TEST REPORT

STANDARD : FCC Part15B Class B

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. Matsuda Laboratory (Open area test site) 1283 Yadoriki, Matsuda-machi, Ashigarakami-gun, Kanagawa-ken, 258-0001 Japan Tel.: +81 465 89 2316 Fax.: +81 465 89 2160 (Anechoic chamber) 1386 Yadoriki, Matsuda-machi, Ashigarakami-gun, Kanagawa-ken, 258-0001 Japan Tel.: +81 465 88 4100 Fax.: +81 465 88 4300 URL: http://www.japan.intertek-etlsemko.com

Equipment Type	Intelligent Charger
Trademark	KENWOOD
Model(s)	KSC-Y32
Serial No.	1
Equipment Authorization	Certification (FCC ID : K44462500)
Test Result	Complied
Report Number	14050167JMA-001
Original Issue Date	June 17, 2014

Approved by H. Kosemura
Hideaki Kosemura
[Assistant Manager]

Tested by K. Wagatsuma
Koichi Wagatsuma
[Engineer]

VLAC-008-3

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	May 21, 2014
Date of Test	From June 3, 2014 to June 4, 2014
Standard Applied	FCC Part15B Class B
Test methods	ANSI C63.4-2003
Deviation from Standard(s)	None

Qualifications of Testing Laboratory

Accreditation	**Scope**	**Lab. Code**	**Remarks**
VLAC	EMC Testing	VLAC-008-3	JAPAN
BSMI	EMC Testing	SL2-IN-E-6009	TAIWAN
Filing			
VCCI	EMC Testing	A-0127	JAPAN
FCC	EMC Testing	Designation Number : JP0009	USA
CB-Scheme	EMC Testing	TL223	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	
Test Item	**Minimum margin**	**Remarks**
Conducted disturbance at mains terminals	9.3 dB (0.1500 MHz) [Q-P] Charge mode	
Radiated disturbance	1.7 dB (48.00 MHz) Charge mode	

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	Intelligent Charger	KSC-Y32	1	JVC KENWOOD Corporation	
A2	AC Adapter	KSC-Y32	1	JVC KENWOOD Corporation	Option
Rated Power : AC 100-240 V, 50-60 Hz					
Supplied Power : AC 120 V, 60 Hz					
Condition of Equipment	Prototype				
Type	Tabletop				
Dimensions (W x H x D)	90 x 57 x 160 mm (A1)				
Suppression Devices	No Modifications by the laboratory were made to the device				

3.2 Port(s)/Connector(s)

Port Name	Connector Type	Connector Pin	Remarks
Micro USB	Micro-B	5 pin	

3.3 Highest Frequency Generated / Used

Operating Frequency	Operating mode	Remarks
48 MHz	Charge mode	

SECTION 4. SUPPORT EQUIPMENT

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

Symbol	Item	Model No.	Serial No.	Manufacturer	Remarks	FCC ID
B	Intelligent Li-ion Battery	KNB-L3	28	JVC KENWOOD Corporation		N/A
C	Personal Computer	A5V25AV	JPA3357S7D	HP		DoC
D	AC Adapter	Series PPP009L-E	WBGST0A7Y2K8RB	HP		N/A
E	Router	CQW-MR500	20IH02451AR	Pci		NDD9562250817
F	AC Adapter	PSA12A-120	P93318039A1	Pci		N/A
Supplied Power:						
D,F	AC120 V, 60 Hz					

SECTION 5. USED CABLE(S)

