FCC Test Report

Report No.: AGC07248170703FE02

FCC ID	:	TV7LHG2ND
APPLICATION PURPOSE	:	Original Equipment
PRODUCT DESIGNATION	:	RouterBOARD LHG 2nD-XL
BRAND NAME	:	RouterBOARD
MODEL NAME	:	LHG XL 2
CLIENT	:	Mikrotikls SIA
DATE OF ISSUE	:	Jul, 02, 2017
STANDARD(S) TEST PROCEDURE(S)	:	FCC Part 15.247 KDB 558074 D01 DTS Meas Guidance v04 KDB 662911 D01 Multiple Transmitter Output v02r01
REPORT VERSION	:	V1.0



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Report Revise Record

Report Version	Revise Time	Issued Date	Valid Version	Notes
V1.0	/	Jul, 02, 2017	Valid	Original Report

TABLE OF CONTENTS

2. GENERAL INFORMATION	6
2.1. PRODUCT DESCRIPTION	6
2.2. TABLE OF CARRIER FREQUENCYS	6
2.3. IEEE 802.11N MODULATION SCHEME	8
2.4. RELATED SUBMITTAL(S) / GRANT (S)	8
2.5. TEST METHODOLOGY	
2.6. SPECIAL ACCESSORIES	
2.7. EQUIPMENT MODIFICATIONS	9
3. MEASUREMENT UNCERTAINTY	9
4. DESCRIPTION OF TEST MODES	9
5. SYSTEM TEST CONFIGURATION	10
5.1. CONFIGURATION OF EUT SYSTEM	10
5.2. EQUIPMENT USED IN EUT SYSTEM	10
5.3. SUMMARY OF TEST RESULTS	10
6. TEST FACILITY	11
7. OUTPUT POWER	12
7.1. MEASUREMENT PROCEDURE	12
7.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)	12
7.3. LIMITS AND MEASUREMENT RESULT	13
8. 6 DB BANDWIDTH	17
8.1. MEASUREMENT PROCEDURE	17
8.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)	
8.3. LIMITS AND MEASUREMENT RESULTS	18
9. CONDUCTED SPURIOUS EMISSION	35
9.1. MEASUREMENT PROCEDURE	35
9.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)	35
9.3. MEASUREMENT EQUIPMENT USED	
9.4. LIMITS AND MEASUREMENT RESULT	35
10. MAXIMUM CONDUCTED OUTPUT POWER SPECTRAL DENSITY	55
10.1 MEASUREMENT PROCEDURE	55

Report No.: AGC07248170703FE02 Page 4 of 106

10.2 TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)	55
10.3 MEASUREMENT EQUIPMENT USED	55
10.4 LIMITS AND MEASUREMENT RESULT	55
11. RADIATED EMISSION	71
11.1. MEASUREMENT PROCEDURE	71
11.2. TEST SETUP	72
11.3. LIMITS AND MEASUREMENT RESULT	73
11.4. TEST RESULT	73
12. BAND EDGE EMISSION	83
12.1. MEASUREMENT PROCEDURE	83
12.2. TEST SET-UP	83
12.3. TEST RESULT	84
13. FCC LINE CONDUCTED EMISSION TEST	101
13.1. LIMITS OF LINE CONDUCTED EMISSION TEST	101
13.2. BLOCK DIAGRAM OF LINE CONDUCTED EMISSION TEST	101
13.3. PRELIMINARY PROCEDURE OF LINE CONDUCTED EMISSION TEST	102
13.4. FINAL PROCEDURE OF LINE CONDUCTED EMISSION TEST	102
13.5. TEST RESULT OF LINE CONDUCTED EMISSION TEST	103
APPENDIX A: PHOTOGRAPHS OF TEST SETUP	105

Applicant	Mikrotikls SIA			
Address	Pernavas 46 Riga Latvia LV-1009			
Manufacturer	Mikrotikls SIA			
Address	Pernavas 46 Riga Latvia LV-1009			
Product Designation	RouterBOARD LHG 2nD-XL			
Brand Name	RouterBOARD			
Test Model	LHG XL 2			
Date of test	Jun, 28, 2017 to Jul, 01, 2017			
Deviation	None			
Condition of Test Sample	Normal			
Test Result	Pass			
Report Template	AGCRT-US-BGN/RF			

1. VERIFICATION OF CONFORMITY

We hereby certify that:

The above equipment was tested by Dongguan Precise Testing Service 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 C63.10 (2013) and the energy emitted by the sample EUT tested as described in this report is in compliance with radiated emission limits of FCC Rules Part 15.247.

Tested by

SNOW.Feng

Snow. Feng(Feng. Nianwei) Jul, 02, 2017

Reviewed by

Approved by

BONG xie

Bart Xie(Xie Xiaobin)) Jul, 02, 2017

Solger Zhang(Zhang Hongyi) J Authorized Officer

Jul, 02, 2017

2. GENERAL INFORMATION

2.1. PRODUCT DESCRIPTION

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

A major technical description of EUT is described as following

Operation Frequency	2.412 GHz~2.462GHz
	Ant0: IEEE 802.11b: 15.86 dBm; IEEE 802.11g: 14.53 dBm; IEEE
	802.11n(20)siso: 13.25 dBm; IEEE 802.11n(40)siso: 12.95 dBm
Output Power	Ant1: IEEE 802.11b: 15.03 dBm; IEEE 802.11g: 14.03 dBm; IEEE
	802.11n(20)siso: 13.35 dBm; IEEE 802.11n(40)siso: 12.66 dBm
	Ant0+ant1: 802.11n(20)mimo:16.30dBm; IEEE 802.11n(40)mimo: 15.76dBm
Modulation	DSSS(DBPSK/DQPSK/CCK);OFDM(BPSK/QPSK/16-QAM/64-QAM)
Number of channels	11
Hardware Version	r4
Software Version	6.38.5
Antenna Designation	Internal Antenna
Number of transmit chain	2(802.11b/g/n used two antennas,but only 802.11n support MIMO)
Antenna Gain	21dBi
Directional Gain	24 dBi
Power Supply	DC 24 V

Note: Directional Gain= Gant+10log(Nant)dBi;

-Gant: Number of Transmit Antennas

-Nant: Gain of Individual Antennas (Same for Each Antenna)

2.2. TABLE OF CARRIER FREQUENCYS

Frequency Band	Channel Number	Frequency	
	1	2412 MHZ	
	2	2417 MHZ	
	3	2422 MHZ	
2400~2483.5MHZ	4	2427 MHZ	
	5	2432 MHZ	
	6	2437 MHZ	
	7	2442 MHZ	

Report No.: AGC07248170703FE02 Page 7 of 106

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		BPS	NDBPS		rate(N	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: TV7LHG2ND** 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 C63.10 (2013). 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 v04.

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: +/- 3.18dB Radiated measurement: +/- 3.91dB

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)						
Transm	Transmit by 802.11n (20MHz) with Date rate (6.5/13/19.5/26/39/52/58.5/65)					
Transm	Transmit by 802.11n (40MHz) with Date rate (13.5/27/40.5/54.0/81.0/108.0/121.5/135.0)					

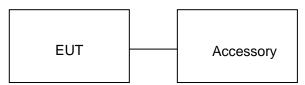
Note:

- 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:



5.2. EQUIPMENT USED IN EUT SYSTEM

Item	Equipment	Model No.	ID or Specification	Remark
1	RouterBOARD LHG 2nD-XL	LHG XL 2	TV7LHG2ND	EUT
2	PC	SONY	E1412AYCW	Support
3	Adapter	MLF-A00122400380U0141	Input: AC 100-240V, 50/60Hz	Support
4	PC adapter	SONY	A13-040A3A	Support

5.3. SUMMARY OF TEST RESULTS

FCC RULES	DESCRIPTION OF TEST	RESULT
§15.247	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	Conducted Emission	Compliant

6. TEST FACILITY

Site	Dongguan Precise Testing Service Co., Ltd.
Location	Building D, Baoding Technology Park, Guangming Road2, Dongcheng District, Dongguan, Guangdong, China.
FCC Registration No.	371540
Description	The test site is constructed and calibrated to meet the FCC requirements in documents ANSI C63.4:2014.

ALL TEST EQUIPMENT LIST

Radiated Emission Test Site					
Name of Equipment	Manufacturer	Model Number	Serial Number	Last Calibration	Due Calibration
EMI Test Receiver	Rohde & Schwarz	ESCI	101417	July 5, 2016	July 4, 2017
Trilog Broadband Antenna (25M-1GHz)	SCHWARZBECK	VULB9160	9160-3355	July 5, 2016	July 4, 2017
Signal Amplifier	SCHWARZBECK	BBV 9475	9745-0013	July 5, 2016	July 4, 2017
RF Cable	SCHWARZBECK	AK9515E	96221	July 5, 2016	July 4, 2017
3m Anechoic Chamber	CHENGYU	966	PTS-001	July 5, 2016	July 4, 2017
MULTI-DEVICE Positioning Controller	Max-Full	MF-7802	MF780208339	N/A	N/A
Active loop antenna (9K-30MHz)	Schwarzbeck	FMZB1519	1519-038	June 6, 2017	June 5, 2018
Spectrum analyzer	Agilent	E4407B	MY46185649	June 6, 2017	June 5, 2018
Power Sensor	Agilent	U2021XA	MY55050474	June 6, 2017	June 5, 2018
Horn Antenna (1G-18GHz)	SCHWARZBECK	BBHA9120D	9120D-1246	July 11, 2016	July 10, 2017
Horn Ant (18G-40GHz)	Schwarzbeck	BBHA 9170	9170-181	June 6, 2017	June 5, 2018

Conducted Emission Test Site					
Name of Equipment	Manufacturer	Model Number	Serial Number	Last Calibration	Due Calibration
EMI Test Receiver	Rohde & Schwarz	ESCI	101417	July 5, 2016	July 4, 2017
Artificial Mains Network	Narda	L2-16B	000WX31025	July 7, 2016	July 6, 2017
Artificial Mains Network (AUX)	Narda	L2-16B	000WX31026	July 7, 2016	July 6, 2017
RF Cable	SCHWARZBECK	AK9515E	96222	July 5, 2016	July 4, 2017
Shielded Room	CHENGYU	843	PTS-002	June 6, 2017	June 5, 2018

7. OUTPUT POWER

7.1. MEASUREMENT PROCEDURE

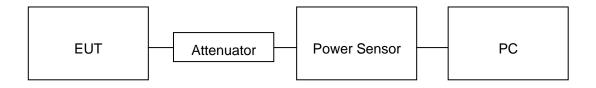
For average power test:

- 1. Connect EUT RF output port to power sensor through an RF attenuator.
- 2. Connect the power sensor 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.

Note : The EUT was tested according to KDB 558074 and KDB 662911 for compliance to FCC 47CFR 15.247 requirements.

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

AVERAGE POWER SETUP



7.3. LIMITS AND MEASUREMENT RESULT

TEST ITEM	OUTPUT POWER			
TEST MODE	802.11b with data rate 1			
Ant0:				
Frequency (GHz)	Average Power (dBm)	Applicable Limits (dBm)	Pass or Fail	
2.412	15.76	24	Pass	
2.437	15.86	24	Pass	
2.462	15.74	24	Pass	

Frequency (GHz)	Average Power (dBm)	Applicable Limits (dBm)	Pass or Fail
2.412	15.01	24	Pass
2.437	15.03	24	Pass
2.462	14.95	24	Pass

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

Frequency (GHz)	Average Power (dBm)	Applicable Limits (dBm)	Pass or Fail
2.412	14.31	24	Pass
2.437	14.45	24	Pass
2.462	14.53	24	Pass

Frequency (GHz)	Average Power (dBm)	Applicable Limits (dBm)	Pass or Fail
2.412	13.95	24	Pass
2.437	13.9	24	Pass
2.462	14.03	24	Pass

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

Port	Frequency (GHz)	Average Power (dBm)	Applicable Limits (dBm)	Pass or Fail
Ant0	2.412	13.16	24	Pass
	2.437	13.25	24	Pass
	2.462	13.13	24	Pass
Ant1	2.412	13.35	24	Pass
	2.437	13.33	24	Pass
	2.462	13.21	24	Pass
Sum	2.412	16.27	24	Pass
	2.437	16.30	24	Pass
	2.462	16.18	24	Pass

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

Port	Frequency (GHz)	Average Power (dBm)	Applicable Limits (dBm)	Pass or Fail
Ant0	2.412	12.95	24	Pass
	2.437	12.82	24	Pass
	2.462	12.83	24	Pass
Ant1	2.412	12.53	24	Pass
	2.437	12.55	24	Pass
	2.462	12.66	24	Pass
Sum	2.412	15.76	24	Pass
	2.437	15.70	24	Pass
	2.462	15.76	24	Pass

Note: 1) Systems operating in the 2400-2483.5 MHz band that are used exclusively for fixed, point-to-point operations may employ transmitting antennas with directional gain greater than 6 dBi provided the maximum conducted output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6 dBi.

