



TEST REPORT

STANDARD : FCC Part15B Class B –Peripherals-

Applicant	Testing Laboratory
JVC KENWOOD Corporation 1-16-2, Hakusan, Midori-ku, Yokohama-shi, Kanagawa, 226-8525 Japan Tel. +81 45 939 6254	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	144/440MHz FM DUAL BANDER
Trademark	KENWOOD
Model(s)	TM-D710GA
Serial No.	B3600176
Equipment Authorization	Certification (FCC ID : K44397700)
Test Result	Complied
Report Number	13070409JKA-001
Original Issue Date	August 26, 2013

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Approved by

Kazuo Gokita
[Manager]

Tested by

Koichi Wagatsuma



Responsible Party of Test Item (Product)

Responsible Party	:
Add.	:
Tel.	:
Fax.	:
Contact Person	:

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SECTION 1. GENERAL INFORMATION

Test Performed

EUT Received	July 31, 2013
Date of Test	From July 31, 2013 to August 12, 2013
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	A-0126	JAPAN
FCC	EMC Testing	Designation Number : JP0008	USA
IC	EMC Testing	2042K-1, 2042K-3, 2042Q-12	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.

Emission Tests

Standard Applied	FCC Part15B Class B – Peripherals –	
Test Item	Minimum margin	Remarks
Conducted disturbance at mains terminals	5.1 dB (0.2035 MHz) [QP] RX mode(A Band :118.05MHz/B Band :136.05MHz)	
Radiated disturbance	4.3 dB (948.01 MHz) RX mode(A Band :523.95MHz/B Band :523.95MHz)	

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	144/440MHz FM DUAL BANDER (Main Unit)	TM-D710GA	B3600176	JVC KENWOOD Corporation	
A2	144/440MHz FM DUAL BANDER (Panel Unit)	TM-D710GA	B3600176	JVC KENWOOD Corporation	
Rated Power : DC 13.8V±15%, 13A					
Supplied Power : DC 13.8V					
Condition of Equipment		Prototype			
Type		Tabletop			
Suppression Devices		No Modifications by the laboratory were made to the device			

3.2 Overview of EUT

Frequency ranges	A Band:118 - 524MHz B Band:136 - 524MHz, 800 - 824MHz, 849 - 869MHz, 894 - 1300MHz
Receiver Type	Double-conversion
Model of operation	F1D, F2D, F3E

3.3 Intermediate Frequency

1st	A Band:45.05MHz / B Band:49.95MHz
2nd	A Band:455kHz / B Band:450kHz

3.4 Highest Frequency Generated / Used

Operating Frequency	Operating mode	Remarks
3144.84 MHz	GPS mode	

3.5 Port(s)/Connector(s)

Port Name	Connector Type	Connector Pin	Remarks
ANT	M	1 pin	
DATA	Mini DIN	6 pin	
PC	Mini DIN	8 pin	
SP 1	Mini Jack(3.5 ϕ)	1 pin	
SP 2	Mini Jack(3.5 ϕ)	1 pin	
MIC	Modular	8 pin	
PANEL	Modular	8 pin	
PANEL	Modular	8 pin	
PANEL	Modular	6 pin	
PC	Mini DIN	6 pin	
GPS	Mini Jack(2.5 ϕ)	1 pin	

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	Microphone	MC-59	None	JVC KENWOOD Corporation	N/A
C	DC Power Supply	PS-60	11/01 00148	JVC KENWOOD Corporation	N/A
D	External Speaker	SP-50B	None	JVC KENWOOD Corporation	N/A
E	External Speaker	SP-50B	None	JVC KENWOOD Corporation	N/A
F	USB Adaptor	KCT-53U	None	JVC KENWOOD Corporation	K44403500
G	Weather Sensor	WS2103	2405220CC	PEET BROS.COMPANY	KG7WS2103
H	Computer	MTC2	GZNP1X	DELL	DoC
I	LCD	E151FPb	CN-04W569-4663 3-363-1DLT	DELL	DoC
J	Mouse	M-SAW34	LZC31257181	DELL	DZL211029
K	Keyboard	SK-8110	CN-07N247-7161 6-44Q-090P	DELL	DoC
L	Printer	C6490B	MY35G1R0XP	Hewlet Packard	DoC
M	AC Adaptor	0950-4401	6100394005	Hewlet Packard	N/A
N	Terminator	CT-03BP	None	TME	N/A
O	Junction Box	None	None	PEET BROS.COMPANY	N/A
P	AC Adaptor	SER-12400G	None	PEET BROS.COMPANY	N/A
Supplied Power:					
C, H, I, P, M		AC120 V, 60 Hz			

SECTION 5. USED CABLE(S)

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

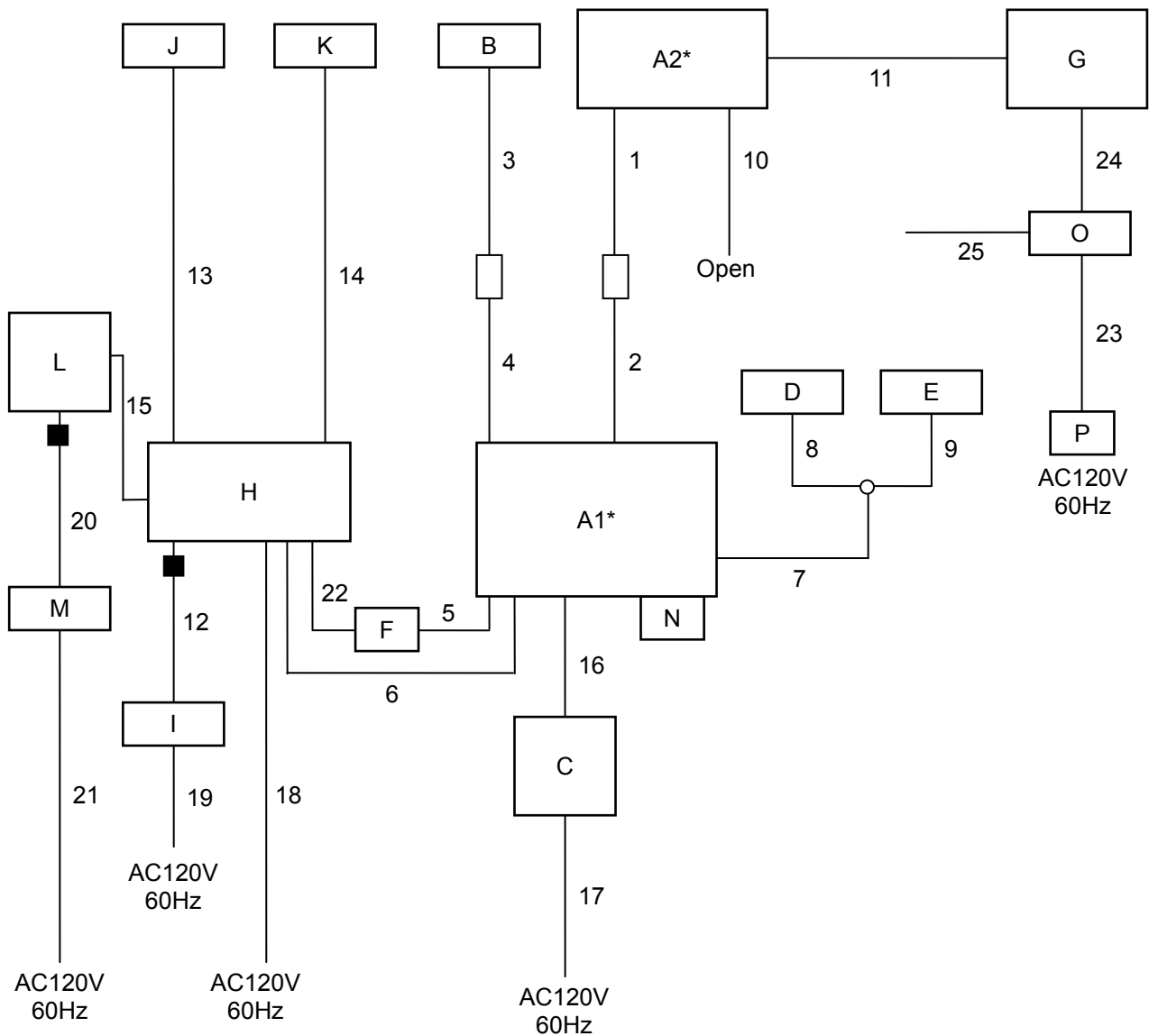
No.	Name	Length (m)	Shield	Metal Connector	Ferrite Core
1	Operation Control cable	4.0	Yes	No	
2	Extension cable (PG-5F)	4.0	Yes	No	
3	Microphone cable	0.6	Yes	No	
4	Extension cable (PG-5F)	4.0	Yes	No	
5	Serial Communication Cable (PG-5H)	2.0	Yes	Yes	
6	Data Communication Cable (PG-5H)	2.0	Yes	Yes	
7	Extension cable (PG-5F)	2.0	Yes	Yes	
8	Speaker cable	2.5	Yes	Yes	
9	Speaker cable	2.5	Yes	Yes	
10	Serial Communication Cable (PG-5G)	2.0	Yes	Yes	
11	Data cable	1.9	No	No	
12	Video cable	1.9	Yes	Yes	Fixed x 1
13	Mouse cable	2.0	Yes	Yes	
14	Keyboard cable	2.0	Yes	Yes	
15	Centronics cable	2.5	Yes	Yes	
16	Power cable for TM-D710GA (DC)(PG-5F)	6.0	No	No	
17	Power cable for DC Power Supply	1.8	No	No	
18	Power cable for Computer	2.0	No	No	
19	Power cable for LCD	2.2	No	No	
20	Power cable for Printer (DC)	2.0	No	No	Fixed x 1
21	Power cable for Printer	2.2	No	No	
22	USB cable	2.5	No	Yes	
23	Power cable for Junction Box (DC)	1.8	No	No	
24	Junction Box cable	3.0	No	No	
25	Temperature Sensor cable	8.0	No	No	

Note : 1. No.12 cable is supplied together with LCD(I) .
2. No.20 cable is supplied together with Printer(L) .

SECTION 6. TEST CONFIGURATION

6.1 Conducted disturbance at mains port and Radiated disturbance RX mode

* : EUT
 ■ : Ferrite core
 □ : Joint Connector

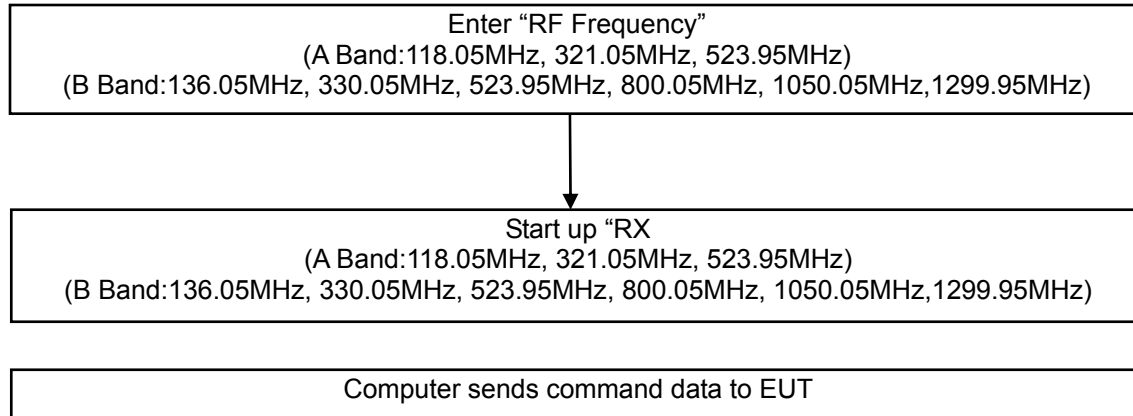


The symbols and numbers assigned to the equipments and cables on this diagram correspond to the ones in Sections 3 to 5.

