MOTOROLA SOLUTIONS

CERTIFICATE 2518.08

SAMM 825

MOTOROLA PENANG ADV. COMM. LABORATORY
Motorola Solutions Malaysia Sdn. Bhd.
Plot 2A Medan Bayan Lepas,
Mukim 12, S.W.D. 11900 Bayan Lepas,
Penang, Malaysia.

FCC / IC TEST REPORT

Report Revision : Rev.B

Date/s Tested	:	29-July-2024 - 19-September-2024
Manufacturer/Location	:	Motorola Solutions Malaysia SDN BHD
Manufacturer Address	:	Plot 2A Medan Bayan Lepas, Mukim 12 SWD, 11900 Bayan Lepas, Penang, Malaysia
Requestor	:	DANESHKUMAR A/L R THAYAPARAN
Product Type	:	Portable
Product Marketing Name (PMN)	:	R5
Hardware Version Identification Number (HVIN)	:	AAH07RDH9SA1AN
Frequency Band	:	5180-5825 MHz
Firmware Version (FVIN)	:	D02.25.01.0010
Applicant Name	:	Motorola Solutions Inc
Applicant Address	:	Plot 2A, Medan Bayan Lepas, Mukim 12 SWD, 11900 Bayan Lepas, Penang, Malaysia
FCC Registrations	:	461337
ISED Registrations	:	MY0001

The equipment was tested accordance to the requirement listed below:

(5GHz Wi-Fi) **FCC 47 CFR Part 15 Subpart E** **IC RSS 247 Issue 2**	**PASS**

Prepared By:

Siti Nurhidayati Binti Abdul Halim
Technician

Approved Signatory:

Vincent Foong Chuen Kit
Responsible Engineer

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Revision History	Description	Date	Originator
Rev. A	Initial Report	**24-September-2024**	**Hidayati**
Rev. B	Updated ant gain, power, PSD	**4-October-2024**	**Vincent**

1.0. Summary of Test Results

FCC Clause	IC Clause	Test Item	Result	Remarks	Serial Number tested	Tested by
15.407 (a)(1/2/3)	RSS 247 6.2	Maximum Conducted Output Power (Average)	Pass	Highest output power: 802.11a: 17.681 dBm (58.63 mW) 802.11n20: 17.865 dBm (61.16 mW)	651EAP0008	Hidayati
15.407(a) (1/2/3)	RSS 247 6.2	Maximum Power Spectral Density	Pass	Meet the requirement limit	651EAP0008	Hidayati
15.407 (e)	RSS 247 6.2.4	6dB Bandwidth	Pass	a20: 16.871 MHz (16M9D1D) n20/ac20: 17.839 (17M8D1D)	651EAP0008	Hidayati
15.407 (g)	RSS Gen 6.11	Frequency Stability	Pass	Meet the requirement limit	651EAP0008	Hidayati
15.407 (b) (1/2/3/4/6)	RSS 247 6.2	Band Edge Radiated Spurious Emission Measurement	Pass	Worst case emission: 64.6274dBuV/m (margin: 3.5726 dB)	651EAP0011	Nazrin & Rezza
15.407 (b) (1/2/3/4/6)	RSS 247 6.2	Radiated Spurious Emission Measurement	Pass	Worst case emission: 53.9697 dBuV/m (margin: 0.0303 dB) (NF)	651EAP0011	Nazrin & Rezza
15.207 15.407 (b)(6)	RSS Gen 8.8	AC Powerline Conducted Emission	Pass	Meet the requirement limit	651EAP0011, 651EAP0018, 651EAP0020	Shidee
15.203	-	Antenna requirement	Pass	Internal antenna is not accessible to the end-user	NA	NA

2.0. Measurement Uncertainty

Measurement	Frequency	Expended Uncertainty (k=1.96) (±dB)
AC Power Line Conducted Spurious Emission	150KHz ~ 30MHz	3.43
Radiated Emissions up to 1 GHz	30MHz ~ 200MHz	5.88
	200MHz ~ 1000MHz	5.88
Radiated Emissions above 1 GHz	1GHz ~ 18GHz	5.84
	18GHz ~ 25GHz	6.02
Conducted Spurious Emissions	9kHz ~ 12.75GHz	2.82

3.0. Equipment List

Bluetooth ATE # 1 (SW Version: Ate Main_3.1.12_R1)

Description	Model	Serial Number	Calibration Date	Calibration Due Date
POWER SUPPLY	6652A	MY40001437	19-Feb-24	19-Feb-25
SPECTRUM ANALYZER	E4440A	MY46185415	5-Jan-24	5-Jan-25
CHAMBER	SH-641	92005573	1-Apr-24	1-Apr-25

Radiated Emission Station (SW Version: EMC FCC RE v1.6.5)

Description	Model	Serial Number	Calibration Date	Calibration Due Date
DRG HORN FREQ.	SAS-571	1143	08-Mar-23	08-Mar-25
DRG HORN FREQ.	SAS-571	720	18-Apr-23	18-Apr-25
DC POWER SUPPLY	6623A	3302A02585	30-Jul-24	30-Jul-25
SIGNAL GENERATOR	SMB 100A	182511	04-Sep-21	04-Dec-24
EMI TEST RECEIVER	ESW44	101750	08-Aug-24	07-Aug-25
BILOG ANTENNA	CBL6112B	2950	14-Dec-23	14-Dec-24
BILOG ANTENNA	CBL6112B	2964	25-Sep-23	25-Sep-24
DATA LOGGER THERMOHYGROMETER	SDL500	A.016800	26-Jun-24	26-Jun-25
BROAD-BAND HORN ANTENNA	BBHA9170	BBHA9170255	13-Mar-2024	13-Mar-2025
PREAMPLIFIER	PAM-0118P	574	19-Mar-24	19-Mar-25
LOOP ANTENNA	6502	00203479	06-Mac-24	06-Mac-25
SYSTEM CONTROLLER	SC104V	050806-1	Not Required	Not Required
TURNTABLE FLUSH MOUNT 2M	FM2011	NA	Not Required	Not Required
ANTENNA POSITIONING TOWER	TLT2	NA	Not Required	Not Required
PREAMPLIFIER 18-40GHz	Miteq Hi Gain Sucoflex	002	Not Required	Not Required
5m SEMI-ANECHOIC CHAMBER	S800-HX	J2308	Not Required	Not Required

AC Powerline Station (SW Version: EMC Ver.10.60.10)

Description	Model	Serial Number	Calibration Date	Calibration Due Date
DATA LOGGER	DSB	16344143	5-Jul-2024	5-Jul-2025
V-NETWORK 2-LINE	ENV216V	101039	13-Dec-23	13-Dec-24
EMI TEST RECEIVER	ESCI	100225	8-May-2024	8-May-2025
PROGRAMMABLE AC SOURCE	61604	616040003502	15-Dec-2023	15-Dec-2024

4.0. General Information

General Description of EUT:

Product	Portable
Brand	Motorola Solutions
Test Model	R5
Power Supply Rating	7.5Vdc
Mode of operation	WLAN 5GHz
Modulation Type	QPSK, BPSK, 16QAM, 64QAM, 256QAM
Modulation Technology	OFDM
Transfer Rate	802.11a: 6.0/9.0/12.0/18.0/24.0/36.0/48.0/54.0 Mbps 802.11n: up to MCS15 802.11ac: up to MCS9
Operating Frequency	5.180 ~ 5.240 GHz, 5.260 ~ 5.320 GHz, 5.50 ~ 5.720 GHz, 5.745 ~ 5.825 GHz
Output Power (26 EBW or 99% OBW)	53.7 mW for 5.180 ~ 5.240 GHz 63.1 mW for 5.260 ~ 5.320 GHz 31.62 mW for 5.50 ~ 5.720 GHz 31.62 mW for 5.745 ~ 5.825 GHz
Antenna Type	PIFA
SW Version	D02.25.01.0010

Note:
The EUT contains following accessory devices and data cable:

Item	Brand	Model or P/N
ANTENNA, STAMPED METAL,UHF SLIM WHIP ANTENNA (400-527MHZ)	MOTOROLA	PMAE4079A
BATT IMPRES LIION TIA4950 IP68 3200T	MOTOROLA	PMNN4890A
Charger Desktop Multi Unit IMPRES 2 1 Display External Power Supply 100–240 VAC– US/NA	MOTOROLA	PMPN4284B
CHARGER DESKTOP MULTI-UNIT IMPRES 2 1 DISPLAY EXT PS 100-240VAC US/NA	MOTOROLA	PMPN4283B

Description of Test Modes:

For 5180 to 5240 MHz:

Channels for 802.11a, 802.11n, 802.11ac (HT20, VHT20)

Channel	Frequency (MHz)
36	5180
40	5200
44	5220
48	5240

Channels for 802.11n, 802.11ac (HT40, VHT40)

Channel	Frequency (MHz)
38	5190
46	5230

Channels for 802.11ac (VHT80)

Channel	Frequency (MHz)
42	5210

For 5260 to 5320 MHz:

Channels for 802.11a, 802.11n, 802.11ac (HT20, VHT20)

Channel	Frequency (MHz)
52	5260
56	5280
60	5300
64	5320

Channels for 802.11n, 802.11ac (HT40, VHT40)

Channel	Frequency (MHz)
54	5270
62	5310

Channels for 802.11ac (VHT80)

Channel	Frequency (MHz)
58	5290

For 5500 to 5720 MHz:

Channels for 802.11a, 802.11n, 802.11ac (HT20, VHT20)

Channel	Frequency (MHz)
100	5500
104	5520
108	5540
112	5560
116	5580
120	5600
124	5620
128	5640
132	5660
136	5680
140	5700
144	5720

Channels for 802.11n, 802.11ac (HT40, VHT40)

Channel	Frequency (MHz)
102	5510
110	5550
118	5590
126	5630
134	5670
142	5710

Channels for 802.11ac (VHT80)

Channel	Frequency (MHz)
106	5530
122	5610
138	5690

For 5745 to 5825 MHz:

Channels for 802.11a, 802.11n, 802.11ac (HT20, VHT40)

Channel	Frequency(MHz)
149	5745
153	5765
157	5785
161	5805
165	5825

Channels for 802.11n, 802.11ac (HT40, VHT40)

Channel	Frequency(MHz)
151	5755
159	5795

Channels for 802.11ac (VHT80)

Channel	Frequency (MHz)
155	5775

General Description of Applied Standards
The EUT is a RF Product. According to the specifications of the manufacturer, the EUT is to comply with the requirements of the following standards:

FCC Part15, Subpart E (15.407)
789033 D02 General UNII Test Procedures New Rules v01r04
644545 D03 Guidance for IEEE 802 11ac New Rules v01
ANSI C63.10-2013
RSS 247 Issue 2, RSS Gen

All test have been performed and recorded as per above standards.

Deviation from standard
Not applicable as no deviation from standard test method.

Modifications to EUT
No modifications were done to the UUT to facilitate the tests in this report.

Antenna gain disclaimer
Antenna gain information is provided by customer. The validity of the results is dependent upon this information. The lab will not be held accountable in the event the supplied information affects compliance.

5.0. Test Mode Applicability and Test Channel Detail

EUT Configure Mode	Applicable to				Description
	RE≥1G	RE<1G	PLC	APCM	
A	√	√	√	√	Power from adapter
B	x	√	x	x	Power from carcharger (12Vdc)
C	x	√	x	x	Power from carcharger (24Vdc)

Where:

RE≥1G: Radiated Emission above 1GHz & Band edge Measurement

RE<1G: Radiated Emission below 1GHz

PLC: Power Line Conducted Emission

APCM: Antenna Port Conducted Measurement

Note: The EUT had been pre-scanned on the position of each 3 axis planes. The worst case was found when positioned on **Y-plane.**

Radiated Emission Test (Above 1GHz)

☒Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

☒Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Frequency Band	MODE	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
-	5180-5240	802.11a	36-48	36,44,48	OFDM	BPSK	6.0
-	5180-5240	802.11n/ac (HT20, VHT20)	36-48	36,44,48	OFDM	BPSK	6.5
-	5180-5240	802.11n/ac (HT40,VHT40)	38-46	38,46	OFDM	BPSK	13.5
-	5180-5240	802.11ac (VHT80)	42	42	OFDM	BPSK	29.3
-	5260-5320	802.11a	52-64	52,60,64	OFDM	BPSK	6.0
-	5260-5320	802.11n/ac (HT20, VHT20)	52-46	52,60,64	OFDM	BPSK	6.5
-	5260-5320	802.11n/ac (HT40,VHT40)	54-62	54,62	OFDM	BPSK	13.5
-	5260-5320	802.11ac (VHT80)	58	58	OFDM	BPSK	29.3
-	5500-5700	802.11a	100-140	100,116,140	OFDM	BPSK	6.0
-	5500-5720	802.11n/ac (HT20, VHT20)	100-144	100,116,144	OFDM	BPSK	6.5
-	5500-5720	802.11n/ac (HT40,VHT40)	102-142	102,110,142	OFDM	BPSK	13.5
-	5500-5720	802.11ac (VHT80)	106-138	106,122,138	OFDM	BPSK	29.3
-	5745-5825	802.11a	149-165	149,157,165	OFDM	BPSK	6.0
-	5745-5825	802.11n/ac (HT20, VHT20)	149-165	149,157,165	OFDM	BPSK	6.5
-	5745-5825	802.11n/ac (HT40,VHT40)	151-159	151,159	OFDM	BPSK	13.5
-	5745-5825	802.11ac (VHT80)	155	155	OFDM	BPSK	29.3

Radiated Emission Test (Below 1GHz)

☒Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

☒Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	MODE	Frequency band (MHz)	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
-	802.11a	5180-5240	36 to 48	36	OFDM	BPSK	6.0
-	802.11a	5260-5320	52 to 64		OFDM	BPSK	6.0
-	802.11a	5500-5700	100 to 140		OFDM	BPSK	6.0
-	802.11a	5745-5825	149 to 165		OFDM	BPSK	6.0

Power Line Conducted Emission Test

☒Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

☒Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	MODE	Frequency band (MHz)	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
-	802.11a	5180-5240	36 to 48	36	OFDM	BPSK	6.0
-	802.11a	5260-5320	52 to 64		OFDM	BPSK	6.0
-	802.11a	5500-5700	100 to 140		OFDM	BPSK	6.0
-	802.11a	5745-5825	149 to 165		OFDM	BPSK	6.0

Antenna Port Conducted Measurement:

☒This item includes all test value of each mode, but only includes spectrum plot of worst value of each mode.

☒Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

☒Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Frequency Band	MODE	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
-	5180-5240	802.11a	36-48	36,44,48	OFDM	BPSK	6.0
-	5180-5240	802.11n/ac (HT20, VHT20)	36-48	36,44,48	OFDM	BPSK	6.5
-	5180-5240	802.11n/ac (HT40,VHT40)	38-46	38,46	OFDM	BPSK	13.5
-	5180-5240	802.11ac (VHT80)	42	42	OFDM	BPSK	29.3
-	5260-5320	802.11a	52-64	52,60,64	OFDM	BPSK	6.0
-	5260-5320	802.11n/ac (HT20, VHT20)	52-46	52,60,64	OFDM	BPSK	6.5
-	5260-5320	802.11n/ac (HT40,VHT40)	54-62	54,62	OFDM	BPSK	13.5
-	5260-5320	802.11ac (VHT80)	58	58	OFDM	BPSK	29.3
-	5500-5700	802.11a	100-140	100,116,140	OFDM	BPSK	6.0
-	5500-5720	802.11n/ac (HT20, VHT20)	100-144	100,116,144	OFDM	BPSK	6.5
-	5500-5720	802.11n/ac (HT40,VHT40)	102-142	102,110,142	OFDM	BPSK	13.5
-	5500-5720	802.11ac (VHT80)	106-138	106,122,138	OFDM	BPSK	29.3
-	5745-5825	802.11a	149-165	149,157,165	OFDM	BPSK	6.0
-	5745-5825	802.11n/ac (HT20, VHT20)	149-165	149,157,165	OFDM	BPSK	6.5
-	5745-5825	802.11n/ac (HT40,VHT40)	151-159	151,159	OFDM	BPSK	13.5
-	5745-5825	802.11ac (VHT80)	155	155	OFDM	BPSK	29.3

Test Condition:

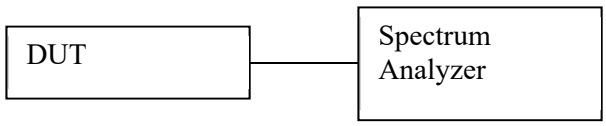
Applicable To	Environmental Conditions	Input Power	Tested By
RE≥1G	23.6°C, 69.4% RH	7.5V DC	Nazrin/Rezza
RE<1G	23.6°C, 69.4% RH	7.5V DC	Nazrin/Rezza
PLC	21.8°C, 57.6% RH	120V AC	Shidee
APCM	25°C, 50% RH	7.5V DC	Hidayati

Duty Cycle of Test Signal

802.11a, 802.11n and 802.11ac (HT20, VHT20): Duty cycle of test signal is 100%.
If Duty cycle of test signal is <98%, duty cycle factor shall be considered. (Refer to section 6.0 for duty cycle measurement)

6.0. Duty Cycle of Test Signal

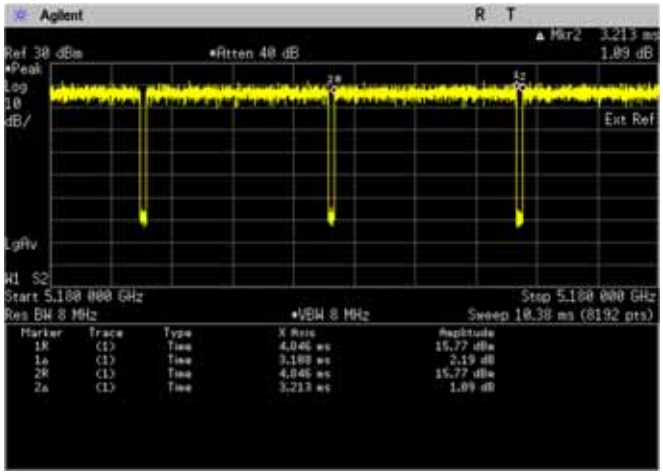
6.0.1. Test Setup



1) Set DUT to desire transmit frequency and transmit with maximum power.
2) Connect DUT's antenna terminal to spectrum analyzer with a low loss cable.
3) Setting of Spectrum analyzer :
    a. Set the RBW = 10 MHz or the highest RBW available on spectrum analyzer.
    b. Set the VBW ≥ RBW.
    c. Set to Zero Span.
    d. Detector = Peak.
    e. Sweep time = 10ms or others that allow to measure accurate duty cycle.
    f. Trace mode = Max hold.
4) Record the duty cycle as X and save the plot.

6.0.2. Test Data

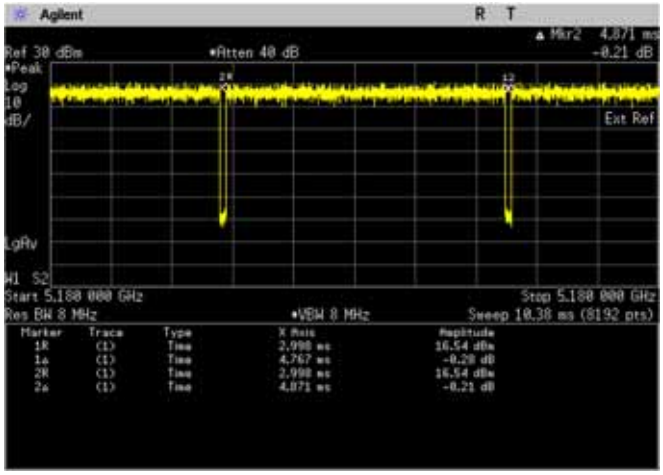
802.11a



On time	3.108	ms
On + off time	3.213	ms
Duty Cycle	0.9673	
Duty Cycle Factor	0.144	

*Duty cycle = On time/ On +off time
*Duty Cycle factor = 10*log (1/Duty Cycle)

802.11n (HT20)



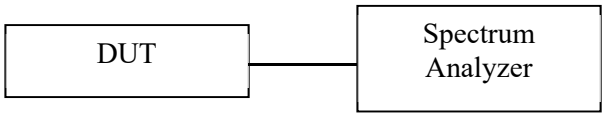
On time	4.767	ms
On + off time	4.871	ms
Duty Cycle	0.9786	
Duty Cycle Factor	0.094	

*Duty cycle = On time/ On +off time
*Duty Cycle factor = 10*log (1/Duty Cycle)

7.0. Transmitter Test Parameters

7.1. Bandwidth measurements

7.1.1. Test Setup



a) Test Setup as per illustrated above.
b) Set DUT to transmit at desire transmit frequency.
c) Connect DUT's antenna terminal to spectrum analyzer with a low loss cable.
d) Setting of Spectrum analyzer for 26dB EBW:
   - RBW = approximate 1% of emission bandwidth
   - VBW > RBW
   - Detector = Peak
   - Trace =Max hold
   - Measure the maximum width of the emission that is 26 dB down from the maximum of the emission.
   - Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.

e) Setting of Spectrum analyzer for 99% Occupied bandwidth:
   - Span = 1.5 times to 5.0 times the OBW
   - RBW = 1% to 5 % of the OBW
   - VBW ≥ 3·RBW
   - Detector = Peak
   - Trace = Max Hold
   - Use the 99% power bandwidth function of the instrument
f) The measurement method follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r04 under clause C.1) & D).

7.1.2. Test Limits

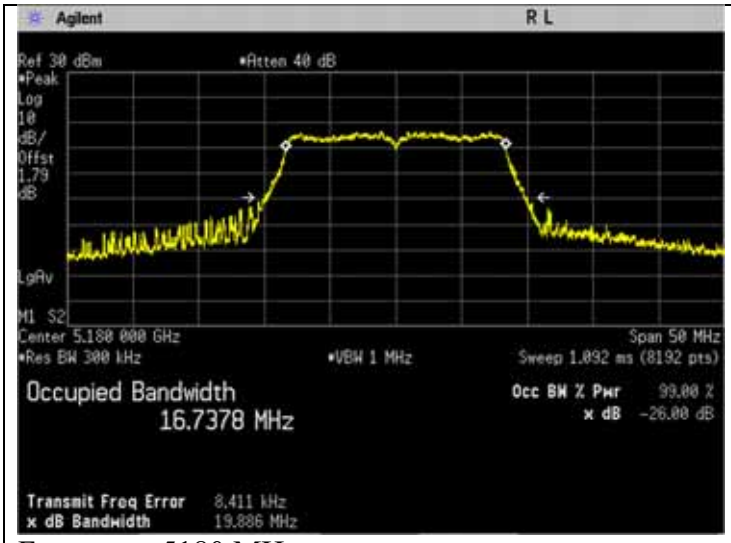
Not applicable.

7.1.3. Test Data

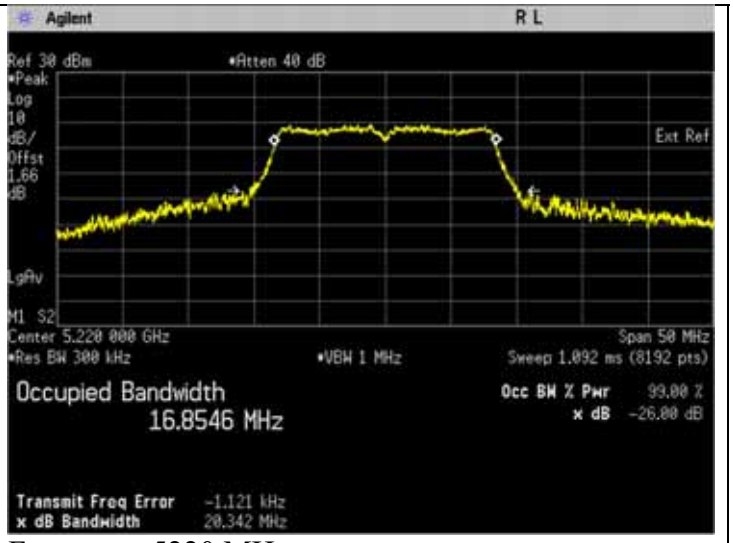
802.11a

Frequency (MHz)	Test Configuration	Results			
		26 dB Bandwidth (MHz)	Status	99% Bandwidth (MHz)	Status
5180	Mod Type: BPSK, Data Rate: 6	19.886	Pass	16.738	Pass
5220	Mod Type: BPSK, Data Rate: 6	20.342	Pass	16.855	Pass
5240	Mod Type: BPSK, Data Rate: 6	21.326	Pass	16.830	Pass
5260	Mod Type: BPSK, Data Rate: 6	21.145	Pass	16.800	Pass
5300	Mod Type: BPSK, Data Rate: 6	21.528	Pass	16.871	Pass
5320	Mod Type: BPSK, Data Rate: 6	20.010	Pass	16.800	Pass
5500	Mod Type: BPSK, Data Rate: 6	19.780	Pass	16.751	Pass
5580	Mod Type: BPSK, Data Rate: 6	20.144	Pass	16.773	Pass
5700	Mod Type: BPSK, Data Rate: 6	20.521	Pass	16.784	Pass
5720	Mod Type: BPSK, Data Rate: 6, UNII-2C	14.985	Pass	13.401	Pass
5720	Mod Type: BPSK, Data Rate: 6, UNII-3	4.985	Pass	3.401	Pass
5745	Mod Type: BPSK, Data Rate: 6	19.875	Pass	16.795	Pass
5785	Mod Type: BPSK, Data Rate: 6	19.967	Pass	16.800	Pass
5825	Mod Type: BPSK, Data Rate: 6	20.169	Pass	16.756	Pass

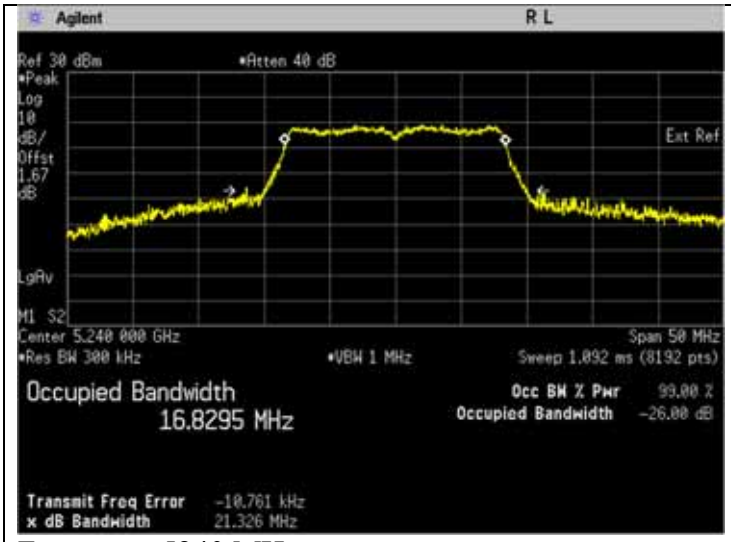
26 dB Bandwidth/ 99% Bandwidth



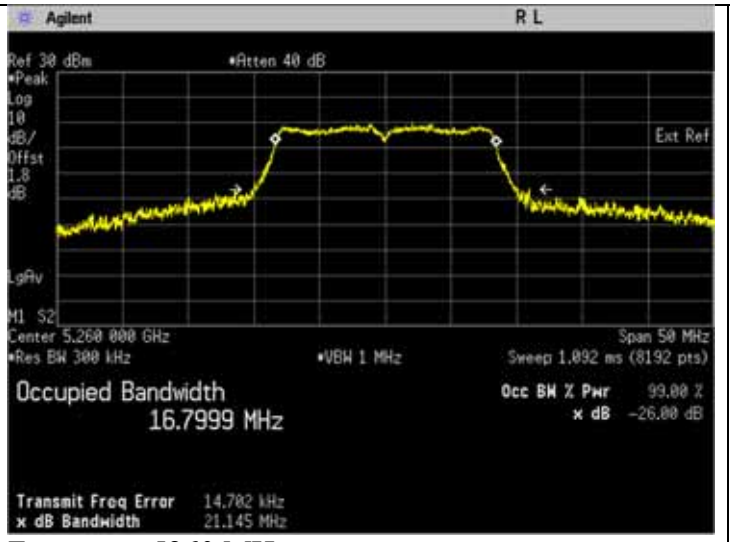
Frequency 5180 MHz



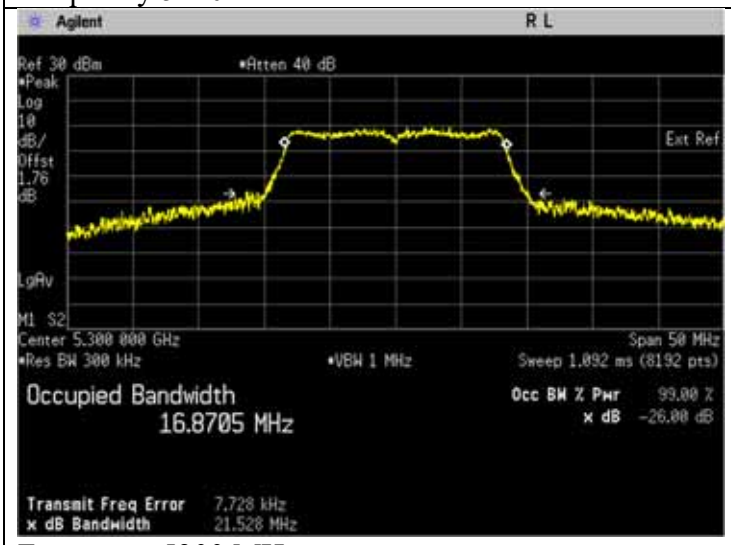
Frequency 5220 MHz



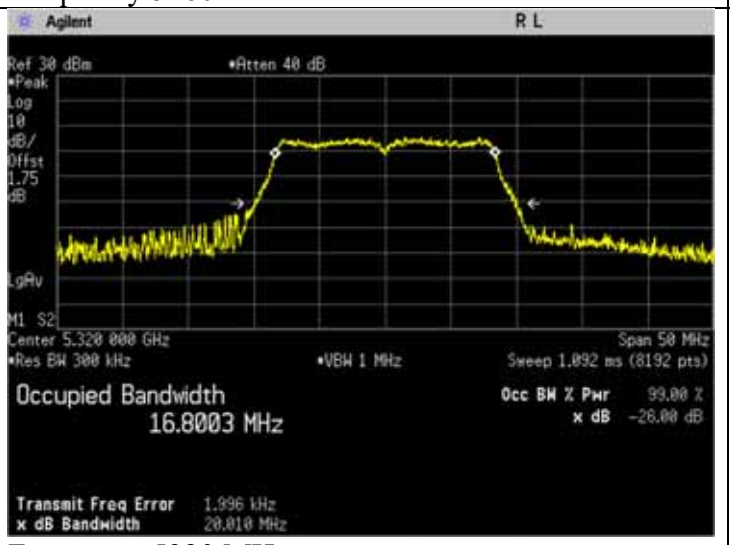
Frequency 5240 MHz



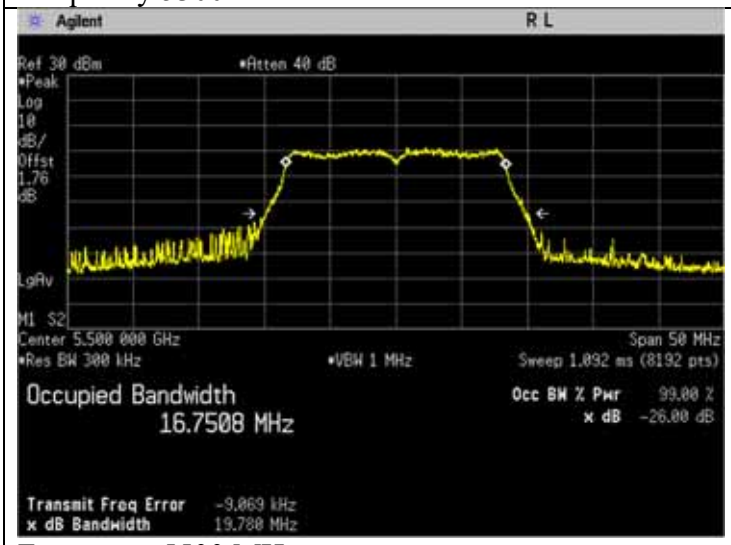
Frequency 5260 MHz



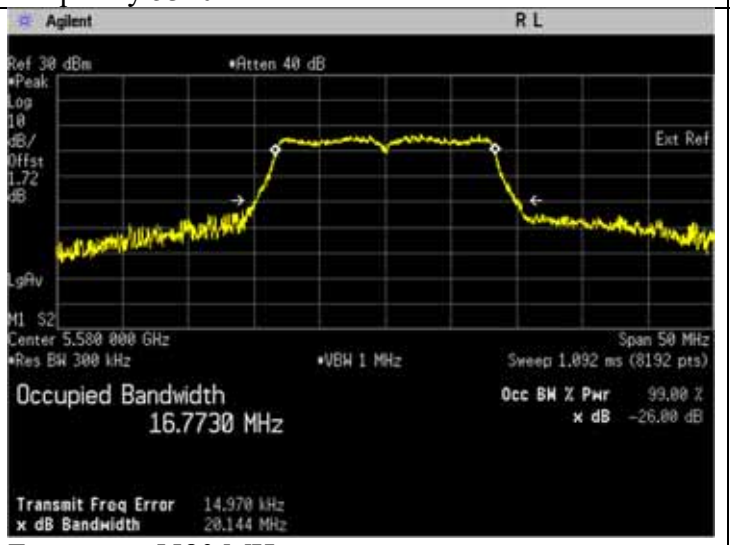
Frequency 5300 MHz



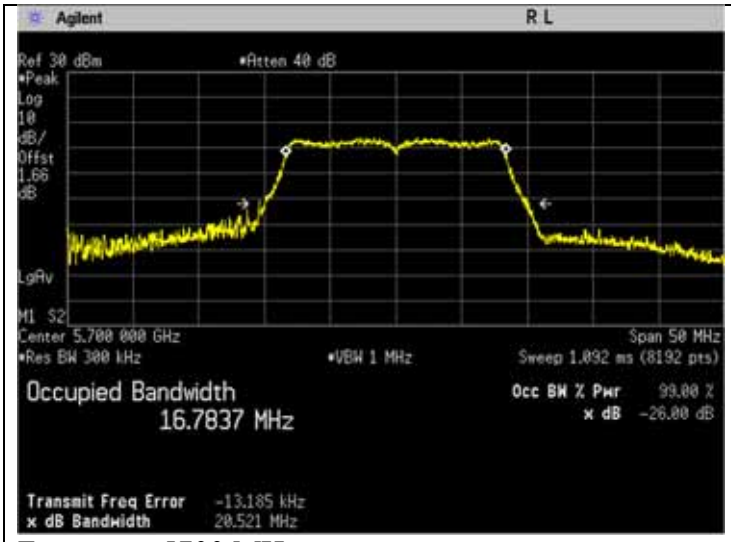
Frequency 5320 MHz



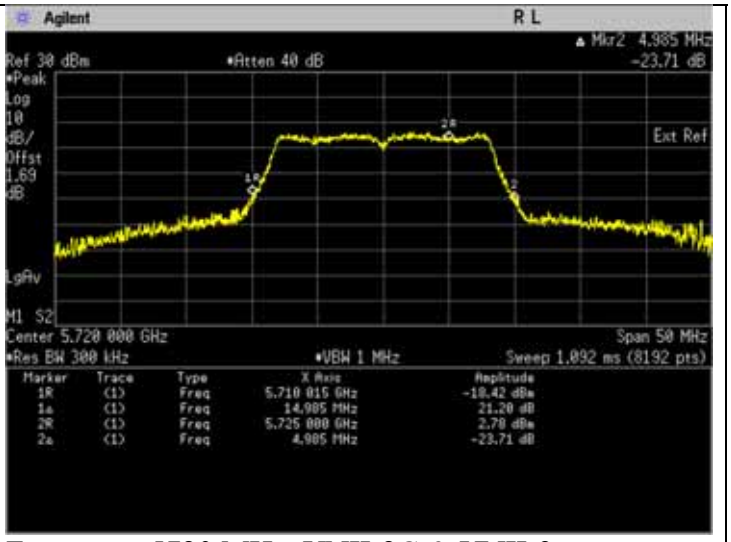
Frequency 5500 MHz



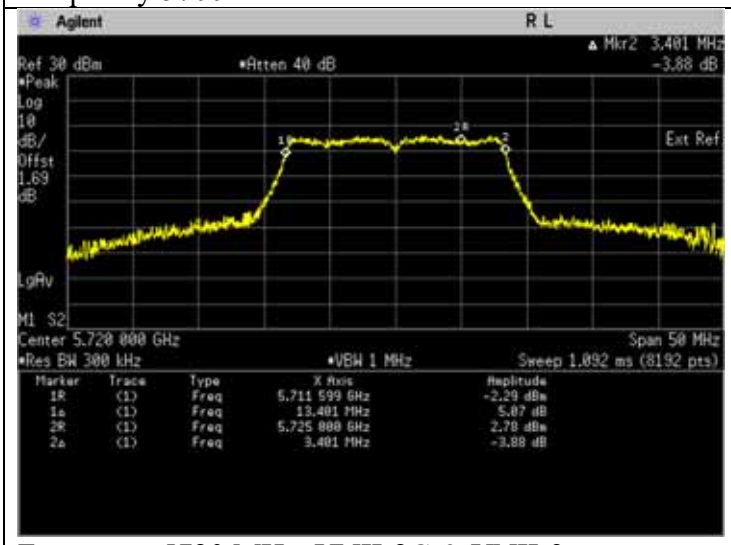
Frequency 5580 MHz



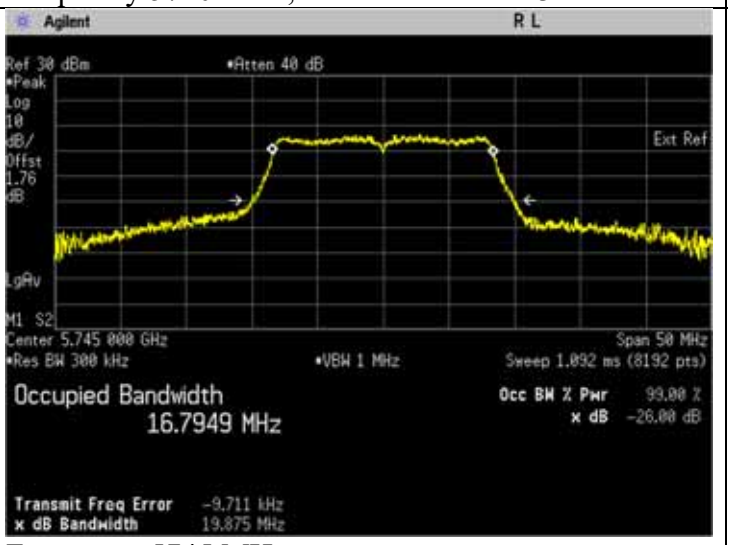
Frequency 5700 MHz



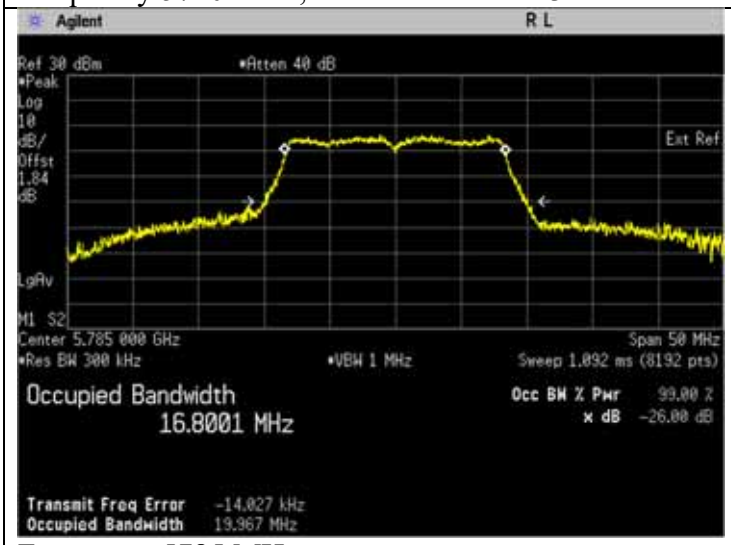
Frequency 5720 MHz, UNII-2C & UNII-3



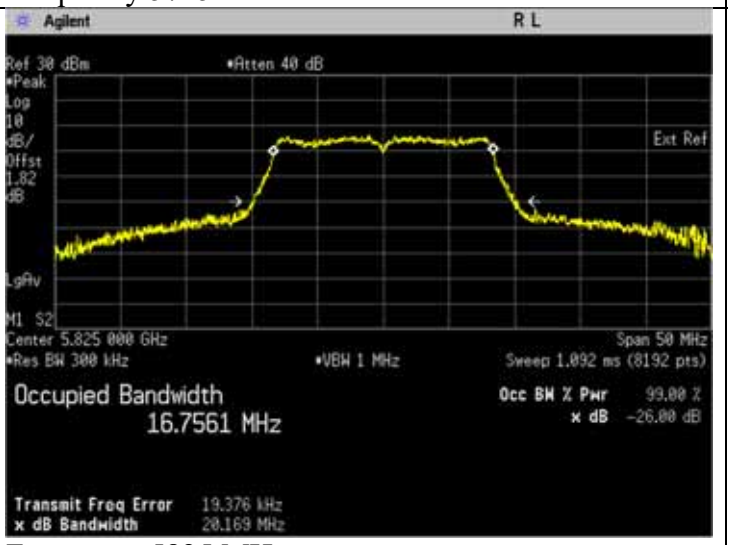
Frequency 5720 MHz, UNII-2C & UNII-3



Frequency 5745 MHz



Frequency 5785 MHz

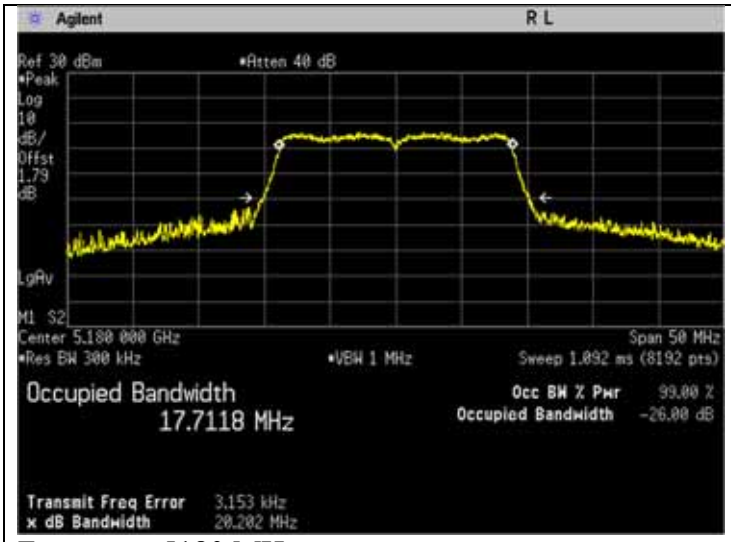


Frequency 5825 MHz

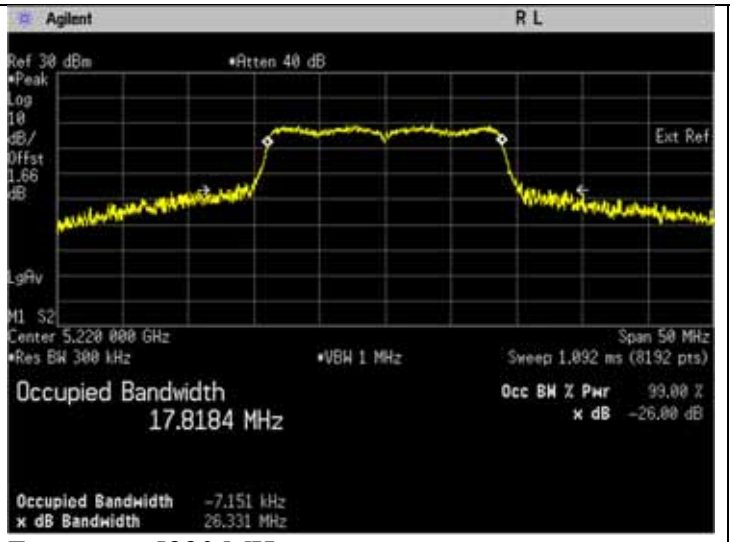
802.11n (HT20)

