Certification of Compliance

CFR 47 Part 15 Subpart C

Order No.	:	**STB13-3441**
Test Report No.	:	**W14WD-001**
Applicant	:	**Neo Information Systems Co., Ltd.**
Address of Applicant	:	**(Sangdaewon-dong, JoongAng Induspia), 609, 449, Dunchon-daero, Jungwon-gu, Seongnam-si, Gyeonggi-do, Korea**

Equipment Under Test (EUT)

Kind of Product	:	**Intelligent Driving Test System**
Model Name	:	**ERTS-5000**
FCC ID	:	**2ABW5ERTS-5000**
Buyer Model(s)	:	**N/A**
Standards	:	**FCC CFR Title 47 Part 15 Subpart C (15.247):2012 ANSI C63.4:2009, ANSI C63.10:2009**

Date of Receipt : December 26, 2013

Date of Test : February 18 ~ 24, 2014

Date of Issue : February 25, 2014

Test Result : : ■ **Positive** □ **Negative**

Ji Hwan, Kim / Testing By Engineer

Chang Woo, Kim / General Manager

In the configuration tested, the EUT complied with the standards specified above.

Remarks :

This report details the results of the testing carried out on one sample, the results contained in this test report do not relate to other samples of the same product. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

This report may only be reproduced and distributed in full. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards.

Contents

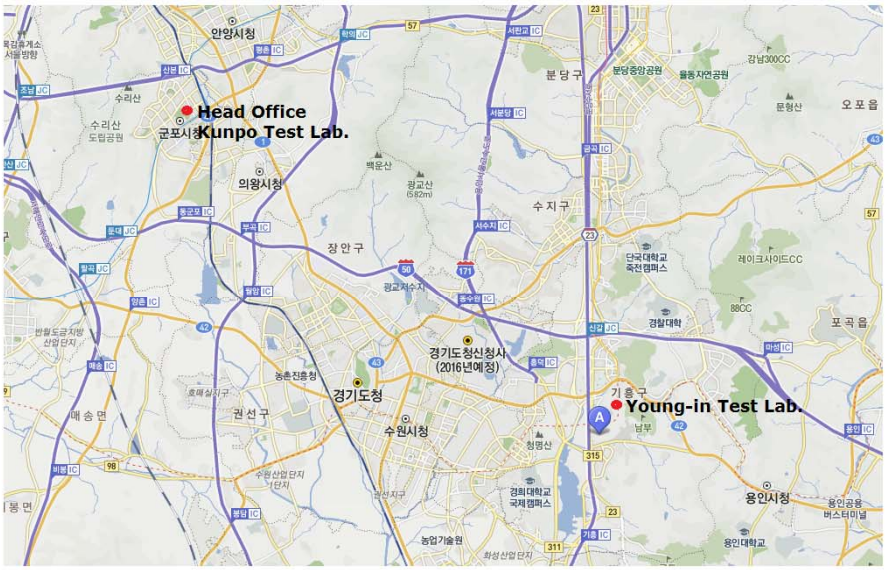
1. General Information

1.1 Information of Test Laboratory.

FCC E-Failing : Registration Number:323115

Name	:	**Standard Bank Co.,Ltd.**
Address Kunpo Test Lab. (Head Office)	:	**#507,508 Dongyoung Central Tower, 847-2 Keumjeong-dong, Kunpo City, Kyunggi-Do, Korea**
Yong-in Test Lab.	:	**#390 Bora-dong, Giheung-gu, Young-in city, Kyunggi-Do, Korea**
Radiated Emission (OATS)	:	**#390 Bora-dong, Giheung-gu, Young-in city, Kyunggi-Do, Korea**
Tel/Fax	:	**+82-31-393-9394 ~ 5 / +82-31-393-9392, 9303**

Web site : http://www.standardbank.co.kr E-mail : telecom@standardbank.co.kr

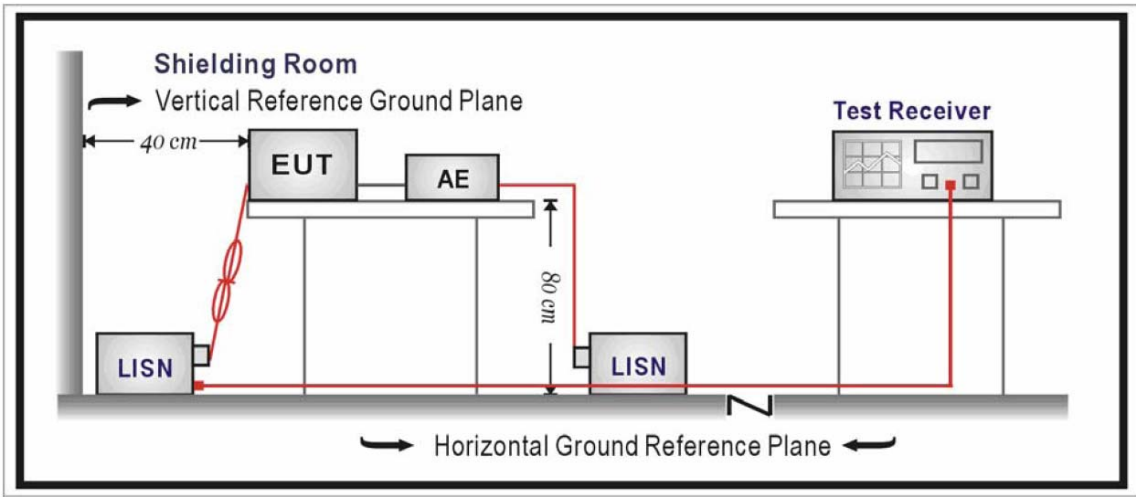


We , Standard Bank Co.,Ltd. are an independent EMC and RF and Safety consultancy that was established the whole facility in our laboratories. The test facility has been accredited by the following accreditation Bodies in compliance with ISO 17025:

1.2 Description of Test

Conducted Emissions:

The EUT and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50 ohm /50 uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50 ohm/50 uH coupling impedance with 50ohm termination.(Please refers to the block diagram of the test setup and photographs.)
Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed on conducted measurement.
Conducted emissions were invested over the frequency range from 0.15 MHz to 30 MHz using a receiver bandwidth of 9kHz.



Limit Of Conducted Emission:

Test Specification

: According to FCC CFR Title 47 Part 15 Subpart C Section 15.207

Frequency (MHz)	Limit (dBuV)	
	Quasi-Peak	Average
0.15 to 0.5	66 to 56 *	56 to 46 *
0.5 to 5	56	46
5 to 30	60	50

- *Note :* * Decrease with the logarithm of the frequency

Radiated Emissions:

The measurement was performed over the frequency range of 30 MHz to 1 GHz using antenna as the input transducer to a Spectrum analyzer or a Field Intensity Meter. The measurement was made with the detector set for "quasi-peak" within a bandwidth of 120 kHz.

Procedure of Test Preliminary measurements were made at 3 meter using bi-log antennas, and spectrum analyzer to determine the frequency producing the max. Emission in Semi-Anechoic Chamber. Appropriate precaution was taken to ensure that all emission from the EUT were maximized and investigated. The system configuration, mode of operation, turn-table azimuth and height with respect to the antenna were noted for each frequency found. The spectrum was scanned from 30 MHz to 1000 MHz using bi-log antenna. Above 1 GHz, linearly polarized double ridge horn antennas were used. Final measurements were made at open site with 3-meters test distance using bi-log antenna or horn antenna. The 3 m Full Chamber have been verified in regular for its normalized site attenuation. The test equipment was placed on a wooden table. Sufficient time for the EUT, peripheral equipment, and test equipment was allowed in order for them to warm up to their normal operating condition. Each frequency found during pre-scan measurements was re-examined by manual. The detector function was set to CISPR quasi-peak mode and the bandwidth of the receiver was set to 120 kHz or 1 MHz depending on the frequency of type of signal. The EUT, peripheral equipment and interconnecting cables were re-configured to the set-up producing the max. emission for the frequency and were placed on top of a 0.8-meter high nonmetallic 1 x 1.5 meter table. The EUT, peripheral equipment, and interconnecting cables were re-arranged and manipulated to maximize each emission. The turntable containing the system was rotated; the antenna height was varied 1 to 4 meters and stopped at the azimuth or height producing the maximum emission. Each emission was maximized by: varying the mode of operation to the EUT and/or peripheral equipment and changing the polarity of the antenna, whichever determined the worst-case emission.(The bandwidth below 1 GHz setting on the field strength meter is 120 kHz and above 1 GHz is 1 MHz.)

Radiated Emissions Test, 9 kHz to 30 MHz(Magnetic Field Test):

1. The preliminary radiated measurements were performed to determine the frequency producing the maximum emissions at a distance of 3 meters according to Section 15.31(f)(2).
2. The EUT was placed on the top of the 0.8-meter height, 1 x 1.5 meter non-metallic table.
3. Emissions from the EUT are maximized by adjusting the orientation of the Loop antenna and rotating the EUT on the turntable. Manipulating the system cables also maximizes EUT emissions if applicable.
4. To obtain the final measurement data, each frequency found during preliminary measurements was re-examined and investigated. The test-receiver system was set up to average, peak, and quasi-peak detector with specified bandwidth.

Limit Of Radiated Emission :

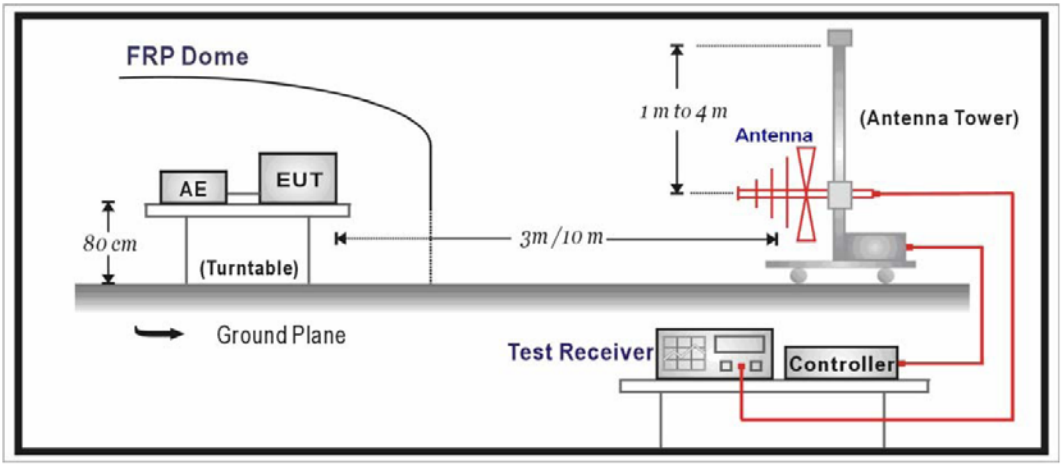
Test Specification

: According to FCC CFR Title 47 Part 15 Subpart C Section 15.209

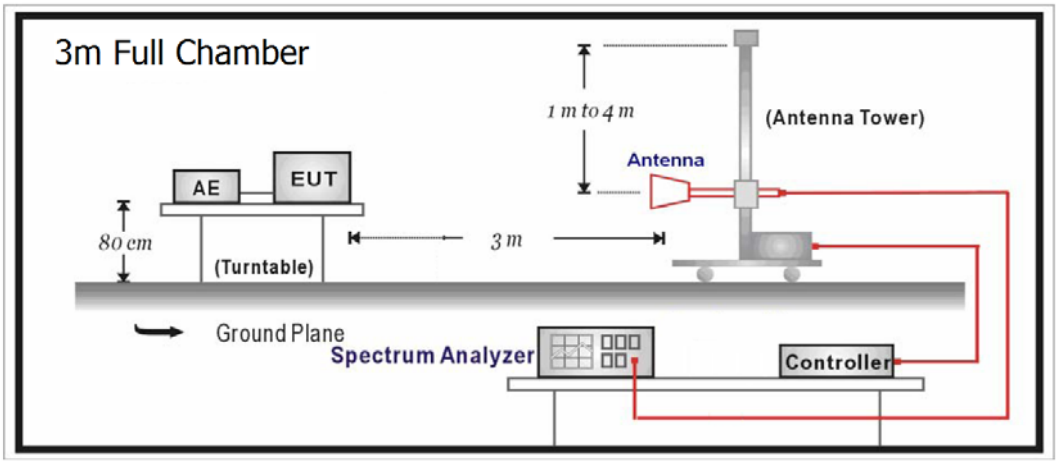
Limits		
Frequency (MHz)	uV/meter	dBuV/meter
30-88	100	40.00
88-216	150	43.52
216-960	200	46.02
Above 960	500	53.98

- *Note : 1. RF Voltage(dBuV)=20log RF Voltage(uV)*
  2. In the Above Table, the tighter limit applies at the band edges.
  3. Distance refers to the distance in meters between the measuring Instrument antenna and the closed point of any part of the device or System.

Below 1GHz Test Setup:



Above 1GHz Test Setup:



1.3 Measurement Uncertainty Calculations

Conducted Emissions

Type	Contribution	Probability Distribution	Uncertainty	Remark
B	Receiver Level	normal (k=2)	±0.0577 dB	Rlevel
	LISN			
	Attenuation : LISN-receiver	normal (k=2)	±0.0577 dB	Aatt
	Voltage Division Factor	normal (k=2)	±0.1155 dB	Ddivision
	Cable	normal (k=2)	±0.025 dB	Ccable
	Receiver			
	Input Impedance	normal (k=2)	±0.0115 dB	Iimpedance
	QP Sine-Wave Voltage Accuracy	normal (k=2)	±0.0981 dB	Aaccuracy
	QP-Pulse Amplitude Sensibility	normal (k=2)	±0.5312 dB	Ssensibility
	QP-Pulse Frequency Response	normal (k=2)	±0.0981 dB	Rresponse
	Random Noise	normal (k=2)	±0.0346 dB	Rrandom
	Mismatch	U-Shaped	+0.4041/-0.4619 dB	CISPR Theory
	AMN to Receiver			
A	System Repeatability	Std deviation	±0.0761 dB	Ssystem
	Cable loss	Std deviation	±0.0017 dB	C_{CL}
Combined Standard Uncertainty		normal	± 1.6439 dB	
Expanded Uncertainty U		normal (k=2)	± 3.2878 dB	*(k=2, 95 %)*

Radiated Emission

Type	Contribution	Probability Distribution	Uncertainty	Remark
B	Antenna			Afactor
	Factor	normal (k=2)	±0.288 dB	Iinterpolation
	Frequency interpolation			
	Height variation	rectangular	±1.155 dB	Hheight
	Direcvalupsy difference	rectangular	±0.577 dB	Ddirect
	Phase center location	rectangular	±0.025 dB	Pphase
	Cable loss	normal (k=2)	±0.025 dB	Ccable
	Receiver			
	Input Impedance	normal (k=2)	±0.012 dB	Iimpedance
	QP Sine-Wave Voltage Accuracy	normal (k=2)	±0.098 dB	Aaccuracy
	QP-Pulse Amplitude Sensibility	normal (k=2)	±0.531 dB	Ssensibility
	QP-Pulse Frequency Response	normal (k=2)	±0.098 dB	Rresponse
	Random Noise	normal (k=2)	±0.035 dB	Rrandom
	Mismatch : AMN – receiver $\lvert\Gamma_{antenna}\rvert$ =0.33 $\lvert\Gamma_{receiver}\rvert$ =0.33	U-Shaped	+0.520/-0.577 dB	CISPR Theory
	Site imperfection	Triangular	±1.633 dB	Ssite
	Table height	normal (k=2)	±0.058 dB	Stable
A	System Repeatability	Std deviation	±0.039 dB	Ssystem
Combined standard Uncertainty		normal	±2.335 dB	
Expanded Uncertainty U		normal (k=2)	± 4.67 dB	*(k=2, 95 %)*

1.4 Manufacturer Information

Manufacturer	:	Neo Information Systems Co., Ltd.
Address	:	(Sangdaewon-dong, JoongAng Induspia), 609, 449, Dunchon-daero, Jungwon-gu, Seongnam-si, Gyeonggi-do, Korea

1.5 General Description of EUT

Name	:	Neo Information Systems Co., Ltd.
Model No.	:	(Sangdaewon-dong, JoongAng Induspia), 609, 449, Dunchon-daero, Jungwon-gu Seongnam-si, Gyeonggi-do, Korea
FCC ID	:	2ABW5ERTS-5000
Serial No.	:	N/A

1.6 Details of EUT

Item		Specification
Bluetooth (Bluetooth V1.2 BDR)	Frequency Range	2402 ~ 2480 MHz
	Modulation Technigue	GFSK
	Number of Channel	79
	Antenna Type	Helical Antenna
	Antenna Gain	1.0 dBi
Operating Voltage	DC 12.0 V	

