TEST REPORT

STANDARD : FCC Part15B Class B -Peripherals-

Applicant	Testing Laboratory
YAESU MUSEN CO., LTD. Tennozu Parkside Building 2-5-8 Higashi-Shinagawa, Shinagawa-ku, Tokyo 140-0002 Japan Tel. +81 3 6711 4121	Intertek Japan K.K. Kashima Laboratory URL: http://www.japan.intertek-etlsemko.com (Open area test site) 3-2 Sunayama, Kamisu, Ibaraki 314-0255 Japan Tel. +81 479 40 1097 (Anechoic chamber) 298-6 Sada, Kashima, Ibaraki 314-0027 Japan Tel. +81 299 82 8464

Equipment Type	HF TRANSCEIVER
Category	Scanning Receiver
Trademark	YAESU
Model(s)	FTDX3000
Serial No.	SPP09
Equipment Authorization	Certification
FCC ID	K6620461X50
Test Result	Complied
Report Number	JK12070011
Report Issue Date	August 7, 2012

Approved by
Kazuo Gokita
[Manager]

Tested by
Katsuya Uchida

VLAC-008-1

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SECTION 1. GENERAL INFORMATION

Test Performed

EUT Received	July 12, 2012
Date of Test	From July 17, 2012 to July 19, 2012
Standard Applied	FCC Part15B Class B -Peripherals-
Test methods	ANSI C63.4-2003
Deviation from Standard(s)	None

Qualifications of Testing Laboratory

Accreditation	**Scope**	**Lab. Code**	**Remarks**
NVLAP	EMC Testing	100290-0	USA
VLAC	EMC Testing	VLAC-008-1	JAPAN
BSMI	EMC Testing	SL2-IN-E-6008	TAIWAN
Filing			
VCCI	EMC Testing	R-788, C-278, C-279, T-1716, T-1717, G-119 R-274, C-280, C-281, T-1718, T-1719, G-120 R-272, C-276, C-277, T-1720, T-1721 R-576, C-590, T-1722, G-121	JAPAN
FCC	EMC Testing	Designation Number : JP0008	USA
IC	EMC Testing	2042K-1, 2042K-3	CANADA
CB-Scheme	EMC Testing	TL222	IECEE
SAUDI ARABIA	EMC Testing	N/A	

Abbreviations

EUT	Equipment Under Test	DoC	Declaration of Conformity
AMN	Artificial Mains Network	ISN	Impedance Stabilization Network
LISN	Line Impedance Stabilization Network	Q-P	Quasi-peak
AMP	Amplifier	AVG	Average
ATT	Attenuator	PK	Peak
ANT	Antenna	Cal	Calibration
BBA	Broadband Antenna	N/A	Not applicable or Not available
DIP	Dipole Antenna	LCD	Liquid-Crystal Display
AE	Associated Equipment	HDMI	High-Definition Multimedia Interface

SECTION 2. SUMMARY OF TEST RESULTS

See Section9 for the detailed result.

Standard Applied	FCC Part15B Class B -Peripherals-
Test Item	**Minimum margin**
Conducted disturbance at mains terminals	24.9 dB (0.1500 MHz) [Q-P] RX mode(30.00MHz/ANT.1)
Radiated disturbance	7.8 dB (792.05 MHz) RX mode(56.00MHz/ANT.1)

SECTION 3. EQUIPMENT UNDER TEST

The equipment under test (EUT) consisted of the following apparatus.

3.1 System Configuration

Symbol	Item	Model No.	Serial No.	Manufacturer	Remarks
A1	HF TRANSCEIVER	FTDX3000	SPP09	YAESU MUSEN CO., LTD.	EUT
A2	Microphone	MH-31B8	N/A	YAESU MUSEN CO., LTD.	Accessory
A3	Speaker	SP-2000	N/A	YAESU MUSEN CO., LTD.	Option
A4	u-Tuning	MTU-160	N/A	YAESU MUSEN CO., LTD.	Option
A5	u-Tuning	MTU-80/40	N/A	YAESU MUSEN CO., LTD.	Option
A6	u-Tuning	MTU-30/20	N/A	YAESU MUSEN CO., LTD.	Option
A7	Remote Control Keypad	FH-2	N/A	YAESU MUSEN CO., LTD.	Option
A8	Headphone	YH-77STA	N/A	YAESU MUSEN CO., LTD.	Option
Rated Power : DC13.8 V ±10 %, RX(No Signal): 1.8 A, RX(Signal Present): 2.1 A, TX(100 W), 23.0 A					
Supplied Power : DC13.8 V					
Condition of Equipment	Preproduction				
Type	Tabletop				
Suppression Devices	No Modifications by the laboratory were made to the device				

3.2 Overview of EUT

Frequency Ranges	0.030 – 56.000 MHz
Receiver Type	Double Conversion Super-heterodyne
Model of Operation	A1A, A3E, J3E, F3E, F1B, F1D, F2D

3.3 Intermediate Frequencies

9.000 MHz / 30 kHz (24 kHz for AM/FM)

3.4 Highest Frequency Generated / Used

Operating Frequency	Board Name	Remarks
145 MHz	LOCAL	
Mode	**Dot Clock**	**Remarks**
RX mode	65 MHz	1st LOCAL
TX mode (VCO)	145 MHz	1st LOCAL

3.5 Port(s)/Connector(s)

Port Name	Connector Type	Connector Pin
HF TRANSCEIVER		
ANT 1 / ANT 2 / ANT 3 / RX	MR-S (Coaxial)	2pin
DC IN	VL Connector	4pin
μ-TUNE To / μ-TUNE From / PTT	RCA	2pin
IF OUT	RCA	2pin
RX OUT	RCA	2pin
+13.8V	RCA	2pin
EXT ALC	RCA	2pin
TX GND	RCA	2pin
LINEAR	D-sub	15pin
ROTATOR	Mini-DIN	10pin
TUNER	Mini-DIN	8pin
RTTY / PKT	Mini-DIN	6pin
LINE	3.5 ϕ stereo	3pin
REM / EXT SPKR	3.5 ϕ mono	2pin
KEY / PHONES	6 ϕ stereo	3pin
μ-TUNE	Mini-DIN	10pin
CAT	D-sub	9pin
USB	B Type	4pin
MIC	FM214-8SMPT-NI	8pin
Speaker		
PHONES	6 ϕ stereo	3pin
INPUT-1	RCA	2pin
INPUT-2	RCA	2pin
LINE OUT	RCA	2pin
μ-Tuning		
RF IN	RCA	2pin
RF OUT	RCA	2pin
CNTL-IN	Mini-DIN	10pin
CNTL-OUT	Mini-DIN	10pin

SECTION 4. SUPPORT EQUIPMENT

The EUT was supported by the following equipment during the test.