Frequency (MHz)	Test Configuration	Results			
		26 dB Bandwidth(MHz)	Status	99% Bandwidth(MHz)	Status
5180	Mod Type: BPSK, Data Rate: MCS0 (6.5)	20.202	Pass	17.712	Pass
5220	Mod Type: BPSK, Data Rate: MCS0 (6.5)	26.331	Pass	17.818	Pass
5240	Mod Type: BPSK, Data Rate: MCS0 (6.5)	28.323	Pass	17.828	Pass
5260	Mod Type: BPSK, Data Rate: MCS0 (6.5)	23.286	Pass	17.810	Pass
5300	Mod Type: BPSK, Data Rate: MCS0 (6.5)	26.343	Pass	17.839	Pass
5320	Mod Type: BPSK, Data Rate: MCS0 (6.5)	20.420	Pass	17.705	Pass
5500	Mod Type: BPSK, Data Rate: MCS0 (6.5)	20.257	Pass	17.696	Pass
5580	Mod Type: BPSK, Data Rate: MCS0 (6.5)	20.790	Pass	17.736	Pass
5700	Mod Type: BPSK, Data Rate: MCS0 (6.5)	20.275	Pass	17.742	Pass
5720	Mod Type: BPSK, Data Rate: MCS0 (6.5), UNII-2C	16.138	Pass	13.919	Pass
5720	Mod Type: BPSK, Data Rate: MCS0 (6.5), UNII-3	6.138	Pass	3.919	Pass
5745	Mod Type: BPSK, Data Rate: MCS0 (6.5)	20.528	Pass	17.739	Pass
5785	Mod Type: BPSK, Data Rate: MCS0 (6.5)	20.414	Pass	17.765	Pass
5825	Mod Type: BPSK, Data Rate: MCS0 (6.5)	20.471	Pass	17.777	Pass

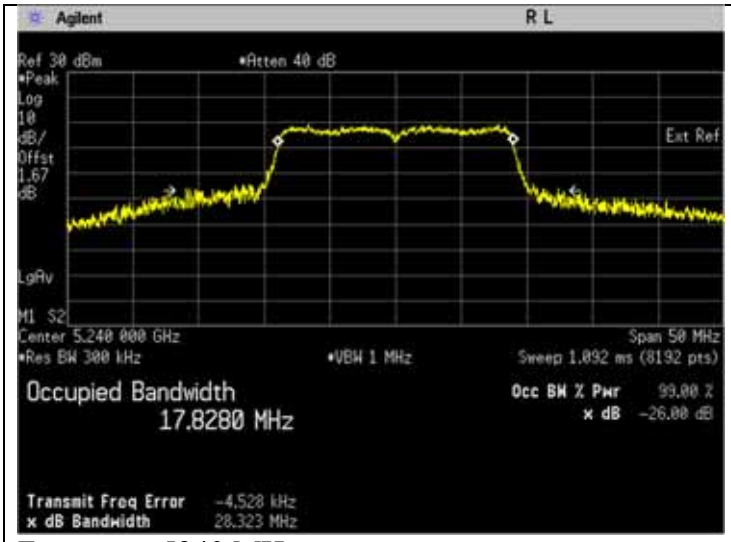
26 dB Bandwidth/ 99% Bandwidth



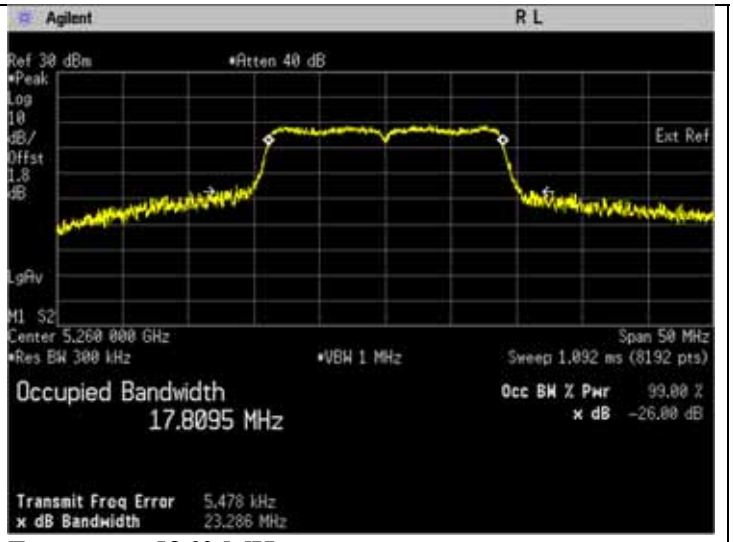
Frequency 5180 MHz



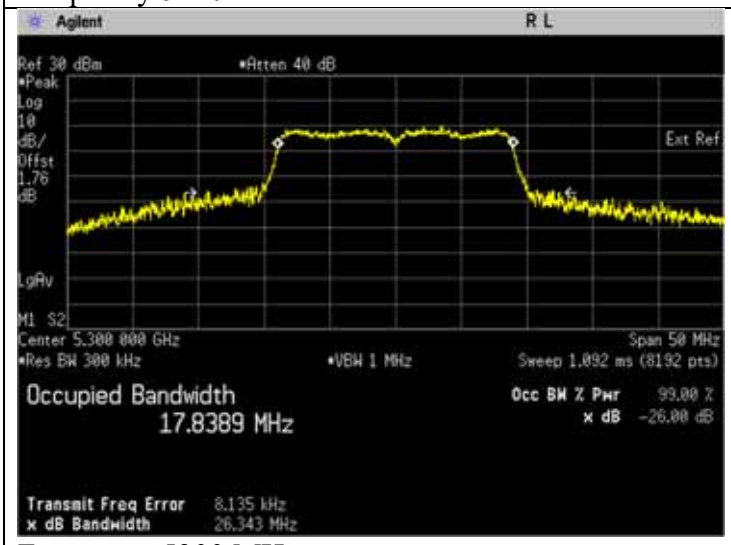
Frequency 5220 MHz



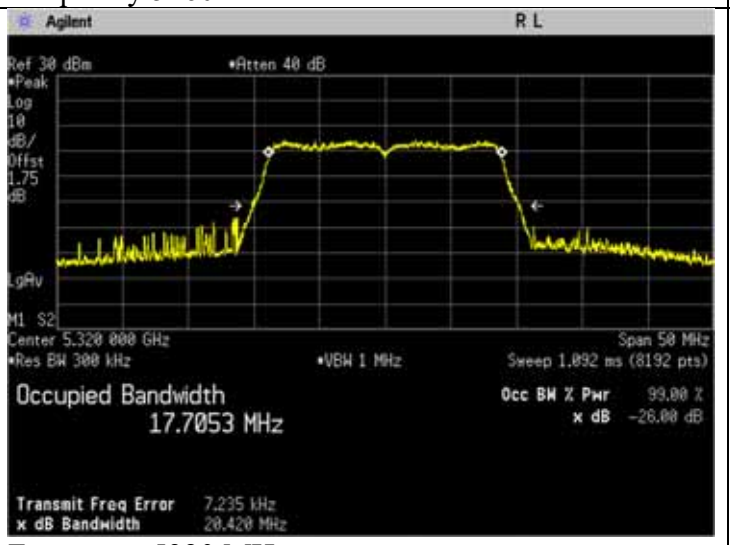
Frequency 5240 MHz



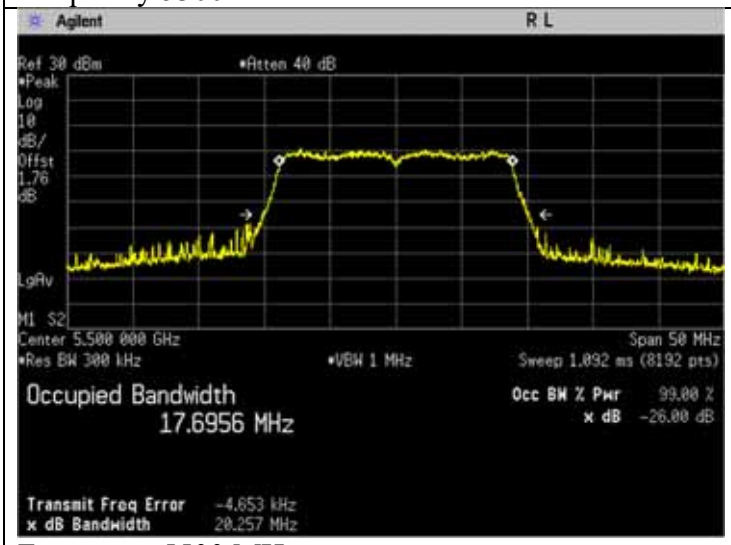
Frequency 5260 MHz



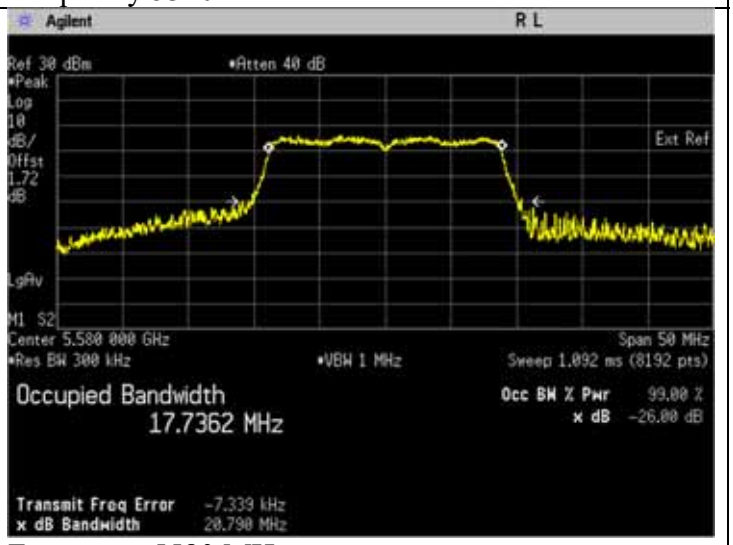
Frequency 5300 MHz



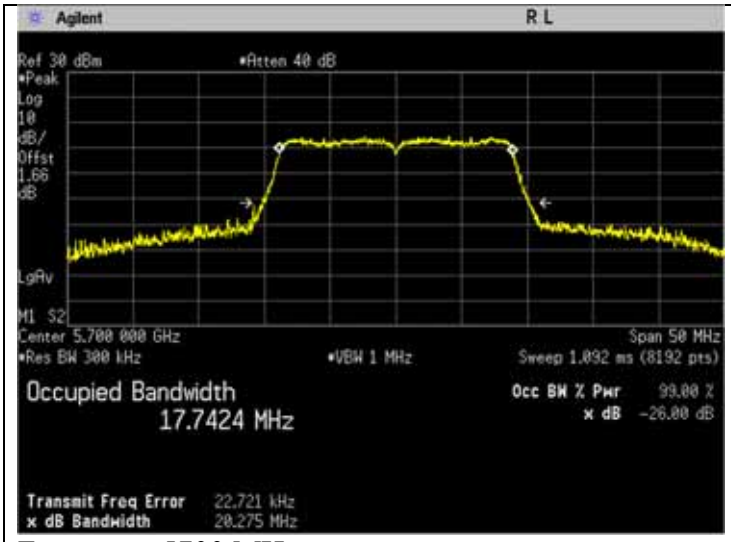
Frequency 5320 MHz



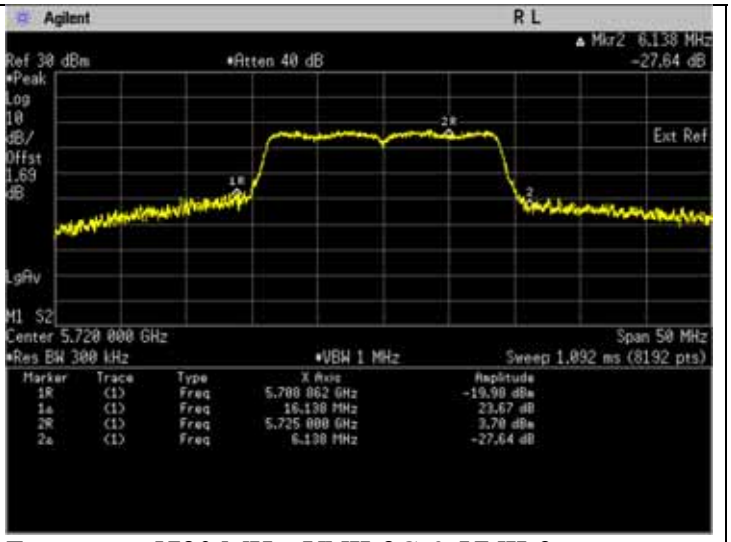
Frequency 5500 MHz



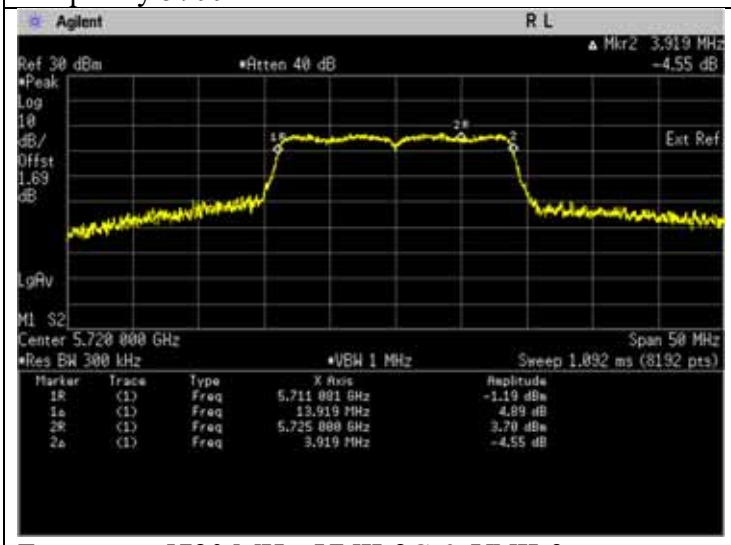
Frequency 5580 MHz



Frequency 5700 MHz

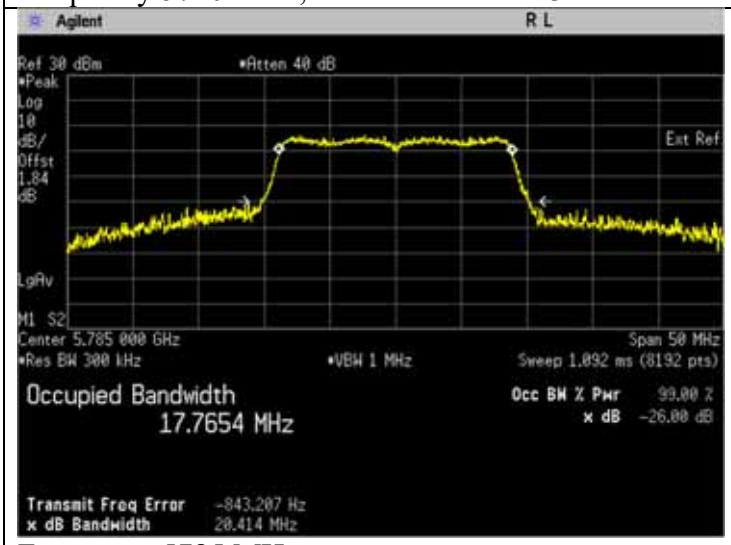


Frequency 5720 MHz, UNII-2C & UNII-3

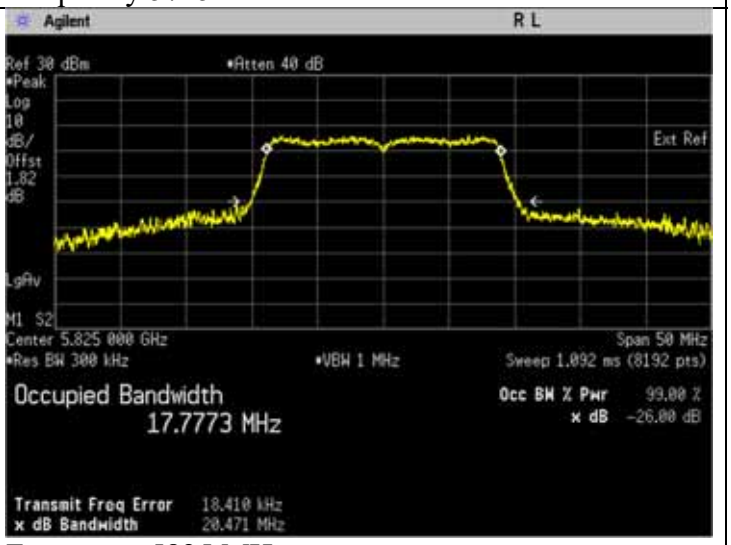


Frequency 5720 MHz, UNII-2C & UNII-3

Frequency 5745 MHz



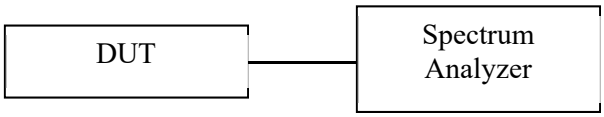
Frequency 5785 MHz



Frequency 5825 MHz

7.2. Maximum Conducted Output Power

7.2.1. Test Setup



a) Test setup as per illustrated above.
b) Set DUT to transmit at desire transmit frequency.
c) Connect DUT's antenna terminal to spectrum analyzer with a low loss cable.
d) Setting of Spectrum analyzer :
- Span to encompass the entire 26dB EBW or 99% Occupied Bandwidth.
- RBW = 1 MHz
- VBW ≥ 3 MHz
- Detector = power averaging (RMS)
- Trace = Max hold
- Number of points in sweep ≥ 2 × span / RBW
- Sweep time = auto
- Trace average at least 100 traces in power averaging (rms) mode
- Compute power by integrating the spectrum across the EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal using the instrument's band power measurement function with band limits set equal to the EBW (or occupied bandwidth) band edges.
- Add 10 log (1/x), where x is the duty cycle, to the measured power to compute the average power during the actual transmission times

e) The measurement method follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r04 under clause E.2.d) Method SA-2.
f) The Maximum output power results are included duty cycle correction factor.

7.2.2. Test Limits

FCC 15.407(a)

Range(GHz)	Condition		Output Power Limit
5.15-5.25 (UNII-1)		Outdoor AP	≤1W
		Indoor AP	≤1W
		Fixed Point to Point AP	≤1W
	√	Mobile and Portable client devices	≤250mW

5.25-5.35 (UNII-2A)	√	≤250mW or 11dBm+10log$_{10}$ B*
5.47-5.525 (UNII-2C)	√	*B is 26dB emission bandwidth in MHz

5.725-5.85 (UNII-3)	√	≤1W

RSS-247 6.2

Range(GHz)	Condition	Output Power Limit
5.15-5.25	indoor only (e.i.r.p.)	≤200mW or $10+10\log_{10}B$* *B is 99% emission bandwidth in 1MHz
5.25-5.35	(Conducted & e.i.r.p.)	Conducted: ≤250mW or $11+10\log_{10}B$* EIRP: < 1.0W or $17+10\log_{10}B$* *B is 99% emission bandwidth in 1MHz
5.47-5.6 5.65-5.725	(Conducted & e.i.r.p.)	Conducted: ≤250mW or $11+10\log_{10}B$* EIRP: < 1.0W or $17+10\log_{10}B$* *B is 99% emission bandwidth in 1MHz
5.725-5.85	(Conducted)	≤1W

7.2.3. Additional Info

Antenna	**Gain (dBi)**
UNII-1	3.4
UNII-2A, UNII-2C	5
UNII-3	2.2
Duty Cycle Correction Factor	
802.11a	0.144
802.11n20	0.094

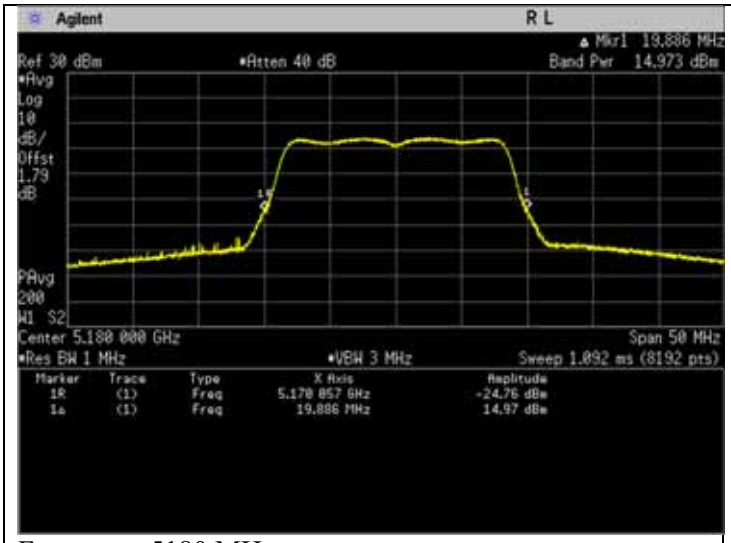
7.2.4. Test Data

Summary table

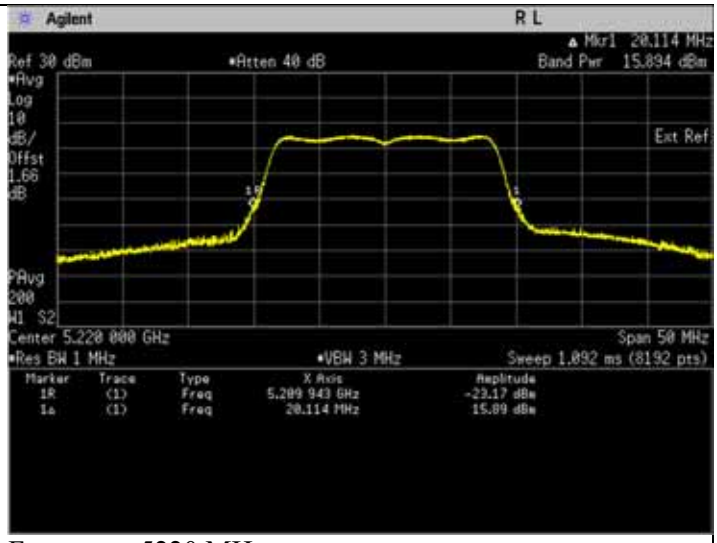
WLAN	Frequency Range (MHz)	Bandwidth (MHz)	RF Power Output		EIRP		Max Emission Designator
			Max measured (mW)	Max declared (mW)	Max measured (mW)	Max declared (mW)	
802.11a	5180-5240	20	39.72	53.70	86.90	117.49	16M9D1D
	5260-5320	20	58.63	63.10	185.40	199.53	16M9D1D
	5500-5580	20	29.58	31.62	93.54	100.00	16M8D1D
	5660-5720	20	22.70	31.62	71.80	100.00	16M8D1D
	5745-5825	20	31.10	31.62	51.62	52.48	16M8D1D
802.11n/ac (HT20)	5180-5240	20	41.63	53.70	91.08	117.49	17M8D1D
	5260-5320	20	61.16	63.10	193.42	199.53	17M8D1D
	5500-5580	20	30.28	31.62	95.74	100.00	17M7D1D
	5660-5720	20	29.79	31.62	94.21	100.00	17M7D1D
	5745-5825	20	30.45	31.62	50.54	52.48	17M8D1D

802.11a (26dB EBW)

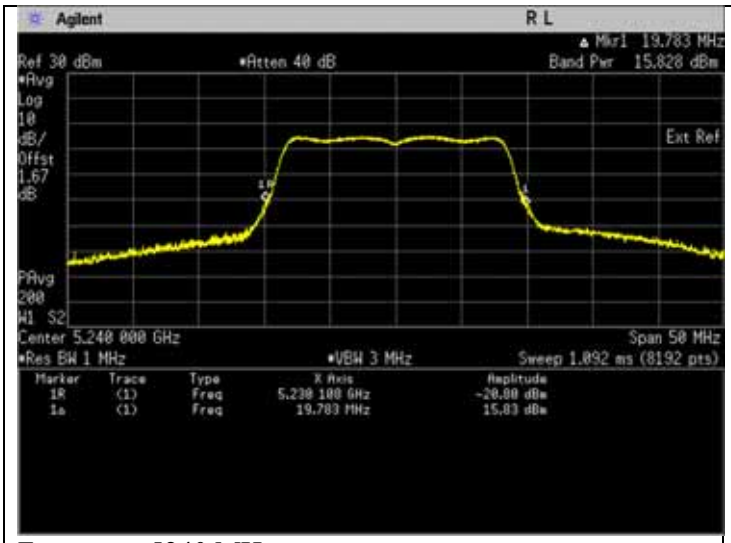
Freq. (MHz)	Test Conditions	Results		
		Power (mW)	Power (dBm)	Status
5180	Mod Type: BPSK, Data Rate: 6	32.486	15.117	Pass
5220	Mod Type: BPSK, Data Rate: 6	40.164	16.038	Pass
5240	Mod Type: BPSK, Data Rate: 6	39.558	15.972	Pass
5260	Mod Type: BPSK, Data Rate: 6	60.311	17.804	Pass
5300	Mod Type: BPSK, Data Rate: 6	56.533	17.523	Pass
5320	Mod Type: BPSK, Data Rate: 6	24.791	13.943	Pass
5500	Mod Type: BPSK, Data Rate: 6	9.260	9.666	Pass
5580	Mod Type: BPSK, Data Rate: 6	29.957	14.765	Pass
5700	Mod Type: BPSK, Data Rate: 6	18.647	12.706	Pass
5745	Mod Type: BPSK, Data Rate: 6	30.981	14.911	Pass
5785	Mod Type: BPSK, Data Rate: 6	28.980	14.621	Pass
5825	Mod Type: BPSK, Data Rate: 6	29.648	14.720	Pass



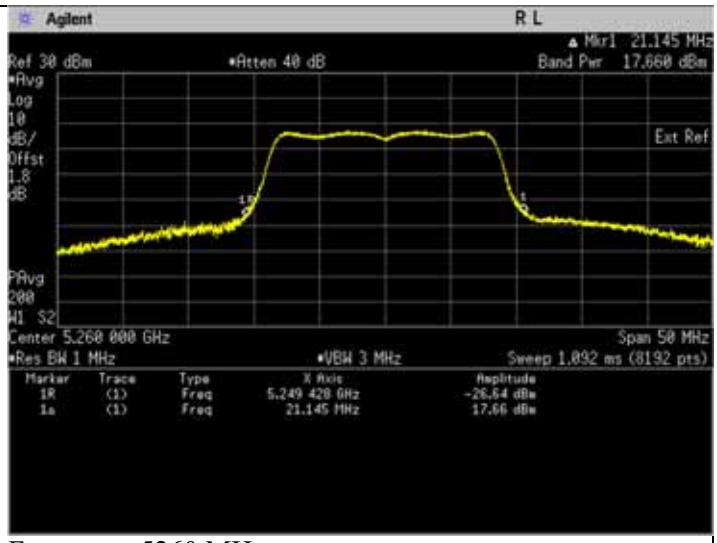
Frequency 5180 MHz



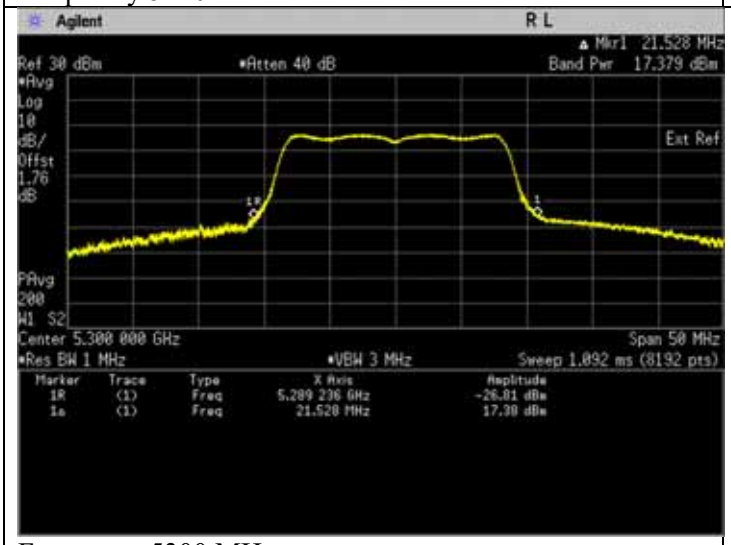
Frequency 5220 MHz



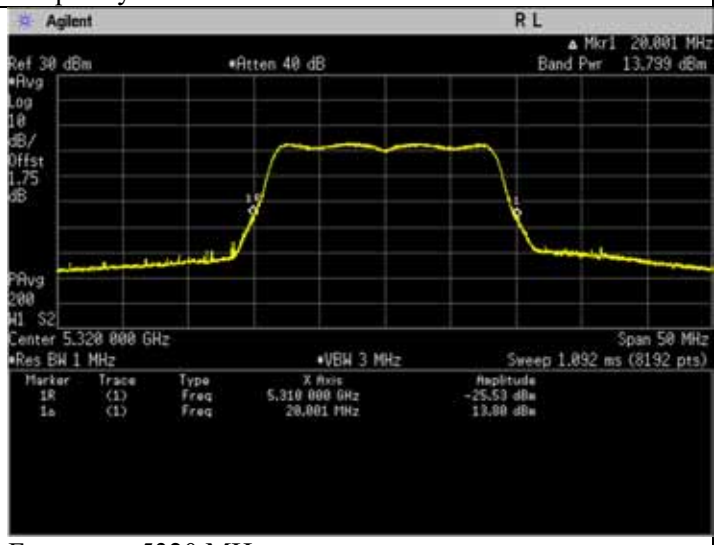
Frequency 5240 MHz



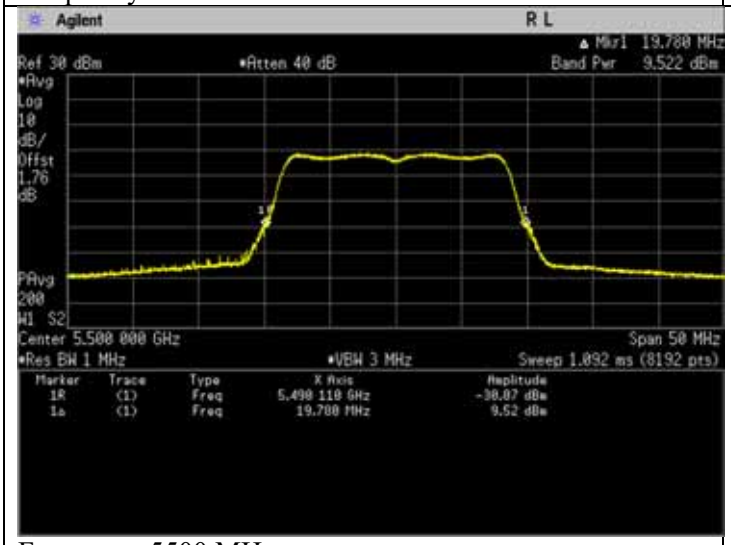
Frequency 5260 MHz



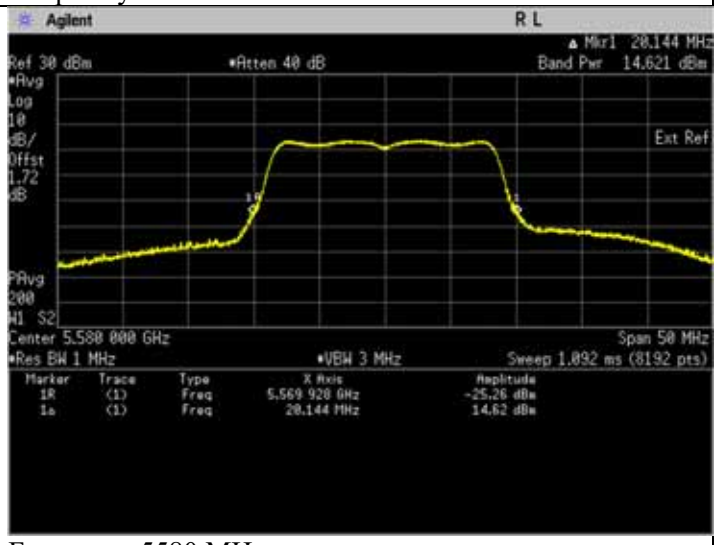
Frequency 5300 MHz



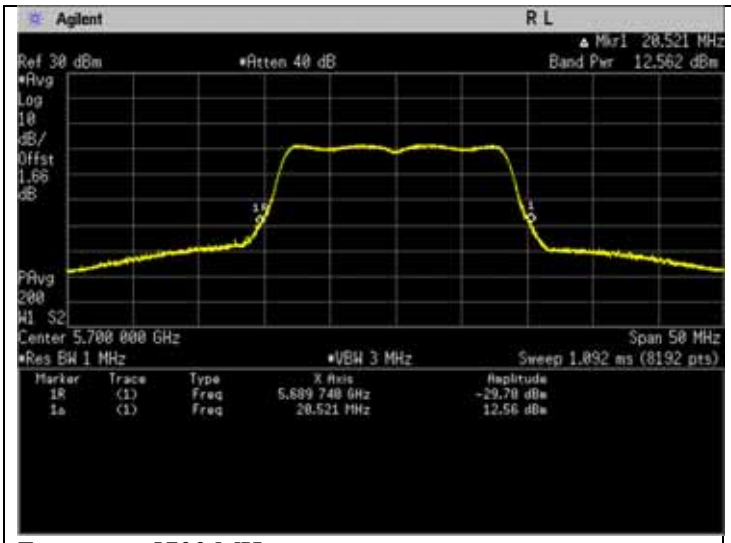
Frequency 5320 MHz



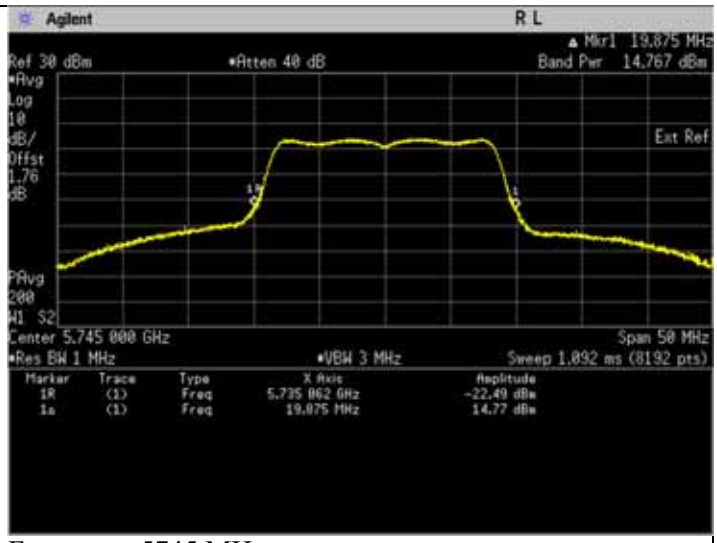
Frequency 5500 MHz



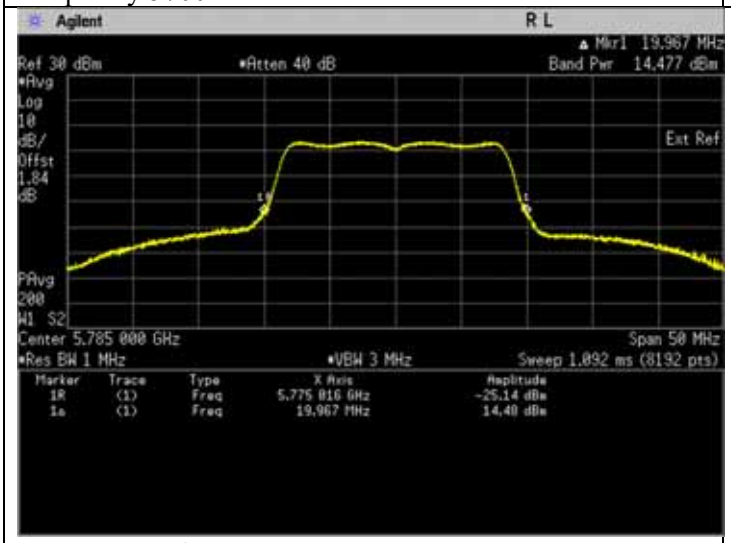
Frequency 5580 MHz



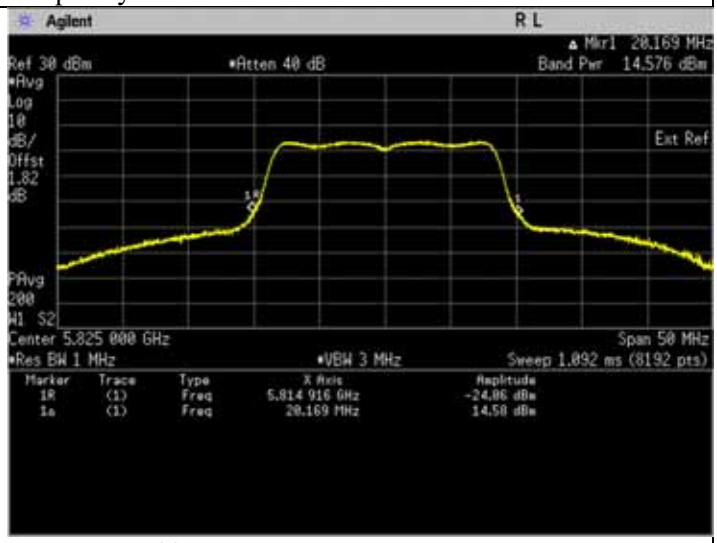
Frequency 5700 MHz



Frequency 5745 MHz



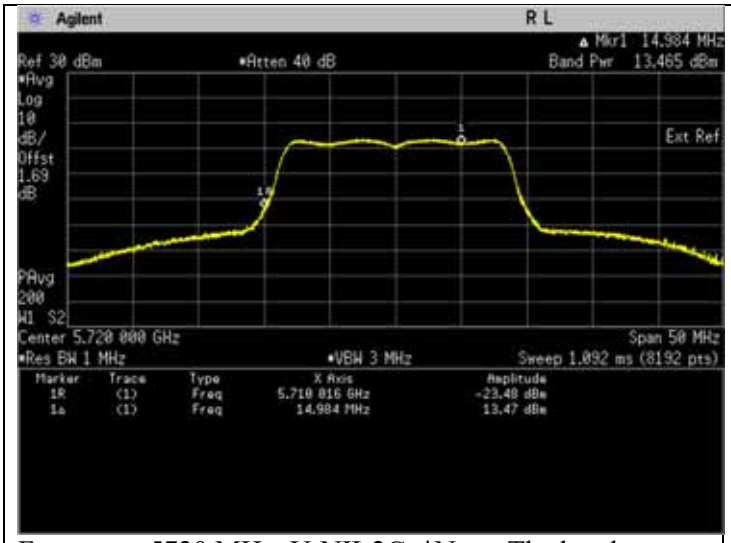
Frequency 5785 MHz



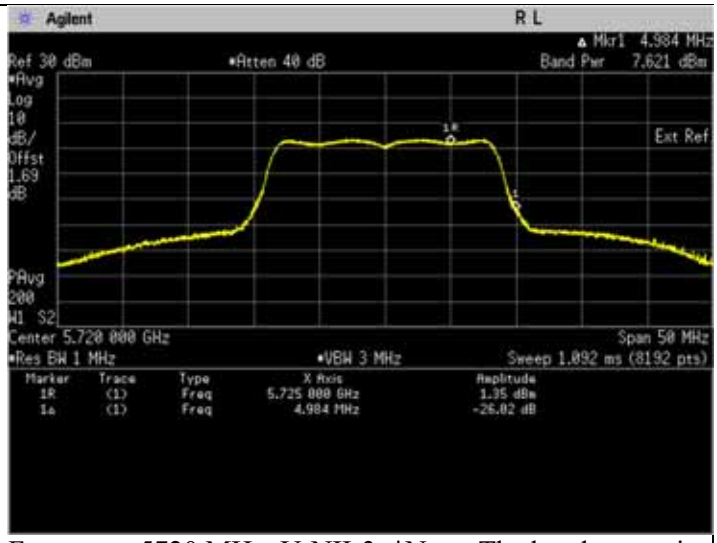
Frequency 5825 MHz

Straddle Frequency

Freq. (MHz)	Test Conditions	Results		
		U-NII- 2C		
		Power (mW)	Power (dBm)	Status
5720	Mod Type: BPSK, Data Rate: 6	22.956	13.609	Pass
		U-NII-3		
5720	Mod Type: BPSK, Data Rate: 6	5.977	7.765	Pass



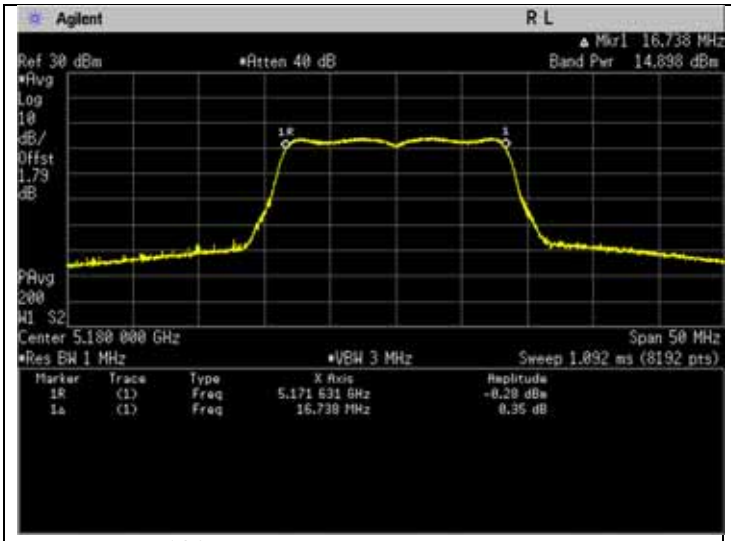
Frequency 5720 MHz, U-NII-2C. *Note: The band power is captured before the 5725 MHz.



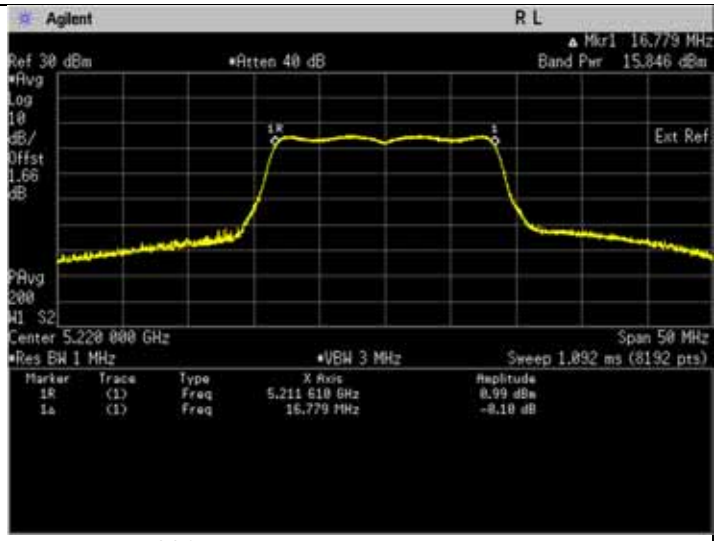
Frequency 5720 MHz, U-NII-3. *Note: The band power is captured after the 5725 MHz.

