EMI TEST REPORT

Test Report No. : 12798096M-A

Applicant	:	**JVC KENWOOD Corporation**
Type of Equipment	:	**GPS Navigation System**
Model No.	:	**DNX7190DABS**
Test standard	:	**EN 55032:2015, Class B**
Test Result	:	**Complied (Refer to Section 3.2)**

1. This test report shall not be reproduced in full or partial, without the written approval of UL Japan, Inc.
2. The results in this report apply only to the sample tested.
3. This sample tested is in compliance with the limits of the above standard.
4. The test results in this test report are traceable to the national or international standards.
5. This test report covers EMC technical requirements. It does not cover administrative issues such as Manual or non-EMC test related Requirements. (if applicable)
6. The all test items in this test report are conducted by UL Japan, Inc. Kashima EMC Lab.
7. The opinions and the interpretations to the result of the description in this report are outside scopes where UL Japan has been accredited.
8. The information provided from the customer for this report is identified in Section 1.

Date of test: April 2 – 8, 2019

Representative test operator:

K. Ando

Kazuhiro Ando
Engineer
Consumer Technology Division

Approved by :

T. Yamashita

Tomoyuki Yamashita
Leader
Consumer Technology Division

ilac-MRA

LAB
JAB
Testing
RTL02610

☐ The testing in which "Non-accreditation" is displayed is outside the accreditation scopes in UL Japan.
☒ There is no testing item of "Non-accreditation"

REVISION HISTORY

Original Test Report No.: 12798096M-A

Revision	Test report No.	Date	Page revised	Contents
- (Original)	12798096M-A	April 26, 2019	-	-

UL Japan, Inc.
Kashima EMC Lab.
1614, Mushihata, Katori-shi, Chiba-ken, 289-0341 Japan
Telephone : +81 478 88 6500
Facsimile : +81 478 82 3373

CONTENTS **PAGE**

SECTION 1: Customer information 4
SECTION 2: Equipment under test (E.U.T.) 4
SECTION 3: Test specification, methods and prosedures 5
SECTION 4: Operation of E.U.T. during testing 8
SECTION 5: Conducted emissions 10
SECTION 6: Conducted differential voltage emissions 11
SECTION 7: Radiated emissions 12
APPENDIX 1: Photographs of test setup 14
APPENDIX 2: Test Data 20
APPENDIX 3: Test instruments 52

SECTION 1: Customer information

Company Name	:	JVC KENWOOD Corporation
Address	:	2967-3, Ishikawa-machi, Hachioji, Tokyo 192-8525 Japan
Telephone Number	:	+81-42-646-5525
Facsimile Number	:	+81-42-646-1440
Contact Person	:	Seigo Tsutsumi

The information provided from the customer is as follows:
- Applicant, Type of Equipment, Model No. on the cover page and other relevant pages
- Section 1: Customer information
- Section 2: Equipment under test (E.U.T.)
- Section 4: Operation of E.U.T. during testing

* The laboratory is exempted from liability of any test results affected from the information in Section 2 and 4.

SECTION 2: Equipment under test (E.U.T.)

2.1 Identification of E.U.T.

Type of Equipment	:	GPS Navigation System
Model No.	:	DNX7190DABS
Serial No.	:	Refer to Section 4, Clause 4.2
Rating	:	DC 12 V
Receipt Date of Sample (Information from test lab.)	:	April 2, 2019
Country of Mass-production	:	Indonesia
Condition of EUT	:	Production prototype (Not for Sale: This sample is equivalent to mass-produced items.)
Modification of EUT	:	No Modification by the test lab.

2.2 Product description

Model: DNX7190DABS (referred to as the EUT in this report) is a GPS Navigation System.

The maximum clock frequencies used in the E.U.T.: 6.2208 GHz

Radio Specification
[Bluetooth]

Type of radio	Bluetooth (BDR/EDR)
Frequency of operation	2402 MHz - 2480 MHz
Type of modulation	FHSS
Channel spacing	1 MHz

Antenna type	Chip Antenna
Antenna Gain	-2.3 dBi
Power Supply (radio art input)	DC 3.6 V/ 3.3 V/1.8 V
Clock frequency (Maximum)	37.4 MHz

SECTION 3: Test specification, methods and prosedures

3.1 Test specification

EMI

Title : EN 55032:2015, Class B
Electromagnetic compatibility of multimedia equipment
- Emission requirements

Purpose of test : Compliance with the EMC standard for RE Directive 2014/53/EU

3.2 Procedures & results

EMI: EN 55032

Item	Test procedure	Limits	Deviation	Worst margin	Result
Conducted emissions (AC mains power port)	EN 55032:2015	Class B	N/A *1)	**N/A**	N/A
Conducted emissions (Wired network port)	EN 55032:2015	Class B	N/A	**[AV] 14.1 dB** 0.43244 MHz, Mode: FM Reception (108MHz)	Complied a)
Conducted differential voltage emissions (FM,AM and DAB receiver tuner port)	EN 55032:2015	Class B	N/A	**[QP] 19.8 dB** 706.562 MHz, Mode: DAB Reception(5B), Other	Complied b)
Radiated emissions	EN 55032:2015	Class B	N/A *2)	**5.1 dB** 221.210 MHz, Vertical Mode: DAB Reception (5B), Other	Complied c)

Note: UL Japan, Inc.'s EMI Work Procedure 13-EM-W0420.
*1) The test was not applicable since the EUT does not have AC Mains power port.
*2) The test was conducted up to 6 GHz because the communication frequency is 6.2208 GHz (Maximum).

a) Refer to Appendix 2 (data of Conducted emissions)
b) Refer to Appendix 2 (data of Conducted differential voltage emissions)
c) Refer to Appendix 2 (data of Radiated emissions)

Symbols:
Complied The data of this test item has enough margin, more than the measurement uncertainty.
Complied# The data of this test item meets the limits unless the measurement uncertainty is taken into consideration.

3.3 Addition, deviation, exclusion to standards

No addition, exclusion nor deviation has been made from the standard.

3.4 Confirmation

UL Japan, Inc. hereby confirms that E.U.T., in the configuration tested, complies with the specifications EN 55032: 2015 Class A.

3.5 Uncertainty

EMI
There is no applicable rule of uncertainty in this applied standard. Therefore, the results are derived depending on whether or not laboratory uncertainty is applied.

The following uncertainties have been calculated to provide a confidence level of 95 % using a coverage factor $k = 2$.

Item	Frequency range	Calculate Uncertainty (±)	U*cispr* (±)
Conducted emission (AC Mains) AMN	9 kHz-150 kHz	3.8 dB	3.8 dB
	150 kHz-30 MHz	3.2 dB	3.4 dB
Conducted emission (Communication port) AAN	150 kHz-30 MHz	4.5 dB	5.0 dB
Conducted emission (Communication port) Current probe	150 kHz-30 MHz	2.5 dB	2.9 dB
Conducted emission (Communication port) Voltage probe	150 kHz-30 MHz	2.5 dB	2.9 dB
Radiated emission (Measurement distance: 3 m)	9 kHz-30 MHz	3.0 dB	Not Defined
	30 MHz-200 MHz	5.2 dB	6.3 dB
	200 MHz-1 GHz	6.2 dB	
	1 GHz-6 GHz	4.7 dB	5.2 dB
	6 GHz-18 GHz	5.1 dB	5.5 dB
	18 GHz-40 GHz	5.4 dB	Not Defined
Radiated emission (Measurement distance: 10 m)	9 kHz-30 MHz	3.0 dB	Not Defined
	30 MHz-200 MHz	5.0 dB	5.03 dB
	200 MHz-1 GHz	5.1 dB	5.2 dB
	1 GHz-18 GHz	5.1 dB	

Item	Calculated Uncertainty (+/-)	Required Uncertainty (+/-)
Harmonics Current	0.40%	Not Defined
Flicker and voltage fluctuations (Pst, Plt)	0.60%	8.0 %
Flicker and voltage fluctuations (dc)	0.80%	
Flicker and voltage fluctuations (dmax)	3.70%	
Flicker and voltage fluctuations (d(t))	0.1 %	

3.6 Test Location

UL Japan, Inc. Kashima EMC Lab.
1614 Mushihata, Katori-shi, Chiba-ken, 289-0341 JAPAN
Telephone: +81 478 88 6500, Facsimile: +81 478 82 3373
JAB Accreditation No. RTL02610

Test site	ISED Assigned Code	Width x Depth x Height (m)	Size of reference ground plane (m) / horizontal conducting plane	Maximum measurement distance
No.1 Open site	4659A-1	6.0 x 5.5 x 2.5	20 x 40	10 m
No.5 Open site	4659A-5	8.6 x 7.1 x 2.4	18 x 23	10 m
No.1 Shielded room	4659A-1	5.4 x 4.5 x 2.3	-	-
No.3 Shielded room	-	5.4 x 3.6 x 2.3	-	-
No.4 Shielded Room	-	6.1 x 6.1 x 3.1	-	-
No.5 Shielded Room	4659A-5	4.2 x 3.1 x 2.5	-	-
No.3 Fully Anechoic Chamber	-	7.0 x 3.5 x 3.5	-	-
No.6 Semi-anechoic Chamber	4659A-6	8.5 x 5.5 x 5.2	-	3 m
No.10 Semi-anechoic Chamber	4659A-10	18.4 x 9.9 x 7.7	-	10 m
No.11 Semi-anechoic Chamber	4659A-7	9.0 x 6.5 x 5.2	-	3 m
No.1 Measurement room	-	5.0 x 3.7 x 2.6	-	-
No.2 Measurement room	-	4.3 x 4.4 x 2.7	-	-
No.3 Measurement room	-	4.5 x 5.3 x 2.7	-	-

3.7 Test setup, Test Data & Test instruments

Refer to Appendix.

SECTION 4: Operation of E.U.T. during testing

4.1 Operating Modes

The EUT exercise program used during testing was designed to exercise the various system components in a manner similar to typical use.

The mode(s) :
1. AM Reception
2. FM Reception
3. DAB Reception
4. USB Paly*
5. HDMI in*
6. DVD Play*

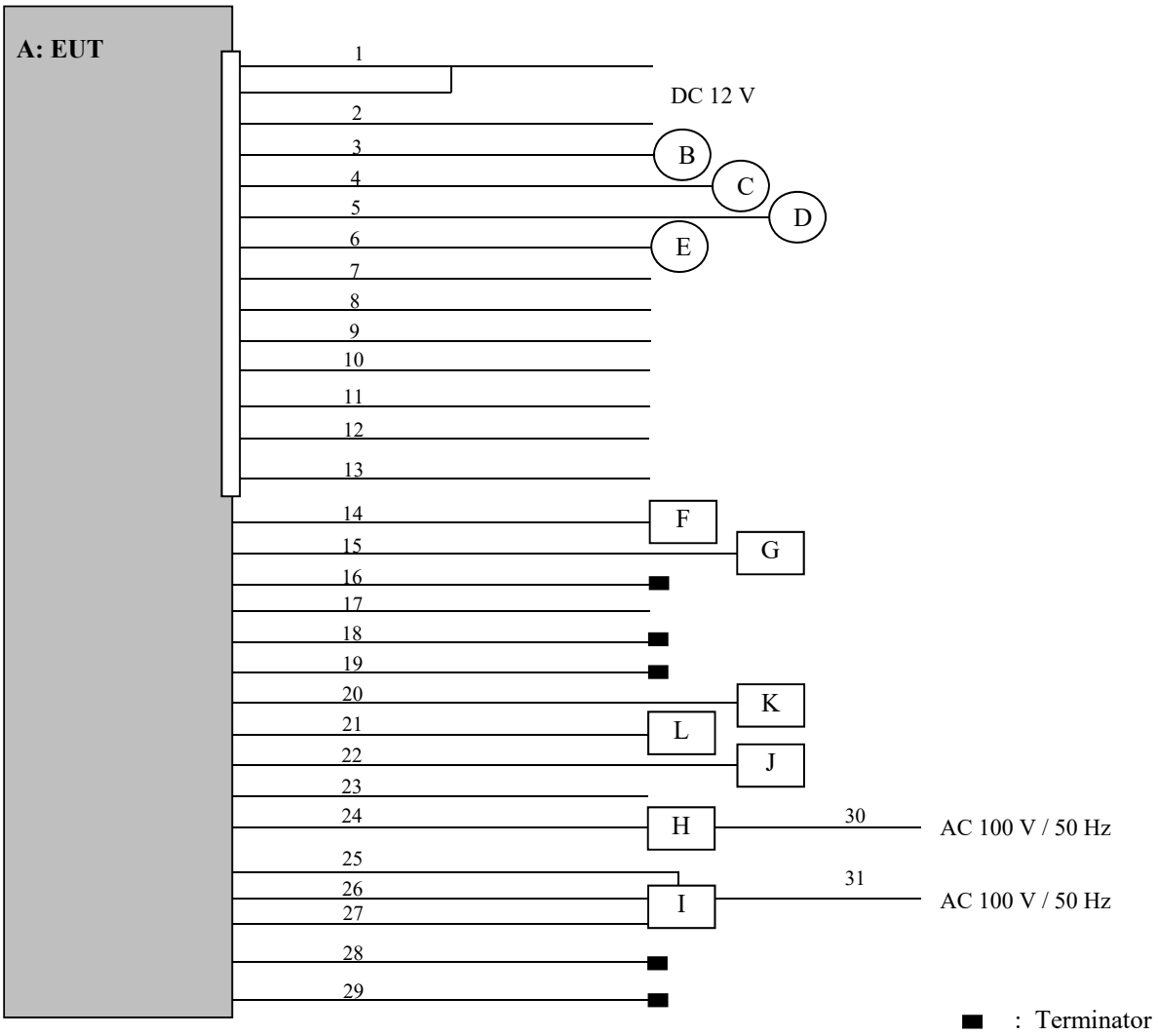
* Applied for Radiated emission test only

Software(s) :

SoC	:	1.0.0509.4000
Syscom	:	1.0.0209.3100
Panel	:	1.0.0179.3700

Justification : The system was configured in typical fashion (as a customer would normally use it) for testing.

4.2 Configuration and peripherals



Cabling and setup(s) were taken into consideration and test data was taken under worse case conditions.

Description of EUT and Support equipment

No.	Item	Model number	Serial number	Manufacturer	Remark
A	GPS NAVIGATION SYSTEM	DNX7190DABS	PE-X0024	JVC KENWOOD Corporation	EUT
B	Speaker	KFC-RS101	-	KENWOOD	-
C	Speaker	KFC-RS101	-	KENWOOD	-
D	Speaker	KFC-RS101	-	KENWOOD	-
E	Speaker	KFC-RS101	-	KENWOOD	-
F	USB Memory	-	D332B29	SP Silicon Power	-
G	USB Memory	USM4GM	12523CNEN1	Sony	-
H	Blu-ray Disc Player	BDP-320	IKMP005496JP	Pioneer	-
I	HDD & DVD Video Recorder	RD-S502	PL18502473	TOSHIBA	-
J	DAB Antenna	-	-	JVC KENWOOD Corporation	-
K	GPS Antenna	-	-	JVC KENWOOD Corporation	-
L	Microphone	-	-	JVC KENWOOD Corporation	-

List of cables used

No.	Name	Length (m)	Cable Shield	Connector Shield	Remark
1	ACC, B+	0.1+2.9	Unshielded	Unshielded	-
2	GND	0.1+2.9	Unshielded	Unshielded	-
3	Speaker Front Left	1.8+0.2	Unshielded	Unshielded	-
4	Speaker Front Right	1.8+0.2	Unshielded	Unshielded	-
5	Speaker Rear Left	1.8+0.2	Unshielded	Unshielded	-
6	Speaker Rear Right	1.8+0.2	Unshielded	Unshielded	-
7	ILLUMI	0.1+1.4	Unshielded	Unshielded	-
8	ANT CONT	0.1+1.4	Unshielded	Unshielded	-
9	P.CONT	0.1+1.4	Unshielded	Unshielded	-
10	REMOTE CONT	0.1+1.4	Unshielded	Unshielded	-
11	PRK SW	0.1+2.0	Unshielded	Unshielded	-
12	REVERSE	0.1+1.4	Unshielded	Unshielded	-
13	MUTE	0.1+1.4	Unshielded	Unshielded	-
14	USB 1	0.2+1.0	Shielded	Shielded	-
15	USB 2	0.2+1.0	Shielded	Shielded	-
16	FM/AM Antenna	0.1+1.0	Shielded	Shielded	-
17	AV-OUT AUDIO	1.0	Shielded	Shielded	-
18	AV OUT REAR	1.2	Shielded	Shielded	-
19	AV OUT SW	1.2	Shielded	Shielded	-
20	GPS	3.5	Shielded	Shielded	-
21	Microphone	3.0	Shielded	Shielded	-
22	DAB	3.5	Shielded	Shielded	-
23	EXT IF	1.0	Shielded	Shielded	-
24	HDMI	0.7	Shielded	Shielded	-
25	AV-IN	1.5	Shielded	Shielded	-
26	AV OUT FRONT	1.2	Shielded	Shielded	-
27	REAR VIEW CAMERA	0.2+1.1	Shielded	Shielded	-
28	VIDEO OUT	0.2+1.1	Shielded	Shielded	-
29	FRONT VIEW CAMERA	0.2+1.1	Shielded	Shielded	-
30	AC	2.0	Unshielded	Unshielded	-
31	AC	1.6	Unshielded	Unshielded	-

SECTION 5: Conducted emissions

5.1 Operating environment

Test room : Refer to data
Temperature : Refer to data
Humidity : Refer to data

5.2 Test configuration

For asymmetric mode
The EUT was placed on a platform of nominal size, 1.0 m by 2.0 m, raised 0.8 m above the conducting ground plane. The rear of tabletop was located 40 cm to the vertical conducting plane. The rear of EUT, including peripherals was aligned and was flushed with rear of tabletop. All other surfaces of tabletop were at least 80 cm from any other grounded conducting surface. The EUT was located 0.8 m from Asymmetric Artificial Network (AAN) and excess RF Cable was bundled in center. I/O cables that were connected to the peripherals were bundled in center. They were folded back and forth forming a bundle 0.3 m to 0.4 m long. Each EUT current-carrying power lead, except the ground (safety) lead, was individually connected through an AMN to the input power source. All unused 50 ohm connectors of the AMN were resistively terminated in 50 ohm when not connected to the measuring equipment.

Photographs of the set up are shown in Appendix 1.

5.3 Test conditions

Frequency range : 0.15 MHz - 30 MHz
EUT position : Table top
EUT operation mode : See Clause 4.1

5.4 Test procedure

The wired network port continuous emission voltage had been measured with the EUT in the shielded room.
The EUT was connected to an Asymmetric artificial network (AAN).
An overview sweep with peak detection had been performed.
The measurements had been performed with a quasi-peak detector and if required, with a CISPR average detector (CAV).
The conducted emission measurements were made with the following detector function of the test receiver.

Detector Type	:	Quasi-Peak	/	CISPR Average
IF Bandwidth	:	9 kHz	/	9 kHz

5.5 Results

Summary of the test results : Pass

SECTION 6: Conducted differential voltage emissions

6.1 Operating environment

Test room : Refer to data
Temperature : Refer to data
Humidity : Refer to data

6.2 Test configuration

The EUT was placed on a non-metallic table height of 0.8 m.
Photographs of the set up are shown in Appendix 1.

6.3 Test conditions

Frequency range : 30 MHz - 2150 MHz
EUT position : Table top
EUT operation mode : See Clause 4.1

6.4 Test procedure

The Disturbance Voltage from Antenna Terminal Test had been measured with the EUT.

a. Measurement of Antenna terminal disturbance voltage from local oscillator.
Measurement of fundamental wave
Measure disturbance voltage noise from local oscillator (Sum of receiving frequency and intermediate frequency). with the condition of receiving signal generated from signal generator at test channel.
Measurement of Harmonics
Measure harmonic noise (frequency which double, triplicate, quadruple… of local oscillator frequency within the specified frequency range) of fundamental frequency.

b. Measurement of Antenna terminal disturbance voltage occurred from other noise source.
Measure disturbance voltage other than local oscillator with receiving discretional channel.

The colour bar signals specified in the standard were transmitted from a video generator and EUT was set in receiving condition.
The sound input signal (unmodulated) level should be 60dB(uV) for FM receiver.

The disturbance voltage from antenna terminal test was made with the following detector function of the test receiver.

		30 MHz - 1000 MHz	1000 MHz - 2150 MHz
Detector Type	:	QP	PK
IF Bandwidth	:	120 kHz	1 MHz

6.5 Results

Summary of the test results : Pass

SECTION 7: Radiated emissions

7.1 Operating environment

Test room	:	Refer to data
Temperature	:	Refer to data
Humidity	:	Refer to data

7.2 Test configuration

The EUT was placed on a platform of nominal size, 1.0 m by 1.5 m, raised 0.8 m above the conducting ground plane.
The table is made of polystyrene foam. That has very low permittivity.
The rear of EUT, including its peripherals was aligned and flushed with rear of tabletop. I/O cables that were connected to the peripherals were bundled in center. They were folded back and for the forming a bundle 30 cm to 40 cm long and were hanged at a 40 cm height to the ground plane.
Test was made with the antenna positioned in both the horizontal and vertical planes of polarization. The measurement antenna was varied in height above the conducting ground plane to obtain the maximum signal strength.
Photographs of the set up are shown in Appendix 1.

7.3 Test conditions

Frequency range	:	30 MHz - 6000 MHz
Test distance	:	10 m (30 MHz - 1000 MHz) 3 m (1000 MHz - 6000 MHz)
EUT position	:	Table top
EUT operation mode	:	See Clause 4.1

7.4 Test procedure

< Below 1 GHz >
The Radiated Electric Field Strength intensity has been measured in the semi anechoic chamber with a ground plane at a distance of 10 m*.
* Measuring distance
The boundary of the EUT is defined by an imaginary circular periphery.

Measurements were performed with a quasi-peak detector.
The measuring antenna height was varied between 1 m to 4 m and EUT was rotated a full revolution in order to obtain the maximum value of the electric field intensity.
The measurements were performed for both vertical and horizontal antenna polarization.

< Above 1 GHz >
The Radiated Electric Field Strength intensity has been measured on the semi anechoic chamber with a ground plane at a distance of 3 m.
Measurements were performed with a peak detector and an average detector.
The EUT was rotated a full revolution in order to obtain the maximum value of the electric field intensity.
The height of the center of the EUT system was **0.71 m**, which was lower than 1m, so the antenna height was fixed at 1 m. If system area is considered for measurement height, still antenna boresight includes them.

As the height of the center of the EUT which was lower than 1 m, the antenna height was fixed at 1 m.

The measurements were performed for both vertical and horizontal antenna polarizations.

Horn antenna (3115) Minimum dimension of *W* (Measurement distance=3 m)

Frequency [GHz]	θ_{3dB} [deg]	W_{min} [m]	VD (EUT) [m]	VD (EUT system) [m]	CH [m]
1.0	51.0	2.86	0.11	0.41	0.71*
2.0	56.0	3.19			
3.0	42.0	2.30			
4.0	47.0	2.61			
5.0	43.0	2.36			
6.0	42.0	2.30			

θ_{3dB}: The minimum 3 dB beam width of receive antenna.
d: The measurement distance (in meters).
W: The dimension of the line tangent to the EUT formed by θ_{3dB} at the measurement distance.
[W=2*d*tan (0.5*θ_{3dB})]

VD (EUT): Vertical maximum dimension of EUT
VD (EUT system): Vertical maximum dimension of EUT system[m] (contained cable length: 0.3m)
CH: Center height of EUT system[m] (contained cable length: 0.3m)
*CH[m] =0.8[m] (Table height)-0.3[m] (consideration of cable length based on CISPR16-2-3) +VD(EUT system)[m]/2

The radiated emission measurements were made with the following detector function.

