TEST REPORT

STANDARD : FCC Part15B Class B – Scanning Receiver
Industry Canada RSS-215 Issue 2

Applicant	Testing Laboratory
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Equipment Type	HF TRANSCEIVER
Category	Scanning Receiver
Trademark	YAESU
Model(s)	FTDX3000
Serial No.	SPP09
Equipment Authorization	Certification
FCC ID	K6620461X50
IC ID	511B-20461X50
Test Result	Complied
Report Number	JK12070010
Report Issue Date	August 7, 2012

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Approved by K. Gokita
Kazuo Gokita
[Manager]

Tested by K. Uchida
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 20, 2012
Standard Applied	FCC Part15B – Scanning Receiver Industry Canada RSS-215 Issue 2 * * It is not covered by accredited scope of VLAC.
Test methods	ANSI C63.4-2003
Deviation from Standard(s)	None

Note : As for the ICES-003 “Digital Apparatus”, the EUT has been measured.
Refer to report No.JK12070013.
As for the FCC Part15B Class B “Peripherals”, the EUT has been measured.
Refer to report No.JK12070011.

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 – Scanning Receiver Industry Canada RSS-215 Issue 2	
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	6.2 dB (691.00 MHz)	VFO Scan mode(0.03MHz-56.00MHz/ANT.1)
Conducted power on antenna port	3.7 dB (42.8400 MHz)	VFO Scan mode(0.03MHz-56.00MHz/ANT.1)
38dB Rejection test (15.121(b))	No frequency of response was detected – Passed –	

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.

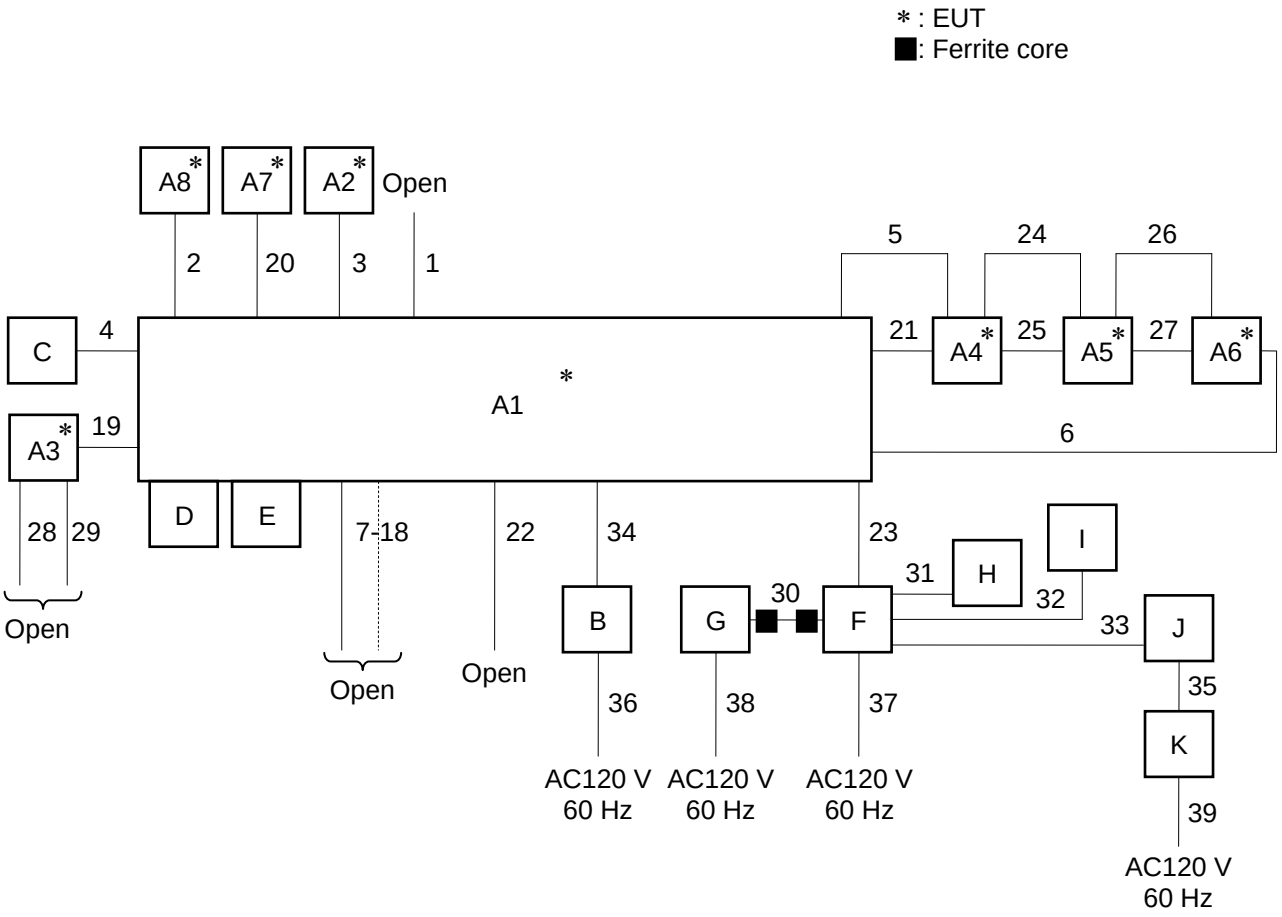
No.	Name	Length (m)	Shield	Metal Connector	Ferrite Core
1	Key cable	1.10	Yes	Yes	
2	PHONES cable	1.80	Yes	Yes	
3	MIC cable	0.50	Yes	Yes	
4	Coaxial cable	1.00	Yes	Yes	
5	μ-TUNE (TO) cable	1.20	Yes	Yes	
6	μ-TUNE (FROM) cable	1.20	Yes	Yes	
7	IF OUT cable	1.20	Yes	Yes	
8	RX OUT cable	1.20	Yes	Yes	
9	+13.8V 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.

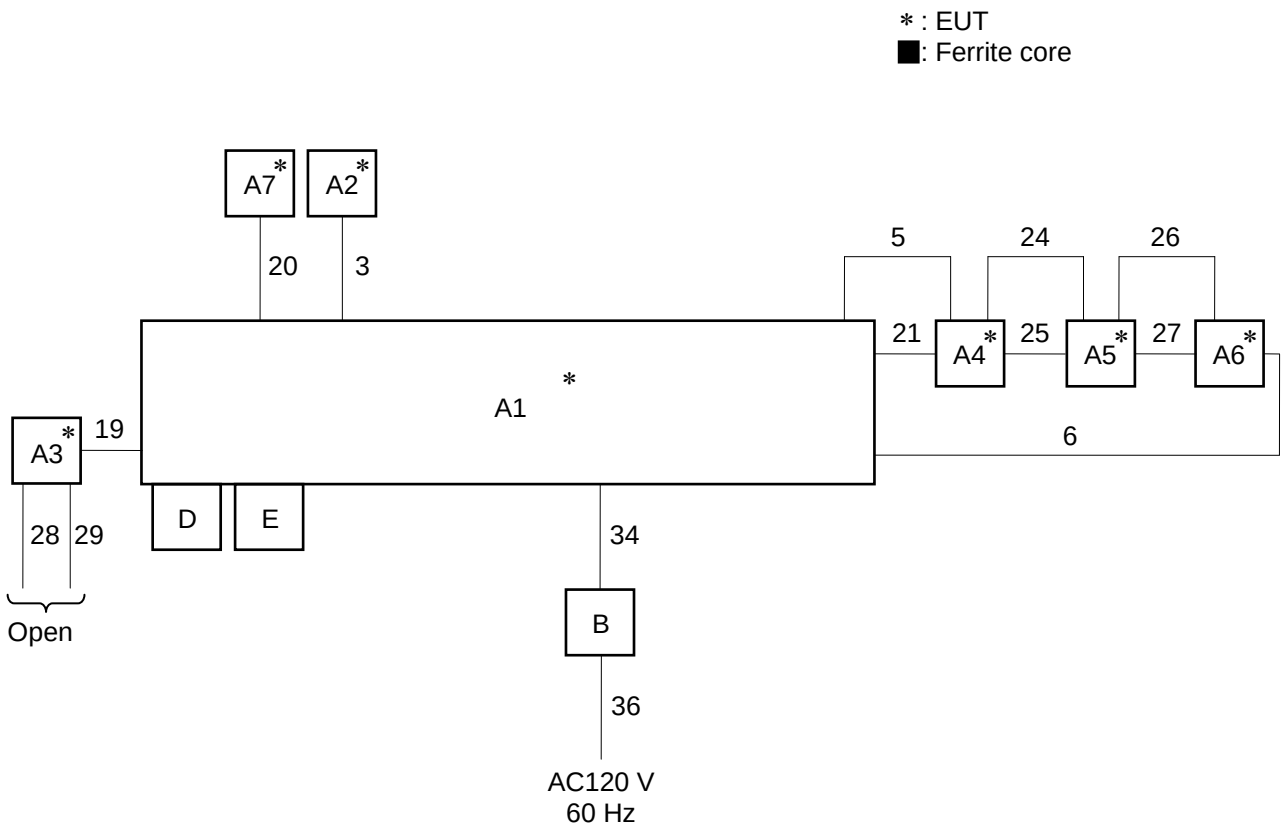
SECTION 6. TEST CONFIGURATION

6.1 Conducted disturbance at mains terminals and radiated disturbance



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

6.2 Conducted power on antenna port and 38dB rejection test



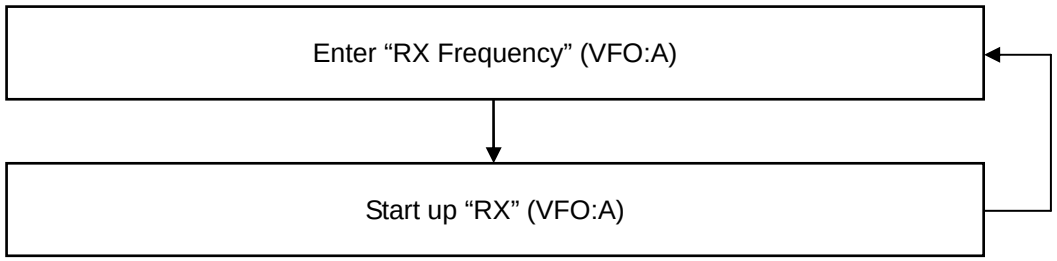
The symbols and numbers assigned to the equipments and cables on this diagram correspond to the ones in Sections 3 to 5.

SECTION 7. OPERATING CONDITION

The test was carried out under the following mode.

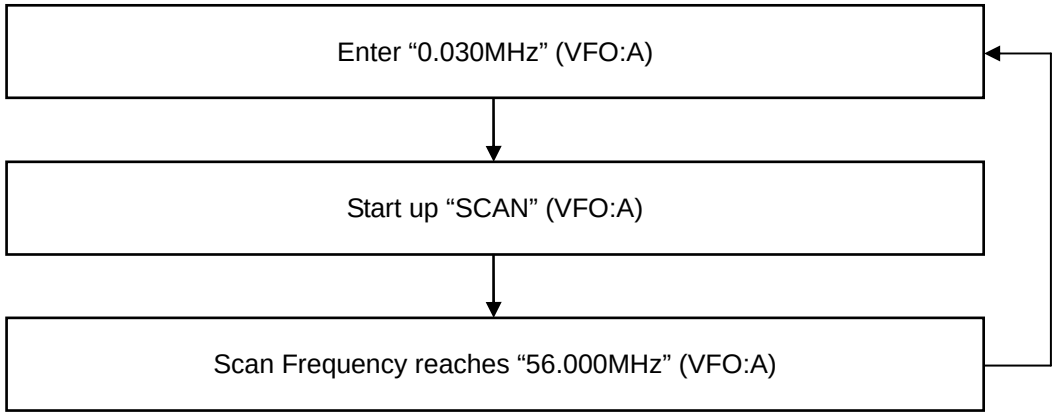
7.1 RX mode

Cycle time for operation: Continuity



7.2 VFO Scan 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
Conducted power on antenna port		
30 MHz – 1000 MHz	+/- 2.90 dB	Nil
Above 1 GHz	+/- 1.60 dB	
38dB Rejection		
30 kHz – 60 MHz	+/- 0.56 dB	Nil

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
Conducted power on antenna port	30 – 2000 MHz	30 – 2000 MHz

Test Procedure

Item	Document number
Conducted disturbance at mains terminals	RJP-EM001
Radiated disturbance	RJP-EM003
Conducted power on antenna port	RJP-TE101
38dB Rejection test	RJP-TE102

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)

* Conducted power on antenna port
  Emission Level [dBµV] = Meter Reading [dBµV] + Factor [dB]
  Margin [dB] = Limit [dBµV] - Emission Level [dBµV]
  * Factor = Pad + Cable Loss - Amplifier Gain

9.1 Conducted disturbance at mains terminals

9.1.1 RX mode(0.03MHz/ANT.1)

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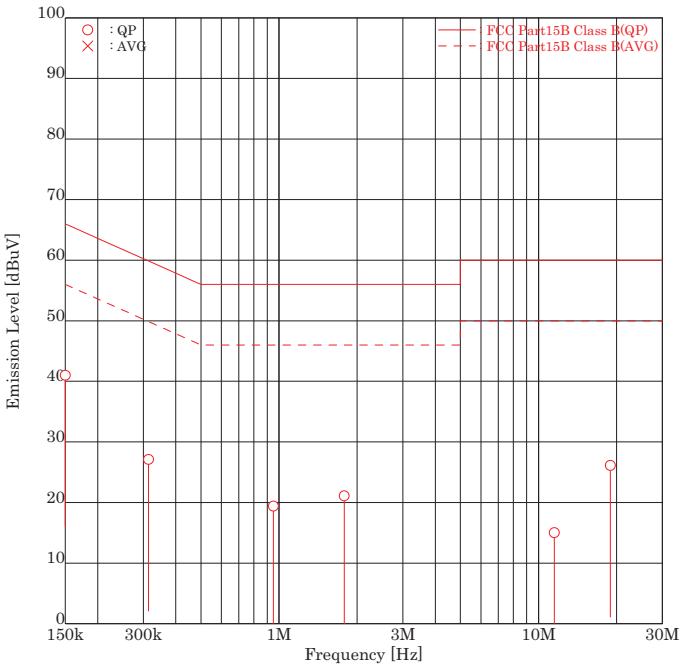
Kashima No.3 Test Site

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

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9.1.2 RX mode(30.00MHz/ANT.1)

