



FCC Test Report

Report No.: AGC00068130511FE04

FCC ID : Z3JA1
APPLICATION PURPOSE : Original Equipment
PRODUCT DESIGNATION : GSM Mobile Phone
BRAND NAME : G'FIVE
MODEL NAME : A1
CLIENT : G'FIVE INTERNATIONAL LIMITED
DATE OF ISSUE : June 6,2013
STANDARD(S) : FCC Part 15 Rules
REPORT VERSION : V1.0

Attestation of Global Compliance (Shenzhen) Co., Ltd



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Report Revise Record

Report Version	Revise Time	Issued Date	Valid Version	Notes
V1.0	/	June 6,2013	Valid	Original Report

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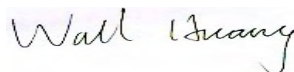
1. VERIFICATION OF CONFORMITY

Applicant	G'FIVE INTERNATIONAL LIMITED
Address	Unit 1, 16/F, Cable TV Tower, 9 Hoi Shing Road, Tsuen Wan, N.T., Hong Kong
Manufacturer	G'FIVE Mobile (Shenzhen) Co., Ltd.
Address	Floor 1-5, Building F, Plant9, Shangxue Industry Park, Bantian Street, Longgang District, Shenzhen City, P. R. China
Product Designation	GSM Mobile Phone
Brand Name	G'FIVE
Test Model	A1
Date of test	May 29, 2013 to June 4, 2013
Deviation	None
Condition of Test Sample	Normal
Report Template	AGCRT-US-BGN/RF (2013-03-01)

We hereby certify that:

The above equipment was tested by Attestation of Global Compliance (Shenzhen) Co., Ltd. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.4 (2003) and the energy emitted by the sample EUT tested as described in this report is in compliance with requirement of FCC Part 15 Rules requirement.

Prepared By



Wall Huang

June 6, 2013

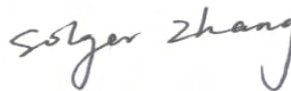
Checked By



Forrest Lei

June 6, 2013

Authorized By



Solger Zhang

June 6, 2013

2. GENERAL INFORMATION

2.1. PRODUCT DESCRIPTION

The EUT is designed as “GSM Mobile Phone”. It is designed by way of utilizing the DSSS and OFDM technology to achieve the system operation.

A major technical description of EUT is described as following

Operation Frequency	2.412 GHz~2.462GHz
Max. Output Power	802.11b:11.91dBm , 802.11g:10.88dBm
Modulation	DSSS(BPSK/DQPSK/CCK);OFDM(16-QAM/64-QAM)
Number of channels	11
Hardware Version	G610
Software Version	N/A
Antenna Designation	Integral antenna
Antenna Gain	1.0dBi
Power Supply	DC3.7V by Built-in Li-ion Battery

2.2. TABLE OF CARRIER FREQUENCIES

Frequency Band	Channel Number	Frequency
2400~2483.5MHZ	1	2412 MHZ
	2	2417 MHZ
	3	2422 MHZ
	4	2427 MHZ
	5	2432 MHZ
	6	2437 MHZ
	7	2442 MHZ
	8	2447 MHZ
	9	2452 MHZ
	10	2457 MHZ
	11	2462 MHZ

Note: For 20MHZ bandwidth system use Channel 1 to Channel 11

2.3. RELATED SUBMITTAL(S) / GRANT (S)

This submittal(s) (test report) is intended for **FCC ID: Z3JA1** filing to comply with the FCC Part 15 requirements.

2.4. TEST METHODOLOGY

Because the EUT received power from DC3.7V lithium battery, so only radiated testing was performed according to the procedures in ANSI C63.4 (2003). Radiated testing was performed at an antenna to EUT distance 3 meters.

2.5. SPECIAL ACCESSORIES

Refer to section 5.2.

2.6. EQUIPMENT MODIFICATIONS

Not available for this EUT intended for grant.

3. MEASUREMENT UNCERTAINTY

Conducted measurement: +/- 2.75dB

Radiated measurement: +/- 3.2dB

4. DESCRIPTION OF TEST MODES

NO.	TEST MODE DESCRIPTION
1	Low channel TX
2	Middle channel TX
3	High channel TX
4	Normal operating (WiFi)

Note:
Transmit by 802.11b with Data rate (1/2/5.5/11)
Transmit by 802.11g with Data rate (6/9/12/18/24/36/48/54)

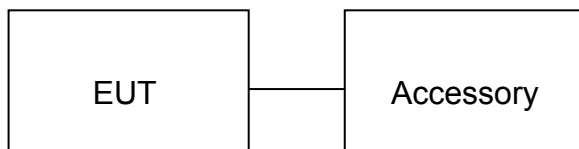
Note:

1. The EUT has been set to operate continuously on the lowest, middle and highest operation frequency individually.
2. All modes under which configure applicable have been tested and the worst mode test data recording in the test report, if no other mode data.
3. For Radiated Emission, 3axis were chosen for testing for each applicable mode.

5. SYSTEM TEST CONFIGURATION

5.1. CONFIGURATION OF EUT SYSTEM

Configure:



5.2. EQUIPMENT USED IN EUT SYSTEM

Item	Equipment	Model No.	ID or Specification	Note
1	GSM Mobile Phone	A1	FCC ID: Z3JA1	EUT
2	Adapter	KT002	DC5.0V /700mA	Accessory
3	Battery	BP-4L	DC3.7V/ 1500 mAh	Accessory
4	Earphone	A1	N/A	Accessory
5	USB Cable	A1	N/A	Accessory

Note: All the accessories have been used during the test in conduction emission test.

5.3. SUMMARY OF TEST RESULTS

FCC RULES	DESCRIPTION OF TEST	RESULT
§15.247	Peak Output Power	Compliant
§15.247	6 dB Bandwidth	Compliant
§15.247	Conducted Spurious Emission	Compliant
§15.247	Maximum Conducted Output Power SPECTRAL Density	Compliant
§15.209	Radiated Emission	Compliant
§15.247	Band Edges	Compliant
§15.207	Line Conduction Emission	Compliant

Note: The EUT received power from DC3.7V lithium battery.

6. TEST FACILITY

Site	Attestation of Global Compliance (Shenzhen) Co., Ltd
Location	2/F., Building 2, No.1-No.4, Chaxi Sanwei Technical Industrial Park, Gushu, Xixiang, Bao'an District, Shenzhen, Guangdong, China
Description	The test site is constructed and calibrated to meet the FCC requirements in documents ANSI C63.4:2003.

ALL TEST EQUIPMENT LIST

Description	Manufacturer	Model	S/N	Cal. Date	Cal. Due
Power meter	R&S	NRP-Z23	100323	07/18/2012	07/17/2013
RF attenuator	N/A	RFA20db	68	N/A	N/A
Spectrum Analyzer	Agilent	E4440A	US41421290	07/18/2012	07/17/2013
Amplifier	EM	EM30180	0607030	07/18/2012	07/17/2013
Horn Antenna	EM	EM-AH-10180	67	04/21/2013	04/20/2014
Horn Antenna	A.H. Systems Inc.	SAS-574	--	07/18/2012	07/17/2013
EMI Test Receiver	Rohde & Schwarz	ESCI	100694	07/18/2012	07/17/2013
Biological Antenna	A.H. Systems Inc.	SAS-521-4	26	06/08/2012	06/09/2013
Loop Antenna	A.H.	SAS-526B	264	07/15/2012	07/14/2013

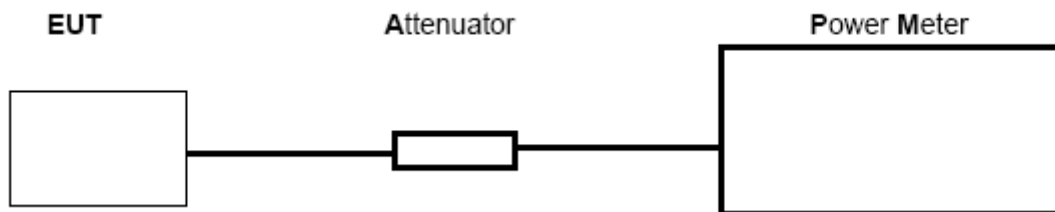
7. PEAK OUTPUT POWER

7.1. MEASUREMENT PROCEDURE

1. The EUT was placed on a table which is 0.8m above ground plane.
2. Connect EUT RF output port to power meter through an RF attenuator
3. Set the EUT Work on the top, the middle and the bottom operation frequency individually.
4. Set the RBW greater than 6DB bandwidth of emission.
5. Record the maximum power from the power meter.
6. The maximum peak power shall be less 1 Watt (30dBm).

Note : The EUT was tested according to KDB 558074 for compliance to FCC 47CFR 15.247 requirements.

7.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)



7.3. LIMITS AND MEASUREMENT RESULT

TEST ITEM	PEAK POWER
TEST MODE	802.11b with data rate 1

LIMITS AND MEASUREMENT RESULT				
Frequency (GHz)	Average Power (dBm)	Peak Power (dBm)	Applicable Limits (dBm)	Pass or Fail
2.412	9.81	11.74	30	Pass
2.437	9.88	11.82	30	Pass
2.462	9.97	11.91	30	Pass

TEST ITEM	PEAK POWER
TEST MODE	802.11g with data rate 6

LIMITS AND MEASUREMENT RESULT				
Frequency (GHz)	Average Power (dBm)	Peak Power (dBm)	Applicable Limits (dBm)	Pass or Fail
2.412	8.82	10.76	30	Pass
2.437	8.88	10.82	30	Pass
2.462	8.94	10.88	30	Pass

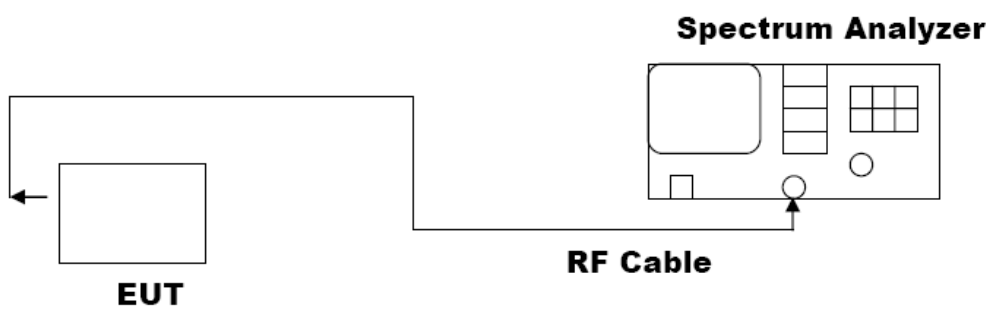
8. 6DB BANDWIDTH

8.1. MEASUREMENT PROCEDURE

1. The EUT was placed on a table which is 0.8m above ground plane.
2. Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
3. Set the EUT Work on the top, the middle and the bottom operation frequency individually.
3. Set SPA Centre Frequency = Operation Frequency, RBW= 100 KHz, VBW $\geq$ RBW.
4. Set SPA Trace 1 Max hold, then View.

Note: The EUT was tested according to KDB 558074 for compliance to FCC 47CFR 15.247 requirements.

8.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)



8.3. LIMITS AND MEASUREMENT RESULTS

TEST ITEM	6DB BANDWIDTH
TEST MODE	802.11b with data rate 11

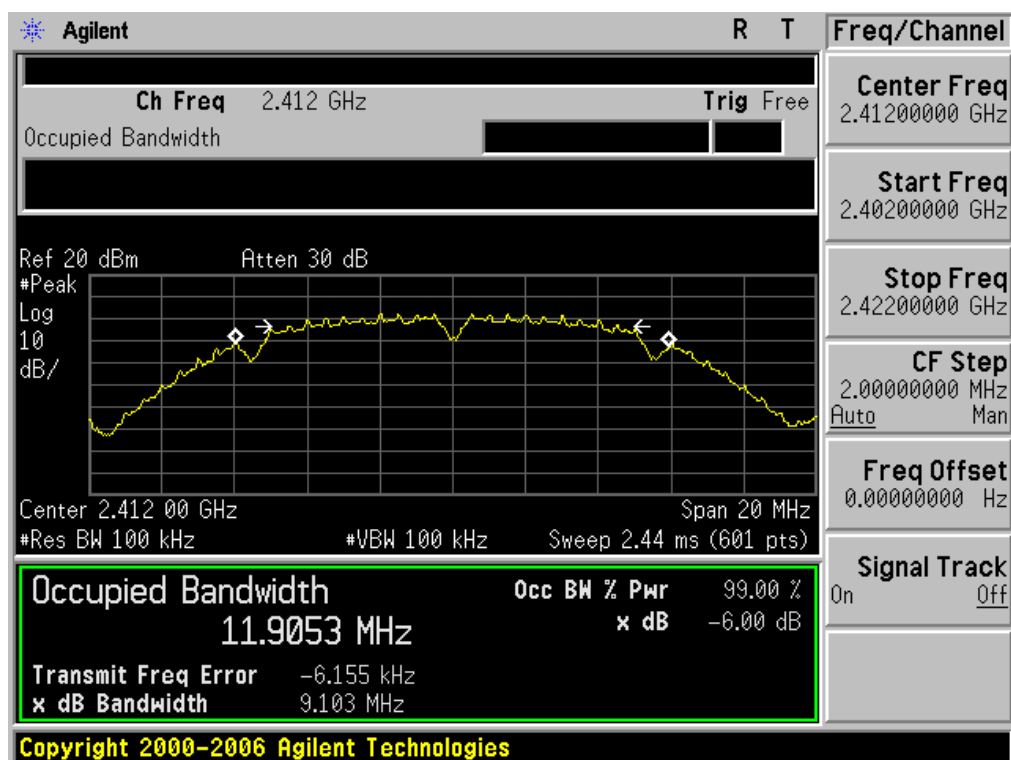
LIMITS AND MEASUREMENT RESULT			
Applicable Limits	Applicable Limits		
	Test Data (MHz)		Criteria
>500KHZ	Low Channel	9.103	PASS
	Middle Channel	9.073	PASS
	High Channel	9.100	PASS

TEST ITEM	6DB BANDWIDTH
TEST MODE	802.11g with data rate 54

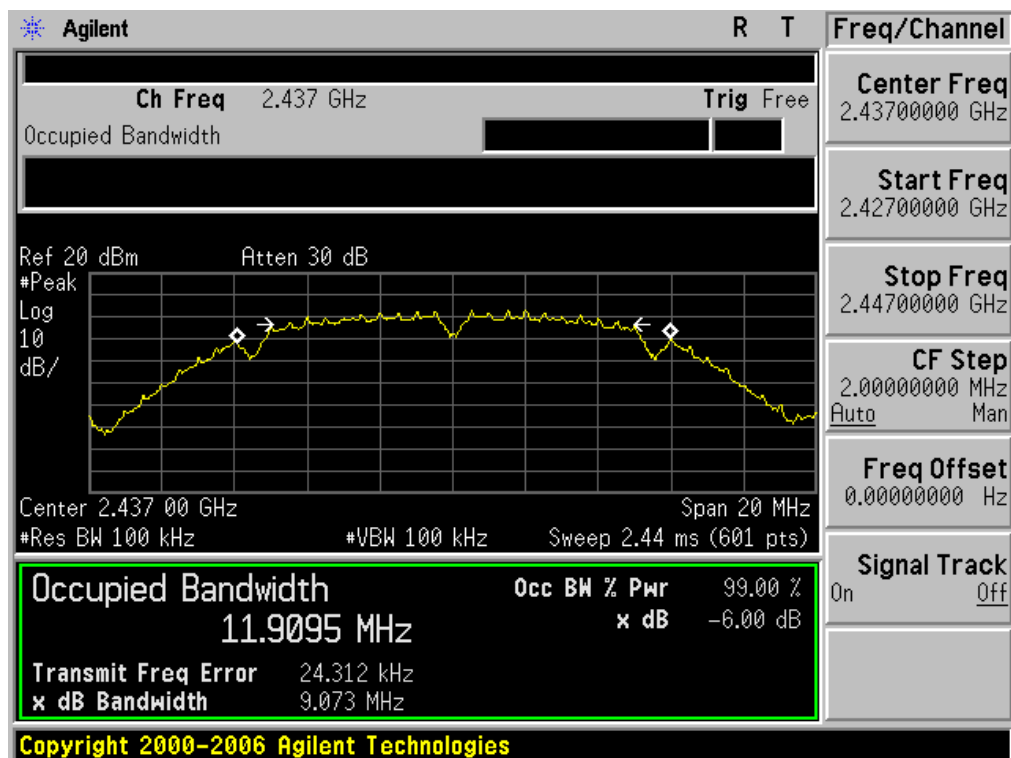
LIMITS AND MEASUREMENT RESULT			
Applicable Limits	Applicable Limits		
	Test Data (MHz)		Criteria
>500KHZ	Low Channel	16.451	PASS
	Middle Channel	16.403	PASS
	High Channel	16.431	PASS

