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TEST REPORT

Report Number	250700022SEL-TEL2
Applicant Name / Address	Braveridge Co., Ltd.
	3-27-2 Susenji Nishi-Ku, Fukuoka City, Fukuoka Prefecture, 819-0373
Test Sample Description	
- Product name	NFC Reader/Writer Module
- Model and/or Brand name	BVMCST3916
- FCC ID.....	2ABXRBM3916
- IC	N/A
- Manufacturer Name	Braveridge Co., Ltd.
- Manufacturer Address	3-27-2 Susenji Nishi-Ku, Fukuoka City, Fukuoka Prefecture, 819-0373
- Variant model Name	N/A
Date of receipt of sample(s)	19 Aug. 2025
Date of Test	19 Aug. 2025 - 12 Sep. 2025
Test standard(s)	CFR 47 Part15 Subpart C, Section 15.225 RSS-210 Issue 9
Test Results & uncertainty	See Summary
Issue date	11 Nov. 2025

Note 1. The results shown in this test report refer only to the sample(s) tested.

Note 2: This report shall not be reproduced except in full, without the written approval of Intertek.

Tested by

Name : Phillip.Nam
RF Engineer

Approved by

Name : Bran.Ko
RF Technical Manager

Intertek ETL SEMKO Korea Ltd.

SECTION 1 CONTENTS

SECTION 2 GENERAL DESCRIPTION

1. Laboratory Information

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Address	Intertek building, 3, Gongdan-ro 160beon-gil, Gunpo-si, Gyeonggi-do, 15845, Korea
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Accreditations	FCC/IC Site Designation No : KR0163 Industry Company Number: 21965

2. Applicant Information

Name	Braveridge Co., Ltd.
Address	3-27-2 Susenji Nishi-Ku, Fukuoka City, Fukuoka Prefecture, 819-0373
Contact Person	Yuki Okawa
Phone No.	+81 70 4331 6821

3. Description of EUT

Product name	NFC Reader/Writer Module
Model name	BVNCST3916
Serial No.	N/A
Manufacturer	Braveridge Co., Ltd.
Country of Manufacture	Japan
Rated Voltage	DC 3.0 V
Approved RF Module	N/A
Approved Module FCC ID	N/A
Frequency Range	13.56 MHz
Modulation Technique	ASK
Number of Channel	1 CH
Antenna Type	PCB loop Antenna
Antenna Gain	N/A
Transmit Power	N/A
HVIN(Hardware Version Identification Number)	1.0
FVIN(Firmware Version Identification Number)	1.0
RF Power Setting Parameter	Default

4. Test Instrument

Control No.	Equipment	Manufacturer	Model	Serial No.	Cal. Due.
EMC001	EMI Test Receiver	Rohde & Schwarz	ESU40	100478	2026/1/2
EMC002	EMI Test Receiver	Rohde & Schwarz	ESU26	100590	2026/1/2
EMC003	Open Switch and Control Platform	Rohde & Schwarz	OSP130	101467	N/A
EMC004	EMI Test Receiver	Rohde & Schwarz	ESR7	101560	2026/1/2
EMC009	Loop Antenna	Rohde & Schwarz	HFH2-Z2	100465	2027/2/6
EMC025	Biconilog (Type7)	ETS-Lindgren	3142E	00203547	2025/12/19
EMC074	AMP	Rohde & Schwarz	SCU-01D	1904843	2026/6/27
EMC169	Two-Line V-Network	Rohde & Schwarz	ENV216	3560.6550.12-102228-hQ	2026/4/3
RF003	VECTOR SIGNAL GENERATOR	Rohde & Schwarz	SMBV100A	261569	2026/6/25
RF004	SIGNAL GENERATOR	Rohde & Schwarz	SMB100A	178493	2026/6/25
RF005	SPECTRUM ANALYZER	Rohde & Schwarz	FSW43	103893	2026/6/12
RF022	System DC Power Supply	KEYSIGHT	N5747A	US16D4132P	2025/6/26
RF039	Condition Chamber	ESPEC	SH-642	93001194	2026/01/07
41	Softwarer	Rohde & Schwarz	EMC32	Ver10.30.00	N/A

5. Support Equipment

Description	Manufacturer	Model	Serial No.
Note-PC	Samsung Electronics Co., Ltd.	NT500R5Q	0HV991BH500176W

6. Test Condition

Mode	Test Frequency (MHz)
ASK	13.56

SECTION 3 SUMMARY

1. Summary of test results

2. Requirements	FCC Rule	IC Rule	Compliance
20dB Bandwidth & 99% Bandwidth	15.215(c)	RSS-Gen	Complied
Frequency Stability Tolerance	15.225(e)	RSS-210 B.6	Complied
In Band Emissions	15.225(a)(b)(c)	RSS-210 B.6	Complied
Out-of-Band Emissions	15.225(d) 15.209	RSS-210 B.6	Complied
Conducted Emissions	15.207(a)	RSS-Gen	Complied
Test method: According to ANSI C63.10-2020+Cor1-2023			

2. Measurement Uncertainty

Parameters	Uncertainty (k = 2)	
Channel Bandwidth	3.41 kHz	
Conducted Emissions	9 kHz to 150 kHz	3.30 dB
	150 kHz to 30 MHz	3.70 dB
Spurious Emissions (Radiated)	9 kHz to 30 MHz	3.23 dB
	30 MHz to 1 GHz	4.97 dB

SECTION 4 TEST RESULT

1. 20dB Bandwidth

1.1 Rule

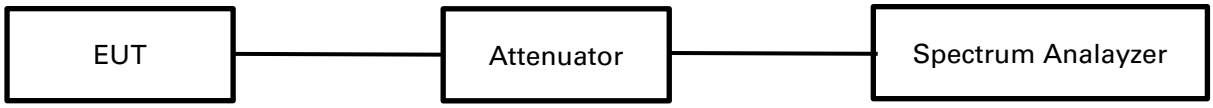
According to §15.215(c), The 20dB bandwidth shall be specified in operating frequency band.