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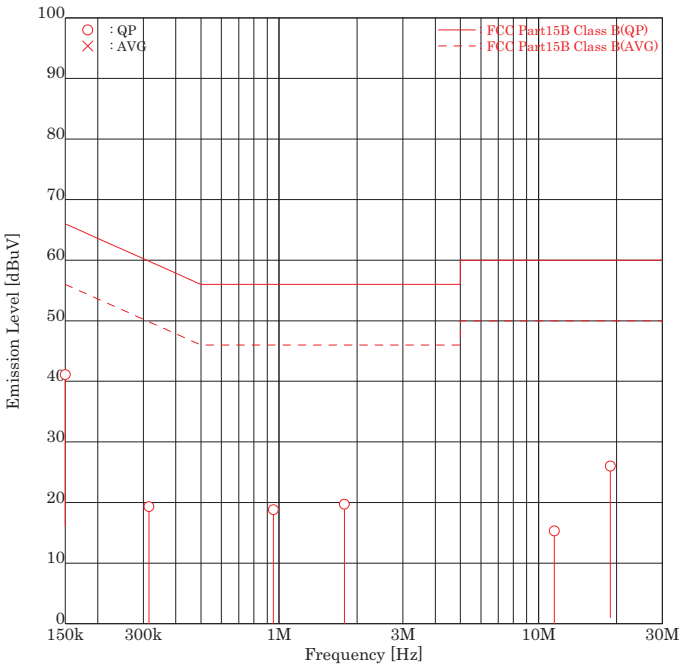
Kashima No.3 Test Site

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)

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9.1.3 RX mode(56.00MHz/ANT.1)

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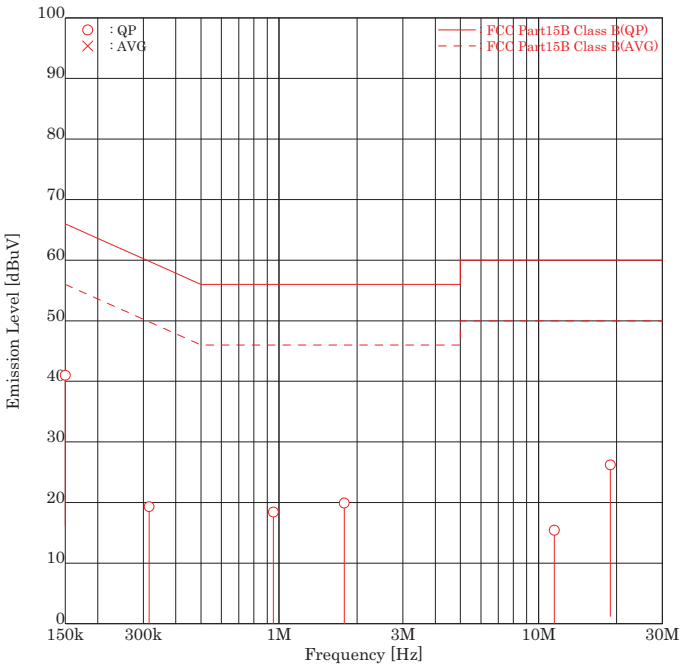
Kashima No.3 Test Site

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)

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9.2 Radiated disturbance

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

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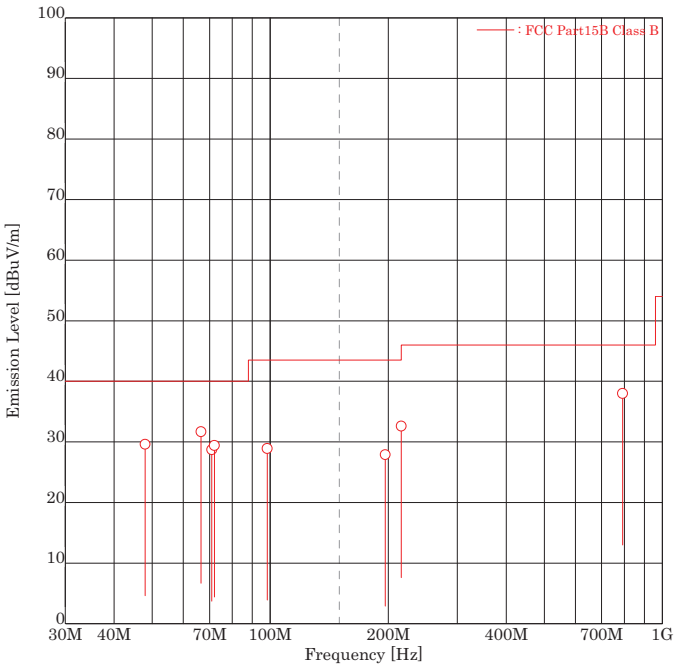
Kashima No.3 Test Site

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

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1000-2000 MHz

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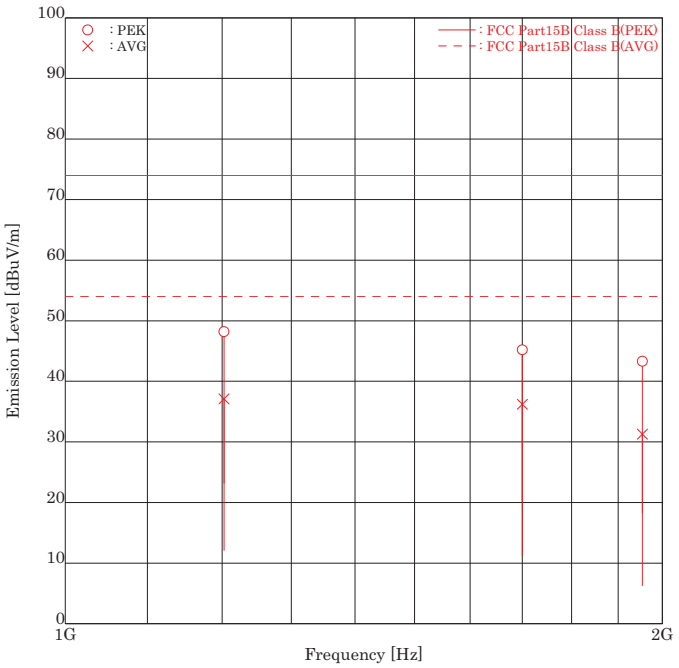
Kashima No.3 Test Site

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)

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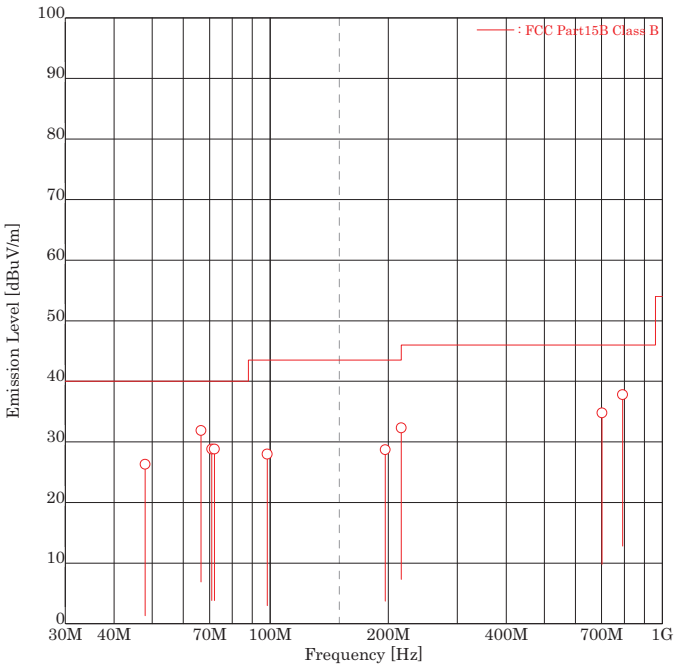
9.2.2 RX mode(30.00MHz/ANT.1)
30-1000 MHz

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)

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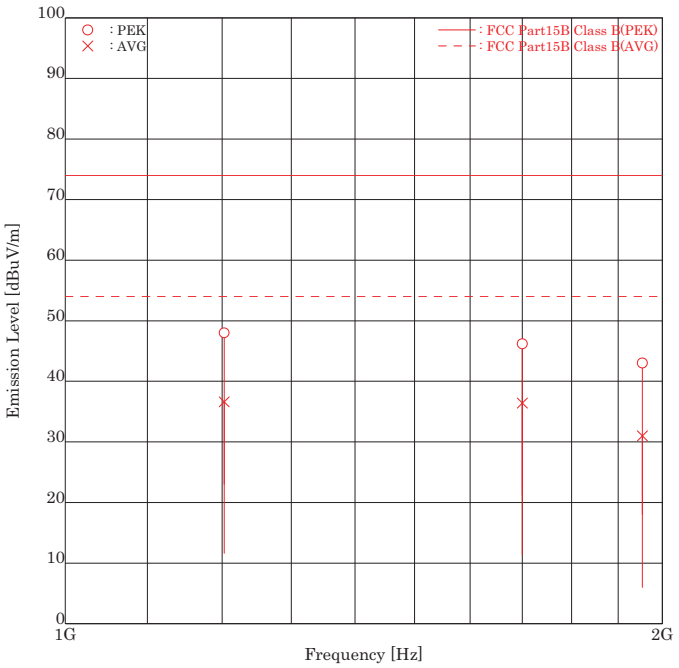
1000-2000 MHz

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)

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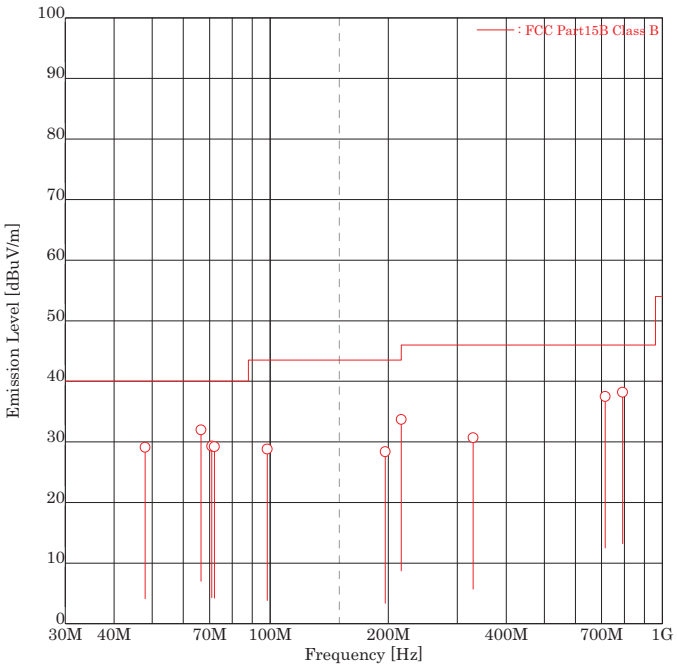
9.2.3 RX mode(56.00MHz/ANT.1)
30-1000 MHz

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)

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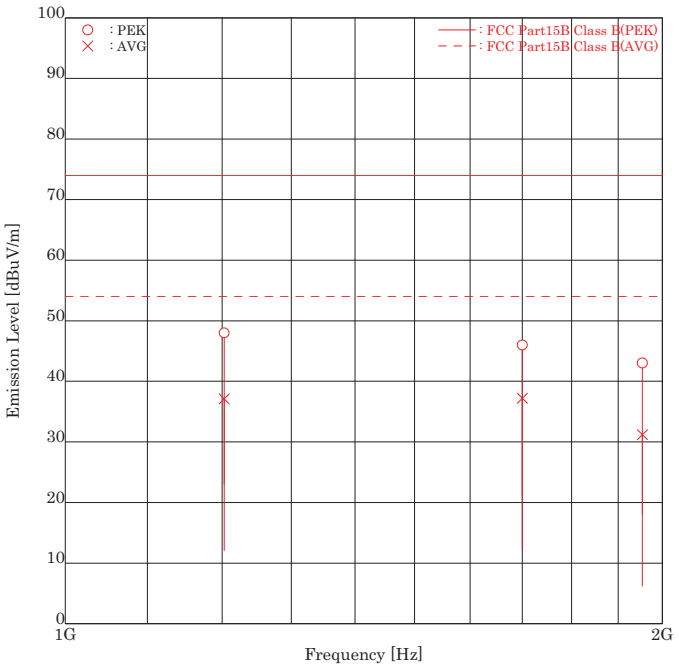
1000-2000 MHz

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)

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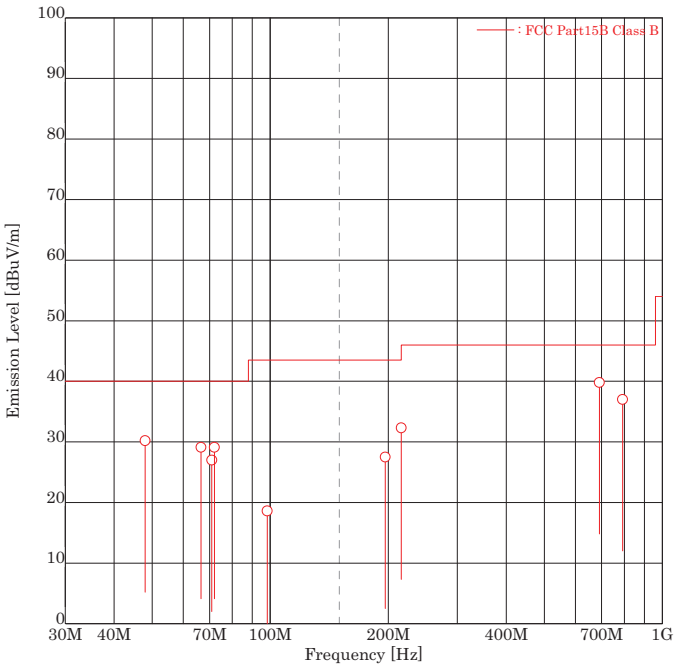
9.2.4 VFO Scan mode(0.03MHz-56.00/ANT.1)
30-1000 MHz

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	: VFO Scan mode(0.03MHz-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
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	-	31.6	-1.4	-1.4	-	30.2	40.0	-	9.8
2	66.58	-	31.7	-2.6	-2.6	-	29.1	40.0	-	10.9
3	70.93	30.3	28.1	-3.3	-3.3	27.0	24.8	40.0	13.0	15.2
4	72.00	-	32.6	-3.5	-3.5	-	29.1	40.0	-	10.9
5	98.19	-	24.0	-5.4	-5.4	-	18.6	43.5	-	24.9
6	196.63	28.0	30.3	-2.8	-2.8	25.2	27.5	43.5	18.3	16.0
7	216.00	34.5	-	-2.2	-2.2	32.3	-	43.5	11.2	-
8	691.00	18.6	27.3	12.5	12.5	31.1	39.8	46.0	14.9	**6.2**
9	792.05	19.8	22.6	14.4	14.4	34.2	37.0	46.0	11.8	9.0

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)