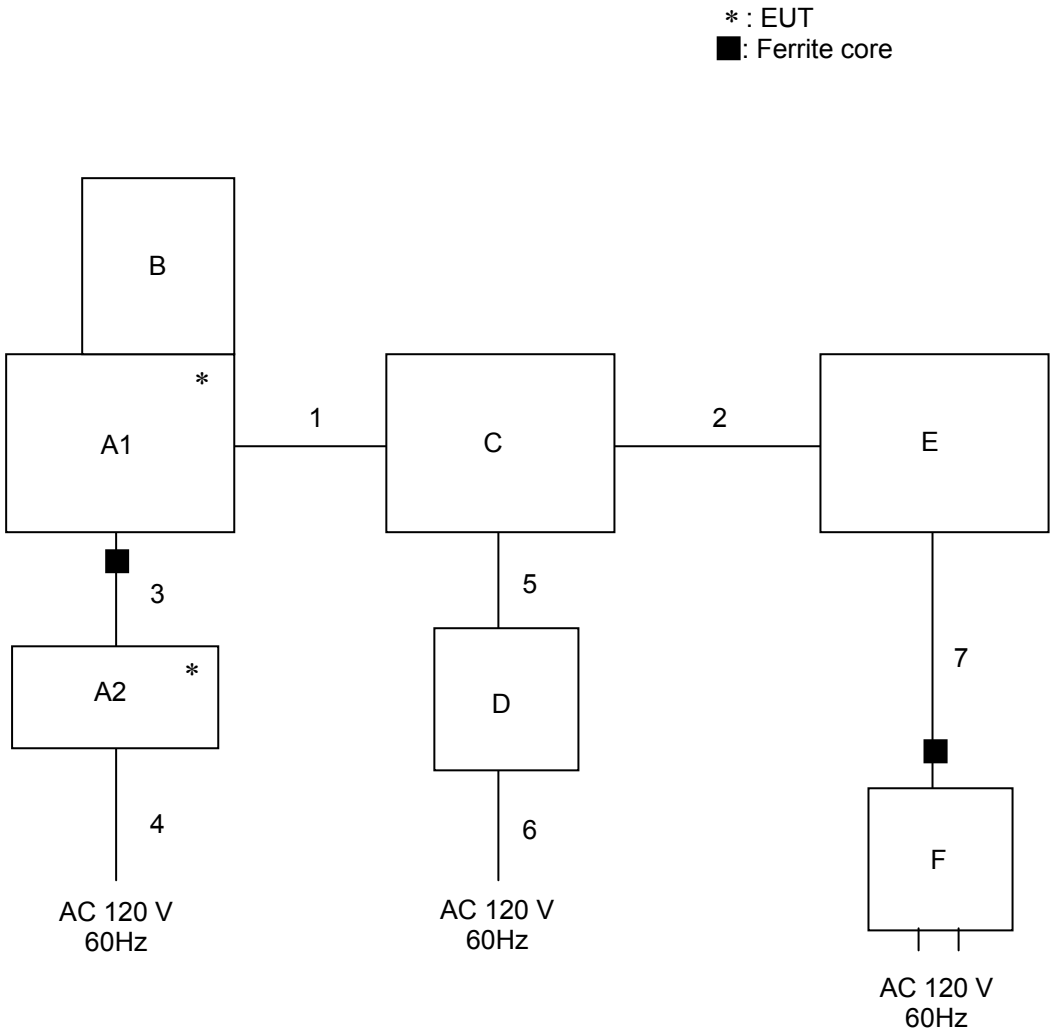
The following cable(s) was used for the test.

No.	Name	Length (m)	Shield	Metal Connector	Ferrite Core
1	USB cable	1.00	Yes	Yes	
2	LAN cable	1.00	No	No	
3	Power cable for Intelligent Charger (DC)	1.75	No	No	Fixed x 1
4	Power cable for Intelligent Charger (AC)	1.85	No	No	
5	Power cable for Personal Computer (DC)	2.00	No	No	
6	Power cable for Personal Computer (AC)	2.05	No	No	
7	Power cable for Router (DC)	1.50	No	No	Fixed x 1

Note :
1. Cable No.3 is supplied together with EUT by applicant.
2. Cable No.7 is supplied together with AC Adapter.

