



TEST REPORT

Eurofins KCTL Co.,Ltd. 28, Mosan-gil, Jeongnam-myeon, Hwasung-si, Gyeonggi-do, 18516, Korea TEL: 82 31 286 5881 FAX: 82 31 8059 1154 www.kctl.co.kr	Report No.: KR25-HEF0022 Page (1) of (20)	KCTL
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1. Client

- Name : Luckybox Solution Co.,Ltd.
- Address : 1207, 1208, 1225, 311, Gangnam-daero, Seocho-gu, Seoul, Republic of Korea
- Date of Receipt : 2025-06-23

2. Use of Report : -

3. Name of Product / Model : HK DriveLink / HK DriveLink

4. Manufacturer / Country of Origin : Luckybox Solution Co.,Ltd. / Korea

5. Date of Test : 2025-07-12 to 2025-07-14

6. Location of Test : ☒ Permanent Testing Lab ☐ On Site Testing
 (Address: 28 Mosan-gil, Jeongnam-myeon, Hwaseong-si, Gyeonggi-do, Korea)

7. Test method used : FCC Part 15 Subpart B, Class B
 ANSI C63.4-2017

8. Test Result : Refer to the test result in the test report

Affirmation	Tested by Name : Sanghoon Lee (Signature)	Technical Manager Name : Byungyeon Kim (Signature)
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2025-07-18

Eurofins KCTL Co.,Ltd.

As a test result of the sample which was submitted from the client, this report does not guarantee the whole product quality. This test report should not be used and copied without a written agreement by Eurofins KCTL Co.,Ltd.

REPORT REVISION HISTORY

Date	Revision	Page No
2025-07-18	Originally issued	-

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General remarks for test reports

Statement concerning the uncertainty of the measurement systems used for the tests

(may be required by the product standard or client)

☐ Internal procedure used for type testing through which traceability of the measuring uncertainty has been established:

Procedure number, issue date and title:

Calculations leading to the reported values are on file with the testing laboratory that conducted the testing.

☒ Statement not required by the standard or client used for type testing

Contents

1. Applicant information	4
2. Laboratory information	5
3. Test system configuration.....	6
3.1 Operation environment.....	6
3.2 Measurement Uncertainty	7
3.3 Measurement Program.....	7
4. Description of EUT	8
4.1 General information.....	8
4.2 Product description.....	9
4.3 Auxiliary equipments	9
4.4 Test configuration	10
4.5 Operating conditions	12
5. Summary of test results	13
5.1 Summary of EMI emission test results.....	13
6. Test results	14
6.1 Radiated Emission	14

Eurofins KCTL Co.,Ltd. 28, Mosan-gil, Jeongnam-myeon, Hwasung-si, Gyeonggi-do, 18516, Korea TEL: 82 31 286 5881 FAX: 82 31 8059 1154 www.kctl.co.kr	Report No.: KR25-HEF0022 Page (4) of (20)	 
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1. Applicant information

Applicant: Luckybox Solution Co.,Ltd.
Address: 1207, 1208, 1225, 311, Gangnam-daero, Seocho-gu, Seoul, Republic of Korea
Telephone: -
Fax: -
E-mail: elva.lee@luckyboxsolution.com
Contact name: Hangeol Lee

Manufacturer: Luckybox Solution Co.,Ltd.
Address: 1207, 1208, 1225, 311, Gangnam-daero, Seocho-gu, Seoul, Republic of Korea
Telephone: -
Fax: -
E-mail: elva.lee@luckyboxsolution.com
Contact name: Hangeol Lee

2. Laboratory information

Address

Eurofins KCTL Co.,Ltd. (Hwaseong Lab.)