- *Note : Please refer to user`s manual and Antenna specification sheet.*

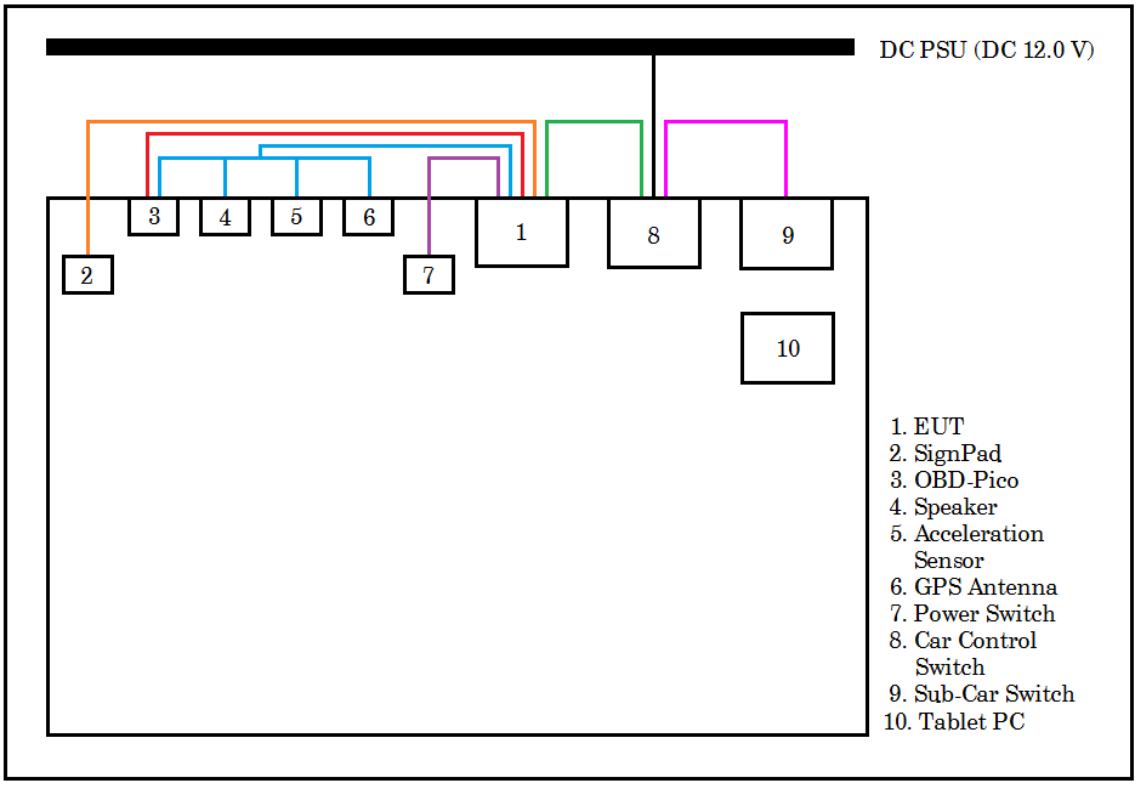
1.7 Description of Support Units

Product	Model No.	Serial No.	Manufacturer	Certification
Tablet PC	A200	HTH8PSJ0022110610E1500	Acer Incorporated	CoC
Car Control Switch	Cable	N/A	SYSMAX	-
Sub-Car Switch	N/A	N/A	N/A	-
SignPad	NEP-1100	KM7011006KC0025	Nogiss	DoC
GPS Antenna	SGM-3535	N/A	KNCTECK	-
Power Switch	N/A	N/A	N/A	-
Speaker	N/A	N/A	N/A	-
Acceleration Sensor	NEO-ERTS	N/A	N/A	-
OBD-Pico	G-ON OBD-Pico	N/A	SECO interface Co,, Ltd.	-

1.8 Cable List

Device Form		Device To		Cable Spec.	
Name	I/O Port	Name	I/O port	Length(m)	Shield
EUT	COMM	Speaker	DC-IN	1.5	Unshield
		Acceleration Sensor	LINE-OUT	4.0	Unshield
		Power Swich	LINE-OUT	1.1	Unshield
		OBD-Pico	LINE-OUT	3.0	Unshield
	SIGNPAD	SignPad	USB	1.6	Shield
	DEBUG	-	-	-	Unshield
	GPS	GPS Antenna	LINE-OUT	2.5	Unshield
	AUDIO	Speaker	LINE-IN	1.5	Unshield
	SENSOR1	Car Control Switch	LINE-OUT	2.0	Unshield
	SENSOR2	-	-	-	Unshield
Car Control Switch	LINE-IN	Sub-Car Switch	LINE-OUT	2.0	Unshield
	DC-IN	DC-POWER SUPPLY	DC-OUT	3.0	Unshield

1.9 Test Set-Up Configuration



1.10 Test Methodology And Configuration

The Bluetooth device activing state.

1.11 Standards Applicable for Testing

Table of tests to be carried out under FCC CFR 47 Part 15 Subpart C

Test Standards	Status
FCC CFR 47 Part 15 Subpart C	A
Deviation from Standard	No Deviation

- *Note : A : Indicates that the test is applicable*

  N/A : Indicates that the test is not applicable

2. SUMMARY

Test Descriptions

- Conducted Emission
  - The EUT uses the DC power — N/A
- Peak Power Output
  - Test result — PASS
- 20 dB Bandwidth
  - Test result — PASS
- Hopping Channel Separation
  - Test result — PASS
- Number of Hopping Frequency Used
  - Test result — PASS
- Dwell Time on Each Channel
  - Test Result — PASS
- Radiated Emission
  - Radiated Emission Result — PASS
- Band Edge
  - Test result — PASS
- Antenna Requirement
  - Test result — PASS

- *Note : * The EUT power use vehicle battery. Operating voltage is DC 12.0 V.*

  The frequency tolerance of the carrier signal shall be maintained within ±0.01% of the operating frequency over a temperature variation of -10 degrees to +50 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C. For battery operated equipment, the equipment tests shall be performed using a new battery.

3. Equipment Under Test Condition

3.1 Peak Power Output

3.1.1 Test Instruments

Description	Manufacturer	Model No.	Serial No.	Next of Cal.
Power Meter	Aglient	E4416A	GB41050459	Dec. 02, 2014
Peak & Avg. Power Sensor	Aglient	E9327A	US40440771	Dec. 02, 2014
DC Power Supply	Hewlett-Packard	6574A	US36340383	Dec. 02, 2014

- *Note : 1. The calibaration inverval of the above test instrument is 12 month and the calibrations are traceable to RRA, KRISS, KTL and HCT.*
  2. The calibration interval of horn, Loop Ant.and bi-log Ant. is 24 months

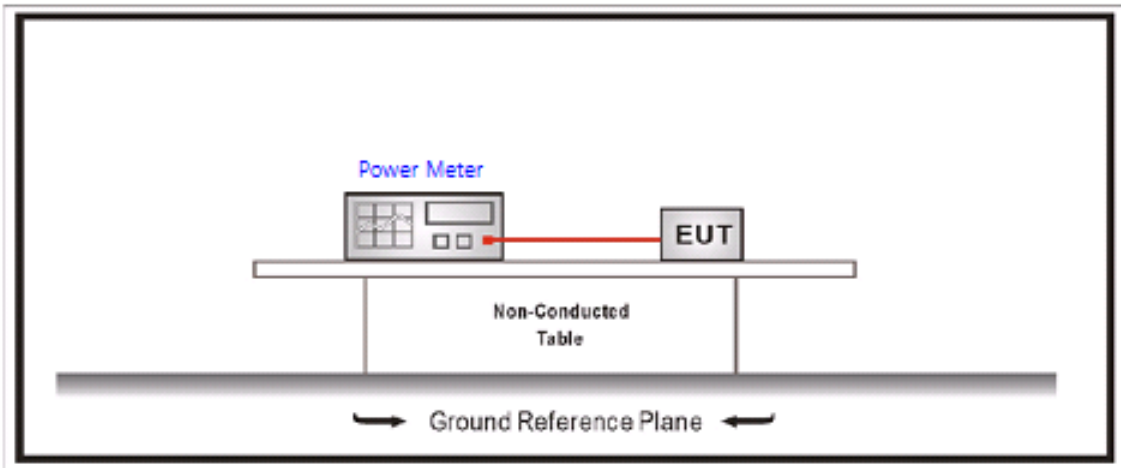
3.1.2 Limit

The maximum peak output power of the intentional radiator shall not exceed the following :

1. According to ∮ 15.247(b)(1), for frequency hopping systems operating in the 2400-2483.5 MHz band Employing at least 75 non-overlapping hopping channels : 1Watt.
2. According to ∮ 15.247(b)(4), the conducted output power limit specified in paragraph(b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph(c) of this section, is transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs(b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi

3.1.3 Test Configuration

RF Conducted Measurement:



3.1.4 Test Procedure

The transmitter output is connected to the Power Meter.

3.1.5 Peak Power Test Result

Test Item	Peak Power Output
Test Mode	GFSK
Test Site	RF Shielded Room
Measurement Method	Conducted

Ch. No.	Freq. (MHz)	Peak Power for difference Packet Length			Peak Power	Limit (dBm)	Result
		DH1	DH3	DH5	DH1		
		Measurement Level (dBm)					
00	2402	-8.93	-8.95	-8.97	-8.93	< 30	Pass
39	2441	-6.50	-6.51	-6.53	-6.50	< 30	Pass
78	2480	-4.09	-4.12	-4.12	-4.09	< 30	Pass

- *Note : 1. Peak Power Output Value = Reading value on Power meter + Cable loss*
  1.1 watt = 30 dBm

3.2 Frequency Separation and 20 dB Bandwidth

3.2.1 Test Instruments

Description	Manufacturer	Model No.	Serial No.	Next of Cal.
Spectrum Analyzer	Aglient	E4440A	MY45304577	Dec. 02, 2014
DC Power Supply	Hewlett-Packard	6574A	US36340383	Dec. 02, 2014

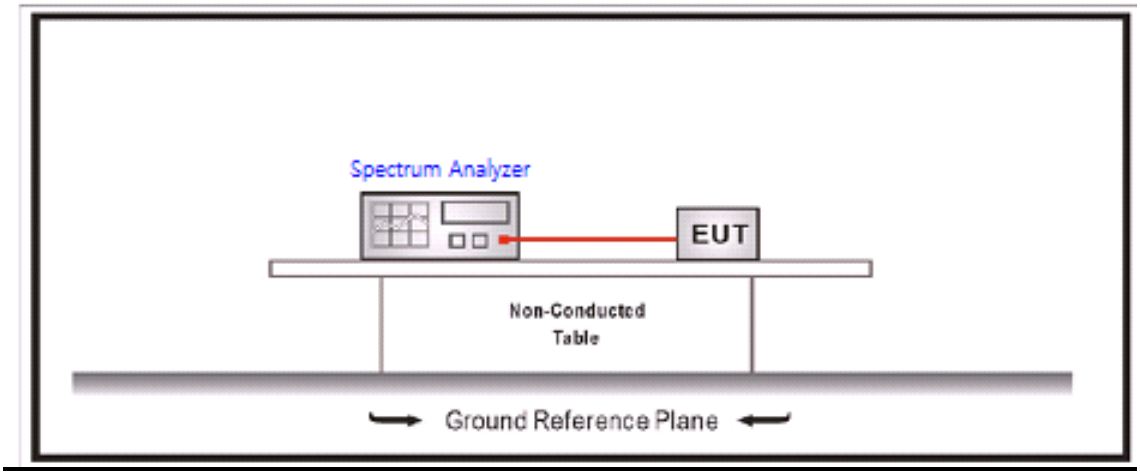
- *Note : 1. The calibaration inverval of the above test instrument is 12 month and the calibrations are traceable to RRA, KRISS, KTL and HCT.*
  2. The calibration interval of horn, Loop Ant.and bi-log Ant. is 24 months

3.2.2 Limit

For frequency hopping system operating in the 2400-2483.5 MHz, if the 20 dB bandwidth of hopping channel is greater than 25 kHz, two-thirds 20 dB bandwidth of hopping channel shell be a minimum limit for the hopping channel separation.

3.2.3 Test Configuration

RF Conducted Measurement:



3.2.4 Test Procedure

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Turn on the EUT and connect it to measurement instrument. Then set it to any one convenient frequency within its operating range. Set a reference level on the measuring instrument equal to the highest peak value.
3. Measure the frequency difference of two frequencies that wre attenuated 20 dB from the reference level. Record the the frequency difference as the emission bandwidth.
4. Repeat above procedures until all frequencies measured were complete.

3.2.5 Frequency Separation and 20 dB Bandwidth Test Result

Test Item	20 dB Bandwidth		
Test Mode	GFSK	Test Data Rate	DH1
Test Channel	Channel 00, 39, 78	Test Site	RF Shielded Room
Meas.Method	Conducted	Polarization	N/A

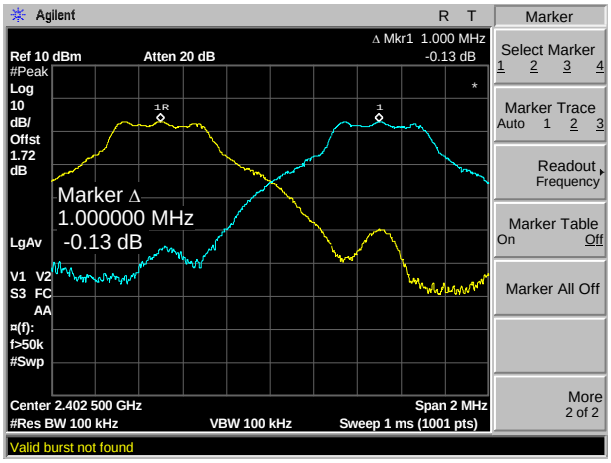
Channel No.	Frequency (MHz)	20 dB Bandwidth (kHz)	Channel Separation (MHz)	Result
00	2402	852.5	1.000	Pass
39	2441	852.5	1.000	Pass
78	2480	865.0	1.000	Pass

Test Item	20 dB Bandwidth		
Test Mode	GFSK	Test Data Rate	DH3
Test Channel	Channel 00, 39, 78	Test Site	RF Shielded Room
Meas.Method	Conducted	Polarization	N/A

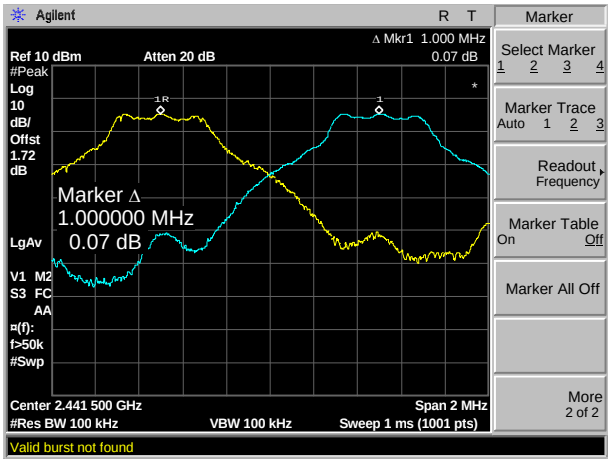
Channel No.	Frequency (MHz)	20 dB Bandwidth (kHz)	Channel Separation (MHz)	Result
00	2402	877.5	1.000	Pass
39	2441	862.5	1.000	Pass
78	2480	860.0	1.000	Pass

Test Item	20 dB Bandwidth		
Test Mode	GFSK	Test Data Rate	DH5
Test Channel	Channel 00, 39, 78	Test Site	RF Shielded Room
Meas.Method	Conducted	Polarization	N/A

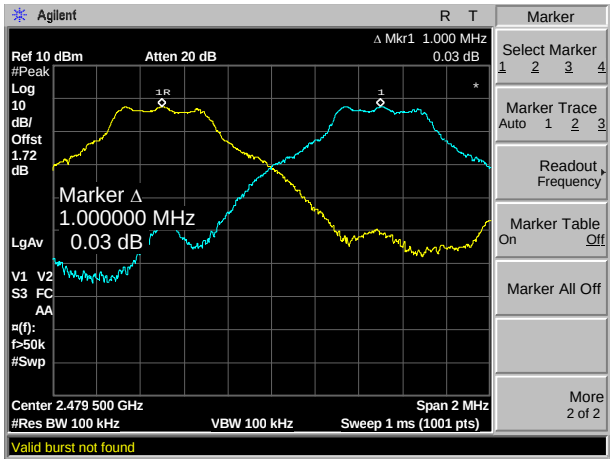
Channel No.	Frequency (MHz)	20 dB Bandwidth (kHz)	Channel Separation (MHz)	Result
00	2402	927.5	1.000	Pass
39	2441	922.5	1.000	Pass
78	2480	927.5	1.000	Pass



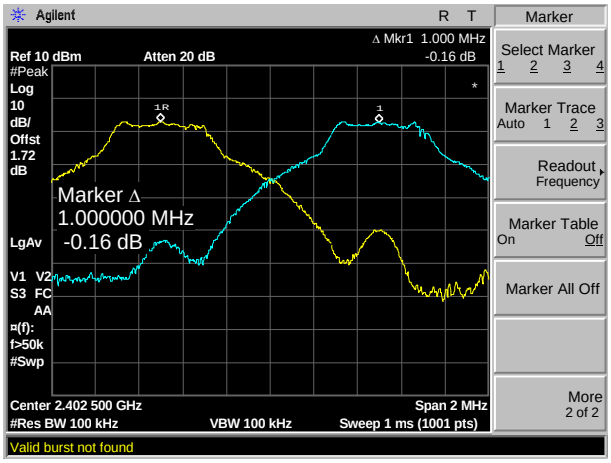
2402 MHz DH1 Frequency Separation / 20 dB Bandwidth



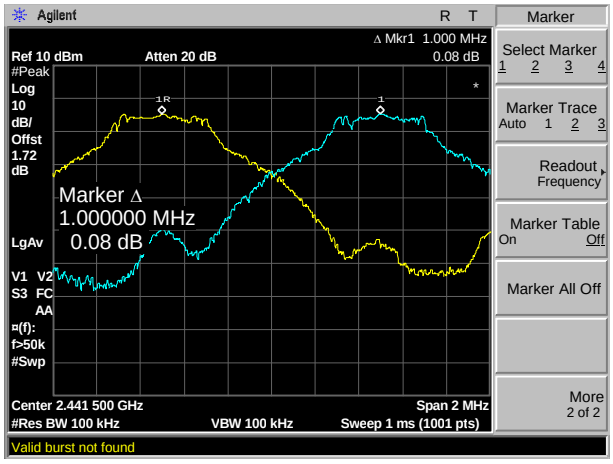
2441 MHz DH1 Frequency Separation / 20 dB Bandwidth



