FCC PART 15 SUBPART C
ISED RSS-247 ISSUE 2

CERTIFICATION TEST REPORT

For

Sengled Wifi Module

MODEL NUMBER: WF862

FCC ID: 2AGN8-WF862

IC: 20888-WF862

REPORT NUMBER: 4789788152.3.1-F2

ISSUE DATE: Mar 31, 2021

Prepared for

Sengled Co., Ltd.
Room 201/15,Building 1, No.498, Guoshoujing Road, Pilot Free Trade Zone,
Shanghai City,China 201203

Prepared by

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The results reported herein have been performed in accordance with the laboratory's terms of accreditation. This report shall not be reproduced except in full without the written approval of the Laboratory. The results in this report apply to the test sample(s) mentioned above at the time of the testing period only and are not to be used to indicate applicability to other similar products. This report does not imply that the product(s) has met the criteria for certification.

Revision History

Rev.	Issue Date	Revisions	Revised By
--	03/31/2021	Initial Issue	--

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Summary of Test Results			
Clause	**Test Items**	**FCC/IC Rules**	**Test Results**
1	6 dB Bandwidth and 99% Bandwidth	FCC Part 15.247 (a) (2) RSS-247 Clause 5.2 (a) RSS-Gen Clause 6.7	Pass
2	Conducted Output Power	FCC Part 15.247 (b) (3) RSS-247 Clause 5.4 (d)	Pass
3	Power Spectral Density	FCC Part 15.247 (e) RSS-247 Clause 5.2 (b)	Pass
4	Conducted Bandedge and Spurious Emission	FCC Part 15.247 (d) RSS-247 Clause 5.5	Pass
5	Radiated Bandedge and Spurious Emission	FCC Part 15.247 (d) FCC Part 15.209 FCC Part 15.205 RSS-247 Clause 5.5 RSS-GEN Clause 8.9	Pass
6	Conducted Emission Test For AC Power Port	FCC Part 15.207 RSS-GEN Clause 8.8	Pass
7	Antenna Requirement	FCC Part 15.203 RSS-GEN Clause 6.8	Pass
Remark: 1) The measurement result for the sample received is <Pass> according to < CFR 47 FCC PART 15 SUBPART C, when <Accuracy Method> decision rule is applied.			

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1. ATTESTATION OF TEST RESULTS

Applicant Information

Company Name:	Sengled Co., Ltd.
Address:	Room 201/15,Building 1, No.498, Guoshoujing Road, Pilot Free Trade Zone, Shanghai City,China 201203

Manufacturer Information

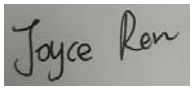
Company Name:	Sengled Co., Ltd.
Address:	Room 201/15,Building 1, No.498, Guoshoujing Road, Pilot Free Trade Zone, Shanghai City,China 201203

EUT Description

EUT Name:	Sengled Wifi Module
Model:	WF862
Brand Name:	sengled
Sample Status:	Normal
Sample ID:	N/A
Sample Received Date:	Mar 01, 2021
Date of Tested:	Mar 01, 2021 ~ Mar 31, 2021

APPLICABLE STANDARDS	
STANDARD	**TEST RESULTS**
FCC Part 15 Subpart C	PASS
ISED RSS-247 Issue 2	PASS
ISED RSS-GEN Issue 5	PASS

Prepared By:

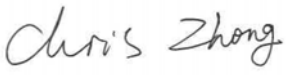


Joyce Ren
Engineer

Reviewed By:

Shawn Wen
Laboratory Leader

Authorized By:



Chris Zhong
Laboratory Manager

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2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with 558074 D01 15.247 Meas Guidance v05r02, 414788 D01 Radiated Test Site v01r01, FCC CFR 47 Part 2, FCC CFR 47 Part 15, ANSI C63.10-2013, ISED RSS-247 Issue 2 and ISED RSS-GEN Issue 5.

3. FACILITIES AND ACCREDITATION

Accreditation Certificate	**A2LA (Certificate No.: 4338.01)** Shenzhen STS Test Services Co., Ltd. has been assessed and proved to be in compliance with A2LA. **CNAS (Registration No.: L7649)** Shenzhen STS Test Services Co., Ltd. has been assessed and proved to be in compliance with CNAS. **FCC (FCC Designation No.: 625569)** Shenzhen STS Test Services Co., Ltd. has been recognized to perform compliance testing on equipment subject to the Commission's Delcaration of Conformity (DoC) and Certification rules **IC(Company No.: 12108A)** Shenzhen STS Test Services Co., Ltd. has been registered and fully described in a report filed with Industry Canada. The Company Number is 12108A.

Note: All tests measurement facilities use to collect the measurement data are located at A 1/F, Building B, Zhuoke Science Park, No.190 Chongqing Road, HepingShequ, Fuyong Sub-District, Bao'an District, Shenzhen, Guang Dong, China

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4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations, and is traceable to recognize national standards.

4.2. MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement y ± U, where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95 %.

No.	Item	Uncertainty
1	RF output power, conducted	±0.7dB
2	Unwanted Emissions, conducted	±3.0dB
3	All emissions, radiated 9K-30MHz	±2.7dB
4	All emissions, radiated 30M-1GHz	±4.4dB
5	All emissions, radiated 1G-6GHz	±5.1dB
6	All emissions, radiated>6G	±5.5dB
7	Conducted Emission (9KHz-150KHz)	±2.8dB
8	Conducted Emission (150KHz-30MHz)	±2.8dB

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5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

EUT Name	Sengled Wifi Module
EUT Description	The EUT is a Sengled Wifi Module.
Model	WF862
Radio Technology	IEEE802.11b/g/n HT20
Operation frequency	IEEE 802.11b: 2412MHz—2462MHz IEEE 802.11g: 2412MHz—2462MHz IEEE 802.11n HT20: 2412MHz—2462MHz
Modulation	IEEE 802.11b: DSSS(CCK) IEEE 802.11g: OFDM(64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n HT20: OFDM (64QAM, 16QAM, QPSK,BPSK)
Power Supply	Input: DC 3.3V
Hardware Version	V1
Software Version	V6

5.2. MAXIMUM OUTPUT POWER

Frequency Range (MHz)	Number of Transmit Chains (NTX)	IEE Std. 802.11	Frequency (MHz)	Channel Number	Max average Conducted Power (dBm)
2400-2483.5	1	IEEE 802.11b	2412-2462	1-11[11]	15.75
2400-2483.5	1	IEEE 802.11g	2412-2462	1-11[11]	11.35
2400-2483.5	1	IEEE 802.11nHT20	2412-2462	1-11[11]	11.33

5.3. CHANNEL LIST

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
802.11b/g/n(20MHz)					
1	2412	5	2432	9	2452
2	2417	6	2437	10	2457
3	2422	7	2442	11	2462
4	2427	8	2447	N/A	N/A

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5.4. TEST CHANNEL CONFIGURATION

Test Mode	Test Channel	Frequency
WiFi TX(802.11b)	CH 1, CH 6, CH 11	2412MHz, 2437MHz, 2462MHz
WiFi TX(802.11g)	CH 1, CH 6, CH 11	2412MHz, 2437MHz, 2462MHz
WiFi TX(802.11n HT20)	CH 1, CH 6, CH 11	2412MHz, 2437MHz, 2462MHz

5.5. THE WORSE CASE CONFIGURATIONS

The Worse Case Power Setting Parameter under 2400 ~ 2483.5MHz Band							
Modulation Mode	Transmit Antenna Number	Test Channel					
		NCB: 20MHz			NCB: 40MHz		
		CH 1	CH 6	CH 11	CH 3	CH 6	CH 09
802.11b	1	35	35	35	N/A		
802.11g	1	35	35	35			
802.11n HT20	1	35	35	35			
802.11n HT40	N/A	N/A			N/A	N/A	N/A

5.6. DESCRIPTION OF AVAILABLE ANTENNAS

Ant.	Frequency (MHz)	Antenna Type	Antenna Gain (dBi)
1	2412-2472	PCB Antenna	1 (Provided by applicant)

Test Mode	Transmit and Receive Mode	Description
IEEE 802.11b	☒1TX, 1RX	Chain 1 can be used as transmitting/receiving antenna.
IEEE 802.11g	☒1TX, 1RX	Chain 1 can be used as transmitting/receiving antenna.
IEEE 802.11n HT20	☒1TX, 1RX	Chain 1 can be used as transmitting/receiving antenna.

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5.7. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Item	Equipment	Brand Name	Model Name	P/N
1	Notebook Adapter	DELL	HSTNN-CA15	N/A
2	Personal computer	DELL	VOSTRO.3800	N/A
3	Serial port board	N/A	N/A	N/A

I/O CABLES

Cable No	Port	Connector Type	Cable Type	Cable Length(cm)	Remarks
1	DC Cable	N/A	N/A	120cm	N/A

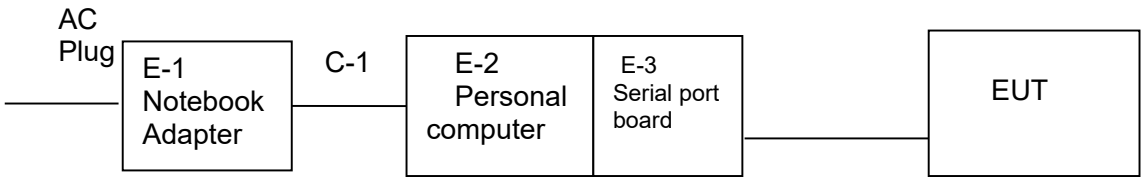
ACCESSORY

Item	Accessory	Brand Name	Model Name	Description
1	N/A	N/A	N/A	N/A

TEST SETUP

The EUT can work in engineering mode with firmware QRCT from QUALCOMM through a Laptop.

SETUP DIAGRAM FOR TESTS



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6. MEASURING INSTRUMENT AND SOFTWARE USED

Radiation Test equipment

Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
Test Receiver	R&S	ESCI	101427	2020.10.12	2021.10.11
Signal Analyzer	R&S	FSV 40-N	101823	2020.10.10	2021.10.09
Active loop Antenna	ZHINAN	ZN30900C	16035	2019.07.11	2021.07.10
Bilog Antenna	TESEQ	CBL6111D	34678	2020.10.12	2022.10.11
Horn Antenna	SCHWARZBECK	BBHA 9120D	02014	2019.10.15	2021.10.14
SHF-EHF Horn Antenna (18G-40GHz)	A-INFO	LB-180400-KF	J211020657	2020.10.12	2022.10.11
Pre-Amplifier (0.1M-3GHz)	EM	EM330	060665	2020.10.12	2021.10.11
Pre-Amplifier (1G-18GHz)	SKET	LNPA-01018G-45	SK2018080901	2020.10.12	2021.10.11
Pre-Amplifier (18G-40GHz)	SKET	LNPA-1840-50	SK2018101801	2020.10.10	2021.10.09
Temperature & Humidity	HH660	Mieo	N/A	2020.10.12	2021.10.11
Turn table	EM	SC100_1	60531	N/A	N/A
Antenna mast	EM	SC100	N/A	N/A	N/A
Band Reject Filter (2.4-2.5GHz)	COM-MW	ZBSF-2400-2500	N/A	2020.10.12	2021.10.11
Test SW	FARAD	EZ-EMC(Ver.STSLAB-03A1 RE)			

Conduction Test equipment

Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
Test Receiver	R&S	ESCI	101427	2020.10.12	2021.10.11
LISN	R&S	ENV216	101242	2020.10.12	2021.10.11
LISN	EMCO	3810/2NM	23625	2020.10.12	2021.10.11
Temperature & Humidity	HH660	Mieo	N/A	2020.10.13	2021.10.12
Test SW	FARAD	EZ-EMC(Ver.STSLAB-03A1 RE)			

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RF Connected Test

Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until
Power Sensor	Keysight	U2021XA	MY55520005	2020.10.10	2021.10.09
			MY55520006	2020.10.10	2021.10.09
			MY56120038	2020.10.10	2021.10.09
			MY56280002	2020.10.10	2021.10.09
Signal Analyzer	Agilent	N9020A	MY51110105	2021.03.04	2022.03.03
Temperature & Humidity	HH660	Mieo	N/A	2020.10.13	2021.10.12
MIMO Power measurement test Set	Keysight	U2021XA	MY55520005	2020.10.10	2021.10.09
Test SW	FARAD	EZ-EMC(Ver.STSLAB-03A1 RE)			