28, Mosan-gil, Jeongnam-myeon, Hwasung-si, Gyeonggi-do, 18516, Korea

Telephone Number: 82 31 286 5881

Facsimile Number: 82 31 8059 1154

FCC Site Designation No: KR0040

KOLAS NO.: KT231

VCCI NO.: 1980

SITE MAP



3. Test system configuration

3.1 Operation environment

	Temperature	Humidity	Pressure
Chamber 10 m (RE)	23.6 °C	42.0 % R.H.	-
Chamber 3 m (RE)	22.9 °C	38.5 % R.H.	-

Test site

These testing items were performed following locations;

Test item	Test site
Radiated Emission (Below 1 GHz)	10 m Chamber
Radiated Emission (Above 1 GHz)	3 m Chamber

3.2 Measurement Uncertainty

All measurements involve certain levels of uncertainties, especially in field of EMC.

The factors contributing to uncertainties are test receiver, cable loss, antenna factor calibration, Antenna directivity, antenna factor variation with height, antenna phase center variation, antenna frequency interpolation, measurement distance variation, site imperfection, mismatch, and system repeatability. Based on CISPR 16-4-2, the measurement uncertainty level with a 95 % confidence level was applied.

Radiated Emission measurement (Confidence level about 95 %, $k = 2$)		
10 m Chamber	30 MHz ~ 1 GHz	3 m : 5.0 dB
		10 m : 5.0 dB
3 m Chamber	1 GHz ~ 15 GHz	4.5 dB

3.3 Measurement Program

These test items were performed by software programs;

Test item	Measurement Program	Used
Radiated Emission(Below 1 GHz)	TEPTO-DV/RE V 3.1. 0047 (tsj corporation)	☒
Radiated Emission(Above 1 GHz)	TEPTO-DV/RE V 3.1. 0048 (tsj corporation)	☒

4. Description of EUT

4.1 General information

Item	Information
Model Name	HK DriveLink
Power	Car cigarette lighter socket
Wireless Communications	2.4 GHz / Bluetooth 5.0 1575.42 MHz / GPS L1 C/A Band 2 / LTE
Rated Current	12 V / 2 A
Product Size	50 x 65 x 96.2 (mm)

4.2 Product description

Type of product	HK DriveLink
Model name (Basic)	HK DriveLink
Model name (Variant)	-
Difference	-
Testing voltage	DC 12 V
Input rating	DC 12 V
Internal clock frequency	Above 108 MHz

4.3 Auxiliary equipments

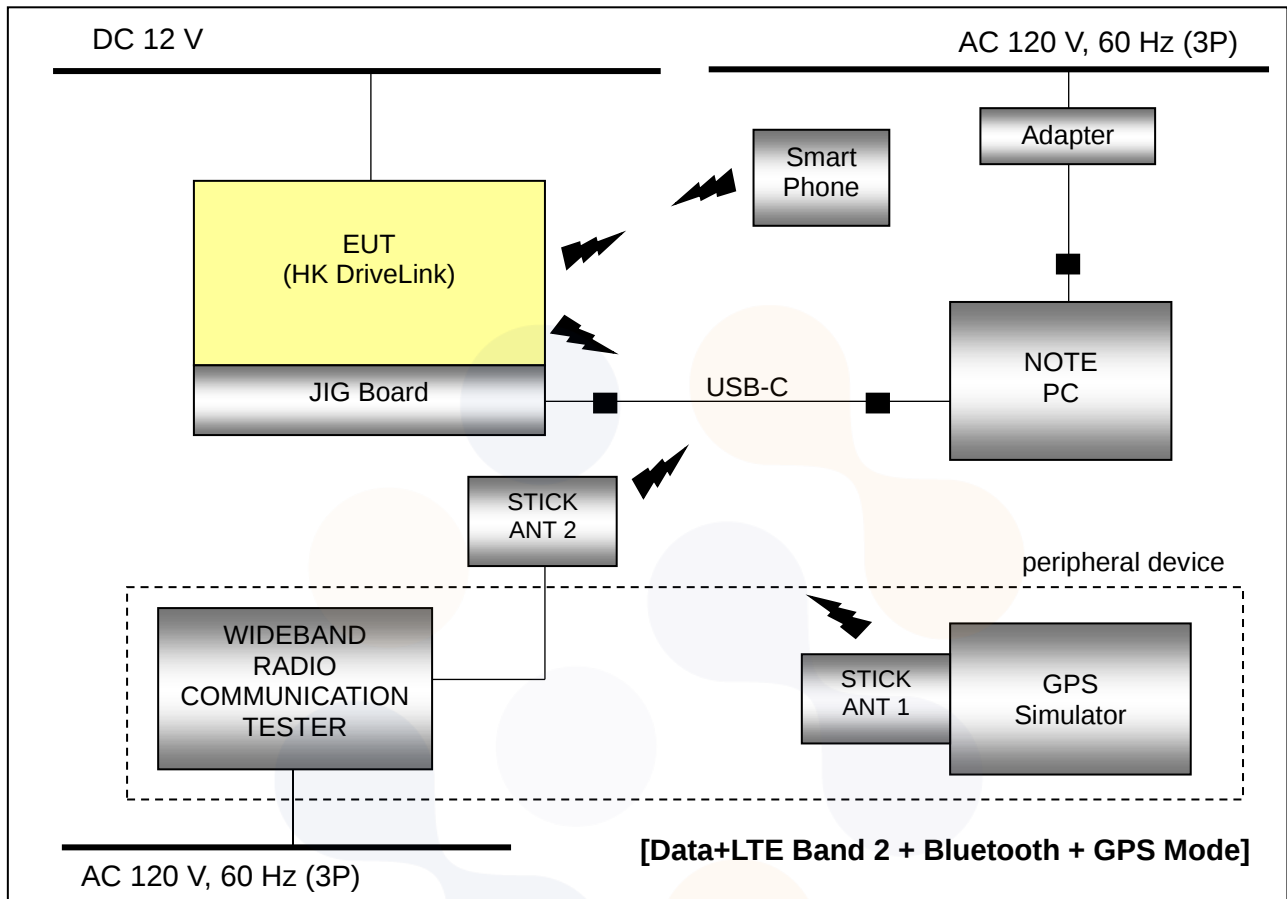
[Data+LTE Band 3 + Bluetooth + GPS Mode]

