Vehicle Certification Agency

THE UNITED KINGDOM VEHICLE APPROVAL AUTHORITY

COMMUNICATION CONCERNING APPROVAL GRANTED OF A TYPE OF ELECTRONIC SUB-ASSEMBLY WITH REGARD TO REGULATION NO. 10.06

E11 Approval No: E11*10R06/01*11906*00

1. Make (trade name of manufacturer): KENWOOD

2. Type and general commercial description(s): DMX-6, Monitor with Receiver

3. Means of identification of type, if marked on the component: Not Applicable

3.1. Location of that marking: Not Applicable

4. Category of vehicle: Not Applicable

5. Name and address of manufacturer:

JVCKENWOOD Corporation
2967-3 Ishikawa-machi, Hachioji-shi Tokyo 192-8525 Japan

6. In the case of components and separate technical units, location and method of affixing of the approval mark: Location: On the product, Method: Adhesive Label

7. Address(es) of assembly plant(s):

Jl. Surya Lestari Kav. I-16B, Suryacipta City of Industry, Kel. Kutamekar, Kec. Ciampel, Kab. Karawang 41363, Prop. Jawa Barat, Indonesia

8. Additional information (where applicable): See Appendix below

9. Technical Service responsible for carrying out the tests: UL Japan, Inc.

UK Approval Authority Vehicle Certification Agency
24-Oct-22

10. Date of test report: 17 October 2022

11. No. of test report: 14491559M

12. Remarks (if any): See Appendix below

13. Place: BRISTOL

14. Date: 24 OCTOBER 2022

15. Signature:

C McCABE
Chief Technical and Statutory Operations Officer

16. The index to the information package lodged with the Approval Authority, which may be obtained on request, is attached.

17. Reasons for extension: Not Applicable

Appendix

to type approval communication form No. E11*10R06/01*11906*00
concerning the type approval of an electrical/electronic sub-assembly under UN Regulation No. 10.06

1. Additional information:

1.1. Electrical system rated voltage: DC 12 V. neg ground

1.2. This ESA can be used on any vehicle type with the following restrictions:

1.2.1. Installation conditions, if any:

DC 10.5 V to 16 V
-10 °C to +60 °C

1.3. This ESA can be used only on the following vehicle types: Not Applicable

1.3.1. Installation conditions, if any:

Not Applicable

1.4. The specific test method(s) used and the frequency ranges covered to determine immunity were: (Please specify precise method used from Annex 9):

Bulk Current Injection: 20 MHz – 200 MHz, Free Field: 200 MHz - 2000 MHz

1.5. Laboratory accredited to ISO 17025 and recognized by the Approval Authority responsible for carrying out the tests: UL Japan, Inc., Kashima EMC Lab., Chiba, Japan

2. Remarks: None

Vehicle Certification Agency

THE UNITED KINGDOM VEHICLE APPROVAL AUTHORITY

APPROVAL NUMBER: E11*10R06/01*11906*00

INFORMATION PACKAGE CONTENTS

INDEX REVISION NUMBER: Not applicable

Conformity of Production (COP) Declaration	**COP Confirmed**	
Assessment Method	**ISO 9001 / IATF 16949 & Control Plans**	
Date of Initial Clearance		**Pre 2013**
Date of Last Clearance	**April**	**2021**

Total number of sheets: 86 (Eighty-Six)

Reasons for Revision: Not applicable

Revision Date
&
Office Stamp

UK Approval Authority | Vehicle Certification Agency
24-Oct-22

Information document

Relating to ECE type-approval of an electronic sub-assembly
with respect to electromagnetic compatibility

UN/ECE Regulation 10.06 Supplement 01

TYPE: DMX-6

CONTENTS LIST

GENERAL

1. Make (trade name of manufacturer): KENWOOD

2. Type and general commercial description(s): DMX-6, Monitor with Receiver

3. Means of identification of type, if marked on the component~~/separate technical unit~~:
Not Applicable

3.1. Location of that marking: Not Applicable

4. Name and address of manufacturer:
JVCKENWOOD Corporation
2967-3 Ishikawa-machi, Hachioji-shi, Tokyo 192-8525 Japan
Name and address of authorised representative, if any: Not applicable

5. In the case of components and separate technical units, location and method of affixing of the EC approval mark: Location: On the product
Method: Adhesive Label
See Attachment 1

6. Address(es) of assembly plant(s):
Jl. Surya Lestari Kav. I-16B, Suryacipta City of Industry, Kel. Kutamekar, Kec. Ciampel, Kab. Karawang 41363, Prop. Jawa Barat, Indonesia

7. This ESA shall be approved as a component~~/STU~~ (1)

8. Any restrictions of use and conditions for fitting: DC 10.5 V to 16 V
-10 °C to +60 °C

9. Electrical system rated voltage: DC 12 V, ~~positive/~~negative (1) ground

10. Charger: Not applicable

11. Charging current: Not applicable

12. Maximal nominal current: Not applicable

13. Nominal charging voltage: Not applicable

14. Basic ESA interface functions: Not applicable

15. Minimum R_{sce} value: Not applicable

Date: 21 October 2022

Appendix 1 [1/2]

Description of the ESA chosen to represent the type (electronic block diagram and list of main components constituting the ESA (e.g. make and type of microprocessor, crystal, etc.)).

Brief description of ESA: Monitor with Receiver

Block Diagram

Please see Documentation 1.

Specification

Size(W x H x D) :180 mm x 100 mm x 75 mm
Weight: 1.2 kg
Function: Monitor / USB / Bluetooth / Wi-Fi / AM / FM / DAB
Picture Size: 151.8 mm (W) x 79.7 mm (H) (6.7 inches)
USB: USB2.0 Full speed
Bluetooth: Bluetooth v5.0, Power class 2
Wi-Fi: 802.11 a/b/g/n/ac 2.4/5GHz Dual Band
DAB Tuner*: Frequency range: Band 3 174.928 MHz - 239.200 MHz
FM Tuner: Frequency Range 87.5 MHz -108.0 MHz
AM Tuner: Frequency Range MW 531 kHz - 1611 kHz
Audio: Typical (full bandwidth 1 %THD) 22W x 4ch

Component List

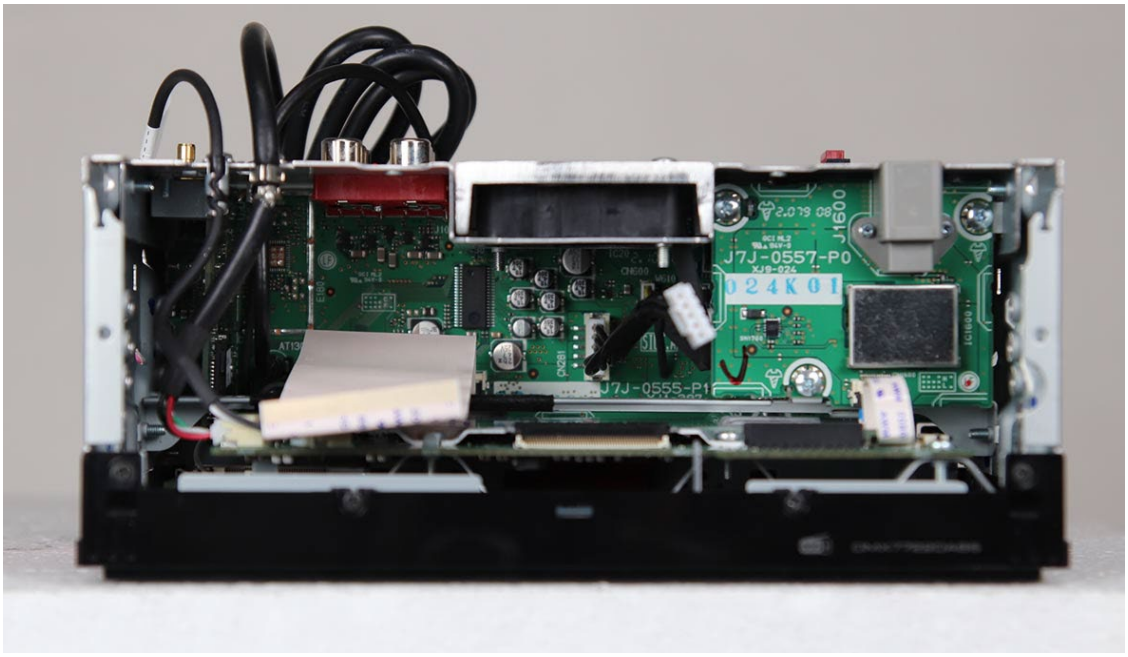
Please see Documentation 2.

Date: 21 October 2022

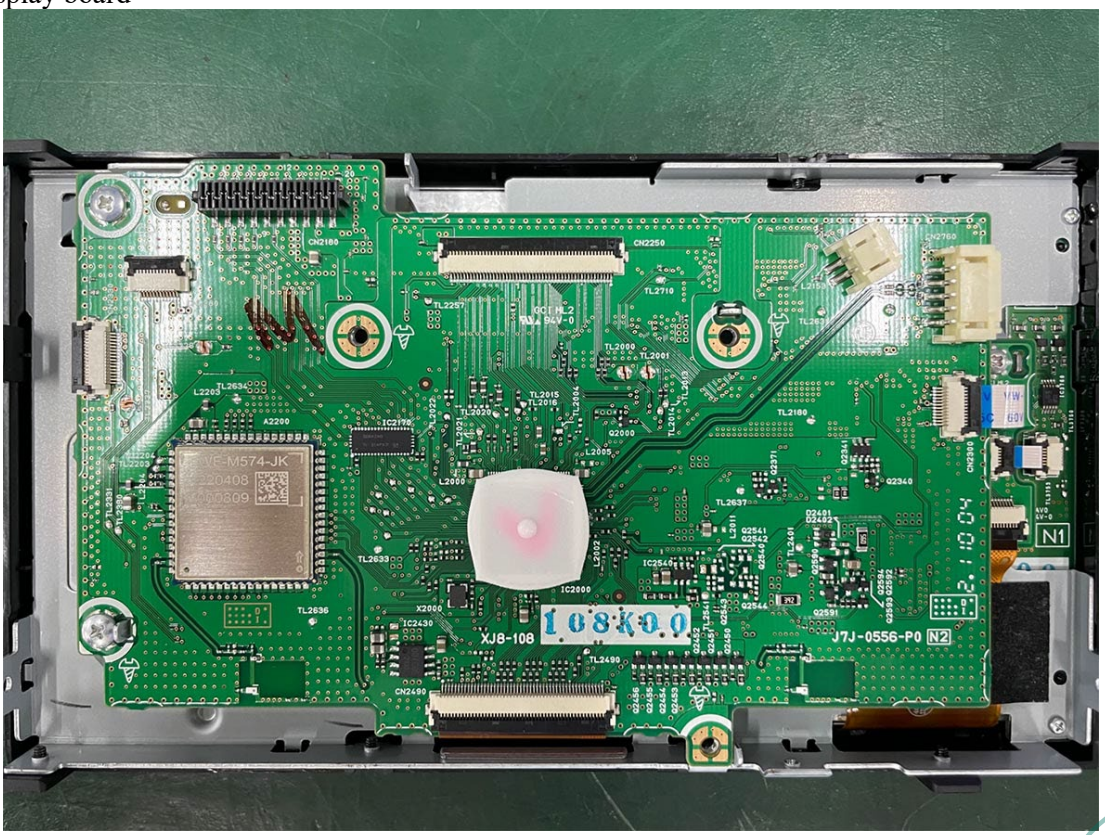
Appendix 1 [2/2]

Inside of Product

SoC Board



Display board



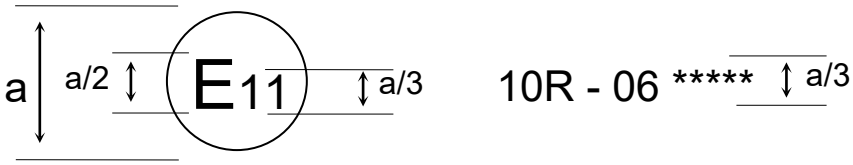
Date: 21 October 2022

Attachment 1 [1/1]

Approval Mark Location

Size of Approval Mark

a = 6.3 mm



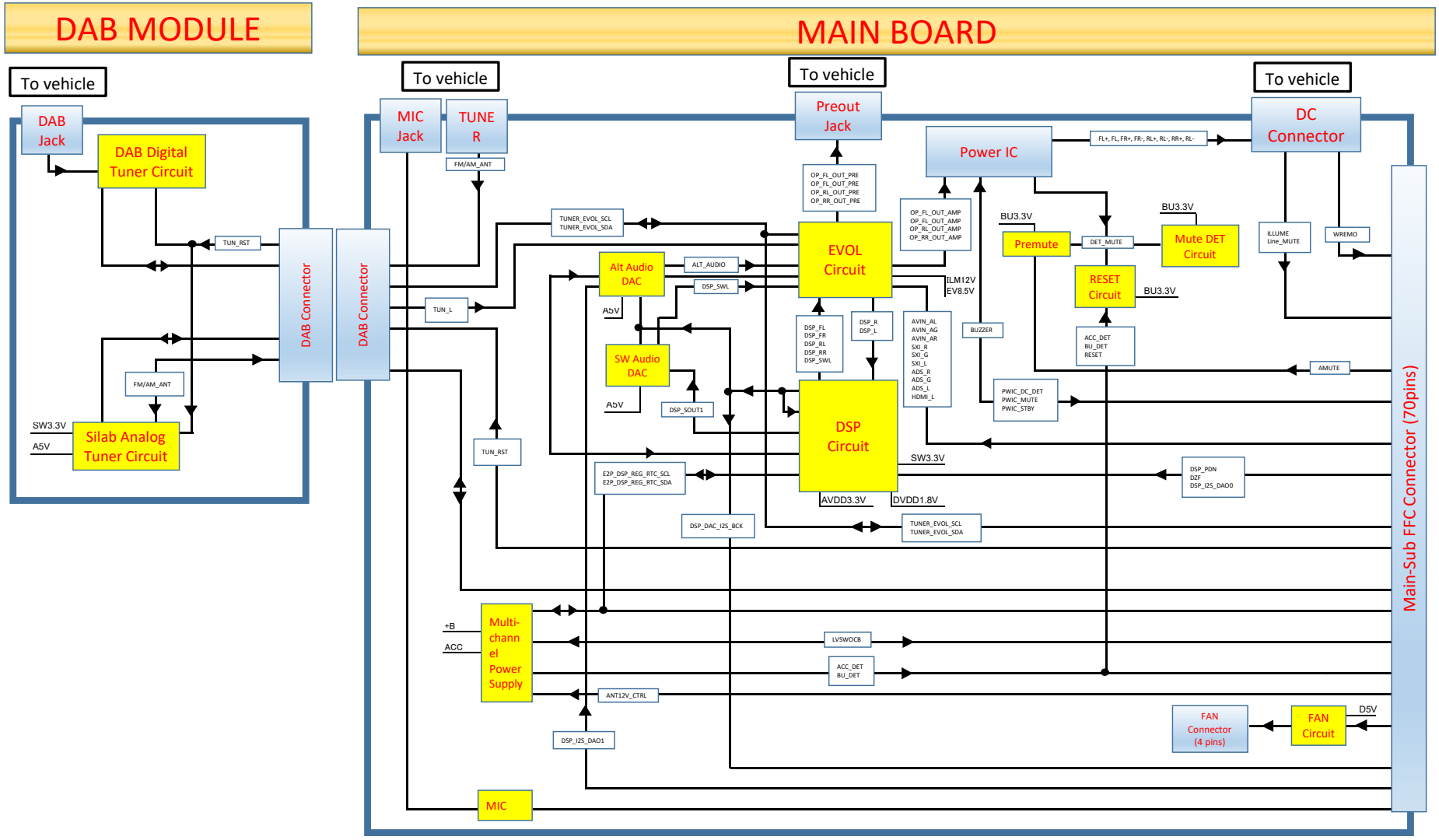
Date: 21 October 2022

Appendix 2

Relevant test report(s) supplied by the manufacturer from a test laboratory accredited to ISO 17025 and recognised by the Approval Authority for the purpose of drawing up the type-approval certificate.

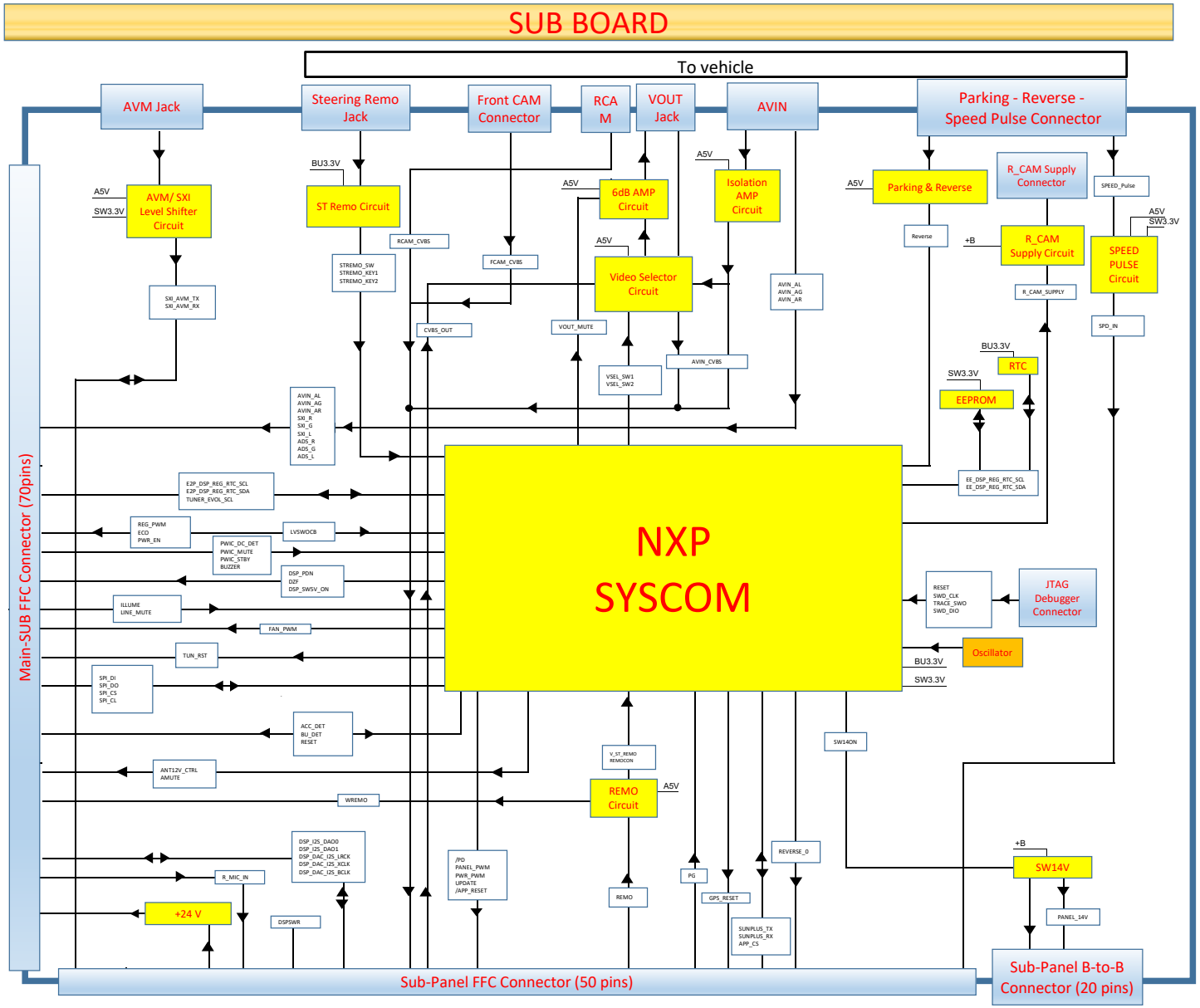
Test Report No. 14491559M

DMX7722DABS Block Diagram (MAIN BOARD)



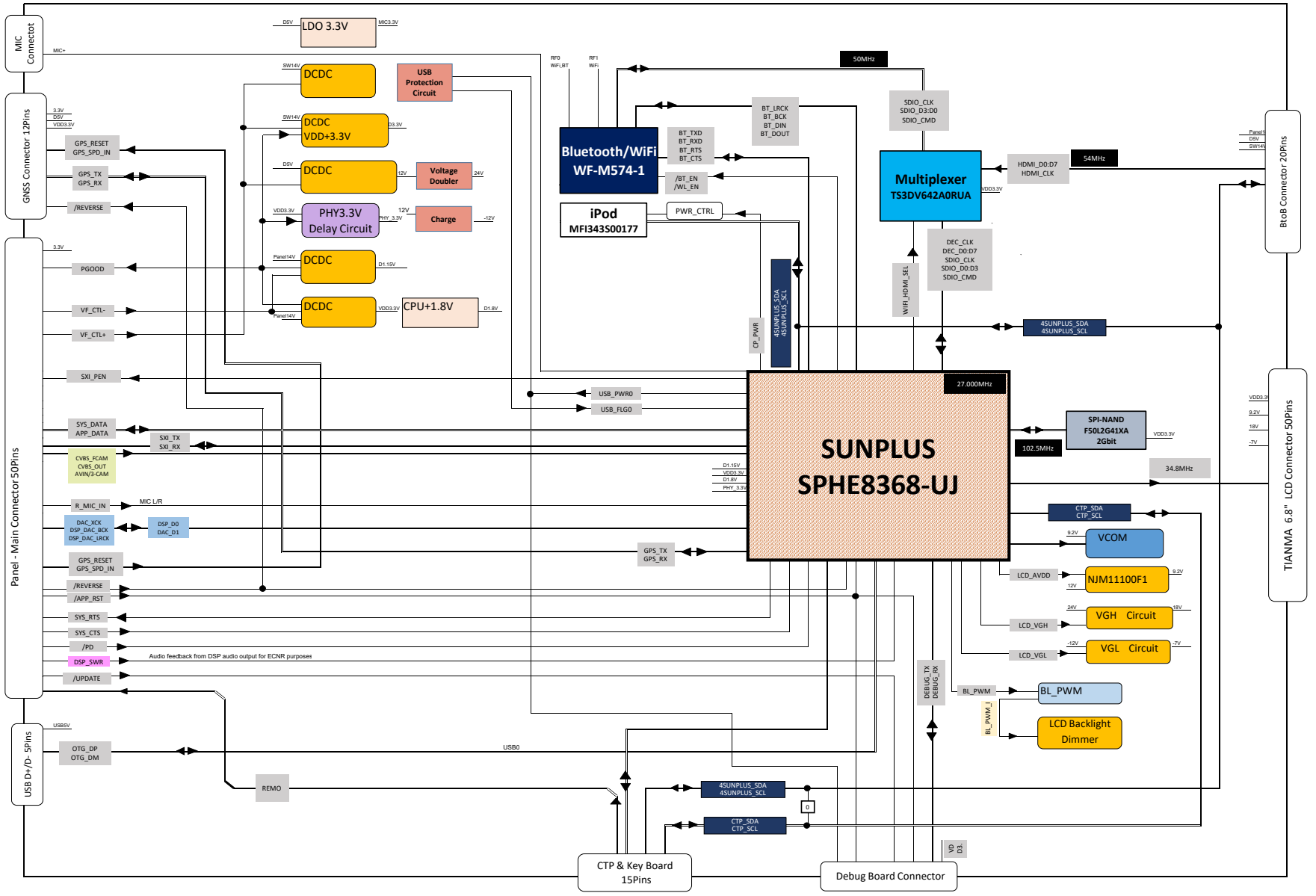
Documentation 1 (2/3)

DMX7722DABS Block Diagram (SUB BOARD)



Documentation 1 (3/3)

DMX7722DABS Block Diagram (SoC Board)



Documentation 2 (1/1)

DMX7722DABS

CPU & Clock

Unit	REF No	Frequency	Parts Name	Part Number	Manufacturer	Remark
MAIN & SUB	X520	12.288 MHz	QUARTZ Crystal Oscillator	EXS00A-CG03558	NIHON DEMPA KOGYO CO.,LTD	DSP
MAIN & SUB	X750	16.000 MHz	QUARTZ Crystal Oscillator	EXS00A-CG02359	NIHON DEMPA KOGYO CO.,LTD	Microproccessor
DAB module	X1	37.209375 MHz	QUARTZ Crystal Oscillator	EXS00A-CS07906	NIHON DEMPA KOGYO CO.,LTD	ANALOG TUNER
DAB module	X2	24.576 MHz	QUARTZ Crystal Oscillator	EXS00A-CS07907	NIHON DEMPA KOGYO CO.,LTD	DAB TUNER
GNSS	X1600	26.000 MHz	TCXO	DSB211SDN	DAISHINKU CORPORATION	GNSS CHIP
GNSS	X1601	32.768 kHz	QUARTZ Crystal Oscillator	X1A000091001200	SEIKO EPSON CORPORATION	GNSS CHIP
SoC	X2000	27.000 MHz	QUARTZ Crystal Oscillator	EXS00A-CG05103	NIHON DEMPA KOGYO CO.,LTD	SOC CLOCK
DAB module	IC1	400 kHz	AM/FM RADIO RECEIVER	SI4763-A42-AMR / SI4763-A42-GMR	SILICON LABORATORIEC INC.	I2C
		37.209375 MHz				Tuner IC ext Clk
		93 kHz				AM/LW IF
		128 kHz				FM IF
DAB module	IC2	24 MHz	DAB LOW IF TUNER IC	MTV301CQR	RAONTECH INC.	DAB I2C
		1.536 MHz				DAB IF
DAB module	IC3	24 MHz	DAB/DAB+/DMB-AUDIO BASEBAND AND AUDIO PROCESSOR	GL3511S-B169	GLOVANE CO.,LTD	DECODER I2C
		133 MHz				SPI Clk
DAB module	IC4	133 MHz	SERIAL FLASH MEMORY	W25Q16JVSSIM	WINBOND ELECTRONICS CORP.	FLASH IC SPI clk
SoC	IC2000	650 MHz	MPU IC	SPHE8368-UJ	SUNPLUS TECHNOLOGIES CO.,LTD	CORE CLOCK
		48 kHz				DIGITAL AUDIO CLOCK
		400 kHz				I2C
		100 kHz				I2C
		48 MHz				USB clock
MAIN & SUB	IC750	48 MHz	MPU IC	FS32K146HFT0VLLT	NXP SEMICONDUCTORS	SYS/CORE CLOCK
		48 MHz				BUS CLOCK
		16 MHz				FLASH CLOCK
MAIN & SUB	IC520	48 kHz	DSP IC	ADAU1401AWBSTZ-RL	ANALOG DEVICES INC.	fs
		400 kHz				I2C
		6.25 MHz				SPI clk

Capacitor & Regulator IC

Unit	REF number	Child part number	Manufacturer	Child part number name
MAIN & SUB	C12,12	CD04EU1C222M1	Nippon Chemi-con corporatio	E CAPACITOR
MAIN & SUB	IC360	BD49105RFS-M	Rohm corporation	ANALOG IC
MAIN & SUB	IC522	MM3608A18NH	MinebeaMitsumi Inc.	ANALOG IC
MAIN & SUB	IC523	MM3608A33NH	MinebeaMitsumi Inc.	ANALOG IC
MAIN & SUB	IC1200	XC6223B121P-G	Torex Semiconductor Device Ltd	ANALOG IC
DAB module	IC5	MM3608A12NH	MinebeaMitsumi Inc.	ANALOG IC
SoC	IC2000	SPHE8368-UJ	Sunplus Technology Co.,Ltd.	MPU IC
SoC	IC2100	MFI343S00177	Avnet, Inc.	MCU IC
SoC	IC2120	F50L2G41XA//1	Elite Semiconductor Microelectronics Technology Inc.	ROM IC
SoC	IC2170	TS3DV642A0RUA	Texas Instruments Inc.	MOS IC
SoC	IC2340,2370	MP9943AGQ	Monolithic Powers Systems, I	ANALOG IC
SoC	IC2400	LM3481MMXNOPB	Texas Instruments Inc.	ANALOG IC
SoC	IC2430	BD00IC0EEFJ-M	Rohm corporation	ANALOG IC
SoC	IC2450	NJM2904CV	Texas Instruments Inc.	ANALOG IC
SoC	IC2540	NJM11100F1	Texas Instruments Inc.	ANALOG IC
SoC	IC2710,2740	MP9943AGQ	Monolithic Powers Systems, I	ANALOG IC
SoC	IC2750	INA199B3DCK	Texas Instruments Inc.	ANALOG IC

EMC TEST REPORT

VCA Job No.: JAA575233
Test Report No.: 14491559M

Customer	**JVCKENWOOD Corporation**
Description of DUT	**Monitor with Receiver**
Model Number of DUT	**DMX7722DABS**
Test Standard	**UN Regulation No.10 - Rev.6 Supplement 1 (Amend. 1)**
Test Result	**Complied (Refer to SECTION 4)**
Issue Date	**October 17, 2022**
Remarks	**-**

Representative test engineer	**Approved by**
Kazumi Tsujiya	Takashi Nakazawa
Engineer	Leader

Vehicle Certification Agency

This laboratory is registered by the Vehicle Certification Agency (VCA).
This test reports herein have been performed in accordance with its terms of registration.

Report Cover Page - Form-ULID-003532 (DCS:13-EM-F0429) Issue# 21.0

UK Approval Authority | Vehicle Certification Agency
24-Oct-22

ANNOUNCEMENT

- This test report shall not be reproduced in full or partial, without the written approval of UL Japan, Inc.
- The results in this report apply only to the sample tested.
- This sample tested is in compliance with the limits of the above standard.
- The test results in this test report are traceable to the national or international standards.
- The all test items in this test report are conducted by UL Japan, Inc. Kashima EMC Lab.
- The information provided from the customer for this report is identified in Section 1.
- For test report(s) referred in this report, the latest version (including any revisions) is always referred.

REVISION HISTORY

Original Test Report No.: 14491559M

Revision	Test report No.	Date	Revised Contents
- (Original)	14491559M	October 17, 2022	-

Reference: Abbreviations (Including words undescribed in this report)

A2LA	American Association for Laboratory Accreditation	Temp	Temperature
AC	Alternating Current	Tek	Tektronix, Inc.
ALSE	Absorber-Lined Shielded Enclosure	TEM	Transverse Electromagnetic
AM	Amplitude Modulation	TR	Technical Report
Amend.	Amendment	U_A	Supply voltage
AN	Artificial Network	UN	United Nations
Ant, ANT	Antenna	U_{S1}	Transient with negative pulses
AV	Average	U_S	Peak voltage
BB	Broad Band	U_{S2}	Transient with positive pulses
BCI	Bulk Current Injection	VBW	Video BandWidth
BW	BandWidth	VCA	Vehicle Certification Agency
CAN	Controller Area Network	Ver	Vertical
Cal Int	Calibration Interval	WLAN	Wireless LAN
CISPR	Comite International Special des Perturbations Radioelectriques		
Corr.	Correction		
DC	Direct Current		
deg.C	degree Celsius		
div	division		
DUT	Device Under Test		
ECE	Economic Commission for Europe		
EMC	ElectroMagnetic Compatibility		
EMI	ElectroMagnetic Interference		
EMS	ElectroMagnetic Susceptibility		
EN	European Norm		
ESA	Electrical/electronic sub-assembly		
ESD	Electrostatic discharge		
EU	European Union		
EUT	Equipment Under Test		
Freq.	Frequency		
FWD	Forward		
h	Hour		
Hor	Horizontal		
ILAC	International Laboratory Accreditation Conference		
ISO	International Organization for Standardization		
LAN	Local Area Network		
LIMS	Laboratory Information Management System		
LISN	Line Impedance Stabilization Network		
Log	Logarithm		
Max,max	Maximum		
Min,min	Minimum		
MRA	Mutual Recognition Arrangement		
N/A	Not Applicable		
NB	NarrowBand		
PK	Peak		
PM	Pulse Modulation		
Pol., Pola.	Polarization		
QP	Quasi-Peak		
RBW	Resolution Band Width		
Rev.	Revision		
REV	Reverse		
Rs	Shunt Resistor		
RH	Relative Humidity		
S	Switch		

CONTENTS **PAGE**

SECTION 1: CUSTOMER INFORMATION

Company Name	JVCKENWOOD Corporation
Address	2967-3 Ishikawa-machi, Hachioji-shi, Tokyo, 192-8525 Japan
Telephone Number	+81-42-646-5525
Contact Person	Hitoshi Aiso

The information provided from the customer is as follows:
- Customer, Description of DUT, Model Number of DUT on the cover page and other relevant pages
- Operating/Test Mode(s) (Mode(s)) on all the relevant pages
- SECTION 1: CUSTOMER INFORMATION
- SECTION 2: DEVICE UNDER TEST (DUT), other than Receipt Date and Test Date
- SECTION 3: OPERATION OF DUT DURING TESTING

* The laboratory is exempted from liability of any test results affected from the information in SECTION 2 and 3.