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7. MEASUREMENT METHODS

No.	Test Item	KDB Name	Section
1	6 dB Bandwidth and 99% Bandwidth	558074 D01 15.247 Meas Guidance v05r02	8.2
2	Conducted Output Power	558074 D01 15.247 Meas Guidance v05r02	8.1.3
3	Power Spectral Density	558074 D01 15.247 Meas Guidance v05r02	8.4
4	Out-of-band emissions in non-restricted bands	558074 D01 15.247 Meas Guidance v05r02	8.5
5	Out-of-band emissions in restricted bands	558074 D01 15.247 Meas Guidance v05r02	8.6
6	Band-edge	558074 D01 15.247 Meas Guidance v05r02	8.7
7	Conducted Emission Test For AC Power Port	ANSI C63.10-2013	6.2

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8. ANTENNA PORT TEST RESULTS

8.1. ON TIME AND DUTY CYCLE

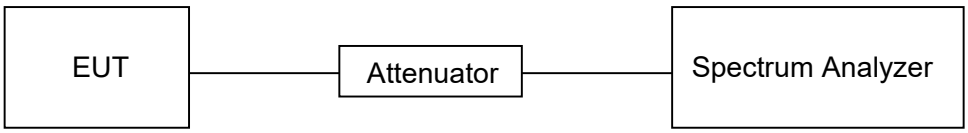
LIMITS

None; for reporting purposes only

PROCEDURE

KDB 558074 Zero-Span Spectrum Analyzer Method

TEST SETUP



TEST ENVIRONMENT

Temperature	25°C	Relative Humidity	60%
Atmosphere Pressure	101kPa	Test Voltage	DC 3.3V

RESULTS

Mode	On Time (msec)	Period (msec)	Duty Cycle x (Linear)	Duty Cycle (%)	Duty Cycle Correction Factor (db)	1/B Minimum VBW (KHz)
11b	12.480	12.510	0.9976	99.76	0.01	0.08
11g	2.085	2.195	0.9499	94.99	0.22	0.48
11n20	1.945	2.050	0.9488	94.88	0.23	0.51

Note: Duty Cycle Correction Factor=10log(1/x).
Where: x is Duty Cycle(Linear)
Where: B is On Time
When Duty Cycle > 98%, VBW ⩽ RBW/100; When Duty Cycle < 98%, VBW ⩾ 1/B;
Set the final test VBW = 2KHz;

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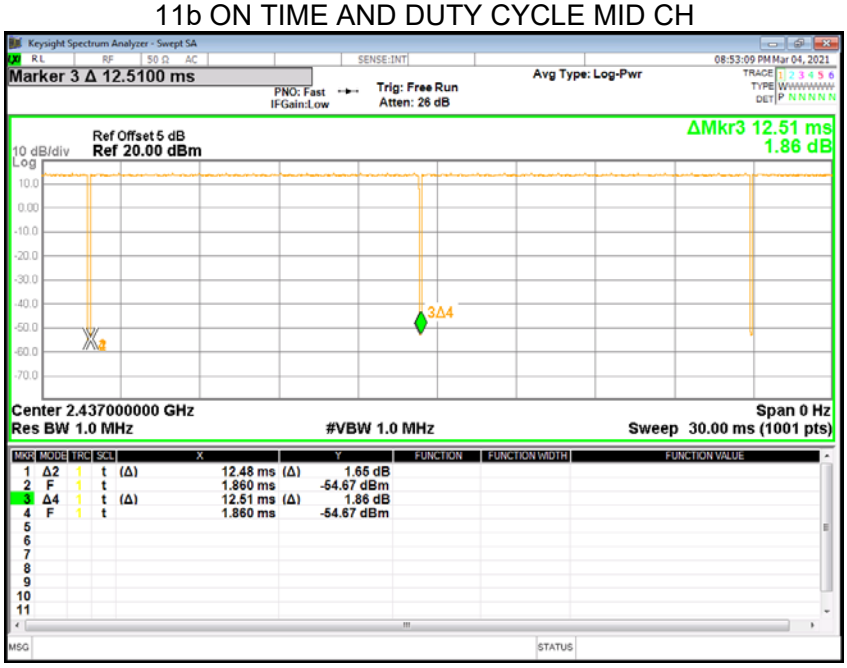
11b ON TIME AND DUTY CYCLE MID CH



11g ON TIME AND DUTY CYCLE MID CH

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11n HT20 ON TIME AND DUTY CYCLE MID CH

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8.2. 6 dB DTS BANDWIDTH AND 99% BANDWIDTH

LIMITS

FCC Part15 (15.247) Subpart C RSS-247 ISSUE 2			
Section	Test Item	Limit	Frequency Range (MHz)
FCC 15.247(a)(2) RSS-247 5.2 (a)	6 dB Bandwidth	>= 500KHz	2400-2483.5
RSS-Gen Clause 6.7	99% Bandwidth	For reporting purposes only.	2400-2483.5

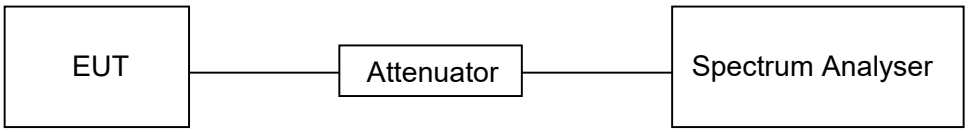
TEST PROCEDURE

Connect the UUT to the spectrum analyzer and use the following settings:

Center Frequency	The centre frequency of the channel under test
Detector	Peak
RBW	For 6dB Bandwidth :100K For 99% Bandwidth :1% to 5% of the occupied bandwidth
VBW	For 6dB Bandwidth : ≥3 × RBW For 99% Bandwidth : approximately 3×RBW
Trace	Max hold
Sweep	Auto couple

Allow the trace to stabilize and measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB and 99% relative to the maximum level measured in the fundamental emission.

TEST SETUP



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TEST ENVIRONMENT

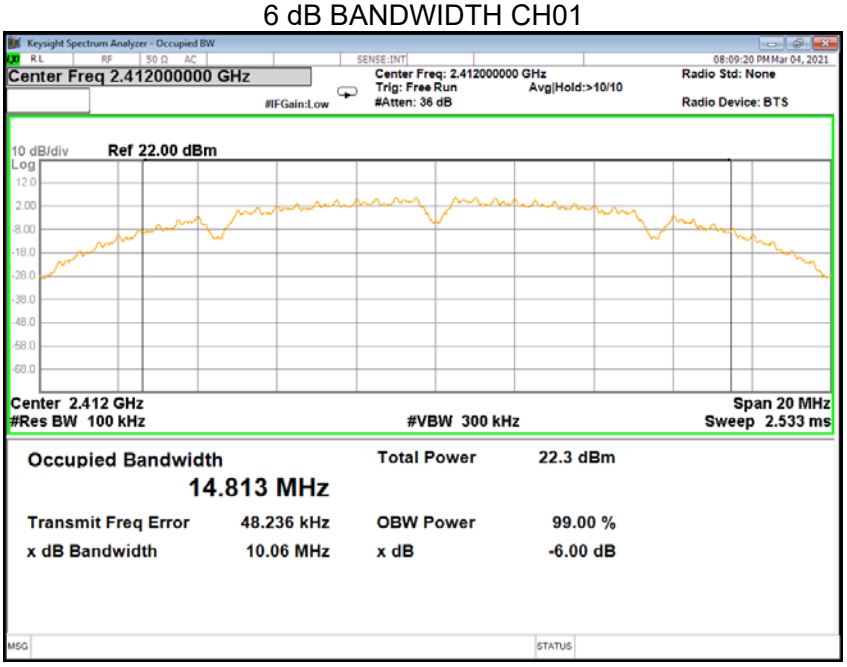
Temperature	25°C	Relative Humidity	60%
Atmosphere Pressure	101kPa	Test Voltage	DC 3.3V

RESULTS

8.2.1. 802.11b MODE

Channel	Frequency (MHz)	6dB bandwidth (MHz)	99% bandwidth (MHz)	Limit (kHz)	Result
CH01	2412	10.06	14.855	≥500KHz	Pass
CH06	2437	10.07	14.856	≥500KHz	Pass
CH11	2462	10.06	14.854	≥500KHz	Pass

6 dB BANDWIDTH CH01



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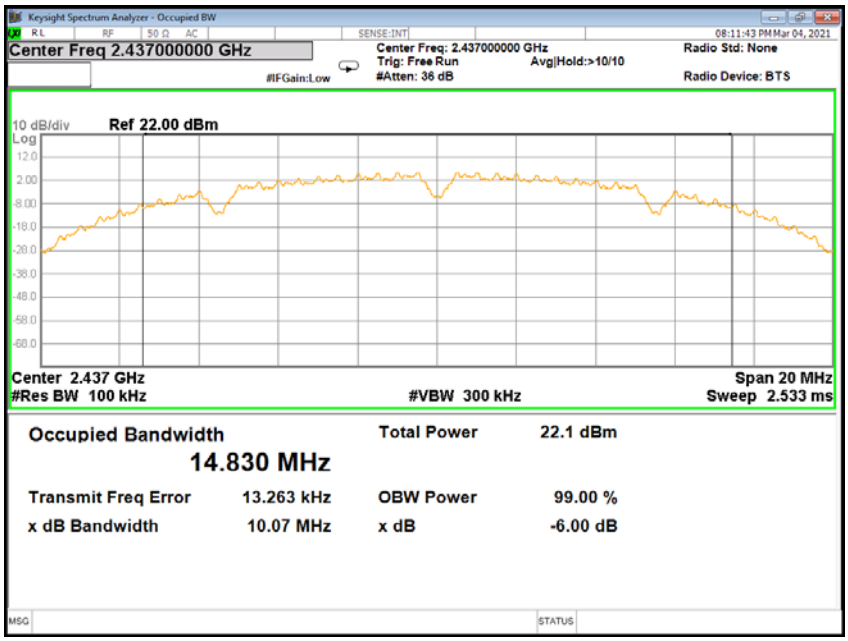
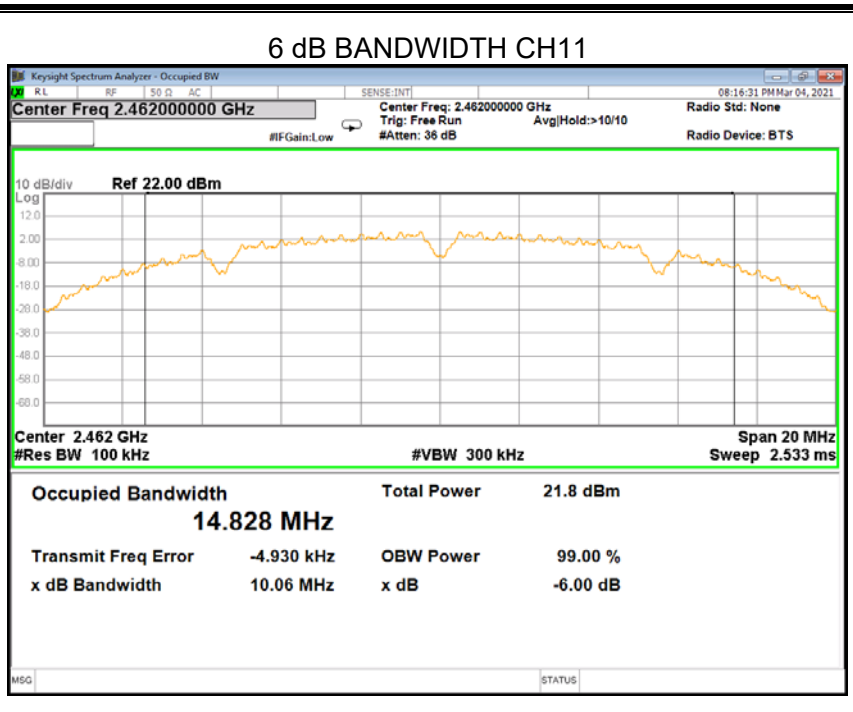
6 dB BANDWIDTH CH06