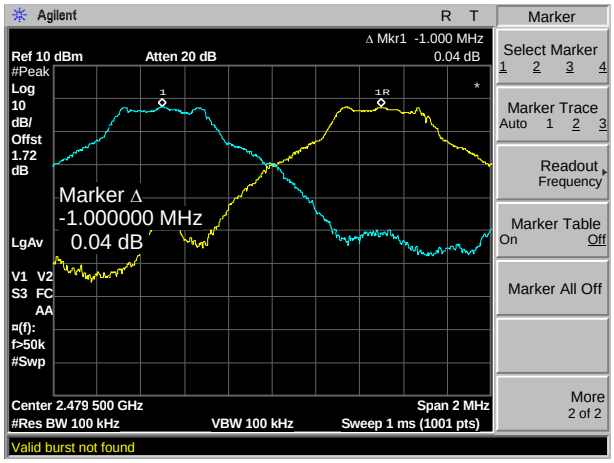
2480 MHz DH1 Frequency Separation / 20 dB Bandwidth



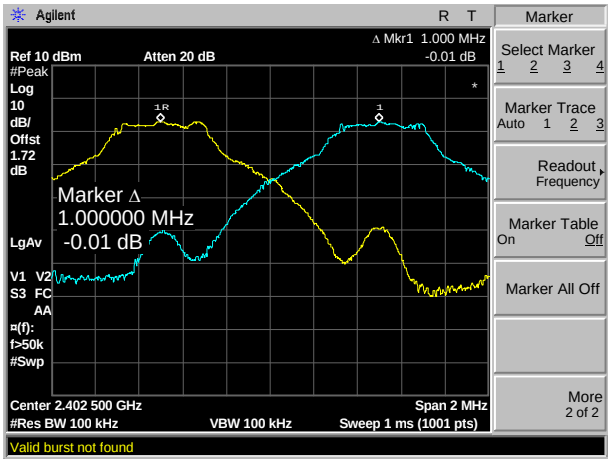
2402 MHz DH3 Frequency Separation / 20 dB Bandwidth



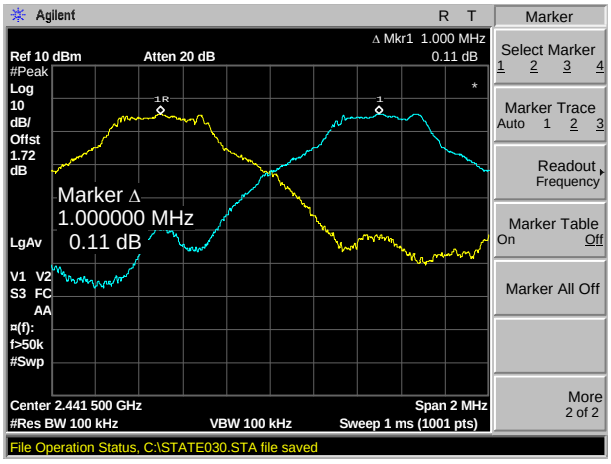
2441 MHz DH3 Frequency Separation / 20 dB Bandwidth



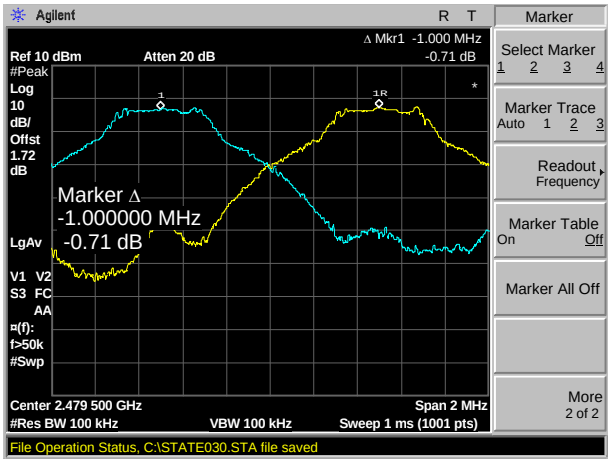
2480 MHz DH3 Frequency Separation / 20 dB Bandwidth



2402 MHz DH5 Frequency Separation / 20 dB Bandwidth



2441 MHz DH5 Frequency Separation / 20 dB Bandwidth



2480 MHz DH5 Frequency Separation / 20 dB Bandwidth

3.3 Number of Hopping Fquency Used

3.3.1 Test Instruments

Description	Manufacturer	Model No.	Serial No.	Next of Cal.
Spectrum Analyzer	Aglient	E4440A	MY45304577	Dec. 02, 2014
DC Power Supply	Hewlett-Packard	6574A	US36340383	Dec. 02, 2014

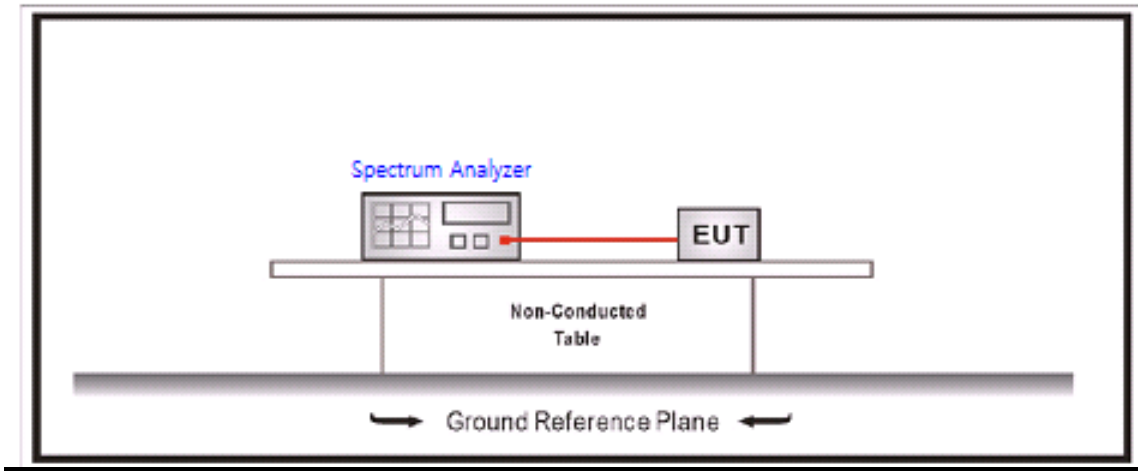
- *Note : 1. The calibaration inverval of the above test instrument is 12 month and the calibrations are traceable to RRA, KRISS, KTL and HCT.*
  2. The calibration interval of horn, Loop Ant.and bi-log Ant. is 24 months

3.3.2 Limit

At least 15 channels frequencies, and should be equally spaced.

3.3.3 Test Configuration

RF Conducted Measurement:



3.3.4 Test Procedure

1. Check the calibration of the measuring instrument (SA) using either an internal calibrator of a known signal form a external generator.
2. Turn ofthe EUT and connect its antenna terminal to measurement via a low loss calbe. Then set it to any one measured frequency within its oprerating range and make sur the instrument is operating range and make sure the instrument is operated in its linear range.
3. Set the SA on MaxHold Mode, and the keep the EUT is hoping mdoe. Record all the signals from each channel until each one has been recorded.
4. Set th SA on View Mode and the plot the result on SA screen.
5. Repeat above procedures until all frequencies measured were complete.

3.3.5 Number of Hopping Frequency Test Result

Test Item	Number of Hopping Frequency		
Test Mode	GFSK	Test Data Rate	DH1
Test Channel	-	Test Site	RF Shielded Room
Meas.Method	Conducted	Polarization	N/A

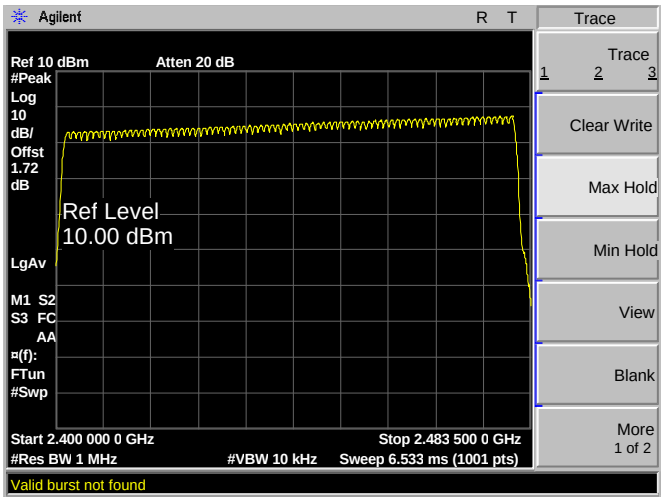
Total No. of Hopping Channel	Measurement Result (No. of Channel)	Limit (No. of Channel)	Result
	79	>15	Pass

Test Item	Number of Hopping Frequency		
Test Mode	GFSK	Test Data Rate	DH3
Test Channel	-	Test Site	RF Shielded Room
Meas.Method	Conducted	Polarization	N/A

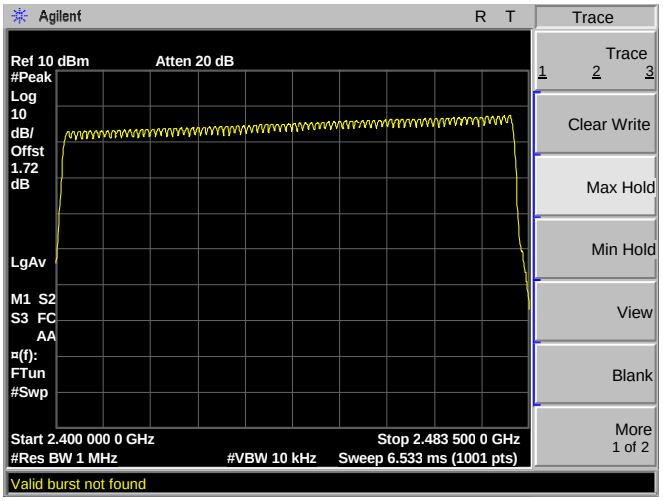
Total No. of Hopping Channel	Measurement Result (No. of Channel)	Limit (No. of Channel)	Result
	79	>15	Pass

Test Item	Number of Hopping Frequency		
Test Mode	GFSK	Test Data Rate	DH5
Test Channel	-	Test Site	RF Shielded Room
Meas.Method	Conducted	Polarization	N/A

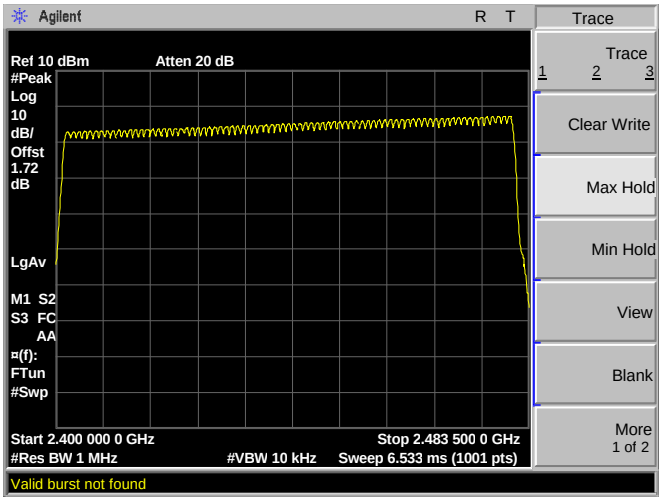
Total No. of Hopping Channel	Measurement Result (No. of Channel)	Limit (No. of Channel)	Result
	79	>15	Pass



DH1 Number of Hopping Frequency



DH3 Number of Hopping Frequency



DH5 Number of Hopping Frequency

3.4 Dwell Time On Each Channel

3.4.1 Test Instruments

Description	Manufacturer	Model No.	Serial No.	Next of Cal.
Spectrum Analyzer	Aglient	E4440A	MY45304577	Dec. 02, 2014
DC Power Supply	Hewlett-Packard	6574A	US36340383	Dec. 02, 2014

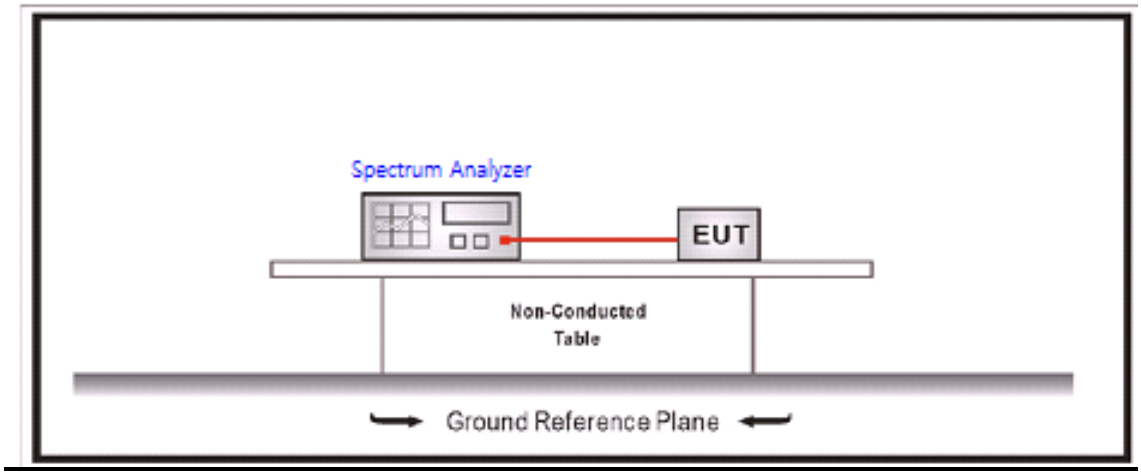
- *Note : 1. The calibaration inverval of the above test instrument is 12 month and the calibrations are traceable to RRA, KRISS, KTL and HCT.*
  2. The calibration interval of horn, Loop Ant.and bi-log Ant. is 24 months

3.4.2 Limit

The average time of occupancy on any channel shall not be greater the 0.4 seconds within a period fo 04. Seconds multiplied by the number of hopping channels employed.

3.4.3 Test Configuration

RF Conducted Measurement:



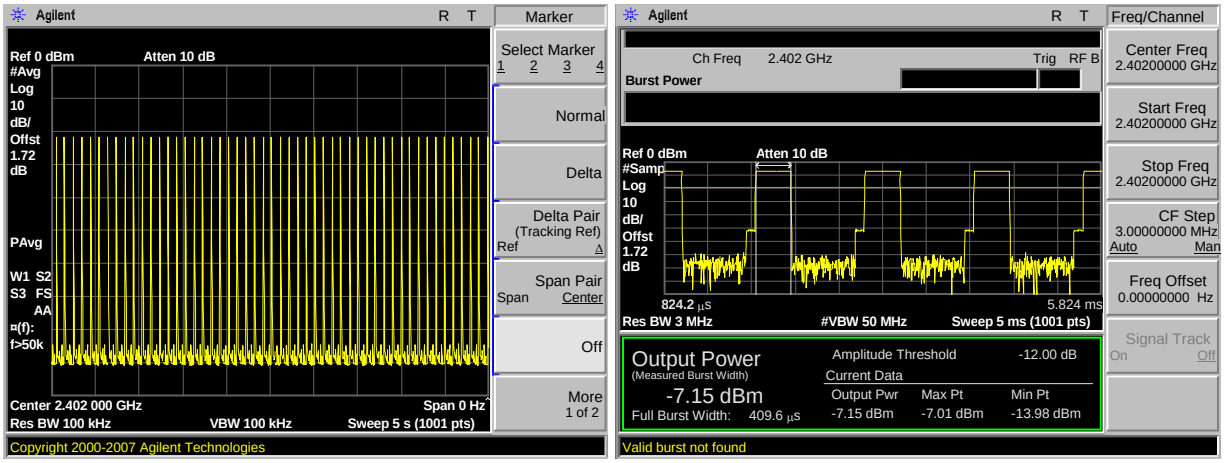
3.4.4 Test Procedure

1. Check the calibration of the measuring instrument (SA) using ither an internal
2. Turn on the EUT and connect its antenna terminal to measurementvia a low loss cable. The set it to any one measured frequency within its operating range and make sure the instrument is operatd in its linear range.
3. Adjust the center frequency of SA on any frequency be measured nd set SA to ero span mode. And then, set RBW and VBW of spectrum analyzer to proper value.
4. Measure the time duration of one transmission in the measured frequency. And then plot the result with time difference of this time duration.
5. Repeat above procedures until all different time-slot modes have been completed.

