

Report No.: AGC01625140301FE04 Page 1 of 75

FCC Test Report

Report No.: AGC01625140301FE04

FCC ID : 2AB4D-N3

APPLICATION PURPOSE : Original Equipment

PRODUCT DESIGNATION: 3G Mobile Phone

BRAND NAME : IMC

MODEL NAME : N3, 5C, MINI S5

CLIENT : IMPOMERC DE COLOMBIA SAS

DATE OF ISSUE : Apr. 09, 2014

STANDARD(S) : FCC Part 15 Rules

REPORT VERSION: V1.0

Attestation of Global Compliance (Shenzhen) Co., Ltd

CAUTION:

This report shall not be reproduced except in full without the written permission of the test laboratory and shall not be quoted out of context.

Page 2 of 75

Report Revise Record

Report Version	Revise Time	Issued Date	Valid Version	Notes
V1.0	/	Apr. 09, 2014	Valid	Original Report

TABLE OF CONTENTS

1. VERIFICATION OF CONFORMITY	5
2. GENERAL INFORMATION	6
2.1. PRODUCT DESCRIPTION	6
2.2. TABLE OF CARRIER FREQUENCYS	6
2.3. IEEE 802.11N MODULATION SCHEME	7
2.4. RELATED SUBMITTAL(S) / GRANT (S)	7
2.5. TEST METHODOLOGY	7
2.6. SPECIAL ACCESSORIES	7
2.7. EQUIPMENT MODIFICATIONS	7
3. MEASUREMENT UNCERTAINTY	8
4. DESCRIPTION OF TEST MODES	8
5. SYSTEM TEST CONFIGURATION	9
5.1. CONFIGURATION OF EUT SYSTEM	9
5.2. EQUIPMENT USED IN EUT SYSTEM	9
5.3. SUMMARY OF TEST RESULTS	9
6. TEST FACILITY	10
7. PEAK OUTPUT POWER	11
7.1. MEASUREMENT PROCEDURE	
7.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)	12
7.3. LIMITS AND MEASUREMENT RESULT	
8. 6DB BANDWIDTH	21
8.1. MEASUREMENT PROCEDURE	
8.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)	
8.3. LIMITS AND MEASUREMENT RESULTS	
9. CONDUCTED SPURIOUS EMISSION	30
9.1. MEASUREMENT PROCEDURE	
9.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)	30
9.3. MEASUREMENT EQUIPMENT USED	
9.4. LIMITS AND MEASUREMENT RESULT	
10. MAXIMUM CONDUCTED OUTPUT POWER SPECTRAL	
10.1 MEASUREMENT PROCEDURE	
10.2 TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION).	
10.3 MEASUREMENT EQUIPMENT USED	
10.4 LIMITS AND MEASUREMENT RESULT	37

11. RADIATED EMISSION	45
11.1. MEASUREMENT PROCEDURE	45
11.2. TEST SETUP	46
11.3. LIMITS AND MEASUREMENT RESULT	47
11.4. TEST RESULT	47
12. BAND EDGE EMISSION	55
12.1. MEASUREMENT PROCEDURE	56
12.2. TEST SET-UP	56
12.3. TEST RESULT	57
13. FCC LINE CONDUCTED EMISSION TEST	65
13.1. LIMITS OF LINE CONDUCTED EMISSION TEST	65
13.2. BLOCK DIAGRAM OF LINE CONDUCTED EMISSION TEST	65
13.3. PRELIMINARY PROCEDURE OF LINE CONDUCTED EMISSION TEST	66
13.4. FINAL PROCEDURE OF LINE CONDUCTED EMISSION TEST	66
13.5. TEST RESULT OF LINE CONDUCTED EMISSION TEST	67
APPENDIX A: PHOTOGRAPHS OF TEST SETUP	69
ADDENDIV B. DUOTOGDADUS OF FIIT	70

Page 5 of 75

1. VERIFICATION OF CONFORMITY

Applicant	IMPOMERC DE COLOMBIA SAS
Address	CRA 47 # 84-20 BARRANQILLA/COLOMBIA
Manufacturer	Shen Zhen Seven sunshine technology ltd
Address	12 Floor,SEG Technology Park,HuaQiang North,Futian District,ShenZhen,China
Product Designation	3G Mobile Phone
Brand Name	IMC
Test Model	N3
Series Model	5C, MINI S5
Difference description	All the same except for model name, appearance and the GSM antenna.
Date of test	Mar.27, 2014 to Apr.07, 2014
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.

Wall Huang Apr. 09, 2014

Checked By

Kidd Yang Apr. 09, 2014

Authorized By

Solger Zhang Apr. 09, 2014

Page 6 of 75

2. GENERAL INFORMATION

2.1. PRODUCT DESCRIPTION

The EUT is designed as "3G 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

A major technical description of EoT is described as following				
Operation Frequency	2.412 GHz~2.462GHz			
Output Bower	IEEE 802.11b:13.43dBm; IEEE 802.11g:9.12dBm;			
Output Power	IEEE 802.11n(20):9.1dBm; IEEE 802.11n(40):8.11dBm			
Modulation	DSSS(DBPSK/DQPSK/CCK);OFDM(BPSK/QPSK/16-QAM/64-QAM)			
Number of channels	11			
Hardware Version	97055_1_20			
Software Version	N/A			
Antenna Designation	Integrated Antenna			
Antenna Gain	1.2 dBi			
Power Supply	DC3.7V by Built-in Li-ion Battery			

2.2. TABLE OF CARRIER FREQUENCYS

Frequency Band	Channel Number	Frequency
	1	2412 MHZ
	2	2417 MHZ
	3	2422 MHZ
	4	2427 MHZ
	5	2432 MHZ
2400~2483.5MHZ	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 For 40MHZ bandwidth system use Channel 3 to Channel 9

Page 7 of 75

2.3. IEEE 802.11N MODULATION SCHEME

MCS Index	Nss	Modulation	R	NBPSC	NCBPS NDBPS		3PS	Data rate(Mbps) 800nsGl		
					20MHz	40MHz	20MHz	40MHz	20MHz	40MHz
0	1	BPSK	1/2	1	52	108	26	54	6.5	13.5
1	1	QPSK	1/2	2	104	216	52	108	13.0	27.0
2	1	QPSK	3/4	2	104	216	78	162	19.5	40.5
3	1	16-QAM	1/2	4	208	432	104	216	26.0	54.0
4	1	16-QAM	3/4	4	208	432	156	324	39.0	81.0
5	1	64-QAM	2/3	6	312	648	208	432	52.0	108.0
6	1	64-QAM	3/4	6	312	648	234	489	58.5	121.5
7	1	64-QAM	5/6	6	312	648	260	540	65.0	135.0

Symbol	Explanation	
NSS	Number of spatial streams	
R	Code rate	
NBPSC	Number of coded bits per single carrier	
NCBPS	Number of coded bits per symbol	
NDBPS	Number of data bits per symbol	
GI	Guard interval	

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

This submittal(s) (test report) is intended for **FCC ID: 2AB4D-N3** filing to comply with the FCC Part 15 requirements.

2.5. TEST METHODOLOGY

Both conducted and 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.

Others testing (listed at item 5.3) was performed according to the procedures in FCC Part 15.247 rules.

2.6. SPECIAL ACCESSORIES

Refer to section 5.2.

2.7. EQUIPMENT MODIFICATIONS

Not available for this EUT intended for grant.

Page 8 of 75

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

Note:

Transmit by 802.11b with Date rate (1/2/5.5/11)

Transmit by 802.11g with Date rate (6/9/12/18/24/36/48/54)

Transmit by 802.11n (20MHz) with Date rate (6.5/13/19.5/26/39/52/58.5/65)

Transmit by 802.11n (40MHz) with Date rate

(13.5/27/40.5/54/81/108/121.5/135)

Note:

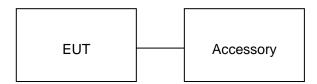
- 1. The EUT has been set to operate continuously on the lowest, middle and highest operation frequency individually.
- 2. All modes under which configure applicable have been tested and the worst mode test data recording in the test report, if no other mode data.
- 3. For Radiated Emission, 3axis were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

Page 9 of 75

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	Remark
1	3G Mobile Phone N3		FCC ID:2AB4D-N3	EUT
2	Adapter	N3	5.0V / 400mA	Accessory
3	Battery N3		DC3.7V / 1000 mAh	Accessory
4	Earphone	N3	N/A	Accessory
5	USB Cable	N3	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.

Page 10 of 75

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 Probe	R&S	NRP-Z23	100323	07/17/2013	07/16/2014
RF attenuator	N/A	RFA20db	68	N/A	N/A
Spectrum Analyzer	Agilent	E4440A	US41421290	07/17/2013	07/16/2014
Amplifier	EM	EM30180	0607030	02/27/2014	02/26/2015
Horn Antenna	EM	EM-AH-10180	67	04/21/2013	04/20/2014
Horn Antenna	A.H. Systems Inc.	SAS-574		07/17/2013	07/16/2014
EMI Test Receiver	Rohde & Schwarz	ESCI	100694	07/17/2013	07/16/2014
Biological Antenna	A.H. Systems Inc.	SAS-521-4	26	06/07/2013	06/06/2014
Loop Antenna	A.H.	SAS-526B	264	07/14/2013	07/13/2014
LISN	R&S	ESH3-Z5	8389791009	07/17/2013	07/16/2014

Page 11 of 75

7. PEAK OUTPUT POWER

7.1. MEASUREMENT PROCEDURE

For peak power test:

- 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, middle and the bottom operation frequency individually.
- 4. Use the following spectrum analyzer settings:

Set the RBW = 1 MHz

Set the VBW ≥ 3 RBW

Set the span ≥ 1.5 x DTS bandwidth

Detector = peak

Sweep time = auto couple

Trace mode = max hold

- 5. Allow the trace to stabilize. Use the instrument's band/channel power measurement function with the band limits set equal to the DTS bandwidth edges.
- 6. Record the result form the Spectrum Analyzer.

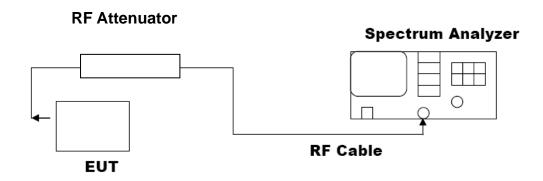
For average power test:

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

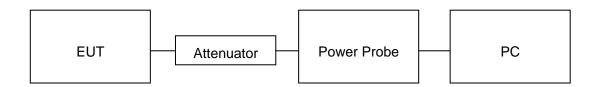
Note: The EUT was tested according to KDB 558074 for compliance to FCC 47CFR 15.247 requirements.