SECTION 7. OPERATING CONDITION

The test was carried out under the following mode.

RX mode



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.

8.1 Emission tests

Radiated disturbance at 3m	U _{lab} [k = 2]	U _{cispr}
30 MHz – 1000 MHz	+/- 4.48 dB	5.19 dB
CISPR22	+/- 4.30 dB	
Above 1 GHz ANSI 63.4	+/- 4.84 dB	
Radiated disturbance at 10m		
30 MHz – 1000 MHz	+/- 5.00 dB	5.06 dB
Above 1 GHz	+/- 5.23 dB	
Radiated disturbance at 30m		
	N/A	5.02 dB
Conducted disturbance at mains terminals		
9 kHz – 150 kHz	+/- 3.25 dB	3.97 dB
150 kHz – 30 MHz	+/- 2.86 dB	3.60 dB
Conducted disturbance at telecommunication ports (ISN)		
150 kHz – 30 MHz	+/- 4.92 dB	Nil
Conducted disturbance at telecommunication ports (Capacitive Voltage Probe)		
150 kHz – 30 MHz	+/- 3.85 dB	Nil
Conducted disturbance at telecommunication ports (Current Probe)		
150 kHz – 30 MHz	+/- 3.03 dB	Nil
Conducted disturbance at terminals		
150 kHz – 30 MHz	+/- 2.94 dB	Nil
Disturbance power		
30 MHz – 300 MHz	+/- 3.61 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

9.1 Emission tests

9.1.1 Conducted disturbance at mains terminals

Location	Kashima No.3 Test Site
Test Engineer	Koichi Wagatsuma

Frequency Range of Measurements

Required Measurement Frequency Range	Measured Frequency Range
0.15 – 30 MHz	0.15 – 30 MHz

Test Procedure

Item	Document number
Conducted disturbance at mains terminals	RJP-EM001

Setting for the Measuring instruments

Instrument	Detector	Resolution Bandwidth	Video Bandwidth
Receiver	Quasi Peak	10 kHz	N/A
	Average	10 kHz	N/A

< Measurement data correction >

* Conducted disturbance at mains terminals

Emission Level [dBμV] = Meter Reading [dBμV] + Factor [dB]

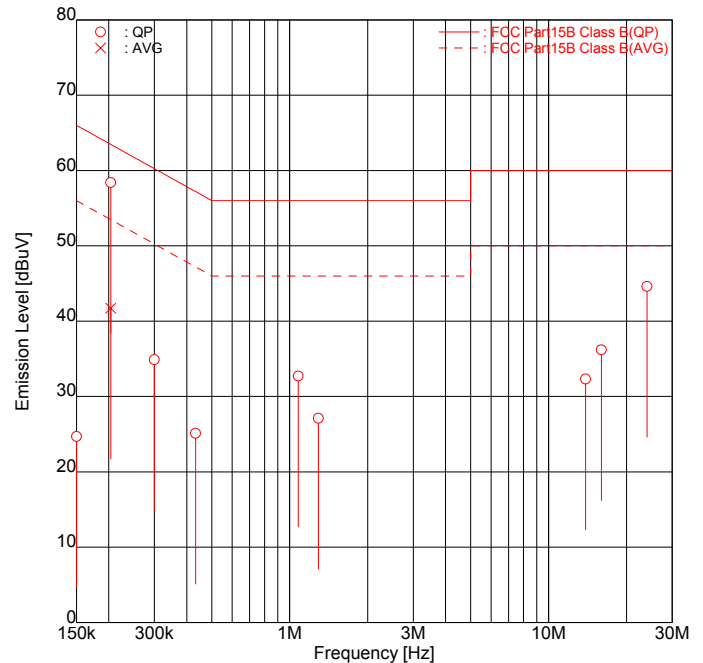
Margin [dB] = Limit [dBμV] - Emission Level [dBμV]

* Factor = LISN Factor + Cable Loss + ATT

Result of Conducted disturbance at mains terminals
9.1.1.1 RX mode (A Band :118.05MHz/B Band :136.05MHz)

Intertek Japan K.K.
Kashima No.3 Test Site
Conducted Voltages on Mains Port

APPLICANT : JVC KENWOOD Corporation
EUT NAME : 144/440MHz FM DUAL BANDER
MODEL NO. : TM-D710GA
SERIAL NO. : B3600176
TEST MODE : RX mode (A Band:118.05MHz/B
Band:136.05MHz)
POWER SOURCE : AC 120V, 60Hz
DATE TESTED : Aug12 2013
FILE NO. : -
REGULATION : FCC Part15B Class B
TEST METHOD : ANSI C63.4-2003
TEMPERATURE : 25.7 [degC]
HUMIDITY : 50.0 [%]
NOTE :



ENGINEER : Koichi Wagatsuma

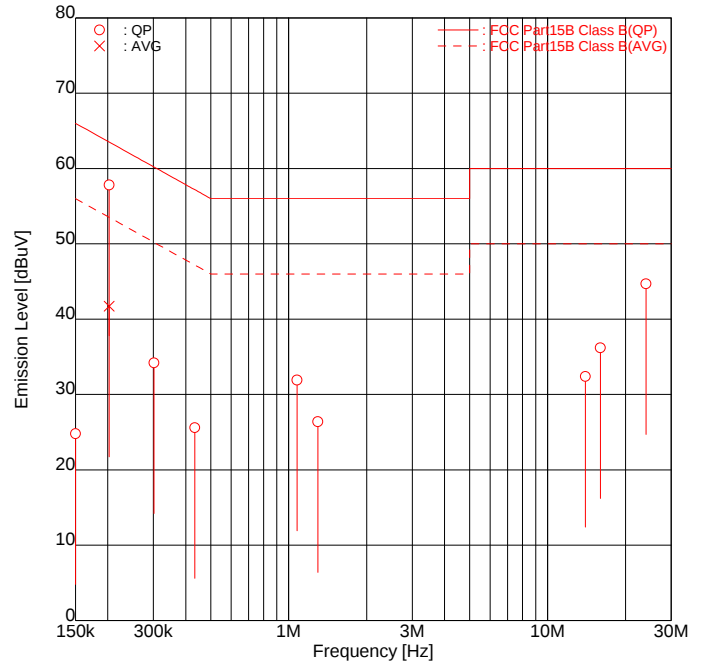
FREQUENCY [No]	MODE [MHz]		READING [dBuV]		FACTOR [dB]		EMISSION [dBuV]		LIMIT [dBuV]	MARGIN [dB]	
			Line1	Line2	Line1	Line2	Line1	Line2		Line1	Line2
1	0.1500	QP	14.5	14.4	10.2	10.2	24.7	24.6	66.0	41.3	41.4
2	0.2035	QP	47.9	<u>48.1</u>	10.2	10.3	58.1	<u>58.4</u>	63.5	5.4	<u>5.1</u>
3	0.2035	AVG	31.2	<u>31.4</u>	10.2	10.3	41.4	<u>41.7</u>	53.5	12.1	<u>11.8</u>
4	0.3002	QP	17.0	<u>24.6</u>	10.2	10.3	27.2	<u>34.9</u>	60.2	33.0	<u>25.3</u>
5	0.4331	QP	14.8	14.3	10.3	10.3	25.1	24.6	57.2	32.1	32.6
6	1.0788	QP	<u>22.4</u>	21.9	10.3	10.3	<u>32.7</u>	32.2	56.0	<u>23.3</u>	23.8
7	1.2905	QP	16.8	16.6	10.3	10.3	27.1	26.9	56.0	28.9	29.1
8	13.9015	QP	21.3	21.4	10.9	10.9	32.2	32.3	60.0	27.8	27.7
9	16.0048	QP	25.2	<u>25.3</u>	10.9	10.9	36.1	<u>36.2</u>	60.0	23.9	<u>23.8</u>
10	24.0063	QP	33.1	<u>33.4</u>	10.9	11.2	44.0	<u>44.6</u>	60.0	16.0	<u>15.4</u>

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

9.1.1.2 RX mode (A Band :321.05MHz/B Band :330.05MHz)

Intertek Japan K.K.
Kashima No.3 Test Site
Conducted Voltages on Mains Port

APPLICANT : JVC KENWOOD Corporation
EUT NAME : 144/440MHz FM DUAL BANDER
MODEL NO. : TM-D710GA
SERIAL NO. : B3600176
TEST MODE : RX mode (A Band:321.05MHz/B
Band:330.05MHz)
POWER SOURCE : AC 120V, 60Hz
DATE TESTED : Aug 12 2013
FILE NO. : -
REGULATION : FCC Part15B Class B
TEST METHOD : ANSI C63.4-2003
TEMPERATURE : 25.7 [degC]
HUMIDITY : 50.0 [%]
NOTE :



ENGINEER : Koichi Wagatsuma

FREQUENCY [No]	MODE [MHz]		READING [dBuV]		FACTOR [dB]		EMISSION [dBuV]		LIMIT [dBuV]	MARGIN [dB]	
			Line1	Line2	Line1	Line2	Line1	Line2		Line1	Line2
1	0.1500	QP	14.6	14.4	10.2	10.2	24.8	24.6	66.0	41.2	41.4
2	0.2023	QP	47.4	<u>47.5</u>	10.2	10.3	57.6	<u>57.8</u>	63.5	5.9	<u>5.7</u>
3	0.2023	AVG	30.8	<u>31.4</u>	10.2	10.3	41.0	<u>41.7</u>	53.5	12.5	<u>11.8</u>
4	0.3015	QP	16.4	<u>23.9</u>	10.2	10.3	26.6	<u>34.2</u>	60.2	33.6	<u>26.0</u>
5	0.4336	QP	15.3	15.2	10.3	10.3	25.6	25.5	57.2	31.6	31.7
6	1.0766	QP	21.1	<u>21.6</u>	10.3	10.3	31.4	<u>31.9</u>	56.0	24.6	<u>24.1</u>
7	1.2957	QP	16.1	16.1	10.3	10.3	26.4	26.4	56.0	29.6	29.6
8	13.9997	QP	21.5	21.5	10.9	10.9	32.4	32.4	60.0	27.6	27.6
9	16.0049	QP	<u>25.3</u>	25.3	10.9	10.9	<u>36.2</u>	36.2	60.0	<u>23.8</u>	23.8
10	24.0074	QP	33.3	<u>33.5</u>	10.9	11.2	44.2	<u>44.7</u>	60.0	15.8	<u>15.3</u>

Higher six points are underlined.

