EMC TEST REPORT

Test Report No.	:	KES-EM-22T0501
Date of Issue	:	Jun. 22, 2022
Product name	:	Bluetooth Earbud (Cradle)
Model/Type No.	:	TONE-T90QC
Variant Model	:	TONE-UT90QC, TONE-DT90QC
FCC Applicant	:	LG Electronics USA, Inc.
FCC Applicant Address	:	111 Sylvan Ave, North Building, Englewood Cliffs, New Jersey, United States
IC Applicant	:	LG ELECTRONICS INC
IC Applicant Address	:	60-39, Gasan-Dong, Gumchon-Gu, Seoul, Korea
Manufacturer	:	LG Electronics Inc.
Manufacturer Address	:	222 LG-ro Jinwi-myeon, Pyeongtaek-si,Gyeonggi-do, Korea
FCC ID	:	ZNFTONET90QC
IC ID	:	2703C-TONET90QC
FVIN	:	1.0
Date of Receipt	:	May. 31, 2022
Test date	:	Jun. 07, 2022 ~ Jun. 09, 2022
Test Results	:	☒ **In Compliance** ☐ **Not in Compliance**

Tested by

Dae Hyun, Kim
EMC Test Engineer

Reviewed by

Dong Hun, Jang
EMC Technical Manager

REPORT REVISION HISTORY

Date	Test Report No.	Revision History
Jun. 22, 2022	KES-EM-22T0501	Issued

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1.0 General Product Description

Main Specifications of EUT are:

Item	Details
Communication Method	Bluetooth
Power	Charging : DC 5 V / 500 mA Operating : DC 3.7 V (Battery) / 390 mAh (Lithium Ion Battery)
Size	(54.5 x 54.5 x 29.6) ㎜
Weight	38.6 g
Port	3 Pin x 2 EA (Charge)

1.1 Test Voltage & Frequency

Unless indicated otherwise on the individual data sheet or test results, the test voltage and frequency was as indicated below.

☒ AC 120 V 60 Hz

1.2 Variant Model Differences

TONE-UT90QC : The model is identical to the basic model except for the Marketing area(KOREA, United Kingdom, Australia) and model name.

TONE-DT90QC : The model is identical to the basic model except for the Marketing area (Germany) and model name.

1.3 Device Modifications

Not applicable

1.4 Equipment Under Test

Description	Model Number	Serial Number	Manufacturer	Remarks
Bluetooth Earbud (Cradle)	TONE-T90QC	-	LG Electronics Inc.	EUT

1.5 Support Equipments

Description	Model Number	Serial Number	Manufacturer	Remarks
AC/DC Adapter	N9-QC3	-	DONGGUAN CITILAND ELECTRONICS CO.,LTD	-
Bluetooth Earbud	TONE-T90Q	-	LG Electronics Inc.	FCC ID :ZNFTONET90Q IC ID:2703C-TONET90Q
USB DIGITAL TESTER	J7	-	-	-
Notebook	P95G001	8KM8HT2	DELL INC.	-
Notebook Adapter	LA65NS2-01	-	LITE-ON TECHNOLOGY(CHANGZHOU)CO.,LTD.	-

1.6 External I/O Cabling

■ Charge Mode

Start		END		Cable Spec.	
Description	**I/O Port**	**Description**	**I/O Port**	**Length**	**Shield**
Bluetooth Earbud (Cradle) (EUT)	Charge Port	Bluetooth Earbud	Charge Port	-	-
	USB C Type	USB DIGITAL TESTER	USB	0.5	U
USB DIGITAL TESTER	USB	AC/DC Adapter	USB	-	-

* Unshielded = U, Shielded = S

■ Operating Mode

Start		END		Cable Spec.	
Description	**I/O Port**	**Description**	**I/O Port**	**Length**	**Shield**
Bluetooth Earbud (Cradle) (EUT)	Wireless	Bluetooth Earbud	Wireless	-	-
	USB C Type	Notebook	3.5 ㎜	0.8	U
Notebook	DC Jack	Notebook Adapter	DC Jack	1.8	U

* Unshielded = U, Shielded = S

1.7 EUT Operating Mode(s)

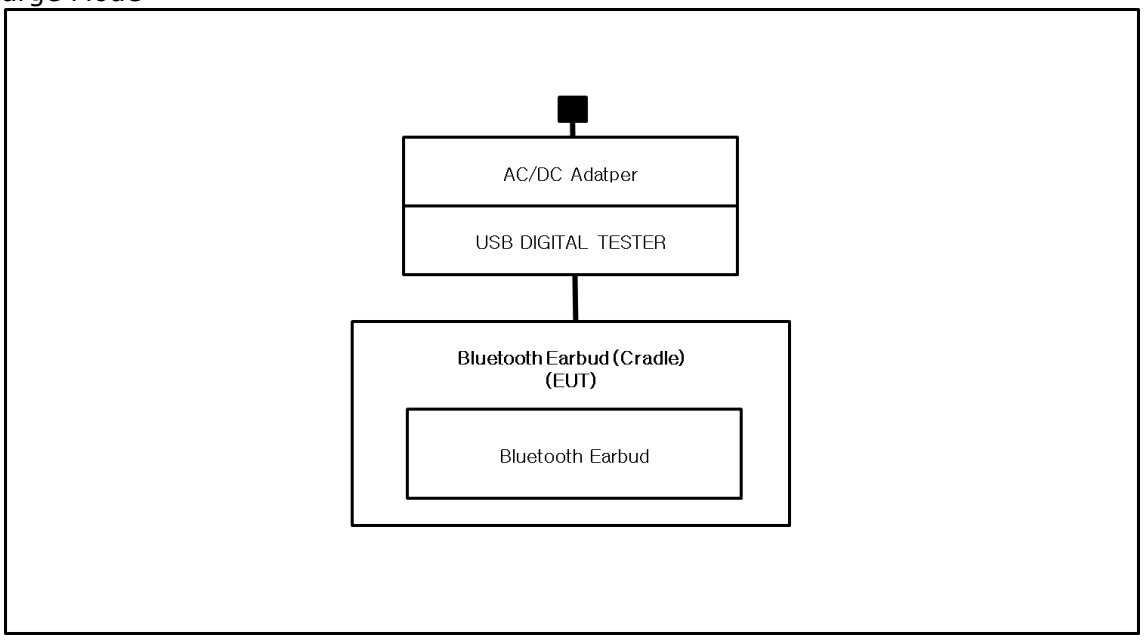
Test mode	operating
Charge	Tested while USB DIGITAL TESTER and EUT charge LED checking the normal state of charge.
Operating	Connect EUT and Earbud wirelessly. It was tested while confirming that the sound from EUT was normally produced.

