

Report No.: RZA2009-1265_15C-BT



Part 15C TEST REPORT

Product Name GSM/GPRS Mobile Phone

Model W003

FCC ID XUT-W003

Client Shenzhen Hongjiayuan Communication Technology CO.,LTD.

TA Technology (Shanghai) Co., Ltd. 报告专用章

GENERAL SUMMARY

Product Name	GSM/GPRS Mobile Phone	Model	W003
FCC ID	XUT-W003	Report No.	RZA2009-1265_15C-BT
Client	Shenzhen Hongjiayuan Commu	nication Techno	logy CO.,LTD.
Manufacturer	Shenzhen Hongjiayuan Commu	nication Techno	logy CO.,LTD.
Reference Standard(s)	FCC Part 15 Subpart C: (2008) 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. (2003) 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 (Stamp) Date of issue: November 13 th , 2009		
Comment	The test result only responds to	the measured s	ample.

Approved	by_	栖伟中	Revised	by_	宋明	Performed by	訓	锦
		Yang Weizhong			Song Ming	<u> </u>	Liu We	 ei

TA Technology (Shanghai) Co., Ltd. Test Report Registration Num:428261 Report No.: RZA2009-1265_15C-BT

Page 3of 59

TABLE OF CONTENT

1.	Gen	neral Information	4
	1.1.	Notes of the test report	. 4
	1.2.	Testing laboratory	. 4
	1.3.	Applicant Information	. 5
	1.4.	Manufacturer Information	. 5
	1.5.	Information of EUT	. 6
	1.6.	Test Date	. 7
2.	Test	t Information	8
:	2.1.	Summary of test results	. 8
:	2.2.	Peak power Output –Conducted	. 9
:	2.3.	Occupied Bandwidth (20dB)	13
:	2.4.	Frequency Separation	17
:	2.5.	Time of Occupancy (Dwell Time)	21
:	2.6.	Band Edge Compliance	25
:	2.7.	Number of hopping Frequency	28
:	2.8.	Spurious RF conducted emissions	31
:	2.9.	Radiates Emission	38
:	2.10.	Conducted Emission	49
3.	Maii	n Test Instruments	56
A١	INEX.	A: EUT Appearance and Test Setup	57
		JT and Auxiliary Appearance	
,	Α.2 Τε	est Setup	58

Registration Num:428261

Report No.: RZA2009-1265_15C-BT Page 4of 59

1. General Information

1.1. Notes of the test report

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 standalone dose 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.

1.2. Testing laboratory

Company: TA Technology (Shanghai) Co., Ltd.

Address: No.145, Jintang Rd, Tangzhen Industry Park, Pudong

City: Shanghai

Post code: 201210

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

Registration Num: 428261

Report No.: RZA2009-1265_15C-BT Page 5of 59

1.3. Applicant Information

Company: Shenzhen Hongjiayuan Communication Technology CO.,LTD.

Room 2406,Block A of Electronic Science and Technology Building,No.2070,Shennan

Zhong Road, Futian District, Shenzhen City, Guangdong Province, China

City: Shenzhen

Postal Code: /

Country: P.R. China

Contact: Cong Chen

Telephone: +86 755 33366555

Fax: +86 755 33366565

1.4. Manufacturer Information

Company: Shenzhen Hongjiayuan Communication Technology CO.,LTD.

Room 2406,Block A of Electronic Science and Technology Building,No.2070,Shennan

Zhong Road, Futian District, Shenzhen City, Guangdong Province, China

City: Shenzhen

Postal Code: /

Country: P.R. China

Telephone: +86 755 33366555

Fax: +86 755 33366565

TA Technology (Shanghai) Co., Ltd. Test Report Registration Num:428261 Report No.: RZA2009-1265_15C-BT

Page 6of 59

1.5. Information of EUT

General information

Device type:	Portable device
Name of EUT:	GSM/GPRS Mobile Phone
SN or IMEI:	350039800024352
Device operating configurations	
Modulation	GFSK
Max Conducted Power	0.12dBm
Antenna type:	internal antenna
Power supply:	Battery or Charger
Rated Power Supply Voltage:	3.7V
Extreme Voltage:	Minimum: 3.5V Maximum: 4.2V
Extreme Temperature:	Lowest: -10°C Highest: +55°C
Operating frequency range(s)	2400 ~ 2483.5 MHz
Hardware version:	E709_V1.1
Software version:	E709_JJF1.01.0

Registration Num:428261

Report No.: RZA2009-1265_15C-BT Page 7of 59

Auxiliary equipment details

AE1:Battery

Model: W003

Manufacture: Shenzhen Hongjiayuan Communication Technology CO.,LTD.

IMEI or SN:

AE2:Travel Adaptor

Model: HY-SW0500500X

Manufacture: Shenzhen HanYuXun Electronics CO.,LTD.

IMEI or SN:

Equipment Under Test (EUT) is Mobile Phone with integrated antenna. It consists of mobile phone, battery and adaptor (see ANNEX A.1) and the detail about these is in chapter 1.5 in this report. The EUT supports Bluetooth.

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 from October 23, 2009 to October 30, 2009.

Registration Num:428261
Report No.: RZA2009-1265_15C-BT Page 8of 59

2. Test Information

2.1. Summary of test results

Number	Summary of measurements of results	Clause in FCC rules	Verdict
1	Peak Power Output -Conducted	15.247(b)(1)	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	Number of Hopping Frequency	15.247(a)(1)(iii)	PASS
7	Spurious RF Conducted Emissions	15.247(d)	PASS
8	Radiates Emission	15.247(d),15.205,15.209	PASS
9	AC Power line Conducted Emission	15.207	PASS

Registration Num: 428261

Report No.: RZA2009-1265_15C-BT Page 9of 59

2.2. Peak power Output -Conducted

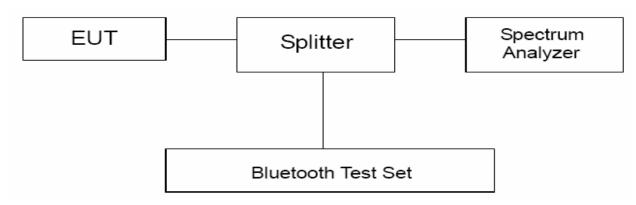
Ambient condition

Temperature Relative humidity		Pressure
24°C	50%	101.5kPa

Methods of Measurement

During the process of the testing, The EUT was connected to the spectrum analyzer and Bluetooth test set via a power splitter with a known loss. The EUT is controlled by the Bluetooth test set to ensure max power transmission with proper modulation. These measurements have been tested at following channels: 0, 39, and 78.

Test Setup



Limits

Rule Part 15.247 (b) (1)specifies that "For frequency hopping systems operating in the 2400–2483.5 MHz band employing at least 75 non-overlapping hopping channels, and all frequency hopping systems in the 5725–5850 MHz band: 1 watt. For all other frequency hopping systems in the 2400–2483.5 MHz band: 0.125 watts."

Peak Output Power	≤ 1W (30dBm)
-------------------	--------------

Measurement Uncertainty

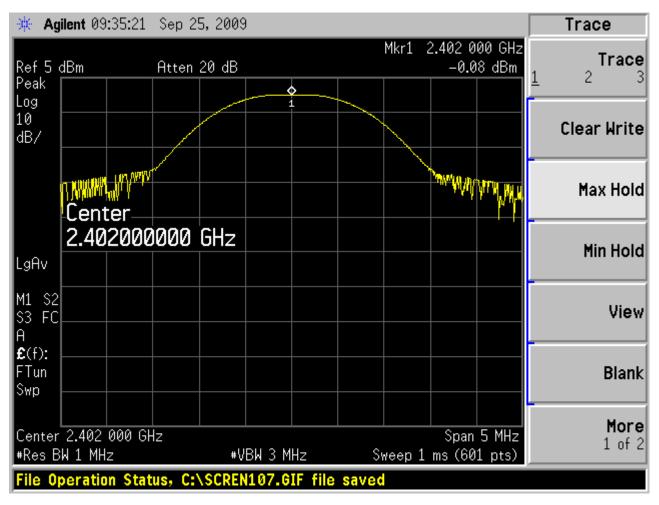
The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor k = 2. U= 0.44 dB.

