

FCC Radio Test Report

FCC ID: LNQSBRT8812AU

Original Grant

Report No. : TB-FCC143423
Applicant : Actiontec Electronics Inc
Equipment Under Test (EUT)
EUT Name : ScreenBeam 802.11 a/b/g/n/ac WiFi Module
Model No. : SBRT8812AU
Brand Name : Actiontec
Receipt Date : 2015-02-26
Test Date : 2015-03-09 to 2015-04-10
Issue Date : 2015-04-14
Standards : FCC Part 15, Subpart C (15.247:2014)
Test Method : ANSI C63.10: 2013
Conclusions : **PASS**

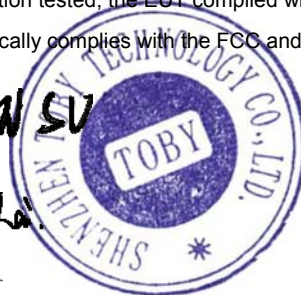
In the configuration tested, the EUT complied with the standards specified above,
The EUT technically complies with the FCC and IC requirements

Test/Witness Engineer :

Ivan Su

**Approved &
Authorized**

Ray Su



This report details the results of the testing carried out on one sample. The results contained in this test report do not relate to other samples of the same product. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in the report.

Contents

CONTENTS.....	2
1. GENERAL INFORMATION ABOUT EUT	4
1.1 Client Information.....	4
1.2 General Description of EUT (Equipment Under Test)	4
1.3 Block Diagram Showing the Configuration of System Tested.....	5
1.4 Description of Support Units	6
1.5 Description of Test Mode.....	6
1.6 Description of Test Software Setting	7
1.7 Test Facility.....	8
2. TEST SUMMARY	8
3. TEST EQUIPMENT.....	10
4. CONDUCTED EMISSION TEST	11
4.1 Test Standard and Limit.....	11
4.2 Test Setup.....	11
4.3 Test Procedure.....	11
4.4 EUT Operating Mode	12
4.5 Test Data.....	12
5. RADIATED EMISSION TEST	15
5.1 Test Standard and Limit.....	15
5.2 Test Setup.....	16
5.3 Test Procedure.....	17
5.4 EUT Operating Condition	17
5.5 Test Data.....	18
6. RESTRICTED BANDS REQUIREMENT	45
6.1 Test Standard and Limit.....	45
6.2 Test Setup.....	45
6.3 Test Procedure.....	45
6.4 EUT Operating Condition	46
6.5 Test Data.....	46
7. BANDWIDTH TEST.....	69
7.1 Test Standard and Limit.....	69
7.2 Test Setup.....	69
7.3 Test Procedure.....	69
7.4 EUT Operating Condition	69
7.5 Test Data.....	70
8. PEAK OUTPUT POWER TEST.....	82
8.1 Test Standard and Limit.....	82
8.2 Test Setup.....	82
8.3 Test Procedure.....	82

8.4 EUT Operating Condition	82
8.5 Test Data.....	83
9. POWER SPECTRAL DENSITY TEST	84
9.1 Test Standard and Limit.....	84
9.2 Test Setup.....	84
9.3 Test Procedure.....	84
9.4 EUT Operating Condition	84
9.5 Test Data.....	85
10. ANTENNA REQUIREMENT.....	92
10.1 Standard Requirement.....	92
10.2 Antenna Connected Construction	92
10.3 Result.....	92

1. General Information about EUT

1.1 Client Information

Applicant : Actiontec Electronics Inc
Address : 760 North Mary Ave., Sunnyvale, California 94086 United States
Manufacturer : Actiontec Electronics Inc
Address : 760 North Mary Ave., Sunnyvale, California 94086 United States

1.2 General Description of EUT (Equipment Under Test)

EUT Name	:	ScreenBeam 802.11 a/b/g/n/ac WiFi Module	
Models No.	:	SBRT8812AU	
Brand Name	:	Actiontec	
Product Description	:	Operation Frequency: 802.11b/g/n(HT20): 2412MHz~2462MHz 802.11n(HT40): 2422MHz~2452MHz	
		Number of Channel:	802.11b/g/n(HT20):11 channels see note(3) 802.11n(HT40): 7 channels see note(3)
		RF Output Power:	802.11b: 21.61 dBm 802.11g: 26.38 dBm 802.11n (HT20): 26.88 dBm 802.11n (HT40): 25.53 dBm
		Antenna Gain:	2.18 dBi (PIFA Antenna)
		Modulation Type:	802.11b: DSSS (CCK, DQPSK, DBPSK) 802.11g: QPSK , BPSK, 16QAM , 64QAM with OFDM 802.11n: BPSK , QPSK , 16QAM ,64QAM with OFDM
		Bit Rate of Transmitter:	802.11b:11/5.5/2/1 Mbps 802.11g:54/48/36/24/18/12/9/6 Mbps 802.11n:up to 150Mbps
Power Supply	:	DC Power by USB Cable	
Power Rating	:	DC 5V by USB Cable for Host System.	
Connecting I/O Port(S)	:	Please refer to the User's Manual	
Note: More detailed features description, please refer to the manufacturer's specifications or the User's Manual.			

Note:

(1) This Test Report is FCC Part 15.247 for 802.11b/g/n, the test procedure follows the FCC

KDB 558074 D01 DTS Meas Guidance v03r02.

(2) For a more detailed features description, please refer to the manufacturer’s specifications or the User’s Manual.

(3) Channel List:

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
01	2412	05	2432	09	2452
02	2417	06	2437	10	2457
03	2422	07	2442	11	2462
04	2427	08	2447		

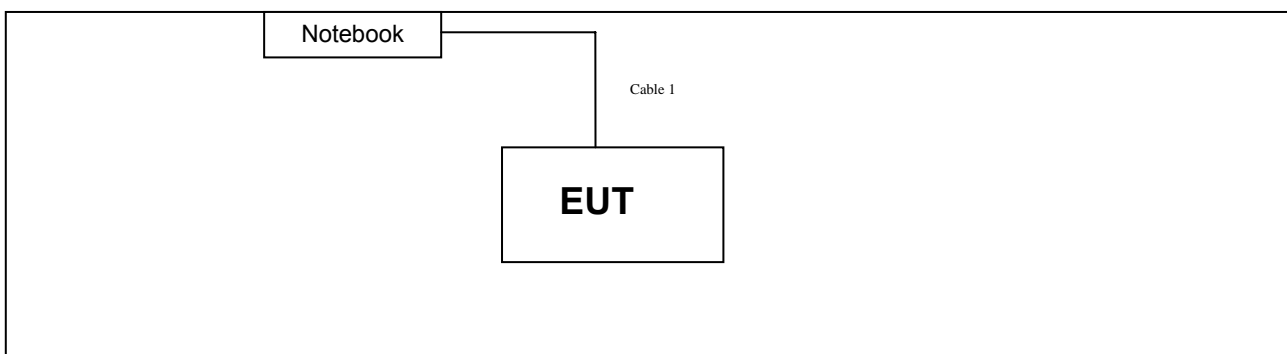
Note:CH 01~CH 11 for 802.11b/g/n(HT20)
CH 03~CH 09 for 802.11n(HT40)

(4) Antenna information.

Mode	TX Antenna (s)	Remark
802.11b	1	The worst case is ANT A TX
802.11g	1	The worst case is ANT A TX
802.11n (HT20)	2	ANT A+ANT B TX
802.11n (HT40)	2	ANT A+ANT B TX

1.3 Block Diagram Showing the Configuration of System Tested

TX Mode



1.4 Description of Support Units

Equipment Information				
Name	Model	S/N	Manufacturer	Used “√”
Notebook	T60P	42W3244	Lenovo	√
Cable Information				
Number	Shielded Type	Ferrite Core	Length	Note
Cable 1	NO	NO	0.4M	Provided by the applicant

1.5 Description of Test Mode

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned follow was evaluated respectively.

For Conducted Test	
Final Test Mode	Description
Mode 1	USB Charging with TX B Mode

For Radiated Test	
Final Test Mode	Description
Mode 3	TX Mode B Mode Channel 01/06/11
Mode 4	TX Mode G Mode Channel 01/06/11
Mode 5	TX Mode N(HT20) Mode Channel 01/06/11
Mode 6	TX Mode N(HT40) Mode Channel 03/06/09

Note:

- (1) For all test, we have verified the construction and function in typical operation. And all the test modes were carried out with the EUT in transmitting operation in maximum power with all kinds of data rate.

According to ANSI C63.10 standards, the measurements are performed at the highest, middle, lowest available channels, and the worst case data rate as follows:

- 802.11b Mode: CCK (1 Mbps)
- 802.11g Mode: OFDM (6 Mbps)
- 802.11n (HT20) Mode: MCS 8 (6.5 Mbps)
- 802.11n (HT40) Mode: MCS 8 (13 Mbps)

- (2) During the testing procedure, the continuously transmitting with the maximum power

mode was programmed by the customer.

- (3) The EUT is considered a mobile unit; in normal use it was positioned on X-plane. The worst case was found positioned on X-plane. Therefore only the test data of this X-plane was used for radiated emission measurement test.

1.6 Description of Test Software Setting

During testing channel& Power controlling software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product power parameters of WLAN.

Test Software: Realtek 11ac 8812A USB WLAN MP Diagnostic Program 0.0059.20130716				
Test Mode: Continuously transmitting				
Mode	Data Rate	Channel	Parameters	
			ANT A	ANT B
802.11b	CCK/ 1Mbps	01	42	44
	CCK/ 1Mbps	06	44	44
	CCK/ 1Mbps	11	44	44
802.11g	OFDM/ 6Mbps	01	58	60
	OFDM/ 6Mbps	06	60	60
	OFDM/ 6Mbps	11	60	60
802.11n(20)	MCS 8	01	54	56
	MCS 8	06	56	56
	MCS 8	11	56	56
802.11n(40)	MCS 8	03	54	56
	MCS 8	06	56	56
	MCS 8	09	56	56

1.7 Measurement Uncertainty

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

Test Item	Parameters	Expanded Uncertainty (U_{Lab})
Conducted Emission	Level Accuracy: 9kHz~150kHz	± 3.42 dB

	150kHz to 30MHz	±3.42 dB
Radiated Emission	Level Accuracy: 9kHz to 30 MHz	±4.60 dB
Radiated Emission	Level Accuracy: 30MHz to 1000 MHz	±4.40 dB
Radiated Emission	Level Accuracy: Above 1000MHz	±4.20 dB

1.7 Test Facility

The testing report were performed by the Shenzhen Toby Technology Co., Ltd., in their facilities located at 1A/F., Bldg.6, Yusheng Industrial Zone, The National Road No.107 Xixiang Section 467, Xixiang, Bao'an, Shenzhen, Guangdong, China. At the time of testing, the following bodies accredited the Laboratory:

CNAS (L5813)

The Laboratory has been accredited by CNAS to ISO/IEC 17025: 2005 General Requirements for the Competence of Testing and Calibration Laboratories for the competence in the field of testing. And the Registration No.: CNAS L5813.

FCC List No.: (811562)

The Laboratory is listed in the United States of American Federal Communications Commission (FCC), and the registration number is 811562.

IC Registration No.: (11950A-1)

The Laboratory has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing. The site registration: Site# 11950A-1.

May 22, 2014 certificated by TUV Rheinland(China) Co., Ltd. with TUV certificate No.: UA 50282953 0001 and report No.: 17026822 002. The certificate is valid until the next scheduled audit or up to 18 months, at the discretion of TUV Rhineland.

2. Test Summary

FCC Part 15 Subpart C(15.247)/RSS-210: 2010				
Standard Section		Test Item	Judgment	Remark
FCC	IC			
15.203	/	Antenna Requirement	PASS	N/A
15.207	RSS-GEN 7.2.4	Conducted Emission	PASS	N/A
15.205	RSS-GEN 7.2.2	Restricted Bands	PASS	N/A
15.247(a)(2)	RSS-210 A.8.2(a)	6dB Bandwidth	PASS	N/A
15.247(b)	RSS-210 A.8.4(4)	Peak Output Power	PASS	N/A
15.247(e)	RSS-210 A.8.2(b)	Power Spectral Density	PASS	N/A
15.247(d)	RSS-210 Annex 8 (A8.5)	Transmitter Radiated Spurious Emission	PASS	N/A
15.247(d)	RSS-210 Annex 8 (A8.5)	Antenna Conducted Spurious Emission	PASS	N/A

Note: "/" for no requirement for this test item.
N/A is an abbreviation for Not Applicable.

3. Test Equipment

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Due Date
EMI Test Receiver	ROHDE& SCHWARZ	ESCI	100321	Aug. 08, 2014	Aug.07, 2015
50ΩCoaxial Switch	Anritsu	MP59B	X10321	Aug. 08, 2014	Aug.07, 2015
L.I.S.N	Rohde & Schwarz	ENV216	101131	Aug. 08, 2014	Aug.07, 2015
L.I.S.N	SCHWARZBECK	NNBL 8226-2	8226-2/164	Aug. 08, 2014	Aug.07, 2015
Spectrum Analyzer	Agilent	E4407B	MY45106456	Aug. 08, 2014	Aug.07, 2015
Spectrum Analyzer	Rohde & Schwarz	FSP30	DE25181	Aug. 08, 2014	Aug.07, 2015
EMI Test Receiver	Rohde & Schwarz	ESCI	101165	Aug. 08, 2014	Aug.07, 2015
Bilog Antenna	ETS-LINDGREN	3142E	00117537	Mar. 06, 2015	Mar.05, 2016
Horn Antenna	ETS-LINDGREN	3117	00143207	Mar. 06, 2015	Mar.05, 2016
Pre-amplifier	HP	11909A	185903	Mar. 06, 2015	Mar.05, 2016
Pre-amplifier	HP	8447B	3008A00849	Mar. 06, 2015	Mar.05, 2016
Cable	HUBER+SUHNE R	100	SUCOFLEX	Mar. 06, 2015	Mar.05, 2016
Signal Generator	Rohde & Schwarz	SML03	IKW682-054	Feb. 10, 2015	Feb.09, 2016
Positioning Controller	ETS-LINDGREN	2090	N/A	N/A	N/A

4. Conducted Emission Test

4.1 Test Standard and Limit

4.1.1 Test Standard

FCC Part 15.207

4.1.2 Test Limit

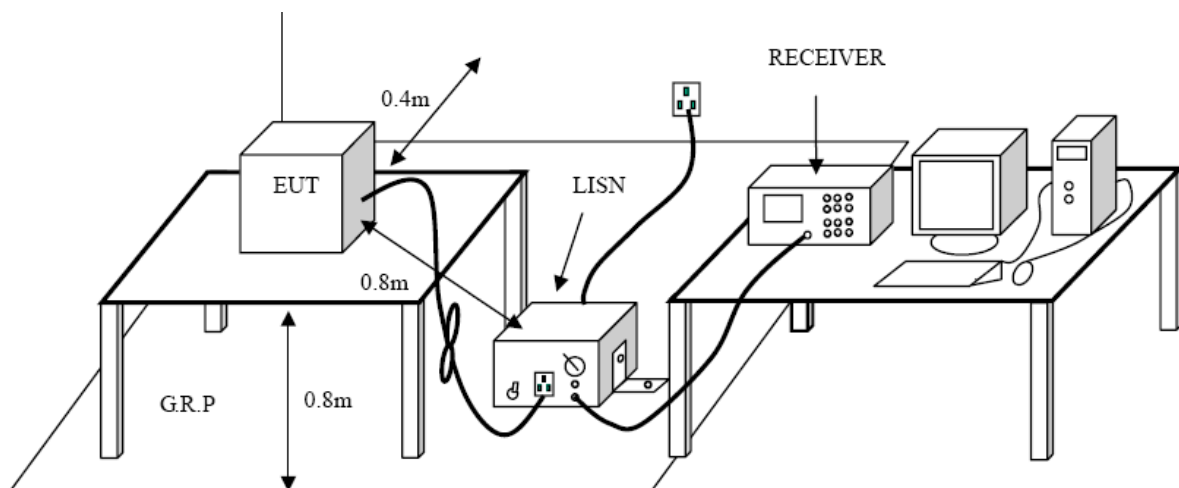
Conducted Emission Test Limit

Frequency	Maximum RF Line Voltage (dB μ V)	
	Quasi-peak Level	Average Level
150kHz~500kHz	66 ~ 56 *	56 ~ 46 *
500kHz~5MHz	56	46
5MHz~30MHz	60	50

Notes:

- (1) *Decreasing linearly with logarithm of the frequency.
- (2) The lower limit shall apply at the transition frequencies.
- (3) The limit decrease in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

4.2 Test Setup



4.3 Test Procedure

The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.

Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.

I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.

LISN at least 80 cm from nearest part of EUT chassis.

The bandwidth of EMI test receiver is set at 9kHz, and the test frequency band is from 0.15MHz to 30MHz.

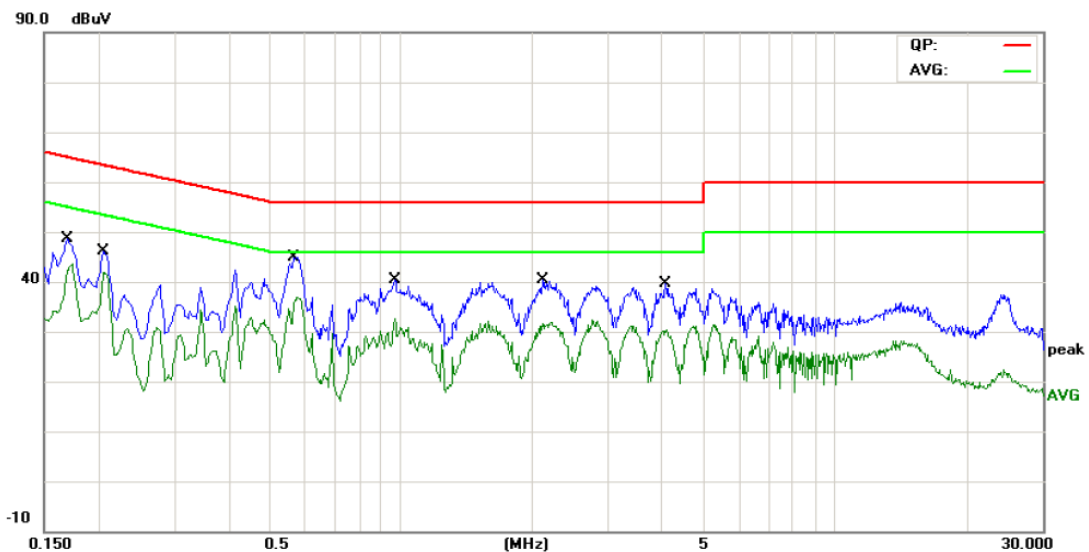
4.4 EUT Operating Mode

Please refer to the description of test mode.

4.5 Test Data

Please see the next page.

EUT:	ScreenBeam 802.11 a/b/g/n/ac WiFi Module	Model Name :	SBRT8812AU
Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	AC 120V/60 Hz		
Terminal:	Line		
Test Mode:	AC Charging with TX B Mode		
Remark:	Only worse case is reported		

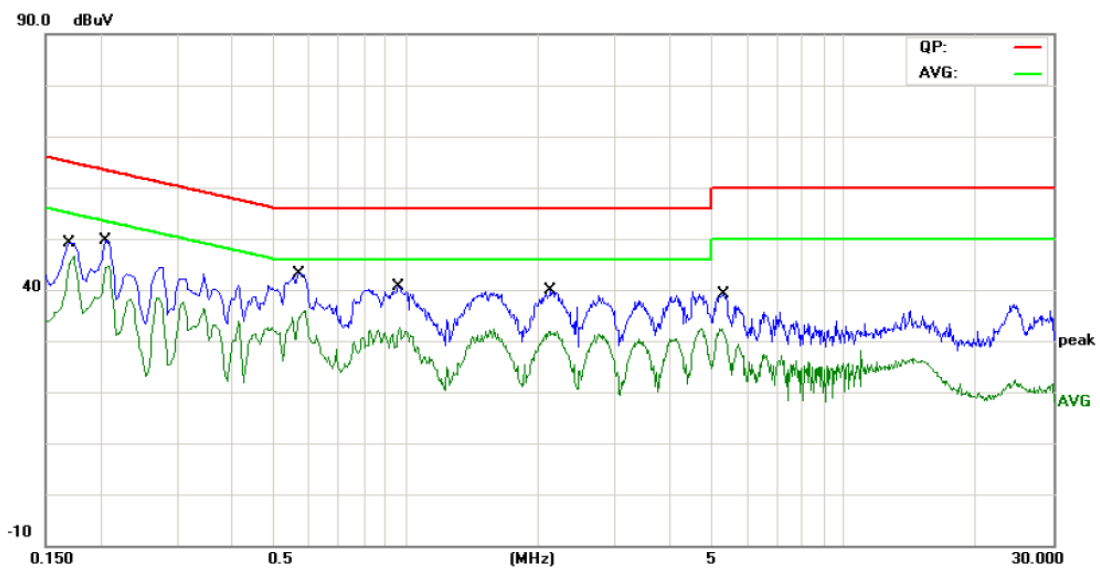


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector
1		0.1700	35.52	10.12	45.64	64.96	-19.32	QP
2		0.1700	32.99	10.12	43.11	54.96	-11.85	AVG
3		0.2060	34.27	10.12	44.39	63.36	-18.97	QP
4		0.2060	32.00	10.12	42.12	53.36	-11.24	AVG
5		0.5660	33.47	10.02	43.49	56.00	-12.51	QP
6	*	0.5660	25.27	10.02	35.29	46.00	-10.71	AVG
7		0.9660	28.09	10.14	38.23	56.00	-17.77	QP
8		0.9660	22.59	10.14	32.73	46.00	-13.27	AVG
9		2.1180	24.77	10.06	34.83	56.00	-21.17	QP
10		2.1180	20.76	10.06	30.82	46.00	-15.18	AVG
11		4.0580	23.25	10.06	33.31	56.00	-22.69	QP
12		4.0580	19.88	10.06	29.94	46.00	-16.06	AVG

*:Maximum data x:Over limit !:over margin

Emission Level= Read Level+ Correct Factor

EUT:	ScreenBeam 802.11 a/b/g/n/ac WiFi Module	Model Name :	SBRT8812AU
Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	AC 120V/60 Hz		
Terminal:	Neutral		
Test Mode:	AC Charging with TX B Mode		
Remark:	Only worse case is reported		



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector
1		0.1700	38.23	9.96	48.19	64.96	-16.77	QP
2		0.1700	35.91	9.96	45.87	54.96	-9.09	AVG
3		0.2060	37.82	10.02	47.84	63.36	-15.52	QP
4	*	0.2060	34.88	10.02	44.90	53.36	-8.46	AVG
5		0.5700	31.86	10.05	41.91	56.00	-14.09	QP
6		0.5700	24.48	10.05	34.53	46.00	-11.47	AVG
7		0.9620	27.77	10.07	37.84	56.00	-18.16	QP
8		0.9620	21.68	10.07	31.75	46.00	-14.25	AVG
9		2.1420	26.39	10.06	36.45	56.00	-19.55	QP
10		2.1420	21.56	10.06	31.62	46.00	-14.38	AVG
11		5.2860	24.53	9.97	34.50	60.00	-25.50	QP
12		5.2860	20.97	9.97	30.94	50.00	-19.06	AVG

*:Maximum data x:Over limit !:over margin

Emission Level= Read Level+ Correct Factor

5. Radiated Emission Test

5.1 Test Standard and Limit

5.1.1 Test Standard

FCC Part 15.209

5.1.2 Test Limit

Radiated Emission Limits (9kHz~1000MHz)

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

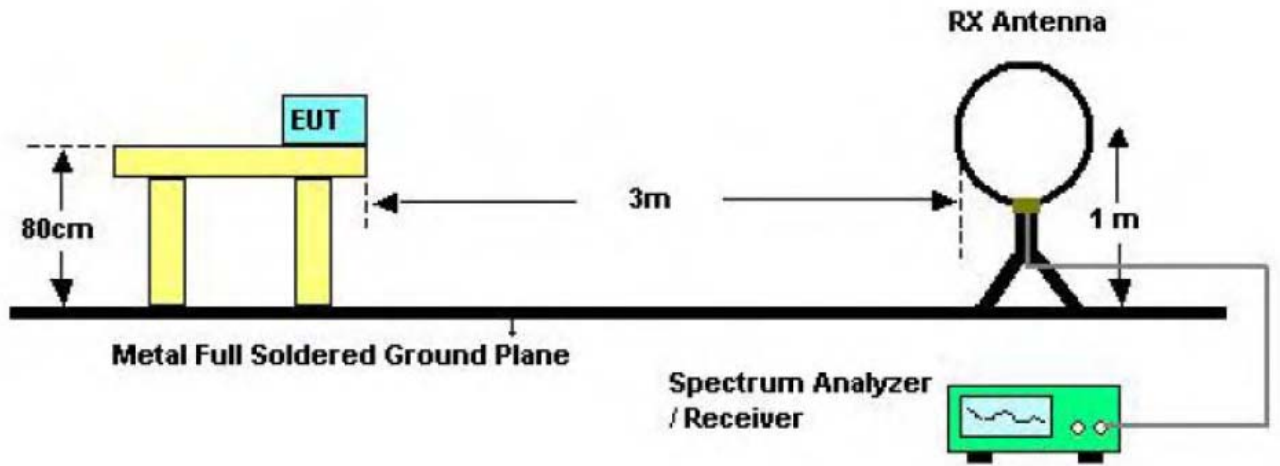
Radiated Emission Limit (Above 1000MHz)

Frequency (MHz)	Class A (dBuV/m)(at 3 M)		Class B (dBuV/m)(at 3 M)	
	Peak	Average	Peak	Average
Above 1000	80	60	74	54

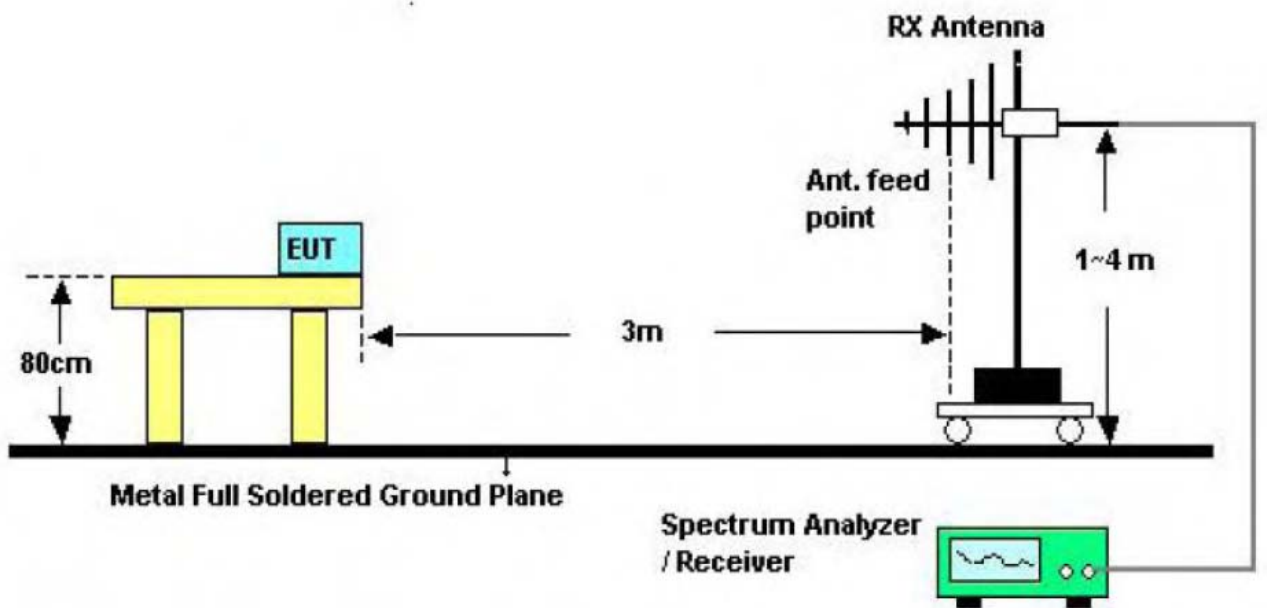
Note:

- (1) The tighter limit applies at the band edges.
- (2) Emission Level(dBuV/m)=20log Emission Level(uV/m)

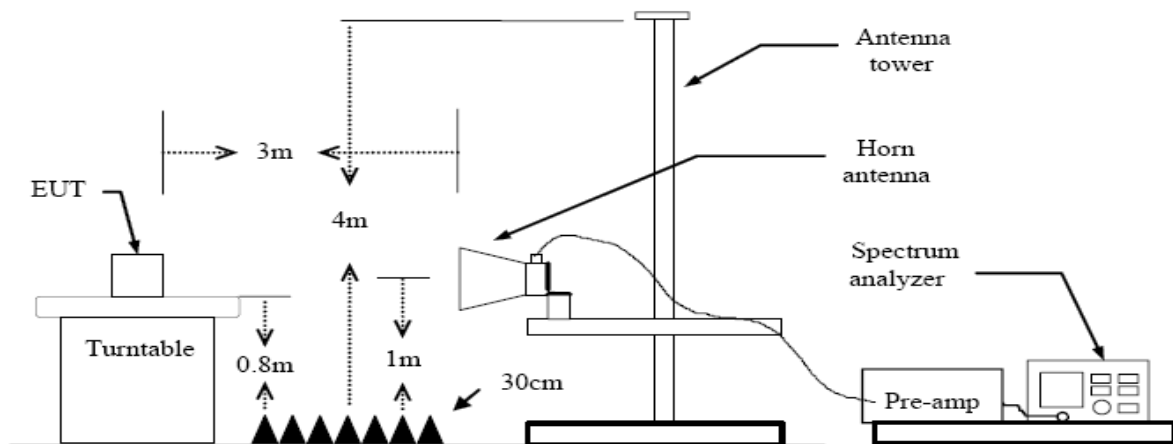
5.2 Test Setup



Below 30MHz Test Setup



Below 1000MHz Test Setup



Above 1GHz Test Setup

5.3 Test Procedure

- (1) The measuring distance of 3m shall be used for measurements at frequency up to 1GHz and above 1 GHz. The EUT was placed on a rotating 0.8m high above ground, the table was rotated 360 degrees to determine the position of the highest radiation.
- (2) Measurements at frequency above 1GHz. The EUT was placed on a rotating 1.5m high above the ground. RF absorbers covered the ground plane with a minimum area of 3.0m by 3.0m between the EUT and measurement receiver antenna. The RF absorber shall not exceed 30cm in high above the conducting floor. The table was rotated 360 degrees to determine the position of the highest radiation.
- (3) The Test antenna shall vary between 1m and 4m, Both Horizontal and Vertical antenna are set to make measurement.
- (4) The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- (5) If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit Bellow 1 GHz, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed. But the Peak Value and average value both need to comply with applicable limit above 1 GHz.
- (6) Testing frequency range below 1GHz the measuring instrument use VBW=120 kHz with Quasi-peak detection.
- (7) Testing frequency range above 1GHz the measuring instrument use RBW=1 MHz and VBW=3 MHz with Peak Detector for Peak Values, and use RBW=1 MHz and VBW=10 Hz with Peak Detector for Average Values.
- (8) For the actual test configuration, please see the test setup photo.

