



25, 2565beon-gil, Jungbu-daero, Yangji-myun, Cheoin-gu, Yongin-si, Gyeonggi-do, Korea 17162

TEL : +82-31-336-1798 FAX : +82-31-336-3451

DSTech Co., Ltd.

TEST REPORT



1. Report No : DST-23E-0686(1)
2. Date of incoming : 2023.05.03
3. Applicant
 - Name : Glosys Inc.
 - Address : #510 Venture Valley B/D, 958, GosaekDong, GwonseonGU, Suwon-si, South Korea
4. Manufacturer : Glosys Inc.
5. Equipment
 - Product Name : In-vehicle Infortainment System
 - Model Name : CT90118CS
 - Add Model Name : N/A
6. Purpose of a report : FCC Marking
7. Test Method Used : ANSI C63.4:2014
FCC Part 15 Subpart B (Class A digital device)
IC ICES-003 Issue 6 (Class A)
8. Date of Test : 2023.05.09
9. Test Result : Refer to the attached Test Result

Affirmation	Tested by :	Reviewed by:
	Name : KIM, Yerin 	Name : KIM, JooHo 

The test results presented in this test report are limited only to the sample supplied by applicant and the use of this test report is inhibited other than its purpose.

This test report shall not be reproduced except in full, without the written approval of DSTech Co., Ltd.

2024.08.13**DSTech Co., Ltd.**

※ This test report is not related to KS Q ISO/IEC 17025 and KOLAS Scheme & procedure





Test Report Revision History

Revisions	Issue Report No.	Issued Date	Description	Approved by
0	DST-23E-0686	2023.05.19	Initial Release	C.Y. Kim
1	DST-23E-0686(1) (Reception number DST-24E-1647)	2024.08.13	Change of address	J.H.Kim



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1. Test Laboratory

This report contains the result of tests performed by:

Company Name	DSTech Co., Ltd.
Address	25, 2565beon-gil, Jungbu-daero, Yangji-myun, Cheoin-gu, Yongin-si, Gyeonggi-do, Korea.
TEL	+82-31-336-1798
FAX	+82-31-336-3451



2. General Information of EUT

2.1 Basic description of EUT

Kind of Equipment	In-vehicle Infotainment System
Model No	CT90118CS
Add Model	N/A
Serial No	-
Type of Sample Tested	Pre-Production
Rating Power Supply	DC 12 V
Max Internal Frequency	Above 108 MHz
Applicant	Glosys Inc. #510 Venture Valley B/D, 958, GosaekDong, GwonseonGU, Suwon-si, South Korea
Manufacturer	Glosys Inc. #510 Venture Valley B/D, 958, GosaekDong, GwonseonGU, Suwon-si, South Korea

2.2 Alternative type(s)/model(s); also covered by this test report.

- The following lists consist of the added model and their differences.

Model Name	Differences	Tested
-	-	-



3. Test Summary

3.1 Applied standards and test results

Basic Standard	Description	Test Result
FCC Part 15 Subpart B / IC ICES-003 Issue 6	15.107(a) Conducted Emission	N/A (Note 1)
	15.109(g) Radiated Emission	C
C=Comply N/C=Not Comply N/T=Not Tested N/A=Not Applicable		

* The sample was tested according to the following specification: ANSI C 63.4:2014

Note 1) This test is not performed as it is a DC power input.



4. Test Conditions

4.1 EUT and supporting equipment used during test

Type of Peripheral Equipment Used:

Description	Model Name	Serial No.	Manufacturer
3WAY SPEAKER	XS-FB1630	-	SONY
Antenna	-	-	-
GPS Antenna	-	-	-
CAM 1	-	-	-
CAM 2	-	-	-
USB Memory	SDCZ73	-	Sandisk
Mobile phone	LG-F320L	-	LG Electronics Inc.
DC POWER SUPPLY	RPS 305	-	DNDE
REGULATED DC POWER SUPPLY	PWS-3005D	-	Provice



Type of Cables Used:

Device from		Device to		Length (m)	Type of shield
Name of Device	I/O port	Name of Device	I/O port		
EUT	DC Input	DC POWER SUPPLY	DC Output	2.2	NS
	POWER (Front Right)	3WAY SPEAKER	Audio Input	2.5	NS
	POWER (Front Left)	3WAY SPEAKER	Audio Input	2.5	NS
	POWER (Rear Right)	3WAY SPEAKER	Audio Input	2.5	NS
	POWER (Rear Left)	3WAY SPEAKER	Audio Input	2.5	NS
	AM FM	Antenna	-	2.0	S
	GPS	GPS Antenna	-	5.0	S
	POWER(CAM)	CAM 1	-	3.2	S
	HD_CAM	CAM 2	-	4.0	S
	USB	USB Memory	USB	-	-
	USB	Mobile phone	Micro 5 pin	2.0	S
CAM 1	DC Input	REGULATED DC POWER SUPPLY	DC Output	1.5	NS
DC POWER SUPPLY	AC Input	AC Mains	AC Mains	1.5	NS
REGULATED DC POWER SUPPLY	AC Input	AC Mains	AC Mains	1.5	NS

* NS = Unshield / S = Shield

4.2 Description of EUT modification

- N/A

4.3 Variations covered by this report

- N/A

4.4 Additional information related to Testing

Test results apply only to the particular sample tested and functionality described in this test report. This report may be reproduced in full. Partial reproduction may only be made with the written permission of the DSTech Co., Ltd.

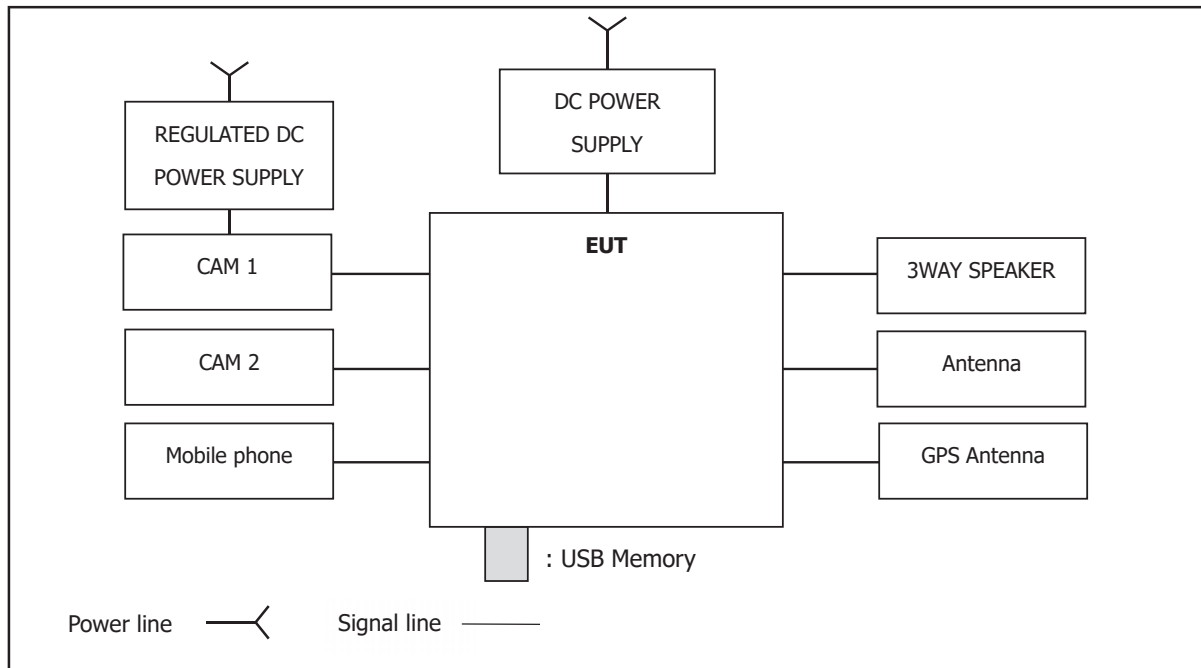


4.5 EUT Operation Modes

No.	Mode	Description
1	Camera	1. Camera video of CAM1,2 is being output to the front display. 2. Standby status for GPS reception. 3. Keep Mobile phone charged.
2	GPS	1. GPS reception status, map output on the front display. 2. Camera video of CAM2 is being output to the front display. 3. Keep Mobile phone charged.
3	USB	1. Music file stored in the USB is being output to the 3WAY SPEAKER. 2. Camera video of CAM2 is being output to the front display. 3. Standby status for GPS reception. 4. Keep Mobile phone charged.
4	FM	1. Receives FM radio frequency and maintains audio signal output to the 3WAY SPEAKER. 2. Camera video of CAM2 is being output to the front display. 3. Standby status for GPS reception. 4. Keep Mobile phone charged.
5	AM	1. Receives FM radio frequency and maintains audio signal output to the 3WAY SPEAKER. 2. Camera video of CAM2 is being output to the front display. 3. Standby status for GPS reception. 4. Keep Mobile phone charged.



4.6 Test System layout on EUT and peripherals



5. Test Results : Emission

5.1 Conducted Emission Test

5.1.1 Test Condition

Test Method : N/A

Test Date :

Temperature/Humidity :

Operation mode :

5.1.2 Test Limits

Frequency range (MHz)	Limits dB(μV)			
	Quasi-peak		Average	
	Class A	Class B	Class A	Class B
0.15 to 0.50	79	66 ~ 56	66	56 ~ 46
0.50 to 5	73	56	60	46
5 to 30		60		50

5.1.3 Test Equipment List

Equipment Type	Model	Serial No	Manufacture	Cal Due Date	Use
EMI TEST RECEIVER	ESCI 3	100049	R&S	2023.06.21	☐
Pulse Limiter (10 dB)	ESH3-Z2	102029	R&S	2023.06.21	☐
Two-Line V-network	ESH-3-Z5	100193	R&S	2023.06.22	☐
LISN	L2-16B	110VT80504	NARDA	2023.06.22	☐
8-Wire ISN CAT6	NTFM 8158	165	R&S	2023.06.23	☐
50 ohm Terminator	N/A	N/A	N/A	N/A	☐

5.1.4 Test Result of Conducted Emission

Test Results: N/A



5.2 Radiated Emission Test

5.2.1 Test Condition

Test Method : FCC Part 15 Subpart B / IC ICES-003 Issue 6

Test Date : 2023.05.09

Temperature/Humidity : 16 °C / 50 % R.H.

Operation mode : Mode 1, 2, 3, 4, 5

5.2.2 Test Limits

- The test frequency range of Radiated Disturbance measurements are listed below.

Highest frequency generated or used in the device or on which the device operates or tunes (MHz)	Upper frequency of measurement range (MHz)
Below 108	1 000
108 – 500	2 000
500 – 1 000	5 000
Above 1 000	5th harmonic of the highest frequency or 40 GHz, whichever is lower

(1) Limit for Radiated Emission below 1 000MHz

Frequency range (MHz)	Class A Equipment (10 m distance)	Class B Equipment (3 m distance)
	Quasi-peak (dB μ V/m)	Quasi-peak (dB μ V/m)
30 to 88	39.1	40
88 to 216	43.5	43.5
216 to 960	46.4	46
960 to 1 000	49.5	54
Frequency range (MHz)	Class A Equipment (10 m distance)	Class B Equipment (10 m distance)
	Quasi-peak (dB μ V/m)	Quasi-peak (dB μ V/m)
30 to 230	40	30
230 to 1 000	47	37



(2) Limits for Radiated Emission above 1 000MHz at a measuring distance of 3 m

Frequency (GHz)	Class A Equipment		Class B Equipment	
	Peak (dB μ V/m)	Average (dB μ V/m)	Peak (dB μ V/m)	Average (dB μ V/m)
1 to 40	80	60	74	54

The radiated disturbance was measured and set-up was made accordance with **ANSI C 63.4:2014**. If the EUT is table top equipment, it was placed on a wooden table with a height of 0.8 m above the reference ground plane and 3 m or 10 m away from the interference receiving antenna in the **10m semi-anechoic chamber**.

Also if the EUT is floor-standing equipment, it was placed on a non-conducted support with a height up to 0.15 m above the reference ground plane.

Rotate the EUT from (0 - 360) ° and position the receiving antenna at heights from (1 - 4) m above the reference ground plane continuously to determine associated with higher emission levels and record them.

The measurement was made in both the vertical and horizontal polarization, and the maximum value is presented in the report.

For below 1 GHz frequency range, Quasi-Peak detector with 120 kHz RBW was used.

Also Peak and Average detector with 1 MHz RBW were used for above 1 GHz frequency range.

For further description of the configuration refer to the picture of the test set-up.

