FCC Test Report

Report No.: AGC00529140902FE04

FCC ID	:	Y7WPLUMX400
APPLICATION PURPOSE	:	Original Equipment
PRODUCT DESIGNATION	:	Sync 4.0
BRAND NAME	:	plum
MODEL NAME	:	X400
CLIENT	:	CLC Hong Kong Limited
DATE OF ISSUE	:	Sept.25, 2014
STANDARD(S) TEST PROCEDURE(S)	:	FCC Part 15.247 KDB 558074 v03r02
REPORT VERSION	:	V1.0

Attestation of Global Compliance (Shenzhen) Co., Ltd

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Report Revise Record

Report Version	Revise Time	Issued Date	Valid Version	Notes
V1.0	/	Sept.25, 2014	Valid	Original Report

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Applicant	CLC Hong Kong Limited
Address	1011A, 10/F., Harbour Centre Tower 1, No.1 Hok Cheung St., Hung Hom, Kowloon, Hong Kong
Manufacturer	CLC Technology Co., Ltd
Address	Room 6G, Block C, NEO Building,Chegongmiao, Futian District, Shenzhen, P.R.China
Product Designation	Sync 4.0
Brand Name	plum
Test Model	X400
Date of test	Sept.15, 2014 to Sept.22, 2014
Deviation	None
Condition of Test Sample	Normal
Report Template	AGCRT-US-BGN/RF

1. VERIFICATION OF CONFORMITY

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

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Solger Zhang Sept.25, 2014

2. GENERAL INFORMATION

2.1. PRODUCT DESCRIPTION

The EUT is designed as "Sync 4.0". It is designed by way of utilizing the DSSS and OFDM technology to achieve the system operation.

A major technical description of Lot is described as following			
Operation Frequency	2.412 GHz~2.462GHz		
Output Bower	IEEE 802.11b:11.86dBm; IEEE 802.11g:9.63dBm;		
Output Power	IEEE 802.11n(20):9.44dBm; IEEE 802.11n(40):6.42dBm		
Modulation	DSSS(DBPSK/DQPSK/CCK);OFDM(BPSK/QPSK/16-QAM/64-QAM)		
Number of channels	11		
Hardware Version	V8_MAIN_PCB_V1.2		
Software Version	N/A		
Antenna Designation	Integrated Antenna		
Antenna Gain	0.8 dBi		
Power Supply	DC3.7V by Built-in Li-ion Battery		

A major technical description of EUT is described as following

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

MCS Index	Nss	Modulation	R	NBPSC	NCBPS				rate(I	ata Mbps) nsGl
					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

2.3. IEEE 802.11N MODULATION SCHEME

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: Y7WPLUMX400** 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 KDB 558074 D01 DTS Meas Guidance v03r02.

2.6. SPECIAL ACCESSORIES

Refer to section 5.2.

2.7. EQUIPMENT MODIFICATIONS

Not available for this EUT intended for grant.

3. MEASUREMENT UNCERTAINTY

Conducted measurement: +/- 2.75dB Radiated measurement: +/- 3.2dB

4. DESCRIPTION OF TEST MODES

NO.	TEST MODE DESCRIPTION				
1	Low channel TX				
2	Middle channel TX				
3	High channel TX				
4	Normal operating				
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 802.11p (20MHz) with Date rate (6 5/13/19 5/26/39/52/58 5/65)					

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, and the eut is operating at its maximum duty cycle>or equal 98%

- 2. All modes under which configure applicable have been tested and the worst mode test data recording in the test report, if no other mode data.
- 3. For Radiated Emission, 3axis were chosen for testing for each applicable mode.

5. SYSTEM TEST CONFIGURATION

5.1. CONFIGURATION OF EUT SYSTEM

Configure:

EUT	Accessory
-----	-----------

5.2. EQUIPMENT USED IN EUT SYSTEM

ltem	Equipment	Model No.	ID or Specification	Remark
1	Mobile Phone	X400	FCC ID: Y7WPLUMX400	EUT
2	Adapter	PM03	DC5.0V / 500mA	Accessory
3	Battery	PMB45	DC3.7V / 1200 mAh	Accessory
4	Earphone	X400	N/A	Accessory
5	USB Cable	X400	N/A	Accessory

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

5.3. SUMMARY OF TEST RESULTS

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

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

6. TEST FACILITY

Site	Attestation of Global Compliance (Shenzhen) Co., Ltd
	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	07/25/2014	07/24/2015
Power Meter	Agilent	N1911A	MY45100361	04/20/2014	04/20/2015
RF attenuator	N/A	RFA20db	68	N/A	N/A
Spectrum Analyzer	Agilent	E4440A	US41421290	07/25/2014	07/24/2015
Amplifier	EM	EM30180	0607030	02/27/2014	02/26/2015
Horn Antenna	EM	EM-AH-10180	67	04/19/2014	04/18/2015
Horn Antenna	A.H. Systems Inc.	SAS-574		07/25/2014	07/24/2015
EMI Test Receiver	Rohde & Schwarz	ESCI	100694	07/25/2014	07/24/2015
Biological Antenna	A.H. Systems Inc.	SAS-521-4	26	06/06/2014	06/05/2015
Loop Antenna	A.H.	SAS-526B	264	07/13/2014	07/12/2015
LISN	R&S	ESH3-Z5	8389791009	07/25/2014	07/24/2015
Radiation Cable 1	Sat	RE1	R003	06/04/2014	06/03/2015
Radiation Cable 2	Sat	RE2	R002	06/04/2014	06/03/2015
Conduction Cable	Sat	CE1	C001	06/04/2014	06/03/2015

7. PEAK OUTPUT POWER

7.1. MEASUREMENT PROCEDURE

For peak power test:

- 1. Use a direct connection between the antenna port of the transmitter and the power meter, through suitable attenuation
- 2. Set the bandwidth of the power meter is 40MHz
- 3. Record the peak value

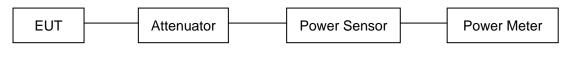
For average power test:

- 1. Connect EUT RF output port to power probe through an RF attenuator.
- 2. Connect the power probe to the PC.
- 3. Set the EUT Work on the top, the middle and the bottom operation frequency individually.
- 4. Record the maximum power from the software.
- 5. The maximum peak power shall be less 1 Watt (30dBm).

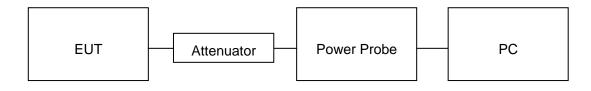
Note : The EUT was tested according to KDB 558074v03r02 for compliance to FCC 47CFR 15.247 requirements.

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

PEAK POWER TEST SETUP



AVERAGE POWER SETUP



7.3. LIMITS AND MEASUREMENT RESULT

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

	LIMITS AND MEASUREMENT RESULT				
Frequency (GHz)	Average Power (dBm)	Peak Power (dBm)	Applicable Limits (dBm)	Pass or Fail	
2.412	9.88	11.86	30	Pass	
2.437	9.58	11.56	30	Pass	
2.462	9.49	11.47	30	Pass	

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

	LIMITS AND MEASUREMENT RESULT			
Frequency (GHz)	Average Power (dBm)	Peak Power (dBm)	Applicable Limits (dBm)	Pass or Fail
2.412	7.65	9.63	30	Pass
2.437	7.41	9.39	30	Pass
2.462	7.29	9.27	30	Pass

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	7.46	9.44	30	Pass
2.437	7.26	9.24	30	Pass
2.462	7.24	9.22	30	Pass

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	4.44	6.42	30	Pass
2.437	4.33	6.31	30	Pass
2.452	4.31	6.29	30	Pass

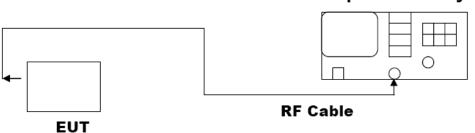
8. 6DB BANDWIDTH

8.1. MEASUREMENT PROCEDURE

- 1. Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
- 2. Set the EUT Work on the top, the middle and the bottom operation frequency individually.
- 3. Set SPA Centre Frequency = Operation Frequency, RBW= 100 KHz, VBW \ge 3×RBW.
- 4. Set SPA Trace 1 Max hold, then View.