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1000-2000 MHz

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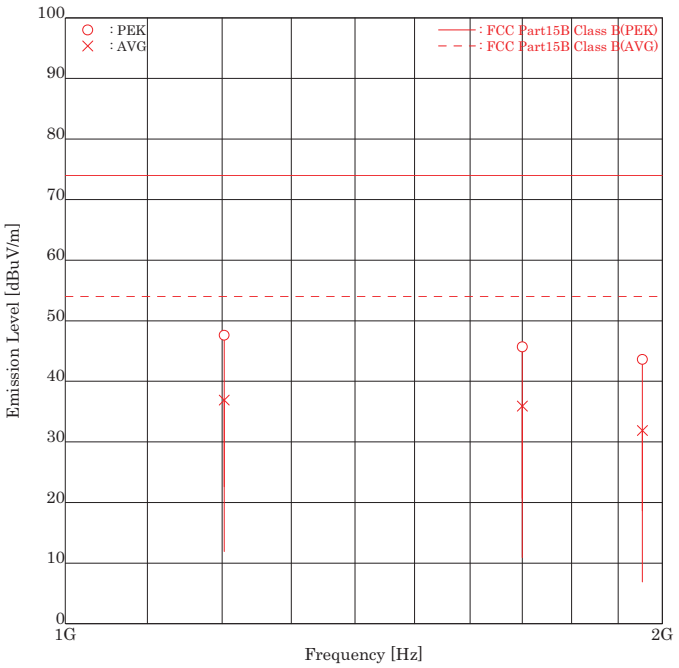
Kashima No.3 Test Site

Radiated Electric Field

APPLICANT	: YAESU MUSEN CO.,LTD.
EUT NAME	: HF Transceiver
MODEL NO.	: FTDX3000
SERIAL NO.	: SPP09
TEST MODE	: VFO Scan mode(0.03MHz-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	1202.55	PEK	44.4	48.2	-0.6	-0.6	43.8	47.6	74.0	30.2	26.4
2	1202.55	AVG	34.5	37.5	-0.6	-0.6	33.9	36.9	54.0	20.1	**17.1**
3	1699.98	PEK	41.2	44.5	1.2	1.2	42.4	45.7	74.0	31.6	28.3
4	1699.98	AVG	32.0	34.7	1.2	1.2	33.2	35.9	54.0	20.8	18.1
5	1954.30	PEK	41.0	41.2	2.4	2.4	43.4	43.6	74.0	30.6	30.4
6	1954.30	AVG	29.2	29.5	2.4	2.4	31.6	31.9	54.0	22.4	22.1

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)

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9.3 Conducted disturbance on antenna port

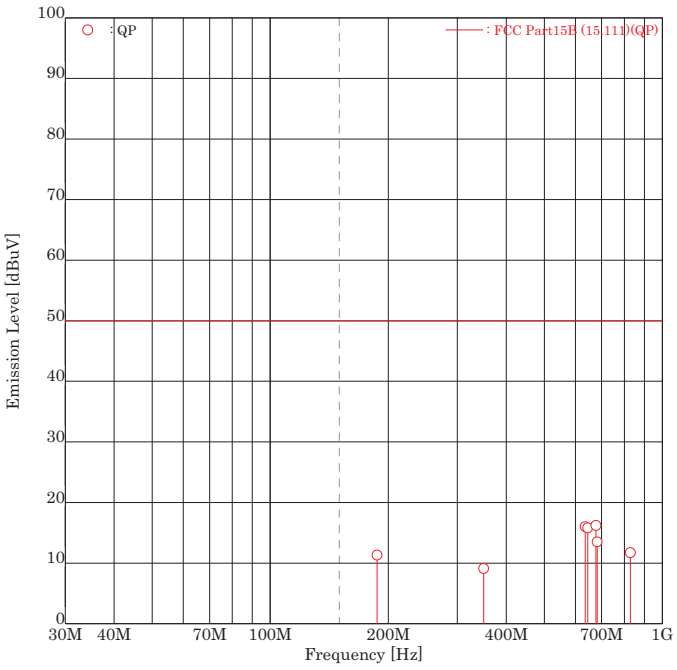
9.3.1 RX mode(0.03MHz/ANT.1)
30-1000 MHz

Intertek Japan K.K.

Kashima No.3 Test Site

Conducted Power on Antenna 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 (15.111)
TEST METHOD	: ANSI C63.4-2003
TEMPERATURE	: 23.2 [degC]
HUMIDITY	: 55.0 [%]
NOTE	:



ENGINEER : Katsuya Uchida

[No]	FREQUENCY [MHz]	READING [dBuV]	FACTOR [dB]	EMISSION [dBuV]	LIMIT [dBuV]	MARGIN [dB]
1	187.2000	21.3	-10.0	11.3	50.0	38.7
2	350.2066	17.8	-8.7	9.1	50.0	40.9
3	635.9020	23.1	-7.1	16.0	50.0	34.0
4	645.1200	22.8	-7.0	15.8	50.0	34.2
5	677.2500	23.1	-6.9	16.2	50.0	**33.8**
6	681.9800	20.3	-6.8	13.5	50.0	36.5
7	829.4360	17.8	-6.1	11.7	50.0	38.3

Higher six points are underlined.
Other frequencies : Below the FCC Part15B (15.111) limit
Emisson Level = Read + Factor(Attenuator, Cable, Preamp)

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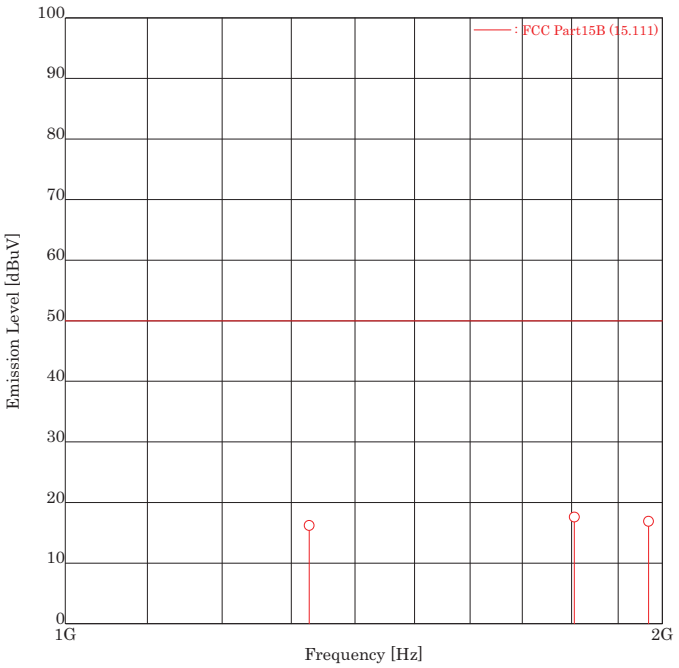
1000-2000 MHz

Intertek Japan K.K.

Kashima

Conducted Power for Antenna 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	: DC 13.8V
DATE TESTED	: Jul 19 2012
FILE NO.	: -
REGULATION	: FCC Part15B (15.111)
TEST METHOD	: ANSI C63.4-2003
TEMPERATURE	: 23.8 [degC]
HUMIDITY	: 61.0 [%]
NOTE	:



ENGINEER : Katsuya Uchida

[No]	FREQUENCY [MHz]	READING [dBuV]	FACTOR [dB]	EMISSION [dBuV]	LIMIT [dBuV]	MARGIN [dB]
1	1327.4100	41.3	-25.1	16.2	50.0	33.8
2	1806.0100	42.5	-24.9	17.6	50.0	**32.4**
3	1968.5500	41.8	-24.9	16.9	50.0	33.1

Higher six points are underlined.
Other frequencies : Below the FCC Part15B (15.111) limit
Emisson Level = Read + Factor(Attenuator, Cable, Preamp)

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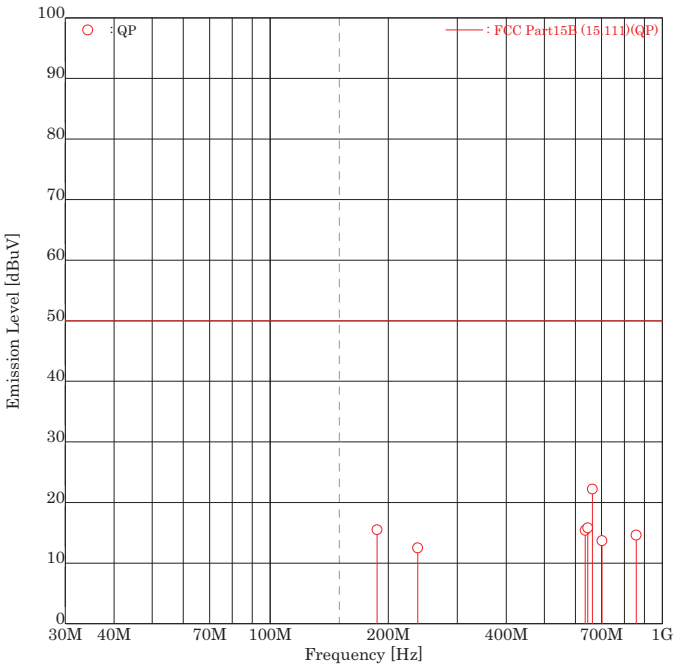
9.3.2 RX mode(30.00MHz/ANT.1)
30-1000 MHz

Intertek Japan K.K.

Kashima No.3 Test Site

Conducted Power on Antenna 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 (15.111)
TEST METHOD	: ANSI C63.4-2003
TEMPERATURE	: 23.2 [degC]
HUMIDITY	: 55.0 [%]
NOTE	:



ENGINEER : Katsuya Uchida

[No]	FREQUENCY [MHz]	READING [dBuV]	FACTOR [dB]	EMISSION [dBuV]	LIMIT [dBuV]	MARGIN [dB]
1	187.1900	25.5	-10.0	15.5	50.0	34.5
2	237.6040	22.0	-9.5	12.5	50.0	37.5
3	635.9040	22.5	-7.1	15.4	50.0	34.6
4	645.1200	22.8	-7.0	15.8	50.0	34.2
5	663.0000	29.2	-7.0	22.2	50.0	**27.8**
6	702.0000	20.4	-6.7	13.7	50.0	36.3
7	858.0000	20.5	-5.9	14.6	50.0	35.4

Higher six points are underlined.
Other frequencies : Below the FCC Part15B (15.111) limit
Emisson Level = Read + Factor(Attenuator, Cable, Preamp)

emiT 3, 0, 0, 0

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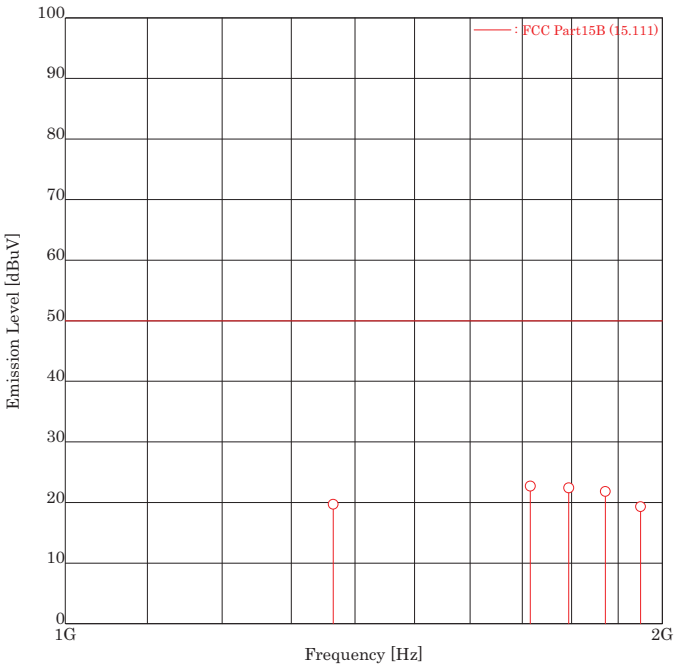
1000-2000 MHz

Intertek Japan K.K.

Kashima

Conducted Power for Antenna 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	: DC 13.8V
DATE TESTED	: Jul 19 2012
FILE NO.	: -
REGULATION	: FCC Part15B (15.111)
TEST METHOD	: ANSI C63.4-2003
TEMPERATURE	: 23.8 [degC]
HUMIDITY	: 61.0 [%]
NOTE	:



ENGINEER : Katsuya Uchida

[No]	FREQUENCY [MHz]	READING [dBuV]	FACTOR [dB]	EMISSION [dBuV]	LIMIT [dBuV]	MARGIN [dB]
1	1365.0600	44.8	-25.1	19.7	50.0	30.3
2	1716.0200	47.7	-25.0	22.7	50.0	**27.3**
3	1794.0200	47.3	-24.9	22.4	50.0	27.6
4	1872.0500	46.7	-24.9	21.8	50.0	28.2
5	1950.0200	44.2	-24.9	19.3	50.0	30.7

Higher six points are underlined.
Other frequencies : Below the FCC Part15B (15.111) limit
Emisson Level = Read + Factor(Attenuator, Cable ,Preamp)

emiT 3, 0, 0, 0

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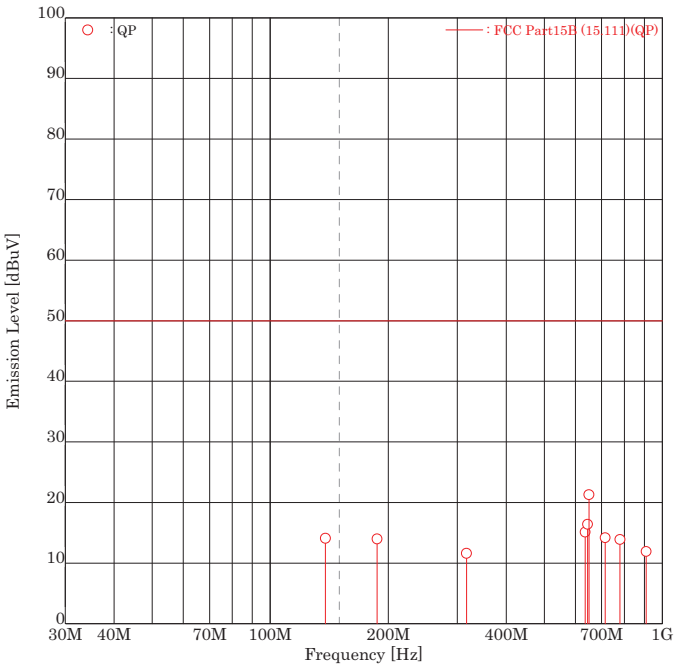
9.3.3 RX mode(56.00MHz/ANT.1)
30-1000 MHz

Intertek Japan K.K.