Symbol	Item	Model No.	Serial No.	Manufacturer	FCC ID
B	Power Supply	FP-1030A	1102117026	YAESU MUSEN CO., LTD.	N/A
C	ANT Terminator	1433-4	None	Aeroflex/Weinschel	N/A
D	ANT Terminator	CT-01	None	TME	N/A
E	ANT Terminator	CT-03NP	48336	TME	N/A
F	Computer	MTC2	4BLZS1X	DELL INC.	DoC
G	LCD	E152FPc	CN-0N1546-64180-443-12QH	DELL INC.	DoC
H	Keyboard	SK-8110	CN-07N247-71616-44Q-090P	DELL INC.	DoC
I	Mouse	M071KC	412121734	DELL INC.	DoC
J	Printer	C8154A	TH571320G6	Hewlett Packard	DoC
K	AC/DC Adapter	0957-2142	E10588013501L	Hewlett Packard	N/A

Supplied Power:	
B, F, G, K	AC120 V, 60 Hz
J	DC31 V

SECTION 5. USED CABLE(S)

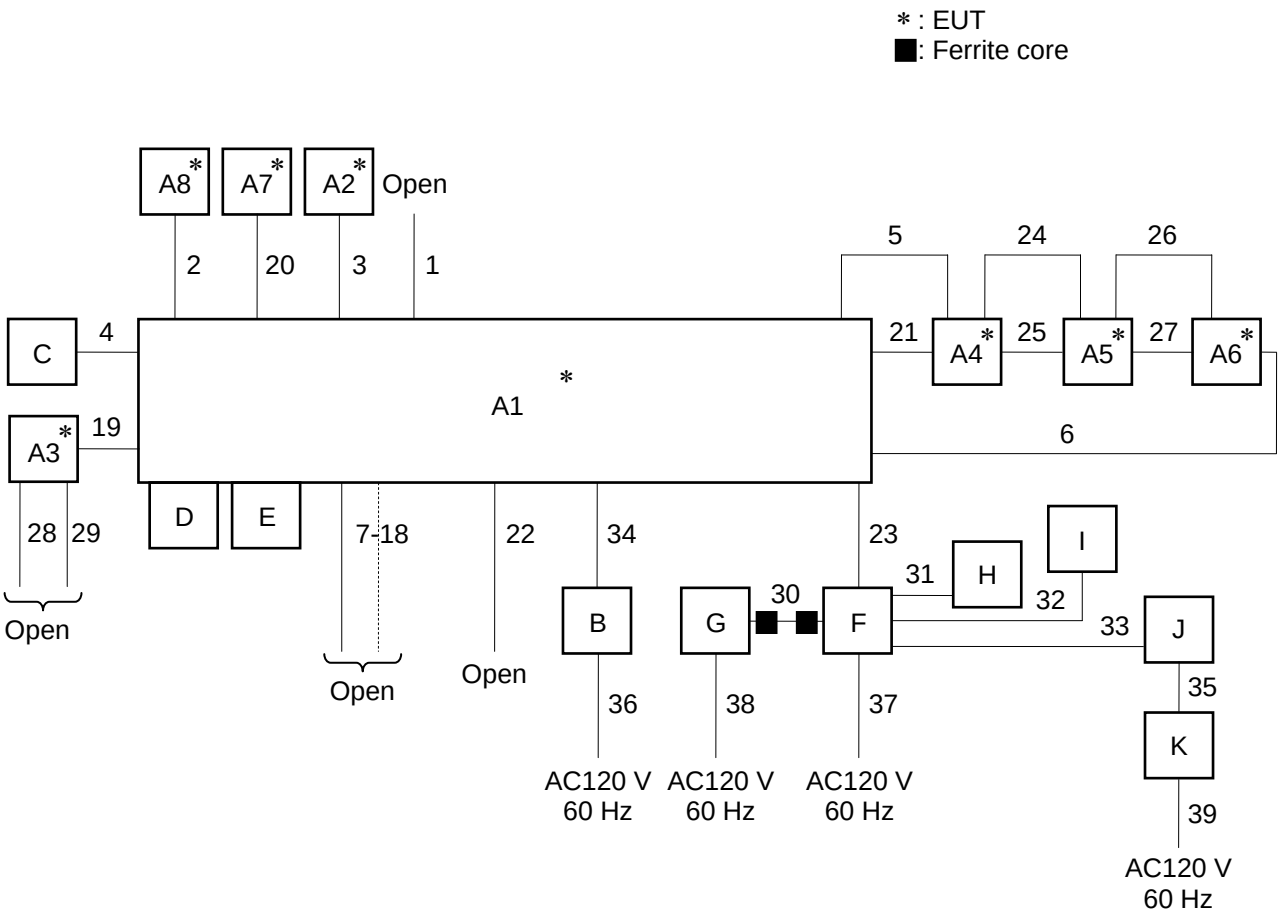
The following cable(s) was used for the test.

No.	Name	Length (m)	Shield	Metal Connector	Ferrite Core
1	Key cable	1.10	Yes	Yes	
2	PHONES cable	1.80	Yes	Yes	
3	MIC cable	0.50	Yes	Yes	
4	Coaxial cable	1.00	Yes	Yes	
5	μ-TUNE (TO) cable	1.20	Yes	Yes	
6	μ-TUNE (FROM) cable	1.20	Yes	Yes	
7	IF OUT cable	1.20	Yes	Yes	
8	RX OUT cable	1.20	Yes	Yes	
9	+13.8V cable	1.10	No	Yes	
10	PTT cable	1.50	Yes	Yes	
11	EXT ALC cable	1.00	No	Yes	
12	TX GND cable	1.00	No	Yes	
13	LINEAR cable	2.00	Yes	Yes	
14	ROTATOR cable	1.60	Yes	Yes	
15	TUNER cable	1.60	Yes	Yes	
16	RTTY / PKT cable	1.60	Yes	Yes	
17	LINE cable	1.10	Yes	Yes	
18	Key cable (FH-2)	1.10	Yes	Yes	
19	EXT SPKR cable	1.10	Yes	Yes	
20	REM cable	1.00	Yes	Yes	

21	μ-TUNE cable	1.40	Yes	Yes	
22	CAT cable	0.80	Yes	Yes	
23	USB cable	1.80	Yes	Yes	
24	μ-TUNE cable	1.20	Yes	Yes	
25	μ-TUNE cable	1.20	Yes	Yes	
26	μ-TUNE cable	1.20	Yes	Yes	
27	μ-TUNE cable	1.20	Yes	Yes	
28	Speaker(INPUT) cable	1.10	No	Yes	
29	Speaker(LINE OUT) cable	1.10	No	Yes	
30	Video cable	1.80	Yes	Yes	Fixed x 2
31	Keyboard cable	2.00	Yes	Yes	
32	Mouse cable	1.80	Yes	Yes	
33	Centronics cable	5.00	Yes	Yes	
34	Power cable for FTDX3000 (DC)	2.00	No	No	
35	Power cable for Printer (DC)	1.80	No	No	
36	Power cable for Power Supply	1.70	No	No	
37	Power cable for Computer	2.50	No	No	
38	Power cable for LCD	1.90	No	No	
39	Power cable for Printer (AC)	3.00	No	No	

Note : 1. Cable No.30 is supplied together with Computer(F).
2. Cable No.34 is supplied together with EUT by the applicant.

SECTION 6. TEST CONFIGURATION

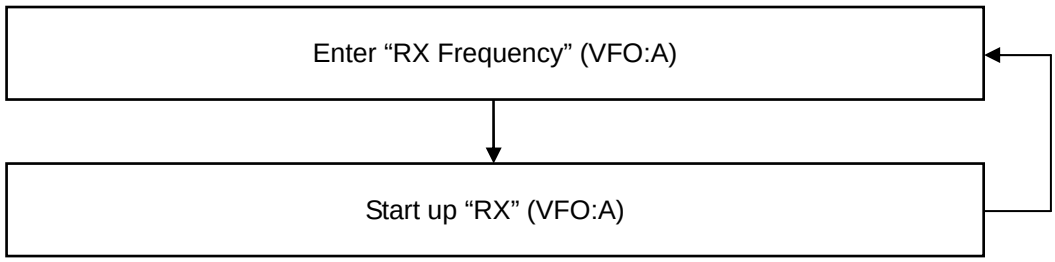


The symbols and numbers assigned to the equipments and cables on this diagram correspond to the ones in Sections 3 to 5.

SECTION 7. OPERATING CONDITION

The test was carried out under the following mode.

RX mode
Cycle time for operation: Continuity



SECTION 8. UNCERTAINTY

Traceability to national standard in SI units is ensured with these values.
Compliance with the limits in this standard are determined without in consideration of the measurement uncertainty of the measurement instrumentation.