6 dB BANDWIDTH CH11



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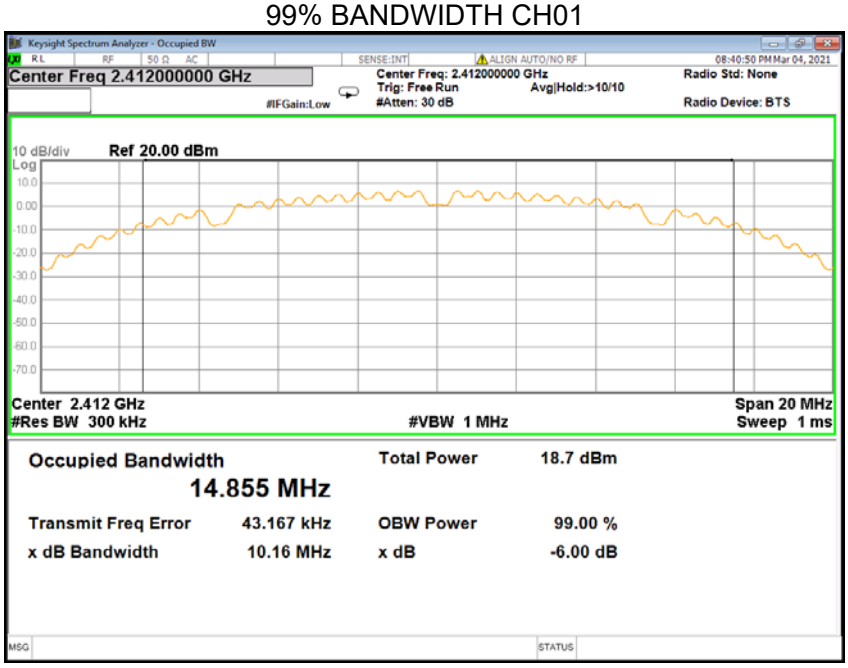
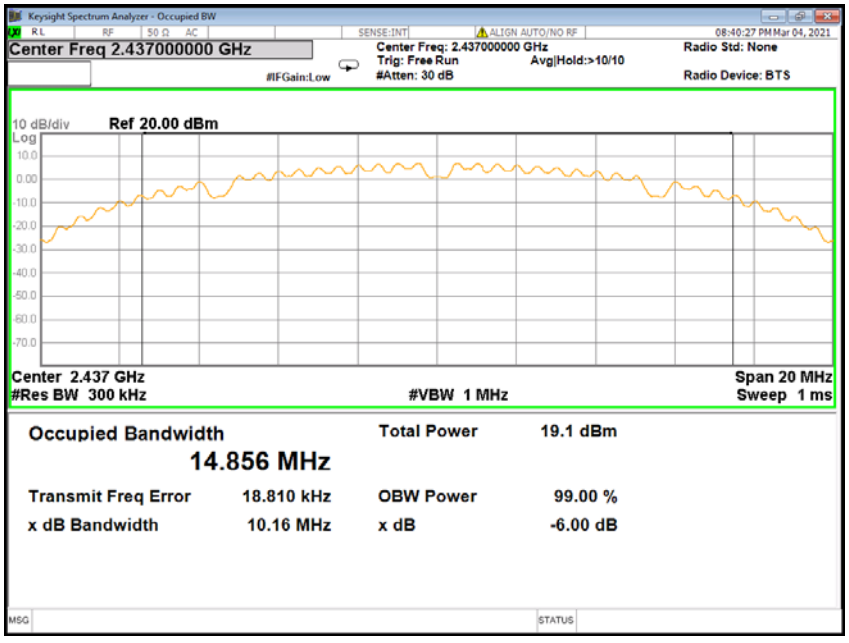
99% BANDWIDTH CH01



99% BANDWIDTH CH06



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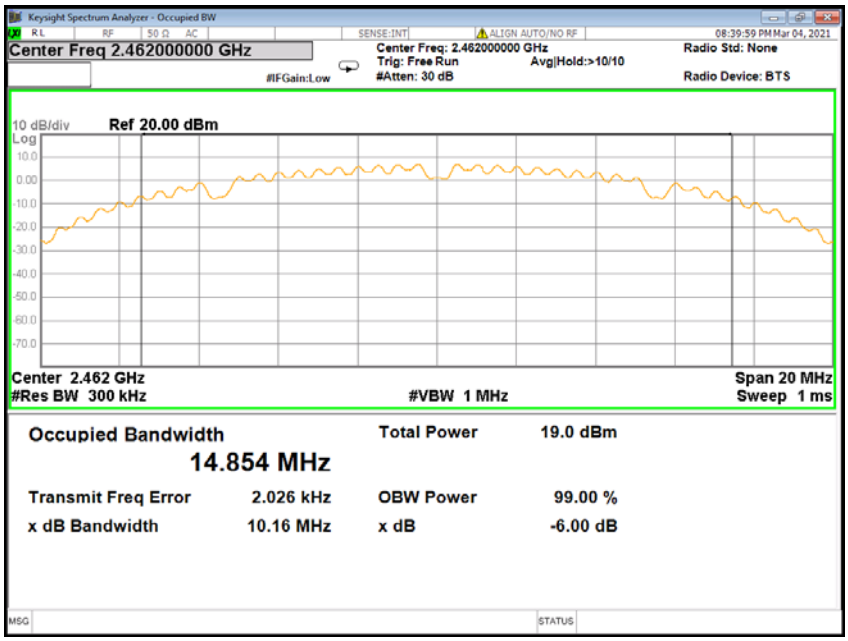
99% BANDWIDTH CH11



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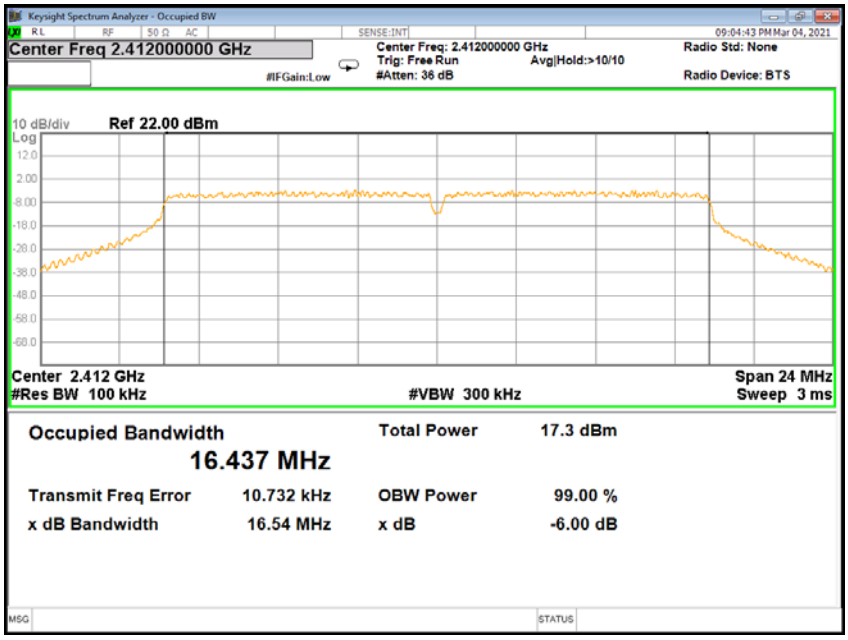
8.2.2. 802.11g MODE

Channel	Frequency (MHz)	6dB bandwidth (MHz)	99% bandwidth (MHz)	Limit (kHz)	Result
CH01	2412	16.54	16.809	≥500KHz	Pass
CH06	2437	16.54	16.808	≥500KHz	Pass
CH11	2462	16.54	16.815	≥500KHz	Pass

6 dB BANDWIDTH CH01



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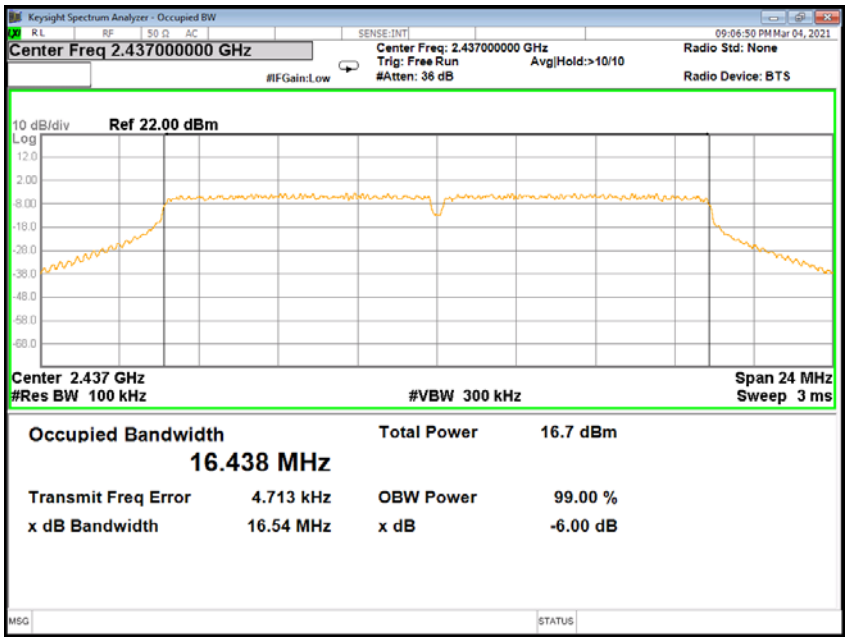
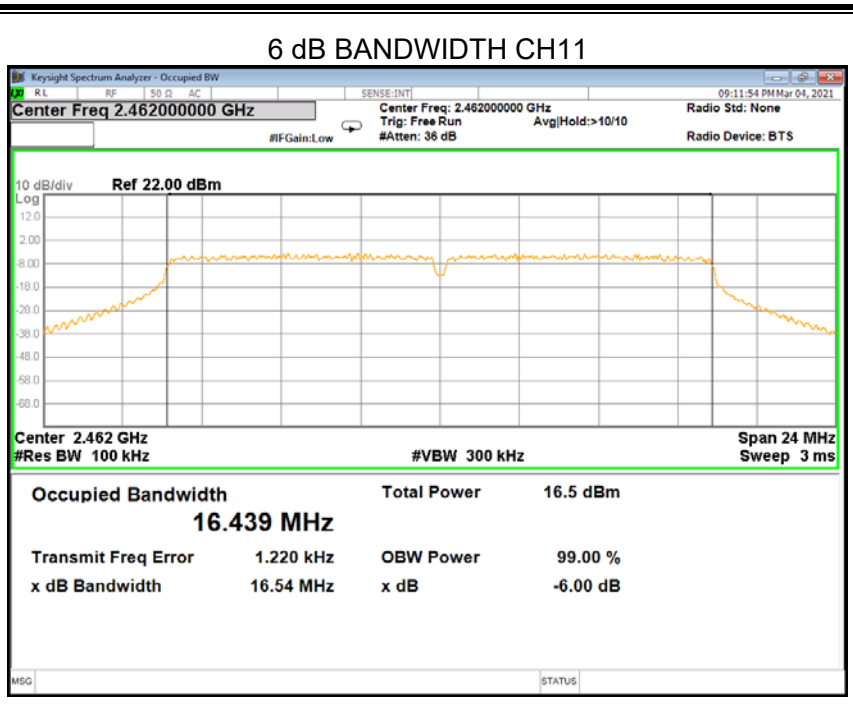
6 dB BANDWIDTH CH06



6 dB BANDWIDTH CH11



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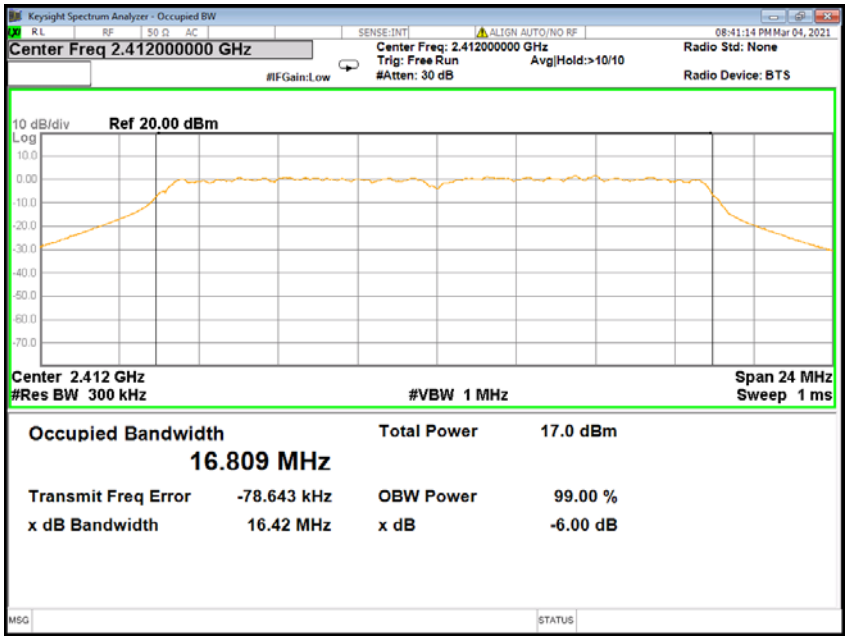
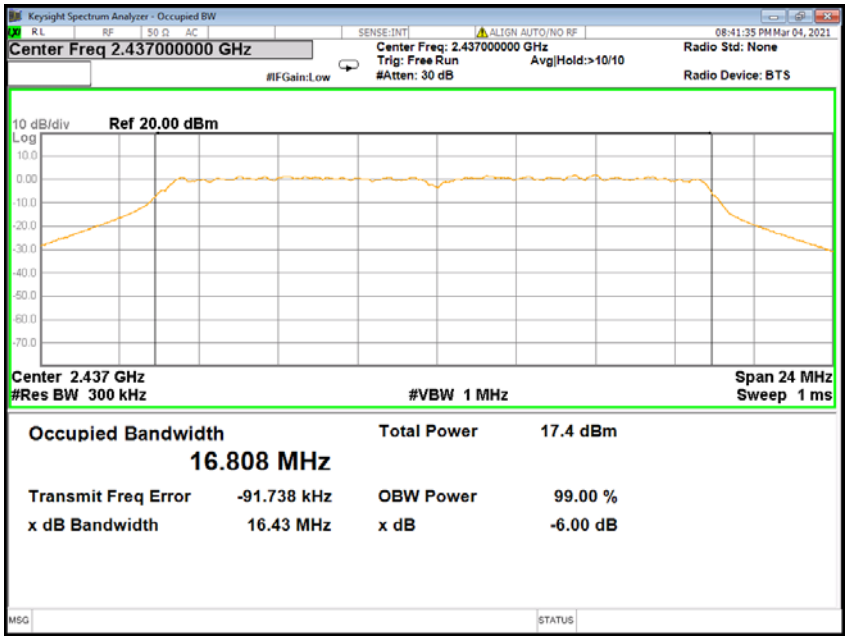
99% BANDWIDTH CH01