Kashima No.3 Test Site

Conducted Power on Antenna 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 (15.111)
TEST METHOD	: ANSI C63.4-2003
TEMPERATURE	: 23.2 [degC]
HUMIDITY	: 55.0 [%]
NOTE	:



ENGINEER : Katsuya Uchida

[No]	FREQUENCY [MHz]	READING [dBuV]	FACTOR [dB]	EMISSION [dBuV]	LIMIT [dBuV]	MARGIN [dB]
1	138.2400	24.4	-10.3	14.1	50.0	35.9
2	187.2000	24.0	-10.0	14.0	50.0	36.0
3	316.8360	20.6	-9.0	11.6	50.0	38.4
4	635.9140	22.2	-7.1	15.1	50.0	34.9
5	645.1160	23.4	-7.0	16.4	50.0	33.6
6	650.0000	28.3	-7.0	21.3	50.0	**28.7**
7	715.0000	20.9	-6.7	14.2	50.0	35.8
8	780.0000	20.2	-6.3	13.9	50.0	36.1
9	910.0000	17.5	-5.6	11.9	50.0	38.1

Higher six points are underlined.
Other frequencies : Below the FCC Part15B (15.111) limit
Emisson Level = Read + Factor(Attenuator, Cable ,Preamp)

emiT 3, 0, 0, 0

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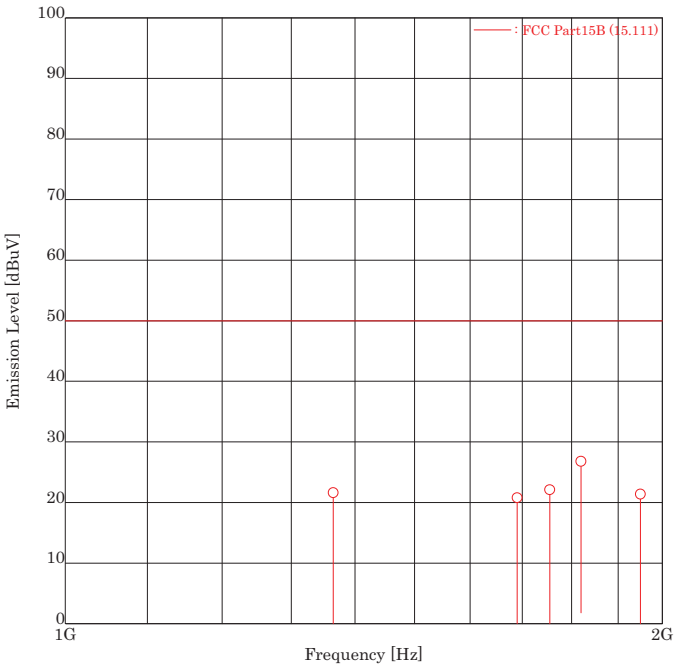
1000-2000 MHz

Intertek Japan K.K.

Kashima

Conducted Power for Antenna 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	: DC 13.8V
DATE TESTED	: Jul 19 2012
FILE NO.	: -
REGULATION	: FCC Part15B (15.111)
TEST METHOD	: ANSI C63.4-2003
TEMPERATURE	: 23.8 [degC]
HUMIDITY	: 61.0 [%]
NOTE	:



ENGINEER : Katsuya Uchida

[No]	FREQUENCY [MHz]	READING [dBuV]	FACTOR [dB]	EMISSION [dBuV]	LIMIT [dBuV]	MARGIN [dB]
1	1365.0000	46.7	-25.1	21.6	50.0	28.4
2	1690.0100	45.8	-25.0	20.8	50.0	29.2
3	1755.0300	47.0	-24.9	22.1	50.0	27.9
4	1819.9700	51.7	-24.9	26.8	50.0	**23.2**
5	1949.9800	46.3	-24.9	21.4	50.0	28.6

Higher six points are underlined.
Other frequencies : Below the FCC Part15B (15.111) limit
Emisson Level = Read + Factor(LISN,Pad,Cable)

emiT 3, 0, 0, 0

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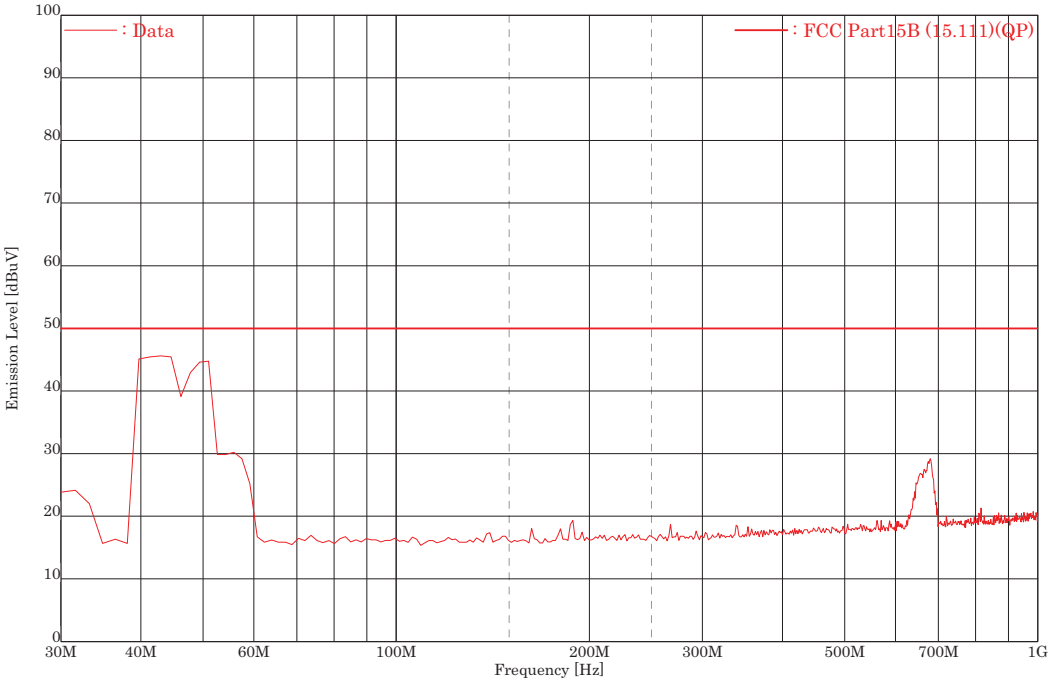
9.3.4 VFO Scan mode(0.03MHz-56.00/ANT.1)
30-1000 MHz

< Graph number #5 >

SPECTRUM ANALYSIS

Kashima No.3 Test Site 23.2ßC /55.0%

Date tested	: Jul 18 2012	Test mode	: VFO Scan mode(0.03MHz-56.00MHz/ANT.1)
Company	: YAESU MUSEN CO.,LTD.	Power source	: DC13.8V
EUT Name	: HF Transceiver	File number	: -
Model number	: FTDX3000	Engineer	: Katsuya Uchida
Serial number	: SPP09	Note	:



Frequency [MHz]	Reading [dBuV]	Factor [dB]	Emission [dBuV]	Limit [dBuV]	Margin [dB]
31.0000	35.9	-11.0	24.9	50.0	25.1
40.7100	57.1	-10.9	46.2	50.0	3.8
42.8400	57.2	-10.9	46.3	50.0	3.7
49.6700	56.9	-10.9	46.0	50.0	4.0
53.4700	41.4	-10.8	30.6	50.0	19.4
679.8100	36.5	-6.8	29.7	50.0	20.3

Higher six points are underlined.
Other frequencies : Below the FCC Part15B (15.111) limit
Emission Level = Read + Factor (Attenuator, Cable, Preamp)

emiT 3, 0, 0, 0 - 1 / 1 - Copyright(c)2007 Intertek Japan K.K.

1000-2000 MHz

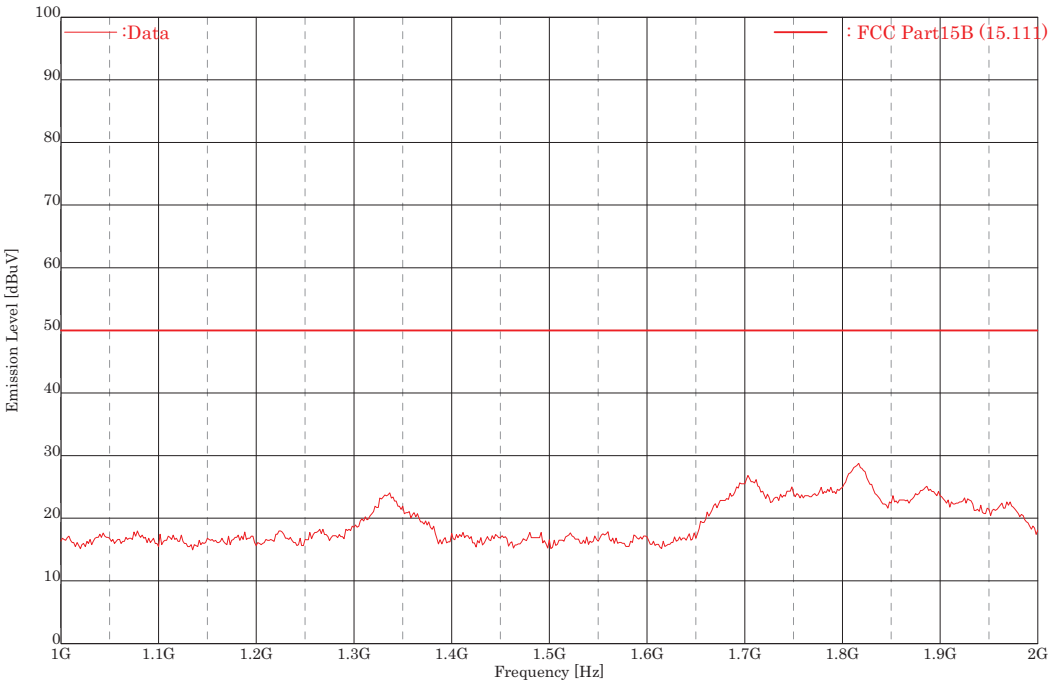
< Graph number #4 >

SPECTRUM ANALYSIS

Kashima

23.8ßC /61.0%

Date tested	: Jul 19 2012	Test mode	: VFO Scan mode(0.03MHz-56.00MHz/ANT.1)
Company	: YAESU MUSEN CO.,LTD.	Power source	: DC 13.8V
EUT Name	: HF Transceiver	File number	: -
Model number	: FTDX3000	Engineer	: Katsuya Uchida
Serial number	: SPP09	Note	:



Frequency [MHz]	Reading [dBuV]	Factor [dB]	Emission [dBuV]	Limit [dBuV]	Margin [dB]
1337.0200	49.2	-25.1	24.1	50.0	25.9
1703.0100	51.8	-25.0	26.8	50.0	23.2
1817.0200	53.7	-24.9	28.8	50.0	21.2
1887.5200	50.0	-24.9	25.1	50.0	24.9

Higher six points are underlined.
Other frequencies : Below the FCC Part15B (15.111) limit
Emission Level = Read + Factor (Attenuator, Cable, Preamp)

emiT 3, 0, 0, 0 - 1 / 1 - Copyright(c)2007 Intertek Japan K.K.

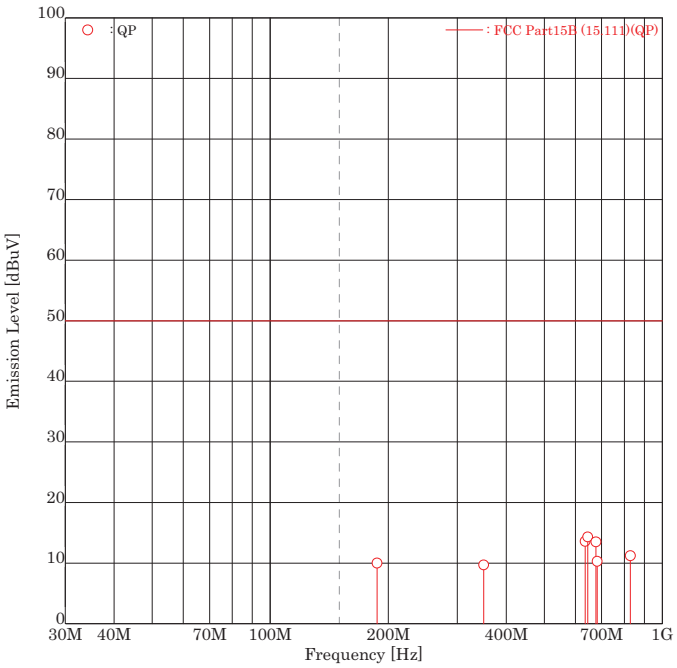
9.3.5 RX mode(0.03MHz/ANT.2)
30-1000 MHz

Intertek Japan K.K.

Kashima No.3 Test Site

Conducted Power on Antenna Port

APPLICANT	: YAESU MUSEN CO.,LTD.
EUT NAME	: HF Transceiver
MODEL NO.	: FTDX3000
SERIAL NO.	: SPP09
TEST MODE	: RX mode(0.03MHz/ANT.2)
POWER SOURCE	: DC13.8V
DATE TESTED	: Jul 19 2012
FILE NO.	: -
REGULATION	: FCC Part15B (15.111)
TEST METHOD	: ANSI C63.4-2003
TEMPERATURE	: 23.8 [degC]
HUMIDITY	: 61.0 [%]
NOTE	:



ENGINEER : Katsuya Uchida

[No]	FREQUENCY [MHz]	READING [dBuV]	FACTOR [dB]	EMISSION [dBuV]	LIMIT [dBuV]	MARGIN [dB]
1	187.2000	20.0	-10.0	10.0	50.0	40.0
2	350.2066	18.4	-8.7	9.7	50.0	40.3
3	635.9020	20.7	-7.1	13.6	50.0	36.4
4	645.1200	21.3	-7.0	14.3	50.0	**35.7**
5	677.2500	20.4	-6.9	13.5	50.0	36.5
6	681.9800	17.1	-6.8	10.3	50.0	39.7
7	829.4360	17.3	-6.1	11.2	50.0	38.8

Higher six points are underlined.
Other frequencies : Below the FCC Part15B (15.111) limit
Emisson Level = Read + Factor(Attenuator, Cable ,Preamp)

emiT 3, 0, 0, 0

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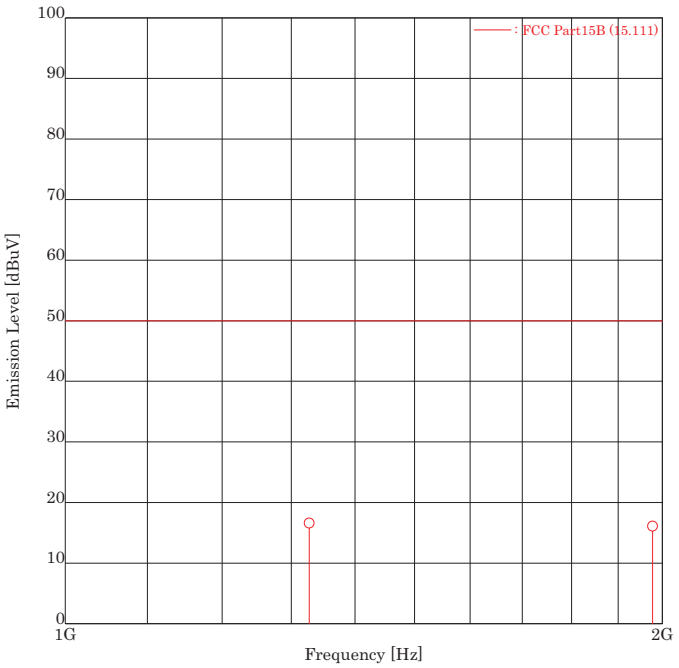
1000-2000 MHz

Intertek Japan K.K.