Page 12 of 75

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



AVERAGE POWER SETUP

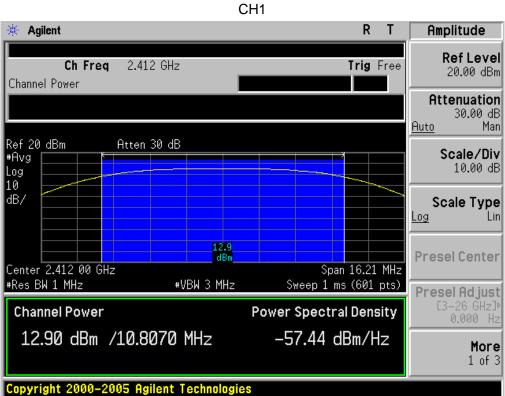


Page 13 of 75

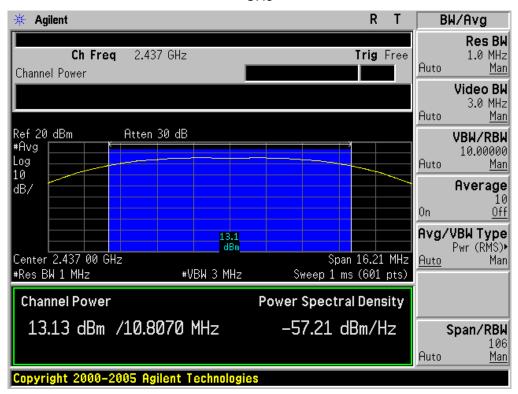
7.3. LIMITS AND MEASUREMENT RESULT

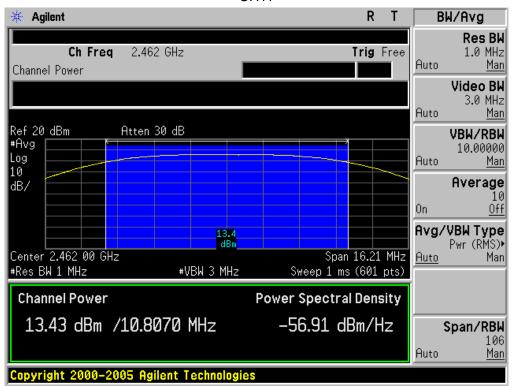
TEST ITEM	PEAK POWER
TEST MODE	802.11b with data rate 1

LIMITS AND MEASUREMENT RESULT				
Frequency (GHz)	Average Power (dBm)	Peak Power (dBm)	Applicable Limits (dBm)	Pass or Fail
2.412	10.92	12.9	30	Pass
2.437	11.15	13.13	30	Pass
2.462	11.45	13.43	30	Pass



CH₆

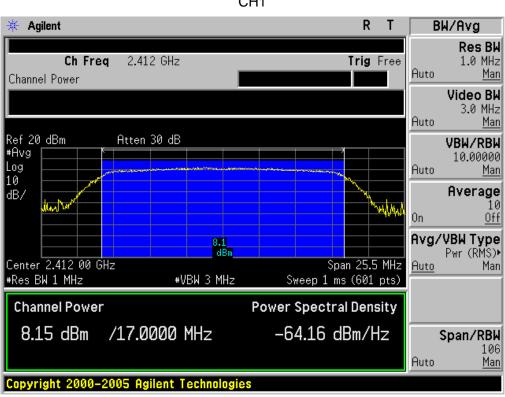




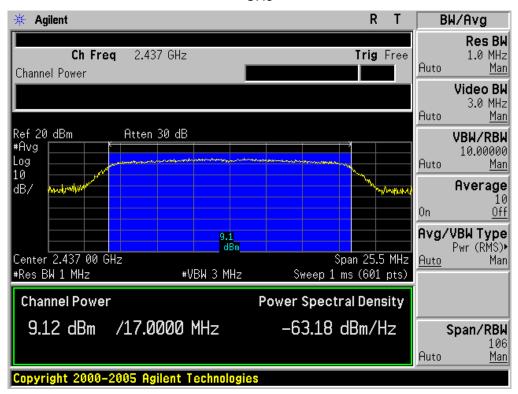
Report No.: AGC01625140301FE04 Page 15 of 75

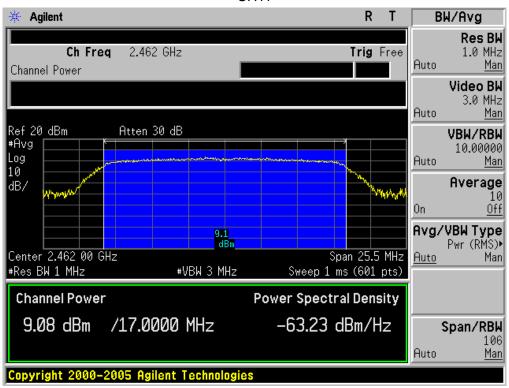
TEST ITEM	PEAK POWER
TEST MODE	802.11g with data rate 6

LIMITS AND MEASUREMENT RESULT				
Frequency (GHz)	Average Power (dBm)	Peak Power (dBm)	Applicable Limits (dBm)	Pass or Fail
2.412	6.17	8.15	30	Pass
2.437	7.14	9.12	30	Pass
2.462	7.1	9.08	30	Pass



CH₆

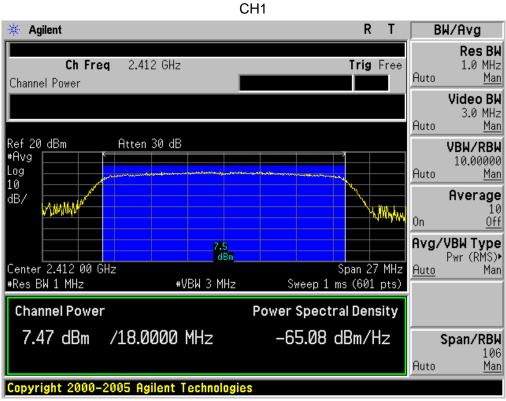




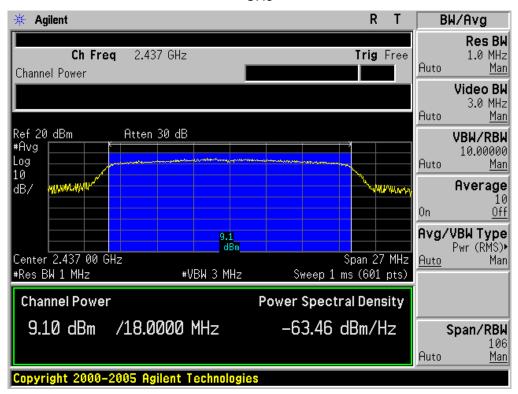
Report No.: AGC01625140301FE04 Page 17 of 75

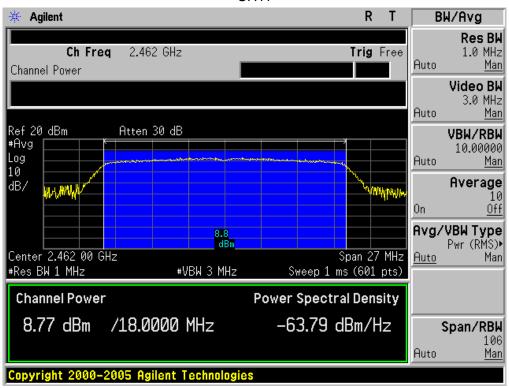
TEST ITEM	PEAK POWER
TEST MODE	802.11n 20 with data rate 6.5

LIMITS AND MEASUREMENT RESULT				
Frequency (GHz)	Average Power (dBm)	Peak Power (dBm)	Applicable Limits (dBm)	Pass or Fail
2.412	5.49	7.47	30	Pass
2.437	7.12	9.1	30	Pass
2.462	6.79	8.77	30	Pass



CH₆

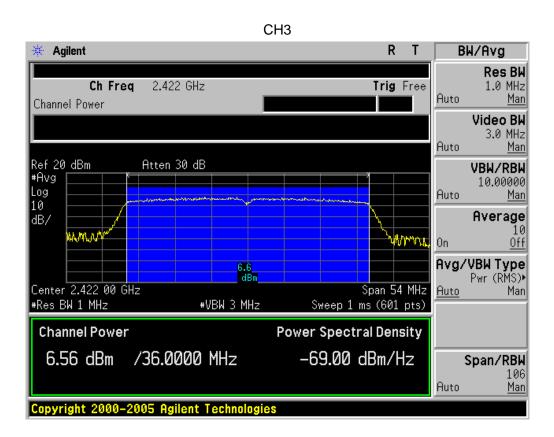




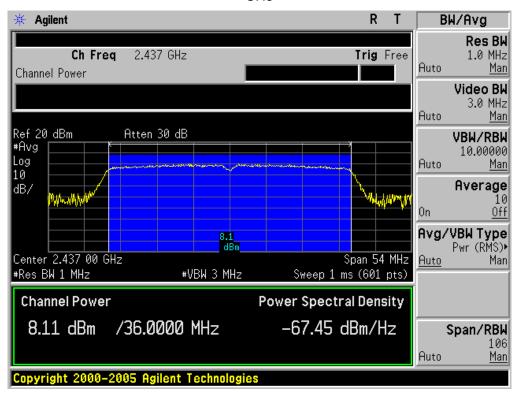
Report No.: AGC01625140301FE04 Page 19 of 75

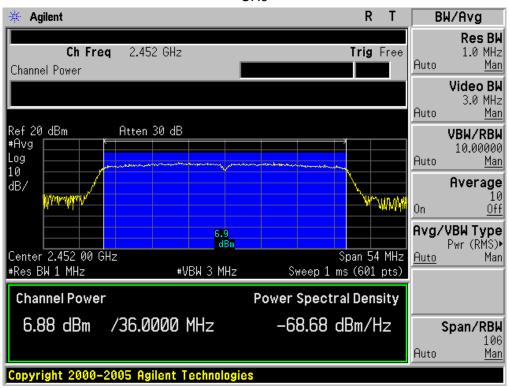
TEST ITEM	PEAK POWER
TEST MODE	802.11n 40 with data rate 13.5

LIMITS AND MEASUREMENT RESULT				
Frequency (GHz)	Average Power (dBm)	Peak Power (dBm)	Applicable Limits (dBm)	Pass or Fail
2.422	4.58	6.56	30	Pass
2.437	6.13	8.11	30	Pass
2.452	4.9	6.88	30	Pass



CH₆





Page 21 of 75

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.
- 4. Set SPA Centre Frequency = Operation Frequency, RBW= 100 KHz, VBW≥RBW.
- 5. 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)



Page 22 of 75

8.3. LIMITS AND MEASUREMENT RESULTS

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

LIMITS AND MEASUREMENT RESULT				
Applicable Limite	Applicable Limits			
Applicable Limits	Test Data (MHz) Criteria			
	Low Channel	9.130	PASS	
>500KHZ	Middle Channel	9.591	PASS	
	High Channel	10.078	PASS	

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

LIMITS AND MEASUREMENT RESULT			
A collection to the	Applicable Limits		
Applicable Limits	Test Data (MHz)		Criteria
>500KHZ	Low Channel	10.030	PASS
	Middle Channel	15.458	PASS
	High Channel	15.141	PASS