802.11a (99% EBW)

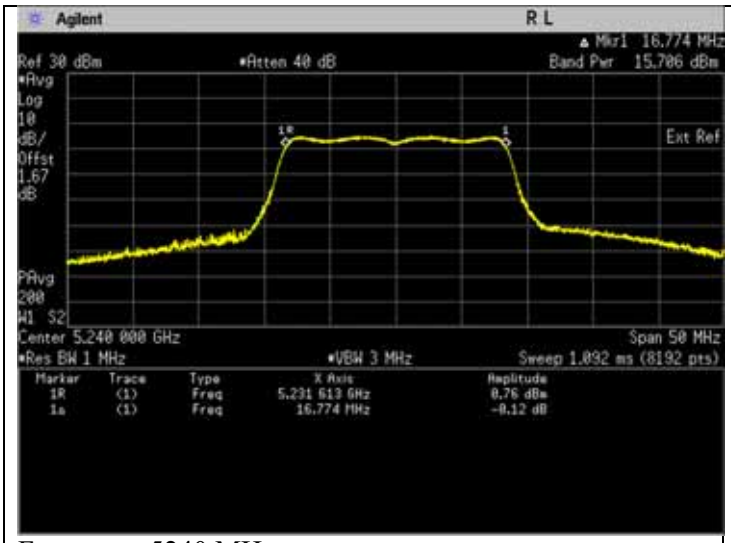
Freq. (MHz)	Test Conditions	Results				
		Power (mW)	Power (dBm)	Status	EIRP (dBm)	Status
5180	Mod Type: BPSK, Data Rate: 6	31.930	15.042	Pass	18.442	Pass
5220	Mod Type: BPSK, Data Rate: 6	39.723	15.990	Pass	19.39	Pass
5240	Mod Type: BPSK, Data Rate: 6	38.463	15.850	Pass	19.25	Pass
5260	Mod Type: BPSK, Data Rate: 6	58.627	17.681	Pass	22.681	Pass
5300	Mod Type: BPSK, Data Rate: 6	56.092	17.489	Pass	22.489	Pass
5320	Mod Type: BPSK, Data Rate: 6	24.099	13.820	Pass	18.82	Pass
5500	Mod Type: BPSK, Data Rate: 6	9.181	9.629	Pass	14.629	Pass
5580	Mod Type: BPSK, Data Rate: 6	29.580	14.710	Pass	19.71	Pass
5700	Mod Type: BPSK, Data Rate: 6	18.147	12.588	Pass	17.588	Pass
5745	Mod Type: BPSK, Data Rate: 6	31.103	14.928	Pass	17.128	Pass
5785	Mod Type: BPSK, Data Rate: 6	28.223	14.506	Pass	16.706	Pass
5825	Mod Type: BPSK, Data Rate: 6	29.363	14.678	Pass	16.878	Pass



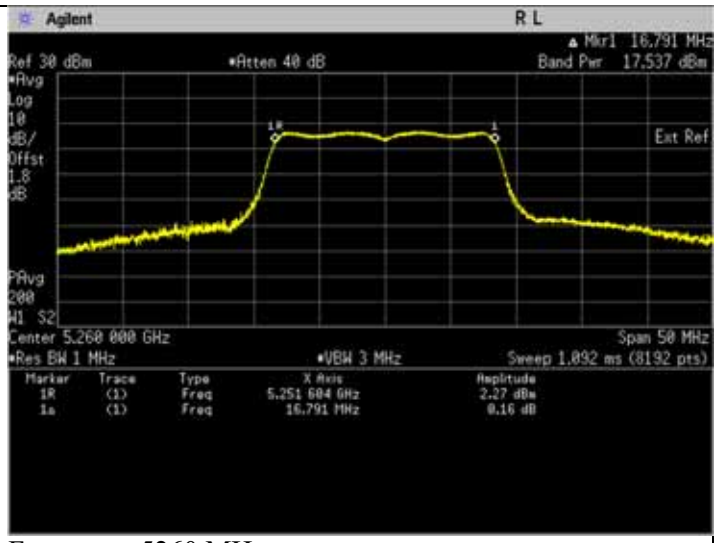
Frequency 5180 MHz



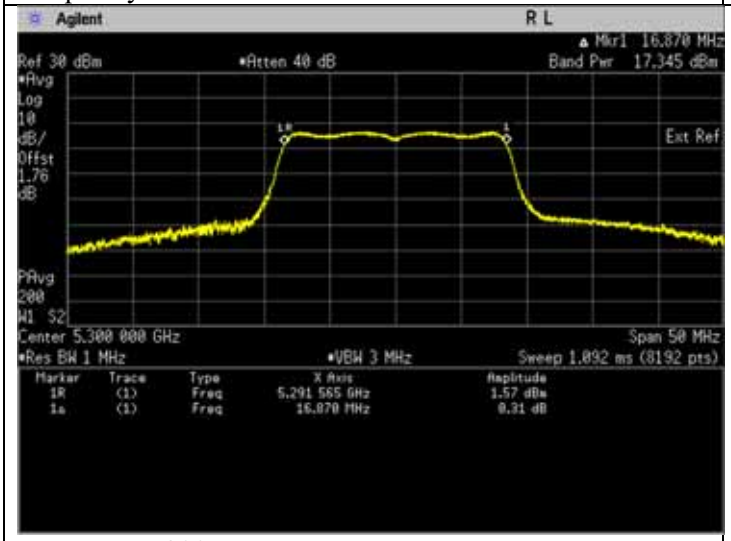
Frequency 5220 MHz



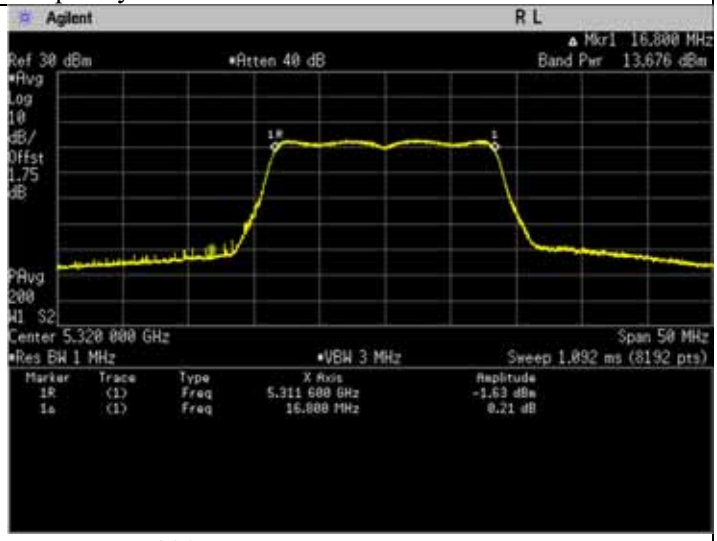
Frequency 5240 MHz



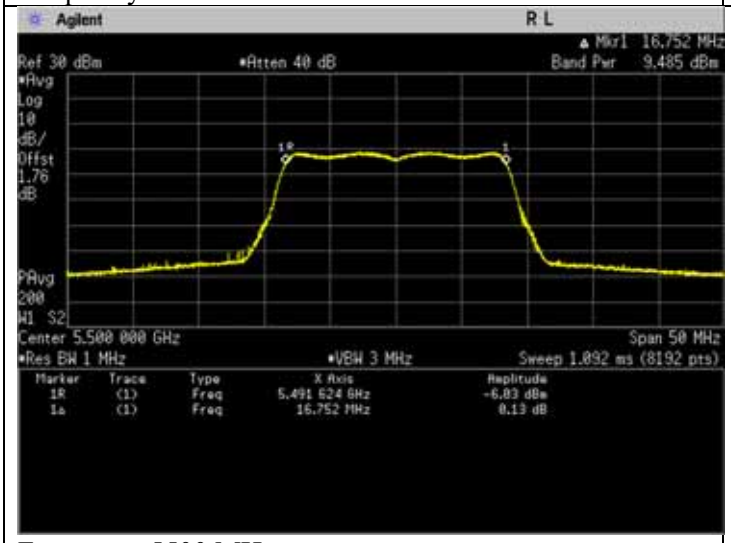
Frequency 5260 MHz



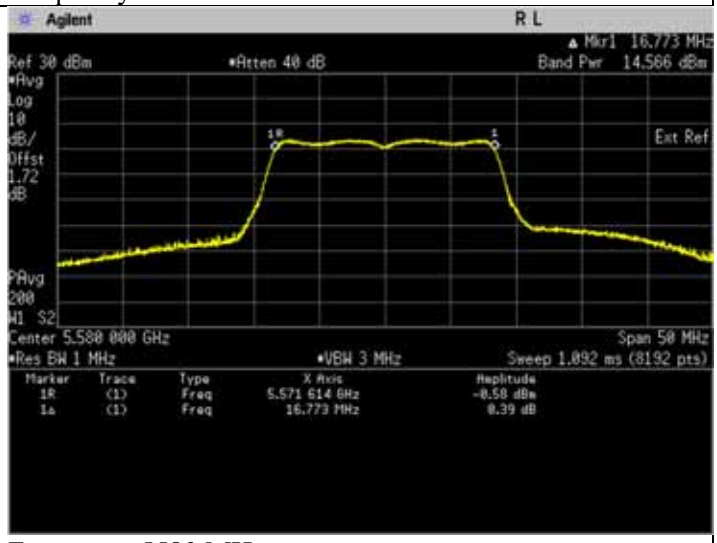
Frequency 5300 MHz



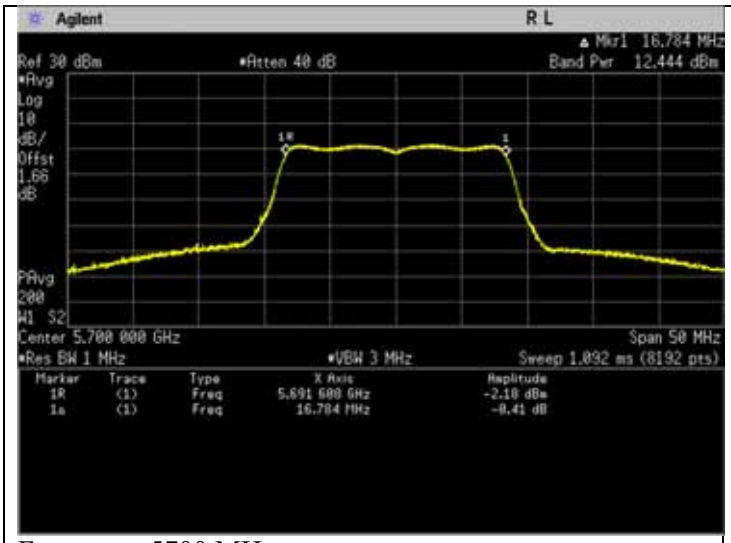
Frequency 5320 MHz



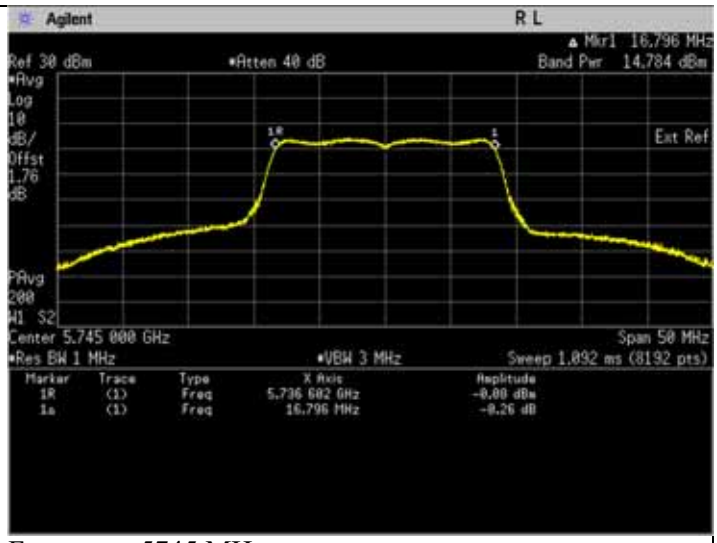
Frequency 5500 MHz



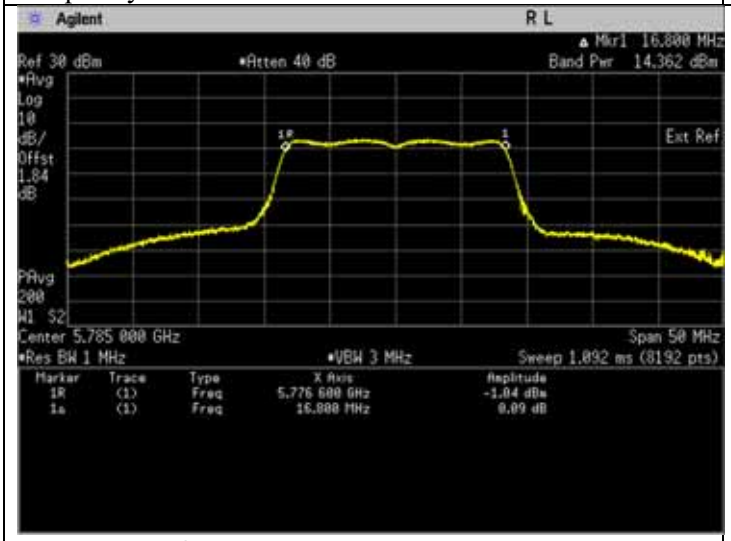
Frequency 5580 MHz



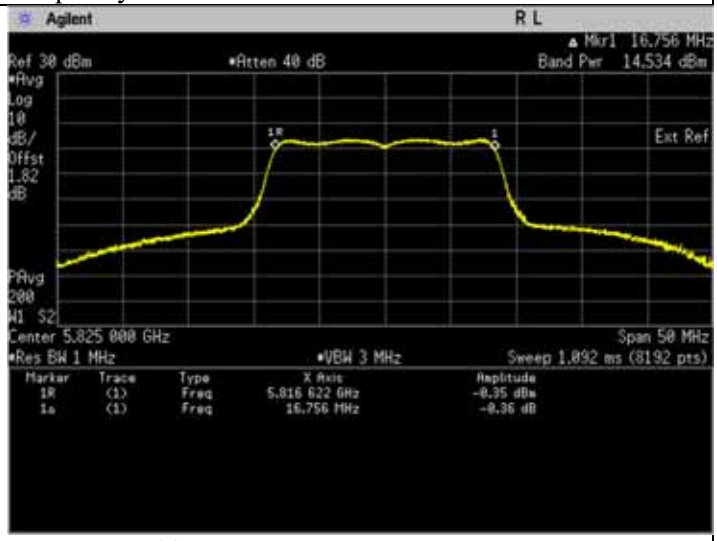
Frequency 5700 MHz



Frequency 5745 MHz



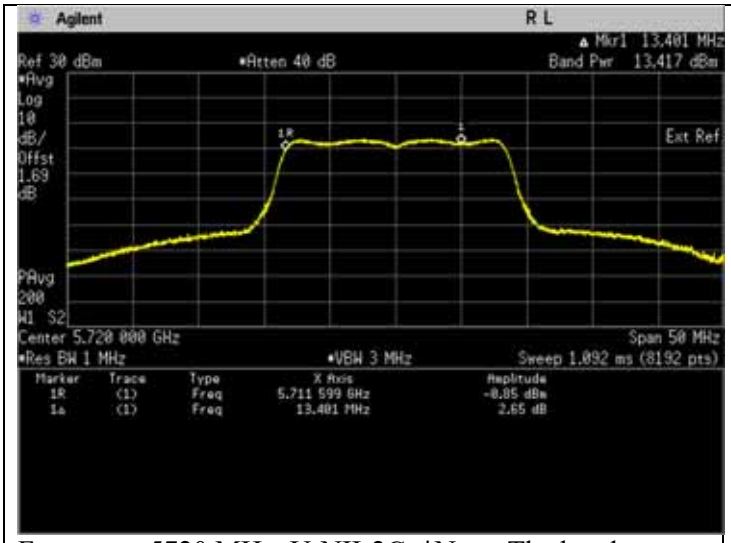
Frequency 5785 MHz



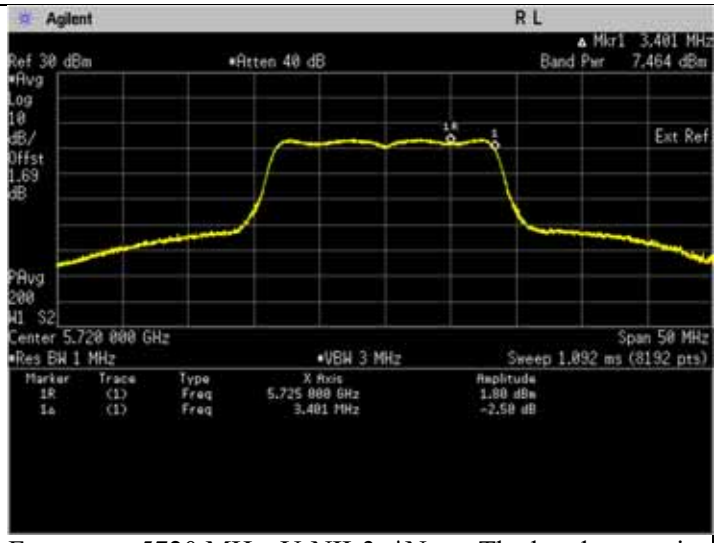
Frequency 5825 MHz

Straddle Frequency

Freq. (MHz)	Test Conditions	Results				
		U-NII- 2C				
		Power (mW)	Power (dBm)	Status	EIRP (dBm)	Status
5720	Mod Type: BPSK, Data Rate: 6	22.704	13.561	Pass	16.961	Pass
		U-NII-3				
5720	Mod Type: BPSK, Data Rate: 6	5.765	7.608	Pass	9.808	Pass



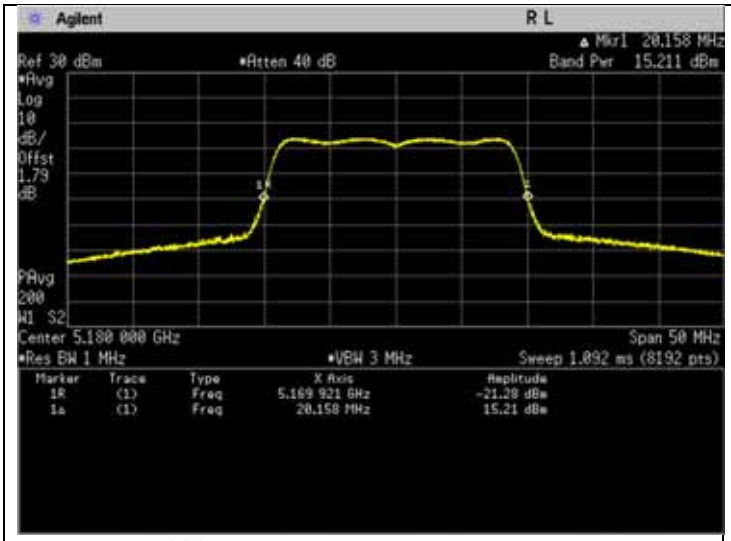
Frequency 5720 MHz, U-NII-2C. *Note: The band power is captured before the 5725 MHz.



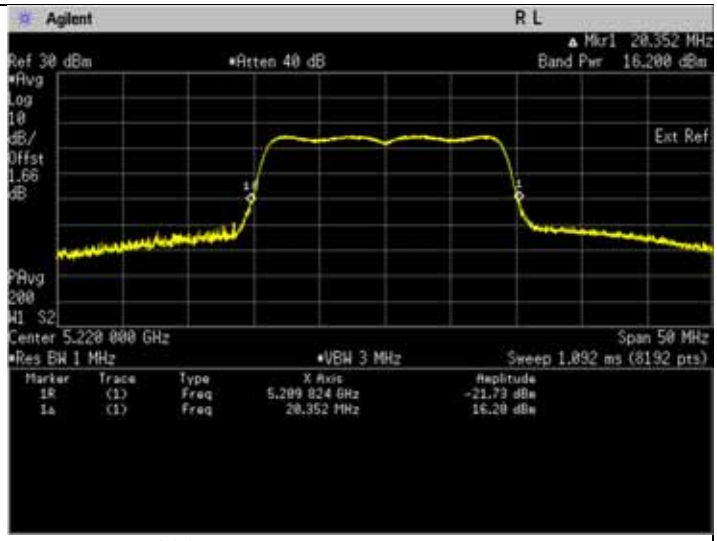
Frequency 5720 MHz, U-NII-3. *Note: The band power is captured after the 5725 MHz.

802.11n (HT20)(26dB EBW)

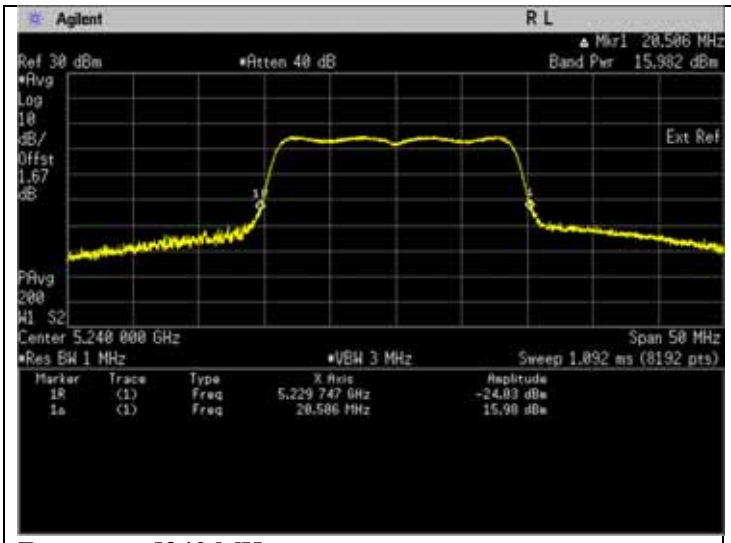
Freq. (MHz)	Test Conditions	Results		
		Power (mW)	Power (dBm)	Status
5180	Mod Type: BPSK, Data Rate: MCS0 (6.5)	33.923	15.305	Pass
5220	Mod Type: BPSK, Data Rate: MCS0 (6.5)	42.599	16.294	Pass
5240	Mod Type: BPSK, Data Rate: MCS0 (6.5)	40.513	16.076	Pass
5260	Mod Type: BPSK, Data Rate: MCS0 (6.5)	61.066	17.858	Pass
5300	Mod Type: BPSK, Data Rate: MCS0 (6.5)	61.660	17.900	Pass
5320	Mod Type: BPSK, Data Rate: MCS0 (6.5)	20.735	13.167	Pass
5500	Mod Type: BPSK, Data Rate: MCS0 (6.5)	8.545	9.317	Pass
5580	Mod Type: BPSK, Data Rate: MCS0 (6.5)	31.333	14.960	Pass
5700	Mod Type: BPSK, Data Rate: MCS0 (6.5)	21.577	13.340	Pass
5745	Mod Type: BPSK, Data Rate: MCS0 (6.5)	26.693	14.264	Pass
5785	Mod Type: BPSK, Data Rate: MCS0 (6.5)	29.957	14.765	Pass
5825	Mod Type: BPSK, Data Rate: MCS0 (6.5)	30.896	14.899	Pass



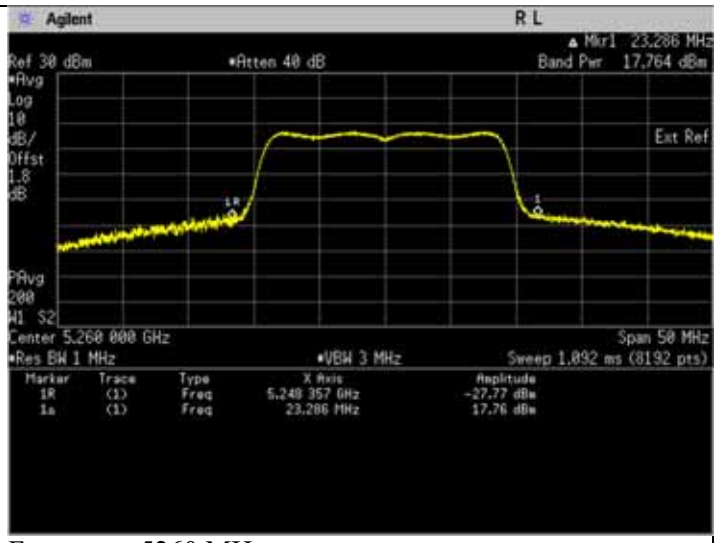
Frequency 5180 MHz



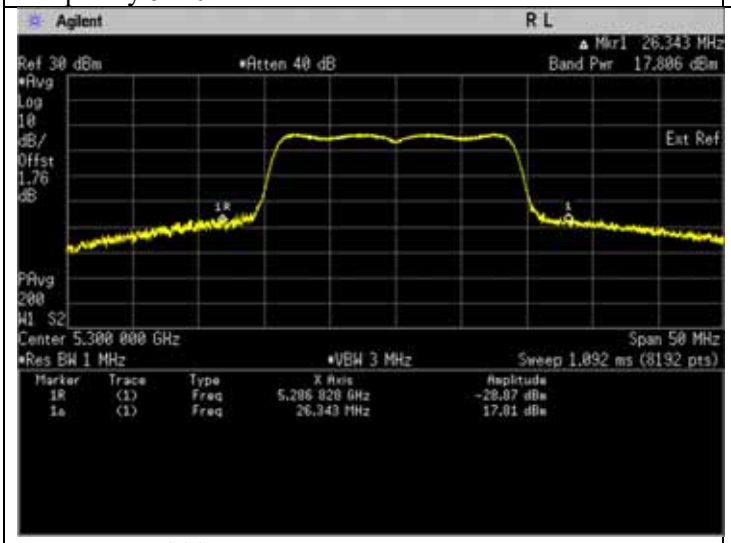
Frequency 5220 MHz



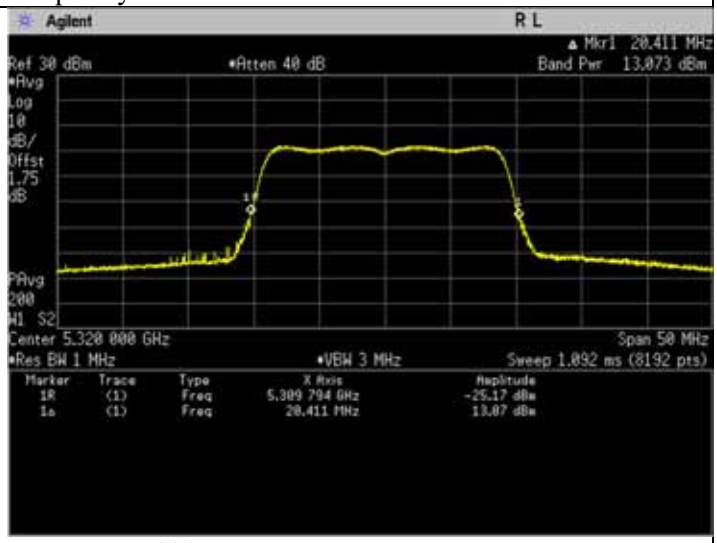
Frequency 5240 MH



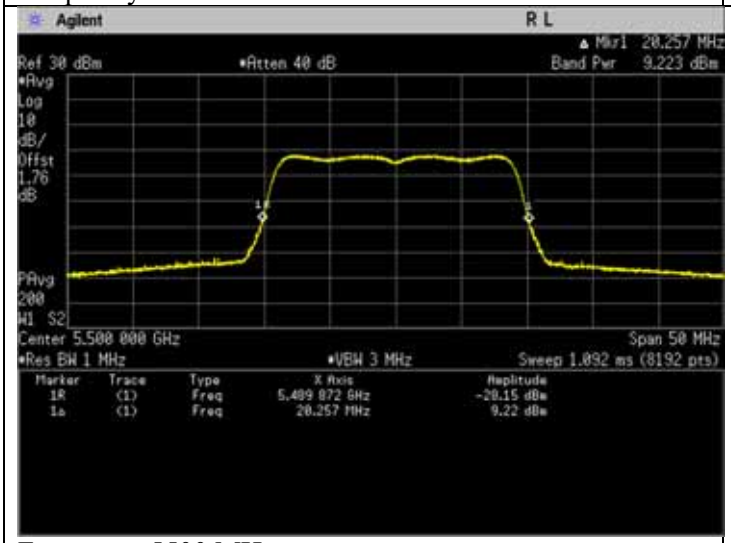
Frequency 5260 MHz



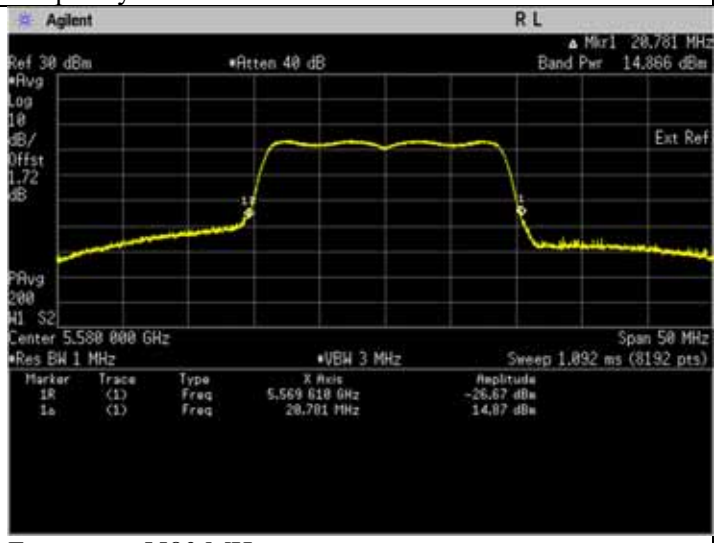
Frequency 5300 MHz



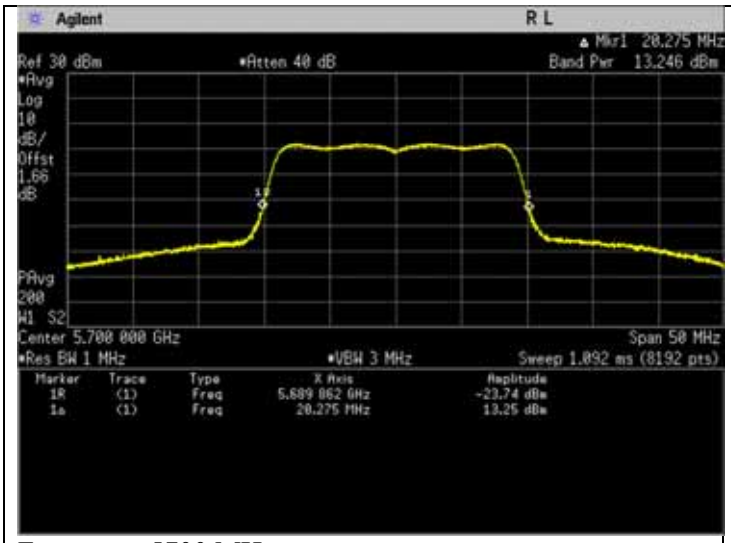
Frequency 5320 MHz



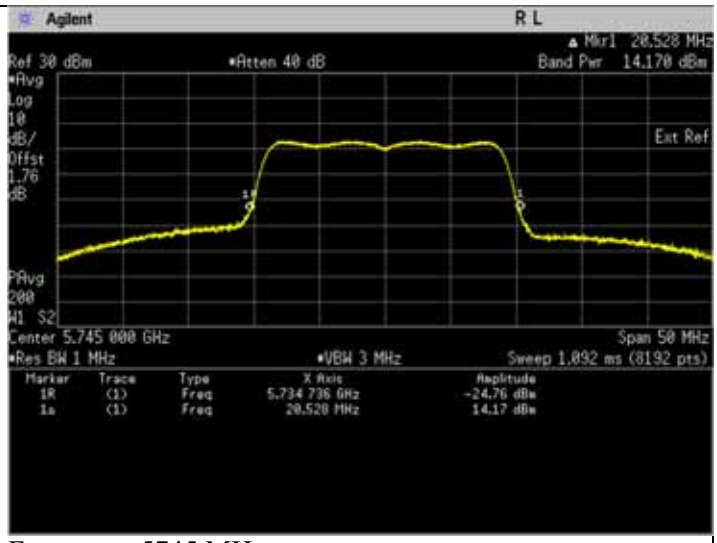
Frequency 5500 MHz



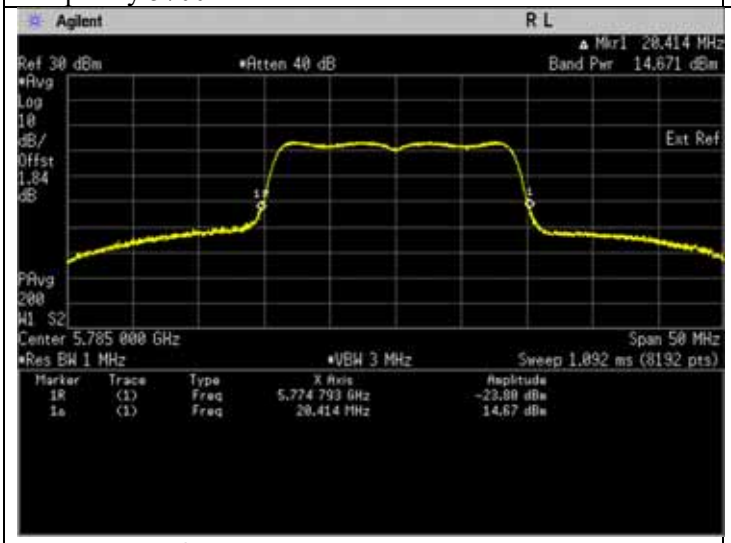
Frequency 5580 MHz



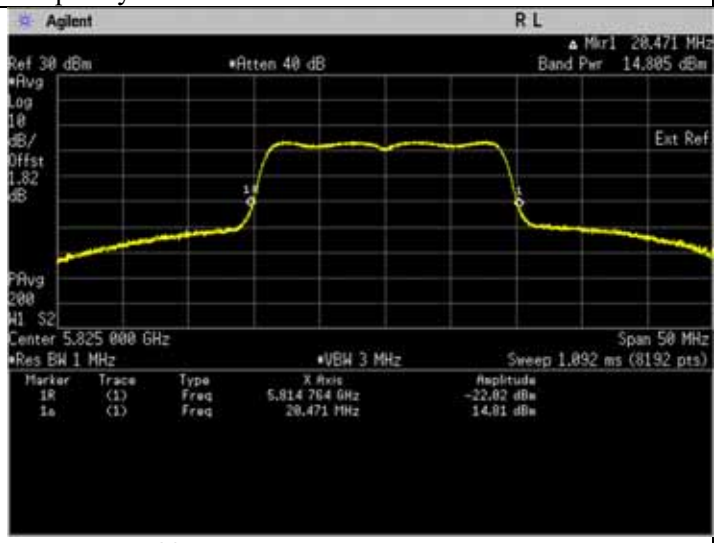
Frequency 5700 MHz



Frequency 5745 MHz



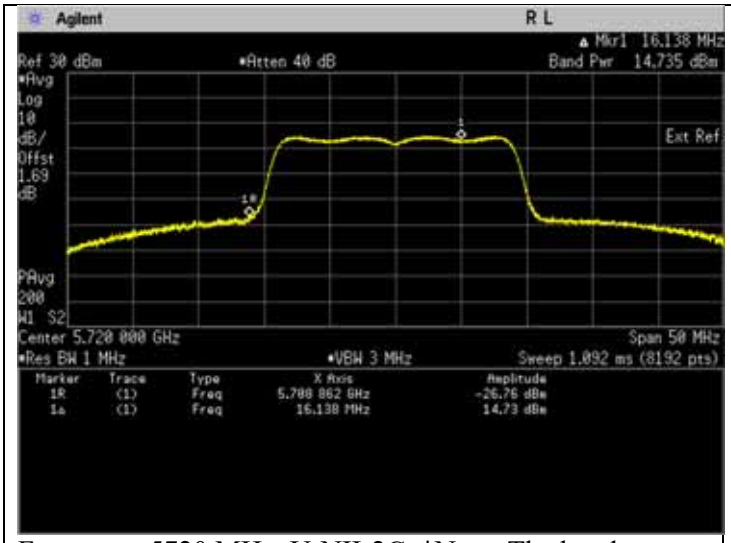
Frequency 5785 MHz



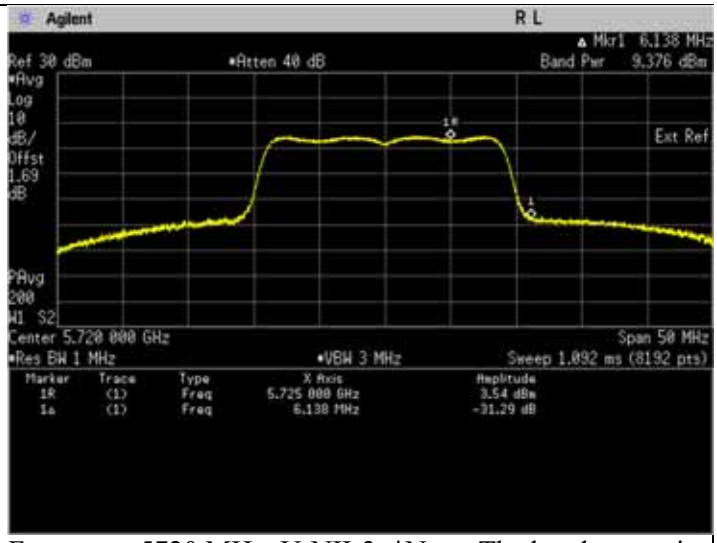
Frequency 5825 MHz

Straddle Frequency

Freq. (MHz)	Test Conditions	Results		
		U-NII- 2C		
		Power (mW)	Power (dBm)	Status
5720	Mod Type: BPSK, Data Rate: MCS0 (6.5)	30.402	14.829	Pass
		U-NII-3		
5720	Mod Type: BPSK, Data Rate: MCS0 (6.5)	8.851	9.470	Pass



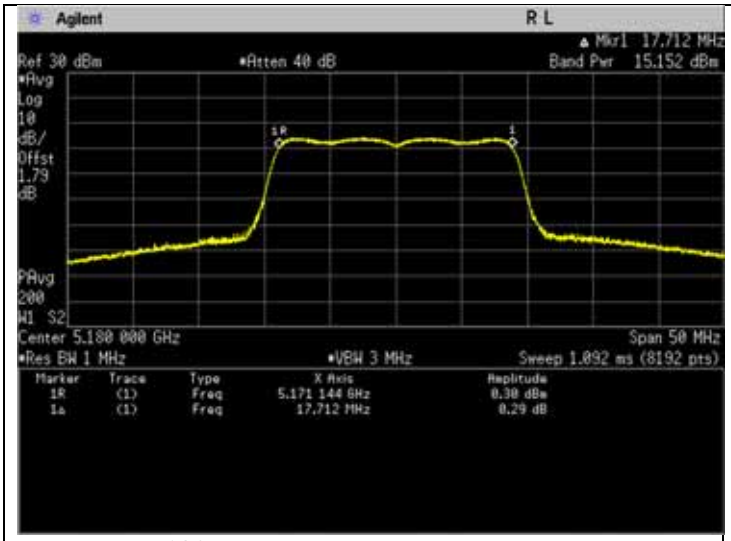
Frequency 5720 MHz, U-NII-2C. *Note: The band power is captured before the 5725 MHz.



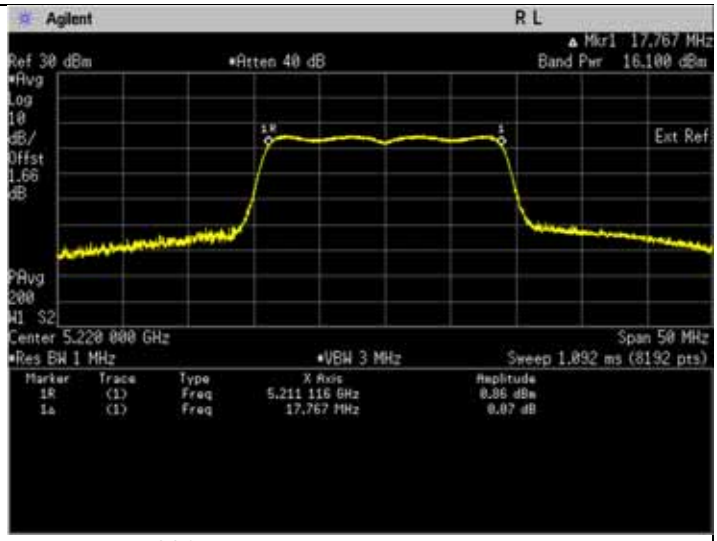
Frequency 5720 MHz, U-NII-3. *Note: The band power is captured after the 5725 MHz.

802.11n (HT20)(99% EBW)

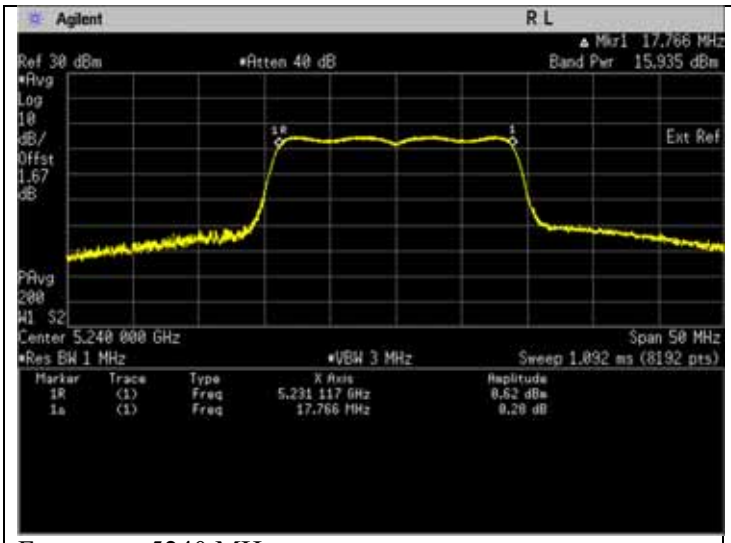
Freq. (MHz)	Test Conditions	Results				
		Power (mW)	Power (dBm)	Status	EIRP (dBm)	Status
5180	Mod Type: BPSK, Data Rate: MCS0 (6.5)	33.466	15.246	Pass	18.646	Pass
5220	Mod Type: BPSK, Data Rate: MCS0 (6.5)	41.629	16.194	Pass	19.594	Pass
5240	Mod Type: BPSK, Data Rate: MCS0 (6.5)	40.077	16.029	Pass	19.429	Pass
5260	Mod Type: BPSK, Data Rate: MCS0 (6.5)	60.534	17.820	Pass	22.82	Pass
5300	Mod Type: BPSK, Data Rate: MCS0 (6.5)	61.165	17.865	Pass	22.865	Pass
5320	Mod Type: BPSK, Data Rate: MCS0 (6.5)	20.054	13.022	Pass	18.022	Pass
5500	Mod Type: BPSK, Data Rate: MCS0 (6.5)	8.348	9.216	Pass	14.216	Pass
5580	Mod Type: BPSK, Data Rate: MCS0 (6.5)	30.276	14.811	Pass	19.811	Pass
5700	Mod Type: BPSK, Data Rate: MCS0 (6.5)	20.999	13.222	Pass	18.222	Pass
5745	Mod Type: BPSK, Data Rate: MCS0 (6.5)	26.436	14.222	Pass	16.422	Pass
5785	Mod Type: BPSK, Data Rate: MCS0 (6.5)	29.336	14.674	Pass	16.874	Pass
5825	Mod Type: BPSK, Data Rate: MCS0 (6.5)	30.451	14.836	Pass	17.036	Pass



