TESTING
No. L2264

Part 15C

TEST REPORT

Product Name	Smart terminal
Model	BN-HH-G02
Brand Name	Baynexus
FCC ID	2ABHWBN-HH-G02
Client	BayNexus Inc
Manufacturer	GUANGDONG SIMDO TECHNOLOGY Co.,LTD.
Date of issue	February 21, 2014

TA Technology (Shanghai) Co., Ltd.

GENERAL SUMMARY

Reference Standard(s)	**FCC CFR47 Part 15C (2012)** Radio Frequency Devices **15.205** Restricted bands of operation; **15.207** Conducted limits; **15.209** Radiated emission limits; general requirements; **15.247** Operation within the bands 902-928 MHz,2400-2483.5 MHz, and 5725-5850MHz. **ANSI C63.4** Methods of Measurement of Radio-Noise Emission from Low-Voltage Electrical and Electronic Equipment in the Range of 9 KHz to 40GHz. (2009) **DA00-705** Filing and Frequency Measurement Guidelines For Frequency Hopping Spread Spectrum System.(2000)
Conclusion	This portable wireless equipment has been measured in all cases requested by the relevant standards. Test results in Chapter 2 of this test report are below limits specified in the relevant standards. General Judgment: **Pass**
Comment	The test result only responds to the measured sample.

Approved by_____ **Revised by**_____ **Performed by**_____

Director RF Manager RF Engineer

TABLE OF CONTENT

1. General Information

1.1. Notes of the test report

TA Technology (Shanghai) Co., Ltd. has obtained the accreditation of China National Accreditation Service for Conformity Assessment (CNAS), and accreditation number: L2264.

TA Technology (Shanghai) Co., Ltd. has been listed on the US Federal Communications Commission list of test facilities recognized to perform electromagnetic emissions measurements. The site recognition number is 428261.

TA Technology (Shanghai) Co., Ltd. has been listed by industry Canada to perform electromagnetic emission measurement. The site recognition number is 8510A.

TA Technology (Shanghai) Co., Ltd. guarantees the reliability of the data presented in this test report, which is the results of measurements and tests performed for the items under test on the date and under the conditions stated in this test report and is based on the knowledge and technical facilities available at TA Technology (Shanghai) Co., Ltd. at the time of execution of the test.

TA Technology (Shanghai) Co., Ltd. is liable to the client for the maintenance by its personnel of the confidentiality of all information related to the items under test and the results of the test. This report only refers to the item that has undergone the test.

This report alone does not constitute or imply by its own an approval of the product by the certification Bodies or competent Authorities. This report cannot be used partially or in full for publicity and/or promotional purposes without previous written approval of **TA Technology (Shanghai) Co., Ltd.** and the Accreditation Bodies, if it applies.

If the electronic report is inconsistent with the printed one, it should be subject to the latter.

1.2. Testing laboratory

Company:	TA Technology (Shanghai) Co., Ltd.
Address:	No.145, Jintang Rd, Tangzhen Industry Park, Pudong
City:	Shanghai
Post code:	201201
Country:	P. R. China
Contact:	Yang Weizhong
Telephone:	+86-021-50791141/2/3
Fax:	+86-021-50791141/2/3-8000
Website:	http://www.ta-shanghai.com
E-mail:	yangweizhong@ta-shanghai.com

1.3. Applicant Information

Company:	BayNexus Inc
Address:	B307,530 Building TaiHu International Science park Wu XI China

1.4. Manufacturer Information

Company:	GUANGDONG SIMDO TECHNOLOGY Co.,LTD.
Address:	NORTH OF Second FLOOR, 29 BLDG,THE SECOND INDUSTRIAL BLOCK,MA AN SHAN,SHAJING STREET,BAOAN DISTHCT SHENZHEN P.R,CHINA

1.5. Information of EUT

General information

Name of EUT:	Smart terminal
IMEI:	867572010430023
Hardware Version:	900C0000000004
Software Version:	V3.0
Antenna Type:	Internal Antenna
Device Operating Configurations:	
Modulation Type:	Frequency Hopping Spread Spectrum (FHSS)
	GFSK
Max. Conducted Power	20.61dBm
Power Supply:	Battery or Adapter
Operating Frequency Range(s)	902-928MHz

Auxiliary equipment details

AE1: Battery

Model:	bl-10c
Manufacturer:	BayNexus Inc
S/N:	/

Equipment Under Test (EUT) is Smart terminal with internal antenna. The EUT supports RFID(902-928MHz).

The sample under test was selected by the Client.

Components list please refer to documents of the manufacturer.

1.6. Test Date

The test is performed on December 16, 2013.

2. Test Information

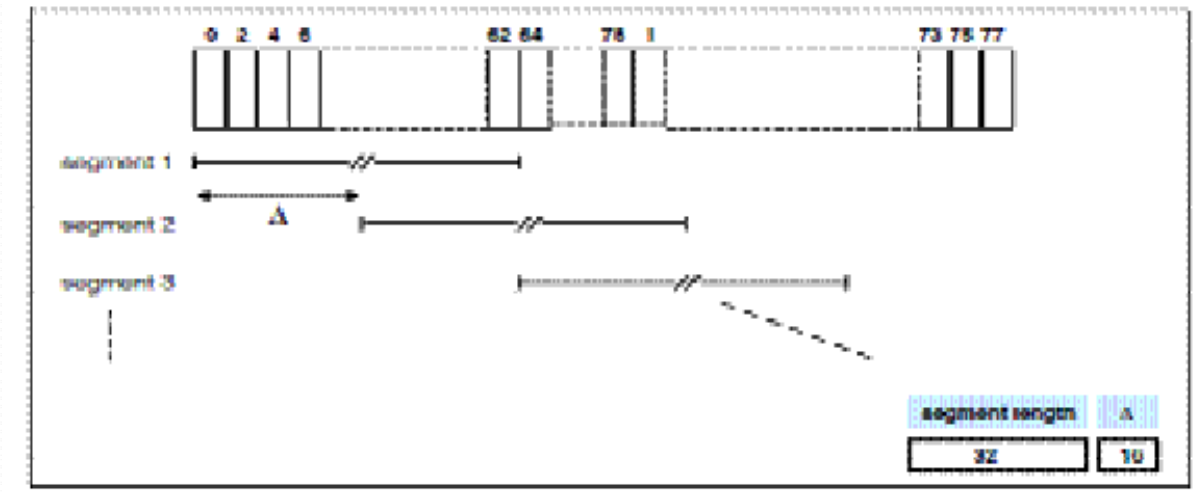
2.1. Information about the FHSS characteristics

2.1.1. Pseudorandom Frequency Hopping Sequence

Frequency Hopping Systems. A spread spectrum system in which the carrier is modulated with the coded information in a conventional manner causing a conventional spreading of the RF energy about the frequency carrier. The frequency of the carrier is not fixed but changes at fixed intervals under the direction of a coded sequence. The wide RF bandwidth needed by such a system is not required by spreading of the RF energy about the carrier but rather to accommodate the range of frequencies to which the carrier frequency can hop. The test of a frequency hopping system is that the near term distribution of hops appears random, the long term distribution appears evenly distributed over the hop set, and sequential hops are randomly distributed in both direction and magnitude of change in the hop set.

The selection scheme chooses a segment of 32 hop frequencies spanning about 64 MHz and visits these hops in a pseudo-random order. Next, a different 32-hop segment is chosen, etc. In the page, master page response, slave page response, page scan, inquiry, inquiry response and inquiry scan hopping sequences, the same 32-hop segment is used all the time (the segment is selected by the address; different devices will have different paging segments).

When the basic channel hopping sequence is selected, the output constitutes a pseudo-random sequence that slides through the 79 hops. The principle is depicted in the figure below.



Hop selection scheme in CONNECTION state.

Pseudorandom Frequency Hopping Sequence Table as below:

Channel: 08, 24, 40, 56, 40, 56, 72, 09, 01, 09, 33, 41, 33, 41, 65, 73, 53, 69, 06, 22, 04, 20, 36, 52, 38, 46, 70, 78, 68, 76, 21, 29, 10, 26, 42, 58, 44, 60, 76, 13, 03, 11, 35, 43, 37, 45, 69, 77, 55, 71, 08, 24, 08, 24, 40, 56, 40, 48, 72, 01, 72, 01, 25, 33, 12, 28, 44, 60, 42, 58, 74, 11, 05, 13, 37, 45, etc.

Each frequency used equally on the average by each transmitter.

The system receiver have input bandwidths that match the hopping channel bandwidths of their corresponding transmitters and shift frequencies in synchronization with the transmitted signals.

2.1.2. Equal Hopping Frequency Use

All Bluetooth units participating in the Pico net are time and hop-synchronized to the channel. Each new transmission event begins on the next channel in the hopping sequence after the final channel used in the previous transmission event.

2.1.3. System Receiver Input Bandwidth

Each channel bandwidth is 1MHz. The system receivers have input bandwidths that match the hopping channel bandwidths of their corresponding transmitters and shift frequencies in synchronization with the transmitted signals.

2.2. Test Mode

During the process of the testing, The EUT is controlled by the Base Station Simulator to ensure max power transmission and proper modulation.

EUT is stand-up position (Z axis), lie-down position (X, Y axis). The worst emission was found in stand-up position (Z axis) and the worst case was recorded. Then this mode was measured in the following mode: EUT with cradle and EUT without cradle. The worst emission was found in EUT with cradle mode and the worst case was recorded.

Test Modes		
Band	Radiated Test Cases	Conducted Test Cases
RFID(902-928MHz)	GFSK(Channel 1/26/52)	GFSK(Channel 1/26/52)

2.3. Summary of test results

Number	Summary of measurements of results	Clause in FCC rules	Verdict
1	Peak Power Output -Conducted	15.247(b)(3)	PASS
2	Occupied Bandwidth (20dB)	15.247(a)(1)	PASS
3	Frequency Separation	15.247(a)(1)	PASS
4	Time of Occupancy (Dwell Time)	15.247(a)(1)(iii)	PASS
5	Band Edge Compliance	15.247(d)	PASS
6	Spurious Radiated Emissions in the restricted band	15.247(d),15.205,15.209	PASS
7	Number of Hopping Frequency	15.247(a)(1)(iii)	PASS
8	Spurious RF Conducted Emissions	15.247(d)	PASS
9	Radiates Emission	15.247(d),15.205,15.209	PASS

10	AC Power Line Conducted Emission	15.207	PASS

2.4. Peak Power Output –Conducted

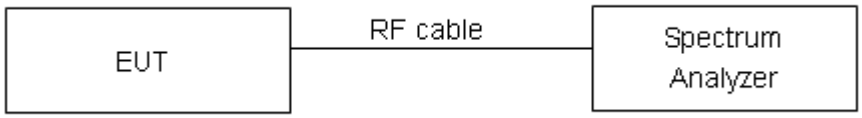
Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Methods of Measurement

During the process of the testing, The EUT was connected to the Spectrum Analyzer through an external attenuator and a known loss cable. The EUT is max power transmission with proper modulation. We use DA00-705 for this test.
These measurements have been tested at following channels: 1, 26, and 52.

Test Setup



Limits

Rule Part 15.247 (b) (3) specifies that " For systems using digital modulation in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands: 1 Watt."

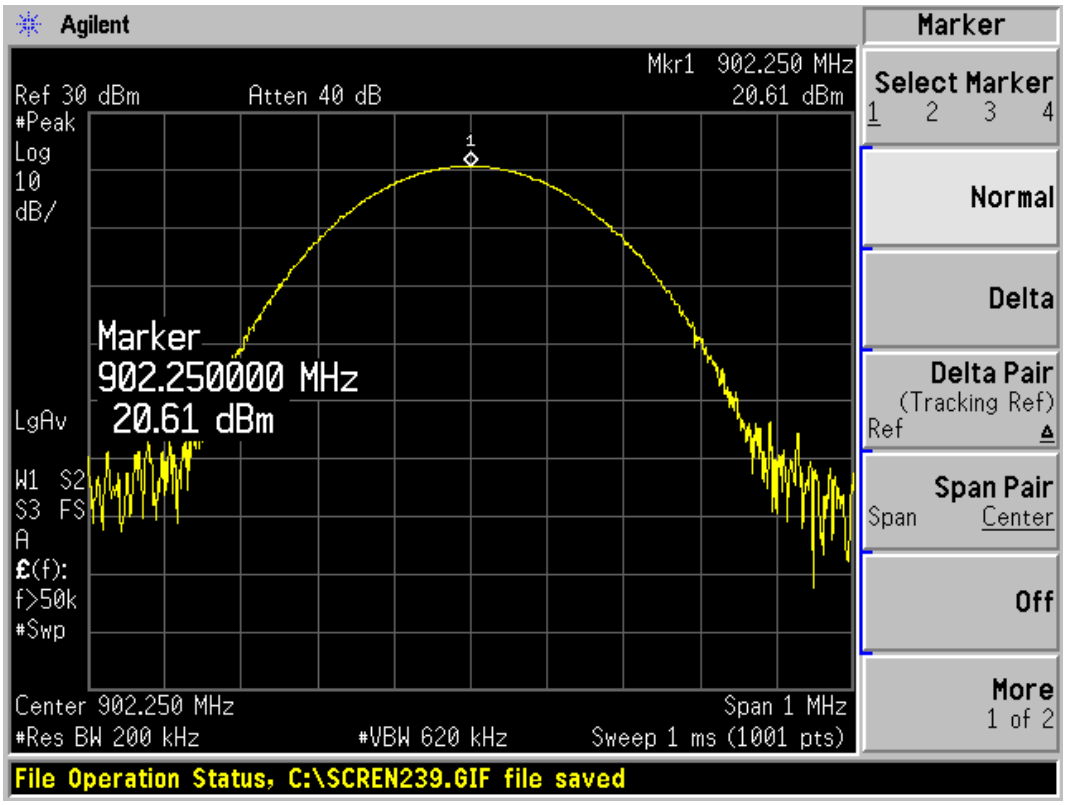
Peak Output Power	≤ 1W (30dBm)

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor k = 2, U= 0.44 dB.

