TEST REPORT

Ref. number : YE19032

Date of issue : October 7, 2019

Applicant information

Name	: JVCKENWOOD Technologies Singapore Pte. Ltd.
Address	: 1 Ang Mo Kio Street 63, Singapore 569110

Test Sample (EUT) Information

Type description	: DIGITAL MEDIA RECEIVER
Trade name/ Brand	: JVC
Model name	: KD-X472DBT
Serial number(s)	: 134X0017
Rating	: 12V DC, 6A
Accessory	: None

Test Summary

Test laboratory	: JVCKENWOOD EMC CENTER 3-12, Moriyacho, Kanagawa-ku, Yokohama-shi, Kanagawa, 221-0022, Japan TEL +81-45-450-2473, FAX +81-45-450-2474
Date(s) of test	: September 18, 2019 – September 26, 2019
Test specification	: EN55035:2017
Test result	: Pass / The test results relate only to the sample tested.

Approved by

Hiroyuki Ryu, Manager

Tested and written by

Takashi Shimizu, Engineer

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1. Scope of test

1.1 Emission

Measurements	Result	Remark
- Harmonic current emissions	N/A	N/A
- Voltage change fluctuations and flicker	N/A	N/A

1.2 Immunity

Measurements	Result	Remark
- Electrostatic discharge (ESD)	Test passed	None
- Radiated RF fields	Test passed	None
- Electrical fast transients/burst	Test passed	None
- Surge	N/A	N/A
- Conducted disturbances (Inducted by radio-frequency fields)	Test passed	None
- Power frequency magnetic fields (50Hz)	N/A	N/A
- Voltage dips, short interruptions and voltage variations	N/A	N/A

- Procedure : Assessment of conformity to test specification / Type examination
- This measurements report covered by this document have been performed in accordance with the requirements of ISO/IEC 17025 and are traceable to national or international standards of measurement.
- All tests were performed with no deviation from the standard EN55035.
- This test results responds to the tested sample.

2. Test facility

Ref. no. : EMCG002, shielded room. Size 10.8m x 3.8m x 3m/JSE

Ref. no. : EMCG081, shielded room. Size 8m x 5m x 3m / TDK

Ref. no. : EMCG080, small sized anechoic chamber (3m semi-anechoic chamber), size 8m x 4m x 3m/TOKIN

3. Test sample Information (additional)

Description : The EUT KD-X472DBT is a DIGITAL MEDIA RECEIVER.
The EUT is provided radio tuner and audio amplifier (50W x4, 4Ω - 8Ω).
The maxmum frequency of internal clock : 6.2208GHz.
For the features/Terminals of the EUT, the details are attached on next page.

Date of receipt	: September 17, 2019
Way of sampling	: Sent by client
EUT condition	: Pre production sample
EUT modifications	: No modification has been carried out by test laboratory

3.1 Features / Terminals of the EUT

Features	Terminals	Special options /terminals
	For rear	
☐ CD Player	☒ Wiring harness (14 cables),Note 2	☐
☐ DVD Player	☒ FRONT L/R(RCA)	☐
☒ Radio Tuner	☒ REAR L/R (RCA)	☐
☒ iPod or USB	☒ SW L/R(RCA)	☐
☒ DAB	☐ SW(SUB WOOFER) L/R (RCA)	☐
☒ Bluetooth	☐ External optional accessory	☐
☐	☒ MIC (φ3.5, mono)	☐
☐	For front	☐
☐	☒ AUX (φ3.5, stereo)	☐
☐	☒ USB (Slave)	☐
☐	☐	☐
☐	☐	☐

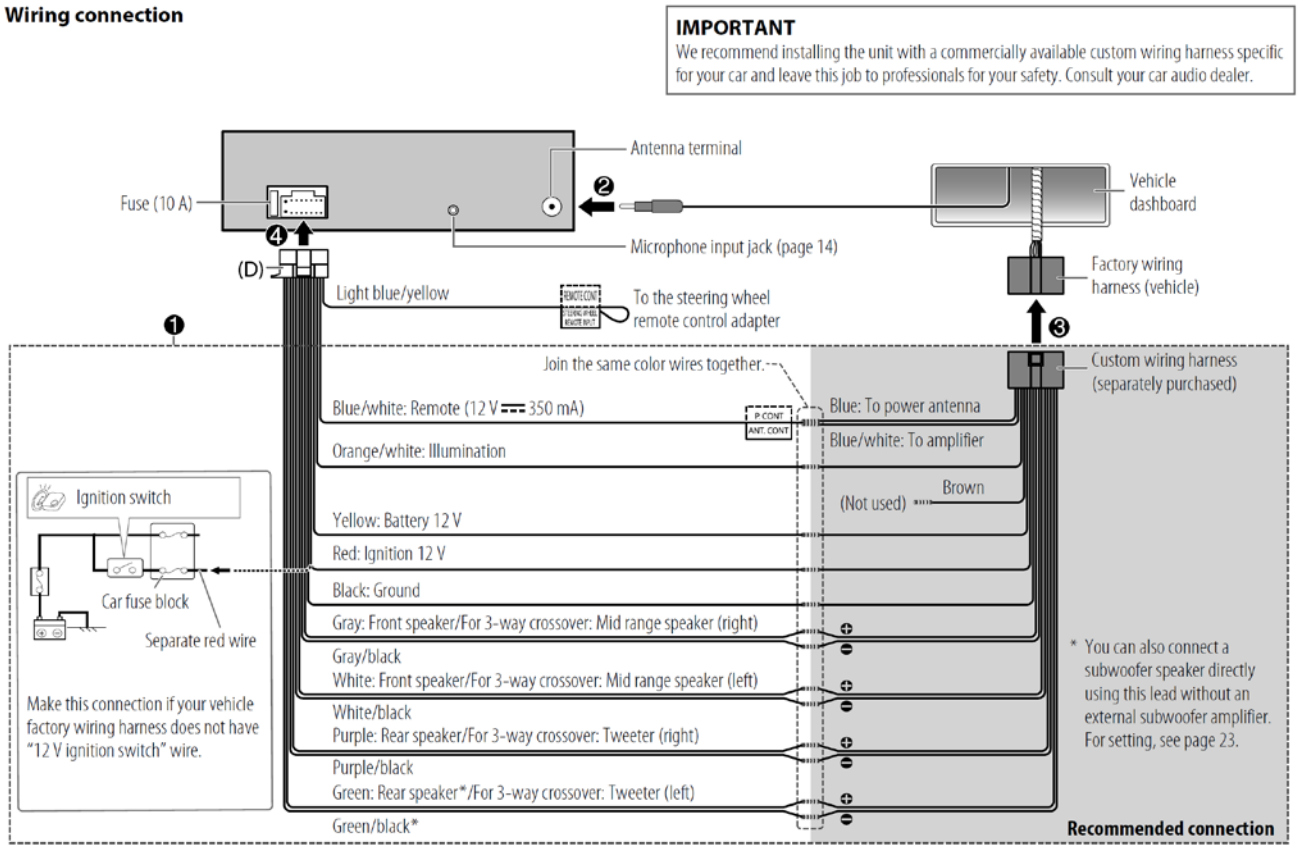
Note : "☒" indicates that the EUT equips the feature/terminal.

"☐" indicates that the EUT does not equip feature/terminal.

Note 2 : The detail as next page.

Remark : None

Wiring harness 14 pin cables



The length of the each cables are as follows

front speaker (left & right / 4 cables)	:	original/10cm + extension/340cm	→	350cm / 4Ω load
rear speaker (left & right / 4 cables)	:	original/10cm + extension/340cm	→	350cm/ 4Ω load
Ignition wire / 1 cable	:	original/10cm + extension/230cm	→	240cm / DC 12V
Battery wire / 1 cable	:	original/10cm + extension/230cm	→	240cm / DC 12V
Ground wire / 1 cable	:	original/10cm + extension/230cm	→	240cm / Ground
Power control wire /1 cable	:	16cm / opened		
Mute control wire /1 cable	:	16cm / opened		
Antenna control wire /1 cable	:	16cm / opened		

3.2 List of accessory

Type no.	Model no.	Serial no.	Manufacturer /Brand	CE
USB Flash Drive /Peripheral	U2K-004GT	None	TOSHIBA	Not Applicable

3.3 list of cable

Cable type no.	Type no.	Connection	Shielded	Ferrite core	Length (m)
Wiring harness 14 pin cables	N/A	EUT	None	None	Note 1
SW L/R cable	RCA	EUT	Yes	None	1.6
REAR L/R cable	RCA	EUT	Yes	None	1.6
FRONT L/R cable	RCA	EUT	Yes	None	1.6
AV-IN cable	φ3.5 (Stereo)	EUT	Yes	None	1.0
USB terminal cable	USB	EUT to USB Flash Drive	Yes	None	1.0
MIC cable	φ3.5	EUT to MIC	Yes	None	3.0
Antenna cable	BNC	EUT to SG	Yes	None	1.5
DAB cable	BNC	EUT to SG	Yes	None	2.0

Note 1: for details, see “Wiring harness 14 pin cables“ of page 6

4. Test configuration

Power supply : 12V DC

4.1 Communication modes (operation modes)

4.1.1 Electrostatic discharge (ESD)

Test standard : EN55035:2017 with EN61000-4-2:2009

Communication modes :

1) The EUT alone operated

The details of operation mode is as follows,

Communi-cation modes	Operation modes	4.2.3 Configuration of tested system
1)	1. EUT playback USB, 1kHz audio signal / for Front, Speakers (L/R) connected, for Rear, 4Ω dummy load x2 connected	(1) The EUT alone operating / USB mode, FM mode, DAB mode
1)	2. EUT FM 98MHz tuned / for Front, Speakers (L/R) connected, for Rear, 4Ω dummy load x2 connected	
1)	3. EUT DAB 9D (208.064MHz) tuned / for Front, Speakers (L/R) connected, for Rear, 4Ω dummy load x2 connected	

Note :

1. Software is used to exercise the EUT as follows

   Software is not used to exercise the EUT
2. Criterion B was judged by the audio output function of the EUT according to annex G of EN55035.
3. To monitor the sound output, speakers were connected to the front speaker terminals.

4.1.2 Radiated RF fields

Test standard : EN55035:2017 with EN61000-4-3:2006 + A1:2008 + A2:2010

Communication modes :

1) EUT alone operated

The details of operation modes are as follows,

Communi-cation modes	Operation modes	4.3.3 Configuration of tested system
1)	1. EUT playback USB, 1kHz audio signal / 4Ω dummy load x4 connected	(1) EUT alone operating / USB mode

Note :

1. Software is used to exercise the EUT as follows
   Software is not used to exercise the EUT
2. Criterion A was judged by the audio output function of the EUT according to annex G of EN55035.
3. .For the sound assessments, 4Ω dummy loads were connected to the speaker terminals and the volume of the EUT was adjust to approximately 500mW (1.42V at 4Ω).
   The measured acoustic interference ratio and /or the measured electrical interference ratio during the test shall be -20dB or better.

4.1.3 Electrical fast transients/burst

Test standard : EN55035:2017 with EN61000-4-4:2012

Communication modes :

1) EUT alone operated

The details of operation mode are as follows,

Communi-cation modes	Operation modes	4.4.3 Configuration of tested system
1)	1. EUT playback USB, 1kHz audio signal / for Front, Speakers (L/R) connected, for Rear, 4Ω dummy load x2 connected/ injection into the D.C.line.	(1) EUT alone operating / USB mode, DAB mode, FM mode
1)	2. EUT playback USB, 1kHz audio signal / for Front, Speakers (L/R) connected, for Rear, 4Ω dummy load x2 connected/ injection into the Wiring harness	
1)	3. EUT playback USB, 1kHz audio signal / for Front, Speakers (L/R) connected, for Rear, 4Ω dummy load x2 connected/ injection into FRONT/REAR/SW	
1)	4. EUT playback USB, 1kHz audio signal / for Front, Speakers (L/R) connected, for Rear, 4Ω dummy load x2 connected/ injection into Antenna terminal.	
1)	5. EUT playback USB, 1kHz audio signal / for Front, Speakers (L/R) connected, for Rear, 4Ω dummy load x2 connected/ injection into the DAB terminal.	
1)	6. EUT playback USB, 1kHz audio signal / for Front, Speakers (L/R) connected, for Rear, 4Ω dummy load x2 connected/ injection into the MIC terminal.	
1)	7. EUT DAB 9D (208.064MHz) tuned / for Front, Speakers (L/R) connected, for Rear, 4Ω dummy load x2 connected/ injection into the D.C.line.	
1)	8. EUT DAB 9D (208.064MHz) tuned / for Front, Speakers (L/R) connected, for Rear, 4Ω dummy load x2 connected/ injection into the Wiring harness	

cont.

cont.

Communi-cation modes	Operation modes	4.4.3 Configuration of tested system
1)	9. EUT DAB 9D (208.064MHz) tuned / for Front, Speakers (L/R) connected, for Rear, 4Ω dummy load x2 connected/ injection into FRONT/REAR/SW	(1) EUT alone operating / USB mode, DAB mode, FM mode
1)	10. EUT DAB 9D (208.064MHz) tuned / for Front, Speakers (L/R) connected, for Rear, 4Ω dummy load x2 connected/ injection into Antenna terminal.	
1)	11. EUT DAB 9D (208.064MHz) tuned / for Front, Speakers (L/R) connected, for Rear, 4Ω dummy load x2 connected/ injection into DAB terminal.	
1)	12. EUT DAB 9D (208.064MHz) tuned / for Front, Speakers (L/R) connected, for Rear, 4Ω dummy load x2 connected/ injection into MIC terminal.	
1)	13. EUT FM 98MHz tuned / for Front, Speakers (L/R) connected, for Rear, 4Ω dummy load x2 connected/ injection into the DC line.	
1)	14. EUT FM 98MHz tuned / for Front, Speakers (L/R) connected, for Rear, 4Ω dummy load x2 connected/ injection into Wiring harness	
1)	15. EUT FM 98MHz tuned / for Front, Speakers (L/R) connected, for Rear, 4Ω dummy load x2 connected/ injection into FRONT/REAR/SW	
1)	16. EUT FM 98MHz tuned / for Front, Speakers (L/R) connected, for Rear, 4Ω dummy load x2 connected/ injection into Antenna terminal.	

cont.

cont.

Communi-cation modes	Operation modes	4.4.3 Configuration of tested system
1)	17. EUT FM 98MHz tuned / for Front, Speakers (L/R) connected, for Rear, 4Ω dummy load x2 connected/ injection into the DAB terminal.	(1) EUT alone operating / USB mode, DAB mode, FM mode
1)	18. EUT FM 98MHz tuned / for Front, Speakers (L/R) connected, for Rear, 4Ω dummy load x2 connected/ injection into MIC terminal.	

Note :

1. Software is used to exercise the EUT as follows

   Software is not used to exercise the EUT
2. Criterion B was judged by the audio output function of the EUT according to annex G of EN55035.
3. To monitor the sound output, speakers were connected to the front speaker terminals.

4.1.4 Surge

Test standard : EN55035:2017 with EN61000-4-5:2006

The EUT does not have a mains power supply (DC equipment).

For signal port, no outdoor port (cable).

4.1.5 Conducted disturbances (Inducted by radio-frequency fields)

Test standard : EN55035:2017 with EN61000-4-6:2009

Communication modes :

1) EUT alone operated

The details of operation modes are as follows.

Communi-cation modes	Operation modes	4.5.3 Configuration of tested system
1)	1. EUT playback USB, 1kHz audio signal / 4Ω dummy load x4 connected injection into the DC cable	(1) EUT alone operating / USB mode, DAB mode, FM mode
1)	2. EUT playback USB, 1kHz audio signal / 4Ω dummy load x4 connected injection into Wiring harness(14p cables)	
1)	3. EUT playback USB, 1kHz audio signal / 4Ω dummy load x4 connected injection into FRONT/REAR/SW (RCA)	
1)	4. EUT playback USB, 1kHz audio signal / 4Ω dummy load x4 connected injection into the DAB terminal	
1)	5. EUT playback USB, 1kHz audio signal / 4Ω dummy load x4 connected injection into Antenna cable	
1)	6. EUT playback USB, 1kHz audio signal / 4Ω dummy load x4 connected injection into MIC cable	
1)	7. EUT DAB 9D (208.064MHz) tuned / 4Ω dummy load x4 connected injection into the DC cable	
1)	8. EUT DAB 9D (208.064MHz) tuned / 4Ω dummy load x4 connected injection into Wiring harness(14p cables)	
1)	9. EUT DAB 9D (208.064MHz) tuned / 4Ω dummy load x4 connected injection into FRONT/REAR/SW (RCA)	

cont.

cont.

Communi-cation modes	Operation modes	4.5.3 Configuration of tested system
1)	10. EUT DAB 9D (208.064MHz) tuned / 4Ω dummy load x4 connected injection into the DAB terminal.	(1) EUT alone operating / USB mode, DAB mode, FM mode
1)	11. EUT DAB 9D (208.064MHz) tuned / 4Ω dummy load x4 connected injection into Antenna terminal.	
1)	12. EUT DAB 9D (208.064MHz) tuned / 4Ω dummy load x4 connected injection into MIC cable	
1)	13. EUT FM 98MHz tuned / 4Ω dummy load x4 connected injection into the DC cable	
1)	14. EUT FM 98MHz tuned / 4Ω dummy load x4 connected injection into Wiring harness(14p cables)	
1)	15. EUT FM 98MHz tuned / 4Ω dummy load x4 connected injection into FRONT/REAR/SW (RCA)	
1)	16. EUT FM 98MHz tuned / 4Ω dummy load x4 connected injection into Antenna terminal.	
1)	17. EUT FM 98MHz tuned / 4Ω dummy load x4 connected injection into the DAB terminal.	
1)	18. EUT FM 98MHz tuned / 4Ω dummy load x4 connected injection into MIC cable	

Note :

1. Software is used to exercise the EUT as follows

   Software is not used to exercise the EUT
2. Criterion B was judged by the audio output function of the EUT according to annex G of EN55035.
3. To monitor the sound output, speakers were connected to the front speaker terminals.

4.1.6 Power frequency magnetic fields (50Hz)

Test standard : EN55035:2017 with EN61000-4-8:2010

EUT is not a device intrinsically susceptible to magnetic fields.

4.1.7 Voltage dips, short interruptions and voltage variations

Test standard : EN55035:2017 with EN61000-4-11:2004

The EUT does not have a mains power supply (DC equipment).