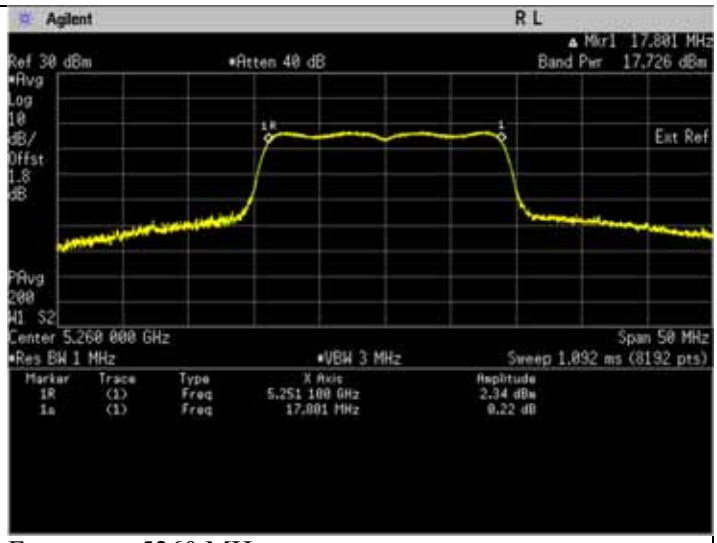
Frequency 5180 MHz



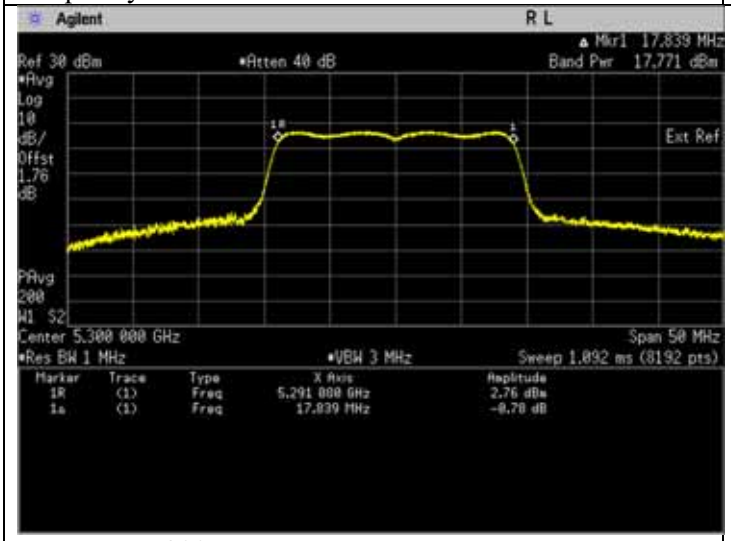
Frequency 5220 MHz



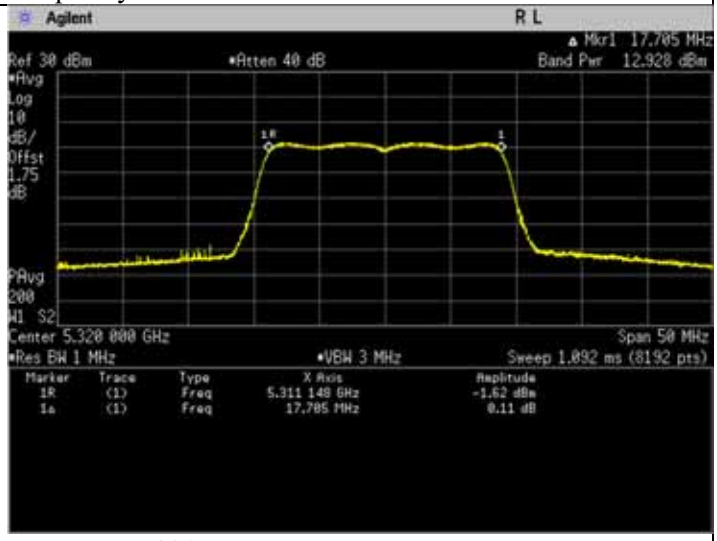
Frequency 5240 MHz



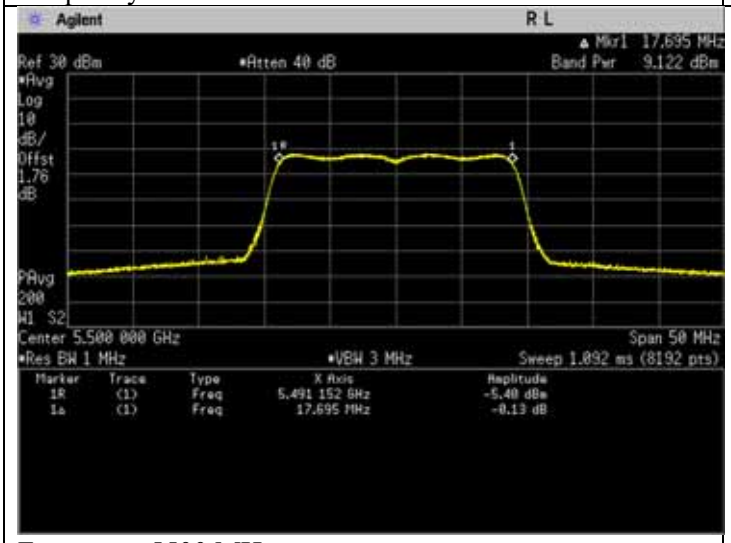
Frequency 5260 MHz



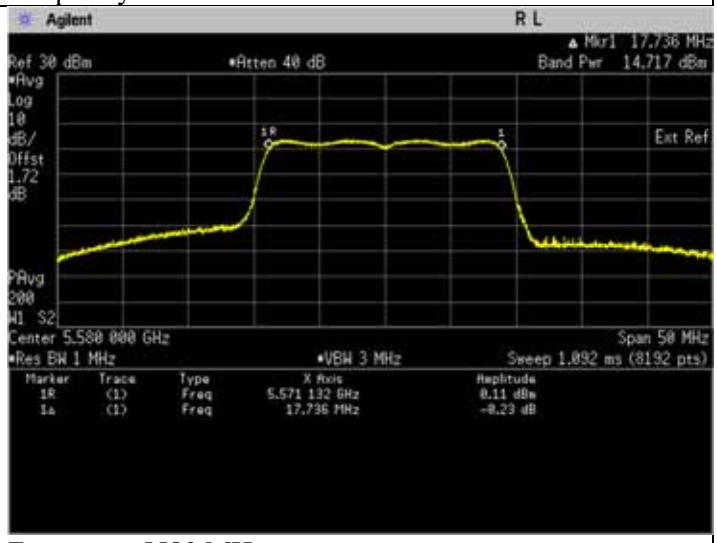
Frequency 5300 MHz



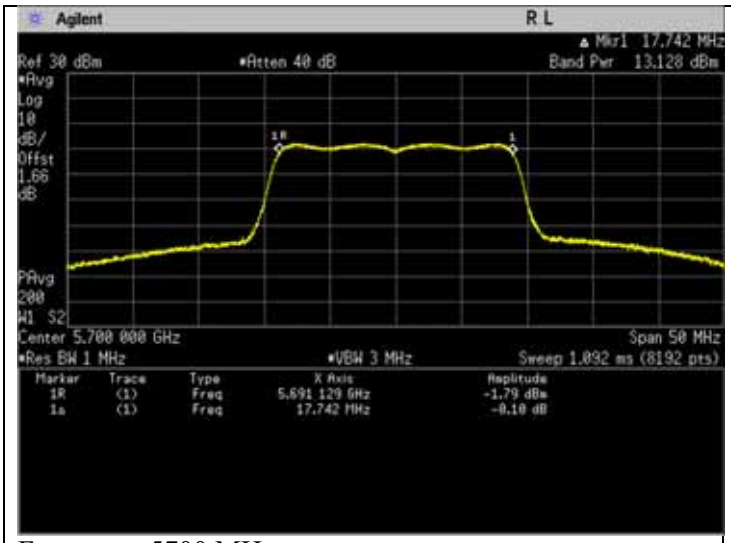
Frequency 5320 MHz



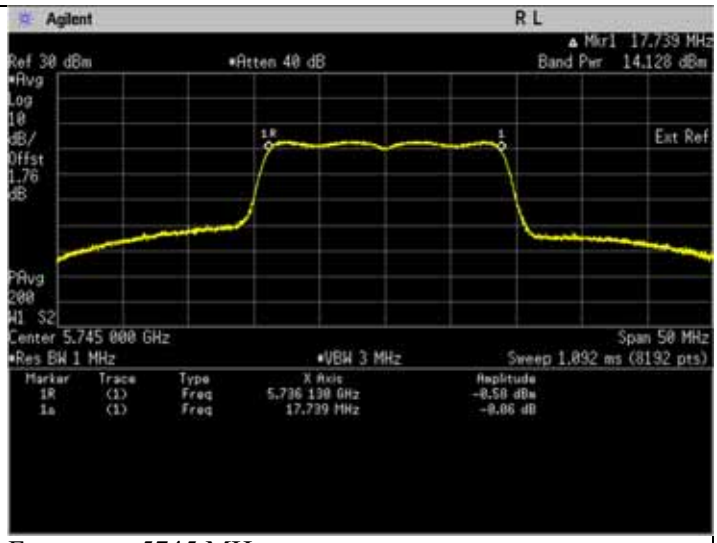
Frequency 5500 MHz



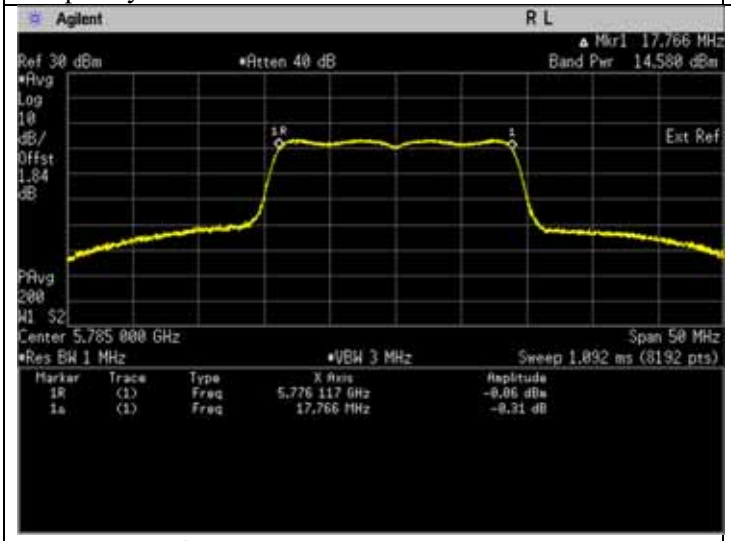
Frequency 5580 MHz



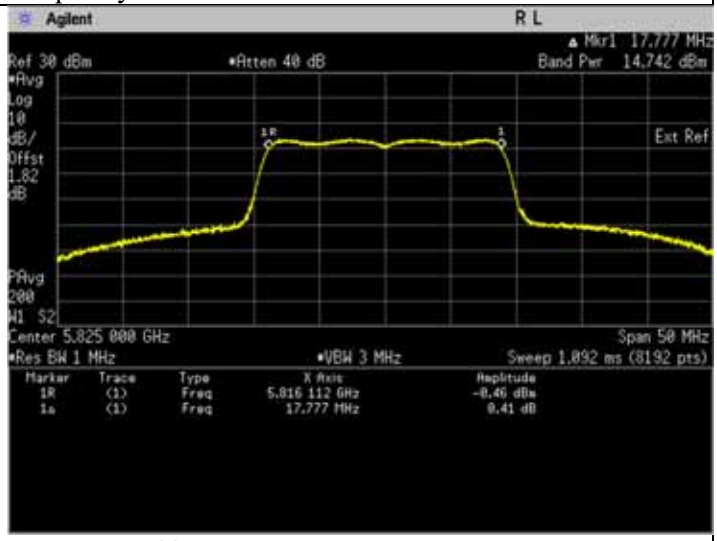
Frequency 5700 MHz



Frequency 5745 MHz



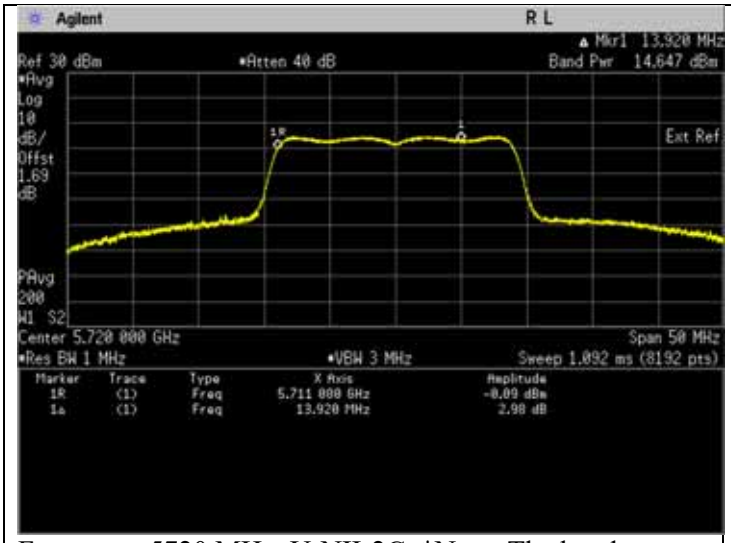
Frequency 5785 MHz



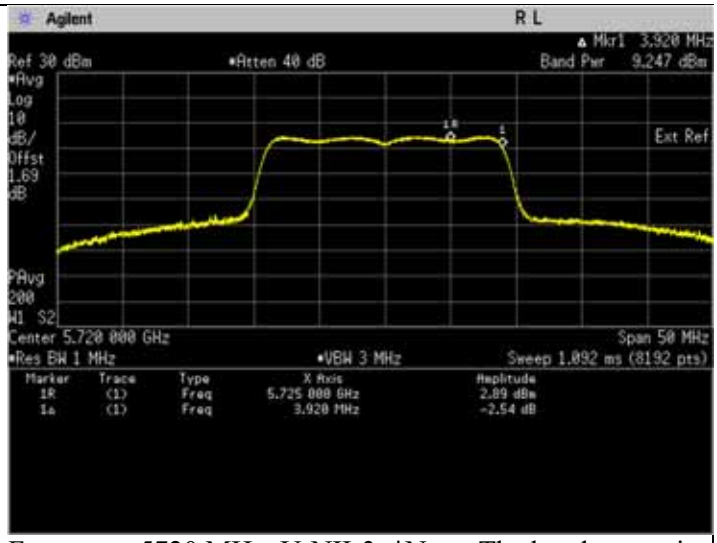
Frequency 5825 MHz

Straddle Frequency

Freq. (MHz)	Test Conditions	Results				
		U-NII- 2C				
		Power (mW)	Power (dBm)	Status	EIRP (dBm)	Status
5720	Mod Type: BPSK, Data Rate: MCS0 (6.5)	29.792	14.741	Pass	18.141	Pass
		U-NII-3				
5720	Mod Type: BPSK, Data Rate: MCS0 (6.5)	8.592	9.341	Pass	11.541	Pass



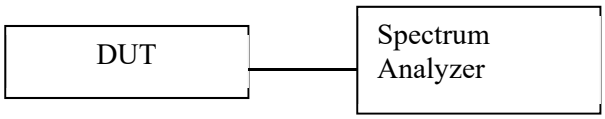
Frequency 5720 MHz, U-NII-2C. *Note: The band power is captured before the 5725 MHz.



Frequency 5720 MHz, U-NII-3. *Note: The band power is captured after the 5725 MHz.

7.3. Maximum Power Spectral Density

7.3.1. Test Setup



a) Test setup as per illustrated above.
b) Set DUT to transmit at desire transmit frequency.
c) Connect DUT's antenna terminal to spectrum analyzer with a low loss cable.
d) Setting of Spectrum analyzer :
   - Span to encompass the entire 26dB EBW or 99% occupied bandwidth.
   - RBW = 1 MHz (5.15-5.25 GHz, 5.25-5.35 GHz, and 5.47-5.725 GHz) / 500 kHz (5.725-5.85 GHz)
   - VBW ≥ 3·RBW
   - Detector = power averaging (RMS)
   - Trace = Max hold
   - Number of points in sweep ≥ 2 × span / RBW
   - Sweep time = auto
   - Trace average at least 100 traces in power averaging (rms) mode
e) Use the peak search function on the instrument to find the peak of the spectrum and record its value.
f) Add 10 log (1/x), where x is the duty cycle, to the peak of the spectrum.
g) The measurement method follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r04 under clause F) Method SA-2.
h) The Maximum power spectral density results are included duty cycle correction factor.

7.3.2. Test Limits

FCC 15.407(a)

Range (GHz)	Condition		Limit
5.15-5.25		Outdoor AP	17dBm/ 1MHz
		Indoor AP	17dBm/ 1MHz
		Fixed Point to Point AP	17dBm/ 1MHz
	√	Mobile and Portable Client Devices	11dBm/ 1MHz
5.25-5.35	√		11dBm/ 1MHz
5.47-5.525	√		11dBm/ 1MHz
5.725-5.85	√		30dBm/ 500kHz

RSS-247 6.2

Range(GHz)	Condition	Limit
5.15-5.25	Indoor Operation Only	EIRP: 10dBm/ 1MHz
5.25-5.35		11dBm/ 1MHz
5.47-5.6 5.6-5.525		11dBm/ 1MHz
5.725-5.85		30dBm/ 500kHz

7.3.3. Additional Info

Antenna Type	Gain (dBi)
UNII-1	3.4
UNII-2A, UNII-2C	5
UNII-3	2.2
Duty Cycle Correction Factor	
802.11a	0.144
802.11n20	0.094

7.3.4. Test Data

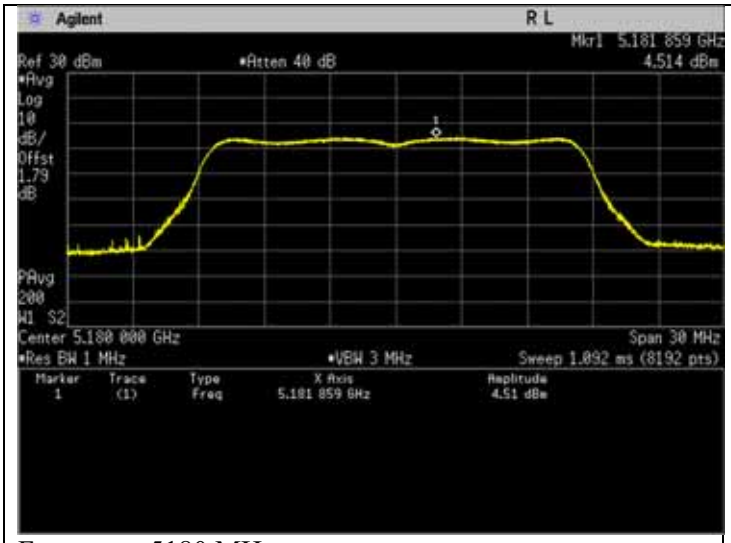
802.11a (26dB EBW)

Freq. (MHz)	Test Conditions	Results	
		Power/Frequency (dBm/MHz)	Status
5180	Mod Type: BPSK, Data Rate: 6	4.658	Pass
5220	Mod Type: BPSK, Data Rate: 6	5.436	Pass
5240	Mod Type: BPSK, Data Rate: 6	5.435	Pass
5260	Mod Type: BPSK, Data Rate: 6	7.196	Pass
5300	Mod Type: BPSK, Data Rate: 6	7.017	Pass
5320	Mod Type: BPSK, Data Rate: 6	3.356	Pass
5500	Mod Type: BPSK, Data Rate: 6	0.031	Pass
5580	Mod Type: BPSK, Data Rate: 6	4.145	Pass
5700	Mod Type: BPSK, Data Rate: 6	2.222	Pass
Freq. (MHz)	Test Conditions	Power/Frequency (dBm/500kHz)	Status
5745	Mod Type: BPSK, Data Rate: 6	1.481	Pass
5785	Mod Type: BPSK, Data Rate: 6	1.122	Pass
5825	Mod Type: BPSK, Data Rate: 6	1.302	Pass

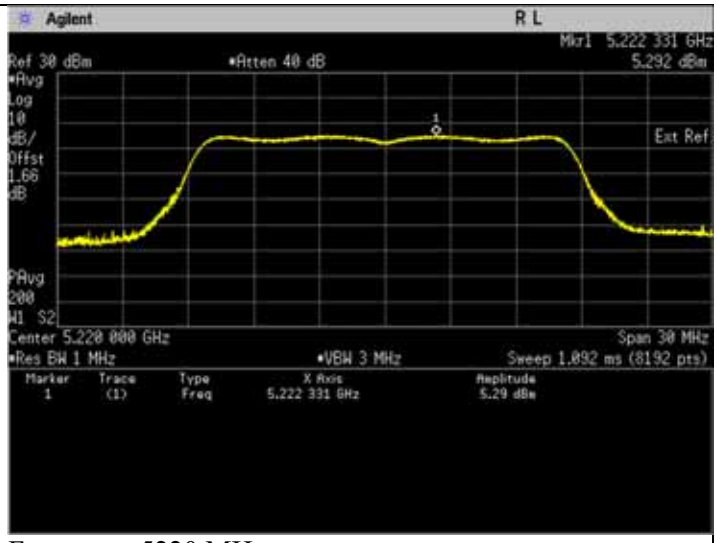
802.11a (99% EBW)

Freq. (MHz)	Test Conditions	Results			
		Power/Frequency (dBm/MHz)	Status	EIRP (dBm/MHz)	Status
5180	Mod Type: BPSK, Data Rate: 6	4.658	Pass	8.058	Pass
5220	Mod Type: BPSK, Data Rate: 6	5.436	Pass	8.836	Pass
5240	Mod Type: BPSK, Data Rate: 6	5.435	Pass	8.835	Pass
5260	Mod Type: BPSK, Data Rate: 6	7.196	Pass	12.196	Pass
5300	Mod Type: BPSK, Data Rate: 6	7.017	Pass	12.017	Pass
5320	Mod Type: BPSK, Data Rate: 6	3.356	Pass	8.356	Pass
5500	Mod Type: BPSK, Data Rate: 6	-0.969	Pass	4.031	Pass
5580	Mod Type: BPSK, Data Rate: 6	4.145	Pass	9.145	Pass
5700	Mod Type: BPSK, Data Rate: 6	2.222	Pass	7.222	Pass
Freq. (MHz)	Test Conditions	Power/Frequency (dBm/500kHz)	Status		
5745	Mod Type: BPSK, Data Rate: 6	1.481	Pass	3.042	Pass
5785	Mod Type: BPSK, Data Rate: 6	1.122	Pass	2.475	Pass
5825	Mod Type: BPSK, Data Rate: 6	1.302	Pass	2.731	Pass

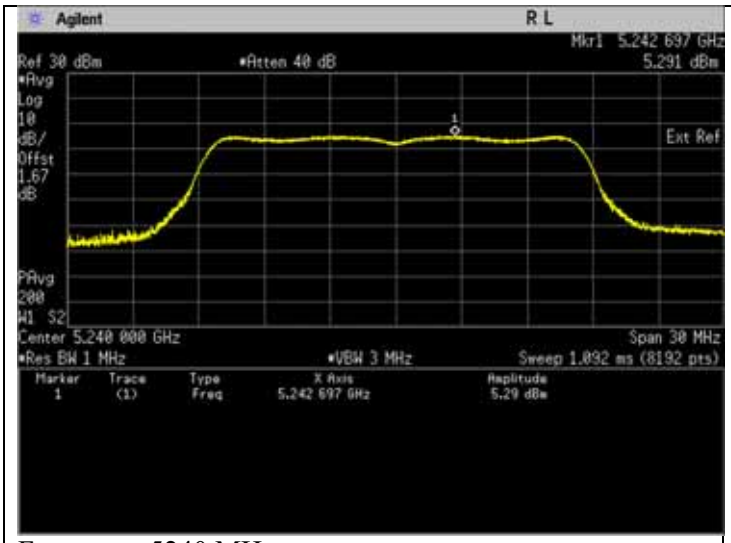
Plots for 802.11a (26dB EBW & 99% EBW)



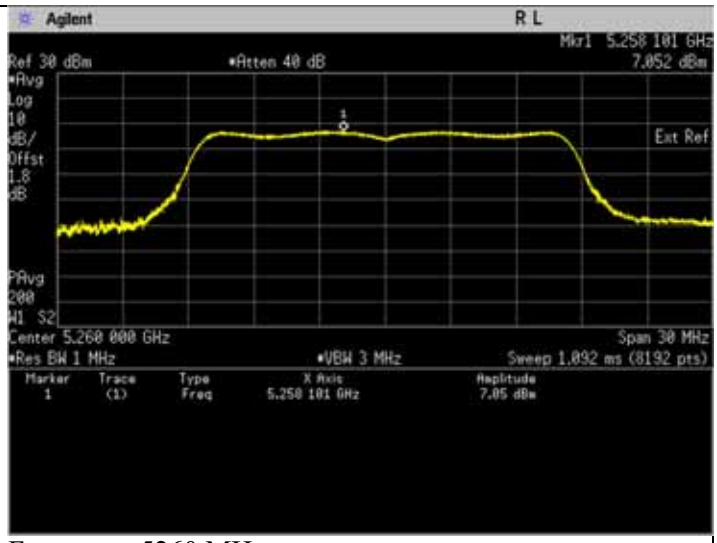
Frequency 5180 MHz



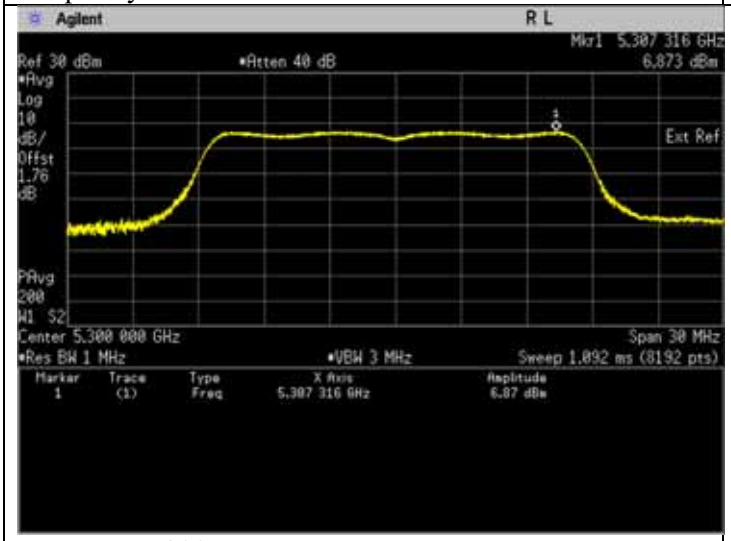
Frequency 5220 MHz



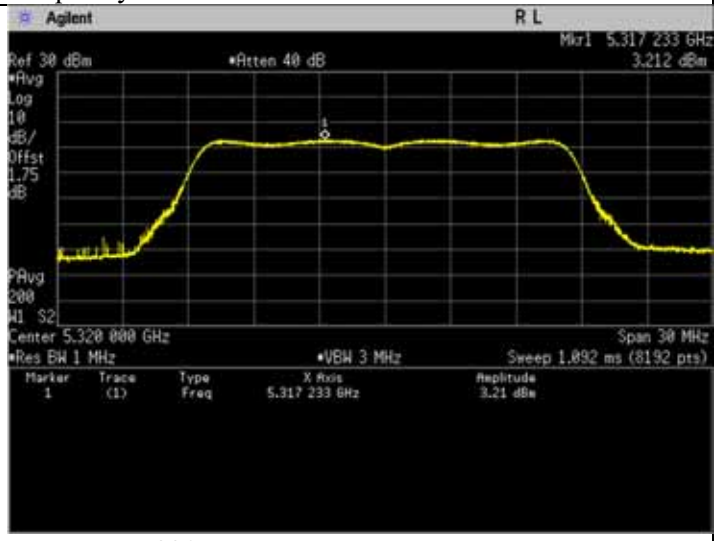
Frequency 5240 MHz



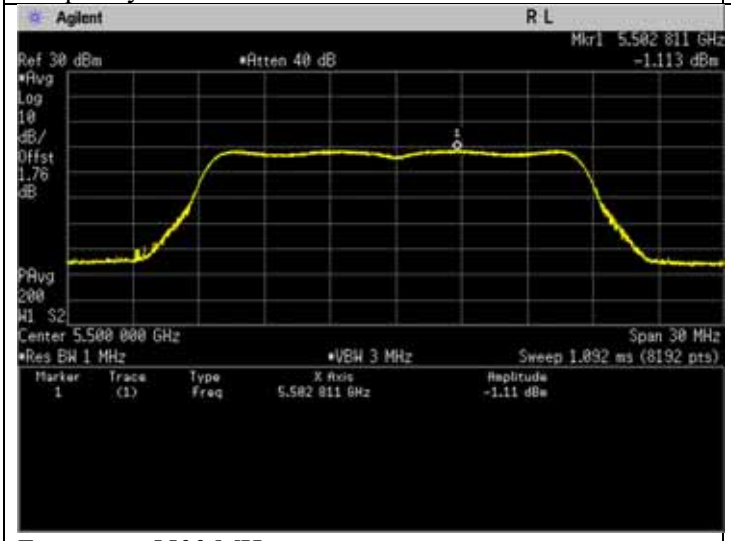
Frequency 5260 MHz



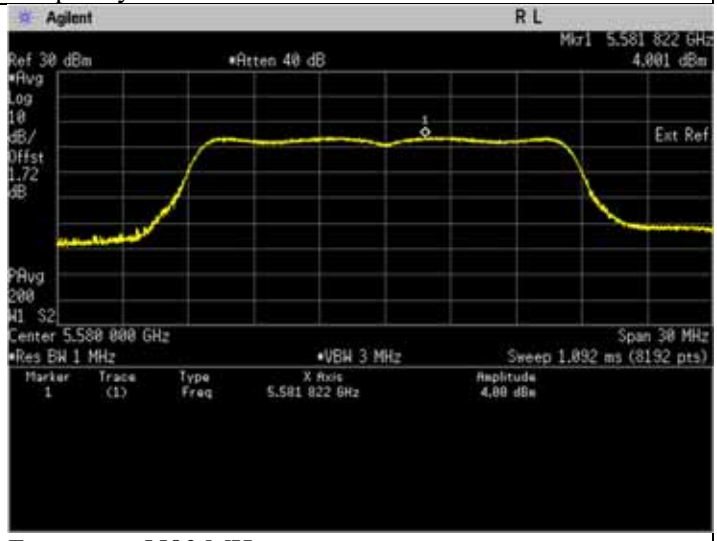
Frequency 5300 MHz



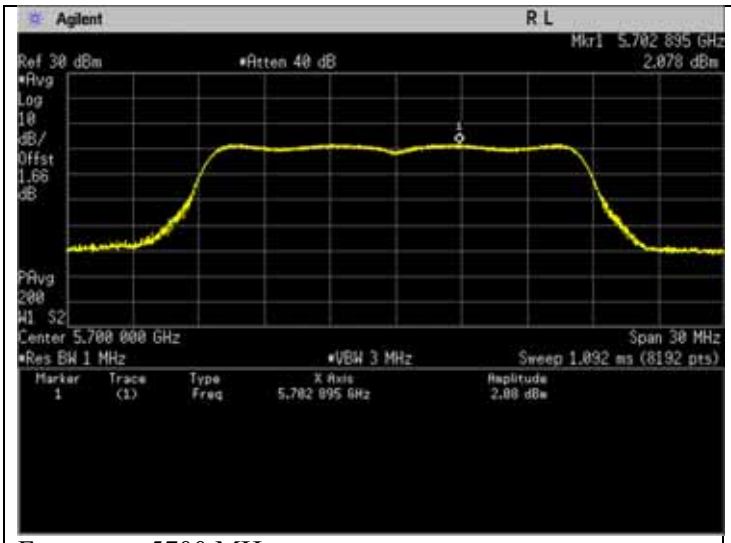
Frequency 5320 MHz



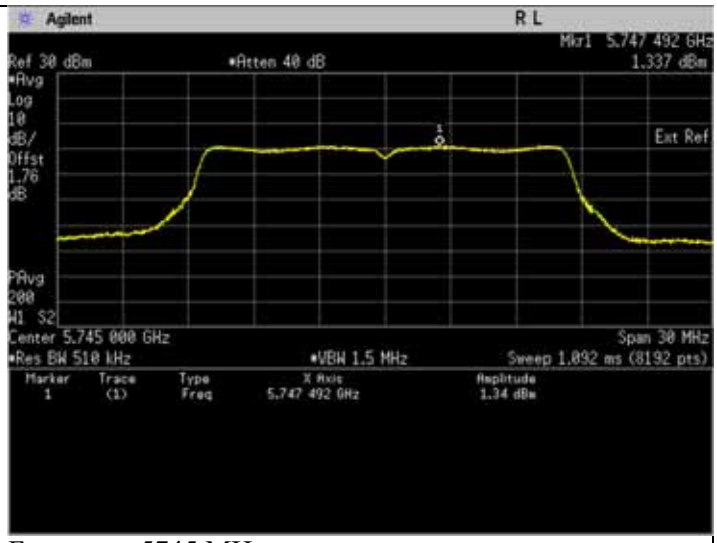
Frequency 5500 MHz



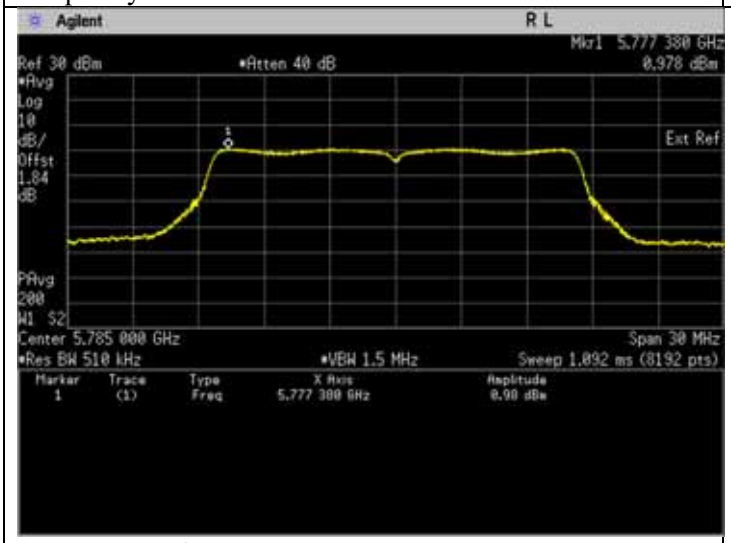
Frequency 5580 MHz



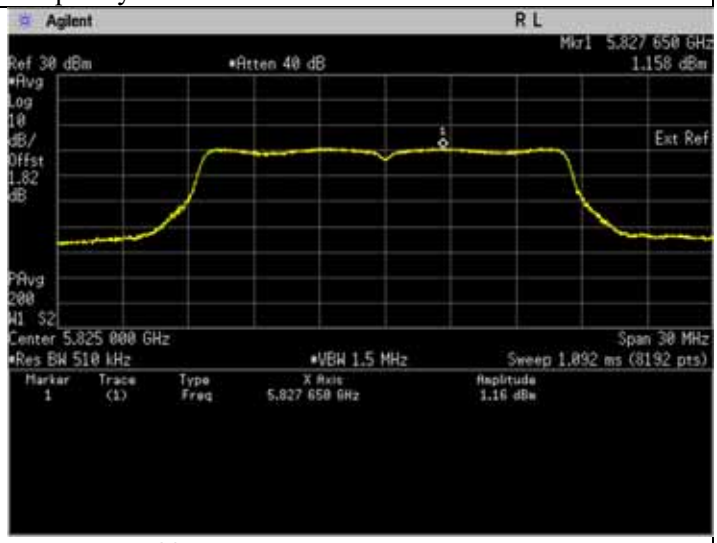
Frequency 5700 MHz



Frequency 5745 MHz



Frequency 5785 MHz



Frequency 5825 MHz

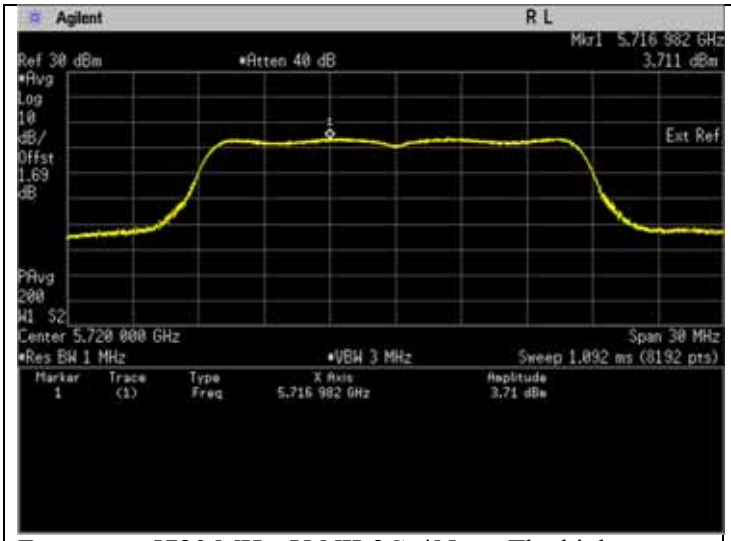
Straddle Frequency for 802.11a (26dB EBW)

Freq. (MHz)	Test Conditions	Results	
		Power/Frequency (dBm/MHz)	Status
		U-NII- 2C	
5720	Mod Type: BPSK, Data Rate: 6	3.855	Pass
Freq. (MHz)	Test Conditions	U-NII-3	
		Power/Frequency (dBm/500kHz)	Status
5720	Mod Type: BPSK, Data Rate: 6	3.753	Pass

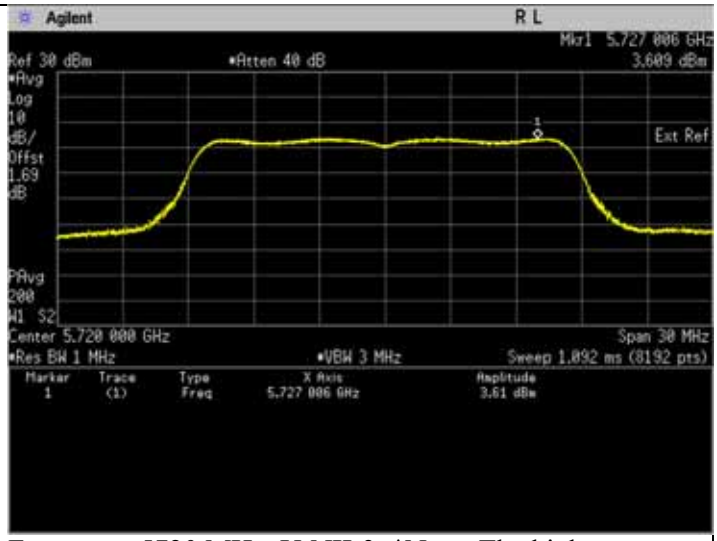
Straddle Frequency for 802.11a (99% EBW)

Freq. (MHz)	Test Conditions	Results	
		Power/Frequency (dBm/MHz)	Status
		U-NII- 2C	
5720	Mod Type: BPSK, Data Rate: 6	3.855	Pass
Freq. (MHz)	Test Conditions	U-NII-3	
		Power/Frequency (dBm/500kHz)	Status
5720	Mod Type: BPSK, Data Rate: 6	3.753	Pass

Plots for 802.11a Straddle Frequency (26dB EBW & 99% EBW)



Frequency 5720 MHz, U-NII-2C. *Note: The highest spectral density is captured before the 5725 MHz.



Frequency 5720 MHz, U-NII-3. *Note: The highest spectral density is captured after the 5725 MHz.

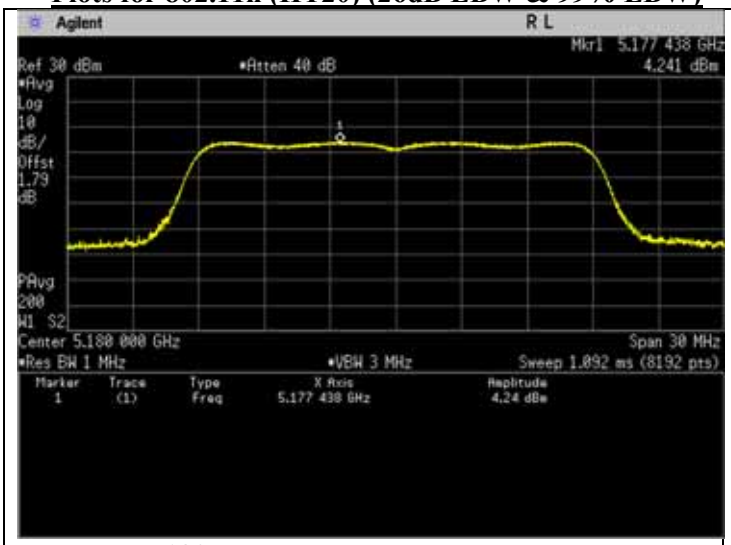
802.11n (HT20)(26dB EBW)

Freq. (MHz)	Test Conditions	Results	
		Power/Frequency (dBm/MHz)	Status
5180	Mod Type: BPSK, Data Rate: MCS0 (6.5)	4.335	Pass
5220	Mod Type: BPSK, Data Rate: MCS0 (6.5)	5.403	Pass
5240	Mod Type: BPSK, Data Rate: MCS0 (6.5)	5.244	Pass
5260	Mod Type: BPSK, Data Rate: MCS0 (6.5)	6.996	Pass
5300	Mod Type: BPSK, Data Rate: MCS0 (6.5)	7.029	Pass
5320	Mod Type: BPSK, Data Rate: MCS0 (6.5)	2.248	Pass
5500	Mod Type: BPSK, Data Rate: MCS0 (6.5)	-1.470	Pass
5580	Mod Type: BPSK, Data Rate: MCS0 (6.5)	4.038	Pass
5700	Mod Type: BPSK, Data Rate: MCS0 (6.5)	2.462	Pass
Freq. (MHz)	Test Conditions	Power/Frequency (dBm/500kHz)	Status
5745	Mod Type: BPSK, Data Rate: MCS0 (6.5)	0.420	Pass
5785	Mod Type: BPSK, Data Rate: MCS0 (6.5)	0.996	Pass
5825	Mod Type: BPSK, Data Rate: MCS0 (6.5)	1.159	Pass

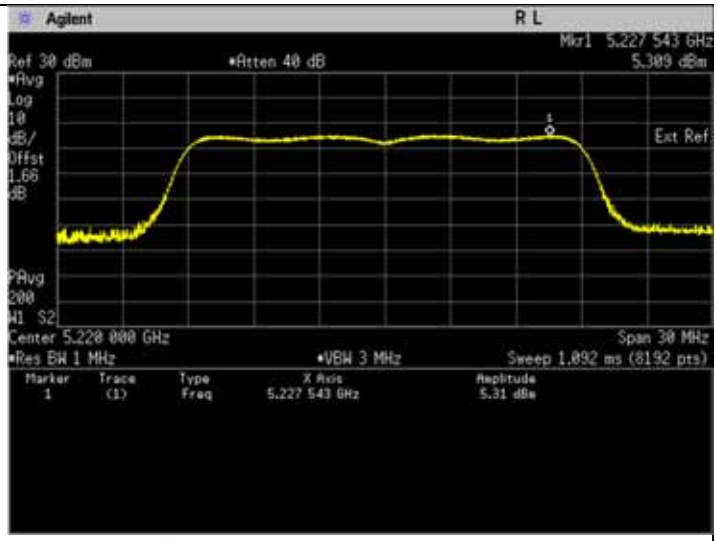
802.11n (HT20)(99% EBW)

Freq. (MHz)	Test Conditions	Results			
		Power/Frequency (dBm/MHz)	Status	EIRP (dBm/MHz)	Status
5180	Mod Type: BPSK, Data Rate: MCS0 (6.5)	4.335	Pass	7.735	Pass
5220	Mod Type: BPSK, Data Rate: MCS0 (6.5)	5.403	Pass	8.803	Pass
5240	Mod Type: BPSK, Data Rate: MCS0 (6.5)	5.244	Pass	8.644	Pass
5260	Mod Type: BPSK, Data Rate: MCS0 (6.5)	6.996	Pass	11.996	Pass
5300	Mod Type: BPSK, Data Rate: MCS0 (6.5)	7.029	Pass	12.029	Pass
5320	Mod Type: BPSK, Data Rate: MCS0 (6.5)	2.248	Pass	7.248	Pass
5500	Mod Type: BPSK, Data Rate: MCS0 (6.5)	-1.470	Pass	3.53	Pass
5580	Mod Type: BPSK, Data Rate: MCS0 (6.5)	4.038	Pass	9.038	Pass
5700	Mod Type: BPSK, Data Rate: MCS0 (6.5)	2.462	Pass	7.462	Pass
Freq. (MHz)	Test Conditions	Power/Frequency (dBm/500kHz)	Status		
5745	Mod Type: BPSK, Data Rate: MCS0 (6.5)	0.420	Pass	2.62	Pass
5785	Mod Type: BPSK, Data Rate: MCS0 (6.5)	0.996	Pass	3.196	Pass
5825	Mod Type: BPSK, Data Rate: MCS0 (6.5)	1.159	Pass	3.359	Pass

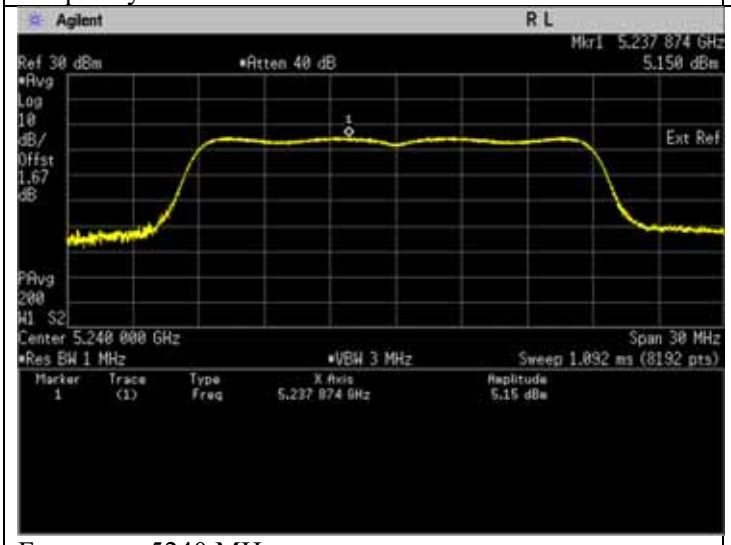
Plots for 802.11n (HT20) (26dB EBW & 99% EBW)