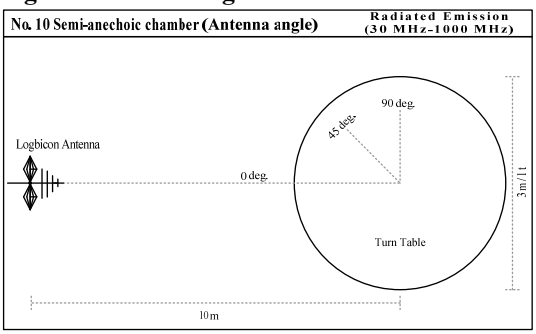
Frequency	Below 1 GHz	Above 1 GHz	
Instrument used	Test Receiver	Spectrum Analyzer	
Detector Type	Quasi-peak	Peak	Average *
IF Bandwidth	RBW: 120 kHz	RBW: 1 MHz VBW: 3 MHz	RBW: 1 MHz VBW: 10 Hz

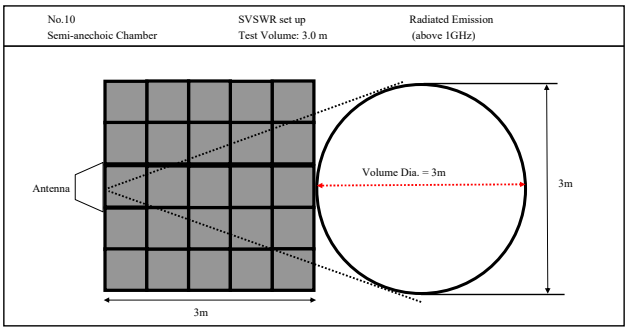
*When using spectrum analyzer, the test was made with adjusting span to zero by using peak hold.

7.5 Results

Summary of the test results : Pass

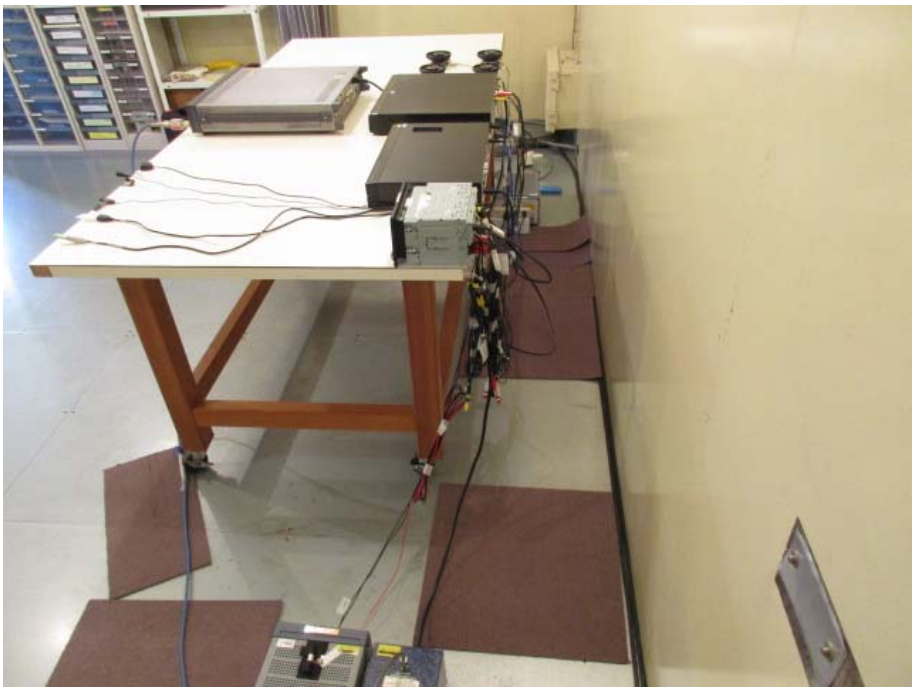
Figure. Antenna angle



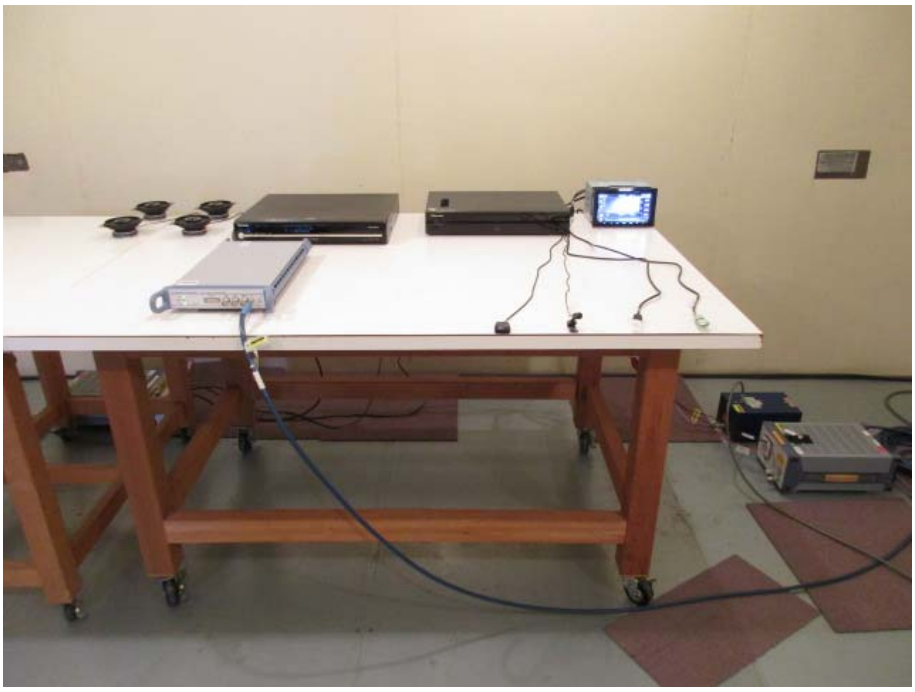


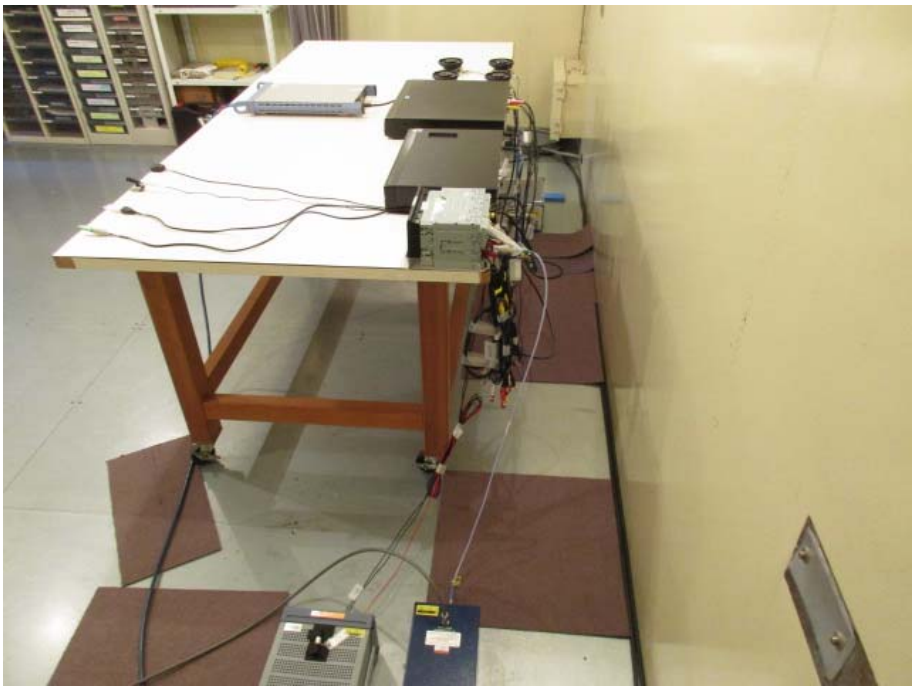
APPENDIX 1:Photographs of test setup

Conducted emission
AM/FM Reception



Conducted emission
DAB Reception





Conducted differential voltage emission

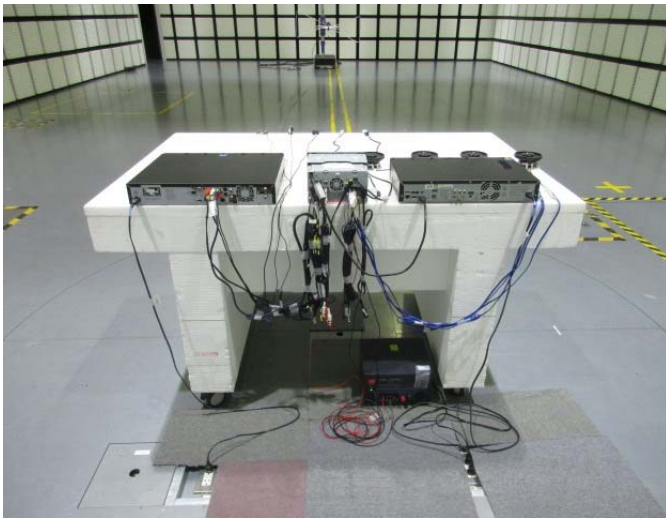
AM/FM Reception

DAB Reception

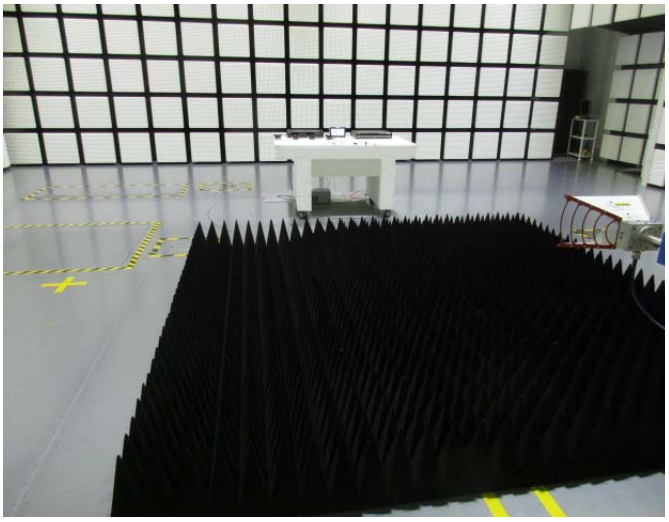
Radiated emission

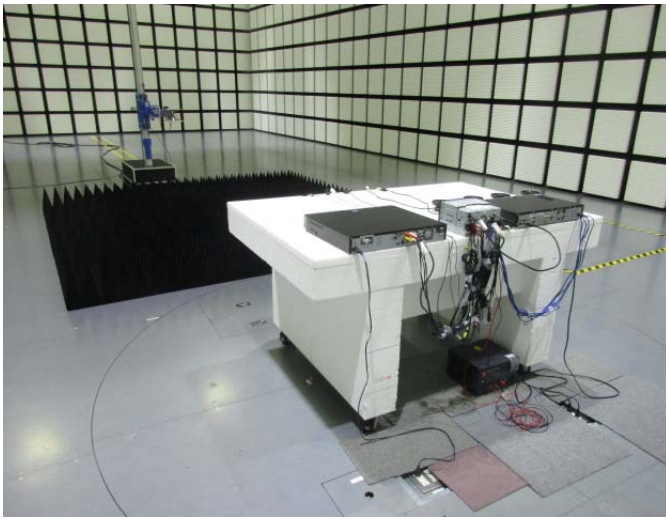
USB Play/HDMI in/DVD Play

Below 1 GHz



Above 1 GHz

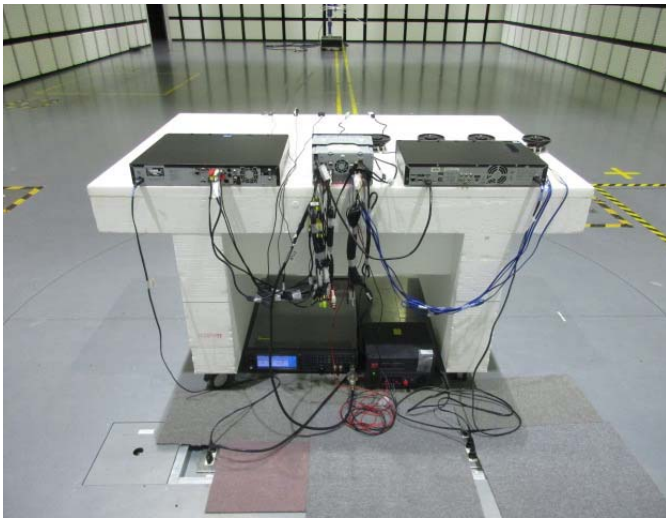




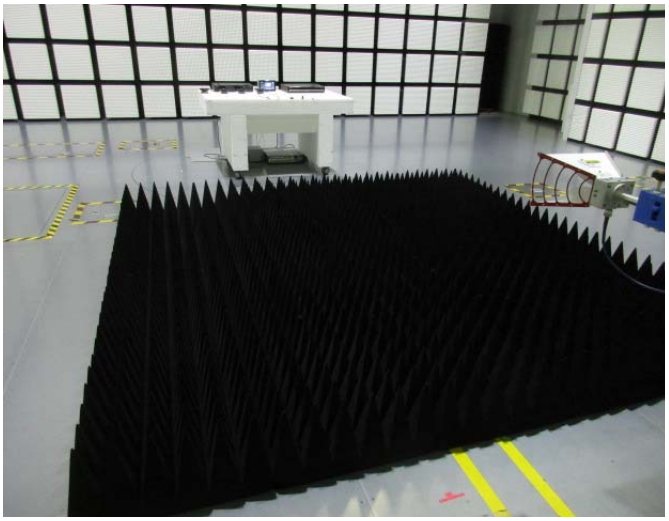
Radiated emission

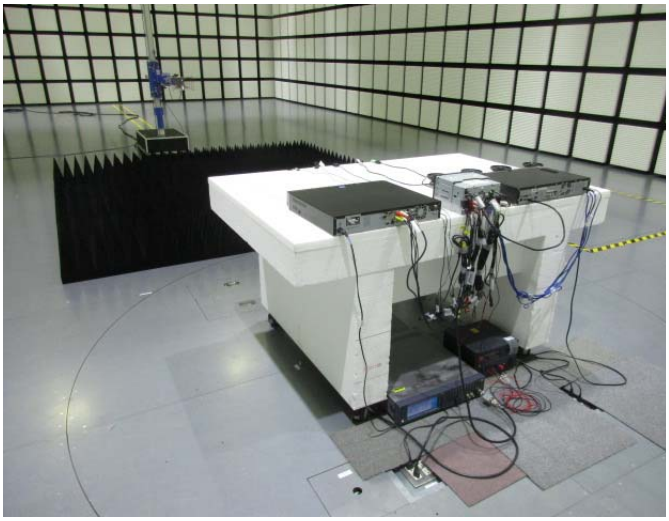
AM/FM Reception

Below 1 GHz



Above 1 GHz

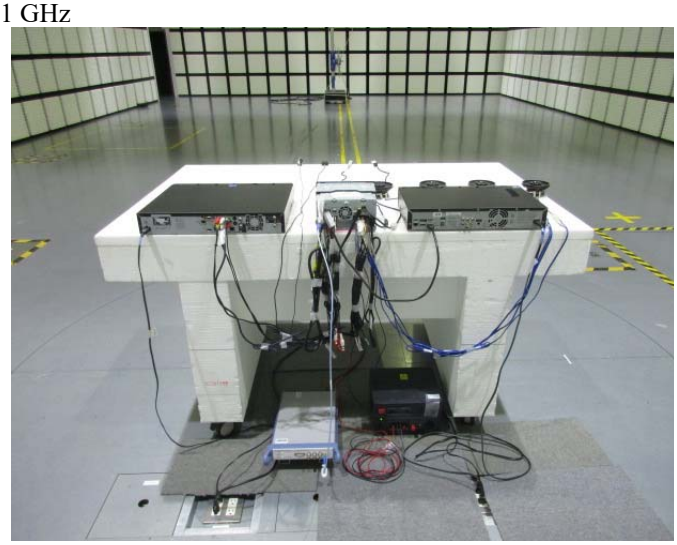




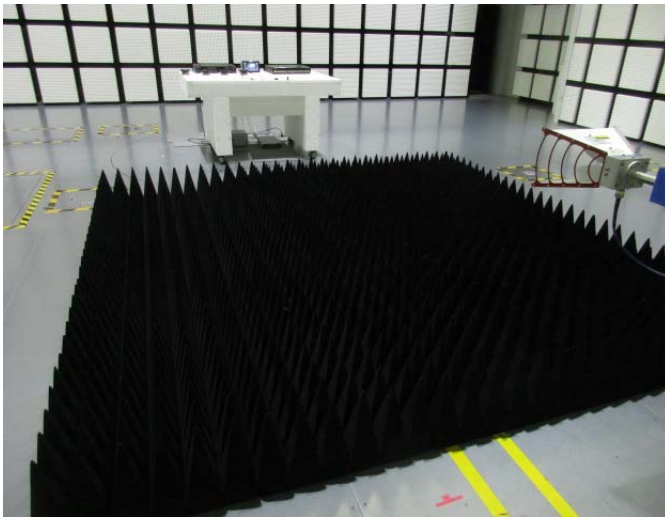
Radiated emission

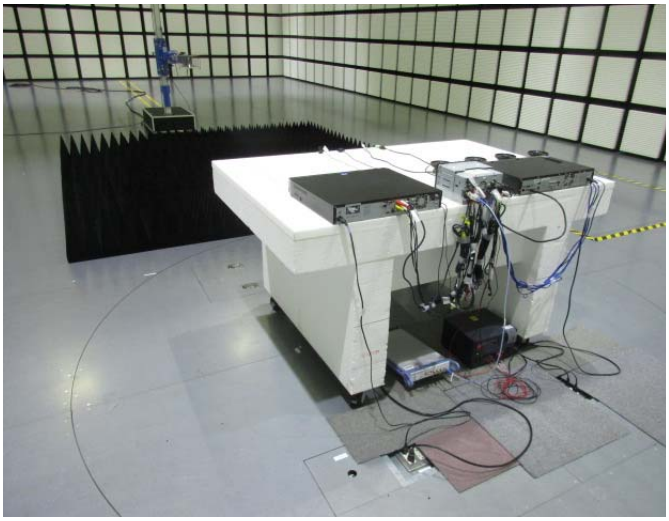
DAB Reception

Below 1 GHz



Above 1 GHz



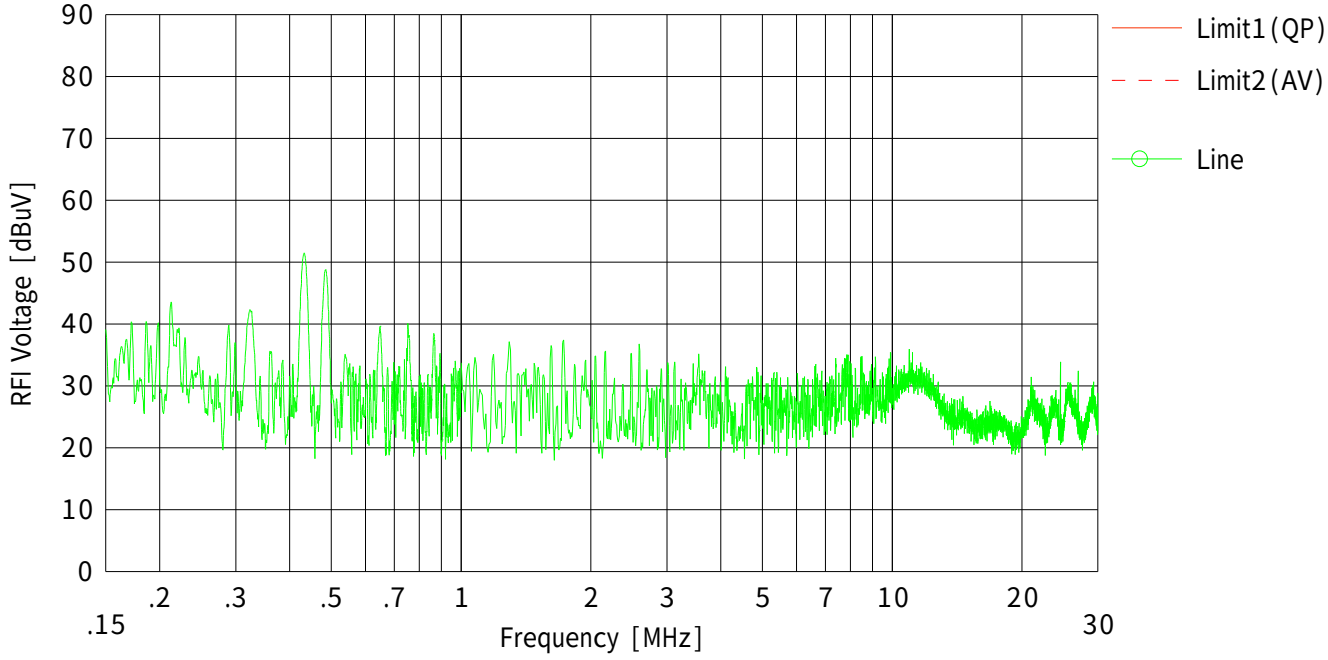


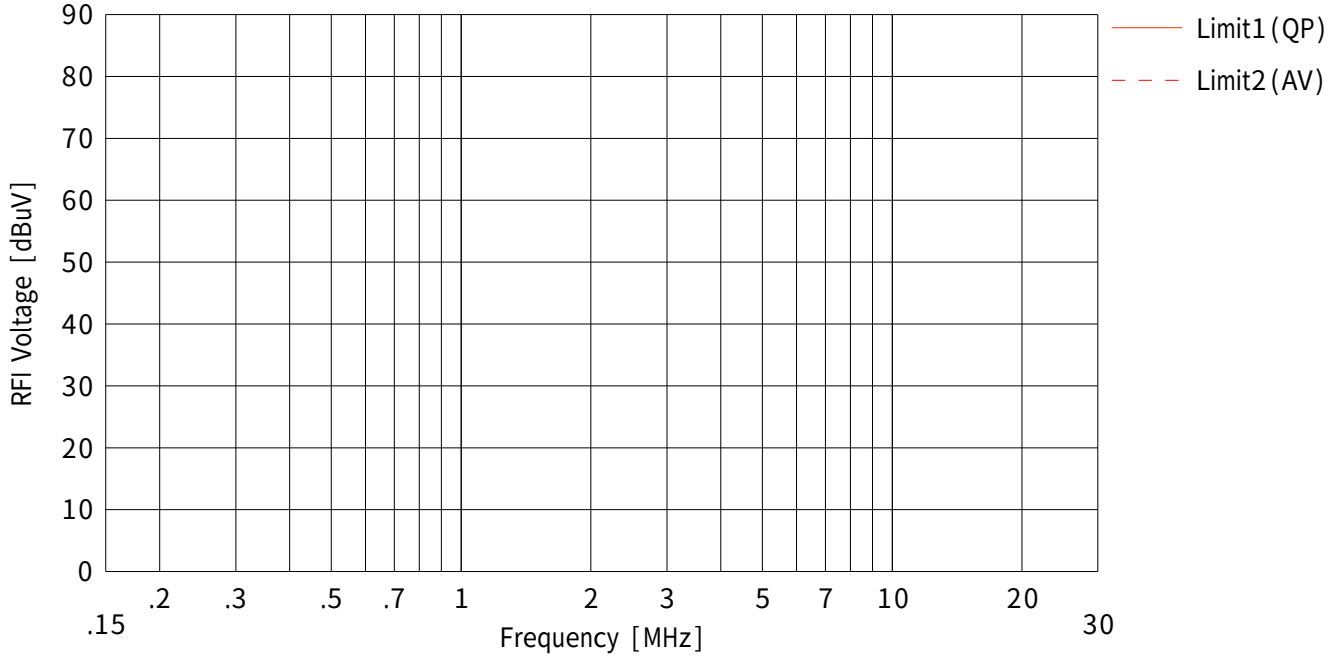
DATA OF CONDUCTED EMISSION TEST

UL Japan, Inc. Kashima EMC Lab. No.1 Shielded Room
Date : 2019/04/04

Company	: JVC KENWOOD CORPORATION	Mode	: AM Reception (Sweep)
Kind of EUT	: GPS Navigation System	Order No.	: 12798096M
Model No.	: DNX7190DABS	Power	: DC 12V
Serial No.	: PE-X0024	Temp./Humi.	: 23deg.C / 42%RH
Remarks	: -		