5.4 EUT Operating Condition

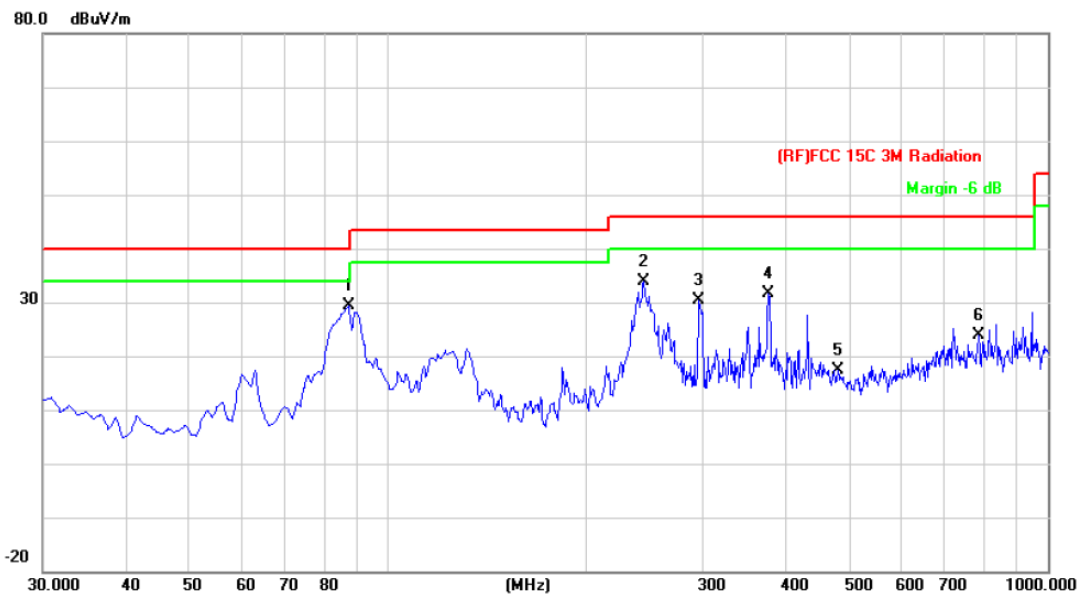
The Equipment Under Test was set to Continual Transmitting in maximum power.

5.5 Test Data

Remark: During testing above 1GHz the measuring instrument use RBW=1 MHz and VBW=3 MHz with Peak Detector for Peak Values, and use RBW=1 MHz and VBW=10 Hz with Peak Detector for Average Values.

Test data please refer the following pages.

EUT:	ScreenBeam 802.11 a/b/g/n/ac WiFi Module	Model:	SBRT8812AU
Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	DC 5V		
Ant. Pol.	Horizontal		
Test Mode:	TX B Mode 2412MHz		
Remark:	Only worse case is reported		

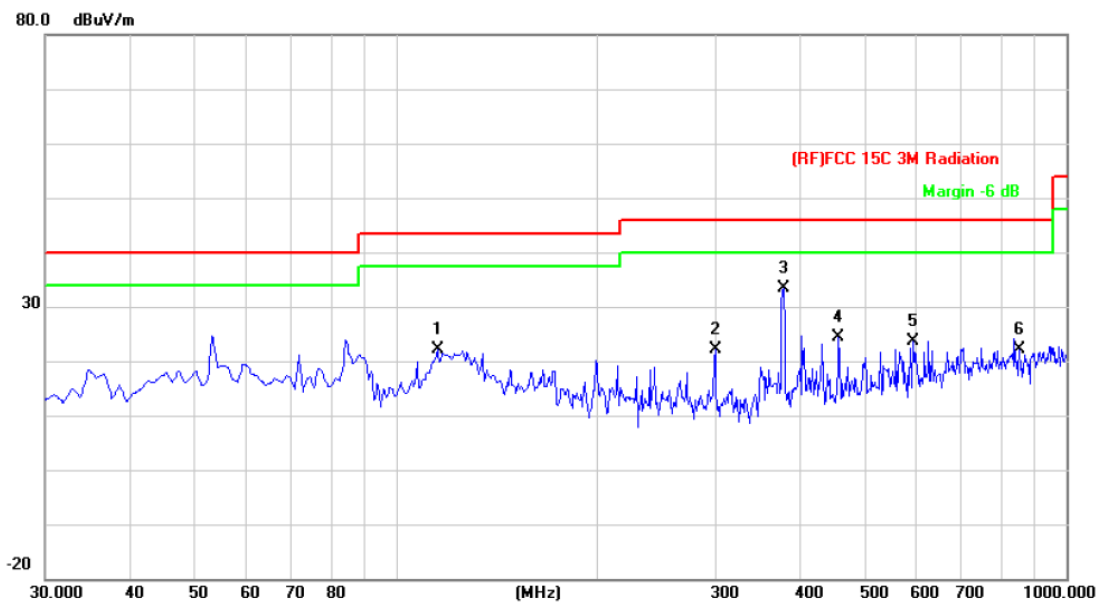


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1	*	87.2300	52.15	-22.86	29.29	40.00	-10.71	peak
2		244.3700	52.15	-18.39	33.76	46.00	-12.24	peak
3		295.7800	47.50	-17.17	30.33	46.00	-15.67	peak
4		378.2300	45.83	-14.25	31.58	46.00	-14.42	peak
5		482.0200	29.04	-11.63	17.41	46.00	-28.59	peak
6		787.5700	30.42	-6.62	23.80	46.00	-22.20	peak

*:Maximum data x:Over limit !:over margin

Emission Level= Read Level+ Correct Factor

EUT:	ScreenBeam 802.11 a/b/g/n/ac WiFi Module	Model:	SBRT8812AU
Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	DC 5V		
Ant. Pol.	Vertical		
Test Mode:	TX B Mode 2412MHz		
Remark:	Only worse case is reported		

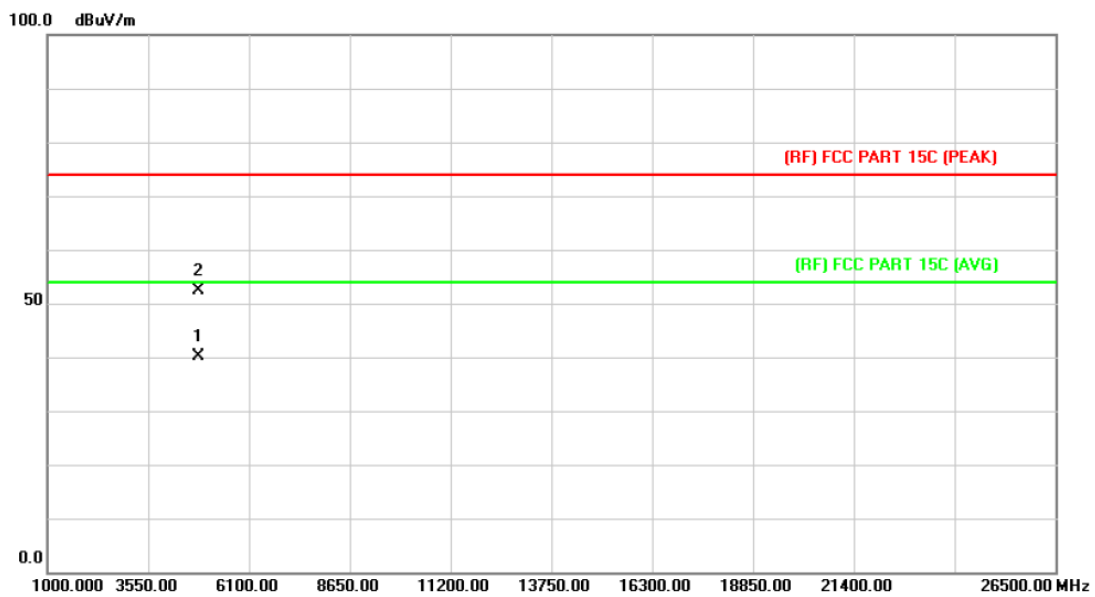


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1		115.3599	44.35	-22.21	22.14	43.50	-21.36	peak
2		299.6600	39.11	-17.10	22.01	46.00	-23.99	peak
3	*	379.1999	47.55	-14.18	33.37	46.00	-12.63	peak
4		458.7400	36.44	-12.16	24.28	46.00	-21.72	peak
5		592.6000	33.30	-9.66	23.64	46.00	-22.36	peak
6		852.5599	28.78	-6.62	22.16	46.00	-23.84	peak

*:Maximum data x:Over limit !:over margin

Emission Level= Read Level+ Correct Factor

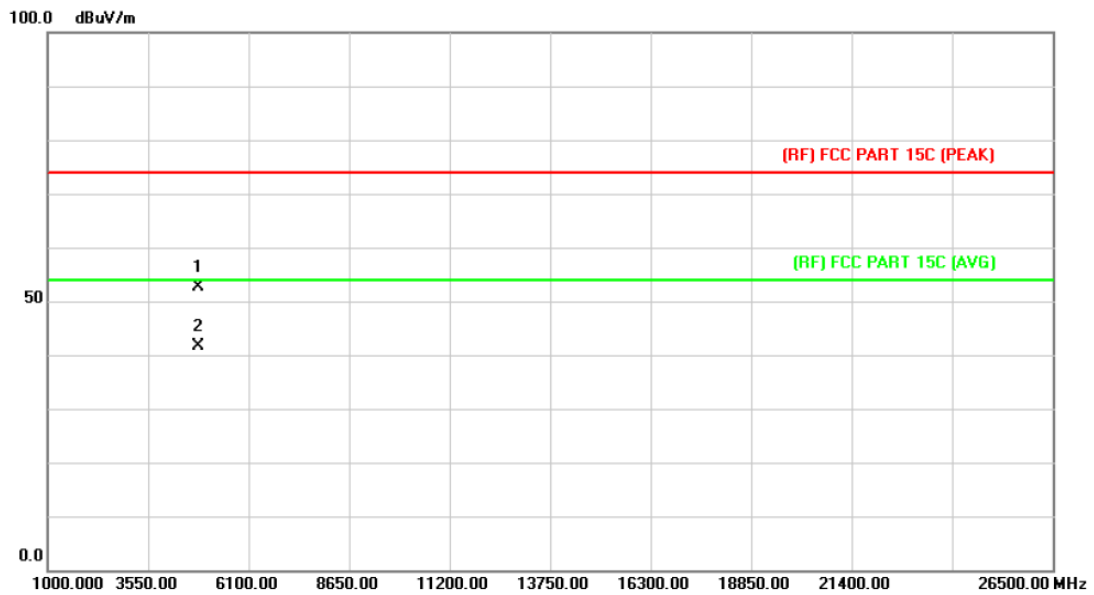
EUT:	ScreenBeam 802.11 a/b/g/n/ac WiFi Module	Model:	SBRT8812AU
Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	DC 5V		
Ant. Pol.	Horizontal		
Test Mode:	TX B Mode 2412MHz Antenna A		
Remark:	No report for the emission which more than 10 dB below the prescribed limit.		



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1	*	4823.970	31.88	8.19	40.07	54.00	-13.93	AVG
2		4824.138	44.14	8.19	52.33	74.00	-21.67	peak

Emission Level= Read Level+ Correct Factor

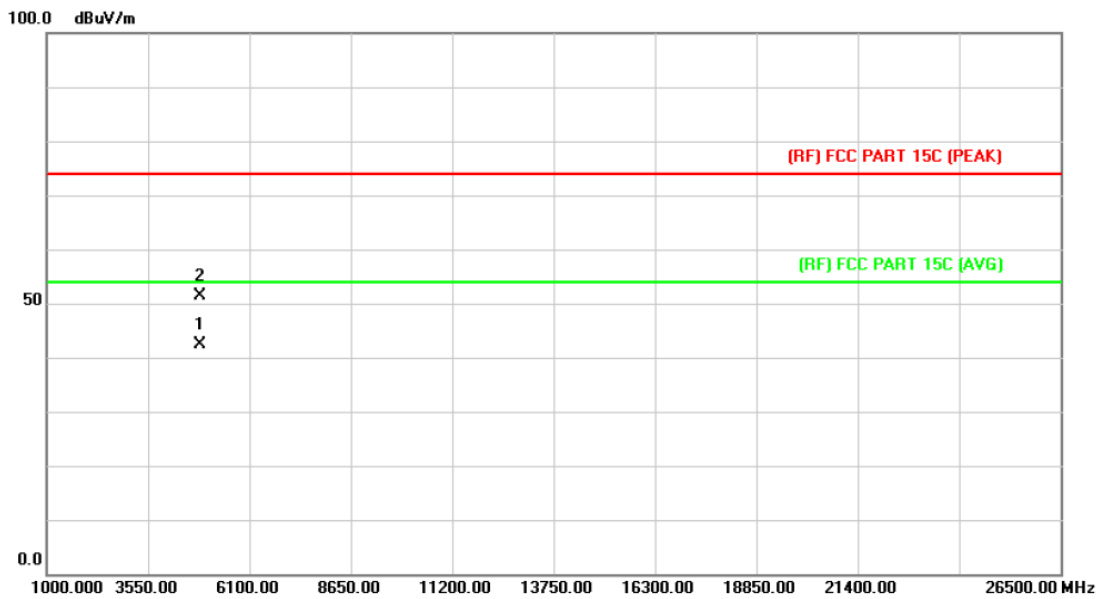
EUT:	ScreenBeam 802.11 a/b/g/n/ac WiFi Module	Model:	SBRT8812AU
Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	DC 5V		
Ant. Pol.	Vertical		
Test Mode:	TX B Mode 2412MHz Antenna A		
Remark:	No report for the emission which more than 10 dB below the prescribed limit.		



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1		4823.901	44.50	8.19	52.69	74.00	-21.31	peak
2	*	4823.970	33.38	8.19	41.57	54.00	-12.43	AVG

Emission Level= Read Level+ Correct Factor

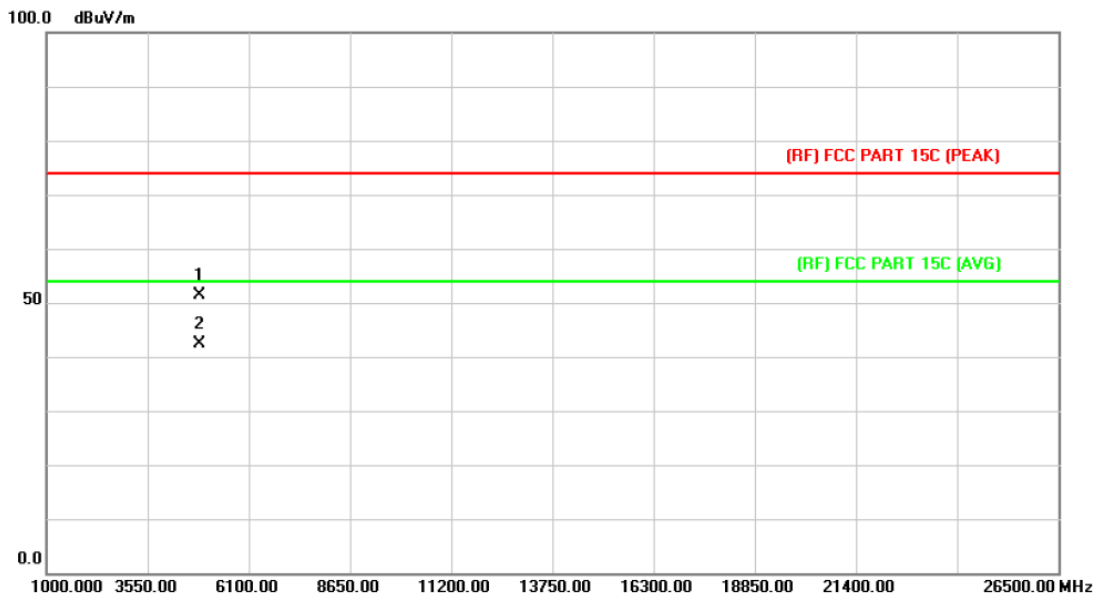
EUT:	ScreenBeam 802.11 a/b/g/n/ac WiFi Module	Model:	SBRT8812AU
Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	DC 5V		
Ant. Pol.	Horizontal		
Test Mode:	TX B Mode 2437MHz Antenna A		
Remark:	No report for the emission which more than 10 dB below the prescribed limit.		



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1	*	4873.760	34.10	8.21	42.31	54.00	-11.69	AVG
2		4873.850	43.25	8.21	51.46	74.00	-22.54	peak

Emission Level= Read Level+ Correct Factor

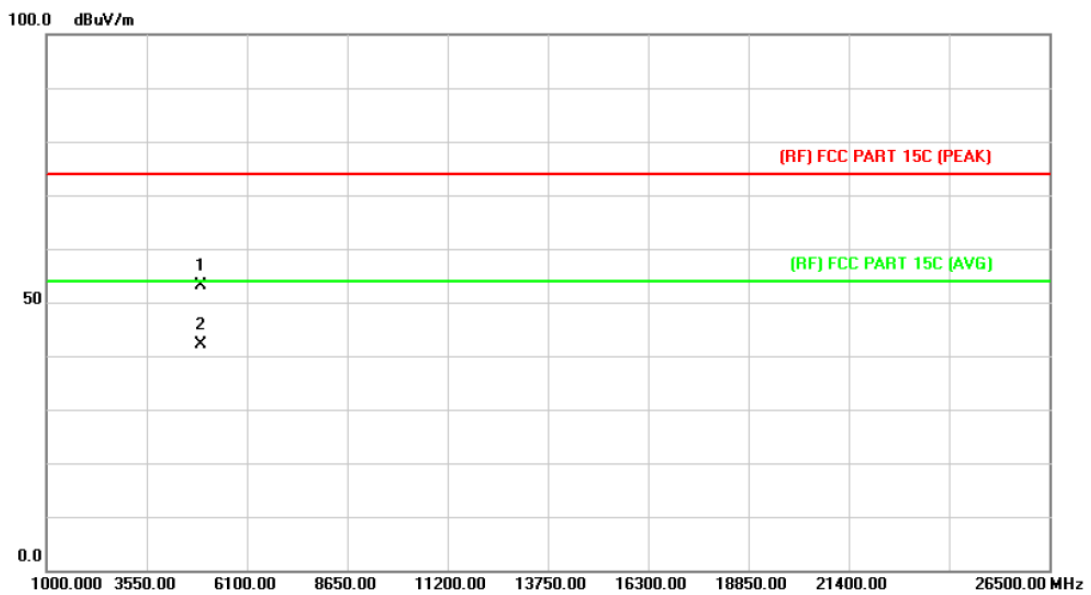
EUT:	ScreenBeam 802.11 a/b/g/n/ac WiFi Module	Model:	SBRT8812AU
Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	DC 5V		
Ant. Pol.	Vertical		
Test Mode:	TX B Mode 2437MHz Antenna A		
Remark:	No report for the emission which more than 10 dB below the prescribed limit.		



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1		4873.970	43.21	8.21	51.42	74.00	-22.58	peak
2	*	4873.970	34.05	8.21	42.26	54.00	-11.74	AVG

Emission Level= Read Level+ Correct Factor

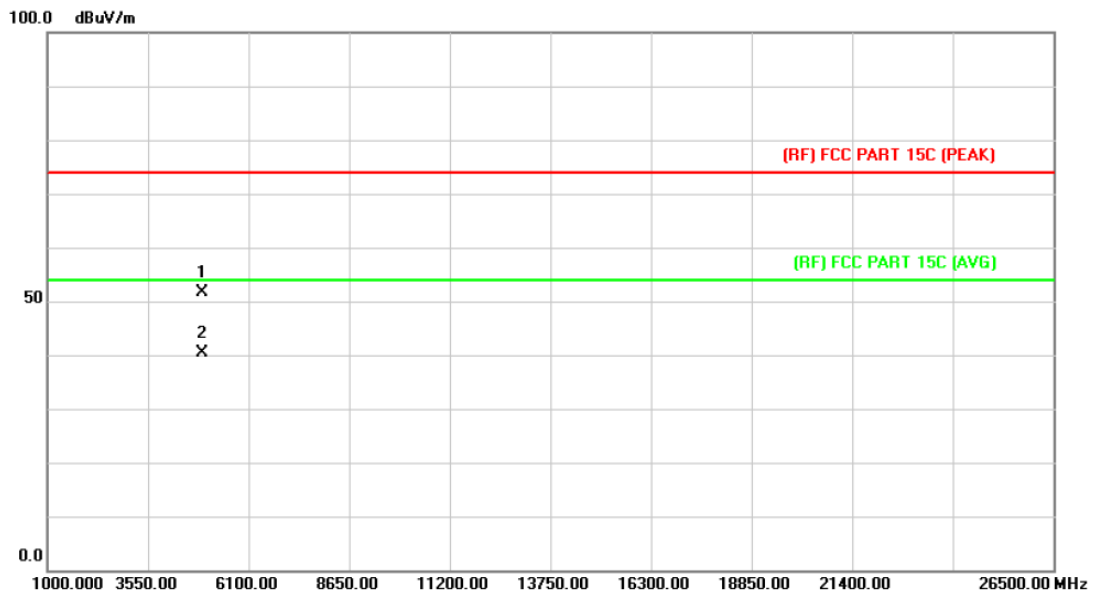
EUT:	ScreenBeam 802.11 a/b/g/n/ac WiFi Module	Model:	SBRT8812AU
Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	DC 5V		
Ant. Pol.	Horizontal		
Test Mode:	TX B Mode 2462MHz Antenna A		
Remark:	No report for the emission which more than 10 dB below the prescribed limit.		



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1		4923.799	44.82	8.22	53.04	74.00	-20.96	peak
2	*	4923.890	33.96	8.22	42.18	54.00	-11.82	AVG

Emission Level= Read Level+ Correct Factor

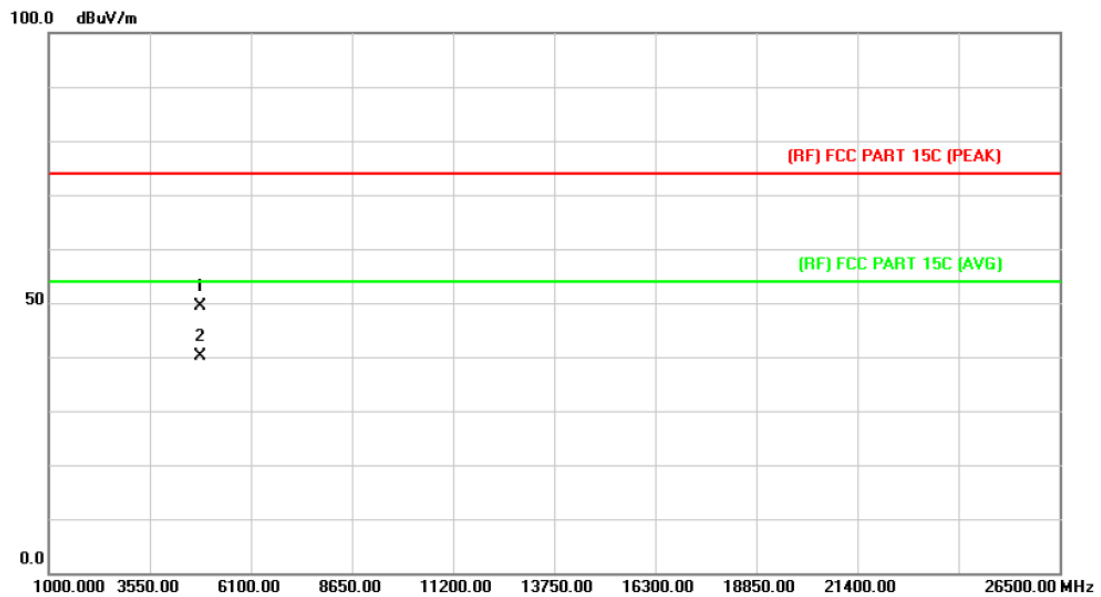
EUT:	ScreenBeam 802.11 a/b/g/n/ac WiFi Module	Model:	SBRT8812AU
Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	DC 5V		
Ant. Pol.	Vertical		
Test Mode:	TX B Mode 2462MHz Antenna A		
Remark:	No report for the emission which more than 10 dB below the prescribed limit.		



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1		4923.778	43.52	8.22	51.74	74.00	-22.26	peak
2	*	4923.871	32.13	8.22	40.35	54.00	-13.65	AVG

Emission Level= Read Level+ Correct Factor

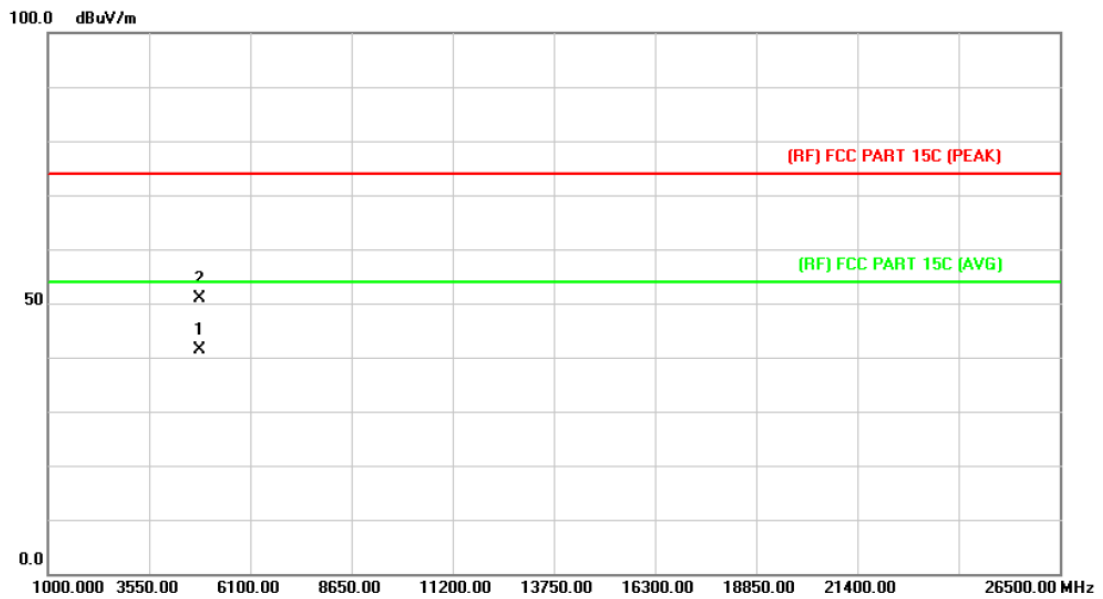
EUT:	ScreenBeam 802.11 a/b/g/n/ac WiFi Module	Model:	SBRT8812AU
Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	DC 5V		
Ant. Pol.	Horizontal		
Test Mode:	TX G Mode 2412MHz Antenna A		
Remark:	No report for the emission which more than 10 dB below the prescribed limit.		



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1		4823.841	41.16	8.19	49.35	74.00	-24.65	peak
2	*	4823.841	31.92	8.19	40.11	54.00	-13.89	AVG

Emission Level= Read Level+ Correct Factor

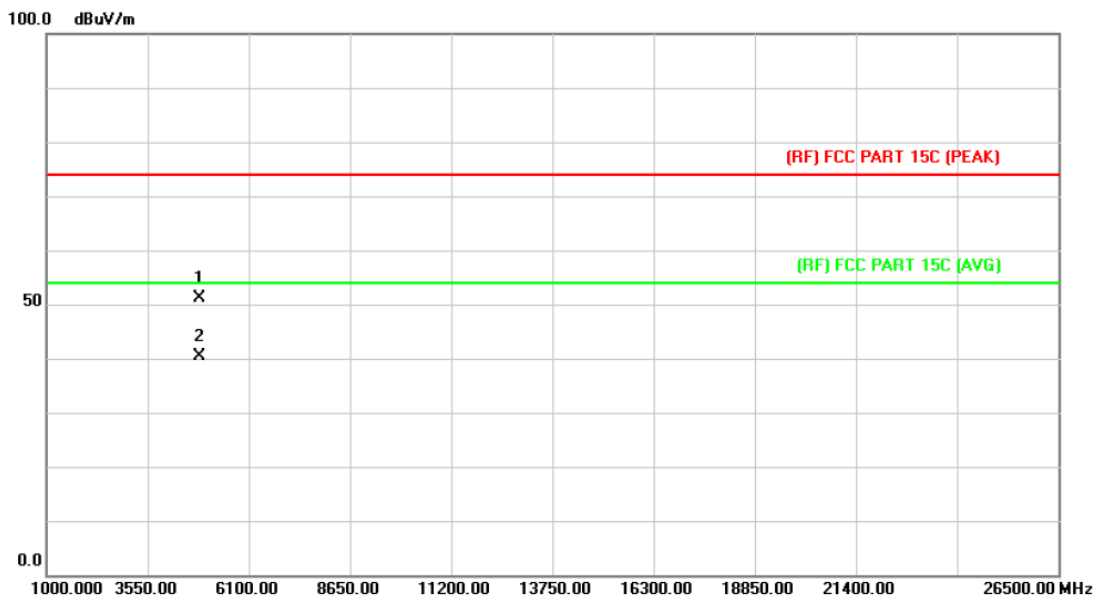
EUT:	ScreenBeam 802.11 a/b/g/n/ac WiFi Module	Model:	SBRT8812AU
Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	DC 5V		
Ant. Pol.	Vertical		
Test Mode:	TX G Mode 2412MHz Antenna A		
Remark:	No report for the emission which more than 10 dB below the prescribed limit.		



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1	*	4823.721	33.16	8.19	41.35	54.00	-12.65	AVG
2		4824.522	42.72	8.19	50.91	74.00	-23.09	peak

Emission Level= Read Level+ Correct Factor

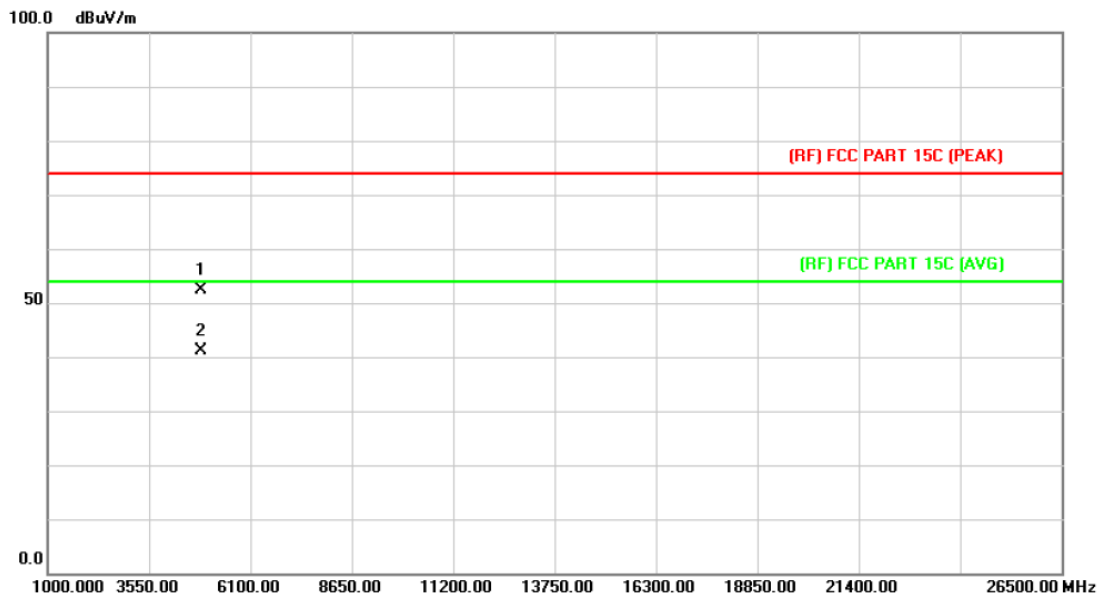
EUT:	ScreenBeam 802.11 a/b/g/n/ac WiFi Module	Model:	SBRT8812AU
Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	DC 5V		
Ant. Pol.	Horizontal		
Test Mode:	TX G Mode 2437MHz Antenna A		
Remark:	No report for the emission which more than 10 dB below the prescribed limit.		