SECTION 6. TEST CONFIGURATION

6.1 Charge mode

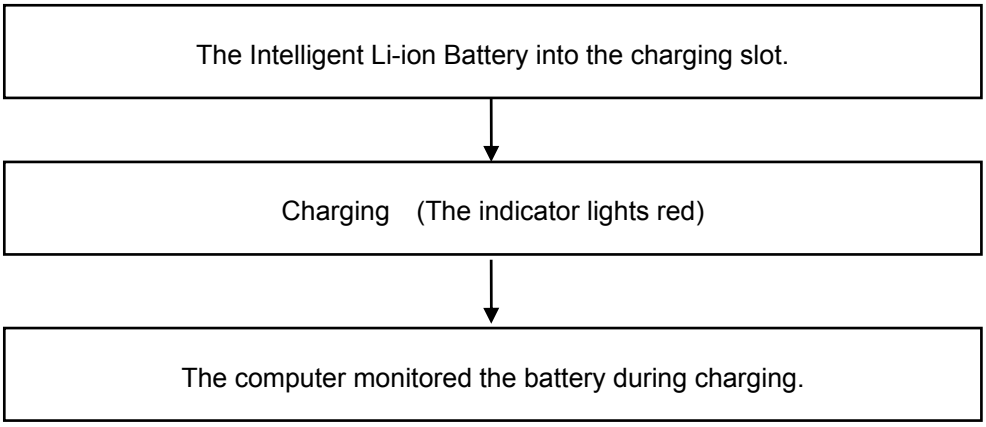


The symbols and numbers assigned to the equipments and cables on this diagram correspond to the ones in Sections 3 to 5.

SECTION 7. OPERATING CONDITION

The test was carried out under the following mode.

Charge mode
Cycle time for operation: Continuity
Test Program: KAS12_V100A04



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	+/- 3.96 dB	6.3 dB
Above 1 GHz CISPR22	+/- 4.87 dB	5.2 dB
Above 1 GHz ANCI 63.4	+/- 4.16 dB	5.2 dB
Radiated disturbance at 10m		
30 MHz – 1000 MHz	+/- 4.41 dB	6.3 dB
Above 1 GHz	+/- 4.59 dB	
Radiated disturbance at 30m		
	N/A	Nil
Conducted disturbance at mains terminals		
9 kHz – 150 kHz	+/- 1.46 dB	3.8 dB
150 kHz – 30 MHz	+/- 1.54 dB	3.4 dB
Conducted disturbance at telecommunication ports (ISN)		
150 kHz – 30 MHz	+/- 3.24 dB	5.0 dB
Conducted disturbance at telecommunication ports (Capacitive Voltage Probe)		
150 kHz – 30 MHz	+/- 2.92 dB	3.9 dB
Conducted disturbance at telecommunication ports (Current Probe)		
150 kHz – 30 MHz	+/- 1.65 dB	2.9 dB
Conducted disturbance at terminals		
150 kHz – 30 MHz	+/- 1.52 dB	2.9 dB
Disturbance power		
30 MHz – 300 MHz	+/- 2.36 dB	4.5 dB

The above expanded instrumentation uncertainty, $U_{lab.}$, is estimated in accordance with CISPR 16-4-2:2011.