SECTION 2: DEVICE UNDER TEST (DUT)

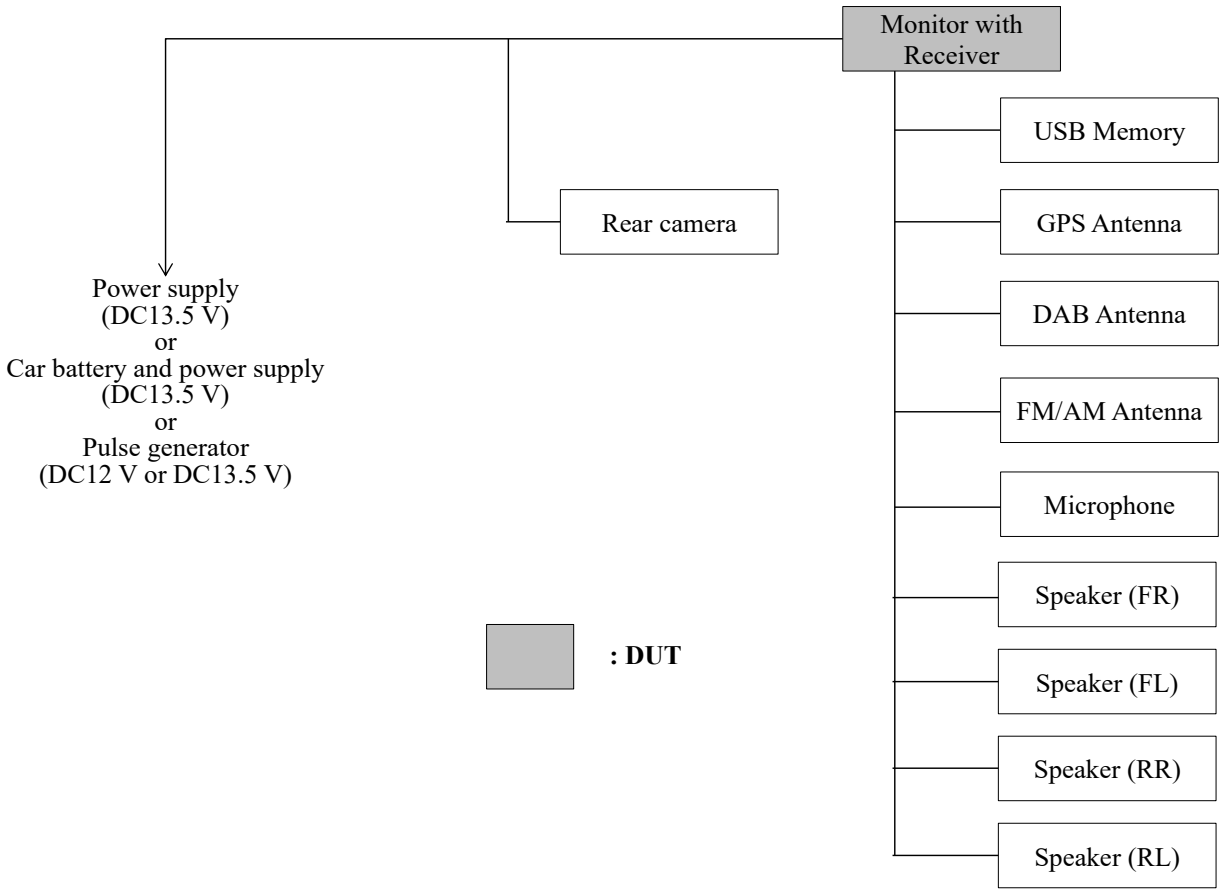
Description	Monitor with Receiver
Model Number	DMX7722DABS
Rating	DC 12 V
Condition	Production prototype (Not for Sale: This sample is equivalent to mass-produced items.)
Modification	No Modification by the test lab.
Receipt Date	September 6, 2022
Test Date	September 12 to September 16, 2022

SECTION 3: OPERATION OF DUT DURING TESTING

3.1 Operating Mode

The mode(s)	1. AM Receiving with GPS Receiving mode
	2. FM Receiving with GPS Receiving mode
	3. DAB Receiving with GPS Receiving mode
	4. Bluetooth with GPS Receiving mode
	5. Wi-Fi with GPS Receiving mode
	6. USB playing with GPS Receiving mode
	7. Rear camera with GPS Receiving mode *1)
	8. Video input with GPS Receiving mode
	9. Audio input with GPS Receiving mode
	*1) The input video from the Rear camera is shown on the display and used as an indirect vision system for the driver, therefore, Immunity test was performed for this mode.

3.2 Configuration for Testing



3.3 Worst Case Record

Please refer to worst case record document No. ULJ2022-09-10.

Verification of the tested product has been completed and UL Japan can confirm that the tested product matches the product described in the information document

: TEST SPECIFICATION, METHODS & RESULTS

4.1 Test Specification

EMC	UN Regulation No.10 - Rev.6 Supplement 1 (Amend. 1)
Title	Uniform Provisions concerning the approval of vehicles with regard to electromagnetic compatibility

4.2 Methods & Results

Emission

No.	Test Item	Test requirement	Test Methods	Results	Remarks
1	UN Regulation No.10 - Rev.6 Paragraph 6.5: Specifications concerning broadband electromagnetic interference generated by ESAs Paragraph 6.6: Specifications concerning narrowband electromagnetic interference generated by ESAs	Applicable	UN Regulation No.10 - Rev.6 Annex 7, 8 CISPR 25:2002 and 2004 (corr.) Clause 6.4 (ALSE method)	Complied a)	N/A
2	UN Regulation No.10 - Rev.6 Paragraph 6.7: Specifications concerning the emission of Transient conducted disturbances generated by ESAs on 12/24 V supply lines	Applicable	UN Regulation No.10 - Rev.6 Annex 10 ISO 7637-2: 2004 Clause 4.3	Complied b)	N/A

a) Refer to APPENDIX 2
b) Refer to SECTION 6

Immunity

No.	Test Item	Test requirement	Test Methods	Results	Remarks
1	UN Regulation No.10 - Rev.6 Paragraph 6.8: Specifications concerning the Immunity of ESAs to electromagnetic radiation	Not Applicable	UN Regulation No.10 - Rev.6 Annex 9 Paragraph 4.2 (TEM cell testing) ISO 11452-3: 2016	N/A	N/A
2	UN Regulation No.10 - Rev.6 Paragraph 6.8: Specifications concerning the Immunity of ESAs to electromagnetic radiation	Applicable	UN Regulation No.10 - Rev.6 Annex 9 Paragraph 4.3 (Bulk current injection testing) ISO 11452-4: 2011	Complied a)	N/A
3	UN Regulation No.10 - Rev.6 Paragraph 6.8: Specifications concerning the Immunity of ESAs to electromagnetic radiation	Applicable	UN Regulation No.10 - Rev.6 Annex 9 Paragraph 4.1 (Absorber chamber test) ISO 11452-2: 2004	Complied b)	N/A
4	UN Regulation No.10 - Rev.6 Paragraph 6.9: Specifications concerning the immunity of ESAs to transient disturbances conducted along 12/24 V supply lines	Applicable	UN Regulation No.10 - Rev.6 Annex 10 ISO7637-2: 2004 Clause 4.4	Complied c)	N/A
UL Japan, Inc. hereby confirms that DUT, in the configuration tested, complies with the specifications UN Regulation No.10 - Rev.6					

a) Refer to SECTION 7
b) Refer to SECTION 8
c) Refer to SECTION 9

4.3 Addition to standard

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

4.4 Test Equipment Used

See APPENDIX 4.

4.5 Test Location

UL Japan, Inc. Kashima EMC Lab.
1614 Mushihata, Katori-shi, Chiba-ken, 289-0341 Japan
Telephone: +81-478-88-6500
A2LA Accreditation No. 1266.01

Test site	Width x Depth x Height (m)	Size of reference ground plane (m) / horizontal conducting plane	Maximum measurement distance
No.6 Semi-anechoic Chamber	8.5 x 5.5 x 5.2	8.5 x 5.5	3 m
No.7 Semi-anechoic Chamber	8.5 x 5.5 x 5.2	8.5 x 5.5	3 m
No.8 Shielded Room	4.0 x 6.2 x 3.0	4.0 x 6.2	-
No.11 Semi-anechoic Chamber	9.0 x 6.5 x 5.2	9.0 x 6.5	3 m
No.1 Measurement room	5.0 x 3.7 x 2.6	5.0 x 3.7	-
Mobility EMC Chamber 1	7.0 x 8.0 x 3.9	7.0 x 8.0	-
Mobility EMC Chamber 2	7.0 x 8.0 x 3.9	7.0 x 8.0	-
Mobility EMC Chamber 3	7.0 x 8.0 x 3.9	7.0 x 8.0	-
Electrical Test Room 1	6.5 x 6.0 x 3.0	6.5 x 6.0	-
Electrical Test Room 2	6.5 x 6.0 x 3.0	6.5 x 6.0	-
Electrical Test Room 3	6.5 x 6.0 x 3.0	6.5 x 6.0	-

4.6 Test Configuration Photographs

See APPENDIX 1.

4.7 Data of Radiated Emission & Radiated Immunity Tests

See APPENDIX 2.
See APPENDIX 3.

SECTION 5: RADIATED EMISSION (UN Regulation No.10 - Rev.6 Annex 7&8)

5.1 Operating Environment

Test place	Kashima EMC Lab. No.6 Anechoic Chamber
Date	See APPENDIX 2
Temperature	See APPENDIX 2
Humidity	See APPENDIX 2
Engineer	See APPENDIX 2
Operating Mode	See SECTION 3.1

5.2 Test Configuration

A drawing of the test set-up is shown in Figure 1. This is not the actual test setup. For the actual one, refer to APPENDIX 1.

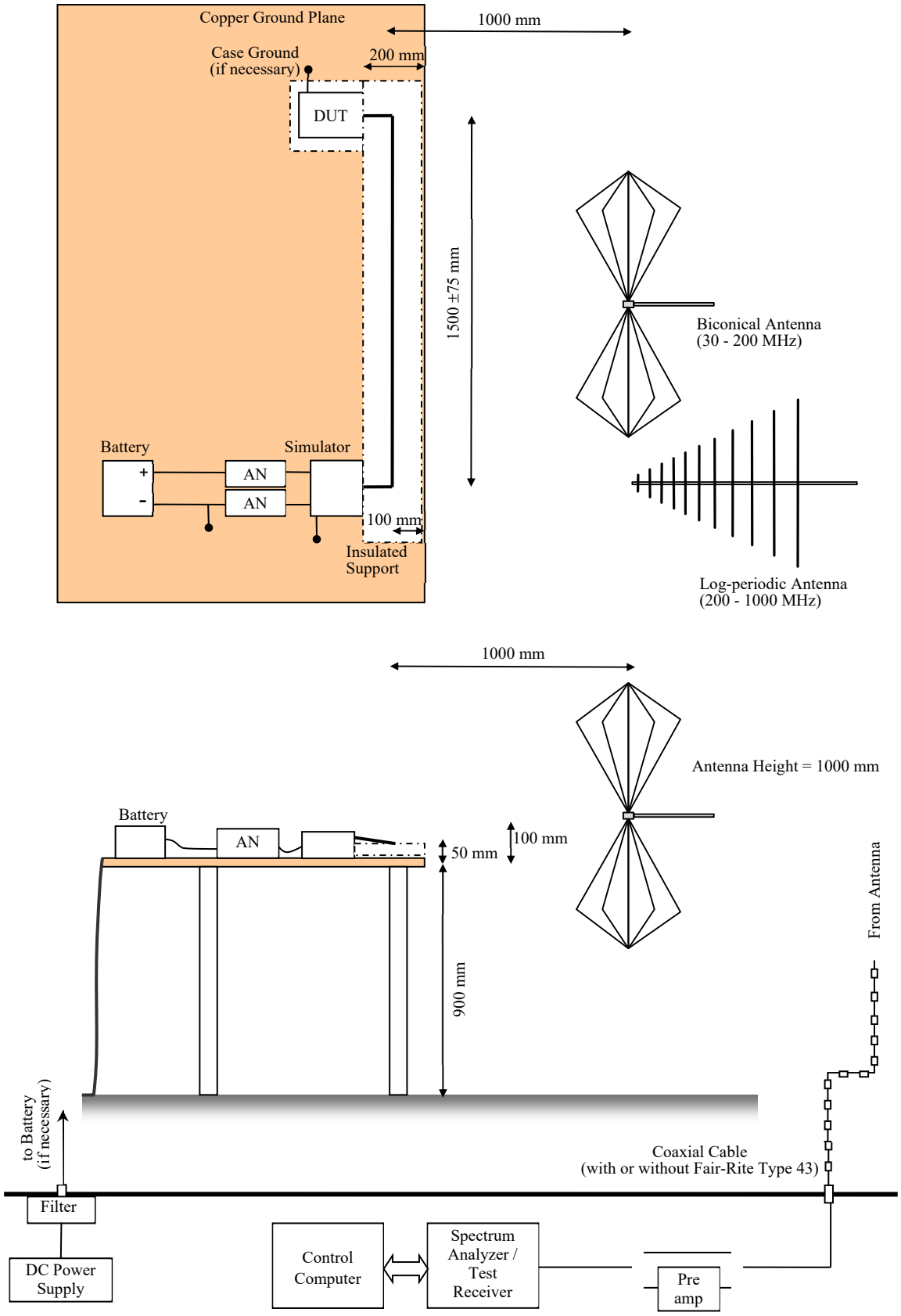


Figure 1

5.3 Test Procedure

It was measured based on "ALSE method" described in Clause 6.4. of "CISPR 25: 2002".
The DUT was in the operation condition specified, in maximum load. The measurements were performed with the Spectrum Analyzer or the Test Receiver. Using the Spectrum Analyzer or the Test Receiver, overview sweeps with peak detection were performed at "intervals of 14 frequency bands" specified in "CISPR 12" throughout the frequency range. If required, the measurements are performed with detector function (see SECTION 5.4) by using the Test Receiver to determine whether measured emissions are narrowband or broadband to apply limits properly. Factor of antennas, attenuator, cables and pre-amplifier were set in the Spectrum Analyzer or in the Test Receiver prior to test.

5.4 Test Conditions

Frequency range	30 MHz - 1000 MHz	
Antenna	Biconical Antenna	(30 MHz - 200 MHz)
	Logperiodic Antenna	(200 MHz - 1000 MHz)
Polarization	Horizontal and Vertical	

[Overview Sweeps]

Used Measurement	Test Receiver
Detector	Peak or Peak / Average

[Final Reading]

Used Measurement	Test Receiver
Detector	Peak / Quasi-Peak / Average

Spectrum Analyzer Setting (if used)

Bandwidth	RBW 100 kHz / VBW 300 kHz
Maximum scan rate	100 ms / MHz

Test Receiver Setting (if used)

Detector	Peak / Average	Quasi-Peak
Bandwidth	BW 120 kHz	BW 120 kHz
Dwell time	5 ms	1 s
Step size	50 kHz	50 kHz

5.5 Results

Summary of the test results: Pass
*The test result is rounded off to one or two decimal places, so some differences might be observed.

Sample Calculation
Result = Reading + Ant Factor + Loss (Cable + Attenuator [if used]) - Gain(Amplifier)

SECTION 6: ELECTRICAL TRANSIENT EMISSION (ISO7637-2)

6.1 Operating Environment

Test place	Kashima EMC Lab. No.1 Measurement room
Date	September 14 to September 15, 2022
Temperature	23 deg. C
Humidity	57 % RH
Atmosphere	1008 hPa
Engineer	Kazumi Tsujiya
Operating Mode	See SECTION 3.1

6.2 Test Configuration

A drawing of the test set-up is shown in Figure 2. This is not the actual test setup.
For the actual one, refer to APPENDIX 1.

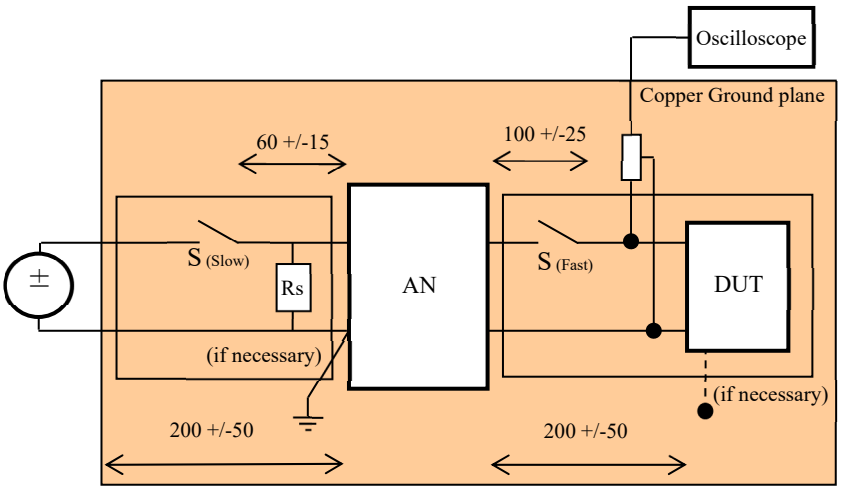


Figure 2

6.3 Test Procedure

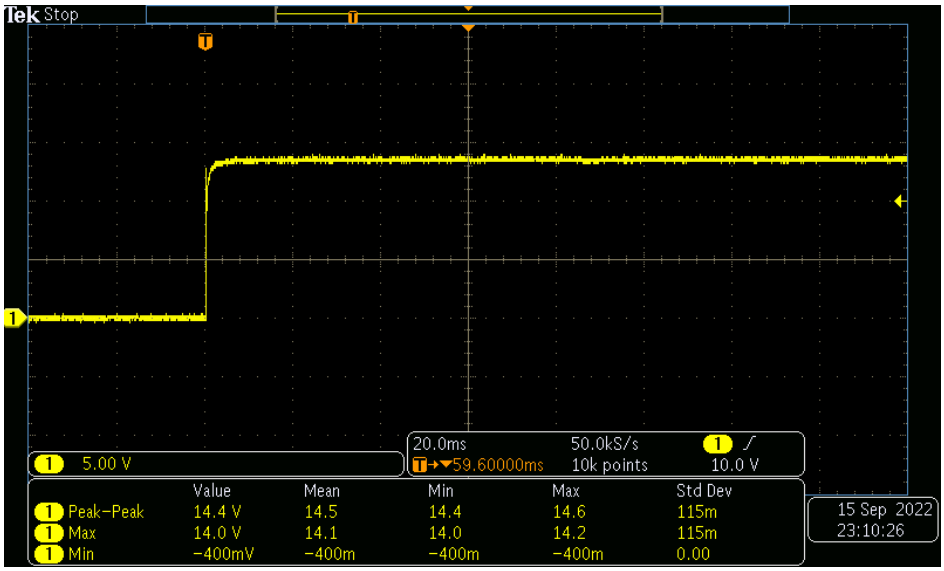
It was measured based on "Voltage transient emissions test" described in Clause 4.3. of "ISO 7637-2: 2004".
The DUT was in the operation condition specified, in maximum load. The measurements were performed with a voltage probe and an oscilloscope. Using the voltage probe and the oscilloscope, the disturbance voltage for conducted emissions of transients along the battery-fed or switched supply lines of DUT was measured with switch closed and opened. The test was performed 10 times at each mode, and the waveform with the largest amplitude noise level was used as the final test result.

6.4 Results

Summary of the test results: Pass

Sample Calculation (U_{s1}) = Min value – U_A
(U_{s2}) = Max value – U_A

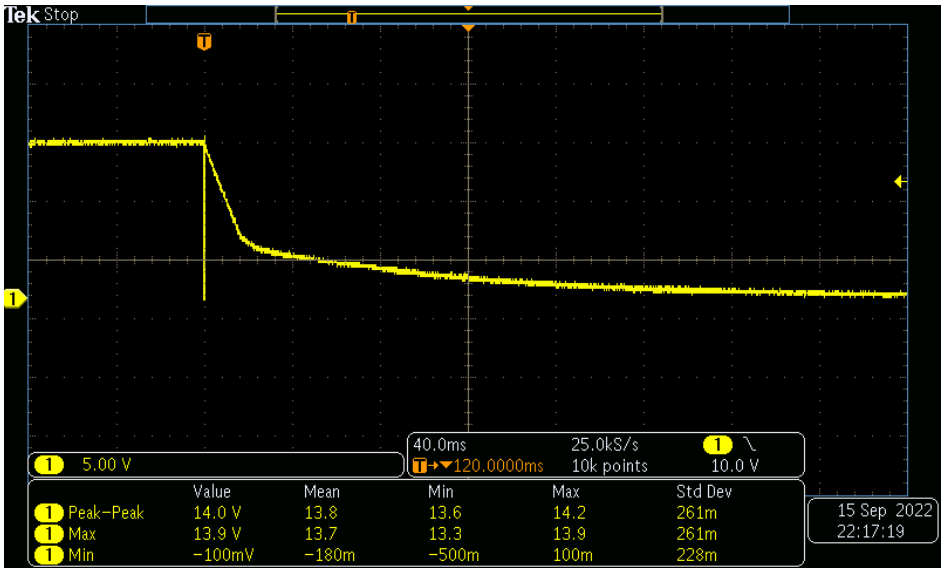
[Slow Pulse]
Switch ON



U_A: 13.5 V

Peak amplitude(Us2) 0.7 V Maximum allowed pulse amplitude: +75 V

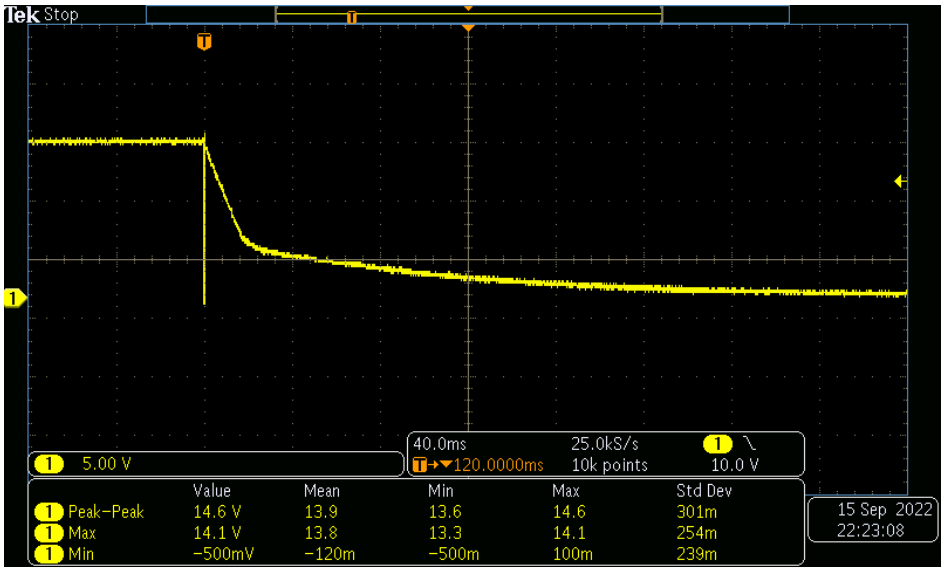
[Slow Pulse] Operating Mode : AM with GPS Receiving mode
Switch OFF



U_A: 13.5 V

Peak amplitude(Us1) -14.0 V Maximum allowed pulse amplitude: -100 V

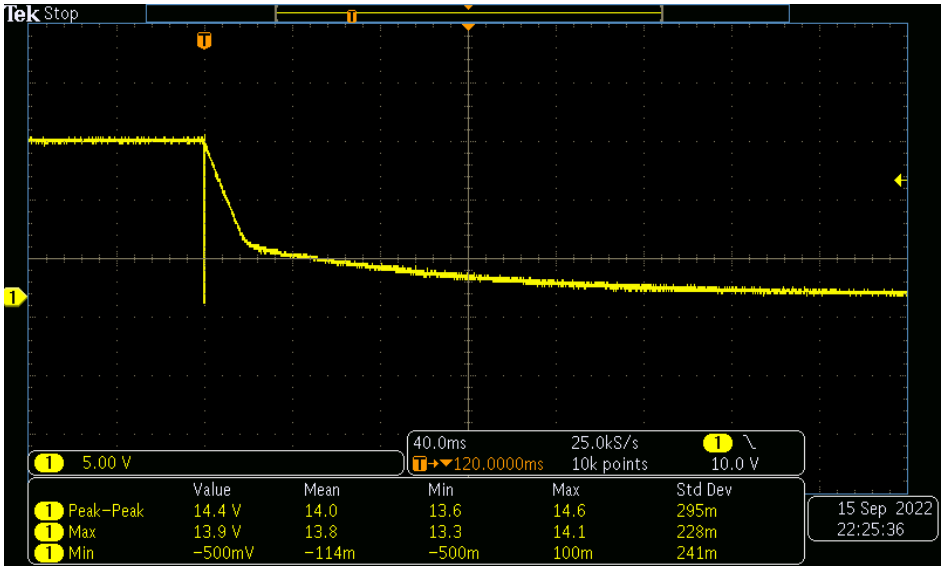
[Slow Pulse] Operating Mode : FM with GPS Receiving mode
Switch OFF



U_A: 13.5 V

Peak amplitude(Us1) -14.0 V Maximum allowed pulse amplitude: -100 V

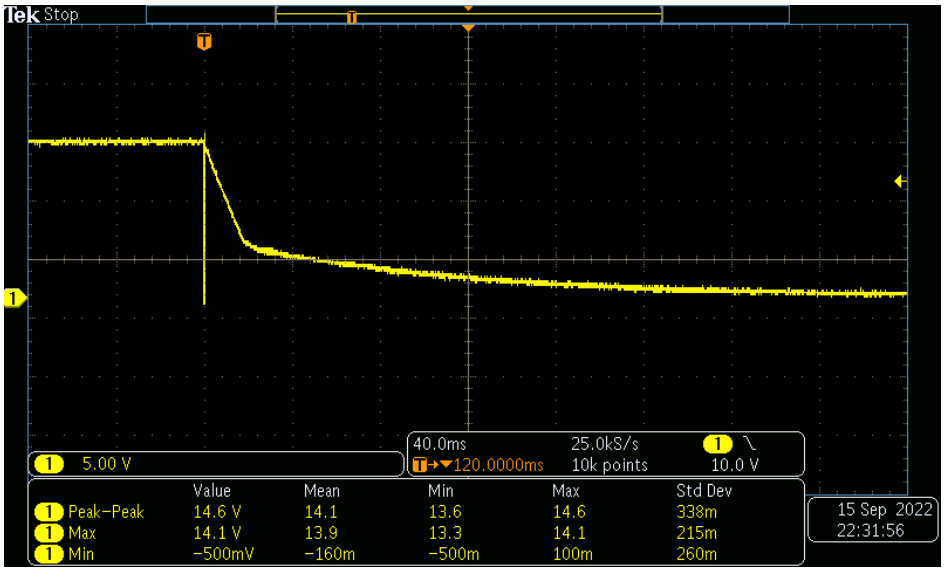
[Slow Pulse] Operating Mode : DAB with GPS Receiving mode
Switch OFF



U_A: 13.5 V

Peak amplitude(Us1) -14.0 V Maximum allowed pulse amplitude: -100 V

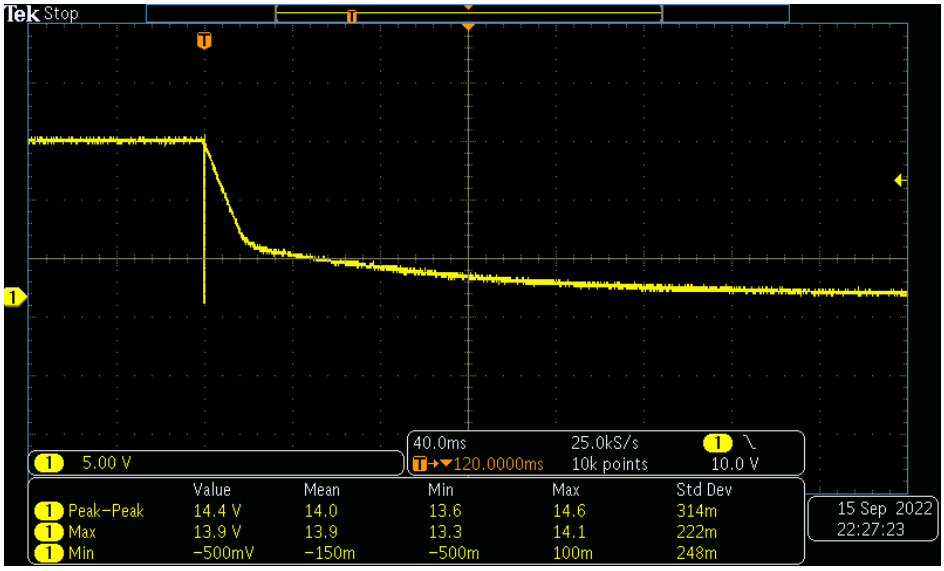
[Slow Pulse] Operating Mode : Bluetooth with GPS Receiving mode
Switch OFF



U_A: 13.5 V

Peak amplitude(Us1) -14.0 V Maximum allowed pulse amplitude: -100 V

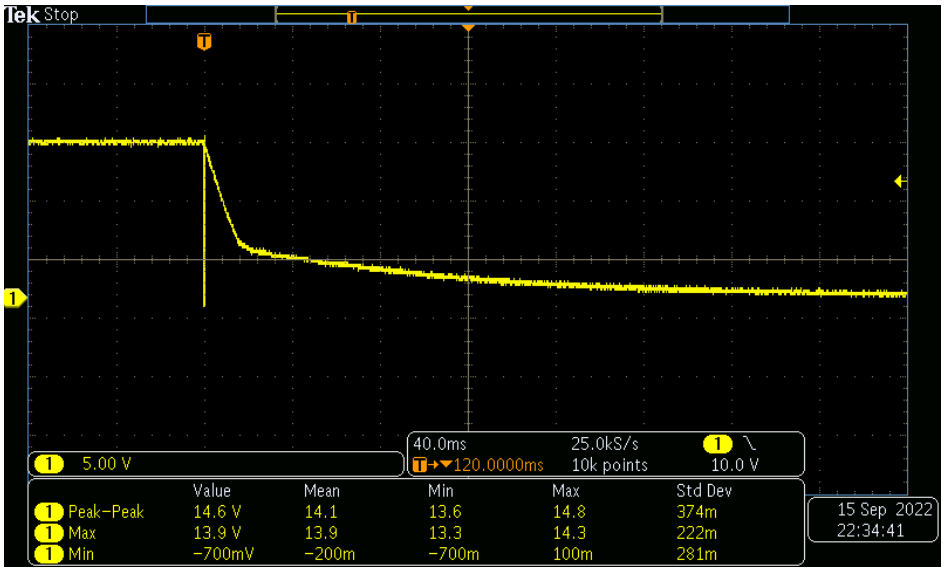
[Slow Pulse] Operating Mode : Wifi with GPS Receiving mode
Switch OFF



U_A: 13.5 V

Peak amplitude(Us1) -14.0 V Maximum allowed pulse amplitude: -100 V

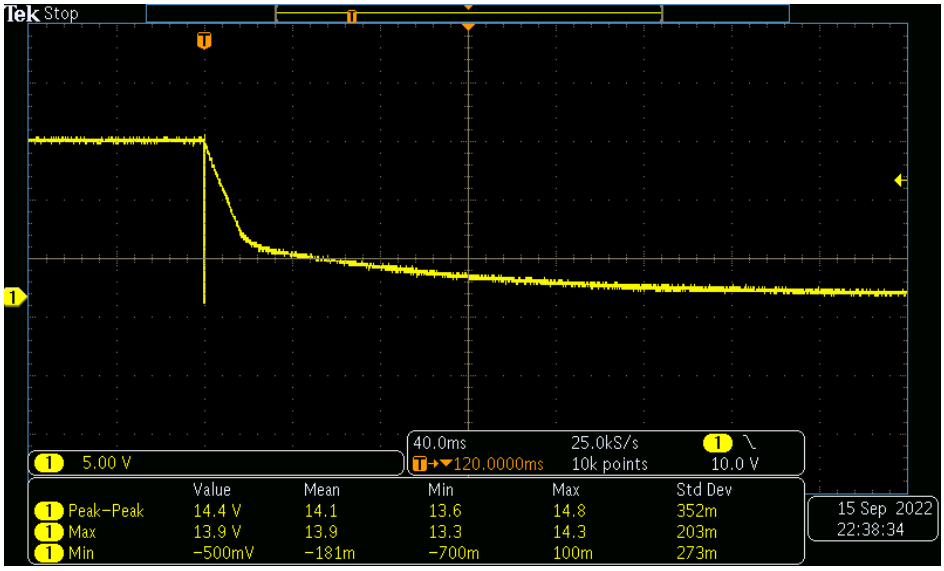
[Slow Pulse] Operating Mode : USB with GPS Receiving mode
Switch OFF