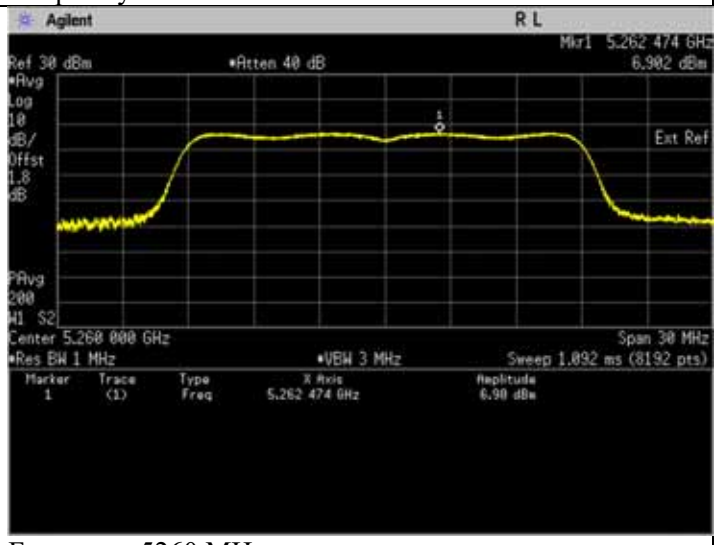
Frequency 5180 MHz



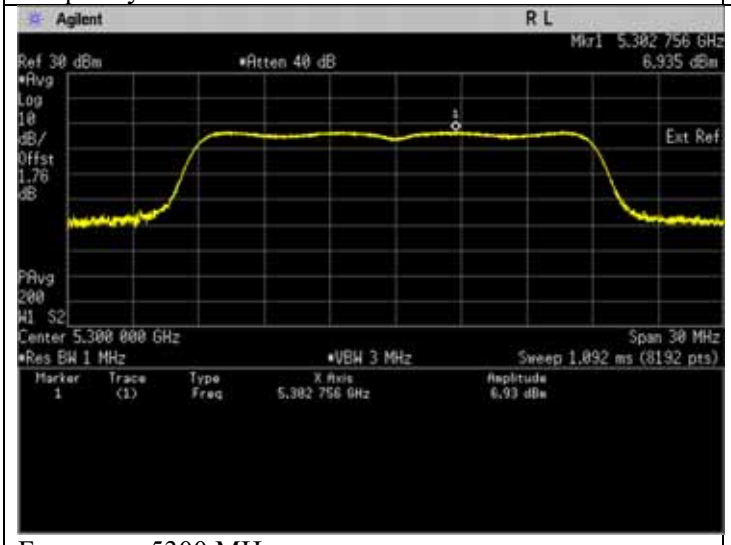
Frequency 5220 MHz



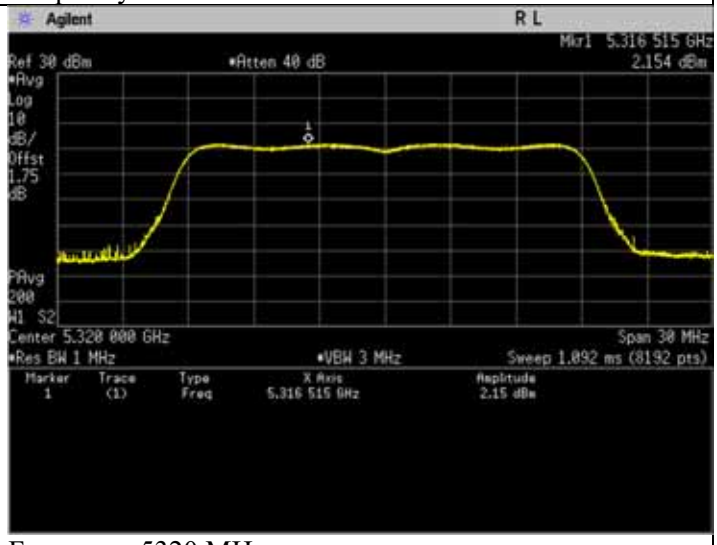
Frequency 5240 MHz



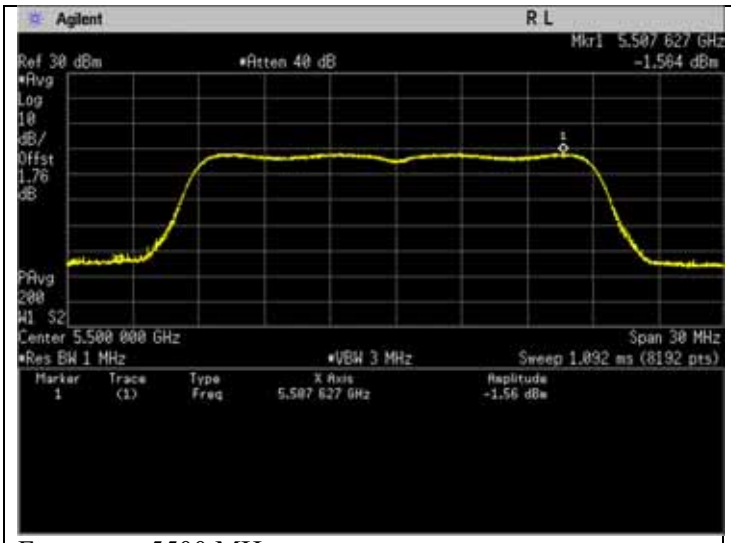
Frequency 5260 MHz



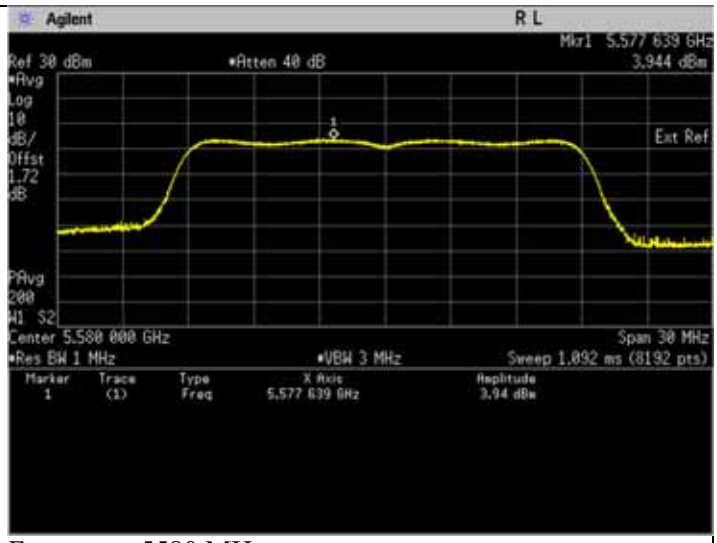
Frequency 5300 MHz



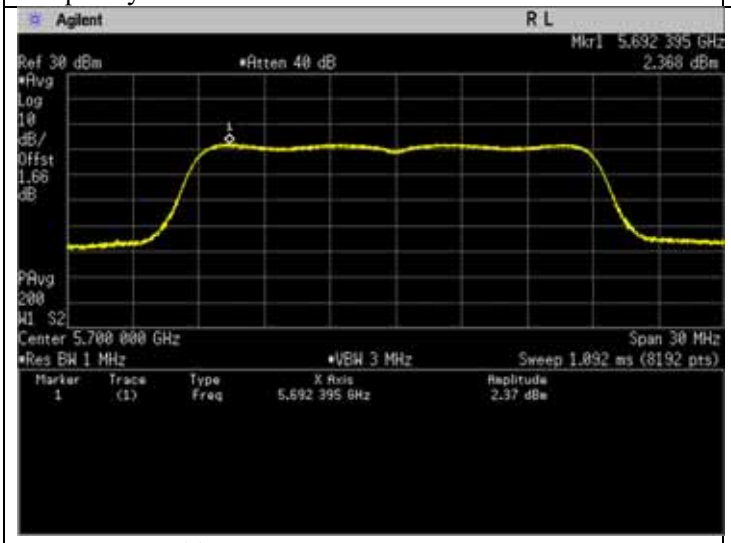
Frequency 5320 MHz



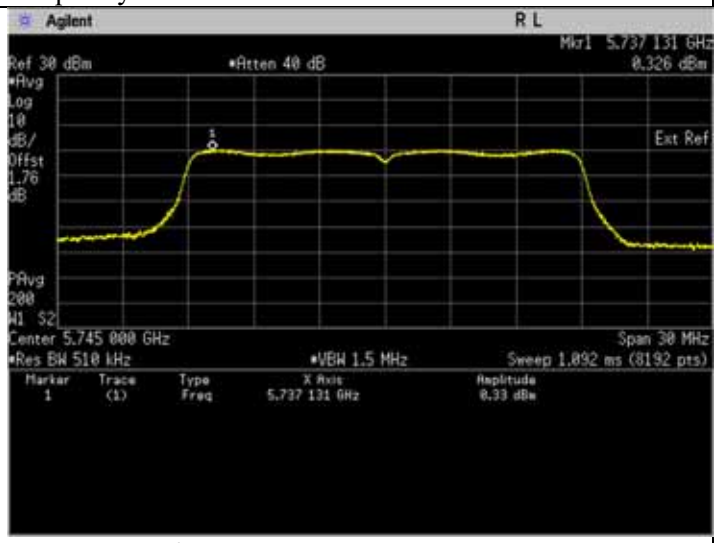
Frequency 5500 MHz



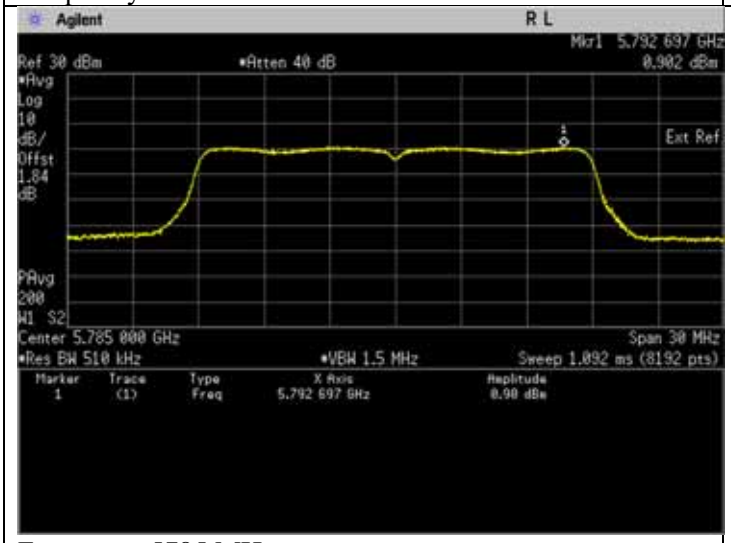
Frequency 5580 MHz



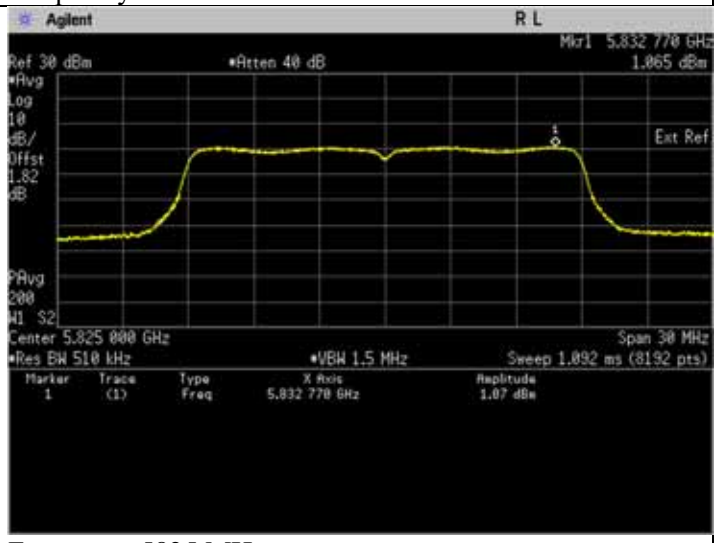
Frequency 5700 MHz



Frequency 5745 MHz



Frequency 5785 MHz



Frequency 5825 MHz

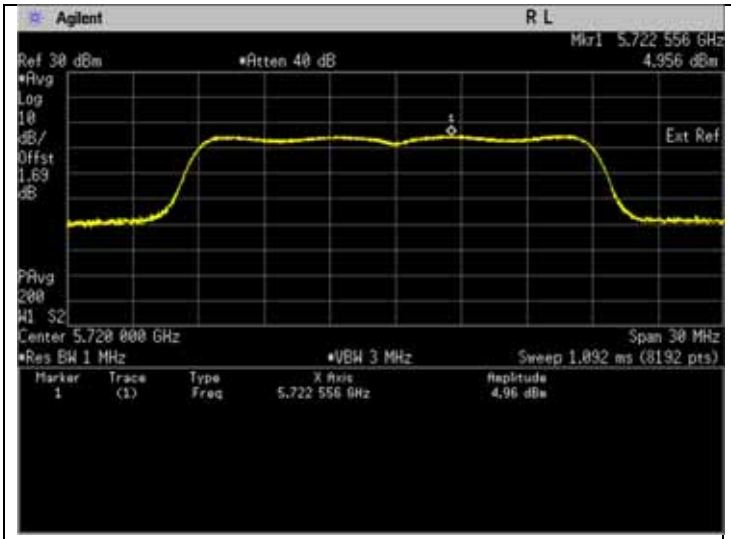
Straddle Frequency for 802.11n (HT20) (26dB EBW)

Freq. (MHz)	Test Conditions	Results	
		Power/Frequency (dBm/MHz)	Status
		U-NII- 2C	
5720	Mod Type: BPSK, Data Rate: MCS0 (6.5)	5.050	Pass
Freq. (MHz)	Test Conditions	U-NII-3	
		Power/Frequency (dBm/500kHz)	Status
5720	Mod Type: BPSK, Data Rate: MCS0 (6.5)	5.031	Pass

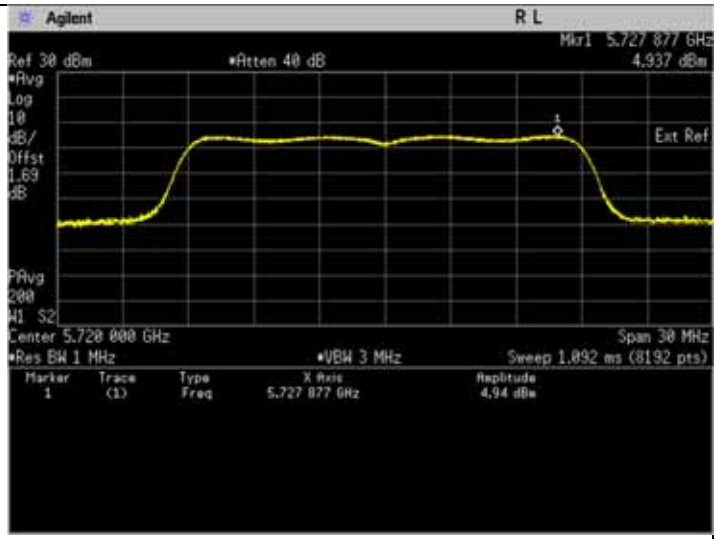
Straddle Frequency for 802.11n (HT20) (99% EBW)

Freq. (MHz)	Test Conditions	Results	
		Power/Frequency (dBm/MHz)	Status
		U-NII- 2C	
5720	Mod Type: BPSK, Data Rate: MCS0 (6.5)	5.050	Pass
Freq. (MHz)	Test Conditions	U-NII-3	
		Power/Frequency (dBm/500kHz)	Status
5720	Mod Type: BPSK, Data Rate: MCS0 (6.5)	5.031	Pass

Plots for 802.11n (HT20) Straddle Frequency (26dB EBW & 99% EBW)



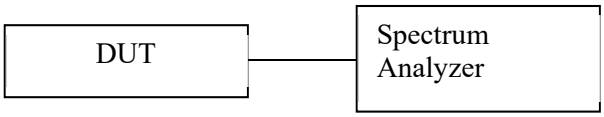
Frequency 5720 MHz, U-NII-2C. *Note: The highest spectral density is captured before the 5725 MHz.



Frequency 5720 MHz, U-NII-3. *Note: The highest spectral density is captured after the 5725 MHz.

7.4. 6dB Bandwidth

7.4.1. Test Setup



a) Test setup as per illustrated above.
b) Set DUT to transmit at desire transmit frequency.
c) 6dB bandwidth is applicable for the band 5.725-5.85GHz only.
d) Connect DUT's antenna terminal to spectrum analyzer with a low loss cable.
e) Setting of Spectrum analyzer :
   - RBW = 100 kHz
   - VBW ≥ 3·RBW
   - Detector = Peak
   - Trace = Max Hold
   - Sweep = Auto couple

f) Allow trace to stabilize.
g) 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 relative to the maximum level measured in the fundamental emission.
h) The measurement method follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v01r04 under clause C.2).

7.4.2. Test Limits

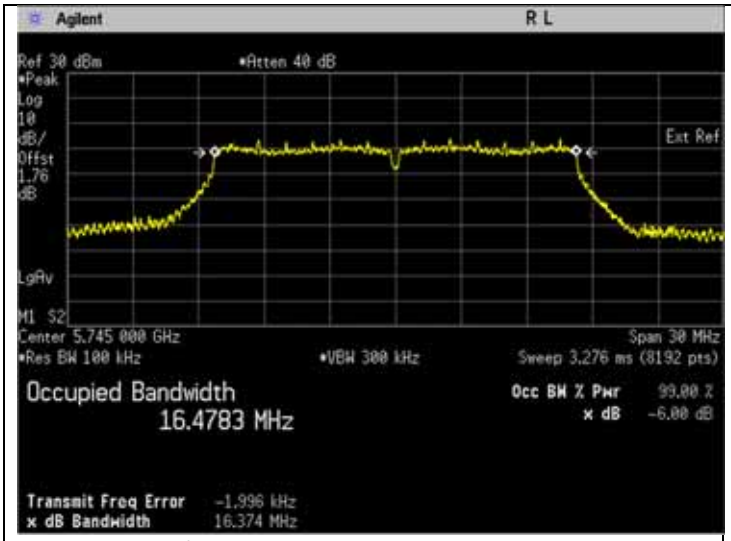
FCC 15.407(e)
Within the 5.725-5.85GHz band, the minimum 6 dB bandwidth of U-NII devices shall be at least 500 kHz.

RSS 247 6.2.4
For equipment operating in the band 5725-5850 MHz, the minimum 6 dB bandwidth shall be at least 500 kHz.

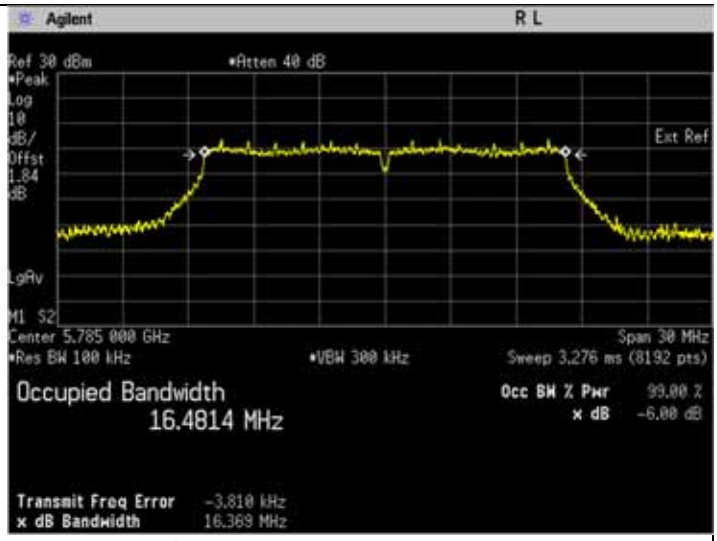
7.4.3. Test Data

802.11a

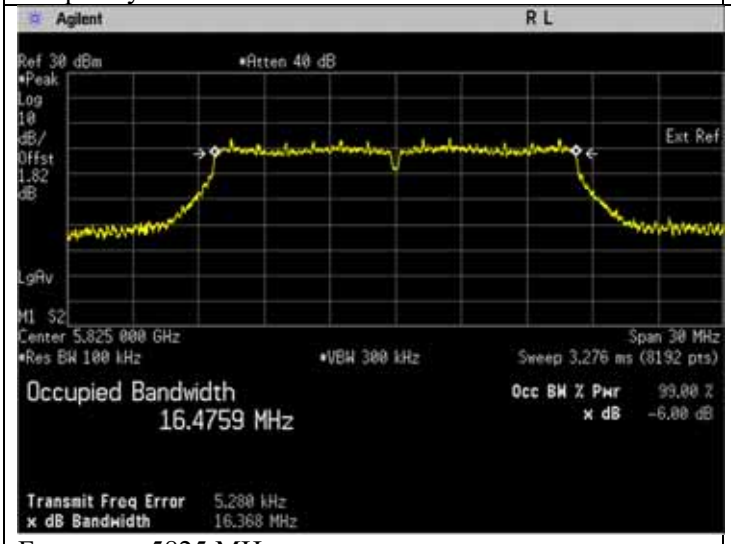
Frequency (MHz)	Test Configuration	Results	
		Bandwidth(MHz)	Status
5745	Mod Type: BPSK, Data Rate: 6	16.374	Pass
5785	Mod Type: BPSK, Data Rate: 6	16.369	Pass
5825	Mod Type: BPSK, Data Rate: 6	16.368	Pass



Frequency 5745 MHz



Frequency 5785 MHz

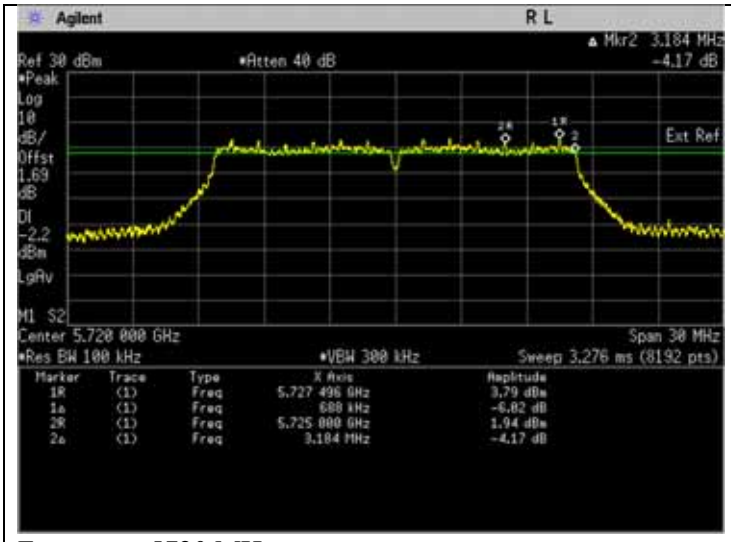


Frequency 5825 MHz

Straddle Frequency for 802.11a

Freq. (MHz)	Test Conditions	Results	
		Bandwidth (MHz)	Status
		U-NII- 3	
5720	Mod Type: BPSK, Data Rate: 6	3.184	Pass

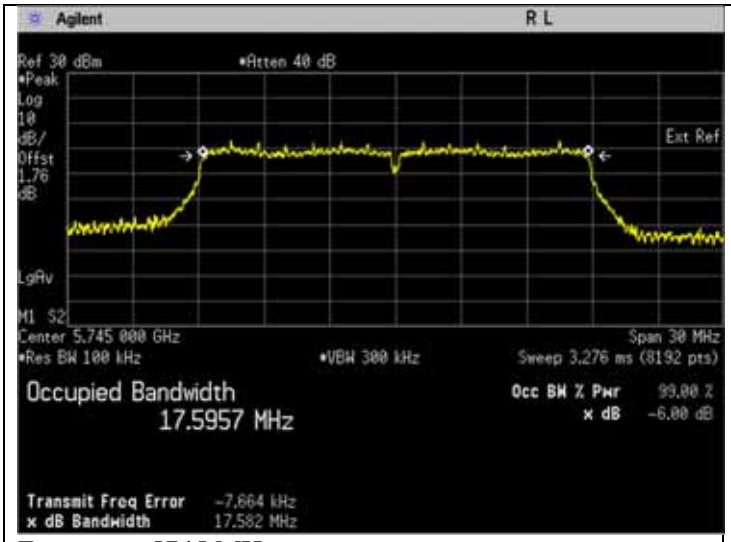
Plots for 802.11a Straddle Frequency



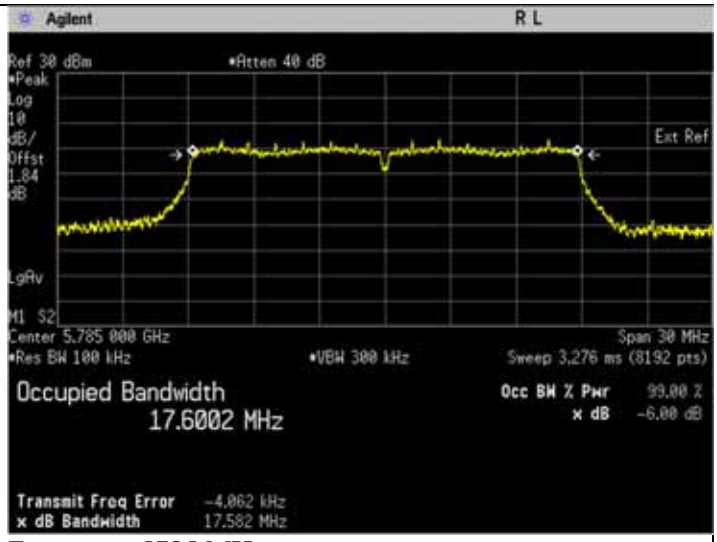
Frequency 5720 MHz

802.11n (HT20)

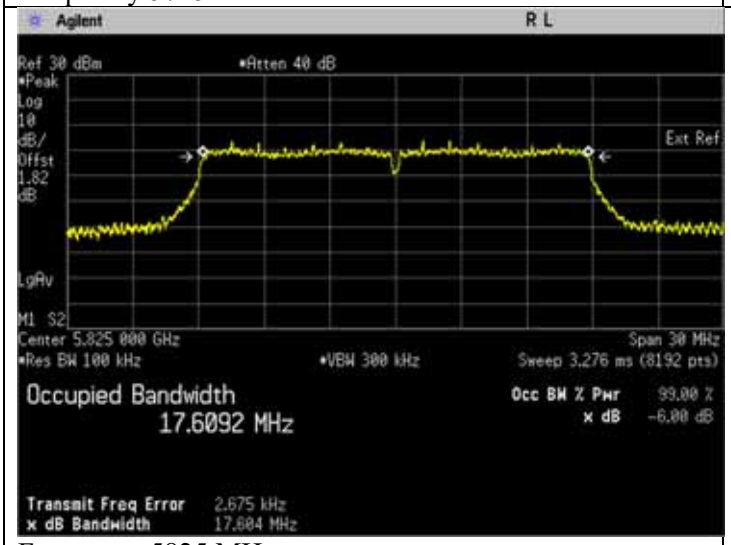
Frequency (MHz)	Test Configuration	Results	
		Bandwidth(MHz)	Status
5745	Mod Type: BPSK, Data Rate: MCS0 (6.5)	17.582	Pass
5785	Mod Type: BPSK, Data Rate: MCS0 (6.5)	17.582	Pass
5825	Mod Type: BPSK, Data Rate: MCS0 (6.5)	17.604	Pass



Frequency 5745 MHz



Frequency 5785 MHz

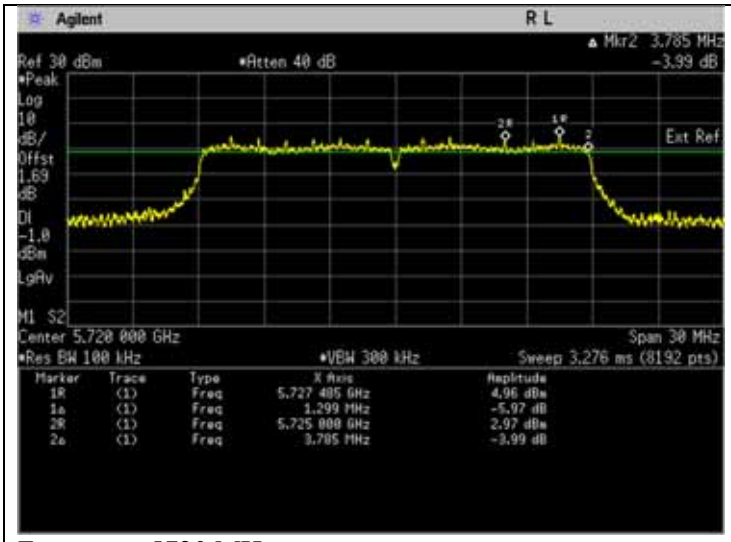


Frequency 5825 MHz

Straddle Frequency for 802.11n (HT20)

Freq. (MHz)	Test Conditions	Results	
		Bandwidth (MHz)	Status
		U-NII- 3	
5720	Mod Type: BPSK, Data Rate: MCS0 (6.5)	3.785	Pass

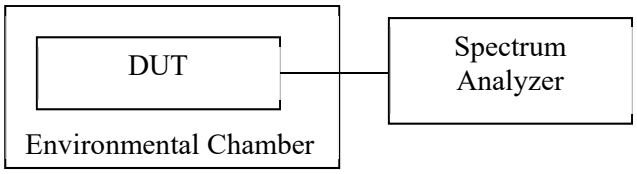
Plots for 802.11n (HT20) Straddle Frequency



Frequency 5720 MHz

7.5. Frequency Stability

7.5.1. Test Setup



a) Test setup as per illustrated above.
b) Set DUT to transmit un-modulated signal at desire transmit frequency.
c) Connect DUT's antenna terminal to spectrum analyzer with a low loss cable.
d) The DUT was operated at the maximum output power, and spectrum which is set to maximum hold function and peak detector.
e) The peak value of the power envelope was measured and noted.
f) Test was conducted from temperature range from -30^{0}C to 50^{0}C with step size of 10^{0}C on manufacturer's rated supply voltage.
g) At temperature of 20^{0}C, +/-15% of manufacturer's rated voltage are to be applied.
h) The frequency stability is measured and recorded of frequency deviation due to temperature and supply voltage variations as mentioned at condition f) & g) above.

7.5.2. Test Limits

FCC 15.407(g)
Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the users manual.

RSS-GEN 6.11

7.5.3. Test Data

802.11a

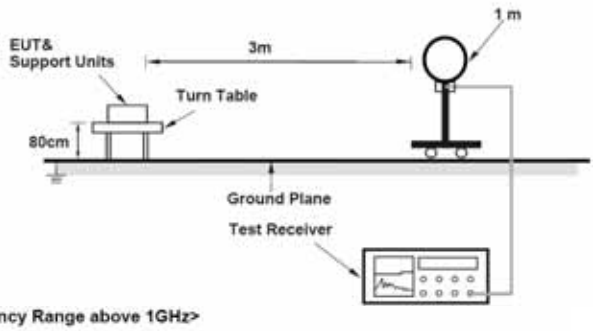
Test Configuration	Test Frequency Tx (MHz)
Mod Type: BPSK, Data Rate: 6	5180

		Results			
Temperature(°C)	Voltage	Measured Frequency(MHz)	Frequency Error(kHz)	Frequency Error (%)	Status
20	+15%	5179.995978	4.022000	0.000078	Pass
	±0%	5179.996384	3.616000	0.000070	Pass
	-15%	5179.997206	2.794000	0.000054	Pass
-30		5179.997326	2.674000	0.000052	Pass
-20		5179.997253	2.747000	0.000053	Pass
-10		5179.996245	3.755000	0.000072	Pass
0		5179.995895	4.105000	0.000079	Pass
10		5179.995396	4.604000	0.000089	Pass
30		5179.996376	3.624000	0.000070	Pass
40		5179.996385	3.615000	0.000070	Pass
50		5179.996390	3.610000	0.000070	Pass

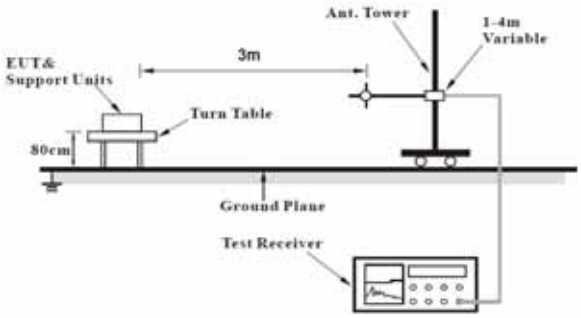
7.6. Band Edge Radiated Spurious Emission Measurement

7.6.1. Test Setup

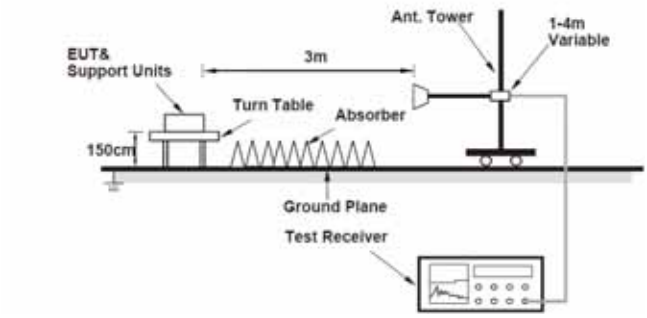
<Radiated emission below 30MHz>



<Frequency Range below 1GHz>



<Frequency Range above 1GHz>



1. The EUT is placed on the top of a rotating table 0.8m/1.5m above the ground at a 3m semi-anechoic chamber. The table is rotated 360 degrees to determine the position of the highest radiation.
2. The EUT is set 3m away from the interference-receiving antenna, which is mounted on the top of a variable-height antenna tower.
3. The antenna is Bilog/Horn antenna depend on which frequency range uses, and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
4. For each suspected emission, the EUT is arranged to its worst case and then the antenna is tuned to heights from 1m to 4m and the rotatable table is turned from 0 degrees to 360 degrees to find the maximum reading.
5. The test-receiver system is set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
6. If the emission level of the EUT in peak mode is fall within the range of 10dB from the limit specified, the emissions would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet. Otherwise, the testing could be stopped and the peak values of the EUT would be reported.

NOTE:

a. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasi-peak detection at frequency below 1GHz.
b. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and video bandwidth is 3 MHz for Peak detection at frequency above 1 GHz.
c. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 10Hz for Average detection using reduced video bandwidth (Duty cycle ≥98%) at frequency above 1GHz.
d. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 1/ τ Hz, where τ is minimum transmitter on time (Duty cycle <98%) for Average detection using reduced video bandwidth at frequency above 1GHz.
e. All modes of operation were investigated and the worst-case emissions are reported.

7.6.2. Test Limits

Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table.

Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100**	3
88-216	150**	3
216-960	200**	3
Above 960	500	3

NOTE:

a. The lower limit shall apply at the transition frequencies.
b. Emission level (dBuV/m) = 20 log Emission level (uV/m).
c. For frequencies above 1000 MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation.

For Radiated emissions which fall out of the restricted bands must comply with the radiated emission limits specified as below table.

Applicable To		Limit	
789033 D02 General UNII Test Procedures New Rules v01r03		Field Strength at 3 m	
		PK: 74 (dBμV/m)	AV: 54 (dBμV/m)
Frequency Band	**Applicable To**	**EIRP Limit**	**Equivalent Field Strength at 3 m**
5150~5250 MHz	15.407(b)(1)	PK: -27 (dBm/MHz)	PK: 68.2 (dBμV/m)
5250~5350 MHz	15.407(b)(2)		
5470~5725 MHz	15.407(b)(3)		
5725~5850 MHz	15.407(b)(4)(i)	PK:-27 (dBm/MHz) *1 PK:10 (dBm/MHz) *2 PK:15.6 (dBm/MHz) *3 PK:27 (dBm/MHz) *4	PK: 68.2 (dBμV/m) *1 PK:105.2 (dBμV/m) *2 PK: 110.8 (dBμV/m) *3 PK:122.2 (dBμV/m) *4
	15.407(b)(4)(ii)	Emission limits in section 15.247(d)	

*1 beyond 75 MHz or more above of the band edge.
*2 below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above.
*3 below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above.
*4 from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

NOTE:

The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength:

$$E = ((1000000 \sqrt{} (30P)) / 3) \ \mu V/m$$, where P is the eirp (Watts)

7.6.3. Test Result

802.11a

Test: WIFI SAC Restricted Band Edge
Model Number: AAH07RDH9SA1AN S/N: 651EAP0011 EMC SR ID#: 0549N01-EMC-00048
Battery: PMNN4890A Softpot power (14dBm) Accessory: PMAE4079A
Test Channel: Low Test Frequency: 5180.0000 MHz Test Standard: ANSI C63.10-2013
Worst Case Plane: Z-Plane (802.11a 20MHz)

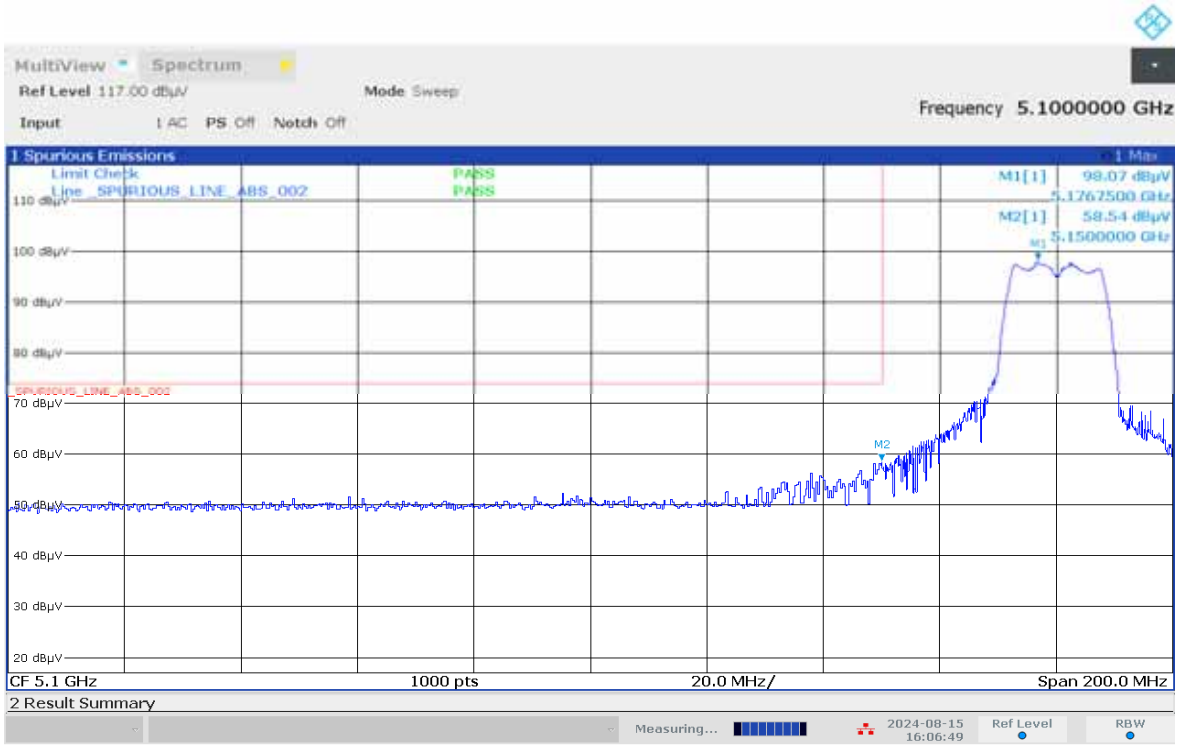
Restricted Band Edge (Low Channel) tabular data

Vertical Radiated Emission Result										
Spur Freq (MHz)	Spur level QPK (dBµV/m)	Spur level PK (dBµV/m)	Spur level AV (dBµV/m)	Limit QPK (dBµV/m)	Limit PK (dBµV/m)	Limit AV (dBµV/m)	Margin QPK (dBµV/m)	Margin PK (dBµV/m)	Margin AV (dBµV/m)	Carrier PK Power (dBµV/m)
5150.0000	-	58.5398	41.5184	-	74.0000	54.0000	-	15.4602	12.4816	-
Horizontal Radiated Emission Result										
5149.2500	-	69.0445	-	-	74.0000	-	-	4.9555	-	-
5150.0000	-	67.6030	46.5890	-	74.0000	54.0000	-	6.3970	7.4110	-

Remarks: Pass Result	Marginal Result	Fail Result

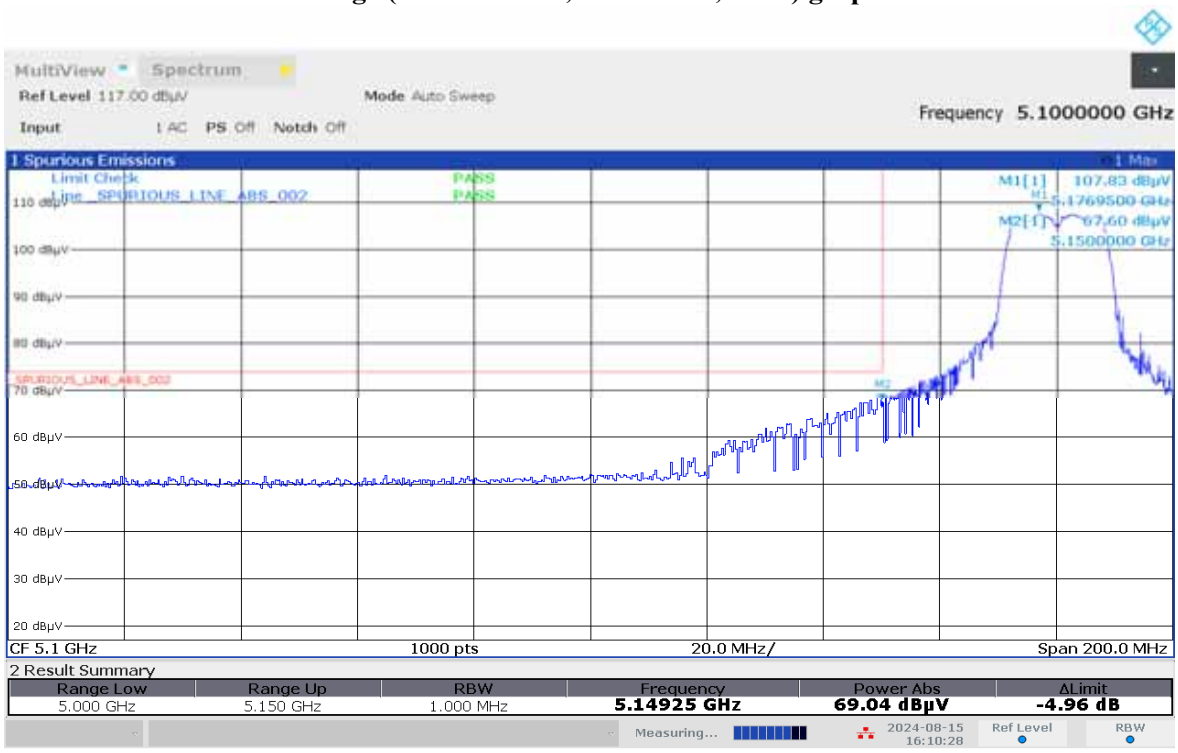
Temperature (degC): 23.6 **Humidity (%): 69.4**
Test Performed by: Nazrin&Rezza **Test Date: Thu, 15 Aug, 2024**
System MU: 5.84dB

Restricted Band Edge (Low Channel, Vertical, Peak) graphical screen shot



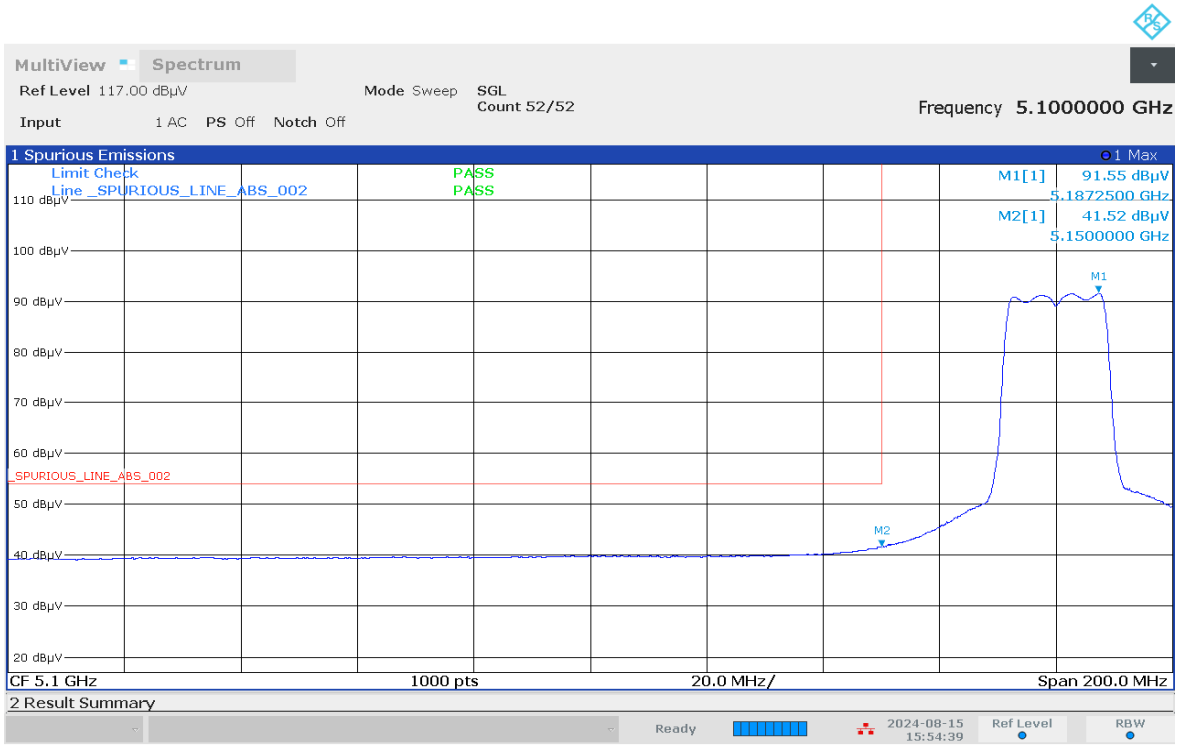
04:06:49 PM 08/15/2024

Restricted Band Edge (Low Channel, Horizontal, Peak) graphical screen shot



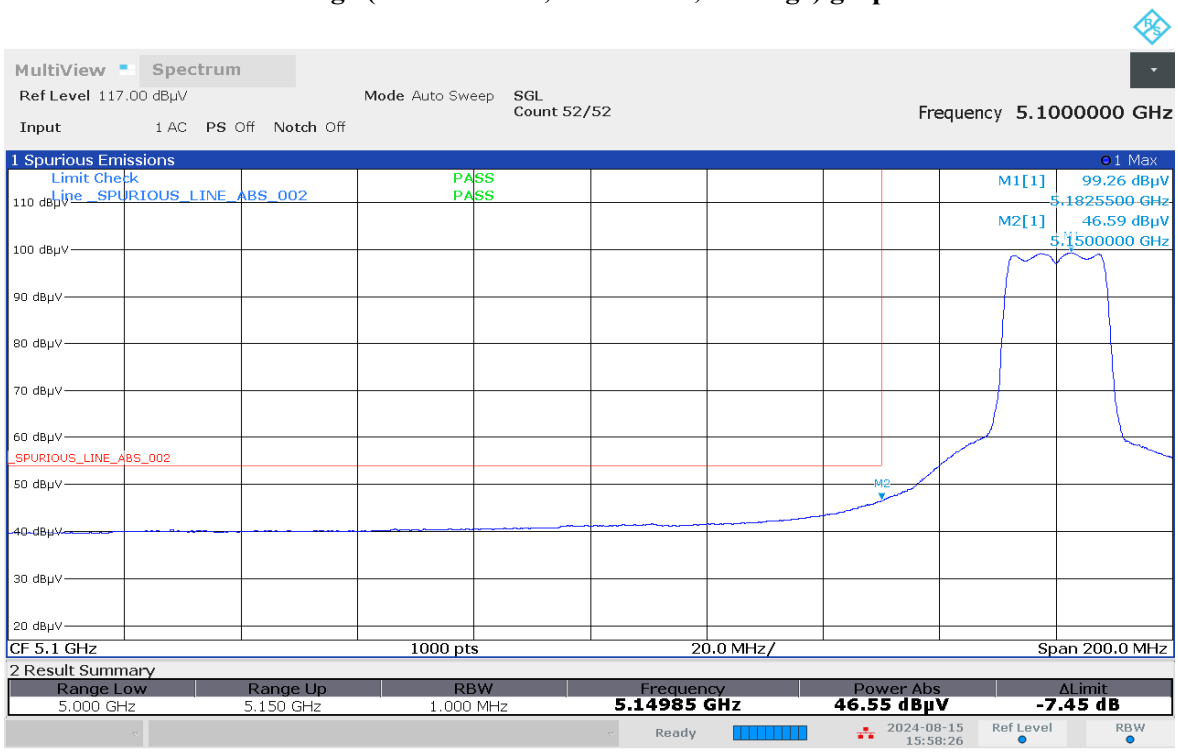
04:10:29 PM 08/15/2024

Restricted Band Edge (Low Channel, Vertical, Average) graphical screen shot



03:54:40 PM 08/15/2024

Restricted Band Edge (Low Channel, Horizontal, Average) graphical screen shot



03:58:27 PM 08/15/2024

Test: WIFI SAC Restricted Band Edge
Model Number: AAH07RDH9SA1AN S/N: 651EAP0011 EMC SR ID#: 0549N01-EMC-00048
Battery: PMNN4890A Softpot power (13dBm) Accessory: PMAE4079A
Test Channel: High Test Frequency: 5320.0000 MHz Test Standard: ANSI C63.10-2013
Worst Case Plane: Z-Plane (802.11a 20MHz)