EUT Test operating S/W		
Name	**Version**	**Manufacture Company**
-	-	-

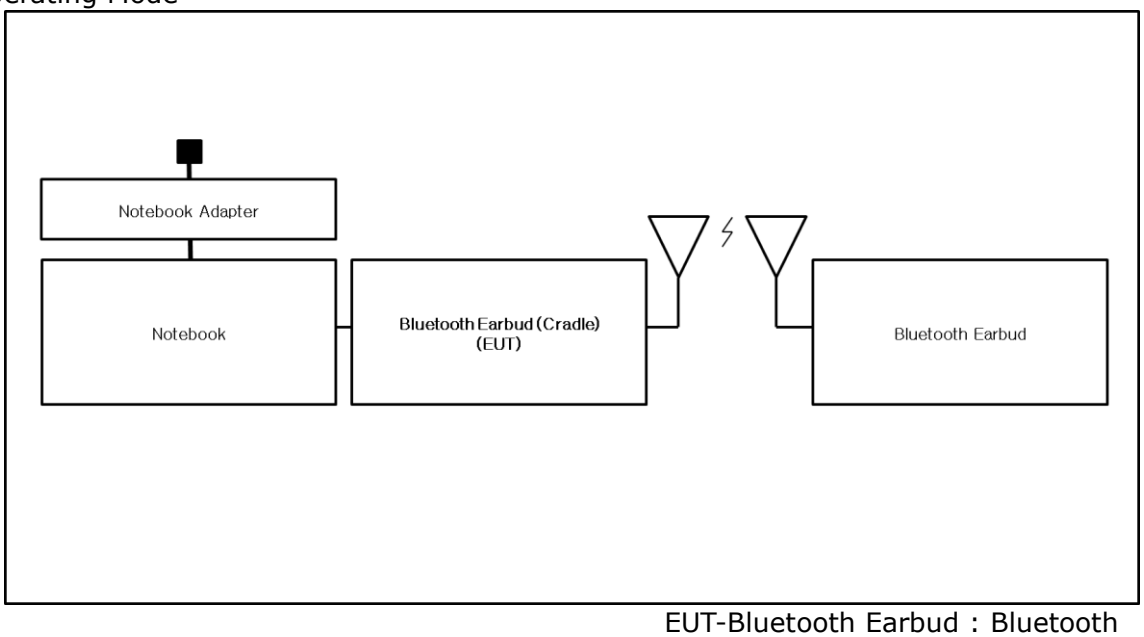
1.8 Configuration

■ AC Main
□ DC Main

■ Charge Mode



■ Operating Mode



EUT-Bluetooth Earbud : Bluetooth

1.9 Remarks when standards applied

N/A

1.10 Calibration Details of Equipment Used for Measurement

Test equipment and test accessories are calibrated on regular basis. The maximum time between calibrations is one year or what is recommended by the manufacturer, whichever is less.

1.11 Test Facility

The measurement facility is located at 473-21 Gayeo-ro, Yeoju-si, Gyeonggi-do, 12658, Korea. The sites are constructed in conformance with the requirements of ANSI C63.4a-2017 and CISPR 16-1-4:2019

1.12 Measurement Procedure

- Conducted Emissions

The conducted emission levels were measured on each current-carrying line with the spectrum analyzer operating in the CISPR quasi-peak mode (or peak mode if applicable). The initial step in collecting conducted data is a spectrum analyzer peak scan of the measurement range. If the conducted emission exceed the average limit with the instrument set to the quasi-peak mode, the measurements are made in the average mode. The emission spectrum was scanned from 150 ㎑ to 30 ㎒. The highest emission amplitudes relative to the appropriate limits were measured and have been recorded. Quasi-peak readings are distinguished with a "QP".

- Radiated Electric Field Emissions

The test was done at a SEMI ANECHOIC CHAMBER with quasi-peak detector. The final test data was measured using a Quasi-Peak detector below 1㎓ at 10 m or 3 m distance and a Peak and Average detector above 1 ㎓ at 3 m distance. Test was proceeded worst case test mode and cable configuration.
Measurements were made with the antenna positioned in both the horizontal and vertical planes of polarization. The antenna height was varied from 1 m to 4 m and the EUT was rotated 360° to find the maximum emitting point for each frequency.

Measurement procedures was In accordance with ANSI C63.4-2014 7.3.3, 7.3.4, 8.3.1.1, 8.3.1.2, 8.3.2.1, 8.3.2.2

1.13 Laboratory Accreditations and Listings

Country	Agency	Scope of Accreditation	Logo
KOREA	**RRA**	EMI (3 m & 10 m Semi-Aechoic Chamber ,10 m Open Area and conducted test site) EMS (ESD, RS, EFT/Burst, Surge, CS, Magnetic, Dips and interruptions)	KR0100
International	**KOLAS**	EMI (3 m & 10 m Semi-Aechoic Chamber , and conducted test site) EMS (ESD, RS, EFT/Burst, Surge, CS, Magnetic, Dips and interruptions)	KT489
USA	**FCC**	3 m & 10 m Semi-Aechoic Chamber, 10 m Open Area and Conducted test site to perform FCC Part 15/18 measurements.	KR0100
Canada	**ISED**	3 m & 10 m Semi-Aechoic Chamber and Conducted test site	23298
JAPAN	**VCCI**	Mains Ports Conducted Interference Measurement, Telecommunication Ports Conducted Disturbance Measurement and Radiation 10 meter site, Facility for measuring radiated disturbance above 1 GHz	R-20056, C-20036 T-20040, G-20057
Europe	**TÜV SÜD**	EMI (3 m & 10 m Semi-Aechoic Chamber , 10 m Open Area and conducted test site) EMS (ESD, RS, EFT/Burst, Surge, CS, Magnetic, Dips and interruptions)	CARAT 001633 0004

2.0 Test Regulations

The emissions tests were performed according to following regulations:

☒ **47 CFR Part 15, Subpart B**

☐ CISPR 22:2009 +A1:2010	☐ Class A	☐ Class B
☒ ANSI C63.4a-2017	☐ Class A	☒ Class B

☒ **IC Regulation ICES-003 Issue 7**

☐ CAN/CSA-CISPR 32:17	☐ Class A	☐ Class B
☒ ANSI C63.4a-2017	☐ Class A	☒ Class B

2.1 Conducted Emissions at Mains Power Ports

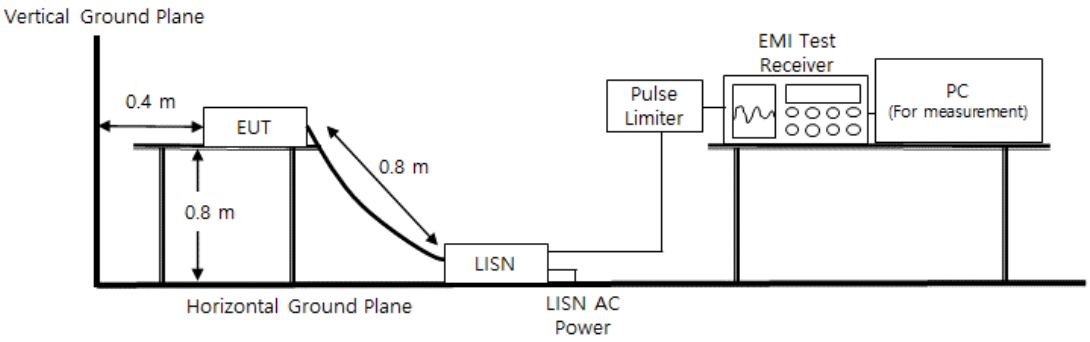
Test Date
Jun. 07, 2022

Test Location
Electro wave Shieldroom #6

Test Equipment

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due	calibration interval
☒	EMI Test S/W	EMC32	R & S	9.12.00	-	-
☒	EMI TEST RECEIVER	ESR3	R & S	101783	12, 28, 2022	1 Year
☒	LISN	ENV216	R & S	101787	12, 27, 2022	1 Year
☐	LISN	ESH2-Z5	R & S	100450	12, 27, 2022	1 Year
☒	PULSE LIMITER	ESH3-Z2	R & S	101915	12, 27, 2022	1 Year

Diagram of test setup



Test Conditions

Temperature: (23,4 ± 0,1) ℃
Relative Humidity: (44,6 ± 0,1) % R.H.

Frequency Range of Measurement

150 ㎑ to 30 ㎒

Instrument Settings

IF Band Width: 9 ㎑

Test Results

The requirements are:

☒ PASS
☐ NOT PASS
☐ NOT APPLICABLE

Remarks

See Appendix A for test data.