4.2 Electrostatic discharge (ESD)

4.2.1 Summary of measurement setting

- The tests and measurements carried out EN55035 and EN61000-4-2, Electrostatic discharge (ESD).
- The set-up and conditions are “4.2.3” and “4.2.5 Photo of test configuration”.
- The test condition was performed as follows,

Charge voltage	:	Contact 2kV, 4kV Air 2kV, 4kV, 8kV
Polarity	:	positive / negative
Number of discharge	:	For contact discharge, EUT shall be exposed to at least 200 discharges, 100 each at negative and positive polarity, at a minimum of four test points (at minimum of 50 discharges at each point). One of the test points shall be subjected to at least 50 indirect discharges (contact) to centre of the front edge of the horizontal coupling plane. The remaining three test points shall each receive at least 50 direct contact discharge. The test shall be performed with signal discharges. On preselected points at least 10 signal discharges (in the most sensitive polarity) shall be applied. For air discharge, a minimum of 10 signal air discharges shall be applied to the selected test point for each such area.
Performance criterion	:	B

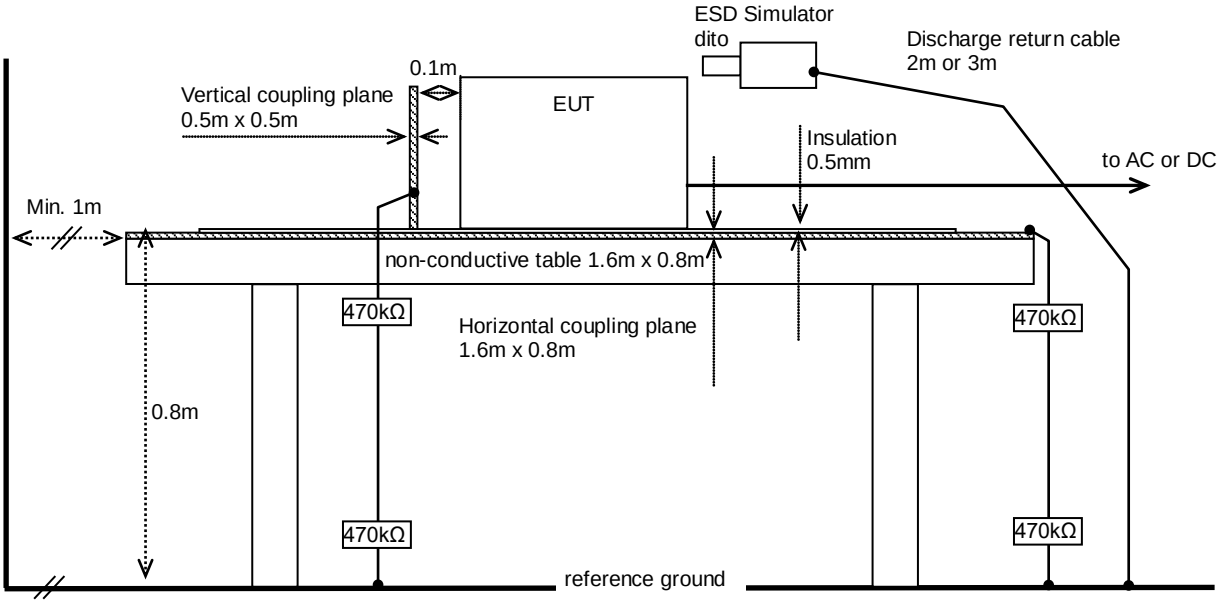
The test is carried out according to our test procedure VYES-T009 and VYES-T010.

4.2.2 Special test condition

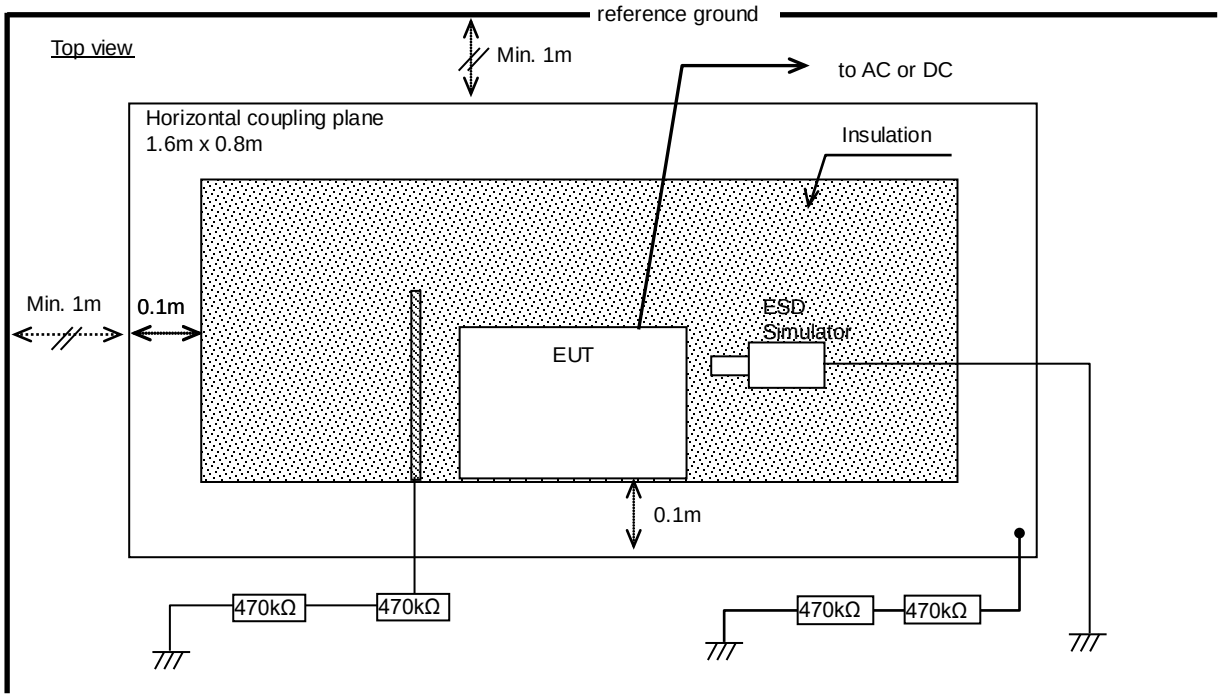
None

4.2.3 Configuration of tested system

- Side view



- Top view



4.2.4 Measuring instruments

Test Site : Shielded room 1/EMCG002

Description : Shielded room 10.8m x 3.8m x 3m, filtered power supply, air conditioned

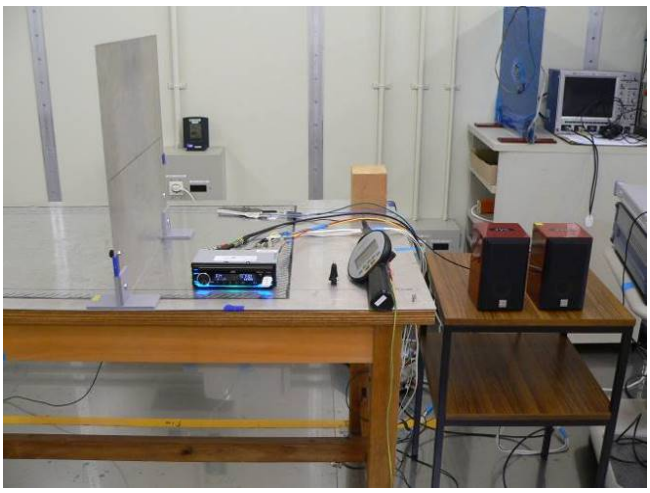
	Instrument	Type no.	Serial no.	Manufacturer	Inst. no.	Latest cal.	Cal. Interval
☒	ESD Simulator	dito	V0639101829	EM TEST AG	EY0S081	Aug/14/2019	1 year
☒	Horizontal Coupling Plane	0.8m x 1.6mm	None	TSJ	EMCG087	N/A	N/A
☒	Vertical Coupling Plane	0.5m x 0.5mm	None	TSJ	EMCG089	N/A	N/A
☐	Luminance Meter	LS-100	41613003	Konica Minolta	ZK4S090	Apr/15/2019	1 year
☒	Signal Generator	SMY	71400037	Rohde & Schwarz	EG2S247	Jun/12/2019	1 year
☒	DC Power Supply	PAN16-10	CK001767	KIKUSUI	EP1S145	Apr/17/2019	1 year
☒	TEST TRANSMITTER	SFE100	2112.4100K03 -132824-fP	Rohde & Schwarz	N/A	N/A	N/A
☐							
☐							
☐							
☐							
☐							
☐							

Note 1 : "☒" indicates that these instruments were in use for this test.
"☐" indicates that these instruments were not in use for this test.

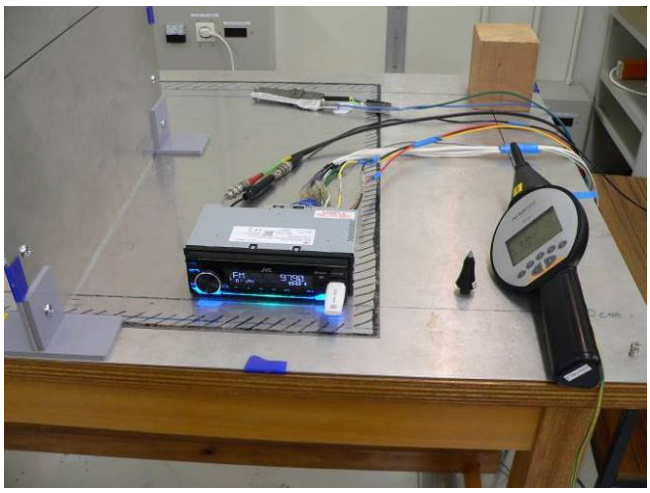
Note 2 : The next calibration will be done by the end of the same month one year later.

4.2.5 Photo of test configuration

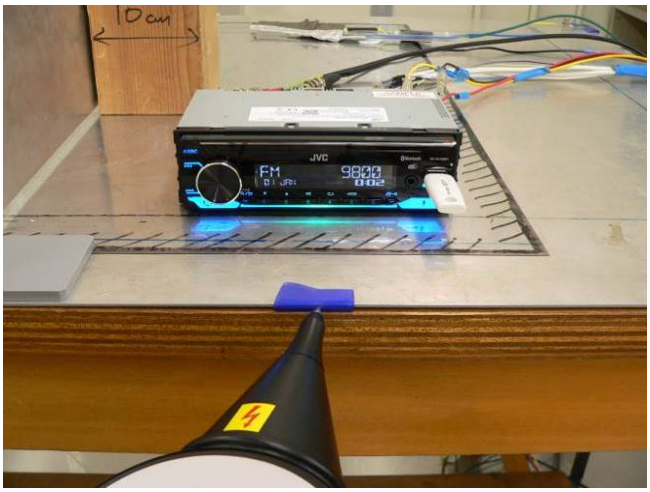
picture 1 : Measurement set-up



picture 2 : Measurement set-up



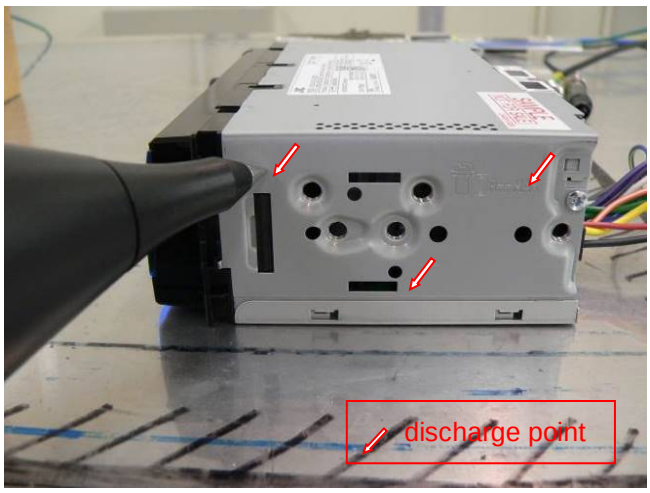
picture 3 : Contact discharge points/ HCP



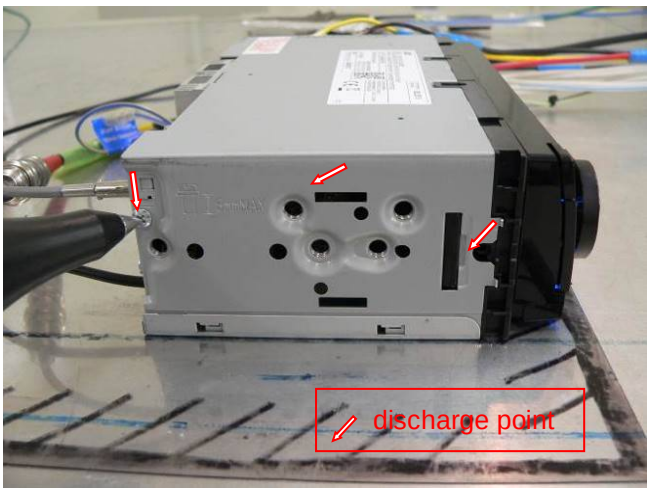
picture 4 : Contact discharge points/ VCP

picture 5 : Contact discharge points/ Front

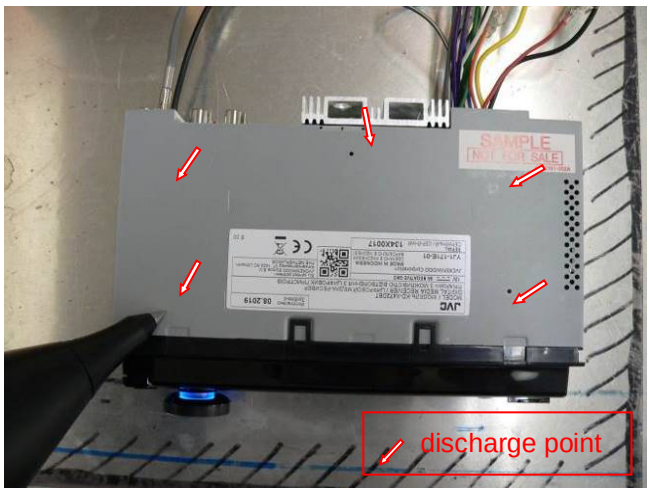
picture 6 : Contact discharge points/ left side



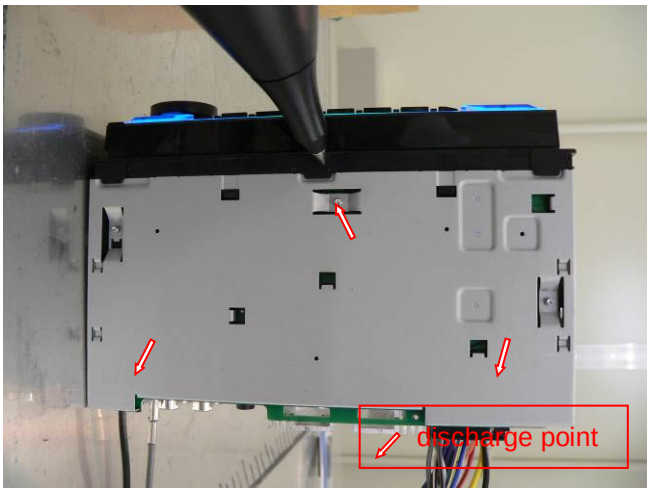
picture 7 : Contact discharge points/ Right side



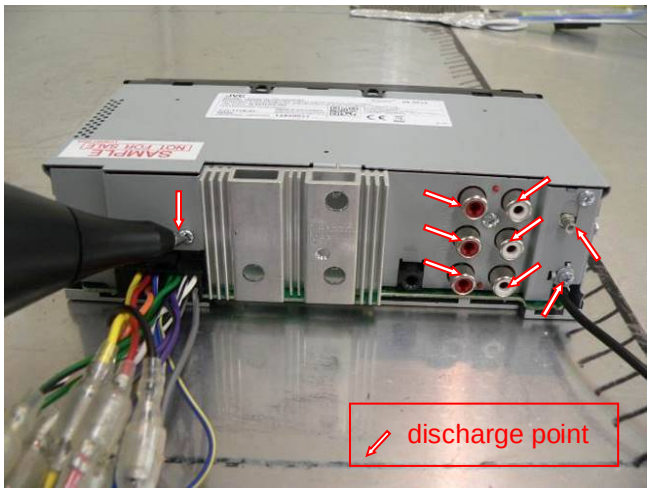
picture 8 : Contact discharge points/ Top



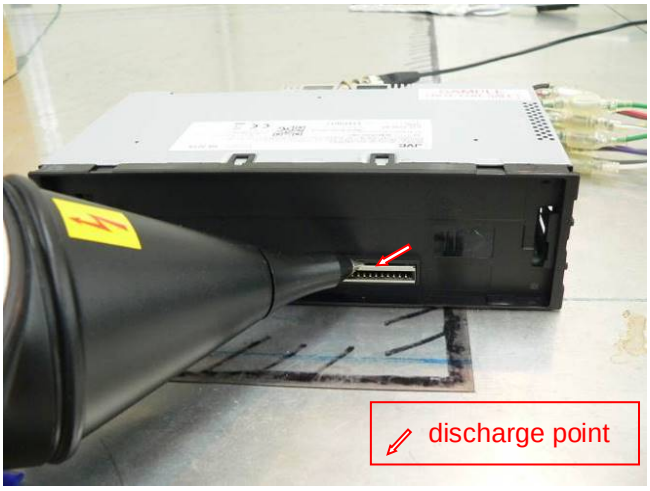
picture 9 : Contact discharge points/ Bottom



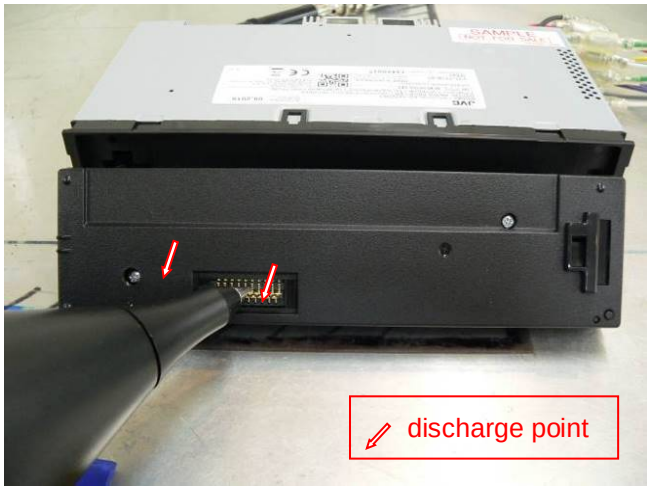
picture 10 : Contact discharge points / Rear



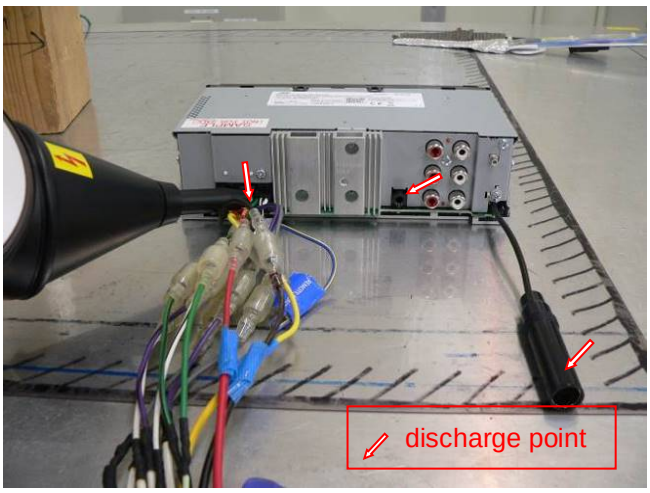
picture 11 : Contact discharge points / Front (main unit)



picture 12 : Contact discharge points / Front



picture 13 : Air discharge points/ Rear side



picture 14 : Air discharge points / Main unit

4.2.6 Measurement Uncertainty

Uncertainty for ESD rise time	:	±6.8%
Uncertainty for ESD peak current	:	±4.1%
Uncertainty for ESD I30 I60	:	±4.2%

The measurement uncertainties have been determined at a confidence level of approximately 95% (k=2).

The uncertainty value was calculated in accordance with IEC61000-4-2.

4.3 Radiated RF fields

4.3.1 Summary of measurement setting

- The tests and measurements of Immunity from radiated RF fields was carried out according to EN55035 and EN61000-4-3.
- The set-up conditions are in “4.3.3” and “4.3.5 Photo of test configuration”.