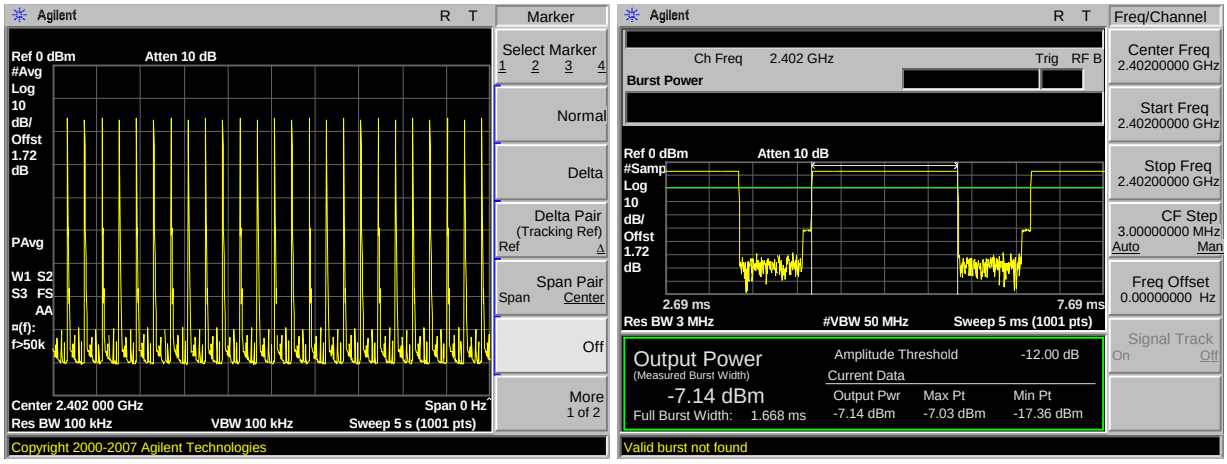
3.4.5 Dwell Time Test Result

Test Item	Number of Hopping Frequency		
Test Mode	GFSK	Test Data Rate	DH1, DH3, DH5
Test Channel	-	Test Site	RF Shielded Room
Meas.Method	Conducted	Polarization	N/A

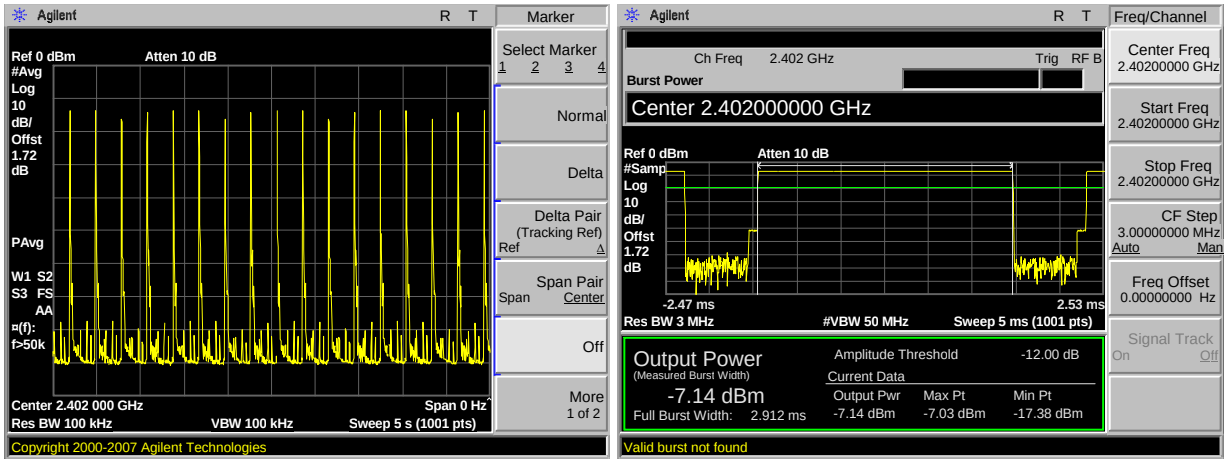
Payload Length	Number of transmission in a 31.6 (79 Hopping*0.4)	Length of ansmission time (msec)	Result (msec)	Limit (msec)	Result
DH1	51 (times / 5 sec)*6.32 = 322.32 times	0.410	132.15	400	Pass
DH3	25 (times / 5 sec)*6.32 = 158.00 times	1.668	263.54	400	Pass
DH5	17 (times / 5 sec)*6.32 = 107.44 times	2.912	312.87	400	Pass



DH1 Number of transmission / Length of transmission time



DH3 Number of transmission / Length of transmission time



DH5 Number of transmission / Length of transmission time

3.5 Radieted Emission

3.5.1 Test Instruments

Description	Manufacturer	Model No.	Serial No.	Next of Cal.
Horn Ant.	A.H. Systems	SAS-571	1559	May. 08, 2014
Double Ridge Horn Ant.	ETS	3116	00062504	May. 27, 2015
Bi-log Ant.	Schwarzbeck	VULB 9160	3292	Apr. 11, 2015
Loop Ant.	Schwarzbeck	FMZB 1513	1513-167	Jan. 27, 2016
EMI Test Receiver	LIGNex1	ER-265	L0811B009	Jan. 28, 2015
Microwave Amplifier	Hewlett-Packard	8394B	3205A04032	Dec. 02, 2014
DC Power Supply	BK PRCISION	9110	183G13163	Jan. 28, 2015
True RMS Multimeter	FLUKE	87-V	14990137	Dec. 02, 2014

- *Note : 1. The calibaration inverval of the above test instrument is 12 month and the calibrations are traceable to RRA, KRISS, KTL and HCT.*
  2. The calibration interval of horn, Loop Ant.and bi-log Ant. is 24 months

Field Strength Calculation

The field strength is calculated by adding the Antenna Factor and Cable loss, and subtracting the Amplifier Gain (if any) from the measured reading. For the limit is employed average value, therefore the peak value can be transferred to average value by subtracting the duty factor. The basic equation with a sample calculation is as follows:

Peak = Reading + Corrected Factor

Where

Corr. Factor = Antenna Factor + Cable loss - Amplifier Gain (if any)

3.5.2 Radiated Emission Limit

All emission form a digital device, including any network of conductors and apparatus connected thereto shall not exceed the level of field strength specified below:

FCC Part 15 Subpart C paragraph 15.247(a) Limit

Fundamental Frequency (MHz)	Field Strength of Fundamental (3 m)			Field Strength of Harmonics (3 m)		
	mV/m	dBuV/m		mV/m	dBuV/m	
2400 - 2483.5	50	94 (Avg.)	114 (Peak)	500	54 (Avg.)	74 (Peak)

- *Note : 1. RF Field Strength (dBuV) = 20log RF Voltage(uV)*
  2. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.
  3. The emission limit in this paragraph is based on measurement instrumentation employing an average detector

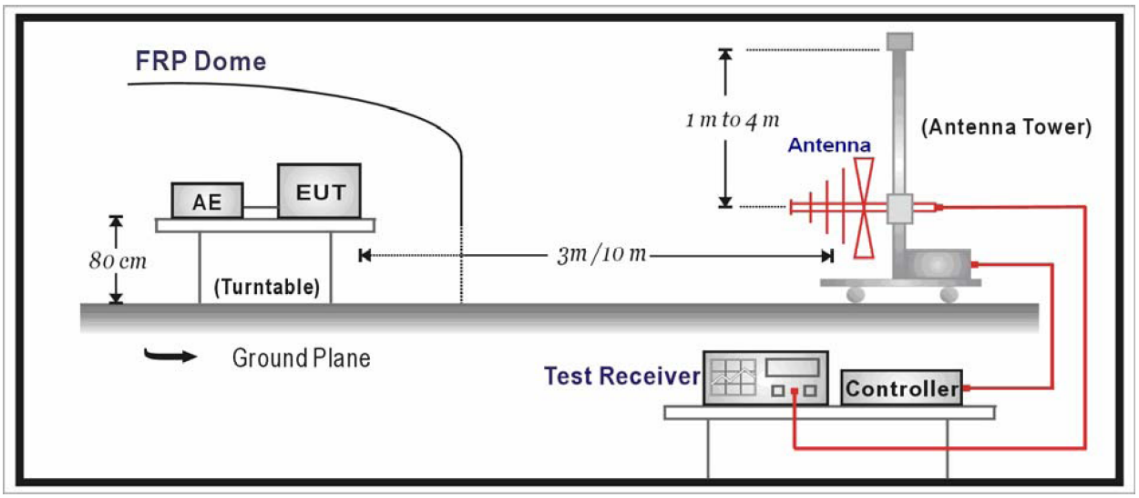
Frequencies in restricted band are complied to limit on Paragraph 15.209

Frequency Range (MHz)	Distance (m)	Field strength (dBuV/m)
0.009-0.490	3	20log 2400/F (kHz) + 80
0.490-1.705	3	20log 24000/F (kHz) + 40
1.705-30	3	20log 30 + 40
30-88	3	40.0
88-216	3	43.5
216-960	3	46.0
Above 960	3	54.0

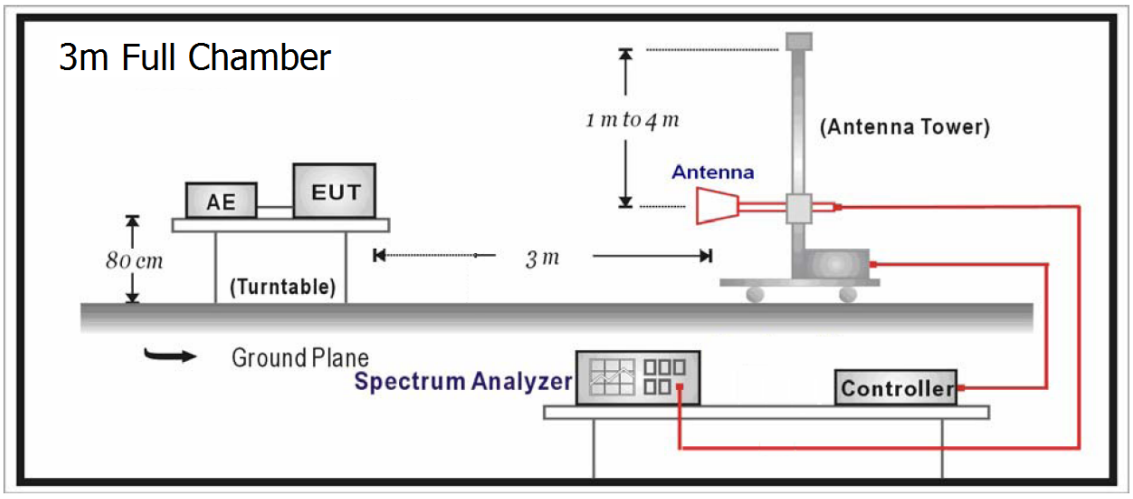
- *Note : 1. RF voltage (dBuV) = 20 log RF Voltage (uV)*
  2. In the Above Table, the tighter limit applies at the band edges.
  3. Distance refers to the distance in meters between the measuring instrument antenna and the EUT
  4. This device used to install a within vehicular. The location of EUT measurements has the Y-plane(Stand).
  5. All scanning using PK detector. And the final emission level was get using QP detector for frequency range from 30 – 1000 MHz. As to 1 – 26.5 GHz, the final emission level got using PK and AV detector.
  6. If measurement is made at 3m distance.

3.5.3. Test Configuration

Below 1GHz Test Setup:



Above 1GHz Test Setup:



3.5.4. Test Procedure

The EUT was setup according to ANSI C63.10: 2009 and tested according to DTS test procedure of ANSI C63.10: 2009 for compliance to FCC 47CFR 15.247 requirements.

The EUT is placed on a turn table which is 0.8 meter above ground. The turn table is rotated 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

The antenna is scanned between 1 meter and 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the antenna. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.4: 2009 on radiated measurement.

The resolution bandwidth below 1 GHz setting on the field strength meter is 120 kHz and above 1 GHz is 1 MHz. Radiated emission measurements below 1 GHz are made using broadband Bilog antenna and above 1 GHz are made using Horn Antennas.

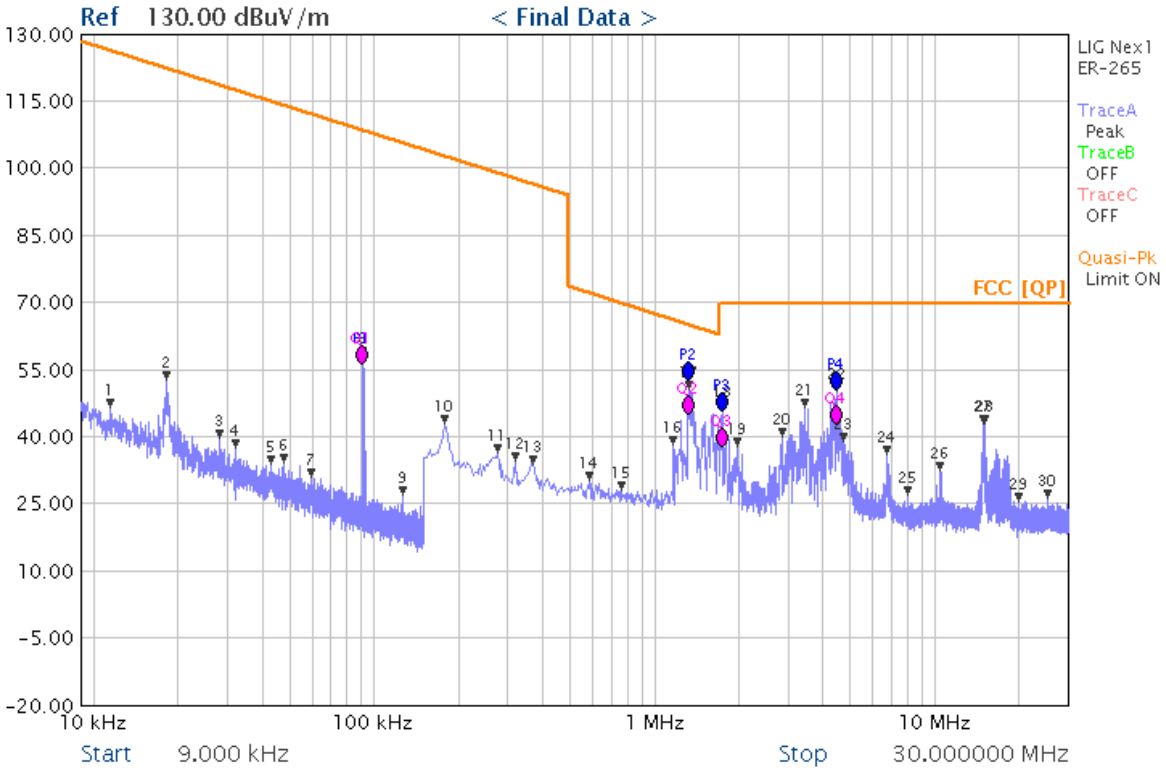
The measurement is divided into the Preliminary Measurement and the Final Measurement.

The suspected frequencies are searched for in Preliminary Measurement with the measurement antenna kept pointed at the source of the emission both in azimuth and elevation, with the polarization of the antenna oriented for maximum response. The antenna is pointed at an angle towards the source of the emission, and the EUT is rotated in both height and polarization to maximize the measured emission. The emission is kept within the illumination area of the 3 dB bandwidth of the antenna. The frequency range from 30 MHz to 10^{th} harmonics is checked.

3.5.5 Radiated Emission Result

3.5.5.1 Radiated Emission Result (9 kHz to 30 MHz)

Test Item	Radiated Emission (9 kHz to 30 MHz)		
Test Mode	GFSK	Test Data Rate	DH1
Test Channel	Channel 00 (2402 MHz)	Test Site	3 m Semi-Anechoic Chamber
Meas.Method	Radiated	Polarization	Horizontal

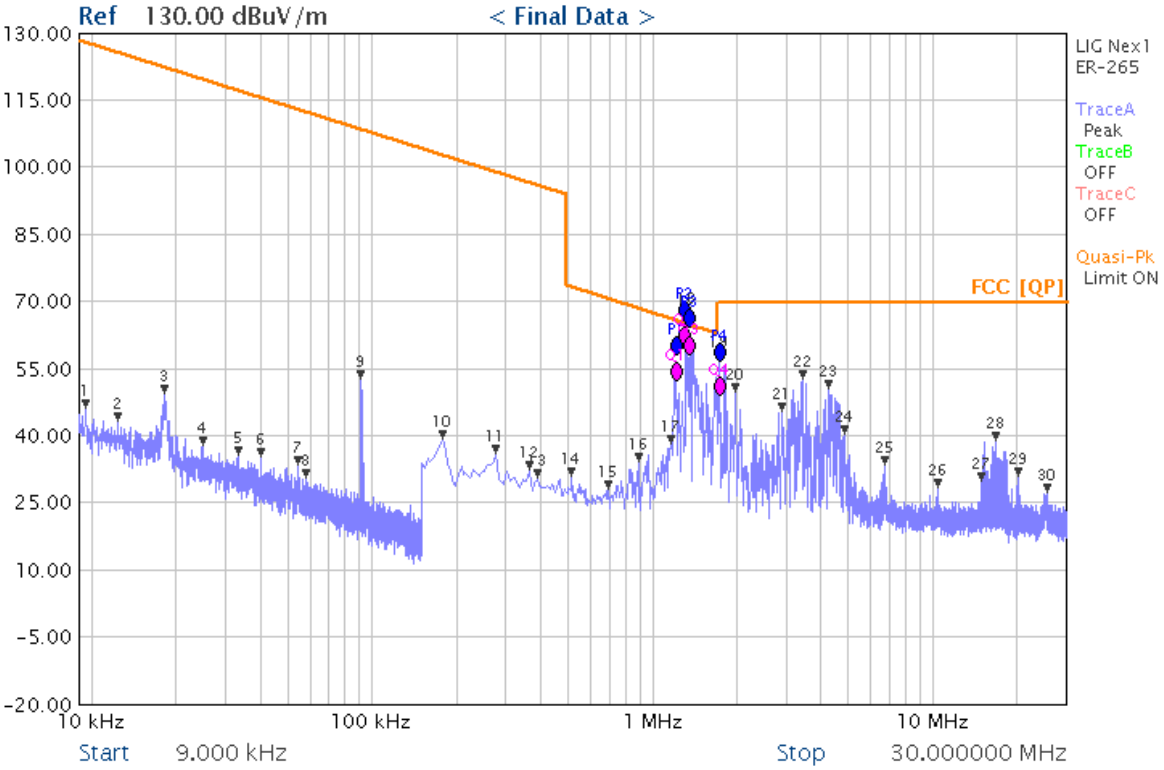


Frequency (MHz)	Reading (dBuV/m)	Pol. (H/V)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Gain. (dB)	Limit (dBuV/m)	Total (dBuV/m)	Margin (dB)
0.091	38.57	H	19.42	0.10	-	108.39	58.09	50.30
1.331	26.92	H	19.78	0.25	-	65.12	46.95	18.17
1.744	19.53	H	19.76	0.26	-	69.54	39.55	29.99
4.486	24.39	H	20.00	0.28	-	69.54	44.67	24.87