TEST ITEM	6DB BANDWIDTH
TEST MODE	802.11n 20 with data rate 65

LIMITS AND MEASUREMENT RESULT			
Anniharkia Limita	Applicable Limits		
Applicable Limits	Test Data (MHz)		Criteria
>500KHZ	Low Channel	15.155	PASS
	Middle Channel	15.109	PASS
	High Channel	15.368	PASS

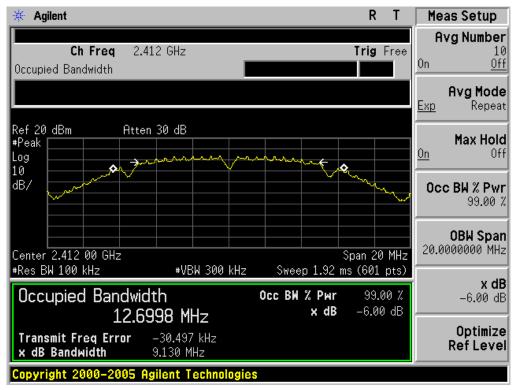
Page 23 of 75

TEST ITEM	6DB BANDWIDTH
TEST MODE	802.11n 40 with data rate 135

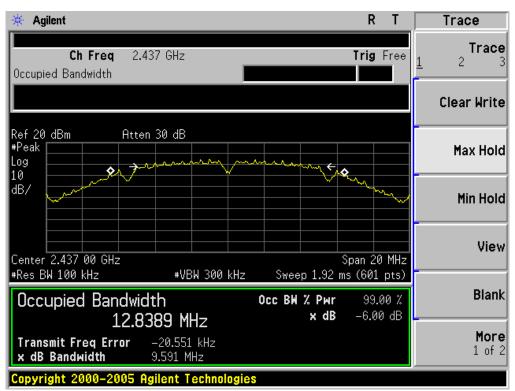
LIMITS AND MEASUREMENT RESULT			
Applicable Limite	Applicable Limits		
Applicable Limits	Test Data (MHz)		Criteria
>500KHZ	Low Channel	35.212	PASS
	Middle Channel	35.132	PASS
	High Channel	35.211	PASS

Page 24 of 75

802.11b TEST RESULTTEST PLOT OF BANDWIDTH FOR LOW CHANNEL

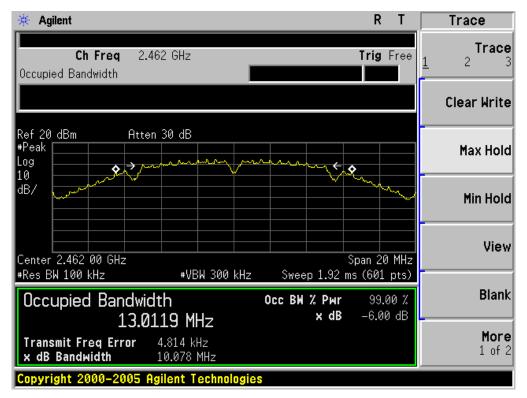


TEST PLOT OF BANDWIDTH FOR MIDDLE CHANNEL

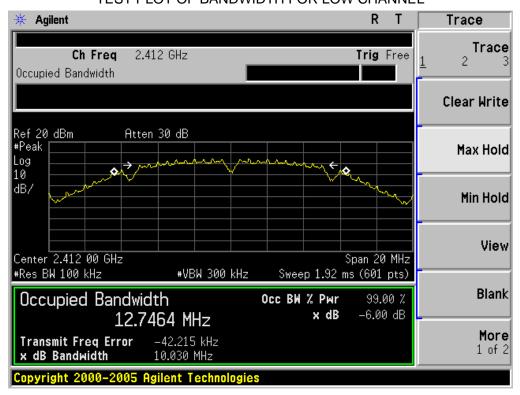


Page 25 of 75

TEST PLOT OF BANDWIDTH FOR HIGH CHANNEL

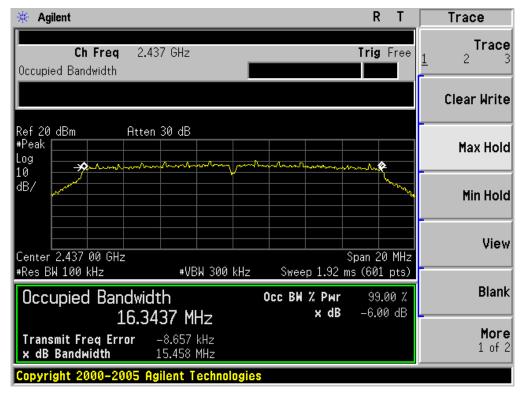


802.11g TEST RESULT
TEST PLOT OF BANDWIDTH FOR LOW CHANNEL

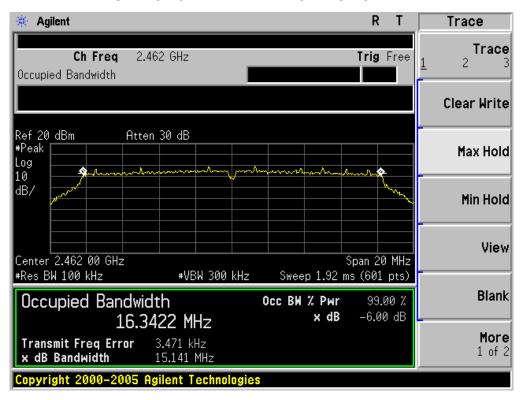


Page 26 of 75

TEST PLOT OF BANDWIDTH FOR MIDDLE CHANNEL

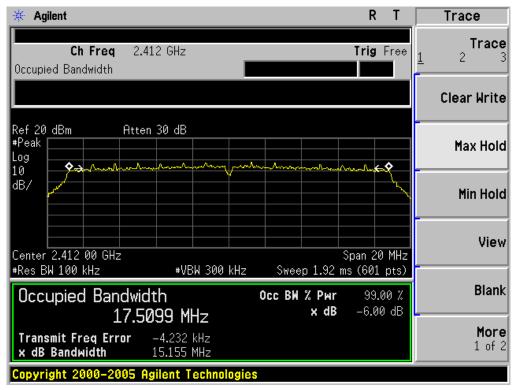


TEST PLOT OF BANDWIDTH FOR HIGH CHANNEL

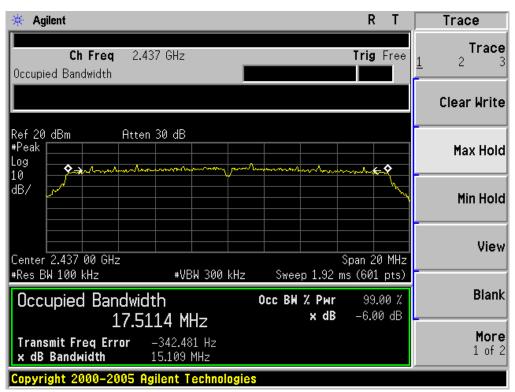


Page 27 of 75

802.11n (20) TEST RESULTTEST PLOT OF BANDWIDTH FOR LOW CHANNEL

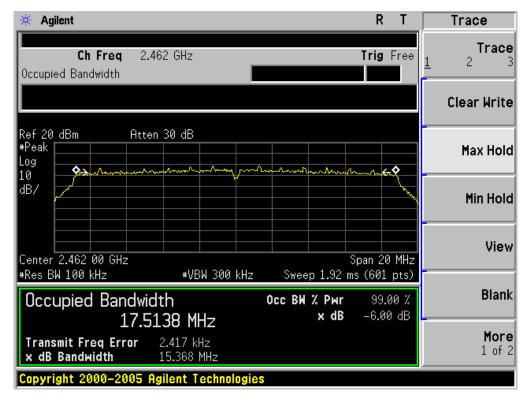


TEST PLOT OF BANDWIDTH FOR MIDDLE CHANNEL

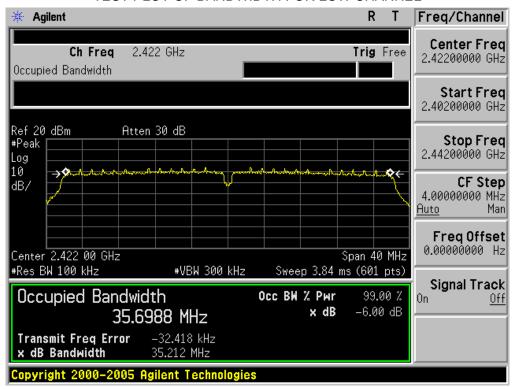


Page 28 of 75

TEST PLOT OF BANDWIDTH FOR HIGH CHANNEL

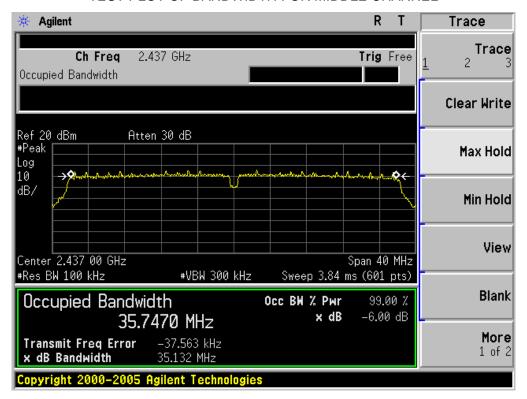


802.11n(40) TEST RESULT
TEST PLOT OF BANDWIDTH FOR LOW CHANNEL

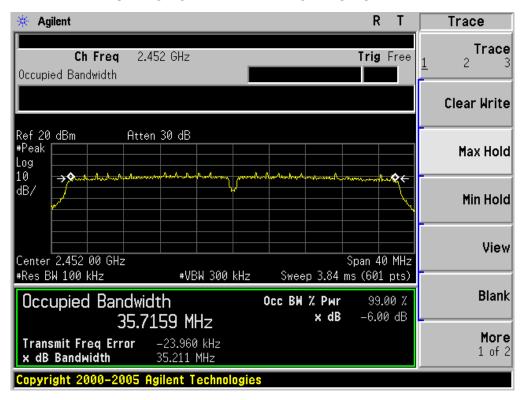


Page 29 of 75

TEST PLOT OF BANDWIDTH FOR MIDDLE CHANNEL



TEST PLOT OF BANDWIDTH FOR HIGH CHANNEL



Page 30 of 75

9. CONDUCTED SPURIOUS EMISSION

9.1. 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.

Note: The EUT was tested according to KDB 558074 for compliance to FCC 47CFR 15.247 requirements. Owing to satisfy the requirements of the number of measurement points, we set the RBW=1MHz, VBW>RBW, scan up through 10th harmonic, and consider the tested results as the worst case, if the tested results conform to the requirement, we can deem that the real tested results(set the RBW=100KHz, VBW>RBW) are conform to the requirement.

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

The same as described in section 8.2.

