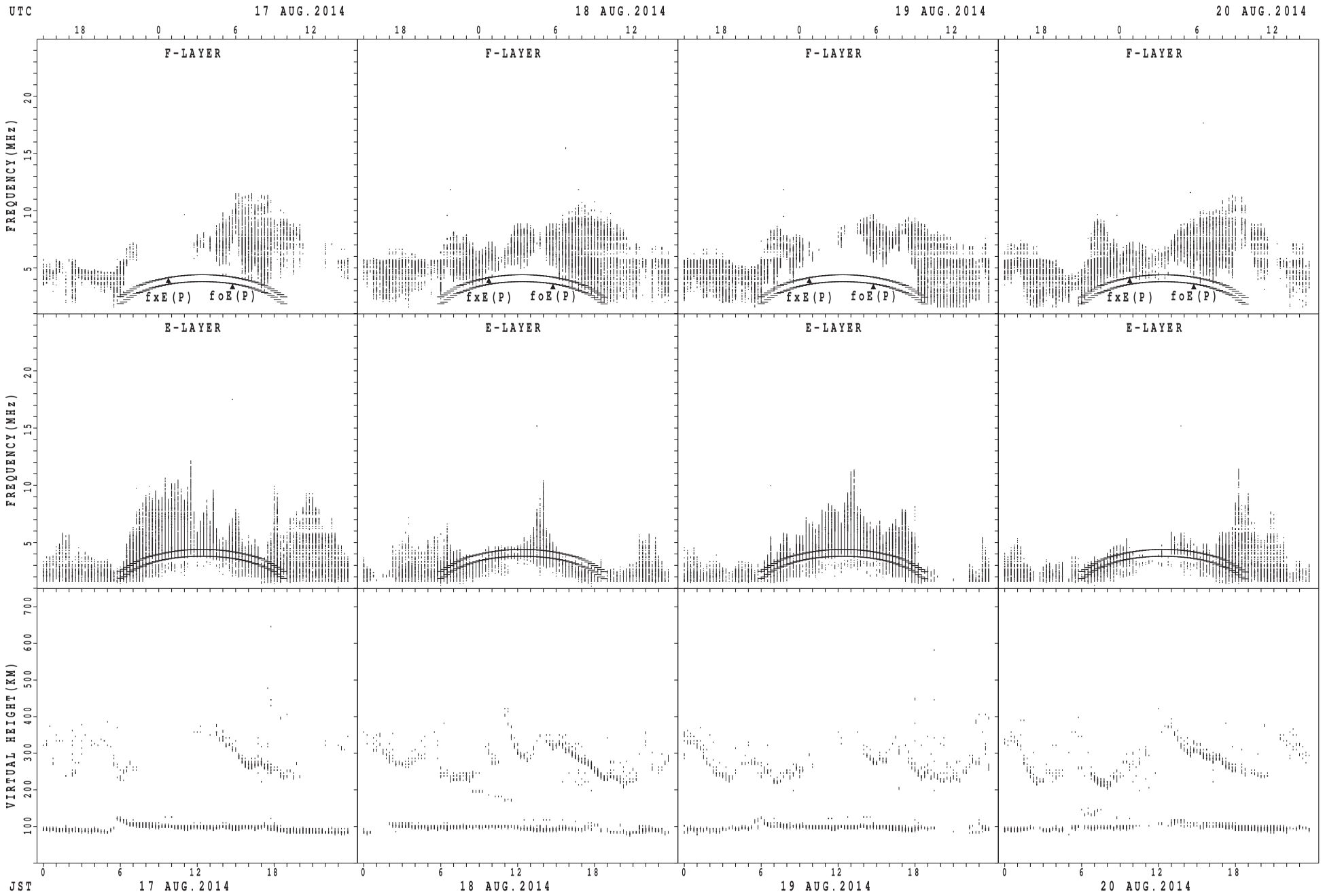
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



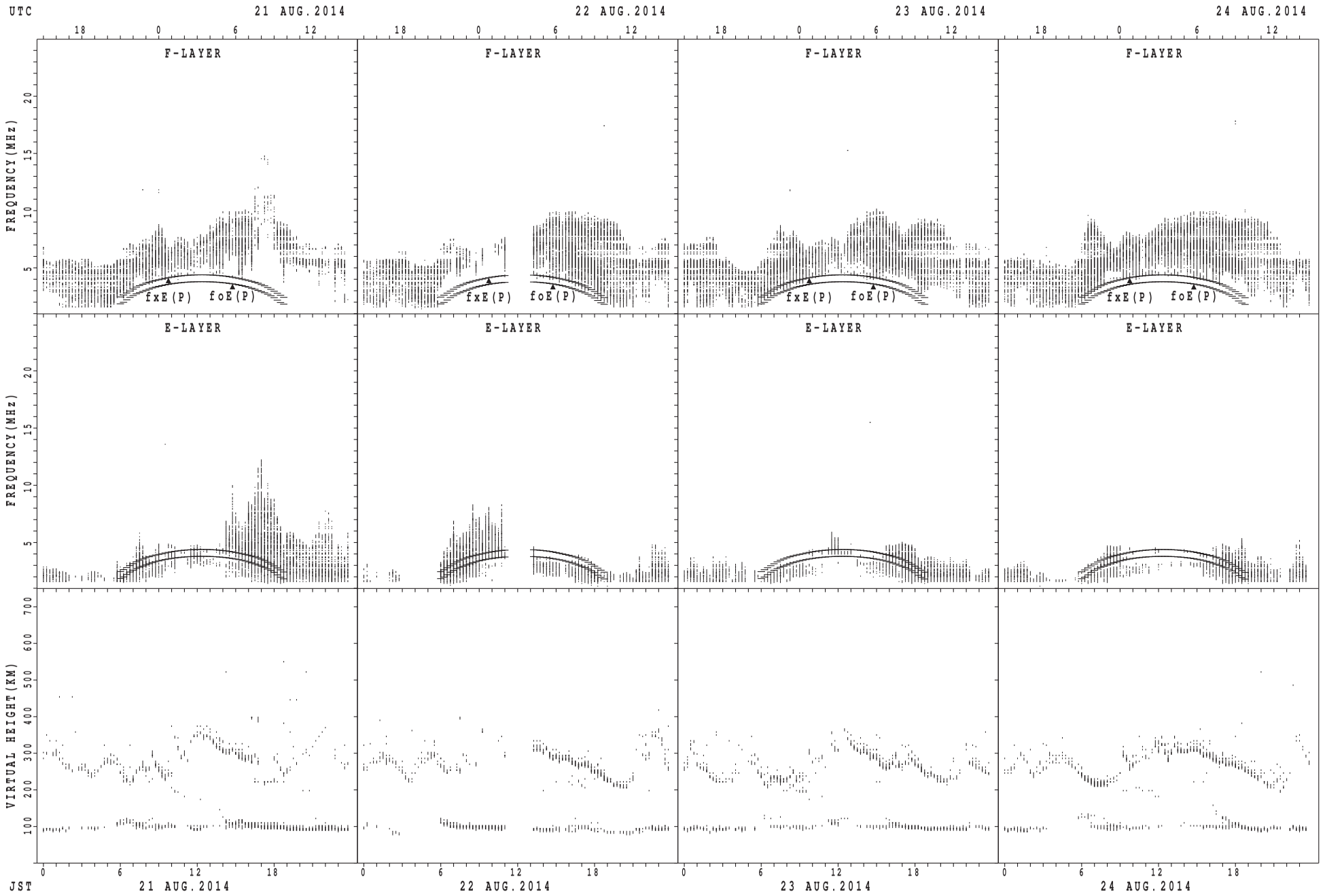
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



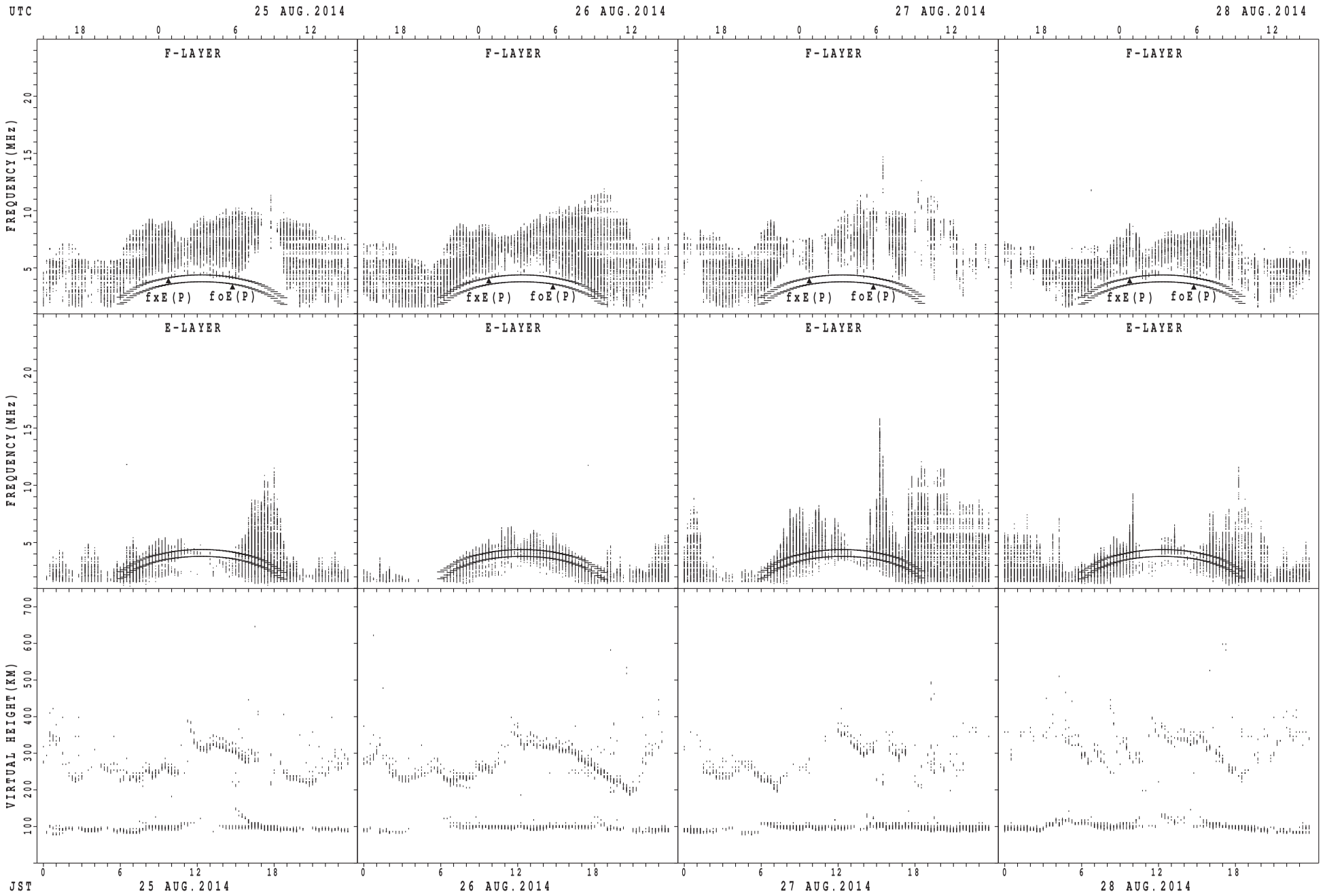
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



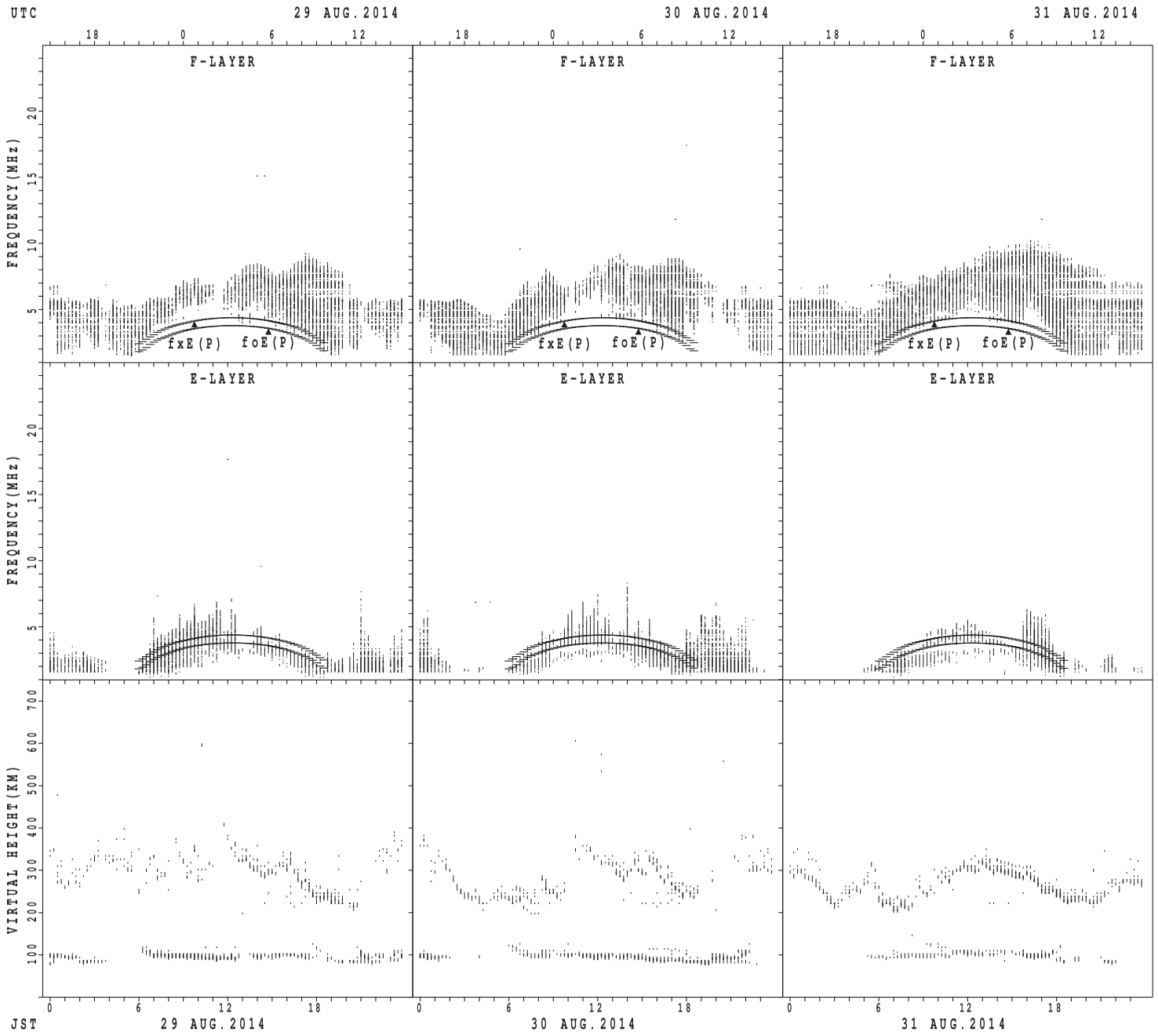
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



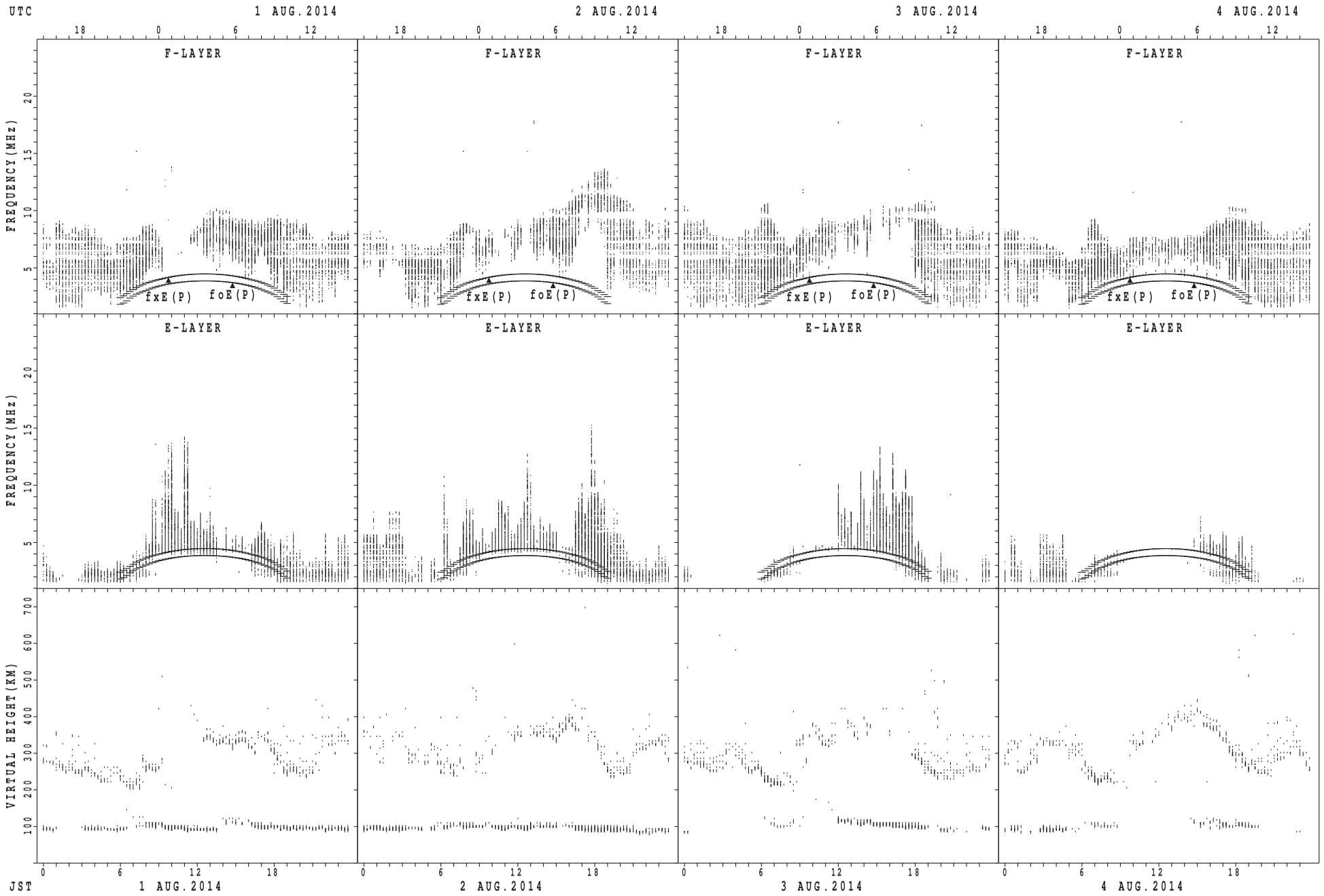
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Yamagawa



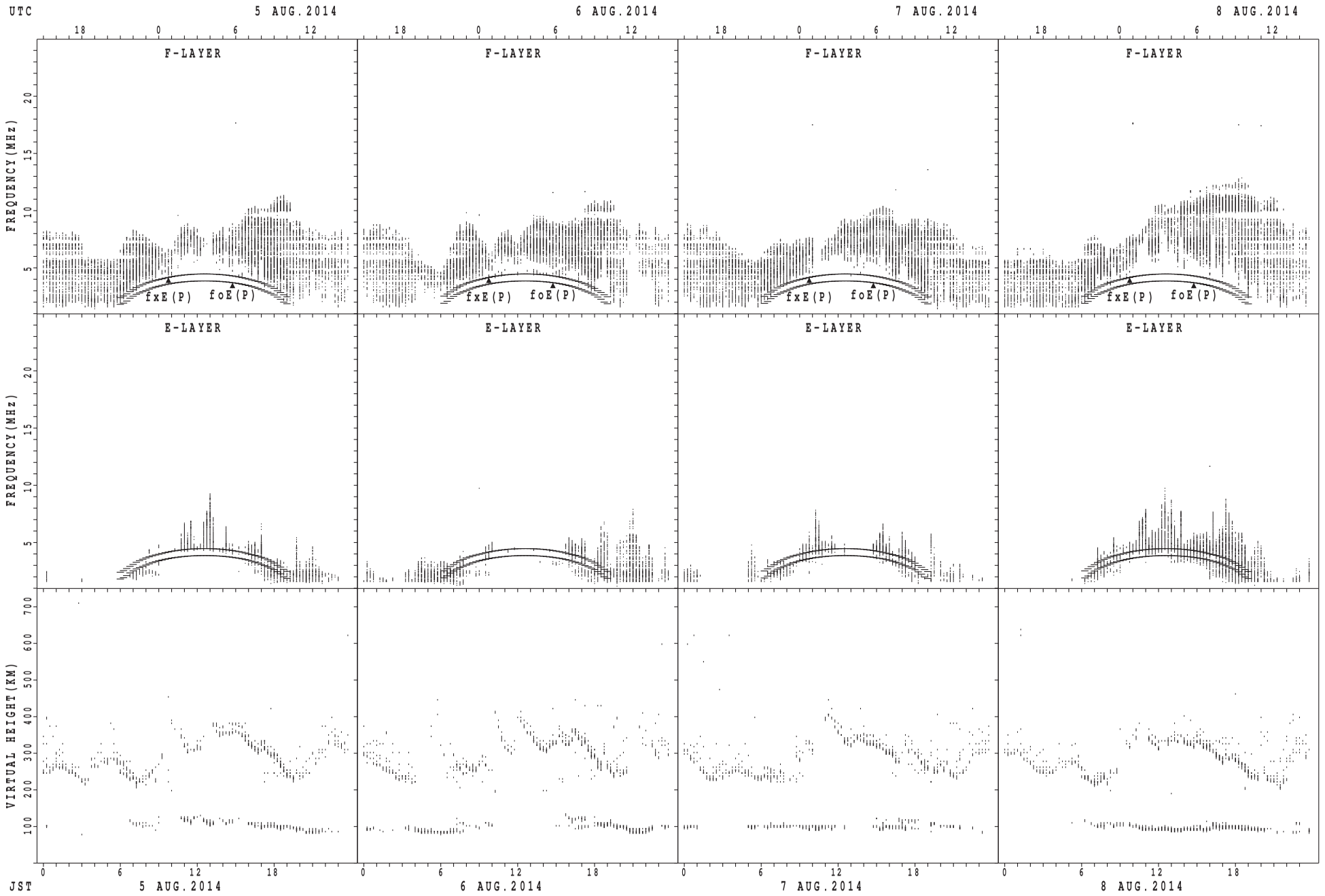
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



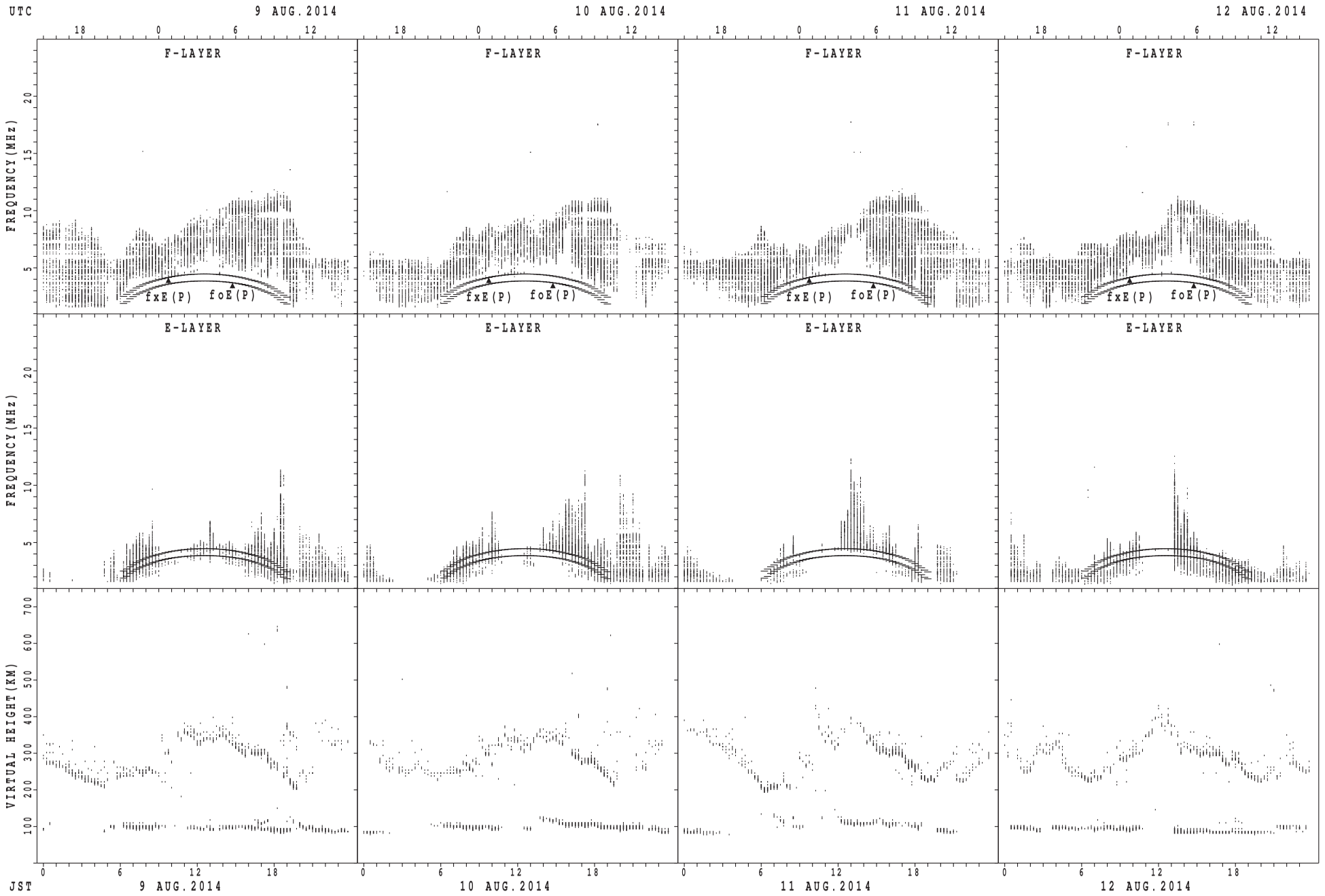
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



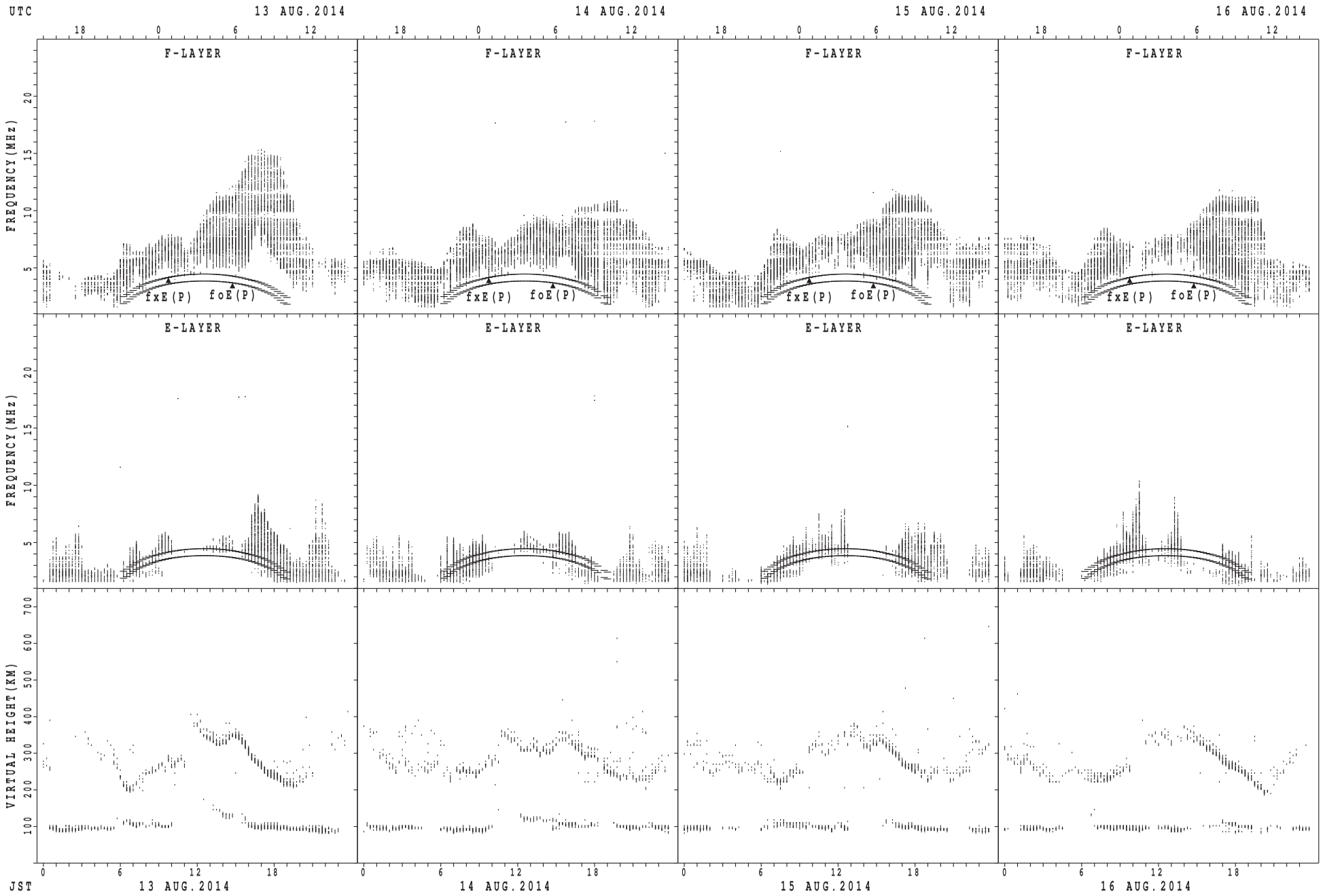
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



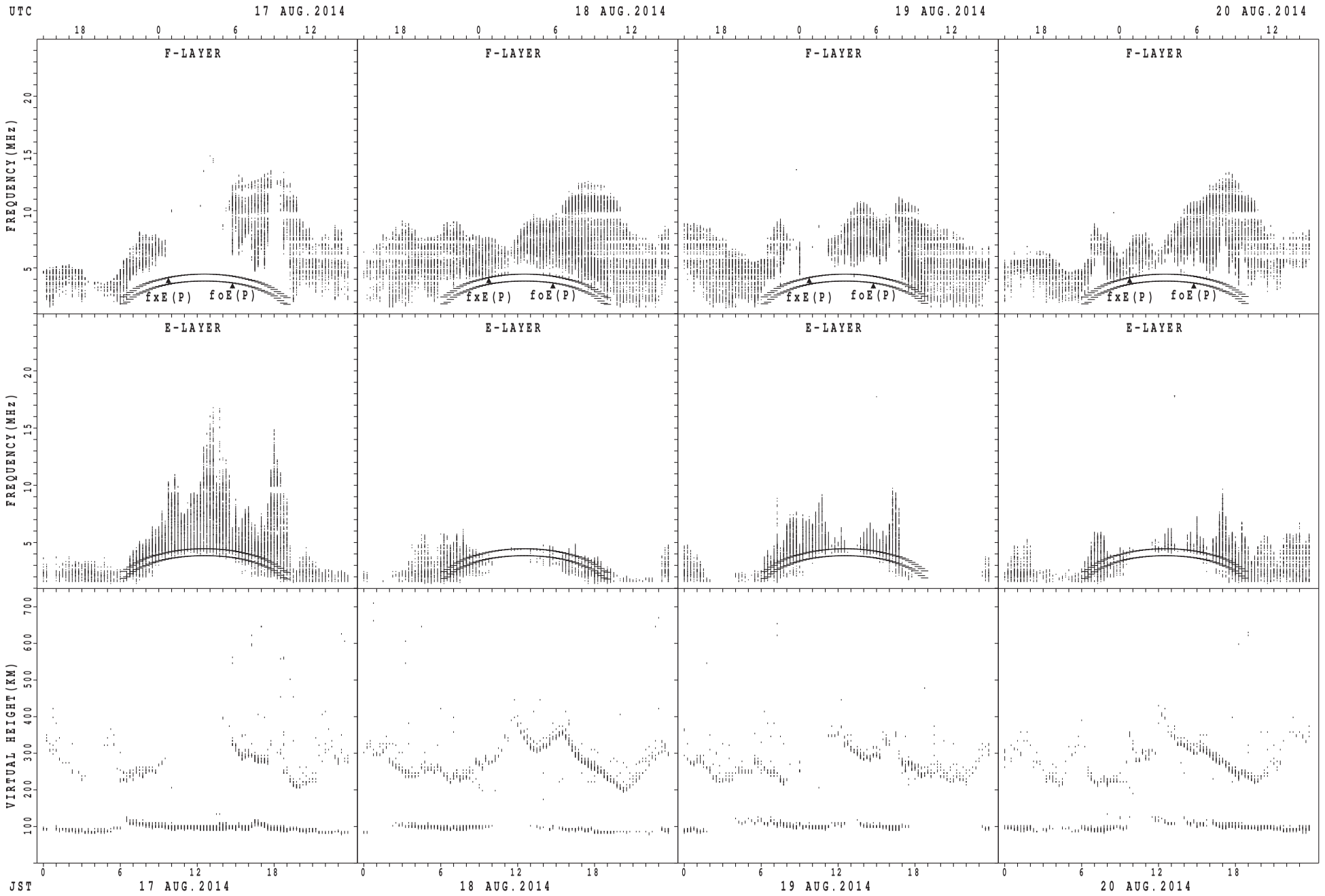
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



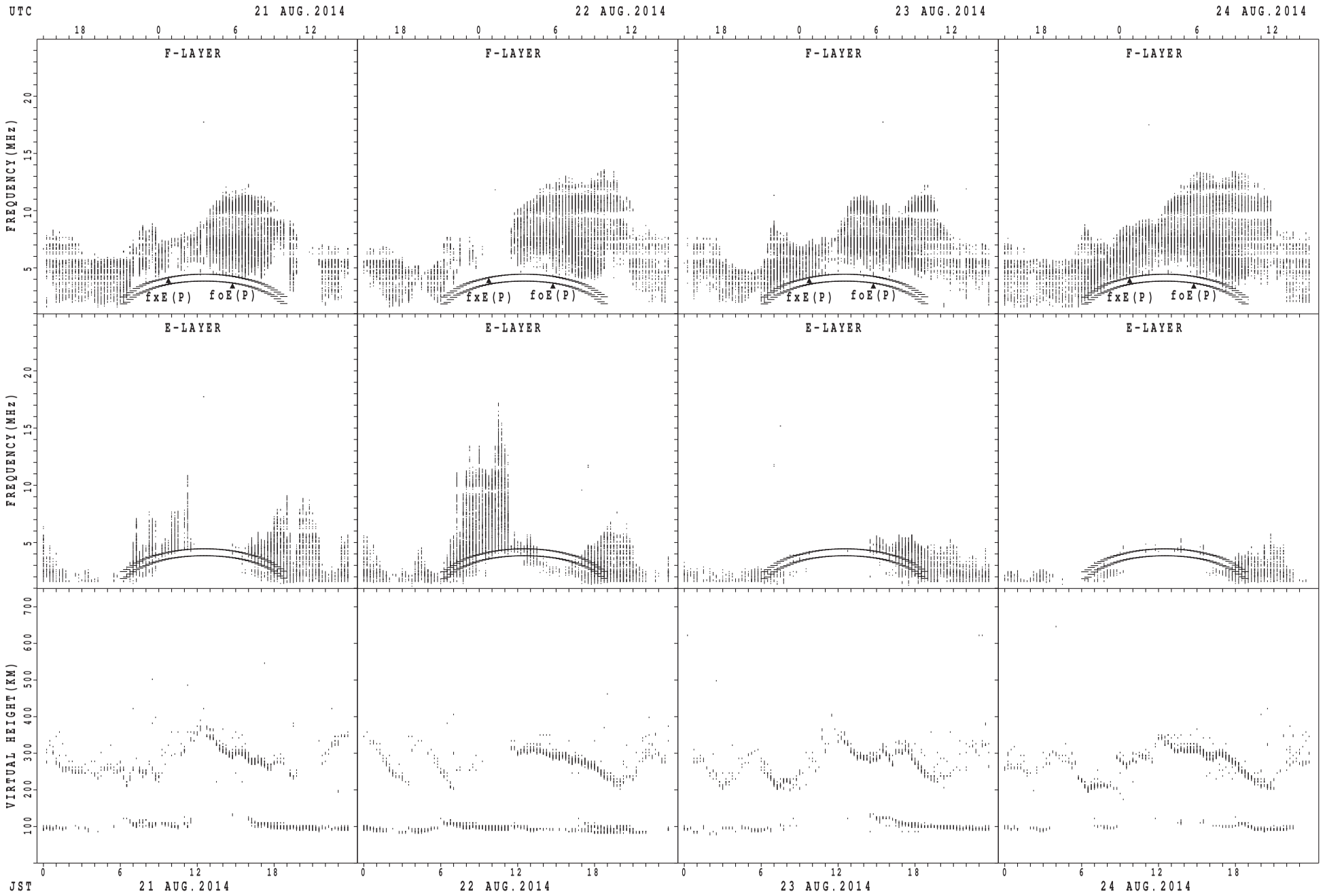
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



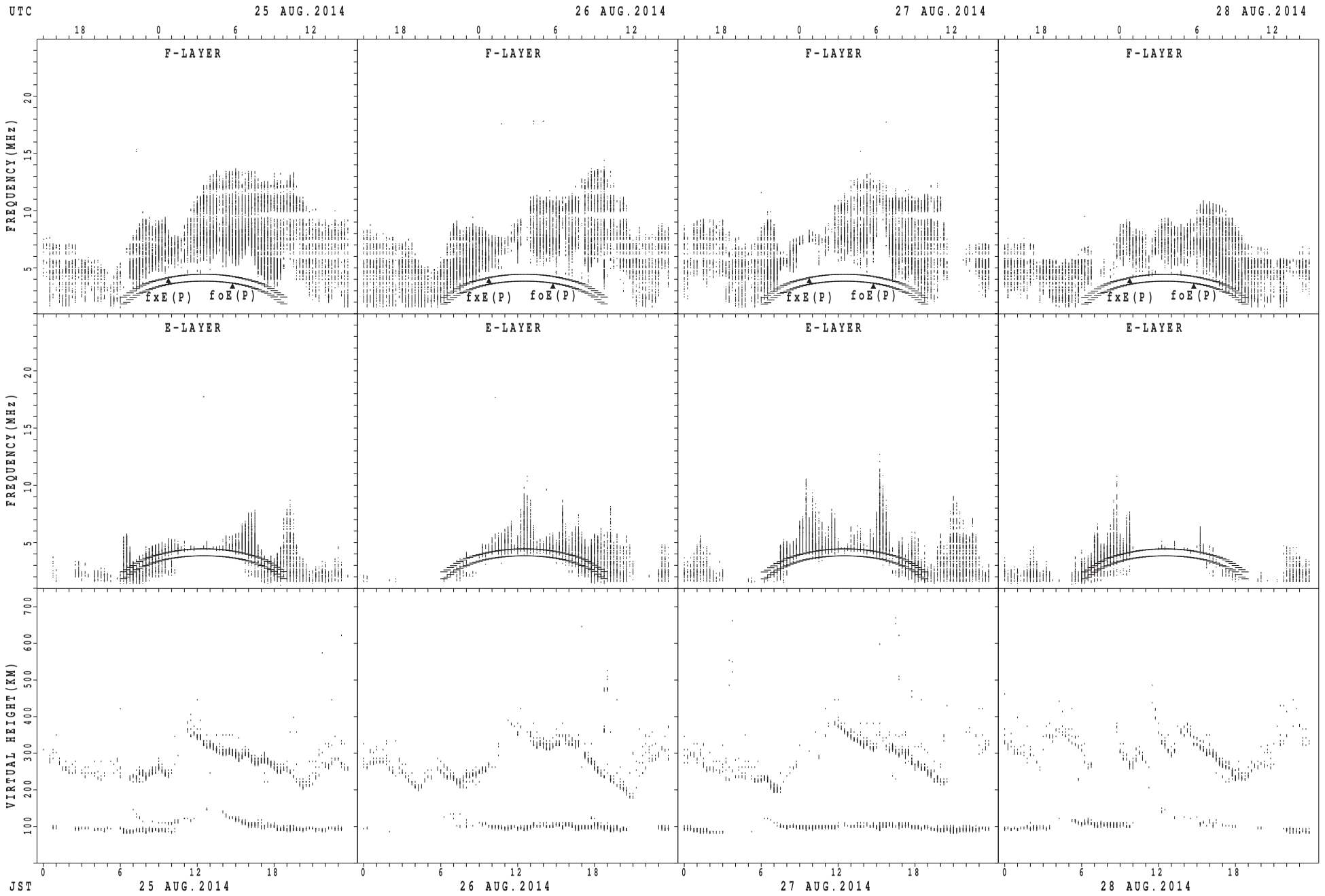
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



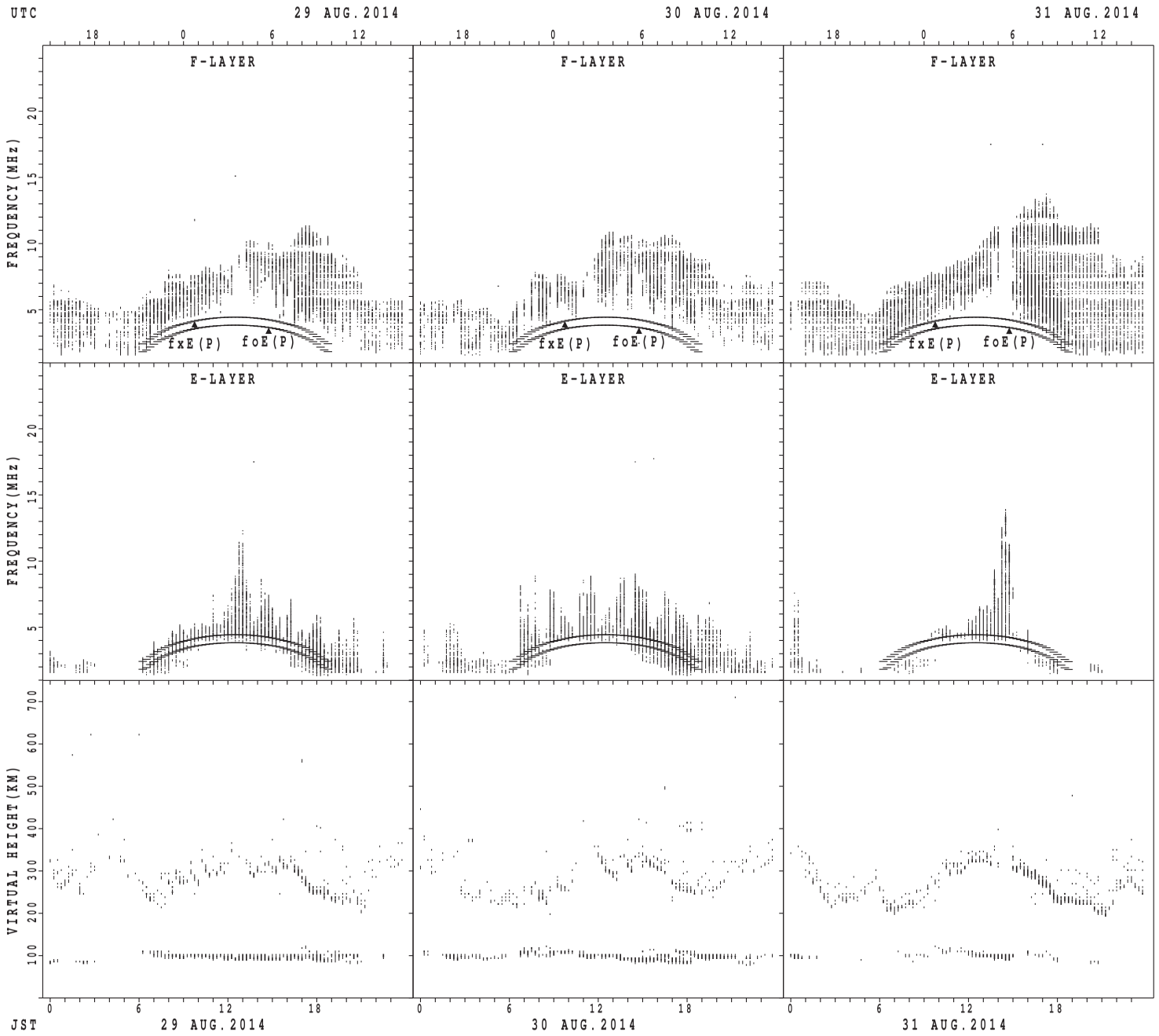
fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

SUMMARY PLOTS AT Okinawa



fxE(P); PREDICTED VALUE FOR fxE
foE(P); PREDICTED VALUE FOR foE

MONTHLY MEDIANS OF h′F AND h′Es

AUG. 2014 135E MEAN TIME(UTC+9H) AUTOMATIC SCALING

h′F STATION Wakkanai LAT. 45°10.0′N LON. 141°45.0′E

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT		1				1	7	17									13	17	18	11	4	5	1	1
MED		320				320	270	266									300	296	284	278	270	280	296	324
U Q		160				160	294	309									308	297	294	290	284	293	148	162
L Q		160				160	256	255									287	284	276	262	267	271	148	162

h′Es

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	20	23	22	20	19	17	24	19	23	19	15	15	11	11	12	13	18	27	28	27	23	23	21	22
MED	93	95	96	97	97	105	105	103	103	101	103	103	99	99	100	103	102	105	103	101	103	99	97	96
U Q	97	97	99	98	101	109	111	107	107	105	105	103	101	105	106	112	103	107	105	103	105	103	101	99
L Q	91	89	91	94	95	103	103	103	99	95	97	97	97	95	96	97	99	103	98	99	97	97	95	91

h′F STATION Kokubunji LAT. 35°43.0′N LON. 139°29.0′E

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT		2	1		1		12	22	10								22	21	25	19	13	3	2	2
MED		323	326		346		258	264	255								278	272	276	272	274	314	311	346
U Q		330	163		173		266	276	290								286	285	290	282	301	328	332	396
L Q		316	163		173		247	242	232								272	263	262	256	257	306	290	296

h′Es

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	22	19	19	17	17	9	15	19	21	25	20	18	17	16	14	16	18	23	26	27	27	25	26	21
MED	95	95	93	95	95	97	105	103	103	103	98	98	99	99	100	103	103	105	103	97	99	97	97	95
U Q	97	97	97	100	99	103	111	109	107	105	105	101	106	107	103	110	107	109	105	103	101	102	101	97
L Q	91	93	91	91	92	92	99	101	100	99	95	95	96	96	95	99	97	101	101	95	95	93	95	95

h′F STATION Yamagawa LAT. 31°12.0′N LON. 130°37.0′E

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	6	2	3	1			6	22	24								13	25	26	24	15	2	1	3
MED	334	334	298	298			261	240	258								290	278	260	255	258	274	334	344
U Q	354	354	304	149			264	264	271								305	297	270	269	292	288	167	366
L Q	304	314	294	149			250	222	238								270	270	254	246	244	260	167	258

h′Es

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	25	26	25	21	17	14	18	25	26	26	27	20	20	21	21	20	21	24	28	28	27	25	23	28
MED	95	95	91	95	95	97	110	107	103	103	101	98	99	103	105	104	105	103	102	95	95	97	95	95
U Q	96	95	97	95	97	103	115	113	107	105	105	103	106	113	111	111	111	107	105	99	99	98	99	98
L Q	89	89	88	89	91	91	99	97	101	99	97	97	96	97	96	95	97	102	99	94	91	95	93	90

MONTHLY MEDIANS OF h′F AND h′Es

AUG.2014 135E MEAN TIME(UTC+9H) AUTOMATIC SCALING

h′F STATION Okinawa LAT. 26°41.0′N LON. 128°09.0′E

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	8	11	7	4	4	2	6	21	23	18							10	28	30	29	20	9	9	8
MED	324	320	306	291	281	292	249	240	242	271							298	278	268	248	252	250	330	338
U Q	341	336	312	299	313	298	264	252	256	292							308	301	288	270	276	304	342	345
L Q	315	306	282	278	265	286	238	225	232	256							284	270	254	240	221	238	310	337

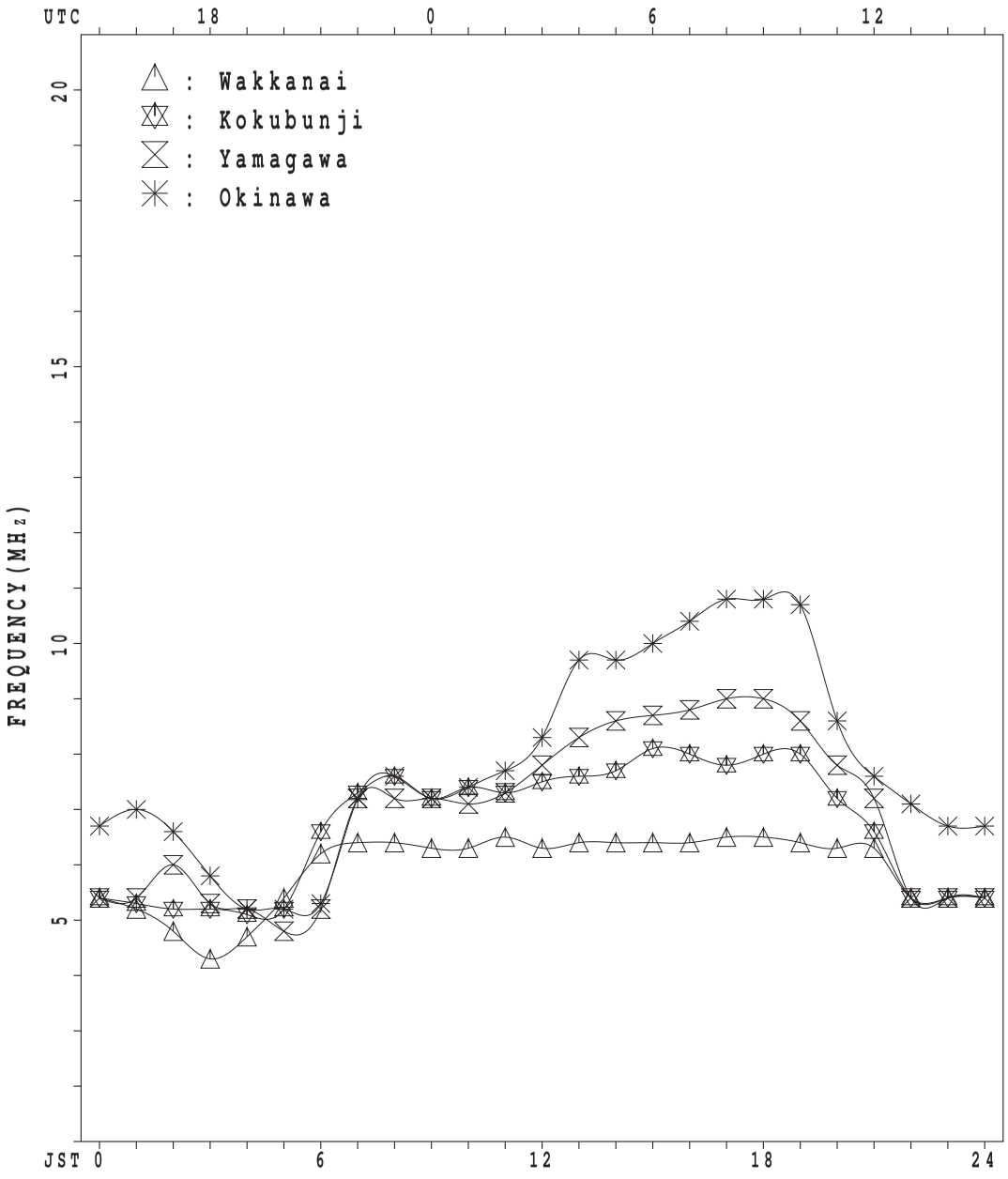
h′Es

	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	22	19	15	14	15	9	13	25	22	23	19	17	18	19	20	20	24	24	27	25	27	21	17	19
MED	95	97	95	95	95	95	95	107	103	103	103	99	104	105	109	104	106	103	103	99	97	95	91	95
U Q	97	103	97	97	99	100	104	111	111	109	105	111	113	109	120	111	111	111	105	103	101	101	99	97
L Q	89	91	89	93	93	94	94	101	99	99	97	96	97	95	99	100	101	99	97	96	93	91	89	91

MONTHLY MEDIANS PLOT OF foF2

AUG.2014

AUTOMATIC SCALING



IONOSPHERIC DATA STATION Wakkanai

AUG. 2014 fxI (0.1MHz) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.45°10.0'N LON.141°45.0'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	X 76	X 72	X 72	X 66	X 66																X 85	X 83	X 81	X 78
2	X 74	X 69	X 69	X 68	X 63																X 75	X 72	X 71	X 70
3	X 69	X 67	X 66	X 56	X 52																X 71	X 73	X 73	X 73
4	X 66	X 61	X 58	X 56	X 51																X 81	X 75	X 75	X 77
5	X 75	X 74	X 72	X 70																O X 81	O X 81	X 78	X 71	X 70
6	X 68	X 67	X 65	X 61	X 57																X 68	X 69	X 67	X 63
7	X 65	O X 65	X 65	A	A																X 75	X 74	X 73	X 68
8	X 69	X 70	X 66	X 58	X 58																X 77	X 69	X 70	X 64
9	X 60	X 61	X 49	X 58																	X 78	X 73	X 67	X 65
10		X 61	X 60	X 59																	X 75	X 73	X 67	X 68
11	X 69	X 70	66	X 66																	X 74	X 75	X 66	X 64
12	X 58	64	63	X 60																X 73	X 75	X 76	X 74	A
13	X 58	X 55	X 55	X 52																	X 77	X 76	X 72	X 72
14	X 69	X 63	X 64	X 64										C						X 75	X 75	X 74	X 71	X 69
15	X 68	X 65	X 63	X 64	X 60																X 76	X 76	X 75	X 70
16	X 67	X 65	X 63	X 60																	X 77	X 75	X 77	X 66
17	X 64	X 60	X 58	X 60																	X 79	X 75	X 67	X 57
18	X 59	X 59	X 59	63																A	X 74	X 73	X 81	O X 78
19	X 67	X 61	66	X 63	X 57															O X 81	O X 79	X 79	X 73	X 69
20	X 66	X 67		X 62																	X 79	X 78	X 71	X 69
21	X 70	X 66	X 66	X 65																X 80	X 80	X 77	X 74	X 67
22	X 65	X 62	X 65	X 57																X 77	A	X 75	X 64	X 65
23	X 63	X 61	X 61	X 57	X 54															X 79	X 78	X 77	X 70	X 65
24	X 62	X 59	X 60	X 62	X 57															X 78	X 72	X 78	X 78	X 71
25	X 65	X 62	X 59	X 57	X 57														X 73	X 82	X 80	X 77	A	X 66
26	X 64	X 64	X 65	X 63	X 63	X 67														X 79	X 80	X 84	X 76	X 59
27	X 60	X 60	X 59	X 57	X 58															Y	O X 80	X 73	X 76	X 69
28	X 61	X 52	X 51	X 51	X 51															X 75	X 71	X 71	X 65	X 65
29	X 62	X 61	X 48	X 41	X 52																X 59	X 65	X 63	X 59
30	X 57	X 57	59	X 45	45															X 69	X 68	X 68	X 65	X 64
31	X 59	X 61	X 63	X 58	X 53														X 74	X 73	X 70	X 75	X 70	X 65
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	30	31	30	30	17	1													2	13	30	31	30	30
MED	X 65	X 62	X 63	X 60	X 57	X 67													X 74	X 78	X 76	X 75	X 71	X 68
U Q	X 69	X 67	X 66	X 63	X 59															X 80	X 79	X 77	X 75	X 70
L Q	X 61	X 61	X 59	X 57	X 52															X 74	X 74	X 73	X 67	X 65

IONOSPHERIC DATA STATION Wakkanai

AUG. 2014 foF2 (0.1MHz) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.45°10.0'N LON.141°45.0'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	69	66	65	59	59	63	62	66	R 70	72	71	R 72	R 72	J R 63	70	68	68	68	70	70	R 78	76	74	71
2	67	62	62	61	56	60	U R 60	70	59	68	U R 66	67	64	66	68	63	67	68	70	70	68	66	64	63
3	62	60	59	49	R 45	J A 47	A	A	A	A	A	E G 50	E G 50	E G 49	J R 56	60	60	59	57	A	65	66	66	66
4	59	54	51	49	44	57	62	R 65	69	66	66	66	64	R	66	64	68	R 75	72	72	74	68	68	70
5	68	67	65	63	53	53	R 61	70	63	68	67	62	R 66	R 68	59	64	62	67	70	R 74	74	71	R 64	63
6	F 57	60	58	54	50	52	55	R 63	67	R 67	A	R	60	R 60	60	R 59	R 61	65	67	61	61	62	60	56
7	58	R 58	58	A	A	56	70	64	69	R 66	67	68	70	68	68	70	70	70	67	64	68	68	66	61
8	62	63	59	51	51	56	61	58	65	60	65	62	R 63	R 69	R 72	R 74	R 72	70	69	R 74	70	62	64	57
9	53	54	42	51	51	60	68	R 72	A	A	70	R 70	U R 73	70	70	67	71	69	73	69	71	66	60	58
10		54	53	52	52	60	74	R 72	R 72	R 75	67	68	67	68	72	72	74	70	73	70	68	66	61	61
11	62	63	F 53	59	54	58	65	70	64	62	62	61	60	61	63	64	65	57	32	62	67	68	59	57
12	51	F 52	F 50	53	50	50	61	65	65	67	68	R 70	R 70	R 73	R 75	71	67	62	59	66	68	69	67	A
13	51	48	48	45	43	48	54	61	64	62	65	67	A	68	65	70	69	69	70	R 71	70	69	65	65
14	62	56	57	57	58	58	58	67	U Y 73	U Y 74	64	62	61	C	62	71	66	64	63	68	68	67	64	62
15	61	58	56	57	53	57	R 64	R 64	R 68	R 68	63	R 62	62	66	A	66	A	62	61	67	69	69	68	63
16	60	58	56	54	45	51	59	67	A	64	65	67	R 70	A	R 69	A	62	62	65	72	70	68	70	59
17	57	53	51	53	53	55	64	65	64	67	71	76	75	76	65	67	67	66	70	70	72	68	60	50
18	52	52	52	F 55	51	52	64	64	68	A	69	A	A	R 74	R 73	73	66	R 65	68	A	68	66	R 74	71
19	60	54	F 56	56	50	54	63	71	U Y 71	70	70	Y 71	70	70	69	70	71	R 72	70	Y 74	R 72	72	66	62
20	59	60		55	45	44	53	62	69	72	59	R 55	58	59	65	70	61	65	72	74	72	71	64	62
21	63	59	59	58	J R 53	51	51	60	60	63	A	62	56	68	62	64	64	66	69	73	73	70	67	60
22	58	55	58	50	46	43	52	A	A	A	A	R 63	59	59	63	62	64	65	66	70	A	68	57	58
23	56	J R 54	54	50	47	47	57	J S 61	66	56	62	60	61	65	63	66	64	71	75	R 72	71	70	63	58
24	55	52	53	56	50	50	64	Y 74	Y 74	Y 74	70	68	Y	69	66	61	67	69	71	71	65	F 69	R 71	64
25	58	55	52	50	50	51	65	J R 79	Y 75	76	72	69	68	63	70	68	67	68	66	75	73	70	A	R 59
26	57	57	58	56	56	60	70	72	Y 72	R 76	69	71	66	68	73	R 73	73	69	71	72	73	J R 77	69	52
27	53	53	52	50	51	60	68	R 74	Y	71	R 69	71	Y	72	70	74	74	74	Y 71	Y 72	R 73	66	69	62
28	54	45	44	44	44	39	35	A	49	57	A	57	58	59	65	60	66	66	62	68	64	64	58	58
29	55	54	41	34	45	46	R	61	54	A	A	A	R	A	J R 51	52	55	55	52	57	J R 52	58	56	52
30	50	50	F 44	38	F 33	40	46	50	62	65	61	U R 65	70	71	69	68	70	64	60	62	61	61	58	57
31	52	54	56	51	46	51	61	66	64	70	73	69	71	71	72	69	71	71	67	66	63	68	63	58
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	30	31	30	30	30	31	29	28	26	26	25	28	26	27	30	30	30	31	31	29	30	31	30	30
MED	58	55	55	53	50	52	61	66	66	68	67	67	65	68	67	68	67	67	69	70	70	68	64	60
U Q	62	60	58	56	53	58	64	70	Y 70	72	70	70	R 70	70	70	70	70	70	71	72	72	70	68	63
L Q	54	53	51	50	45	48	56	62	64	64	64	62	60	63	63	64	64	64	63	66	67	66	60	58

AUG. 2014 foF2 (0.1MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Wakkanai

AUG. 2014 foF1 (0.01MHz) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.45°10.0'N LON.141°45.0'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1						L	L	L	A	U A 512	U R 536	U Y 572	536	U A 528	U R 508	L	A	U L 444	L					
2								468	464	U Y 464	R 544	R 544	U A 512	A	U A 540	A	L	L	L					
3						A	A	A	A	A	A	U R 496	U R 504	U R 492	U R 508	496	R 468	U L 456	L	A				
4						6 U 127	L 416	L	U L 504	L 504	L 516	A	U R 508	528	508	516	U L 520	424	A	A				
5						A	U L 400	464	L	L 492	L	R 532	L	L	A	A	484	U L 444	L					
6						L 324	A	U L 440	L	U R 484	A	U R 504	Y	L	L	L	U R 460	U L 408	A	A				
7						L	L	452	L	L	L	L	L	524	Y	440	U R 464	432	L					
8							400	A	A	A	U L 536	U R 536	U R 508			468	464	432	348	184				
9							U L 448	448	A	A	U R 496	A	A	U R 520	L	L	452	A	L	A				
10						L	L	L	L	U L 484	U L 488	U Y 516	U R 480	R 516	516	U Y 456	A	A						
11								A	A	A	R 504	476	L	A	A	L	444	A	A	A				
12							U L 400	A	476	A	A	A	A	A	L 488	L	U R 432	L	L					
13						A	A	464	444	U L 480	U Y 544	A	A	U Y 536	L	448	448	392	A					
14								U L 448	U A 468	U R 464	A	U A 480	U L 488	C	U R 484	456	440	L	L					
15						L	L	U R 440	L	U R 468	R 476	U R 528	L	Y	A	A	A	396						
16						A	A	A	A	L	L	A	L	A	A	A	A	L	A					
17						A	L	A	A	A	A	U R 496	496	484	484	468	U R 436	416	U L 324					
18							A	A	448	A	A	A	A	U R 496	A	L	L	L	L					
19								444	L	A	A	A	L	U R 480	L	L	L	L	300					
20							392	432	448	472	488	Y	L	A	A	A	A	A		L				
21							388	L	512	A	A	484	488	500	L	L 484	A	L	A					
22						A	U L 368	A	A	A	A	L	492	U L 500	A	L	A	A						
23						264	L	428	A	U L 468	Y	Y	L	R 528	A	L	L 456	400	L					
24							U L 372	L 448	L 472	L 496	U R 480	L	L 516	L	L	476	L 464	A	A					
25							L	A	L	L	L	500	L	Y	L	L	L	A						
26									468	A	R 508	A	508	484	520	488	448							
27							336	432	464	U R 476	A	Y 520	524	Y	R 536	500	460	B						
28								A	A	L	A	484	A	A	492	496	A	L	A					
29							364	R 420	Y	A	A	A	U R 440	A	456	448	L	380	376					
30							A	436	A	Y	560	L	L	488	492	Y	428	348	L					
31								420	504	464	468	508	U R 524	U R 436	U L 508	L	L	L						
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT						3	11	16	12	14	14	16	15	16	14	14	17	13	4	1				
MED						264	L 392	442	468	U 478	506	506	U 508	500	508	472	456	416	336	184				
U Q						L 324	U L 400	450	490	492	L 536	U R 530	516	526	516	496	464	U L 438	362					
L Q						U 127	368	432	456	U 468	488	490	U 488	486	488	456	442	394	312					

AUG. 2014 foF1 (0.01MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Wakkanai

AUG. 2014 foE (0.01MHz) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.45°10.0'N LON.141°45.0'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1						216	268	312	340	A	A	A	A	356	356	A	A	312	268	A				
2						200	264	312	336	A	R	U R 376	U R 376	A	A	A	A	A	244	A				
3						A	U A 268	U A 312	U A 332	A	A	A	A	A	R	356	328	284	U A 212	A				
4						228	R 264	308	344	U A 344	A	A	A	A	A	364	320	268	208	A				
5					B	A	A	308	U R 344	356	U R 360	U R 368	332	368	380	U A 352	328	268	A					
6						244	256	296	308	R 336	U R 348	U A 356	R 344	R 360	348	328	300	A	A	A				
7						A	248	292	316	328	344	328	372	A	332	316	280	280	224	B				
8						180	248	280	316	316	A	A	316	376	A	R 344	U R 304	248	216	A				
9					B	184	256	304	320	320	R 336	336	A	A	A	A	304	A	A	B				
10					A 228	212	272	252	316	328	A	332	J R 260	Y 340	U A 364	316	300	236	A	180				
11					180	180	260	284	308	336	344	360	R 308	B	308	328	280	256	184	A				
12					184	184	244	300	300	320	304	304	304	304	A	324	308	260	184					
13					B	196	240	288	300	332	332	332	B	A	A	U A 260	324	260	180	A				
14					B	188	248	284	308	U A 332	A	A	A	C	U R 356	340	300	256	192					
15						200	232	292	A	340	A	A	A	A	A	A	240	256	188	A				
16					A	A	240	288	308	324	344	344	A	328	296	A	A	U A 256	A	A				
17					A	A	236	280	312	340	352	352	352	348	324	304	U A 260	260	A	B				
18					B	A	248	288	308	328	328	A	A	A	A	A	296	248	A					
19						188	244	280	308	328	328	340	340	340	312	316	300	244	A					
20					B	188	220	272	300	312	348	364	R 328	U A 360	348	328	304	248	A	B				
21					B	A	212	U A 276	312	U A 312	A	A	340	352	352	U A 328	296	248	A					
22					B	A	236	288	316	U A 352	364	A	U A 356	A	332	A	U A 284	A	A					
23						A	228	288	320	328	352	A	U A 336	332	332	292	264	200	A					
24						B	252	292	324	332	U A 328	A	A	212	U Y 332	356	308	256	172					
25						U R 236	232	280	324	316	300	A	388	U A 316	340	340	292	236						
26							232	280	320	332	332	U R 292	R	R 352	A	A	300	248	A					
27						A 248	228	280	312	328	328	A	A	Y	352	300	300	232	B					
28						B	216	268	U R 296	304	308	336	332	320	A	320	A 296	232	A					
29						A	220	264	304	A	324	300	A	A	340	316	288	240	180	A				
30						U A	228	272	296	A 300	U Y 352	A	312	A	A	A	276	244	A					
31						B	U A 212	292	312	340	340	A	324	324	352	312	U A 296	236						
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT					3	16	30	31	30	27	22	16	18	17	19	22	28	27	13	1				
MED					184	198	242	288	312	328	338	338	334	340	340	326	300	248	192	180				
U Q					A 228	222	256	296	320	336	348	U 358	352	358	352	340	304	260	220					
L Q					180	186	228	280	308	320	328	330	316	322	332	316	286	240	182					

AUG. 2014 foE (0.01MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Wakkanai

AUG. 2014 foEs (0.1MHz) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.45°10.0′N LON.141°45.0′E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	J A 63	J A 53	J A 31	J A 33	J A 27	G 19	32	J A 43	J A 65	J A 63	J A 62	44	J A 56	58	J A 47	38	J A 49	J A 42	J A 27	J A 43	J A 32	J A 53	J A 61	J A 94
2	24	27	J A 26	26	E B 14	G	31	43	J A 47	40	G	43	52	59	J A 84	J A 59	J A 46	28	J A 30	28	J A 29	J A 19	J A 30	28
3	J A 25	J A 31	J A 26	J A 26	J A 30	42	J A 57	J A 65	J A 57	61	J A 61	J A 47	36	40	G 35	G	J A 53	35	J A 37	J A 81	J A 33	J A 27	J A 24	J A 31
4	J A 22	21	20	E B 14	J A 21	29	G 19	36	38	J A 45	44	J A 55	42	J A 42	J A 48	J A 49	38	37	J A 60	J A 32	18	J A 26	23	J A 21
5	18	19	J A 20	J A 17	23	J A 37	J A 32	33	38	40	46	46	52	G	G	44	37	36	J A 29	E B 15	E B 14	J A 45	J A 53	J A 33
6	J A 33	J A 38	J A 66	J A 45	J A 46	37	J A 45	G 32	39	G	39	J A 50	G	43	G	J A 53	38	J A 65	71	58	J A 41	34	32	44
7	J A 31	J A 33	J A 41	J A 68	J A 119	J A 43	J A 35	35	40	44	40	38	G 34	37	G 28	G 30	34	G 19	G	25	25	34	42	32
8	29	25	38	25	25	21	33	56	J A 58	58	48	38	38	G	G	39	34	34	28	28	E B 14	E B 14	E B 14	24
9	J A 20	E B 14	J A 20	J A 20	E B 14	J A 26	31	38	J A 66	J A 67	40	62	J A 57	J A 44	J A 58	J A 32	35	J A 55	39	J A 32	J A 31	J A 32	J A 22	22
10		J A 22	J A 27	28	30	30	34	34	36	37	38	37	G	Y	J A 47	J A 63	74	74	J A 73	37	E B 14	J A 59	J A 63	J A 48
11	J A 41	40	35	32	J A 26	J A 26	J A 42	J A 83	60	64	42	J A 90	G	55	71	52	J A 42	75	J A 120	J A 52	J A 67	J A 64	J A 59	J A 39
12	24	39	33	33	28	20	36	59	J A 44	J A 59	J A 60	J A 60	J A 63	50	39	G	G	34	27	37	J A 43	J A 47	J A 43	J A 63
13	J A 34	J A 32	J A 25	26	21	27	28	38	38	38	40	J A 60	J A 59	37	41	J A 37	J A 94	31	30	J A 32	J A 33	J A 23	J A 31	68
14	J A 36	J A 53	J A 32	23	33	G	29	34	J A 46	J A 44	J A 54	J A 51	35	C	G	35	34	34	27	J A 30	J A 29	J A 29	J A 33	J A 34
15	J A 53	J A 32	J A 25	J A 25	J A 22	21	27	38	36	36	35	38	40	J A 58	63	J A 49	J A 62	29	J A 30	J A 22	J A 38	J A 26	E B 14	J A 31
16	J A 27	J A 22	23	J A 28	J A 32	J A 35	J A 41	J A 50	J A 65	J A 45	J A 50	J A 53	J A 60	J A 65	J A 50	J A 109	J A 59	J A 49	J A 58	J A 33	J A 21	E B 14	26	J A 19
17	J A 30	28	J A 44	46	J A 39	J A 21	32	J A 46	J A 58	65	J A 63	48	42	40	39	35	33	J A 26	J A 25	J A 21	J A 35	J A 51	E B 26	14
18	26	28	33	J A 26	J A 31	J A 37	J A 48	J A 50	J A 61	J A 76	J A 51	J A 103	J A 94	38	J A 64	40	36	29	J A 23	J A 73	J A 52	J A 47	J A 60	J A 60
19	20	J A 17	J A 21	J A 43	J A 31	J A 33	J A 33	34	J A 44	J A 57	J A 57	J A 59	J A 40	J A 40	J A 40	37	37	32	J A 50	J A 35	J A 54	E B 14	E B 14	E B 14
20	E B 14	28		E B 14	E B 14	G	26	G	33	G 34	38	39	G 27	40	J A 69	J A 51	J A 66	J A 60	J A 62	J A 23	23	J A 36	E B 14	J A 33
21	J A 41	J A 29	28	J A 35	J A 26	J A 29	32	32	38	J A 58	J A 74	38	G 33	37	39	38	J A 91	J A 109	J A 30	J A 109	J A 63	J A 48	J A 22	J A 40
22	J A 32	35	J A 25	22	28	J A 43	41	J A 59	J A 49	38	46	40	47	J A 50	J A 63	J A 61	J A 51	J A 46	J A 30	J A 30	J A 63	J A 41	39	29
23	J A 20	J A 17	J A 19	23	24	J A 23	26	32	42	42	39	39	38	J A 49	J A 51	40	J A 43	J A 33	J A 25	E B 23	E B 14	E B 19	E B 14	E B 14
24	J A 32	J A 31	J A 25	20	33	E B 20	32	35	47	46	52	39	J A 43	44	G 26	G	35	J A 58	J A 53	J A 53	J A 63	J A 60	J A 20	E B 14
25	29	34	34	26	E B 14	30	32	J A 45	J A 47	J A 68	39	33	G	35	38	G 34	40	44	52	J A 77	J A 109	J A 25	93	70
26	J A 28	J A 30	J A 29	J A 31	32	J A 33	J A 63	60	J A 42	J A 64	J A 59	J A 54	G	G	36	34	36	33	J A 43	J A 46	J A 62	J A 52	J A 43	J A 46
27	J A 47	29	29	23	23	33	J A 28	34	37	J A 43	J A 43	36	34	G	G 34	34	34	J A 42	J A 42	J A 31	J A 31	J A 27	E B 16	E B 14
28	E B 14	21	J A 22	J A 22	E B 14	18	26	J A 44	J A 41	49	J A 65	38	J A 41	37	36	G	J A 60	J A 54	J A 42	38	J A 61	J A 63	J A 72	E B 14
29	J A 32	J A 25	28	34	J A 35	J A 30	30	34	39	39	J A 49	35	36	J A 44	G 31	J A 29	33	31	J A 25	J A 41	J A 38	J A 32	J A 27	37
30	22	22	E B 14	25	22	J A 29	J A 43	39	J A 63	38	G 32	34	34	35	34	J A 36	34	G	23	23	22	E B 14	E B 14	E B 14
31	J A 23	E B 15	E B 14	E B 14	E B 14	E B 18	25	32	38	J A 43	39	40	36	38	38	34	34	33	J A 32	33	J A 33	J A 33	33	31
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	30	31	30	31	31	31	31	31	31	31	31	31	31	29	31	31	31	31	31	31	31	31	31	31
MED	J A 28	28	J A 26	26	26	29	32	38	J A 44	45	46	43	38	40	39	37	38	35	J A 30	J A 33	J A 33	J A 33	J A 30	31
U Q	J A 33	33	33	J A 33	J A 32	J A 33	J A 41	J A 50	J A 58	J A 61	J A 57	J A 54	J A 52	50	J A 51	J A 49	J A 53	J A 54	J A 52	J A 46	J A 54	J A 48	J A 43	J A 44
L Q	22	22	J A 22	22	E B 21	20	28	34	38	39	39	38	G	37	G	G	34	31	27	28	23	25	E B 20	E B 19

AUG. 2014 foEs (0.1MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Wakkanai

AUG. 2014 fbEs (0.1MHz) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.45°10.0'N LON.141°45.0'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	33	E B 14	22	20	17	G 16	31	41	52	50	54	U Y 44	50	52	45	38	46	36	G 25	30	29	50	18	26
2	E B 15	18	17	E B 14	E B 14	G	G 23	40	41	U Y 40	G	42	49	54	54	48	36	26	G 22	18	16	E B 14	E B 14	17
3	17	21	18	18	23	42	A A 57	A A 65	A A 57	A A 61	A A 61	42	U G 36	38	U G 34	G	39	34	27	A A 81	22	E B 14	E B 14	23
4	17	16	16	E B 14	16	28	G 18	34	36	42	E A 44	A	U Y 42	40	44	41	38	31	E A 46	E A 29	E B 14	20	E B 14	17
5	E B 14	E B 14	E B 14	E B 14	E B 14	34	30	32	36	38	45	45	47	G	G	43	36	34	22	E B 15	E B 14	36	E A 40	E A 30
6	23	21	34	28	36	25	E A 44	G 30	33	G	A A 39	E A 46	G	42	G	38	U Y 36	30	55	51	23	E B 14	E B 14	E A 39
7	18	21	26	A A 68	A A 119	26	30	33	36	41	37	36	G 33	34	G 26	G 29	32	G 18	G	16	E B 14	21	30	E B 16
8	16	E B 14	19	20	17	19	31	50	53	53	44	U Y 38	37	G	G	36	33	33	25	17	E B 14	E B 14	E B 14	E B 14
9	E B 14	E B 14	E B 14	E B 14	E B 14	25	28	35	A A 66	A A 67	E A 36	52	54	40	40	24	33	36	25	25	28	19	E B 14	E B 14
10		E B 14	E B 14	E B 14	G 21	22	31	33	35	36	36	36	G	Y	E A 51	40	59	31	32	19	E B 14	27	E A 52	28
11	32	28	21	20	G 17	22	28	62	48	48	40	40	G	53	54	34	31	42	E A 23	28	20	17	15	32
12	E B 14	20	E B 14	17	E B 14	19	30	52	37	58	56	54	59	48	35	G	G	34	24	27	27	32	34	A A 63
13	27	27	E B 14	16	E B 14	E A 19	28	36	36	36	39	53	A A 59	Y	36	31	G 32	30	E A 29	E A 29	22	E B 14	26	68
14	20	E B 14	25	E B 14	18	G	28	31	47	42	51	46	U A 32	C	G	G 34	32	29	24	22	23	22	22	E A 29
15	39	22	18	14	18	G 20	26	35	34	G 34	33	U Y 38	37	40	A A 56	46	A A 62	28	27	20	32	E B 14	E B 14	19
16	22	E B 14	E B 14	16	22	27	39	50	A A 65	42	42	49	45	A A 65	47	A A 109	44	36	46	29	16	E B 14	E B 14	E B 14
17	18	16	34	30	21	20	30	42	56	56	60	47	40	36	35	33	31	G 24	23	17	24	24	20	E B 14
18	E B 14	18	16	17	18	33	47	48	39	A A 76	48	A A 68	A A 94	35	58	37	33	27	21	A A 73	E A 48	45	40	47
19	E B 14	E B 14	E B 14	22	20	G 18	27	33	41	53	54	E A 56	39	39	38	34	34	30	21	22	39	E B 14	E B 14	E B 14
20	E B 14	20		E B 14	E B 14	G	23	G	32	G 33	35	U G 37	U G 26	38	53	54	49	55	32	E B 14	E B 14	23	E B 14	E B 14
21	24	19	E B 14	E B 14	22	23	31	30	U Y 38	55	A A 74	U Y 36	G 29	U Y 36	38	36	47	30	28	22	38	25	E B 14	35
22	22	27	E B 14	E B 14	16	E A 32	32	A A 59	A A 49	A A 38	A A 46	38	U Y 44	45	53	46	46	36	29	29	A A 63	28	28	18
23	17	E B 14	16	E B 14	E B 14	18	25	30	41	41	U Y 37	U Y 37	U Y 37	45	46	37	42	32	20	E B 14	E B 14	E B 14	E B 14	E B 14
24	21	E B 14	E B 14	E B 14	E B 14	E B 20	28	34	40	44	44	U Y 39	42	41	U Y 25	G	33	56	E A 52	E A 46	48	E A 46	E B 14	E B 14
25	E B 14	E B 14	E B 14	17	E B 14	G 22	31	42	E A 44	41	37	U Y 31	G	U Y 35	36	G 32	38	38	21	22	E B 16	E B 14	A A 93	E A 25
26	E B 14	22	E B 14	16	E B 14	28	41	54	36	63	48	47	G	G	34	33	G 29	G 17	41	43	28	26	21	42
27	21	17	E B 14	E B 14	E B 14	G 22	24	32	36	40	40	U Y 36	U Y 33	G	G 32	33	G 29	37	28	24	25	22	E B 16	E B 14
28	E B 14	15	19	20	E B 14	18	24	A A 44	37	37	A A 65	38	40	36	34	G	53	32	40	28	44	22	21	E B 14
29	20	E B 14	E B 14	21	25	28	27	28	35	A A 39	A A 49	A A 35	U Y 34	A A 44	G 31	G 29	31	28	22	36	28	21	18	24
30	E B 14	E B 14	E B 14	E B 14	E B 14	20	38	32	56	U Y 37	G 32	U Y 33	U Y 34	U Y 33	U Y 33	34	29	G	20	E B 14	E B 14	E B 14	E B 14	E B 14
31	E B 14	E B 15	E B 14	E B 14	E B 14	E B 18	23	30	37	39	U Y 36	U Y 37	U Y 34	37	36	32	32	30	28	20	30	24	16	19
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	30	31	30	31	31	31	31	31	31	31	31	30	31	28	31	31	31	31	31	31	31	31	31	31
MED	17	16	E B 14	16	16	G	29	35	38	41	44	39	37	38	36	34	34	31	25	23	23	21	E 16	E 19
U Q	22	21	19	20	21	27	31	48	49	53	51	47	45	44	47	40	44	36	32	29	30	26	26	30
L Q	E B 14	E B 14	E B 14	E B 14	E B 14	19	26	32	36	38	37	U 37	U 34	35	G	33	G	28	22	18	E B 14	E B 14	E B 14	E B 14

AUG. 2014 fbEs (0.1MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Wakkanai

AUG. 2014 fmin (0.1MHz) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.45°10.0'N LON.141°45.0'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	14	14	14	14	14	14	14	14	16	21	30	23	16	16	14	15	16	14	14	14	14	14	14	15
2	15	14	14	14	14	14	16	14	17	15	16	16	23	21	23	17	16	13	14	14	14	14	14	14
3	14	14	14	14	14	14	14	14	14	14	18	22	20	21	21	21	15	14	15	13	14	15	14	14
4	14	14	14	14	14	14	14	13	16	14	21	19	15	23	14	14	14	15	14	14	14	14	14	14
5	14	14	14	14	14	14	14	12	14	18	16	16	17	16	16	14	14	14	14	15	14	14	14	14
6	14	14	14	14	14	14	14	14	14	13	16	20	20	21	15	16	15	14	14	14	14	14	14	14
7	14	14	14	14	14	16	16	19	17	19	14	21	19	20	21	15	15	13	14	14	14	14	14	14
8	14	14	14	14	14	15	15	16	16	16	20	14	21	20	13	14	14	14	14	14	14	14	14	14
9	14	14	14	14	14	14	15	16	14	16	13	16	18	13	15	16	14	13	14	14	14	15	14	14
10		14	14	14	14	14	14	13	12	15	12	18	19	14	14	14	13	14	15	14	14	14	14	14
11	14	14	14	14	14	14	13	16	16	16	16	22	22	36	16	17	15	15	14	14	14	14	14	14
12	14	14	14	14	14	13	14	14	16	17	20	22	19	17	15	15	17	15	15	14	14	14	14	14
13	14	14	14	14	14	14	14	13	16	21	16	20	28	18	18	14	13	13	14	14	14	14	14	14
14	14	14	14	14	14	14	14	14	14	14	17	14	15	C	20	14	14	15	13	14	14	14	14	14
15	14	14	14	14	14	14	15	14	14	14	14	17	22	16	14	15	17	13	14	13	14	14	14	14
16	14	14	14	14	14	14	14	14	14	14	14	14	19	16	20	14	14	13	14	14	14	14	14	14
17	14	14	14	14	14	14	14	13	14	15	16	21	15	14	17	16	14	14	14	14	14	14	14	14
18	14	14	14	14	14	14	14	15	14	14	15	17	18	18	16	16	15	14	14	14	14	14	14	14
19	14	14	14	14	14	14	15	14	15	21	20	20	15	20	18	15	13	13	13	14	14	14	14	14
20	14	13		14	14	14	14	15	14	20	16	21	17	23	16	14	16	14	14	14	14	14	14	14
21	14	14	14	14	14	13	14	16	15	16	23	24	24	21	16	15	13	13	14	14	14	14	14	14
22	14	14	14	14	15	14	14	15	13	20	22	24	24	17	21	17	14	14	14	14	14	14	14	14
23	14	14	14	14	13	12	14	13	14	20	22	29	20	21	18	15	14	12	14	14	14	14	14	14
24	14	14	14	14	14	20	16	15	15	15	16	20	23	16	21	16	16	12	13	14	14	14	14	14
25	14	14	14	14	14	14	14	13	14	16	14	14	15	16	16	14	13	15	14	14	14	14	14	14
26	14	14	14	14	14	14	14	14	17	18	19	17	24	21	18	16	14	12	15	13	14	14	14	15
27	15	14	14	14	14	14	14	15	16	16	22	16	22	30	26	20	15	15	13	14	14	14	16	14
28	14	14	14	14	14	14	14	16	15	18	15	18	23	24	21	18	17	15	14	14	14	14	14	14
29	14	14	14	14	14	14	14	14	14	16	21	21	16	23	17	17	17	14	14	14	14	14	14	14
30	14	14	14	14	14	14	14	14	17	18	21	30	24	20	22	16	16	16	14	14	14	14	14	14
31	14	15	14	14	14	18	14	16	16	21	22	29	21	21	17	20	14	14	15	14	14	14	14	14
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	30	31	30	31	31	31	31	31	31	31	31	31	31	30	31	31	31	31	31	31	31	31	31	31
MED	14	14	14	14	14	14	14	14	15	16	16	20	20	20	17	15	14	14	14	14	14	14	14	14
U Q	14	14	14	14	14	14	14	15	16	19	21	22	23	21	21	17	16	15	14	14	14	14	14	14
L Q	14	14	14	14	14	14	14	14	14	15	15	16	17	16	15	14	14	13	14	14	14	14	14	14

AUG. 2014 fmin (0.1MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Wakkanai

AUG. 2014 M(3000)F2 (0.01) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.45°10.0'N LON.141°45.0'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	284	297	296	298	294	307	313	300	R 331	335	296	R 300	R 324	J R 280	304	295	299	311	310	298	R 290	294	304	282
2	311	281	286	269	276	294	U R 290	298	243	327	U R 284	309	298	310	302	289	298	288	299	313	284	293	290	283
3	268	281	290	262	R 275	J A 276	A	A	A	A	A	G	G	G	R	282	293	304	305	A	286	285	289	291
4	298	286	279	289	284	284	317	R	302	316	292	311	299	R	283	282	287	R 322	318	302	316	297	292	291
5	277	R 293	278	284	278	291	R 293	327	298	301	309	288	R 286	R 291	320	298	289	300	316	R 334	R 334	289	R 281	288
6	F 287	280	278	283	279	274	254	R 322	239	R 316	A	R	300	274	276	R 288	305	306	297	323	283	289	273	286
7	284	R 323	281	A	A	286	310	327	328	304	291	288	303	275	309	322	318	315	302	298	299	287	274	277
8	288	297	305	286	285	312	354	320	313	339	282	321	R 272	R 312	R 298	R 345	R 319	312	314	R 311	336	289	282	285
9	309	288	334	300	288	315	326	R 336	A	A	317	311	U R 310	299	309	304	314	319	318	338	307	313	326	299
10		298	293	284	286	295	344	R 324	R 347	R 329	322	315	333	301	333	307	317	338	324	332	302	308	299	284
11	281	286	F 304	274	288	306	336	331	333	349	304	339	317	285	300	307	314	252	281	308	284	301	314	287
12	268	F 285	F 287	285	301	298	336	363	323	322	319	R 301	R 318	R 322	R 316	314	327	320	319	295	305	315	295	A
13	283	287	275	292	294	335	342	317	355	330	314	358	A	314	310	315	319	319	316	R 312	313	311	312	286
14	296	296	295	301	305	307	292	321	U Y 355	U Y 324	321	322	305	C	299	326	313	316	322	310	319	325	305	301
15	279	311	292	309	318	302	R 338	R 314	R 354	R 344	341	R 334	303	321	A	324	A	340	335	319	312	291	305	304
16	301	300	308	303	320	307	329	330	A	301	333	321	R 322	A	R 328	A	327	323	316	324	331	333	331	318
17	297	301	293	298	298	330	341	336	329	324	311	322	320	331	313	308	323	316	320	320	315	316	326	313
18	281	271	266	F 271	303	321	363	351	322	A	354	A	A	R 310	R 346	322	318	R 307	297	A	338	307	R 299	291
19	322	284	F 282	288	286	319	313	330	U Y 372	340	321	Y 331	297	325	312	316	335	R 327	312	Y 332	R 324	315	306	296
20	306	291		313	308	311	285	306	319	334	343	311	298	303	275	318	246	304	306	346	338	301	300	290
21	285	289	285	286	R	281	292	322	310	336	A	337	322	305	290	303	313	306	320	306	307	293	285	296
22	299	278	299	289	292	294	329	A	A	A	A	R 274	290	321	314	302	313	310	304	310	A	294	337	296
23	276	R	293	315	315	336	330	S	334	303	337	347	311	287	313	302	312	320	336	R 329	299	306	303	300
24	286	305	297	312	303	300	303	Y	Y	Y	317	313	Y	308	309	296	312	332	332	333	308	F 290	R 346	335
25	280	289	298	306	283	300	332	R	Y	331	355	321	313	318	304	325	318	317	333	316	303	317	A	R 295
26	304	287	284	288	276	304	325	349	Y	R 369	334	336	301	309	303	R 318	318	309	308	327	318	R	334	289
27	283	292	296	306	301	305	325	R 355	Y	359	R 332	317	Y	329	296	301	319	300	Y	Y	R 356	321	293	299
28	285	270	263	263	271	333	345	A	281	331	A	283	279	300	286	277	288	320	303	301	286	280	270	287
29	271	293	295	299	280	268	R	306	286	A	A	A	R	A	R	275	302	314	306	298	R	270	298	277
30	289	269	F 304	343	F 316	331	318	336	315	323	282	R	316	333	318	307	333	331	325	295	289	289	282	279
31	291	299	294	312	277	314	331	329	278	322	355	333	302	309	322	307	326	346	320	296	299	302	292	291
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	30	30	30	30	29	31	29	24	23	25	25	27	26	27	28	30	30	31	30	28	29	30	30	30
MED	286	289	293	290	288	305	326	327	322	329	319	317	303	309	309	307	314	316	316	312	307	299	299	291
U Q	298	297	297	306	303	315	337	336	334	338	336	333	317	321	315	318	319	322	320	328	322	313	312	299
L Q	281	284	282	284	280	294	306	318	298	319	300	301	298	291	298	296	302	306	305	302	294	289	289	286

IONOSPHERIC DATA STATION Wakkanai

AUG. 2014 M(3000)F1 (0.01) 135°E MEAN TIME (G.M.T. + 9 H)

LAT. 45°10.0'N LON. 141°45.0'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1						L	L	L	A	A	A	Y	A 325	A	U R 365	L	A	U L 339	L					
2								A 364	389	Y	R 346	R 371	A	A	A	A	L	L	L					
3						A	A	A	A	A	A	U R 401	U R 355	U R 329	A	338	R 362	U L 342	L	A				
4						U L 97	L 362	L	U L 353	L 366	L 382	A	U R 392	362	357	339	U L 354	342	A	A				
5						A	U L 356	350	L	L 332	L	R 365	L	L	A	A	322	U L 331	L					
6						L 323	A	U L 350	L	U R 339	A	U R 384	Y	L	L	L	U R 326	U L 344	A	A				
7						L	L	382	L	L	L	L	L	357	Y	412	U R 347	360	L					
8							364	A	A	A	U L 348	U R 361	U R 353			351	342	352	349	428				
9							U L 344	361	A	A	U R 377	A	A	U R 336	L	L	345	A	L	A				
10						L	L	L	L	U L 379	U L 377	Y	U R 385	R 356	A	U Y 365	A	A						
11								A	A	A	R 346	396	L	A	A	L	340	A	A	A				
12							U L 356	A	375	A	A	A	A	A	365	L	U R 372	L	L					
13						A	A	347	371	U L 383	Y	A	A	Y	L	365	363	369	A					
14								U L 362	A 347	U R 392	A	A	U L 374	C	U R 364	362	369	L	L					
15						L	L	U R 349	L	U R 400	Y	U R 355	L	Y	A	A	A	381						
16						A	A	A	A	L	L	A	L	A	A	A	A	L	A					
17						A	L	A	A	A	A	A	377	378	377	359	U R 359	363	A					
18							A	A	392	A	A	A	A	U R 393	A	L	L	L	L					
19								352	L	A	A	A	L	U R 374	L	L	L	L	372					
20							325	351	356	384	371	Y	L	A	A	A	A	A		L				
21							355	L	384	A	A	A	351	Y	L	L 341	A	L	A					
22						A	U L 351	A	A	A	A	L	A	A	A	A	A	A						
23						362	L	356	A	U L 401	Y	Y	L	R 316	A	L	L 343	349	L					
24							U L 387	L 356	L 382	L 370	U R 411	L	L 341	L	L	368	L 345	A	A					
25							L	A	L	L	L	407	L	Y	L	L	L	A						
26									371	A	R 372	A	372	388	344	344	360							
27							470	386	390	A	A	Y	Y 345	Y	R 346	339	350	B						
28								A	A	L	A	379	A	A	326	320	A	L	A					
29							351	R 336	Y	A	A	A	U R 411	A	363	352	L	351	345					
30							A	360	A	Y	342	L	L	368	Y	Y	364	388	L					
31								380	359	373	Y 371	378	U R 366	U R 440	U L 336	L	L	L						
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT						3	11	16	12	11	11	10	13	12	10	14	17	13	3	1				
MED						L 323	L 356	356	373	U L 379	371	R 378	U 366	R 365	360	352	350	351	349	428				
U Q						362	364	363	386	U R 392	U R 377	396	U R 381	383	365	365	362	366	372					
L Q						U L 97	351	350	358	L 366	R 346	U R 365	348	R 346	344	339	342	U L 342	345					

AUG. 2014 M(3000)F1 (0.01)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Wakkanai

AUG. 2014 h′F2 (KM) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.45°10.0′N LON.141°45.0′E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1						302	286	316	E A 298	294	368	356	330	336	326	352	310	308	288					
2								322	522	314	402	374	364	350	352	312	320	316	300					
3						A	A	A	A	A	A	G	G	G	532	416	368	332	320	A				
4						338	282	300	322	300	356	340	364	382	372	384	358	296	A 280	256				
5						294	294	288	406	344	320	360	E A 374	396	292	340	366	320	292					
6						368	E A 410	322	A 444	336	A	R	Y	446	422	E A 384	326	294	E A 320	298				
7						322	304	274	290	350	274	380	330	392	308	302	302	282	278					
8							272	308	282	292	348	348	Y			288	288	292	292	274				
9							292	284	A	A	300	300	314	318	328	336	314	266	276	246				
10						286	262	250	260	296	286	306	288	346	288	328	300	264						
11								300	280	280	332	300	354	396	342	336	312	A	356	240				
12							290	238	316	306	E A 308	346	316	298	298	298	290	280	288					
13						242	238	300	250	286	328	258	A	320	320	308	292	282	266					
14								272	266	302	288	320	304	C	352	288	300	280	268					
15						280	274	272	264	282	298	292	344	290	A	292	A	282						
16						A		266	A	304	302	302	344	A	290	A	296	302	276					
17						220	254	254	282	282	312	294	302	290	304	314	294	294	254					
18							254	248	288	A	266	A	A	308	278	288	282	308	282					
19								266	248	262	284	300	304	298	320	300	290	264	254					
20							356	314	316	270	304	290	358	356	362	290	476	332		252				
21							368	296	320	298	A	278	308	320	344	338	308	320	278					
22						322	304	A	A	A	A	382	382	324	322	352	318	260						
23						260	258	314	288	312	294	284	358	356	328	320	324	284	258					
24							272	270	272	278	334	326	350	328	322	292	334	308	284					
25							266	260	270	292	278	284	320	E Y 314	328	298	304	286	244					
26									256	250	272	272	292	304	322	300	288							
27							254	254	258	244	276	312	312	300	344	326	296	306						
28								A	A	292	A	324	A 422	370	352	386	346	316	258					
29							R	328	382	A	A	A	R	A	456	426	334	312	308					
30							274	288	E A 328	266	406	332	308	292	292	E Y 322	272	272	280					
31								274	378	292	262	318	328	298	306	326	292	250						
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT						11	21	27	26	26	25	28	26	27	29	30	30	29	24	6				
MED						294	274	284	285	292	301	315	330	324	326	317	306	294	280	254				
U Q						322	299	308	322	304	333	347	358	370	352	340	326	310	292	274				
L Q						260	260	266	266	280	281	293	308	300	305	298	292	280	267	246				

AUG. 2014 h′F2 (KM)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Wakkanai

AUG. 2014 h′F (KM) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.45°10.0′N LON.141°45.0′E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	A 300	264	268	262	260	240	226	A	A	A	A	A	A	A	E A 240	206	A	E A 244	244	254	282	A 302	250	264
2	234	250	272	272	286	268	262	E A 266	228	A	Y 250	214	A	A	A	A	214	218	240	254	240	240	270	264
3	290	288	270	302	306	A	A	A	A	A	A	212	E Y 290	202	Y	224	242	A 250	242	A	274	278	268	276
4	260	264	264	258	282	254	220	226	214	238	E A 214	A	E Y 216	202	E A 252	240	E A 272	234	A	A	238	256	256	266
5	264	238	238	232	246	A	E A 238	220	220	E A 242	E A 256	226	A	E A 228	A	A	216	E A 252	232	252	226	270	E A 308	E A 296
6	310	294	294	292	E A 334	A 272	A	224	228	E Y 266	A	E A 246	Y	210	210	228	A	214	A	A	312	274	274	336
7	290	282	282	A	A	250	242	206	206	220	198	198	198	198	Y	206	206	212	220	240	248	Q 272	278	306
8	278	258	232	266	284	238	A 232	A	A	A	232	232	198	352	342	216	216	224	238	238	238	238	274	252
9	262	284	266	256	270	252	216	224	A	A	216	A	A	210	218	206	216	A	E A 232	A	242	242	238	246
10		268	282	274	280	240	214	202	208	188	190	Y	198	208	A	E A 246	A	A	250	224	220	268	A	296
11	298	298	262	Q 292	278	240	252	A	A	A	E A 230	E A 224	210	A	A	196	212	A	A	A	260	248	228	260
12	264	282	270	290	268	240	228	A	200	A	A	A	A	A	212	212	212	242	218	246	282	278	278	A
13	296	308	292	266	266	A	A	232	212	196	192	A	A	Y	204	204	214	214	A	258	232	234	252	304
14	270	262	274	252	234	246	220	222	A	220	A	A	198	C	210	208	210	216	232	238	252	240	252	278
15	294	262	282	244	256	216	216	230	198	192	192	E Y 230	208	Y	A	A	A	222	254	248	260	260	250	264
16	266	270	248	254	234	A	A	A	A	A	222	A	A	A	A	A	A	244	A	262	244	230	230	232
17	260	252	292	292	266	A	214	A	A	A	A	A	204	204	196	196	214	220	E A 230	236	262	262	224	254
18	300	306	296	Q 282	252	232	A	A	220	A	A	A	A	178	A	210	208	222	222	A	272	272	272	274
19	242	266	Q 298	294	248	202	230	214	A	A	A	A	A	214	214	214	214	214	224	240	260	226	226	230
20	250	264		228	256	244	228	220	230	204	204	Y	216	A	A	A	A	A	266	210	230	256	238	274
21	292	286	286	286	280	286	230	230	230	A	A	A	200	Y	220	228	A	228	A	250	250	258	258	286
22	286	286	262	278	290	A	250	A	A	A	A	208	A	A	A	A	A	A	254	254	A	276	254	262
23	284	268	268	228	226	226	226	210	A	210	Y	Y	204	E A 292	A	210	E A 288	240	240	240	240	240	244	244
24	280	268	260	264	266	274	230	224	212	212	218	Y 204	E A 230	200	222	214	218	A	A	258	A 296	314	222	208
25	248	266	270	280	276	260	226	A	A	242	202	196	196	Y	E A 224	218	236	A		244	266	220	A	258
26	280	294	288	288	288	272	256	254	216	A	A	A	200	188	204	216	222	242	266	266	266	250	226	A
27	E A 306	270	270	270	280	256	212	212	194	A	A	Y	Y	Y	214	214	220	B	270	258	258	222	266	266
28	254	296	350	346	E B 326	266	254	A	A	220	A	196	A	A	218	218	A	256	A	256	322	284	A 308	288
29	282	268	284	E A 318	A	368	234	228	Y	A	A	A	198	A	198	216	220	236	258	288	308	288	260	300
30	Q 268	284	246	234	234	250	A	234	A	Y	E Y 258	Y	Y	Y	Y	Y	220	220	226	248	282	272	282	294
31	284	268	246	242	270	266	236	222	218	A 218	Y 206	E Y 222	210	176	198	218	218	224	254	262	290	280	262	274
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	30	31	30	30	29	25	25	20	16	14	16	13	17	15	18	24	22	23	22	25	30	31	29	29
MED	280	268	270	270	268	250	229	224	215	215	209	206	201	203	212	214	216	223	240	250	260	260	255	266
U Q	292	286	286	290	283	267	240	230	224	238	E 231	228	E 213	214	E A 222	218	220	242	254	258	282	276	273	291
L Q	262	264	262	254	254	240	220	217	207	204	200	201	198	198	204	207	214	218	230	240	240	240	238	256