802.11b TEST RESULT

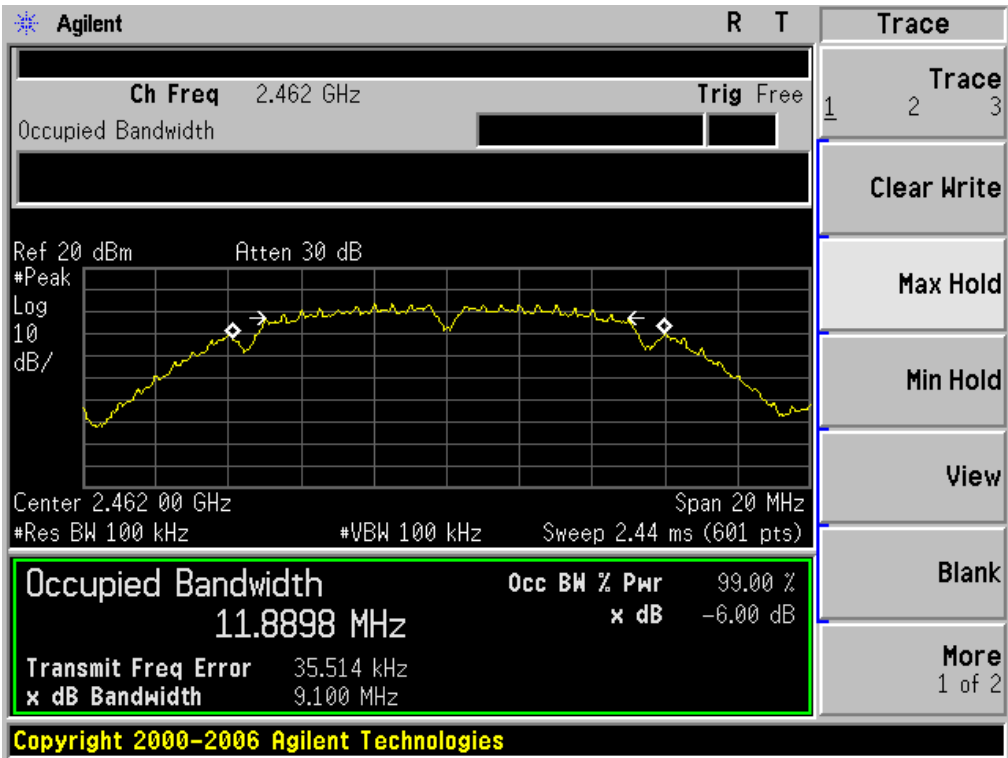
TEST PLOT OF BANDWIDTH FOR LOW CHANNEL



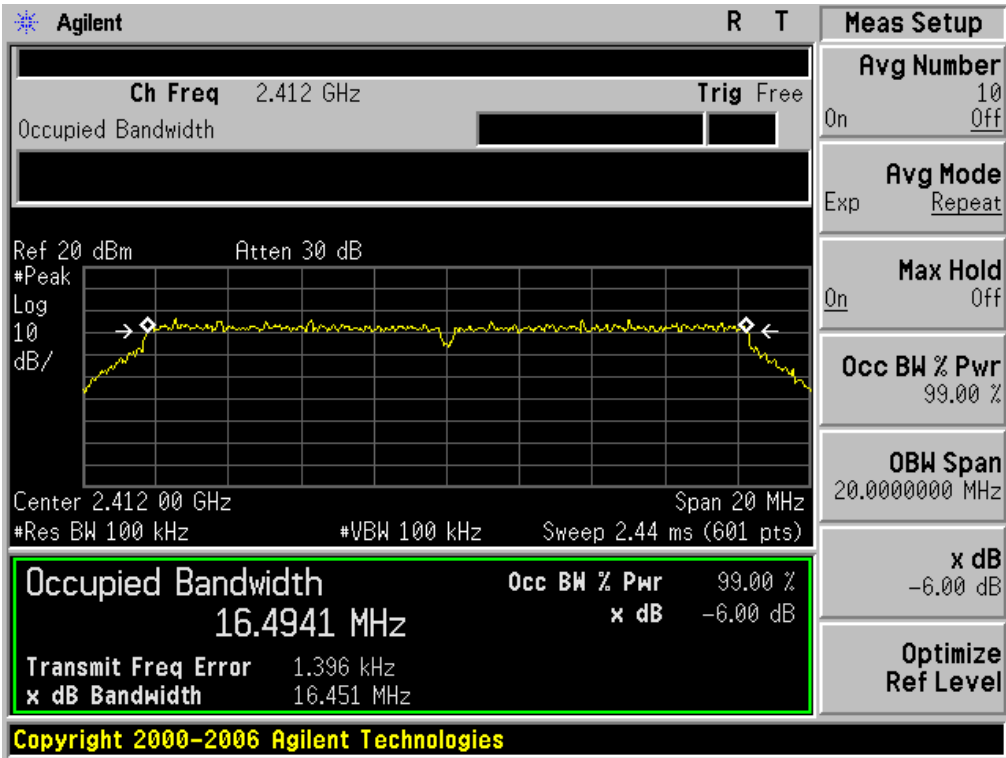
TEST PLOT OF BANDWIDTH FOR MIDDLE CHANNEL



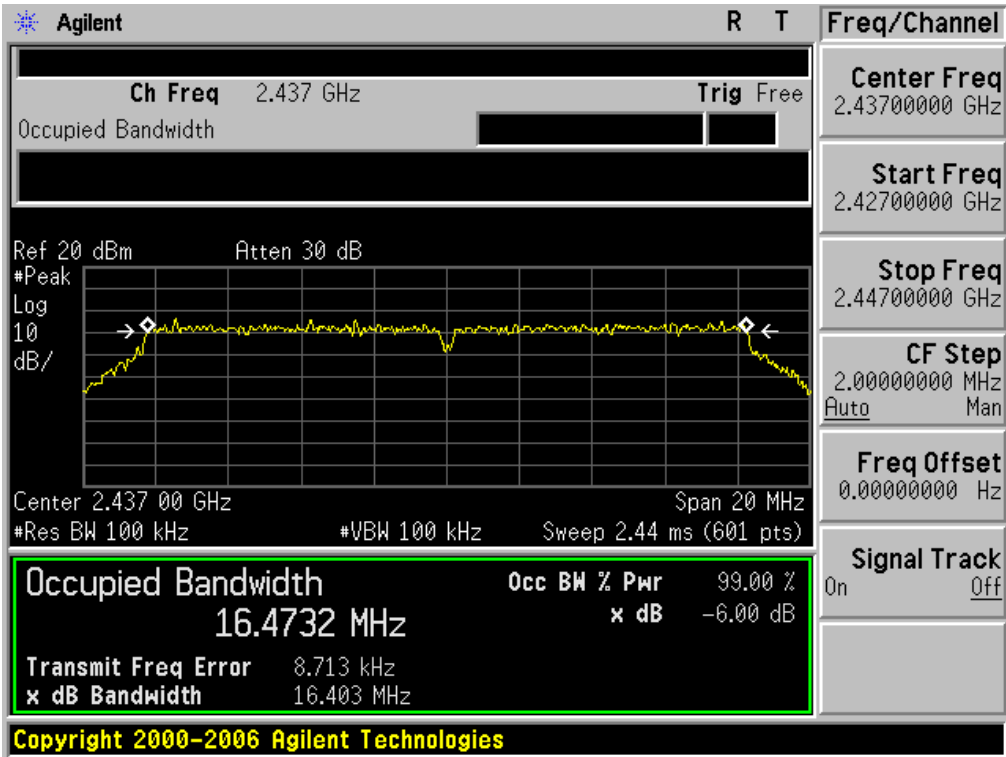
TEST PLOT OF BANDWIDTH FOR HIGH CHANNEL



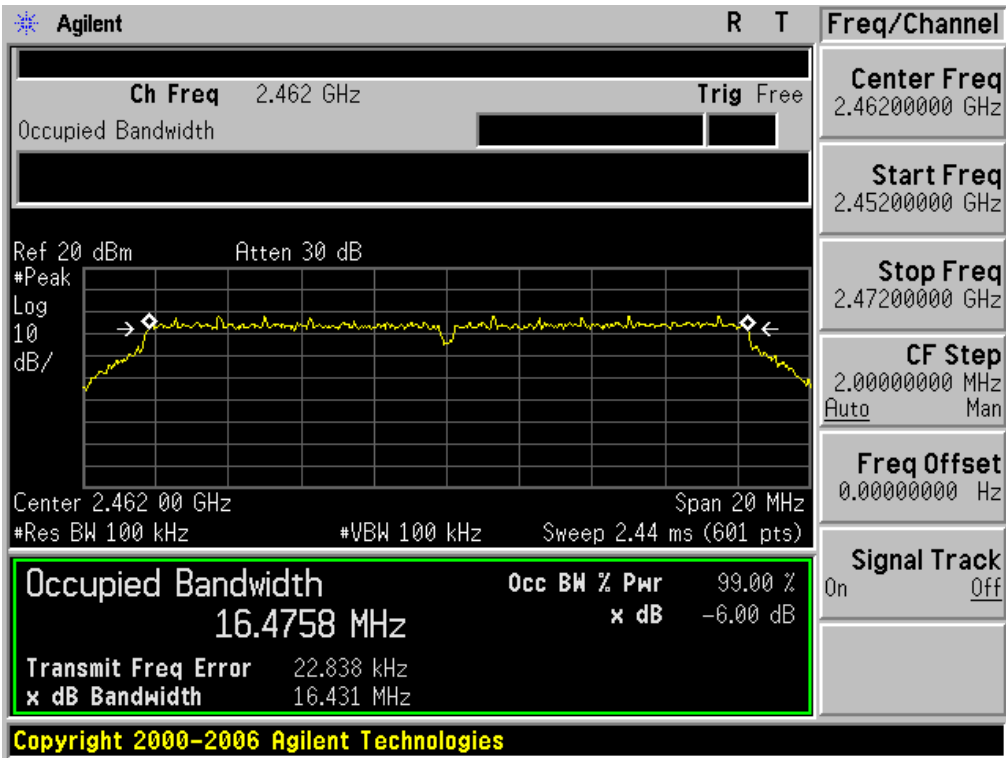
802.11g TEST RESULT
TEST PLOT OF BANDWIDTH FOR LOW CHANNEL



TEST PLOT OF BANDWIDTH FOR MIDDLE CHANNEL



TEST PLOT OF BANDWIDTH FOR HIGH CHANNEL



9. CONDUCTED SPURIOUS EMISSION

9.1. MEASUREMENT PROCEDURE

1. The EUT was placed on a turn table which is 0.8m above ground plane.
1. The EUT was placed on a turn table which is 0.8m above ground plane.
2. Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
- 3, Set the EUT Work on the top, the middle and the bottom operation frequency individually.
4. Set SPA Trace 1 Max hold, then View.

Note: The EUT was tested according to KDB 558074 for compliance to FCC 47CFR 15.247 requirements.
Set RBW = 100 kHz, Set VBW > RBW, scan up through 10th harmonic.

9.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)

The same as described in section 8.2.

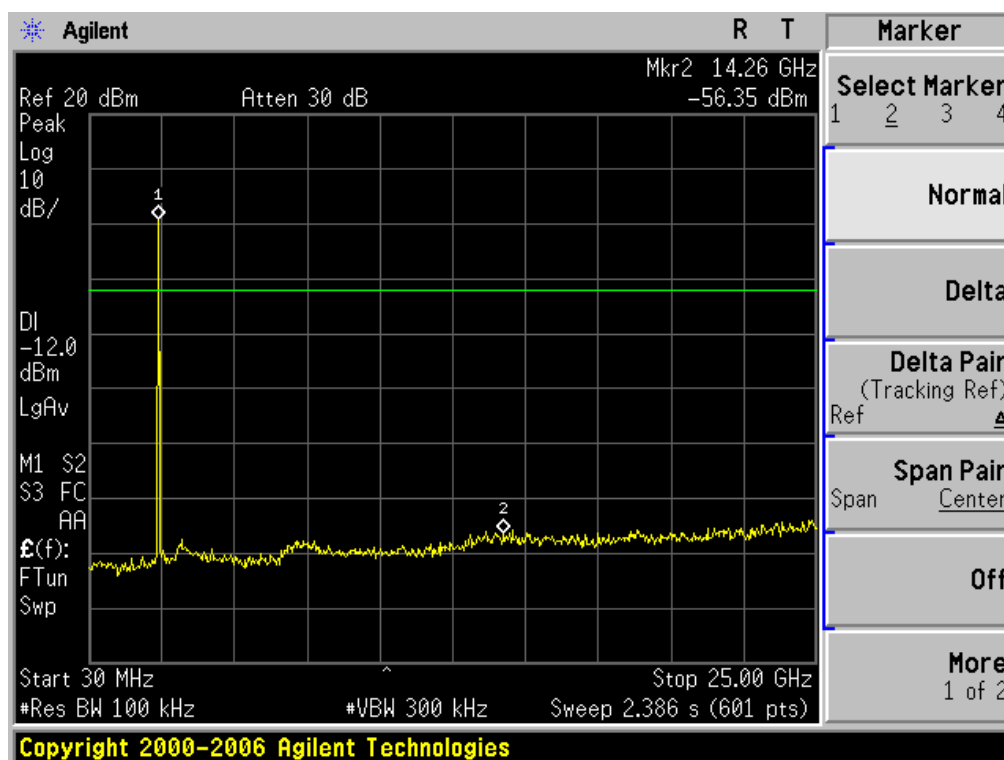
9.3. MEASUREMENT EQUIPMENT USED

The same as described in section 6.

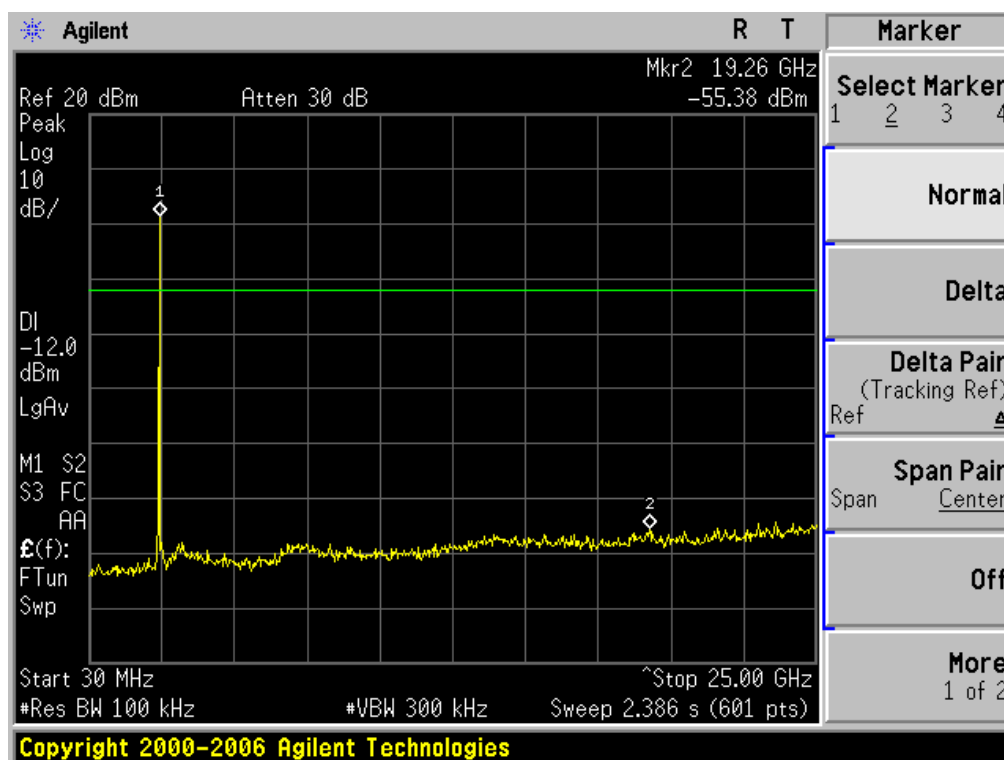
9.4. LIMITS AND MEASUREMENT RESULT

LIMITS AND MEASUREMENT RESULT		
Applicable Limits	Measurement Result	
	Test Data	Criteria
In any 100 KHz Bandwidth Outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produce by the intentional radiator shall be at least 20 dB below that in 100KHz bandwidth within the band that contains the highest level of the desired power. In addition, radiation 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))	At least -20dBc than the limit Specified on the BOTTOM Channel	PASS
	At least -20dBc than the limit Specified on the TOP Channel	PASS