9.3. MEASUREMENT EQUIPMENT USED

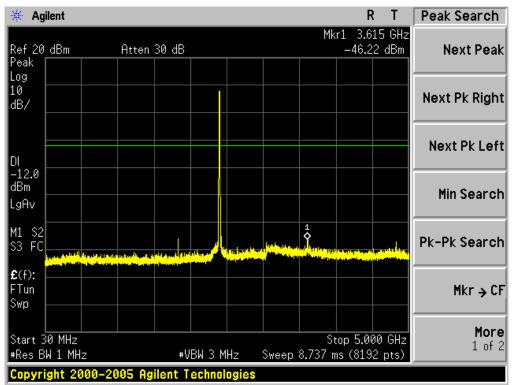
The same as described in section 6.

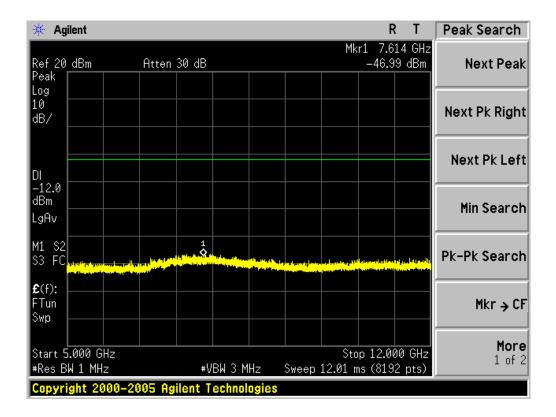
9.4. LIMITS AND MEASUREMENT RESULT

LIMITS AND MEASUREMENT RESULT			
Amuliachia Limita	Measurement Result		
Applicable Limits	Test Data	Criteria	
In any 100 KHz Bandwidth Outside the	At least -20dBc than the limit		
frequency band in which the spread spectrum	Specified on the BOTTOM	PASS	
intentional radiator is operating, the radio frequency	Channel		
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.	At least -20dBc than the limit	DACC	
In addition, radiation emissions which fall in the	Specified on the TOP Channel	PASS	
restricted bands, as defined in §15.205(a), must also			
comply with the radiated emission limits specified			
in§15.209(a))			

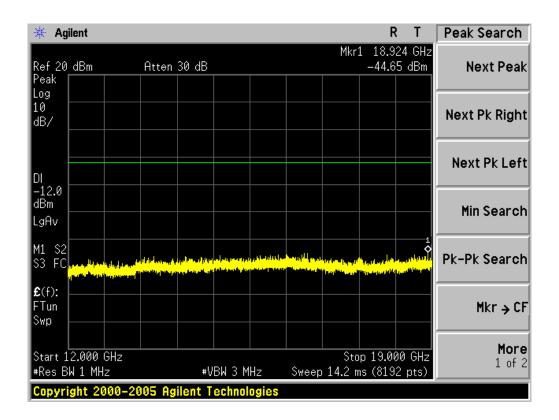
Page 31 of 75

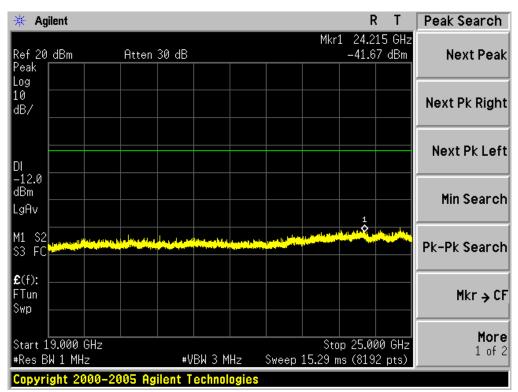
TEST PLOT OF OUT OF BAND EMISSIONS WITH THE WORST CASE OF 802.11b FOR MODULATION IN LOW CHANNEL





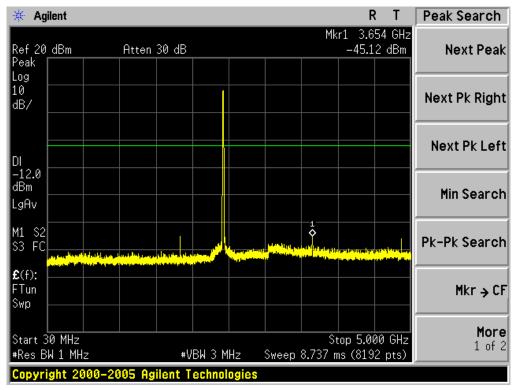
Report No.: AGC01625140301FE04 Page 32 of 75

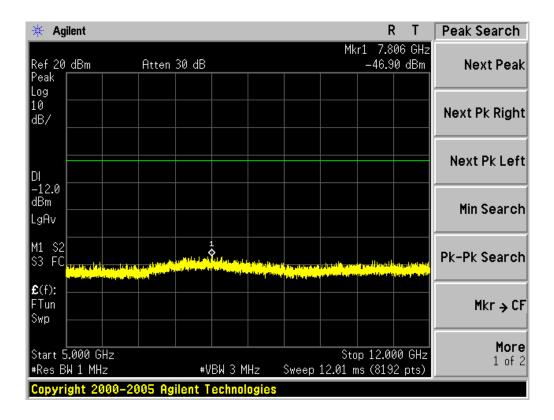




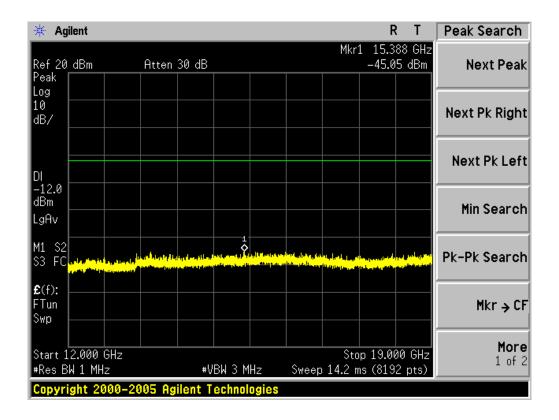
Page 33 of 75

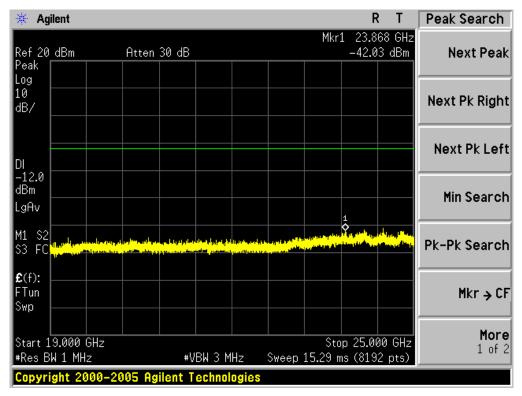
TEST PLOT OF OUT OF BAND EMISSIONS OF 802.11b FOR MODULATION IN MIDDLE CHANNEL





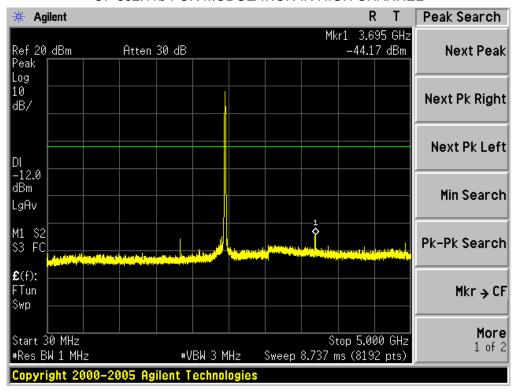
Page 34 of 75

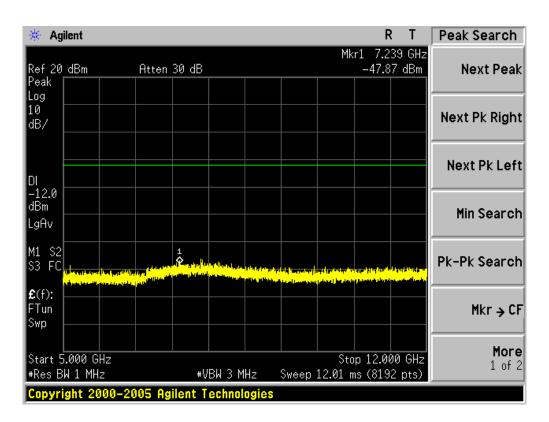


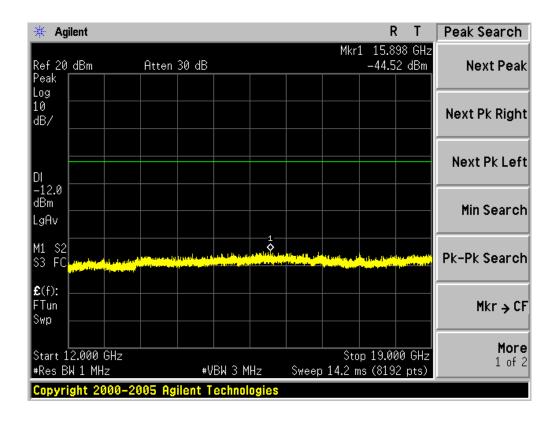


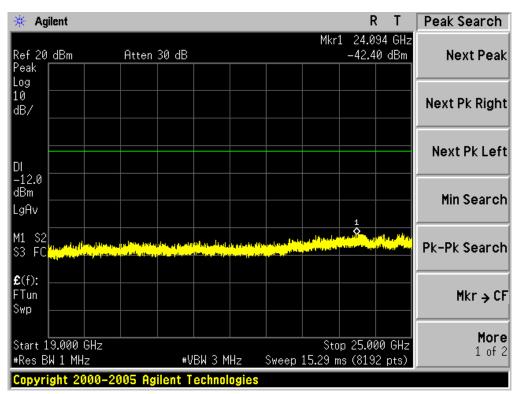
Page 35 of 75

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









Page 37 of 75

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.

Note: The method of PKPSD in the KDB 558074 item 10.2 was used in this testing.