5.2.3 Test Equipment List

Equipment Type	Model	Serial No	Manufacture	Cal Due Date	Use
EMI Test Receiver	ESW 44	101545	Rohde & Schwarz	2023.06.21	☒
Low Noise Pre Amplifier	MLA-1M01-B01-13	2600017	TSJ	2023.06.21	☒
TRILOG Broadband Antenna	VULB 9168	00904	SCHWARZBECK	2024.07.27	☒
COMMON MODE ABSORPTION DEVICE	CMAD1614	00156	SCHWARZBECK	2024.02.13	☒
Amplifier	TK-PA18H	180002-L	TESTEK	2023.06.22	☒
Horn Antenna	3117	218906	ETS-LINDGREN	2023.06.20	☒



5.2.4 Test Result of Radiated Emission

Test Results: **PASS**

Test data sheets follow.

Test Mode [MODE 1] / Frequency Range [30 MHz – 1 GHz]

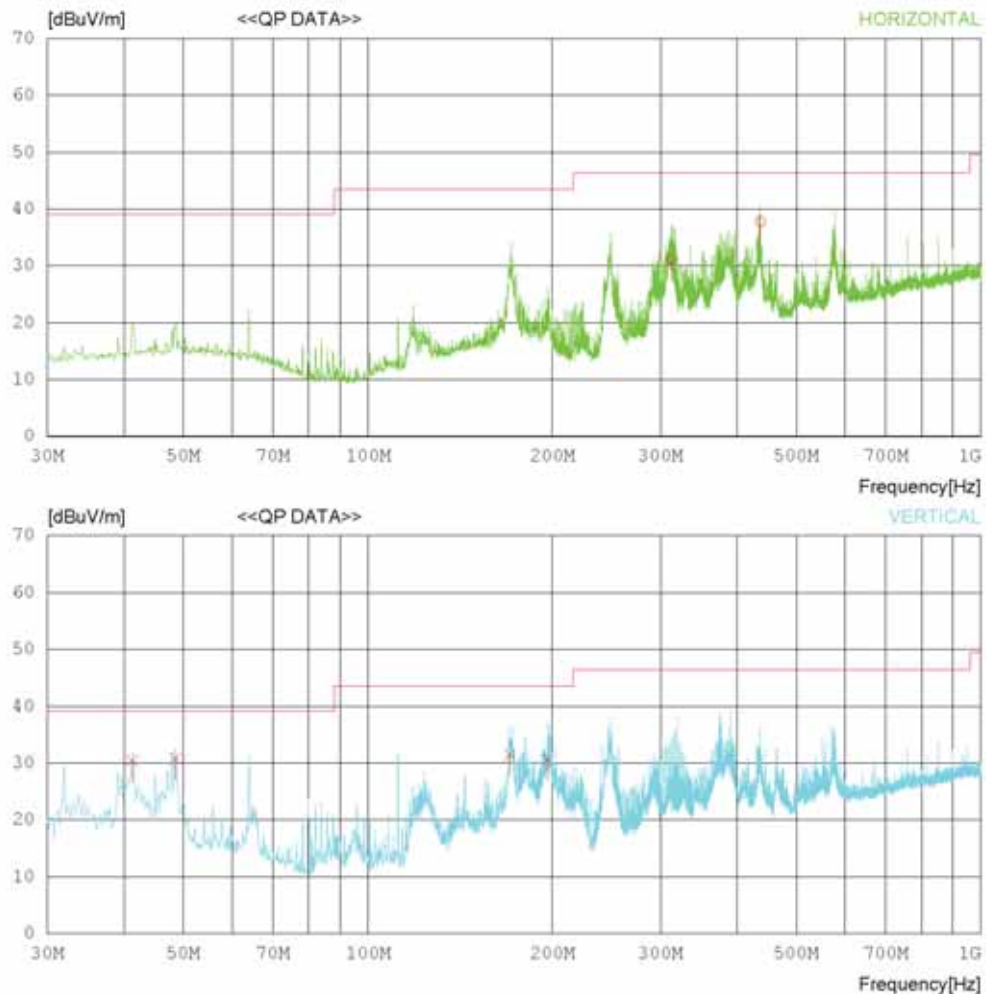
Results of Radiated Emission

Date : 2023-05-09

Order No. : DST-23E-0686
Test condition : DC 12 V
Test Mode : Camera

Test engineer : Y.R.KIM

LIMIT : FCC PART 15B CLASS A_10M



Results of Radiated Emission

Date : 2023-05-09

Order No.	DST-23E-0686	Test engineer	Y.R.KIM
Test condition	DC 12 V		
Test Mode	Camera		

LIMIT : FCC PART 15B CLASS A_10M

No.	FREQ [MHz]	READING QP [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal -----										
1	312.869	38.5	19.7	3.2	30.3	31.1	46.4	15.3	325	206
2	436.419	42.0	22.6	3.7	30.5	37.8	46.4	8.6	290	43
----- Vertical -----										
3	41.276	40.2	19.1	1.1	30.0	30.4	39.1	8.7	100	265
4	48.551	40.0	19.6	1.2	30.0	30.8	39.1	8.3	100	268
5	170.404	41.0	18.3	2.4	30.1	31.6	43.5	11.9	100	163
6	196.351	42.2	16.1	2.5	30.2	30.6	43.5	12.9	100	132

Description of Calculation

C.FACTOR(dB) :	Ant factor(dB) + Cable loss(dB) – Amp Gain(dB)
Result(dBμV) :	Reading Value(dBμV) + C.FACTOR(dB)
Margin(dBμV) :	Limit(dBμV) - Result(dBμV)



Test Mode [MODE 2] / Frequency Range [30 MHz – 1 GHz]

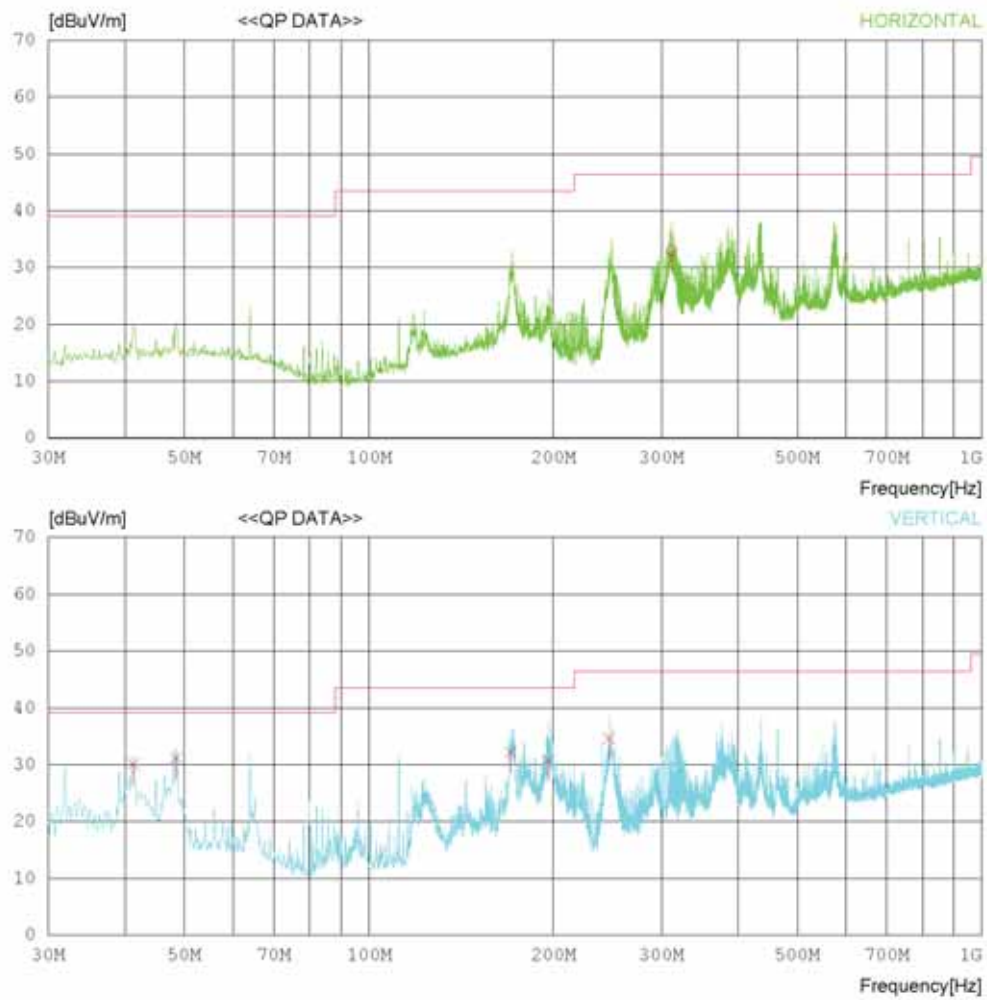
Results of Radiated Emission

Date : 2023-05-09

Order No. : DST-23E-0686
Test condition : DC 12 V
Test Mode : GPS

Test engineer : Y.R.KIM

LIMIT : FCC PART 15B CLASS A_10M



Results of Radiated Emission

Date : 2023-05-09

Order No.	: DST-23E-0686	Test engineer	: Y.R.KIM
Test condition	: DC 12 V		
Test Mode	: GPS		

LIMIT : FCC PART 15B CLASS A_10M

No.	FREQ	READING	ANT	LOSS	GAIN	RESULT	LIMIT	MARGIN	ANTENNA	TABLE
	[MHz]	QP [dBuV]	FACTOR [dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	[cm]	[DEG]
----- Horizontal -----										
1	311.171	40.5	19.6	3.2	30.3	33.0	46.4	13.4	330	206
----- Vertical -----										
2	41.276	39.9	19.1	1.1	30.0	30.1	39.1	9.0	100	263
3	48.551	40.5	19.6	1.2	30.0	31.3	39.1	7.8	100	260
4	170.404	41.6	18.3	2.4	30.1	32.2	43.5	11.3	100	129
5	196.351	42.4	16.1	2.5	30.2	30.8	43.5	12.7	100	135
6	246.426	44.5	17.6	2.8	30.2	34.7	46.4	11.7	100	69

Description of Calculation

C.FACTOR(dB) :	Ant factor(dB) + Cable loss(dB) – Amp Gain(dB)
Result(dBμV) :	Reading Value(dBμV) + C.FACTOR(dB)
Margin(dBμV) :	Limit(dBμV) - Result(dBμV)



Test Mode [MODE 3] / Frequency Range [30 MHz – 1 GHz]

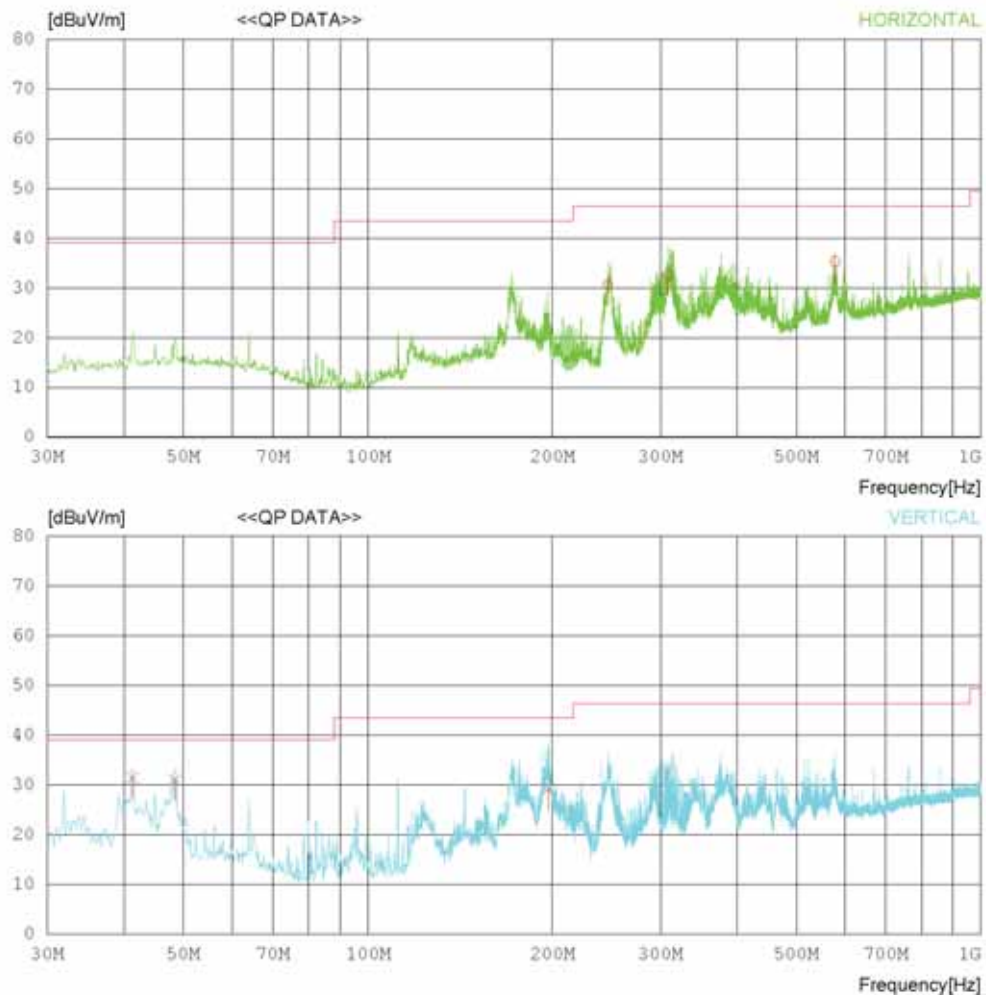
Results of Radiated Emission

Date : 2023-05-09

Order No. : DST-23E-0686
Test condition : DC 12 V
Test Mode : USB

Test engineer : Y.R.KIM

LIMIT : FCC PART 15B CLASS A_10M



Results of Radiated Emission

Date : 2023-05-09

Order No.	: DST-23E-0686	Test engineer	: Y.R.KIM
Test condition	: DC 12 V		
Test Mode	: USB		
	:		
	:		