99% BANDWIDTH CH06



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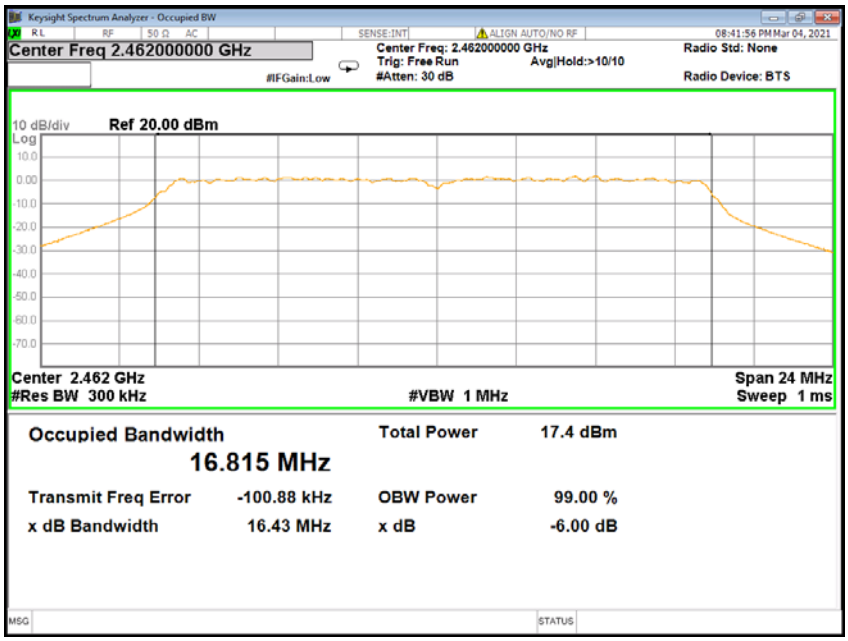
99% BANDWIDTH CH11



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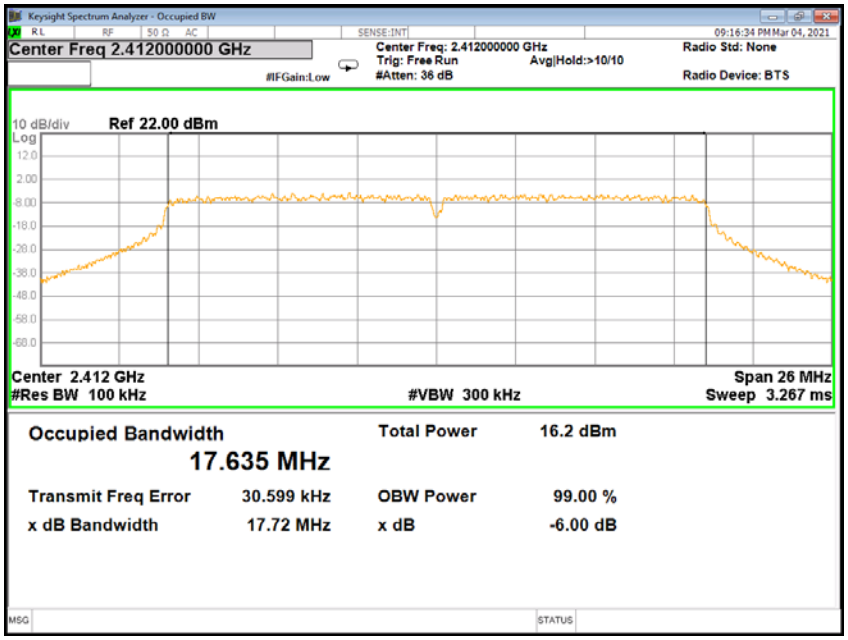
8.2.3. 802.11n HT20 MODE

Channel	Frequency (MHz)	6dB bandwidth (MHz)	99% bandwidth (MHz)	Limit (kHz)	Result
CH01	2412	17.72	17.857	≥500KHz	Pass
CH06	2437	17.69	17.850	≥500KHz	Pass
CH11	2462	17.68	17.856	≥500KHz	Pass

6 dB BANDWIDTH CH01



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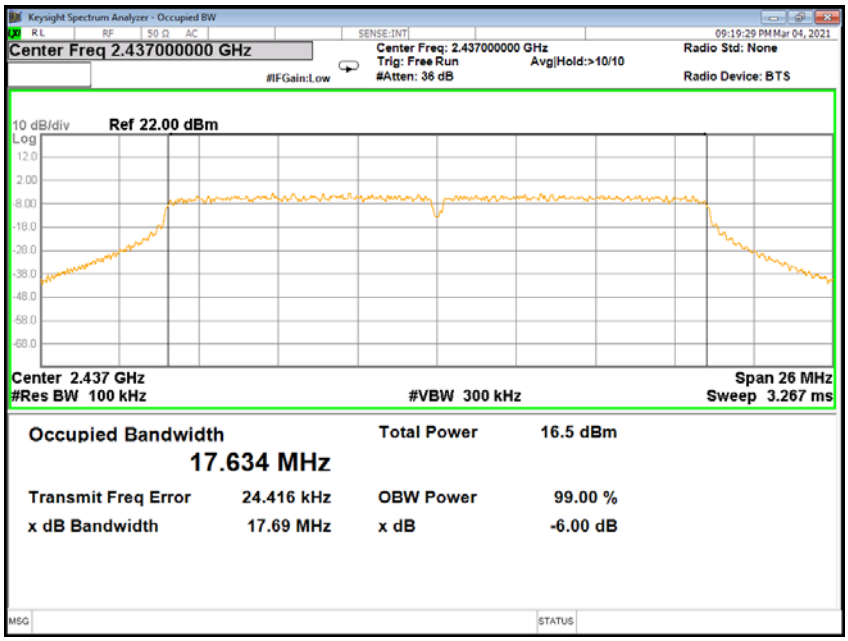
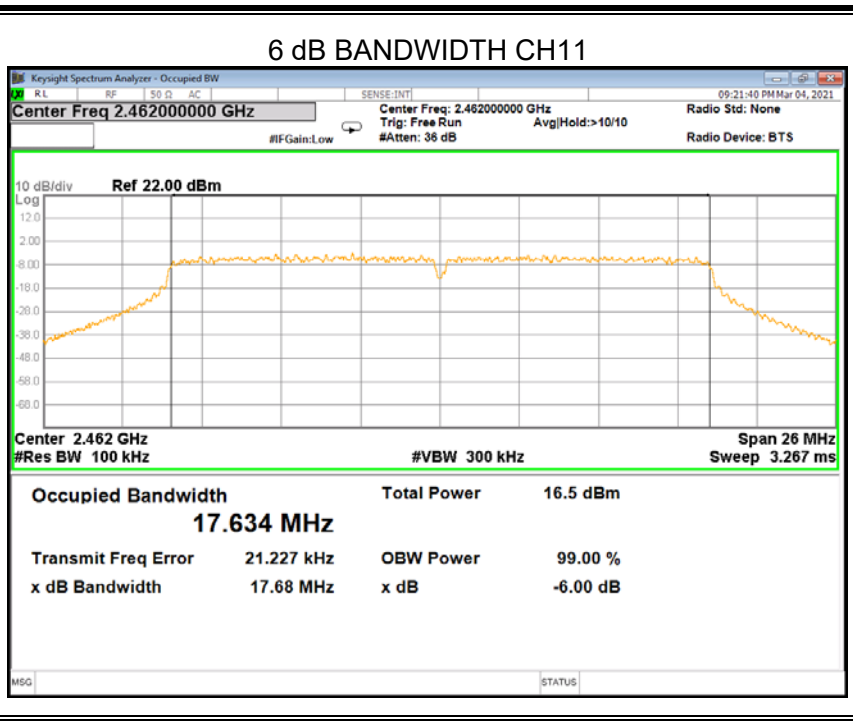
6 dB BANDWIDTH CH06



6 dB BANDWIDTH CH11



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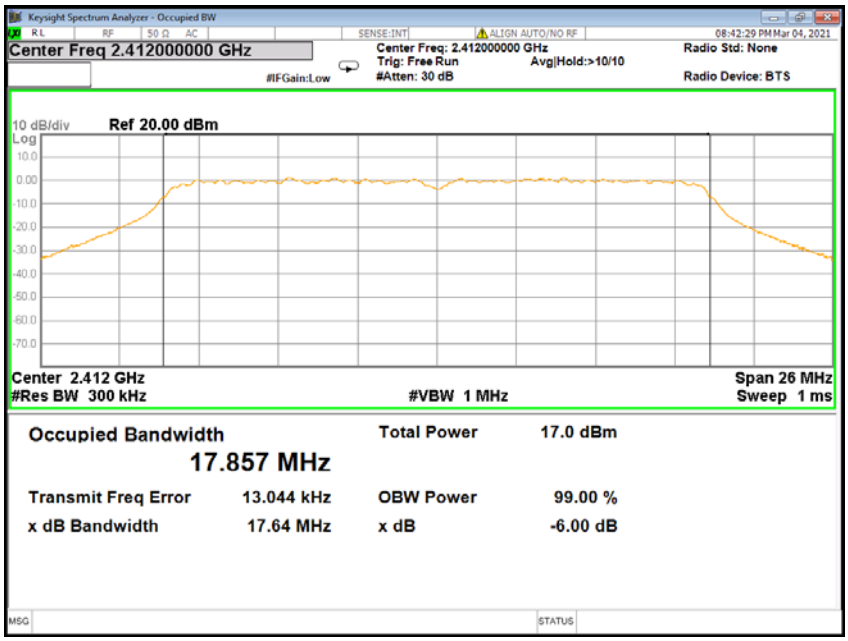
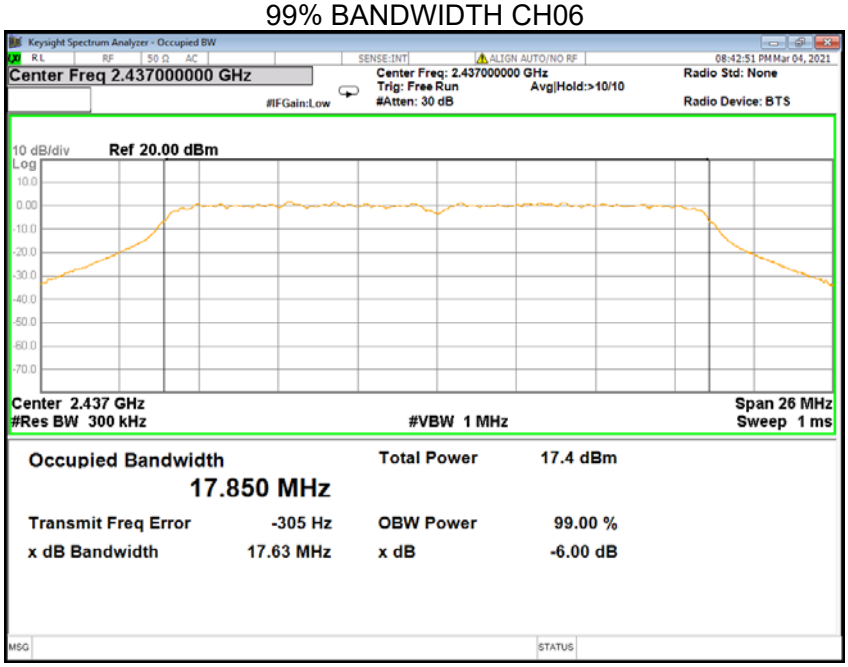
99% BANDWIDTH CH01



