

Report No.: AGC01388131202FE04 Page 1 of 72

FCC Test Report

Report No.: AGC01388131202FE04

FCC ID : 2AAM3MP40DC

APPLICATION PURPOSE : Original Equipment

PRODUCT DESIGNATION: Smart Phone

BRAND NAME : Szenio

MODEL NAME : Syreni 40DC

CLIENT : Bulltech Electronic Products S.L.

DATE OF ISSUE : Dec. 20, 2013

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.

Report No.: AGC01388131202FE04 Page 2 of 72

Report Revise Record

Report Version	Revise Time	Issued Date	Valid Version	Notes	
V1.0	/	Dec. 20, 2013	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	11
7.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)	12
7.3. LIMITS AND MEASUREMENT RESULT	
8. 6DB BANDWIDTH	21
8.1. MEASUREMENT PROCEDURE	21
8.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)	21
8.3. LIMITS AND MEASUREMENT RESULTS	
9. CONDUCTED SPURIOUS EMISSION	30
9.1. MEASUREMENT PROCEDURE	30
9.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)	30
9.3. MEASUREMENT EQUIPMENT USED	30
9.4. LIMITS AND MEASUREMENT RESULT	30
10. MAXIMUM CONDUCTED OUTPUT POWER SPECTRAL DENSITY	33
10.1 MEASUREMENT PROCEDURE	
10.2 TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)	33
10.3 MEASUREMENT EQUIPMENT USED	33
10.4 LIMITS AND MEASUREMENT RESULT	33

11. RADIATED EMISSION	41
11.1. MEASUREMENT PROCEDURE	41
11.2. TEST SETUP	42
11.3. LIMITS AND MEASUREMENT RESULT	43
11.4. TEST RESULT	43
12. BAND EDGE EMISSION	51
12.1. MEASUREMENT PROCEDURE	
12.2. TEST SET-UP	52
12.3. TEST RESULT	53
13. FCC LINE CONDUCTED EMISSION TEST	61
13.1. LIMITS OF LINE CONDUCTED EMISSION TEST	61
13.2. BLOCK DIAGRAM OF LINE CONDUCTED EMISSION TEST	61
13.3. PRELIMINARY PROCEDURE OF LINE CONDUCTED EMISSION TEST	62
13.4. FINAL PROCEDURE OF LINE CONDUCTED EMISSION TEST	62
13.5. TEST RESULT OF LINE CONDUCTED EMISSION TEST	63
APPENDIX A: PHOTOGRAPHS OF TEST SETUP	65
ADDENDIY B. DHOTOGRADHS OF FIIT	66

Page 5 of 72

1. VERIFICATION OF CONFORMITY

Applicant	Bulltech Electronic Products S.L.		
Address Gran Via, 64, 2-I, 28013 Madrid, Spain.			
Manufacturer LONG AN TECHNOLOGY CO., LTD.			
Address Room 318, Building Shanmei Xincun, PingAn Road, Songgang, BaoAn, Shenzhen, 518000, China			
Product Designation Smart Phone			
Brand Name	Szenio		
Test Model Syreni 40DC			
Date of test	Dec. 10, 2013 to Dec.18, 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 Dec. 20, 2013

Checked By

Kidd Yang Dec. 20, 2013

Authorized By

Solger Zhang Dec. 20, 2013

Page 6 of 72

2. GENERAL INFORMATION

2.1. PRODUCT DESCRIPTION

The EUT is designed as "Smart 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

	. Let le deconice de l'enovirig			
Operation Frequency	2.412 GHz~2.462GHz			
Output Bours	IEEE 802.11b:17.7dBm; IEEE 802.11g:13.9dBm;			
Output Power	IEEE 802.11n(20):14.9dBm; IEEE 802.11n(40):12dBm			
Modulation	DSSS(DBPSK/DQPSK/CCK);OFDM(BPSK/QPSK/16-QAM/64-QAM)			
Number of channels	11			
Hardware Version	K278_P3_V0004			
Software Version	2780Q0Q4_SY_V001			
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 72

2.3. IEEE 802.11N MODULATION SCHEME

MCS Index	Nss	Modulation	R	NBPSC	NCBPS		NDBPS		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: 2AAM3MP40DC** 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 72

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:

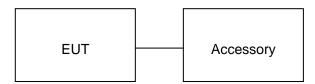
- 1. The EUT has been set to operate continuously on the lowest, middle and highest operation frequency individually.
- 2. All modes under which configure applicable have been tested and the worst mode test data recording in the test report, if no other mode data.
- 3. For Radiated Emission, 3axis were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

Page 9 of 72

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	Smart Phone	Syreni 40DC	FCC ID: 2AAM3MP40DC	EUT
2	Adapter	Syreni 40DC	DC5.0V / 1000mA	Accessory
3	Battery	Syreni 40DC	DC3.7V/ 1400 mAh	Accessory
4	Earphone	Syreni 40DC	N/A	Accessory
5	USB Cable	Syreni 40DC	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.

Report No.: AGC01388131202FE04 Page 10 of 72

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	07/17/2013	07/16/2014
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 72

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.

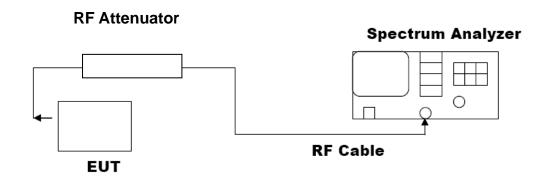
For average power test:

- 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).

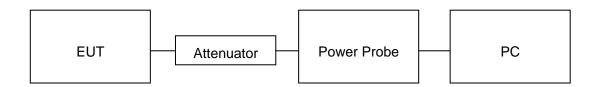
Note: The EUT was tested according to KDB 558074 for compliance to FCC 47CFR 15.247 requirements.

Page 12 of 72

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



AVERAGE POWER SETUP

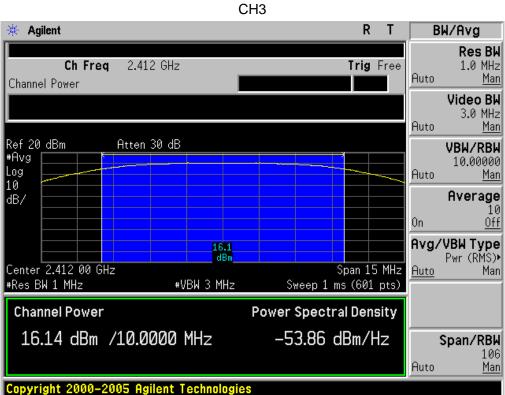


Page 13 of 72

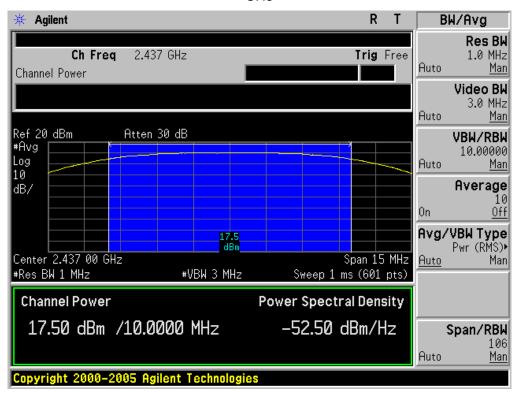
7.3. LIMITS AND MEASUREMENT RESULT

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

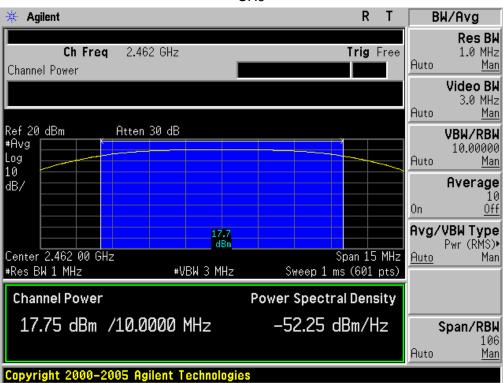
LIMITS AND MEASUREMENT RESULT				
Frequency (GHz)	Average Power (dBm)	Peak Power (dBm)	Applicable Limits (dBm)	Pass or Fail
2.412	14.12	16.1	30	Pass
2.437	15.52	17.5	30	Pass
2.462	15.72	17.7	30	Pass