Kashima

Conducted Power for Antenna Port

APPLICANT	: YAESU MUSEN CO.,LTD.
EUT NAME	: HF Transceiver
MODEL NO.	: FTDX3000
SERIAL NO.	: SPP09
TEST MODE	: RX mode (0.03MHz/ANT.2)
POWER SOURCE	: DC 13.8V
DATE TESTED	: Jul 19 2012
FILE NO.	: -
REGULATION	: FCC Part15B (15.111)
TEST METHOD	: ANSI C63.4-2003
TEMPERATURE	: 23.8 [degC]
HUMIDITY	: 61.0 [%]
NOTE	:



ENGINEER : Katsuya Uchida

[No]	FREQUENCY [MHz]	READING [dBuV]	FACTOR [dB]	EMISSION [dBuV]	LIMIT [dBuV]	MARGIN [dB]
1	1327.4100	41.7	-25.1	16.6	50.0	**33.4**
2	1977.5700	41.0	-24.9	16.1	50.0	33.9

Higher six points are underlined.
Other frequencies : Below the FCC Part15B (15.111) limit
Emisson Level = Read + Factor(Attenuator, Cable ,Preamp)

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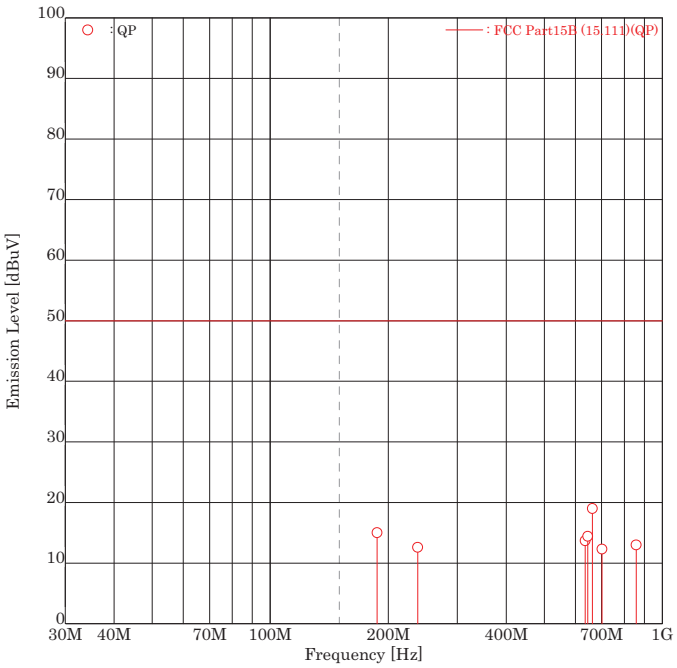
9.3.6 RX mode(30.00MHz/ANT.2)
30-1000 MHz

Intertek Japan K.K.

Kashima No.3 Test Site

Conducted Power on Antenna Port

APPLICANT	: YAESU MUSEN CO.,LTD.
EUT NAME	: HF Transceiver
MODEL NO.	: FTDX3000
SERIAL NO.	: SPP09
TEST MODE	: RX mode(30.00MHz/ANT.2)
POWER SOURCE	: DC13.8V
DATE TESTED	: Jul 19 2012
FILE NO.	: -
REGULATION	: FCC Part15B (15.111)
TEST METHOD	: ANSI C63.4-2003
TEMPERATURE	: 23.8 [degC]
HUMIDITY	: 61.0 [%]
NOTE	:



ENGINEER : Katsuya Uchida

[No]	FREQUENCY [MHz]	READING [dBuV]	FACTOR [dB]	EMISSION [dBuV]	LIMIT [dBuV]	MARGIN [dB]
1	187.1970	25.0	-10.0	15.0	50.0	35.0
2	237.6040	22.1	-9.5	12.6	50.0	37.4
3	635.9040	20.8	-7.1	13.7	50.0	36.3
4	645.1200	21.4	-7.0	14.4	50.0	35.6
5	663.0000	26.0	-7.0	19.0	50.0	**31.0**
6	702.0000	19.0	-6.7	12.3	50.0	37.7
7	858.0000	18.9	-5.9	13.0	50.0	37.0

Higher six points are underlined.
Other frequencies : Below the FCC Part15B (15.111) limit
Emisson Level = Read + Factor(Attenuator, Cable ,Preamp)

emiT 3, 0, 0, 0

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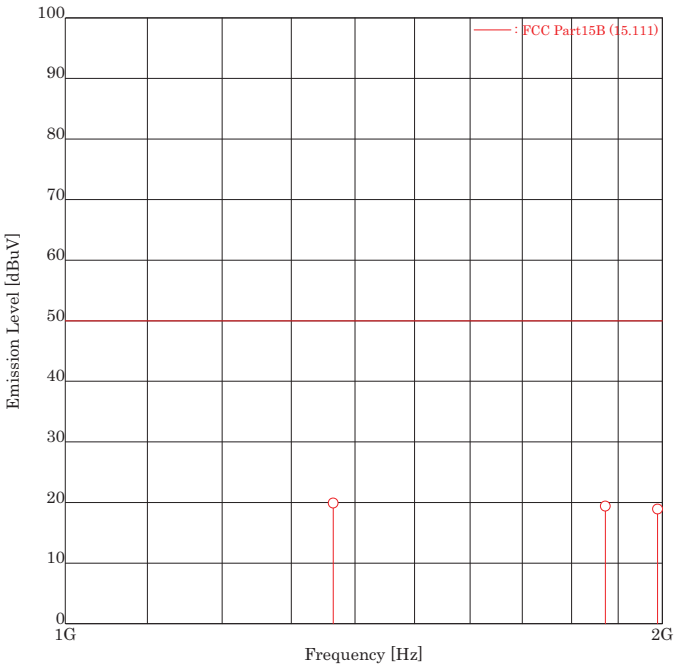
1000-2000 MHz

Intertek Japan K.K.

Kashima

Conducted Power for Antenna Port

APPLICANT	: YAESU MUSEN CO.,LTD.
EUT NAME	: HF Transceiver
MODEL NO.	: FTDX3000
SERIAL NO.	: SPP09
TEST MODE	: RX mode (30.00MHz/ANT.2)
POWER SOURCE	: DC 13.8V
DATE TESTED	: Jul 19 2012
FILE NO.	: -
REGULATION	: FCC Part15B (15.111)
TEST METHOD	: ANSI C63.4-2003
TEMPERATURE	: 23.8 [degC]
HUMIDITY	: 61.0 [%]
NOTE	:



ENGINEER : Katsuya Uchida

[No]	FREQUENCY [MHz]	READING [dBuV]	FACTOR [dB]	EMISSION [dBuV]	LIMIT [dBuV]	MARGIN [dB]
1	1364.9500	45.0	-25.1	19.9	50.0	**30.1**
2	1872.1100	44.3	-24.9	19.4	50.0	30.6
3	1989.0200	43.8	-24.9	18.9	50.0	31.1

Higher six points are underlined.
Other frequencies : Below the FCC Part15B (15.111) limit
Emisson Level = Read + Factor(Attenuator, Cable ,Preamp)

emiT 3, 0, 0, 0

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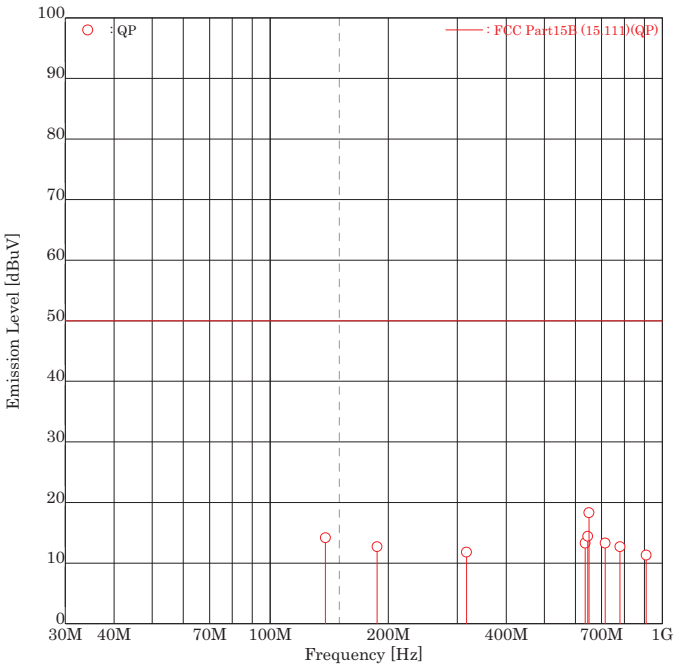
9.3.7 RX mode(56.00MHz/ANT.2)
30-1000 MHz

Intertek Japan K.K.

Kashima No.3 Test Site

Conducted Power on Antenna Port

APPLICANT	: YAESU MUSEN CO.,LTD.
EUT NAME	: HF Transceiver
MODEL NO.	: FTDX3000
SERIAL NO.	: SPP09
TEST MODE	: RX mode(56.00MHz/ANT.2)
POWER SOURCE	: DC13.8V
DATE TESTED	: Jul 19 2012
FILE NO.	: -
REGULATION	: FCC Part15B (15.111)
TEST METHOD	: ANSI C63.4-2003
TEMPERATURE	: 23.8 [degC]
HUMIDITY	: 61.0 [%]
NOTE	:



ENGINEER : Katsuya Uchida

[No]	FREQUENCY [MHz]	READING [dBuV]	FACTOR [dB]	EMISSION [dBuV]	LIMIT [dBuV]	MARGIN [dB]
1	138.2400	24.5	-10.3	14.2	50.0	35.8
2	187.2000	22.7	-10.0	12.7	50.0	37.3
3	316.8360	20.8	-9.0	11.8	50.0	38.2
4	635.9000	20.4	-7.1	13.3	50.0	36.7
5	645.1200	21.4	-7.0	14.4	50.0	35.6
6	650.0000	25.3	-7.0	18.3	50.0	**31.7**
7	715.0000	20.0	-6.7	13.3	50.0	36.7
8	780.0000	19.0	-6.3	12.7	50.0	37.3
9	910.0000	16.9	-5.6	11.3	50.0	38.7

Higher six points are underlined.
Other frequencies : Below the FCC Part15B (15.111) limit
Emisson Level = Read + Factor(Attenuator, Cable ,Preamp)

emiT 3, 0, 0, 0

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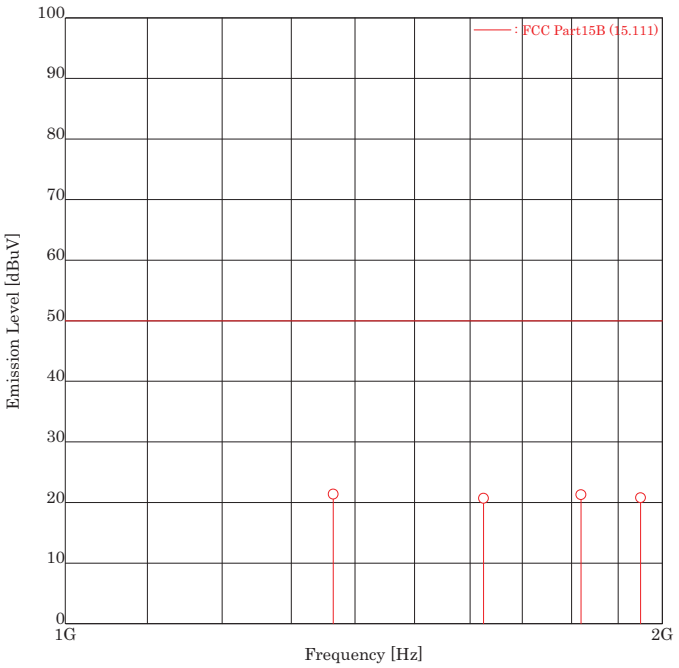
1000-2000 MHz

Intertek Japan K.K.

Kashima

Conducted Power for Antenna Port

APPLICANT	: YAESU MUSEN CO.,LTD.
EUT NAME	: HF Transceiver
MODEL NO.	: FTDX3000
SERIAL NO.	: SPP09
TEST MODE	: RX mode (56.00MHz/ANT.2)
POWER SOURCE	: DC 13.8V
DATE TESTED	: Jul 19 2012
FILE NO.	: -
REGULATION	: FCC Part15B (15.111)
TEST METHOD	: ANSI C63.4-2003
TEMPERATURE	: 23.8 [degC]
HUMIDITY	: 61.0 [%]
NOTE	:



ENGINEER : Katsuya Uchida

[No]	FREQUENCY [MHz]	READING [dBuV]	FACTOR [dB]	EMISSION [dBuV]	LIMIT [dBuV]	MARGIN [dB]
1	1364.9000	46.5	-25.1	21.4	50.0	**28.6**
2	1625.0900	45.7	-25.0	20.7	50.0	29.3
3	1819.8900	46.2	-24.9	21.3	50.0	28.7
4	1950.0200	45.7	-24.9	20.8	50.0	29.2