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

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



Spectrum Analyzer

8.3. LIMITS AND MEASUREMENT RESULTS

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

LIMITS AND MEASUREMENT RESULT									
	Applicable Limits								
Applicable Limits	Test Da	Criteria							
	Low Channel	9.577	PASS						
>500KHZ	Middle Channel	9.121	PASS						
	High Channel	9.593	PASS						

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

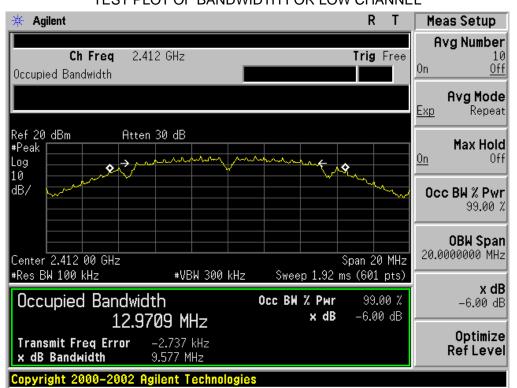
LIMITS AND MEASUREMENT RESULT									
Applicable Limits		Applicable Limits							
	Test Da	Criteria							
	Low Channel	15.139	PASS						
>500KHZ	Middle Channel	15.091	PASS						
	High Channel	14.488	PASS						

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

LIMITS AND MEASUREMENT RESULT									
Applicable Limite	Applicable Limits								
Applicable Limits	Test Da	Criteria							
	Low Channel	17.571	PASS						
>500KHZ	Middle Channel	15.900	PASS						
	High Channel	17.556	PASS						

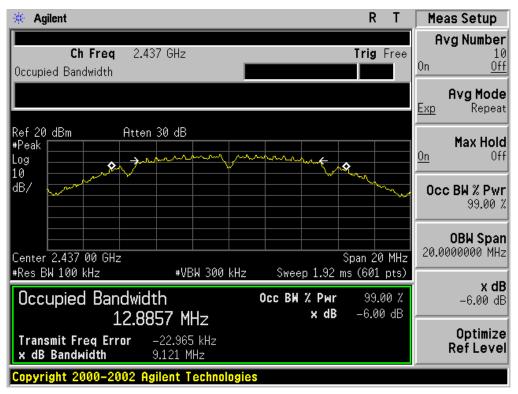
TEST ITEM	6DB BANDWIDTH
TEST MODE	802.11n 40 with data rate 135

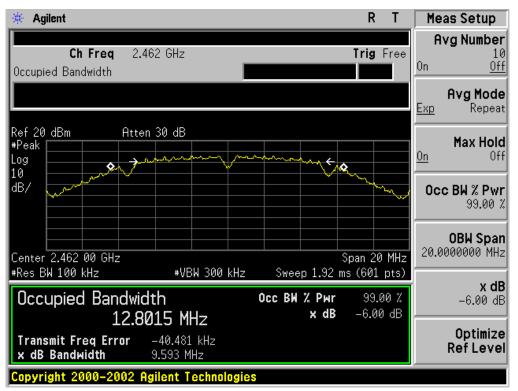
LIMITS AND MEASUREMENT RESULT									
Applicable Limits	Applicable Limits								
	Test Da	Criteria							
	Low Channel	35.252	PASS						
>500KHZ	Middle Channel	35.218	PASS						
	High Channel	35.248	PASS						



802.11b TEST RESULT TEST PLOT OF BANDWIDTH FOR LOW CHANNEL

TEST PLOT OF BANDWIDTH FOR MIDDLE CHANNEL

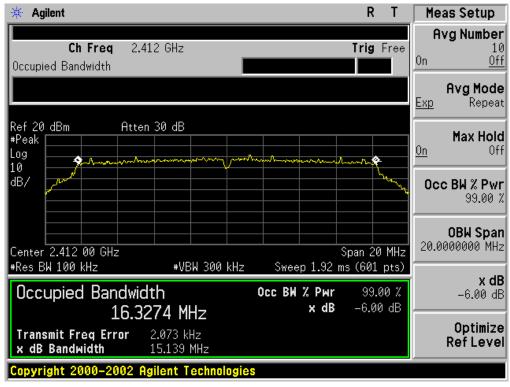


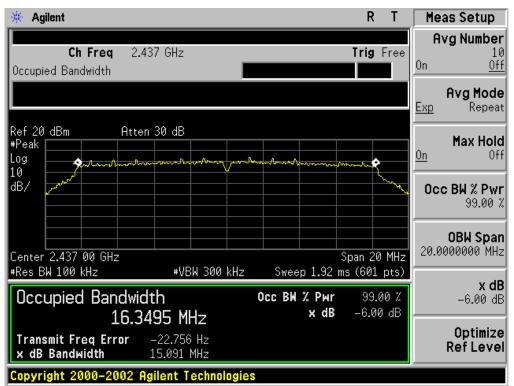


TEST PLOT OF BANDWIDTH FOR HIGH CHANNEL

802.11g TEST RESULT

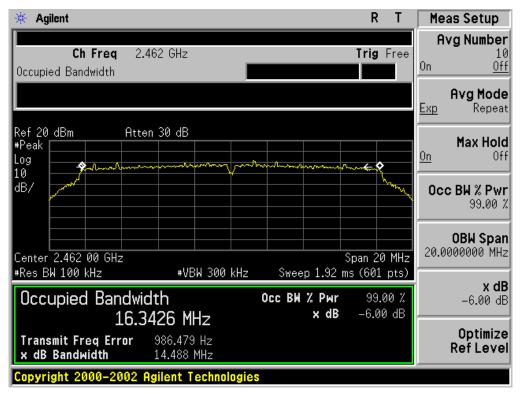
TEST PLOT OF BANDWIDTH FOR LOW CHANNEL





TEST PLOT OF BANDWIDTH FOR MIDDLE CHANNEL

TEST PLOT OF BANDWIDTH FOR HIGH CHANNEL

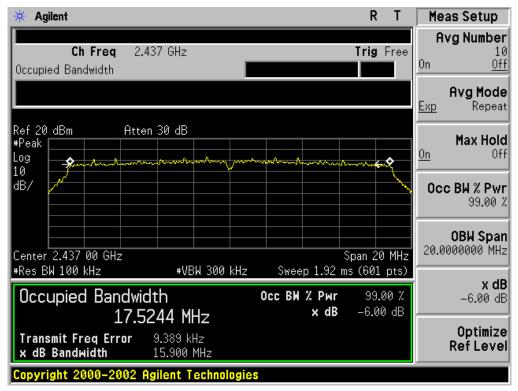


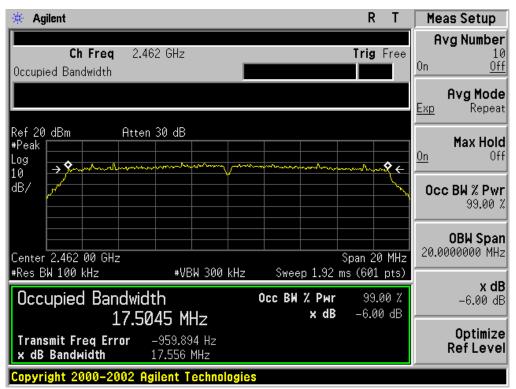
🔆 Agilent R T Meas Setup Avg Number Ch Freq 2.412 GHz Trig Free 10 0n Off Occupied Bandwidth Avg Mode <u>Exp</u> Repeat Ref 20 dBm Atten 30 dB Max Hold #Peak Off <u>0n</u> Log → **%** \$ ← 10 dB/ Occ BW % Pwr 99.00 % **OBW Span** 20.0000000 MHz Center 2.412 00 GHz Span 20 MHz Sweep 1.92 ms (601 pts) #Res BW 100 kHz #VBW 300 kHz x dB Occupied Bandwidth Occ BW % Pwr 99.00 % -6.00 dB x dB -6.00 dB 17.5184 MHz Optimize 5.548 kHz Transmit Freq Error **Ref Level** x dB Bandwidth 17.571 MHz Copyright 2000–2002 Agilent Technologies

802.11n (20) TEST RESULT

TEST PLOT OF BANDWIDTH FOR LOW CHANNEL

TEST PLOT OF BANDWIDTH FOR MIDDLE CHANNEL

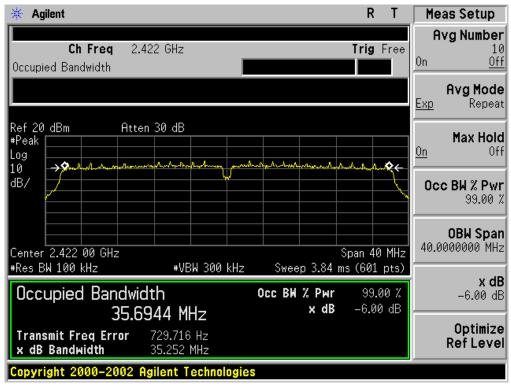


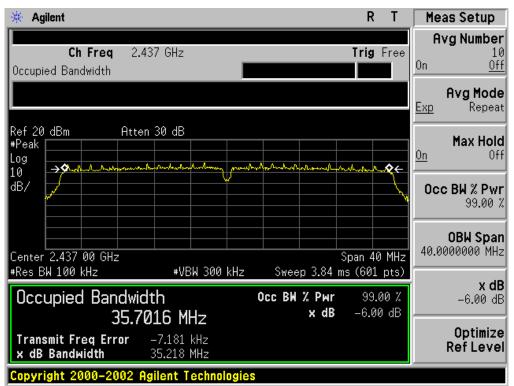


TEST PLOT OF BANDWIDTH FOR HIGH CHANNEL

802.11n(40) TEST RESULT

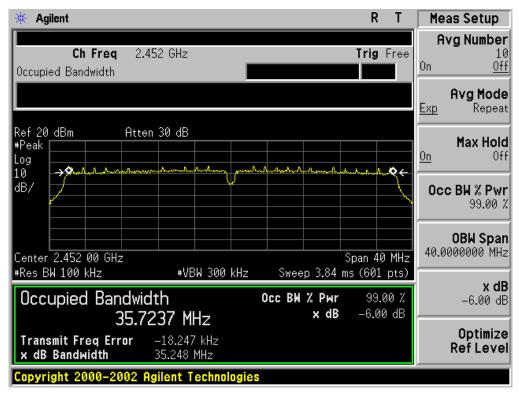
TEST PLOT OF BANDWIDTH FOR LOW CHANNEL





TEST PLOT OF BANDWIDTH FOR MIDDLE CHANNEL

TEST PLOT OF BANDWIDTH FOR HIGH CHANNEL



9. CONDUCTED SPURIOUS EMISSION

9.1. MEASUREMENT PROCEDURE

- 1. Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
- 2, Set the EUT Work on the top, the middle and the bottom operation frequency individually.
- 3. 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)

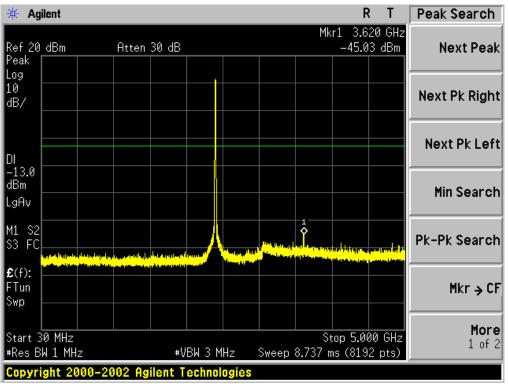
The same as described in section 8.2.