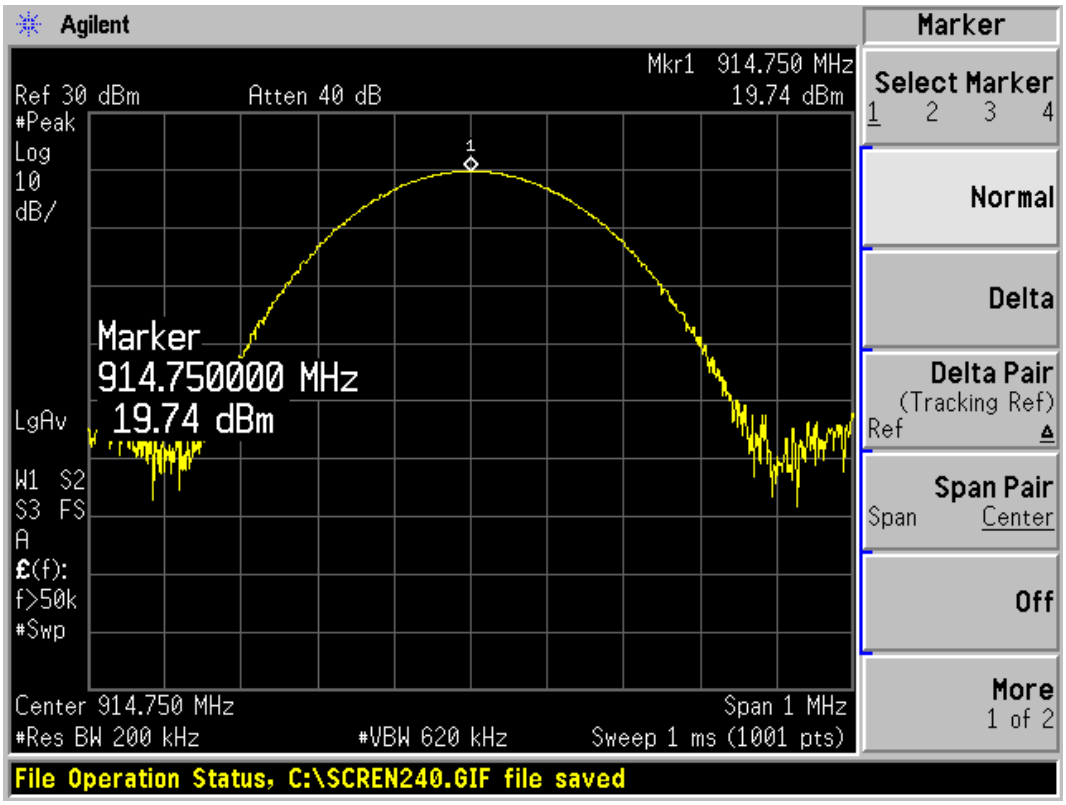
Test Results

Channel	Frequency (MHz)	Peak Output Power (dBm)	Conclusion
1	902.25	20.61	PASS
26	914.75	19.74	PASS
52	927.75	19.62	PASS



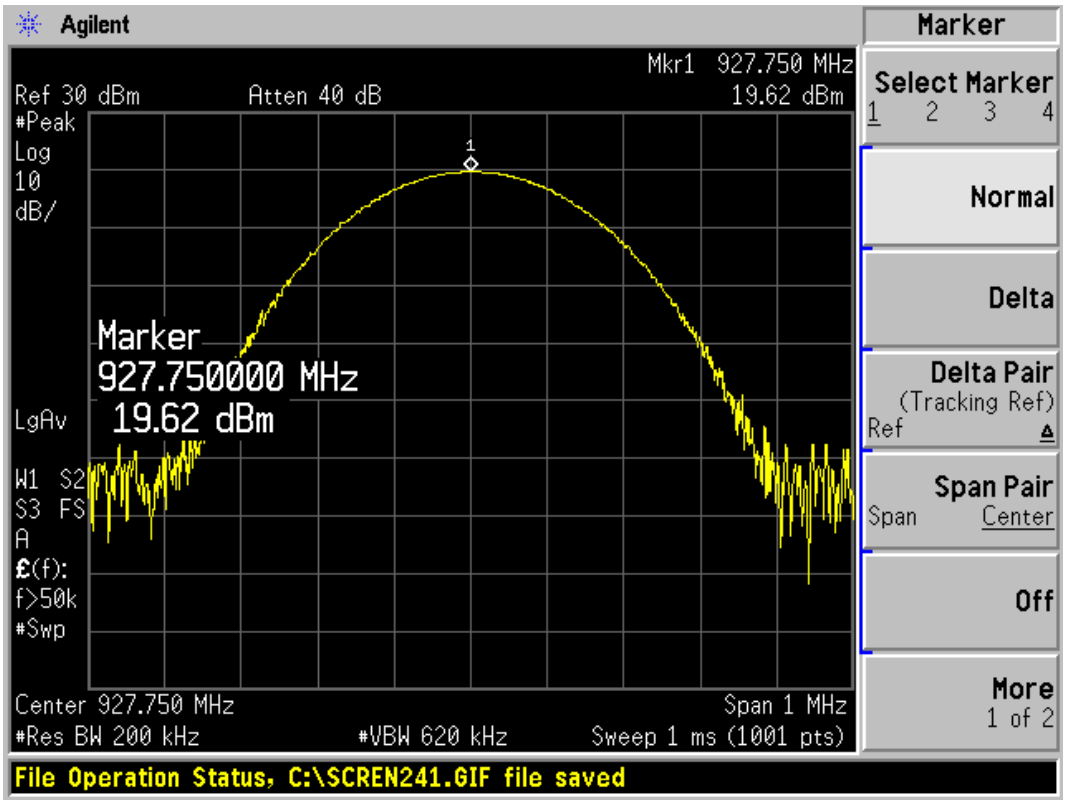
Carrier frequency (MHz): 902.25

Channel No.:1



Carrier frequency (MHz): 914.75

Channel No.:26



Carrier frequency (MHz): 927.75

Channel No.:52

2.5. Occupied Bandwidth (20dB)

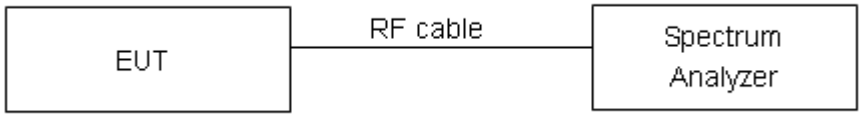
Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Method of Measurement

The EUT was connected to the spectrum analyzer through an external attenuator (20dB) and a known loss cable. RBW is set to 2 kHz; VBW is set to 6.2 kHz on spectrum analyzer. -20dB occupied bandwidths are recorded.

Test Setup



Limits

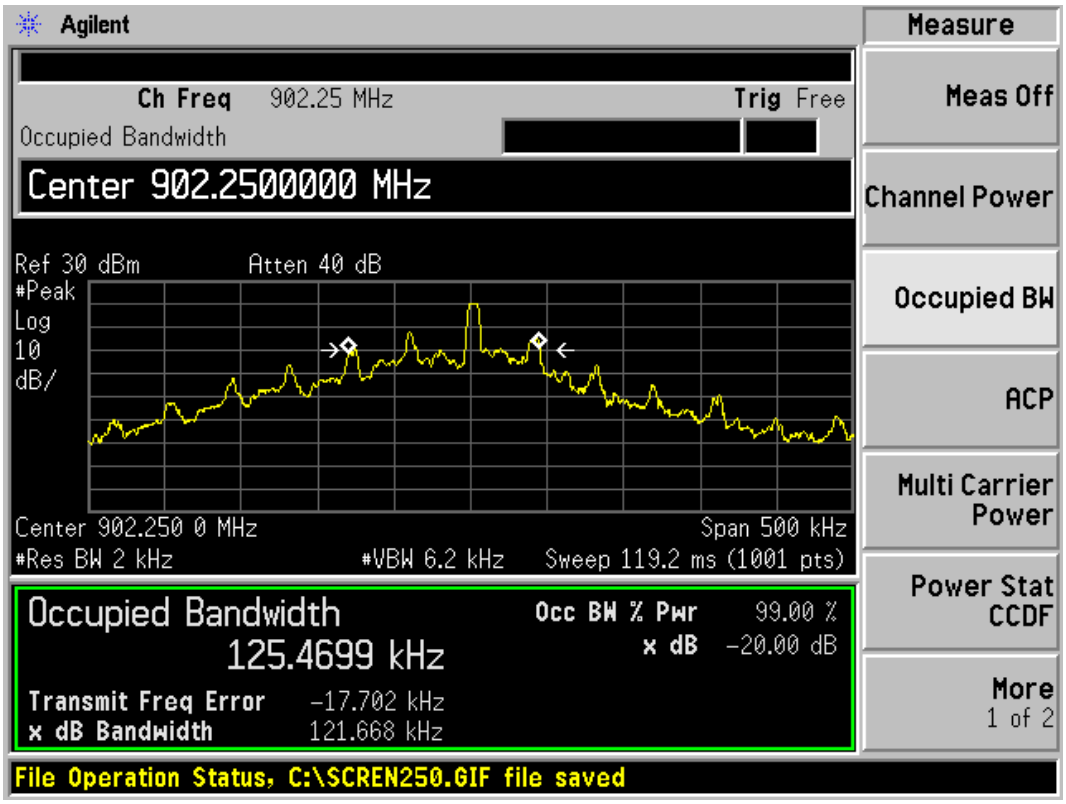
Rule Part 15.247(a)(1)specifies that “For frequency hopping systems operating in the 902-928 MHz band, the maximum allowed 20 dB bandwidth of the hopping channel is 500 kHz. “

Measurement Uncertainty

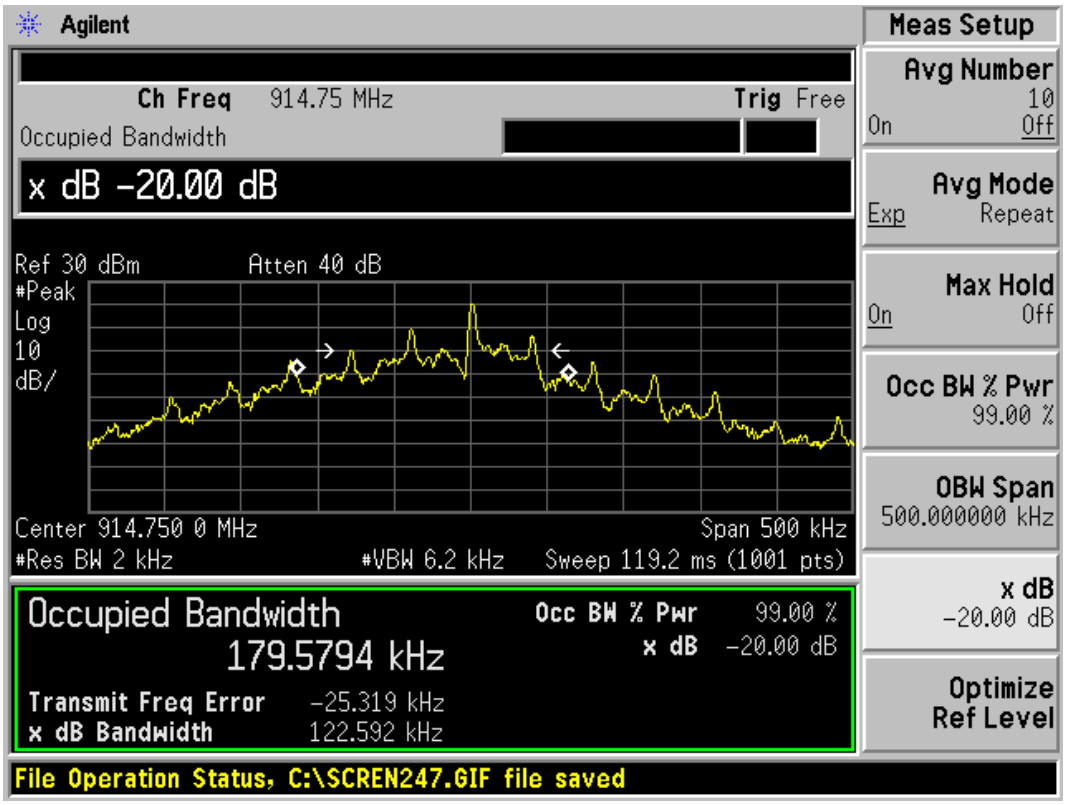
The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor k = 2, U= 936 Hz.

Test Results

Channel	Frequency (MHz)	20dB Bandwidth (kHz)
1	902.25	121.668
26	914.75	122.592
52	927.75	123.213

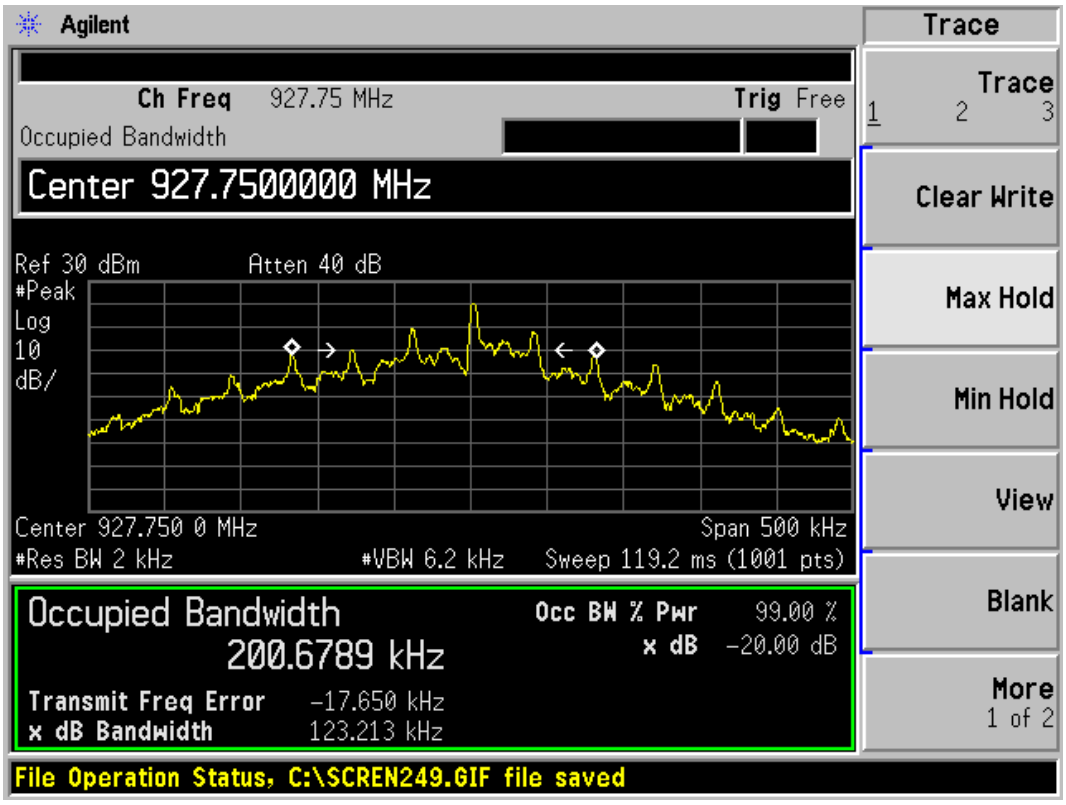


Carrier frequency (MHz): 902.25
Channel No.:1



Carrier frequency (MHz): 914.75

Channel No.:26



Carrier frequency (MHz): 927.75

Channel No.:52

2.6. Frequency Separation

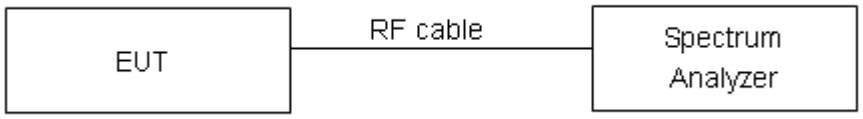
Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Method of Measurement

The EUT was connected to the spectrum analyzer with a known loss. RBW is set to 150 kHz and VBW is set to 300 kHz on spectrum analyzer. Set EUT on Hopping on mode.