U_A: 13.5 V

Peak amplitude(Us1) -14.2 V Maximum allowed pulse amplitude: -100 V

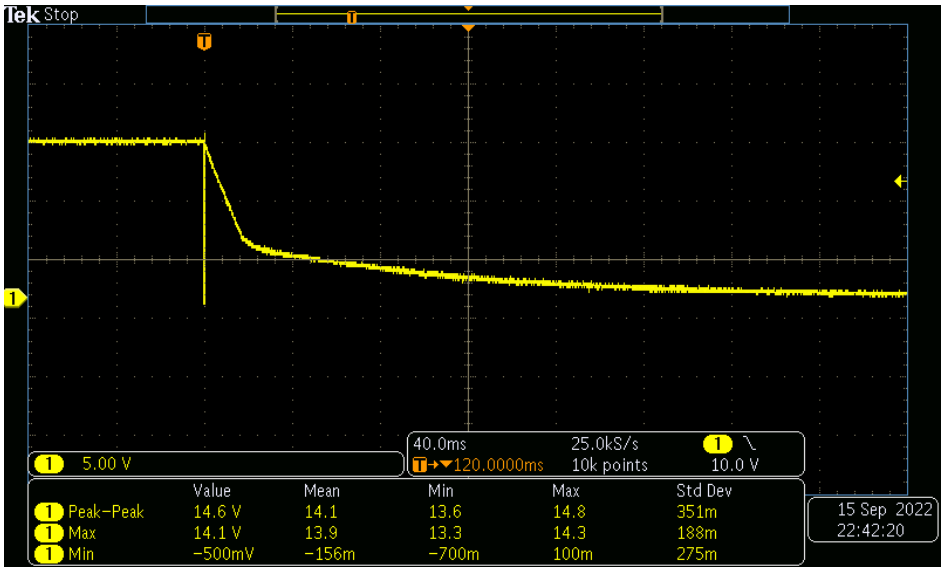
[Slow Pulse] Operating Mode : Rear camera with GPS Receiving mode
Switch OFF



U_A: 13.5 V

Peak amplitude(Us1) -14.2 V Maximum allowed pulse amplitude: -100 V

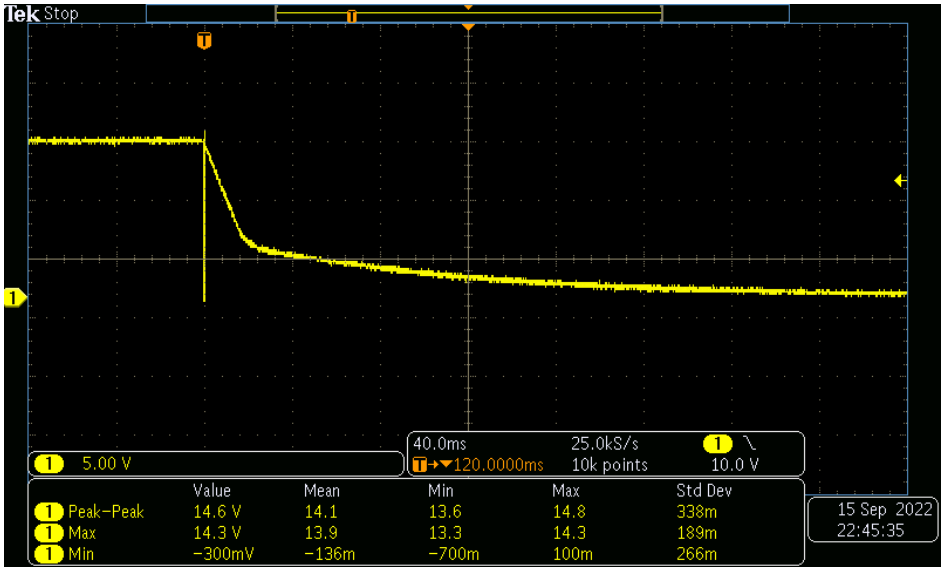
[Slow Pulse] Operating Mode : Video with GPS Receiving mode
Switch OFF



U_A: 13.5 V

Peak amplitude(Us1) -14.2 V Maximum allowed pulse amplitude: -100 V

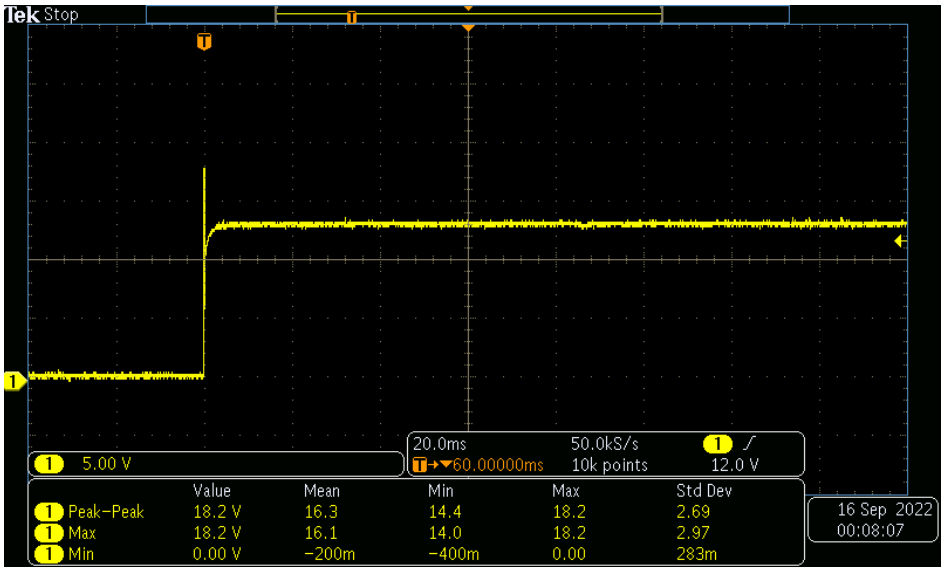
[Slow Pulse] Operating Mode : Audio input with GPS Receiving mode
Switch OFF



U_A: 13.5 V

Peak amplitude(Us1) -14.2 V Maximum allowed pulse amplitude: -100 V

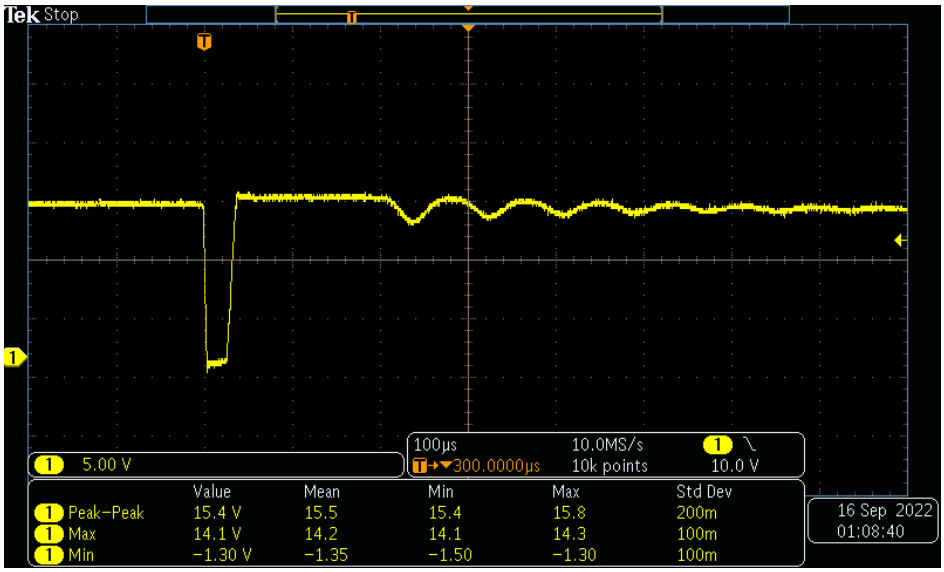
[Fast Pulse]
Switch ON



U_A: 13.5 V

Peak amplitude(Us2) 4.7 V Maximum allowed pulse amplitude: +75 V

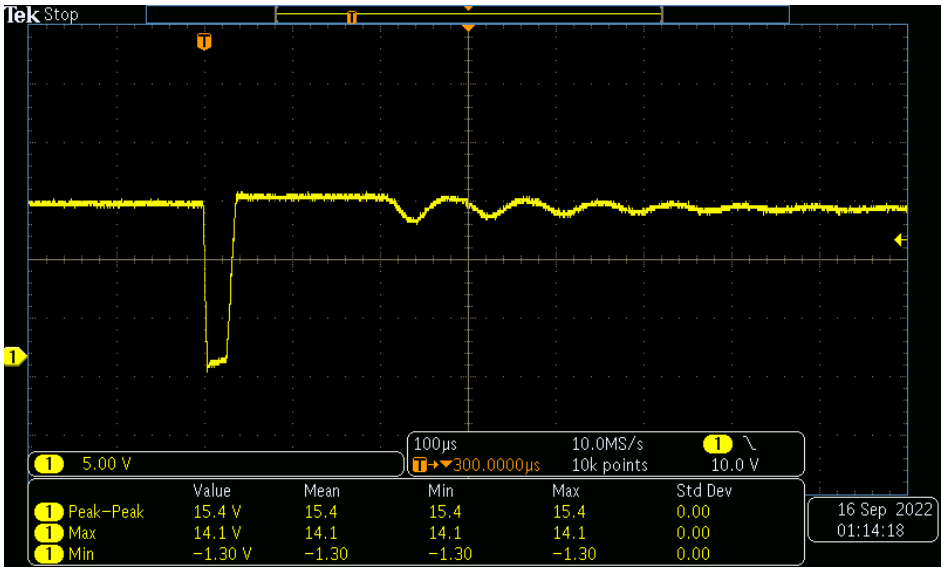
[Fast Pulse] Operating Mode : AM with GPS Receiving mode
Switch OFF



U_A: 13.5 V

Peak amplitude(Us1) -15.0 V Maximum allowed pulse amplitude: -100 V

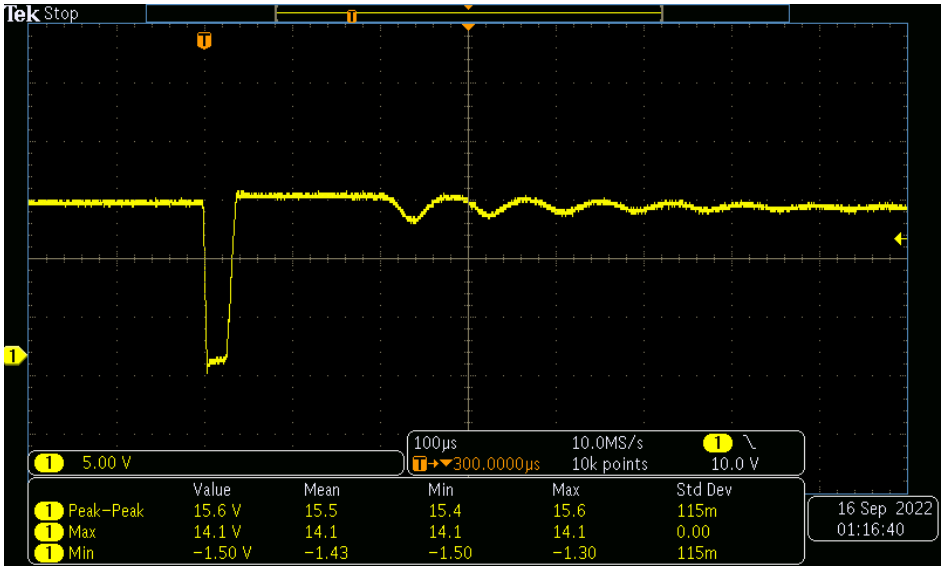
[Fast Pulse] Operating Mode : FM input with GPS Receiving mode
Switch OFF



U_A: 13.5 V

Peak amplitude(Us1) -14.8 V Maximum allowed pulse amplitude: -100 V

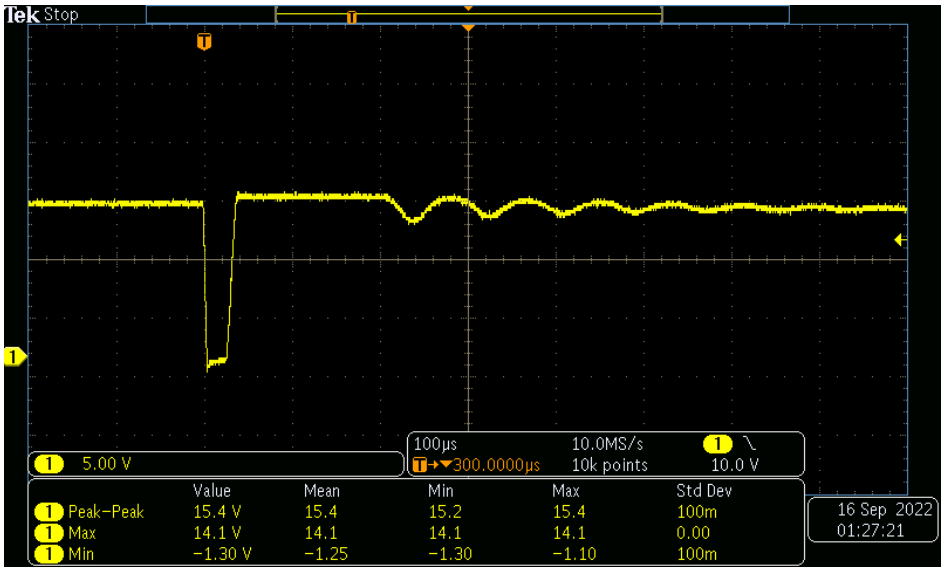
[Fast Pulse] Operating Mode : DAB with GPS Receiving mode
Switch OFF



U_A: 13.5 V

Peak amplitude(Us1) -15.0 V Maximum allowed pulse amplitude: -100 V

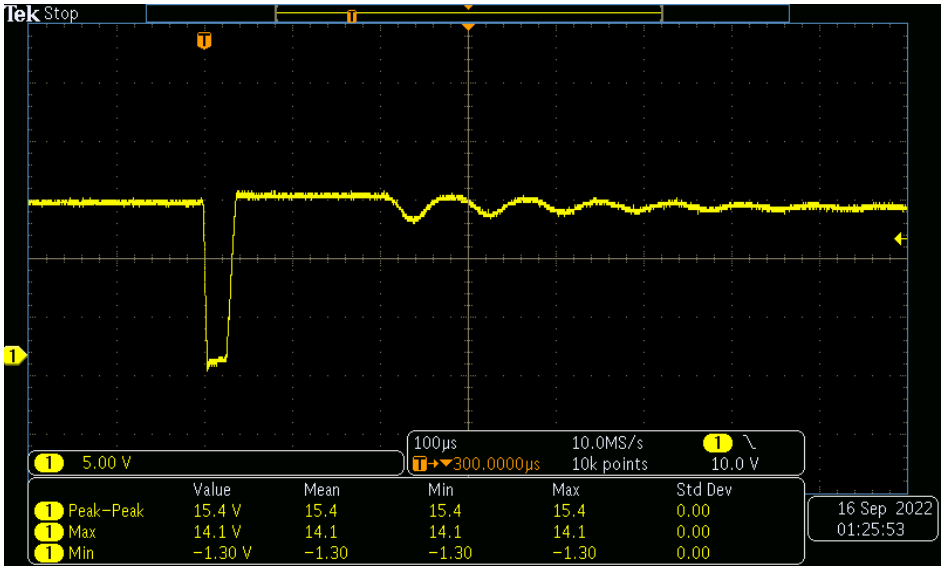
[Fast Pulse] Operating Mode : Bluetooth with GPS Receiving mode
Switch OFF



U_A: 13.5 V

Peak amplitude(Us1) -14.8 V Maximum allowed pulse amplitude: -100 V

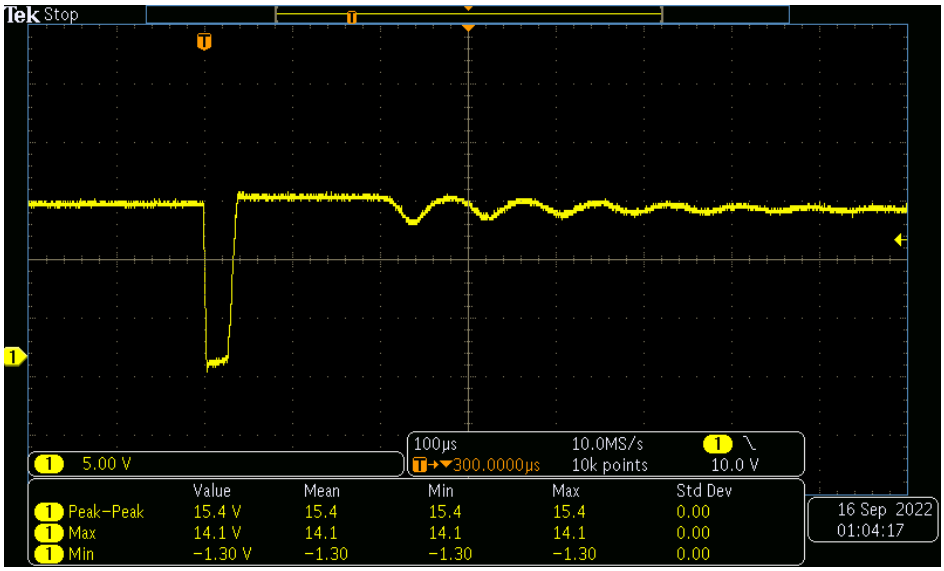
[Fast Pulse] Operating Mode : Wifi with GPS Receiving mode
Switch OFF



U_A: 13.5 V

Peak amplitude(Us1) -14.8 V Maximum allowed pulse amplitude: -100 V

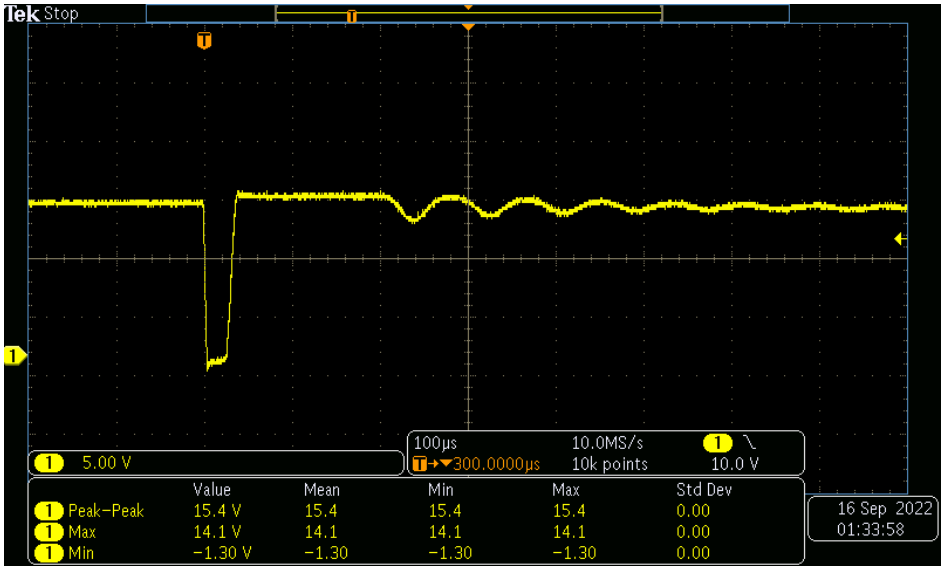
[Fast Pulse] Operating Mode : USB with GPS Receiving mode
Switch OFF



U_A: 13.5 V

Peak amplitude(Us1) -14.8 V Maximum allowed pulse amplitude: -100 V

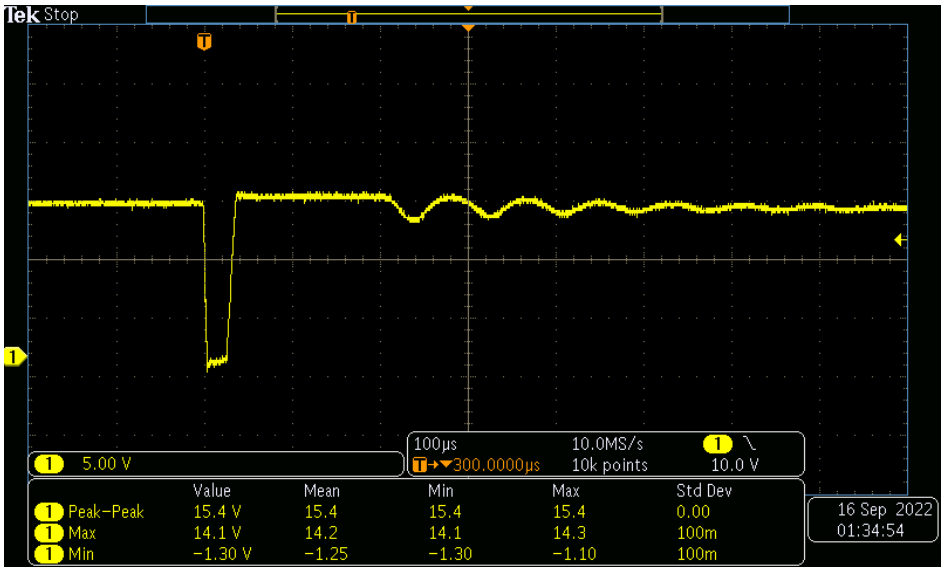
[Fast Pulse] Operating Mode : Rear camera with GPS Receiving mode
Switch OFF



U_A: 13.5 V

Peak amplitude(Us1) -14.8 V Maximum allowed pulse amplitude: -100 V

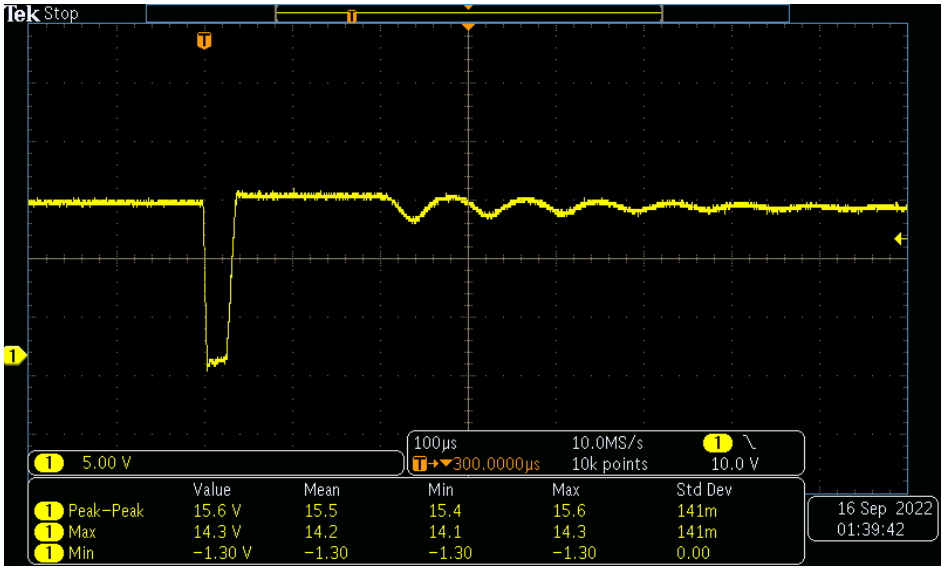
[Fast Pulse] Operating Mode : Video with GPS Receiving mode
Switch OFF



U_A: 13.5 V

Peak amplitude(Us1) -14.8 V Maximum allowed pulse amplitude: -100 V

[Fast Pulse] Operating Mode : Audio input with GPS Receiving mode
Switch OFF



U_A: 13.5 V

Peak amplitude(Us1) -14.8 V Maximum allowed pulse amplitude: -100 V

SECTION 7: BULK CURRENT INJECTION IMMUNITY (BCI)

7.1 Operating Environment

Test place	Kashima EMC Lab. No.6 Anechoic Chamber
Date	September 13, 2022
Temperature	23 deg. C
Humidity	61 % RH
Atmosphere	1014 hPa
Engineer	Kazumi Tsujiya
Operating Mode	See SECTION 3.1

7.2 Test Configuration

A drawing of the test set-up is shown in Figure 3. This is not the actual test setup.
For the actual one, refer to APPENDIX 1.

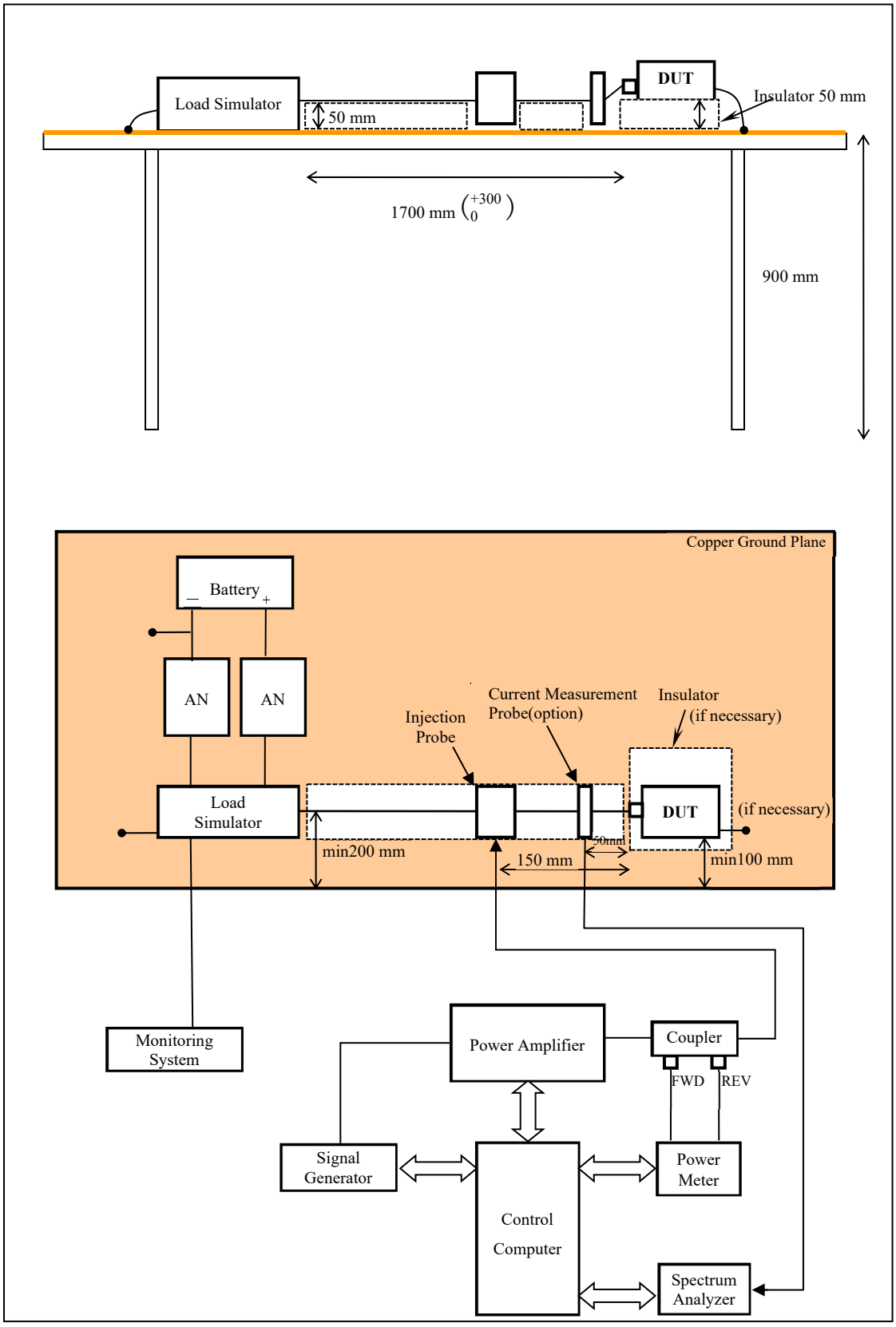


Figure 3

7.3 Generation of the electromagnetic field

The electromagnetic field is generated from a computer controlled signal generator. The output power is amplified and then injected to DUT from the current injection probe via test harness.

7.4 Test Procedure

It was measured based on "Test method" described in Clause 8 of "ISO 11452-4: 2011"
The test was performed with the substitution method, which is based upon the use of forward power as the reference parameter used for current calibration and test. Datas of the calibration and test sweep are shown in APPENDIX 3.

[Test of DUT] :
DUT was in the operation condition specified. DUT via test harness was exposed to electromagnetic radiation generated by the current injection probe, based upon the forward power recorded when calibrated. Test was performed in 150 mm distance from the connector of DUT to the centre of a current injection probe.
The verification of performance was established by monitoring the operation with a video camera and/or CAN tools during the test.

7.5 Test Conditions

Frequency range	20 MHz - 200 MHz (Log 2 % sweep) (27, 45, 65, 90, 120, 150, 190) MHz : Spot
Test level*1)	63 mA
Modulation	AM, 80 %, 1 kHz
Dwell time	2 s
Functional status	A

*1) The test level contains 5 % uncertainty.

7.6 Results

Summary of the test results: Pass
The equipment operated without any recorded disturbances.

Table 1. Test Protocol

Operating Mode : Rear camera GPS Receiving mode

Test No.	DUT	Connector No. *2)	Frequency [MHz]	Test Level [mA]	Result
1	Digital Media Receiver	1	20 - 200	63	Pass
2			27, 45, 65, 90, 120, 150, 190	63	Pass
3		2	20 - 200	63	Pass
4			27, 45, 65, 90, 120, 150, 190	63	Pass
5		3	20 - 200	63	Pass
6			27, 45, 65, 90, 120, 150, 190	63	Pass
7		4	20 - 200	63	Pass
8			27, 45, 65, 90, 120, 150, 190	63	Pass
9		5	20 - 200	63	Pass
10			27, 45, 65, 90, 120, 150, 190	63	Pass
11		6	20 - 200	63	Pass
12			27, 45, 65, 90, 120, 150, 190	63	Pass
13		7	20 - 200	63	Pass
14			27, 45, 65, 90, 120, 150, 190	63	Pass
15		8	20 - 200	63	Pass
16			27, 45, 65, 90, 120, 150, 190	63	Pass
17		9	20 - 200	63	Pass
18			27, 45, 65, 90, 120, 150, 190	63	Pass
19		10	20 - 200	63	Pass
20			27, 45, 65, 90, 120, 150, 190	63	Pass
21		11	20 - 200	63	Pass
22			27, 45, 65, 90, 120, 150, 190	63	Pass
23		12	20 - 200	63	Pass
24			27, 45, 65, 90, 120, 150, 190	63	Pass
25		13	20 - 200	63	Pass
26			27, 45, 65, 90, 120, 150, 190	63	Pass
27		14	20 - 200	63	Pass
28			27, 45, 65, 90, 120, 150, 190	63	Pass
29		15	20 - 200	63	Pass
30			27, 45, 65, 90, 120, 150, 190	63	Pass
31		16	20 - 200	63	Pass
32			27, 45, 65, 90, 120, 150, 190	63	Pass

*2) Refer to APPENDIX 1 for Connector No details.

SECTION 8: RADIATED IMMUNITY (FREE FIELD METHOD)

8.1 Operating Environment

Test place	Kashima EMC Lab. No.6 Anechoic Chamber
Date	September 13, 2022
Temperature	23 deg. C
Humidity	61 % RH
Atmosphere	1014 hPa
Engineer	Kazumi Tsujiya
Operating Mode	See SECTION 3.1

8.2 Test Configuration

A drawing of the test set-up is shown in Figure 4. This is not the actual test setup.
For the actual one, refer to APPENDIX 1.