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1		4873.958	42.86	8.21	51.07	74.00	-22.93	peak
2	*	4873.982	32.10	8.21	40.31	54.00	-13.69	AVG

Emission Level= Read Level+ Correct Factor

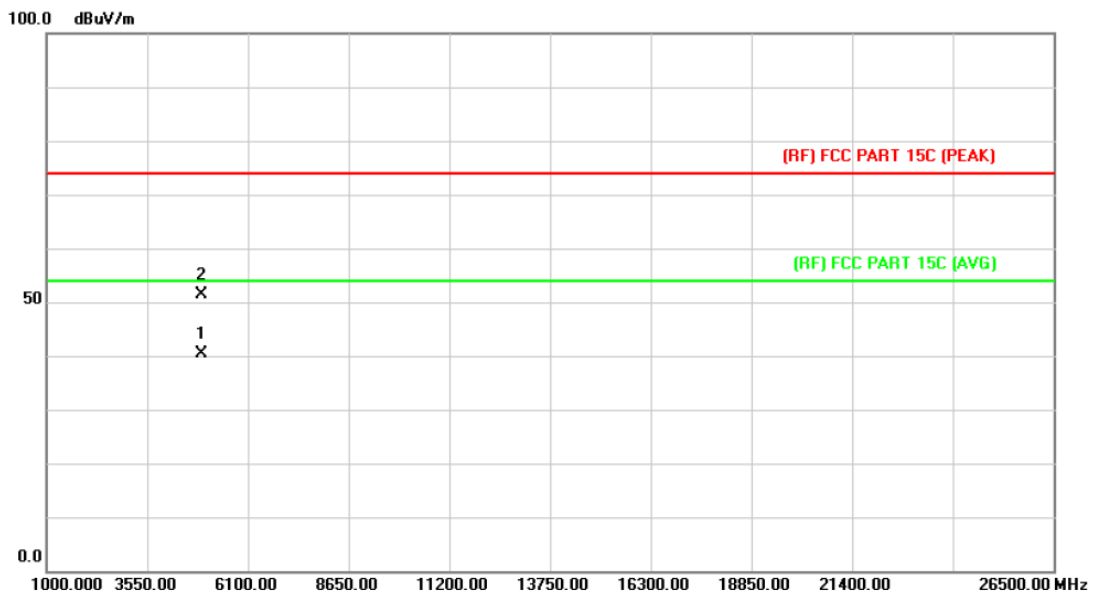
EUT:	ScreenBeam 802.11 a/b/g/n/ac WiFi Module	Model:	SBRT8812AU
Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	DC 5V		
Ant. Pol.	Vertical		
Test Mode:	TX G Mode 2437MHz Antenna A		
Remark:	No report for the emission which more than 10 dB below the prescribed limit.		



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1		4873.781	44.13	8.21	52.34	74.00	-21.66	peak
2	*	4873.955	33.04	8.21	41.25	54.00	-12.75	AVG

Emission Level= Read Level+ Correct Factor

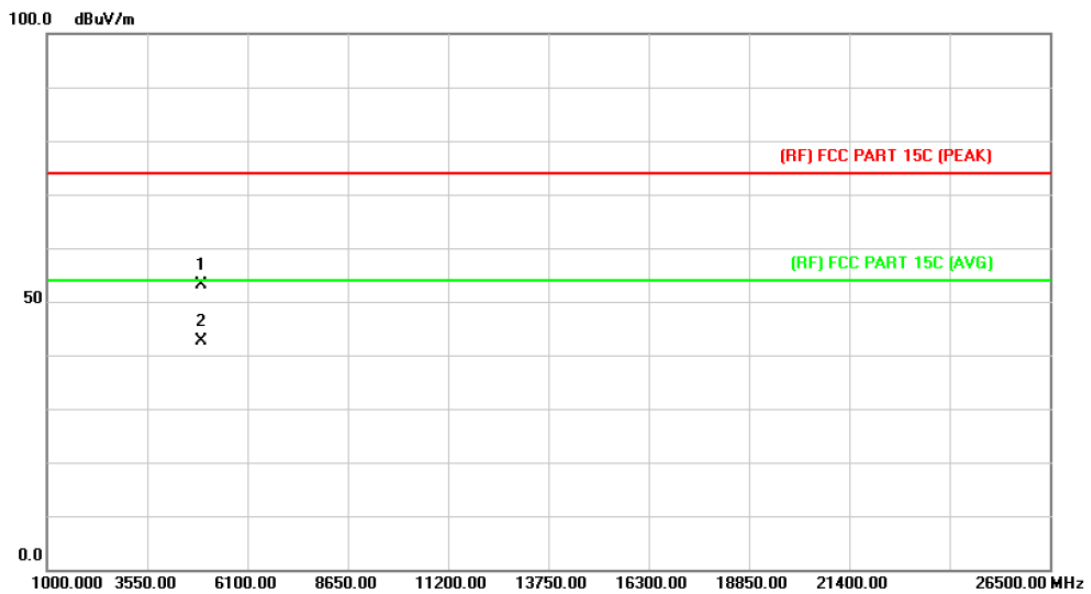
EUT:	ScreenBeam 802.11 a/b/g/n/ac WiFi Module	Model:	SBRT8812AU
Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	DC 5V		
Ant. Pol.	Horizontal		
Test Mode:	TX G Mode 2462MHz Antenna A		
Remark:	No report for the emission which more than 10 dB below the prescribed limit.		



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1	*	4923.835	32.16	8.22	40.38	54.00	-13.62	AVG
2		4924.096	43.28	8.22	51.50	74.00	-22.50	peak

Emission Level= Read Level+ Correct Factor

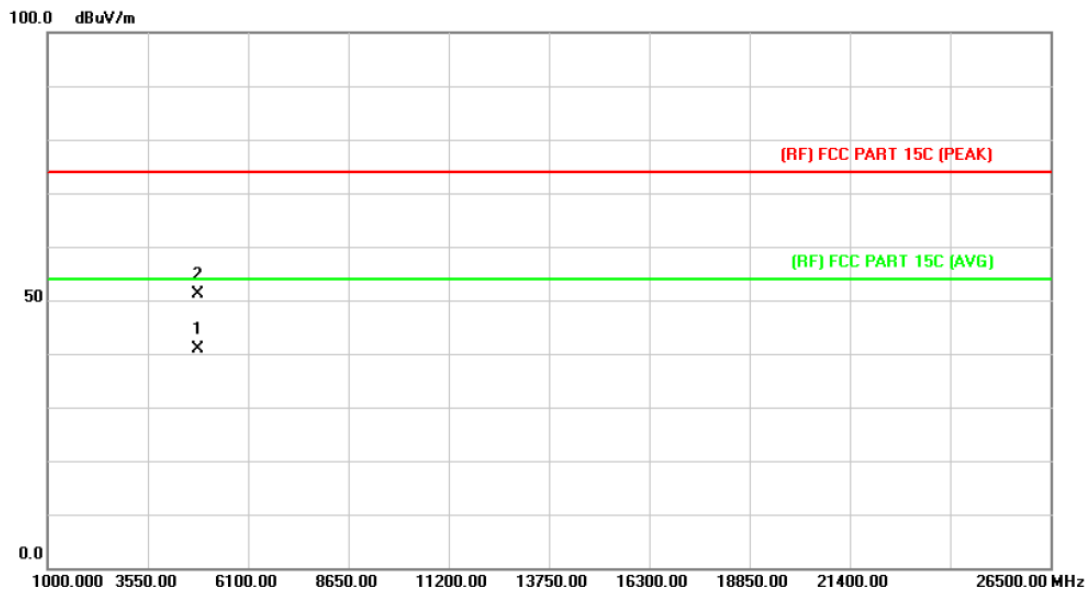
EUT:	ScreenBeam 802.11 a/b/g/n/ac WiFi Module	Model:	SBRT8812AU
Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	DC 5V		
Ant. Pol.	Vertical		
Test Mode:	TX G Mode 2462MHz Antenna A		
Remark:	No report for the emission which more than 10 dB below the prescribed limit.		



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1		4923.823	44.98	8.22	53.20	74.00	-20.80	peak
2	*	4924.303	34.46	8.22	42.68	54.00	-11.32	AVG

Emission Level= Read Level+ Correct Factor

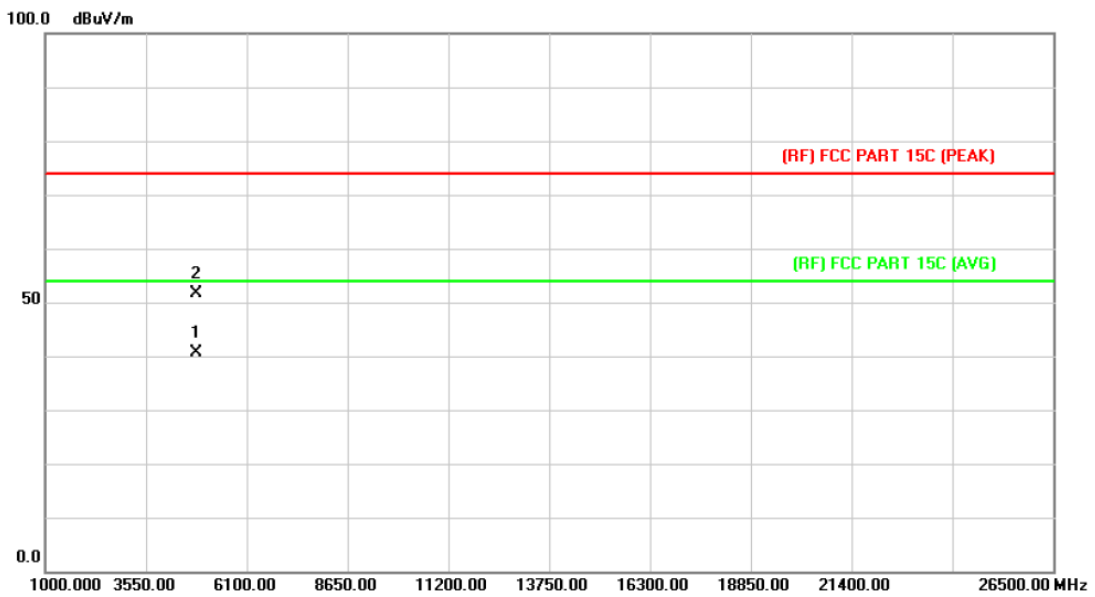
EUT:	ScreenBeam 802.11 a/b/g/n/ac WiFi Module	Model:	SBRT8812AU
Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	DC 5V		
Ant. Pol.	Horizontal		
Test Mode:	TX N(HT20) Mode 2412MHz Antenna A+B		
Remark:	No report for the emission which more than 10 dB below the prescribed limit.		



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1	*	4823.746	32.79	8.19	40.98	54.00	-13.02	AVG
2		4824.349	42.82	8.19	51.01	74.00	-22.99	peak

Emission Level= Read Level+ Correct Factor

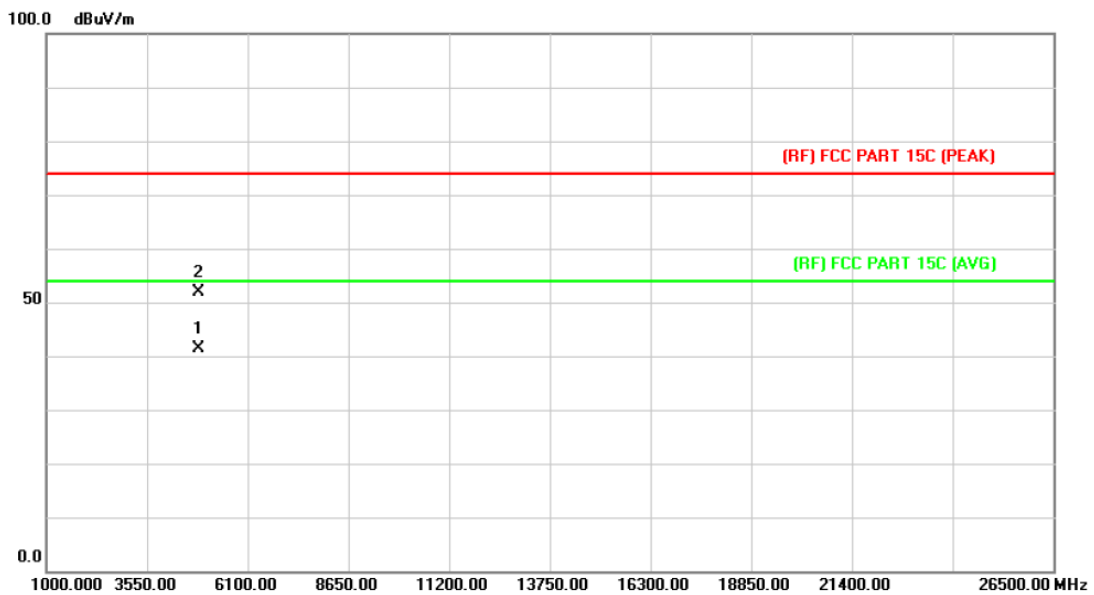
EUT:	ScreenBeam 802.11 a/b/g/n/ac WiFi Module	Model:	SBRT8812AU
Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	DC 5V		
Ant. Pol.	Vertical		
Test Mode:	TX N(HT20) Mode 2412MHz Antenna A+B		
Remark:	No report for the emission which more than 10 dB below the prescribed limit.		



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1	*	4823.707	32.49	8.19	40.68	54.00	-13.32	AVG
2		4824.147	43.55	8.19	51.74	74.00	-22.26	peak

Emission Level= Read Level+ Correct Factor

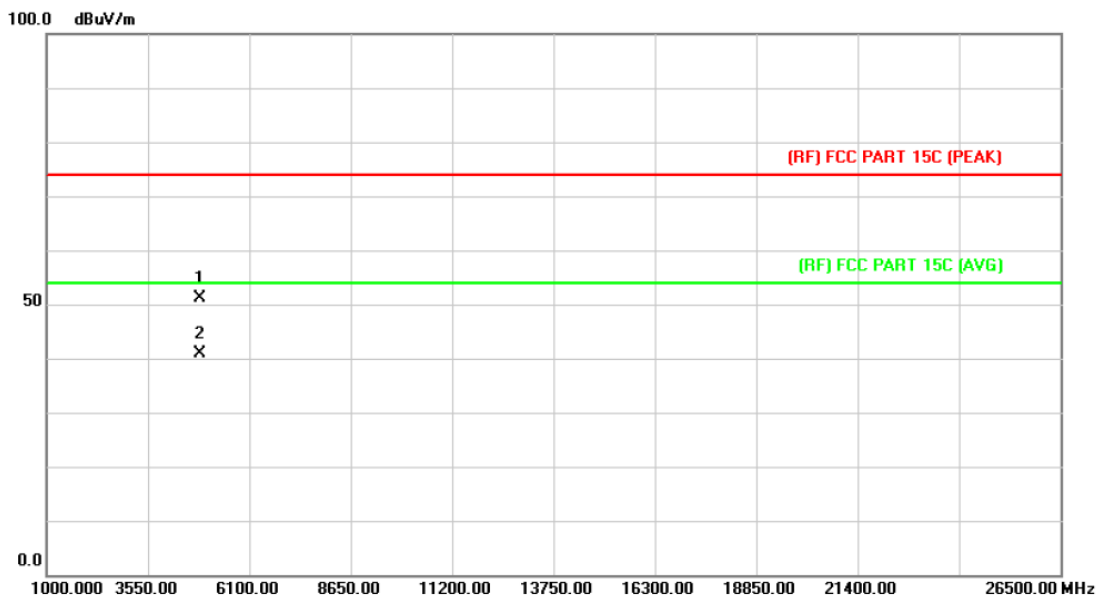
EUT:	ScreenBeam 802.11 a/b/g/n/ac WiFi Module	Model:	SBRT8812AU
Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	DC 5V		
Ant. Pol.	Horizontal		
Test Mode:	TX N(HT20) Mode 2437MHz Antenna A+B		
Remark:	No report for the emission which more than 10 dB below the prescribed limit.		



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1	*	4874.058	33.15	8.21	41.36	54.00	-12.64	AVG
2		4874.072	43.59	8.21	51.80	74.00	-22.20	peak

Emission Level= Read Level+ Correct Factor

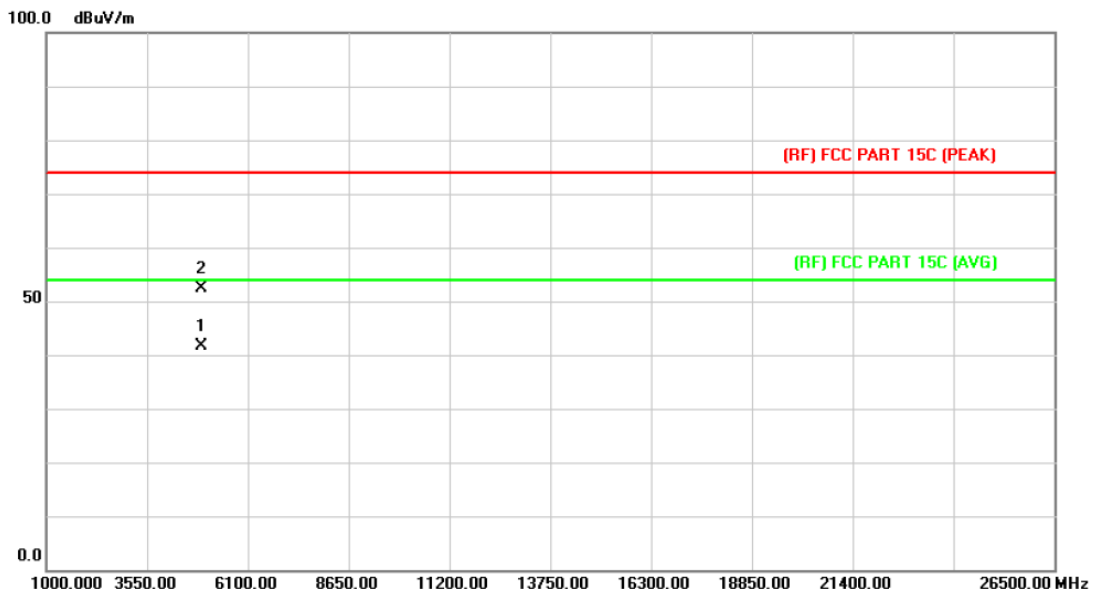
EUT:	ScreenBeam 802.11 a/b/g/n/ac WiFi Module	Model:	SBRT8812AU
Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	DC 5V		
Ant. Pol.	Vertical		
Test Mode:	TX N(HT20) Mode 2437MHz Antenna A+B		
Remark:	No report for the emission which more than 10 dB below the prescribed limit.		



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1		4873.612	42.95	8.21	51.16	74.00	-22.84	peak
2	*	4874.424	32.64	8.21	40.85	54.00	-13.15	AVG

Emission Level= Read Level+ Correct Factor

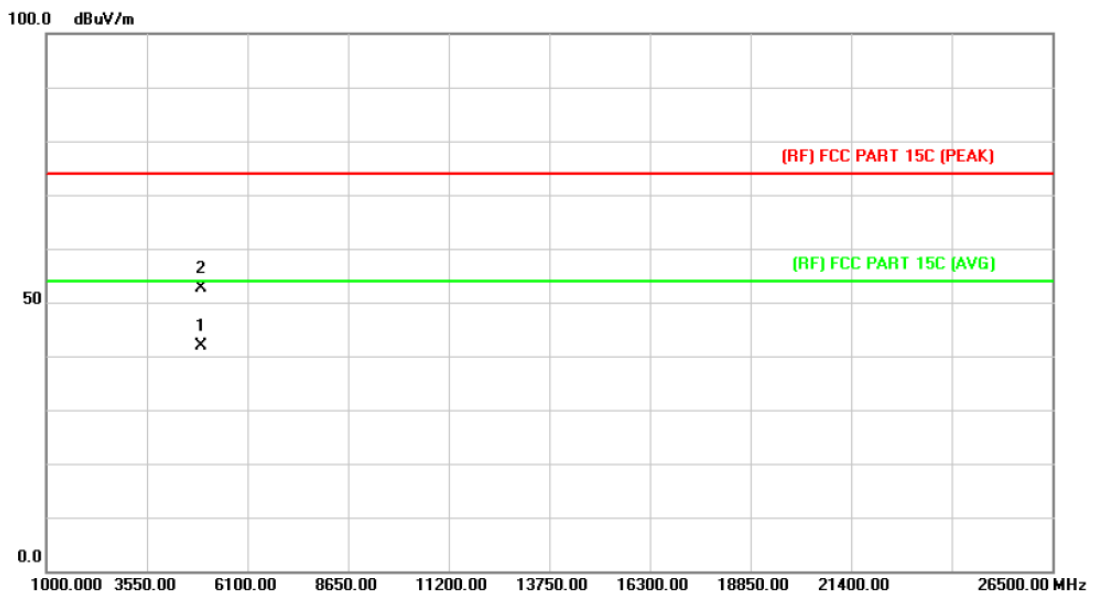
EUT:	ScreenBeam 802.11 a/b/g/n/ac WiFi Module	Model:	SBRT8812AU
Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	DC 5V		
Ant. Pol.	Horizontal		
Test Mode:	TX N(HT20) Mode 2462MHz Antenna A+B		
Remark:	No report for the emission which more than 10 dB below the prescribed limit.		



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1	*	4924.027	33.46	8.22	41.68	54.00	-12.32	AVG
2		4924.080	44.28	8.22	52.50	74.00	-21.50	peak

Emission Level= Read Level+ Correct Factor

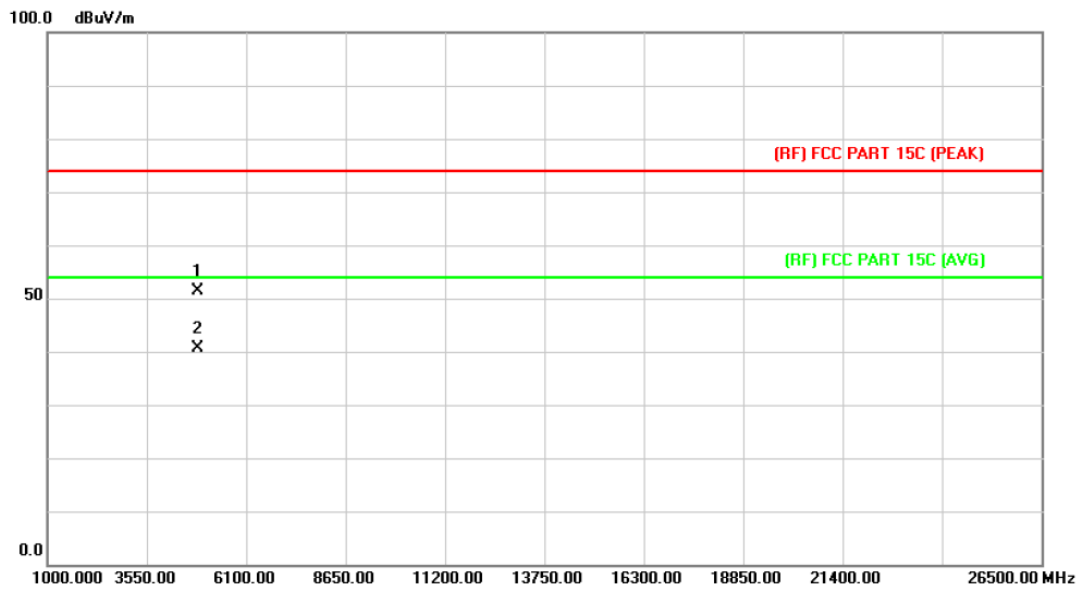
EUT:	ScreenBeam 802.11 a/b/g/n/ac WiFi Module	Model:	SBRT8812AU
Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	DC 5V		
Ant. Pol.	Vertical		
Test Mode:	TX N(HT20) Mode 2462MHz Antenna A+B		
Remark:	No report for the emission which more than 10 dB below the prescribed limit.		



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1	*	4923.975	33.75	8.22	41.97	54.00	-12.03	AVG
2		4923.994	44.37	8.22	52.59	74.00	-21.41	peak

Emission Level= Read Level+ Correct Factor

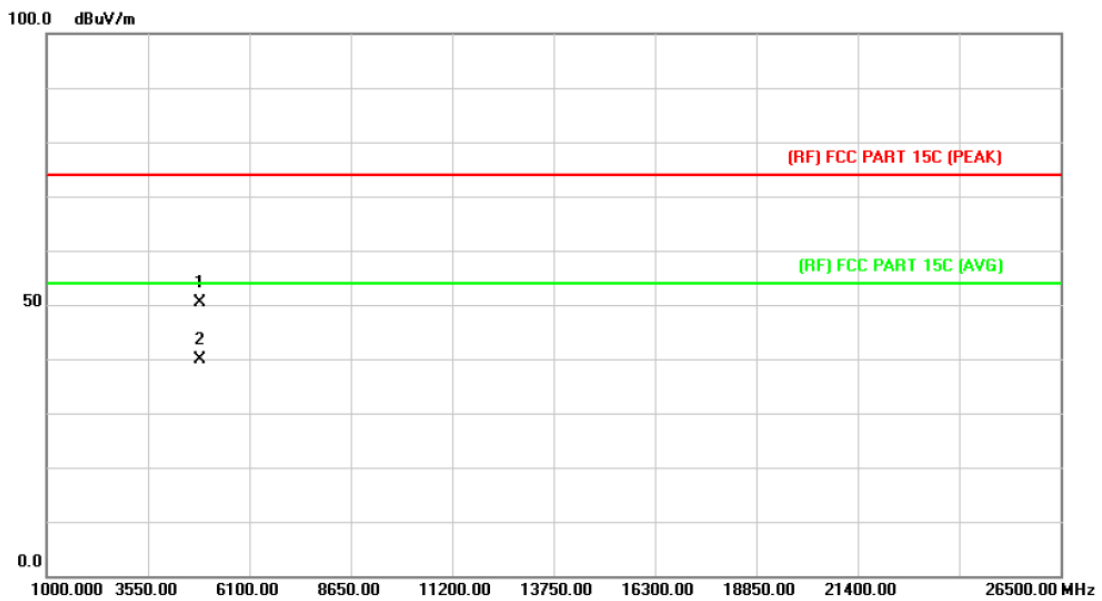
EUT:	ScreenBeam 802.11 a/b/g/n/ac WiFi Module	Model:	SBRT8812AU
Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	DC 5V		
Ant. Pol.	Horizontal		
Test Mode:	TX N(HT40) Mode 2422MHz Antenna A+B		
Remark:	No report for the emission which more than 10 dB below the prescribed limit.		



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1		4843.843	43.12	8.20	51.32	74.00	-22.68	peak
2	*	4844.229	32.49	8.20	40.69	54.00	-13.31	AVG

Emission Level= Read Level+ Correct Factor

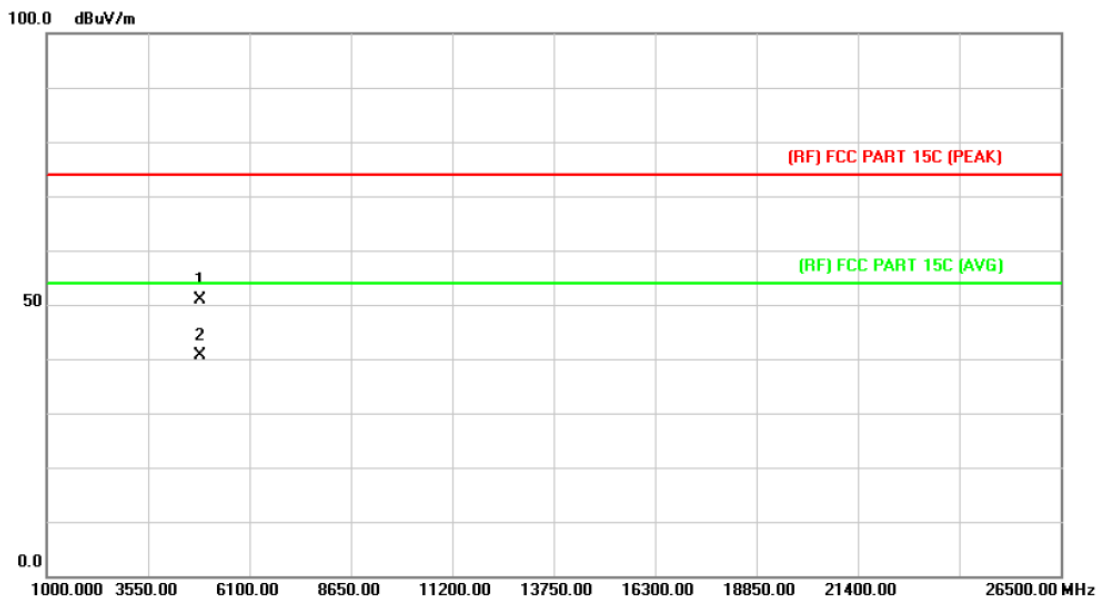
EUT:	ScreenBeam 802.11 a/b/g/n/ac WiFi Module	Model:	SBRT8812AU
Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	DC 5V		
Ant. Pol.	Vertical		
Test Mode:	TX N(HT40) Mode 2422MHz Antenna A+B		
Remark:	No report for the emission which more than 10 dB below the prescribed limit.		



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1		4843.929	42.18	8.20	50.38	74.00	-23.62	peak
2	*	4844.500	31.78	8.20	39.98	54.00	-14.02	AVG

Emission Level= Read Level+ Correct Factor

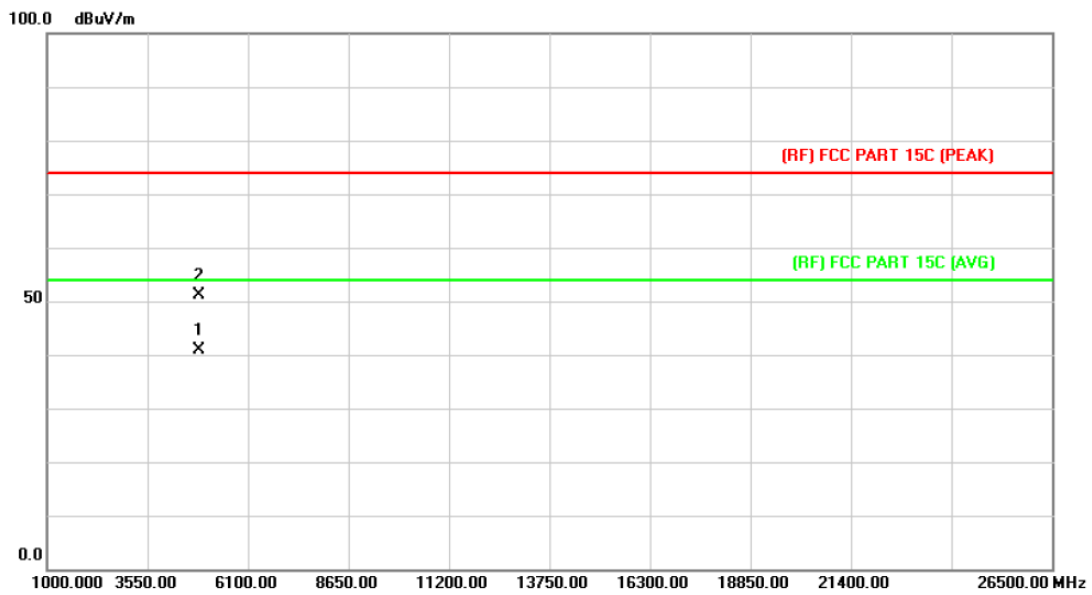
EUT:	ScreenBeam 802.11 a/b/g/n/ac WiFi Module	Model:	SBRT8812AU
Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	DC 5V		
Ant. Pol.	Horizontal		
Test Mode:	TX N(HT40) Mode 2437MHz Antenna A+B		
Remark:	No report for the emission which more than 10 dB below the prescribed limit.		