2.2 Radiated Electric Field Emissions(Below 1 ㎓)

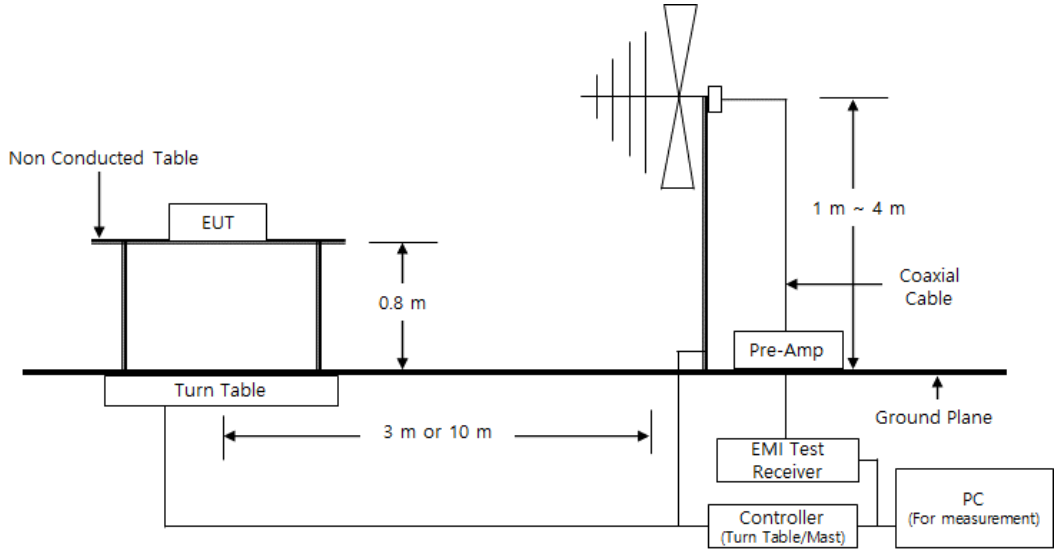
Test Date
Jun. 08, 2022

Test Location
☐ OPEN AREA TEST SITE #2 ☒ SEMI ANECHOIC CHAMBER #4(10m)

Test Equipment

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due	calibration interval
☒	EMI Test S/W	EP5/RE	TOYO Corporation	6.0.0	-	-
☒	EMI TEST RECEIVER	ESU26	R & S	100551	03, 31, 2023	1 Year
☒	AMPLIFIER	SCU 01	R & S	100603	11, 24, 2022	1 Year
☒	TRILOG-BROADBAND ANTENNA	VULB9163	Schwarzbeck	715	12, 08, 2022	2 Year
☒	ATTENUATOR	8491A	HP	32173	03, 08, 2023	1 Year

Diagram of test setup



Test Conditions

Temperature: (23,4 ± 0,1) ℃
Relative Humidity: (44,3 ± 0,1) % R.H.

Frequency Range of Measurement

30 ㎒ to 1 ㎓

Instrument Settings

IF Band Width: 120 ㎑

Test Results

The requirements are:

☒ PASS
☐ NOT PASS
☐ NOT APPLICABLE

Remarks

- See Appendix A for test data.
- The fundamental of the EUT was investigated in thre orthogonal orientations X, Y and Z.

2.3 Radiated Electric Field Emissions(Above 1 ㎓)

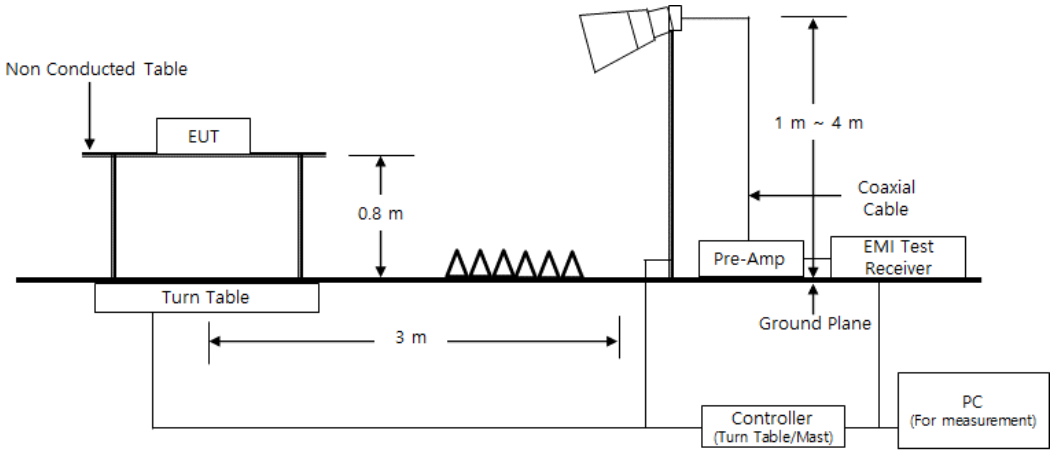
Test Date
Jun. 09, 2022

Test Location
SEMI ANECHOIC CHAMBER #4(10m)

Test Equipment

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due	calibration interval
☒	EMI Test S/W	EP5/RE	TOYO Corporation	6.0.0	-	-
☒	EMI TEST RECEIVER	ESU26	R & S	100551	03, 31, 2023	1 Year
☒	PREAMPLIFIER	8449B	AGILENT	3008A01742	12, 27, 2022	1 Year
☒	HORN ANTENNA	BBHA 9120D	SCHWARZBECK	9120D-1802	12, 16, 2022	1 Year

Diagram of test setup



Test Conditions

Temperature: (23,7 ± 0,2) ℃
Relative Humidity: (44,0 ± 0,1) % R.H.

Frequency Range of Measurement

1 ㎓ to 12,4 ㎓

Instrument Settings

IF Band Width: 1 ㎒

Test Results

The requirements are:

☒ PASS
☐ NOT PASS
☐ NOT APPLICABLE

Remarks

See Appendix A for test data.

APPENDIX A – TEST DATA

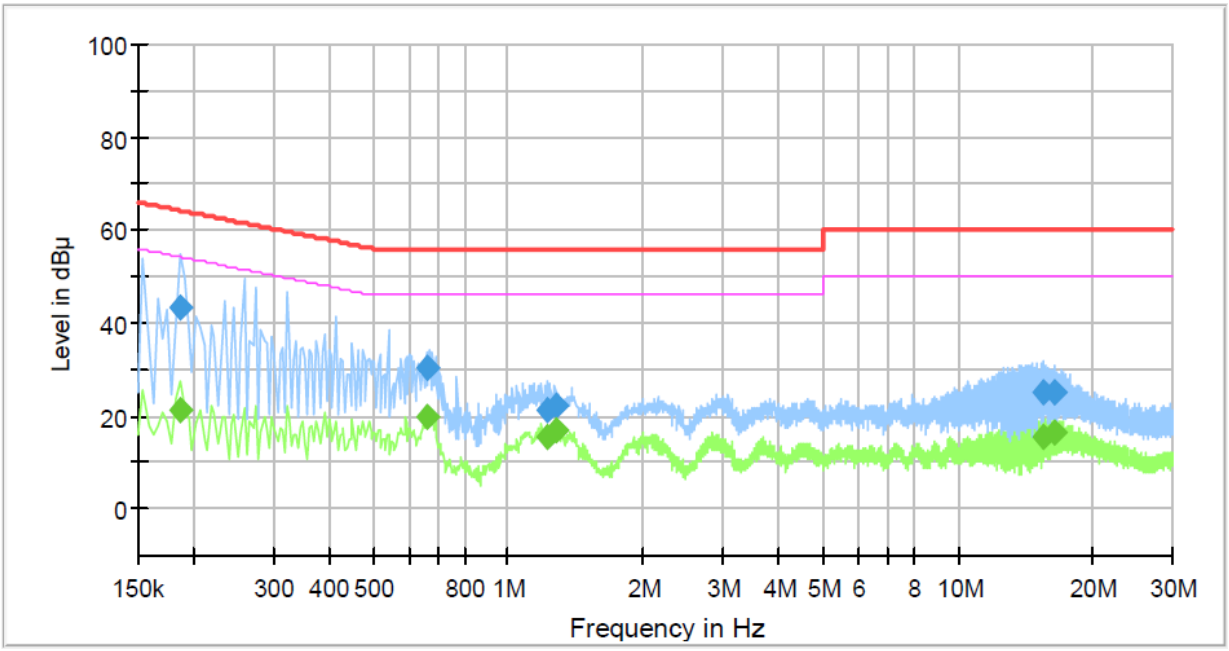
Conducted Emissions at Mains Power Ports