Registration Num:428261

Report No.: RZA2009-1265_15C-BT Page 10of 59

Test Results

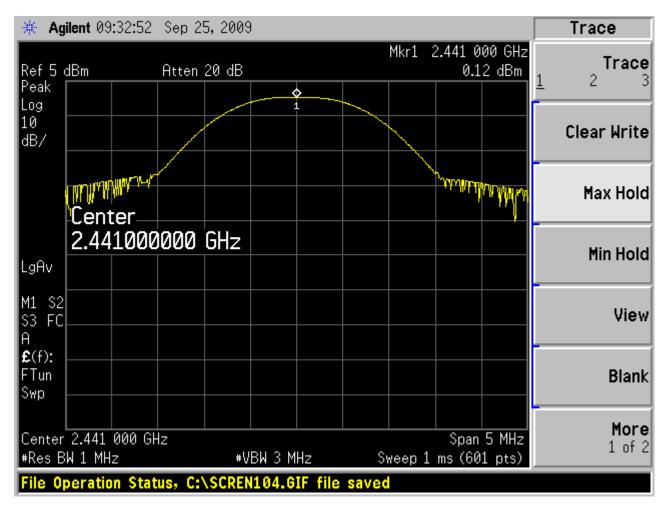
Channel	Frequency (MHz)	Peak Output Power (dBm)	Conclusion
0	2402	-0.08	PASS
39	2441	0.12	PASS
78	2480	-0.73	PASS



Carrier frequency (MHz): 2402 Channel No.:0

Registration Num:428261

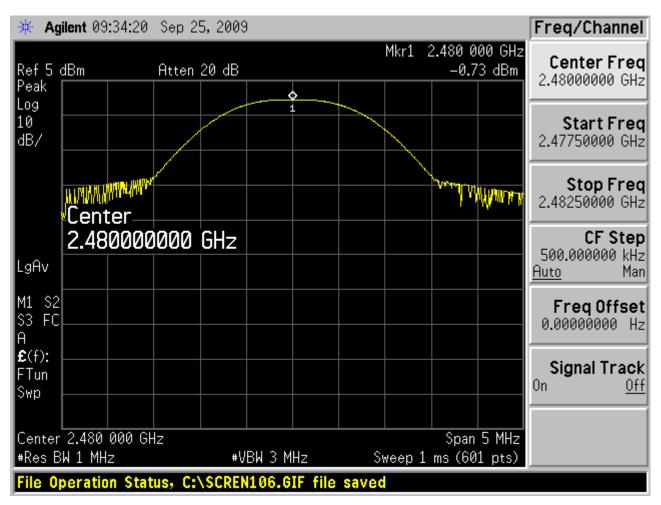
Report No.: RZA2009-1265_15C-BT Page 11of 59



Carrier frequency (MHz): 2441 Channel No.:39

Registration Num:428261

Report No.: RZA2009-1265_15C-BT Page 12of 59



Carrier frequency (MHz): 2480 Channel No.:78

Registration Num:428261

Report No.: RZA2009-1265_15C-BT Page 13of 59

2.3. Occupied Bandwidth (20dB)

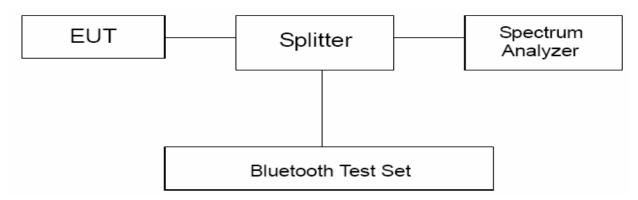
Ambient condition

Temperature	Relative humidity	Pressure
24°C	55%	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 occupied bandwidth is measured using spectrum analyzer. RBW is set to 10 kHz on spectrum analyzer. -20dB occupied bandwidths are recorded.

Test Setup



Limits

No specific occupied bandwidth requirements in part 15.247(a) (1).

Measurement Uncertainty

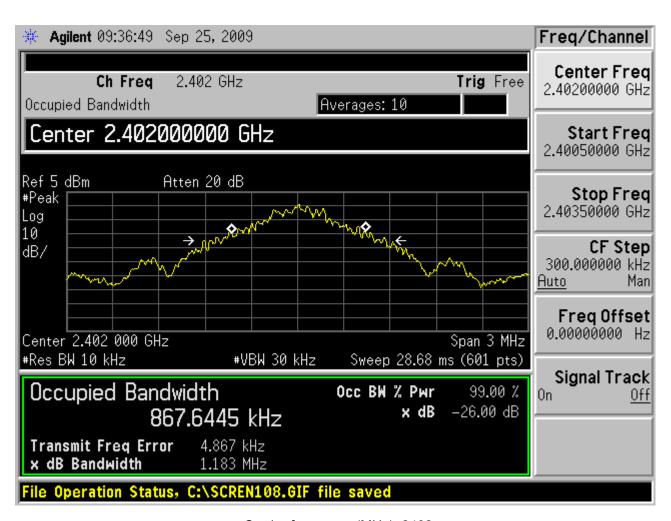
The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor k = 2. U= 936 Hz.

Registration Num: 428261

Report No.: RZA2009-1265_15C-BT Page 14of 59

Test Result

Channel	Frequency (MHz)	20dB Bandwidth (kHz)
0	2402	867.6445
39	2441	875.2494
78	2480	884.4339



Carrier frequency (MHz): 2402 Channel No.:0

Registration Num: 428261

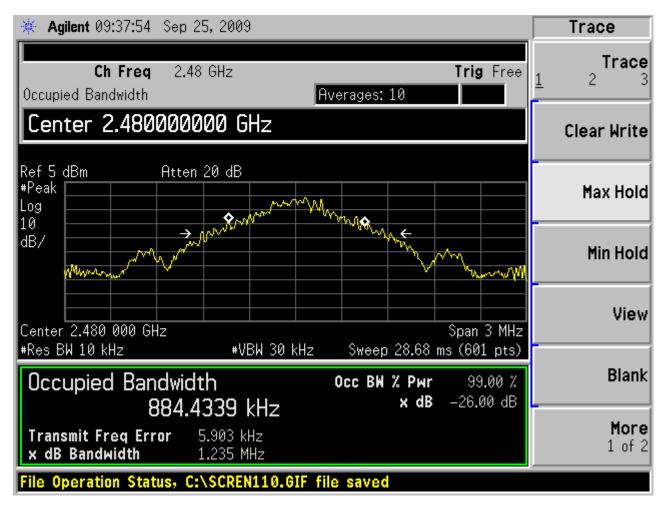
Report No.: RZA2009-1265_15C-BT Page 15of 59



Carrier frequency (MHz): 2441 Channel No.:39

Registration Num:428261

Report No.: RZA2009-1265_15C-BT Page 16of 59



Carrier frequency (MHz): 2480 Channel No.:78

Registration Num:428261

Report No.: RZA2009-1265_15C-BT Page 17of 59

2.4. Frequency Separation

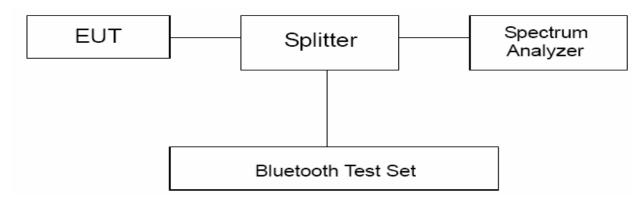
Ambient condition

Temperature	Relative humidity	Pressure
24°C	55%	101.5kPa

Method of Measurement

The Equipment Under Test (EUT) was set up in a shielded room to perform the spurious emissions measurements. The EUT was connected to the spectrum analyzer and Bluetooth test set via a power splitter with a known loss. 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. Alternatively, frequency hopping systems operating in the 2400–2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125 mW."

Note: The value of two-thirds of 20 dB bandwidth is always greater than 25 kHz.

Measurement Uncertainty

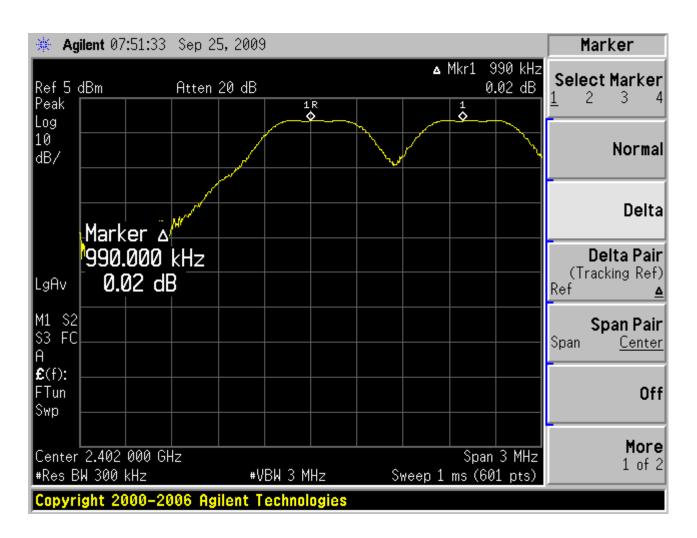
The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor k = 2. U= 936 Hz.

Registration Num:428261

Report No.: RZA2009-1265_15C-BT Page 18of 59

Test Result

Carrier frequency (MHz)	Carrier frequency separation(kHz)	Limit(kHz)	Conclusion
2402	990	578.42	PASS
2441	995	583.49	PASS
2480	915	589.62	PASS