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1		4874.165	42.75	8.21	50.96	74.00	-23.04	peak
2	*	4874.225	32.36	8.21	40.57	54.00	-13.43	AVG

Emission Level= Read Level+ Correct Factor

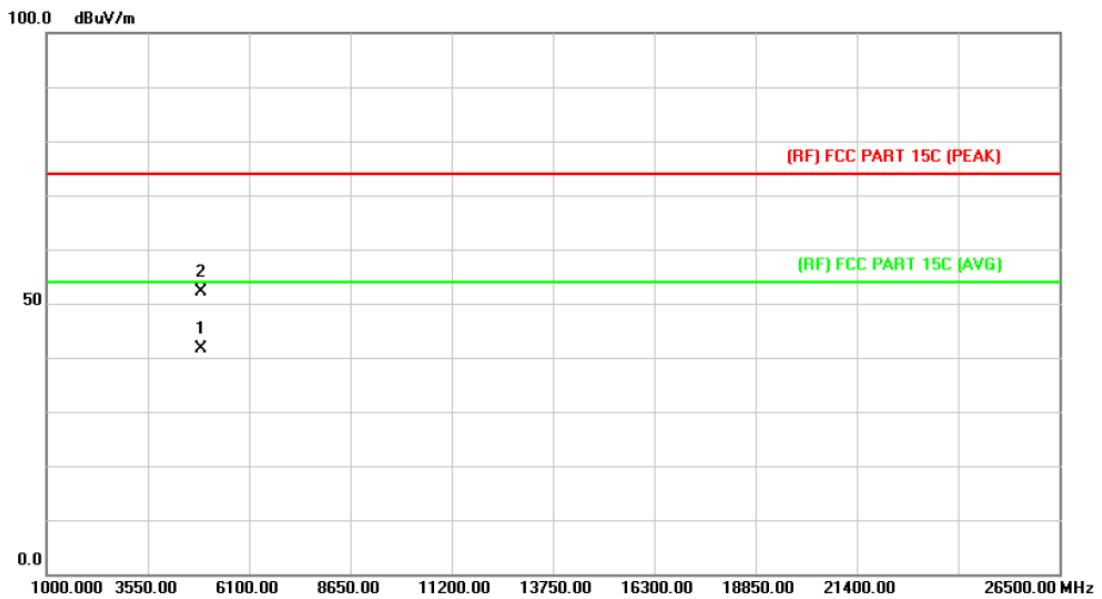
EUT:	ScreenBeam 802.11 a/b/g/n/ac WiFi Module	Model:	SBRT8812AU
Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	DC 5V		
Ant. Pol.	Vertical		
Test Mode:	TX N(HT40) Mode 2437MHz Antenna A+B		
Remark:	No report for the emission which more than 10 dB below the prescribed limit.		



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1	*	4874.234	32.74	8.21	40.95	54.00	-13.05	AVG
2		4874.294	42.93	8.21	51.14	74.00	-22.86	peak

Emission Level= Read Level+ Correct Factor

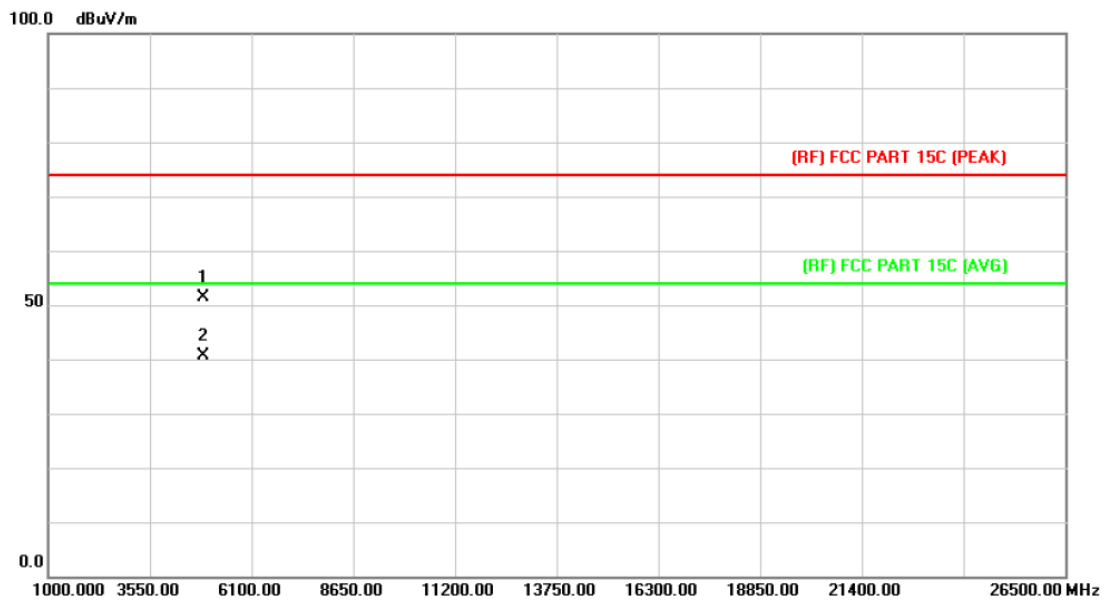
EUT:	ScreenBeam 802.11 a/b/g/n/ac WiFi Module	Model:	SBRT8812AU
Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	DC 5V		
Ant. Pol.	Horizontal		
Test Mode:	TX N(HT40) Mode 2452MHz Antenna A+B		
Remark:	No report for the emission which more than 10 dB below the prescribed limit.		



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1	*	4904.205	33.43	8.21	41.64	54.00	-12.36	AVG
2		4904.249	43.84	8.21	52.05	74.00	-21.95	peak

Emission Level= Read Level+ Correct Factor

EUT:	ScreenBeam 802.11 a/b/g/n/ac WiFi Module	Model:	SBRT8812AU
Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	DC 5V		
Ant. Pol.	Vertical		
Test Mode:	TX N(HT40) Mode 2452MHz Antenna A+B		
Remark:	No report for the emission which more than 10 dB below the prescribed limit.		



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1		4903.700	43.27	8.21	51.48	74.00	-22.52	peak
2	*	4904.172	32.46	8.21	40.67	54.00	-13.33	AVG

Emission Level= Read Level+ Correct Factor

6. Restricted Bands Requirement

6.1 Test Standard and Limit

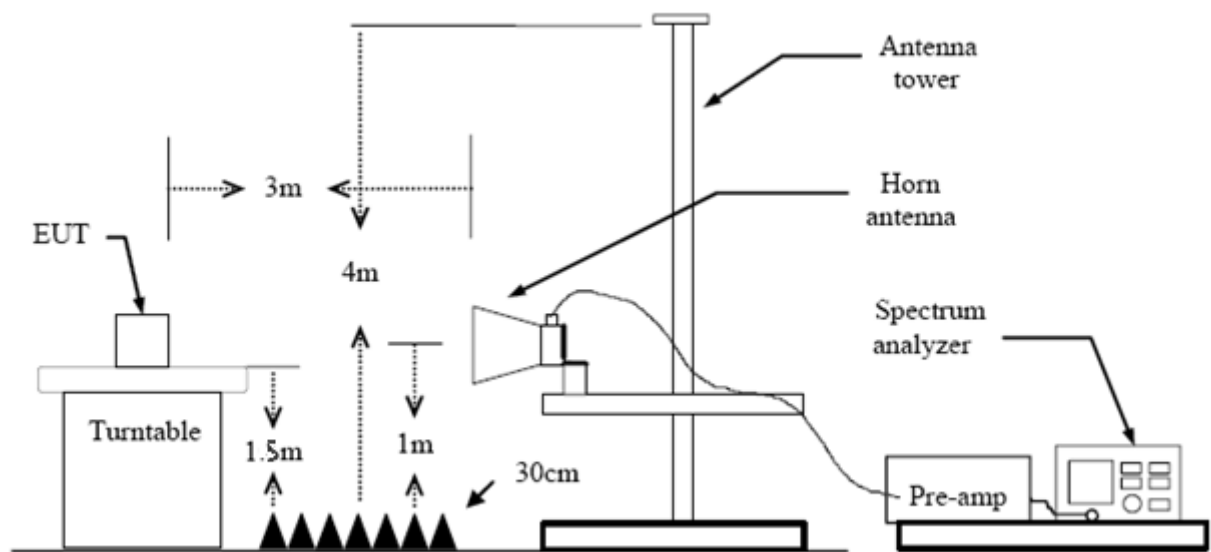
6.1.1 Test Standard

FCC Part 15.209 FCC Part 15.205

6.1.2 Test Limit

Restricted Frequency Band (MHz)	Class B (dBuV/m)(at 3 M)	
	Peak	Average
2310 ~2390	74	54
2483.5 ~2500	74	54

6.2 Test Setup



6.3 Test Procedure

- (1) The measuring distance of 3m shall be used for measurements at frequency up to 1GHz and above 1 GHz. The EUT was placed on a rotating 0.8m high above ground, the table was rotated 360 degrees to determine the position of the highest radiation.
- (2) Measurements at frequency above 1GHz. The EUT was placed on a rotating 1.5m high above the ground. RF absorbers covered the ground plane with a minimum area of 3.0m by 3.0m between the EUT and measurement receiver antenna. The RF absorber shall not exceed 30cm in high above the conducting floor. The table was rotated 360 degrees to determine the position of the highest radiation.
- (3) The Test antenna shall vary between 1m and 4m, Both Horizontal and Vertical antenna are set to make measurement.

- (4) The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- (5) If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit Bellow 1 GHz, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed. But the Peak Value and average value both need to comply with applicable limit above 1 GHz.
- (6) Testing frequency range below 1GHz the measuring instrument use VBW=120 kHz with Quasi-peak detection.
- (7) Testing frequency range above 1GHz the measuring instrument use RBW=1 MHz and VBW=3 MHz with Peak Detector for Peak Values, and use RBW=1 MHz and VBW=10 Hz with Peak Detector for Average Values.
- (8) For the actual test configuration, please see the test setup photo.

6.4 EUT Operating Condition

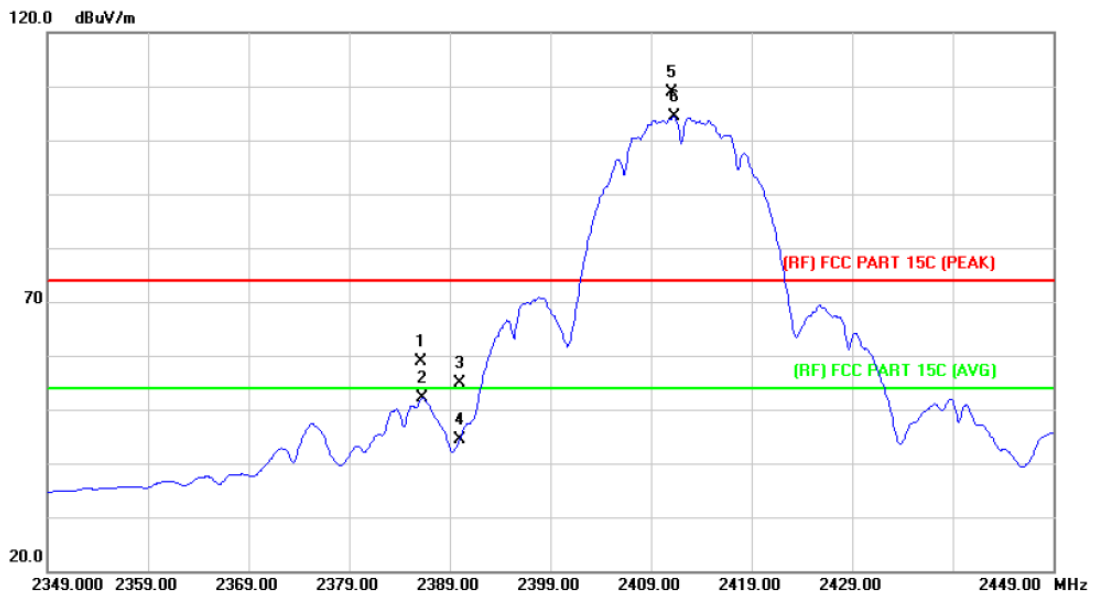
The Equipment Under Test was set to Continual Transmitting in maximum power.

6.5 Test Data

Please see the next page.

(1) Radiation Test

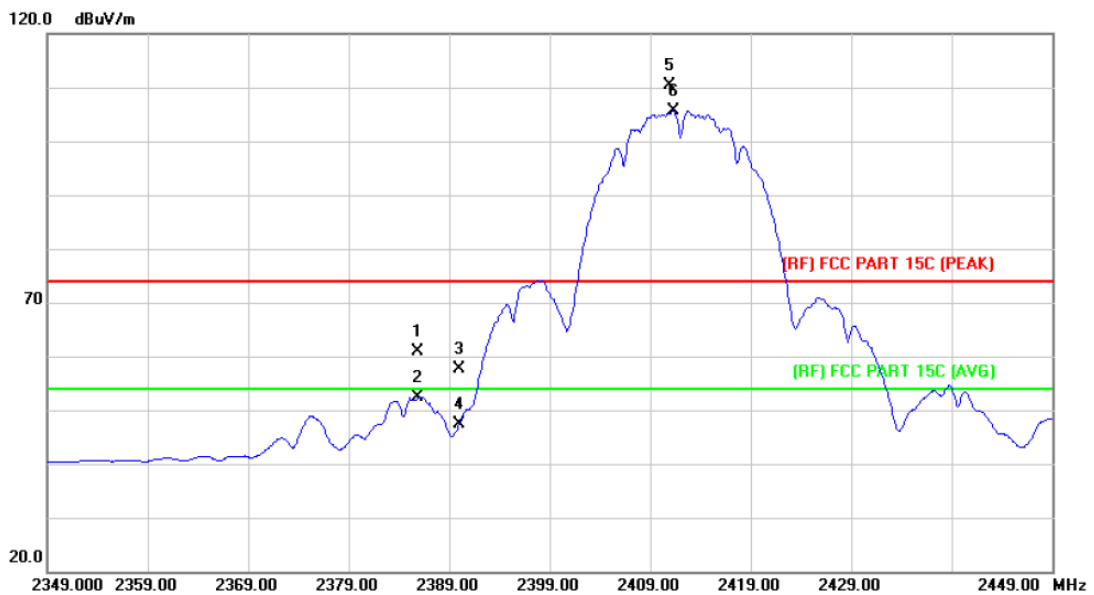
EUT:	ScreenBeam 802.11 a/b/g/n/ac WiFi Module	Model:	SBRT8812AU
Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	DC 5V		
Ant. Pol.	Horizontal		
Test Mode:	TX B Mode 2412MHz Antenna A		
Remark:	N/A		



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1		2386.200	58.02	0.76	58.78	74.00	-15.22	peak
2		2386.300	51.29	0.76	52.05	54.00	-1.95	AVG
3		2390.000	54.16	0.77	54.93	74.00	-19.07	peak
4		2390.000	43.67	0.77	44.44	54.00	-9.56	AVG
5	X	2411.000	108.14	0.86	109.00	Fundamental Frequency		peak
6	*	2411.300	103.49	0.86	104.35	Fundamental Frequency		AVG

Emission Level= Read Level+ Correct Factor

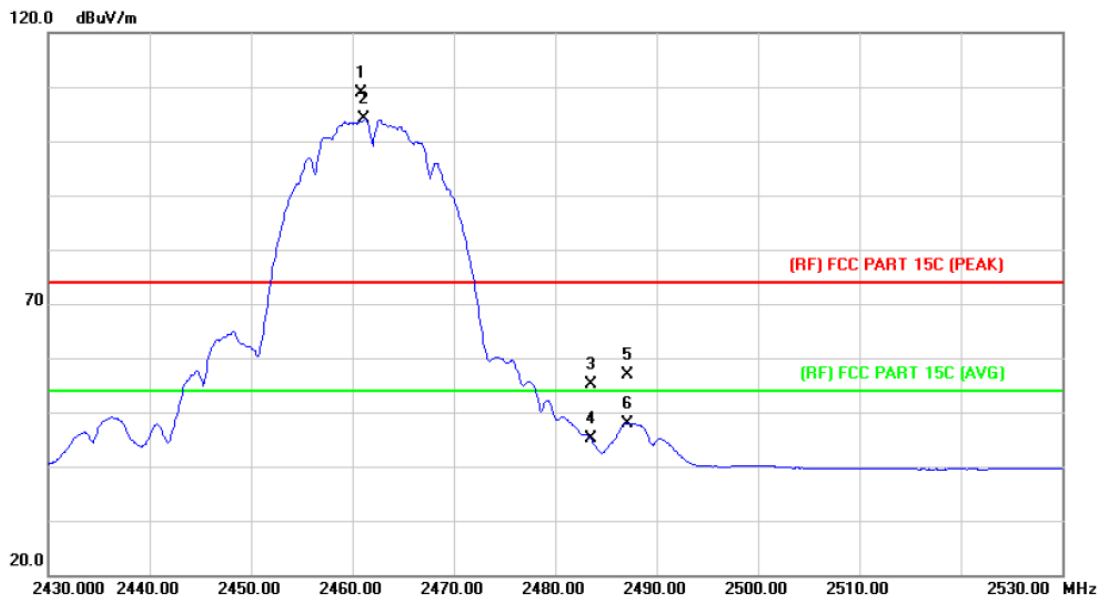
EUT:	ScreenBeam 802.11 a/b/g/n/ac WiFi Module	Model:	SBRT8812AU
Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	DC 5V		
Ant. Pol.	Vertical		
Test Mode:	TX B Mode 2412MHz Antenna A		
Remark:	N/A		



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1		2385.900	60.17	0.76	60.93	74.00	-13.07	peak
2		2385.900	51.61	0.76	52.37	54.00	-1.63	AVG
3		2390.000	56.78	0.77	57.55	74.00	-16.45	peak
4		2390.000	46.53	0.77	47.30	54.00	-6.70	AVG
5	X	2410.900	109.56	0.86	110.42	Fundamental Frequency		peak
6	*	2411.300	104.76	0.86	105.62	Fundamental Frequency		AVG

Emission Level= Read Level+ Correct Factor

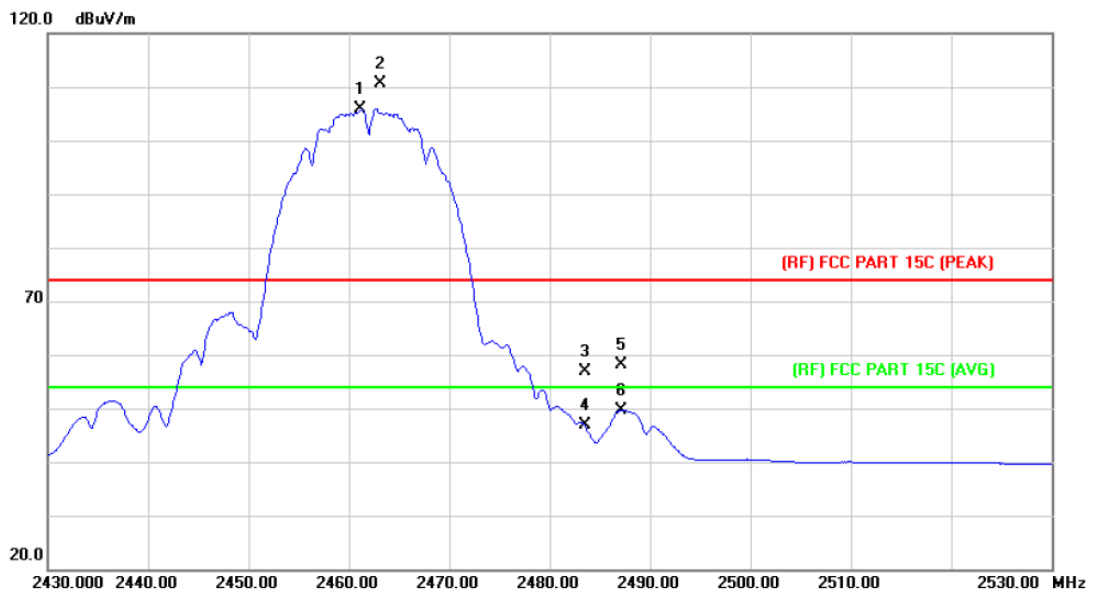
EUT:	ScreenBeam 802.11 a/b/g/n/ac WiFi Module	Model:	SBRT8812AU
Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	DC 5V		
Ant. Pol.	Horizontal		
Test Mode:	TX B Mode 2462MHz Antenna A		
Remark:	N/A		



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1	X	2460.900	107.79	1.06	108.85	Fundamental Frequency		peak
2	*	2461.200	103.03	1.07	104.10	Fundamental Frequency		AVG
3		2483.500	53.86	1.17	55.03	74.00	-18.97	peak
4		2483.500	43.95	1.17	45.12	54.00	-8.88	AVG
5		2487.200	55.70	1.18	56.88	74.00	-17.12	peak
6		2487.200	46.80	1.18	47.98	54.00	-6.02	AVG

Emission Level= Read Level+ Correct Factor

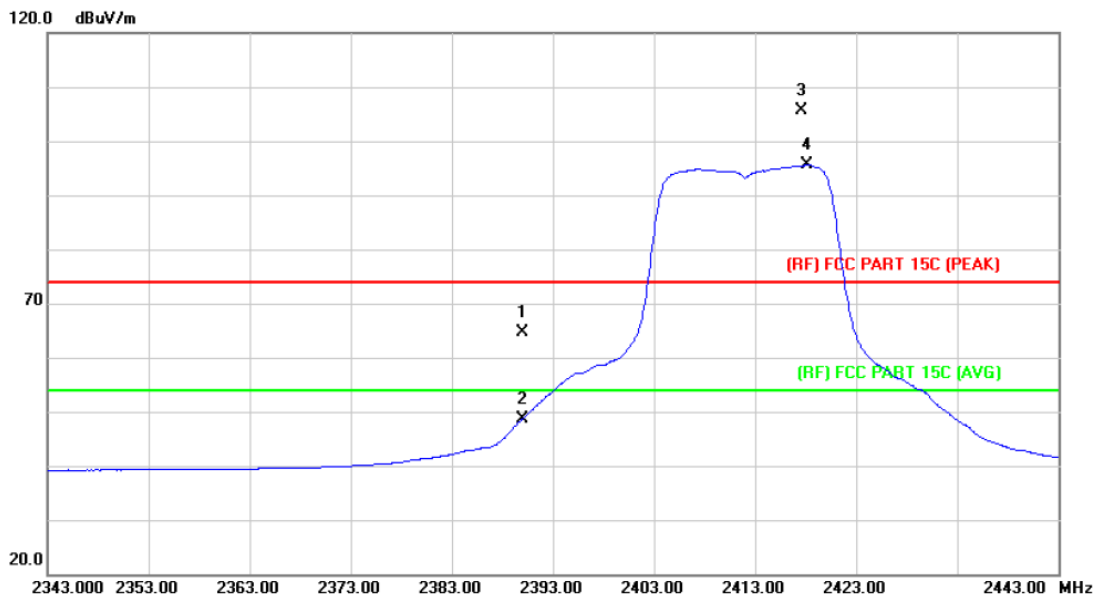
EUT:	ScreenBeam 802.11 a/b/g/n/ac WiFi Module	Model:	SBRT8812AU
Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	DC 5V		
Ant. Pol.	Vertical		
Test Mode:	TX B Mode 2462MHz Antenna A		
Remark:	N/A		



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1	*	2461.200	104.77	1.07	105.84	Fundamental Frequency		AVG
2	X	2463.100	109.50	1.08	110.58	Fundamental Frequency		peak
3		2483.500	55.65	1.17	56.82	74.00	-17.18	peak
4		2483.500	45.61	1.17	46.78	54.00	-7.22	AVG
5		2487.200	56.90	1.18	58.08	74.00	-15.92	peak
6		2487.200	48.48	1.18	49.66	54.00	-4.34	AVG

Emission Level= Read Level+ Correct Factor

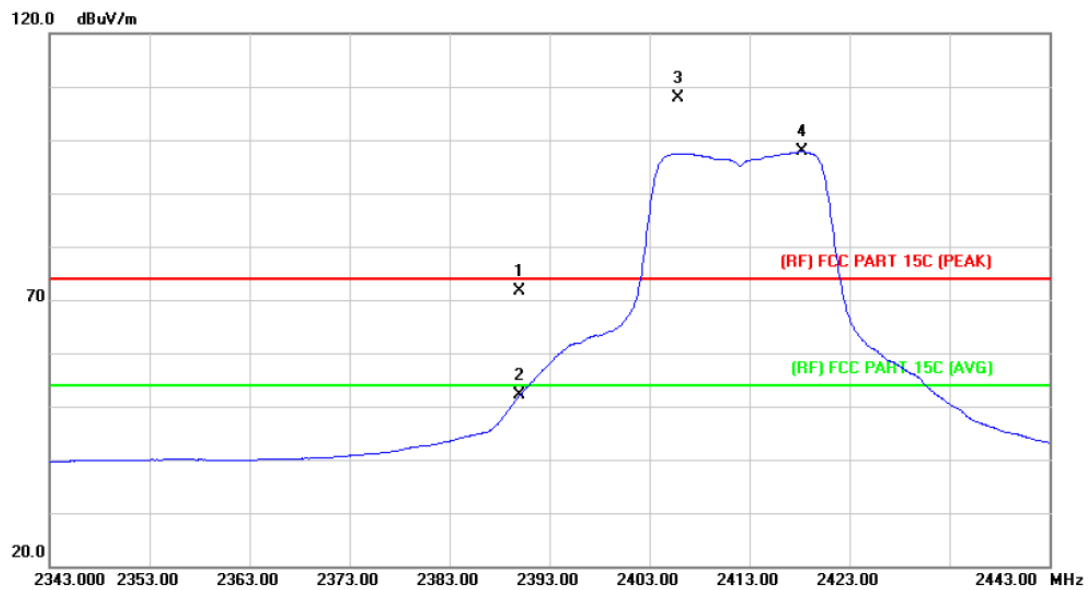
EUT:	ScreenBeam 802.11 a/b/g/n/ac WiFi Module	Model:	SBRT8812AU
Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	DC 5V		
Ant. Pol.	Horizontal		
Test Mode:	TX G Mode 2412MHz Antenna A		
Remark:	N/A		



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1		2390.000	63.74	0.77	64.51	74.00	-9.49	peak
2		2390.000	47.95	0.77	48.72	54.00	-5.28	AVG
3	X	2417.600	104.78	0.89	105.67	Fundamental Frequency		peak
4	*	2418.200	94.67	0.89	95.56	Fundamental Frequency		AVG

Emission Level= Read Level+ Correct Factor

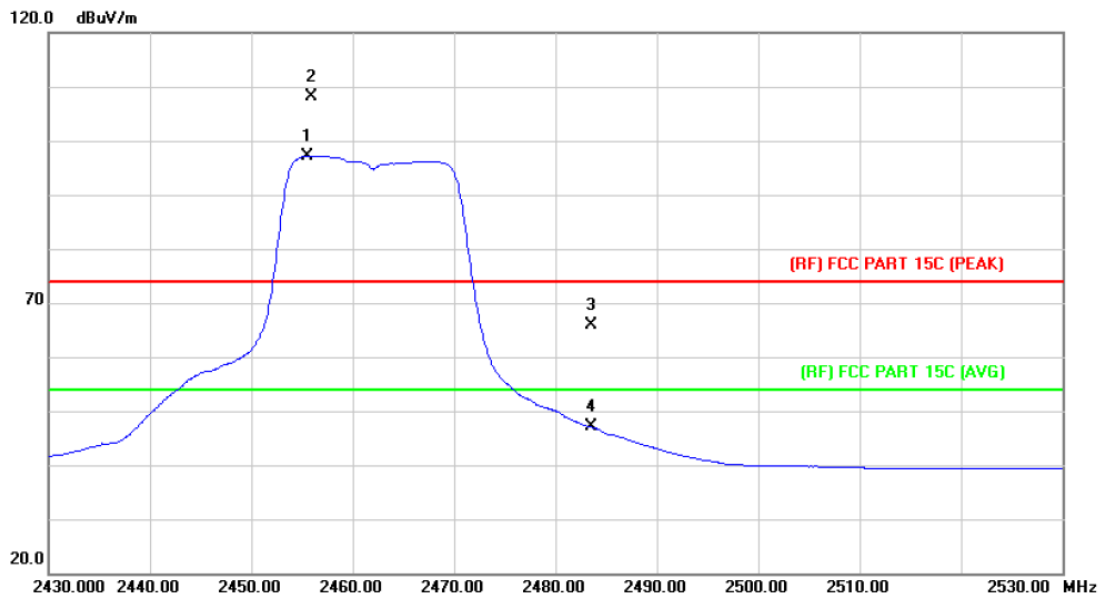
EUT:	ScreenBeam 802.11 a/b/g/n/ac WiFi Module	Model:	SBRT8812AU
Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	DC 5V		
Ant. Pol.	Vertical		
Test Mode:	TX G Mode 2412MHz Antenna A		
Remark:	N/A		



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1		2390.000	70.97	0.77	71.74	74.00	-2.26	peak
2		2390.000	51.24	0.77	52.01	54.00	-1.99	AVG
3	X	2405.800	107.13	0.84	107.97	Fundamental Frequency		peak
4	*	2418.300	96.91	0.89	97.80	Fundamental Frequency		AVG

Emission Level= Read Level+ Correct Factor

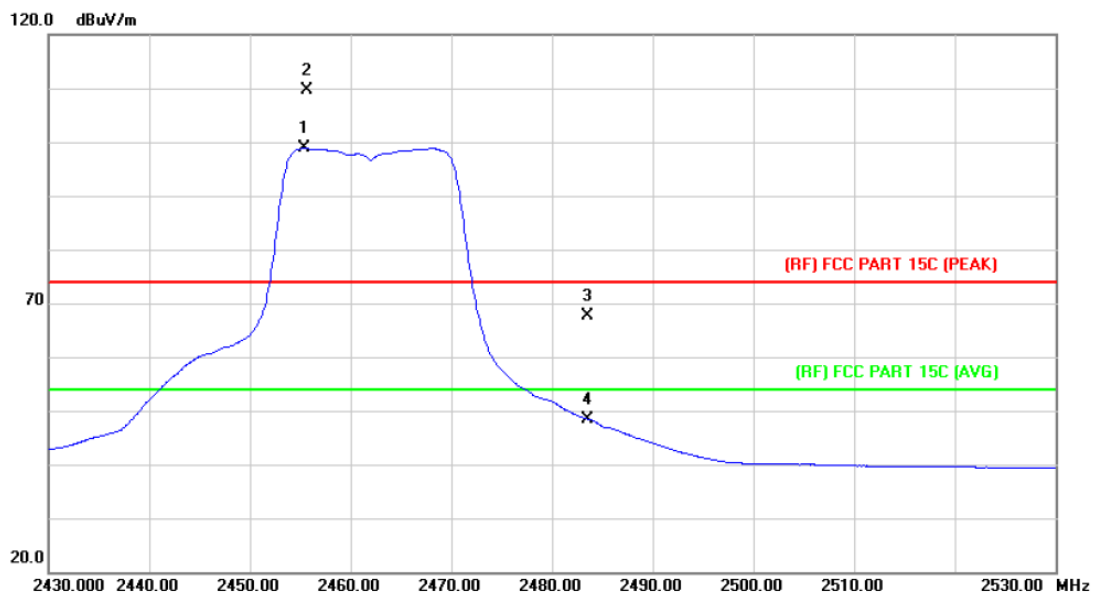
EUT:	ScreenBeam 802.11 a/b/g/n/ac WiFi Module	Model:	SBRT8812AU
Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	DC 5V		
Ant. Pol.	Horizontal		
Test Mode:	TX G Mode 2462MHz Antenna A		
Remark:	N/A		



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1	*	2455.500	96.13	1.05	97.18	Fundamental Frequency		AVG
2	X	2455.900	106.98	1.05	108.03	Fundamental Frequency		peak
3		2483.500	64.61	1.17	65.78	74.00	-8.22	peak
4		2483.500	45.85	1.17	47.02	54.00	-6.98	AVG