99% BANDWIDTH CH06



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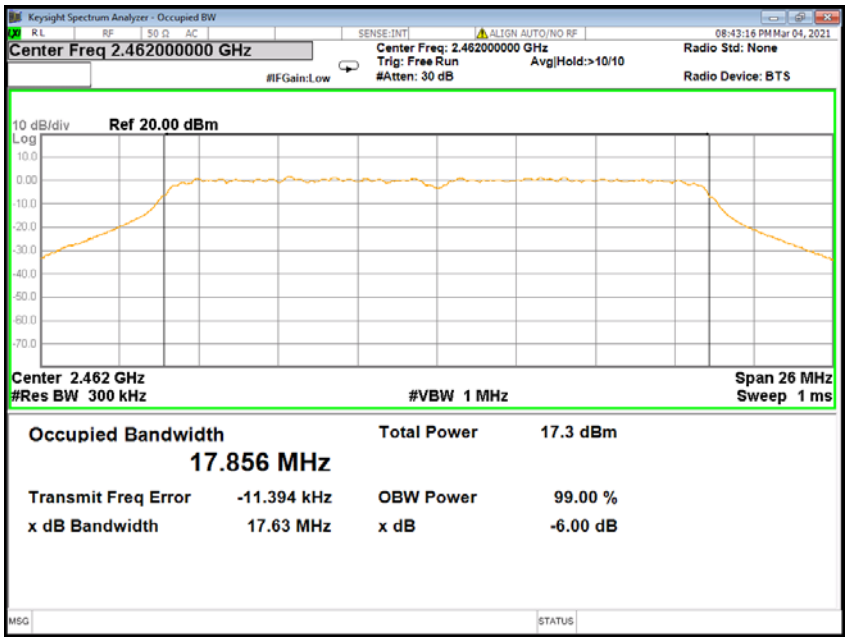
99% BANDWIDTH CH11



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8.3. CONDUCTED OUTPUT POWER

LIMITS

FCC Part15 (15.247) Subpart C RSS-247 ISSUE 2			
Section	Test Item	Limit	Frequency Range (MHz)
FCC 15.247(b)(3) RSS-247 5.4 (d)	Conducted Output Power	1 watt or 30dBm	2400-2483.5

TEST PROCEDURE

802.11 b,g,n20:
Place the EUT on the table and set it in the transmitting mode.
Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the Power sensor.
Measure peak and average power each channel.

802.11 n40:
Maximum peak conducted output power:
The following procedure can be used when the maximum available RBW of the instrument is less than the DTS bandwidth:
a) Set the RBW = 1 MHz.
b) Set the VBW ≥ [3 × RBW].
c) Set the span ≥ [1.5 × DTS bandwidth].
d) Detector = peak.
e) Sweep time = auto couple.
f) Trace mode = max hold.
g) Allow trace to fully stabilize.
h) Use the instrument's band/channel power measurement function with the band limits set equal to the DTS bandwidth edges (for some instruments, this may require a manual override to select the peak detector). If the instrument does not have a band power function, then sum the spectrum levels (in linear power units) at intervals equal to the RBW extending across the DTS channel bandwidth.

Maximum conducted (average) output power:
The procedure for this method is as follows:
a) Measure the duty cycle *D* of the transmitter output signal.
b) Set span to at least 1.5 times the OBW.
c) Set RBW = 1% to 5% of the OBW, not to exceed 1 MHz.
d) Set VBW ≥ [3 × RBW].
e) Number of points in sweep ≥ [2 × span / RBW]. (This gives bin-to-bin spacing □ RBW / 2, so that narrowband signals are not lost between frequency bins.)
f) Sweep time = auto.

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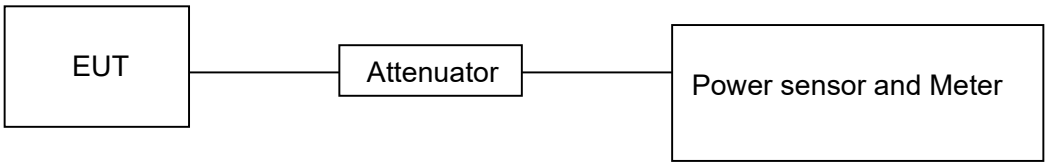
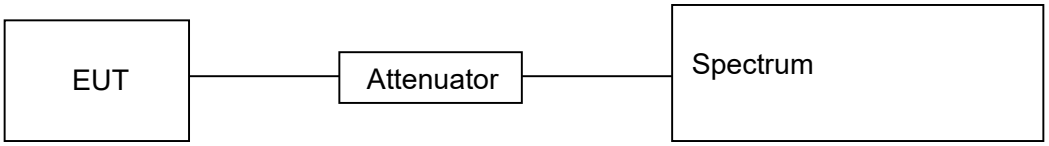
g) Detector = RMS (i.e., power averaging), if available. Otherwise, use the sample detector mode.
h) Do not use sweep triggering. Allow the sweep to “free run.”
i) Trace average at least 100 traces in power averaging (rms) mode; however, the number of traces to be averaged shall be increased above 100 as needed such that the average accurately represents the true average over the ON and OFF periods of the transmitter.
j) Compute power by integrating the spectrum across the OBW of the signal using the instrument’s band power measurement function with band limits set equal to the OBW band edges. If the instrument does not have a band power function, then sum the spectrum levels (in power units) at intervals equal to the RBW extending across the entire OBW of the spectrum.
k) Add [10 log (1 / *D*)], where *D* is the duty cycle, to the measured power to compute the average power during the actual transmission times (because the measurement represents an average over both the ON and OFF times of the transmission). For example, add [10 log (1/0.25)] = 6 dB if the duty cycle is 25%.

TEST SETUP

802.11 b, g, n HT20:



802.11 n HT40:



TEST ENVIRONMENT

Temperature	25°C	Relative Humidity	60%
Atmosphere Pressure	101kPa	Test Voltage	DC 3.3V

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RESULTS

8.3.1. 802.11b MODE

Test Channel	Frequency	Maximum Conducted Output Power (PK)	Maximum Conducted Output Power (AVG)	LIMIT
	(MHz)	(dBm)		dBm
CH01	2412	18.78	15.75	30
CH06	2437	18.29	15.50	30
CH11	2462	17.87	15.69	30

8.3.2. 802.11g MODE

Test Channel	Frequency	Maximum Conducted Output Power (PK)	Maximum Conducted Output Power (AVG)	LIMIT
	(MHz)	(dBm)		dBm
CH01	2412	20.39	11.17	30
CH06	2437	20.54	11.34	30
CH11	2462	20.56	11.35	30

8.3.3. 802.11n HT20 MODE

Test Channel	Frequency	Maximum Conducted Output Power (PK)	Maximum Conducted Output Power (AVG)	LIMIT
	(MHz)	(dBm)		dBm
CH01	2412	19.70	10.93	30
CH06	2437	20.06	11.22	30
CH11	2462	19.92	11.33	30

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RSS-247 EIRP Power

TX 802.11b Mode					
Test Channel	Frequency	Peak Power	Antenna Gain	EIRP Power	LIMIT
	(MHz)	(dBm)	(dBi)	(dBm)	dBm
CH01	2412	18.78	1.00	19.78	36.02
CH06	2437	18.29	1.00	19.29	36.02
CH11	2462	17.87	1.00	18.87	36.02
TX 802.11g Mode					
Test Channel	Frequency	Peak Power	Antenna Gain	EIRP Power	LIMIT
	(MHz)	(dBm)	(dBi)	(dBm)	dBm
CH01	2412	20.39	1.00	21.39	36.02
CH06	2437	20.54	1.00	21.54	36.02
CH11	2462	20.56	1.00	21.56	36.02
TX 802.11n20 Mode					
Test Channel	Frequency	Peak Power	Antenna Gain	EIRP Power	LIMIT
	(MHz)	(dBm)	(dBi)	(dBm)	dBm
CH01	2412	19.70	1.00	20.70	36.02
CH06	2437	20.06	1.00	21.06	36.02
CH11	2462	19.92	1.00	20.92	36.02

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8.4. POWER SPECTRAL DENSITY

LIMITS

FCC Part15 (15.247) Subpart C RSS-247 ISSUE 2			
Section	Test Item	Limit	Frequency Range (MHz)
FCC §15.247 (e) RSS-247 5.2 (b)	Power Spectral Density	8 dBm in any 3 kHz band	2400-2483.5

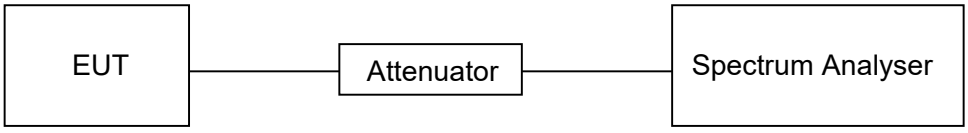
TEST PROCEDURE

Connect the UUT to the spectrum analyser and use the following settings:

Center Frequency	The centre frequency of the channel under test
Detector	Peak
RBW	3 kHz ≤ RBW 100 ≤ kHz
VBW	≥3 × RBW
Span	1.5 x DTS bandwidth
Trace	Max hold
Sweep time	Auto couple.

Allow trace to fully stabilize and use the peak marker function to determine the maximum amplitude level within the RBW.
If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

TEST SETUP



TEST ENVIRONMENT

Temperature	25°C	Relative Humidity	60%
Atmosphere Pressure	101kPa	Test Voltage	DC 3.3V

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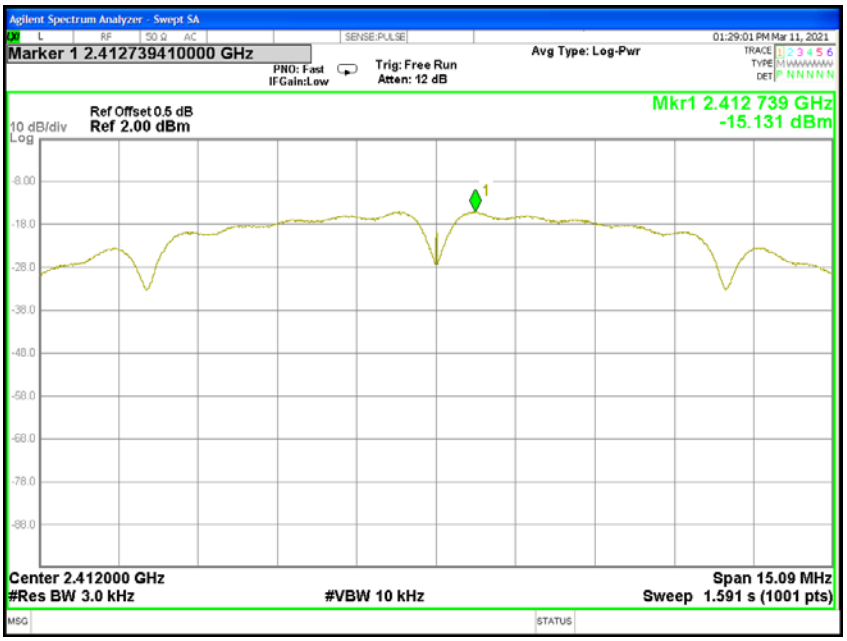
RESULTS

8.4.1. 802.11b MODE

Test Channel	Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Limit (dBm/3kHz)	Result
CH01	2412	-15.131	≤8	PASS
CH06	2437	-14.820	≤8	PASS
CH11	2462	-14.816	≤8	PASS