Higher six points are underlined.
Other frequencies : Below the FCC Part15B (15.111) limit
Emisson Level = Read + Factor(Attenuator, Cable ,Preamp)

emiT 3, 0, 0, 0

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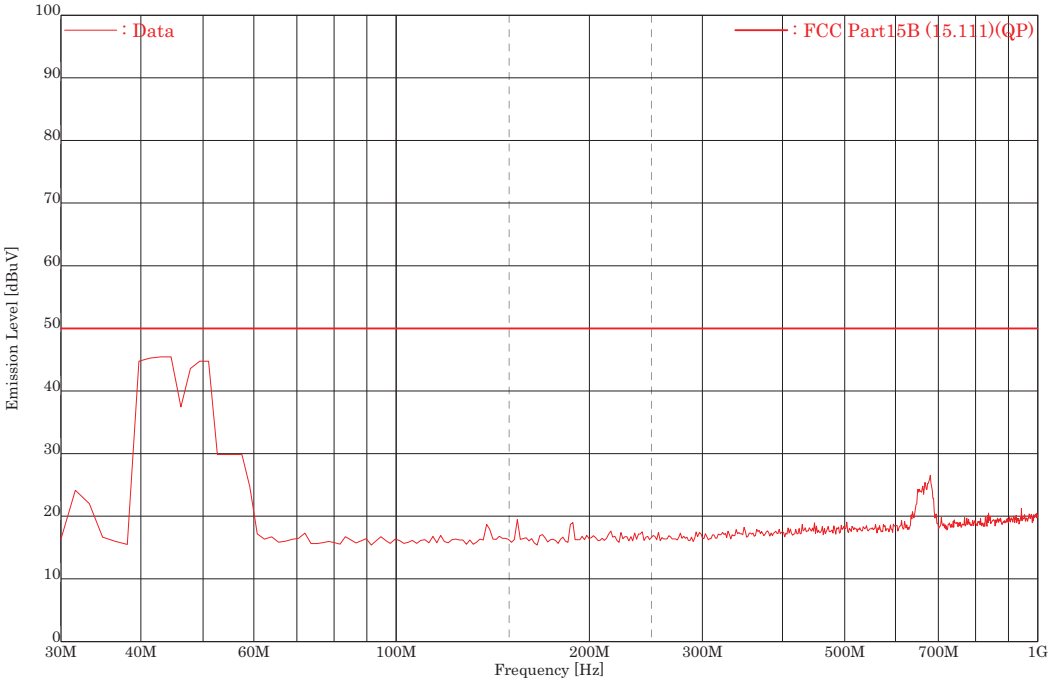
9.3.8 VFO Scan mode(0.03MHz-56.00/ANT.2)
30-1000 MHz

< Graph number #8 >

SPECTRUM ANALYSIS

Kashima No.3 Test Site 23.8ßC /61.0%

Date tested	: Jul 19 2012	Test mode	: VFO Scan mode(0.03MHz-56.00MHz/ANT.2)
Company	: YAESU MUSEN CO.,LTD.	Power source	: DC13.8V
EUT Name	: HF Transceiver	File number	: -
Model number	: FTDX3000	Engineer	: Katsuya Uchida
Serial number	: SPP09	Note	:



Frequency [MHz]	Reading [dBuV]	Factor [dB]	Emission [dBuV]	Limit [dBuV]	Margin [dB]
31.0000	36.1	-11.0	25.1	50.0	24.9
40.7100	57.0	-10.9	46.1	50.0	3.9
42.8400	57.0	-10.9	46.1	50.0	3.9
49.6700	57.0	-10.9	46.1	50.0	3.9
53.4700	42.1	-10.8	31.3	50.0	18.7
679.8100	32.6	-6.8	25.8	50.0	24.2

Higher six points are underlined.
Other frequencies : Below the FCC Part15B (15.111) limit
Emission Level = Read + Factor (Attenuator, Cable, Preamp)

emiT 3, 0, 0, 0 - 1 / 1 - Copyright(c)2007 Intertek Japan K.K.

1000-2000 MHz

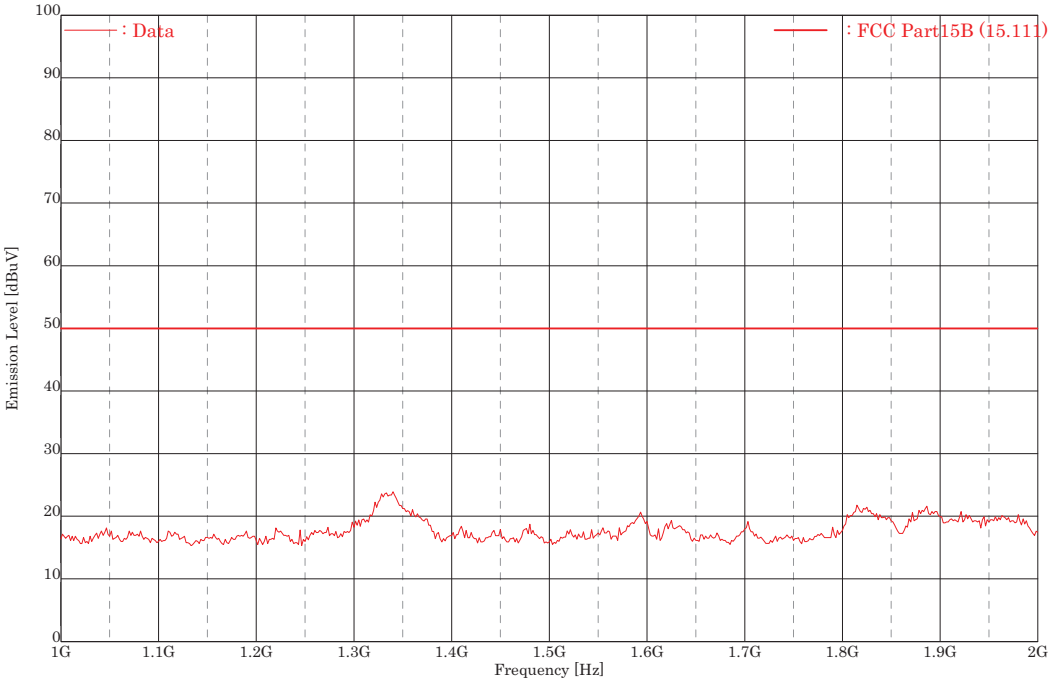
< Graph number #8 >

SPECTRUM ANALYSIS

Kashima

23.8ßC /61.0%

Date tested	: Jul 19 2012	Test mode	: VFO Scan mode(0.03MHz-56.00MHz/ANT.2)
Company	: YAESU MUSEN CO.,LTD.	Power source	: DC 13.8V
EUT Name	: HF Transceiver	File number	: -
Model number	: FTDX3000	Engineer	: Katsuya Uchida
Serial number	: SPP09	Note	:



Frequency [MHz]	Reading [dBuV]	Factor [dB]	Emission [dBuV]	Limit [dBuV]	Margin [dB]
1340.0000	49.0	-25.1	23.9	50.00	26.1
1815.0100	46.7	-24.9	21.8	50.00	28.2
1887.5100	46.5	-24.9	21.6	50.00	28.4

Higher six points are underlined.
Other frequencies : Below the FCC Part15B (15.111) limit
Emission Level = Read + Factor (Attenuator, Cable, Preamp)

emiT 3, 0, 0, 0 - 1 / 1 - Copyright(c)2007 Intertek Japan K.K.

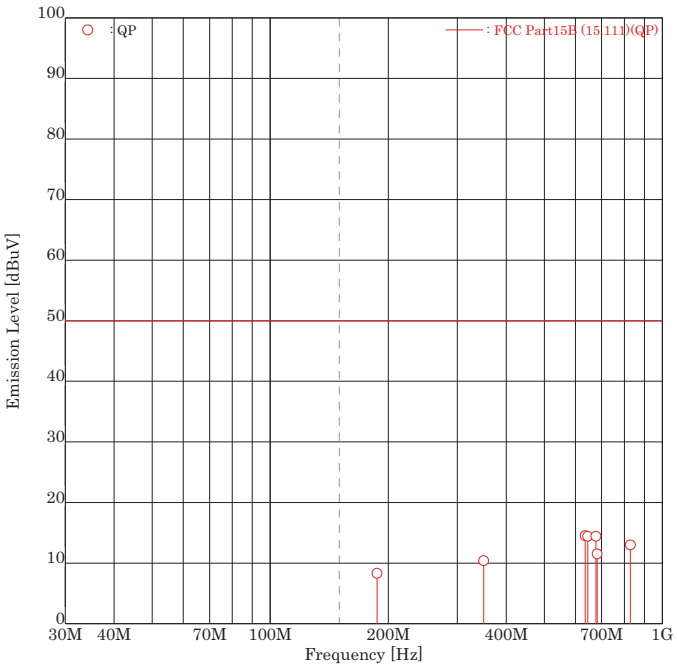
9.3.9 RX mode(0.03MHz/ANT.3)
30-1000 MHz

Intertek Japan K.K.

Kashima No.3 Test Site

Conducted Power on Antenna Port

APPLICANT	: YAESU MUSEN CO.,LTD.
EUT NAME	: HF Transceiver
MODEL NO.	: FTDX3000
SERIAL NO.	: SPP09
TEST MODE	: RX mode(0.03MHz/ANT.3)
POWER SOURCE	: DC13.8V
DATE TESTED	: Jul 19 2012
FILE NO.	: -
REGULATION	: FCC Part15B (15.111)
TEST METHOD	: ANSI C63.4-2003
TEMPERATURE	: 23.8 [degC]
HUMIDITY	: 61.0 [%]
NOTE	:



ENGINEER : Katsuya Uchida

[No]	FREQUENCY [MHz]	READING [dBuV]	FACTOR [dB]	EMISSION [dBuV]	LIMIT [dBuV]	MARGIN [dB]
1	187.2000	18.3	-10.0	8.3	50.0	41.7
2	350.2066	19.1	-8.7	10.4	50.0	39.6
3	635.9020	21.6	-7.1	14.5	50.0	**35.5**
4	645.1200	21.4	-7.0	14.4	50.0	35.6
5	677.2500	21.3	-6.9	14.4	50.0	35.6
6	681.9800	18.3	-6.8	11.5	50.0	38.5
7	829.4360	19.1	-6.1	13.0	50.0	37.0

Higher six points are underlined.
Other frequencies : Below the FCC Part15B (15.111) limit
Emisson Level = Read + Factor(Attenuator, Cable ,Preamp)

emiT 3, 0, 0, 0

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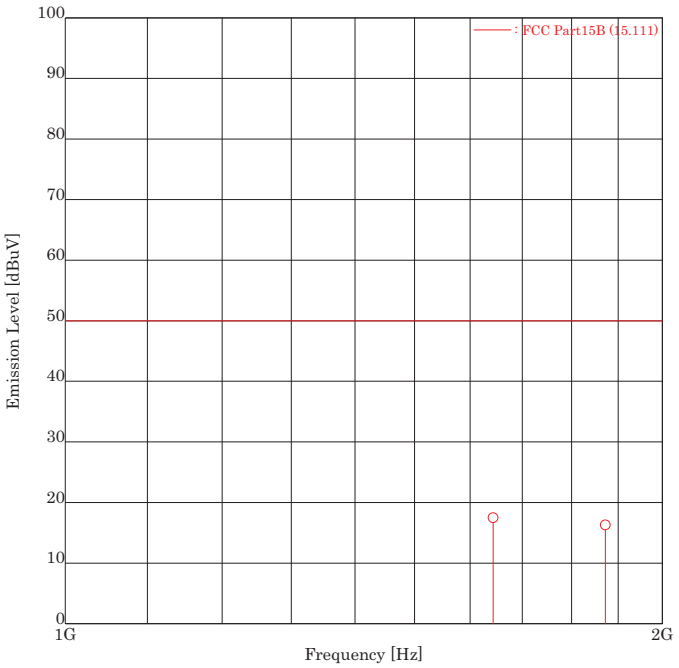
1000-2000 MHz

Intertek Japan K.K.

Kashima

Conducted Power for Antenna Port

APPLICANT	: YAESU MUSEN CO.,LTD.
EUT NAME	: HF Transceiver
MODEL NO.	: FTDX3000
SERIAL NO.	: SPP09
TEST MODE	: RX mode (0.03MHz/ANT.3)
POWER SOURCE	: DC 13.8V
DATE TESTED	: Jul 19 2012
FILE NO.	: -
REGULATION	: FCC Part15B (15.111)
TEST METHOD	: ANSI C63.4-2003
TEMPERATURE	: 23.8 [degC]
HUMIDITY	: 61.0 [%]
NOTE	:



ENGINEER : Katsuya Uchida

[No]	FREQUENCY [MHz]	READING [dBuV]	FACTOR [dB]	EMISSION [dBuV]	LIMIT [dBuV]	MARGIN [dB]
1	1643.4600	42.5	-25.0	17.5	50.0	**32.5**
2	1872.1200	41.2	-24.9	16.3	50.0	33.7

Higher six points are underlined.
Other frequencies : Below the FCC Part15B (15.111) limit
Emisson Level = Read + Factor(Attenuator, Cable ,Preamp)

emiT 3, 0, 0, 0

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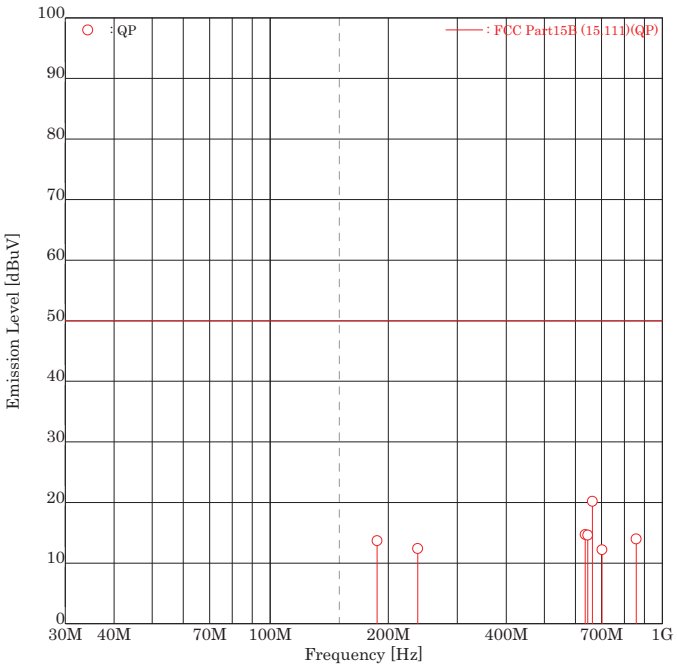
9.3.10 RX mode(30.00MHz/ANT.3)
30-1000 MHz

Intertek Japan K.K.