Test setup



Limits

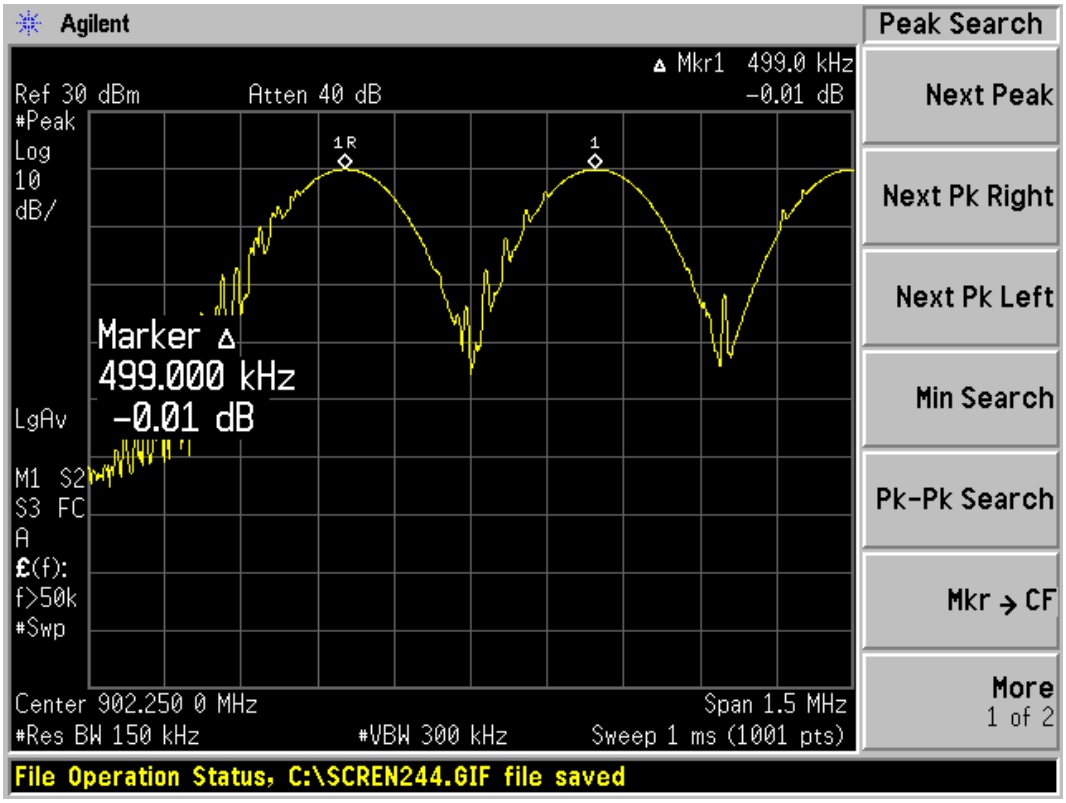
Rule Part 15.247(a)(1)specifies that “Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel. whichever is greater. “

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor k = 2, U= 936 Hz.

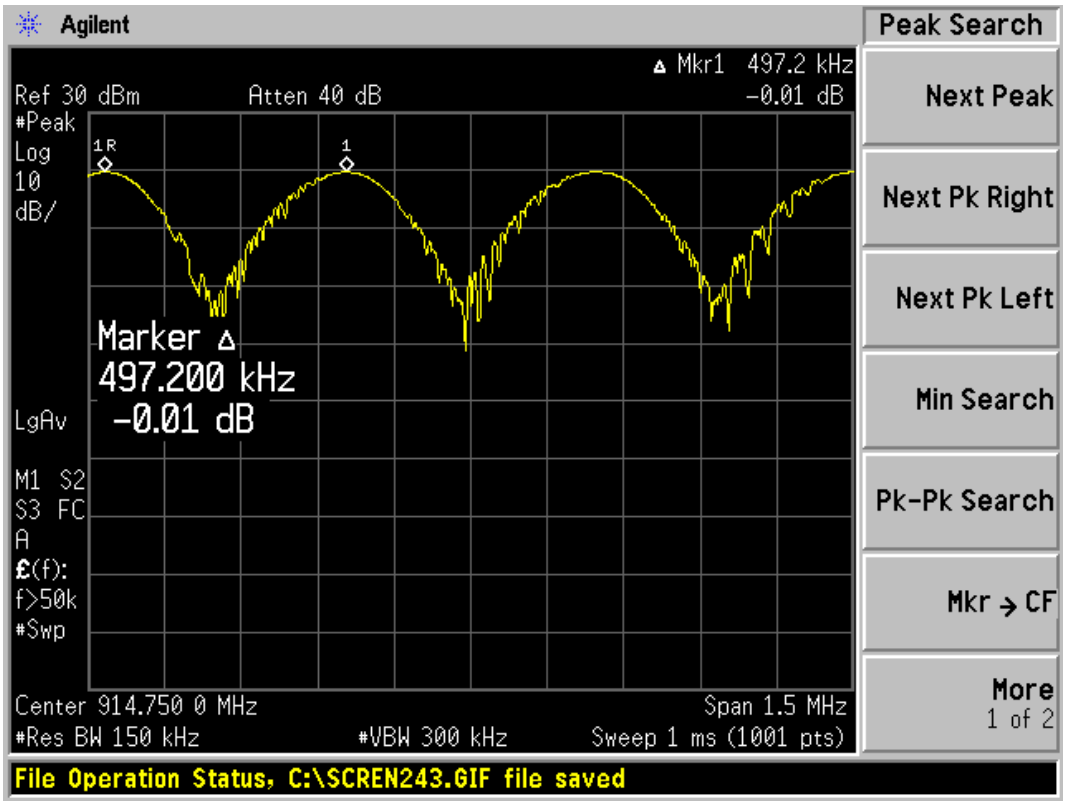
Test Results:

Carrier frequency (MHz)	Carrier frequency separation(kHz)	Limit(kHz)	Conclusion
902.25	499.0	121.668	PASS
914.75	797.2	122.592	PASS
927.75	519.0	123.213	PASS

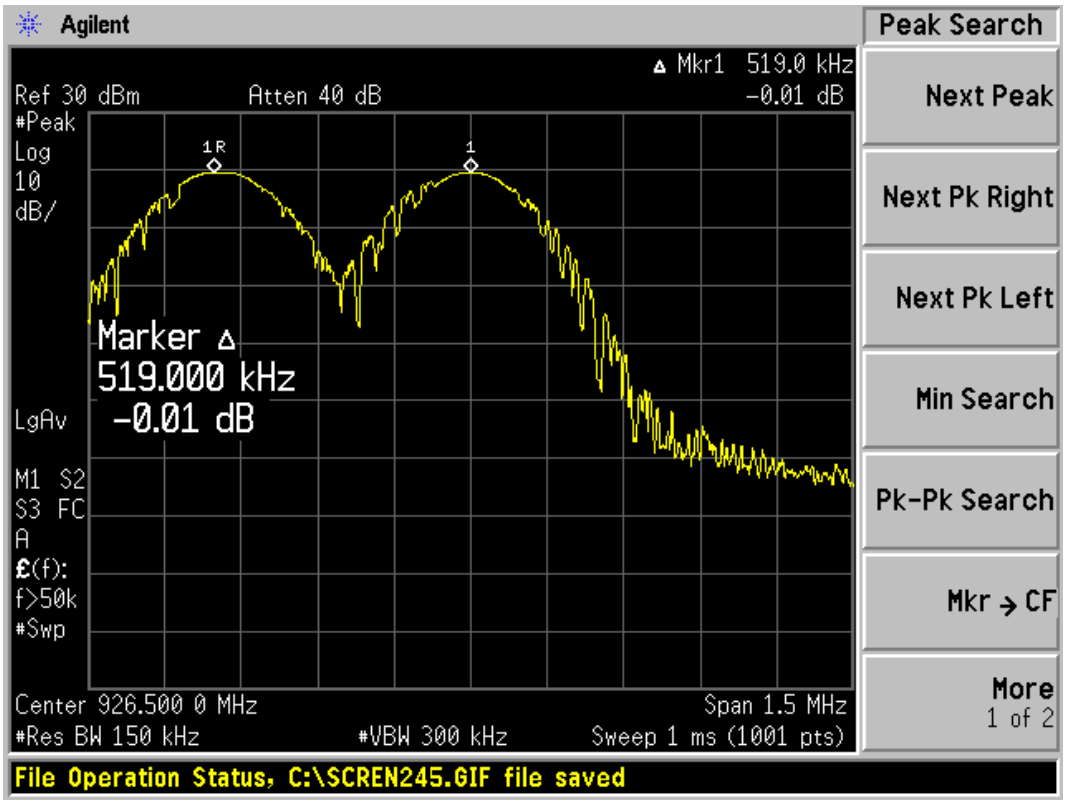


Carrier frequency (MHz): 902.25

Channel No.:1



Carrier frequency (MHz): 914.75
Channel No.:26



Carrier frequency (MHz): 927.75
Channel No.:52

2.7. Time of Occupancy (Dwell Time)

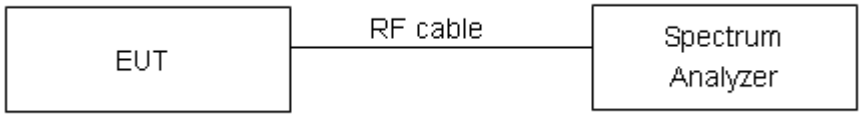
Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Methods of Measurement

The EUT was connected to the spectrum analyzer with a known loss. RBW is set to 10 kHz and VBW is set to 100 kHz on spectrum analyzer .The dwell time is calculated by:
Dwell time = time slot length * hop rate * 0.4s with:

Test Setup



Limits

Rule Part 15.247(a)(1)(i) specifies that " frequency hopping systems operating in the 902-928 MHz band: if the 20 dB bandwidth of the hopping channel is less than 250 kHz, the system shall use at least 50 hopping frequencies and the average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 20 second period."

Dwell time	≤ 400ms

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor *k* = 2.

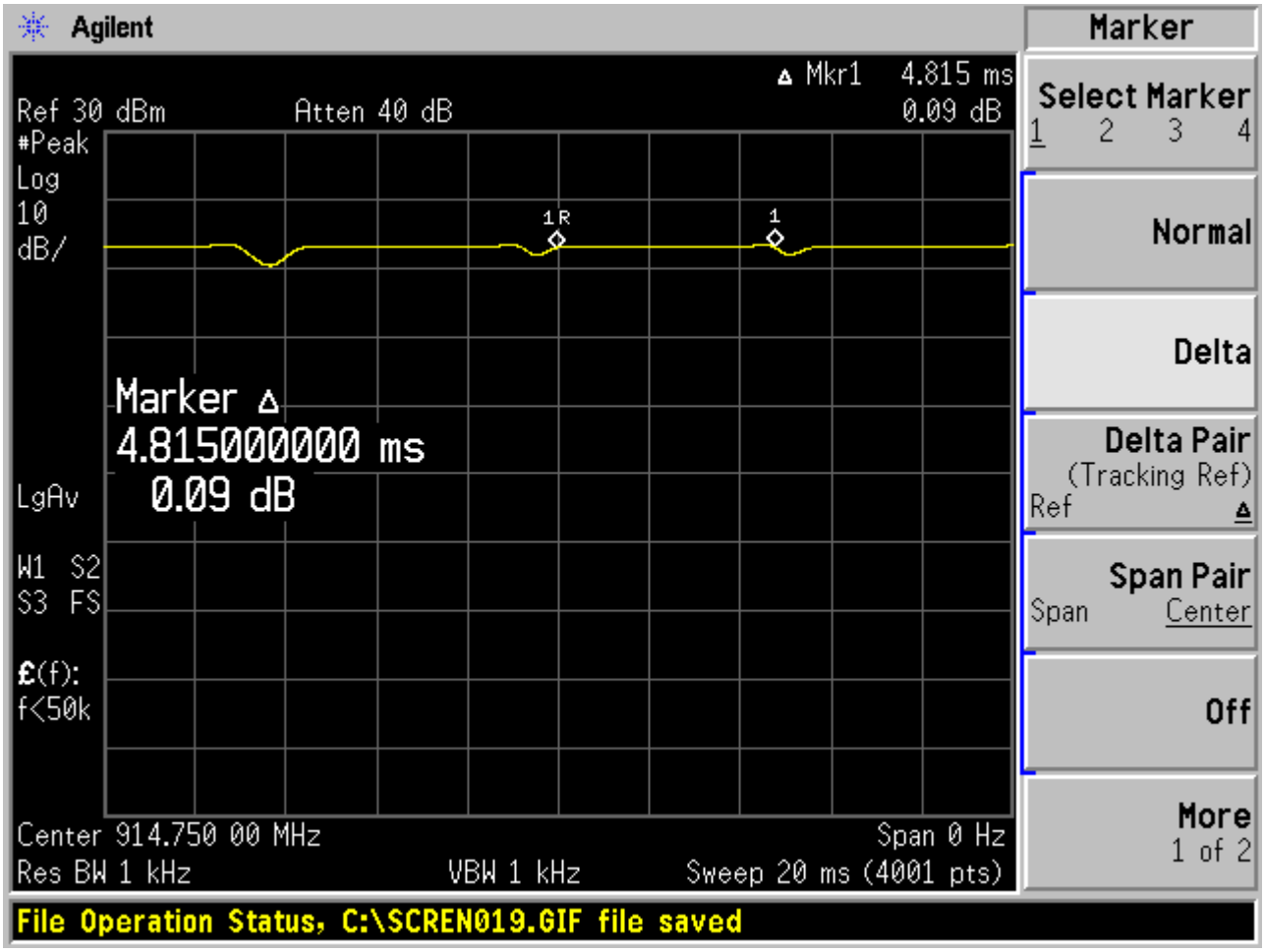
Requirements	Uncertainty
Dwell Time	*U*= 0.64ms

Test Results:

CH 26

Channel	hop rate (1/s)	Time slot length(ms)	Dwell time (ms)	Limit (ms)	Conclusion
26	159	4.815	306.234	400	PASS

Note: Dwell time = time slot length * hop rate * 0.4s



Carrier frequency (MHz): 914.75, CH26

2.8. Band Edge Compliance

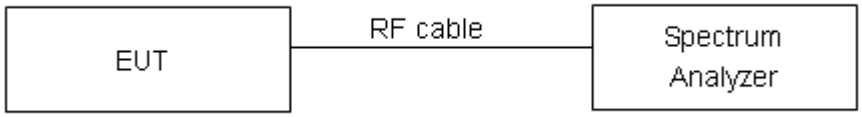
Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Method of Measurement

The EUT was connected to the spectrum analyzer with a known loss. The lowest and highest channels were measured. The peak detector is used. RBW is set to 150 kHz and VBW is set to 430 kHz on spectrum analyzer. EUT test for Hopping Off mode.