LIMIT : FCC PART 15B CLASS A_10M

No.	FREQ [MHz]	READING QP [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal -----										
1	246.426	40.5	17.6	2.8	30.2	30.7	46.4	15.7	400	68
2	308.625	40.3	19.5	3.1	30.3	32.6	46.4	13.8	320	199
3	578.051	36.9	24.7	4.3	30.6	35.3	46.4	11.1	260	73
----- Vertical -----										
4	41.276	41.3	19.1	1.1	30.0	31.5	39.1	7.6	100	261
5	48.551	40.3	19.6	1.2	30.0	31.1	39.1	8.0	100	256
6	197.200	41.0	16.0	2.5	30.2	29.3	43.5	14.2	100	134

Description of Calculation

C.FACTOR(dB) :	Ant factor(dB) + Cable loss(dB) – Amp Gain(dB)
Result(dBμV) :	Reading Value(dBμV) + C.FACTOR(dB)
Margin(dBμV) :	Limit(dBμV) - Result(dBμV)



Test Mode [MODE 4] / Frequency Range [30 MHz – 1 GHz]

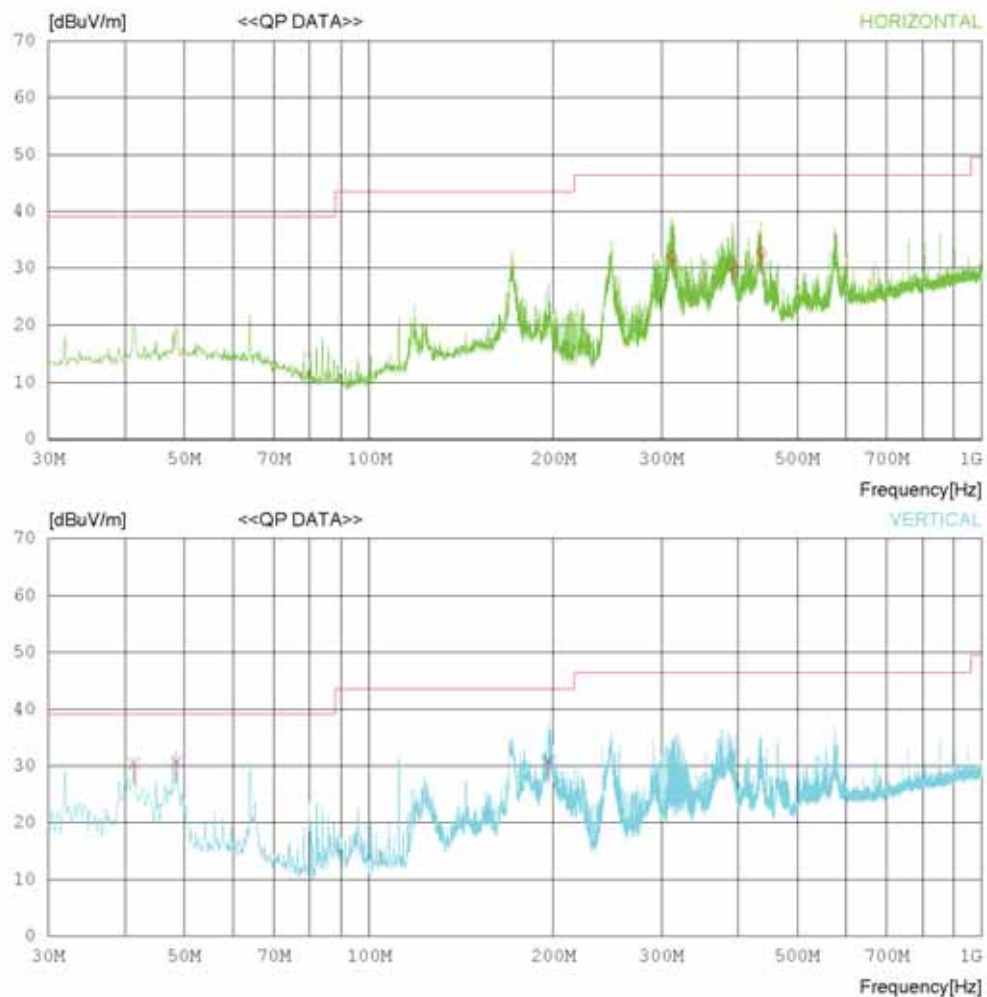
Results of Radiated Emission

Date : 2023-05-09

Order No. : DST-23E-0686
Test condition : DC 12 V
Test Mode : FM

Test engineer : Y.R.KIM

LIMIT : FCC PART 15B CLASS A_10M



Results of Radiated Emission

Date : 2023-05-09

Order No.	: DST-23E-0686	Test engineer	: Y.R.KIM
Test condition	: DC 12 V		
Test Mode	: FM		

LIMIT : FCC PART 15B CLASS A_10M

No.	FREQ [MHz]	READING QP [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal -----										
1	312.020	39.4	19.7	3.2	30.3	32.0	46.4	14.4	320	201
2	390.588	36.2	21.2	3.5	30.4	30.5	46.4	15.9	300	309
3	436.419	36.9	22.6	3.7	30.5	32.7	46.4	13.7	280	41
----- Vertical -----										
4	41.398	40.2	19.1	1.1	30.0	30.4	39.1	8.7	100	267
5	48.551	40.0	19.6	1.2	30.0	30.8	39.1	8.3	100	262
6	196.351	42.4	16.1	2.5	30.2	30.8	43.5	12.7	100	135

Description of Calculation

C.FACTOR(dB) :	Ant factor(dB) + Cable loss(dB) – Amp Gain(dB)
Result(dBμV) :	Reading Value(dBμV) + C.FACTOR(dB)
Margin(dBμV) :	Limit(dBμV) - Result(dBμV)



Test Mode [MODE 5] / Frequency Range [30 MHz – 1 GHz]

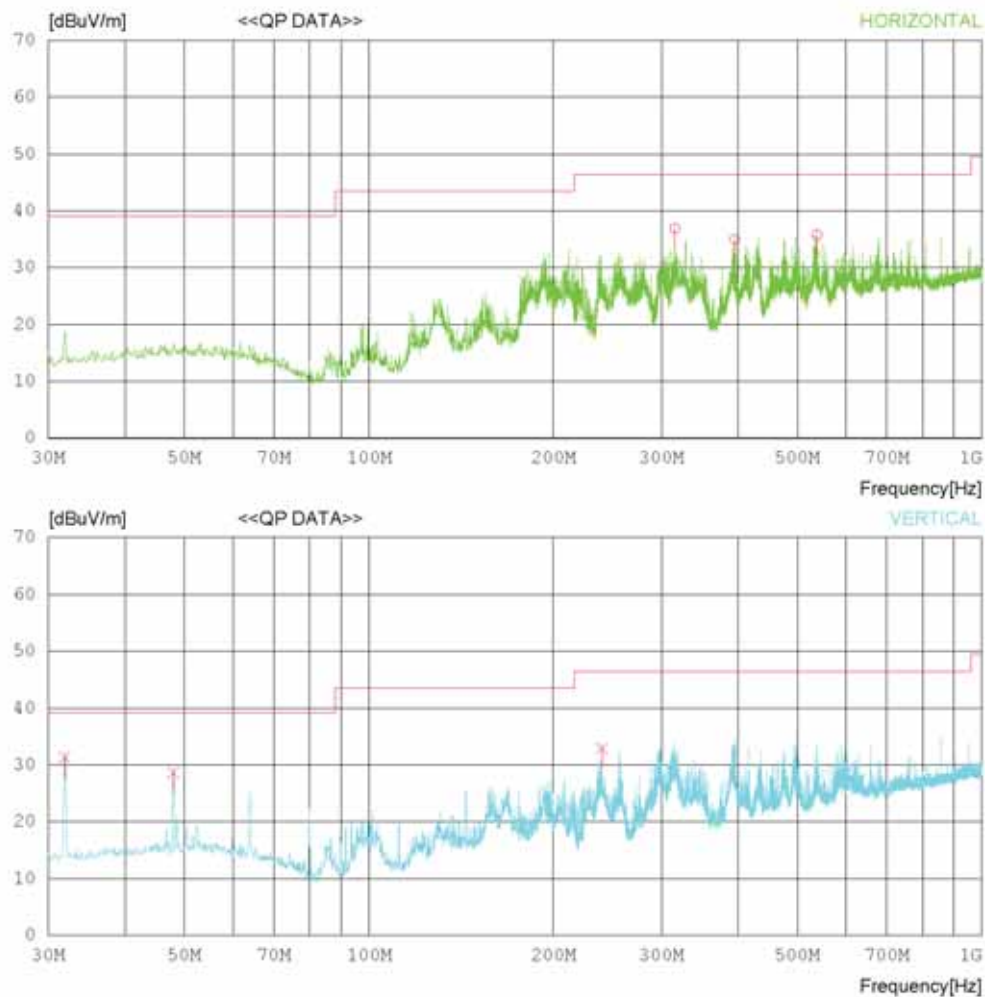
Results of Radiated Emission

Date : 2023-05-09

Order No. : DST-23E-0686
Test condition : DC 12 V
Test Mode : AM

Test engineer : Y.R.KIM

LIMIT : FCC PART 15B CLASS A_10M



Results of Radiated Emission

Date : 2023-05-09

Order No.	: DST-23E-0686	Test engineer	: Y.R.KIM
Test condition	: DC 12 V		
Test Mode	: AM		
	:		
	:		

LIMIT : FCC PART 15B CLASS A_10M

No.	FREQ [MHz]	READING QP [dBuV]	ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT [dBuV/m]	LIMIT [dBuV/m]	MARGIN [dB]	ANTENNA [cm]	TABLE [DEG]
----- Horizontal -----										
1	315.536	44.2	19.8	3.2	30.3	36.9	46.4	9.5	400	208
2	394.953	40.7	21.2	3.5	30.4	35.0	46.4	11.4	100	0
3	538.272	38.4	23.9	4.1	30.6	35.8	46.4	10.6	100	0
----- Vertical -----										
4	31.940	42.1	18.2	1.0	30.0	31.3	39.1	7.8	100	80
5	47.945	37.8	19.6	1.2	30.0	28.6	39.1	10.5	100	359
6	240.000	43.0	17.3	2.8	30.2	32.9	46.4	13.5	100	359

Description of Calculation

C.FACTOR(dB) :	Ant factor(dB) + Cable loss(dB) – Amp Gain(dB)
Result(dBμV) :	Reading Value(dBμV) + C.FACTOR(dB)
Margin(dBμV) :	Limit(dBμV) - Result(dBμV)



Test Mode [MODE 1] / Frequency Range [1 GHz – 6 GHz]