9.3. MEASUREMENT EQUIPMENT USED

The same as described in section 6.

9.4. LIMITS AND MEASUREMENT RESULT

LIMITS AND MEASUREMENT RESULT										
Appliechie Limite	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. In addition, radiation emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in§15.209(a))	At least -20dBc than the limit Specified on the TOP Channel	PASS								

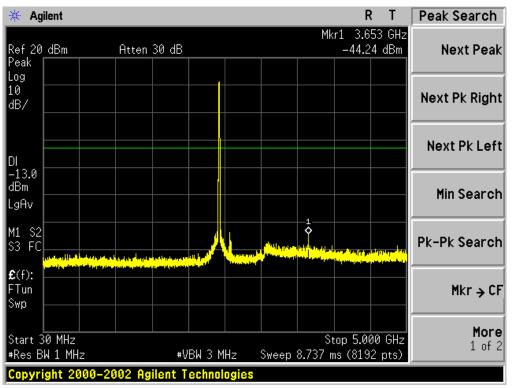


TEST PLOT OF OUT OF BAND EMISSIONS WITH THE WORST CASE OF 802.11b FOR MODULATION IN LOW CHANNEL

*									F	₹ T	Peak Search
Ref 20 Peak	dBm		Atten	30 dB				Mk		67 GHz 13 dBm	
Log 10 dB/											Next Pk Right
DI											Next Pk Left
-12.0 dBm LgAv											Min Search
M1 S2 S3 FC AA										di para kana bir her, ce athre ar	Pk-Pk Search
£ (f): FTun Swp											Mkr → CF
Start 5 #Res B				#\	 /ВW З М	lHz	Sweep			00 GHz 2 pts)	More 1 of 2
Copyri	ght 20	00-2	005 Aş	gilent T	echnol	ogies					

lent								R	Т	Peak Search
dBm		Atten	30 dB				Mkr			Next Peak
										Next Pk Right
										Next Pk Left
										Min Search
	a ta dark ta vaj para sen							h tak kalipangk		Pk-Pk Search
										Mkr → CF
			#\	ВМЗМ	lHz	Sweep				More 1 of 2
	dBm	dBm	dBm Atten	dBm Atten 30 dB Image: Stress of the stress of t	dBm Atten 30 dB	dBm Atten 30 dB Image: Strategy of the strateg	dBm Atten 30 dB Image: State of the state	Mkr dBm Atten 30 dB	Mkr1 15.5 dBm Atten 30 dB -42.4 Atten 40 dB -42.4	Mkr1 15.534 GHz dBm Atten 30 dB -42.40 dBm 42.40 dBm 10 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

🔆 Agi	ilent								F	₹Т	Peak Search
Ref 20 Peak	dBm		Atten	30 dB				Mkr		99 GHz 2 dBm	Next Peak
Log 10 dB/											Next Pk Right
DI											Next Pk Left
-13.0 dBm LgAv										1	Min Search
JJ FU		(la la calana) ita 1979 - Angel States	a statilita subb Na statica suba	la ang sakita gi ku Pinang sakita gi ku	<mark>lile bergelekkensen.</mark> Nyana santa kana san	li en beliet Gestersterst	en de la celebre Protocia de la celebre Protocia de la celebre	ala badalar (b. Ala sa	an lan tha an		Pk-Pk Search
€(f): FTun Swp											Mkr → CF
Start 1 #Res Bl				#\	ВМ З М	Hz	Sweep	Stc 15.29 n		00 GHz 2 pts)	More 1 of 2
Copyri	ght 20	00-20	002 Ag	ilent T	echnol	ogies					

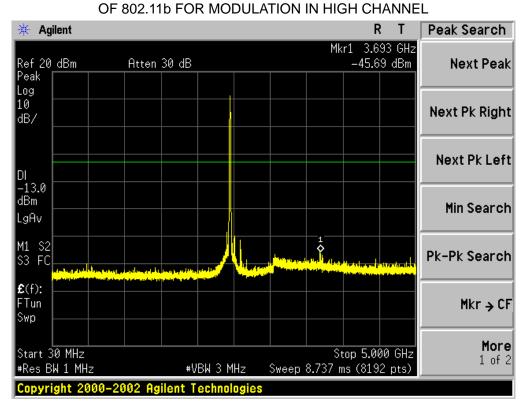


TEST PLOT OF OUT OF BAND EMISSIONS OF 802.11b FOR MODULATION IN MIDDLE CHANNEL

🔆 Ag	ilent								F	R T	Peak Search
Ref 20 Peak	dBm		Atten	30 dB				Mk		61 GHz 7 dBm	Next Peak
Log 10 dB/											Next Pk Right
DI -13.0											Next Pk Left
dBm LgAv											Min Search
M1 S2 S3 FC		-								<mark>Helinet debe</mark> Antonio debe	Pk-Pk Search
£(f): F⊤un Swp											Mkr → CF
#Res B	5.000 G W 1 MH:	Z			BM 3 M		Sweep	Sto 12.01 n		00 GHz 2 pts)	More 1 of 2
Copyri	ight 20	00-20)02 Ag	ilent T	echnol	ogies					

ilent								R	Т	Peak Search
dBm		Atten	30 dB				Mkr:			Next Peak
										Next Pk Right
										Next Pk Left
										Min Search
			ing di tisto Plangerezza	a shi ka sa k A sa						Pk-Pk Search
										Mkr → CF
2.000 W 1 MH			#	BW 3 M	147	Sweer				More 1 of 2
	dBm	dBm	dBm Atten	dBm Atten 30 dB Image: State	dBm Atten 30 dB Image: State of the st	dBm Atten 30 dB Image: State of the stateo	dBm Atten 30 dB Image: State of the state	Mkr: dBm Atten 30 dB Atten 40	Mkr1 18.5 dBm Atten 30 dB -42.8 Atten 30 dB -42.8 Atten 30 dB -42.8 Atten 40 dB -42.8 Atten 40.8 Atten 40.8	Mkr1 18.521 GHz dBm Atten 30 dB -42.82 dBm a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a a

🔆 Agi	ilent								F	₹ T	Peak Search
Ref 20 Peak	dBm		Atten	30 dB				Mkr		02 GHz 18 dBm	Next Peak
Log 10 dB/											Next Pk Right
DI -13.0											Next Pk Left
dBm LaAv											Min Search
JJ FC		an di sa di si di si di <mark>Shana sa barita</mark>	ardinalish Nation	la la pobla po Referencia de la pobla pobla de la p	a da an a' da ta an Tang san da an	da a fin bli sin d na litera a fi	a de la constante la seguina constan	la para di indala. <mark>Para pa^{rang}an</mark>	da, Babbbbad Mastalan guya		Pk-Pk Search
€(f): FTun Swp											Mkr → CF
Start 1 #Res Bl				#\	/BW 3 M	IHz	Sweep			00 GHz 2 pts)	More 1 of 2
Copyri	ght 20	000-20	002 Ag	ilent T	echnol	ogies					



TEST PLOT OF OUT OF BAND EMISSIONS

🔆 Ag	ilent							F	₹ Т	Peak Search
Ref 20 Peak	dBm	Atten	30 dB				Mk		89 GHz 7 dBm	
Log 10 dB/										Next Pk Right
DI										Next Pk Left
-13.0 dBm LgAv										Min Search
M1 S2 S3 FC										Pk-Pk Search
€(f): FTun Swp										Mkr → CF
	5.000 GH W 1 MH:		#\	/ BW 3 M	IHz	Sweep	Sto 12.01 n	p 12.0 ns (819		More 1 of 2

	Atten	30 dB				Mkr1	15.42 -41.62	8 GHz dBm	Next Peak
									Next Pk Right
									Next Pk Left
			1						Min Search
			dalpada dalah na = na adalah	na habila anda <mark>ba</mark> Tarihi Sana ang tarih					Pk-Pk Search
									Mkr → CF
0 GHz 1Hz		#V	ВМ 3 М	Hz	Sweep				More 1 of 2
) GHz 1Hz) GHz 1Hz) GHz 1Hz #V) GHz 1Hz #VBW 3 M) GHz) GHz 1Hz #VBW 3 MHz Sweep	0 GHz Stor 1Hz #VBW 3 MHz Sweep 14.2 m	0 GHz Stop 19.00 1Hz #VBW 3 MHz Sweep 14.2 ms (8192	1Hz #VBW 3 MHz Sweep 14.2 ms (8192 pts)

🔆 Agilent					R	Т	Peak Search
Ref 20 dBm Peak	Atten	30 dB		Mkr:	1 24.837 -38.97		Next Peak
Log 10 dB/							Next Pk Right
							Next Pk Left
-13.0 dBm LgAv						1	Min Search
M1 S2 and the parallel S3 FC and and parallel	n for <mark>het en det palete.</mark> Nationale og at state for en det	lah dalama katalah kata Majara katalah katalah Majara katalah	ne i kine patrica i attalia <mark>1997 - Den de Canadara de C</mark>	ng pangal salah di katalan <mark>ng pangan di Katalan</mark>	a de puede a sue de la de La galer de la companya de la company La companya de la com		Pk-Pk Search
£(f): FTun Swp							Mkr → CF
Start 19.000 GHz #Res BW 1 MHz	2	#VBW 3	MHz Swe	Sto ep 15.29 m	p 25.000 ns (8192		More 1 of 2
Copyright 2000	-2002 Ag	ilent Techno	ologies				