SECTION 9. EVALUATION OF TEST RESULTS

9.1 Conducted disturbance at mains terminals

Location	Matsuda 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 >

Emission Level = Meter Reading + Factor

Margin = Limit- Emission Level

Factor = LISN Factor + Cable Loss + Attenuator

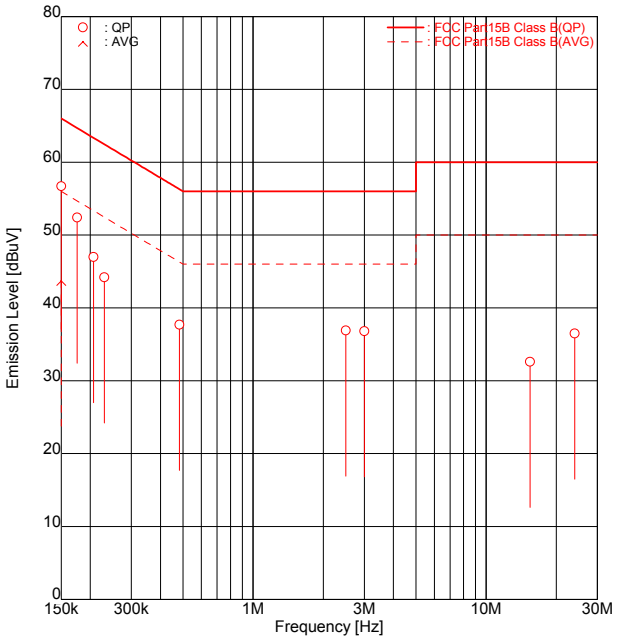
Result of Conducted disturbance at mains terminals
9.1.1 Charge mode

Intertek Japan K.K.

Matsuda No.3 Test Site

Conducted Voltages on Mains Port

APPLICANT	: JVC KENWOOD Corporation
EUT NAME	: Intelligent Charger
MODEL NO.	: KSC-Y32
SERIAL NO.	: 1
TEST MODE	: Charge mode
POWER SOURCE	: AC 120V, 60Hz
DATE TESTED	: Jun 04 2014
FILE NO.	: -
REGULATION	: FCC Part15B Class B
TEST METHOD	: ANSI C63.4-2003
TEMPERATURE	: 25.9 [degC]
HUMIDITY	: 57.0 [%]
NOTE	:



ENGINEER : Koichi Wagatsuma

[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	45.7	46.6	10.1	10.1	55.8	56.7	66.0	10.2	**9.3**
2	0.1500	AVG	33.6	33.5	10.1	10.1	43.7	43.6	56.0	12.3	12.4
3	0.1756	QP	42.3	42.1	10.1	10.1	52.4	52.2	64.7	12.3	12.5
4	0.2065	QP	36.9	36.6	10.1	10.1	47.0	46.7	63.3	16.3	16.6
5	0.2297	QP	34.1	33.8	10.1	10.1	44.2	43.9	62.5	18.3	18.6
6	0.4825	QP	26.9	27.5	10.2	10.2	37.1	37.7	56.3	19.2	18.6
7	2.4993	QP	26.5	26.1	10.4	10.4	36.9	36.5	56.0	19.1	19.5
8	3.0005	QP	26.3	26.2	10.5	10.5	36.8	36.7	56.0	19.2	19.3
9	15.4209	QP	21.3	20.9	11.3	11.4	32.6	32.3	60.0	27.4	27.7
10	23.9990	QP	24.0	24.8	11.6	11.7	35.6	36.5	60.0	24.4	23.5

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

emiT 3, 0, 0, 0

9.2 Radiated disturbance

Location	Matsuda No.3 Test Site
Test Engineer	Koichi Wagatsuma

Frequency Range of Measurements

Operating mode	Required Frequency Range	Measured Frequency Range
Charge mode	30 – 1000 MHz	30 – 1000 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