Test Setup



Limits

Rule Part 15.247(d) specifies that “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.”

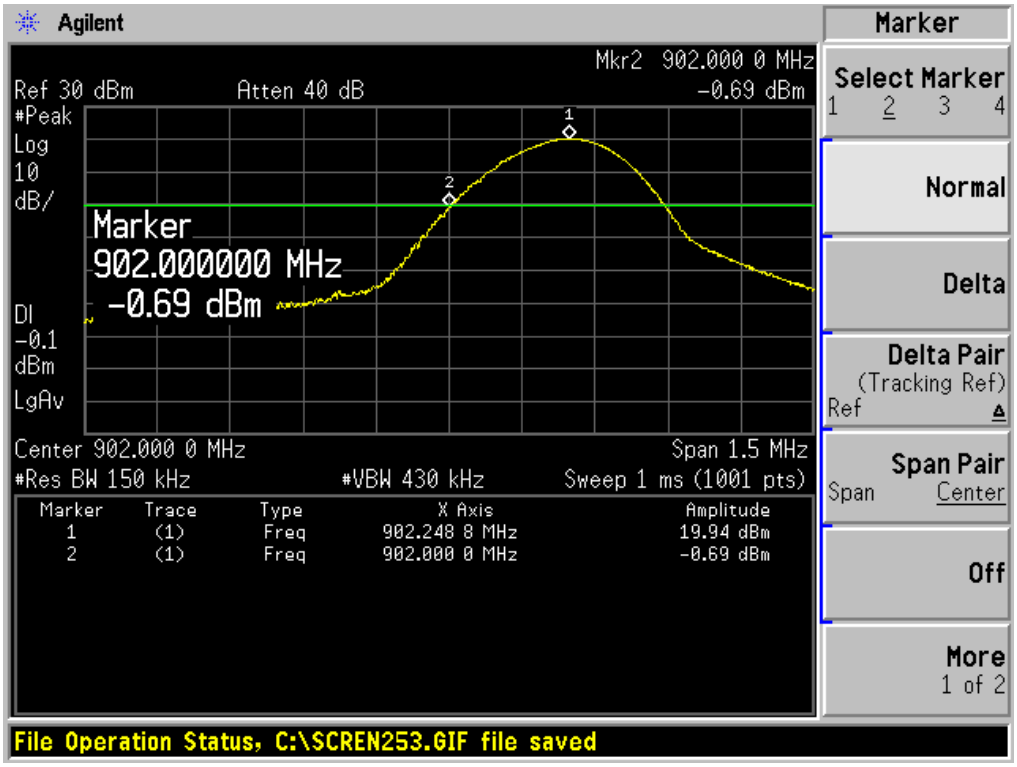
Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor k = 1.96.

Frequency	Uncertainty
902 MHz - 928 MHz	1.407 dB

Test Results: PASS

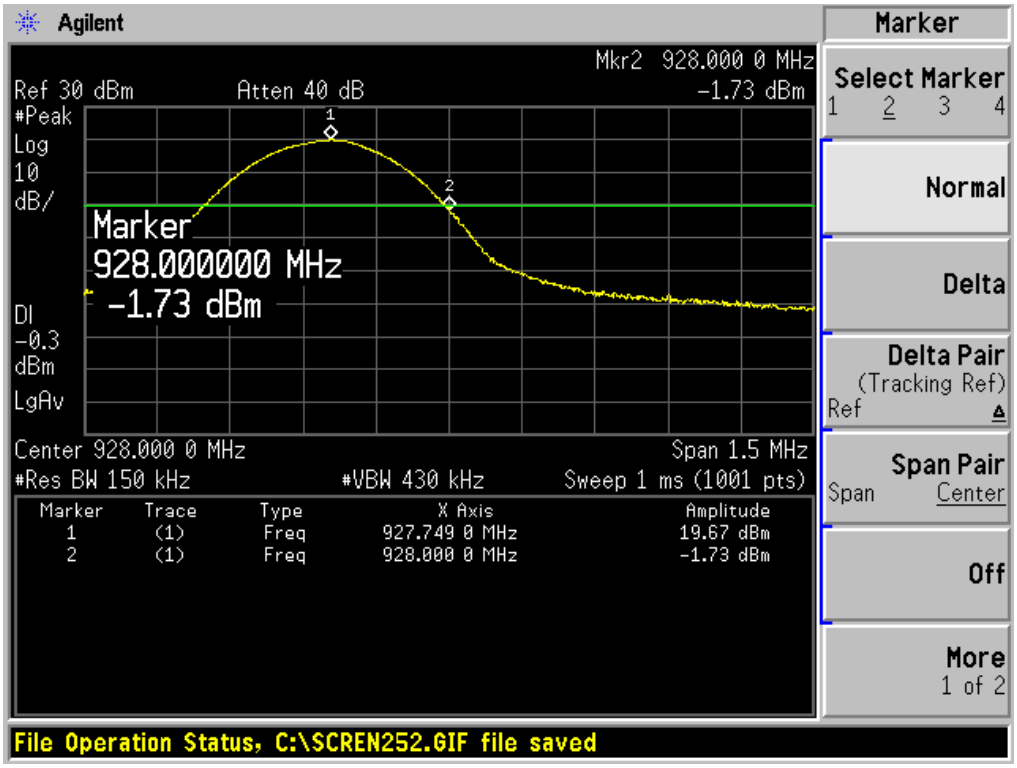
Hopping off-CH1



Carrier frequency (MHz): 902.25

Channel No.:1

Hopping Off-CH52



Carrier frequency (MHz): 927.75

Channel No.:52

2.9. Spurious Radiated Emissions in the Restricted Band

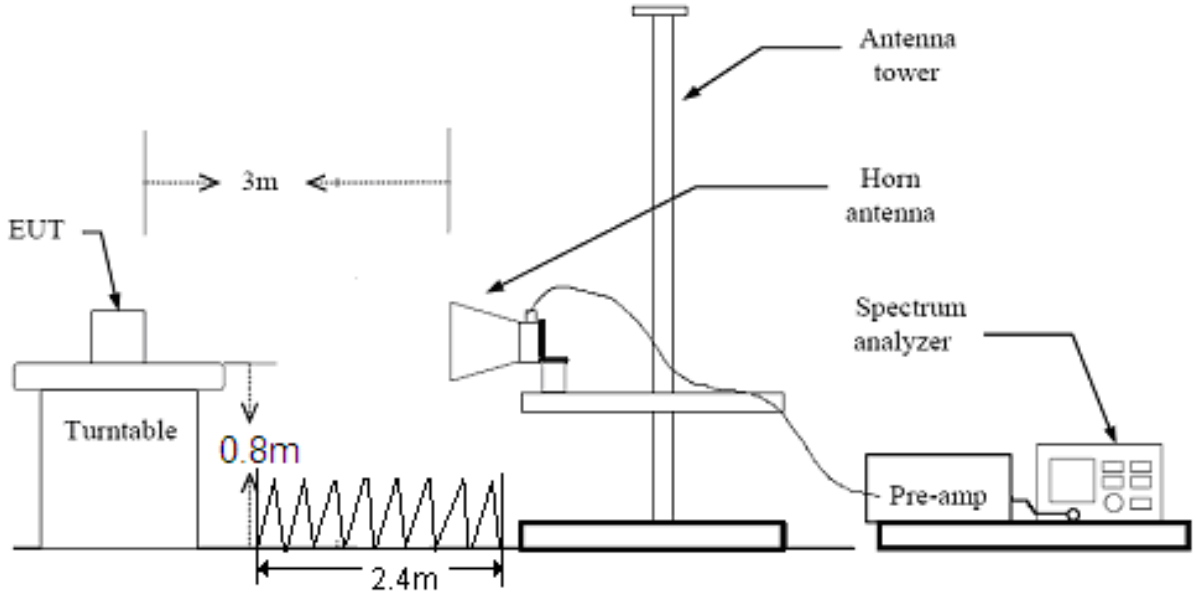
Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

The Equipment Under Test (EUT) was set up on a non-conductive table in the semi-anechoic chamber. The test was performed at the distance of 3 m between the EUT and the receiving antenna. The turntable shall be rotated from 0 to 360 degrees for detecting the maximum of radiated spurious signal level. The measurements shall be repeated with orthogonal polarization of the test antenna. The data of cable loss and antenna factor has been calibrated in full testing frequency range before the testing.
Set the spectrum analyzer in the following:
(a) PEAK: RBW=VBW=1MHz / Sweep=AUTO
(b) The dwell time per channel of the hopping signal is less than 100 ms, then the reading obtained with the 10 Hz VBW may be further adjusted by a “duty cycle correction factor”, derived from 20log(dwell time/100 ms), in an effort to demonstrate compliance with the 15.209 limit.
If the emission is pulsed, modify the unit for continuous operation; use the settings shown above, then correct the reading by subtracting the peak- average correction factor, derived form the appropriate duty cycle calculation.
This setting method can refer to DA00-705.
The data should not be further adjusted by a “duty cycle correction factor”， because The dwell time per channel of the hopping signal is more than 100 ms.

The test is in transmitting mode. The field strength of spurious emission was measured in the following position: EUT stand-up position (Z axis), lie-down position (X, Y axis) and docking mode. The worst emission was found in stand-up position (Y axis) and the worst case was recorded.

Test setup



Note: Area side:2.4mX3.6m

Limits

Spurious Radiated Emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
[1]0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.52525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2690 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	([2])
13.36 - 13.41			

Limit in restricted band

Frequency of emission (MHz)	Field strength(uV/m)	Field strength(dBuV/m)
30-88	100	40
88-216	150	43.5
216-960	200	46
Above960	500	54

§15.35(b)

There is also a limit on the radio frequency emissions, as measured using instrumentation with a peak detector function, corresponding to 20 dB above the maximum permitted average limit.

Peak Limit=74 dBuV/m

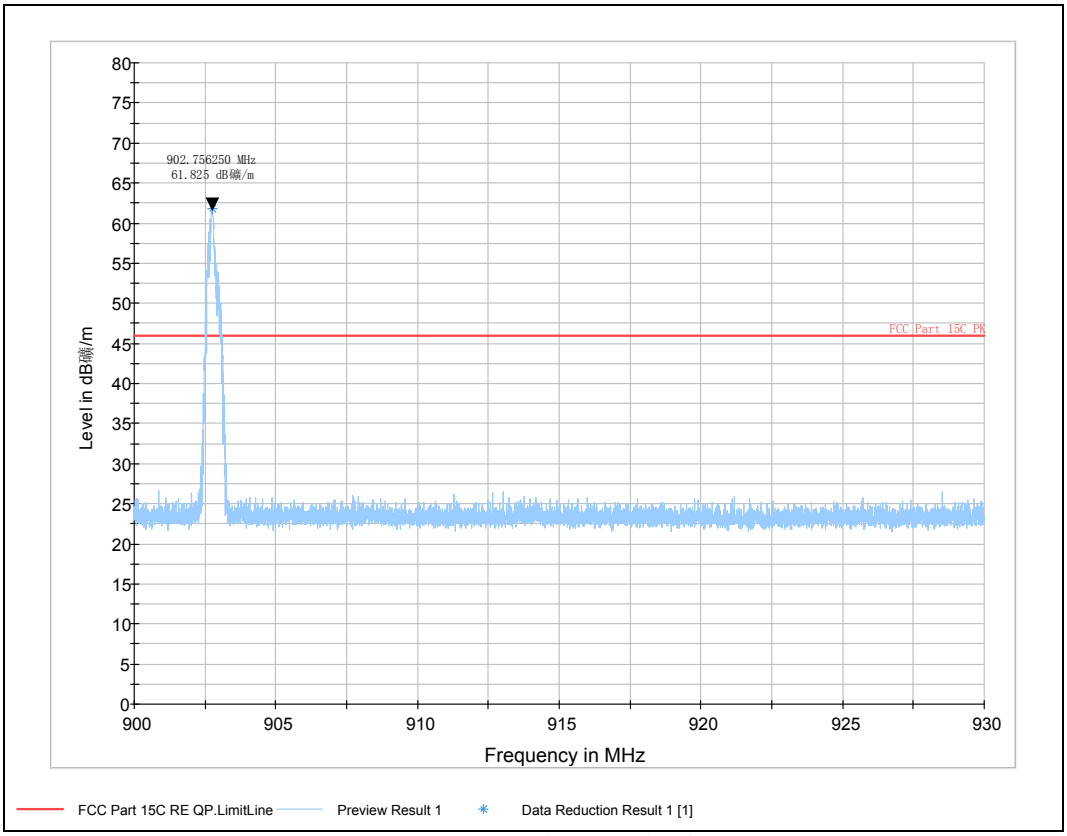
Average Limit=54 dBuV/m

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor k = 1.96, U= 3.55 dB.