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	-9.92	8	Pass
Middle Channel	-10.14	8	Pass
High Channel	-9.18	8	Pass

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

Channel No.	PSD (dBm)	Limit (dBm)	Result
Low Channel	-16.4	8	Pass
Middle Channel	-14.17	8	Pass
High Channel	-15.86	8	Pass

Report No.: AGC01625140301FE04 Page 38 of 75

TEST ITEM	POWER PECTRAL DENSITY
TEST MODE	802.11n 20 with data rate 6.5

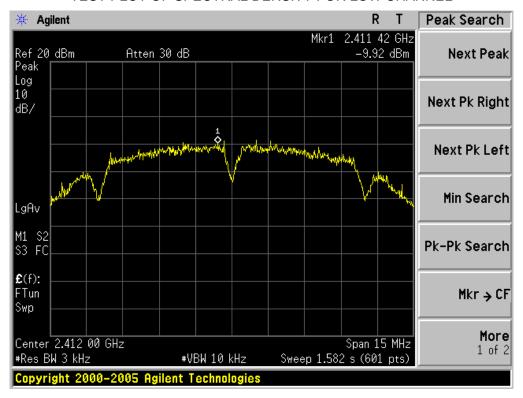
Channel No.	PSD (dBm)	Limit (dBm)	Result
Low Channel	-17.44	8	Pass
Middle Channel	-15.08	8	Pass
High Channel	-16.16	8	Pass

TEST ITEM	POWER PECTRAL DENSITY	
TEST MODE	802.11n 40 with data rate 13.5	

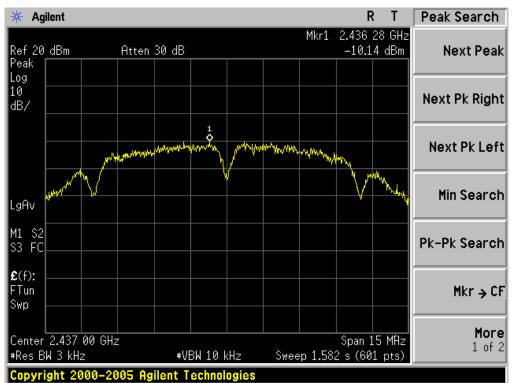
Channel No.	PSD (dBm)	Limit (dBm)	Result
Low Channel	-22.11	8	Pass
Middle Channel	-19.8	8	Pass
High Channel	-20.16	8	Pass

Page 39 of 75

802.11b TEST RESULTTEST PLOT OF SPECTRAL DENSITY FOR LOW CHANNEL

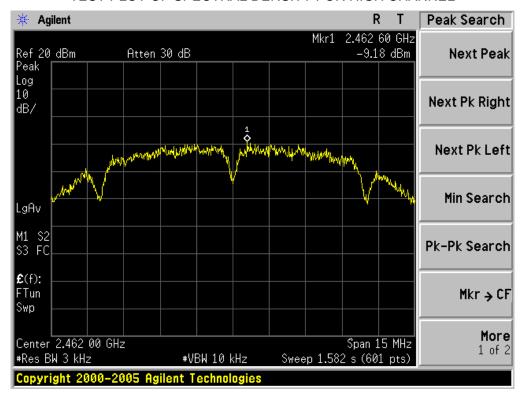


TEST PLOT OF SPECTRAL DENSITY FOR MIDDLE CHANNEL

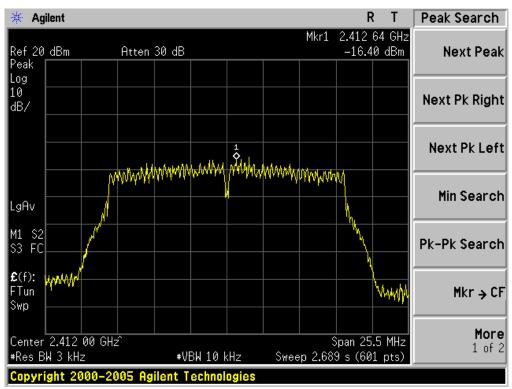


Page 40 of 75

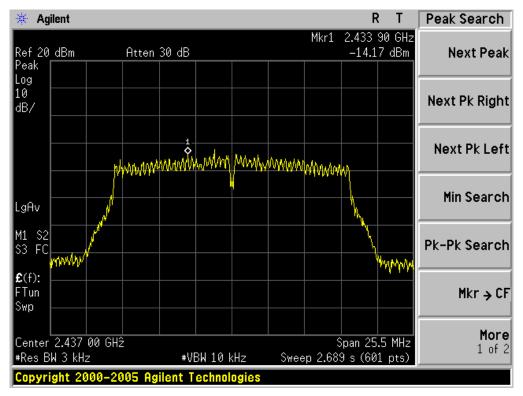
TEST PLOT OF SPECTRAL DENSITY FOR HIGH CHANNEL



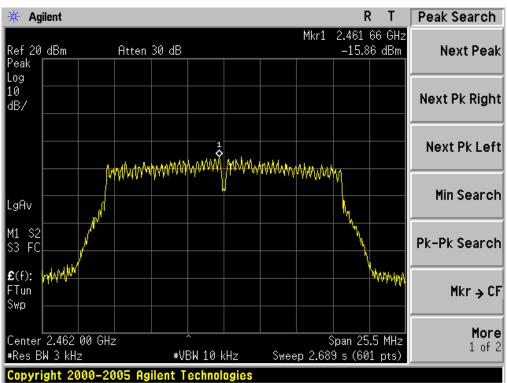
802.11g TEST RESULTTEST PLOT OF SPECTRAL DENSITY FOR LOW CHANNEL



TEST PLOT OF SPECTRAL DENSITY FOR MIDDLE CHANNEL

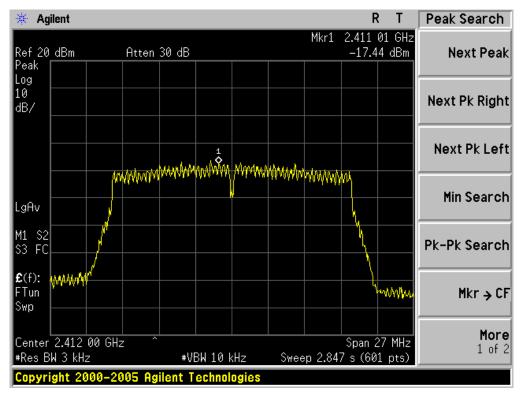


TEST PLOT OF SPECTRAL DENSITY FOR HIGH CHANNEL

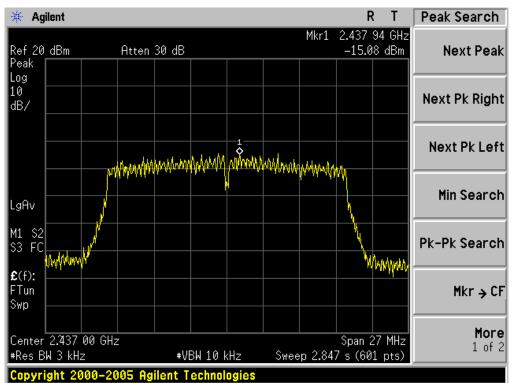


Page 42 of 75

802.11n 20 TEST RESULT
TEST PLOT OF SPECTRAL DENSITY FOR LOW CHANNEL

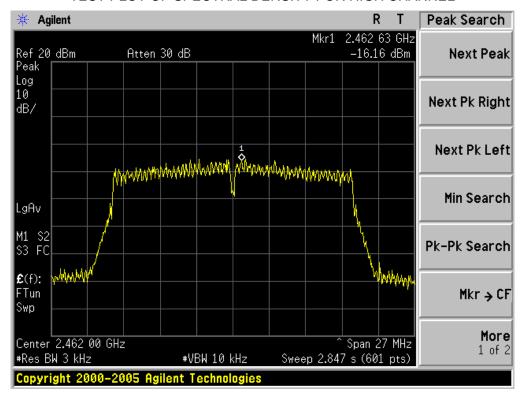


TEST PLOT OF SPECTRAL DENSITY FOR MIDDLE CHANNEL

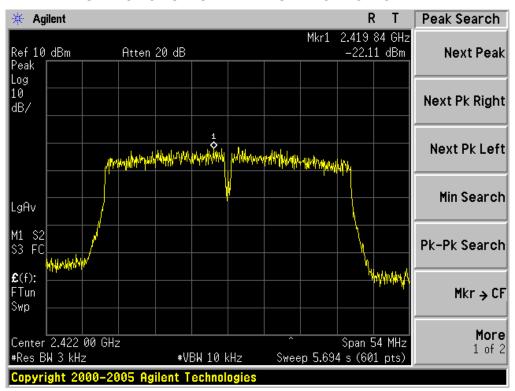


Page 43 of 75

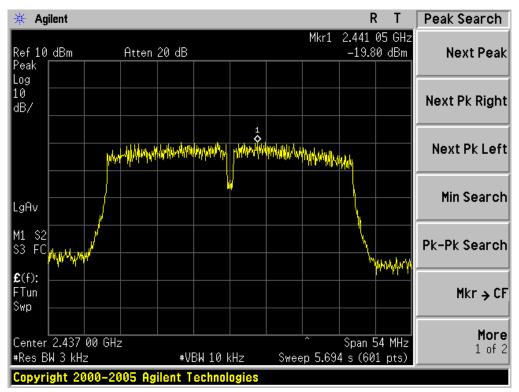
TEST PLOT OF SPECTRAL DENSITY FOR HIGH CHANNEL



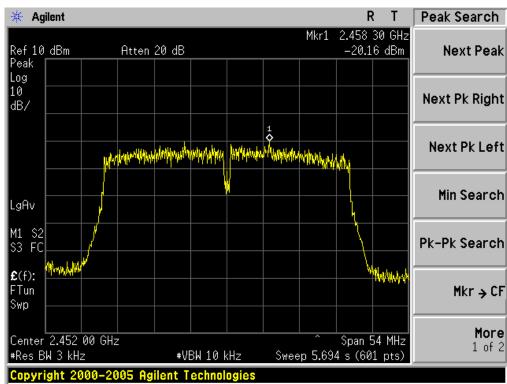
802.11n 40 TEST RESULTTEST PLOT OF SPECTRAL DENSITY FOR LOW CHANNEL



TEST PLOT OF SPECTRAL DENSITY FOR MIDDLE CHANNEL



TEST PLOT OF SPECTRAL DENSITY FOR HIGH CHANNEL



Page 45 of 75

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.

Report No.: AGC01625140301FE04 Page 46 of 75

11.2. TEST SETUP

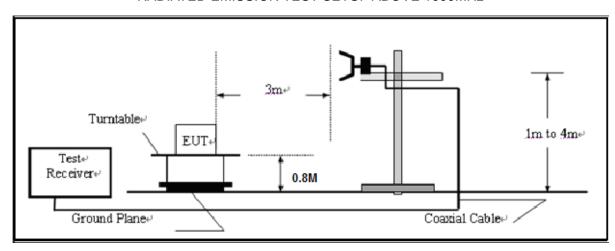
RADIATED EMISSION TEST SETUP BELOW 30MHz



RADIATED EMISSION TEST SETUP 30MHz-1000MHz



RADIATED EMISSION TEST SETUP ABOVE 1000MHz



Page 47 of 75

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

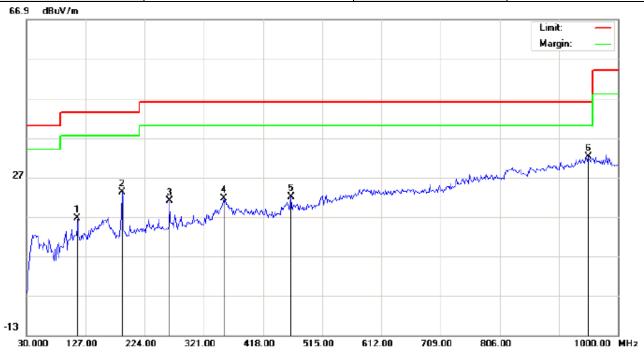
RADIATED EMISSION BELOW 30MHZ

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

Page 48 of 75

RADIATED EMISSION BELOW 1GHZ

EUT	3G Mobile Phone	Model Name	N3
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: 3G Mobile Phone