CH₆



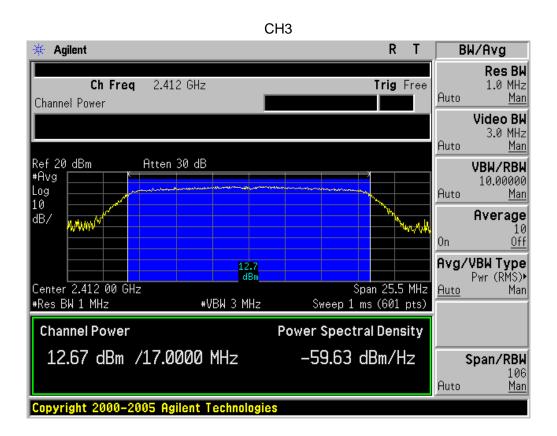
CH9



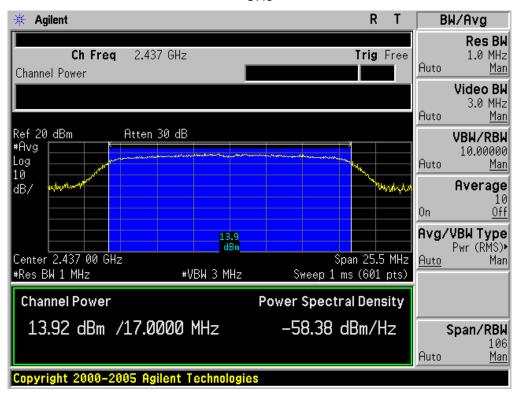
Report No.: AGC01388131202FE04 Page 15 of 72

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

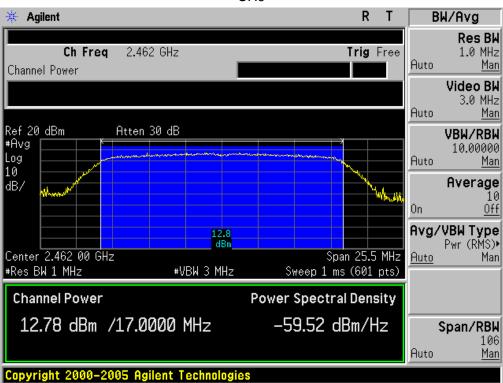
LIMITS AND MEASUREMENT RESULT				
Frequency (GHz)	Average Power (dBm)	Peak Power (dBm)	Applicable Limits (dBm)	Pass or Fail
2.412	10.72	12.7	30	Pass
2.437	11.92	13.9	30	Pass
2.462	10.82	12.8	30	Pass



CH₆



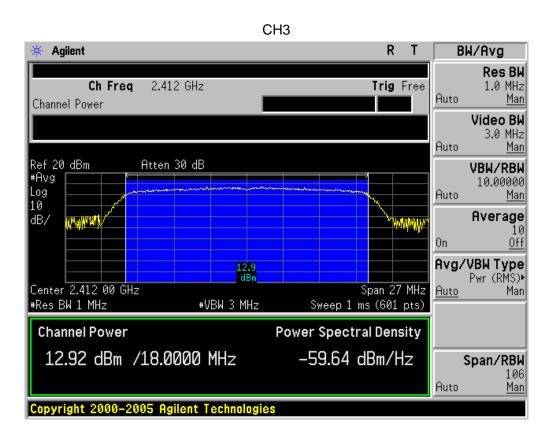
CH9



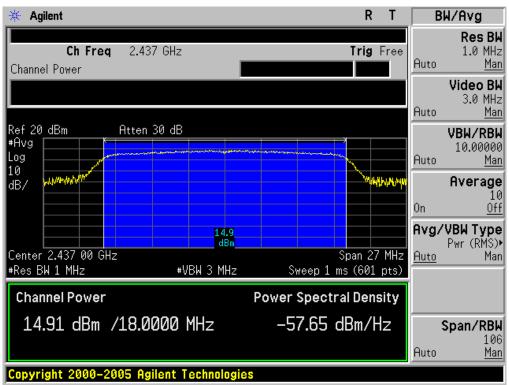
Report No.: AGC01388131202FE04 Page 17 of 72

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

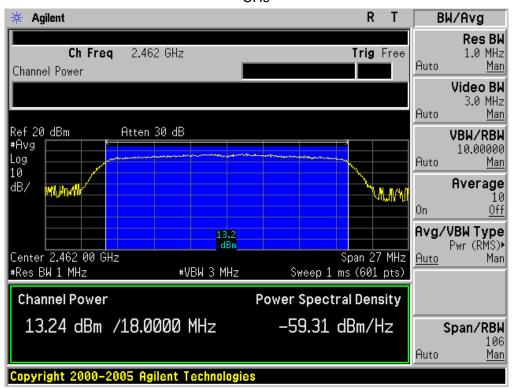
LIMITS AND MEASUREMENT RESULT				
Frequency (GHz)	Average Power (dBm)	Peak Power (dBm)	Applicable Limits (dBm)	Pass or Fail
2.412	10.92	12.9	30	Pass
2.437	12.92	14.9	30	Pass
2.462	11.22	13.2	30	Pass



CH₆



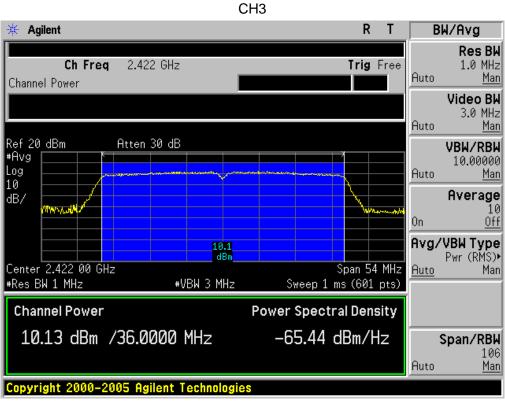
CH9



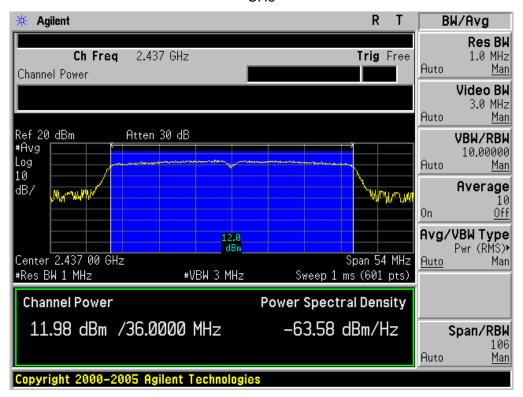
Report No.: AGC01388131202FE04 Page 19 of 72

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

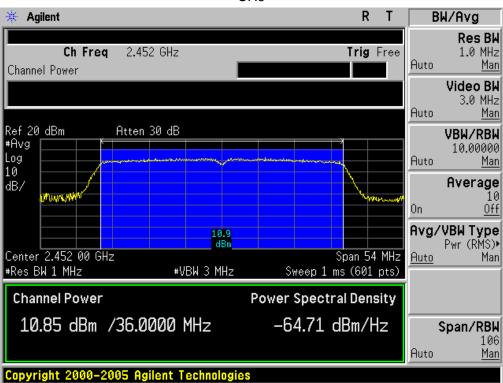
LIMITS AND MEASUREMENT RESULT				
Frequency (GHz)	Average Power (dBm)	Peak Power (dBm)	Applicable Limits (dBm)	Pass or Fail
2.422	8.12	10.1	30	Pass
2.437	10.02	12	30	Pass
2.452	8.92	10.9	30	Pass



CH₆



CH9



Page 21 of 72

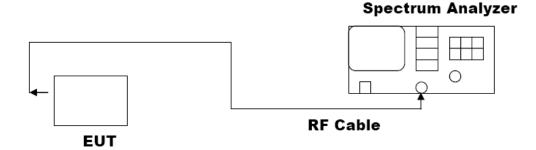
8. 6DB BANDWIDTH

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 72

8.3. LIMITS AND MEASUREMENT RESULTS

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

LIMITS AND MEASUREMENT RESULT			
Amplicable Limite	Applicable Limits		
Applicable Limits	Test Data (MHz) Criteria		Criteria
	Low Channel	9.573	PASS
>500KHZ	Middle Channel	9.611	PASS
	High Channel	9.597	PASS

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

LIMITS AND MEASUREMENT RESULT			
Annliachta Limita	Applicable Limits		
Applicable Limits	Test Data (MHz)		Criteria
>500KHZ	Low Channel	15.174	PASS
	Middle Channel	15.088	PASS
	High Channel	16.061	PASS

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

LIMITS AND MEASUREMENT RESULT			
Applicable Limits			
Applicable Limits	Test Data (MHz)		Criteria
>500KHZ	Low Channel	15.107	PASS
	Middle Channel	16.945	PASS
	High Channel	16.453	PASS