Type	Model / Part #	S/N	Manufacturer
JIG Board	-	-	-
Smart Phone	SM-G965N	-	SAMSUNG
GPS Simulator	RLLS03-1RP	-	LabSat
STICK ANT 1	-	-	-
WIDEBAND RADIO COMMUNICATION TESTER	CMW500	-	R&S
STICK ANT 2	-	-	-
NOTE PC	NYT551XDA	-	SAMSUNG
Adapter	PA-1400-96	-	LITE-ON TECHNOLOGY CHANGZHOU CO., LTD

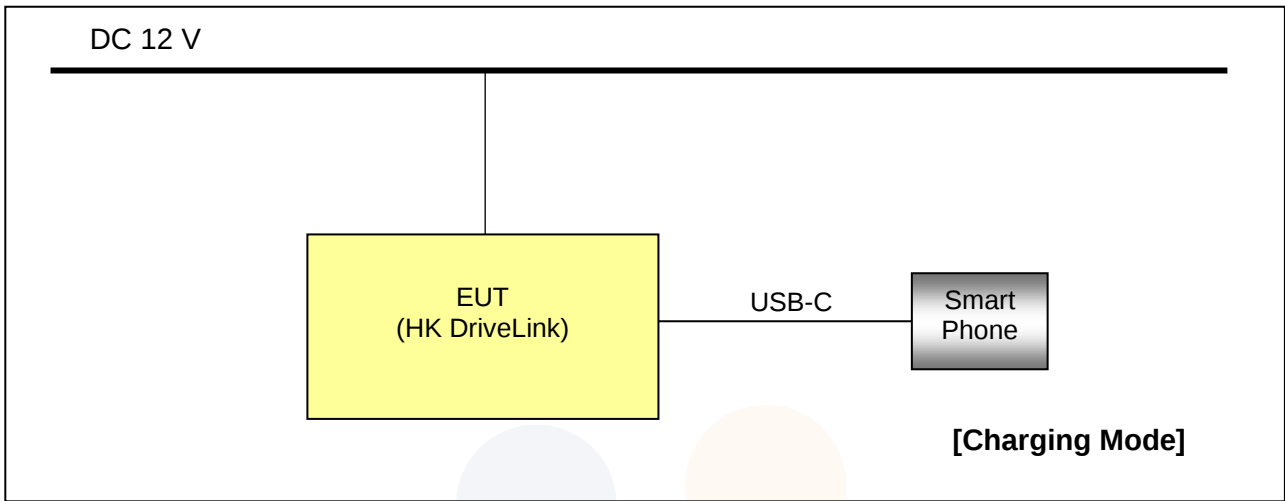
[Charging Mode]