AUG. 2014 h′F (KM)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Wakkanai

AUG. 2014 h′E (KM) 135°E MEAN TIME (G.M.T. + 9 H)

LAT. 45°10.0′N LON. 141°45.0′E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1						140	114	114	114	104	A	A	A	104	110	A	A	110	128	A				
2						114	112	108	102	A	106	106	106	A	A	A	A	A	108	A				
3						A	114	112	106	106	A	A	A	A	A	106	108	114	110	A				
4						120	106	106	106	106	A	A	A	A	A	106	110	110	104	A				
5					B	A	A	114	112	112	112	102	110	110		110	110	112	A					
6						122	120	100	106	108	108	110	108	108	108	110	110	A	A	A				
7						A	110	110	104	104	110	110	110	A	108	108	108	108	118	B				
8						116	116	112	110	110	A	A	110	106	A 106	108	108	114	114	A				
9					B	118	110	116	106	106	106	106	A	A	A	A	106	A	A	B				
10					100	140	124	102	106	106	A	100	106	100	106	106	114	114	A	114				
11					124	120	120	112	112	112	106	106	106	B	106	104	108	108	108	A				
12					116	122	122	114	108	108	102	104	104	104	A	104	110	116	116					
13					B	124	118	114	114	114	108	110	B	A	A	108	112	110	120	A				
14					B	126	120	110	110	110	A	A	A	C	114	114	114	114	116					
15						128	114	116	A	112	A	A	A	A	A	A	112	114	118	A				
16					A	A	110	112	112	112	112	108	A	108	108	A	A	114	A	A				
17					A	A	126	116	112	112	110	110	110	110	110	110	110	110	A	B				
18					B	A	120	116	114	110	110	A	A	A	A	A	110	114	A					
19						118	118	118	114	110	110	110	108	108	112	114	114	114	A					
20					B	152	116	116	110	110	110	112	112	112	114	114	114	118	A	B				
21					B	118	118	118	108	104	A	104	110	110	110	112	112	112	A					
22					B	A	112	118	114	114	114	A	108	A	108	108	108	A	A					
23						A	116	116	112	112	110	A	112	114	114	110	110	108	A					
24						B	124	114	110	110	106	A	A	A	108	110	112	116	116					
25						116	118	112	110	110	100	A	106	110	110	110	110	110						
26							118	114	114	108	108	102	106	110	A	A	112	112	A					
27						120	120	112	112	112	108	A	A	110	112	112	112	112	B					
28						B	116	116	106	104	104	104	104	106	A	114	114	114	A					
29						A	114	114	104	A	104	104	A 104	A	104	104	110	114	114	A				
30						124	110	110	110	110	110	A	108	A	A	A	108	120	A					
31						B	120	120	118	116	108	A	108	106	114	110	118	112						
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT					3	18	30	31	30	29	23	17	20	17	19	23	28	27	13	1				
MED					116	121	117	114	110	110	108	106	108	108	110	110	110	114	116	114				
U Q					124	126	120	116	112	112	110	110	110	110	112	112	112	114	118					
L Q					100	118	114	112	106	106	106	104	106	106	108	106	109	110	109					

AUG. 2014 h′E (KM)

IONOSPHERIC DATA STATION Wakkanai

AUG. 2014 h′Es (KM) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.45°10.0′N LON.141°45.0′E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	102	102	102	102	104	104	132	114	114	114	114	112	112	108	108	120	120	122	108	100	104	104	104	104
2	98	96	96	96	B	G	144	124	112	116	G	132	116	116	116	104	104	106	106	106	106	106	100	98
3	104	104	104	104	108	112	112	110	110	110	104	104	104	104	104	G	114	112	112	112	112	112	104	104
4	104	104	100	B	102	130	102	102	116	112	112	112	108	106	112	122	122	122	106	118	130	114	106	106
5	106	106	106	100	106	100	100	106	140	134	118	118	114	G	G	122	116	112	112	B	B	100	100	100
6	100	114	114	114	104	112	112	112	104	G	110	116	G	116	G	108	112	110	108	108	104	116	104	108
7	108	108	108	108	108	108	112	110	106	106	106	102	98	104	104	104	112	102	G	102	108	108	102	104
8	104	102	110	98	104	142	218	108	108	108	108	108	108	G	G	132	132	114	114	108	B	B	B	108
9	102	B	102	96	B	114	122	114	104	100	106	104	104	104	104	102	206	92	92	92	106	106	106	94
10		98	98	98	98	126	112	112	124	188	106	114	G	Y	126	116	108	108	108	108	B	128	112	112
11	100	100	100	100	110	110	126	120	120	110	110	112	G	112	112	116	116	116	110	110	110	110	110	110
12	102	104	Q 104	104	112	136	116	106	106	98	98	98	98	102	102	G	G	114	114	114	104	104	106	106
13	106	92	104	104	104	126	120	120	116	108	108	98	104	104	104	104	104	130	116	114	112	112	106	106
14	106	106	98	98	98	G	122	110	110	110	104	104	106	C	G	102	106	108	112	110	104	104	102	100
15	98	98	90	98	98	90	134	116	108	112	106	106	106	106	98	102	102	122	114	124	112	112	B	104
16	100	104	104	100	100	100	106	116	112	112	112	112	112	104	104	104	104	122	110	110	110	B	110	110
17	110	110	108	100	100	108	118	118	116	116	108	108	108	108	108	108	108	108	102	102	110	110	110	B
18	110	110	110	110	108	120	110	110	110	110	102	102	102	102	102	102	116	120	120	110	110	110	110	106
19	92	92	100	98	106	108	118	124	116	106	108	108	108	108	108	108	108	108	114	112	112	B	B	B
20	B	100		B	B	G	128	G	122	122	118	130	104	122	118	118	110	110	106	108	108	108	B	100
21	100	100	100	114	116	116	112	128	118	102	104	104	104	122	182	128	126	116	110	110	112	112	106	100
22	98	98	106	132	100	120	106	114	114	114	106	106	108	108	112	112	106	106	116	110	110	110	98	98
23	100	100	100	100	100	104	134	120	116	114	108	108	112	108	110	110	106	106	106	114	B	98	B	B
24	100	96	110	100	106	B	124	110	110	110	104	104	104	102	106	G	140	114	110	110	110	110	118	B
25	98	98	100	100	B	110	114	114	108	100	100	102	G	102	124	110	116	110	110	110	110	110	110	110
26	100	100	100	100	100	110	110	110	110	104	104	104	G	G	106	106	106	112	112	104	106	106	106	106
27	106	106	106	106	106	120	116	112	110	110	110	102	102	G	104	104	112	112	112	112	112	106	B	B
28	B	136	120	120	B	120	120	116	116	110	104	110	106	112	112	G	112	112	112	112	112	110	102	B
29	102	104	104	122	112	112	112	112	108	108	102	102	102	96	96	100	122	114	114	110	106	106	106	100
30	100	100	B	100	124	112	112	114	106	106	100	112	104	104	104	96	98	G	112	100	100	B	B	B
31	100	B	B	B	B	B	144	130	116	108	108	108	108	110	182	140	126	116	116	116	116	102	102	102
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	28	29	28	28	25	26	31	30	31	30	30	31	26	25	27	27	30	30	30	30	27	27	24	24
MED	101	102	104	100	104	112	116	114	112	110	106	108	106	106	108	108	112	112	112	110	110	110	106	104
U Q	105	106	107	107	108	120	126	118	116	114	110	112	108	111	112	118	120	116	114	112	112	112	110	107
L Q	100	98	100	99	100	108	112	110	108	106	104	104	104	104	104	104	106	108	108	108	106	106	102	100

AUG. 2014 h′Es (KM)

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IONOSPHERIC DATA STATION Wakkanai

AUG. 2014 TYPES OF Es 135°E MEAN TIME (G.M.T. + 9 H)

LAT.45°10.0′N LON.141°45.0′E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	F3	F2	F3	F2	F2	L1	C1	CL21	CL21	C2	C2	C1	CL11	C1	C1	C1	CL11	CL21	L2	L4	FF32	F4	F3	F2
2	F1	F1	F2	F1			H1	C1	C1	CL11		C1	C1	C1	CL11	L1	L1	L2	L1	L2	F2	F1	F2	F2
3	F3	F2	F2	F3	F2	C2	C2	C2	C1	C1	C2	C1	L1	L1	L1		C1	C1	C2	L5	F3	F1	F2	F3
4	F1	F1	F1		F2	C2	CL11	LC22	CL11	C1	C1	C1	C1	L1	C1	C1	C1	C1	C3	C5	F1	F1	F1	F2
5	F1	F1	F1	F1	L1	L2	L2	CL12	HL11	C1	C1	C1	C1			C1	C1	C3	C3			F6	F4	F4
6	FF22	FFQ31	FQ31	F4	F4	C2	C3	C1	C1		C1	C1		C1		C1	C2	L2	L2	L3	F3	FQ11	F2	F4
7	F3	F3	FQ31	FQ31	FQ41	L2	C2	C2	C2	C1	C1	C1	C1	L1	C1	C1	C1	C2		C1	F1	F3	F9	F4
8	F1	FQ11	FF32	F2	FF12	C2	HC11	C2	C2	C2	C1	L1	L1			C2	C1	C2	C2	L1				F1
9	F1		F1	F1		C2	C2	C2	C1	C2	C2	C1	L1	L1	L1	L1	HL11	L2	LQ31	LQ31	FQ31	FQ31	F1	F2
10		F1	F2	F2	L2	C2	C2	C2	C1	C2	L1	C1		C1	C1	C1	C2	C2	C2	C2		F4	F3	F3
11	FQ41	FQ31	F5	F3	L1	L1	C1	C3	C2	C1	C1	C1		C1	C1	C1	C1	C2	C3	L3	F2	F3	F2	F5
12	F2	F4	F2	F2	C1	C1	C2	C2	C2	C2	C2	C2	C2	L2	L1			C2	C3	F3	F4	F2	F5	F3
13	F3	F3	F1	F1	L1	C1	C2	C2	C1	C1	C1	C1	C1	L1	L1	C1	C1	C2	C3	L6	F4	F2	F4	F5
14	F2	F2	F5	F1	L2		C2	C1	C1	C2	C1	C1	C1			CL11	CL11	C2	C3	F3	F2	F4	F3	F3
15	F3	F3	F2	F1	F2	L1	H2	C2	L1	C1	L1	L1	L1	L1	L2	CL22	C2	C4	C4	C4	F5	F1		F3
16	F5	F2	F2	F2	L4	L3	C2	C2	C2	C1	C1	C1	C1	C3	C2	L3	L2	C3	C3	L5	F2		F1	F1
17	F3	F2	F3	F4	L2	CL11	C2	C2	C2	C2	C2	C2	C1	C1	C1	C1	C2	CL11	L2	L2	F3	F5	F3	
18	F1	F5	F3	F3	C3	L3	C2	C2	C2	C2	C2	L3	L2	L1	L3	L2	C2	C2	C2	F4	F5	F4	F7	F5
19	F1	F1	F2	F2	F2	L1	C1	C2	C1	C2	C2	C2	C1	C1	C2	C1	C3	C2	L2	F3	F3			
20		F3					C1		C2	C1	C1	C1	CL11	C1	C2	C1	C2	C3	L4	L4	F1	F6		F4
21	F2	F3	FF11	FF11	F3	F2	C3	C1	C2	C2	L1	L1	L1	CL11	C2	C1	C2	C2	L3	F3	F6	F4	F2	F4
22	F3	F3	F1	F1	L2	L4	CL21	CL11	C1	C1	C1	L1	C1	L2	C1	L1	C2	L4	L3	F4	F4	F4	F4	F3
23	F4	F2	F2	F1	F1	L4	H2	C1	C1	C1	C1	L1	C1	C1	C1	L1	C3	L2	L3	F1		F1		
24	F3	F2	F1	F1	F2		C1	C2	C1	C2	C1	L1	L1	L1	L1		C2	C2	C4	F3	F6	F5	F1	
25	F2	F2	F2	F3		C2	C2	C3	C2	C2	C1	L1		C1	C2	C1	C2	C2	C4	F2	F4	FF12	F3	F3
26	F2	F2	F3	F3	F2	F2	C3	C2	C2	C2	C2	C1			L1	L1	C1	C1	C3	F3	F3	F6	F3	F5
27	F2	F3	F1	F1	F1	C2	C2	C2	C1	C1	C1	L1	L1		L1	C1	C1	C3	L2	F5	F4	F2		
28		F1	F4	F4		C2	C1	C2	C1	C1	C2	C1	C1	C1	L1		C2	C2	L3	F3	F4	F5	F3	
29	F1	F1	F1	F3	F4	C2	C2	C1	C2	L1	C1	C1	C1	L2	L2	L2	C1	CL22	C2	F3	F3	F3	F3	F5
30	F1	F1		F1	F1	C2	C2	C2	C2	C1	L1	L1	C1	L1	L1	L2	LC21		C1	F1	F1			
31	F1						HL21	H1	C2	C1	C1	L1	C1	C1	H1	H1	C2	C3	F3	F2	F4	F2	F1	F1
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT																								
MED																								
U Q																								
L Q																								

AUG. 2014 TYPES OF Es

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

AUG. 2014 fxI (0.1MHz) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.35°43.0′N LON.139°29.0′E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	88	88	84	81	79															X 90	X 88	86	86	X 83
2	X 76	X 67	X 64	X 66	65																X 87	X 83	X 80	X 84
3	X 81	X 76	X 74	X 68	X 68																X 80	X 79	X 78	X 76
4	X 70	X 65	X 63	X 60	X 57																X 88	X 88	X 82	X 81
5	X 80	X 79	X 74	X 68	X 66																X 96	X 82	X 76	X 75
6	X 74	X 74	X 72	X 67	X 62																X 78	X 75	X 76	X 73
7	X 72	X 74	X 72	X 64	X 62																X 79	X 79	X 76	X 71
8	X 75	X 68	X 72	X 64	X 58															X 91	X 92	X 74	X 63	X 66
9	X 65	X 65	X 63	X 63	X 57															X 94	X 90	X 72	X 60	66
10	X 62	64	X 60	X 56	X 54																X 80	X 76	X 70	X 70
11	X 65	X 66	X 68	X 66	X 64																X 77	78	X 76	82
12	X 72	66	63	66	62															X 79	X 80	X 77	X 75	X 60
13	65	X 56	55	54	X 53															X 96	X 76	77	79	X 73
14	X 59	66	X 66	68	X 56															X 84	X 81	X 83	X 81	X 72
15	67	X 63	68	65	62															X 78	X 78	X 70	77	72
16	68	X 64	67	X 59	X 56															X 96	X 88	X 75	X 73	76
17	A	74	66	67	63	62														X 87	X 78	X 68	X 70	X 61
18	68	66	66	64	X 60															X 95	X 94	X 72	X 74	X 73
19	X 63	68	69	X 60	62															X 86	X 82	X 76	X 77	X 77
20	76	68	68	68	X 50															X 106	X 78	X 66	X 67	O X 71
21	X 68	X 64	X 61	X 60	X 58															X 93	X 75	X 67	68	70
22	X 73	72	X 66	69	67															X 86	X 78	X 73	X 73	X 73
23	X 73	X 72	X 72	X 67	X 51															X 93	X 88	X 79	X 76	O X 75
24	X 72	X 65	X 65	X 55	X 56	X 54														X 92	X 93	X 82	X 74	73
25	X 68	76	X 72	68	64															X 90	X 91	X 80	X 74	X 70
26	X 69	X 68	X 66	X 68	X 60															X 101	X 98	X 82	X 72	X 70
27	72	74	68	X 63	X 61															X 105	X 101	X 91	X 77	X 72
28	X 74	X 71	X 68	67	X 60															X 70	X 69	X 68	X 69	X 70
29	X 69	X 65	X 64	X 60	X 61															X 72	X 69	X 61	68	X 62
30	X 59	X 55	X 56	X 55	X 52															X 69	X 67	X 67	X 69	X 69
31	X 70	X 69	X 70	X 61	X 56															X 83	X 79	X 78	X 71	X 73
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	30	31	31	31	31	2														23	31	31	31	31
MED	X 70	X 68	X 67	X 65	X 60	58														X 90	X 80	X 77	X 74	X 72
U Q	X 74	74	X 72	68	63															X 95	X 90	X 82	X 77	X 75
L Q	X 67	X 65	X 64	X 60	X 56															X 83	X 78	X 72	X 70	X 70

AUG. 2014 fxI (0.1MHz)

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AUG. 2014 foF2 (0.1MHz) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.35°43.0′N LON.139°29.0′E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	F	F	F	F	F	64	74	81	88	79	66	73	82	91	87	78	76	75	75	84	81	F	F	77
2	70	61	58	60	F	57	68	78	88	79	82	85	88	91	A	76	76	79	80	82	81	77	74	77
3	75	69	68	62	60	59	64	57	61	58	R 60	55	62	65	66	70	69	64	67	67	74	72	72	70
4	63	59	57	54	51	48	66	74	78	72	A	A	66	69	A	68	74	85	88	88	82	82	76	75
5	74	73	68	64	60	55	71	87	78	73	80	76	67	73	73	77	81	84	96	102	90	76	70	69
6	68	68	66	60	56	54	62	86	83	71	74	72	68	65	71	75	A	79	72	76	72	69	70	66
7	66	68	66	58	56	57	72	72	71	68	66	68	73	77	80	90	82	75	65	66	72	73	70	65
8	69	62	66	58	52	51	68	74	73	A	A	75	76	81	91	95	91	83	86	85	85	68	57	60
9	59	59	57	56	51	55	69	78	67	76	68	72	75	84	93	87	82	82	86	88	84	66	54	F
10	56	F	54	50	48	54	72	75	77	67	80	89	74	76	80	80	80	86	89	81	74	70	64	63
11	59	60	62	60	58	60	79	74	74	66	64	A	72	69	72	75	81	82	77	78	70	F	70	F
12	66	F	F	F	F	57	64	73	A	69	70	71	84	88	88	87	78	67	64	73	74	71	69	54
13	F	50	F	F	47	51	70	67	76	74	66	69	67	71	80	90	95	97	99	90	70	F	F	67
14	53	F	60	F	50	45	52	69	91	83	82	77	70	74	71	78	76	69	72	78	75	76	75	66
15	F	57	F	F	F	52	72	68	73	65	A	67	68	72	A	76	76	65	66	71	72	64	F	F
16	F	58	F	53	50	46	58	66	81	67	71	A	A	A	73	80	72	72	81	90	81	69	67	F
17	A	F	F	F	F	F	60	66	71	74	82	84	86	84	92	98	102	100	97	80	71	62	64	55
18	F	F	F	F	54	53	65	74	A	67	53	74	89	84	78	82	78	67	75	89	87	66	68	67
19	57	F	F	54	F	52	66	88	A	76	69	70	82	91	78	89	82	78	80	80	76	70	71	70
20	F	F	F	F	44	44	58	91	84	80	59	65	66	67	78	83	86	83	94	100	72	60	60	65
21	62	58	55	54	52	50	64	63	65	75	74	66	71	78	88	79	82	81	86	87	69	60	F	F
22	67	F	60	F	F	51	51	60	62	61	63	70	68	71	75	83	84	88	82	80	71	67	67	67
23	67	66	66	61	45	40	59	72	71	70	67	69	65	63	76	84	85	78	80	87	82	73	70	69
24	65	59	59	48	50	48	68	86	78	68	71	77	82	76	75	76	78	83	83	86	87	76	67	F
25	62	F	66	F	F	51	72	86	86	87	84	78	73	74	75	83	81	78	79	84	85	74	67	64
26	63	62	60	62	54	60	74	86	80	88	81	77	A	75	83	86	90	88	86	94	92	76	66	64
27	F	F	F	57	55	56	80	93	79	75	72	72	78	89	91	92	90	88	94	99	95	85	71	66
28	68	65	62	F	54	48	59	61	78	66	66	A	64	72	72	68	A	80	86	64	62	62	62	64
29	62	59	58	54	55	48	51	58	56	65	58	R	R	62	69	65	65	67	66	66	63	55	F	56
30	53	49	50	49	46	43	56	68	69	74	A	A	75	82	79	74	76	75	75	63	61	61	63	63
31	64	63	63	55	50	47	65	81	72	74	74	78	81	78	81	86	78	78	78	77	73	72	65	67
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	23	20	21	20	23	30	31	31	28	30	27	25	28	30	28	31	29	31	31	31	31	28	26	25
MED	64	60	60	56	52	52	66	74	76	72	70	72	73	76	78	80	81	79	80	82	74	70	68	66
U Q	68	66	66	60	55	56	72	86	80	76	80	77	82	84	85	87	84	84	86	88	84	75	70	69
L Q	59	58	58	54	50	48	59	67	71	67	66	69	68	71	73	76	76	75	75	76	71	65	64	64

AUG. 2014 foF2 (0.1MHz)

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IONOSPHERIC DATA STATION Kokubunji

AUG. 2014 foF1 (0.01MHz) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.35°43.0'N LON.139°29.0'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1							L	L	U L 484	A	A	U L 556	A	A	A	A	A	L	A					
2							L	U L 476	U L 584	A	U L 528	540	544	A	A	A	U L 512	U L 472	L					
3							L	U L 464	U L 508	U L 516	U L 516	U L 504	U L 532	U L 516	U L 528	484	L	A	A	A				
4							L	464	A	L	A	A	U L 540	A	A	A	U L 492	L	A					
5							L	L	L	U L 516	U L 528	U L 624	U L 564	A	532	A	A	A	A	A				
6							L	A	480	U L 600	U L 528	500	U L 536	A	A	A	A	A	A					
7							A	A	U L 508	U L 524	A	A	A	512	508	480	464	L						
8							L	L	U L 480	A	A	A	516	532	496	480	L	A						
9								L	A	U L 516	U L 520	516	508	512	U L 496	A	L	A	A					
10							L	L	L	U L 496	484	516	512	488	500	U L 480	U L 480	A	L					
11							A	L	U L 476	A	A	A	A	U L 508	U L 512	A	A	A	A					
12							A	A	A	A	484	A	U L 512	492	A	U L 480	440	A						
13								L	L	A	U L 560	A	500	U L 528	A	A	452	L						
14								A	A	484	A	A	A	A	A	A	A	A	A					
15							A	L	L	A	A	496	A	A	A	A	L	A	A					
16								L	A	A	A	A	A	A	A	456	U L 436	A	A					
17								A	A	A	A	A	A	A	A	A	A	L	L					
18						A	A	A	A	U L 492	A	A	A	500	500	U L 480	L	L	L					
19								A	A	A	U L 528	U L 508	U L 516	A	A	A	A	L	A					
20							L	L	A	A	L	U L 528	U L 516	U L 504	U L 496	480	L	A	A					
21							L	L	U L 464	U L 488	496	U L 528	U L 520	U L 520	U L 508	L	U L 464	L						
22						A	A	U L 444	A	A	U L 516	504	U L 524	U L 516	516	U L 488	U L 452	A						
23								L	A	484	U L 496	U L 496	U L 520	U L 556	500	488	A	A						
24							L	L	L	L	U L 524	L	U L 532	L	L	500	L	A	A					
25							L	A	U L 472	A	512	U L 524	U L 548	A	520	A	A	A	A					
26								A	A	A	A	A	A	A	516	U L 520	L	A	A					
27							A		A	L	A	U L 568	U L 544	U L 524	U L 520	A	A	A	A					
28							U L 376	U L 452	452	A	U L 492	A	U L 532	U L 508	480	L	A	A						
29						L	A	A	A	A	A	488	516	U L 492	480	L	L	A						
30								A	A	A	A	A	508	U L 492	U L 488	L	L	A						
31								L	L	L	U L 580	U L 536	U L 536	524	U L 536	L	A	L						
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT								1	5	10	10	16	17	22	18	19	12	9	1					
MED							U L 376	U L 464	U L 480	U L 506	U L 518	U L 516	U L 522	U L 512	508	480	U L 464	U L 472						
U Q								U L 470	U L 508	U L 516	U L 528	U L 538	U L 536	U L 524	U L 520	488	U L 486							
L Q								U L 448	U L 472	488	496	502	516	500	496	480	446							

AUG. 2014 foF1 (0.01MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

AUG. 2014 foE (0.01MHz) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.35°43.0'N LON.139°29.0'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1						B	A	A	A	A	A	A	A	A	A	A	A	A	A					
2						B	A	R	A	A	A	A	A	A	A	A	A	A	UR 220	B				
3						B 256		A	A	A	A	A	A	A	A	A	A	A	A	B				
4						B	UR 268	A	A	A	A	A	A	A	A	A	A	A	A	B				
5						UR 180	A	A	A	A	A	R	A	A	R	A	A	A	A	B				
6						B	A	A	A	A	A	A	A	A	A	A	A	A	B	B				
7						B	A	A	A	A	A	A	A	A	A	A	R	A	A	B				
8						B	A	A	A	A	A	A	R	R	UR 400	A	A	A	B					
9						B	A	A	A	A	A	A	A	R	A	A	A	A	A					
10						B	A	A	A	A	A	R	A	R	A	A	A	A	A	B				
11						B	A	A	A	A	A	A	A	A	R	A	A	A	A	B				
12						B	A	A	A	A	A	A	R	A	A	A	A	A	B					
13						B	UR 256	A	A	A	A	A	A	A	A	A	R	A	B					
14						B	A	A	A	A	A	A	A	A	A	A	A	A	B					
15						B	A	A	A	A	A	A	A	A	A	A	A	A	B					
16						B	UA 216	A	A	A	A	A	A	A	A	A	A	A	B					
17						B	A	A	A	A	A	A	A	A	A	A	A	A	B					
18						B	A	A	A	A	A	A	A	A	A	A	R	A	B					
19						B	A	A	A	A	A	A	A	A	A	A	A	A	B					
20						B	A	A	A	A	R	R	R	R	A	A	A	A	B					
21						B	A	A	A	A	R	A	A	R	R	A	A	A	B					
22						B	A	A	A	A	A	R	R	A	A	A	A	A	B					
23						B	A	A	A	A	A	A	A	R	R	A	A	A	B					
24							240	A	A	A	R	A	R	R	R	A	R	A	A	B				
25						B	A	A	A	A	A	A	A	A	A	A	A	A	B					
26						B	A	A	A	A	A	A	A	A	A	A	R	A	B					
27						B	A	A	A	A	A	A	A	A	A	A	A	A	B					
28						B	A	A	A	A	A	A	R	R	R	R	A	A	B					
29						B	A	A	A	A	A	A	R	R	A	A	R	A	B					
30						B	UR 240	A	A	A	A	A	R	R	A	A	R	A	B					
31						B	UR 232	R	R	A	A	A	A	R	R	R	A	A	B					
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT						1	7								1				1					
MED						UR 180	UR 240								UR 400				UR 220					
U Q							UR 256																	
L Q							U 232																	

AUG. 2014 foE (0.01MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

AUG. 2014 foEs (0.1MHz) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.35°43.0′N LON.139°29.0′E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	JA 109	JA 47	JA 40	JA 39	JA 31	21	JA 39	JA 42	JA 62	JA 46	JA 89	47	JA 52	JA 102	JA 61	55	JA 86	JA 62	JA 50	JA 51	JA 51	JA 108	JA 74	JA 27
2	JA 34	JA 33	JA 42	JA 53	JA 27	JA 21	34	G	JA 53	JA 66	JA 52	JA 55	49	JA 60	JA 90	JA 73	JA 58	JA 38	26	EB 15	JA 100	JA 42	JA 38	JA 23
3	EB 16	EB 14	EB 15	EB 14	EB 14	20	29	38	JA 44	JA 46	JA 53	JA 48	42	44	43	JA 45	JA 52	JA 47	JA 65	JA 46	JA 58	JA 70	JA 34	JA 38
4	33	JA 28	JA 34	JA 24	21	EB 17	G	36	42	JA 47	JA 72	JA 74	50	JA 59	JA 96	JA 67	43	JA 44	JA 42	JA 28	JA 29	JA 33	JA 42	JA 47
5	JA 45	EB 15	JA 20	20	JA 25	G	30	40	42	JA 47	46	G	49	JA 56	G	JA 56	JA 75	JA 60	JA 77	JA 151	JA 23	JA 46	JA 28	JA 26
6	JA 34	JA 31	EB 14	21	20	JA 33	JA 53	JA 48	JA 43	JA 74	43	44	JA 46	JA 72	JA 53	JA 105	JA 94	JA 84	JA 31	JA 38	JA 24	JA 26	JA 27	JA 22
7	JA 31	22	JA 34	JA 62	JA 28	JA 24	JA 82	JA 58	JA 60	JA 47	JA 58	JA 62	JA 82	JA 55	42	42	G	36	25	JA 28	24	JA 23	20	19
8	JA 34	24	EB 15	EB 15	EB 15	20	31	JA 47	JA 45	JA 72	JA 112	JA 85	G	G	G	41	JA 72	JA 116	JA 71	JA 45	JA 117	JA 42	JA 36	19
9	21	EB 15	JA 20	EB 14	EB 15	EB 16	31	JA 43	JA 51	JA 48	JA 51	43	44	G	JA 50	JA 62	JA 40	46	46	JA 48	JA 55	JA 47	JA 38	JA 43
10	JA 38	JA 50	JA 30	JA 21	JA 24	JA 21	JA 33	JA 46	JA 45	JA 67	44	G	42	G	45	JA 54	JA 66	JA 110	JA 66	JA 28	JA 20	EB 15	JA 47	JA 22
11	JA 32	JA 23	EB 14	JA 24	EB 15	EB 16	JA 41	41	JA 68	44	JA 78	JA 164	JA 117	42	G	JA 71	JA 64	JA 58	JA 41	22	JA 55	JA 31	JA 45	JA 42
12	JA 32	JA 40	JA 32	JA 29	JA 46	JA 29	JA 61	JA 54	JA 131	JA 75	JA 99	JA 65	G	JA 47	JA 48	42	38	37	24	JA 20	JA 20	JA 30	JA 32	JA 42
13	JA 61	JA 50	JA 66	JA 42	JA 31	EB 15	EB 15	34	39	59	JA 58	JA 54	JA 80	JA 48	JA 70	JA 47	G	34	JA 30	JA 22	JA 46	JA 44	JA 54	EB 15
14	JA 20	JA 38	JA 40	JA 52	JA 45	JA 26	32	JA 44	JA 50	JA 45	JA 73	JA 84	JA 53	48	JA 84	JA 52	JA 74	JA 58	JA 58	JA 63	JA 38	JA 19	JA 46	JA 65
15	JA 73	JA 84	JA 49	JA 30	JA 37	JA 30	JA 35	37	36	JA 57	JA 67	45	JA 46	JA 64	JA 74	39	38	JA 44	JA 32	JA 62	JA 81	JA 29	JA 48	JA 68
16	JA 54	JA 28	JA 36	JA 36	JA 22	JA 26	27	36	41	JA 53	JA 70	JA 107	JA 123	JA 110	JA 66	38	34	JA 58	JA 52	JA 25	JA 31	JA 32	JA 30	JA 74
17	JA 79	JA 58	JA 75	JA 30	JA 27	JA 30	36	JA 71	JA 62	65	JA 55	JA 64	JA 73	JA 63	JA 74	JA 71	JA 42	33	JA 40	JA 100	JA 52	JA 38	JA 71	JA 42
18	JA 56	JA 60	JA 40	JA 48	JA 44	JA 36	JA 66	JA 54	JA 98	JA 56	JA 70	JA 66	JA 54	JA 44	44	41	G	32	JA 28	JA 48	22	JA 32	JA 32	JA 29
19	JA 24	JA 75	JA 40	JA 26	JA 29	EB 15	30	JA 50	JA 150	JA 56	42	JA 50	42	JA 75	JA 59	JA 57	JA 59	JA 85	JA 117	JA 68	JA 71	JA 25	JA 34	39
20	JA 30	JA 38	JA 33	JA 28	JA 24	EB 14	JA 30	JA 45	42	JA 58	G	G	G	G	40	42	40	JA 56	JA 33	JA 34	JA 31	JA 28	EB 15	27
21	JA 20	JA 23	21	JA 19	EB 15	JA 22	29	JA 39	40	JA 54	G	JA 46	JA 55	G	G	42	JA 56	JA 44	JA 36	JA 43	JA 22	JA 54	JA 36	JA 50
22	JA 58	JA 73	JA 108	JA 69	JA 55	JA 36	JA 38	34	JA 69	JA 48	44	G	G	42	41	40	40	37	JA 43	45	JA 93	JA 45	JA 40	JA 39
23	JA 39	JA 29	JA 21	EB 14	24	EB 15	27	38	44	40	43	46	44	G	G	40	JA 43	JA 35	JA 26	JA 59	JA 47	JA 31	JA 21	20
24	EB 15	EB 15	EB 15	EB 15	EB 15	EB 15	26	38	39	G	42	G	G	G	43	G	41	40	40	JA 68	JA 73	JA 119	JA 82	JA 48
25	JA 36	JA 64	JA 27	JA 37	JA 24	EB 14	JA 35	JA 48	JA 41	JA 43	42	43	49	JA 54	44	JA 50	JA 52	JA 40	48	JA 36	JA 30	JA 22	JA 21	JA 23
26	JA 27	JA 34	21	JA 24	22	21	27	JA 42	JA 72	JA 58	JA 64	JA 72	JA 96	JA 71	JA 48	JA 42	G	JA 40	JA 45	JA 54	JA 101	JA 27	JA 39	JA 52
27	JA 44	JA 48	JA 20	JA 23	JA 24	EB 14	JA 46	JA 72	JA 56	JA 42	JA 56	JA 44	JA 48	JA 47	JA 46	JA 50	JA 56	JA 59	JA 45	JA 58	JA 60	JA 74	JA 56	JA 69
28	JA 46	JA 39	JA 22	JA 44	JA 28	JA 19	28	JA 45	JA 44	JA 45	42	JA 54	G	G	G	G	JA 93	JA 73	JA 45	JA 76	JA 23	28	21	EB 16
29	JA 34	JA 27	JA 30	JA 19	JA 17	JA 20	JA 39	JA 47	JA 49	JA 56	JA 49	JA 48	G	G	34	34	G	JA 38	JA 28	JA 40	JA 32	JA 53	JA 44	JA 59
30	JA 24	JA 22	JA 20	JA 26	JA 22	JA 22	G	39	JA 44	JA 54	JA 76	JA 81	G	G	43	JA 44	G	34	JA 31	23	22	JA 23	JA 20	EB 15
31	20	EB 16	JA 40	22	EB 15	EB 15	G	G	G	42	43	43	42	G	G	G	41	35	19	JA 21	EB 15	21	JA 25	EB 15
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31
MED	JA 34	JA 33	JA 30	JA 26	JA 24	20	31	JA 42	JA 45	JA 53	JA 53	JA 48	46	JA 47	44	JA 44	JA 43	JA 44	JA 41	JA 45	JA 38	JA 32	JA 36	JA 38
U Q	JA 46	JA 50	JA 40	JA 39	JA 29	JA 26	JA 39	JA 48	JA 62	JA 58	JA 70	JA 66	JA 54	JA 60	JA 61	JA 56	JA 64	JA 59	JA 50	JA 59	JA 60	JA 46	JA 46	JA 48
L Q	24	EB 23	EB 20	EB 20	EB 17	EB 15	27	38	42	45	43	G 43	G	G	G 34	40	G 38	37	30	JA 28	JA 23	JA 26	JA 27	22

AUG. 2014 foEs (0.1MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

AUG. 2014 fbEs (0.1MHz) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.35°43.0′N LON.139°29.0′E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	31	28	21	19	22	18	30	39	41	45	51	45	48	64	52	52	46	34	33	39	32	37	E B 15	E B 14
2	22	19	18	39	19	18	29	G	45	55	40	44	46	57	A A 90	53	36	31	24	E B 15	50	32	29	E B 16
3	E B 16	E B 14	E B 15	E B E B 14	E B 14	17	28	34	42	42	42	45	40	41	42	38	39	40	57	42	42	38	20	28
4	23	23	21	E B 15	E B 15	E B 17	G	34	41	41	A A 72	A A 74	47	55	A A 96	59	42	37	38	22	23	22	36	29
5	E B 15	E B 15	E B 15	E B E B 15	E B 15	G	27	35	40	43	44	G	46	52	G	49	61	45	48	49	E B 15	39	23	E B 15
6	19	26	E B 14	E B E B 15	E B 15	19	26	40	38	50	39	42	42	62	50	52	A A 94	41	24	29	19	17	E B 15	E B 15
7	E B 15	E B 16	18	E B 15	E B E B 15	17	44	38	42	40	50	53	60	42	39	38	G	31	25	18	E B 14	E B 15	E B 15	E B 15
8	22	E B 15	E B 15	E B E B 15	E B 15	18	27	34	39	A A 72	A A 112	59	G	G	G	40	36	40	24	38	62	33	21	E B 15
9	E B 16	E B 15	E B 15	E B E B 14	E B 15	E B 16	26	36	44	44	41	41	40	G	40	48	34	43	40	34	25	26	24	18
10	20	E B 15	E B 15	E B E B 16	E B 15	16	28	34	38	40	38	G	40	G	44	40	36	37	20	19	E B 15	E B 15	23	18
11	21	E B 15	E B 14	E B E B 15	E B 15	E B 16	35	35	37	40	56	A A 164	68	40	G	66	54	42	31	18	22	18	21	23
12	20	18	22	22	29	23	45	34	A A 131	56	40	51	G	41	43	40	35	32	20	E B 15	E B 14	22	E B 15	20
13	30	22	29	31	18	E B 15	E B 15	31	34	57	48	48	40	40	48	43	G	31	21	E B 14	E B 15	27	33	E B 15
14	E B 16	20	31	22	24	18	26	41	42	42	64	68	45	44	64	46	42	48	31	49	32	E B 15	34	50
15	41	38	32	20	28	22	29	32	35	54	A A 67	42	43	60	A A 74	37	34	40	27	24	38	21	21	25
16	21	E B 15	26	25	18	19	26	34	38	49	57	A A 107	A A A 123	A A 110	65	37	31	36	37	20	28	24	23	36
17	A A 79	30	42	22	24	24	34	59	59	61	52	54	61	56	54	50	42	30	21	31	38	27	30	32
18	29	35	E B 16	24	40	30	51	45	A A 98	41	47	60	51	43	42	39	G	32	22	18	17	E B 16	18	22
19	18	E B 15	20	16	22	E B 15	29	48	A A 150	50	40	43	40	61	51	48	52	28	42	53	40	E B 14	20	34
20	20	E B 14	20	E B 15	E B 15	E B 14	26	32	41	44	G	G	G	G	39	39	37	37	30	26	26	20	E B 15	22
21	18	18	E B 15	E B E B 15	E B 15	E B 16	27	30	35	40	G	43	43	G	G	39	37	32	30	31	18	20	31	39
22	21	39	36	30	31	30	34	32	52	45	42	G	G	41	40	38	38	34	28	43	42	19	31	24
23	E B 16	17	E B 14	E B E B 14	E B 15	E B 15	24	33	40	38	42	44	42	G	G	39	41	31	24	39	22	20	18	E B 16
24	E B 15	E B 15	E B 15	E B E B 15	E B 15	E B 15	25	34	37	G	41	G	G	G	38	G	37	35	36	61	46	31	44	36
25	23	E B 15	17	24	19	E B 14	30	44	38	40	40	40	45	51	40	44	47	39	44	31	22	E B 16	E B 15	20
26	19	18	E B 16	E B E B 15	E B 14	E B 15	26	39	59	45	54	59	A A 96	60	43	41	G	36	27	18	50	21	24	36
27	33	29	E B 15	16	16	E B 14	31	64	51	40	52	41	46	44	42	46	49	51	40	29	18	38	20	38
28	35	32	17	27	E B 14	17	24	34	38	42	41	A A 54	G	G	G	G	A A 93	43	34	46	18	E B 16	E B 16	E B 16
29	21	18	19	E B 15	E B E B 15	E B 15	37	42	44	50	46	45	G	G	33	32	G	32	24	28	20	16	29	35
30	18	19	18	18	18	19	G	34	37	46	A A 76	A A 81	G	G	40	35	G	32	26	E B 16	E B 15	E B 16	E B 16	E B 15
31	E B 15	E B 16	22	E B 15	E B E B 15	E B 15	G	G	G	39	41	42	41	G	G	G	40	30	19	E B 16	E B 15	E B 14	18	E B 15
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31
MED	20	18	18	E B 16	E B 15	17	27	34	41	44	44	45	42	41	42	40	37	36	28	29	22	20	21	22
U Q	23	26	22	22	22	19	31	40	45	50	54	59	47	56	51	48	46	40	37	39	38	27	29	34
L Q	E B 16	E B 15	E B 15	E B E B 15	E B 15	E B 15	26	33	38	40	40	G 41	G	G	G 33	38	G 34	32	24	E B 18	E B 17	E B 16	E B 16	E B 15

AUG. 2014 fbEs (0.1MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

AUG. 2014 fmin (0.1MHz) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.35°43.0′N LON.139°29.0′E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	15	15	14	15	15	14	16	14	16	19	23	22	16	26	21	17	16	14	14	13	14	15	15	14
2	16	15	15	15	15	14	14	14	18	17	22	19	19	21	24	19	18	14	14	15	14	15	14	16
3	16	14	15	14	14	14	16	16	14	16	15	15	17	16	13	19	16	14	14	14	16	15	15	15
4	16	15	15	15	15	17	15	15	15	20	18	20	20	17	27	20	16	16	14	14	14	16	15	14
5	15	15	15	15	15	15	13	15	16	16	21	21	20	27	24	16	20	14	14	14	15	15	15	15
6	15	15	14	15	15	15	14	13	13	14	18	20	20	18	18	19	14	13	14	14	14	15	15	14
7	15	16	15	15	15	15	14	13	17	17	17	20	22	23	19	19	14	12	12	14	15	14	15	15
8	14	15	15	15	15	15	14	14	15	15	19	21	18	19	19	14	16	15	15	16	15	15	15	15
9	16	15	15	14	15	16	14	14	15	18	18	19	18	19	17	18	15	14	14	14	15	15	14	14
10	14	15	15	16	15	14	14	13	14	17	16	20	21	20	19	16	17	14	14	13	15	15	14	14
11	14	15	14	15	15	16	14	12	14	16	19	20	22	19	14	16	18	15	14	16	15	14	14	15
12	15	15	15	14	14	15	16	14	15	17	16	23	19	19	15	18	15	13	13	15	14	15	15	15
13	16	16	15	15	14	15	15	13	13	19	24	20	20	18	18	16	18	16	14	14	15	15	15	15
14	16	15	15	14	15	14	16	15	16	18	19	22	18	17	24	18	16	13	15	15	15	15	14	16
15	16	16	14	15	13	14	13	15	14	18	21	22	25	25	23	15	18	16	16	16	15	15	15	15
16	16	15	14	14	15	15	14	14	14	22	24	28	26	22	19	16	19	18	15	15	15	16	15	16
17	14	15	15	14	15	14	15	15	14	19	22	23	21	22	20	18	16	12	14	15	15	15	16	16
18	14	15	16	15	16	14	14	13	14	16	20	27	22	18	18	19	14	15	13	15	15	16	15	15
19	15	15	16	14	14	15	16	14	17	17	20	21	21	27	22	17	16	15	16	16	16	14	16	15
20	15	14	16	15	15	14	15	14	11	15	24	19	25	22	19	18	18	16	14	16	15	15	15	14
21	15	15	15	15	15	16	14	13	16	18	22	21	24	21	20	16	19	13	14	14	14	15	15	15
22	15	16	15	16	14	15	14	12	15	16	18	18	24	19	18	18	14	14	15	16	17	15	15	15
23	16	15	14	14	15	15	14	14	12	16	19	20	20	18	22	19	14	13	14	16	14	15	15	16
24	15	15	15	15	15	15	16	13	16	18	20	20	27	22	21	19	17	14	14	15	15	15	15	15
25	15	15	15	15	14	14	14	16	16	14	16	18	22	25	22	17	16	14	14	14	14	16	15	15
26	14	14	16	15	14	15	13	15	19	18	21	21	22	26	19	17	14	15	14	15	15	16	14	17
27	15	14	15	16	15	14	12	14	15	19	22	18	17	20	22	18	16	14	15	16	14	15	14	14
28	15	15	15	14	14	14	13	13	14	15	16	21	18	23	22	20	17	13	14	16	14	16	16	16
29	15	16	14	15	15	15	14	14	14	16	21	20	18	15	16	18	15	12	15	15	15	16	14	14
30	15	15	15	16	14	14	16	15	16	19	22	22	22	23	16	18	14	15	14	16	15	16	16	15
31	15	16	14	15	15	15	13	12	16	17	20	18	19	17	18	20	20	14	14	16	15	14	15	15
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31
MED	15	15	15	15	15	15	14	14	15	17	20	20	20	20	19	18	16	14	14	15	15	15	15	15
U Q	16	15	15	15	15	15	15	15	16	18	22	22	22	23	22	19	18	15	15	16	15	16	15	15
L Q	15	15	14	14	14	14	14	13	14	16	18	19	18	18	18	16	15	13	14	14	14	15	14	14

IONOSPHERIC DATA STATION Kokubunji

AUG. 2014 M(3000)F2 (0.01) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.35°43.0'N LON.139°29.0'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	F	F	F	F	F	294	295	338	328	320	283	279	277	298	291	295	305	297	297	299	291	F	F	291
2	293	297	277	286	F	332	323	315	289	293	301	286	296	308	A	291	289	300	300	300	292	270	265	281
3	281	286	294	285	292	301	330	305	280	287	R 231	259	274	282	277	292	315	310	310	297	284	285	278	298
4	310	289	294	285	288	282	309	326	322	308	A	A	286	284	A	277	286	293	302	303	284	276	281	277
5	284	290	299	295	294	268	321	323	342	308	317	317	308	297	294	295	299	295	296	311	319	286	274	268
6	279	281	296	285	290	284	280	303	333	280	313	313	284	290	289	300	A	321	306	289	288	276	278	274
7	268	292	313	293	288	309	322	332	314	308	306	313	291	298	298	318	318	331	311	292	283	295	293	265
8	267	300	295	293	289	285	332	339	325	A	A	311	294	287	298	313	312	301	313	297	314	297	273	290
9	283	284	290	296	300	310	344	338	363	310	302	302	296	295	312	311	310	313	302	316	329	323	300	F
10	283	F	291	303	286	324	332	334	350	318	303	321	316	308	320	315	295	316	322	318	306	305	296	297
11	284	273	287	298	286	318	356	357	366	341	296	A	325	289	301	293	309	321	323	298	293	F	288	F
12	316	F	F	F	F	319	327	351	A	331	317	289	285	299	300	320	333	328	318	299	303	307	333	305
13	F	285	F	F	278	316	347	354	345	343	309	328	327	292	291	306	302	309	328	319	315	F	F	322
14	291	F	329	F	284	319	325	312	328	311	326	323	302	335	307	320	338	315	311	306	301	304	315	317
15	F	286	F	F	F	281	343	355	372	368	A	318	331	312	A	325	335	328	320	318	306	286	F	F
16	F	298	F	313	315	307	340	333	355	348	321	A	A	A	313	328	331	309	305	324	338	298	295	F
17	A	F	F	F	F	F	351	340	331	323	323	308	319	297	291	299	312	322	328	321	321	315	307	284
18	F	F	F	F	325	328	348	353	A	347	358	306	323	314	307	318	319	309	306	316	339	304	301	317
19	305	F	F	315	F	294	310	350	A	323	326	311	300	320	308	319	319	320	317	305	306	288	290	300
20	F	F	F	F	287	305	272	327	339	351	354	316	315	303	306	309	308	292	315	335	334	281	284	283
21	280	287	275	297	282	291	351	329	337	328	350	292	291	298	319	312	318	315	319	328	295	293	F	F
22	289	F	268	F	F	322	297	300	323	324	299	329	310	312	310	319	321	329	327	321	297	278	282	281
23	281	288	311	333	329	291	331	340	325	339	343	330	325	284	307	317	331	319	307	311	310	295	292	302
24	297	309	299	289	287	297	334	348	375	351	312	313	313	308	309	304	318	316	316	303	322	297	304	F
25	272	F	290	F	F	301	322	350	339	336	322	319	304	308	302	318	318	320	315	312	314	305	297	284
26	294	287	306	310	286	310	330	343	314	329	327	309	A	293	300	300	312	308	308	319	324	318	280	270
27	F	F	F	290	296	299	344	364	363	331	321	290	291	300	296	304	294	292	297	319	307	298	277	278
28	279	279	263	F	265	257	285	279	306	328	310	A	274	302	302	286	A	299	326	305	270	274	272	270
29	285	290	283	272	273	257	254	295	283	270	306	R	R	285	313	309	310	330	313	288	296	283	F	288
30	277	284	293	298	308	325	343	354	316	320	A	A	313	321	316	308	311	322	326	302	279	270	272	273
31	274	283	314	289	291	291	366	344	329	346	322	319	317	313	313	320	330	328	319	303	287	291	286	283
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	23	20	21	20	23	30	31	31	28	30	27	25	28	30	28	31	29	31	31	31	31	28	26	25
MED	283	287	294	294	288	301	330	338	330	326	317	313	303	298	304	309	312	315	313	306	306	294	287	284
U Q	293	291	302	300	296	318	344	350	348	341	326	319	316	308	311	318	320	322	320	319	319	304	297	299
L Q	279	284	285	288	286	291	310	323	319	310	303	297	291	292	297	299	306	301	306	299	291	282	278	276

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IONOSPHERIC DATA STATION Kokubunji

AUG. 2014 M(3000)F1 (0.01) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.35°43.0'N LON.139°29.0'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1							L	L	U L 399	A	A	U L 376	A	A	A	A	A	L	A					
2							L	U L 362	U L 333	A	U L 388	392	388	A	A	A	U L 338	U L 332	L					
3							L	U L 344	U L 316	U L 361	U L 354	U L 425	U L 388	U L 386	U L 374	392	L	A	A	A				
4							L	381	A	L	A	A	U L 357	A	A	A	U L 333	L	A					
5							L	L	L	U L 380	U L 362	U L 326	U L 366	A	349	A	A	A	A	A				
6							L	A	366	U L 355	U L 386	407	U L 385	A	A	A	A	A	A					
7							A	A	U L 368	U L 375	A	A	A	420	368	369	370	L						
8							L	L	U L 403	A	A	A	385	370	386	368	L	A						
9								L	A	U L 359	U L 377	397	373	383	U L 374	A	L	A	A					
10							L	L	L	U L 375	407	382	385	418	377	U L 378	U L 355	A	L					
11							A	L	U L 396	A	A	A	A	U L 393	U L 327	A	A	A	A					
12							A	A	A	A	425	A	U L 342	360	A	U L 370	383	A						
13								L	L	A	U L 373	A	382	U L 361	A	A	363	L						
14								A	A	396	A	A	A	A	A	A	A	A	A					
15							A	L	L	A	A	402	A	A	A	A	L	A	A					
16								L	A	A	A	A	A	A	A	395	U L 374	A	A					
17								A	A	A	A	A	A	A	A	A	A	L	L					
18						A	A	A	A	U L 397	A	A	A	372	382	U L 366	L	L	L					
19								A	A	A	U L 373	U L 375	U L 379	A	A	A	A	L	A					
20							L	L	A	A	L	U L 375	U L 365	U L 374	U L 371	358	L	A	A					
21							L	L	U L 383	U L 379	401	U L 383	U L 368	U L 364	U L 339	L	U L 358	L						
22						A	A	U L 345	A	A	U L 380	396	U L 380	U L 380	360	U L 364	U L 364	A						
23								L	A	400	U L 390	U L 420	U L 400	U L 356	380	352	A	A						
24							L	L	L	L	U L 404	L	U L 379	L	L	363	L	A	A					
25							L	A	U L 395	A	404	U L 393	U L 366	A	368	A	A	A	A					
26								A	A	A	A	A	A	A	348	U L 350	L	A	A					
27							A		A	L	A	U L 357	U L 336	U L 348	D	A	A	A	A					
28							U L 317	U L 332	345	A	U L 403	A	U L 365	U L 376	367	L	A	A						
29						L	A	A	A	A	A	380	362	U L 386	380	L	L	A						
30								A	A	A	A	A	374	U L 392	U L 377	L	L	A						
31								L	L	L	U L 342	U L 387	U L 384	379	U L 340	L	A	L						
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT							1	5	10	10	16	17	22	18	18	12	9	1						
MED							U L 317	U L 345	U L 376	U L 377	U L 387	U L 387	U L 376	U L 378	370	367	U L 363	U L 332						
U Q								372	U L 396	396	404	400	385	U L 386	377	374	372							
L Q								U L 338	U L 345	U L 361	U L 373	U L 376	U L 365	U L 364	U L 349	360	U L 346							

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IONOSPHERIC DATA STATION Kokubunji

AUG. 2014 h′F2 (KM) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.35°43.0′N LON.139°29.0′E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1							300	264	252	292	394	384	368	E A 324	314	298	316	314	292					
2							270	290	338	E A 278	322	338	338	308	A	348	340	310	270					
3							284	332	402	386	444	488	442	404	414	362	310	322	E A 316	E A 294				
4							304	278	270	288	A	A	400	E A 350	A	E A 416	360	316	274					
5							278	280	264	320	302	316	332	362	354	336	E A 322	314	E A 278	258				
6							370	310	264	404	334	322	380	E A 404	362	E A 344	A	272	246					
7							262	262	302	330	330	334	E A 366	340	340	286	274	274						
8							280	260	288	A	A	E A 312	338	346	320	288	278	266						
9								268	244	312	292	342	324	332	306	286	286	276	266					
10							264	284	258	314	324	298	284	328	318	304	300	274	252					
11							236	248	258	272	E A 366	A	E A 328	340	324	E A 370	298	260	274					
12							E A 268	238	A	E A 290	314	344	344	308	308	280	270	258						
13								244	266	E A 268	338	308	308	364	340	302	290	272						
14								298	268	294	E A 270	E A 312	310	296	E A 338	298	268	E A 282	280					
15							256	238	248	242	A	322	286	326	A	284	266	244	252					
16								272	248	254	308	A	A	A	E A 334	282	282	278	E A 266					
17								E A 286	E A 284	E A 296	286	296	E A 292	306	300	282	280	266	256					
18						246	E A 260	234	A	274	E A 266	E A 336	288	282	312	298	274	300	280					
19								246	A	294	296	326	338	284	284	288	270	254	256					
20							356	252	262	252	254	336	328	344	324	310	298	E A 272	264					
21							258	258	262	286	260	336	338	340	288	300	294	284						
22						E A 260	E A 338	334	E A 304	300	348	300	328	322	322	286	282	264						
23								252	290	286	272	308	336	404	336	298	278	254						
24							258	248	242	262	324	306	308	300	322	326	296	278	254					
25							276	236	258	258	274	284	334	332	336	306	266	266	262					
26								244	E A 268	268	274	E A 314	A	E A 360	318	316	276	260	256					
27							238		234	266	288	366	356	322	316	304	296	E A 286	266					
28							360	336	332	276	332	A	E A 376	336	336	326	A	294						
29						358	E A 406	354	400	456	344	332	428	366	330	314	304	272						
30								256	248	270	A	A	310	300	294	300	296	258						
31								258	272	240	306	310	300	312	326	272	252	262						
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT						3	21	30	28	30	27	26	29	30	28	31	29	31	20	2				
MED						260	272	260	264	282	307	320	331	328	322	299	284	272	264	276				
U Q						358	321	286	289	300	334	336	361	350	336	326	299	286	276					
L Q						246	259	248	255	268	274	308	309	308	313	286	274	262	256					

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AUG. 2014 h′F (KM) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.35°43.0′N LON.139°29.0′E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	E A 298	E A 272	264	E A 260	E A 258	234	208	200	202	A	A	212	A	A	A	A	A	222	A	E A 274	E A 268	E A 298	E B 256	E B 256
2	E A 238	E A 234	E A 288	E A 314	E A 286	E A 238	224	198	E A 238	A	200	196	202	A	A	A	218	210	228	E B 244	E A 308	E A 286	E A 326	E B 276
3	E B 266	E B 258	E B 254	E B 254	E B 274	E A 266	E A 232	226	E A 282	220	222	194	220	224	202	220	214	A	A	A	E A 312	E A 304	E A 272	E A 288
4	E A 250	E A 288	E A 272	E B 260	E B 270	E B 260	212	212	A	210	A	A	224	A	A	A	280	E A 260	A	E A 246	E A 266	E A 288	E A 298	E A 306
5	E B 262	E B 258	E B 230	E B 246	E B 256	236	E A 242	222	204	210	E A 234	212	228	A	224	A	A	A	A	A	218	E A 266	E A 268	E B 286
6	E A 302	E A 318	E B 254	E B 244	E B 226	E B E A 240	226	A	210	E A 274	192	194	208	A	A	A	A	A	A	E A 254	E A 240	E A 268	E B 270	E B 262
7	E B 298	E B 258	E A 238	E B 260	E B 280	E B E A 250	A	A	216	206	A	A	A	182	212	218	220	198	224	E A 246	E B 260	E B 254	E B 248	E B 296
8	E A 292	E B 236	230	E B 238	E B 262	E B E A 250	232	216	204	A	A	A	212	202	212	212	204	A	234	E A 248	E A 280	E A 246	E A 292	E B 262
9	E B 266	E B 272	E B 270	E B 262	E B 242	234	228	218	A	224	206	182	210	202	200	A	208	A	A	E A 240	216	226	E A 248	E A 298
10	E A 286	E B 278	E B 262	E B 256	E B 288	E B E A 242	220	212	212	212	202	200	198	198	206	208	208	A	226	214	216	220	E A 248	E A 260
11	E A 294	E B 294	E B 286	E B 264	E B 270	E B E B 254	A	218	188	A	A	A	A	198	196	A	A	A	A	232	E A 260	E A 272	E A 264	E A 262
12	E A 234	E A 248	E A 292	E A 316	E A 278	232	A	A	A	A	182	A	196	212	A	206	208	A	E A 242	E B 252	E B 244	E A 254	220	222
13	E A 302	E A 292	E A 394	E A 318	E A 298	E B 242	222	210	202	A	214	A	198	204	A	A	226	226	222	220	216	E A 272	E A 306	E B 218
14	E B 266	E A 314	E A 276	E A 254	E A 240	228	218	A	A	196	A	A	A	A	A	A	A	A	A	E A 274	E A 246	E A 242	E B 258	E A 268
15	E A 292	E A 320	E A 280	E A 278	E A 266	E A 282	A	206	206	A	A	180	A	A	A	A	206	A	A	242	E A 266	E A 280	E A 282	E A 256
16	E A 268	E B 248	E A 276	E A 256	E A 244	E A 244	228	218	A	A	A	A	A	A	A	200	210	A	A	226	218	E A 256	E A 254	E A 284
17	A	E A 266	E A 296	E A 238	E A 294	E A 252	220	A	A	A	A	A	A	A	A	A	A	214	226	220	E A 236	E A 244	E A 274	E A 290
18	E A 320	E A 378	E A 288	E B 278	E A 268	A	A	A	A	206	A	A	A	E A 248	212	214	210	212	E A 242	242	216	220	E A 250	224
19	E A 244	E B 288	E A 282	222	E A 262	E B 260	230	A	A	A	192	222	206	A	A	A	A	208	A	E A 272	E A 262	E B 244	E A 290	E A 278
20	E A 252	E B 252	E A 256	214	E B 240	E B 262	224	E A 236	A	A	196	202	208	206	214	214	228	A	A	226	214	E A 260	E B 276	E A 276
21	E A 276	E A 282	E B 276	E B 264	E B 274	E B 284	218	210	202	206	198	216	206	204	210	218	220	228	E A 246	230	216	E A 250	E A 328	E A 360
22	E A 284	E A 294	E A 352	E A 282	E A 274	A	A	220	A	A	216	196	202	194	214	214	224	A	240	E A 240	E A 274	E A 270	E A 288	E A 302
23	E B 270	E A 268	E B 236	216	216	E B 276	234	210	A	200	208	200	200	210	198	214	A	A	E A 244	E A 254	E A 238	E A 244	E A 262	E B 252
24	E B 248	E B 246	E B 234	E B 246	E B 278	E B E B 268	222	220	210	194	188	210	220	196	220	216	226	A	A	E A 292	E A 250	E A 288	E A 262	E A 266
25	E A 344	E B 254	E A 252	E A 256	E A 296	E B 256	224	A	200	A	186	178	206	A	202	A	A	A	A	E A 250	E A 234	218	E B 242	E A 272
26	E A 284	E A 294	E B 254	E B 228	E B 254	E B 252	222	A	A	A	A	A	A	A	222	E A 236	212	A	A	E A 234	E A 246	202	E A 256	E A 326
27	E A 306	E A 280	E B 250	E A 260	E A 274	E B 270	A	220	A	204	A	208	E A 262	E A 230	216	A	A	A	A	E A 242	E A 238	E A 234	E A 274	E A 306
28	E A 308	E A 334	E A 320	E A 340	E B 332	E A 322	E A 256	214	E A 242	A	212	A	208	220	228	208	A	A	E A 244	E A 274	E A 264	E B 294	E B 288	E B 312
29	E A 272	E A 274	E A 282	E A 300	E B 300	E B 302	A	A	A	A	A	E A 240	220	200	208	194	228	A	E A 252	E A 252	E A 242	E A 256	E A 342	E A 278
30	E A 278	E A 294	E A 282	E A 260	E A 224	E A 246	222	A	A	A	A	A	212	208	206	206	212	A	236	212	E B 262	E B 304	E B 304	E B 304
31	E B 272	E B 276	E A 258	214	E B 240	E B 288	232	218	196	196	208	196	190	208	212	210	A	222	236	E B 236	E B 238	E B 254	E A 262	E B 268
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	30	31	31	31	31	29	23	20	16	14	17	18	22	19	20	17	19	10	15	29	31	31	31	31
MED	E A 277	E A 276	E A 272	E A 260	E B 270	E B 252	223	216	204	206	201	199	208	203	212	213	214	216	230	E A 242	E A 244	E A 256	E A 270	E A 276
U Q	E A 298	E A 294	E A 286	E A 278	E A 280	E B 269	232	220	E A 214	212	213	212	220	212	215	217	226	226	E A 244	E A 253	E A 264	E A 280	E A 290	E A 298
L Q	E A 266	E B 258	E B 254	244	E 244	241	220	210	202	200	192	194	202	198	204	207	208	210	226	231	218	244	E A 256	E A 262

AUG. 2014 h′F (KM)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Kokubunji

AUG. 2014 h′E (KM) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.35°43.0′N LON.139°29.0′E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1						B	114	A	A	A	A	118	A	A	A	120	A	A	A					
2						B	118	118	A	A	A	A	A	A	A	A	A	A	114	B				
3						B	116	116	A	A	A	A	A	A	A	A	A	118	A	B				
4						B	120	114	114	114	A	A	A	A	A	A	112	114	A	B				
5						124	118	118	118	118	112	116	116	A	116	116	A	A	A	B				
6						B	A	A	A	A	A	114	114	114	118	A	A	A	B	B				
7						B	A	A	A	A	A	A	A	A	A	A	116	110	110	B				
8						B	118	A	A	A	A	A	112	112	112	A	A	A	B					
9						B	114	A	A	A	A	A	A	118	A	A	A	A	A					
10						B	A	A	A	A	A	118	A	112	112	112	A	A	A	B				
11						B	112	112	112	110	A	A	A	118	118	A	A	A	A	B				
12						B	A	A	A	A	A	A	120	A	A	A	110	100	B					
13						B	114	110	110	A	A	A	A	A	A	A	114	114	B					
14						B	112	A	A	A	A	A	A	A	A	A	A	A	B					
15						B	A	112	A	A	A	A	A	A	A	A	116	A	B					
16						B	112	A	A	A	A	A	A	A	A	A	108	A	B					
17						B	114	A	A	A	A	A	A	A	A	A	A	114	B					
18						B	A	A	A	A	A	A	A	A	A	A	114	112	B					
19						B	118	A	A	A	A	A	A	A	A	A	A	A	B					
20						B	A	A	A	118	118	124	124	124	A	118	110	A	B					
21						B	124	118	A	A	114	A	A	114	122	120	116	A	B					
22						B	A	A	A	A	A	116	118	A	A	A	118	112	B					
23						B	116	110	A	A	A	A	A	116	116	116	A	A	B					
24							116	114	A	116	A	112	112	120	A	120	A	110	B					
25						B	A	A	A	A	A	A	A	A	114	A	A	A	B					
26						B	116	A	A	A	A	A	A	A	A	A	110	A	B					
27						B	A	A	A	A	A	A	A	A	A	120	118	A	B					
28						B	118	114	A	A	A	A	118	114	118	120	A	A	B					
29						B	A	A	A	A	A	A	106	108	A	A	112	112	B					
30						B	120	114	A	A	A	A	114	114	A	A	106	114	B					
31						B	122	112	112	A	A	A	A	118	112	126	120	112	B					
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT						1	20	13	5	5	3	7	10	13	10	10	15	12	2					
MED						124	116	114	112	116	114	116	115	114	116	120	114	112	112					
U Q							118	117	116	118	118	118	118	118	118	120	116	114						
L Q							114	112	111	112	112	114	112	113	112	116	110	111						

AUG. 2014 h′E (KM)

IONOSPHERIC DATA STATION Kokubunji

AUG. 2014 h′Es (KM) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.35°43.0′N LON.139°29.0′E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	96	94	94	92	92	96	120	106	106	106	108	110	102	102	96	118	104	106	106	108	102	102	102	102
2	96	96	96	96	96	96	118	G	104	104	104	108	108	106	106	106	104	104	162	B	98	96	96	96
3	B	B	B	B	B	138	158	116	102	102	102	102	102	98	98	98	100	116	106	106	100	100	96	96
4	98	98	100	104	96	B	G	122	118	118	106	104	104	128	118	108	116	118	106	106	98	110	110	104
5	112	B	98	98	104	G	128	118	118	122	116	G	112	102	G	120	102	102	102	92	96	100	96	92
6	92	90	B	102	106	104	104	106	106	104	100	110	114	116	110	102	96	102	104	96	100	96	98	98
7	98	94	104	106	108	110	102	102	102	102	102	100	98	98	104	104	G	114	114	104	110	104	102	90
8	90	90	B	B	B	112	120	106	104	98	98	96	G	G	G	104	108	102	106	98	98	96	94	98
9	98	B	94	B	B	B	118	104	104	104	100	104	108	G	102	94	96	92	90	90	94	94	96	104
10	98	98	98	98	94	106	104	100	100	98	104	G	104	G	114	114	104	102	102	110	100	B	106	96
11	94	94	B	98	B	B	114	124	112	110	110	102	100	110	G	100	102	108	108	106	104	100	98	98
12	94	92	92	84	92	98	102	102	92	92	94	94	G	96	92	98	118	110	110	92	88	92	96	96
13	96	96	90	90	90	B	B	116	118	104	104	104	104	106	104	106	G	124	110	102	108	104	104	B
14	94	94	96	92	92	90	124	106	102	106	92	92	94	106	102	102	104	104	102	92	90	86	92	94
15	94	94	96	94	92	96	104	118	102	98	100	102	102	96	98	100	124	106	106	98	96	104	102	98
16	100	102	94	94	94	94	122	106	106	102	100	94	94	94	94	94	112	90	88	88	86	108	104	104
17	102	98	98	90	90	94	122	104	100	98	102	102	102	100	98	92	102	118	94	98	90	90	112	100
18	110	110	110	106	106	106	106	104	100	100	100	100	96	96	96	96	G	120	98	98	88	100	98	98
19	98	104	98	98	94	B	116	100	100	102	106	104	100	98	98	102	102	102	100	100	98	98	98	92
20	94	94	92	92	94	B	100	100	128	128	G	G	G	G	106	116	116	106	106	100	98	98	B	98
21	98	92	92	90	B	100	126	114	106	104	G	104	104	G	G	122	118	106	106	100	98	98	98	98
22	98	94	94	92	92	110	108	106	104	104	102	G	G	98	100	100	124	114	102	98	96	96	94	94
23	98	98	96	B	92	B	124	122	106	104	108	104	104	G	G	116	106	100	100	96	94	98	98	94
24	B	B	B	B	B	B	154	120	104	G	102	G	G	G	102	G	104	120	100	100	94	96	94	94
25	94	90	92	90	94	B	108	106	106	102	100	98	106	108	112	106	100	96	98	92	102	96	96	94
26	94	100	96	88	98	126	122	102	100	100	100	94	96	98	100	102	G	108	106	100	96	88	100	98
27	94	92	92	94	94	B	104	102	100	100	98	102	98	102	96	120	118	104	104	104	102	98	96	96
28	94	94	92	114	112	118	118	120	108	104	104	104	G	G	G	G	104	100	100	96	96	96	96	B
29	92	88	86	84	110	114	104	104	104	104	100	100	G	G	100	106	G	114	106	104	102	96	106	94
30	90	90	90	90	92	88	G	116	106	106	104	98	G	G	100	94	G	116	106	90	92	104	90	B
31	88	B	98	92	B	B	G	G	G	102	100	106	98	G	G	G	118	114	104	92	B	90	98	B
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	29	26	26	26	24	19	27	29	30	30	29	26	23	20	24	28	25	31	31	30	30	30	30	27
MED	96	94	95	93	94	104	118	106	104	104	102	102	102	101	100	103	104	106	104	98	98	98	98	96
U Q	98	98	98	98	101	112	122	117	106	104	104	104	104	106	105	111	117	114	106	104	100	100	102	98
L Q	94	92	92	90	92	96	104	103	102	100	100	98	98	98	98	99	102	102	100	92	94	96	96	94

IONOSPHERIC DATA STATION Kokubunji

AUG. 2014 TYPES OF Es 135°E MEAN TIME (G.M.T. + 9 H)

LAT.35°43.0′N LON.139°29.0′E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	F3	F3	F3	F3	F4	L2	C2	L2	L2	L1	L2	C1	L1	L2	L2	C1	L2	L2	L2	F3	F2	F3	F3	F1
2	F2	F2	F2	F4	F3	L2	C1		L3	L2	L2	L2	L2	L2	L2	L2	L2	L2	H1		F3	F3	F2	F2
3						H1	HL12	C1	L1	L2	L2	L2	L1	L1	L2	L2	L1	CL22	L3	L3	F3	F3	F3	F5
4	F3	F3	F3	F2	F2			C1	C1	C1	L2	L2	L2	CL11	CL22	L2	C2	C2	L3	L3	F3	F3	F3	F3
5	F2		F1	F1	F2		C2	C1	C1	C2	C2		C1	L2		C2	L3	L3	L4	L3	F2	F5	F4	F2
6	F4	F4		F1	F1	L3	L2	L2	L2	L2	L2	C1	C1	C2	C2	L2	L2	L2	L2	L2	F2	F2	F2	F1
7	F1	F1	F2	F2	F1	L1	L2	L2	L2	L1	L2	L2	L2	L1	L2	L2		C2	C3	L2	F2	F1	F1	F2
8	F5	F2				C1	C2	L2	L2	L3	L3	L2				L2	L2	L3	L3	F4	F3	F5	F2	F1
9	F1		F1				C1	L2	L2	L2	L2	L1	L1		L2	L2	L2	L2	L2	F3	F2	F3	F3	F2
10	F2	F2	F3	F2	F2	L1	L2	L1	L2	L2	L2		L2		C2	C2	L2	L2	L2	C4	F1		F4	F2
11	F1	F2		F1			CL22	C2	C2	C1	L2	L2	L2	C1		L2	L2	L2	L2	L1	F3	F2	F2	F3
12	F2	F2	F2	F3	F2	L3	L3	L2	L3	L2	L2	L2		L2	L1	L1	C2	CL12	CL22	F2	F2	F2	F3	F3
13	F2	F3	F4	F3	F2			C1	C1	L2	L2	L2	L2	L2	L2	L2		C1	L2	F1	F1	F3	F2	
14	F2	F3	F4	F3	F3	L3	C1	L2	L2	L2	L2	L2	L2	L2	L2	L2	L2	L3	L2	F4	F4	F1	F4	F4
15	F3	F3	F2	F1	F3	L3	L2	C1	L1	L3	L2	L1	L1	L2	L3	L2	C1	L2	L2	F2	F3	F3	F4	F2
16	F4	F2	F4	F5	F3	L2	C1	L2	L1	L2	L2	L2	L3	L3	L3	L2	C1	L2	L2	F3	F3	FF12	F2	F3
17	F6	F4	F4	F4	F3	L3	C2	L2	L2	L2	L2	L2	L2	L2	L2	L3	L2	C2	L2	F3	F3	F3	FF22	F3
18	FF22	F4	F3	FF22	F3	L5	L2	L3	L3	L2	L2	L2	L2	L2	L2	L2		C1	L2	F2	F1	F1	F2	F2
19	F2	F2	F2	F2	F3		C2	L3	L3	L3	L2	L1	L2	L2	L2	F3	F4	L2	L3	F3	F3	F2	F3	F3
20	F2	F2	F2	F2	F1		L2	L2	CL22	C2					L1	C1	C1	L2	L3	F2	F2	F3		F2
21	F2	F2	F2	F2		L1	C2	C1	L1	L1		L2	L2			C1	C2	L2	L2	F3	F3	F3	F5	F4
22	F5	F3	F3	F3	F2	L2	L2	L1	L2	L2	L1			L2	L2	L2	C1	C2	L2	F3	F2	F3	F4	F4
23	F2	F3	F1		F2		C1	C1	L1	L1	L1	L1	L2			C1	L2	L2	L3	F3	F2	F3	F3	F2
24							H1	C1	L2		L1				L1		L1	C2	L3	F5	F3	F3	F3	F3
25	F5	F6	F3	F2	F4		L2	L2	L2	L2	L2	L2	L1	L2	C1	L2	L3	L2	L3	F3	F2	F2	F3	F3
26	F2	F2	F1	F3	F1	C1	C1	L1	L2	L2	L2	L2	L2	L2	L2	L2		L2	L2	F5	F2	F3	F3	F3
27	F4	F4	F2	F2	F2		L2	L3	L2	L2	L2	L2	L2	L1	L1	C2	C2	L4	L4	F3	F2	F3	F3	F3
28	F4	F3	F2	F2	F2	F2	C1	C2	L2	L1	L2	L2					L2	L2	L3	F3	F3	F2	F2	
29	F2	F4	F2	F2	F1	C1	L2	L2	L2	L2	L2	L2			L2	L2		C2	L2	F4	F3	F2	F2	F2
30	F4	F2	F2	F2	F2	L2		C2	L1	L2	L2	L2			L2	L2		C1	C3	F1	F2	F2	F2	
31	F1		F2	F2						L1	L2	L2	L2				C1	C1	C2	F1		F2	F2	
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT																								
MED																								
U Q																								
L Q																								

IONOSPHERIC DATA STATION Yamagawa

AUG. 2014 fxI (0.1MHz) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.31°12.0′N LON.130°37.0′E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	X 97	X 95	X 89	X 76	X 76	X 72															X 91	X 87	X 86	X 86
2	X 83	X 77	X 72	X 74	X 72	X 69															X 103	X 84	X 83	X 84
3	X 90	X 80	X 75	X 78	X 73	X 74															X 88	X 84	X 82	X 81
4	X 86	X 79	X 72	X 64	X 62	X 55															X 88	X 84	X 81	X 84
5	X 87	X 82	X 82	X 76	X 63	X 60															X 94	X 82	X 79	X 82
6	X 84	X 81	X 81	X 74	X 64	X 55															X 86	X 83	X 83	X 84
7	X 82	X 82	X 78	X 69	X 66	X 62															X 84	X 83	X 77	X 71
8	X 70	X 65	X 68	X 62	X 58	X 56															X 93	X 82	X 72	X 72
9	X 74	X 72	X 72	X 68	X 62	X 59															X 92	X 67	X 58	X 61
10	X 63	X 62	X 59	X 56	X 53	X 54															X 86	X 79	X 78	X 68
11	X 65	X 68	X 68	X 67	X 68	X 63															X 80	X 74	X 73	X 70
12	71	64	X 58	X 55	X 56	X 60															X 81	X 79	X 72	X 60
13	X 57	X 52	X 58	X 52	X 52	X 53															X 81	X 69	X 61	X 56
14	X 68	63	X 63	X 58	X 50	X 47															X 98	X 89	X 84	X 83
15	X 60	X 53	X 53	X 51	X 49	X 45															X 77	X 75	X 72	X 73
16	74	X 72	X 68	X 59	X 53	X 48															X 93	X 63	X 58	X 55
17	X 56	X 58	X 58	X 54	X 50	X 45														X 103	X 92	A	74	X 72
18	X 68	X 67	X 70	X 70	X 64	X 56														X 98	X 98	X 73	X 72	X 70
19	X 68	X 70	X 70	X 64	X 56	X 52														X 88	X 86	X 79	X 72	X 71
20	X 70	X 70	X 74	X 62	X 57	X 47														X 106	X 92	X 72	X 72	X 72
21	X 71	X 66	X 65	X 61	X 57	X 54														X 92	X 77	X 71	X 71	X 72
22	X 66	X 63	X 64	X 67	X 55	X 54							C	C						X 104	X 89	X 69	X 71	X 77
23	X 76	74	X 80	X 64	X 53	X 49														X 102	X 95	X 78	X 75	X 74
24	X 70	X 64	X 66	X 58	X 57	X 56														X 110	X 110	X 82	X 69	X 69
25	X 69	X 68	X 74	X 64	X 59	X 57														X 104	X 100	X 88	X 82	X 82
26	X 76	X 74	X 76	X 68	X 61	X 54														X 121	X 114	X 80	X 77	X 78
27	X 84	X 83	X 83	X 78	X 69	X 66														X 114	X 122	94	64	X 68
28	X 72	X 70	X 71	X 64	X 59	X 64														X 65	X 73	X 66	X 67	X 68
29	X 70	X 66	X 66	X 61	X 61	X 58														X 86	X 77	X 62	X 60	X 58
30	X 60	X 58	X 57	X 57	X 51	X 44														X 80	X 70	X 68	X 71	X 69
31	X 70	X 68	X 71	X 63	X 57	X 53														X 91	X 89	X 80	X 76	X 73
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	31	31	31	31	31														15	31	30	31	31
MED	X 70	X 68	X 70	X 64	X 58	X 55														X 102	X 89	X 79	X 72	X 72
U Q	X 82	X 77	X 75	X 69	X 64	X 60														X 106	X 95	X 83	X 79	X 81
L Q	X 68	X 64	X 64	X 58	X 53	X 52														X 88	X 81	X 71	X 71	X 68

AUG. 2014 fxI (0.1MHz)

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IONOSPHERIC DATA STATION Yamagawa

AUG. 2014 foF2 (0.1MHz) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.31°12.0'N LON.130°37.0'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	91	89	R 84	70	70	66	74	80	85	59	69	77	U R 86	R 92	92	85	81	81	80	86	85	81	80	80
2	77	71	66	68	64	63	69	76	84	78	80	81	87	89	89	87	86	93	109	101	97	78	77	78
3	84	74	69	72	67	68	73	74	66	64	63	74	66	78	82	A	84	81	80	A	82	78	76	75
4	80	73	66	58	56	49	58	80	70	66	68	72	64	67	69	72	76	86	93	86	82	78	75	78
5	81	V 76	76	70	57	54	67	82	78	70	73	74	74	72	78	81	90	90	98	103	88	77	73	76
6	78	75	75	68	58	49	50	74	83	80	72	71	71	77	85	82	86	85	86	86	80	77	77	78
7	76	76	72	63	60	56	61	69	67	69	64	75	76	84	87	93	90	80	69	71	78	77	71	V 65
8	64	59	62	56	52	50	64	70	70	70	77	80	90	89	94	103	96	97	93	95	87	76	66	66
9	68	66	66	62	56	53	62	71	78	76	74	76	84	86	95	95	94	92	99	95	86	61	52	55
10	57	56	53	50	47	48	59	68	71	74	86	86	82	80	83	80	90	95	A	96	80	73	72	62
11	59	F 62	F 61	F 60	F 60	57	74	77	61	A	66	73	78	82	86	95	97	92	91	85	74	68	67	F 62
12	F 62	57	52	49	50	54	56	72	69	77	70	72	A	94	99	87	81	69	72	76	75	73	66	54
13	51	46	R 52	46	46	47	64	70	65	79	A	A	67	80	88	98	113	R 124	118	101	75	63	55	50
14	F 58	F 55	57	52	44	V 41	46	72	76	84	67	69	75	79	79	83	83	87	92	90	92	83	78	77
15	54	47	47	45	43	39	51	62	74	64	61	74	72	74	77	84	86	90	88	82	71	69	66	F 66
16	66	66	F 60	53	V 47	42	46	70	78	68	64	70	R 70	74	75	83	84	90	92	92	87	57	52	49
17	50	52	52	48	44	39	51	69	A	A	A	A	77	R 80	97	R 111	114	111	106	97	86	A	67	66
18	61	61	64	64	58	50	60	76	76	62	70	64	87	84	A	88	97	R 104	R 106	92	92	67	66	64
19	62	F 63	F 65	58	50	46	53	83	76	76	64	A	78	A	92	90	82	87	92	82	80	73	R 66	65
20	F 61	64	68	56	51	41	45	90	76	62	70	67	65	72	88	94	101	R 107	111	100	86	66	66	66
21	65	60	59	55	51	48	55	67	71	84	67	72	74	83	95	98	98	92	92	86	71	65	65	66
22	60	57	58	61	49	48	61	69	64	A	68	73	C	C	89	98	97	92	92	98	83	63	65	71
23	70	68	74	58	47	43	54	71	74	71	67	68	72	84	92	100	87	77	89	96	89	72	69	68
24	64	58	60	52	51	50	67	88	70	70	76	77	84	88	93	98	101	95	95	104	104	76	63	V 63
25	63	62	68	58	53	51	59	80	86	84	88	73	89	93	96	103	99	97	A	98	94	82	76	76
26	70	68	70	62	55	48	59	80	82	83	78	76	82	88	94	98	101	U R 108	112	115	U R 108	74	71	R 72
27	78	77	77	72	63	60	76	91	72	72	72	76	90	U R 110	111	108	101	99	101	108	116	86	56	F 60
28	66	64	65	58	53	58	64	66	56	74	84	64	72	79	77	77	80	90	80	59	67	60	61	62
29	64	60	60	V 55	55	52	48	59	56	68	70	67	67	77	82	75	76	83	84	80	71	56	54	52
30	54	52	51	51	45	38	48	67	66	71	64	70	80	88	82	80	82	86	81	74	64	62	65	63
31	64	62	65	57	51	47	54	70	66	72	72	76	83	88	93	98	100	99	94	85	83	74	70	67
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	31	31	31	31	31	31	31	30	28	29	28	29	29	30	30	31	31	29	30	31	30	31	31
MED	64	62	65	58	52	49	59	72	72	72	70	73	77	83	88	92	90	92	92	92	83	73	66	66
U Q	76	71	69	63	58	54	64	80	78	78	75	76	84	88	94	98	99	97	100	98	89	77	73	75
L Q	60	57	58	52	47	46	51	69	66	68	66	70	72	78	82	83	83	86	85	85	75	65	65	62

AUG. 2014 foF2 (0.1MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Yamagawa

AUG. 2014 foF1 (0.01MHz) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.31°12.0'N LON.130°37.0'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1							236	L	A	L	A	A	U R 536	A	A 552	524	L 532	U L 496	A					
2								L	A	A	A	R 532	556	A	A	A	A	A	A					
3							220	U L 436	L 452	508	R 552	R 524	L	532	A	A	504	A	U L 424	A				
4							L	L	L	L	L	540	L	L	528	528	L 508	L 480	L					
5							L	L	L	L	L 524	504	564	540	540	524	L 508	U L 488	U L 404					
6							L	L	U L 460	L 488	540	560	540	A	520	496	L 496	U L 472	U L 432	172				
7								L	L	L	L	524	532	512	508	500	L 496	L	L	188				
8							L	L	L 444	A	A	A	A	A	516	L 504	R 484	A	L	A				
9								304	L	U L 496	L 528	532	532	R 504	520	504	A	A	L					
10								L	L	U L 516	A	A	524	520	500	492	A	U L 444	A					
11									A	A	A	L 540	500	516	492	L 508	472	L 432	L	168				
12								L	U L 472	U L 476	L 524	A	A	R 516	R 492	L 488	460	L 448	L					
13								L	L	U L 480	A	A	L	A	A	A	480	L	A					
14								L	A	L 468	472	504	A	A	A	480	L 476	A	A					
15								L	U L 444	A	508	496	500	L 520	U R 500	484	472	440	L					
16								U L 432	U L 440	U L 468	L 488	508	U R 508	R 496	A	R 452	L 472	L 452	U L 372					
17									A	A	A	A	A	A	R 500	A	468	L 448	A					
18								L	U L 448	U L 472	492	504	R 484	U L 508	A	L 484	L 484	L 444	L					
19								L	A	A	A	A	A	A	A	A	A	A	A					
20								L	L	L	U L 536	L 524	L 560	524	L 516	L 508	L 480	A	A					
21								L	U L 440	L	U L 500	516	L 544	512	512	A	A	A	A					
22								A	A	A	A	L 512	C	C	512	512	L 496	U L 464	L					
23								L	L	U L 472	484	L	L 532	532	528	504	L	A	A					
24								L	L	L	U L 508	U L 552	540	L 532	L 540	532	U L 480	L	A					
25								A	L	L	L 496	U L 512	L 552	548	532	512	A	A	A					
26								L	L	L 496	L 508	U L 516	L 552	L 540	L 528	L 536	U L 520	L	L					
27								L	A	A	L	U L 536	536	536	L 524	A	A	L	A					
28								L 384	L 396	U L 508	L	U L 548	L 536	536	500	L 520	U L 472	L	A					
29							U L 332	L 388	L	472	L 500	U L 516	U L 572	L 544	U L 508	L 492	L 484	L	L					
30								L	L	L	A	A	A	532	U L 516	L 496	484	L	A					
31								U L 316	A	L	U L 512	U L 540	U L 532	L 548	L 520	L 532	L	L	L					
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT							3	6	9	13	17	22	21	21	24	24	22	12	4	3				
MED							236	L 386	U L 444	U L 480	L 508	524	536	532	516	504	L 484	L 450	U L 414	172				
U Q							U L 332	U L 432	U L 456	U L 502	L 526	L 540	L 552	538	528	522	L 496	U L 476	U L 428	188				
L Q							220	316	U L 440	L 472	494	512	528	514	504	492	472	L 444	U L 388	168				

AUG. 2014 foF1 (0.01MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Yamagawa

AUG. 2014 foE (0.01MHz) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.31°12.0'N LON.130°37.0'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1							216	A 292	A 324	356		A	A	UR 436	A	A	R 380	364	324		A	A				
2							200	284	328	360	A 384	UA 388		A	A	UA 396	A 400	A	A	A	A	A				
3							UA 172	A 288	336	A 364	UA 384	360		R 368	B	408	392	UA 368	UA 316	UA 260	A					
4							A	272	A 324	UA 360	UA 380	392	UR 412	400	UR 392	A	A 348	320	A 260	A						
5							A	276	320	364	A 384	UR 400	UR 420	404	A 396	380	348	A 316	A	A						
6							200	264	A 324	336	360	372	408	412	404	A 376	R 352	300	232	B						
7							A	A	A	A	A	A	UA 376	A	A	A	UA 348	UA 304	A	B						
8							188	A 272	324	A 348	A	A	A	A	A	A	340	292	UA 228	A						
9							A	UA 276	UA 316	R 344	A	A	UR 384	A	R 348	A	A	A	A	A						
10							B	UA 256	UA 296	UA 328	A	A	A	A	384	360	332	A 288	UA 220	B						
11							B	256	308	348	UA 372	A	R 392	408	A 380	356	336	296	A 236	B						
12							A	256	UA 292	UA 332	A	A	A	A	388	360	340	288	A	A						
13							B	260	300	A 332	A	A	UA 368	A 380	R 376	R 352	324	A 284	A	A						
14							A	A	308	R 328	R 368	R	392	392	376	356	328	292	224	B						
15							B	UA 244	UA 296	UA 316	A	A	A	UR 368	UR 340	R 344	R 328	296	UA 200	A						
16							168	A	A	A	A	A	A	A	A	A	A	A 288	UA 228	B						
17							B	A 268	A 308	A 340	A 364	A 364	A 368	A	A	A	A	A 284	A							
18							B	A	UA 284	UA 324	A	A	R 404	A	A	A	A	R 296	R 236							
19							A 164	UA 256	300	332	A	A	A	A	A 376	A 360	A	A	A							
20							A 192	240	A	A	360	376	UA 376	392	388	356	336	A 296	A							
21							UA 168	UA 260	UR 312	UA 336	UA 356	R	A	A	392	A 368	340	A 292	UA 232							
22							164	A 252	A 304	UA 328	A 356	A	C	C	A	348	332	292	UA 216							
23							176	252	308	340	356	404	396	388	384	368	332	288	A							
24							A 188	A 260	300	320	392	UR 364	RU 380	UR 380	B	R 368	R 360	308	228							
25							A	A	304	332	A	R 368	388	392	396	372	336	A 300	A							
26							B	248	300	A 324	UA 344	A	A	A	A	A	A	UA 296	220							
27							B	UA 252	A 304	UA 328	A	A	A	A	R 384	UA 420	A	A	A							
28							UA 184	A 248	UA 284	UA 336	A	JR 304	392	396	396	372	UA 348	A 292	UA 216							
29							UA 172	A 248	UA 296	UA 328	UA 344	A	A	A	A	A	A	284	220							
30							168	252	300	UR 328	R 348	368	A	A	A	A	340	288	UR 260							
31							B	240	304	332	360	372	A 376	A 372	360	UA 348	A	A	UA 188							
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT							15	26	28	28	17	13	18	13	20	21	21	26	18							
MED							176	A 256	304	A 332	A 360	372	390	392	386	368	340	294	UA 228							
U Q							192	A 272	318	346	A 382	390	UR 404	402	396	378	348	A 300	A 236							
L Q							168	252	UA 300	UA 328	A 356	364	A 376	380	376	356	332	288	UA 220							

AUG. 2014 foE (0.01MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Yamagawa

AUG. 2014 foEs (0.1MHz) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.31°12.0′N LON.130°37.0′E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	J A 43	J A 22	J A 30	J A 26	J A 24	J A 30	24	35	J A 74	J A 75	J A 149	J A 77	G	J A 64	J A 49	40	41	39	J A 75	J A 69	J A 40	J A 76	J A 60	J A 62
2	J A 43	J A 25	J A 18	J A 20	J A 26	J A 32	30	34	J A 53	J A 63	J A 108	J A 48	J A 96	J A 82	J A 88	J A 76	J A 88	J A 110	J A 117	J A 71	J A 43	J A 28	J A 32	J A 41
3	J A 40	J A 24	J A 21	E B 16	21	17	20	32	40	41	J A 69	J A 86	J A 48	E B 46	J A 60	J A 83	J A 67	J A 109	J A 62	80	J A 62	J A 46	J A 72	J A 74
4	J A 31	E B 16	J A 51	J A 47	J A 34	J A 20	J A 28	31	39	44	48	44	45	42	48	34	40	G	30	J A 62	J A 44	J A 25	J A 16	J A 27
5	J A 17	J A 38	J A 37	J A 51	J A 22	E B 16	J A 27	30	35	39	J A 49	48	45	44	47	44	42	40	J A 50	J A 43	J A 44	J A 25	J A 23	J A 32
6	18	J A 27	J A 27	J A 26	J A 24	J A 16	22	29	39	36	39	40	G	50	43	40	47	J A 48	26	J A 22	J A 59	J A 30	J A 26	J A 32
7	J A 52	J A 32	J A 27	J A 20	J A 29	J A 58	J A 45	J A 63	J A 54	38	J A 51	J A 64	J A 49	J A 50	46	45	J A 44	J A 66	J A 57	J A 28	J A 41	J A 51	J A 16	J A 20
8	E B 16	J A 22	J A 16	J A 16	J A 16	J A 20	24	35	34	J A 58	J A 69	J A 121	J A 89	J A 82	42	J A 48	42	J A 58	J A 71	J A 60	J A 81	J A 85	J A 43	J A 28
9	J A 40	J A 39	J A 30	J A 34	J A 22	J A 42	J A 32	J A 32	35	J A 36	38	J A 43	43	35	G	J A 44	J A 52	J A 76	J A 53	J A 37	J A 44	40	J A 22	28
10	J A 16	J A 26	J A 26	20	21	18	J A 26	J A 33	J A 64	J A 49	J A 109	J A 82	43	46	J A 44	J A 73	J A 71	J A 152	J A 184	J A 157	J A 64	J A 52	J A 34	J A 45
11	J A 33	J A 27	J A 30	J A 26	J A 22	E B 16	28	J A 49	J A 60	J A 62	J A 59	39	42	53	J A 56	41	38	32	J A 30	J A 24	J A 17	J A 43	J A 34	J A 52
12	J A 39	J A 76	J A 34	J A 27	J A 18	J A 29	J A 30	J A 28	J A 45	J A 47	J A 60	J A 74	J A 120	J A 54	43	46	39	40	J A 37	J A 29	J A 25	J A 42	J A 26	J A 44
13	J A 44	J A 40	J A 46	J A 44	J A 27	J A 17	24	34	38	42	J A 70	J A 76	J A 93	J A 68	64	J A 68	J A 51	J A 46	J A 65	J A 107	J A 52	J A 45	J A 32	J A 32
14	J A 87	J A 109	J A 51	J A 29	J A 47	J A 30	J A 62	J A 52	J A 49	34	39	G	J A 73	J A 64	63	40	35	J A 48	J A 44	J A 23	J A 60	J A 50	J A 52	J A 50
15	J A 51	J A 16	21	J A 23	20	J A 16	J A 24	J A 46	J A 52	J A 62	J A 51	J A 52	J A 48	40	G	37	G	33	26	J A 25	J A 30	J A 52	J A 48	J A 44
16	J A 34	J A 45	J A 39	J A 27	J A 32	J A 19	20	42	J A 38	J A 57	J A 50	J A 41	J A 71	J A 42	J A 67	J A 37	J A 63	31	J A 29	J A 20	J A 20	20	J A 22	J A 28
17	J A 31	J A 44	J A 66	J A 38	J A 31	J A 32	26	J A 66	J A 88	J A 85	J A 97	J A 82	J A 55	J A 69	J A 49	J A 74	J A 56	32	J A 108	J A 58	J A 66	J A 106	J A 76	J A 51
18	J A 39	J A 24	J A 26	J A 67	J A 40	J A 51	J A 42	J A 38	J A 34	J A 37	J A 38	J A 41	J A 43	J A 53	J A 104	J A 42	J A 33	J A 33	G	J A 23	J A 32	J A 27	J A 53	J A 40
19	J A 50	J A 37	J A 34	J A 25	J A 27	J A 28	J A 21	J A 30	J A 54	J A 51	J A 64	J A 72	J A 74	J A 108	J A 68	J A 60	J A 59	J A 74	J A 86	J A 24	17	20	18	J A 34
20	J A 48	J A 53	J A 28	J A 32	J A 30	J A 18	J A 28	J A 32	J A 35	J A 43	J A 38	J A 40	J A 41	J A 55	J A 54	J A 44	J A 38	J A 56	J A 98	J A 88	J A 50	J A 77	J A 40	J A 34
21	J A 28	J A 23	J A 18	J A 17	J A 22	J A 18	J A 25	J A 38	J A 41	J A 45	J A 43	G	J A 44	J A 36	J A 46	J A 74	J A 81	J A 152	J A 84	J A 54	J A 48	J A 53	J A 86	J A 51
22	J A 29	J A 30	J A 24	J A 16	E B 16	E B 16	J A 28	J A 66	J A 54	J A 68	J A 64	J A 47	C	C	J A 39	J A 37	J A 35	J A 32	J A 26	J A 20	J A 18	J A 22	J A 21	J A 43
23	J A 21	J A 27	J A 18	J A 31	J A 33	J A 17	J A 23	J A 27	J A 33	J A 37	J A 38	G	J A 50	J A 44	G	J A 39	J A 46	J A 46	J A 41	J A 34	J A 29	J A 29	J A 41	J A 21
24	J A 23	J A 35	J A 20	J A 19	19	E B 16	J A 20	J A 29	J A 41	J A 42	J A 43	G	G	G	46	G	40	J A 45	J A 40	J A 31	J A 42	J A 22	J A 16	J A 51
25	J A 19	J A 35	J A 28	J A 37	J A 43	J A 20	J A 28	J A 51	J A 36	J A 49	J A 43	J A 46	J A 43	J A 42	J A 42	J A 42	J A 69	J A 82	J A 116	J A 32	J A 18	J A 17	J A 23	J A 31
26	J A 24	J A 20	J A 26	J A 16	J A 20	J A 22	J A 18	J A 29	J A 37	J A 40	J A 43	J A 51	J A 45	J A 53	J A 48	J A 60	J A 43	J A 34	J A 28	J A 39	J A 49	J A 23	J A 23	J A 50
27	J A 71	J A 77	J A 22	J A 20	J A 20	J A 22	J A 25	J A 36	J A 54	J A 81	J A 63	J A 73	J A 66	J A 44	G J A 35	J A 84	J A 61	J A 41	J A 84	J A 109	J A 124	J A 72	J A 84	J A 108
28	J A 76	J A 71	J A 53	J A 38	J A 40	J A 20	J A 29	J A 35	J A 34	J A 45	J A 89	G	J A 43	J A 48	J A 48	J A 39	J A 72	J A 54	J A 63	J A 84	J A 66	J A 23	J A 47	J A 29
29	J A 42	J A 26	J A 26	J A 24	18	E B 15	J A 26	J A 73	J A 42	J A 45	J A 48	J A 55	J A 43	J A 34	J A 44	J A 40	42	30	24	J A 21	J A 22	J A 80	J A 33	J A 40
30	J A 49	J A 25	J A 16	20	21	J A 17	J A 32	27	33	42	J A 54	J A 64	J A 75	J A 48	J A 79	J A 43	38	G 20	J A 46	J A 61	J A 73	J A 39	J A 57	J A 22
31	20	J A 28	E B 16	18	18	21	J A 24	25	33	38	42	J A 48	J A 50	48	41	37	J A 58	J A 61	25	J A 18	J A 18	J A 26	J A 23	17
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	31	31	31	31	31	31	31	31	31	31	31	30	30	31	31	31	31	31	31	31	31	31	31
MED	J A 39	J A 28	J A 27	J A 26	J A 22	J A 20	J A 26	34	40	J A 45	J A 51	J A 48	J A 46	48	47	43	J A 44	J A 46	J A 50	J A 37	J A 44	J A 40	J A 33	J A 40
U Q	J A 48	J A 40	J A 34	J A 34	J A 31	J A 29	J A 29	46	J A 54	J A 58	J A 69	J A 73	J A 71	J A 55	J A 60	J A 60	J A 61	J A 66	J A 84	J A 69	J A 60	J A 52	J A 52	J A 50
L Q	J A 23	J A 24	J A 21	J A 20	20	E B 17	24	30	35	39	43	G 40	43	42	42	39	39	33	29	J A 24	J A 25	J A 25	J A 23	J A 28