PSD CH01



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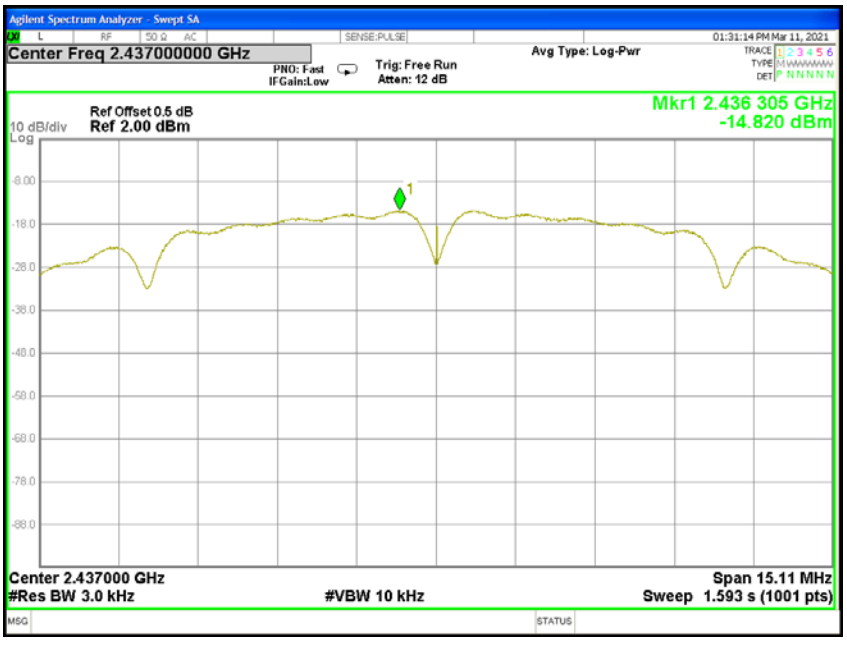
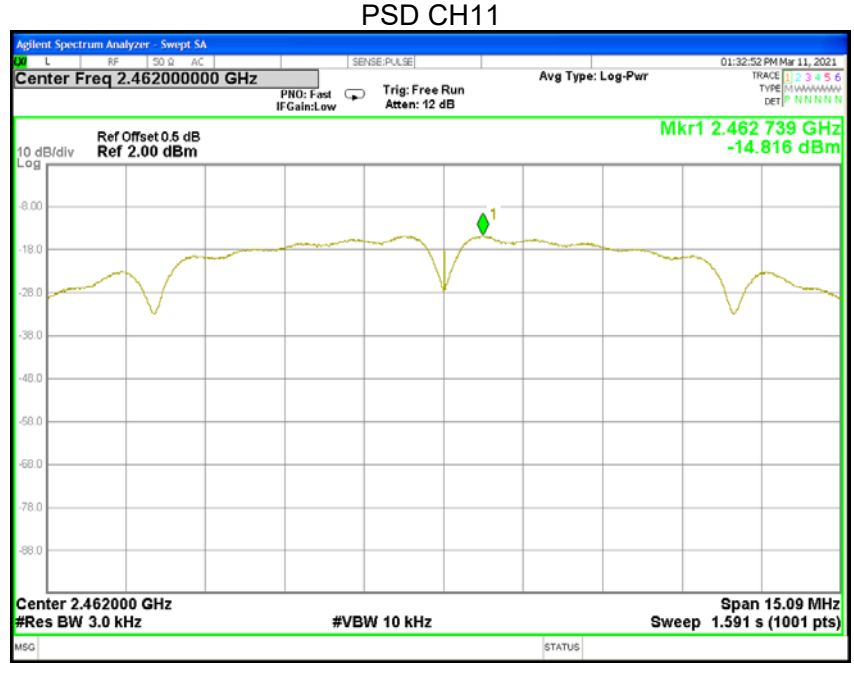
PSD CH06



PSD CH11



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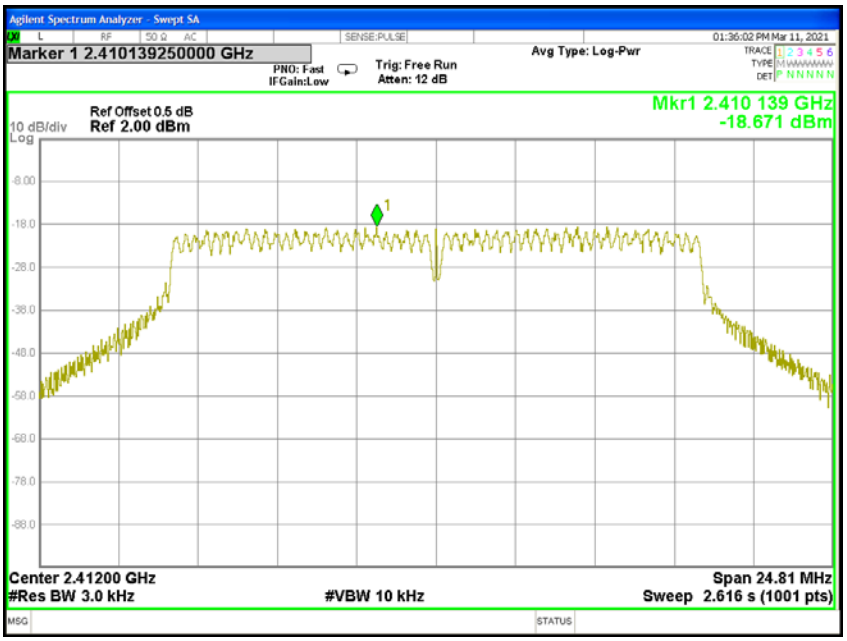
8.4.2. 802.11g MODE

Test Channel	Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Limit (dBm/3kHz)	Result
CH01	2412	-18.671	≤8	PASS
CH06	2437	-18.292	≤8	PASS
CH11	2462	-17.919	≤8	PASS

PSD CH01



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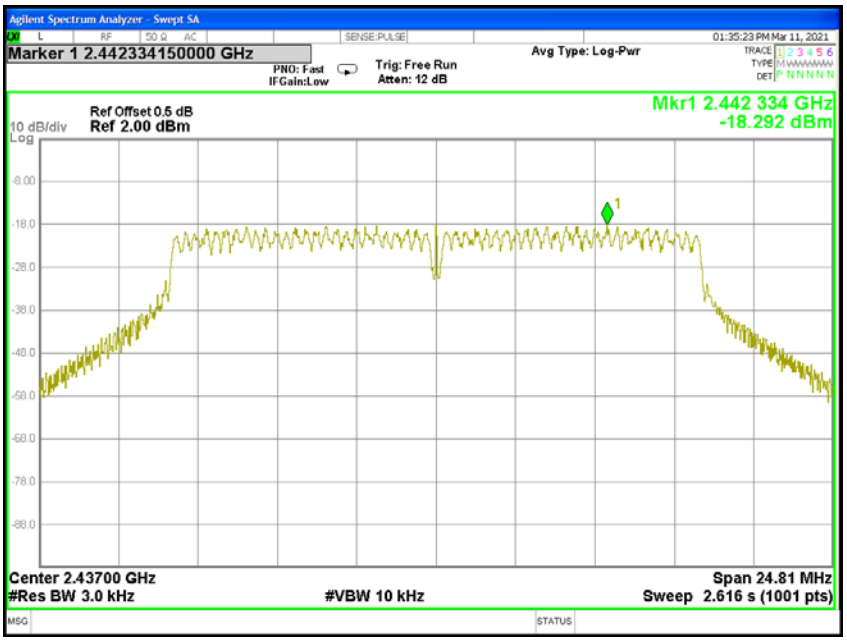
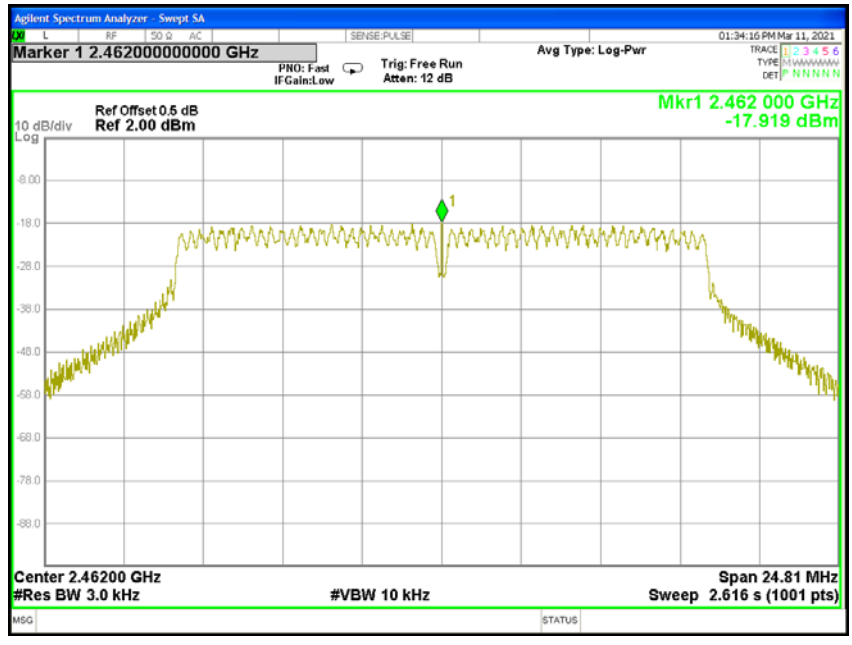
PSD CH06



PSD CH11



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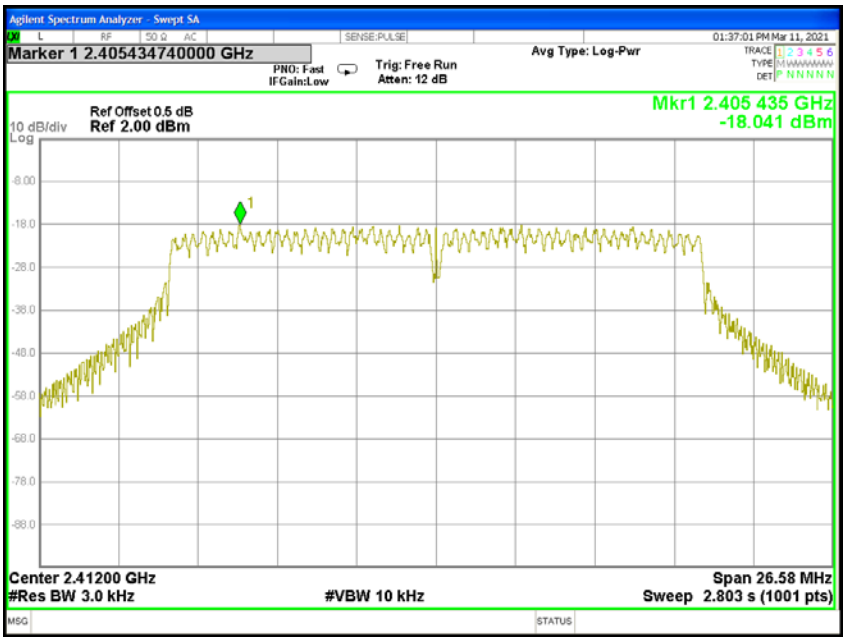
8.4.3. 802.11n HT20 MODE

Test Channel	Frequency (MHz)	Power Spectral Density (dBm/3kHz)	Limit (dBm/3kHz)	Result
CH01	2412	-18.041	≤8	PASS
CH06	2437	-17.607	≤8	PASS
CH11	2462	-17.476	≤8	PASS

PSD CH01



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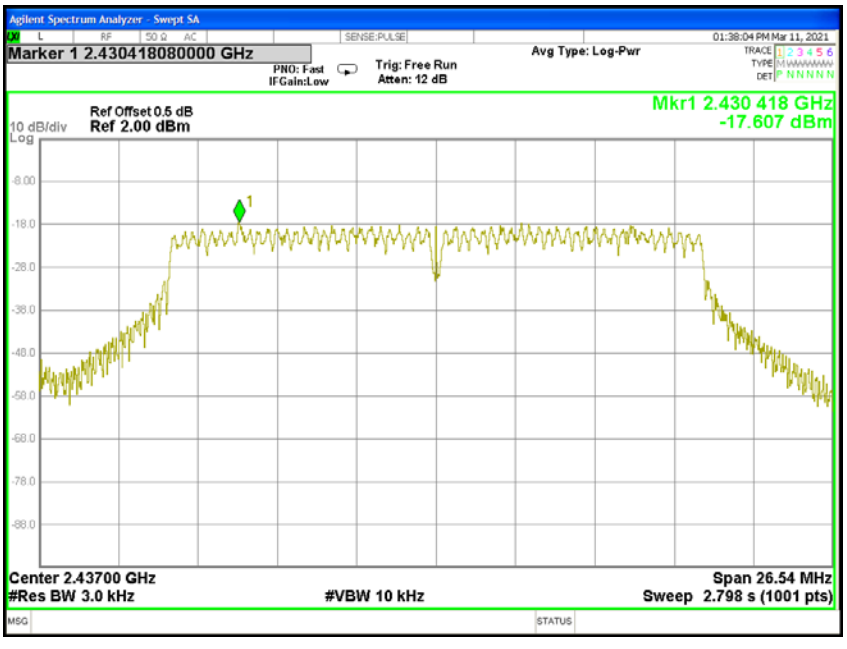
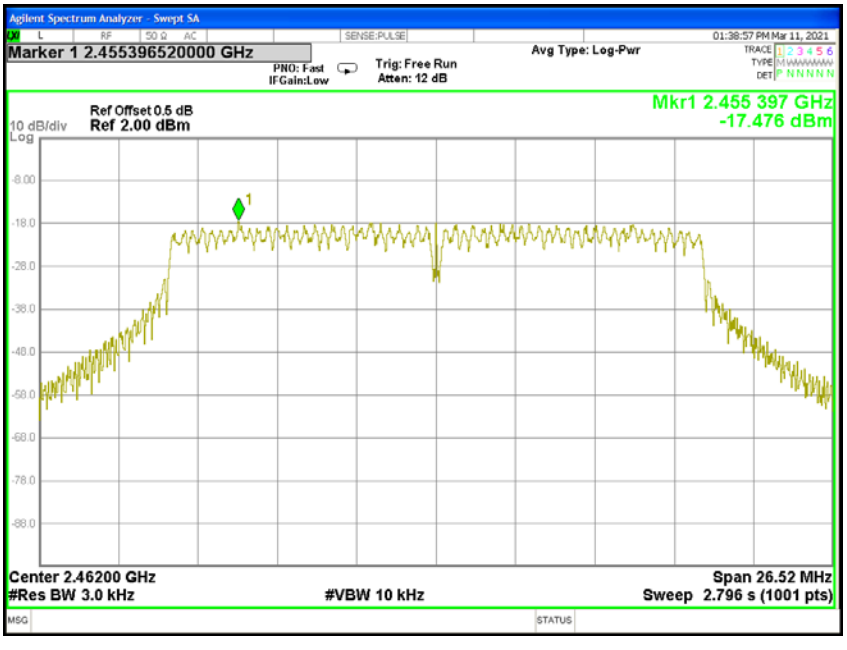
PSD CH06



PSD CH11



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8.5. CONDUCTED BANDEDGE AND SPURIOUS EMISSIONS

LIMITS

FCC Part15 (15.247) Subpart C RSS-247 ISSUE 2		
Section	Test Item	Limit
FCC §15.247 (d) RSS-247 5.5	Conducted Bandedge and Spurious Emissions	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits.