< Measurement data correction >

Emission Level = Meter Reading + Factor

Margin = Limit - Emission Level

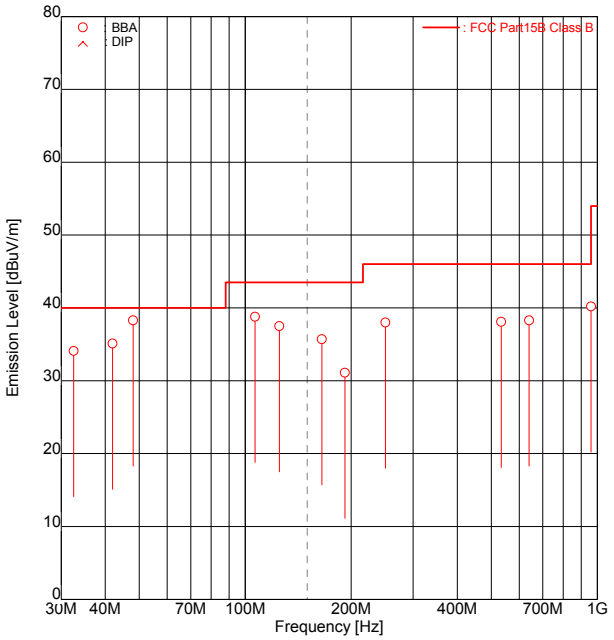
Factor = Antenna Factor + Cable Loss - Amplifier Gain + Attenuator (+ Distance Conversion Factor)*

* For other than Standard distance:
Distance Conversion Factor = 20 log (Measurement distance / Standard distance)

Result of Radiated disturbances
9.2.1 Charge mode

Intertek Japan K.K.
Matsuda No.3 Test Site
Radiated Electric Field

APPLICANT : JVC KENWOOD Corporation
EUT NAME : Intelligent Charger
MODEL NO. : KSC-Y32
SERIAL NO. : 1
TEST MODE : Charge mode
POWER SOURCE : AC 120V , 60Hz
DATE TESTED : Jun 03 2014
FILE NO. : -
REGULATION : FCC Part15B Class B
TEST METHOD : ANSI C63.4-2003
DISTANCE : 3.00 [m]
TEMPERATURE : 24.6 [degC]
HUMIDITY : 60.0 [%]
NOTE :



ENGINEER : Koichi Wagatsuma

[No]	FREQUENCY [MHz]	ANT.	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	32.57	BBA	-	41.7	-7.6	-7.6	-	34.1	40.0	-	5.9
2	42.00	BBA	-	41.4	-6.3	-6.3	-	35.1	40.0	-	4.9
3	48.00	BBA	35.0	44.3	-6.0	-6.0	29.0	38.3	40.0	11.0	**1.7**
4	106.66	BBA	48.0	42.3	-9.2	-9.2	38.8	33.1	43.5	4.7	10.4
5	125.02	BBA	42.7	44.6	-7.1	-7.1	35.6	37.5	43.5	7.9	6.0
6	164.99	BBA	-	40.9	-5.2	-5.2	-	35.7	43.5	-	7.8
7	192.00	BBA	36.5	37.9	-6.8	-6.8	29.7	31.1	43.5	13.8	12.4
8	250.01	BBA	42.9	36.0	-4.9	-4.9	38.0	31.1	46.0	8.0	14.9
9	533.33	BBA	31.1	35.3	2.8	2.8	33.9	38.1	46.0	12.1	7.9
10	640.00	BBA	-	33.2	5.1	5.1	-	38.3	46.0	-	7.7
11	960.00	BBA	28.6	26.3	11.6	11.6	40.2	37.9	46.0	5.8	8.1

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)