AUG. 2014 foEs (0.1MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Yamagawa

AUG. 2014 fbEs (0.1MHz) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.31°12.0'N LON.130°37.0'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	24	16	20	20	E B 16	E B 16	23	30	51	41	65	66	G	59	39	40	G 36	38	42	30	22	42	20	47
2	23	18	E B 16	E B 16	19	24	25	32	52	58	70	44	42	60	77	60	52	69	44	23	26	18	19	28
3	29	E B 16	16	E B 16	E B 16	E B 16	19	30	38	39	51	42	46	E B 46	59	A A 83	39	49	35	A A 80	35	20	28	28
4	20	E B 16	38	21	17	E B 16	20	30	35	40	45	41	45	42	44	U Y 34	36	G	28	23	36	17	E B 16	19
5	E B 16	21	22	17	16	E B 16	20	29	U Y 35	U Y 39	49	47	45	44	44	43	42	37	29	21	E B 16	20	E B 16	23
6	E B 16	E B 16	23	20	21	E B 16	G 20	28	35	U Y 36	39	U Y 40	G	U Y 50	43	39	41	39	26	E B 16	E B 16	E B 16	E B 16	20
7	28	21	17	E B 16	16	20	29	29	41	37	43	41	48	43	U Y 46	44	36	39	22	18	E B 16	16	E B 16	E B 16
8	E B 16	16	E B 16	E B 16	E B 16	E B 16	G 19	32	U Y 34	56	58	53	61	53	41	44	39	52	39	54	77	43	26	22
9	21	20	E B 16	E B 16	E B 16	37	28	G 27	33	36	U Y 38	40	41	U Y 35	G	40	50	50	33	26	20	36	20	16
10	E B 16	E B 16	E B 16	E B 16	E B 16	E B 16	19	28	40	36	58	61	42	42	42	44	56	36	A A 184	28	42	33	E B 16	32
11	22	18	20	20	E B 16	E B 16	24	38	46	A A 62	57	38	42	50	39	U Y 41	35	31	27	17	E B 16	21	16	28
12	17	46	18	20	E B 16	E B 16	23	27	40	43	49	65	A A 120	43	43	44	38	38	31	24	22	37	16	E B 16
13	E B 16	20	35	20	21	E B 16	20	33	37	40	A A 70	A A 76	44	66	60	57	43	43	63	40	41	20	24	23
14	35	24	22	22	18	18	21	30	45	34	39	G	71	61	62	40	35	47	42	E B 16	E B 16	E B 16	25	27
15	31	16	E B 16	E B 16	E B 16	E B 16	18	31	40	54	42	41	42	U Y 40	G	36	G	32	26	21	27	39	24	28
16	23	32	28	24	22	19	18	37	34	40	38	40	43	42	58	37	38	G 29	27	E B 16	E B 16	20	20	E B 16
17	26	28	42	28	24	26	21	50	A A 88	A A 85	A A 97	A A 82	54	56	40	54	38	31	46	50	44	A A 106	48	37
18	29	20	17	21	28	20	21	33	34	36	38	39	43	50	A A 104	39	30	G 29	G	16	19	20	27	24
19	E B 16	24	23	18	21	17	19	29	52	50	54	A A 72	68	A A 108	66	57	55	66	49	19	E B 16	E B 16	E B 16	E B 16
20	23	19	E B 16	E B 16	E B 16	E B 16	G 18	31	33	40	U Y 38	40	40	50	50	39	37	46	57	78	34	38	20	E B 16
21	20	17	E B 16	E B 16	E B 16	E B 16	18	28	32	38	42	G	43	U Y 36	45	58	54	77	66	54	45	39	38	28
22	E B 16	E B 16	E B 16	16	E B 16	E B 16	24	64	50	A A 68	58	40	C	C	39	U Y 37	U Y 35	31	24	18	E B 16	E B 16	E B 16	21
23	E B 16	E B 16	E B 16	20	22	E B 16	G 18	26	32	36	38	G	47	43	G	38	43	44	39	31	25	19	20	E B 16
24	18	20	18	E B 16	E B 16	E B 16	20	28	40	40	43	G	G	G	46	G	40	42	37	28	41	20	16	37
25	E B 16	28	16	E B 16	34	E B 16	21	40	36	46	40	46	43	42	41	40	52	78	A A 116	30	E B 16	E B 16	18	E B 16
26	22	E B 16	19	E B 16	E B 16	E B 16	18	27	36	39	41	46	42	48	42	42	37	34	23	16	22	19	E B 16	20
27	E B 16	52	19	E B 16	E B 16	18	21	32	42	45	43	50	44	43	G 35	83	54	38	69	64	49	63	25	52
28	42	44	33	21	19	E B 16	25	32	32	37	56	G	42	44	41	38	40	39	48	20	58	E B 16	26	16
29	19	18	16	19	17	E B 15	G 17	29	38	42	42	45	41	U Y 34	43	38	39	G 28	23	16	E B 16	16	19	E B 16
30	19	E B 16	E B 16	E B 16	E B 16	E B 16	20	27	31	41	50	61	63	44	43	40	G 34	G 20	42	44	57	32	20	E B 16
31	E B 16	E B 16	E B 16	E B 16	E B 16	E B 16	E B 16	25	33	37	42	44	49	44	40	37	47	35	22	E B 16	E B 16	E B 16	20	E B 16
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	31	31	31	31	31	31	31	31	31	31	31	30	30	31	31	31	31	31	31	31	31	31	31
MED	20	18	17	16	E B 16	E B 16	20	30	37	40	43	42	43	44	43	40	39	38	37	23	22	20	20	21
U Q	24	24	22	20	21	18	23	32	42	46	57	53	48	50	50	44	47	47	48	40	41	37	25	28
L Q	E B 16	E B 16	E B 16	E B 16	E B 16	E B 16	18	28	34	37	40	G 40	42	42	40	38	36	G 31	26	17	E B 16	E B 16	E B 16	E B 16

AUG. 2014 fbEs (0.1MHz)

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IONOSPHERIC DATA STATION Yamagawa

AUG. 2014 fmin (0.1MHz) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.31°12.0'N LON.130°37.0'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	16	16	16	16	16	16	16	16	16	16	21	21	30	34	24	20	16	16	15	15	16	16	16	16
2	16	16	16	16	16	16	16	16	18	18	21	24	29	22	24	20	18	16	16	16	16	16	16	16
3	16	16	16	16	16	16	16	16	16	16	25	24	24	46	28	23	18	16	16	16	16	16	16	16
4	16	16	16	16	16	16	16	16	20	21	31	24	24	24	28	20	16	16	16	16	16	16	16	16
5	16	16	16	16	16	16	16	19	16	20	29	30	27	21	20	21	16	16	14	15	14	16	16	16
6	16	16	16	16	16	16	16	16	16	16	18	20	22	20	20	19	16	16	14	14	16	16	16	16
7	16	16	16	16	16	16	16	20	17	20	22	21	29	29	24	20	19	16	16	16	16	16	16	16
8	16	16	16	16	16	16	14	16	16	21	21	24	28	28	16	19	16	12	16	16	16	16	16	16
9	16	16	16	16	16	16	15	15	16	16	21	24	26	29	16	16	17	16	15	16	16	16	16	16
10	16	16	16	16	16	16	16	16	16	16	16	17	22	29	24	18	16	16	16	16	16	16	16	16
11	16	16	16	16	16	16	16	16	16	20	20	20	20	20	19	16	16	16	15	16	16	16	16	16
12	16	16	16	16	16	16	16	16	16	16	20	18	21	20	22	16	16	15	16	16	16	16	16	16
13	16	16	16	16	16	16	16	16	17	20	25	22	19	21	23	20	19	16	16	15	16	16	16	16
14	16	16	16	16	16	16	15	15	16	16	19	20	27	22	21	20	15	16	15	16	16	16	16	16
15	16	16	16	16	16	16	14	16	16	20	23	25	22	20	18	16	16	19	14	14	16	16	16	16
16	16	16	16	16	16	16	16	16	16	16	18	24	24	21	20	19	16	16	16	16	16	16	16	16
17	16	16	16	16	16	16	15	16	16	17	18	20	22	22	20	16	16	16	16	15	16	16	16	16
18	16	16	16	16	16	16	14	16	16	19	20	21	21	22	24	20	16	16	16	15	16	16	16	16
19	16	16	16	16	16	16	14	16	16	16	21	20	20	26	22	20	16	16	16	15	16	16	16	16
20	16	16	16	16	16	16	16	14	16	17	19	24	22	22	20	21	17	16	15	16	16	16	16	16
21	16	16	16	16	16	16	14	16	16	16	24	26	21	27	24	16	16	16	16	13	16	16	16	16
22	16	16	16	16	16	16	14	16	16	16	25	34	C	C	20	20	14	16	12	16	16	16	16	16
23	16	16	16	16	16	16	16	16	16	19	20	29	25	25	20	17	16	16	14	14	16	16	16	16
24	16	16	16	16	16	16	15	16	16	16	20	21	21	21	40	23	20	16	14	14	16	16	16	16
25	16	16	16	16	16	16	14	16	16	16	20	20	21	21	20	20	16	16	14	14	16	16	16	16
26	16	16	16	16	16	16	13	16	14	16	19	18	21	21	21	20	16	16	14	14	16	16	16	16
27	16	16	16	16	16	16	16	13	16	16	17	20	28	32	24	20	18	16	15	14	15	16	16	16
28	16	16	16	16	16	16	15	14	16	16	17	20	20	21	21	17	17	16	12	14	16	16	16	16
29	16	16	16	16	16	15	14	14	13	17	19	19	22	31	21	20	16	16	12	15	16	16	16	16
30	16	16	16	16	16	16	15	15	16	18	24	28	26	23	27	18	16	14	16	16	16	16	16	16
31	16	16	16	16	16	16	16	16	16	16	18	20	20	20	24	16	20	16	16	16	16	16	16	16
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	31	31	31	31	31	31	31	31	31	31	31	30	30	31	31	31	31	31	31	31	31	31	31
MED	16	16	16	16	16	16	16	16	16	16	20	21	22	22	21	20	16	16	15	15	16	16	16	16
U Q	16	16	16	16	16	16	16	16	16	19	23	24	26	28	24	20	17	16	16	16	16	16	16	16
L Q	16	16	16	16	16	16	14	16	16	16	19	20	21	21	20	17	16	16	14	14	16	16	16	16

IONOSPHERIC DATA STATION Yamagawa

AUG. 2014 M(3000)F2 (0.01) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.31°12.0'N LON.130°37.0'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	315	297	302	310	302	299	327	333	358	368	A 279	276	U R 284	288	301	302	294	301	294	296	297	288	287	283
2	291	298	284	291	284	291	312	293	331	318	308	303	294	290	296	292	286	281	297	297	315	268	265	284
3	R 300	276	292	299	294	281	329	V 321	340	335	268	296	296	289	302	A	300	302	313	A	293	289	284	270
4	299	311	298	275	289	276	305	342	354	316	309	313	298	287	284	273	271	286	307	305	290	281	277	271
5	296	287	309	309	295	289	330	327	324	300	315	324	303	300	291	297	300	291	309	316	310	296	273	269
6	285	282	299	305	312	287	281	314	333	338	309	297	300	294	306	305	297	298	302	315	300	282	277	277
7	277	296	308	304	302	317	345	330	338	308	294	296	286	297	300	313	317	314	295	303	296	299	294	V 267
8	271	287	304	301	292	296	333	352	341	H 267	301	301	296	297	293	309	304	300	321	316	316	305	270	287
9	290	294	296	315	305	309	343	342	331	325	306	289	293	292	300	309	302	304	317	334	340	340	278	278
10	283	299	313	305	293	308	364	334	338	306	326	317	317	304	305	296	298	328	A	331	312	297	297	293
11	283	F 282	F 285	F 309	F 304	317	352	391	381	A	300	304	300	293	291	290	310	308	325	330	309	302	299	F 275
12	F 329	304	295	F 279	F 303	321	344	354	347	345	305	291	A	287	313	311	325	314	323	310	311	315	309	310
13	306	291	R 278	F 282	284	F 308	353	388	348	359	A	A	289	291	297	285	304	R 323	340	347	318	315	296	F 268
14	F 298	F 297	313	319	309	V 294	321	342	338	362	338	320	301	322	311	311	300	293	320	309	318	319	307	323
15	324	304	321	314	289	F 290	337	345	373	385	297	323	317	301	300	309	303	321	329	331	314	298	286	F 289
16	F 286	F 319	F 318	321	V 338	301	329	346	349	371	319	319	R 308	319	305	309	304	312	326	333	357	318	297	280
17	F 297	F 318	332	F 306	306	F 305	344	359	A	A	A	A	298	R 278	284	R 305	324	322	328	340	343	A	F 299	F 300
18	F 285	284	309	302	316	F 304	349	365	375	345	346	280	317	310	A	295	300	R 307	R 323	321	342	348	F 296	308
19	302	F 284	F 298	F 328	F 287	F 294	338	365	353	362	353	A	300	A	311	325	300	305	329	310	311	306	R 306	297
20	F 295	F 290	342	F 330	F 315	284	291	366	395	343	330	327	279	287	301	303	315	R 312	334	350	324	291	276	283
21	295	303	301	295	309	303	331	361	347	351	321	317	294	293	303	308	320	323	317	334	298	298	276	294
22	312	284	296	321	294	292	327	333	341	A	329	316	C	C	311	312	317	318	326	334	338	301	284	273
23	298	298	334	320	312	296	342	358	357	359	330	319	317	305	310	320	330	309	300	329	335	299	285	300
24	306	299	313	299	291	299	343	386	381	326	H 331	319	313	300	302	302	303	312	309	315	338	314	293	V 289
25	284	275	323	329	310	306	314	351	336	335	349	299	299	295	302	302	305	315	A	327	324	317	295	293
26	291	278	314	323	320	301	340	357	366	344	349	312	299	294	297	295	295	U R 301	313	338	U R 332	339	280	R 298
27	292	296	310	310	306	312	347	381	353	339	310	299	275	U R 283	300	296	292	294	296	305	320	F 319	279	F 292
28	289	280	274	268	256	F 258	300	297	330	293	322	304	295	303	303	298	302	331	346	310	256	272	F 266	268
29	279	290	302	V 271	267	267	288	320	297	317	346	335	296	310	320	317	309	310	329	326	329	285	279	F 263
30	287	F 287	288	315	329	336	351	344	330	366	322	300	311	316	317	310	309	322	333	318	297	275	273	274
31	283	286	304	329	308	299	315	377	349	351	322	324	314	304	305	306	307	324	329	325	316	305	300	290
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	31	31	31	31	31	31	31	30	28	29	28	29	29	30	30	31	31	29	30	31	30	31	31
MED	292	291	304	309	303	299	333	346	347	341	321	308	299	295	302	305	303	310	321	323	316	300	285	284
U Q	300	299	313	320	310	308	344	365	357	359	330	319	310	304	306	310	310	321	329	333	332	315	297	294
L Q	285	284	296	299	291	290	315	333	336	318	306	298	294	290	297	296	300	301	308	310	300	289	277	273

AUG. 2014 M(3000)F2 (0.01)

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IONOSPHERIC DATA STATION Yamagawa

AUG. 2014 M(3000)F1 (0.01) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.31°12.0'N LON.130°37.0'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1							A 427	L	A	L	A	A	U R 384	A	A 357	379	L 344	U L 347	A					
2								L	A	A	A	R 388	386	A	A	A	A	A	A					
3							486	U L 373	L 400	375	A 312	R 406	L	389	A	A	370	A	U L 364	A				
4							L	L	L	L	L	387	L	L	370	376	L 358	L 339	L					
5							L	L	L	L	L 359	A 372	371	371	366	371	L 357	U L 342	U L 352					
6							L	L	U L 383	L 374	365	352	381	A	373	385	L 368	U L 356	U L 349	408				
7								L	L	L	L	383	365	407	364	416	L 371	L	L	A				
8							L	L	L 386	A	A	A	A	A	394	L 357	R 387	A	L	A				
9								437	L	U L 366	L 371	384	371	R 397	373	372	A	A	L					
10								L	L	U L 369	A	A	384	379	394	369	A	U L 353	A					
11									A	A	A	L 370	387	A	395	L 362	366	L 361	L	B				
12								L	U L 379	U L 377	L 355	A	A	R 390	R 379	A 356	378	L 358	L					
13								L	L	U L 382	A	A	L	A	A	A	334	L	A					
14								L	A	L 385	410	397	A	A	A	384	L 353	A	A					
15								L	U L 403	A	390	413	399	L 374	U R 397	375	361	359	L					
16								U L 391	U L 407	U L 406	L 413	400	U R 397	R 403	A	R 405	L 368	L 354	U L 376					
17									A	A	A	A	A	A	R 390	A	355	L 358	A					
18								L	U L 385	U L 402	404	427	R 445	A	A	L 389	L 368	L 353	L					
19								L	A	A	A	A	A	A	A	A	A	A	A					
20								L	L	L	U L 377	L 386	L 352	A	A	L 356	L 358	A	A					
21								L	U L 391	L	U L 399	397	L 394	393	366	A	A	A	A					
22								A	A	A	A	L 394	C	C	383	359	L 355	U L 368	L					
23								L	L	U L 405	432	L	A 381	381	371	363	L	A	A					
24								L	L	L	U L 378	U L 363	387	L 382	L 348	355	U L 351	L	A					
25								A	L	L	L 412	U L 402	L 377	366	371	382	A	A	A					
26								L	L	L 388	L 391	U L 395	L 382	L 362	L 367	L 348	U L 342	L	L					
27								L	A	A	L	U L 355	389	378	L 367	A	A	L	A					
28								L 361	L 411	U L 362	L	U L 362	L 363	365	386	L 340	U L 354	L	A					
29							U L 323	L 349	L		L 378	U L 377	H 347	L 366	U L 383	L 378	L 360	L	L					
30								L	L	L	A	A	A	365	U L 366	L 374	351	L	A					
31								U L 409	A	L	U L 393	U L 380	A	L 346	L 371	L 348	L	L	L					
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT							3	6	9	13	17	22	20	18	23	24	22	12	4	1				
MED							427	L 382	U L 391	U L 381	L 390	386	383	378	371	372	L 358	L 355	U L 358	408				
U Q							486	409	U L 405	U L 395	407	397	388	R 390	386	380	368	L 358	U L 370					
L Q							U L 323	L 361	U L 384	U L 372	L 368	L 372	371	366	366	L 356	L 353	L 350	U L 350					

AUG. 2014 M(3000)F1 (0.01)

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AUG. 2014 h'F2 (KM) 135°E MEAN TIME (G.M.T. + 9 H)

LAT. 31°12.0'N LON. 130°37.0'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1							240	230	240	248	E A	396	356	342	308	324	330	300	272					
2								320	258	264	346 A	334	344	336	354	334	340	364	292					
3							220	258	288	312	466 A	358	364	368	334	A	334	304	290	A				
4							282	234	234	290	306	318	358	400	392	400	386	330	270					
5							260	242	230	332	312	282	344	354	364	330	314	308	276					
6							380	294	260	254	340	350	350	354	324	318	322	294	294	232				
7								250	266	336	332	356	366	336	322	298	286	270	254	256				
8							258	218	262	E A 384	334	322	328	318	334	292	296	286	270	262				
9								224	274	288	294	368	344	328	320	298	290	284	260					
10								244	268	314	266	314	302	330	318	326	312	270	A					
11									226	A	366	338	324	338	326	326	282	272	258	232				
12								242	266	260	328	E A 384	A	320	294	286	280	308	270					
13								200	244	250	A	A	386	344	326	326	298	266	238					
14								256	248	242	264	318	E A 390	296	306	302	296	298	260					
15								226	228	234	H 388	312	302	340	332	302	298	270	246					
16								266	234	232	274	316	332	314	336	308	306	284	252					
17									A	A	A	A	334	330	336	298	262	272	242					
18								230	232	246	274	406	300	286	A	318	304	274	250					
19								222	242	238	260	A	346	A	298	270	284	318	256					
20								228	208	228	276	296	414	364	312	308	284	272	254					
21								230	254	254	H 246	294	354	338	304	298	286	292	284					
22								A 306	280	A	294	294	C	C	302	290	282	268	246					
23								234	232	234	274	272	308	324	304	286	258	256	270					
24								212	214	H 250	266	290	306	300	304	308	290	274	266					
25								236	254	250	246	H 250	316	314	316	304	272	300	A					
26								234	228	256	248	280	346	330	316	318	308	280	258					
27								204	222	240	306	308	360	330	294	318	306	304	302					
28							288	310	258	300	278	342	348	330	332	328	314	276	244					
29							350	300	336	320	276	290	364	322	302	298	302	268	236					
30								238	256	246	282	350	318	312	290	292	300	268	246					
31								206	206	250	284	292	300	316	302	288	292	250	242					
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT							8	29	30	28	28	28	29	29	30	30	31	31	29	4				
MED							271	234	246	251	283	316	344	330	317	306	298	280	258	244				
U Q							319	257	262	295	330	350	359	341	332	324	312	300	271	259				
L Q							249	225	230	244	270	293	317	317	304	298	284	270	246	232				

AUG. 2014 h'F2 (KM)

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IONOSPHERIC DATA STATION Yamagawa

AUG. 2014 h′F (KM) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.31°12.0′N LON.130°37.0′E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	252	252	248	224	246	232	E A 232	214	A	198	A	A	222	A	200	196	200	234	A	264	240	304	282	322
2	254	246	260	272	278	284	244	252	A	A	A	216	198	A	A	A	A	A	A	236	240	226	310	310
3	282	268	264	246	258	252	138	228	210	208	E A 354	182	230	214	A	A	230	A	A 258	A	270	246	288	308
4	244	228	286	318	262	302	244	218	204	206	A 218	188	214	H 180	218	H 186	196	216	234	260	268	252	288	298
5	260	262	254	252	244	276	250	222	218	H 206	E A 276	E A 260	196	230	216	H 222	242	238	250	246	208	230	264	318
6	272	276	266	242	228	278	246	204	204	222	194	206	198	A	228	210	H 230	A 244	208	B	224	250	272	288
7	316	264	238	246	250	248	226	220	240	202	208	190	A 260	188	E A 284	198	H 194	A 252	218	A	258	244	256	298
8	304	288	240	238	270	266	244	212	192	A	A	A	A	A	196	E A 258	202	A	A	A	318	246	292	308
9	284	274	260	236	242	292	224	192	208	196	196	192	204	200	206	228	A	A	A 250	226	216	228	254	292
10	286	270	244	246	274	256	222	224	222	176	A	A	186	196	198	252	A	256	A	238	256	254	254	278
11	310	304	294	274	270	224	212	210	A	A	A	H 164	218	A	208	E A 230	208	210	236	B	208	246	256	340
12	230	324	284	318	270	234	230	218	A E 228	E A 256	E A 286	A	A	200	230	E A 272	216	A 246	H 228	258	238	258	232	218
13	240	306	342	282	284	262	220	A	A 222	A 204	A	A	A 186	A	A	A	A	A	A	228	240	220	254	352
14	332	294	276	248	236	282	244	224	A	H 172	H 186	H 162	A	A	A	212	220	A	A	242	234	224	244	226
15	254	262	244	250	266	Q 302	220	208	A 228	A	192	182	196	192	180	H 172	218	216	226	226	230	282	282	312
16	278	268	266	228	230	268	230	230	208	226	174	182	196	194	A	188	218	208	A 218	230	206	196	258	288
17	294	294	286	262	276	290	226	240	A	A	A	A	A	A	H 178	A	A 224	198	A	232	232	A	308	298
18	312	306	276	256	278	276	232	222	210	192	182	170	176	A	A	190	H 126	214	H 224	230	218	218	292	246
19	272	298	254	224	234	272	236	218	A	A	A	A	A	A	A	A	A	A	A	246	222	232	242	262
20	300	292	226	214	226	286	256	228	A 214	A 208	H 180	H 196	H 196	A	A	220	A 218	A	A	254	234	268	282	288
21	274	280	258	252	238	270	230	218	218	A 210	204	184	176	202	A 244	A	A	A	A	246	276	282	336	280
22	252	266	272	246	238	280	264	A	A	A	A	192	C	C	192	216	218	212	230	220	208	224	274	322
23	254	264	234	208	238	272	236	210	198	196	172	200	A 228	198	182	212	A	A	A	234	220	220	280	256
24	240	266	244	248	272	268	236	220	A	198	234	204	180	190	E A 244	212	248	A	A	246	234	204	210	316
25	272	312	236	232	278	250	224	A	208	A	184	210	186	208	202	214	A	A	A	232	220	212	238	258
26	270	294	246	226	232	242	244	216	202	192	200	214	194	E A 250	208	226	220	228	228	228	210	192	262	274
27	274	322	242	230	244	252	226	A	A	A	192	E A 280	A 194	192	A 200	A	A	A 248	A	274	250	258	306	370
28	320	334	328	306	336	330	A	A 242	198	196	A	192	216	A 218	212	226	A 246	A	A	244	412	280	350	304
29	284	260	260	322	308	304	248	244	240	A 242	218	A 226	H 180	196	210	202	238	210	222	222	218	240	298	312
30	284	278	282	230	218	232	232	212	194	A 212	A	A	A	218	222	212	214	230	A	258	378	322	302	296
31	284	280	254	208	234	252	230	H 172	A	196	194	H 194	A	A 230	204	208	A	242	236	228	228	226	254	266
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	31	31	31	31	31	30	27	21	22	20	23	23	19	23	24	21	18	15	26	31	30	31	31
MED	274	278	260	246	250	270	232	218	210	202	194	192	196	199	206	212	218	229	228	237	234	242	274	298
U Q	294	298	276	262	274	284	244	228	222	A 210	A 218	210	216	A 218	222	226	230	A 244	236	246	256	258	292	312
L Q	254	264	244	230	236	252	226	212	203	196	185	182	186	192	198	200	205	212	222	228	218	224	254	274

IONOSPHERIC DATA STATION Yamagawa

AUG. 2014 h′E (KM) 135°E MEAN TIME (G.M.T. + 9 H)

LAT. 31°12.0′N LON. 130°37.0′E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1							110	102	96	96	A	A	102	A	A	96	96	98	A	A				
2							112	102	98	96	96	100	A	A	100	98	A	A	A	A				
3							98	106	98	98	96	96	96	B	104	102	100	100	104	A				
4							A	108	108	96	104	100	104	98	100	A	94	94	102	A				
5							A	108	100	92	106	104	100	96	96	96	96	98	110	A				
6							108	98	96	96	92	94	94	94	A	A	94	94	100	B				
7							A	A	A	A	A	A	104	A	A	A	98	98	A	B				
8							112	102	100	100	A	A	A	A	A	A	108	94	98	A				
9							A	98	96	94	A	A	102	A	94	A	A	A	A	A				
10							B	102	96	96	A	A	A	A	A	110	92	98	102	B				
11							B	120	112	A	100	A	98	94	94	96	96	98	104	B				
12							A	100	108	94	A	A	A	A	A	108	104	104	A	A				
13							B	106	100	100	A	A	98	96	102	98	100	102	A	A				
14							A	A	112	A	98	96	96	98	104	102	100	98	100	B				
15							B	104	108	98	A	A	A	96	94	96	96	104	100	A				
16							A	A	A	A	A	A	A	A	A	A	A	108	106	B				
17							B	104	100	98	100	96	98	A	A	A	A	A	A					
18							B	A	98	96	96	96	A	A	A	A	A	114	108					
19							B	100	98	96	A	A	A	A	96	100	A	A	A					
20							E 134	B	A	A	A	A	A	98	102	98	100	98	100	A				
21							B	100	98	98	102	98	A	A	100	96	98	100	102					
22							B	100	98	96	102	A	C	C	A	102	102	112	110					
23							128	102	96	96	96	106	102	100	98	96	98	98	A					
24							122	106	96	96	98	96	96	98	B	102	100	98	102					
25							A	A	90	92	A	94	94	94	94	96	96	96	A					
26							B	98	94	94	96	A	A	A	A	A	A	96	116					
27							B	100	98	96	96	A	A	A	104	A	A	A	A					
28							B	98	96	96	96	98	100	100	100	100	100	100	98					
29							112	104	92	96	96	A	A	A	A	A	96	112	110					
30							B	116	98	98	98	100	A	A	A	A	102	102	108					
31							B 108	106	96	96	96	96	94	98	102	92	A	A	102					
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT							10	25	28	26	19	15	17	13	17	19	22	25	19					
MED							112	102	98	96	96	96	98	98	100	98	98	98	102					
U Q							122	106	100	98	100	100	102	99	102	102	100	103	108					
L Q							108	100	96	96	96	96	96	95	95	96	96	98	100					

AUG. 2014 h′E (KM)

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IONOSPHERIC DATA STATION Yamagawa

AUG. 2014 h′Es (KM) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.31°12.0′N LON.130°37.0′E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	90	86	86	88	88	102	172	120	104	106	96	96	G	96	94	126	122	104	96	96	92	104	104	90
2	94	94	94	92	92	90	138	106	104	102	100	102	122	102	100	102	98	96	96	94	90	90	90	88
3	88	88	86	B	90	86	122	128	110	106	100	100	106	B	118	108	106	104	104	96	98	98	98	96
4	94	B	92	92	94	92	92	112	108	102	110	108	152	150	134	96	116	G	106	100	98	102	102	106
5	84	94	90	88	92	B	86	136	134	124	108	120	126	124	114	110	106	106	110	92	96	94	94	94
6	96	96	92	88	90	92	144	128	116	112	126	116	G	116	164	150	108	104	110	102	106	106	104	88
7	86	84	84	102	102	98	96	94	96	96	96	104	100	102	102	124	114	102	152	110	122	108	90	90
8	B	86	82	86	88	106	120	108	202	98	98	98	96	94	94	94	116	102	100	96	94	94	92	90
9	90	104	104	104	126	102	104	110	104	104	100	98	148	96	G	96	94	94	108	90	90	90	88	106
10	94	96	94	94	94	94	106	106	98	102	94	94	96	100	118	108	104	102	100	100	96	112	100	92
11	90	90	88	86	86	B	124	118	116	110	108	98	142	110	108	110	118	118	110	104	90	96	98	98
12	92	86	92	88	100	102	94	102	102	98	94	94	90	110	122	114	122	108	84	102	100	96	120	100
13	92	90	88	96	92	98	110	110	110	102	98	96	106	104	106	104	104	102	98	96	96	96	90	96
14	118	118	96	96	94	94	94	94	112	150	176	G	112	110	106	114	146	104	104	104	104	96	96	94
15	94	94	96	94	94	100	102	102	102	98	96	96	96	124	G	124	G	114	100	96	94	94	94	104
16	104	90	90	90	88	92	166	96	100	98	98	100	104	94	90	88	88	120	104	104	102	90	94	98
17	94	92	92	92	92	90	118	106	104	102	102	100	100	98	100	98	98	152	94	90	90	114	104	86
18	86	86	108	104	102	98	100	100	100	102	102	100	160	94	92	92	94	92	G	92	102	84	90	90
19	102	94	92	92	92	94	118	112	106	104	100	98	100	100	100	100	98	96	92	96	92	84	84	112
20	90	92	94	92	92	92	98	132	96	98	140	136	104	110	112	110	114	104	98	98	98	96	94	102
21	90	92	92	92	92	100	110	116	110	106	102	G	94	98	128	108	108	102	102	96	96	96	108	92
22	120	98	90	84	B	B	112	102	102	98	98	98	C	C	92	92	132	114	102	86	86	84	96	94
23	92	96	94	94	94	94	96	126	124	126	124	G	106	112	G	140	110	102	98	96	96	96	94	110
24	92	92	92	92	92	B	128	124	104	102	160	G	G	G	110	G	150	120	110	96	90	94	100	92
25	96	96	96	94	92	92	92	90	104	100	98	108	112	124	170	140	112	100	94	94	94	94	94	94
26	92	94	88	86	86	74	116	112	104	102	100	98	100	96	96	98	100	104	122	94	92	92	92	92
27	122	90	90	92	108	84	102	102	100	96	100	98	98	96	96	108	98	118	100	96	96	90	92	104
28	104	94	94	96	132	138	108	104	102	104	100	G	146	120	120	140	110	102	100	96	92	92	88	100
29	100	96	88	84	94	B	94	98	100	100	96	94	94	98	96	96	102	142	118	90	88	108	102	104
30	102	96	96	96	96	100	88	128	118	106	100	100	96	100	100	94	90	90	104	86	94	96	104	84
31	90	92	B	92	92	94	94	168	148	128	114	106	104	104	104	110	98	98	104	92	86	92	90	88
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	30	30	30	30	30	26	31	31	31	31	31	26	27	28	28	30	30	30	30	31	31	31	31	31
MED	93	93	92	92	92	94	106	110	104	102	100	99	104	102	105	108	107	104	102	96	94	96	94	94
U Q	100	96	94	94	94	100	120	124	112	106	108	104	122	111	118	114	116	114	108	100	98	98	102	102
L Q	90	90	88	88	92	92	94	102	102	98	98	98	96	97	96	96	98	102	98	92	90	92	90	90

IONOSPHERIC DATA STATION Yamagawa

AUG. 2014 TYPES OF Es 135°E MEAN TIME (G.M.T. + 9 H)

LAT.31°12.0′N LON.130°37.0′E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	F 4	FQ 21	F 2	FQ 31	FQ 21	F 2	H 1	C 1	C 2	C 2	L 2	L 3		L 2	L 1	C 1	C 1	C 2	L 5	LQ 31	F 4	FF 25	FF 31	FF 41
2	FF 61	F 3	F 2	F 6	F 5	F 4	H 2	C 2	C 3	C 2	C 2	CH 11	CC 11	L 2	C 3	C 2	L 3	LQH 31	LQ 21	LQ 21	FQ 41	F 3	FQ 31	F 5
3	F 3	F 2	FF 21		F 1	F 1	C 1	C 1	C 1	C 1	C 2	C 1	C 1		C 2	C 3	C 2	C 3	C 4	F 3	F 4	FF 31	FF 21	FQ 31
4	F 3		F 4	FQ 41	F 3	F 4	LCH 21	CL 21	CL 11	C 2	C 1	C 1	HL 11	H 1	H 1	L 1	C 1		CL 21	LL 31	FF 22	F 3	F 1	FF 21
5	F 1	F 4	F 3	F 2	F 2		LC 11	H 1	HL 11	C 1	C 1	C 1	C 1	C 1	C 1	C 1	C 1	C 1	CL 13	LC 31	F 2	F 3	F 2	F 4
6	F 1	F 2	F 5	F 4	F 4	F 2	H 1	C 1	C 1	C 1	C 1	C 1		C 1	HC 11	HC 11	C 1	C 3	C 2	C 2	FF 11	FF 21	F 1	F 3
7	F 3	FQ 21	FQ 21	FF 11	F 3	F 3	LC 41	L 2	L 3	L 1	L 2	CL 11	C 2	C 1	C 1	CL 12	C 1	C 3	HC 11	CH 21	FF 12	FF 22	F 1	F 2
8		F 2	F 2	F 1	F 1	FF 11	C 1	C 2	H 1	L 2	L 2	L 2	L 2	L 2	L 2	L 2	CL 11	C 3	C 6	LC 71	FF 72	FF 32	F 3	FF 31
9	F 4	FF 23	FF 21	FF 32	FFF 11	FF 81	C 3	C 2	C 1	C 1	L 1	L 1	H 1	L 1		L 1	L 4	L 5	CL 24	L 7	F 5	F 8	F 4	FF 12
10	F 1	FF 21	F 3	F 2	F 1	F 1	C 2	CL 22	L 2	C 2	L 4	L 2	L 1	LL 11	CL 11	CL 21	C 3	CC 21	C 4	CQ 21	F 3	FF 15	FF 31	F 8
11	F 4	F 2	F 2	F 2	F 1		C 3	CL 22	CL 31	CL 11	C 2	L 1	H 1	C 1	C 1	C 1	C 1	C 1	C 2	C 2	F 1	F 3	F 2	FQ 41
12	F 2	F 3	FQ 31	FQ 41	F 1	F 2	L 3	C 2	CL 22	L 2	L 2	L 4	L 3	CL 12	CL 12	CL 12	CL 12	CL 23	LC 41	CL 42	FF 52	FF 62	FF 11	FF 21
13	F 3	F 4	FQ 31	FF 12	F 5	F 2	C 1	C 2	C 2	C 1	L 3	L 3	C 1	C 2	C 1	C 3	C 2	C 2	L 7	L 7	F 8	F 4	F 4	FQ 31
14	FFF 26	FF 23	F 2	F 4	F 3	F 4	LHC 31	LQ 31	CL 32	HL 11	H 1		C 2	C 2	CL 21	CL 11	HL 11	C 3	C 4	C 4	FF 31	FF 31	FF 43	FF 33
15	FQ 41	F 2	F 1	F 2	F 2	F 1	CC 12	CL 21	CL 21	L 2	L 1	L 1	L 2	C 1		C 1		C 1	C 2	L 4	F 3	F 3	F 4	F 6
16	FF 25	F 3	FF 41	F 4	F 4	F 1	HCC 11	CLH 31	LH 11	L 2	L 1	L 1	CL 11	L 1	L 3	L 2	L 3	CL 12	C 2	C 1	FF 11	F 2	F 2	FF 22
17	F 6	F 6	F 4	F 4	F 6	F 5	C 2	C 6	C 4	C 4	C 2	C 4	C 2	L 2	L 1	L 3	L 2	HL 12	LQ 61	F 4	F 8	FF 16	FF 17	F 4
18	FQ 21	F 1	FF 11	FQ 21	FF 51	F 3	C 3	C 2	C 2	C 1	C 1	C 1	HL 11	L 2	L 3	L 2	L 1	L 1		F 2	FF 22	F 3	FQ 31	F 4
19	FF 12	FF 32	F 2	F 3	F 4	F 2	C 2	C 1	C 3	C 3	L 2	L 4	L 2	L 4	C 2	CL 21	L 5	L 6	L 3	F 2	F 2	F 2	F 1	FF 22
20	F 4	FQ 41	F 2	F 3	F 3	FF 11	LH 21	HL 12	L 1	L 1	HL 11	HC 11	C 1	C 1	C 1	C 1	C 1	C 3	L 3	F 8	FF 62	FF 62	FF 43	FF 21
21	FF 41	F 3	F 3	F 2	F 3	F 1	C 1	CH 21	C 1	C 1	C 1		L 2	L 1	C 1	C 3	C 3	C 6	C 7	F 6	F 8	FF 81	FF 28	F 5
22	FF 12	FF 12	F 1	F 1			C 6	C 4	C 4	L 2	L 2	L 1			L 1	L 1	HL 12	CL 21	CL 22	F 3	F 2	F 2	FF 21	FQ 51
23	F 3	F 2	FF 12	FF 21	F 3	F 1	L 1	C 1	C 1	C 1	C 1		C 1	C 1		H 1	CL 21	C 2	L 4	F 4	F 7	F 6	F 3	FF 11
24	F 4	F 3	F 3	F 2	F 1		C 2	CL 11	C 2	C 1	H 1				C 1		H 1	C 2	C 6	F 8	F 5	F 2	FF 11	F 4
25	FF 12	FF 54	F 4	F 2	F 4	F 2	L 4	L 4	C 1	C 2	L 2	C 1	C 1	C 1	H 1	H 1	C 3	C 4	L 8	F 8	F 3	F 1	F 4	F 3
26	F 4	F 1	F 5	F 2	FF 11	FF 11	C 2	C 2	C 2	C 2	C 2	L 2	L 1	L 2	L 2	L 2	L 2	C 2	CL 21	F 3	FF 41	F 2	FF 21	F 2
27	FF 12	FQ 41	FF 31	F 2	FF 11	FF 21	CL 21	C 2	C 3	L 3	C 2	L 2	L 1	L 1	L 1	CL 32	L 4	CL 22	C 8	F 7	FF 51	F 9	F 4	FF 34
28	FFF 25	F 3	FQ 51	FQ 71	FF 23	FF 23	C 5	C 3	C 1	C 2	C 3		H 1	C 1	C 1	H 1	C 2	C 2	C 4	F 3	F 5	F 2	F 4	FF 25
29	FF 33	F 2	FF 11	F 3	F 1		L 1	LC 13	C 3	C 3	L 2	L 3	L 2	L 1	L 1	L 2	C 2	HL 12	CL 21	F 2	F 3	FF 23	FF 23	FFF 12
30	FFF 31	F 3	FF 21	F 2	F 2	F 1	LC 12	CL 11	C 2	C 2	C 2	C 3	L 2	L 1	LL 21	L 1	L 3	L 2	CL 24	F 5	FF 42	FF 62	FF 22	F 1
31	F 1	F 1		F 1	F 1	FF 11	LC 11	HL 21	H 1	C 1	C 1	C 1	C 1	C 1	C 1	C 1	L 2	L 2	CL 22	F 1	FF 11	F 2	FF 12	F 1
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT																								
MED																								
U Q																								
L Q																								

AUG. 2014 TYPES OF Es

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Okinawa

AUG. 2014 fxI (0.1MHz) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.26°41.0′N LON.128°09.0′E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	X 102	X 98	X 90	X 87	X 87	X 72															X 97	X 88	X 80	X 82
2	88	X 86	X 80	77	74	71	76														X 128	X 115	X 105	X 102
3	X 109	X 99	X 93	X 82	X 80	X 84															X 97	X 88	X 88	X 84
4	X 86	X 86	X 83	X 73	70	63															X 95	X 87	X 86	X 90
5	X 89	X 86	X 84	X 74	X 66	X 64															X 99	X 90	X 87	X 88
6	X 94	X 91	X 90	X 83	X 68	X 57															X 102	X 91	X 95	X 90
7	X 90	X 90	X 91	X 79	X 71	X 64															X 93	X 84	X 76	X 75
8	X 69	X 70	X 72	X 70	X 60	X 59															X 114	X 125	X 112	X 98
9	X 100	X 110	113	104	X 86	X 64															X 85	X 66	X 64	X 66
10	X 65	X 67	X 64	X 62	X 61	X 58															X 90	X 82	X 78	X 76
11	X 70	71	68	68	68	70															X 85	X 86	X 76	X 72
12	X 70	79	76	66	65	66															X 84	X 74	X 71	X 68
13	X 60	X 50	52	46	X 45	46															X 92	X 70	X 68	X 63
14	64	71	71	65	65	56	53														X 106	X 100	X 84	X 75
15	X 68	X 63	X 55	49	53	X 47															X 90	X 84	X 77	X 78
16	X 79	X 83	81	X 74	X 61	X 49															X 101	X 63	X 58	X 57
17	O X 57	X 54	X 56	51	44	46	54														X 111	X 91	X 85	X 89
18	X 80	X 88	X 90	X 94	X 88	X 79															X 106	X 88	X 79	X 85
19	X 94	X 97		X 77	70	X 60	66														X 90	X 88	X 75	X 71
20	O X 82	71	70	70	63	50	51														X 95	X 87	X 84	X 85
21	X 89	X 84	X 84	X 71	X 64	X 62															X 83	X 76	X 71	76
22	71	72	X 71	X 63	X 54	X 51															X 132	X 109	X 97	X 97
23	O X 85	X 81	X 78	X 68	X 54	X 51															X 102	X 83	X 75	X 74
24	X 76	X 71	X 67	X 62	X 60	X 60															X 140	X 95	X 86	X 87
25	X 80	X 77	X 76	X 70	X 62	X 52															X 126	X 106	X 105	X 105
26	X 97	X 87	X 85	X 79	X 68	X 53															X 133	X 96	X 88	X 94
27	X 93	X 99	X 103	X 94	X 82	X 74															X 120	A	X 77	X 77
28	X 75	X 78	X 74	68	64	66															X 72	X 67	X 67	X 70
29	X 73	X 69	X 67	X 59	X 58	X 57															X 91	X 79	X 64	X 60
30	X 60	X 60	X 60	X 59	X 53	X 48															X 76	X 74	X 78	X 76
31	X 74	X 75	X 78	X 64	X 60	X 51															X 132	X 120	X 96	X 94
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	31	30	31	31	31	5														31	30	31	31
MED	X 80	X 79	X 77	X 70	X 64	X 59	54														X 97	X 88	X 79	X 78
U Q	X 90	X 88	X 85	X 79	X 70	66	71														X 114	X 95	X 88	X 90
L Q	X 70	X 71	X 68	X 63	X 60	X 51	52														X 90	X 79	X 75	X 72

IONOSPHERIC DATA STATION Okinawa

AUG. 2014 foF2 (0.1MHz) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.26°41.0′N LON.128°09.0′E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	96	92	84	81	81	66	69	75	84	74	A	A	88	98	98	93	90	86	96	91	91	82	74	R 76
2	F 76	R 80	74	F 67	F 66	65	67	78	85	81	78	81	90	91	96	98	104	119	132	148	122	J R 109	99	96
3	103	93	87	76	74	78	102	86	68	78	81	90	88	95	96	A	100	J R 102	103	104	91	82	82	78
4	80	80	77	67	F 62	F 54	62	92	71	66	74	74	72	75	75	78	85	92	100	92	89	81	80	84
5	83	80	78	68	60	58	62	81	74	66	69	84	82	A	82	86	98	99	105	108	93	84	81	82
6	88	85	84	77	62	51	45	71	86	73	64	80	72	86	94	88	89	95	106	108	96	85	89	84
7	84	84	85	73	65	58	59	68	67	72	74	72	85	89	93	98	99	85	92	95	87	78	70	69
8	63	64	66	64	54	53	59	74	65	68	77	86	102	100	107	111	121	118	122	123	108	119	106	92
9	94	Z 104	F 104	F 94	80	58	59	71	79	71	74	84	93	96	99	J R 107	105	106	110	114	79	60	58	60
10	59	61	58	56	55	52	50	69	82	77	86	R 86	92	88	89	96	103	105	108	107	84	76	72	70
11	64	F 62	F 62	F 61	F 60	F 64	82	68	63	68	56	78	84	88	99	110	111	116	112	97	79	80	70	66
12	64	F 72	F 68	F 58	F 58	F 57	66	67	69	76	77	76	84	102	106	106	98	93	88	89	78	68	65	62
13	54	44	F 40	F 39	39	F 39	54	61	65	71	76	67	84	103	116	R 126	R 154	U R 167	R 156	126	86	64	62	57
14	F 56	F 62	F 64	F 56	F 54	F 50	F 44	67	81	75	72	68	82	89	95	86	94	100	102	105	100	94	78	69
15	62	57	49	F 42	F 43	41	42	75	71	67	J R 70	76	79	79	90	93	105	114	110	102	84	R 78	71	72
16	73	77	F 74	68	55	43	45	72	82	72	70	70	73	78	82	90	103	111	108	112	95	57	52	51
17	R 51	48	50	F 44	F 35	F 35	F 46	65	74	72	A	A	A	A	100	124	J R 124	128	U R 132	130	R 105	85	79	83
18	74	82	84	88	82	73	79	85	74	75	72	67	77	92	94	96	112	123	123	119	100	82	73	79
19	88	91		71	62	54	F 53	81	76	70	67	72	78	96	103	94	95	107	100	85	84	82	69	65
20	U R 76	F 62	F 62	F 61	F 54	F 43	F 45	86	78	61	75	78	66	80	98	105	118	128	125	114	89	81	R 78	79
21	83	78	78	65	58	56	57	67	79	71	73	81	86	99	112	114	118	112	101	92	77	70	65	F 65
22	F 64	F 62	65	57	48	45	57	64	A	A	A	A	98	106	120	125	130	126	131	142	126	103	91	R 91
23	U R 79	75	71	62	48	45	51	88	77	67	71	74	82	105	112	102	101	97	113	120	96	77	69	68
24	70	65	61	56	54	54	77	70	69	80	85	90	93	112	123	134	137	126	140	R 145	134	89	80	81
25	74	71	70	64	56	46	51	74	94	90	76	86	110	131	138	140	138	127	131	134	120	100	99	99
26	91	81	R 79	73	62	47	52	86	82	82	75	77	92	109	115	110	113	128	R 141	143	127	R 90	82	88
27	87	93	97	88	J R 76	68	83	84	62	74	79	85	106	124	130	128	122	115	116	123	114	A	71	71
28	69	72	68	F 57	F 54	F 57	61	A	R 56	84	82	75	85	90	84	100	104	98	84	68	66	61	61	V 64
29	67	63	61	53	52	51	50	58	H 79	69	71	80	78	97	97	95	94	108	104	99	85	73	58	54
30	54	54	54	53	47	42	40	58	75	70	69	71	92	105	103	100	99	102	92	88	70	68	72	70
31	68	69	72	58	54	45	50	64	68	70	74	82	86	102	111	116	128	133	123	119	126	114	90	88
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	31	30	31	31	31	31	30	30	30	28	28	30	29	31	30	31	31	31	31	31	30	31	31
MED	74	72	70	64	56	53	57	72	74	72	74	78	85	96	99	101	104	111	110	108	91	82	73	72
U Q	84	82	79	73	62	58	66	81	81	76	77	84	92	104	112	114	121	126	125	123	108	89	82	84
L Q	64	62	62	56	54	45	50	67	68	69	70	73	79	88	94	94	98	99	101	95	84	73	69	65

IONOSPHERIC DATA STATION Okinawa

AUG. 2014 foF1 (0.01MHz) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.26°41.0'N LON.128°09.0'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1									UL 480	UL 524	A	A	A	UA 560	532	548	508	A	L 436					
2									A	L	UA 552	A	A	A	A	UA 552	556	A	A					
3								L	L	UL 524	528	512	A	A	A	A	A	A	A	L				
4							L	L	L		L 536	UL 544	L 544	L 556	532	552	UA 524	UL 480	L					
5								L	L	UL 492	L 548	A	552	A	536	516	520	UL 500	L					
6								L	L	UL 500	L	532	544	532	516	L 524	496	L 480	UL 440					
7										U L 500	UL 524	UL 532	508	UL 524	520	492	UL 508	A	L					
8									L	UL 528	L	A	UA 536	A	532	UL 552	L 524	L 464	A					
9									UL 424		UL 500	L 552	524	A	UL 536	L 512	UR 504	L 488	A					
10							L	L	L	L	L	UL 548	516	512	516	500	A	448	L					
11									L	UL 476	UL 472	492	516	A	A	480	468	452	UA 392	L				
12								L	A	492	500	UL 524	512	504	A	500	476	444	L					
13									L	UL 472	484	480	532	504	516	480	UA 488	A	A					
14								A	L	L	488	L 524	L 496	UA 508	512	UL 496	UA 488	440	UL 416					
15								L	L 428	L 456	UL 516	UA 496	520	UL 520	480	484	476	A	A					
16								L	L 436	452	A	516	R 484	500	520	500	480	444	L					
17									A	A	A	A	A	A	A	A	A	A	A					
18								L	L	UL 492	L 488	UL 524	496	500	L 508	508	484	444	L					
19								L	A	L	A	A	UL 540	500	UA 528	A	A	452	L					
20									L		516	504	548	A	516	A	476	A	A					
21								A	L	L	L	L 548	556	532	528	504	UL 476	UL 460	A					
22									A	A	A	A	524	532	520	UL 516	L 496	L	A					
23									L	L	L	UL 544	540	524	520	UA 496	UL 504	A	A					
24										UL 508	UL 536	UL 536	UL 596	532	L 548	536	504	L 480	L					
25								L	L	L		L	UL 568	L 540	528	UA 512	A	L	L					
26								L	L	L	A	L	UL 560	L 536	540	L 544	L 508	480	A					
27										A	A	UL 548	L 556	A	A	A	A	L	L					
28								A	464	480	496	UL 520	528	L 528	516	L 516	484	L	L					
29									L	UL 480	488	A	A	L	A	A	A	L	A					
30									L	A	A	UL 600	UL 512	UL 532	UL 544	UL 532	A	L						
31									UL 372	L	UL 484	L 544	L	A	A	UL 528	UL 488	L 464						
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT									6	15	17	21	25	20	23	25	23	16	4					
MED									L 432	UL 492	L 500	UL 532	532	526	520	512	496	462	UL 426					
U Q									464	UL 508	L 532	UL 546	L 550	L 532	532	534	L 508	L 480	L 438					
L Q									UL 424	L 476	488	514	514	506	516	498	480	446	U 404					

AUG. 2014 foF1 (0.01MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Okinawa

AUG. 2014 foE (0.01MHz) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.26°41.0'N LON.128°09.0'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1							A	276	324	300	U A 376	A	B	A	R 412	A	R 364	U A 320	A	A				
2							A	280	A	R 356	A	B	B	B	B	A	A	A	A	A				
3							A	264	316	R 368	U R 360	B	B	B	B	392	R 376	U A 332	A	A				
4							A	A	A	A	R 384	B	444	424	A	R 396	360	320	U A 240	A				
5							A	260	308	356	B	B	B	B	B	U A 392	360	A	A	A				
6							A	264	304	U R 348	U R 364	R	U R 396	U R 396	R	392	360	316	260	A				
7							A	A	A	A	A	A	A	A	R 408	A	A	A	252	180				
8							A	244	A	344	A	A	A	A	A	A	U A 356	A	A	A				
9							A	A	A	A	364	R	A	A	A	A	U A 360	U A 324	A	A				
10							A	A	A	A	A	A	R	A	U R 396	U R 388	336	304	A	A				
11							A	216	292	U A 352	R	U R 364	R 400	R 396	R 384	U A 376	A	308	A	B				
12							A	A	U A 280	A	A	R	U R 396	U R 420	A	A	A	A	244	A				
13							A	232	292	328	A	U R 356	U R 348	B	B	B	328	U A 284	A	A				
14							A	A	A	A	A	U R 384	U R 420	R 396	U A 392	A	U A 336	304	228	B				
15							A	U A 224	U A 288	A	A	A	A	U R 408	U A 360	348	336	284	A	A				
16							A	R 228	A	A	A	A	A	A	A	360	R 320	296	A	A				
17							A	U A 256	308	U A 332	352	A	B	B	B	A	A	A	A	A				
18							A	A	A	A	A	A	A	A	A	A	A	A	A	A				
19							A	228	296	324	348	A	A	R	R 388	A	A	A	228	B				
20							A	A	A	332	R	B	A	A	A	U A 364	332	U A 296	A	A				
21							A	A	300	328	A	R 408	A	B	U R 396	R 372	340	296	232	A				
22							A	224	U A 296	U A 324	A	A	A	A	A	A	348	296	A	A				
23							A	256	304	332	R 352	B	B	424	U R 400	B	344	304	U A 232	A				
24							B	248	R 284	U R 340	B	R 396	400	B	B	B 380	R 380	312	240	A				
25							A	256	A	332	U A 380	A	A	R 440	R 416	396	356	304	U A 192	A				
26							B	236	292	R	R 348	A	A	A	A	A	A	A	220	A				
27							B	U A 240	U A 348	R 320	A	A	A	A	A	A	A	A	A	A				
28							A	252	A	324	A	B	B	U R 412	B	U R 396	A	A	216	B				
29							B	A	A	A	A	A	A	A	A	A	A	A	A	A				
30							A	256	U A 284	336	U R 372	A	A	A	A	A	A	A	A	A				
31							B	240	304	R 316	R 360	B	B	B	368	A	336	288	212	A				
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT								21	18	20	12	5	7	9	11	13	20	18	13	1				
MED								248	298	332	R 362	U R 384	U R 400	R 412	R 396	R 388	346	304	232	180				
U Q								258	308	346	U 374	R 402	420	424	R 408	394	360	U A 316	242					
L Q								230	U A 292	324	352	U R 360	U R 396	R 396	384	368	336	296	218					

AUG. 2014 foE (0.01MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Okinawa

AUG. 2014 foEs (0.1MHz) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.26°41.0′N LON.128°09.0′E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	J A 46	J A 18	E B 13	J A 20	J A 32	J A 32	J A 30	35	J A 64	J A 47	J A 143	J A 150	J A 58	J A 103	46	J A 51	45	J A 64	J A 45	J A 70	J A 47	J A 43	J A 65	J A 64
2	J A 60	J A 69	J A 80	J A 65	J A 36	J A 20	J A 47	31	J A 84	J A 48	J A 55	J A 87	J A 70	J A 120	J A 60	J A 58	J A 42	J A 97	J A 144	J A 76	J A 62	J A 32	J A 36	J A 54
3	J A 29	J A 20	E B 13	J A 22	J A 19	E B 13	20	31	38	J A 46	G	E B 42	J A 96	J A 72	J A 83	J A 103	J A 73	J A 91	J A 45	J A 28	J A 39	J A 33	J A 23	19
4	J A 45	J A 38	J A 24	J A 56	J A 49	20	J A 22	J A 45	J A 39	39	G	E B 44	G	47	45	G	J A J 55	A 58	J A 44	J A 28	21	E B 13	E B 13	J A 20
5	E B 13	E B 13	E B 13	20	E B 13	E B 13	18	G	35	43	E B 42	J A 62	47	J A 88	48	43	J A J 49	A 64	J A 30	J A 32	J A 32	J A 44	J A 20	J A 20
6	J A 22	J A 19	21	20	J A 33	J A 36	J A 31	G 24	34	G	J A 47	43	44	42	G 26	44	J A J 52	A 50	J A 33	J A 58	J A 63	J A 82	J A 40	20
7	J A 24	J A 26	E B 13	22	E B 13	J A 33	J A 21	J A 31	32	J A 40	J A 64	J A 48	J A 43	J A 44	45	J A 49	J A J 51	A 55	32	J A 21	J A 31	J A 31	22	20
8	E B 13	E B 13	18	E B 13	19	19	J A 18	28	J A 40	41	45	J A 75	J A 58	J A 86	J A 48	J A 61	J A J 53	A 60	J A 57	J A 31	J A 44	21	J A 20	J A 26
9	J A 34	J A 22	J A 18	J A 20	J A 20	J A 20	J A 24	J A 46	J A 49	J A 49	J A 37	G 36	49	J A 64	J A 44	J A 43	J A J 48	A 86	J A 58	J A 42	J A 82	J A 52	J A 46	J A 49
10	J A 44	J A 25	20	18	E B 13	20	J A 21	J A 39	J A 48	J A 50	80	39	G	J A 46	J A 64	J A 61	J A J 87	A 90	J A 43	J A 41	J A 119	J A 107	28	J A 49
11	J A 46	J A 38	J A 22	22	J A 21	J A 19	20	29	36	42	G	G 30	J A 52	J A 121	J A 106	J A 70	J A 64	G	J A 41	E B 16	J A 49	44	E B 13	E B 13
12	E B 13	J A J 52	A 27	22	J A 36	J A J 27	A 26	J A 35	J A 50	J A 46	J A 48	G 34	44	46	J A J 78	A 49	39	J A 40	32	J A 30	J A 24	J A 21	J A 48	J A 32
13	J A 20	J A 56	J A 52	J A 49	J A 26	J A 29	20	J A 44	34	J A 52	J A 48	G	G	49	51	43	J A J 52	A 72	J A 56	J A 41	J A 40	J A 60	J A 68	J A 27
14	J A 28	J A 53	J A 22	J A 45	J A 19	20	J A 38	J A 50	J A 40	J A 44	41	G	46	J A 51	48	45	J A 55	34	27	E B 14	J A 32	J A 56	J A 47	J A 48
15	J A 54	J A 60	J A 30	J A 18	J A 22	20	J A 28	28	J A 40	J A 46	J A 50	J A 55	46	43	41	G	38	J A 50	J A 56	J A 35	J A 56	20	J A 30	J A 46
16	J A 37	J A 22	J A 51	J A 42	J A 29	J A 19	J A 18	28	J A 42	J A 49	J A 73	J A 52	41	J A 60	J A 44	G	G	J A 46	J A 36	J A 25	J A 34	19	J A 21	J A 39
17	J A 34	J A 38	J A 42	J A 31	J A 32	J A 28	J A 24	J A 40	J A 49	J A 65	J A 96	J A 74	J A 87	J A 175	J A 143	J A 106	J A 79	J A 73	J A 148	J A 87	J A 35	J A 38	J A 31	J A 26
18	28	J A 20	J A 21	J A 38	J A 48	J A 48	J A 51	J A 47	J A 45	J A 41	39	42	46	45	43	40	J A J 43	A 32	J A 32	J A 26	21	J A 16	J A 16	J A 30
19	J A 49	J A 37		E B 13	J A 20	J A 19	J A 24	J A 46	J A 62	J A 45	J A 64	J A 64	46	G	J A 56	J A 54	J A J 63	A 39	G	E B 17	E B 13	18	E B 13	E B 13	
20	J A 23	J A J 49	A 48	J A 27	J A 22	J A 23	J A 24	J A 58	J A 40	40	G	E B 42	48	J A 58	45	J A 68	40	J A 89	J A 58	J A 46	J A 52	J A 49	J A 59	J A 72
21	J A 70	J A 38	J A 21	J A 24	J A 17	J A 20	20	J A 47	J A 49	40	J A 77	J A 80	46	E B 45	G	42	J A J 45	A 50	J A 71	J A 86	J A 78	J A 83	J A 20	J A 65
22	J A 54	J A 38	J A 20	J A 24	J A 49	J A 26	J A 21	J A 52	J A 108	J A 134	J A 112	J A 149	J A 47	J A 55	42	43	39	38	J A 49	J A 62	J A 71	J A 48	J A 22	J A 25
23	J A 34	J A J 24	A 33	J A 23	J A 26	J A 28	J A 25	G 20	33	38	G	E B 42	E B 44	45	43	51	41	J A 51	J A 46	J A 43	J A 44	J A 51	J A 33	J A 29
24	J A 22	J A 31	20	J A 24	J A 16	E B 19	E B 14	28	G	G	E B 41	44	45	43	46	43	G	34	32	J A 42	J A 45	J A 49	J A 39	19
25	J A 22	J A E 32	B 13	J A 32	J A 27	J A 20	J A 22	30	J A 43	J A 45	48	47	47	47	48	52	J A J 72	A 42	29	J A 82	J A 35	J A 27	J A 29	J A 49
26	J A 20	E B 13	J A 20	E B 13	E B 13	E B 13	G	28	36	42	J A 50	J A 57	J A 51	J A 88	48	J A 50	J A J 54	A 59	J A 54	J A 84	J A 48	J A 18	J A 18	J A 32
27	J A 44	J A J 52	A 40	J A E 31	B 13	J A 16	17	28	J A 47	J A 67	J A 96	J A 60	J A 55	J A 71	54	J A 72	J A J 55	A 54	J A 61	J A 48	J A 64	J A 111	J A 64	J A 48
28	J A 36	J A 40	J A 47	J A 25	18	18	J A 40	J A 54	J A 58	J A 56	J A 45	E B 43	47	44	48	44	42	36	G	E B 14	J A 22	J A 22	J A 50	J A 37
29	J A J 34	A 21	J A 22	24	E B 13	E B 13	E B 13	J A 39	J A 40	J A 43	J A 47	J A 72	J A 62	J A 124	J A 54	J A 60	J A J 55	A 44	J A 57	J A 37	J A 41	22	20	E B 13
30	E B 13	J A 20	J A 64	J A 24	J A 39	J A 22	J A 21	J A 71	J A 46	J A 88	J A 50	J A 104	J A 47	J A 51	J A 46	J A 76	J A J 54	A 48	J A 51	J A 48	J A 49	J A 32	J A 32	J A 30
31	J A 32	J A 19	20	E B 13	18	18	E B 14	G	G	G	45	45	J A 51	J A 59	J A 118	J A 87	J A 44	G 26	J A 24	J A 18	20	20	E B 13	E B 13
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	31	30	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31
MED	J A 34	J A 31	J A 22	J A 24	J A 21	J A 20	J A 21	J A 35	J A 40	J A 45	J A 48	47	47	J A 51	48	J A 50	J A J 51	A 50	J A 45	J A 41	J A 44	J A 33	J A 29	J A 30
U Q	J A 45	J A 40	J A 40	J A 31	J A 32	J A 27	J A 26	J A 46	J A 49	J A 49	J A 64	J A 72	J A 52	J A 86	J A 56	J A 61	J A J 55	A 64	J A 57	J A 58	J A 56	J A 51	J A 46	J A 48
L Q	22	J A 20	E B 20	20	E B 17	19	18	28	36	40	G 41	G 42	44	45	44	43	42	39	32	26	32	21	20	20

AUG. 2014 foEs (0.1MHz)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Okinawa

AUG. 2014 fbEs (0.1MHz) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.26°41.0'N LON.128°09.0'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	31	E B 13	E B 13	E B 13	20	17	22	31	38	41	A A 143	A A 150	57	56	45	50	42	58	32	19	E B 13	18	30	30
2	36	31	51	39	E B 13	E B 13	19	29	75	46	55	69	61	62	60	55	40	85	81	27	32	24	25	20
3	22	E B 13	E B 13	E B 13	E B 13	E B 13		28	35	41	G	E B 42	76	71	82	A A 103	66	83	41	20	20	16	E B 13	E B 13
4	18	18	E B 14	32	20	E B 13	20	30	33	38	G	E B 44	G	46	43	G	52	45	29	20	E B 13	E B 13	E B 13	E B 13
5	E B 13	E B 13	E B 13	E B 13	E B 13	E B 13	18	G	34	42	E B 42	61	45	A A 88	45	41	44	42	27	18	21	30	E B 13	E B 13
6	18	E B 13	E B 13	E B 13	E B 13	19	23	G 18	34	G	46	42	43	42	U G 26	43	45	43	28	42	E B 14	42	22	E B 13
7	18	20	E B 13	E B 13	E B 13	E B 13	16	26	32	40	40	46	43	42	44	48	44	53	32	G 14	E B 13	19	E B 13	E B 13
8	E B 13	E B 13	E B 13	E B 13	E B 13	E B 13	16	28	34	40	44	72	54	63	44	46	41	41	46	23	22	E B 13	E B 13	22
9	20	E B 13	E B 13	E B 13	E B 13	E B 13	18	31	32	36	G 30	U G 36	45	64	42	40	47	39	52	24	14	19	30	E B 13
10	26	E B 13	E B 13	E B 13	E B 13	E B 13	14	30	34	40	44	U Y 39	G	41	48	44	69	36	32	26	28	28	E B 13	E B 13
11	30	23	18	20	17	E B 13	19	28	34	40	G	G 30	46	67	65	40	40	G	39	E B 16	38	22	E B 13	E B 13
12	E B 13	24	E B 13	E B 13	24	20	16	31	46	43	42	U G 34	44	45	62	45	37	35	28	23	16	E B 13	E B 13	E B 13
13	E B 13	30	21	19	20	20	18	38	33	40	46	G	G	48	50	41	49	68	54	37	32	22	35	26
14	22	31	18	21	E B 13	E B 13	21	40	34	39	41	G	45	51	46	44	49	33	24	E B 14	21	22	E B 13	31
15	31	20	E B 13	E B 13	E B 13	E B 14	17	26	36	37	39	50	44	43	41	G	38	44	39	31	49	E B 13	E B 13	28
16	30	16	32	20	20	E B 13	15	27	33	38	60	41	41	45	40	G	G	39	30	23	19	E B 13	E B 13	16
17	32	21	24	20	22	20	16	27	43	59	A A 96	A A 74	A A 87	A A 175	63	58	63	62	116	57	22	19	17	19
18	22	E B 13	E B 13	E B 13	E B 13	E B 13	26	26	32	38	39	41	45	44	42	40	38	31	29	22	E B 13	E B 13	E B 13	20
19	24	21		E B 13	E B 13	E B 13	19	34	57	42	61	63	45	G	53	53	63	31	G	E B 17	E B 13	E B 13	E B 13	E B 13
20	16	28	26	21	18	20	21	48	35	40	U G 32	E B 42	46	58	45	63	39	85	43	34	26	29	31	34
21	40	E B 13	E B 13	19	E B 13	E B 13	15	38	37	40	48	47	46	E B 45	G	40	41	39	65	85	68	45	E B 13	20
22	21	28	E B 13	17	19	20	18	38	A A 108	A A 134	A A 112	A A 149	45	50	42	42	39	34	39	49	29	21	19	20
23	19	20	26	19	E B 13	E B 13	20	G 16	32	38	G	E B 42	E B 44	44	42	50	40	46	44	42	31	29	19	E B 13
24	E B 13	E B 13	E B 13	17	E B 13	E B 13	E B 14	27	G	G	E B 41	43	43	42	46	42	G	33	30	39	24	38	20	E B 13
25	21	21	E B 13	21	19	E B 13	15	29	36	42	46	46	45	47	48	51	68	36	28	42	23	E B 13	23	20
26	E B 13	E B 13	E B 13	E B 13	E B 13	E B 13	G	27	35	41	47	56	48	44	43	41	40	33	52	38	29	E B 13	E B 13	18
27	20	29	29	23	E B 13	E B 13	E B 14	26	G 28	62	54	44	46	57	54	69	55	37	26	17	34	A A 111	38	19
28	20	E B 13	24	20	E B 13	E B 13	27	A A 54	41	40	40	E B 43	47	44	46	42	38	33	G	E B 14	E B 13	E B 13	E B 13	28
29	24	E B 13	15	19	E B 13	E B 13	E B 13	32	32	42	40	52	58	49	53	56	54	32	37	30	31	E B 13	E B 13	E B 13
30	E B 13	E B 13	32	E B 13	E B 13	21	17	G 20	40	52	50	54	45	42	45	46	50	33	32	42	22	22	26	E B 13
31	E B 13	E B 13	E B 13	E B 13	E B 13	E B 13	E B 14	G	G	G	43	44	50	58	68	43	41	G 20	22	16	E B 14	E B 13	E B 13	E B 13
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	31	30	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31
MED	20	16	E B 13	17	E B 13	E B 13	18	28	34	40	43	44	45	47	45	44	42	39	32	24	22	19	E B 13	16
U Q	26	23	24	20	19	17	20	32	38	42	50	56	48	58	53	51	52	46	44	39	31	28	23	20
L Q	E B 13	E B 13	E B 13	E B 13	E B 13	E B 13	15	G 26	32	38	G 39	G 41	44	44	42	41	39	33	28	18	E B 14	E B 13	E B 13	E B 13

IONOSPHERIC DATA STATION Okinawa

AUG. 2014 fmin (0.1MHz) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.26°41.0′N LON.128°09.0′E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	14	13	13	13	13	13	13	16	16	15	31	24	39	30	33	30	25	14	14	14	13	13	13	13
2	13	13	13	13	13	13	14	16	20	24	36	40	42	40	41	29	22	16	16	14	13	13	13	13
3	13	13	13	13	13	13	14	14	18	21	30	42	42	43	43	33	32	21	15	14	13	13	13	13
4	13	13	14	13	13	13	14	14	19	24	32	44	42	30	24	31	14	15	14	14	13	13	13	13
5	13	13	13	13	13	13	14	16	14	20	42	42	42	44	41	25	25	21	15	14	13	13	13	13
6	13	13	13	13	13	13	13	13	14	15	21	22	25	32	23	21	21	14	14	14	14	13	14	13
7	13	13	13	13	13	13	13	14	20	24	24	31	30	39	30	22	30	21	17	14	13	13	13	13
8	13	13	13	13	13	13	13	14	18	20	31	22	24	20	24	20	17	14	14	13	13	13	13	13
9	13	13	13	13	13	13	13	15	15	20	23	30	31	32	30	24	20	18	13	14	13	13	13	13
10	13	13	13	13	13	13	13	14	14	21	21	24	29	23	24	22	17	16	14	14	14	13	13	13
11	13	13	13	13	13	13	14	14	13	16	23	24	32	32	31	22	18	18	15	16	13	13	13	13
12	13	13	13	13	13	13	14	14	14	14	20	24	22	26	22	20	15	15	13	13	13	13	13	13
13	13	13	13	13	13	13	13	14	17	22	24	25	26	42	41	39	22	17	14	14	13	13	13	13
14	14	13	13	13	13	13	14	14	14	14	24	27	24	32	30	21	18	14	14	14	13	13	13	13
15	13	13	13	13	13	14	13	14	14	16	21	24	24	30	26	22	16	17	16	14	14	13	13	13
16	13	13	13	13	13	13	14	14	16	20	20	23	32	29	20	21	18	14	13	13	13	13	13	13
17	13	14	13	13	13	13	14	14	19	22	22	22	40	40	35	21	22	17	17	14	13	13	13	13
18	13	13	13	13	13	13	13	14	14	21	22	24	30	32	23	22	20	16	13	13	13	13	13	13
19	13	13		13	13	13	13	14	15	16	24	24	40	31	31	38	20	18	16	17	13	13	13	13
20	13	13	14	13	13	13	13	14	14	17	22	42	41	40	40	24	21	16	15	14	13	13	13	13
21	13	13	13	13	13	13	13	14	15	22	31	31	40	45	22	29	21	15	13	14	13	13	13	13
22	13	13	13	13	13	13	14	14	16	21	24	33	36	23	20	21	19	14	13	13	13	13	13	13
23	13	13	13	13	13	13	13	13	16	16	20	42	44	41	32	39	21	14	14	14	13	13	13	13
24	13	13	13	13	13	13	14	14	14	24	41	32	32	41	42	24	20	20	14	14	13	13	13	13
25	13	13	13	13	13	13	13	14	14	14	20	41	42	32	34	24	20	14	14	14	13	13	13	13
26	13	13	13	13	13	13	14	14	13	20	24	26	38	35	30	24	22	14	14	14	13	13	13	13
27	13	13	13	13	13	13	14	15	16	18	24	32	35	41	32	28	20	17	14	14	13	13	13	13
28	13	13	13	13	13	13	13	14	18	20	20	43	43	30	42	24	20	17	15	14	13	13	13	13
29	13	13	13	14	13	13	13	14	14	18	21	38	38	32	34	24	21	15	13	13	13	13	13	13
30	13	13	13	13	13	13	13	14	16	22	21	23	31	24	32	23	20	14	14	14	13	13	13	13
31	13	13	13	13	13	13	14	14	14	15	23	42	41	40	21	36	21	14	14	14	14	13	13	13
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	31	30	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31
MED	13	13	13	13	13	13	13	14	15	20	23	30	36	32	31	24	20	16	14	14	13	13	13	13
U Q	13	13	13	13	13	13	14	14	17	22	30	41	41	40	35	29	22	17	15	14	13	13	13	13
L Q	13	13	13	13	13	13	13	14	14	16	21	24	30	30	24	22	18	14	14	14	13	13	13	13

IONOSPHERIC DATA STATION Okinawa

AUG. 2014 M(3000)F2 (0.01) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.26°41.0'N LON.128°09.0'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	287	282	296	312	324	316	320	332	347	353	A	A	269	284	285	292	293	281	296	287	294	295	273	R 272
2	F 275	R 304	281	F 275	F 286	275	293	307	323	323	311	284	286	287	280	277	259	271	289	310	295	J R 262	264	257
3	287	279	283	275	273	305	336	362	335	289	275	298	273	278	280	A	277	J R 279	286	311	312	292	292	280
4	293	298	286	294	F 289	F 276	296	366	366	307	309	297	302	292	274	264	273	275	295	298	284	268	266	280
5	306	289	303	325	290	293	314	346	336	314	289	305	316	A	293	280	288	285	289	318	302	276	271	266
6	283	289	304	309	326	276	267	312	336	339	296	314	277	288	301	283	280	277	301	296	292	276	268	276
7	276	292	311	309	302	309	326	342	333	327	309	275	284	297	289	293	294	279	283	298	301	300	274	270
8	280	271	291	306	291	297	327	332	338	295	290	276	296	286	282	283	295	299	302	324	290	302	270	268
9	284	Z 284	F 306	F 323	312	320	328	326	332	287	298	272	286	285	277	J R 295	293	300	313	339	320	309	276	270
10	290	296	309	314	310	307	326	333	339	301	321	R 285	291	286	276	282	299	312	313	336	305	303	281	292
11	273	F 271	F 283	F 292	F 290	F 296	379	371	379	328	370	295	290	276	281	297	302	306	329	313	302	307	294	293
12	285	F 306	F 310	F 278	F 281	F 312	341	348	320	328	315	290	255	273	299	302	301	316	306	325	316	320	277	314
13	297	280	F 261	F 276	295	F 297	348	387	349	333	347	342	259	280	285	R 278	R 307	U R 341	R 348	328	297	314	277	279
14	F 259	F 298	F 313	F 290	F 297	F 312	F 297	333	349	332	333	296	304	300	301	293	285	297	292	305	333	327	328	306
15	305	299	317	F 298	F 313	316	316	355	365	341	J R 306	321	302	282	295	282	292	319	315	331	322	R 303	289	283
16	289	304	F 308	320	340	311	320	351	369	350	326	311	303	298	281	287	298	316	318	336	369	301	295	296
17	R 279	287	317	F 340	F 282	F 293	F 328	351	355	344	A	A	A	A	274	304	J R 311	303	U R 318	333	R 320	299	273	282
18	293	275	290	304	326	303	315	342	352	338	327	296	280	300	290	279	290	311	310	335	344	304	289	284
19	305	297		299	314	322	F 314	351	374	356	324	309	279	301	314	306	286	321	321	304	309	309	302	293
20	U R 295	F 293	F 295	F 316	F 328	F 294	F 287	369	387	336	317	336	289	290	293	299	310	325	335	324	319	299	R 273	259
21	284	296	302	315	316	295	319	339	349	354	306	312	268	275	296	304	316	316	317	A 314	307	303	277	F 274
22	F 274	F 293	315	330	284	286	347	370	A	A	A	A	304	299	302	302	315	300	313	327	338	293	277	R 268
23	U R 292	301	333	329	304	287	317	375	377	348	332	324	291	301	316	308	312	287	306	326	319	299	287	293
24	301	306	304	298	285	303	355	373	344	325	325	308	281	293	299	294	307	300	313	R 340	332	318	288	279
25	281	290	301	310	321	315	325	349	361	340	309	258	277	291	301	305	304	307	320	322	330	295	290	287
26	285	287	R 302	313	352	318	328	359	348	344	326	272	273	285	288	285	285	294	R 320	345	325	R 282	285	281
27	283	298	312	310	J R 307	328	340	398	342	324	314	270	265	286	295	290	288	291	287	317	339	A	278	280
28	267	276	302	F 264	F 257	F 269	286	A	R 265	310	317	327	288	314	283	292	304	314	322	294	283	273	260	V 261
29	282	288	306	275	264	271	305	345	H 328	330	327	308	291	309	309	293	297	311	322	330	320	288	270	272
30	269	271	277	316	311	346	359	328	357	331	332	272	293	314	293	289	292	307	319	316	304	273	279	274
31	272	279	314	310	327	310	309	356	357	336	327	311	295	286	298	294	304	312	328	314	325	330	288	282
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	31	30	31	31	31	31	30	30	30	28	28	30	29	31	30	31	31	31	31	31	30	31	31
MED	284	290	304	309	304	303	320	350	348	332	317	298	287	288	293	292	295	303	313	322	316	300	277	280
U Q	293	298	311	316	321	315	336	366	361	341	327	312	295	300	299	299	304	314	320	331	325	307	289	287
L Q	276	280	291	F 292	286	293	309	333	336	323	308	280	277	284	281	283	288	287	296	310	301	288	273	270

AUG. 2014 M(3000)F2 (0.01)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

IONOSPHERIC DATA STATION Okinawa

AUG. 2014 M(3000)F1 (0.01) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.26°41.0'N LON.128°09.0'E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1									U L 376	U L 375	A	A	A	A	383	A 336	370	A	L 348					
2									A	L	A	A	A	A	A	A	332	A	A					
3								L	L	U L 359	394	442	A	A	A	A	A	A	A	L				
4							L	L	L		L 366	U L 374	L 384	L 344	382	349	A	A	L					
5								L	L	U L 394	H 380	A	357	A	361	367	L 333	U L 338	L					
6								L	L	U L 376	L	373	379	393	408	L 358	A 351	A	U L 359					
7										U L 365	U L 377	U L 391	414	U L 389	371	A	U L 347	A	L					
8									L	U L 368	L	A	A	A	391	U L 326	L 343	L 361	A					
9									U L 386		U L 397	L 354	372	A	U L 361	L 370	U R 392	L 341	A					
10							L	L	L	L	L	U L 344	401	390	A	A 364	A	355	L					
11									L	U L 394	U L 406	405	334	A	A	398	359	350	A	L				
12								L	A	361	405	U L 395	369	353	A	A 330	368	355	L					
13									L	U L 391	A	418	388	A	A	379	A	A	A					
14								A	L	L	386	L 375	A 367	A	A 343	A 362	A	355	U L 347					
15								L	L 412	L 396	U L 375	A	390	U L 366	409	387	353	A	A					
16								L	L 393	402	A	396	R 410	414	376	367	H 355	348	L					
17									A	A	A	A	A	A	A	A	A	A	A					
18								L	L	U L 375	L 403	U L 391	413	427	L 366	348	356	H 363	L					
19								L	A	L	A	A	U L 372	415	A	A	A	356	L					
20									L		397	388	356	A	368	A	362	A	A					
21								A	L	L	L	L 356	368	H 382	348	359	A 354	U L 351	A					
22									A	A	A	A	378	A	373	U L 353	L 354	L	A					
23									L	L	L	U L 373	372	385	379	A	U L 354	A	A					
24										U L 385	U L 366	U L 372	U L 345	386	A 349	346	356	L 343	L					
25								L	L	L		L	U L 358	L 371	A	A	A	L	L					
26								L	L	L	A	L	A 352	L 389	358	L 345	L 346	337	A					
27										A	A	U L 369	L 365	A	A	A	A	L	L					
28								A	348	373	389	U L 368	374	L 348	365	L 342	353	L	L					
29									L	U L 376	394	A	A	L	A	A	A	L	A					
30									L	A	A	U L 325	U L 390	U L 381	U L 344	U L 339	A	L						
31									U L 417	L	U L 405	L 384	L	A	A	U L 341	U L 344	L 361						
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT									6	15	15	20	24	16	19	21	20	14	3					
MED									L 390	U L 376	L 394	L 374	372	386	368	353	354	353	U L 348					
U Q									L 412	L 394	L 403	393	389	392	382	367	358	356	U L 359					
L Q									376	U L 368	U L 377	U L 368	362	L 368	358	L 342	L 346	L 343	U L 347					

AUG. 2014 M(3000)F1 (0.01)

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

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AUG. 2014 h′F2 (KM) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.26°41.0′N LON.128°09.0′E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1									258	262	A	A	378	346	334	332	320	A 326	306					
2									A 310	280	300	A 374	354	348	350	338	390	370	318					
3								222	250	324	378	324	E A 396	364	E A 382	A	346	A 356	292	262				
4							312	228	238		330	322	350	368	398	418	376	338	288					
5								238	246	260	386	326	316	A	352	360	326	316	296					
6								300	270	274	L 364	316	388	354	314	326	326	324	294					
7										284	316	392	358	322	336	320	302	294	308					
8									222	L 332	354	E A 386	318	330	332	334	314	278	284					
9									252		278	356	326	336	350	318	312	302	262					
10							236	260	270	276	274	354	338	316	348	344	314	274	278					
11									220	294	258	332	326	A 358	344	316	300	298	256	228				
12								248	256	288	294	348	392	358	304	304	300	284	288					
13									250	268	264	268	378	340	334	350	306	266	242					
14								242	250	252	274	354	324	310	310	322	328	302	296					
15								242	230	248	314	298	330	350	322	326	314	276	254					
16								242	230	250	A 302	328	320	332	354	340	314	280	260					
17									250	262	A	A	A	A	356	310	298	282	A 296					
18								236	236	270	278	344	374	318	320	346	328	282	264					
19								246	224	256	E A 322	E A 332	356	314	288	300	320	272	264					
20									218		312	288	384	336	320	306	300	278	246					
21								250	246	240	292	308	354	342	312	304	282	276	270					
22									A	A	A	A	302	312	302	292	282	274	264					
23									226	246	286	308	330	308	290	288	288	304	276					
24										286	284	292	344	320	310	310	288	292	276					
25								244	238	264		L 372	346	322	304	296	298	284	264					
26								238	246	250	254	L 390	358	336	324	328	326	314	262					
27										A 294	292	344	374	344	322	316	312	306	268					
28								A	434	308	264	278	358	296	352	328	304	270	232					
29									272	276	270	302	296	310	306	294	310	284	246					
30									242	A 250	256	416	344	292	316	316	310	276						
31									226	246	268	314	320	326	314	310	294	272						
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT							2	14	27	27	27	28	30	29	31	30	31	31	29	2				
MED							274	242	246	268	289	328	346	332	322	319	312	284	270	245				
U Q								248	256	286	316	355	374	347	350	334	326	306	293					
L Q								238	230	250	270	308	326	315	310	306	300	276	261					

AUG. 2014 h′F2 (KM)

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IONOSPHERIC DATA STATION Okinawa

AUG. 2014 h′F (KM) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.26°41.0′N LON.128°09.0′E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	268	256	250	236	236	220	232	208	198	A 218	A	A	A	A	218	E A 302	228	A	240	248	238	244	A 322	A 302
2	Q 322	A 274	E A 298	E A 302	280	272	248	242	A	258	A	A	A	A	A	A	218	A	A	260	238	A 262	308	312
3	270	268	248	256	282	252	248	216	204	204	188	164	A	A	A	A	A	A	A	250	232	228	256	244
4	270	252	262	A 296	278	278	256	230	214	202	196	198	208	E A 256	200	200	A	A	226	256	240	244	298	294
5	244	262	240	220	260	268	246	224	212	204	H 196	A	A 214	A	E A 238	216	A 258	A 274	220	244	232	A 268	286	318
6	284	268	248	228	210	280	E A 286	236	214	226	A 226	204	204	194	190	226	E A 276	A	242	262	238	298	298	286
7	296	266	226	236	252	236	230	220	214	208	202	202	194	192	216	A	E A 268	A	230	260	252	238	252	294
8	302	298	264	240	254	260	236	218	206	206	H 224	A	A	A	198	A 282	A 228	E A 262	A	244	232	220	228	306
9	280	268	Q 240	Q 230	Q 218	218	238	226	194	214	200	222	232	A	200	218	A 240	A 254	A	244	208	A 234	A 310	304
10	A 306	280	246	250	250	236	224	228	200	218	A 270	234	210	210	E A 334	E A 254	A	214	240	240	A 244	A 258	250	286
11	A 330	A 322	306	Q 288	Q 284	246	212	206	206	198	Y 210	194	E A 314	A	A	198	E A 244	208	A	224	A 252	244	224	264
12	278	278	252	292	A 296	248	242	228	A	E A 242	180	180	220	278	A	A	216	230	240	238	224	234	250	256
13	260	A 338	Q 348	A 324	A 296	A 272	238	208	204	A 228	A	188	196	A	A	224	A	A	A	216	208	232	E A 310	A 310
14	A 344	A 300	262	Q 264	Q 224	Q 246	252	A	234	214	206	202	E A 254	A	E A 286	E A 246	A	218	210	250	226	226	226	256
15	A 282	A 270	244	258	254	248	238	222	200	190	194	A	196	216	202	200	216	A	A	230	248	228	248	A 296
16	306	260	264	236	210	238	238	222	220	208	A	190	198	194	182	200	H 204	A 274	224	234	204	204	248	272
17	E A 304	298	266	230	E A 318	E A 294	230	230	A	A	A	A	A	A	A	A	A	A	A	236	208	210	A 270	270
18	288	290	276	246	228	240	252	218	212	196	192	188	206	186	234	228	212	H 212	224	234	206	208	248	272
19	268	264		218	232	240	248	236	A	246	A	A	A 216	188	A	A	A	212	232	244	238	222	216	272
20	262	A 286	A 290	236	216	A 282	A 268	216	220	210	192	196	A 240	A	238	A	220	A	A	236	218	258	A 314	A 326
21	320	272	254	248	234	254	252	A	226	208	A	E A 242	A 208	H 204	224	216	E A 248	A 254	A	E A 348	E A 348	A 288	276	Q 308
22	306	292	252	232	288	274	250	210	A	A	A	A	228	A	216	222	A 218	236	A	226	208	216	276	288
23	292	270	238	206	218	262	254	218	206	198	190	192	212	206	202	A	234	A	A	238	230	226	250	274
24	254	264	240	262	286	272	224	208	210	190	188	202	194	196	A 242	222	240	232	246	240	210	192	A 246	264
25	280	278	248	242	234	228	236	220	220	218	220	210	216	238	E A 284	A	A	236	236	244	214	200	262	274
26	266	276	256	242	206	224	252	230	206	218	A	E A 304	E A 252	190	A 216	222	232	228	A	224	206	180	254	286
27	276	270	244	232	230	236	226	206	206	A	A	208	A 218	A	A	A	A	240	238	248	212	A	A 310	278
28	310	282	292	A 286	332	Q 328	304	A	244	210	196	210	A 232	242	250	254	232	238	232	240	266	258	328	A 350
29	296	262	254	300	322	306	254	228	222	E A 232	208	A	A	A	A	A	A	236	A	238	234	208	280	302
30	306	288	320	230	232	216	232	222	A	A	A	E A 302	210	H 192	E A 252	E A 270	A	232	252	246	248	298	302	294
31	312	286	254	218	226	244	254	206	200	212	206	188	E A 302	A	A	E A 246	A 258	222	236	230	224	204	244	272
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	31	31	30	31	31	31	31	28	25	27	20	22	25	16	21	20	20	20	17	31	31	30	31	31
MED	286	274	254	241	243	248	244	221	210	209	198	198	211	198	210	220	226	233	236	240	231	230	259	286
U Q	306	288	266	264	284	272	252	228	220	A 218	209	210	E A 232	227	E A 246	E A 250	E A 246	A 247	240	248	240	258	A 302	304
L Q	270	266	246	230	226	236	232	213	204	204	192	190	205	192	201	216	218	220	225	234	210	210	248	272

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AUG. 2014 h′E (KM) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.26°41.0′N LON.128°09.0′E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1							A	A 110	106	102	108	A	B	A	108	A	108	106	A	A				
2							A	A 114	A	110	A	B	B	B	B	A	A	A	A	A				
3							A	110	108	108	108	B	B	B	B	112	114	114	A	A				
4							A	A	A	A	112	B	E B 144	106	A	108	110	110	108	A				
5							A	108	108	108	B	B	B	B	B	110	110	A	A	A				
6							A	110	110	106	106	A	106	108	A	108	108	106	108	A				
7							A	A	A	A	A	A	A	A	110	A	A	A	110	114				
8							A	106	A	106	A	A	A	A	A	A	108	A	A	A				
9							A	A	A	A	110	A	A	A	A	A	110	A	A	A				
10							A	A	A	A	A	A	106	A	106	110	108	108	A	A				
11							A	108	108	A	108	108	108	108	110	108	A	108	A	B				
12							A	A	108	A	A	A	A	A	A	A	A	A	106	A				
13							A	108	108	108	A	108	108	B	B	B	110	110	A	A				
14							A	A	A	A	A	110	108	108	A	A	110	110	110	B				
15							A	112	110	A	A	A	A	A	110	108	108	108	A	A				
16							A	A	A	A	A	A	A	A	A	108	108	108	A	A				
17							A	112	108	108	108	A	B	B	B	A	A	A	A	A				
18							A	A	A	A	A	A	A	A	A	A	A	A	A	A				
19							A	114	110	110	110	A	A	110	110	A	A	A	112	B				
20							A	A	A	A	A	B	A	A	A	110	110	108	A	A				
21							A	A	108	110	A	108	A	B	108	112	112	108	110	A				
22							A	108	108	108	A	A	A	A	A	A	112	108	A	A				
23							A	112	112	108	108	B	B	B 128	114	B	108	108	112	A				
24							B	110	106	106	B	110	110	B	B	110	110	110	110	A				
25							A	110	A	108	A	A	A	110	112	108	108	108	110	A				
26							B	110	108	108	104	A	A	A	A	A	A	A	A	A				
27							B	110	108	106	A	A	A	A	A	A	A	A	A	A				
28							A	106	A	108	A	B	B	112	B	110	A	A	110	B				
29							B	A	A	A	A	A	A	A	A	A	A	A	A	A				
30							A	110	110	106	106	A	A	A	A	A	112	A		A				
31							B	110	108	106	108	B	B	B	108	A	108	108	112	A				
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT								20	18	19	12	5	7	8	10	13	20	17	12	1				
MED								110	108	108	108	108	108	109	110	110	110	108	110	114				
U Q								111	110	108	109	110	110	111	110	110	110	110	111					
L Q								108	108	106	107	108	106	108	108	108	108	108	109					

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AUG. 2014 h′Es (KM) 135°E MEAN TIME (G.M.T. + 9 H)

LAT.26°41.0′N LON.128°09.0′E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	96	100	B	100	100	100	100	124	114	114	106	100	102	112	122	114	114	106	106	102	102	102	98	98
2	98	104	98	98	98	104	118	158	106	106	108	116	104	108	106	106	106	100	98	100	100	100	94	98
3	92	94	B	94	94	B	130	112	116	118	G	B	120	118	116	110	112	108	108	104	98	102	92	92
4	96	100	92	100	100	100	104	108	108	108	G	B	G	134	130	G	116	110	114	110	106	B	B	88
5	B	B	B	88	B	B	142	G	150	126	B	122	126	114	118	106	112	108	106	104	100	94	94	94
6	98	102	96	116	98	94	90	98	114	G	108	120	140	118	102	150	126	122	124	112	104	94	102	106
7	106	104	B	94	B	102	102	104	106	102	104	104	104	104	114	118	106	112	112	94	108	106	106	96
8	B	B	104	B	114	114	122	112	112	112	106	100	100	96	100	100	112	108	106	102	98	88	94	114
9	96	112	112	96	96	108	114	106	106	102	102	104	102	102	102	104	112	112	98	120	110	104	96	96
10	96	96	90	90	B	112	112	106	104	102	98	102	G	100	120	120	108	110	112	106	102	102	108	98
11	94	94	86	86	98	104	138	126	124	134	G	104	106	114	114	116	106	G	106	B	98	92	B	B
12	B	106	100	100	102	102	96	98	106	100	108	102	140	136	94	94	94	94	116	110	94	106	108	100
13	104	102	98	102	102	102	118	112	118	112	112	G	G	156	130	138	108	108	108	104	100	98	100	94
14	98	106	96	106	100	98	98	98	102	96	142	G	144	122	116	116	112	124	118	B	108	104	104	104
15	100	100	100	100	100	104	102	112	112	114	106	102	112	168	110	G	116	106	106	100	100	94	100	98
16	98	108	102	102	98	100	100	150	104	104	102	102	100	98	98	G	G	118	110	104	102	94	100	100
17	98	102	96	96	94	94	100	116	112	108	106	106	106	104	126	102	104	112	100	100	94	96	90	92
18	90	94	110	112	106	110	102	104	104	104	104	104	174	162	170	104	100	100	96	92	94	88	88	110
19	94	94		B	122	122	122	114	108	114	104	102	110	G	110	110	104	108	G	B	B	96	B	B
20	102	102	102	96	96	96	102	96	102	124	104	B	120	114	122	110	116	108	110	104	104	100	96	102
21	102	102	102	100	90	90	124	114	118	116	108	114	124	B	G	132	120	112	108	104	104	104	102	112
22	104	100	94	94	94	98	126	110	108	108	106	102	104	98	154	142	134	116	108	104	104	100	92	98
23	102	94	98	96	108	96	96	98	124	122	G	B	B	144	152	122	124	116	112	106	106	106	102	102
24	102	96	98	98	98	98	B	156	G	G	B	126	120	122	116	116	G	154	114	108	114	102	104	90
25	98	102	B	98	98	98	98	132	96	108	108	116	120	158	140	124	116	118	106	100	100	100	98	102
26	100	B	94	B	B	B	G	126	112	112	102	104	102	106	110	110	110	104	118	104	94	98	144	112
27	100	98	94	92	B	88	138	116	106	106	106	108	108	108	108	106	110	108	104	120	98	98	98	98
28	98	98	116	104	134	132	114	110	110	110	112	B	152	144	130	124	112	116	G	B	98	94	94	94
29	92	96	92	92	B	B	B	110	108	106	106	102	102	102	102	102	102	118	114	110	110	92	90	B
30	B	106	104	102	102	96	104	114	118	114	110	112	110	110	102	116	110	134	112	104	104	104	104	104
31	104	102	96	B	92	92	B	G	G	G	112	112	108	108	106	102	110	98	96	98	96	92	B	B
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT	27	28	25	27	25	27	27	29	29	28	25	24	27	29	30	28	29	30	29	27	30	30	27	27
MED	98	101	98	98	98	100	104	112	108	109	106	104	110	114	115	112	112	110	108	104	101	99	98	98
U Q	102	103	102	102	102	104	122	120	115	114	108	113	124	135	126	121	116	116	113	108	104	102	104	104
L Q	96	96	94	94	96	96	100	105	106	105	104	102	104	104	106	105	106	108	106	100	98	94	94	94

AUG. 2014 h′Es (KM)

IONOSPHERIC DATA STATION Okinawa

AUG. 2014 TYPES OF Es 135°E MEAN TIME (G.M.T. + 9 H)