■ Charge Mode

HOT LINE

Common Information

Test Description:	Conducted Emission
Model No.:	TONE-T90QC
Phase:	
Mode:	Charge
Operator Name:	KES



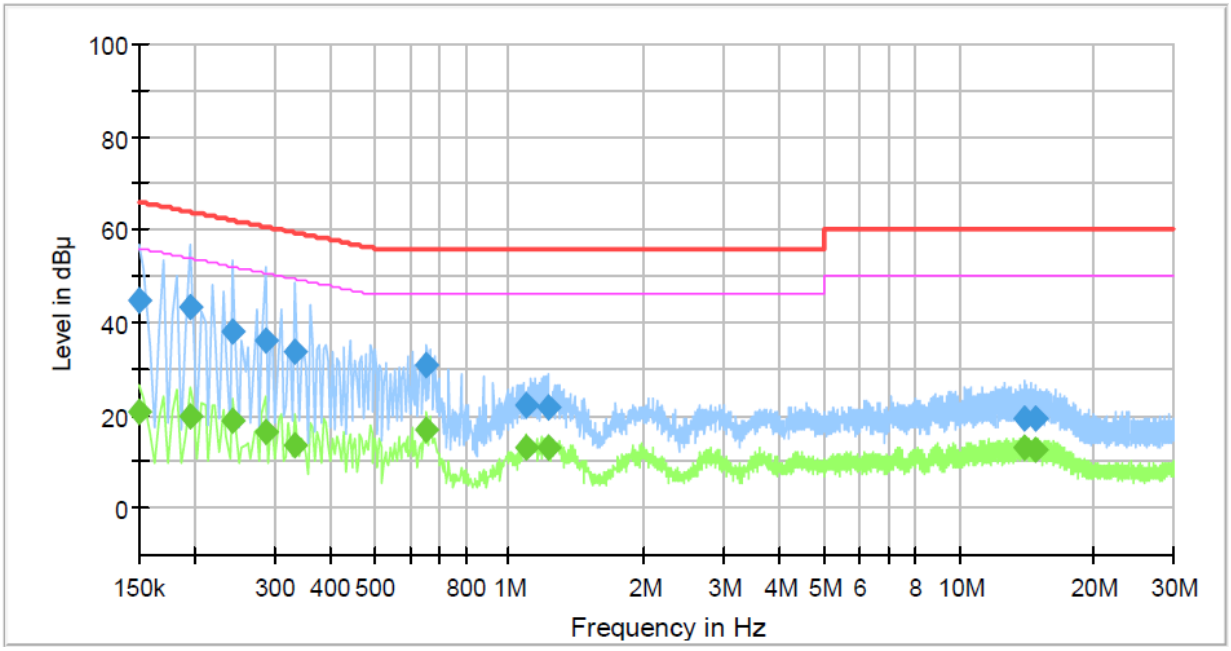
Final_Result

Frequency (MHz)	QuasiPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.186000	---	21.26	54.21	32.95	1000.0	9.000	L1	19.6
0.186000	43.28	---	64.21	20.93	1000.0	9.000	L1	19.6
0.658000	---	19.98	46.00	26.02	1000.0	9.000	L1	20.0
0.658000	30.48	---	56.00	25.52	1000.0	9.000	L1	20.0
1.218000	---	15.64	46.00	30.36	1000.0	9.000	L1	20.3
1.218000	21.34	---	56.00	34.66	1000.0	9.000	L1	20.3
1.274000	---	17.09	46.00	28.91	1000.0	9.000	L1	20.3
1.274000	21.95	---	56.00	34.05	1000.0	9.000	L1	20.3
15.462000	---	15.24	50.00	34.76	1000.0	9.000	L1	20.5
15.462000	25.30	---	60.00	34.70	1000.0	9.000	L1	20.5
16.418000	---	16.62	50.00	33.38	1000.0	9.000	L1	20.5
16.418000	25.12	---	60.00	34.88	1000.0	9.000	L1	20.5

NEUTRAL LINE

Common Information

Test Description:	Conducted Emission
Model No.:	TONE-T90QC
Phase:	
Mode:	Charge
Operator Name:	KES



Final_Result

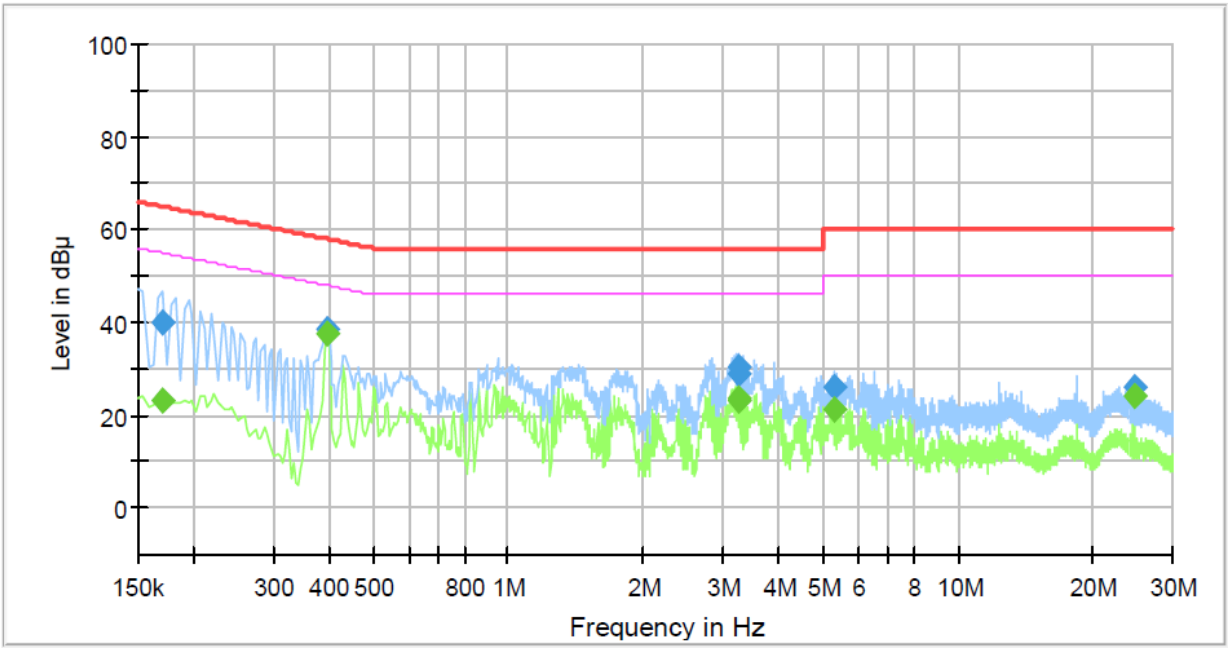
Frequency (MHz)	QuasiPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.150000	---	20.67	56.00	35.33	1000.0	9.000	N	19.5
0.150000	44.70	---	66.00	21.30	1000.0	9.000	N	19.5
0.194000	---	19.83	53.86	34.03	1000.0	9.000	N	19.5
0.194000	43.27	---	63.86	20.59	1000.0	9.000	N	19.5
0.242000	---	18.90	52.03	33.13	1000.0	9.000	N	19.6
0.242000	37.84	---	62.03	24.19	1000.0	9.000	N	19.6
0.286000	---	16.30	50.64	34.34	1000.0	9.000	N	19.6
0.286000	36.27	---	60.64	24.37	1000.0	9.000	N	19.6
0.334000	33.62	---	59.35	25.73	1000.0	9.000	N	19.6
0.334000	---	13.48	49.35	35.87	1000.0	9.000	N	19.6
0.654000	30.88	---	56.00	25.12	1000.0	9.000	N	20.0
0.654000	---	16.86	46.00	29.14	1000.0	9.000	N	20.0
1.086000	---	12.95	46.00	33.05	1000.0	9.000	N	20.2
1.086000	22.41	---	56.00	33.59	1000.0	9.000	N	20.2
1.214000	---	12.90	46.00	33.10	1000.0	9.000	N	20.2
1.214000	21.65	---	56.00	34.35	1000.0	9.000	N	20.2
13.918000	19.44	---	60.00	40.56	1000.0	9.000	N	20.4
13.918000	---	13.00	50.00	37.00	1000.0	9.000	N	20.4
14.854000	19.20	---	60.00	40.80	1000.0	9.000	N	20.4
14.854000	---	12.76	50.00	37.24	1000.0	9.000	N	20.4