Tested by : Makoto Ebato





Calculation:Result[dBuV]=Reading[dBuV]+C.Fac(AAN+Cable)[dB]
AAN:KCN-16

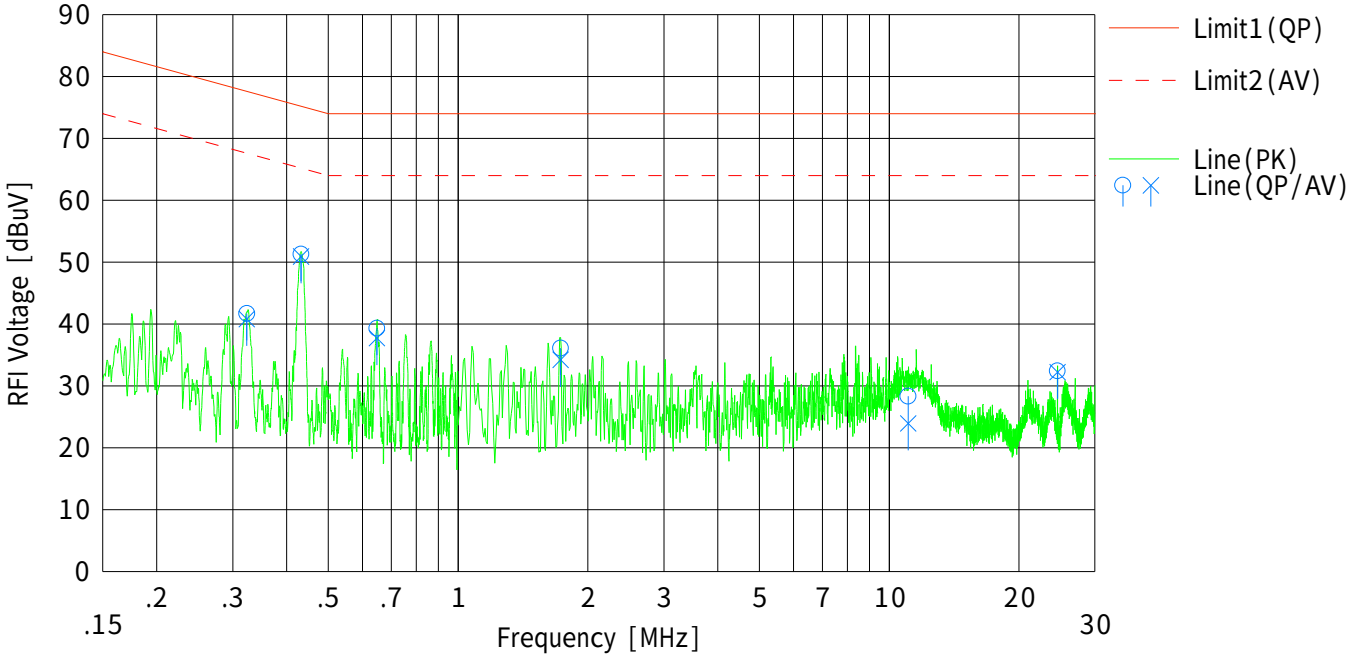
DATA OF CONDUCTED EMISSION TEST

UL Japan, Inc. Kashima EMC Lab. No.1 Shielded Room
Date : 2019/04/04

Company	: JVC KENWOOD CORPORATION	Mode	: AM Reception (1611kHz)
Kind of EUT	: GPS Navigation System	Order No.	: 12798096M
Model No.	: DNX7190DABS	Power	: DC 12V
Serial No.	: PE-X0024	Temp./Humi.	: 23deg.C / 42%RH
Remarks	: -		

Limit1 : EN 55032 ClassB QP (AAN)
Limit2 : EN 55032 ClassB AV (AAN)

Tested by : Makoto Ebato



No.	Freq.	Reading		C.Fac	Results		Limit		Margin		Phase	Comment
		<QP>	<AV>		<QP>	<AV>	<QP>	<AV>	<QP>	<AV>		
	[MHz]	[dBuV]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dB]	[dB]		
1	0.32398	31.9	31.0	9.8	41.7	40.8	77.6	67.6	35.9	26.8	Line	
2	0.43241	41.6	41.2	9.7	51.3	50.9	75.2	65.2	23.9	14.3	Line	
3	0.64783	29.6	28.0	9.7	39.3	37.7	74.0	64.0	34.7	26.3	Line	
4	1.72885	26.3	24.4	9.8	36.1	34.2	74.0	64.0	37.9	29.8	Line	
5	11.06952	17.9	13.5	10.4	28.3	23.9	74.0	64.0	45.7	40.1	Line	
6	24.57595	21.5	21.3	10.9	32.4	32.2	74.0	64.0	41.6	31.8	Line	

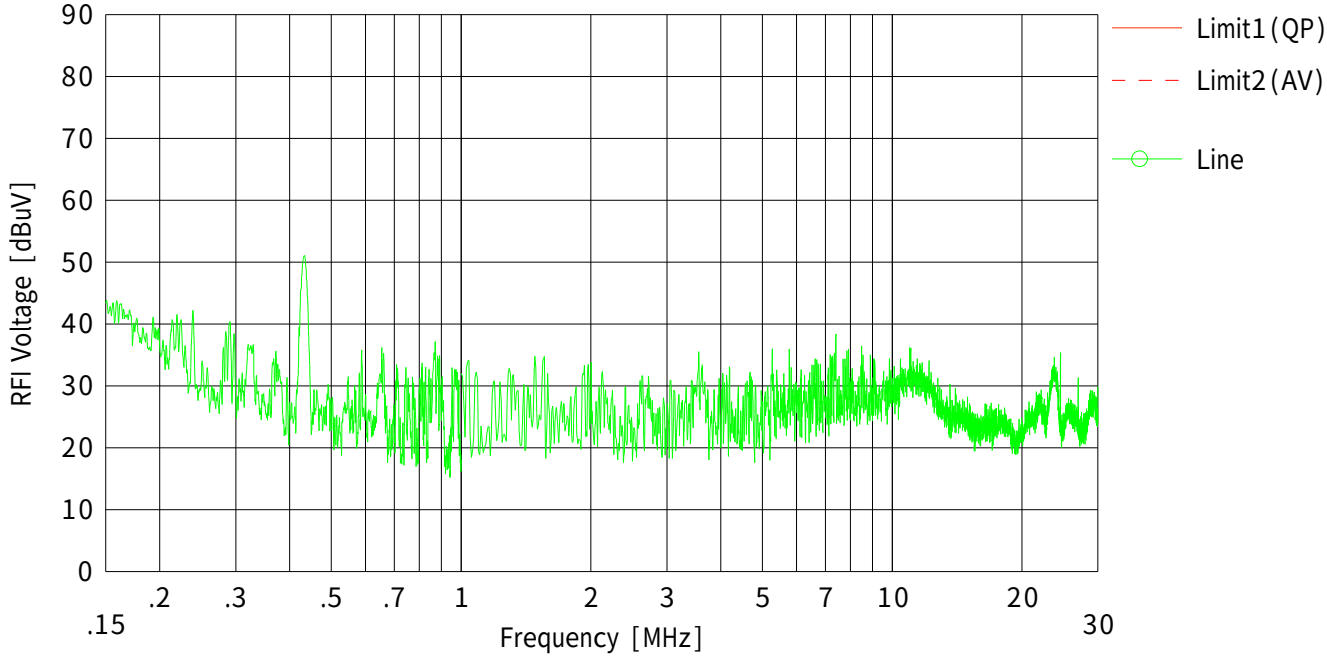
Calculation:Result[dBuV]=Reading[dBuV]+C.Fac(AAN+Cable)[dB]
AAN:KCN-16

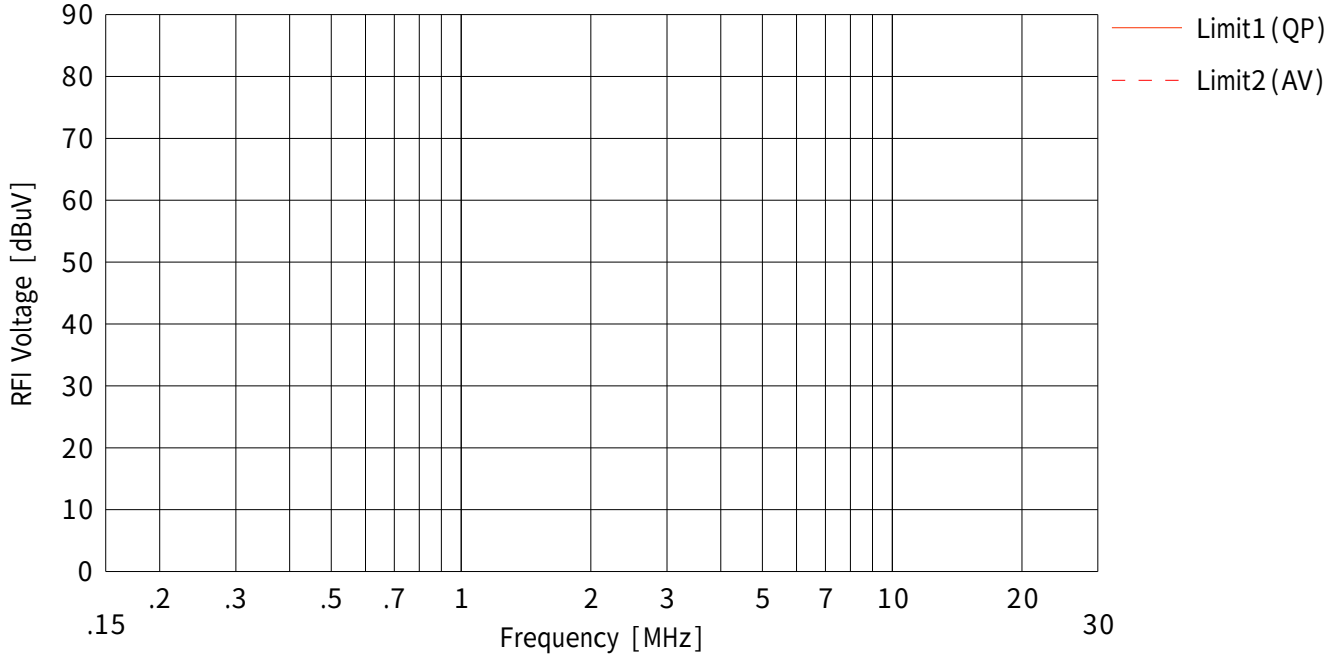
DATA OF CONDUCTED EMISSION TEST

UL Japan, Inc. Kashima EMC Lab. No.1 Shielded Room
Date : 2019/04/04

Company	: JVC KENWOOD CORPORATION	Mode	: FM Reception (Sweep)
Kind of EUT	: GPS Navigation System	Order No.	: 12798096M
Model No.	: DNX7190DABS	Power	: DC 12V
Serial No.	: PE-X0024	Temp./Humi.	: 23deg.C / 42%RH
Remarks	: -		

Tested by : Makoto Ebato





Calculation:Result[dBuV]=Reading[dBuV]+C.Fac(AAN+Cable)[dB]
AAN:KCN-16

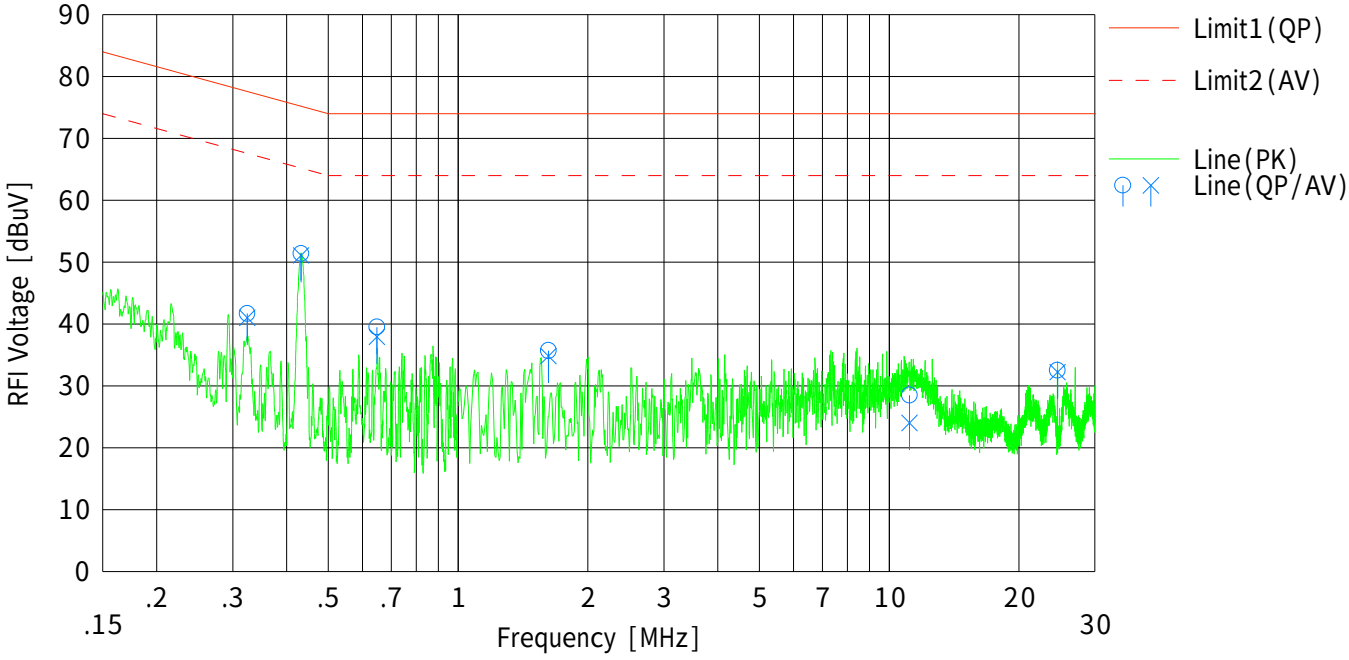
DATA OF CONDUCTED EMISSION TEST

UL Japan, Inc. Kashima EMC Lab. No.1 Shielded Room
Date : 2019/04/04

Company	: JVC KENWOOD CORPORATION	Mode	: FM Reception (108MHz)
Kind of EUT	: GPS Navigation System	Order No.	: 12798096M
Model No.	: DNX7190DABS	Power	: DC 12V
Serial No.	: PE-X0024	Temp./Humi.	: 23deg.C / 42%RH
Remarks	: -		

Limit1 : EN 55032 ClassB QP (AAN)
Limit2 : EN 55032 ClassB AV (AAN)

Tested by : Makoto Ebato



No.	Freq.	Reading		C.Fac	Results		Limit		Margin		Phase	Comment
		<QP>	<AV>		<QP>	<AV>	<QP>	<AV>	<QP>	<AV>		
	[MHz]	[dBuV]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dB]	[dB]		
1	0.32407	31.9	31.2	9.8	41.7	41.0	77.6	67.6	35.9	26.6	Line	
2	0.43244	41.7	41.4	9.7	51.4	51.1	75.2	65.2	23.8	14.1	Line	
3	0.64808	29.8	28.2	9.7	39.5	37.9	74.0	64.0	34.5	26.1	Line	
4	1.62055	25.9	25.0	9.8	35.7	34.8	74.0	64.0	38.3	29.2	Line	
5	11.14970	18.1	13.6	10.4	28.5	24.0	74.0	64.0	45.5	40.0	Line	
6	24.57600	21.6	21.3	10.9	32.5	32.2	74.0	64.0	41.5	31.8	Line	

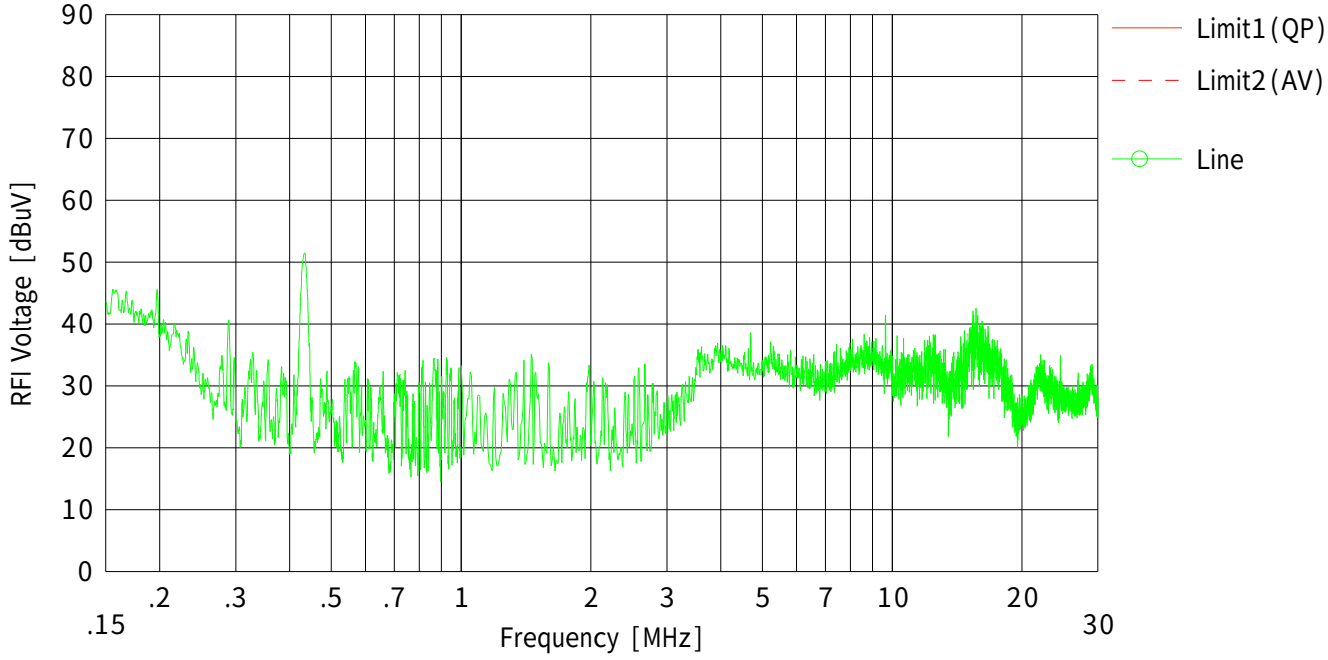
Calculation:Result[dBuV]=Reading[dBuV]+C.Fac(AAN+Cable)[dB]
AAN:KCN-16

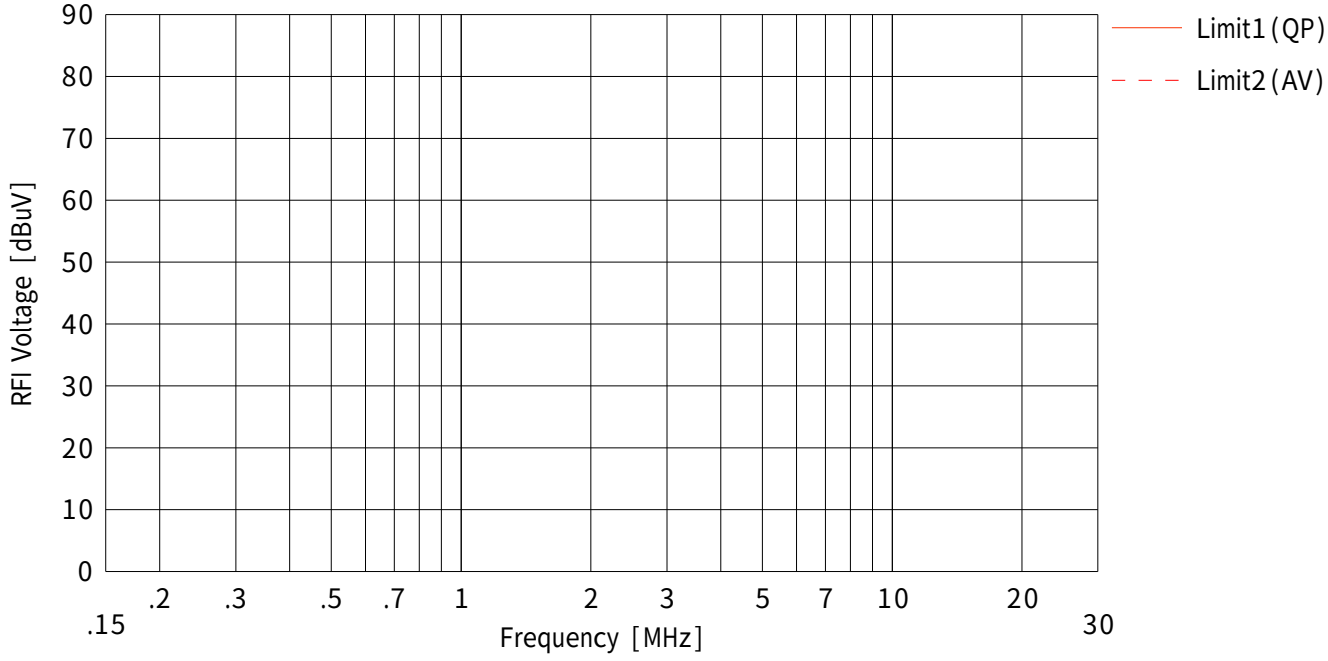
DATA OF CONDUCTED EMISSION TEST

UL Japan, Inc. Kashima EMC Lab. No.1 Shielded Room
Date : 2019/04/04

Company	: JVC KENWOOD CORPORATION	Mode	: DAB Reception (Sweep)
Kind of EUT	: GPS Navigation System	Order No.	: 12798096M
Model No.	: DNX7190DABS	Power	: DC 12V
Serial No.	: PE-X0024	Temp./Humi.	: 23deg.C / 42%RH
Remarks	: -		