LAT.26°41.0′N LON.128°09.0′E SWEEP 1.0MHz TO 30.0MHz IN 15.0SEC IN MANUAL SCALING

D \ H	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	F2	F3		FQ21	FQ21	F1	L3	C1	C1	C1	C4	C4	L1	CL12	C1	C1	C1	C2	C1	L3	F3	F4	F5	F3
2	F4	F5	F7	F4	F2	F1	CQ11	HL11	C2	C3	C1	CL12	L1	C2	C1	C2	C1	L6	LQ51	LQ31	FQ31	F2	FF34	F3
3	F3	F1		F2	F1		HC11	C1	C1	C1			C2	C2	C2	C3	C2	C5	C2	LC21	F3	FF12	F1	F1
4	F2	F3	F4	F5	F4	F1	L1	C1	C1	C1				H1	HL11		CL11	CL21	C2	C2	F1			F2
5				F2			HL11		HL11	CL11		C1	C1	C4	C1	C1	C1	C3	C2	L2	F3	F4	F1	F2
6	F2	F2	F1	F1	F3	F5	L3	L1	C1		C2	CL11	H1	C1	L1	HL11	C2	C2	C1	C3	FQ31	F3	FF22	F1
7	F3	F3		F1		F2	L1	L1	L1	L1	L1	L1	L1	L1	C1	CL11	C2	CL21	CL11	L1	F1	F3	F1	F2
8			F1		F1	F1	CL11	C1	C1	C1	C1	L2	L2	L3	L1	LQ21	CL21	CL31	C5	L5	F3	F2	F2	FF11
9	F2	F1	F1	F1	F1	F1	CQ11	C3	CQ11	L1	L1	L1	L1	L2	L1	L1	CL11	CL22	L5	CL13	FF31	FF31	F6	F6
10	F5	F2	F1	F1		F1	C1	C3	LQ21	L2	LQ21	L1		L1	C1	CL11	C3	C2	C2	C4	FQ31	F3	F1	F4
11	F3	FF21	F3	F2	F1	F1	H1	C1	CH11	HC11		L1	LC11	C3	C2	C1	C2		C2		F5	F2		
12		F3	F3	F1	F3	F3	LQ11	L3	CL21	L2	CL11	L1	HL11	H1	LQ31	L2	L1	L3	CL12	CL25	F4	FF22	F2	F2
13	FF11	F4	F3	FQ31	F4	F5	C1	C5	C1	C1	C1			H1	H1	H1	C2	C3	C6	L2	F7	F4	FF22	F2
14	FF11	FF32	FQ21	F2	F2	F1	L2	L4	LHQ21	LQ21	HL11		HL11	C1	CL11	CL11	C3	C1	C1		F8	F4	F2	F3
15	F6	F3	F3	F1	F3	F1	L2	CL11	CL11	C1	C1	L1	CL11	HL11	C1		C1	C2	C3	L2	F3	F1	F1	F3
16	F3	FF11	FQ31	FQ31	F4	F1	L1	HL11	L2	L2	L2	L1	L1	L1	L1			C2	CL11	L1	FF32	F1	F1	F2
17	F3	F3	F4	F2	F4	F2	L1	C1	C2	C3	C3	C3	C4	L5	CL23	L2	L4	C4	L5	L6	F4	F3	F2	F2
18	F2	F1	F1	F2	F2	F2	L4	L2	L2	L1	L1	L1	HL11	HL11	HL11	L1	L2	L2	L4	L3	F1	F3	F1	F1
19	F4	F3			F1	F1	C4	C2	C3	C1	L2	L2	C1		C1	C2	L2	L1				F1		
20	F3	FQ21	FF22	F2	F1	F1	L2	L4	LH21	CL12	L1		C1	C2	C1	C1	C1	C4	C2	L6	FQ51	F3	F4	F4
21	F4	F3	F1	F1	F1	F1	C1	C2	C1	C1	C1	C2	C1			H1	C1	C3	CL61	L3	F7	F5	F2	FF15
22	F4	F7	F2	F2	F3	FQ31	C3	C2	C5	C3	C3	L3	L1	L1	HL11	HL11	HL11	CL11	CL42	CL53	FF33	FF22	F2	F1
23	F2	F2	FF21	F1	FF12	F2	L3	L1	CL11	CL11				H1	H1	C1	C1	C2	C5	CL71	FF41	F3	F3	F4
24	F1	F3	F1	F3	F1	F1		H1				C1	C1	C1	C1	C1		H1	C1	C5	FF16	F5	F3	F1
25	F2	F2		F2	F4	F2	L3	HL11	L4	CL11	CL11	C1	C1	H1	H1	C2	C3	C1	C4	L5	F5	F3	F3	F3
26	F2		F1					C1	C1	C1	L1	L2	L1	L1	C1	C1	C1	L2	CL62	L5	F6	F1	F1	FF12
27	FQ31	F3	F2	F3		F2	H1	C1	C2	C2	CQ21	C1	C1	C1	C1	C2	C1	C1	CQ21	CL12	F3	F3	FQ31	F4
28	F3	F3	FF14	F3	F1	F1	C5	C2	C1	C1	CL11		H1	H1	H1	C1	C1	C1			F2	F2	F1	F3
29	F2	F1	F2	F1				C2	C1	C1	C1	L1	L1	L2	L1	L2	L4	CL12	CL32	CL32	FF63	F2	F1	
30		F1	F4	F3	F3	F1	L2	C2	C1	C2	C2	C1	C1	C1	L1	CL22	CL31	HL12	CL33	L7	F3	FF22	FF23	FF22
31	F2	F1	F1		F1	F1					C1	C1	C1	C1	CL21	L2	C1	L1	LC11	L1	F1	F1		
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
CNT																								
MED																								
U Q																								
L Q																								

AUG. 2014 TYPES OF Es

NATIONAL INSTITUTE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY, JAPAN

f-PLOTS OF IONOSPHERIC DATA

KEY OF f-PLOT	
	SPREAD
	foF2, foF1, foE
	fxF2
	DOUBTFUL foF2, foF1, foE
	fbEs
	ESTIMATED foF1
	fmin
	GREATER THAN
	LESS THAN