Radiated disturbance at 3m	**U_{lab} [*k* = 2]**	**U_{cispr}**
30 MHz – 1000 MHz	+/- 4.57 dB	5.19 dB
Above 1 GHz CISPR22	+/- 4.36 dB	
Above 1 GHz ANSI 63.4	+/- 4.36 dB	
Radiated disturbance at 10m		
30 MHz – 1000 MHz	+/- 5.08 dB	5.06 dB
Above 1 GHz	+/- 4.36 dB	
Radiated disturbance at 30m		
	N/A	5.02 dB
Conducted disturbance at mains terminals		
9 kHz – 150 kHz	+/- 2.91 dB	3.97 dB
150 kHz – 30 MHz		3.60 dB
Conducted disturbance at telecommunication ports (ISN)		
150 kHz – 30 MHz	+/- 3.07 dB	Nil
Conducted disturbance at telecommunication ports (Capacitive Voltage Probe)		
150 kHz – 30 MHz	+/- 3.89 dB	Nil
Conducted disturbance at telecommunication ports (Current Probe)		
150 kHz – 30 MHz	+/- 3.17 dB	Nil
Conducted disturbance at terminals		
150 kHz – 30 MHz	+/- 3.11 dB	Nil
Disturbance power		
30 MHz – 300 MHz	+/- 3.34 dB	4.45 dB

The above expanded instrumentation uncertainty, $U_{lab.}$, is estimated in accordance with CISPR 16-4-2.

SECTION 9. EVALUATION OF TEST RESULTS

Location	Kashima No.3 Test Site
Test Engineer	Katsuya Uchida

Frequency Range of Measurements

	Required Measurement Frequency Range	Measured Frequency Range
Conducted	0.15 – 30 MHz	0.15 – 30 MHz
Radiated	30 – 2000 MHz	30 – 2000 MHz

Test Procedure

Item	Document number
Conducted disturbance at mains terminals	RJP-EM001
Radiated disturbance	RJP-EM003

Setting for the Measuring instruments

Frequency [MHz]	Instrument	Detector	Resolution Bandwidth	Video Bandwidth
0.15 – 30	Receiver	Quasi Peak	10 kHz	N/A
		Average	10 kHz	N/A
30 – 1000	Receiver	Quasi Peak	120 kHz	N/A
Above 1000	Spectrum Analyzer	Peak	1 MHz	1 MHz
		Average	1 MHz	10 Hz

< Measurement data correction >

* Conducted disturbance at mains terminals
  Emission Level [dBμV] = Meter Reading [dBμV] + Factor [dB]
  Margin [dB] = Limit [dBμV] - Emission Level [dBμV]
  * Factor = LISN Factor + Cable Loss + ATT

* Radiated disturbance
  Emission Level [dBμV/m] = Meter Reading [dBμV] + Factor [dB/m]
  Margin [dB] = Limit [dBμV/m] - Emission Level [dBμV/m]
  * Factor = Antenna Factor + Cable Loss - Amplifier Gain + ATT
  (– Distance Conversion Factor)

9.1 Conducted disturbance at mains terminals

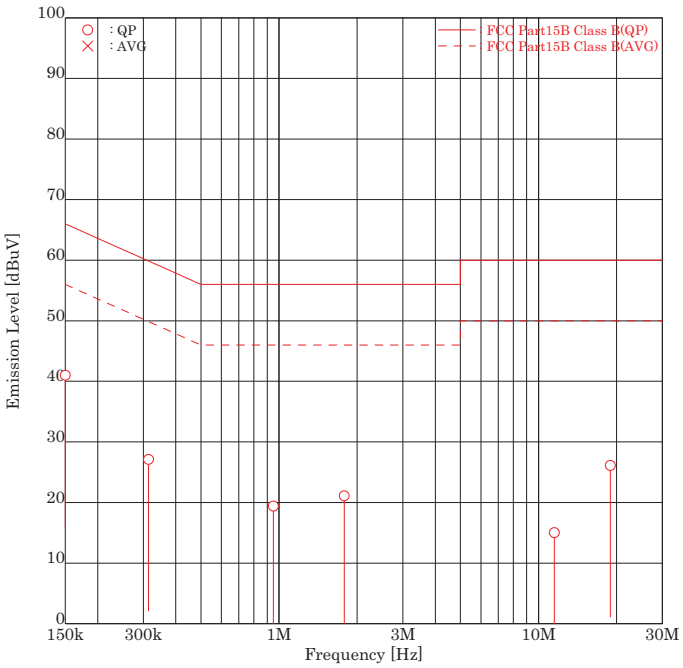
9.1.1 RX mode(0.03MHz/ANT.1)

Intertek Japan K.K.

Kashima No.3 Test Site

Conducted Voltages on Mains Port

APPLICANT	: YAESU MUSEN CO.,LTD.
EUT NAME	: HF Transceiver
MODEL NO.	: FTDX3000
SERIAL NO.	: SPP09
TEST MODE	: RX mode(0.03MHz/ANT.1)
POWER SOURCE	: DC13.8V
DATE TESTED	: Jul 18 2012
FILE NO.	: -
REGULATION	: FCC Part15B Class B
TEST METHOD	: ANSI C63.4-2003
TEMPERATURE	: 23.2 [degC]
HUMIDITY	: 55.0 [%]
NOTE	: Power cable for Power Supply(FP-1030A)



ENGINEER : Katsuya Uchida

[No]	FREQUENCY [MHz]	MODE	READING [dBuV] Line1	READING [dBuV] Line2	FACTOR [dB] Line1	FACTOR [dB] Line2	EMISSION [dBuV] Line1	EMISSION [dBuV] Line2	LIMIT [dBuV]	MARGIN [dB] Line1	MARGIN [dB] Line2
1	0.1500	QP	30.8	30.7	10.2	10.2	41.0	40.9	66.0	**25.0**	25.1
2	0.3142	QP	16.9	9.4	10.2	10.2	27.1	19.6	59.9	32.8	40.3
3	0.9523	QP	9.1	8.5	10.3	10.3	19.4	18.8	56.0	36.6	37.2
4	1.7834	QP	10.7	10.0	10.4	10.4	21.1	20.4	56.0	34.9	35.6
5	11.5088	QP	3.6	4.3	10.7	10.7	14.3	15.0	60.0	45.7	45.0
6	18.9144	QP	15.2	11.5	10.9	11.0	26.1	22.5	60.0	33.9	37.5

Higher six points are underlined.
Other frequencies : Below the FCC Part15B Class B limit
Emisson Level = Read + Factor(LISN,Pad,Cable)

emiT 3, 0, 0, 0

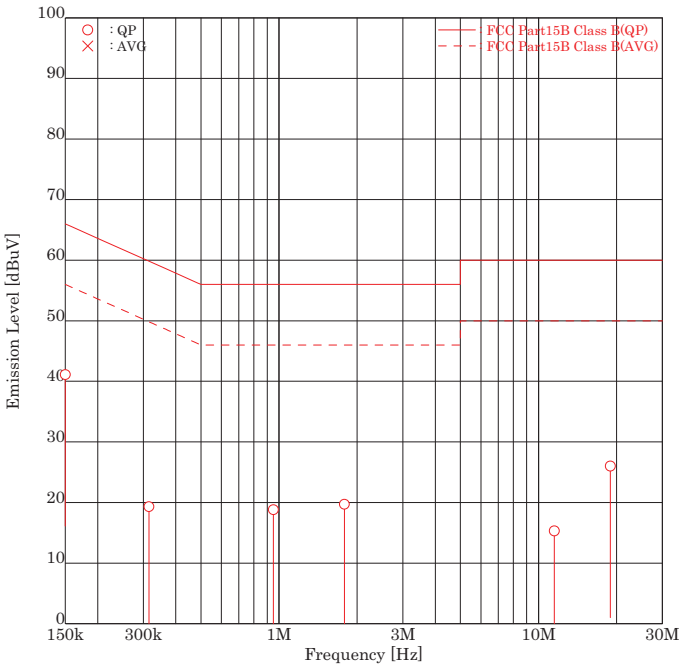
9.1.2 RX mode(30.00MHz/ANT.1)

Intertek Japan K.K.