■ Operating Mode

HOT LINE

Common Information

Test Description:	Conducted Emission
Model No.:	TONE-T90QC
Phase:	
Mode:	Operating
Operator Name:	KES



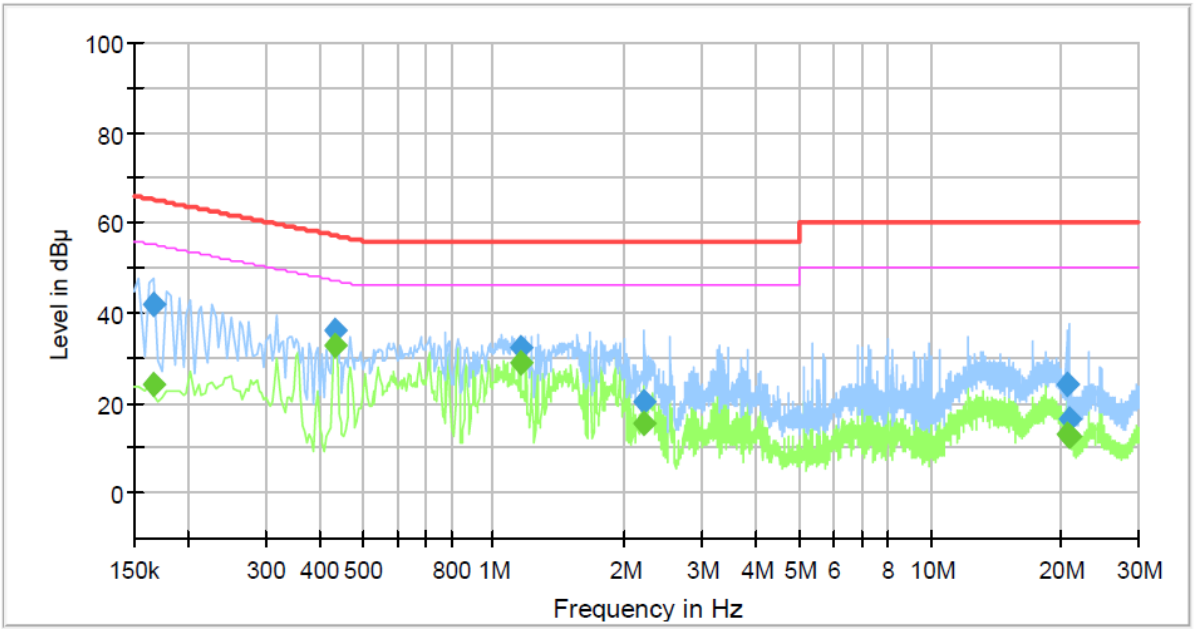
Final_Result

Frequency (MHz)	QuasiPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.170000	---	23.17	54.96	31.79	1000.0	9.000	L1	19.6
0.170000	39.92	---	64.96	25.04	1000.0	9.000	L1	19.6
0.394000	---	37.53	47.98	10.45	1000.0	9.000	L1	19.8
0.394000	38.31	---	57.98	19.67	1000.0	9.000	L1	19.8
3.258000	---	23.30	46.00	22.70	1000.0	9.000	L1	20.3
3.258000	29.14	---	56.00	26.86	1000.0	9.000	L1	20.3
3.266000	---	23.64	46.00	22.36	1000.0	9.000	L1	20.3
3.266000	30.20	---	56.00	25.80	1000.0	9.000	L1	20.3
5.310000	---	21.13	50.00	28.87	1000.0	9.000	L1	19.9
5.310000	25.81	---	60.00	34.19	1000.0	9.000	L1	19.9
24.578000	---	23.94	50.00	26.06	1000.0	9.000	L1	21.0
24.578000	26.01	---	60.00	33.99	1000.0	9.000	L1	21.0

NEUTRAL LINE

Common Information

Test Description:	Conducted Emission
Model No.:	TONE-T90QC
Phase:	
Mode:	Operating
Operator Name:	KES



Final_Result

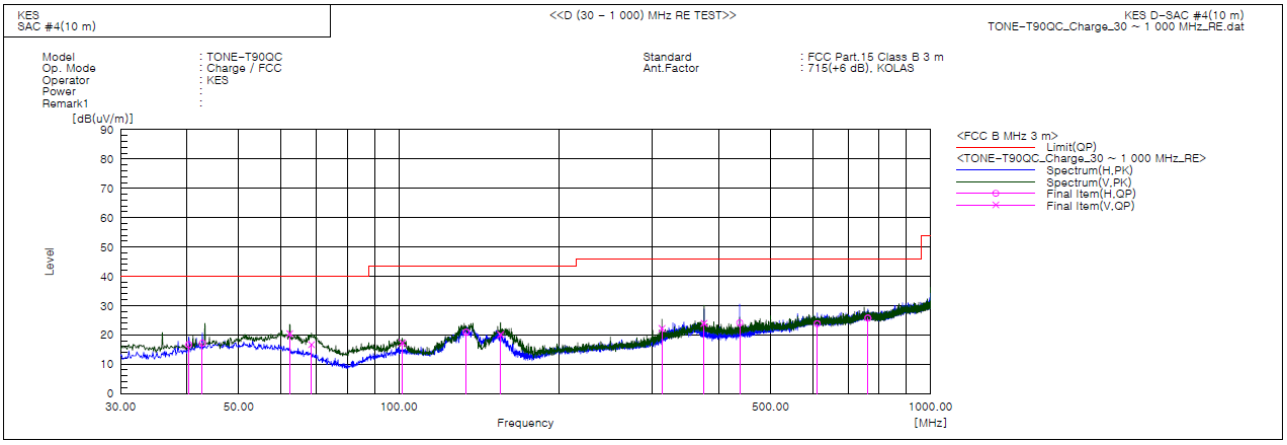
Frequency (MHz)	QuasiPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.166000	---	24.17	55.16	30.99	1000.0	9.000	N	19.5
0.166000	41.79	---	65.16	23.37	1000.0	9.000	N	19.5
0.434000	---	32.99	47.18	14.19	1000.0	9.000	N	19.7
0.434000	36.07	---	57.18	21.11	1000.0	9.000	N	19.7
1.150000	---	28.85	46.00	17.15	1000.0	9.000	N	20.2
1.150000	32.43	---	56.00	23.57	1000.0	9.000	N	20.2
2.214000	---	15.60	46.00	30.40	1000.0	9.000	N	20.4
2.214000	20.46	---	56.00	35.54	1000.0	9.000	N	20.4
20.714000	---	13.21	50.00	36.79	1000.0	9.000	N	20.9
20.714000	24.30	---	60.00	35.70	1000.0	9.000	N	20.9
20.722000	---	12.41	50.00	37.59	1000.0	9.000	N	20.9
20.722000	16.24	---	60.00	43.76	1000.0	9.000	N	20.9