2) EUT can working at 802.11b/g/n mode by used two antenna (ant0+ant1), but at 802.11b/g mode EUT cannot use two antenna at the same time, only at 802.11n mimo mode two antenna (ant0+ant1) work at the same time.

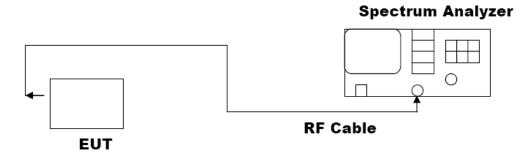
8.6 DB BANDWIDTH

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)



8.3. LIMITS AND MEASUREMENT RESULTS

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

Ant0:

LIMITS AND MEASUREMENT RESULT				
Applicable Limite	Applicable Limits			
Applicable Limits	Test Data (MHz) Criteria			
>500KHZ	Low Channel	10.11	PASS	
	Middle Channel	10.06	PASS	
	High Channel	10.09	PASS	

LIMITS AND MEASUREMENT RESULT			
	Applicable Limits		
Applicable Limits	Test Data (MHz) Criteria		
>500KHZ	Low Channel	10.16	PASS
	Middle Channel	10.26	PASS
	High Channel	10.21	PASS

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

LIMITS AND MEASUREMENT RESULT			
Applicable Limite	Applicable Limits		
Applicable Limits	Test Data (MHz) Criteria		
>500KHZ	Low Channel	15.65	PASS
	Middle Channel	15.04	PASS
	High Channel	15.67	PASS

LIMITS AND MEASUREMENT RESULT				
Applicable Limite				
Applicable Limits	Test Data (MHz) Criteria			
	Low Channel	15.74	PASS	
>500KHZ	Middle Channel	16.46	PASS	
	High Channel	15.74	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 Data (MHz) Criteria		
>500KHZ	Low Channel	15.64	PASS
	Middle Channel	15.13	PASS
	High Channel	16.29	PASS

LIMITS AND MEASUREMENT RESULT				
Applicable Limite		Applicable Limits		
Applicable Limits	Test Data (MHz) Criteria			
	Low Channel	16.38	PASS	
>500KHZ	Middle Channel	17.65	PASS	
	High Channel	16.39	PASS	

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			
	Low Channel	30.12	PASS	
>500KHZ	Middle Channel	35.13	PASS	
	High Channel	31.32	PASS	

LIMITS AND MEASUREMENT RESULT					
	Applicable Limits				
Applicable Limits	Test Da	ita (MHz)	Criteria		
	Low Channel	31.95	PASS		
>500KHZ	Middle Channel	36.36	PASS		
	High Channel	33.19	PASS		

802.11b TEST RESULT-Ant0:

alvzer - Swept SA J X Keysight Spectru
 SenSE:INT
 ALIGN AUTO

 Center Freq: 2.412000000 GHz
 Trig: Free Run

 Trig: Free Run
 Avg|Hold:>10/10

 #Atten: 20 dB
 Auto
 Frequency Center Freg 2.412000000 GHz Radio Std: None #IFGain:Low Radio Device: BTS 2.41299 GHz 0.58389 dBm Mkr1 Ref 20.00 dBm 10 dB/div _og ø **Center Freq** 2.412000000 GHz manha • L.0 B مدر in p.A. Center 2.412 GHz #Res BW 100 kHz Span 30 MHz Sweep 3.733 ms CF Step 3.000000 MHz #VBW 300 kHz Man Auto **Total Power** 16.6 dBm **Occupied Bandwidth** 13.486 MHz **Freq Offset** 0 Hz **Transmit Freq Error** 220.23 kHz % of OBW Power 99.00 % x dB Bandwidth 10.11 MHz x dB -6.00 dB

TEST PLOT OF BANDWIDTH FOR LOW CHANNEL

TEST PLOT OF BANDWIDTH FOR MIDDLE CHANNEL





TEST PLOT OF BANDWIDTH FOR HIGH CHANNEL

802.11b TEST RESULT-Ant1:

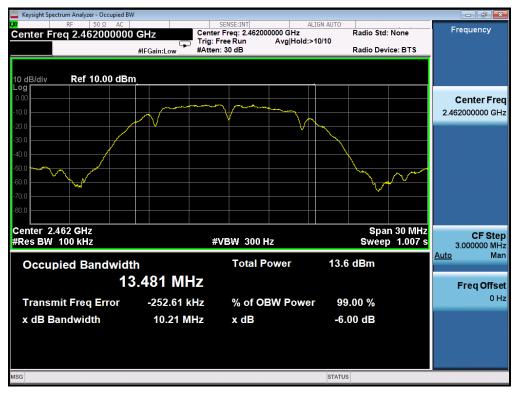
TEST PLOT OF BANDWIDTH FOR LOW CHANNEL





TEST PLOT OF BANDWIDTH FOR MIDDLE CHANNEL

TEST PLOT OF BANDWIDTH FOR HIGH CHANNEL



802.11g TEST RESULT-Ant0:



TEST PLOT OF BANDWIDTH FOR LOW CHANNEL

TEST PLOT OF BANDWIDTH FOR MIDDLE CHANNEL

Keysight Spectrum Analyzer - Swept SA					
Center Freq 2.437000000 G	Hz Cer	SENSE:INT nter Freq: 2.437000000 GHz	ALIGN AUTO Radio S	td: None	Frequency
		g:FreeRun Avg Ho tten:30dB	old:>10/10 Radio D	evice: BTS	
	FGam.Low #/		Mkr1 2.44		
10 dB/div Ref 15.00 dBm				102 dBm	
5.00		_1			Center Freq
-5.00 mtrue	roombaa Nortalonal	ward marken marked with	mytranty		2.437000000 GHz
-15.0					
-25.0 -25.0 -35.0 -25.0				Andreas	
-45.0					
-55.0					
-65.0					
-75.0					
Center 2.437 GHz				an 30 MHz	CF Step
#Res BW 100 kHz		#VBW 300 kHz	Sweep) 3.733 ms	3.000000 MHz
Occupied Bandwidth		Total Power	17.2 dBm		<u>Auto</u> Man
	410 MHz				
					Freq Offset 0 Hz
Transmit Freq Error	-4.290 kHz	% of OBW Po	wer 99.00 %		UHZ
x dB Bandwidth	15.04 MHz	x dB	-6.00 dB		
MSG			STATUS		

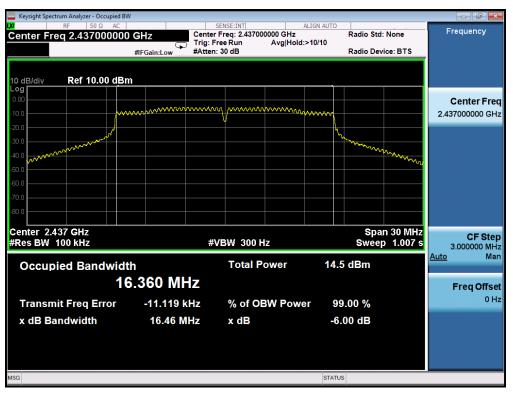


TEST PLOT OF BANDWIDTH FOR HIGH CHANNEL

802.11g TEST RESULT-Ant1:

TEST PLOT OF BANDWIDTH FOR LOW CHANNEL





TEST PLOT OF BANDWIDTH FOR MIDDLE CHANNEL

TEST PLOT OF BANDWIDTH FOR HIGH CHANNEL

Keysight Spectrum Analyzer - Occupied B\	N					
Center Freq 2.462000000		SENSE:INT enter Freq: 2.46200 rig: Free Run Atten: 30 dB	ALIGN / 00000 GHz Avg Hold:>10/1	Radio Std		Frequency
10 dB/div Ref 10.00 dBr	n			_		
-10.0	www.www.	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	www.	M		Center Freq 2.462000000 GHz
-20.0 -30.0 -40.0				- Lunner	Marine Marine	
-50.0					- www.	
-70.0						
Center 2.462 GHz #Res BW 100 kHz		#VBW 3001	łz		n 30 MHz o 1.007 s	CF Step 3.000000 MHz
Occupied Bandwid	th 6.314 MHz	Total P	ower	14.1 dBm		<u>Auto</u> Man Freq Offset
Transmit Freq Error	-58.954 kHz		BW Power	99.00 %		0 Hz
x dB Bandwidth	15.74 MHz			-6.00 dB		
MSG				STATUS		

802.11n (20) TEST RESULT-Ant0:

TEST PLOT OF BANDWIDTH FOR LOW CHANNEL

Keysight Spectrum Analyzer - Swept SA				
Center Freg 2.412000000	GHz Center	Freq: 2.412000000 GHz	IGN AUTO Radio Std: None	Frequency
	#IFGain:Low #Atten:	ree Run Avg Hold:> 30 dB	10/10 Radio Device: BTS	
	an ouncon		Mkr1 2.41575 GH	7
10 dB/div Ref 10.00 dBn	า		-0.43825 dB	
Log		1		
-10.0	manhantente	n portronton menton	harbarry	Center Freq 2.412000000 GHz
-20.0	WW 0-1	V		2.412000000 GH2
			Many and	
-40.0 marken who who who			and the second s	54
-50.0				
-60.0				
-70.0				
-80.0				
Center 2.412 GHz	-243		Span 30 Mi	Cr Step
#Res BW 100 kHz	#\	/BW 300 kHz	Sweep 3.733 n	3.000000 Mil 12
Occupied Bandwidt	h	Total Power	16.2 dBm	<u>Auto</u> Man
17	.528 MHz			
				Freq Offset 0 Hz
Transmit Freq Error	63.457 kHz	% of OBW Power	r 99.00 %	0 112
x dB Bandwidth	15.64 MHz	x dB	-6.00 dB	
MSG			STATUS	

TEST PLOT OF BANDWIDTH FOR MIDDLE CHANNEL

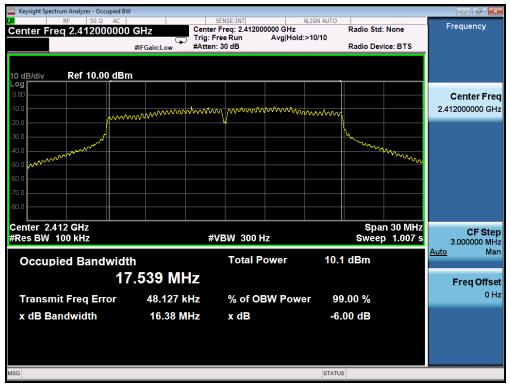
Even Seectrum Analyzer - Swept SA						
Center Freq 2.4370000		SENSE:INT Center Freq: 2.4370		Radio Std:	None	Frequency
	#IFGain:Low	Trig: Free Run #Atten: 30 dB	Avg Hold:>10/	10 Radio Devi	ce: BTS	
				Mkr1 2.440		
10 dB/div Ref 15.00 dl	Зm			-0.4423	31 dBm	
5.00			↓ 1			Center Freq
-5.00	Anonabaraha	many man	mound	Arren		2.437000000 GHz
-15.0		V		h		
-25.0				Martin Starting	L1	
-35.0					wyshraft wat why the	
-45.0						
-55.0						
-75.0						
Center 2.437 GHz #Res BW 100 kHz		#VBW 300	kHz	Spar Sweep	1 30 MHz 3.733 ms	CF Step 3.000000 MHz
		T - 4 - 1 -		46.0.10		Auto Man
Occupied Bandwi		Total F	ower	16.9 dBm		
1	17.590 MI	IZ				Freq Offset
Transmit Freq Error	-12.779 k	Hz % of O	BW Power	99.00 %		0 Hz
x dB Bandwidth	15.13 M	lHz x dB		-6.00 dB		
,						
MSG				STATUS		