Kashima No.3 Test Site

Conducted Voltages on Mains Port

APPLICANT	: YAESU MUSEN CO.,LTD.
EUT NAME	: HF Transceiver
MODEL NO.	: FTDX3000
SERIAL NO.	: SPP09
TEST MODE	: RX mode(30.00MHz/ANT.1)
POWER SOURCE	: DC13.8V
DATE TESTED	: Jul 18 2012
FILE NO.	: -
REGULATION	: FCC Part15B Class B
TEST METHOD	: ANSI C63.4-2003
TEMPERATURE	: 23.2 [degC]
HUMIDITY	: 55.0 [%]
NOTE	: Power cable for Power Supply(FP-1030A)



ENGINEER : Katsuya Uchida

[No]	FREQUENCY [MHz]	MODE	READING [dBuV] Line1	READING [dBuV] Line2	FACTOR [dB] Line1	FACTOR [dB] Line2	EMISSION [dBuV] Line1	EMISSION [dBuV] Line2	LIMIT [dBuV]	MARGIN [dB] Line1	MARGIN [dB] Line2
1	0.1500	QP	30.9	30.8	10.2	10.2	41.1	41.0	66.0	**24.9**	25.0
2	0.3151	QP	9.1	9.1	10.2	10.2	19.3	19.3	59.8	40.5	40.5
3	0.9515	QP	8.5	8.3	10.3	10.3	18.8	18.6	56.0	37.2	37.4
4	1.7864	QP	9.2	9.3	10.4	10.4	19.6	19.7	56.0	36.4	36.3
5	11.5082	QP	3.8	4.6	10.7	10.7	14.5	15.3	60.0	45.5	44.7
6	18.9151	QP	15.1	11.6	10.9	11.0	26.0	22.6	60.0	34.0	37.4

Higher six points are underlined.
Other frequencies : Below the FCC Part15B Class B limit
Emisson Level = Read + Factor(LISN,Pad,Cable)

emiT 3, 0, 0, 0

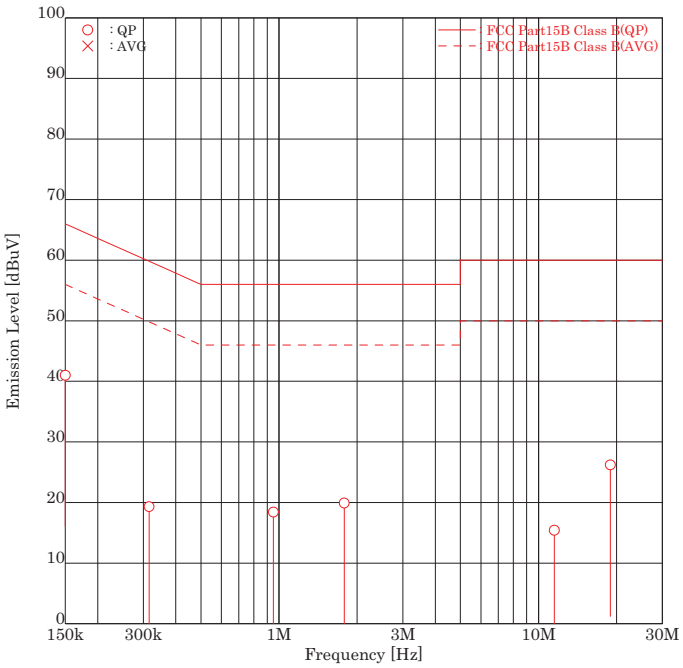
9.1.3 RX mode(56.00MHz/ANT.1)

Intertek Japan K.K.

Kashima No.3 Test Site

Conducted Voltages on Mains Port

APPLICANT	: YAESU MUSEN CO.,LTD.
EUT NAME	: HF Transceiver
MODEL NO.	: FTDX3000
SERIAL NO.	: SPP09
TEST MODE	: RX mode(56.00MHz/ANT.1)
POWER SOURCE	: DC13.8V
DATE TESTED	: Jul 18 2012
FILE NO.	: -
REGULATION	: FCC Part15B Class B
TEST METHOD	: ANSI C63.4-2003
TEMPERATURE	: 23.2 [degC]
HUMIDITY	: 55.0 [%]
NOTE	: Power cable for Power Supply(FP-1030A)



ENGINEER : Katsuya Uchida

[No]	FREQUENCY [MHz]	MODE	READING [dBuV] Line1	READING [dBuV] Line2	FACTOR [dB] Line1	FACTOR [dB] Line2	EMISSION [dBuV] Line1	EMISSION [dBuV] Line2	LIMIT [dBuV]	MARGIN [dB] Line1	MARGIN [dB] Line2
1	0.1500	QP	30.7	30.8	10.2	10.2	40.9	41.0	66.0	25.1	**25.0**
2	0.3158	QP	9.1	9.0	10.2	10.2	19.3	19.2	59.8	40.5	40.6
3	0.9513	QP	8.1	8.0	10.3	10.3	18.4	18.3	56.0	37.6	37.7
4	1.7853	QP	9.5	9.3	10.4	10.4	19.9	19.7	56.0	36.1	36.3
5	11.5085	QP	4.1	4.7	10.7	10.7	14.8	15.4	60.0	45.2	44.6
6	18.9142	QP	15.3	11.8	10.9	11.0	26.2	22.8	60.0	33.8	37.2

Higher six points are underlined.
Other frequencies : Below the FCC Part15B Class B limit
Emisson Level = Read + Factor(LISN,Pad,Cable)

emiT 3, 0, 0, 0

9.2 Radiated disturbance

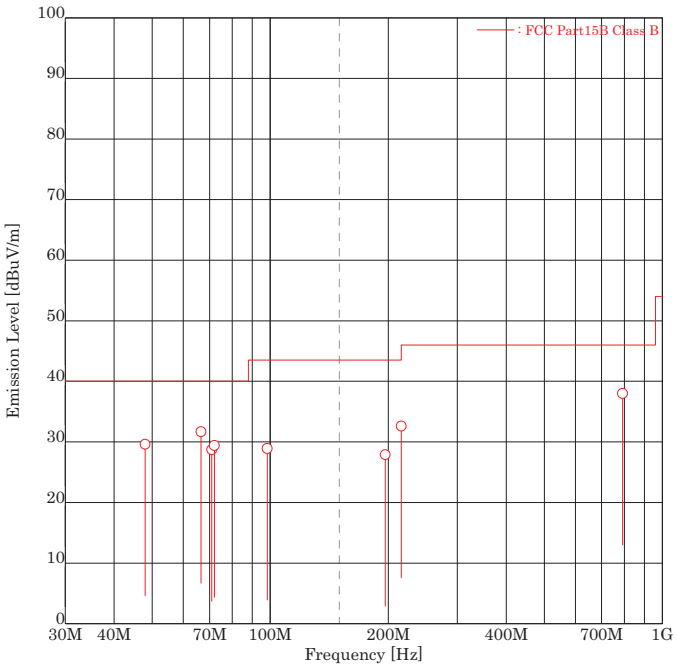
9.2.1 RX mode(0.03MHz/ANT.1)
30-1000 MHz

Intertek Japan K.K.