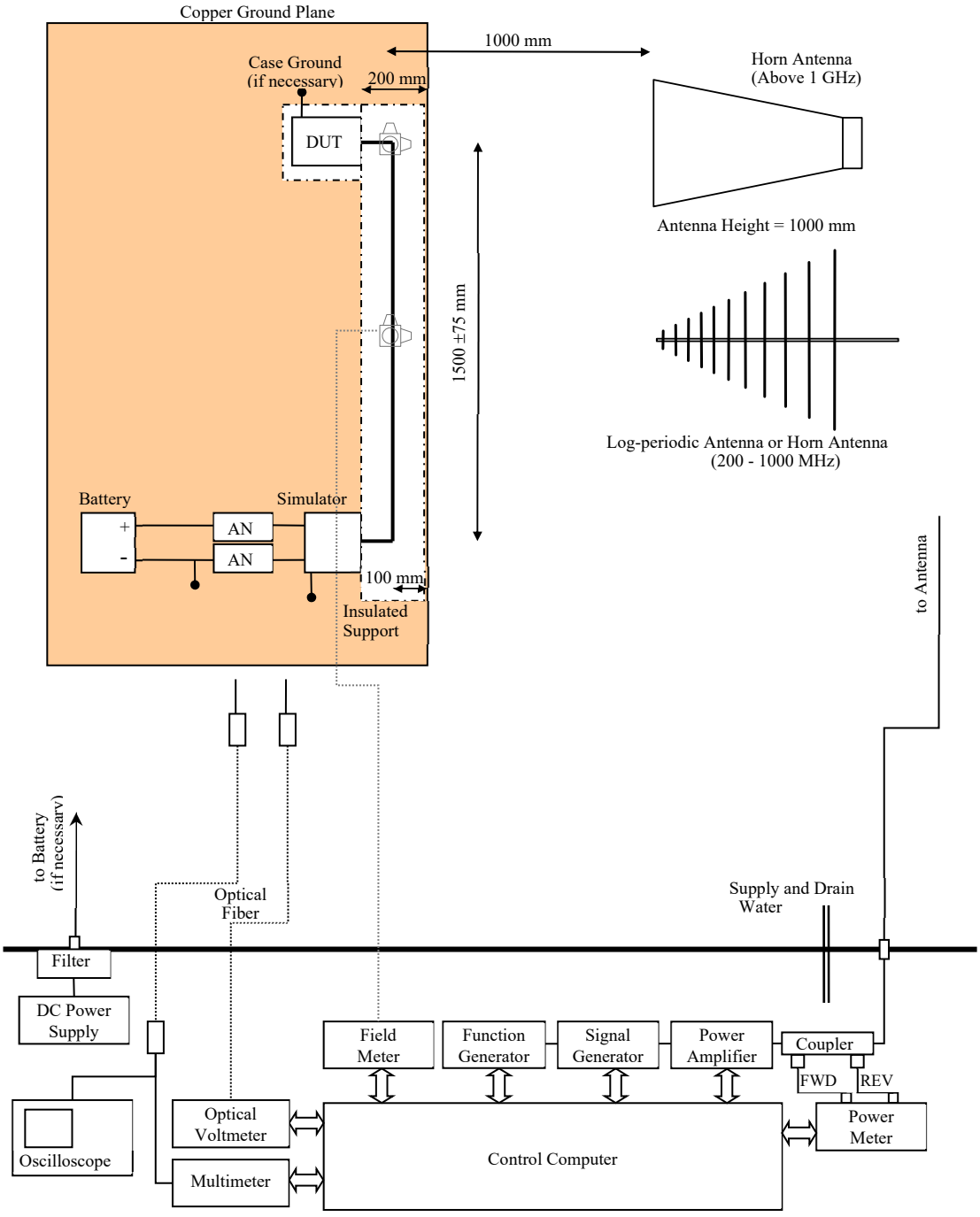


Figure 4

8.3 Generation of the electromagnetic field

The electromagnetic field is generated from a computer controlled signal generator. The output power is amplified and then radiated from Horn antenna.

8.4 Test Procedure

It was measured based on "Test method" described in Clause 8 of "ISO 11452-2: 2004"
The test was performed with the substitution method, which is based upon the use of forward power as the reference parameter used for field calibration and test. Datas of the calibration and test sweep are shown in APPENDIX 3.

[Test of DUT with test harness and peripherals] :
DUT was in the operation condition specified. DUT or test harness was exposed to electromagnetic radiation generated by an antenna, based upon the forward power recorded when calibrated, with vertical polarization.
The verification of performance was established by monitoring the operation with a video camera and/or CAN tools during the test.

8.5 Test Conditions

Frequency range	200 MHz - 2000 MHz (Log 2 % sweep) (230, 280, 380, 450, 600, 750, 900, 1300, 1800) MHz : Spot	
Test level*)	31.5 V/m	
Modulation	AM, 80 %, 1 kHz	(200 MHz - 800 MHz)
	PM, on time 577 µs, period 4600 µs	(800 MHz - 2000 MHz)
Field polarization	Vertical	
Antenna	Double Log-Periodic Antenna, Horn Antenna	
Dwell time	2 s	
Functional status	A	

*) The test level contains 5 % uncertainty.

8.6 Results

Summary of the test results: Pass
The equipment operated without any recorded disturbances.

Table 2. Test Protocol

Operating Mode : Rear camera with GPS Receiving mode

Test No.	Frequency [MHz]	Modulation	Test Level [V/m]	Result
1	200 - 800	AM	31.5	Pass
2	230, 280, 380, 450, 600, 750	AM	31.5	Pass
3	800 - 2000	PM	31.5	Pass
4	900, 1300, 1800	PM	31.5	Pass

SECTION 9: ELECTRICAL TRANSIENT IMMUNITY (ISO7637-2)

9.1 Operating Environment

Test place	Kashima EMC Lab. No.1 Measurement room
Date	September 15 to September 16, 2022
Temperature	23 deg. C
Humidity	55 % RH
Atmosphere	1011 hPa
Engineer	Kazumi Tsujiya
Operating Mode	See SECTION 3.1

9.2 Test Configuration

A drawing of the test set-up is shown in Figure 5. This is not the actual test setup.
For the actual one, refer to APPENDIX 1.

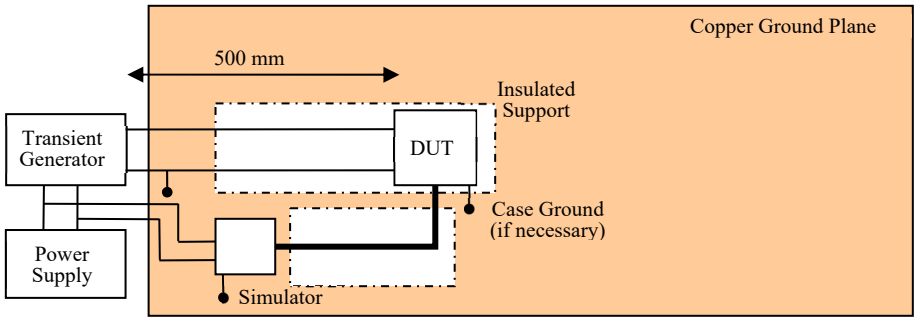


Figure 5

9.3 Test Procedure

It was measured based on "Transient immunity test" described in Clause 4.4. of "ISO 7637-2: 2004".

[Pulse injection] :
DUT was connected to the test pulse generator, while the oscilloscope was unconnected. DUT was in the operation condition specified. The test pulses 1, 2a, 2b, 3a, 3b and 4 were applied according to ISO 7637-2 to supply lines as well as to other connections of DUT which were operationally connected to supply lines. The performance criteria were applied to standard request (refer to test condition).
The verification of performance was established by monitoring the operation with a video camera and/or CAN tools during the test.

9.4 Test Conditions

Operating Mode : Rear camera with GPS Receiving mode

1) Pulse 1

Test level(U_S)	III (-75 V)
Number of pulses	5000
Burst cycle time(t_1)	0.5 s
Functional status	C

2) Pulse 2a

Test level(U_S)	III (+37 V)
Number of pulses	5000
Burst cycle time(t_1)	0.2 s
Functional status	B

3) Pulse 2b

Test level(U_S)	III (+10 V)
Number of pulses	10
td	0.2 s, 2 s
Functional status	C

4) Pulse 3a

Test level(U_S)	III (-112 V)
Test time	1 h
Functional status	A

5) Pulse 3b

Test level(U_S)	III (+75 V)
Test time	1 h
Functional status	A

6) Pulse 4

Test level(U_S)	III (-6 V)
Number of pulses	1
t_7	40 ms
t_9	20 s
t_{11}	5 ms, 100 ms
U_a	-2.5 V, -6 V
Functional status	C

Operating Mode : Blouetooth with GPS Receiving mode

1) Pulse 1

Test level(U_S)	III (-75 V)
Number of pulses	5000
Burst cycle time(t_1)	0.5 s
Functional status	D

2) Pulse 2a

Test level(U_S)	III (+37 V)
Number of pulses	5000
Burst cycle time(t_1)	0.2 s
Functional status	D

3) Pulse 2b

Test level(U_S)	III (+10 V)
Number of pulses	10
td	0.2 s, 2 s
Functional status	D

4) Pulse 3a

Test level(U_S)	III (-112 V)
Test time	1 h
Functional status	D

5) Pulse 3b

Test level(U_S)	III (+75 V)
Test time	1 h
Functional status	D

6) Pulse 4

Test level(U_S)	III (-6 V)
Number of pulses	1
t_7	40 ms
t_9	20 s
t_{11}	5 ms, 100 ms
U_a	-2.5 V, -6 V
Functional status	D

9.5 Results

Summary of the test results: Pass
The equipment operated without any recorded disturbances.

Table 3. Test Protocol

Operating Mode : Rear camera with GPS Receiving mode

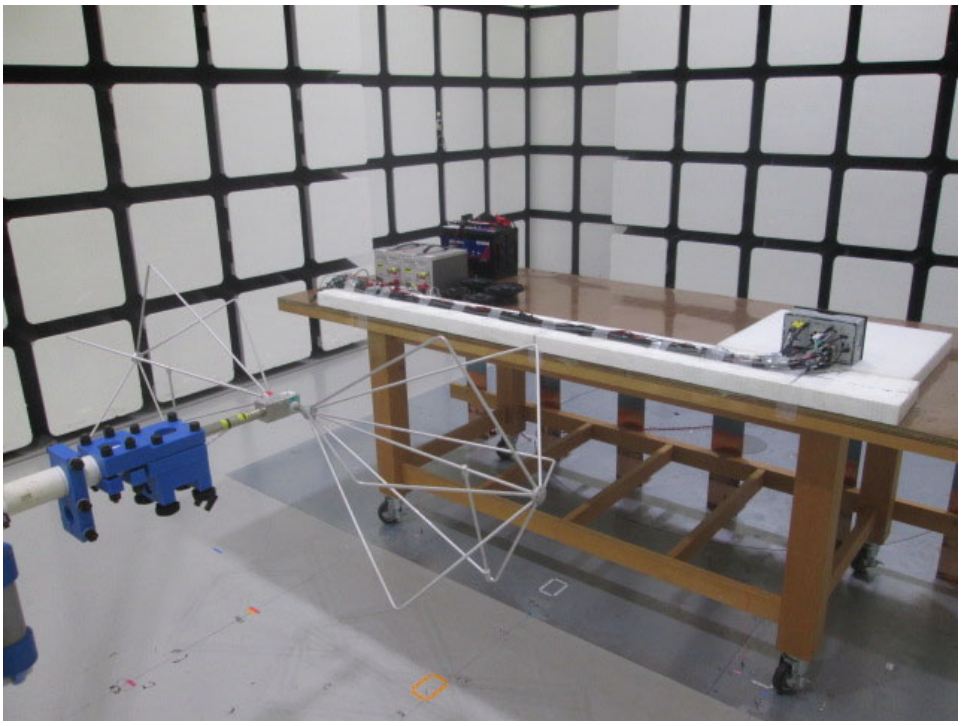
Test No.	Test Pulse Number	Test Level [V]	Result
1	1	-75	Pass
2	2a	+37	Pass
3	2b	+10	Pass
4	3a	-112	Pass
5	3b	+75	Pass
6	4	-6	Pass

Operating Mode : Bluetooth with GPS Receiving mode

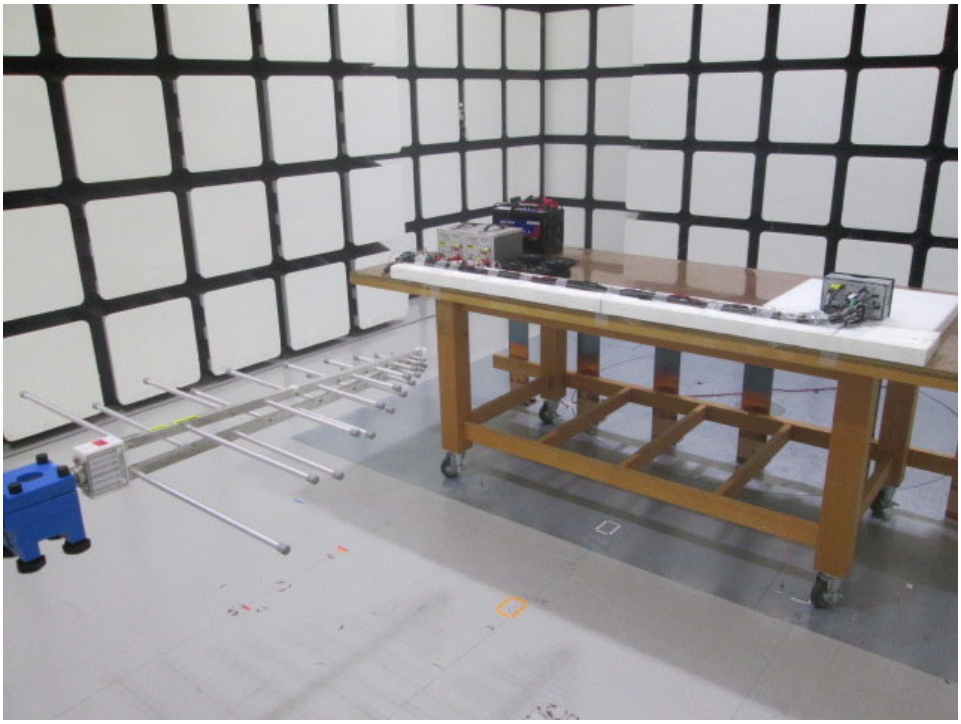
Test No.	Test Pulse Number	Test Level [V]	Result
1	1	-75	Pass
2	2a	+37	Pass
3	2b	+10	Pass
4	3a	-112	Pass
5	3b	+75	Pass
6	4	-6	Pass

APPENDIX 1: TEST CONFIGURATION PHOTOGRAPHS

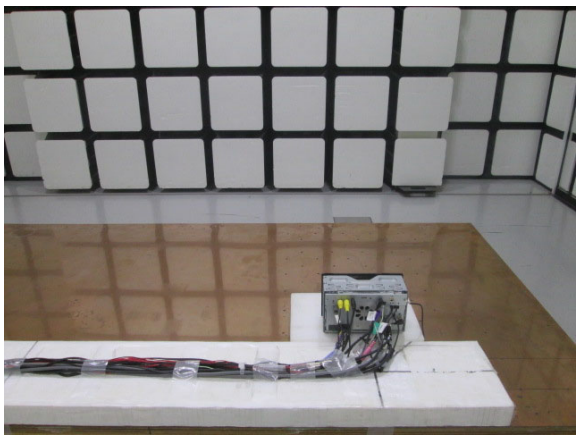
Measurement of Radiated Emission (UN Regulation No.10 - Rev.6 Annex 7&8)

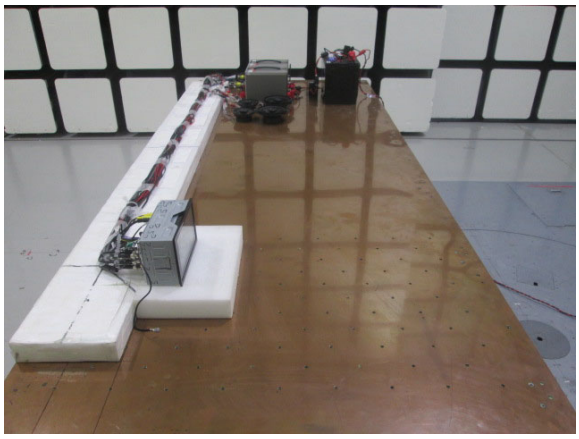


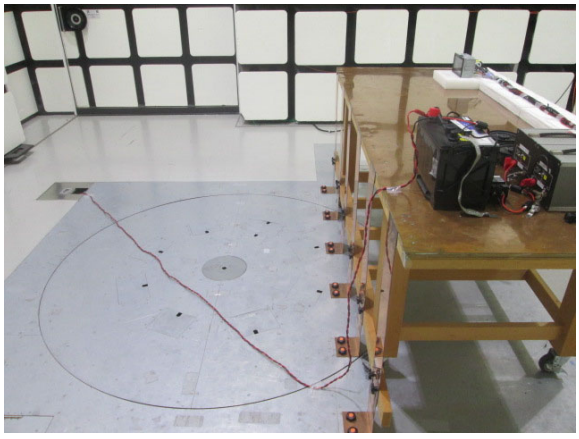
30 - 200 MHz



200 - 1000 MHz

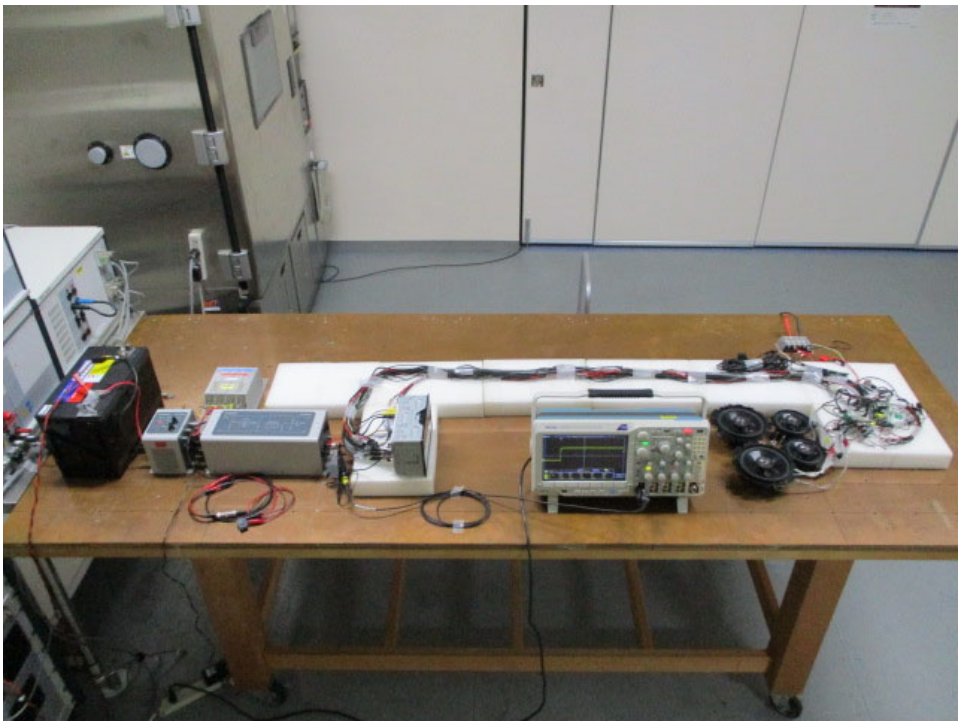



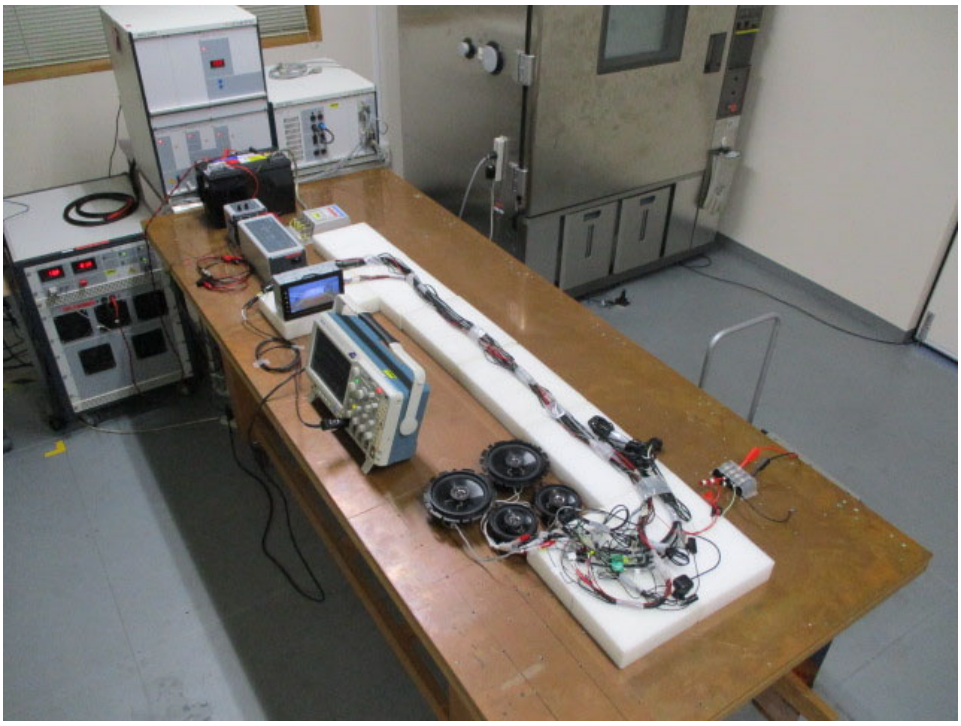


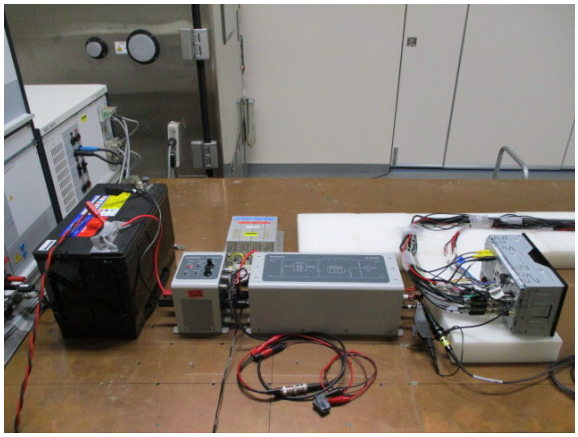


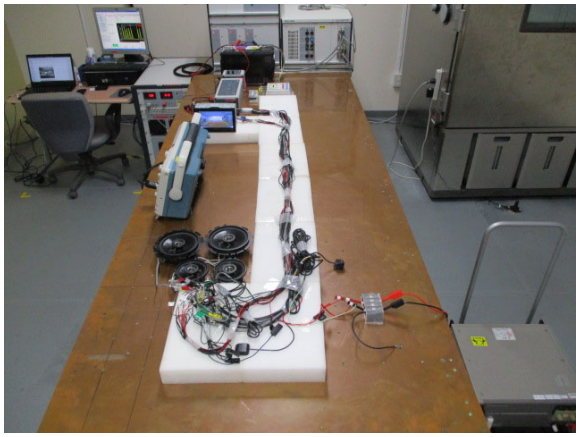
Measurement of Electrical Transient Emission (ISO7637-2)

Set-up for Slow pulse

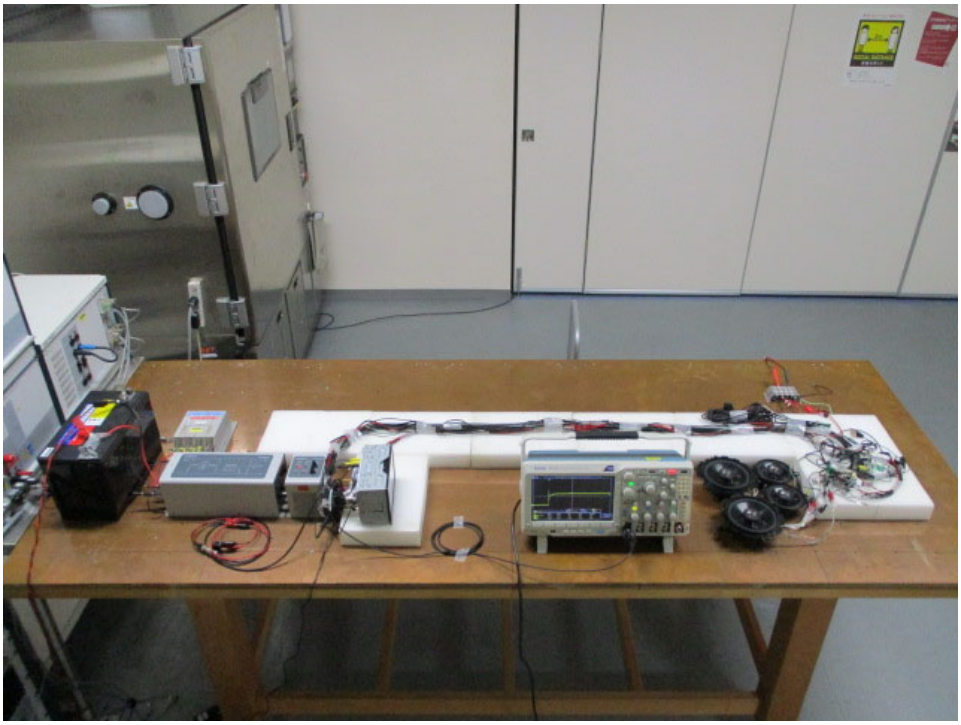


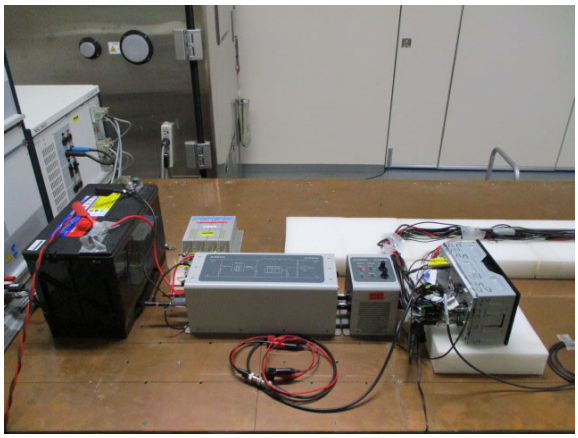


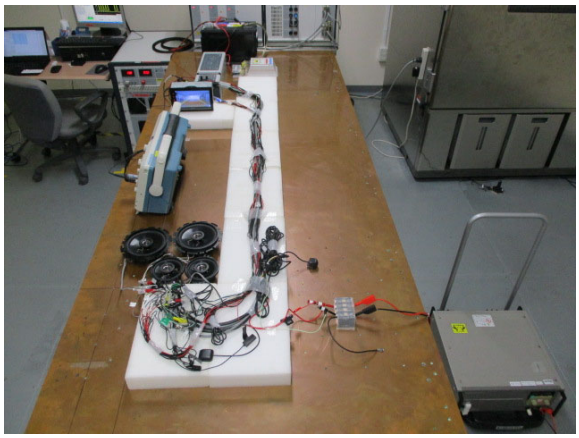




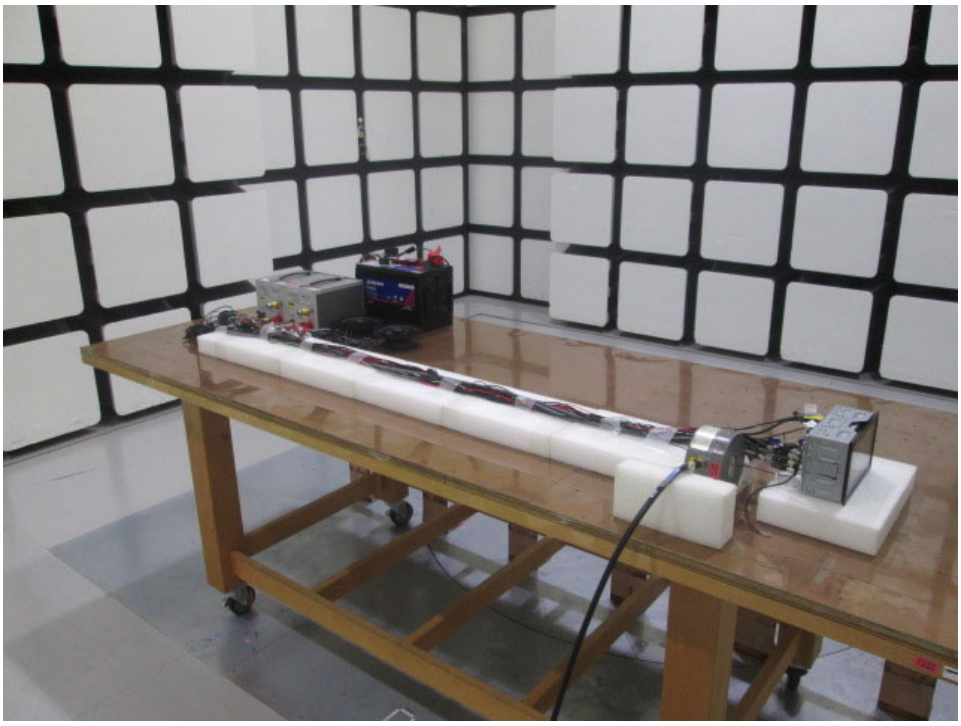
Set-up for Fast pulse

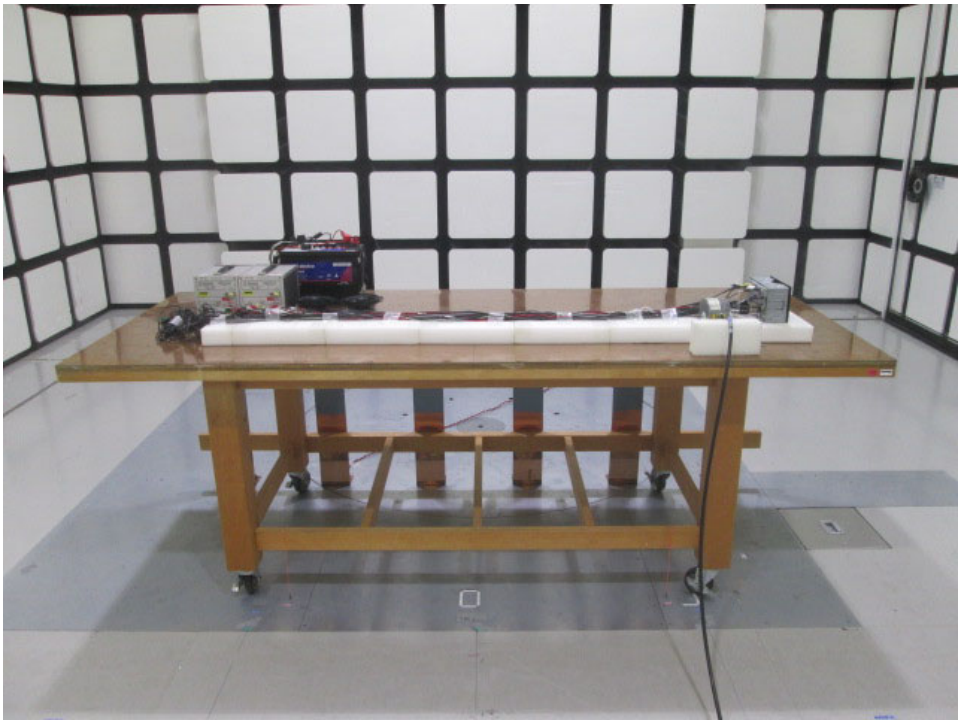


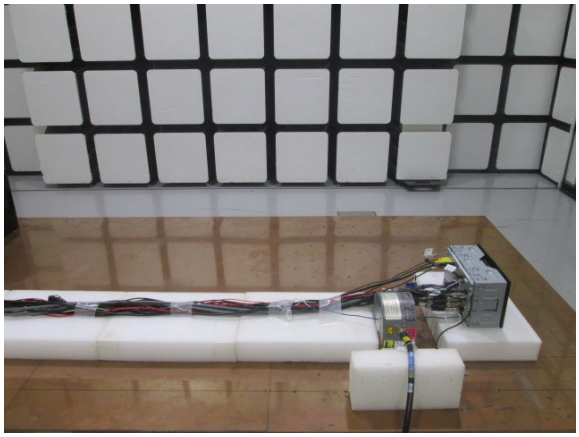
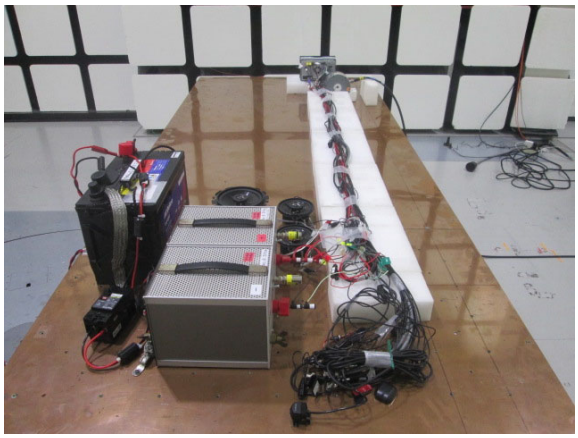
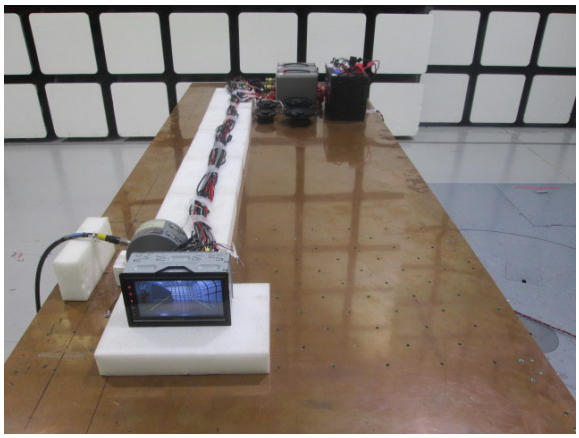