TEST PROCEDURE

Connect the UUT to the spectrum analyser and use the following settings:

Center Frequency	The centre frequency of the channel under test
Detector	Peak
RBW	100K
VBW	≥3 × RBW
Span	1.5 x DTS bandwidth
Trace	Max hold
Sweep time	Auto couple.

Use the peak marker function to determine the maximum PSD level.

Span	Set the center frequency and span to encompass frequency range to be measured
Detector	Peak
RBW	100K
VBW	≥3 × RBW
measurement points	≥span/RBW
Trace	Max hold
Sweep time	Auto couple.

Use the peak marker function to determine the maximum amplitude level.

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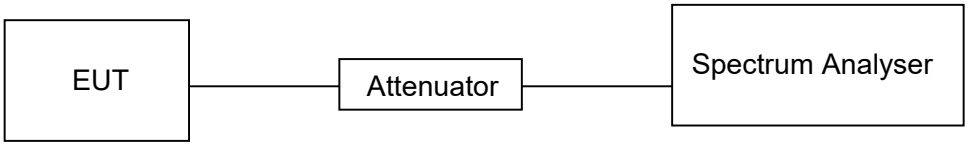
TEST SETUP



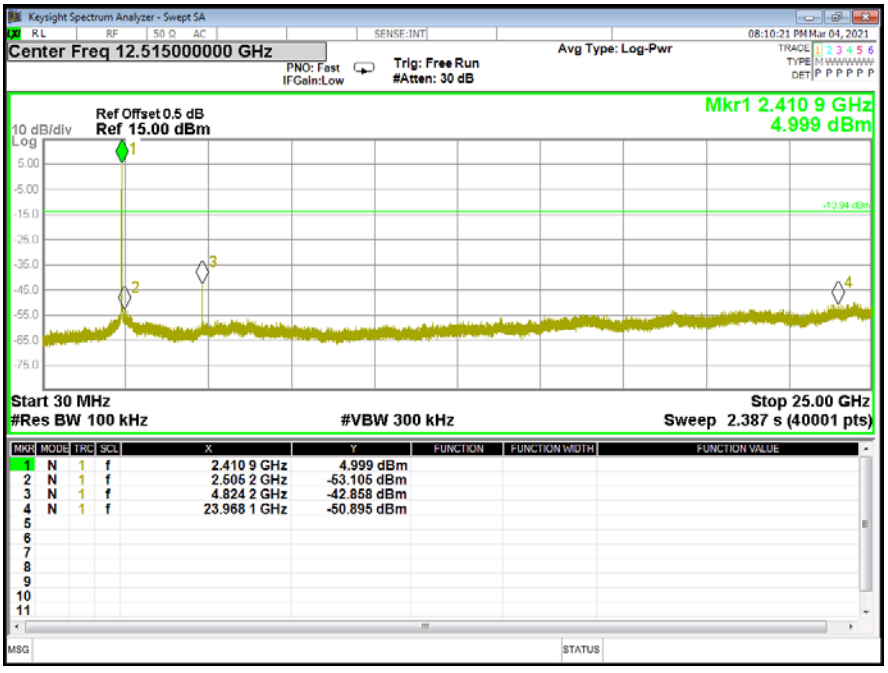
TEST ENVIRONMENT

Temperature	25°C	Relative Humidity	60%
Atmosphere Pressure	101kPa	Test Voltage	DC 3.3V

RESULTS

8.5.1. 802.11b MODE

CH01 SPURIOUS EMISSIONS 30M-25G



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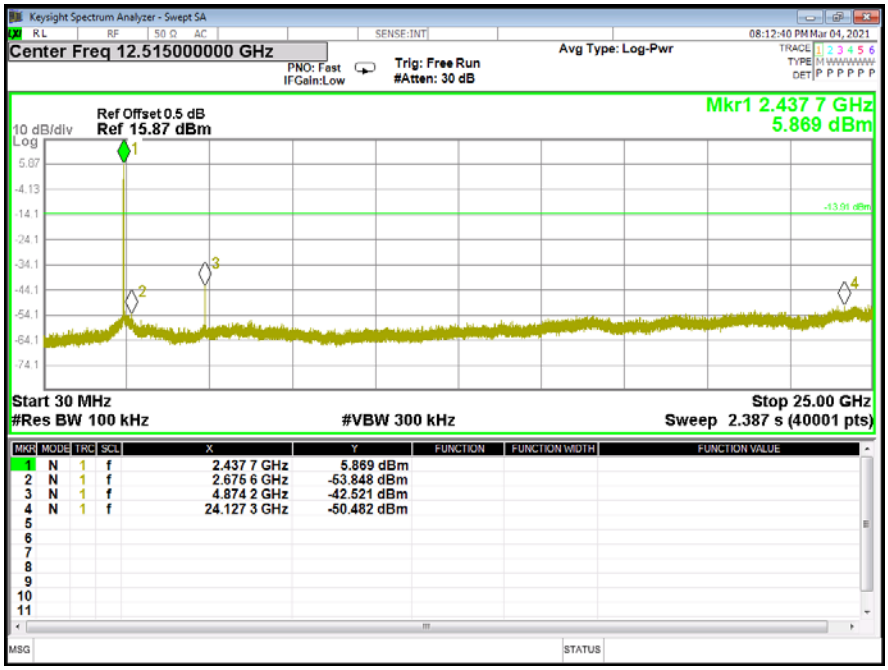
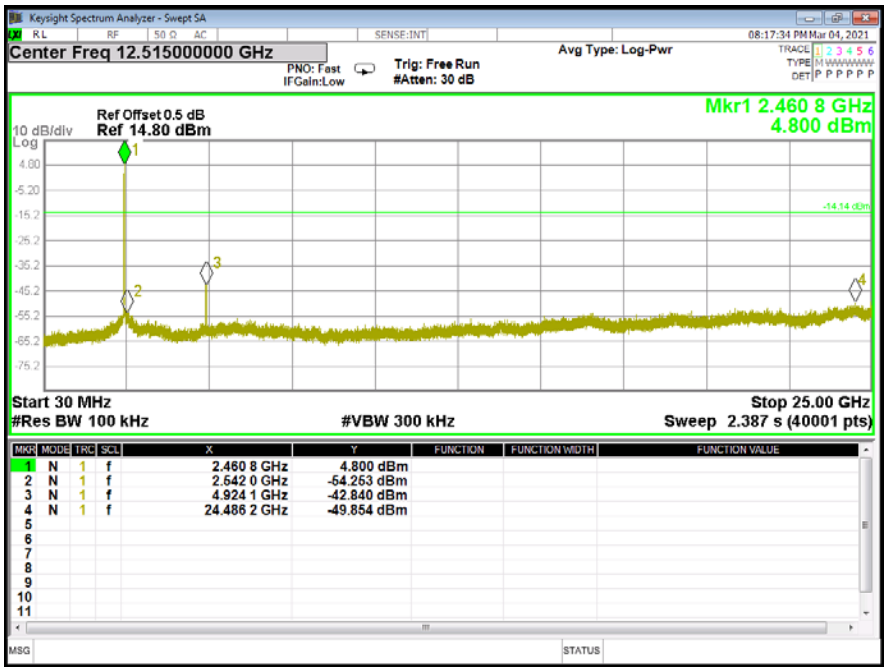
CH06 SPURIOUS EMISSIONS 30M-25G



CH11 SPURIOUS EMISSIONS 30M-25G



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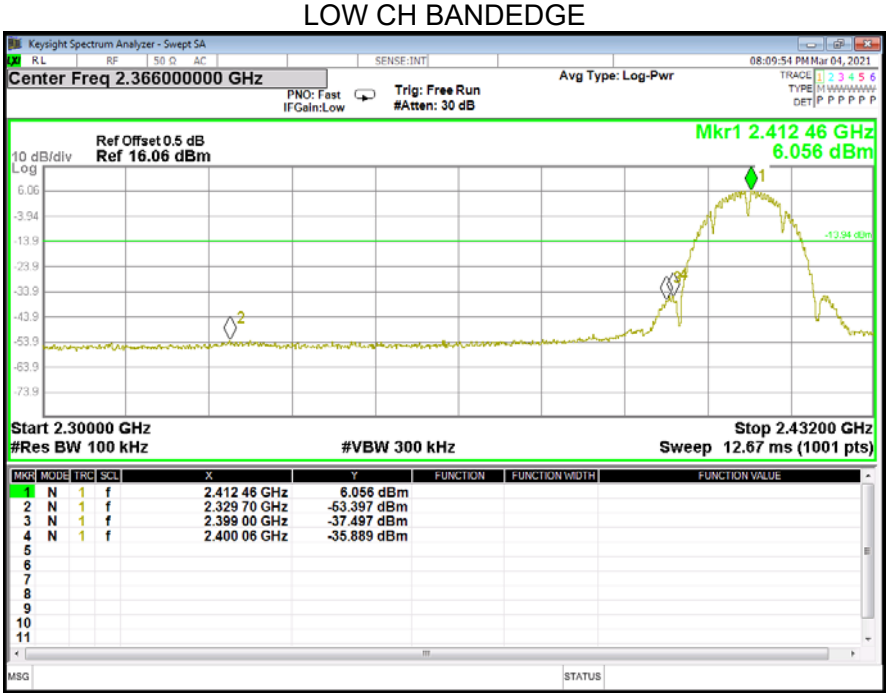
LOW CH BANDEDGE



MID CH BANDEDGE

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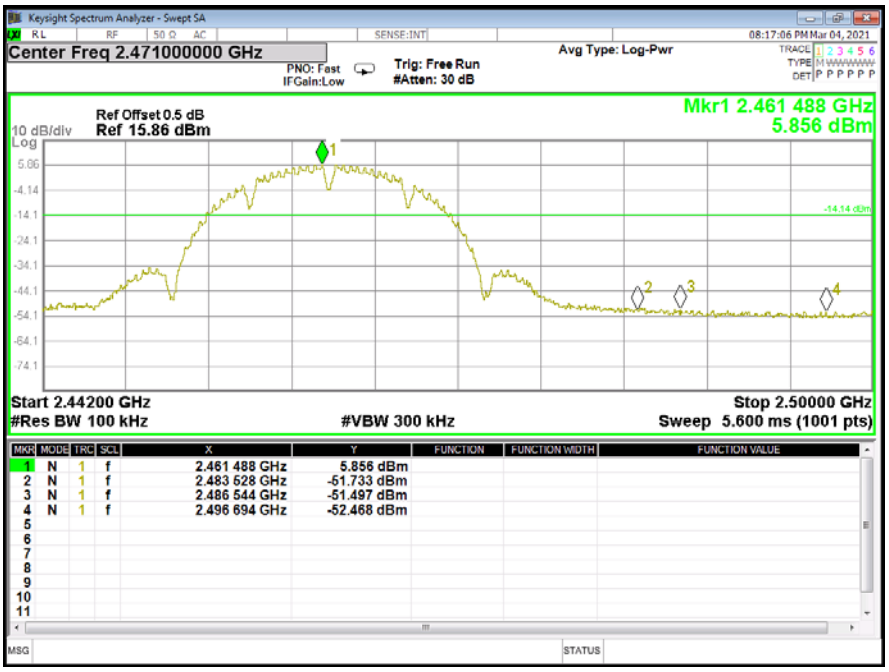
HIGH CH BANDEDGE