Type	Model / Part #	S/N	Manufacturer
Smart Phone	SM-G965N	-	SAMSUNG

4.4 Test configuration



	Start		End		Cable	
	Name	I/O port	Name	I/O port	Length (m)	Spec.
1	EUT (HK DriveLink)	USB-C	JIG Board	-	-	-
2	JIG Board	USB-C	NOTE PC	USB	0.5	Shield(Core)
3	NOTE PC	Power	Adapter	-	1.8	Shield(Core)
4	GPS Simulator	RF OUT	STICK ANT 1	-	-	-
5	WIDEBAND RADIO COMMUNICATION TESTER	RF 1 COM	STICK ANT 2	SMA	3.1	Shield
6	Smart Phone	-	-	-	-	-



	Start		End		Cable	
	Name	I/O port	Name	I/O port	Length (m)	Spec.
1	EUT (HK DriveLink)	USB-C	Smart Phone	USB-C	1.0	Shield

4.5 Operating conditions

The EUT was configured as normal intended use.

Test mode	Normal operating
1 [Data+LTE Band 2 + Bluetooth + GPS Mode]	After connecting the smartphone with Bluetooth, enabling GPS in the GPS Simulator, and connecting LTE Band 2 in the WIDEBAND RADIO COMMUNICATION TESTER, it was tested while monitoring the operation status by use of 'Tera Term program' on NOTE PC.
2 [Charging Mode]	After connecting the EUT with the Smart Phone, it was tested while monitoring normal charging status.

5. Summary of test results

In the above configuration tested, The EUT complied with the requirement of the specification

5.1 Summary of EMI emission test results

FCC Part 15 Subpart B (Class B)

ANSI C63.4 – 2017

Applied	Test items	Test method	Result
☒	Radiated Emission	ANSI C63.4 – 2017	Pass

6. Test results

6.1 Radiated Emission

Testing voltage	AC 120 V, 60 Hz		
Test facility	10 m Chamber / 3 m Chamber		
Test distance	10 m / 3 m		
Date	2025-07-14 / 2025-07-12		
Temperature (°C)	23.6 °C / 22.9 °C	Humidity (% R.H.)	42.0 % R.H. / 38.5 % R.H.
Remarks	Pass		

6.1.1 Limits of radiated emission measurement

☒ Limits below 1 GHz

Frequency [MHz]	Class A (dB(μV/m)) @ 10 m	Class B (dB(μV/m)) @ 3 m
30-88	39	40
88-216	43.5	43.5
216-960	46.4	46
Above 960	49.5	54

☒ Limits above 1 GHz

Frequency [GHz]	Class A @ 3 m		Class B @ 3 m	
	Average limit (dB(μV/m))	Peak limit (dB(μV/m))	Average limit (dB(μV/m))	Peak limit (dB(μV/m))
1 ~ 2	60	80	54	74

Note - The lower limit applies at the transition frequency.

6.1.2 Measurement procedure

The test was done at a 10 m Chamber with a quasi-peak detector.

EUT was placed on a non-metallic table height of 0.8 m above the reference ground plane.

Cables were folded back and forth forming a bundle 0.3 m to 0.4 m long and were hanged at a 0.4 m height to the ground plane. Cables connected to EUT were fixed to cause maximum emission.

Test was made with the antenna positioned in both the horizontal and vertical planes of polarization. The measurement antenna was varied in height above the conducting ground plane to obtain the maximum signal strength.