1.2 Measurement Procedure

According to ANSI C63.10-2020+Cor.1 section 6.9.2
The signal analyzers' automatic bandwidth measurement capability of the spectrum analyzer was used to perform the 20dB bandwidth measurement. The "X" dB bandwidth parameter was set to X = 20. The bandwidth measurement was not influenced by any intermediate power nulls in the fundamental emission.

a) set the RBW = 1-5% OBW.
b) Set the VBW ≥ 3 x RBW.
c) Reference level set to keep signal from exceeding maximum input mixer level for linear operation.
d) Detector = peak.
e) Sweep time = auto couple.
f) Trace mode = max hold.
g) Allow trace to fully stabilize.

1.3 Test Setup

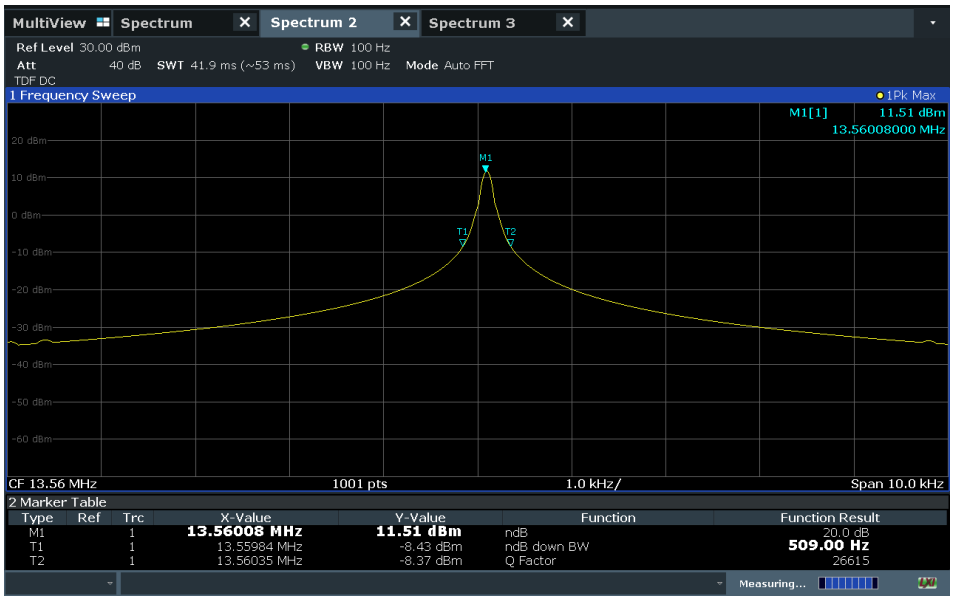


1.4 Test Results – Complied

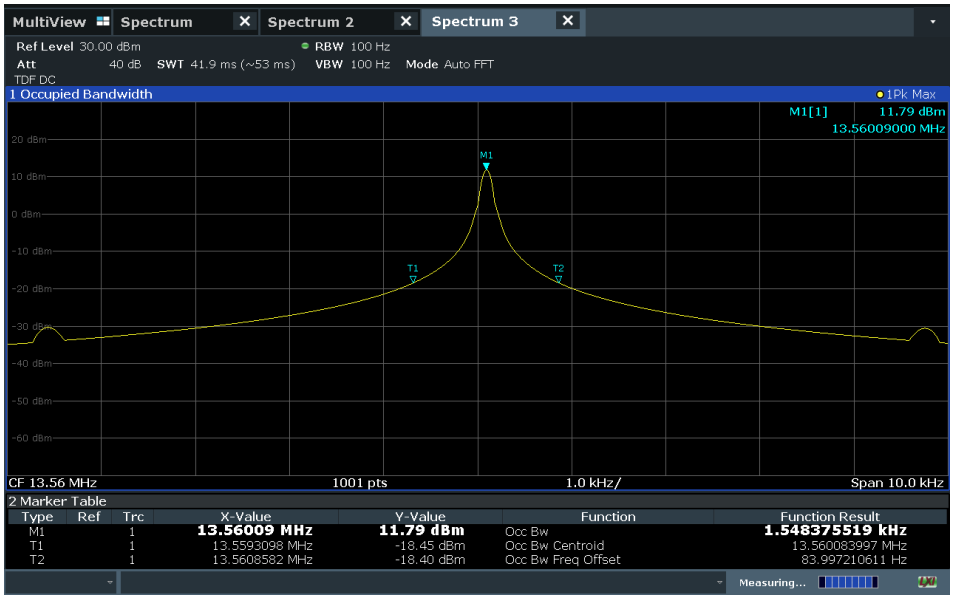
Frequency [MHz]	20dB Bandwidth [MHz]			99% Bandwidth [MHz]		
	Result [MHz]		Result [kHz]	Result [MHz]		Result [kHz]
13.56	Lowest Frequency	13.559 84	0.51	Lowest Frequency	13.559 31	1.55
	Highest Frequency	13.560 35		Highest Frequency	13.560 86	