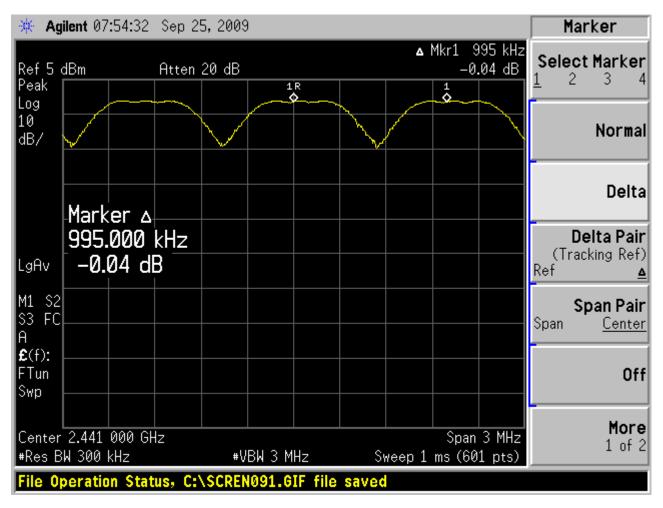


Carrier frequency (MHz): 2402

Channel No.:0

Registration Num:428261

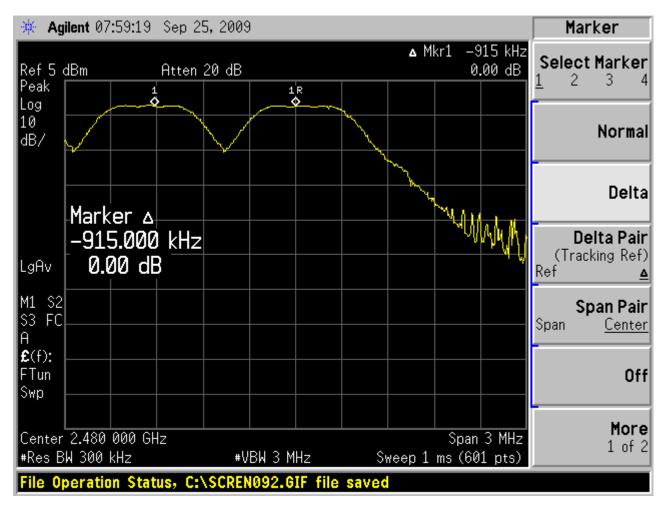
Report No.: RZA2009-1265_15C-BT Page 19of 59



Carrier frequency (MHz): 2441 Channel No.:39

Registration Num:428261

Report No.: RZA2009-1265_15C-BT Page 20of 59



Carrier frequency (MHz): 2480 Channel No.:78

Registration Num: 428261

Report No.: RZA2009-1265_15C-BT Page 21of 59

2.5. Time of Occupancy (Dwell Time)

Ambient condition

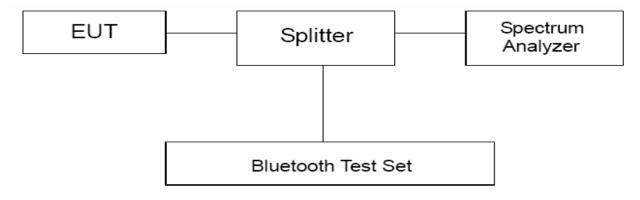
Temperature	Relative humidity	Pressure
24°C	56%	101.5kPa

Methods of Measurement

The Equipment Under Test (EUT) was set up in a shielded room to perform the dwell time measurements. The EUT was connected to the spectrum analyzer and Bluetooth test set via a power splitter with a known loss. The time slot length is measured of three different packet types, which are available in the Bluetooth technology. Those are DH1, DH3 and DH5 packets. The dwell time is calculated by: Dwell time = time slot length * hop rate * 0.4s with:

- hop rate=1600 * 1/s for DH1 packets =1600
- hop rate=1600/3 * 1/s for DH3 packets =533.33
- hop rate=1600/5 * 1/s for DH5 packets =320

Test Setup



Limits

Rule Part 22.913(a) specifies that "Frequency hopping systems in the 2400–2483.5 MHz band shall use at least 15 channels. The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed.."

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. $U_{DH1} = 0.64$ ms, $U_{DH3} = 0.80$ ms, $U_{DH5} = 0.70$ ms.

Registration Num:428261

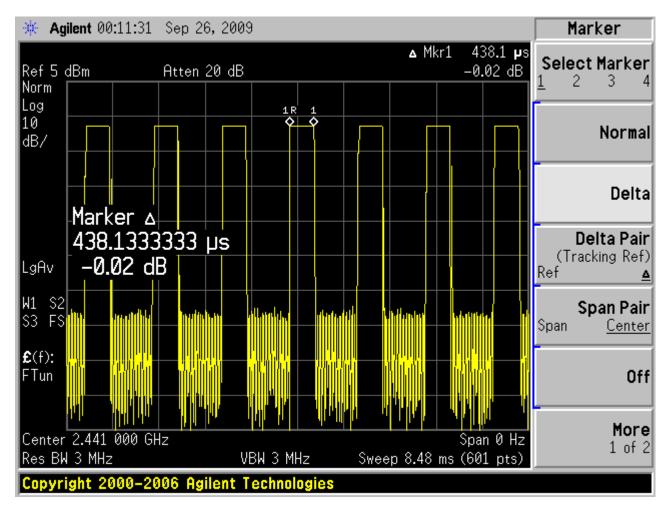
Report No.: RZA2009-1265_15C-BT Page 22of 59

Test Results

CH 39

Packet type	hop rate (1/s)	Time slot length(ms)	Dwell time (ms)	Limit	Conclusion
DH1	1600.00	0.4381	280.384	400ms	PASS
DH3	533.33	1.6680	355.838	400ms	PASS
DH5	320.00	2.9260	374.528	400ms	PASS

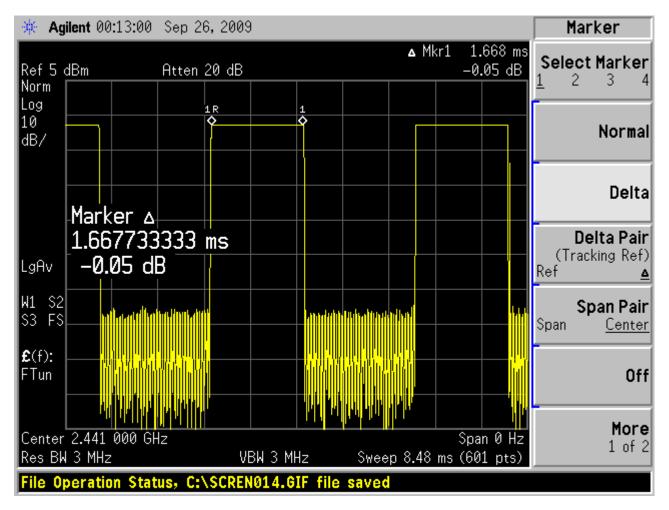
Note: Dwell time = time slot length * hop rate * 0.4s



Carrier frequency (MHz): 2441
Packet type: DH1

Registration Num:428261

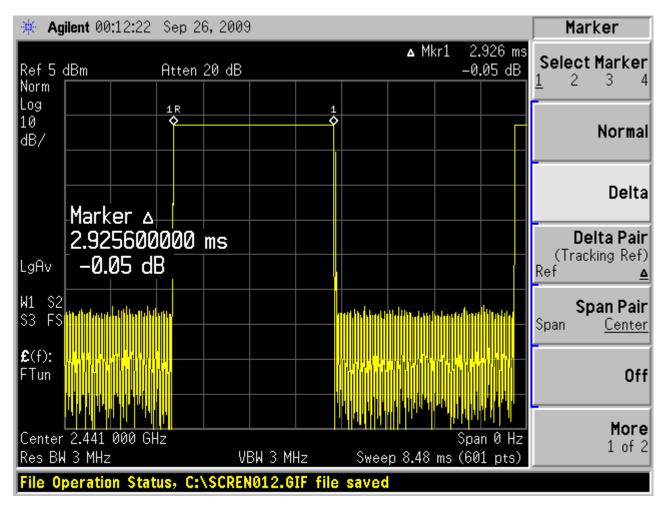
Report No.: RZA2009-1265_15C-BT Page 23of 59



Carrier frequency (MHz): 2441 Packet type: DH3

Registration Num:428261

Report No.: RZA2009-1265_15C-BT Page 24of 59



Carrier frequency (MHz): 2441 Packet type: DH5

Registration Num: 428261

Report No.: RZA2009-1265_15C-BT Page 25of 59

2.6. Band Edge Compliance

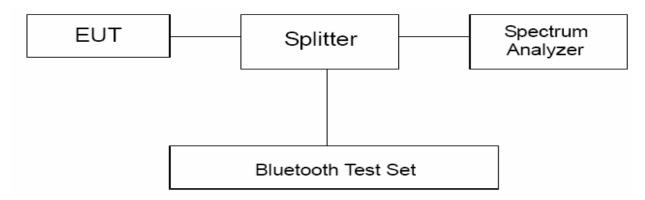
Ambient condition

Temperature	Relative humidity	Pressure
24°C	55%	101.5kPa

Method of Measurement

The Equipment Under Test (EUT) was set up in a shielded room to perform the spurious emissions measurements. The EUT was connected to the spectrum analyzer and Bluetooth test set via a power splitter with a known loss. The band edge of the lowest and highest channels were measured. The peak detector is used and RBW is set to 100k on spectrum analyzer. Spectrum analyzer plots are included on the following pages. Set EUT on Hopping on 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."