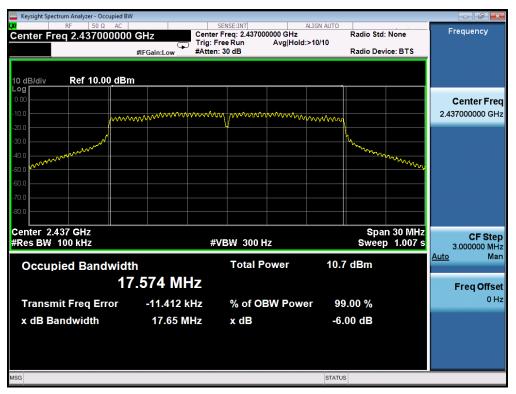


TEST PLOT OF BANDWIDTH FOR HIGH CHANNEL

802.11n20 TEST RESULT-Ant1:

TEST PLOT OF BANDWIDTH FOR LOW CHANNEL





TEST PLOT OF BANDWIDTH FOR MIDDLE CHANNEL

TEST PLOT OF BANDWIDTH FOR HIGH CHANNEL

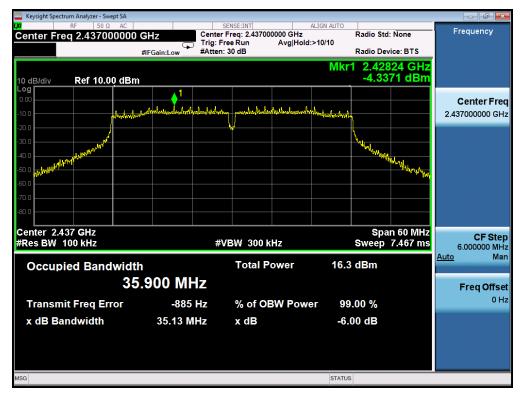
Keysight Spectrum Analyzer - Occ	· · · · · · · · · · · · · · · · · · ·				
₩ RF 50 Ω Center Freq 2.46200	0000 GHz	SENSE:INT Center Freq: 2.462000000 GF Trig: Free Run Avg F #Atten: 30 dB	lold:>10/10	tadio Std: None tadio Device: BTS	Frequency
10 dB/div Ref 10.00	dBm				
-10.0		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	www.		Center Freq 2.462000000 GHz
-20.0 -30.0					
-40.0 -50.0				www.www.www.www.	
-70.0					
Center 2.462 GHz #Res BW 100 kHz		#VBW 300 Hz		Span 30 MHz Sweep 1.007 s	CF Step 3.000000 MHz
Occupied Band	width 17.506 MH	Total Power	10.4 d	IBm	<u>Auto</u> Man
Transmit Freq Err			ower 99.0	0 %	Freq Offset 0 Hz
x dB Bandwidth	16.39 MH	z x dB	-6.00	dB	
MSG			STATUS		

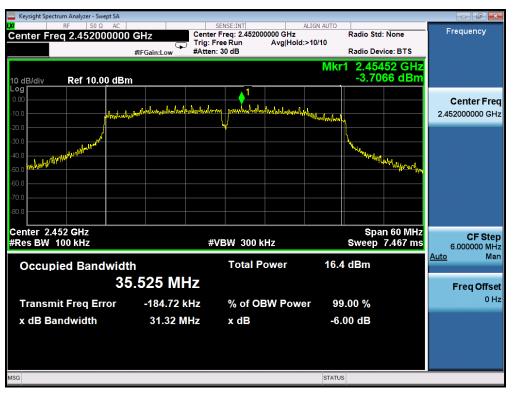
802.11n (40) TEST RESULT



TEST PLOT OF BANDWIDTH FOR LOW CHANNEL

TEST PLOT OF BANDWIDTH FOR MIDDLE CHANNEL



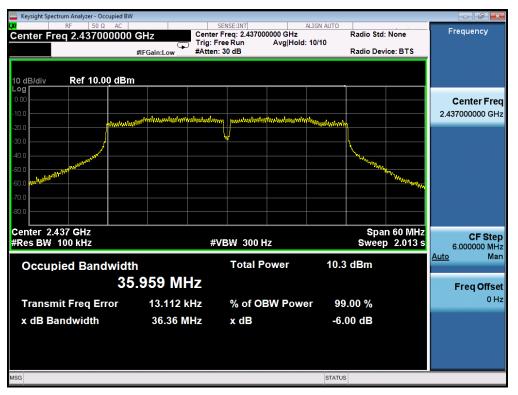


TEST PLOT OF BANDWIDTH FOR HIGH CHANNEL

802.11n(40) TEST RESULT-Ant1:

TEST PLOT OF BANDWIDTH FOR LOW CHANNEL





TEST PLOT OF BANDWIDTH FOR MIDDLE CHANNEL



TEST PLOT OF BANDWIDTH FOR HIGH CHANNEL

NOTE: EUT can working at 802.11b/g/n mode by used two antenna (ant0+ant1), but at 802.11b/g mode EUT cannot use two antenna at the same time, only at 802.11n mimo mode two antenna (ant0+ant1) work at the same time.

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.

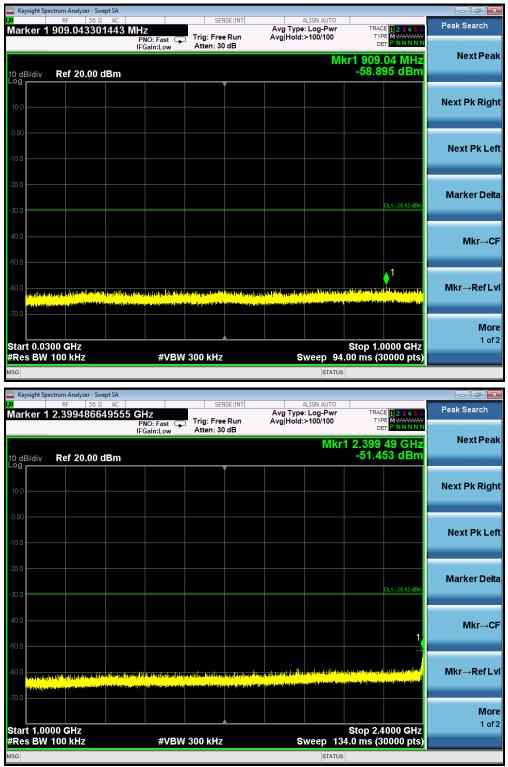
9.4. LIMITS AND MEASUREMENT RESULT

LIMITS AND MEASUREMENT RESULT				
Ann liaghta Limite	Measurement Result			
Applicable Limits	Test Data	Criteria		
In any 100 KHz Bandwidth Outside the	At least -30dBc 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 30 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 -30dBc than the limit Specified on the TOP Channel	PASS		

Note: 1) Two transmit chains had been tested; the chain 0 was the worst case and record in the test report. The spurious emission at chain 0 is more than 3dB below the limits, so the results for the spurious emissions a re comply with the requirement.

2) EUT can working at 802.11b/g/n mode by used two antenna (ant0+ant1), but at 802.11b/g mode EUT

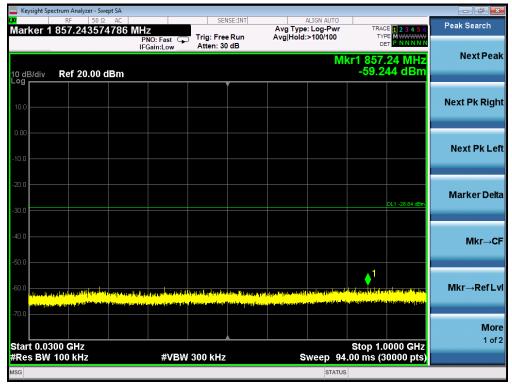
cannot use two antenna at the same time, only at 802.11n mimo mode two antenna (ant0+ant1) work at the same time.



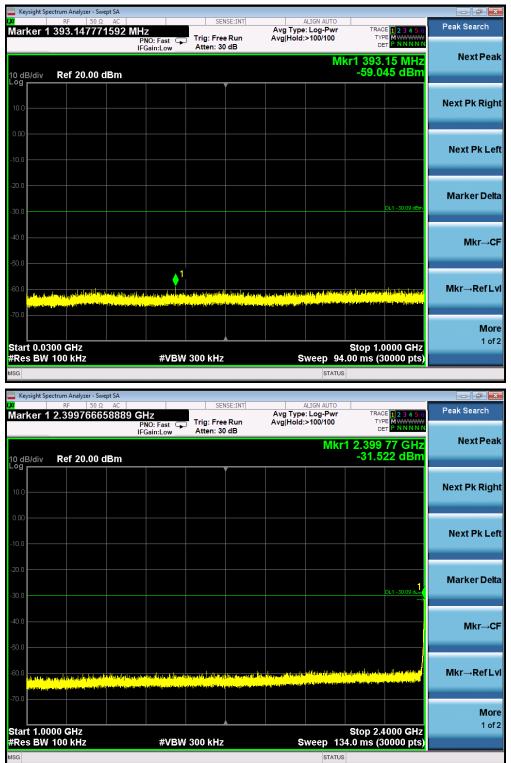
TEST PLOT OF OUT OF BAND EMISSIONS WITH THE WORST CASE OF 802.11b FOR MODULATION IN LOW CHANNEL