Kashima No.3 Test Site

Radiated Electric Field

APPLICANT	: YAESU MUSEN CO.,LTD.
EUT NAME	: HF Transceiver
MODEL NO.	: FTDX3000
SERIAL NO.	: SPP09
TEST MODE	: RX mode(0.03MHz/ANT.1)
POWER SOURCE	: DC13.8V
DATE TESTED	: Jul 17 2012
FILE NO.	: -
REGULATION	: FCC Part15B Class B
TEST METHOD	: ANSI C63.4-2003
DISTANCE	: 3.00 [m]
TEMPERATURE	: 23.2 [degC]
HUMIDITY	: 55.0 [%]
NOTE	:



ENGINEER : Katsuya Uchida

[No]	FREQUENCY [MHz]	READING [dBuV] Hori	READING [dBuV] Vert	FACTOR [dB/m] Hori	FACTOR [dB/m] Vert	EMISSION [dBuV/m] Hori	EMISSION [dBuV/m] Vert	LIMIT [dBuV/m]	MARGIN [dB] Hori	MARGIN [dB] Vert
1	48.00	-	31.0	-1.4	-1.4	-	29.6	40.0	-	10.4
2	66.58	-	34.3	-2.6	-2.6	-	31.7	40.0	-	8.3
3	70.94	32.0	-	-3.3	-3.3	28.7	-	40.0	11.3	-
4	72.00	-	32.9	-3.5	-3.5	-	29.4	40.0	-	10.6
5	98.19	34.3	-	-5.4	-5.4	28.9	-	43.5	14.6	-
6	196.63	30.7	30.4	-2.8	-2.8	27.9	27.6	43.5	15.6	15.9
7	216.00	34.8	-	-2.2	-2.2	32.6	-	43.5	10.9	-
8	792.05	20.8	23.6	14.4	14.4	35.2	38.0	46.0	10.8	**8.0**

Higher six points are underlined.
Other frequencies : Below the FCC Part15B Class B limit
Emisson Level = Read + Factor(Antenna,Antenna Pad,Cable,Preamp)
ANT. : Used antenna(BBA = Broadband antenna, DIP = Dipole antenna)

emiT 3, 0, 0, 0

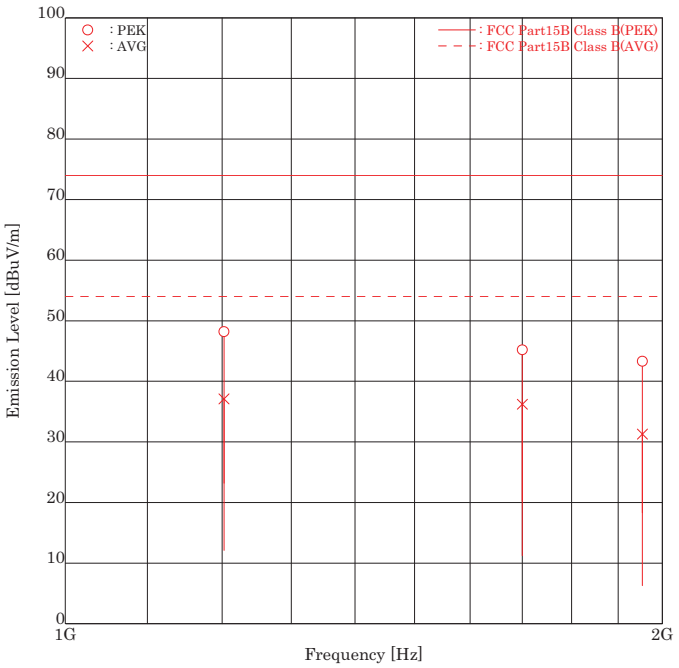
1000-2000 MHz

Intertek Japan K.K.

Kashima No.3 Test Site

Radiated Electric Field

APPLICANT	: YAESU MUSEN CO.,LTD.
EUT NAME	: HF Transceiver
MODEL NO.	: FTDX3000
SERIAL NO.	: SPP09
TEST MODE	: RX mode(0.03MHz/ANT.1)
POWER SOURCE	: DC13.8V
DATE TESTED	: Jul 17 2012
FILE NO.	: -
REGULATION	: FCC Part15B Class B
TEST METHOD	: ANSI C63.4-2003
DISTANCE	: 3.00 [m]
TEMPERATURE	: 23.2 [degC]
HUMIDITY	: 55.0 [%]
NOTE	:



ENGINEER : Katsuya Uchida

[No]	FREQUENCY [MHz]	MODE	READING [dBuV] Hori	READING [dBuV] Vert	FACTOR [dB/m] Hori	FACTOR [dB/m] Vert	EMISSION [dBuV/m] Hori	EMISSION [dBuV/m] Vert	LIMIT [dBuV/m]	MARGIN [dB] Hori	MARGIN [dB] Vert
1	1202.52	PEK	44.6	48.8	-0.6	-0.6	44.0	48.2	74.0	30.0	25.8
2	1202.52	AVG	34.6	37.7	-0.6	-0.6	34.0	37.1	54.0	20.0	**16.9**
3	1700.01	PEK	40.9	44.0	1.2	1.2	42.1	45.2	74.0	31.9	28.8
4	1700.01	AVG	31.8	35.0	1.2	1.2	33.0	36.2	54.0	21.0	17.8
5	1954.25	PEK	40.8	40.9	2.4	2.4	43.2	43.3	74.0	30.8	30.7
6	1954.25	AVG	28.8	28.9	2.4	2.4	31.2	31.3	54.0	22.8	22.7

Higher six points are underlined.
Other frequencies : Below the FCC Part15B Class B limit
Emisson Level = Read + Factor(Antenna,Antenna Pad,Cable,Preamp)
ANT. : Used antenna(BBA = Broadband antenna, DIP = Dipole antenna)

emiT 3, 0, 0, 0

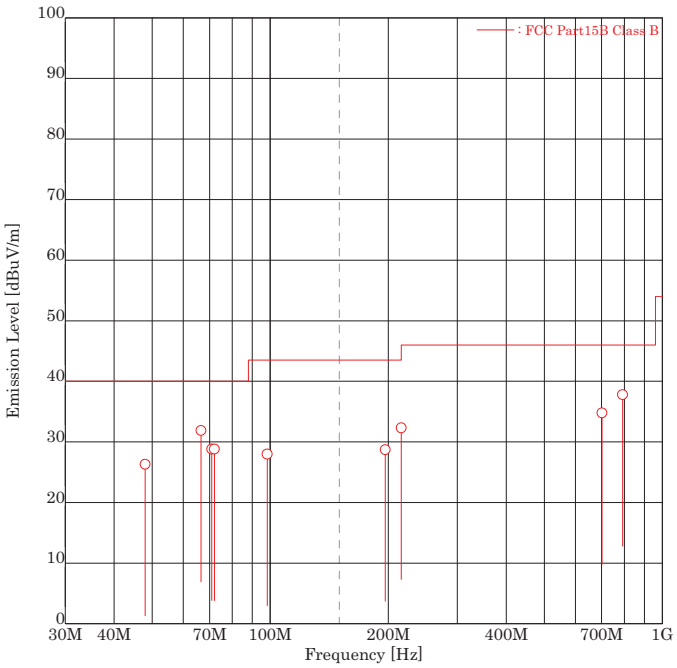
9.2.2 RX mode(30.00MHz/ANT.1)
30-1000 MHz

Intertek Japan K.K.