Photographs of Test Results

20dB Bandwidth



99% Bandwidth



2. Frequency Stability Tolerance

2.1 Rule

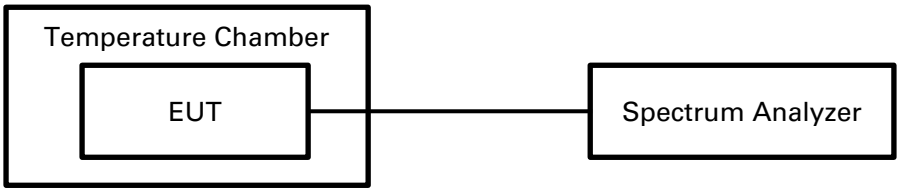
According to § 15.225(e), the frequency stability of the transmitter shall be maintained within ±0.01% of the center frequency.

2.2 Measurement Procedure

According to ANSI C63.10-2020+Cor.1 section 6.8
The temperature is varied from -20°C to +50°C in 10°C increments using an environmental chamber. And The primary supply voltage is varied from 85% to 115% of the nominal value for non hand-carried battery and AC powered equipment. For hand-carried, battery-powered equipment, primary supply voltage is reduced to the battery operating end point which shall be specified by the manufacturer.

a) The carrier frequency of the transmitter is measured at room temperature (20℃ to provide a reference).
b) The equipment is turned on in a “standby” condition for fifteen minutes before applying power to the transmitter. Measurement of the carrier frequency of the transmitter is made within one minute after applying power to the transmitter.
c) Frequency measurements are made at 10°C intervals ranging from -20°C to +50°C. A period of at least one half-hour is provided to allow stabilization of the equipment at each temperature level.

2.3 Test Setup



2.4 Test Results – Complied

Voltage [%]	Voltage [v]	Temp [°C]	Measure Frequency (Hz)	Frequency error [Hz]	Frequency error	
					ppm	%
100.00	12.00	-20.00	13 559 883	117.0	-8.63	-0.000 86
		-10.00	13 559 934	66.0	-4.87	-0.000 49
		0.00	13 559 967	33.0	-2.43	-0.000 24
		10.00	13 560 003	-3.0	0.22	0.000 02
		20.00	13 560 009	-9.0	0.66	0.000 07
		30.00	13 560 009	-9.0	0.66	0.000 07
		40.00	13 560 024	-24.0	1.77	0.000 18
		50.00	13 560 018	-18.0	1.33	0.000 13
85.00	10.20	20.00	13 560 024	-24.0	1.77	0.000 18
115.00	13.80	20.00	13 560 024	-24.0	1.77	0.000 18

3 In Band Radiated Emission

4.1 Rule

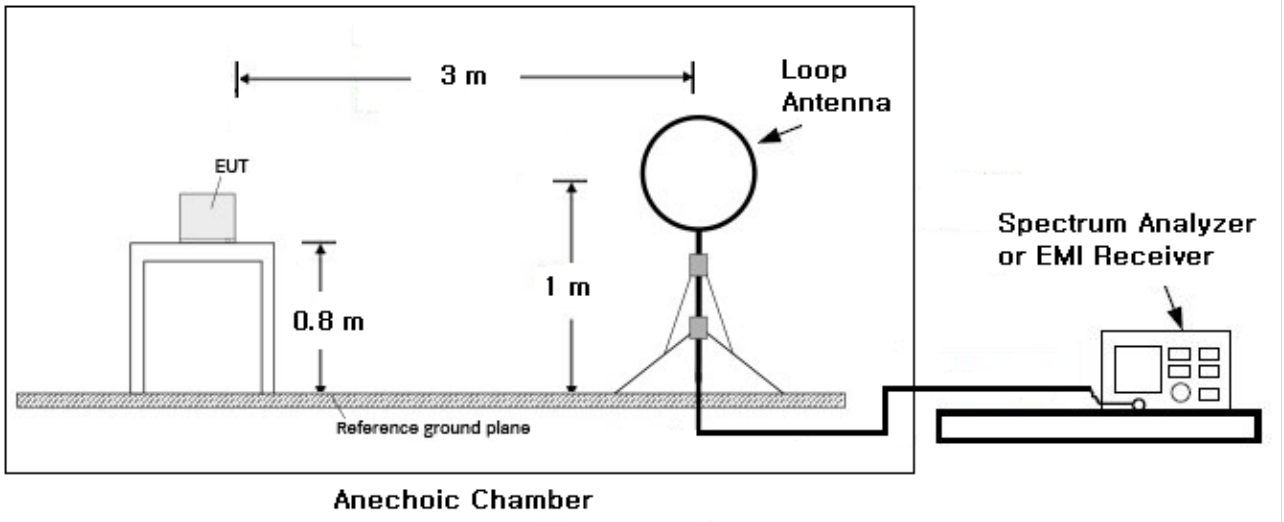
According to §15.225(a)(b)(c), The field strength if any emissions within the band 13.553-13.567 MHz shall not exceed 15,848 microvolts/meter at 30 meters.
Within the 13.410-13.553 MHz and 13.567-13.710 MHz, the field strength if any emissions shall not exceed 106 microvolts/meter at 30 meters.
Within the 13.110-13.410 MHz and 13.710-13.010 MHz, the field strength if any emissions shall not exceed 106 microvolts/meter at 30 meters.