Tested by : Makoto Ebato





Calculation:Result[dBuV]=Reading[dBuV]+C.Fac(AAN+Cable)[dB]
AAN:SCN-27

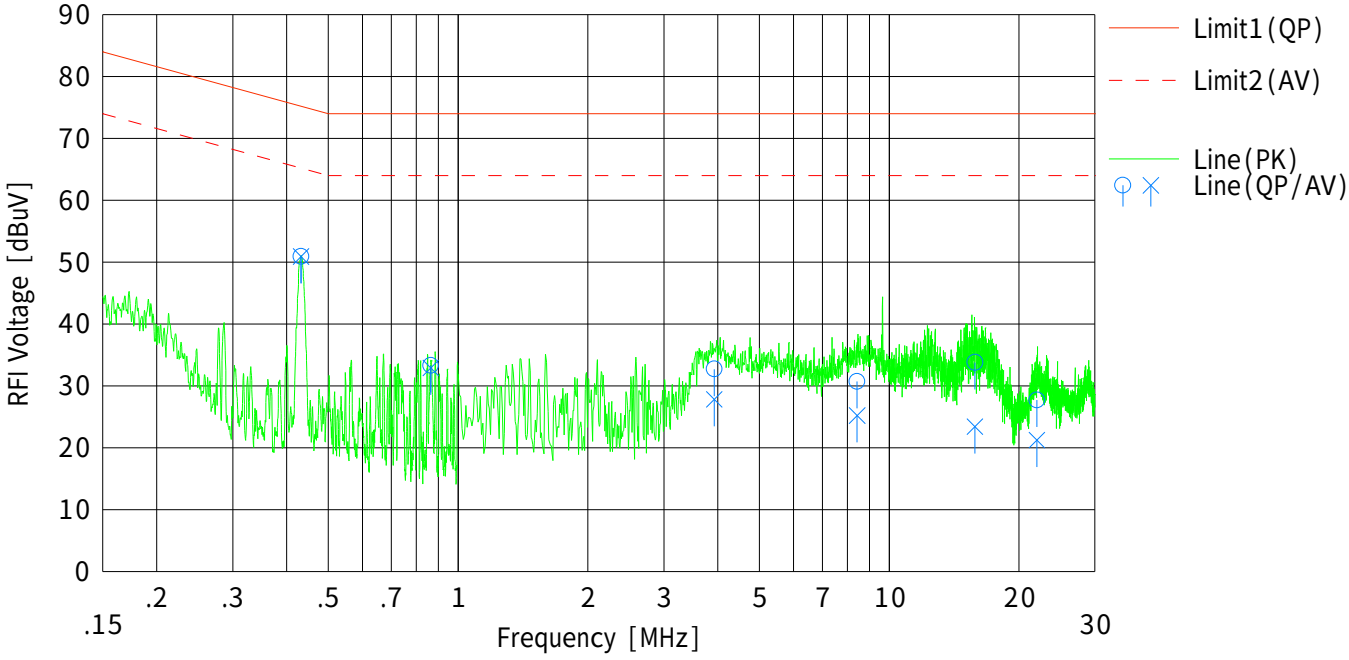
DATA OF CONDUCTED EMISSION TEST

UL Japan, Inc. Kashima EMC Lab. No.1 Shielded Room
Date : 2019/04/04

Company	: JVC KENWOOD CORPORATION	Mode	: DAB Reception (5B)
Kind of EUT	: GPS Navigation System	Order No.	: 12798096M
Model No.	: DNX7190DABS	Power	: DC 12V
Serial No.	: PE-X0024	Temp./Humi.	: 23deg.C / 42%RH
Remarks	: -		

Limit1 : EN 55032 ClassB QP (AAN)
Limit2 : EN 55032 ClassB AV (AAN)

Tested by : Makoto Ebato



No.	Freq.	Reading		C.Fac	Results		Limit		Margin		Phase	Comment
		<QP>	<AV>		<QP>	<AV>	<QP>	<AV>	<QP>	<AV>		
	[MHz]	[dBuV]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dB]	[dB]		
1	0.43245	41.3	41.3	9.6	50.9	50.9	75.2	65.2	24.3	14.3	Line	
2	0.86485	23.7	23.3	9.6	33.3	32.9	74.0	64.0	40.7	31.1	Line	
3	3.92641	22.8	17.9	9.9	32.7	27.8	74.0	64.0	41.3	36.2	Line	
4	8.42922	20.7	15.2	10.0	30.7	25.2	74.0	64.0	43.3	38.8	Line	
5	15.81923	23.5	13.1	10.3	33.8	23.4	74.0	64.0	40.2	40.6	Line	
6	22.01240	17.3	10.8	10.4	27.7	21.2	74.0	64.0	46.3	42.8	Line	

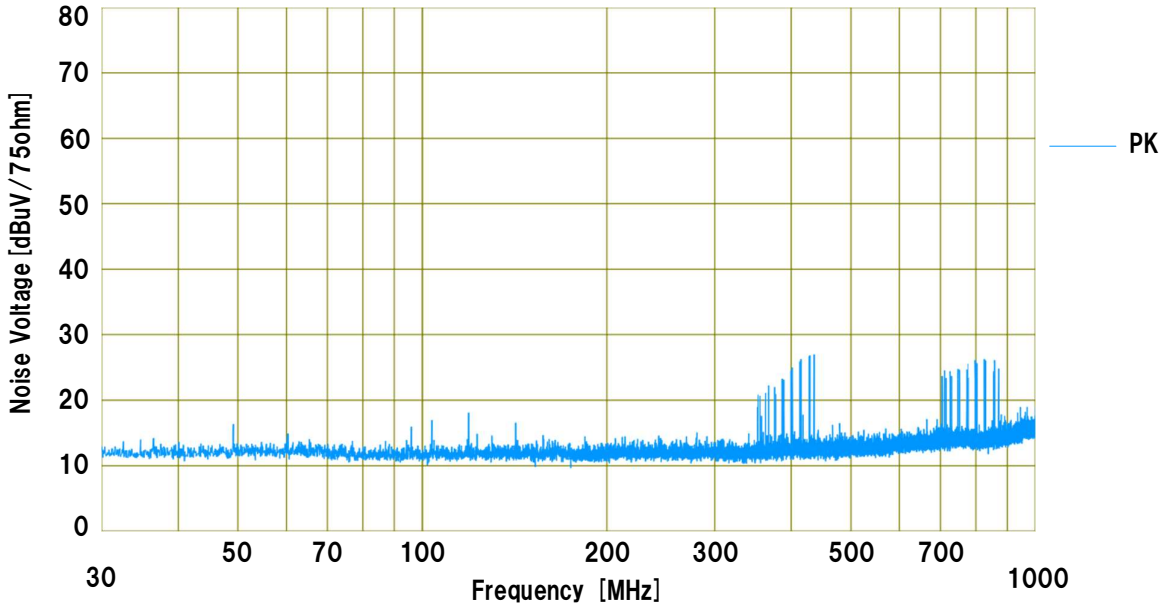
Calculation:Result[dBuV]=Reading[dBuV]+C.Fac(AAN+Cable)[dB]
AAN:SCN-27

DATA OF CONDUCTED DIFFERENTIAL VOLTAGE EMISSION TEST

UL Japan, Inc. Kashima EMC Lab. No.2 Measuring room
Date : 2019/04/02

Company	: JVC KENWOOD CORPORATION	Mode	: FM Reception (Sweep)
Kind of EUT	: GPS Navigation System	Order No.	: 12798096M
Model No.	: DNX7190DABS	Power	: DC 12V
Serial No.	: PE-X0024	Temp./Humi.	: 21deg.C / 40%RH
Remarks	: Sweep		

Tested by : Kazuhiro Ando



Calculation:Result [dBuV] =Reading [dBuV] +Factor (Cable+Combiner+Maching Pad-Amp) [dB]

DATA OF CONDUCTED DIFFERENTIAL VOLTAGE EMISSION TEST

UL Japan, Inc. Kashima EMC Lab. No.2 Measuring room
Date : 2019/04/03

Company : JVC KENWOOD CORPORATION
Kind of EUT : GPS Navigation System
Model No. : DNX7190DABS
Serial No. : PE-X0024
Remarks : Local

Mode : FM Reception (108 MHz)
Order No. : 12798096M
Power : DC 12V
Temp./Humi. : 22deg.C / 40%RH

Limit1 : EN55032_A13.4_tuner_Fundamental
Limit2 : EN55032_A13.4_tuner_Harmonics

Tested by : Kazuhiro Ando

CH	Freq.	Reading <QP>	Factor	Result <QP>	Limit	Margin
	[MHz]	[dBuV]	[dB]	[dBuV/75]	[dBuV/75]	[dB]
108MHz	106.971	20.8	-12.4	8.4	66.0	57.6
	213.942	20.1	-11.6	8.5	59.0	50.5
	320.913	19.8	-11.3	8.5	52.0	43.5
	427.884	38.5	-12.1	26.4	52.0	25.6
	534.855	21.1	-12.4	8.7	52.0	43.3
	641.826	21.0	-11.4	9.6	52.0	42.4
	748.797	23.6	-10.9	12.7	52.0	39.3
	855.768	35.0	-10.7	24.3	52.0	27.7
	962.739	20.5	-9.0	11.5	52.0	40.5

Calculation:Result [dBuV] =Reading [dBuV] +Factor (Cable+Combiner+Maching Pad-Amp) [dB]

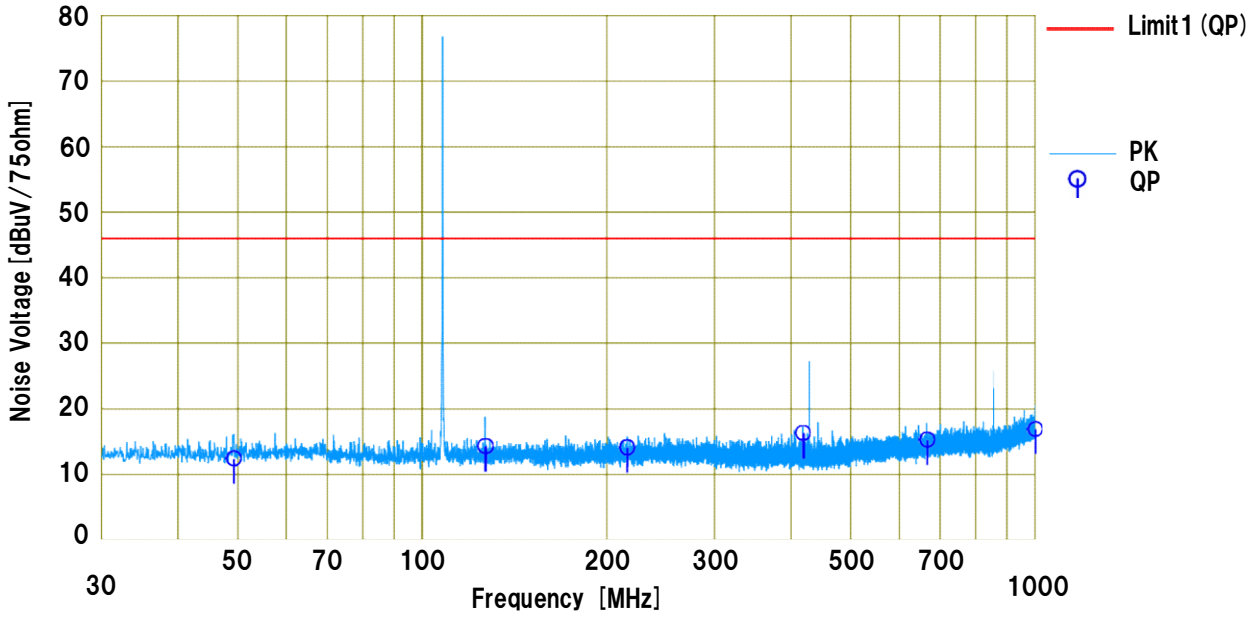
DATA OF CONDUCTED DIFFERENTIAL VOLTAGE EMISSION TEST

UL Japan, Inc. Kashima EMC Lab. No.2 Measuring room
Date : 2019/04/03

Company	: JVC KENWOOD CORPORATION	Mode	: FM Reception (108 MHz)
Kind of EUT	: GPS Navigation System	Order No.	: 12798096M
Model No.	: DNX7190DABS	Power	: DC 12V
Serial No.	: PE-X0024	Temp./Humi.	: 22deg.C / 40%RH
Remarks	: other		

Limit1 : EN55032_A13.4_tuner_other

Tested by : Kazuhiro Ando



Calculation:Result [dBuV] =Reading [dBuV] +Factor (Cable+Combiner+Maching Pad-Amp) [dB]

DATA OF CONDUCTED DIFFERENTIAL VOLTAGE EMISSION TEST

UL Japan, Inc. Kashima EMC Lab. No.2 Measuring room
Date : 2019/04/03

Company : JVC KENWOOD CORPORATION
Kind of EUT : GPS Navigation System
Model No. : DNX7190DABS
Serial No. : PE-X0024
Remarks : other

Mode : FM Reception (108 MHz)
Order No. : 12798096M
Power : DC 12V
Temp./Humi. : 22deg.C / 40%RH

Limit1 : EN55032_A13.4_tuner_other

Tested by : Kazuhiro Ando

CH	Freq.	Reading <QP>	Factor	Result <QP>	Limit	Margin
	[MHz]	[dBuV]	[dB]	[dBuV/75]	[dBuV/75]	[dB]
other	49.152	25.1	-12.7	12.4	46.0	33.6
	126.721	26.5	-12.3	14.2	46.0	31.8
	216.000	25.7	-11.6	14.1	46.0	31.9
	417.789	28.2	-12.0	16.2	46.0	29.8
	665.596	26.5	-11.3	15.2	46.0	30.8
	998.394	25.4	-8.5	16.9	46.0	29.1

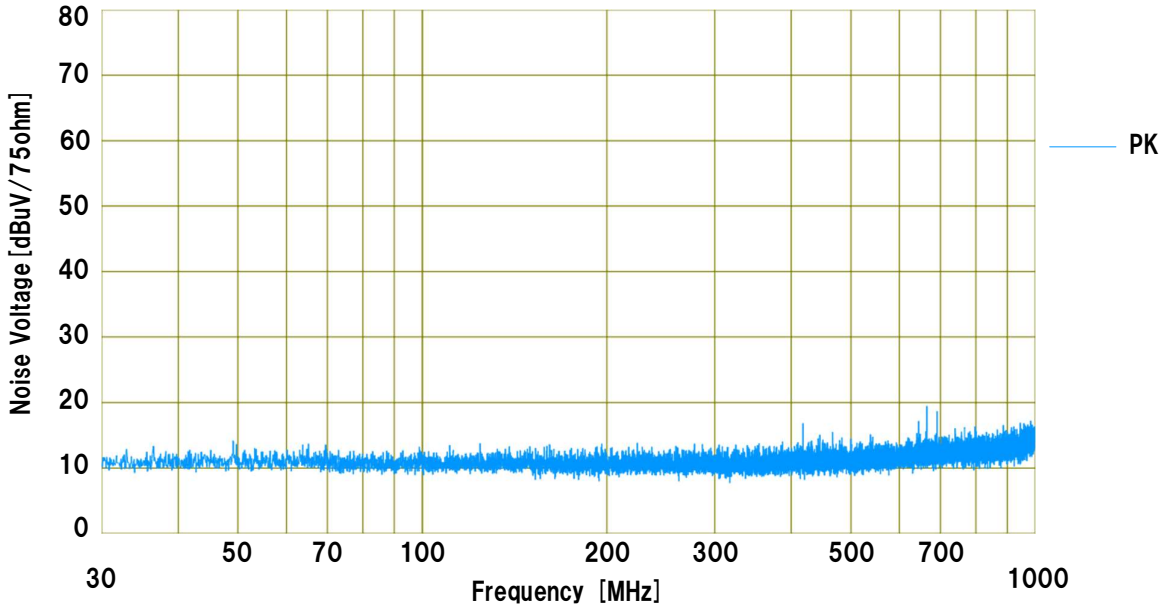
Calculation:Result [dBuV] =Reading [dBuV] +Factor (Cable+Combiner+Maching Pad-Amp) [dB]

DATA OF CONDUCTED DIFFERENTIAL VOLTAGE EMISSION TEST

UL Japan, Inc. Kashima EMC Lab. No.2 Measuring room
Date : 2019/04/02

Company	: JVC KENWOOD CORPORATION	Mode	: AM Reception (Sweep)
Kind of EUT	: GPS Navigation System	Order No.	: 12798096M
Model No.	: DNX7190DABS	Power	: DC 12V
Serial No.	: PE-X0024	Temp./Humi.	: 21deg.C / 40%RH
Remarks	: Sweep		

Tested by : Kazuhiro Ando



Calculation:Result [dBuV] =Reading [dBuV] +Factor (Cable+Combiner+Maching Pad-Amp) [dB]

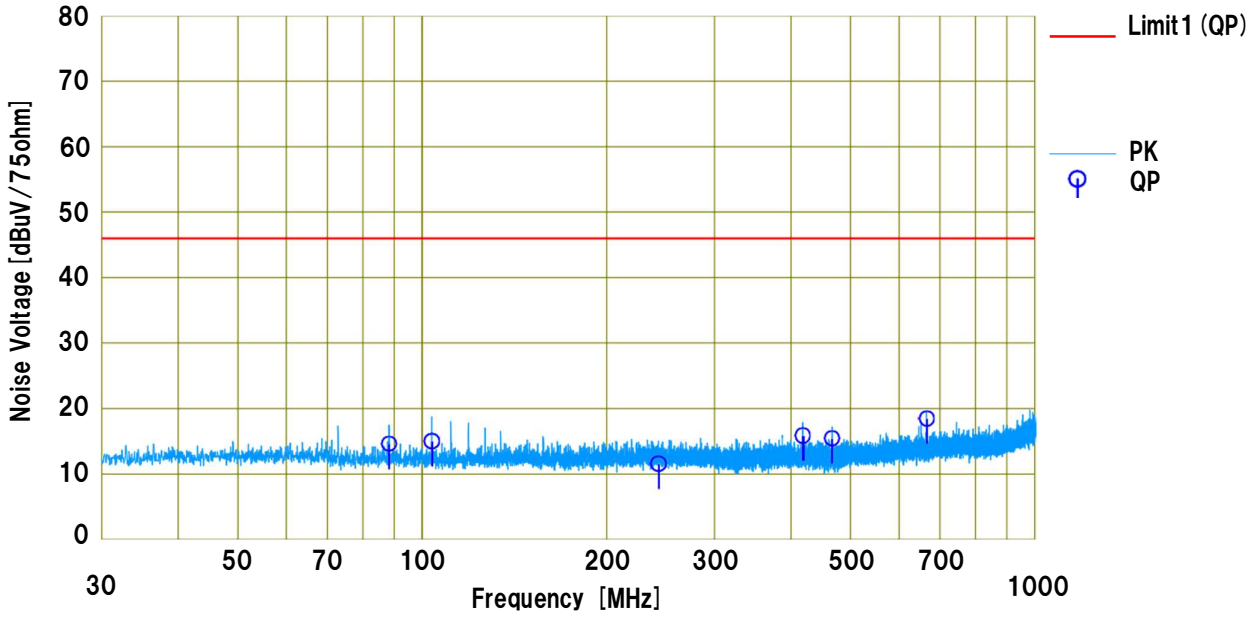
DATA OF CONDUCTED DIFFERENTIAL VOLTAGE EMISSION TEST

UL Japan, Inc. Kashima EMC Lab. No.2 Measuring room
Date : 2019/04/03

Company	: JVC KENWOOD CORPORATION	Mode	: AM Reception (1611 kHz)
Kind of EUT	: GPS Navigation System	Order No.	: 12798096M
Model No.	: DNX7190DABS	Power	: DC 12V
Serial No.	: PE-X0024	Temp./Humi.	: 22deg.C / 40%RH
Remarks	: other		

Limit1 : EN55032_A13.4_tuner_other

Tested by : Kazuhiro Ando



Calculation:Result [dBuV] =Reading [dBuV] +Factor (Cable+Combiner+Maching Pad-Amp) [dB]

DATA OF CONDUCTED DIFFERENTIAL VOLTAGE EMISSION TEST

UL Japan, Inc. Kashima EMC Lab. No.2 Measuring room
Date : 2019/04/03

Company : JVC KENWOOD CORPORATION
Kind of EUT : GPS Navigation System
Model No. : DNX7190DABS
Serial No. : PE-X0024
Remarks : other

Mode : AM Reception (1611 kHz)
Order No. : 12798096M
Power : DC 12V
Temp./Humi. : 22deg.C / 40%RH

Limit1 : EN55032_A13.4_tuner_other

Tested by : Kazuhiro Ando

CH	Freq.	Reading <QP>	Factor	Result <QP>	Limit	Margin
	[MHz]	[dBuV]	[dB]	[dBuV/75]	[dBuV/75]	[dB]
other	88.319	27.0	-12.5	14.5	46.0	31.5
	103.680	27.4	-12.4	15.0	46.0	31.0
	242.998	22.9	-11.4	11.5	46.0	34.5
	417.789	27.8	-12.0	15.8	46.0	30.2
	466.941	27.7	-12.4	15.3	46.0	30.7
	665.596	29.7	-11.3	18.4	46.0	27.6

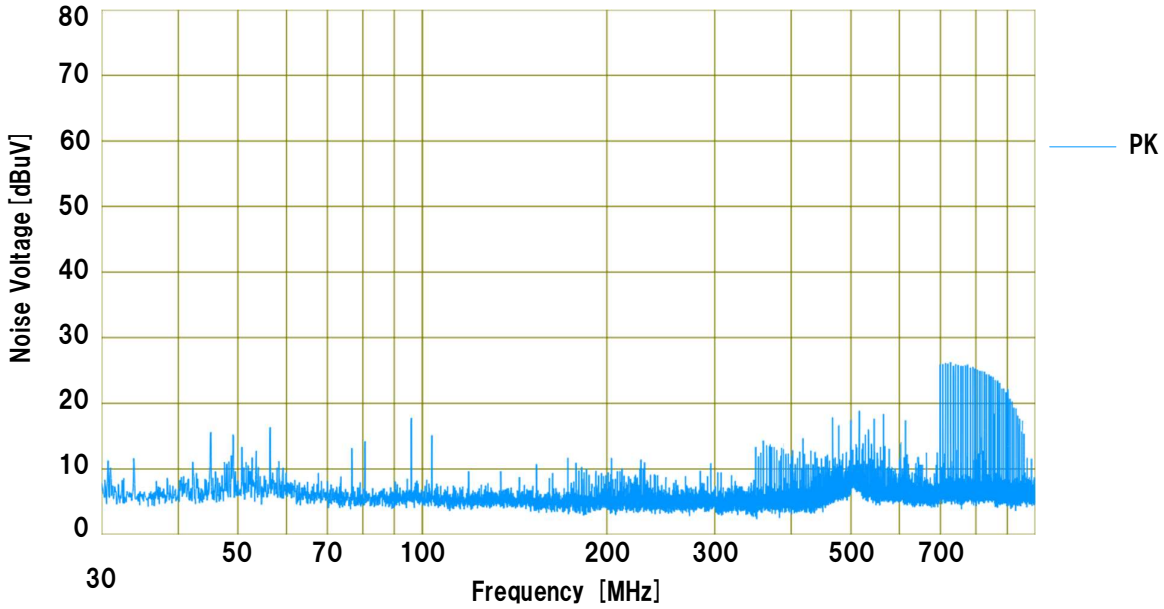
Calculation:Result [dBuV] =Reading [dBuV] +Factor (Cable+Combiner+Maching Pad-Amp) [dB]