- The test condition was performed as follows,

RF emission frequency	: from 80MHz to 1000MHz
Fielded strength	: 3V/m
Modulation	: AM 80%, 1kHz
Frequency step size	: 1% of fundamental
Performance criterion	: A

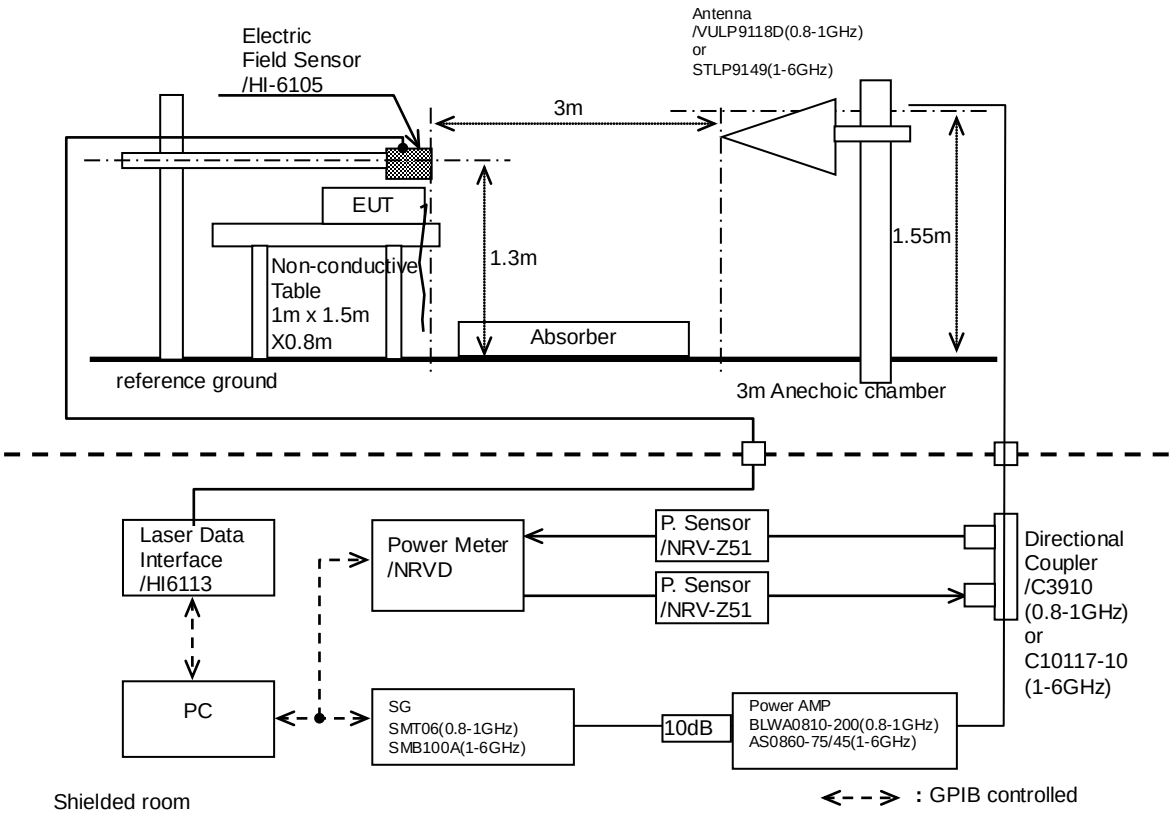
RF emission frequency	: 1800MHz, 2600MHz, 3500MHz, 5000MHz / frequency ±1%
Fielded strength	: 3V/m
Modulation	: AM 80%, 1kHz
Performance criterion	: A

The test is carried out according to our test procedure VYES-T011.

4.3.2 Special test condition

None

4.3.3 Configuration of tested system



4.3.4 Measuring instruments

Test Site : 3m Semi-anechoic chamber/EMCG080

Description : Small sized anechoic chamber 8m x 4m x 3.2m

	Instrument	Type no.	Serial no.	Manufacturer	Inst. no.	Latest cal.	Cal. Interval
☒	Log-Peri Broadband Antenna	VULP9118D	9118D616	Schwarzbeck	ZZ2S252	N/A	N/A
☒	Power Amplifier	BLWA 0810	066453B -20	Bonn Elektronik	EX0S105	May/30/2019	1 year
☒	Power Meter	NRVD	101657	Rohde & Schwarz	EX4S106	Jun/12/2019	1 year
☒	Electric Field Sensor	HI-6105	74929	ETS Lindgren	EX0S110	Jun/12/2019	1 year
☒	Software	IM5/R	0612115	Toyo Corp.	EMCG135	N/A	N/A
☒	Signal Generator	SMT06	100953	Rohde & Schwarz	EG2S109	Jun/13/2019	1 year
☒	Noise Meter	MN-446A	73011416	Meguro	EV2S136	Aug/21/2019	1 year
☒	Band pass filter	BP02	861102	Erika Fiedler	ZZ3S137	May/22/2019	1 year
☒	DC Power Supply	PAN16-10	CK001767	KIKUSUI	EP1S145	Apr/17/2019	1 year
☒	Audio Analyzer	UPL	101237	Rohde & Schwarz	EA2S146	Jun/12/2019	1 year
☒	Double log-Peri Antenna	STLP9149	00678	Schwarzbeck	ZZ2S268	N/A	N/A
☒	Power Amplifier	AS0860-75/45W	1087419	MILMEGA	EX0S269	N/A	N/A
☒	Signal Generator	SMB100A	180978	Rohde & Schwarz	EJ2S264	Jun/13/2019	1 year
☐							

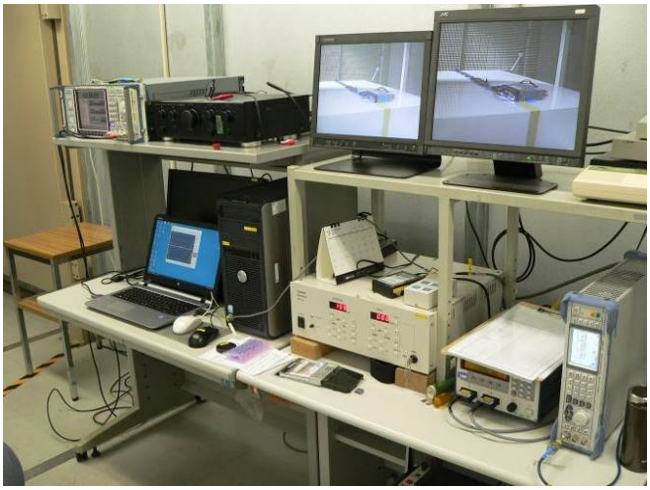
Note 1 : "☒" indicates that these instruments were in use for this test.

"☐" indicates that these instruments were not in use for this test.

Note 2 : The next calibration will be done by the end of the same month one year later.

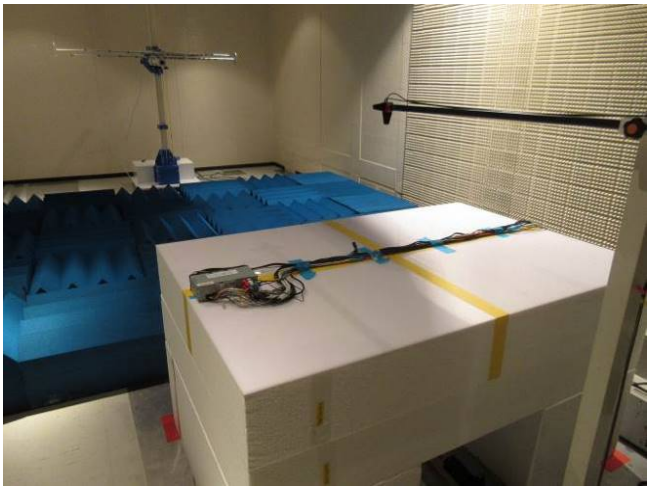
4.3.5 Photo of test configuration

picture 1 : Measurement set-up



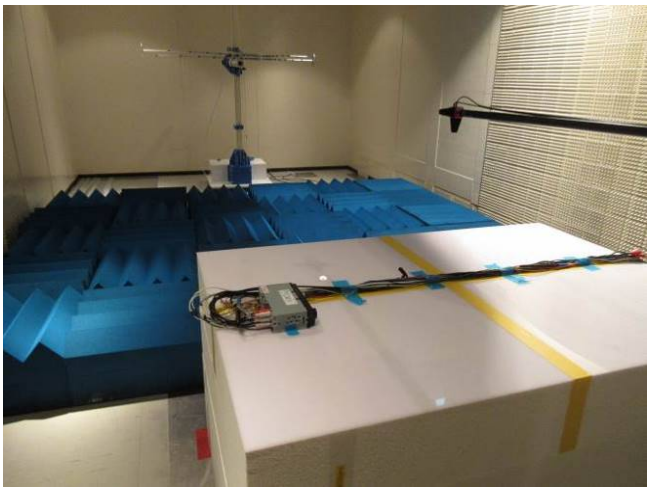
picture 2 : Measurement set-up

picture 3 : EUT alone/ Front for 0.8-1GHz

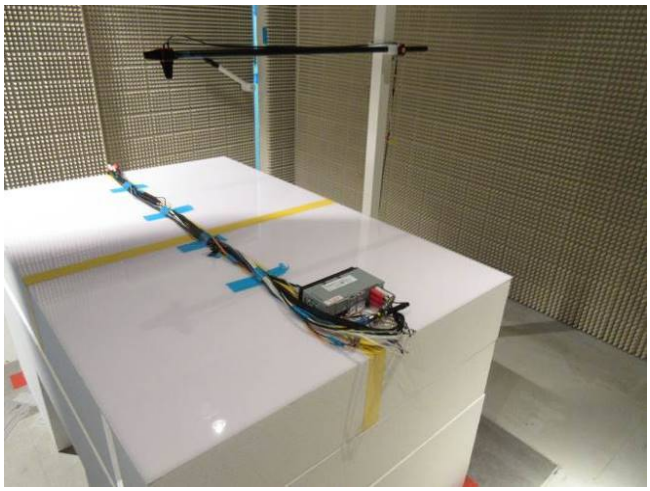


picture 4 : EUT alone/ Front for 0.8-1GHz

picture 5 : EUT alone/ Left side for 0.8-1GHz

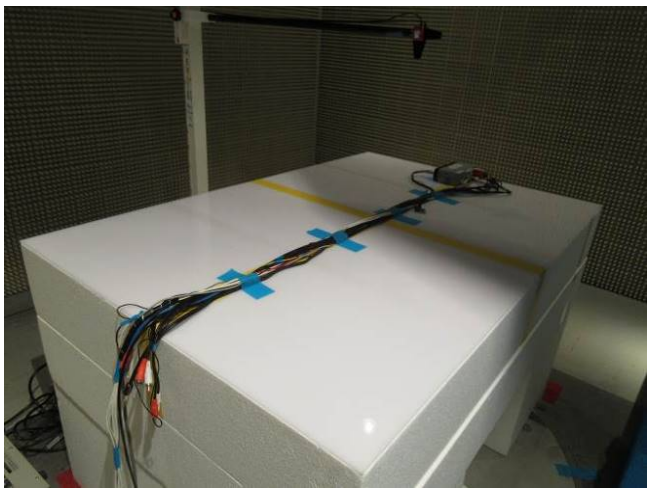


picture 6 : EUT alone/ Left side for 0.8-1GHz



picture 7 : EUT alone/ Rear for 0.8-1GHz

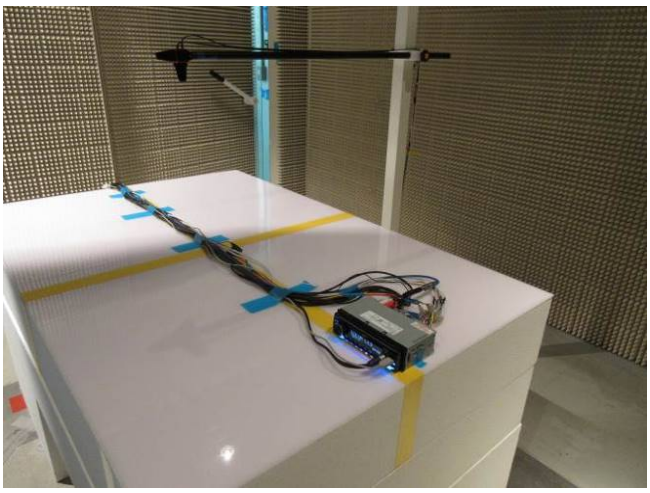
picture 8 : EUT alone/ Rear for 0.8-1GHz



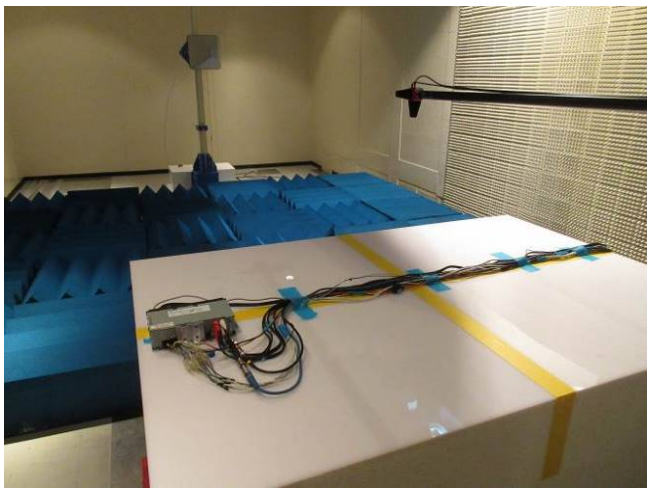
picture 9 : EUT alone / Right side for 0.8-1GHz

picture 10 : EUT alone/ Right side for 0.8-1GHz

picture 11 : EUT alone/ Front for 1-6GHz



picture 12 : EUT alone/ Front for 1-6GHz

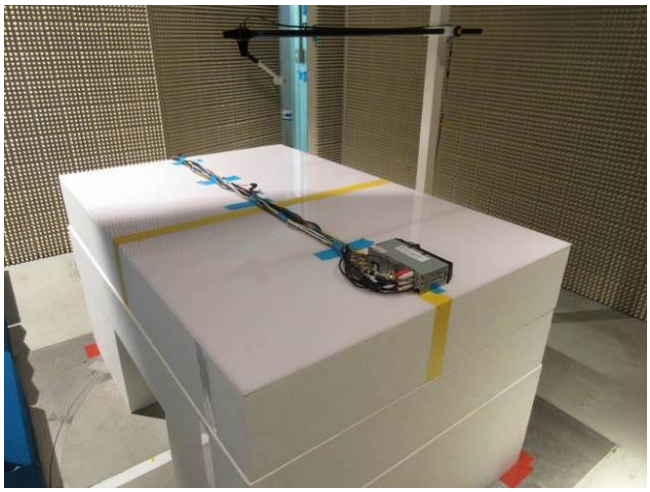


picture 13 : EUT alone / Left side for 1-6GHz

picture 14 : EUT alone / Left side for 1-6GHz

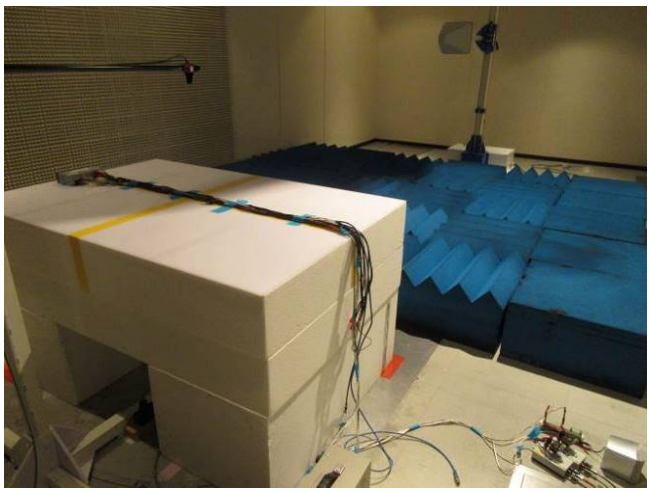
picture 15 : EUT alone/ Rear for 1-6GHz

picture 16 : EUT alone/ Rear for 1-6GHz



picture 17 : EUT alone / Right for 1-6GHz

picture 18 : EUT alone / Right for 1-6GHz



4.3.6 Measurement uncertainty

Frequency range : 80MHz – 1000MHz

The uncertainty for the setting level of the Electric field strength : ±1.48dB

Frequency range : 1000MHz – 6000MHz

The uncertainty for the setting level of the Electric field strength : ±1.28dB

The measurement uncertainties have been determined at a confidence level of approximately 95% (k=2).

The uncertainty value was calculated in accordance with IEC61000-4-3.

4.4 Electrical fast transients/burst

4.4.1 Summary of measurement setting

- The tests and measurements carried out EN55035 and EN61000-4-4, Electrical fast transients/burst.
- The set-up and conditions are “4.4.3” and “4.4.5 Photo of test configuration”.
- The test condition was performed as follows,

Test voltage	: 1kV at AC power port 0.5kV at signal ports/telecommunication ports/DC power port
Rise time	: 5n sec
Duration	: 50n sec
Polarity	: positive/negative, for AC power port only
Repetition frequency	: 5kHz
Performance criterion	: B

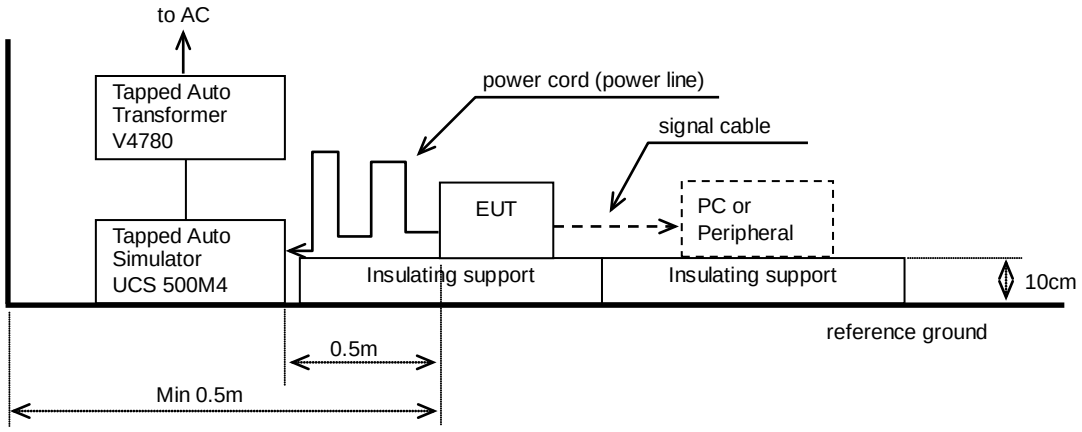
The test is carried out according to our test procedure VYES-T012 and VYES-T013.