emiT 3, 0, 0, 0

SECTION 10. LIST OF MEASURING INSTRUMENTS

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

Instrument	Model No.	Serial No.	Manufacturer	Cal. Interval	Effective period
Conducted disturbance at mains terminals					
LISN(EUT)	ESH2-Z5	842966/001	Rohde & Schwarz	1 Y	Jun.30 2014
10dB LISN Pad	CFA-01	E03AT10D	TAMAGAWA	1 Y	Jun.30 2014
LISN(Peripheral)	KNW-407	8-1395-3	Kyoritsu	1 Y	Jun.30 2014
10dB LISN Pad	6810.01.A	1000312160	HUBER+SUHNER	1 Y	Jun.30 2014
50Ω Termination	65BNC-50-0-2/133NE	E03TRM50C	SUHNER	1 Y	Jun.30 2014
Coaxial Cable (C1)	3D-2W(7.8m)	MTS03CSR-1	Intertek	1 Y	Jan.31 2015
Coaxial Cable (C2)	RG-5A/U(12.0m)	MTS03CSR-2	Intertek	1 Y	Jan.31 2015
Coaxial Cable (C3)	RG214HF(1.5m)	MTS03CSR-3	SUHNER	1 Y	Jan.31 2015
Coaxial Cable (C4)	RG214HF(1.5m)	MTS03CSR-4	SUHNER	1 Y	Jan.31 2015
Coaxial Cable (C5)	RG214HF(1.5m)	MTS03CSR-5	SUHNER	1 Y	Jan.31 2015
Radiated disturbance					
Broad Band Antenna	VULB9168	330	Schwarz beck	1 Y	Nov.30 2014
Amplifier	8447D	2727A05321	Hewlett Packard	1 Y	Jan.31 2015
6dB Attenuator	MP721B	M87938	ANRITSU	1 Y	Jan.31 2015
Step Attenuator	8494B	2726A13827	Hewlett Packard	1 Y	Jan.31 2015
Coaxial Cable (R1)	RG214HF(8.0m)	MTS03R3-1	SUHNER	1 Y	Jan.31 2015
Coaxial Cable (R2)	12D-SFA(28.0m)	MTS03R3-2	Intertek	1 Y	Jan.31 2015
Coaxial Cable (R3)	RG214HF(2.0m)	MTS03R3-3	SUHNER	1 Y	Jan.31 2015
Coaxial Cable (R4)	RG214HF(0.4m)	MTS03R3-4	SUHNER	1 Y	Jan.31 2015
Coaxial Cable (R5)	RG214HF(0.4m)	MTS03R3-5	SUHNER	1 Y	Jan.31 2015
Coaxial Cable (R6)	RG214HF(1.5m)	MTS03R3-6	SUHNER	1 Y	Jan.31 2015
Coaxial Cable (R7)	RG214HF(1.5m)	MTS03R3-7	SUHNER	1 Y	Jan.31 2015
Coaxial Cable (R8)	RG214HF(1.5m)	MTS03R3-8	SUHNER	1 Y	Jan.31 2015
Coaxial Cable (R9)	5D-2W(8.0m)	MTS03R3-9	Intertek	1 Y	Jan.31 2015
Site Attenuation				1 Y	Apr.30 2015
Common					
Test Receiver	ESS (Firmware Version 1.06)	842123/008	Rohde & Schwarz	1 Y	Apr. 30 2015
RF Switch(1)	MP59B	M06941	ANRITSU	1 Y	Jan. 31 2015
RF Switch(2)	ACX-150-1	E03301501	Intertek	1 Y	Jan. 31 2015
Testing Software	emiT (Version 3,0,0,0)			N/A	N/A

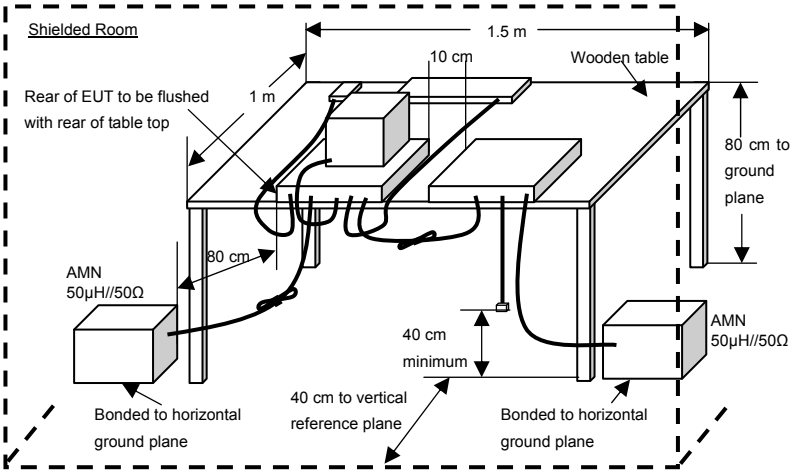
ANNEX

A. TEST PROCEDURE(S)

Test was carried out under the following conditions.