Kashima No.3 Test Site

Conducted Power on Antenna Port

APPLICANT	: YAESU MUSEN CO.,LTD.
EUT NAME	: HF Transceiver
MODEL NO.	: FTDX3000
SERIAL NO.	: SPP09
TEST MODE	: RX mode(30.00MHz/ANT.3)
POWER SOURCE	: DC13.8V
DATE TESTED	: Jul 19 2012
FILE NO.	: -
REGULATION	: FCC Part15B (15.111)
TEST METHOD	: ANSI C63.4-2003
TEMPERATURE	: 23.8 [degC]
HUMIDITY	: 61.0 [%]
NOTE	:



ENGINEER : Katsuya Uchida

[No]	FREQUENCY [MHz]	READING [dBuV]	FACTOR [dB]	EMISSION [dBuV]	LIMIT [dBuV]	MARGIN [dB]
1	187.1970	23.7	-10.0	13.7	50.0	36.3
2	237.6040	21.9	-9.5	12.4	50.0	37.6
3	635.9040	21.8	-7.1	14.7	50.0	35.3
4	645.1200	21.6	-7.0	14.6	50.0	35.4
5	663.0000	27.2	-7.0	20.2	50.0	**29.8**
6	702.0000	18.9	-6.7	12.2	50.0	37.8
7	858.0000	19.9	-5.9	14.0	50.0	36.0

Higher six points are underlined.
Other frequencies : Below the FCC Part15B (15.111) limit
Emisson Level = Read + Factor(Attenuator, Cable ,Preamp)

emiT 3, 0, 0, 0

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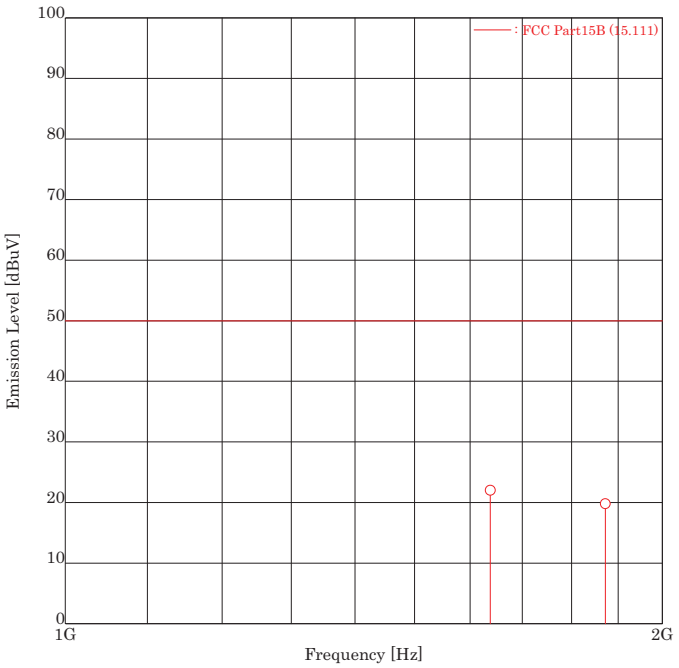
1000-2000 MHz

Intertek Japan K.K.

Kashima

Conducted Power for Antenna Port

APPLICANT	: YAESU MUSEN CO.,LTD.
EUT NAME	: HF Transceiver
MODEL NO.	: FTDX3000
SERIAL NO.	: SPP09
TEST MODE	: RX mode (30.00MHz/ANT.3)
POWER SOURCE	: DC 13.8V
DATE TESTED	: Jul 19 2012
FILE NO.	: -
REGULATION	: FCC Part15B (15.111)
TEST METHOD	: ANSI C63.4-2003
TEMPERATURE	: 23.8 [degC]
HUMIDITY	: 61.0 [%]
NOTE	:



ENGINEER : Katsuya Uchida

[No]	FREQUENCY [MHz]	READING [dBuV]	FACTOR [dB]	EMISSION [dBuV]	LIMIT [dBuV]	MARGIN [dB]
1	1637.9800	47.0	-25.0	22.0	50.0	**28.0**
2	1872.0500	44.7	-24.9	19.8	50.0	30.2

Higher six points are underlined.
Other frequencies : Below the FCC Part15B (15.111) limit
Emisson Level = Read + Factor(Attenuator, Cable ,Preamp)

emiT 3, 0, 0, 0

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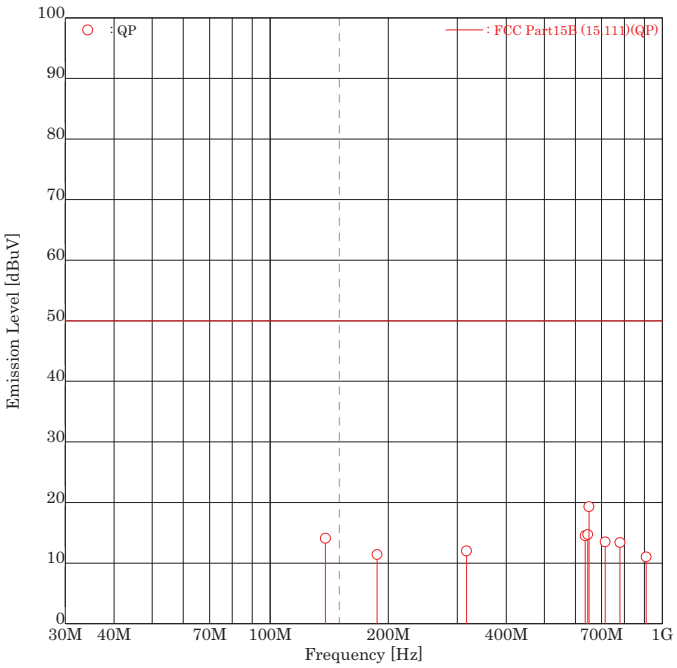
9.3.11 RX mode(56.00MHz/ANT.3)
30-1000 MHz

Intertek Japan K.K.

Kashima No.3 Test Site

Conducted Power on Antenna Port

APPLICANT	: YAESU MUSEN CO.,LTD.
EUT NAME	: HF Transceiver
MODEL NO.	: FTDX3000
SERIAL NO.	: SPP09
TEST MODE	: RX mode(56.00MHz/ANT.3)
POWER SOURCE	: DC13.8V
DATE TESTED	: Jul 19 2012
FILE NO.	: -
REGULATION	: FCC Part15B (15.111)
TEST METHOD	: ANSI C63.4-2003
TEMPERATURE	: 23.8 [degC]
HUMIDITY	: 61.0 [%]
NOTE	:



ENGINEER : Katsuya Uchida

[No]	FREQUENCY [MHz]	READING [dBuV]	FACTOR [dB]	EMISSION [dBuV]	LIMIT [dBuV]	MARGIN [dB]
1	138.2400	24.4	-10.3	14.1	50.0	35.9
2	187.2000	21.4	-10.0	11.4	50.0	38.6
3	316.8360	21.0	-9.0	12.0	50.0	38.0
4	635.9000	21.6	-7.1	14.5	50.0	35.5
5	645.1200	21.7	-7.0	14.7	50.0	35.3
6	650.0000	26.3	-7.0	19.3	50.0	**30.7**
7	715.0000	20.2	-6.7	13.5	50.0	36.5
8	780.0000	19.7	-6.3	13.4	50.0	36.6
9	910.0000	16.6	-5.6	11.0	50.0	39.0

Higher six points are underlined.
Other frequencies : Below the FCC Part15B (15.111) limit
Emisson Level = Read + Factor(Attenuator, Cable ,Preamp)

emiT 3, 0, 0, 0

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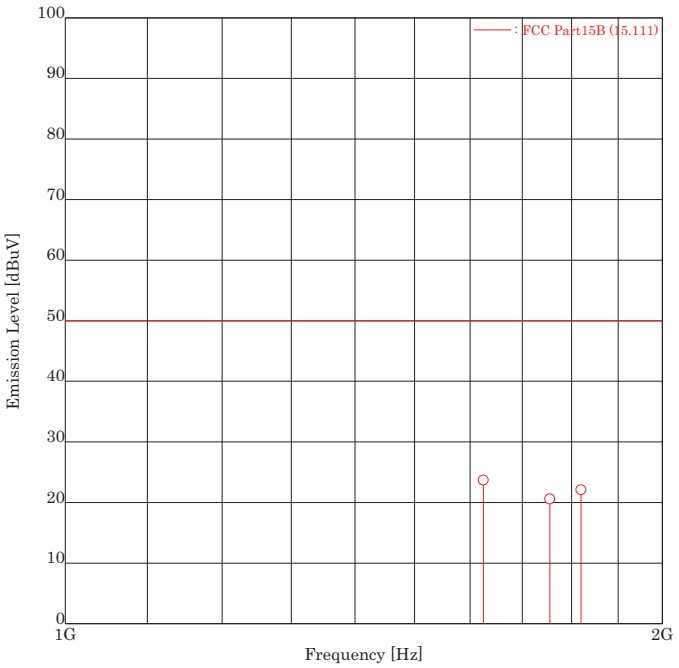
1000-2000 MHz

Intertek Japan K.K.

Kashima

Conducted Power for Antenna Port

APPLICANT	: YAESU MUSEN CO.,LTD.
EUT NAME	: HF Transceiver
MODEL NO.	: FTDX3000
SERIAL NO.	: SPP09
TEST MODE	: RX mode (56.00MHz/ANT.3)
POWER SOURCE	: DC 13.8V
DATE TESTED	: Jul 19 2012
FILE NO.	: -
REGULATION	: FCC Part15B (15.111)
TEST METHOD	: ANSI C63.4-2003
TEMPERATURE	: 23.8 [degC]
HUMIDITY	: 61.0 [%]
NOTE	:



ENGINEER : Katsuya Uchida

[No]	FREQUENCY [MHz]	READING [dBuV]	FACTOR [dB]	EMISSION [dBuV]	LIMIT [dBuV]	MARGIN [dB]
1	1624.9000	48.7	-25.0	23.7	50.0	**26.3**
2	1754.9800	45.5	-24.9	20.6	50.0	29.4
3	1819.9200	47.0	-24.9	22.1	50.0	27.9

Higher six points are underlined.
Other frequencies : Below the FCC Part15B (15.111) limit
Emisson Level = Read + Factor(Attenuator, Cable ,Preamp)

emiT 3, 0, 0, 0

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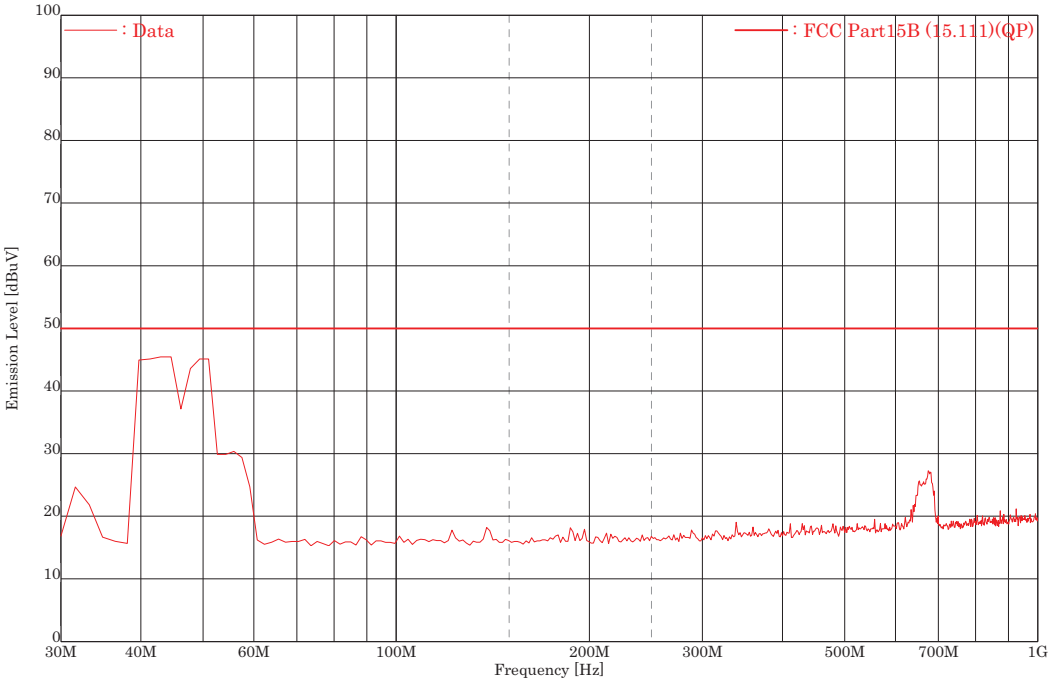
9.3.12 VFO Scan mode(0.03MHz-56.00/ANT.3)
30-1000 MHz

< Graph number #12 >

SPECTRUM ANALYSIS

Kashima No.3 Test Site 23.8ßC /61.0%

Date tested	: Jul 19 2012	Test mode	: VFO Scan mode(0.03MHz-56.00MHz/ANT.3)
Company	: YAESU MUSEN CO.,LTD.	Power source	: DC13.8V
EUT Name	: HF Transceiver	File number	: -
Model number	: FTDX3000	Engineer	: Katsuya Uchida
Serial number	: SPP09	Note	:



Frequency [MHz]	Reading [dBuV]	Factor [dB]	Emission [dBuV]	Limit [dBuV]	Margin [dB]
31.0000	36.1	-11.0	25.1	50.0	24.9
40.7100	56.9	-10.9	46.0	50.0	4.0
42.8400	57.0	-10.9	46.1	50.0	3.9
49.6700	57.1	-10.9	46.2	50.0	3.8
53.4700	42.4	-10.8	31.6	50.0	18.4
679.8100	33.1	-6.8	26.3	50.0	23.7

Higher six points are underlined.
Other frequencies : Below the FCC Part15B (15.111) limit
Emission Level = Read + Factor (Attenuator, Cable, Preamp)

emiT 3, 0, 0, 0 - 1 / 1 - Copyright(c)2007 Intertek Japan K.K.

1000-2000 MHz

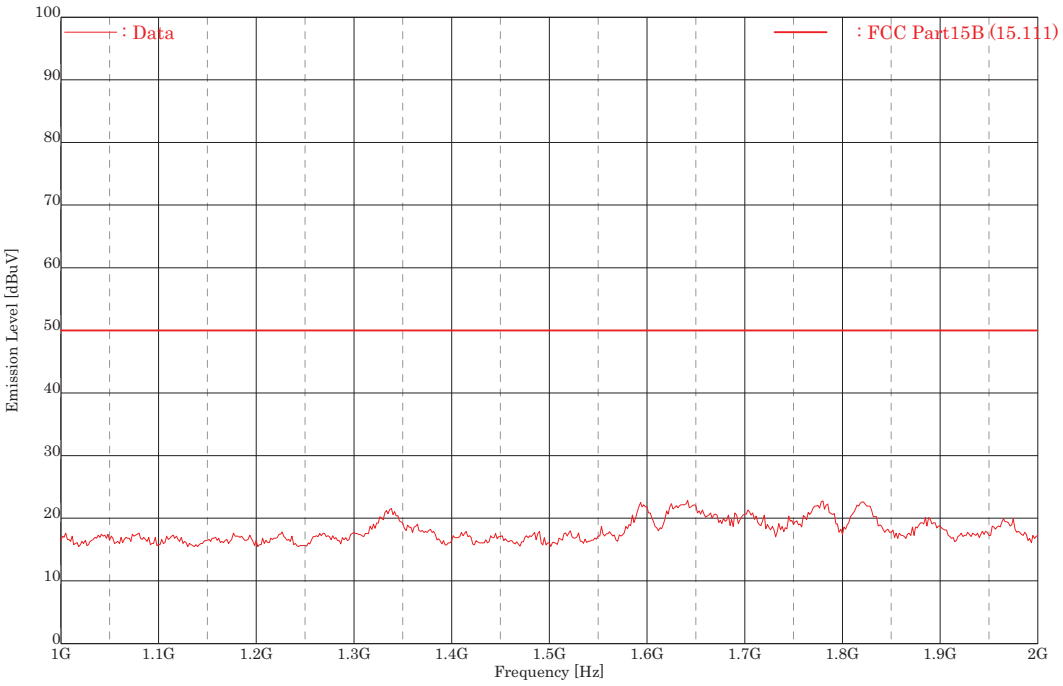
< Graph number #12 >

SPECTRUM ANALYSIS

Kashima

23.8ßC /61.0%

Date tested	: Jul 19 2012	Test mode	: VFO Scan mode(0.03MHz-56.00MHz/ANT.3)
Company	: YAESU MUSEN CO.,LTD.	Power source	: DC 13.8V
EUT Name	: HF Transceiver	File number	: -
Model number	: FTDX3000	Engineer	: Katsuya Uchida
Serial number	: SPP09	Note	:



Frequency [MHz]	Reading [dBuV]	Factor [dB]	Emission [dBuV]	Limit [dBuV]	Margin [dB]
1642.0000	47.8	-25.0	22.8	50.0	27.2
1338.0200	46.7	-25.1	21.6	50.0	28.4
1822.5500	47.5	-24.9	22.6	50.0	27.4

Higher six points are underlined.
Other frequencies : Below the FCC Part15B (15.111) limit
Emission Level = Read + Factor (Attenuator, Cable, Preamp)

emiT 3, 0, 0, 0 - 1 / 1 - Copyright(c)2007 Intertek Japan K.K.