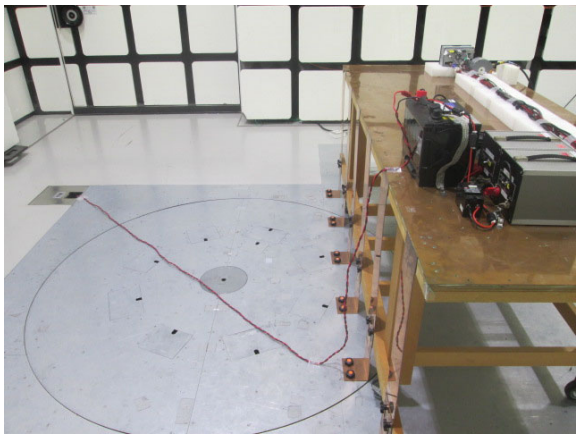


Measurement of Radiated Immunity (BCI)

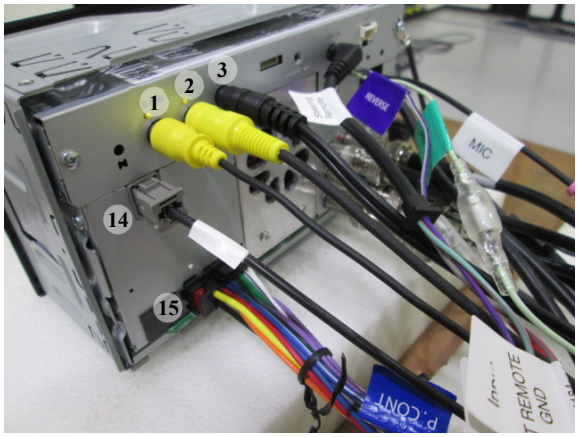


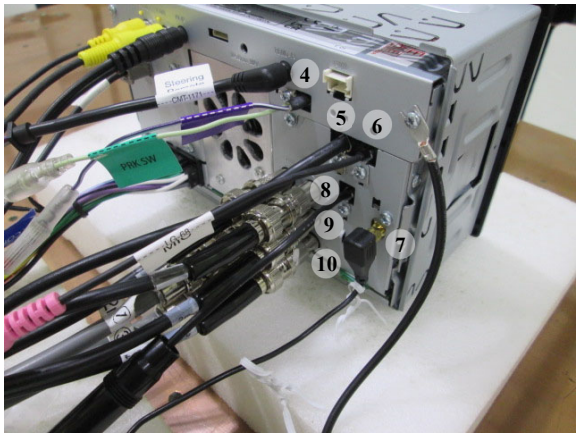


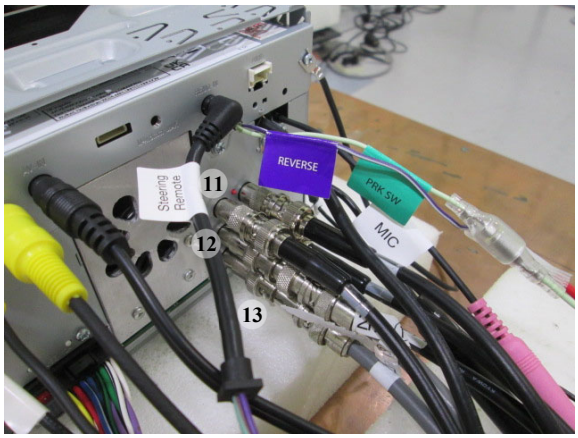







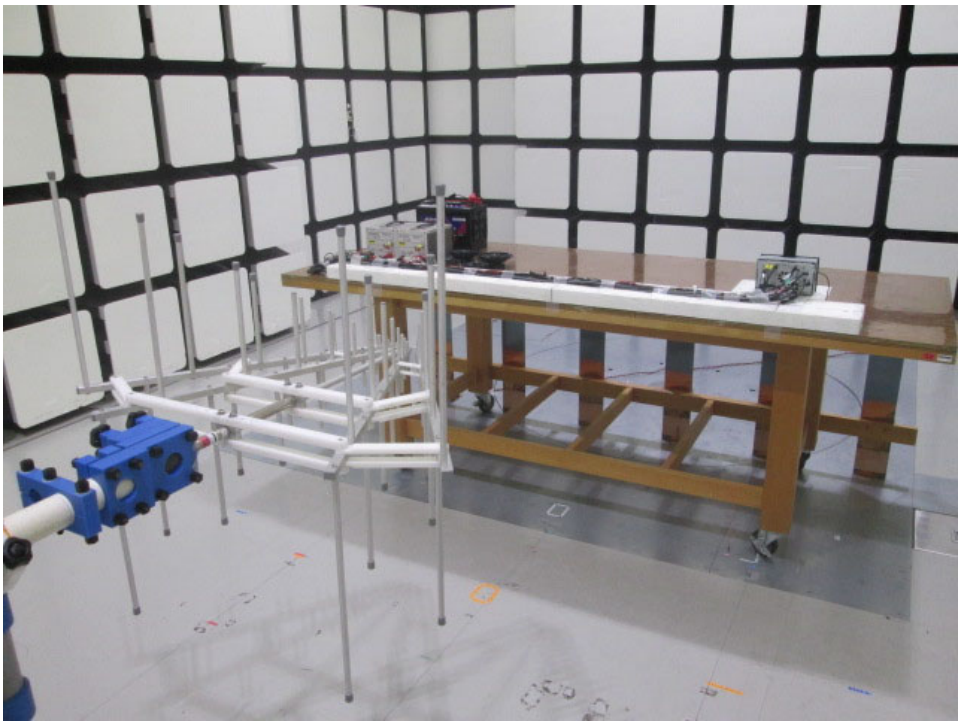
Photographs of DUT showing the selected Connector No.



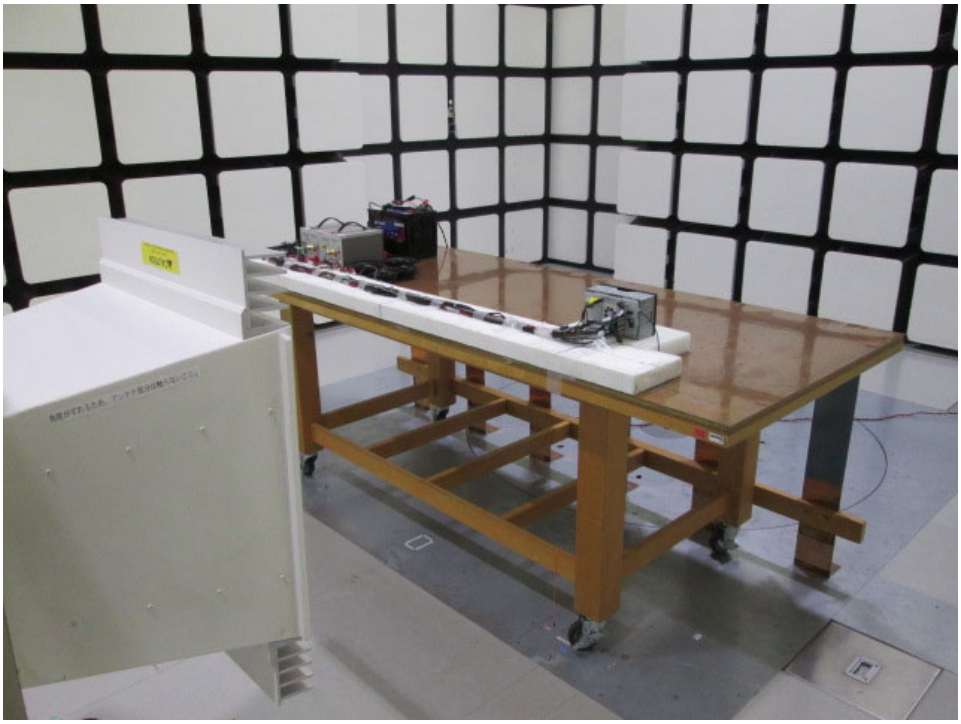




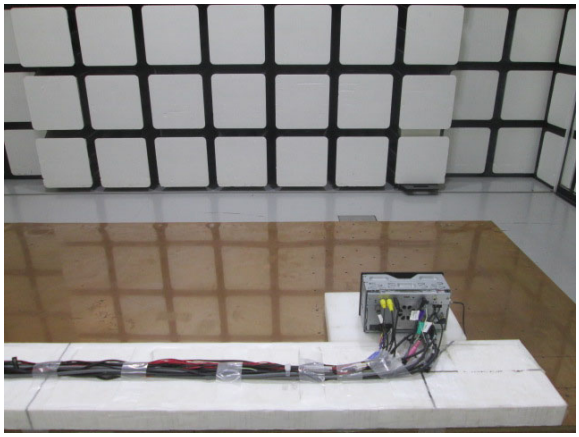
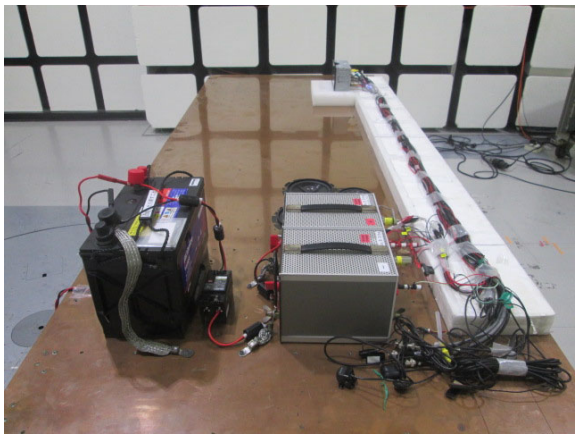
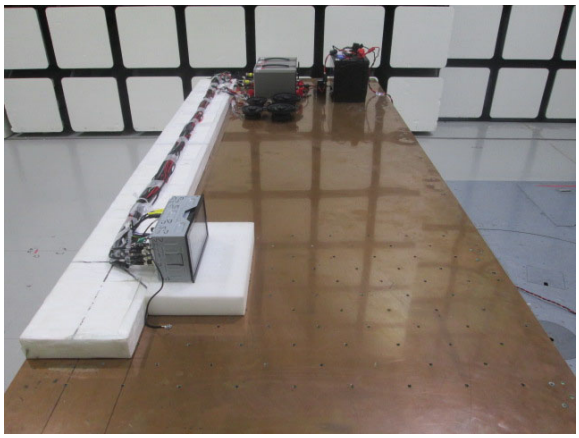
Measurement of Radiated Immunity (Free Field Method)

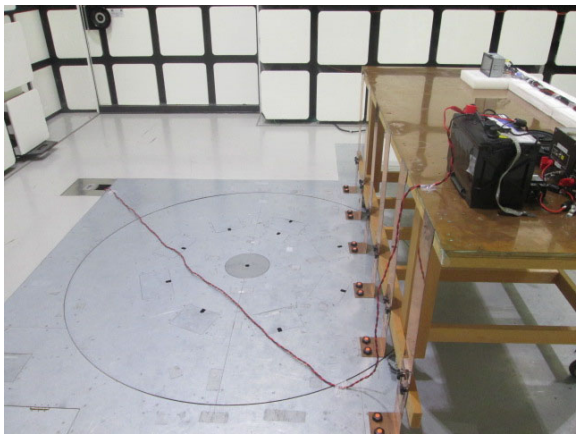


200 - 1000 MHz

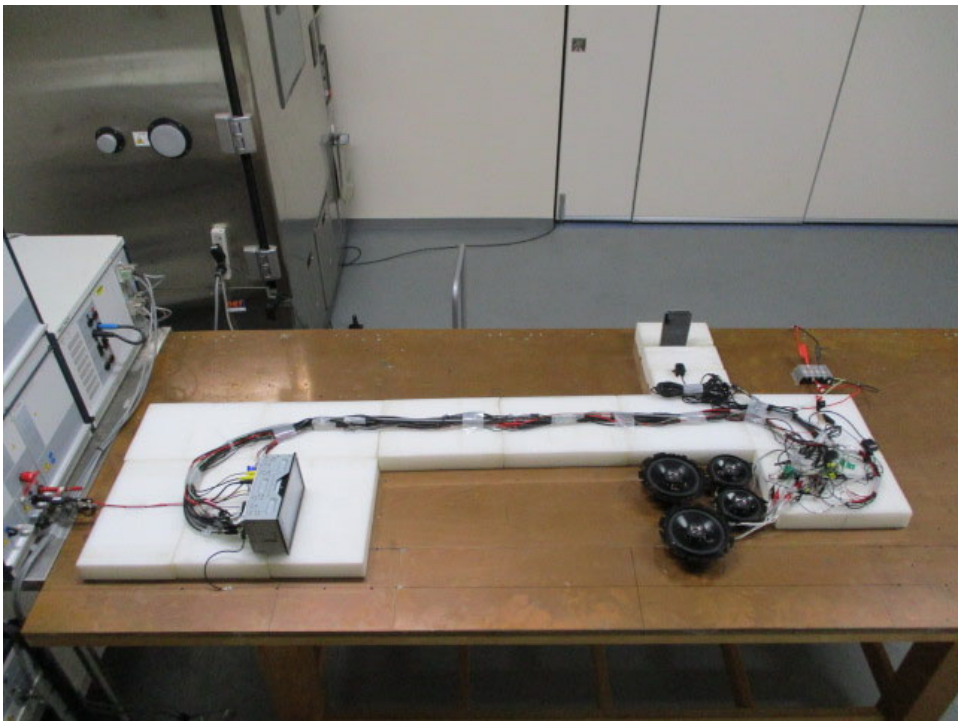


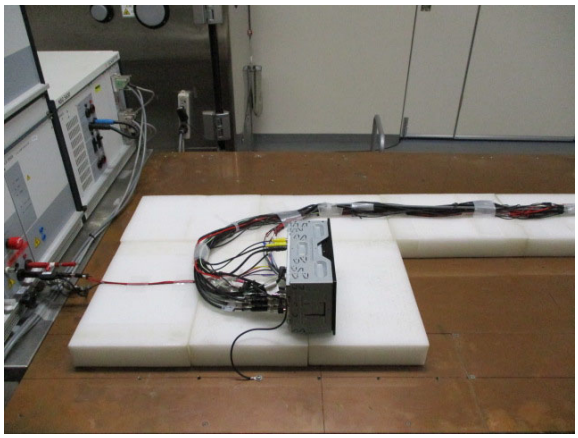
1000 - 2000 MHz

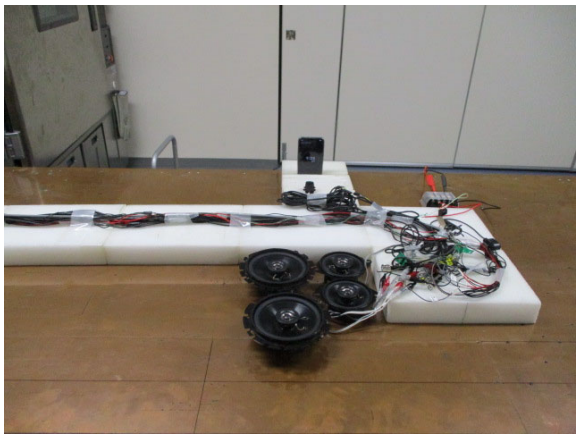







Measurement of Electrical Transient Immunity (ISO7637-2)

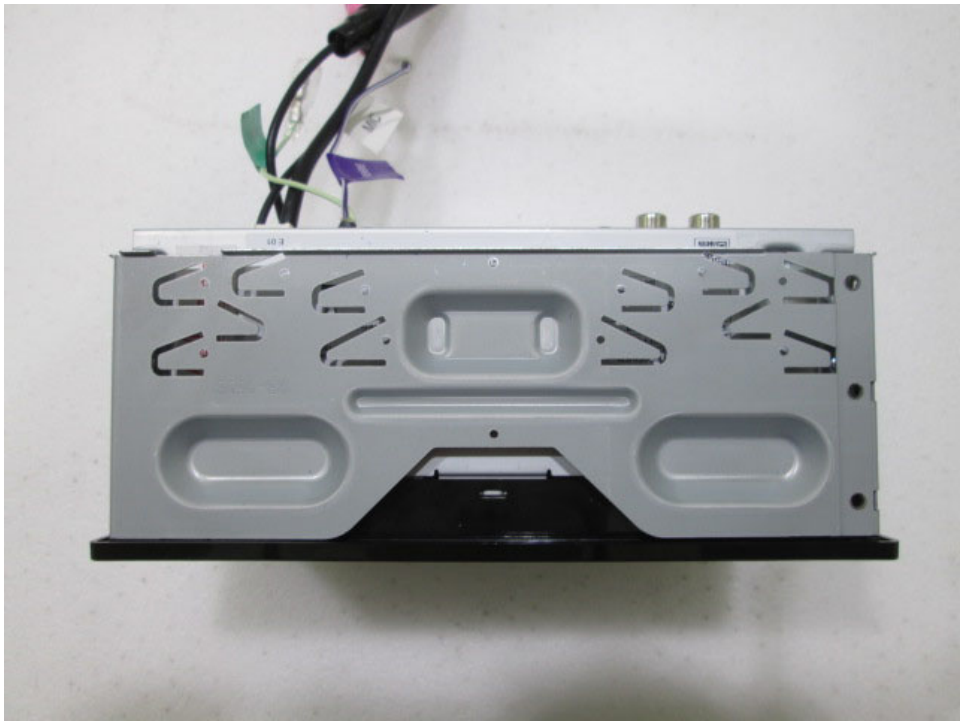






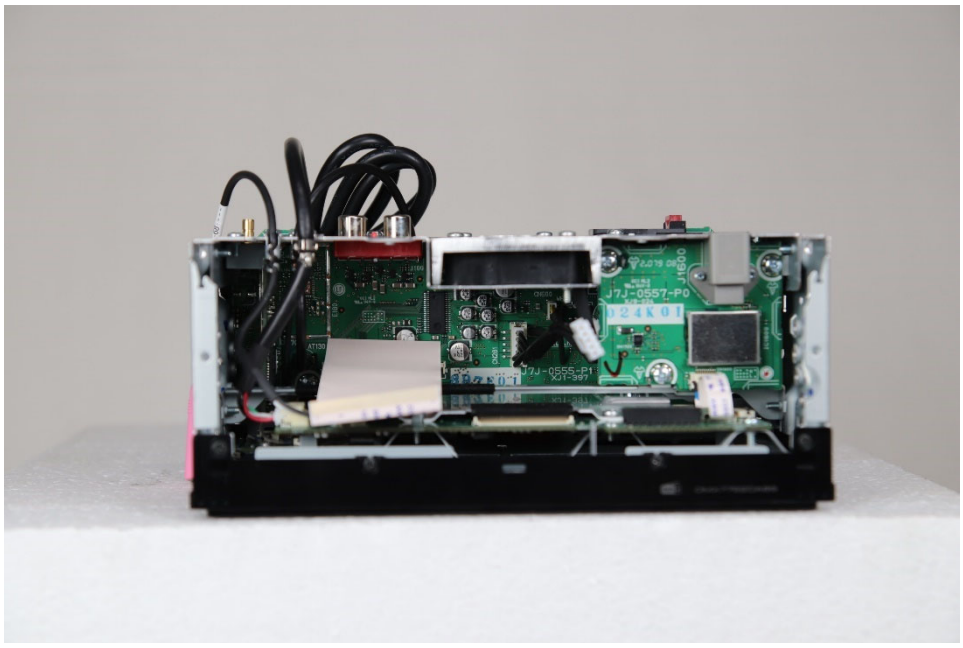
Monitoring Systems (Test at the Anechoic Chamber)

Photograph of DUT (Overall View)

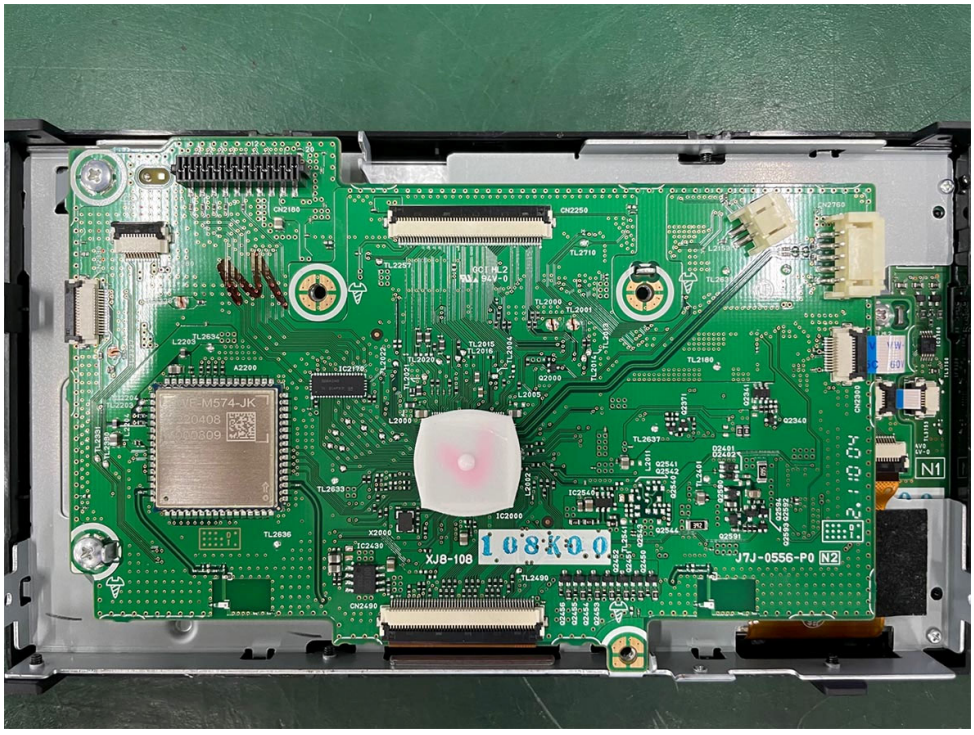


Photograph of DUT (Internal)

SoC Board



Display board



APPENDIX 2: DATA OF RADIATED EMISSION TEST

This section contains the following data

Note;

Blue line means the limit of UN Regulation No.10 - Rev.6 Annex 7 (Broad Band).
Red line means the limit of UN Regulation No.10 - Rev.6 Annex 8 (Narrow Band).

[Mode: AM with GPS Receiving mode]

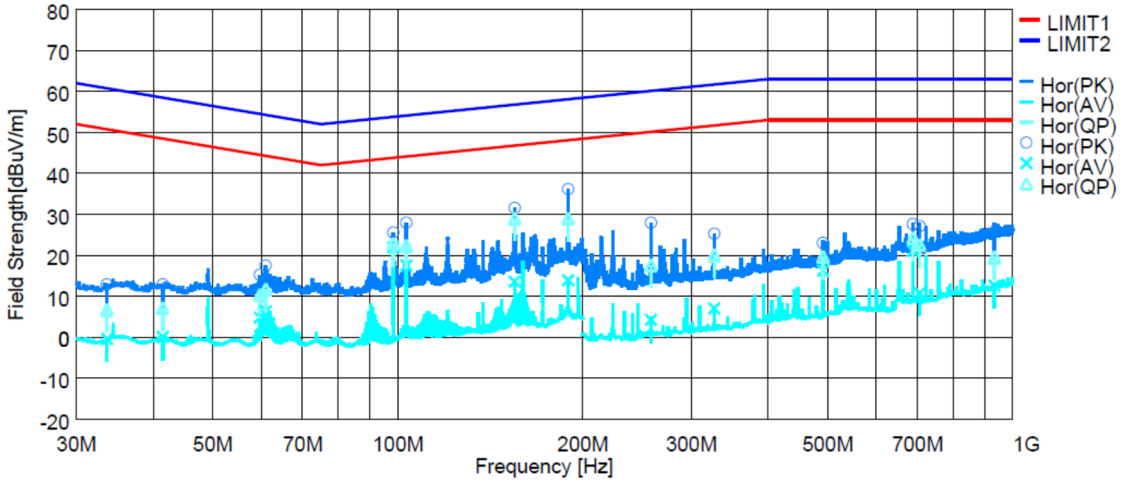
ALSE No.6

Radiated Emission Test - ALSE

Standards : ECE R10

Test Mode : AM with GPS receiving mode
Tested Date : 2022/09/12
Temp/Humid : 24 deg.C / 67 %RH
Engineer : K.Tsujiya
Remarks : Seral No. 107X0026

LIMIT1 : ECE Regulation No.10 Narrow Band (1m)
LIMIT2 : ECE Regulation No.10 Broad Band (1m)



Band ID	Freq.	Pol	Level			Factor	Result			NB/BB	Limit	Margin		Memo
			PK	AV	QP		PK	AV	QP					
	[MHz]		[dBuV]			[dB]	[dBuV/m]				[dBuV/m]	[dB]		
	33.6634	Horizo.	29.25	15.90	23.08	-16.34	12.91	-0.44	6.74	BB	60.74	54.00	OK	
	41.4534	Horizo.	29.17	16.25	23.38	-16.24	12.93	0.01	7.14	BB	58.47	51.33	OK	
	59.6662	Horizo.	32.13	21.70	27.25	-16.93	15.20	4.77	10.32	BB	54.50	44.18	OK	
	60.9993	Horizo.	34.54	23.42	28.75	-17.01	17.53	6.41	11.74	BB	54.26	42.52	OK	
	98.3004	Horizo.	42.43	38.82	39.70	-16.85	25.58	21.97	22.85	NB	43.78	21.81	OK	
	103.2760	Horizo.	44.61	34.21	39.04	-16.64	27.97	17.57	22.40	BB	54.10	31.70	OK	
	154.9301	Horizo.	45.45	27.46	42.90	-13.88	31.57	13.58	29.02	BB	56.77	27.75	OK	
	189.2772	Horizo.	48.15	25.90	40.93	-12.00	36.15	13.90	28.93	BB	58.08	29.15	OK	
	258.1741	Horizo.	43.38	19.69	33.08	-15.43	27.95	4.26	17.65	BB	60.12	42.47	OK	
	327.0244	Horizo.	38.96	20.68	33.84	-13.66	25.30	7.02	20.18	BB	61.68	41.50	OK	
	491.5019	Horizo.	33.32	26.60	30.00	-10.31	23.01	16.29	19.69	BB	63.00	43.31	OK	
	688.5061	Horizo.	34.73	28.17	31.29	-7.08	27.65	21.09	24.21	BB	63.00	38.79	OK	
	705.7197	Horizo.	34.05	17.66	29.44	-6.88	27.17	10.78	22.56	BB	63.00	40.44	OK	
	933.7554	Horizo.	28.59	15.36	22.43	-2.77	25.82	12.59	19.66	BB	63.00	43.34	OK	

BW = 120 kHz, Step = 50 kHz, Dwell = 5 ms

UK Approval Authority | Vehicle Certification Agency
24-Oct-22

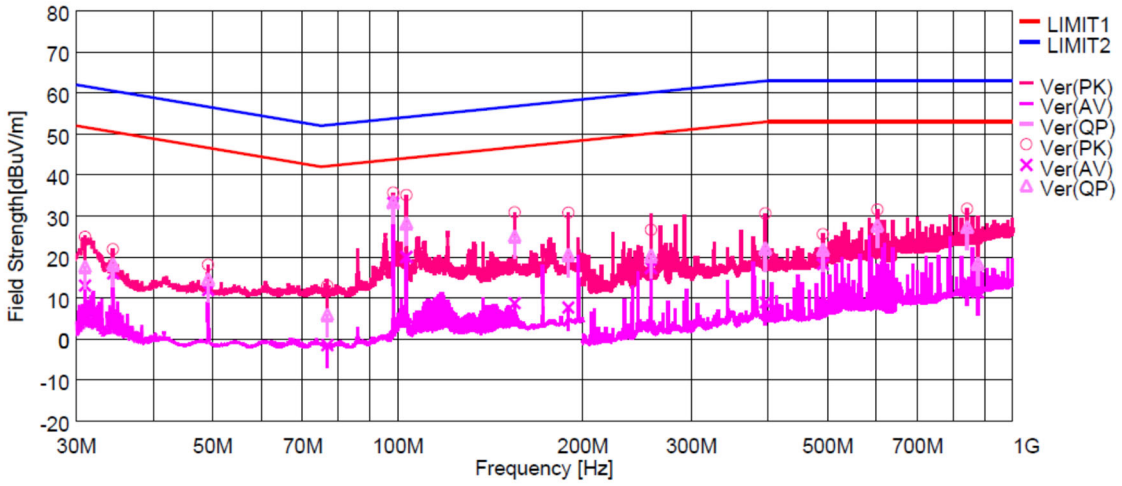
ALSE No.6

Radiated Emission Test - ALSE

Standards : ECE R10

Test Mode : AM with GPS receiving mode
Tested Date : 2022/09/12
Temp/Humid : 24 deg.C / 67 %RH
Engineer : K.Tsujiya
Remarks : Seral No. 107X0026

LIMIT1 : ECE Regulation No.10 Narrow Band (1m)
LIMIT2 : ECE Regulation No.10 Broad Band (1m)



Band ID	Freq.	Pol	Level			Factor	Result			NB/BB	Limit	Margin		Memo
			PK	AV	QP		PK	AV	QP					
	[MHz]		[dBuV]			[dB]	[dBuV/m]				[dBuV/m]	[dB]		
	30.9995	Vertic.	41.35	29.42	34.09	-16.43	24.92	12.99	17.66	BB	61.64	43.98	OK	
	34.4250	Vertic.	38.18	32.31	34.62	-16.31	21.87	16.00	18.31	NB	50.50	34.50	OK	
	49.1504	Vertic.	34.37	28.22	30.91	-16.30	18.07	11.92	14.61	BB	56.61	42.00	OK	
	76.7955	Vertic.	30.40	15.90	23.40	-17.43	12.97	-1.53	5.97	BB	52.16	46.19	OK	
	98.3006	Vertic.	52.53	49.99	50.41	-16.85	35.68	33.14	33.56	NB	43.78	10.64	OK	
	103.2761	Vertic.	51.73	36.66	44.92	-16.64	35.09	20.02	28.28	BB	54.10	25.82	OK	
	154.9145	Vertic.	44.81	22.59	38.96	-13.88	30.93	8.71	25.08	BB	56.77	31.69	OK	
	189.3546	Vertic.	42.81	19.64	32.63	-11.99	30.82	7.65	20.64	BB	58.09	37.45	OK	
	258.0384	Vertic.	42.05	32.76	35.86	-15.44	26.61	17.32	20.42	BB	60.12	39.70	OK	
	395.9072	Vertic.	42.41	20.70	33.94	-11.80	30.61	8.90	22.14	BB	62.93	40.79	OK	
	491.5026	Vertic.	35.91	28.55	32.20	-10.31	25.60	18.24	21.89	BB	63.00	41.11	OK	
	602.4733	Vertic.	39.86	21.53	36.02	-8.34	31.52	13.19	27.68	BB	63.00	35.32	OK	
	843.4209	Vertic.	36.49	18.61	32.10	-4.76	31.73	13.85	27.34	BB	63.00	35.66	OK	
	877.3690	Vertic.	28.59	15.68	22.76	-4.30	24.29	11.38	18.46	BB	63.00	44.54	OK	