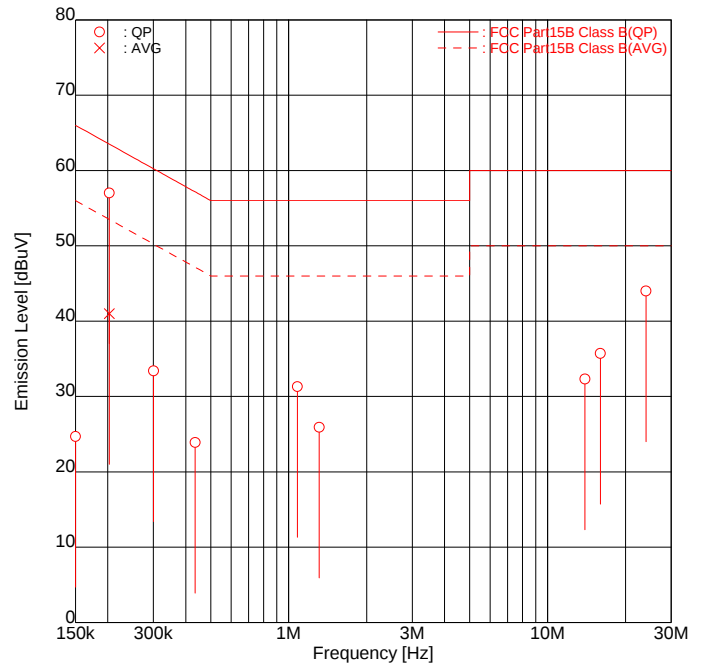
Other frequencies : Below the FCC Part15B Class B limit

Emission Level = Read + Factor(LISN,Pad,Cable)

9.1.1.3 RX mode (A Band :523.95MHz/B Band :523.95MHz)

Intertek Japan K.K.
Kashima No.3 Test Site
Conducted Voltages on Mains Port

APPLICANT : JVC KENWOOD Corporation
EUT NAME : 144/440MHz FM DUAL BANDER
MODEL NO. : TM-D710GA
SERIAL NO. : B3600176
TEST MODE : RX mode (A Band:523.95MHz/B
Band:523.95MHz)
POWER SOURCE : AC 120V, 60Hz
DATE TESTED : Aug 12 2013
FILE NO. : -
REGULATION : FCC Part15B Class B
TEST METHOD : ANSI C63.4-2003
TEMPERATURE : 25.7 [degC]
HUMIDITY : 50.0 [%]
NOTE :



ENGINEER : Koichi Wagatsuma

FREQUENCY [No]	MODE [MHz]		READING [dBuV]		FACTOR [dB]		EMISSION [dBuV]		LIMIT [dBuV]	MARGIN [dB]	
			Line1	Line2	Line1	Line2	Line1	Line2		Line1	Line2
1	0.1500	QP	14.5	14.4	10.2	10.2	24.7	24.6	66.0	41.3	41.4
2	0.2028	QP	46.6	<u>46.7</u>	10.2	10.3	56.8	<u>57.0</u>	63.5	6.7	6.5
3	0.2028	AVG	30.0	<u>30.7</u>	10.2	10.3	40.2	<u>41.0</u>	53.5	13.3	<u>12.5</u>
4	0.3006	QP	15.3	<u>23.1</u>	10.2	10.3	25.5	<u>33.4</u>	60.2	34.7	<u>26.8</u>
5	0.4353	QP	13.5	13.6	10.3	10.3	23.8	23.9	57.2	33.4	33.3
6	1.0807	QP	20.9	<u>21.0</u>	10.3	10.3	31.2	<u>31.3</u>	56.0	24.8	<u>24.7</u>
7	1.3110	QP	15.4	15.6	10.3	10.3	25.7	25.9	56.0	30.3	30.1
8	13.9444	QP	21.4	21.3	10.9	10.9	32.3	32.2	60.0	27.7	27.8
9	16.0049	QP	<u>24.8</u>	24.7	10.9	10.9	<u>35.7</u>	35.6	60.0	<u>24.3</u>	24.4
10	24.0071	QP	32.9	<u>32.8</u>	10.9	11.2	43.8	<u>44.0</u>	60.0	16.2	<u>16.0</u>

Higher six points are underlined.

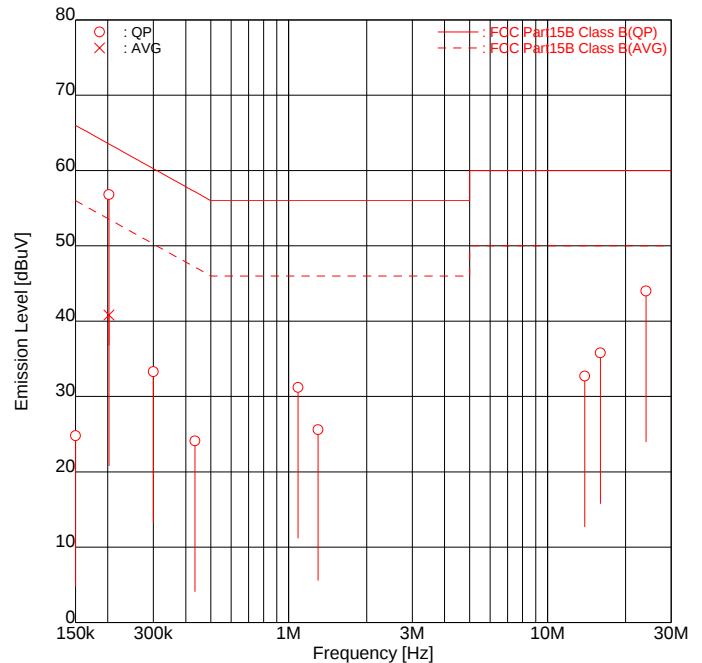
Other frequencies : Below the FCC Part15B Class B limit

Emission Level = Read + Factor(LISN,Pad,Cable)

9.1.1.4 RX mode (A Band :118.05MHz/B Band :800.05MHz)

Intertek Japan K.K.
Kashima No.3 Test Site
Conducted Voltages on Mains Port

APPLICANT : JVC KENWOOD Corporation
EUT NAME : 144/440MHz FM DUAL BANDER
MODEL NO. : TM-D710GA
SERIAL NO. : B3600176
TEST MODE : RX mode (A Band:118.05MHz/B
Band:800.05MHz)
POWER SOURCE : AC 120V, 60Hz
DATE TESTED : Aug 12 2013
FILE NO. : -
REGULATION : FCC Part15B Class B
TEST METHOD : ANSI C63.4-2003
TEMPERATURE : 25.7 [degC]
HUMIDITY : 50.0 [%]
NOTE :



ENGINEER : Koichi Wagatsuma

FREQUENCY [No]	MODE [MHz]		READING [dBuV]		FACTOR [dB]		EMISSION [dBuV]		LIMIT [dBuV]	MARGIN [dB]	
			Line1	Line2	Line1	Line2	Line1	Line2		Line1	Line2
1	0.1500	QP	14.5	14.6	10.2	10.2	24.7	24.8	66.0	41.3	41.2
2	0.2022	QP	46.2	<u>46.5</u>	10.2	10.3	56.4	<u>56.8</u>	63.5	7.1	6.7
3	0.2022	AVG	30.0	<u>30.5</u>	10.2	10.3	40.2	<u>40.8</u>	53.5	13.3	<u>12.7</u>
4	0.2998	QP	14.9	<u>23.0</u>	10.2	10.3	25.1	<u>33.3</u>	60.2	35.1	<u>26.9</u>
5	0.4347	QP	13.7	13.8	10.3	10.3	24.0	24.1	57.2	33.2	33.1
6	1.0869	QP	<u>20.9</u>	20.9	10.3	10.3	<u>31.2</u>	31.2	56.0	<u>24.8</u>	24.8
7	1.2990	QP	15.3	15.3	10.3	10.3	25.6	25.6	56.0	30.4	30.4
8	13.9286	QP	21.6	21.8	10.9	10.9	32.5	32.7	60.0	27.5	27.3
9	16.0048	QP	<u>24.9</u>	24.9	10.9	10.9	<u>35.8</u>	35.8	60.0	<u>24.2</u>	24.2
10	24.0062	QP	33.0	<u>32.8</u>	10.9	11.2	43.9	<u>44.0</u>	60.0	16.1	<u>16.0</u>

Higher six points are underlined.

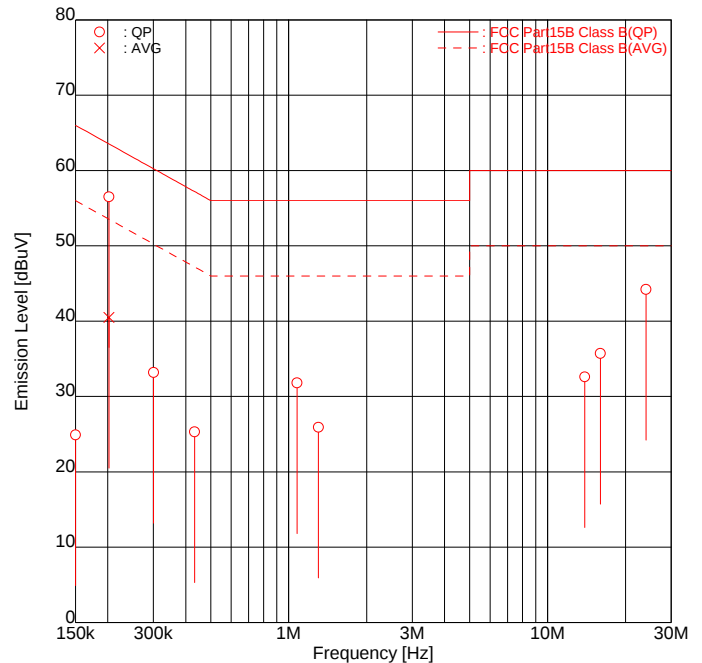
Other frequencies : Below the FCC Part15B Class B limit

Emission Level = Read + Factor(LISN,Pad,Cable)

9.1.1.5 RX mode (A Band :321.05MHz/B Band :1050.05MHz)

Intertek Japan K.K.
Kashima No.3 Test Site
Conducted Voltages on Mains Port

APPLICANT : JVC KENWOOD Corporation
EUT NAME : 144/440MHz FM DUAL BANDER
MODEL NO. : TM-D710GA
SERIAL NO. : B3600176
TEST MODE : RX mode (A Band:321.05MHz/B
Band:1050.05MHz)
POWER SOURCE : AC 120V, 60Hz
DATE TESTED : Aug 12 2013
FILE NO. : -
REGULATION : FCC Part15B Class B
TEST METHOD : ANSI C63.4-2003
TEMPERATURE : 25.7 [degC]
HUMIDITY : 50.0 [%]
NOTE :



ENGINEER : Koichi Wagatsuma

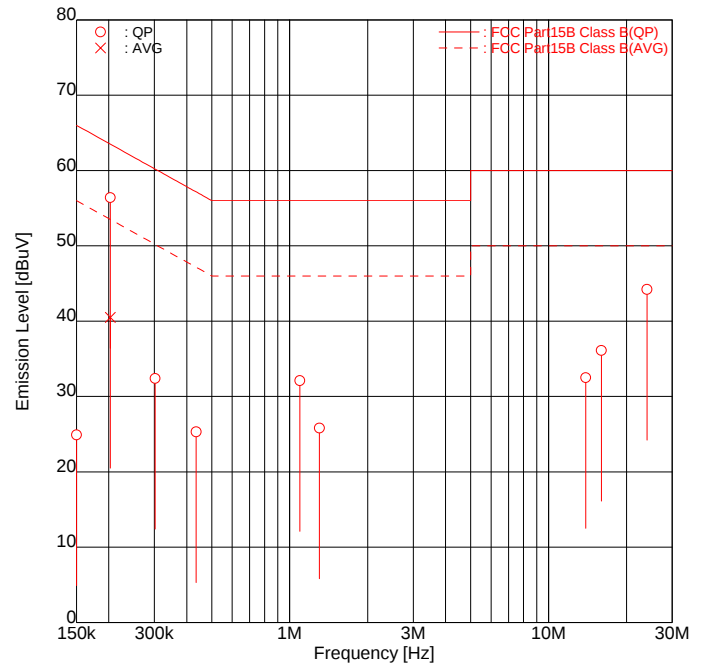
FREQUENCY [No]	MODE [MHz]		READING [dBuV]		FACTOR [dB]		EMISSION [dBuV]		LIMIT [dBuV]	MARGIN [dB]	
			Line1	Line2	Line1	Line2	Line1	Line2		Line1	Line2
1	0.1500	QP	14.6	14.7	10.2	10.2	24.8	24.9	66.0	41.2	41.1
2	0.2021	QP	46.0	<u>46.2</u>	10.2	10.3	56.2	<u>56.5</u>	63.5	7.3	<u>7.0</u>
3	0.2021	AVG	29.8	<u>30.2</u>	10.2	10.3	40.0	<u>40.5</u>	53.5	13.5	<u>13.0</u>
4	0.3007	QP	14.7	<u>22.9</u>	10.2	10.3	24.9	<u>33.2</u>	60.2	35.3	<u>27.0</u>
5	0.4332	QP	15.0	14.7	10.3	10.3	25.3	25.0	57.2	31.9	32.2
6	1.0775	QP	<u>21.5</u>	21.3	10.3	10.3	<u>31.8</u>	31.6	56.0	<u>24.2</u>	24.4
7	1.3023	QP	15.4	15.6	10.3	10.3	25.7	25.9	56.0	30.3	30.1
8	13.9080	QP	21.7	21.7	10.9	10.9	32.6	32.6	60.0	27.4	27.4
9	16.0025	QP	<u>24.8</u>	24.7	10.9	10.9	<u>35.7</u>	35.6	60.0	<u>24.3</u>	24.4
10	24.0069	QP	32.8	<u>33.0</u>	10.9	11.2	43.7	<u>44.2</u>	60.0	16.3	<u>15.8</u>