6.1.3 Used equipments

Equipment	Model no.	Makers	Serial no.	Next Cal. Date	Used
EMI TEST RECEIVER	ESU	Rohde & Schwarz	100312	2025-12-24	☒
AMPLIFIER	310	SONAMA INSTRUMENT	185938	2025-12-24	☒
Bilog Antenna	CBL6112D	Teseq (SCHAFFNER)	55542	2026-12-30	☒
6 dB Fixed Attenuator	SA18N5W	Fairview Microwave	NONE	2026-12-30	☒
PREAMPLIFIER	87405C	KEYSIGHT	MY55380218	2026-06-12	☒
HORN ANTENNA	SAS-571	A.H. SYSTEMS	500	2025-09-20	☒
SIGNAL ANALYZER	FSV	Rohde & Schwarz	101244	2026-02-05	☒

6.2.4 Sample calculation

The field strength is calculated adding the antenna Factor, cable loss and, Antenna pad adding, subtracting the amplifier gain from the measured reading.

The sample calculation is as follow:

$$\text{Result QP}[\text{dB}(\mu\text{V}/\text{m})] = \text{Reading QP}[\text{dB}(\mu\text{V})] + \text{C.Fac} [\text{dB}/\text{m}]$$

Result QP : The final measure

Reading QP : Instrument readings

$$\text{C.Fac} : \text{ANT FACTOR} [\text{dB}/\text{m}] + \text{LOSS} [\text{dB}] - \text{GAIN} [\text{dB}]$$