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



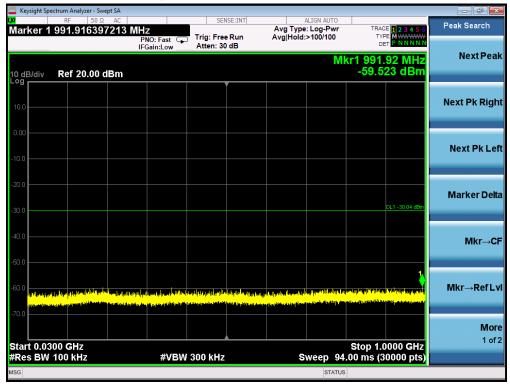
Keysight Sp	ectrum Analyzer - S RF 50	Ω AC		SEN	NSE:INT		ALIGN AUTO			Peak Search
larker 1	2.399299		HZ PNO: Fast 🔾	Trig: Free		Avg Type Avg∣Hold	e: Log-Pwr :>100/100	TRACE	1 2 3 4 5 6 M WWWW P N N N N N	Peak Search
) dB/div	Ref 20.00		Gain:Low	Atten: 30) dB		Mkr1	2.399	30 GHz 54 dBm	Next Pe
)						Next Pk Rig
.00										Next Disk
0.0										Next Pk L
D.O									DL1 -28.84 dBm	Marker De
0.0										Mkr→(
0.0							distriction and the	u luber (l.	1 	Mkr→Refl
D.O. <mark>Parteste</mark> Tekkelase		a na ita ina pana a amb							(a. december of the state	wint→rei l
										Mo
	000 GHz		<i>#</i> \/D\\					Stop 2.4	000 GHz	
	000 GHz 100 kHz		#VBW	V 300 kHz		S	sweep 134.	Stop 2.4 .0 ms (31	000 GHz 0000 pts)	
Res BW	100 kHz		#VBM	√ 300 kHz		S	weep 134.	Stop 2.4 .0 ms (30	000 GHz 0000 pts)	1 0
Res BW G Keysight Sp	100 kHz ectrum Analyzer - S RF 50	Ω AC			VSE:INT		SWEED 134.	.0 ms (31	0000 pts)	1 o
Res BW G Keysight Sp	100 kHz ectrum Analyzer - S	Ω AC 8636621	GHz PNO: Fast) Trig: Free	NSE:INT	Avg Type	sweep 134.	0 ms (3)	0000 pts)	1 c
Res BW Keysight Sp arker 1 (dB/div	100 kHz ectrum Analyzer - S RF 50	Ω AC 8636621 F IF	GHz	SEN	NSE:INT	Avg Type	ALIGN AUTO :> Log-Pwr :> 100/100	0 ms (3) TRACE TYPE 24.476	0000 pts)	1 م بی اور
Keysight Sp arker 1 dB/div	100 kHz ectrum Analyzer - S RF 50 24.47609	Ω AC 8636621 F IF	GHz PNO: Fast) Trig: Free	NSE:INT	Avg Type	ALIGN AUTO :> Log-Pwr :> 100/100	0 ms (3) TRACE TYPE 24.476	1 2 3 4 5 6 MWWWWWW P N N N N N 1 GHZ	۲ م Peak Search Next Pe
Res BW G Keysight Sp arker 1 arker 1 0 dB/div 0 dB/div	100 kHz ectrum Analyzer - S RF 50 24.47609	Ω AC 8636621 F IF	GHz PNO: Fast) Trig: Free	NSE:INT	Avg Type	ALIGN AUTO :> Log-Pwr :> 100/100	0 ms (3) TRACE TYPE 24.476	1 2 3 4 5 6 MWWWWWW P N N N N N 1 GHZ	۲ م Peak Search Next Pe Next Pk Rig
Res BW G Keysight Sp G G G G G G G G G G G G G G G G G G G	100 kHz ectrum Analyzer - S RF 50 24.47609	Ω AC 8636621 F IF	GHz PNO: Fast) Trig: Free	NSE:INT	Avg Type	ALIGN AUTO :> Log-Pwr :> 100/100	0 ms (3) TRACE TYPE 24.476	1 2 3 4 5 6 MWWWWWW P N N N N N 1 GHZ	1 c Peak Search Next Pe Next Pk Rig
Res BW G Keysight Sp	100 kHz ectrum Analyzer - S RF 50 24.47609	Ω AC 8636621 F IF	GHz PNO: Fast) Trig: Free	NSE:INT	Avg Type	ALIGN AUTO :> Log-Pwr :> 100/100	0 ms (3) TRACE TYPE 24.476	1 2 3 4 5 6 MWWWWWW P N N N N N 1 GHZ	1 o Peak Search Next Pe Next Pk Rig Next Pk L
Keysight Sp arker 1 dB/div 9 0.0 0.0	100 kHz ectrum Analyzer - S RF 50 24.47609	Ω AC 8636621 F IF	GHz PNO: Fast) Trig: Free	NSE:INT	Avg Type	sweep 134. status	0 ms (3) TRACE TYPE 24.476	1 2 3 4 5 6 1 2 3 4 5 6 1 9 N N N N 3 1 GHz 47 dBm	Peak Search Next Pe Next Pk Rig Next Pk L
Res BW Keysight Sp arker 1 ark	100 kHz ectrum Analyzer - S RF 50 24.47609	Ω AC 8636621 F IF	GHz PNO: Fast) Trig: Free	NSE:INT	Avg Type Avg Hold	sweep 134. status	0 ms (30	1 2 3 4 5 6 1 2 3 4 5 6 1 9 N N N N 3 1 GHz 47 dBm	1 d Peak Search Next Pe Next Pk Rig Next Pk L Marker De
Res BW (Keysight Sp (arker 1) dB/div () dB/div () d ()	100 kHz	Ω AC 8636621 F IF	GHz PNO: Fast) Trig: Free	RE:INT Run d B	Avg Type Avg Hold	ALIGN AUTO :: Log-Pwr :> 100/100 Mkr1	0 ms (30	1 2 3 4 5 6 1 2 3 4 5 6 1 9 N N N N 3 1 GHz 47 dBm	1 d Peak Search Next Pe Next Pk Rig Next Pk Rig Marker De Mkr→Ref I
Keysight Sp arker 1 arker 1 arker 1 a.c. a.c. a.c. a.c. a.c. a.c. a.c. a.c	100 kHz ectrum Analyzer - 5 RF 50 24.47609 Ref 20.00 	Ω AC 8636621 F IF	GHz PNO: Fast) Trig: Free	RE:INT Run d B	Avg Type Avg Hold	ALIGN AUTO :: Log-Pwr :> 100/100 Mkr1	0 ms (30	0000 pts)	1 o Peak Search Next Pe Next Pk Rig Next Pk Rig Marker De Mkr→Ref I
Res BW Keysight Sp arker 1 0.0 <	100 kHz ectrum Analyzer - 5 RF 50 24.47609 Ref 20.00 	Ω AC 8636621 F IF	CHZ PNO: Fast Gain:Low) Trig: Free	RSE:INT	Avg Type Avg Hold	ALIGN AUTO :: Log-Pwr :> 100/100 Mkr1	0 ms (30	0000 pts)	10



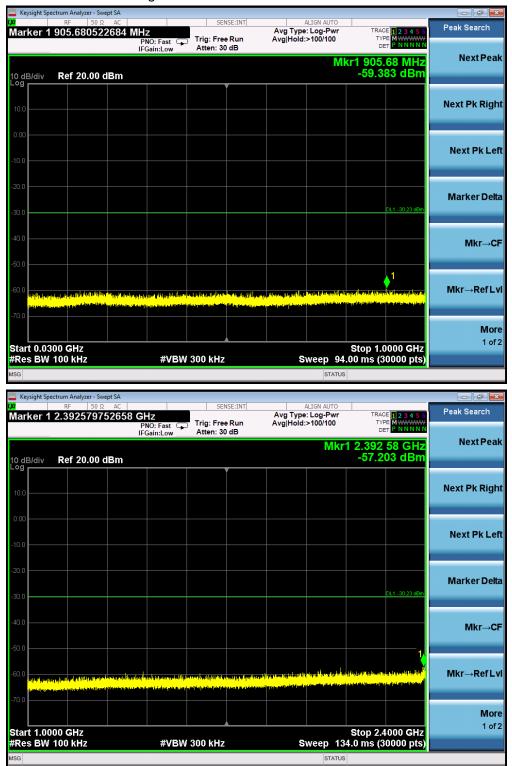
TEST PLOT OF OUT OF BAND EMISSIONS THE WORST CASE OF 802.11b FOR MODULATION IN HIGH CHANNEL



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



Keysight Spectrum Analyzer - Swept SA RF 50 Ω AC		NSE:INT	ALIGN AUTO	TRACE	Peak Search
arker 1 2.397293243108	PNO: Fast Trig: Fre IFGain:Low Atten: 3	eRun Avg	g Type: Log-Pwr Hold:>100/100	TRACE 1 2 3 4 5 0 TYPE MWWWW DET P N N N N	
	IFGail.Low		Mkr1	2.397 29 GHz	NextPe
dB/div Ref 20.00 dBm		V		-56.813 dBm	
					Next Pk Rig
0.0					NCALL KING
).00					
0.0					Next Pk Le
0.0					
0.0					Marker De
0.0				DL1 -30.04 dBm	Marker De
0.0					Mkr→0
0.0				1	
			1		Mkr→RefL
0.0 An a state of the provide state of the s	i Milandara (na Landal de Antola de presidente de la contra de la contra de la contra de la contra de la contra Antoleo de la contra	<mark>a supervisia su cura da su cura da Cura da la cura da su c</mark>		redelition of the stability of the stabi	
70.0					
					Mo
					10
	#VBW 300 kHz		Sweep 134	Stop 2.4000 GHz I.0 ms (30000 pts	
tart 1.0000 GHz Res BW 100 kHz	#VBW 300 kHz		Sweep 134	Stop 2.4000 GHz I.0 ms (30000 pts	1 o
Res BW 100 kHz	#VBW 300 kHz			Stop 2.4000 GHz I.0 ms (30000 pts	
Res BW 100 KHz IG Keysight Spectrum Analyzer - Swept SA RF 50 Ω AC	32 GHz		ALIGN AUTO	LO ms (30000 pts	Peak Search
Res BW 100 KHz IG Keysight Spectrum Analyzer - Swept SA RF 50 Ω AC	SE	NSE:INT Avg e Run Avg	ALIGN AUTO g Type: Log-Pwr Hold:>100/100	LO ms (30000 pts TRACE 1 2 3 4 5 TYPE M	Peak Search
Res BW 100 kHz ^{IG} Keysight Spectrum Analyzer - Swept SA RF 50 Ω AC larker 1 24.934699997333	SZ GHZ PNO: Fast C	NSE:INT Avg e Run Avg	ALIGN AUTO g Type: Log-Pwr Hold:>100/100	I.0 ms (30000 pts TRACE 1 2 3 4 5 TYPE M MMMM DET P NNNN 24.934 7 GHz	Peak Search Next Pea
Res BW 100 kHz Keysight Spectrum Analyzer - Swept SA RF 50 AC arker 1 24.934699997333 0 dE/div Ref 20.00 dBm	SZ GHZ PNO: Fast C	NSE:INT Avg e Run Avg	ALIGN AUTO g Type: Log-Pwr Hold:>100/100	LO ms (30000 pts TRACE 1 2 3 4 5 TYPE M	Peak Search Next Pea
Res BW 100 kHz (c) (c) (c) (c) (c) (c) (c) (c)	SZ GHZ PNO: Fast C	NSE:INT Avg e Run Avg	ALIGN AUTO g Type: Log-Pwr Hold:>100/100	I.0 ms (30000 pts TRACE 1 2 3 4 5 TYPE M MMMM DET P NNNN 24.934 7 GHz	Peak Search Next Pea
Res BW 100 kHz g Keysight Spectrum Analyzer - Swept SA RF 50 Ω arker 1 24.93469997333 0 dB/div Ref 20.00 dBm	SZ GHZ PNO: Fast C	NSE:INT Avg e Run Avg	ALIGN AUTO g Type: Log-Pwr Hold:>100/100	I.0 ms (30000 pts TRACE 1 2 3 4 5 TYPE M MMMM DET P NNNN 24.934 7 GHz	Peak Search Next Pea
Res BW 100 kHz ig Keysight Spectrum Analyzer - Swept SA RF 50 Ω arker 1 24.93469997333 0 dB/div Ref 20.00 dBm 00	SZ GHZ PNO: Fast C	NSE:INT Avg e Run Avg	ALIGN AUTO g Type: Log-Pwr Hold:>100/100	I.0 ms (30000 pts TRACE 1 2 3 4 5 TYPE M MMMM DET P NNNN 24.934 7 GHz	Peak Search Next Pea Next Pk Rig
Res BW 100 kHz G Keysight Spectrum Analyzer - Swept SA RF 50 Ω AC arker 1 24.93469997333 0 dB/div Ref 20.00 dBm 9 0.0	SZ GHZ PNO: Fast C	NSE:INT Avg e Run Avg	ALIGN AUTO g Type: Log-Pwr Hold:>100/100	I.0 ms (30000 pts TRACE 1 2 3 4 5 TYPE M MMMM DET P NNNN 24.934 7 GHz	Peak Search Next Pea Next Pk Rig
Res BW 100 kHz (G Keysight Spectrum Analyzer - Swept SA RF S0 Q AC arker 1 24.93469997333 0 dB/div Ref 20.00 dBm 0 dB/div 0 dV 0	SZ GHZ PNO: Fast C	NSE:INT Avg e Run Avg	ALIGN AUTO g Type: Log-Pwr Hold:>100/100	I.0 ms (30000 pts TRACE 1 2 3 4 5 TYPE M MMMM DET P NNNN 24.934 7 GHz	Peak Search Next Pea Next Pk Rig
Res BW 100 kHz (G Keysight Spectrum Analyzer - Swept SA RF S0 Q AC arker 1 24.93469997333 0 dB/div Ref 20.00 dBm 0 dB/div 0 dV 0	SZ GHZ PNO: Fast C	NSE:INT Avg e Run Avg	ALIGN AUTO g Type: Log-Pwr Hold:>100/100	I.0 ms (30000 pts TRACE 1 2 3 4 5 TYPE M MMMM DET P NNNN 24.934 7 GHz	Peak Search Next Peak Next Pk Rig Next Pk Lo
Res BW 100 kHz ig is keysight Spectrum Analyzer - Swept SA RF 50 Ω AC larker 1 24.93469997333 0 00 0 00 0 00 0.00 00 0.00 00	SZ GHZ PNO: Fast C	NSE:INT Avg e Run Avg	ALIGN AUTO g Type: Log-Pwr Hold:>100/100	I.0 ms (30000 pts TRACE 1 2 3 4 5 TYPE M MMMM DET P NNNN 24.934 7 GHz	Peak Search Next Peak Next Pk Rig Next Pk Lo
Res BW 100 kHz ^{3G} Keysight Spectrum Analyzer - Swept SA RF 50 Ω AC Iarker 1 24.934699997333	SZ GHZ PNO: Fast C	NSE:INT e Run Avg 0 dB	ALIGN AUTO g Type: Log-Pwr Hold:>100/100 Mkr1	LO ms (30000 pts TRACE 2 3 4 5 TYPE M DET P NNNN 24.934 7 GHz -37.525 dBm 0.1 -30.04 dBm	Peak Search Next Peak Next Pk Rig Next Pk Le Marker De
Res BW 100 kHz IG Keysight Spectrum Analyzer - Swept SA RF 50 Q Jarker 1 24.93469997333 OdB/div Ref 20.00 dBm Og	32 GHZ PNO: Fast IFGain:Low Atten: 30	NSE:INT Avg e Run Avg 0 dB	ALIGN AUTO g Type: Log-Pwr Hold:>100/100 Mkr1	I.0 ms (30000 pts TRACE 1 2 3 4 5 TYPE M MMMM DET P NNNN 24.934 7 GHz	Peak Search Next Peak Next Pk Rig Next Pk Lu Marker De
Res BW 100 kHz Image: Sectrum Analyzer - Swept SA RF 50 Q AC Iarker 1 24.93469997333 0 dB/div Ref 20.00 dBm 0 0 dB/div Ref 20.00 dBm 0 0 dB/div Ref 20.00 dBm 0 0 0 0 0 0 0 0 0 0 0	32 GHz PNO: Fast IFGain:Low Trig: Fre Atten: 3	NSE:INT Avg e Run Avg 0 dB	ALIGN AUTO g Type: Log-Pwr Hold:>100/100 Mkr1	LO ms (30000 pts TRACE 2 3 4 5 TYPE M DET P NNNN 24.934 7 GHz -37.525 dBm 0.1 -30.04 dBm	Peak Search Next Peak Next Pk Rig Next Pk Lu Marker De
Res BW 100 kHz Image: Section Analyzer - Swept SA Ref 50 Q Iarker 1 24.93469997333 D dB/div Ref 20.00 dBm 00 Image: Section Analyzer - Swept SA 00 Image: Section Analyzer - Swept SA 00 Image: Section Analyzer - Swept SA 01 Image: Section Analyzer - Swept SA 02 Image: Section Analyzer - Swept SA 03 Image: Section Analyzer - Swept SA 04 Image: Section Analyzer - Swept SA 05 Image: Section Analyzer - Swept SA 05 Image: Section Analyzer - Swept SA 06 Image: Section Analyzer - Swept SA 07 Image: Section Analyzer - Swept SA 08 Image: Section Analyzer - Swept SA 08 Image: Section Analyzer - Swept SA 09 Image: Section Analyzer - Swept SA 00 Image: Section Analyzer - Swept SA <	32 GHZ PNO: Fast IFGain:Low Atten: 30	NSE:INT Avg e Run Avg 0 dB	ALIGN AUTO g Type: Log-Pwr Hold:>100/100 Mkr1	LO ms (30000 pts TRACE 2 3 4 5 TYPE M DET P NNNN 24.934 7 GHz -37.525 dBm 0.1 -30.04 dBm	Peak Search Next Peak Next Pk Rig Next Pk Lo Marker De Mkr-o
Res BW 100 kHz sg sg Reysight Spectrum Analyzer - Swept SA RF 50 Q AC larker 1 24.93469997333 0 dB/div Ref 20.00 dBm 0 0	32 GHZ PNO: Fast IFGain:Low Atten: 30	NSE:INT Avg e Run Avg 0 dB	ALIGN AUTO g Type: Log-Pwr Hold:>100/100 Mkr1	LO ms (30000 pts TRACE 2 3 4 5 TYPE M DET P NNNN 24.934 7 GHz -37.525 dBm 0.1 -30.04 dBm	Peak Search Next Peak Next Pk Rig Next Pk Lu Marker De
Res BW 100 kHz g Keysight Spectrum Analyzer - Swept SA RF 50 Q arker 1 24.93469997333 d B/div Ref 20.00 dBm 0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	32 GHZ PNO: Fast IFGain:Low Atten: 30	NSE:INT Avg e Run Avg 0 dB	ALIGN AUTO g Type: Log-Pwr Hold:>100/100 Mkr1	LO ms (30000 pts TRACE 2 3 4 5 TYPE M DET P NNNN 24.934 7 GHz -37.525 dBm 0.1 -30.04 dBm	Peak Search Next Peak Next Pk Rig Next Pk Lu Marker De Mkr→Ref L
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Res BW 100 kHz IG Keysight Spectrum Analyzer - Swept SA RF 50 Q Jarker 1 24.93469997333 OdB/div Ref 20.00 dBm Od	32 GHZ PNO: Fast IFGain:Low Atten: 30	NSE:INT Avg e Run Avg 0 dB	STATUS	LO ms (30000 pts TRACE 2 3 4 5 TYPE M DET P NNNN 24.934 7 GHz -37.525 dBm 0.1 -30.04 dBm	Peak Search Next Peak Next Pk Rig Next Pk Lo Marker Del Mkr→C Mkr→Ref L Mo 1 o