10. MAXIMUM CONDUCTED OUTPUT PEAK POWER SPECTRAL DENSITY

10.1 MEASUREMENT PROCEDURE

- (1). Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
- (2). Set the EUT Work on the top, the middle and the bottom operation frequency individually.
- (3). 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	-5.95	8	Pass
Middle Channel	-7.38	8	Pass
High Channel	-6.92	8	Pass

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

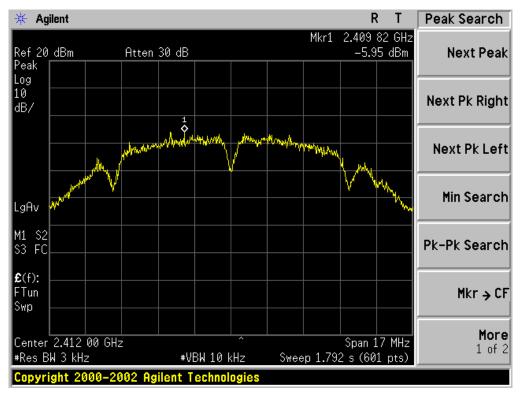
Channel No.	PSD (dBm)	Limit (dBm)	Result
Low Channel	-12.87	8	Pass
Middle Channel	-11.23	8	Pass
High Channel	-14.2	8	Pass

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

Channel No.	(dBm)	(dBm)	Result
Low Channel	-13.47	8	Pass
Middle Channel	-11.1	8	Pass
High Channel	-14.7	8	Pass

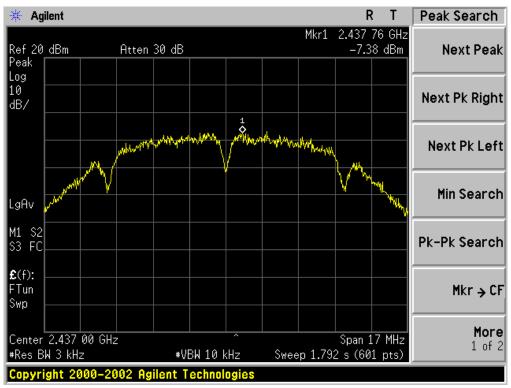
TEST ITEM	POWER PECTRAL DENSITY
TEST MODE	802.11n 40 with data rate 13.5

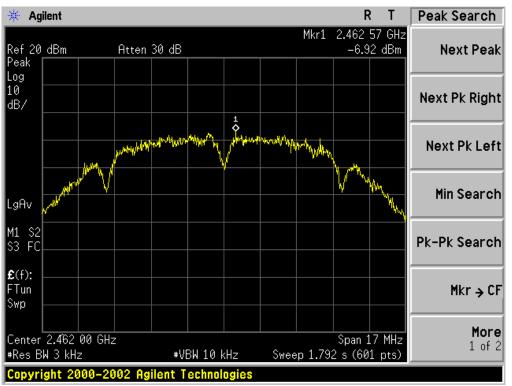
Channel No.	PSD (dBm)	Limit (dBm)	Result
Low Channel	-18.79	8	Pass
Middle Channel	-16.87	8	Pass
High Channel	-17.19	8	Pass