M/N: N3

Mode: Low Channel TX

Note:

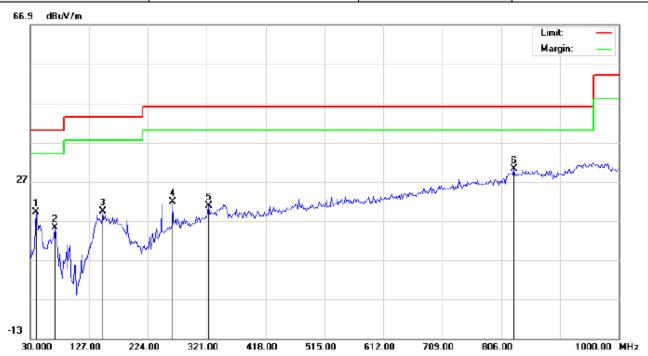
Polarization: *Horizontal* Temperature: 26 Power: AC 120V/60Hz Humidity: 60 %

Distance:

No.	Mk	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Antenna Height	Table Degree	Comment
	-	MHz	dBu∀	dB/m	dBu∀/m	dBu√/m	dB		cm	degree	
1		114.0665	5.19	11.45	16.64	43.50	-26.86	peak			
2		186.8165	11.90	11.39	23.29	43.50	-20.21	peak			
3		264.4166	6.71	14.34	21.05	46.00	-24.95	peak			
4		353.3333	2.91	18.76	21.67	46.00	-24.33	peak			
5		463.2667	1.23	20.73	21.96	46.00	-24.04	peak			
6	*	951.5000	2.28	29.99	32.27	46.00	-13.73	peak			

Page 49 of 75

EUT	3G Mobile Phone	Model Name	N3
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: 3G Mobile Phone

M/N: N3

Mode: Low Channel TX

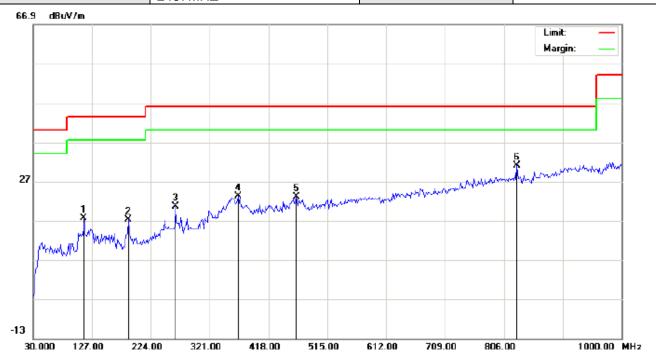
Note:

Polarizati	on: Vertical	Temperature: 26
Power:	AC 120V/60Hz	Humidity: 60 %

Distance:

No.	Mk	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Antenna Height	Table Degree	Comment
	-	MHz	dBu∀	dB/m	dBu∀/m	dBu∀/m	dB		cm	degree	
1		39.7000	10.68	8.51	19.19	40.00	-20.81	peak			
2		70.4167	11.13	4.16	15.29	40.00	-24.71	peak			
3		149.6331	4.05	15.26	19.31	43.50	-24.19	peak			
4		264.4166	7.47	14.34	21.81	46.00	-24.19	peak			
5		324.2332	3.69	17.02	20.71	46.00	-25.29	peak		·	
6	*	827.0167	2.85	27.31	30.16	46.00	-15.84	peak		·	

EUT	3G Mobile Phone	Model Name	N3
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: 3G Mobile Phone

M/N: N3

Mode: Middle Channel TX

Note:

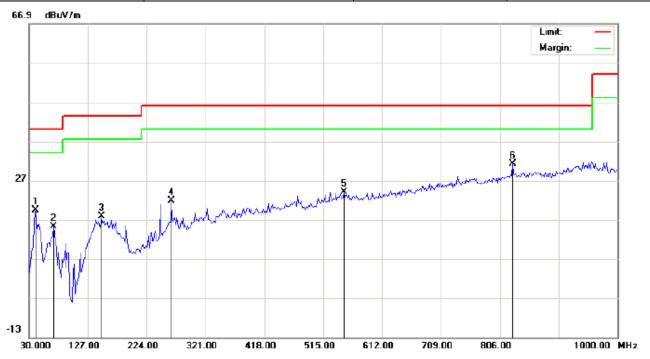
Polarization	n: Horizont	al Temperatu	ıre: 26
Power:	AC 120V/60H	z Humidity:	60 %

Distance:

No.	Mk	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Antenna Height	Table Degree	Comment
	-	MHz	dBu∀	dB/m	dBu∀/m	dBu∀/m	dB		cm	degree	
1		114.0665	6.19	11.45	17.64	43.50	-25.86	peak			
2		186.8165	5.90	11.39	17.29	43.50	-26.21	peak			
3		264.4166	6.21	14.34	20.55	46.00	-25.45	peak			
4		367.8833	4.29	18.86	23.15	46.00	-22.85	peak			
5		463.2667	2.23	20.73	22.96	46.00	-23.04	peak		·	
6	*	827.0167	3.65	27.31	30.96	46.00	-15.04	peak			

Page 51 of 75

EUT	3G Mobile Phone	Model Name	N3
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: 3G Mobile Phone

M/N: N3

Mode: Middle Channel TX

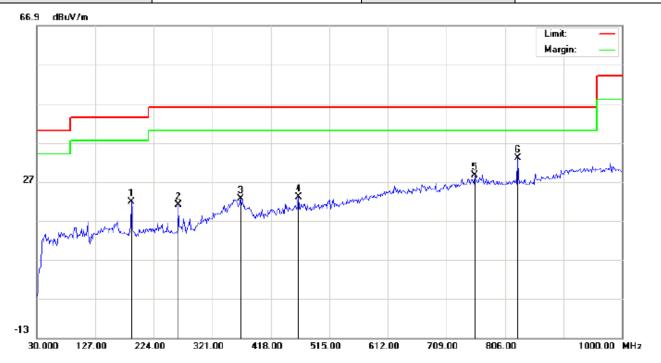
Note:

Polarization	on: <i>Vertical</i>	Temperature: 26
Power:	AC 120V/60Hz	Humidity: 60 %

Distance:

No.	Mk	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Antenna Height	Table Degree	Comment
	-	MHz	dBu∀	dB/m	dBu∀/m	dBu∀/m	dB		cm	degree	
1		41.3166	10.68	8.81	19.49	40.00	-20.51	peak			
2		70.4167	11.13	4.16	15.29	40.00	-24.71	peak			
3		149.6331	2.55	15.26	17.81	43.50	-25.69	peak			
4		264.4166	7.47	14.34	21.81	46.00	-24.19	peak			
5		548.9500	1.61	22.45	24.06	46.00	-21.94	peak			
6	*	827.0167	3.85	27.31	31.16	46.00	-14.84	peak			

EUT	3G Mobile Phone	Model Name	N3
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11b with date rate 1 2462MHZ	Antenna	Horizontal



Site: site #1

Limit: FCC Class B 3M Radiation

EUT: 3G Mobile Phone

M/N: N3

Mode: High Channel TX

Note:

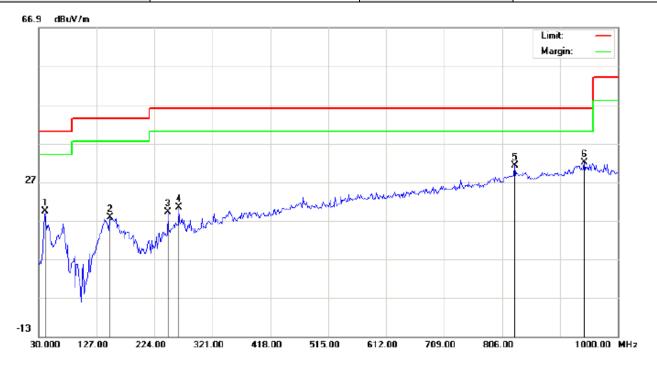
Polarization: Horizontal Temperature: 26
Power: AC 120V/60Hz Humidity: 60 %

Distance:

No.	Mk	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Antenna Height	Table Degree	Comment
	-	MHz	dBu∀	dB/m	dBu∀/m	dBu∀/m	dB		cm	degree	
1		186.8165	10.40	11.39	21.79	43.50	-21.71	peak			
2		264.4166	6.71	14.34	21.05	46.00	-24.95	peak			
3		367.8833	3.79	18.86	22.65	46.00	-23.35	peak			
4		463.2667	2.23	20.73	22.96	46.00	-23.04	peak			
5		755.8831	1.97	26.71	28.68	46.00	-17.32	peak			
6	*	827.0167	5.65	27.31	32.96	46.00	-13.04	peak			

Page 53 of 75

EUT	3G Mobile Phone	Model Name	N3
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 Limit: FCC Class B 3M Radiation

EUT: 3G Mobile Phone

M/N: N3

Mode: High Channel TX

Note:

Polariza	tion: Vertical	Temperature: 26
Power:	AC 120V/60Hz	Humidity: 60 %

Distance:

No.	Mk	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Antenna Height	Table Degree	Comment
	-	MHz	dBu∀	dB/m	dBu∀/m	dBu∀/m	dB		cm	degree	
1		41.3166	10.68	8.81	19.49	40.00	-20.51	peak			
2		149.6331	2.55	15.26	17.81	43.50	-25.69	peak			
3		246.6331	5.72	13.57	19.29	46.00	-26.71	peak			
4		264.4166	5.97	14.34	20.31	46.00	-25.69	peak			
5		827.0167	3.85	27.31	31.16	46.00	-14.84	peak			
6	*	943.4166	2.20	29.82	32.02	46.00	-13.98	peak			

RESULT: PASS

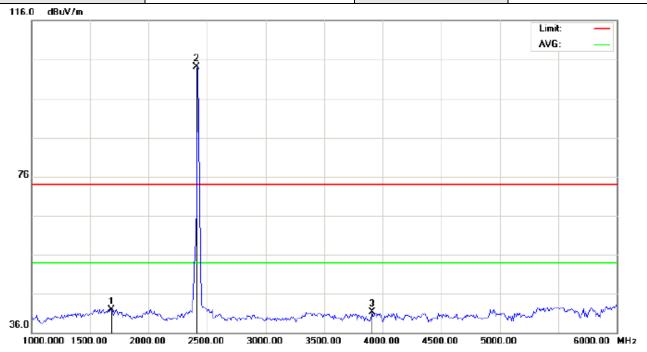
Note: 1. Factor=Antenna Factor + Cable loss, Margin=Measurement-Limit.