Emission Level= Read Level+ Correct Factor

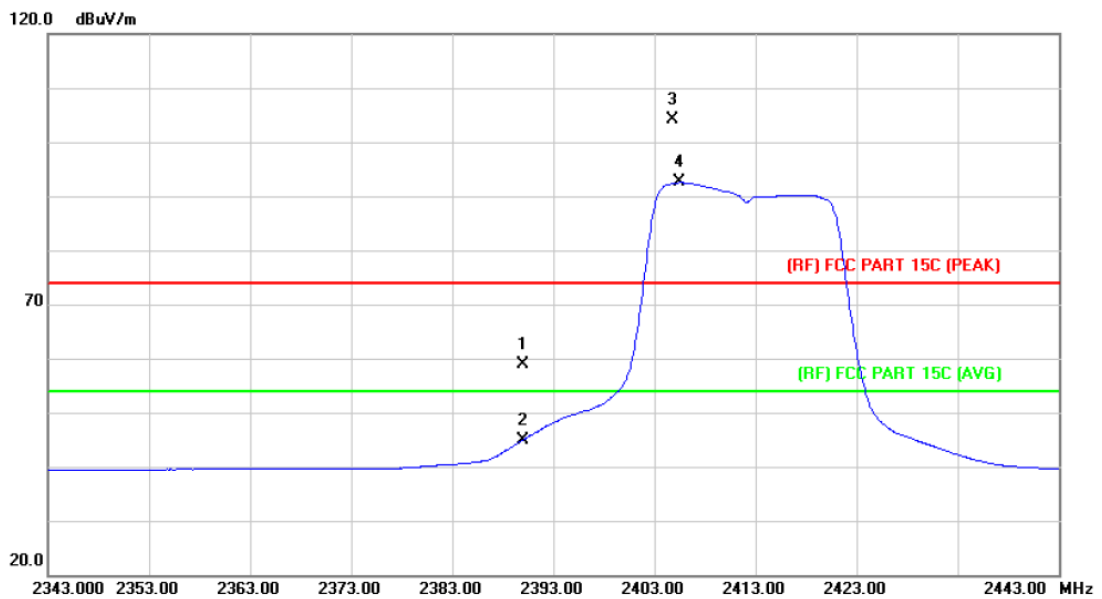
EUT:	ScreenBeam 802.11 a/b/g/n/ac WiFi Module	Model:	SBRT8812AU
Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	DC 5V		
Ant. Pol.	Vertical		
Test Mode:	TX G Mode 2462MHz Antenna A		
Remark:	N/A		



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1	*	2455.400	97.79	1.05	98.84	Fundamental Frequency		AVG
2	X	2455.700	108.60	1.05	109.65	Fundamental Frequency		peak
3		2483.500	66.38	1.17	67.55	74.00	-6.45	peak
4		2483.500	47.30	1.17	48.47	54.00	-5.53	AVG

Emission Level= Read Level+ Correct Factor

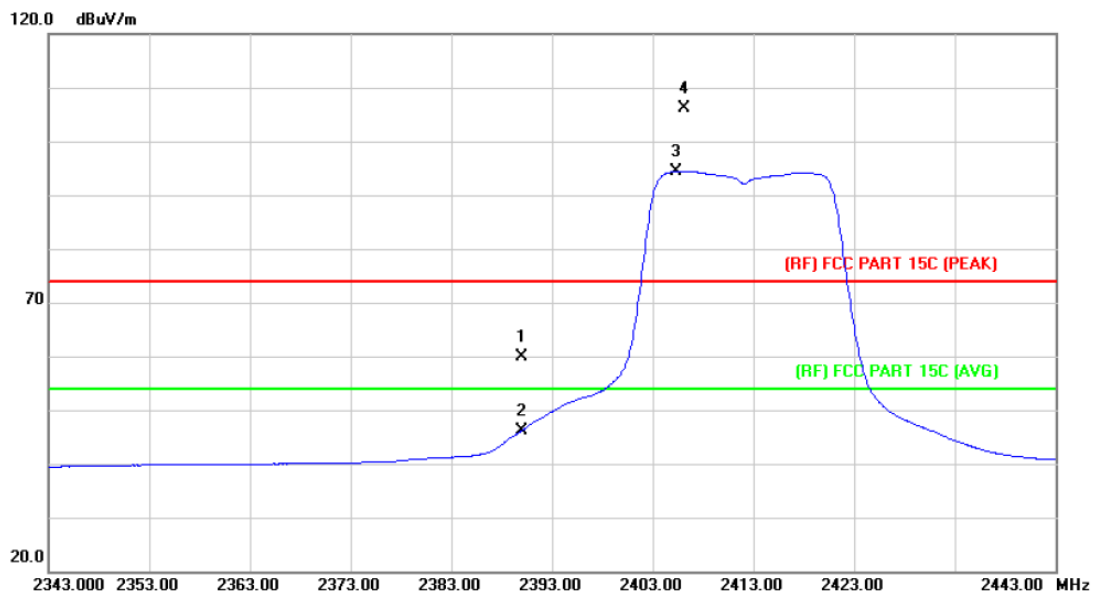
EUT:	ScreenBeam 802.11 a/b/g/n/ac WiFi Module	Model:	SBRT8812AU
Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	DC 5V		
Ant. Pol.	Horizontal		
Test Mode:	TX N(HT20) Mode 2412MHz Antenna A+B		
Remark:	N/A		



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1		2390.000	58.01	0.77	58.78	74.00	-15.22	peak
2		2390.000	44.20	0.77	44.97	54.00	-9.03	AVG
3	X	2404.800	103.21	0.84	104.05	Fundamental Frequency		peak
4	*	2405.500	91.68	0.84	92.52	Fundamental Frequency		AVG

Emission Level= Read Level+ Correct Factor

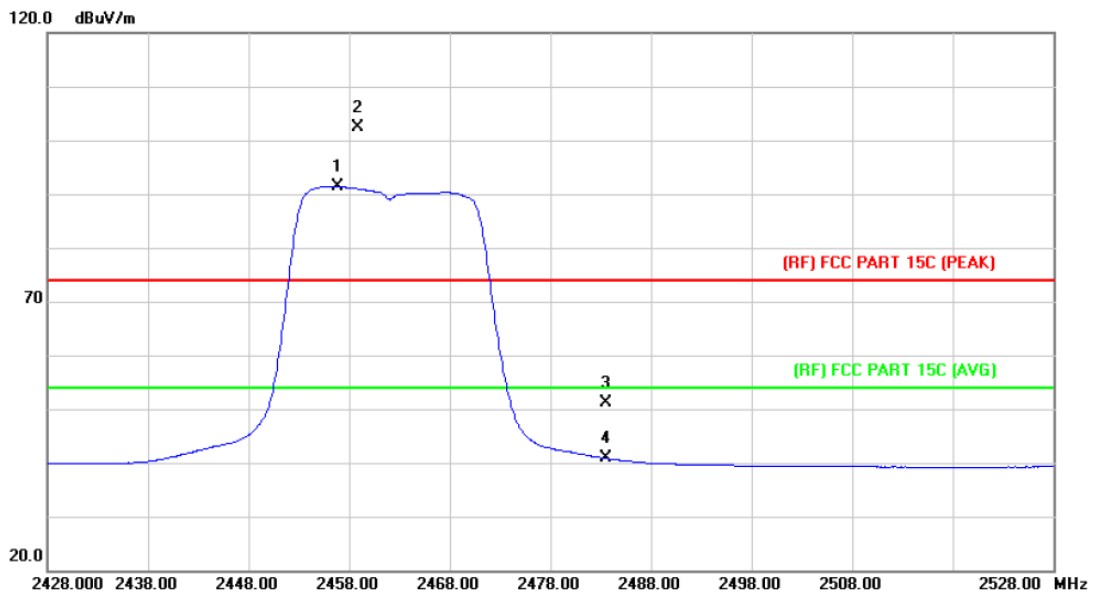
EUT:	ScreenBeam 802.11 a/b/g/n/ac WiFi Module	Model:	SBRT8812AU
Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	DC 5V		
Ant. Pol.	Vertical		
Test Mode:	TX N(HT20) Mode 2412MHz Antenna A+B		
Remark:	N/A		



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1		2390.000	59.20	0.77	59.97	74.00	-14.03	peak
2		2390.000	45.42	0.77	46.19	54.00	-7.81	AVG
3	*	2405.300	93.58	0.84	94.42	Fundamental Frequency		AVG
4	X	2406.200	105.39	0.84	106.23	Fundamental Frequency		peak

Emission Level= Read Level+ Correct Factor

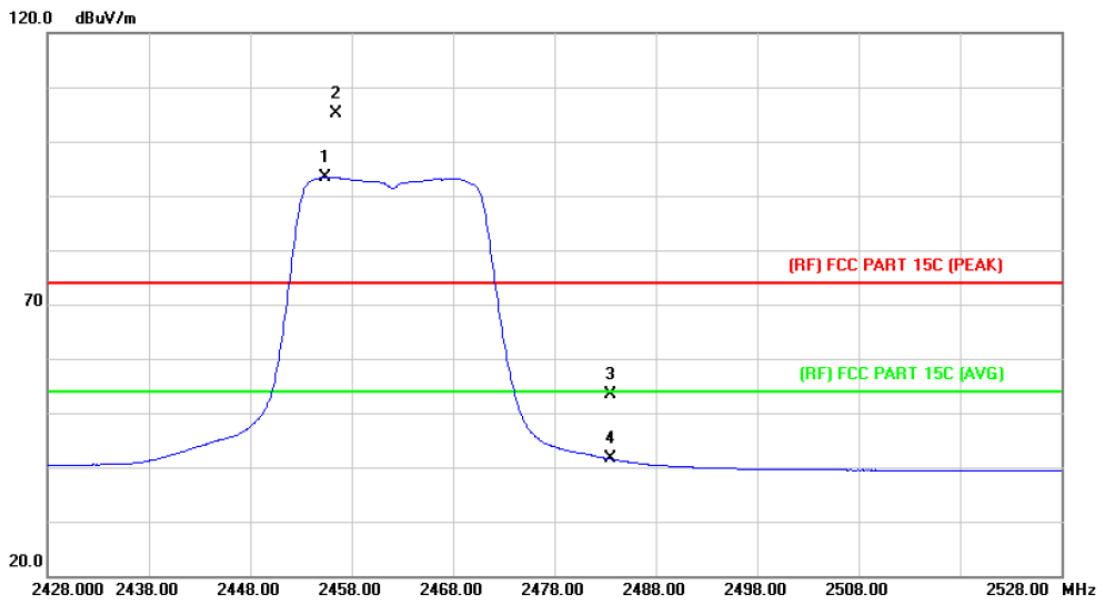
EUT:	ScreenBeam 802.11 a/b/g/n/ac WiFi Module	Model:	SBRT8812AU
Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	DC 5V		
Ant. Pol.	Horizontal		
Test Mode:	TX N(HT20) Mode 2462MHz Antenna A+B		
Remark:	N/A		



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1	*	2456.900	90.36	1.05	91.41			AVG
2	X	2458.900	101.33	1.06	102.39			peak
3		2483.500	50.00	1.17	51.17	74.00	-22.83	peak
4		2483.500	39.68	1.17	40.85	54.00	-13.15	AVG

Emission Level= Read Level+ Correct Factor

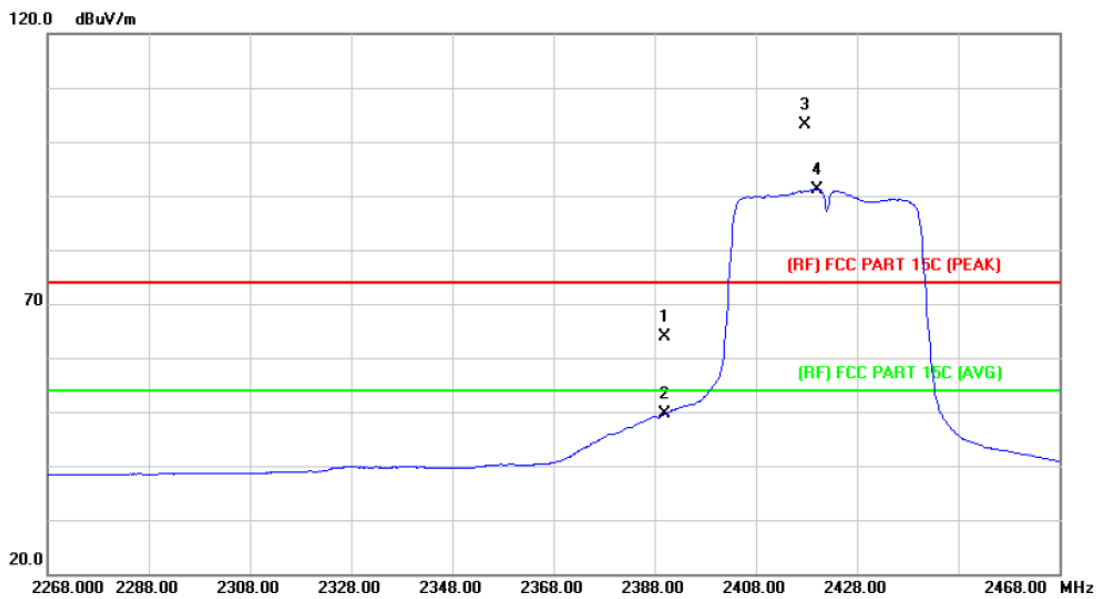
EUT:	ScreenBeam 802.11 a/b/g/n/ac WiFi Module	Model:	SBRT8812AU
Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	DC 5V		
Ant. Pol.	Vertical		
Test Mode:	TX N(HT20) Mode 2462MHz Antenna A+B		
Remark:	N/A		



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1	*	2455.400	92.38	1.05	93.43	Fundamental Frequency		AVG
2	X	2456.500	104.17	1.05	105.22	Fundamental Frequency		peak
3		2483.500	52.27	1.17	53.44	74.00	-20.56	peak
4		2483.500	40.36	1.17	41.53	54.00	-12.47	AVG

Emission Level= Read Level+ Correct Factor

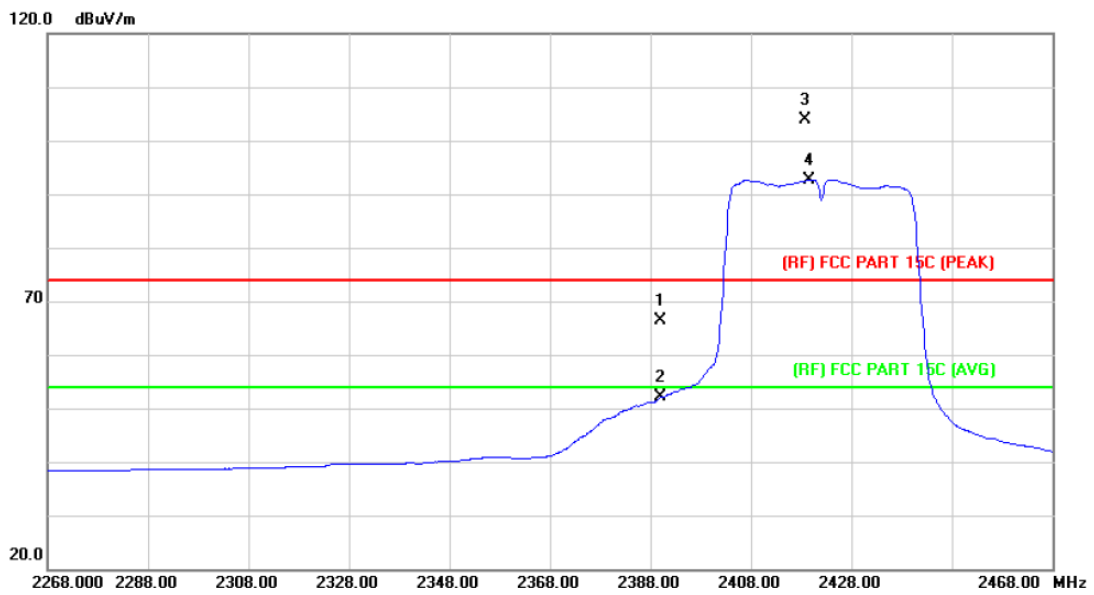
EUT:	ScreenBeam 802.11 a/b/g/n/ac WiFi Module	Model:	SBRT8812AU
Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	DC 5V		
Ant. Pol.	Horizontal		
Test Mode:	TX N(HT40) Mode 2422MHz Antenna A+B		
Remark:	N/A		



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1		2390.000	63.10	0.77	63.87	74.00	-10.13	peak
2		2390.000	48.81	0.77	49.58	54.00	-4.42	AVG
3	X	2417.800	102.31	0.89	103.20	Fundamental Frequency		peak
4	*	2420.200	90.34	0.89	91.23	Fundamental Frequency		AVG

Emission Level= Read Level+ Correct Factor

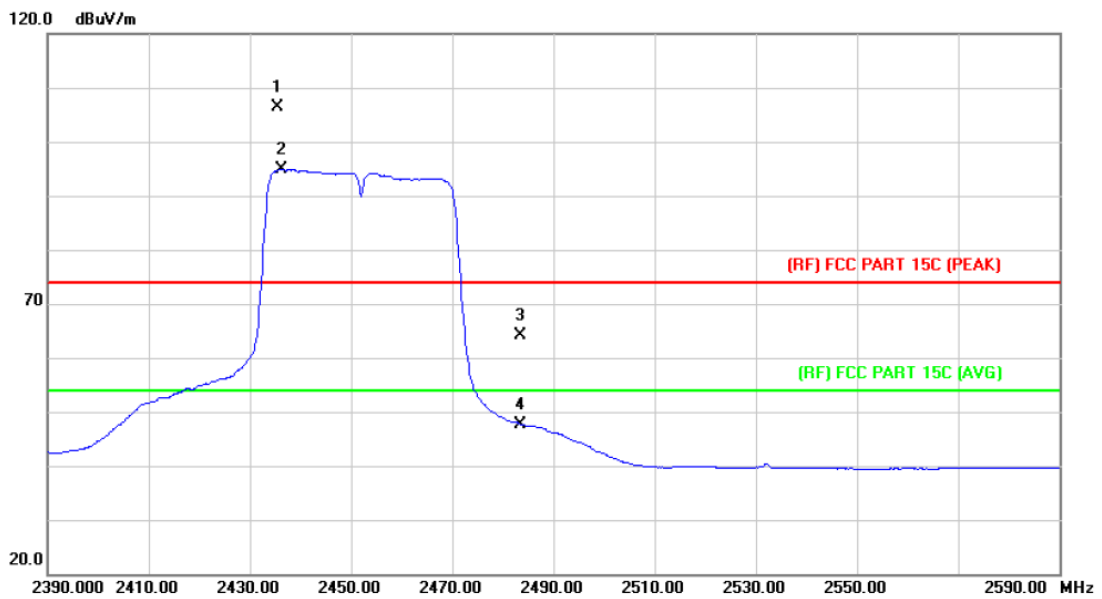
EUT:	ScreenBeam 802.11 a/b/g/n/ac WiFi Module	Model:	SBRT8812AU
Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	DC 5V		
Ant. Pol.	Vertical		
Test Mode:	TX N(HT40) Mode 2422MHz Antenna A+B		
Remark:	N/A		



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1		2390.000	65.71	0.77	66.48	74.00	-7.52	peak
2		2390.000	51.24	0.77	52.01	54.00	-1.99	AVG
3	X	2418.800	102.89	0.89	103.78	Fundamental Frequency		peak
4	*	2419.600	91.84	0.89	92.73	Fundamental Frequency		AVG

Emission Level= Read Level+ Correct Factor

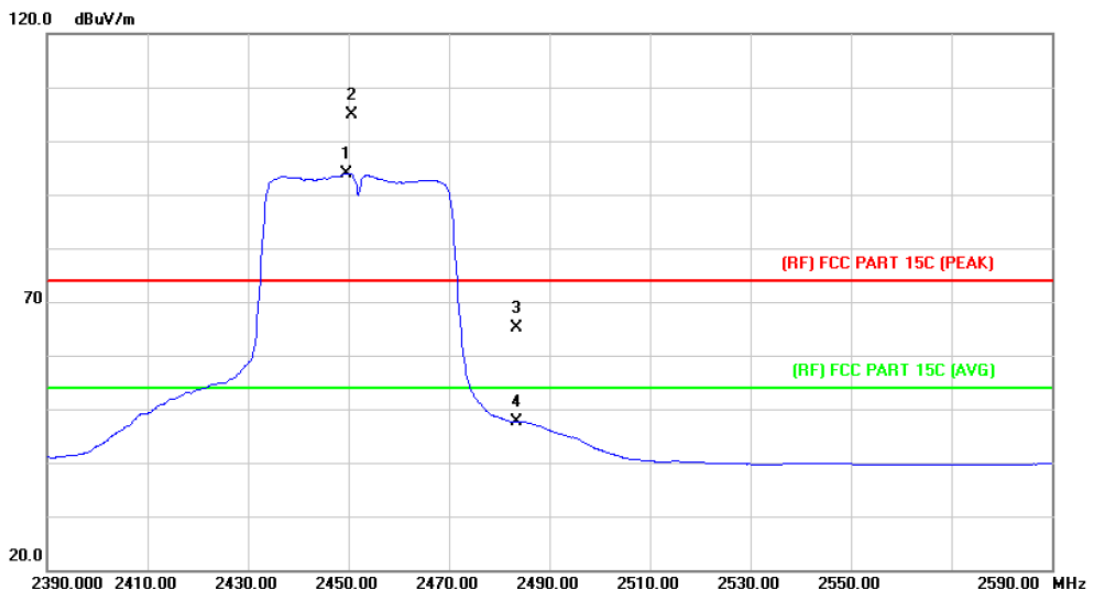
EUT:	ScreenBeam 802.11 a/b/g/n/ac WiFi Module	Model:	SBRT8812AU
Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	DC 5V		
Ant. Pol.	Horizontal		
Test Mode:	TX N(HT40) Mode 2452MHz Antenna A+B		
Remark:	N/A		



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1	X	2435.600	105.41	0.97	106.38	74.00	32.38	peak
2	*	2436.200	94.01	0.97	94.98	54.00	40.98	AVG
3		2483.500	63.08	1.17	64.25	Fundamental Frequency		peak
4		2483.500	46.35	1.17	47.52	Fundamental Frequency		AVG

Emission Level= Read Level+ Correct Factor

EUT:	ScreenBeam 802.11 a/b/g/n/ac WiFi Module	Model:	SBRT8812AU
Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	DC 5V		
Ant. Pol.	Vertical		
Test Mode:	TX N(HT40) Mode 2452MHz Antenna A+B		
Remark:	N/A		

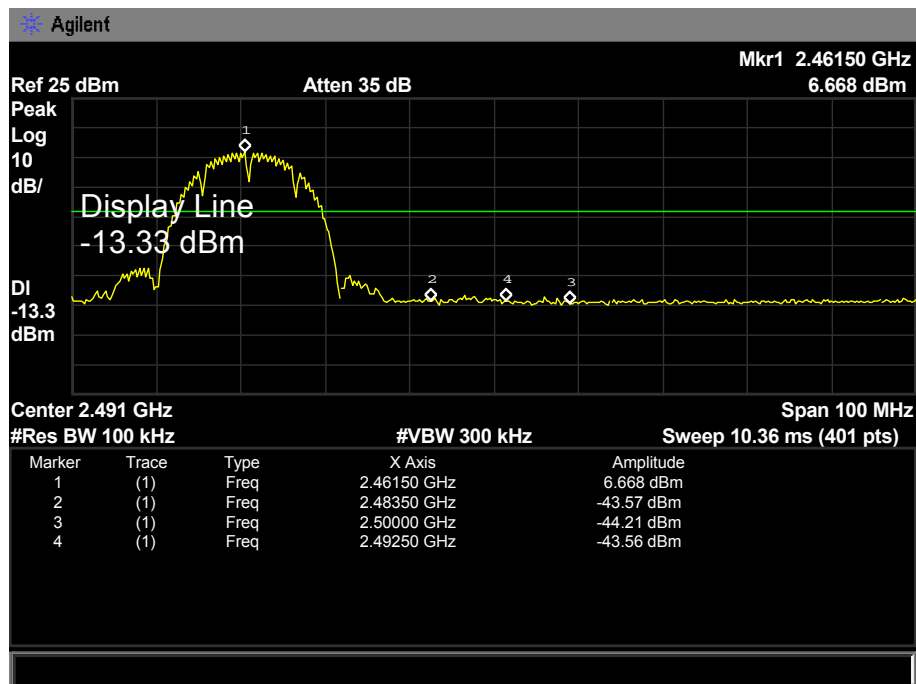
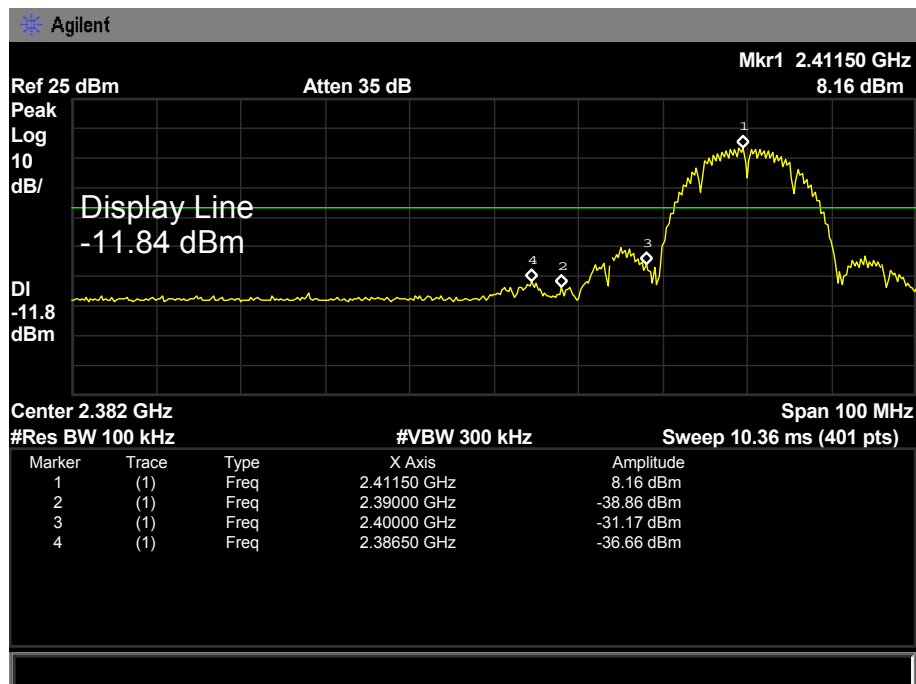


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector
1	*	2449.600	92.92	1.02	93.94	Fundamental Frequency		AVG
2	X	2450.600	103.90	1.02	104.92	Fundamental Frequency		peak
3		2483.500	64.08	1.17	65.25	74.00	-8.75	peak
4		2483.500	46.47	1.17	47.64	54.00	-6.36	AVG

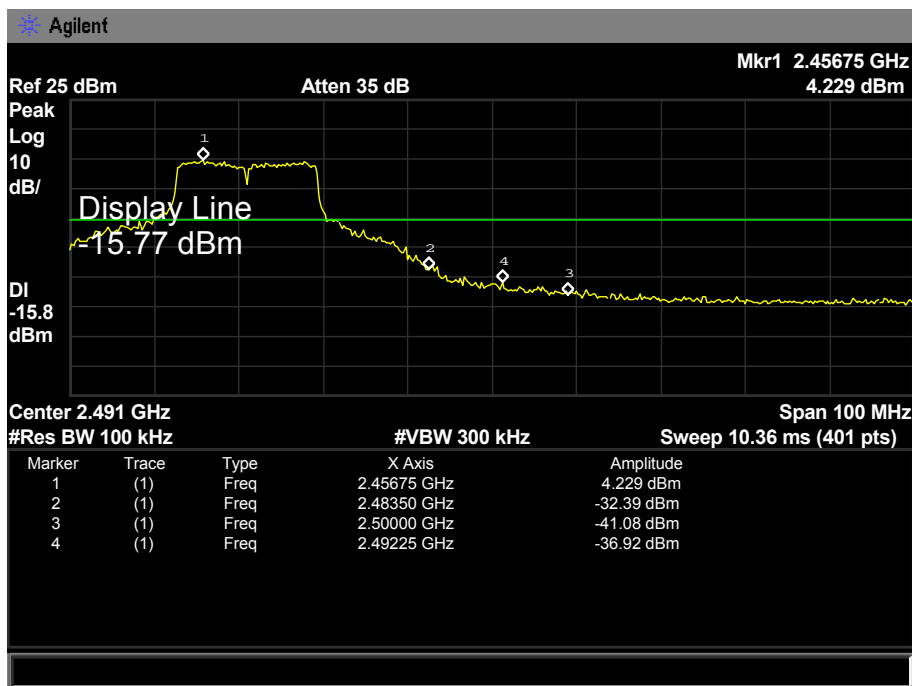
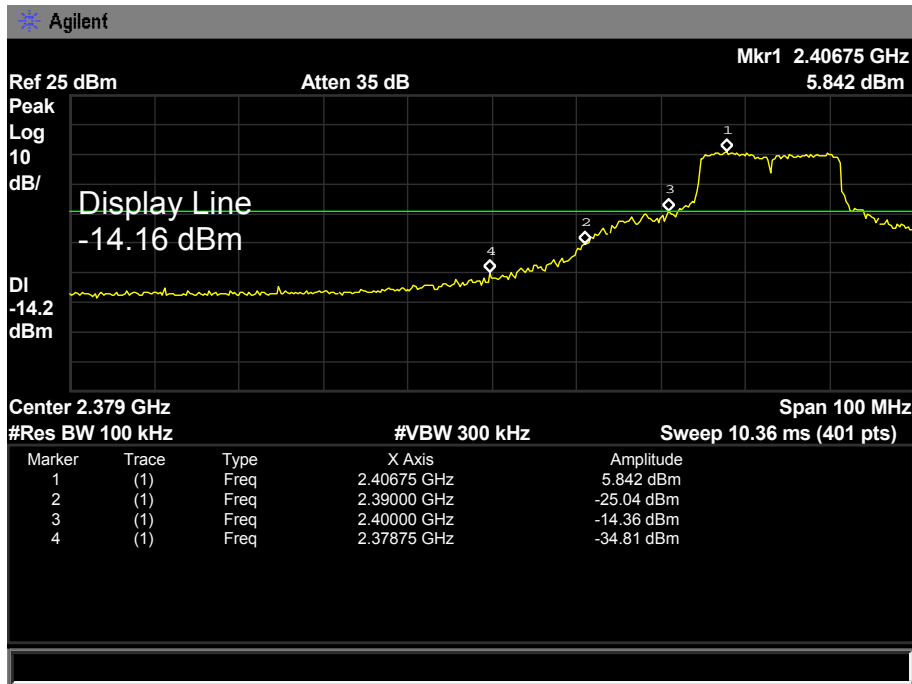
Emission Level= Read Level+ Correct Factor