4.2 Measurement Procedure

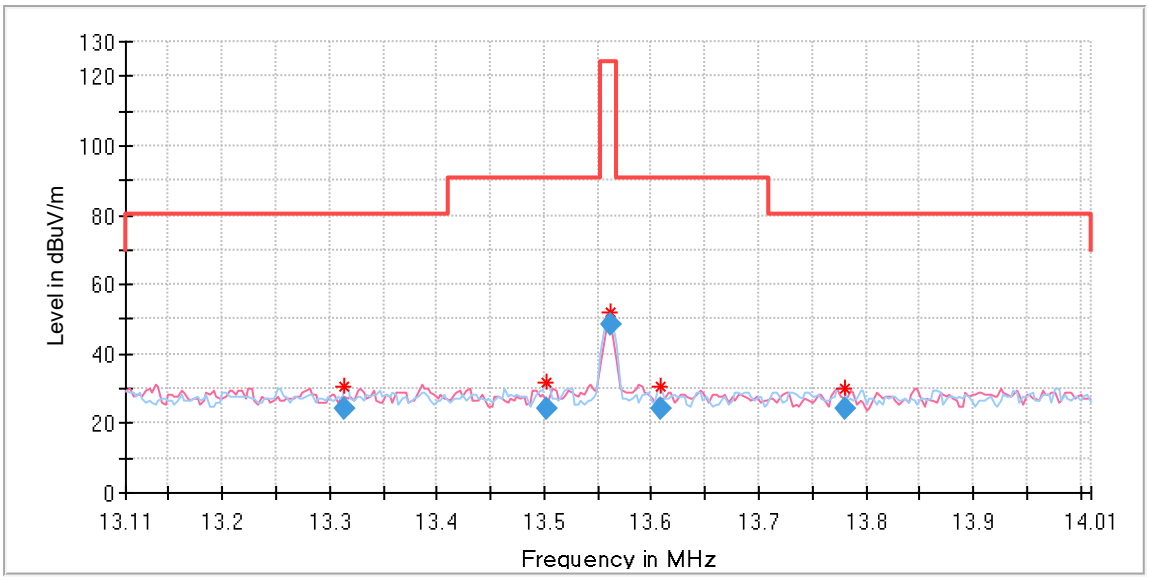
According to ANSI C63.10-2020+Cor.1 section 6.4

a) All emissions lying in restricted bands specified in §15.225 and RSS-210 are below the limit shown in Table 7-5.
b) All measurements were performed using a loop antenna. The antenna was positioned in three orthogonal positions (X front, Y side, Z top) and the position with the highest emission level was recorded.
c) All emissions were greater than 20 dB below the limit.
d) The EUT was positioned in three orthogonal planes to determine the orientation resulting in the worst case emissions.
e) Measurements were performed at 3m and the data was extrapolated to the specified measurement distance of 30m using the square of an inverse linear distance extrapolation factor (40 dB/decade) as specified in §15.31(f)(2). Extrapolation Factor = 20 log10(30/3)2 = 40dB.
f) The spectrum was investigated from 9kHz up to 30MHz using the loop antenna. Only the emissions shown in the table below were found to be significant.
g) All measurements were recorded using a spectrum analyzer employing a peak detector.
h) The "-" shown in the following RSE tables are used to denote a noise floor measurement.
i) All possible configurations were investigated and only the worst case is reported.

4.3 Test Setup



Photographs of Test Result (Radiated Measurement)



Frequency [MHz]	MaxPeak [dB(µV)/m]	QuasiPeak [dB(µV)/m]	Limit [dB(µV/m)]	Margin [dB]	Bandwidth [kHz]	Pol.	Azimuth [deg]	Corr. [dB]
13.31	30.65	24.12	80.50	56.38	9.0	H	255	20.0
13.50	31.96	24.39	90.50	66.11	9.0	H	194	20.0
13.56	51.86	48.69	124.00	75.31	9.0	H	340	20.0
13.61	30.83	24.47	90.50	66.03	9.0	H	194	20.0
13.78	30.22	24.52	80.50	55.98	9.0	H	236	20.0

Note :

1. MaxPeak/QuasiPeak[dB(µV)/m] = Reading value[dB(µV)] + Corr.[dB/m]

2. According to § 15.31(f)(2), an extrapolation factor of 40 dB/decade is applied because measured distance of radiated emission is 3 m.

3. Limit Line (dBuV/m) = 20 log Emission level(uV/m) + Distance extrapolation factor.

4. Scans were performed on all three axes (X, Y, Z), and Worst-case was recorded in the report.

4. Out Band & Radiated Spurious Emissions

4.1 Rule

According to §15.247(d), in any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB.
Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

According to §15.209(a), Except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (kHz)	Field strength (µV/m)	Field strength (dBµV/m)	Measurement distance (m)
0.009 - 0.490	2 400/F(kHz)	20log (2 400/F(kHz))	300
0.490 - 1.705	24 000/F(kHz)	20log (24 000/F(kHz))	30
1.705 - 30	30	30	30
30 - 88	100**	100**	3
88 - 216	150**	150**	3
216 - 960	200**	200**	3
Above 960	500	500	3

**Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54–72 MHz, 76–88 MHz, 174–216 MHz or 470–806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §15.231 and 15.241.