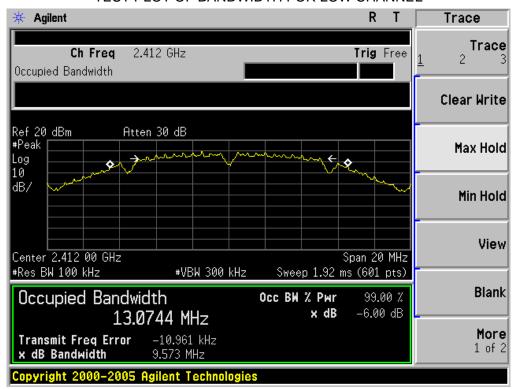
Page 23 of 72

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

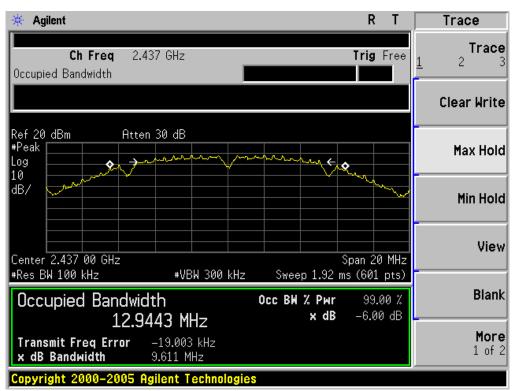
LIMITS AND MEASUREMENT RESULT			
Applicable Limits			
Applicable Limits	Test Data (MHz)		Criteria
>500KHZ	Low Channel	35.209	PASS
	Middle Channel	35.227	PASS
	High Channel	35.250	PASS

Page 24 of 72

802.11b TEST RESULTTEST PLOT OF BANDWIDTH FOR LOW CHANNEL

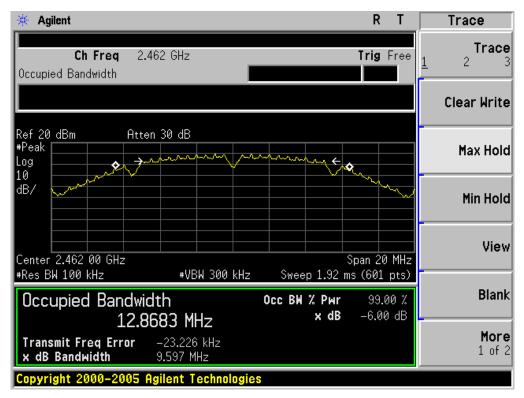


TEST PLOT OF BANDWIDTH FOR MIDDLE CHANNEL

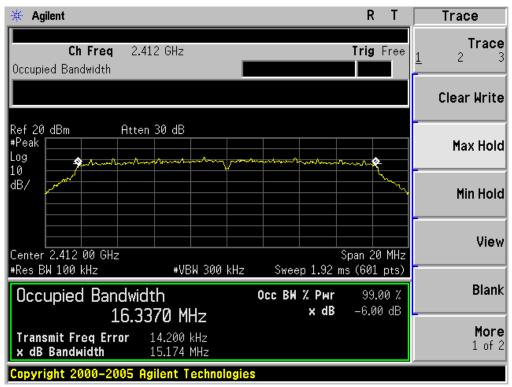


Page 25 of 72

TEST PLOT OF BANDWIDTH FOR HIGH CHANNEL

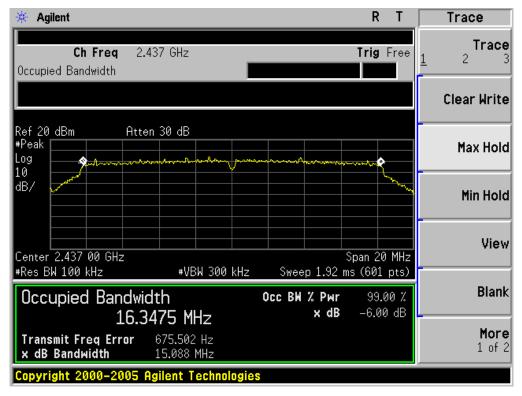


802.11g TEST RESULTTEST PLOT OF BANDWIDTH FOR LOW CHANNEL

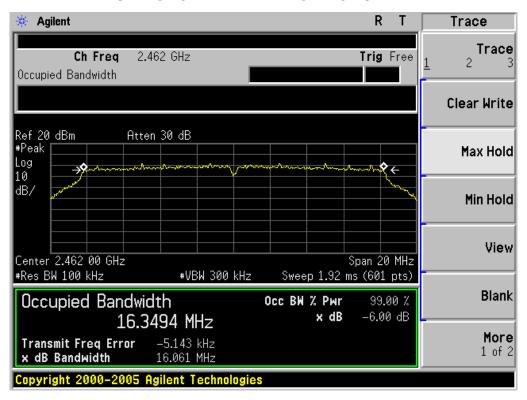


Page 26 of 72

TEST PLOT OF BANDWIDTH FOR MIDDLE CHANNEL

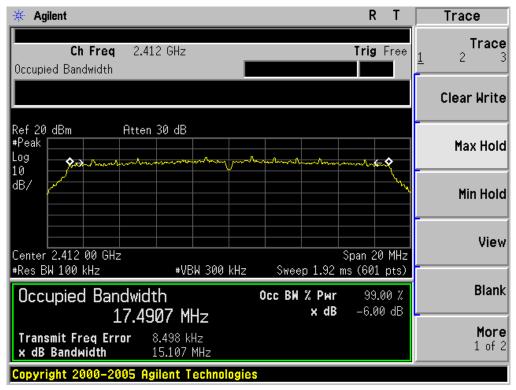


TEST PLOT OF BANDWIDTH FOR HIGH CHANNEL

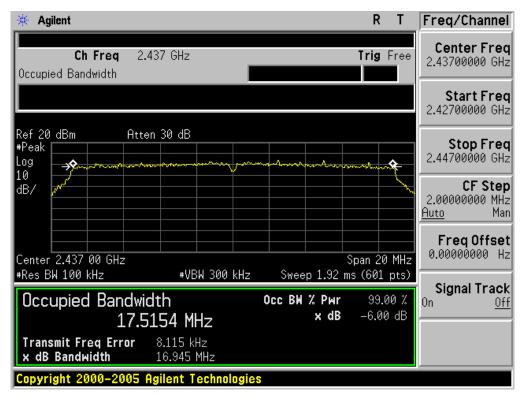


Page 27 of 72

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

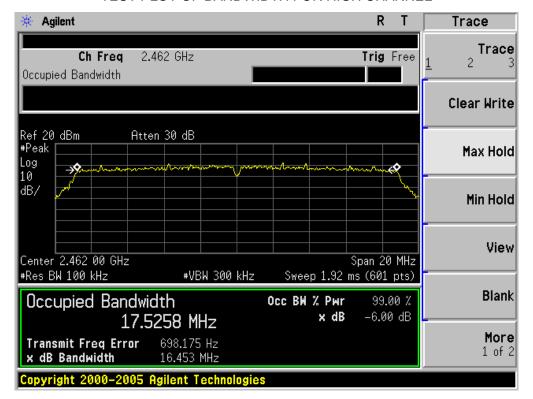


TEST PLOT OF BANDWIDTH FOR MIDDLE CHANNEL

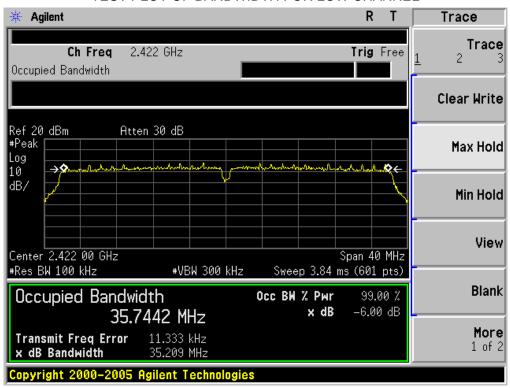


Page 28 of 72

TEST PLOT OF BANDWIDTH FOR HIGH CHANNEL

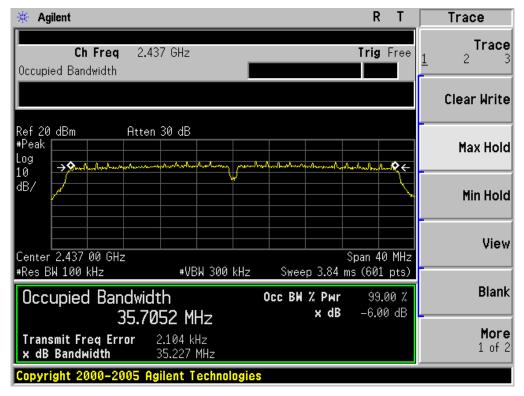


802.11n(40) TEST RESULT
TEST PLOT OF BANDWIDTH FOR LOW CHANNEL

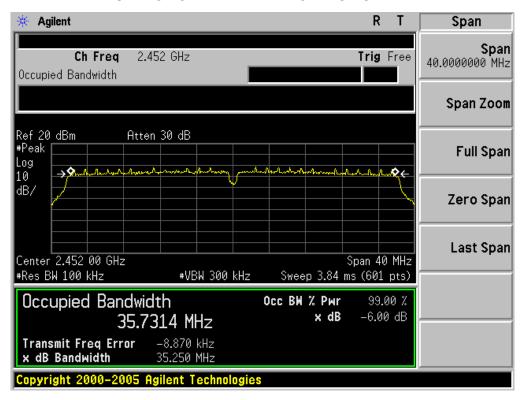


Page 29 of 72

TEST PLOT OF BANDWIDTH FOR MIDDLE CHANNEL



TEST PLOT OF BANDWIDTH FOR HIGH CHANNEL



Page 30 of 72

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. 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.