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

9.1.1.6 RX mode (A Band :523.95MHz/B Band :1299.95MHz)

Intertek Japan K.K.
Kashima No.3 Test Site
Conducted Voltages on Mains Port

APPLICANT : JVC KENWOOD Corporation
EUT NAME : 144/440MHz FM DUAL BANDER
MODEL NO. : TM-D710GA
SERIAL NO. : B3600176
TEST MODE : RX mode (A Band:523.95MHz/B
Band:1299.95MHz)
POWER SOURCE : AC 120V, 60Hz
DATE TESTED : Aug 12 2013
FILE NO. : -
REGULATION : FCC Part15B Class B
TEST METHOD : ANSI C63.4-2003
TEMPERATURE : 25.7 [degC]
HUMIDITY : 50.0 [%]
NOTE :



ENGINEER : Koichi Wagatsuma

FREQUENCY [No]	MODE [MHz]		READING [dBuV]		FACTOR [dB]		EMISSION [dBuV]		LIMIT [dBuV]	MARGIN [dB]	
			Line1	Line2	Line1	Line2	Line1	Line2		Line1	Line2
1	0.1500	QP	14.5	14.7	10.2	10.2	24.7	24.9	66.0	41.3	41.1
2	0.2028	QP	46.0	<u>46.1</u>	10.2	10.3	56.2	<u>56.4</u>	63.5	7.3	<u>7.1</u>
3	0.2028	AVG	29.9	<u>30.2</u>	10.2	10.3	40.1	<u>40.5</u>	53.5	13.4	<u>13.0</u>
4	0.3021	QP	14.8	22.1	10.2	10.3	25.0	32.4	60.2	35.2	27.8
5	0.4353	QP	15.0	14.2	10.3	10.3	25.3	24.5	57.2	31.9	32.7
6	1.0934	QP	<u>21.8</u>	21.6	10.3	10.3	<u>32.1</u>	31.9	56.0	<u>23.9</u>	24.1
7	1.3022	QP	<u>15.3</u>	15.5	10.3	10.3	<u>25.6</u>	25.8	56.0	<u>30.4</u>	30.2
8	13.9072	QP	<u>21.6</u>	21.6	10.9	10.9	<u>32.5</u>	32.5	60.0	<u>27.5</u>	27.5
9	16.0049	QP	<u>25.2</u>	25.0	10.9	10.9	<u>36.1</u>	35.9	60.0	<u>23.9</u>	24.1
10	24.0060	QP	33.0	<u>33.0</u>	10.9	11.2	43.9	<u>44.2</u>	60.0	16.1	<u>15.8</u>

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

9.1.2 Field Strength Emission and Spurious Emission (Radiated disturbance)

Location	Kashima No.12 Test Site
Test Engineer	Koichi Wagatsuma

Frequency Range of Measurements

Field Strength Emission

Operating mode	Required Frequency Range	Measured Frequency Range
RX mode (A Band :118.05MHz/B Band :136.05MHz) RX mode (A Band :321.05MHz/B Band :330.05MHz) RX mode (A Band :523.95MHz/B Band :523.95MHz) RX mode (A Band :118.05MHz/B Band :800.05MHz) RX mode (A Band :321.05MHz/B Band :1050.05MHz) RX mode (A Band :523.95MHz/B Band :1299.95MHz)	30 – 16000 MHz	30 – 16000 MHz

Test Procedure

Item	Document number
Radiated disturbance	RJP-EM003

Setting for the Measuring instruments

Frequency [MHz]	Instrument	Detector	Resolution Bandwidth	Video Bandwidth
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 >

* 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)

Specification of Radiated disturbance

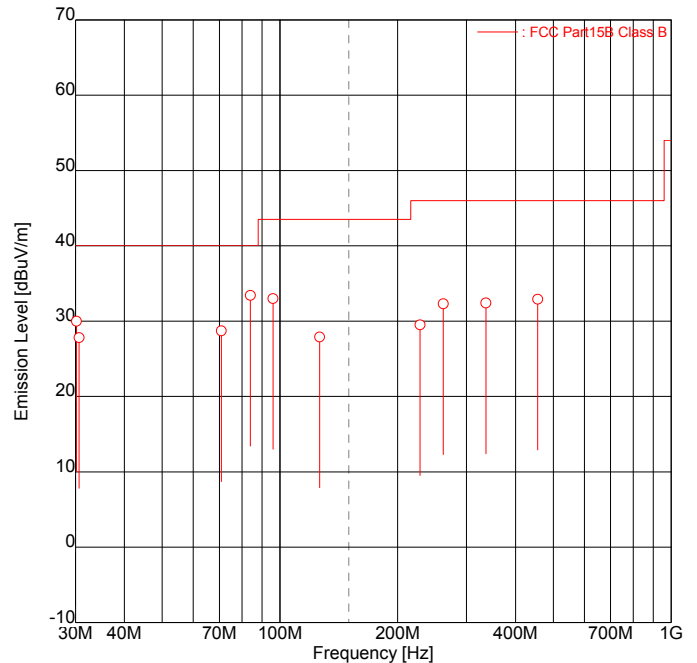
Operating Condition	Frequency Range	Measurement distance	Antenna height
RX mode (A Band :118.05MHz/B Band :136.05MHz) RX mode (A Band :321.05MHz/B Band :330.05MHz) RX mode (A Band :523.95MHz/B Band :523.95MHz) RX mode (A Band :118.05MHz/B Band :800.05MHz) RX mode (A Band :321.05MHz/B Band :1050.05MHz) RX mode (A Band :523.95MHz/B Band :1299.95MHz)	30 MHz – 16000 MHz	3.0 m	Scanned 1 to 4 m

Result of Radiated disturbances

9.1.2.1 RX mode (A Band :118.05MHz/B Band :136.05MHz) 30 - 1000MHz

Intertek Japan K.K.
Kashima No.12 Test Site
Radiated Electric Field

APPLICANT : JVC KENWOOD Corporation
EUT NAME : 144/440MHz FM DUAL BANDER
MODEL NO. : TM-D710GA
SERIAL NO. : B3600176
TEST MODE : RX mode (A Band:118.05MHz/B Band:
136.05MHz)
POWER SOURCE : DC 13.8V (AC120V 60Hz)
DATE TESTED : Aug 05 2013
FILE NO. : -
REGULATION : FCC Part15B Class B
TEST METHOD : ANSI C63.4-2003
DISTANCE : 3.00 [m]
TEMPERATURE : 24.2 [degC]
HUMIDITY : 60.0 [%]
NOTE :



ENGINEER : Koichi Wagatsuma

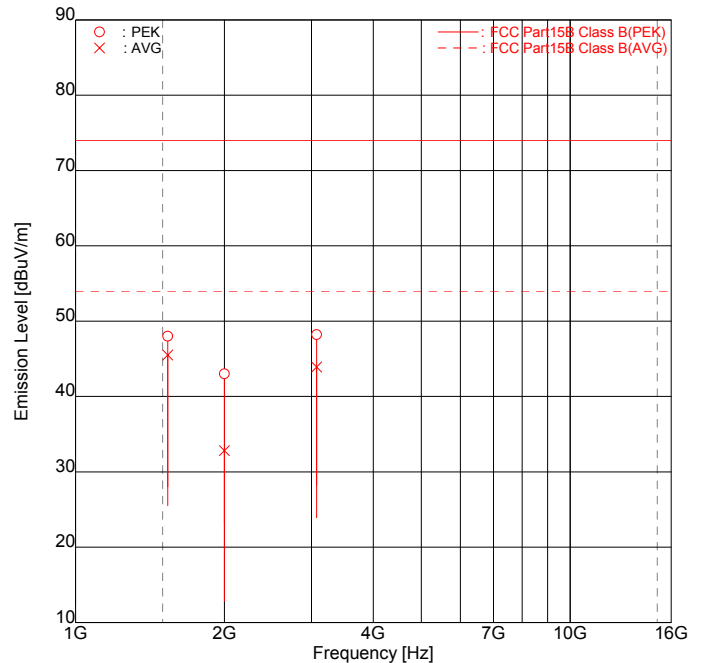
FREQUENCY [No]	FREQUENCY [MHz]	READING [dBuV]		FACTOR [dB/m]		EMISSION [dBuV/m]		LIMIT [dBuV/m]	MARGIN [dB]	
		Hori	Vert	Hori	Vert	Hori	Vert		Hori	Vert
1	30.20	-	<u>33.4</u>	-3.4	-3.4	-	<u>30.0</u>	40.0	-	<u>10.0</u>
2	30.65	-	<u>31.1</u>	-3.3	-3.3	-	<u>27.8</u>	40.0	-	<u>12.2</u>
3	70.88	<u>31.7</u>	-	-3.0	-3.0	<u>28.7</u>	-	40.0	<u>11.3</u>	-
4	84.05	37.5	<u>39.2</u>	-5.8	-5.8	31.7	<u>33.4</u>	40.0	8.3	<u>6.6</u>
5	96.02	37.2	<u>39.0</u>	-6.0	-6.0	31.2	<u>33.0</u>	43.5	12.3	<u>10.5</u>
6	126.35	-	30.4	-2.5	-2.5	-	27.9	43.5	-	15.6
7	228.12	-	31.6	-2.1	-2.1	-	29.5	46.0	-	16.5
8	261.73	32.8	-	-0.5	-0.5	32.3	-	46.0	13.7	-
9	336.18	30.1	-	2.3	2.3	32.4	-	46.0	13.6	-
10	456.25	<u>27.0</u>	-	5.9	5.9	<u>32.9</u>	-	46.0	<u>13.1</u>	-

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

1000 - 16000 MHz

Intertek Japan K.K.
Kashima No.12 Test Site
Radiated Electric Field

APPLICANT : JVC KENWOOD Corporation
EUT NAME : 144/440MHz FM DUAL BANDER
MODEL NO. : TM-D710GA
SERIAL NO. : B3600176
TEST MODE : RX mode (A Band:118.05MHz/B Band:
136.05MHz)
POWER SOURCE : DC 13.8V (AC120V 60Hz)
DATE TESTED : Aug 06 2013
FILE NO. : -
REGULATION : FCC Part15B Class B
TEST METHOD : ANSI C63.4-2003
DISTANCE : 3.00 [m]
TEMPERATURE : 24.5 [degC]
HUMIDITY : 64.0 [%]
NOTE :