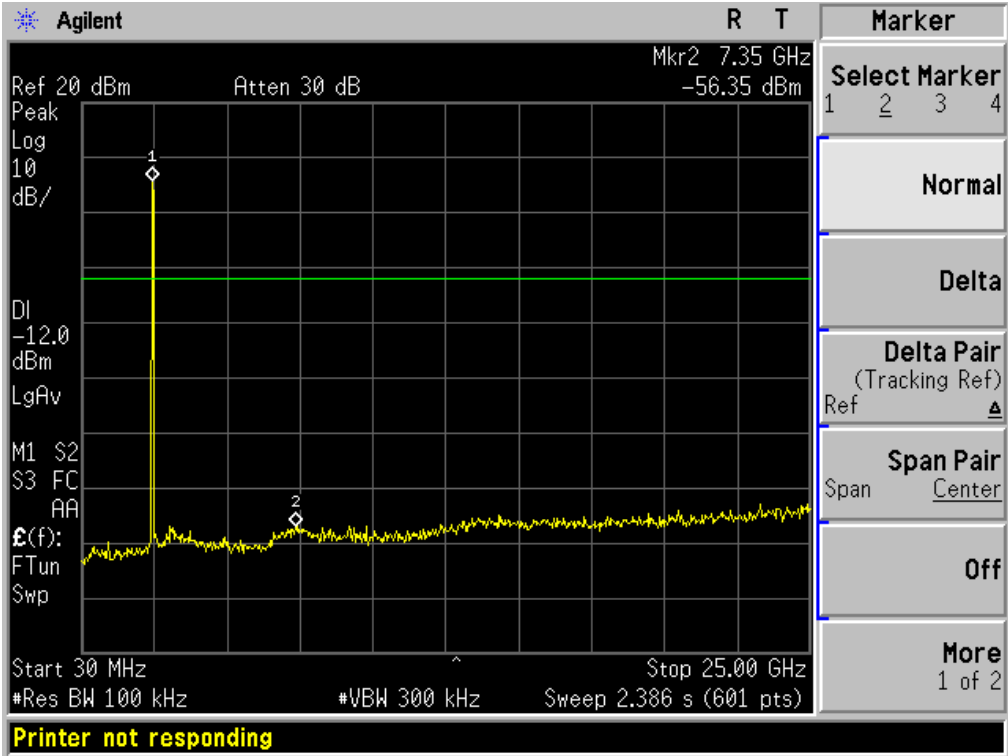
TEST PLOT OF OUT OF BAND EMISSIONS WITH THE WORST CASE
OF 802.11b FOR MODULATION IN LOW CHANNEL



TEST PLOT OF OUT OF BAND EMISSIONS
OF 802.11b FOR MODULATION IN MIDDLE CHANNEL



TEST PLOT OF OUT OF BAND EMISSIONS
OF 802.11b FOR MODULATION IN HIGH CHANNEL



10. MAXIMUM CONDUCTED OUTPUT POWER SPECTRAL DENSITY

10.1 MEASUREMENT PROCEDURE

- (1). The EUT was placed on a turn table which is 0.8m above ground plane.
- (2). Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
- (3). Set the EUT Work on the top, the middle and the bottom operation frequency individually.
- (4). Set SPA Trace 1 Max hold, then View.

10.2 TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)

Refer To Section 8.2.

10.3 MEASUREMENT EQUIPMENT USED

Refer To Section 6.

10.4 LIMITS AND MEASUREMENT RESULT

TEST ITEM	POWER PECTRAL DENSITY
TEST MODE	802.11b with data rate 1

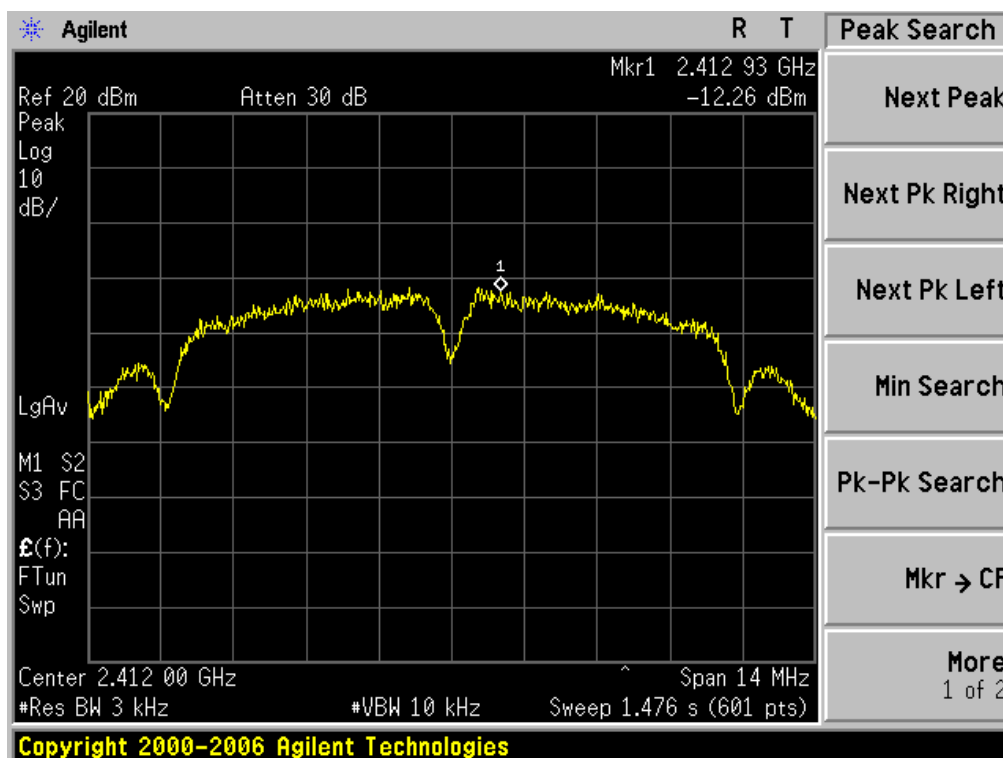
Channel No.	PSD (dBm)	Limit (dBm)	Result
Low Channel	-12.26	8	Pass
Middle Channel	-11.62	8	Pass
High Channel	-10.92	8	Pass

TEST ITEM	POWER PECTRAL DENSITY
TEST MODE	802.11g with data rate 6

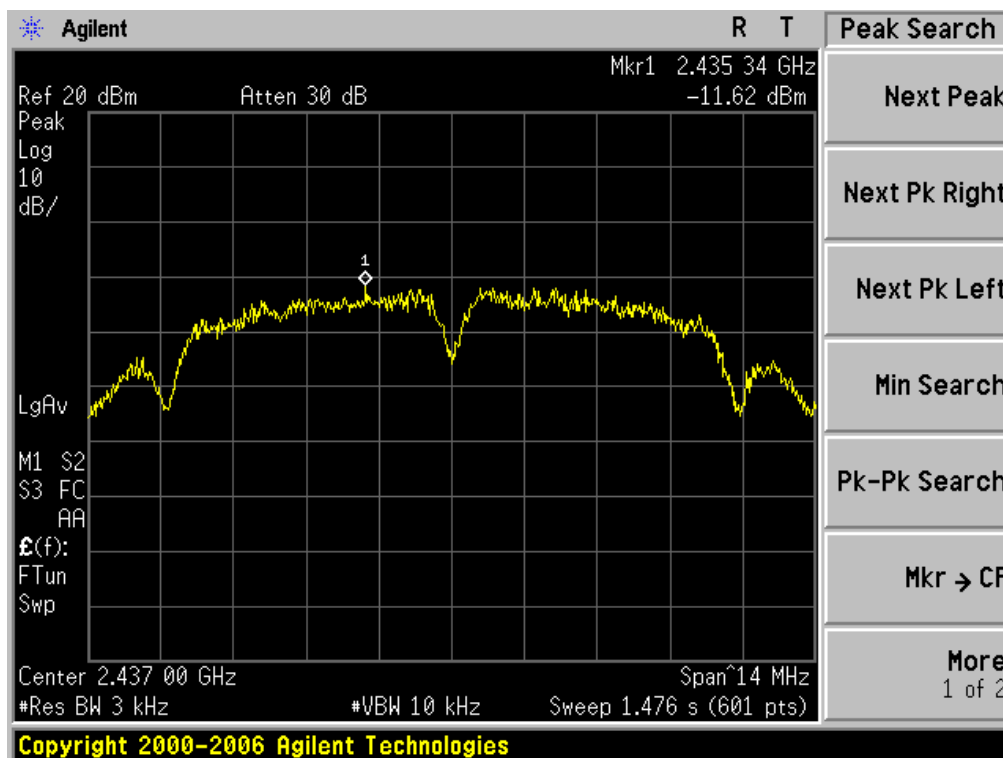
Channel No.	PSD (dBm)	Limit (dBm)	Result
Low Channel	-17.44	8	Pass
Middle Channel	-16.85	8	Pass
High Channel	-15.62	8	Pass