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

TEST PLOT OF SPECTRAL DENSITY FOR MIDDLE CHANNEL

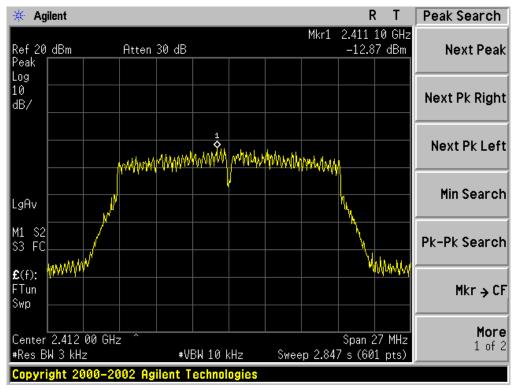


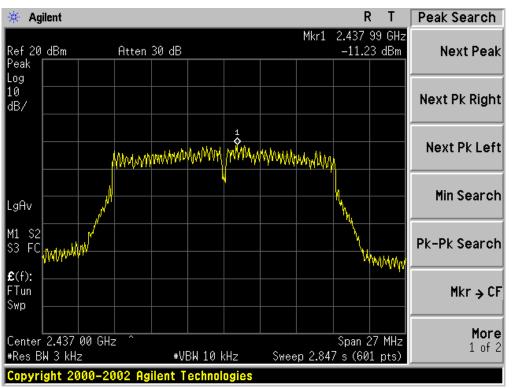


TEST PLOT OF SPECTRAL DENSITY FOR HIGH CHANNEL

802.11g TEST RESULT

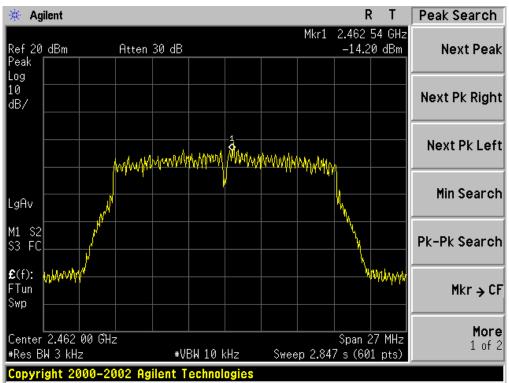
TEST PLOT OF SPECTRAL DENSITY FOR LOW CHANNEL

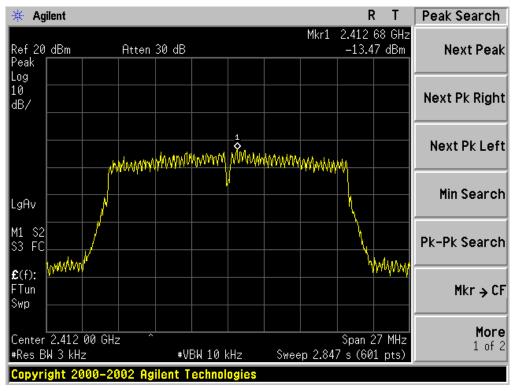




TEST PLOT OF SPECTRAL DENSITY FOR MIDDLE CHANNEL

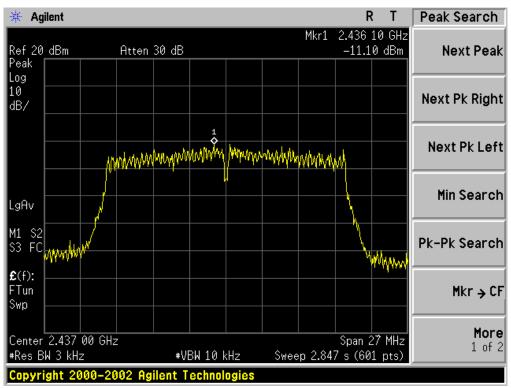


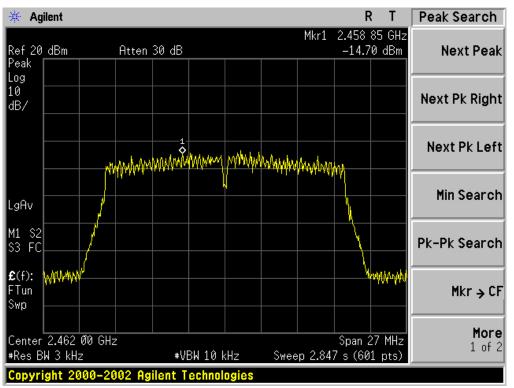




802.11n 20 TEST RESULT TEST PLOT OF SPECTRAL DENSITY FOR LOW CHANNEL

TEST PLOT OF SPECTRAL DENSITY FOR MIDDLE CHANNEL

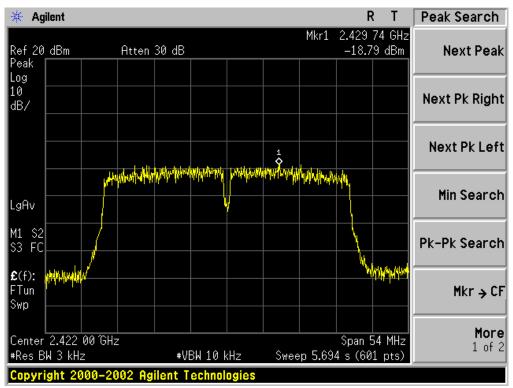


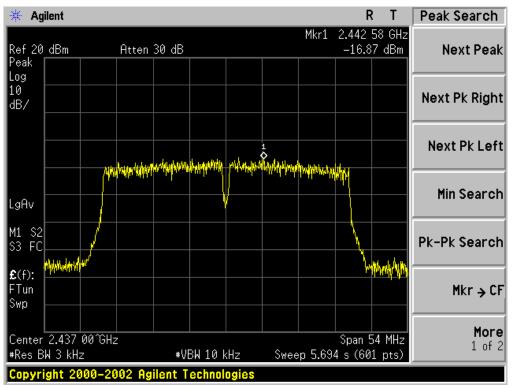


TEST PLOT OF SPECTRAL DENSITY FOR HIGH CHANNEL

802.11n 40 TEST RESULT

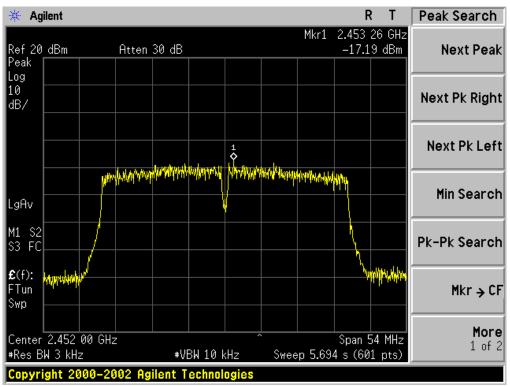
TEST PLOT OF SPECTRAL DENSITY FOR LOW CHANNEL





TEST PLOT OF SPECTRAL DENSITY FOR MIDDLE CHANNEL

TEST PLOT OF SPECTRAL DENSITY FOR HIGH CHANNEL



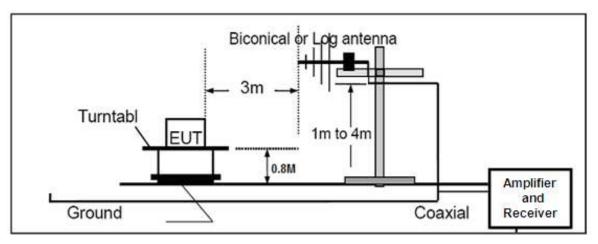
11. RADIATED EMISSION

11.1. MEASUREMENT PROCEDURE

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

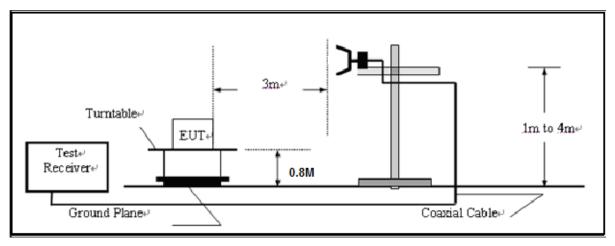
10. In case the emission is lower than 30MHz, loop antenna has to be used for measurement and the recorded data should be QP measured by receiver. High - Low scan is not required in this case.

11.2. TEST SETUP



RADIATED EMISSION TEST SETUP 30MHz-1000MHz





11.3. LIMITS AND MEASUREMENT RESULT

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

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

Note: All modes were tested For restricted band radiated emission,

the test records reported below are the worst result compared to other modes.

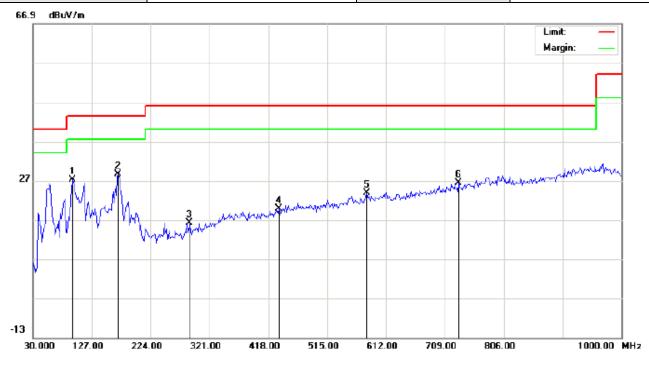
11.4. TEST RESULT

RADIATED EMISSION BELOW 30MHZ

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

RADIATED EMISSION BELOW 1GHZ

EUT	Sync 4.0	Model Name	X400
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11b with date rate 1 2412MHZ	Antenna	Horizontal

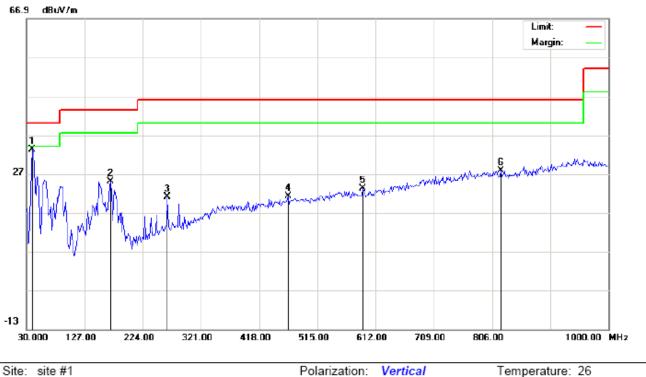


Site: site #1 Limit: FCC Class B 3M Radiation EUT: Sync 4.0 M/N: X400 Mode: Low Channel TX Note: Polarization: *Horizontal* Power: AC 120V/60Hz Distance: 3m Temperature: 26 Humidity: 60 %

No.	Mk	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Antenna Height	Table Degree	Comment
	-	MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB		cm	degree	
1		94.6667	17.25	9.89	27.14	43.50	-16.36	peak			
2	*	170.6500	15.54	13.06	28.60	43.50	-14.90	peak			
3		288.6666	1.11	15.07	16.18	46.00	-29.82	peak			
4		435.7833	-0.37	20.16	19.79	46.00	-26.21	peak			
5		579.6667	0.53	23.22	23.75	46.00	-22.25	peak			
6		731.6332	0.40	26.10	26.50	46.00	-19.50	peak			

Report No.: AGC00529140902FE04 Page 43 of 68

EUT	Sync 4.0	Model Name	X400
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11b with date rate 1 2412MHZ	Antenna	Vertical



Limit: FCC Class B 3M Radiation EUT: Sync 4.0 M/N: X400 Mode: Low Channel TX Note:

Power: AC 120V/60Hz Distance: 3m

Temperature: 26 Humidity: 60 %

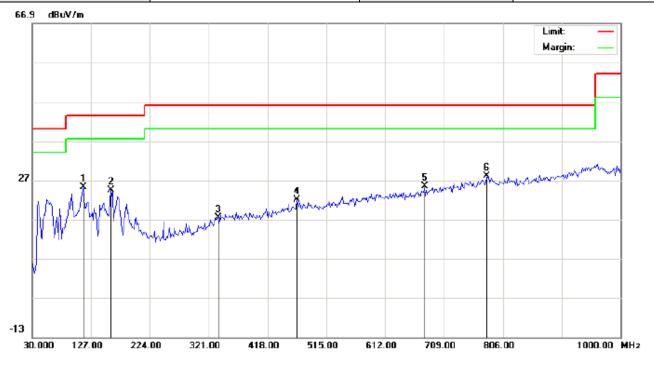
Comment

INC	ne.										
No.	Mk	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Antenna Height	Table Degree	
	-	MHz	dBu∀	dB/m	dBu∀/m	dBuV/m	dB		cm	degree	
1	*	39.7000	24.68	8.51	33.19	40.00	-6.81	peak			ĺ
2		170.6500	10.32	14.66	24.98	43.50	-18.52	peak			ĺ

	-	MHz	dBu∀	dB/m	dBu∨/m	dBuV/m	dB		cm	degree	
1	*	39.7000	24.68	8.51	33.19	40.00	-6.81	peak			
2		170.6500	10.32	14.66	24.98	43.50	-18.52	peak			
3		264.4166	6.71	14.34	21.05	46.00	-24.95	peak			
4		466.5000	0.41	20.77	21.18	46.00	-24.82	peak			
5		590.9833	0.52	22.68	23.20	46.00	-22.80	peak			
6		820.5500	0.45	27.32	27.77	46.00	-18.23	peak			

Report No.: AGC00529140902FE04 Page 44 of 68

EUT	Sync 4.0	Model Name	X400
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11b with date rate 1 2437MHZ	Antenna	Horizontal

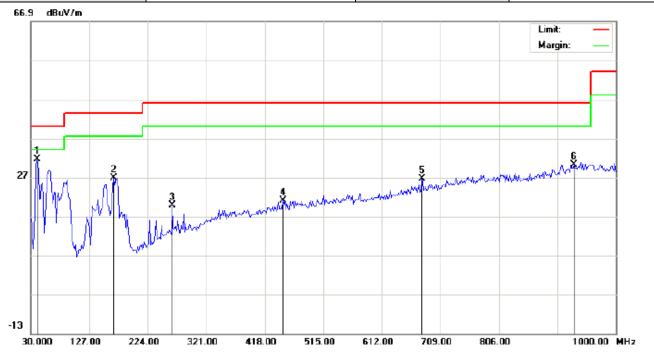


Site: site #1 Limit: FCC Class B 3M Radiation EUT: Sync 4.0 M/N: X400 Mode: Middle Channel TX Note: Polarization: *Horizontal* Power: AC 120V/60Hz Distance: 3m Temperature: 26 Humidity: 60 %

No.	Mk	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Antenna Height	Table Degree	Comment
	•	MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB		cm	degree	
1		114.0667	13.84	11.45	25.29	43.50	-18.21	peak			
2		159.3333	9.06	15.33	24.39	43.50	-19.11	peak			
3		337.1666	-0.53	17.89	17.36	46.00	-28.64	peak			
4		466.5000	1.20	20.77	21.97	46.00	-24.03	peak			
5		676.6667	0.82	24.56	25.38	46.00	-20.62	peak			
6	*	780.1332	0.92	27.05	27.97	46.00	-18.03	peak			

Report No.: AGC00529140902FE04 Page 45 of 68

EUT	Sync 4.0	Model Name	X400
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11b with date rate 1 2437MHZ	Antenna	Vertical

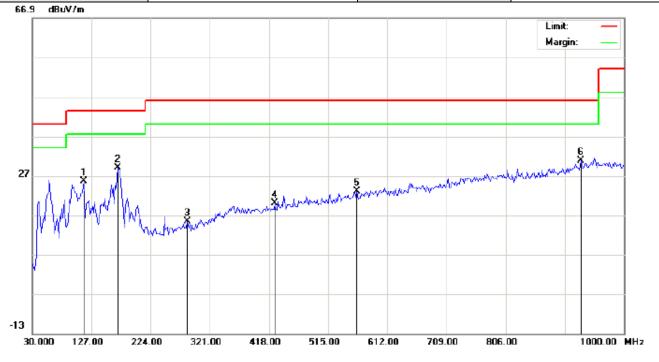


Site: site #1 Limit: FCC Class B 3M Radiation EUT: Sync 4.0 M/N: X400 Mode: Middle Channel TX Note: Polarization: Vertical Power: AC 120V/60Hz Distance: 3m Temperature: 26 Humidity: 60 %