(2) Conducted Test

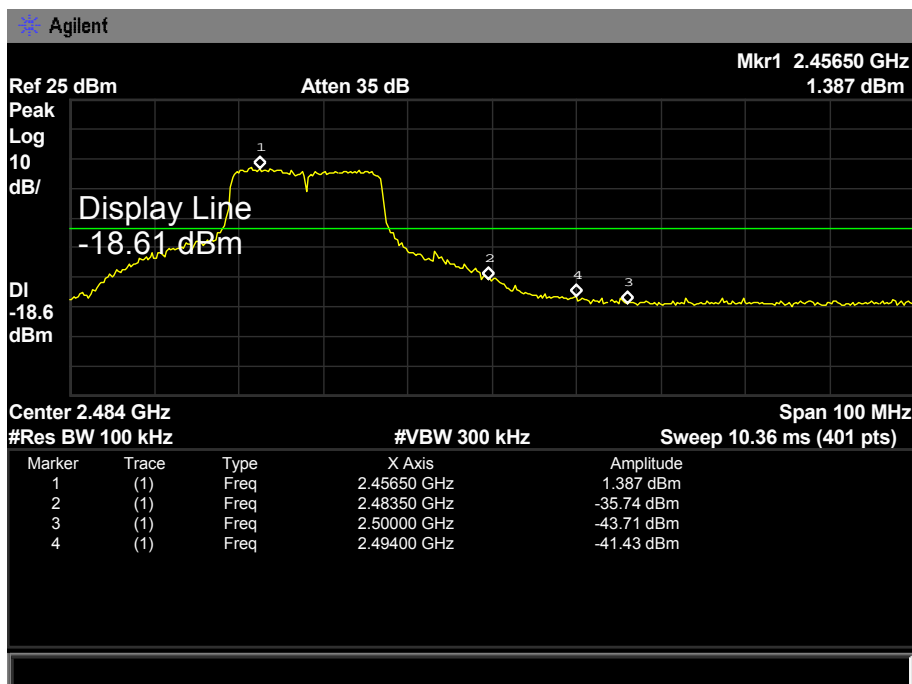
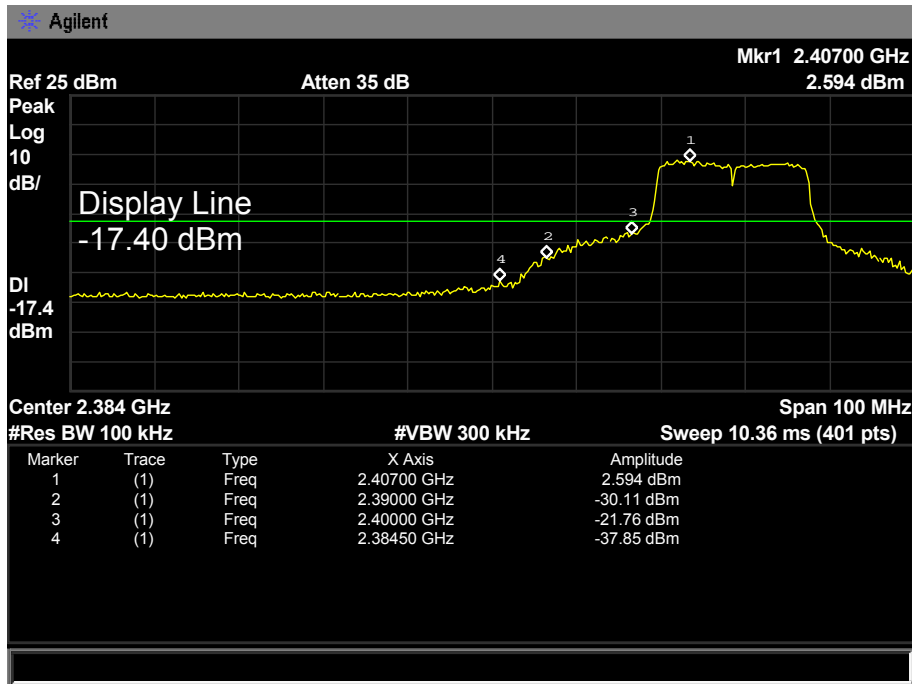
EUT:	ScreenBeam 802.11 a/b/g/n/ac WiFi Module	Model:	SBRT8812AU
Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	DC 5V		
Test Mode:	TX B Mode 2412MHz / TX B Mode 2462MHz (Antenna A)		
Remark:	The EUT is programed in continuously transmitting mode		



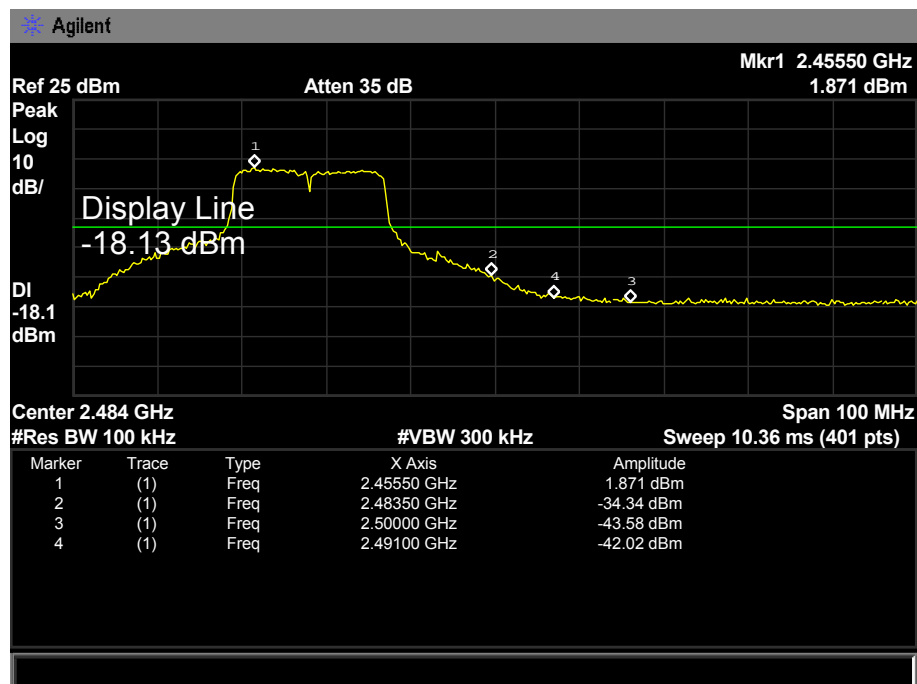
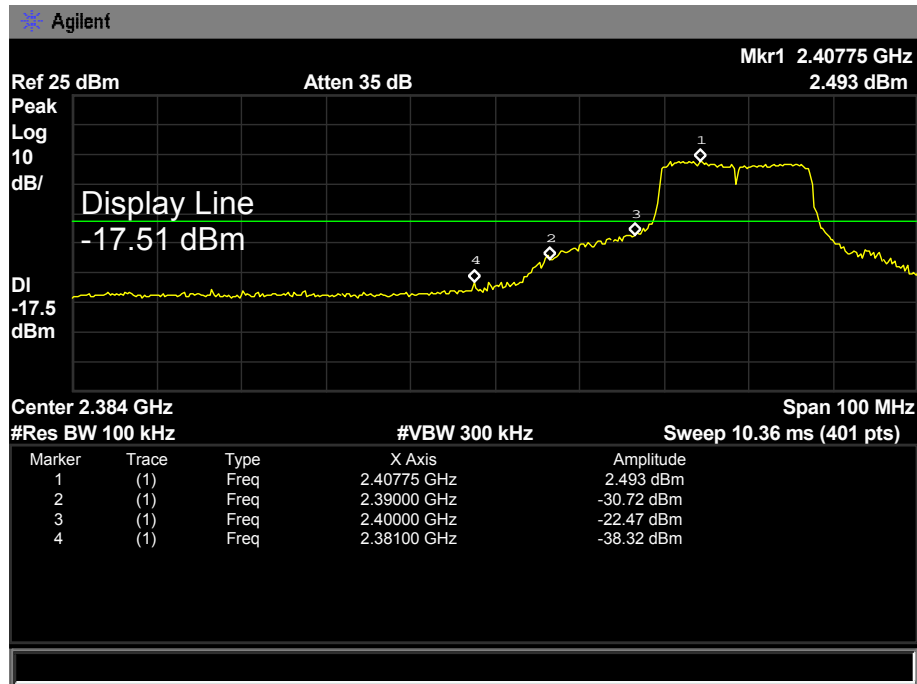
EUT:	ScreenBeam 802.11 a/b/g/n/ac WiFi Module	Model:	SBRT8812AU
Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	DC 5V		
Test Mode:	TX G Mode 2412MHz / TX G Mode 2462MHz (Antenna A)		
Remark:	The EUT is programed in continuously transmitting mode		



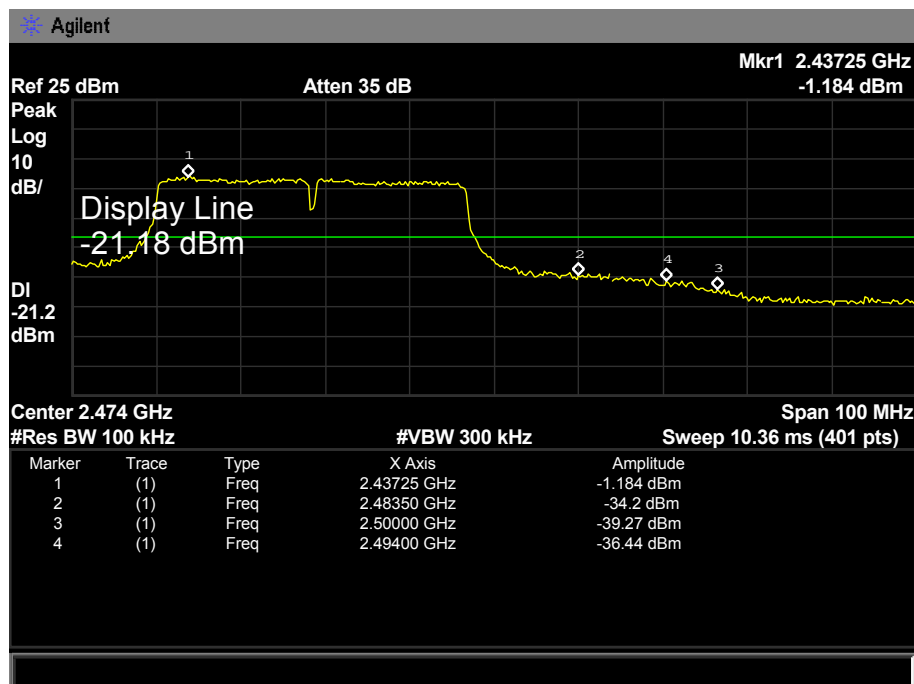
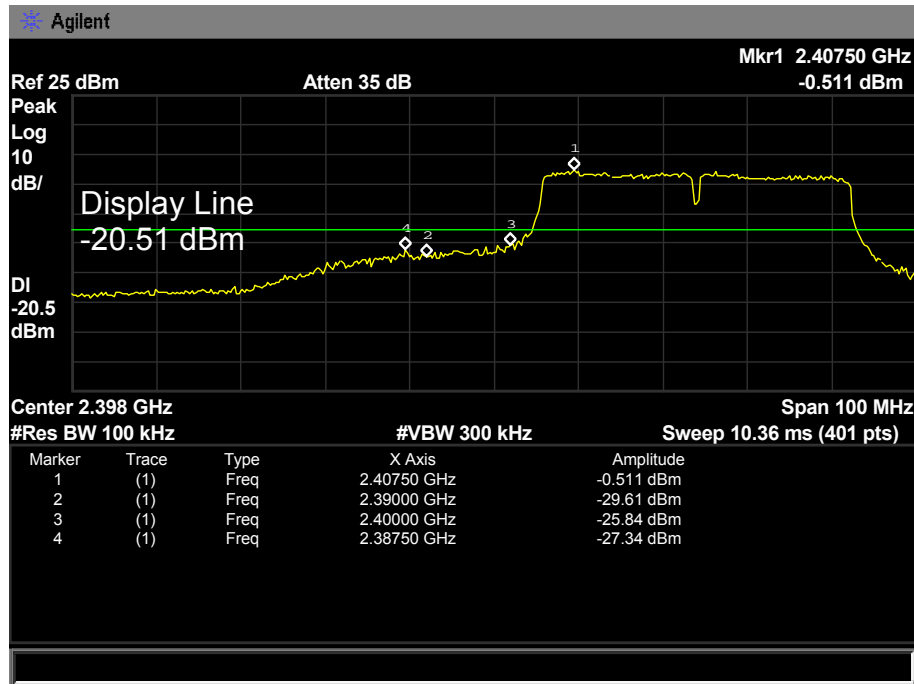
EUT:	ScreenBeam 802.11 a/b/g/n/ac WiFi Module	Model:	SBRT8812AU
Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	DC 5V		
Test Mode:	TX N(HT20) Mode 2412MHz / TX N(HT20) Mode 2462MHz(Antenna A)		
Remark:	The EUT is programed in continuously transmitting mode		



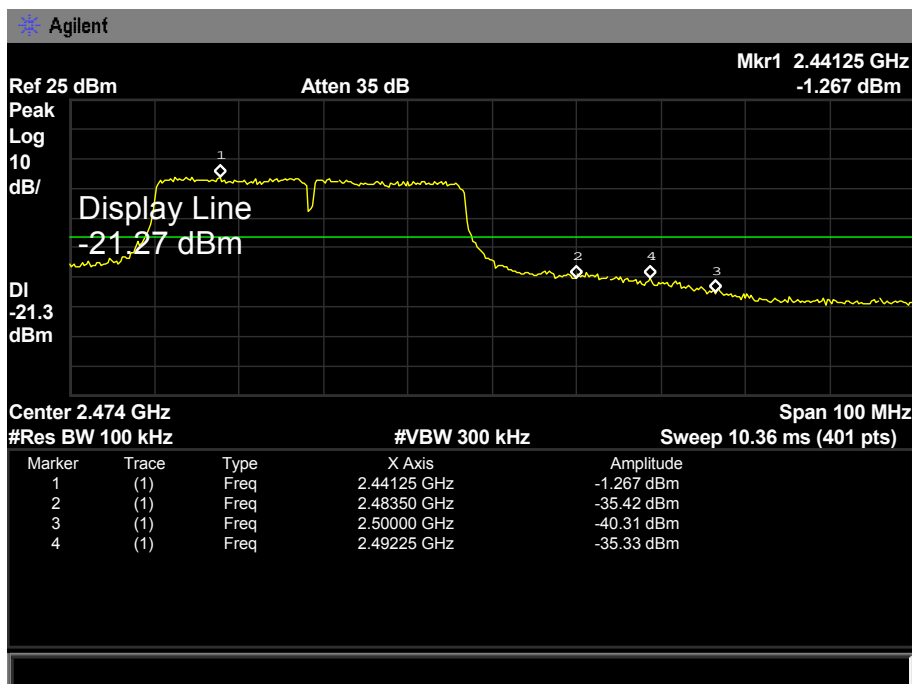
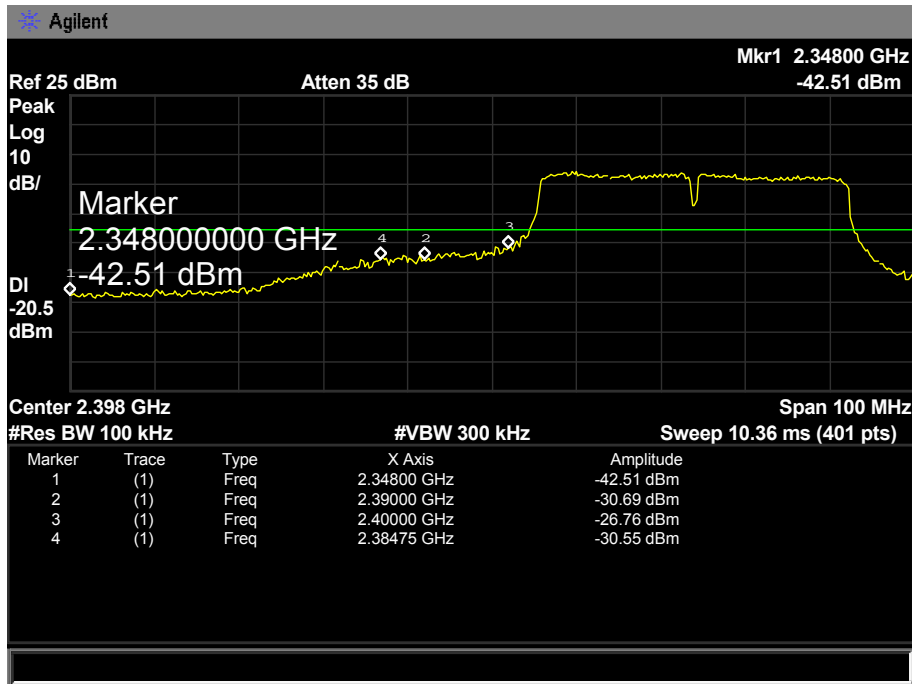
EUT:	ScreenBeam 802.11 a/b/g/n/ac WiFi Module	Model:	SBRT8812AU
Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	DC 5V		
Test Mode:	TX N(HT20) Mode 2412MHz / TX N(HT20) Mode 2462MHz(Antenna B)		
Remark:	The EUT is programed in continuously transmitting mode		



EUT:	ScreenBeam 802.11 a/b/g/n/ac WiFi Module	Model:	SBRT8812AU
Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	DC 5V		
Test Mode:	TX N(HT40) Mode 2422MHz / TX N(HT40) Mode 2452MHz(Antenna A)		
Remark:	The EUT is programed in continuously transmitting mode		



EUT:	ScreenBeam 802.11 a/b/g/n/ac WiFi Module	Model:	SBRT8812AU
Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	DC 5V		
Test Mode:	TX N(HT40) Mode 2422MHz / TX N(HT40) Mode 2452MHz(Antenna B)		
Remark:	The EUT is programed in continuously transmitting mode		



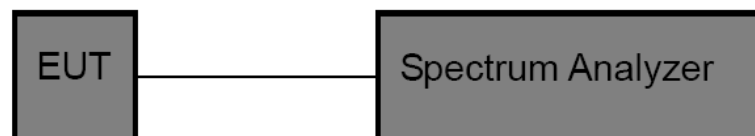
7. Bandwidth Test

7.1 Test Standard and Limit

- 7.1.1 Test Standard
FCC Part 15.247 (a)(2)
- 7.1.2 Test Limit

FCC Part 15 Subpart C(15.247)/RSS-210		
Test Item	Limit	Frequency Range(MHz)
Bandwidth	≥ 500 KHz (6dB bandwidth)	2400~2483.5

7.2 Test Setup



7.3 Test Procedure

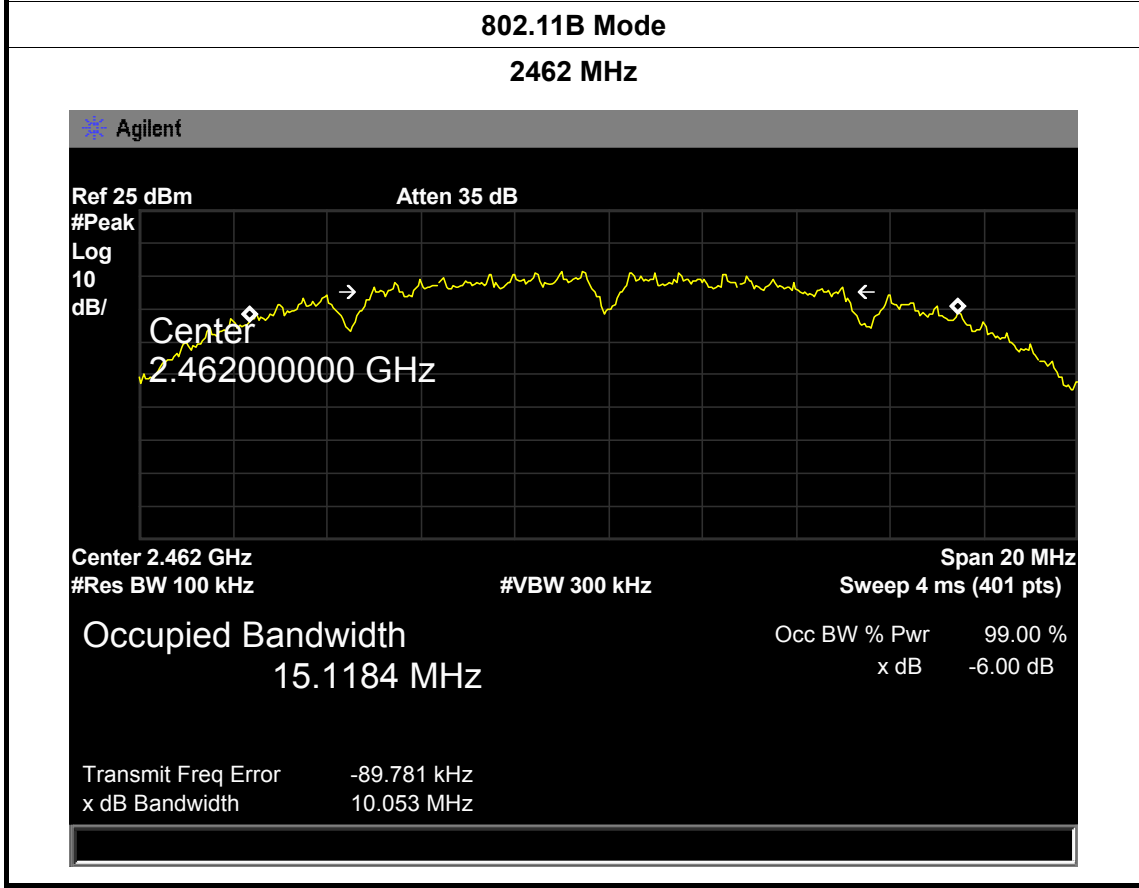
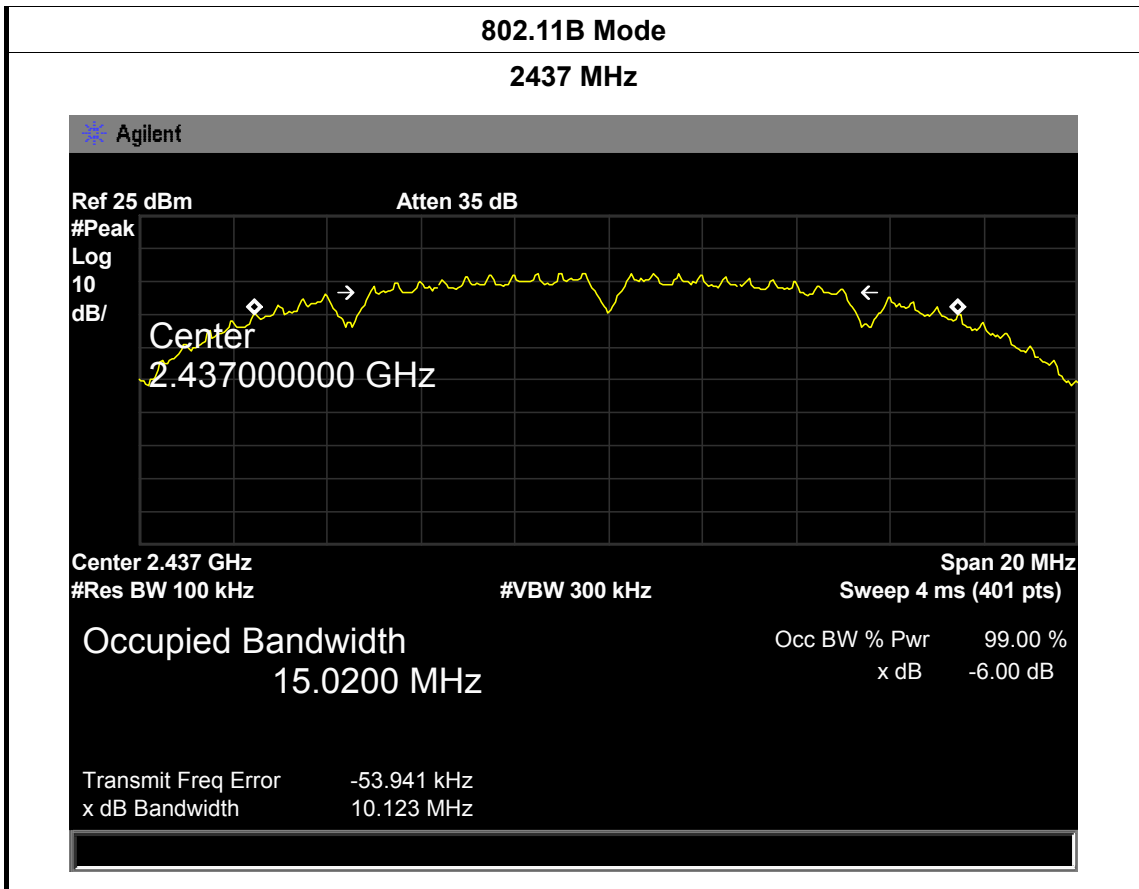
- (1) The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.
- (2) The bandwidth is measured at an amplitude level reduced 6dB from the reference level. The reference level is the level of the highest amplitude signal observed from the transmitter at the fundamental frequency. Once the reference level is established, the equipment is conditioned with typical modulating signal to produce the worst –case (i.e the widest) bandwidth.
- (3) Measure the channel separation the spectrum analyzer was set to Resolution Bandwidth:100 kHz, and Video Bandwidth:300 kHz, Detector: Peak, Sweep Time set auto.

7.4 EUT Operating Condition

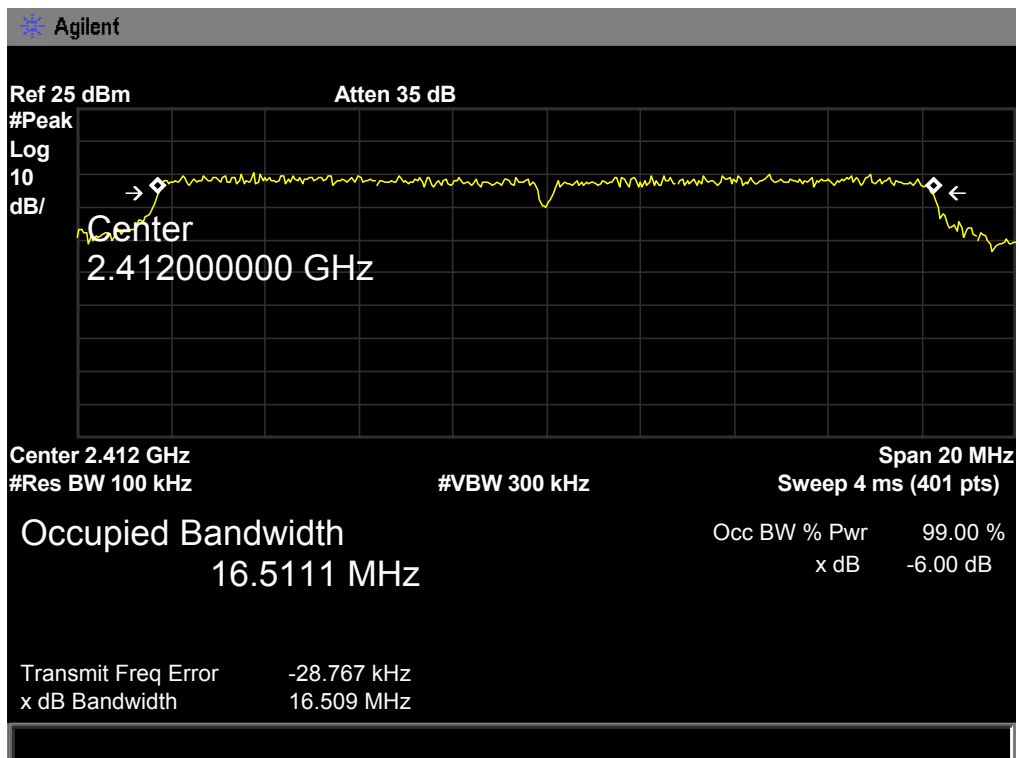
The EUT was set to continuously transmitting in each mode and low, ScreenBeam 802.11 a/b/g/n/ac WiFi Moduledle and high channel for the test.

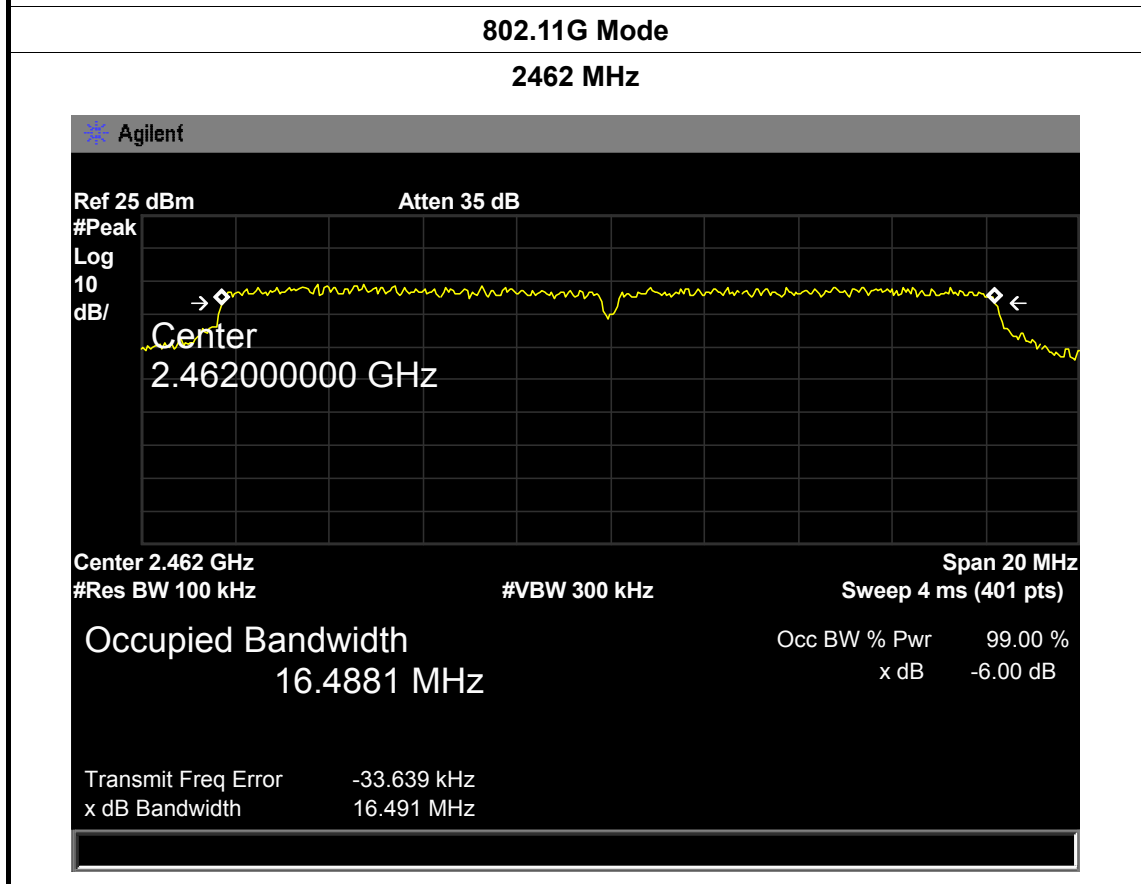
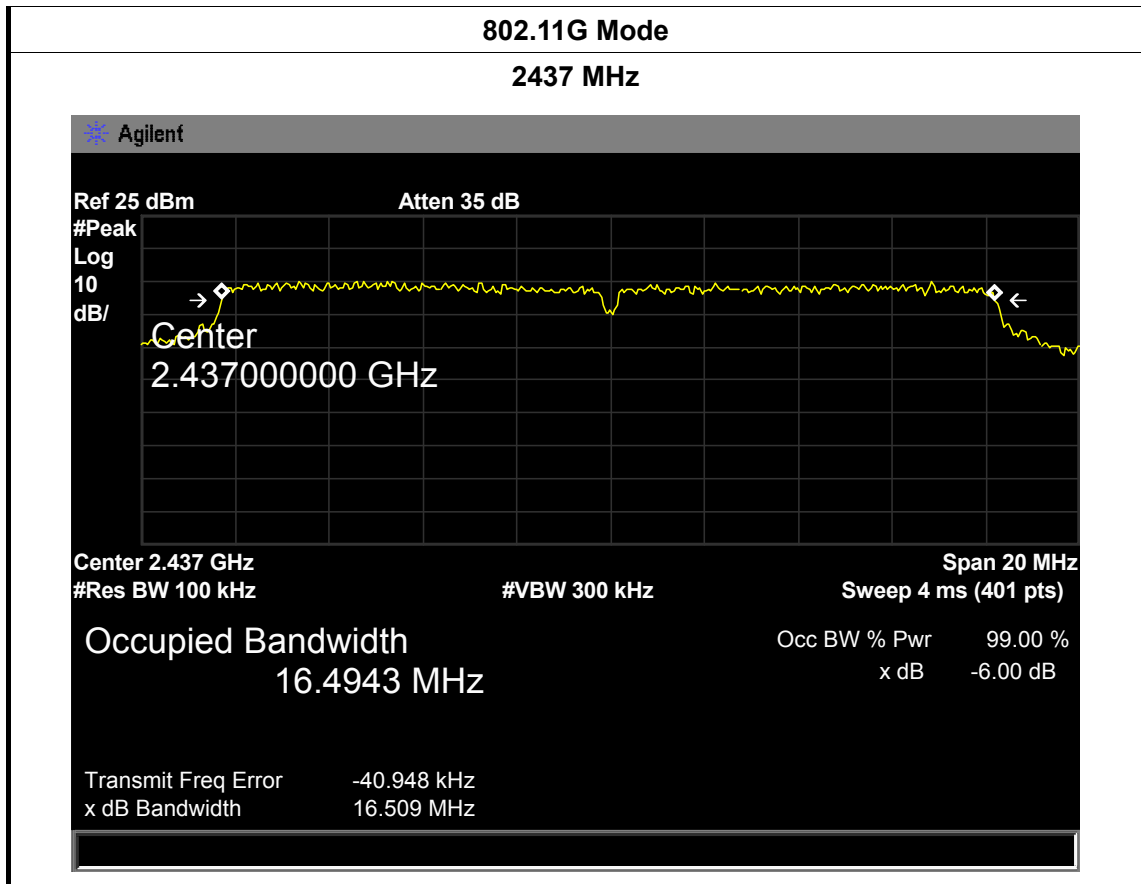
7.5 Test Data