802.11b TEST RESULT

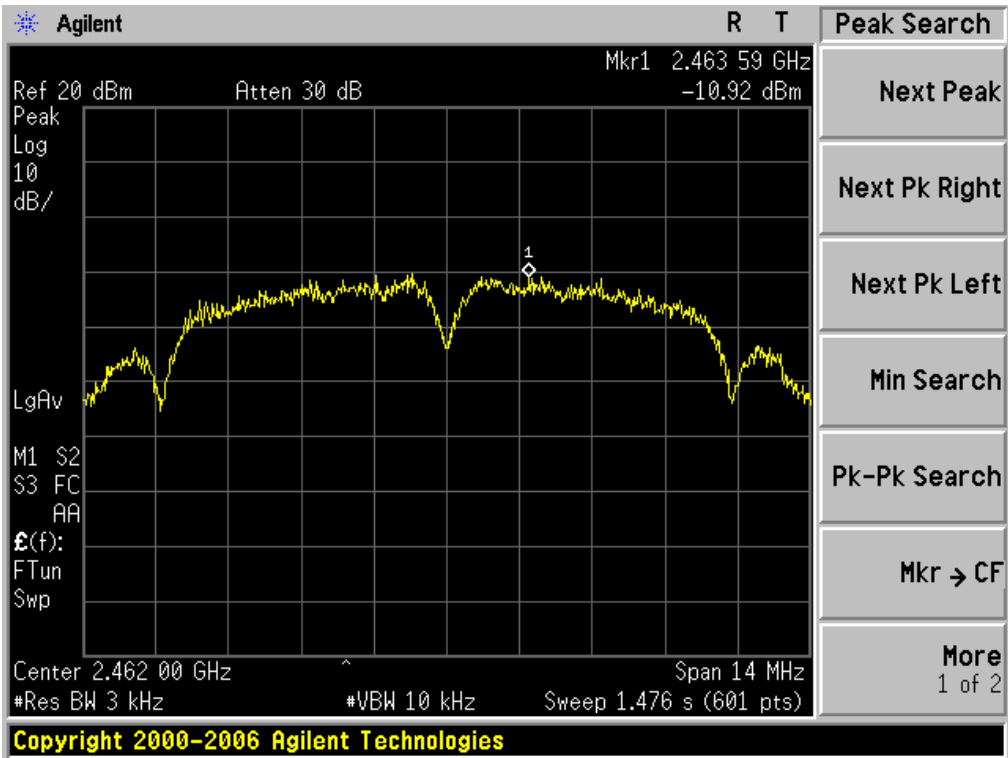
TEST PLOT OF SPECTRAL DENSITY FOR LOW CHANNEL



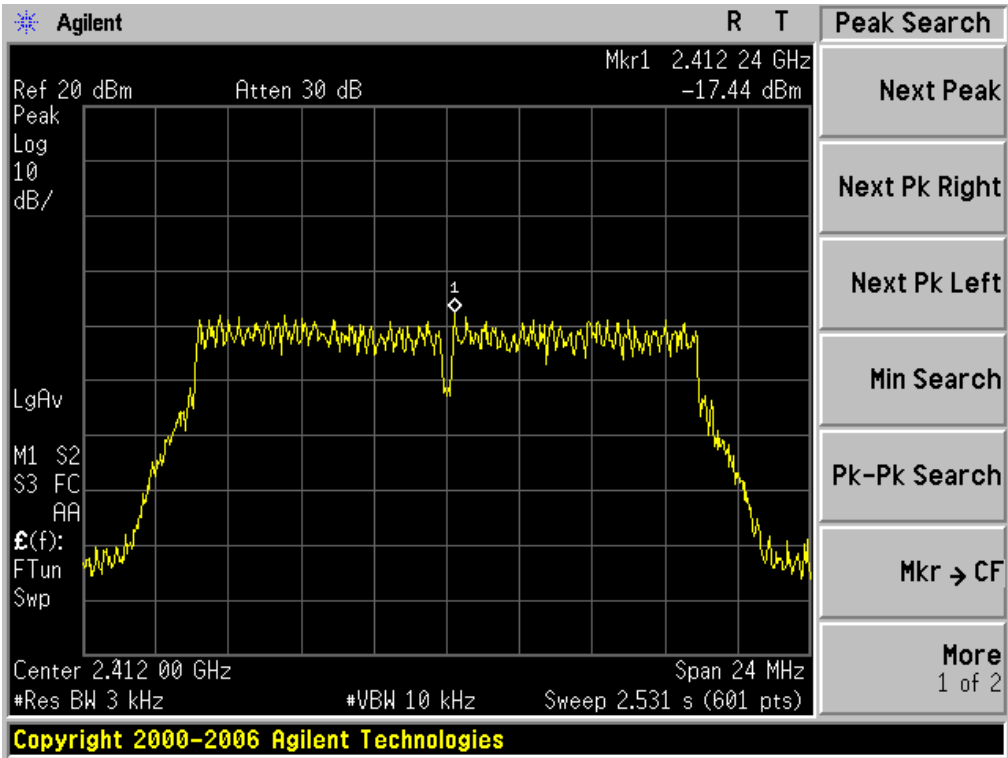
TEST PLOT OF SPECTRAL DENSITY FOR MIDDLE CHANNEL



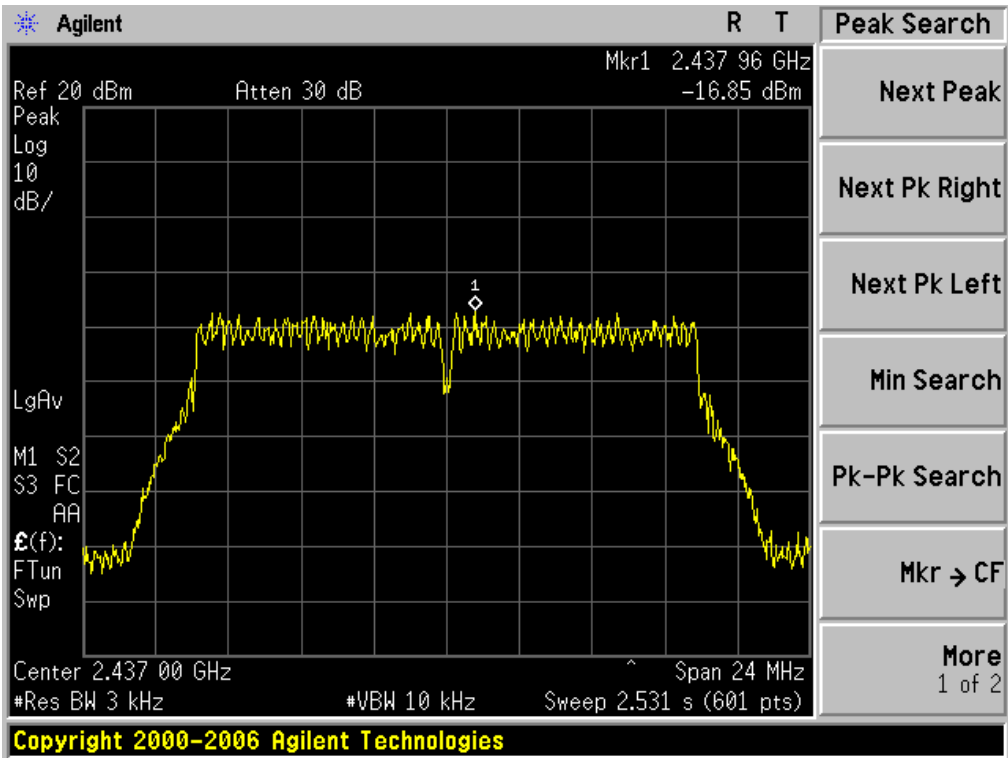
TEST PLOT OF SPECTRAL DENSITY FOR HIGH CHANNEL



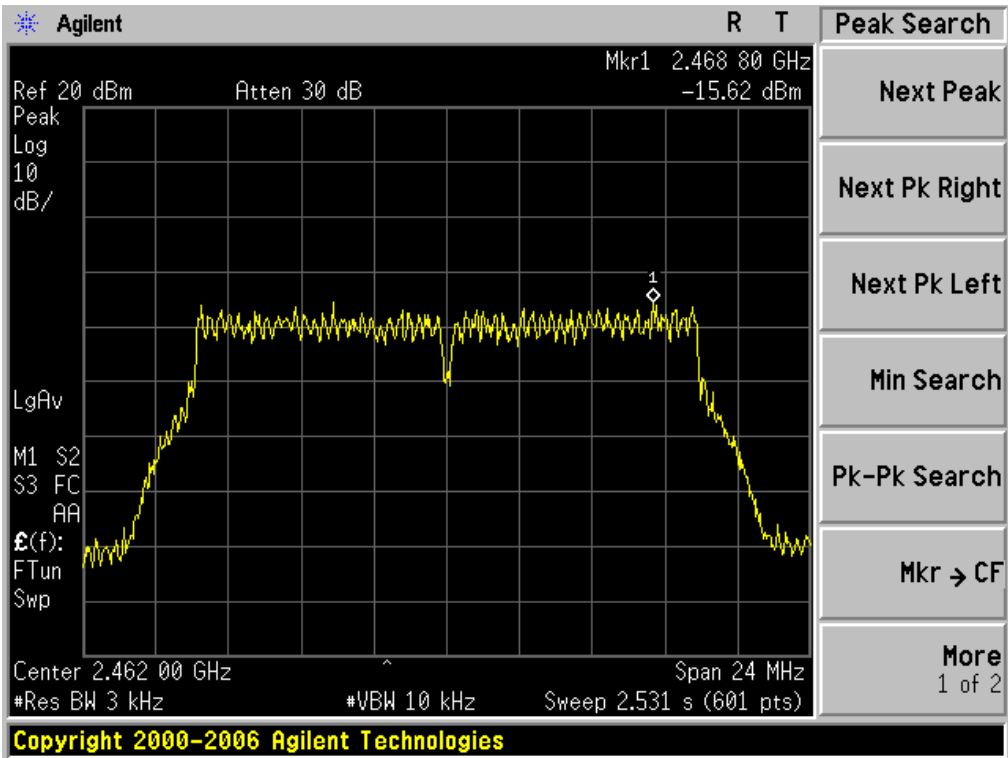
802.11g TEST RESULT
TEST PLOT OF SPECTRAL DENSITY FOR LOW CHANNEL



TEST PLOT OF SPECTRAL DENSITY FOR MIDDLE CHANNEL



TEST PLOT OF SPECTRAL DENSITY FOR HIGH CHANNEL



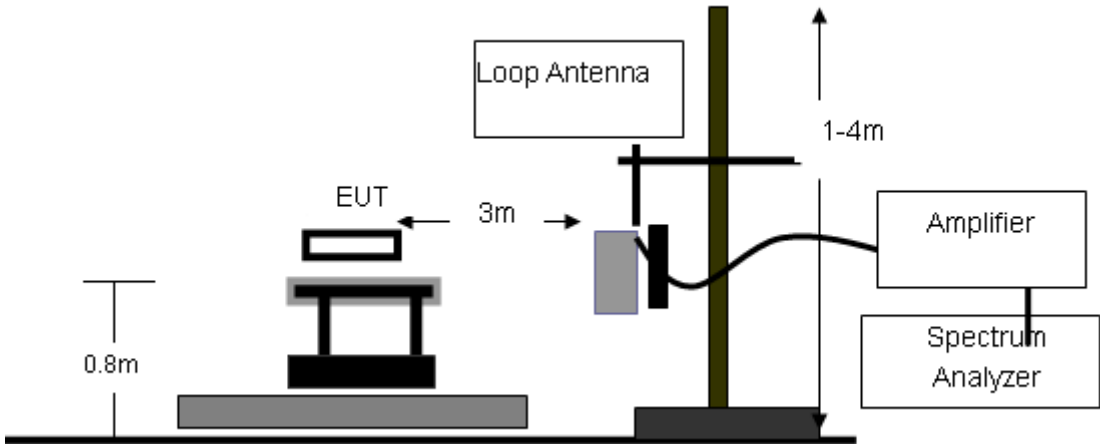
11. RADIATED EMISSION

11.1. MEASUREMENT PROCEDURE

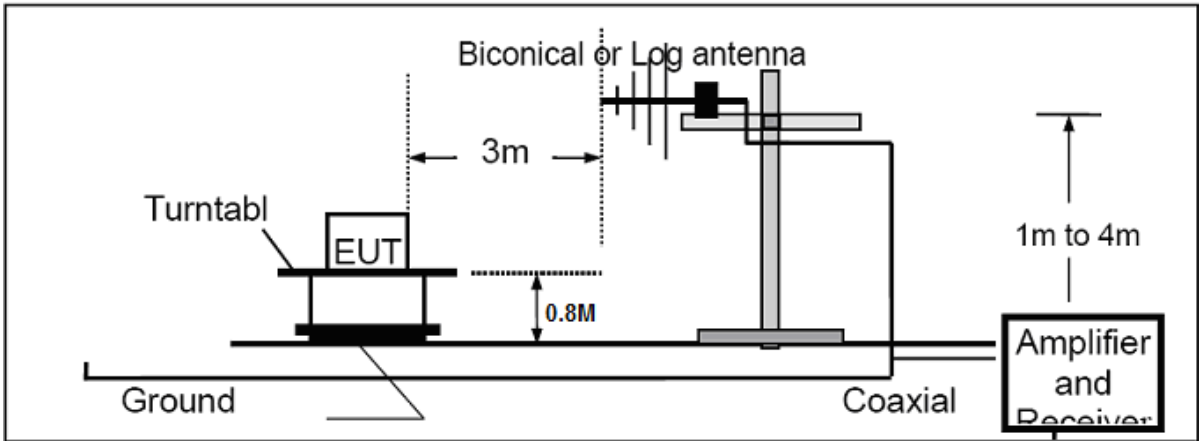
1. Configure the EUT according to ANSI C63.4. The EUT was placed on the top of the turntable 0.8 meter above ground. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 3 meters far away from the turntable.
2. Power on the EUT and all the supporting units. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
3. The height of the broadband receiving antenna was varied between one meter and four meters above ground to find the maximum emissions field strength of both horizontal and vertical polarization.
4. For each suspected emissions, the antenna tower was scan (from 1 M to 4 M) and then the turntable was rotated (from 0 degree to 360 degrees) to find the maximum reading.
5. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function with specified bandwidth under Maximum Hold Mode.
6. For emissions above 1GHz, use 1MHz VBW and RBW for peak reading. Then 1MHz RBW and 10Hz VBW for average reading in spectrum analyzer.
7. When the radiated emissions limits are expressed in terms of the average value of the emissions, and pulsed operation is employed, the measurement field strength shall be determined by averaging over one complete pulse train, including blanking intervals, as long as the pulse train does not exceed 0.1 seconds. As an alternative (provided the transmitter operates for longer than 0.1 seconds) or in cases where the pulse train exceeds 0.1 seconds, the measured field strength shall be determined from the average absolute voltage during a 0.1 second interval during which the field strength is at its maximum values.
8. If the emissions level of the EUT in peak mode was 3 dB lower than the average limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method for below 1GHz.
9. For testing above 1GHz, the emissions level of the EUT in peak mode was lower than average limit (that means the emissions level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
10. In case the emission is lower than 30MHz, loop antenna has to be used for measurement and the recorded data should be QP measured by receiver. High - Low scan is not required in this case.

11.2. TEST SETUP

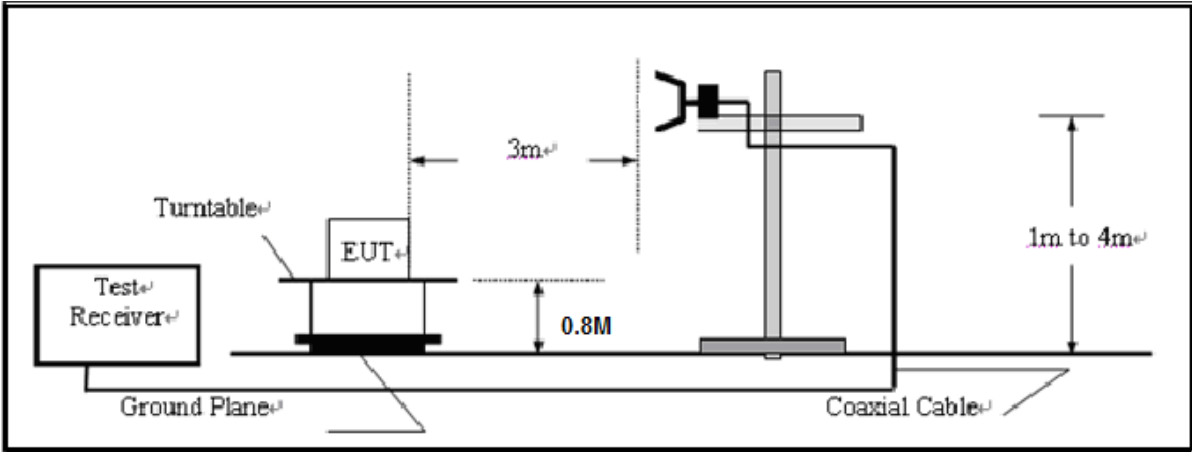
RADIATED EMISSION TEST SETUP BELOW 30MHz



RADIATED EMISSION TEST SETUP 30MHz-1000MHz



RADIATED EMISSION TEST SETUP ABOVE 1000MHz



11.3. LIMITS AND MEASUREMENT RESULT

15.209(a) Limit in the below table has to be followed

Frequencies (MHz)	Field Strength (micorvolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(KHz)	300
0.490~1.705	24000/F(KHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

Note: All modes were tested For restricted band radiated emission,
the test records reported below are the worst result compared to other modes.

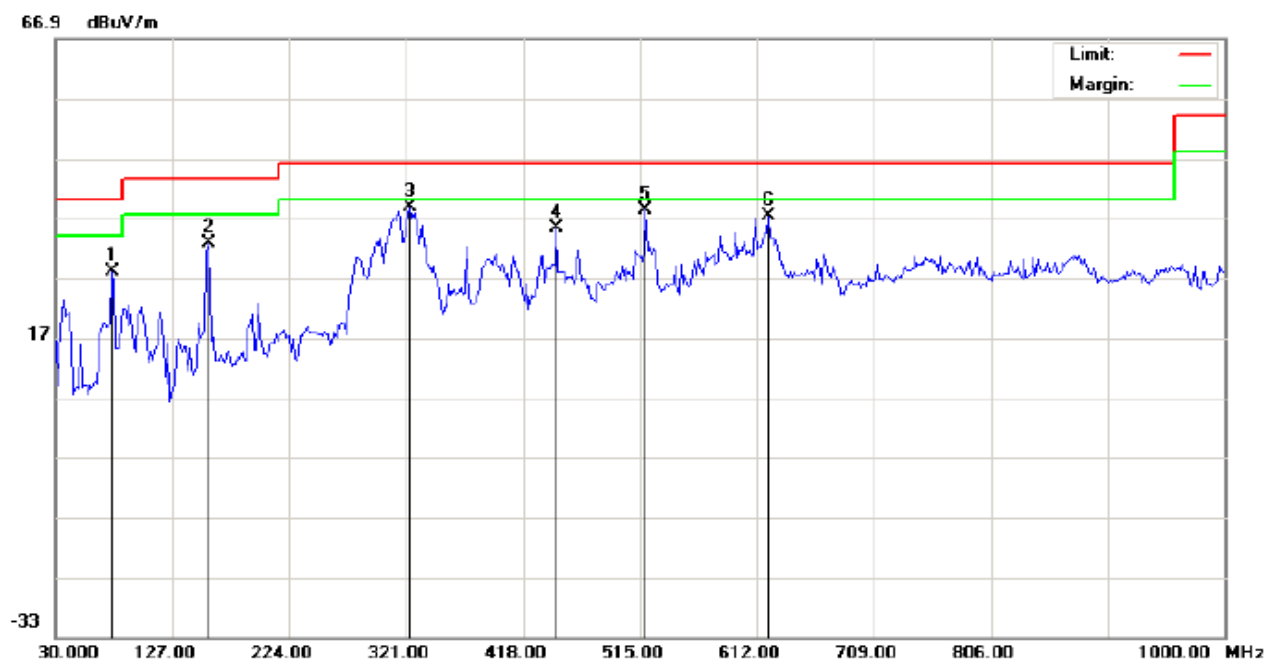
11.4. TEST RESULT

RADIATED EMISSION BELOW 30MHZ

No emission found between lowest internal used/generated frequencies to 30MHz.

RADIATED EMISSION BELOW 1GHZ

EUT	GSM Mobile Phone	Model Name	A1
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11b with date rate 1 2412MHZ	Antenna	Horizontal



Site: site #1
Limit: FCC Class B 3M Radiation
EUT: GSM Mobile Phone
M/N: A1
Mode: Low Channel TX
Note:

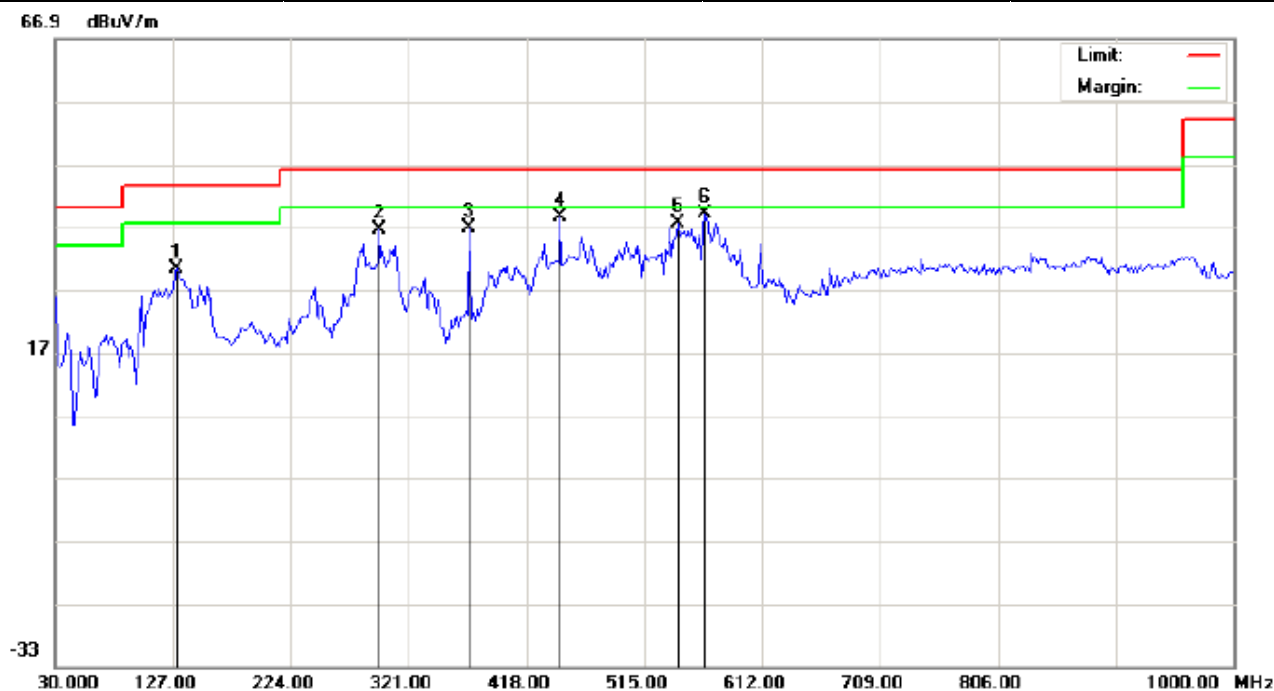
Polarization: **Horizontal**
Power:
Distance: 3m

Temperature: 26
Humidity: 60 %

No.	Mk	Freq. MHz	Reading dBuV	Factor dB/m	Measurement dBuV/m	Limit dBuV/m	Over dB	Detector	Antenna Height cm	Table Degree degree	Comment
1		76.8833	22.40	5.63	28.03	40.00	-11.97	peak			
2		157.7167	28.46	4.38	32.84	43.50	-10.66	peak			
3	*	324.2332	19.34	19.44	38.78	46.00	-7.22	peak			
4		445.4832	13.62	21.59	35.21	46.00	-10.79	peak			
5		519.8500	15.13	23.09	38.22	46.00	-7.78	peak			
6		621.7000	11.35	25.91	37.26	46.00	-8.74	peak			