No.	Mk	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Antenna Height		Comment
	-	MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB		cm d	degree	
1	*	41.3167	22.84	8.81	31.65	40.00	-8.35	peak			
2		167.4167	12.03	14.86	26.89	43.50	-16.61	peak			
3		264.4166	5.53	14.34	19.87	46.00	-26.13	peak			
4		448.7167	0.43	20.55	20.98	46.00	-25.02	peak			
5		678.2833	1.93	24.61	26.54	46.00	-19.46	peak			
6		930.4833	0.84	29.46	30.30	46.00	-15.70	peak			

Report No.: AGC00529140902FE04 Page 46 of 68

EUT	Sync 4.0	Model Name	X400
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11b with date rate 1 2462MHZ	Antenna	Horizontal

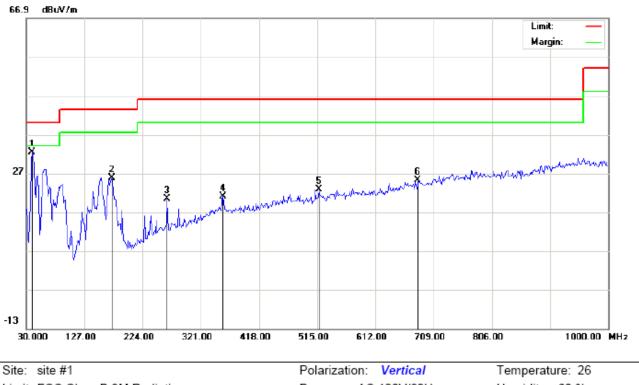


Site: site #1 Limit: FCC Class B 3M Radiation EUT: Sync 4.0 M/N: X400 Mode: High Channel TX Note: Polarization: *Horizontal* Power: AC 120V/60Hz Distance: 3m Temperature: 26 Humidity: 60 %

No.	Mk	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Antenna Height		Comment
	-	MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB		cm	degree	
1		114.0667	14.11	11.45	25.56	43.50	-17.94	peak			
2	*	170.6500	16.02	13.06	29.08	43.50	-14.42	peak			
3		283.8167	0.42	14.92	15.34	46.00	-30.66	peak			
4		427.7000	0.00	19.91	19.91	46.00	-26.09	peak			
5		561.8832	0.20	22.78	22.98	46.00	-23.02	peak			
6		928.8667	1.45	29.41	30.86	46.00	-15.14	peak			

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EUT	Sync 4.0	Model Name	X400
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11b with date rate 1 2462MHZ	Antenna	Vertical



Limit: FCC Class B 3M Radiation EUT: Sync 4.0 M/N: X400 Mode: High Channel TX Note:

AC 120V/60Hz Power: Distance: 3m

Humidity: 60 %

No.	Mk	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Antenna Height		Comment
	•	MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB		cm	degree	
1	*	39.7000	23.96	8.51	32.47	40.00	-7.53	peak			
2		172.2667	11.30	14.56	25.86	43.50	-17.64	peak			
3		264.4166	6.08	14.34	20.42	46.00	-25.58	peak			
4		358.1833	2.31	18.79	21.10	46.00	-24.90	peak			
5		518.2333	1.13	21.62	22.75	46.00	-23.25	peak			
6		683.1332	0.51	24.74	25.25	46.00	-20.75	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.

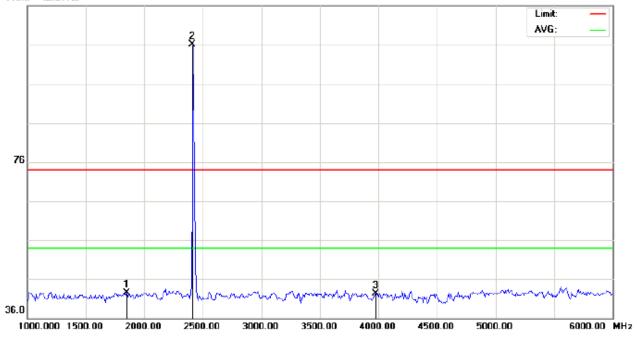
Temperature: 26

Humidity: 60 %

RADIATED EMISSION ABOVE 1GHZ

EUT	Sync 4.0	Model Name	X400
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11b with date rate 1 2412MHZ	Antenna	Horizontal

116.0 dBuV/m



Site: site #1

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

EUT: Sync 4.0

M/N: X400

Mode: 802.11b Low Channel TX

Note:

Antenna Table Reading Freq. Factor Measurement Limit Over Mk Height Degree No. Detector Comment MHz dBu∨ dB/m dBuV/m dBu∀/m dB cm degree 1 1850.000 54.17 -11.70 42.47 74.00 -31.53 peak 2 -9.67 106.11 2412.000 115.78 74.00 32.11 peak 47.34 42.38 3 3975.000 -4.96 74.00 -31.62 peak

Power:

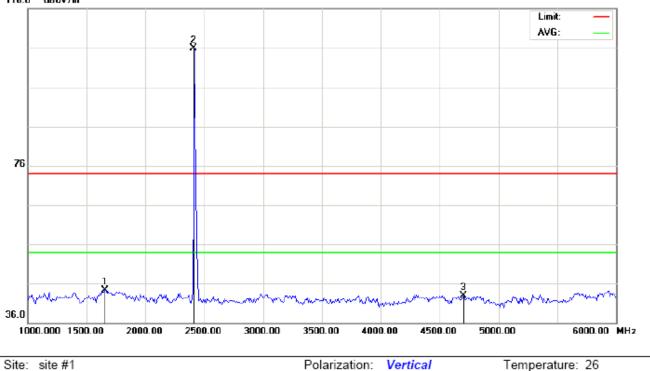
Distance: 3m

Polarization: Horizontal

Report No.: AGC00529140902FE04 Page 49 of 68

Humidity: 60 %

EUT	Sync 4.0	Model Name	X400
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11b with date rate 1 2412MHZ	Antenna	Vertical
116.0 dBuV/m			



Limit: FCC Class B 3M Radiation above 1GHZ(PK) EUT: Sync 4.0 M/N: X400 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		1658.333	58.08	-13.71	44.37	74.00	-29.63	peak			
2	*	2412.000	115.57	-9.67	105.90	74.00	31.90	peak			
3		4700.000	45.51	-2.59	42.92	74.00	-31.08	peak			

Power:

Distance: 3m

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.

12. BAND EDGE EMISSION

12.1. MEASUREMENT PROCEDURE

1)Radiated restricted band edge measurements

The radiated restricted band edge measurements are measured with an EMI test receiver connected to the receive antenna while the EUT is transmitting

2)Conducted Emissions at the bang edge

a)The transmitter output was connected to the spectrum analyzer

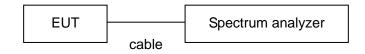
b)Set RBW=100kHz,VBW=300kHz

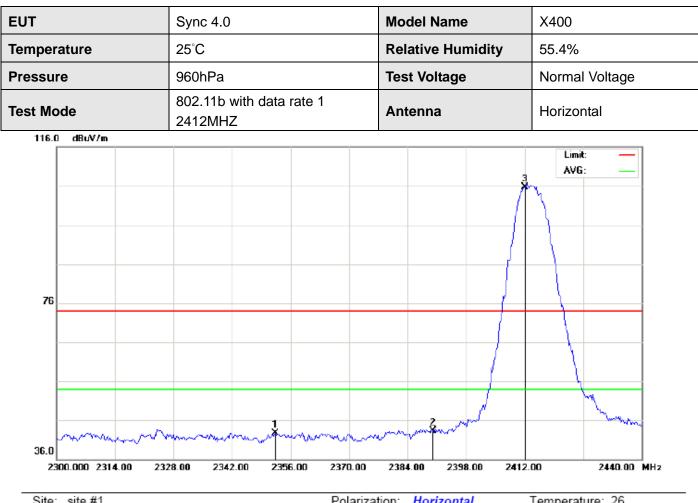
c)Suitable frequency span including 100kHz bandwidth from band edge

12.2. TEST SET-UP

Radiated same as 11.2

Conducted set up





12.3. Radiated Test Result

 Site:
 site #1
 Polarization:
 Horizontal
 Temperature:
 26

 Limit:
 FCC Class B 3M Radiation above 1GHZ(PK)
 Power:
 Humidity:
 60 %

 EUT:
 Sync 4.0
 Distance:
 3m

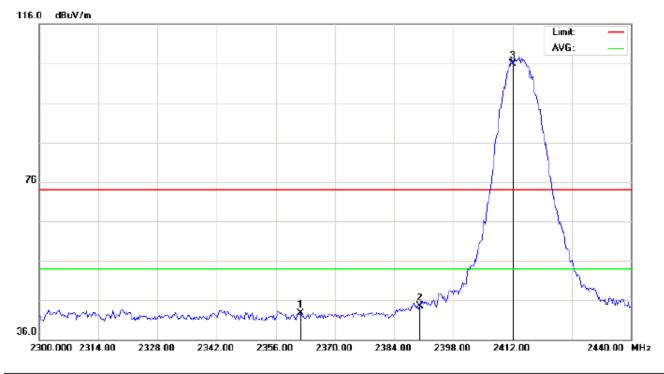
 M/N:
 X400
 X400
 Humidity:
 60 %

 Mode:
 802.11b Low Channel TX
 Note:
 Image: Note: Note:
 Image: Note: Note:
 Image: Note: Note: Note:
 Image: Note: Note:

No.	Mk	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Antenna Height	Table Degree	Comment
	•	MHz	dBu∀	dB/m	dBu\//m	dBuV/m	dB		cm	degree	
1		2352.267	52.40	-9.73	42.67	74.00	-31.33	peak			
2		2390.000	52.90	-9.69	43.21	74.00	-30.79	peak			
3	*	2412.000	115.36	-9.67	105.69	74.00	31.69	peak			

Report No.: AGC00529140902FE04 Page 52 of 68

EUT	Sync 4.0	Model Name	X400
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:
 Sync 4.0
 Distance:
 3m

 M/N:
 X400
 X400
 Vertical

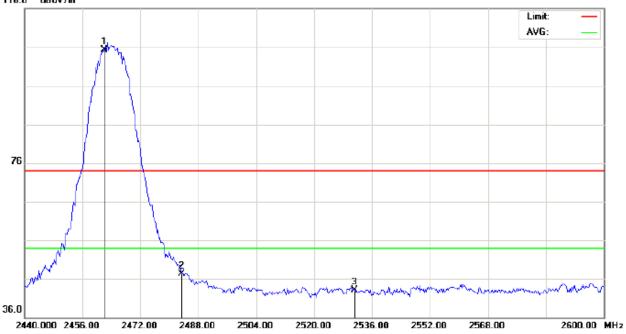
 Mode:
 802.11b Low Channel TX
 Vertical
 Vertical

No.	Mk	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Antenna Height	Table Degree	Comment
	•	MHz	dBu∀	dB/m	dBu\//m	dBuV/m	dB		cm	degree	
1		2361.833	52.50	-9.72	42.78	74.00	-31.22	peak			
2		2390.000	54.27	-9.69	44.58	74.00	-29.42	peak			
3	*	2412.000	115.58	-9.67	105.91	74.00	31.91	peak			

Report No.: AGC00529140902FE04 Page 53 of 68

EUT	Sync 4.0	Model Name	X400
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11b with data rate 1 2462MHZ	Antenna	Horizontal





Site: site #1

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

EUT: Sync 4.0

M/N: X400

Mode: 802.11b High Channel TX Note:

Power: Distance: 3m

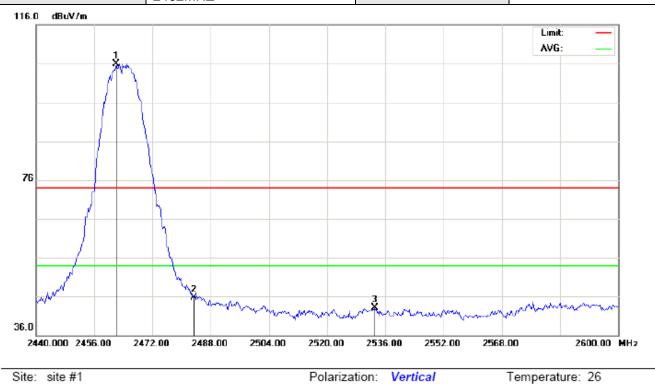
Polarization: Horizontal

Temperature: 26 Humidity: 60 %

Antenna Table Factor Measurement Freq. Reading Limit Over Mk Height Degree No. Detector Comment MHz dBu∨ dB/m dBuV/m dBuV/m dB cm degree 1 2462.000 114.89 -9.61 105.28 74.00 31.28 peak 2 2483.500 56.81 -9.59 47.22 74.00 -26.78 peak 3 2531.200 52.69 -9.49 43.20 74.00 -30.80 peak

Report No.: AGC00529140902FE04 Page 54 of 68

EUT	Sync 4.0	Model Name	X400
Temperature	perature 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:
 20

 Limit:
 FCC Class B 3M Radiation above 1GHZ(PK)
 Power:
 Humidity:
 60 %

 EUT:
 Sync 4.0
 Distance:
 3m

 M/N:
 X400

 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	dBuV/m	dBuV/m	dB		cm	degree	
1	*	2462.000	115.42	-9.61	105.81	74.00	31.81	peak			
2		2483.500	55.22	-9.59	45.63	74.00	-28.37	peak			
3		2533.067	52.63	-9.49	43.14	74.00	-30.86	peak			

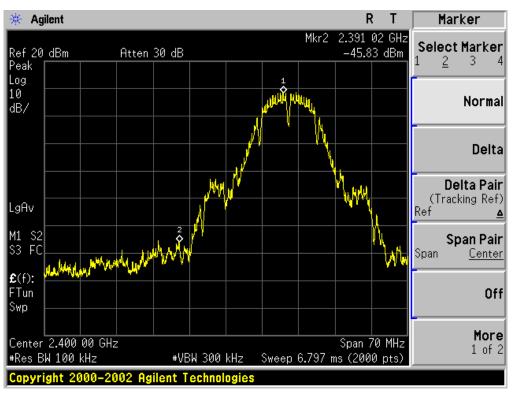
RESULT: PASS

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

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

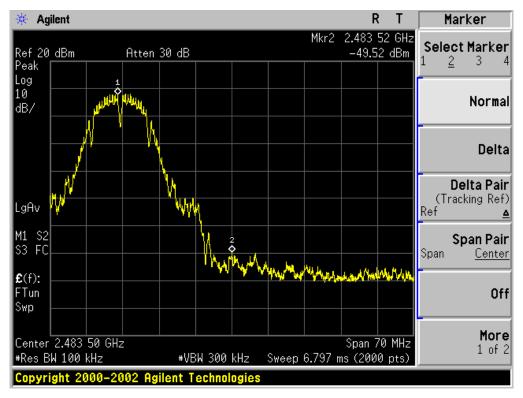
The "Factor" value can be calculated automatically by software of measurement system.

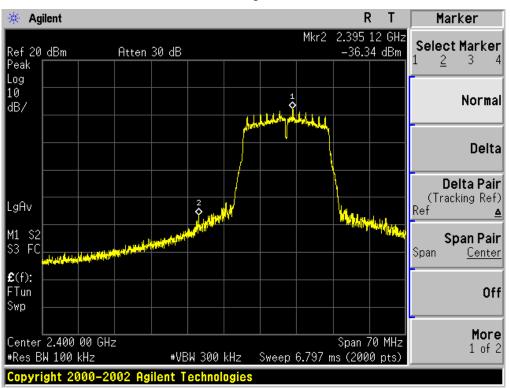
12.4. Conducted Test Result



802.11b-CH1

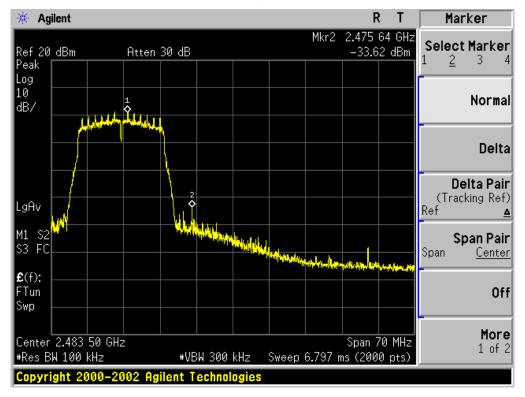
802.11b-CH11

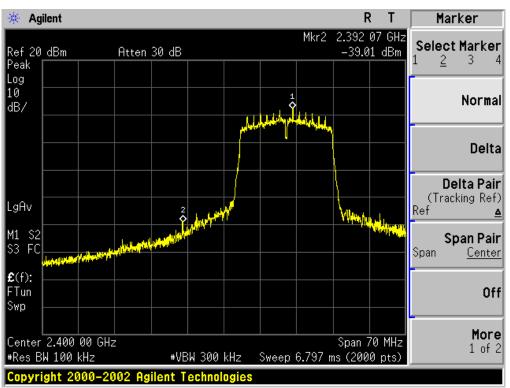




802.11g- CH1

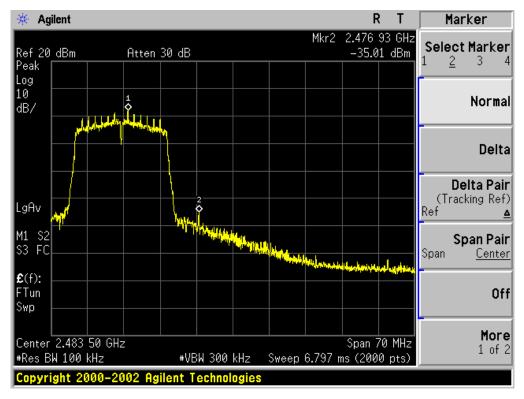
802.11g- CH11







802.11n-CH11



13. FCC LINE CONDUCTED EMISSION TEST

13.1. LIMITS OF LINE CONDUCTED EMISSION TEST

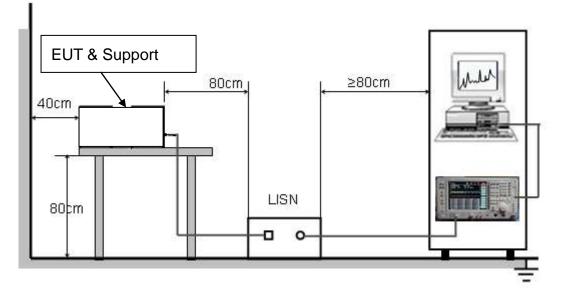
Frequency	Maximum RF Line Voltage					
Frequency	Q.P.(dBuV)	Average(dBuV)				
150kHz~500kHz	66-56	56-46				
500kHz~5MHz	56	46				
5MHz~30MHz	60	50				

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



13.3. PRELIMINARY PROCEDURE OF LINE CONDUCTED EMISSION TEST

- 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.