4.4.2 Special test condition

None

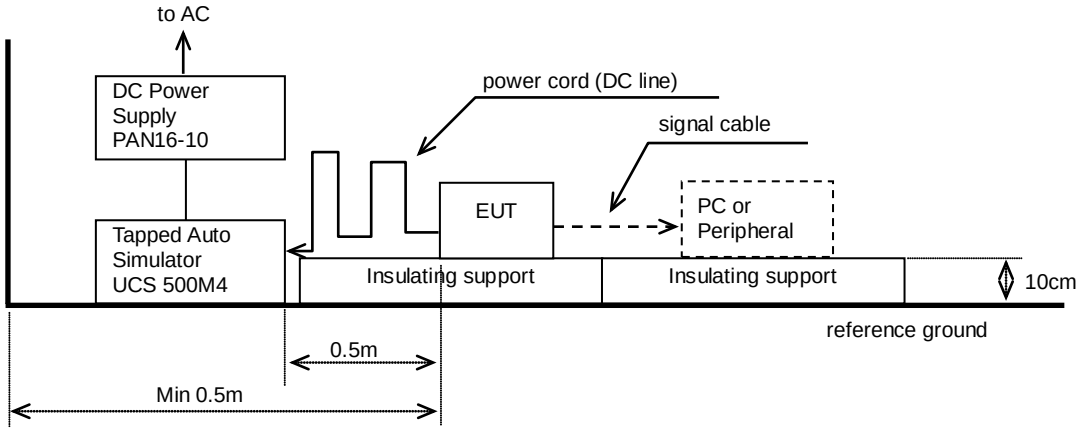
4.4.3 Configuration of tested system

- Power cord (AC line)

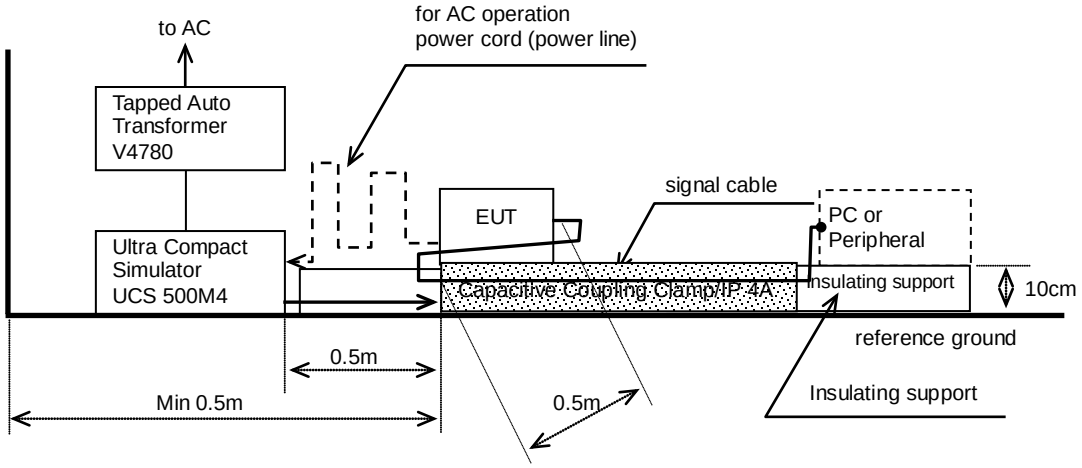


or

- Power cord (DC line)

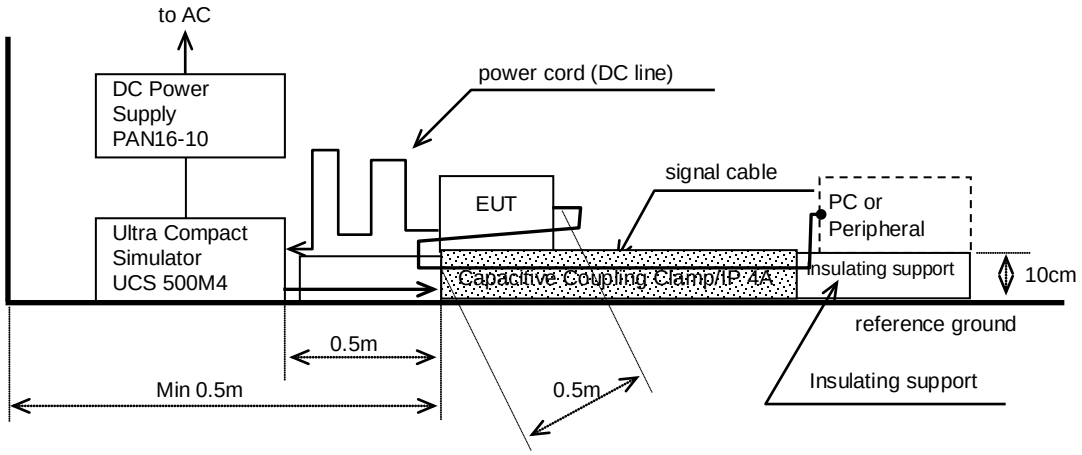


-Signal cable (AC equipment)



or

- Signal cable (DC equipment)



4.4.4 Measuring instruments

Test Site : Shielded room 1/EMCG002

Description : Shielded room 10.8m x 3.8m x 3m, filtered power supply, air conditioned

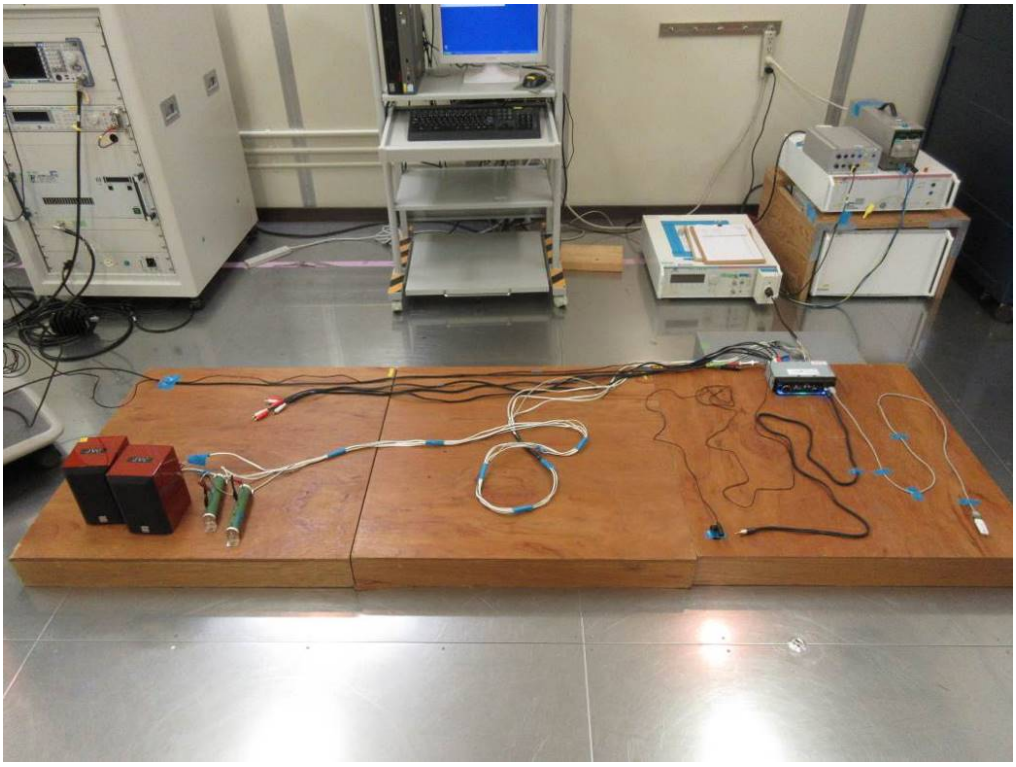
	Instrument	Type no.	Serial no.	Manufacturer	Inst. no.	Latest cal.	Cal. Interval
☒	Ultra Compact Simulator	UCS 500M4	V0639101830	EM TEST AG	ZY2S082	Jun/16/2019	1 year
☒	Tapped Auto Transformer	V 4780	P1549168407	EM TEST	EP4S251	Jun/16/2019	1 year
☐	Capacitive Coupling Clamp	IP 4A	154855	HAEFELY	EX0S134	Jun/16/2019	1 year
☐	Luminance Meter	LS-100	41613003	Konica Minolta	ZK4S090	Apr/15/2019	1 year
☒	Software	ISMIEC	W9KA2UKU7	EM TEST AG	EMCG084	N/A	N/A
☒	Signal Generator	SMY	71400037	Rohde & Schwarz	EG2S247	Jun/12/2019	1 year
☒	DC Power Supply	PAN16-10	CK001767	KIKUSUI	EP1S145	Apr/17/2019	1 year
☒	TEST TRANSMITTER	SFE100	2112.4100K03 -132824-fP	Rohde & Schwarz	N/A	N/A	N/A
☐							
☐							
☐							
☐							
☐							

Note 1 : "☒" indicates that these instruments were in use for this test.
"☐" indicates that these instruments were not in use for this test.

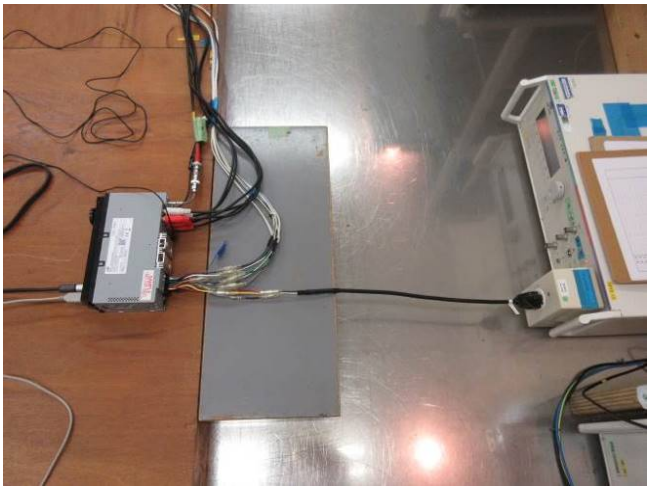
Note 2 : The next calibration will be done by the end of the same month one year later.

4.4.5 Photo of test configuration

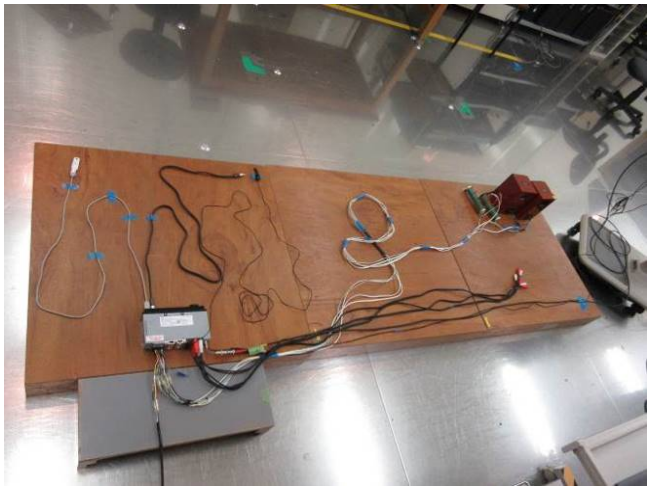
picture 1 : injection into the DC line / USB, DAB, FM mode



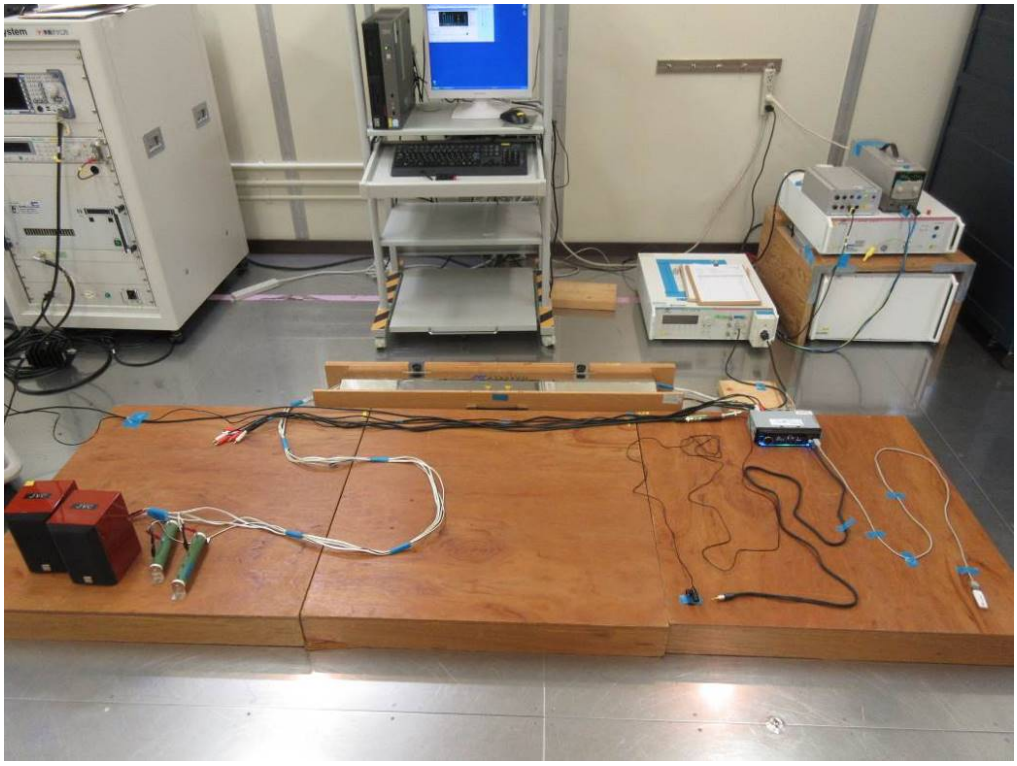
picture 2



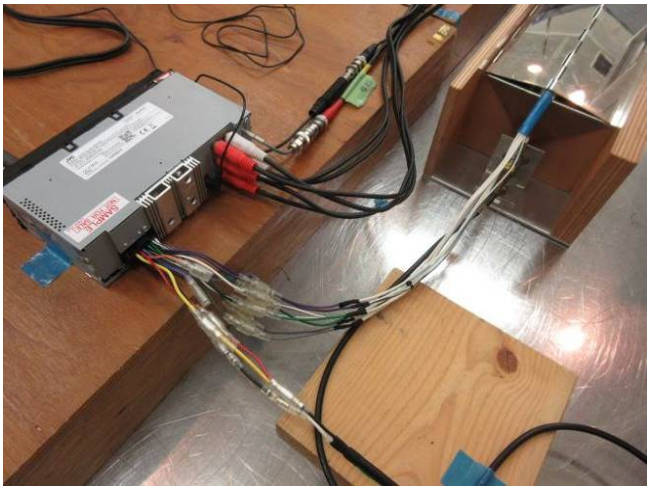
picture 3



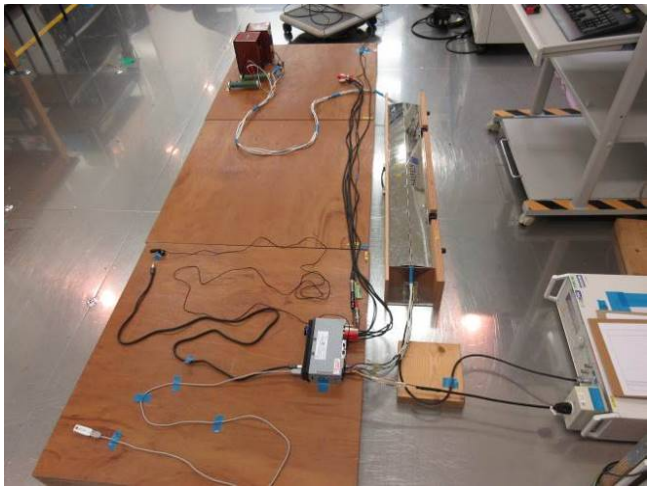
picture 4 : injection into the wiring harness / USB, DAB, FM mode



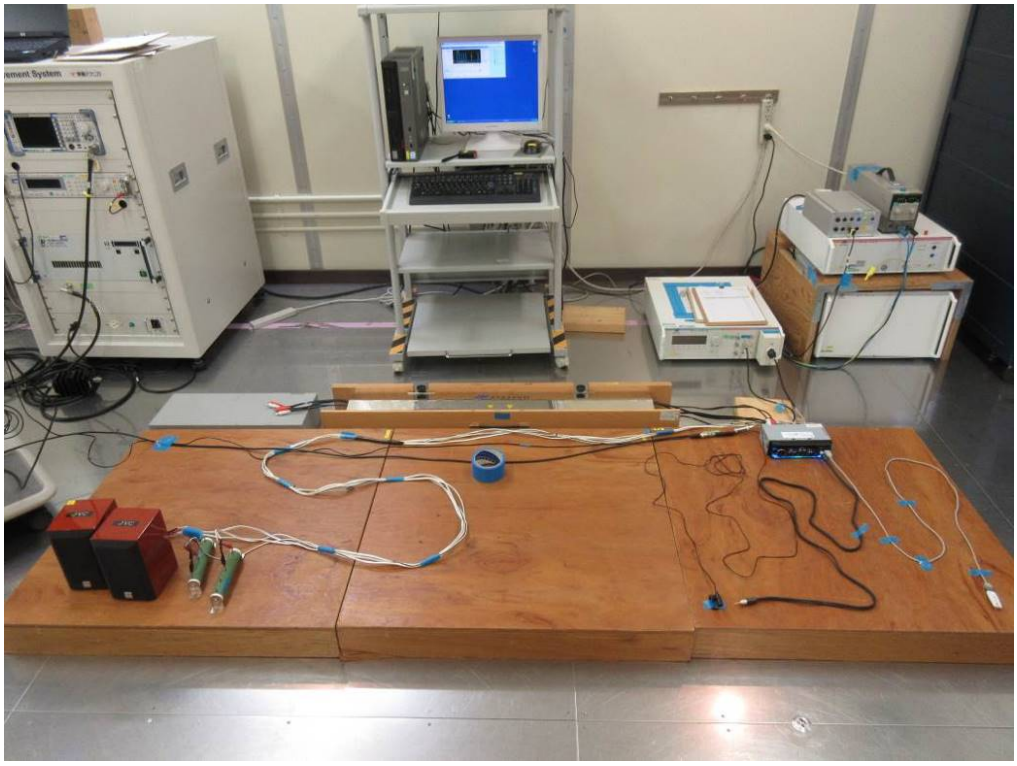
picture 5



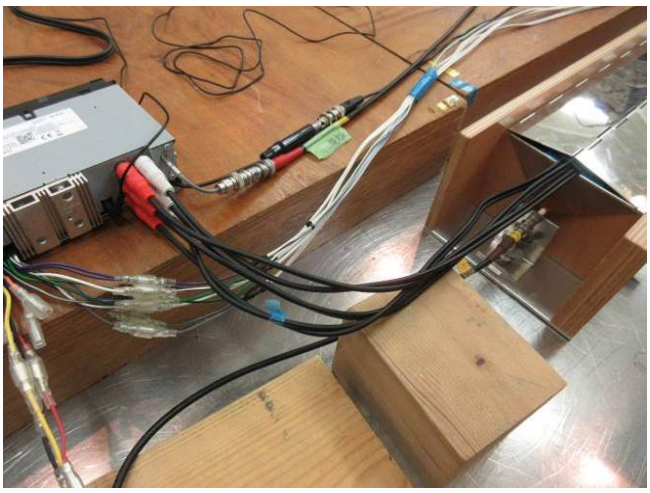
picture 6



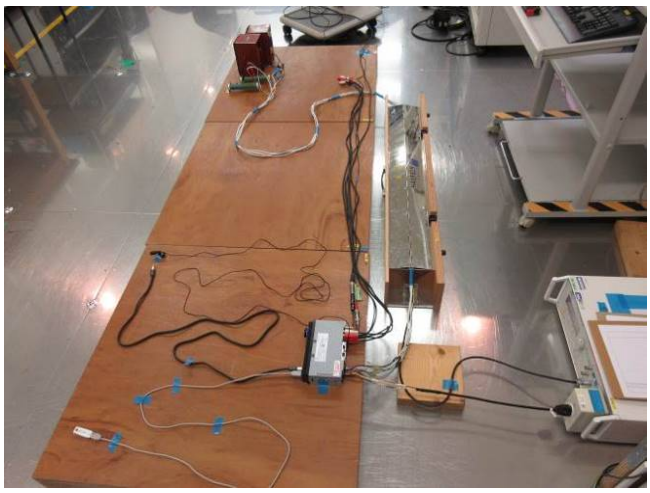
picture 7 : injection into the FRONT/REAR/SW (RCA) / USB, DAB, FM mode