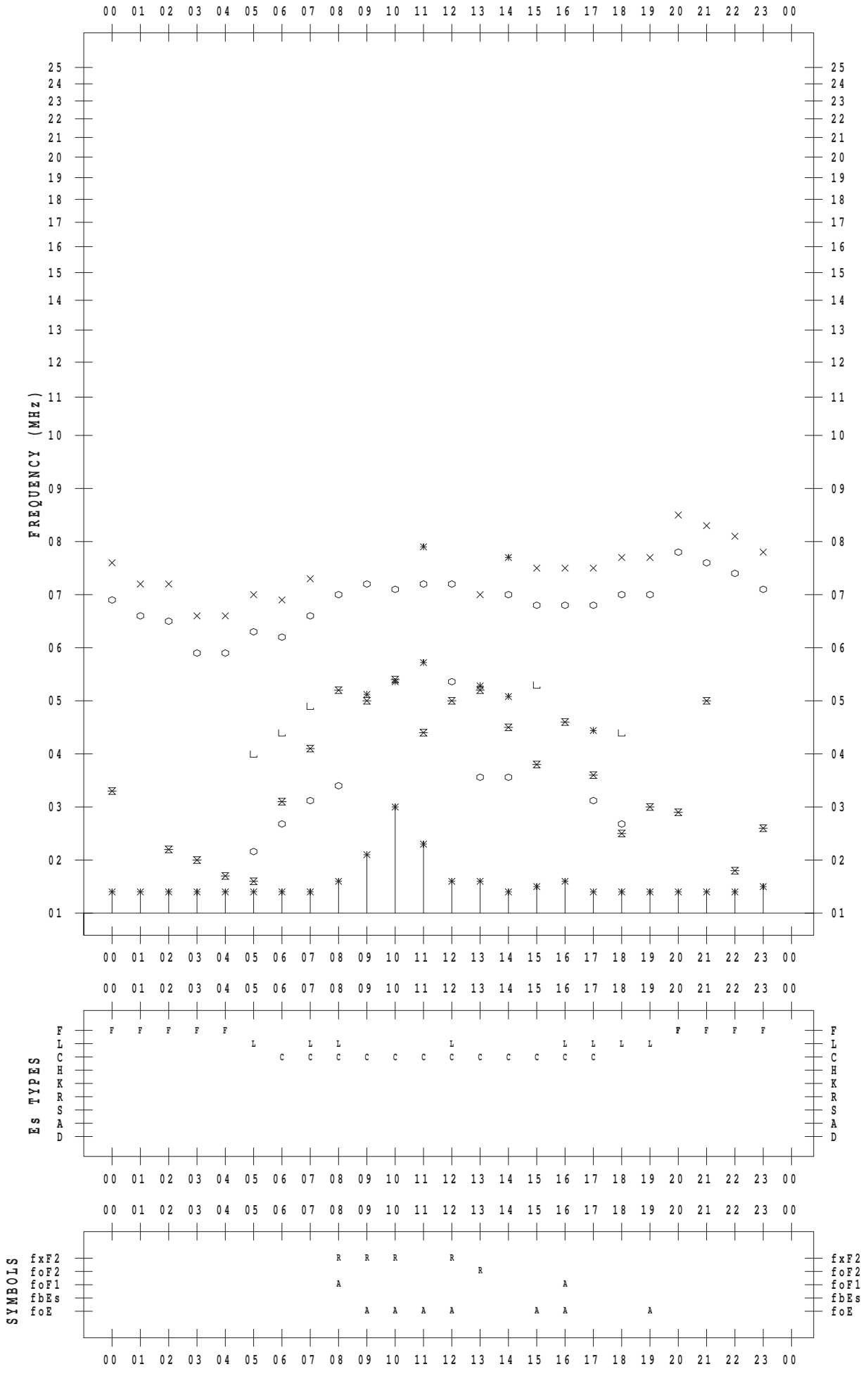
f-PLOT DATA

SCALER : K.FUKUSHIMA

STATION : Wakkanai

DATE : 2014/ 8/ 1

135 °E MEAN TIME



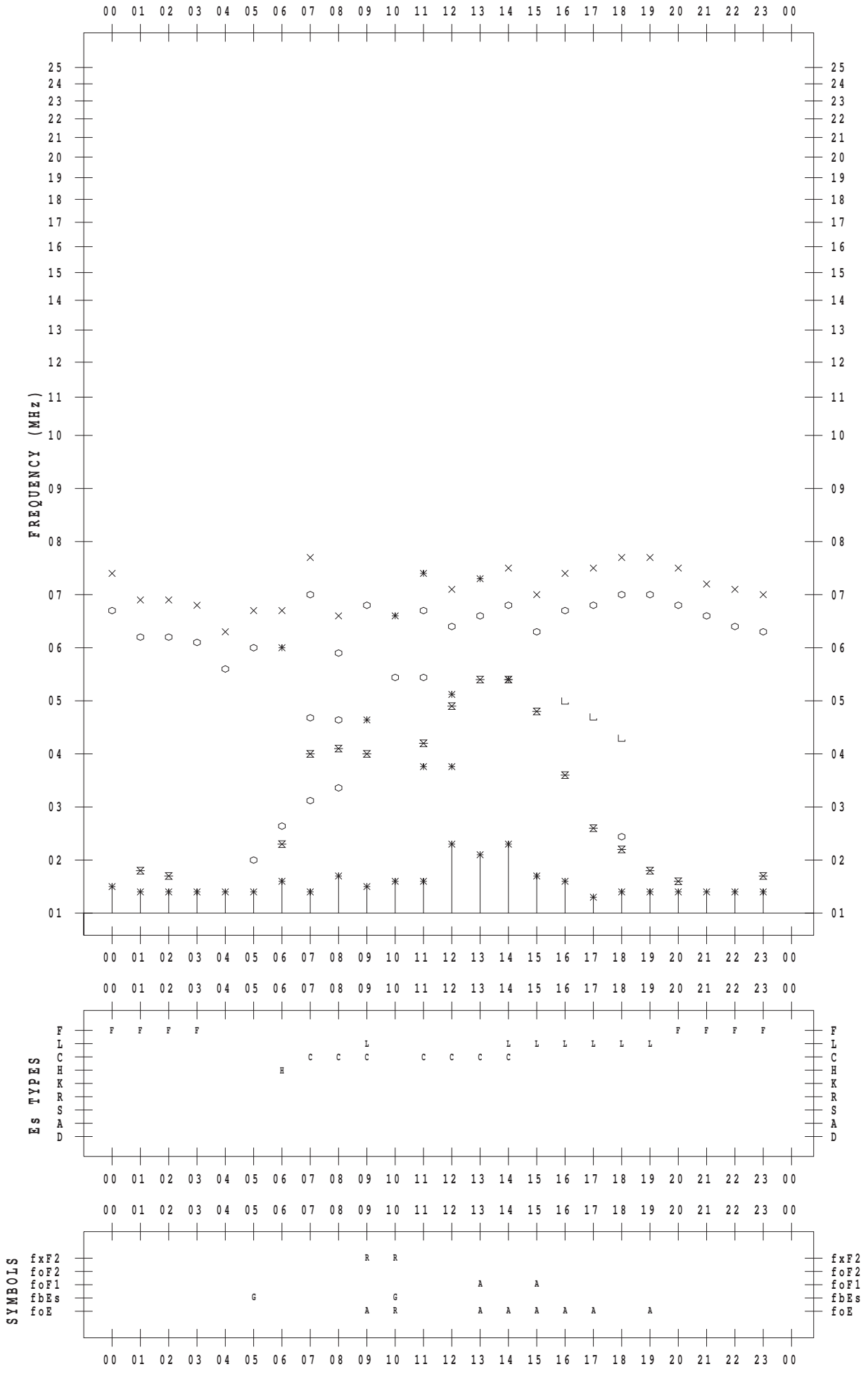
f-PLOT DATA

SCALER : K.FUKUSHIMA

STATION : Wakkanai

DATE : 2014/ 8/ 2

135 °E MEAN TIME



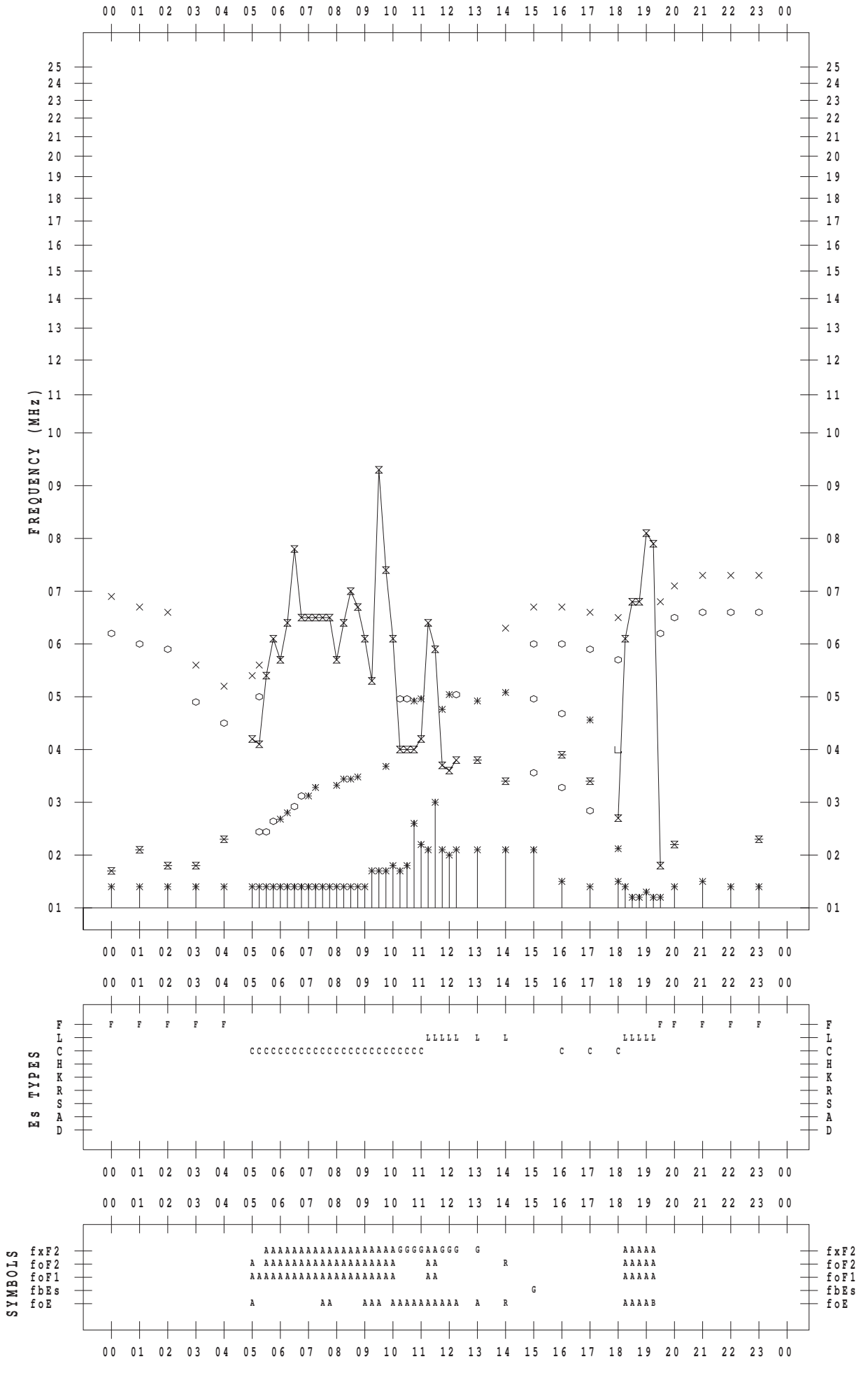
f-PLOT DATA

SCALER : K.FUKUSHIMA

STATION : Wakkanai

DATE : 2014/ 8/ 3

135 °E MEAN TIME



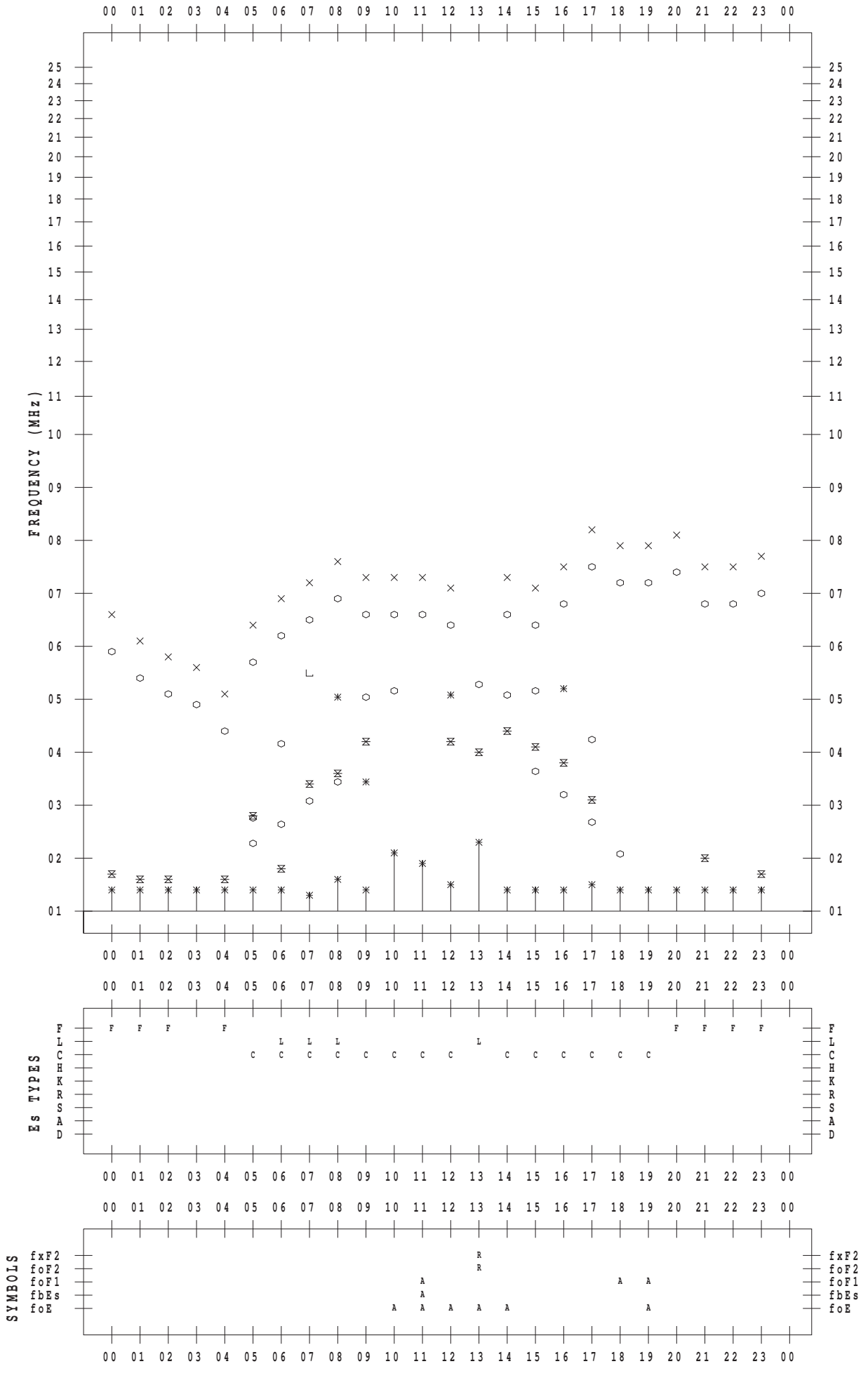
f-PLOT DATA

SCALER : K.FUKUSHIMA

STATION : Wakkanai

DATE : 2014/ 8/ 4

135 °E MEAN TIME



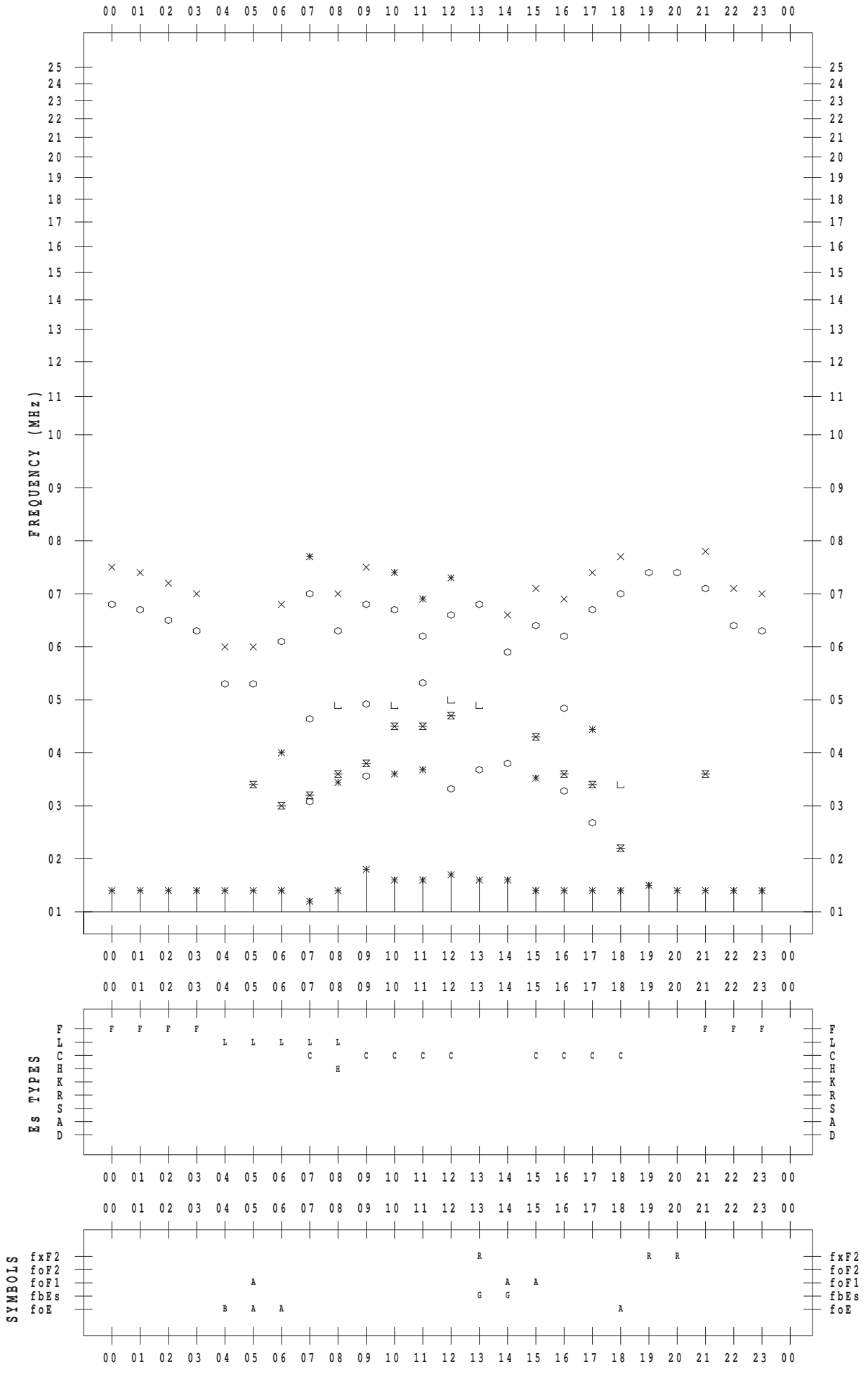
f-PLOT DATA

SCALER : K.FUKUSHIMA

STATION : Wakkanai

DATE : 2014/ 8/ 5

135 °E MEAN TIME



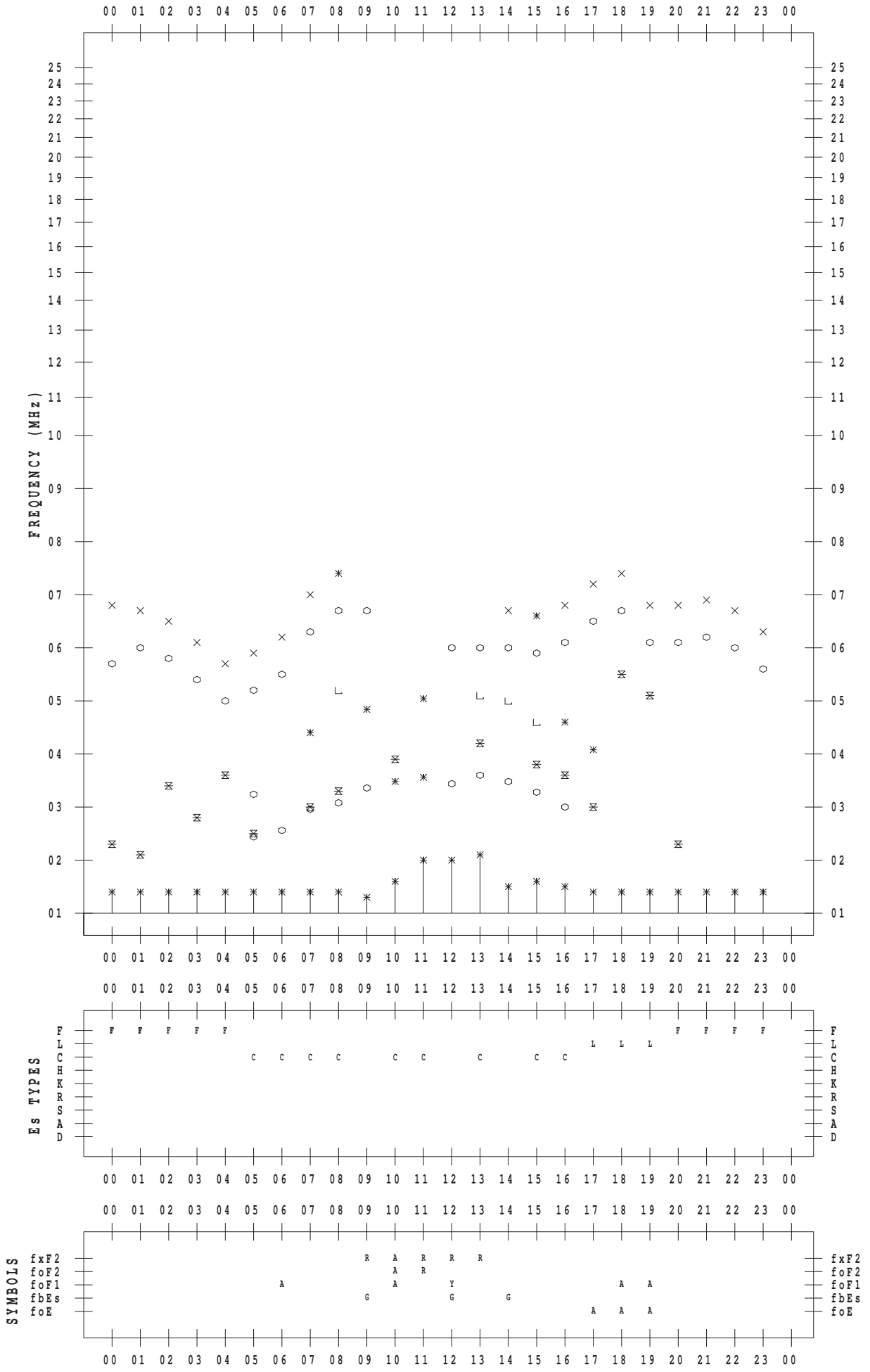
f-PLOT DATA

SCALER : K.FUKUSHIMA

STATION : Wakkanai

DATE : 2014/ 8/ 6

135 °E MEAN TIME



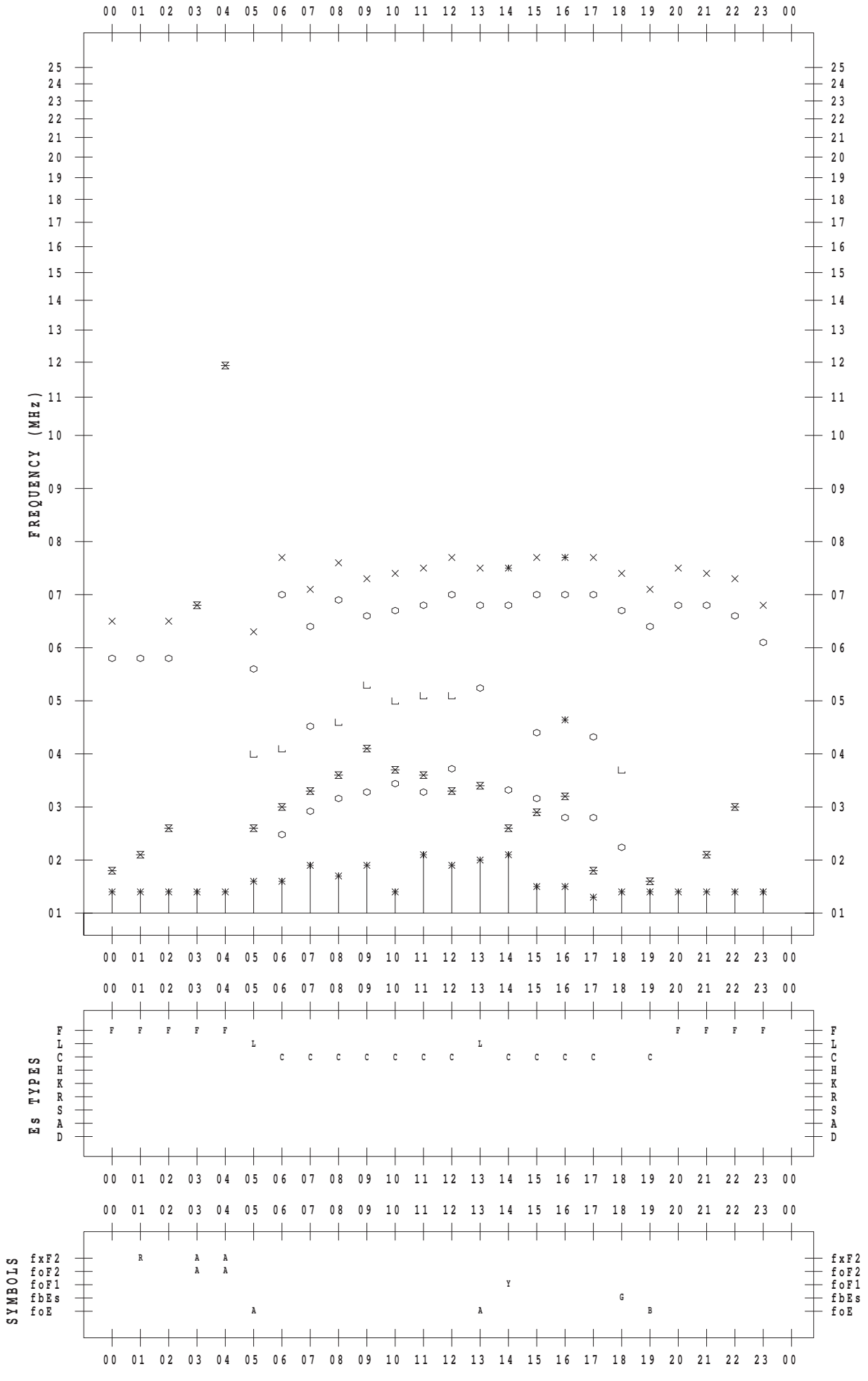
f-PLOT DATA

SCALER : K.FUKUSHIMA

STATION : Wakkanai

DATE : 2014/ 8/ 7

135 °E MEAN TIME



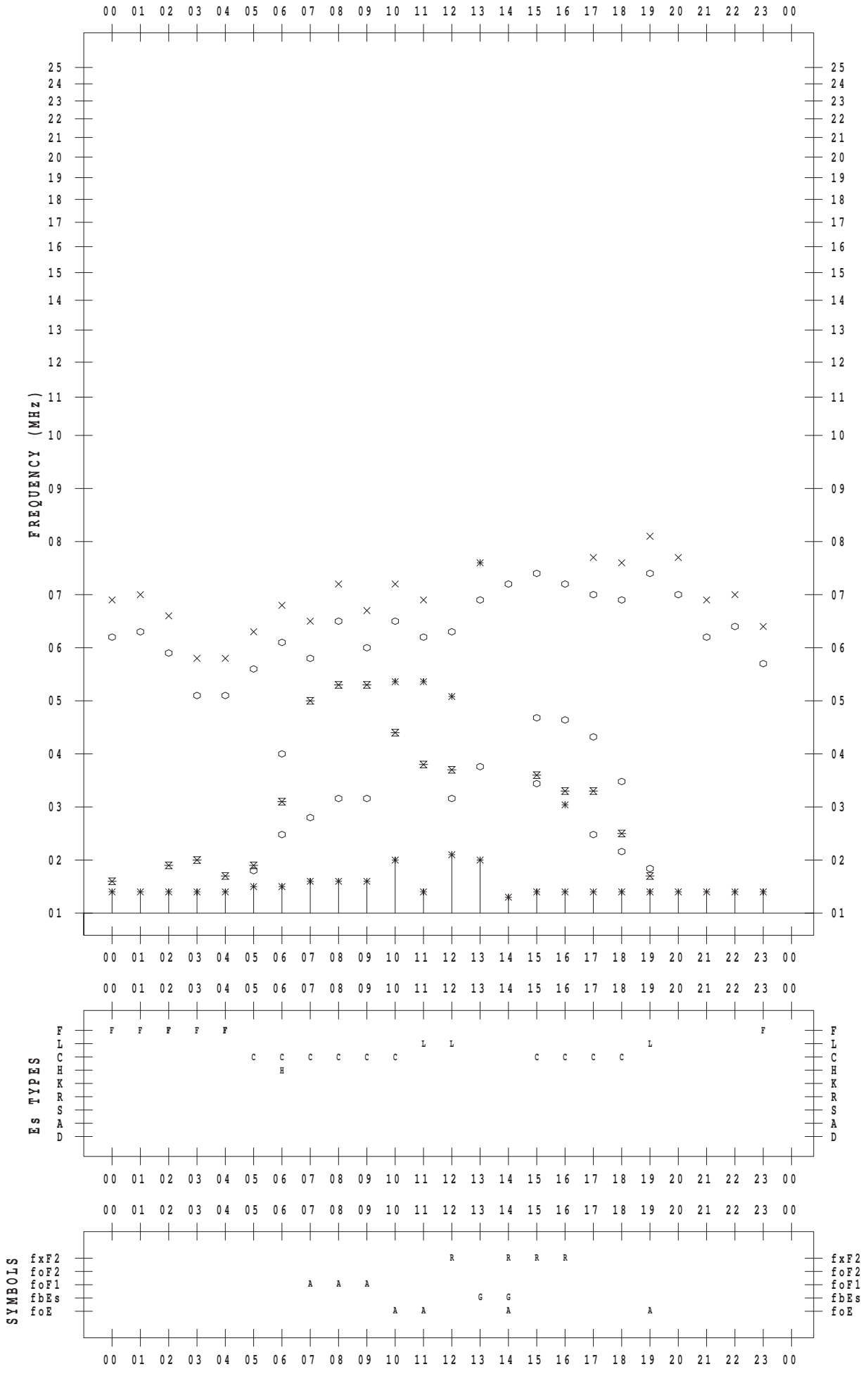
f-PLOT DATA

SCALER : K.FUKUSHIMA

STATION : Wakkanai

DATE : 2014/ 8/ 8

135 °E MEAN TIME



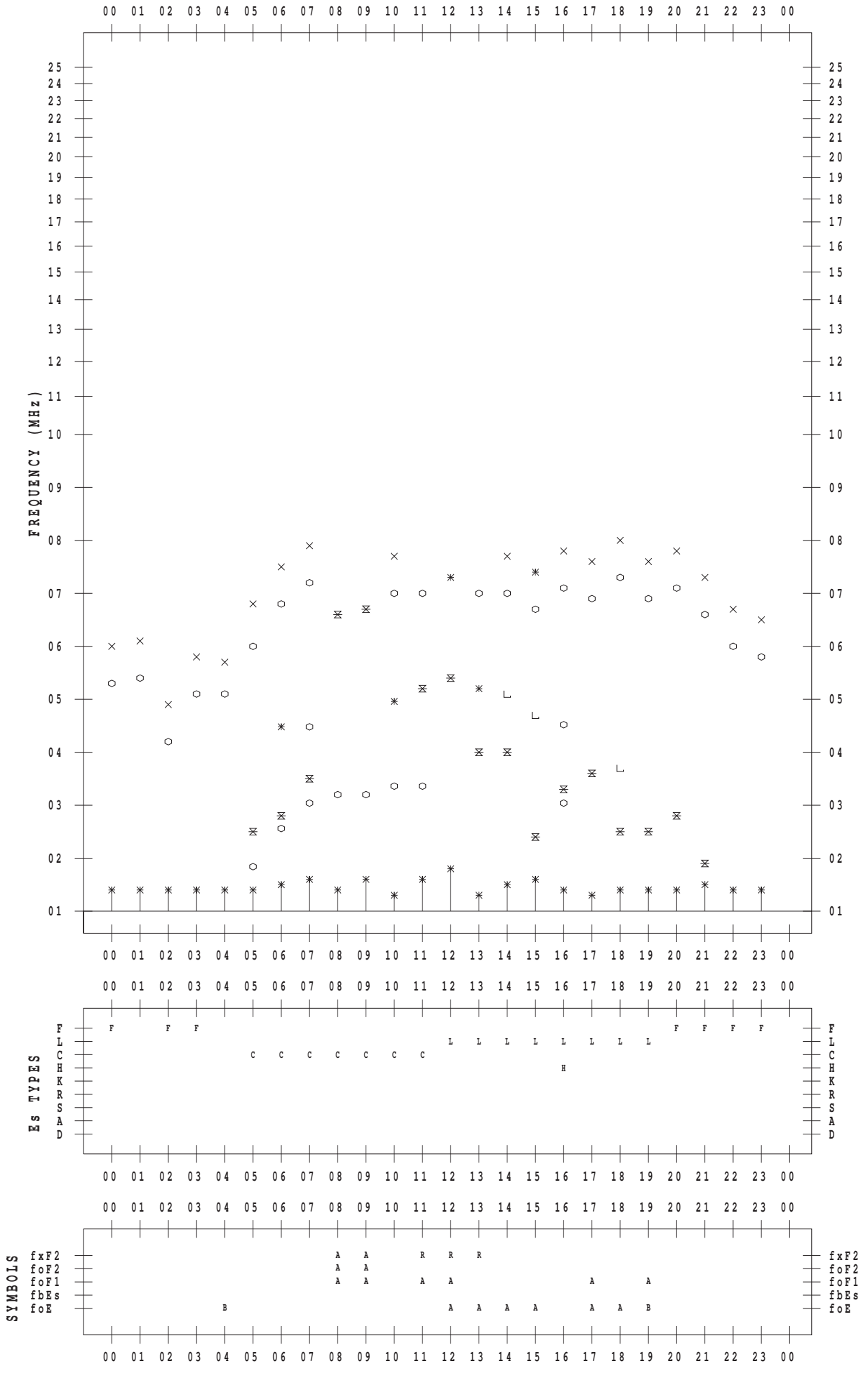
f-PLOT DATA

SCALER : K.FUKUSHIMA

STATION : Wakkanai

DATE : 2014/ 8/ 9

135 °E MEAN TIME



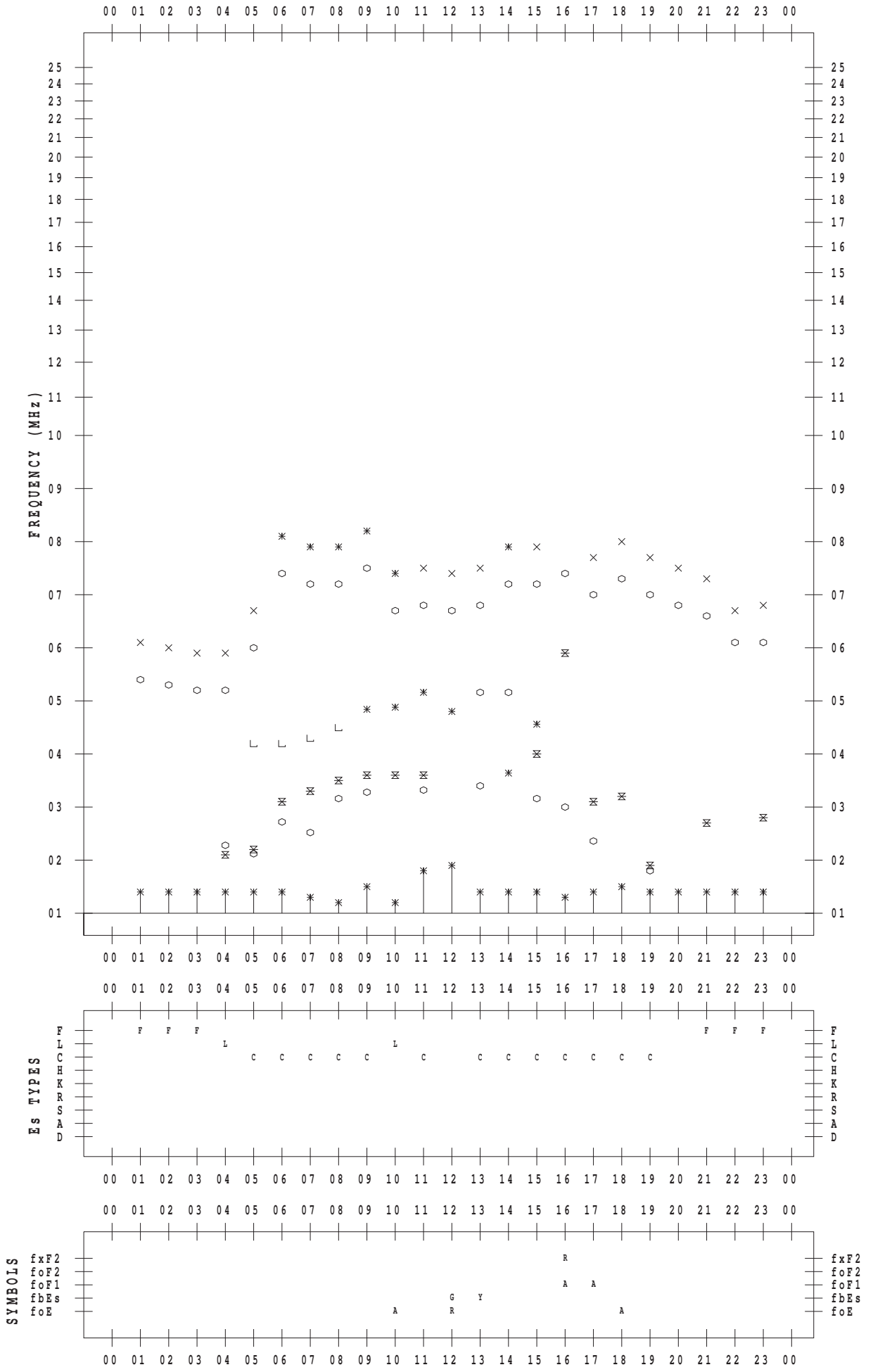
f-PLOT DATA

SCALER : K.FUKUSHIMA

STATION : Wakkanai

DATE : 2014/ 8/10

135 °E MEAN TIME



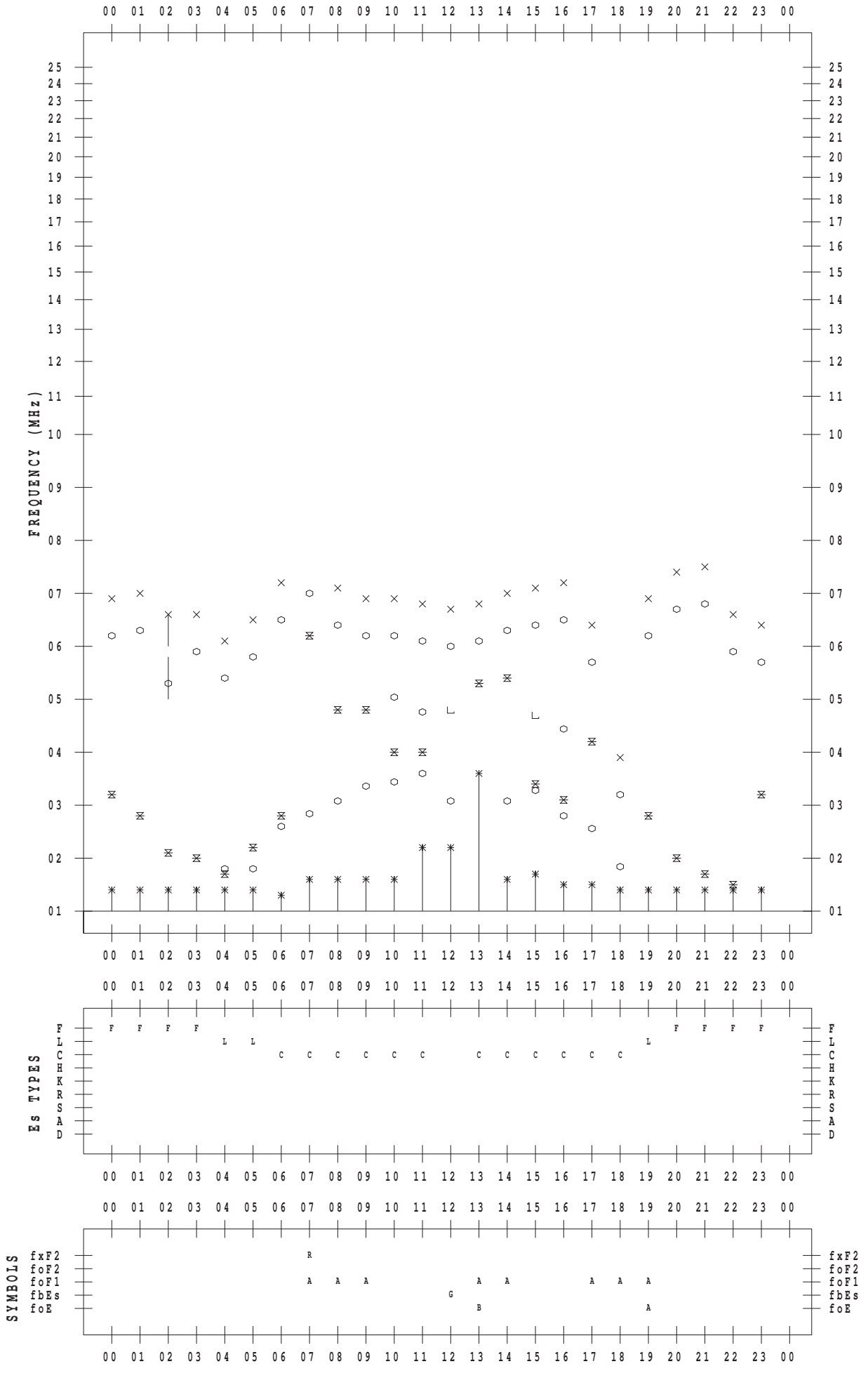
f-PLOT DATA

SCALER : K.FUKUSHIMA

STATION : Wakkanai

DATE : 2014/ 8/11

135 °E MEAN TIME



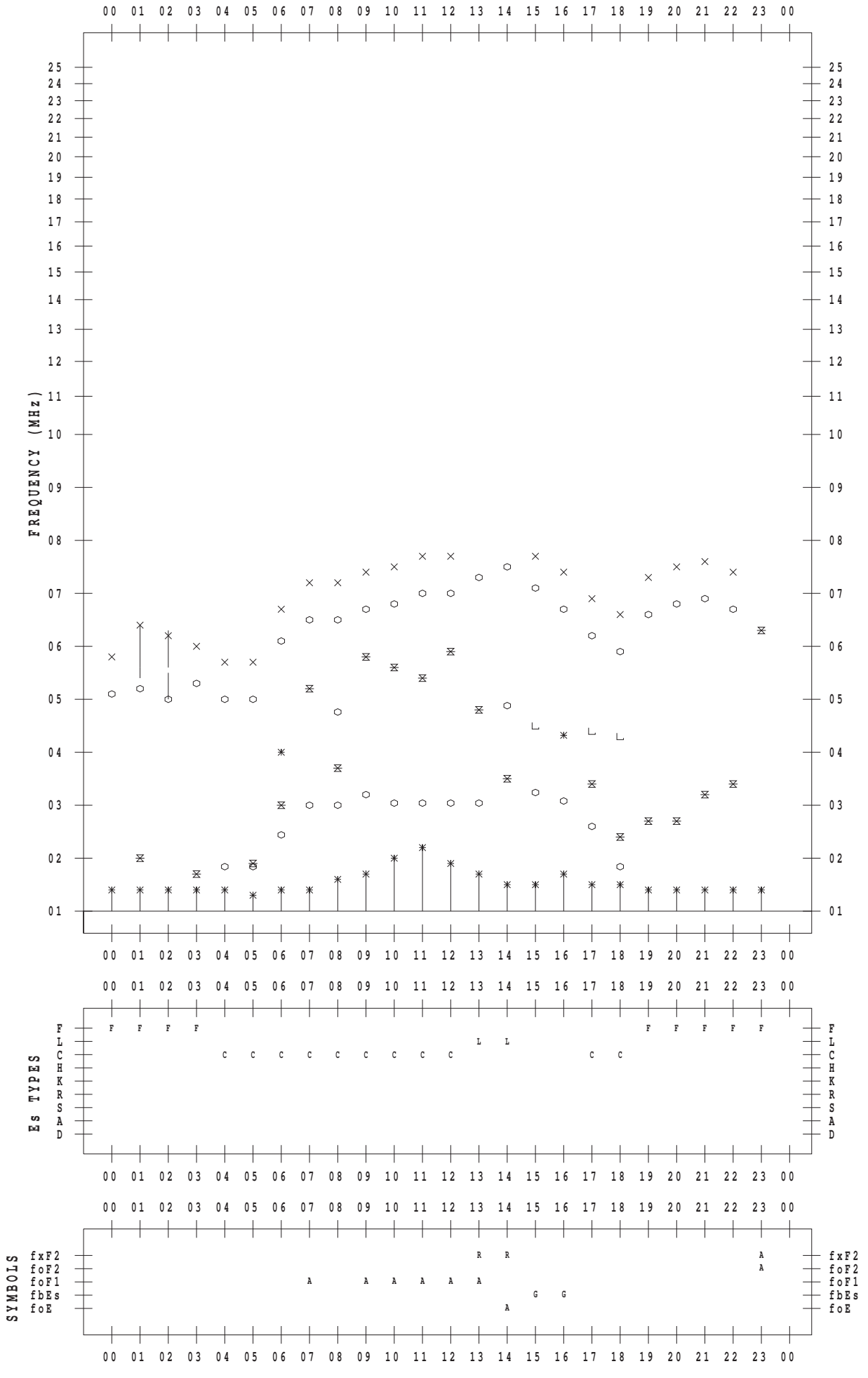
f-PLOT DATA

SCALER : K.FUKUSHIMA

STATION : Wakkanai

DATE : 2014/ 8/12

135 °E MEAN TIME



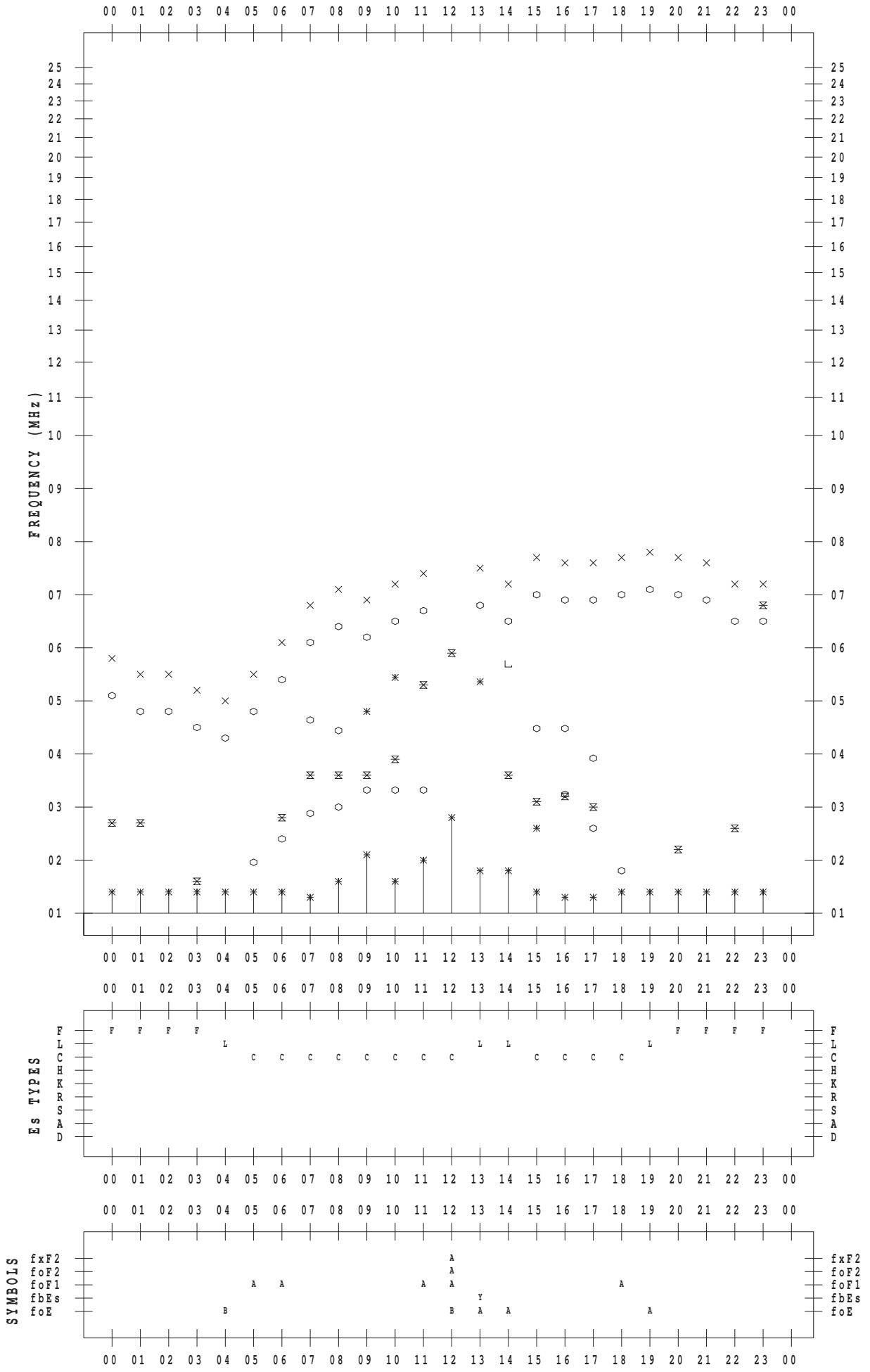
f-PLOT DATA

SCALER : K.FUKUSHIMA

STATION : Wakkanai

DATE : 2014/ 8/13

135 °E MEAN TIME



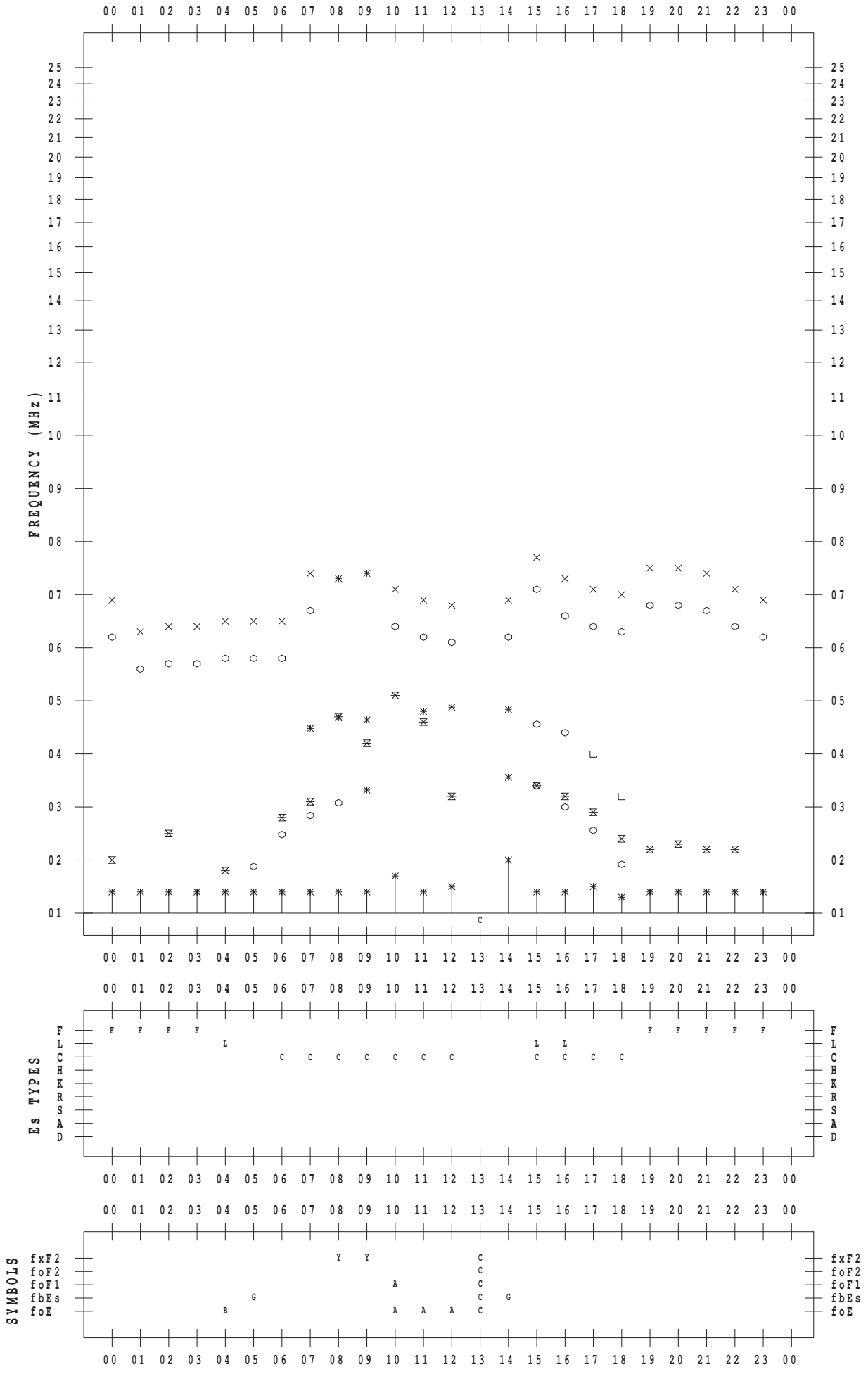
f-PLOT DATA

SCALER : K.FUKUSHIMA

STATION : Wakkanai

DATE : 2014/ 8/14

135 °E MEAN TIME



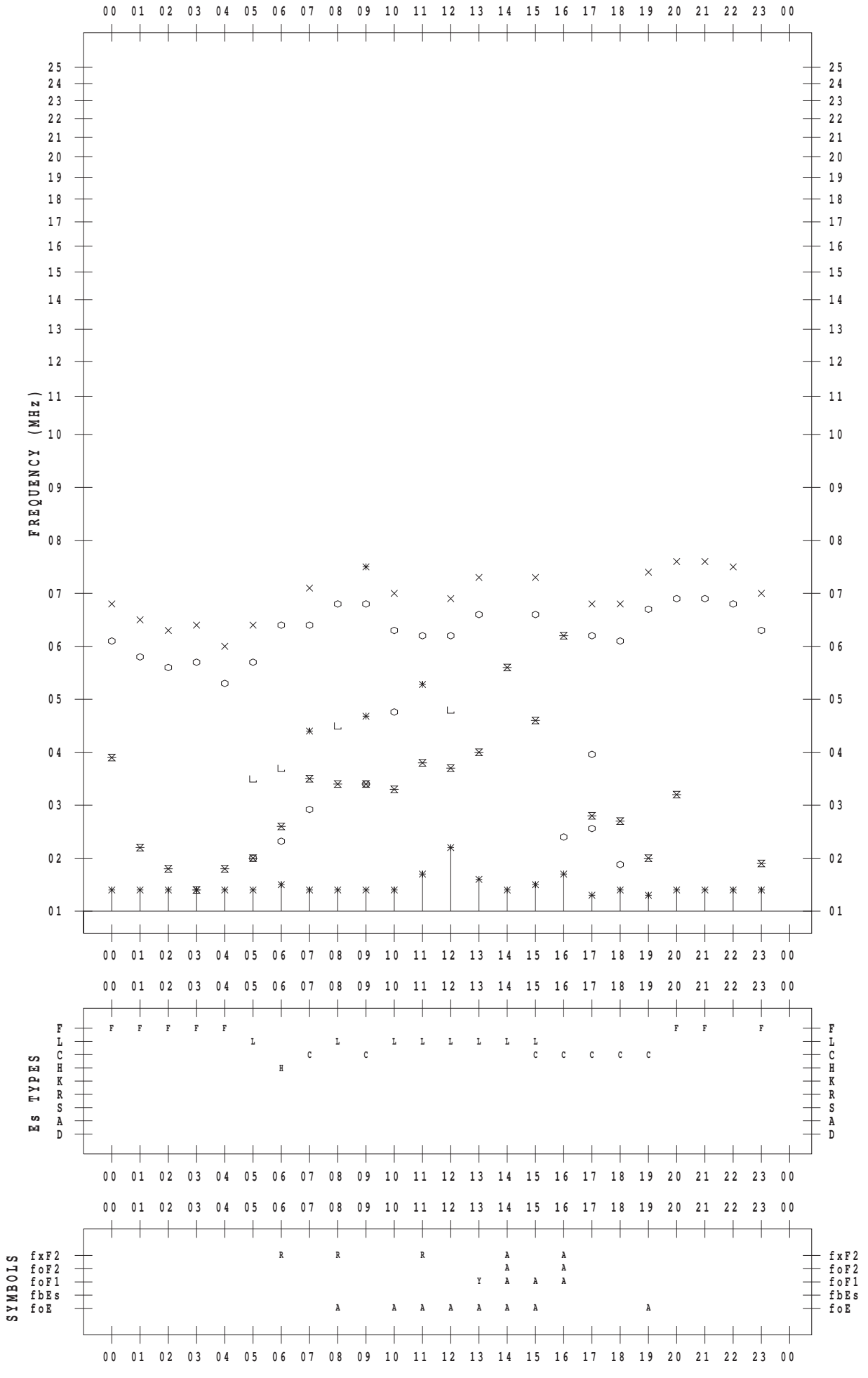
f-PLOT DATA

SCALER : K.FUKUSHIMA

STATION : Wakkanai

DATE : 2014/ 8/15

135 °E MEAN TIME



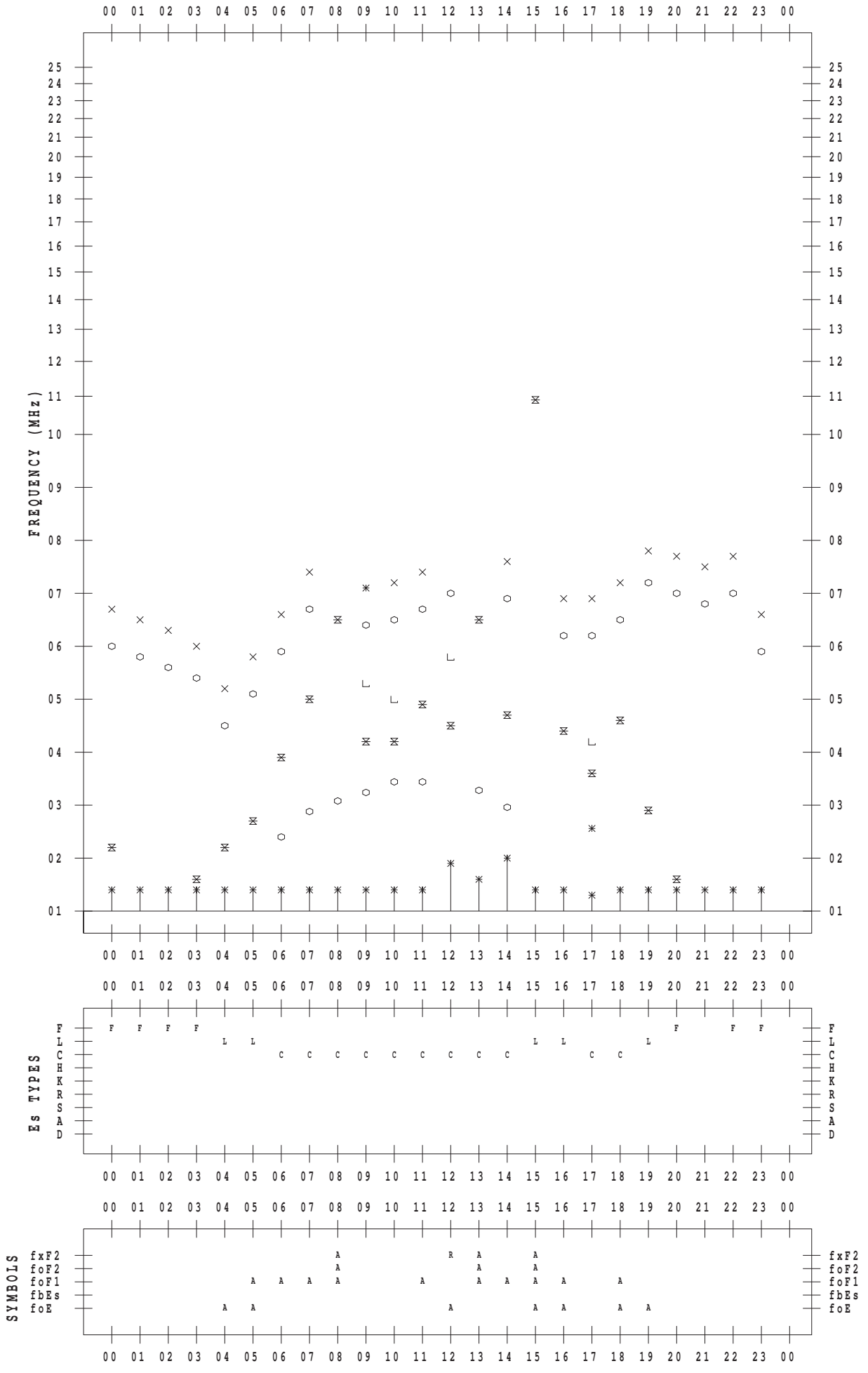
f-PLOT DATA

SCALER : K.FUKUSHIMA

STATION : Wakkanai

DATE : 2014/ 8/16

135 °E MEAN TIME



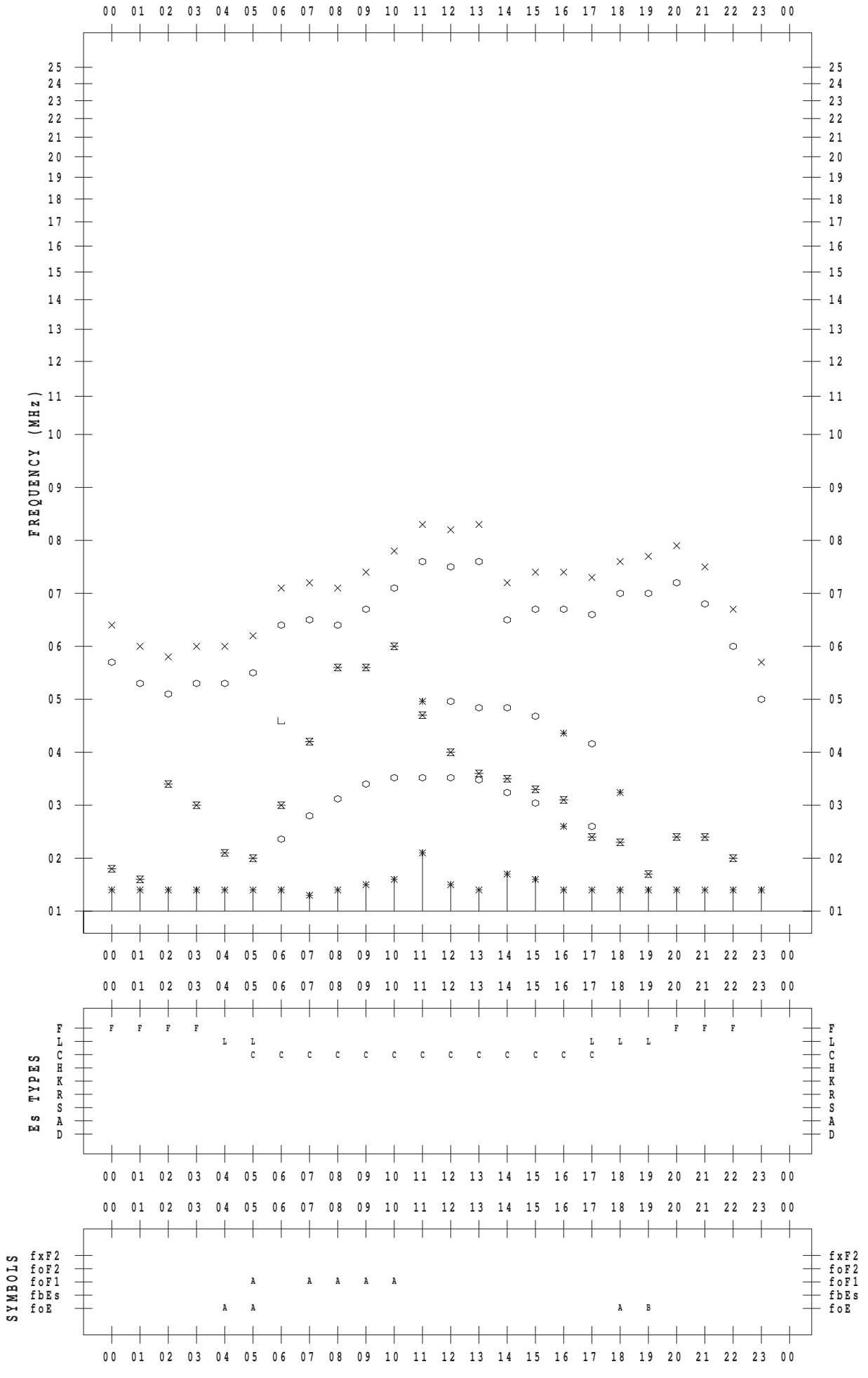
f-PLOT DATA

SCALER : K.FUKUSHIMA

STATION : Wakkanai

DATE : 2014/ 8/17

135 °E MEAN TIME



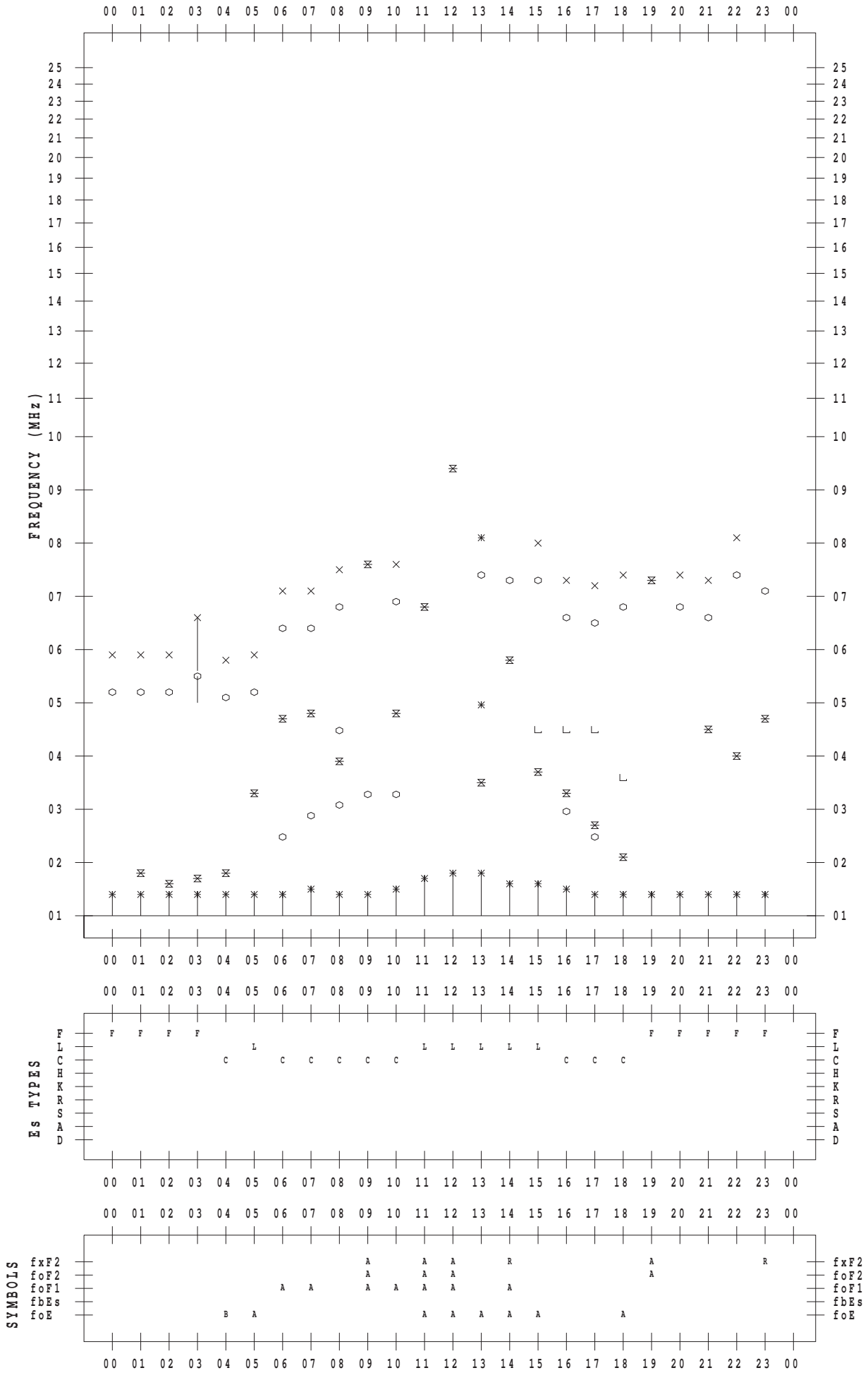
f-PLOT DATA

SCALER : K.FUKUSHIMA

STATION : Wakkanai

DATE : 2014/ 8/18

135 °E MEAN TIME



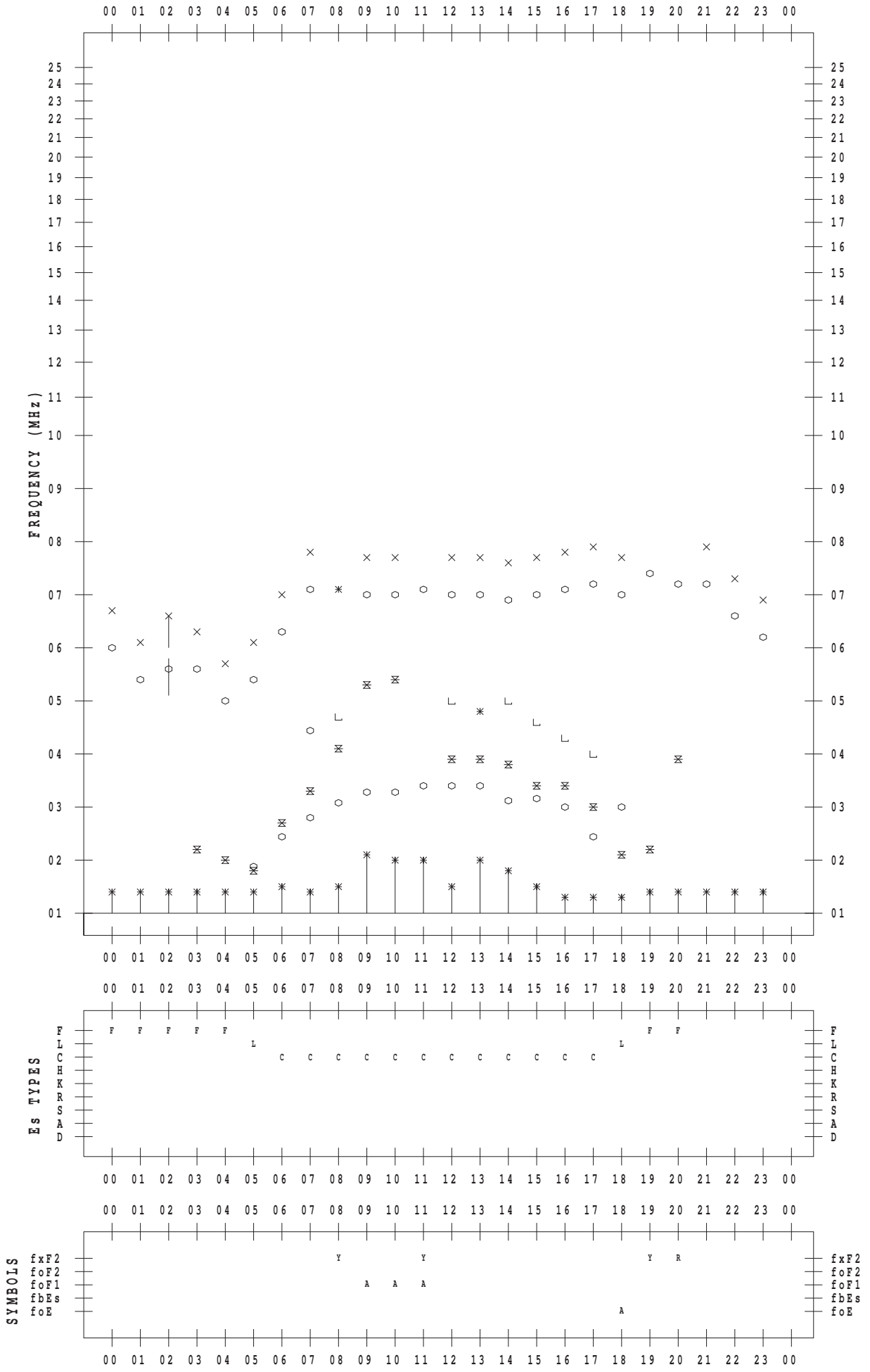
f-PLOT DATA

SCALER : K.FUKUSHIMA

STATION : Wakkanai

DATE : 2014/ 8/19

135 °E MEAN TIME



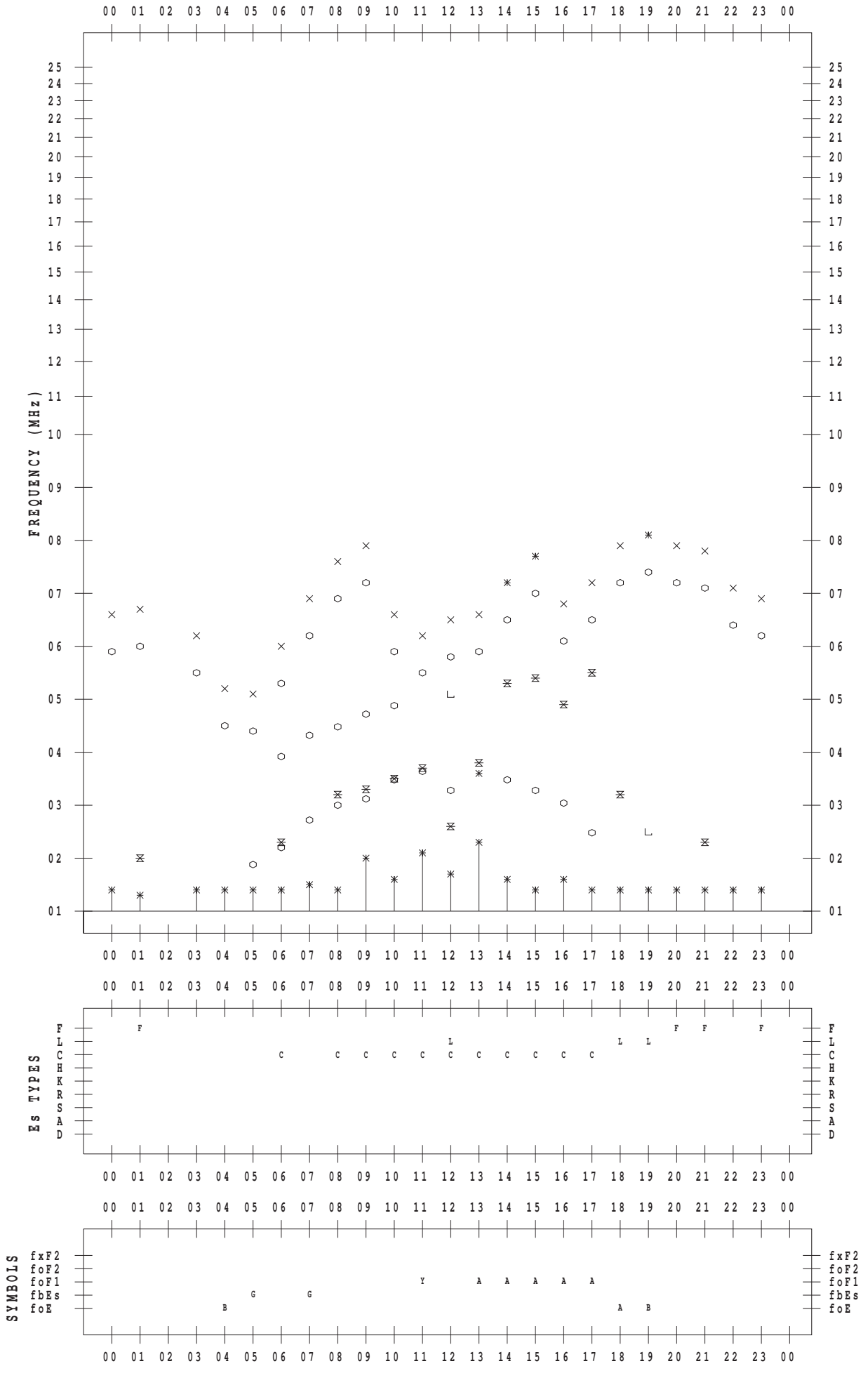
f-PLOT DATA

SCALER : K.FUKUSHIMA

STATION : Wakkanai

DATE : 2014/ 8/20

135 °E MEAN TIME



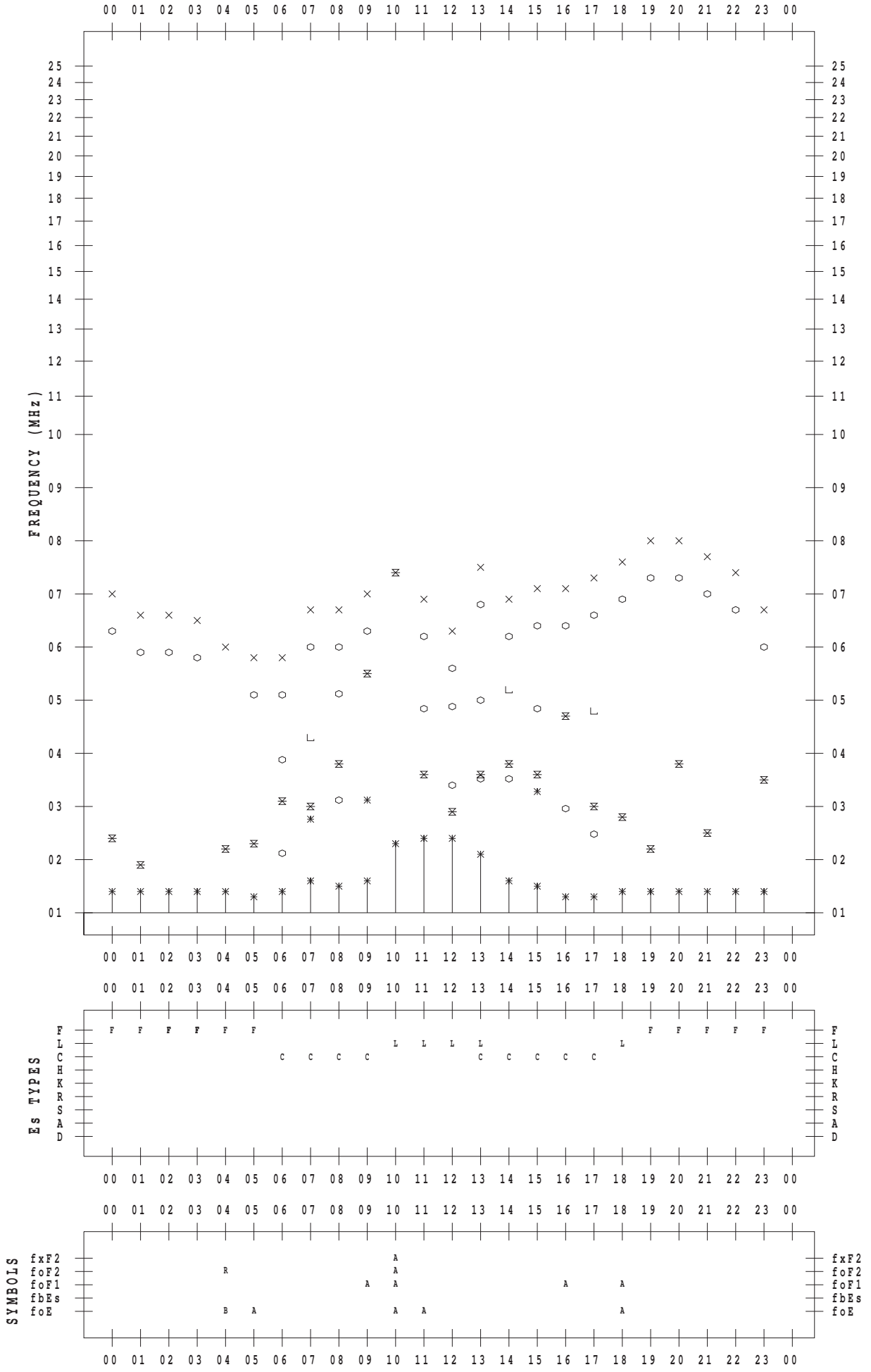
f-PLOT DATA

SCALER : K.FUKUSHIMA

STATION : Wakkanai

DATE : 2014/ 8/21

135 °E MEAN TIME



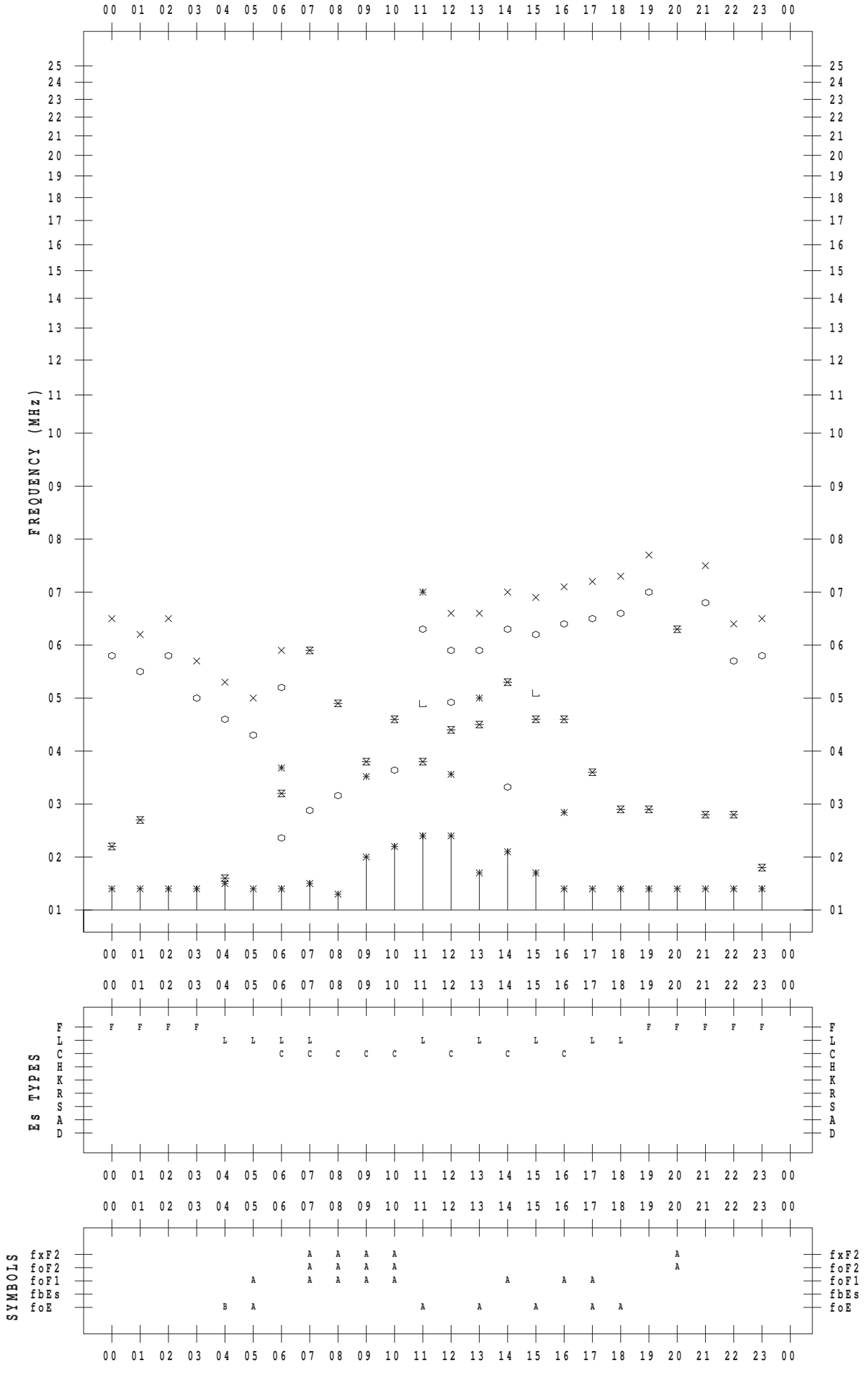
f-PLOT DATA

SCALER : K.FUKUSHIMA

STATION : Wakkanai

DATE : 2014/ 8/22

135 °E MEAN TIME



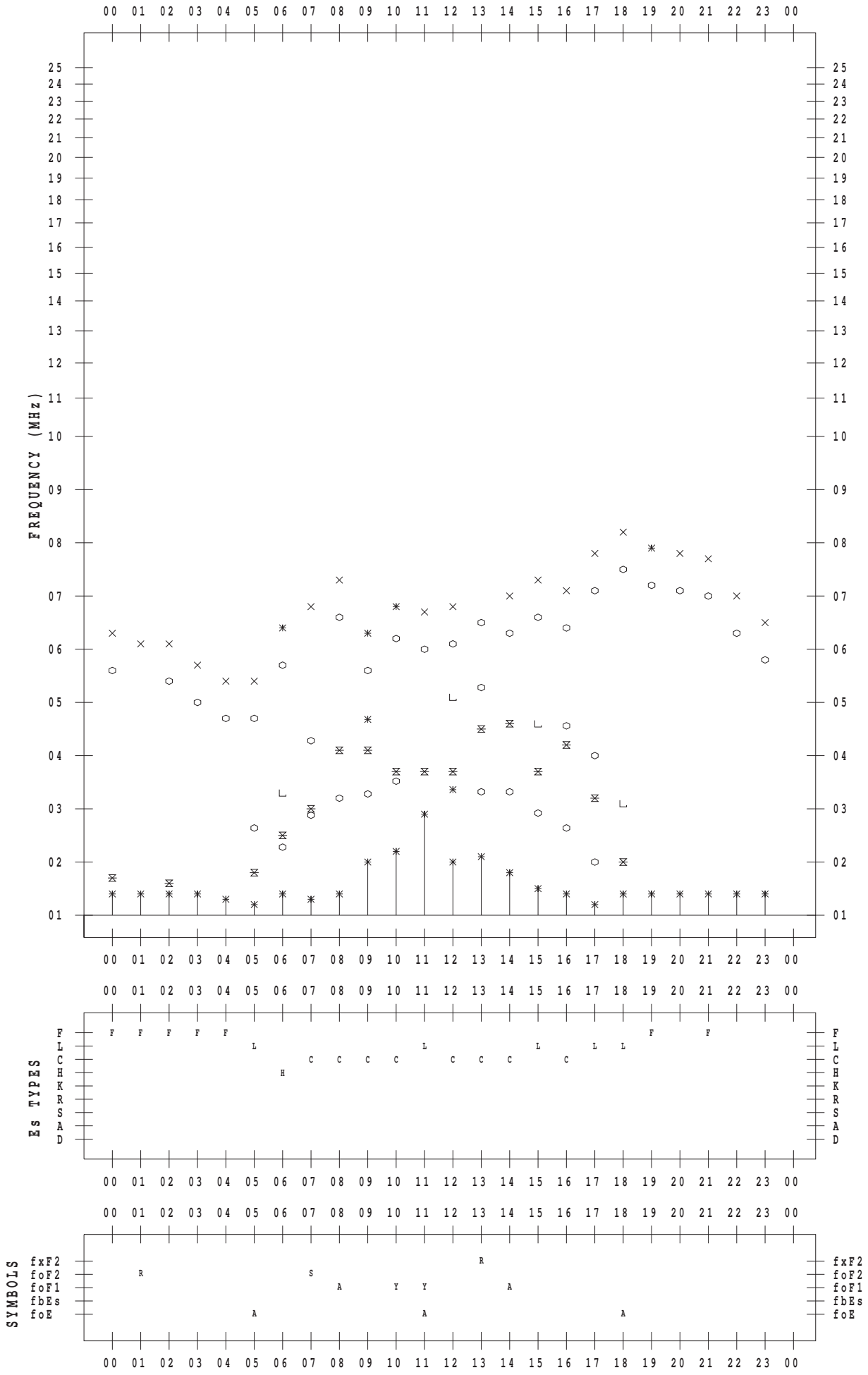
f-PLOT DATA

SCALER : K.FUKUSHIMA

STATION : Wakkanai

DATE : 2014/ 8/23

135 °E MEAN TIME



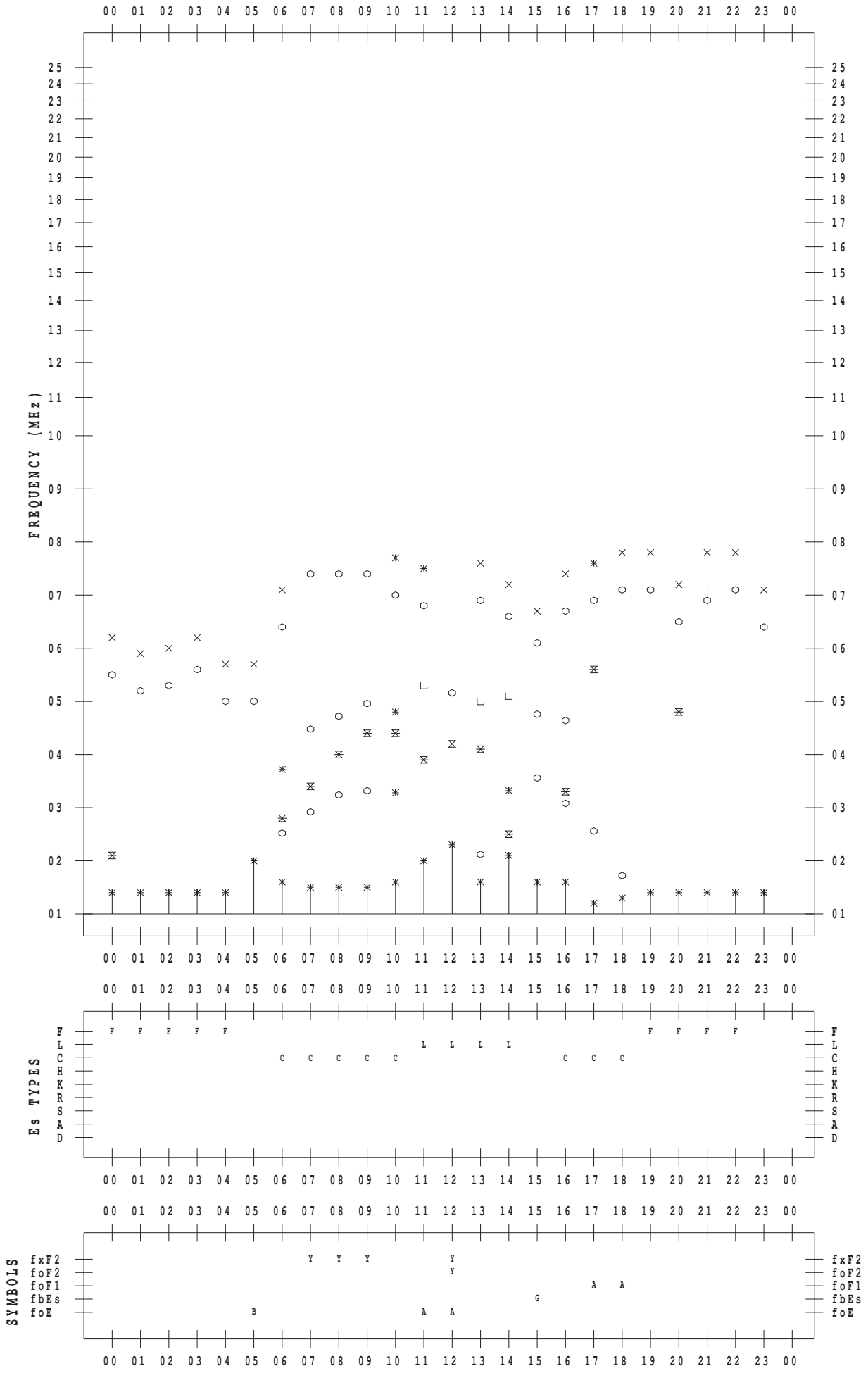
f-PLOT DATA

SCALER : K.FUKUSHIMA

STATION : Wakkanai

DATE : 2014/ 8/24

135 °E MEAN TIME



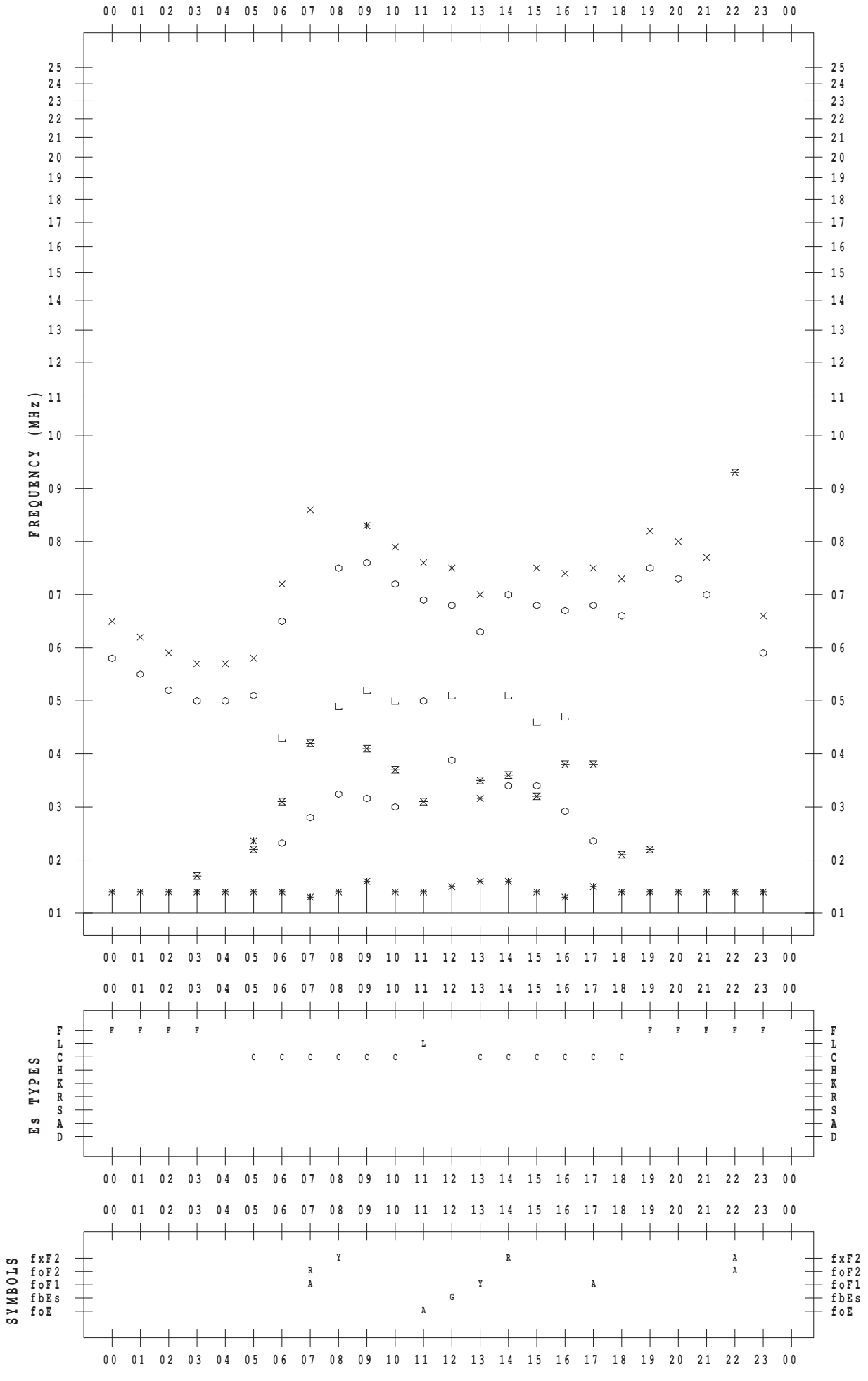
f-PLOT DATA

SCALER : K.FUKUSHIMA

STATION : Wakkanai

DATE : 2014/ 8/25

135 °E MEAN TIME



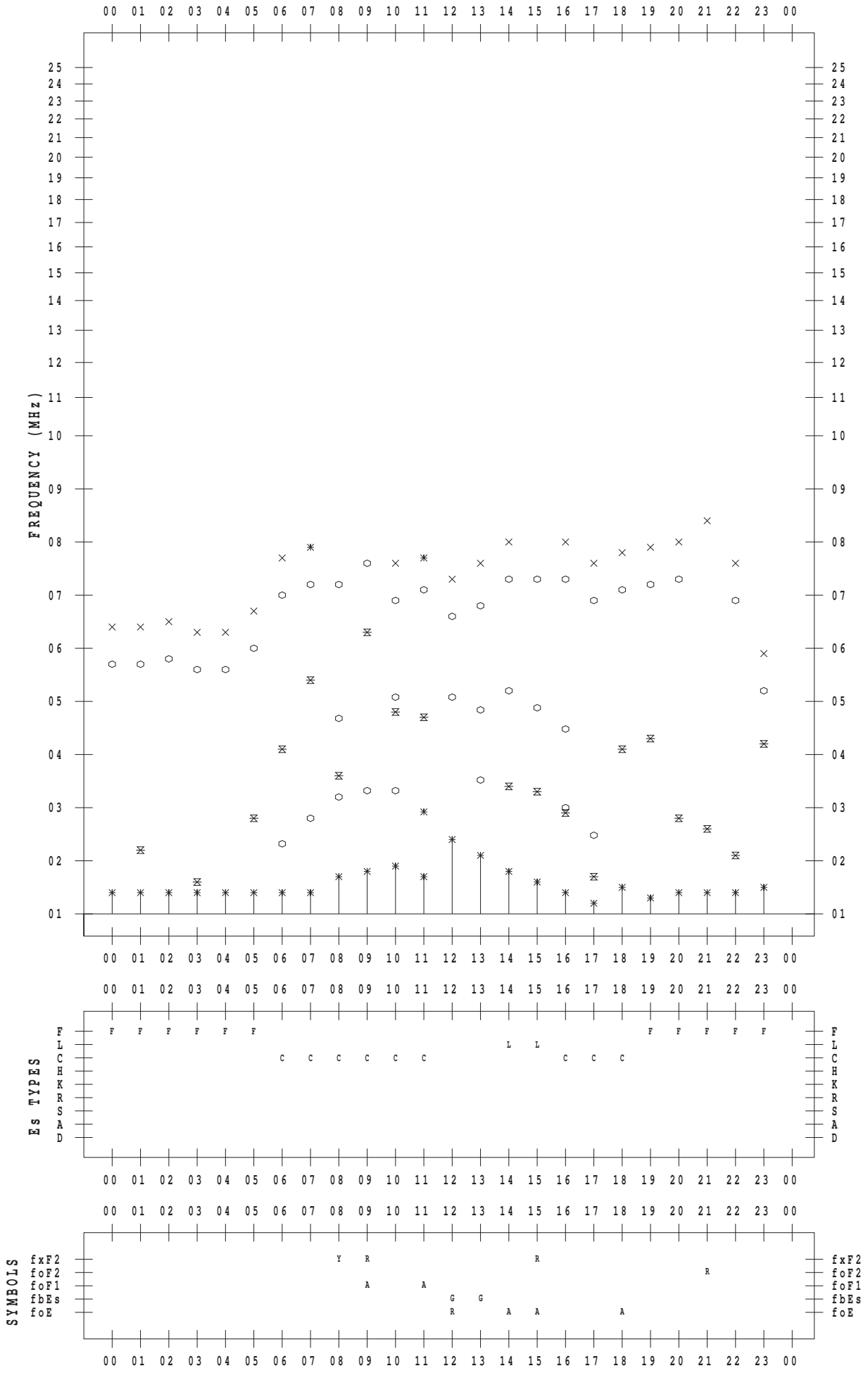
f-PLOT DATA

SCALER : K.FUKUSHIMA

STATION : Wakkanai

DATE : 2014/ 8/26

135 °E MEAN TIME



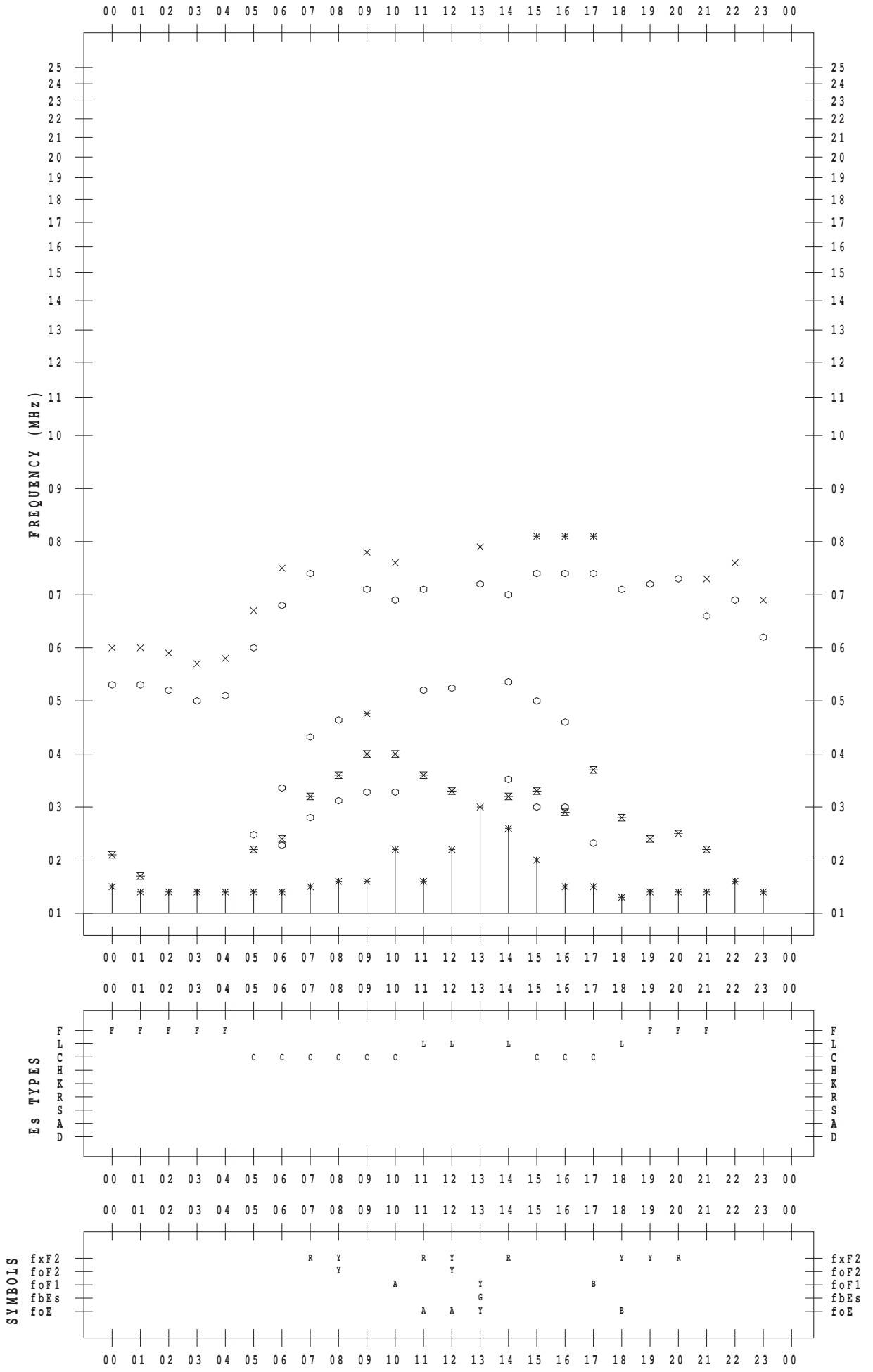
f-PLOT DATA

SCALER : K.FUKUSHIMA

STATION : Wakkanai

DATE : 2014/ 8/27

135 °E MEAN TIME



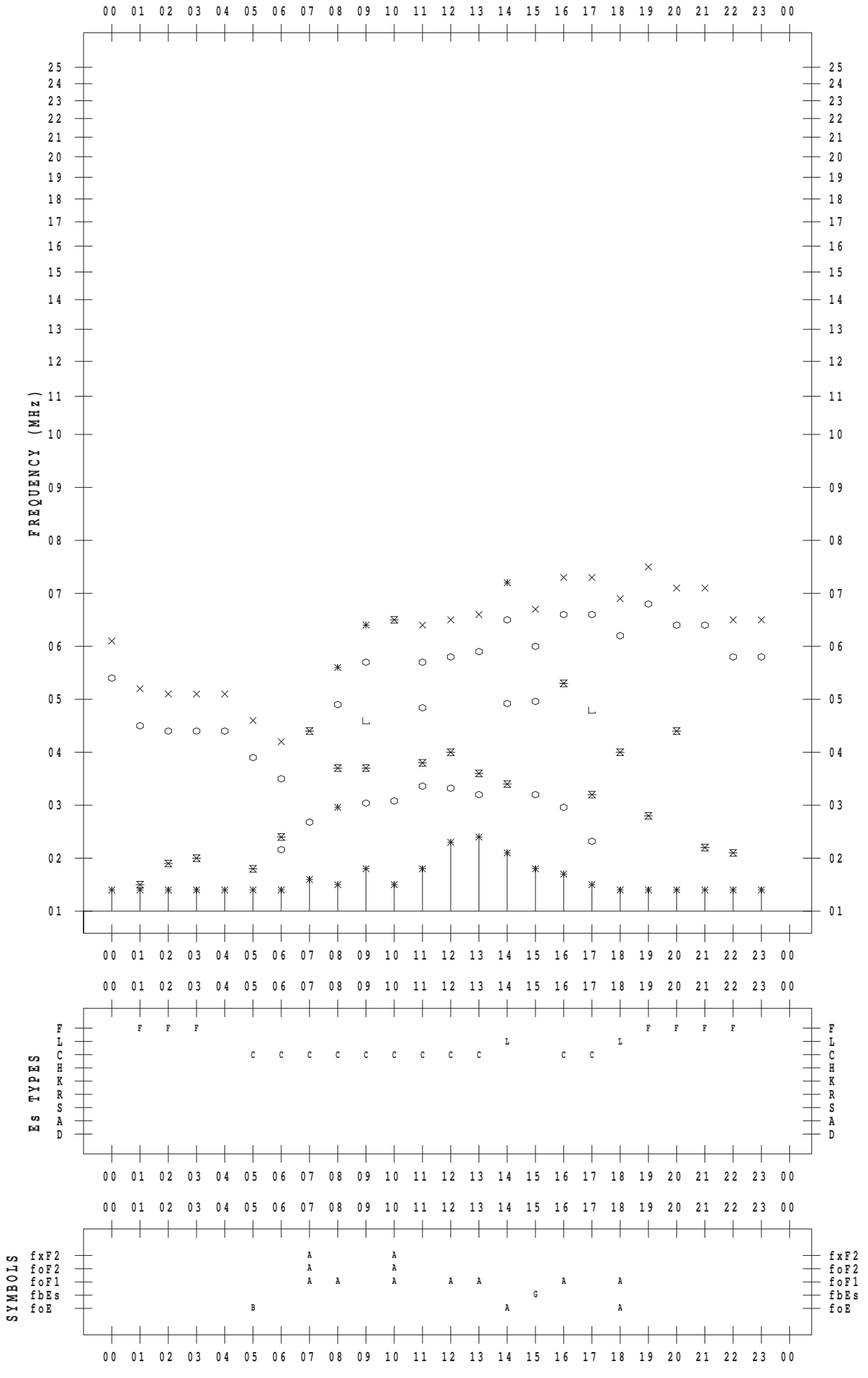
f-PLOT DATA

SCALER : K.FUKUSHIMA

STATION : Wakkanai

DATE : 2014/ 8/28

135 °E MEAN TIME



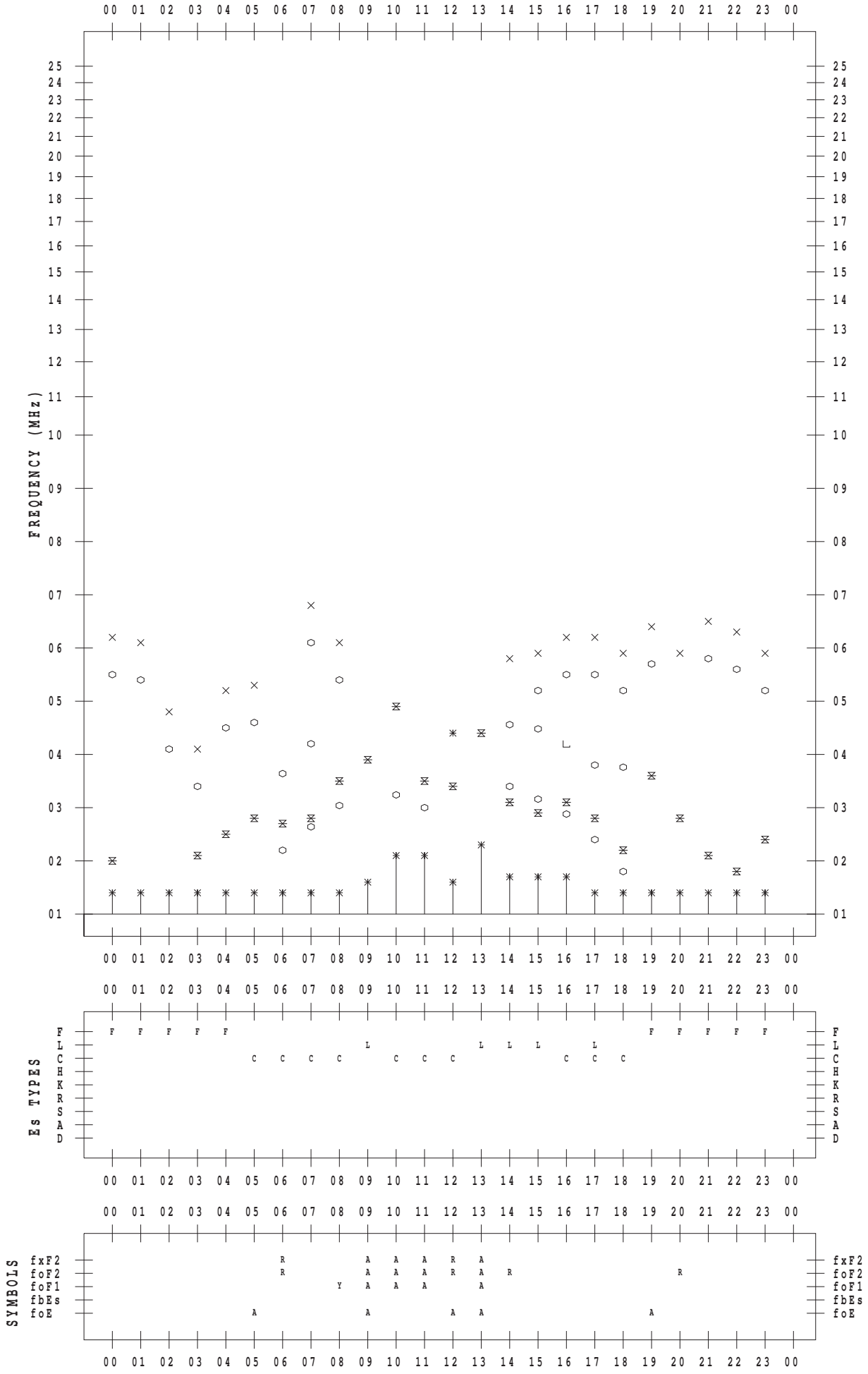
f-PLOT DATA

SCALER : K.FUKUSHIMA

STATION : Wakkanai

DATE : 2014/ 8/29

135 °E MEAN TIME



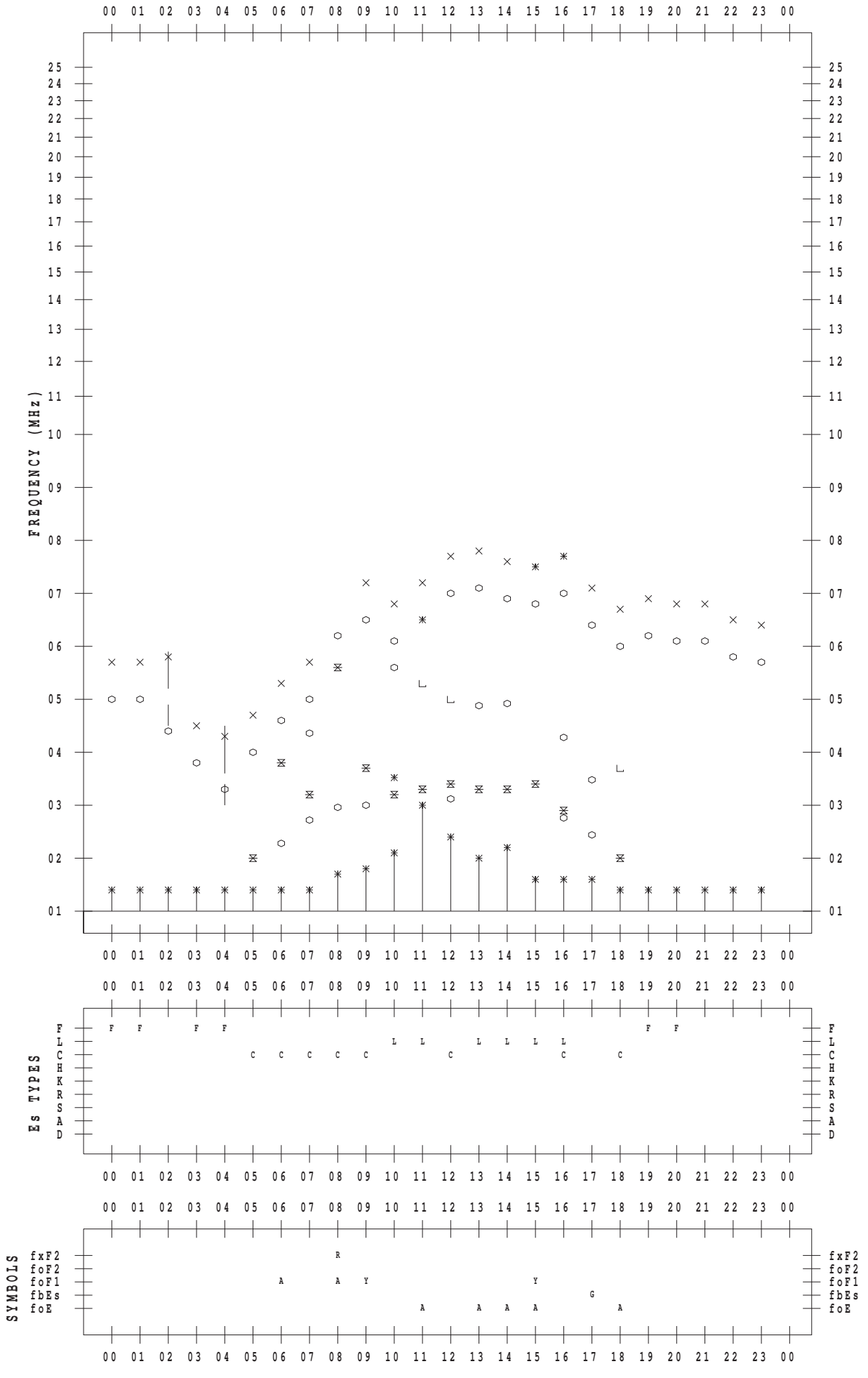
f-PLOT DATA

SCALER : K.FUKUSHIMA

STATION : Wakkanai

DATE : 2014/ 8/30

135 °E MEAN TIME



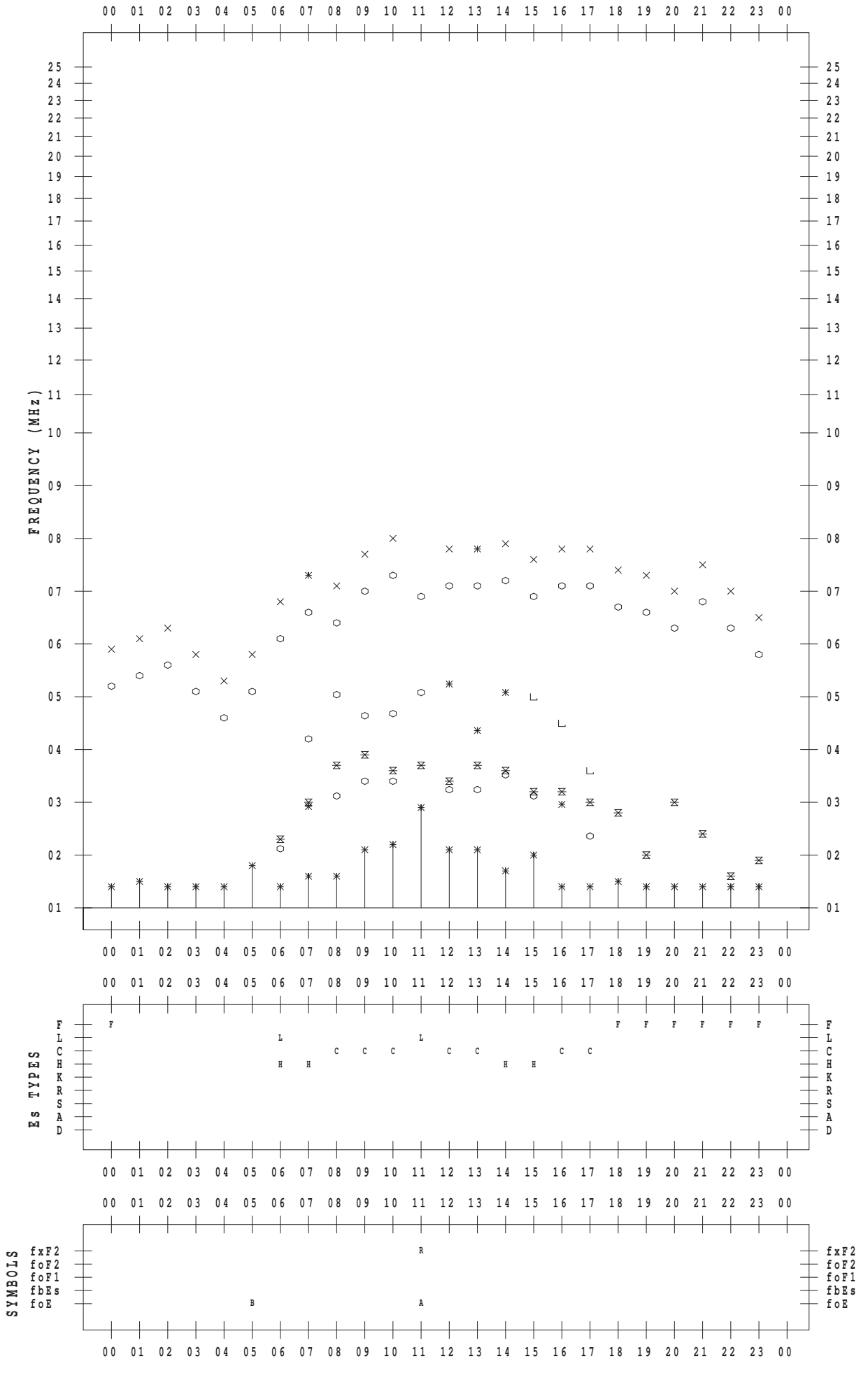
f-PLOT DATA

SCALER : K.FUKUSHIMA

STATION : Wakkanai

DATE : 2014/ 8/31

135 °E MEAN TIME



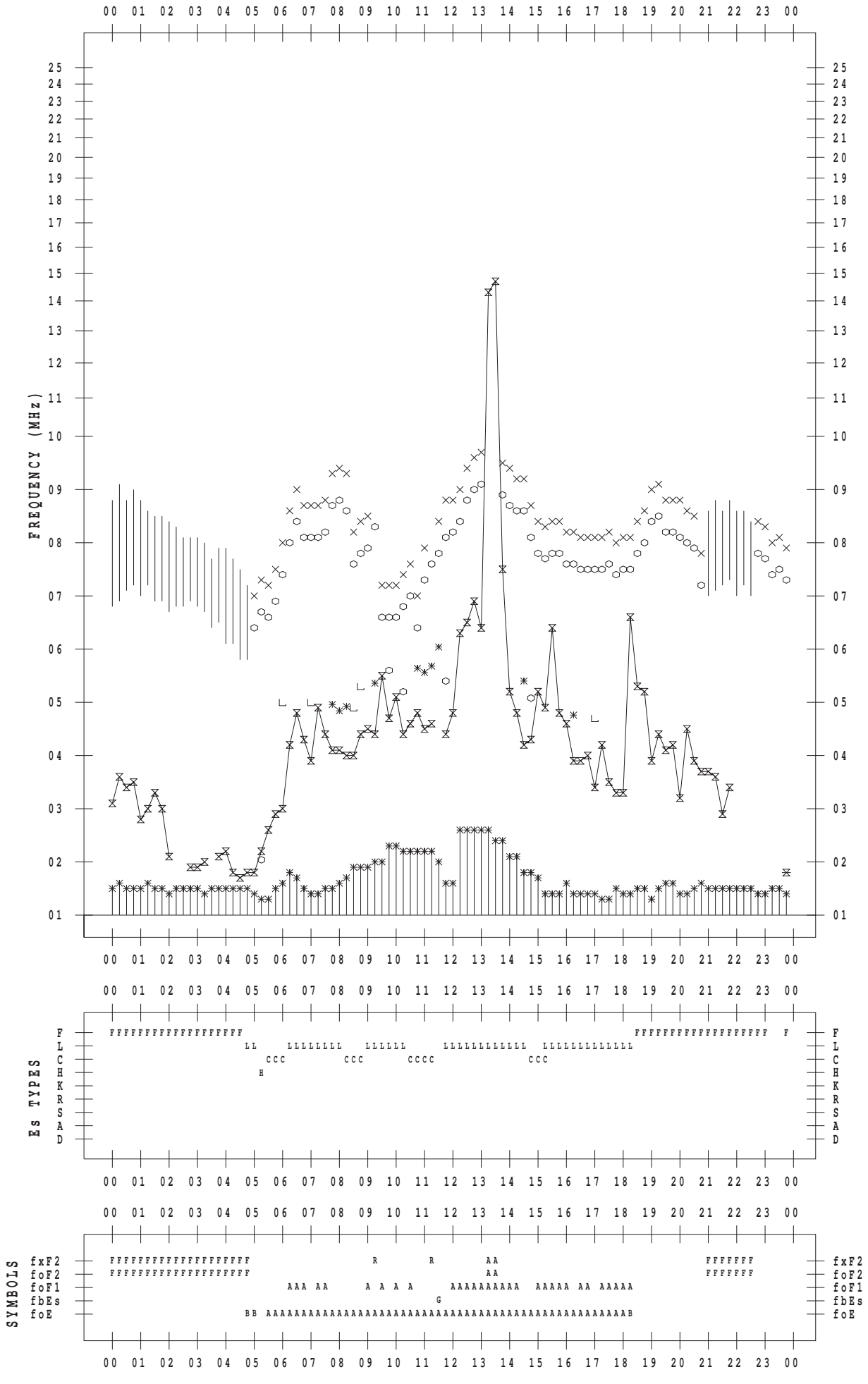
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2014/ 8/ 1

135 °E MEAN TIME



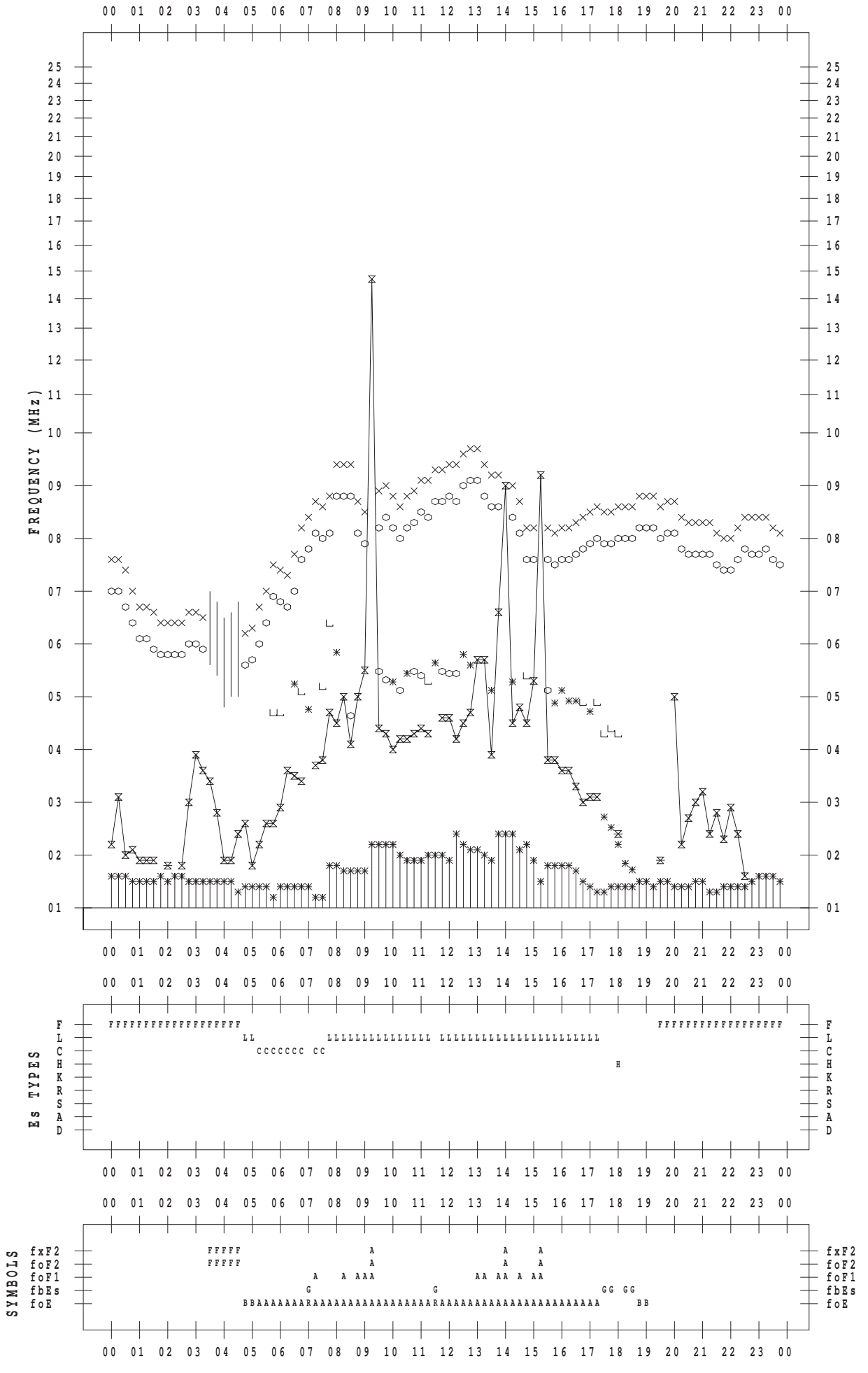
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2014/ 8/ 2

135 °E MEAN TIME



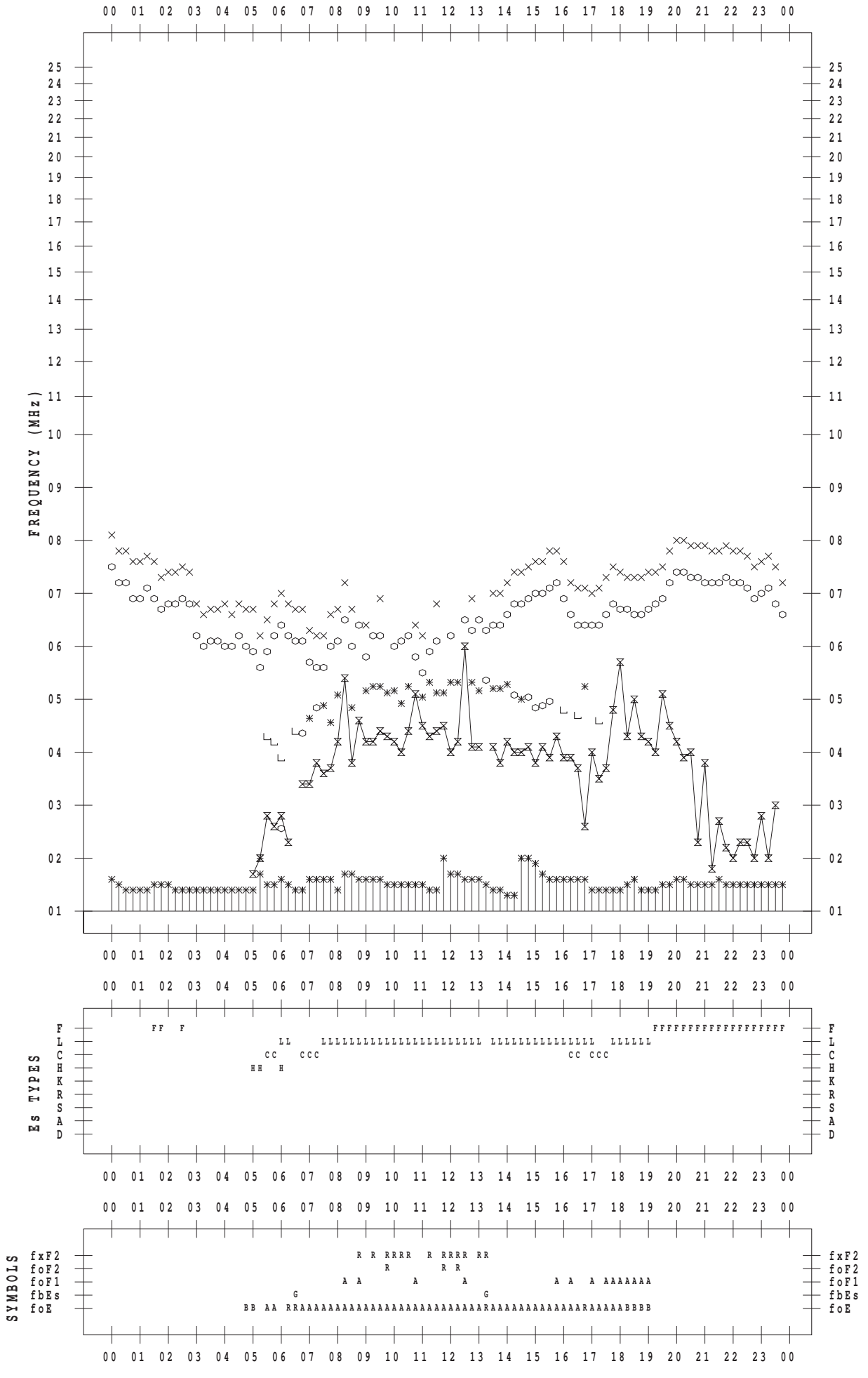
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2014/ 8/ 3

135 °E MEAN TIME



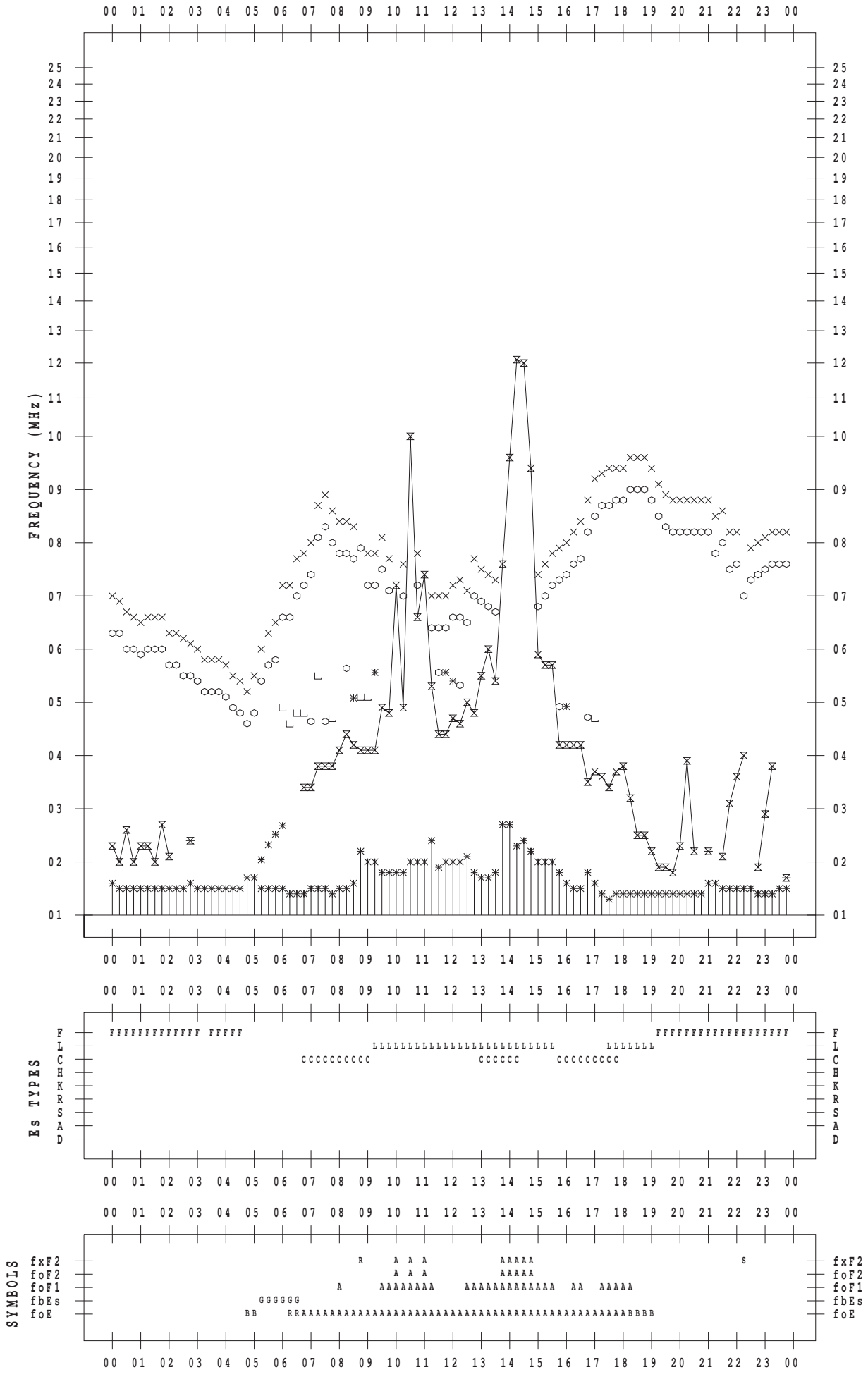
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2014/ 8/ 4

135 °E MEAN TIME



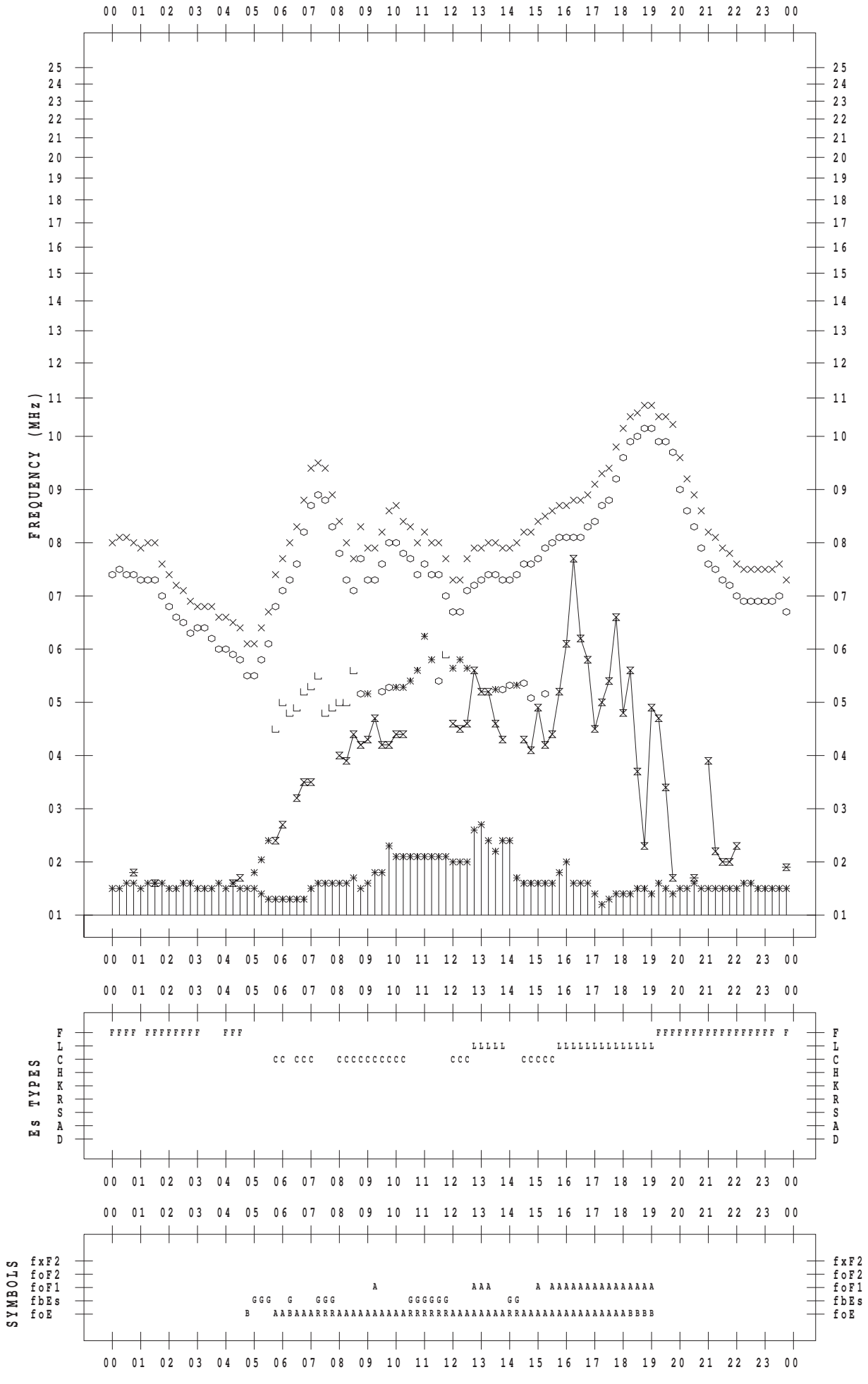
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2014/ 8/ 5

135 °E MEAN TIME



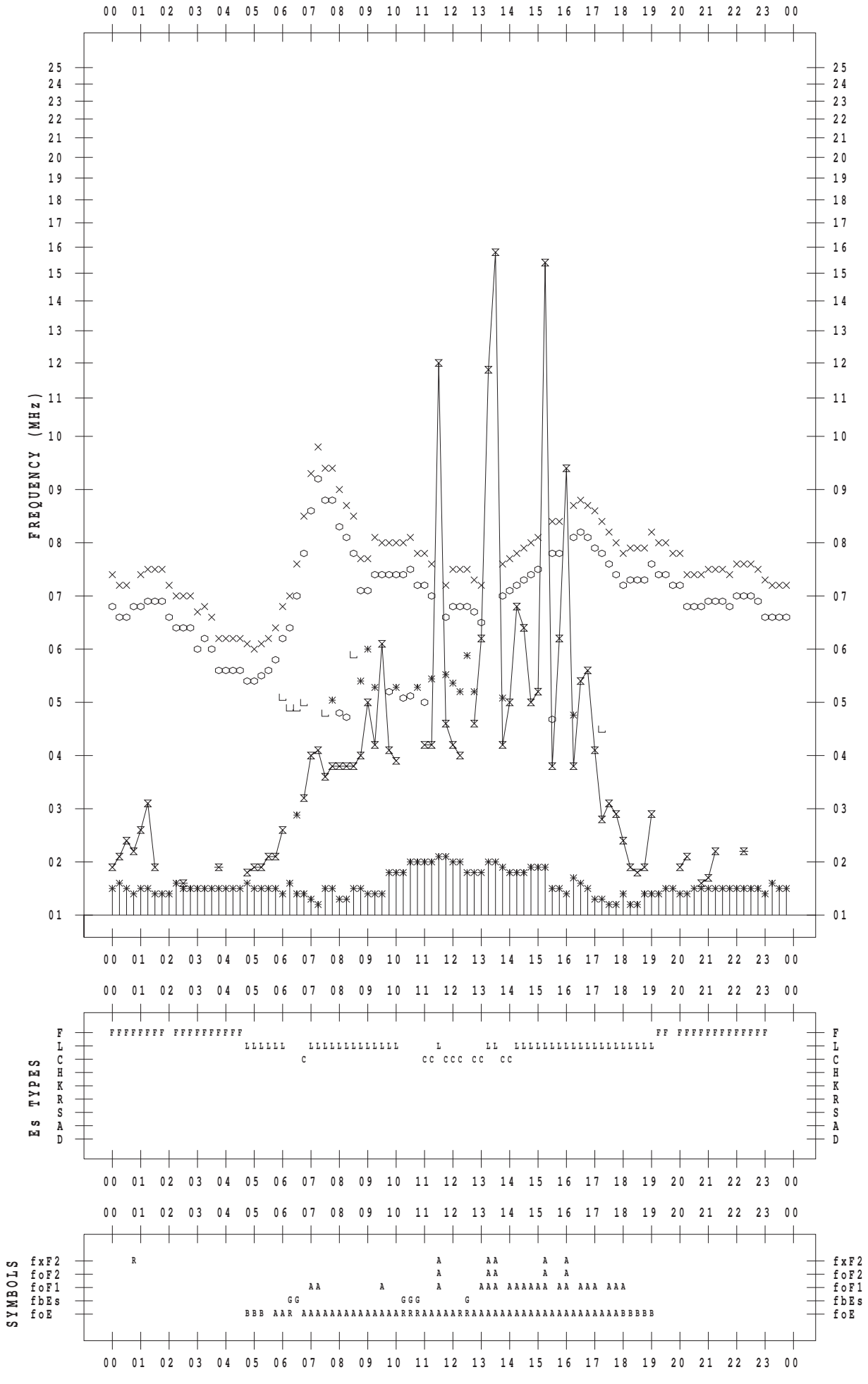
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2014/ 8/ 6

135 °E MEAN TIME



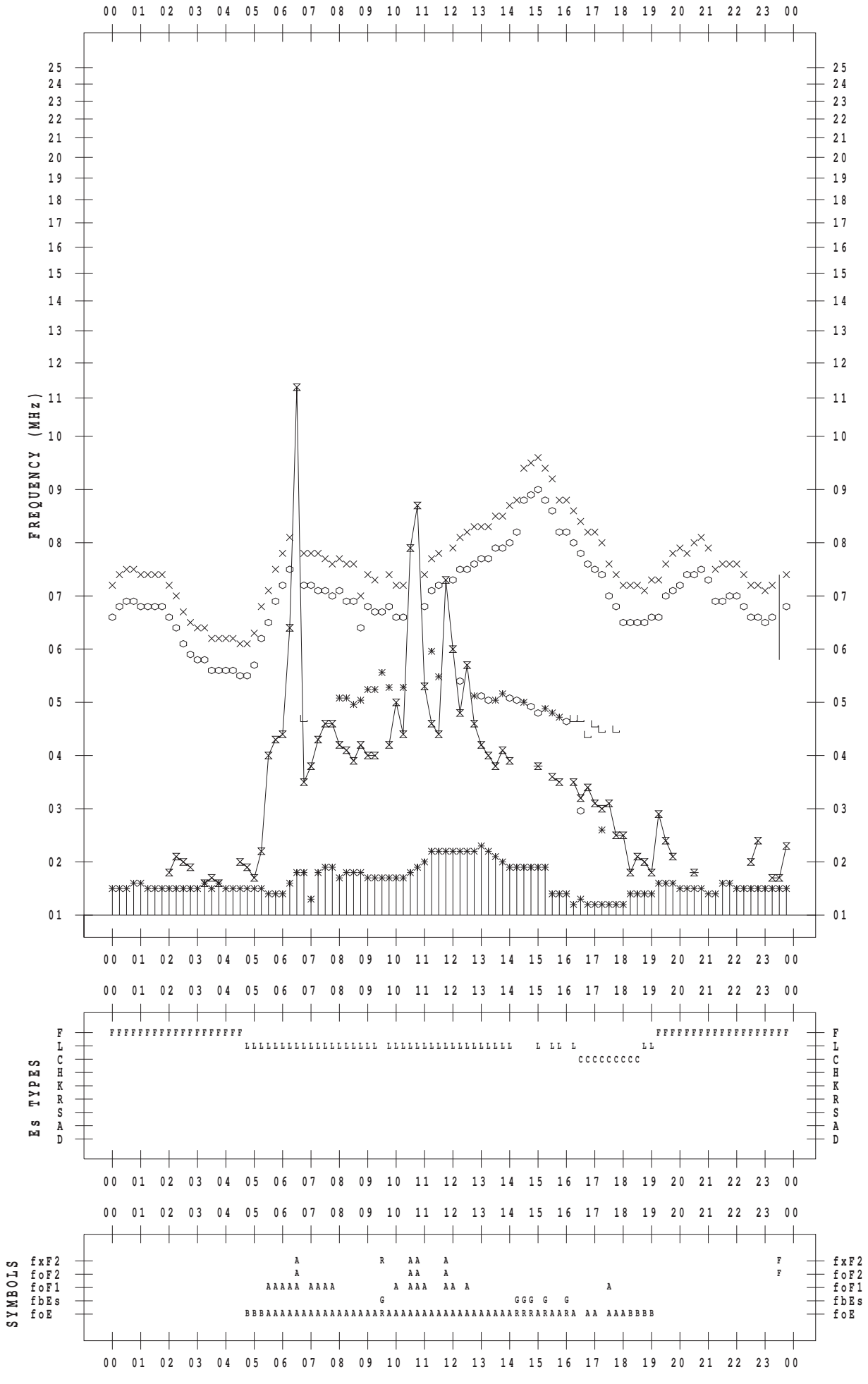
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2014/ 8/ 7

135 °E MEAN TIME



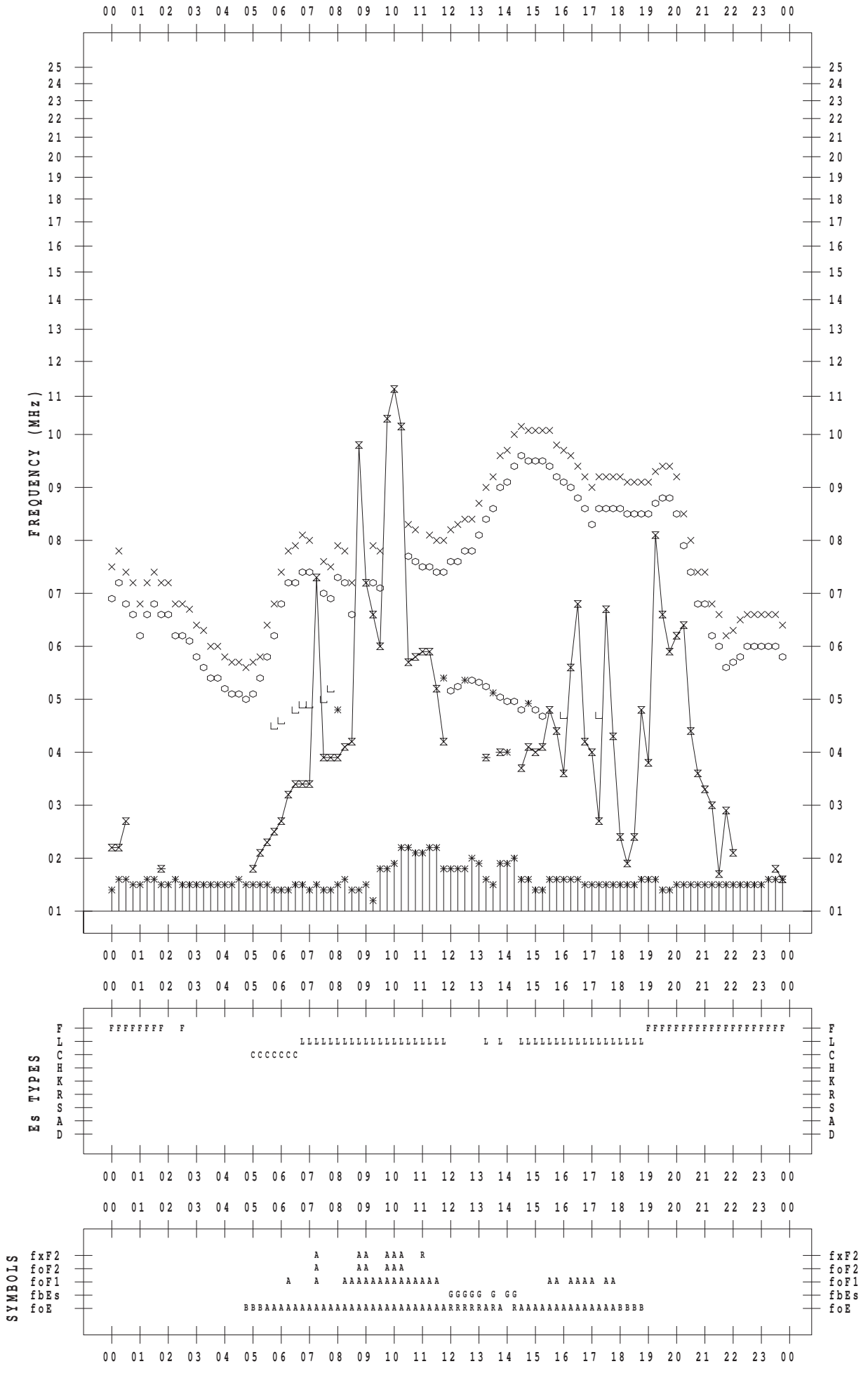
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2014/ 8/ 8

135 °E MEAN TIME



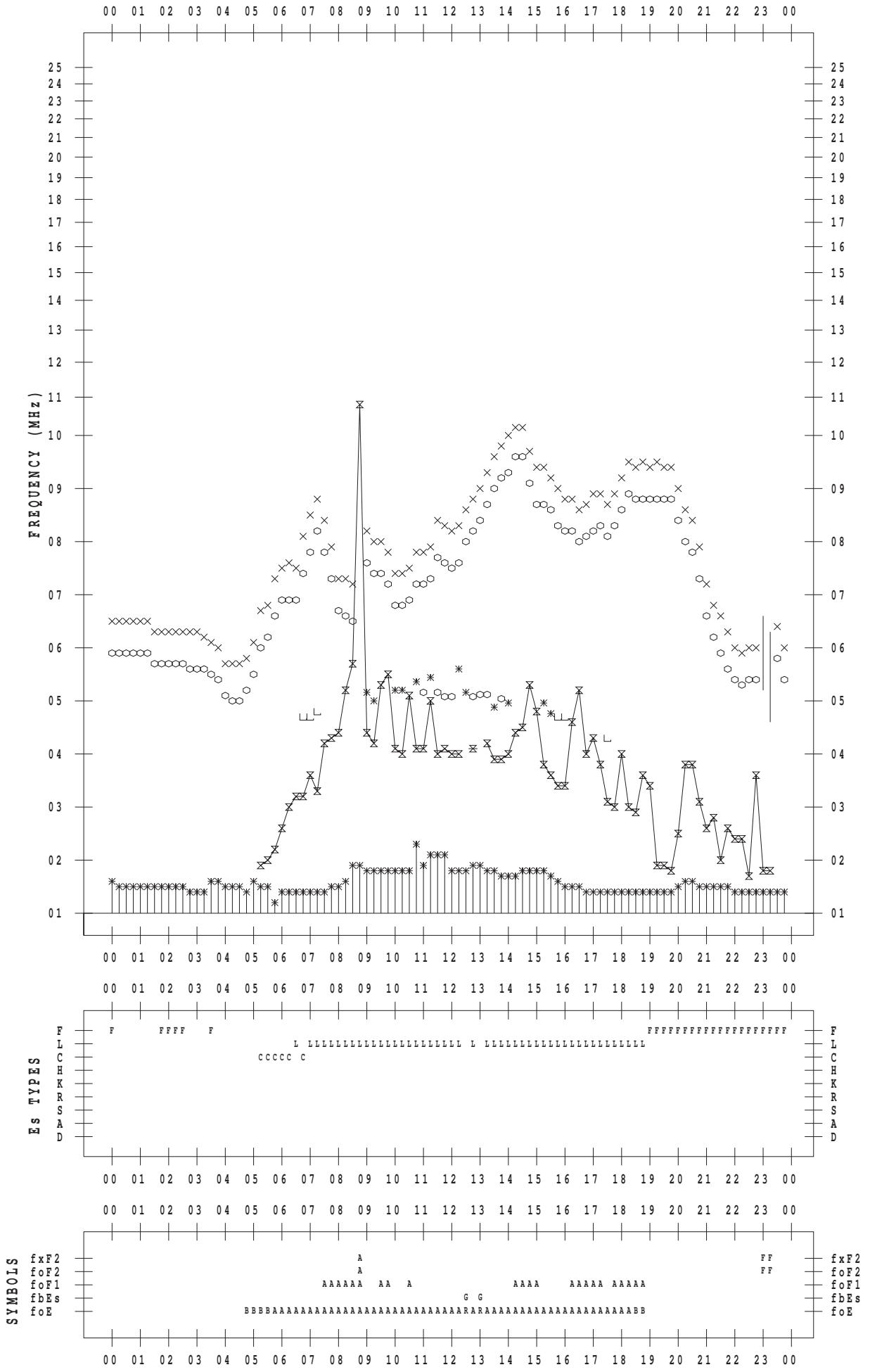
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2014/ 8/ 9

135 °E MEAN TIME



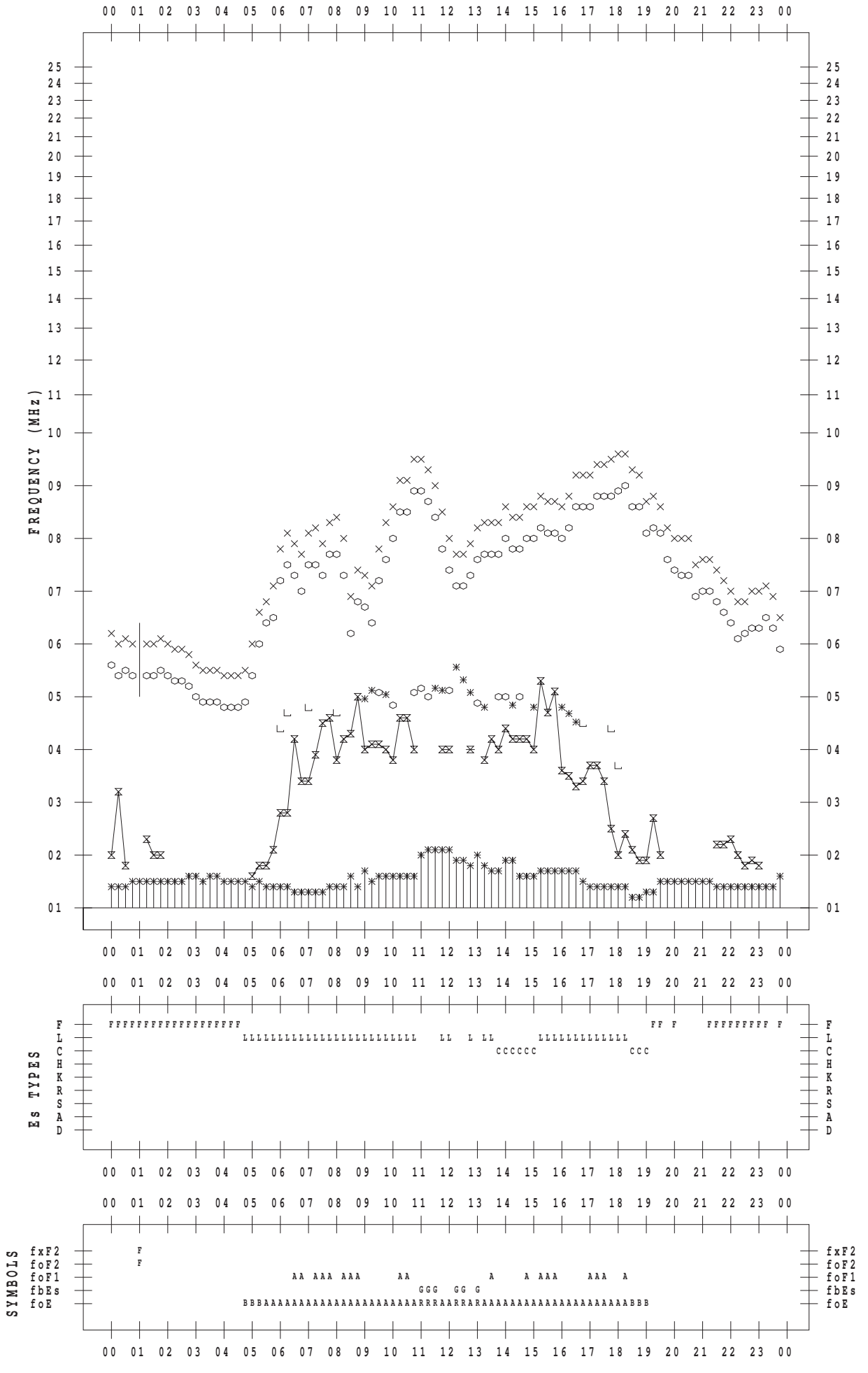
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2014/ 8/10

135 °E MEAN TIME



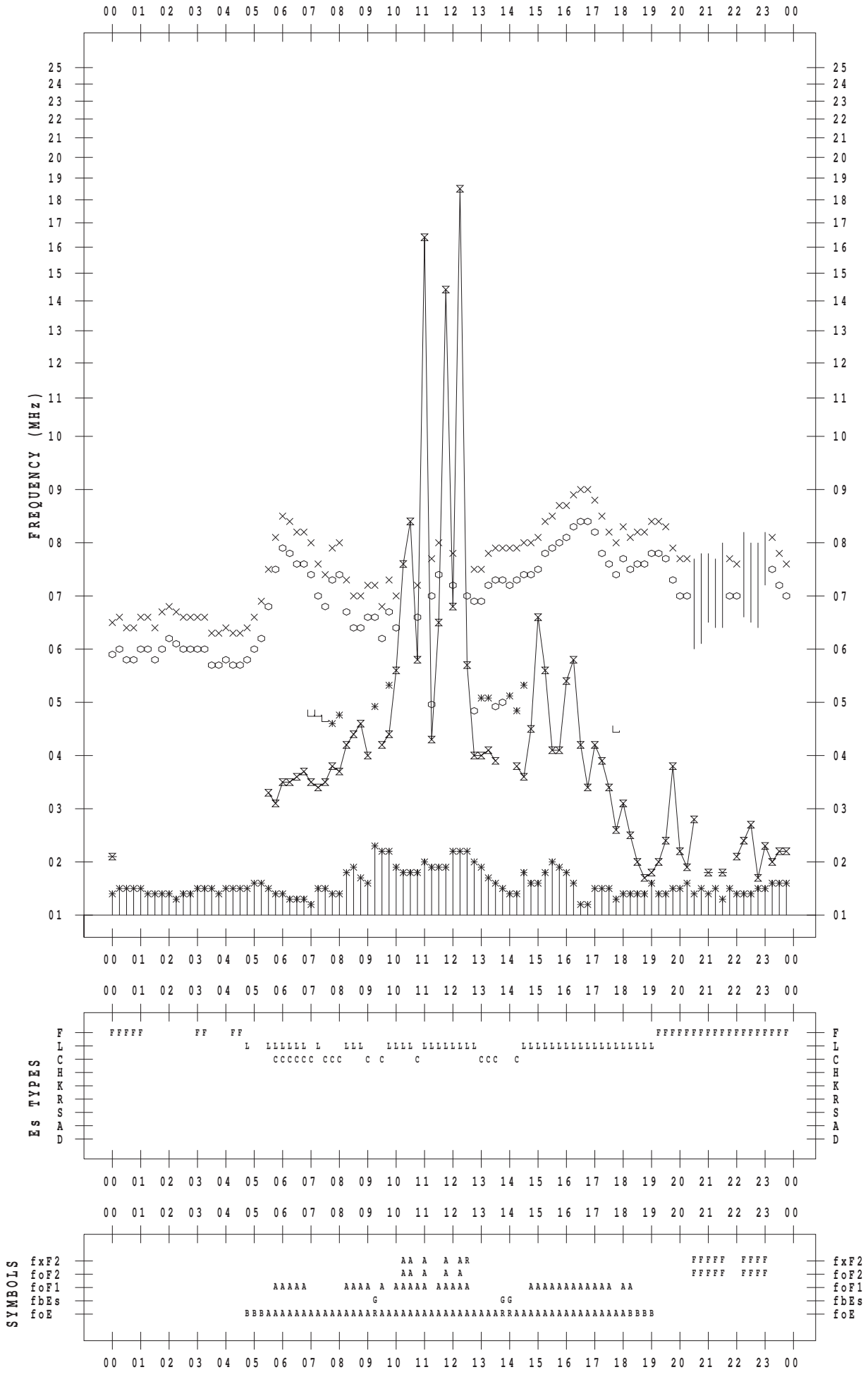
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2014/ 8/11

135 °E MEAN TIME



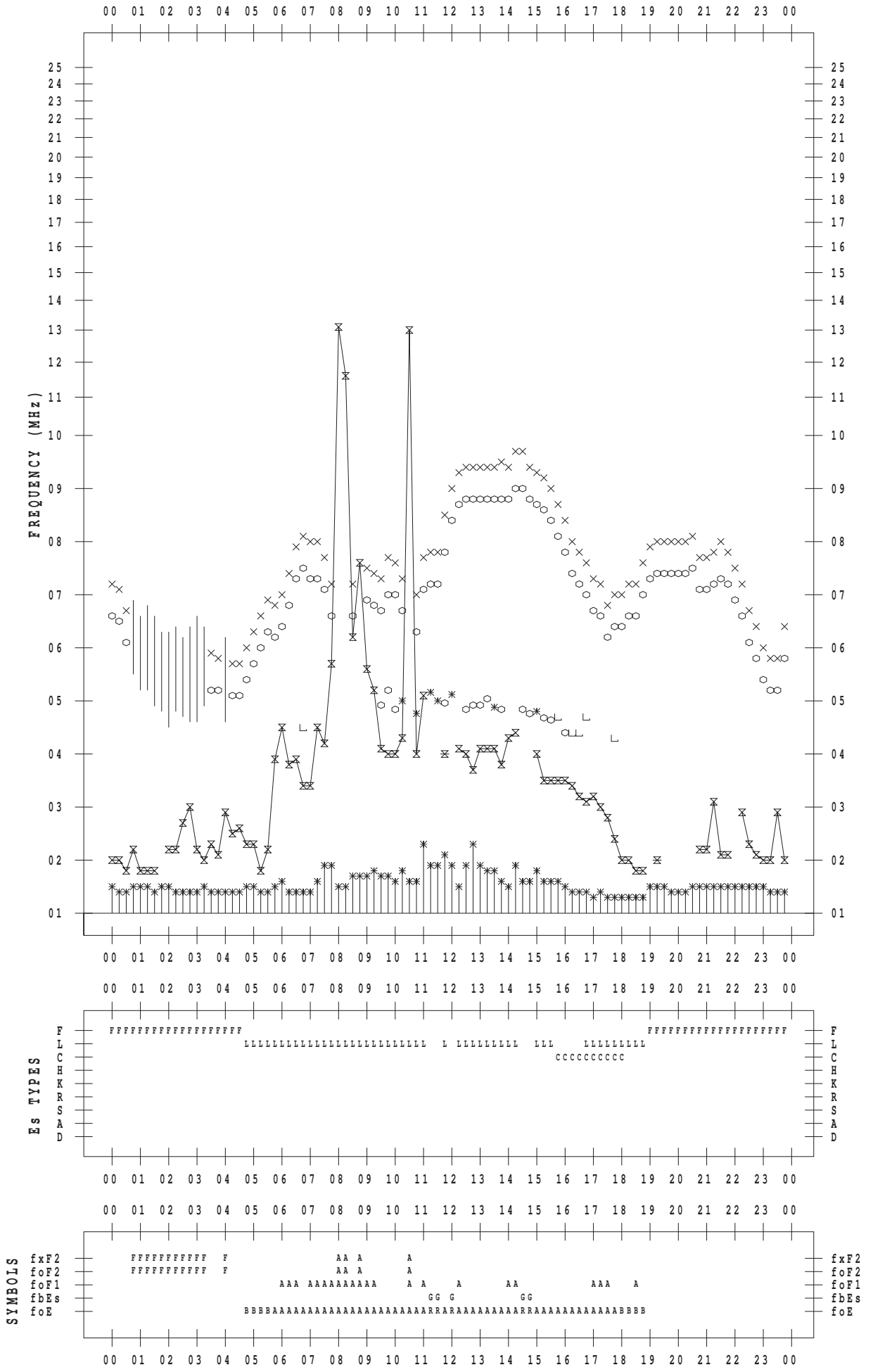
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2014/ 8/12

135 °E MEAN TIME



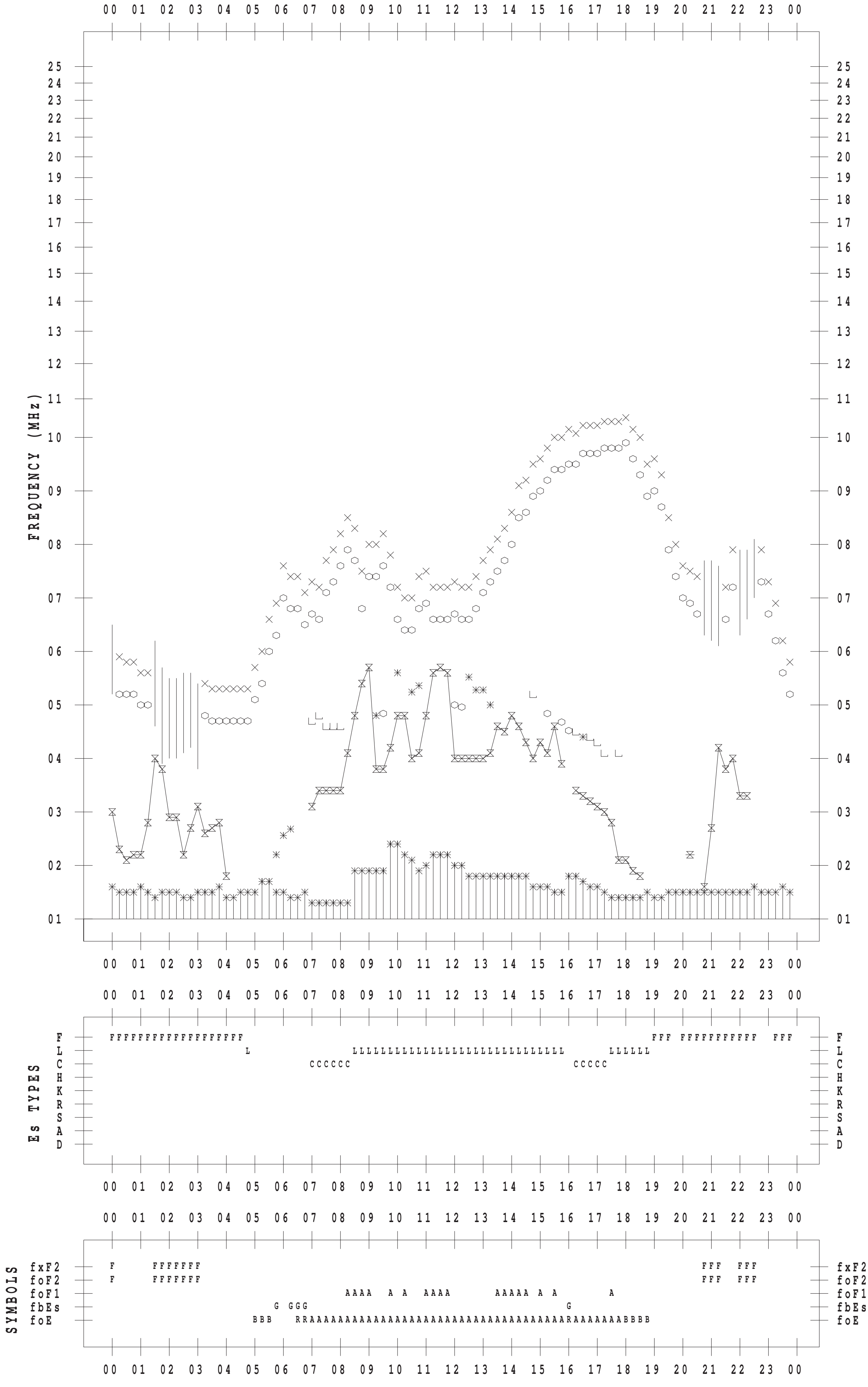
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2014/ 8/13

135 °E MEAN TIME



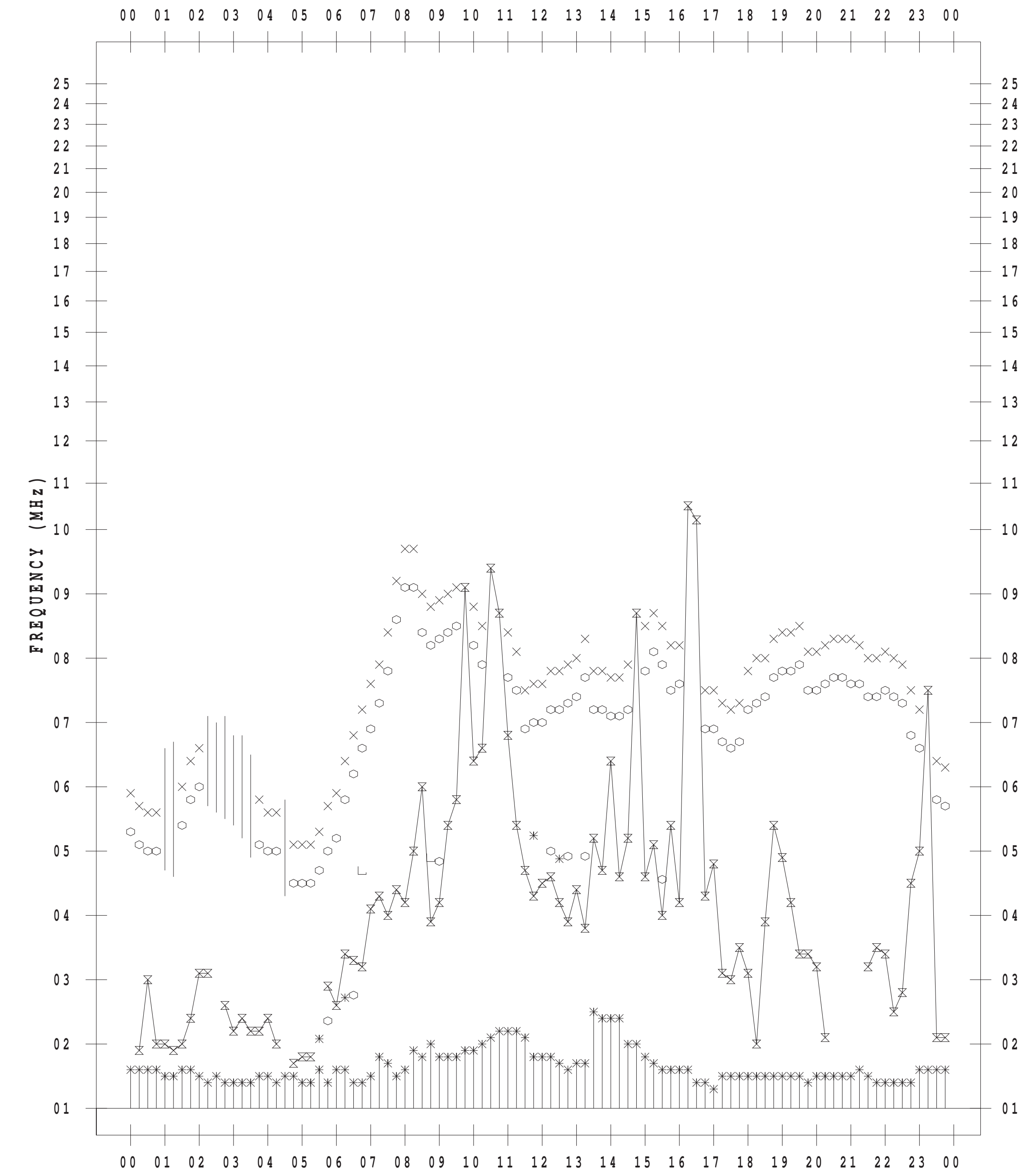
f-PLOT DATA

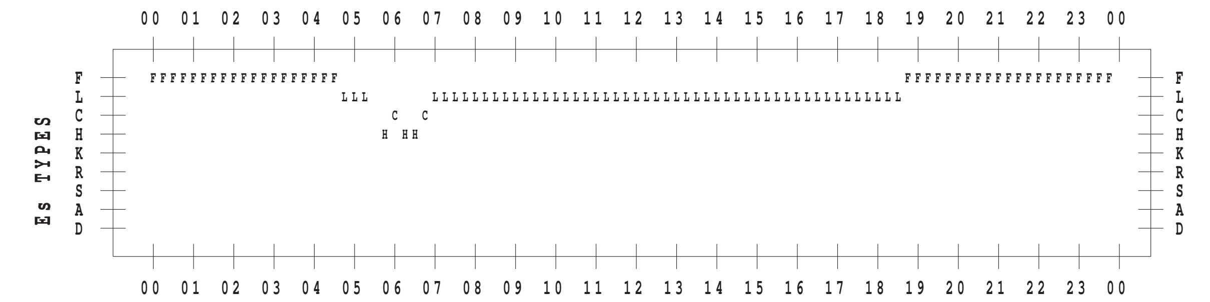
SCALER : I.NISHIMUTA

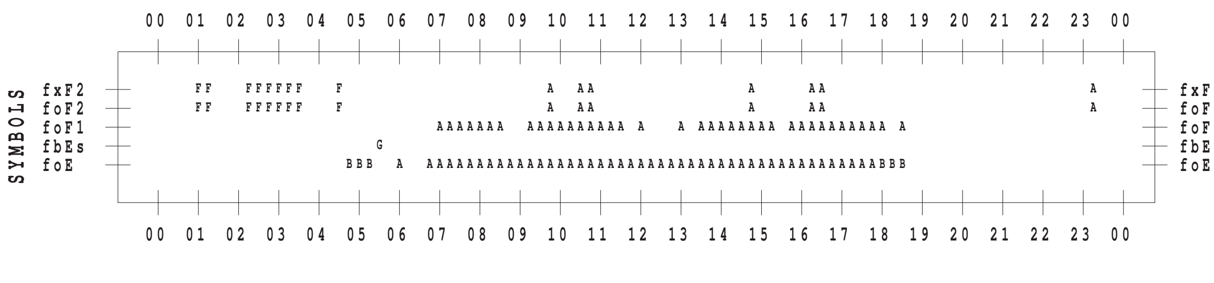
STATION : Kokubunji

DATE : 2014/ 8/14

135 °E MEAN TIME







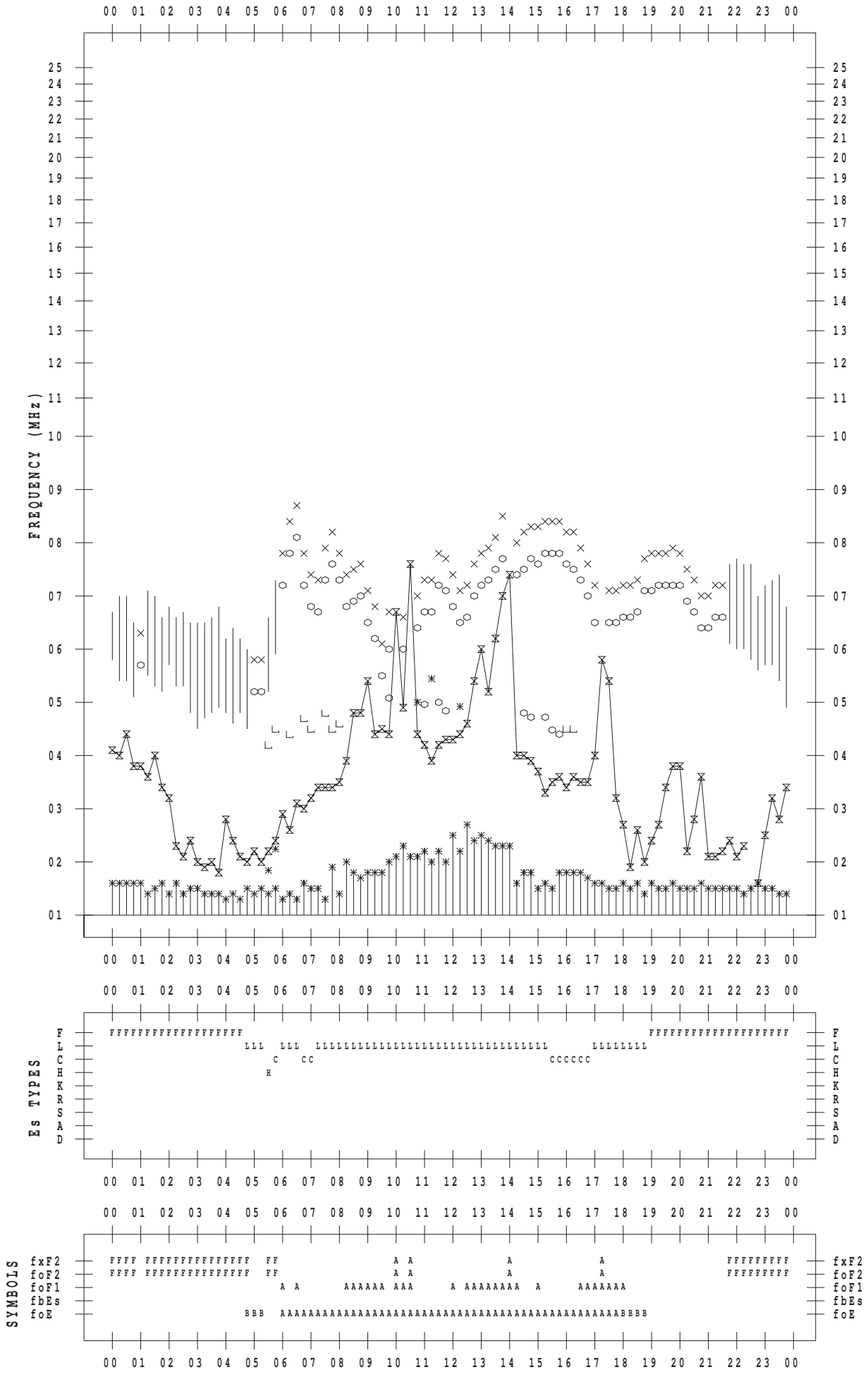
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2014/ 8/15

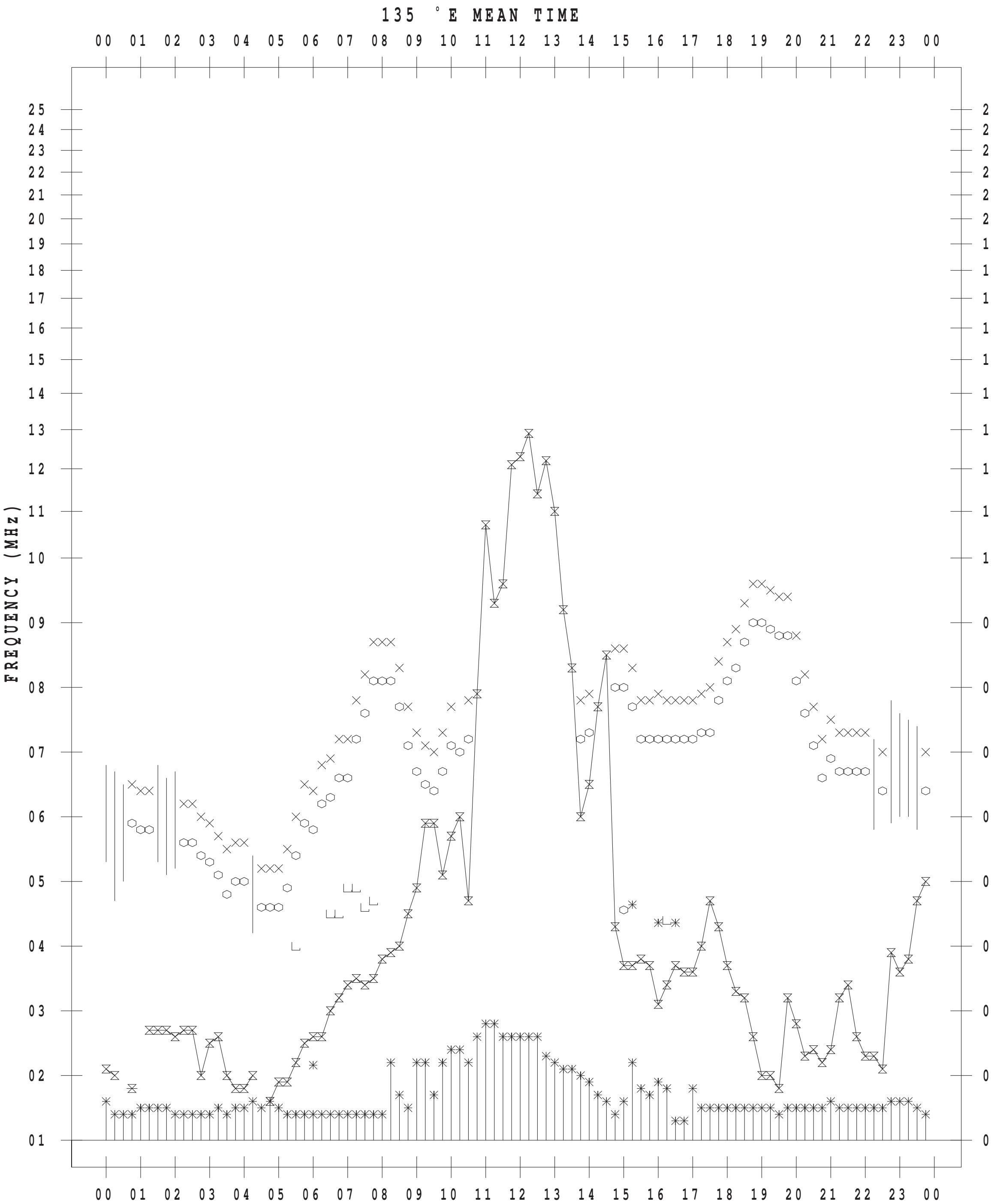
135 °E MEAN TIME

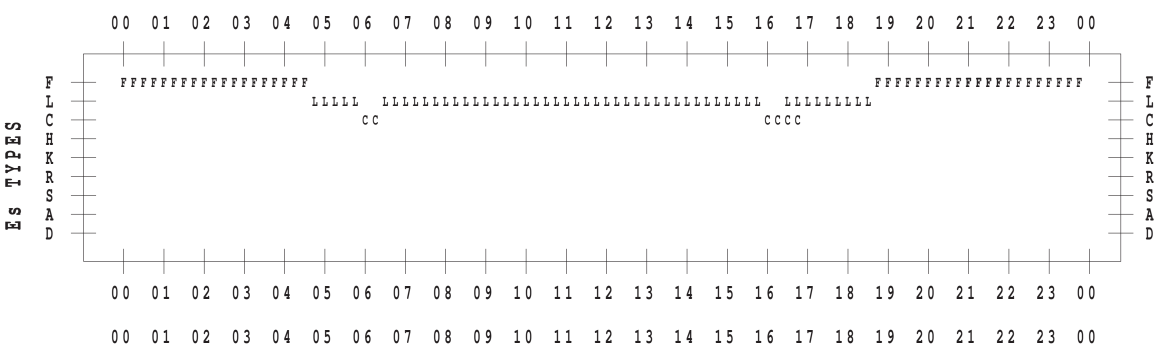


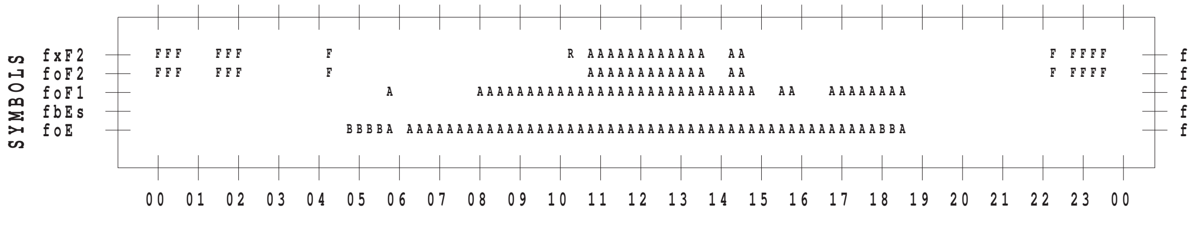
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji DATE : 2014/ 8/16