Kashima No.3 Test Site

Radiated Electric Field

APPLICANT	: YAESU MUSEN CO.,LTD.
EUT NAME	: HF Transceiver
MODEL NO.	: FTDX3000
SERIAL NO.	: SPP09
TEST MODE	: RX mode(30.00MHz/ANT.1)
POWER SOURCE	: DC13.8V
DATE TESTED	: Jul 17 2012
FILE NO.	: -
REGULATION	: FCC Part15B Class B
TEST METHOD	: ANSI C63.4-2003
DISTANCE	: 3.00 [m]
TEMPERATURE	: 23.2 [degC]
HUMIDITY	: 55.0 [%]
NOTE	:



ENGINEER : Katsuya Uchida

[No]	FREQUENCY [MHz]	READING [dBuV] Hori	READING [dBuV] Vert	FACTOR [dB/m] Hori	FACTOR [dB/m] Vert	EMISSION [dBuV/m] Hori	EMISSION [dBuV/m] Vert	LIMIT [dBuV/m]	MARGIN [dB] Hori	MARGIN [dB] Vert
1	48.00	-	27.7	-1.4	-1.4	-	26.3	40.0	-	13.7
2	66.58	-	34.5	-2.6	-2.6	-	31.9	40.0	-	**8.1**
3	70.94	32.1	-	-3.3	-3.3	28.8	-	40.0	11.2	-
4	72.00	-	32.3	-3.5	-3.5	-	28.8	40.0	-	11.2
5	98.19	33.4	-	-5.4	-5.4	28.0	-	43.5	15.5	-
6	196.63	31.5	31.2	-2.8	-2.8	28.7	28.4	43.5	14.8	15.1
7	216.00	34.5	-	-2.2	-2.2	32.3	-	43.5	11.2	-
8	702.00	-	22.0	12.8	12.8	-	34.8	46.0	-	11.2
9	792.05	20.3	23.4	14.4	14.4	34.7	37.8	46.0	11.3	8.2

Higher six points are underlined.
Other frequencies : Below the FCC Part15B Class B limit
Emisson Level = Read + Factor(Antenna,Antenna Pad,Cable,Preamp)
ANT. : Used antenna(BBA = Broadband antenna, DIP = Dipole antenna)

emiT 3, 0, 0, 0

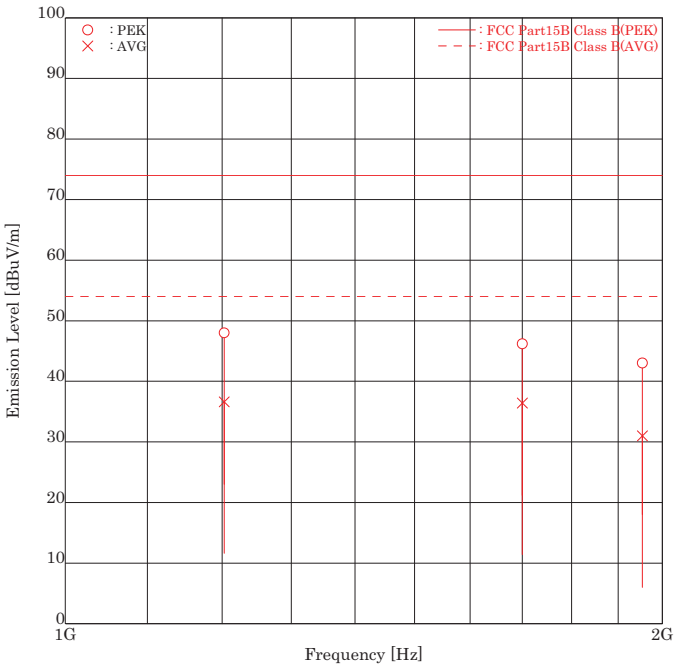
1000-2000 MHz

Intertek Japan K.K.

Kashima No.3 Test Site

Radiated Electric Field

APPLICANT	: YAESU MUSEN CO.,LTD.
EUT NAME	: HF Transceiver
MODEL NO.	: FTDX3000
SERIAL NO.	: SPP09
TEST MODE	: RX mode(30.00MHz/ANT.1)
POWER SOURCE	: DC13.8V
DATE TESTED	: Jul 17 2012
FILE NO.	: -
REGULATION	: FCC Part15B Class B
TEST METHOD	: ANSI C63.4-2003
DISTANCE	: 3.00 [m]
TEMPERATURE	: 23.2 [degC]
HUMIDITY	: 55.0 [%]
NOTE	:



ENGINEER : Katsuya Uchida

[No]	FREQUENCY [MHz]	MODE	READING [dBuV] Hori	READING [dBuV] Vert	FACTOR [dB/m] Hori	FACTOR [dB/m] Vert	EMISSION [dBuV/m] Hori	EMISSION [dBuV/m] Vert	LIMIT [dBuV/m]	MARGIN [dB] Hori	MARGIN [dB] Vert
1	1202.61	PEK	44.2	48.6	-0.6	-0.6	43.6	48.0	74.0	30.4	26.0
2	1202.61	AVG	34.5	37.2	-0.6	-0.6	33.9	36.6	54.0	20.1	**17.4**
3	1700.05	PEK	41.9	45.0	1.2	1.2	43.1	46.2	74.0	30.9	27.8
4	1700.05	AVG	31.8	35.2	1.2	1.2	33.0	36.4	54.0	21.0	17.6
5	1954.22	PEK	40.4	40.6	2.4	2.4	42.8	43.0	74.0	31.2	31.0
6	1954.22	AVG	28.6	28.6	2.4	2.4	31.0	31.0	54.0	23.0	23.0

Higher six points are underlined.
Other frequencies : Below the FCC Part15B Class B limit
Emisson Level = Read + Factor(Antenna,Antenna Pad,Cable,Preamp)
ANT. : Used antenna(BBA = Broadband antenna, DIP = Dipole antenna)

emiT 3, 0, 0, 0

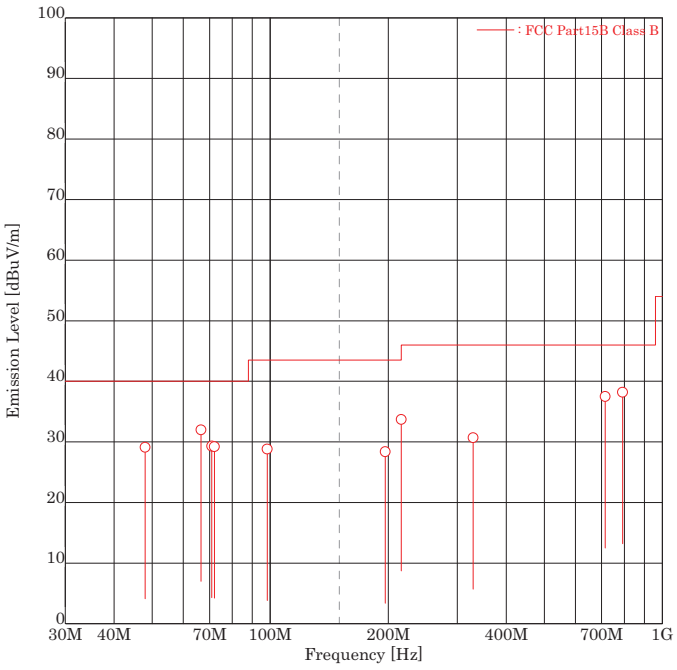
9.2.3 RX mode(56.00MHz/ANT.1)
30-1000 MHz

Intertek Japan K.K.