BW = 120 kHz, Step = 50 kHz, Dwell = 5 ms

UK Approval Authority | Vehicle Certification Agency
24-Oct-22

[Mode: FM with GPS Receiving mode]

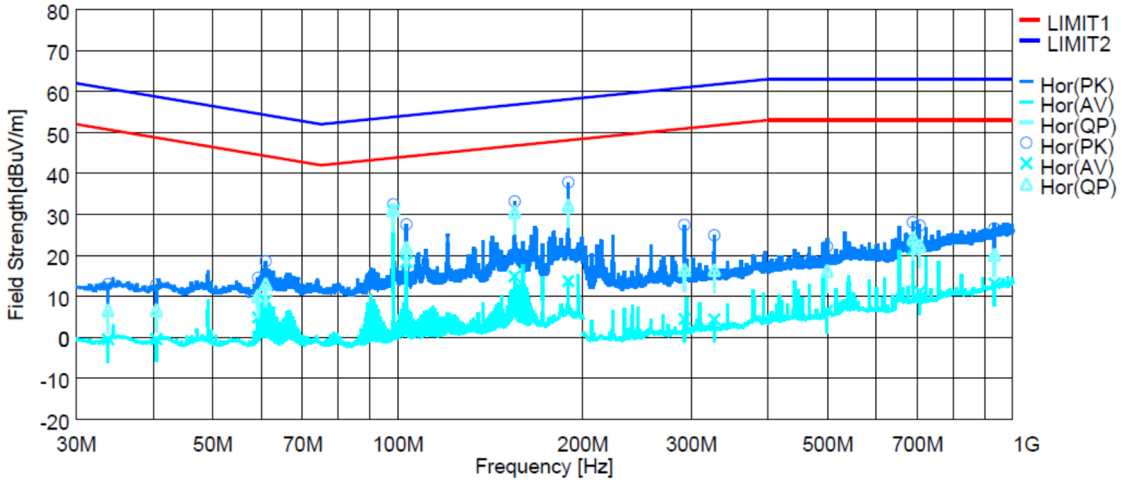
ALSE No.6

Radiated Emission Test - ALSE

Standards : ECE R10

Test Mode : FM with GPS receiving mode
Tested Date : 2022/09/12
Temp/Humid : 24 deg.C / 67 %RH
Engineer : K.Tsujiya
Remarks : Seral No. 107X0026

LIMIT1 : ECE Regulation No.10 Narrow Band (1m)
LIMIT2 : ECE Regulation No.10 Broad Band (1m)



Band ID	Freq.	Pol	Level PK	Level AV	Level QP	Factor	Result PK	Result AV	Result QP	NB/BB	Limit	Margin		Memo
	[MHz]		[dBuV]			[dB]	[dBuV/m]				[dBuV/m]	[dB]		
	33.7850	Horizo.	29.30	15.87	22.97	-16.33	12.97	-0.46	6.64	BB	60.70	54.06	OK	
	40.4755	Horizo.	29.05	15.79	22.93	-16.23	12.82	-0.44	6.70	BB	58.73	52.03	OK	
	59.2427	Horizo.	31.39	21.78	27.16	-16.91	14.48	4.87	10.25	BB	54.57	44.32	OK	
	60.9720	Horizo.	35.54	25.90	30.00	-17.01	18.53	8.89	12.99	BB	54.26	41.27	OK	
	98.3003	Horizo.	49.31	47.78	48.09	-16.85	32.46	30.93	31.24	NB	43.78	12.85	OK	
	103.2760	Horizo.	44.22	35.05	38.52	-16.64	27.58	18.41	21.88	BB	54.10	32.22	OK	
	154.8984	Horizo.	47.00	28.76	44.60	-13.88	33.12	14.88	30.72	BB	56.77	26.05	OK	
	189.3393	Horizo.	49.79	25.75	44.29	-11.99	37.80	13.76	32.30	BB	58.09	25.79	OK	
	292.5997	Horizo.	42.04	19.03	31.15	-14.59	27.45	4.44	16.56	BB	60.95	44.39	OK	
	327.0390	Horizo.	38.52	18.05	30.09	-13.66	24.86	4.39	16.43	BB	61.68	45.25	OK	
	499.1517	Horizo.	32.39	16.74	26.54	-10.23	22.16	6.51	16.31	BB	63.00	46.69	OK	
	688.5063	Horizo.	35.16	28.55	31.35	-7.08	28.08	21.47	24.27	BB	63.00	38.73	OK	
	705.7185	Horizo.	34.19	18.03	29.31	-6.88	27.31	11.15	22.43	BB	63.00	40.57	OK	
	933.8535	Horizo.	29.34	15.96	23.04	-2.77	26.57	13.19	20.27	BB	63.00	42.73	OK	

BW = 120 kHz, Step = 50 kHz, Dwell = 5 ms

UK Approval Authority | Vehicle Certification Agency
24-Oct-22

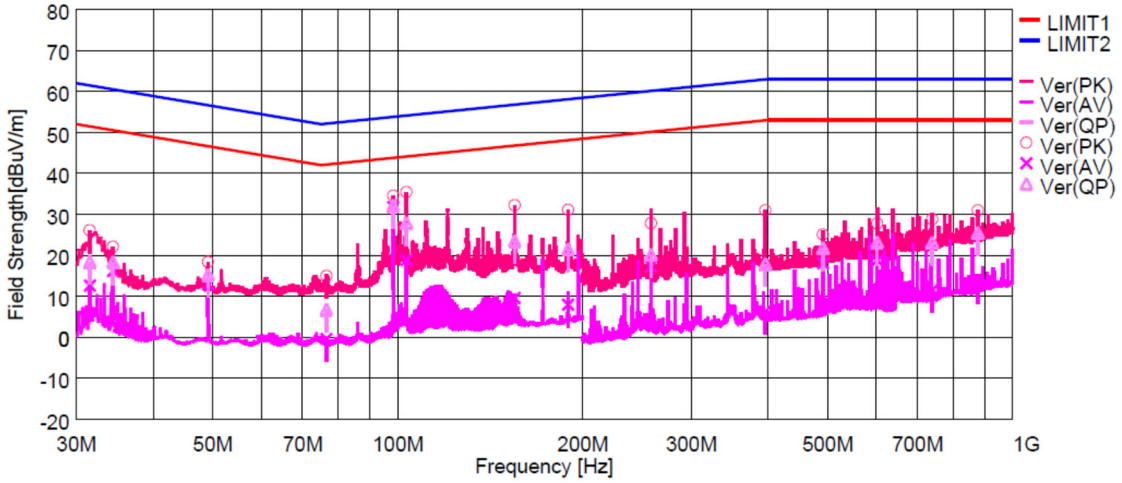
ALSE No.6

Radiated Emission Test - ALSE

Standards : ECE R10

Test Mode : FM with GPS receiving mode
Tested Date : 2022/09/12
Temp/Humid : 24 deg.C / 67 %RH
Engineer : K.Tsujiya
Remarks : Seral No. 107X0026

LIMIT1 : ECE Regulation No.10 Narrow Band (1m)
LIMIT2 : ECE Regulation No.10 Broad Band (1m)



Band ID	Freq.	Pol	Level			Factor	Result			NB/BB	Limit	Margin		Memo
			PK	AV	QP		PK	AV	QP					
	[MHz]		[dBuV]			[dB]	[dBuV/m]				[dBuV/m]	[dB]		
	31.5682	Vertic.	42.51	29.04	34.83	-16.41	26.10	12.63	18.42	BB	61.44	43.02	OK	
	34.4254	Vertic.	38.37	32.47	34.65	-16.31	22.06	16.16	18.34	NB	50.50	34.34	OK	
	49.1500	Vertic.	34.66	29.20	31.61	-16.30	18.36	12.90	15.31	NB	46.61	33.71	OK	
	76.5377	Vertic.	32.42	17.02	24.27	-17.44	14.98	-0.42	6.83	BB	52.13	45.30	OK	
	98.3006	Vertic.	51.37	48.58	49.03	-16.85	34.52	31.73	32.18	NB	43.78	12.05	OK	
	103.2448	Vertic.	52.09	35.51	44.56	-16.64	35.45	18.87	27.92	BB	54.10	26.18	OK	
	154.8981	Vertic.	46.08	23.42	37.43	-13.88	32.20	9.54	23.55	BB	56.77	33.22	OK	
	189.3238	Vertic.	43.07	19.95	33.48	-12.00	31.07	7.95	21.48	BB	58.08	36.60	OK	
	258.0384	Vertic.	43.24	32.71	35.62	-15.44	27.80	17.27	20.18	BB	60.12	39.94	OK	
	395.8763	Vertic.	42.73	18.06	29.72	-11.80	30.93	6.26	17.92	BB	62.93	45.01	OK	
	491.5020	Vertic.	35.40	28.38	32.10	-10.31	25.09	18.07	21.79	BB	63.00	41.21	OK	
	602.0900	Vertic.	36.13	27.08	31.53	-8.34	27.79	18.74	23.19	BB	63.00	39.81	OK	
	740.1202	Vertic.	35.27	17.97	29.54	-6.44	28.83	11.53	23.10	BB	63.00	39.90	OK	
	877.8745	Vertic.	35.26	18.06	29.75	-4.28	30.98	13.78	25.47	BB	63.00	37.53	OK	

BW = 120 kHz, Step = 50 kHz, Dwell = 5 ms

UK Approval Authority | Vehicle Certification Agency
24-Oct-22

[Mode: DAB with GPS Receiving mode]

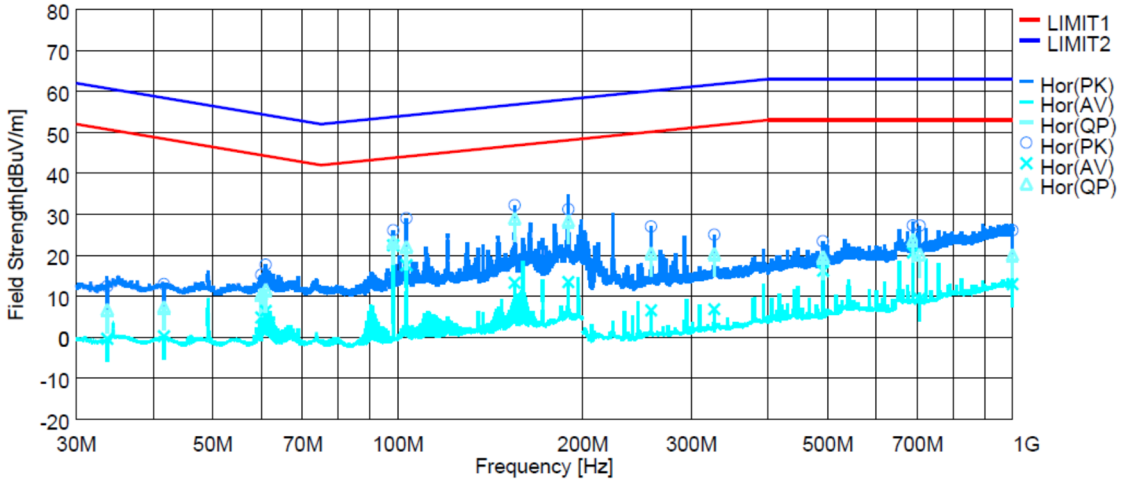
ALSE No.6

Radiated Emission Test - ALSE

Standards : ECE R10

Test Mode : DAB with GPS receiving mode
Tested Date : 2022/09/12
Temp/Humid : 24 deg.C / 67 %RH
Engineer : K.Tsujiya
Remarks : Seral No. 107X0026

LIMIT1 : ECE Regulation No.10 Narrow Band (1m)
LIMIT2 : ECE Regulation No.10 Broad Band (1m)



Band ID	Freq.	Pol	Level			Factor	Result			NB/BB	Limit	Margin		Memo
			PK	AV	QP		PK	AV	QP					
	[MHz]		[dBuV]			[dB]	[dBuV/m]				[dBuV/m]	[dB]		
	33.6806	Horizo.	28.76	15.94	23.01	-16.34	12.42	-0.40	6.67	BB	60.74	54.07	OK	
	41.6637	Horizo.	29.20	16.48	23.61	-16.25	12.95	0.23	7.36	BB	58.42	51.06	OK	
	59.9994	Horizo.	32.15	21.75	27.42	-16.95	15.20	4.80	10.47	BB	54.44	43.97	OK	
	60.9990	Horizo.	34.74	23.48	28.68	-17.01	17.73	6.47	11.67	BB	54.26	42.59	OK	
	98.3004	Horizo.	42.91	39.27	40.12	-16.85	26.06	22.42	23.27	NB	43.78	21.36	OK	
	103.2760	Horizo.	45.68	34.26	38.70	-16.64	29.04	17.62	22.06	BB	54.10	32.04	OK	
	154.8984	Horizo.	46.09	27.14	42.86	-13.88	32.21	13.26	28.98	BB	56.77	27.79	OK	
	189.4005	Horizo.	43.21	25.45	40.36	-11.99	31.22	13.46	28.37	BB	58.09	29.72	OK	
	258.2052	Horizo.	42.45	21.98	35.96	-15.43	27.02	6.55	20.53	BB	60.12	39.59	OK	
	327.0552	Horizo.	38.69	20.52	34.03	-13.66	25.03	6.86	20.37	BB	61.68	41.31	OK	
	491.5014	Horizo.	33.77	26.57	29.96	-10.31	23.46	16.26	19.65	BB	63.00	43.35	OK	
	688.5057	Horizo.	34.34	27.75	30.89	-7.08	27.26	20.67	23.81	BB	63.00	39.19	OK	
	705.7150	Horizo.	34.09	16.26	27.14	-6.88	27.21	9.38	20.26	BB	63.00	42.74	OK	
	999.3577	Horizo.	27.74	14.60	21.70	-1.62	26.12	12.98	20.08	BB	63.00	42.92	OK	

BW = 120 kHz, Step = 50 kHz, Dwell = 5 ms

UK Approval Authority | Vehicle Certification Agency
24-Oct-22

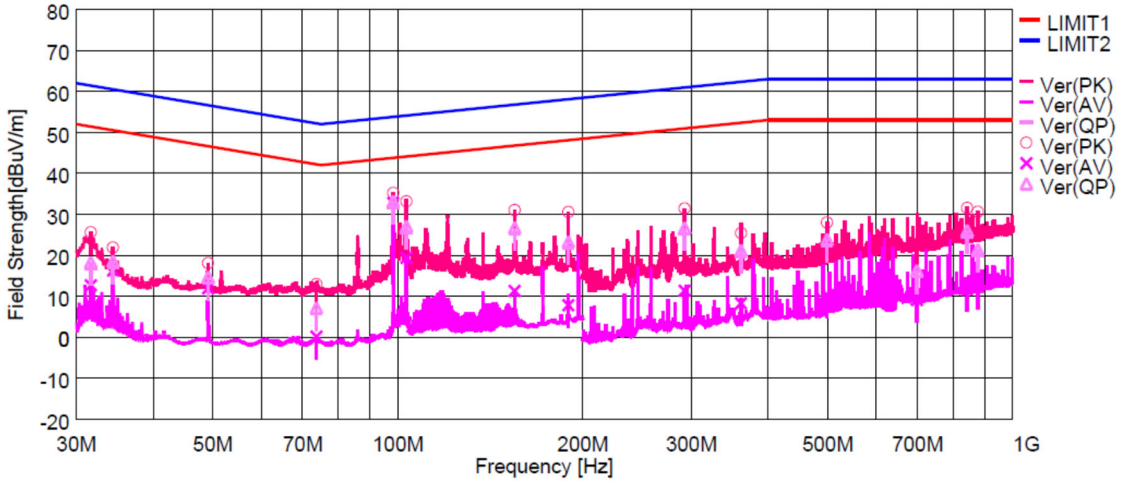
ALSE No.6

Radiated Emission Test - ALSE

Standards : ECE R10

Test Mode : DAB with GPS receiving mode
Tested Date : 2022/09/12
Temp/Humid : 24 deg.C / 67 %RH
Engineer : K.Tsujiya
Remarks : Seral No. 107X0026

LIMIT1 : ECE Regulation No.10 Narrow Band (1m)
LIMIT2 : ECE Regulation No.10 Broad Band (1m)



Band ID	Freq.	Pol	Level			Factor	Result			NB/BB	Limit	Margin		Memo
			PK	AV	QP		PK	AV	QP					
	[MHz]		[dBuV]			[dB]	[dBuV/m]				[dBuV/m]	[dB]		
	31.6660	Vertic.	42.01	29.09	34.64	-16.41	25.60	12.68	18.23	BB	61.41	43.18	OK	
	34.4253	Vertic.	38.19	32.60	34.84	-16.31	21.88	16.29	18.53	NB	50.50	34.21	OK	
	49.1503	Vertic.	34.42	28.24	30.93	-16.30	18.12	11.94	14.63	BB	56.61	41.98	OK	
	73.7284	Vertic.	30.40	17.61	24.56	-17.46	12.94	0.15	7.10	BB	52.19	45.09	OK	
	98.3003	Vertic.	52.03	49.59	49.98	-16.85	35.18	32.74	33.13	NB	43.78	11.04	OK	
	103.2446	Vertic.	49.82	36.01	43.65	-16.64	33.18	19.37	27.01	BB	54.10	27.09	OK	
	154.9137	Vertic.	44.88	25.17	40.54	-13.88	31.00	11.29	26.66	BB	56.77	30.11	OK	
	189.3399	Vertic.	42.57	19.81	35.23	-11.99	30.58	7.82	23.24	BB	58.09	34.85	OK	
	292.6154	Vertic.	45.98	25.96	41.22	-14.59	31.39	11.37	26.63	BB	60.95	34.32	OK	
	361.4024	Vertic.	38.11	21.00	33.88	-12.74	25.37	8.26	21.14	BB	62.33	41.19	OK	
	499.1519	Vertic.	38.26	20.53	34.04	-10.23	28.03	10.30	23.81	BB	63.00	39.19	OK	
	698.8924	Vertic.	29.81	16.03	23.18	-6.96	22.85	9.07	16.22	BB	63.00	46.78	OK	
	843.4183	Vertic.	36.29	16.76	30.72	-4.76	31.53	12.00	25.96	BB	63.00	37.04	OK	
	877.8294	Vertic.	34.93	16.59	25.65	-4.29	30.64	12.30	21.36	BB	63.00	41.64	OK	

BW = 120 kHz, Step = 50 kHz, Dwell = 5 ms

UK Approval Authority | Vehicle Certification Agency
24-Oct-22

[Mode: Bluetooth with GPS Receiving mode]

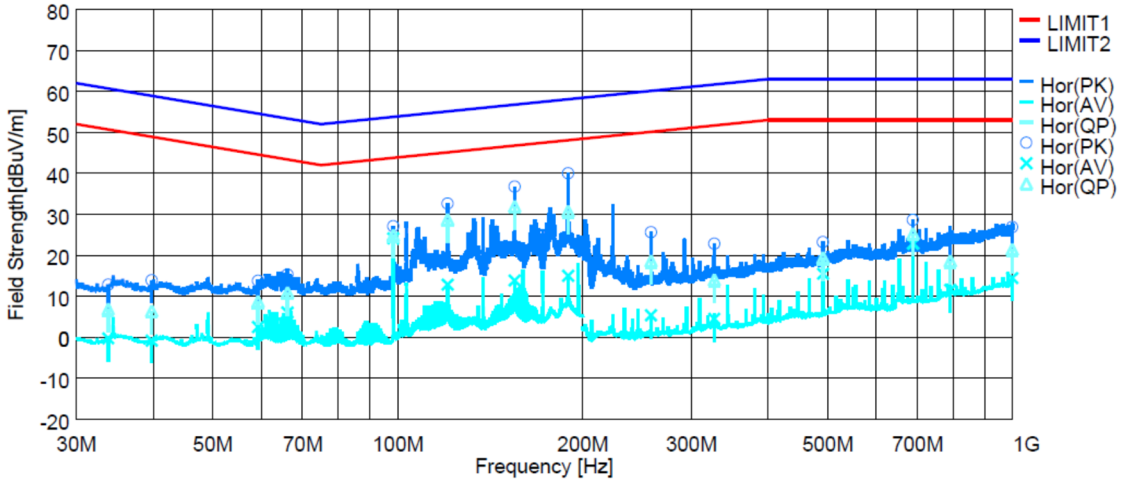
ALSE No.6

Radiated Emission Test - ALSE

Standards : ECE R10

Test Mode : Bluetooth with GPS receiving mode
Tested Date : 2022/09/13
Temp/Humid : 23 deg.C / 61 %RH
Engineer : K.Tsujiya
Remarks : Seral No. 107X0026

LIMIT1 : ECE Regulation No.10 Narrow Band (1m)
LIMIT2 : ECE Regulation No.10 Broad Band (1m)



Band ID	Freq.	Pol	Level			Factor	Result			NB/BB	Limit	Margin		Memo
			PK	AV	QP		PK	AV	QP					
	[MHz]		[dBuV]			[dB]	[dBuV/m]				[dBuV/m]	[dB]		
	33.8000	Horizo.	29.14	16.05	23.17	-16.33	12.81	-0.28	6.84	BB	60.70	53.86	OK	
	39.7820	Horizo.	30.11	15.43	22.55	-16.22	13.89	-0.79	6.33	BB	58.92	52.59	OK	
	59.2438	Horizo.	30.68	19.41	25.58	-16.91	13.77	2.50	8.67	BB	54.57	45.90	OK	
	66.1604	Horizo.	32.63	23.35	28.17	-17.31	15.32	6.04	10.86	BB	53.37	42.51	OK	
	98.3006	Horizo.	43.92	41.00	41.67	-16.85	27.07	24.15	24.82	NB	43.78	19.63	OK	
	120.4720	Horizo.	48.11	28.36	44.18	-15.51	32.60	12.85	28.67	BB	55.11	26.44	OK	
	154.9139	Horizo.	50.59	27.73	45.78	-13.88	36.71	13.85	31.90	BB	56.77	24.87	OK	
	189.3237	Horizo.	52.00	27.01	42.70	-12.00	40.00	15.01	30.70	BB	58.08	27.38	OK	
	258.1537	Horizo.	41.04	20.77	33.99	-15.43	25.61	5.34	18.56	BB	60.12	41.56	OK	
	327.0389	Horizo.	36.51	18.19	27.61	-13.66	22.85	4.53	13.95	BB	61.68	47.73	OK	
	491.5032	Horizo.	33.57	25.83	29.68	-10.31	23.26	15.52	19.37	BB	63.00	43.63	OK	
	688.5066	Horizo.	35.68	29.93	32.36	-7.08	28.60	22.85	25.28	NB	53.00	30.15	OK	
	791.7817	Horizo.	29.75	17.01	24.00	-5.44	24.31	11.57	18.56	BB	63.00	44.44	OK	
	998.3359	Horizo.	28.48	16.07	22.96	-1.63	26.85	14.44	21.33	BB	63.00	41.67	OK	

BW = 120 kHz, Step = 50 kHz, Dwell = 5 ms

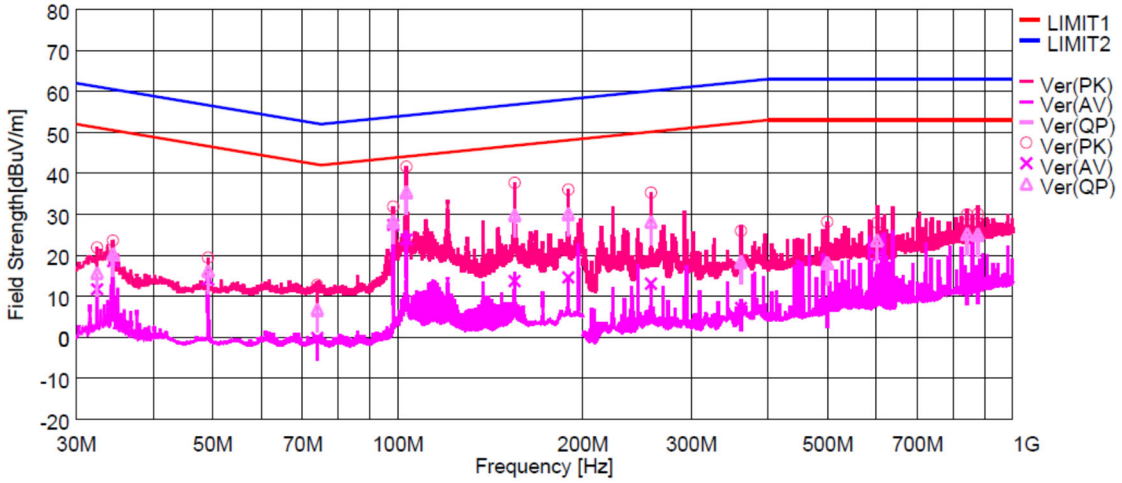
ALSE No.6

Radiated Emission Test - ALSE

Standards : ECE R10

Test Mode : Bluetooth with GPS receiving mode
Tested Date : 2022/09/13
Temp/Humid : 23 deg.C / 61 %RH
Engineer : K.Tsujiya
Remarks : Seral No. 107X0026

LIMIT1 : ECE Regulation No.10 Narrow Band (1m)
LIMIT2 : ECE Regulation No.10 Broad Band (1m)



Band ID	Freq.	Pol	Level			Factor	Result			NB/BB	Limit	Margin		Memo
			PK	AV	QP		PK	AV	QP					
	[MHz]		[dBuV]			[dB]	[dBuV/m]				[dBuV/m]	[dB]		
	32.4323	Vertic.	38.25	28.11	32.10	-16.38	21.87	11.73	15.72	BB	61.15	45.43	OK	
	34.4256	Vertic.	39.95	34.93	36.64	-16.31	23.64	18.62	20.33	NB	50.50	31.88	OK	
	49.1503	Vertic.	35.68	30.35	32.49	-16.30	19.38	14.05	16.19	NB	46.61	32.56	OK	
	73.9453	Vertic.	30.19	17.33	24.30	-17.46	12.73	-0.13	6.84	BB	52.15	45.31	OK	
	98.3006	Vertic.	48.76	44.23	45.21	-16.85	31.91	27.38	28.36	NB	43.78	16.40	OK	
	103.2760	Vertic.	58.25	40.50	52.11	-16.64	41.61	23.86	35.47	BB	54.10	18.63	OK	
	154.9157	Vertic.	51.55	27.58	43.73	-13.88	37.67	13.70	29.85	BB	56.77	26.92	OK	
	189.3556	Vertic.	47.99	26.64	42.15	-11.99	36.00	14.65	30.16	BB	58.09	27.93	OK	
	258.1534	Vertic.	50.73	28.51	43.62	-15.43	35.30	13.08	28.19	BB	60.12	31.93	OK	
	361.4736	Vertic.	38.69	19.91	31.21	-12.73	25.96	7.18	18.48	BB	62.33	43.85	OK	
	499.1823	Vertic.	38.36	18.10	28.49	-10.23	28.13	7.87	18.26	BB	63.00	44.74	OK	
	602.0889	Vertic.	36.31	28.18	31.99	-8.34	27.97	19.84	23.65	BB	63.00	39.35	OK	
	843.4038	Vertic.	34.70	18.21	30.03	-4.76	29.94	13.45	25.27	BB	63.00	37.73	OK	
	877.8598	Vertic.	34.34	17.98	29.46	-4.29	30.05	13.69	25.17	BB	63.00	37.83	OK	

BW = 120 kHz, Step = 50 kHz, Dwell = 5 ms

[Mode: Wi-Fi with GPS Receiving mode]

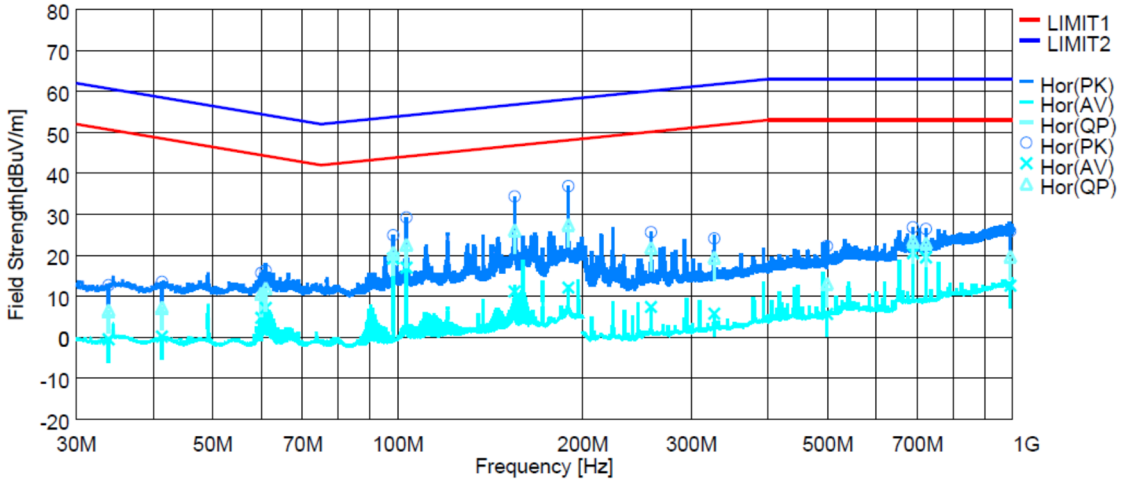
ALSE No.6

Radiated Emission Test - ALSE

Standards : ECE R10

Test Mode : Wi-Fi with GPS receiving mode
Tested Date : 2022/09/12
Temp/Humid : 24 deg.C / 67 %RH
Engineer : K.Tsujiya
Remarks : Seral No. 107X0026

LIMIT1 : ECE Regulation No.10 Narrow Band (1m)
LIMIT2 : ECE Regulation No.10 Broad Band (1m)



Band ID	Freq.	Pol	Level			Factor	Result			NB/BB	Limit	Margin		Memo
			PK	AV	QP		PK	AV	QP					
	[MHz]		[dBuV]			[dB]	[dBuV/m]				[dBuV/m]	[dB]		
	33.8440	Horizo.	29.02	15.82	22.91	-16.33	12.69	-0.51	6.58	BB	60.68	54.10	OK	
	41.3328	Horizo.	29.75	16.38	23.52	-16.24	13.51	0.14	7.28	BB	58.50	51.22	OK	
	59.9996	Horizo.	32.61	21.68	27.59	-16.95	15.66	4.73	10.64	BB	54.44	43.80	OK	
	60.9991	Horizo.	33.31	24.17	29.00	-17.01	16.30	7.16	11.99	BB	54.26	42.27	OK	
	98.3006	Horizo.	41.69	36.06	37.50	-16.85	24.84	19.21	20.65	NB	43.78	24.57	OK	
	103.2757	Horizo.	45.83	33.66	39.18	-16.64	29.19	17.02	22.54	BB	54.10	31.56	OK	
	154.8977	Horizo.	48.21	25.01	39.95	-13.88	34.33	11.13	26.07	BB	56.77	30.70	OK	
	189.3552	Horizo.	48.88	24.12	39.40	-11.99	36.89	12.13	27.41	BB	58.09	30.68	OK	
	258.1746	Horizo.	41.03	22.83	37.20	-15.43	25.60	7.40	21.77	BB	60.12	38.35	OK	
	327.0394	Horizo.	37.72	19.40	33.07	-13.66	24.06	5.74	19.41	BB	61.68	42.27	OK	
	499.1021	Horizo.	32.48	15.92	23.26	-10.23	22.25	5.69	13.03	BB	63.00	49.97	OK	
	688.5067	Horizo.	33.90	27.63	30.70	-7.08	26.82	20.55	23.62	BB	63.00	39.38	OK	
	722.9322	Horizo.	33.11	26.14	29.59	-6.68	26.43	19.46	22.91	BB	63.00	40.09	OK	
	991.3419	Horizo.	27.58	14.29	21.36	-1.66	25.92	12.63	19.70	BB	63.00	43.30	OK	