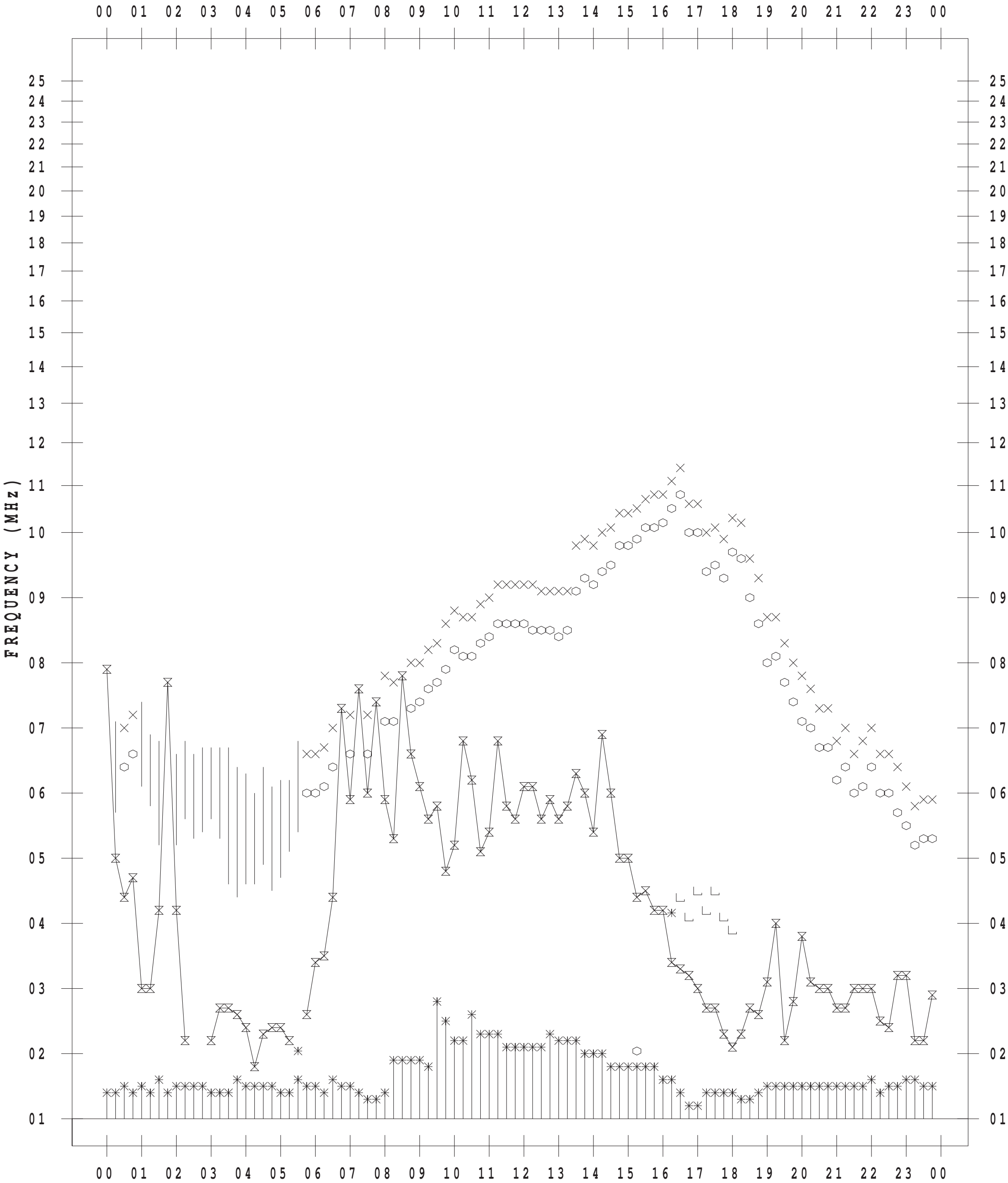
f-PLOT DATA

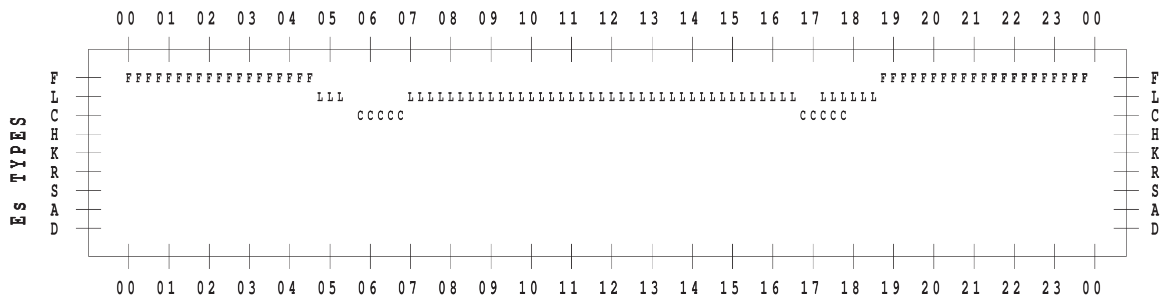
SCALER : I.NISHIMUTA

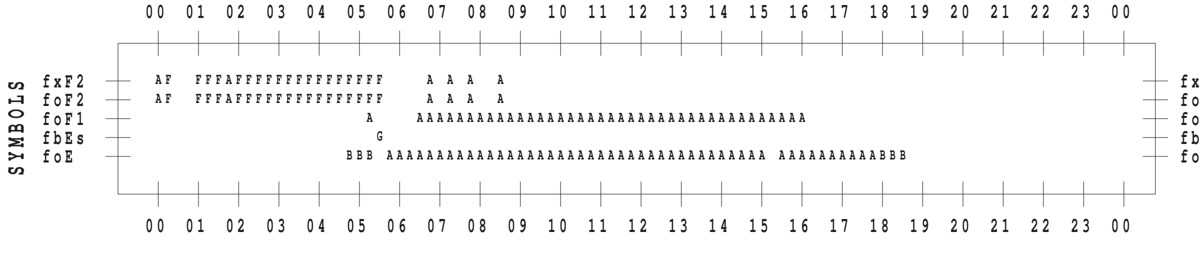
STATION : Kokubunji

DATE : 2014/ 8/17

135 °E MEAN TIME





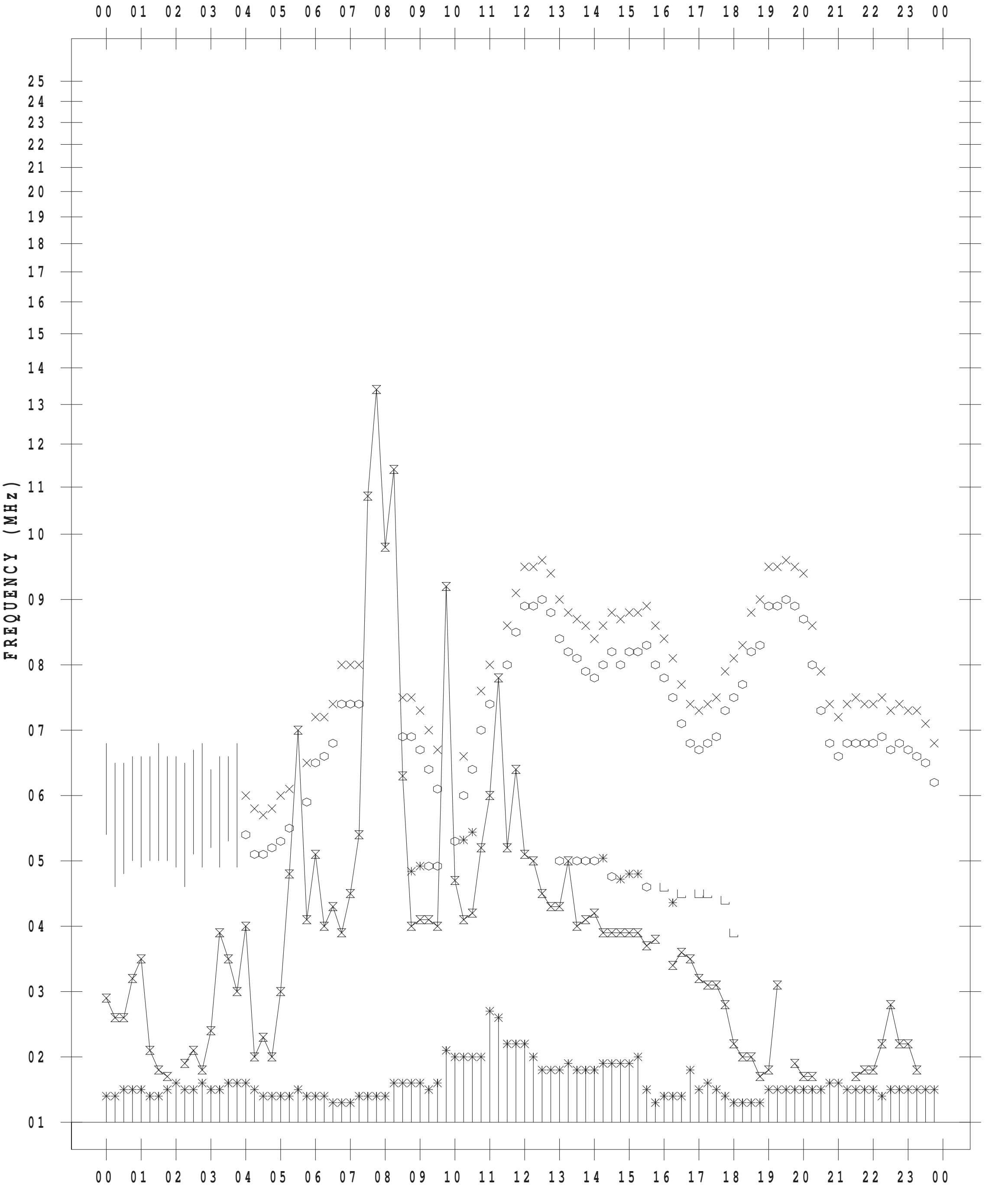


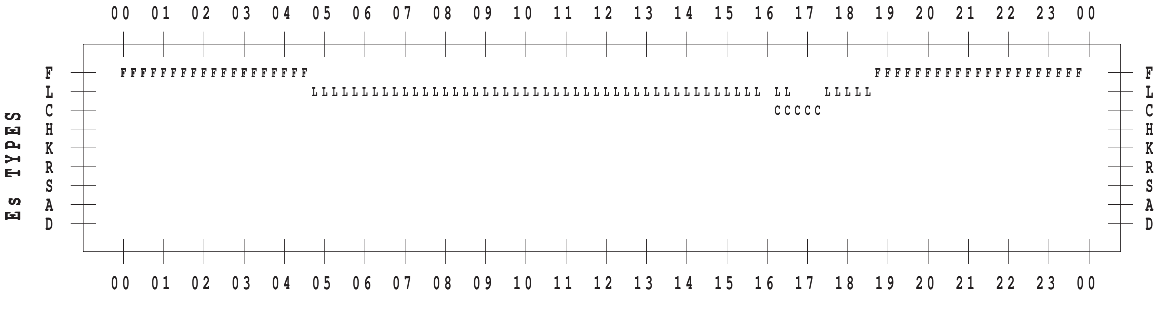
f-PLOT DATA

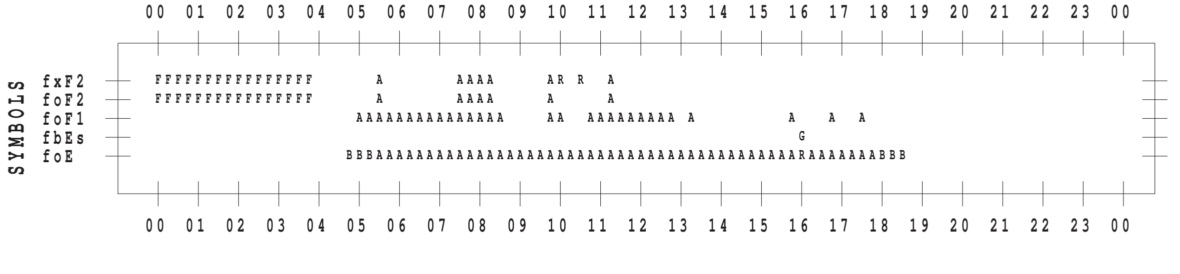
SCALER : I.NISHIMUTA

STATION : Kokubunji DATE : 2014/ 8/18

135 °E MEAN TIME





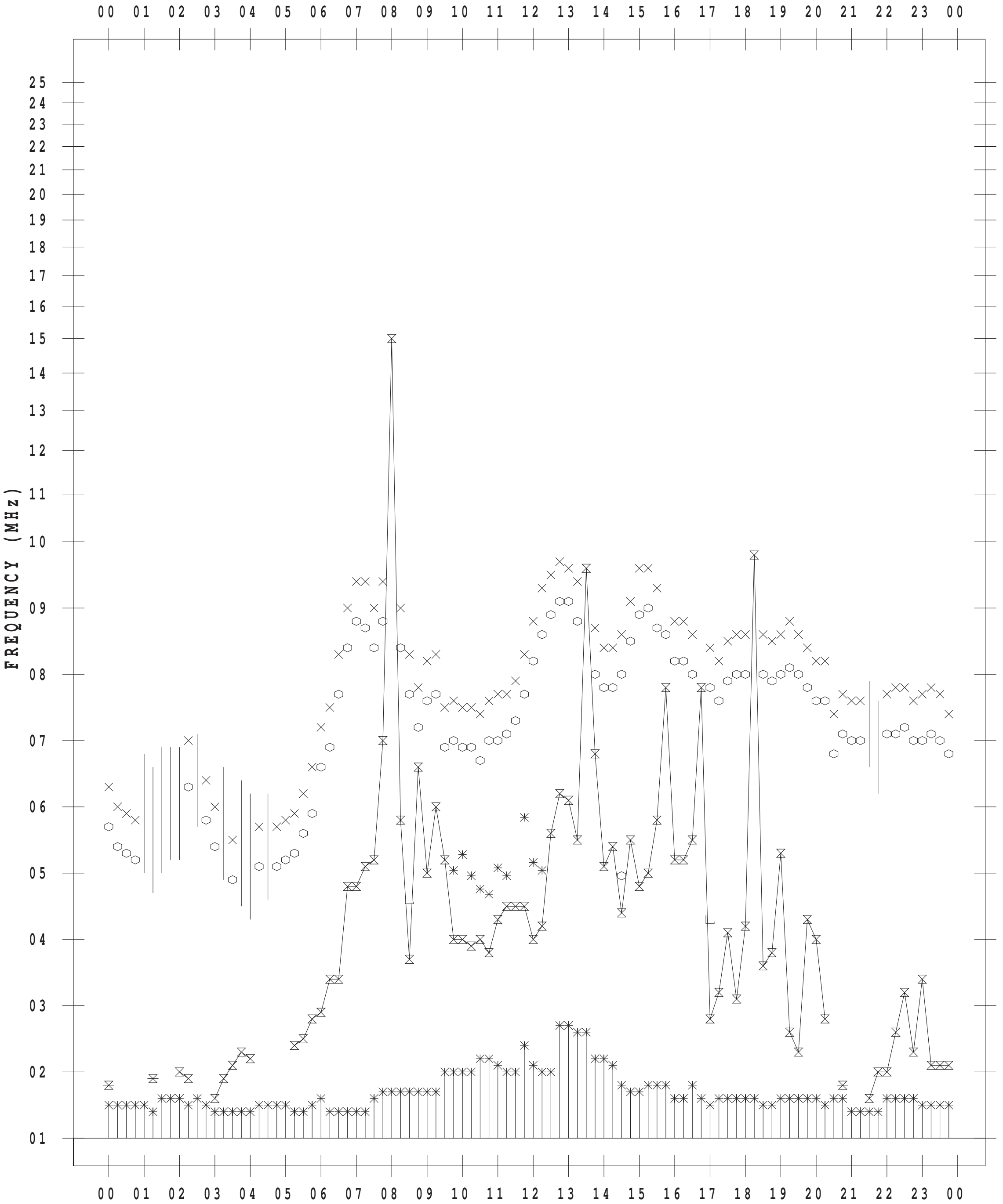


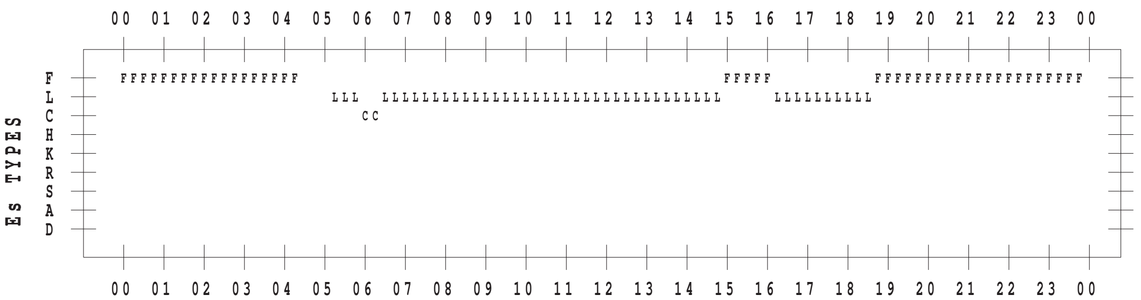
f-PLOT DATA

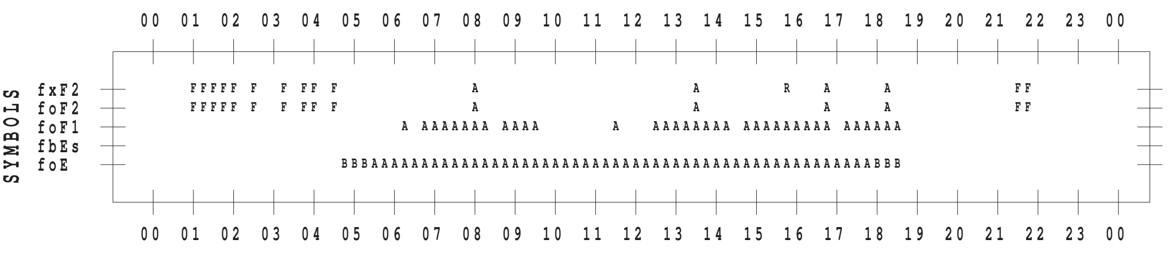
SCALER : I.NISHIMUTA

STATION : Kokubunji　　DATE : 2014/ 8/19

135 °E MEAN TIME







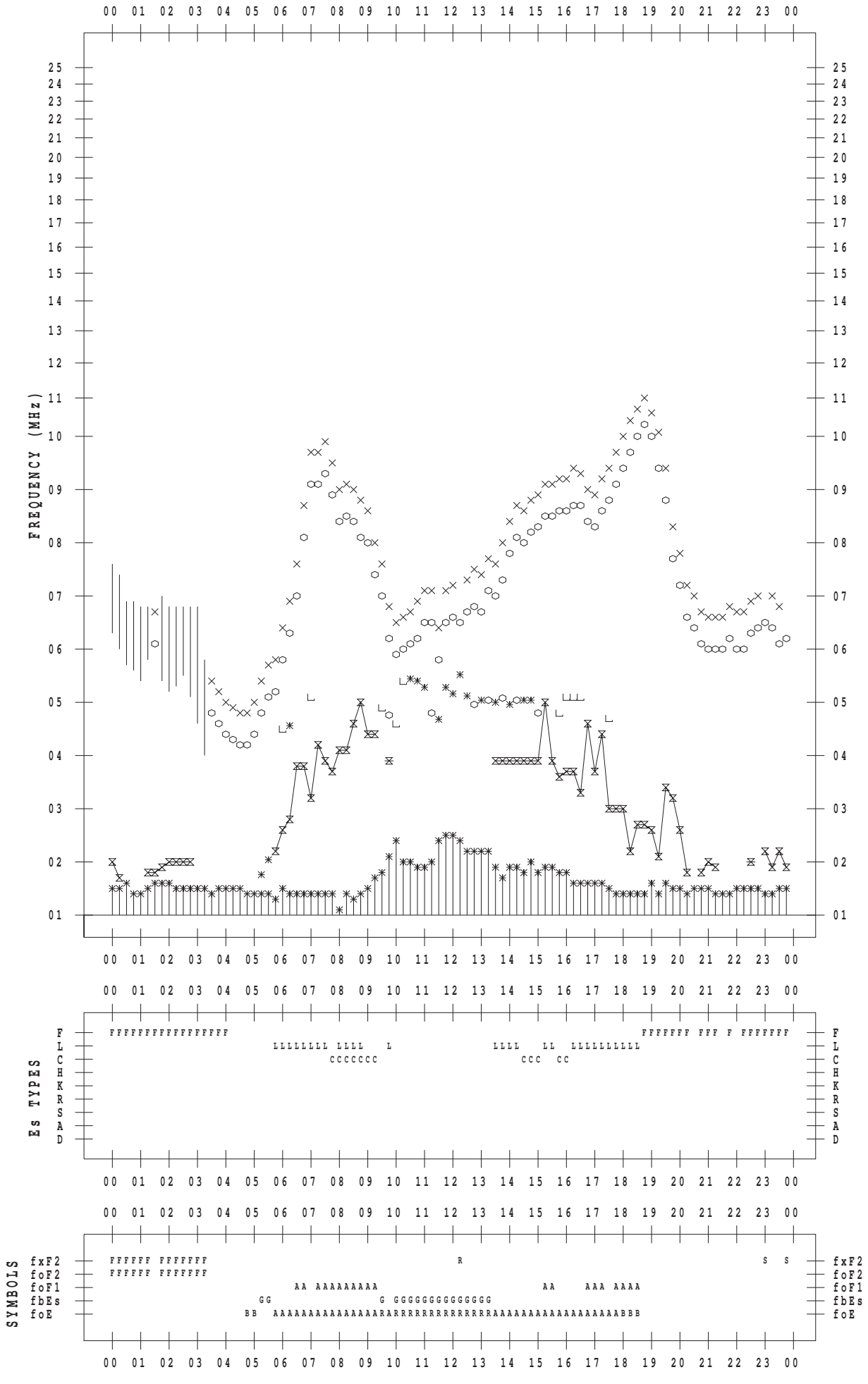
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2014/ 8/20

135 °E MEAN TIME



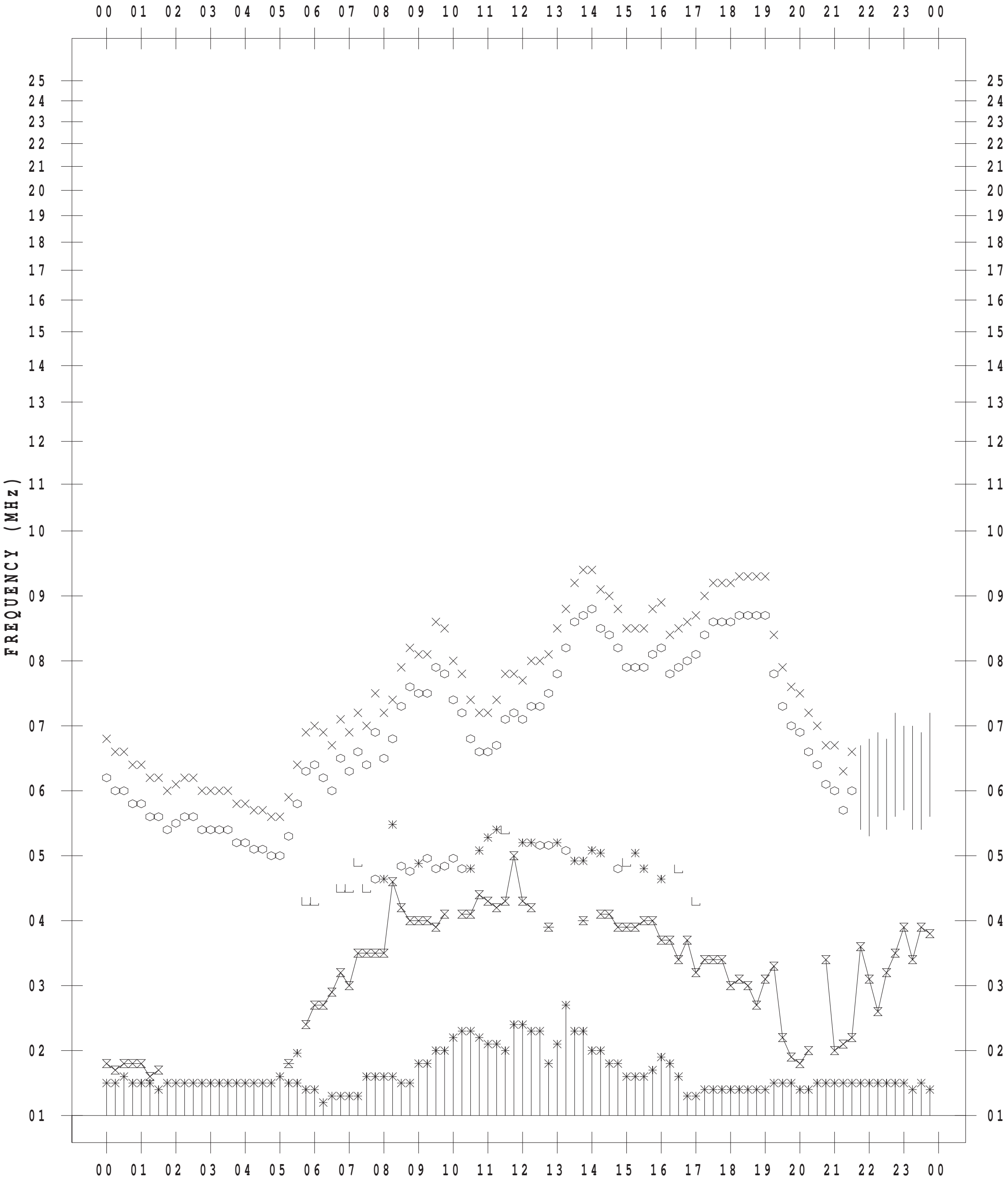
f-PLOT DATA

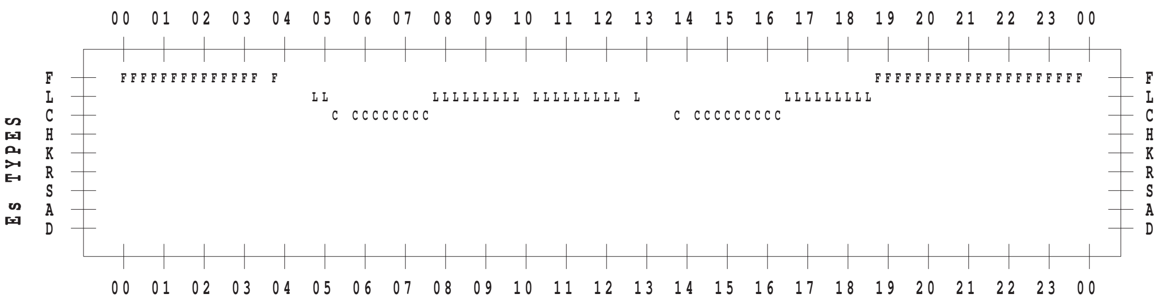
SCALER : I.NISHIMUTA

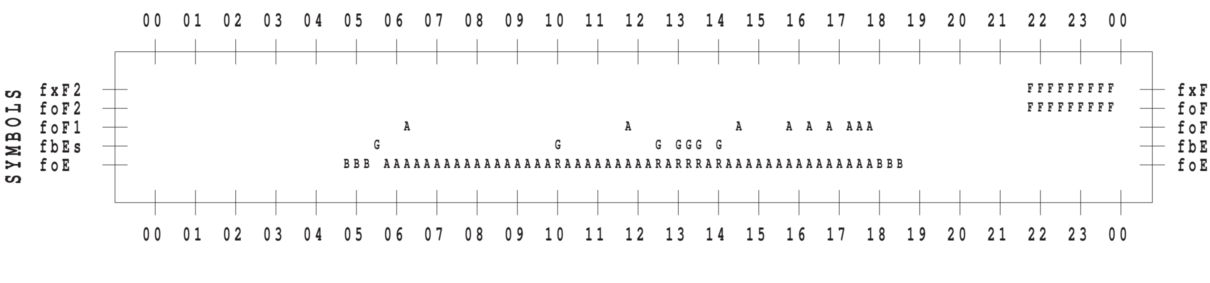
STATION : Kokubunji

DATE : 2014/ 8/21

135 °E MEAN TIME







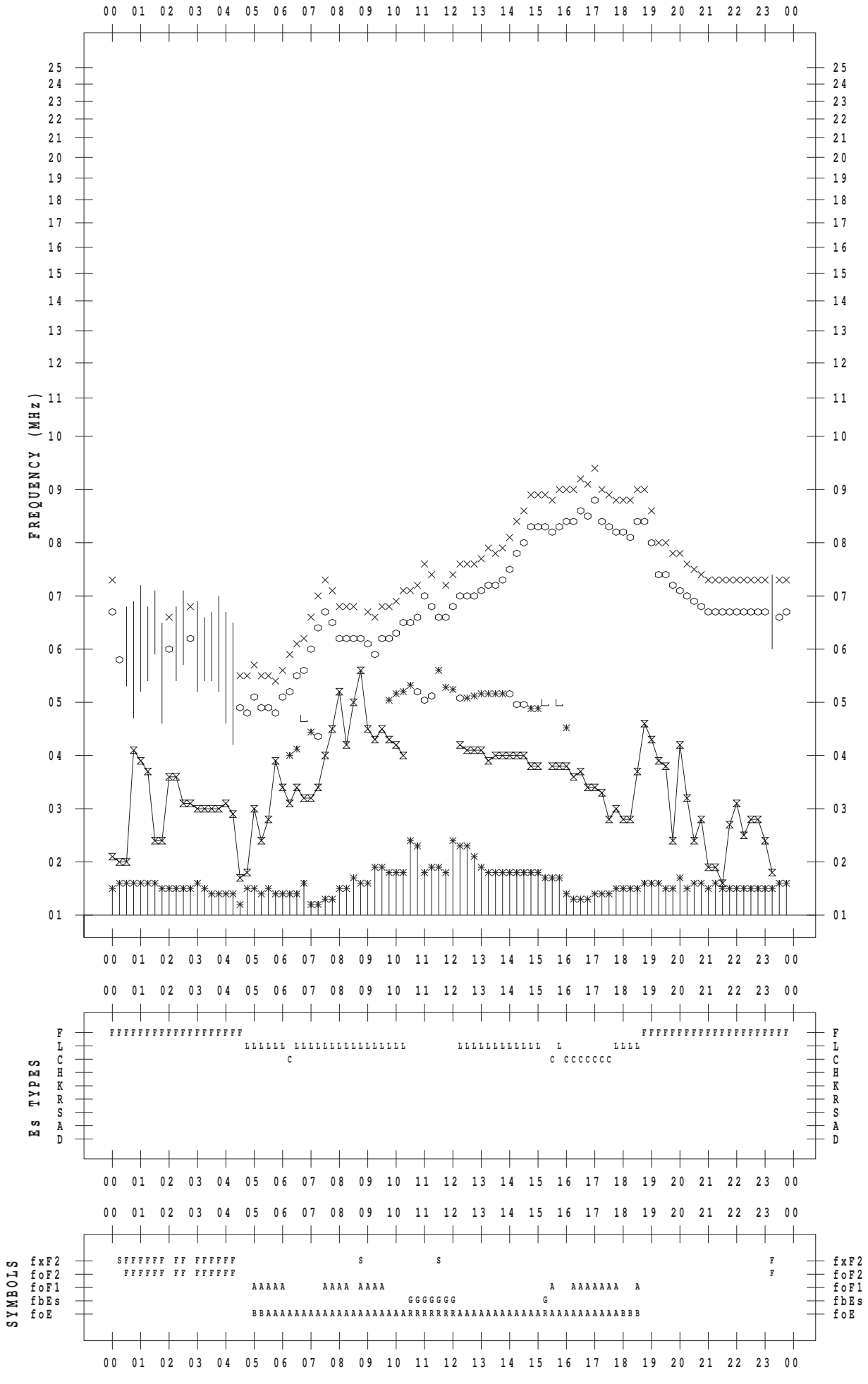
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2014/ 8/22

135 °E MEAN TIME



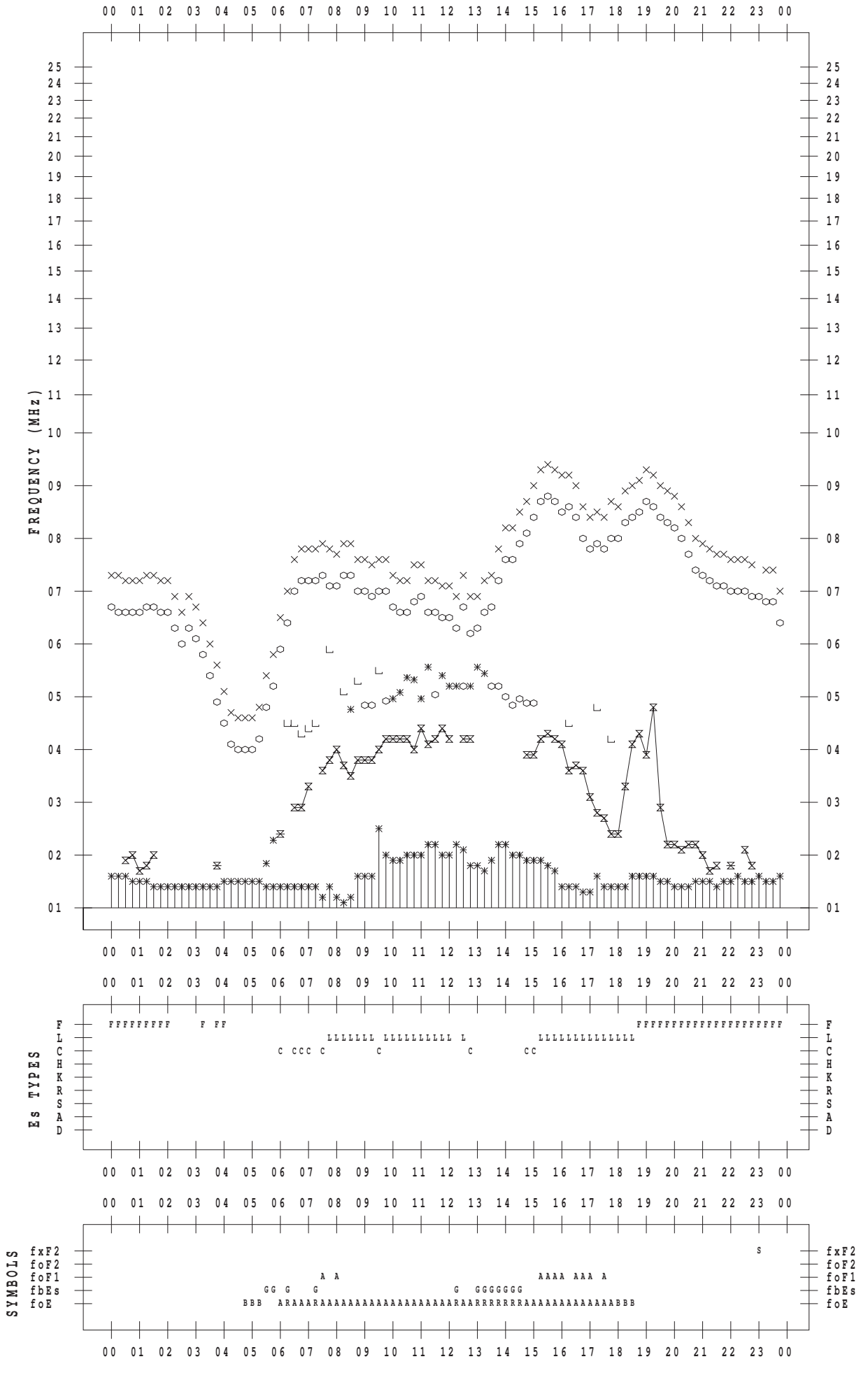
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2014/ 8/23

135 °E MEAN TIME



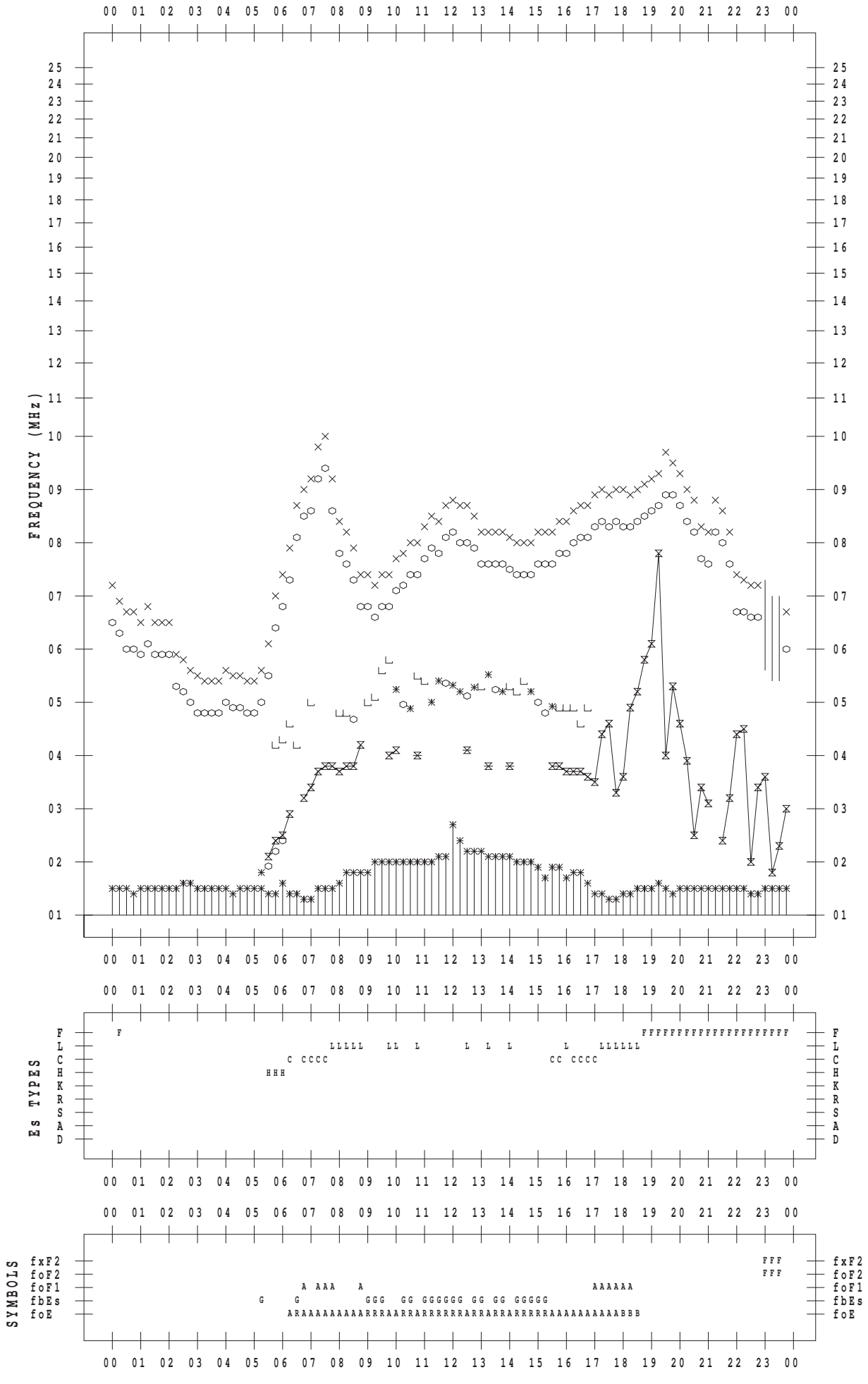
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2014/ 8/24

135 °E MEAN TIME



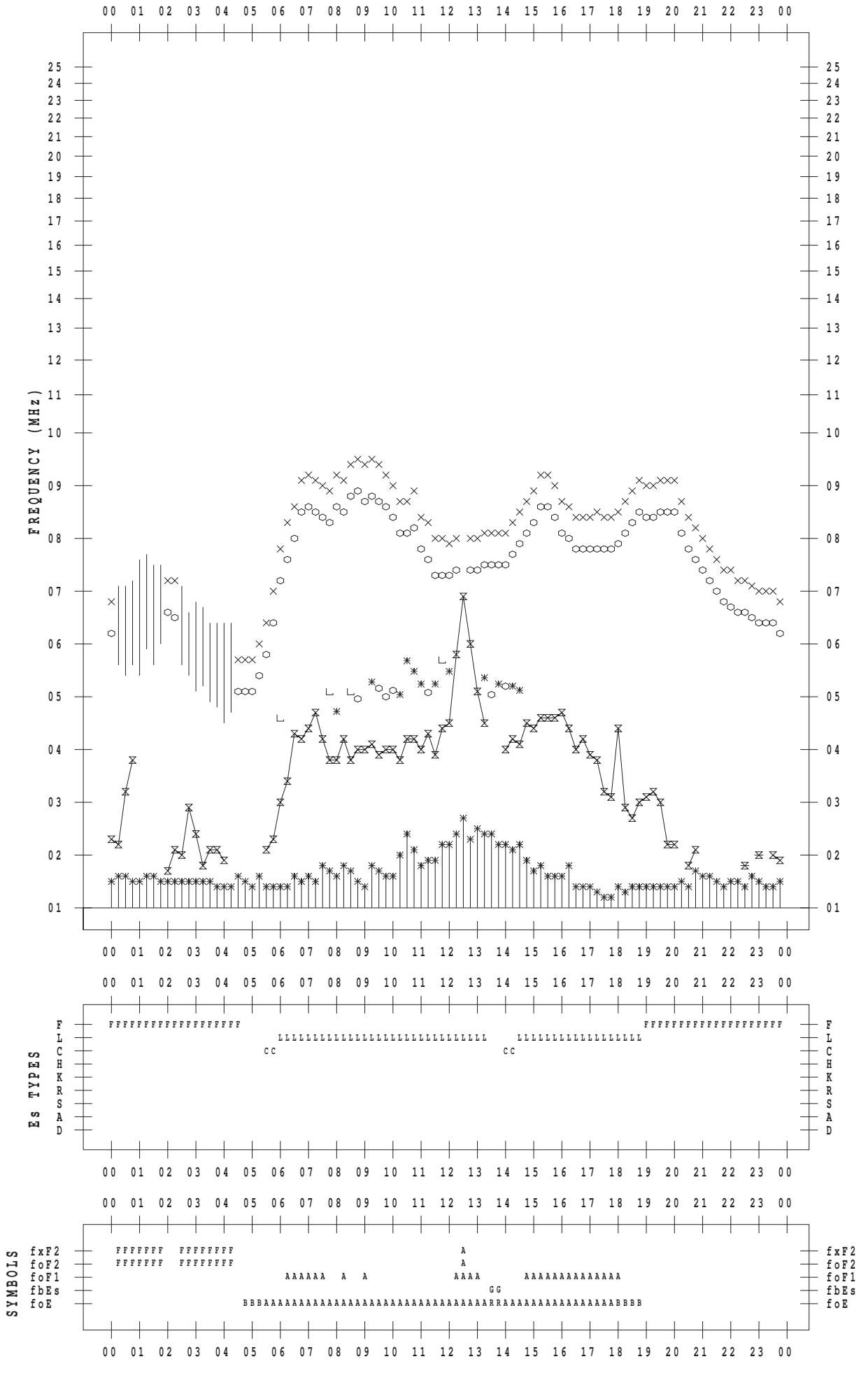
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2014/ 8/25

135 °E MEAN TIME



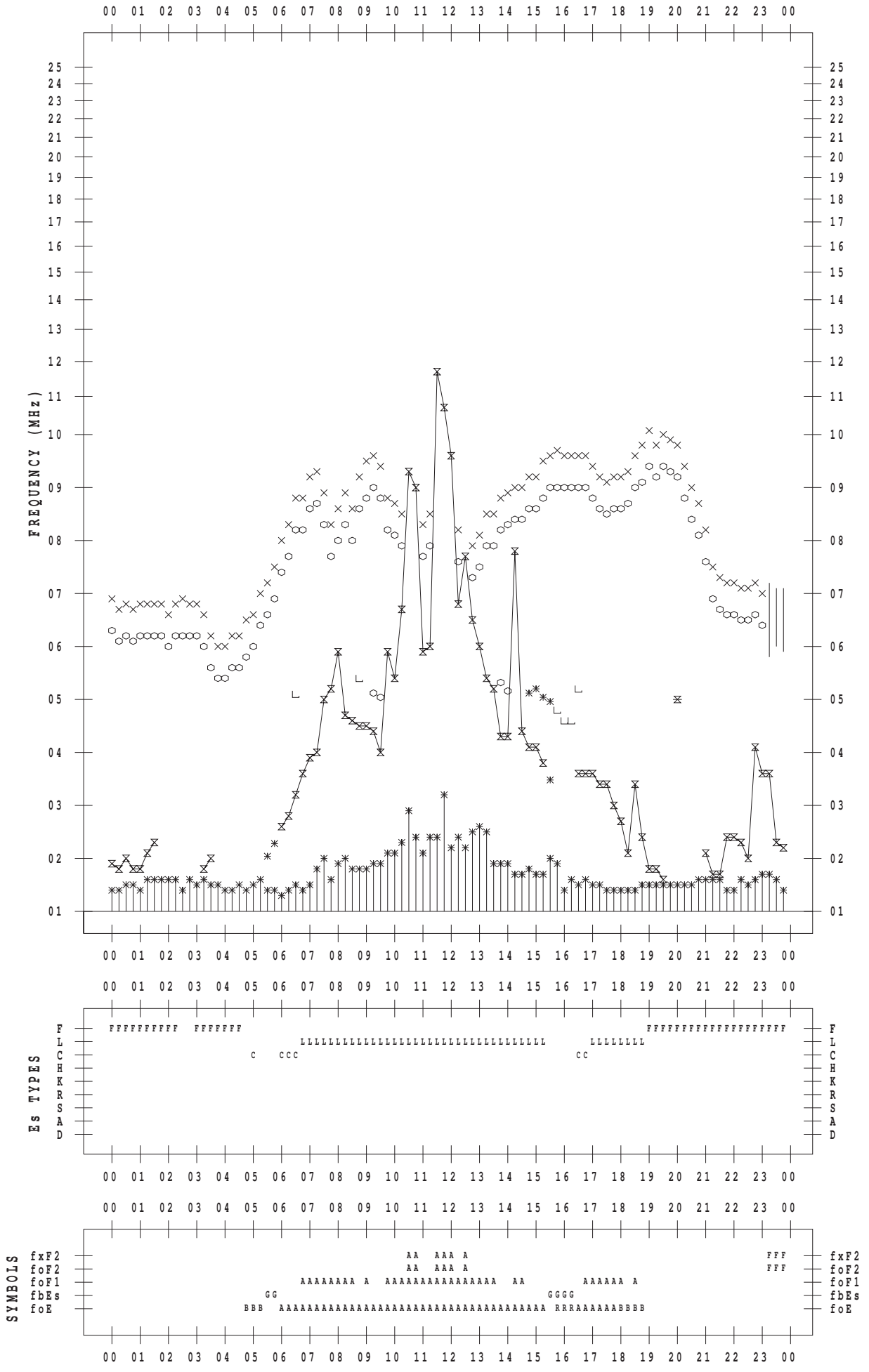
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2014/ 8/26

135 °E MEAN TIME

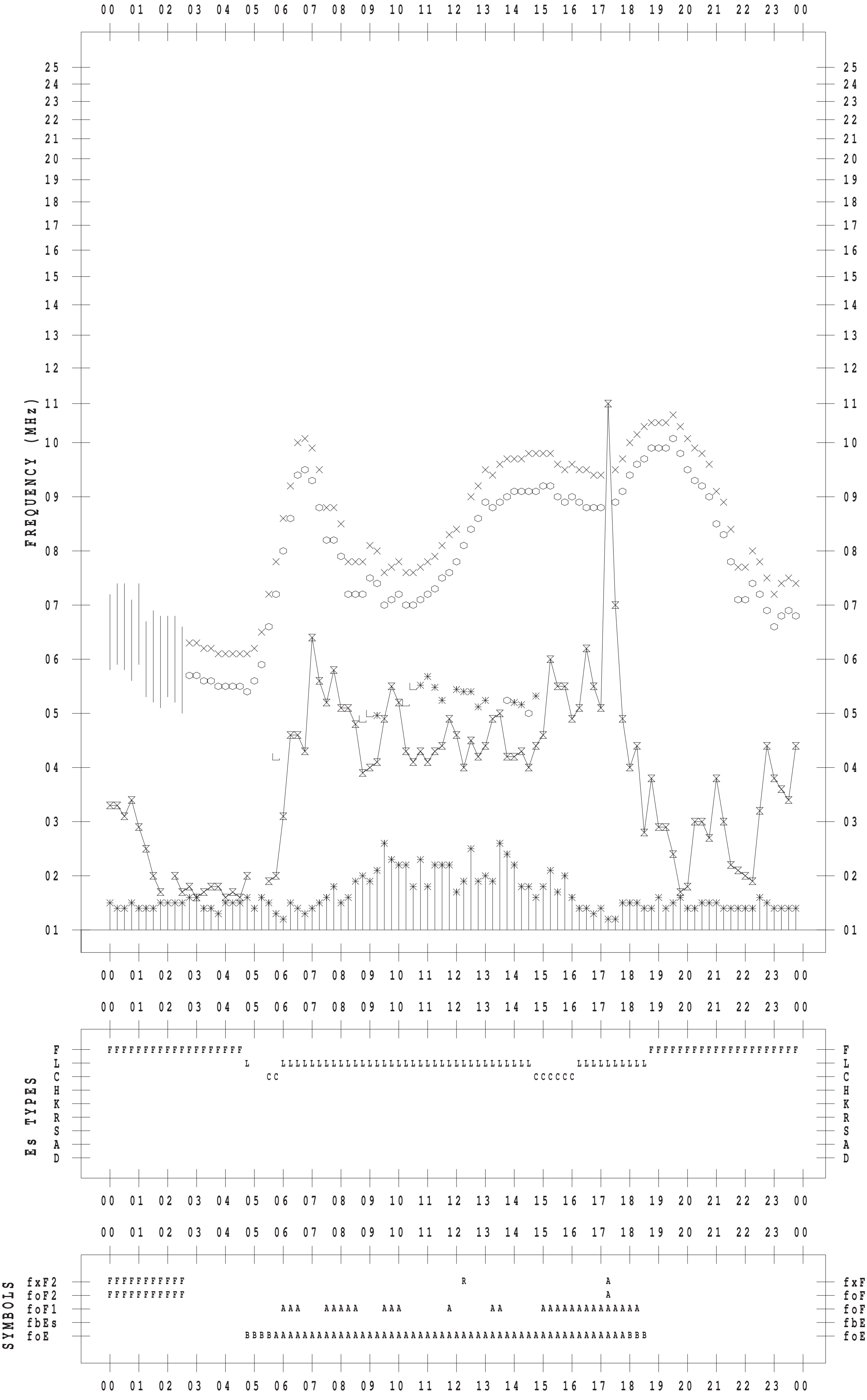


f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji DATE : 2014/ 8/27

135 °E MEAN TIME



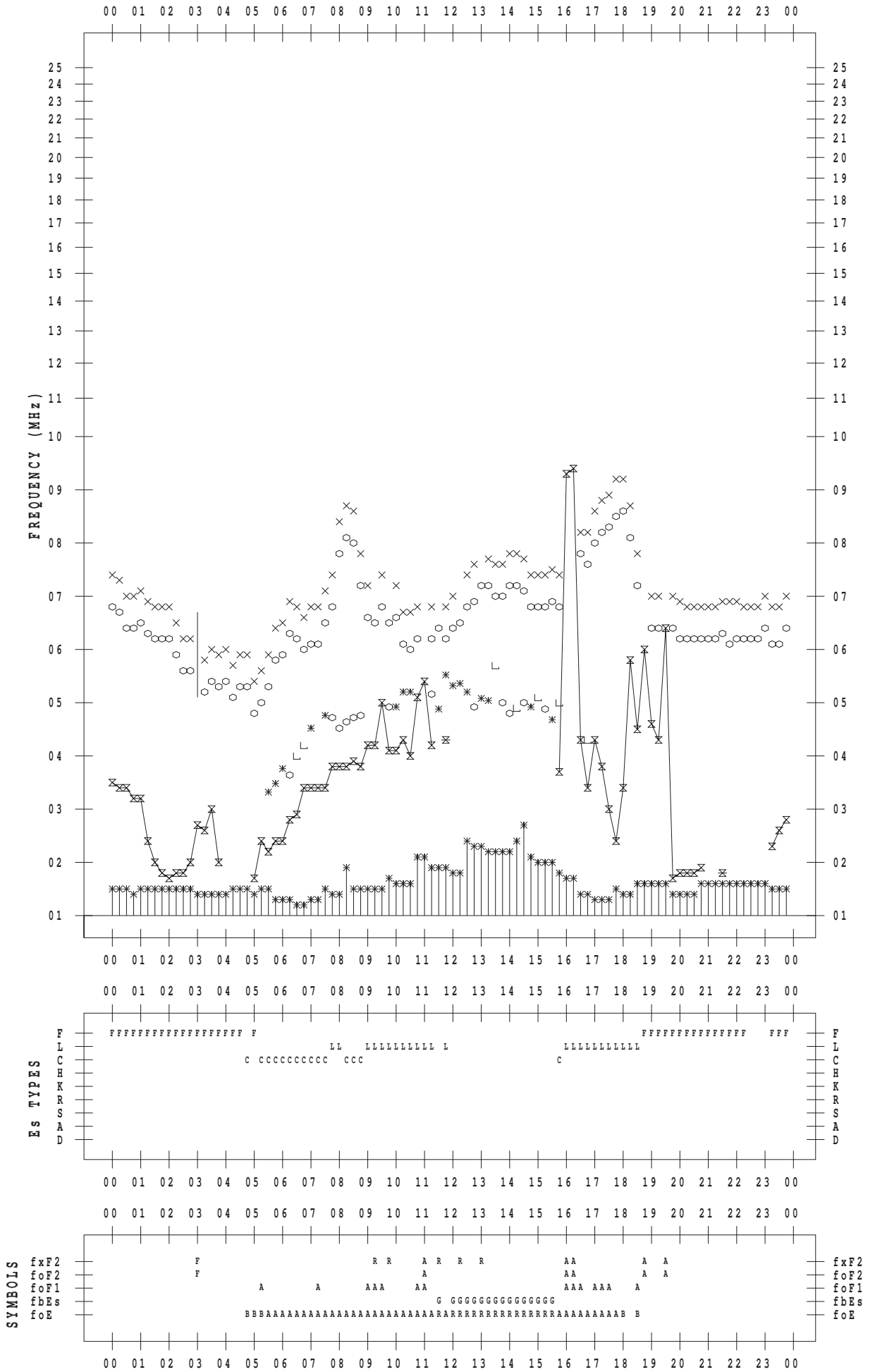
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2014/ 8/28

135 °E MEAN TIME



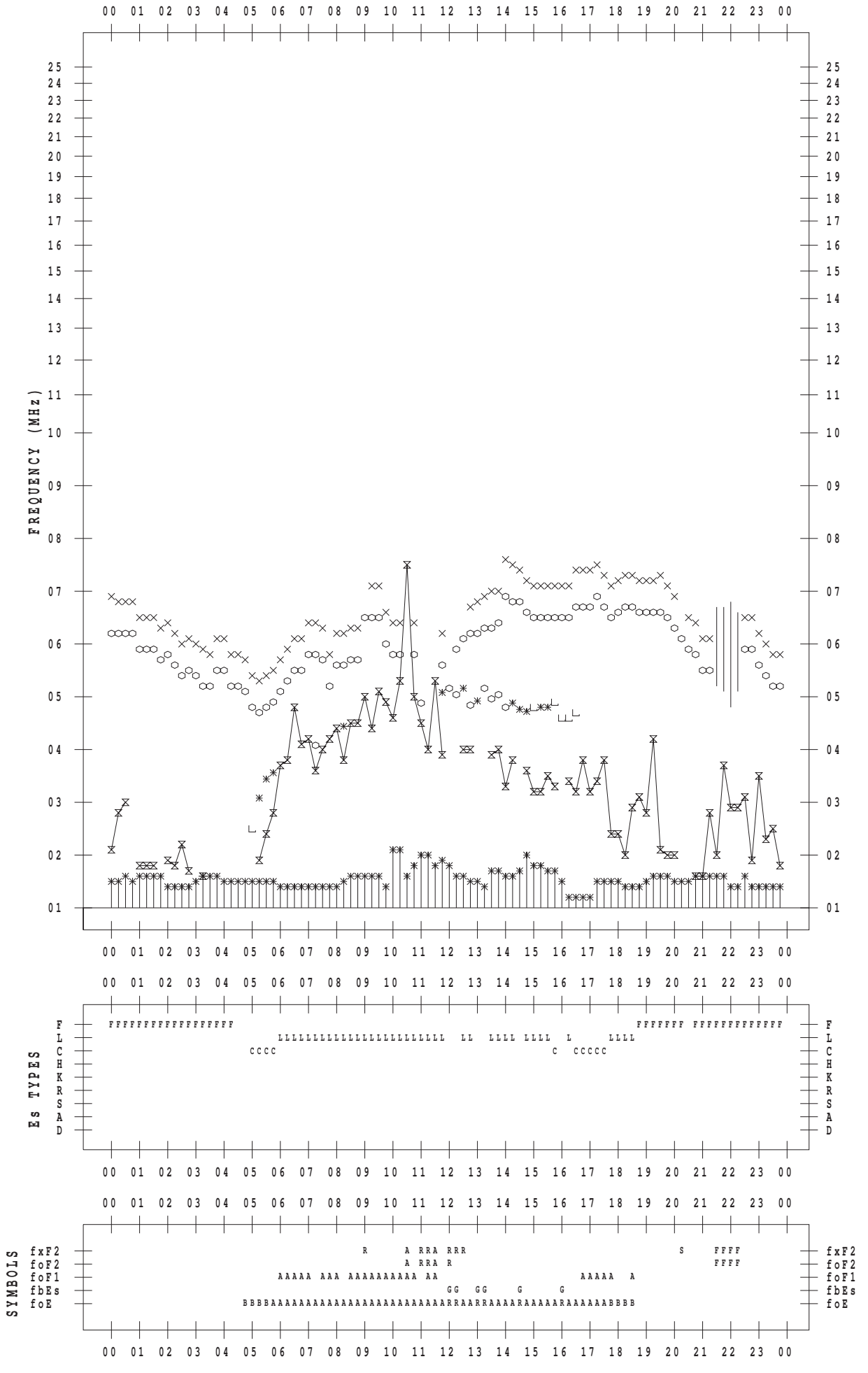
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2014/ 8/29

135 °E MEAN TIME



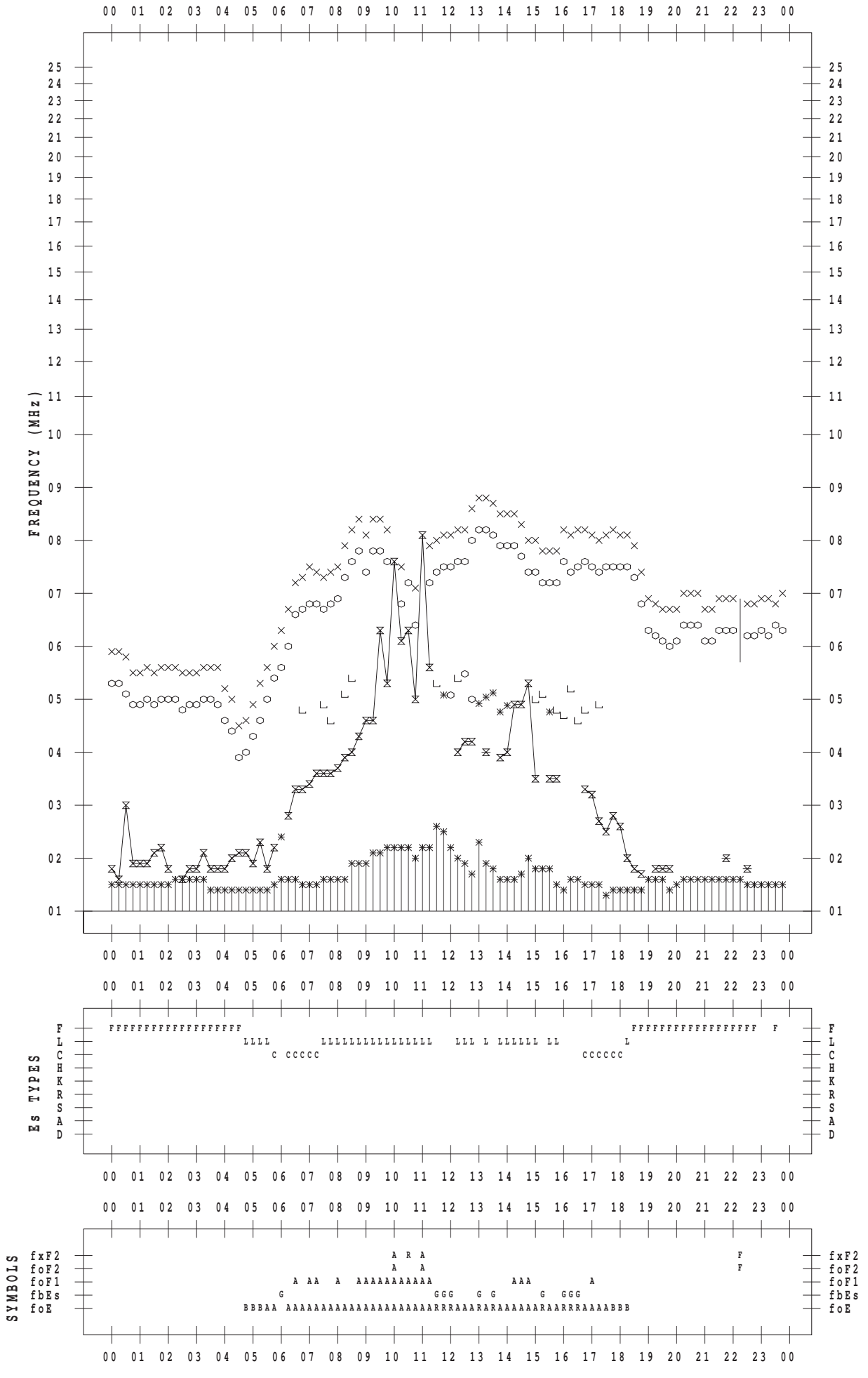
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2014/ 8/30