TEST PLOT OF OUT OF BAND EMISSIONS THE WORST CASE OF 802.11g FOR MODULATION IN MIDDLE CHANNEL

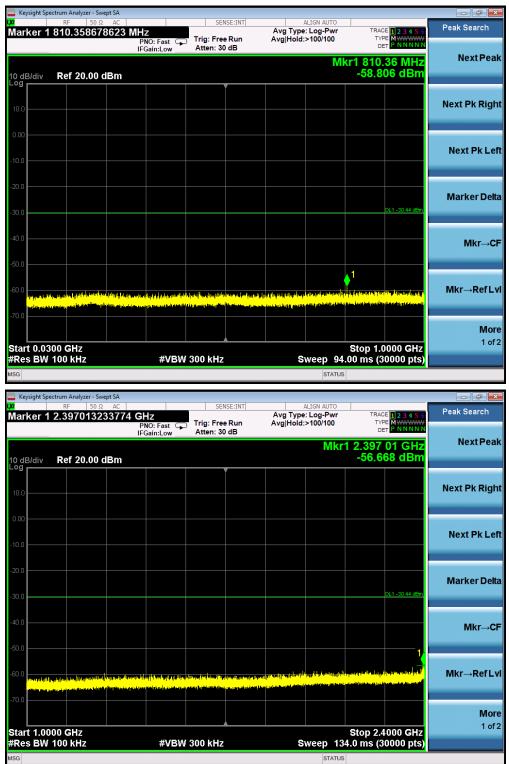


TEST PLOT OF OUT OF BAND EMISSIONS THE WORST CASE

OF 802.11g FOR MODULATION IN HIGH CHANNEL

	ectrum Analyzer - Swept SA								- F
Marker 1	RF 50 Ω AC 913.764125471			ISE:INT		Log-Pwr	TRAC		Peak Search
		PNO: Fast 🗣 IFGain:Low	Atten: 30		Avginoia:				NewtDeel
10 dB/div	Ref 20.00 dBm					Μ	lkr1 913. -59.3	.76 MHz 06 dBm	Next Peak
			,,						
10.0									Next Pk Righ
0.00									
									Next Pk Lef
-10.0									
-20.0									Marker Date
-30.0								DL1 -30.44 dBm	Marker Delta
-40.0									Mkr→Ci
-50.0									
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		Maril I and the product of the second se	ali fati a di la				nderparten jähendriche ner merketen interfatete	an dirikti dari dar producti Turkan dirikti dari dari dari dari dari dari dari dar	Mkr→RefLv
-70.0	in blej ji bi biski sviti di kina i livan se								
									More 1 of 2
Start 0.03 #Res BW		#VBW	300 kHz		s	ween 9	Stop 1.0 4.00 ms (3	0000 GHz	
MSG		<i>"</i> ••Ви	00011112			STATU	_	eeee prov	

Keysight Spectrum Analyzer - Swept SA RF 50 Ω AC		SENSE:INT	ALIGN AUTO		Beek Seereb
arker 1 2.39948664955	PNO: Fast 😱	Trig: Free Run	Avg Type: Log-Pwr Avg Hold:>100/100	TRACE 1 2 3 4 5 6 TYPE MWWWW DET P N N N N N	Peak Search
dB/div Ref 20.00 dBm	IFGain:Low	Atten: 30 dB	Mkr	1 2.399 49 GHz -33.403 dBm	NextPea
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00					J
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tart 1.0000 GHz				Stop 2.4000 GHz	Mo 1 o
				A DECK OF THE READ AND THE READ AND A DECK OF THE READ AND A DECK OF THE READ AND A DECK OF THE READ AND A DECK	
Res BW 100 kHz	#VBW	300 kHz	Sweep 13	4.0 ms (30000 pts)	
	#VBW	300 kHz	Sweep 13 status	· · · · · · · · · · · · · · · · · · ·	
G Keysight Spectrum Analyzer - Swept SA	#VBW		STATUS	· · · · · · · · · · · · · · · · · · ·	
G Keysight Spectrum Analyzer - Swept SA RF 50 Ω AC	927 GHz	SENSE:INT	ALIGN AUTO	TRACE 12345 (Peak Search
G Keysight Spectrum Analyzer - Swept SA RF 50 Ω AC			ALIGN AUTO Avg Type: Log-Pwr Avg Hold:>100/100	TRACE 23456 TYPE MWWWWW DET PINNNIN	Peak Search
a Keysight Spectrum Analyzer - Swept SA RF 50 Q AC arker 1 24.9579677989	927 GHz PNO: Fast 😱	SENSE:INT	ALIGN AUTO Avg Type: Log-Pwr Avg Hold:>100/100	TRACE 12345 (Peak Search
G Keysight Spectrum Analyzer - Swept SA RF 50 Ω AC arker 1 24.9579677989 0 dE/div Ref 20.00 dBm	927 GHz PNO: Fast 😱	SENSE:INT	ALIGN AUTO Avg Type: Log-Pwr Avg Hold:>100/100	TRACE 2 3 4 5 6 TYPE M DET P NNNN 1 24.958 0 GHz	Peak Search Next Pea
G Keysight Spectrum Analyzer - Swept SA RF 50 Ω AC arker 1 24.9579677985 0 dB/div Ref 20.00 dBm 9 00 00 00 00 00 00 00 00 00	927 GHz PNO: Fast 😱	SENSE:INT	ALIGN AUTO Avg Type: Log-Pwr Avg Hold:>100/100	TRACE 2 3 4 5 6 TYPE M DET P NNNN 1 24.958 0 GHz	Peak Search Next Pea Next Pk Rig
G Keyzight Spectrum Analyzer - Swept SA RF 50 Ω AC arker 1 24.9579677985 0 dB/div Ref 20.00 dBm 9 0.0 0.0 0.0	927 GHz PNO: Fast 😱	SENSE:INT	ALIGN AUTO Avg Type: Log-Pwr Avg Hold:>100/100	TRACE 2 3 4 5 6 TYPE M DET P NNNN 1 24.958 0 GHz	Peak Search Next Pea Next Pk Rig Next Pk Lo
larker 1 24.9579677989	927 GHz PNO: Fast 😱	SENSE:INT	ALIGN AUTO Avg Type: Log-Pwr Avg Hold:>100/100	TRACE 2 3 4 5 6 TYPE M DET P NNNN 1 24.958 0 GHz	Peak Search Next Pea Next Pk Rig Next Pk Le
IG Keysight Spectrum Analyzer - Swept SA RF 50 Q AC Iarker 1 24.9579677989 O dE/div Ref 20.00 dBm Og Image: Colspan="2">Image: Colspan="2" Image: Colspan="2"	D27 GHZ PNO: Fast IFGain:Low	SENSE:INT	ALIGN AUTO Avg Type: Log-Pwr Avg Hold:>100/100	TRACE 2 3 4 5 6 TYPE M DET P NNNN 1 24.958 0 GHz	Peak Search Next Pea Next Pk Rig Next Pk Lo Marker De
isg RF 50 Ω AC arker 1 24.9579677989 ac ac ac 0 dB/div Ref 20.00 dBm ac ac ac 0 0 ac ac ac ac ac ac 0 0 ac ac <td>PNO: Fast IFGain:Low</td> <td>SENSE:INT</td> <td>ALIGN AUTO Avg Type: Log-Pwr Avg Hold:>100/100 Mkr</td> <td>TRACE 12 3 4 5 6 TYPE WWWWW DET NNNNN N 1 24.958 0 GHz -38.284 dBm</td> <td>Peak Search Next Pea Next Pk Rig Next Pk Lo Marker De Mkr→0</td>	PNO: Fast IFGain:Low	SENSE:INT	ALIGN AUTO Avg Type: Log-Pwr Avg Hold:>100/100 Mkr	TRACE 12 3 4 5 6 TYPE WWWWW DET NNNNN N 1 24.958 0 GHz -38.284 dBm	Peak Search Next Pea Next Pk Rig Next Pk Lo Marker De Mkr→0
id RF 50 Ω AC larker 1 24.9579677982 ac ac ac 0 dB/div Ref 20.00 dBm ac ac ac 0.0 ac ac ac ac ac ac 0.0 ac ac <td>PNO: Fast IFGain:Low</td> <td>SENSE:INT</td> <td>ALIGN AUTO Avg Type: Log-Pwr Avg Hold:>100/100 Mkr</td> <td>TRACE 12 3 4 5 6 TYPE WWWWW DET NNNNN N 1 24.958 0 GHz -38.284 dBm</td> <td>Peak Search Next Pea Next Pk Rig Next Pk Lo Marker De Mkr→C</td>	PNO: Fast IFGain:Low	SENSE:INT	ALIGN AUTO Avg Type: Log-Pwr Avg Hold:>100/100 Mkr	TRACE 12 3 4 5 6 TYPE WWWWW DET NNNNN N 1 24.958 0 GHz -38.284 dBm	Peak Search Next Pea Next Pk Rig Next Pk Lo Marker De Mkr→C
Image: sign of the sector of the s	PNO: Fast IFGain:Low	SENSE:INT	Aug Type: Log-Pwr Avg Hold:>100/100 Mkr	TRACE 12 3 4 5 6 TYPE WWWWW DET NNNNN N 1 24.958 0 GHz -38.284 dBm	Peak Search Next Pea Next Pk Righ Next Pk Lee Marker Def Mkr→Ref L Moi 1 of