4.2 Measurement Procedure

According to ANSI C63.10-2020+Cor.1, 11.11 Emissions in non-restricted frequency band, and 11.12 Emissions in restricted frequency bands

4.2.1. Test Procedures for emission below 30 MHz

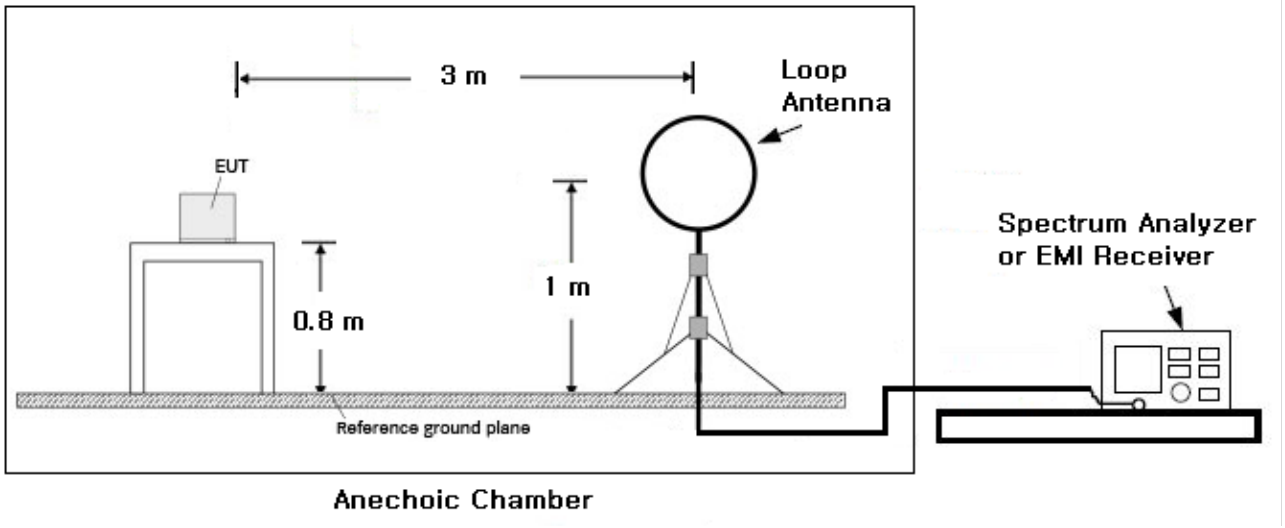
1. The EUT was placed on the top of a rotating table 0.8 meters above the ground at anechoic chamber test site. The table was rotated 360 degrees to determine the position of the highest radiation.
2. Then antenna is a loop antenna is fixed at one meter above the ground to determine the maximum value of the field strength. Both parallel and perpendicular of the antenna are set to make the measurement.
3. For each suspected emission, the EUT was arranged to its worst case and then the table was turned from 0 degrees to 360 degrees to find the maximum reading.
4. The test-receiver system was set to quasi peak detect function and Specified Bandwidth with Maximum Hold Mode.

4.2.2. Test Procedures for emission below 1 000 MHz & above 1 000 MHz

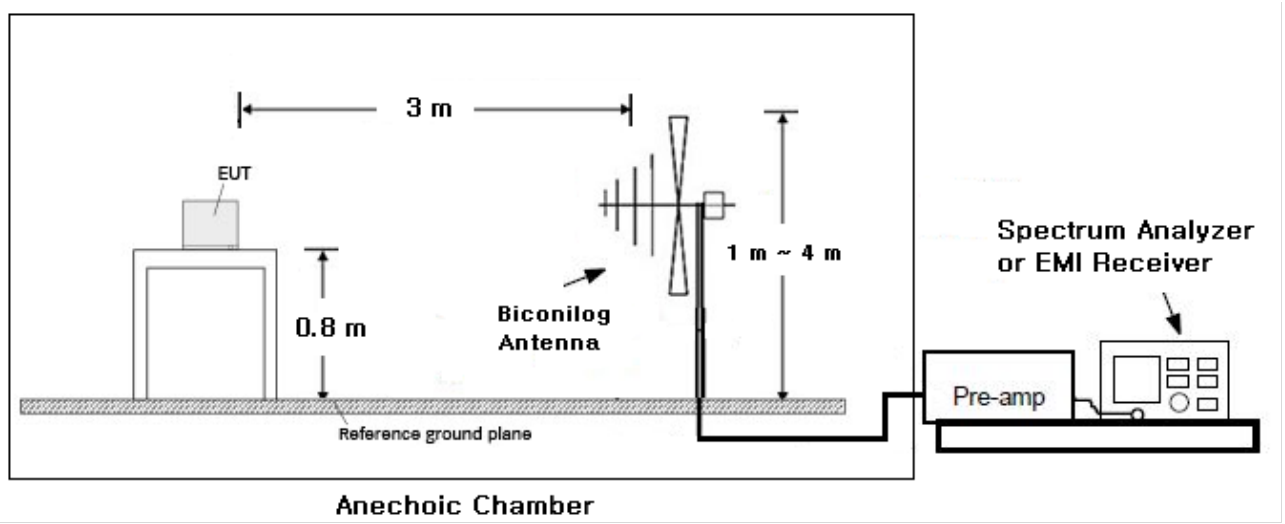
1. The EUT was placed on the top of a rotating table 0.8 meters above the ground at anechoic chamber test site (below 1 GHz) and 1.5 meters above the ground at anechoic chamber test site (above 1 GHz). The table was rotated 360 degrees to determine the position of the highest radiation.
2. During performing radiated emission below 1 GHz, the EUT was set 3 meters away from the interference receiving antenna, which was mounted on the top of a variable-height antenna tower. During performing radiated emission above 1 GHz, the EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
3. The antenna is a bi-log antenna, a horn antenna and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength (Keeping antenna aimed at EUT). Both horizontal and vertical polarizations of the antenna are set to make the measurement.
4. The test-receiver system was set to quasi peak detect function (below 1 GHz), peak detect function and average detect function (above 1 GHz).