135 °E MEAN TIME



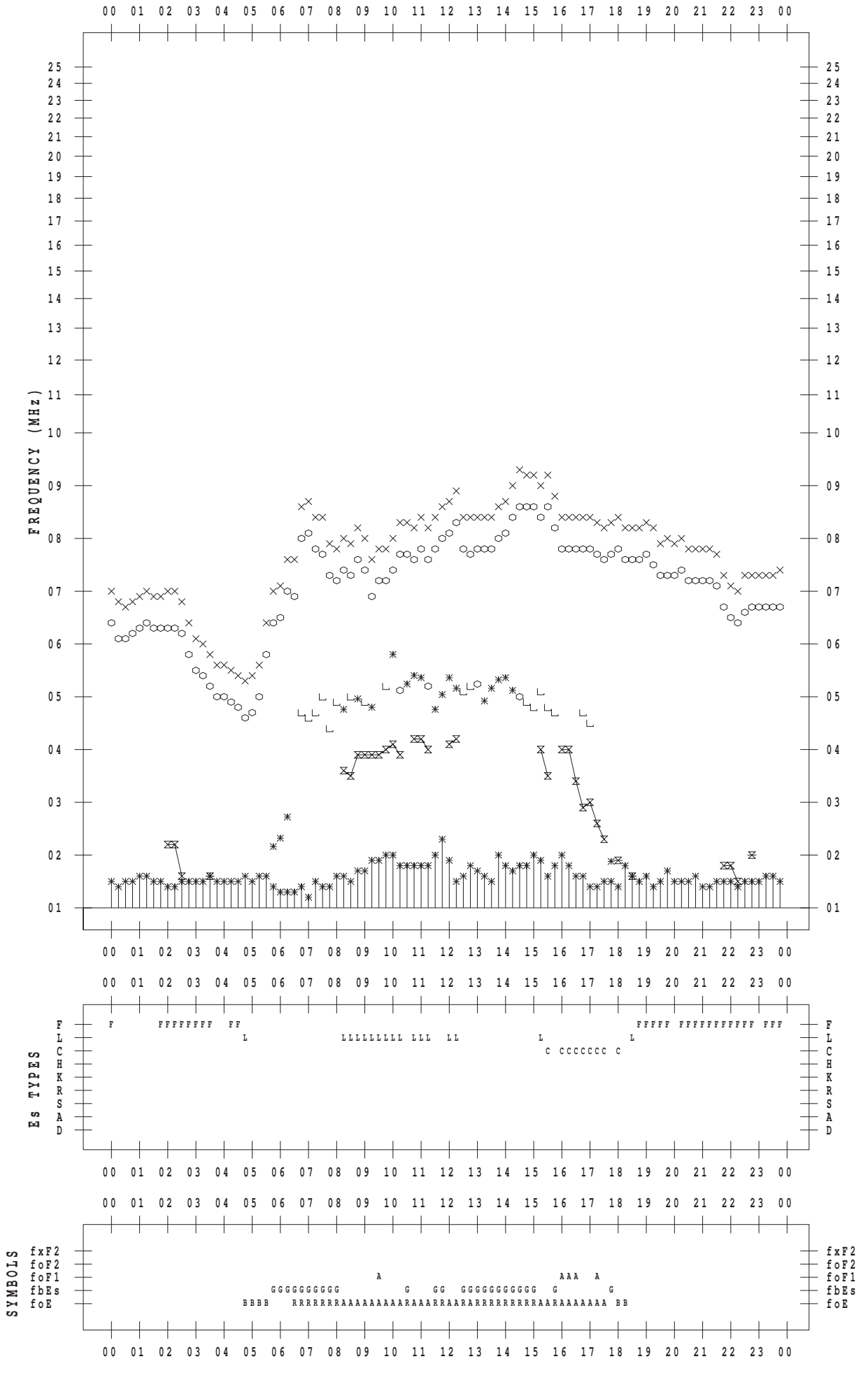
f-PLOT DATA

SCALER : I.NISHIMUTA

STATION : Kokubunji

DATE : 2014/ 8/31

135 °E MEAN TIME



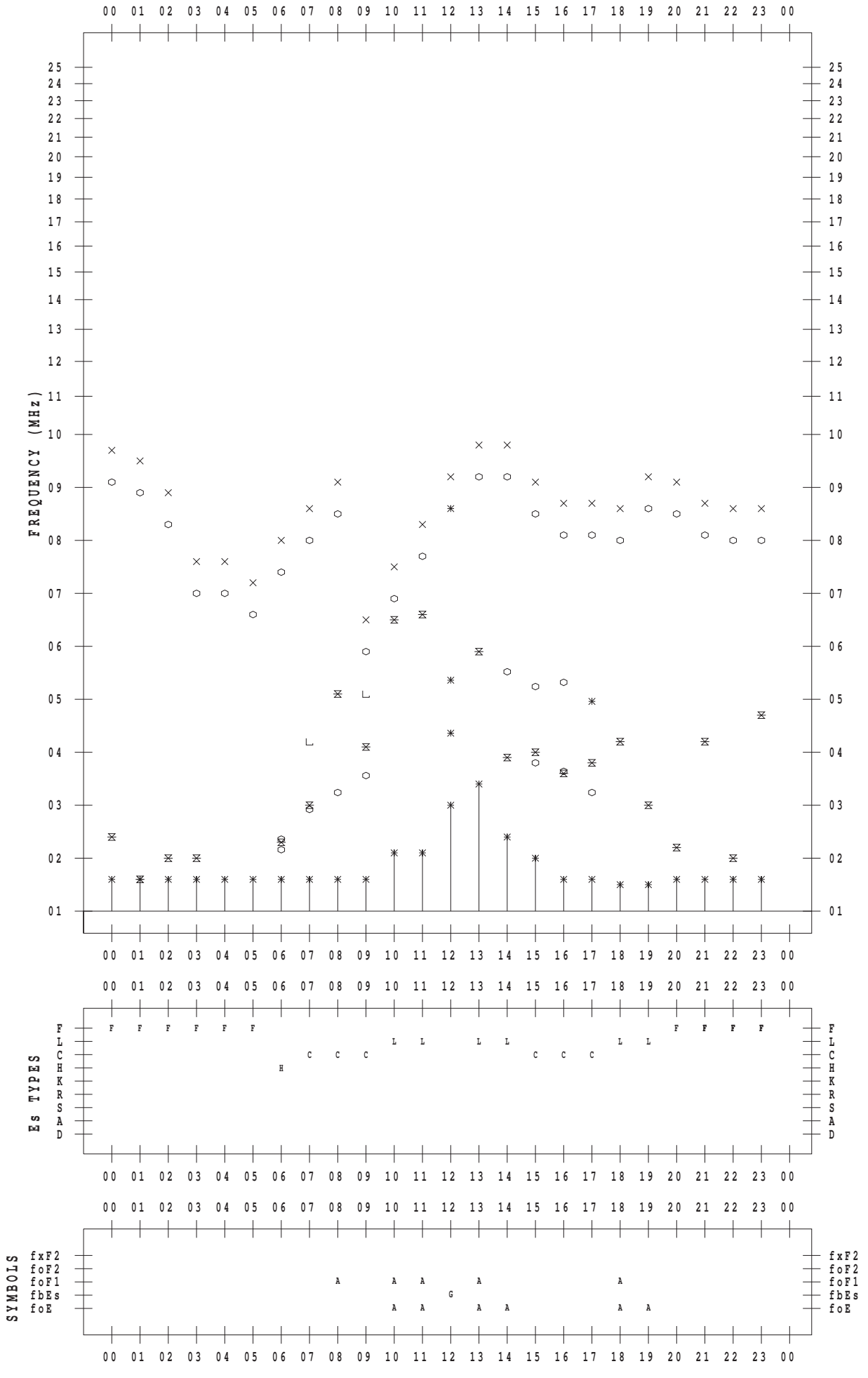
f-PLOT DATA

SCALER : M.NISHIDA

STATION : Yamagawa

DATE : 2014/ 8/ 1

135 °E MEAN TIME



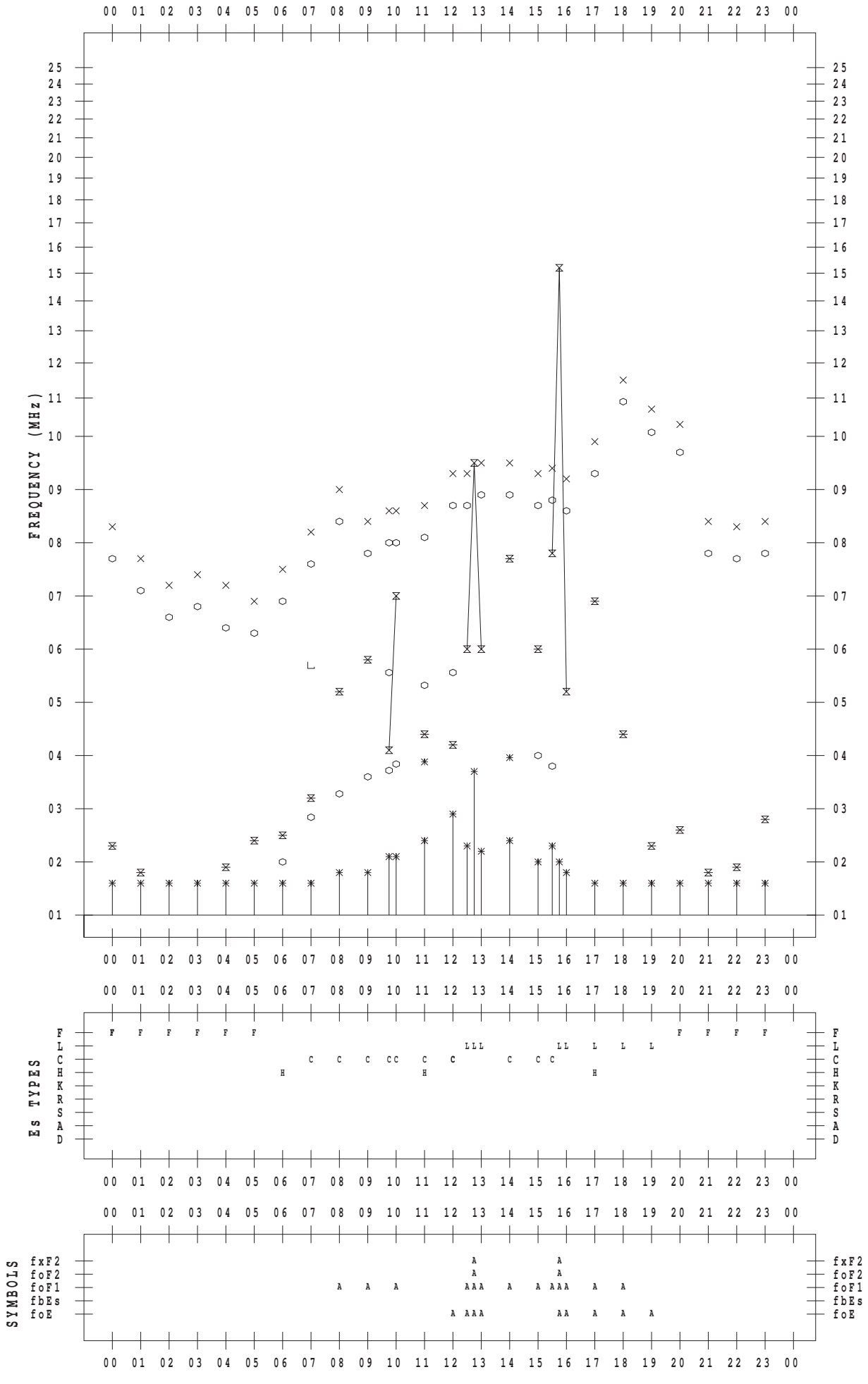
f-PLOT DATA

SCALER : M.NISHIDA

STATION : Yamagawa

DATE : 2014/ 8/ 2

135 °E MEAN TIME



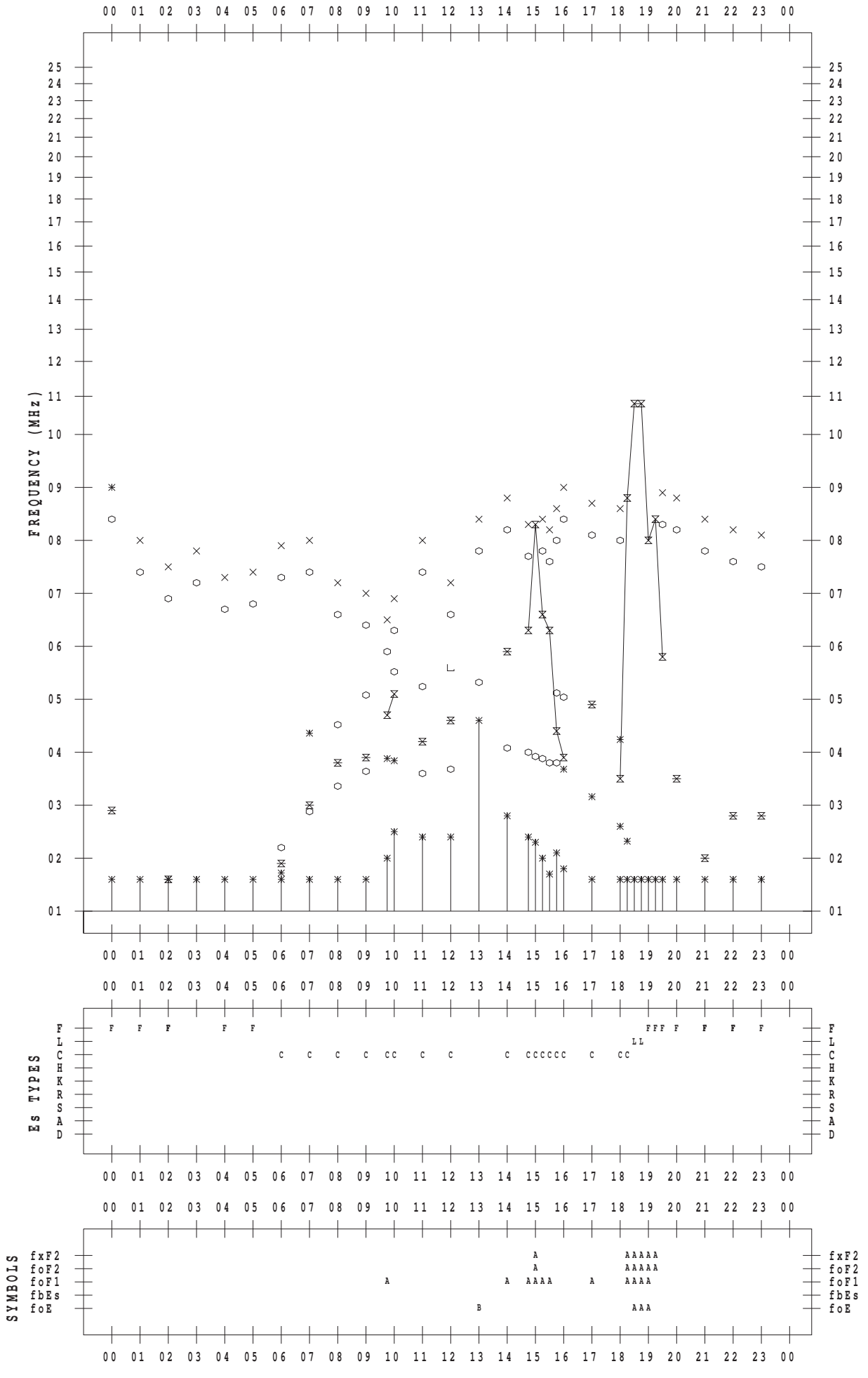
f-PLOT DATA

SCALER : M.NISHIDA

STATION : Yamagawa

DATE : 2014/ 8/ 3

135 °E MEAN TIME



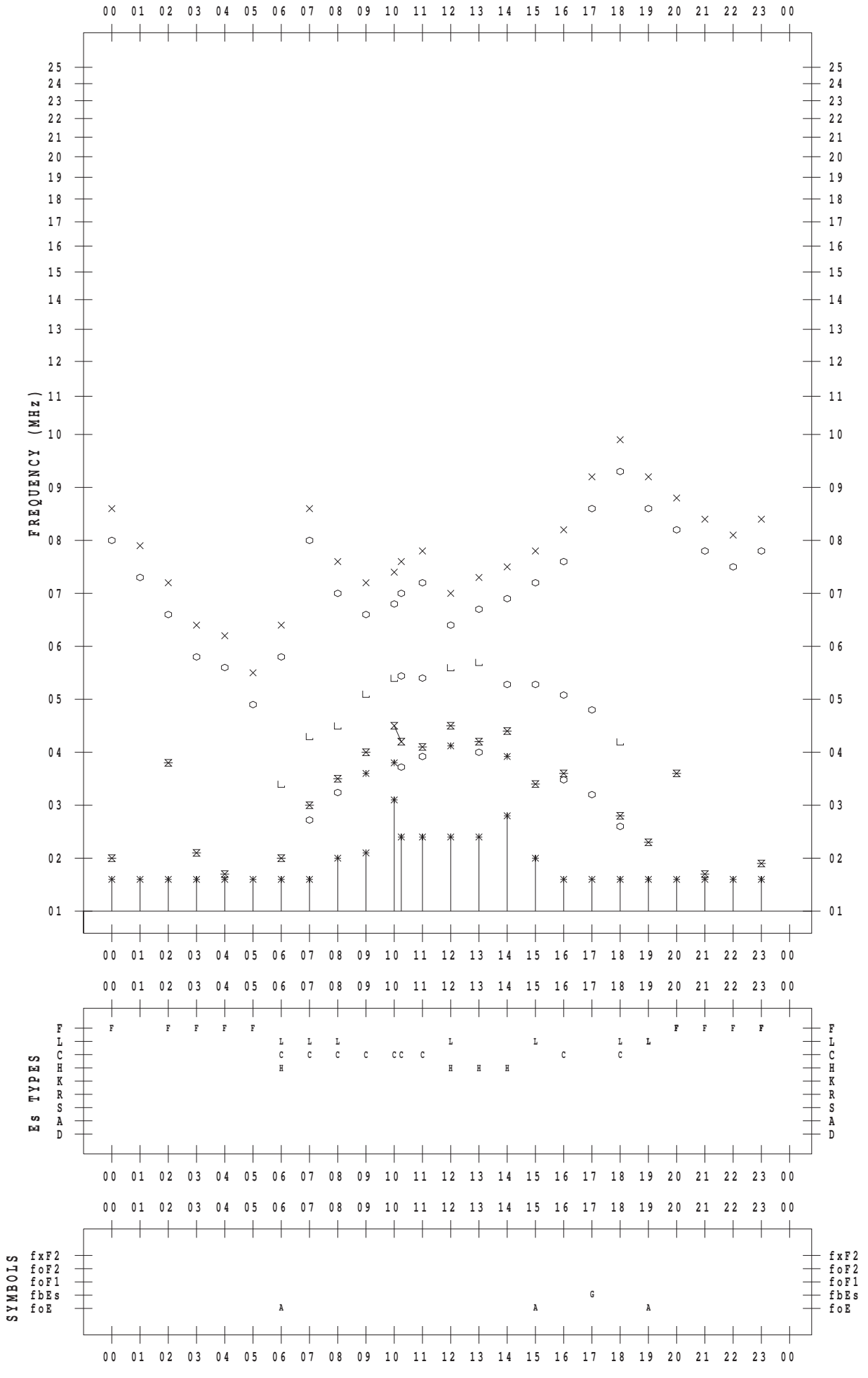
f-PLOT DATA

SCALER : M.NISHIDA

STATION : Yamagawa

DATE : 2014/ 8/ 4

135 °E MEAN TIME



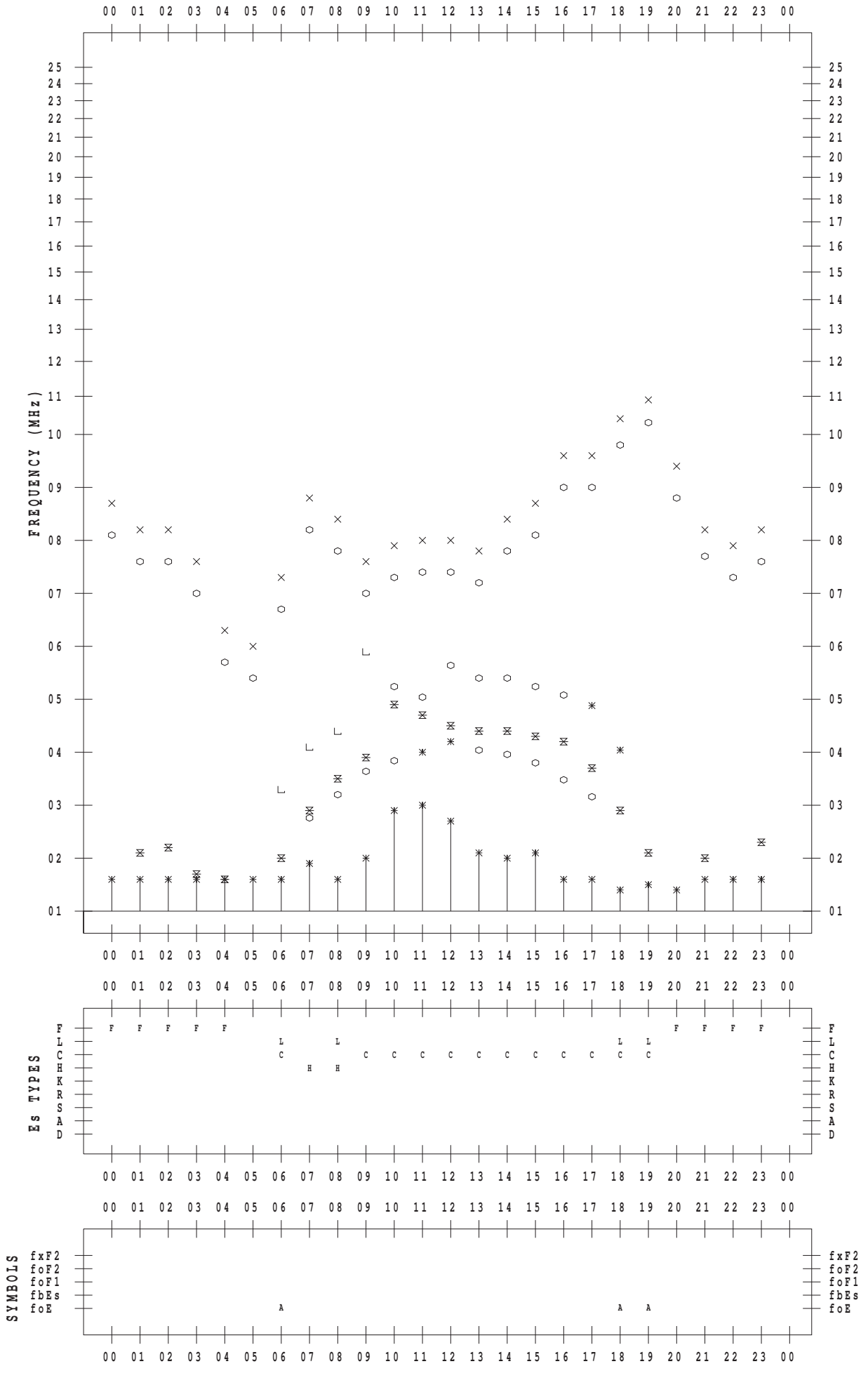
f-PLOT DATA

SCALER : M.NISHIDA

STATION : Yamagawa

DATE : 2014/ 8/ 5

135 °E MEAN TIME



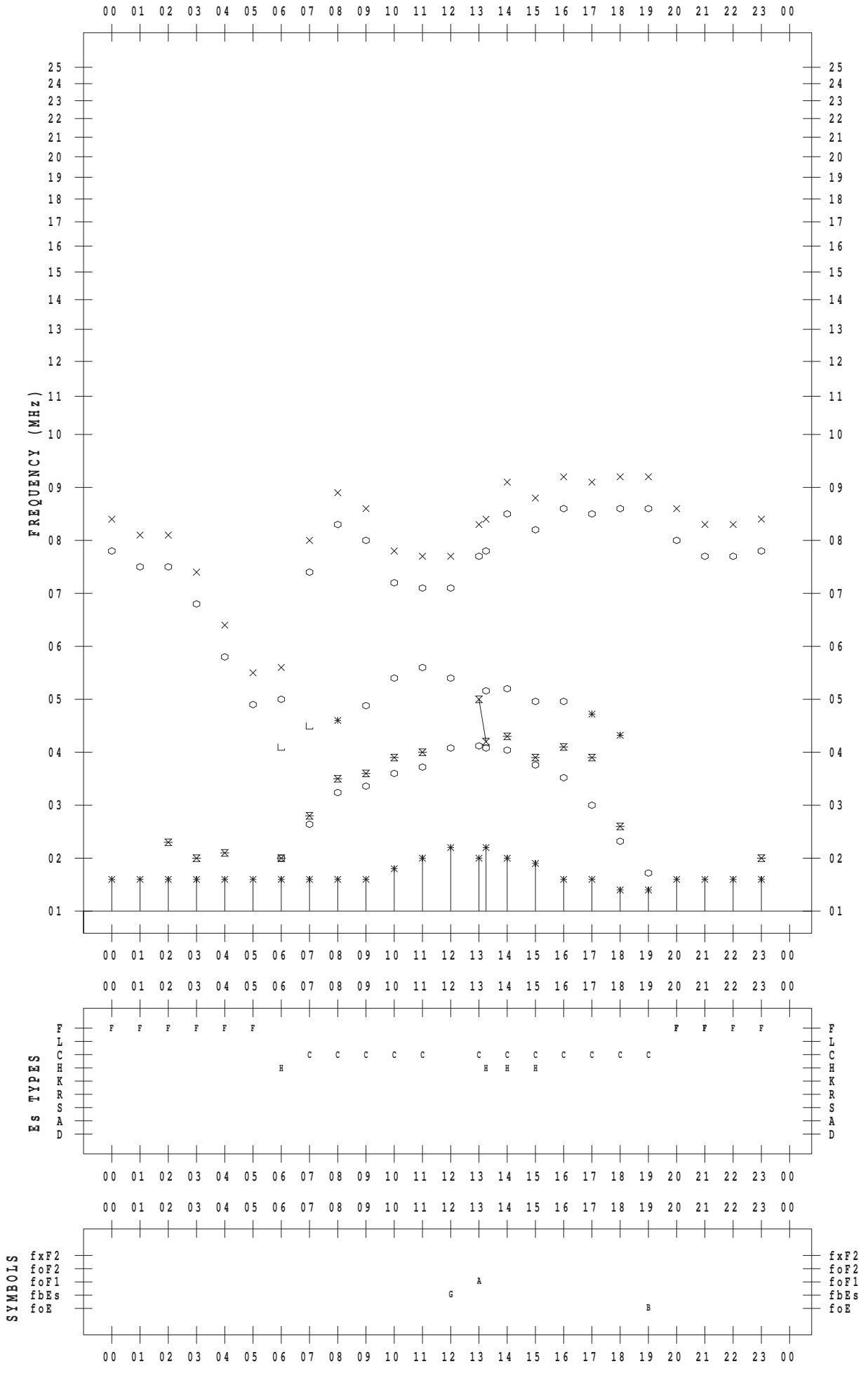
f-PLOT DATA

SCALER : M.NISHIDA

STATION : Yamagawa

DATE : 2014/ 8/ 6

135 °E MEAN TIME



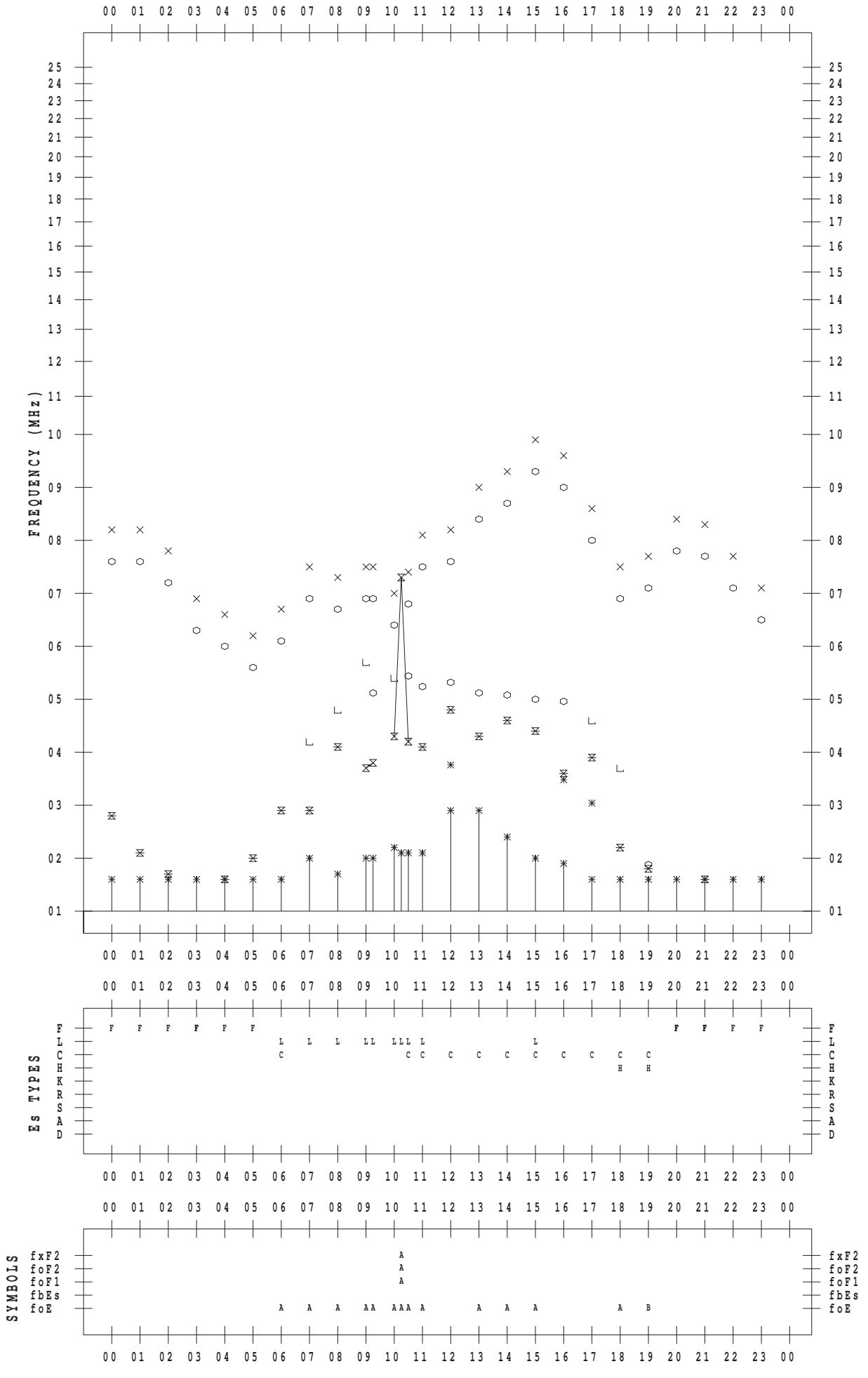
f-PLOT DATA

SCALER : M.NISHIDA

STATION : Yamagawa

DATE : 2014/ 8/ 7

135 °E MEAN TIME



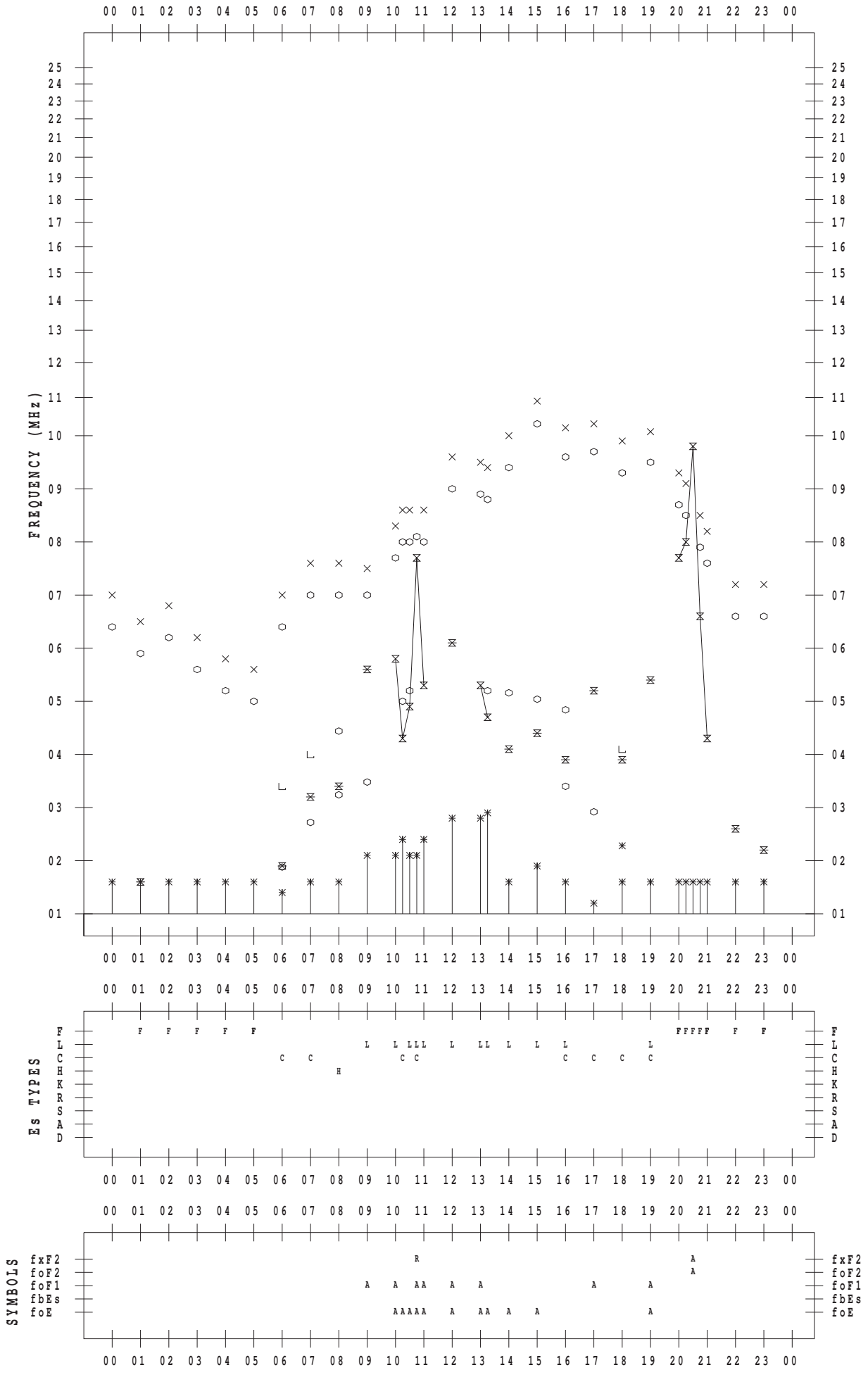
f-PLOT DATA

SCALER : M.NISHIDA

STATION : Yamagawa

DATE : 2014/ 8/ 8

135 °E MEAN TIME



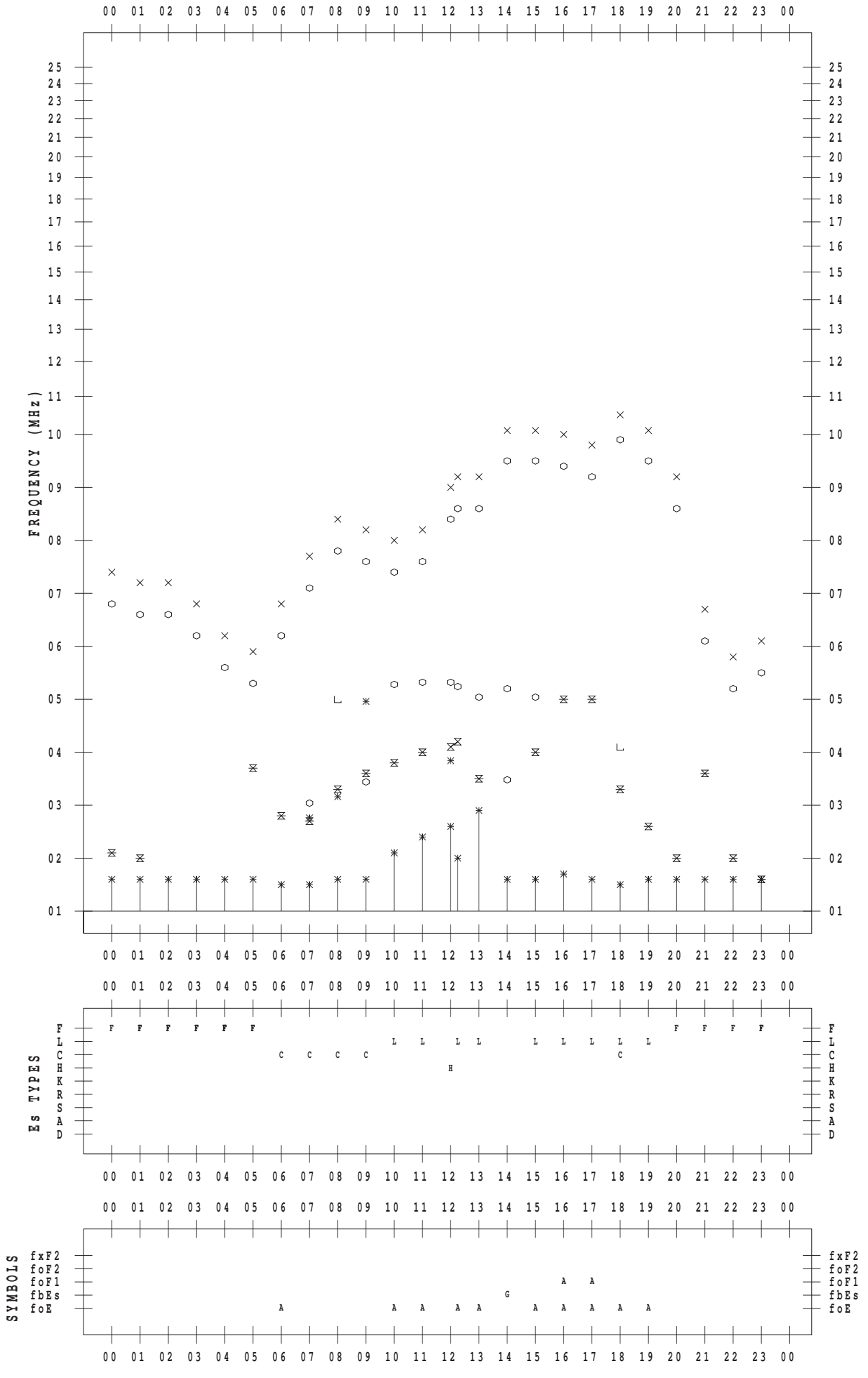
f-PLOT DATA

SCALER : M.NISHIDA

STATION : Yamagawa

DATE : 2014/ 8/ 9

135 °E MEAN TIME



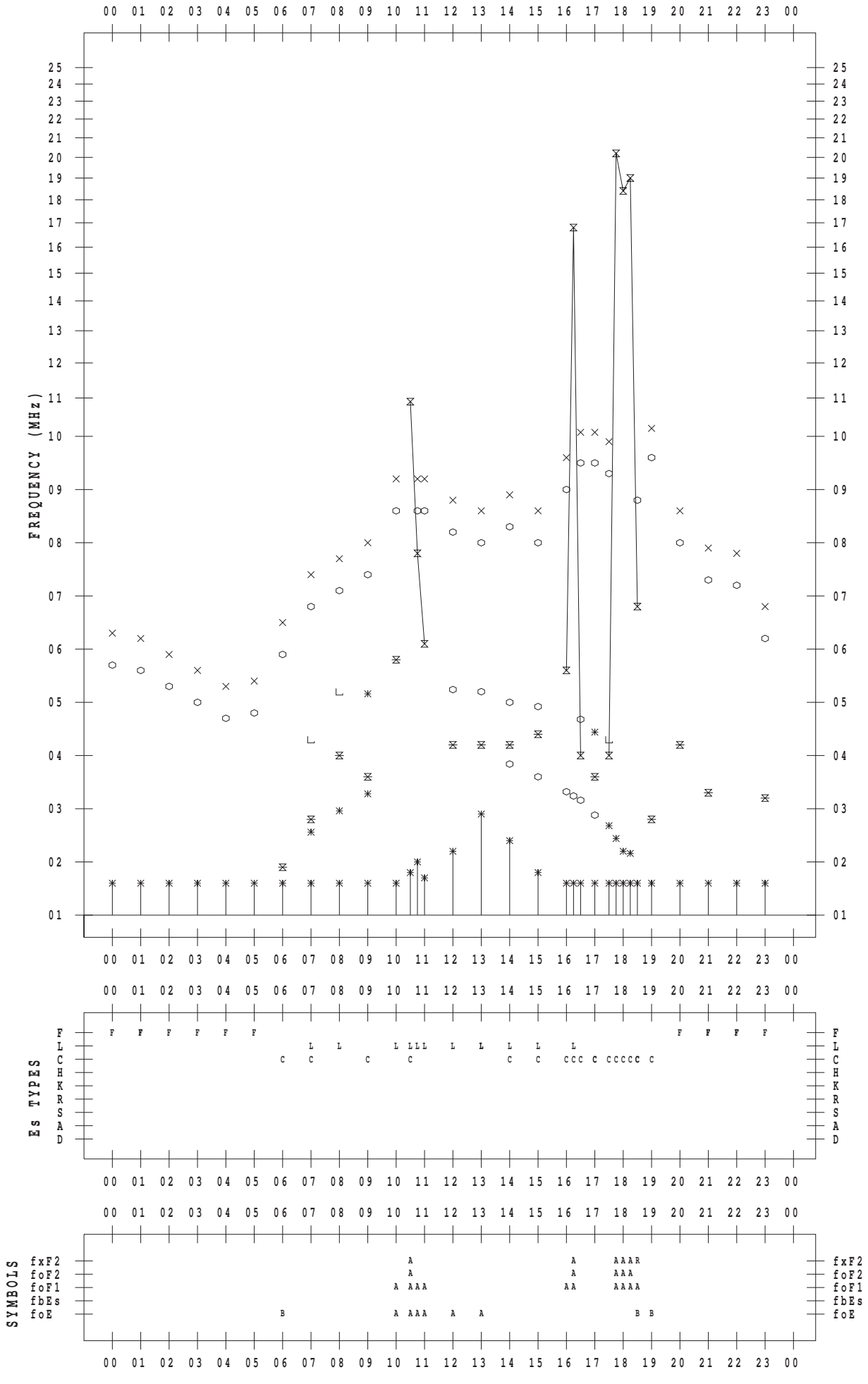
f-PLOT DATA

SCALER : M.NISHIDA

STATION : Yamagawa

DATE : 2014/ 8/10

135 °E MEAN TIME



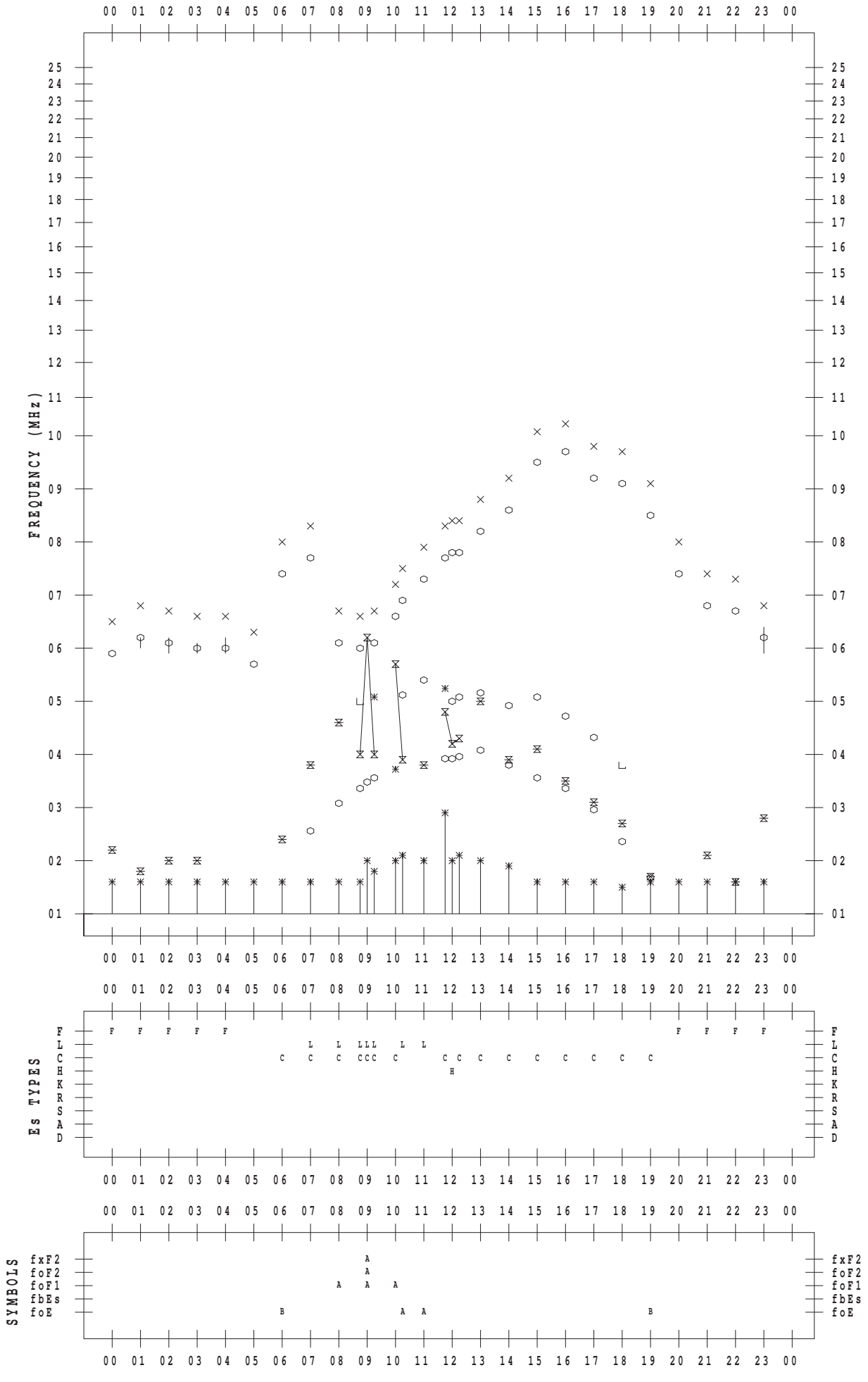
f-PLOT DATA

SCALER : M.NISHIDA

STATION : Yamagawa

DATE : 2014/ 8/11

135 °E MEAN TIME



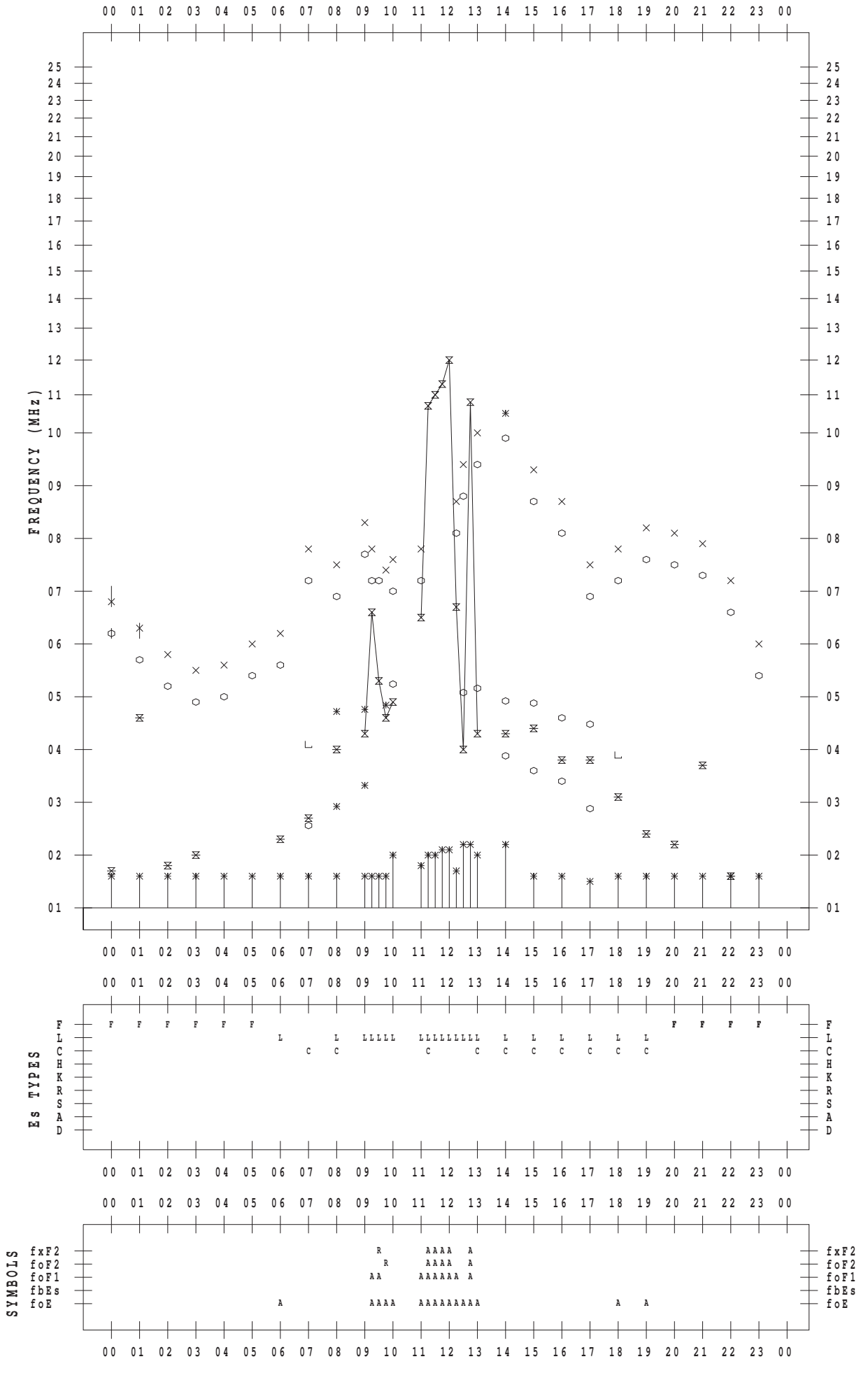
f-PLOT DATA

SCALER : M.NISHIDA

STATION : Yamagawa

DATE : 2014/ 8/12

135 °E MEAN TIME



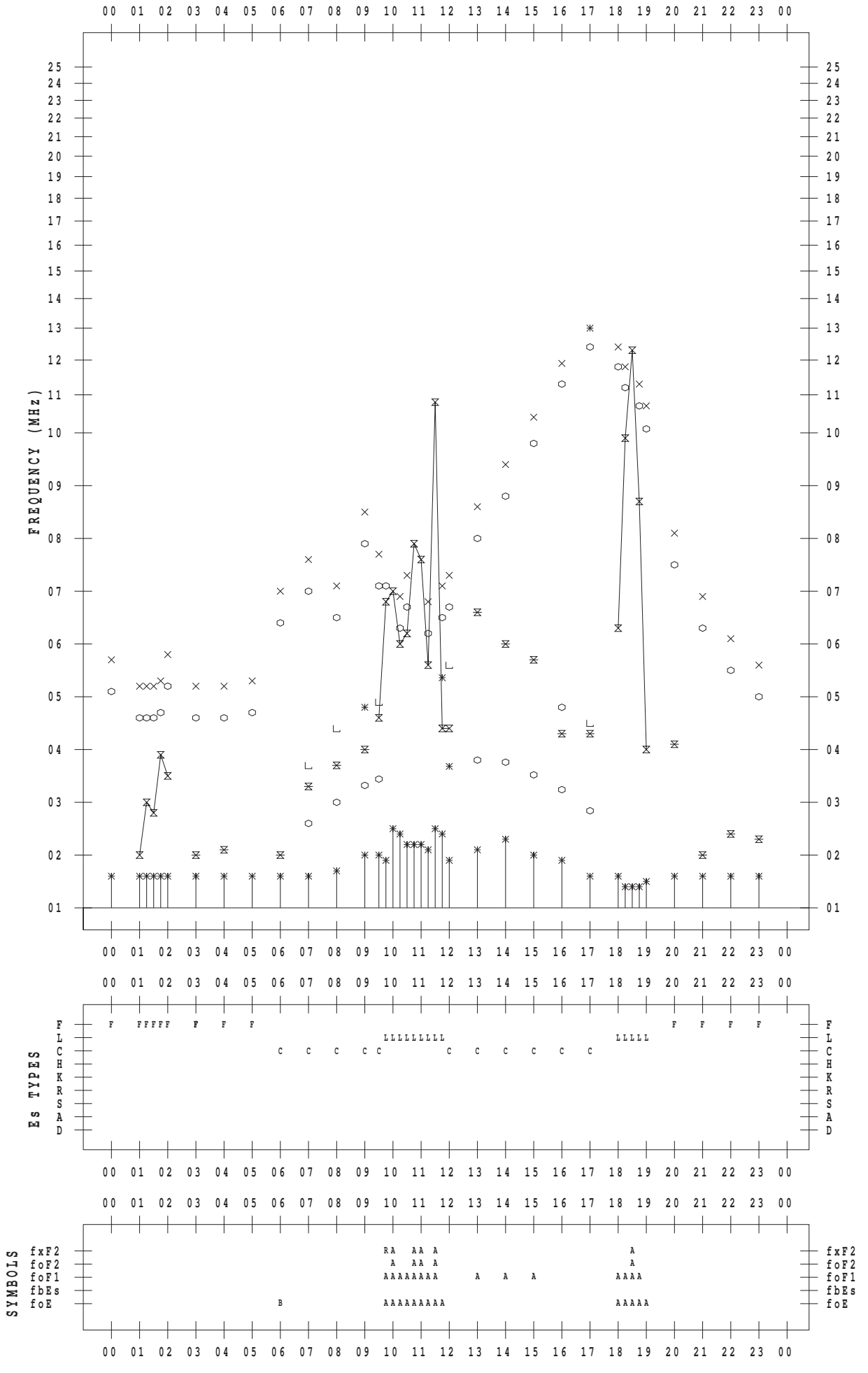
f-PLOT DATA

SCALER : M.NISHIDA

STATION : Yamagawa

DATE : 2014/ 8/13

135 °E MEAN TIME



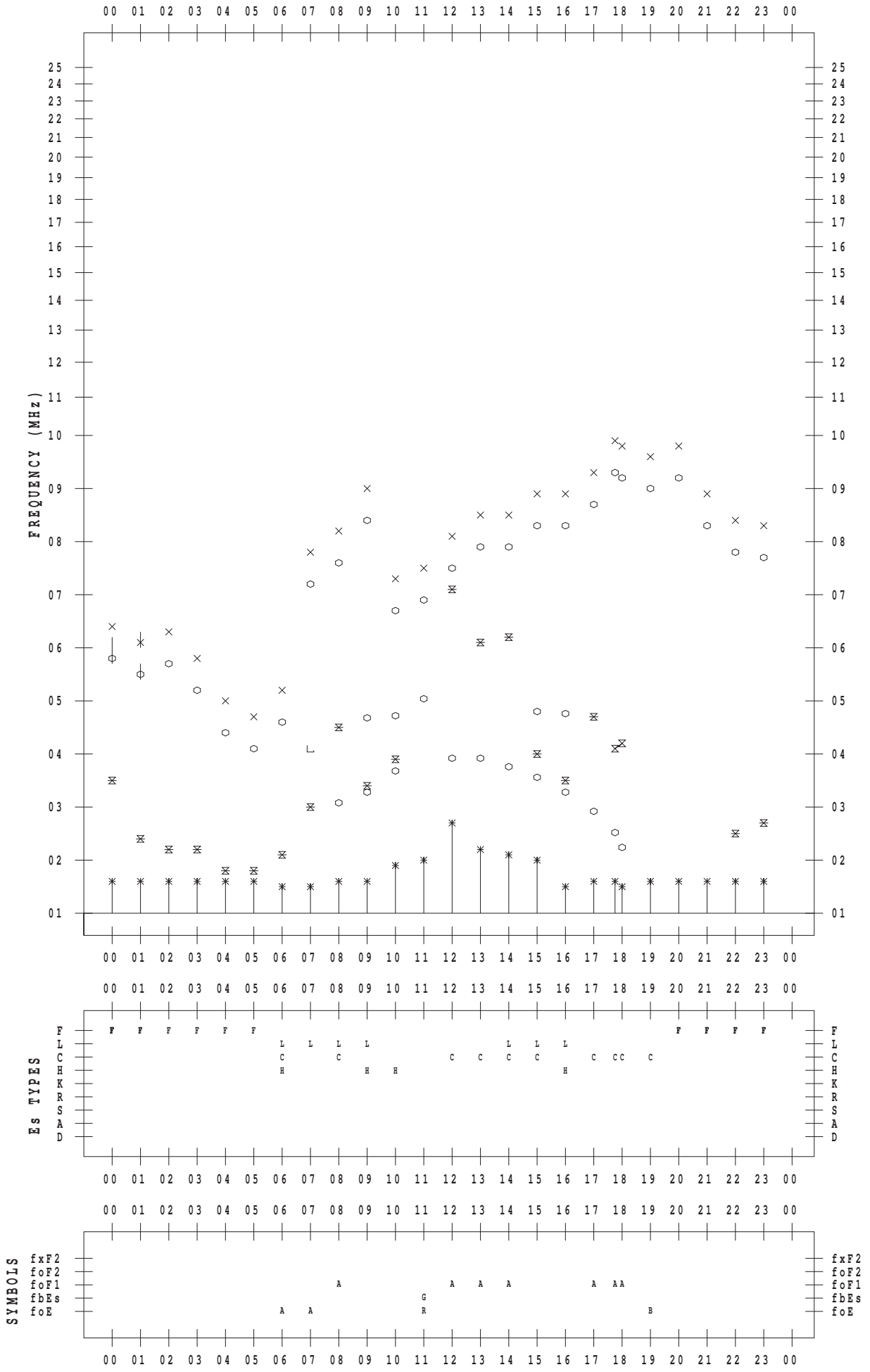
f-PLOT DATA

SCALER : M.NISHIDA

STATION : Yamagawa

DATE : 2014/ 8/14

135 °E MEAN TIME



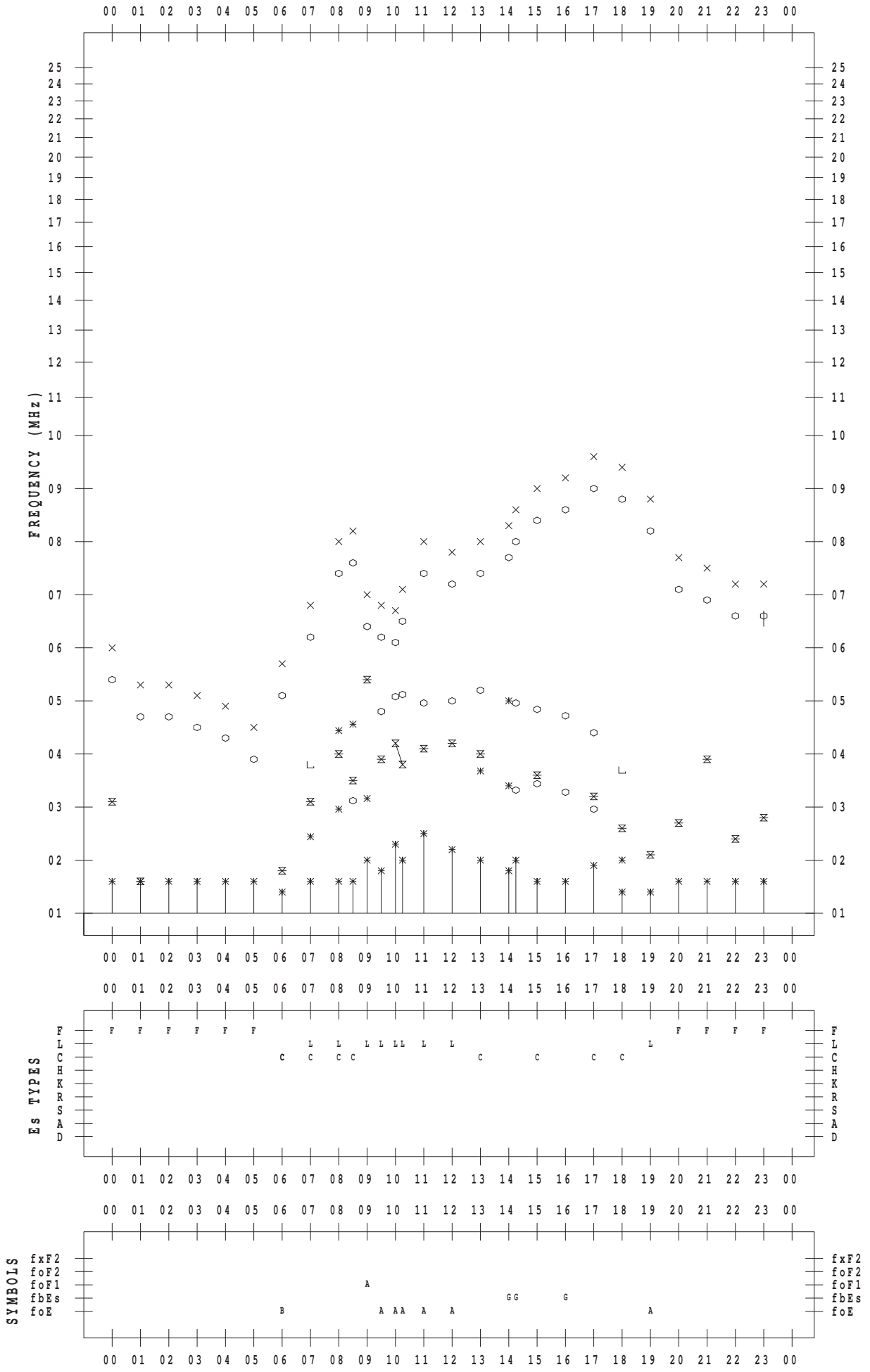
f-PLOT DATA

SCALER : M.NISHIDA

STATION : Yamagawa

DATE : 2014/ 8/15

135 °E MEAN TIME



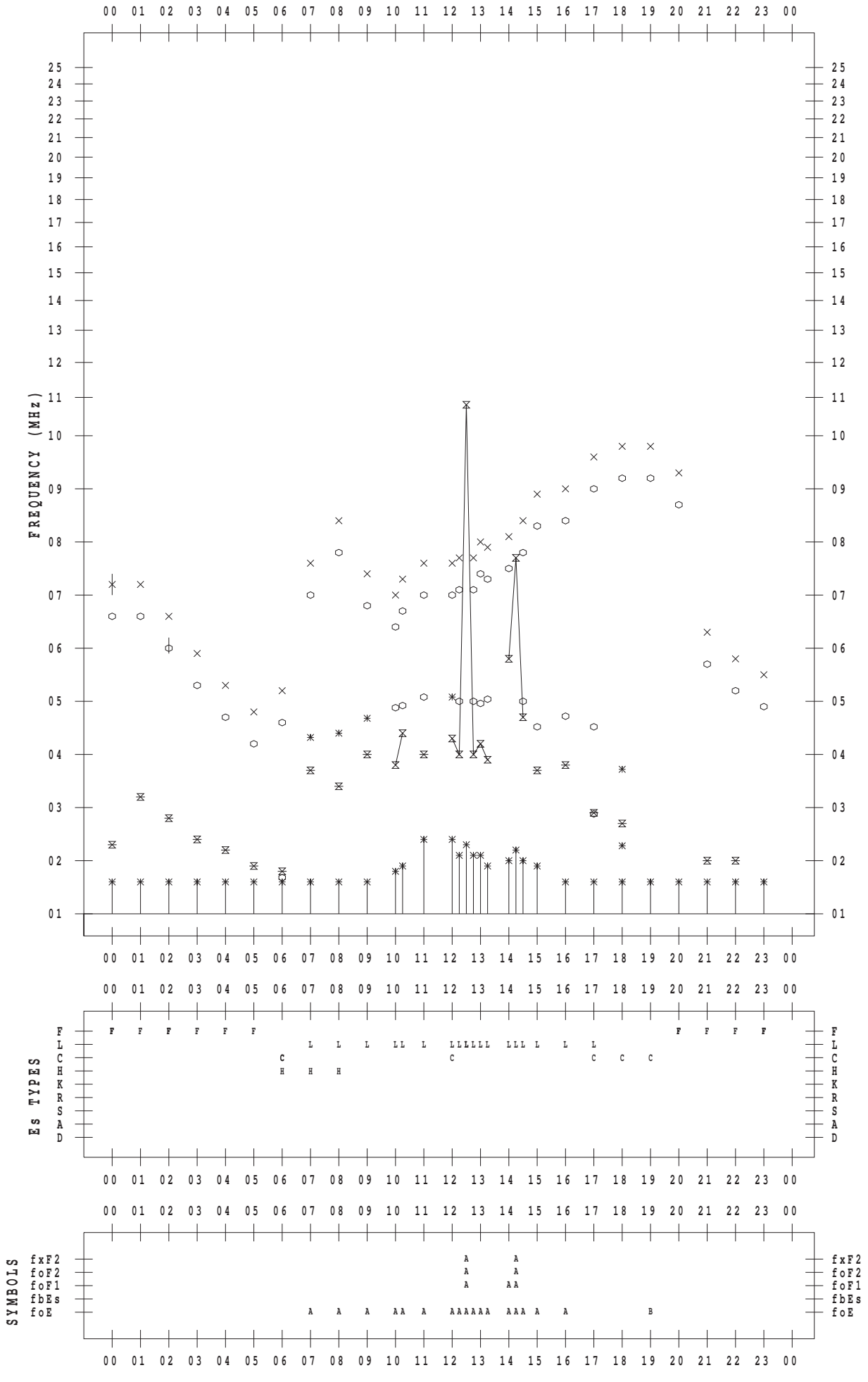
f-PLOT DATA

SCALER : M.NISHIDA

STATION : Yamagawa

DATE : 2014/ 8/16

135 °E MEAN TIME



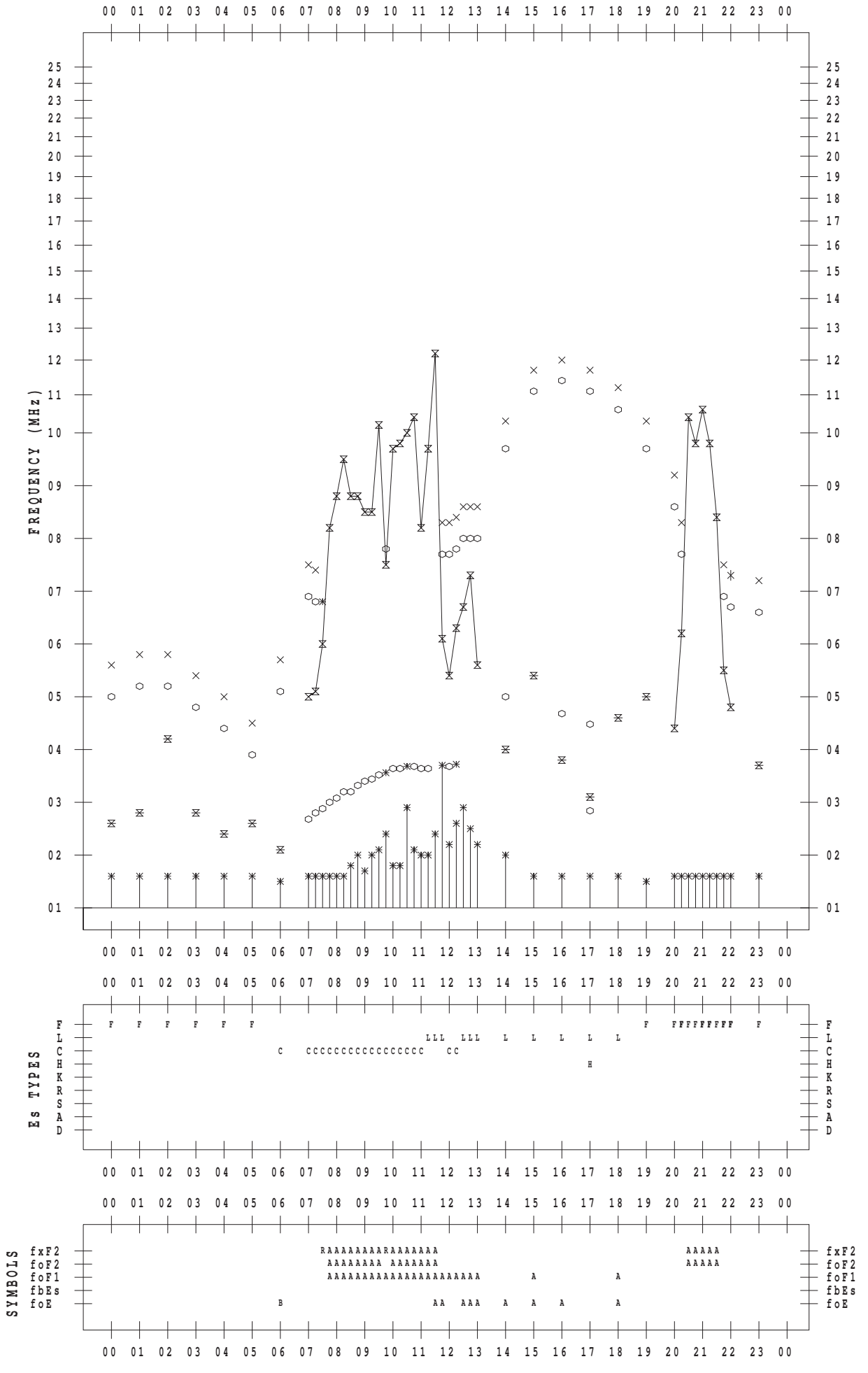
f-PLOT DATA

SCALER : M.NISHIDA

STATION : Yamagawa

DATE : 2014/ 8/17

135 °E MEAN TIME



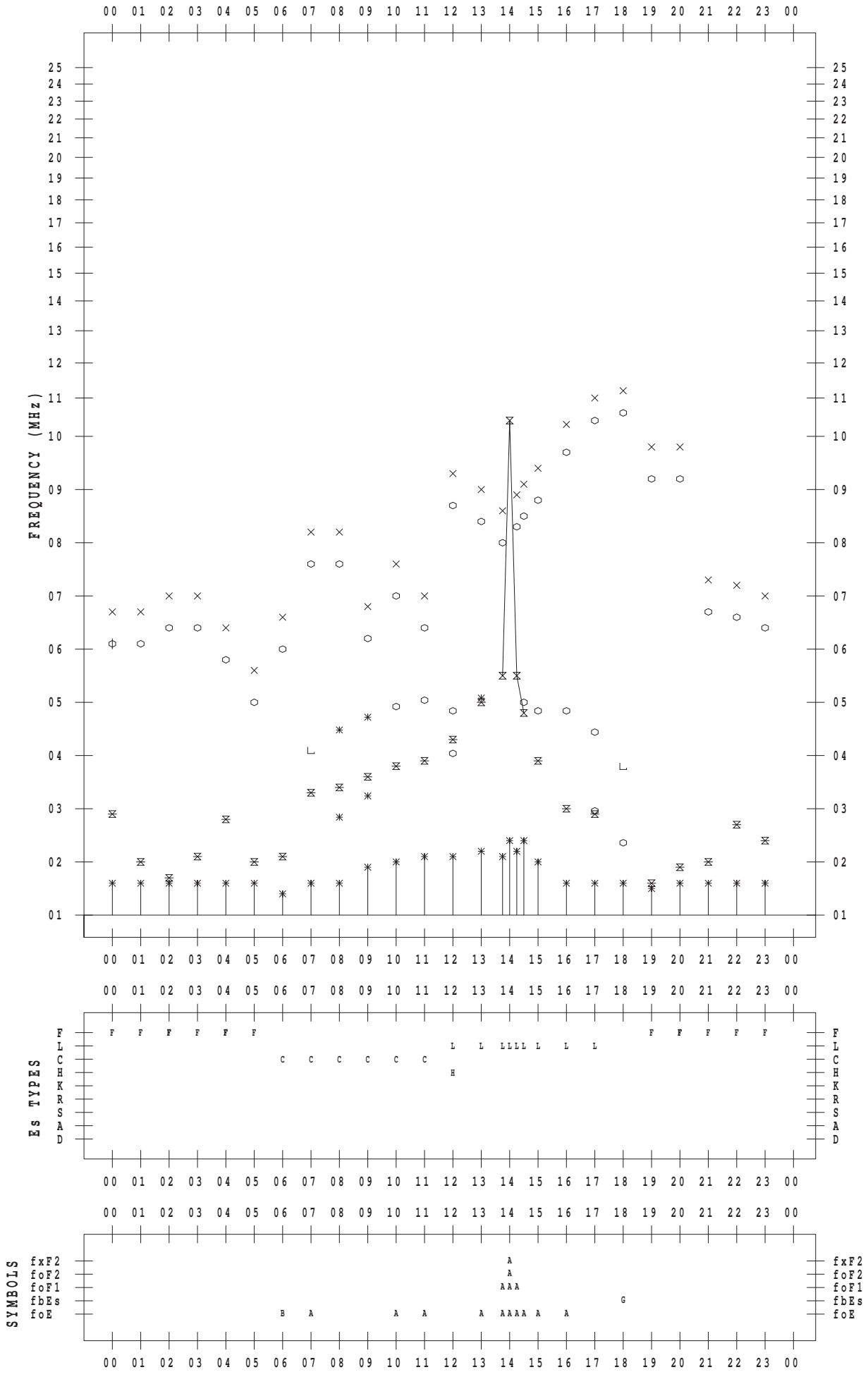
f-PLOT DATA

SCALER : M.NISHIDA

STATION : Yamagawa

DATE : 2014/ 8/18

135 °E MEAN TIME



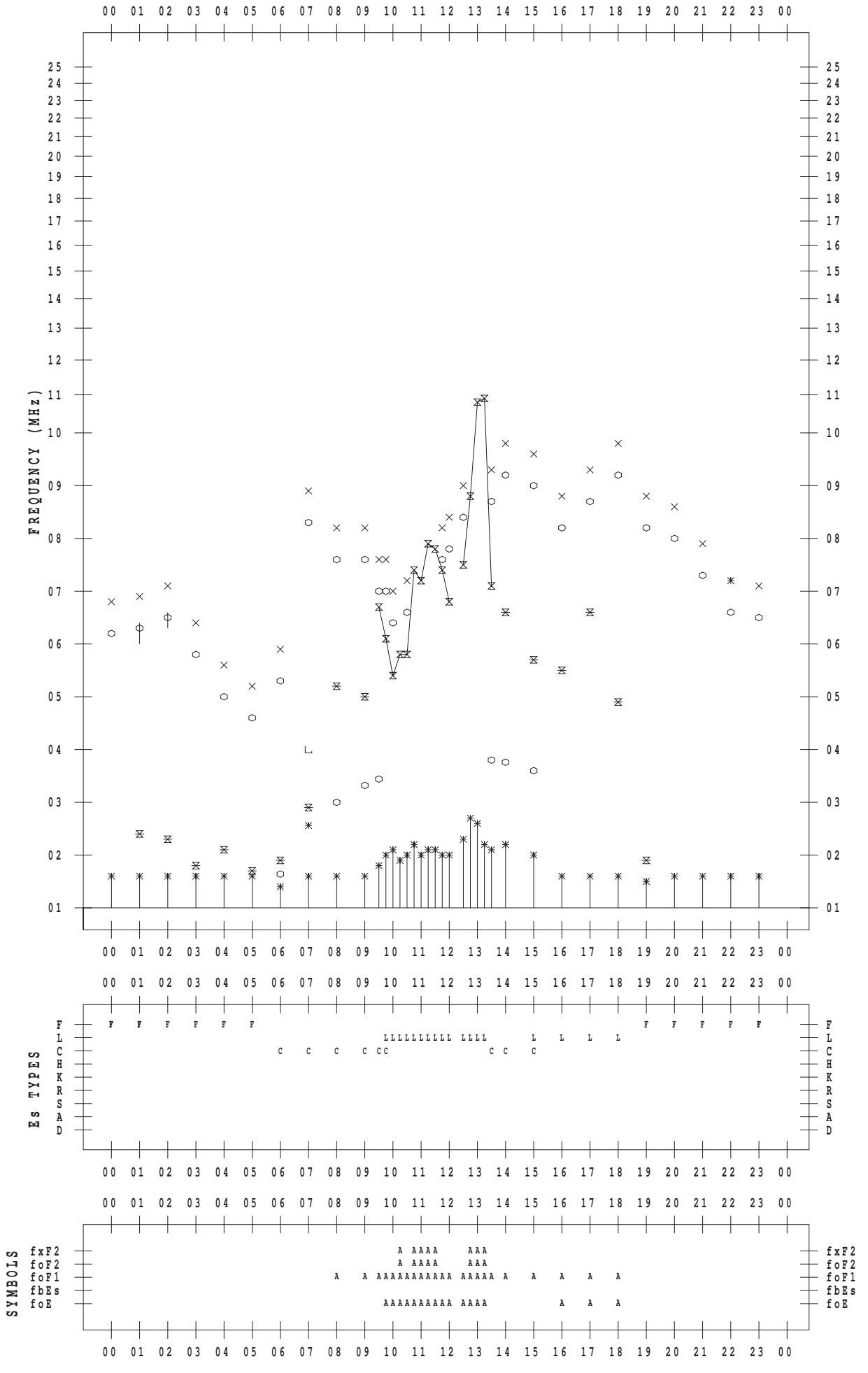
f-PLOT DATA

SCALER : M.NISHIDA

STATION : Yamagawa

DATE : 2014/ 8/19

135 °E MEAN TIME



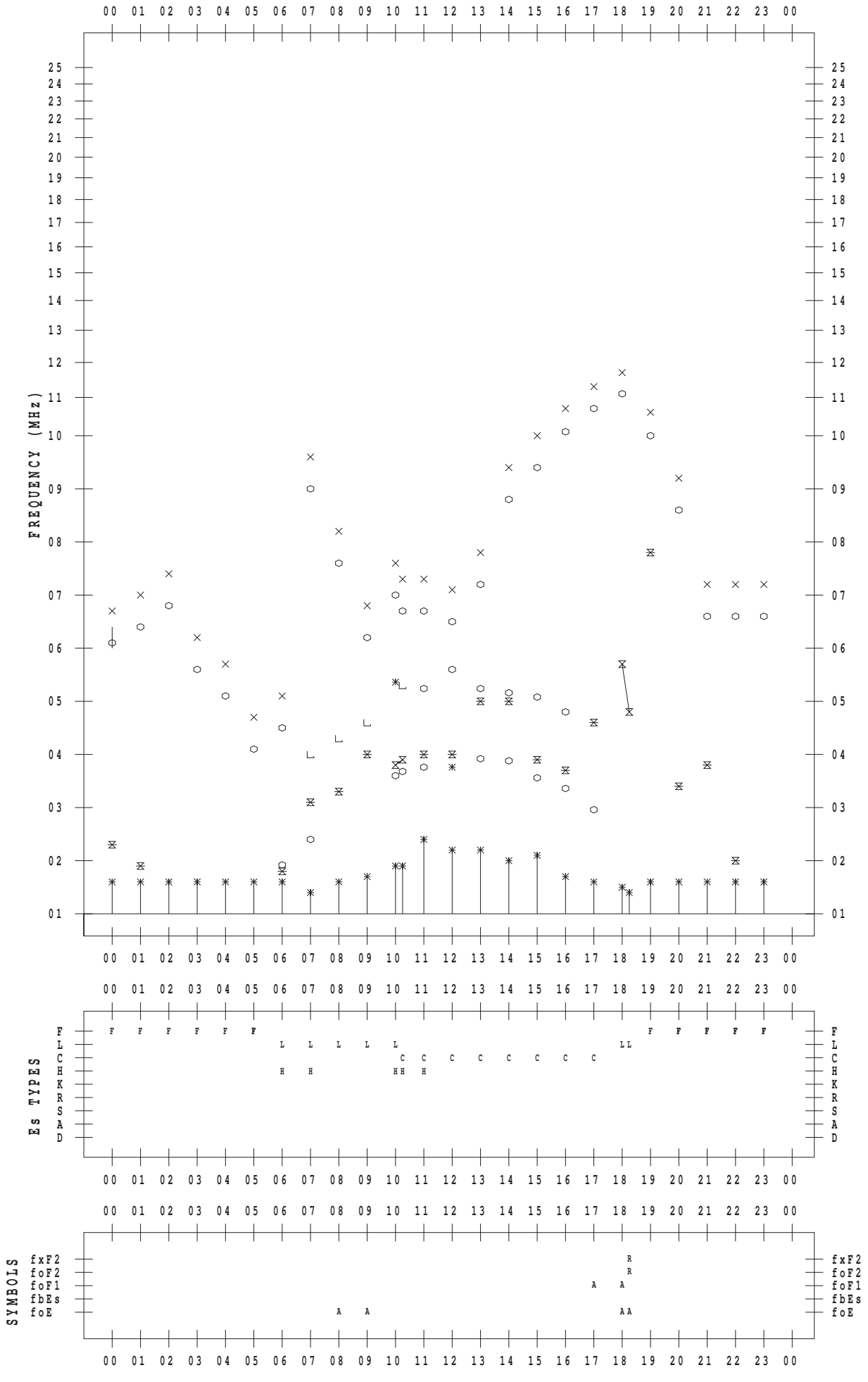
f-PLOT DATA

SCALER : M.NISHIDA

STATION : Yamagawa

DATE : 2014/ 8/20

135 °E MEAN TIME



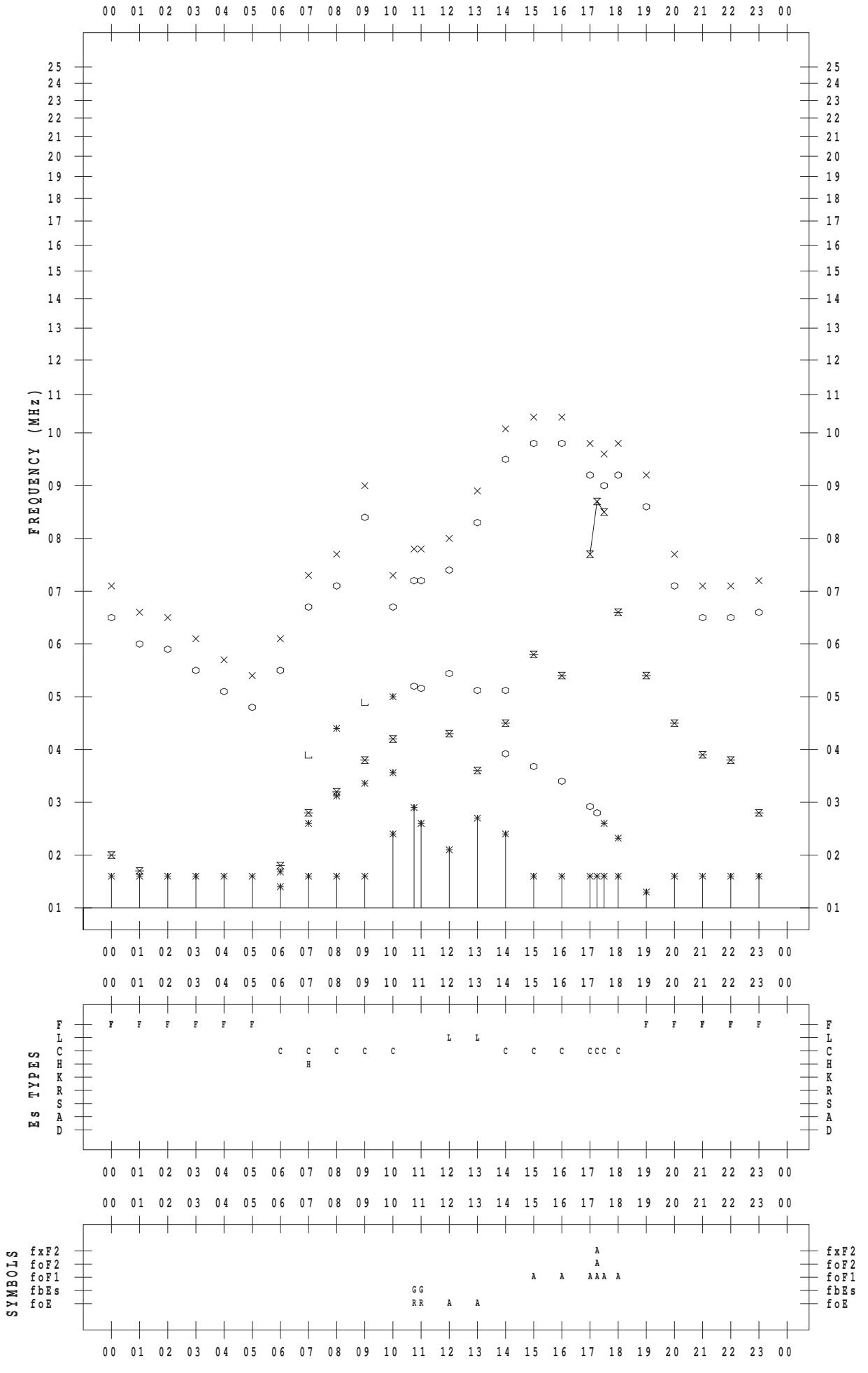
f-PLOT DATA

SCALER : M.NISHIDA

STATION : Yamagawa

DATE : 2014/ 8/21

135 °E MEAN TIME



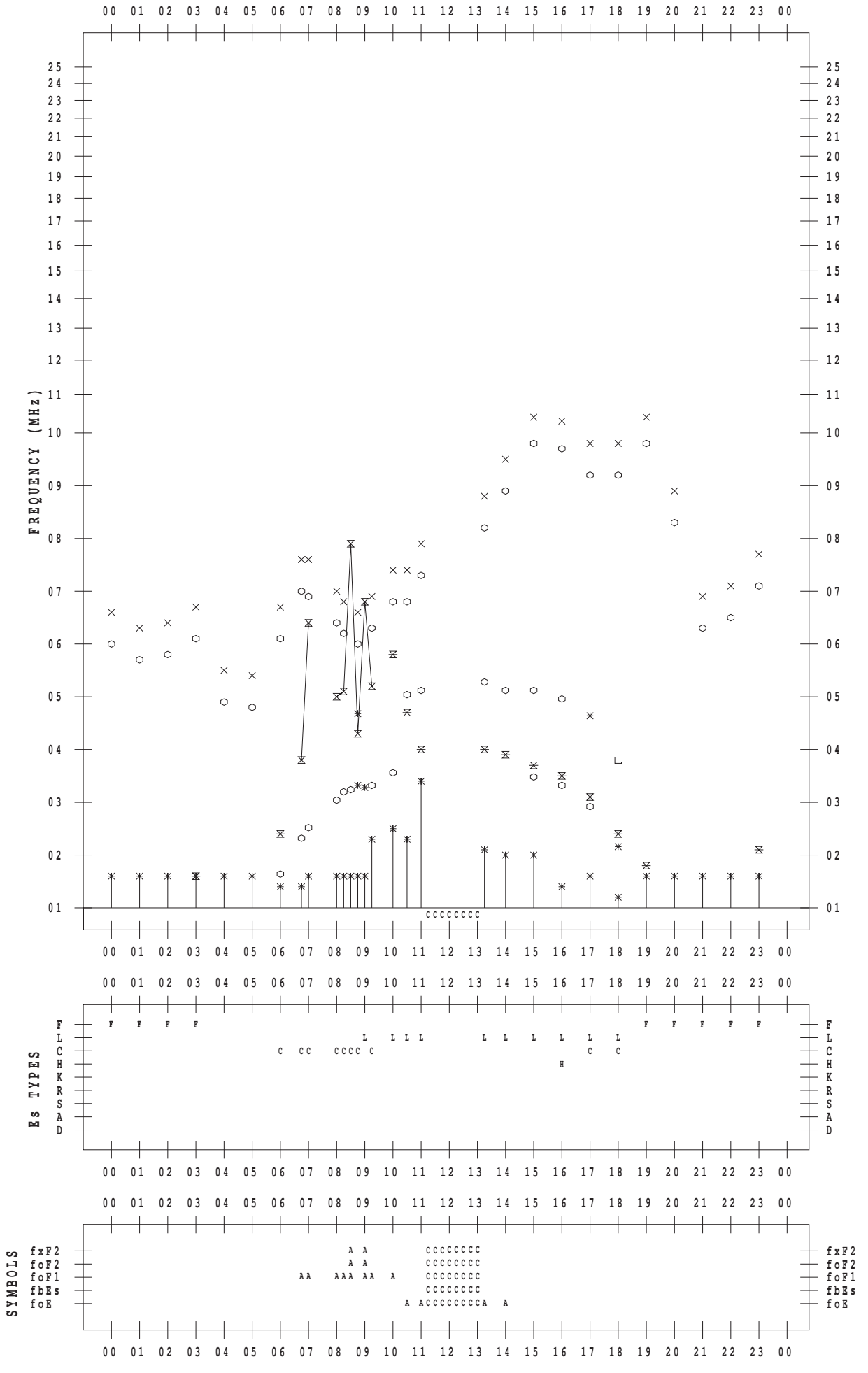
f-PLOT DATA

SCALER : M.NISHIDA

STATION : Yamagawa

DATE : 2014/ 8/22

135 °E MEAN TIME



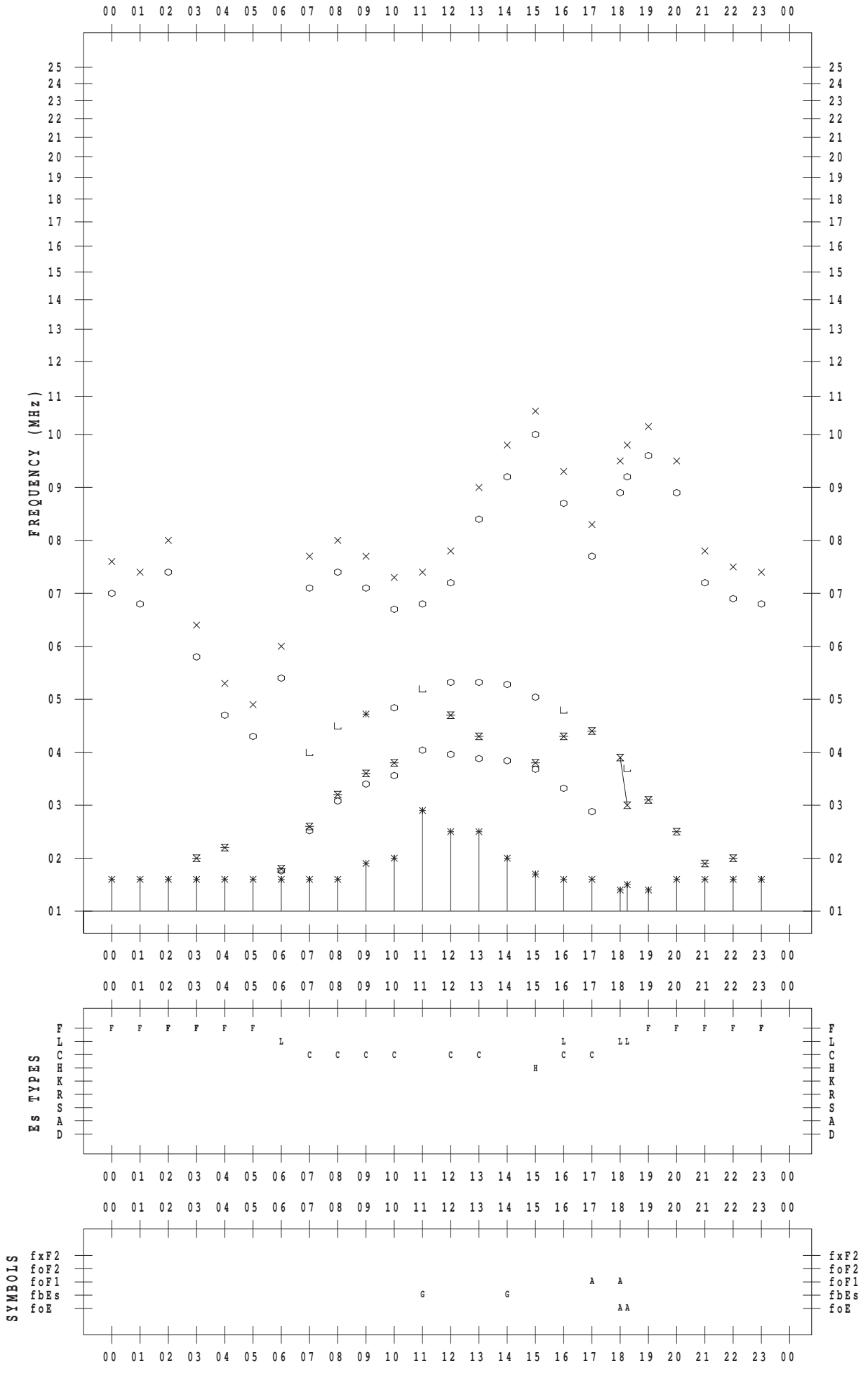
f-PLOT DATA

SCALER : M.NISHIDA

STATION : Yamagawa

DATE : 2014/ 8/23

135 °E MEAN TIME



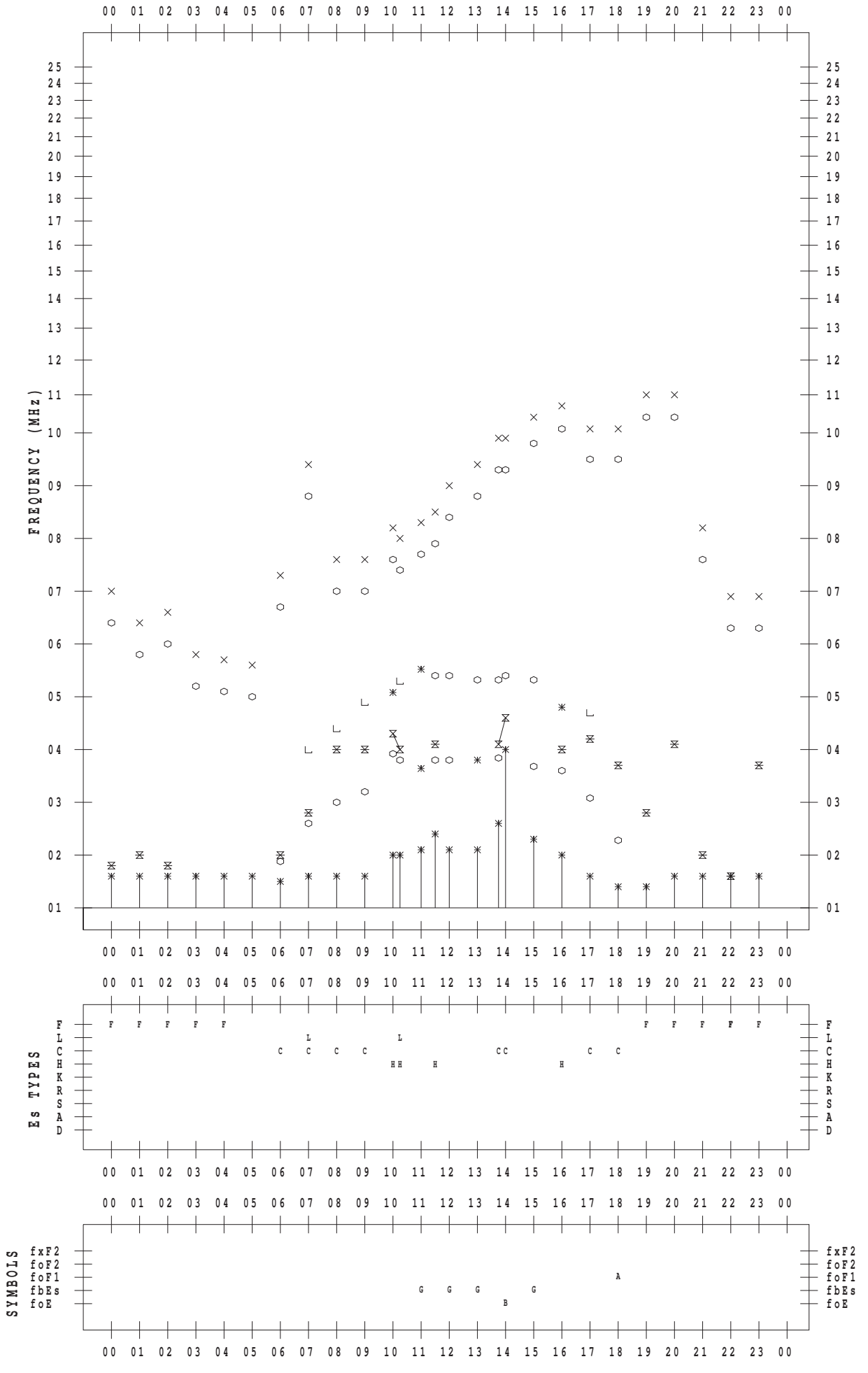
f-PLOT DATA

SCALER : M.NISHIDA

STATION : Yamagawa

DATE : 2014/ 8/24

135 °E MEAN TIME



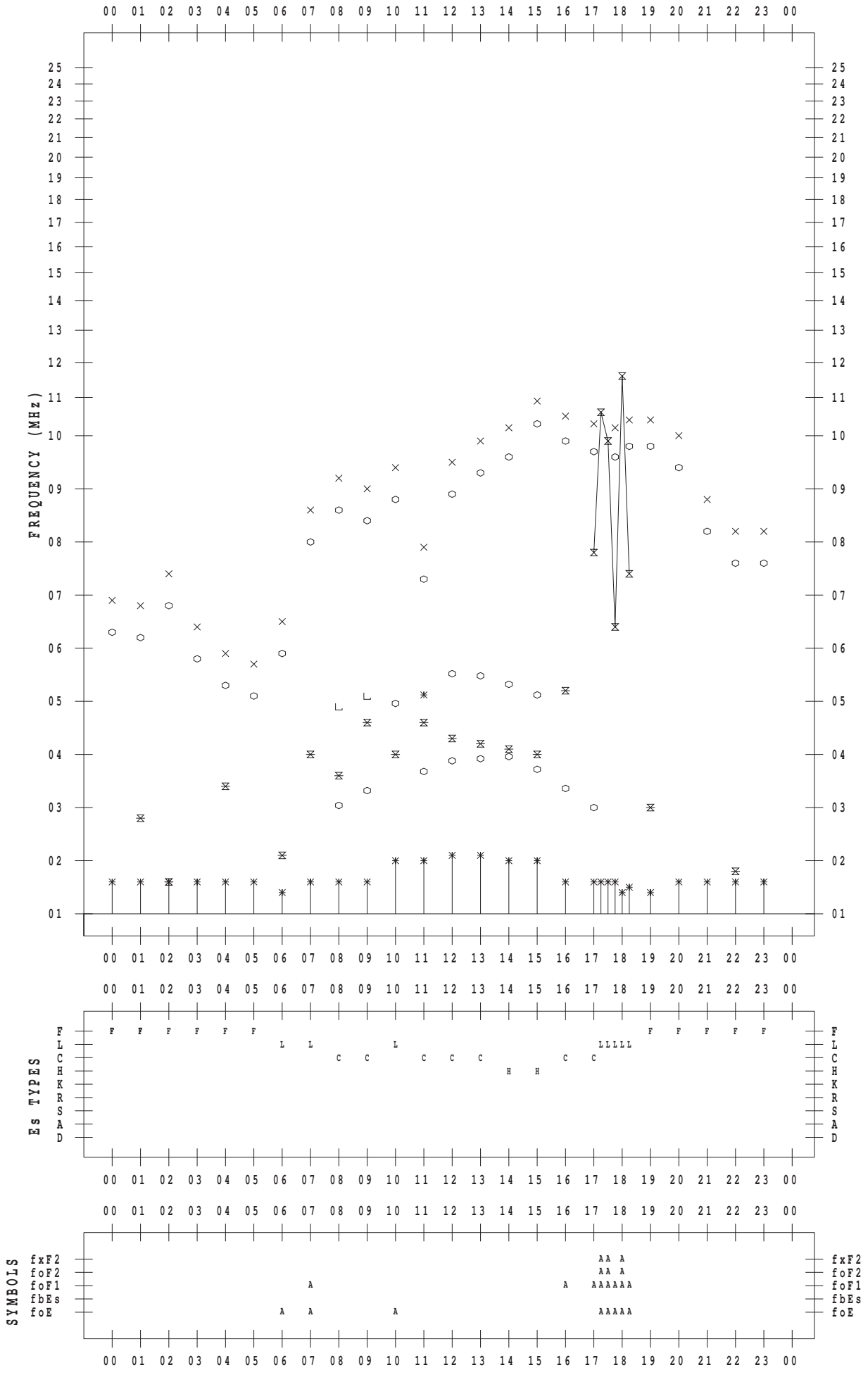
f-PLOT DATA

SCALER : M.NISHIDA

STATION : Yamagawa

DATE : 2014/ 8/25

135 °E MEAN TIME



f-PLOT DATA

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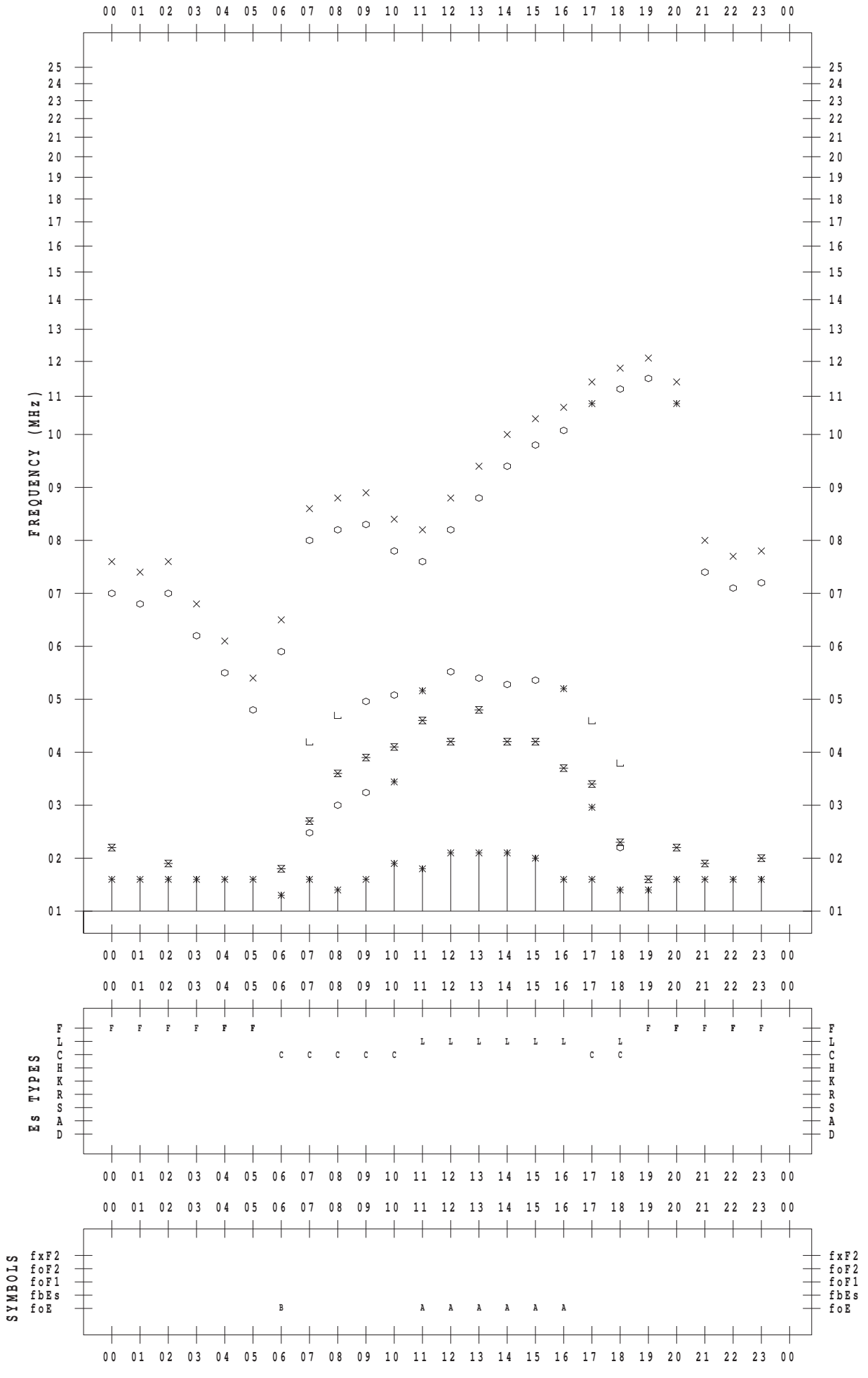
STATION : Yamagawa

DATE : 2014/ 8/26

135 °E MEAN TIME



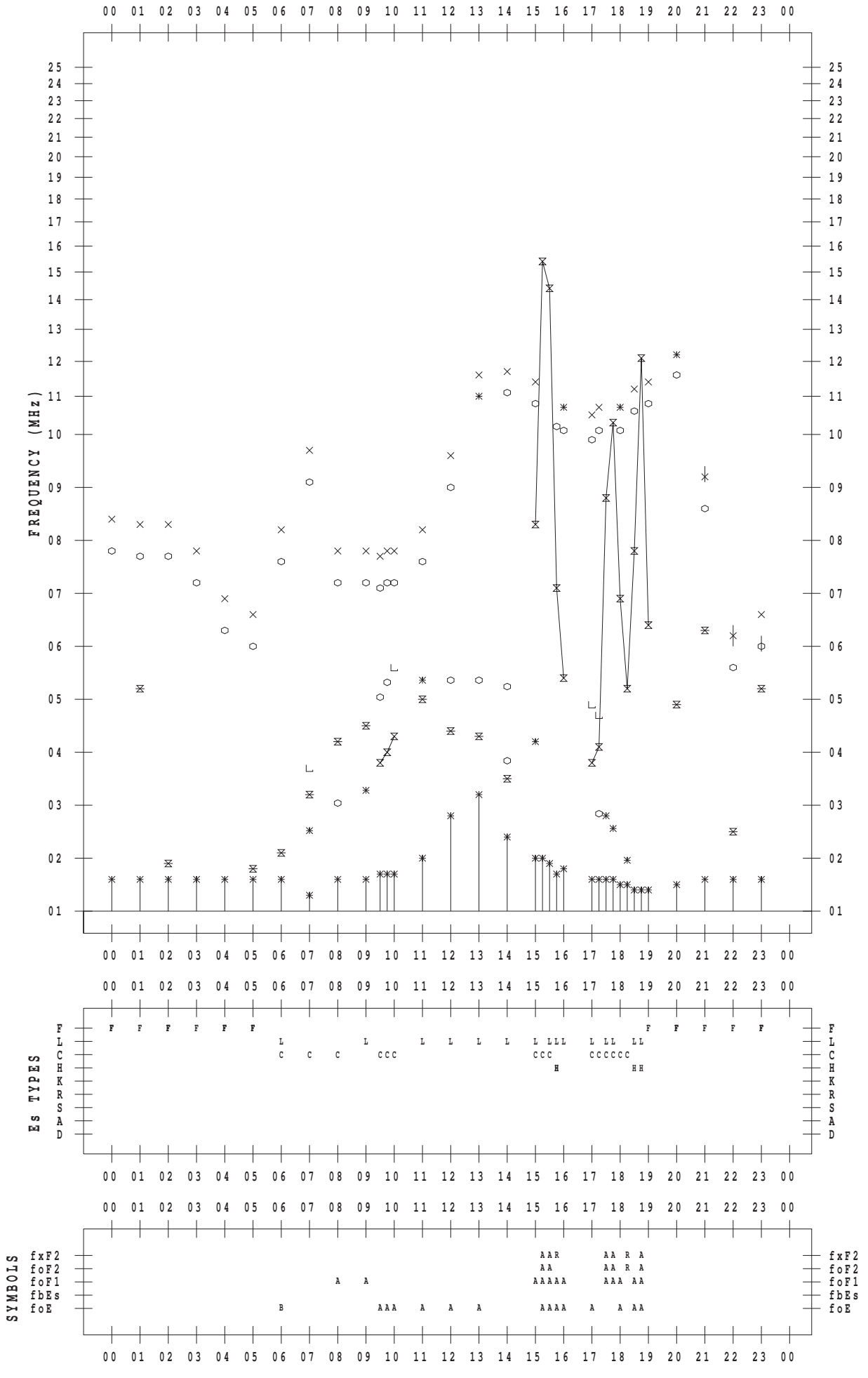
f-PLOT DATA

SCALER : M.NISHIDA

STATION : Yamagawa

DATE : 2014/ 8/27

135 °E MEAN TIME



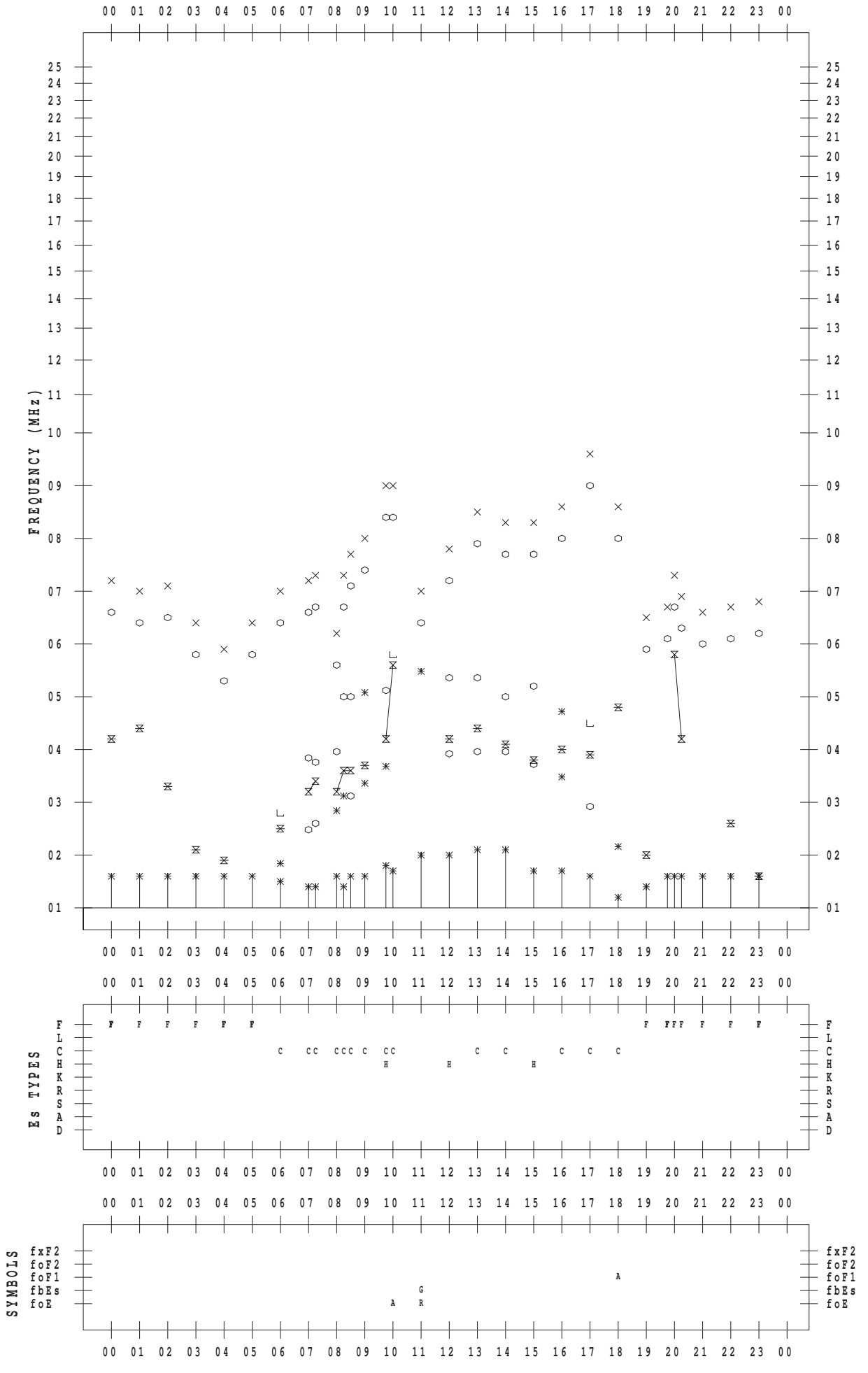
f-PLOT DATA

SCALER : M.NISHIDA

STATION : Yamagawa

DATE : 2014/ 8/28

135 °E MEAN TIME



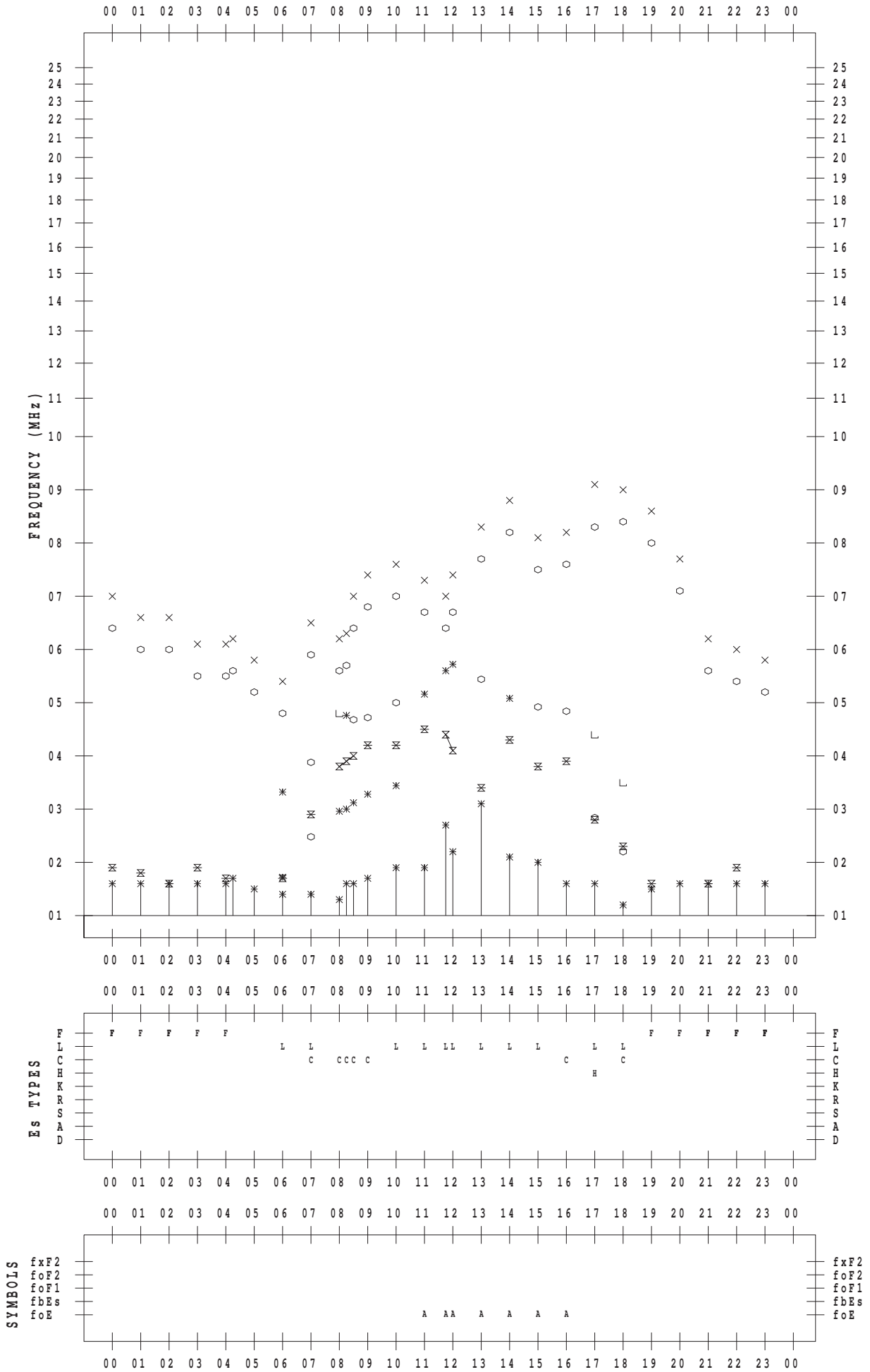
f-PLOT DATA

SCALER : M.NISHIDA

STATION : Yamagawa

DATE : 2014/ 8/29

135 °E MEAN TIME



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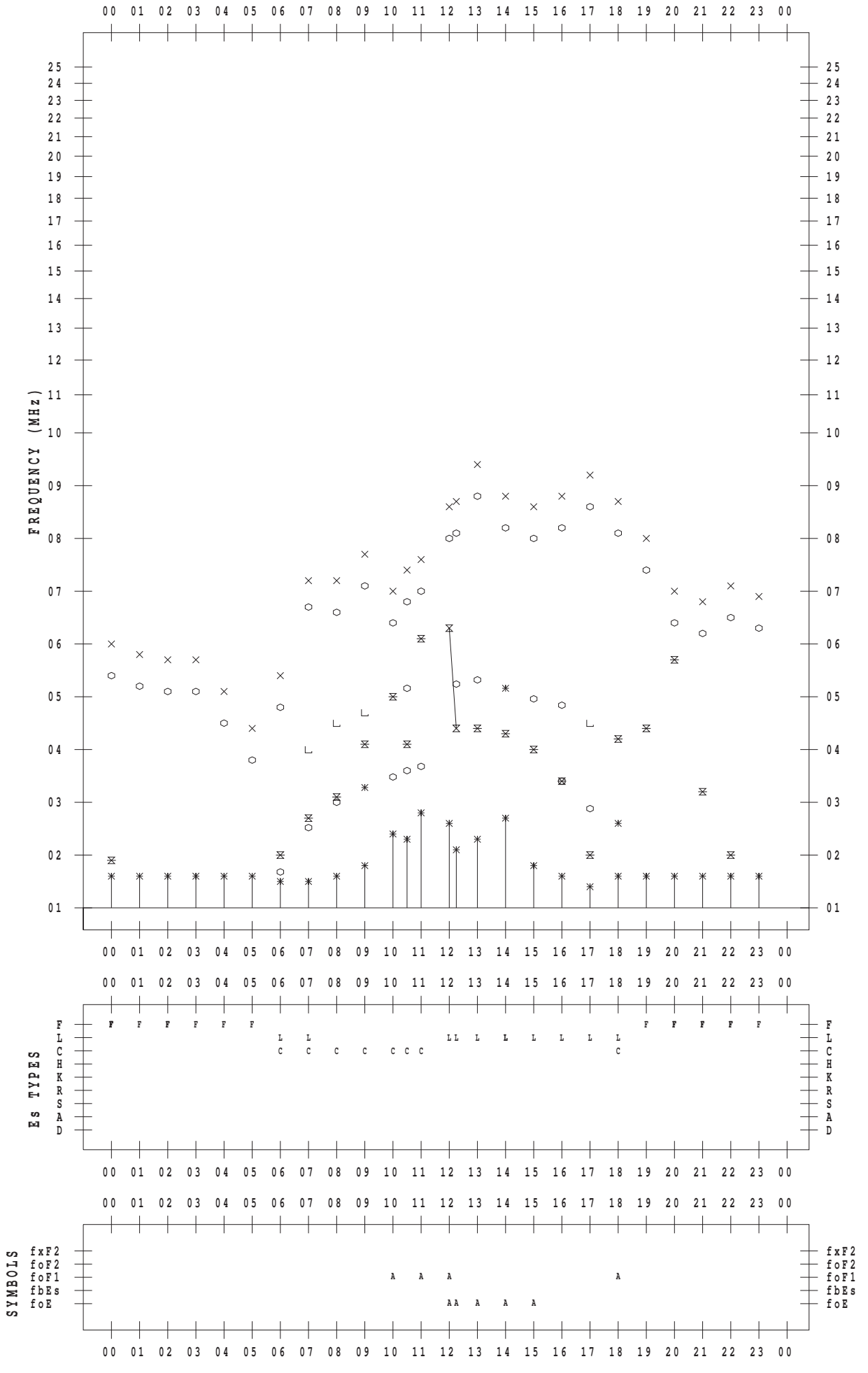
STATION : Yamagawa