RESULT: PASS

EUT	GSM Mobile Phone	Model Name	A1
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11b with date rate 1 2412MHZ	Antenna	Vertical



Site: site #1
Limit: FCC Class B 3M Radiation
EUT: GSM Mobile Phone
M/N: A1
Mode: Low Channel TX
Note:

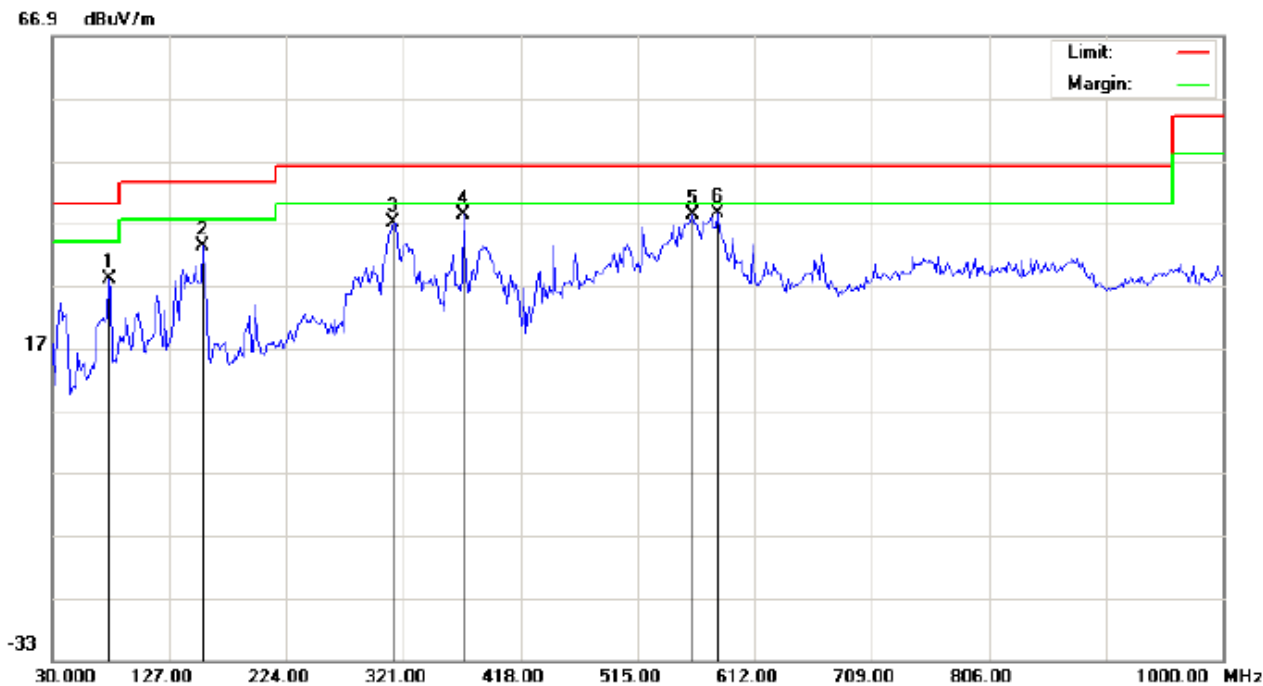
Polarization: **Vertical**
Power:
Distance: 3m

Temperature: 26
Humidity: 60 %

No.	Mk	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Antenna Height	Table Degree	Comment
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	degree	
1		130.2333	29.15	1.22	30.37	43.50	-13.13	peak			
2		296.7500	18.81	17.63	36.44	46.00	-9.56	peak			
3		371.1166	16.71	19.98	36.69	46.00	-9.31	peak			
4		445.4832	16.92	21.59	38.51	46.00	-7.49	peak			
5		542.4832	14.42	23.14	37.56	46.00	-8.44	peak			
6	*	565.1167	15.01	24.00	39.01	46.00	-6.99	peak			

RESULT: PASS

EUT	GSM Mobile Phone	Model Name	A1
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11b with date rate 1 2437MHZ	Antenna	Horizontal



Site: site #1
Limit: FCC Class B 3M Radiation
EUT: GSM Mobile Phone
M/N: A1
Mode: Middle Channel TX
Note:

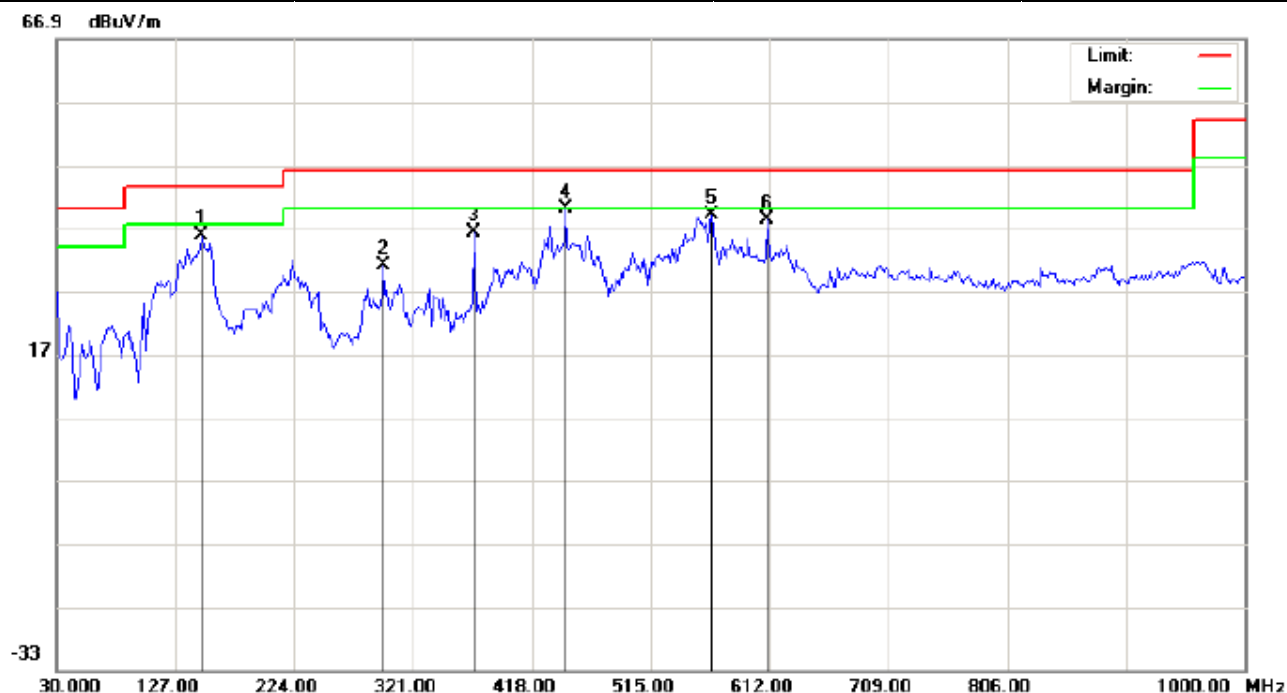
Polarization: *Horizontal*
Power:
Distance: 3m

Temperature: 26
Humidity: 60 %

No.	Mk	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Antenna Height	Table Degree	Comment
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	degree	
1		76.8833	22.40	5.63	28.03	40.00	-11.97	peak			
2		154.4833	27.63	5.71	33.34	43.50	-10.16	peak			
3		312.9166	18.47	18.68	37.15	46.00	-8.85	peak			
4		371.1166	18.36	19.98	38.34	46.00	-7.66	peak			
5		560.2667	14.49	23.82	38.31	46.00	-7.69	peak			
6	*	581.2833	13.87	24.58	38.45	46.00	-7.55	peak			

RESULT: PASS

EUT	GSM Mobile Phone	Model Name	A1
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11b with date rate 1 2437MHZ	Antenna	Vertical



Site: site #1
Limit: FCC Class B 3M Radiation
EUT: GSM Mobile Phone
M/N: A1
Mode: Middle Channel TX
Note:

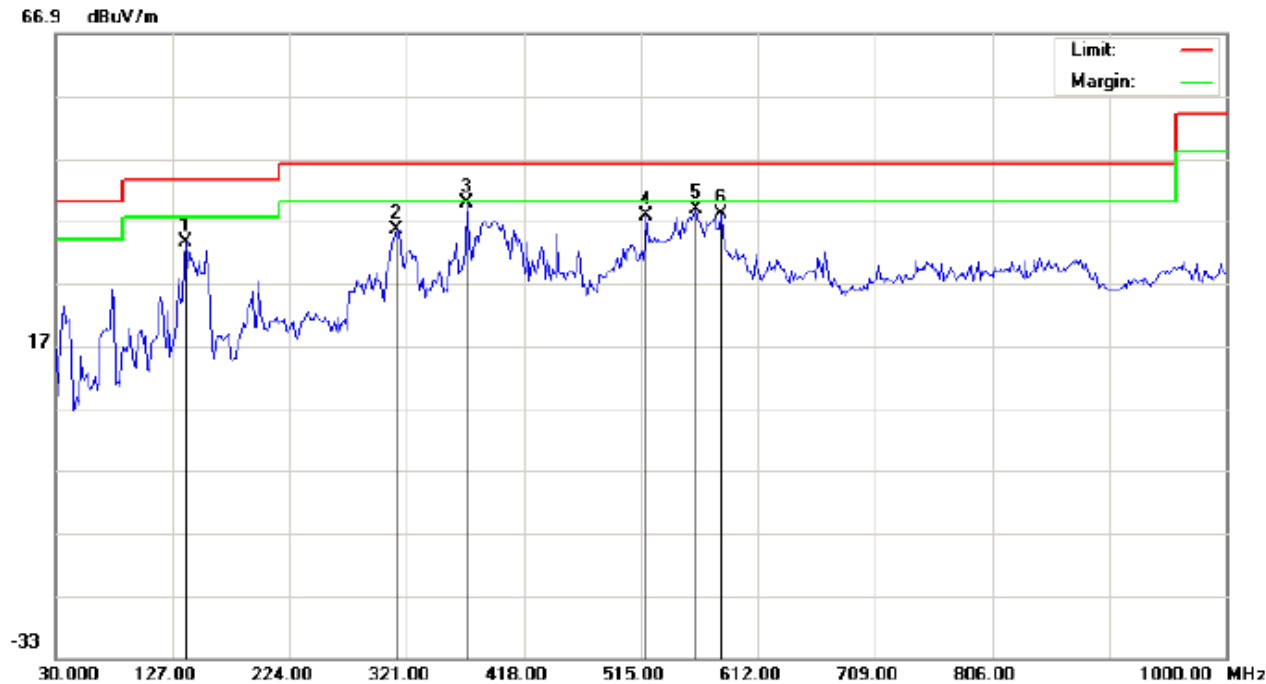
Polarization: **Vertical**
Power:
Distance: 3m

Temperature: 26
Humidity: 60 %

No.	Mk	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Antenna Height	Table Degree	Comment
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	degree	
1		148.0166	29.05	6.76	35.81	43.50	-7.69	peak			
2		296.7500	13.31	17.63	30.94	46.00	-15.06	peak			
3		371.1166	16.21	19.98	36.19	46.00	-9.81	peak			
4	*	445.4832	18.42	21.59	40.01	46.00	-5.99	peak			
5		565.1167	15.01	24.00	39.01	46.00	-6.99	peak			
6		610.3831	12.82	25.46	38.28	46.00	-7.72	peak			

RESULT: PASS

EUT	GSM Mobile Phone	Model Name	A1
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11b with data rate 1 2462MHZ	Antenna	Horizontal



Site: site #1
Limit: FCC Class B 3M Radiation
EUT: GSM Mobile Phone
M/N: A1
Mode: High Channel TX
Note:

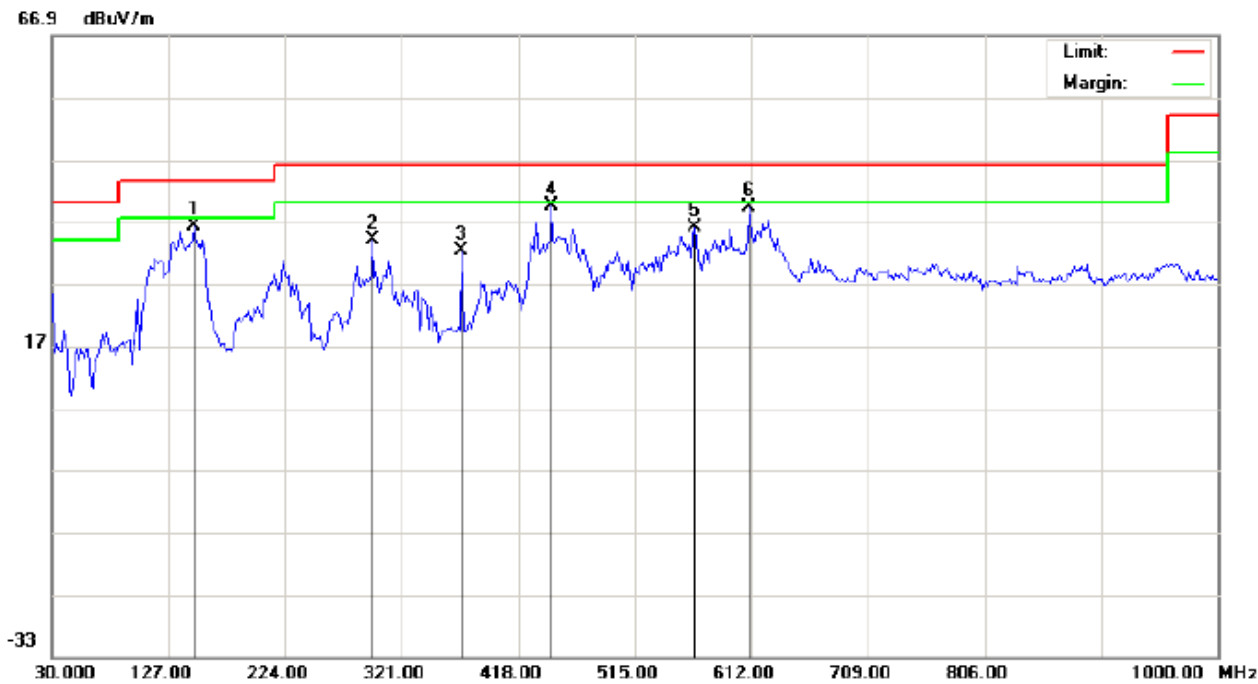
Polarization: *Horizontal*
Power:
Distance: 3m

Temperature: 26
Humidity: 60 %

No.	Mk	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Antenna Height	Table Degree	Comment
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	degree	
1		138.3163	30.37	3.16	33.53	43.50	-9.97	peak			
2		312.9166	16.97	18.68	35.65	46.00	-10.35	peak			
3	*	371.1166	19.86	19.98	39.84	46.00	-6.16	peak			
4		519.8500	14.63	23.09	37.72	46.00	-8.28	peak			
5		560.2667	14.99	23.82	38.81	46.00	-7.19	peak			
6		581.2833	13.37	24.58	37.95	46.00	-8.05	peak			

RESULT: PASS

EUT	GSM Mobile Phone	Model Name	A1
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11b with date rate 1 2462MHZ	Antenna	Vertical



Site: site #1	Polarization: Vertical	Temperature: 26
Limit: FCC Class B 3M Radiation	Power:	Humidity: 60 %
EUT: GSM Mobile Phone	Distance: 3m	
M/N: A1		
Mode: High Channel TX		
Note:		

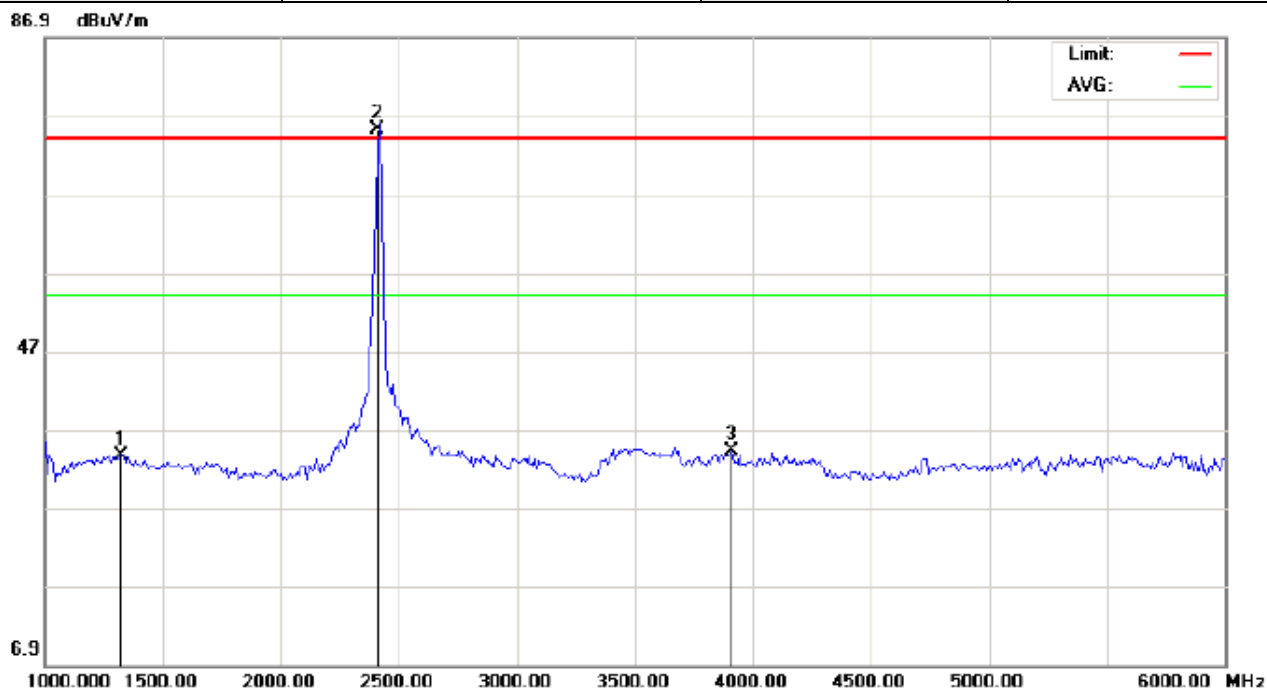
No.	Mk	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Antenna Height	Table Degree	Comment
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	degree	
1		148.0166	29.55	6.76	36.31	43.50	-7.19	peak			
2		296.7500	16.31	17.63	33.94	46.00	-12.06	peak			
3		371.1166	12.21	19.98	32.19	46.00	-13.81	peak			
4	*	445.4832	17.92	21.59	39.51	46.00	-6.49	peak			
5		565.1167	12.01	24.00	36.01	46.00	-9.99	peak			
6		610.3831	13.82	25.46	39.28	46.00	-6.72	peak			

RESULT: PASS

Note: Measurement= Reading + Factor, Over=Measure-Limit.