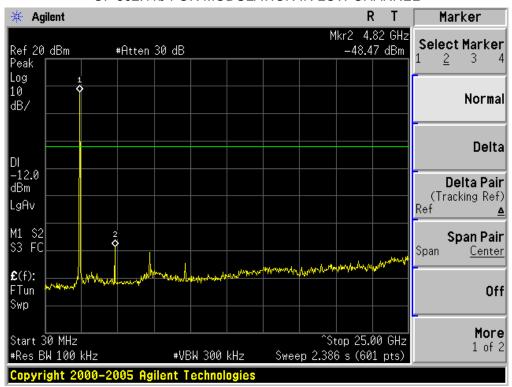
9.3. MEASUREMENT EQUIPMENT USED

The same as described in section 6.

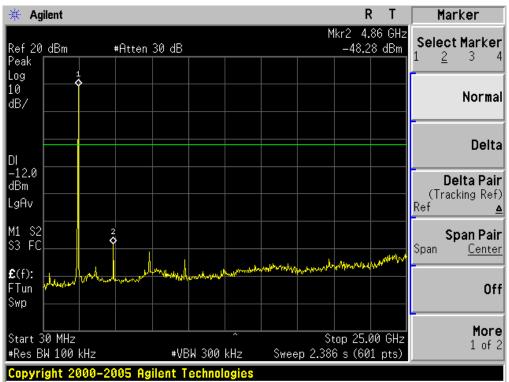
9.4. LIMITS AND MEASUREMENT RESULT

LIMITS AND MEASUREMENT RESULT			
Amulia alda 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	D4 00	
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))			

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

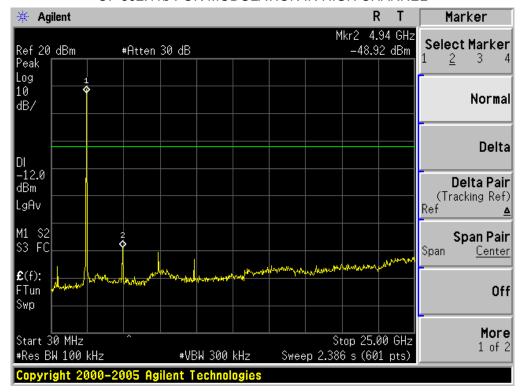


TEST PLOT OF OUT OF BAND EMISSIONS
OF 802.11b FOR MODULATION IN MIDDLE CHANNEL



Page 32 of 72

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



Page 33 of 72

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	-5.98	8	Pass
Middle Channel	-5.23	8	Pass
High Channel	-5.36	8	Pass

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

Channel No.	PSD (dBm)	Limit (dBm)	Result
Low Channel	-13.1	8	Pass
Middle Channel	-9.88	8	Pass
High Channel	-12.01	8	Pass

Report No.: AGC01388131202FE04 Page 34 of 72

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

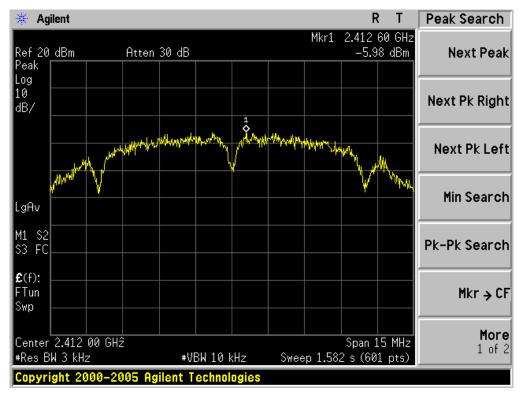
Channel No.	PSD (dBm)	Limit (dBm)	Result
Low Channel	-13.09	8	Pass
Middle Channel	-10.3	8	Pass
High Channel	-10.91	8	Pass

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

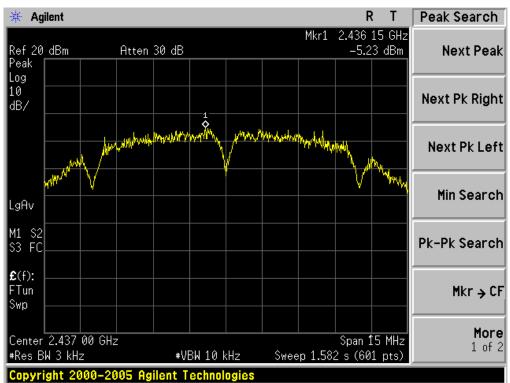
Channel No.	PSD (dBm)	Limit (dBm)	Result
Low Channel	-16.35	8	Pass
Middle Channel	-14.53	8	Pass
High Channel	-16.32	8	Pass