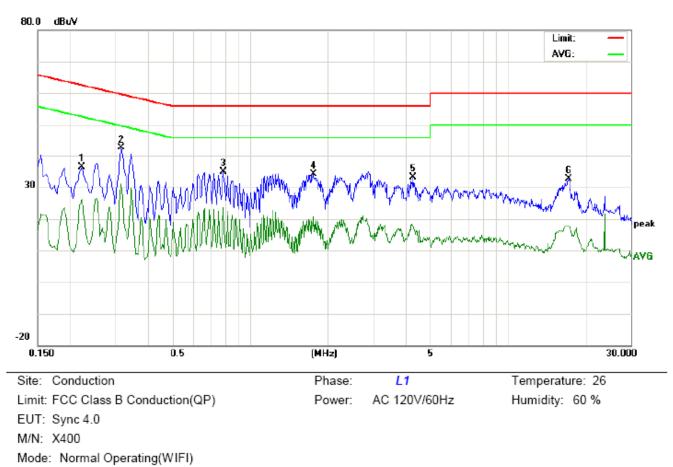
Then, the EUT configuration and cable configuration of the above highest emission level were recorded for reference of final testing.

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

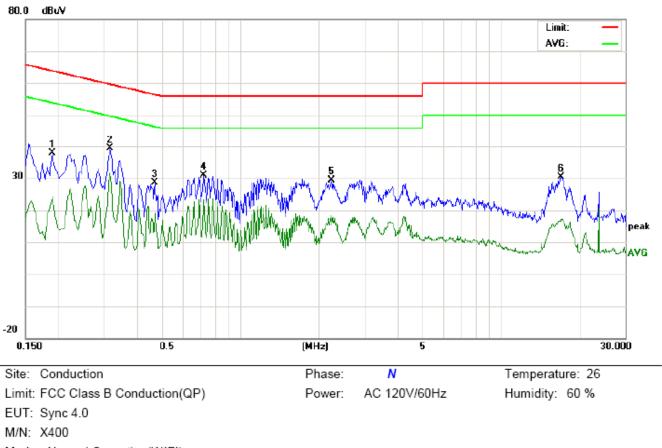
13.5. TEST RESULT OF LINE CONDUCTED EMISSION TEST

Note:



LINE CONDUCTED EMISSION TEST LINE 1-L

No.	Freq. (MHz)	Reading_Level (dBuV)			Correct Factor				Limit (dBuV)		Margin (dB)		P/F	Comment
		Peak	QP	AVG	dB	Peak	QP	AVG	QP	AVG	QP	AVG		
1	0.2220	26.20		15.82	10.24	36.44		26.06	62.74	52.74	-26.30	-26.68	Ρ	
2	0.3180	32.43		20.00	10.30	42.73		30.30	59.76	49.76	-17.03	-19.46	Ρ	
3	0.7860	24.66		13.27	10.29	34.95		23.56	56.00	46.00	-21.05	-22.44	Р	
4	1.7580	23.83		7.63	10.30	34.13		17.93	56.00	46.00	-21.87	-28.07	Ρ	
5	4.3020	22.84		7.79	10.30	33.14		18.09	56.00	46.00	-22.86	-27.91	Р	
6	17.2139	22.42		7.55	10.13	32.55		17.68	60.00	50.00	-27.45	-32.32	Р	



Line Conducted Emission Test Line 2-N

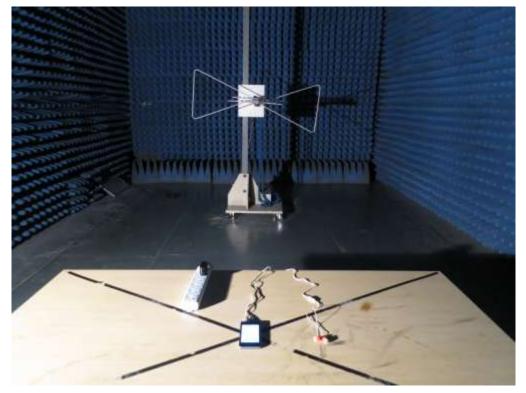
M/N: X400 Mode: Normal Operating(WIFI) Note:

No.	Freq. (MHz)	Reading_Level (dBuV)			Correct Factor	Measurement (dBuV)			Limit (dBuV)		Margin (dB)		P/F	Comment
		Peak	QP	AVG	dB	Peak	QP	AVG	QP	AVG	QP	AVG		
1	0.1900	27.57		14.02	10.20	37.77		24.22	64.03	54.03	-26.26	-29.81	Р	
2	0.3180	29.03		20.82	10.30	39.33		31.12	59.76	49.76	-20.43	-18.64	Ρ	
3	0.4700	18.21		8.70	10.38	28.59		19.08	56.51	46.51	-27.92	-27.43	Р	
4	0.7260	20.64		13.06	10.33	30.97		23.39	56.00	46.00	-25.03	-22.61	Ρ	
5	2.2420	19.02		8.05	10.32	29.34		18.37	56.00	46.00	-26.66	-27.63	Р	
6	16.9820	20.31		6.48	10.13	30.44		16.61	60.00	50.00	-29.56	-33.39	Р	

APPENDIX A: PHOTOGRAPHS OF TEST SETUP FCC LINE CONDUCTED EMISSION TEST SETUP



FCC RADIATED EMISSION TEST SETUP



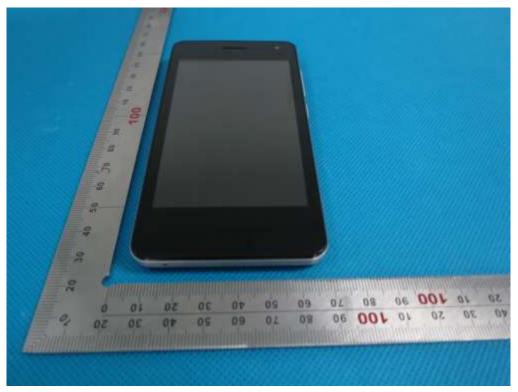


APPENDIX B: PHOTOGRAPHS OF EUT

TOTAL VIEW OF EUT

TOP VIEW OF EUT





BOTTOM VIEW OF EUT

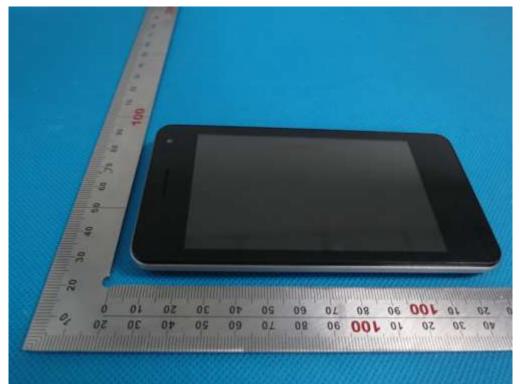
FRONT VIEW OF EUT

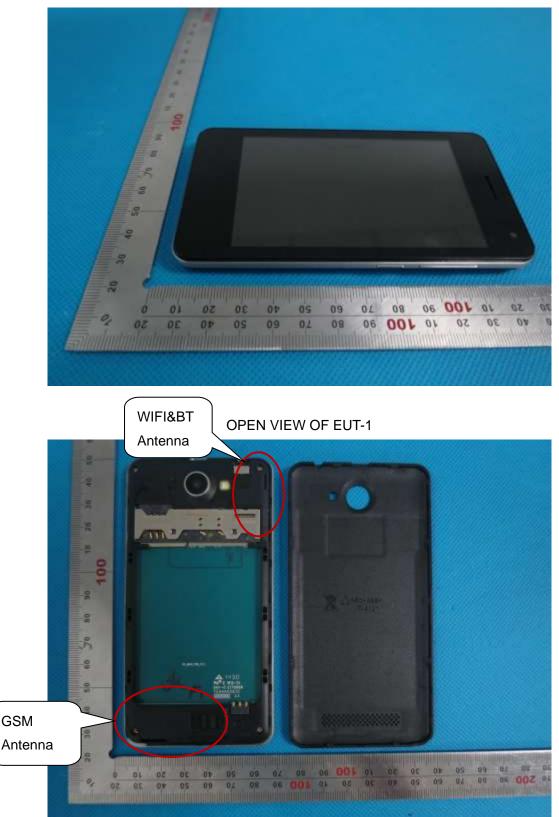




BACK VIEW OF EUT

LEFT VIEW OF EUT





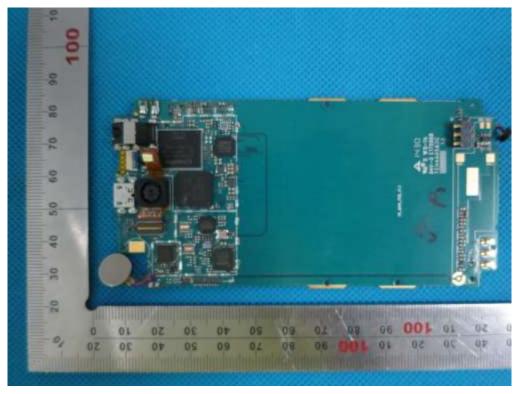
RIGHT VIEW OF EUT



OPEN VIEW OF EUT-2

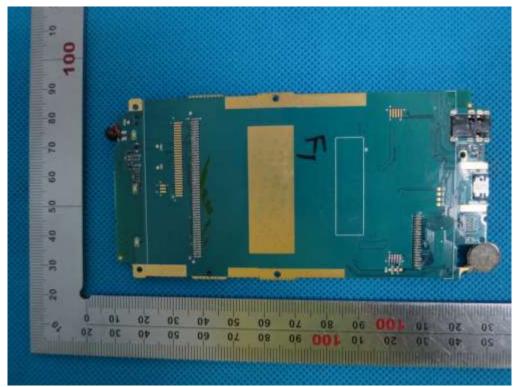
OPEN VIEW OF EUT-3





INTERNAL VIEW OF EUT-1

INTERNAL VIEW OF EUT-2



----END OF REPORT----