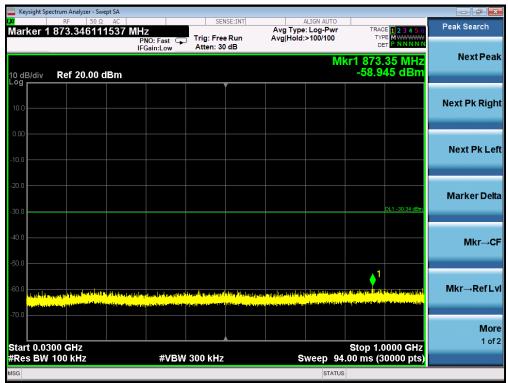


TEST PLOT OF OUT OF BAND EMISSIONS WITH THE WORST CASE OF 802.11n20 FOR MODULATION IN LOW CHANNEL

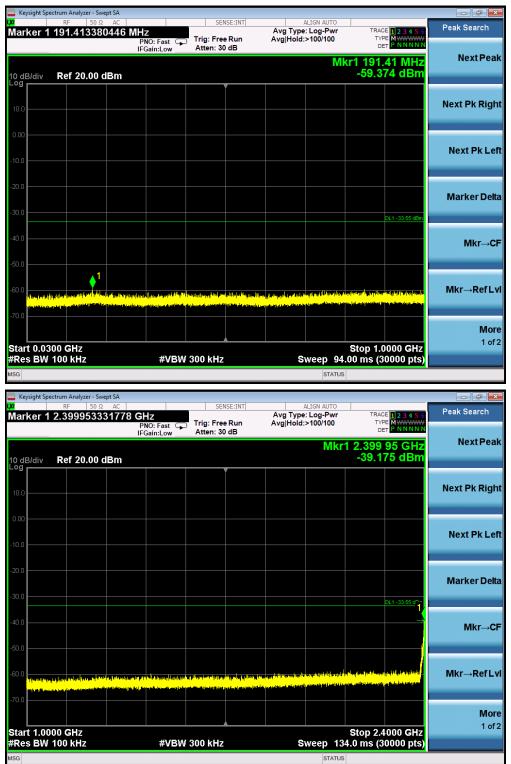


TEST PLOT OF OUT OF BAND EMISSIONS THE WORST CASE

OF 802.11n20 FOR MODULATION IN MIDDLE CHANNEL

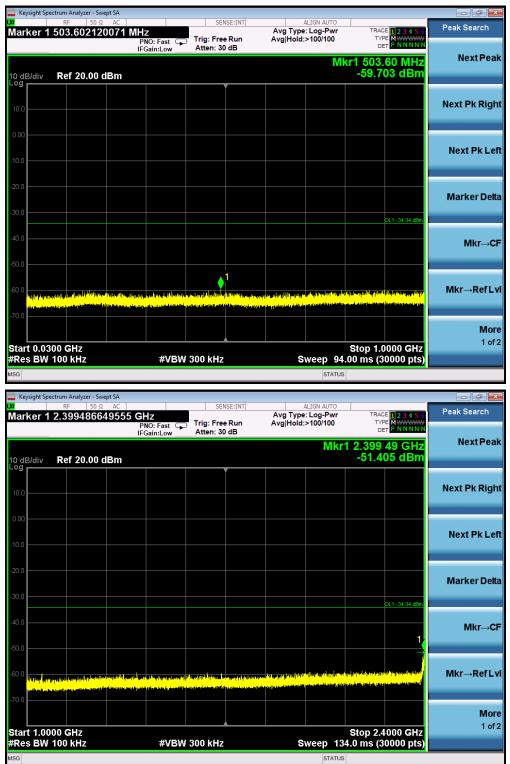


Keysight Spectrum An	alyzer - Swept SA 50 Ω AC		SENSE:INT		ALIGN AUTO			
larker 1 2.39′	1366378879 G	Hz PNO: Fast 😱		Avg Type	e: Log-Pwr l:>100/100	TRACE	23456 WWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWW	Peak Search
		FGain:Low	Atten: 30 dB		Mkr1	2.391 37 -57.657	GHz	Next Pea
0 dB/div Ref :	20.00 UBIII		Ť					
10.0								Next Pk Rig
0.00								Next Pk Le
20.0								Morker Del
30.0						DL1	-30,34 dBm	Marker Del
40.0								Mkr→C
	centres any marked in the first life inclusion of	e (p. 1. soul i de l'en de la level se de la compañía de la compañía de la compañía de la compañía de la comp						Mkr→RefL
70.0	ر زاری است. بر مان عبال به منظم هرا (به _{اس} و مان _ا و مان _ا	a, di Silanda ya Antoni di Katang da P		an in staat of the state in the state of the				Мо
Start 1.0000 GH Res BW 100 k		#VBW	300 kHz		Sween 134	Stop 2.400 .0 ms (300	0 GHz	1 of
					JWCCD 134.		UU DIS	
SG					STATUS		oo prsj	
ISG							oo prsj	
Keysight Spectrum An	alyzer - Swept SA 50 Ω AC		SENSE:INT	Avg Type	STATUS ALIGN AUTO e: Log-Pwr	TRACE	2 3 4 5 6	Peak Search
Keysight Spectrum An	alyzer - Swept SA 50 Ω AC 94745974866		SENSE:INT	Avg Type	STATUS ALIGN AUTO	TRACE	2 3 4 5 6 WWWWW N N N N N	Peak Search
Reysight Spectrum An RF Iarker 1 24.99	alyzer - Swept SA 50 Ω AC 94745974866	GHz PNO: Fast 😱	SENSE:INT	Avg Type	ALIGN AUTO e: Log-Pwr i:>100/100	TRACE		Peak Search
Keysight Spectrum An RF Marker 1 24.99	alyzer - Swept SA 50 Ω AC 94745974866 1 1	GHz PNO: Fast 😱	SENSE:INT	Avg Type	ALIGN AUTO e: Log-Pwr i:>100/100	TRACE 1 TYPE M DET P 24.994 7	23456 WWWWW NNNNN	Peak Search Next Pea
Code Content of the sector of	alyzer - Swept SA 50 Ω AC 94745974866 1 1	GHz PNO: Fast 😱	SENSE:INT	Avg Type	ALIGN AUTO e: Log-Pwr i:>100/100	TRACE 1 TYPE M DET P 24.994 7	23456 WWWWW NNNNN	Peak Search Next Pea Next Pk Rig
Keysight Spectrum An RF Aarker 1 24.99 0 dB/div Ref 1 9	alyzer - Swept SA 50 Ω AC 94745974866 1 1	GHz PNO: Fast 😱	SENSE:INT	Avg Type	ALIGN AUTO e: Log-Pwr i:>100/100	TRACE 1 TYPE M DET P 24.994 7	23456 WWWWW NNNNN	Peak Search Next Pea Next Pk Rig Next Pk Le
Keysight Spectrum An RF Aarker 1 24.99 0 dB/div Ref 10 0	alyzer - Swept SA 50 Ω AC 94745974866 1 1	GHz PNO: Fast 😱	SENSE:INT	Avg Type	ALIGN AUTO e: Log-Pwr i:>100/100	TRACE 1 TYPE M DET P 24.994 7	23456 WWWWW NNNNN	Peak Search Next Pea Next Pk Rig Next Pk Le
Keysight Spectrum An RF Aarker 1 24.95 0 dB/div Ref 1 0 0	alyzer - Swept SA 50 Ω AC 94745974866 1 1	GHz PNO: Fast 😱	SENSE:INT	Avg Type	ALIGN AUTO e: Log-Pwr I:>100/100 Mkr1	TRACE 1 TYPE M DET P 24.994 7	23456 ********* NNNN GHz dBm 	Peak Search Next Pea Next Pk Rig Next Pk Le Marker De
Keysight Spectrum An RF Aarker 1 24.99 0 dB/div Ref 10.0	alyzer - Swept SA 50 Ω AC 94745974866 11 20.00 dBm	GHZ PNO: Fast Galn:Low	SENSE:INT	Avg Type Avg Hold	ALIGN AUTO e: Log-Pwr I:>100/100 Mkr1	TRACE TYPE M TYPE M DET P 24.994 7 -38.068	23456 ********* NNNN GHz dBm 	Peak Search Next Pea Next Pk Rig Next Pk Le Marker Del Mkr-C
Keysight Spectrum An RF Aarker 1 24.99 0 dB/div Ref 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	alyzer - Swept SA 50 Ω AC 94745974866 11 20.00 dBm	GHZ PNO: Fast Galn:Low	SENSE:INT	Avg Type Avg Hold	ALIGN AUTO e: Log-Pwr I:>100/100 Mkr1	TRACE TYPE M TYPE M DET P 24.994 7 -38.068	2 3 4 5 6 WNNNN GHz dBm 	



TEST PLOT OF OUT OF BAND EMISSIONS THE WORST CASE OF 802.11n20 FOR MODULATION IN HIGH CHANNEL

- 5							trum Analyzer - Sv	Keysight Sp
Peak Search	TRACE 1 2 3 4 5 6 TYPE M WWWWW DET P N N N N N	ALIGN AUTO e: Log-Pwr d:>100/100			GHz PNO: Fast G	F	RF 50 € 24.259182	a Marker 1
Next Pea	24.259 2 GHz -37.994 dBm	Mkr			Gam.Low		Ref 20.00	10 dB/div
Next Pk Righ								10.0
Next Pk Le								10.00
Marker Del	DL1 -33 55(1)							20.0 30.0
Mkr→C			i du seletite		1. State of the Association	i alifett det aliget d		40.0
Mkr→RefL								60.0
Mo r 1 of	Stop 25.00 GHz 00 ms (30000 pts)	Sweep 58		3.0 MHz	#VBW			70.0 Start 2.48 Res BW
		STATUS						ISG