Limit	≥20 dB
-------	--------

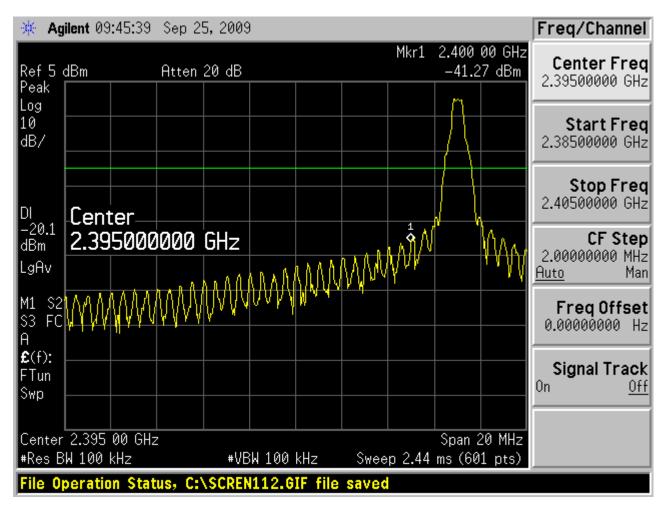
Measurement Uncertainty

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

Registration Num: 428261

Report No.: RZA2009-1265_15C-BT Page 26of 59

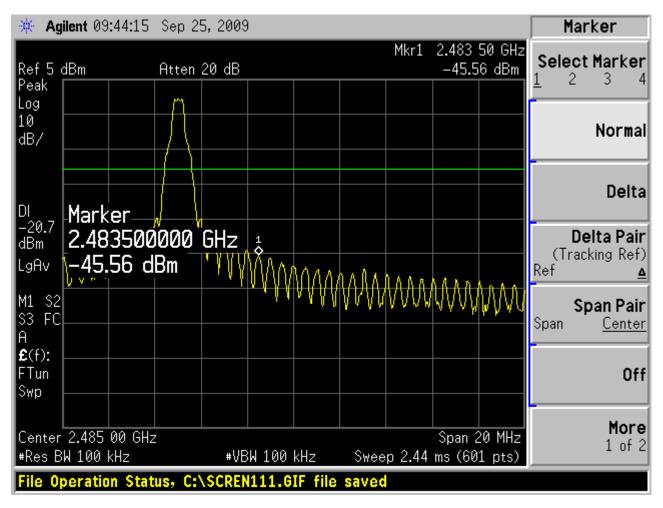
Test Result



Carrier frequency (MHz): 2402 Channel No.:0

Registration Num:428261

Report No.: RZA2009-1265_15C-BT Page 27of 59



Carrier frequency (MHz): 2480 Channel No.:78

Registration Num:428261

Report No.: RZA2009-1265_15C-BT Page 28of 59

2.7. Number of hopping Frequency

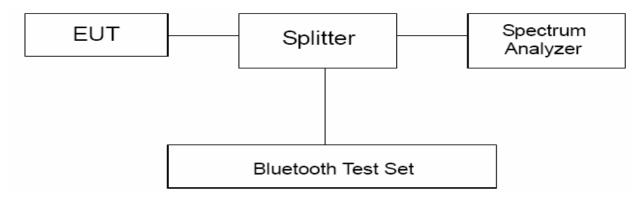
Ambient condition

Temperature	Relative humidity	Pressure
24°C	55%	101.5kPa

Method of Measurement

The Equipment Under Test (EUT) was set up in a shielded room to perform the spurious emissions measurements. The EUT was connected to the spectrum analyzer and Bluetooth test set via a power splitter with a known loss. Set EUT ON Hopping on mode.

Test setup



Limits

Rule Part 15.247(a) (1) (iii) specifies that" Frequency hopping systems in the 2400–2483.5 MHz band shall use at least 15 channels..".

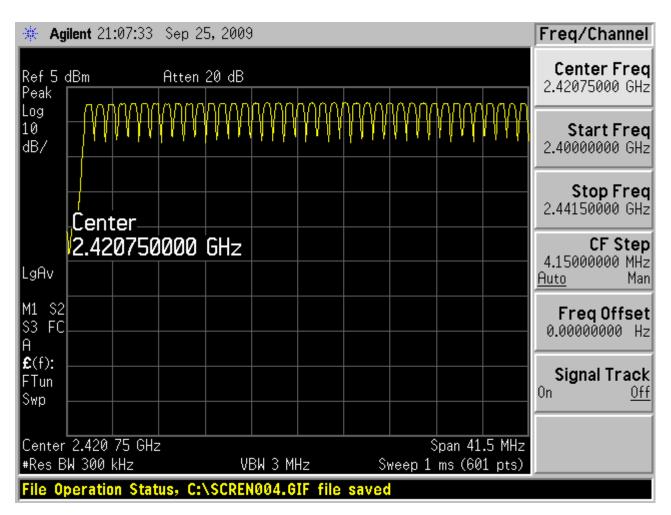
Limits	≥ 75 channels
--------	---------------

Registration Num:428261

Report No.: RZA2009-1265_15C-BT Page 29of 59

Test Result

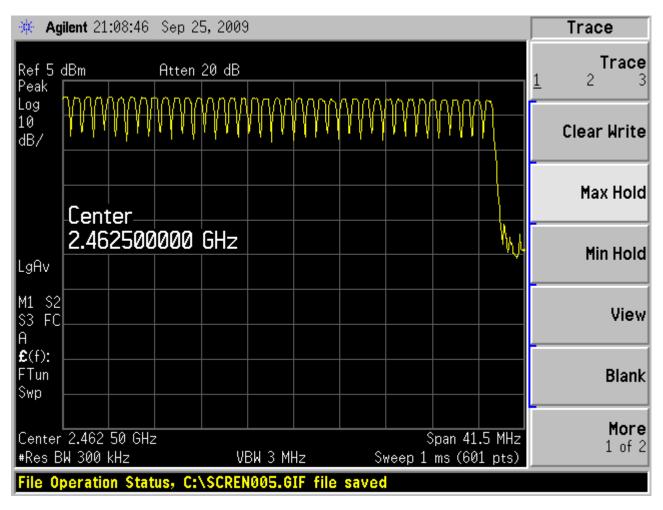
Carrier frequency MHz	Number of hopping channels	conclusion
2441	79	PASS



2400 MHz - 2441 MHz

Registration Num:428261

Report No.: RZA2009-1265_15C-BT Page 30of 59



2441 MHz - 2483.5 MHz

Registration Num:428261

Report No.: RZA2009-1265_15C-BT Page 31of 59

2.8. Spurious RF conducted emissions

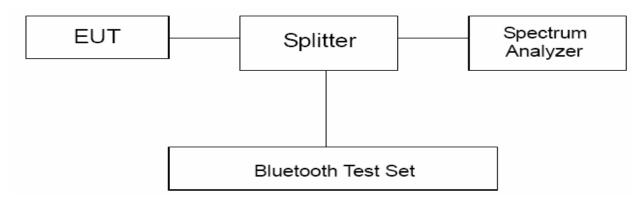
Ambient condition

Temperature	Relative humidity	Pressure
24°C	55%	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 26GHz. The peak detector is used and RBW is set to 100 kHz on spectrum analyzer.

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."

Carrier frequency (MHz)	Reference value (dBm)	Limit
2402	-0.08	≤-20.08
2441	0.12	≤-19.88
2480	-0.73	≤-20.73

Measurement Uncertainty

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

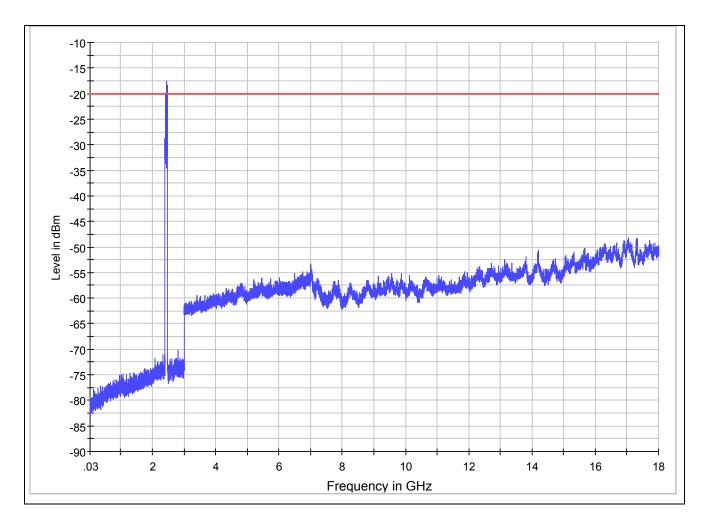
Frequency	Uncertainty	
100kHz-2GHz	0.684 dB	
2GHz-26GHz	1.407 dB	

Registration Num:428261

Report No.: RZA2009-1265_15C-BT Page 32of 59

Test Result

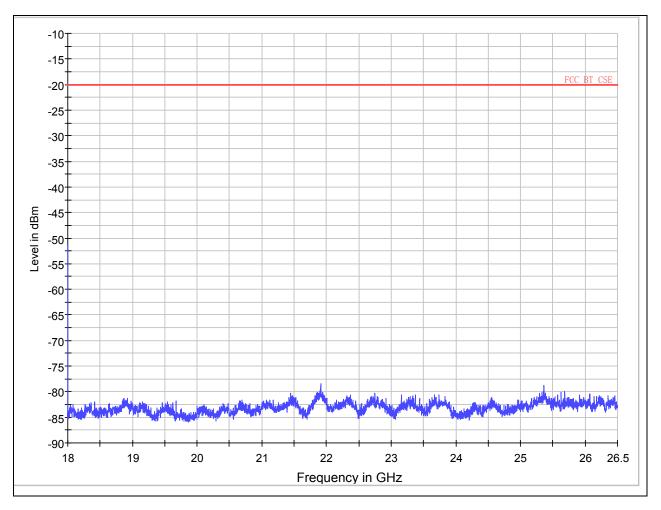
Channel No.:0



Note: The signal beyond the limit is carrier. Carrier frequency (MHz): 2402 Spurious RF conducted emissions from 30MHz to 18GHz