2. The "Factor" value can be calculated automatically by software of measurement system.

Page 54 of 75

RADIATED EMISSION ABOVE 1GHZ

EUT	3G Mobile Phone	Model Name	N3
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 Polarization: Horizontal Temperature: 26
Limit: FCC Class B 3M Radiation above 1GHZ(PK) Power: Humidity: 60 %

EUT: 3G Mobile Phone Distance: 3m

M/N: N3

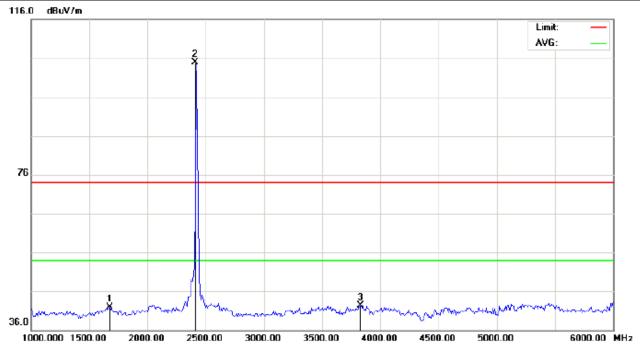
Mode: 802.11b Low Channel TX

Note:

No.	Mk	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Antenna Height	Table Degree	Comment
	-	MHz	dBu∀	dB/m	dBu∀/m	dBu∀/m	dB		cm	degree	
1		1683.333	55.43	-13.45	41.98	74.00	-32.02	peak			
2	*	2412.000	113.78	-9.67	104.11	74.00	30.11	peak			
3		3908.333	46.61	-5.37	41.24	74.00	-32.76	peak			

Page 55 of 75

EUT	3G Mobile Phone	Model Name	N3
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: 3G Mobile Phone Distance: 3m

M/N: N3

Mode: 802.11b Low Channel TX

Note:

No.	Mk	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Antenna Height	Table Degree	Comment
	-	MHz	dBu∀	dB/m	dBu∀/m	dBu√/m	dB		cm	degree	
1		1675.000	55.46	-13.54	41.92	74.00	-32.08	peak			
2	*	2412.000	114.57	-9.67	104.90	74.00	30.90	peak			
3		3833.333	48.16	-5.84	42.32	74.00	-31.68	peak			

RESULT: PASS

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

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

Factor = Antenna Factor + Cable loss - Amplifier gain, Over=Measure-Limit.

The "Factor" value can be calculated automatically by software of measurement system.

Page 56 of 75

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>=1%span, VBW>=RBW
- 3. The band edges was measured and recorded.

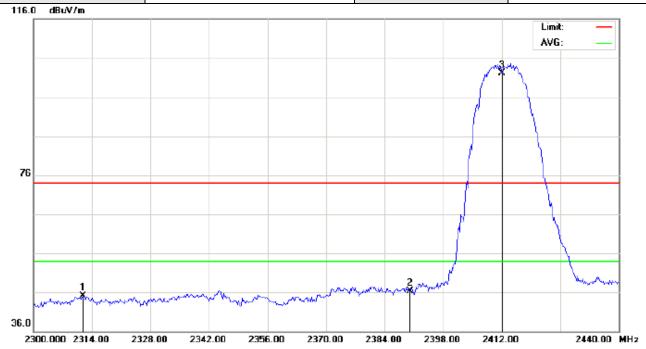
12.2. TEST SET-UP

Radiated same as 11.2

Page 57 of 75

12.3. TEST RESULT

EUT	3G Mobile Phone	Model Name	N3
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: 3G Mobile Phone Distance: 3m

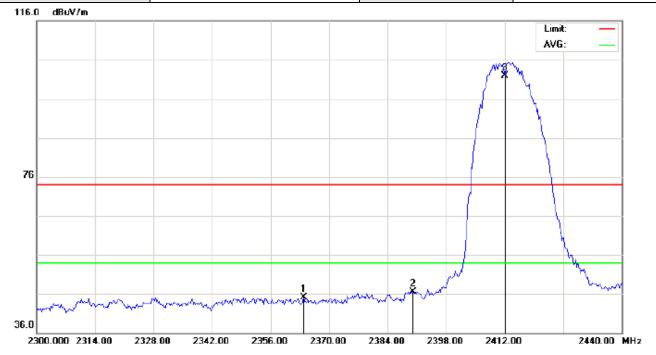
M/N: N3

Mode: 802.11b Low Channel TX

Note:

No.	Mk	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Antenna Height	Table Degree	Comment
	-	MHz	dBu∀	dB/m	dBu\//m	dBu∀/m	dB		cm	degree	
1		2311.900	54.84	-9.78	45.06	74.00	-28.94	peak			
2		2390.000	55.90	-9.69	46.21	74.00	-27.79	peak			
3	*	2412.000	111.86	-9.67	102.19	74.00	28.19	peak			

EUT	3G Mobile Phone	Model Name	N3	
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: 3G Mobile Phone Distance: 3m

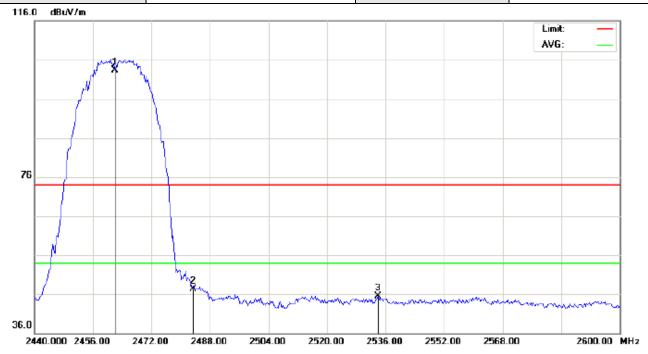
M/N: N3

Mode: 802.11b Low Channel TX

Note:

No.	Mk	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Antenna Height	Table Degree	Comment
	-	MHz	dBu∀ dB/m dBu∀/m dBu∀/m dB	cm degree							
1		2363.933	54.73	-9.72	45.01	74.00	-28.99	peak			
2		2390.000	56.27	-9.69	46.58	74.00	-27.42	peak			
3	*	2412.000	111.58	-9.67	101.91	74.00	27.91	peak			

EUT	3G Mobile Phone	Model Name	N3
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: 3G Mobile Phone Distance: 3m

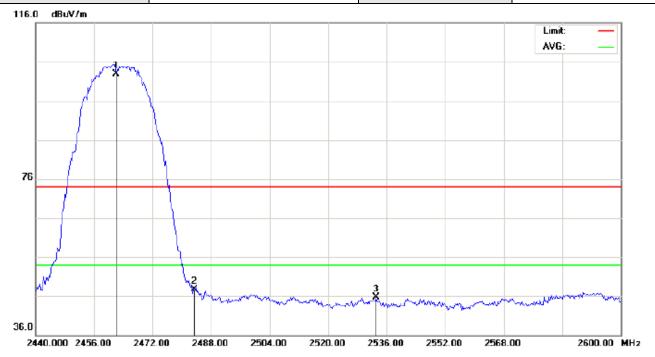
M/N: N3

Mode: 802.11b High Channel TX

Note:

No.	Mk	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Antenna Height	Table Degree	Comment
	-	MHz	dBu∀	dB/m	dBu\//m	dBu∀/m	dB		cm	degree	
1	*	2462.000	112.89	-9.61	103.28	74.00	29.28	peak			
2		2483.500	56.81	-9.59	47.22	74.00	-26.78	peak			
3		2533.867	54.97	-9.49	45.48	74.00	-28.52	peak			

EUT	3G Mobile Phone	Model Name	N3
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: 3G Mobile Phone Distance: 3m

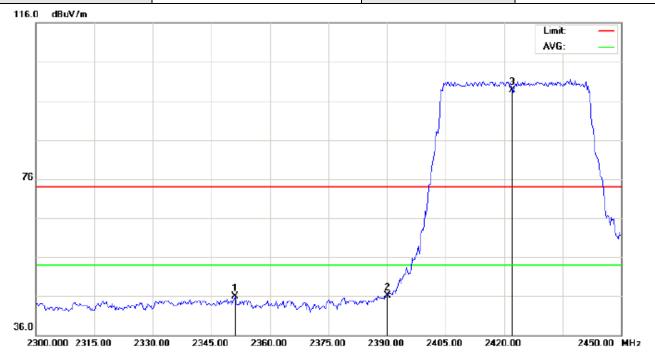
M/N: N3

Mode: 802.11b High Channel TX

Note:

No.	Mk	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Antenna Height	Table Degree	Comment
	-	MHz	dBu∀	dB/m	dBu∀/m	dBu∀/m	dB		cm	degree	
1	*	2462.000	112.42	-9.61	102.81	74.00	28.81	peak			
2		2483.500	57.22	-9.59	47.63	74.00	-26.37	peak			
3		2533.067	55.13	-9.49	45.64	74.00	-28.36	peak			

EUT	3G Mobile Phone	Model Name	N3	
Temperature	25°C	Relative Humidity	55.4%	
Pressure	960hPa	Test Voltage	Normal Voltage	
Test Mode	802.11n 40 with data rate 13.5 2422MHZ	Antenna	Horizontal	



Site: site #1 Polarization: Horizontal Temperature: 26
Limit: FCC Class B 3M Radiation above 1GHZ(PK) Power: Humidity: 60 %

EUT: 3G Mobile Phone Distance: 3m

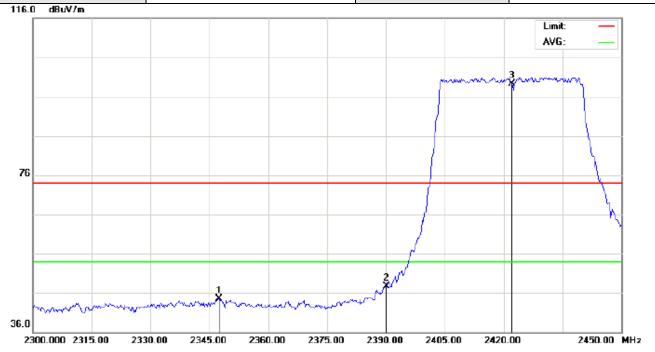
M/N: N3

Mode: 802.11n(40) Low Channel TX

Note:

No.	Mk	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Antenna Height	Table Degree	Comment
	-	MHz	dBu∀	dB/m	dBu\//m	dBu∀/m	dB		cm	degree	
1		2351.000	55.59	-9.73	45.86	74.00	-28.14	peak			
2		2390.000	55.71	-9.69	46.02	74.00	-27.98	peak			
3	*	2422.000	108.32	-9.66	98.66	74.00	24.66	peak			

EUT	3G Mobile Phone	Model Name	N3	
Temperature	25°C	Relative Humidity	55.4%	
Pressure	960hPa	Test Voltage	Normal Voltage	
Test Mode	802.11n 40 with data rate 13.5 2422MHZ	Antenna	Vertical	



Site: site #1 Polarization: Vertical Temperature: 26
Limit: FCC Class B 3M Radiation above 1GHZ(PK) Power: Humidity: 60 %