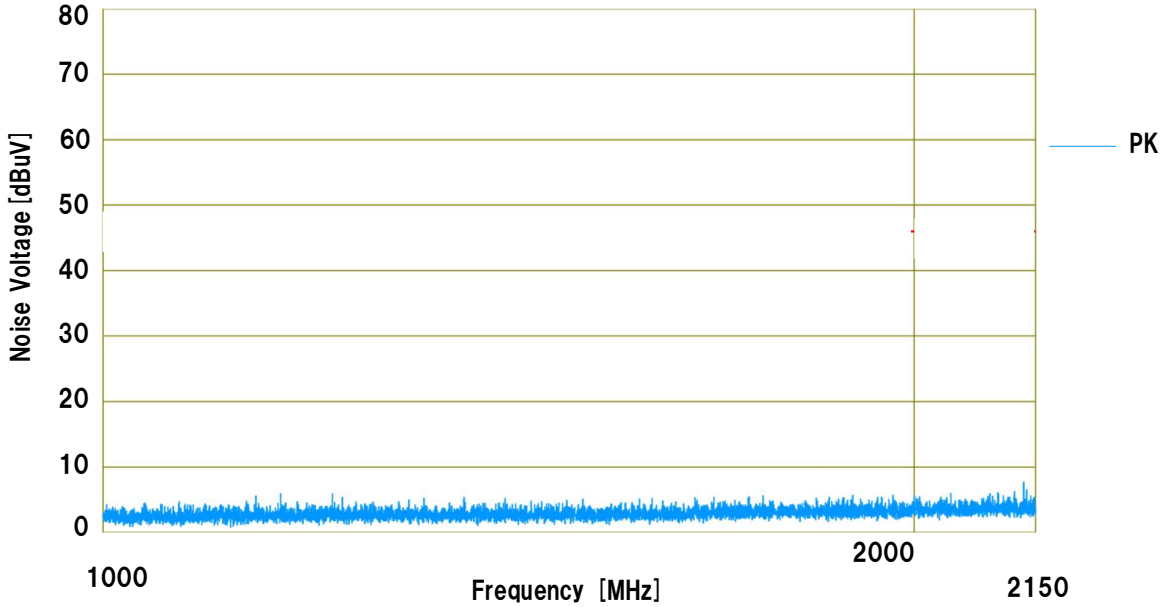
DATA OF CONDUCTED DIFFERENTIAL VOLTAGE EMISSION TEST

UL Japan, Inc. Kashima EMC Lab. No.2 Measuring room
Date : 2019/04/03

Company	: JVC KENWOOD CORPORATION	Mode	: DAB Reception (Sweep)
Kind of EUT	: GPS Navigation System	Order No.	: 12798096M
Model No.	: DNX7190DABS	Power	: DC 12V
Serial No.	: PE-X0024	Temp./Humi.	: 22deg.C / 40%RH
Remarks	: Sweep		

Tested by : Kazuhiro Ando





Calculation:Result [dBuV] =Reading [dBuV] +Factor (Cable+Combiner-Amp) [dB] +1.76 (50 ohm to 75 ohm) [dB]

DATA OF CONDUCTED DIFFERENTIAL VOLTAGE EMISSION TEST

UL Japan, Inc. Kashima EMC Lab. No.2 Measuring room
Date : 2019/04/03

Company	: JVC KENWOOD CORPORATION	Mode	: DAB Reception (5B)
Kind of EUT	: GPS Navigation System	Order No.	: 12798096M
Model No.	: DNX7190DABS	Power	: DC 12V
Serial No.	: PE-X0024	Temp./Humi.	: 22deg.C / 40%RH
Remarks	: Local		

Limit1	: EN55032_A13.1_tuner_Fundamental		
Limit2	: EN55032_A13.1_tuner_Harmonics	Tested by	: Kazuhiro Ando

CH	Freq.	Reading <QP>	Factor	Result <QP>	Limit	Margin
	[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
5B	353.281	32.0	-17.7	14.3	46.0	31.7
	529.922	23.7	-18.9	4.8	46.0	41.2
	706.562	45.0	-18.8	26.2	46.0	19.8
	883.203	26.1	-18.3	7.8	46.0	38.2

The noise was not detected at 1000 MHz-2150 MHz so the result was its underlying noise level.

Calculation:Result [dBuV] =Reading [dBuV] +Factor (Cable+Combiner-Amp) [dB] +1.76 (50 ohm to 75 ohm) [dB]

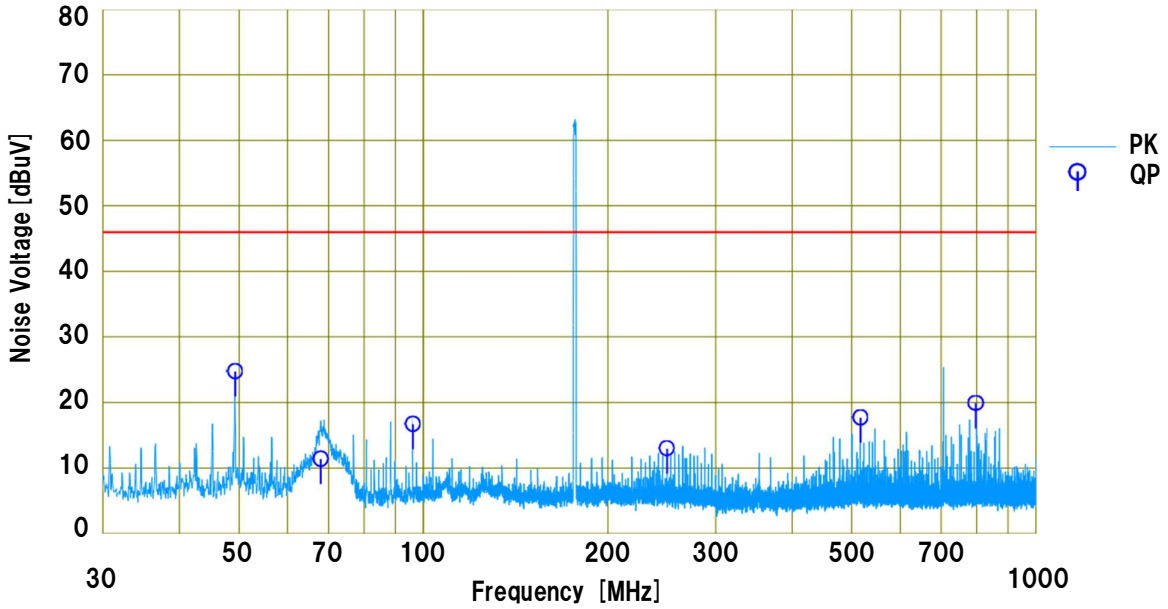
DATA OF CONDUCTED DIFFERENTIAL VOLTAGE EMISSION TEST

UL Japan, Inc. Kashima EMC Lab. No.2 Measuring room
Date : 2019/04/03

Company	: JVC KENWOOD CORPORATION	Mode	: DAB Reception (5B)
Kind of EUT	: GPS Navigation System	Order No.	: 12798096M
Model No.	: DNX7190DABS	Power	: DC 12V
Serial No.	: PE-X0024	Temp./Humi.	: 22deg.C / 40%RH
Remarks	: other		

Limit1 : EN55032_A13.1_tuner_other

Tested by : Kazuhiro Ando



Calculation:Result [dBuV] =Reading [dBuV] +Factor (Cable+Combiner-Amp) [dB] +1.76 (50 ohm to 75 ohm) [dB]

DATA OF CONDUCTED DIFFERENTIAL VOLTAGE EMISSION TEST

UL Japan, Inc. Kashima EMC Lab. No.2 Measuring room
Date : 2019/04/03

Company : JVC KENWOOD CORPORATION
Kind of EUT : GPS Navigation System
Model No. : DNX7190DABS
Serial No. : PE-X0024
Remarks : other

Mode : DAB Reception (5B)
Order No. : 12798096M
Power : DC 12V
Temp./Humi. : 22deg.C / 40%RH

Limit1 : EN55032_A13.1_tuner_other

Tested by : Kazuhiro Ando

CH	Freq.	Reading <QP>	Factor	Result <QP>	Limit	Margin
	[MHz]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dB]
other	49.152	43.2	-18.5	24.7	46.0	21.3
	67.995	29.9	-18.5	11.4	46.0	34.6
	96.000	35.0	-18.3	16.7	46.0	29.3
	249.600	30.4	-17.5	12.9	46.0	33.1
	516.092	36.4	-18.8	17.6	46.0	28.4
	798.715	38.3	-18.5	19.8	46.0	26.2

The noise was not detected at 1000 MHz-2150 MHz so the result was its underlying noise level.

Calculation:Result [dBuV] =Reading [dBuV] +Factor (Cable+Combiner-Amp) [dB] +1.76 (50 ohm to 75 ohm) [dB]

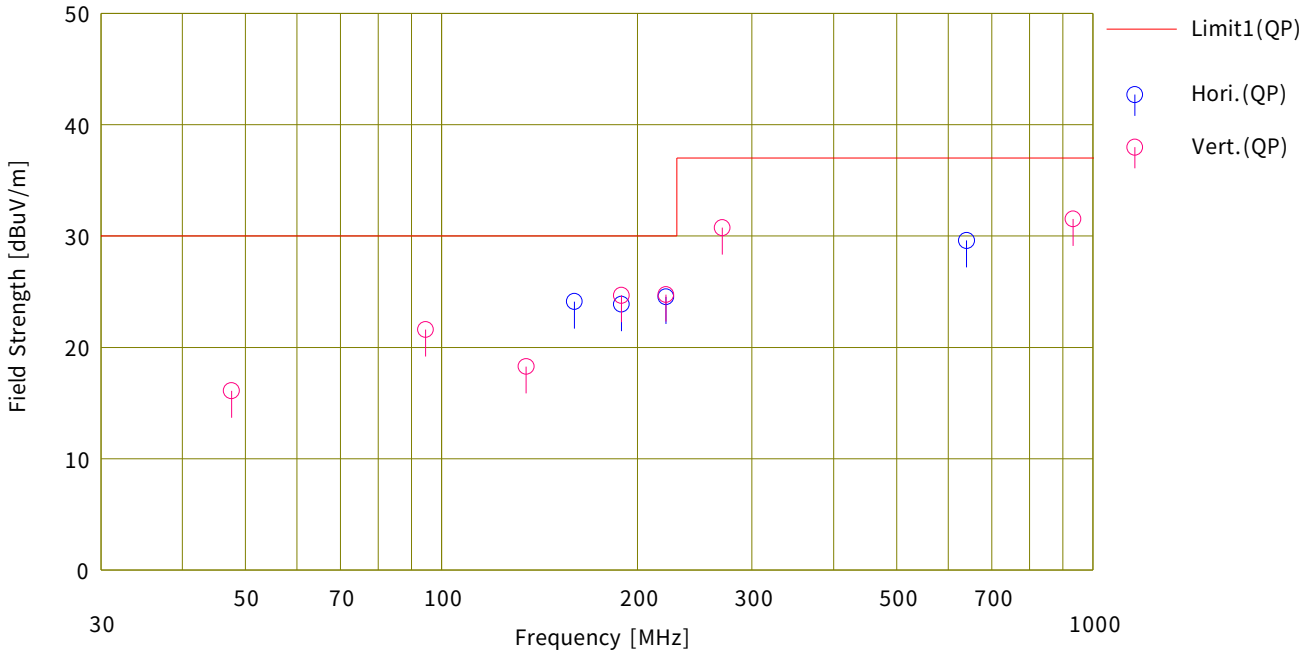
DATA OF RADIATED EMISSION TEST

UL Japan, Inc. Kashima EMC Lab. No.10 Semi-Anechoic Chamber
Date : 2019/04/05

Company	: JVC KENWOOD CORPORATION	Mode	: AM Reception 1611KHz
Kind of EUT	: GPS Navigation System	Order No.	: 12798096M
Model No.	: DNX7190DABS	Power	: DC 12V
Serial No.	: PE-X0024	Temp./Humi.	: 20deg.C / 47%RH
Remarks	: Other		

Limit : EN 55032_Class B_10 m

Engineer : Hiromitsu Tanabe



No.	Freq. [MHz]	Reading <QP> [dBuV]	Ant.Fac [dB/m]	Loss [dB]	Gain [dB]	Result <QP> [dBuV/m]	Limit <QP> [dBuV/m]	Margin <QP> [dB]	Pola. [H/V]	Height [cm]	Angle [deg]	Ant. Type	Comment
1	160.000	31.70	13.47	5.40	26.45	24.12	30.00	5.8	Hori.	400	210	HB	
2	189.000	33.70	10.83	5.65	26.31	23.87	30.00	6.1	Hori.	400	359	HB	
3	221.214	35.00	9.77	5.93	26.16	24.54	30.00	5.4	Hori.	400	205	HB	
4	640.486	28.30	20.47	8.44	27.62	29.59	37.00	7.4	Hori.	175	250	HB	
5	47.600	25.00	13.75	4.21	26.85	16.11	30.00	13.8	Vert.	100	359	HB	
6	94.505	35.30	8.24	4.77	26.71	21.60	30.00	8.4	Vert.	160	145	HB	
7	135.000	27.00	12.68	5.18	26.57	18.29	30.00	11.7	Vert.	100	359	HB	
8	189.000	34.50	10.83	5.65	26.31	24.67	30.00	5.3	Vert.	100	177	HB	
9	221.210	35.20	9.77	5.93	26.16	24.74	30.00	5.2	Vert.	100	25	HB	
10	270.000	37.70	12.66	6.38	26.00	30.74	37.00	6.2	Vert.	100	190	HB	
11	933.000	25.00	24.00	9.69	27.16	31.53	37.00	5.4	Vert.	200	0	HB	

Calculation:Result[dBuV/m]=Reading[dBuV]+Ant.Fac[dB/m]+Loss(Cable+ATT)[dB]-Gain(AMP)[dB]
Ant.Type=HB:Hybrid Antenna

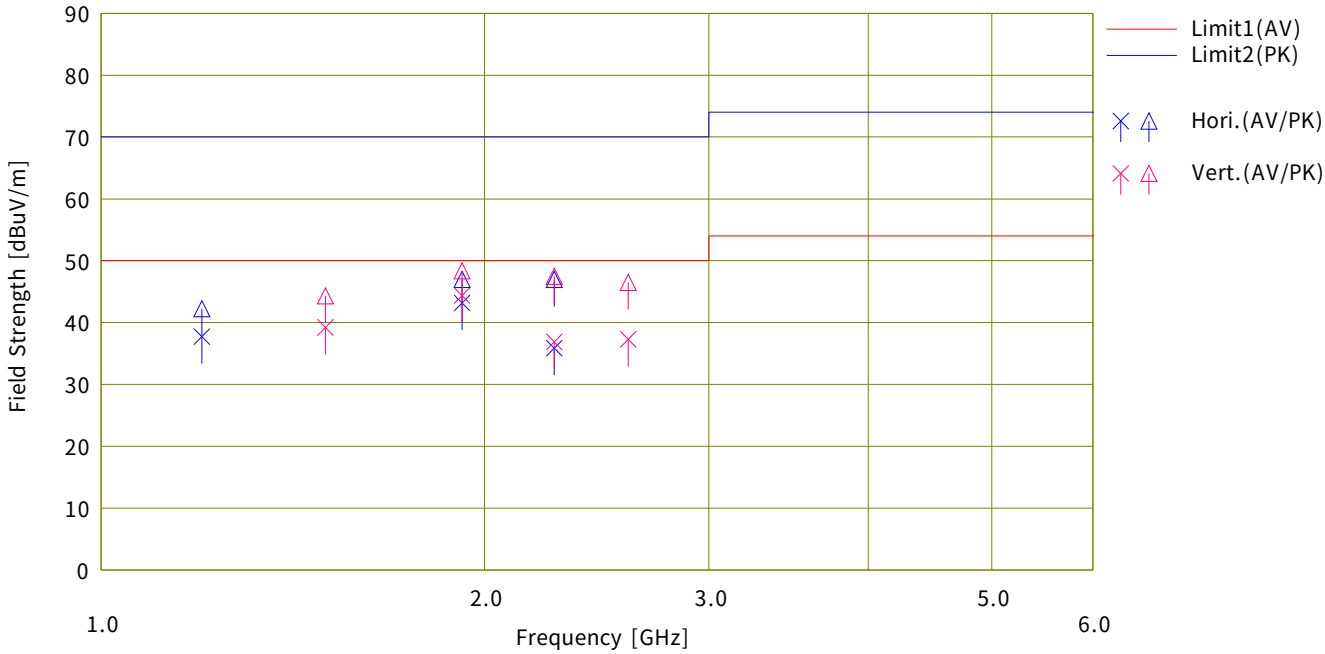
DATA OF RADIATED EMISSION TEST

UL Japan, Inc. Kashima EMC Lab. No.10 Semi-Anechoic Chamber
Date : 2019/04/08

Company	: JVC KENWOOD CORPORATION	Mode	: AM Reception 1611KHz
Kind of EUT	: GPS Navigation System	Order No.	: 12798096M
Model No.	: DNX7190DABS	Power	: DC 12V
Serial No.	: PE-X0024	Temp./Humi.	: 20deg.C / 45%RH
Remarks	: 0deg,VD(EUT)=0.11m, VD(EUT System)=0.41m, Test Distance=4.0m		

Limit : EN 55032_Class B_3 m

Engineer : Kazuhiro Ando



No.	Freq.	Reading <AV>	Reading <PK>	Ant.Fac	Loss	Gain	D.Fac	Result <AV>	Result <PK>	Limit <AV>	Limit <PK>	Margin <AV>	Margin <PK>	Pola.	Height	Angle	Ant. Type	Comment
	[MHz]	[dBuV]	[dBuV]	[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dBuV/m]	[dBuV/m]	[dB]	[dB]	[H/V]	[cm]	[deg]		
1	1200.013	51.90	56.40	24.58	2.55	43.79	2.50	37.74	42.24	50.00	70.00	12.2	27.7	Hori.	100	139	Horn	
2	1920.175	54.70	58.50	27.00	3.23	44.26	2.50	43.17	46.97	50.00	70.00	6.8	23.0	Hori.	100	178	Horn	
3	2267.983	46.50	57.60	27.70	3.51	44.32	2.50	35.89	46.99	50.00	70.00	14.1	23.0	Hori.	100	151	Horn	
4	1500.038	52.40	57.50	25.67	2.85	44.20	2.50	39.22	44.32	50.00	70.00	10.7	25.6	Vert.	100	32	Horn	
5	1920.053	55.90	59.90	27.00	3.23	44.26	2.50	44.37	48.37	50.00	70.00	5.6	21.6	Vert.	100	213	Horn	
6	2268.000	47.50	58.10	27.70	3.51	44.32	2.50	36.89	47.49	50.00	70.00	13.1	22.5	Vert.	100	159	Horn	
7	2592.005	46.90	56.10	28.33	3.76	44.20	2.50	37.29	46.49	50.00	70.00	12.7	23.5	Vert.	100	5	Horn	

Calculation:Result[dBuV/m]=Reading[dBuV]+Ant.Fac[dB/m]+Loss(Cable)[dB]+D.Fac[dB]-Gain(AMP)[dB]
Ant.Type=Horn:Horn Antenna

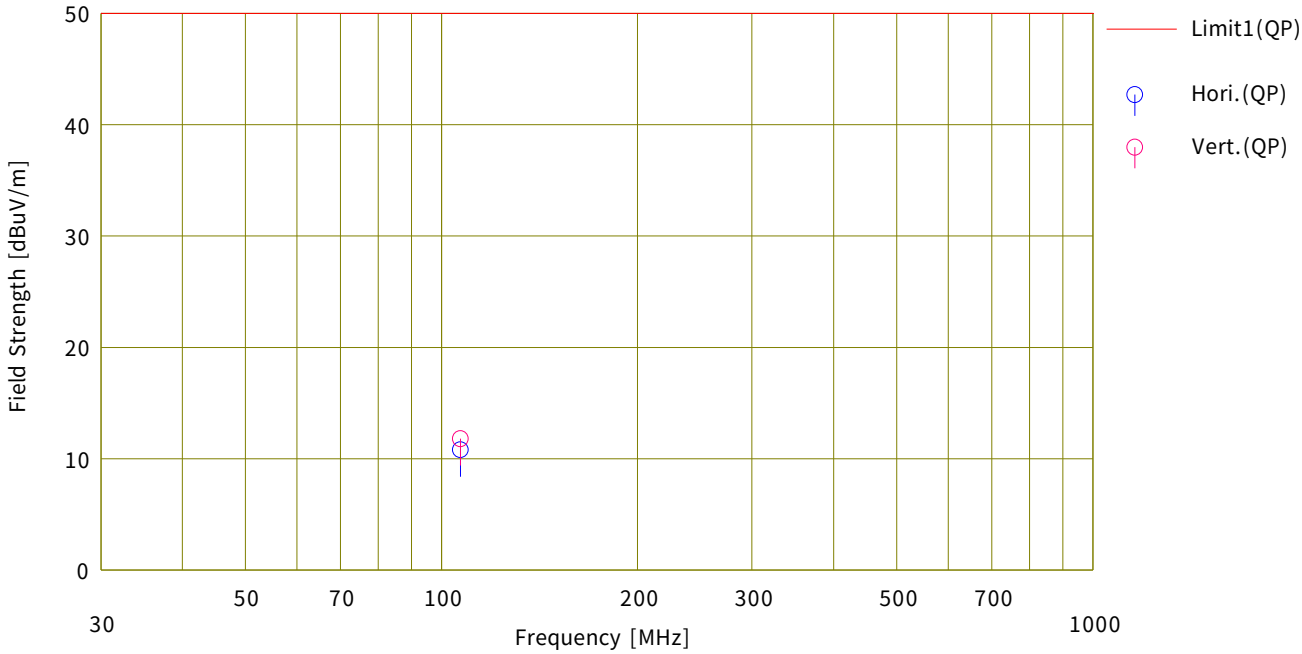
DATA OF RADIATED EMISSION TEST

UL Japan, Inc. Kashima EMC Lab. No.10 Semi-Anechoic Chamber
Date : 2019/04/06

Company	: JVC KENWOOD CORPORATION	Mode	: FM Reception 108MHz
Kind of EUT	: GPS Navigation System	Order No.	: 12798096M
Model No.	: DNX7190DABS	Power	: DC 12V
Serial No.	: PE-X0024	Temp./Humi.	: 21deg.C / 46%RH
Remarks	: Local oscillator(Fundamental)		

Limit : EN 55032_FM Receivers(Fundamental)_10 m

Engineer : Hiromitsu Tanabe



No.	Freq. [MHz]	Reading <QP> [dBuV]	Ant.Fac [dB/m]	Loss [dB]	Gain [dB]	Result <QP> [dBuV/m]	Limit <QP> [dBuV/m]	Margin <QP> [dB]	Pola. [H/V]	Height [cm]	Angle [deg]	Ant. Type	Comment
1	106.971	22.50	10.07	4.90	26.67	10.80	50.00	39.2	Hori.	400	252	HB	
2	106.971	23.50	10.07	4.90	26.67	11.80	50.00	38.2	Vert.	100	0	HB	