EUT:	ScreenBeam 802.11 a/b/g/n/ac WiFi Module	Model:	SBRT8812AU
Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	DC 5V		
Test Mode:	TX 802.11B Mode Antenna A		
Channel frequency (MHz)	6dB Bandwidth (MHz)	99% Bandwidth (MHz)	Limit (MHz)
2412	10.127	15.0376	>=0.5
2437	10.123	14.0200	
2462	10.053	15.1184	
802.11B Mode			
2412 MHz			

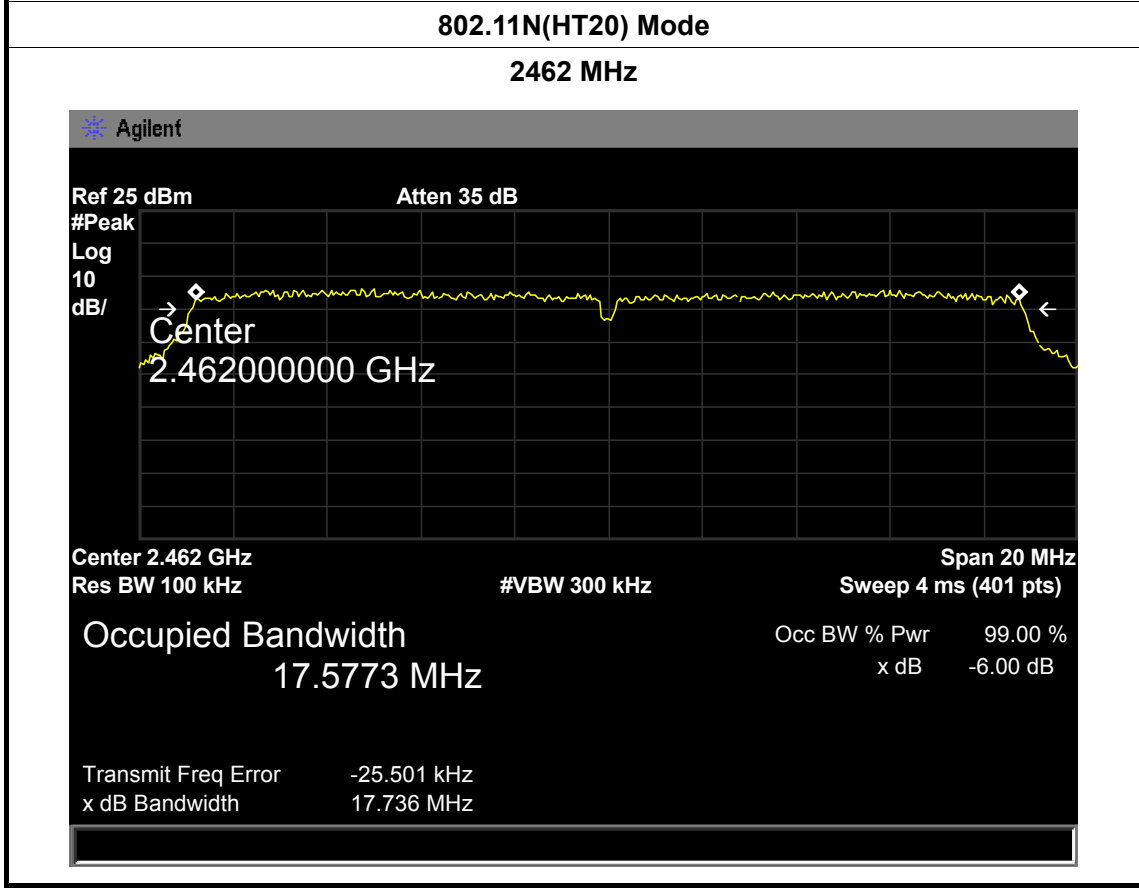
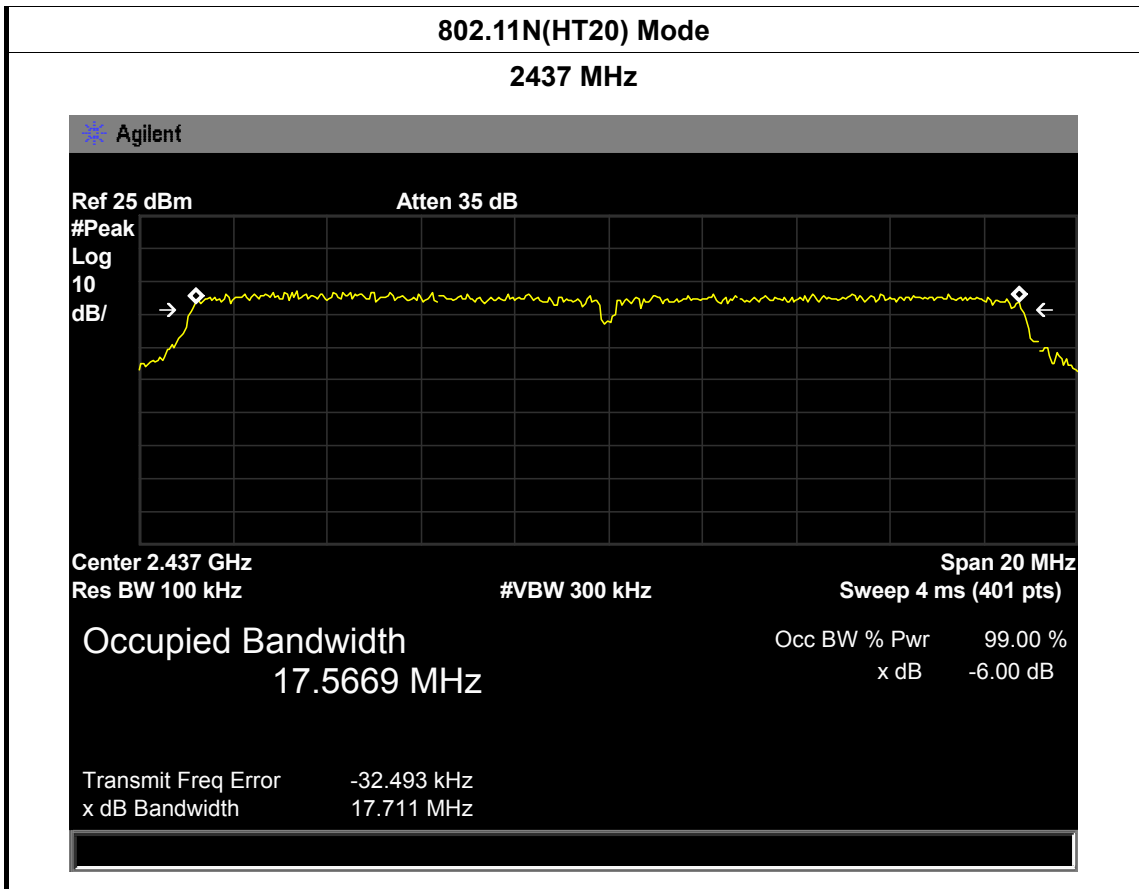


EUT:	ScreenBeam 802.11 a/b/g/n/ac WiFi Module	Model:	SBRT8812AU
Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	DC 5V		
Test Mode:	TX 802.11G Mode Antenna A		
Channel frequency (MHz)	6dB Bandwidth (MHz)	99% Bandwidth (MHz)	Limit (MHz)
2412	16.509	16.5111	≥0.5
2437	16.509	16.4943	
2462	16.491	16.4881	

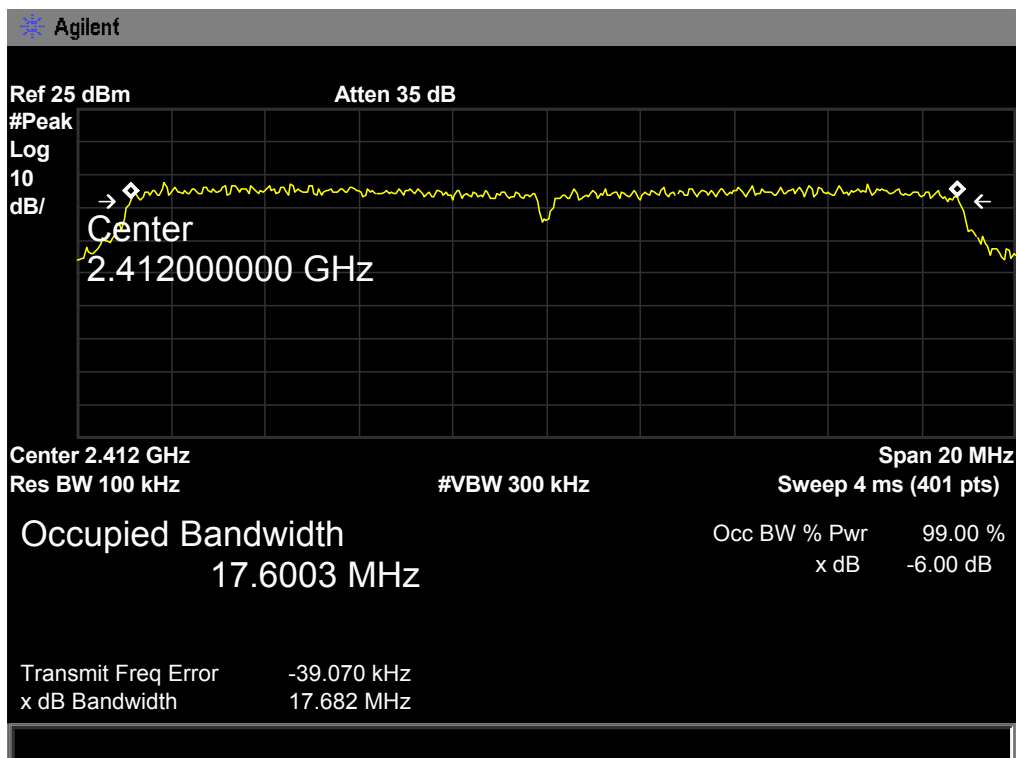
802.11G Mode
2412 MHz


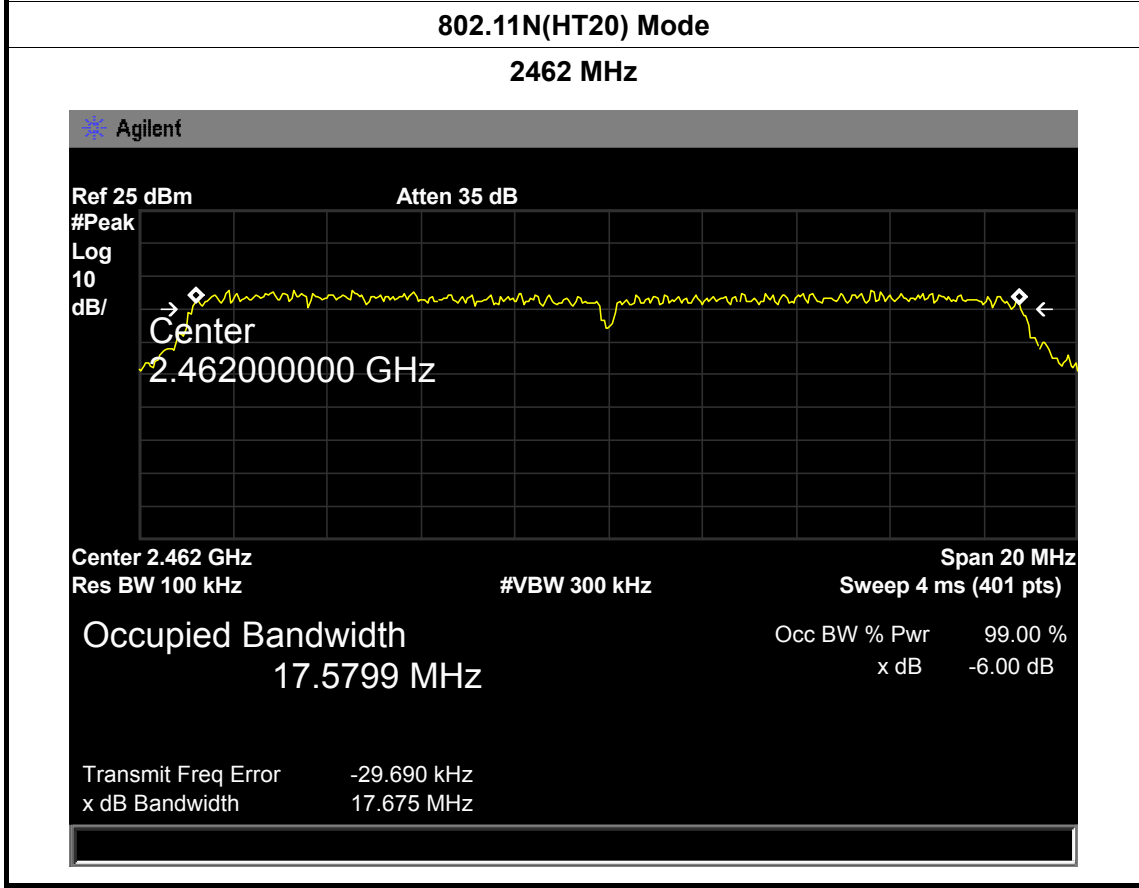
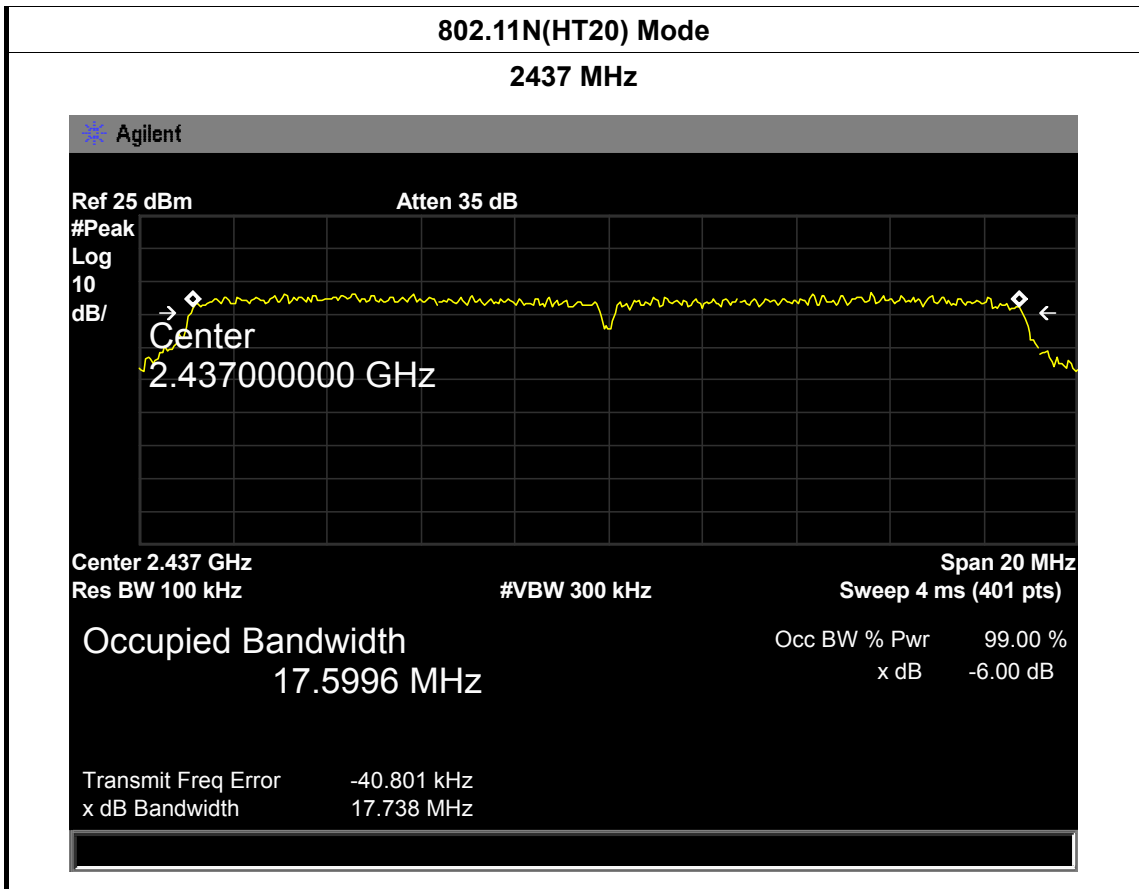


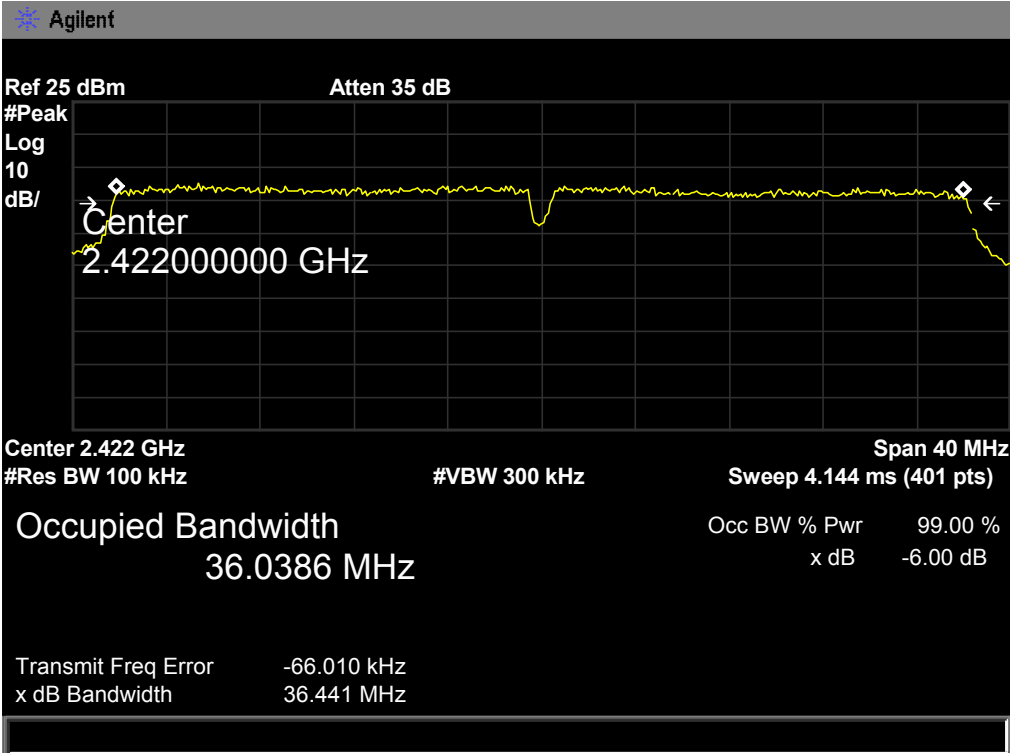
EUT:	ScreenBeam 802.11 a/b/g/n/ac WiFi Module	Model:	SBRT8812AU
Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	DC 5V		
Test Mode:	TX 802.11N(HT20) Mode Antenna A		
Channel frequency (MHz)	6dB Bandwidth (MHz)	99% Bandwidth (MHz)	Limit (MHz)
2412	17.718	17.5745	≥0.5
2437	17.711	17.5669	
2462	17.736	17.5773	
802.11N(HT20) Mode			
2412 MHz			
<p>Agilent Ref 25 dBm Atten 35 dB #Peak Log 10 dB/</p> <p>Center 2.41200000 GHz</p> <p>Center 2.412 GHz Span 20 MHz Res BW 100 kHz #VBW 300 kHz Sweep 4 ms (401 pts)</p> <p>Occupied Bandwidth 17.5745 MHz</p> <p>Occ BW % Pwr 99.00 % x dB -6.00 dB</p> <p>Transmit Freq Error -29.996 kHz x dB Bandwidth 17.718 MHz</p>			

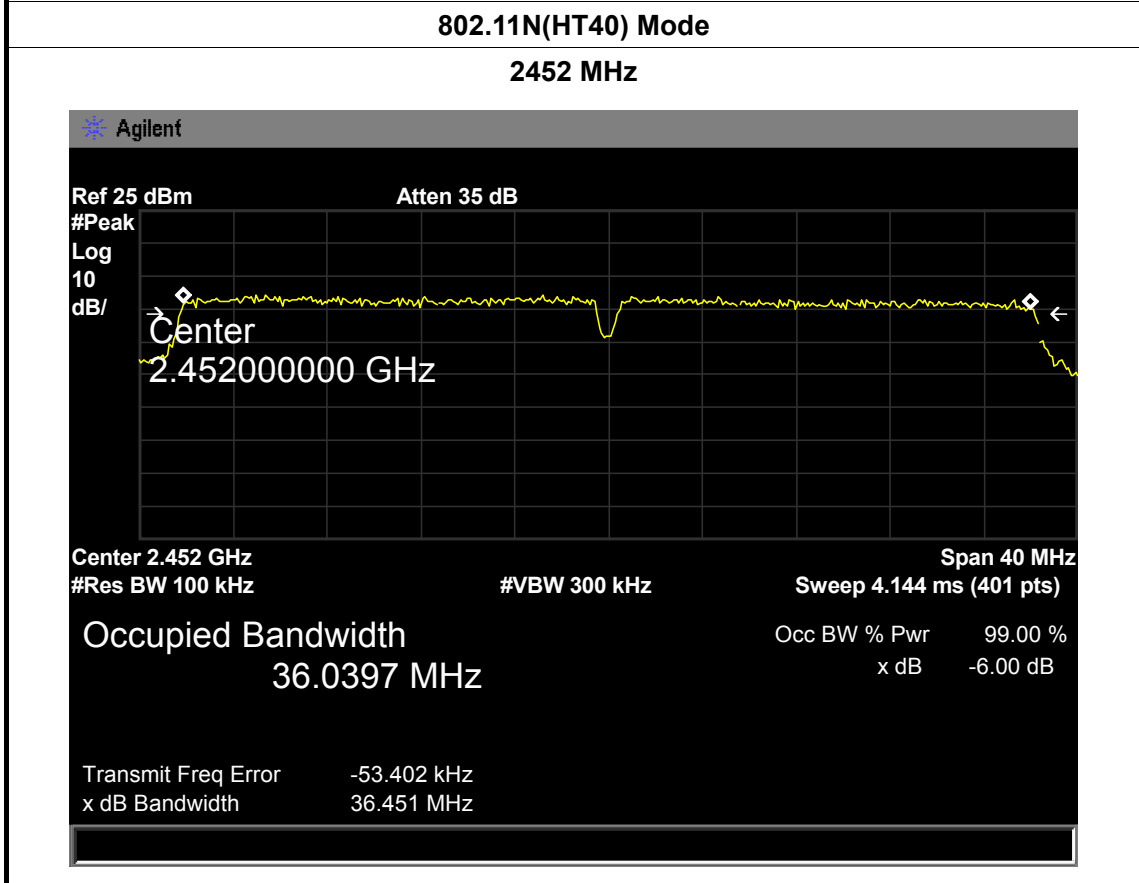
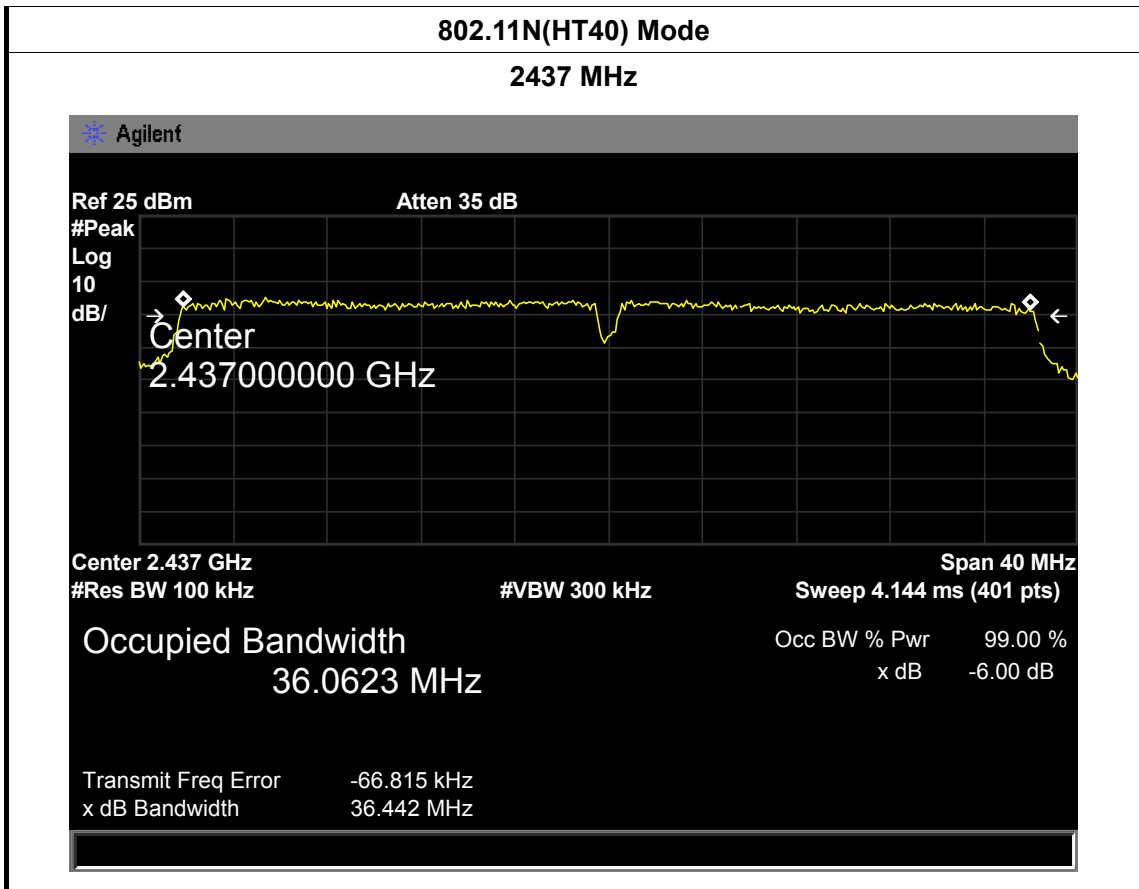


EUT:	ScreenBeam 802.11 a/b/g/n/ac WiFi Module	Model:	SBRT8812AU
Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	DC 5V		
Test Mode:	TX 802.11N(HT20) Mode Antenna B		
Channel frequency (MHz)	6dB Bandwidth (MHz)	99% Bandwidth (MHz)	Limit (MHz)
2412	17.682	17.6003	≥0.5
2437	17.738	17.5996	
2462	17.675	17.5799	

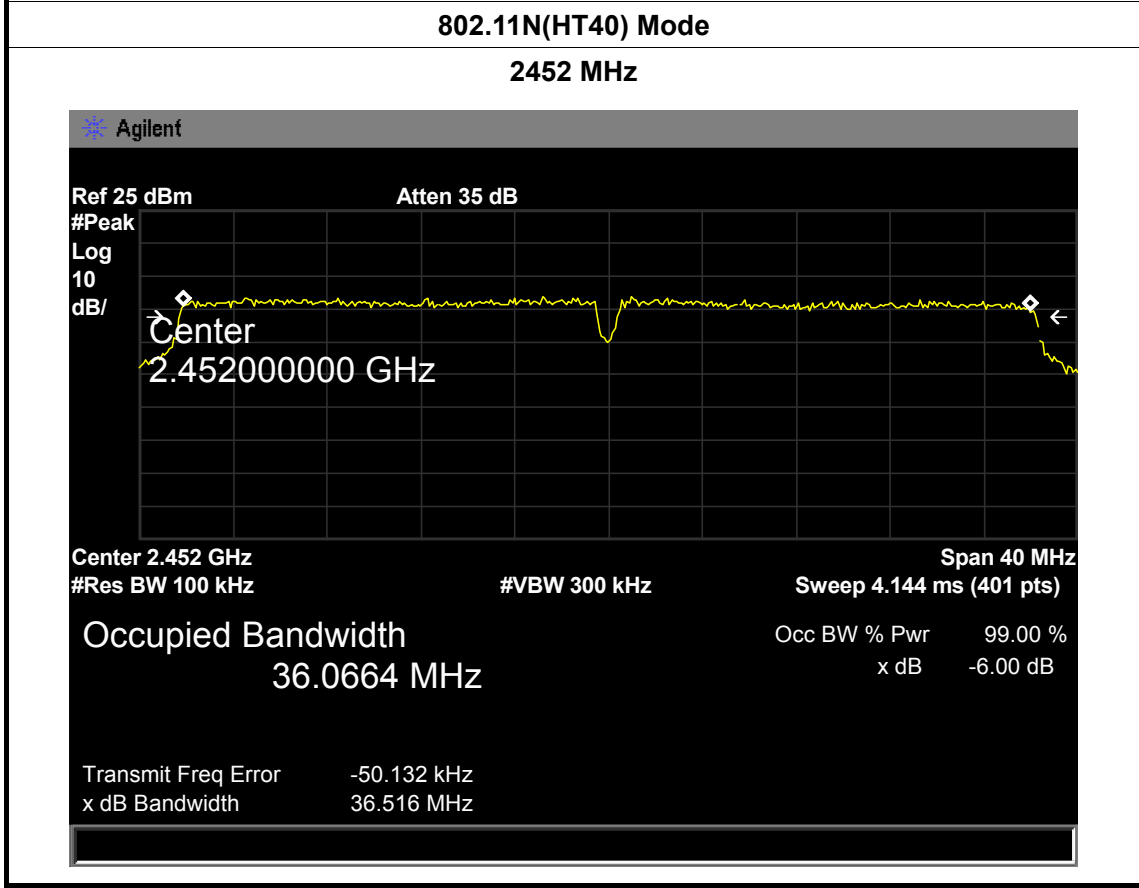
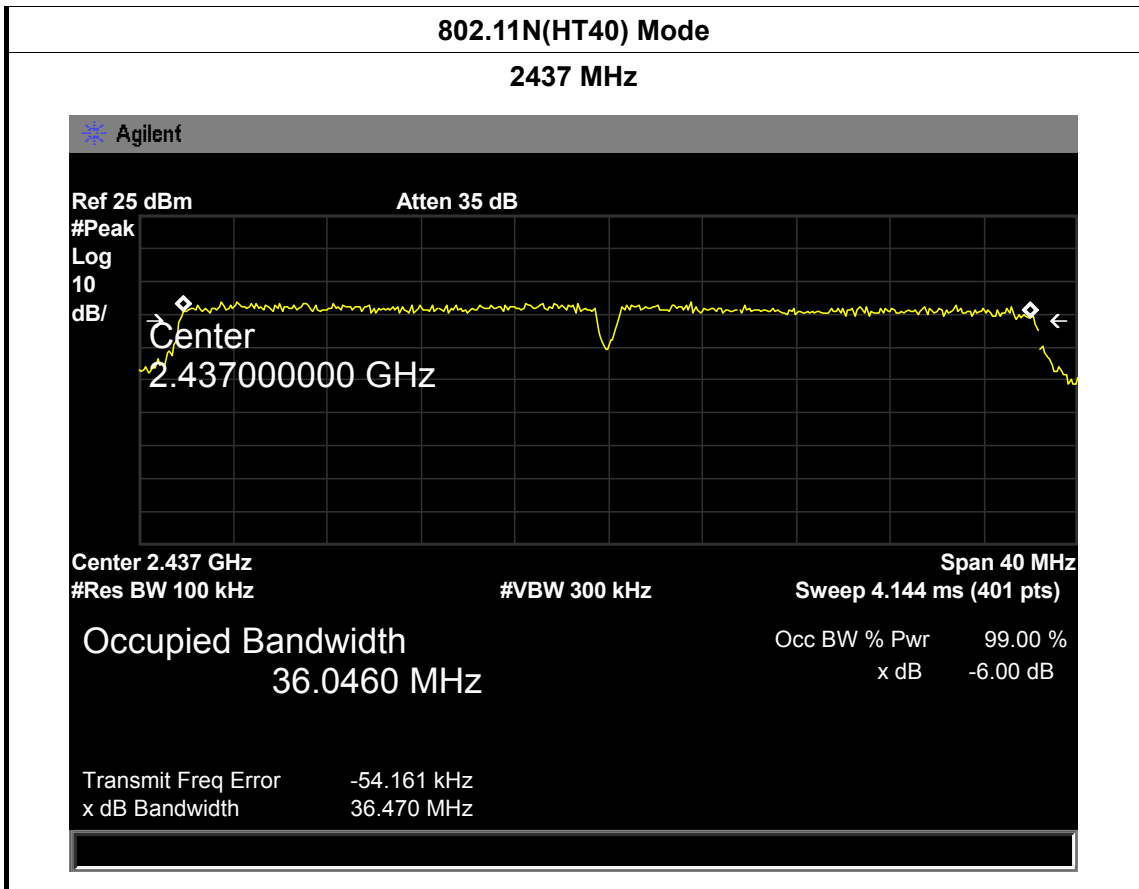
802.11N(HT20) Mode
2412 MHz




EUT:	ScreenBeam 802.11 a/b/g/n/ac WiFi Module	Model:	SBRT8812AU
Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	DC 5V		
Test Mode:	TX 802.11N(HT40) Mode Antenna A		
Channel frequency (MHz)	6dB Bandwidth (MHz)	99% Bandwidth (MHz)	Limit (MHz)
2422	36.441	36.0386	≥0.5
2437	36.442	36.0623	
2452	36.451	36.0397	
802.11N(HT40) Mode			
2422 MHz			
 <p>Agilent</p> <p>Ref 25 dBm Atten 35 dB</p> <p>#Peak</p> <p>Log</p> <p>10</p> <p>dB/</p> <p>Center 2.42200000 GHz</p> <p>Center 2.422 GHz Span 40 MHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 4.144 ms (401 pts)</p> <p>Occupied Bandwidth Occ BW % Pwr 99.00 %</p> <p>36.0386 MHz x dB -6.00 dB</p> <p>Transmit Freq Error -66.010 kHz</p> <p>x dB Bandwidth 36.441 MHz</p>			



EUT:	ScreenBeam 802.11 a/b/g/n/ac WiFi Module	Model:	SBRT8812AU
Temperature:	25 °C	Relative Humidity:	55%
Test Voltage:	DC 5V		
Test Mode:	TX 802.11N(HT40) Mode Antenna B		
Channel frequency (MHz)	6dB Bandwidth (MHz)	99% Bandwidth (MHz)	Limit (MHz)
2422	36.475	36.0481	≥0.5
2437	36.470	36.0460	
2452	36.516	36.0664	
802.11N(HT40) Mode			
2422 MHz			
<p>Agilent</p> <p>Ref 25 dBm Atten 35 dB</p> <p>#Peak</p> <p>Log</p> <p>10</p> <p>dB/</p> <p>Center</p> <p>2.42200000 GHz</p> <p>Center 2.422 GHz Span 40 MHz</p> <p>#Res BW 100 kHz #VBW 300 kHz Sweep 4.144 ms (401 pts)</p> <p>Occupied Bandwidth Occ BW % Pwr 99.00 %</p> <p>36.0481 MHz x dB -6.00 dB</p> <p>Transmit Freq Error -62.504 kHz</p> <p>x dB Bandwidth 36.475 MHz</p>			



8. Peak Output Power Test

8.1 Test Standard and Limit

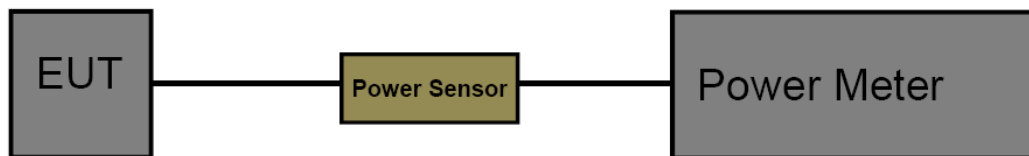
8.1.1 Test Standard

FCC Part 15.247 (b)

8.1.2 Test Limit

FCC Part 15 Subpart C(15.247)/RSS-210		
Test Item	Limit	Frequency Range(MHz)
Peak Output Power	1 Watt or 30 dBm	2400~2483.5

8.2 Test Setup



8.3 Test Procedure

The measurement is according to section 9.1.2 of KDB 558074 D01 DTS Meas Guidance v03r02.