- *Note : 1. RF voltage (dBuV) = 20 log RF Voltage (uV)*

  2. The location of EUT measurements has the X-plane.

Test Item	Radiated Emission (9 kHz to 30 MHz)		
Test Mode	GFSK	Test Data Rate	DH1
Test Channel	Channel 00 (2402 MHz)	Test Site	3 m Semi-Anechoic Chamber
Meas.Method	Radiated	Polarization	Vertical

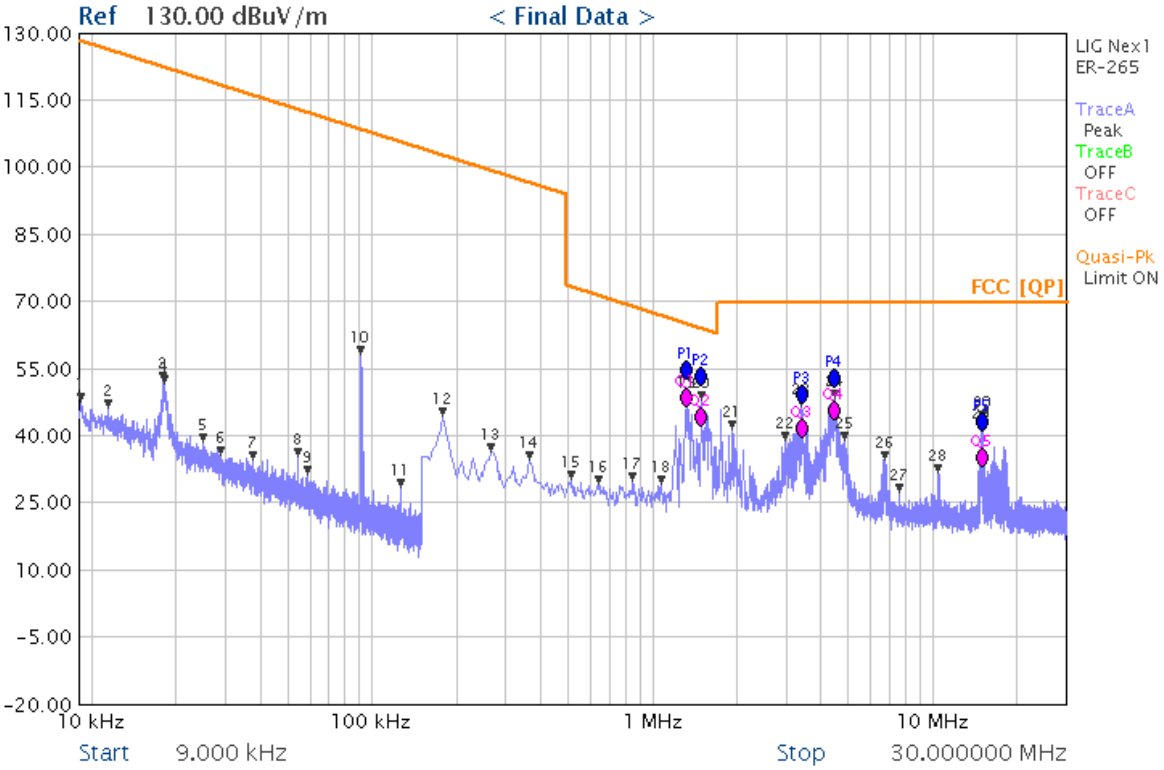


Frequency (MHz)	Reading (dBuV/m)	Pol. (H/V)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Gain. (dB)	Limit (dBuV/m)	Total (dBuV/m)	Margin (dB)
1.224	33.88	V	19.79	0.24	-	65.85	53.91	11.94
1.308	41.94	V	19.78	0.25	-	65.27	61.97	3.30
1.357	40.00	V	19.78	0.25	-	64.96	60.03	4.93
1.744	30.71	V	19.76	0.26	-	69.54	50.73	18.81

- *Note : 1. RF voltage (dBuV) = 20 log RF Voltage (uV)*

2. The location of EUT measurements has the X-plane.

Test Item	Radiated Emission (9 kHz to 30 MHz)		
Test Mode	GFSK	Test Data Rate	DH1
Test Channel	Channel 39 (2441 MHz)	Test Site	3 m Semi-Anechoic Chamber
Meas.Method	Radiated	Polarization	Horizontal

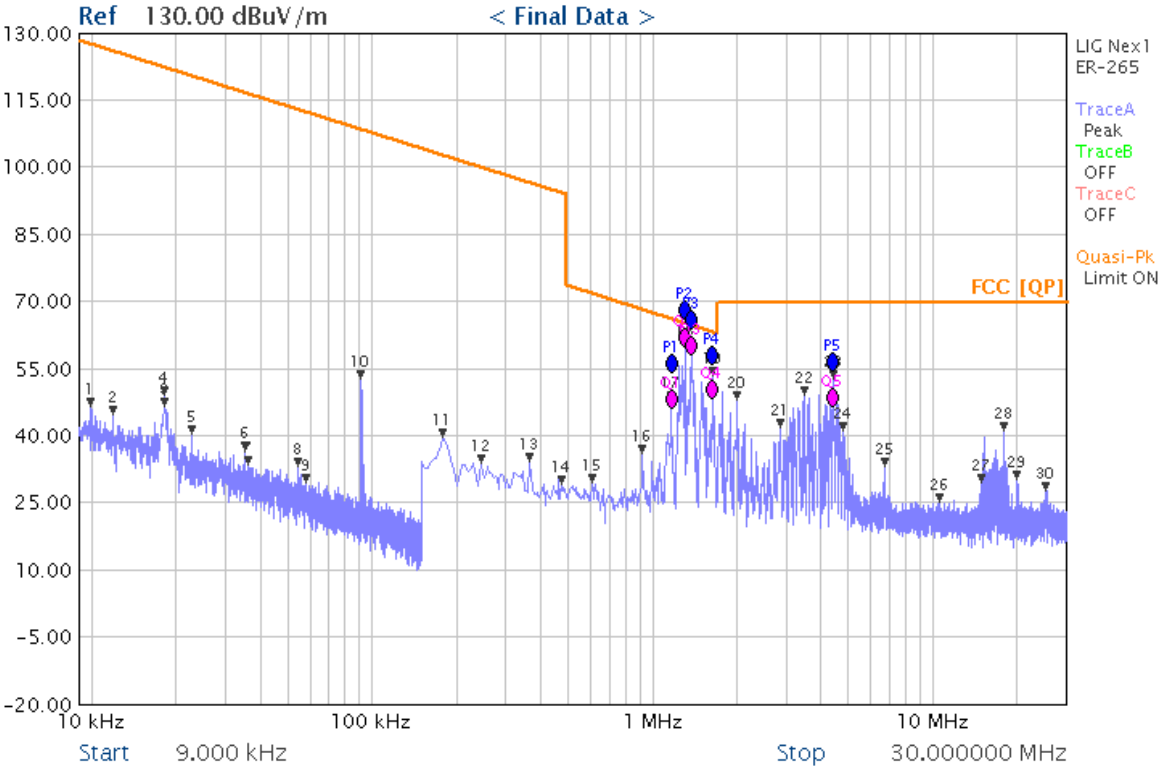


Frequency (MHz)	Reading (dBuV/m)	Pol. (H/V)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Gain. (dB)	Limit (dBuV/m)	Total (dBuV/m)	Margin (dB)
1.325	28.24	H	19.78	0.25	-	65.16	48.27	16.89
1.490	23.86	H	19.78	0.25	-	64.14	43.89	20.25
3.448	21.43	H	19.79	0.24	-	69.54	41.46	28.08
4.496	25.21	H	20.00	0.28	-	69.54	45.49	24.05
15.106	14.48	H	20.00	0.53	-	69.54	35.01	34.53

- *Note : 1. RF voltage (dBuV) = 20 log RF Voltage (uV)*

2. The location of EUT measurements has the X-plane.

Test Item	Radiated Emission (9 kHz to 30 MHz)		
Test Mode	GFSK	Test Data Rate	DH1
Test Channel	Channel 39 (2441 MHz)	Test Site	3 m Semi-Anechoic Chamber
Meas.Method	Radiated	Polarization	Vertical

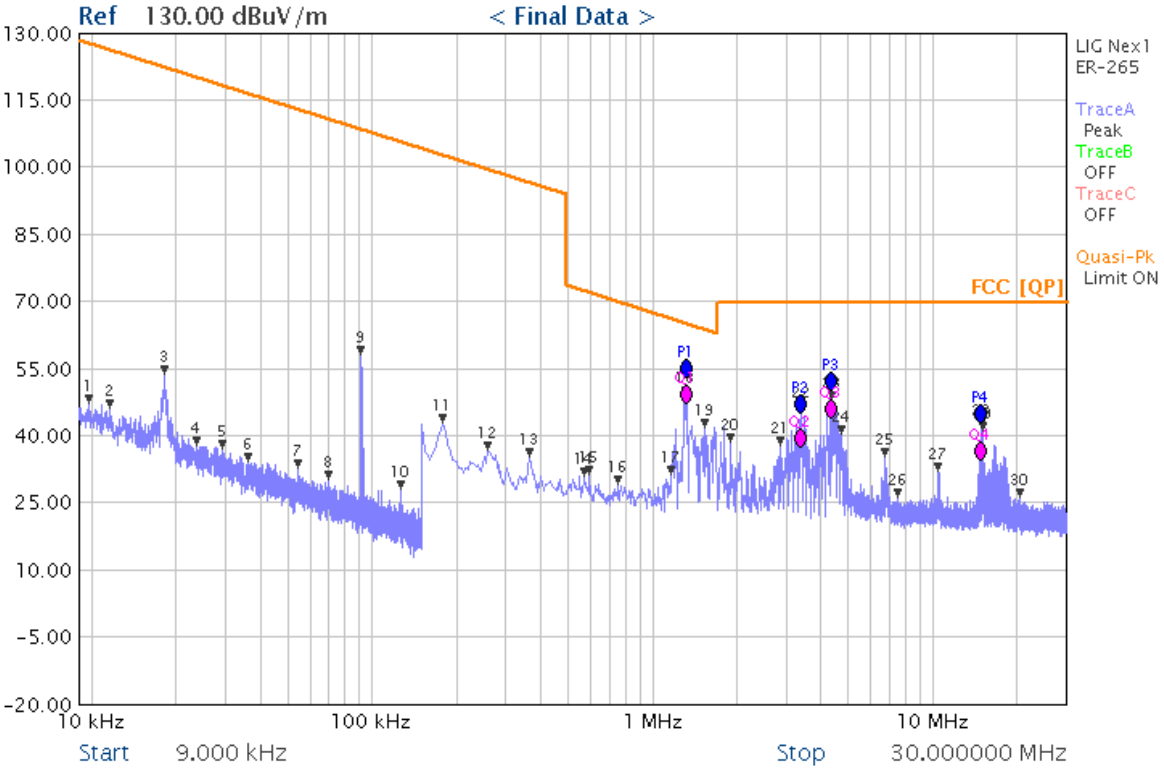


Frequency (MHz)	Reading (dBuV/m)	Pol. (H/V)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Gain. (dB)	Limit (dBuV/m)	Total (dBuV/m)	Margin (dB)
1.179	27.78	V	19.79	0.25	-	66.18	47.82	18.36
1.308	41.82	V	19.78	0.25	-	65.27	61.85	3.42
1.385	39.95	V	19.78	0.25	-	64.77	59.98	4.79
1.630	29.98	V	19.77	0.26	-	63.36	50.01	13.35
4.398	28.20	V	19.98	0.28	-	69.54	48.46	21.08

- *Note : 1. RF voltage (dBuV) = 20 log RF Voltage (uV)*

2. The location of EUT measurements has the X-plane.

Test Item	Radiated Emission (9 kHz to 30 MHz)		
Test Mode	GFSK	Test Data Rate	DH1
Test Channel	Channel 78 (2480 MHz)	Test Site	3 m Semi-Anechoic Chamber
Meas.Method	Radiated	Polarization	Horizontal

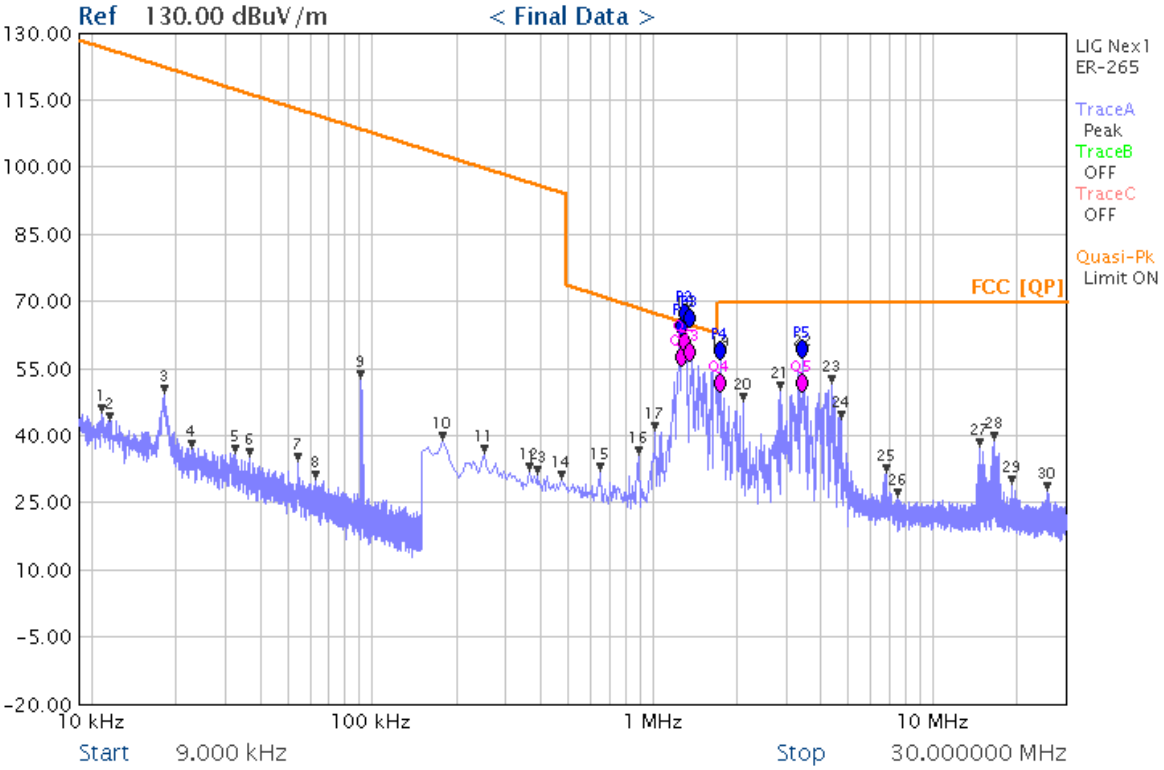


Frequency (MHz)	Reading (dBuV/m)	Pol. (H/V)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Gain. (dB)	Limit (dBuV/m)	Total (dBuV/m)	Margin (dB)
1.326	29.02	H	19.78	0.25	-	65.15	49.05	16.10
3.382	19.27	H	19.78	0.24	-	69.54	39.29	30.25
4.344	25.64	H	19.97	0.27	-	69.54	45.88	23.66
14.917	15.87	H	20.00	0.52	-	69.54	36.39	33.15

- *Note : 1. RF voltage (dBuV) = 20 log RF Voltage (uV)*

  2. The location of EUT measurements has the X-plane.

Test Item	Radiated Emission (9 kHz to 30 MHz)		
Test Mode	GFSK	Test Data Rate	DH1
Test Channel	Channel 78 (2480 MHz)	Test Site	3 m Semi-Anechoic Chamber
Meas.Method	Radiated	Polarization	Vertical