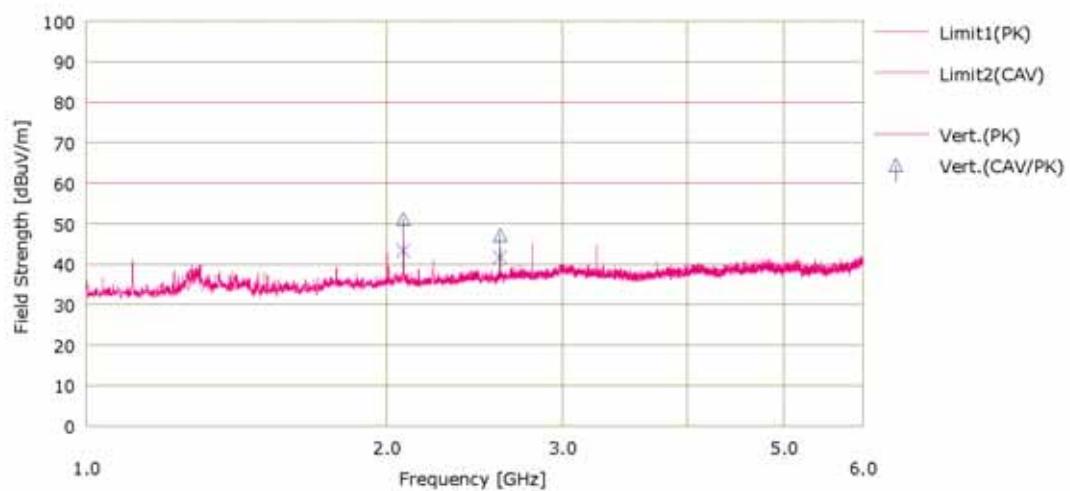
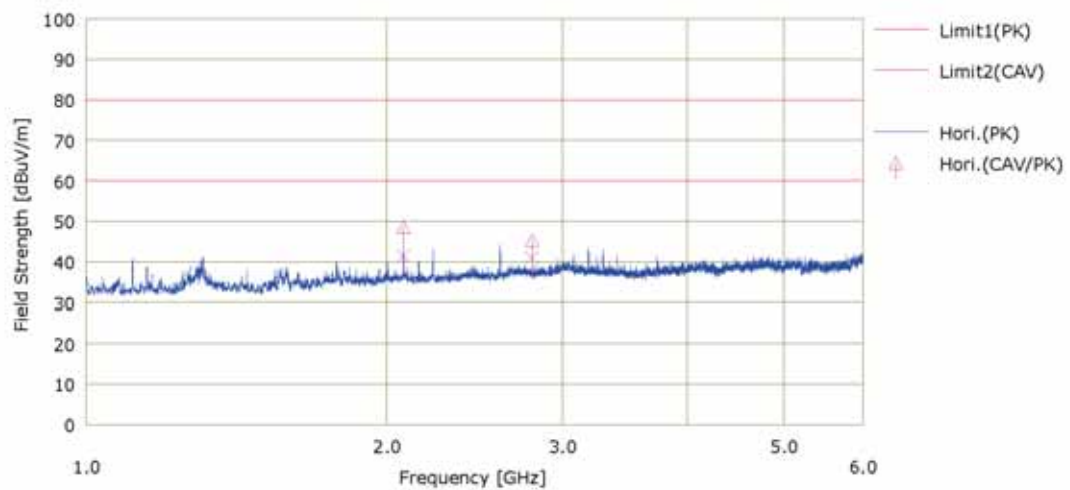
Results of Radiated Emission

Order No. : DST-23E-0686
Test condition : DC 12 V
Test Mode : Camera
Comment :

Test engineer : Y.R.KIM

DS Tech Korea
Date : 2023-05-09

Limit1 : FCC A 1~6GHz PK
Limit2 : FCC A 1~6GHz AV





Results of Radiated Emission

Order No. : DST-23E-0686
Test condition : DC 12 V
Test Mode : Camera
Comment :

Test engineer : Y.R.KIM

DS Tech korea
Date : 2023-05-09

Limit1 : FCC A 1~6GHz PK
Limit2 : FCC A 1~6GHz AV

No.	FREQ	READING		ANT FACTOR	LOSS	GAIN	RESULT		LIMIT		MARGIN		ANTENNA TABLE	
	[MHz]	PK	CAV				[dB]	[dB]	[dB]	PK	CAV	PK	CAV	[dB]
----- Horizontal -----														
1	2078.680	51.9	44.7	31.5	8.5	44.6	48.6	41.4	80.0	60.0	31.4	18.6	100	186
2	2798.676	45.4	41.2	31.9	9.6	43.0	45.2	41.0	80.0	60.0	34.8	19.0	100	231
----- Vertical -----														
3	2078.883	54.4	46.6	31.5	8.5	44.6	51.1	43.3	80.0	60.0	28.9	16.7	100	159
4	2598.578	47.9	42.4	31.7	9.6	43.4	47.1	41.6	80.0	60.0	32.9	18.4	100	256

Description of Calculation

C.FACTOR(dB) :	Ant factor(dB) + Cable loss(dB) – Amp Gain(dB)
Result(dBμV) :	Reading Value(dBμV) + C.FACTOR(dB)
Margin(dBμV) :	Limit(dBμV) - Result(dBμV)



Test Mode [MODE 2] / Frequency Range [1 GHz – 6 GHz]

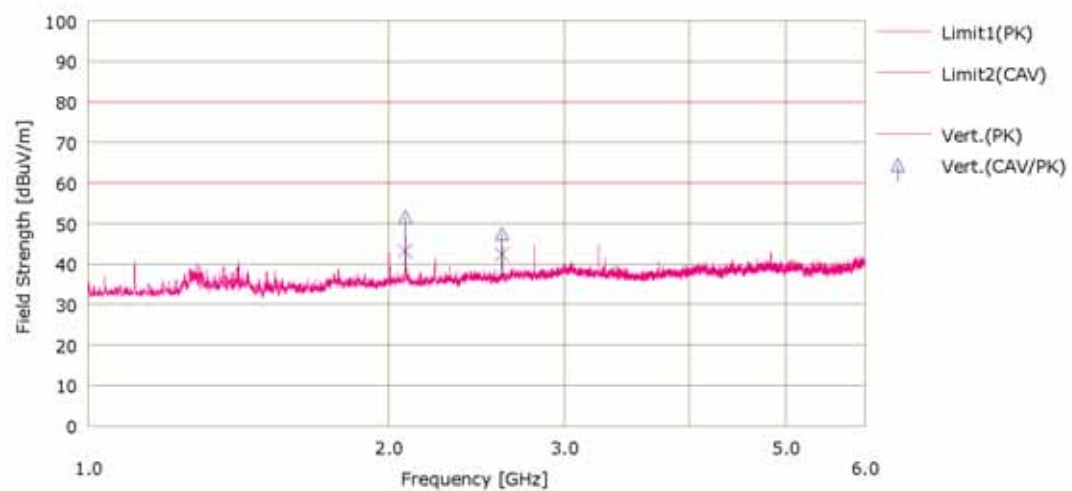
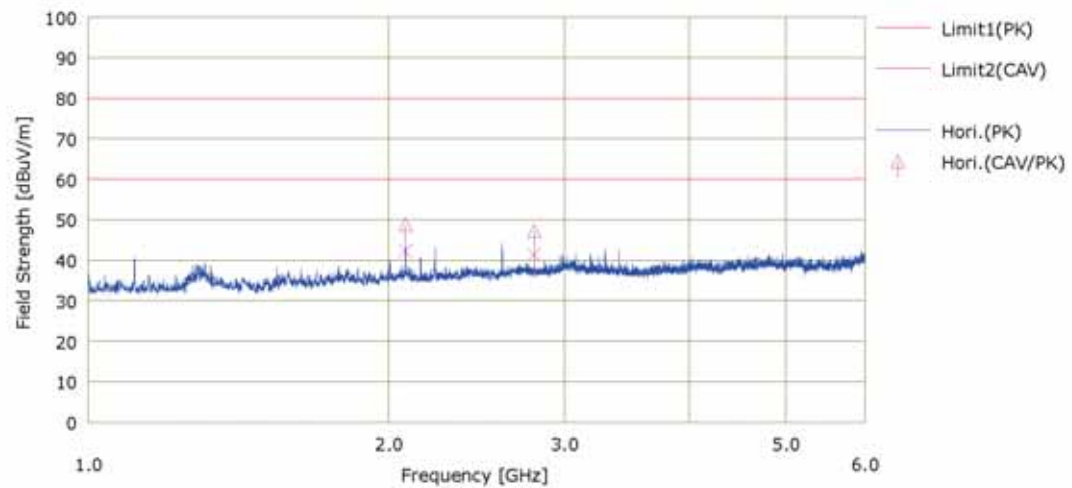
Results of Radiated Emission

Order No. : DST-23E-0686
Test condition : DC 12 V
Test Mode : GPS
Comment :

Test engineer : Y.R.KIM

DS Tech Korea
Date : 2023-05-09

Limit1 : FCC A 1~6GHz PK
Limit2 : FCC A 1~6GHz AV



Results of Radiated Emission

Order No. : DST-23E-0686
 Test condition : DC 12 V
 Test Mode : GPS
 Comment :

Test engineer : Y.R.KIM

DS Tech korea
 Date : 2023-05-09

Limit1 : FCC A 1~6GHz PK
 Limit2 : FCC A 1~6GHz AV

No.	FREQ [MHz]	READING		ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT		LIMIT		MARGIN		ANTENNA TABLE	
		PK [dBuV]	CAV				PK [dBuV/m]	CAV	PK [dBuV/m]	CAV	PK [dB]	CAV	[cm]	[DEG]
----- Horizontal -----														
1	2078.831	52.0	45.5	31.5	8.5	44.6	48.7	42.2	80.0	60.0	31.3	17.8	100	190
2	2798.800	47.4	41.6	31.9	9.6	43.0	47.2	41.4	80.0	60.0	32.8	18.6	100	245
----- Vertical -----														
3	2078.552	54.9	46.5	31.5	8.5	44.6	51.6	43.2	80.0	60.0	28.4	16.8	100	148
4	2598.552	48.2	43.2	31.7	9.6	43.4	47.4	42.4	80.0	60.0	32.6	17.6	100	255

Description of Calculation

C.FACTOR(dB) :	Ant factor(dB) + Cable loss(dB) – Amp Gain(dB)
Result(dBμV) :	Reading Value(dBμV) + C.FACTOR(dB)
Margin(dBμV) :	Limit(dBμV) - Result(dBμV)



Test Mode [MODE 3] / Frequency Range [1 GHz – 6 GHz]

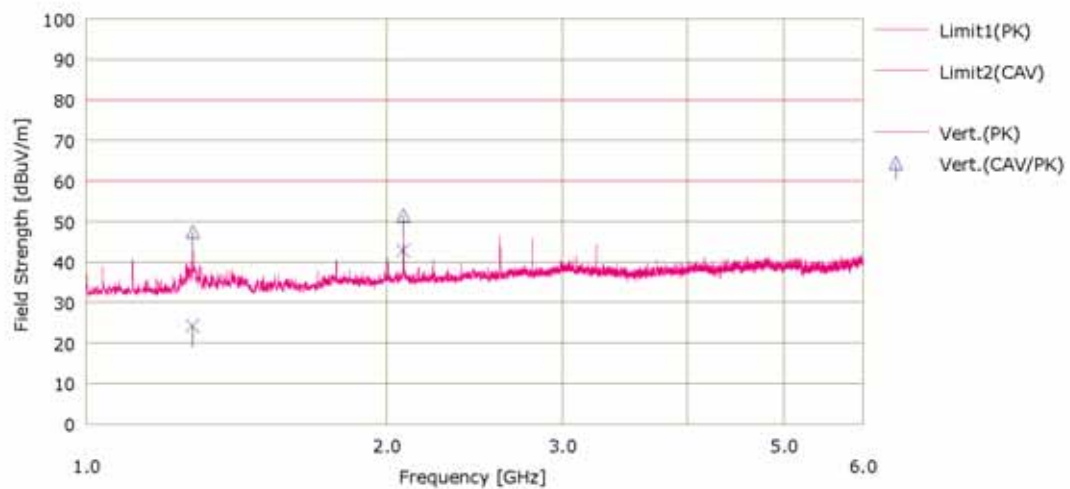
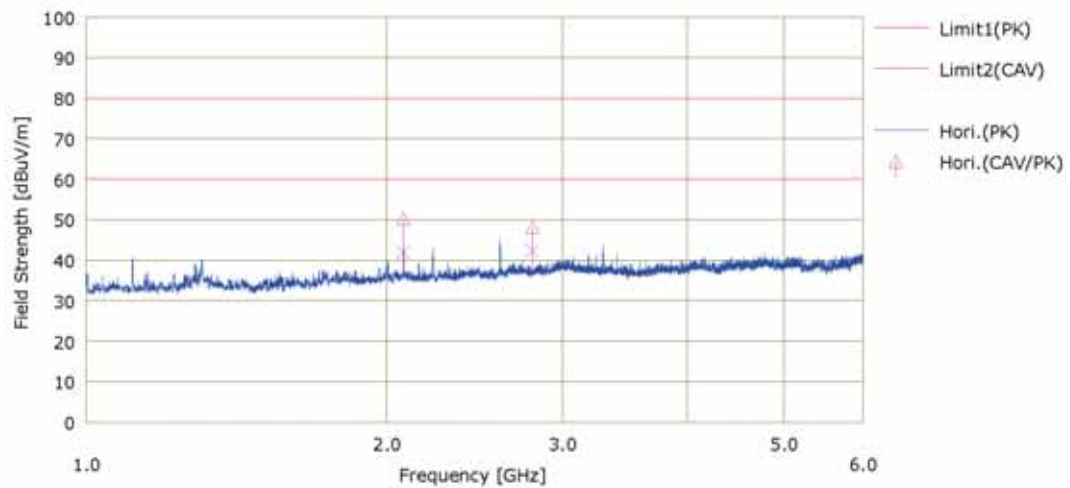
Results of Radiated Emission