TEST PLOT OF OUT OF BAND EMISSIONS WITH THE WORST CASE OF 802.11n40 FOR MODULATION IN LOW CHANNEL

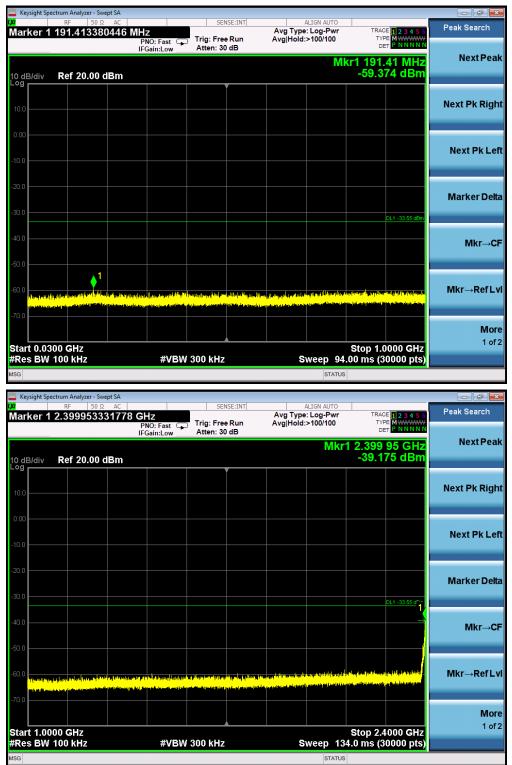


TEST PLOT OF OUT OF BAND EMISSIONS THE WORST CASE

OF 802.11n40 FOR MODULATION IN MIDDLE CHANNEL



Keysight Spectrum Analyzer - Swe RF 50 Ω	AC	SENSE:INT	ALIGN AUTO		Peak Search
larker 1 2.39505310	68439 GHz PNO: Fast IFGain:Low	Trig: Free Run Atten: 30 dB	Avg Type: Log-Pwr Avg Hold:>100/100	TRACE 123456 TYPE MWWWW DET PNNNNN	T ear Search
	IFGall.Low	Allen. oo dB	Mkr1	2.395 05 GHz	NextPea
odB/div Ref 20.00 c	lBm	.		-54.119 dBm	
10.0					Next Pk Rig
10.0					J
0.00					
10.0					Next Pk Lo
20.0					
					Marker De
30.0				DL1 -33.70 dBm	
40.0					Mkr→0
50.0				1	
50.0	in part in the second se	da Marshallow Dherry Ipsin (Parent)) in particular operation of the second s Second second	y den e fan de fan y den e fan de fan d	Mkr→RefL
70.0					
					Mo
4 4 9 9 9 9 9 1					1 0
	#VB1	N 300 kHz	Sweep 134	Stop 2.4000 GHz .0 ms (30000 pts)	1 of
Start 1.0000 GHz Res BW 100 kHz	#VBI	W 300 kHz	Sweep 134	Stop 2.4000 GHz .0 ms (30000 pts)	1 of
Res BW 100 kHz SG Keysight Spectrum Analyzer - Swe	ept SA		Sweep 134	Stop 2.4000 GHz .0 ms (30000 pts)	
Res BW 100 kHz sg keysight Spectrum Analyzer - Sw RF 50 Ω	ept SA AC 474483 GHz	SENSE:INT	Sweep 134	.0 ms (30000 pts)	
Res BW 100 kHz GG Keysight Spectrum Analyzer - Swe	ept SA	SENSE:INT	Sweep 134 status Augn auto Avg Type: Log-Pwr Avg Hold:>100/100	.0 ms (30000 pts) TRACE 1 2 3 4 5 6 TYPE M	ा छ। Peak Search
Res BW 100 kHz 3G Keysight Spectrum Analyzer - Swe RF 50 Ω Jarker 1 24.9797344 0 dB/div Ref 20.00 c	AC AC 474483 GHz PN0: Fast IFGain:Low	SENSE:INT	Sweep 134 status Augn auto Avg Type: Log-Pwr Avg Hold:>100/100	.0 ms (30000 pts)	Peak Search
Res BW 100 kHz sa Keysight Spectrum Analyzer - Swe RF 50 Ω Iarker 1 24.9797344 0 dB/div Ref 20.00 c	AC AC 474483 GHz PN0: Fast IFGain:Low	SENSE:INT	Sweep 134 status Augn auto Avg Type: Log-Pwr Avg Hold:>100/100	.0 ms (30000 pts)	Peak Search Next Pea
Res BW 100 kHz 3G Keysight Spectrum Analyzer - Swe RF 50 Ω Iarker 1 24.9797344 0 dB/div Ref 20.00 c	AC AC 474483 GHz PN0: Fast IFGain:Low	SENSE:INT	Sweep 134 status Augn auto Avg Type: Log-Pwr Avg Hold:>100/100	.0 ms (30000 pts)	Peak Search Next Pea
Res BW 100 kHz sa Keysight Spectrum Analyzer - Swe RF 50 Ω larker 1 24.9797344 0 dB/div Ref 20.00 c 10 0 10 0	AC AC 474483 GHz PN0: Fast IFGain:Low	SENSE:INT	Sweep 134 status Augn auto Avg Type: Log-Pwr Avg Hold:>100/100	.0 ms (30000 pts)	Peak Search Next Pea
Res BW 100 kHz 3G Keysight Spectrum Analyzer - Swe RF 50 Ω Jarker 1 24.9797344 0 dB/div Ref 20.00 c 0 0 dB/div Ref 20.00 c	AC AC 474483 GHz PN0: Fast IFGain:Low	SENSE:INT	Sweep 134 status Augn auto Avg Type: Log-Pwr Avg Hold:>100/100	.0 ms (30000 pts)	Peak Search Next Pea Next Pk Rig
Res BW 100 kHz sa keysight Spectrum Analyzer - Swe RF 50 Ω Marker 1 24.9797344 0 dB/div Ref 20.00 c 0 0 0 10 0 0	AC AC 474483 GHz PN0: Fast IFGain:Low	SENSE:INT	Sweep 134 status Augn auto Avg Type: Log-Pwr Avg Hold:>100/100	.0 ms (30000 pts)	Peak Search Next Pea Next Pk Rig
Res BW 100 kHz sa keysight Spectrum Analyzer - Swe RF 50 Ω Marker 1 24.9797344 0 dB/div Ref 20.00 c 0 0 0 10 0 0	AC AC 474483 GHz PN0: Fast IFGain:Low	SENSE:INT	Sweep 134 status Augn auto Avg Type: Log-Pwr Avg Hold:>100/100	.0 ms (30000 pts)	Peak Search Next Pea Next Pk Rig Next Pk Le
Res BW 100 kHz sa keysight Spectrum Analyzer - Swe RF 50 Ω Marker 1 24.9797344 0 dB/div Ref 20.00 c	AC AC 474483 GHz PN0: Fast IFGain:Low	SENSE:INT	Sweep 134 status Augn auto Avg Type: Log-Pwr Avg Hold:>100/100	.0 ms (30000 pts)	Peak Search Next Pea Next Pk Rig Next Pk Le
Res BW 100 kHz sc Keysight Spectrum Analyzer - Swa RF S0 Ω larker 1 24.9797344 0 dB/div Ref 20.00 c 9 10 0 10 0	AC AC 474483 GHz PN0: Fast IFGain:Low	Trig: Free Run Atten: 30 dB	Sweep 134	0 ms (30000 pts)	Peak Search Next Pea Next Pk Rig Next Pk Lu
Res BW 100 kHz G G Keysight Spectrum Analyzer - Swe RF S0 Q Iarker 1 24.9797344 0 dB/div Ref 20.00 c 9 10 0 10 0 10 0 10 0 10 0 10 0 10 0 1	AC AC 474483 GHz PN0: Fast IFGain:Low	Trig: Free Run Atten: 30 dB	Sweep 134	.0 ms (30000 pts)	Peak Search Next Pea Next Pk Rig Next Pk Lo Marker De
Res BW 100 kHz SG Keysight Spectrum Analyzer - Swe RF 50 Q Aarker 1 24.9797344 0 dB/div Ref 20.00 c 00 8 0 dB/div Ref 20.00 c 0 0 9 10 0 <	AC AC 474483 GHz PN0: Fast IFGain:Low	Trig: Free Run Atten: 30 dB	Sweep 134	0 ms (30000 pts)	Peak Search Next Pea Next Pk Rig Next Pk Lo Marker De
Res BW 100 kHz sg Keysight Spectrum Analyzer - Swe RF 50 Ω Narker 1 24.9797344	AC AC 474483 GHz PN0: Fast IFGain:Low	Trig: Free Run Atten: 30 dB	Sweep 134	0 ms (30000 pts)	Peak Search Next Pea Next Pk Rig Next Pk Lo Marker De Mkr-o
Res BW 100 kHz SG Keysight Spectrum Analyzer - Swether Spectrum Analyzer -	AC AC 474483 GHz PN0: Fast IFGain:Low	Trig: Free Run Atten: 30 dB	Sweep 134	0 ms (30000 pts)	Peak Search Next Pea Next Pk Rig Next Pk Lo Marker De Mkr-o
Res BW 100 kHz SG PF S0 Q Arker 1 24.9797344 PF S0 Q 0 dB/div Ref 20.00 c P 10 0 P S0 Q 10 0 P S0 Q 10 0 P S0 Q 10 0 P P 10 0 P	AC AC 474483 GHz PN0: Fast IFGain:Low	Trig: Free Run Atten: 30 dB	Sweep 134	0 ms (30000 pts)	Peak Search Next Peak Next Pk Rig Next Pk Lu Marker De Mkr→Ref L Mkr→Ref L
Res BW 100 kHz SG Reysight Spectrum Analyzer - Sweether Analyzer - Sweether Spectrum	ept SA AC PNO: Fast IFGain:Low IBM	Trig: Free Run Atten: 30 dB	Sweep 134	0 ms (30000 pts)	



TEST PLOT OF OUT OF BAND EMISSIONS THE WORST CASE OF 802.11n40 FOR MODULATION IN HIGH CHANNEL

							ectrum Analyzer - S	Keysight S
Peak Search	TRACE 1 2 3 4 5 6 TYPE M WWWWW	ALIGN AUTO /pe: Log-Pwr old:>100/100				Ω AC 2456082	RF 50	<mark>v</mark> Marker ′
NextPeak	DET P NNNNN		Avgin	Atten: 3	PNO: Fast G			
Nextreak	24.259 2 GHz -37.994 dBm	Mkr1				dBm	Ref 20.00	10 dB/div
Next Pk Right								10.0
Next Pk Lef								0.00
Marker Delta								-10.0
Warker Deita	DL1 -33.55 c 1 I							-30.0
Mkr→CF						a dita da da		-40.0 -50.0 <mark>N-,///</mark> -
Mkr→RefLv								-60.0
More 1 of 2	Stop 25.00 GHz							-70.0
	00 ms (30000 pts)	Sweep 58.		3.0 MHz	#VBW		1.0 MHz	
		STATUS						ISG

Note: The 100kHz RBW used in the conducted spurious test from 2.4835GHz to 25GHz may result in long measuring times, To avoid such long measuring times, the 1MHz RBW can be used for pre-test. If the emission level exceeded the limit at one or more frequencies, the 100kHz RBW would be used for final test at the special frequency.

10. MAXIMUM CONDUCTED OUTPUT 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 AVPSD in the KDB 558074 and KDB 662911 item 10.3 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

Ant0	:
/	•

Channel No.	PSD (dBm/20kHz)	Limit (dBm/3kHz)	Result
Low Channel	-1.565	8	Pass
Middle Channel	-0.640	8	Pass
High Channel	-0.886	8	Pass

Ant1:

Channel No.	PSD (dBm/20kHz)	Limit (dBm/3kHz)	Result
Low Channel	-3.854	8	Pass
Middle Channel	-2.801	8	Pass
High Channel	-2.541	8	Pass

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

Ant0:

Channel No.	PSD (dBm/20kHz)	Limit (dBm/3kHz)	Result
Low Channel	-6.068	8	Pass
Middle Channel	-5.491	8	Pass
High Channel	-5.181	8	Pass

Ant1:

Channel No.	PSD (dBm/20kHz)	Limit (dBm/3kHz)	Result
Low Channel	-7.377	8	Pass
Middle Channel	-6.655	8	Pass
High Channel	-6.758	8	Pass

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

Ant0:

Channel No.	PSD (dBm/20kHz)	Limit (dBm/3kHz)	Result
Low Channel	-6.048	8	Pass
Middle Channel	-6.234	8	Pass
High Channel	-6.441	8	Pass

Ant1:

Channel No.	PSD (dBm/20kHz)	Limit (dBm/3kHz)	Result
Low Channel	-8.250	8	Pass
Middle Channel	-7.385	8	Pass
High Channel	-7.598	8	Pass

SUM:

Channel No.	PSD (dBm/20kHz)	Limit (dBm/3kHz)	Result
Low Channel	-4.001	8	Pass
Middle Channel	-3.761	8	Pass
High Channel	-3.971	8	Pass

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

Ant0:

Channel No.	PSD (dBm/20kHz)	Limit (dBm/3kHz)	Result
Low Channel	-7.453	8	Pass
Middle Channel	-8.741	8	Pass
High Channel	-8.220	8	Pass

Ant1:

Channel No.	PSD (dBm/20kHz)	Limit (dBm/3kHz)	Result
Low Channel	-6.725	8	Pass
Middle Channel	-10.506	8	Pass
High Channel	-8.205	8	Pass

SUM:

Channel No.	PSD (dBm/20kHz)	Limit (dBm/3kHz)	Result
Low Channel	-4.063	8	Pass
Middle Channel	-6.524	8	Pass
High Channel	-5.202	8	Pass

NOTE: EUT can working at 802.11b/g/n mode by used two antenna (ant0+ant1), but at 802.11b/g mode EUT cannot use two antenna at the same time, only at 802.11n mimo mode two antenna (ant0+ant1) work at the same time.