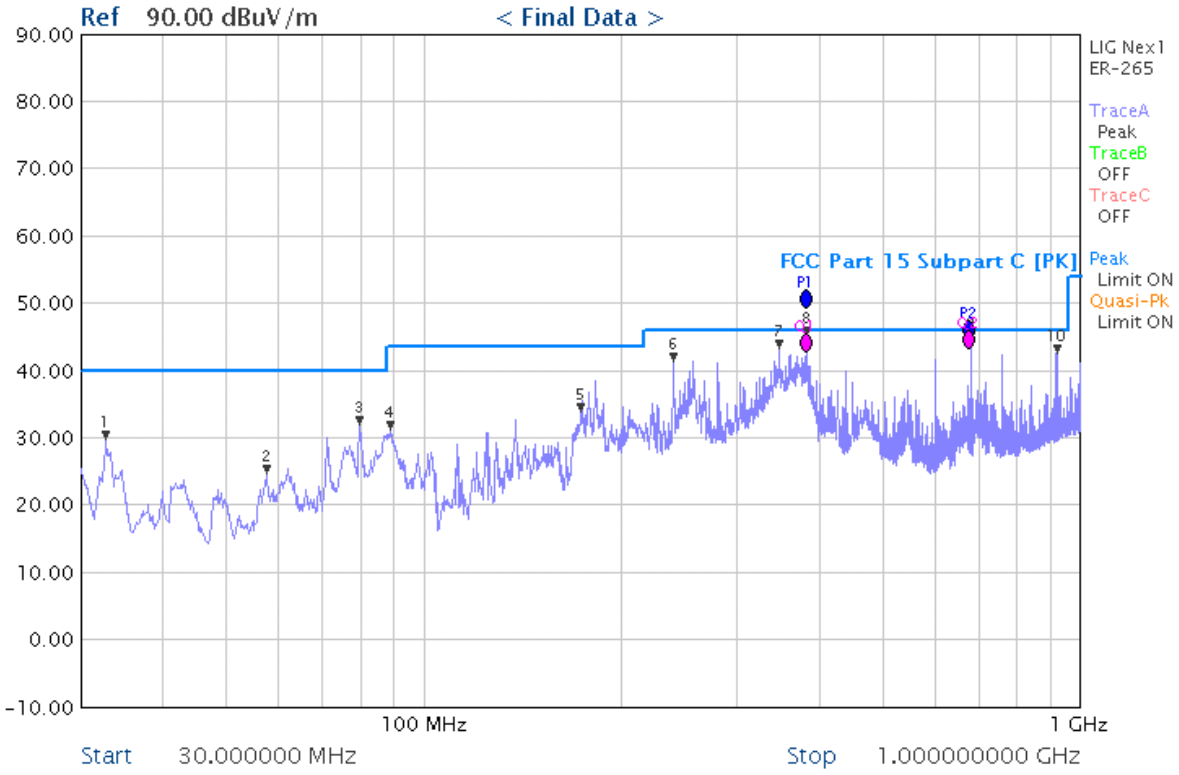
Frequency (MHz)	Reading (dBuV/m)	Pol. (H/V)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Gain. (dB)	Limit (dBuV/m)	Total (dBuV/m)	Margin (dB)
1.271	37.40	V	19.79	0.25	-	65.52	57.44	8.08
1.315	40.60	V	19.78	0.25	-	65.22	60.63	4.59
1.371	38.36	V	19.78	0.25	-	64.87	58.39	6.48
1.752	31.38	V	19.76	0.26	-	69.54	51.40	18.14
3.439	31.60	V	19.79	0.24	-	69.54	51.63	17.91

- *Note : 1. RF voltage (dBuV) = 20 log RF Voltage (uV)*

2. The location of EUT measurements has the X-plane.

3.5.5.2 Radiated Emission Result (30 MHz to 1 GHz)

Test Item	Radiated Emission (30 MHz to 1 GHz)		
Test Mode	GFSK	Test Data Rate	DH1
Test Channel	Channel 00 (2402 MHz)	Test Site	3 m Semi-Anechoic Chamber
Meas.Method	Radiated	Polarization	Horizontal & Vertical

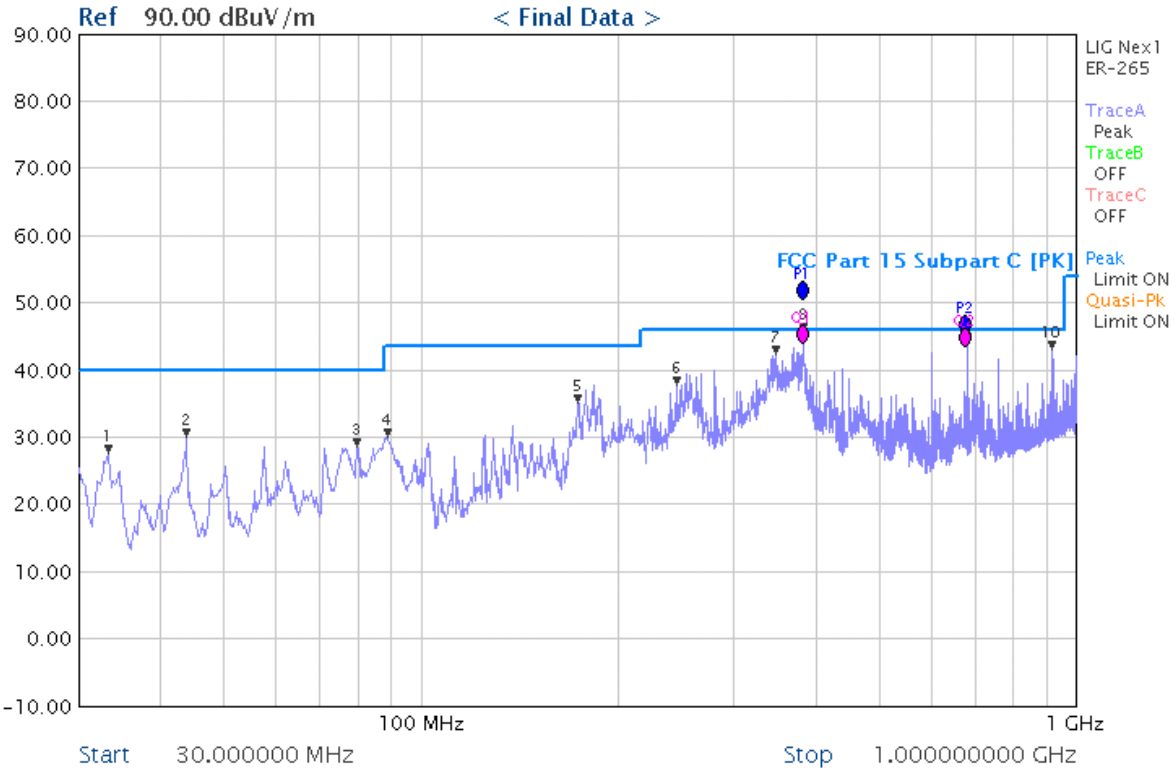


Frequency (MHz)	Reading (dBuV/m)	Pol. (H/V)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Gain. (dB)	Limit (dBuV/m)	Total (dBuV/m)	Margin (dB)
382.20	24.18	H	15.74	3.95	-	46.00	43.87	2.13
679.98	18.73	H	20.55	5.15	-	46.00	44.43	1.57

- *Note : 1. RF voltage (dBuV) = 20 log RF Voltage (uV)*

  2. The location of EUT measurements has the X-plane.

Test Item	Radiated Emission (30 MHz to 1 GHz)		
Test Mode	GFSK	Test Data Rate	DH1
Test Channel	Channel 39 (2441 MHz)	Test Site	3 m Semi-Anechoic Chamber
Meas.Method	Radiated	Polarization	Horizontal & Vertical

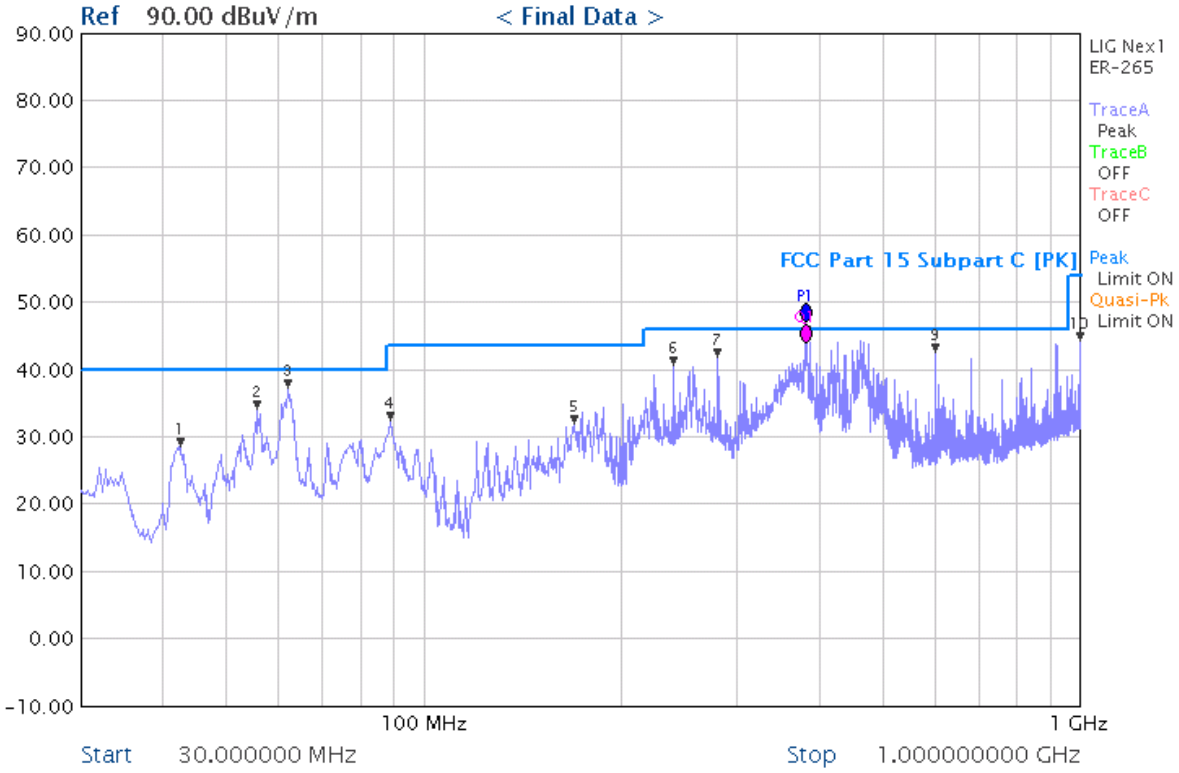


Frequency (MHz)	Reading (dBuV/m)	Pol. (H/V)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Gain. (dB)	Limit (dBuV/m)	Total (dBuV/m)	Margin (dB)
382.22	25.59	H	15.74	3.95	-	46.00	44.98	1.02
680.00	19.11	H	20.55	5.15	-	46.00	44.81	1.19

- *Note : 1. RF voltage (dBuV) = 20 log RF Voltage (uV)*

2. The location of EUT measurements has the X-plane.

Test Item	Radiated Emission (30 MHz to 1 GHz)		
Test Mode	GFSK	Test Data Rate	DH1
Test Channel	Channel 78 (2480 MHz)	Test Site	3 m Semi-Anechoic Chamber
Meas.Method	Radiated	Polarization	Horizontal & Vertical



Frequency (MHz)	Reading (dBuV/m)	Pol. (H/V)	Ant. Factor (dB/m)	Cable loss (dB)	Amp. Gain. (dB)	Limit (dBuV/m)	Total (dBuV/m)	Margin (dB)
383.01	25.19	H	15.76	3.97	-	46.00	44.92	1.08

- *Note : 1. RF voltage (dBuV) = 20 log RF Voltage (uV)*

2. The location of EUT measurements has the X-plane.

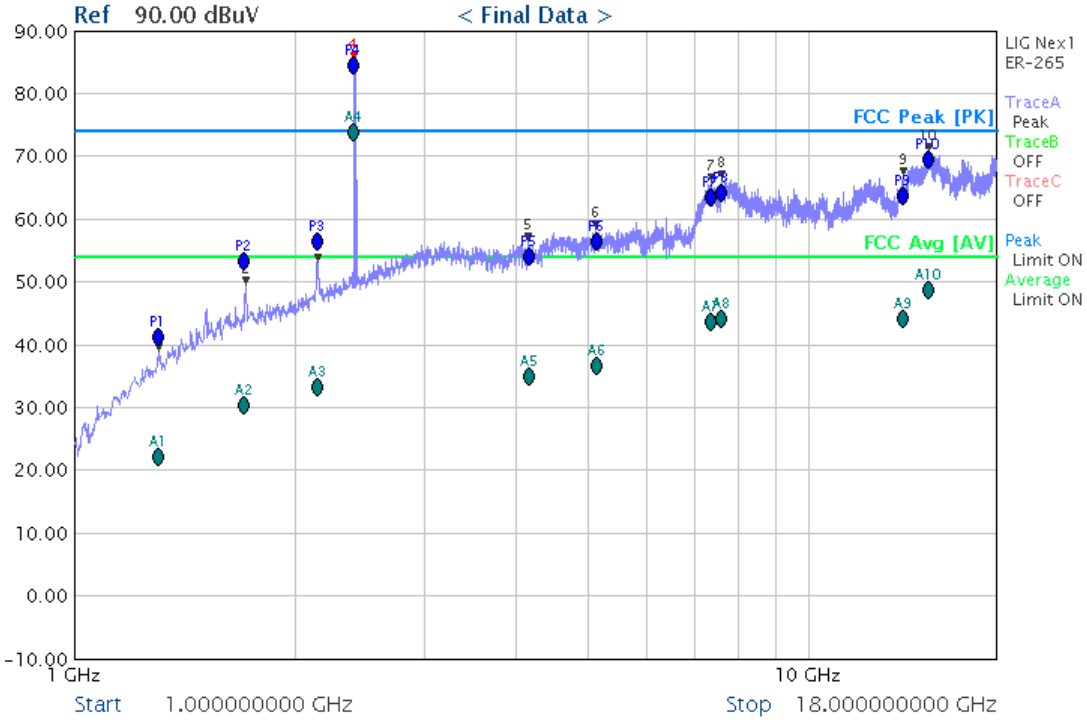
3.5.5.3 Fundamental & Harmonics Radiated Emission Result(1 to 26.5 GHz)

Test Item	Fundamental & Harmonics Radiated Emission (1 to 26.5 GHz)		
Test Mode	GFSK	Test Data Rate	DH1
Test Channel	Channel 00 (2402 MHz)	Test Site	3 m Semi-Anechoic Chamber
Meas.Method	Radiated	Polarization	Horizontal & Vertical

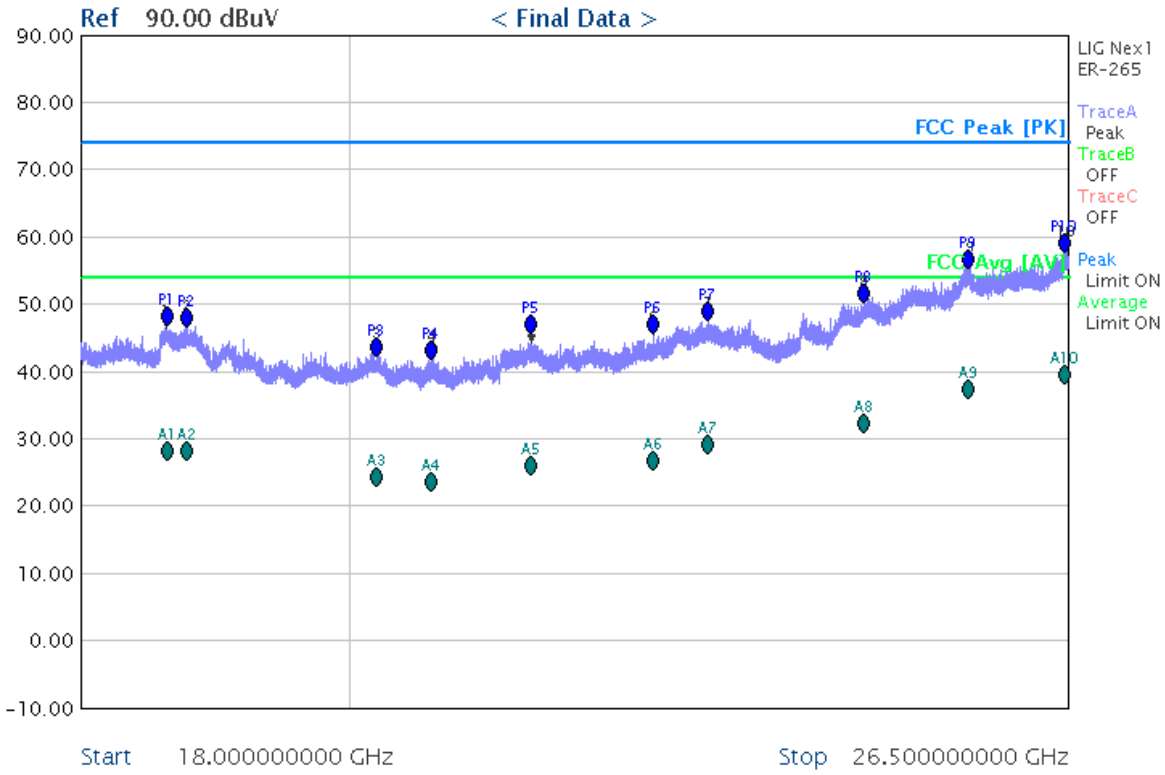
Frequency (MHz)	Pol. (H/V)	Detector (Peak/Avg.)	Result Emission (dBuV/m)	Limits (dBuV/m)	Margin (dB)
2402.00	H	Peak	85.33	-	-
2402.00	H	Avg.	74.52	-	-
5132.22	V	Peak	58.46	74.00	15.54
5132.22	V	Avg.	38.52	54.00	15.48
7355.02	V	Peak	65.98	74.00	8.02
7355.02	V	Avg.	45.52	54.00	8.48
7593.70	H	Peak	66.41	74.00	7.59
7593.70	H	Avg.	45.76	54.00	8.24
13415.33	H	Peak	66.99	74.00	7.01
13415.33	H	Avg.	46.84	54.00	7.16
14583.81	H	Peak	70.68	74.00	3.32
14583.81	H	Avg.	49.20	54.00	4.80
25493.41	H	Peak	55.79	74.00	18.21
25493.41	H	Avg.	37.10	54.00	16.90
26476.13	V	Peak	58.25	74.00	15.75
26476.13	V	Avg.	38.84	54.00	15.16