♦ Calculation
QuasiPeak[dBuV] / CAverage [dBuV] = Reading Value[dBuV] + Corr. [dB]
QuasiPeak / CAverage : The Final Value
Reading Value : Not shown in the table.
Corr. : Correction values (LISN FACTOR + (Cable Loss + Pulse Limiter FACTOR))

Radiated Electric Field Emissions(Below 1 ㎓)

- 47 CFR Part 15, Subpart B

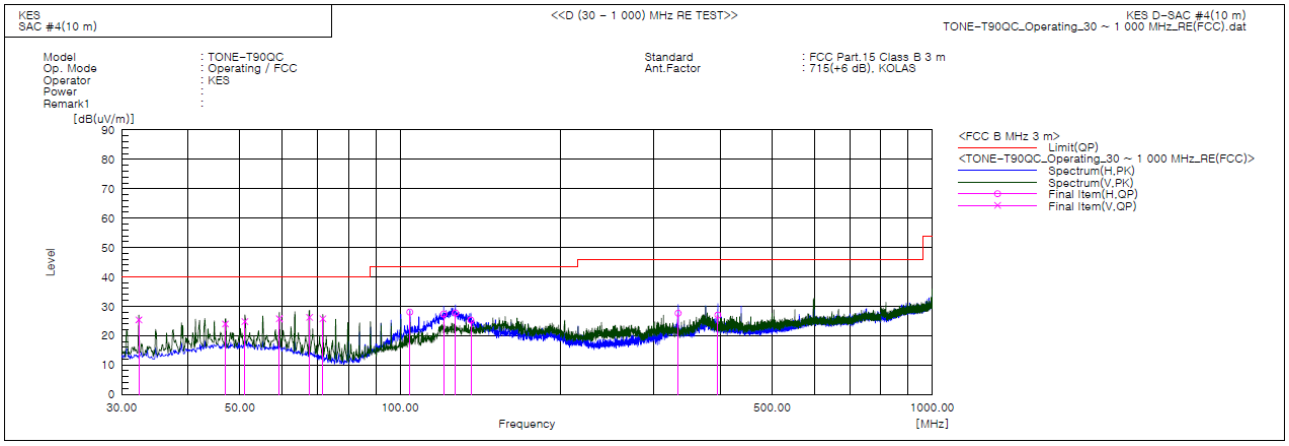
■ Charge Mode



Final Result

No.	Frequency [MHz]	(P)	Reading QP [dB(uV)]	c.f [dB(1/m)]	Result QP [dB(uV/m)]	Limit QP [dB(uV/m)]	Margin QP [dB]	Height [cm]	Angle [deg]	Remark
1	40.306	H	39.4	-22.7	16.7	40.0	23.3	400.0	352.0	
2	42.731	H	39.2	-22.0	17.2	40.0	22.8	318.0	352.0	
3	62.374	V	43.3	-22.9	20.4	40.0	19.6	122.0	331.0	
4	68.558	V	41.4	-24.7	16.7	40.0	23.3	100.0	35.0	
5	101.538	V	40.3	-23.0	17.3	43.5	26.2	109.0	16.0	
6	133.911	H	46.9	-26.0	20.9	43.5	22.6	400.0	12.0	
7	155.373	V	45.7	-25.6	20.1	43.5	23.4	100.0	12.0	
8	312.513	V	40.4	-18.2	22.2	46.0	23.8	115.0	110.0	
9	374.956	V	39.9	-15.9	24.0	46.0	22.0	100.0	292.0	
10	437.521	H	38.6	-14.5	24.1	46.0	21.9	400.0	245.0	
11	612.000	H	33.6	-9.8	23.8	46.0	22.2	400.0	82.0	
12	762.229	H	33.8	-8.1	25.7	46.0	20.3	271.0	221.0	

■ Operating Mode

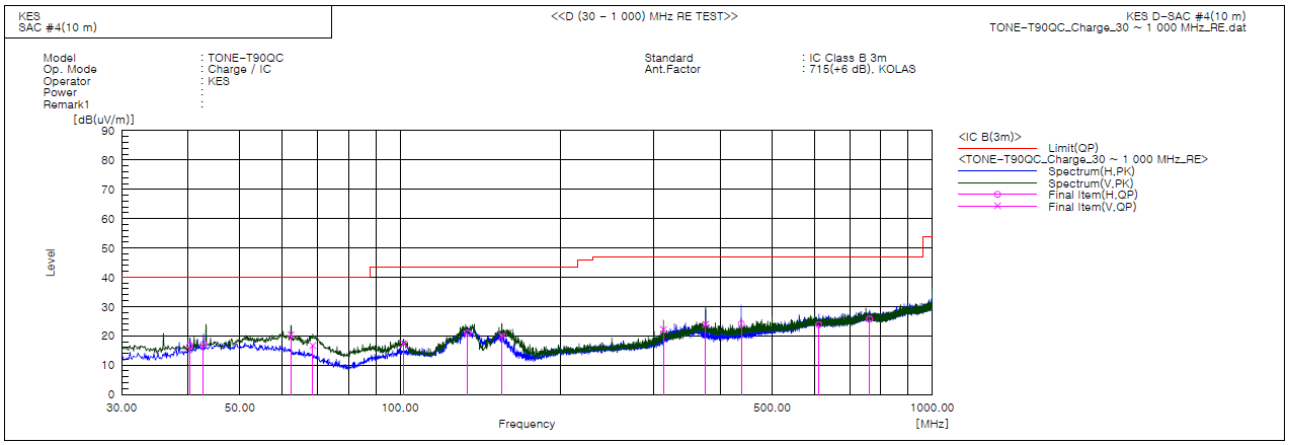


Final Result

No.	Frequency [MHz]	(P)	Reading QP [dB(uV)]	c.f [dB(1/m)]	Result QP [dB(uV/m)]	Limit QP [dB(uV/m)]	Margin QP [dB]	Height [cm]	Angle [deg]	Remark
1	32.304	V	50.7	-25.3	25.4	40.0	14.6	100.0	270.0	
2	46.975	V	45.5	-21.5	24.0	40.0	16.0	112.0	97.0	
3	51.098	V	46.2	-21.4	24.8	40.0	15.2	109.0	35.0	
4	59.343	V	48.1	-22.3	25.8	40.0	14.2	100.0	72.0	
5	67.588	V	50.6	-24.4	26.2	40.0	13.8	100.0	65.0	
6	71.589	V	51.7	-25.9	25.8	40.0	14.2	100.0	43.0	
7	104.326	H	51.0	-23.0	28.0	43.5	15.5	400.0	188.0	
8	120.816	H	52.3	-24.9	27.4	43.5	16.1	374.0	218.0	
9	127.121	H	53.4	-25.7	27.7	43.5	15.8	400.0	147.0	
10	135.851	H	51.4	-26.1	25.3	43.5	18.2	350.0	162.0	
11	333.004	H	44.6	-17.0	27.6	46.0	18.4	400.0	72.0	
12	395.326	H	42.4	-15.4	27.0	46.0	19.0	400.0	240.0	