The EUT was connected to RF power meter via a broadband power sensor as show the block above. The power sensor video bandwidth is greater than or equal to the DTS bandwidth of the equipment.

8.4 EUT Operating Condition

The EUT was set to continuously transmitting in the max power during the test.

8.5 Test Data

EUT:	ScreenBeam 802.11 a/b/g/n/ac WiFi Module	Model Name :	SBRT8812AU			
Temperature:	25 °C	Relative Humidity:	55%			
Test Voltage:	DC 5V					
Test Mode	Frequency (MHz)	Test Data				Limit (dBm)
		ANT A (dBm)	ANT B (dBm)	Duty Factor (dB)	Total Power (dBm)	
802.11b	2412	21.61		0	21.61	30
	2437	20.66		0	20.66	
	2462	19.56		0	19.56	
802.11g	2412	26.38		0	26.38	
	2437	25.72		0	25.72	
	2462	25.52		0	25.52	
802.11n (HT20)	2412	23.53	24.19	0	26.88	
	2437	22.95	22.24	0	25.62	
	2462	22.18	21.2	0	24.73	
802.11n (HT40)	2422	22.76	22.27	0	25.53	
	2437	22.70	21.67	0	25.23	
	2452	22.07	21.07	0	24.61	
Result: PASS						

9. Power Spectral Density Test

9.1 Test Standard and Limit

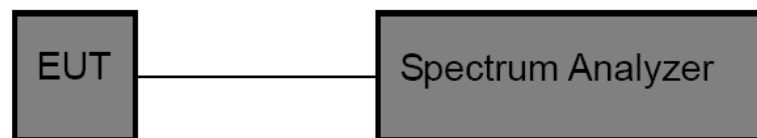
9.1.1 Test Standard

FCC Part 15.247 (e)

9.1.2 Test Limit

FCC Part 15 Subpart C(15.247)		
Test Item	Limit	Frequency Range(MHz)
Power Spectral Density	8dBm(in any 3 kHz)	2400~2483.5

9.2 Test Setup



9.3 Test Procedure

The EUT was directly connected to the Spectrum Analyzer and antenna output port as show in the block diagram above. The measurement according to section 10.2 of KDB 558074 D01 DTS Meas Guidance v03r02.

- (1) The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.
- (2) Set analyser center frequency to DTS channel center frequency.
- (3) Set the span to 1.5 times the DTS bandwidth.
- (4) Set the RBW to: 3 kHz
- (5) Set the VBW to: 10 kHz
- (6) Detector: peak
- (7) Sweep time: auto
- (8) Allow trace to fully stabilize. Then use the peak marker function to determine the maximum amplitude level.

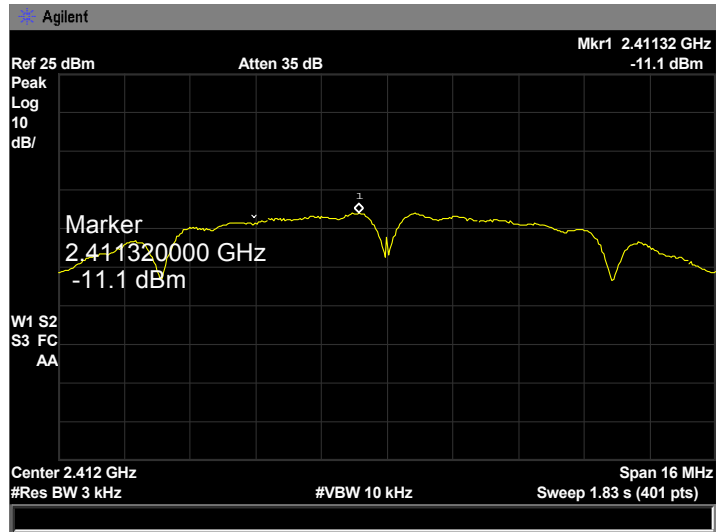
9.4 EUT Operating Condition

The EUT was set to continuously transmitting in each mode and low, ScreenBeam 802.11 a/b/g/n/ac WiFi Moduledle and high channel for the test.

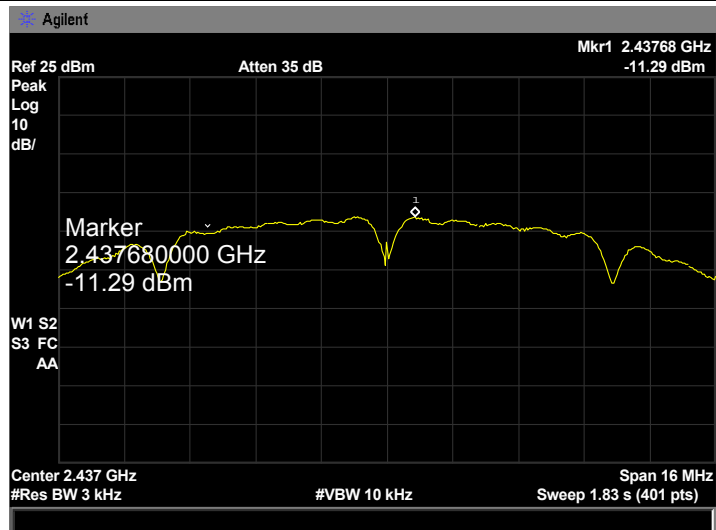
9.5 Test Data

EUT:	ScreenBeam 802.11 a/b/g/n/ac WiFi Module	Model Name :	SBRT8812AU			
Temperature:	25 °C	Relative Humidity:	55%			
Test Voltage:	DC 5V					
U-NII-1						
Test Mode	Frequency (MHz)	Test Data				Limit (dBm)
		ANT 1 (dBm)	ANT 2 (dBm)	Duty Factor (dB)	Total Power (dBm)	
802.11b	2412	-11.10	/	0	-11.10	8
	2437	-11.29	/	0	-11.29	
	2462	-12.68	/	0	-12.68	
802.11g	2412	-9.654	/	0	-9.654	
	2437	-9.261	/	0	-9.261	
	2462	-10.54	/	0	-10.54	
802.11n (HT20)	2412	-12.14	-12.58	0	-9.34	
	2437	-11.82	-12.47	0	-9.12	
	2462	-11.53	-13.70	0	-9.47	
802.11n (HT40)	2422	-13.12	-14.79	0	-10.86	
	2437	-12.07	-15.34	0	-10.39	
	2462	-14.27	-16.22	0	-12.13	
Result: PASS						
Test plots please refer to below pages:						

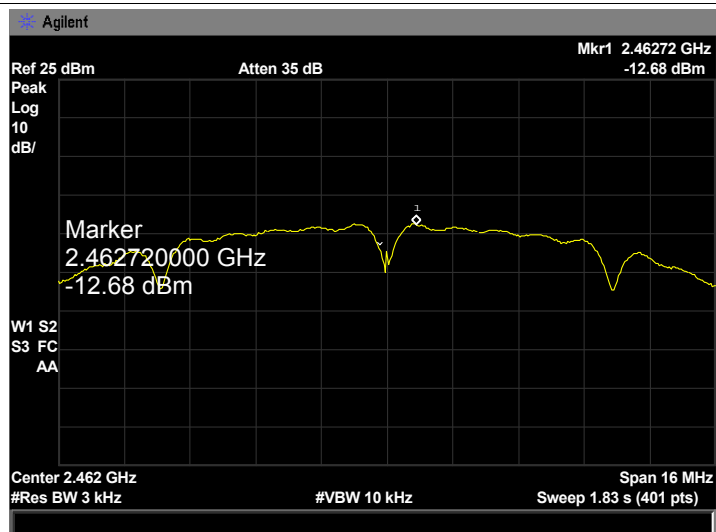
802.11 b 2412 MHz (ANT A)



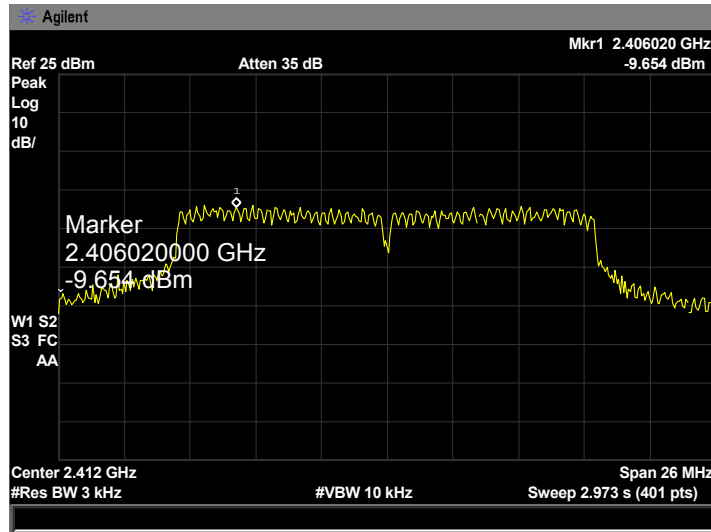
802.11 b 2437 MHz (ANT A)



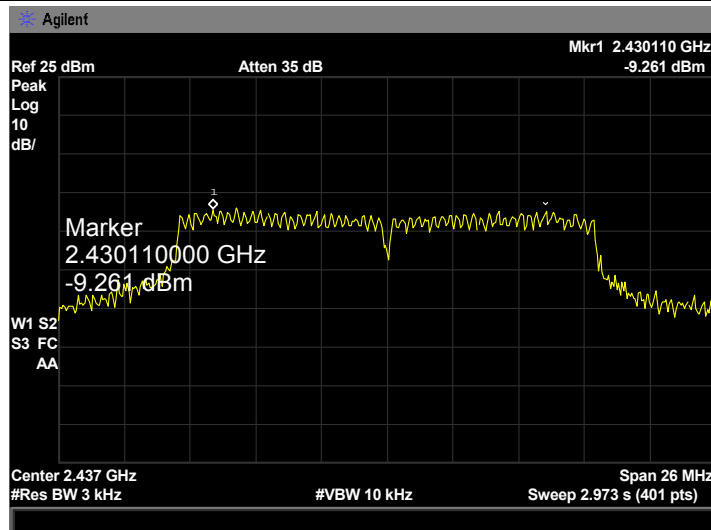
802.11 b 2462MHz (ANT A)



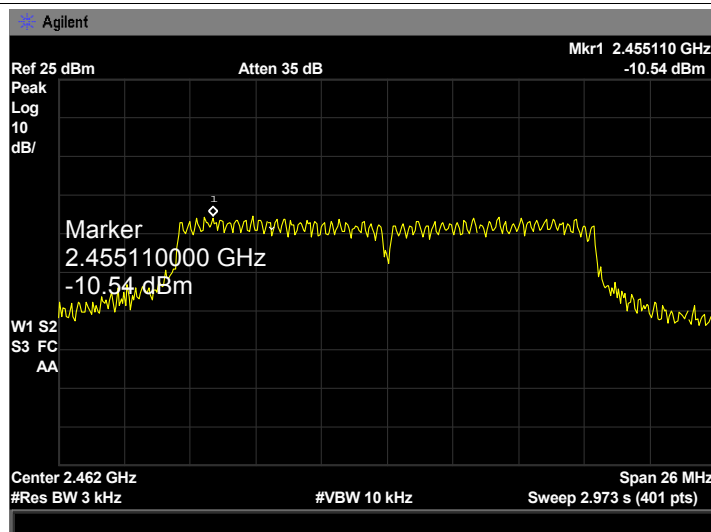
802.11 g 2412 MHz (ANT A)



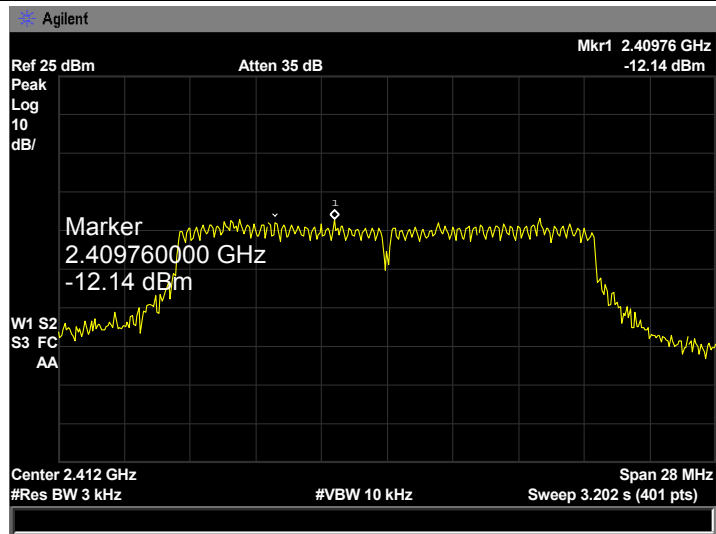
802.11 g 2437 MHz (ANT A)



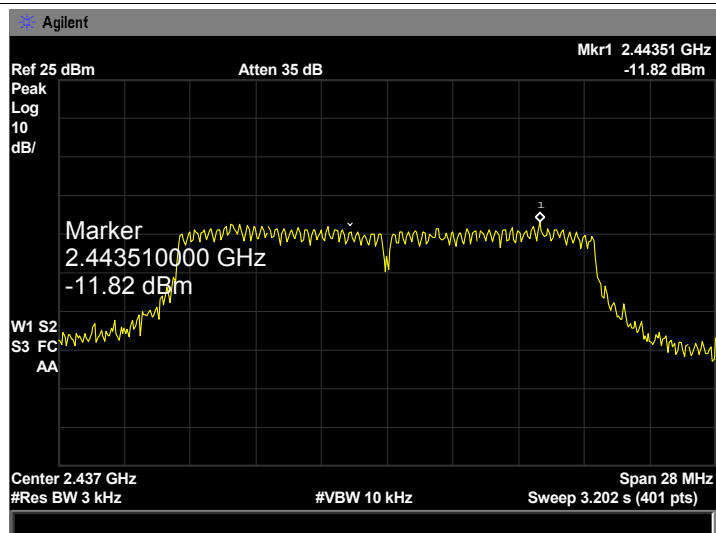
802.11 g 2462MHz (ANT A)



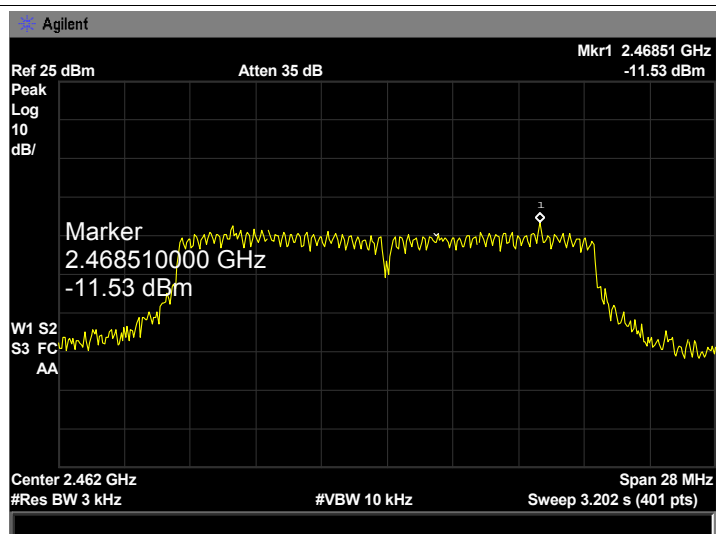
802.11 n(HT20) 2412 MHz (ANT A)



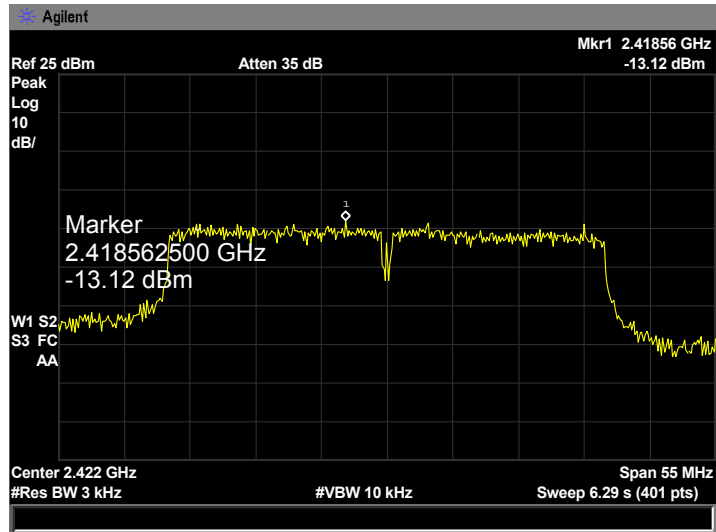
802.11 n(HT20) 2437 MHz (ANT A)



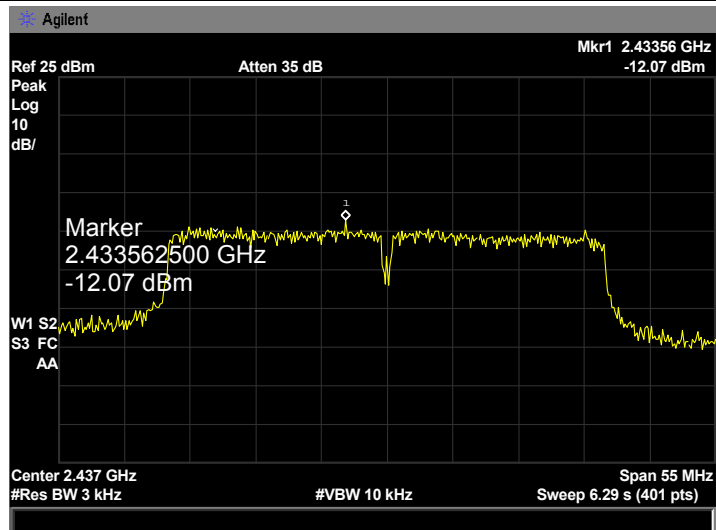
802.11 n(HT20) 2462MHz (ANT A)



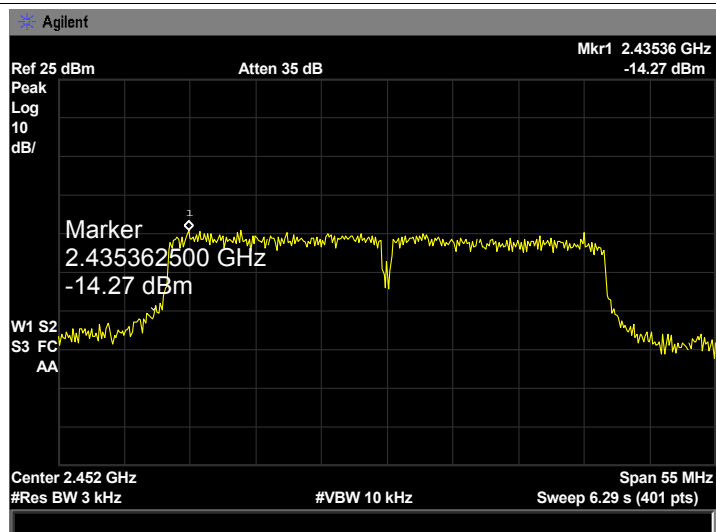
802.11 n(HT20) 2412 MHz (ANT A)



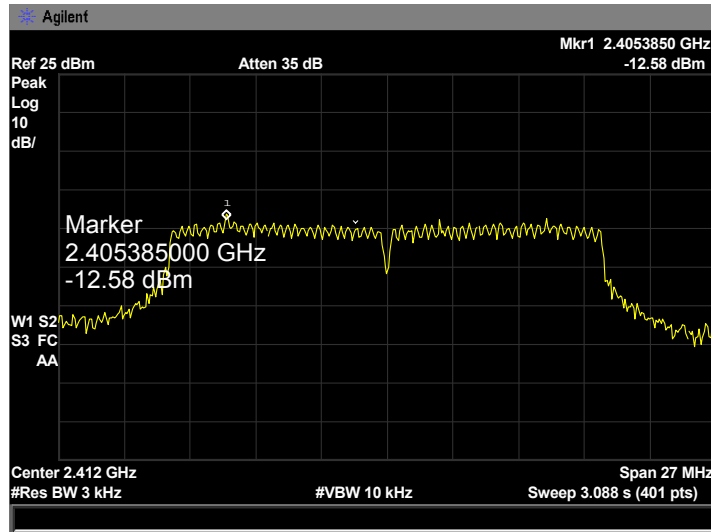
802.11 n(HT20) 2437 MHz (ANT A)



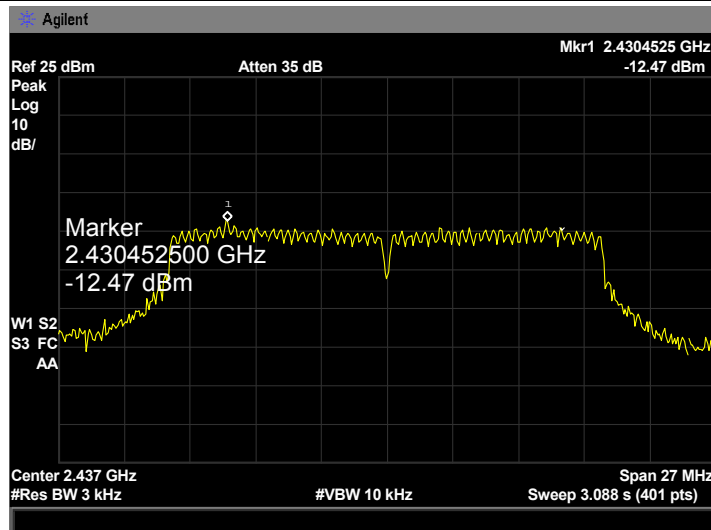
802.11 n(HT20) 2462MHz (ANT A)



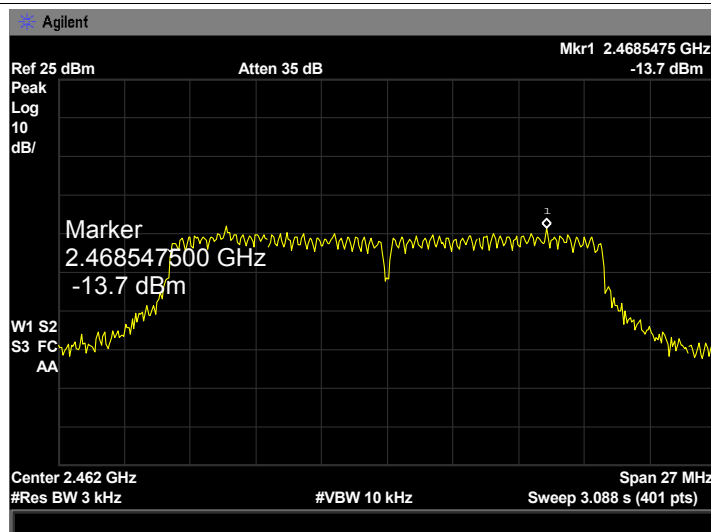
802.11 n(HT20) 2412 MHz (ANT B)



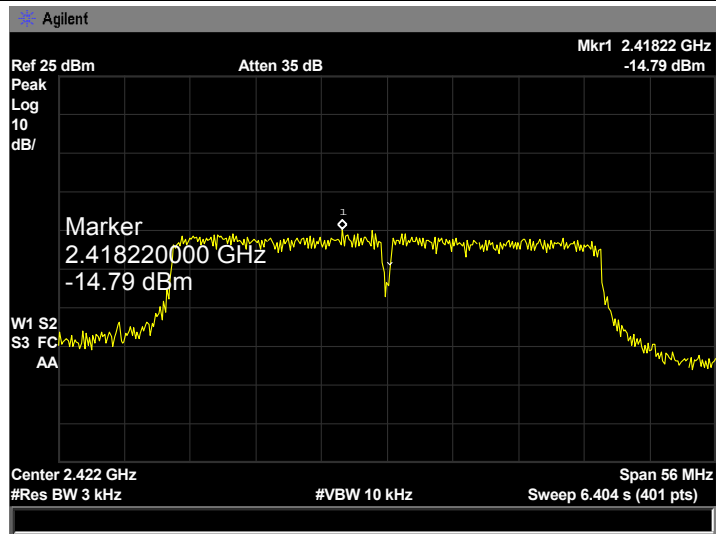
802.11 n(HT20) 2437 MHz (ANT B)



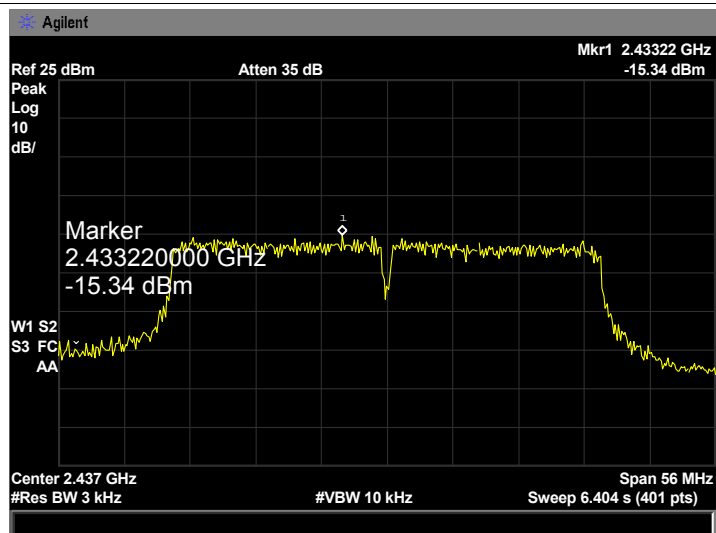
802.11 n(HT20) 2462MHz (ANT B)



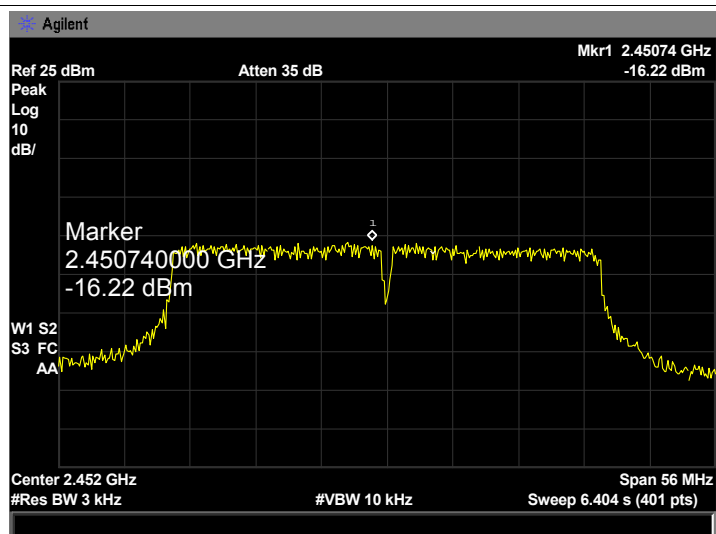
802.11 n(HT40) 2412 MHz (ANT B)



802.11 n(HT40) 2437 MHz (ANT B)



802.11 n(HT40) 2462MHz (ANT B)



10. Antenna Requirement

10.1 Standard Requirement

10.1.1 Standard

FCC Part 15.203

10.1.2 Requirement

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this Section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

10.2 Antenna Connected Construction

The directional gains of the antenna used for transmitting is 2.18dBi (2412MHz~2462MHz), and the antenna de-signed with permanent attachment and no consideration of replacement. Please see the EUT photo for details.

10.3 Result

The EUT antenna is a PIFA Antenna. It complies with the standard requirement.

Antenna Type
<input checked="" type="checkbox"/> Permanent attached antenna
<input type="checkbox"/> Unique connector antenna
<input type="checkbox"/> Professional installation antenna