ANT FACTOR: Antenna Factor

LOSS: Cable Loss

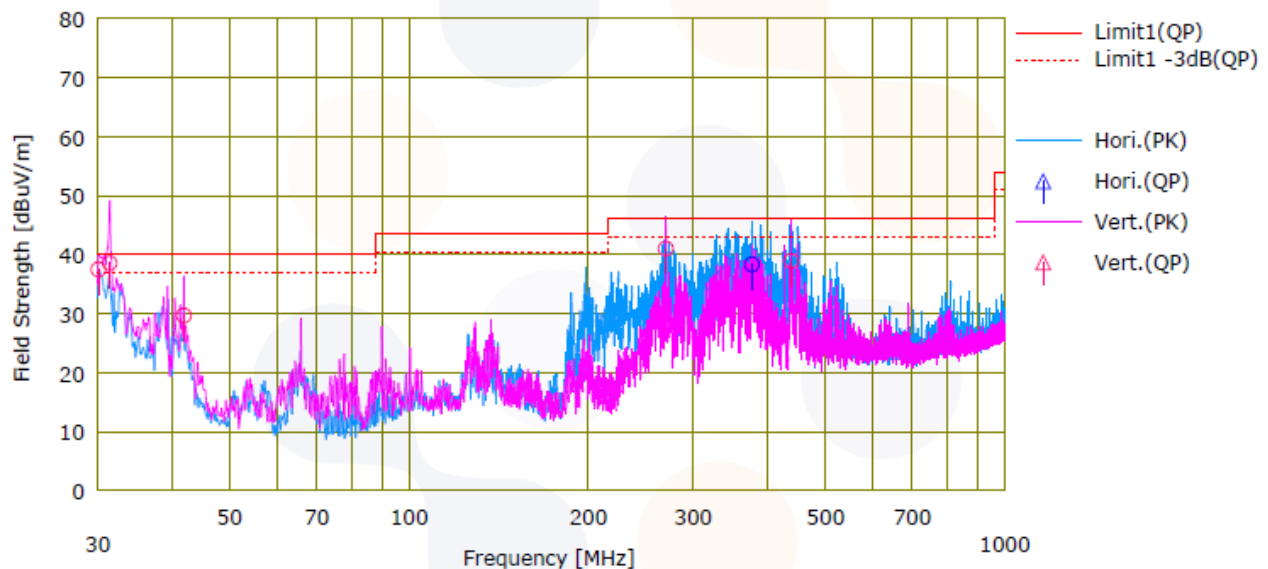
GAIN: Amplifier Gain

6.1.5 Radiated emission measurement result

Graph and Data

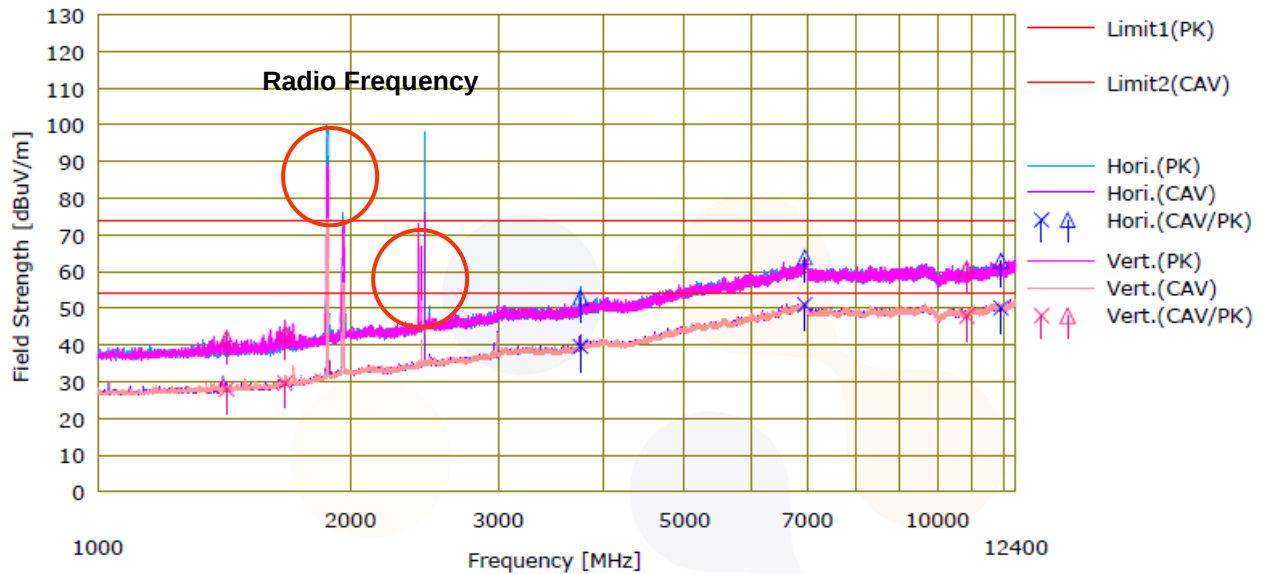
[Data+LTE Band 2 + Bluetooth + GPS Mode]

30 MHz ~ 1 GHz



No.	Freq. [MHz]	Reading [dBuV] <QP>	C.Fac [dB/m] <QP>	Result [dBuV/m] <QP>	Limit [dBuV/m] <QP>	Margin [dB] <QP>	Pola. [H/V] <QP>	Height [cm] <QP>	Angle [deg] <QP>	Ant. Type <QP>	Comment
1	30.121	43.54	-6.06	37.48	40.00	2.52	Vert.	152	232	BI-LO	
2	31.455	45.29	-6.75	38.54	40.00	1.46	Vert.	146	73	BI-LO	
3	41.883	42.19	-12.54	29.65	40.00	10.35	Vert.	124	298	BI-LO	
4	269.952	51.19	-10.17	41.02	46.00	4.98	Vert.	139	360	BI-LO	
5	376.565	45.92	-7.62	38.30	46.00	7.70	Hori.	141	338	BI-LO	
6	438.134	44.67	-5.80	38.87	46.00	7.13	Vert.	204	219	BI-LO	