Kashima No.3 Test Site

Radiated Electric Field

APPLICANT	: YAESU MUSEN CO.,LTD.
EUT NAME	: HF Transceiver
MODEL NO.	: FTDX3000
SERIAL NO.	: SPP09
TEST MODE	: RX mode(56.00MHz/ANT.1)
POWER SOURCE	: DC13.8V
DATE TESTED	: Jul 17 2012
FILE NO.	: -
REGULATION	: FCC Part15B Class B
TEST METHOD	: ANSI C63.4-2003
DISTANCE	: 3.00 [m]
TEMPERATURE	: 23.2 [degC]
HUMIDITY	: 55.0 [%]
NOTE	:



ENGINEER : Katsuya Uchida

[No]	FREQUENCY [MHz]	READING [dBuV] Hori	READING [dBuV] Vert	FACTOR [dB/m] Hori	FACTOR [dB/m] Vert	EMISSION [dBuV/m] Hori	EMISSION [dBuV/m] Vert	LIMIT [dBuV/m]	MARGIN [dB] Hori	MARGIN [dB] Vert
1	48.00	-	30.5	-1.4	-1.4	-	29.1	40.0	-	10.9
2	66.58	-	34.6	-2.6	-2.6	-	32.0	40.0	-	8.0
3	70.94	32.6	-	-3.3	-3.3	29.3	-	40.0	10.7	-
4	72.00	-	32.7	-3.5	-3.5	-	29.2	40.0	-	10.8
5	98.19	33.6	34.2	-5.4	-5.4	28.2	28.8	43.5	15.3	14.7
6	196.63	30.9	31.2	-2.8	-2.8	28.1	28.4	43.5	15.4	15.1
7	216.00	35.9	-	-2.2	-2.2	33.7	-	43.5	9.8	-
8	329.36	28.0	-	2.7	2.7	30.7	-	46.0	15.3	-
9	715.00	23.6	24.6	12.9	12.9	36.5	37.5	46.0	9.5	8.5
10	792.05	20.5	23.8	14.4	14.4	34.9	38.2	46.0	11.1	**7.8**

Higher six points are underlined.
Other frequencies : Below the FCC Part15B Class B limit
Emisson Level = Read + Factor(Antenna,Antenna Pad,Cable,Preamp)
ANT. : Used antenna(BBA = Broadband antenna, DIP = Dipole antenna)

emiT 3, 0, 0, 0

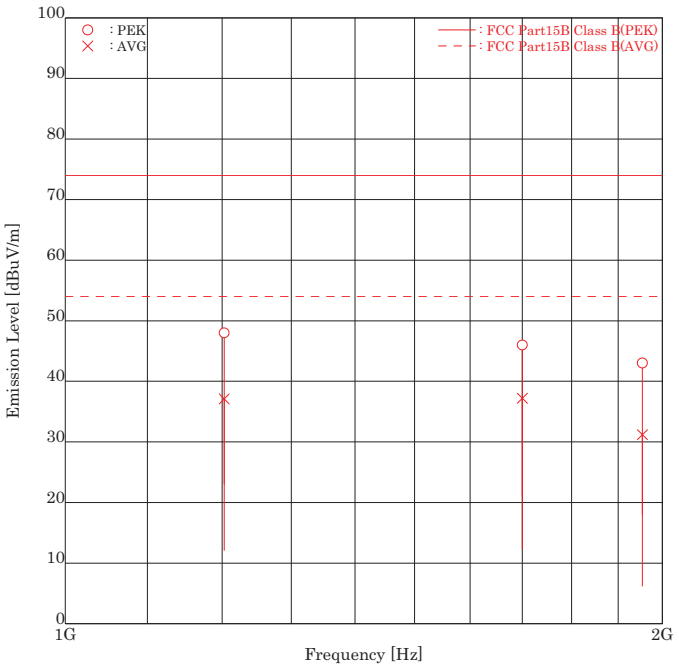
1000-2000 MHz

Intertek Japan K.K.

Kashima No.3 Test Site

Radiated Electric Field

APPLICANT	: YAESU MUSEN CO.,LTD.
EUT NAME	: HF Transceiver
MODEL NO.	: FTDX3000
SERIAL NO.	: SPP09
TEST MODE	: RX mode(56.00MHz/ANT.1)
POWER SOURCE	: DC13.8V
DATE TESTED	: Jul 17 2012
FILE NO.	: -
REGULATION	: FCC Part15B Class B
TEST METHOD	: ANSI C63.4-2003
DISTANCE	: 3.00 [m]
TEMPERATURE	: 23.2 [degC]
HUMIDITY	: 55.0 [%]
NOTE	:



ENGINEER : Katsuya Uchida

[No]	FREQUENCY [MHz]	MODE	READING [dBuV] Hori	READING [dBuV] Vert	FACTOR [dB/m] Hori	FACTOR [dB/m] Vert	EMISSION [dBuV/m] Hori	EMISSION [dBuV/m] Vert	LIMIT [dBuV/m]	MARGIN [dB] Hori	MARGIN [dB] Vert
1	1202.61	PEK	43.2	48.6	-0.6	-0.6	42.6	48.0	74.0	31.4	26.0
2	1202.61	AVG	34.8	37.7	-0.6	-0.6	34.2	37.1	54.0	19.8	16.9
3	1700.05	PEK	40.9	44.8	1.2	1.2	42.1	46.0	74.0	31.9	28.0
4	1700.05	AVG	30.6	36.0	1.2	1.2	31.8	37.2	54.0	22.2	**16.8**
5	1954.22	PEK	40.2	40.6	2.4	2.4	42.6	43.0	74.0	31.4	31.0
6	1954.22	AVG	28.6	28.8	2.4	2.4	31.0	31.2	54.0	23.0	22.8

Higher six points are underlined.
Other frequencies : Below the FCC Part15B Class B limit
Emisson Level = Read + Factor(Antenna,Antenna Pad,Cable,Preamp)
ANT. : Used antenna(BBA = Broadband antenna, DIP = Dipole antenna)

emiT 3, 0, 0, 0

SECTION 10. LIST OF MEASURING INSTRUMENTS

Test instruments are calibrated according to Quality Manual and Calibration Rules of Intertek Japan K.K.

Instrument	Model No.	Serial No.	Manufacturer	Cal. Interval	Effective period
Conducted disturbance at mains terminals					
LISN(EUT)	ESH2-Z5	890484/001	Rohde & Schwarz	1 Y	Oct, 2012
LISN(Peripheral)	KNW-407	8-532-11	Kyoritsu	1 Y	Jun, 2013
10dB Attenuator	CFA-01	KSR00240	TME	1 Y	Oct, 2012
10dB Attenuator	CFA-01	KSR00254	TME	1 Y	Jun, 2013
50ohm Termination	CT-01	A003CON50	TME	1 Y	Feb, 2013
Coaxial Cable (C1)	RG-5A/U(7.2m)	None	Intertek	1 Y	Mar, 2013
Coaxial Cable (C2)	RG-5A/U(4.0m)	None	Intertek	1 Y	Mar, 2013
Coaxial Cable (C11)	RG-5A/U(1.1m)	None	Intertek	1 Y	Mar, 2013
Coaxial Cable (C12)	RG-5A/U(1.0m)	None	Intertek	1 Y	Mar, 2013
Radiated disturbance					
Broad Band Antenna	VULB9168	107	Schwarzbeck	1 Y	Sep, 2012
Amplifier	ZX60-3018G	003	Intertek	1 Y	Mar, 2013
6dB Attenuator	MP721B	M56993	ANRITSU	1 Y	Mar, 2013
Step Attenuator	8494B	2406A09036	Hewlett Packard	1 Y	Mar, 2013
Double Ridged Antenna	3115	5045	EMCO	1 Y	Mar, 2013
Amplifier	83051A	3332A00329	Hewlett Packard	1 Y	Feb, 2013
3dB Attenuator	4768-3	79	narda	1 Y	Feb, 2013
Spectrum Analyzer	8563E	3337A01513	Hewlett Packard	1 Y	Jul, 2012
Coaxial Cable (R1)	5D-2W(12.3m)	None	Intertek	1 Y	Mar, 2013
Coaxial Cable (R2)	23D 4AF(10.0m)	None	Intertek	1 Y	Mar, 2013
Coaxial Cable (R3)	RG-5A/U(1.8m)	None	Intertek	1 Y	Mar, 2013
Coaxial Cable (R9)	RG-5A/U(0.2m)	None	Intertek	1 Y	Mar, 2013
Coaxial Cable (R10)	RG-5A/U(0.4m)	None	Intertek	1 Y	Mar, 2013
Coaxial Cable (R11)	RG-5A/U(1.1m)	None	Intertek	1 Y	Mar, 2013
Coaxial Cable (R12)	RG-5A/U(1.0m)	None	Intertek	1 Y	Mar, 2013
Coaxial Cable (R14)	SUCOFLEX102(1.0m)	712/2	SUHNER	1 Y	Feb, 2013
Coaxial Cable (R15)	5B-048-98-98-5000 (5.0m)	111130	Candox	1 Y	Feb, 2013
Site Attenuation				1 Y	Apr, 2013
Common					
Test receiver	ESS (Firmware Version 1.07)	842123/005	Rohde & Schwarz	1 Y	Nov, 2012
RF Switch	ACX-150	None	Intertek	1 Y	Mar, 2013
Testing Software	emiT (Version 3,0,0,0)				