4.2.3. Test Setup

2. 9 kHz to 30 MHz Emissions



2. 30 MHz to 1 000 MHz Emissions



NOTE;

All data rates and modes were investigated for radiated spurious emissions. Only the radiated emissions of the configuration that produced the worst case emissions are reported in this section.

1. Unwanted Emissions into Non-Restricted Frequency Bands

- The Reference Level Measurement refer to section 11.2
Set Analyzer centre frequency to DTS channel centre frequency, SPAN ≥ 1.5 times the DTS bandwidth, the RBW = 100 kHz and VBW ≥ 3 × RBW, Detector = Peak, Sweep time = Auto couple, Trace = Max hold.

- Unwanted Emissions Level Measurement refer to section 11.3
Set the centre frequency and span to encompass frequency range to be measured, the RBW = 100 kHz and VBW ≥ 3 × RBW, Detector = Peak, Sweep time = Auto couple, Trace = Max hold.

2. Unwanted Emissions into Restricted Frequency Bands

- Peak Power measurement procedure refer to section 12.2.4
Set RBW = as specified in Table 1, VBW ≥ 3 x RBW, Detector = Peak, Sweep time = auto, Trace = Max hold.

Table 1- RBW as a function of frequency

Frequency	RBW
9 – 150 kHz	200 – 300 Hz
0.15 – 30 MHz	9 – 10 kHz
30 – 1 000 MHz	100 – 120 kHz
> 1 000 MHz	1 MHz

-Average Power measurements procedure refer to section 12.2.5.2
The EUT shall be configured to operate at the maximum achievable duty cycle.
Measure the duty cycle, x, of the transmitter output signal as described in section 6.0.
Set RBW = 1 MHz, VBW ≥ 3 x RBW, Detector = RMS, if span / (# of points in sweep) ≤ (RBW/2).
Satisfying this condition may require increasing the number of points in the sweep or reducing the span. If this condition cannot be satisfied then the detector mode shall be set to peak.

Averaging type = power (i.e., RMS).
As an alternative the detector and averaging type may be set for linear voltage averaging.
Some instruments require linear display mode in order to use linear voltage averaging. Log or dB averaging shall not be used. Sweep time = auto, Perform a trace average of at least 100 traces.

A correction factor shall be added to the measurement results prior to comparing to the emission limit in order to compute the emission level that would have been measured had the test been performed at 100 percent duty cycle. The correction factor is computed as follows:

1) If power averaging (RMS) mode was used in step f), then the applicable correction factor is 10 log (1/x), where x is the duty cycle.
3) If a specific emission is demonstrated to be continuous (≥ 98 percent duty cycle) rather than turning on and off with the transmit cycle, then no duty cycle correction is required for that emission.

the EUT is manipulated through three orthogonal planes (X, Y, Z). Worst orthogonal plan of EUT is **X – axis** during radiation test.

5.3 Test results – Complied

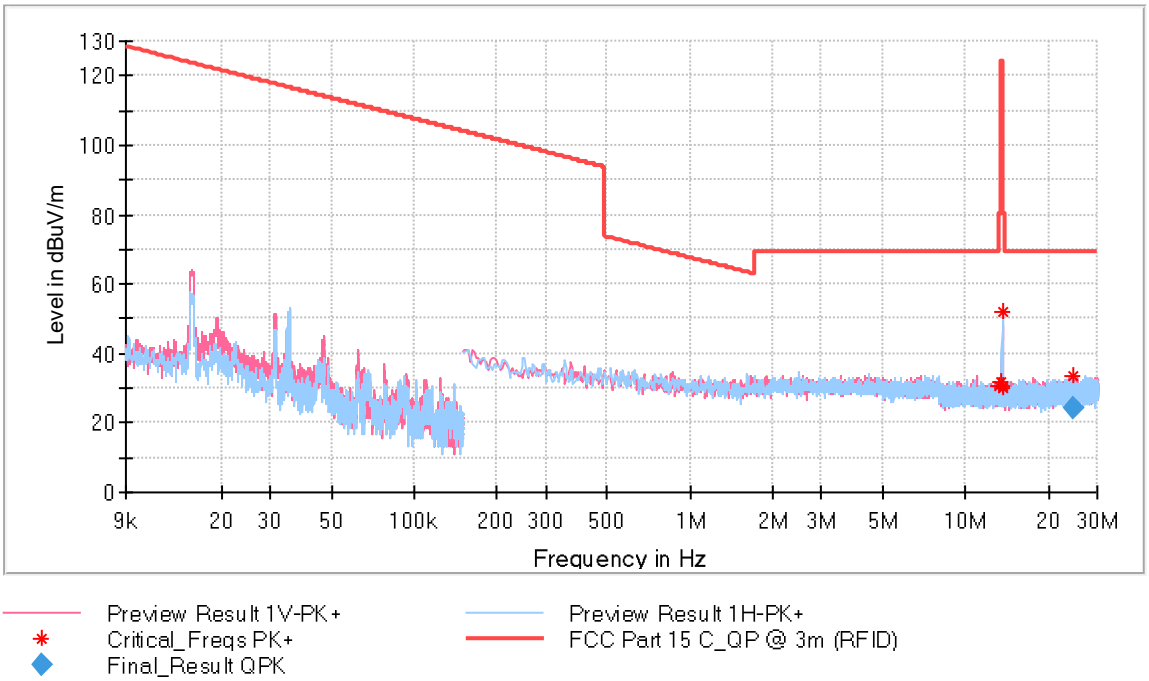
Photographs of Test Result (Radiated Measurement)