1 GHz ~ 12.4 GHz

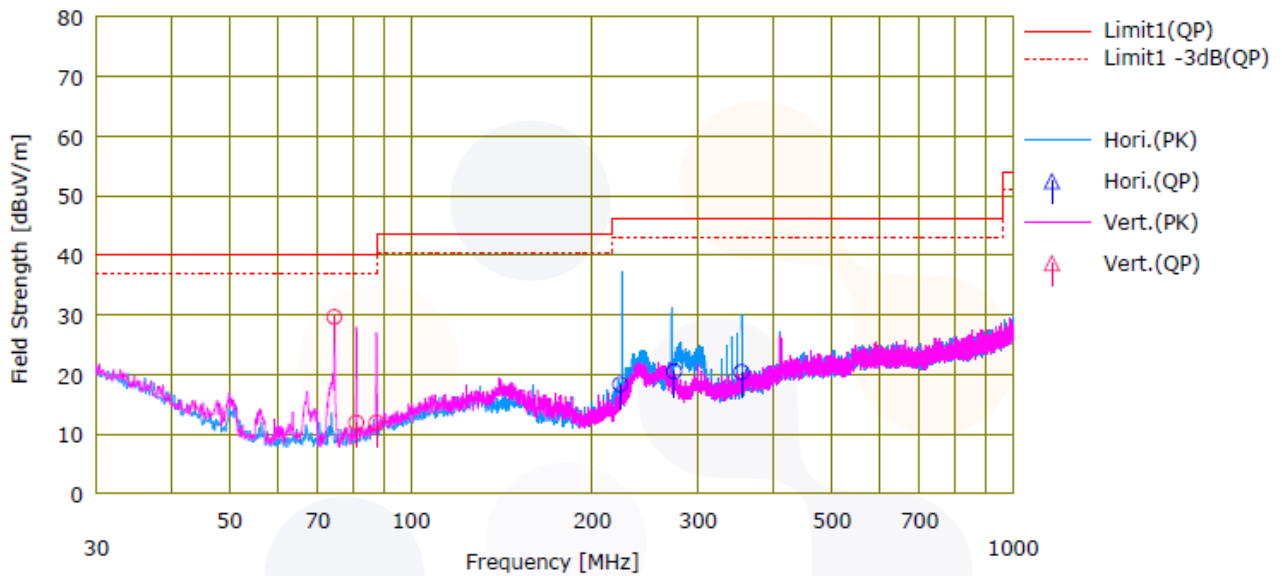


No.	Freq. [MHz]	Reading		C.Fac	Result		Limit		Margin		Pola.	Height [cm]	Angle [deg]	Ant. Type	Comment
		<CAV> [dBuV]	<PK> [dBuV]		<CAV> [dBuV/m]	<PK> [dBuV/m]	<PK> [dBuV/m]	<CAV> [dBuV/m]	<PK> [dB]	<CAV> [dB]					
1	1424.657	28.91	42.69	-0.92	27.99	41.77	74.00	54.00	32.23	26.01	Vert.	168	5	SAS-5	
2	1672.435	29.44	42.84	0.18	29.62	43.02	74.00	54.00	30.98	24.38	Vert.	105	241	SAS-5	
3	3759.978	31.43	44.71	8.13	39.56	52.84	74.00	54.00	21.16	14.44	Hori.	305	36	SAS-5	
4	6954.367	34.97	47.90	15.95	50.92	63.85	74.00	54.00	10.15	3.08	Hori.	294	169	SAS-5	
5	10840.930	30.81	43.76	16.99	47.80	60.75	74.00	54.00	13.25	6.20	Vert.	118	102	SAS-5	
6	11907.350	31.45	44.24	18.61	50.06	62.85	74.00	54.00	11.15	3.94	Hori.	371	113	SAS-5	

- Radio Frequency : 1 850 MHz ~ 1 910 MHz, 1 930 MHz ~ 1 990 MHz, 2 400 MHz ~ 2 483.5 MHz,