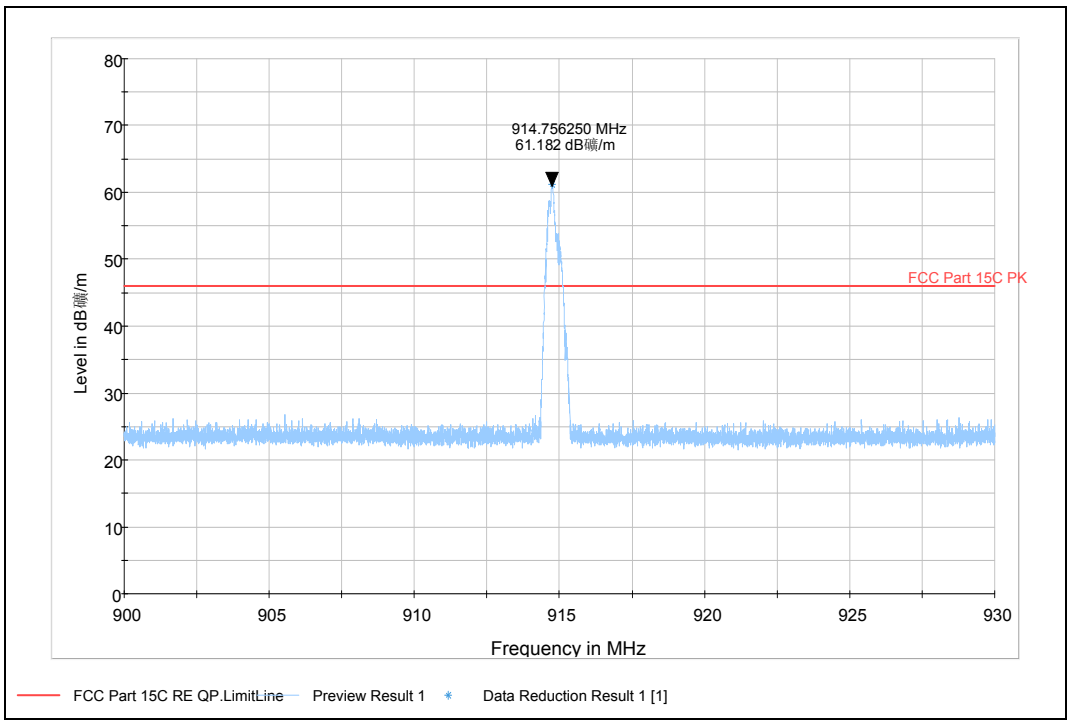
Test Results:

Channel 1



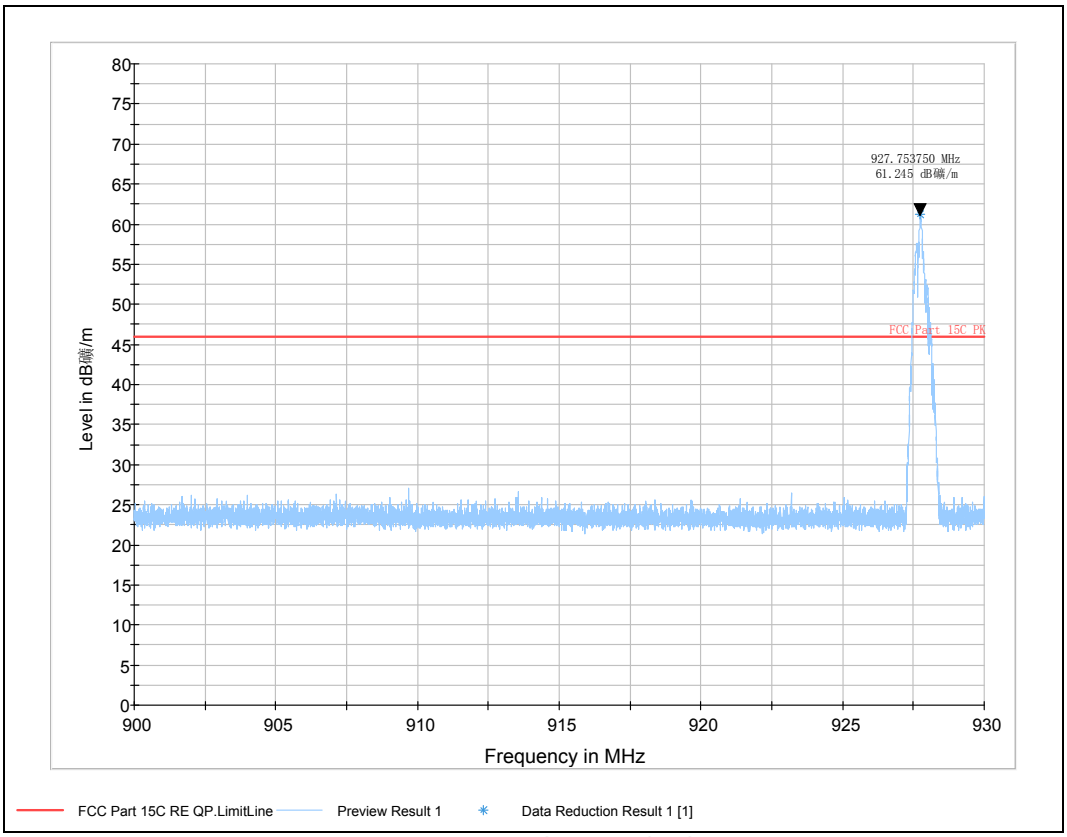
Note: The signal beyond the limit is carrier, a font (Level in dBµV/m) in the test plot =(level in dBuV/m)

Channel 26



Note: The signal beyond the limit is carrier, a font (Level in dBµV/m) in the test plot =(level in dBuV/m)

Channel 52



Note: The signal beyond the limit is carrier, a font (Level in dBµV/m) in the test plot =(level in dBuV/m)

2.10. Number of hopping Frequency

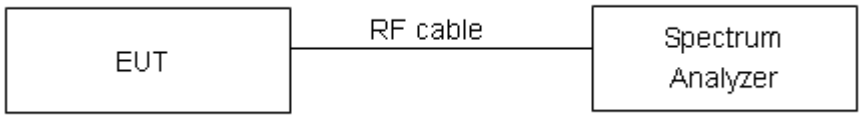
Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Method of Measurement

The EUT was connected to the spectrum analyzer with a known loss. RBW is set to 510 kHz and VBW is set to 620 kHz on spectrum analyzer. Set EUT on Hopping on mode.

Test setup



Limits

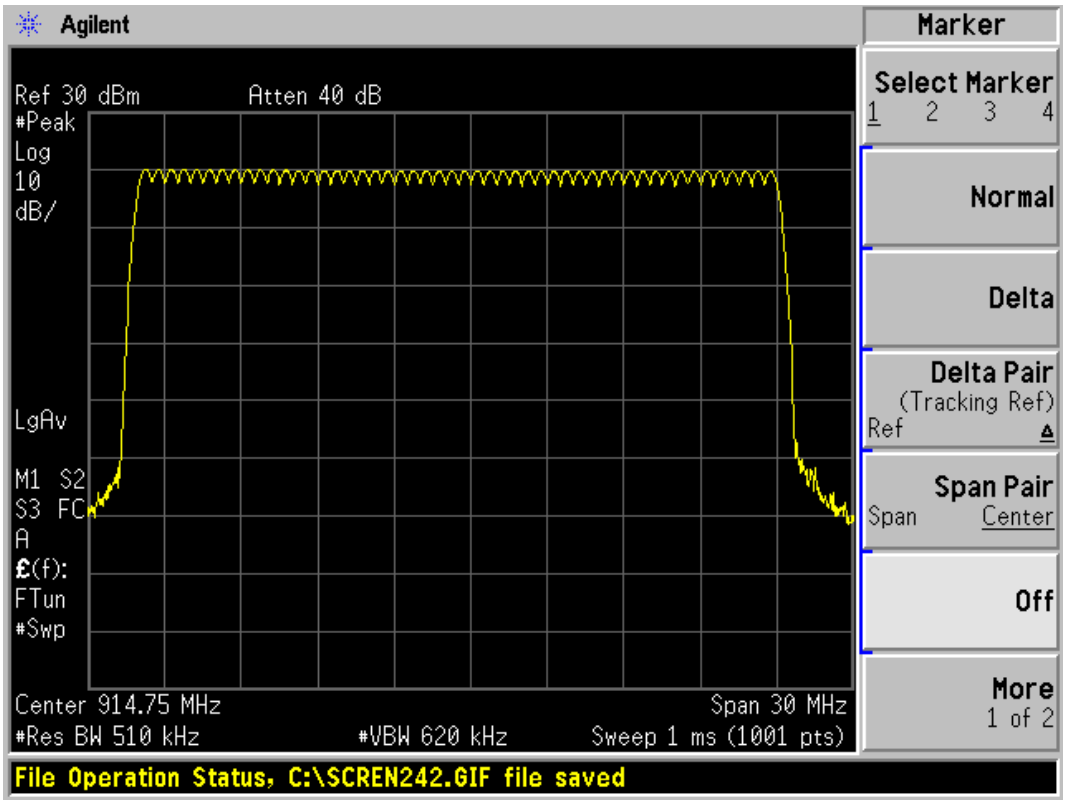
Rule Part 15.247(a) (1) (iii) specifies that" Frequency hopping systems in the 902–928 MHz band shall use at least 50 channels..".

Limits	⩾ 50 channels

Test Results:

DH5

Number of hopping channels	conclusion
50	PASS



902 MHz –928 MHz

2.11. Spurious RF Conducted Emissions

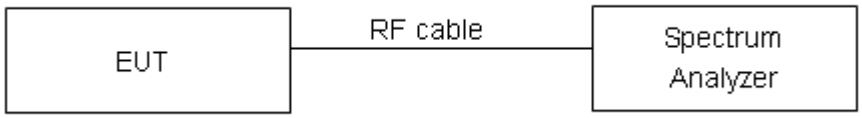
Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Method of Measurement

The EUT was connected to the spectrum analyzer and Bluetooth test set via a power splitter with a known loss. The spectrum analyzer scans from 30MHz to the 10th harmonic of the carrier. The peak detector is used. RBW and VBW are set to 100 kHz, Sweep is set to ATUO.
The test is in transmitting mode.

Test setup



Limits

Rule Part 15.247(d) pacifies that “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.”

Mode	Carrier frequency (MHz)	Reference value (dBm)	Limit
RFID	902.25	20.61	≤0.61
	914.75	19.74	≤-0.26
	927.75	19.62	≤-0.38

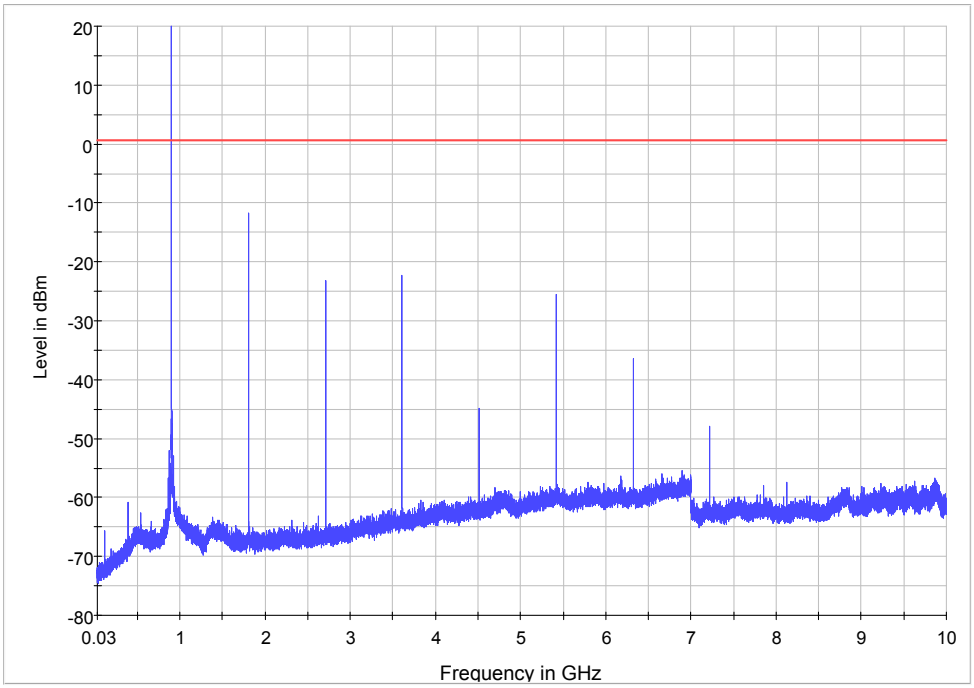
Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor *k* = 1.96.

Frequency	Uncertainty
100kHz-2GHz	0.684 dB
2GHz-26GHz	1.407 dB

Test Results:

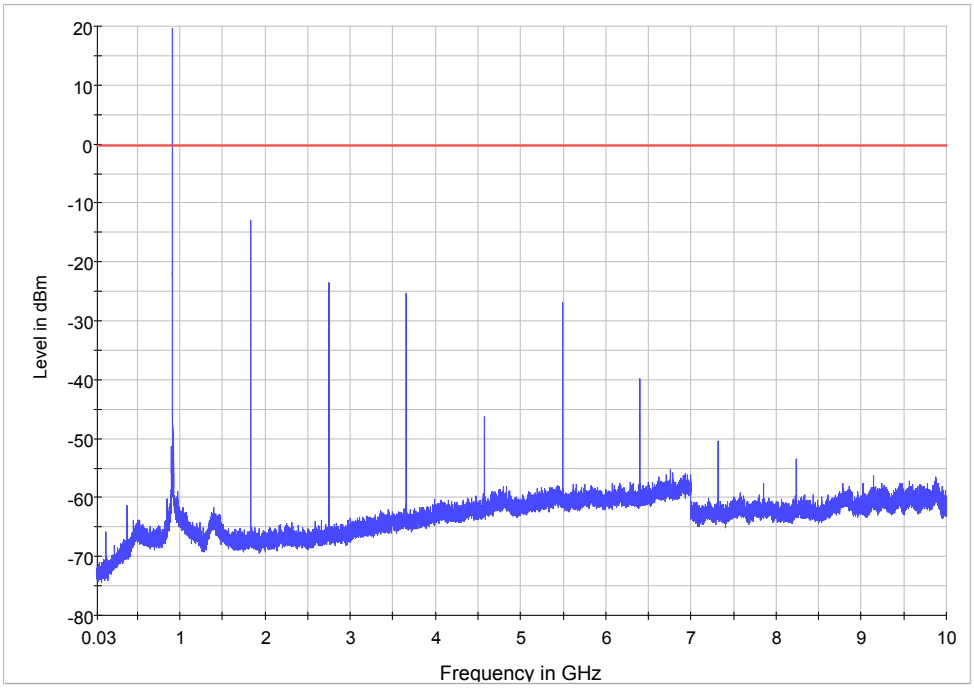
CH1：



Note: The signal beyond the limit is carrier. Carrier frequency (MHz): 902.3
Spurious RF conducted emissions from 30MHz to 10GHz