ENGINEER : Koichi Wagatsuma

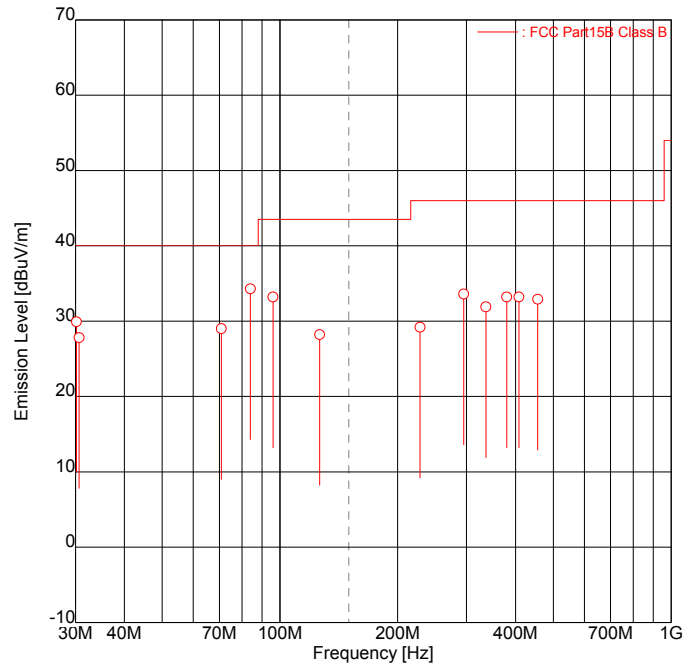
FREQUENCY [No]	MODE [MHz]		READING [dBuV]		FACTOR [dB/m]		EMISSION [dBuV/m]		LIMIT [dBuV/m]	MARGIN [dB]	
			Hori	Vert	Hori	Vert	Hori	Vert		Hori	Vert
1	1536.85	PEK	50.5	<u>52.3</u>	-4.3	-4.3	46.2	<u>48.0</u>	74.0	27.8	<u>26.0</u>
2	1536.85	AVG	46.8	<u>49.8</u>	-4.3	-4.3	42.5	<u>45.5</u>	54.0	11.5	<u>8.5</u>
3	2000.05	PEK	<u>45.1</u>	<u>44.6</u>	-2.1	-2.1	<u>43.0</u>	<u>42.5</u>	74.0	<u>31.0</u>	<u>31.5</u>
4	2000.05	AVG	<u>34.9</u>	<u>34.5</u>	-2.1	-2.1	<u>32.8</u>	<u>32.4</u>	54.0	<u>21.2</u>	<u>21.6</u>
5	3073.63	PEK	44.5	<u>47.5</u>	0.7	0.7	45.2	<u>48.2</u>	74.0	28.8	<u>25.8</u>
6	3073.63	AVG	37.8	<u>43.2</u>	0.7	0.7	38.5	<u>43.9</u>	54.0	15.5	<u>10.1</u>

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

**9.1.2.2 RX mode (A Band :321.05MHz/B Band :330.05MHz)
30 - 1000MHz**

Intertek Japan K.K.
Kashima No.12 Test Site
Radiated Electric Field

APPLICANT : JVC KENWOOD Corporation
EUT NAME : 144/440MHz FM DUAL BANDER
MODEL NO. : TM-D710GA
SERIAL NO. : B3600176
TEST MODE : RX mode (A Band:321.05MHz/B Band:
330.05MHz)
POWER SOURCE : DC 13.8V (AC120V 60Hz)
DATE TESTED : Aug 05 2013
FILE NO. : -
REGULATION : FCC Part15B Class B
TEST METHOD : ANSI C63.4-2003
DISTANCE : 3.00 [m]
TEMPERATURE : 24.2 [degC]
HUMIDITY : 60.0 [%]
NOTE :



ENGINEER : Koichi Wagatsuma

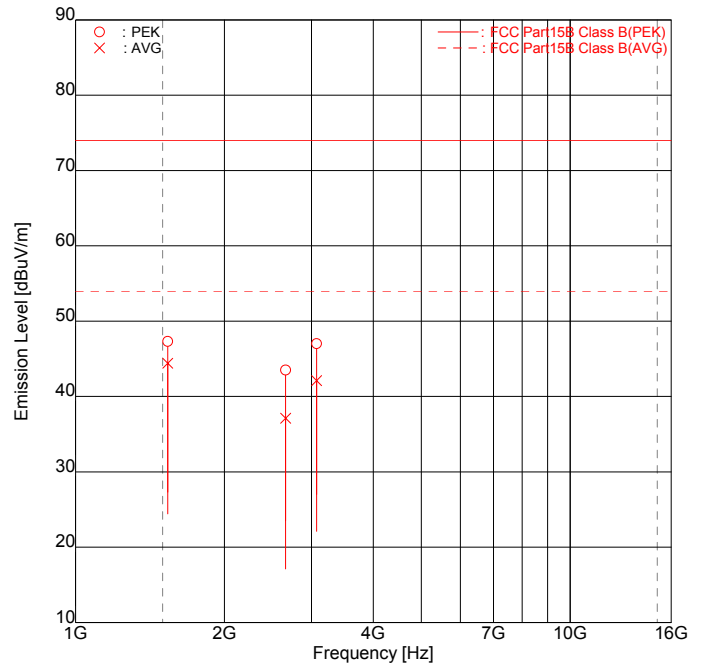
FREQUENCY [No]	FREQUENCY [MHz]	READING [dBuV]		FACTOR [dB/m]		EMISSION [dBuV/m]		LIMIT [dBuV/m]	MARGIN [dB]	
		Hori	Vert	Hori	Vert	Hori	Vert		Hori	Vert
1	30.20	-	<u>33.3</u>	-3.4	-3.4	-	<u>29.9</u>	40.0	-	<u>10.1</u>
2	30.65	-	<u>31.1</u>	-3.3	-3.3	-	<u>27.8</u>	40.0	-	<u>12.2</u>
3	70.88	<u>32.0</u>	-	-3.0	-3.0	<u>29.0</u>	-	40.0	<u>11.0</u>	-
4	84.05	37.5	<u>40.1</u>	-5.8	-5.8	31.7	<u>34.3</u>	40.0	8.3	<u>5.7</u>
5	96.02	36.0	<u>39.2</u>	-6.0	-6.0	30.0	<u>33.2</u>	43.5	13.5	<u>10.3</u>
6	126.35	-	30.7	-2.5	-2.5	-	28.2	43.5	-	15.3
7	228.12	-	31.3	-2.1	-2.1	-	29.2	46.0	-	16.8
8	294.90	<u>32.6</u>	-	1.0	1.0	<u>33.6</u>	-	46.0	<u>12.4</u>	-
9	336.20	<u>29.6</u>	-	2.3	2.3	<u>31.9</u>	-	46.0	<u>14.1</u>	-
10	380.01	-	29.6	3.6	3.6	-	33.2	46.0	-	12.8
11	408.23	28.7	-	4.5	4.5	33.2	-	46.0	12.8	-
12	456.25	27.0	-	5.9	5.9	32.9	-	46.0	13.1	-

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

1000 - 16000 MHz

Intertek Japan K.K.
Kashima No.12 Test Site
Radiated Electric Field

APPLICANT : JVC KENWOOD Corporation
EUT NAME : 144/440MHz FM DUAL BANDER
MODEL NO. : TM-D710GA
SERIAL NO. : B3600176
TEST MODE : RX mode (A Band:321.05MHz/B Band:
330.05MHz)
POWER SOURCE : DC 13.8V (AC120V 60Hz)
DATE TESTED : Aug 06 2013
FILE NO. : -
REGULATION : FCC Part15B Class B
TEST METHOD : ANSI C63.4-2003
DISTANCE : 3.00 [m]
TEMPERATURE : 24.5 [degC]
HUMIDITY : 64.0 [%]
NOTE :



ENGINEER : Koichi Wagatsuma

FREQUENCY [No]	MODE [MHz]		READING [dBuV]		FACTOR [dB/m]		EMISSION [dBuV/m]		LIMIT [dBuV/m]	MARGIN [dB]	
			Hori	Vert	Hori	Vert	Hori	Vert		Hori	Vert
1	1536.85	PEK	49.9	<u>51.6</u>	-4.3	-4.3	45.6	<u>47.3</u>	74.0	28.4	<u>26.7</u>
2	1536.85	AVG	46.7	<u>48.7</u>	-4.3	-4.3	42.4	<u>44.4</u>	54.0	11.6	<u>9.6</u>
3	2660.00	PEK	-	<u>44.3</u>	-0.8	-0.8	-	<u>43.5</u>	74.0	-	<u>30.5</u>
4	2660.00	AVG	-	<u>37.9</u>	-0.8	-0.8	-	<u>37.1</u>	54.0	-	<u>16.9</u>
5	3073.63	PEK	44.6	<u>46.3</u>	0.7	0.7	45.3	<u>47.0</u>	74.0	28.7	<u>27.0</u>
6	3073.63	AVG	37.8	<u>41.4</u>	0.7	0.7	38.5	<u>42.1</u>	54.0	15.5	<u>11.9</u>

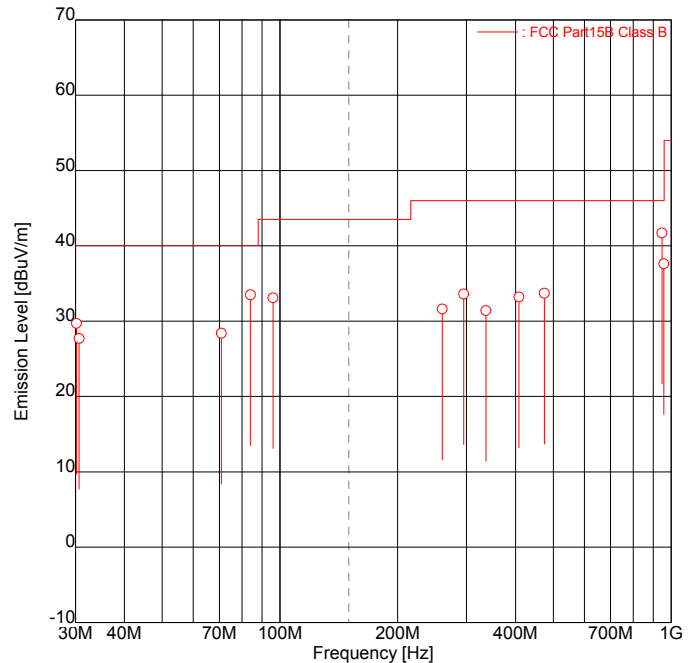
Higher six points are underlined.
Other frequencies : Below the FCC Part15B Class B limit
Emission Level = Read + Factor(Antenna,Antenna Pad,Cable,Preamp)
ANT. : Used antenna(BBA = Broadband antenna, DIP = Dipole antenna)

**9.1.2.3 RX mode (A Band :523.95MHz/B Band :523.95MHz)
30 - 1000MHz**

Intertek Japan K.K.
Kashima No.12 Test Site
Radiated Electric Field

APPLICANT : JVC KENWOOD Corporation
EUT NAME : 144/440MHz FM DUAL BANDER
MODEL NO. : TM-D710GA
SERIAL NO. : B3600176
TEST MODE : RX mode (A Band:523.95MHz/B Band:
523.95MHz)
POWER SOURCE : DC 13.8V (AC120V 60Hz)
DATE TESTED : Aug 05 2013
FILE NO. : -
REGULATION : FCC Part15B Class B
TEST METHOD : ANSI C63.4-2003
DISTANCE : 3.00 [m]
TEMPERATURE : 24.2 [degC]
HUMIDITY : 60.0 [%]
NOTE :