RADIATED EMISSION ABOVE 1GHZ

EUT	GSM Mobile Phone	Model Name	A1
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11b with data rate 1 2412MHZ	Antenna	Horizontal



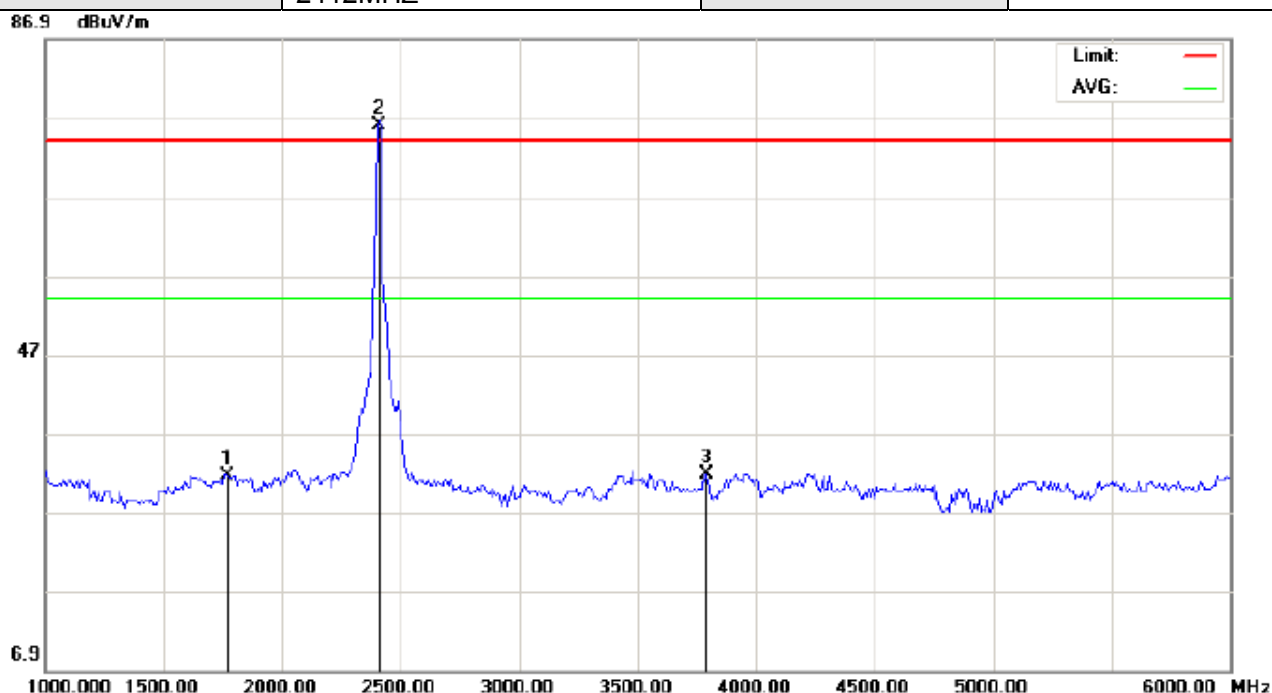
Site: site #1 Polarization: **Horizontal** Temperature: 26
Limit: FCC Class B 3M Radiation above 1GHZ(PK) Power: Humidity: 60 %
EUT: GSM Mobile Phone Distance: 3m
M/N: A1
Mode: Low Channel TX
Note:

No.	Mk	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Antenna Height	Table Degree	Comment
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	degree	
1		1325.000	33.59	0.00	33.59	74.00	-40.41	peak			
2	*	2412.000	75.16	0.00	75.16	74.00	1.16	peak			
3		3908.333	34.16	0.00	34.16	74.00	-39.84	peak			

**The mark 2 is the basic frequency.

RESULT: PASS

EUT	GSM Mobile Phone	Model Name	A1
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11b with date rate 1 2412MHZ	Antenna	Vertical



Site: site #1 Polarization: **Vertical** Temperature: 26
Limit: FCC Class B 3M Radiation above 1GHZ(PK) Power: Humidity: 60 %
EUT: GSM Mobile Phone Distance: 3m
M/N: A1
Mode: Low Channel TX
Note:

No.	Mk	Freq. MHz	Reading dBuV	Factor dB/m	Measurement dBuV/m	Limit dBuV/m	Over dB	Detector	Antenna Height cm	Table Degree degree	Comment
1		1766.667	31.55	0.00	31.55	74.00	-42.45	peak			
2	*	2412.000	75.92	0.00	75.92	74.00	1.92	peak			
3		3791.667	31.82	0.00	31.82	74.00	-42.18	peak			

**The mark 2 is the basic frequency.

RESULT: PASS

Note: The other modes radiation emissions have more than 20dB margin.

Measurement= Reading + Factor, Over=Measure-Limit.

All modes radiation emission from 6GHz to 25GHz at least have 20dB margin.

12. BAND EDGE EMISSION

12.1. MEASUREMENT PROCEDURE

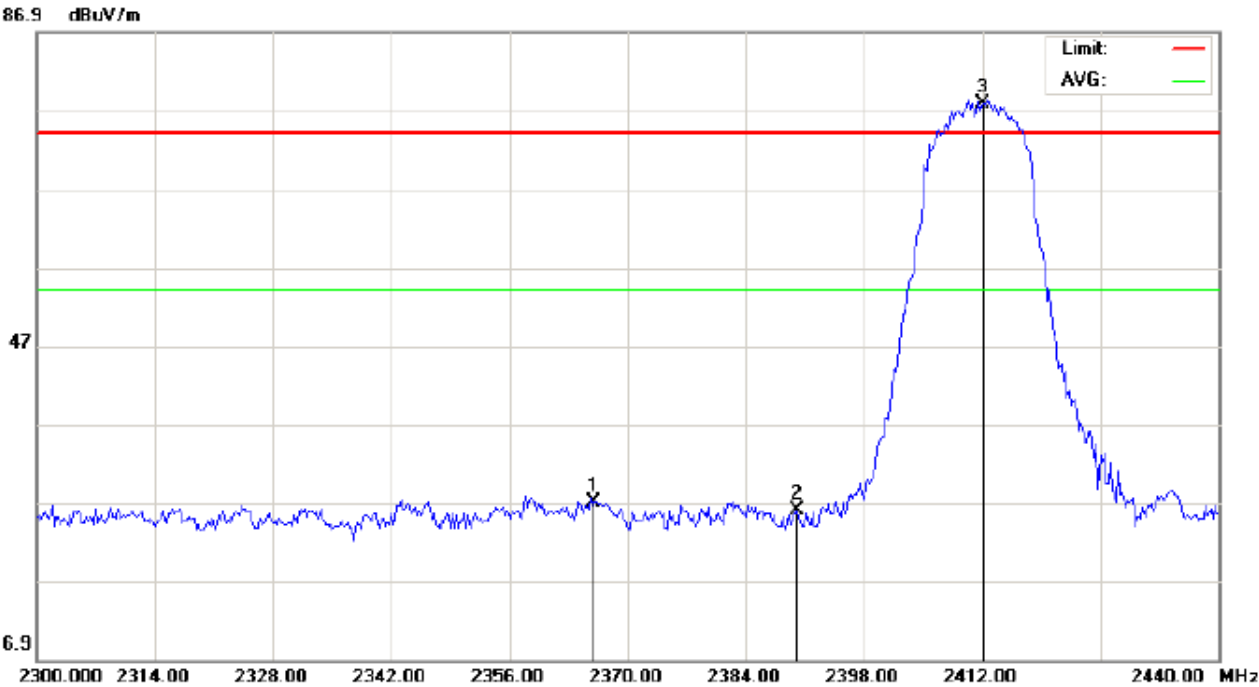
1. Set the EUT Work on the top, the bottom operation frequency individually.
2. Set SPA Start or Stop Frequency = Operation Frequency, $RBW \geq 1\% \text{span}$, $VBW \geq RBW$
3. The band edges was measured and recorded.

12.2. TEST SET-UP

Radiated same as 11.2

12.3. TEST RESULT

EUT	GSM Mobile Phone	Model Name	A1
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11b with data rate 1 2412MHZ	Antenna	Horizontal



Site: site #1

Limit: FCC Class B 3M Radiation above 1GHZ(PK)

EUT: GSM Mobile Phone

M/N: A1

Mode: 802.11b Low channel TX

Note:

Polarization: *Horizontal*

Power:

Distance: 3m

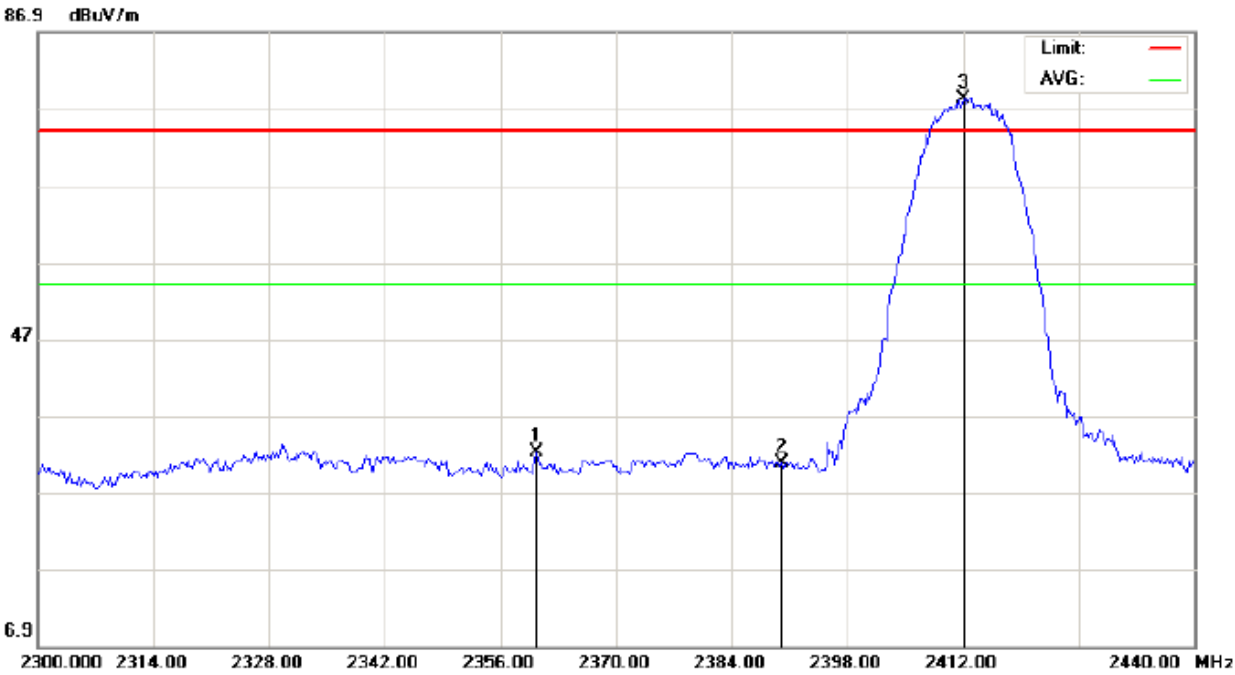
Temperature: 26

Humidity: 60 %

No.	Mk	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Antenna Height	Table Degree	Comment
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	degree	
1		2366.033	27.08	0.00	27.08	74.00	-46.92	peak			
2		2390.004	26.10	0.00	26.10	74.00	-47.90	peak			
3	*	2412.003	77.73	0.00	77.73	74.00	3.73	peak			

RESULT: PASS

EUT	GSM Mobile Phone	Model Name	A1
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11b with data rate 1 2412MHZ	Antenna	Vertical

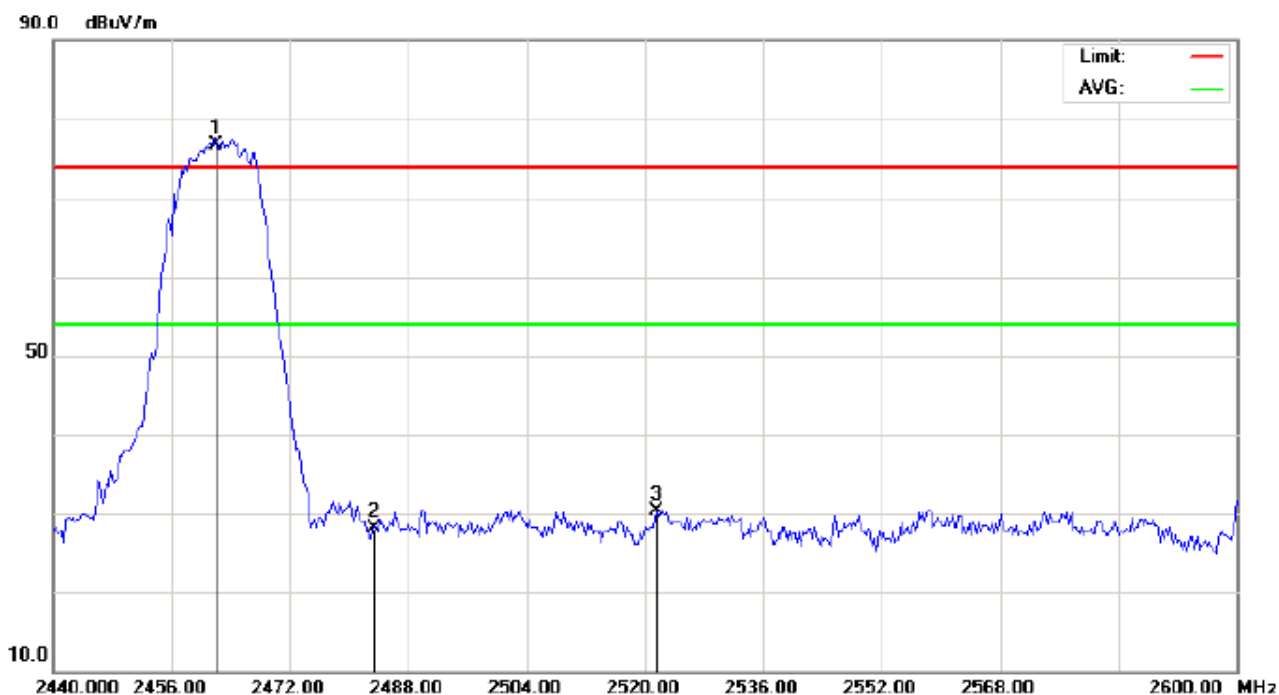


Site: site #1 Polarization: **Vertical** Temperature: 26
Limit: FCC Class B 3M Radiation above 1GHZ(PK) Power: Humidity: 60 %
EUT: GSM Mobile Phone Distance: 3m
M/N: A1
Mode: 802.11b Low channel TX
Note:

No.	Mk	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Antenna Height	Table Degree	Comment
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	degree	
1		2360.433	32.16	0.00	32.16	74.00	-41.84	peak			
2		2390.000	30.75	0.00	30.75	74.00	-43.25	peak			
3	*	2412.000	78.19	0.00	78.19	74.00	4.19	peak			

RESULT: PASS

EUT	GSM Mobile Phone	Model Name	A1
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11b with data rate 1 2462MHZ	Antenna	Horizontal

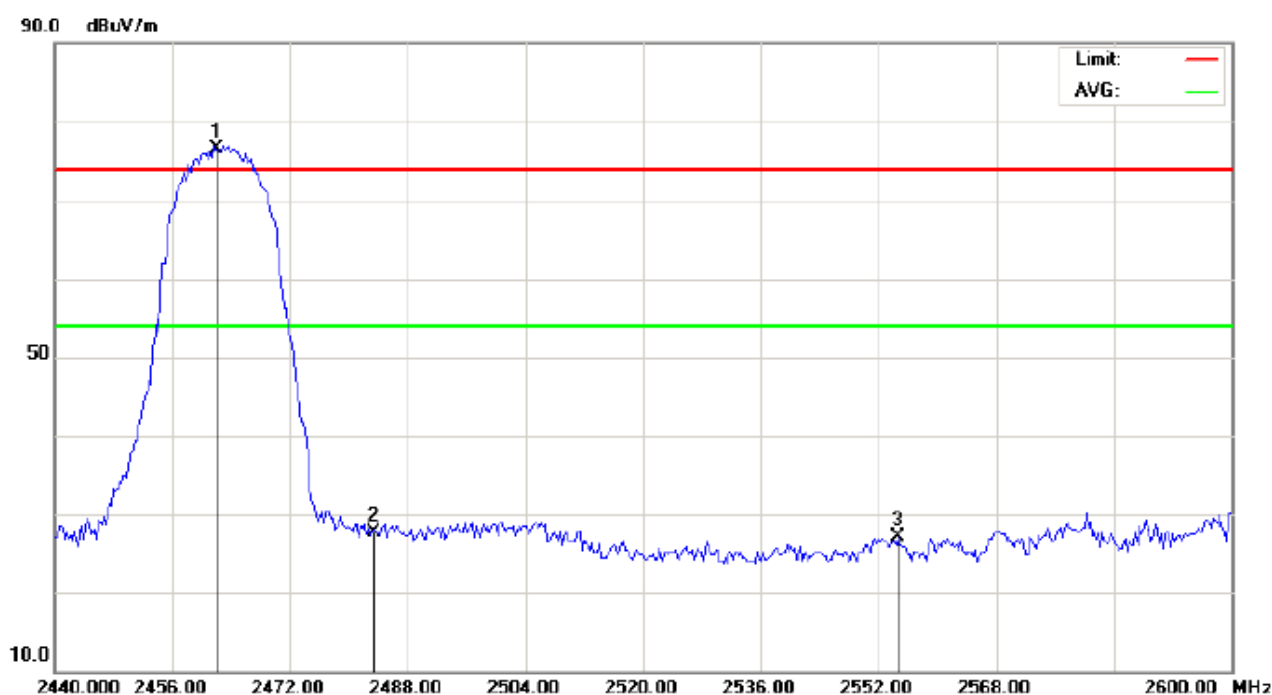


Site: site #1 Polarization: *Horizontal* Temperature: 26
Limit: FCC Class B 3M Radiation above 1GHZ(PK) Power: Humidity: 60 %
EUT: GSM Mobile Phone Distance: 3m
M/N: A1
Mode: 802.11b High channel TX
Note:

No.	Mk	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Antenna Height	Table Degree	Comment
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	degree	
1	*	2462.004	76.76	0.00	76.76	74.00	2.76	peak			
2		2483.501	28.08	0.00	28.08	74.00	-45.92	peak			
3		2521.600	30.28	0.00	30.28	74.00	-43.72	peak			

RESULT: PASS

EUT	GSM Mobile Phone	Model Name	A1
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11b with data rate 1 2462MHZ	Antenna	Vertical



Site: site #1 Polarization: **Vertical** Temperature: 26
Limit: FCC Class B 3M Radiation above 1GHZ(PK) Power: Humidity: 60 %
EUT: GSM Mobile Phone Distance: 3m
M/N: A1
Mode: 802.11b High channel TX
Note:

No.	Mk	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Antenna Height	Table Degree	Comment
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	degree	
1	*	2462.004	76.49	0.00	76.49	74.00	2.49	peak			
2		2483.504	27.63	0.00	27.63	74.00	-46.37	peak			
3		2554.667	27.18	0.00	27.18	74.00	-46.82	peak			

RESULT: PASS

Note: the other modes radiation emission have enough 20dB margin.

Measurement= Reading + Factor, Over=Measure-Limit.

13. FCC LINE CONDUCTED EMISSION TEST

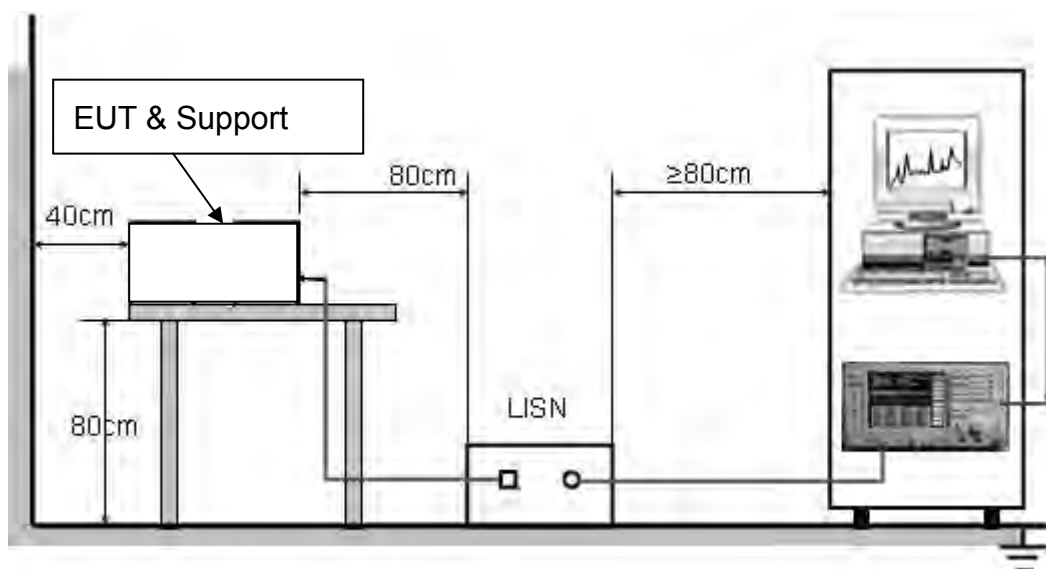
13.1. LIMITS OF LINE CONDUCTED EMISSION TEST

Frequency	Maximum RF Line Voltage	
	Q.P.(dBuV)	Average(dBuV)
150kHz~500kHz	66-56	56-46
500kHz~5MHz	56	46
5MHz~30MHz	60	50

Note:

1. The lower limit shall apply at the transition frequency.
2. The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz.

13.2. BLOCK DIAGRAM OF LINE CONDUCTED EMISSION TEST



13.3. PRELIMINARY PROCEDURE OF LINE CONDUCTED EMISSION TEST

1. The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. When the EUT is a tabletop system, a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.4 (see Test Facility for the dimensions of the ground plane used). When the EUT is a floor-standing equipment, it is placed on the ground plane which has a 3-12 mm non-conductive covering to insulate the EUT from the ground plane.
2. Support equipment, if needed, was placed as per ANSI C63.4.
3. All I/O cables were positioned to simulate typical actual usage as per ANSI C63.4.
4. All support equipments received AC120V/60Hz power from a LISN, if any.
5. The EUT received DC5V charging voltage by adapter which received 120V/60Hz power by a LISN..
6. The test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.
7. Analyzer / Receiver scanned from 150 kHz to 30MHz for emissions in each of the test modes.
8. During the above scans, the emissions were maximized by cable manipulation.
9. The test mode(s) were scanned during the preliminary test.

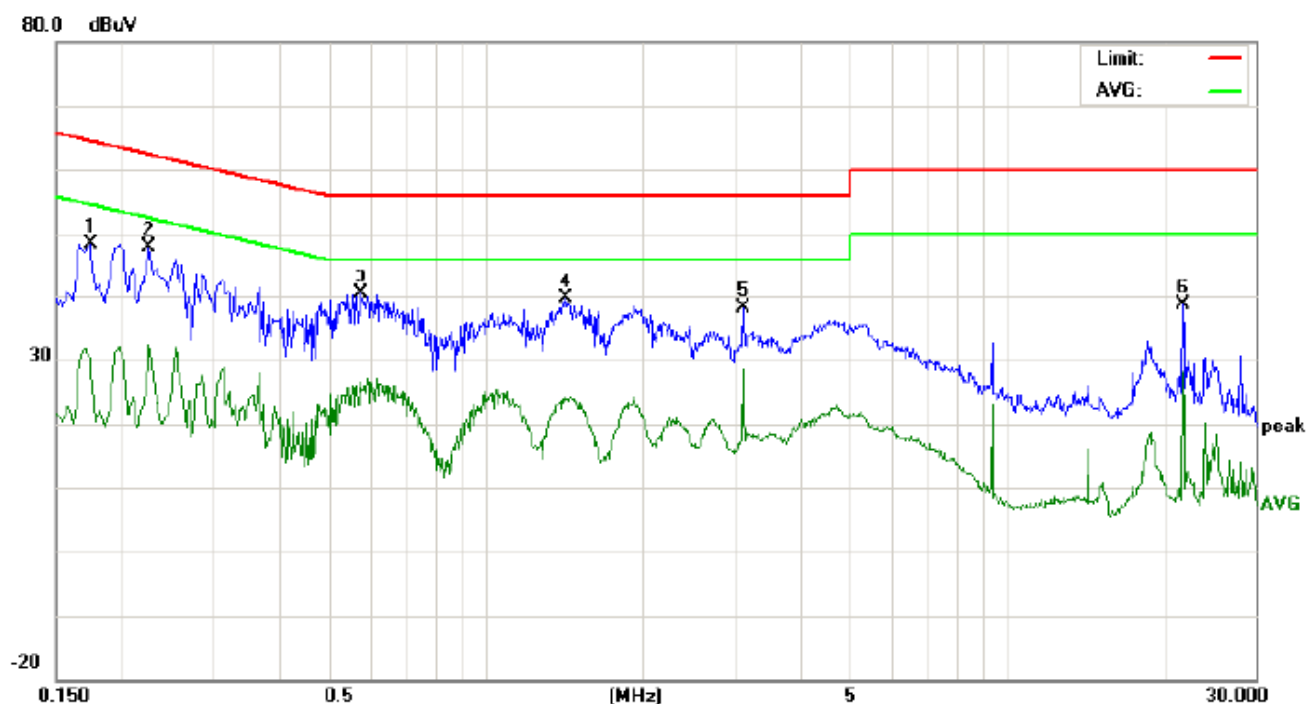
Then, the EUT configuration and cable configuration of the above highest emission level were recorded for reference of final testing.

13.4. FINAL PROCEDURE OF LINE CONDUCTED EMISSION TEST

1. EUT and support equipment was set up on the test bench as per step 2 of the preliminary test.
2. A scan was taken on both power lines, Line 1 and Line 2, recording at least the six highest emissions. Emission frequency and amplitude were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit. If EUT emission level was less -2dB to the A.V. limit in Peak mode, then the emission signal was re-checked using Q.P and Average detector.
3. The test data of the worst case condition(s) was reported on the Summary Data page.

13.5. TEST RESULT OF LINE CONDUCTED EMISSION TEST

LINE CONDUCTED EMISSION TEST LINE 1-L



Site: Conduction

Phase: **L1**

Temperature: 26

Limit: FCC Class B Conduction(QP)

Power:

Humidity: 60 %

EUT: GSM Mobile Phone

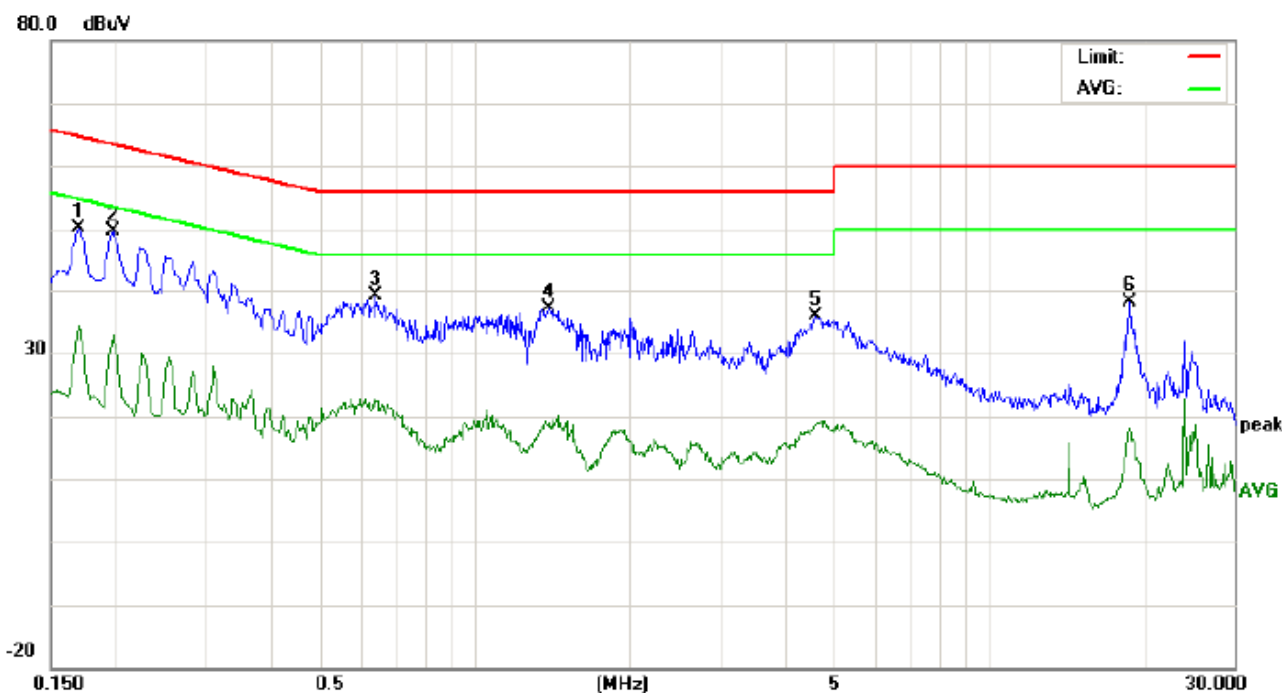
M/N: A1

Mode: Normal Operating (WiFi)

Note:

No.	Freq. (MHz)	Reading_Level (dBuV)			Correct Factor	Measurement (dBuV)			Limit (dBuV)		Margin (dB)		P/F	Comment
		Peak	QP	AVG		Peak	QP	AVG	QP	AVG	QP	AVG		
1	0.1737	38.14		20.17	10.19	48.33		30.36	64.78	54.78	-16.45	-24.42	P	
2	0.2260	37.71		22.15	10.24	47.95		32.39	62.59	52.59	-14.64	-20.20	P	
3	0.5778	30.08		14.92	10.33	40.41		25.25	56.00	46.00	-15.59	-20.75	P	
4	1.4258	29.19		13.83	10.38	39.57		24.21	56.00	46.00	-16.43	-21.79	P	
5	3.1218	27.59		18.02	10.54	38.13		28.56	56.00	46.00	-17.87	-17.44	P	
6	21.8260	28.48		18.09	10.12	38.60		28.21	60.00	50.00	-21.40	-21.79	P	

Line Conducted Emission Test Line 2-N



Site: Conduction Phase: **N** Temperature: 26
Limit: FCC Class B Conduction(QP) Power: Humidity: 60 %
EUT: GSM Mobile Phone
M/N: A1
Mode: Normal Operating (WiFi)
Note:

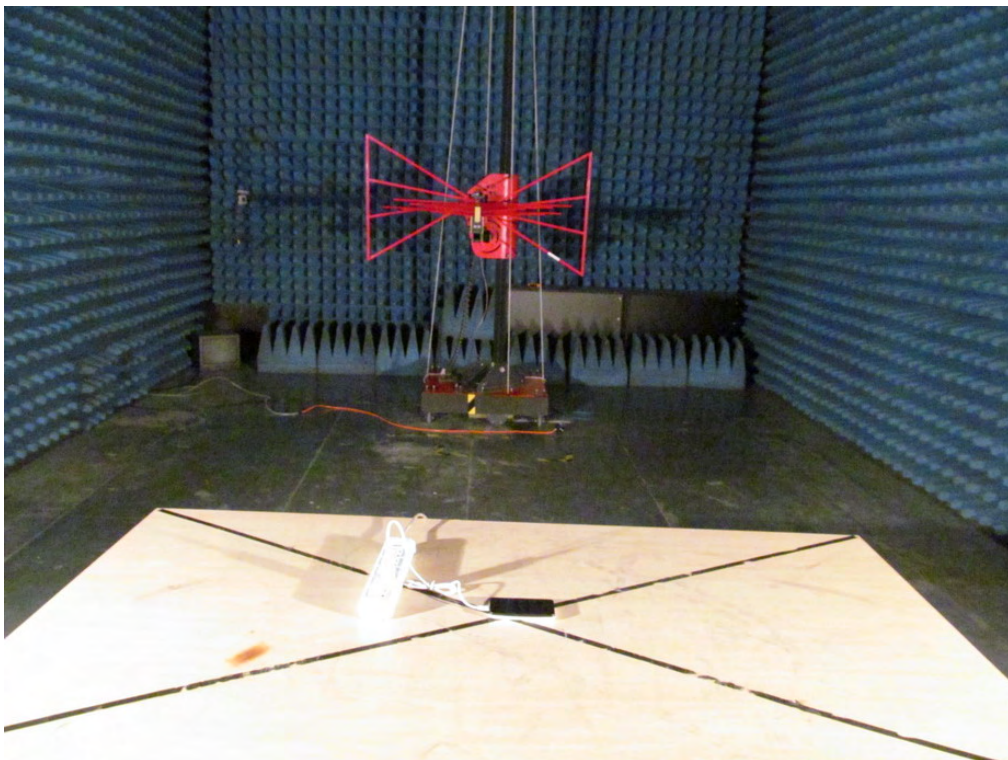
No.	Freq. (MHz)	Reading_Level (dBuV)			Correct Factor dB	Measurement (dBuV)			Limit (dBuV)		Margin (dB)		P/F	Comment
		Peak	QP	AVG		Peak	QP	AVG	QP	AVG	QP	AVG		
1	0.1700	39.99		24.21	10.18	50.17		34.39	64.96	54.96	-14.79	-20.57	P	
2	0.1980	39.44		22.58	10.21	49.65		32.79	63.69	53.69	-14.04	-20.90	P	
3	0.6419	28.75		11.97	10.33	39.08		22.30	56.00	46.00	-16.92	-23.70	P	
4	1.3977	26.64		8.48	10.38	37.02		18.86	56.00	46.00	-18.98	-27.14	P	
5	4.6219	25.72		8.42	10.22	35.94		18.64	56.00	46.00	-20.06	-27.36	P	
6	18.8018	28.03		7.99	10.12	38.15		18.11	60.00	50.00	-21.85	-31.89	P	

APPENDIX A: PHOTOGRAPHS OF TEST SETUP

FCC LINE CONDUCTED EMISSION TEST SETUP



FCC RADIATED EMISSION TEST SETUP



APPENDIX B: PHOTOGRAPHS OF EUT

TOTAL VIEW OF EUT



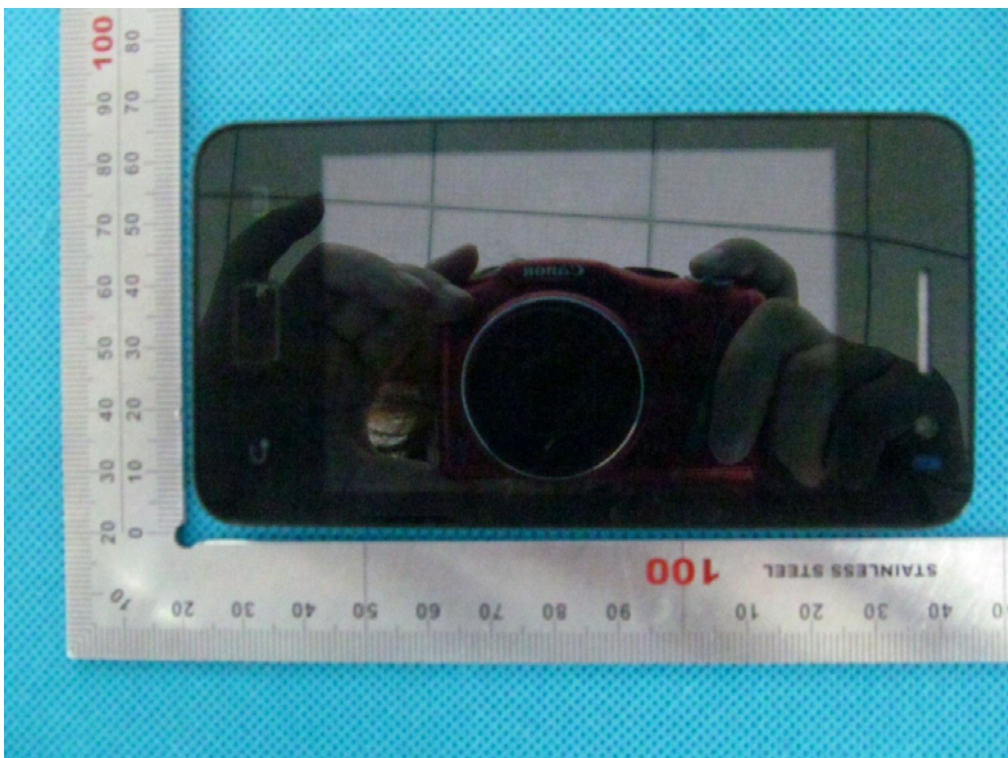
TOP VIEW OF EUT



BOTTOM VIEW OF EUT



FRONT VIEW OF EUT



BACK VIEW OF EUT



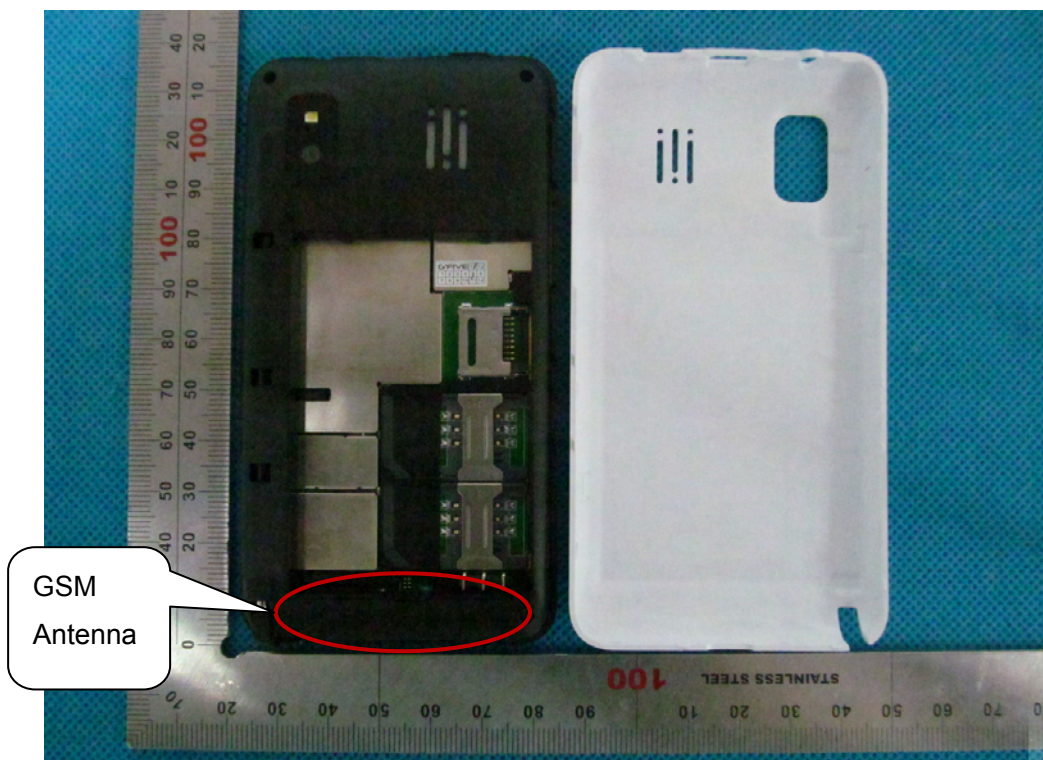
LEFT VIEW OF EUT

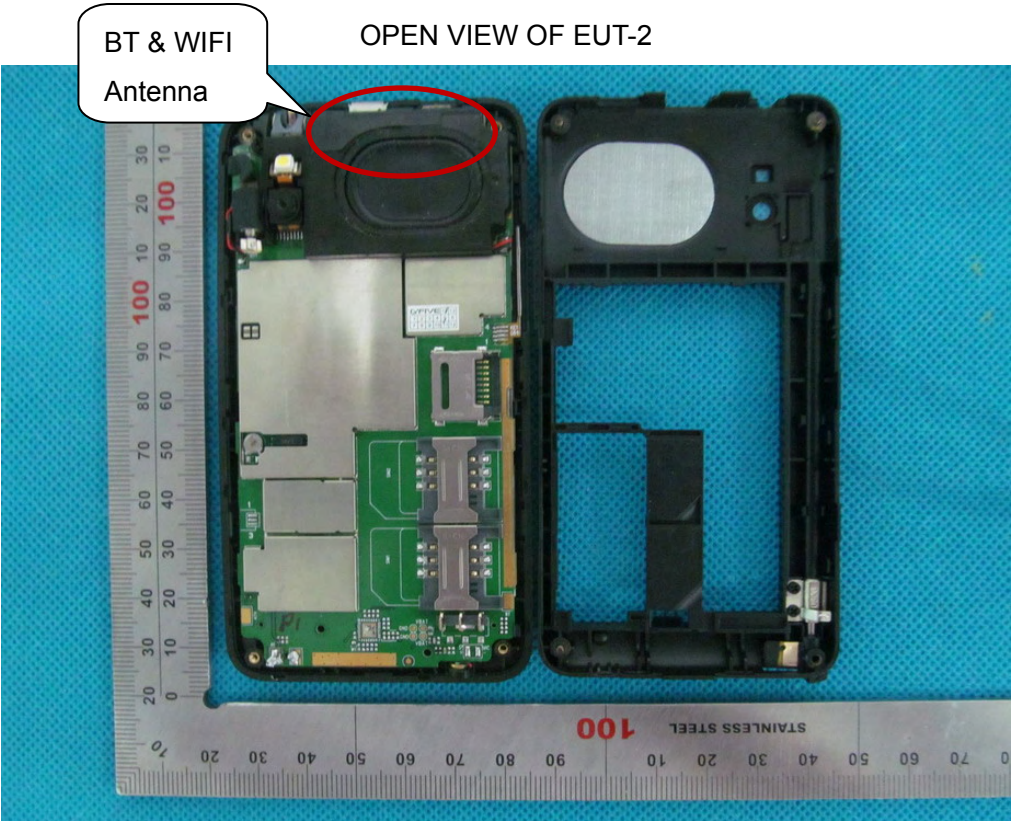


RIGHT VIEW OF EUT

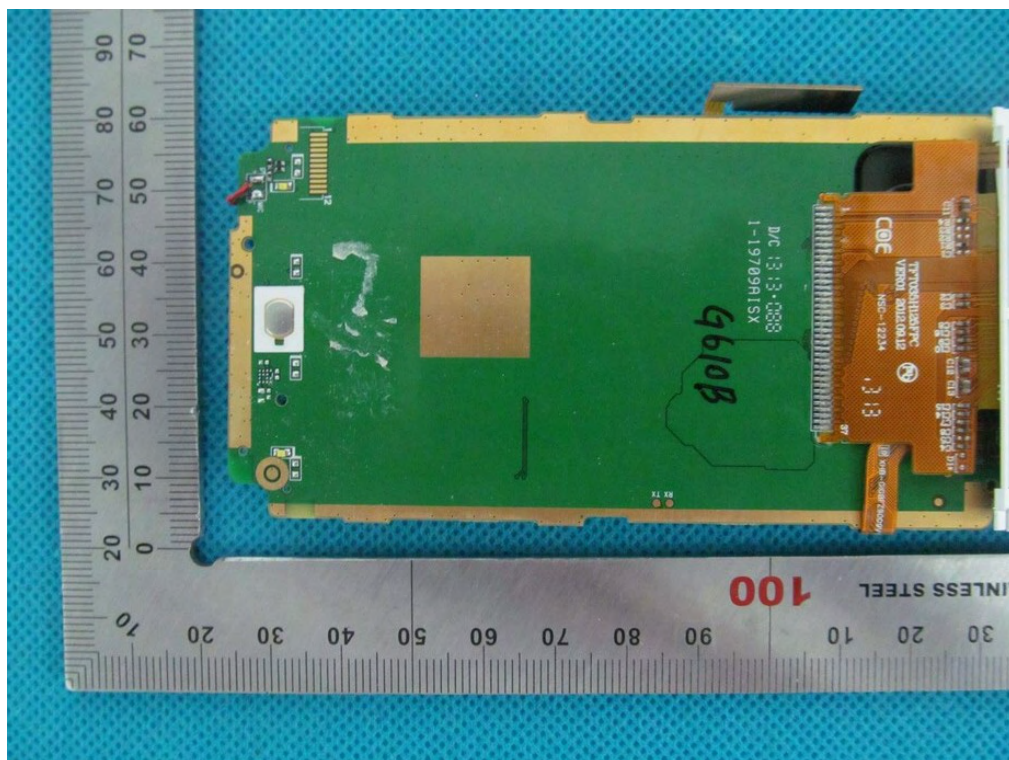


OPEN VIEW OF EUT-1

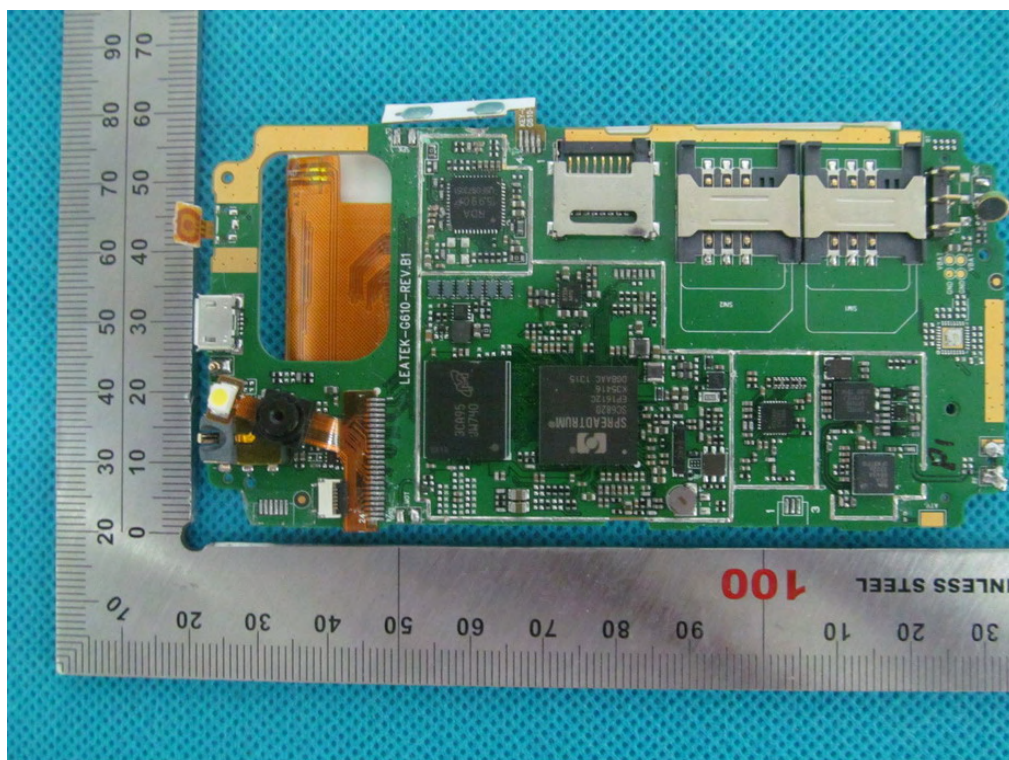




INTERNAL VIEW OF EUT-1



INTERNAL VIEW OF EUT-2



-----END OF REPORT-----