Calculation:Result[dBuV/m]=Reading[dBuV]+Ant.Fac[dB/m]+Loss(Cable+ATT)[dB]-Gain(AMP)[dB]
Ant.Type=HB:Hybrid Antenna

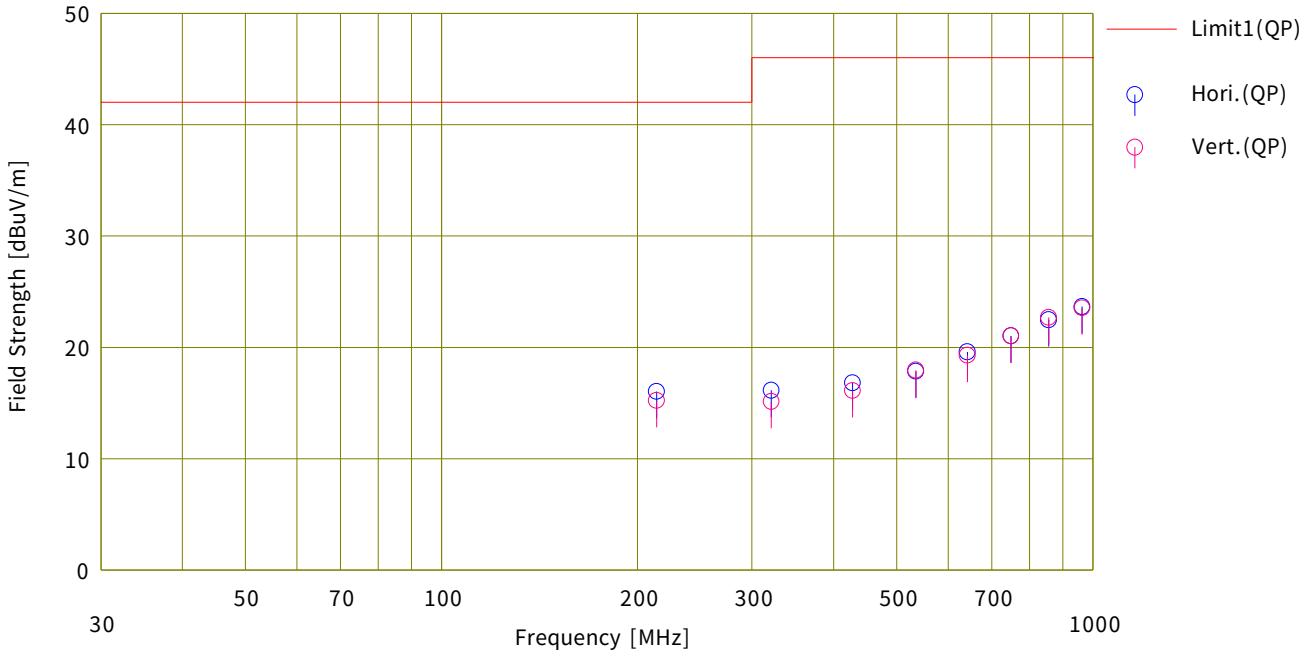
DATA OF RADIATED EMISSION TEST

UL Japan, Inc. Kashima EMC Lab. No.10 Semi-Anechoic Chamber
Date : 2019/04/06

Company	: JVC KENWOOD CORPORATION	Mode	: FM Reception 108MHz
Kind of EUT	: GPS Navigation System	Order No.	: 12798096M
Model No.	: DNX7190DABS	Power	: DC 12V
Serial No.	: PE-X0024	Temp./Humi.	: 21deg.C / 46%RH
Remarks	: Local oscillator(Harmonics)		

Limit : EN 55032_FM Receivers(Harmonics)_10 m

Engineer : Hiromitsu Tanabe



No.	Freq. [MHz]	Reading <QP> [dBuV]	Ant.Fac [dB/m]	Loss [dB]	Gain [dB]	Result <QP> [dBuV/m]	Limit <QP> [dBuV/m]	Margin <QP> [dB]	Pola. [H/V]	Height [cm]	Angle [deg]	Ant. Type	Comment
1	213.942	26.50	9.86	5.87	26.19	16.04	42.00	25.9	Hori.	380	285	HB	
2	320.913	21.30	14.05	6.96	26.16	16.15	46.00	29.8	Hori.	350	263	HB	
3	427.884	19.70	16.53	7.58	26.98	16.83	46.00	29.1	Hori.	190	115	HB	
4	534.855	18.90	18.35	8.11	27.51	17.85	46.00	28.1	Hori.	180	218	HB	
5	641.826	18.30	20.46	8.45	27.62	19.59	46.00	26.4	Hori.	100	0	HB	
6	748.797	17.70	21.94	8.90	27.51	21.03	46.00	24.9	Hori.	100	0	HB	
7	855.768	17.50	22.97	9.35	27.33	22.49	46.00	23.5	Hori.	100	0	HB	
8	962.739	16.80	24.13	9.82	27.09	23.66	46.00	22.3	Hori.	100	0	HB	
9	213.942	25.70	9.86	5.87	26.19	15.24	42.00	26.7	Vert.	100	40	HB	
10	320.913	20.30	14.05	6.96	26.16	15.15	46.00	30.8	Vert.	100	188	HB	
11	427.884	19.00	16.53	7.58	26.98	16.13	46.00	29.8	Vert.	100	355	HB	
12	534.855	19.00	18.35	8.11	27.51	17.95	46.00	28.0	Vert.	100	0	HB	
13	641.826	18.00	20.46	8.45	27.62	19.29	46.00	26.7	Vert.	100	0	HB	
14	748.797	17.70	21.94	8.90	27.51	21.03	46.00	24.9	Vert.	100	0	HB	
15	855.768	17.70	22.97	9.35	27.33	22.69	46.00	23.3	Vert.	100	0	HB	
16	962.739	16.70	24.13	9.82	27.09	23.56	46.00	22.4	Vert.	100	0	HB	

Calculation:Result[dBuV/m]=Reading[dBuV]+Ant.Fac[dB/m]+Loss(Cable+ATT)[dB]-Gain(AMP)[dB]
Ant.Type=HB:Hybrid Antenna

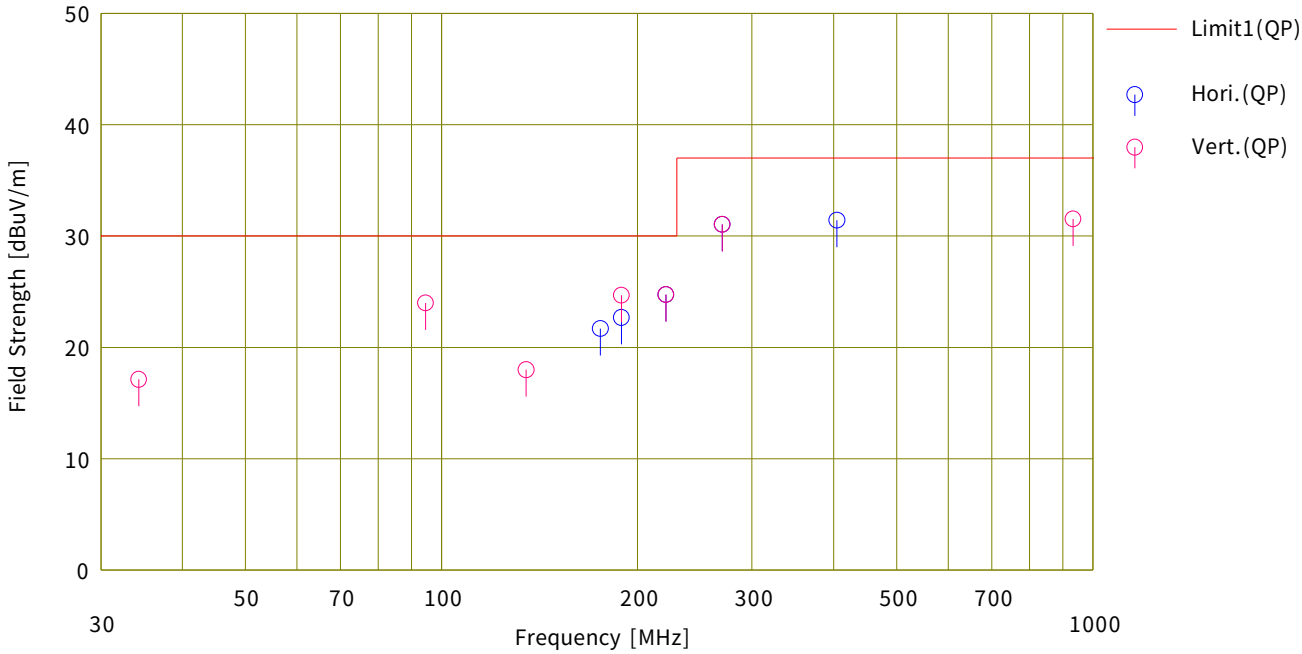
DATA OF RADIATED EMISSION TEST

UL Japan, Inc. Kashima EMC Lab. No.10 Semi-Anechoic Chamber
Date : 2019/04/05

Company	: JVC KENWOOD CORPORATION	Mode	: FM Reception 108MHz
Kind of EUT	: GPS Navigation System	Order No.	: 12798096M
Model No.	: DNX7190DABS	Power	: DC 12V
Serial No.	: PE-X0024	Temp./Humi.	: 20deg.C / 47%RH
Remarks	: Other		

Limit : EN 55032_Class B_10 m

Engineer : Hiromitsu Tanabe



No.	Freq. [MHz]	Reading <QP> [dBuV]	Ant.Fac [dB/m]	Loss [dB]	Gain [dB]	Result <QP> [dBuV/m]	Limit <QP> [dBuV/m]	Margin <QP> [dB]	Pola. [H/V]	Height [cm]	Angle [deg]	Ant. Type	Comment
1	175.500	30.00	12.54	5.53	26.38	21.69	30.00	8.3	Hori.	400	240	HB	
2	188.959	32.50	10.84	5.65	26.31	22.68	30.00	7.3	Hori.	400	290	HB	
3	221.189	35.20	9.77	5.93	26.16	24.74	30.00	5.2	Hori.	400	270	HB	
4	270.000	38.00	12.66	6.38	26.00	31.04	37.00	5.9	Hori.	320	72	HB	
5	405.000	35.00	15.71	7.52	26.81	31.42	37.00	5.5	Hori.	183	265	HB	
6	34.304	27.30	12.70	4.01	26.88	17.13	30.00	12.8	Vert.	100	0	HB	
7	94.500	37.70	8.24	4.77	26.71	24.00	30.00	6.0	Vert.	100	53	HB	
8	135.000	26.70	12.68	5.18	26.57	17.99	30.00	12.0	Vert.	100	50	HB	
9	188.959	34.50	10.84	5.65	26.31	24.68	30.00	5.3	Vert.	100	0	HB	
10	221.170	35.20	9.77	5.93	26.16	24.74	30.00	5.2	Vert.	100	0	HB	
11	270.000	38.00	12.66	6.38	26.00	31.04	37.00	5.9	Vert.	100	190	HB	
12	933.000	25.00	24.00	9.69	27.16	31.53	37.00	5.4	Vert.	200	350	HB	

Calculation:Result[dBuV/m]=Reading[dBuV]+Ant.Fac[dB/m]+Loss(Cable+ATT)[dB]-Gain(AMP)[dB]
Ant.Type=HB:Hybrid Antenna

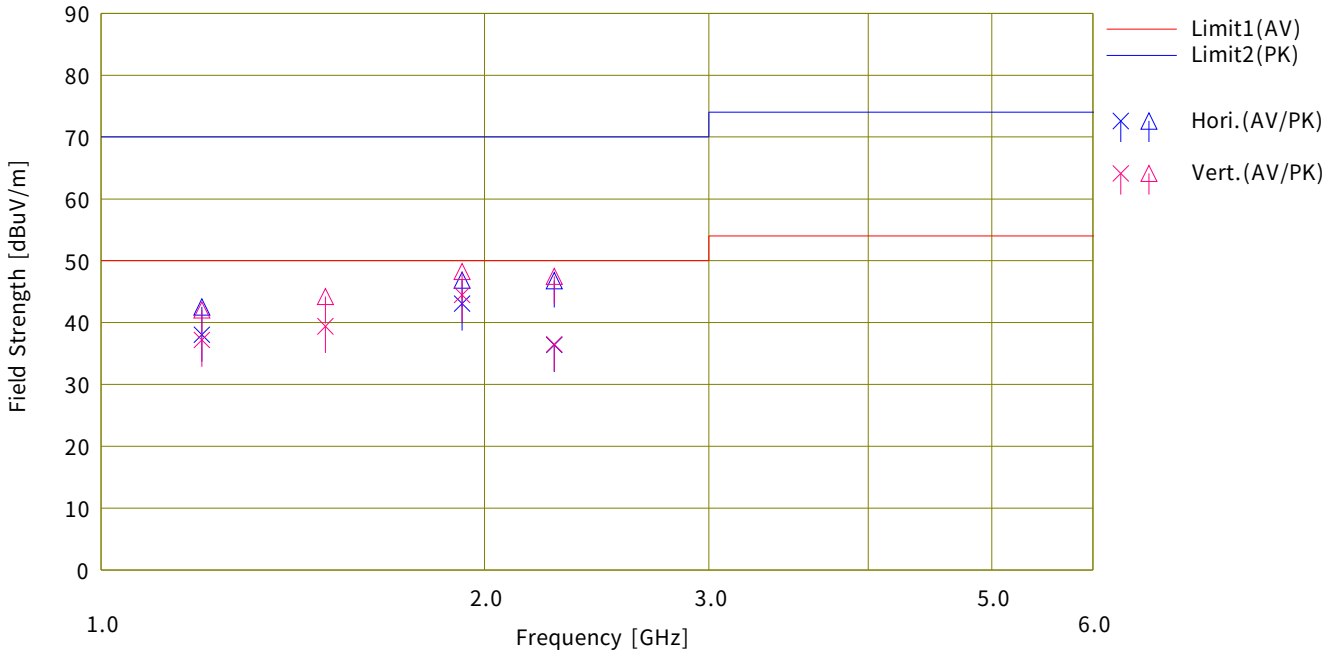
DATA OF RADIATED EMISSION TEST

UL Japan, Inc. Kashima EMC Lab. No.10 Semi-Anechoic Chamber
Date : 2019/04/08

Company	: JVC KENWOOD CORPORATION	Mode	: FM Reception 108MHz
Kind of EUT	: GPS Navigation System	Order No.	: 12798096M
Model No.	: DNX7190DABS	Power	: DC 12V
Serial No.	: PE-X0024	Temp./Humi.	: 20deg.C / 45%RH
Remarks	: 0deg,VD(EUT)=0.11m, VD(EUT System)=0.41m, Test Distance=4.0m		

Limit : EN 55032_Class B_3 m

Engineer : Kazuhiro Ando



No.	Freq.	Reading <AV>	Reading <PK>	Ant.Fac	Loss	Gain	D.Fac	Result <AV>	Result <PK>	Limit <AV>	Limit <PK>	Margin <AV>	Margin <PK>	Pola.	Height	Angle	Ant. Type	Comment
	[MHz]	[dBuV]	[dBuV]	[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dBuV/m]	[dBuV/m]	[dB]	[dB]	[H/V]	[cm]	[deg]		
1	1200.012	52.20	56.70	24.58	2.55	43.79	2.50	38.04	42.54	50.00	70.00	11.9	27.4	Hori.	100	135	Horn	
2	1920.197	54.60	58.40	27.00	3.23	44.26	2.50	43.07	46.87	50.00	70.00	6.9	23.1	Hori.	100	174	Horn	
3	2268.020	47.00	57.40	27.70	3.51	44.32	2.50	36.39	46.79	50.00	70.00	13.6	23.2	Hori.	100	144	Horn	
4	1200.013	51.40	56.20	24.58	2.55	43.79	2.50	37.24	42.04	50.00	70.00	12.7	27.9	Vert.	100	36	Horn	
5	1500.045	52.60	57.40	25.67	2.85	44.20	2.50	39.42	44.22	50.00	70.00	10.5	25.7	Vert.	100	31	Horn	
6	1920.170	56.00	59.80	27.00	3.23	44.26	2.50	44.47	48.27	50.00	70.00	5.5	21.7	Vert.	100	210	Horn	
7	2267.975	47.10	58.10	27.70	3.51	44.32	2.50	36.49	47.49	50.00	70.00	13.5	22.5	Vert.	100	159	Horn	

Calculation:Result[dBuV/m]=Reading[dBuV]+Ant.Fac[dB/m]+Loss(Cable)[dB]+D.Fac[dB]-Gain(AMP)[dB]
Ant.Type=Horn:Horn Antenna

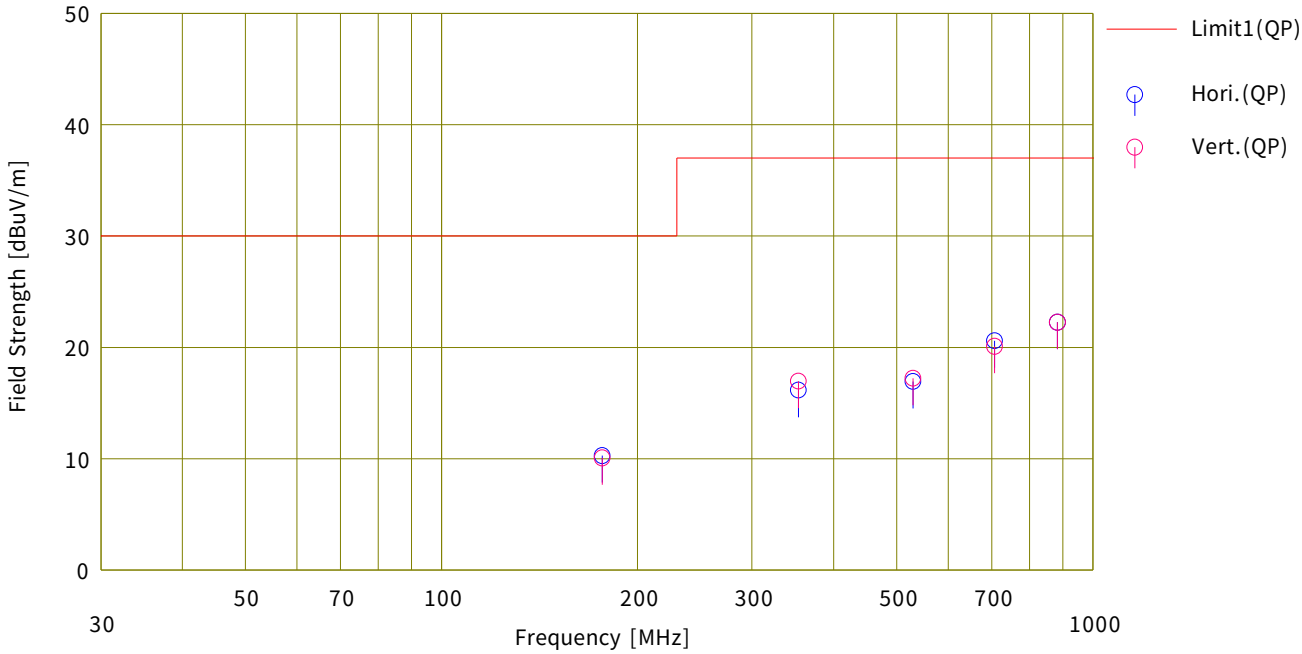
DATA OF RADIATED EMISSION TEST

UL Japan, Inc. Kashima EMC Lab. No.10 Semi-Anechoic Chamber
Date : 2019/04/06

Company	: JVC KENWOOD CORPORATION	Mode	: DAB Reception (5B)
Kind of EUT	: GPS Navigation System	Order No.	: 12798096M
Model No.	: DNX7190DABS	Power	: DC 12V
Serial No.	: PE-X0024	Temp./Humi.	: 21deg.C / 46%RH
Remarks	: Local oscillator		

Limit : EN 55032_Class B_10 m

Engineer : Hiromitsu Tanabe



No.	Freq. [MHz]	Reading <QP> [dBuV]	Ant.Fac [dB/m]	Loss [dB]	Gain [dB]	Result <QP> [dBuV/m]	Limit <QP> [dBuV/m]	Margin <QP> [dB]	Pola. [H/V]	Height [cm]	Angle [deg]	Ant. Type	Comment
1	176.640	18.70	12.40	5.54	26.37	10.27	30.00	19.7	Hori.	400	200	HB	
2	353.280	20.70	14.48	7.33	26.35	16.16	37.00	20.8	Hori.	350	237	HB	
3	529.920	18.00	18.34	8.08	27.49	16.93	37.00	20.0	Hori.	200	125	HB	
4	706.560	18.50	20.94	8.72	27.57	20.59	37.00	16.4	Hori.	100	0	HB	
5	883.200	17.00	23.07	9.47	27.28	22.26	37.00	14.7	Hori.	100	0	HB	
6	176.640	18.50	12.40	5.54	26.37	10.07	30.00	19.9	Vert.	100	0	HB	
7	353.280	21.50	14.48	7.33	26.35	16.96	37.00	20.0	Vert.	100	105	HB	
8	529.920	18.30	18.34	8.08	27.49	17.23	37.00	19.7	Vert.	100	330	HB	
9	706.560	18.00	20.94	8.72	27.57	20.09	37.00	16.9	Vert.	100	0	HB	
10	883.200	17.00	23.07	9.47	27.28	22.26	37.00	14.7	Vert.	100	0	HB	

Calculation:Result[dBuV/m]=Reading[dBuV]+Ant.Fac[dB/m]+Loss(Cable+ATT)[dB]-Gain(AMP)[dB]
Ant.Type=HB:Hybrid Antenna