Page 35 of 72

802.11b TEST RESULTTEST PLOT OF SPECTRAL DENSITY FOR LOW CHANNEL

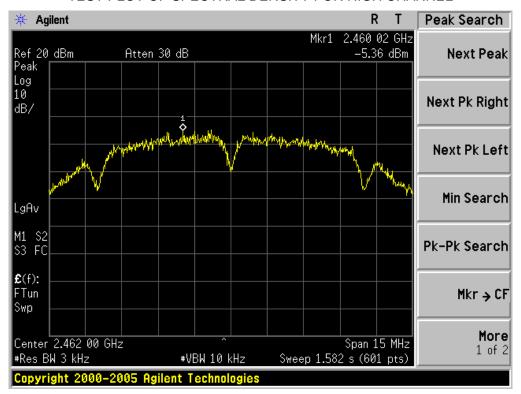


TEST PLOT OF SPECTRAL DENSITY FOR MIDDLE CHANNEL

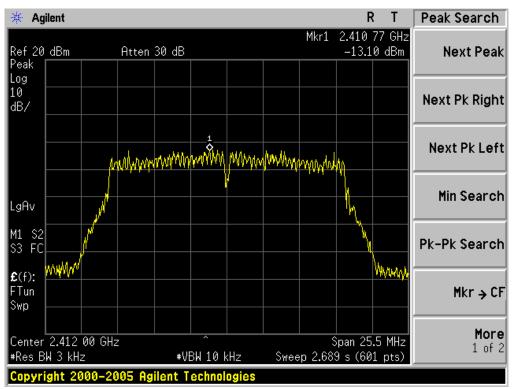


Page 36 of 72

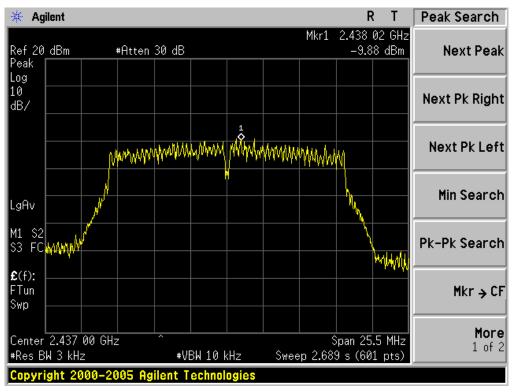
TEST PLOT OF SPECTRAL DENSITY FOR HIGH CHANNEL



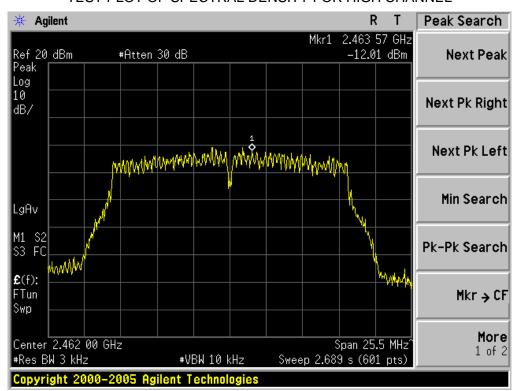
802.11g TEST RESULTTEST PLOT OF SPECTRAL DENSITY FOR LOW CHANNEL



TEST PLOT OF SPECTRAL DENSITY FOR MIDDLE CHANNEL

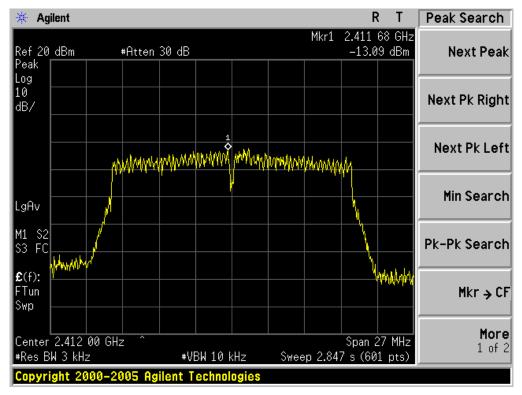


TEST PLOT OF SPECTRAL DENSITY FOR HIGH CHANNEL

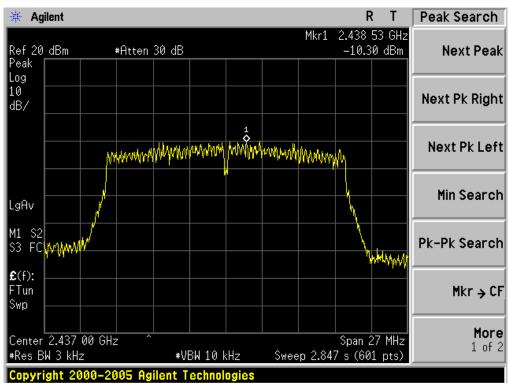


Page 38 of 72

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

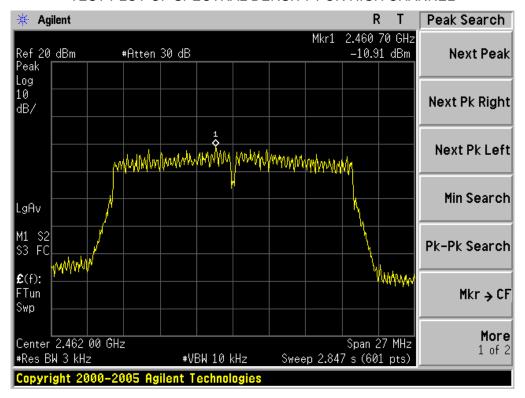


TEST PLOT OF SPECTRAL DENSITY FOR MIDDLE CHANNEL

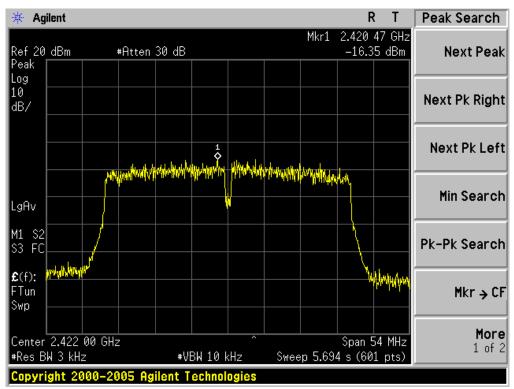


Page 39 of 72

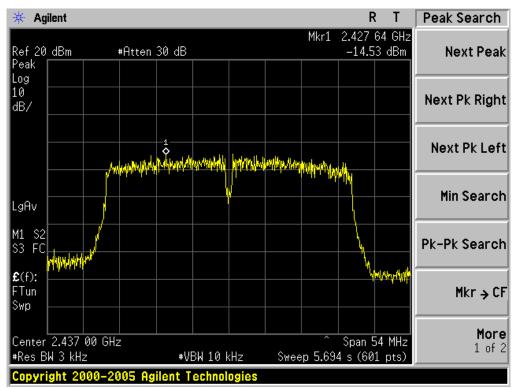
TEST PLOT OF SPECTRAL DENSITY FOR HIGH CHANNEL



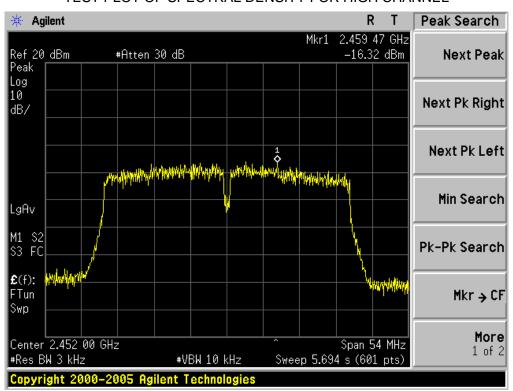
802.11n 40 TEST RESULTTEST PLOT OF SPECTRAL DENSITY FOR LOW CHANNEL



TEST PLOT OF SPECTRAL DENSITY FOR MIDDLE CHANNEL



TEST PLOT OF SPECTRAL DENSITY FOR HIGH CHANNEL



Page 41 of 72

11. RADIATED EMISSION

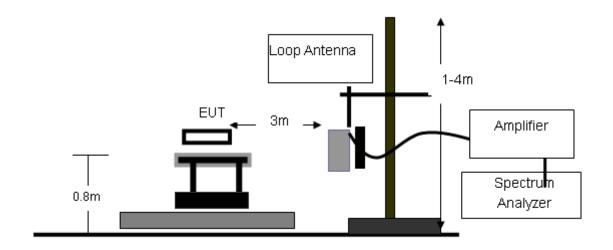
11.1. MEASUREMENT PROCEDURE

- 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.

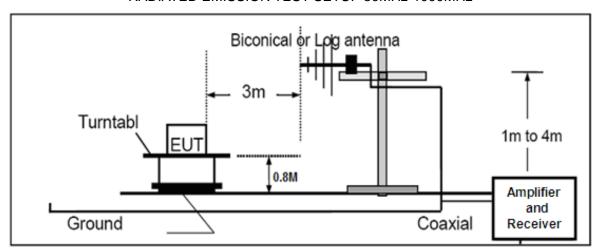
Report No.: AGC01388131202FE04 Page 42 of 72

11.2. TEST SETUP

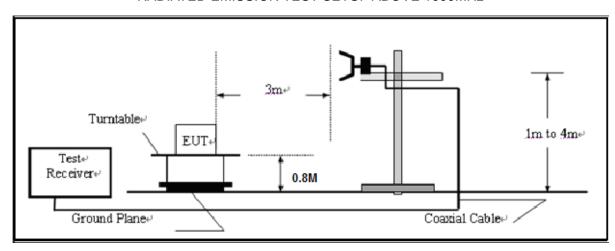
RADIATED EMISSION TEST SETUP BELOW 30MHz



RADIATED EMISSION TEST SETUP 30MHz-1000MHz



RADIATED EMISSION TEST SETUP ABOVE 1000MHz



Page 43 of 72

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.

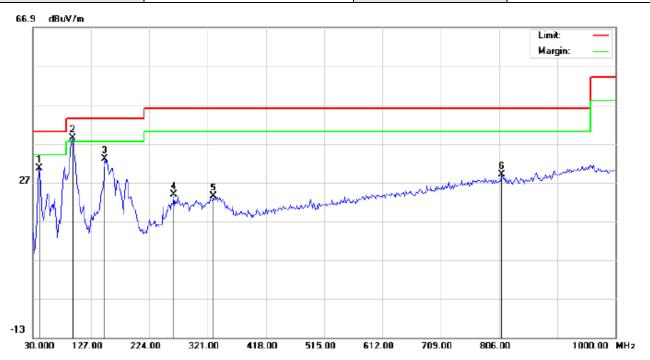
11.4. TEST RESULT

RADIATED EMISSION BELOW 30MHZ

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

RADIATED EMISSION BELOW 1GHZ

EUT	Smart Phone	Model Name	Syreni 40DC	
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: Smart Phone M/N: Syreni 40DC

Mode: Low Channel TX

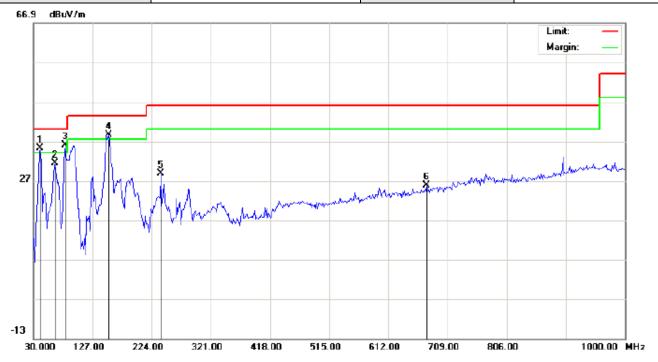
Note:

Polarization: Horizontal Temperature: 26
Power: Humidity: 60 %

Distance:

No.	Mk	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Antenna Height	Table Degree	Comment
	-	MHz	dBu∀	dB/m	dBuV/m	dBu∀/m	dB		cm	degree	
1		41.3167	18.87	11.81	30.68	40.00	-9.32	peak			
2	*	96.2833	28.26	10.07	38.33	43.50	-5.17	peak			
3		149.6333	17.81	15.26	33.07	43.50	-10.43	peak			
4		264.4167	9.52	14.34	23.86	46.00	-22.14	peak			
5		330.7000	6.01	17.45	23.46	46.00	-22.54	peak			
6		810.8500	1.67	27.32	28.99	46.00	-17.01	peak			

EUT	Smart Phone	Model Name	Syreni 40DC
Temperature	25°C	Relative Humidity	
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: Smart Phone M/N: Syreni 40DC Mode: Low Channel TX