Order No. : DST-23E-0686
Test condition : DC 12 V
Test Mode : USB
Comment :

Test engineer : Y.R.KIM

DS Tech Korea
Date : 2023-05-09

Limit1 : FCC A 1~6GHz PK
Limit2 : FCC A 1~6GHz AV



Results of Radiated Emission

Order No. : DST-23E-0686
 Test condition : DC 12 V
 Test Mode : USB
 Comment :

Test engineer : Y.R.KIM

DS Tech korea
 Date : 2023-05-09

Limit1 : FCC A 1~6GHz PK
 Limit2 : FCC A 1~6GHz AV

No.	FREQ	READING		ANT	LOSS	GAIN	RESULT		LIMIT		MARGIN		ANTENNA TABLE	
	[MHz]	PK	CAV	FACTOR	[dB]	[dB]	PK	CAV	PK	CAV	PK	CAV	[cm]	[DEG]
		[dBuV]		[dB]			[dBuV/m]		[dBuV/m]		[dB]			
----- Horizontal -----														
1	2078.766	53.5	45.1	31.5	8.5	44.6	50.2	41.8	80.0	60.0	29.8	18.2	100	190
2	2799.003	48.3	42.5	31.9	9.6	43.0	48.1	42.3	80.0	60.0	31.9	17.7	100	56
----- Vertical -----														
3	1278.832	54.8	31.6	28.9	6.6	44.2	47.4	24.2	80.0	60.0	32.6	35.8	100	104
4	2078.536	54.7	46.1	31.5	8.5	44.6	51.4	42.8	80.0	60.0	28.6	17.2	100	169

Description of Calculation

C.FACTOR(dB) :	Ant factor(dB) + Cable loss(dB) – Amp Gain(dB)
Result(dBμV) :	Reading Value(dBμV) + C.FACTOR(dB)
Margin(dBμV) :	Limit(dBμV) - Result(dBμV)



Test Mode [MODE 4] / Frequency Range [1 GHz – 6 GHz]

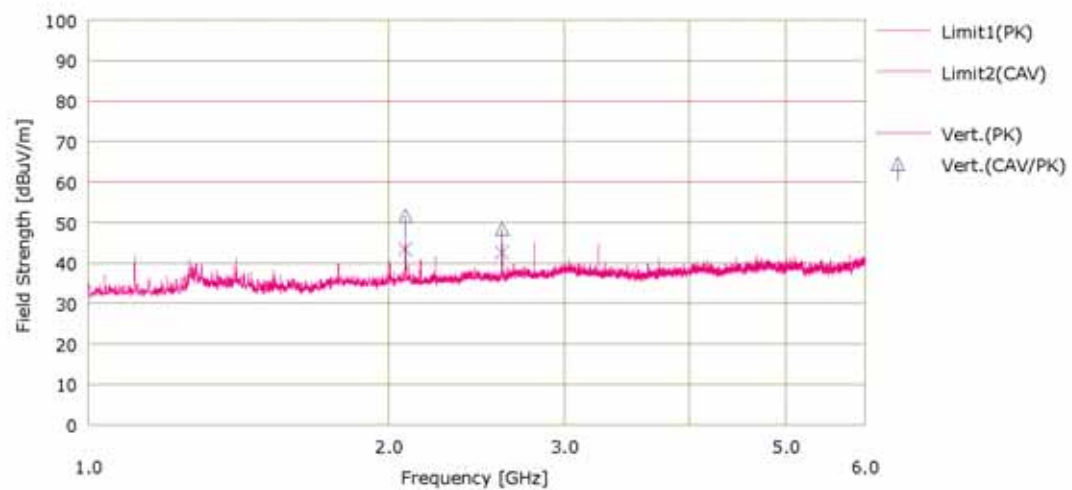
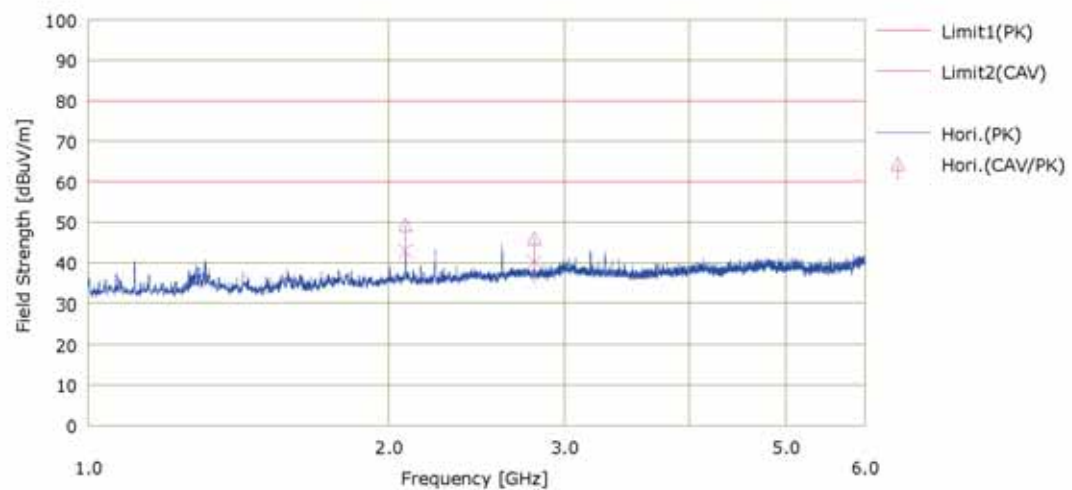
Results of Radiated Emission

Order No. : DST-23E-0686
Test condition : DC 12 V
Test Mode : FM
Comment :

Test engineer : Y.R.KIM

DS Tech korea
Date : 2023-05-09

Limit1 : FCC A 1~6GHz PK
Limit2 : FCC A 1~6GHz AV





Results of Radiated Emission

DS Tech korea
Date : 2023-05-09

Order No. : DST-23E-0686
Test condition : DC 12 V
Test Mode : FM
Test engineer : Y.R.KIM
Comment :

Limit1 : FCC A 1~6GHz PK
Limit2 : FCC A 1~6GHz AV

No.	FREQ	READING		ANT FACTOR	LOSS	GAIN	RESULT		LIMIT		MARGIN		ANTENNA TABLE		
	[MHz]	PK	CAV				[dB]	[dB]	[dB]	PK	CAV	PK	CAV	PK	CAV
----- Horizontal -----															
1	2078.608	52.6	46.2	31.5	8.5	44.6	49.3	42.9	80.0	60.0	30.7	17.1	100	189	
2	2798.988	46.2	40.3	31.9	9.6	43.0	46.0	40.1	80.0	60.0	34.0	19.9	100	244	
----- Vertical -----															
3	2078.803	54.9	46.7	31.5	8.5	44.6	51.6	43.4	80.0	60.0	28.4	16.6	100	170	
4	2598.446	49.2	43.4	31.7	9.6	43.4	48.4	42.6	80.0	60.0	31.6	17.4	100	258	

Description of Calculation

C.FACTOR(dB) :	Ant factor(dB) + Cable loss(dB) – Amp Gain(dB)
Result(dBμV) :	Reading Value(dBμV) + C.FACTOR(dB)
Margin(dBμV) :	Limit(dBμV) - Result(dBμV)



Test Mode [MODE 5] / Frequency Range [1 GHz – 6 GHz]

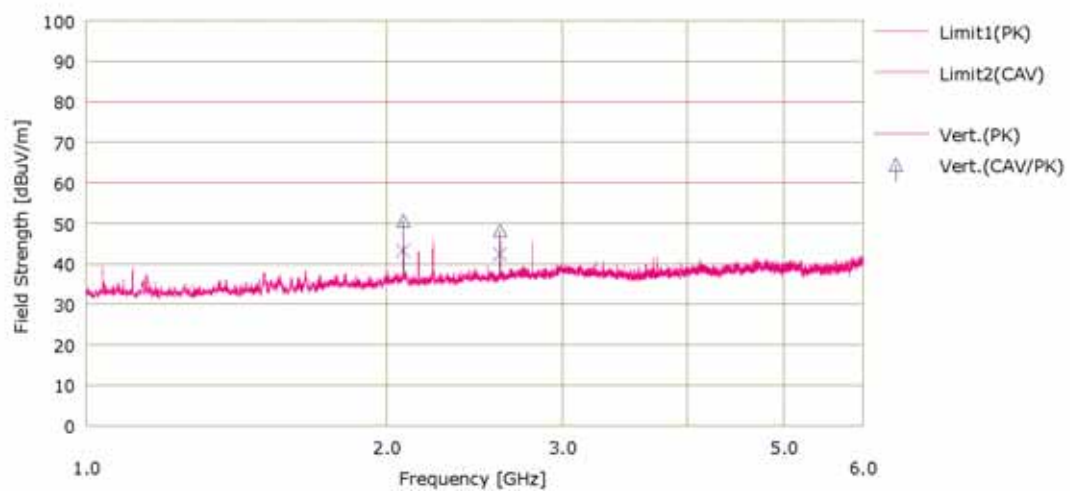
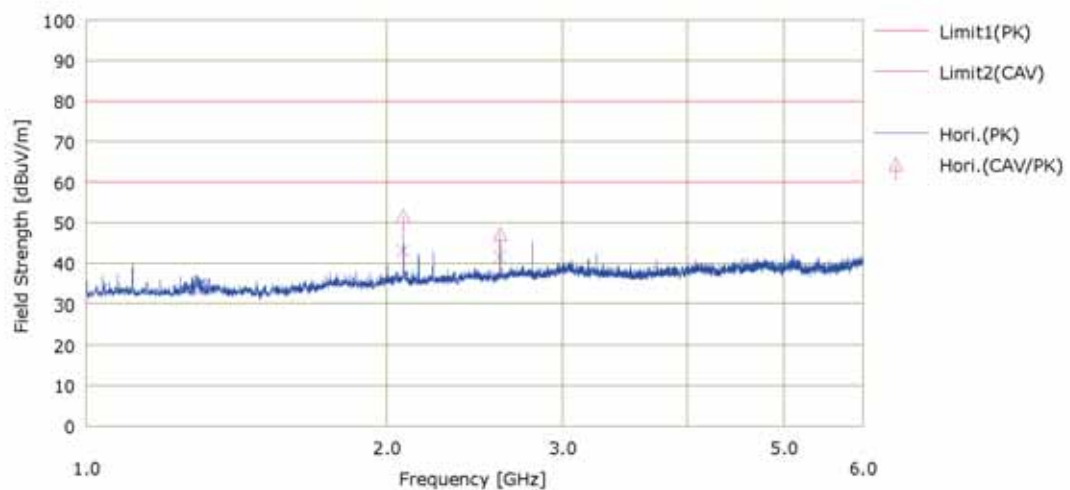
Results of Radiated Emission

Order No. : DST-23E-0686
Test condition : DC 12 V
Test Mode : AM
Comment :

Test engineer : Y.R.KIM

DS Tech Korea
Date : 2023-05-09

Limit1 : FCC A 1~6GHz PK
Limit2 : FCC A 1~6GHz AV



Results of Radiated Emission

Order No. : DST-23E-0686
 Test condition : DC 12 V
 Test Mode : AM
 Comment :

Test engineer : Y.R.KIM

DS Tech korea
 Date : 2023-05-09

Limit1 : FCC A 1~6GHz PK
 Limit2 : FCC A 1~6GHz AV

No.	FREQ [MHz]	READING		ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT		LIMIT		MARGIN		ANTENNA TABLE	
		PK [dBuV]	CAV				PK [dBuV/m]	CAV	PK [dBuV/m]	CAV	PK [dB]	CAV	[cm]	[DEG]
----- Horizontal -----														
1	2078.386	54.9	46.3	31.5	8.5	44.6	51.6	43.0	80.0	60.0	28.4	17.0	100	307
2	2598.356	47.9	42.3	31.7	9.6	43.4	47.1	41.5	80.0	60.0	32.9	18.5	100	17
----- Vertical -----														
3	2078.803	53.9	46.5	31.5	8.5	44.6	50.6	43.2	80.0	60.0	29.4	16.8	100	272
4	2598.394	48.9	43.2	31.7	9.6	43.4	48.1	42.4	80.0	60.0	31.9	17.6	100	33