BW = 120 kHz, Step = 50 kHz, Dwell = 5 ms

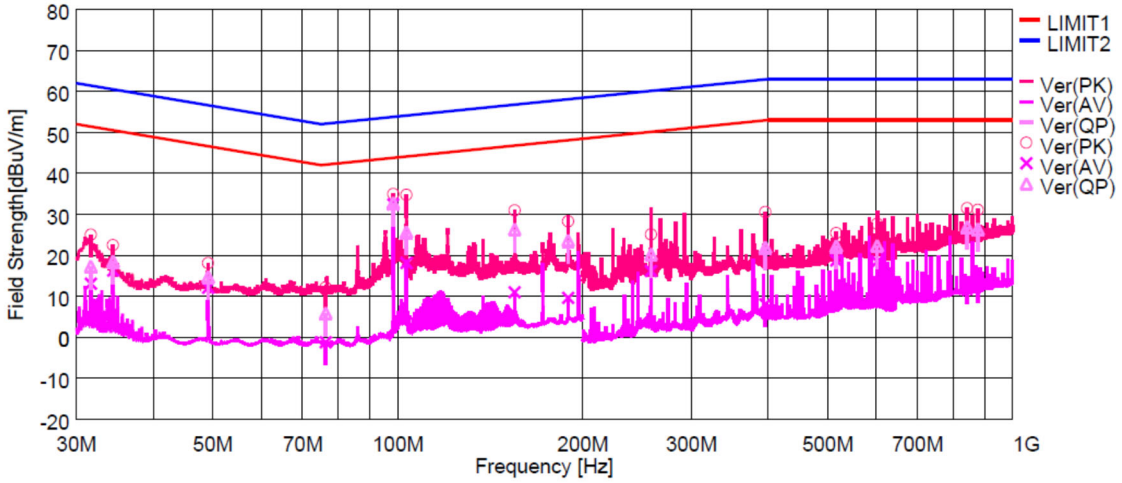
ALSE No.6

Radiated Emission Test - ALSE

Standards : ECE R10

Test Mode : Wi-Fi with GPS receiving mode
Tested Date : 2022/09/12
Temp/Humid : 24 deg.C / 67 %RH
Engineer : K.Tsujiya
Remarks : Seral No. 107X0026

LIMIT1 : ECE Regulation No.10 Narrow Band (1m)
LIMIT2 : ECE Regulation No.10 Broad Band (1m)



Band ID	Freq.	Pol	Level			Factor	Result			NB/BB	Limit	Margin		Memo
			PK	AV	QP		PK	AV	QP					
	[MHz]		[dBuV]			[dB]	[dBuV/m]				[dBuV/m]	[dB]		
	31.6653	Vertic.	41.44	29.48	33.72	-16.41	25.03	13.07	17.31	BB	61.41	44.10	OK	
	34.4253	Vertic.	38.80	32.56	34.77	-16.31	22.49	16.25	18.46	BB	60.50	42.04	OK	
	49.1500	Vertic.	34.42	28.35	31.03	-16.30	18.12	12.05	14.73	BB	56.61	41.88	OK	
	76.3330	Vertic.	29.59	16.17	23.30	-17.44	12.15	-1.27	5.86	BB	52.12	46.26	OK	
	98.3006	Vertic.	51.81	49.25	49.63	-16.85	34.96	32.40	32.78	NB	43.78	11.38	OK	
	103.2445	Vertic.	51.41	34.75	42.27	-16.64	34.77	18.11	25.63	BB	54.10	28.47	OK	
	154.8984	Vertic.	44.83	24.84	40.15	-13.88	30.95	10.96	26.27	BB	56.77	30.50	OK	
	189.3221	Vertic.	40.26	21.62	35.62	-12.00	28.26	9.62	23.62	BB	58.08	34.46	OK	
	258.0381	Vertic.	40.50	31.57	35.64	-15.44	25.06	16.13	20.20	BB	60.12	39.92	OK	
	395.8850	Vertic.	42.31	19.86	33.74	-11.80	30.51	8.06	21.94	BB	62.93	40.99	OK	
	516.3797	Vertic.	35.33	28.65	32.13	-9.90	25.43	18.75	22.23	BB	63.00	40.77	OK	
	602.0905	Vertic.	36.03	26.78	30.64	-8.34	27.69	18.44	22.30	BB	63.00	40.70	OK	
	843.4184	Vertic.	36.22	18.57	31.63	-4.76	31.46	13.81	26.87	BB	63.00	36.13	OK	
	877.8616	Vertic.	35.37	18.42	30.69	-4.29	31.08	14.13	26.40	BB	63.00	36.60	OK	

BW = 120 kHz, Step = 50 kHz, Dwell = 5 ms

UK Approval Authority | Vehicle Certification Agency
24-Oct-22

[Mode: USB with GPS Receiving mode]

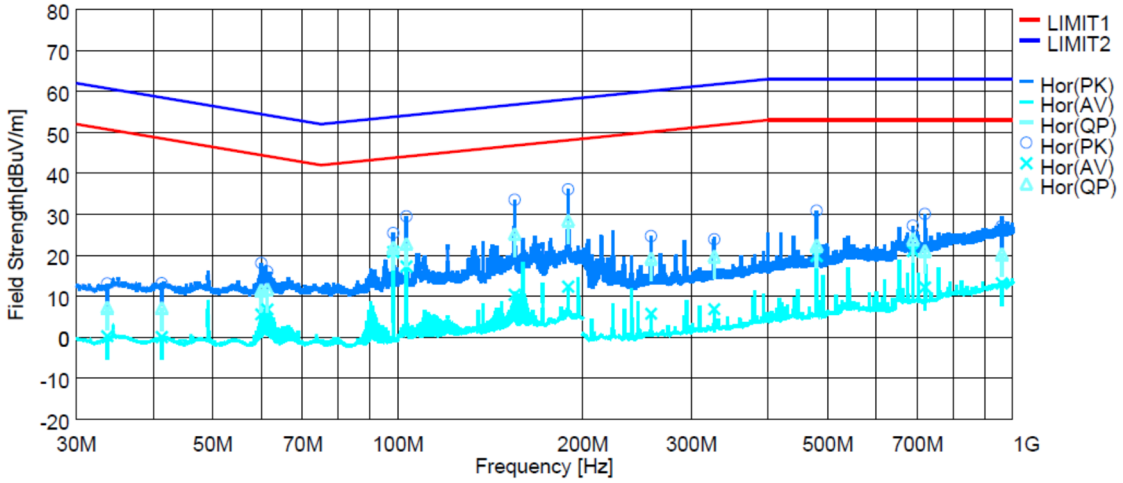
ALSE No.6

Radiated Emission Test - ALSE

Standards : ECE R10

Test Mode : USB with GPS receiving mode
Tested Date : 2022/09/12
Temp/Humid : 24 deg.C / 67 %RH
Engineer : K.Tsujiya
Remarks : Seral No. 107X0026

LIMIT1 : ECE Regulation No.10 Narrow Band (1m)
LIMIT2 : ECE Regulation No.10 Broad Band (1m)



Band ID	Freq.	Pol	Level			Factor	Result			NB/BB	Limit	Margin		Memo
			PK	AV	QP		PK	AV	QP					
	[MHz]		[dBuV]			[dB]	[dBuV/m]				[dBuV/m]	[dB]		
	33.6671	Horizo.	29.43	16.59	23.65	-16.34	13.09	0.25	7.31	BB	60.74	53.43	OK	
	41.3198	Horizo.	29.42	16.27	23.37	-16.24	13.18	0.03	7.13	BB	58.51	51.38	OK	
	59.9993	Horizo.	35.02	22.51	28.46	-16.95	18.07	5.56	11.51	BB	54.44	42.93	OK	
	61.3329	Horizo.	33.05	23.81	28.71	-17.04	16.01	6.77	11.67	BB	54.20	42.53	OK	
	98.3003	Horizo.	42.24	37.68	38.82	-16.85	25.39	20.83	21.97	NB	43.78	22.95	OK	
	103.2757	Horizo.	46.14	33.90	39.42	-16.64	29.50	17.26	22.78	BB	54.10	31.32	OK	
	154.8992	Horizo.	47.40	24.20	39.07	-13.88	33.52	10.32	25.19	BB	56.77	31.58	OK	
	189.3232	Horizo.	48.05	24.32	40.44	-12.00	36.05	12.32	28.44	BB	58.08	29.64	OK	
	258.2052	Horizo.	40.12	21.14	34.67	-15.43	24.69	5.71	19.24	BB	60.12	40.88	OK	
	327.0389	Horizo.	37.56	20.51	33.41	-13.66	23.90	6.85	19.75	BB	61.68	41.93	OK	
	480.0053	Horizo.	41.31	30.30	32.90	-10.44	30.87	19.86	22.46	BB	63.00	40.54	OK	
	688.5063	Horizo.	34.32	28.15	31.06	-7.08	27.24	21.07	23.98	BB	63.00	39.02	OK	
	720.0081	Horizo.	36.76	18.89	27.78	-6.70	30.06	12.19	21.08	BB	63.00	41.92	OK	
	960.0161	Horizo.	29.26	15.31	22.51	-2.15	27.11	13.16	20.36	BB	63.00	42.64	OK	

BW = 120 kHz, Step = 50 kHz, Dwell = 5 ms

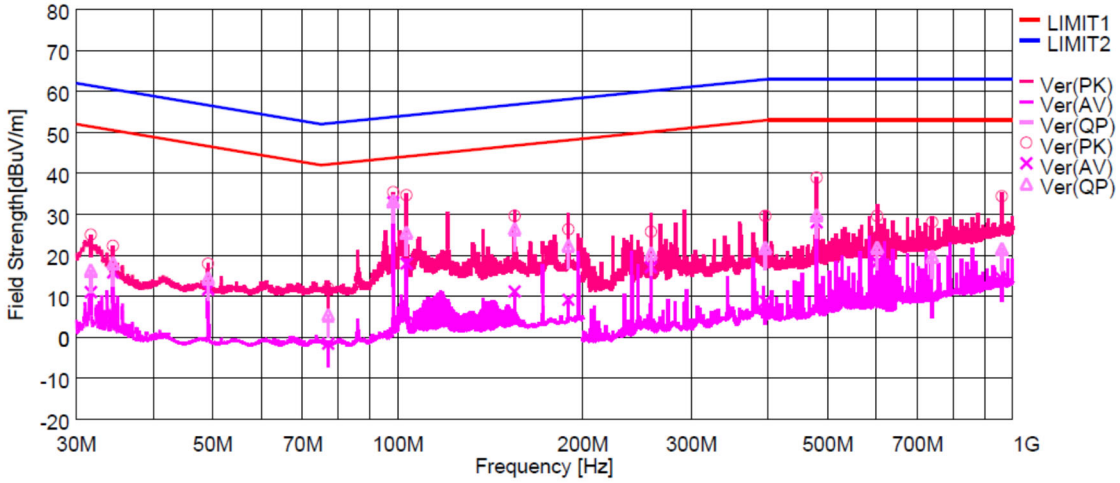
ALSE No.6

Radiated Emission Test - ALSE

Standards : ECE R10

Test Mode : USB with GPS receiving mode
Tested Date : 2022/09/12
Temp/Humid : 24 deg.C / 67 %RH
Engineer : K.Tsujiya
Remarks : Seral No. 107X0026

LIMIT1 : ECE Regulation No.10 Narrow Band (1m)
LIMIT2 : ECE Regulation No.10 Broad Band (1m)



Band ID	Freq.	Pol	Level			Factor	Result			NB/BB	Limit	Margin		Memo
			PK	AV	QP		PK	AV	QP					
	[MHz]		[dBuV]			[dB]	[dBuV/m]				[dBuV/m]	[dB]		
	31.6663	Vertic.	41.42	27.44	32.83	-16.41	25.01	11.03	16.42	BB	61.41	44.99	OK	
	34.4257	Vertic.	38.60	32.16	34.46	-16.31	22.29	15.85	18.15	BB	60.50	42.35	OK	
	49.1501	Vertic.	34.24	27.97	30.81	-16.30	17.94	11.67	14.51	BB	56.61	42.10	OK	
	77.0000	Vertic.	29.39	15.82	22.90	-17.43	11.96	-1.61	5.47	BB	52.17	46.70	OK	
	98.3003	Vertic.	52.26	49.75	50.19	-16.85	35.41	32.90	33.34	NB	43.78	10.88	OK	
	103.3073	Vertic.	51.30	34.65	42.20	-16.64	34.66	18.01	25.56	BB	54.10	28.54	OK	
	154.8991	Vertic.	43.51	25.01	40.34	-13.88	29.63	11.13	26.46	BB	56.77	30.31	OK	
	189.4025	Vertic.	38.33	21.17	34.36	-11.99	26.34	9.18	22.37	BB	58.09	35.72	OK	
	258.0410	Vertic.	41.18	32.58	35.99	-15.44	25.74	17.14	20.55	BB	60.12	39.57	OK	
	395.9256	Vertic.	41.44	20.58	33.75	-11.79	29.65	8.79	21.96	BB	62.93	40.97	OK	
	480.0043	Vertic.	49.42	38.54	40.25	-10.44	38.98	28.10	29.81	BB	63.00	33.19	OK	
	602.0893	Vertic.	37.98	26.64	30.28	-8.34	29.64	18.30	21.94	BB	63.00	41.06	OK	
	740.1606	Vertic.	34.49	16.67	26.19	-6.44	28.05	10.23	19.75	BB	63.00	43.25	OK	
	960.0092	Vertic.	36.61	16.47	23.80	-2.15	34.46	14.32	21.65	BB	63.00	41.35	OK	

BW = 120 kHz, Step = 50 kHz, Dwell = 5 ms

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[Mode: Rear camera with GPS Receiving mode]

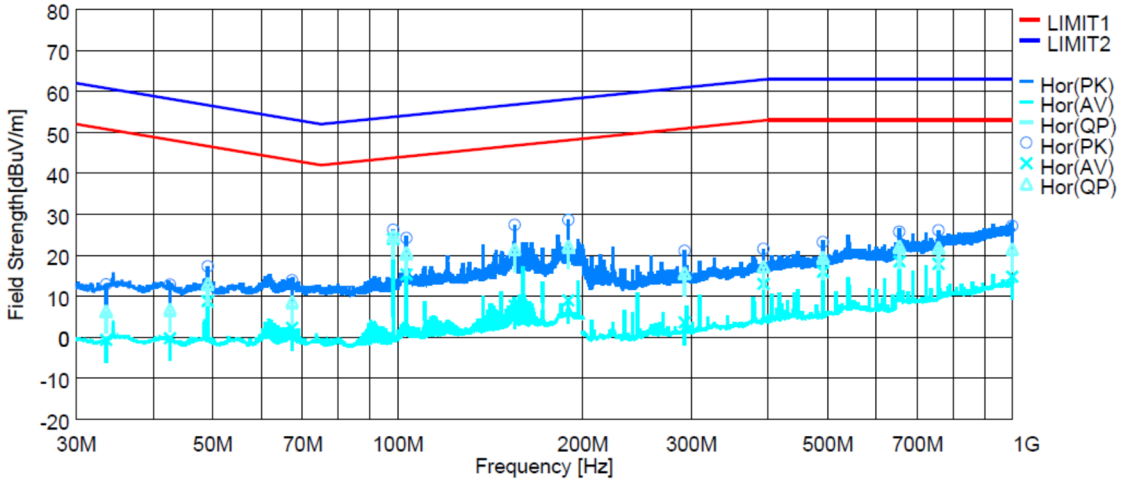
ALSE No.6

Radiated Emission Test - ALSE

Standards : ECE R10

Test Mode : Rear camera with GPS receiving mode
Tested Date : 2022/09/12
Temp/Humid : 24 deg.C / 67 %RH
Engineer : K.Tsujiya
Remarks : Seral No. 107X0026

LIMIT1 : ECE Regulation No.10 Narrow Band (1m)
LIMIT2 : ECE Regulation No.10 Broad Band (1m)



Band ID	Freq.	Pol	Level			Factor	Result			NB/BB	Limit	Margin		Memo
			PK	AV	QP		PK	AV	QP					
	[MHz]		[dBuV]			[dB]	[dBuV/m]				[dBuV/m]	[dB]		
	33.5469	Horizo.	29.19	15.66	22.77	-16.34	12.85	-0.68	6.43	BB	60.78	54.35	OK	
	42.6018	Horizo.	29.08	15.99	23.08	-16.26	12.82	-0.27	6.82	BB	58.17	51.35	OK	
	49.0903	Horizo.	33.57	25.12	29.38	-16.30	17.27	8.82	13.08	BB	56.63	43.55	OK	
	67.3323	Horizo.	31.28	19.66	26.04	-17.35	13.93	2.31	8.69	BB	53.18	44.49	OK	
	98.3003	Horizo.	43.06	40.82	41.52	-16.85	26.21	23.97	24.67	NB	43.78	19.81	OK	
	103.2763	Horizo.	40.82	31.99	37.31	-16.64	24.18	15.35	20.67	BB	54.10	33.43	OK	
	154.9131	Horizo.	41.26	21.60	35.32	-13.88	27.38	7.72	21.44	BB	56.77	35.33	OK	
	189.3386	Horizo.	40.61	21.00	34.21	-12.00	28.61	9.00	22.21	BB	58.09	35.88	OK	
	292.6170	Horizo.	35.65	18.21	30.27	-14.59	21.06	3.62	15.68	BB	60.95	45.27	OK	
	393.2013	Horizo.	33.39	24.91	29.12	-11.86	21.53	13.05	17.26	BB	62.89	45.63	OK	
	491.5023	Horizo.	33.53	26.32	29.83	-10.31	23.22	16.01	19.52	BB	63.00	43.48	OK	
	654.0819	Horizo.	33.30	26.10	29.77	-7.56	25.74	18.54	22.21	BB	63.00	40.79	OK	
	757.3573	Horizo.	32.20	24.09	28.02	-6.14	26.06	17.95	21.88	BB	63.00	41.12	OK	
	998.3346	Horizo.	28.79	16.41	23.12	-1.63	27.16	14.78	21.49	BB	63.00	41.51	OK	

BW = 120 kHz, Step = 50 kHz, Dwell = 5 ms

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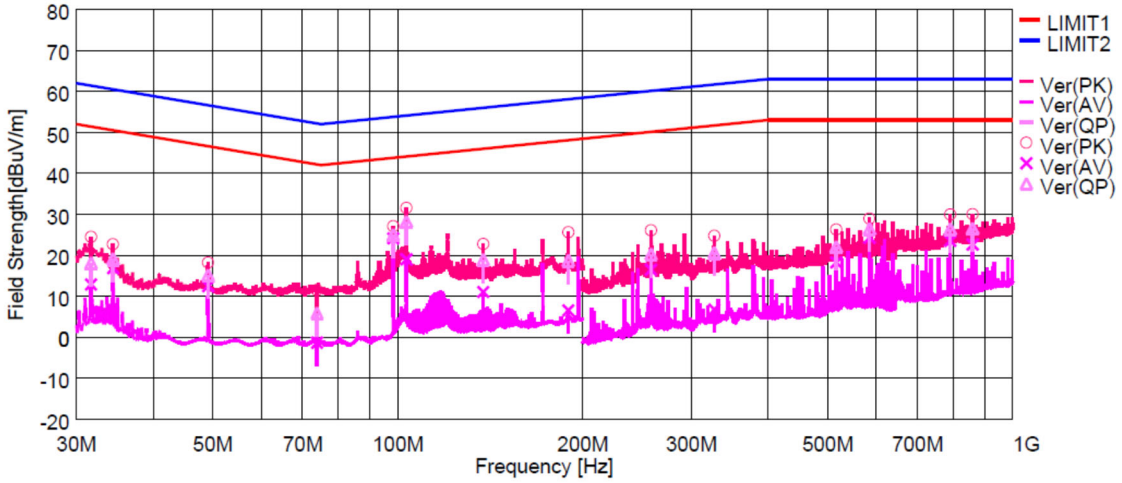
ALSE No.6

Radiated Emission Test - ALSE

Standards : ECE R10

Test Mode : Rear camera with GPS receiving mode
Tested Date : 2022/09/12
Temp/Humid : 24 deg.C / 67 %RH
Engineer : K.Tsujiya
Remarks : Seral No. 107X0026

LIMIT1 : ECE Regulation No.10 Narrow Band (1m)
LIMIT2 : ECE Regulation No.10 Broad Band (1m)



Band ID	Freq.	Pol	Level PK	Level AV	Level QP	Factor	Result PK	Result AV	Result QP	NB/BB	Limit	Margin		Memo
	[MHz]		[dBuV]			[dB]	[dBuV/m]				[dBuV/m]	[dB]		
	31.6976	Vertic.	40.87	29.30	34.53	-16.41	24.46	12.89	18.12	BB	61.40	43.28	OK	
	34.4250	Vertic.	39.01	33.21	35.38	-16.31	22.70	16.90	19.07	NB	50.50	33.60	OK	
	49.1501	Vertic.	34.48	28.74	31.41	-16.30	18.18	12.44	15.11	NB	46.61	34.17	OK	
	73.8975	Vertic.	28.97	16.12	23.26	-17.46	11.51	-1.34	5.80	BB	52.16	46.36	OK	
	98.3006	Vertic.	43.94	40.97	41.80	-16.85	27.09	24.12	24.95	NB	43.78	19.66	OK	
	103.2760	Vertic.	48.19	35.68	44.83	-16.64	31.55	19.04	28.19	BB	54.10	25.91	OK	
	137.7016	Vertic.	37.48	25.77	33.65	-14.72	22.76	11.05	18.93	BB	55.99	37.06	OK	
	189.3387	Vertic.	37.64	18.56	30.67	-12.00	25.64	6.56	18.67	BB	58.09	39.42	OK	
	258.0381	Vertic.	41.54	31.94	35.69	-15.44	26.10	16.50	20.25	BB	60.12	39.87	OK	
	327.0413	Vertic.	38.40	20.42	34.27	-13.66	24.74	6.76	20.61	BB	61.68	41.07	OK	
	516.3800	Vertic.	36.20	28.15	31.94	-9.90	26.30	18.25	22.04	BB	63.00	40.96	OK	
	585.2307	Vertic.	37.57	32.90	35.01	-8.60	28.97	24.30	26.41	NB	53.00	28.70	OK	
	791.7824	Vertic.	35.42	28.95	31.78	-5.44	29.98	23.51	26.34	BB	63.00	36.66	OK	
	860.6330	Vertic.	34.55	27.17	31.09	-4.55	30.00	22.62	26.54	BB	63.00	36.46	OK	

BW = 120 kHz, Step = 50 kHz, Dwell = 5 ms

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[Mode: Video with GPS Receiving mode]

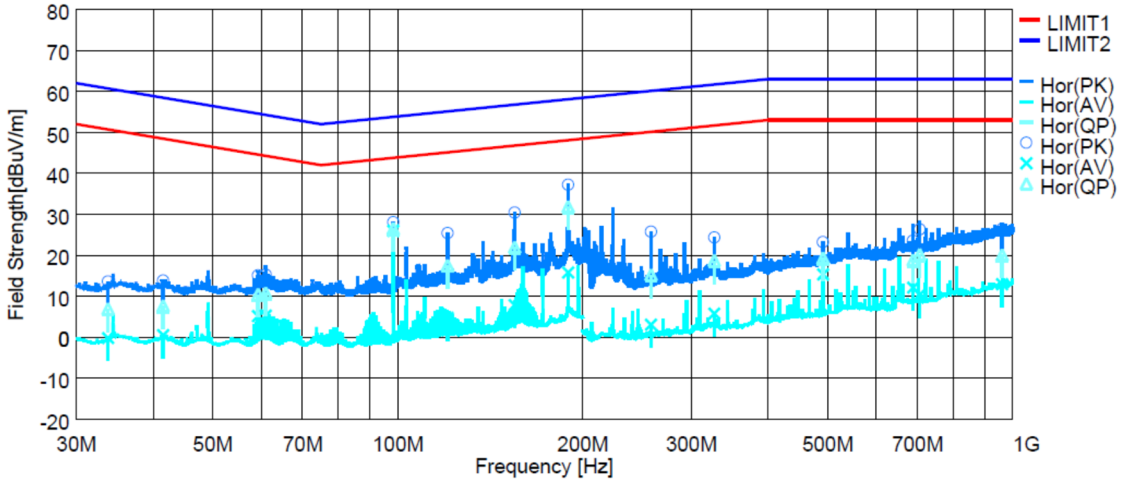
ALSE No.6

Radiated Emission Test - ALSE

Standards : ECE R10

Test Mode : Video with GPS receiving mode
Tested Date : 2022/09/13
Temp/Humid : 23 deg.C / 61 %RH
Engineer : K.Tsujiya
Remarks : Seral No. 107X0026

LIMIT1 : ECE Regulation No.10 Narrow Band (1m)
LIMIT2 : ECE Regulation No.10 Broad Band (1m)



Band ID	Freq.	Pol	Level			Factor	Result			NB/BB	Limit	Margin		Memo
			PK	AV	QP		PK	AV	QP					
	[MHz]		[dBuV]			[dB]	[dBuV/m]				[dBuV/m]	[dB]		
	33.7924	Horizo.	29.94	16.11	23.22	-16.33	13.61	-0.22	6.89	BB	60.70	53.81	OK	
	41.5088	Horizo.	30.04	16.76	23.89	-16.24	13.80	0.52	7.65	BB	58.46	50.81	OK	
	59.2411	Horizo.	32.00	22.05	27.34	-16.91	15.09	5.14	10.43	BB	54.57	44.14	OK	
	60.9718	Horizo.	32.28	22.28	27.75	-17.01	15.27	5.27	10.74	BB	54.26	43.52	OK	
	98.3004	Horizo.	44.89	42.80	43.31	-16.85	28.04	25.95	26.46	NB	43.78	17.83	OK	
	120.4730	Horizo.	40.88	20.29	33.03	-15.51	25.37	4.78	17.52	BB	55.11	37.59	OK	
	154.8976	Horizo.	44.27	21.69	35.80	-13.88	30.39	7.81	21.92	BB	56.77	34.85	OK	
	189.3246	Horizo.	49.18	27.82	43.83	-12.00	37.18	15.82	31.83	BB	58.08	26.25	OK	
	258.1738	Horizo.	41.14	18.51	30.62	-15.43	25.71	3.08	15.19	BB	60.12	44.93	OK	
	327.0242	Horizo.	38.01	19.44	32.34	-13.66	24.35	5.78	18.68	BB	61.68	43.00	OK	
	491.5022	Horizo.	33.51	25.64	29.59	-10.31	23.20	15.33	19.28	BB	63.00	43.72	OK	
	688.5069	Horizo.	30.62	19.18	25.85	-7.08	23.54	12.10	18.77	BB	63.00	44.23	OK	
	705.7268	Horizo.	33.22	17.23	27.03	-6.88	26.34	10.35	20.15	BB	63.00	42.85	OK	
	961.1186	Horizo.	28.57	15.06	22.17	-2.12	26.45	12.94	20.05	BB	63.00	42.95	OK	

BW = 120 kHz, Step = 50 kHz, Dwell = 5 ms

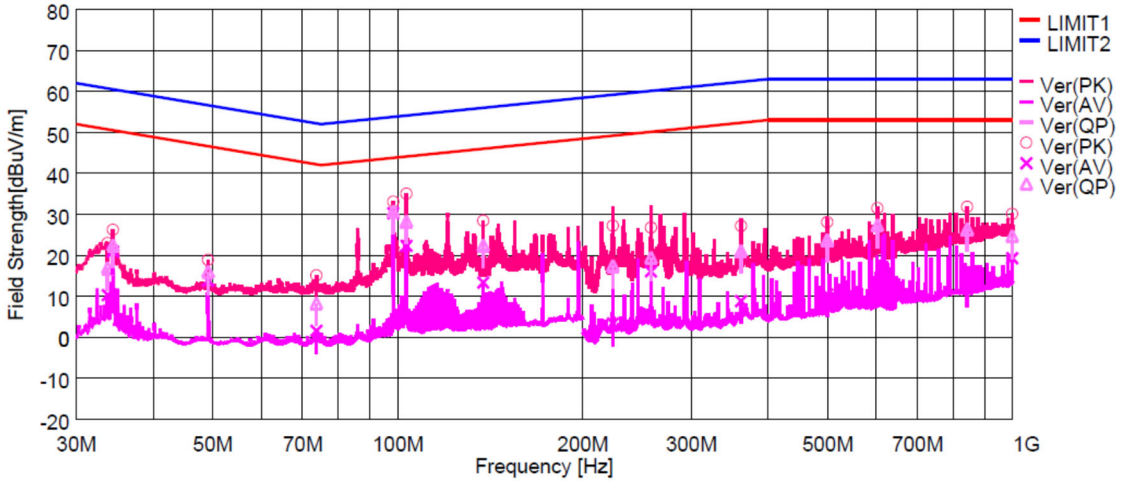
ALSE No.6

Radiated Emission Test - ALSE

Standards : ECE R10

Test Mode : Video with GPS receiving mode
Tested Date : 2022/09/13
Temp/Humid : 23 deg.C / 61 %RH
Engineer : K.Tsujiya
Remarks : Seral No. 107X0026

LIMIT1 : ECE Regulation No.10 Narrow Band (1m)
LIMIT2 : ECE Regulation No.10 Broad Band (1m)



Band ID	Freq.	Pol	Level			Factor	Result			NB/BB	Limit	Margin		Memo
			PK	AV	QP		PK	AV	QP					
	[MHz]		[dBuV]			[dB]	[dBuV/m]				[dBuV/m]	[dB]		
	33.7304	Vertic.	39.30	26.61	33.31	-16.34	22.96	10.27	16.97	BB	60.72	43.75	OK	
	34.4253	Vertic.	42.56	37.25	38.82	-16.31	26.25	20.94	22.51	NB	50.50	29.56	OK	
	49.1500	Vertic.	35.18	30.09	32.29	-16.30	18.88	13.79	15.99	NB	46.61	32.82	OK	
	73.7276	Vertic.	32.54	19.04	25.77	-17.46	15.08	1.58	8.31	BB	52.19	43.88	OK	
	98.3004	Vertic.	49.96	47.14	47.66	-16.85	33.11	30.29	30.81	NB	43.78	13.49	OK	
	103.2757	Vertic.	51.65	38.91	44.90	-16.64	35.01	22.27	28.26	BB	54.10	25.84	OK	
	137.7013	Vertic.	43.10	28.05	37.19	-14.72	28.38	13.33	22.47	BB	55.99	33.52	OK	
	223.7655	Vertic.	43.76	19.94	34.01	-16.56	27.20	3.38	17.45	BB	59.18	41.73	OK	
	258.0399	Vertic.	42.16	31.49	34.84	-15.44	26.72	16.05	19.40	BB	60.12	40.72	OK	
	361.4506	Vertic.	39.91	21.56	33.84	-12.73	27.18	8.83	21.11	BB	62.33	41.22	OK	
	499.1958	Vertic.	38.28	20.64	33.99	-10.23	28.05	10.41	23.76	BB	63.00	39.24	OK	
	602.3790	Vertic.	39.80	21.74	35.70	-8.34	31.46	13.40	27.36	BB	63.00	35.64	OK	
	843.4224	Vertic.	36.59	17.73	31.17	-4.76	31.83	12.97	26.41	BB	63.00	36.59	OK	
	998.3341	Vertic.	31.70	20.91	26.29	-1.63	30.07	19.28	24.66	BB	63.00	38.34	OK	

BW = 120 kHz, Step = 50 kHz, Dwell = 5 ms

[Mode: Audio input with GPS Receiving mode]

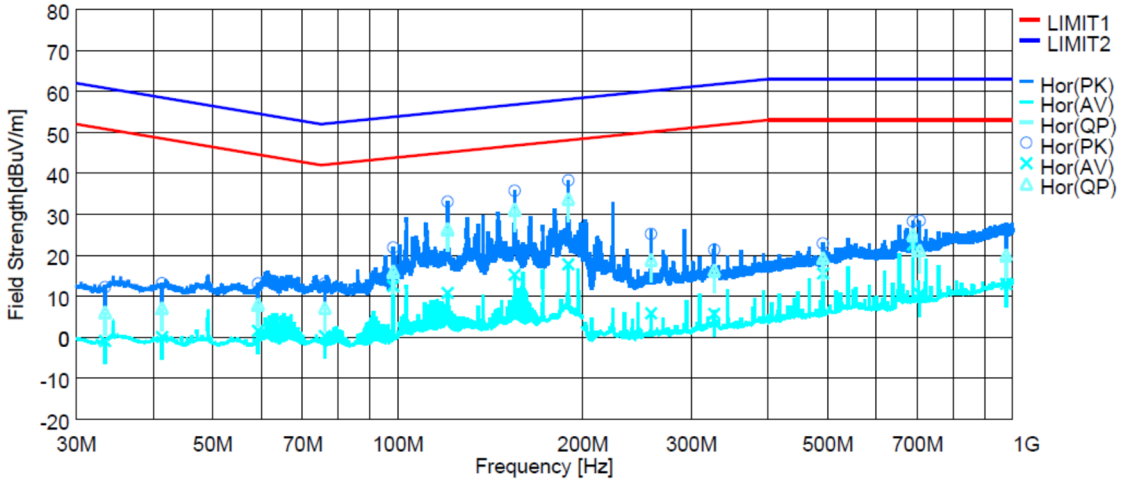
ALSE No.6

Radiated Emission Test - ALSE

Standards : ECE R10

Test Mode : Audio input with GPS receiving mode
Tested Date : 2022/09/13
Temp/Humid : 23 deg.C / 61 %RH
Engineer : K.Tsujiya
Remarks : Seral No. 107X0026