Harmonic	TX ch.0 Frequency (MHz)	Level (dBm)	Limit (dBm)
2	1805.7	-11.782	0.61

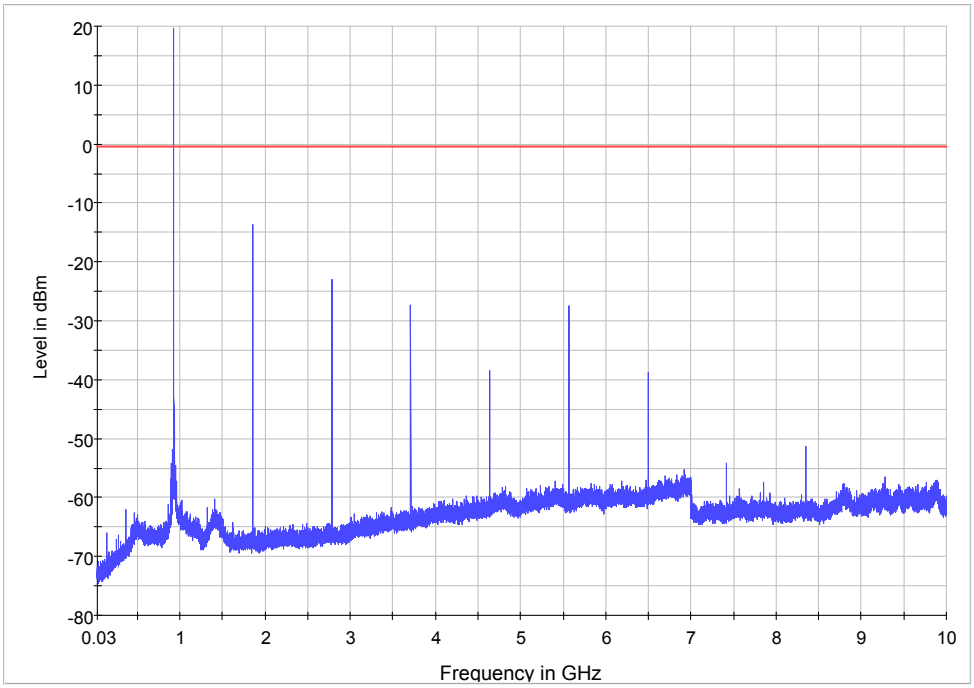
CH26：



Note: The signal beyond the limit is carrier. Carrier frequency (MHz): 914.7
Spurious RF conducted emissions from 30MHz to 10GHz

Harmonic	TX ch.39 Frequency (MHz)	Level (dBm)	Limit (dBm)
2	1829.4	-13.65	-0.26

CH52：



Note: The signal beyond the limit is carrier. Carrier frequency (MHz): 927.7
Spurious RF conducted emissions from 30MHz to 10GHz

Harmonic	TX ch.78 Frequency (MHz)	Level (dBm)	Limit (dBm)
2	1855.4	-13.65	-0.38

2.12. Radiates Emission

Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	102.5kPa

Method of Measurement

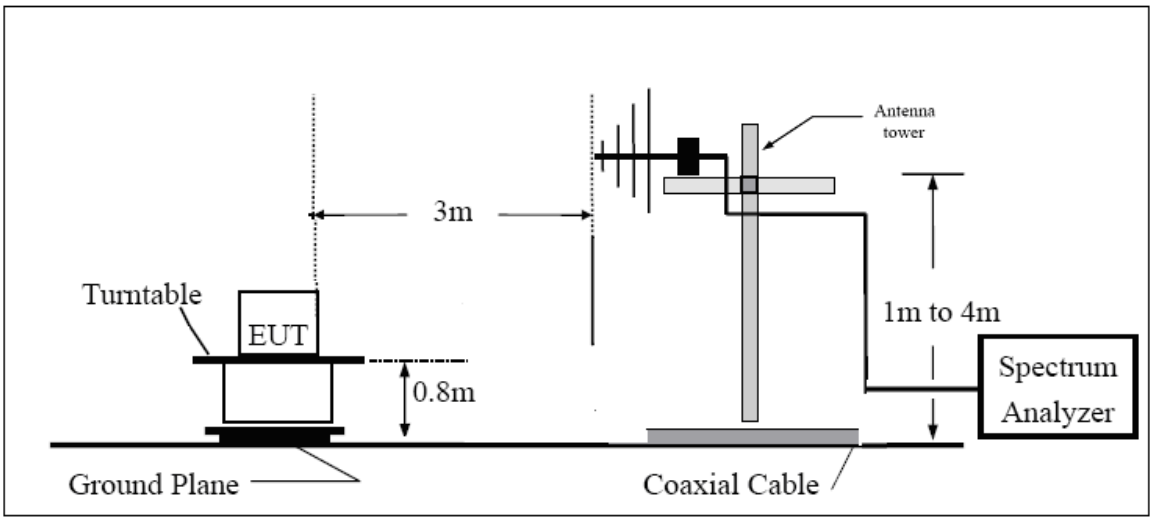
The test set-up was made in accordance to the general provisions of ANSI C63.4-2009.The Equipment Under Test (EUT) was set up on a non-conductive table in the semi-anechoic chamber. The test was performed at the distance of 3 m between the EUT and the receiving antenna. The radiated emissions measurements were made in a typical installation configuration.
Sweep the whole frequency band through the range from 30MHz to the 10th harmonic of the carrier, and the emissions less than 20 dB below the permissible value are reported.
The height of receive antenna shall be moved from 1 to 4 meters, and the antenna shall be performed under horizontal and vertical polarization. The turntable shall be rotated from 0 to 360 degrees for detecting the maximum of radiated spurious signal level. The measurements shall be repeated with orthogonal polarization of the test antenna. The data of cable loss and antenna factor has been calibrated in full testing frequency range before the testing.
Set the spectrum analyzer in the following:
Below 1GHz (detector: Peak and Quasi-Peak)
RBW=100kHz / VBW=300kHz / Sweep=AUTO
Above 1GHz(detector: Peak):
(a) PEAK: RBW=1MHz VBW=3MHz/ Sweep=AUTO
(b) AVERAGE: RBW=1MHz / VBW=10Hz / Sweep=AUTO

The radiated emission was measured in the following position: EUT stand-up position (Z axis), lie-down position (X, Y axis). The worst emission was found in stand-up position (Z axis) and the worst case was recorded. Then this mode was measured in the following mode: EUT with cradle and EUT without cradle. The worst emission was found in EUT with cradle mode and the worst case was recorded.

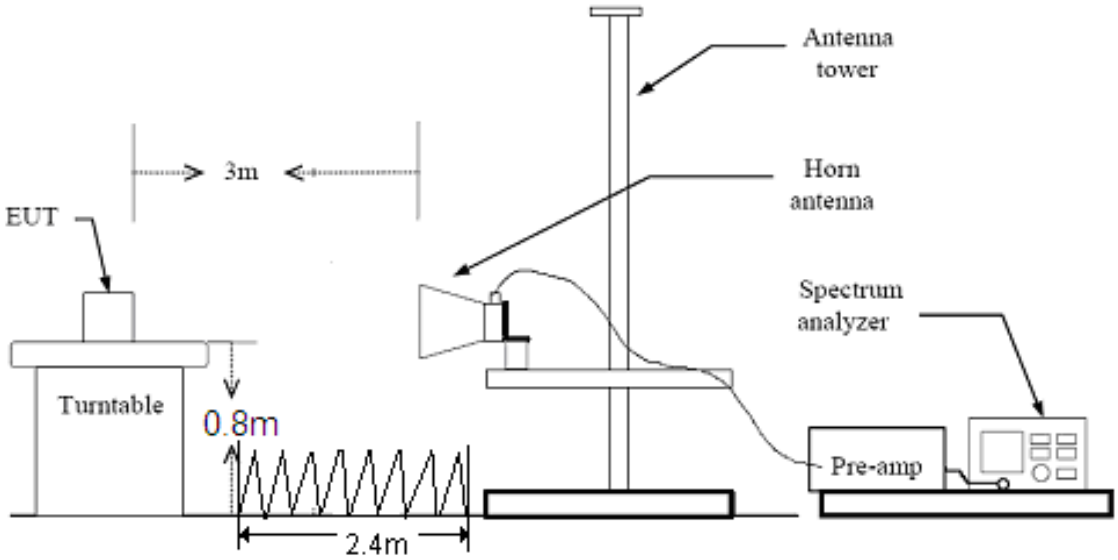
The test is in transmitting mode.

Test setup

30MHz~~~ 1GHz



Above 1GHz



Limits

Rule Part 15.247(d) specifies that “In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a) (see § 15.205(c)).”

Limit in restricted band

Frequency of emission (MHz)	Field strength(uV/m)	Field strength(dBuV/m)
1.705–30.0	30	/
30-88	100	40
88-216	150	43.5

216-960	200	46
Above960	500	54

§15.35(b)
There is also a limit on the radio frequency emissions, as measured using instrumentation with a peak detector function, corresponding to 20 dB above the maximum permitted average limit.

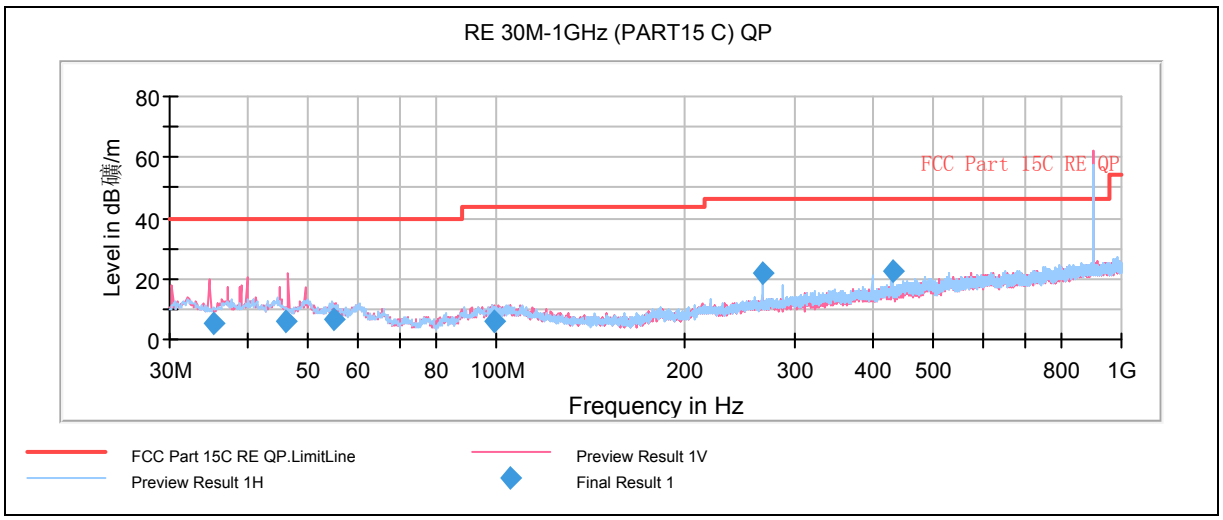
Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor *k* = 1.96.

Frequency	Uncertainty
9KHz-30MHz	3.55 dB
30MHz-200MHz	4.19 dB
200MHz-1GHz	3.63 dB
Above 1GHz	3.68 dB

Test result

Channel 1



Note: a font (Level in dBµV/m)in the test plot =(level in dBuv/m)

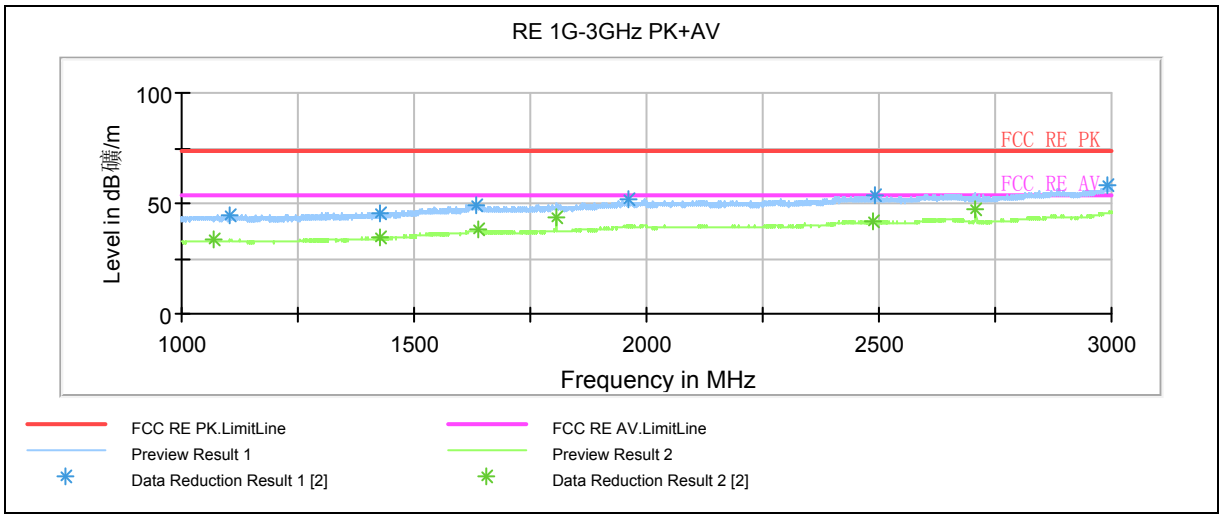
Radiates Emission from 30MHz to 1GHz

Frequency (MHz)	Quasi-Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
35.308750	5.4	100.0	V	167.0	24.6	-19.2	34.6	40.0
45.870000	6.0	125.0	V	53.0	26.8	-20.8	34.0	40.0
54.915000	6.5	100.0	H	231.0	29.1	-22.6	33.5	40.0
98.930000	6.1	125.0	V	284.0	30.6	-24.5	37.4	43.5
266.012500	21.7	125.0	H	277.0	45.5	-23.8	24.3	46.0
432.005000	22.3	100.0	H	263.0	42.1	-19.8	23.7	46.0

Remark: 1. Quasi-Peak = Reading value + Correction factor

2. Correction Factor = Antenna factor+ Insertion loss(cable loss+amplifier gain)

3. Margin = Limit – Quasi-Peak

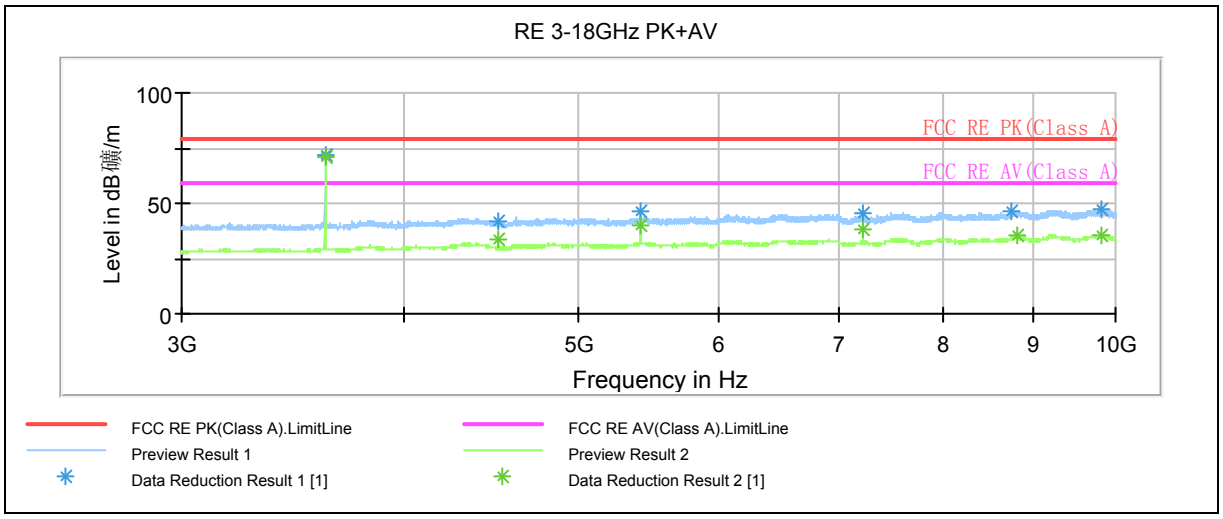


Radiates Emission from 1GHz to 3GHz

Note: The signal beyond the limit is carrier. a font (Level in dBµV/m)in the test plot =(level in dBuv/m)