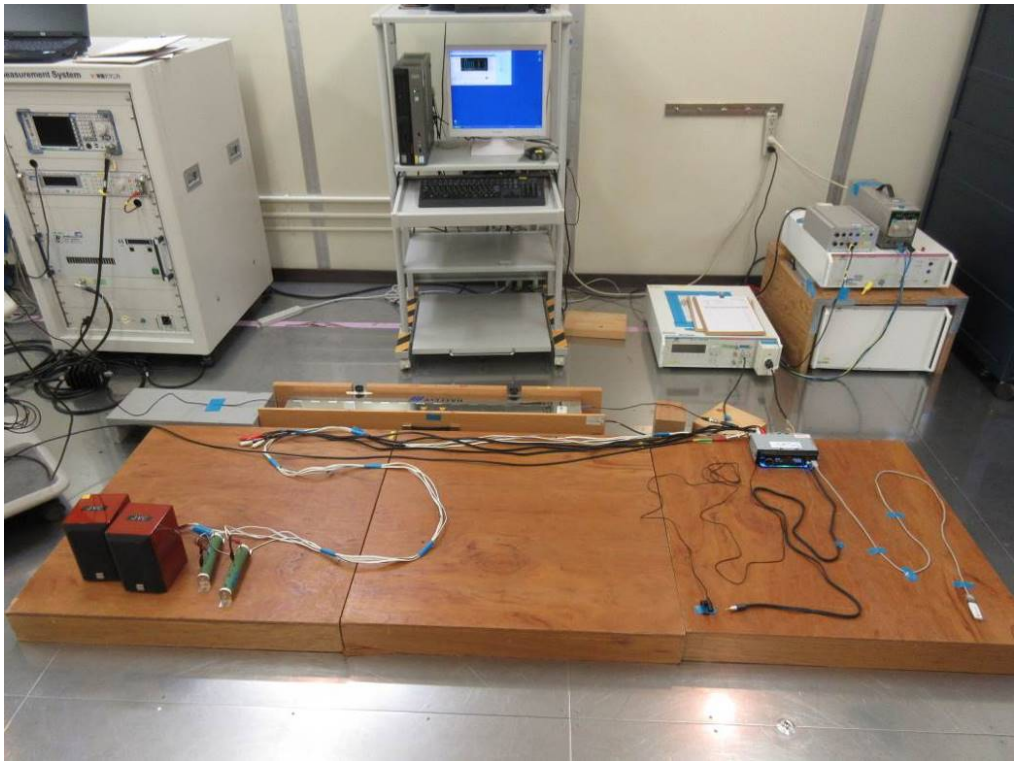
picture 8



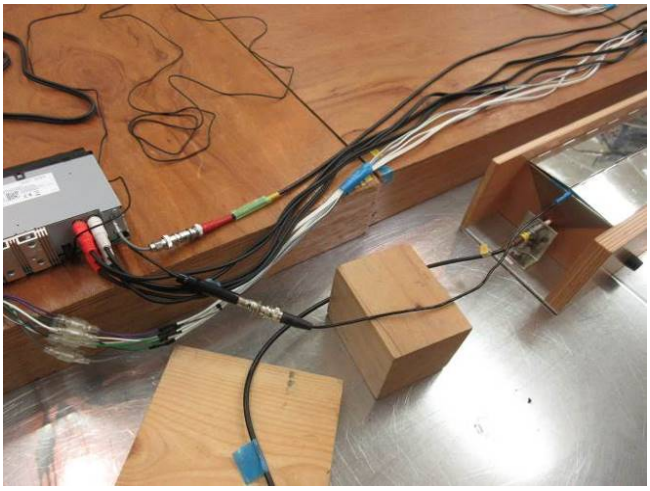
picture 9



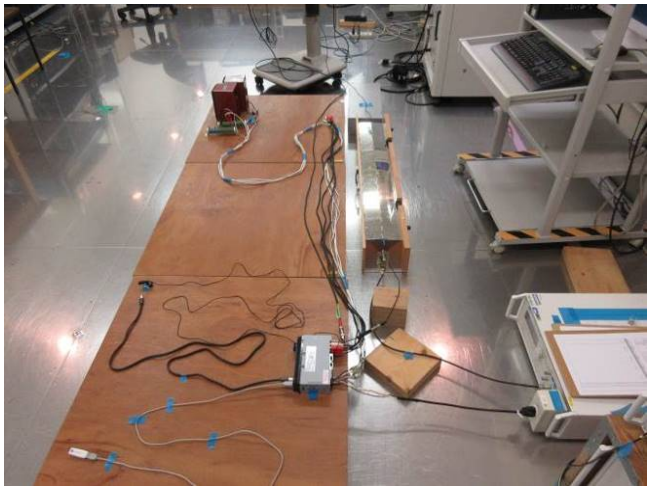
picture 10 : injection into the antenna terminal / USB, DAB, FM mode



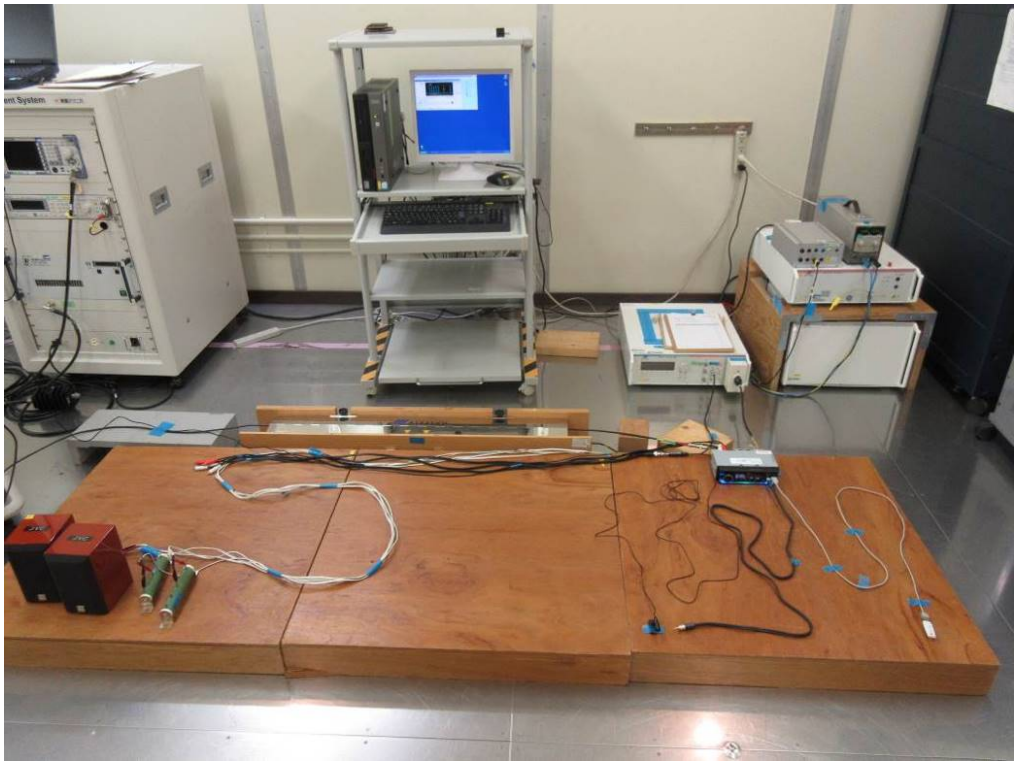
picture 11



picture 12

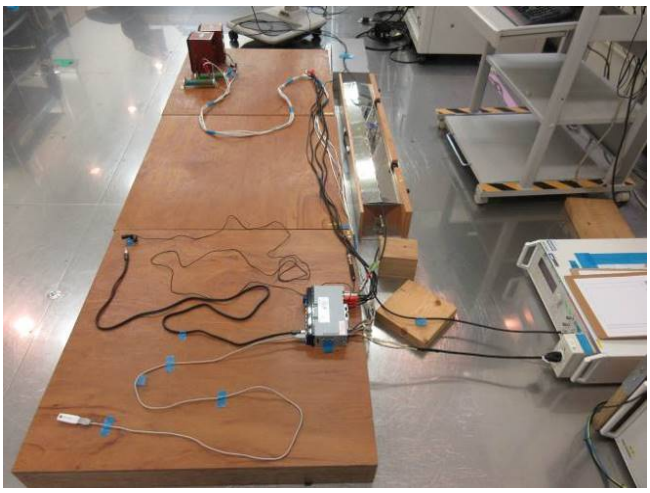


picture 13 : injection into the DAB terminal / USB, DAB, FM mode

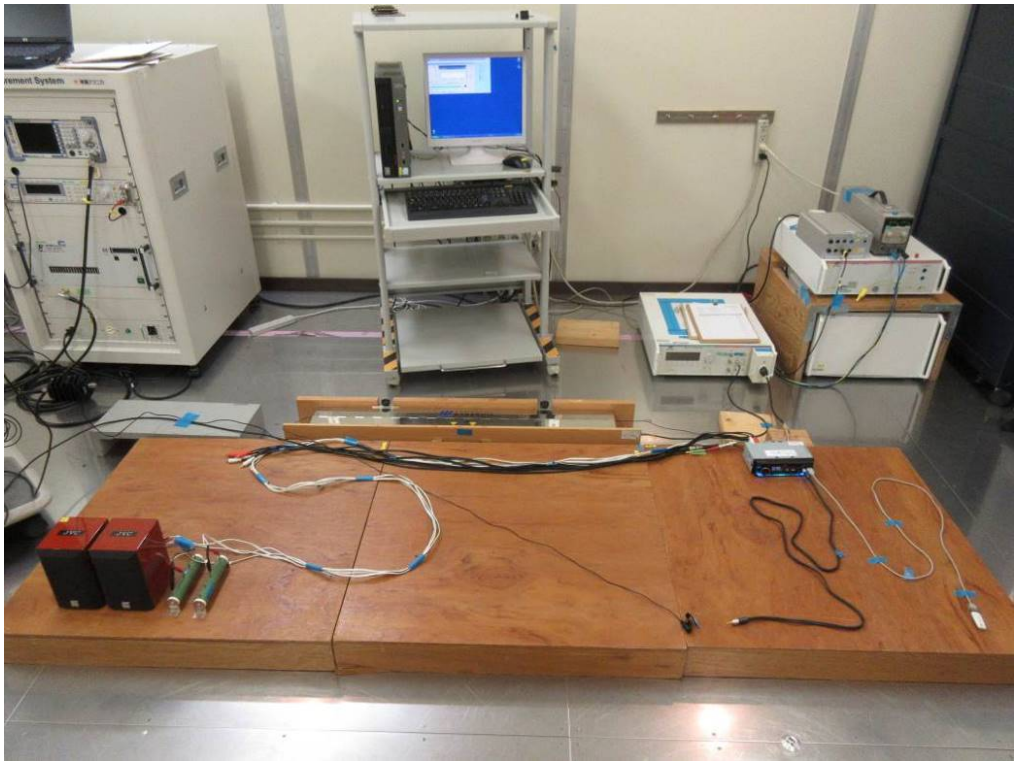


picture 14

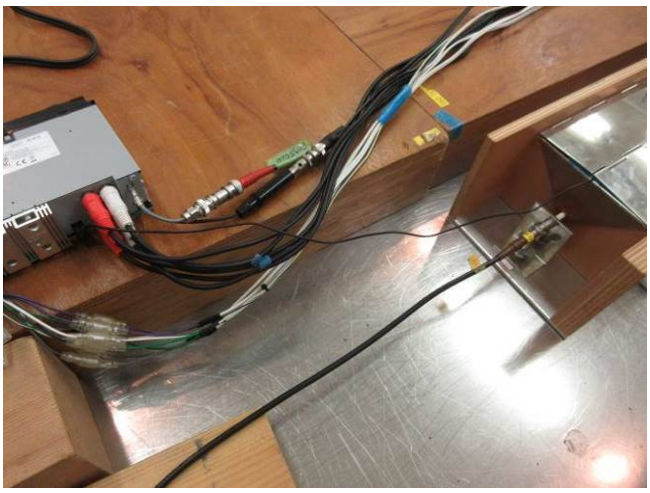
picture 15



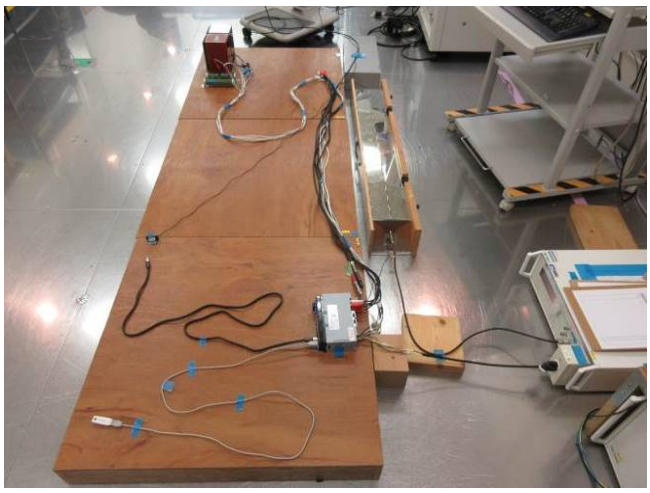
picture 16 : injection into the MIC terminal / USB, DAB, FM mode



picture 17



picture 18



4.4.6 Measurement uncertainty

Uncertainty for the rise time	:	±4.09 %
Uncertainty for the peak voltage (Direct injection)	:	±3.80 %
Uncertainty for the peak voltage (Clamp)	:	±5.22 %
Uncertainty for the width of the voltage pulse	:	±1.51 %

The measurement uncertainties have been determined at a confidence level of approximately 95% (k=2).

4.5 Conducted disturbances (Inducted by radio-frequency fields)

4.5.1 Summary of measurement setting

- The tests and measurements carried out EN55035 and EN61000-4-6, conducted disturbances (Inducted by RF field)
- The set-up and conditions are “4.5.3” and “4.5.5 Photo of test configuration”.
- The test condition was performed as follows,

Test voltage	: 150kHz - 10MHz ⇒ 3V 10MHz - 30MHz, it changes linearly with respect to the logarithm of the frequency ⇒ 3V - 1V 30MHz - 80MHz ⇒ 3V
Modulation	: AM 80%, 1kHz
Frequency range	: 150kHz – 80MHz
Frequency step	: 1% of fundamental
Performance criterion	: A

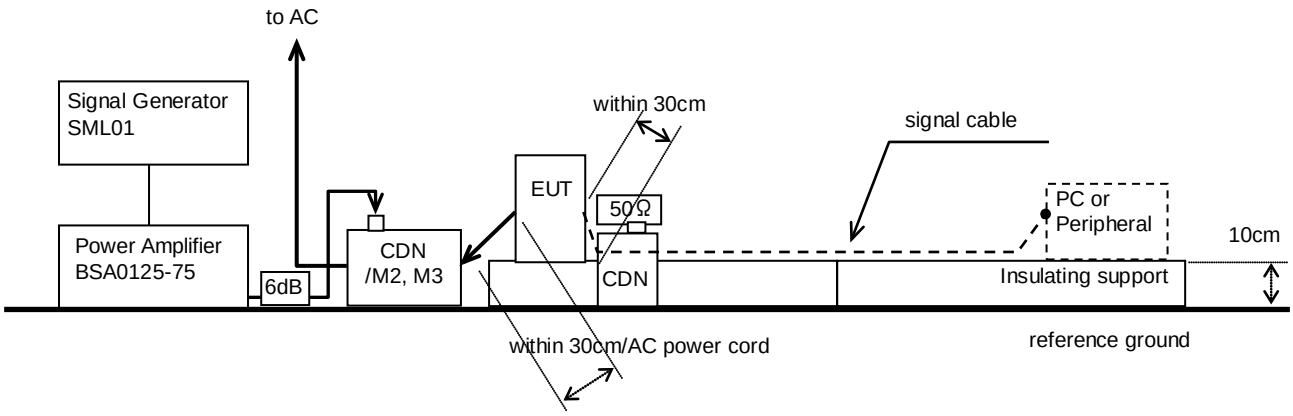
The test is carried out according to our test procedure VYES-T016 and VYES-T017.

4.5.2 Special test condition

None

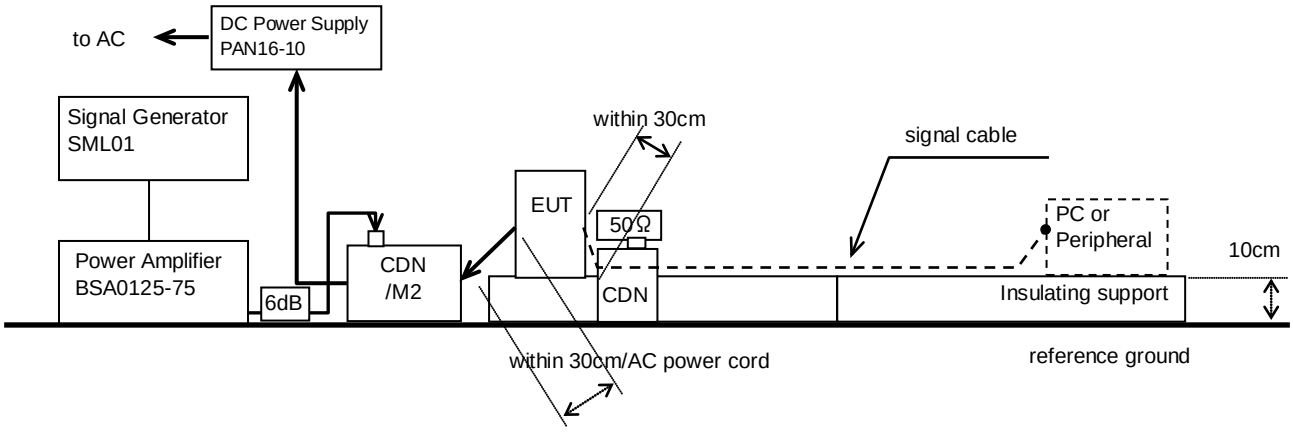
4.5.3 Configuration of tested system (Typical configuration)

- Power cord (AC line)



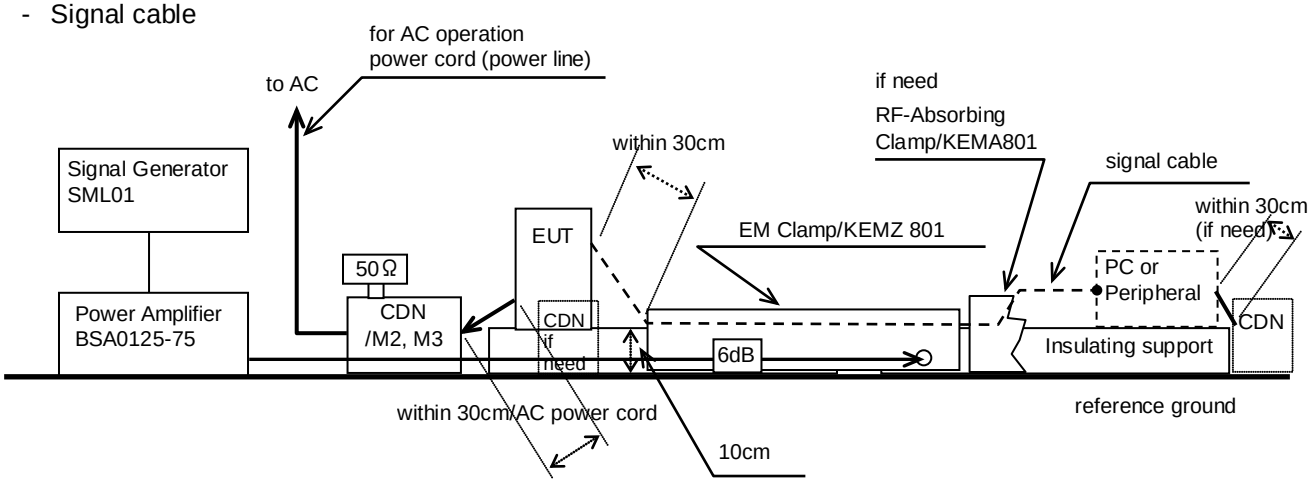
or

- Power cord (DC line)