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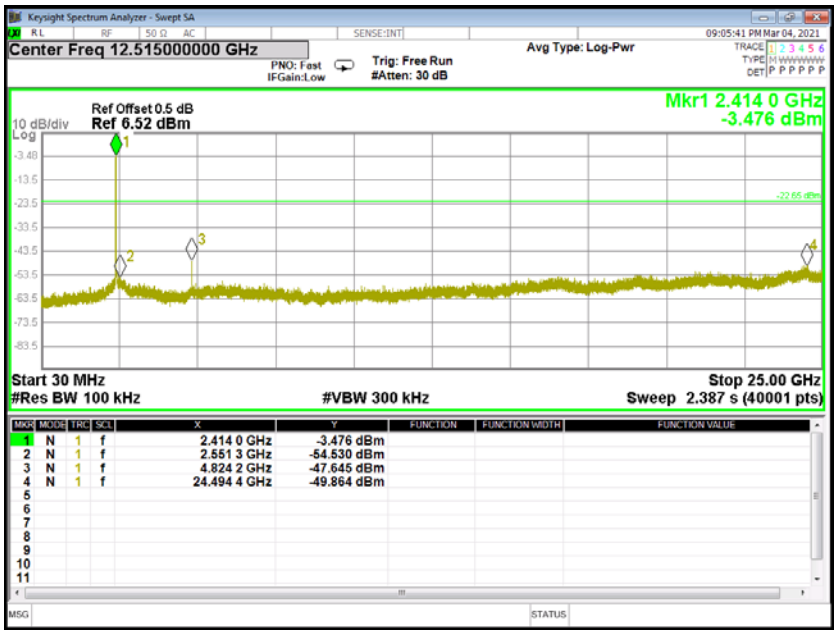
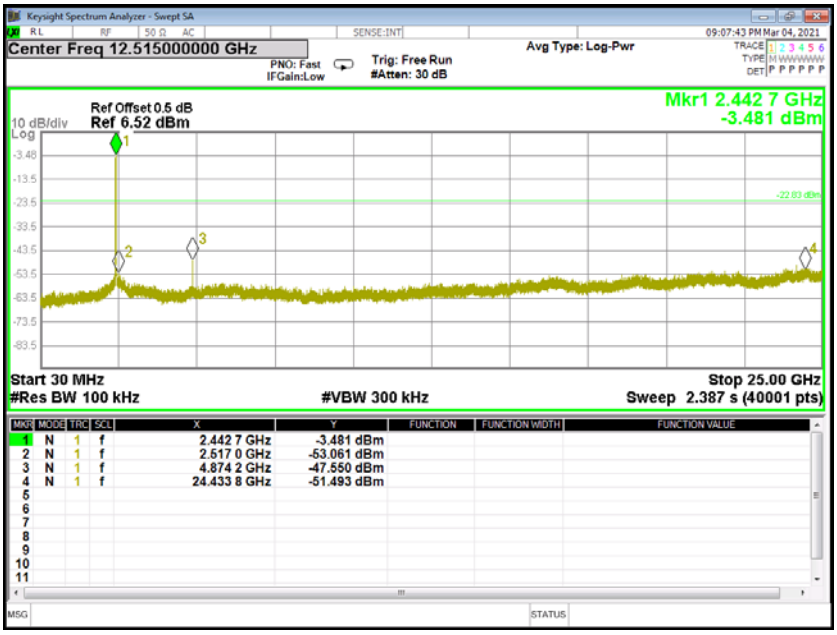
8.5.2. 802.11g MODE

CH01 SPURIOUS EMISSIONS 30M-25G



CH06 SPURIOUS EMISSIONS 30M-25G



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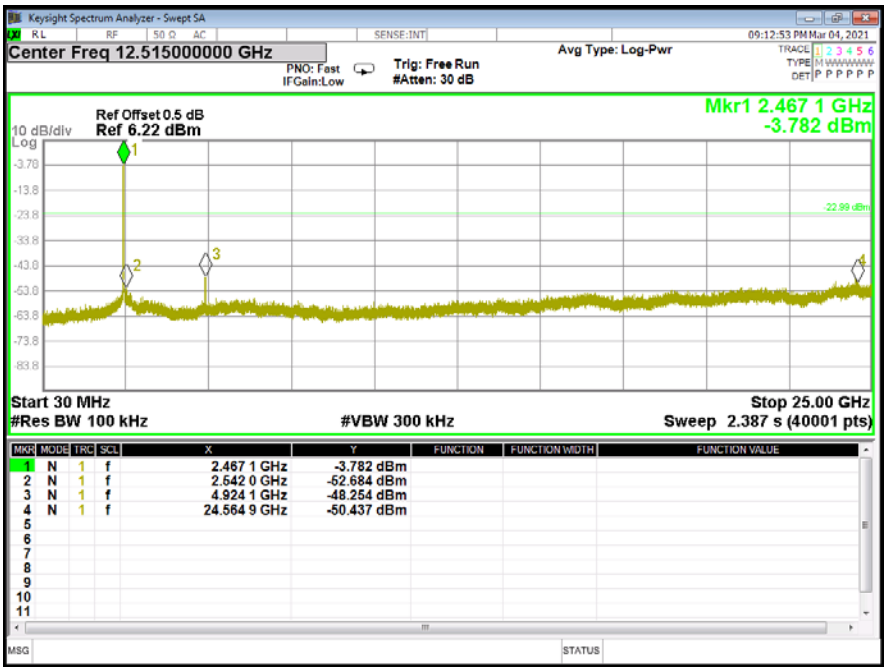
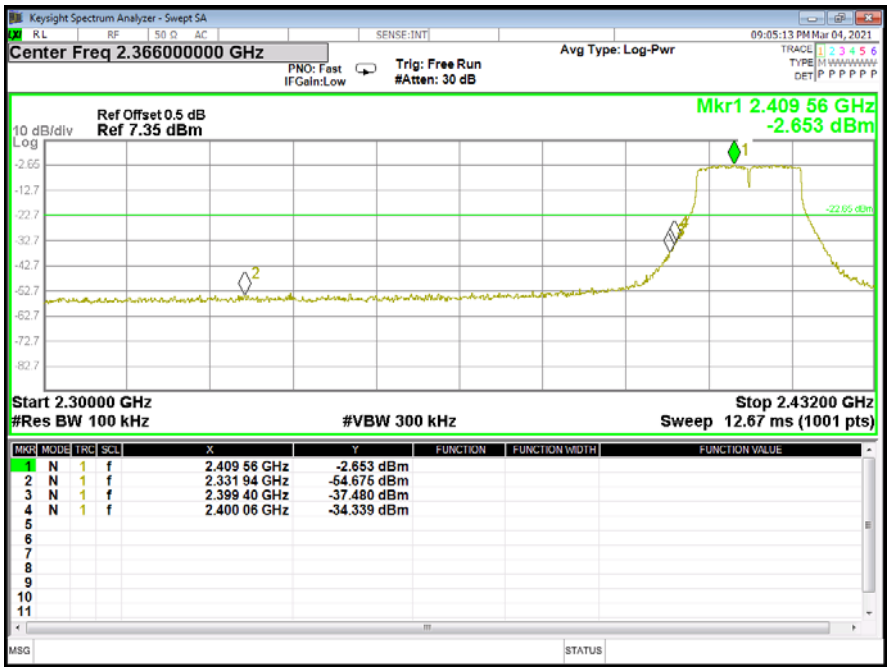
CH11 SPURIOUS EMISSIONS 30M-25G



LOW CH BANDEDGE



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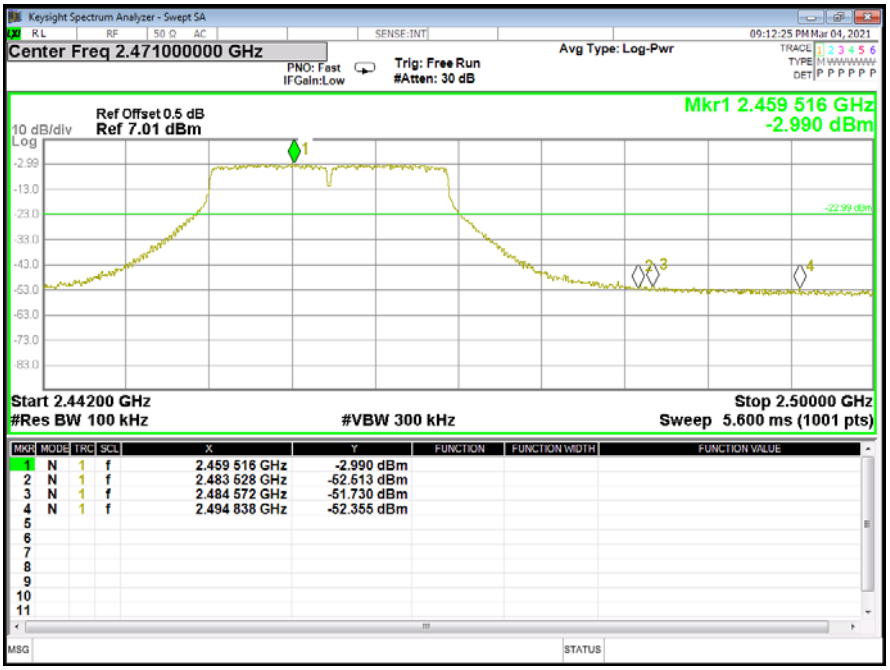
HIGH CH BANDEDGE



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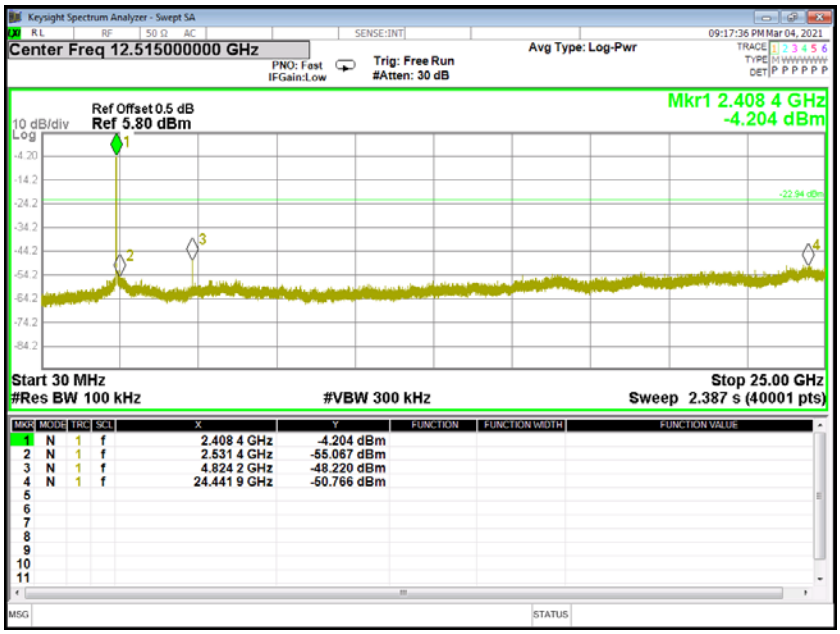
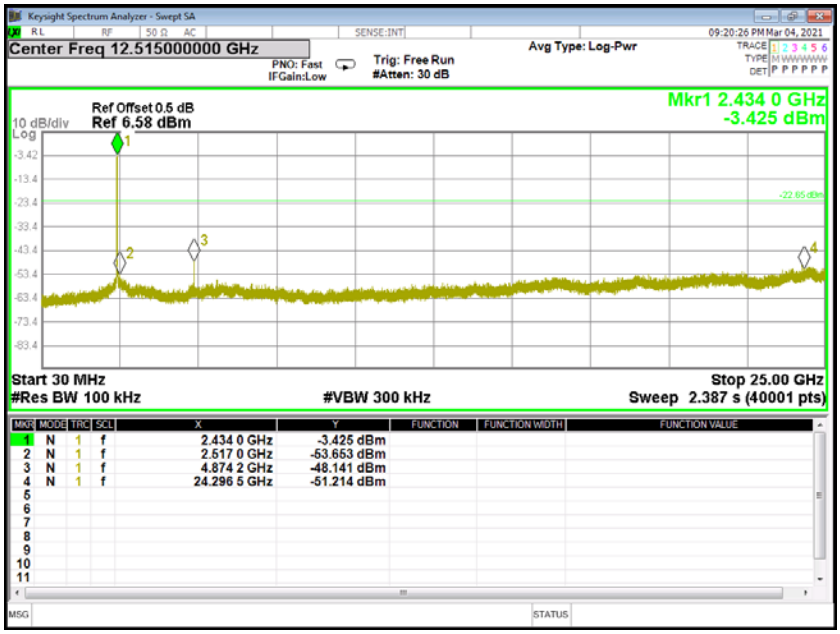
8.5.3. 802.11n HT20 MODE

CH01 SPURIOUS EMISSIONS 30M-25G



CH06 SPURIOUS EMISSIONS 30M-25G



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