- *Note : 1. Measurement level = reading level + correct Factor*

2. Other emissions don't exceed the level of 20 dB below the applicable Limit.



Test Plot (1 GHz to 18 GHz)



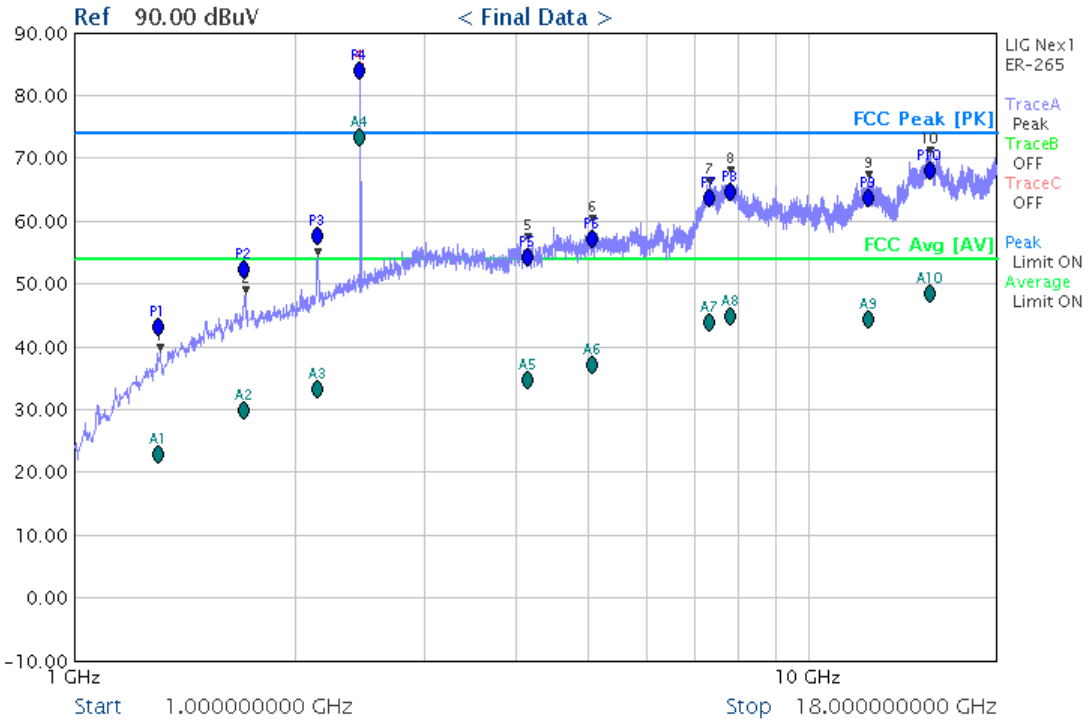
Test Plot (18 GHz to 26.5 GHz)

Test Item	Fundamental & Harmonics Radiated Emission (1 to 26.5 GHz)		
Test Mode	GFSK	Test Data Rate	DH1
Test Channel	Channel 39 (2441 MHz)	Test Site	3 m Semi-Anechoic Chamber
Meas.Method	Radiated	Polarization	Horizontal & Vertical

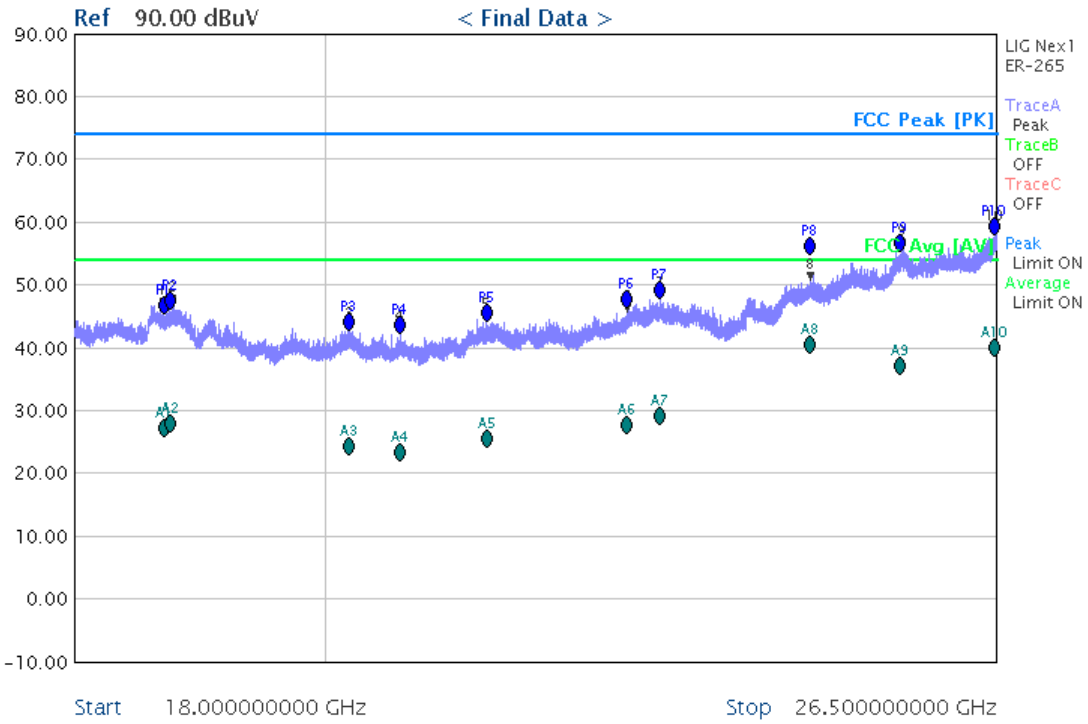
Frequency (MHz)	Pol. (H/V)	Detector (Peak/Avg.)	Result Emission (dBuV/m)	Limits (dBuV/m)	Margin (dB)
2145.65	V	Peak	57.47	74.00	16.53
2145.65	V	Avg.	33.61	54.00	20.39
2441.00	V	Peak	83.80	-	-
2441.00	V	Avg.	72.17	-	-
4146.38	H	Peak	56.74	74.00	17.26
4146.38	H	Avg.	35.42	54.00	18.58
50667.88	V	Peak	59.66	74.00	14.34
50667.88	V	Avg.	38.85	54.00	15.15
7340.50	H	Peak	65.81	74.00	8.19
7340.50	H	Avg.	44.56	54.00	9.44
7830.30	H	Peak	67.40	74.00	6.60
7830.30	H	Avg.	45.95	54.00	8.05
12055.92	H	Peak	66.70	74.00	7.30
12055.92	H	Avg.	44.59	54.00	9.41
14635.70	V	Peak	70.46	74.00	3.54
14635.70	V	Avg.	49.21	54.00	4.79
24504.46	V	Peak	55.73	74.00	18.27
24504.46	V	Avg.	40.22	54.00	13.78
25461.24	V	Peak	56.16	74.00	17.84
25461.24	V	Avg.	36.97	54.00	17.03
26487.55	V	Peak	58.48	74.00	15.52
26487.55	V	Avg.	39.87	54.00	14.13

- *Note : 1. Measurement level = reading level + correct Factor*

2. Other emissions don't exceed the level of 20 dB below the applicable Limit.



Test Plot (1 GHz to 18 GHz)



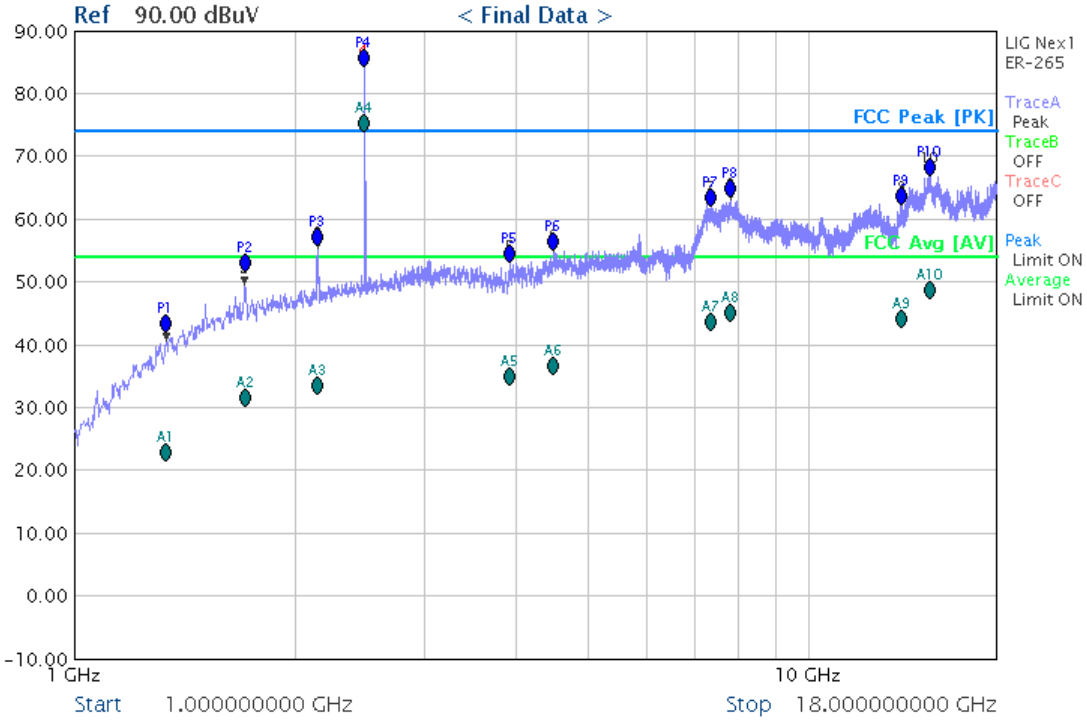
Test Plot (18 GHz to 26.5 GHz)

Test Item	Fundamental & Harmonics Radiated Emission (1 to 26.5 GHz)		
Test Mode	GFSK	Test Data Rate	DH1
Test Channel	Channel 78 (2480 MHz)	Test Site	3 m Semi-Anechoic Chamber
Meas.Method	Radiated	Polarization	Horizontal & Vertical

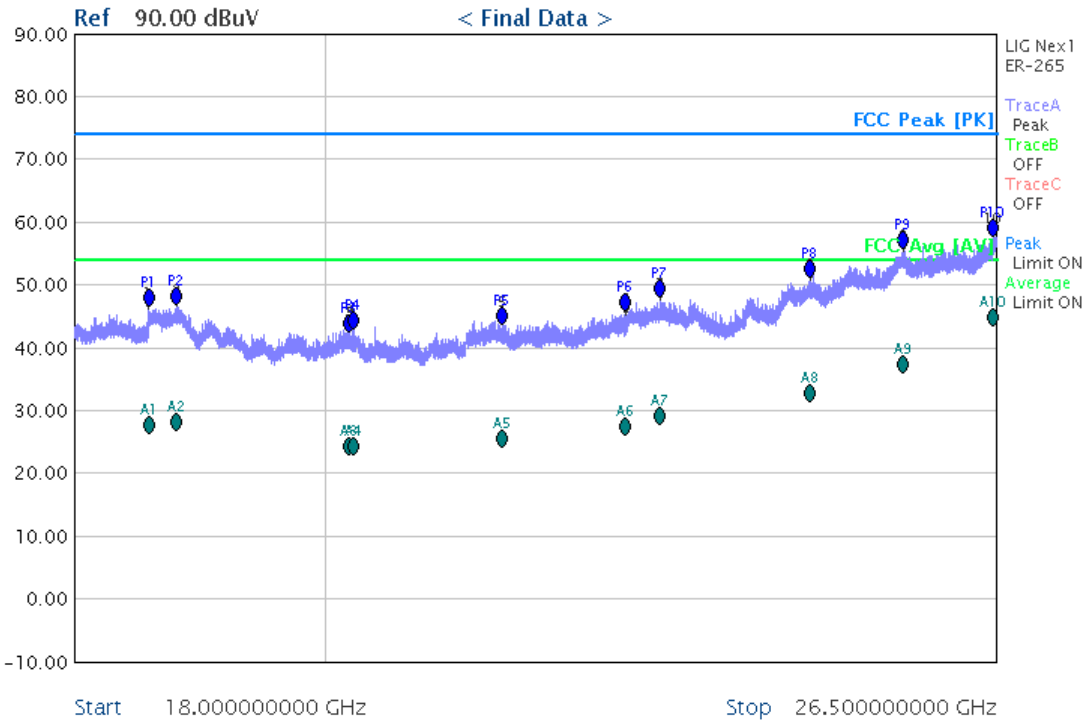
Frequency (MHz)	Pol. (H/V)	Detector (Peak/Avg.)	Result Emission (dBuV/m)	Limits (dBuV/m)	Margin (dB)
2143.57	V	Peak	55.42	74.00	18.58
2143.57	V	Avg.	32.24	54.00	21.76
2480.00	H	Peak	84.41	-	-
2480.00	H	Avg.	74.52	-	-
4497.13	V	Peak	54.97	74.00	19.03
4497.13	V	Avg.	36.45	54.00	17.55
7350.87	H	Peak	62.61	74.00	11.39
7350.87	H	Avg.	43.41	54.00	10.59
7822.00	V	Peak	64.00	74.00	10.00
7822.00	V	Avg.	45.06	54.00	8.94
13402.88	H	Peak	63.51	74.00	10.49
13402.88	H	Avg.	43.84	54.00	10.16
14612.87	V	Peak	68.11	74.00	5.89
14612.87	V	Avg.	48.52	54.00	5.48
25487.18	H	Peak	55.38	74.00	18.62
25487.18	H	Avg.	36.99	54.00	17.01
26469.91	H	Peak	57.89	74.00	16.11
26469.91	H	Avg.	45.02	54.00	8.98

- *Note : 1. Measurement level = reading level + correct Factor*

2. Other emissions don't exceed the level of 20 dB below the applicable Limit.



Test Plot (1 GHz to 18 GHz)



Test Plot (18 GHz to 26.5 GHz)

3.6 Band Edge

3.6.1 Test Instruments

Description	Manufacturer	Model No.	Serial No.	Next of Cal.
Horn Ant.	A.H. Systems	SAS-571	1559	May. 08, 2014
EMI Test Receiver	LIGNex1	ER-265	L0811B009	Jan. 28, 2015
Microwave Amplifier	Hewlett-Packard	8394B	3205A04032	Dec. 02, 2014
DC Power Supply	BK PRCISION	9110	183G13163	Jan. 28, 2015
True RMS Multimeter	FLUKE	87-V	14990137	Dec. 02, 2014

- *Note : 1. The calibaration inverval of the above test instrument is 12 month and the calibrations are traceable to RRA, KRISS, KTL and HCT.*
  2. The calibration interval of horn, Loop Ant.and bi-log Ant. is 24 months

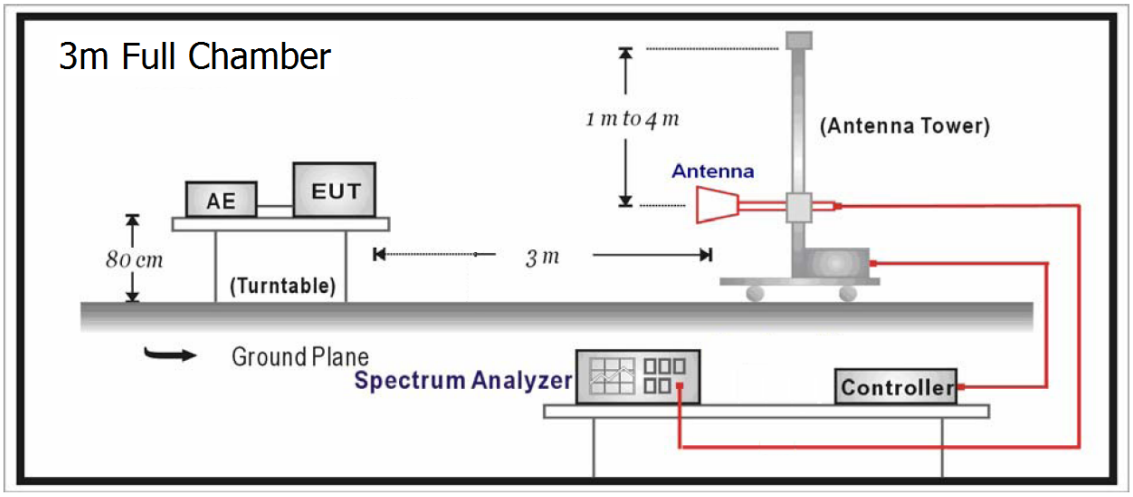
3.6.2 Limit

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum 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.

Attenuation below the general limits specified in section 15.209(a) is not required. In addition, radiated emission 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)).

3.6.3 Test Configuration

Above 1GHz Test Setup:



3.6.4 Test Procedure

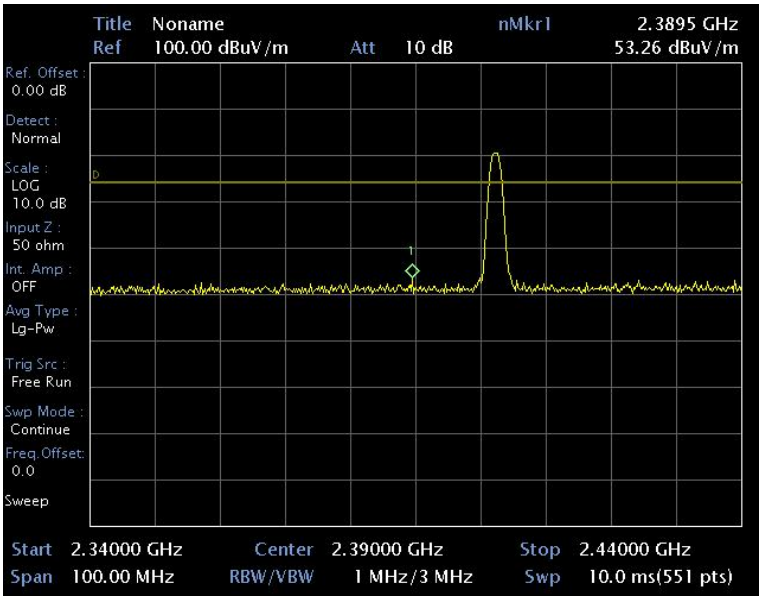
The EUT and its simulators are placed on a turn table which is 0.8 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters. The antenna can move up and down between 1 meter and 4 meters to fine out the maximum emission level.