ENGINEER : Koichi Wagatsuma



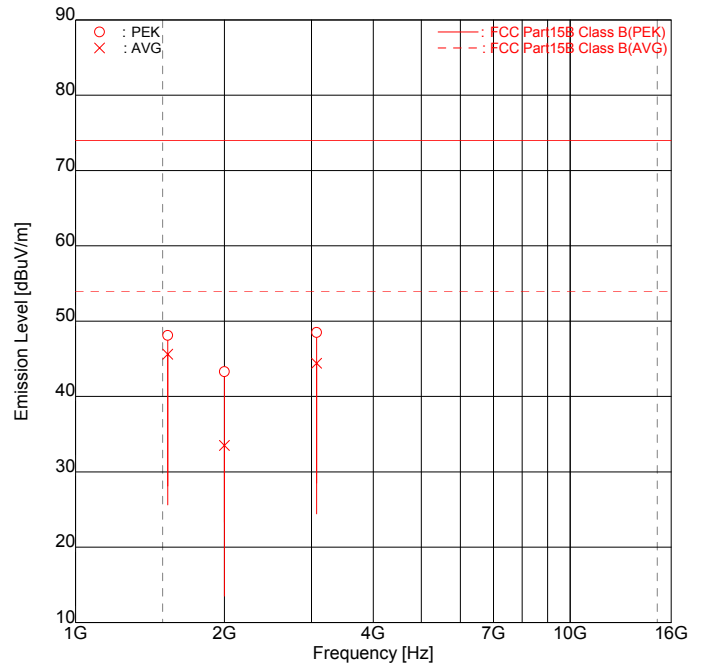
FREQUENCY [No]	[MHz]	READING [dBuV]		FACTOR [dB/m]		EMISSION [dBuV/m]		LIMIT [dBuV/m]	MARGIN [dB]	
		Hori	Vert	Hori	Vert	Hori	Vert		Hori	Vert
1	30.20	-	<u>33.1</u>	-3.4	-3.4	-	<u>29.7</u>	40.0	-	<u>10.3</u>
2	30.65	-	31.0	-3.3	-3.3	-	27.7	40.0	-	12.3
3	70.88	<u>31.4</u>	-	-3.0	-3.0	<u>28.4</u>	-	40.0	<u>11.6</u>	-
4	84.05	36.6	<u>39.3</u>	-5.8	-5.8	30.8	<u>33.5</u>	40.0	9.2	<u>6.5</u>
5	96.02	37.3	<u>39.1</u>	-6.0	-6.0	31.3	<u>33.1</u>	43.5	12.2	<u>10.4</u>
6	259.90	32.2	-	-0.6	-0.6	31.6	-	46.0	14.4	-
7	294.90	32.6	-	1.0	1.0	33.6	-	46.0	12.4	-
8	336.20	29.1	-	2.3	2.3	31.4	-	46.0	14.6	-
9	408.23	28.7	-	4.5	4.5	33.2	-	46.0	12.8	-
10	474.01	27.4	26.9	6.3	6.3	33.7	33.2	46.0	12.3	12.8
11	948.01	-	<u>25.2</u>	16.5	16.5	-	<u>41.7</u>	46.0	-	<u>4.3</u>
12	957.82	<u>21.0</u>	19.6	16.6	16.6	<u>37.6</u>	36.2	46.0	<u>8.4</u>	9.8

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

1000 - 16000 MHz

Intertek Japan K.K.
Kashima No.12 Test Site
Radiated Electric Field

APPLICANT : JVC KENWOOD Corporation
EUT NAME : 144/440MHz FM DUAL BANDER
MODEL NO. : TM-D710GA
SERIAL NO. : B3600176
TEST MODE : RX mode (A Band:523.95MHz/B Band:
523.95MHz)
POWER SOURCE : DC 13.8V (AC120V 60Hz)
DATE TESTED : Aug 06 2013
FILE NO. : -
REGULATION : FCC Part15B Class B
TEST METHOD : ANSI C63.4-2003
DISTANCE : 3.00 [m]
TEMPERATURE : 24.5 [degC]
HUMIDITY : 64.0 [%]
NOTE :



ENGINEER : Koichi Wagatsuma

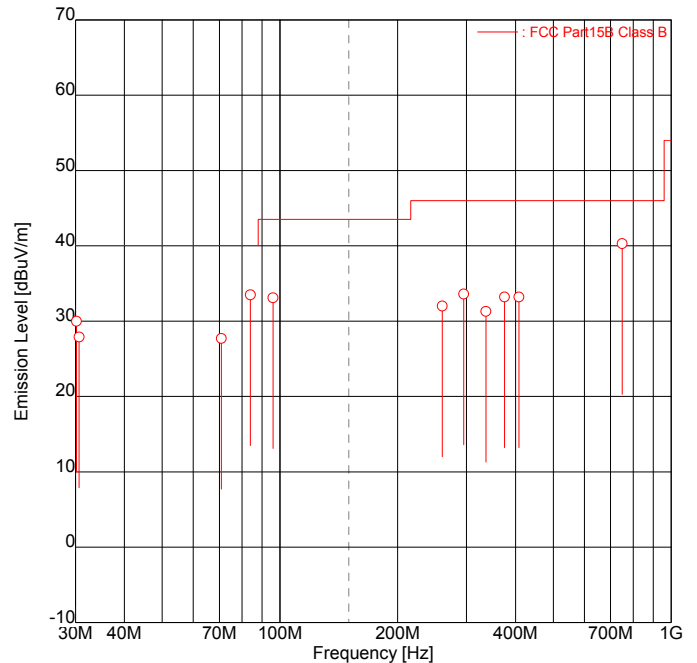
FREQUENCY [No]	MODE [MHz]		READING [dBuV]		FACTOR [dB/m]		EMISSION [dBuV/m]		LIMIT [dBuV/m]	MARGIN [dB]	
			Hori	Vert	Hori	Vert	Hori	Vert		Hori	Vert
1	1536.85	PEK	50.5	<u>52.4</u>	-4.3	-4.3	46.2	<u>48.1</u>	74.0	27.8	<u>25.9</u>
2	1536.85	AVG	47.0	<u>49.9</u>	-4.3	-4.3	42.7	<u>45.6</u>	54.0	11.3	<u>8.4</u>
3	2000.05	PEK	43.5	<u>45.4</u>	-2.1	-2.1	41.4	<u>43.3</u>	74.0	32.6	<u>30.7</u>
4	2000.05	AVG	34.6	<u>35.6</u>	-2.1	-2.1	32.5	<u>33.5</u>	54.0	21.5	<u>20.5</u>
5	3073.63	PEK	44.7	<u>47.8</u>	0.7	0.7	45.4	<u>48.5</u>	74.0	28.6	<u>25.5</u>
6	3073.63	AVG	38.2	<u>43.7</u>	0.7	0.7	38.9	<u>44.4</u>	54.0	15.1	<u>9.6</u>

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

**9.1.2.4 RX mode (A Band :118.05MHz/B Band :800.05MHz)
30 - 1000MHz**

Intertek Japan K.K.
Kashima No.12 Test Site
Radiated Electric Field

APPLICANT : JVC KENWOOD Corporation
EUT NAME : 144/440MHz FM DUAL BANDER
MODEL NO. : TM-D710GA
SERIAL NO. : B3600176
TEST MODE : RX mode (A Band:118.05MHz/B Band:
800.05MHz)
POWER SOURCE : DC 13.8V (AC120V 60Hz)
DATE TESTED : Aug 05 2013
FILE NO. : -
REGULATION : FCC Part15B Class B
TEST METHOD : ANSI C63.4-2003
DISTANCE : 3.00 [m]
TEMPERATURE : 24.2 [degC]
HUMIDITY : 60.0 [%]
NOTE :



ENGINEER : Koichi Wagatsuma

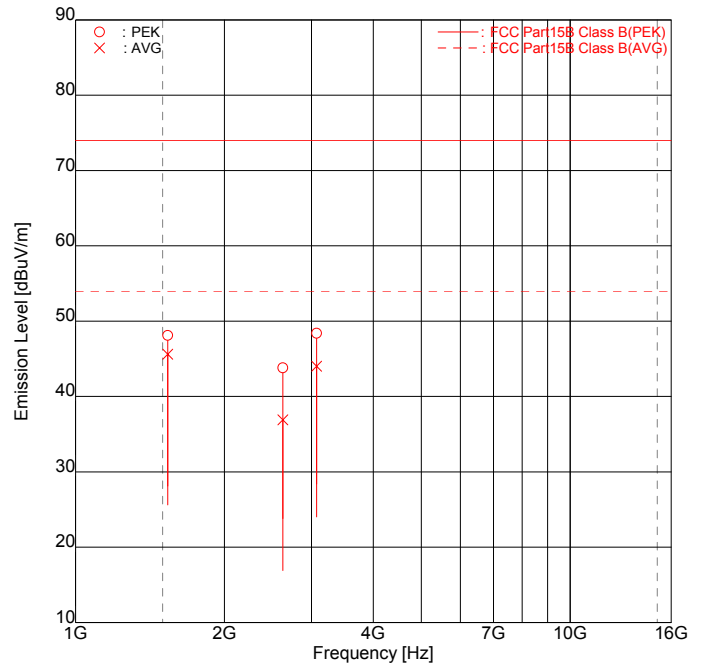
FREQUENCY [No]	FREQUENCY [MHz]	READING [dBuV]		FACTOR [dB/m]		EMISSION [dBuV/m]		LIMIT [dBuV/m]	MARGIN [dB]	
		Hori	Vert	Hori	Vert	Hori	Vert		Hori	Vert
1	30.20	-	<u>33.4</u>	-3.4	-3.4	-	<u>30.0</u>	40.0	-	<u>10.0</u>
2	30.65	-	<u>31.2</u>	-3.3	-3.3	-	<u>27.9</u>	40.0	-	<u>12.1</u>
3	70.88	<u>30.7</u>	-	-3.0	-3.0	<u>27.7</u>	-	40.0	<u>12.3</u>	-
4	84.05	36.9	<u>39.3</u>	-5.8	-5.8	31.1	<u>33.5</u>	40.0	8.9	<u>6.5</u>
5	96.02	37.4	<u>39.1</u>	-6.0	-6.0	31.4	<u>33.1</u>	43.5	12.1	<u>10.4</u>
6	259.90	32.6	-	-0.6	-0.6	32.0	-	46.0	14.0	-
7	294.90	32.6	-	1.0	1.0	33.6	-	46.0	12.4	-
8	336.20	29.0	-	2.3	2.3	31.3	-	46.0	14.7	-
9	375.06	27.1	29.7	3.5	3.5	30.6	33.2	46.0	15.4	12.8
10	408.23	28.7	-	4.5	4.5	33.2	-	46.0	12.8	-
11	750.11	<u>27.0</u>	26.3	13.3	13.3	<u>40.3</u>	39.6	46.0	<u>5.7</u>	6.4

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

1000 - 16000 MHz

Intertek Japan K.K.
Kashima No.12 Test Site
Radiated Electric Field

APPLICANT : JVC KENWOOD Corporation
EUT NAME : 144/440MHz FM DUAL BANDER
MODEL NO. : TM-D710GA
SERIAL NO. : B3600176
TEST MODE : RX mode (A Band:118.05MHz/B Band: 800.05MHz)
POWER SOURCE : DC 13.8V (AC120V 60Hz)
DATE TESTED : Aug 06 2013
FILE NO. : -
REGULATION : FCC Part15B Class B
TEST METHOD : ANSI C63.4-2003
DISTANCE : 3.00 [m]
TEMPERATURE : 24.5 [degC]
HUMIDITY : 64.0 [%]
NOTE :



ENGINEER : Koichi Wagatsuma

FREQUENCY MODE			READING		FACTOR		EMISSION		LIMIT	MARGIN	
[No]	[MHz]		[dBuV]		[dB/m]		[dBuV/m]		[dBuV/m]	[dB]	
			Hori	Vert	Hori	Vert	Hori	Vert		Hori	Vert
1	1536.85	PEK	50.4	<u>52.4</u>	-4.3	-4.3	46.1	<u>48.1</u>	74.0	27.9	<u>25.9</u>
2	1536.85	AVG	46.8	<u>49.9</u>	-4.3	-4.3	42.5	<u>45.6</u>	54.0	11.5	<u>8.4</u>
3	2625.58	PEK	-	<u>44.7</u>	-0.9	-0.9	-	<u>43.8</u>	74.0	-	<u>30.2</u>
4	2625.58	AVG	-	<u>37.8</u>	-0.9	-0.9	-	<u>36.9</u>	54.0	-	<u>17.1</u>
5	3073.63	PEK	46.0	<u>47.7</u>	0.7	0.7	46.7	<u>48.4</u>	74.0	27.3	<u>25.6</u>
6	3073.63	AVG	39.8	<u>43.3</u>	0.7	0.7	40.5	<u>44.0</u>	54.0	13.5	<u>10.0</u>

Higher six points are underlined.