9.4 38dB Rejection Test

9.4.1 VFO SCAN mode (ANT1)

Location	Kashima No.3 Test Site
Date Tested	July 20, 2012
Temperature	22.3-23.1 [degC]
Humidity	56-58 [%]
Engineer	Katsuya Uchida

Injected Frequency [MHz]	Detected Frequency [MHz]	12dB SINAD Reading Injected Frequency [dBm]	12dB SINAD Reading Detected Frequency	Rejection Level [dB]	Margin [dB]
824.040	No Point Detected	N / A	N / A	N / A	N / A
836.505	No Point Detected	N / A	N / A	N / A	N / A
848.970	No Point Detected	N / A	N / A	N / A	N / A
869.040	No Point Detected	N / A	N / A	N / A	N / A
881.505	No Point Detected	N / A	N / A	N / A	N / A
893.970	No Point Detected	N / A	N / A	N / A	N / A

SG Input Level = 66dBuV
SG Reference Level = -6.5dBuV (the worst case sensitivity)

9.4.2 VFO SCAN mode (ANT2)

Location	Kashima No.3 Test Site
Date Tested	July 20, 2012
Temperature	22.3-23.1 [degC]
Humidity	56-58 [%]
Engineer	Katsuya Uchida

Injected Frequency [MHz]	Detected Frequency [MHz]	12dB SINAD Reading Injected Frequency [dBm]	12dB SINAD Reading Detected Frequency	Rejection Level [dB]	Margin [dB]
824.040	No Point Detected	N / A	N / A	N / A	N / A
836.505	No Point Detected	N / A	N / A	N / A	N / A
848.970	No Point Detected	N / A	N / A	N / A	N / A
869.040	No Point Detected	N / A	N / A	N / A	N / A
881.505	No Point Detected	N / A	N / A	N / A	N / A
893.970	No Point Detected	N / A	N / A	N / A	N / A

SG Input Level = 66dBuV
SG Reference Level = -6.5dBuV (the worst case sensitivity)

9.4.3 VFO SCAN mode (ANT3)

Location	Kashima No.3 Test Site
Date Tested	July 20, 2012
Temperature	22.3-23.1 [degC]
Humidity	56-58 [%]
Engineer	Katsuya Uchida

Injected Frequency [MHz]	Detected Frequency [MHz]	12dB SINAD Reading Injected Frequency [dBm]	12dB SINAD Reading Detected Frequency	Rejection Level [dB]	Margin [dB]
824.040	No Point Detected	N / A	N / A	N / A	N / A
836.505	No Point Detected	N / A	N / A	N / A	N / A
848.970	No Point Detected	N / A	N / A	N / A	N / A
869.040	No Point Detected	N / A	N / A	N / A	N / A
881.505	No Point Detected	N / A	N / A	N / A	N / A
893.970	No Point Detected	N / A	N / A	N / A	N / A

SG Input Level = 66dBuV
SG Reference Level = -6.5dBuV (the worst case sensitivity)

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)				

Conducted power on antenna port					
Attenuator	CFA-05NPJ-10	882395/022	TME	1 Y	Oct, 2012
Attenuator	779	None	narda	1 Y	Sep, 2012
Step Attenuator	8494B	2406A09036	Hewlett Packard	1 Y	Mar, 2013
Amplifier	ZX60-3018G	003	Intertek	1 Y	Mar, 2013
Amplifier	TPA0118-30	0303	TOYO	1 Y	Sep, 2012
Spectrum Analyzer	8563E	3337A01513	Hewlett Packard	1 Y	Jul, 2012
Coaxial Cable (C1/Ant)	5D-2W(6.9m)	None	Intertek	1 Y	Jun, 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)	SUCOFLEX104(1.0m)	712/2	SUHNER	1 Y	Feb, 2013
Coaxial Cable (R15)	SUCOFLEX104(3.0m)	39677/4	SUHNER	1 Y	Feb, 2013
RF Switch	ACX-150	None	Intertek	1 Y	Mar, 2013
Testing Software	emiT (Version 3,0,0,0)				
38dB Rejection test					
Signal Generator	SMB100A	105709	Rohde & Schwarz	1 Y	Dec, 2012
Audio Analyzer	8903B	2818A04372	Hewlett Packard	1 Y	May, 2013
Coaxial cable	SUCOFLEX104(1.5m)	306309/4	SUHNER	1 Y	Sep, 2012

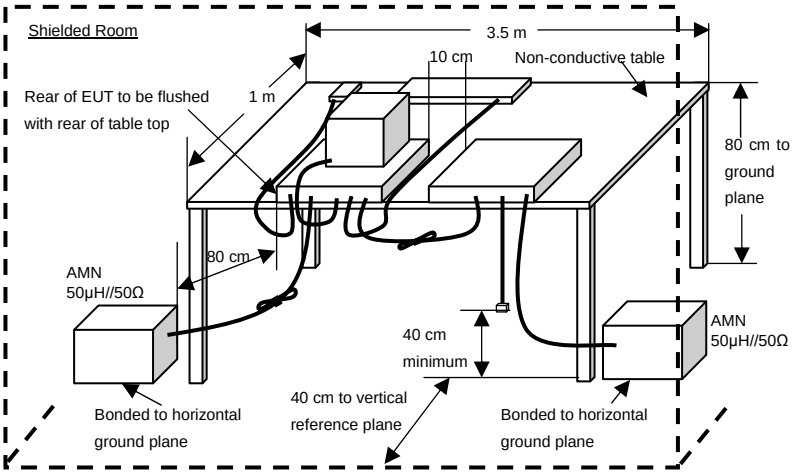
ANNEX

TEST PROCEDURE(S)

Test was carried out under the following conditions.

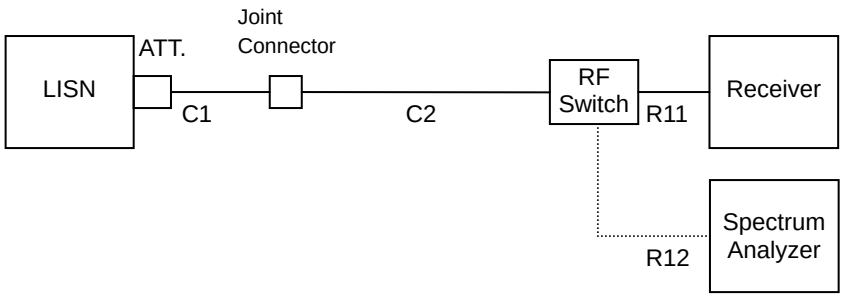
Conducted disturbance at mains terminals

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

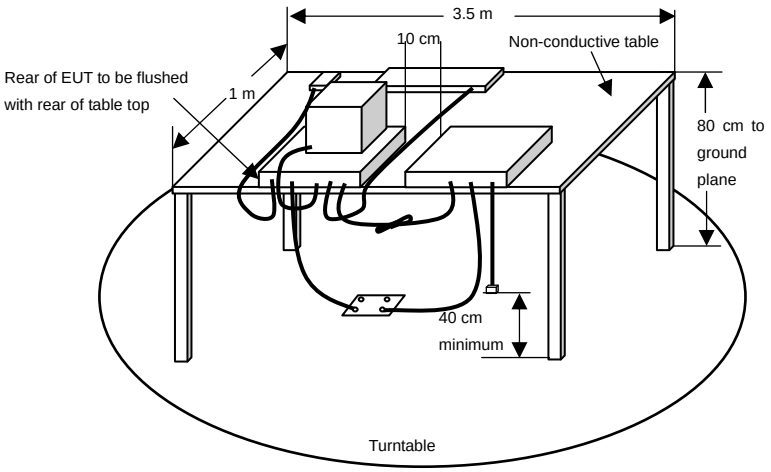
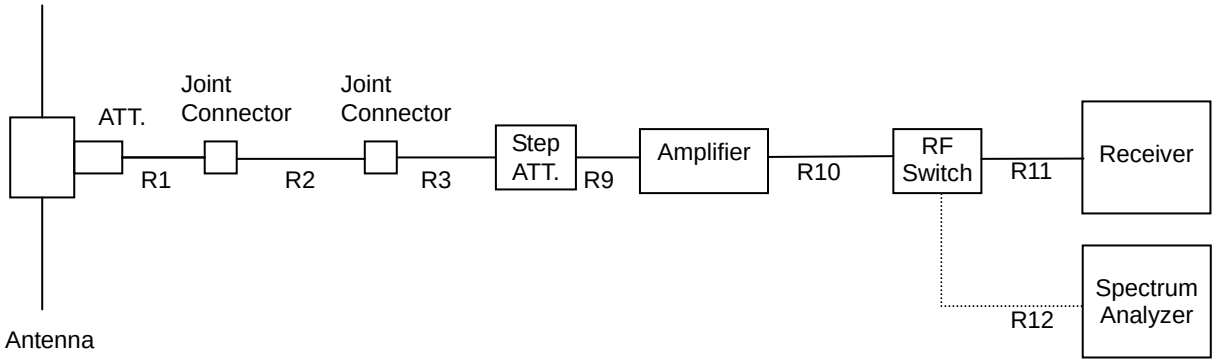
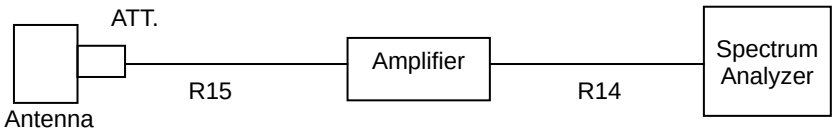


Diagram of the measuring instruments (30 - 1000MHz)



Above 1GHz

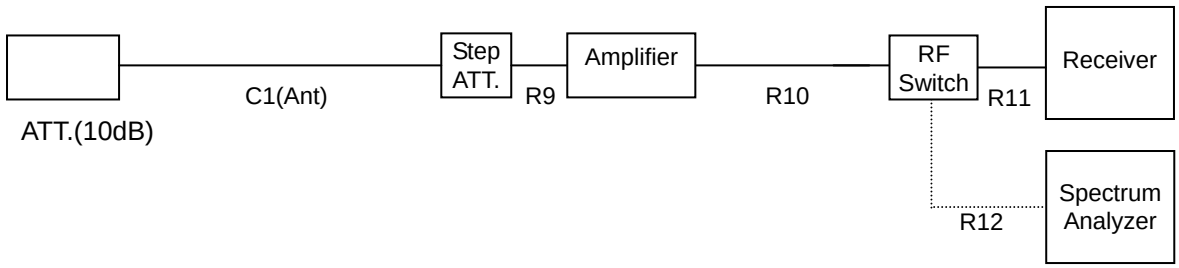


[Preliminary Measurement]
EUT is tested on all operating conditions.
The spectrum analyzer is set max-hold mode and swept during turntable was rotated 0 to 360 degree,
And find the worst emission conditions in configuration, operating mode, or ambient noise notation.

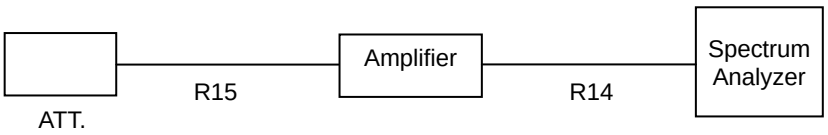
[Final Measurement]
The EUT operated in the worst emission condition found by the preliminary test.
The turntable azimuth (EUT direction) and antenna height are adjusted the position so that maximum field strength is obtained for each frequency spectrum to be measured.
The equipment and cables are arranged 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.

Conducted Power on Antenna port (15.111)
Schema for the conducted power on antenna port measurement

Diagram of the measuring instruments (30 - 1000MHz)



Above 1GHz

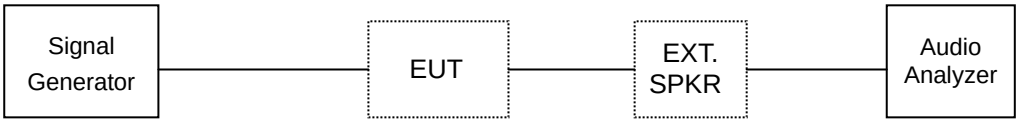


[Preliminary Measurement]
EUT is tested on all operating conditions.
The spectrum analyzer is controlled by the computer program to sweep the frequency range to be measured, then spectrum chart are plotted out to find the worst emission conditions in operating mode and/or configuration decision for the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

[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 by the test receiver (quasi-peak) and spectrum analyzer (peak).

38dB Rejection test

Schema for the 38dB rejection measurement



[Preliminary Measurement]

The Signal Genarator conditions :

Output level = 66 dBuV.

Modulation = Frequency modulated to 1 kHz tone at 3 kHz peak deviation.

Frequency Points = 824.040 MHz, 836.505 MHz, 848.970 MHz
869.040 MHz, 881.505 MHz, 893.970 MHz

(The Cellular Radiotelephone Service mobile and base frequency bands)

The EUT condition :

Scanning Frequency = 0.030 MHz – 56.00 MHz (5 kHz Step).

Scan stopped point, was the detected frequency.

[Final Measurement]

Injected 12dB SINAD Reading (SG RF Output)

The EUT condition :

Frequency = Scan stopped point

The Signal Genarator condition :

Frequency = Cellular point

Detected 12dB SINAD Reading (SG RF Output)

The EUT condition :

Frequency = Scan stopped point

The Signal Genarator condition :

Frequency = Scan stopped point

Under the requirements of Section15.121(b) of the Rule.

Injected 12dB SINAD Reading – Detected 12dB SINAD Reading = 38 dB or more.