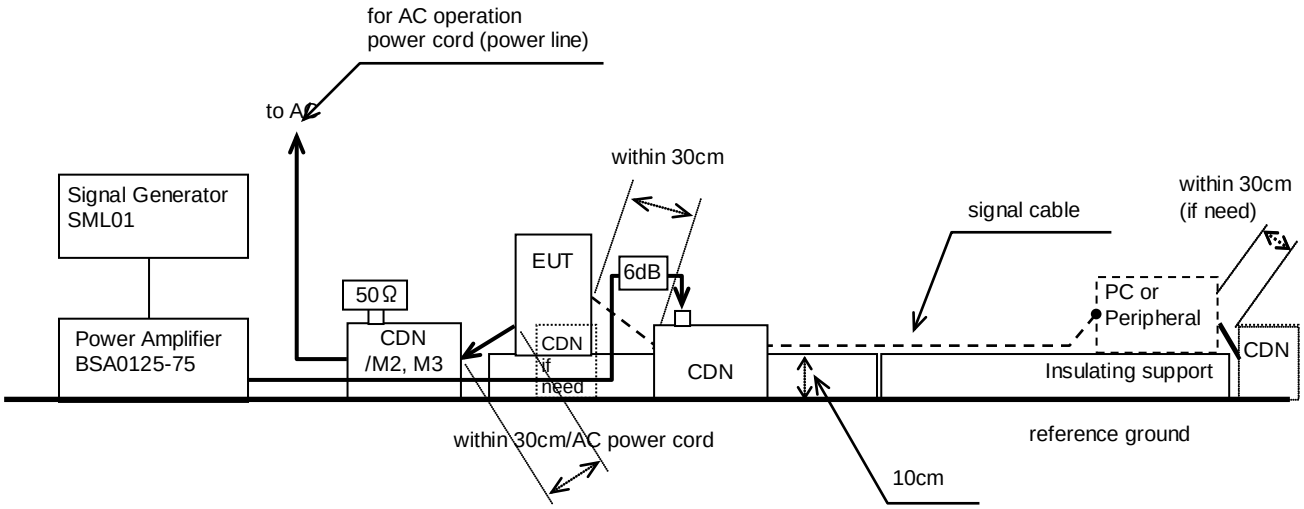
AC operation

- Signal cable



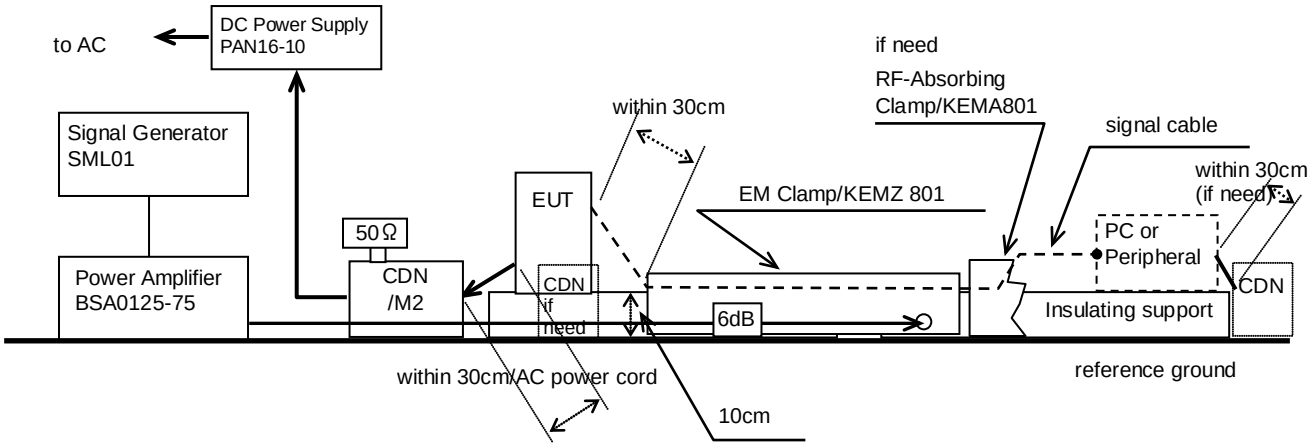
or

- Signal cable



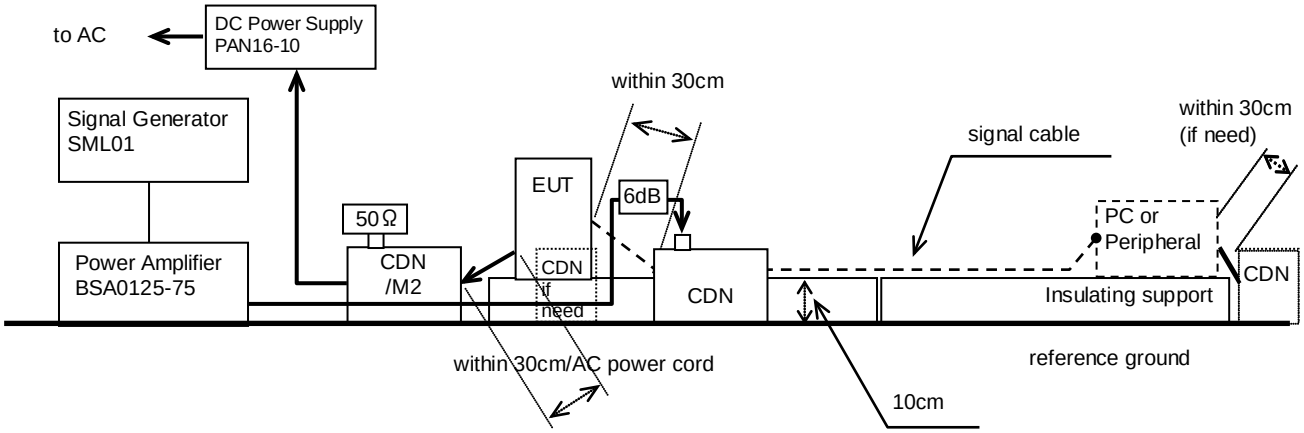
DC operation

- Signal cable



or

- Signal cable



4.5.4 Measuring instruments

Test Site : Shielded room 1/EMCG002

Description : Shielded room 10.8m x 3.8m x 3m, filtered power supply, air conditioned

	Instrument	Type no.	Serial no.	Manufacturer	Inst. no.	Latest cal.	Cal. Interval
☒	Power Amplifiers	BSA0125-75	066453A	Bonn Elektronik	EX0S091	May/30/2019	1 year
☒	Signal Generator	SML01	105045	Rohde & Schwarz	EG2S092	Jun/11/2019	1 year
☒	Spectrum Analyzer	FSL3	100452	Rohde & Schwarz	EW0S093	Jun/10/2019	1 year
☒	EM Clamp	KEMZ 801	22061	Schaffner Chase	EX0S095	Aug/21/2019	1 year
☐	RF-Absorbing Clamp	KEMA 801	22968	Schaffner Chase	EX0S096	N/A	N/A
☒	Coaxial Attenuator	33-30-34	BU7425	AEROFLEX/ Weinschel	EQ1S102	May/16/2019	1 year
☒	Coaxial Attenuator	40-6-33	NX191	AEROFLEX/ Weinschel	EQ1S103	May/16/2019	1 year
☒	Coupling Decoupling Network	CDN M216	22658	Schaffner Chase	EX0S129	Aug/20/2019	1 year
☐	Coupling Decoupling Network	CDN M216	22659	Schaffner Chase	EX0S125	Aug/20/2019	1 year
☐	Coupling Decoupling Network	CDN M316	21941	Schaffner Chase	EX0S122	Aug/20/2019	1 year
☐	Coupling Decoupling Network	CDN M316	21940	Schaffner Chase	EX0S128	Aug/20/2019	1 year
☐	Coupling Decoupling Network	CDN USB/c	22977	Schaffner Chase	EX0S118	Aug/20/2019	1 year
☐	Coupling Decoupling Network	CDN USB/p	21790	Schaffner Chase	EX0S120	Aug/20/2019	1 year
☒	Coupling Decoupling Network	CDN S751	19260	Schaffner Chase	EX0S112	Aug/20/2019	1 year

cont.

cont.

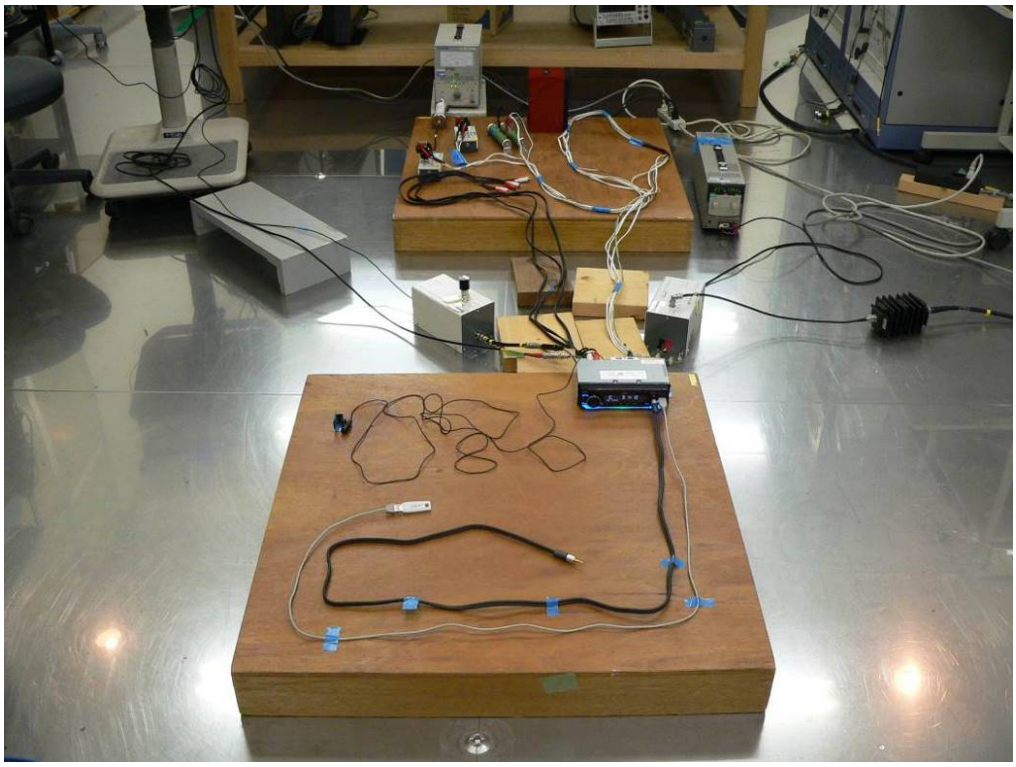
	Instrument	Type no.	Serial no.	Manufacturer	Inst. no.	Latest cal.	Cal. Interval
☐	Coupling Decoupling Network	CDN S2	12318	MEB (Schaffner)	EX0S222	Aug/20/2019	1 year
☐	Coupling Decoupling Network	CDN S2	12319	MEB (Schaffner)	EX0S224	Aug/20/2019	1 year
☒	Coaxial Terminator	CT-03BP	1117137	Tamagawa Elec.	EX0S193	Aug/21/2019	1 year
☒	Coaxial Terminator	CT-03BP	1117138	Tamagawa Elec.	EX0S194	Aug/21/2019	1 year
☐	Coaxial Terminator	CT-03BP	1131733	Tamagawa Elec.	EX0S195	Aug/21/2019	1 year
☒	Software	IM5/C	0612107	Toyo Corp.	EMCG136	N/A	N/A
☒	Noise Meter	MN-446A	73011416	Meguro	EV2S136	Aug/21/2019	1 year
☒	Band pass filter	BP02	861102	Erika Fiedler	ZZ3S137	May/22/2019	1 year
☒	DC Power Supply	PAN16-10	CK001767	KIKUSUI	EP1S145	Apr/17/2019	1 year
☒	Loudspeaker Load	RL (variable, open)	erfbf014	Erika Fiedler	ZZ3S177	May/22/2019	1 year
☒	Loudspeaker Load	RL (variable, open)	erfbf016	Erika Fiedler	ZZ3S179	May/22/2019	1 year
☒	TEST TRANSMITTER	SFE100	2112.4100K03 -132824-fP	Rohde & Schwarz	N/A	N/A	N/A
☐							
☐							

Note 1 : "☒" indicates that these instruments were in use for this test.
"☐" indicates that these instruments were not in use for this test.

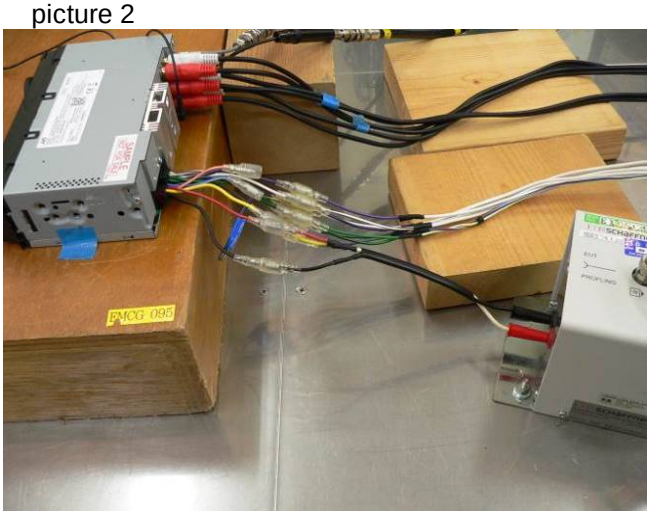
Note 2 : The next calibration will be done by the end of the same month one year later.

4.5.5 Photo of test configuration

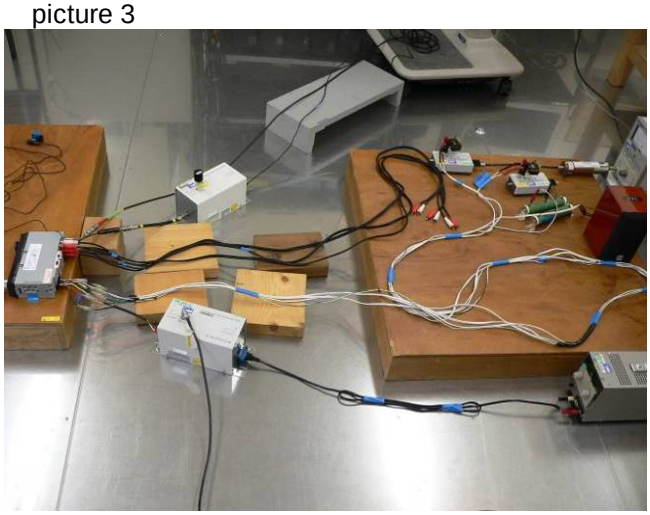
picture 1 : injection into the DC line / USB, FM, DAB mode



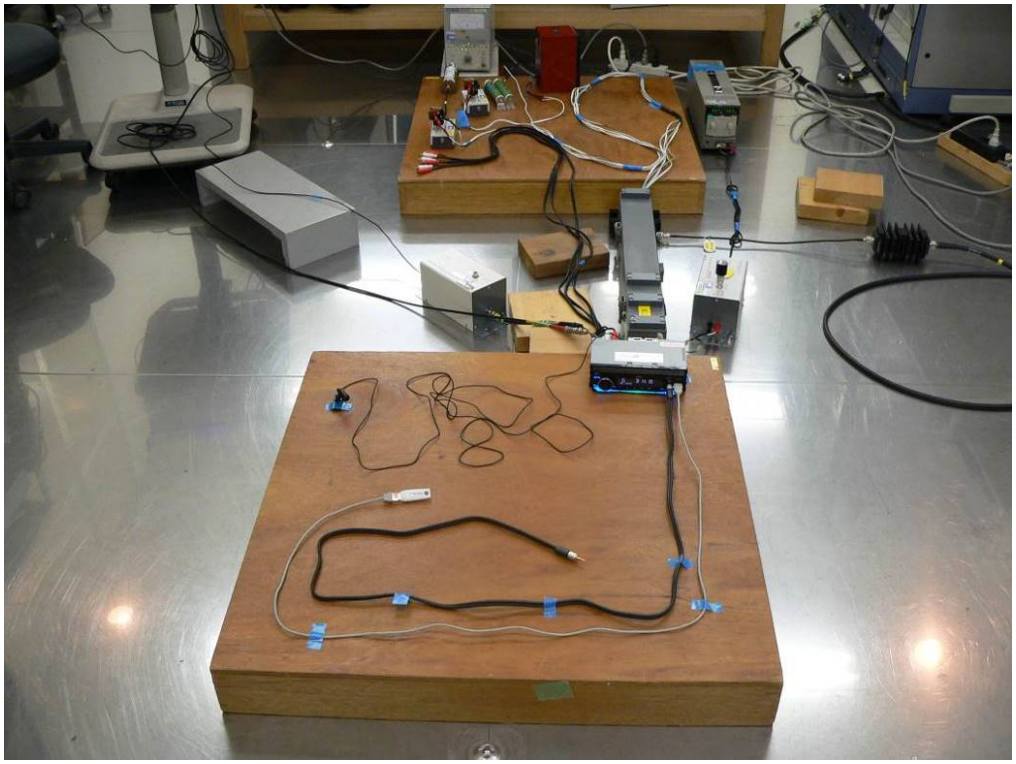
picture 2



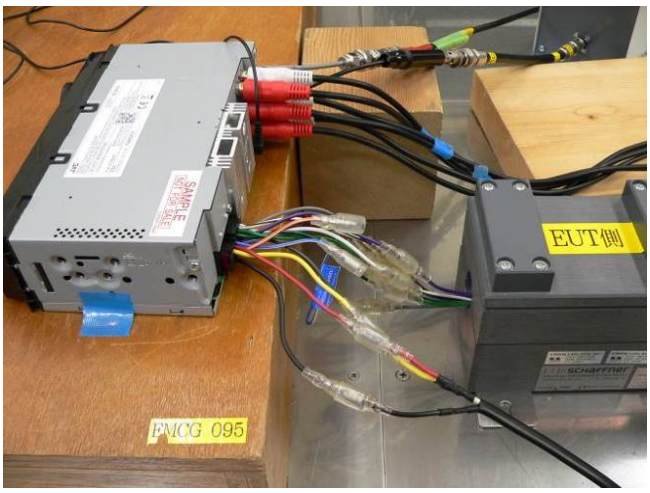
picture 3



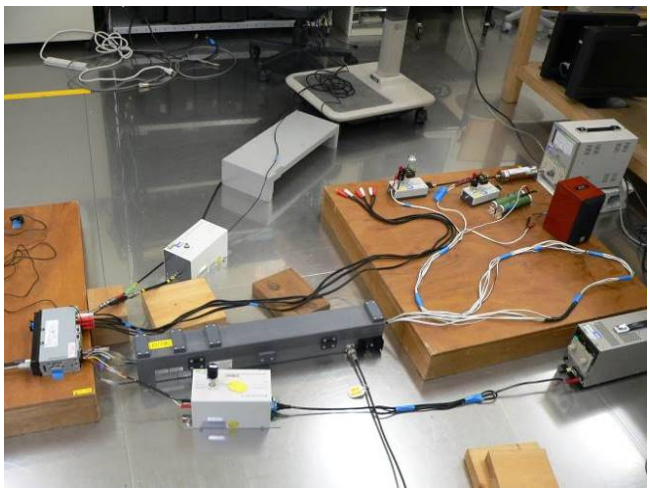
picture 4 : injection into the wiring harness / USB, FM, DAB mode