Note :

1. The radiated measurement was performed continuous transmission of the EUT (Duty cycle $D = 100\ \%$).

2. Scans were performed on all three axes (X, Y, Z), and Worst-case was recorded in the report.

9 kHz ~ 30 MHz



Frequency [MHz]	QuasiPeak [dB(µV)/m]	Limit [dB(µV/m)]	Margin [dB]	Bandwidth [kHz]	Pol.	Azimuth [deg]	Corr. [dB]
24.68	24.26	69.50	45.24	9.0	V	312	21.2

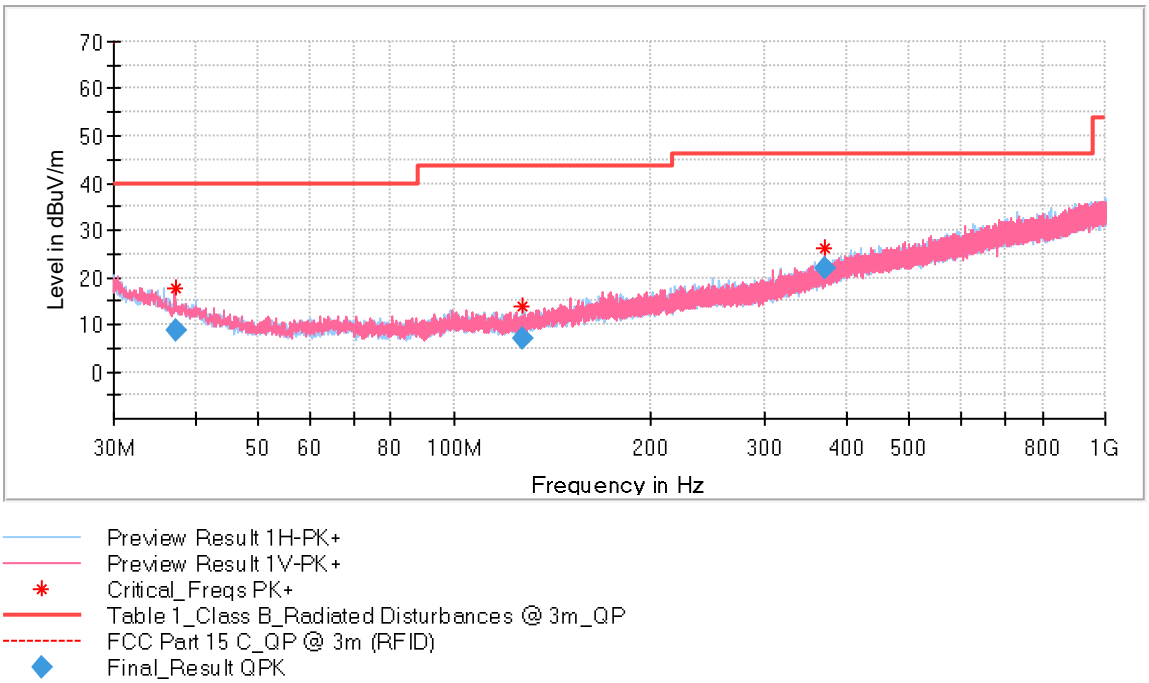
Note :

1. According to § 15.31(o), Emission levels are not reported much lower than the limits by over 20 dB.

2. QuasiPeak[dB(µV)/m] = Reading value[dB(µV)] + Corr.[dB/m]

3. According to § 15.31(f)(2), an extrapolation factor of 40 dB/decade is applied because measured distance of radiated emission is 3 m.

30 MHz ~ 1 GHz



Frequency [MHz]	QuasiPeak [dB(µV)/m]	Limit [dB(µV/m)]	Margin [dB]	Bandwidth [kHz]	Height [cm]	Pol.	Azimuth [deg]	Corr. [dB]
37.26	8.61	40.00	31.39	120.0	100.0	V	2.0	-10.78
127.69	7.17	43.50	36.33	120.0	200.0	H	350.0	-13.5
370.86	21.77	46.00	24.23	120.0	100.0	V	0.0	-3.03

Note :

1. According to § 15.31(o), Emission levels are not reported much lower than the limits by over 20 dB.
2. QuasiPeak[dB(µV)/m] = Reading value[dB(µV)] + Corr.[dB/m]

6. Conducted Emissions

6.1 Rule

According to §15.207(a), for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50 µH/50 Ω line impedance stabilization network (LISN).
Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the boundary between the frequency ranges.