Registration Num:428261

Report No.: RZA2009-1265_15C-BT Page 33of 59



Spurious RF conducted emissions from 18GHz to 26.5GHz

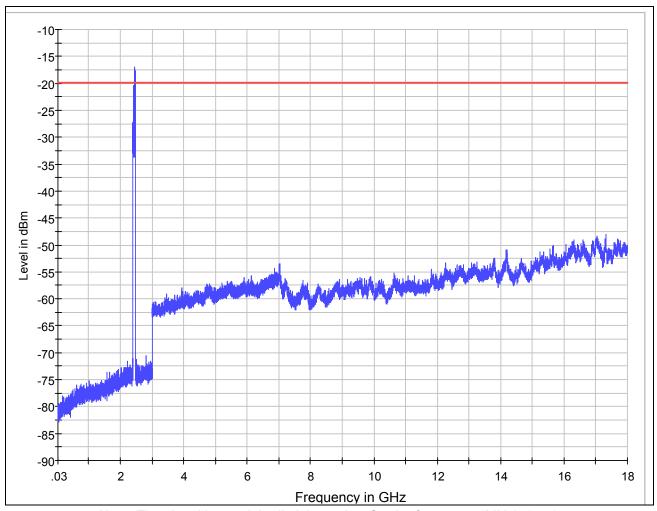
Harmonic	TX ch.0	Level	Limit
Harmonic	Frequency (MHz)	(dBm)	(dBm)
2	4804	Nf	-20.08
3	7206	Nf	-20.08
4	9608	Nf	-20.08
5	12010	Nf	-20.08
6	14412	Nf	-20.08
7	16814	Nf	-20.08
8	19216	Nf	-20.08
9	21618	Nf	-20.08
10	24020	Nf	-20.08
Nf: noise floor			

Note: The other Spurious RF conducted emissions level is no more than noise floor.

Registration Num:428261

Report No.: RZA2009-1265_15C-BT Page 34of 59

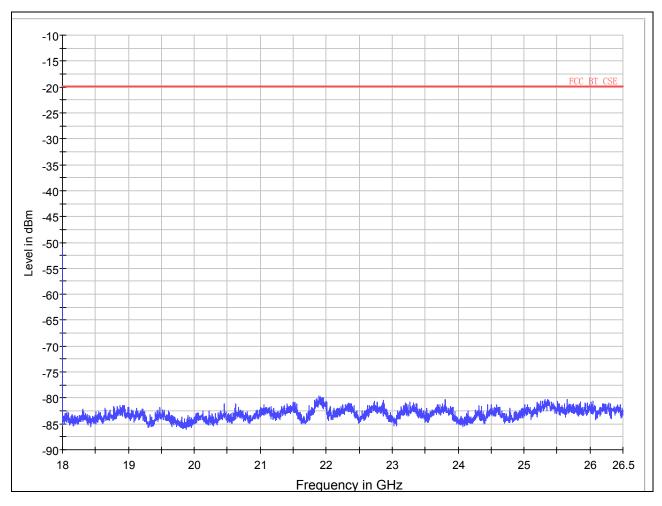
Channel No.:39



Note: The signal beyond the limit is carrier. Carrier frequency (MHz): 2441 Spurious RF conducted emissions from 30MHz to 18GHz

Registration Num:428261

Report No.: RZA2009-1265_15C-BT Page 35of 59



Spurious RF conducted emissions from 18GHz to 26.5GHz

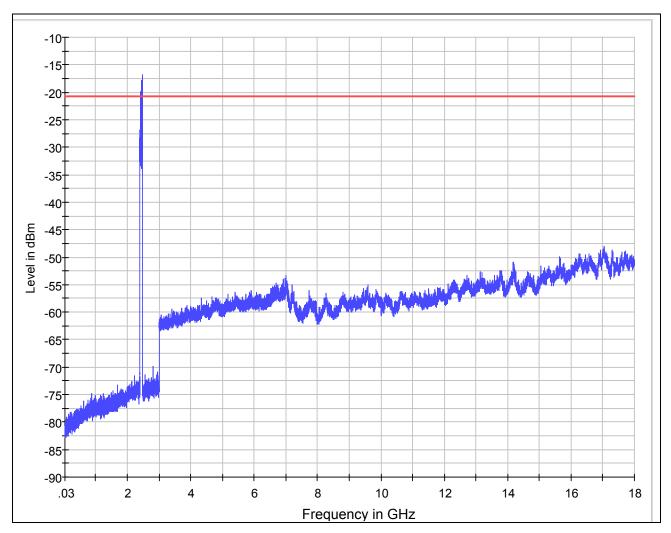
Harmonic	TX ch.39	Level	Limit
	Frequency (MHz)	(dBm)	(dBm)
2	4882	Nf	-19.88
3	7323	Nf	-19.88
4	9764	Nf	-19.88
5	12205	Nf	-19.88
6	14646	Nf	-19.88
7	17087	Nf	-19.88
8	19528	Nf	-19.88
9	21969	Nf	-19.88
10	24410	Nf	-19.88
Nf: noise floor			

Note: The other Spurious RF conducted emissions level is no more than noise floor.

Registration Num:428261

Report No.: RZA2009-1265_15C-BT Page 36of 59

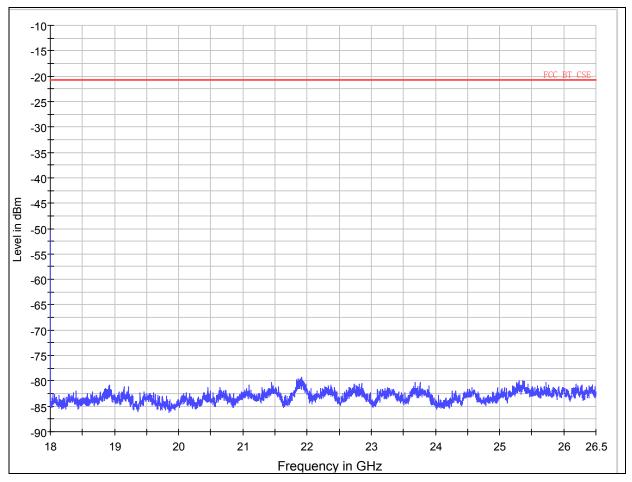
Channel No.:78



Note: The signal beyond the limit is carrier. Carrier frequency (MHz): 2480 Spurious RF conducted emissions from 30MHz to 18GHz

Registration Num:428261

Report No.: RZA2009-1265_15C-BT Page 37of 59



Spurious RF conducted emissions from 18GHz to 26.5GHz

Hammonia	TX ch.78	Level	Limit				
Harmonic	Frequency (MHz)	(dBm)	(dBm)				
2	4960	Nf	-20.73				
3	7440	Nf	-20.73				
4	9920	Nf	-20.73				
5	12400	Nf	-20.73				
6	14880	Nf	-20.73				
7	17360	Nf	-20.73				
8	19840	Nf	-20.73				
9	22320	Nf	-20.73				
10	24800	Nf	-20.73				
Nf: noise floor	Nf: noise floor						

Note: The other Spurious RF conducted emissions level is no more than noise floor.

Registration Num:428261

Report No.: RZA2009-1265_15C-BT Page 38of 59

2.9. Radiates Emission

Ambient condition

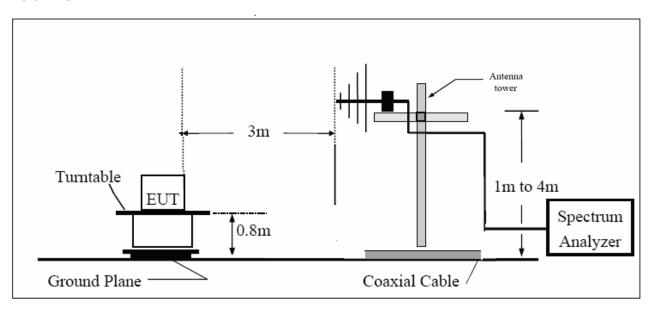
Temperature Relative humidity		Pressure	
24°C	50%	102.5kPa	

Method of Measurement

The test set-up was made in accordance to the general provisions of ANSI C63.4-2003. 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 26GHz During the test, 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.

Test setup

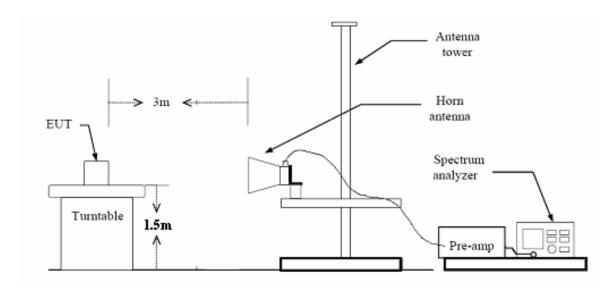
Below 1GHz



Registration Num: 428261

Report No.: RZA2009-1265_15C-BT Page 39of 59

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)
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

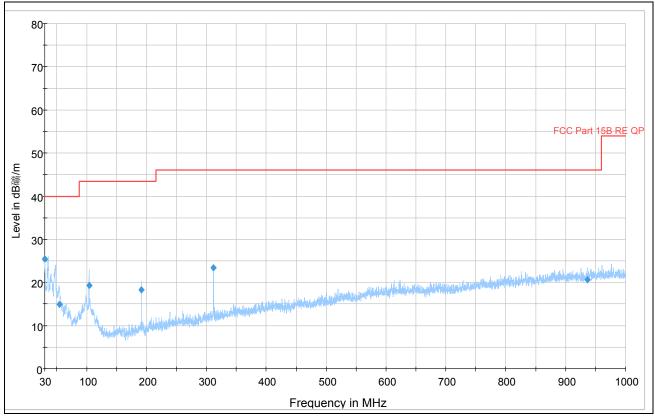
The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor k = 1.96. U=3.92 dB.