- IC Regulation ICES-003 Issue 7

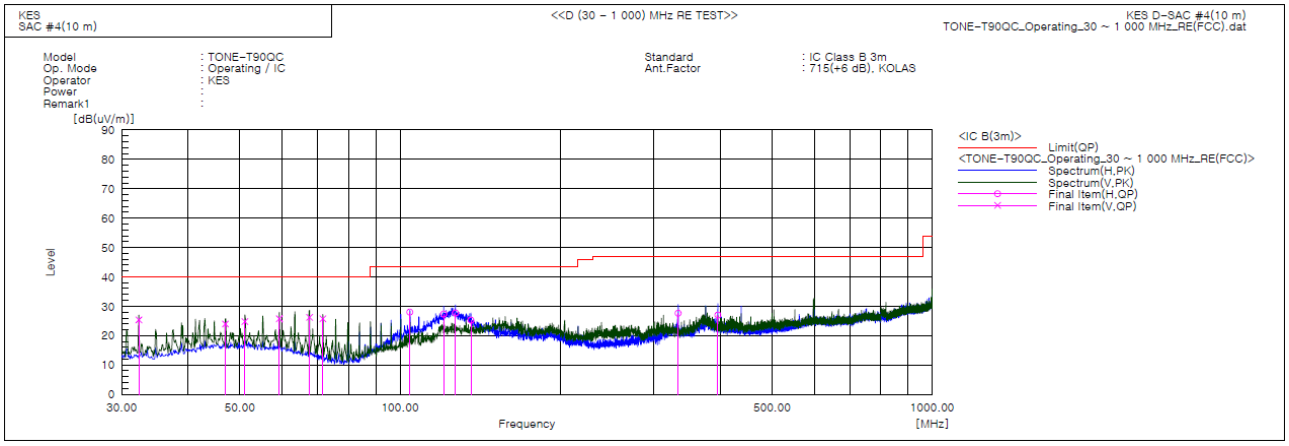
■ Charge Mode



Final Result

No.	Frequency [MHz]	(P)	Reading QP [dB(uV)]	c.f [dB(1/m)]	Result QP [dB(uV/m)]	Limit QP [dB(uV/m)]	Margin QP [dB]	Height [cm]	Angle [deg]	Remark
1	40.306	H	39.4	-22.7	16.7	40.0	23.3	400.0	352.0	
2	42.731	H	39.2	-22.0	17.2	40.0	22.8	318.0	352.0	
3	62.374	V	43.3	-22.9	20.4	40.0	19.6	122.0	331.0	
4	68.558	V	41.4	-24.7	16.7	40.0	23.3	100.0	35.0	
5	101.538	V	40.3	-23.0	17.3	43.5	26.2	109.0	16.0	
6	133.911	H	46.9	-26.0	20.9	43.5	22.6	400.0	12.0	
7	155.373	V	45.7	-25.6	20.1	43.5	23.4	100.0	12.0	
8	312.513	V	40.4	-18.2	22.2	47.0	24.8	115.0	110.0	
9	374.956	V	39.9	-15.9	24.0	47.0	23.0	100.0	292.0	
10	437.521	H	38.6	-14.5	24.1	47.0	22.9	400.0	245.0	
11	612.000	H	33.6	-9.8	23.8	47.0	23.2	400.0	82.0	
12	762.229	H	33.8	-8.1	25.7	47.0	21.3	271.0	221.0	

■ Operating Mode



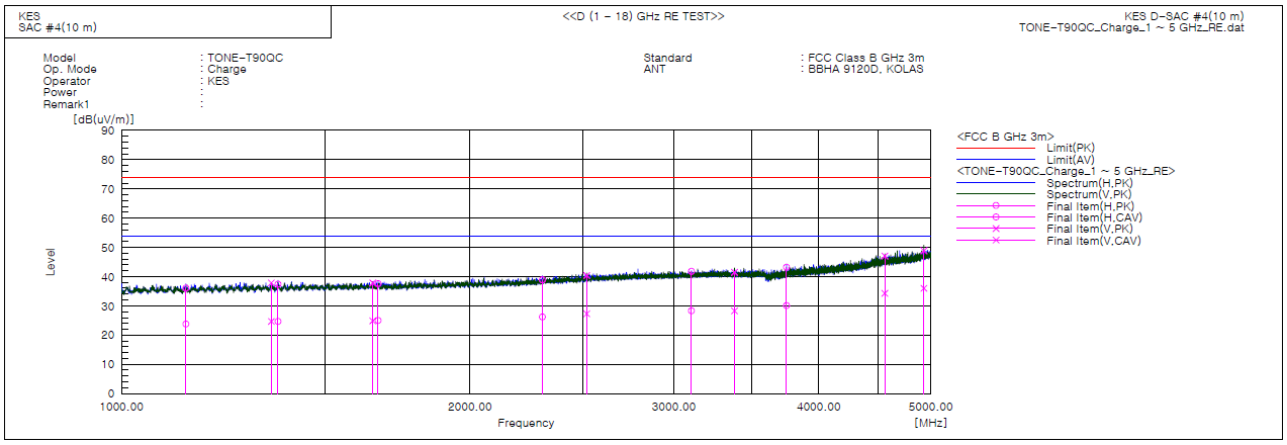
Final Result

No.	Frequency [MHz]	(P)	Reading QP [dB(uV)]	c.f [dB(1/m)]	Result QP [dB(uV/m)]	Limit QP [dB(uV/m)]	Margin QP [dB]	Height [cm]	Angle [deg]	Remark
1	32.304	V	50.7	-25.3	25.4	40.0	14.6	100.0	270.0	
2	46.975	V	45.5	-21.5	24.0	40.0	16.0	112.0	97.0	
3	51.098	V	46.2	-21.4	24.8	40.0	15.2	109.0	35.0	
4	59.343	V	48.1	-22.3	25.8	40.0	14.2	100.0	72.0	
5	67.588	V	50.6	-24.4	26.2	40.0	13.8	100.0	65.0	
6	71.589	V	51.7	-25.9	25.8	40.0	14.2	100.0	43.0	
7	104.326	H	51.0	-23.0	28.0	43.5	15.5	400.0	188.0	
8	120.816	H	52.3	-24.9	27.4	43.5	16.1	374.0	218.0	
9	127.121	H	53.4	-25.7	27.7	43.5	15.8	400.0	147.0	
10	135.851	H	51.4	-26.1	25.3	43.5	18.2	350.0	162.0	
11	333.004	H	44.6	-17.0	27.6	47.0	19.4	400.0	72.0	
12	395.326	H	42.4	-15.4	27.0	47.0	20.0	400.0	240.0	

♦ Calculation – SAC #4(10 m)
Result(QP) [dB(㎶/m)] = (Reading(QP)[dB(㎶)] + c.f[dB(1/m)]
Margin(QP)[dB] = Limit[dB(㎶/m)] - Result(QP) [dB(㎶/m)]
Reading(QP) : Reading value, Result(QP) : Reading value + Factor value
Limit(QP) : Limit value, c.f : (ANT Factor + Cable Loss - Preamp Factor), Margin: Margin value

Radiated Electric Field Emissions(Above 1 ㎓)