Other frequencies : Below the FCC Part15B Class B limit

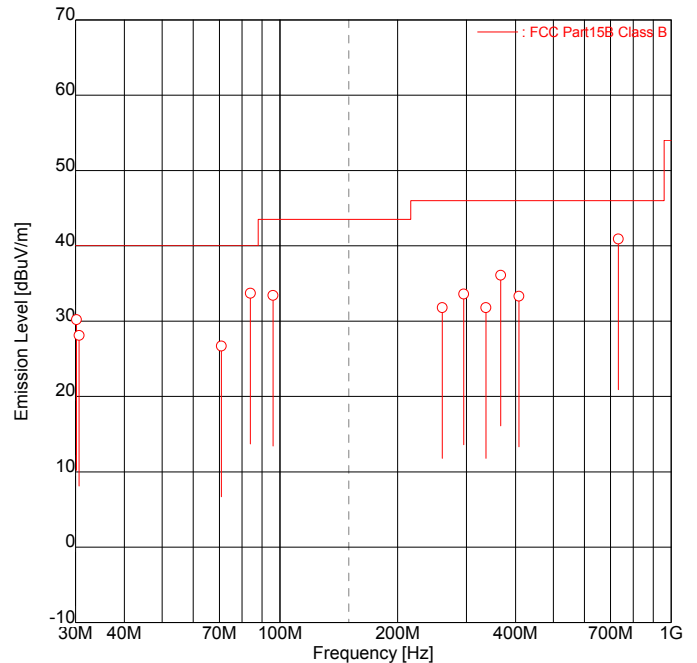
Emission Level = Read + Factor(Antenna,Antenna Pad,Cable,Preamp)

ANT. : Used antenna(BBA = Broadband antenna, DIP = Dipole antenna)

**9.1.2.5 RX mode (A Band :321.05MHz/B Band :1050.05MHz)
30 - 1000MHz**

Intertek Japan K.K.
Kashima No.12 Test Site
Radiated Electric Field

APPLICANT : JVC KENWOOD Corporation
EUT NAME : 144/440MHz FM DUAL BANDER
MODEL NO. : TM-D710GA
SERIAL NO. : B3600176
TEST MODE : RX mode (A Band:321.05MHz/B Band:
1050.05MHz)
POWER SOURCE : DC 13.8V (AC120V 60Hz)
DATE TESTED : Aug 05 2013
FILE NO. : -
REGULATION : FCC Part15B Class B
TEST METHOD : ANSI C63.4-2003
DISTANCE : 3.00 [m]
TEMPERATURE : 24.2 [degC]
HUMIDITY : 60.0 [%]
NOTE :



ENGINEER : Koichi Wagatsuma

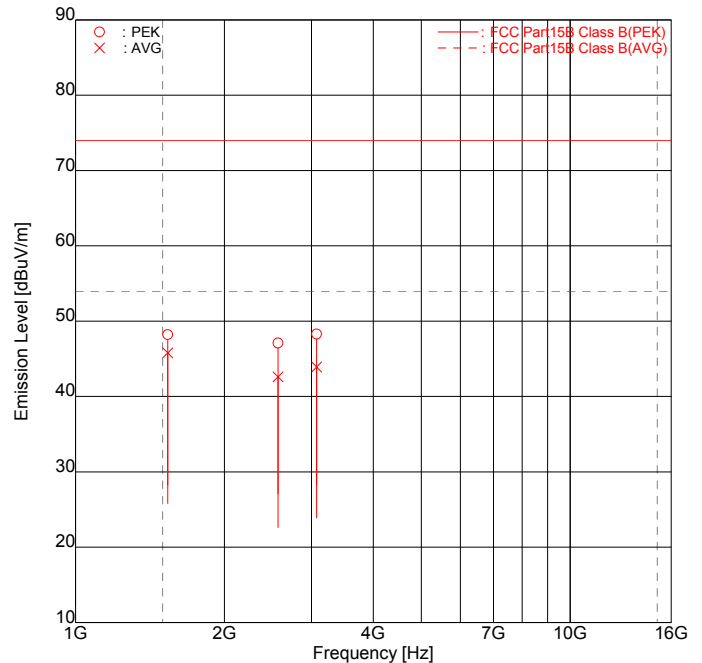
FREQUENCY [No]	FREQUENCY [MHz]	READING [dBuV]		FACTOR [dB/m]		EMISSION [dBuV/m]		LIMIT [dBuV/m]	MARGIN [dB]	
		Hori	Vert	Hori	Vert	Hori	Vert		Hori	Vert
1	30.20	-	<u>33.6</u>	-3.4	-3.4	-	<u>30.2</u>	40.0	-	<u>9.8</u>
2	30.65	-	<u>31.4</u>	-3.3	-3.3	-	<u>28.1</u>	40.0	-	<u>11.9</u>
3	70.88	29.7	-	-3.0	-3.0	26.7	-	40.0	13.3	-
4	84.05	37.5	<u>39.5</u>	-5.8	-5.8	31.7	<u>33.7</u>	40.0	8.3	<u>6.3</u>
5	96.02	37.3	<u>39.4</u>	-6.0	-6.0	31.3	<u>33.4</u>	43.5	12.2	<u>10.1</u>
6	259.90	32.4	-	-0.6	-0.6	31.8	-	46.0	14.2	-
7	294.90	32.6	-	1.0	1.0	33.6	-	46.0	12.4	-
8	336.20	29.5	-	2.3	2.3	31.8	-	46.0	14.2	-
9	366.67	30.1	<u>32.9</u>	3.2	3.2	33.3	<u>36.1</u>	46.0	12.7	<u>9.9</u>
10	408.23	28.8	-	4.5	4.5	33.3	-	46.0	12.7	-
11	733.34	<u>28.2</u>	26.2	12.7	12.7	<u>40.9</u>	38.9	46.0	<u>5.1</u>	7.1

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

1000 - 16000 MHz

Intertek Japan K.K.
Kashima No.12 Test Site
Radiated Electric Field

APPLICANT : JVC KENWOOD Corporation
EUT NAME : 144/440MHz FM DUAL BANDER
MODEL NO. : TM-D710GA
SERIAL NO. : B3600176
TEST MODE : RX mode (A Band:321.05MHz/B Band:
1050.05MHz)
POWER SOURCE : DC 13.8V (AC120V 60Hz)
DATE TESTED : Aug 06 2013
FILE NO. : -
REGULATION : FCC Part15B Class B
TEST METHOD : ANSI C63.4-2003
DISTANCE : 3.00 [m]
TEMPERATURE : 24.5 [degC]
HUMIDITY : 64.0 [%]
NOTE :



ENGINEER : Koichi Wagatsuma

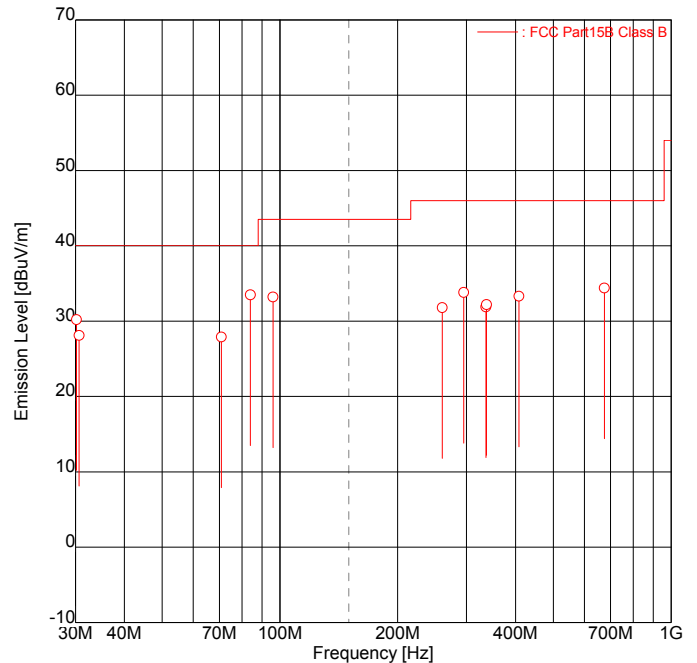
FREQUENCY [No]	MODE [MHz]		READING [dBuV]		FACTOR [dB/m]		EMISSION [dBuV/m]		LIMIT [dBuV/m]	MARGIN [dB]	
			Hori	Vert	Hori	Vert	Hori	Vert		Hori	Vert
1	1536.85	PEK	50.7	<u>52.5</u>	-4.3	-4.3	46.4	<u>48.2</u>	74.0	27.6	<u>25.8</u>
2	1536.85	AVG	47.3	<u>50.1</u>	-4.3	-4.3	43.0	<u>45.8</u>	54.0	11.0	<u>8.2</u>
3	2566.83	PEK	45.3	<u>48.2</u>	-1.1	-1.1	44.2	<u>47.1</u>	74.0	29.8	<u>26.9</u>
4	2566.83	AVG	38.2	<u>43.7</u>	-1.1	-1.1	37.1	<u>42.6</u>	54.0	16.9	<u>11.4</u>
5	3073.63	PEK	45.5	<u>47.6</u>	0.7	0.7	46.2	<u>48.3</u>	74.0	27.8	<u>25.7</u>
6	3073.63	AVG	39.8	<u>43.2</u>	0.7	0.7	40.5	<u>43.9</u>	54.0	13.5	<u>10.1</u>

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

**9.1.2.6 RX mode (A Band :523.95MHz/B Band :1299.95MHz)
30 - 1000MHz**

Intertek Japan K.K.
Kashima No.12 Test Site
Radiated Electric Field

APPLICANT : JVC KENWOOD Corporation
EUT NAME : 144/440MHz FM DUAL BANDER
MODEL NO. : TM-D710GA
SERIAL NO. : B3600176
TEST MODE : RX mode (A Band:523.95MHz/B Band:
1299.95MHz)
POWER SOURCE : DC 13.8V (AC120V 60Hz)
DATE TESTED : Aug 05 2013
FILE NO. : -
REGULATION : FCC Part15B Class B
TEST METHOD : ANSI C63.4-2003
DISTANCE : 3.00 [m]
TEMPERATURE : 24.2 [degC]
HUMIDITY : 60.0 [%]
NOTE :