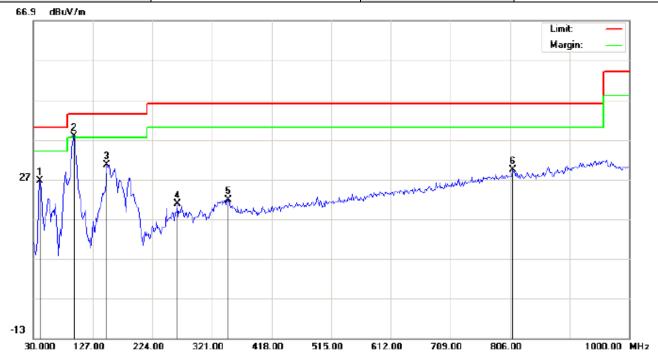
Note:

Polarization: Vertical Temperature: 26
Power: 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	ļ	41.3167	23.45	11.81	35.26	40.00	-4.74	peak			
2		65.5667	20.72	10.65	31.37	40.00	-8.63	peak			
3	*	81.7333	26.25	9.73	35.98	40.00	-4.02	peak			
4	ļ	152.8667	23.33	15.28	38.61	43.50	-4.89	peak			
5		238.5500	15.33	13.46	28.79	46.00	-17.21	peak			
6		675.0500	1.30	24.52	25.82	46.00	-20.18	peak			

EUT	Smart Phone	Model Name	Syreni 40DC
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 Polarization: Horizontal Temperature: 26
Limit: FCC Class B 3M Radiation Power: Humidity: 60 %

EUT: Smart Phone Distance:

M/N: Syreni 40DC Mode: Middle Channel TX

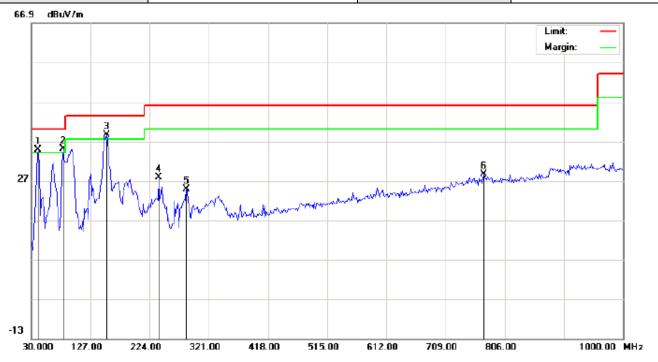
Note:

No.	Mk	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Antenna Height		Comment
	-	MHz	dBu∀	dB/m	dBuV/m	dBu√/m	dB		cm	degree	
1		41.3167	14.87	11.81	26.68	40.00	-13.32	peak			
2	*	96.2833	27.76	10.07	37.83	43.50	-5.67	peak			
3		149.6333	15.31	15.26	30.57	43.50	-12.93	peak			
4		264.4167	6.52	14.34	20.86	46.00	-25.14	peak			
5		346.8667	3.33	18.53	21.86	46.00	-24.14	peak			
6		810.8500	2.17	27.32	29.49	46.00	-16.51	peak			

Temperature: 26

Humidity: 60 %

EUT	Smart Phone	Model Name	Syreni 40DC
Temperature	25°C	Relative Humidity	
Pressure	960hPa	Test Voltage	
Test Mode	802.11b with date rate 1 2437MHZ	Antenna	Vertical



Site: site #1 Polarization: Vertical
Limit: FCC Class B 3M Radiation Power:

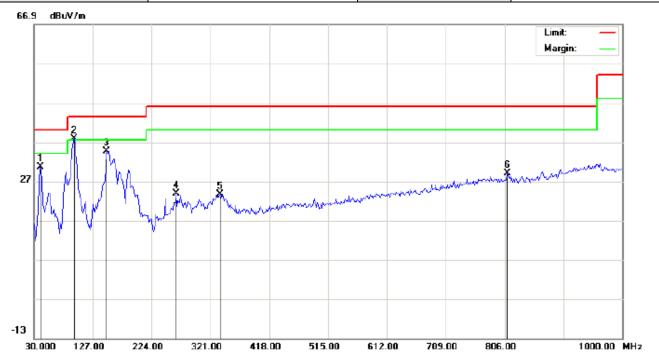
EUT: Smart Phone Distance: M/N: Syreni 40DC

Mode: Middle 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	İ	41.3167	22.95	11.81	34.76	40.00	-5.24	peak			
2	ļ	81.7333	25.25	9.73	34.98	40.00	-5.02	peak			
3	*	152.8667	23.33	15.28	38.61	43.50	-4.89	peak			
4		238.5500	14.33	13.46	27.79	46.00	-18.21	peak			
5		283.8167	9.90	14.92	24.82	46.00	-21.18	peak		·	
6		772.0500	1.65	26.93	28.58	46.00	-17.42	peak			

EUT	Smart Phone	Model Name	Syreni 40DC	
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 Polarization: Horizontal Temperature: 26
Limit: FCC Class B 3M Radiation Power: Humidity: 60 %

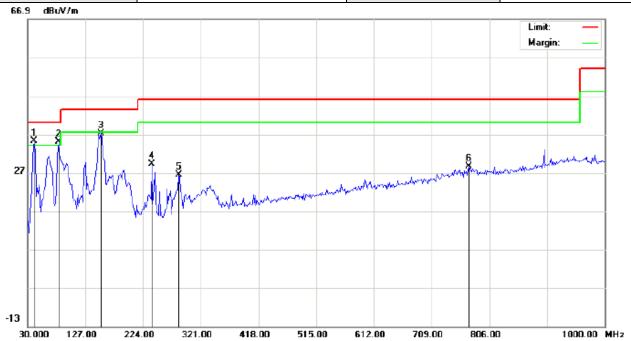
EUT: Smart Phone Distance: M/N: Syreni 40DC

Mode: High Channel TX Note:

No.	Mk	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Antenna Height	Table Degree	Comment
	-	MHz	dBu∀	dB/m	dBuV/m	dBu∀/m	dB		cm	degree	
1		41.3167	18.87	11.81	30.68	40.00	-9.32	peak			
2	*	96.2833	27.76	10.07	37.83	43.50	-5.67	peak			
3		149.6333	19.31	15.26	34.57	43.50	-8.93	peak			
4		264.4167	9.52	14.34	23.86	46.00	-22.14	peak			
5		337.1667	5.76	17.89	23.65	46.00	-22.35	peak			
6		810.8500	1.67	27.32	28.99	46.00	-17.01	peak			

Page 49 of 72

EUT	Smart Phone	Model Name	Syreni 40DC
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: Smart Phone

M/N: Syreni 40DC Mode: High Channel TX

Note:

Polarization: Vertical Temperature: 26
Power: 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	*	41.3167	23.45	11.81	35.26	40.00	-4.74	peak			
2	İ	81.7333	25.25	9.73	34.98	40.00	-5.02	peak			
3		152.8667	21.83	15.28	37.11	43.50	-6.39	peak			
4		238.5500	15.83	13.46	29.29	46.00	-16.71	peak			
5		283.8167	11.40	14.92	26.32	46.00	-19.68	peak		·	
6		772.0500	1.65	26.93	28.58	46.00	-17.42	peak			

RESULT: PASS

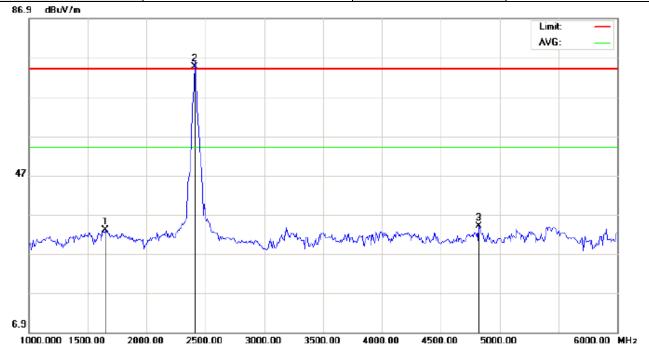
Note: 1. Factor=Antenna Factor + Cable loss, Margin=Measurement-Limit.