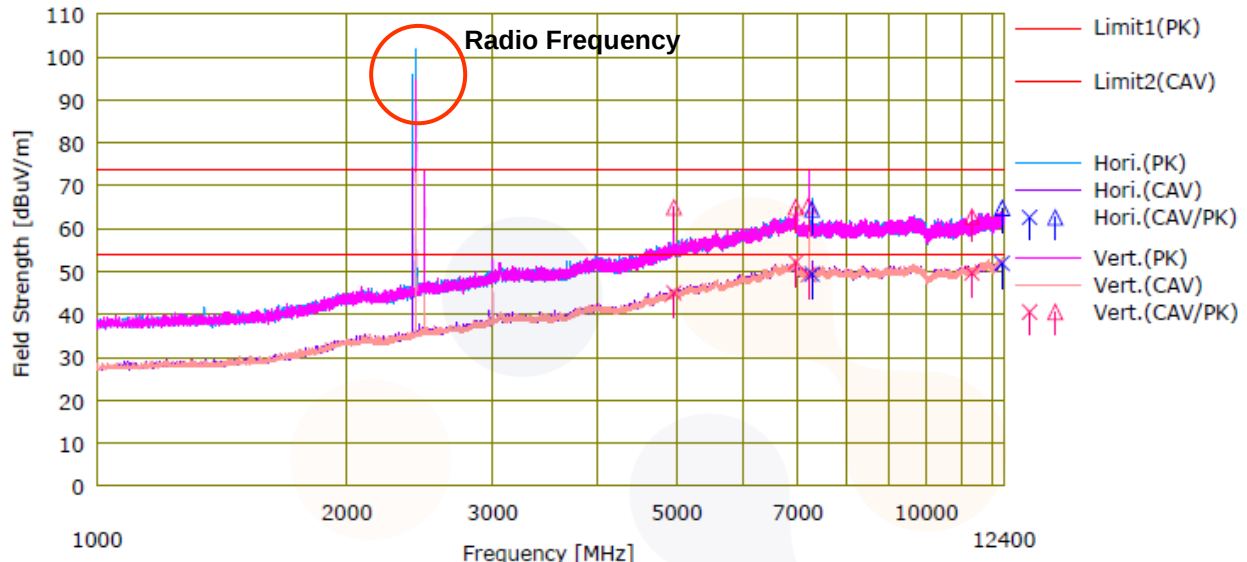
[Charging Mode]

30 MHz ~ 1 GHz



No.	Freq. [MHz]	Reading <QP> [dBuV]	C.Fac [dB/m]	Result <QP> [dBuV/m]	Limit <QP> [dBuV/m]	Margin <QP> [dB]	Pola. [H/V]	Height [cm]	Angle [deg]	Ant. Type	Comment
1	74.626	47.60	-17.97	29.63	40.00	10.37	Vert.	124	178	BI-LO	
2	81.166	28.91	-17.04	11.87	40.00	28.13	Vert.	163	189	BI-LO	
3	87.716	27.56	-15.66	11.90	40.00	28.10	Vert.	106	2	BI-LO	
4	222.565	32.11	-13.80	18.31	46.00	27.69	Hori.	194	67	BI-LO	
5	273.559	30.72	-10.25	20.47	46.00	25.53	Hori.	136	42	BI-LO	
6	354.218	28.42	-8.06	20.36	46.00	25.64	Hori.	105	0	BI-LO	

1 GHz ~ 12.4 GHz



No.	Freq. [MHz]	Reading		C.Fac	Result		Limit		Margin		Pola.	Height [cm]	Angle [deg]	Ant. Type	Comment
		<CAV> [dBuV]	<PK> [dBuV]		<CAV> [dBuV/m]	<PK> [dBuV/m]	<PK> [dBuV/m]	<CAV> [dBuV/m]	<PK> [dB]	<CAV> [dB]					
1	4959.697	32.76	52.68	12.30	45.06	64.98	74.00	54.00	9.02	8.94	Vert.	100	137	SAS-5	
2	6955.373	35.70	48.53	16.48	52.18	65.01	74.00	54.00	8.99	1.82	Vert.	101	355	SAS-5	
3	7205.287	32.27	48.38	17.03	49.30	65.41	74.00	54.00	8.59	4.70	Vert.	105	233	SAS-5	
4	7277.347	32.31	47.34	17.12	49.43	64.46	74.00	54.00	9.54	4.57	Hori.	320	178	SAS-5	
5	11342.960	31.86	44.99	17.80	49.66	62.79	74.00	54.00	11.21	4.34	Vert.	152	95	SAS-5	
6	12334.260	31.39	44.26	20.54	51.93	64.80	74.00	54.00	9.20	2.07	Hori.	279	223	SAS-5	

- Radio Frequency 2 400 MHz ~ 2 483.5 MHz

- End -