ENGINEER : Koichi Wagatsuma

FREQUENCY [No]	[MHz]	READING [dBuV]		FACTOR [dB/m]		EMISSION [dBuV/m]		LIMIT [dBuV/m]	MARGIN [dB]	
		Hori	Vert	Hori	Vert	Hori	Vert		Hori	Vert
1	30.20	-	<u>33.6</u>	-3.4	-3.4	-	<u>30.2</u>	40.0	-	<u>9.8</u>
2	30.65	-	<u>31.4</u>	-3.3	-3.3	-	<u>28.1</u>	40.0	-	<u>11.9</u>
3	70.88	<u>30.9</u>	-	-3.0	-3.0	<u>27.9</u>	-	40.0	<u>12.1</u>	-
4	84.05	36.8	<u>39.3</u>	-5.8	-5.8	31.0	<u>33.5</u>	40.0	9.0	<u>6.5</u>
5	96.02	37.3	<u>39.2</u>	-6.0	-6.0	31.3	<u>33.2</u>	43.5	12.2	<u>10.3</u>
6	259.90	32.4	-	-0.6	-0.6	31.8	-	46.0	14.2	-
7	294.90	32.8	-	1.0	1.0	33.8	-	46.0	12.2	-
8	336.20	29.6	-	2.3	2.3	31.9	-	46.0	14.1	-
9	337.48	27.2	29.8	2.4	2.4	29.6	32.2	46.0	16.4	13.8
10	408.23	28.8	-	4.5	4.5	33.3	-	46.0	12.7	-
11	674.95	<u>23.1</u>	21.2	11.3	11.3	<u>34.4</u>	32.5	46.0	<u>11.6</u>	13.5

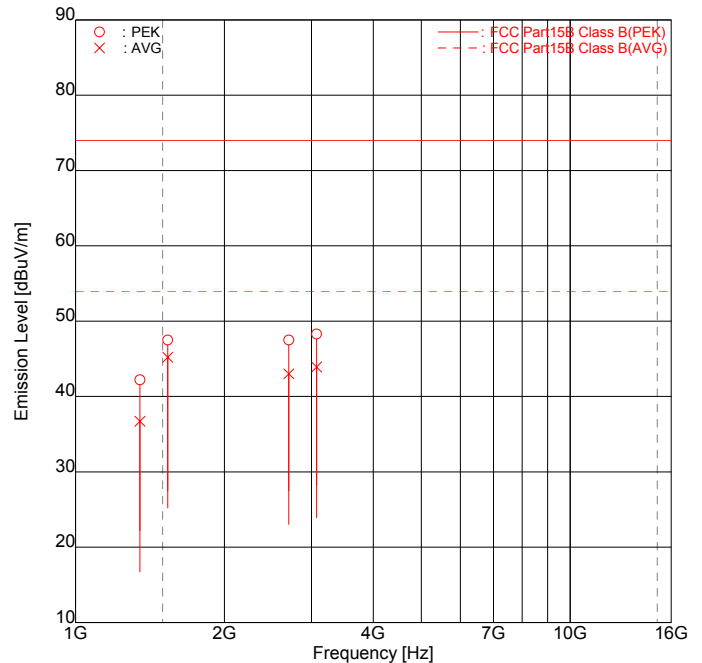
Higher six points are underlined.
Other frequencies : Below the FCC Part15B Class B limit
Emission Level = Read + Factor(Antenna,Antenna Pad,Cable,Preamp)
ANT. : Used antenna(BBA = Broadband antenna, DIP = Dipole antenna)

1000 - 16000 MHz

Intertek Japan K.K.
Kashima No.12 Test Site
Radiated Electric Field

APPLICANT : JVC KENWOOD Corporation
EUT NAME : 144/440MHz FM DUAL BANDER
MODEL NO. : TM-D710GA
SERIAL NO. : B3600176
TEST MODE : RX mode (A Band:523.95MHz/B Band:
1299.95MHz)
POWER SOURCE : DC 13.8V (AC120V 60Hz)
DATE TESTED : Aug 06 2013
FILE NO. : -
REGULATION : FCC Part15B Class B
TEST METHOD : ANSI C63.4-2003
DISTANCE : 3.00 [m]
TEMPERATURE : 24.5 [degC]
HUMIDITY : 64.0 [%]
NOTE :

ENGINEER : Koichi Wagatsuma



FREQUENCY MODE			READING		FACTOR		EMISSION		LIMIT		MARGIN	
[No]	[MHz]		[dBuV]		[dB/m]		[dBuV/m]		[dBuV/m]		[dB]	
			Hori	Vert	Hori	Vert	Hori	Vert	Hori	Vert	Hori	Vert
1	1349.94	PEK	46.3	47.0	-4.8	-4.8	41.5	42.2	74.0		32.5	31.8
2	1349.94	AVG	40.2	<u>41.5</u>	-4.8	-4.8	35.4	<u>36.7</u>	54.0		18.6	<u>17.3</u>
3	1536.85	PEK	50.1	<u>51.8</u>	-4.3	-4.3	45.8	<u>47.5</u>	74.0		28.2	<u>26.5</u>
4	1536.85	AVG	46.8	<u>49.5</u>	-4.3	-4.3	42.5	<u>45.2</u>	54.0		11.5	<u>8.8</u>
5	2699.97	PEK	44.9	<u>48.2</u>	-0.7	-0.7	44.2	<u>47.5</u>	74.0		29.8	<u>26.5</u>
6	2699.97	AVG	36.6	<u>43.7</u>	-0.7	-0.7	35.9	<u>43.0</u>	54.0		18.1	<u>11.0</u>
7	3073.63	PEK	45.4	<u>47.6</u>	0.7	0.7	46.1	<u>48.3</u>	74.0		27.9	<u>25.7</u>
8	3073.63	AVG	39.5	<u>43.2</u>	0.7	0.7	40.2	<u>43.9</u>	54.0		13.8	<u>10.1</u>

Higher six points are underlined.

Other frequencies : Below the FCC Part15B Class B limit

Emission Level = Read + Factor(Antenna,Antenna Pad,Cable,Preamp)

ANT. : Used antenna(BBA = Broadband antenna, DIP = Dipole antenna)

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	1Y	Nov. 30, 2013
LISN(Peripheral)	KNW-242	8-851-21	KYORITSU	1Y	Apr. 30, 2014
10dB LISN Pad	CFA-01	KSR00240	TME	1Y	Nov. 30, 2013
10dB LISN Pad	CFA-01	KSR00255	TME	1Y	Apr. 30, 2014
50 ohm Termination	CT-01	KSR00138	TME	1Y	Apr. 30, 2014
Coaxial Cable (C1)	RG-5A/U(7.2m)	C1	Intertek	1Y	Apr. 30, 2014
Coaxial Cable (C2)	RG-5A/U(4.0m)	C2	Intertek	1Y	Apr. 30, 2014
Coaxial Cable (R11)	RG-5A/U(1.1m)	R11	Intertek	1Y	Apr. 30, 2014
RF Switch	ACX-150	None	Intertek	1Y	Apr. 30, 2014
Radiated disturbance					
Antenna	VULB9168WP	288	Schwarzbeck	1Y	May 31, 2014
Amplifier	ZX60-3018G	005	Intertek	1Y	Jan. 31, 2014
6dB Attenuator	UFA-01	A00040805	TME	1Y	Jan. 31, 2014
Double ridged antenna	3115	5044	EMCO	1Y	Jul. 31, 2014
Amplifier	TPA0118-30	0402	TOYO	1Y	Oct. 31, 2013
3dB attenuator	6803.17.B	KSR00089	SUHNER	1Y	Oct. 31, 2013
Coaxial Cable (R1)	RG-5A/U(14.0m)	R1	Intertek	1Y	Jan. 31, 2014
Coaxial Cable (R3)	RG-5A/U(7.0m)	R3	Intertek	1Y	Jan. 31, 2014
Coaxial Cable (R5)	RG-5A/U(4.0m)	R5	Intertek	1Y	Jan. 31, 2014
Coaxial Cable (R7)	5D-2W(0.7m)	R7	Intertek	1Y	Jan. 31, 2014
Coaxial Cable (R10)	5D-2W(1.2m)	R10	Intertek	1Y	Jan. 31, 2014
RF Switch	ACX-150	None	Intertek	1Y	Jan. 31, 2014
Coaxial Cable (R14)	R286401343 (1.0m)	03 23 104	RADIAL	1Y	Oct. 31, 2013
Coaxial Cable (R15)	R286401344 (8.0m)	03 23 72	RADIAL	1Y	Oct. 31, 2013
Spectrum Analyzer	N9030A (Rev.A,08,54)	US51350170	Agilent	1Y	Jan. 31, 2014
Site Attenuation	-	-	-	1Y	Feb. 28, 2014
Common					
Test Receiver	ESS	842886/011	Rohde & Schwarz	1Y	Aug. 31, 2013
Test Receiver	ESS	847151/012	Rohde & Schwarz	1Y	Mar. 31, 2014
Testing software	emiT (Version 3,0,0,0)	-	-	-	-

ANNEX

Radiated disturbance Test setup as per standard

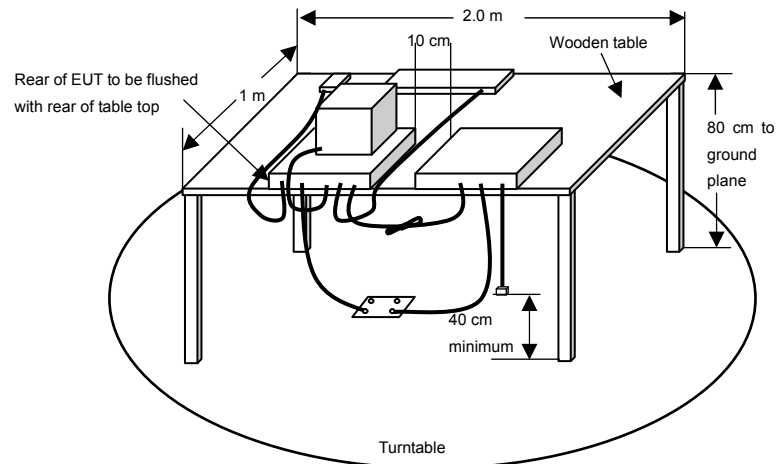
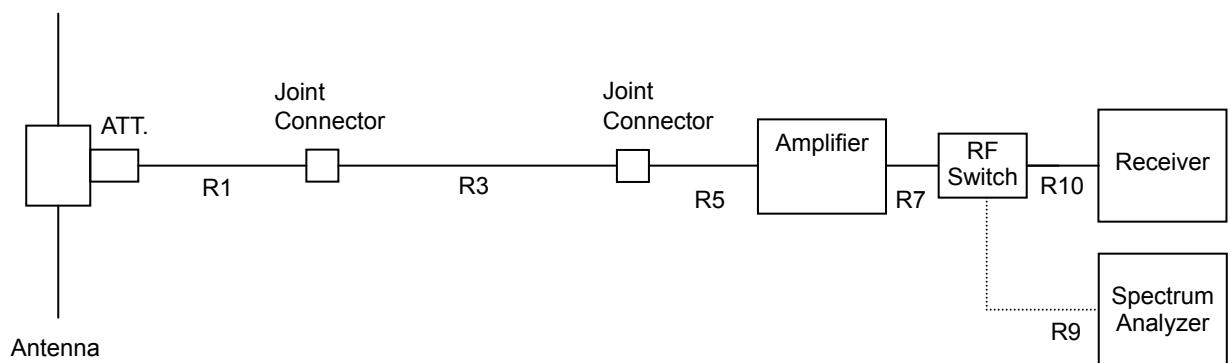
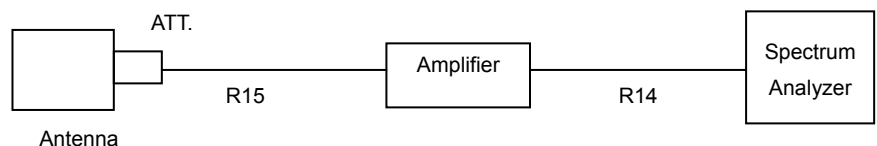


Diagram of the measuring instruments (30-1000MHz)



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.