Description of Calculation

C.FACTOR(dB) :	Ant factor(dB) + Cable loss(dB) – Amp Gain(dB)
Result(dBμV) :	Reading Value(dBμV) + C.FACTOR(dB)
Margin(dBμV) :	Limit(dBμV) - Result(dBμV)



Test Mode [MODE 1] / Frequency Range [6 GHz – 18 GHz]

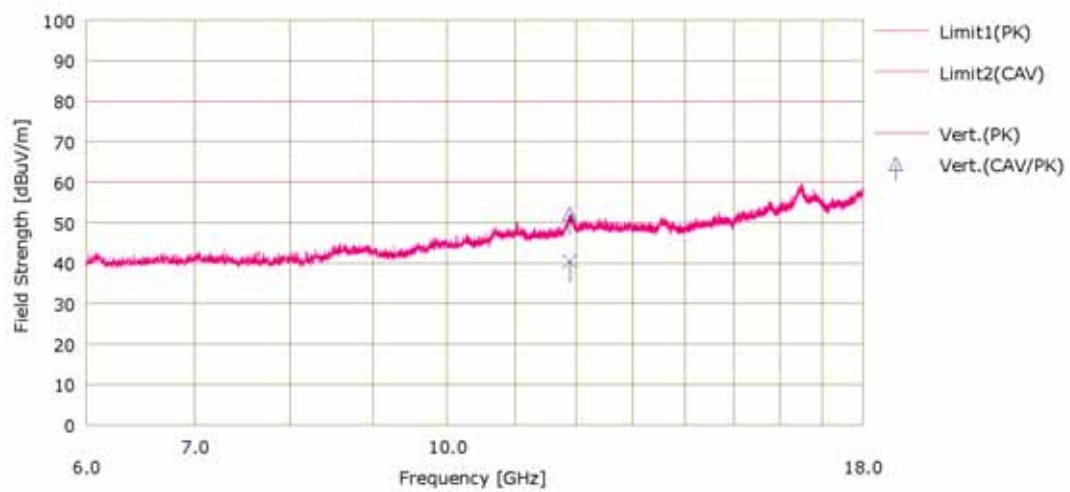
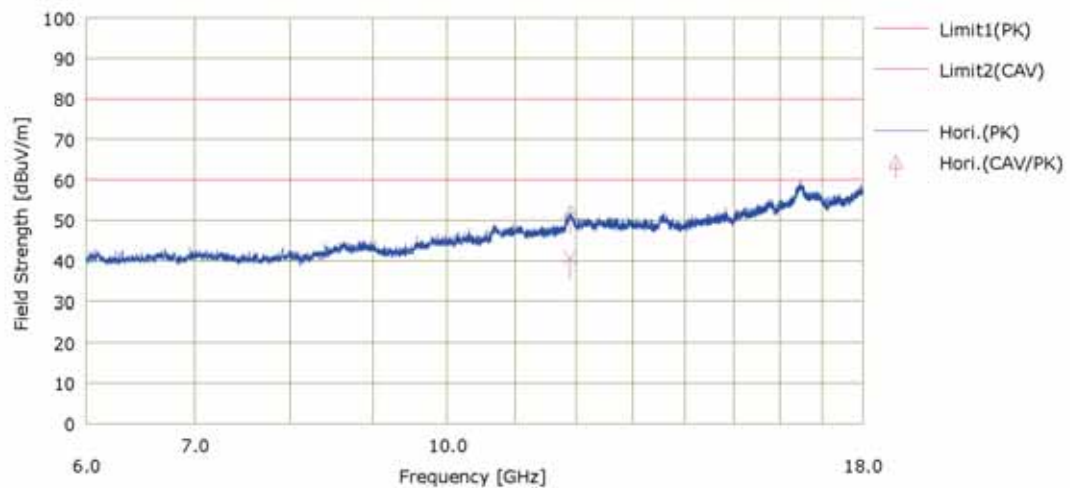
Results of Radiated Emission

Order No. : DST-23E-0686
 Test condition : DC 12 V
 Test Mode : Camera
 Comment :

Test engineer : Y.R.KIM

DS Tech Korea
 Date : 2023-05-09

Limit1 : FCC_(A)_1-18GHz_PK
 Limit2 : FCC_(A)_1-18GHz_CAV



Results of Radiated Emission

 DS Tech korea
 Date : 2023-05-09

 Order No. : DST-23E-0686
 Test condition : DC 12 V
 Test Mode : Camera
 Comment :

Test engineer : Y.R.KIM

 Limit1 : FCC_(A)_1-18GHz_PK
 Limit2 : FCC_(A)_1-18GHz_CAV

No.	FREQ	READING		ANT	LOSS	GAIN	RESULT		LIMIT		MARGIN		ANTENNA TABLE	
	[MHz]	PK	CAV	FACTOR	[dB]	[dB]	PK	CAV	PK	CAV	PK	CAV	[cm]	[DEG]
		[dBuV]		[dB]			[dBuV/m]		[dBuV/m]		[dB]			
----- Horizontal -----														
1	11902.320	27.5	16.3	38.6	26.2	40.4	51.9	40.7	80.0	60.0	28.1	19.3	100	199
----- Vertical -----														
2	11890.370	27.9	16.2	38.6	25.9	40.3	52.1	40.4	80.0	60.0	27.9	19.6	100	356

Description of Calculation

C.FACTOR(dB) :	Ant factor(dB) + Cable loss(dB) – Amp Gain(dB)
Result(dBμV) :	Reading Value(dBμV) + C.FACTOR(dB)
Margin(dBμV) :	Limit(dBμV) - Result(dBμV)



Test Mode [MODE 2] / Frequency Range [6 GHz – 18 GHz]

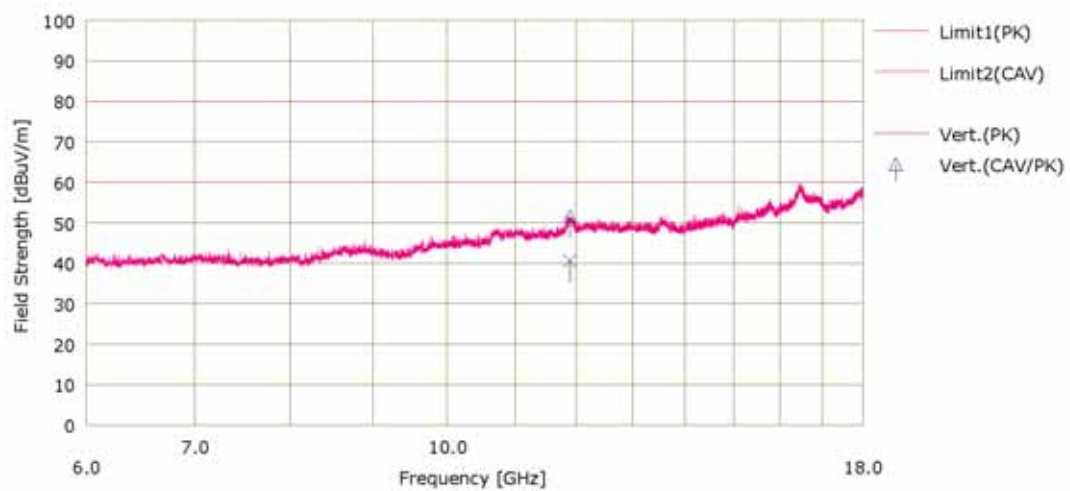
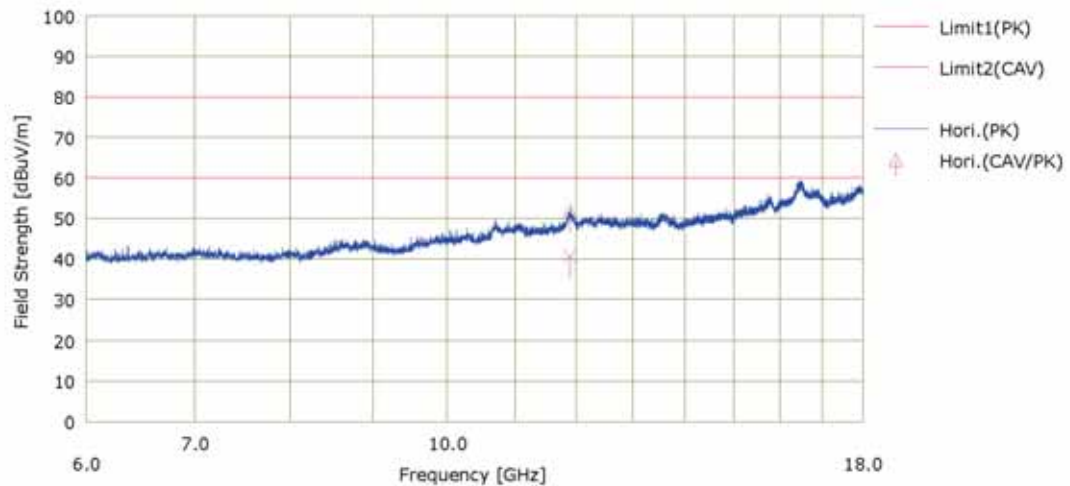
Results of Radiated Emission

Order No. : DST-23E-0686
 Test condition : DC 12 V
 Test Mode : GPS
 Comment :

Test engineer : Y.R.KIM

DS Tech korea
 Date : 2023-05-09

Limit1 : FCC (A) 1-18GHz_PK
 Limit2 : FCC (A) 1-18GHz_CAV





Results of Radiated Emission

DS Tech korea
Date : 2023-05-09

Order No. : DST-23E-0686
Test condition : DC 12 V
Test Mode : GPS
Test engineer : Y.R.KIM
Comment :

Limit1 : FCC_(A)_1-18GHz_PK
Limit2 : FCC_(A)_1-18GHz_CAV

No.	FREQ	READING		ANT	LOSS	GAIN	RESULT		LIMIT		MARGIN		ANTENNA TABLE	
	[MHz]	PK	CAV	FACTOR	[dB]	[dB]	PK	CAV	PK	CAV	PK	CAV	[cm]	[DEG]
		[dBuV]		[dB]			[dBuV/m]		[dBuV/m]		[dB]			
----- Horizontal -----														
1	11894.730	27.4	16.2	38.6	26.1	40.4	51.7	40.5	80.0	60.0	28.3	19.5	100	358
----- Vertical -----														
2	11894.730	27.3	16.2	38.6	26.1	40.4	51.6	40.5	80.0	60.0	28.4	19.5	100	308

Description of Calculation

C.FACTOR(dB) :	Ant factor(dB) + Cable loss(dB) – Amp Gain(dB)
Result(dBμV) :	Reading Value(dBμV) + C.FACTOR(dB)
Margin(dBμV) :	Limit(dBμV) - Result(dBμV)



Test Mode [MODE 3] / Frequency Range [6 GHz – 18 GHz]