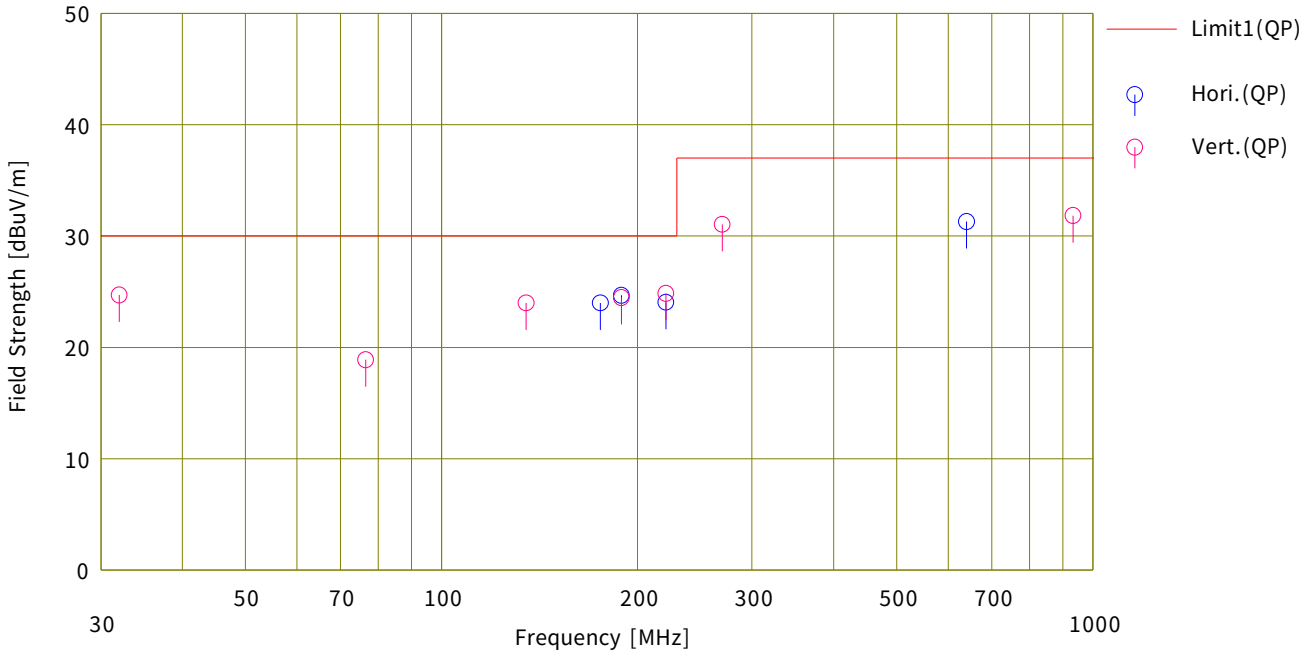
DATA OF RADIATED EMISSION TEST

UL Japan, Inc. Kashima EMC Lab. No.10 Semi-Anechoic Chamber
Date : 2019/04/05

Company	: JVC KENWOOD CORPORATION	Mode	: DAB Reception (5B)
Kind of EUT	: GPS Navigation System	Order No.	: 12798096M
Model No.	: DNX7190DABS	Power	: DC 12V
Serial No.	: PE-X0024	Temp./Humi.	: 20deg.C / 47%RH
Remarks	: Other		

Limit : EN 55032_Class B_10 m

Engineer : Hiromitsu Tanabe



No.	Freq. [MHz]	Reading <QP> [dBuV]	Ant.Fac [dB/m]	Loss [dB]	Gain [dB]	Result <QP> [dBuV/m]	Limit <QP> [dBuV/m]	Margin <QP> [dB]	Pola. [H/V]	Height [cm]	Angle [deg]	Ant. Type	Comment
1	175.500	32.30	12.54	5.53	26.38	23.99	30.00	6.0	Hori.	400	270	HB	
2	189.000	34.50	10.83	5.65	26.31	24.67	30.00	5.3	Hori.	400	320	HB	
3	221.209	34.50	9.77	5.93	26.16	24.04	30.00	5.9	Hori.	400	359	HB	
4	640.387	30.00	20.47	8.44	27.62	31.29	37.00	5.7	Hori.	135	140	HB	
5	32.026	35.00	12.61	3.97	26.88	24.70	30.00	5.3	Vert.	100	0	HB	
6	76.537	31.17	9.92	4.57	26.78	18.88	30.00	11.1	Vert.	100	85	HB	
7	135.000	32.70	12.68	5.18	26.57	23.99	30.00	6.0	Vert.	100	0	HB	
8	189.000	34.30	10.83	5.65	26.31	24.47	30.00	5.5	Vert.	100	212	HB	
9	221.210	35.30	9.77	5.93	26.16	24.84	30.00	5.1	Vert.	100	25	HB	
10	270.000	38.00	12.66	6.38	26.00	31.04	37.00	5.9	Vert.	100	40	HB	
11	933.000	25.30	24.00	9.69	27.16	31.83	37.00	5.1	Vert.	200	15	HB	

Calculation:Result[dBuV/m]=Reading[dBuV]+Ant.Fac[dB/m]+Loss(Cable+ATT)[dB]-Gain(AMP)[dB]
Ant.Type=HB:Hybrid Antenna

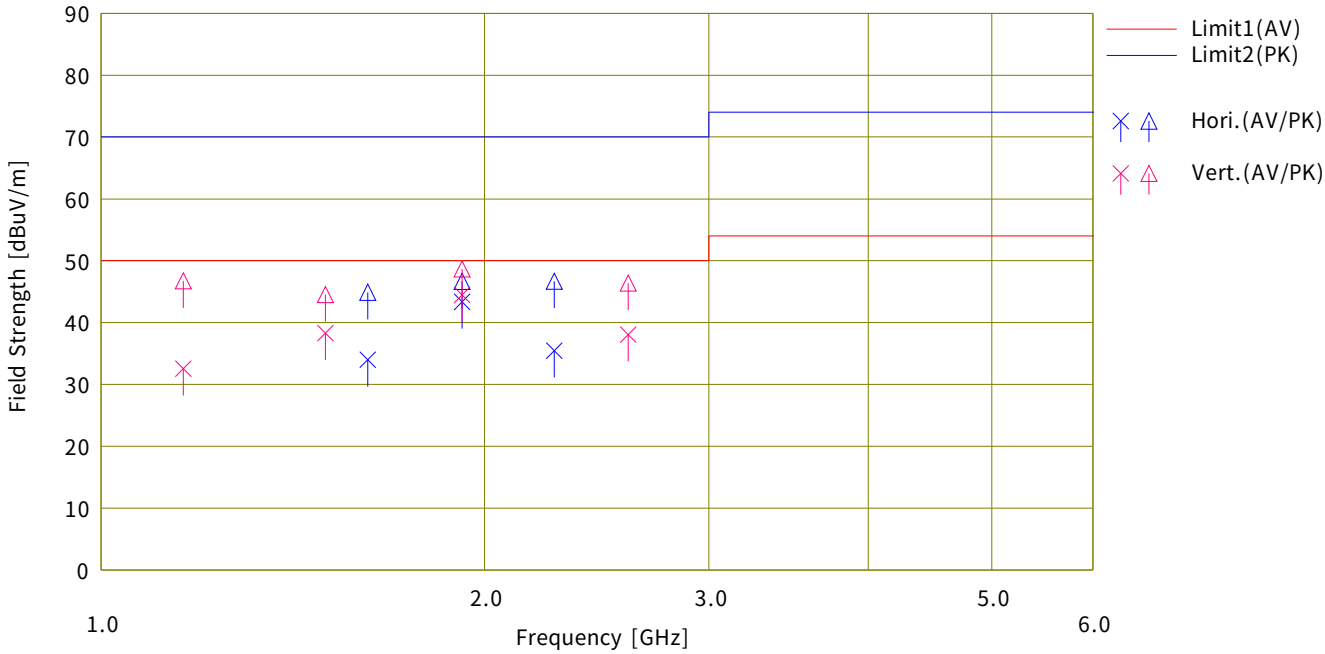
DATA OF RADIATED EMISSION TEST

UL Japan, Inc. Kashima EMC Lab. No.10 Semi-Anechoic Chamber
Date : 2019/04/08

Company	: JVC KENWOOD CORPORATION	Mode	: DAB Reception (5B)
Kind of EUT	: GPS Navigation System	Order No.	: 12798096M
Model No.	: DNX7190DABS	Power	: DC 12V
Serial No.	: PE-X0024	Temp./Humi.	: 20deg.C / 45%RH
Remarks	: 0deg,VD(EUT)=0.11m, VD(EUT System)=0.41m, Test Distance=4.0m		

Limit : EN 55032_Class B_3 m

Engineer : Kazuhiro Ando



No.	Freq.	Reading <AV>	Reading <PK>	Ant.Fac	Loss	Gain	D.Fac	Result <AV>	Result <PK>	Limit <AV>	Limit <PK>	Margin <AV>	Margin <PK>	Pola.	Height	Angle	Ant. Type	Comment
	[MHz]	[dBuV]	[dBuV]	[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dBuV/m]	[dBuV/m]	[dB]	[dB]	[H/V]	[cm]	[deg]		
1	1619.978	47.50	58.40	25.36	2.96	44.31	2.50	34.01	44.91	50.00	70.00	15.9	25.0	Hori.	100	228	Horn	
2	1920.177	54.90	58.20	27.00	3.23	44.26	2.50	43.37	46.67	50.00	70.00	6.6	23.3	Hori.	100	180	Horn	
3	2268.027	46.10	57.30	27.70	3.51	44.32	2.50	35.49	46.69	50.00	70.00	14.5	23.3	Hori.	100	151	Horn	
4	1160.942	46.90	61.10	24.45	2.51	43.82	2.50	32.54	46.74	50.00	70.00	17.4	23.2	Vert.	100	206	Horn	
5	1500.040	51.50	57.70	25.67	2.85	44.20	2.50	38.32	44.52	50.00	70.00	11.6	25.4	Vert.	100	33	Horn	
6	1920.160	56.00	60.20	27.00	3.23	44.26	2.50	44.47	48.67	50.00	70.00	5.5	21.3	Vert.	100	178	Horn	
7	2592.005	47.70	56.00	28.33	3.76	44.20	2.50	38.09	46.39	50.00	70.00	11.9	23.6	Vert.	100	4	Horn	

Calculation:Result[dBuV/m]=Reading[dBuV]+Ant.Fac[dB/m]+Loss(Cable)[dB]+D.Fac[dB]-Gain(AMP)[dB]
Ant.Type=Horn:Horn Antenna

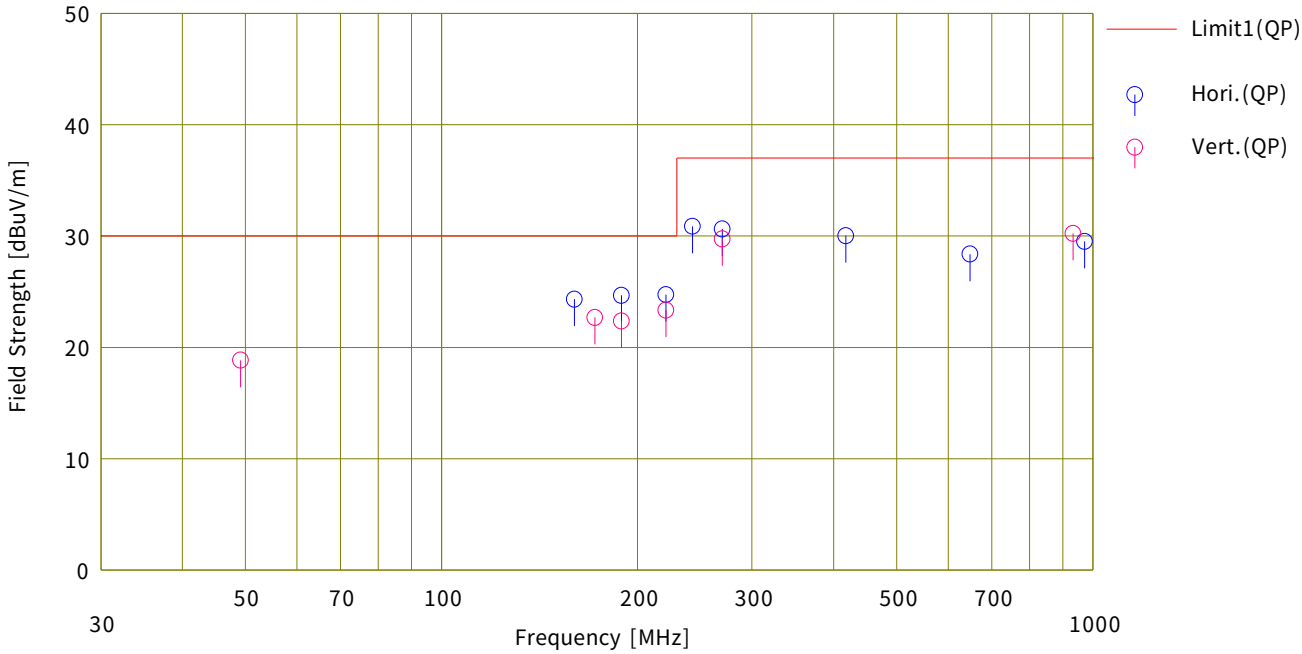
DATA OF RADIATED EMISSION TEST

UL Japan, Inc. Kashima EMC Lab. No.10 Semi-Anechoic Chamber
Date : 2019/04/05

Company	: JVC KENWOOD CORPORATION	Mode	: USB Play
Kind of EUT	: GPS Navigation System	Order No.	: 12798096M
Model No.	: DNX7190DABS	Power	: DC 12V
Serial No.	: PE-X0024	Temp./Humi.	: 20deg.C / 47%RH
Remarks	:		

Limit : EN 55032_Class B_10 m

Engineer : Kazuaki Suzuki



No.	Freq. [MHz]	Reading <QP> [dBuV]	Ant.Fac [dB/m]	Loss [dB]	Gain [dB]	Result <QP> [dBuV/m]	Limit <QP> [dBuV/m]	Margin <QP> [dB]	Pola. [H/V]	Height [cm]	Angle [deg]	Ant. Type	Comment
1	160.000	31.90	13.47	5.40	26.45	24.32	30.00	5.6	Hori.	400	275	HB	
2	189.000	34.50	10.83	5.65	26.31	24.67	30.00	5.3	Hori.	400	0	HB	
3	221.182	35.20	9.77	5.93	26.16	24.74	30.00	5.2	Hori.	400	220	HB	
4	243.000	39.30	11.52	6.14	26.08	30.88	37.00	6.1	Hori.	400	225	HB	
5	270.000	37.60	12.66	6.38	26.00	30.64	37.00	6.3	Hori.	340	85	HB	
6	417.789	33.30	16.09	7.55	26.91	30.03	37.00	6.9	Hori.	245	335	HB	
7	648.000	27.10	20.42	8.47	27.62	28.37	37.00	8.6	Hori.	175	355	HB	
8	972.000	22.50	24.21	9.87	27.06	29.52	37.00	7.4	Hori.	110	290	HB	
9	49.150	27.70	13.77	4.23	26.85	18.85	30.00	11.1	Vert.	100	100	HB	
10	172.031	30.70	12.86	5.51	26.39	22.68	30.00	7.3	Vert.	100	175	HB	
11	189.000	32.20	10.83	5.65	26.31	22.37	30.00	7.6	Vert.	100	95	HB	
12	221.182	33.80	9.77	5.93	26.16	23.34	30.00	6.6	Vert.	100	25	HB	
13	270.000	36.70	12.66	6.38	26.00	29.74	37.00	7.2	Vert.	100	200	HB	
14	933.000	23.70	24.00	9.69	27.16	30.23	37.00	6.7	Vert.	200	0	HB	

Calculation:Result[dBuV/m]=Reading[dBuV]+Ant.Fac[dB/m]+Loss(Cable+ATT)[dB]-Gain(AMP)[dB]
Ant.Type=HB:Hybrid Antenna

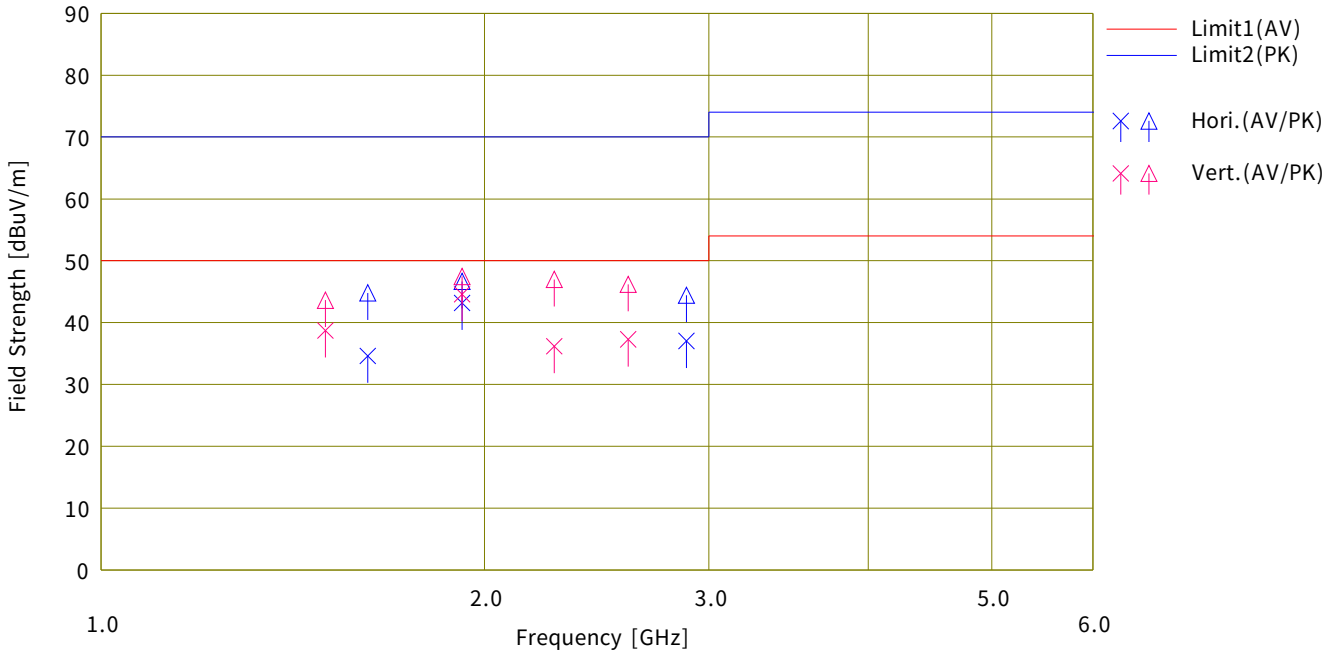
DATA OF RADIATED EMISSION TEST

UL Japan, Inc. Kashima EMC Lab. No.10 Semi-Anechoic Chamber
Date : 2019/04/08

Company	: JVC KENWOOD CORPORATION	Mode	: USB Play
Kind of EUT	: GPS Navigation System	Order No.	: 12798096M
Model No.	: DNX7190DABS	Power	: DC 12V
Serial No.	: PE-X0024	Temp./Humi.	: 20deg.C / 45%RH
Remarks	: 0deg,VD(EUT)=0.11m, VD(EUT System)=0.41m, Test Distance=4.0m		

Limit : EN 55032_Class B_3 m

Engineer : Kazuhiro Ando



No.	Freq.	Reading <AV>	Reading <PK>	Ant.Fac	Loss	Gain	D.Fac	Result <AV>	Result <PK>	Limit <AV>	Limit <PK>	Margin <AV>	Margin <PK>	Pola.	Height	Angle	Ant. Type	Comment
	[MHz]	[dBuV]	[dBuV]	[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dBuV/m]	[dBuV/m]	[dB]	[dB]	[H/V]	[cm]	[deg]		
1	1620.052	48.10	58.30	25.36	2.96	44.31	2.50	34.61	44.81	50.00	70.00	15.3	25.1	Hori.	100	157	Horn	
2	1920.160	54.70	58.20	27.00	3.23	44.26	2.50	43.17	46.67	50.00	70.00	6.8	23.3	Hori.	100	173	Horn	
3	2880.100	46.10	53.50	28.71	3.97	44.24	2.50	37.04	44.44	50.00	70.00	12.9	25.5	Hori.	100	159	Horn	
4	1500.040	51.90	56.80	25.67	2.85	44.20	2.50	38.72	43.62	50.00	70.00	11.2	26.3	Vert.	100	32	Horn	
5	1920.160	56.10	59.00	27.00	3.23	44.26	2.50	44.57	47.47	50.00	70.00	5.4	22.5	Vert.	100	211	Horn	
6	2267.993	46.80	57.60	27.70	3.51	44.32	2.50	36.19	46.99	50.00	70.00	13.8	23.0	Vert.	100	211	Horn	
7	2592.023	46.90	55.80	28.33	3.76	44.20	2.50	37.29	46.19	50.00	70.00	12.7	23.8	Vert.	100	3	Horn	

Calculation:Result[dBuV/m]=Reading[dBuV]+Ant.Fac[dB/m]+Loss(Cable)[dB]+D.Fac[dB]-Gain(AMP)[dB]
Ant.Type=Horn:Horn Antenna

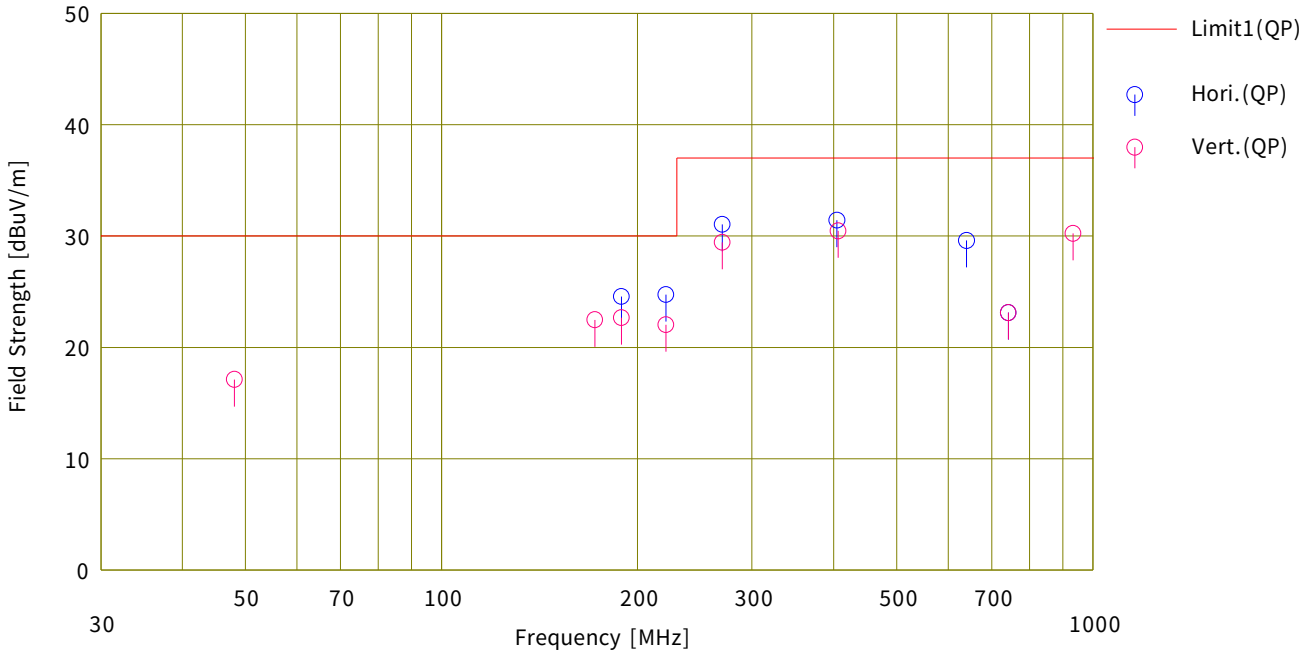
DATA OF RADIATED EMISSION TEST

UL Japan, Inc. Kashima EMC Lab. No.10 Semi-Anechoic Chamber
Date : 2019/04/05

Company	: JVC KENWOOD CORPORATION	Mode	: HDMI in
Kind of EUT	: GPS Navigation System	Order No.	: 12798096M
Model No.	: DNX7190DABS	Power	: DC 12V
Serial No.	: PE-X0024	Temp./Humi.	: 20deg.C / 47%RH
Remarks	:		