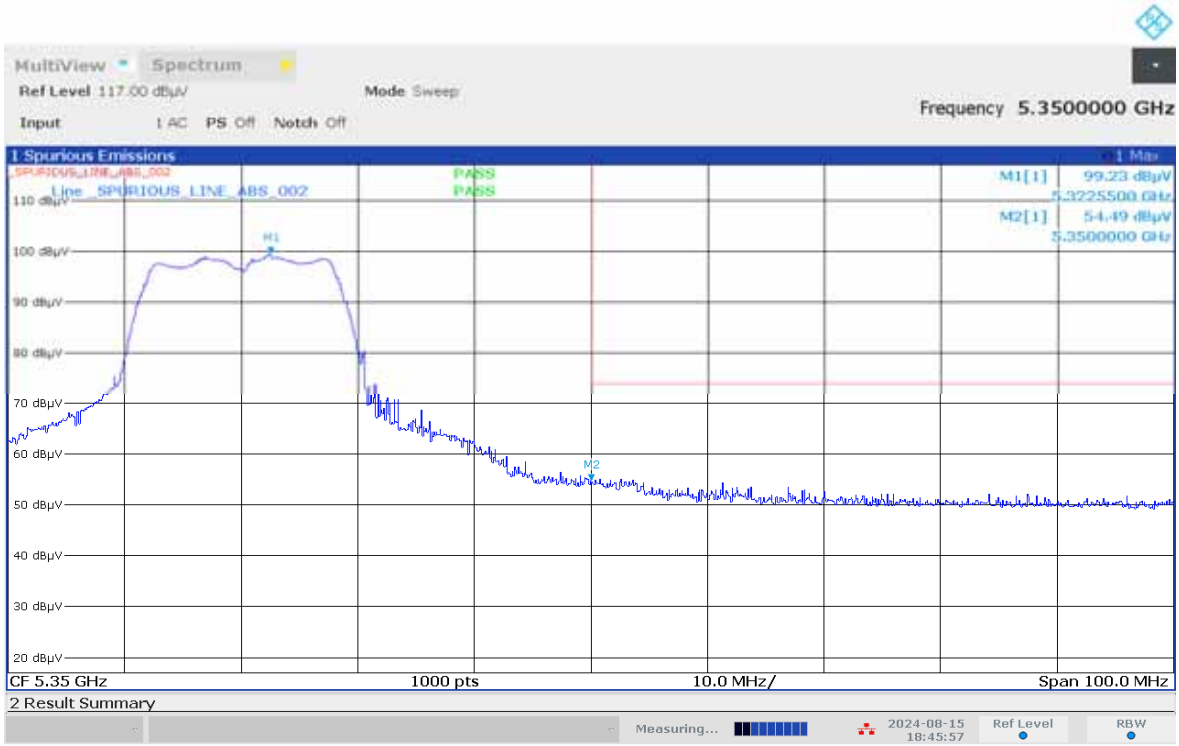
Restricted Band Edge (High Channel) tabular data

Vertical Radiated Emission Result										
Spur Freq (MHz)	Spur level QPK (dBµV/m)	Spur level PK (dBµV/m)	Spur level AV (dBµV/m)	Limit QPK (dBµV/m)	Limit PK (dBµV/m)	Limit AV (dBµV/m)	Margin QPK (dBµV/m)	Margin PK (dBµV/m)	Margin AV (dBµV/m)	Carrier PK Power (dBµV/m)
5350.0000	-	54.4942	42.5487	-	74.0000	54.0000	-	19.5058	11.4513	-
Horizontal Radiated Emission Result										
5350.0000	-	63.4849	47.4989	-	74.0000	54.0000	-	10.5151	6.5011	-

Remarks: Pass Result	Marginal Result	Fail Result

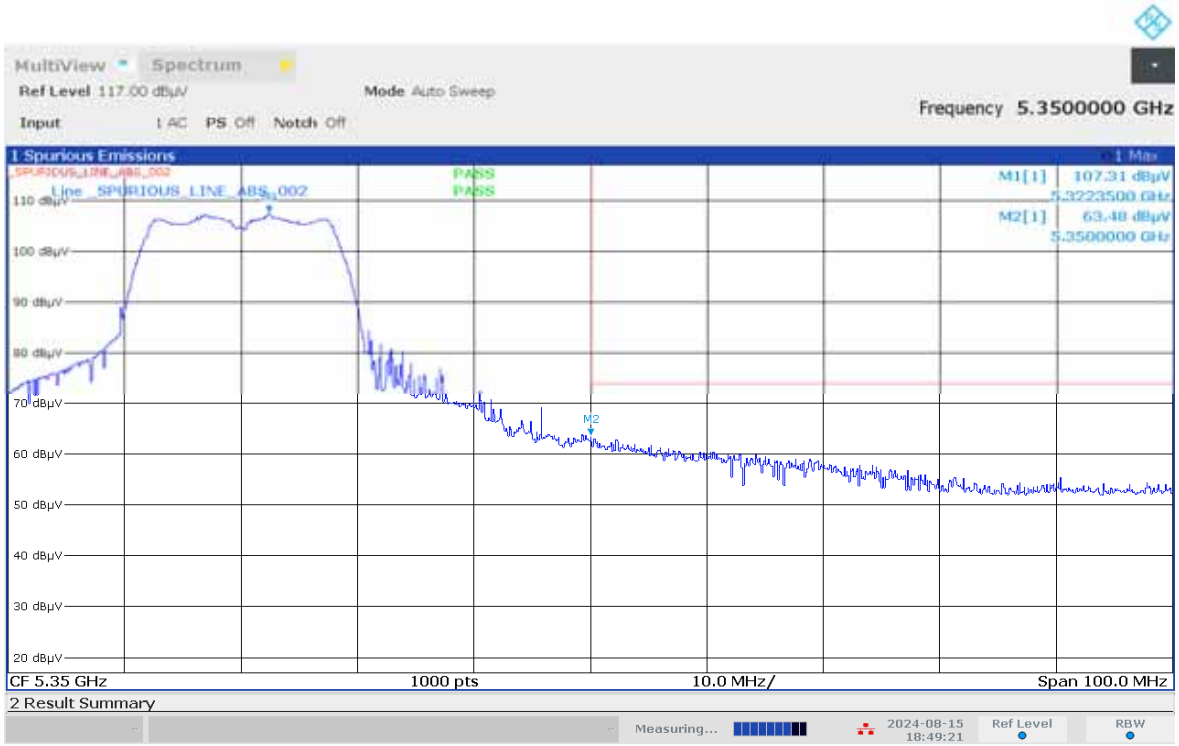
Temperature (degC): 23.6 **Humidity (%): 69.4**
Test Performed by: Nazrin&Rezza **Test Date: Thu, 15 Aug, 2024**
System MU: 5.84dB

Restricted Band Edge (High Channel, Vertical, Peak) graphical screen shot



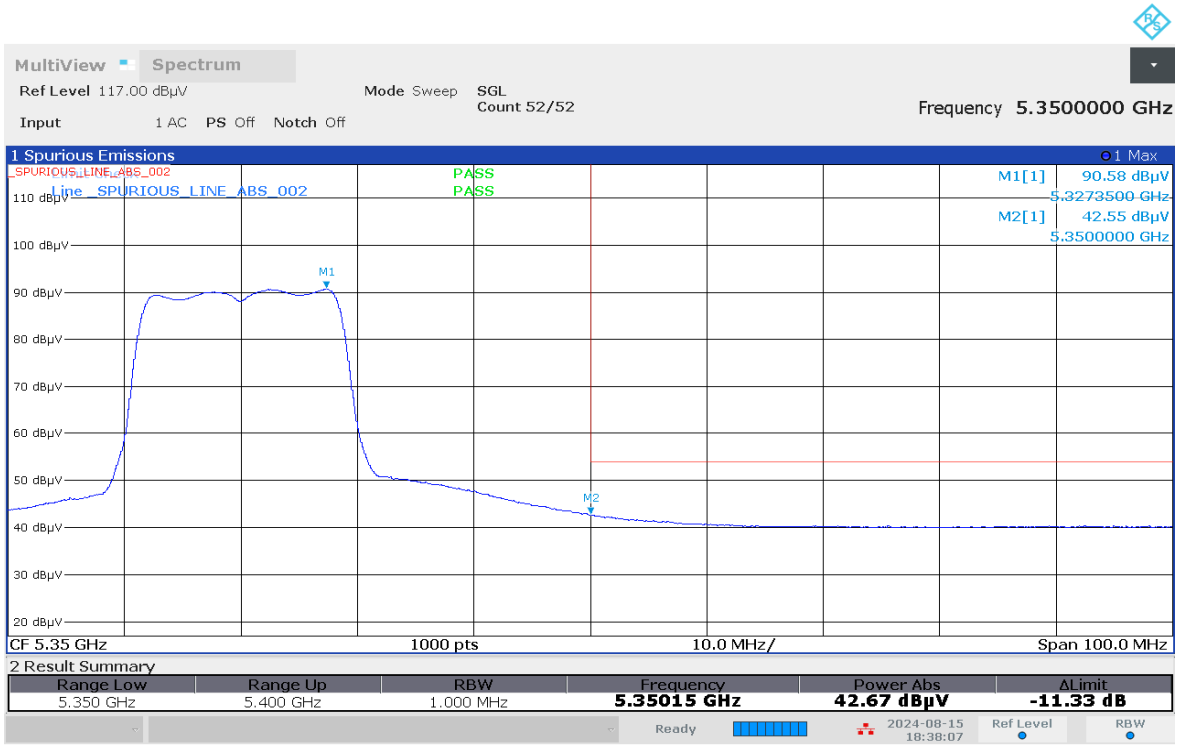
06:45:58 PM 08/15/2024

Restricted Band Edge (High Channel, Horizontal, Peak) graphical screen shot



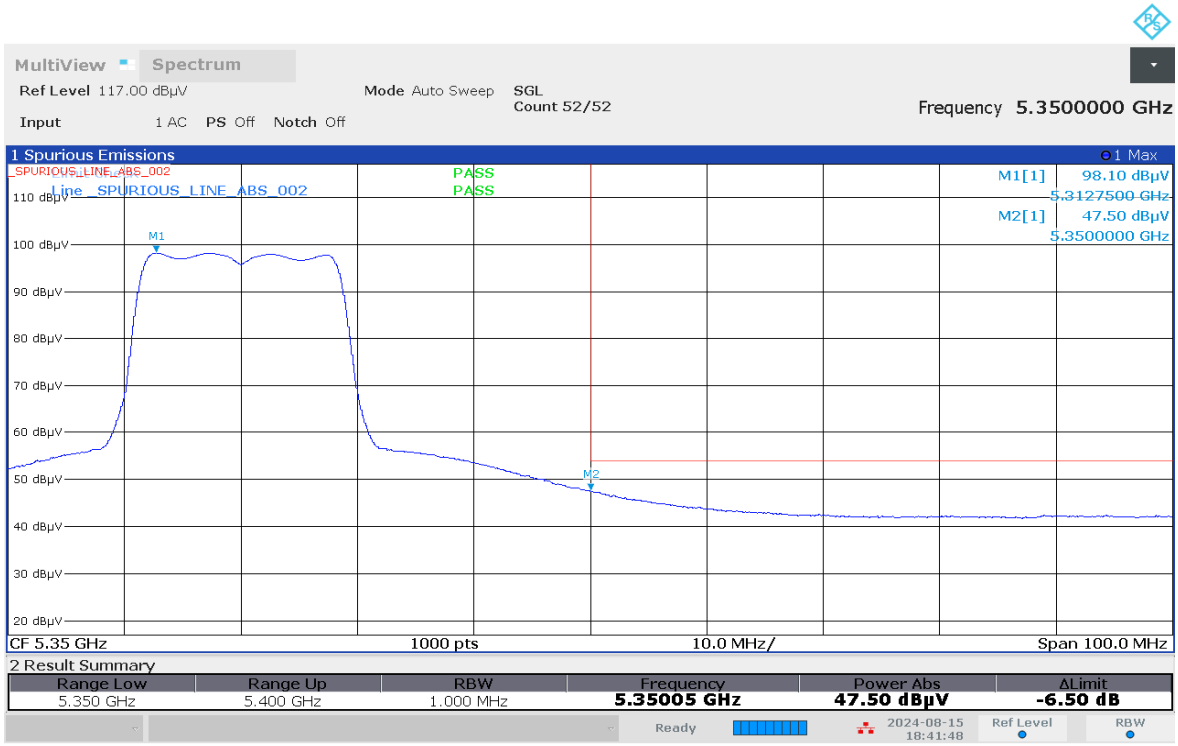
06:49:21 PM 08/15/2024

Restricted Band Edge (High Channel, Vertical, Average) graphical screen shot



06:38:08 PM 08/15/2024

Restricted Band Edge (High Channel, Horizontal, Average) graphical screen shot



06:41:48 PM 08/15/2024

Test: WIFI SAC Restricted Band Edge
Model Number: AAH07RDH9SA1AN S/N: 651EAP0011 EMC SR ID#: 0549N01-EMC-00048
Battery: PMNN4890A Softpot power (9dBm) Accessory: PMAE4079A
Test Channel: Low Test Frequency: 5500.0000 MHz Test Standard: ANSI C63.10-2013
Worst Case Plane: Z-Plane (802.11a 20MHz)

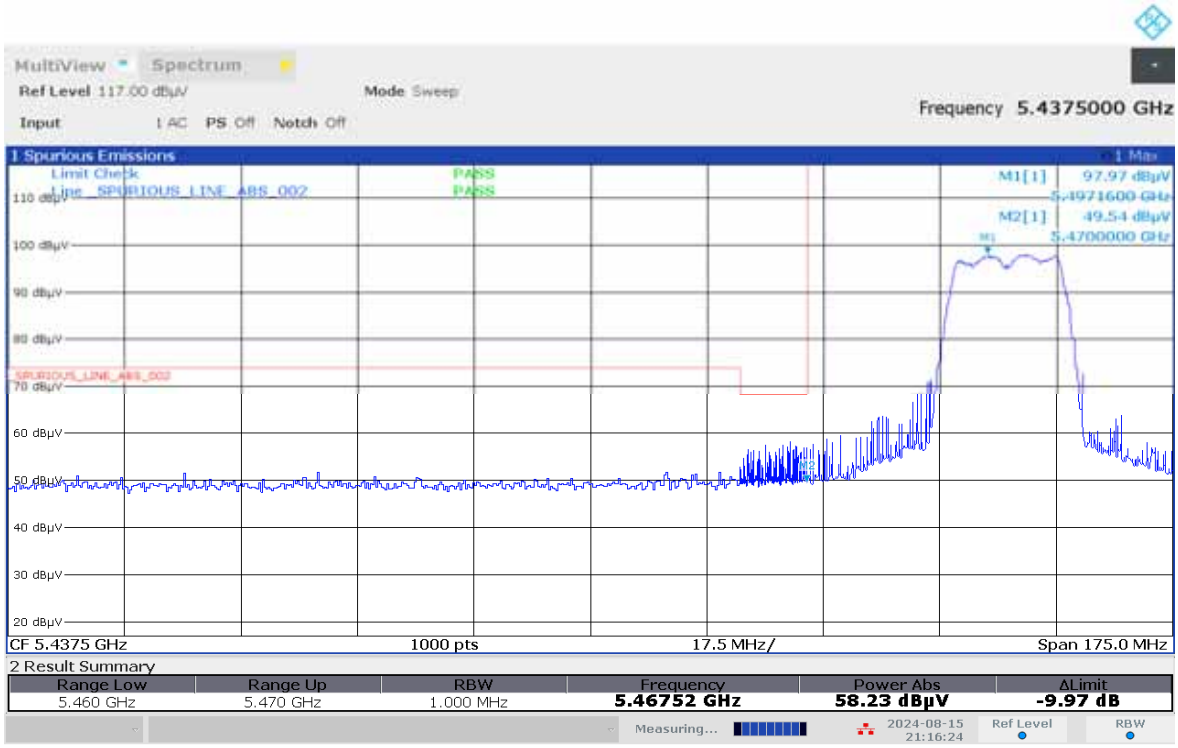
Restricted Band Edge (Low Channel) tabular data

Vertical Radiated Emission Result										
Spur Freq (MHz)	Spur level QPK (dBµV/m)	Spur level PK (dBµV/m)	Spur level AV (dBµV/m)	Limit QPK (dBµV/m)	Limit PK (dBµV/m)	Limit AV (dBµV/m)	Margin QPK (dBµV/m)	Margin PK (dBµV/m)	Margin AV (dBµV/m)	Carrier PK Power (dBµV/m)
5460.0000	-	-	39.5312	-	-	54.0000	-	-	14.4688	-
5470.0000	-	49.5382	-	-	68.2000	-	-	18.6618	-	-
Horizontal Radiated Emission Result										
5460.0000	-	-	41.7340	-	-	54.0000	-	-	12.2660	-
5465.2250	-	64.2856	-	-	68.2000	-	-	3.9144	-	-
5467.5250	-	63.9267	-	-	68.2000	-	-	4.2733	-	-
5468.3250	-	63.9855	-	-	68.2000	-	-	4.2145	-	-
5468.6750	-	64.0137	-	-	68.2000	-	-	4.1863	-	-
5469.1750	-	64.6274	-	-	68.2000	-	-	3.5726	-	-
5469.5750	-	-	43.5371	-	-	54.0000	-	-	10.4629	-
5469.6750	-	64.5520	-	-	68.2000	-	-	3.6480	-	-
5470.0000	-	52.8156	-	-	68.2000	-	-	15.3844	-	-

Remarks: Pass Result	Marginal Result	Fail Result

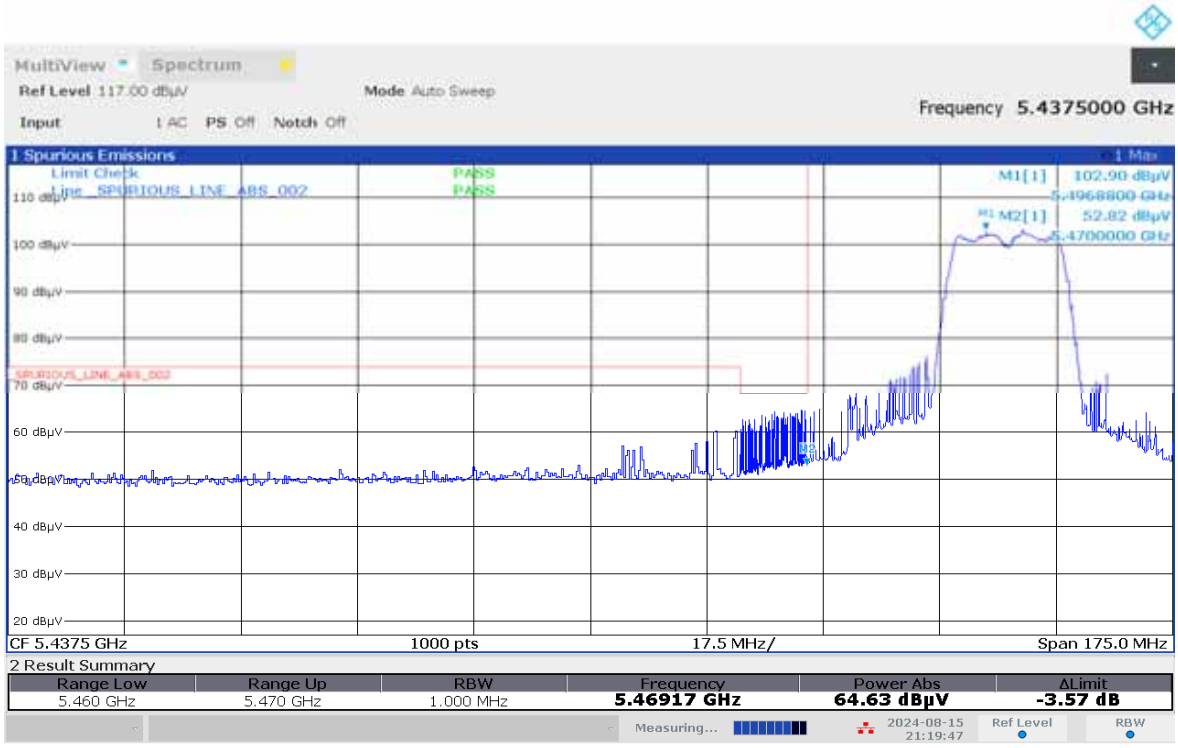
Temperature (degC): 23.6 **Humidity (%): 69.4**
Test Performed by: Nazrin&Rezza **Test Date: Fri, 16 Aug, 2024**
System MU: 5.84dB

Restricted Band Edge (Low Channel, Vertical, Peak) graphical screen shot



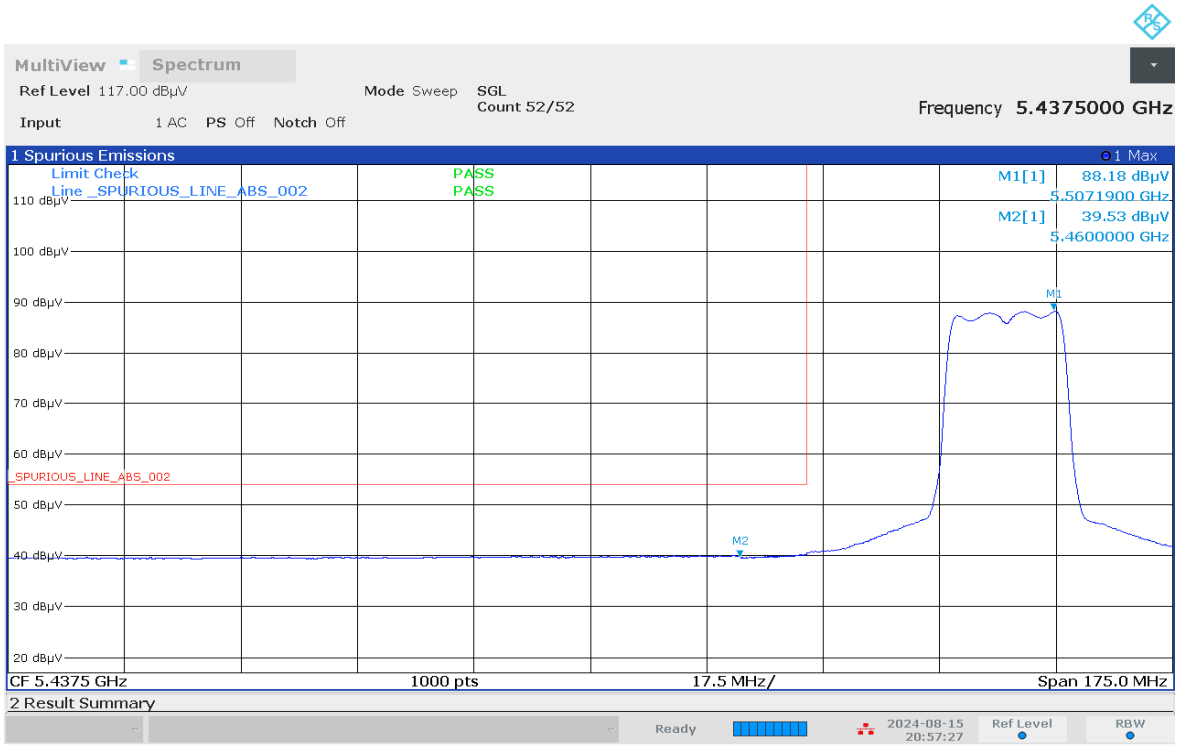
09:16:24 PM 08/15/2024

Restricted Band Edge (Low Channel, Horizontal, Peak) graphical screen shot



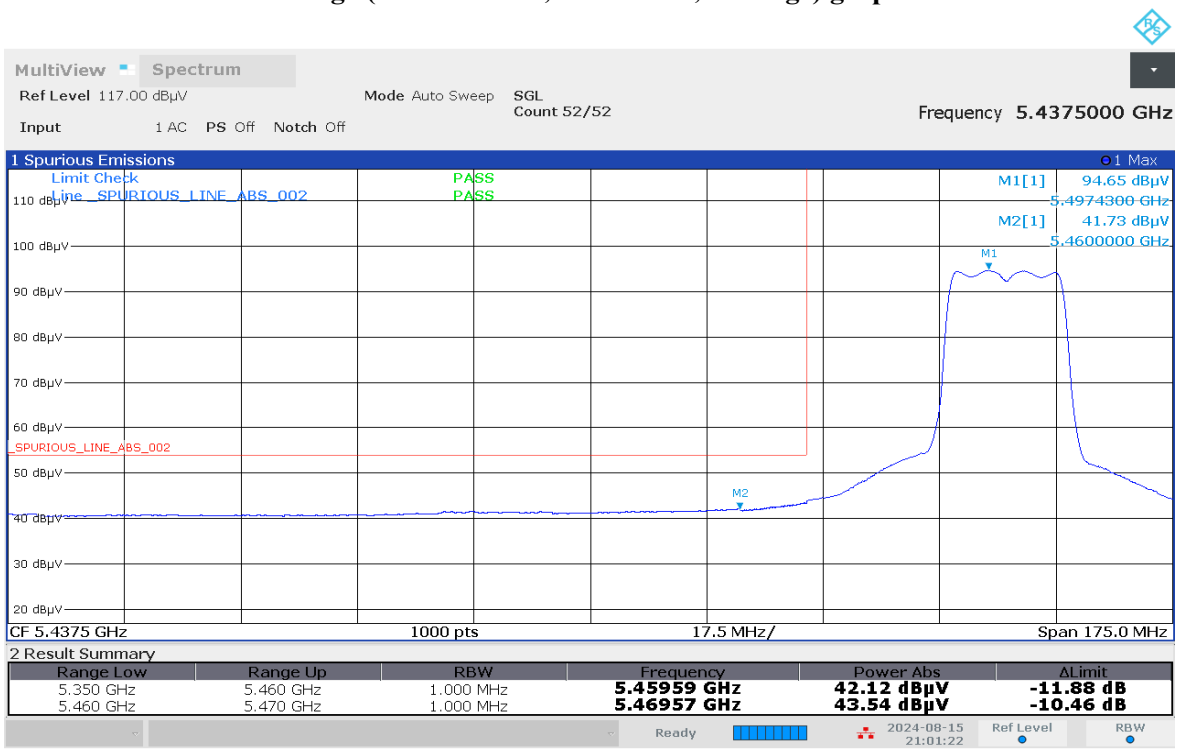
09:19:48 PM 08/15/2024

Restricted Band Edge (Low Channel, Vertical, Average) graphical screen shot



08:57:27 PM 08/15/2024

Restricted Band Edge (Low Channel, Horizontal, Average) graphical screen shot



09:01:23 PM 08/15/2024

Test: WIFI SAC Restricted Band Edge
Model Number: AAH07RDH9SA1AN S/N: 651EAP0011 EMC SR ID#: 0549N01-EMC-00048
Battery: PMNN4890A Softpot power (13dBm) Accessory: PMAE4079A
Test Channel: High Test Frequency: 5700.0000 MHz Test Standard: ANSI C63.10-2013
Worst Case Plane: Z-Plane (802.11a 20MHz)

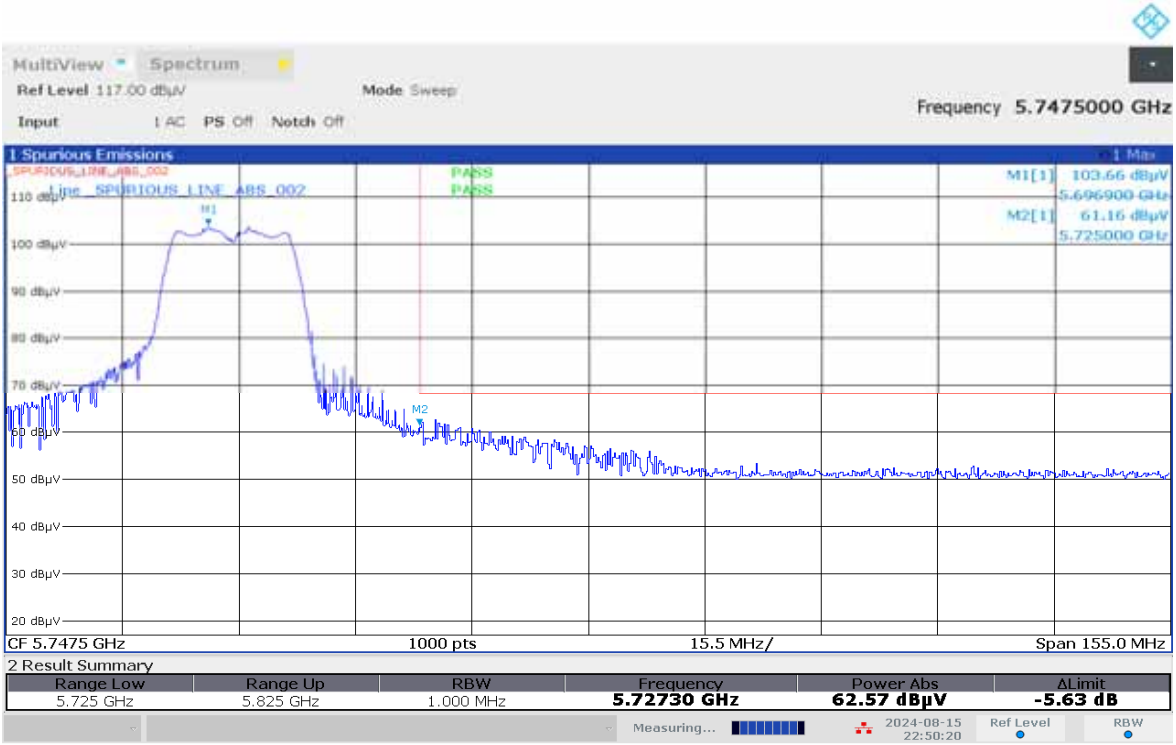
Restricted Band Edge (High Channel) tabular data

Vertical Radiated Emission Result										
Spur Freq (MHz)	Spur level QPK (dBµV/m)	Spur level PK (dBµV/m)	Spur level AV (dBµV/m)	Limit QPK (dBµV/m)	Limit PK (dBµV/m)	Limit AV (dBµV/m)	Margin QPK (dBµV/m)	Margin PK (dBµV/m)	Margin AV (dBµV/m)	Carrier PK Power (dBµV/m)
5725.0000	-	61.1637	-	-	68.2000	-	-	7.0363	-	-
5727.3000	-	62.5705	-	-	68.2000	-	-	5.6295	-	-
Horizontal Radiated Emission Result										
5725.0000	-	60.4031	-	-	68.2000	-	-	7.7969	-	-

Remarks: Pass Result	Marginal Result	Fail Result

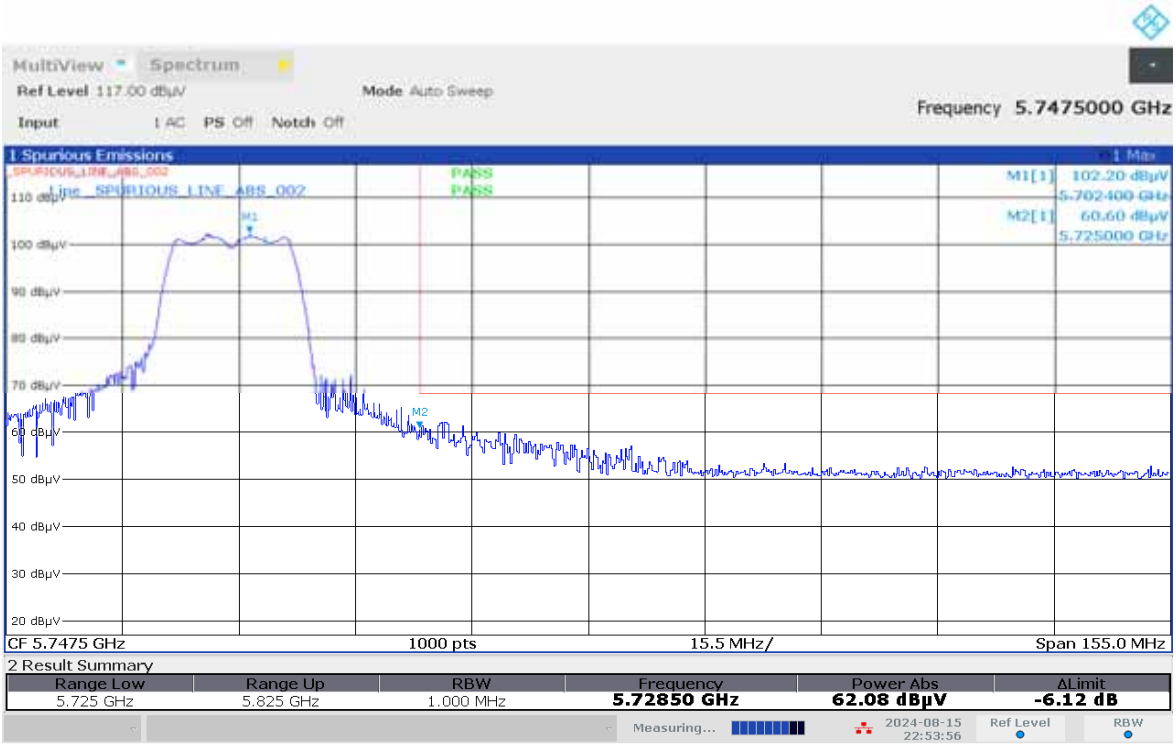
Temperature (degC): 23.6 **Humidity (%): 69.4**
Test Performed by: Nazrin&Rezza **Test Date: Fri, 16 Aug, 2024**
System MU: 5.84dB

Restricted Band Edge (High Channel, Vertical, Peak) graphical screen shot



10:50:21 PM 08/15/2024

Restricted Band Edge (High Channel, Horizontal, Peak) graphical screen shot



10:53:57 PM 08/15/2024

Test: WIFI SAC Restricted Band Edge
Model Number: AAH07RDH9SA1AN S/N: 651EAP0011 EMC SR ID#: 0549N01-EMC-00048
Battery: PMNN4890A Softpot power (15dBm) Accessory: PMAE4079A
Test Channel: Straddle Test Frequency: 5720.0000 MHz Test Standard: ANSI C63.10-2013
Worst Case Plane: Z-Plane (802.11a 20MHz)

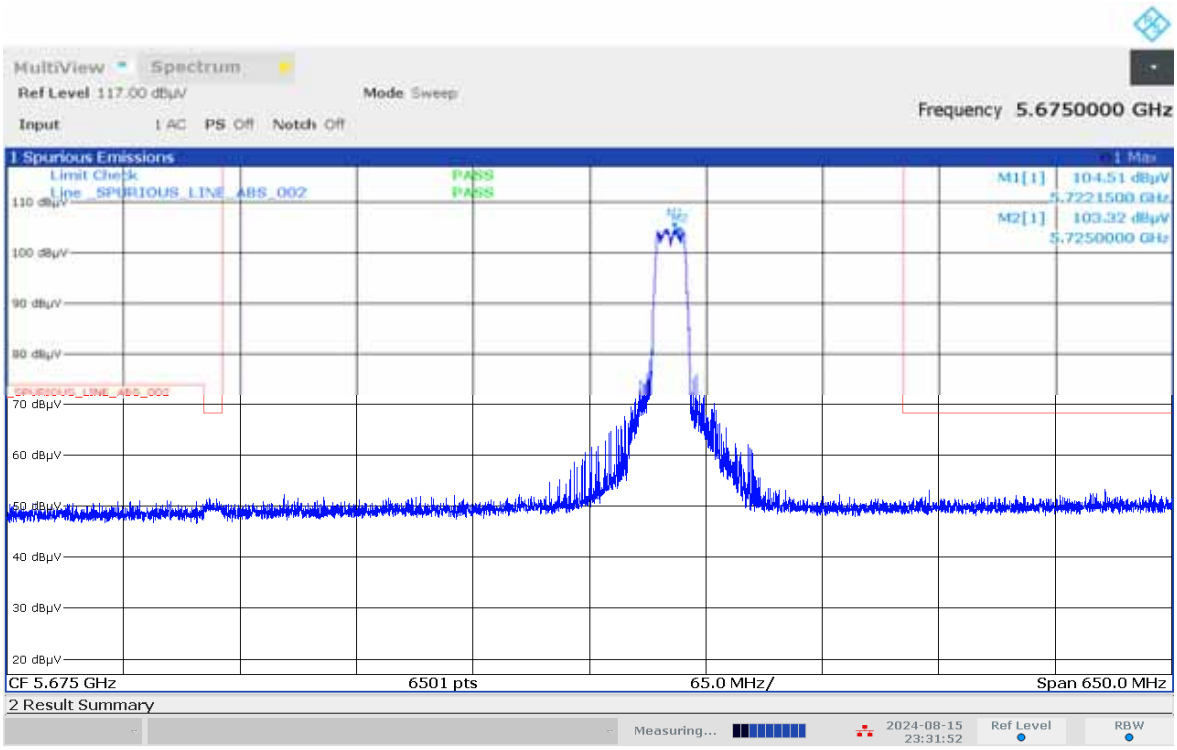
Restricted Band Edge (Straddle Channel) tabular data

Vertical Radiated Emission Result										
Spur Freq (MHz)	Spur level QPK (dBµV/m)	Spur level PK (dBµV/m)	Spur level AV (dBµV/m)	Limit QPK (dBµV/m)	Limit PK (dBµV/m)	Limit AV (dBµV/m)	Margin QPK (dBµV/m)	Margin PK (dBµV/m)	Margin AV (dBµV/m)	Carrier PK Power (dBµV/m)
Horizontal Radiated Emission Result										

Remarks: Pass Result	Marginal Result	Fail Result

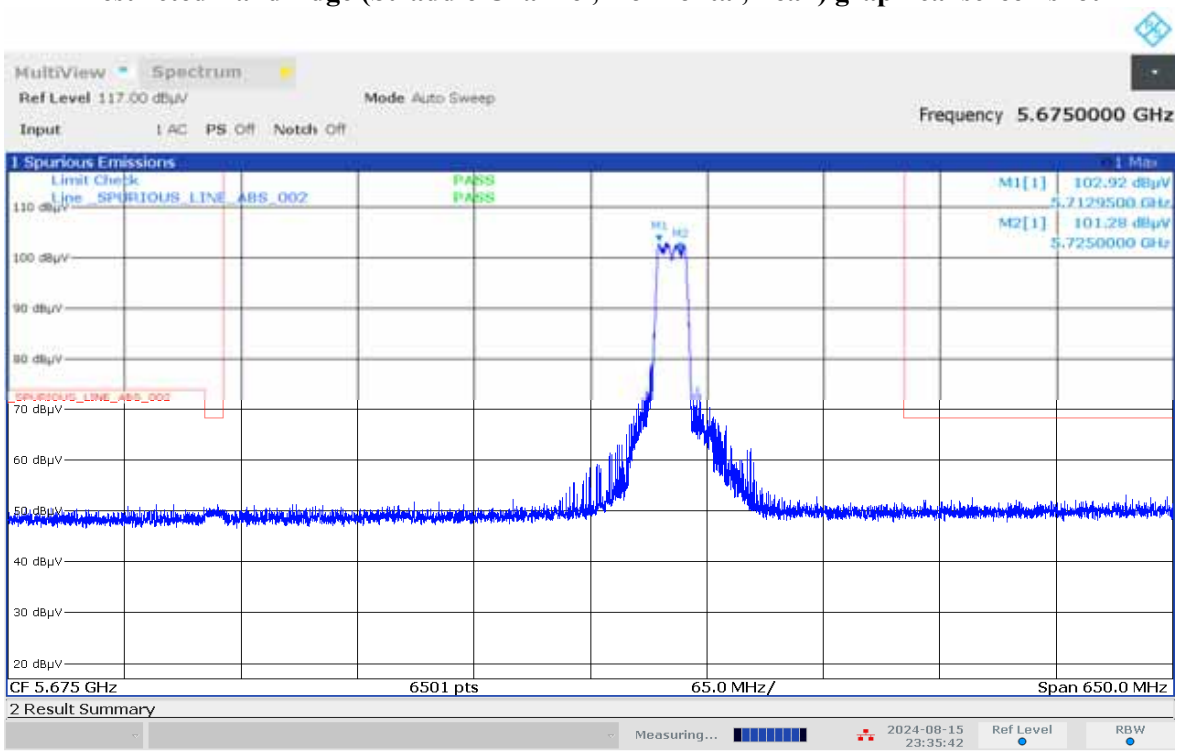
Temperature (degC): 23.6 **Humidity (%): 69.4**
Test Performed by: Nazrin&Rezza **Test Date: Fri, 16 Aug, 2024**
System MU: 5.84dB

Restricted Band Edge (Straddle Channel, Vertical, Peak) graphical screen shot



11:31:53 PM 08/15/2024

Restricted Band Edge (Straddle Channel, Horizontal, Peak) graphical screen shot



11:35:43 PM 08/15/2024

Test: WIFI SAC Restricted Band Edge
Model Number: AAH07RDH9SA1AN S/N: 651EAP0011 EMC SR ID#: 0549N01-EMC-00048
Battery: PMNN4890A Softpot power (14dBm) Accessory: PMAE4079A
Test Channel: Low Test Frequency: 5745.0000 MHz Test Standard: ANSI C63.10-2013
Worst Case Plane: Z-Plane (802.11a 20MHz)