Frequency (MHz)	Peak (dBuV/m)	Reading value (dBuV/m	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1068.500000	42.8	52.6	150.0	V	0.0	-9.8	31.2	74
1427.000000	44.1	52.2	100.0	V	239.0	-8.1	29.9	74
1637.750000	47.1	52.2	100.0	V	357.0	-5.1	26.9	74
1805.500000	49.7	54.3	100.0	V	335.0	-4.6	24.3	74
2487.250000	51.8	52.4	150.0	V	298.0	-0.6	22.2	74
2708.250000	53.9	54.7	100.0	V	17.0	-0.8	20.1	74

Frequency (MHz)	Average (dBuV/m)	Reading value (dBuV/m	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1068.500000	33.4	43.2	150.0	V	0.0	-9.8	20.6	54
1427.000000	34.4	42.5	100.0	V	239.0	-8.1	19.6	54
1637.750000	37.9	43	100.0	V	357.0	-5.1	16.1	54
1805.500000	44.0	48.6	100.0	V	335.0	-4.6	10	54
2487.250000	42.0	42.6	150.0	V	298.0	-0.6	12	54
2708.250000	47.4	48.2	100.0	V	17.0	-0.8	6.6	54



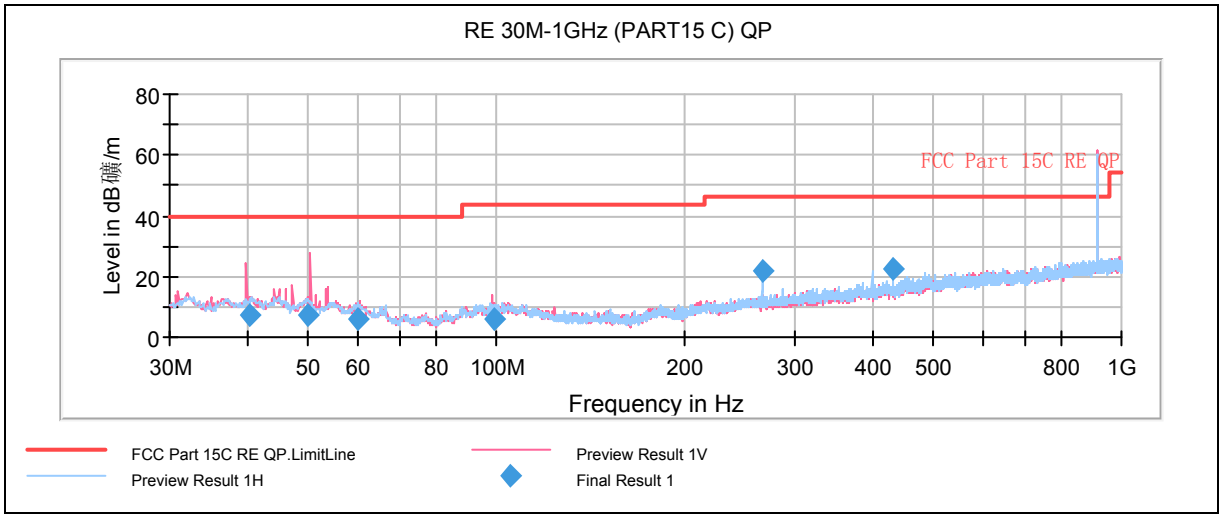
Radiates Emission from 3GHz to 1GHz

Note: a font (Level in dBµV/m)in the test plot =(level in dBuv/m)

Frequency (MHz)	Peak (dBuV/m)	Reading value (dBuV/m	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
3610.750000	71.7	73.3	100.0	V	21.0	-1.6	2.3	74
4513.750000	41.2	40.7	200.0	V	179.0	0.5	32.8	74
5416.750000	46.4	43.7	200.0	V	194.0	2.7	27.6	74
7221.875000	44.7	38.7	100.0	H	344.0	6.0	29.3	74
8810.875000	44.5	36.4	200.0	V	331.0	8.1	29.5	74
9830.250000	44.9	35.1	100.0	V	0.0	9.8	29.1	74

Frequency (MHz)	Average (dBuV/m)	Reading value (dBuV/m	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
3610.750000	70.8	72.4	100.0	V	21.0	-1.6	-16.8	54
4513.750000	33.6	33.1	200.0	V	179.0	0.5	20.4	54
5416.750000	40.4	37.7	200.0	V	194.0	2.7	13.6	54
7221.875000	38.2	32.2	100.0	H	344.0	6.0	15.8	54
8810.875000	35.0	26.9	200.0	V	331.0	8.1	19	54
9830.250000	35.3	25.5	100.0	V	0.0	9.8	18.7	54

Channel 26



Radiates Emission from 30MHz to 1GHz

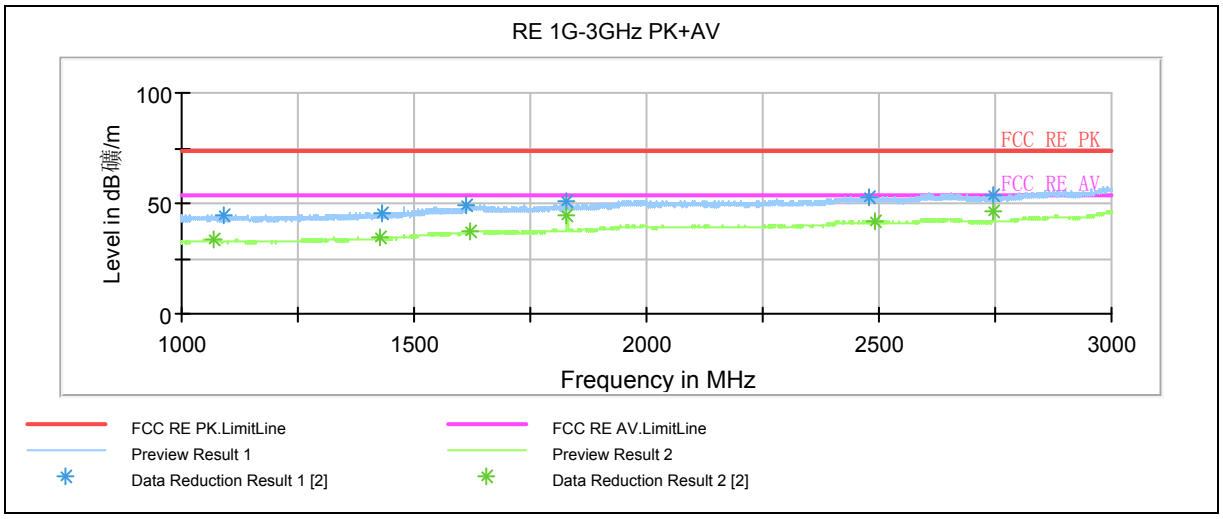
Note: a font (Level in dBµV/m)in the test plot =(level in dBuv/m)

Frequency (MHz)	Quasi-Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
40.241250	7.4	125.0	V	44.0	26.8	-19.4	32.6	40.0
49.830000	7.2	125.0	V	45.0	28.9	-21.7	32.8	40.0
60.015000	5.8	125.0	V	39.0	29.0	-23.2	34.2	40.0
98.967500	6.1	125.0	V	100.0	30.6	-24.5	37.4	43.5
266.013750	21.6	120.0	H	281.0	45.4	-23.8	24.4	46.0
432.003750	22.5	100.0	H	258.0	42.3	-19.8	23.5	46.0

Remark: 1. Quasi-Peak = Reading value + Correction factor

2. Correction Factor = Antenna factor+ Insertion loss(cable loss+amplifier gain)

3. Margin = Limit – Quasi-Peak

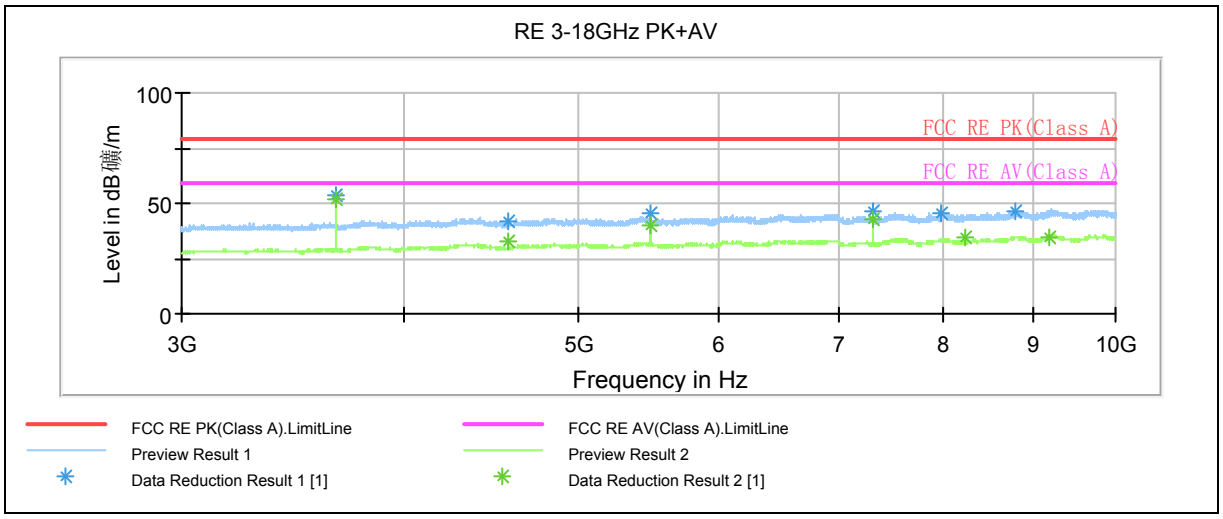


Radiates Emission from 1GHz to 3GHz

Note: The signal beyond the limit is carrier. a font (Level in dBµV/m)in the test plot =(level in dBuv/m)

Frequency (MHz)	Peak (dBuV/m)	Reading value (dBuV/m	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1068.500000	42.8	52.6	150.0	V	136.0	-9.8	31.2	74
1428.000000	43.1	51.2	100.0	H	110.0	-8.1	30.9	74
1620.750000	46.8	51.9	150.0	V	32.0	-5.1	27.2	74
1829.500000	50.7	55.5	100.0	V	340.0	-4.8	23.3	74
2490.750000	51.1	51.5	100.0	V	0.0	-0.4	22.9	74
2744.250000	53.8	54.2	100.0	V	0.0	-0.4	20.2	74

Frequency (MHz)	Average (dBuV/m)	Reading value (dBuV/m	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1068.500000	33.5	43.3	150.0	V	136.0	-9.8	20.5	54
1428.000000	34.2	42.3	100.0	H	110.0	-8.1	19.8	54
1620.750000	37.7	42.8	150.0	V	32.0	-5.1	16.3	54
1829.500000	44.6	49.4	100.0	V	340.0	-4.8	9.4	54
2490.750000	41.9	42.3	100.0	V	0.0	-0.4	12.1	54
2744.250000	46.5	46.9	100.0	V	0.0	-0.4	7.5	54



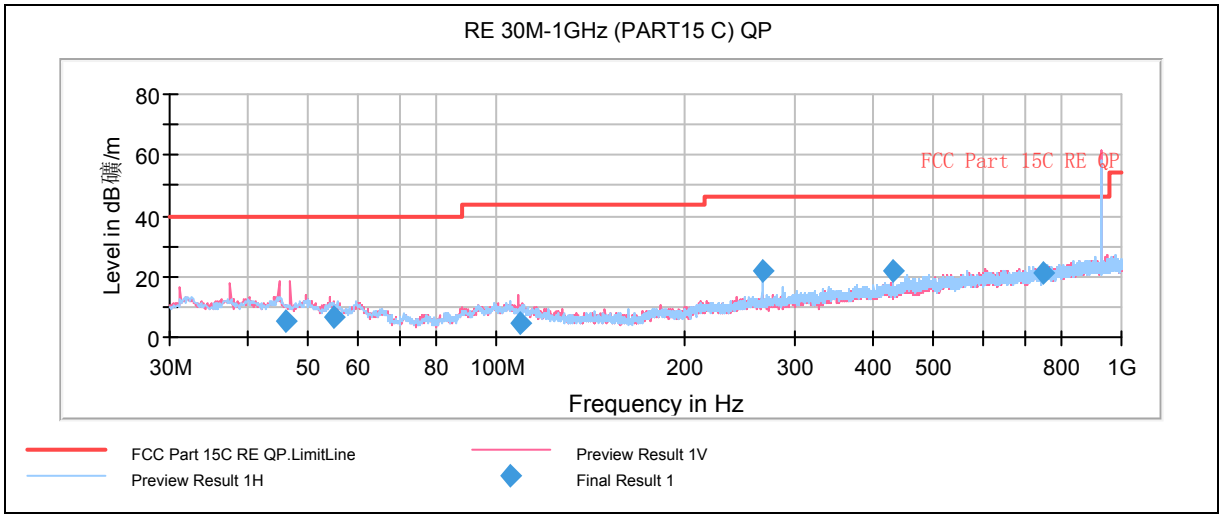
Radiates Emission from 3GHz to 6GHz

Note: a font (Level in dB碌V/m)in the test plot =(level in dBuv/m)

Frequency (MHz)	Peak (dBuV/m)	Reading value (dBuV/m	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
3658.875000	54.0	55.3	150.0	H	60.0	-1.3	20	74
4574.125000	40.3	39.8	200.0	V	263.0	0.5	33.7	74
5488.500000	45.3	42.7	200.0	V	92.0	2.6	28.7	74
7318.125000	46.8	41.1	100.0	V	0.0	5.7	27.2	74
8233.375000	43.2	36	200.0	V	186.0	7.2	30.8	74
9187.125000	44.0	35.1	150.0	V	353.0	8.9	30	74