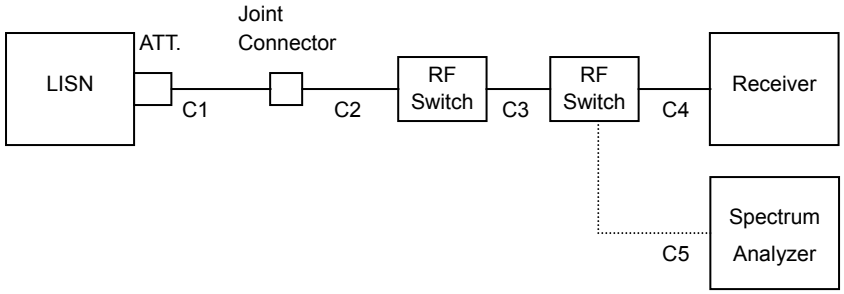
Conducted disturbance at mains terminals

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

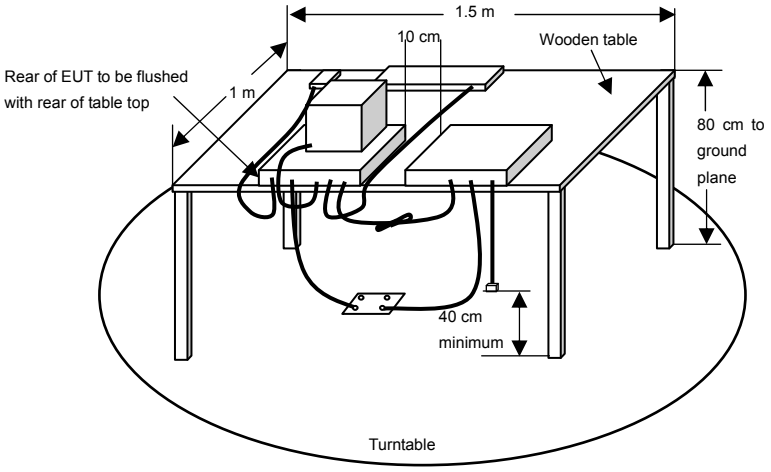
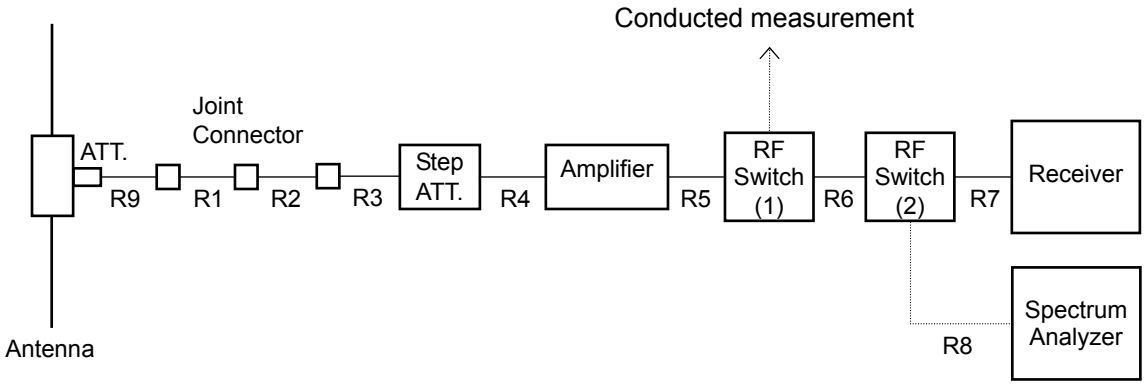


Diagram of the measuring instruments (30-1000MHz)



[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.