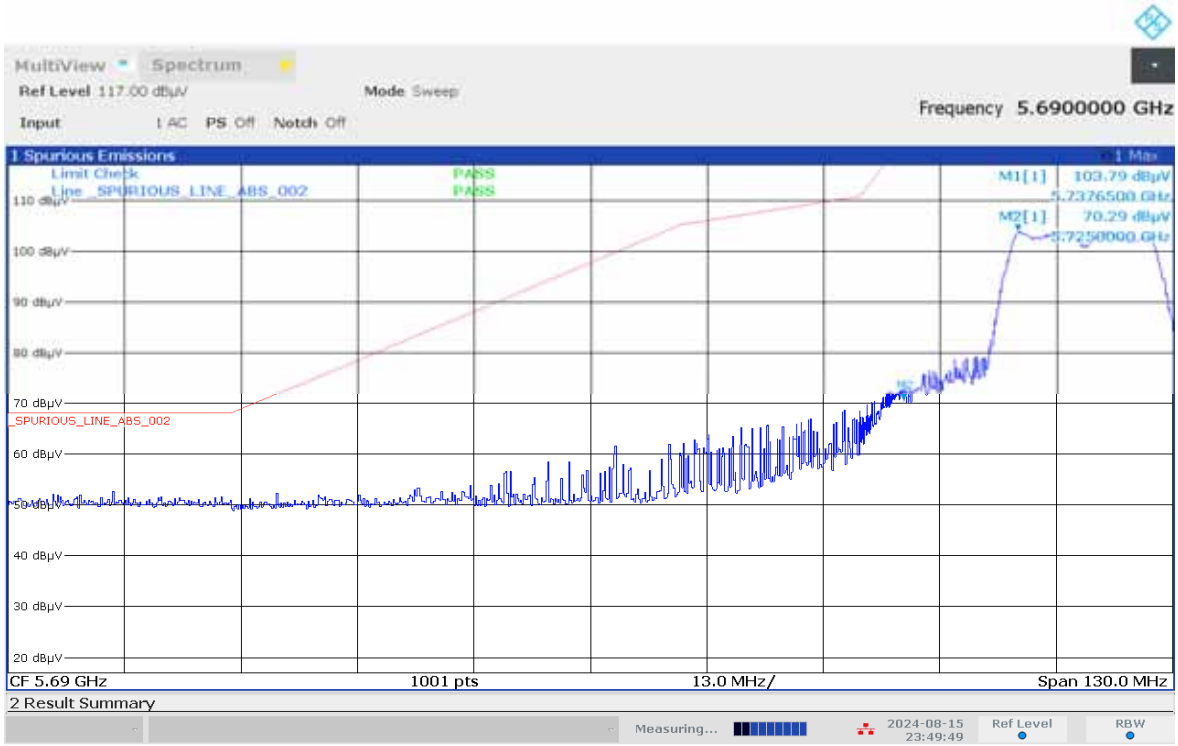
Restricted Band Edge (Low Channel) tabular data

Vertical Radiated Emission Result										
Spur Freq (MHz)	Spur level QPK (dBµV/m)	Spur level PK (dBµV/m)	Spur level AV (dBµV/m)	Limit QPK (dBµV/m)	Limit PK (dBµV/m)	Limit AV (dBµV/m)	Margin QPK (dBµV/m)	Margin PK (dBµV/m)	Margin AV (dBµV/m)	Carrier PK Power (dBµV/m)
5725.0000	-	70.2876	-	-	122.2000	-	-	51.9124	-	-
Horizontal Radiated Emission Result										
5725.0000	-	72.8981	-	-	122.2000	-	-	49.3019	-	-

Remarks: Pass Result	Marginal Result	Fail Result

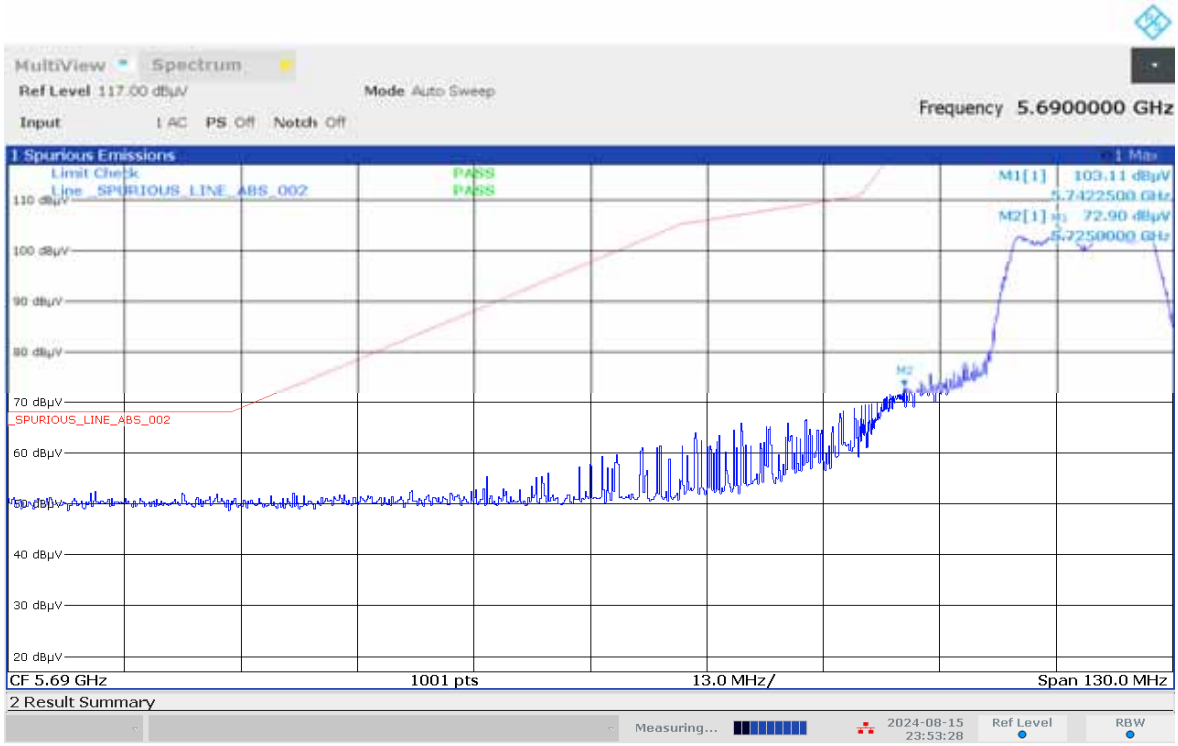
Temperature (degC): 23.6 **Humidity (%): 69.4**
Test Performed by: Nazrin&Rezza **Test Date: Fri, 16 Aug, 2024**
System MU: 5.84dB

Restricted Band Edge (Low Channel, Vertical, Peak) graphical screen shot



11:49:49 PM 08/15/2024

Restricted Band Edge (Low Channel, Horizontal, Peak) graphical screen shot



11:53:29 PM 08/15/2024

Test: WIFI SAC Restricted Band Edge
Model Number: AAH07RDH9SA1AN S/N: 651EAP0011 EMC SR ID#: 0549N01-EMC-00048
Battery: PMNN4890A Softpot power (14dBm) Accessory: PMAE4079A
Test Channel: High Test Frequency: 5825.0000 MHz Test Standard: ANSI C63.10-2013
Worst Case Plane: Z-Plane (802.11a 20MHz)

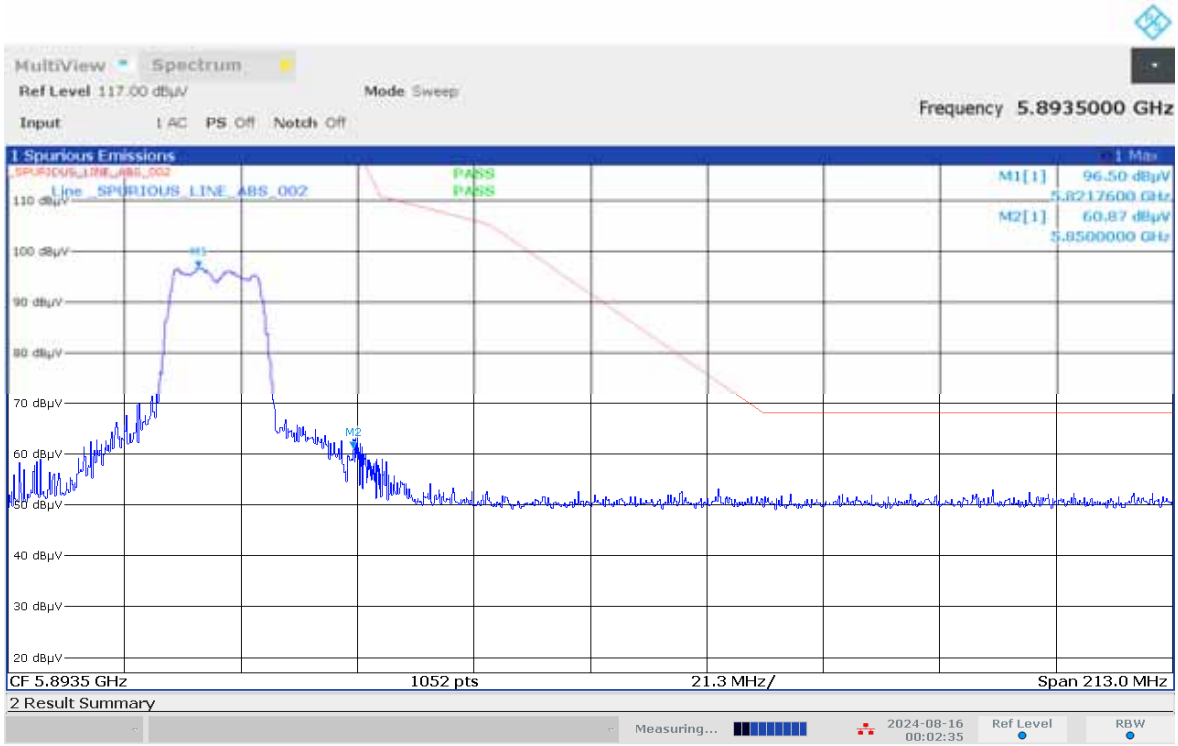
Restricted Band Edge (High Channel) tabular data

Vertical Radiated Emission Result										
Spur Freq (MHz)	Spur level QPK (dBµV/m)	Spur level PK (dBµV/m)	Spur level AV (dBµV/m)	Limit QPK (dBµV/m)	Limit PK (dBµV/m)	Limit AV (dBµV/m)	Margin QPK (dBµV/m)	Margin PK (dBµV/m)	Margin AV (dBµV/m)	Carrier PK Power (dBµV/m)
5850.0000	-	60.8676	-	-	122.2000	-	-	61.3324	-	-
Horizontal Radiated Emission Result										
5850.0000	-	65.8255	-	-	122.2000	-	-	56.3745	-	-

Remarks: Pass Result	Marginal Result	Fail Result

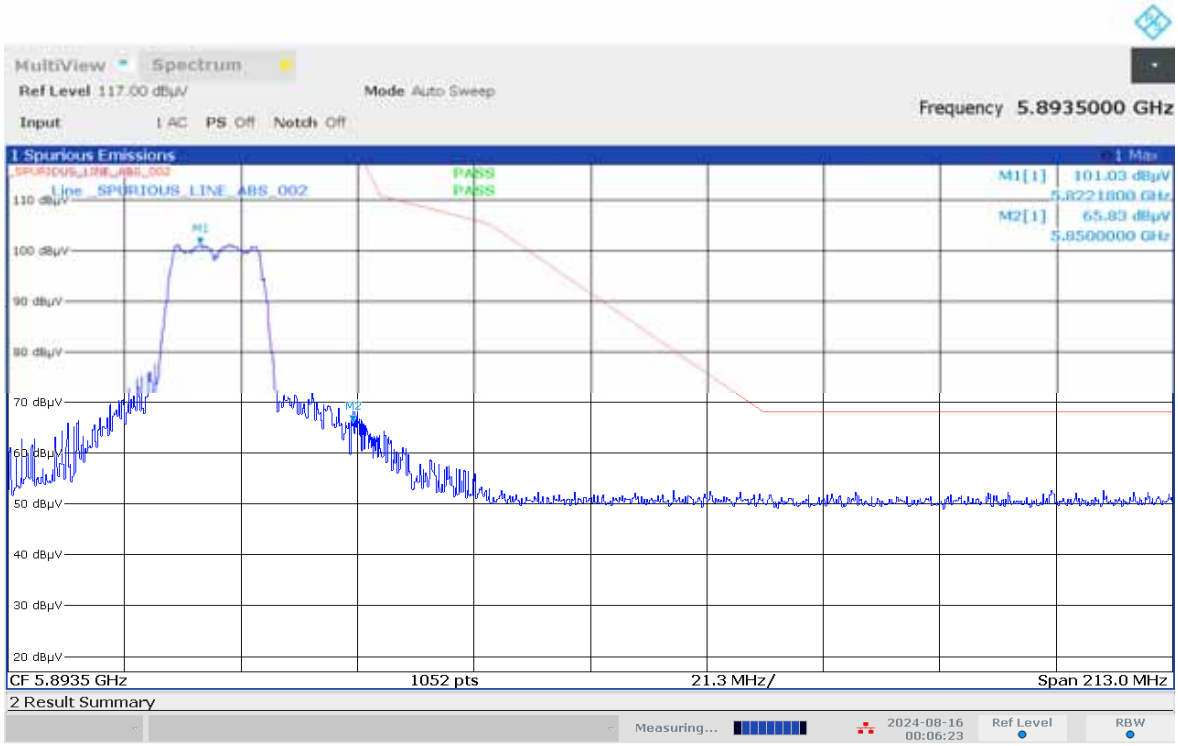
Temperature (degC): 23.6 **Humidity (%): 69.4**
Test Performed by: Nazrin&Rezza **Test Date: Fri, 16 Aug, 2024**
System MU: 5.84dB

Restricted Band Edge (High Channel, Vertical, Peak) graphical screen shot



12:02:36 AM 08/16/2024

Restricted Band Edge (High Channel, Horizontal, Peak) graphical screen shot



12:06:23 AM 08/16/2024

802.11n (HT20)

Test: WIFI SAC Restricted Band Edge
Model Number: AAH07RDH9SA1AN S/N: 651EAP0011 EMC SR ID#: 0549N01-EMC-00048
Battery: PMNN4890A Softpot power (14dBm) Accessory: PMAE4079A
Test Channel: Low Test Frequency: 5180.0000 MHz Test Standard: ANSI C63.10-2013
Worst Case Plane: Z-Plane (802.11n 20MHz)

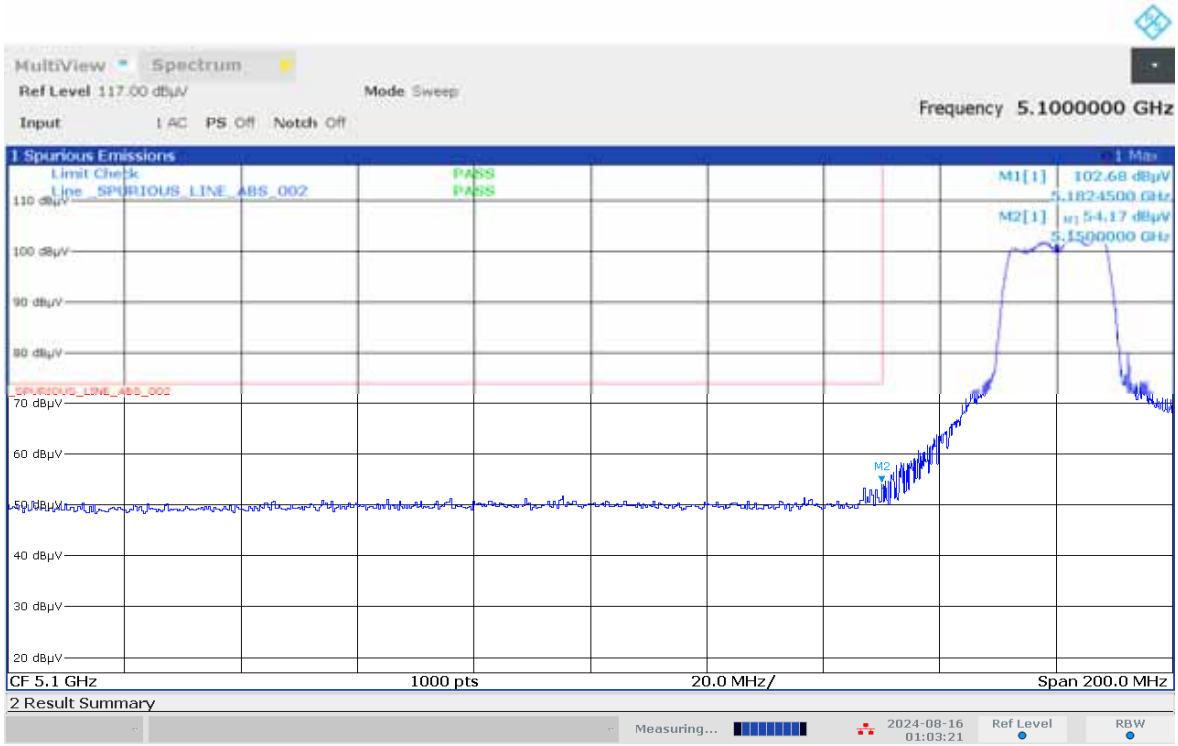
Restricted Band Edge (Low Channel) tabular data

Vertical Radiated Emission Result										
Spur Freq (MHz)	Spur level QPK (dBµV/m)	Spur level PK (dBµV/m)	Spur level AV (dBµV/m)	Limit QPK (dBµV/m)	Limit PK (dBµV/m)	Limit AV (dBµV/m)	Margin QPK (dBµV/m)	Margin PK (dBµV/m)	Margin AV (dBµV/m)	Carrier PK Power (dBµV/m)
5150.0000	-	54.1701	40.1664	-	74.0000	54.0000	-	19.8299	13.8336	-
Horizontal Radiated Emission Result										
5150.0000	-	57.8504	47.3810	-	74.0000	54.0000	-	16.1496	6.6190	-

Remarks: Pass Result	Marginal Result	Fail Result

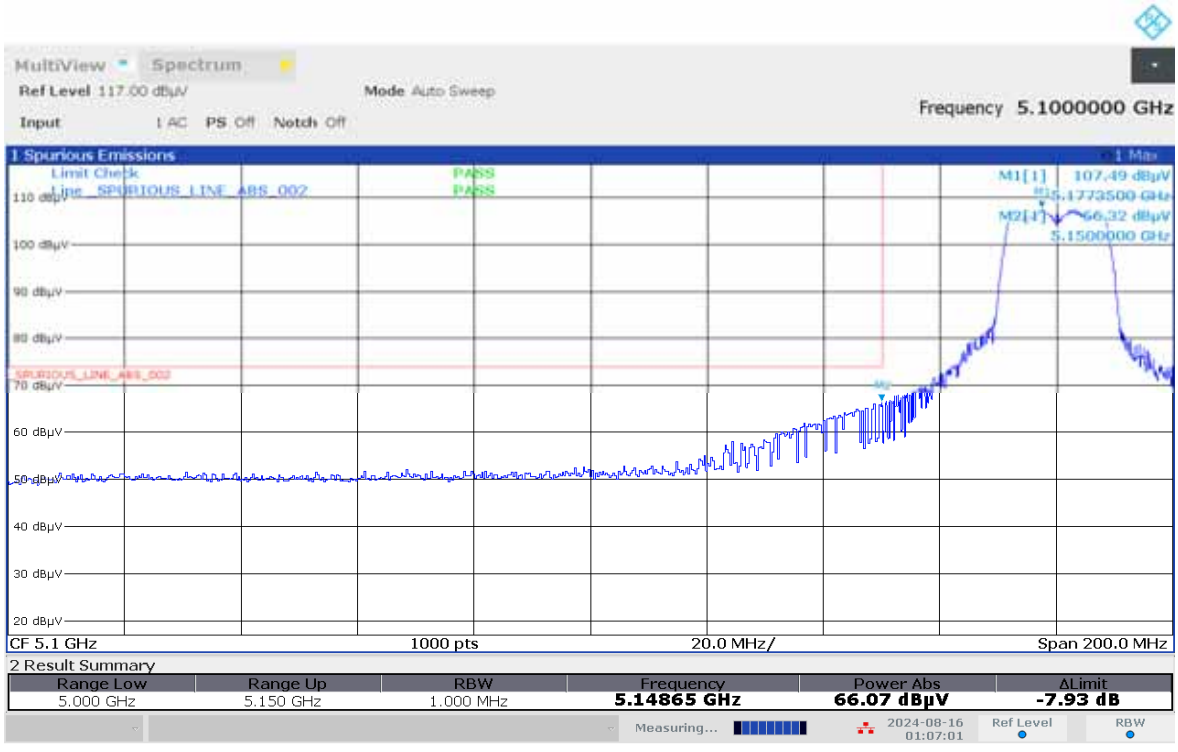
Temperature (degC): 23.6 **Humidity (%): 69.4**
Test Performed by: Nazrin&Rezza **Test Date: Fri, 16 Aug, 2024**
System MU: 5.84dB

Restricted Band Edge (Low Channel, Vertical, Peak) graphical screen shot



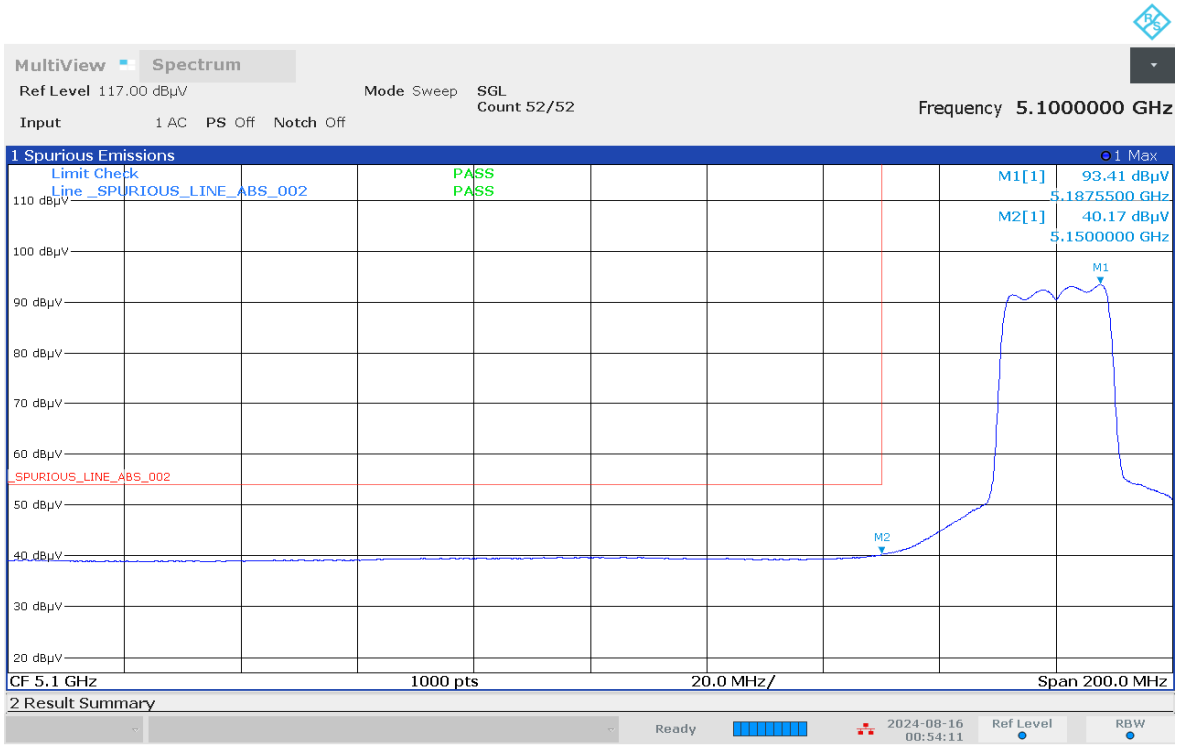
01:03:21 AM 08/16/2024

Restricted Band Edge (Low Channel, Horizontal, Peak) graphical screen shot



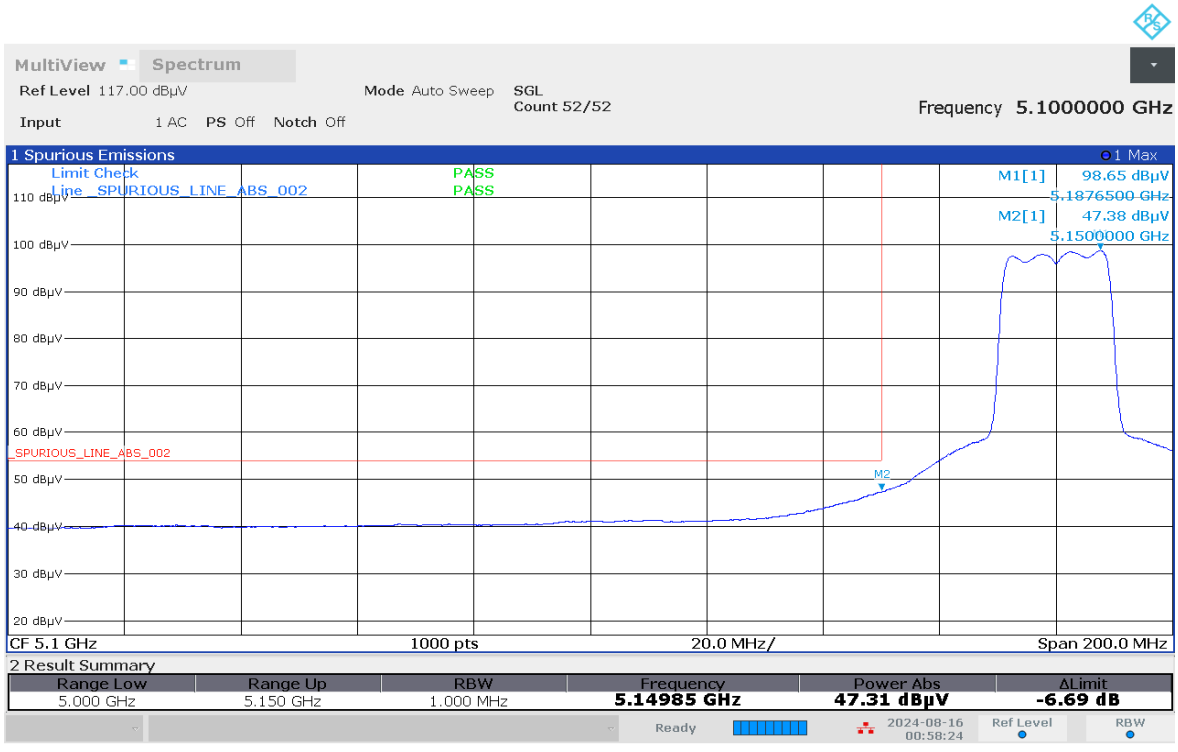
01:07:01 AM 08/16/2024

Restricted Band Edge (Low Channel, Vertical, Average) graphical screen shot



12:54:12 AM 08/16/2024

Restricted Band Edge (Low Channel, Horizontal, Average) graphical screen shot



12:58:24 AM 08/16/2024

Test: WIFI SAC Restricted Band Edge
Model Number: AAH07RDH9SA1AN S/N: 651EAP0011 EMC SR ID#: 0549N01-EMC-00048
Battery: PMNN4890A Softpot power (12dBm) Accessory: PMAE4079A
Test Channel: High Test Frequency: 5320.0000 MHz Test Standard: ANSI C63.10-2013
Worst Case Plane: Z-Plane (802.11n 20MHz)

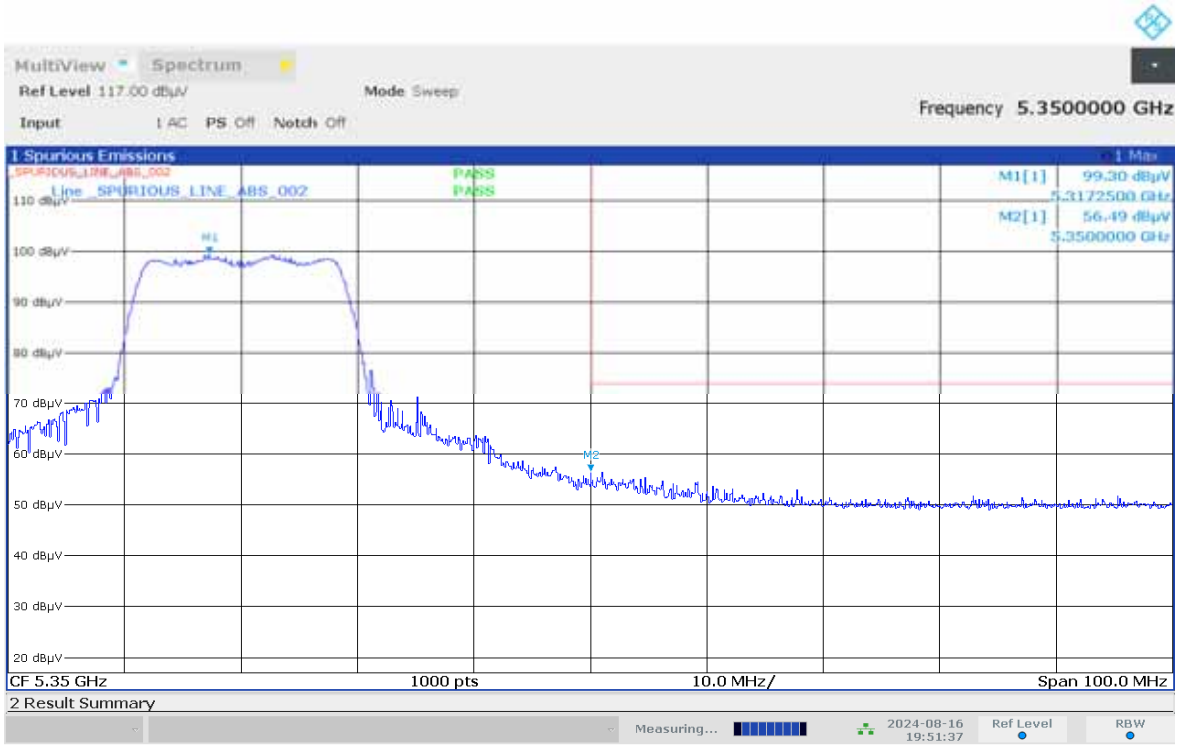
Restricted Band Edge (High Channel) tabular data

Vertical Radiated Emission Result										
Spur Freq (MHz)	Spur level QPK (dBµV/m)	Spur level PK (dBµV/m)	Spur level AV (dBµV/m)	Limit QPK (dBµV/m)	Limit PK (dBµV/m)	Limit AV (dBµV/m)	Margin QPK (dBµV/m)	Margin PK (dBµV/m)	Margin AV (dBµV/m)	Carrier PK Power (dBµV/m)
5350.0000	-	56.4851	41.9629	-	74.0000	54.0000	-	17.5149	12.0371	-
Horizontal Radiated Emission Result										
5350.0000	-	60.9058	47.6751	-	74.0000	54.0000	-	13.0942	6.3249	-

Remarks: Pass Result	Marginal Result	Fail Result

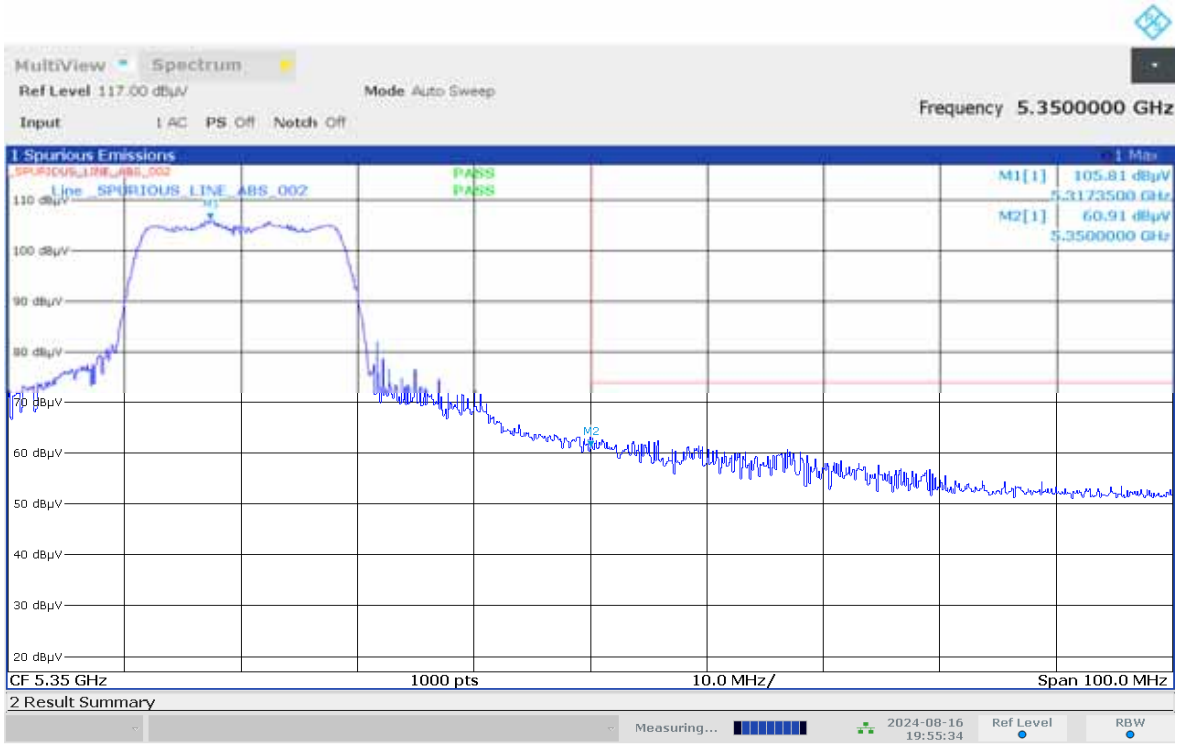
Temperature (degC): 23.5 **Humidity (%): 69.3**
Test Performed by: Nazrin & Rezza **Test Date: Fri, 16 Aug, 2024**
System MU: 5.84dB

Restricted Band Edge (High Channel, Vertical, Peak) graphical screen shot



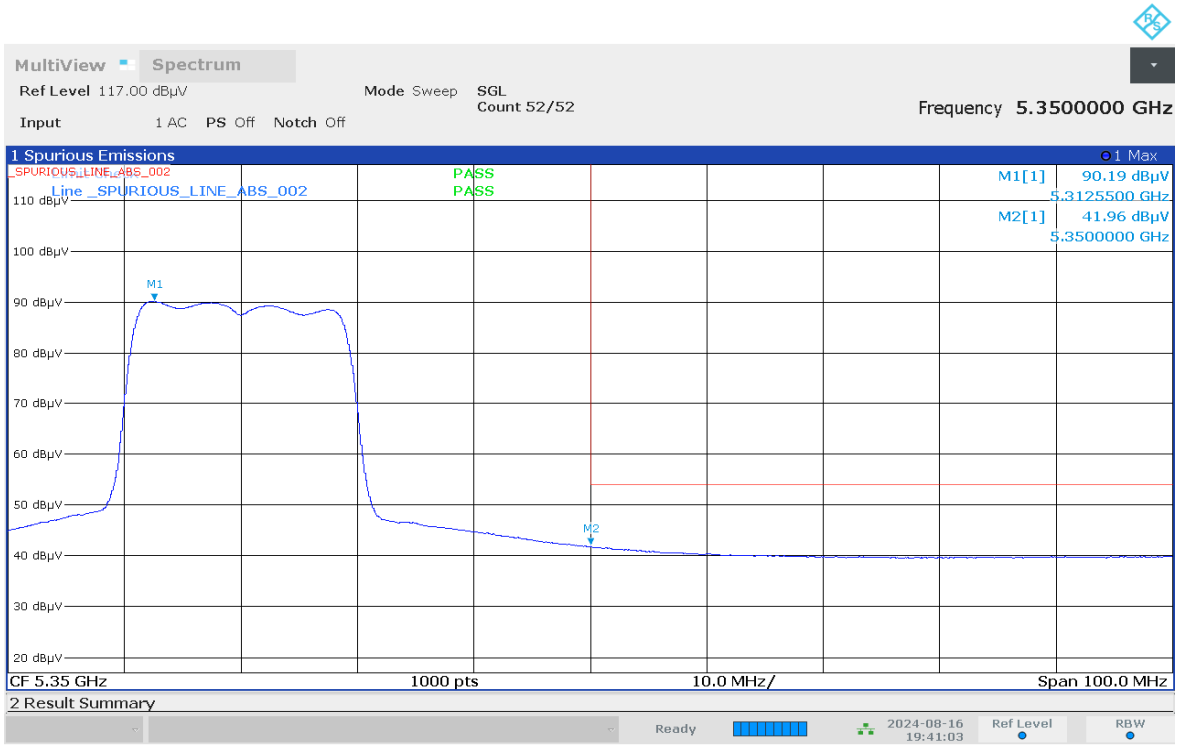
07:51:38 PM 08/16/2024

Restricted Band Edge (High Channel, Horizontal, Peak) graphical screen shot



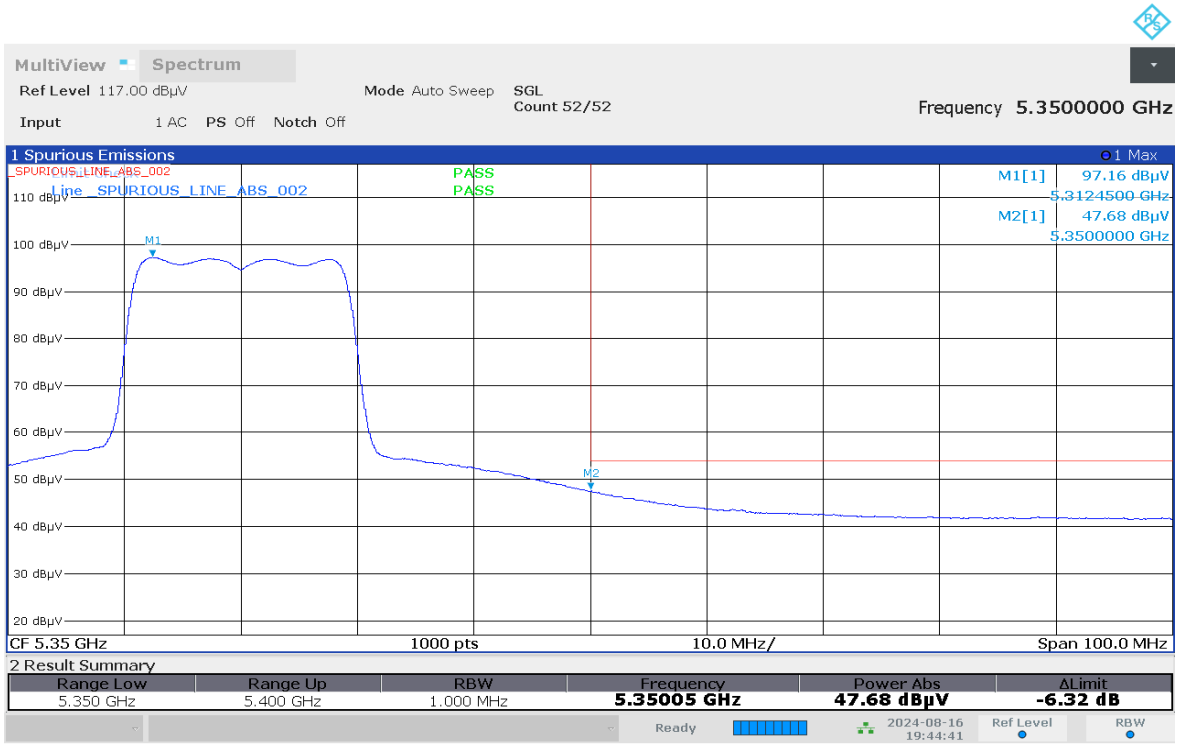
07:55:35 PM 08/16/2024

Restricted Band Edge (High Channel, Vertical, Average) graphical screen shot



07:41:03 PM 08/16/2024

Restricted Band Edge (High Channel, Horizontal, Average) graphical screen shot



07:44:42 PM 08/16/2024

Test: WIFI SAC Restricted Band Edge
Model Number: AAH07RDH9SA1AN S/N: 651EAP0011 EMC SR ID#: 0549N01-EMC-00048
Battery: PMNN4890A Softpot power (8dBm) Accessory: PMAE4079A
Test Channel: Low Test Frequency: 5500.0000 MHz Test Standard: ANSI C63.10-2013
Worst Case Plane: Z-Plane (802.11n 20MHz)

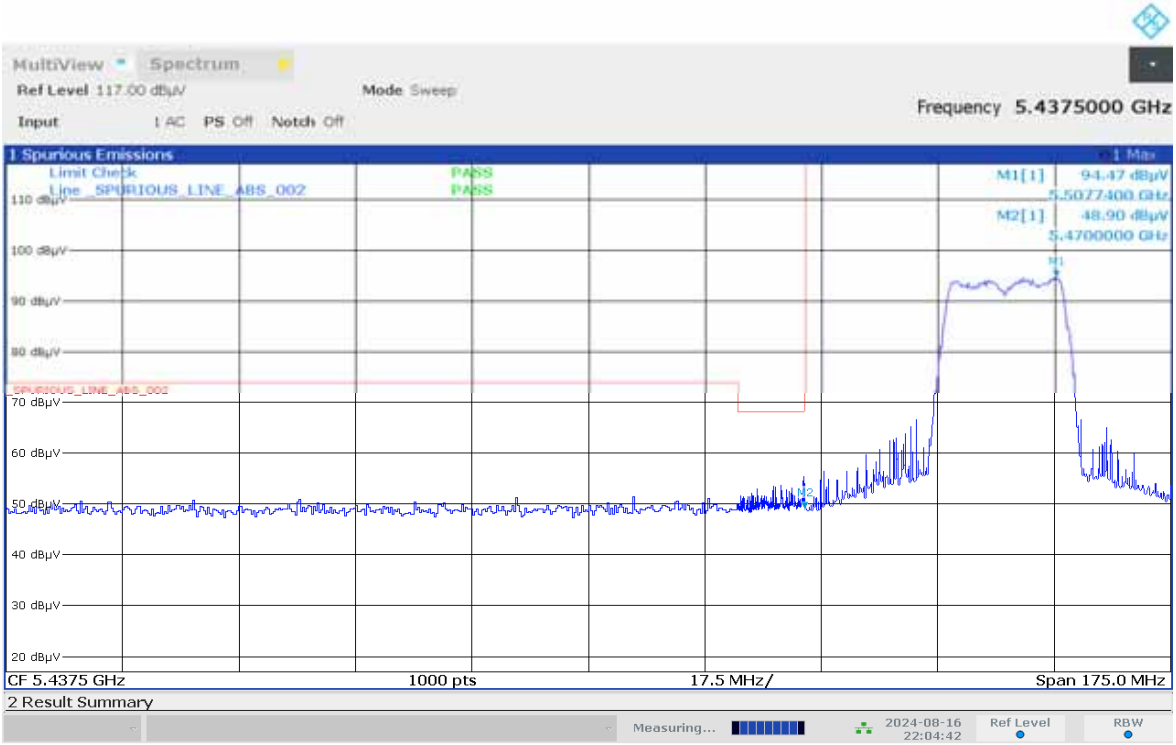
Restricted Band Edge (Low Channel) tabular data

Vertical Radiated Emission Result										
Spur Freq (MHz)	Spur level QPK (dBµV/m)	Spur level PK (dBµV/m)	Spur level AV (dBµV/m)	Limit QPK (dBµV/m)	Limit PK (dBµV/m)	Limit AV (dBµV/m)	Margin QPK (dBµV/m)	Margin PK (dBµV/m)	Margin AV (dBµV/m)	Carrier PK Power (dBµV/m)
5460.0000	-	-	39.4402	-	-	54.0000	-	-	14.5598	-
5470.0000	-	48.9006	-	-	68.2000	-	-	19.2994	-	-
Horizontal Radiated Emission Result										
5460.0000	-	-	41.5220	-	-	54.0000	-	-	12.4780	-
5467.5250	-	63.7766	-	-	68.2000	-	-	4.4234	-	-
5468.3750	-	63.8304	-	-	68.2000	-	-	4.3696	-	-
5468.5750	-	62.7864	-	-	68.2000	-	-	5.4136	-	-
5470.0000	-	60.3753	-	-	68.2000	-	-	7.8247	-	-

Remarks: Pass Result	Marginal Result	Fail Result

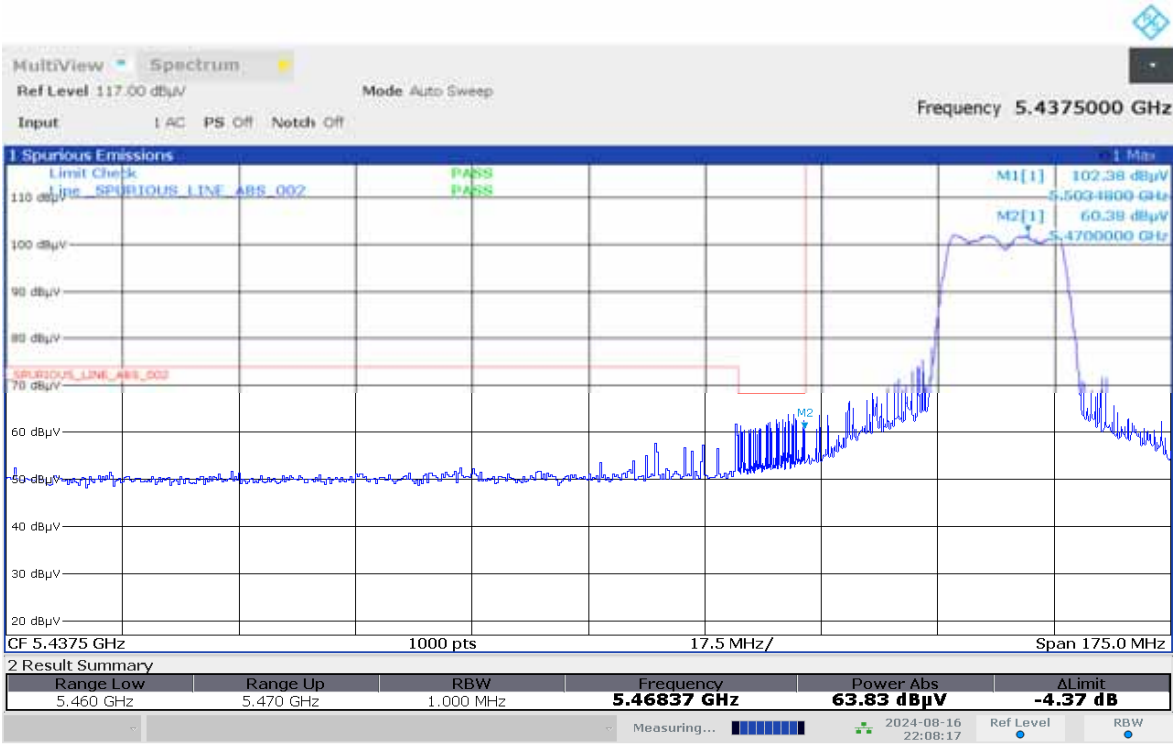
Temperature (degC): 23.5 **Humidity (%): 69.3**
Test Performed by: Nazrin & Rezza **Test Date: Sat, 17 Aug, 2024**
System MU: 5.84dB