DATE : 2014/ 8/30

135 °E MEAN TIME



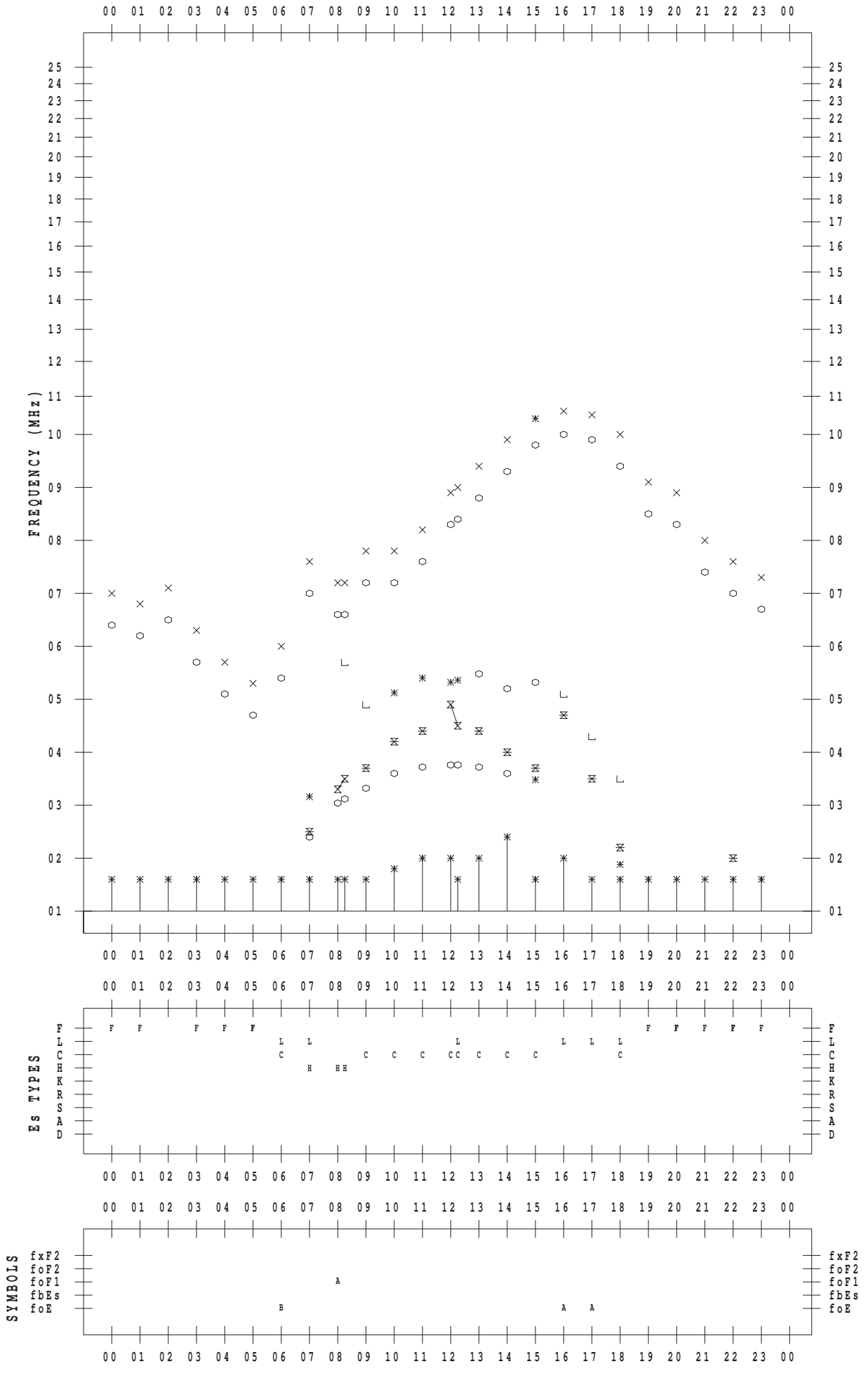
f-PLOT DATA

SCALER : M.NISHIDA

STATION : Yamagawa

DATE : 2014/ 8/31

135 °E MEAN TIME



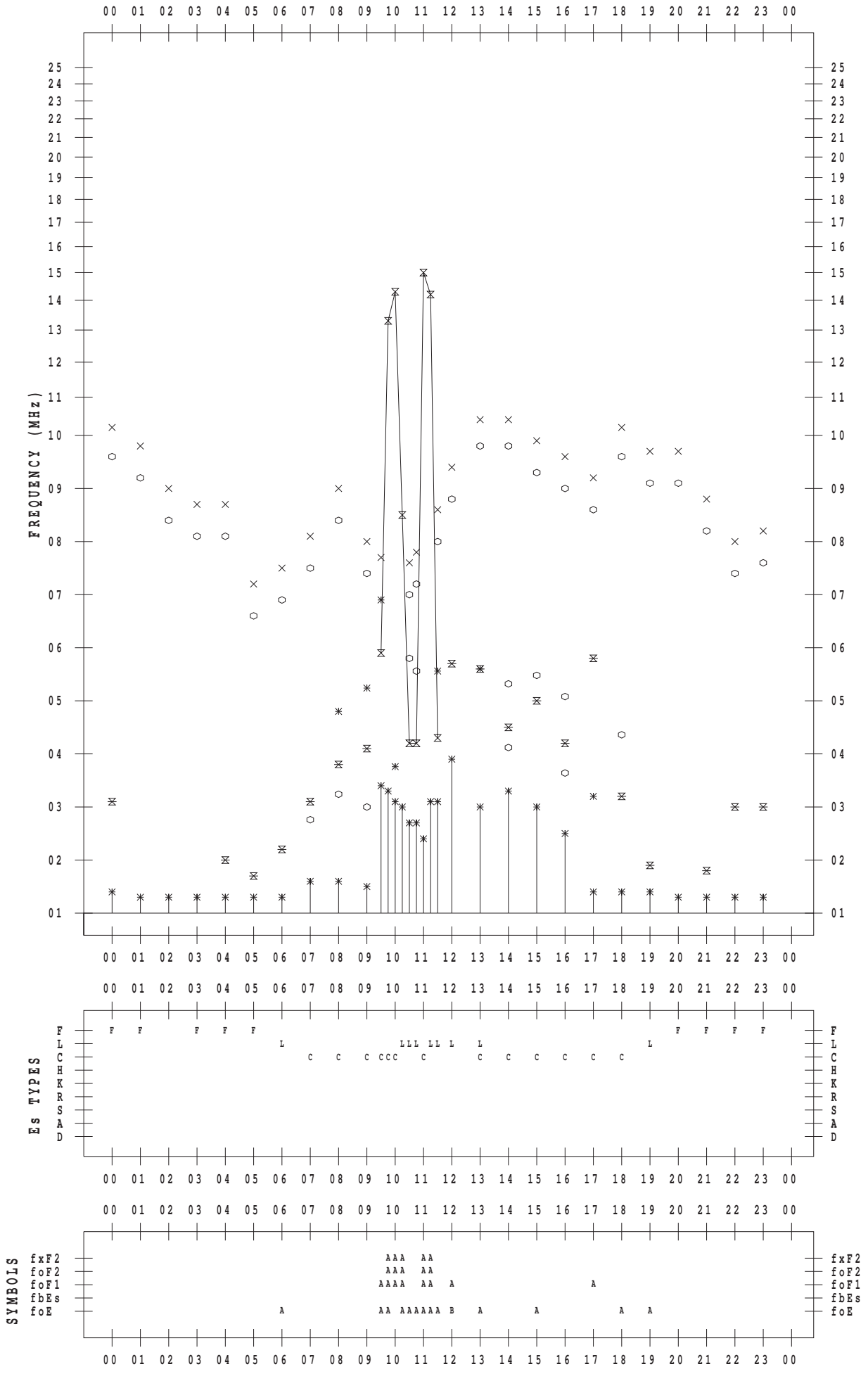
f-PLOT DATA

SCALER : I.YAMAZAKI

STATION : Okinawa

DATE : 2014/ 8/ 1

135 °E MEAN TIME



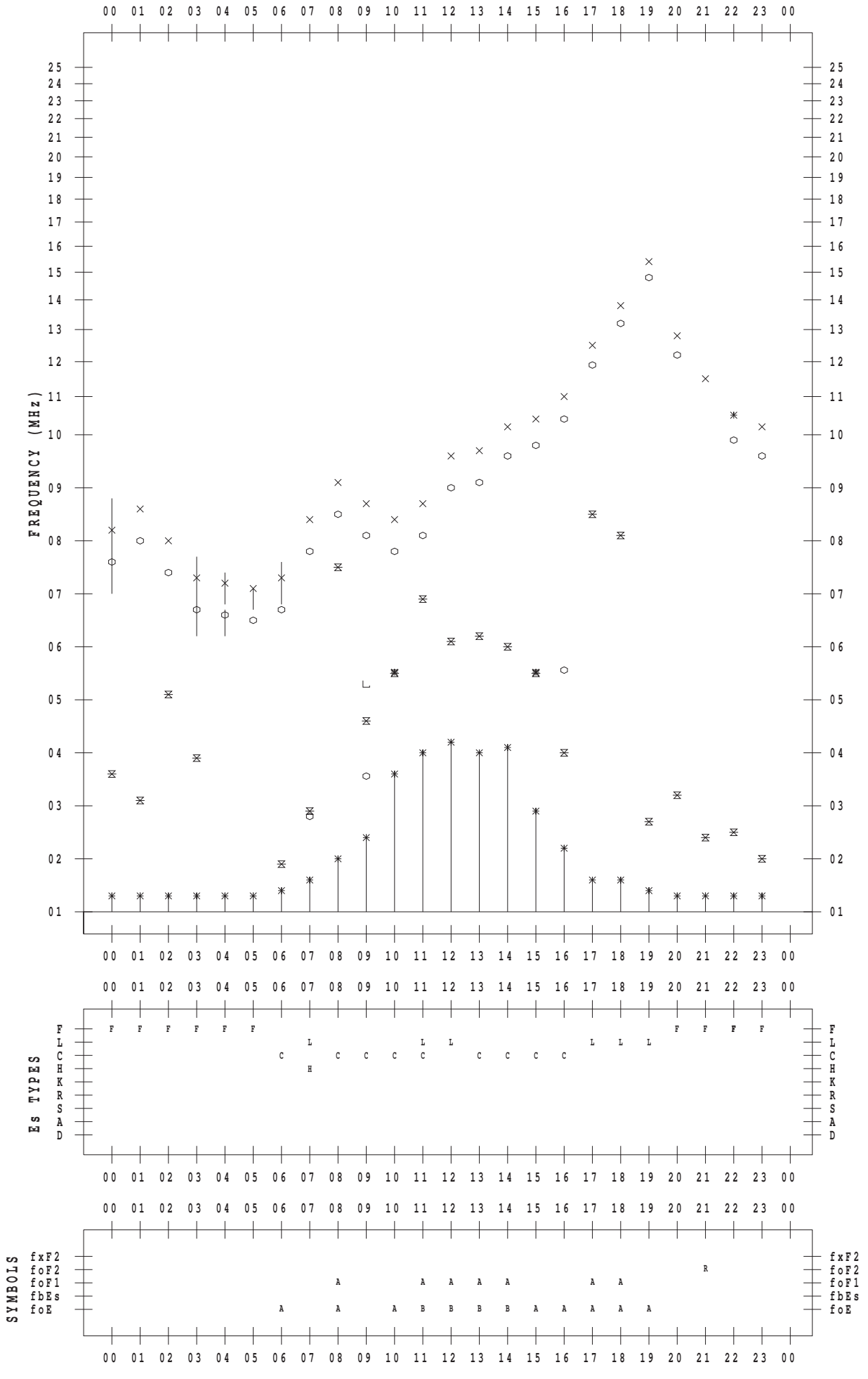
f-PLOT DATA

SCALER : I.YAMAZAKI

STATION : Okinawa

DATE : 2014/ 8/ 2

135 °E MEAN TIME



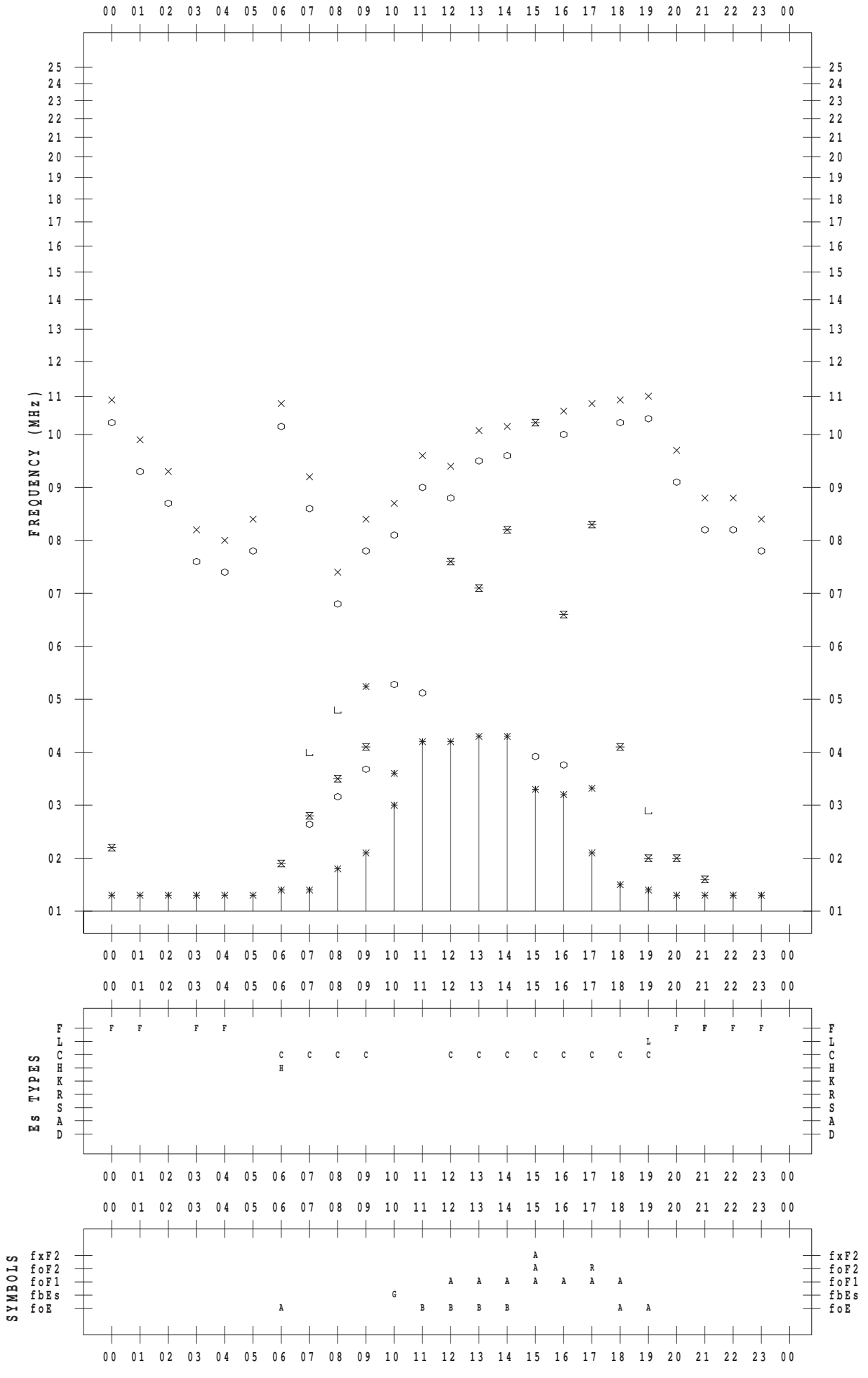
f-PLOT DATA

SCALER : I.YAMAZAKI

STATION : Okinawa

DATE : 2014/ 8/ 3

135 °E MEAN TIME



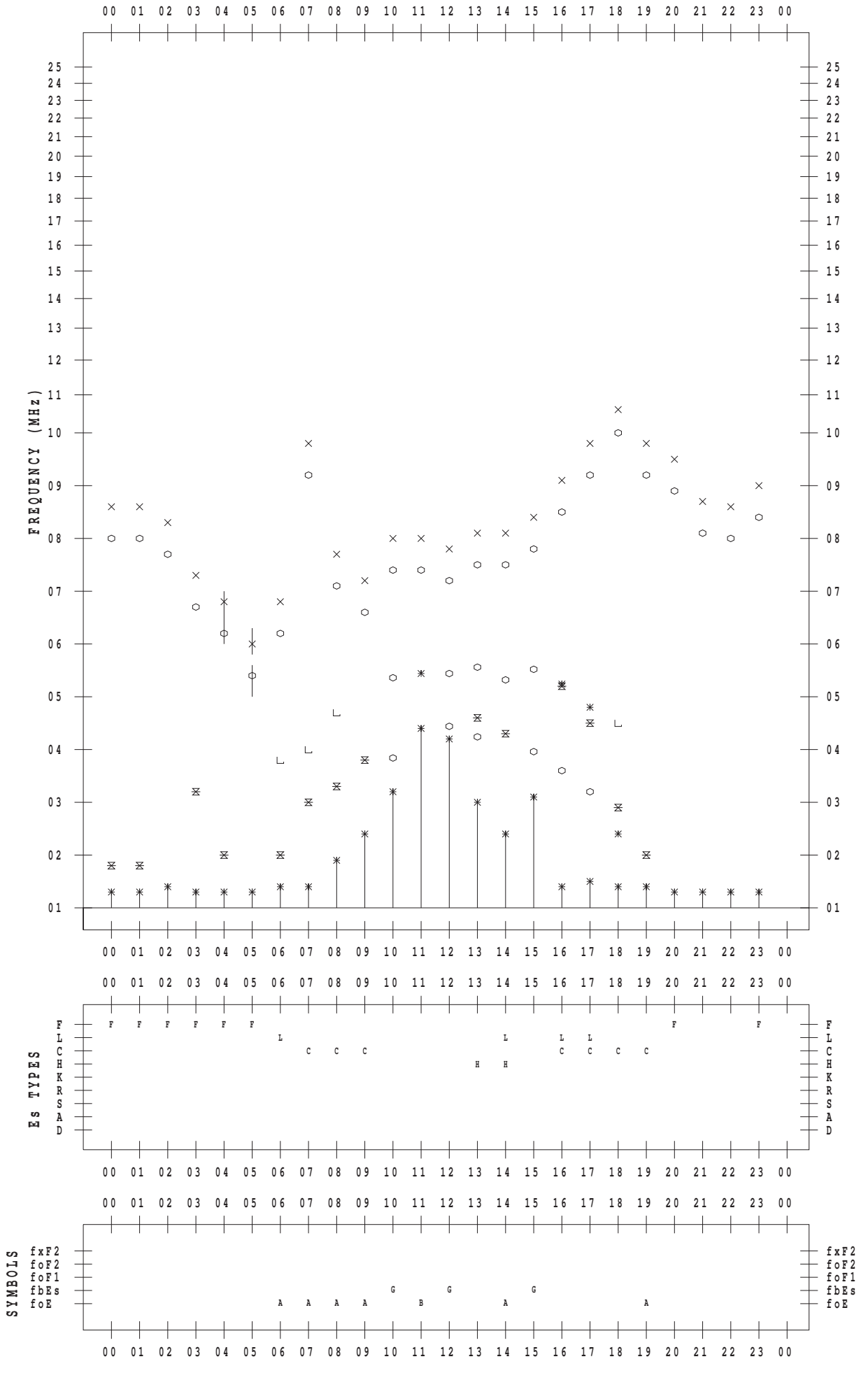
f-PLOT DATA

SCALER : I.YAMAZAKI

STATION : Okinawa

DATE : 2014/ 8/ 4

135 °E MEAN TIME



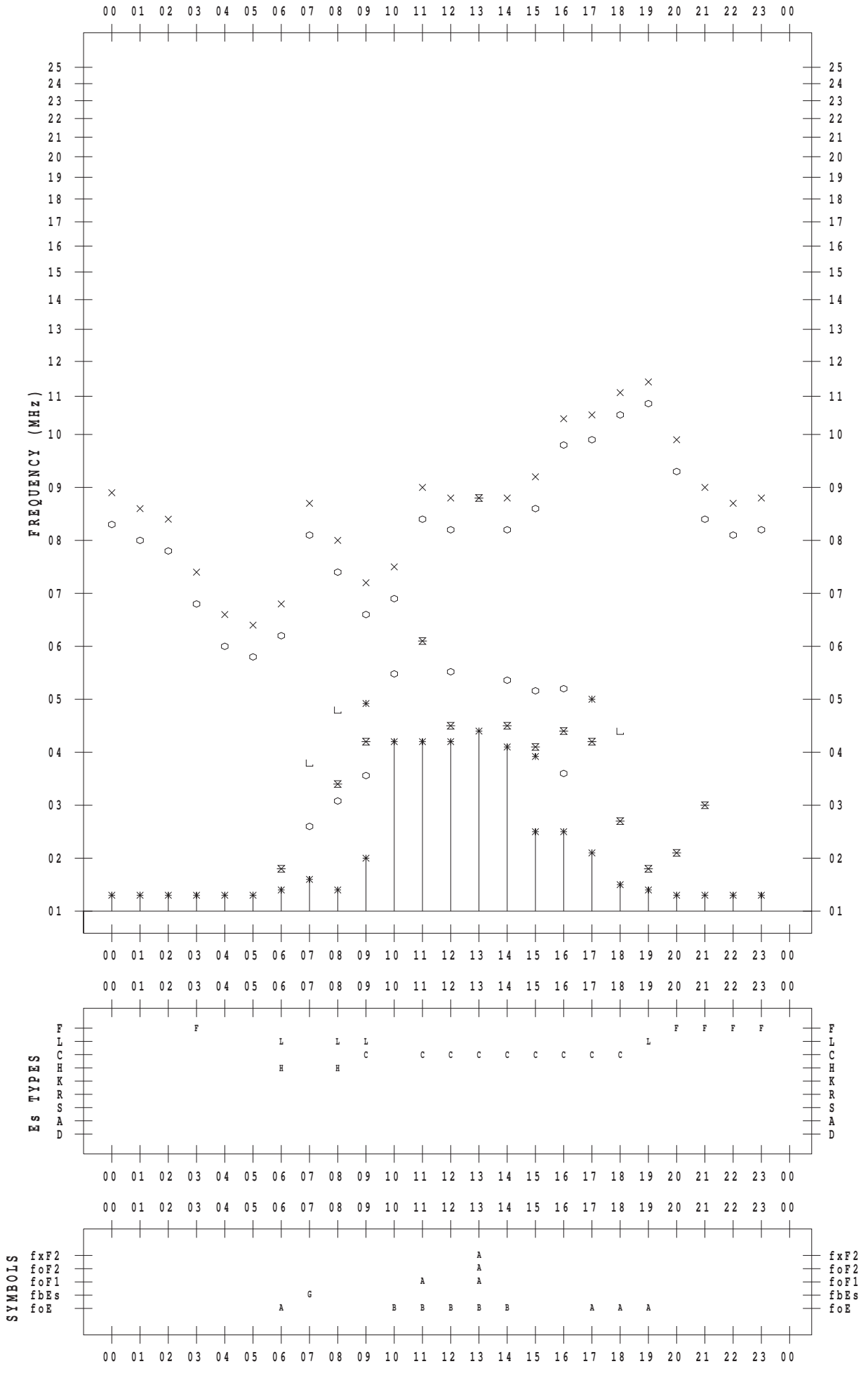
f-PLOT DATA

SCALER : I.YAMAZAKI

STATION : Okinawa

DATE : 2014/ 8/ 5

135 °E MEAN TIME



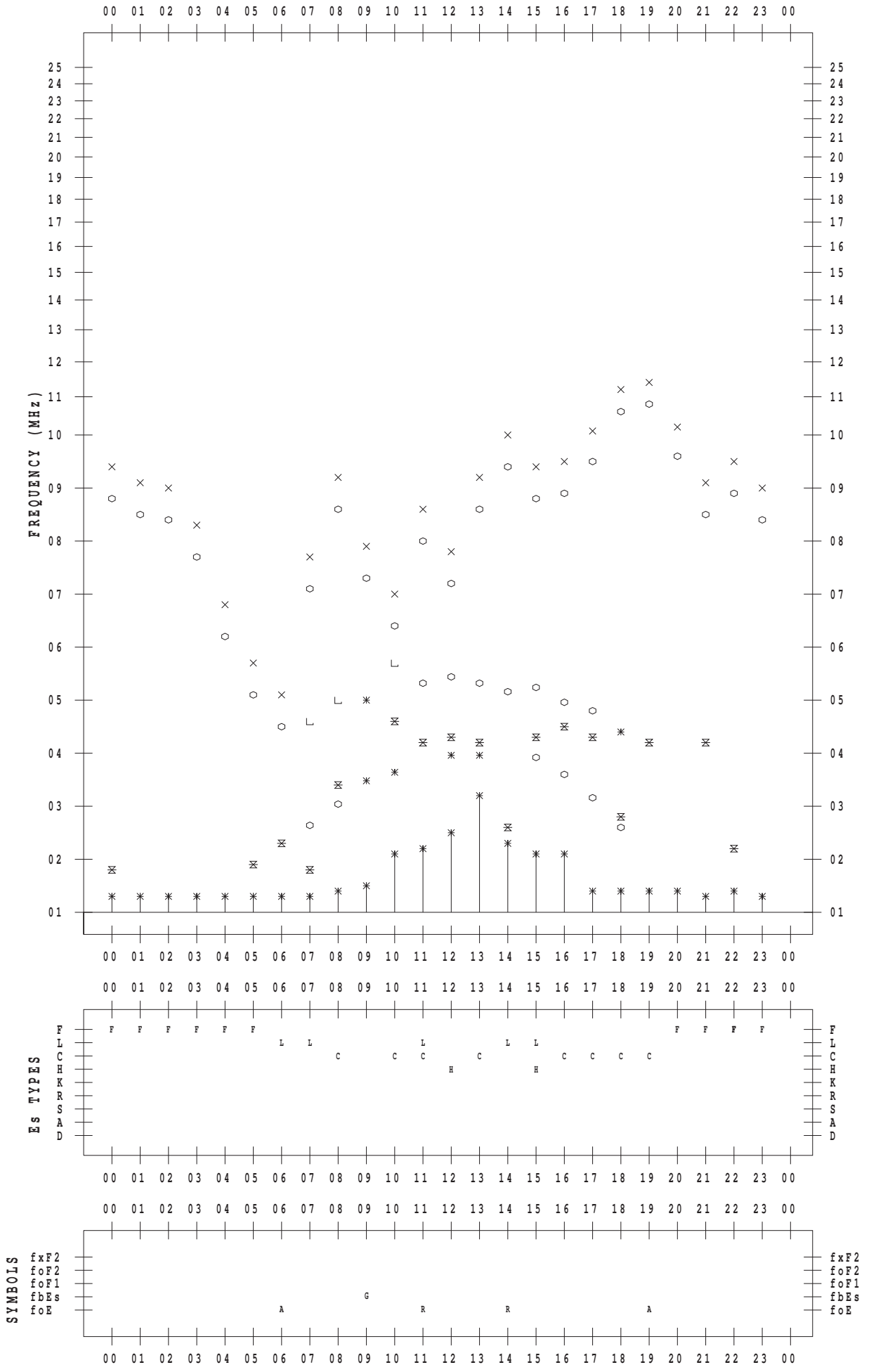
f-PLOT DATA

SCALER : I.YAMAZAKI

STATION : Okinawa

DATE : 2014/ 8/ 6

135 °E MEAN TIME



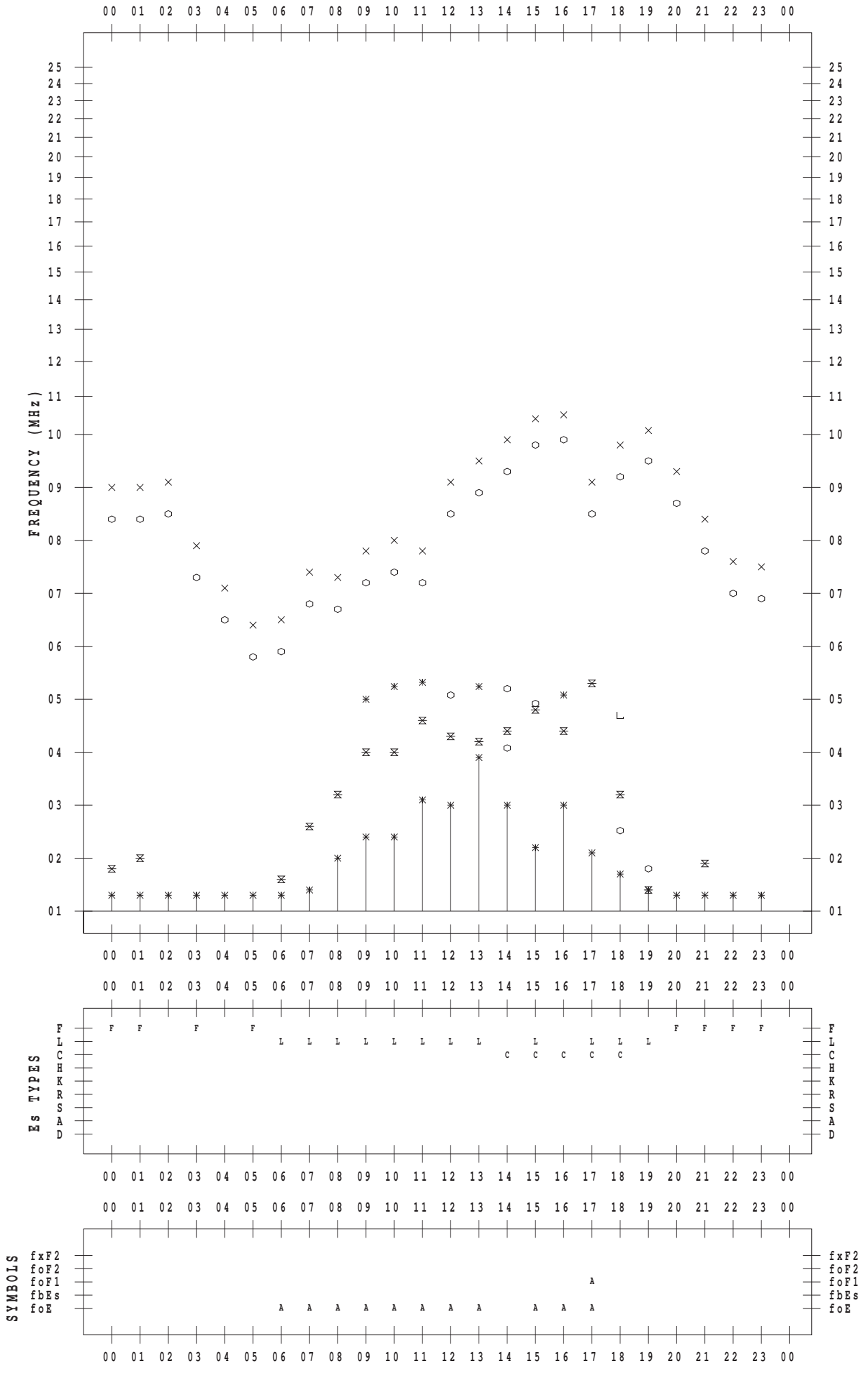
f-PLOT DATA

SCALER : I.YAMAZAKI

STATION : Okinawa

DATE : 2014/ 8/ 7

135 °E MEAN TIME



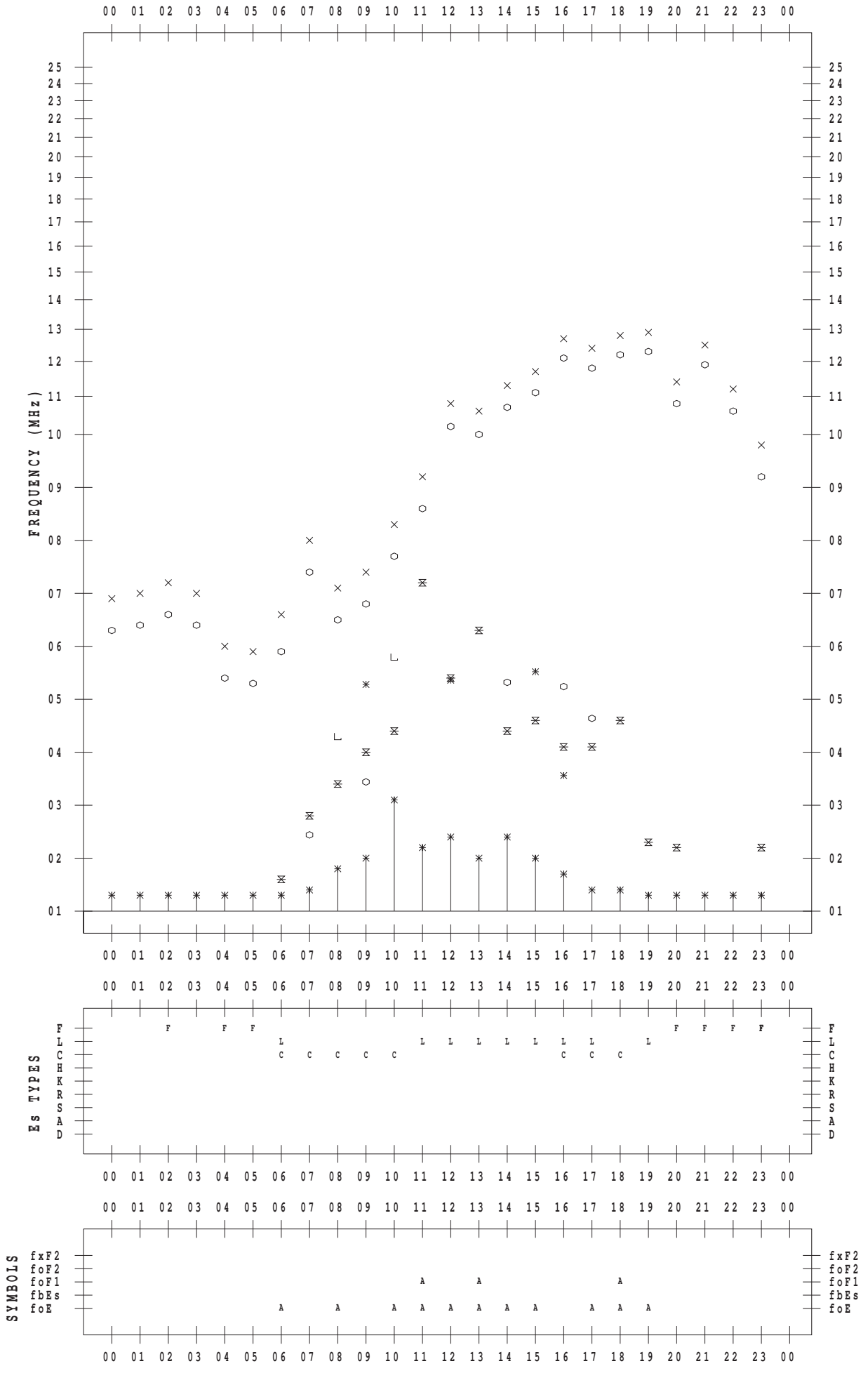
f-PLOT DATA

SCALER : I.YAMAZAKI

STATION : Okinawa

DATE : 2014/ 8/ 8

135 °E MEAN TIME



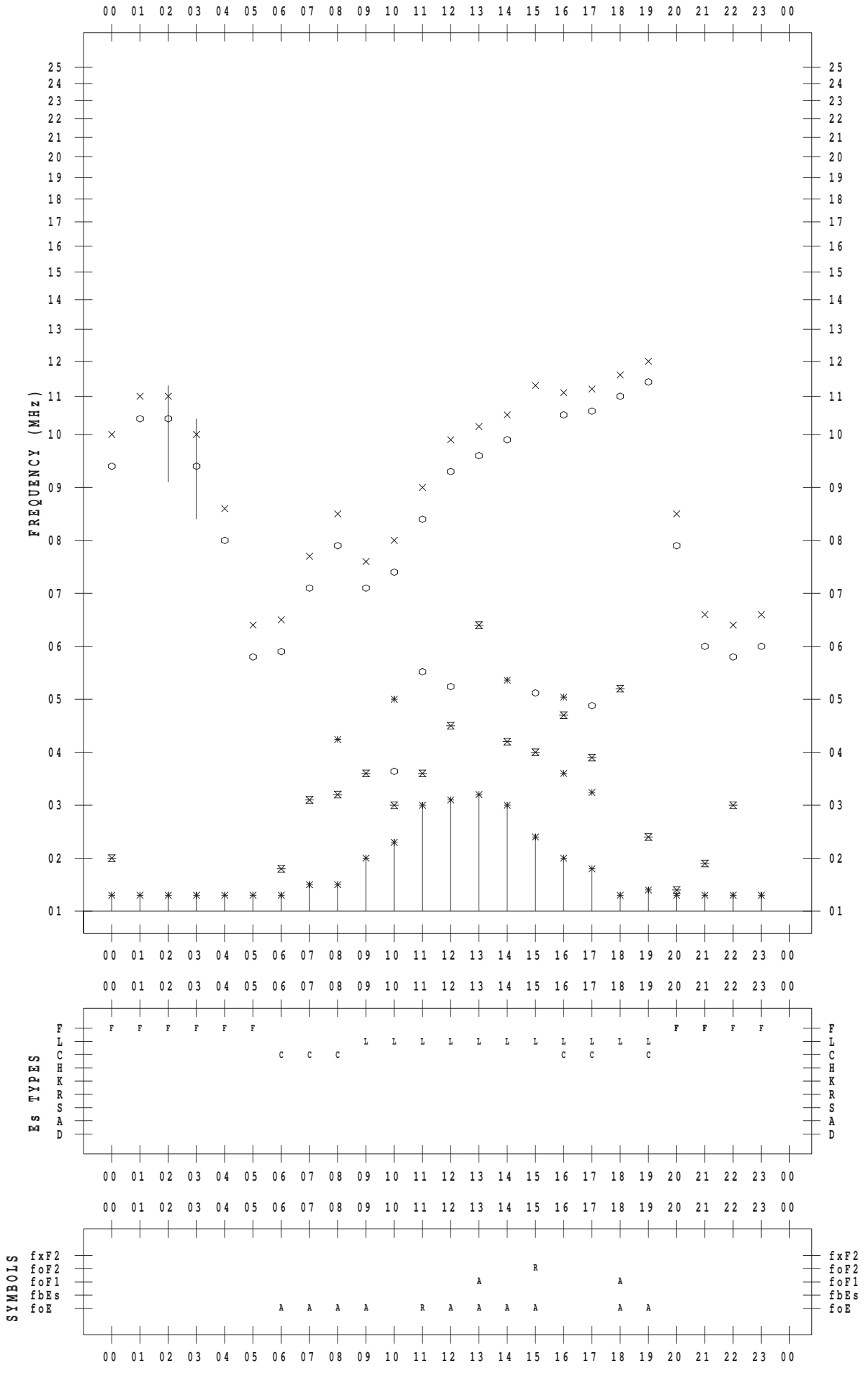
f-PLOT DATA

SCALER : I.YAMAZAKI

STATION : Okinawa

DATE : 2014/ 8/ 9

135 °E MEAN TIME



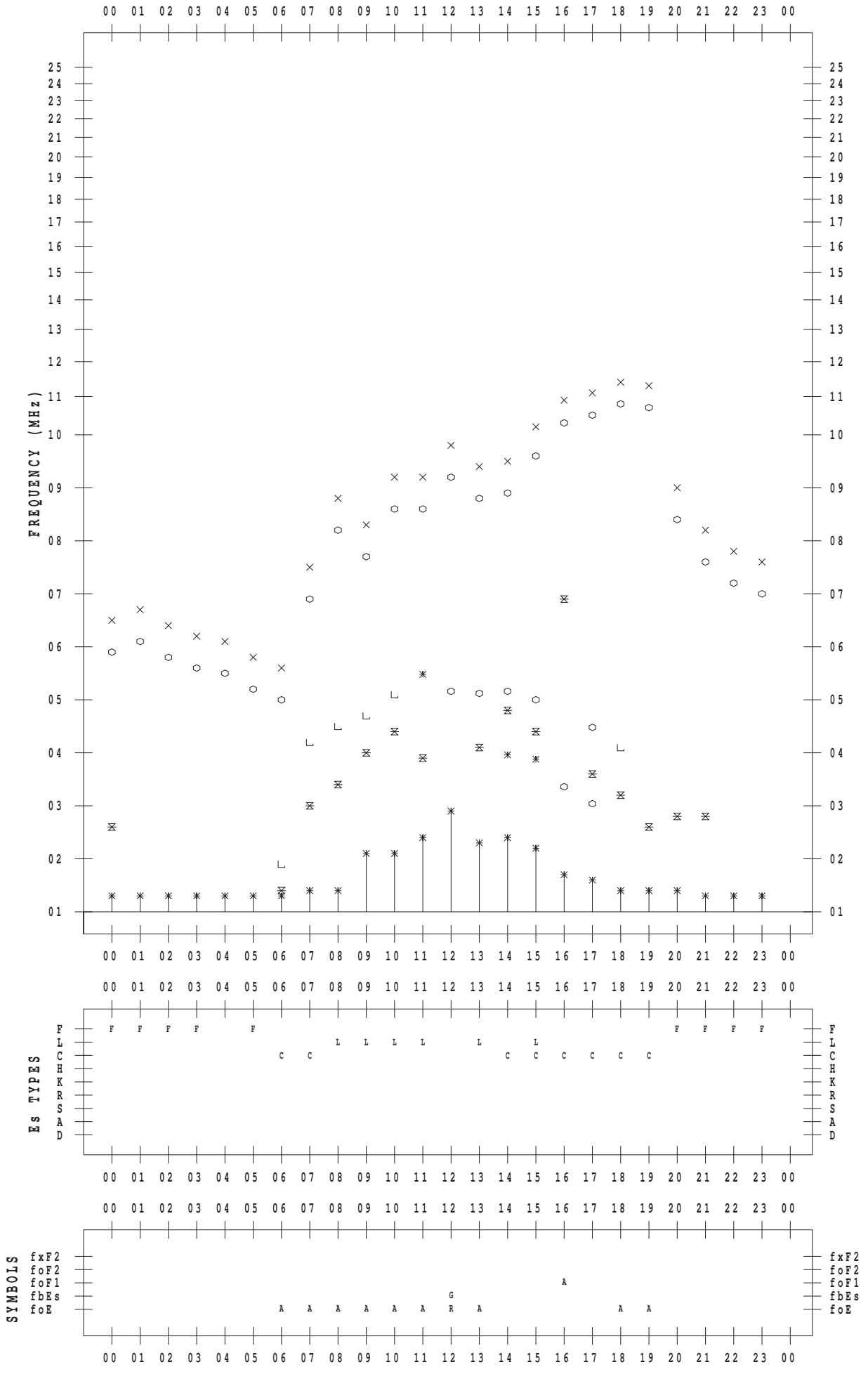
f-PLOT DATA

SCALER : I.YAMAZAKI

STATION : Okinawa

DATE : 2014/ 8/10

135 °E MEAN TIME



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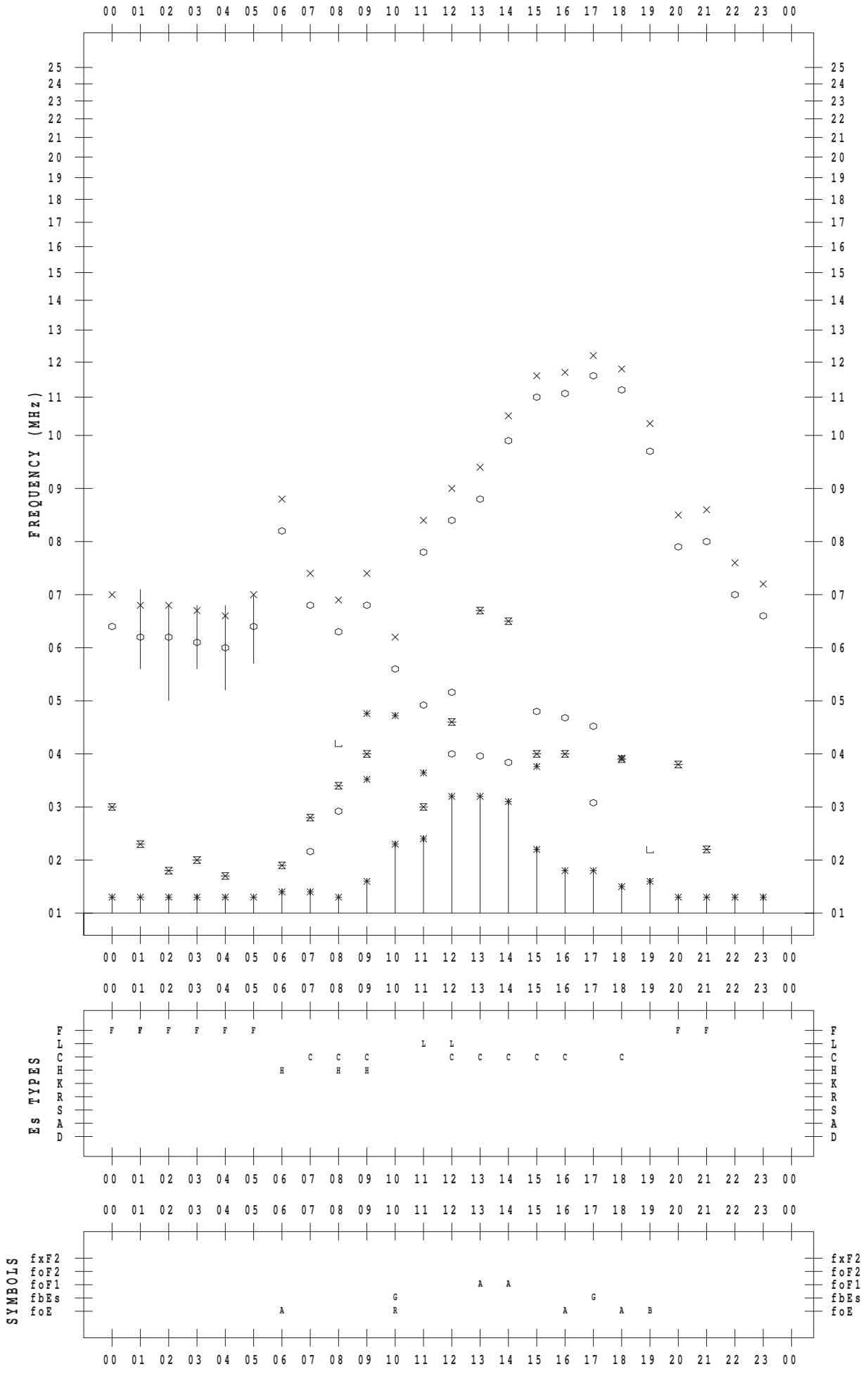
SCALER : I.YAMAZAKI

STATION : Okinawa

DATE : 2014/ 8/11

135 °E MEAN TIME



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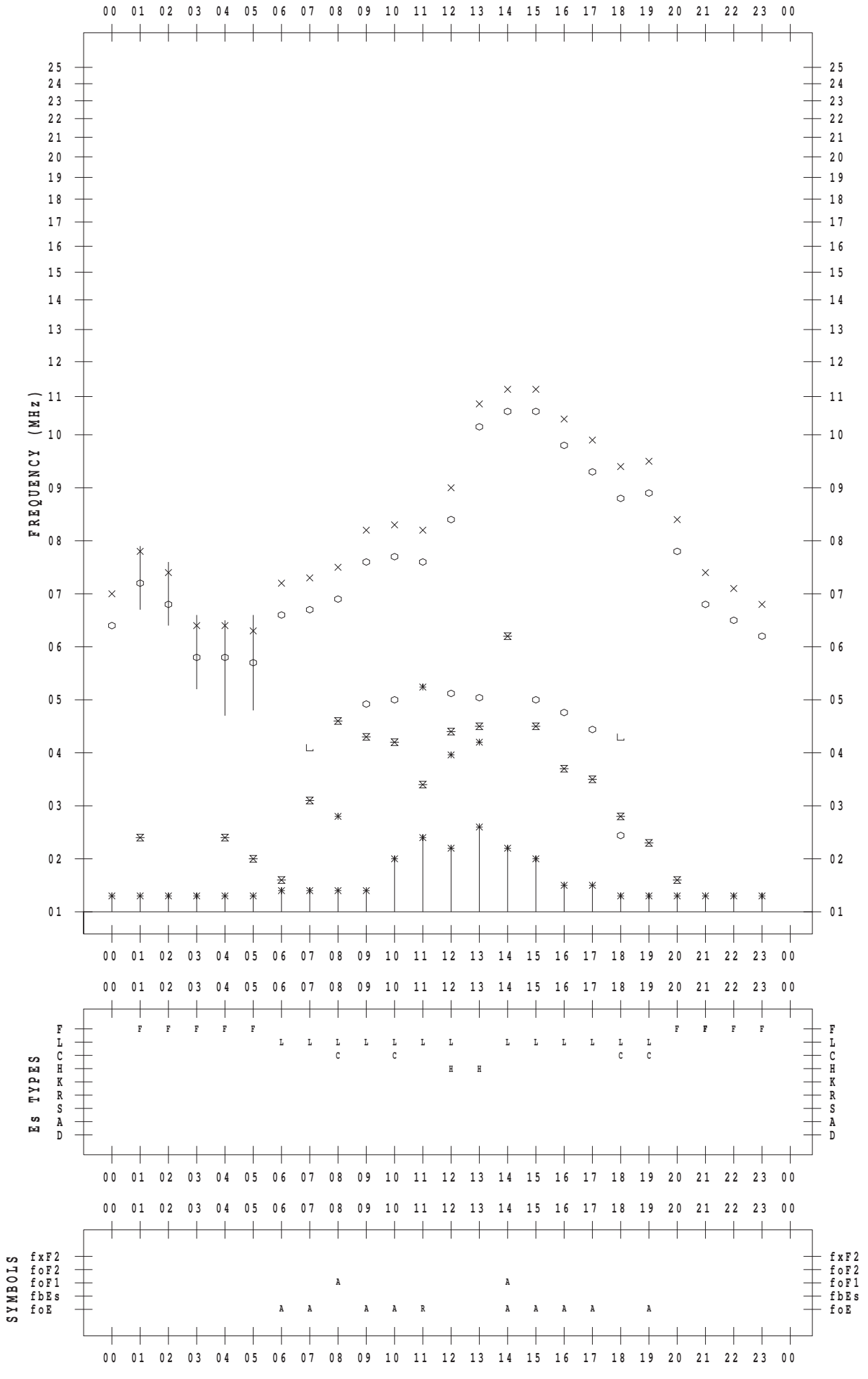
SCALER : I.YAMAZAKI

STATION : Okinawa

DATE : 2014/ 8/12

135 °E MEAN TIME



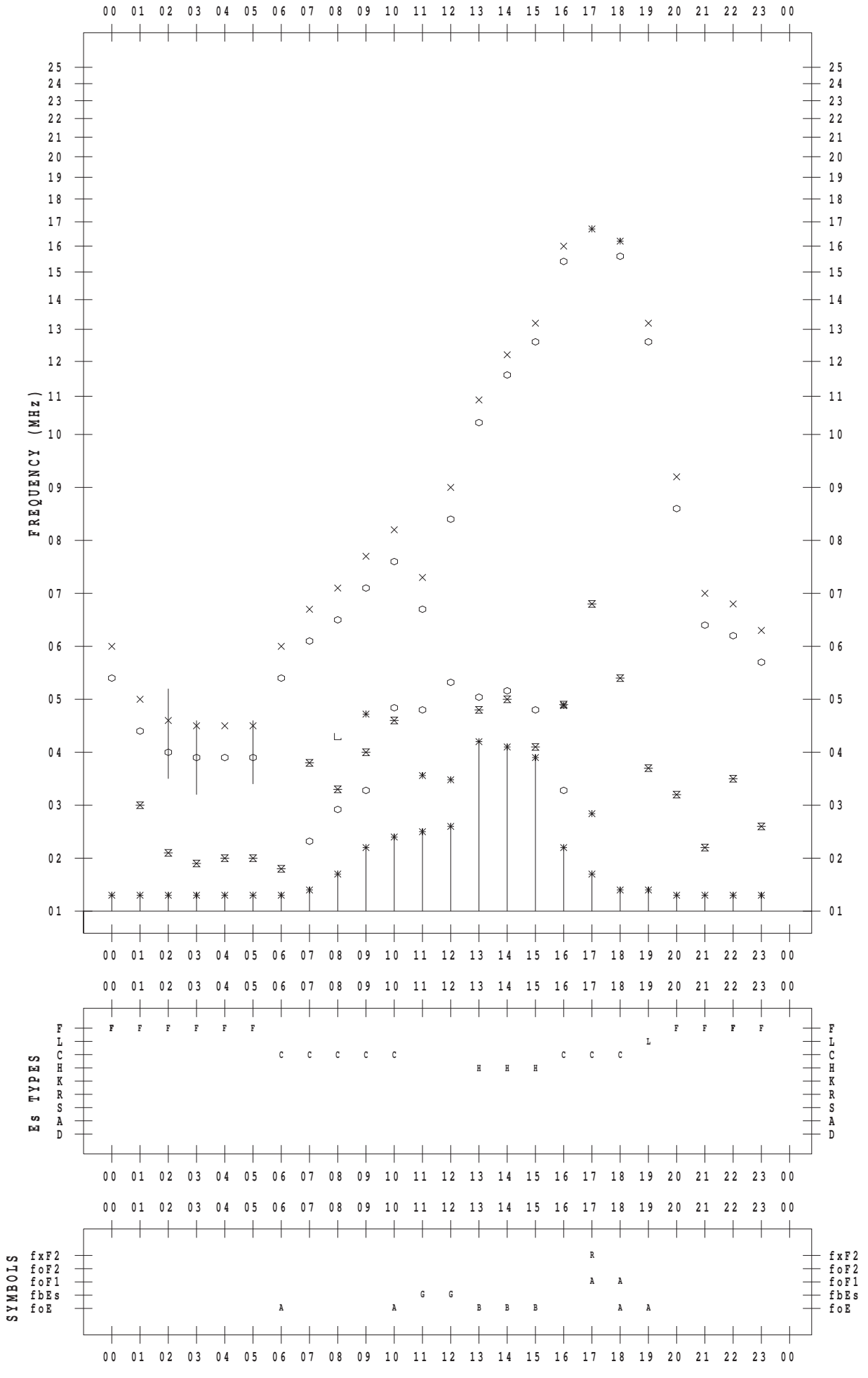
f-PLOT DATA

SCALER : I.YAMAZAKI

STATION : Okinawa

DATE : 2014/ 8/13

135 °E MEAN TIME



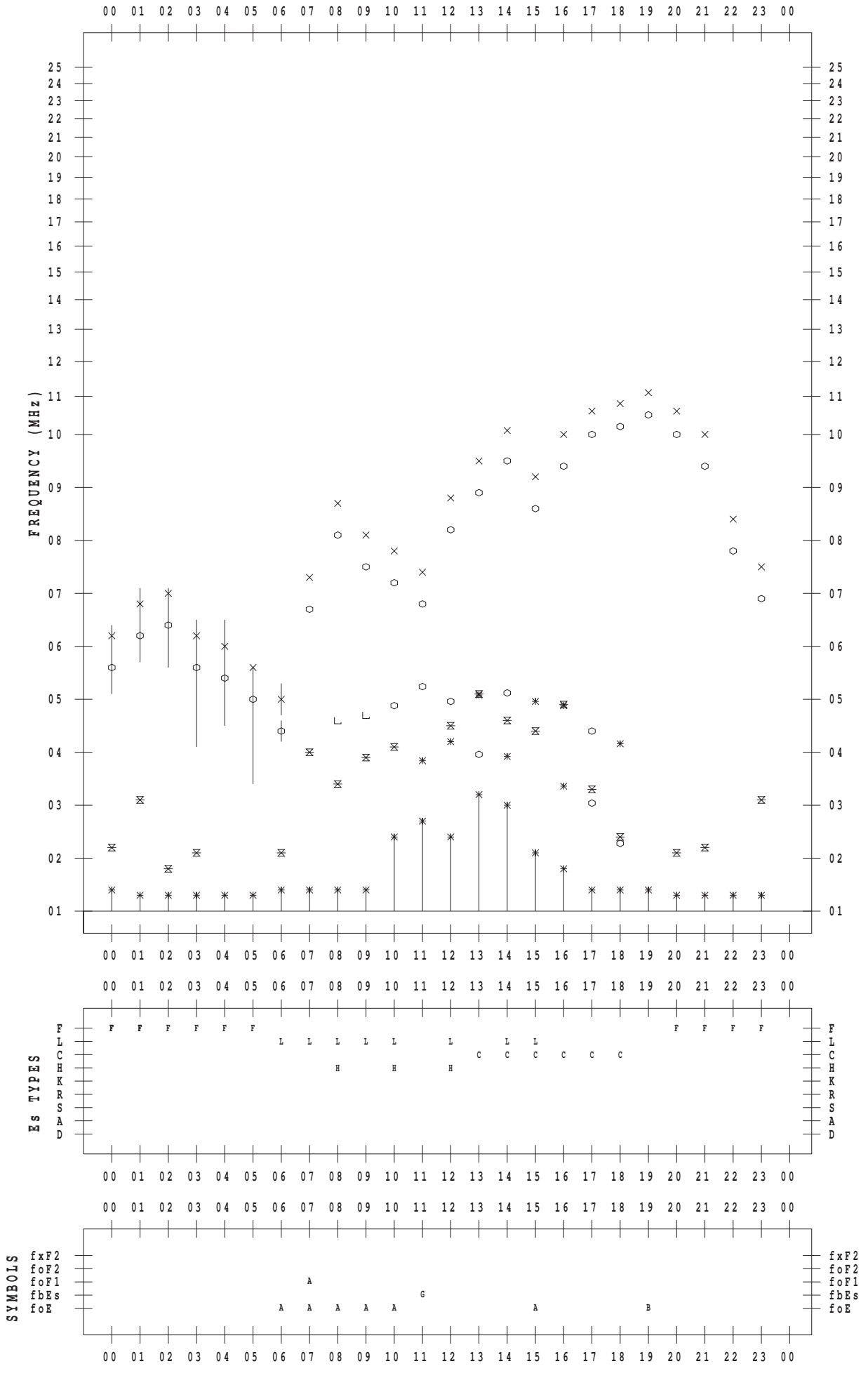
f-PLOT DATA

SCALER : I.YAMAZAKI

STATION : Okinawa

DATE : 2014/ 8/14

135 °E MEAN TIME



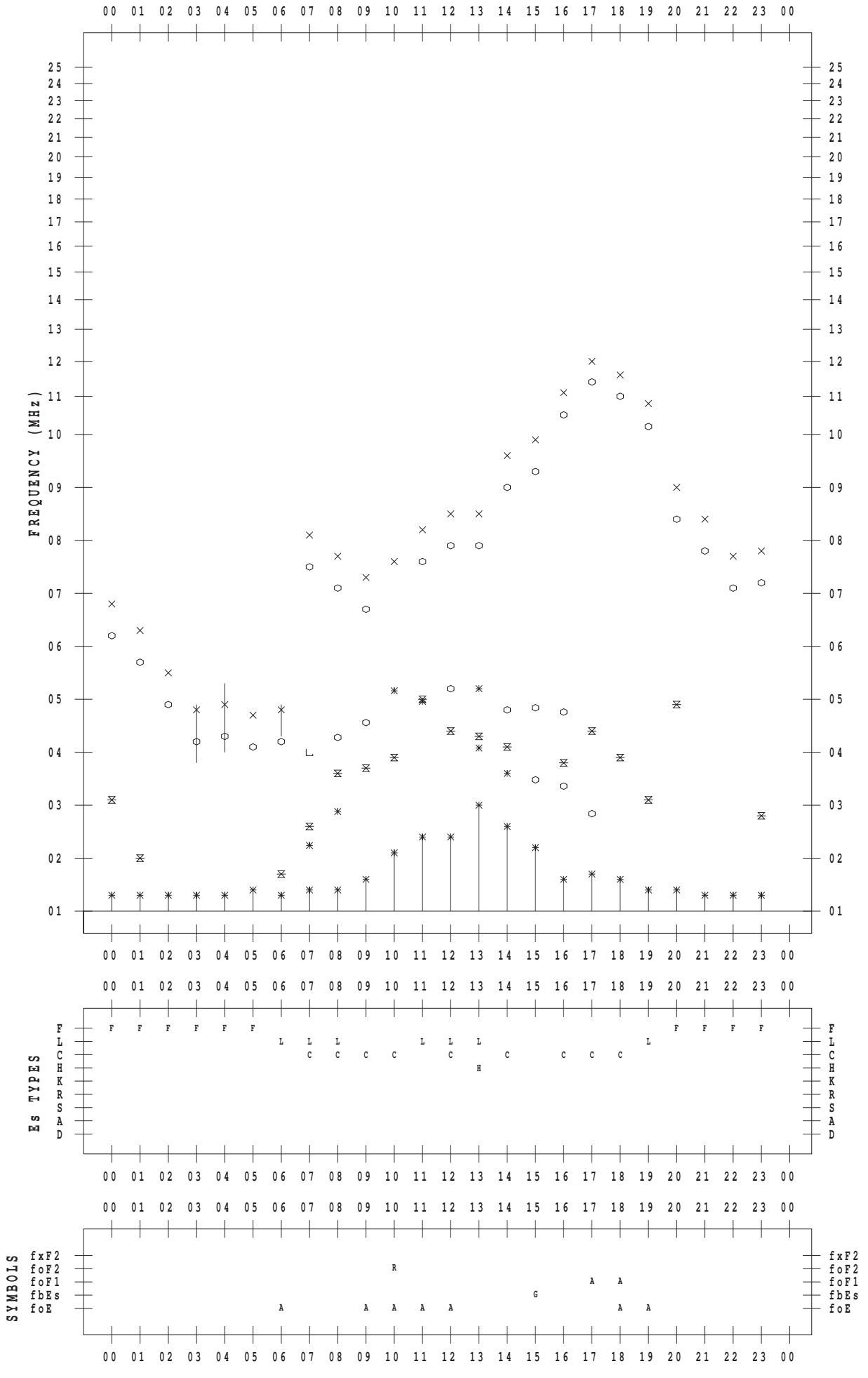
f-PLOT DATA

SCALER : I.YAMAZAKI

STATION : Okinawa

DATE : 2014/ 8/15

135 °E MEAN TIME



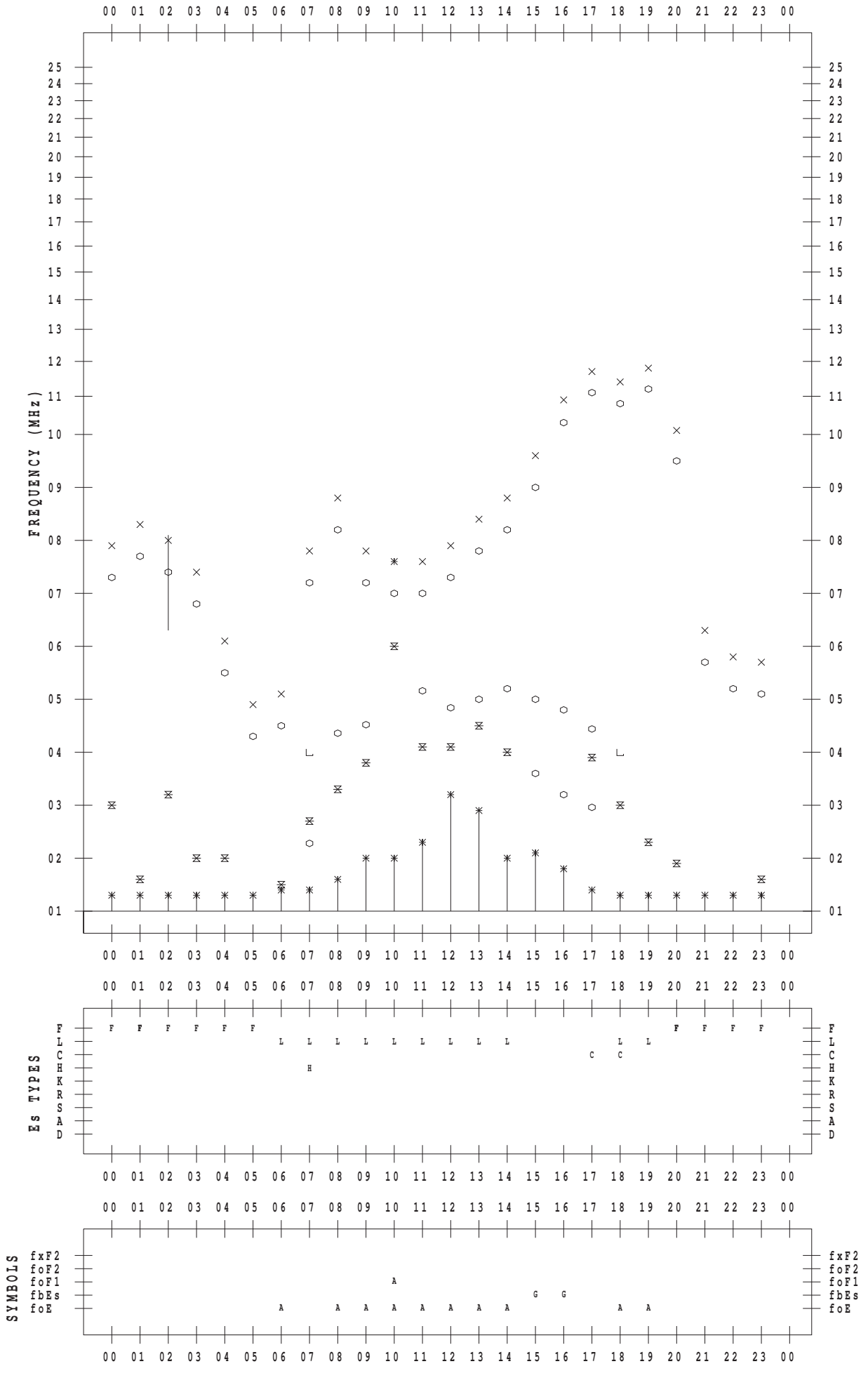
f-PLOT DATA

SCALER : I.YAMAZAKI

STATION : Okinawa

DATE : 2014/ 8/16

135 °E MEAN TIME



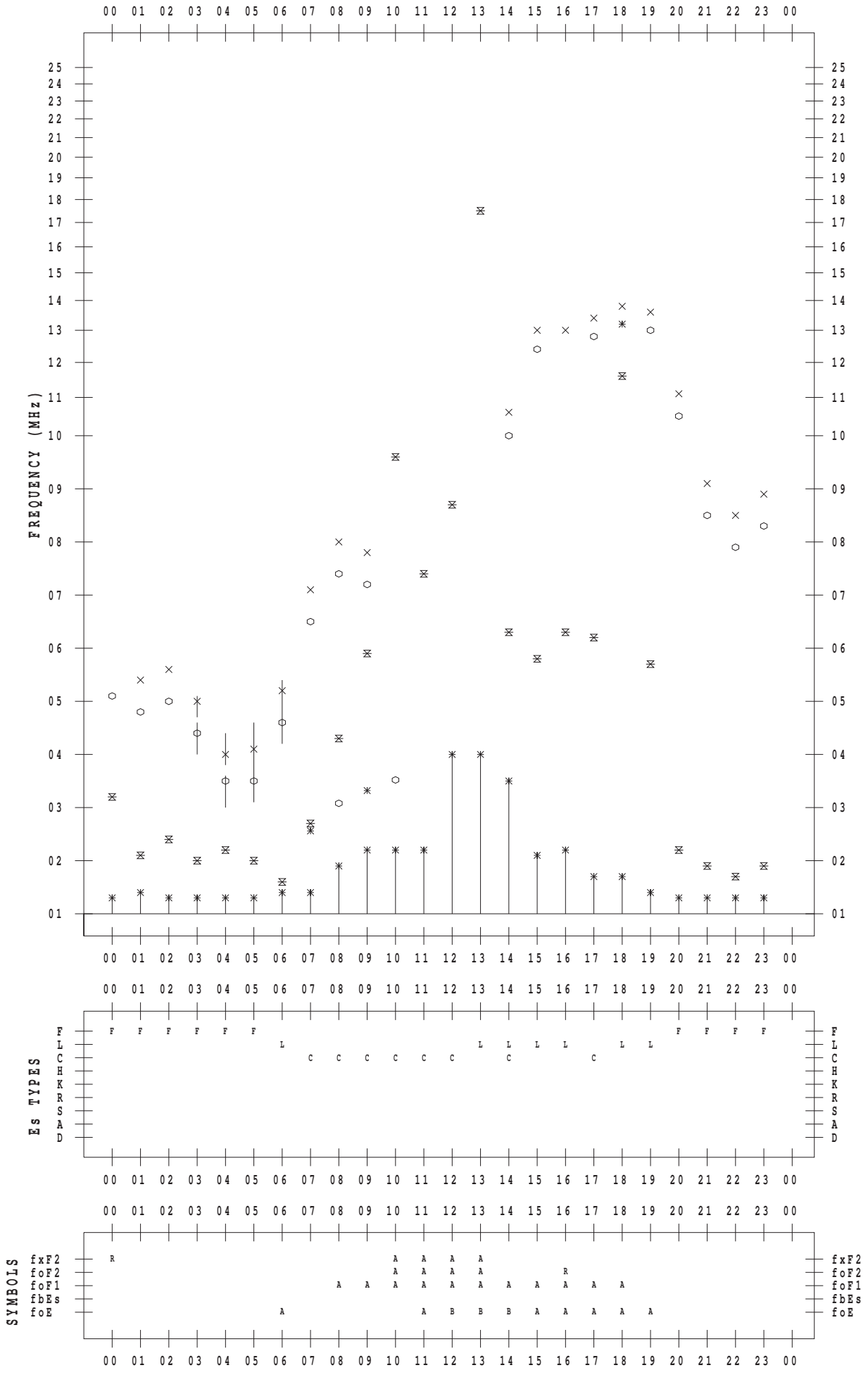
f-PLOT DATA

SCALER : I.YAMAZAKI

STATION : Okinawa

DATE : 2014/ 8/17

135 °E MEAN TIME



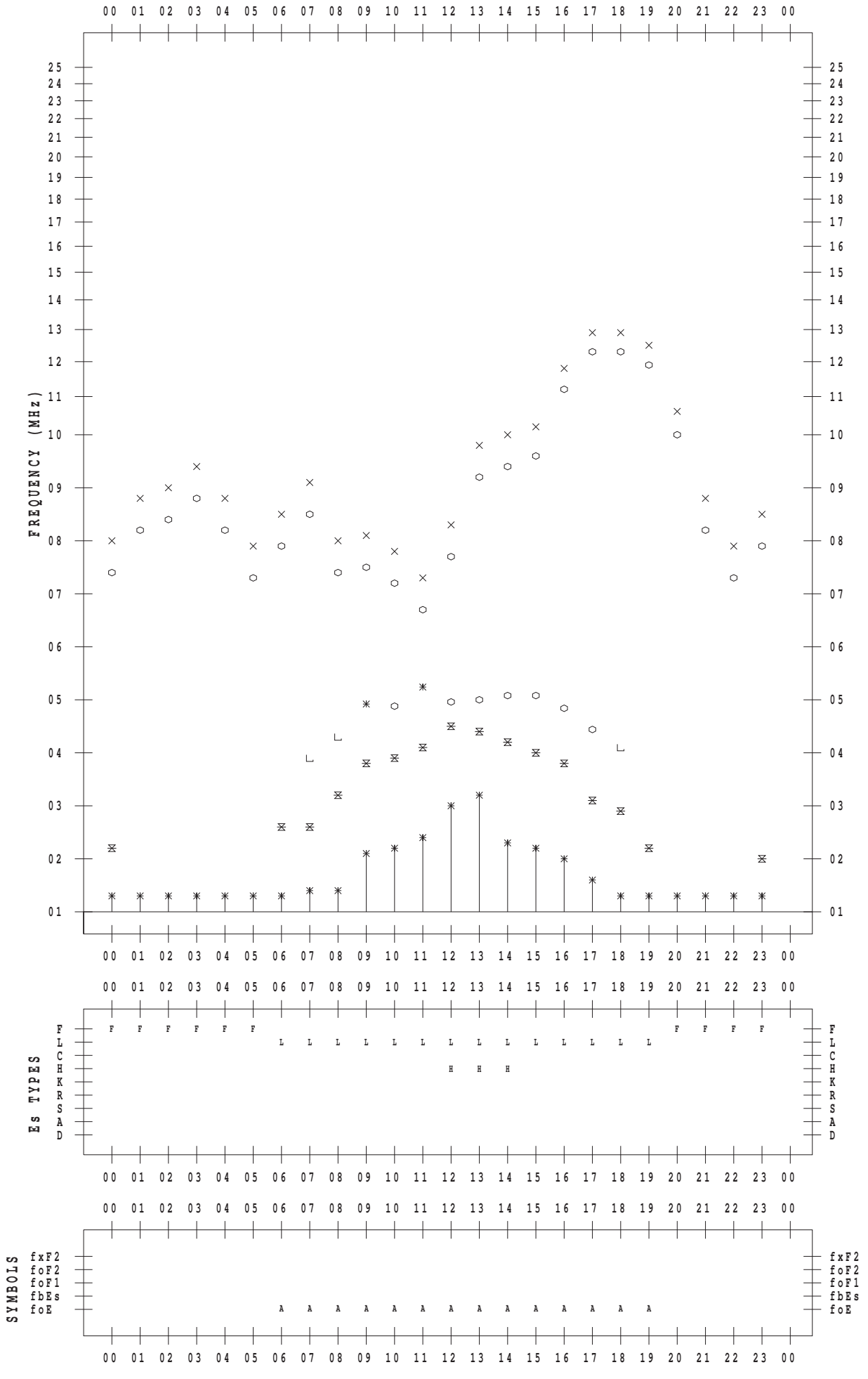
f-PLOT DATA

SCALER : I.YAMAZAKI

STATION : Okinawa

DATE : 2014/ 8/18

135 °E MEAN TIME



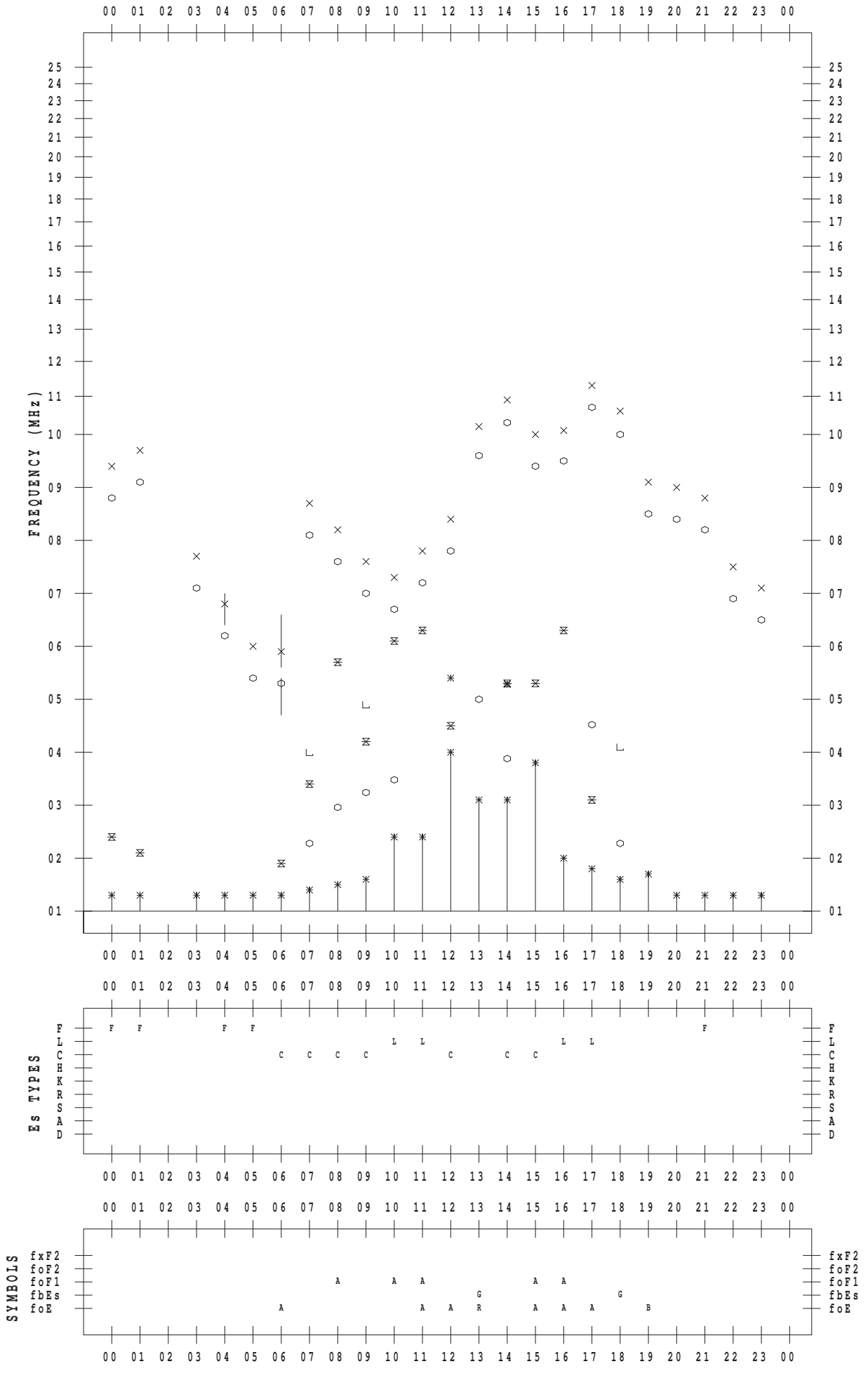
f-PLOT DATA

SCALER : I.YAMAZAKI

STATION : Okinawa

DATE : 2014/ 8/19

135 °E MEAN TIME



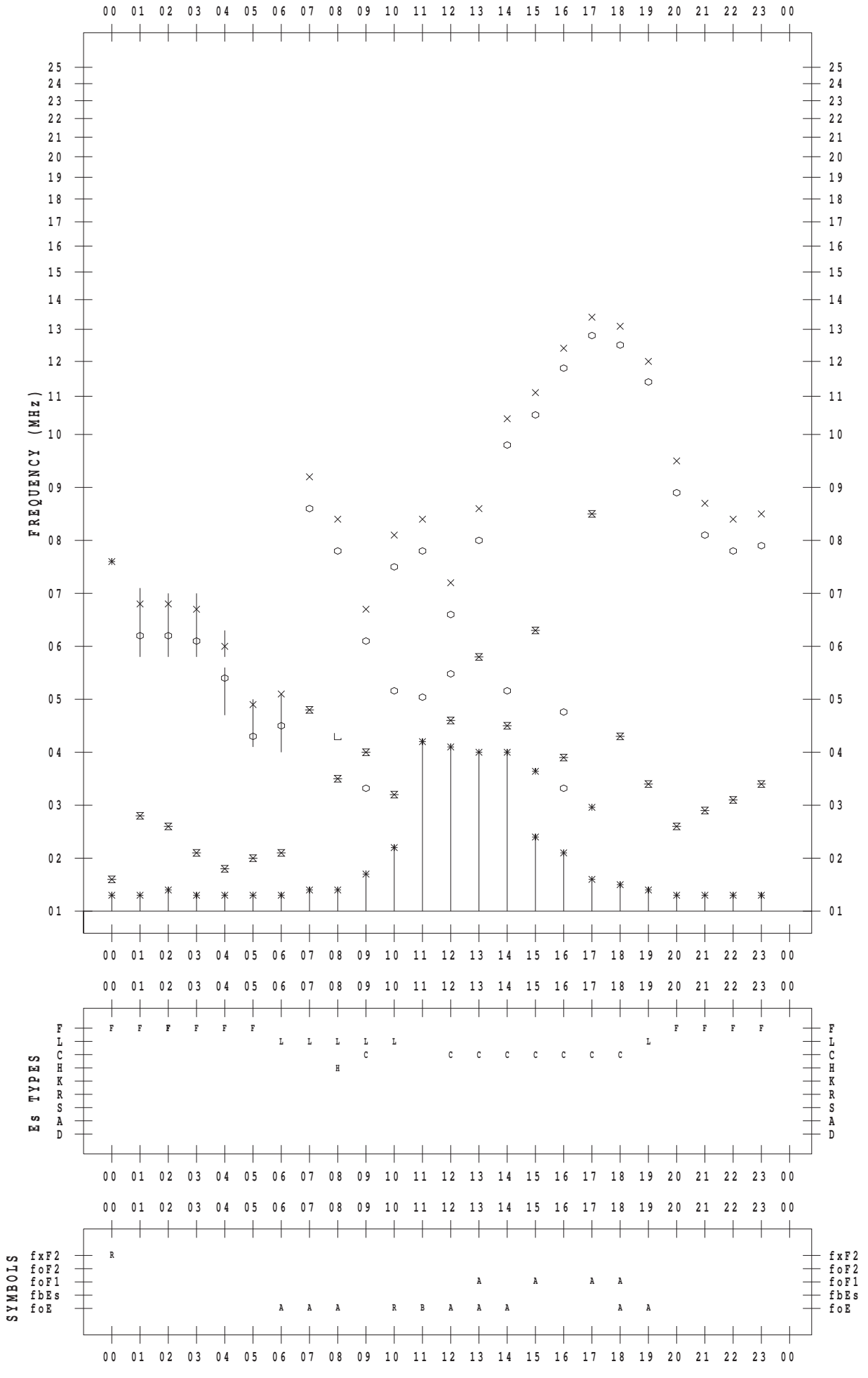
f-PLOT DATA

SCALER : I.YAMAZAKI

STATION : Okinawa

DATE : 2014/ 8/20

135 °E MEAN TIME



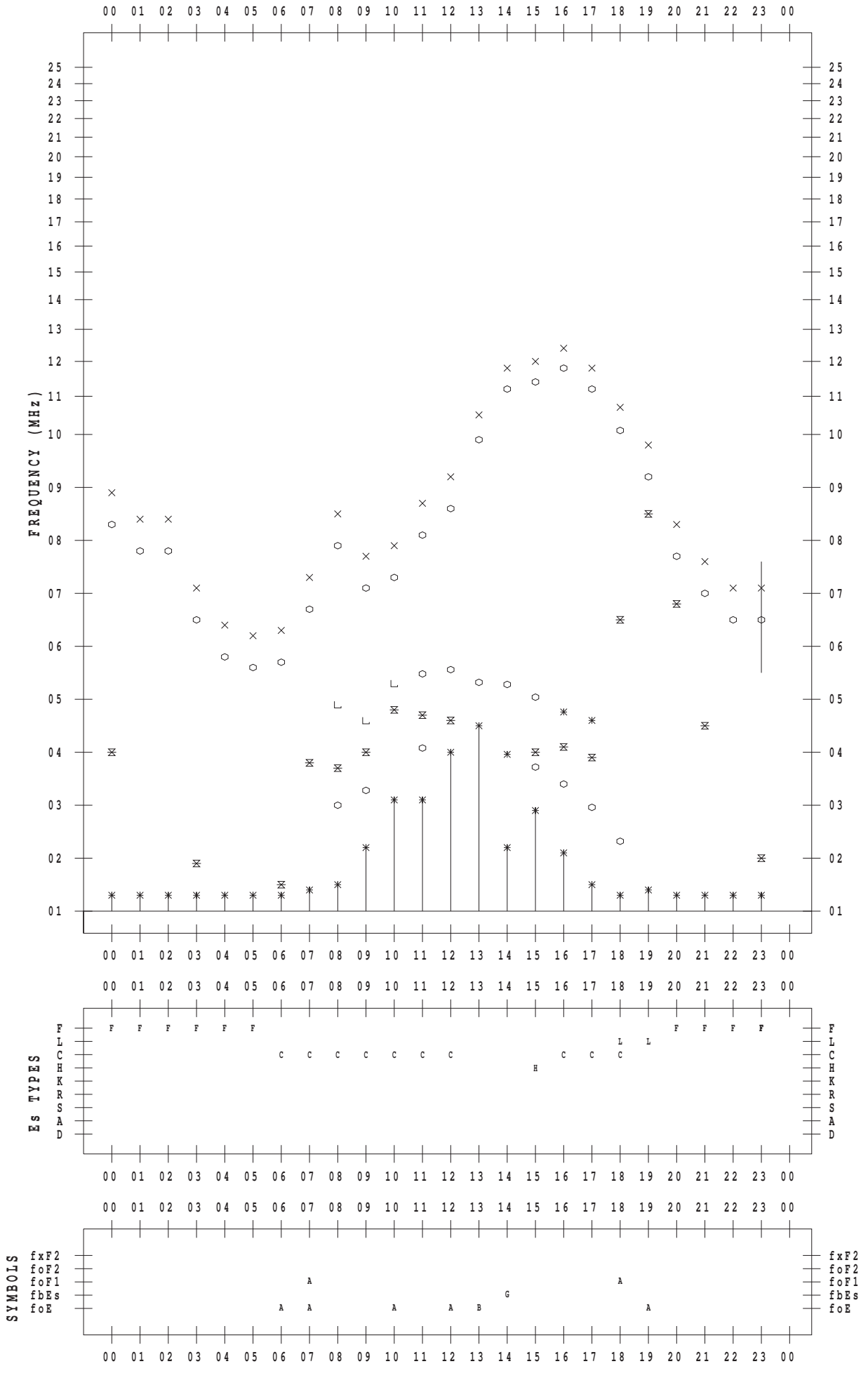
f-PLOT DATA

SCALER : I.YAMAZAKI

STATION : Okinawa

DATE : 2014/ 8/21

135 °E MEAN TIME



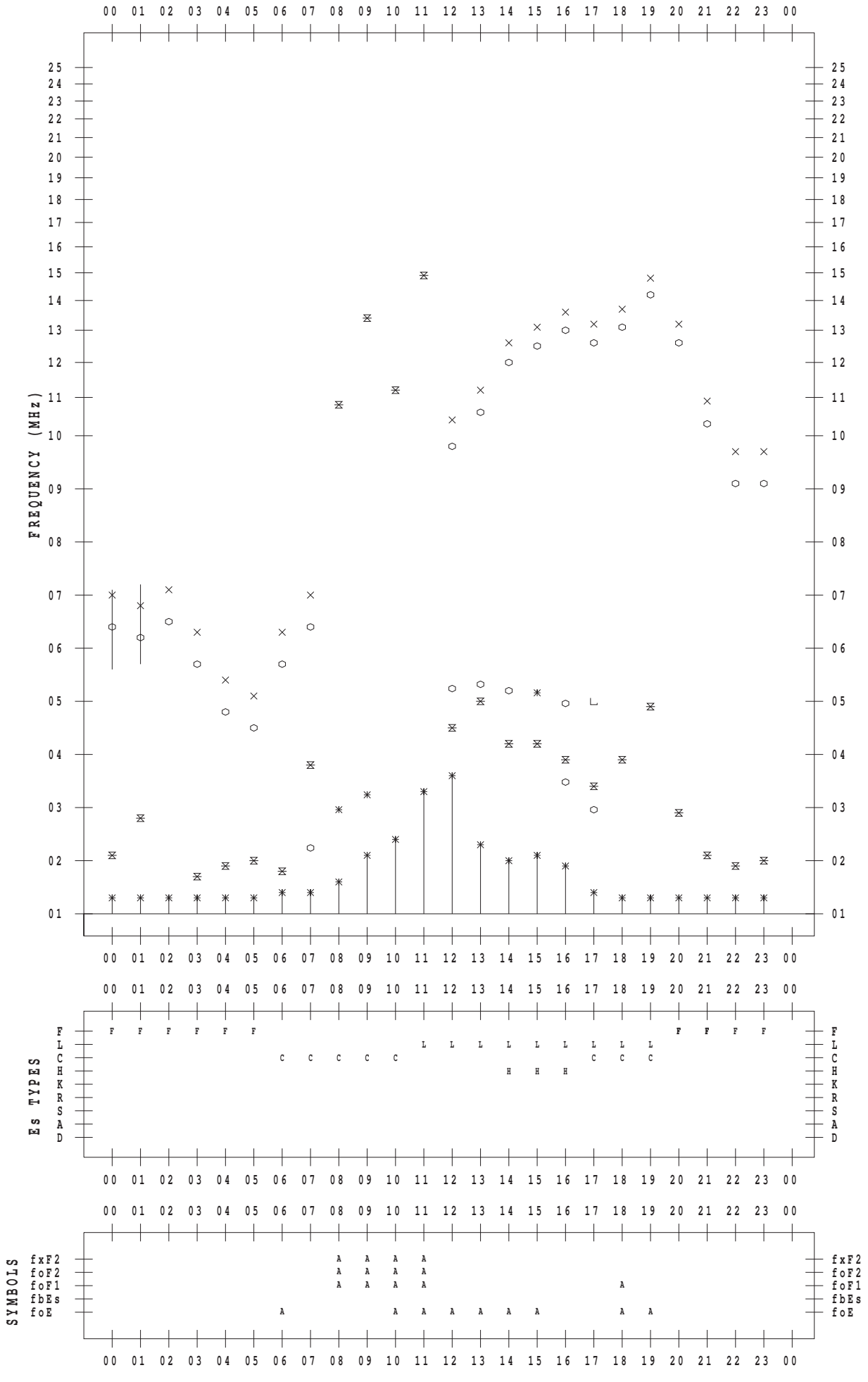
f-PLOT DATA

SCALER : I.YAMAZAKI

STATION : Okinawa

DATE : 2014/ 8/22

135 °E MEAN TIME



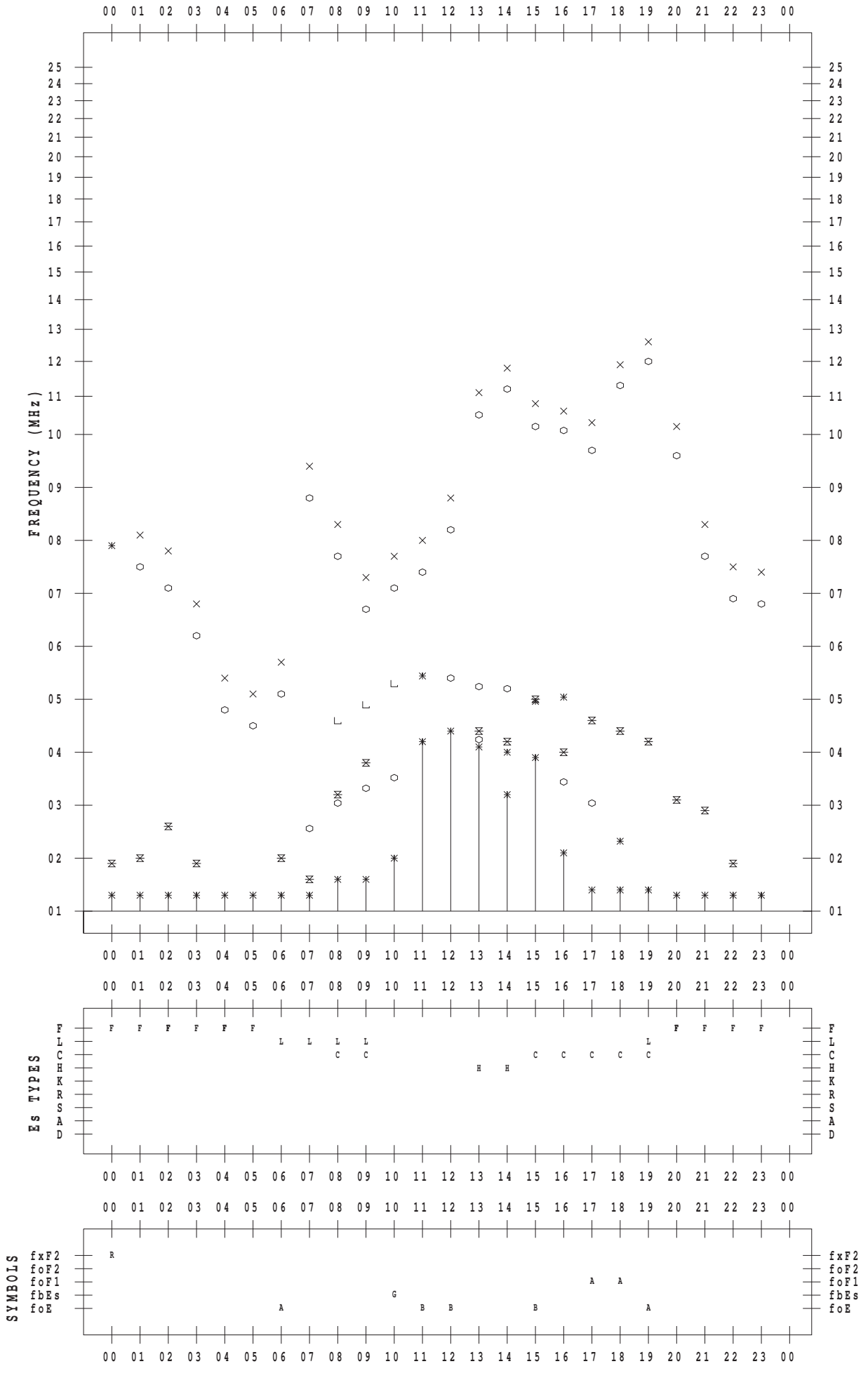
f-PLOT DATA

SCALER : I.YAMAZAKI

STATION : Okinawa

DATE : 2014/ 8/23

135 °E MEAN TIME



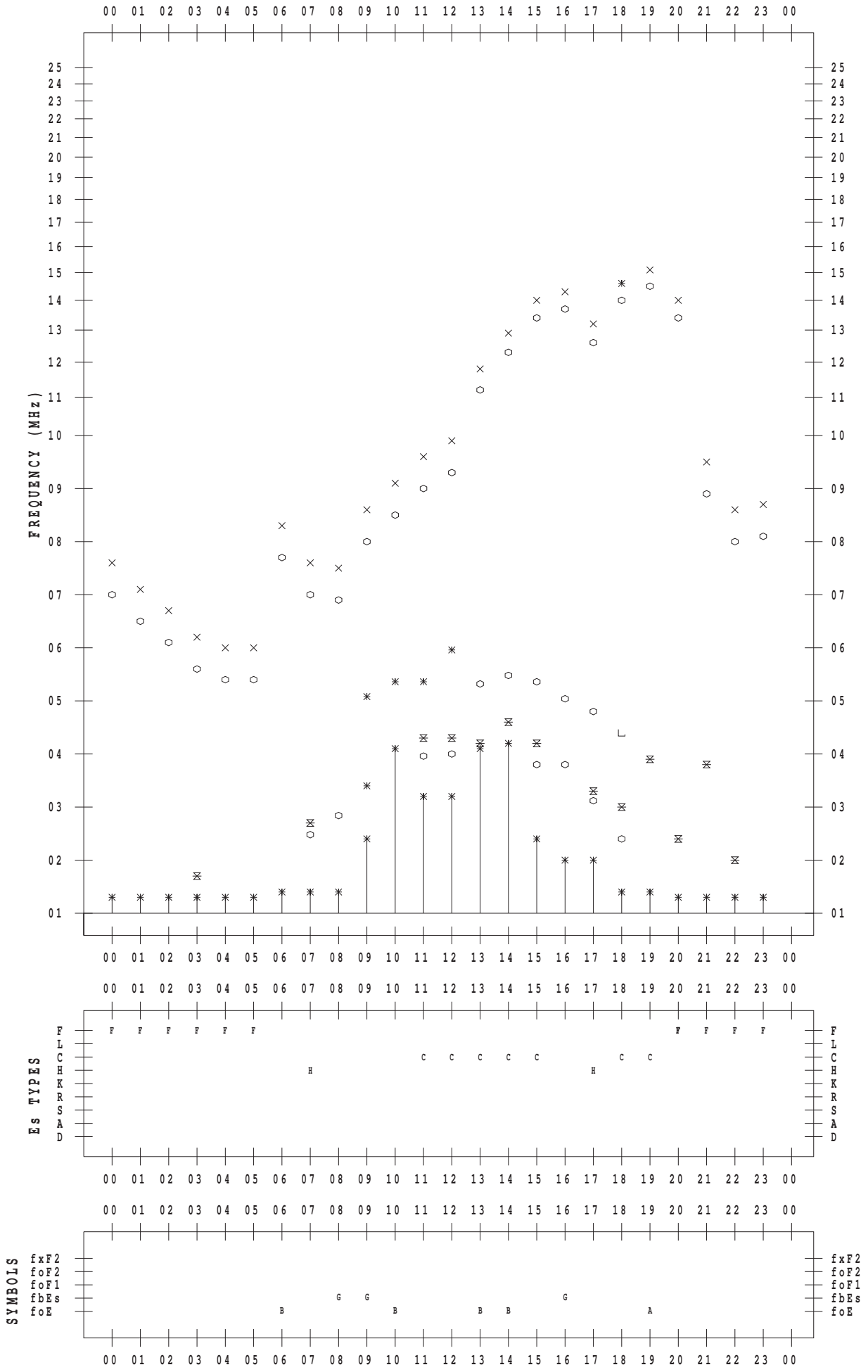
f-PLOT DATA

SCALER : I.YAMAZAKI

STATION : Okinawa

DATE : 2014/ 8/24

135 °E MEAN TIME



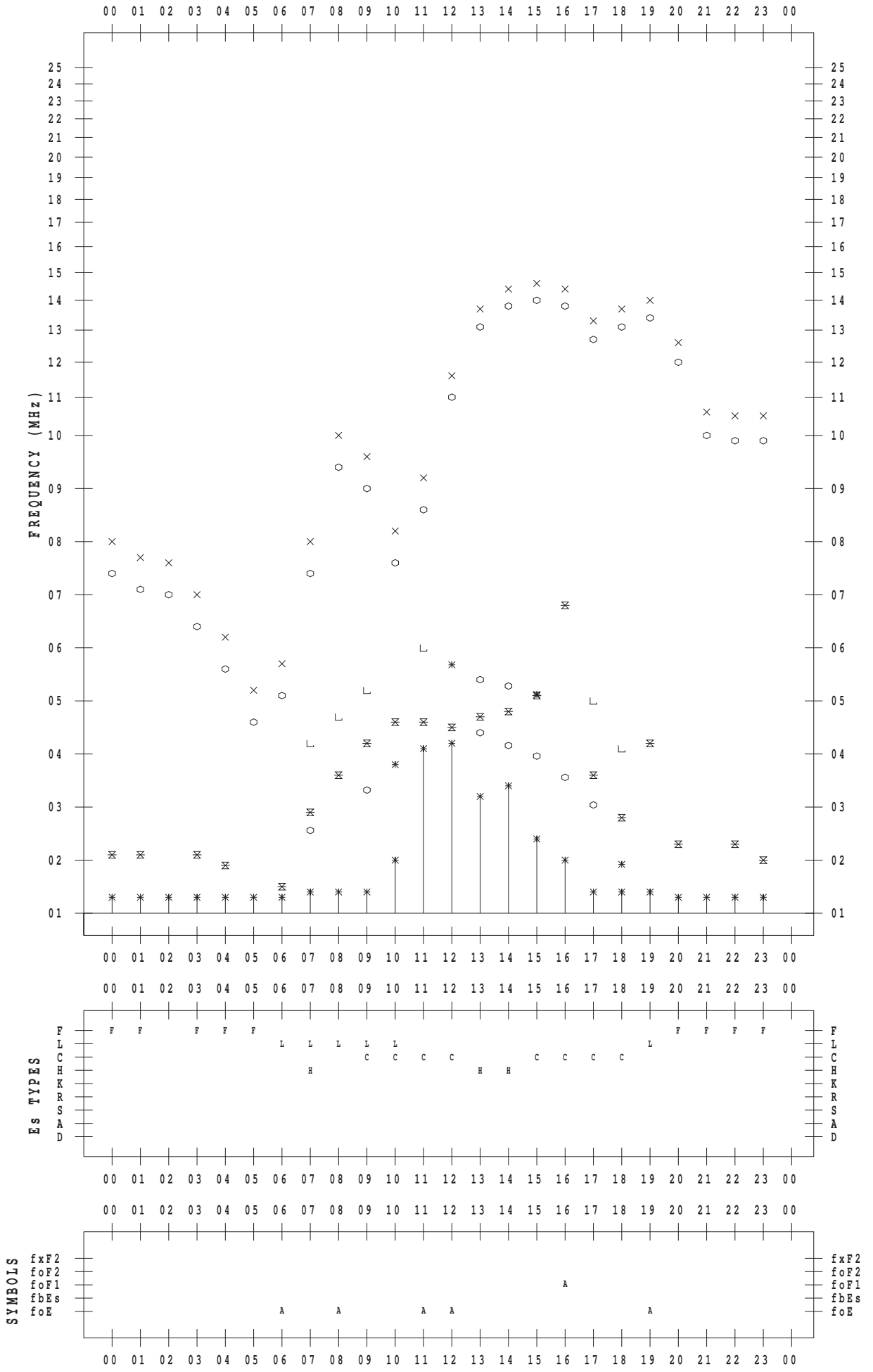
f-PLOT DATA

SCALER : I.YAMAZAKI

STATION : Okinawa

DATE : 2014/ 8/25

135 °E MEAN TIME



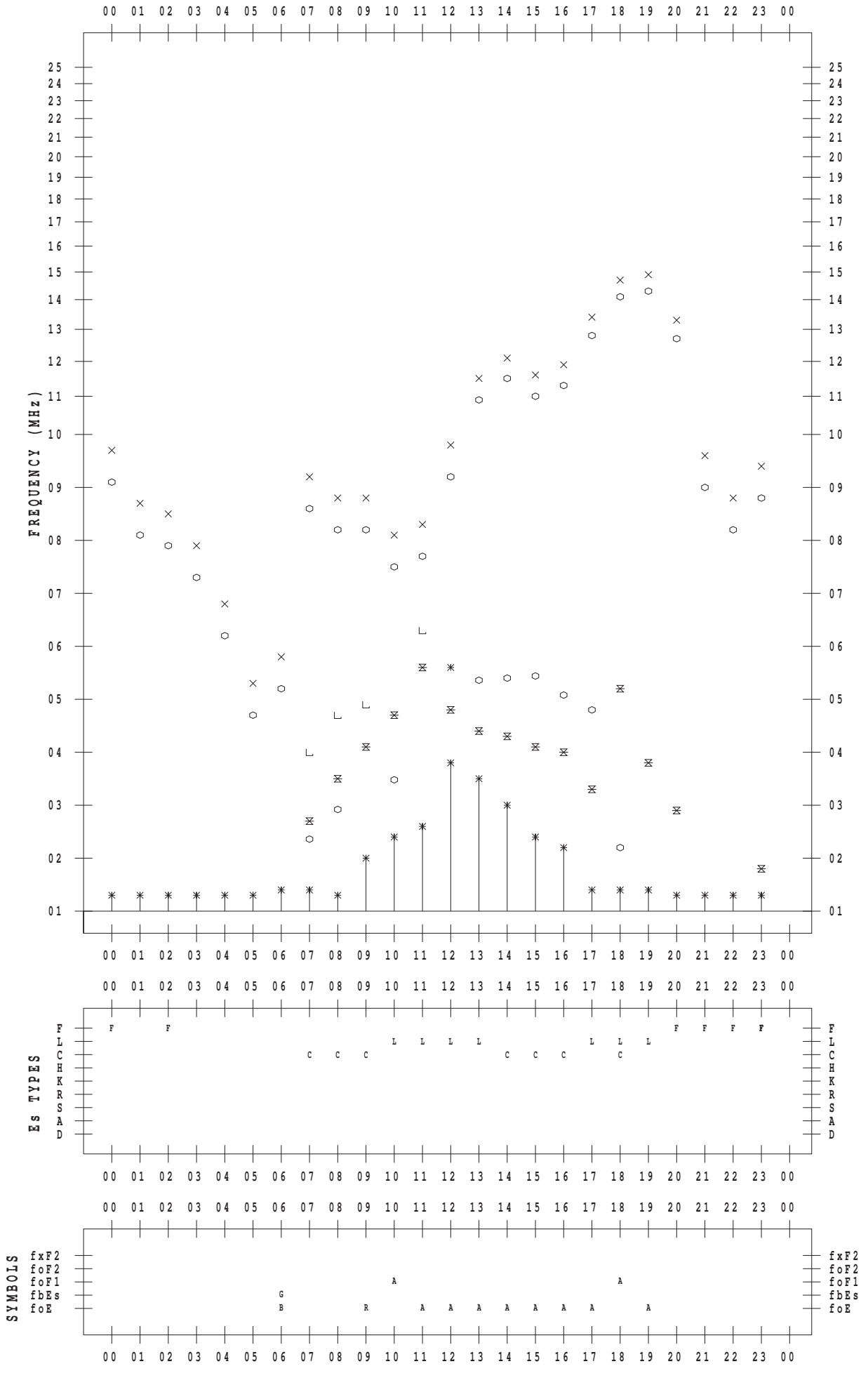
f-PLOT DATA

SCALER : I.YAMAZAKI

STATION : Okinawa

DATE : 2014/ 8/26

135 °E MEAN TIME



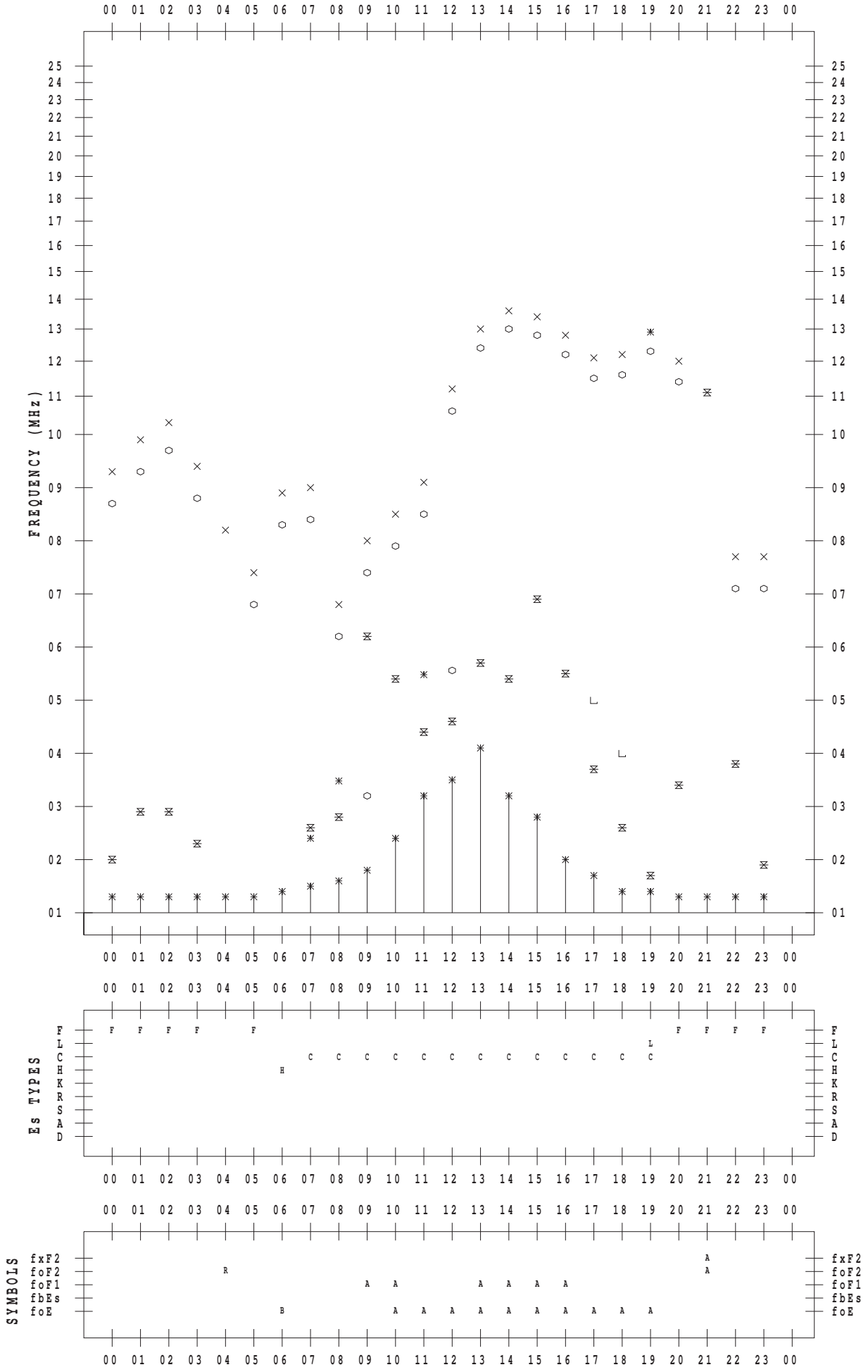
f-PLOT DATA

SCALER : I.YAMAZAKI

STATION : Okinawa

DATE : 2014/ 8/27

135 °E MEAN TIME



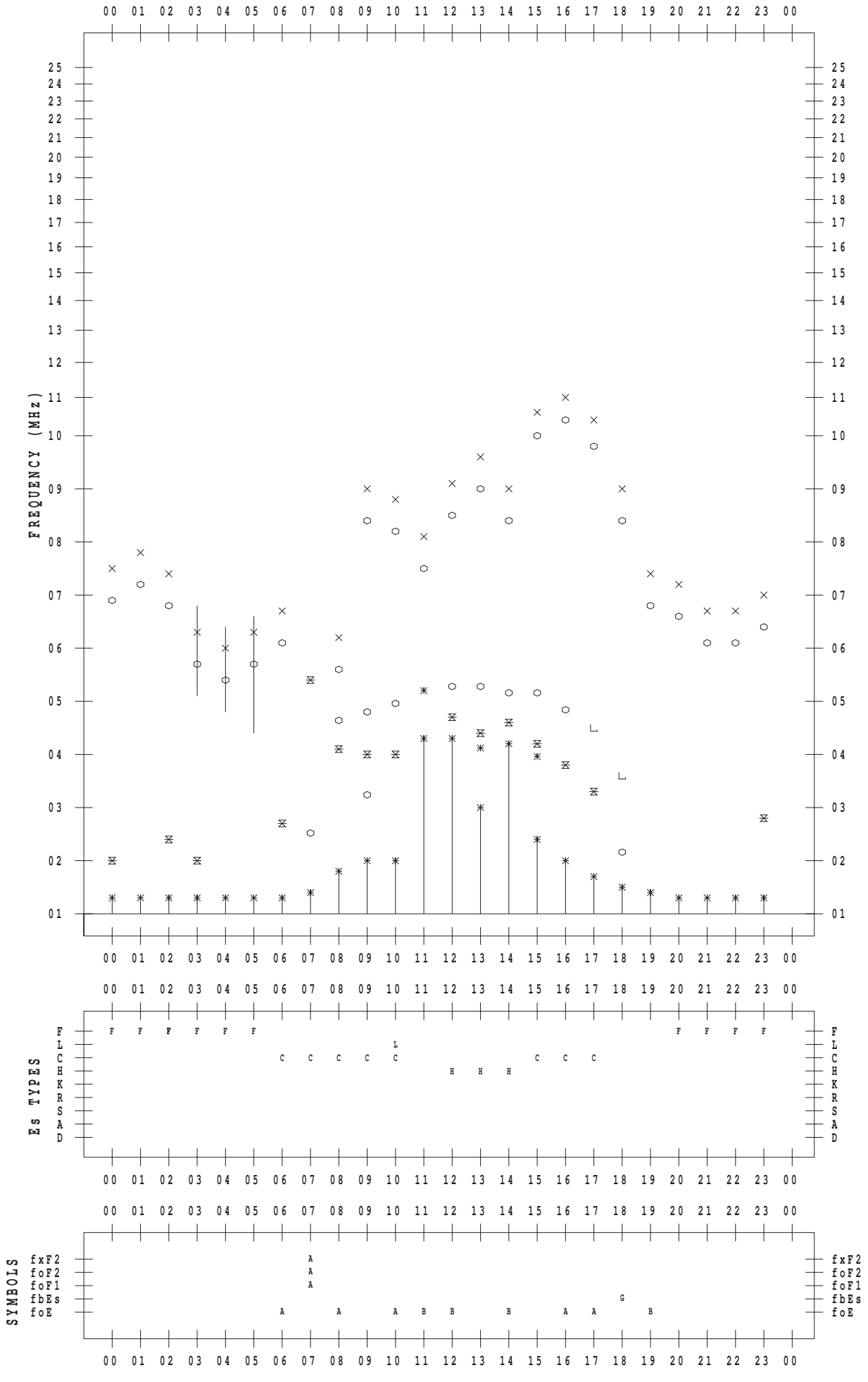
f-PLOT DATA

SCALER : I.YAMAZAKI

STATION : Okinawa

DATE : 2014/ 8/28

135 °E MEAN TIME



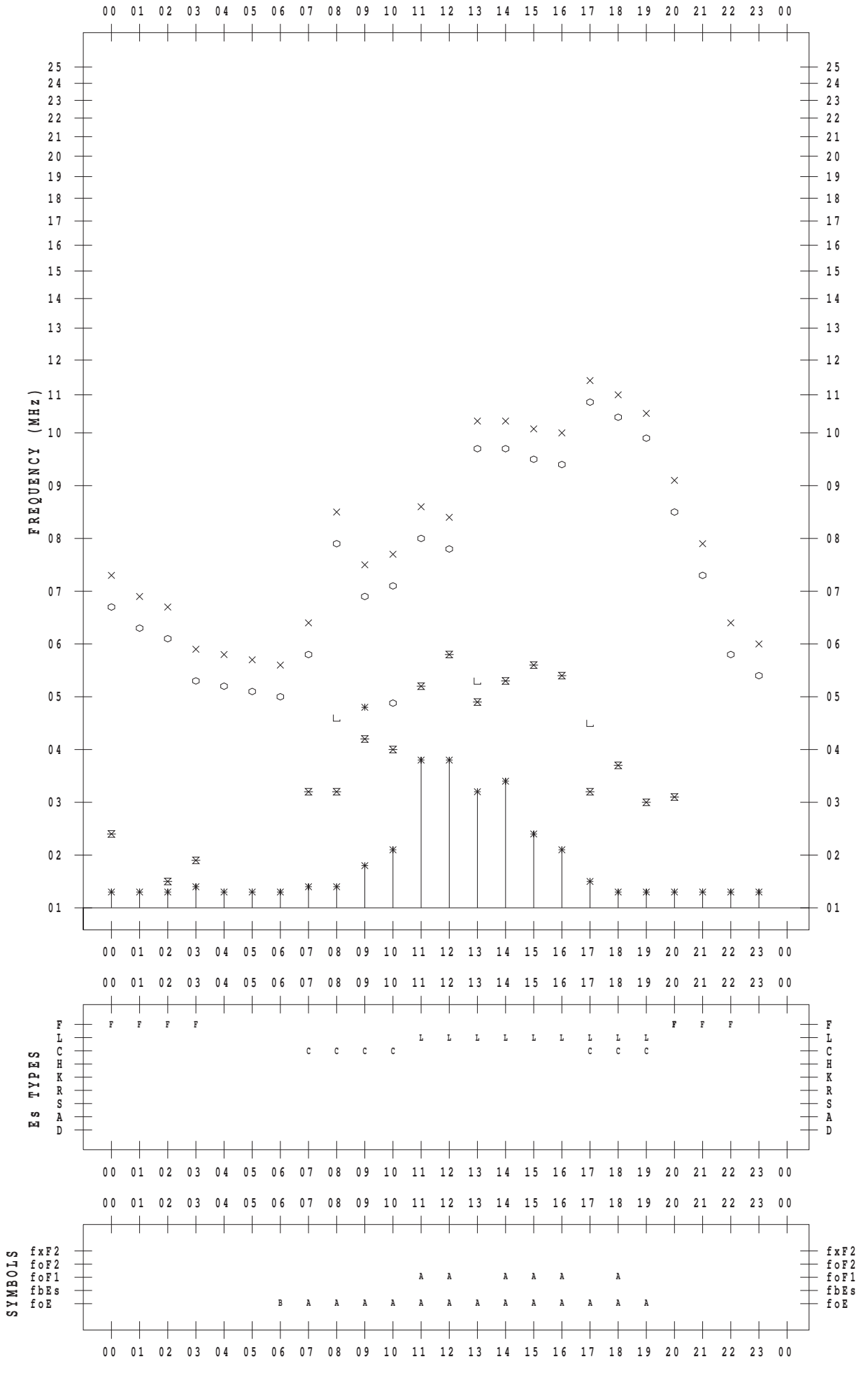
f-PLOT DATA

SCALER : I.YAMAZAKI

STATION : Okinawa

DATE : 2014/ 8/29

135 °E MEAN TIME



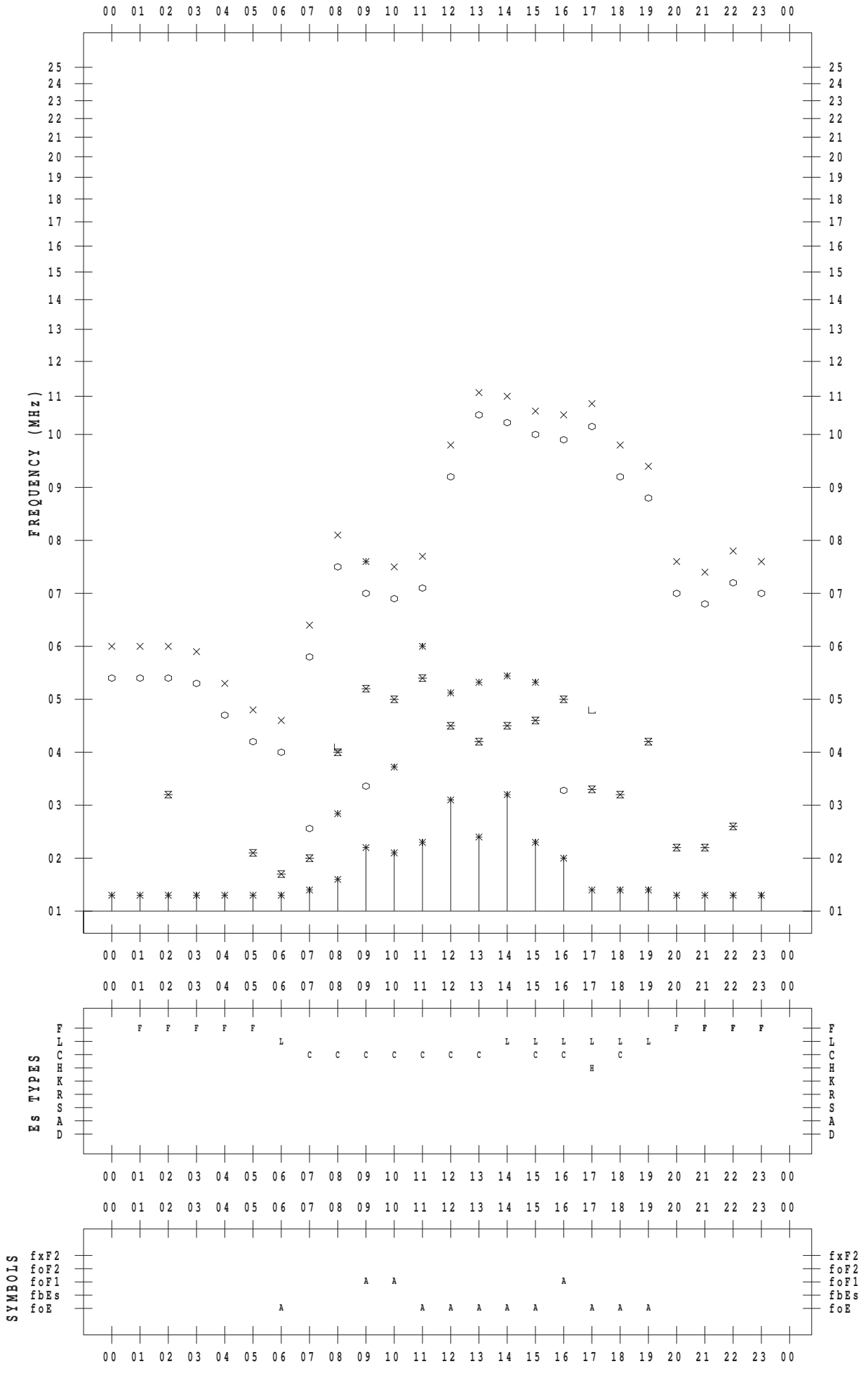
f-PLOT DATA

SCALER : I.YAMAZAKI

STATION : Okinawa

DATE : 2014/ 8/30

135 °E MEAN TIME



f-PLOT DATA

SCALER : I.YAMAZAKI

STATION : Okinawa

DATE : 2014/ 8/31

135 °E MEAN TIME