Frequency (MHz)	Average (dBuV/m)	Reading value (dBuV/m	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
3658.875000	52.0	53.3	150.0	H	60.0	-1.3	2	54
4574.125000	32.4	31.9	200.0	V	263.0	0.5	21.6	54
5488.500000	40.3	37.7	200.0	V	92.0	2.6	13.7	54
7318.125000	42.3	36.6	100.0	V	0.0	5.7	11.7	54
8233.375000	34.6	27.4	200.0	V	186.0	7.2	19.4	54
9187.125000	34.9	26	150.0	V	353.0	8.9	19.1	54

Channel 52



Radiates Emission from 30MHz to 1GHz

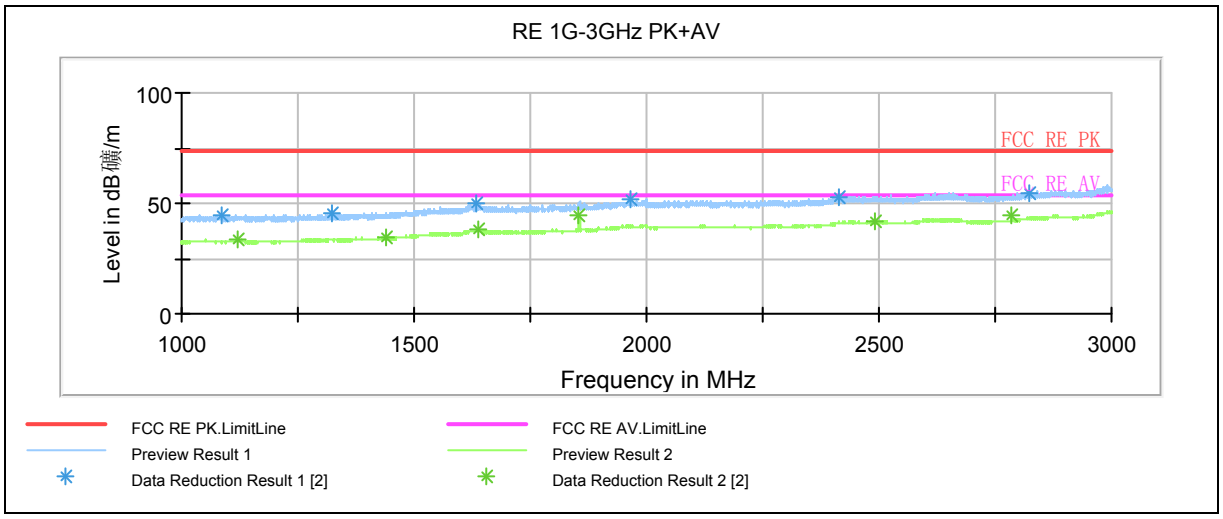
Note: a font (Level in dBµV/m)in the test plot =(level in dBuv/m)

Frequency (MHz)	Quasi-Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Reading value (dBuV/m)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
46.193750	5.3	125.0	V	307.0	26.1	-20.8	34.7	40.0
54.788750	6.3	125.0	V	166.0	28.9	-22.6	33.7	40.0
108.866250	4.8	100.0	V	158.0	30.3	-25.5	38.7	43.5
266.012500	21.8	100.0	H	293.0	45.6	-23.8	24.2	46.0
432.005000	22.1	100.0	H	106.0	41.9	-19.8	23.9	46.0
750.045000	21.0	100.0	H	198.0	35.5	-14.5	25.0	46.0

Remark: 1. Quasi-Peak = Reading value + Correction factor

2. Correction Factor = Antenna factor+ Insertion loss(cable loss+amplifier gain)

3. Margin = Limit – Quasi-Peak

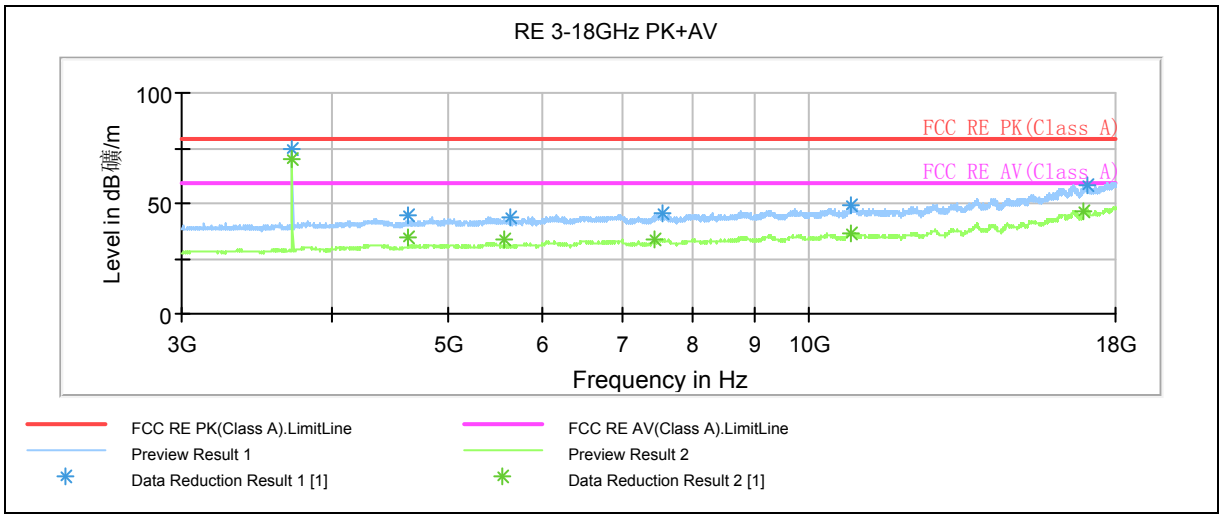


Radiates Emission from 1GHz to 3GHz

Note: The signal beyond the limit is carrier. a font (Level in dBµV/m)in the test plot =(level in dBuv/m)

Frequency (MHz)	Peak (dBuV/m)	Reading value (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1119.000000	43.3	53	150.0	H	135.0	-9.7	30.7	74
1441.250000	43.2	51.1	100.0	V	332.0	-7.9	30.8	74
1639.750000	46.8	51.9	100.0	V	339.0	-5.1	27.2	74
1855.500000	50.4	55.1	100.0	V	72.0	-4.7	23.6	74
2490.000000	51.1	51.5	100.0	H	298.0	-0.4	22.9	74
2783.250000	53.2	53.7	100.0	V	0.0	-0.5	20.8	74

Frequency (MHz)	Average (dBuV/m)	Reading value (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
1119.000000	33.4	43.1	150.0	H	135.0	-9.7	20.6	54
1441.250000	34.5	42.4	100.0	V	332.0	-7.9	19.5	54
1639.750000	37.8	42.9	100.0	V	339.0	-5.1	16.2	54
1855.500000	44.5	49.2	100.0	V	72.0	-4.7	9.5	54
2490.000000	42.1	42.5	100.0	H	298.0	-0.4	11.9	54
2783.250000	44.6	45.1	100.0	V	0.0	-0.5	9.4	54



Radiates Emission from 3GHz to 6GHz

Note: a font (Level in dBµV/m)in the test plot =(level in dBuv/m)

Frequency (MHz)	Peak (dBuV/m)	Reading value (dBuV/m	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
3710.625000	74.5	75.7	100.0	V	31.0	-1.2	-0.5	74
4638.750000	41.3	40.4	150.0	V	246.0	0.9	32.7	74
5565.000000	41.7	39.3	100.0	V	326.0	2.4	32.3	74
7421.250000	42.4	36.3	101.0	H	203.0	6.1	31.6	74
10816.875000	45.7	34.3	100.0	V	61.0	11.4	28.3	74
16931.250000	55.9	34.9	200.0	H	226.0	21.0	18.1	74

Frequency (MHz)	Average (dBuV/m)	Reading value (dBuV/m	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
3710.625000	70.4	71.6	100.0	V	31.0	-1.2	-16.4	54
4638.750000	34.1	33.2	150.0	V	246.0	0.9	19.9	54
5565.000000	34.1	31.7	100.0	V	326.0	2.4	19.9	54
7421.250000	33.2	27.1	101.0	H	203.0	6.1	20.8	54
10816.875000	36.7	25.3	100.0	V	61.0	11.4	17.3	54
16931.250000	46.6	25.6	200.0	H	226.0	21.0	7.4	54

3. Main Test Instruments

No.	Name	Type	Manufacturer	Serial Number	Calibration Date	Valid Period
01	BT Base Station Simulator	CBT	R&S	100271	2013-06-29	One year
02	Loop Antenna	FMZB1516	SCHWARZBECK	237	2013-06-29	Two years
03	EMI Test Receiver	ESCS30	R&S	100138	2013-01-15	One year
04	LISN	ENV216	R&S	101171	2013-04-13	One year
05	EMI Test Receiver	ESCI	R&S	100948	2013-06-29	One year
06	TRILOG Broadband Antenna	VULB 9163	Schwarzbeck	9163-201	2013-06-19	Three years
07	Double Ridged Waveguide Horn Antenna	HF907	R&S	100126	2012-07-02	Three years
08	PSG Analog Signal Generator	E8257D	Agilent	MY49281101	2013-06-29	One year
09	ESG Vector Signal Generator	E4438C	Agilent	MY49070900	2013-06-29	One year
10	Spectrum Analyzer	E4445A	Agilent	MY46181146	2013-06-29	One year
11	Power Splitter	SHX-GF2-2-13	Hua Xiang	10120101	NA	NA
12	MOB COMMS DC SUPPLY	66319D	Agilent	MY43004105	2013-06-29	One year
13	Power Sensor	E9304A	Agilent	MY50220022	2013-06-29	One year
14	Power Meter	E4418B	Agilent	MY50000623	2013-06-29	One year
15	Vibration table	ESS-050-120	dongling	D1007126	2013-08-22	Three years

*******END OF REPORT *******

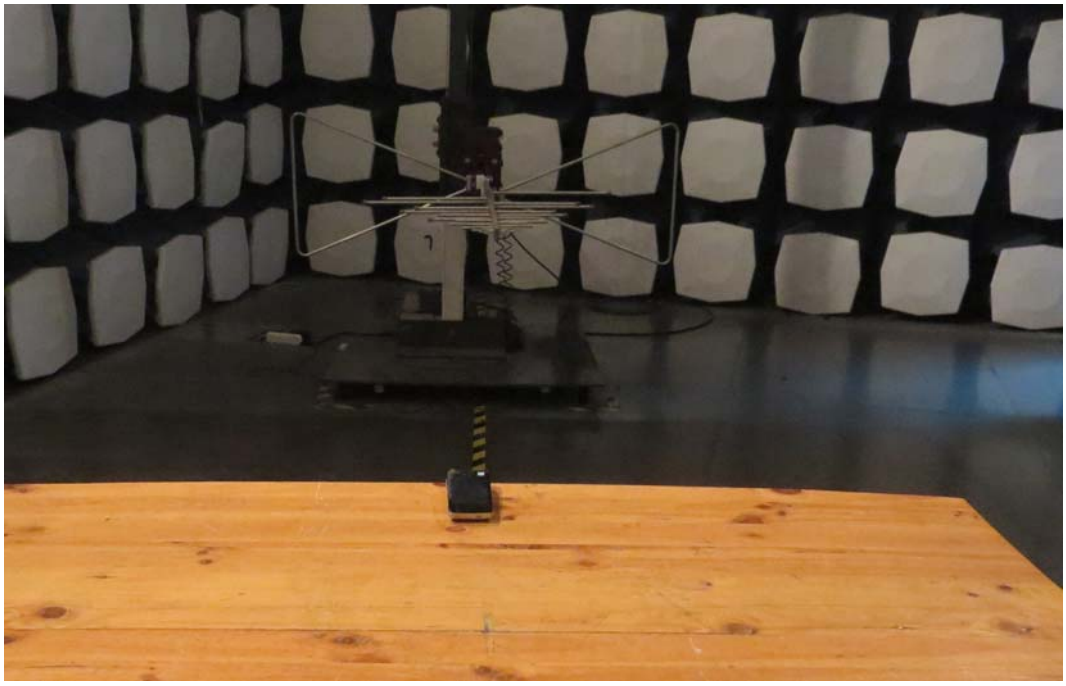
ANNEX A: EUT Appearance and Test Setup

A.1 EUT Appearance

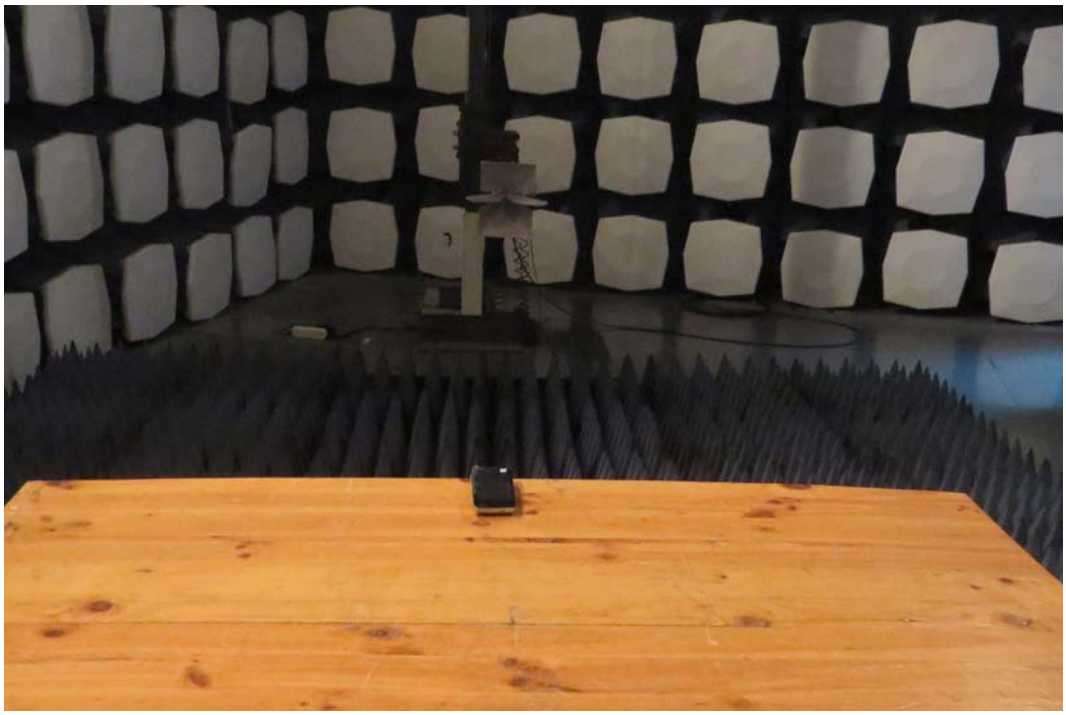
EUT

Picture 1 EUT

A.2 Test Setup



30M Hz-1GHz



Above 1GHz

Picture 2 Radiated Emission Test Setup