Limit : EN 55032_Class B_10 m

Engineer : Hiromitsu Tanabe



No.	Freq. [MHz]	Reading <QP> [dBuV]	Ant.Fac [dB/m]	Loss [dB]	Gain [dB]	Result <QP> [dBuV/m]	Limit <QP> [dBuV/m]	Margin <QP> [dB]	Pola. [H/V]	Height [cm]	Angle [deg]	Ant. Type	Comment
1	189.000	34.40	10.83	5.65	26.31	24.57	30.00	5.4	Hori.	400	0	HB	
2	221.213	35.20	9.77	5.93	26.16	24.74	30.00	5.2	Hori.	400	190	HB	
3	270.000	38.00	12.66	6.38	26.00	31.04	37.00	5.9	Hori.	323	87	HB	
4	405.000	35.00	15.71	7.52	26.81	31.42	37.00	5.5	Hori.	300	50	HB	
5	640.435	28.30	20.47	8.44	27.62	29.59	37.00	7.4	Hori.	142	130	HB	
6	741.800	20.00	21.76	8.87	27.52	23.11	37.00	13.8	Hori.	120	145	HB	
7	48.108	26.00	13.76	4.21	26.85	17.12	30.00	12.8	Vert.	100	295	HB	
8	172.093	30.50	12.85	5.51	26.39	22.47	30.00	7.5	Vert.	100	180	HB	
9	189.000	32.50	10.83	5.65	26.31	22.67	30.00	7.3	Vert.	100	207	HB	
10	221.200	32.50	9.77	5.93	26.16	22.04	30.00	7.9	Vert.	100	20	HB	
11	270.000	36.40	12.66	6.38	26.00	29.44	37.00	7.5	Vert.	100	50	HB	
12	406.604	34.00	15.75	7.52	26.82	30.45	37.00	6.5	Vert.	100	347	HB	
13	741.800	20.00	21.76	8.87	27.52	23.11	37.00	13.8	Vert.	250	10	HB	
14	933.000	23.70	24.00	9.69	27.16	30.23	37.00	6.7	Vert.	200	359	HB	

Calculation:Result[dBuV/m]=Reading[dBuV]+Ant.Fac[dB/m]+Loss(Cable+ATT)[dB]-Gain(AMP)[dB]
Ant.Type=HB:Hybrid Antenna

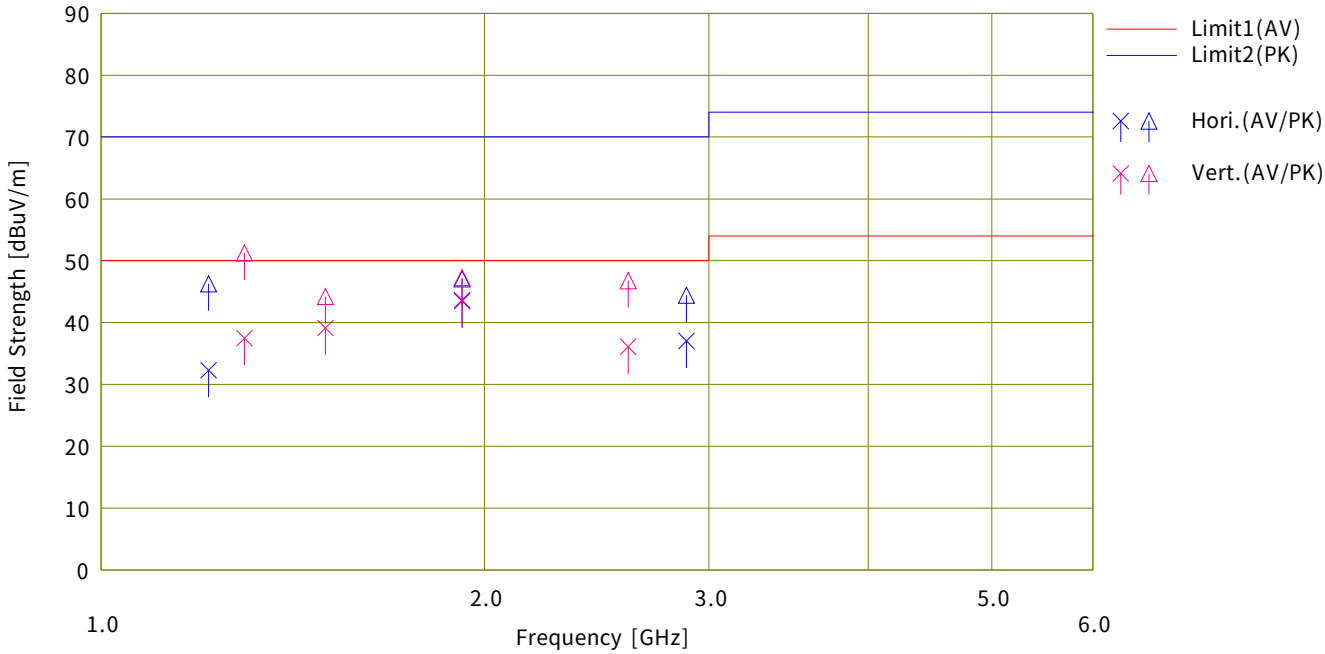
DATA OF RADIATED EMISSION TEST

UL Japan, Inc. Kashima EMC Lab. No.10 Semi-Anechoic Chamber
Date : 2019/04/08

Company	: JVC KENWOOD CORPORATION	Mode	: HDMI in
Kind of EUT	: GPS Navigation System	Order No.	: 12798096M
Model No.	: DNX7190DABS	Power	: DC 12V
Serial No.	: PE-X0024	Temp./Humi.	: 20deg.C / 45%RH
Remarks	: 0deg,VD(EUT)=0.11m, VD(EUT System)=0.41m, Test Distance=4.0m		

Limit : EN 55032_Class B_3 m

Engineer : Kazuhiro Ando



No.	Freq.	Reading <AV>	Reading <PK>	Ant.Fac	Loss	Gain	D.Fac	Result <AV>	Result <PK>	Limit <AV>	Limit <PK>	Margin <AV>	Margin <PK>	Pola.	Height	Angle	Ant. Type	Comment
	[MHz]	[dBuV]	[dBuV]	[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dBuV/m]	[dBuV/m]	[dB]	[dB]	[H/V]	[cm]	[deg]		
1	1215.046	46.30	60.30	24.72	2.57	43.81	2.50	32.28	46.28	50.00	70.00	17.7	23.7	Hori.	100	210	Horn	
2	1920.168	55.00	58.60	27.00	3.23	44.26	2.50	43.47	47.07	50.00	70.00	6.5	22.9	Hori.	100	176	Horn	
3	2880.100	46.10	53.50	28.71	3.97	44.24	2.50	37.04	44.44	50.00	70.00	12.9	25.5	Hori.	100	159	Horn	
4	1295.980	51.20	65.00	25.03	2.66	43.93	2.50	37.46	51.26	50.00	70.00	12.5	18.7	Vert.	100	50	Horn	
5	1500.000	52.30	57.40	25.67	2.85	44.20	2.50	39.12	44.22	50.00	70.00	10.8	25.7	Vert.	100	31	Horn	
6	1920.168	55.20	58.80	27.00	3.23	44.26	2.50	43.67	47.27	50.00	70.00	6.3	22.7	Vert.	100	170	Horn	
7	2591.997	45.70	56.40	28.33	3.76	44.20	2.50	36.09	46.79	50.00	70.00	13.9	23.2	Vert.	100	4	Horn	

Calculation:Result[dBuV/m]=Reading[dBuV]+Ant.Fac[dB/m]+Loss(Cable)[dB]+D.Fac[dB]-Gain(AMP)[dB]
Ant.Type=Horn:Horn Antenna

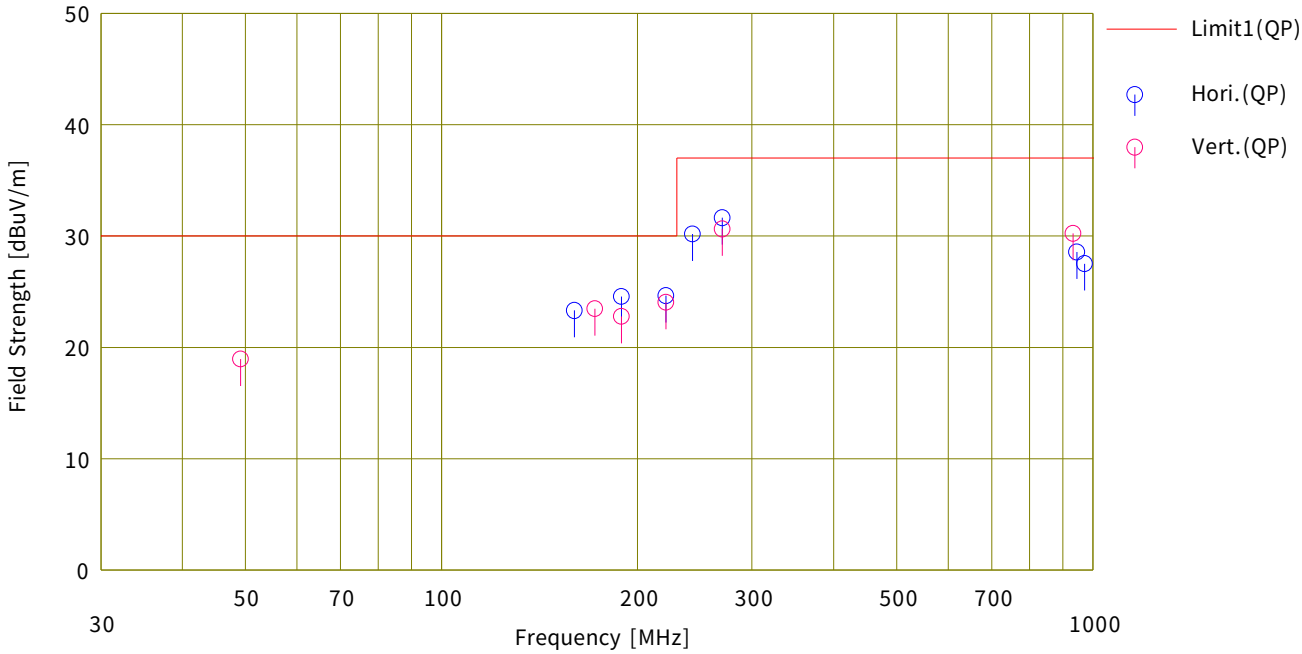
DATA OF RADIATED EMISSION TEST

UL Japan, Inc. Kashima EMC Lab. No.10 Semi-Anechoic Chamber
Date : 2019/04/05

Company	: JVC KENWOOD CORPORATION	Mode	: DVD Play
Kind of EUT	: GPS Navigation System	Order No.	: 12798096M
Model No.	: DNX7190DABS	Power	: DC 12V
Serial No.	: PE-X0024	Temp./Humi.	: 20deg.C / 47%RH
Remarks	:		

Limit : EN 55032_Class B_10 m

Engineer : Kazuaki Suzuki



No.	Freq. [MHz]	Reading <QP> [dBuV]	Ant.Fac [dB/m]	Loss [dB]	Gain [dB]	Result <QP> [dBuV/m]	Limit <QP> [dBuV/m]	Margin <QP> [dB]	Pola. [H/V]	Height [cm]	Angle [deg]	Ant. Type	Comment
1	160.000	30.90	13.47	5.40	26.45	23.32	30.00	6.6	Hori.	400	275	HB	
2	189.000	34.40	10.83	5.65	26.31	24.57	30.00	5.4	Hori.	400	0	HB	
3	221.183	35.10	9.77	5.93	26.16	24.64	30.00	5.3	Hori.	400	210	HB	
4	243.000	38.60	11.52	6.14	26.08	30.18	37.00	6.8	Hori.	400	230	HB	
5	270.000	38.60	12.66	6.38	26.00	31.64	37.00	5.3	Hori.	335	245	HB	
6	945.000	21.90	24.06	9.74	27.13	28.57	37.00	8.4	Hori.	100	230	HB	
7	972.000	20.50	24.21	9.87	27.06	27.52	37.00	9.4	Hori.	100	225	HB	
8	49.154	27.80	13.77	4.23	26.85	18.95	30.00	11.0	Vert.	100	290	HB	
9	172.030	31.50	12.86	5.51	26.39	23.48	30.00	6.5	Vert.	100	180	HB	
10	189.000	32.60	10.83	5.65	26.31	22.77	30.00	7.2	Vert.	100	90	HB	
11	221.183	34.50	9.77	5.93	26.16	24.04	30.00	5.9	Vert.	100	35	HB	
12	270.000	37.60	12.66	6.38	26.00	30.64	37.00	6.3	Vert.	100	195	HB	
13	933.000	23.70	24.00	9.69	27.16	30.23	37.00	6.7	Vert.	200	0	HB	

Calculation:Result[dBuV/m]=Reading[dBuV]+Ant.Fac[dB/m]+Loss(Cable+ATT)[dB]-Gain(AMP)[dB]
Ant.Type=HB:Hybrid Antenna

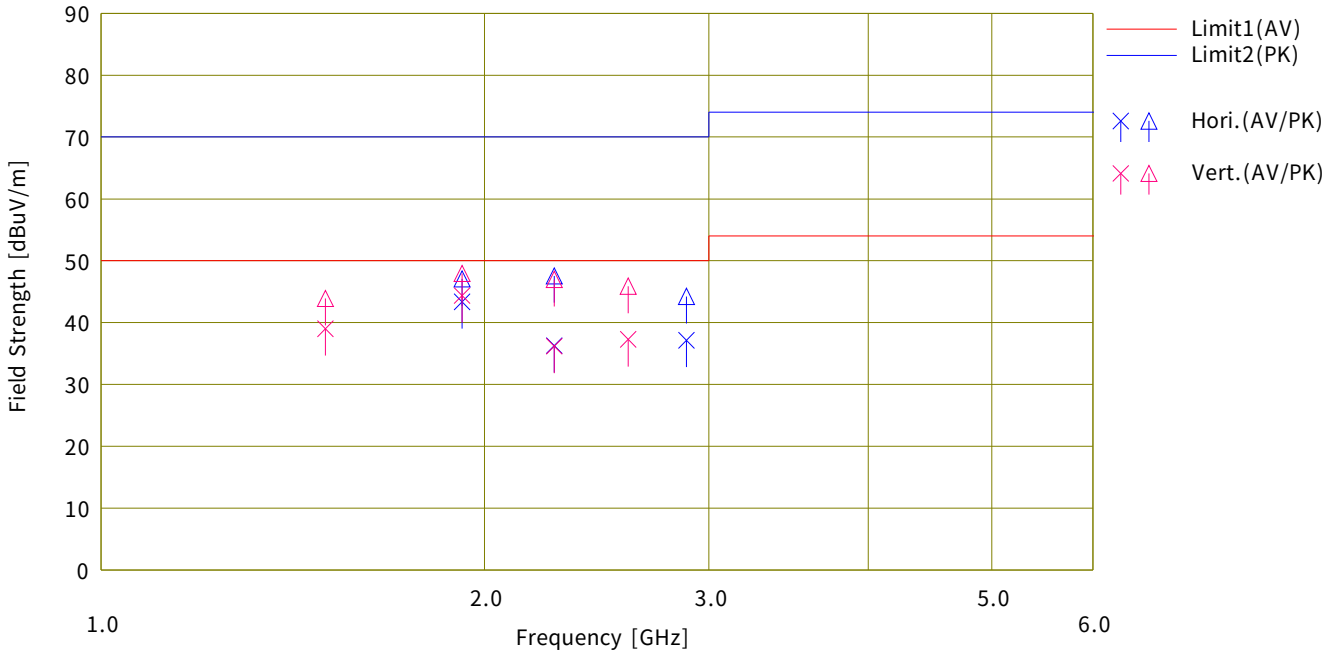
DATA OF RADIATED EMISSION TEST

UL Japan, Inc. Kashima EMC Lab. No.10 Semi-Anechoic Chamber
Date : 2019/04/08

Company	: JVC KENWOOD CORPORATION	Mode	: DVD Play
Kind of EUT	: GPS Navigation System	Order No.	: 12798096M
Model No.	: DNX7190DABS	Power	: DC 12V
Serial No.	: PE-X0024	Temp./Humi.	: 20deg.C / 45%RH
Remarks	: 0deg,VD(EUT)=0.11m, VD(EUT System)=0.41m, Test Distance=4.0m		

Limit : EN 55032_Class B_3 m

Engineer : Kazuhiro Ando



No.	Freq.	Reading <AV>	Reading <PK>	Ant.Fac	Loss	Gain	D.Fac	Result <AV>	Result <PK>	Limit <AV>	Limit <PK>	Margin <AV>	Margin <PK>	Pola.	Height	Angle	Ant. Type	Comment
	[MHz]	[dBuV]	[dBuV]	[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dBuV/m]	[dBuV/m]	[dB]	[dB]	[H/V]	[cm]	[deg]		
1	1920.170	54.90	58.60	27.00	3.23	44.26	2.50	43.37	47.07	50.00	70.00	6.6	22.9	Hori.	100	176	Horn	
2	2267.988	46.90	58.20	27.70	3.51	44.32	2.50	36.29	47.59	50.00	70.00	13.7	22.4	Hori.	100	155	Horn	
3	2880.112	46.20	53.30	28.71	3.97	44.24	2.50	37.14	44.24	50.00	70.00	12.8	25.7	Hori.	100	160	Horn	
4	1500.027	52.20	57.10	25.67	2.85	44.20	2.50	39.02	43.92	50.00	70.00	10.9	26.0	Vert.	100	31	Horn	
5	1920.170	55.90	59.50	27.00	3.23	44.26	2.50	44.37	47.97	50.00	70.00	5.6	22.0	Vert.	100	209	Horn	
6	2268.015	46.80	57.60	27.70	3.51	44.32	2.50	36.19	46.99	50.00	70.00	13.8	23.0	Vert.	100	210	Horn	
7	2591.987	46.90	55.50	28.33	3.76	44.20	2.50	37.29	45.89	50.00	70.00	12.7	24.1	Vert.	100	4	Horn	

Calculation:Result[dBuV/m]=Reading[dBuV]+Ant.Fac[dB/m]+Loss(Cable)[dB]+D.Fac[dB]-Gain(AMP)[dB]
Ant.Type=Horn:Horn Antenna

Order Number 12798096M

Test Name	LIMS ID	Description	Manufacturer	Model	Serial	Last Calibration Date	Calibration Due Date	Calibration Interval (Month)
CE	143498	A.M.N.	Rohde & Schwarz	ESH3-Z5	828874/019	2018/07/10	2019/07/31	12
CE	143499	A.M.N.	Rohde & Schwarz	ESH3-Z5	829567/010	2018/07/10	2019/07/31	12
CE	143155	Coaxial Cable	Fujikura,Fujikura,Fujikura,Fujikura	5D-2W,5D-2W,5D-2W,5D-2W	-	2018/07/25	2019/07/31	12
CE	144195	Test Receiver	Rohde & Schwarz	ESCI	100053	2018/09/28	2019/09/30	12
CE	143141	Micro Wave Cable	Huber+Suhner	SF104A/11PC3542/11N451/12mtr	MY1148/4A	2018/07/11	2019/07/31	12
CE	143703	Terminator	Suhner	65_BNC-50-0-2/133_NE	none	2018/11/28	2019/11/30	12
CE	143713	Terminator	Suhner	65_BNC-50-0-2/133_NE	none	2018/11/29	2019/11/30	12
CE	146950	Coupling decoupling network	FCC	TSCDN-S1-BNC-75	4008	2018/11/12	2019/11/30	12
CE	145455	Coupling Decoupling Network	FCC	TSCDN-C1-BNC50	9219	2018/11/12	2019/11/30	12
CE	143109	Micro Wave Cable	Suhner	SUCOFLEX102	MY3662/2	2018/05/25	2019/05/31	12
RE	142930	Pre-Amplifier	HEWLETT PACKARD	8447D	2944A09041	2018/08/30	2019/08/31	12
RE	143121	LOGBICON	Schwarzbeck	VULB 9168	343	2018/04/05	2019/04/30	12
RE	143050	3dB Fixed Atten.	TAMAGAWA	UFA-01	none	2018/09/12	2019/09/30	12
RE	158789	Coaxial Cable	BELDEN	RG214,5D-2W,8494A,5D-2W,5D-2W,5D-2	MY41110200(Step Att)	2018/08/30	2019/08/31	12
RE	144199	Test Receiver	AGILENT	N9038A	MY53290016	2018/07/10	2019/07/31	12
RE	160025	COMPACT MODULATOR	Rohde & Schwarz	SFC	2115.3510K02-100821-AQ	2018/11/14	2019/11/30	12
RE	168236	Signal Generator	KEYSIGHT	N5182B	MY57280004	2018/08/08	2019/08/31	12
RE	144831	Impedance Transfomer	TAMAGAWA	ZT-130	1011101	2019/01/16	2020/01/31	12
RE(GHz)	143455	Double Ridged Wave Guide	ETS-Lindgren	3115	00204569	2019/02/04	2020/02/29	12
RE(GHz)	142940	Pre-Amplifier	Micro Wave Factory	MPR-1G26.5-35	161399	2018/06/21	2019/06/30	12
RE(GHz)	143140	Micro Wave Cable	Junkosha	MWX221	1407S222	2018/11/15	2019/11/30	12
RE(GHz)	143149	Micro Wave Cable	Junkosha	MWX221	J12J102343-00	2018/11/15	2019/11/30	12
EMI	143654	Ruler	TAJIMA	L19-55	-	-	-	-
EMI	143542	Temperature & Humidity Indicator	HIOKI	3641/9680-50	090999895/090905406	2018/05/30	2019/05/31	12

EMI	143133	Barometer	Sunoh	SBR-151	'001439	2018/11/25	2021/11/29	36
EMI	144216	Digital Multimeter	Fluke Corporation	115	9944609 54	2018/10/09	2019/10/31	12
EMI	178804	EMI Software	TSJ	TEPTO-DV3(RE,C E,ME,PE)	-	-	-	-
EMI	142901	EMI Software	TSJ	TEPTO-DV(RE,C E,ME,PE)	Ver.3.3	-	-	-
CDVE	177813	Coaxial Cable+Pre-Amplifier+Sp litter	Fujikura,HP ,Mini-Circits,Fujikura	5D2W,8447D,ZFR SC-2050,5D2W	-,2944A 07219,-,-	2019/04/01	2020/04/30	12
CDVE	143110	Micro Wave Cable	Suhner	SUCOFLEX102	MY3773/2	2018/05/25	2019/05/31	12
CDVE	144220	Digital Multimeter	Fluke Corporation	87-3	85220051	2018/10/01	2019/10/31	12
CDVE	143534	Temperature & Humidity Indicator	A&D	AD-5681	6878345	2018/07/18	2019/07/31	12
CDVE	168236	Signal Generator	KEYSIGHT	N5182B	MY57280 004	2018/08/08	2019/08/31	12
CDVE	160025	COMPACT MODULAT OR	Rohde & Schwarz	SFC	2115.35 10K02-100821-AQ	2018/11/14	2019/11/30	12
CDVE	144193	Test Receiver	Rohde & Schwarz	ESU40	100426	2018/04/10	2019/04/30	12
CDVE	177185	Coaxial Cable	UL Japan Inc.	-	-	2019/01/11	2020/01/31	12

The expiration date of the calibration is the end of the expired month.
As for some calibrations performed after the tested dates,
those test equipment have been controlled by means of an unbroken chains of calibrations.
All equipment is calibrated with valid calibrations. Each measurement data is traceable to the national or international standards.

Test Item:
CE: Conducted emission
CDVE: Conducted differential voltage emission
RE: Radiated emission

End of Report