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

Page 50 of 72

RADIATED EMISSION ABOVE 1GHZ

EUT	Smart Phone	Model Name	Syreni 40DC
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:Smart Phone Distance: 3m

M/N:Syreni 40DC

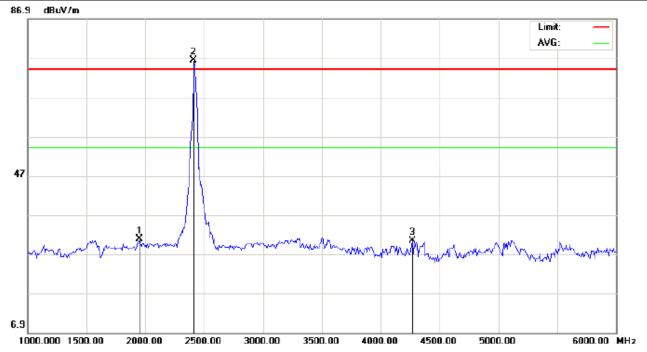
Mode: 802.11b Low Channel TX

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		1650.000	46.73	-13.80	32.93	74.00	-41.07	peak			
2	*	2412.000	84.28	-9.67	74.61	74.00	0.61	peak			
3		4825.000	36.24	-2.26	33.98	74.00	-40.02	peak			

Page 51 of 72

EUT	Smart Phone	Model Name	Syreni 40DC
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:Smart Phone Distance: 3m

M/N:Syreni 40DC

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		1950.000	41.49	-10.65	30.84	74.00	-43.16	peak			
2	*	2412.000	86.07	-9.67	76.40	74.00	2.40	peak			
3		4266.667	34.24	-3.90	30.34	74.00	-43.66	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 52 of 72

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.

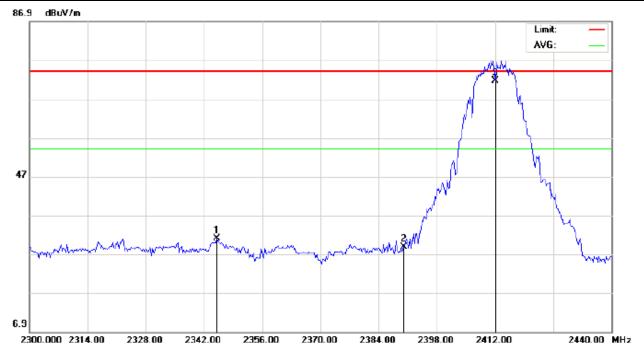
12.2. TEST SET-UP

Radiated same as 11.2

Page 53 of 72

12.3. TEST RESULT

EUT	Smart Phone	Model Name	Syreni 40DC
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:Smart Phone Distance: 3m

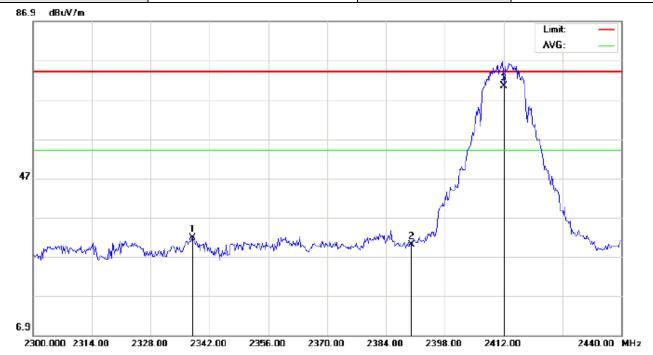
M/N:Syreni 40DC

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		2345.033	40.67	-9.74	30.93	74.00	-43.07	peak			
2		2390.000	38.40	-9.69	28.71	74.00	-45.29	peak			
3	*	2412.000	81.36	-9.67	71.69	74.00	-2.31	peak			

EUT	Smart Phone	Model Name	Syreni 40DC	
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:Smart Phone Distance: 3m

M/N:Syreni 40DC

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	dBuV/m	dBu∀/m	dB		cm	degree	
1		2338.033	41.61	-9.75	31.86	74.00	-42.14	peak			
2		2390.000	39.78	-9.69	30.09	74.00	-43.91	peak			
3	*	2412.000	80.08	-9.67	70.41	74.00	-3.59	peak			

EUT	Smart Phone	Model Name	Syreni 40DC
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:Smart Phone Distance: 3m

M/N:Syreni 40DC

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	79.89	-9.61	70.28	74.00	-3.72	peak			
2		2483.500	45.31	-9.59	35.72	74.00	-38.28	peak			
3		2540.267	37.88	-9.47	28.41	74.00	-45.59	peak			

EUT	Smart Phone Model Name		Syreni 40DC
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:Smart Phone Distance: 3m

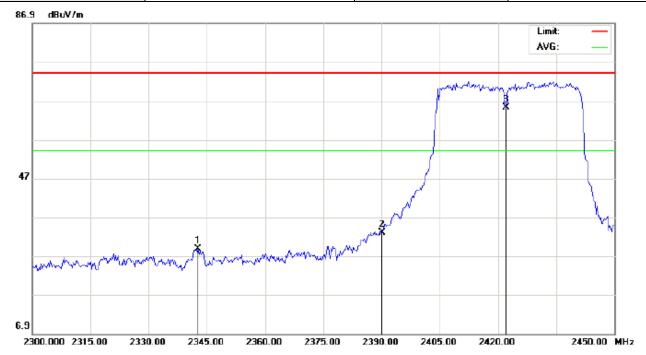
M/N:Syreni 40DC

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	81.42	-9.61	71.81	74.00	-2.19	peak			
2		2483.500	44.72	-9.59	35.13	74.00	-38.87	peak			
3		2544.267	37.24	-9.46	27.78	74.00	-46.22	peak			

EUT	Smart Phone	Model Name	Syreni 40DC	
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:Smart Phone Distance: 3m

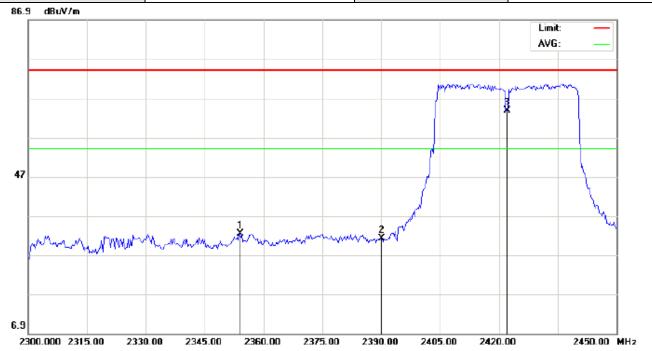
M/N:Syreni 40DC

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		2342.750	38.51	-9.74	28.77	74.00	-45.23	peak			
2		2390.000	42.71	-9.69	33.02	74.00	-40.98	peak			
3	*	2422.000	74.82	-9.66	65.16	74.00	-8.84	peak			

EUT	Smart Phone	Model Name	Syreni 40DC	
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:Smart Phone Distance: 3m

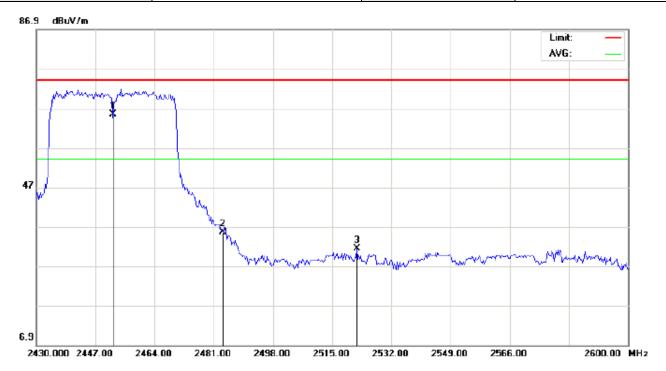
M/N:Syreni 40DC

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		2354.000	42.12	-9.73	32.39	74.00	-41.61	peak			
2		2390.000	40.90	-9.69	31.21	74.00	-42.79	peak			
3	*	2422.000	73.37	-9.66	63.71	74.00	-10.29	peak			

EUT	Smart Phone	Model Name	Syreni 40DC	
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:Smart Phone Distance: 3m

M/N:Syreni 40DC

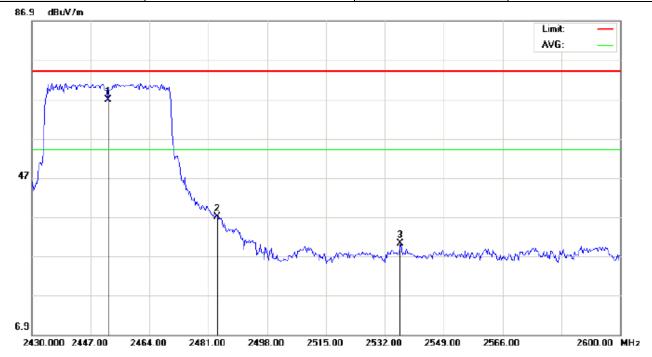
Mode: 802.11n(40) High Channel TX

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	*	2452.000	74.97	-9.62	65.35	74.00	-8.65	peak			
2		2483.500	45.29	-9.59	35.70	74.00	-38.30	peak			
3		2522.083	40.85	-9.52	31.33	74.00	-42.67	peak			

Page 60 of 72

EUT	Smart Phone	Model Name	Syreni 40DC	
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:Smart Phone Distance: 3m