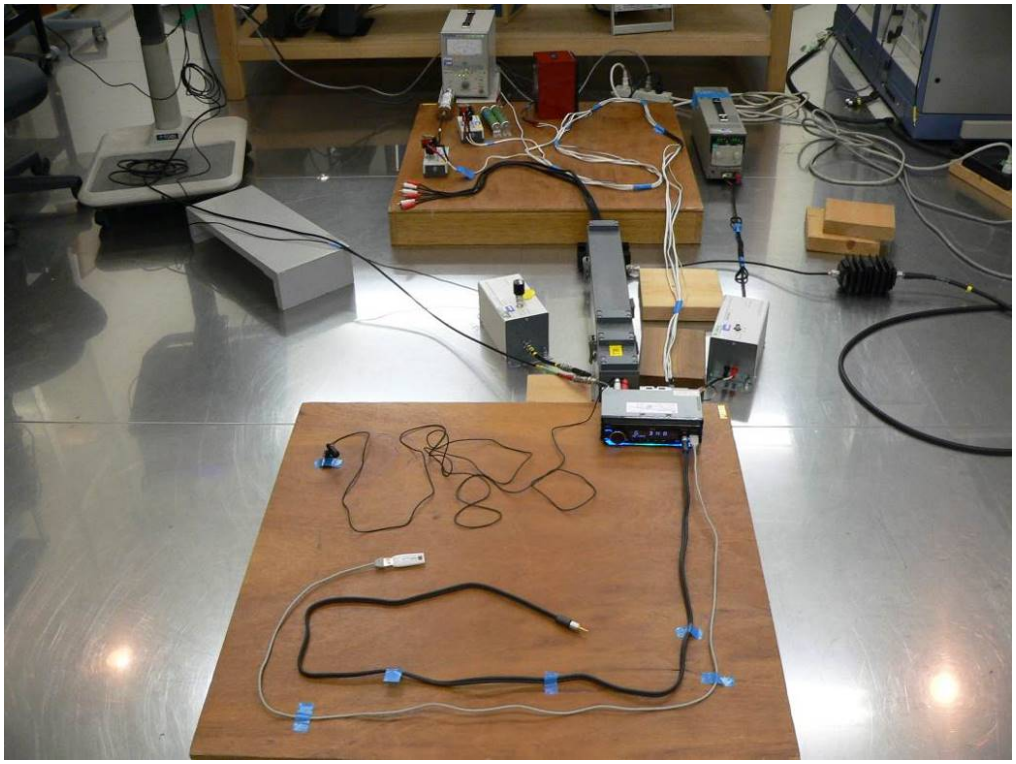
picture 5



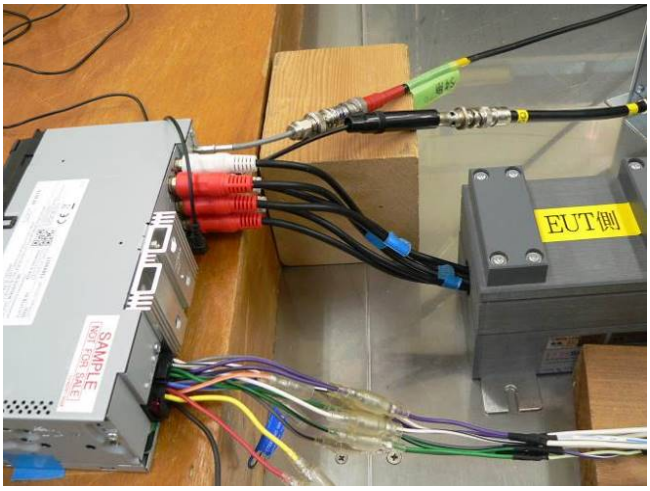
picture 6



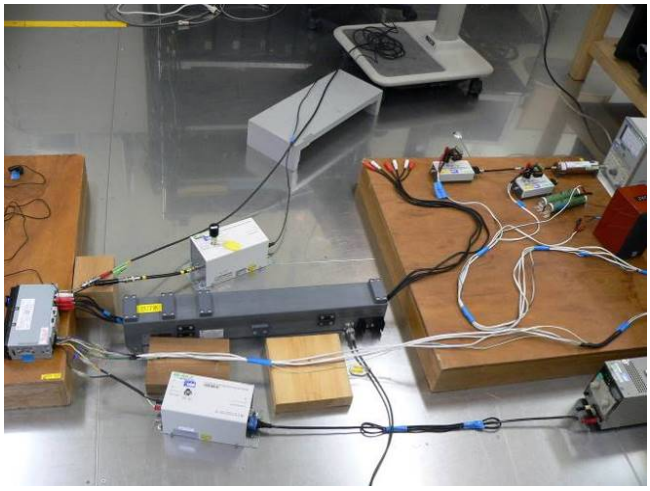
picture 7 : injection into the FRONT/REAR/SW / USB, FM, DAB mode



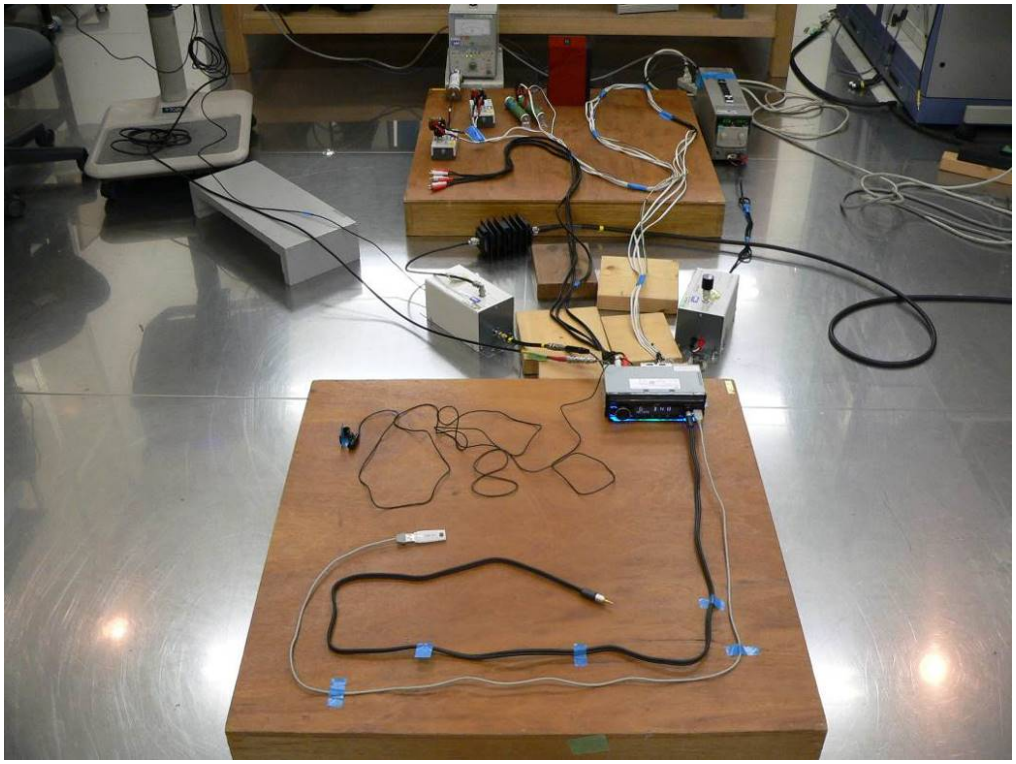
picture 8



picture 9

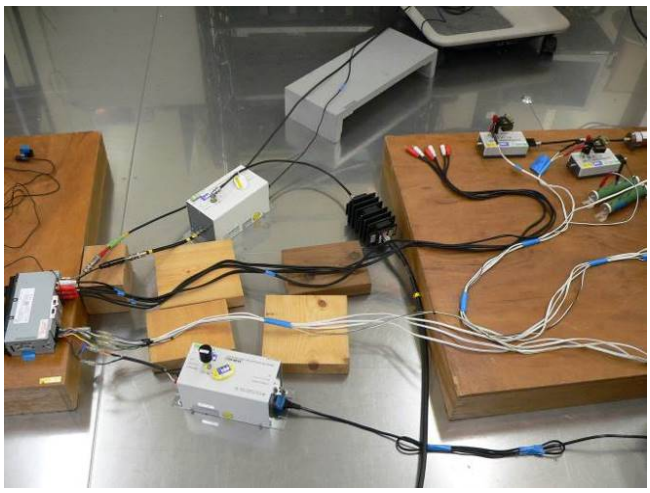


picture 10 : injection into the antenna terminal / USB, FM, DAB mode

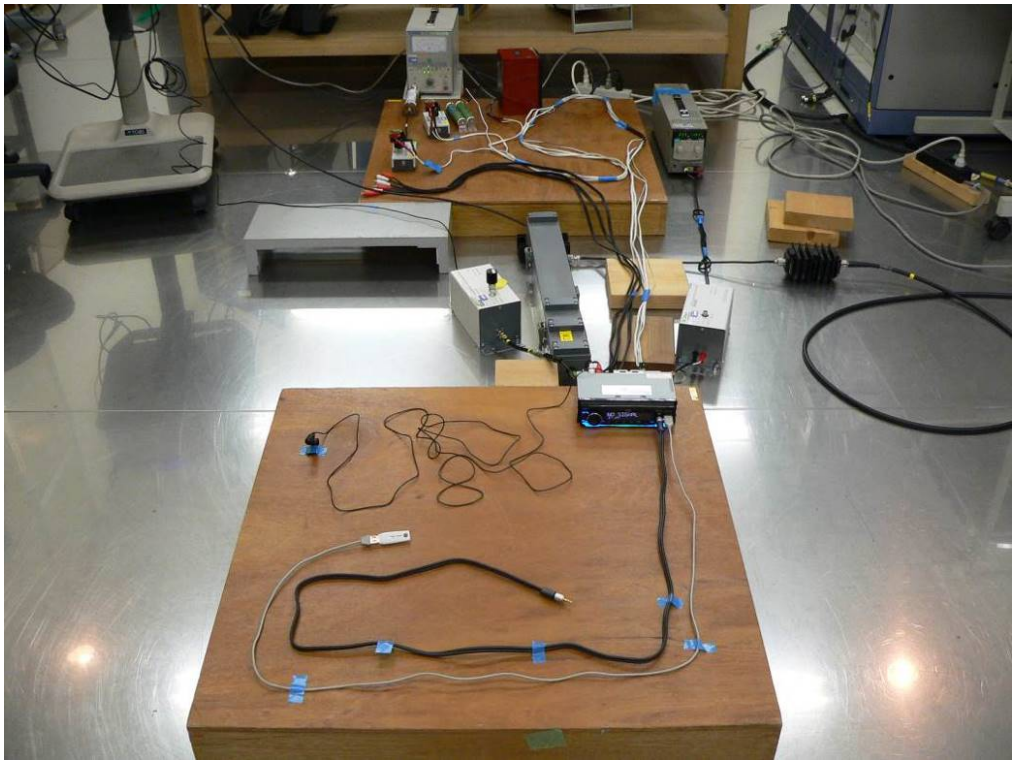


picture 11

picture 12

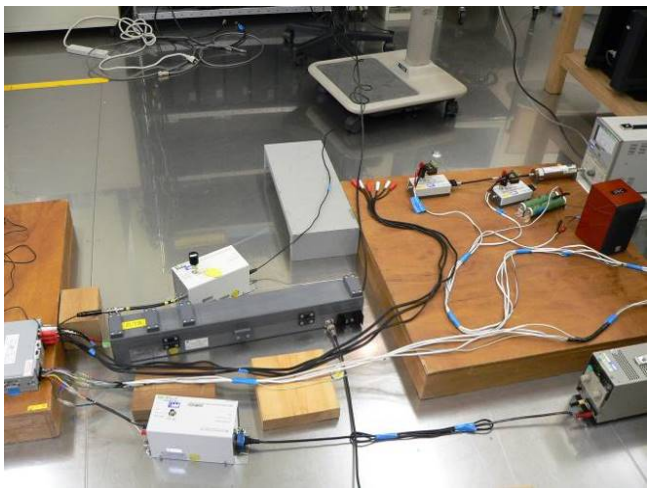


picture 13 : injection into the DAB terminal / USB, FM, DAB mode

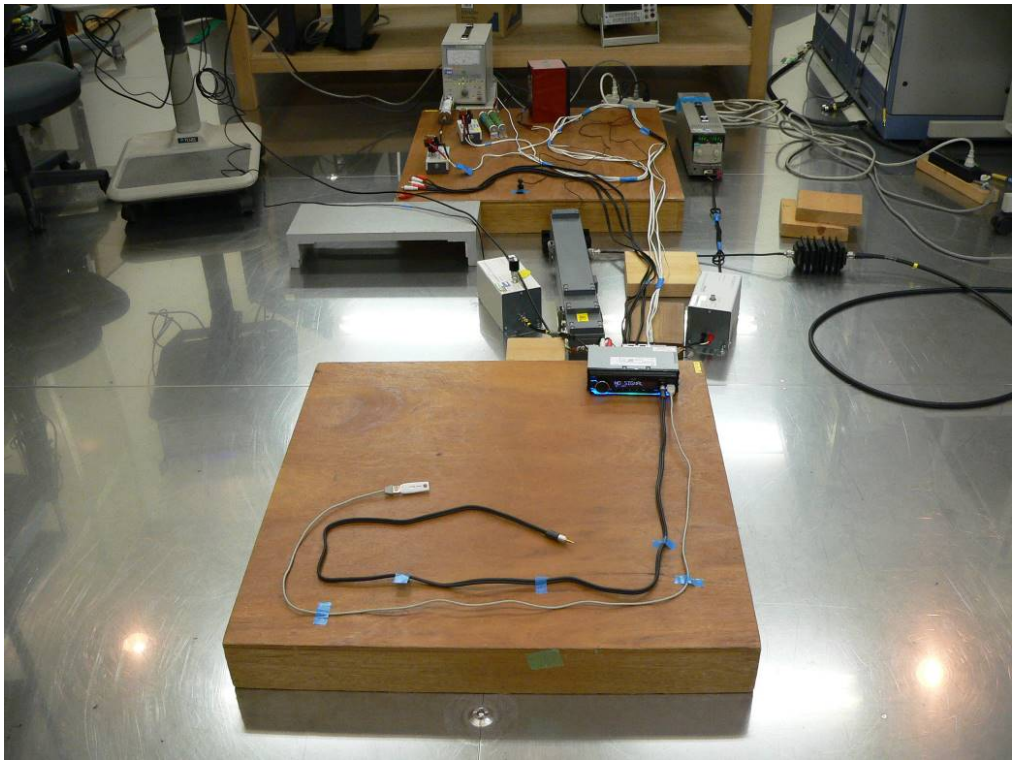


picture 14

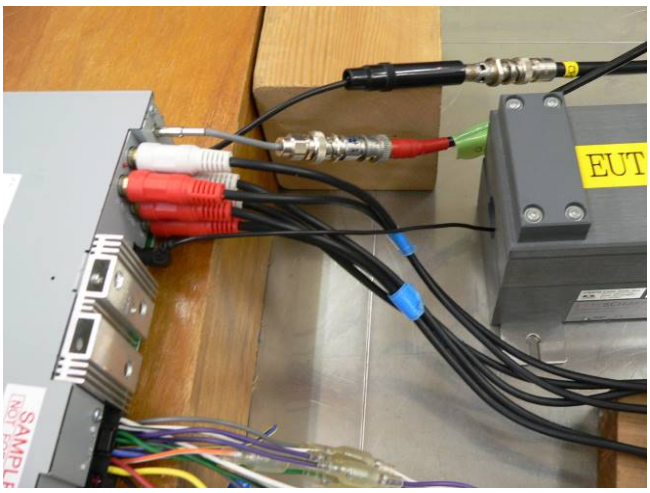
picture 15



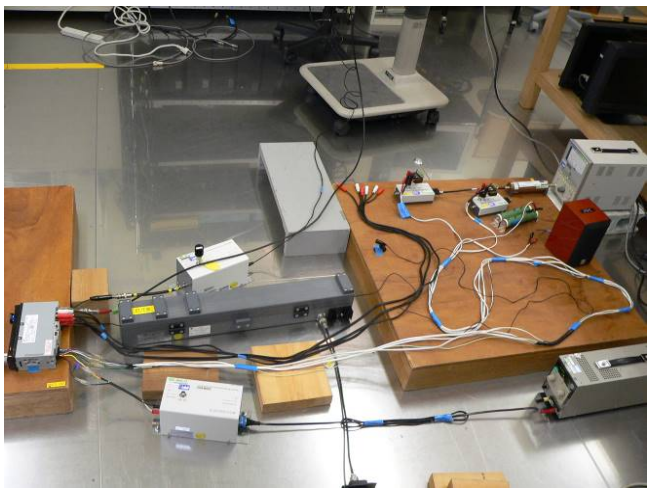
picture 16 : injection into the MIC terminal / USB, FM, DAB mode



picture 17



picture 18



4.5.6 Measurement uncertainty

Frequency range	:	150kHz – 230MHz
The uncertainty for the setting level of the disturbance (CDN)	:	±2.03 dB
The uncertainty for the setting level of the disturbance (EM Clamp)	:	±3.33 dB

The measurement uncertainties have been determined at a confidence level of approximately 95% (k=2)

5. Measurement results

5.1 Electrostatic discharge (ESD) measurement results

Test specification : EN55035

Test set-up performed according EN61000-4-2

(1-1) Measurement results

Trade name/Brand	: JVC	Temperature	: 22 degrees
Model name	: KD-X472DBT	Humidity	: 53 %
Type description	: DIGITAL MEDIA RECEIVER	Air pressure	: 1025 hPa
Serial no	: 134X0017	Date	: September 26, 2019
Power supply	: DC 12V	Test engineer	: T.Shimizu

Testing mode : The EUT playback USB, 1kHz audio signal / for Front, Speakers (L/R) connected, for Rear, 4Ω dummy load x2 connected

Comment : None

Remarks : Ground cable length of ESD Simulator is 2m.

Function of the EUT after test : OK

Result : OK, The EUT kept the criterion B for the required limits.

Direct discharge (contact discharge)				
Discharge to :	Remark/observation	pol.	level	Result
Screws and Chassis of EUT	Any influence was not recognized after the tests.	+/–	2kV	pass
	Any influence was not recognized after the tests.	+/–	4kV	pass

pol. = polarity of discharge, level = level of discharge

Direct discharge (air discharge)				
Discharge to :	Remark/observation	pol.	level	Result
Complete plastic enclosure	Any influence was not recognized after the tests.	+/–	2kV	pass
	Any influence was not recognized after the tests.	+/–	4kV	pass
	Any influence was not recognized after the tests.	+/–	8kV	pass

pol. = polarity of discharge, level = level of discharge

cont

cont.

Indirect discharge (contact discharge)				
Discharge to :	Remark/observation	pol.	level	Result
VCP front	Any influence was not recognized after the tests.	+/–	2kV	pass
	Any influence was not recognized after the tests.	+/–	4kV	pass
VCP rear	Any influence was not recognized after the tests.	+/–	2kV	pass
	Any influence was not recognized after the tests.	+/–	4kV	pass
VCP left	Any influence was not recognized after the tests.	+/–	2kV	pass
	Any influence was not recognized after the tests.	+/–	4kV	pass
VCP right	Any influence was not recognized after the tests.	+/–	2kV	pass
	Any influence was not recognized after the tests.	+/–	4kV	pass

Indirect discharge (contact discharge)				
Discharge to :	Remark/observation	pol.	level	Result
HCP front	Any influence was not recognized after the tests.	+/–	2kV	pass
	Any influence was not recognized after the tests.	+/–	4kV	pass
HCP rear	Any influence was not recognized after the tests.	+/–	2kV	pass
	Any influence was not recognized after the tests.	+/–	4kV	pass
HCP left	Any influence was not recognized after the tests.	+/–	2kV	pass
	Any influence was not recognized after the tests.	+/–	4kV	pass
HCP right	Any influence was not recognized after the tests.	+/–	2kV	pass
	Any influence was not recognized after the tests.	+/–	4kV	pass

VCP = Vertical coupling plate, HCP = Horizontal coupling plate

pol. = polarity of discharge, level = level of discharge

Remark : None

(1-2) Measurement results

Trade name/Brand	: JVC	Temperature	: 22 degrees
Model name	: KD-X472DBT	Humidity	: 53 %
Type description	: DIGITAL MEDIA RECEIVER	Air pressure	: 1025 hPa
Serial no	: 134X0017	Date	: September 26, 2019
Power supply	: DC 12V	Test engineer	: T.Shimizu

Testing mode : The EUT playback FM 98MHz tuned / for Front, Speakers (L/R) connected, for Rear, 4Ω dummy load x2 connected

Comment : None

Remarks : Ground cable length of ESD Simulator is 2m.

Function of the EUT after test : OK

Result : OK, The EUT kept the criterion B for the required limits.

Direct discharge (contact discharge)				
Discharge to :	Remark/observation	pol.	level	Result
Screws and Chassis of EUT	Any influence was not recognized after the tests.	+/–	2kV	pass
	Any influence was not recognized after the tests.	+/–	4kV	pass

pol. = polarity of discharge, level = level of discharge

Direct discharge (air discharge)				
Discharge to :	Remark/observation	pol.	level	Result
Complete plastic enclosure	Any influence was not recognized after the tests.	+/–	2kV	pass
	Any influence was not recognized after the tests.	+/–	4kV	pass
	Any influence was not recognized after the tests.	+/–	8kV	pass

pol. = polarity of discharge, level = level of discharge

cont

cont.