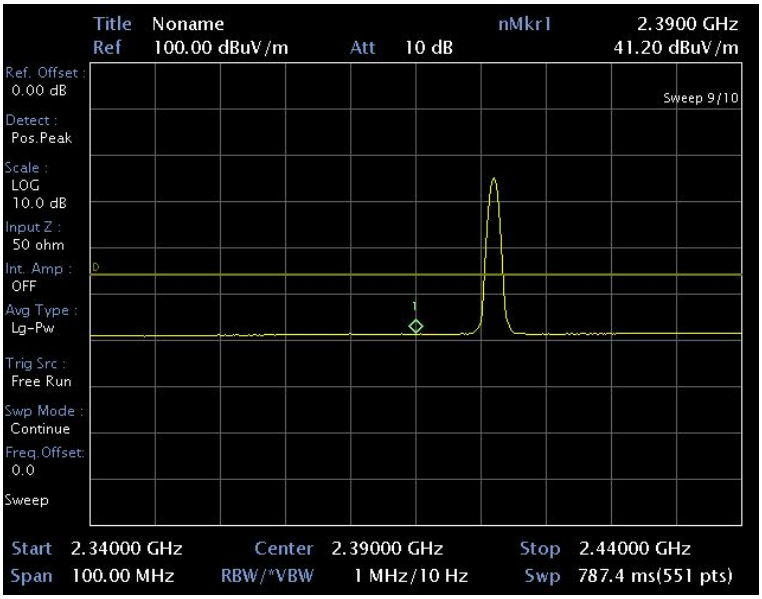
Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to ANSI C63.4:2009 on radiated measurement.

The bandwidth below 1 GHz setting on the field strength meter is 120 kHz, above 1 GHz are 1 MHz.

3.6.5 Band Edge Test Result

Test Item	Band Edge		
Test Mode	GFSK	Test Data Rate	DH1
Test Channel	Channel 00 (2402 MHz)	Test Site	3 m Semi-Anechoic Chamber
Meas.Method	Radiated	Polarization	Horizontal

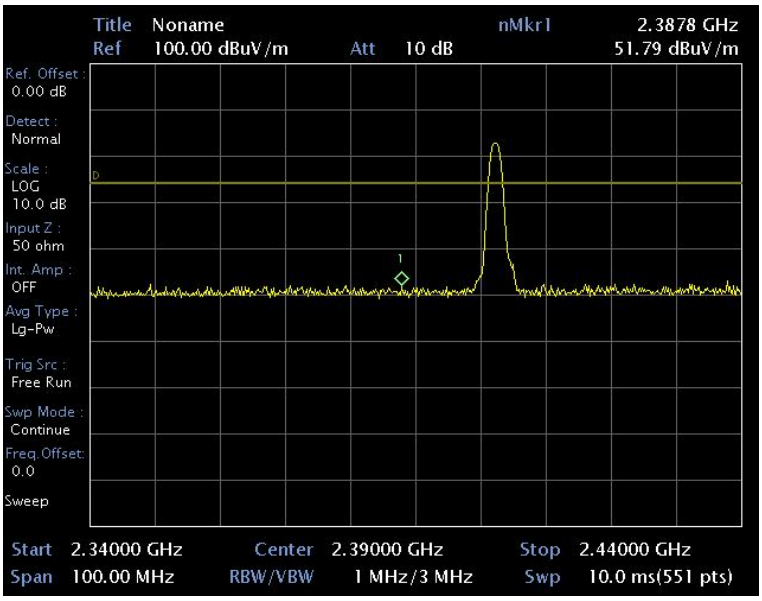


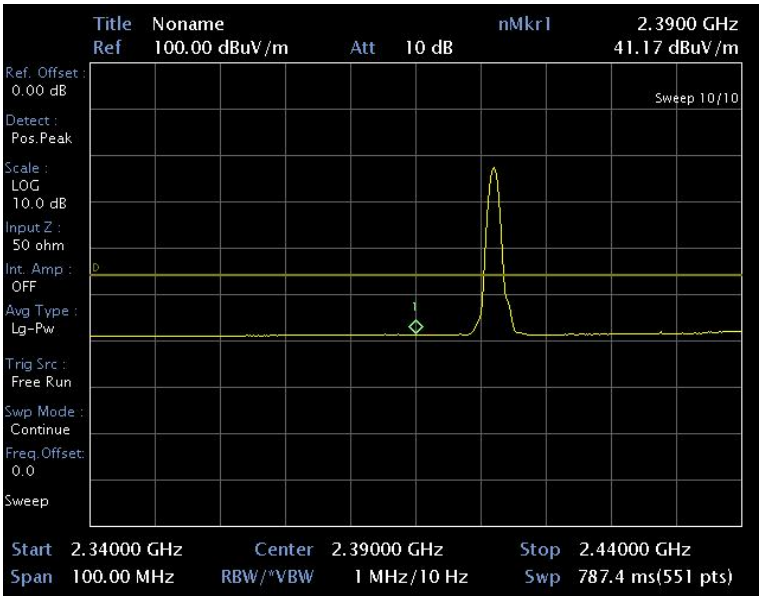


Frequency (MHz)	Detector (Peak/Avg.)	Result Emission (dBuV/m)	Limits (dBuV/m)	Margin (dB)
2389.5	Peak	53.26	74.00	20.74
2390.0	Avg.	41.20	54.00	12.80

- *Note : 1. Result Emission (dBuV/m) = Reading Level (dBuV/m)+Correction Factor (dB)*

Test Item	Band Edge		
Test Mode	GFSK	Test Data Rate	DH1
Test Channel	Channel 00 (2402 MHz)	Test Site	3 m Semi-Anechoic Chamber
Meas.Method	Radiated	Polarization	Vertical

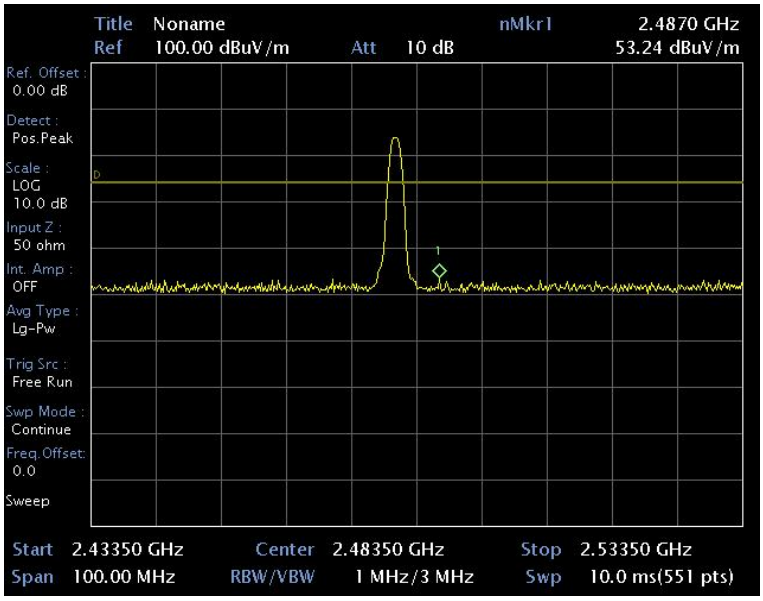


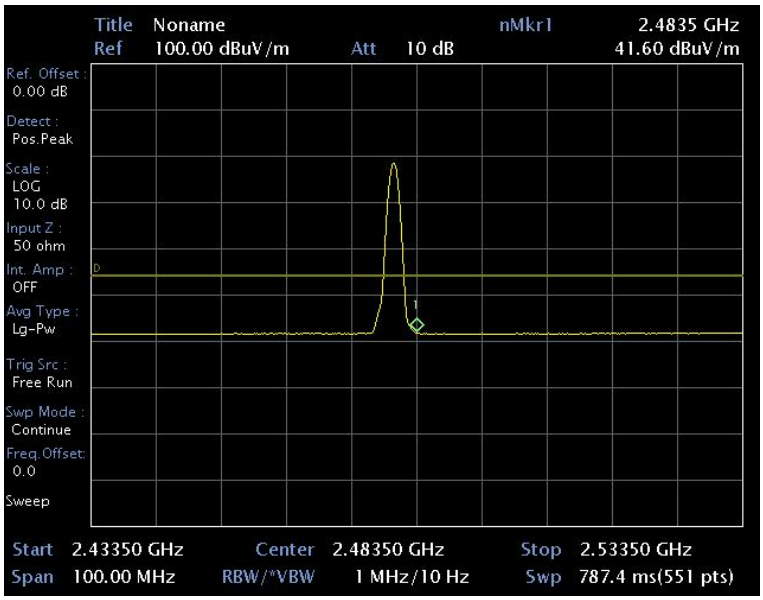


Frequency (MHz)	Detector (Peak/Avg.)	Result Emission (dBuV/m)	Limits (dBuV/m)	Margin (dB)
2387.8	Peak	51.79	74.00	22.21
2390.0	Avg.	41.17	54.00	12.83

- *Note : 1. Result Emission (dBuV/m) = Reading Level (dBuV/m)+Correction Factor (dB)*

Test Item	Band Edge		
Test Mode	GFSK	Test Data Rate	DH1
Test Channel	Channel 78 (2480 MHz)	Test Site	3 m Semi-Anechoic Chamber
Meas.Method	Radiated	Polarization	Horizontal

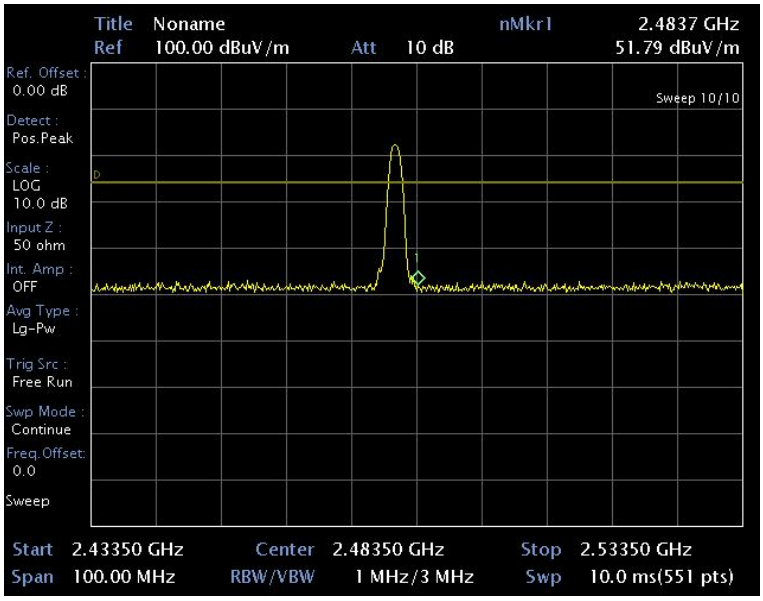


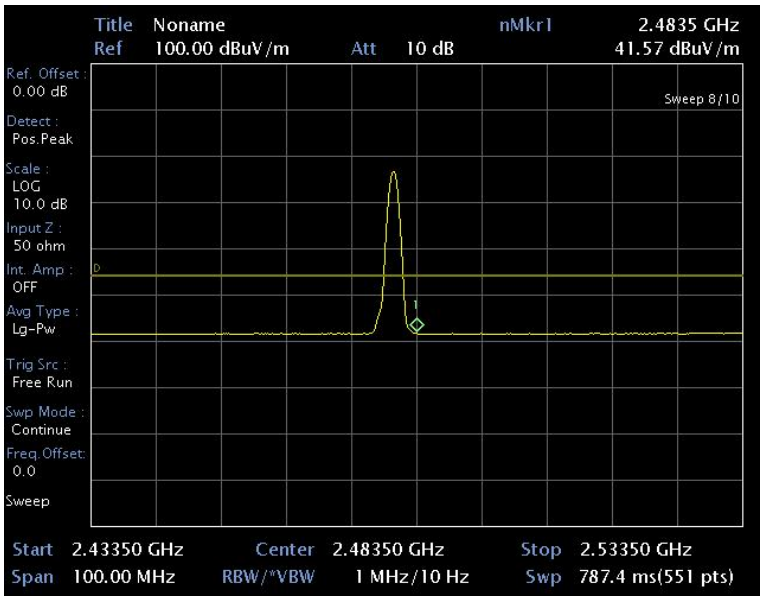


Frequency (MHz)	Detector (Peak/Avg.)	Result Emission (dBuV/m)	Limits (dBuV/m)	Margin (dB)
2487.0	Peak	53.24	74.00	20.76
2483.5	Avg	41.60	54.00	12.40

- *Note : 1. Result Emission (dBuV/m) = Reading Level (dBuV/m)+Correction Factor (dB)*

Test Item	Band Edge		
Test Mode	GFSK	Test Data Rate	DH1
Test Channel	Channel 78 (2480 MHz)	Test Site	3 m Semi-Anechoic Chamber
Meas.Method	Radiated	Polarization	Vertical





Frequency (MHz)	Detector (Peak/Avg.)	Result Emission (dBuV/m)	Limits (dBuV/m)	Margin (dB)
2483.7	Peak	51.79	74.00	22.21
2483.5	Avg	41.57	54.00	12.43

- *Note : 1. Result Emission (dBuV/m) = Reading Level (dBuV/m)+Correction Factor (dB)*

4.0 ANTENNA REQUIREMENT

4.1 Applicable Stamdard

According to § 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

4.2 Applicable Construction

The antenna is located outside the case. however, The antenna uses unique (reverse polarity SMA Connector) coupling.
the Maximum gain of the antennas is 1.0 dBi.

4.3 Test Result

Pass

Appendix A. The Photo of Test Setup

- **Front View of Radiated Emission (9 kHz to 30 MHz)**

- **Rear View of Radiated Emission (9 kHz to 30 MHz)**

- **Front View of Radiated Emission (30 MHz to 1 GHz)**

- **Rear View of Radiated Emission (30 MHz to 1 GHz)**

- **Front View of Radiated Emission (Above 1 GHz : 1 GHz to 18 GHz)**

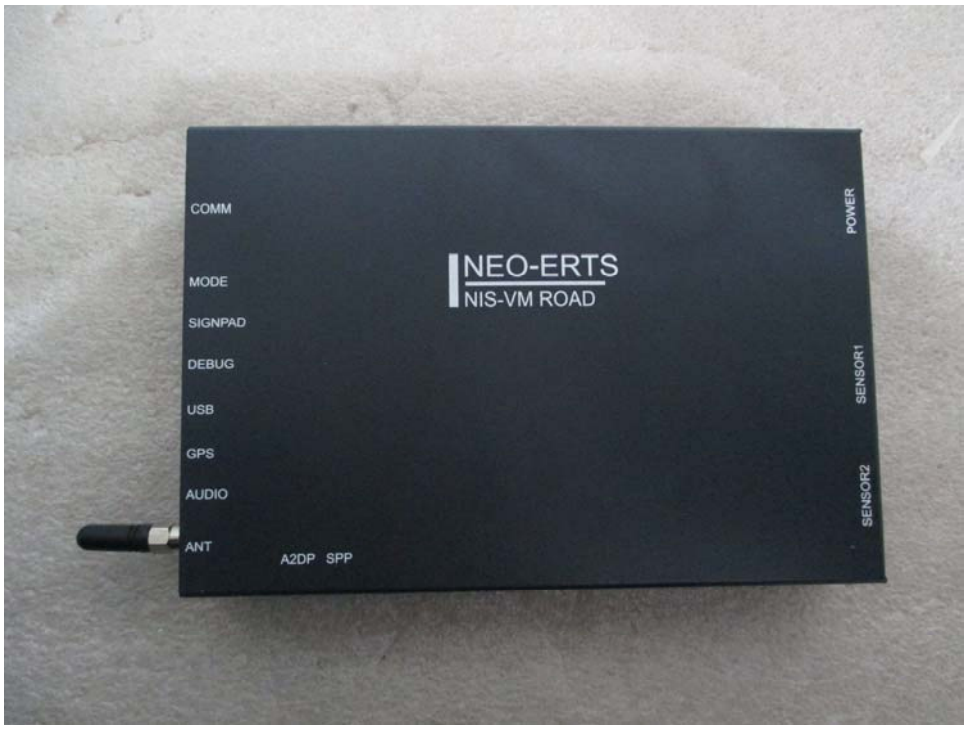
- **Rear View of Radiated Emission (Above 1 GHz : 1 GHz to 18 GHz)**

- **Front View of Radiated Emission (Above 1 GHz : 18 GHz to 26.5 GHz)**

- **Rear View of Radiated Emission (Above 1 GHz : 18 GHz to 26.5 GHz)**

Appendix B. The Photo of Equipment Under Test

- **Front View of EUT**



- **Rear View of EUT**

- **Inner View of EUT**