LIMIT1 : ECE Regulation No.10 Narrow Band (1m)
LIMIT2 : ECE Regulation No.10 Broad Band (1m)



Band ID	Freq.	Pol	Level			Factor	Result			NB/BB	Limit	Margin		Memo
			PK	AV	QP		PK	AV	QP					
	[MHz]		[dBuV]			[dB]	[dBuV/m]				[dBuV/m]	[dB]		
	33.4196	Horizo.	28.59	15.42	22.49	-16.35	12.24	-0.93	6.14	BB	60.82	54.68	OK	
	41.3623	Horizo.	29.42	16.30	23.40	-16.24	13.18	0.06	7.16	BB	58.49	51.33	OK	
	59.2420	Horizo.	29.98	18.48	24.99	-16.91	13.07	1.57	8.08	BB	54.57	46.49	OK	
	76.1078	Horizo.	30.52	17.71	24.63	-17.44	13.08	0.27	7.19	BB	52.10	44.91	OK	
	98.3004	Horizo.	38.71	29.36	33.01	-16.85	21.86	12.51	16.16	BB	53.78	37.62	OK	
	120.4898	Horizo.	48.55	26.34	42.00	-15.50	33.05	10.84	26.50	BB	55.12	28.62	OK	
	154.9155	Horizo.	49.66	29.12	45.15	-13.88	35.78	15.24	31.27	BB	56.77	25.50	OK	
	189.3544	Horizo.	50.31	29.79	45.76	-11.99	38.32	17.80	33.77	BB	58.09	24.32	OK	
	258.2046	Horizo.	40.65	21.29	34.41	-15.43	25.22	5.86	18.98	BB	60.12	41.14	OK	
	327.0584	Horizo.	34.98	19.38	30.01	-13.66	21.32	5.72	16.35	BB	61.68	45.33	OK	
	491.5021	Horizo.	33.23	25.89	29.70	-10.31	22.92	15.58	19.39	BB	63.00	43.61	OK	
	688.5073	Horizo.	35.39	29.68	32.18	-7.08	28.31	22.60	25.10	NB	53.00	30.40	OK	
	705.7362	Horizo.	35.31	17.47	28.13	-6.88	28.43	10.59	21.25	BB	63.00	41.75	OK	
	975.6077	Horizo.	28.17	14.78	21.87	-1.75	26.42	13.03	20.12	BB	63.00	42.88	OK	

BW = 120 kHz, Step = 50 kHz, Dwell = 5 ms

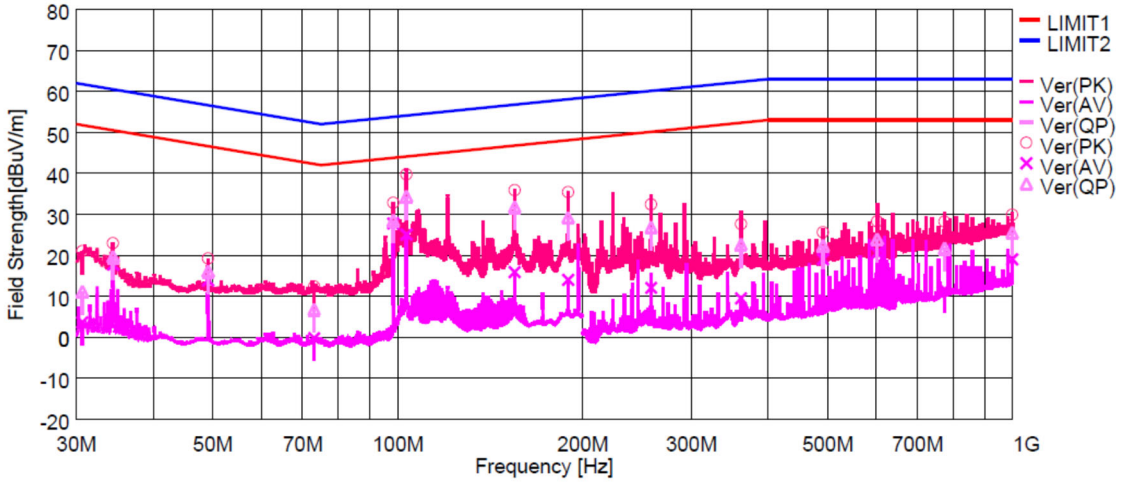
ALSE No.6

Radiated Emission Test - ALSE

Standards : ECE R10

Test Mode : Audio input with GPS receiving mode
Tested Date : 2022/09/13
Temp/Humid : 23 deg.C / 61 %RH
Engineer : K.Tsujiya
Remarks : Seral No. 107X0026

LIMIT1 : ECE Regulation No.10 Narrow Band (1m)
LIMIT2 : ECE Regulation No.10 Broad Band (1m)



Band ID	Freq.	Pol	Level			Factor	Result			NB/BB	Limit	Margin		Memo
			PK	AV	QP		PK	AV	QP					
	[MHz]		[dBuV]			[dB]	[dBuV/m]				[dBuV/m]	[dB]		
	30.6797	Vertic.	37.45	20.08	27.64	-16.44	21.01	3.64	11.20	BB	61.76	50.56	OK	
	34.4253	Vertic.	39.24	34.04	35.94	-16.31	22.93	17.73	19.63	NB	50.50	32.77	OK	
	49.1504	Vertic.	35.54	30.20	32.37	-16.30	19.24	13.90	16.07	NB	46.61	32.71	OK	
	73.0802	Vertic.	29.80	17.25	24.23	-17.46	12.34	-0.21	6.77	BB	52.28	45.51	OK	
	98.3006	Vertic.	49.68	44.58	45.35	-16.85	32.83	27.73	28.50	NB	43.78	16.05	OK	
	103.2760	Vertic.	56.36	41.70	50.96	-16.64	39.72	25.06	34.32	BB	54.10	19.78	OK	
	154.8982	Vertic.	49.73	29.77	45.66	-13.88	35.85	15.89	31.78	BB	56.77	24.99	OK	
	189.3033	Vertic.	47.38	25.98	41.20	-12.00	35.38	13.98	29.20	BB	58.08	28.88	OK	
	258.2513	Vertic.	47.81	27.47	42.24	-15.43	32.38	12.04	26.81	BB	60.12	33.31	OK	
	361.4647	Vertic.	40.35	22.19	35.33	-12.73	27.62	9.46	22.60	BB	62.33	39.73	OK	
	491.5023	Vertic.	35.91	29.36	32.64	-10.31	25.60	19.05	22.33	BB	63.00	40.67	OK	
	602.0893	Vertic.	36.61	28.90	32.25	-8.34	28.27	20.56	23.91	BB	63.00	39.09	OK	
	774.5552	Vertic.	33.98	17.45	27.43	-5.78	28.20	11.67	21.65	BB	63.00	41.35	OK	
	998.3329	Vertic.	31.52	20.64	27.09	-1.63	29.89	19.01	25.46	BB	63.00	37.54	OK	

BW = 120 kHz, Step = 50 kHz, Dwell = 5 ms

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[Ambient noise]

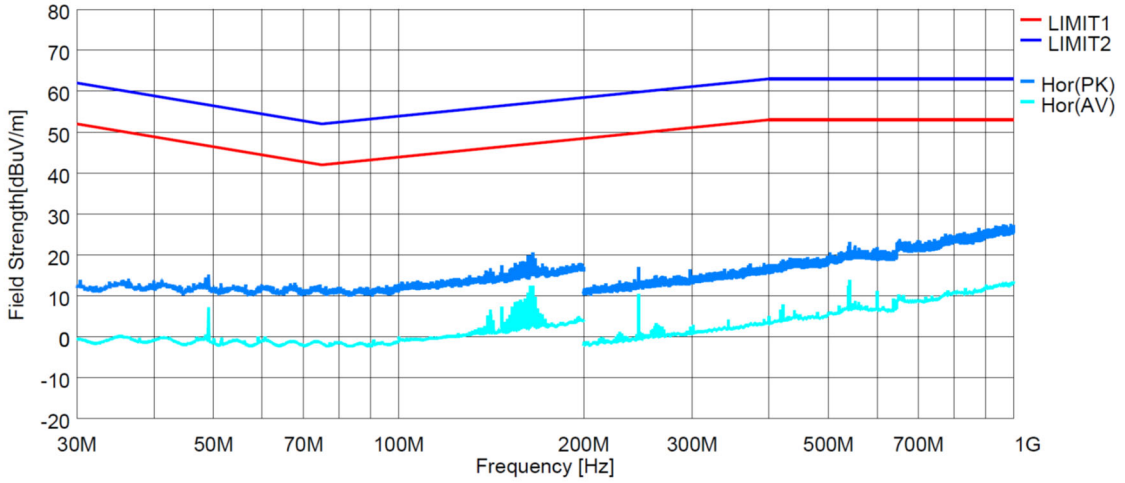
ALSE No.6

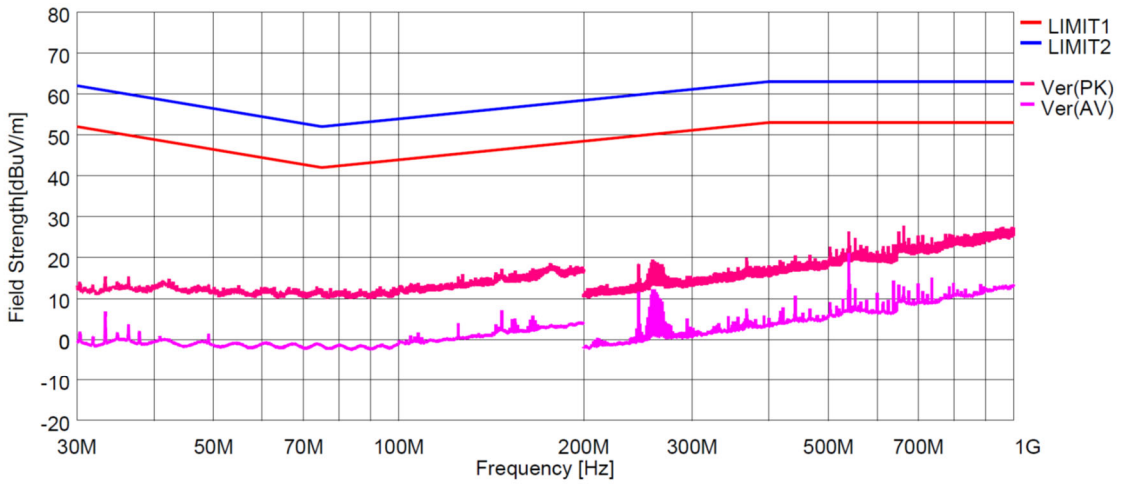
Radiated Emission Test - ALSE

Standards : ECE R10

Test Mode : Ambient
Tested Date : 2022/09/12
Temp/Humid : 24 deg.C / 67 %RH
Engineer : K.Tsujiya
Remarks :

LIMIT1 : ECE Regulation No.10 Narrow Band (1m)
LIMIT2 : ECE Regulation No.10 Broad Band (1m)

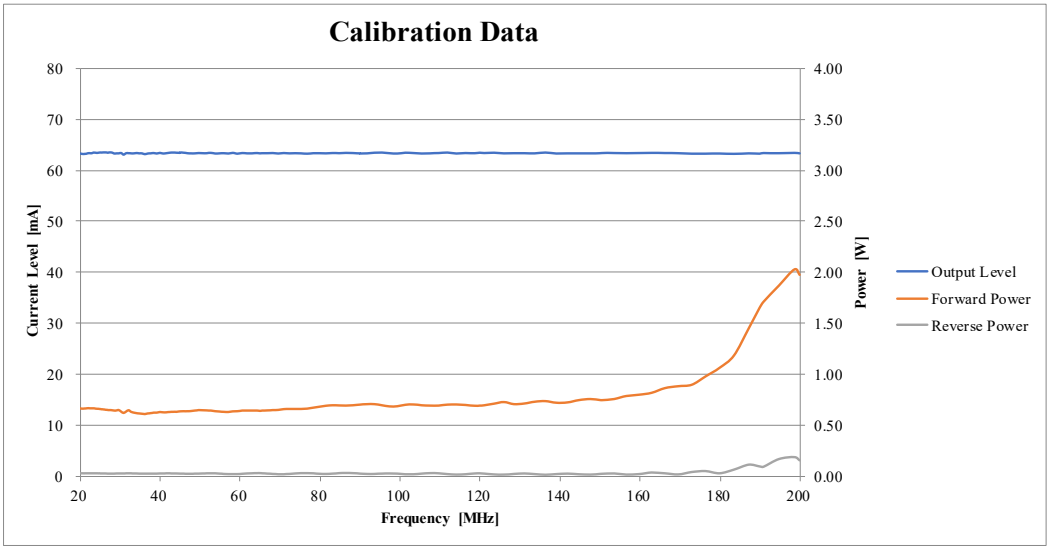


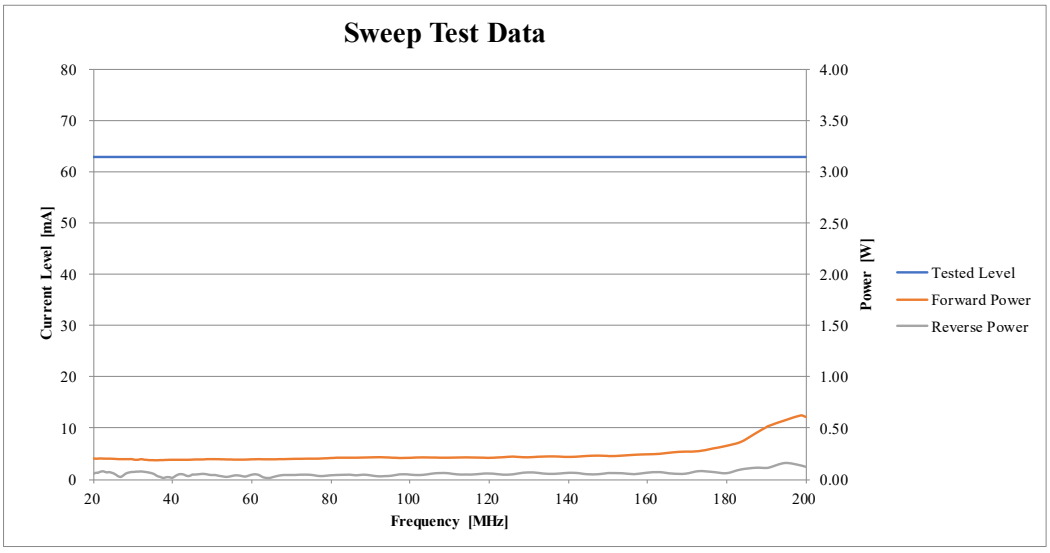


BW = 120 kHz, Step = 50 kHz, Dwell = 5 ms

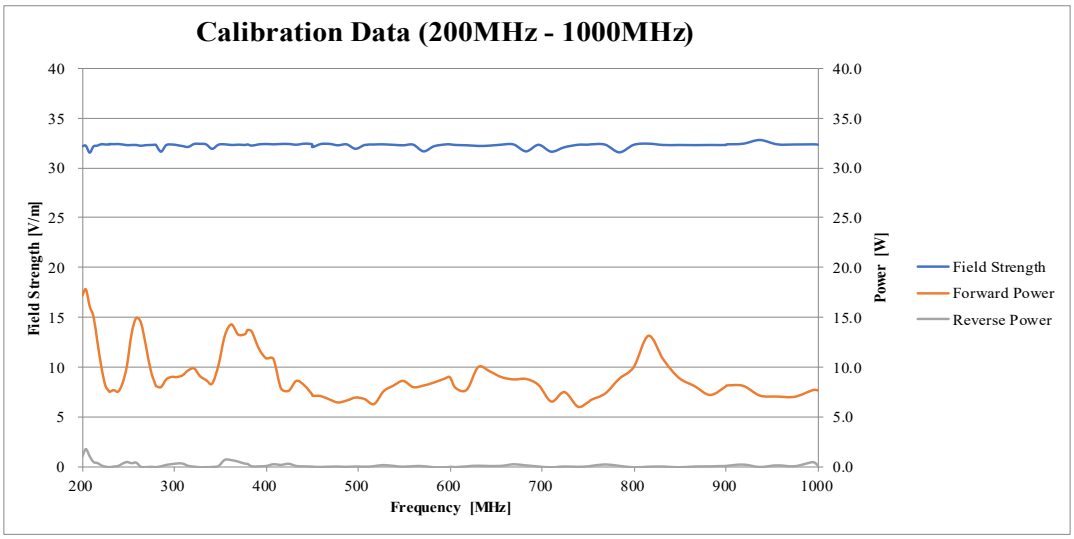
APPENDIX 3: DATA OF RADIATED IMMUNITY TEST

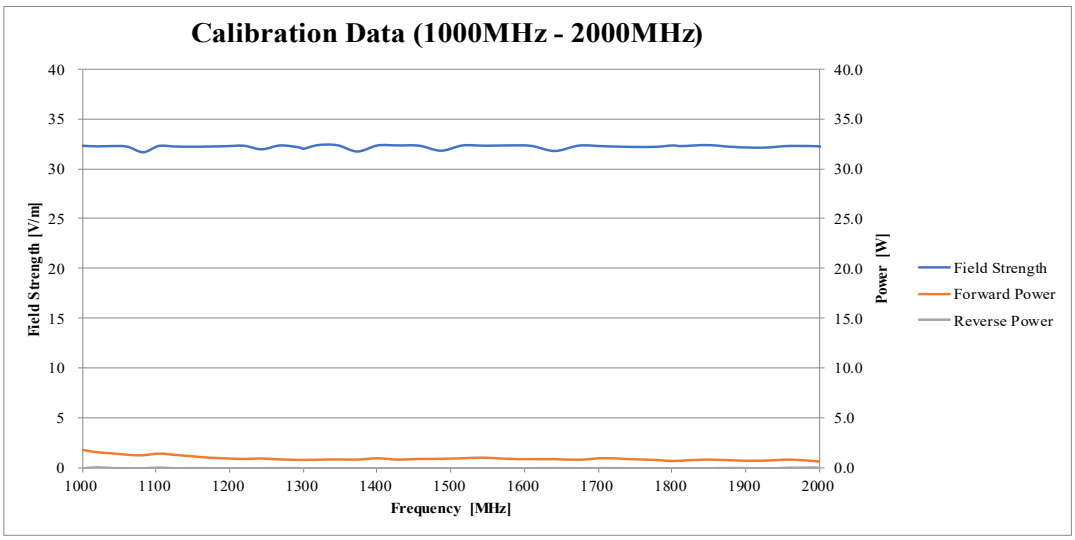
[BCI Test Data]

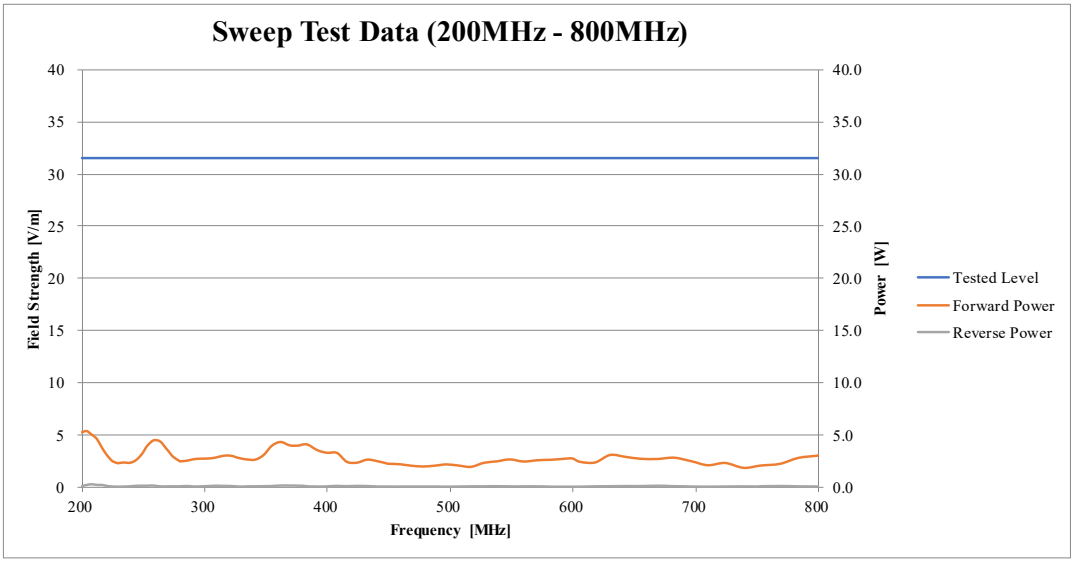


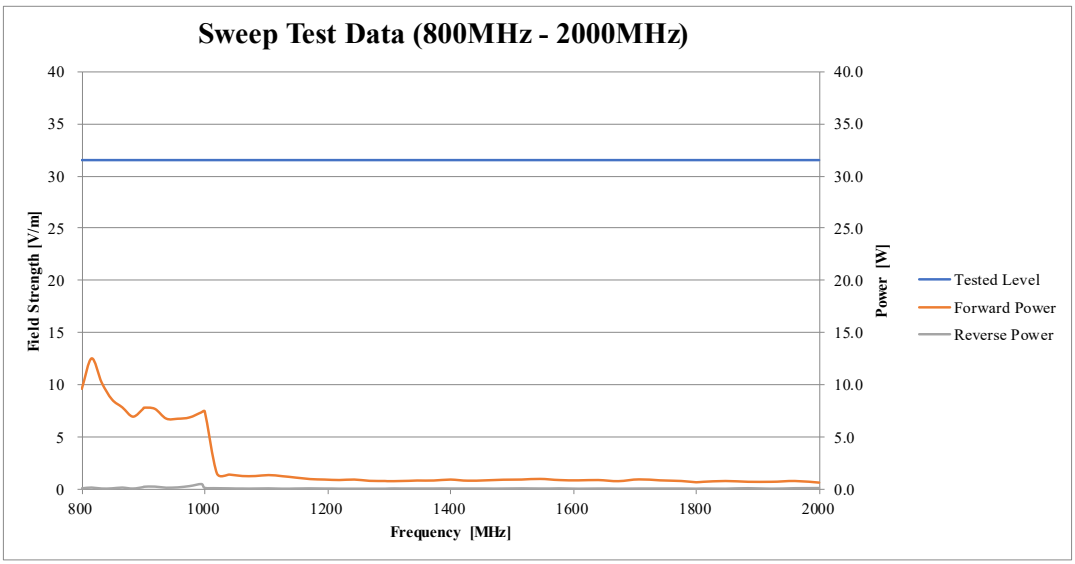


[Free Field Immunity]









APPENDIX 4: TEST EQUIPMENT USED

Test equipment (1/3)

Test Item	Local ID	LIMS ID	Description	Manufacturer	Model	Serial	Last Calibration Date	Cal Int
RE	CTR-15	144200	Test Receiver	Rohde & Schwarz	ESW8	100952	2021/10/01	12
RE	CAF-07	142929	Pre-Amplifier	SONOMA INSTRUMENT	310N	240505	2021/11/01	12
RE	CLA-04-ARP	143477	Logperiodic Antenna	Schwarzbeck Mess-Elektronik OHG	VULP 9118-B	433	2022/01/05	12
RE	CAT3-09	143054	3dB Fixed Atten.	TAMAGAWA	UFA-01	none	2022/05/06	12
RE	CBA-05-ARP	143101	Biconical Antenna	Schwarzbeck Mess-Elektronik OHG	VHBB9124 BBA9106	410	2021/10/04	12
RE	CLS-31	143512	LISN	Schwarzbeck Mess-Elektronik OHG	NNBM8124	072	2022/04/04	12
RE	CTM-89	200799	Terminator	JFW	50T-473-1.0	none	2022/09/02	12
RE	CLS-30	143511	LISN	Schwarzbeck Mess-Elektronik OHG	NNBM8124	071	2022/04/04	12
RE	CTM-88	200792	Terminator	JFW	50T-473-1.0	none	2022/09/02	12
RE	CMH-02	143530	Milliohm Hitester	HIOKI E.E. CORPORATION	3540	'061112199	2022/04/12	12
RE	CTS-07	144209	Digital Multimeter	Fluke Corporation	FLK-83-V	17610192	2021/10/20	12
RE	COS-06	143538	Temperature & Humidity Indicator	HIOKI E.E. CORPORATION	3641/9680-50	070727010/070799296	2022/07/20	12
RE	CBM-06	143129	Barometer	Sanoh Co., Ltd	SBR-151	000017	2021/11/24	36
RE	CSCL-22	222615	Measure	SHINWA RULES CO., LTD.	80862	none	-	-
RE	COTS-CEMI-01	142911	Emission RE/CE Test Software	TSJ (Techno Science Japan)	TEPTO-DV/AM	4.3.0248	-	-
TE	CLS-34	143529	Single-Line Artificial Network	EM Test (Ametek)	AN200N100	P1529161233	2022/02/02	12
TE	CSW-13	143976	Electronic switch	EM Test (Ametek)	BS200N100	P1529161218	2022/02/02	12
TE	COSC-06	176902	Oscilloscope	Tektronix	MDO3054	C047268	2022/05/12	12
TE	CVP-06-06	176716	Voltage Probe	Tektronix	P5100A	C013028	2022/05/27	12
TE	CRT-22	143634	Non-Inductive Resistor	PCN	IRV200N 10Ω	none	2022/07/01	12
TE	CPA-36	160940	Power Amplifier	TESEQ Inc (Ametek)	PA5840-150	8130	2022/02/07	12
TE	CDPS-26	180494	DC Power Supply	Kikusui Electronics Corp.	PAN35-30A	ZE002695	-	-
TE	CTS-30	202459	Digital Multimeter	Fluke Corporation	114	28041580WS	2021/10/11	12
TE	COS-07	143539	Temperature & Humidity Indicator	HIOKI E.E. CORPORATION	3641/9680-50	070727011/070799297	2022/07/20	12
TE	CBM-02	143125	Barometer	OTA	No.11	15408	2021/11/24	36
TE	CSCL-24	222617	Measure	SHINWA RULES CO., LTD.	80862	none	-	-

Test equipment (2/3)

Test Item	Local ID	LIMS ID	Description	Manufacturer	Model	Serial	Last Calibration Date	Cal Int
FF	CPA-11	144681	Power Amplifier	Milmega	AS0102-400(500)	1013240	2022/03/08	12
FF	CHA-12	144813	Micro Wave Horn	ETS	3162-01	00051522	-	-
FF	CLS-31	143512	LISN	Schwarzbeck Mess-Elektronik OHG	NNBM8124	072	2022/04/04	12
FF	CTM-89	200799	Terminator	JFW	50T-473-1.0	none	2022/09/02	12
FF	CLS-30	143511	LISN	Schwarzbeck Mess-Elektronik OHG	NNBM8124	071	2022/04/04	12
FF	CTM-88	200792	Terminator	JFW	50T-473-1.0	none	2022/09/02	12
FF	CMH-02	143530	Milliohm Hitester	HIOKI E.E. CORPORATION	3540	'061112199	2022/04/12	12
FF	CPA-23	144671	Power Amplifier	PRANA	AP32MT1200	1108-1109	2022/03/08	12
FF	CDCPL-20	143378	Directional Coupler	WERLATONE	C6338-727	95064	2022/06/06	12
FF	CFG-01	143425	Function Generator	NF Electronic Inst	WF1943A	412288	2022/05/18	12
FF	CPM-18	171956	Power Meter	Rohde & Schwarz	NRP2	106752	2022/04/21	12
FF	CPSO-28	168367	Average Power Sensor	Rohde & Schwarz	NRP6A	101424	2022/04/21	12
FF	CPSO-29	171953	Average Power Sensor	Rohde & Schwarz	NRP6A	101665	2022/04/21	12
FF	CSG-05	143675	Signal Generator	Rohde & Schwarz	SMT06	100879	2022/08/18	12
FF	CTS-07	144209	Digital Multimeter	Fluke Corporation	FLK-83-V	17610192	2021/10/20	12
FF	COS-06	143538	Temperature & Humidity Indicator	HIOKI E.E. CORPORATION	3641/9680-50	070727010/070799296	2022/07/20	12
FF	CBM-06	143129	Barometer	Sanoh Co., Ltd	SBR-151	000017	2021/11/24	36
FF	CSCL-22	222615	Measure	SHINWA RULES CO., LTD.	80862	none	-	-
FF	COTS-CEMS-RI	183752	Antenna Immunity Software	TSJ (Techno Science Japan)	TEPTO-RS/ANT	Ver. 4.8.468	-	-
BCI	CBCI-01	143094	Bulk Current Injection	Fischer(FCC)	F-140A	416	2022/07/05	12
BCI	CLS-31	143512	LISN	Schwarzbeck Mess-Elektronik OHG	NNBM8124	072	2022/04/04	12
BCI	CTM-89	200799	Terminator	JFW	50T-473-1.0	none	2022/09/02	12
BCI	CLS-30	143511	LISN	Schwarzbeck Mess-Elektronik OHG	NNBM8124	071	2022/04/04	12
BCI	CTM-88	200792	Terminator	JFW	50T-473-1.0	none	2022/09/02	12
BCI	CMH-02	143530	Milliohm Hitester	HIOKI E.E. CORPORATION	3540	061112199	2022/04/12	12
BCI	CPM-18	171956	Power Meter	Rohde & Schwarz	NRP2	106752	2022/04/21	12
BCI	CPSO-28	168367	Average Power Sensor	Rohde & Schwarz	NRP6A	101424	2022/04/21	12
BCI	CPSO-29	171953	Average Power Sensor	Rohde & Schwarz	NRP6A	101665	2022/04/21	12
BCI	CSG-05	143675	Signal Generator	Rohde & Schwarz	SMT06	100879	2022/08/18	12
BCI	CPA-13	144683	Power Amplifier	IFI	M100	K214-0106	2022/03/08	12
BCI	CDCPL-12	144743	Directional Coupler	WERLATONE	C5086-10	35577	2022/03/07	12
BCI	CTS-07	144209	Digital Multimeter	Fluke Corporation	FLK-83-V	17610192	2021/10/20	12
BCI	COS-06	143538	Temperature & Humidity Indicator	HIOKI E.E. CORPORATION	3641/9680-50	070727010/070799296	2022/07/20	12
BCI	CBM-06	143129	Barometer	Sanoh Co., Ltd	SBR-151	000017	2021/11/24	36
BCI	CSCL-22	222615	Measure	SHINWA RULES CO., LTD.	80862	none	-	-
BCI	COTS-CEMS-BCI	183757	BCI Immunity Software	TSJ (Techno Science Japan)	TEPTO-RS/BCI	Ver 4.8.358	-	-

Test equipment (3/3)

Test Item	Local ID	LIMS ID	Description	Manufacturer	Model	Serial	Last Calibration Date	Cal Int
TI	CTI-06	160936	Transient Pulse Generator	TESEQ Inc (Ametek)	NSG5500	1485	2022/02/07	12
TI	CPA-36	160940	Power Amplifier	TESEQ Inc (Ametek)	PA5840-150	8130	2022/02/07	12
TI	COSC-03	143550	Digitizing Oscillo.	Keysight Technologies Inc	DSO6104A	MY44003100	2021/12/23	12
TI	CVP-03-10	199837	Voltage Probe	Keysight Technologies Inc	10076C	10076-60003	2022/06/26	12
TI	CDPS-10	144783	DC Power Supply	Kikusui Electronics Corp.	PAN35-30A	FD003557	-	-
TI	CTS-30	202459	Digital Multimeter	Fluke Corporation	114	28041580WS	2021/10/11	12
TI	COS-07	143539	Temperature & Humidity Indicator	HIOKI E.E. CORPORATION	3641/9680-50	070727011/070799297	2022/07/20	12
TI	CBM-02	143125	Barometer	OTA	No.11	15408	2021/11/24	36
TI	CSCL-24	222617	Measure	SHINWA RULES CO., LTD.	80862	none	-	-
TI	COTS-CTRAN-01	142946	Transient Immunity Test Software	TESEQ Inc (Ametek)	Autostar	Ver.2.3.0.0	-	-

***Hyphens for Last Calibration Date and Cal Int (month) are instruments that Calibration is not required (e.g. software), or instruments checked in advance before use.**

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:
RE: Radiated emission test / TE: Transient emission test.
FF: Free field immunity / BCI: Bulk current injection.
TI: Transient immunity.

End of Report