Indirect discharge (contact discharge)				
Discharge to :	Remark/observation	pol.	level	Result
VCP front	Any influence was not recognized after the tests.	+/–	2kV	pass
	Any influence was not recognized after the tests.	+/–	4kV	pass
VCP rear	Any influence was not recognized after the tests.	+/–	2kV	pass
	Any influence was not recognized after the tests.	+/–	4kV	pass
VCP left	Any influence was not recognized after the tests.	+/–	2kV	pass
	Any influence was not recognized after the tests.	+/–	4kV	pass
VCP right	Any influence was not recognized after the tests.	+/–	2kV	pass
	Any influence was not recognized after the tests.	+/–	4kV	pass

Indirect discharge (contact discharge)				
Discharge to :	Remark/observation	pol.	level	Result
HCP front	Any influence was not recognized after the tests.	+/–	2kV	pass
	Any influence was not recognized after the tests.	+/–	4kV	pass
HCP rear	Any influence was not recognized after the tests.	+/–	2kV	pass
	Any influence was not recognized after the tests.	+/–	4kV	pass
HCP left	Any influence was not recognized after the tests.	+/–	2kV	pass
	Any influence was not recognized after the tests.	+/–	4kV	pass
HCP right	Any influence was not recognized after the tests.	+/–	2kV	pass
	Any influence was not recognized after the tests.	+/–	4kV	pass

VCP = Vertical coupling plate, HCP = Horizontal coupling plate

pol. = polarity of discharge, level = level of discharge

Remark : None

(1-3) Measurement results

Trade name/Brand	: JVC	Temperature	: 22 degrees
Model name	: KD-X472DBT	Humidity	: 53 %
Type description	: DIGITAL MEDIA RECEIVER	Air pressure	: 1025 hPa
Serial no	: 134X0017	Date	: September 26, 2019
Power supply	: DC 12V	Test engineer	: T.Shimizu

Testing mode : The EUT playback DAB 9D tuned / for Front, Speakers (L/R) connected, for Rear, 4Ω dummy load x2 connected

Comment : None

Remarks : Ground cable length of ESD Simulator is 2m.

Function of the EUT after test : OK

Result : OK, The EUT kept the criterion B for the required limits.

Direct discharge (contact discharge)				
Discharge to :	Remark/observation	pol.	level	Result
Screws and Chassis of EUT	Any influence was not recognized after the tests.	+/–	2kV	pass
	Any influence was not recognized after the tests.	+/–	4kV	pass

pol. = polarity of discharge, level = level of discharge

Direct discharge (air discharge)				
Discharge to :	Remark/observation	pol.	level	Result
Complete plastic enclosure	Any influence was not recognized after the tests.	+/–	2kV	pass
	Any influence was not recognized after the tests.	+/–	4kV	pass
	Any influence was not recognized after the tests.	+/–	8kV	pass

pol. = polarity of discharge, level = level of discharge

cont

cont.

Indirect discharge (contact discharge)				
Discharge to :	Remark/observation	pol.	level	Result
VCP front	Any influence was not recognized after the tests.	+/–	2kV	pass
	Any influence was not recognized after the tests.	+/–	4kV	pass
VCP rear	Any influence was not recognized after the tests.	+/–	2kV	pass
	Any influence was not recognized after the tests.	+/–	4kV	pass
VCP left	Any influence was not recognized after the tests.	+/–	2kV	pass
	Any influence was not recognized after the tests.	+/–	4kV	pass
VCP right	Any influence was not recognized after the tests.	+/–	2kV	pass
	Any influence was not recognized after the tests.	+/–	4kV	pass

Indirect discharge (contact discharge)				
Discharge to :	Remark/observation	pol.	level	Result
HCP front	Any influence was not recognized after the tests.	+/–	2kV	pass
	Any influence was not recognized after the tests.	+/–	4kV	pass
HCP rear	Any influence was not recognized after the tests.	+/–	2kV	pass
	Any influence was not recognized after the tests.	+/–	4kV	pass
HCP left	Any influence was not recognized after the tests.	+/–	2kV	pass
	Any influence was not recognized after the tests.	+/–	4kV	pass
HCP right	Any influence was not recognized after the tests.	+/–	2kV	pass
	Any influence was not recognized after the tests.	+/–	4kV	pass

VCP = Vertical coupling plate, HCP = Horizontal coupling plate

pol. = polarity of discharge, level = level of discharge

Remark : None.

5.2 Radiated RF fields measurement results

Test specification : EN55035

Test set-up performed according EN61000-4-3.

(1-1) Measurement results

Trade name/Brand	: JVC	Temperature	: 24 degrees
Model name	: KD-X472DBT	Humidity	: 70 %
Type description	: DIGITAL MEDIA RECEIVER	Date	: September 18, 2019
Serial no	: 134X0017	Test engineer	: T.Shimizu
Power supply	: DC 12V		

Testing mode : The EUT playback USB, 1kHz audio signal/ 4Ω dummy load x4 connected

Comment : Measurement was carried out only from the frequency range 80MHz to 1000MHz.

Remarks : None

Function of the EUT after test: OK

Result : OK, The EUT kept the criterion A for the required limits.

Operation mode	Antenna pol.	Test level	EUT location	Remark/observation	Result
EUT playback USB/ 1kHz audio signal	Horizontal	3 V/m	Front	Sound, electrical interference ratio kept more than 20dB.	pass
			Left		pass
			Rear		pass
			Right		pass
	Vertical	3 V/m	Front	Sound, electrical interference ratio kept more than 20dB.	pass
			Left		pass
			Rear		pass
			Right		pass

Remark : None

(1-2) Measurement results

Trade name/Brand	: JVC	Temperature	: 24 degrees
Model name	: KD-X472DBT	Humidity	: 70 %
Type description	: DIGITAL MEDIA RECEIVER	Date	: September 18, 2019
Serial no	: 134X0017	Test engineer	: T.Shimizu
Power supply	: DC 12V		

Testing mode : The EUT playback USB, 1kHz audio signal/ 4Ω dummy load x4 connected

Comment : Measurement was carried out only from the frequency range above 1000MHz.

Remarks : None

Function of the EUT after test: OK

Result : OK, The EUT kept the criterion A for the required limits.

Spot frequency : 1800MHz, 2600MHz, 3500MHz, 5000MHz

Test time each frequency : 10 sec

Operation mode	Antenna pol.	Test level	EUT location	Remark/observation	Result
EUT playback USB/ 1kHz audio signal	Horizontal	3 V/m	Front	Sound, electrical interference ratio kept more than 20dB.	pass
			Left		pass
			Rear		pass
			Right		pass
	Vertical	3 V/m	Front	Sound, electrical interference ratio kept more than 20dB.	pass
			Left		pass
			Rear		pass
			Right		pass

Remark : None

5.3 Electrical fast transients/burst measurement results

Test Specification : EN55035

Test set-up performed according EN61000-4-4

(1-1) Measurement results

Trade name/Brand	: JVC	Temperature	: 24 degrees
Model name	: KD-X472DBT	Humidity	: 46 %
Type description	: DIGITAL MEDIA RECEIVER	Date	: September 24, 2019
Serial no	: 134X0017	Test engineer	: T.Shimizu
Power supply	: DC 12V		

Testing mode : The EUT playback USB, 1kHz audio signal/ for Front, Speakers (L/R) connected for Rear, 4Ω dummy load x2 connected

Comment : None

Remarks : None

Function of the EUT after test: OK

Result : OK, The EUT kept the criterion B for the required limits.

for Signal ports

EFT clamp injection into Wiring Harness, FRONT/REAR/SW, Antenna, DAB, MIC terminals				
EFT to :	level	pol.	Remark/Observation level	Result
Wiring Harness 14p	0.5 kV	+	Any influence was not recognized after the tests.	pass
		–	Any influence was not recognized after the tests.	pass
FRONT/REAR /SW	0.5 kV	+	Any influence was not recognized after the tests.	pass
		–	Any influence was not recognized after the tests.	pass
Antenna term.	0.5 kV	+	Any influence was not recognized after the tests.	pass
		–	Any influence was not recognized after the tests.	pass
DAB	0.5 kV	+	Any influence was not recognized after the tests.	pass
		-	Any influence was not recognized after the tests.	pass
MIC	0.5 kV	+	Any influence was not recognized after the tests.	pass
		–	Any influence was not recognized after the tests.	pass

cont.

cont.

For DC port

EFT direct injection into the DC cable				
EFT to :	level	pol.	Remark/Observation level	Result
DC cable	0.5 kV	+	Any influence was not recognized after the tests.	pass
		−	Any influence was not recognized after the tests.	pass

Remark : During some EFT discharge a click noise in the sound was recognized.

(1-2) Measurement results

Trade name/Brand	: JVC	Temperature	: 24 degrees
Model name	: KD-X472DBT	Humidity	: 46 %
Type description	: DIGITAL MEDIA RECEIVER	Date	: September 24, 2019
Serial no	: 134X0017	Test engineer	: T.Shimizu
Power supply	: DC 12V		

Testing mode : The EUT playback FM 98MHz tuned/ for Front, Speakers (L/R) connected for Rear, 4Ω dummy load x2 connected

Comment : None

Remarks : None

Function of the EUT after test: OK

Result : OK, The EUT kept the criterion B for the required limits.

for Signal ports

EFT clamp injection into Wiring Harness, FRONT/REAR/SW, Antenna, DAB, MIC terminals				
EFT to :	level	pol.	Remark/Observation level	Result
Wiring Harness 14p	0.5 kV	+	Any influence was not recognized after the tests.	pass
		–	Any influence was not recognized after the tests.	pass
FRONT/REAR /SW	0.5 kV	+	Any influence was not recognized after the tests.	pass
		–	Any influence was not recognized after the tests.	pass
Antenna term.	0.5 kV	+	Any influence was not recognized after the tests.	pass
		–	Any influence was not recognized after the tests.	pass
DAB	0.5 kV	+	Any influence was not recognized after the tests.	pass
		-	Any influence was not recognized after the tests.	pass
MIC	0.5 kV	+	Any influence was not recognized after the tests.	pass
		–	Any influence was not recognized after the tests.	pass

cont.

cont.

For DC port

EFT direct injection into the DC line				
EFT to :	level	pol.	Remark/Observation level	Result
DC cable	0.5 kV	+	Any influence was not recognized after the tests.	pass
		−	Any influence was not recognized after the tests.	pass

Remark : During some EFT discharge a click noise in the sound was recognized.

(1-3) Measurement results

Trade name/Brand	: JVC	Temperature	: 24 degrees
Model name	: KD-X472DBT	Humidity	: 46 %
Type description	: DIGITAL MEDIA RECEIVER	Date	: September 24, 2019
Serial no	: 134X0017	Test engineer	: T.Shimizu
Power supply	: DC 12V		

Testing mode : The EUT DAB 9D tuned/ for Front, Speakers (L/R) connected
for Rear, 4Ω dummy load x2 connected

Comment : None

Remarks : None

Function of the EUT after test: OK

Result : OK, The EUT kept the criterion B for the required limits.

for Signal ports

EFT clamp injection into Wiring Harness, FRONT/REAR/SW, Antenna, DAB, MIC terminals				
EFT to :	level	pol.	Remark/Observation level	Result
Wiring Harness 14p	0.5 kV	+	Any influence was not recognized after the tests.	pass
		–	Any influence was not recognized after the tests.	pass
FRONT/REAR /SW	0.5 kV	+	Any influence was not recognized after the tests.	pass
		–	Any influence was not recognized after the tests.	pass
Antenna term.	0.5 kV	+	Any influence was not recognized after the tests.	pass
		–	Any influence was not recognized after the tests.	pass
DAB	0.5 kV	+	Any influence was not recognized after the tests.	pass
		-	Any influence was not recognized after the tests.	pass
MIC	0.5 kV	+	Any influence was not recognized after the tests.	pass
		–	Any influence was not recognized after the tests.	pass

cont.

cont.

For DC port

EFT direct injection into the DC cable				
EFT to :	level	pol.	Remark/Observation level	Result
DC cable	0.5 kV	+	Any influence was not recognized after the tests.	pass
		−	Any influence was not recognized after the tests.	pass

Remark : During some EFT discharge a click noise in the sound was recognized.

5.4 Conducted disturbances (Inducted by radio-frequency fields) measurement results

Test specification : EN55035

Test set-up performed according EN61000-4-6.

(1-1) Measurement results

Trade name/Brand	: JVC	Temperature	: 23 degrees
Model name	: KD-X472DBT	Humidity	: 45 %
Type description	: DIGITAL MEDIA RECEIVER	Date	: September 25, 2019
Serial no	: 134X0017	Test engineer	: T.Shimizu
Power supply	: DC 12V		

Testing mode : The EUT playback USB, 1kHz audio signal/ 4Ω dummy load x4 connected

Comment : None

Remarks : None

Function of the EUT after test: OK

Result : OK, The EUT kept the criterion A for the required limits.

Measured with : CDN ■ Type : M2 □ Type : M3 □ Type : USB/p □ Type : USB/c ■ Type : S751

EM Clamp □ Type : KEMZ 801

Note : "■" indicates that these instruments were in use for this test.

"□" indicates that these instruments were not in use for this test.

Injection port : DC line

Injection CDN / M2

Frequency	Level	Remark/Observation level	Result
0.15M – 10 MHz	3.0 V	Sound, electrical interference ratio kept more than 20dB.	pass
10M - 30MHz	3.0-1.0V	Sound, electrical interference ratio kept more than 20dB.	pass
30M – 80MHz	1.0V	Sound, electrical interference ratio kept more than 20dB.	pass

Remark : None.

cont.

Cont

Measured with : CDN ■ Type : M2 □ Type : M3 □ Type : USB/p □ Type : USB/c ■ Type : S751
EM Clamp □ Type : KEMZ 801

Note : "■" indicates that these instruments were in use for this test.
"□" indicates that these instruments were not in use for this test.

Injection port : Antenna Terminal

Injection CDN / S751

Frequency	Level	Remark/Observation level	Result
0.15M – 10 MHz	3.0 V	Sound, electrical interference ratio kept more than 20dB.	pass
10M - 30MHz	3.0-1.0V	Sound, electrical interference ratio kept more than 20dB.	pass
30M – 80MHz	1.0V	Sound, electrical interference ratio kept more than 20dB.	pass

Remark : None

Measured with : CDN ■ Type : M2 □ Type : M3 □ Type : USB/p □ Type : USB/c ■ Type : S751
EM Clamp ■ Type : KEMZ 801

Note : "■" indicates that these instruments were in use for this test.
"□" indicates that these instruments were not in use for this test.

Injection port : Wiring Harness, FRONT/REAR/SW, DAB, MIC

Injection EM Clamp/ KEMZ801

Frequency	Level	Remark/Observation level	Result
0.15M – 10 MHz	3.0 V	Sound, electrical interference ratio kept more than 20dB.	pass
10M - 30MHz	3.0-1.0V	Sound, electrical interference ratio kept more than 20dB.	pass
30M – 80MHz	1.0V	Sound, electrical interference ratio kept more than 20dB.	pass

Remark : None

(1-2) Measurement results

Trade name/Brand	: JVC	Temperature	: 23 degrees
Model name	: KD-X472DBT	Humidity	: 45 %
Type description	: DIGITAL MEDIA RECEIVER	Date	: September 25, 2019
Serial no	: 134X0017	Test engineer	: T.Shimizu
Power supply	: DC 12V		

Testing mode : EUT FM 98MHz tuned / 4Ω dummy load x4 connected

Comment : None

Remarks : None

Function of the EUT after test: OK

Result : OK, The EUT kept the criterion A for the required limits.

Measured with : CDN ■ Type : M2 □ Type : M3 □ Type : USB/p □ Type : USB/c ■ Type : S751

EM Clamp □ Type : KEMZ 801

Note : "■" indicates that these instruments were in use for this test.

"□" indicates that these instruments were not in use for this test.

Injection port : DC line

Injection CDN / M2

Frequency	Level	Remark/Observation level	Result
0.15M – 10 MHz	3.0 V	Sound, electrical interference ratio kept more than 20dB.	pass
10M - 30MHz	3.0-1.0V	Sound, electrical interference ratio kept more than 20dB.	pass
30M – 80MHz	1.0V	Sound, electrical interference ratio kept more than 20dB.	pass

Remark : None.

cont.

Cont

Measured with : CDN ■ Type : M2 □ Type : M3 □ Type : USB/p □ Type : USB/c ■ Type : S751
EM Clamp □ Type : KEMZ 801

Note : "■" indicates that these instruments were in use for this test.
"□" indicates that these instruments were not in use for this test.

Injection port : Antenna Terminal

Injection CDN / S751

Frequency	Level	Remark/Observation level	Result
0.15M – 10 MHz	3.0 V	Sound, electrical interference ratio kept more than 20dB.	pass
10M - 30MHz	3.0-1.0V	Sound, electrical interference ratio kept more than 20dB.	pass
30M – 80MHz	1.0V	Sound, electrical interference ratio kept more than 20dB.	pass

Remark : None

Measured with : CDN ■ Type : M2 □ Type : M3 □ Type : USB/p □ Type : USB/c ■ Type : S751
EM Clamp ■ Type : KEMZ 801

Note : "■" indicates that these instruments were in use for this test.
"□" indicates that these instruments were not in use for this test.

Injection port : Wiring Harness 14p, FRONT/REAR/SW, DAB, MIC

Injection EM Clamp/ KEMZ801

Frequency	Level	Remark/Observation level	Result
0.15M – 10 MHz	3.0 V	Sound, electrical interference ratio kept more than 20dB.	pass
10M - 30MHz	3.0-1.0V	Sound, electrical interference ratio kept more than 20dB.	pass
30M – 80MHz	1.0V	Sound, electrical interference ratio kept more than 20dB.	pass

Remark : None

(1-3) Measurement results

Trade name/Brand	: JVC	Temperature	: 23 degrees
Model name	: KD-X472DBT	Humidity	: 45 %
Type description	: DIGITAL MEDIA RECEIVER	Date	: September 25, 2019
Serial no	: 134X0017	Test engineer	: T.Shimizu
Power supply	: DC 12V		

Testing mode : The EUT DAB 9D tuned / 4Ω dummy load x4 connected

Comment : None

Remarks : None

Function of the EUT after test: OK

Result : OK, The EUT kept the criterion A for the required limits.

Measured with : CDN ■ Type : M2 □ Type : M3 □ Type : USB/p □ Type : USB/c ■ Type : S751

EM Clamp □ Type : KEMZ 801

Note : "■" indicates that these instruments were in use for this test.

"□" indicates that these instruments were not in use for this test.

Injection port : DC line

Injection CDN / M2

Frequency	Level	Remark/Observation level	Result
0.15M – 10 MHz	3.0 V	Sound, electrical interference ratio kept more than 20dB.	pass
10M - 30MHz	3.0-1.0V	Sound, electrical interference ratio kept more than 20dB.	pass
30M – 80MHz	1.0V	Sound, electrical interference ratio kept more than 20dB.	pass

Remark : None.

cont.

Cont

Measured with : CDN ■ Type : M2 □ Type : M3 □ Type : USB/p □ Type : USB/c ■ Type : S751
EM Clamp □ Type : KEMZ 801

Note : "■" indicates that these instruments were in use for this test.
"□" indicates that these instruments were not in use for this test.

Injection port : Antenna Terminal

Injection CDN / S751

Frequency	Level	Remark/Observation level	Result
0.15M – 10 MHz	3.0 V	Sound, electrical interference ratio kept more than 20dB.	pass
10M - 30MHz	3.0-1.0V	Sound, electrical interference ratio kept more than 20dB.	pass
30M – 80MHz	1.0V	Sound, electrical interference ratio kept more than 20dB.	pass

Remark : None

Measured with : CDN ■ Type : M2 □ Type : M3 □ Type : USB/p □ Type : USB/c ■ Type : S751
EM Clamp ■ Type : KEMZ 801

Note : "■" indicates that these instruments were in use for this test.
"□" indicates that these instruments were not in use for this test.

Injection port : Wiring Harness 14p, FRONT/REAR/SW, DAB, MIC

Injection EM Clamp/ KEMZ801

Frequency	Level	Remark/Observation level	Result
0.15M – 10 MHz	3.0 V	Sound, electrical interference ratio kept more than 20dB.	pass
10M - 30MHz	3.0-1.0V	Sound, electrical interference ratio kept more than 20dB.	pass
30M – 80MHz	1.0V	Sound, electrical interference ratio kept more than 20dB.	pass

Remark : None