EUT: 3G Mobile Phone Distance: 3m

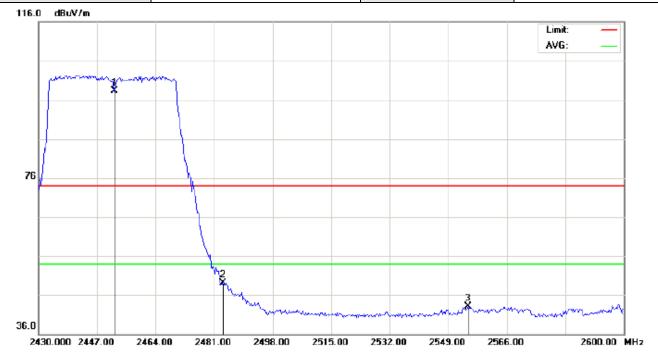
M/N: N3

Mode: 802.11n(40) Low Channel TX

Note:

No.	Mk	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Antenna Height	Table Degree	Comment
	-	MHz	dBu∀	dB/m	dBu\//m	dBu∀/m	dB		cm	degree	
1		2347.500	54.25	-9.74	44.51	74.00	-29.49	peak			
2		2390.000	57.40	-9.69	47.71	74.00	-26.29	peak			
3	*	2422.000	108.87	-9.66	99.21	74.00	25.21	peak			

EUT	3G Mobile Phone	Model Name	N3
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11n 40 with data rate 13.5 2452MHZ	Antenna	Horizontal



Site: site #1 Polarization: Horizontal Temperature: 26
Limit: FCC Class B 3M Radiation above 1GHZ(PK) Power: Humidity: 60 %

EUT: 3G Mobile Phone Distance: 3m

M/N: N3

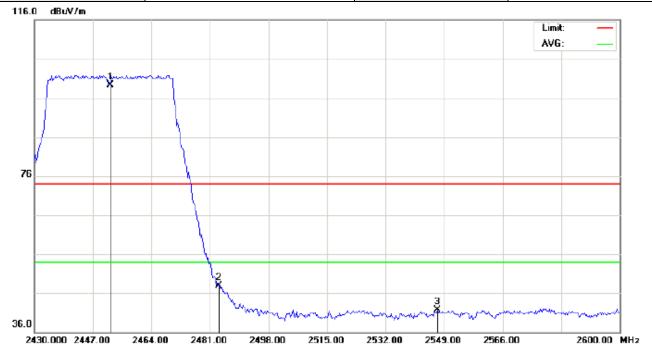
Mode: 802.11n(40) High Channel TX

Note:

No.	Mk	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Antenna Height		Comment
	-	MHz	dBu∀	dB/m	dBu∀/m	dBu∀/m	dB		cm	degree	
1	*	2452.000	107.97	-9.62	98.35	74.00	24.35	peak			
2		2483.500	58.79	-9.59	49.20	74.00	-24.80	peak			
3		2554.667	52.49	-9.44	43.05	74.00	-30.95	peak			

Page 64 of 75

EUT	3G Mobile Phone	Model Name	N3	
Temperature	25°C	Relative Humidity	55.4%	
Pressure	960hPa	Test Voltage	Normal Voltage	
Test Mode	802.11n 40 with data rate 13.5 2452MHZ	Antenna	Vertical	



Site: site #1 Polarization: Vertical Temperature: 26
Limit: FCC Class B 3M Radiation above 1GHZ(PK) Power: Humidity: 60 %

EUT: 3G Mobile Phone Distance: 3m

M/N: N3

Mode: 802.11n(40) High Channel TX

Note:

No.	Mk	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Antenna Height		Comment
	-	MHz	dBu∀	dB/m	dBu\//m	dBu∀/m	dB		cm	degree	
1	*	2452.000	108.90	-9.62	99.28	74.00	25.28	peak			
2		2483.500	57.53	-9.59	47.94	74.00	-26.06	peak			
3		2547.017	51.12	-9.46	41.66	74.00	-32.34	peak			

RESULT: PASS

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

Factor = Antenna Factor + Cable loss - Amplifier gain, Over=Measure-Limit.

The "Factor" value can be calculated automatically by software of measurement system.

Page 65 of 75

13. FCC LINE CONDUCTED EMISSION TEST

13.1. LIMITS OF LINE CONDUCTED EMISSION TEST

Francis	Maximum RF Line Voltage							
Frequency	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



Page 66 of 75

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 charging voltage by adapter which received 120V/60Hzpower 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.

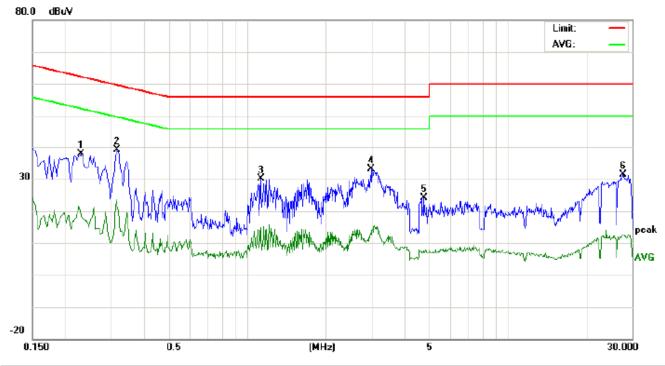
13.4. FINAL PROCEDURE OF LINE CONDUCTED EMISSION TEST

- 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.

Page 67 of 75

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: AC 120V/60Hz Humidity: 60 %

EUT: 3G Mobile Phone

M/N: N3

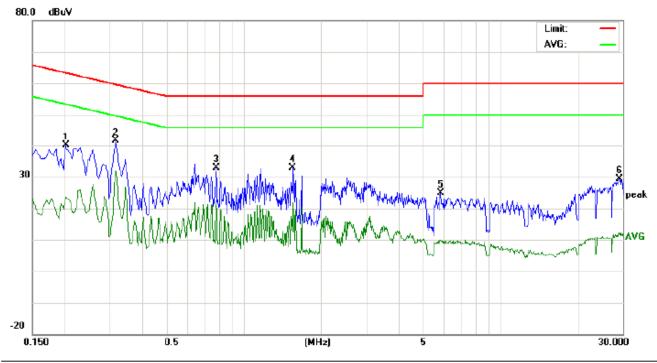
Mode: Normal Operating(WIFI)

Note:

No.	No. Freq.		Reading_Level (dBuV)		Correct Factor				ı	Limit Margin dBuV) (dB)			P/F	Comment
	(MHz)	Peak	QP	AVG	dB	Peak	QP	AVG	QP	AVG	QP.	AVG		
1	0.2300	27.55		8.44	10.25	37.80		18.69	62.45	52.45	-24.65	-33.76	Р	
2	0.3180	28.79		11.53	10.30	39.09		21.83	59.76	49.76	-20.67	-27.93	Р	
3	1.1258	19.72		4.50	10.37	30.09		14.87	56.00	46.00	-25.91	-31.13	Р	
4	3.0059	22.59		3.40	10.55	33.14		13.95	56.00	46.00	-22.86	-32.05	Р	
5	4.7738	13.78		-2.59	10.23	24.01		7.64	56.00	46.00	-31.99	-38.36	Р	
6	27.8500	21.19		2.23	10.13	31.32		12.36	60.00	50.00	-28.68	-37.64	Р	

Page 68 of 75

Line Conducted Emission Test Line 2-N



Site: Conduction Phase: N Temperature: 26
Limit: FCC Class B Conduction(QP) Power: AC 120V/60Hz Humidity: 60 %

EUT: 3G Mobile Phone

M/N: N3

Mode: Normal Operating(WIFI)

Note:

No.	No. Freq.		Reading_Level (dBuV)			Measurement (dBuV)			ı	nit uV)	Mai (d	rgin IB)	P/F	Comment
	(MHz)	Peak	QP	AVG	dB	Peak	QP	AVG	QP	AVG	QP	AVG		
1	0.2020	29.91		13.31	10.22	40.13		23.53	63.52	53.52	-23.39	-29.99	Р	
2	0.3180	31.30		21.74	10.30	41.60		32.04	59.76	49.76	-18.16	-17.72	Р	
3	0.7820	22.62		12.06	10.29	32.91		22.35	56.00	46.00	-23.09	-23.65	Р	
4	1.5540	22.61		11.45	10.36	32.97		21.81	56.00	46.00	-23.03	-24.19	Р	
5	5.8539	14.64		-0.50	10.27	24.91		9.77	60.00	50.00	-35.09	-40.23	Р	
6	29.1140	19.34		2.04	10.12	29.46		12.16	60.00	50.00	-30.54	-37.84	Р	

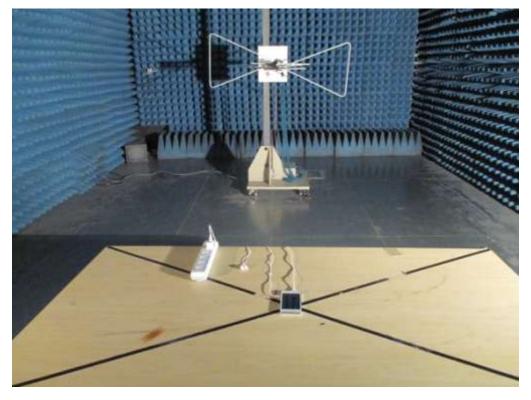
Page 69 of 75

APPENDIX A: PHOTOGRAPHS OF TEST SETUP

FCC LINE CONDUCTED EMISSION TEST SETUP



FCC RADIATED EMISSION TEST SETUP



Page 70 of 75

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



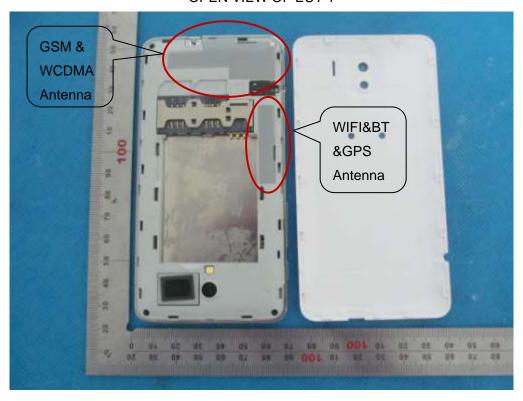
LEFT VIEW OF EUT



RIGHT VIEW OF EUT



OPEN VIEW OF EUT-1



Page 74 of 75

OPEN VIEW OF EUT-2



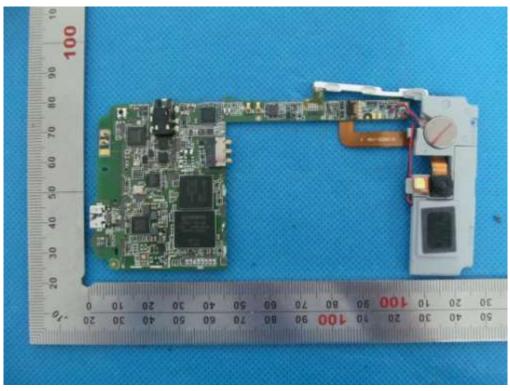
INTERNAL VIEW OF EUT-1



INTERNAL VIEW OF EUT-2



INTERNAL VIEW OF EUT-3



----END OF REPORT----