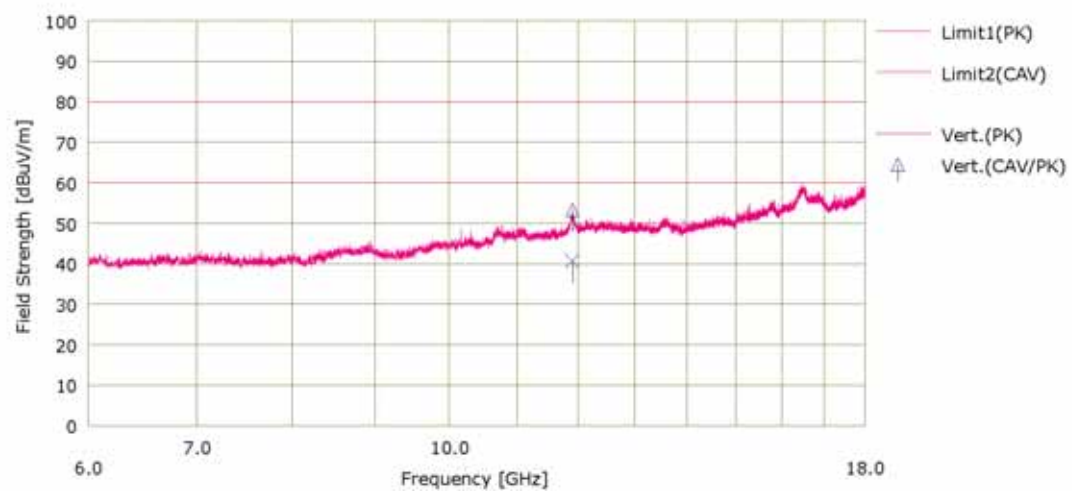
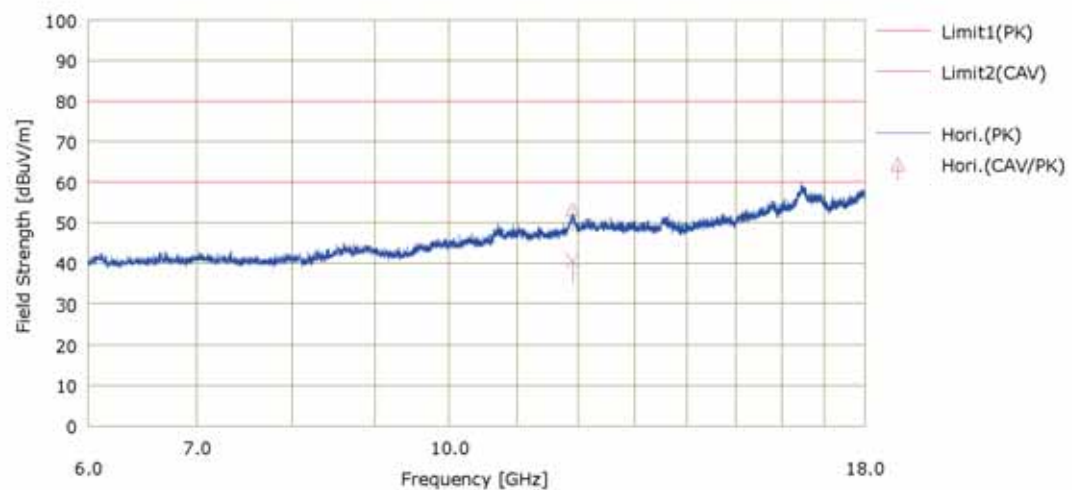
Results of Radiated Emission

Order No. : DST-23E-0686
Test condition : DC 12 V
Test Mode : USB
Comment :

Test engineer : Y.R.KIM

DS Tech korea
Date : 2023-05-09

Limit1 : FCC_(A)_1-18GHz_PK
Limit2 : FCC_(A)_1-18GHz_CAV



Results of Radiated Emission

Order No. : DST-23E-0686
 Test condition : DC 12 V
 Test Mode : USB
 Comment :

Test engineer : Y.R.KIM

DS Tech korea
 Date : 2023-05-09

Limit1 : FCC_(A)_1-18GHz_PK
 Limit2 : FCC_(A)_1-18GHz_CAV

No.	FREQ [MHz]	READING		ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT		LIMIT		MARGIN		ANTENNA TABLE	
		PK	CAV				PK	CAV	PK	CAV	PK	CAV	[cm]	[DEG]
----- Horizontal -----														
1	11904.150	28.7	16.1	38.6	26.2	40.4	53.1	40.5	80.0	60.0	26.9	19.5	100	91
----- Vertical -----														
2	11904.250	28.8	16.3	38.6	26.2	40.4	53.2	40.7	80.0	60.0	26.8	19.3	100	320

Description of Calculation

C.FACTOR(dB) :	Ant factor(dB) + Cable loss(dB) – Amp Gain(dB)
Result(dBμV) :	Reading Value(dBμV) + C.FACTOR(dB)
Margin(dBμV) :	Limit(dBμV) - Result(dBμV)



Test Mode [MODE 4] / Frequency Range [6 GHz – 18 GHz]

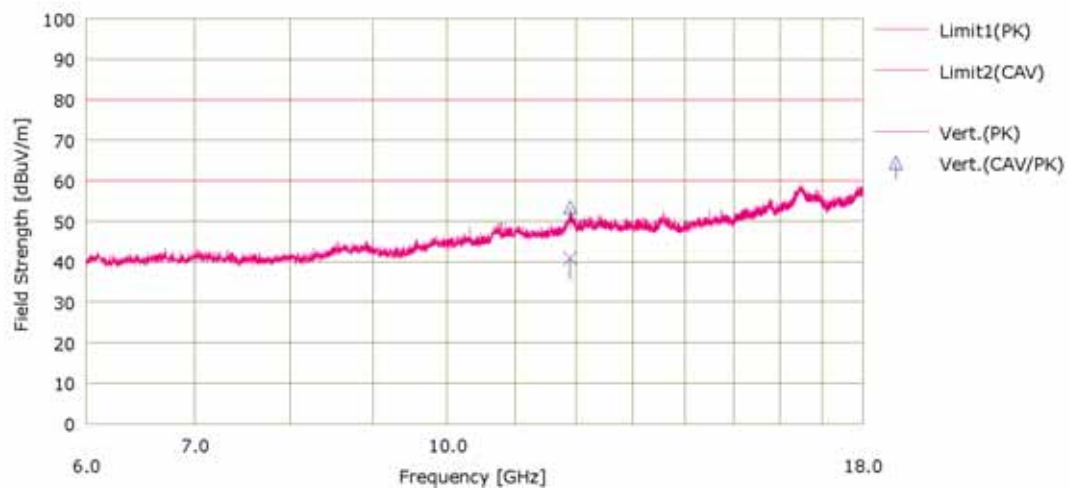
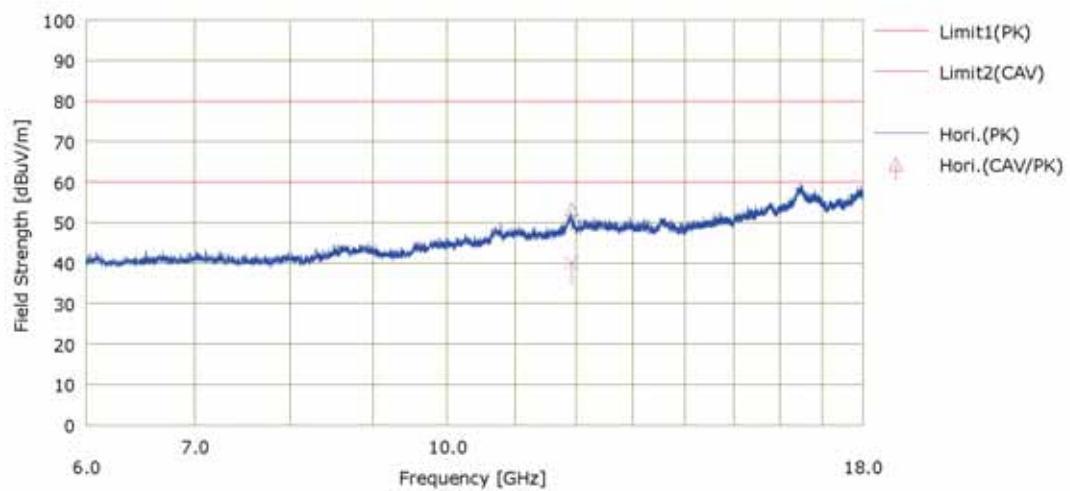
Results of Radiated Emission

DS Tech Korea
Date : 2023-05-09

Order No. : DST-23E-0686
Test condition : DC 12 V
Test Mode : FM
Comment :

Test engineer : Y.R.KIM

Limit1 : FCC_(A)_1-18GHz_PK
Limit2 : FCC_(A)_1-18GHz_CAV





Results of Radiated Emission

DS Tech korea
Date : 2023-05-09

Order No. : DST-23E-0686
Test condition : DC 12 V
Test Mode : FM
Test engineer : Y.R.KIM
Comment :

Limit1 : FCC_(A)_1-18GHz_PK
Limit2 : FCC_(A)_1-18GHz_CAV

No.	FREQ	READING		ANT	LOSS	GAIN	RESULT		LIMIT		MARGIN		ANTENNA TABLE	
	[MHz]	PK	CAV	FACTOR	[dB]	[dB]	PK	CAV	PK	CAV	PK	CAV	[cm]	[DEG]
		[dBuV]		[dB]			[dBuV/m]		[dBuV/m]		[dB]			
----- Horizontal -----														
1	11923.440	29.3	16.2	38.6	25.6	40.4	53.1	40.0	80.0	60.0	26.9	20.0	100	108
----- Vertical -----														
2	11899.280	28.9	16.4	38.6	26.3	40.4	53.4	40.9	80.0	60.0	26.6	19.1	100	0

Description of Calculation

C.FACTOR(dB) :	Ant factor(dB) + Cable loss(dB) – Amp Gain(dB)
Result(dBμV) :	Reading Value(dBμV) + C.FACTOR(dB)
Margin(dBμV) :	Limit(dBμV) - Result(dBμV)



Test Mode [MODE 5] / Frequency Range [6 GHz – 18 GHz]

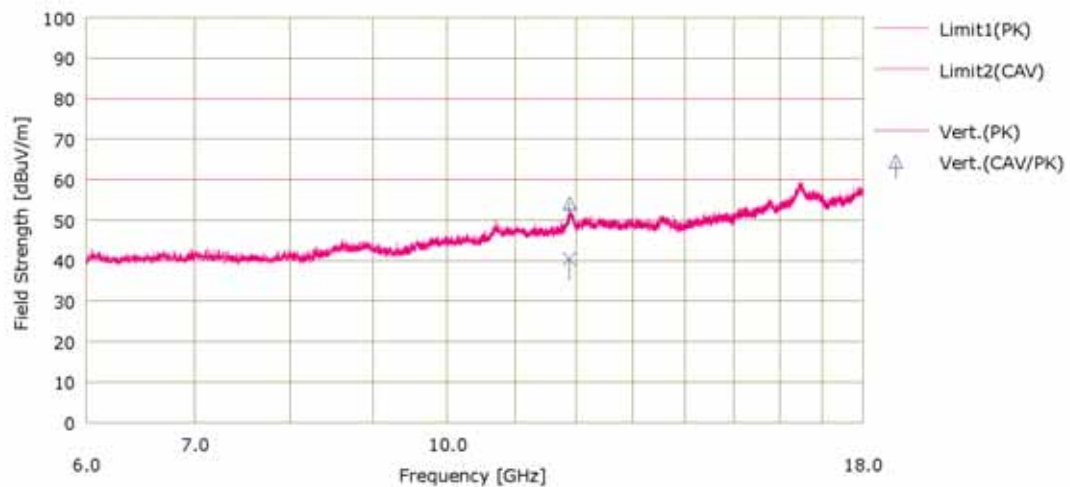
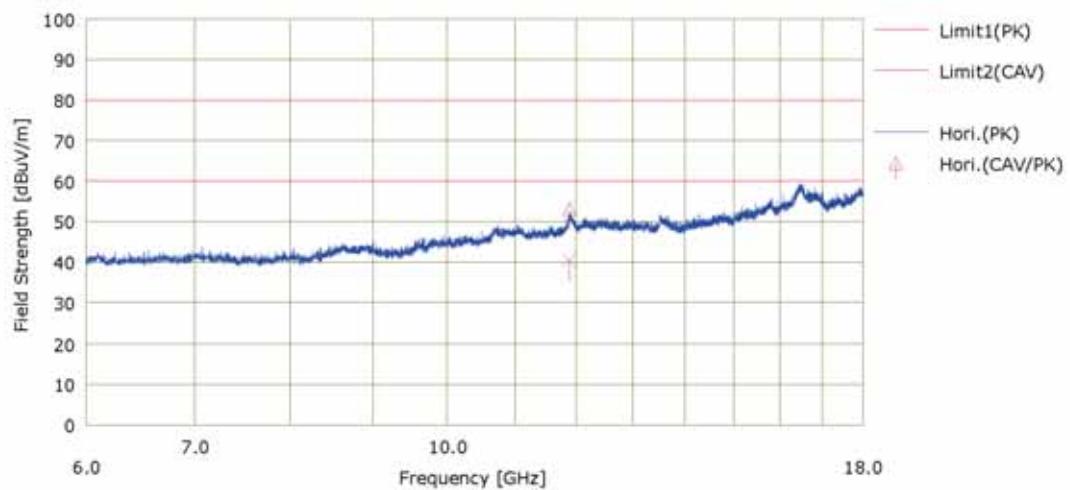
Results of Radiated Emission

Order No. : DST-23E-0686
Test condition : DC 12 V
Test Mode : AM
Comment :

Test engineer : Y.R.KIM

DS Tech Korea
Date : 2023-05-09

Limit1 : FCC_(A)_1-18GHz_PK
Limit2 : FCC_(A)_1-18GHz_CAV





Results of Radiated Emission

Order No.
Test condition
Test Mode
Comment

: DST-23E-0686
: DC 12 V
: AM
:

Test engineer

: Y.R.KIM

DS Tech korea
Date : 2023-05-09

Limit1 : FCC_(A)_1-18GHz_PK
Limit2 : FCC_(A)_1-18GHz_CAV

No.	FREQ [MHz]	READING		ANT FACTOR [dB]	LOSS [dB]	GAIN [dB]	RESULT		LIMIT		MARGIN		ANTENNA TABLE	
		PK [dBuV]	CAV [dBuV]				PK [dBuV/m]	CAV [dBuV/m]	PK [dB]	CAV [dB]	[cm]	[DEG]		
----- Horizontal -----														
1	11883.570	29.0	16.4	38.6	25.7	40.3	53.0	40.4	80.0	60.0	27.0	19.6	100	92
----- Vertical -----														
2	11888.740	29.9	16.2	38.6	25.9	40.3	54.1	40.4	80.0	60.0	25.9	19.6	100	216

Description of Calculation

C.FACTOR(dB) :	Ant factor(dB) + Cable loss(dB) – Amp Gain(dB)
Result(dBμV) :	Reading Value(dBμV) + C.FACTOR(dB)
Margin(dBμV) :	Limit(dBμV) - Result(dBμV)



6. Photographs of Test Configuration

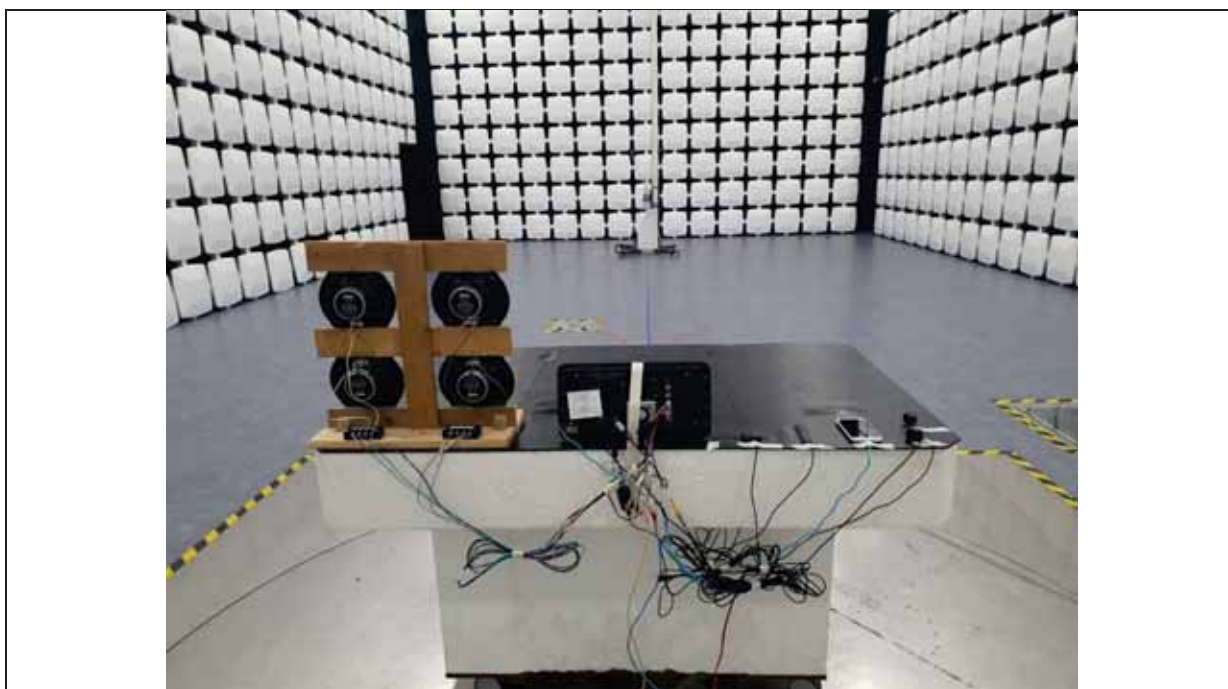
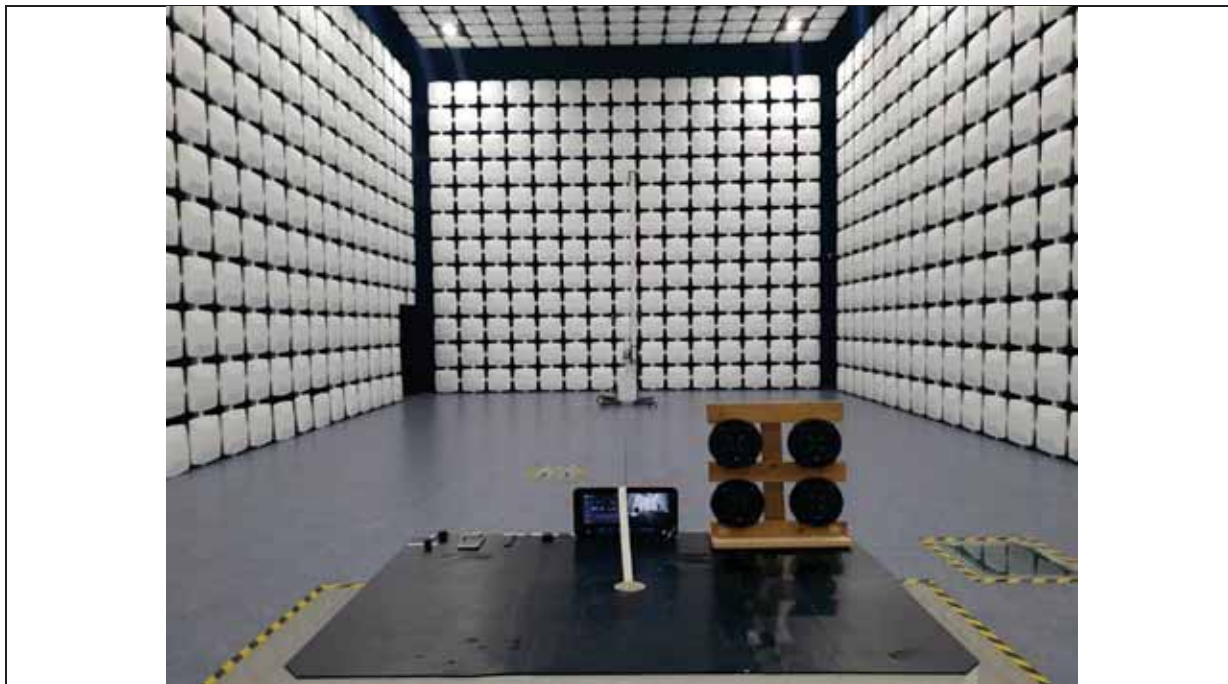
6.1 Photographs of Conducted Emission Test Configuration

N/A

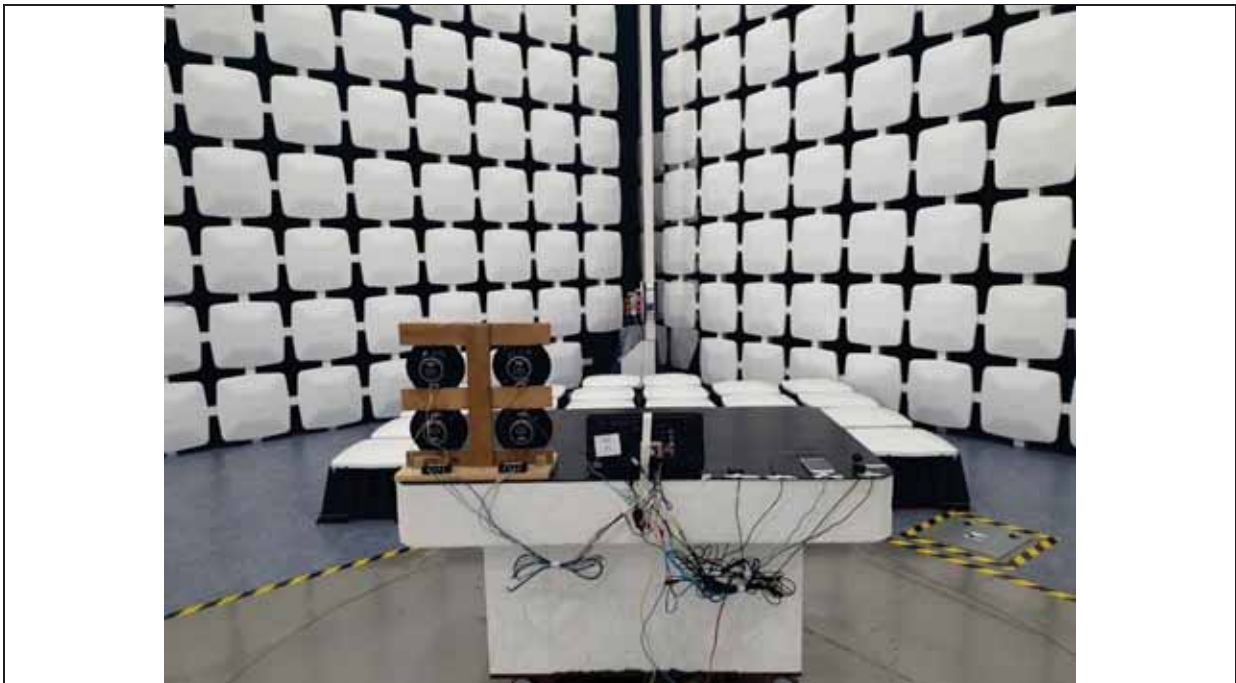
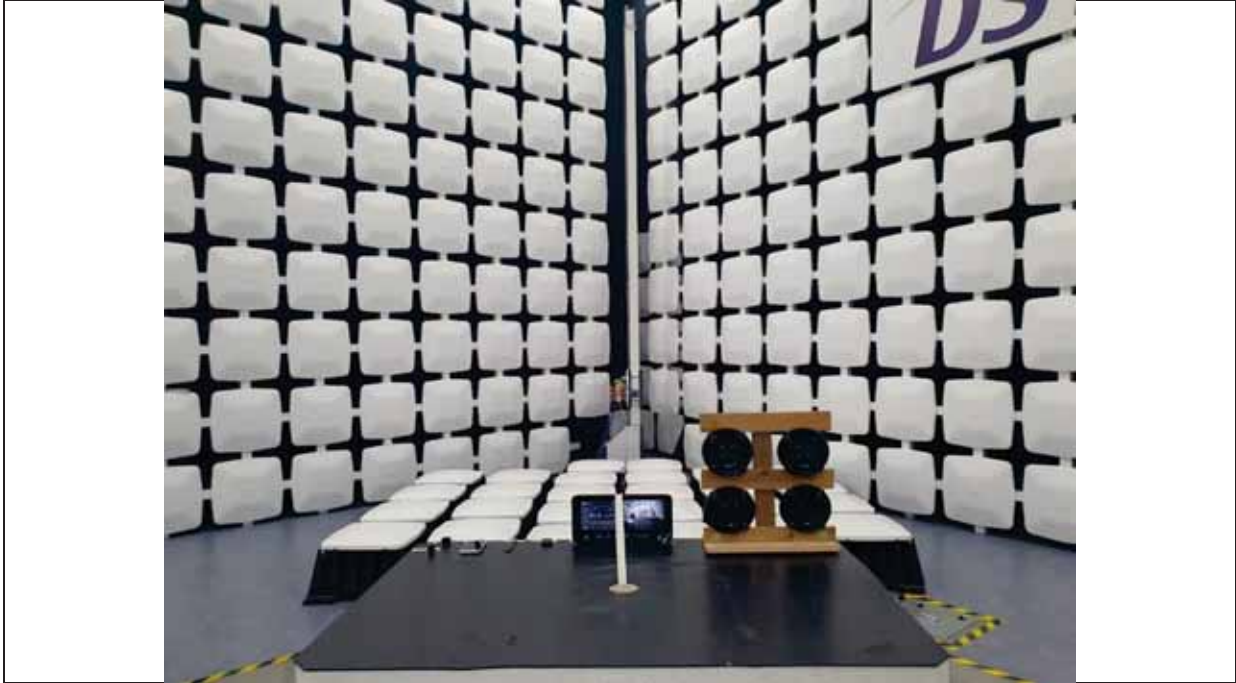


6.2 Photographs of Radiated Emission Test Configuration

[30 MHz – 1 GHz]



[1 GHz – 18 GHz]



7. Photographs of EUT

Front View of EUT



Rear View of EUT



Port View of EUT



Port View of EUT



Inside View of EUT



- End of test report -