Registration Num:428261

Report No.: RZA2009-1265_15C-BT Page 40of 59

Test result

Channel 0



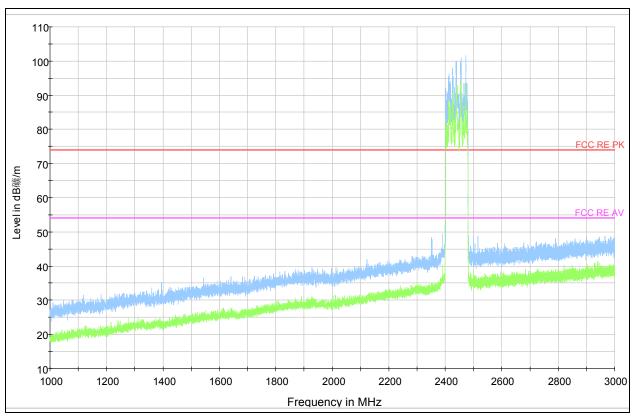
Radiates Emission from 30MHz to 1GHz

Frequency (MHz)	QuasiPeak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Margin (dB)	Limit (dBuV/m)
30.000000	25.5	175.0	Vertical	2.0	14.5	40.0
54.250000	14.9	175.0	Vertical	2.0	25.1	40.0
103.962500	19.3	100.0	Vertical	9.0	24.2	43.5
191.505000	18.3	125.0	Vertical	45.0	25.2	43.5
312.027500	23.4	175.0	Vertical	45.0	22.6	46.0
935.980000	20.6	175.0	Vertical	8.0	25.4	46.0

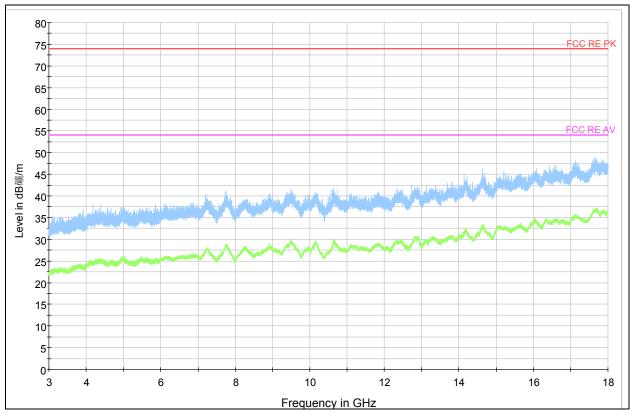
Note: Emissions above 1GHz are all more than 20dBm lower than limit

Registration Num:428261

Report No.: RZA2009-1265_15C-BT Page 41of 59



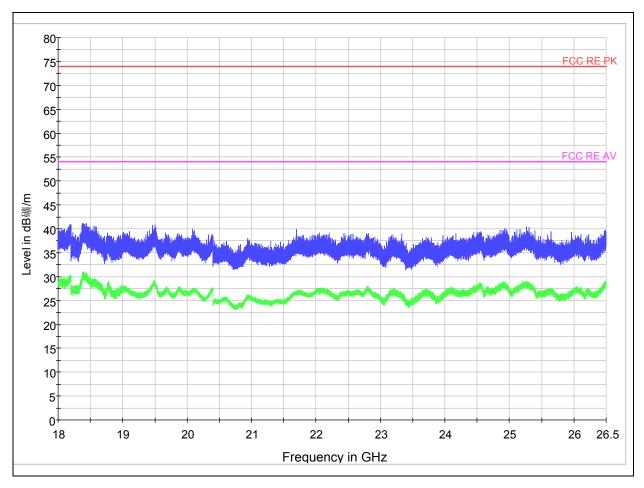
Note: The signal beyond the limit is carrier. Radiates Emission from 1GHz to 3GHz



Radiates Emission from 3GHz to 18GHz

Registration Num:428261

Report No.: RZA2009-1265_15C-BT Page 42of 59

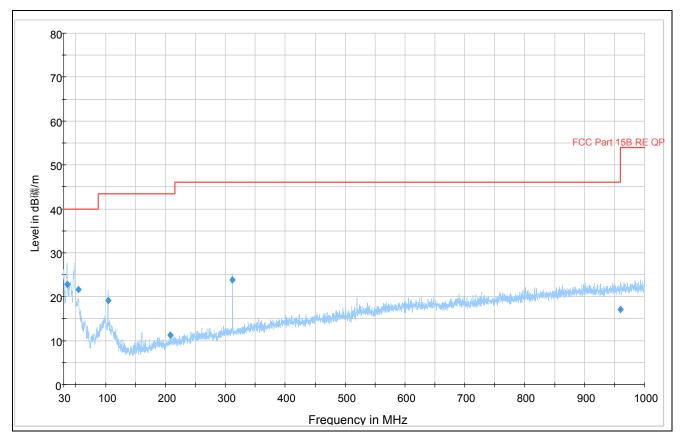


Radiates Emission from 18GHz to 26.5GHz

Registration Num:428261

Report No.: RZA2009-1265_15C-BT Page 43of 59

Channel 39



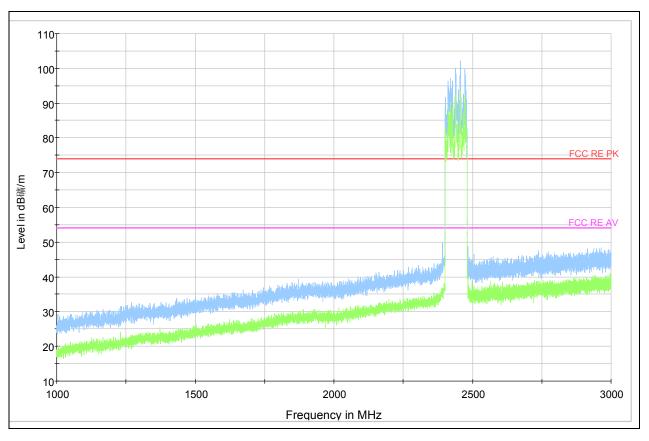
Radiates Emission from 30MHz to 1GHz

Frequency (MHz)	QuasiPeak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Margin (dB)	Limit (dBuV/m)
35.577500	22.8	100.0	Vertical	4.0	17.2	40.0
54.492500	21.7	125.0	Vertical	180.0	18.4	40.0
103.962500	19.1	175.0	Vertical	2.0	24.4	43.5
207.995000	11.3	175.0	Horizontal	0.0	32.2	43.5
312.027500	23.8	171.0	Vertical	64.0	22.2	46.0
959.745000	17.1	100.0	Horizontal	57.0	28.9	46.0

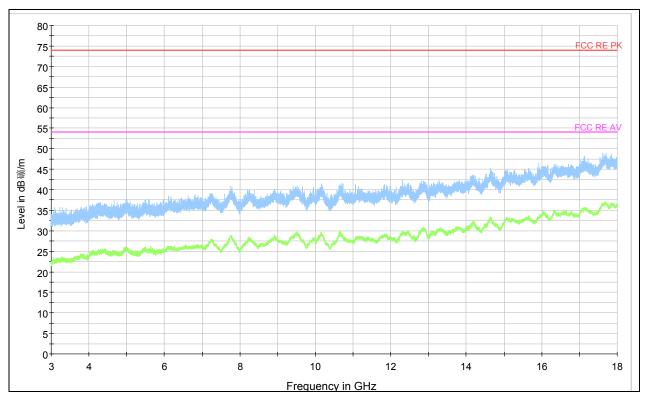
Note: Emissions above 1GHz are all more than 20dBm lower than limit

Registration Num:428261

Report No.: RZA2009-1265_15C-BT Page 44of 59



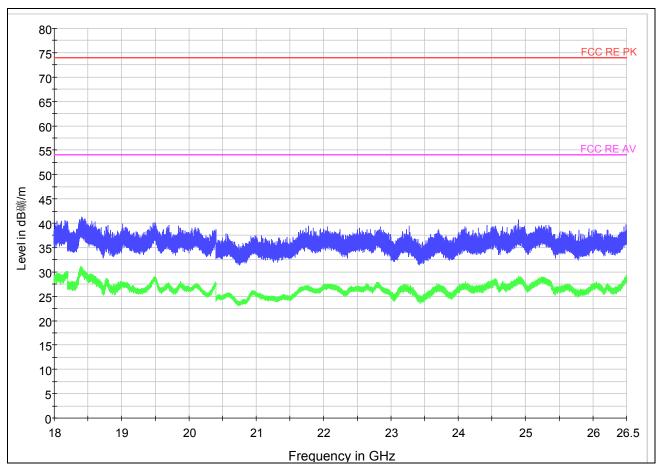
Note: The signal beyond the limit is carrier. Radiates Emission from 1GHz to 3GHz