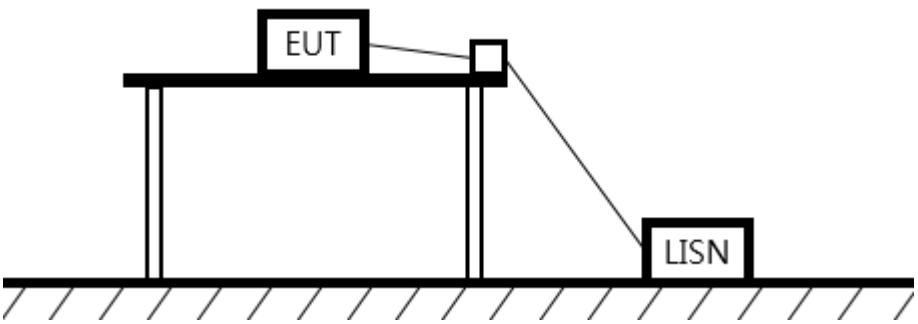
Frequency range (MHz)	Limits dB(µV)			
	Quasi-peak		Average	
	Class A	Class B	Class A	Class B
0.15 to 0.50	79	66 to 56	66	56 to 46
0.50 to 5	73	56	60	46
5 to 30		60		50

Note 1 The lower limit shall apply at the transition frequencies.
Note 2 The limit decreases linearly with the logarithm of the frequency in the range (0.15 ~ 0.5) MHz.
Note 3 Result (dBµV) = Reading (dBµV) + Corr. (Insertion Loss (dB) + Cable Loss (dB))
Result: Final value, Reading: Receiver reading value, Corr.: Correction Factor
Margin = Limit – Result

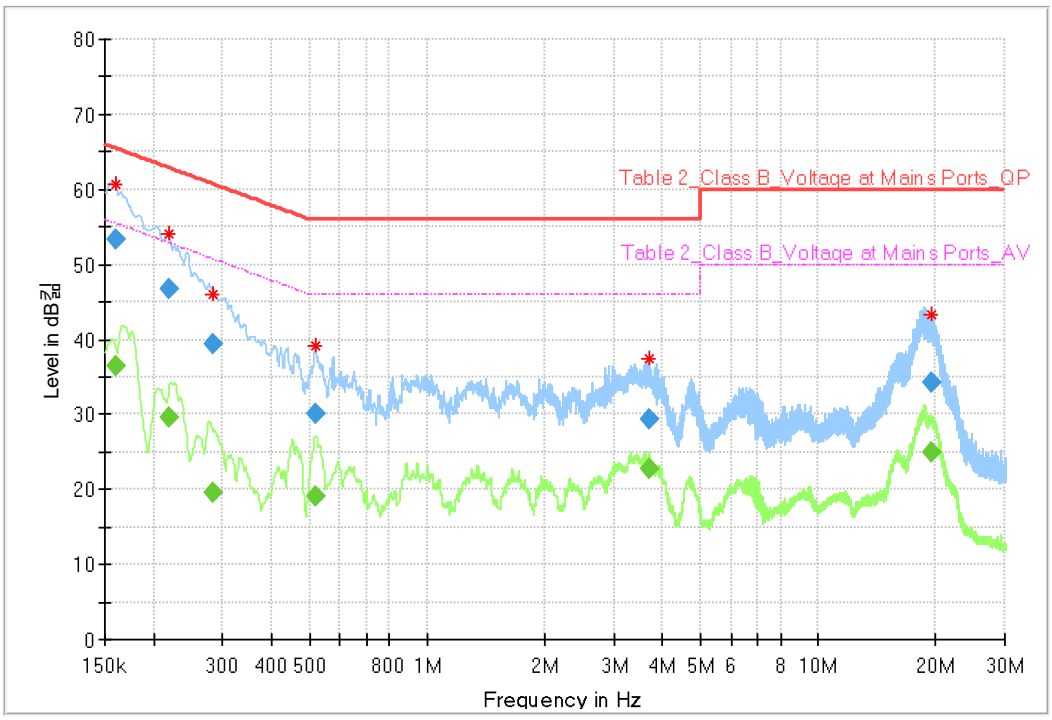
6.2 Measurement Procedure

All data rates and modes were investigated for this test. The full data for the worst case data rate are reported in this section.
AC line conducted emissions from the EUT were measured according to the dictates of ANSI C63.10-2020+Cor.1
1. The test procedure is performed in a 6.5 m × 3.6 m × 3.6 m (L × W × H) shielded room. The EUT along with its peripherals were placed on a 1.0 m (W) × 1.5 m (L) and 0.8 m in height wooden table and the EUT was adjusted to maintain a 0.4 meter space from a vertical reference plane.
2. The EUT was connected to power mains through a line impedance stabilization network (LISN) which provides 50 ohm coupling impedance for measuring instrument and the chassis ground was bounded to the horizontal ground plane of shielded room.
3. The excess power cable between the EUT and the LISN was bundled. All connecting cables of EUT were moved to find the maximum emission.

6.3 Test Setup



6.4 Test result



Frequency [MHz]	QuasiPeak [dBµV]	CAverage [dBµV]	Limit [dBµV]	Margin [kHz]	Line [cm]	Filter	Corr. [dB]
0.159343	53.43	---	65.50	12.07	N	ON	9.9
0.159343	---	36.54	55.50	18.96	N	ON	9.9
0.217909	---	29.62	52.90	23.28	N	ON	10.0
0.217909	46.79	---	62.90	16.11	N	ON	10.0
0.283783	39.32	---	60.70	21.39	N	ON	9.9
0.283783	---	19.68	50.70	31.03	N	ON	9.9
0.518070	30.14	---	56.00	25.86	N	ON	10.1
0.518070	---	19.05	46.00	26.95	N	ON	10.1
3.679897	29.35	---	56.00	26.65	L1	ON	10.0
3.679897	---	22.82	46.00	23.18	L1	ON	10.0
19.495363	---	25.03	50.00	24.97	N	ON	11.2
19.495363	34.16	---	60.00	25.84	N	ON	11.2

SECTION 5 REVISION HISTORY

REVISION HISTORY			
Revision	Report No.	Issue Date	Description
0	250700022SEL-TEL2	11 Nov. 2025	Initial

- End -