■ Charge Mode

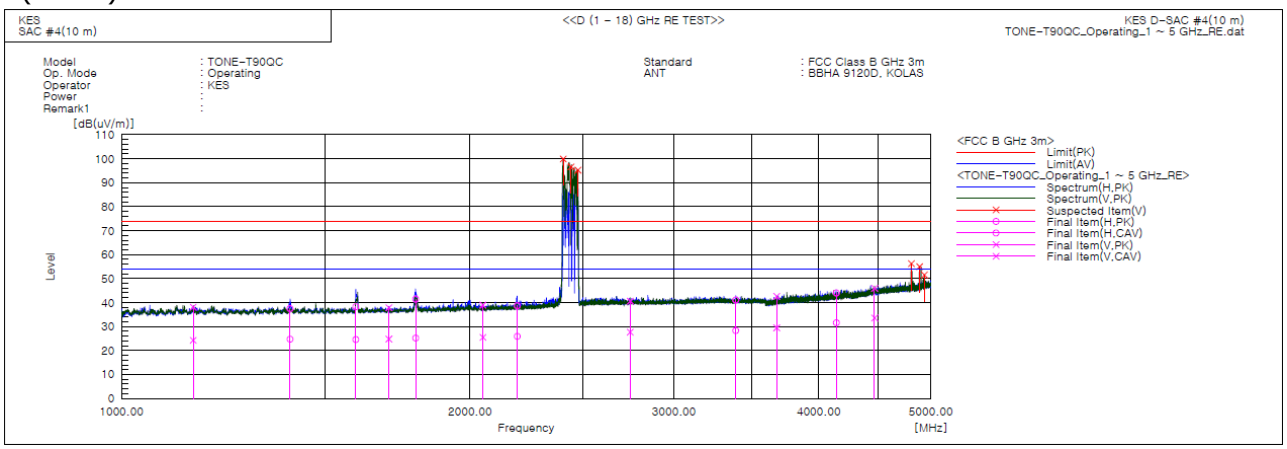


Final Result

No.	Frequency [MHz]	(P)	Reading PK [dB(uV)]	Reading CAV [dB(uV)]	c.f [dB(1/m)]	Result PK [dB(uV/m)]	Result CAV [dB(uV/m)]	Limit PK [dB(uV/m)]	Limit AV [dB(uV/m)]	Margin PK [dB]	Margin CAV [dB]	Height [cm]	Angle [deg]	Remark
1	1136.770	H	41.4	29.1	-5.3	36.1	23.8	74.0	54.0	37.9	30.2	400.0	78.0	
2	1347.002	V	42.0	28.8	-4.1	37.9	24.7	74.0	54.0	36.1	29.3	110.0	260.0	
3	1365.132	H	41.4	28.7	-4.0	37.4	24.7	74.0	54.0	36.6	29.3	290.0	123.0	
4	1647.733	V	40.6	27.6	-2.7	37.9	24.9	74.0	54.0	36.1	29.1	100.0	260.0	
5	1665.563	H	40.2	27.6	-2.6	37.6	25.0	74.0	54.0	36.4	29.0	400.0	294.0	
6	2309.485	H	38.6	25.9	0.3	38.9	26.2	74.0	54.0	35.1	27.8	385.0	63.0	
7	2521.525	V	39.0	25.9	1.4	40.4	27.3	74.0	54.0	33.6	26.7	189.0	141.0	
8	3105.210	H	38.3	24.8	3.5	41.8	28.3	74.0	54.0	32.2	25.7	200.0	100.0	
9	3383.500	V	37.3	24.1	4.2	41.5	28.3	74.0	54.0	32.5	25.7	100.0	350.0	
10	3752.198	H	37.5	24.4	5.7	43.2	30.1	74.0	54.0	30.8	23.9	400.0	82.0	
11	4562.302	V	36.3	23.5	10.8	47.1	34.3	74.0	54.0	26.9	19.7	150.0	14.0	
12	4930.486	V	35.7	22.8	13.2	48.9	36.0	74.0	54.0	25.1	18.0	260.0	338.0	

■ Operating Mode

- (1 ~ 5) GHz

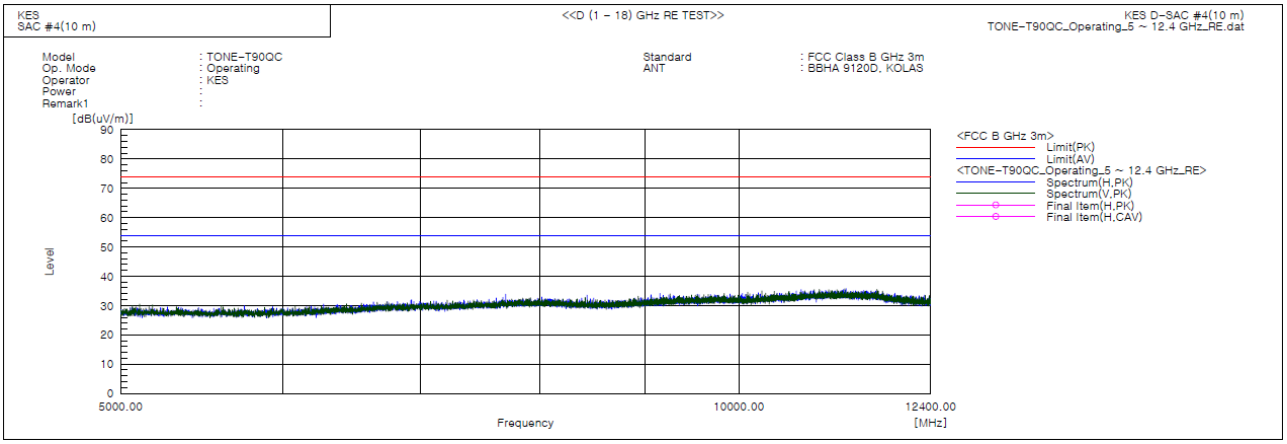


Final Result

No.	Frequency [MHz]	(P)	Reading PK [dB(uV)]	Reading CAV [dB(uV)]	c.f [dB(1/m)]	Result PK [dB(uV/m)]	Result CAV [dB(uV/m)]	Limit PK [dB(uV/m)]	Limit AV [dB(uV/m)]	Margin PK [dB]	Margin CAV [dB]	Height [cm]	Angle [deg]	Remark
1	1153.222	V	43.3	29.5	-5.2	38.1	24.3	74.0	54.0	35.9	29.7	100.0	217.0	
2	1398.333	H	41.3	28.5	-3.8	37.5	24.7	74.0	54.0	36.5	29.3	322.0	242.0	
3	1593.568	H	41.2	27.5	-2.9	38.3	24.6	74.0	54.0	35.7	29.4	400.0	205.0	
4	1701.651	V	40.4	27.3	-2.5	37.9	24.8	74.0	54.0	36.1	29.2	100.0	257.0	
5	1794.702	H	43.7	27.4	-2.2	41.5	25.2	74.0	54.0	32.5	28.8	400.0	213.0	
6	2051.249	V	40.0	26.5	-1.0	39.0	25.5	74.0	54.0	35.0	28.5	138.0	126.0	
7	2196.519	H	39.0	26.2	-0.3	38.7	25.9	74.0	54.0	35.3	28.1	400.0	102.0	
8	2749.715	V	38.2	25.3	2.4	40.6	27.7	74.0	54.0	33.4	26.3	120.0	332.0	
9	3391.827	H	36.9	24.1	4.2	41.1	28.3	74.0	54.0	32.9	25.7	305.0	124.0	
10	3678.992	V	37.4	24.3	5.2	42.6	29.5	74.0	54.0	31.4	24.5	100.0	261.0	
11	4142.520	H	36.0	23.6	8.0	44.0	31.6	74.0	54.0	30.0	22.4	400.0	187.0	
12	4470.539	V	36.0	23.6	10.0	46.0	33.6	74.0	54.0	28.0	20.4	274.0	108.0	
13	2406.500	V	--------	--------	0.9	--------	--------	74.0	54.0	--------	--------	100.0	216.0	
14	2445.000	V	--------	--------	1.0	--------	--------	74.0	54.0	--------	--------	100.0	235.0	
15	2478.000	V	--------	--------	1.2	--------	--------	74.0	54.0	--------	--------	100.0	257.0	
16	4809.500	V	--------	--------	12.0	--------	--------	74.0	54.0	--------	--------	100.0	231.0	
17	4888.500	V	--------	--------	12.8	--------	--------	74.0	54.0	--------	--------	100.0	231.0	
18	4936.000	V	--------	--------	13.3	--------	--------	74.0	54.0	--------	--------	100.0	276.0	

* Exclusion Bands
- Fundamental Frequency: 2.4 GHz Band
- Harmonic Frequency: 4.8 GHz, 4.9 GHz Band

- (5 ~ 12,4) GHz



* No spurious emission were detected above 5 GHz.

♦ Calculation

Result(PK/CAV) [dB(μV/m)] = (Reading(PK/CAV)[dB(μV)] + c.f[dB(1/m)]

Margin(PK/CAV)[dB] = Limit[dB(μV/m)] - Result(PK/CAV) [dB(μV/m)]

Reading(PK/CAV) : Reading value, Result(PK/CAV) : Reading value + Factor value

Limit(QP) : Limit value, c.f : (ANT Factor + Cable Loss - Preamp Factor), Margin: Marjin value