Radiates Emission from 3GHz to 18GHz

Registration Num:428261

Report No.: RZA2009-1265_15C-BT Page 45of 59

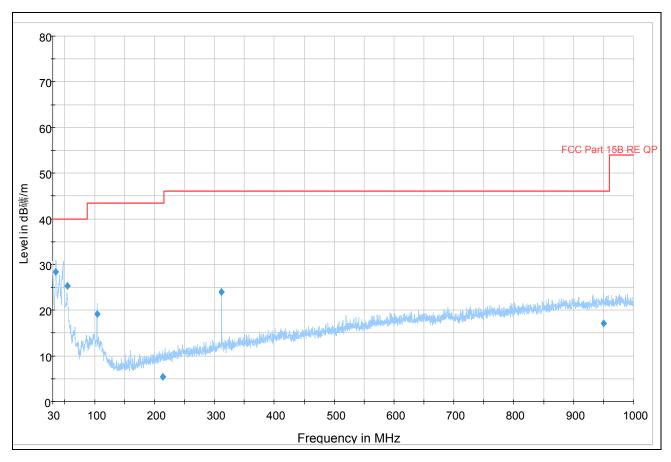


Radiates Emission from 18GHz to 26.5GHz

Registration Num:428261

Report No.: RZA2009-1265_15C-BT Page 46of 59

Channel 78



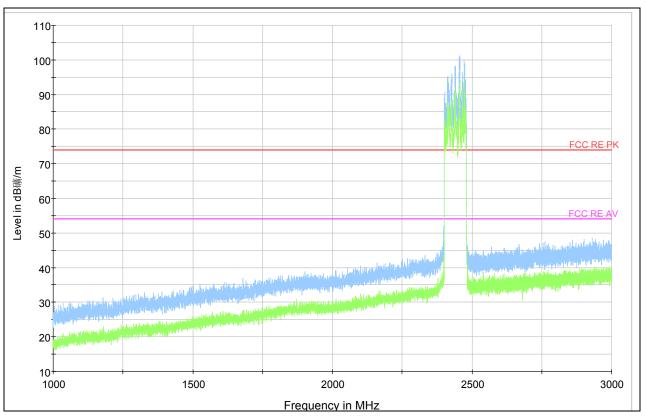
Radiates Emission from 30MHz to 1GHz

Frequency (MHz)	QuasiPeak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Margin (dB)	Limit (dBuV/m)
35.335000	28.4	100.0	Vertical	0.0	11.6	40.0
54.007500	25.3	141.0	Vertical	180.0	14.7	40.0
103.962500	19.1	175.0	Vertical	0.0	24.4	43.5
213.572500	5.4	175.0	Vertical	75.0	38.1	43.5
312.027500	23.9	171.0	Vertical	68.0	22.1	46.0
949.802500	17.1	125.0	Vertical	180.0	28.9	46.0

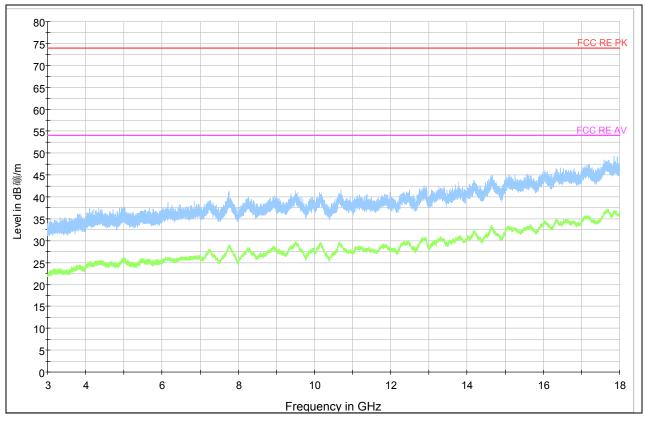
Note: Emissions above 1GHz are all more than 20dBm lower than limit

Registration Num:428261

Report No.: RZA2009-1265_15C-BT Page 47of 59



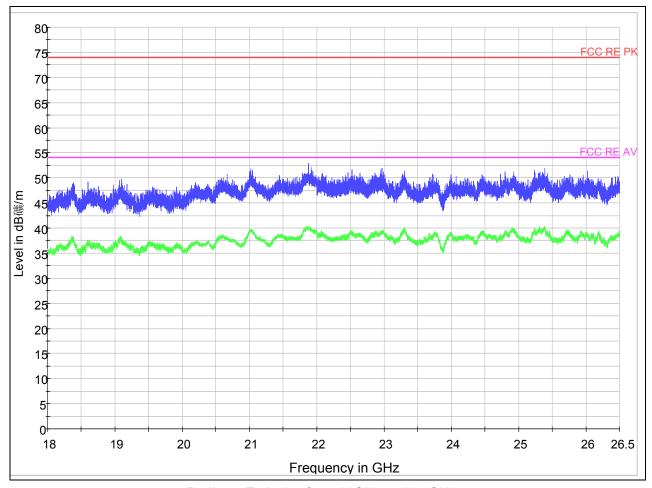
Note: The signal beyond the limit is carrier. Radiates Emission from 1GHz to 3GHz



Radiates Emission from 3GHz to 18GHz

Registration Num:428261

Report No.: RZA2009-1265_15C-BT Page 48of 59



Radiates Emission from 18GHz to 26.5GHz

Registration Num: 428261

Report No.: RZA2009-1265_15C-BT Page 49of 59

2.10. Conducted Emission

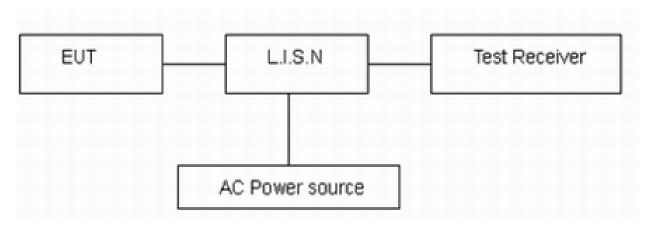
Ambient condition

Temperature Relative humidity		Pressure	
25°C	58%	101.5kPa	

Methods of Measurement

The EUT is placed on a non-metallic table of 80cm height above the horizontal metal reference ground plane. During the test, the EUT was operating in its typical mode. The test method is according to ANSI C63.4-2003. Connect the AC power line of the EUT to the L.I.S.N. Use EMI receiver to detect the average and Quasi-peak value. The measurement result should include both L line and N line.

Test Setup



Note: AC Power source is used to change the voltage from 220V/50Hz to 110V/60Hz.

Limits

Frequency	Conducted Limits(dBμV)			
(MHz)	Quasi-peak	Average		
0.15 - 0.5	66 to 56 *	56 to 46 [*]		
0.5 - 5	56	46		
5 - 30	60	50		
* Decreases with the logarithm of the frequency.				

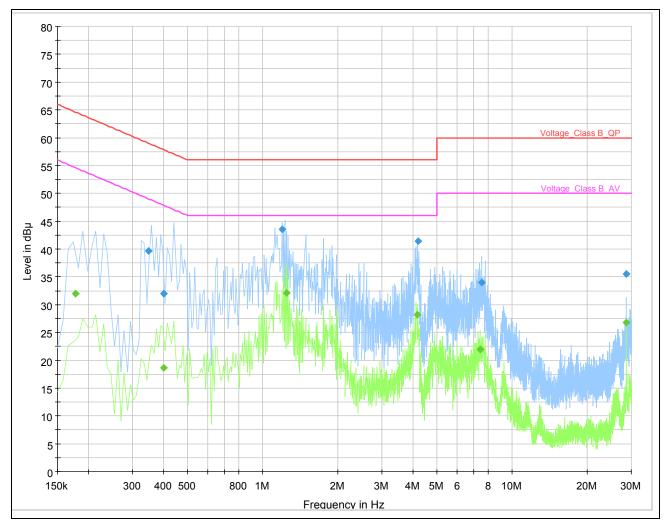
Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor k = 1.96. U= 2.69 dB.