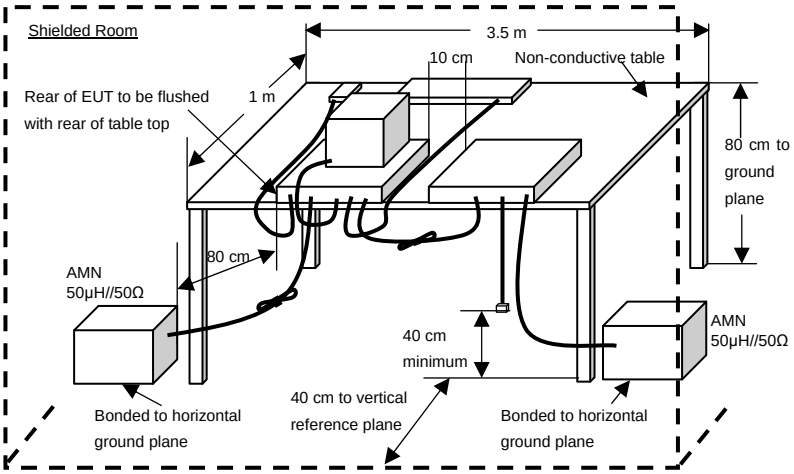
ANNEX

TEST PROCEDURE(S)

Test was carried out under the following conditions.

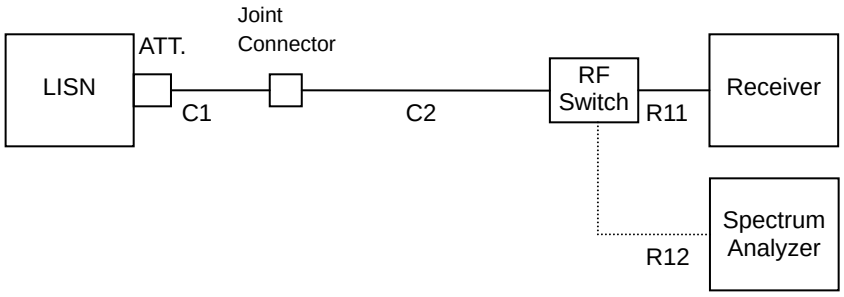
Conducted disturbance at mains terminals

Test setup as per standard



* Reference Ground plane : greater than 2 x 2m

Diagram of the measuring instruments



[Preliminary Measurement]
EUT is tested on all operating conditions.
The spectrum analyzer is controlled by the computer program to sweep the frequency range to be measured, then spectrum chart is plotted out to find the worst emission conditions in operating mode and/or configuration decision for the final test.
All leads other than safety ground are tested.

[Final Measurement]
The EUT is operated in the worst emission condition found by the preliminary test.
The equipment and cables are arranged or manipulated within the range of the test standard in the above condition.
At least six highest spectrum are measured in quasi-peak and average (if necessary) using the test receiver.

Radiated disturbance

Test setup as per standard

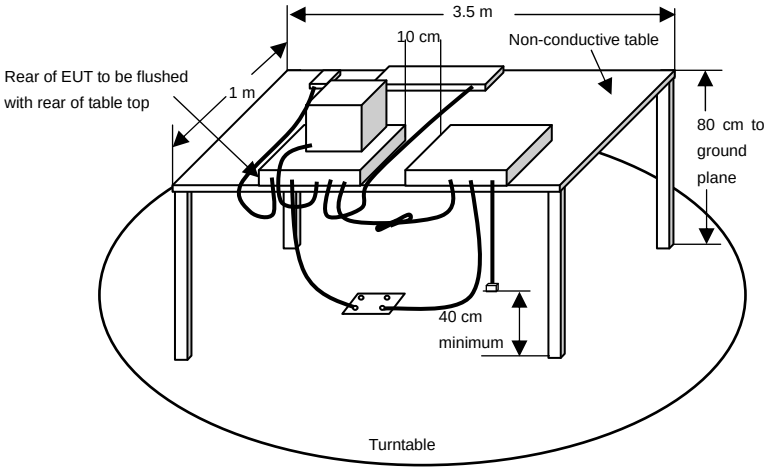
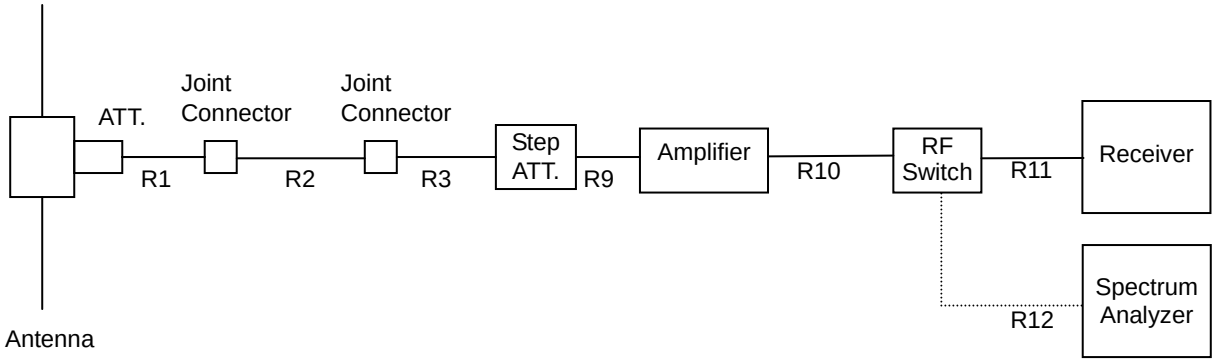
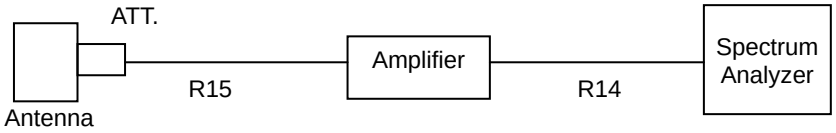


Diagram of the measuring instruments (30 - 1000MHz)



Above 1GHz



[Preliminary Measurement]
EUT is tested on all operating conditions.
The spectrum analyzer is set max-hold mode and swept during turntable was rotated 0 to 360 degree,
And find the worst emission conditions in configuration, operating mode, or ambient noise notation.

[Final Measurement]
The EUT operated in the worst emission condition found by the preliminary test.
The turntable azimuth (EUT direction) and antenna height are adjusted the position so that maximum field strength is obtained for each frequency spectrum to be measured.
The equipment and cables are arranged or manipulated within the range of the test standard in the above condition. At least six highest spectrums are measured by the test receiver (quasi-peak) and spectrum analyzer (peak and average). When the uncertain result was obtained (30 – 1000 MHz), the measurement is retried by using the half wave dipole antenna instead of the broadband antenna.