M/N:Syreni 40DC

Mode: 802.11n(40) 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	*	2452.000	76.40	-9.62	66.78	74.00	-7.22	peak			
2		2483.500	46.54	-9.59	36.95	74.00	-37.05	peak			
3		2536.533	39.68	-9.48	30.20	74.00	-43.80	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 61 of 72

13. FCC LINE CONDUCTED EMISSION TEST

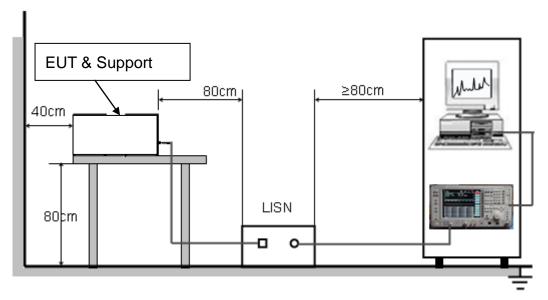
13.1. LIMITS OF LINE CONDUCTED EMISSION TEST

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 62 of 72

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

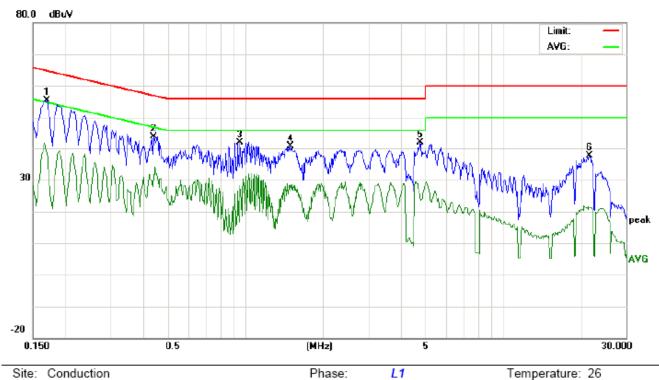
- 1. EUT and support equipment was set up on the test bench as per step 2 of the preliminary test.
- 2. A scan was taken on both power lines, Line 1 and Line 2, recording at least the six highest emissions. Emission frequency and amplitude were recorded into a computer in which correction factors were 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.

Humidity: 60 %

Page 63 of 72

13.5. TEST RESULT OF LINE CONDUCTED EMISSION TEST

LINE CONDUCTED EMISSION TEST LINE 1-L



Site: Conduction Phase: L1
Limit: FCC Class B Conduction(QP) Power:

EUT: Smart Phone M/N: syreni40DC

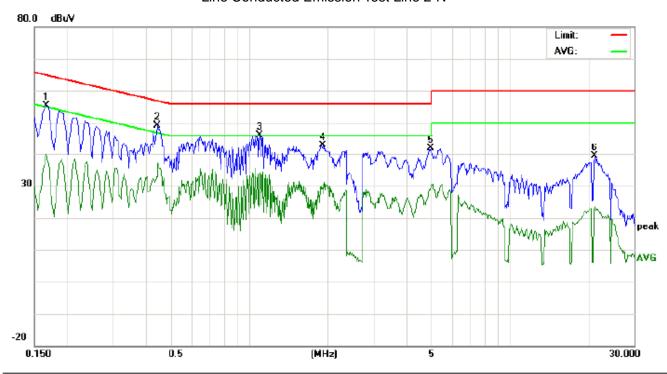
Mode: Normal Operating(WIFI)

Note:

No.	Freq.	Reading_Level (dBuV)		Correct Measurement Factor (dBuV)			Limit (dBuV)		Margin (dB)		P/F	Comment		
	(MHz)	Peak	QP	AVG	dB	Peak	QP	AVG	QP	AVG	QP	AVG		
1	0.1700	45.19		28.00	10.18	55.37		38.18	64.96	54.96	-9.59	-16.78	Р	
2	0.4420	33.61		21.26	10.36	43.97		31.62	57.02	47.02	-13.05	-15.40	Р	
3	0.9576	31.58		17.93	10.39	41.97		28.32	56.00	46.00	-14.03	-17.68	Р	
4	1.4979	30.23		18.17	10.38	40.61		28.55	56.00	46.00	-15.39	-17.45	Р	
5	4.7738	31.68		14.42	10.23	41.91		24.65	56.00	46.00	-14.09	-21.35	Р	
6	21.6340	27.52		11.08	10.12	37.64		21.20	60.00	50.00	-22.36	-28.80	Р	

Report No.: AGC01388131202FE04 Page 64 of 72

Line Conducted Emission Test Line 2-N



Site: Conduction Phase: N Temperature: 26
Limit: FCC Class B Conduction(QP) Power: Humidity: 60 %

EUT: Smart Phone M/N: syreni40DC

Mode: Normal Operating(WIFI)

Note:

No.	Freq.	Reading_Level (dBuV)				orrect Measurement actor (dBuV)		Limit (dBuV)		Margin (dB)		P/F	Comment	
	(MHz)	Peak	QP	AVG	dB	Peak	QP	AVG	QP	AVG	QP	AVG		
1	0.1660	45.29		29.72	10.18	55.47		39.90	65.15	55.15	-9.68	-15.25	Р	
2	0.4460	38.65		26.68	10.36	49.01		37.04	56.95	46.95	-7.94	-9.91	Р	
3	1.0980	35.72		23.86	10.37	46.09		34.23	56.00	46.00	-9.91	-11.77	Р	
4	1.9213	32.67		20.38	10.25	42.92		30.63	56.00	46.00	-13.08	-15.37	Р	
5	4.9939	31.52		19.79	10.24	41.76		30.03	56.00	46.00	-14.24	-15.97	Р	
6	21.1700	29.25		13.21	10.13	39.38		23.34	60.00	50.00	-20.62	-26.66	Р	

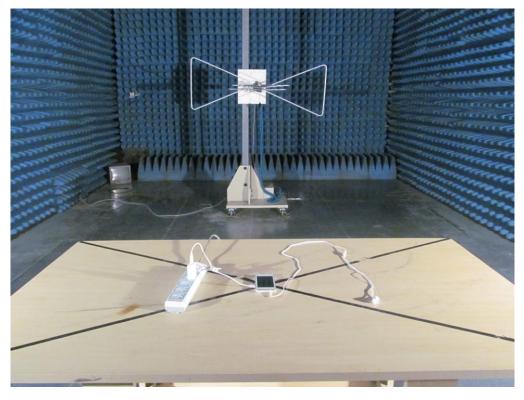
Page 65 of 72

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



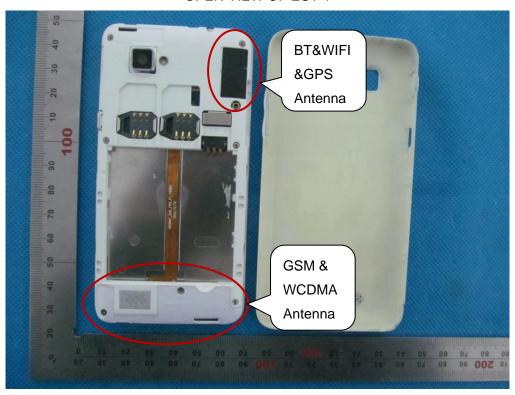
LEFT VIEW OF EUT



RIGHT VIEW OF EUT



OPEN VIEW OF EUT-1



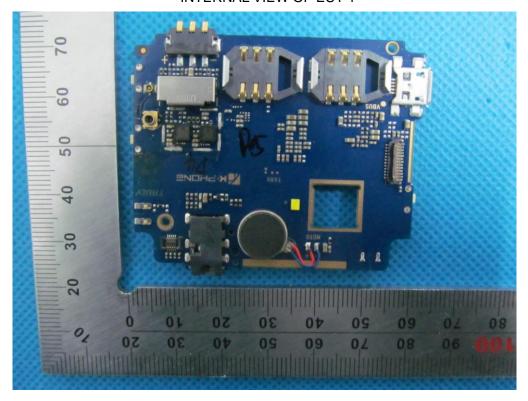
OPEN VIEW OF EUT-2



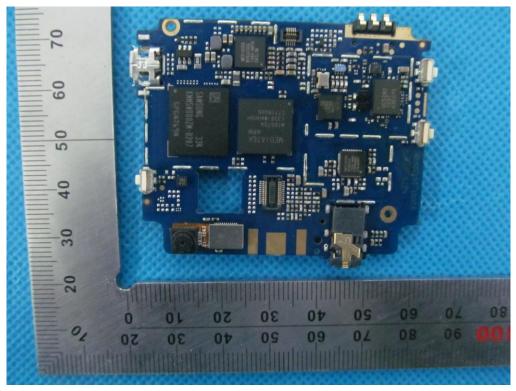
OPEN VIEW OF EUT-3



INTERNAL VIEW OF EUT-1



INTERNAL VIEW OF EUT-2



----END OF REPORT----