Registration Num:428261
Report No.: RZA2009-1265_15C-BT Page 50of 59

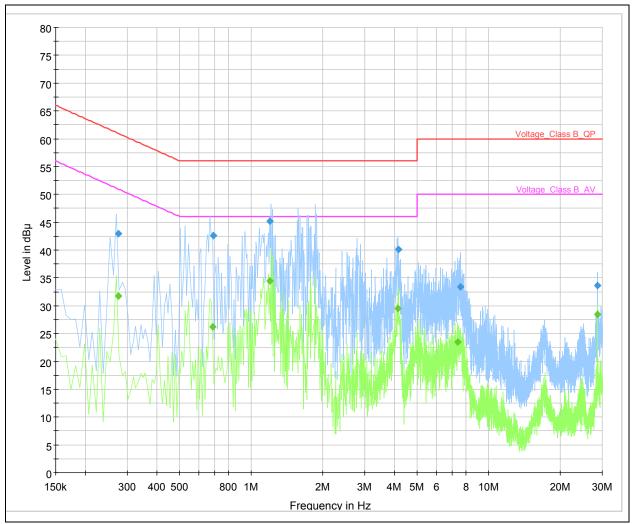
Results

Channel No.:0



L Line

Page 51of 59

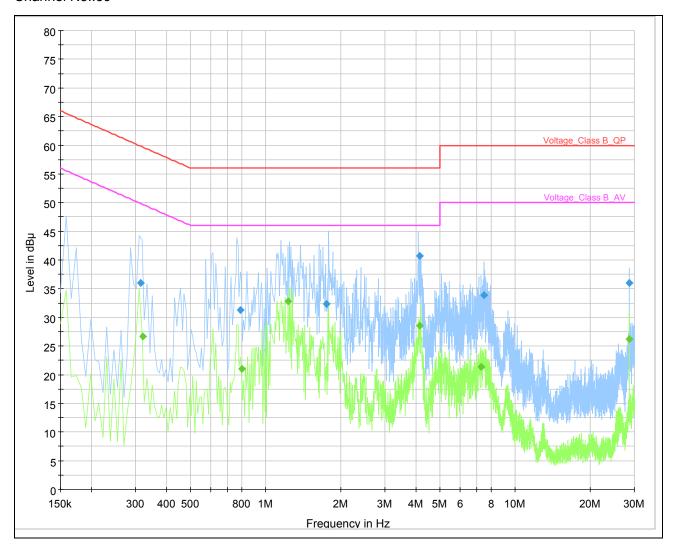


N I ine

Frequency (MHz)	Detector	Line	Level (dBµV)	Limit (dBµV)	Margin (dB)
0.275000	Average	N	31.8	51.0	19.2
0.687000	Average	N	26.2	46.0	19.8
1.197000	Average	N	34.5	46.0	11.5
1.245000	Average	L	32.1	46.0	13.9
4.135000	Average	N	29.5	46.0	16.5
4.159000	Average	L	28.2	46.0	17.8
0.275000	Quasi-peak	N	42.9	61.0	18.1
0.693000	Quasi-peak	N	42.5	56.0	13.5
1.197000	Quasi-peak	N	45.2	56.0	10.8
1.199000	Quasi-peak	L	43.5	56.0	12.5
4.163000	Quasi-peak	N	40.1	56.0	15.9
4.179000	Quasi-peak	L	41.4	56.0	14.6

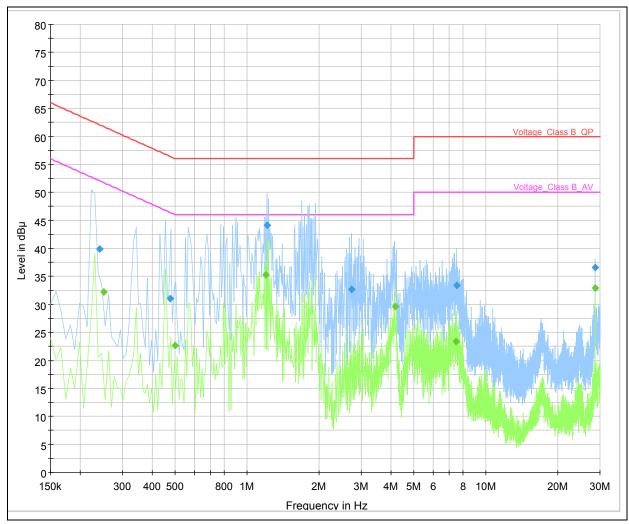
Registration Num:428261
Report No.: RZA2009-1265_15C-BT Page 52of 59

Channel No.:39



L Line

Registration Num:428261
Report No.: RZA2009-1265_15C-BT Page 53of 59

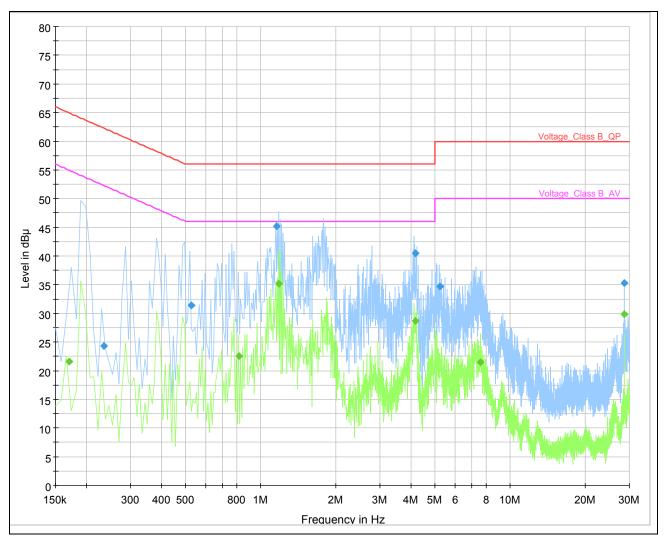


N Line

Frequency (MHz)	Detector	Line	Level (dBµV)	Limit (dBµV)	Margin (dB)
0.251000	Average	N	32.3	51.7	19.4
1.197000	Average	N	35.3	46.0	10.7
1.231000	Average	L	32.8	46.0	13.2
4.129000	Average	L	28.5	46.0	17.5
4.163000	Average	N	29.6	46.0	16.4
28.673000	Average	N	32.9	50.0	17.1
0.241000	Quasi-peak	N	39.9	62.1	22.2
1.215000	Quasi-peak	N	44.1	56.0	11.9
1.747000	Quasi-peak	L	32.4	56.0	23.6
2.737000	Quasi-peak	N	32.7	56.0	23.3
4.131000	Quasi-peak	L	40.7	56.0	15.3
28.671000	Quasi-peak	N	36.6	60.0	23.4

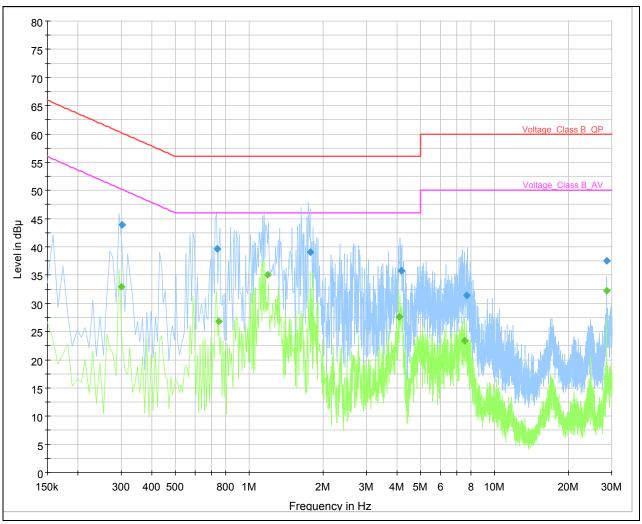
Registration Num:428261
Report No.: RZA2009-1265_15C-BT Page 54of 59

Channel No.:78



L Line

Page 55of 59



N Line

Frequency (MHz)	Detector	Line	Level (dBµV)	Limit (dBµV)	Margin (dB)
0.301000	Average	N	32.9	50.2	17.3
1.183000	Average	L	35.1	46.0	10.9
1.185000	Average	N	35.0	46.0	11.0
4.083000	Average	N	27.6	46.0	18.4
4.161000	Average	L	28.7	46.0	17.3
28.673000	Average	N	32.2	50.0	17.8
0.303000	Quasi-peak	N	43.9	60.2	16.3
0.739000	Quasi-peak	N	39.6	56.0	16.4
1.153000	Quasi-peak	L	45.2	56.0	10.8
1.767000	Quasi-peak	N	39.1	56.0	16.9
4.151000	Quasi-peak	N	35.8	56.0	20.2
4.161000	Quasi-peak	L	40.5	56.0	15.5

Page 56of 59

3. Main Test Instruments

No.	Name	Type	Manufacturer	Serial	Calibration	Valid
INO.	Name	туре	Manufacturei	Number	Date	Period
01	BT Base Station Simulator	СВТ	R&S	1153.9000.35	2009-04-08	One year
02	Signal Analyzer	FSV	R&S	100815	2009-06-29	One year
03	Signal generator	SMR27	R&S	1606.6000.02	2009-06-29	One year
04	Spectrum Analyzer	E4445A	Agilent	MY46181146	2009-06-08	One year
05	EMI Test Receiver	ESCI	R&S	100948	2009-07-02	One year
06	Trilog Antenna	VULB 9163	SCHWARZBECK	9163-391	2009-05-14	One year
07	Horn Antenna	HF907	R&S	100125	2009-07-20	One year
08	AC Power Source	AFC-11005G	APC	F309040118	2009-07-25	One year
09	Power Splitter	11667A	Agilent	52960	NA	NA
10	Semi-Anechoic Chamber	9.6*6.7*6.6m	ETS-Lindgren	NA	NA	NA
11	EMI test software	ES-K1	R&S	NA	NA	NA

Registration Num:428261

Report No.: RZA2009-1265_15C-BT Page 57of 59

ANNEX A: EUT Appearance and Test Setup

A.1 EUT and Auxiliary Appearance

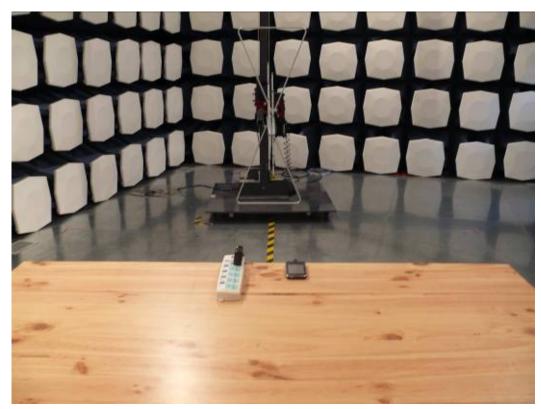




Picture 1 EUT and Auxiliary

Page 58of 59

A.2 Test Setup



Picture 2 Radiated Emission Test Setup



Picture 3-1

Page 59of 59



Picture 3-2 **Picture 3 Conducted Emission Test Setup**