802.11b TEST RESULT-Ant0:



TEST PLOT OF SPECTRAL DENSITY FOR LOW CHANNEL

TEST PLOT OF SPECTRAL DENSITY FOR MIDDLE CHANNEL





TEST PLOT OF SPECTRAL DENSITY FOR HIGH CHANNEL

802.11b TEST RESULT-Ant1:

TEST PLOT OF SPECTRAL DENSITY FOR LOW CHANNEL



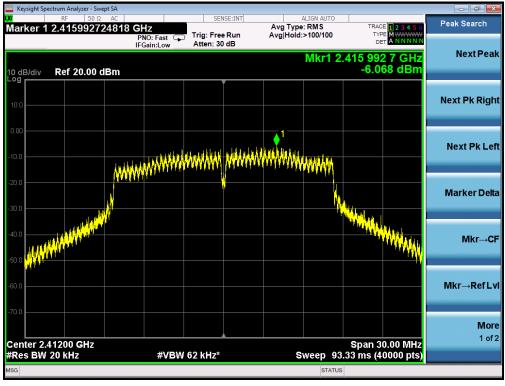


TEST PLOT OF SPECTRAL DENSITY FOR MIDDLE CHANNEL

TEST PLOT OF SPECTRAL DENSITY FOR HIGH CHANNEL

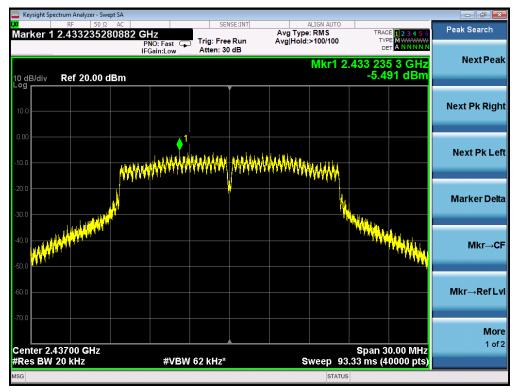


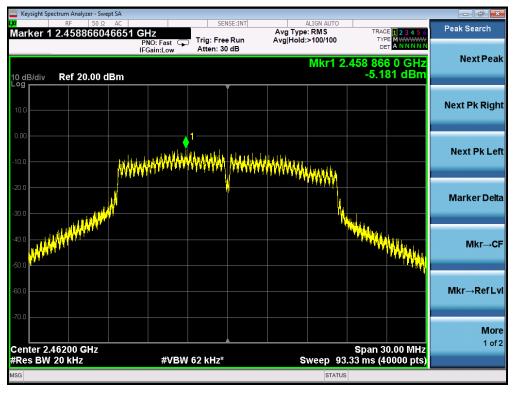
802.11g TEST RESULT-Ant0:



TEST PLOT OF SPECTRAL DENSITY FOR LOW CHANNEL

TEST PLOT OF SPECTRAL DENSITY FOR MIDDLE CHANNEL

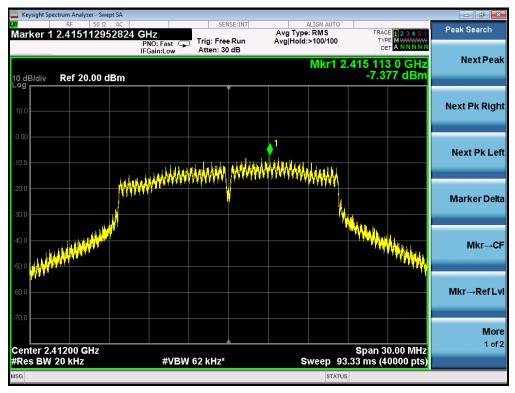


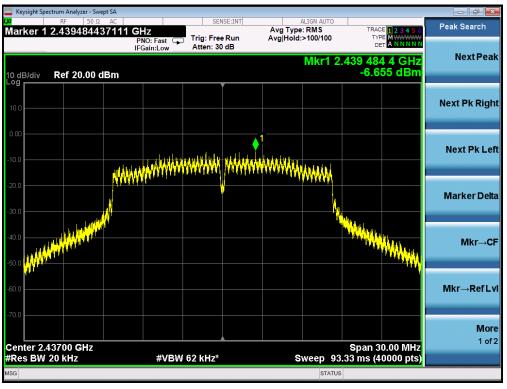


TEST PLOT OF SPECTRAL DENSITY FOR HIGH CHANNEL

802.11g TEST RESULT-Ant1:

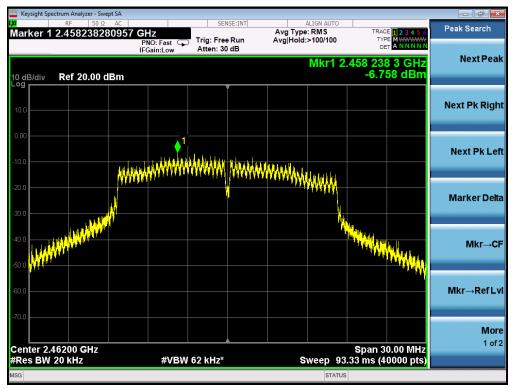
TEST PLOT OF SPECTRAL DENSITY FOR LOW CHANNEL



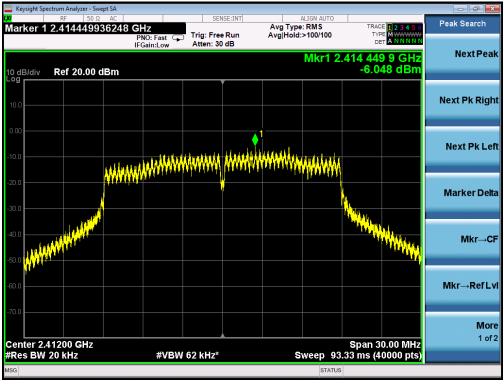


TEST PLOT OF SPECTRAL DENSITY FOR MIDDLE CHANNEL



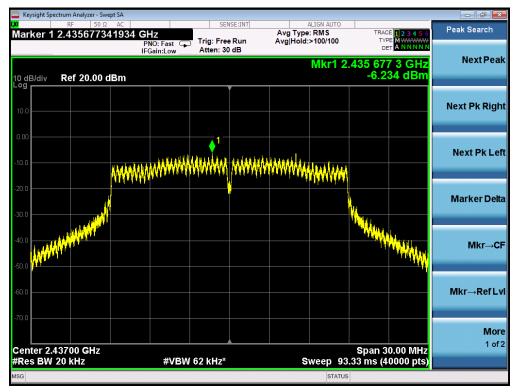


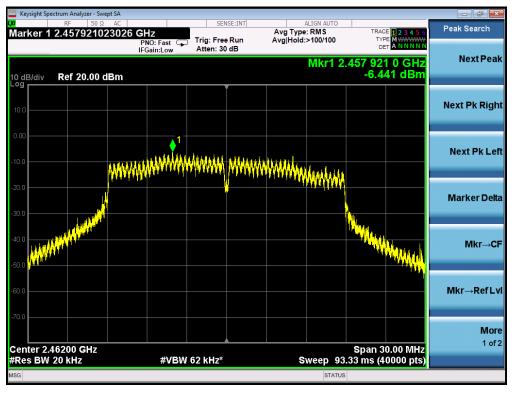
802.11n 20 TEST RESULT-Ant0:



TEST PLOT OF SPECTRAL DENSITY FOR LOW CHANNEL

TEST PLOT OF SPECTRAL DENSITY FOR MIDDLE CHANNEL

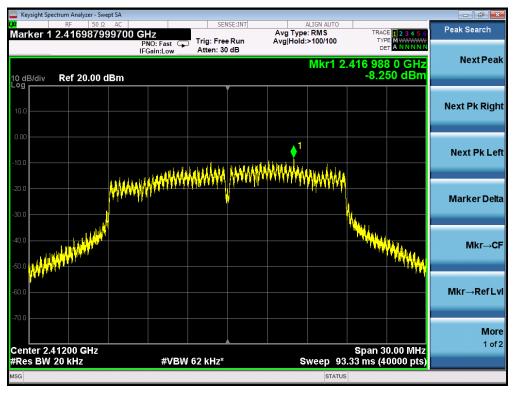


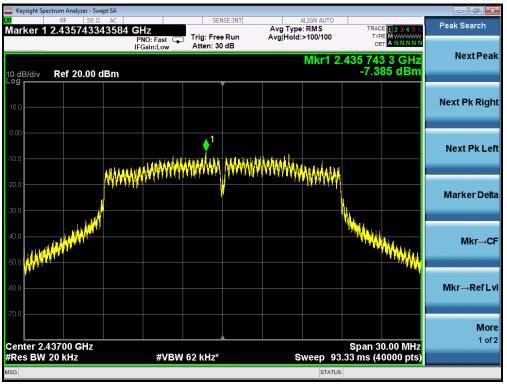


TEST PLOT OF SPECTRAL DENSITY FOR HIGH CHANNEL

802.11n20 TEST RESULT-Ant1:

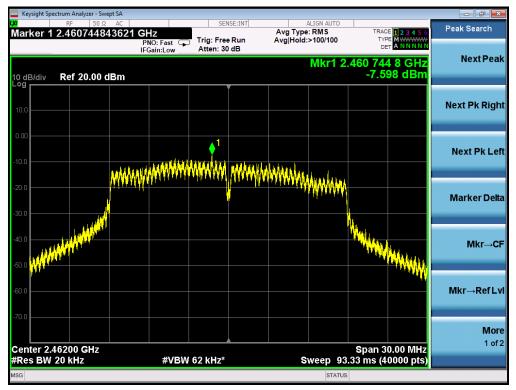
TEST PLOT OF SPECTRAL DENSITY FOR LOW CHANNEL



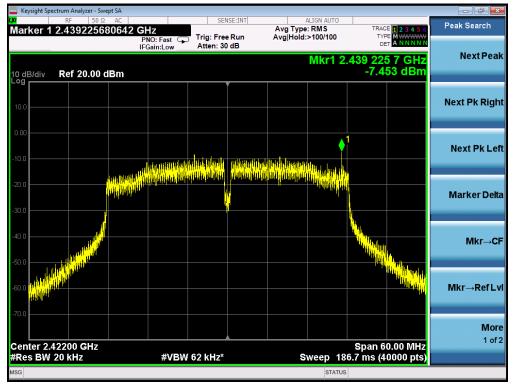


TEST PLOT OF SPECTRAL DENSITY FOR MIDDLE CHANNEL

TEST PLOT OF SPECTRAL DENSITY FOR HIGH CHANNEL

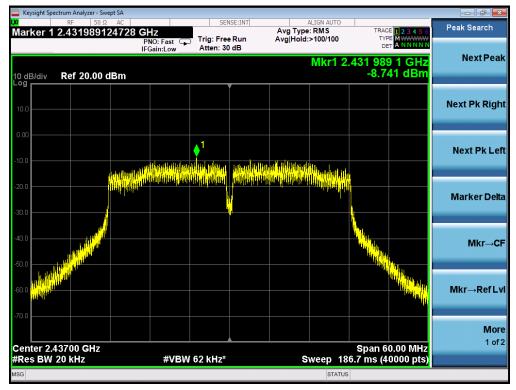


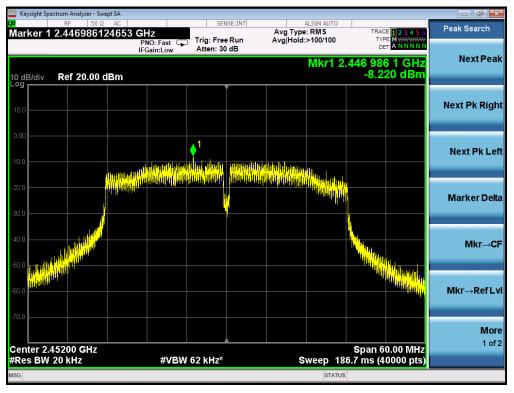
802.11n 40 TEST RESULT-Ant0:



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-Ant1:

TEST PLOT OF SPECTRAL DENSITY FOR LOW CHANNEL