Restricted Band Edge (Low Channel, Vertical, Peak) graphical screen shot



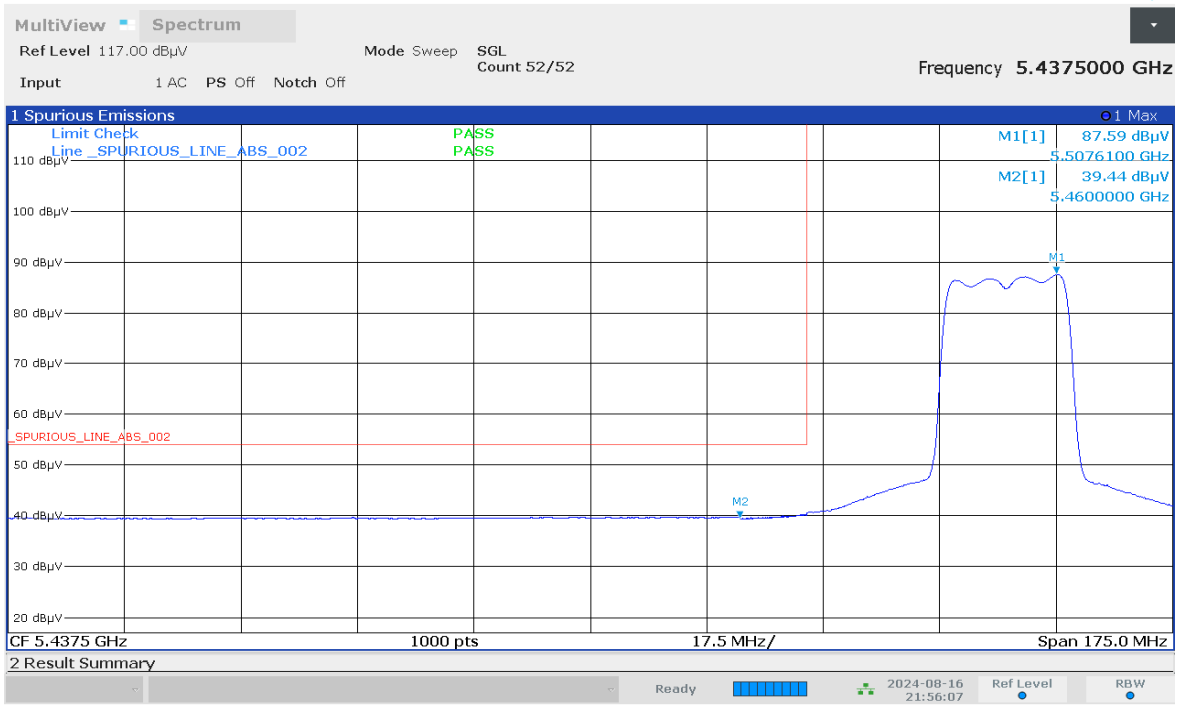
10:04:42 PM 08/16/2024

Restricted Band Edge (Low Channel, Horizontal, Peak) graphical screen shot



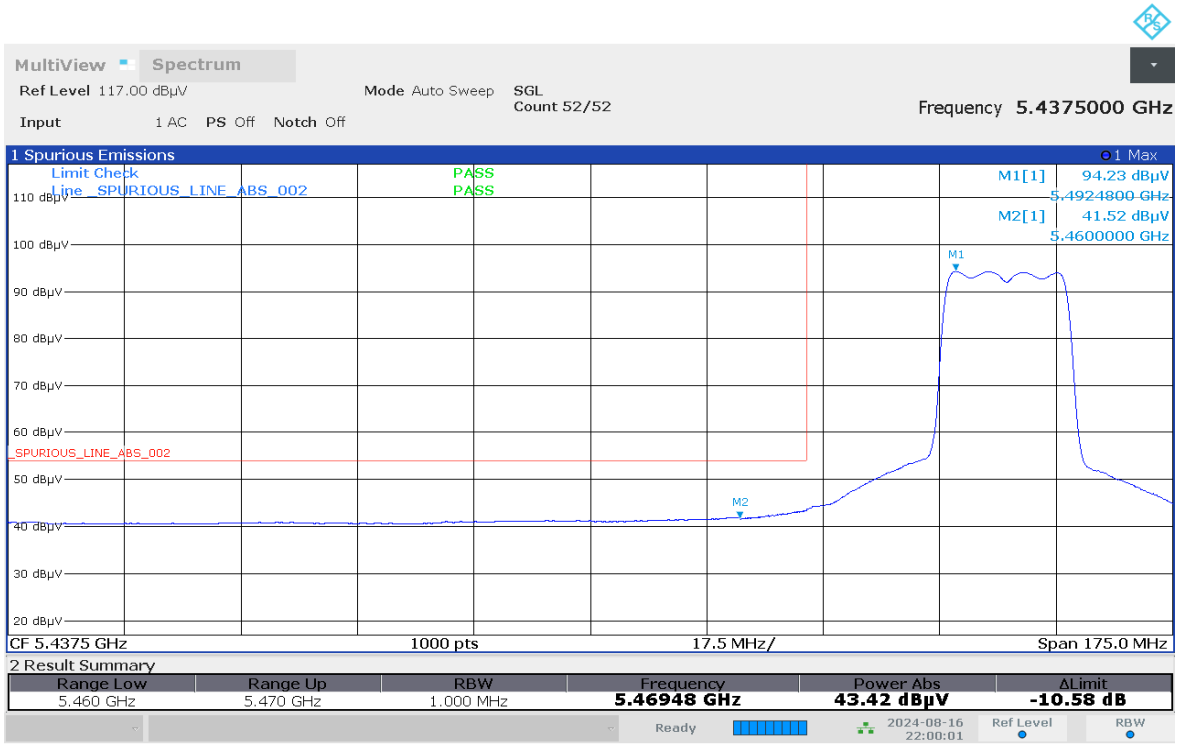
10:08:17 PM 08/16/2024

Restricted Band Edge (Low Channel, Vertical, Average) graphical screen shot



09:56:08 PM 08/16/2024

Restricted Band Edge (Low Channel, Horizontal, Average) graphical screen shot



10:00:01 PM 08/16/2024

Test: WIFI SAC Restricted Band Edge
Model Number: AAH07RDH9SA1AN S/N: 651EAP0011 EMC SR ID#: 0549N01-EMC-00048
Battery: PMNN4890A Softpot power (13dBm) Accessory: PMAE4079A
Test Channel: High Test Frequency: 5700.0000 MHz Test Standard: ANSI C63.10-2013
Worst Case Plane: Z-Plane (802.11n 20MHz)

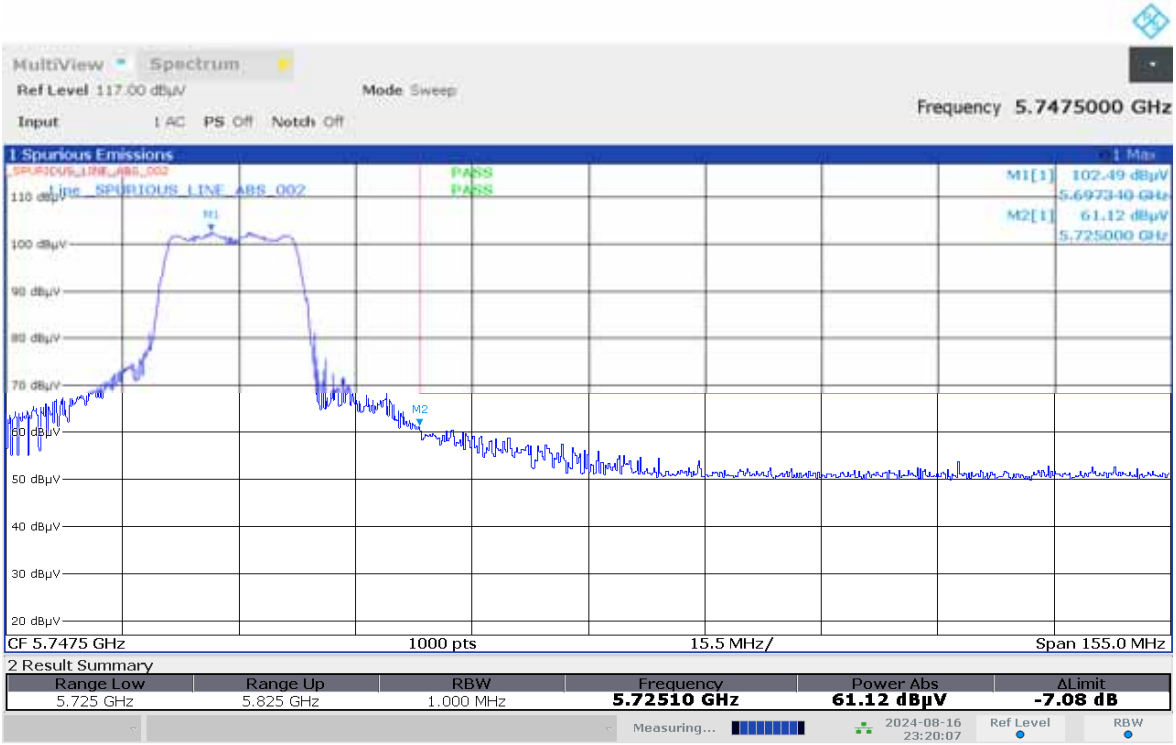
Restricted Band Edge (High Channel) tabular data

Vertical Radiated Emission Result										
Spur Freq (MHz)	Spur level QPK (dBµV/m)	Spur level PK (dBµV/m)	Spur level AV (dBµV/m)	Limit QPK (dBµV/m)	Limit PK (dBµV/m)	Limit AV (dBµV/m)	Margin QPK (dBµV/m)	Margin PK (dBµV/m)	Margin AV (dBµV/m)	Carrier PK Power (dBµV/m)
5725.0000	-	59.0582	-	-	68.2000	-	-	9.1418	-	-
5725.1000	-	61.1169	-	-	68.2000	-	-	7.0831	-	-
Horizontal Radiated Emission Result										
5725.0000	-	59.3583	-	-	68.2000	-	-	8.8417	-	-
5726.1000	-	60.8544	-	-	68.2000	-	-	7.3456	-	-

Remarks: Pass Result	Marginal Result	Fail Result

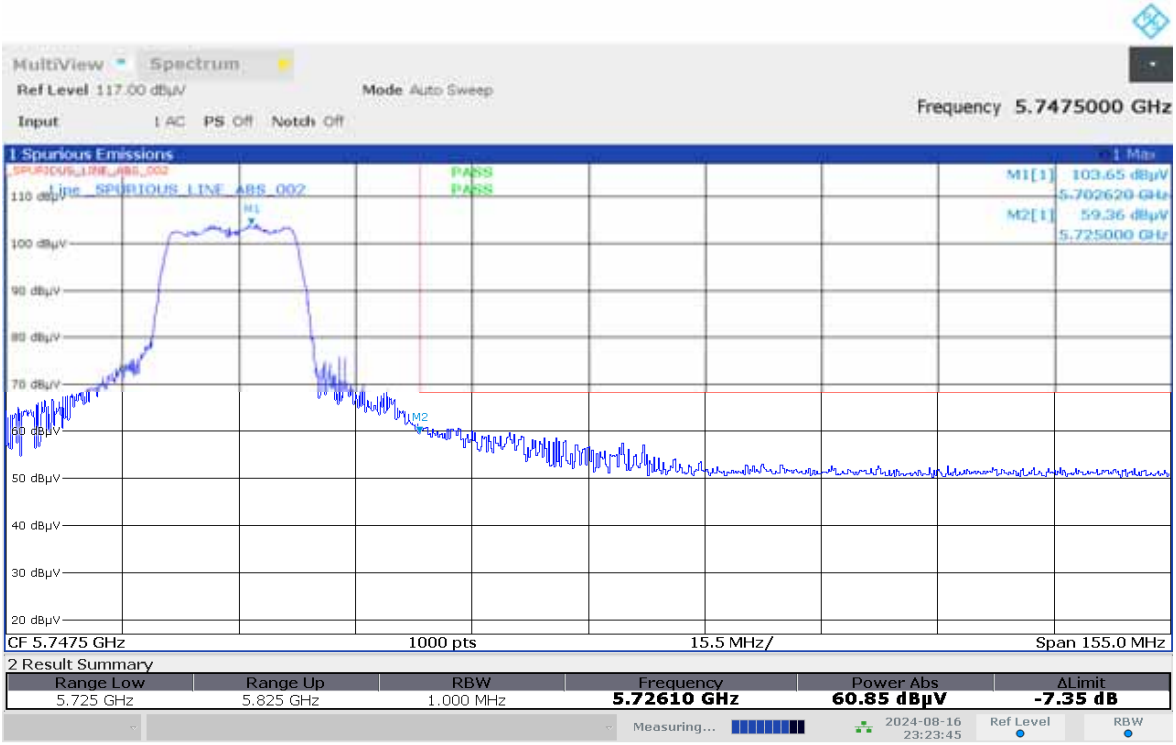
Temperature (degC): 23.5 **Humidity (%): 69.3**
Test Performed by: Nazrin & Rezza **Test Date: Sat, 17 Aug, 2024**
System MU: 5.84dB

Restricted Band Edge (High Channel, Vertical, Peak) graphical screen shot



11:20:07 PM 08/16/2024

Restricted Band Edge (High Channel, Horizontal, Peak) graphical screen shot



11:23:45 PM 08/16/2024

Test: WIFI SAC Restricted Band Edge
Model Number: AAH07RDH9SA1AN S/N: 651EAP0011 EMC SR ID#: 0549N01-EMC-00048
Battery: PMNN4890A Softpot power (15dBm) Accessory: PMAE4079A
Test Channel: Straddle Test Frequency: 5720.0000 MHz Test Standard: ANSI C63.10-2013
Worst Case Plane: Z-Plane (802.11n 20MHz)

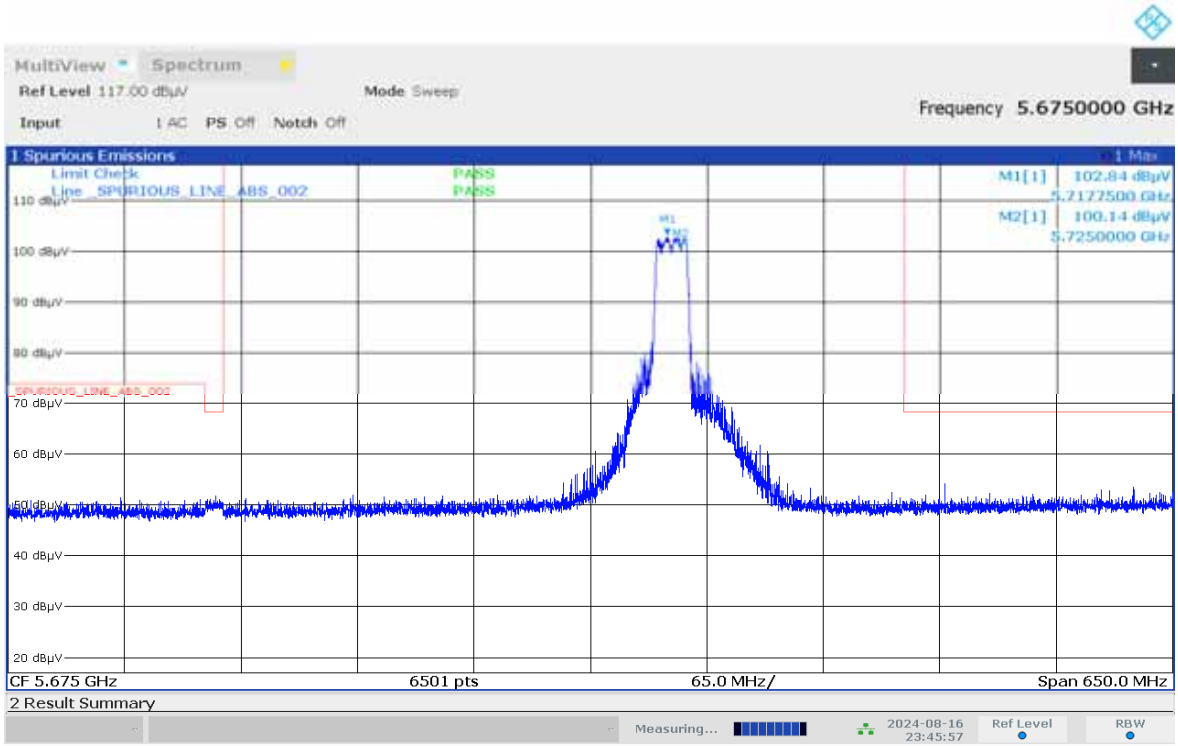
Restricted Band Edge (Straddle Channel) tabular data

Vertical Radiated Emission Result										
Spur Freq (MHz)	Spur level QPK (dBµV/m)	Spur level PK (dBµV/m)	Spur level AV (dBµV/m)	Limit QPK (dBµV/m)	Limit PK (dBµV/m)	Limit AV (dBµV/m)	Margin QPK (dBµV/m)	Margin PK (dBµV/m)	Margin AV (dBµV/m)	Carrier PK Power (dBµV/m)
Horizontal Radiated Emission Result										

Remarks: Pass Result	Marginal Result	Fail Result

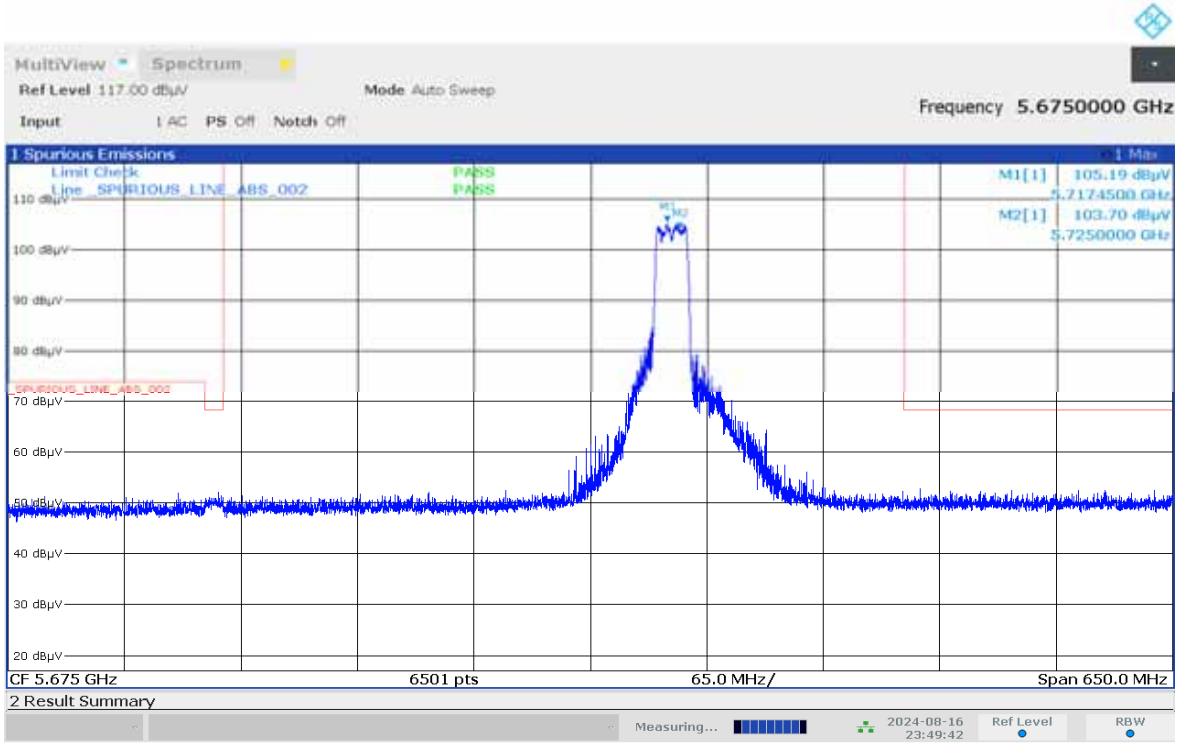
Temperature (degC): 23.5 **Humidity (%): 69.3**
Test Performed by: Nazrin & Rezza **Test Date: Sat, 17 Aug, 2024**
System MU: 5.84dB

Restricted Band Edge (Straddle Channel, Vertical, Peak) graphical screen shot



11:45:58 PM 08/16/2024

Restricted Band Edge (Straddle Channel, Horizontal, Peak) graphical screen shot



11:49:43 PM 08/16/2024

Test: WIFI SAC Restricted Band Edge
Model Number: AAH07RDH9SA1AN S/N: 651EAP0011 EMC SR ID#: 0549N01-EMC-00048
Battery: PMNN4890A Softpot power (14dBm) Accessory: PMAE4079A
Test Channel: Low Test Frequency: 5745.0000 MHz Test Standard: ANSI C63.10-2013
Worst Case Plane: Z-Plane (802.11n 20MHz)

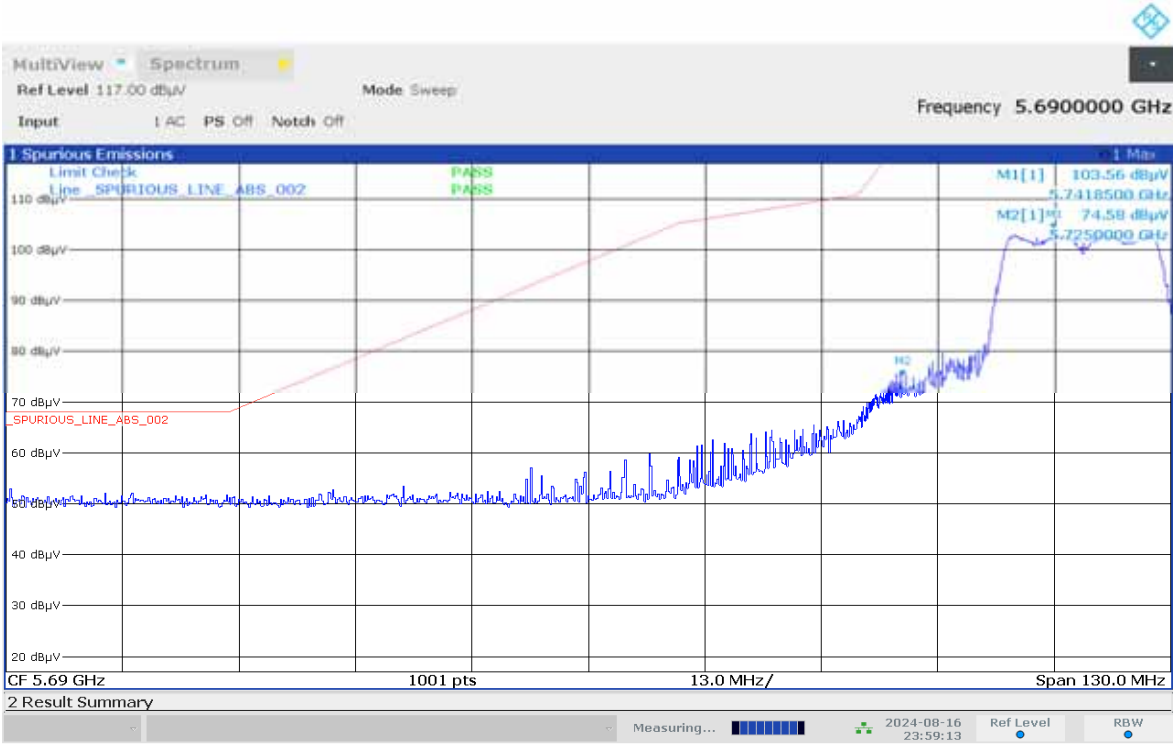
Restricted Band Edge (Low Channel) tabular data

Vertical Radiated Emission Result										
Spur Freq (MHz)	Spur level QPK (dBµV/m)	Spur level PK (dBµV/m)	Spur level AV (dBµV/m)	Limit QPK (dBµV/m)	Limit PK (dBµV/m)	Limit AV (dBµV/m)	Margin QPK (dBµV/m)	Margin PK (dBµV/m)	Margin AV (dBµV/m)	Carrier PK Power (dBµV/m)
5725.0000	-	72.5825	-	-	122.2000	-	-	49.6175	-	-
Horizontal Radiated Emission Result										
5725.0000	-	72.7489	-	-	122.2000	-	-	49.4511	-	-

Remarks: Pass Result	Marginal Result	Fail Result

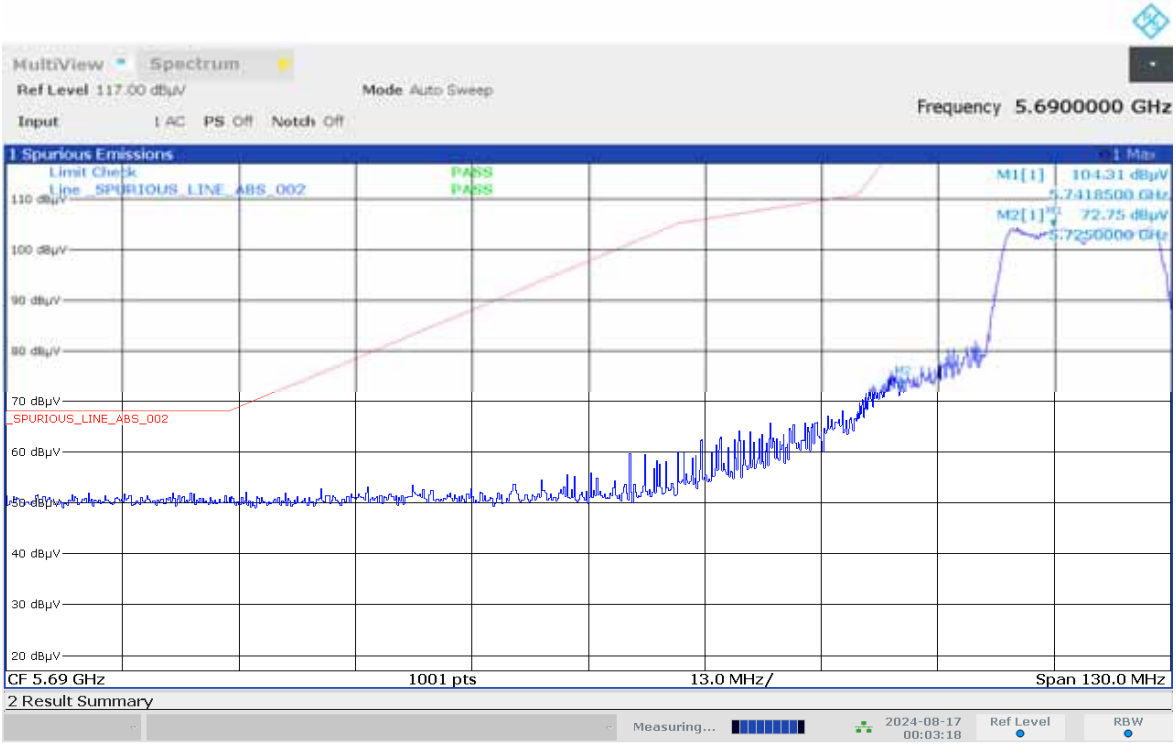
Temperature (degC): 23.5 **Humidity (%): 69.3**
Test Performed by: Nazrin & Rezza **Test Date: Sat, 17 Aug, 2024**
System MU: 5.84dB

Restricted Band Edge (Low Channel, Vertical, Peak) graphical screen shot



11:59:14 PM 08/16/2024

Restricted Band Edge (Low Channel, Horizontal, Peak) graphical screen shot



12:03:18 AM 08/17/2024

Test: WIFI SAC Restricted Band Edge
Model Number: AAH07RDH9SA1AN S/N: 651EAP0011 EMC SR ID#: 0549N01-EMC-00048
Battery: PMNN4890A Softpot power (14dBm) Accessory: PMAE4079A
Test Channel: High Test Frequency: 5825.0000 MHz Test Standard: ANSI C63.10-2013
Worst Case Plane: Z-Plane (802.11n 20MHz)

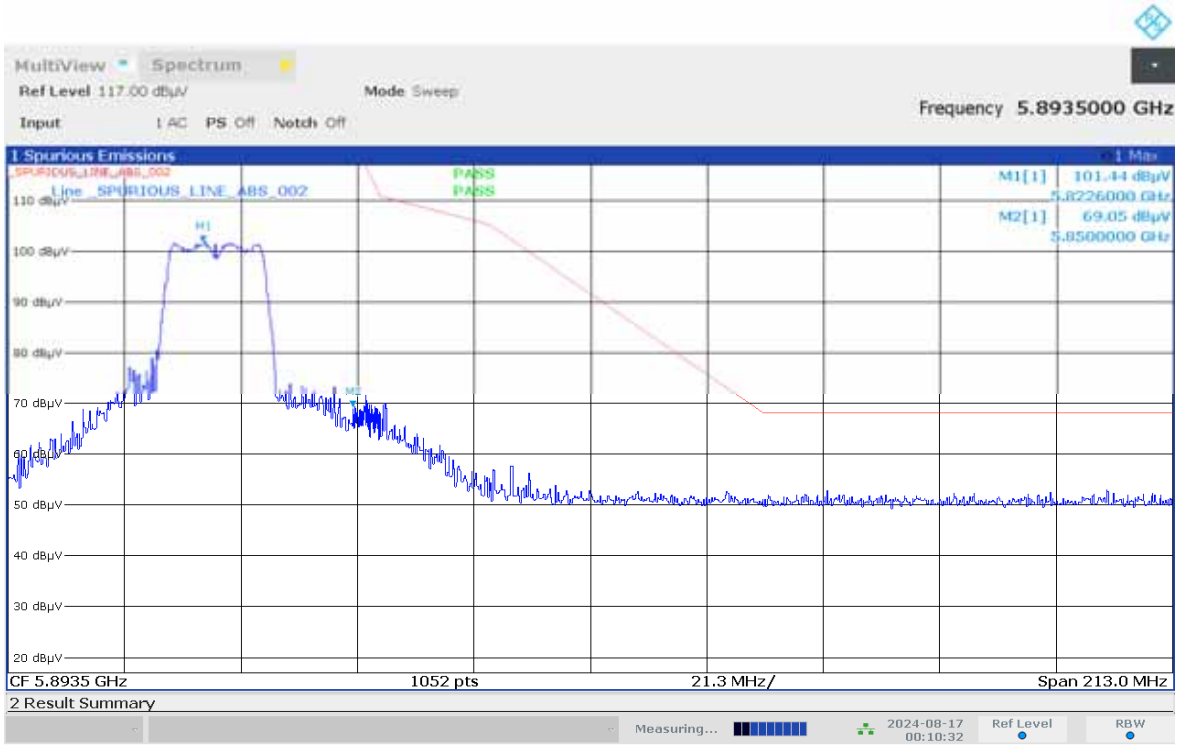
Restricted Band Edge (High Channel) tabular data

Vertical Radiated Emission Result										
Spur Freq (MHz)	Spur level QPK (dBµV/m)	Spur level PK (dBµV/m)	Spur level AV (dBµV/m)	Limit QPK (dBµV/m)	Limit PK (dBµV/m)	Limit AV (dBµV/m)	Margin QPK (dBµV/m)	Margin PK (dBµV/m)	Margin AV (dBµV/m)	Carrier PK Power (dBµV/m)
5850.0000	-	69.0548	-	-	122.2000	-	-	53.1452	-	-
Horizontal Radiated Emission Result										
5850.0000	-	69.4447	-	-	122.2000	-	-	52.7553	-	-

Remarks: Pass Result	Marginal Result	Fail Result

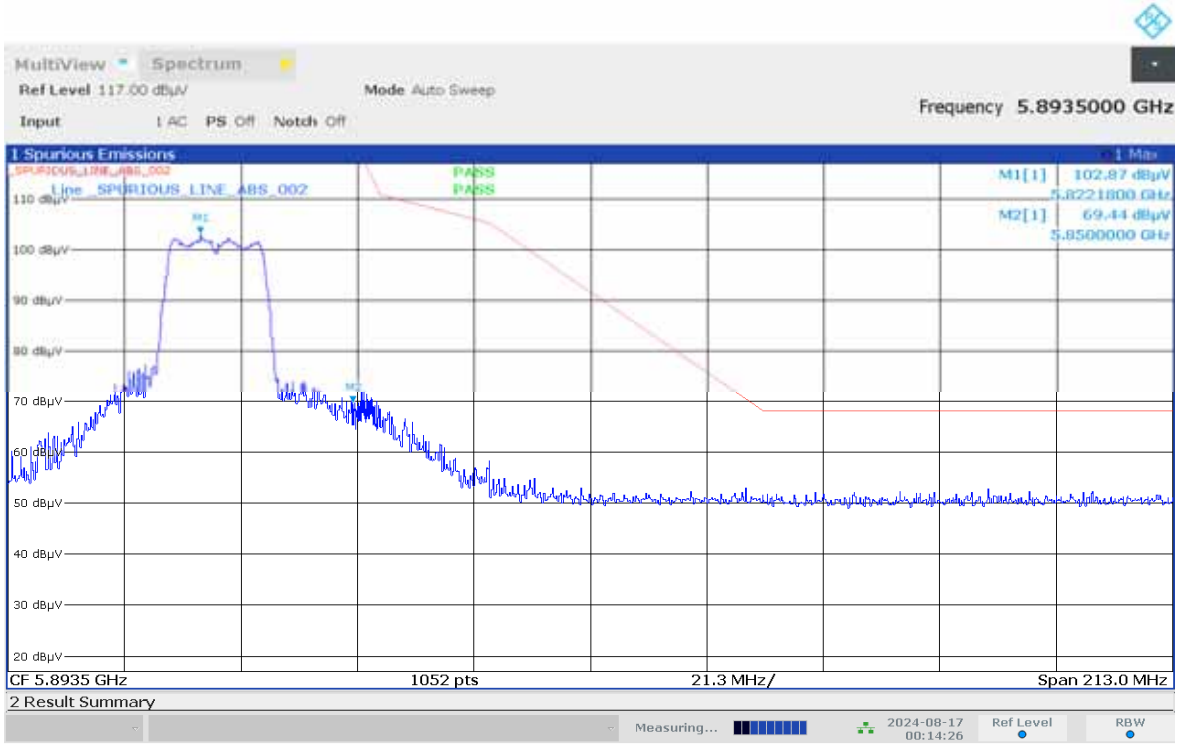
Temperature (degC): 23.5 **Humidity (%): 69.3**
Test Performed by: Nazrin & Rezza **Test Date: Sat, 17 Aug, 2024**
System MU: 5.84dB

Restricted Band Edge (High Channel, Vertical, Peak) graphical screen shot



12:10:32 AM 08/17/2024

Restricted Band Edge (High Channel, Horizontal, Peak) graphical screen shot

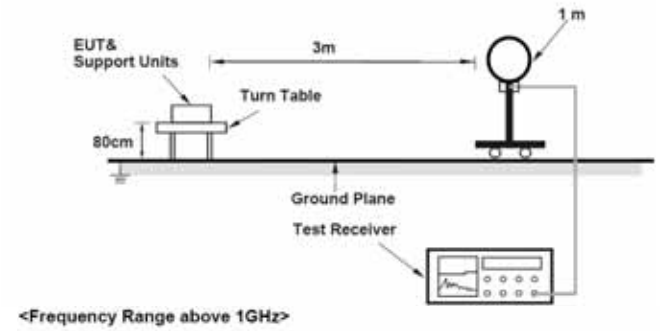


12:14:27 AM 08/17/2024

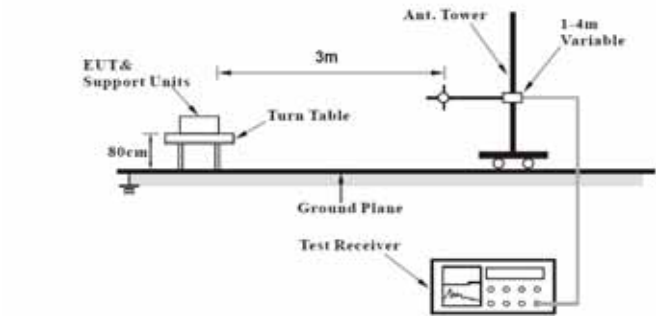
7.7. Radiated Spurious Emission Measurement

7.7.1. Test Setup

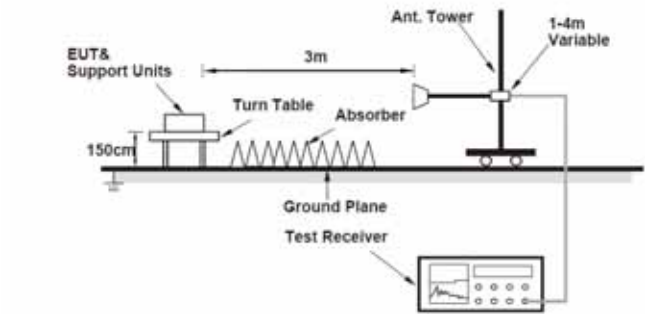
<Radiated emission below 30MHz>



<Frequency Range below 1GHz>



<Frequency Range above 1GHz>



1. The EUT is placed on the top of a rotating table 0.8m/1.5m above the ground at a 3m semi-anechoic chamber. The table is rotated 360 degrees to determine the position of the highest radiation.
2. The EUT is set 3m away from the interference-receiving antenna, which is mounted on the top of a variable-height antenna tower.
3. The antenna is Bilog/Horn antenna depend on which frequency range uses, and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
4. For each suspected emission, the EUT is arranged to its worst case and then the antenna is tuned to heights from 1m to 4m and the rotatable table is turned from 0 degrees to 360 degrees to find the maximum reading.
5. The test-receiver system is set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
6. If the emission level of the EUT in peak mode is fall within the range of 10dB from the limit specified, the emissions would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet. Otherwise, the testing could be stopped and the peak values of the EUT would be reported.

NOTE:

a. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 kHz for Quasi-peak detection at frequency below 1GHz.
b. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and video bandwidth is 3 MHz for Peak detection at frequency above 1 GHz.
c. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 10Hz for Average detection using reduced video bandwidth (Duty cycle ≥98%) at frequency above 1GHz.
d. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 1/ τ Hz, where τ is minimum transmitter on time (Duty cycle <98%) for Average detection using reduced video bandwidth at frequency above 1GHz.
e. All modes of operation were investigated and the worst-case emissions are reported.

7.7.2. Test Limits

Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table.

Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100**	3
88-216	150**	3
216-960	200**	3
Above 960	500	3

NOTE:

d. The lower limit shall apply at the transition frequencies.
e. Emission level (dBuV/m) = 20 log Emission level (uV/m).
f. For frequencies above 1000 MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation.

For Radiated emissions which fall out of the restricted bands must comply with the radiated emission limits specified as below table.

Applicable To		Limit	
789033 D02 General UNII Test Procedures New Rules v01r03		Field Strength at 3 m	
		PK: 74 (dBμV/m)	AV: 54 (dBμV/m)
Frequency Band	Applicable To	EIRP Limit	Equivalent Field Strength at 3 m
5150~5250 MHz	15.407(b)(1)	PK: -27 (dBm/MHz)	PK: 68.2 (dBμV/m)
5250~5350 MHz	15.407(b)(2)		
5470~5725 MHz	15.407(b)(3)		
5725~5850 MHz	15.407(b)(4)(i)	PK:-27 (dBm/MHz) *1 PK:10 (dBm/MHz) *2 PK:15.6 (dBm/MHz) *3 PK:27 (dBm/MHz) *4	PK: 68.2 (dBμV/m) *1 PK:105.2 (dBμV/m) *2 PK: 110.8 (dBμV/m) *3 PK:122.2 (dBμV/m) *4
	15.407(b)(4)(ii)	Emission limits in section 15.247(d)	

*1 beyond 75 MHz or more above of the band edge.
*2 below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above.
*3 below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above.
*4 from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

NOTE:

The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength:

$$E = ((1000000 \sqrt{} (30P)) / 3) \ \mu V/m$$, where P is the eirp (Watts)

7.7.3. Test Data

802.11a

Test: WIFI SAC Transmitter Radiated Emission
Model#: AAH07RDH9SA1AN S/N: 651EAP0011 EMC SR ID#: 0549N01-EMC-00048
Battery: PMNN4890A Softpot power (16dBm) Accessory: PMAE4079A
Test Channel: Low Test Frequency: 5180.0000 MHz Test Standard: ANSI C63.10-2013
Worst Case Plane: Z-Plane (802.11a 20MHz)

Radiated Emission (Low Channel) tabular data

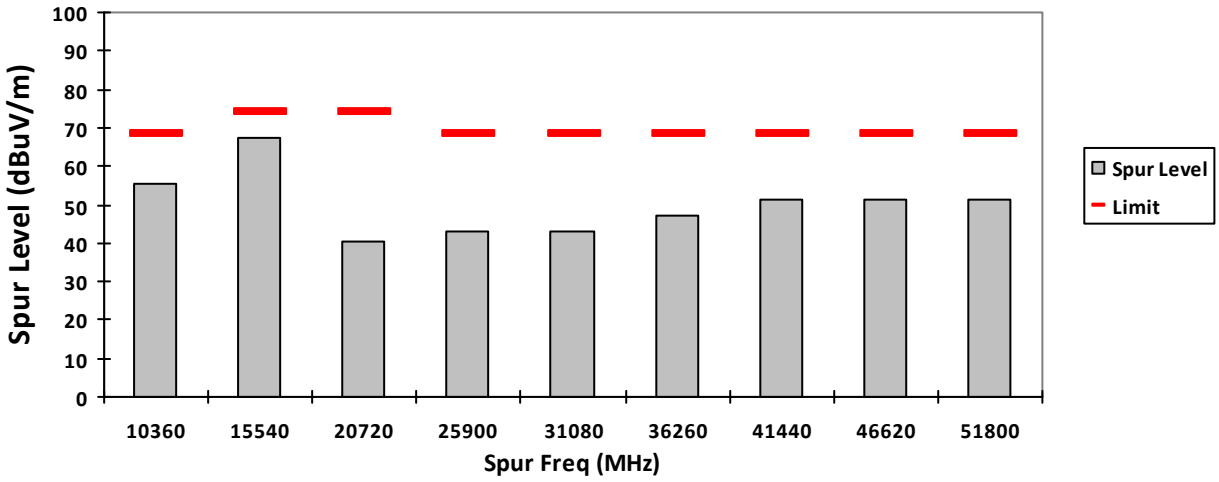
Vertical Radiated Emission Result										
Spur Freq (MHz)	Spur level QPK (dBµV/m)	Spur level PK (dBµV/m)	Spur level AV (dBµV/m)	Limit QPK (dBµV/m)	Limit PK (dBµV/m)	Limit AV (dBµV/m)	Margin QPK (dBµV/m)	Margin PK (dBµV/m)	Margin AV (dBµV/m)	Carrier PK Power (dBµV/m)
10360	-	55.5664**	-	-	68.2000	-	-	12.6336	-	-
15540	-	67.5349**	53.9687**	-	74.0000	54.0000	-	6.4651	0.0313	-
20720	-	40.6520**	-	-	74.0000	-	-	33.3480	-	-
25900	-	42.8979**	-	-	68.2000	-	-	25.3021	-	-
31080	-	43.0144**	-	-	68.2000	-	-	25.1856	-	-
36260	-	47.0509**	-	-	68.2000	-	-	21.1491	-	-
Horizontal Radiated Emission Result										
10360	-	56.9466**	-	-	68.2000	-	-	11.2534	-	-
15540	-	67.7050**	53.9697**	-	74.0000	54.0000	-	6.2950	0.0303	-
20720	-	41.4706**	-	-	74.0000	-	-	32.5294	-	-
25900	-	43.4143**	-	-	68.2000	-	-	24.7857	-	-
31080	-	44.9637**	-	-	68.2000	-	-	23.2363	-	-
36260	-	46.2479**	-	-	68.2000	-	-	21.9521	-	-

Remarks: Pass Result	Marginal Result	Fail Result

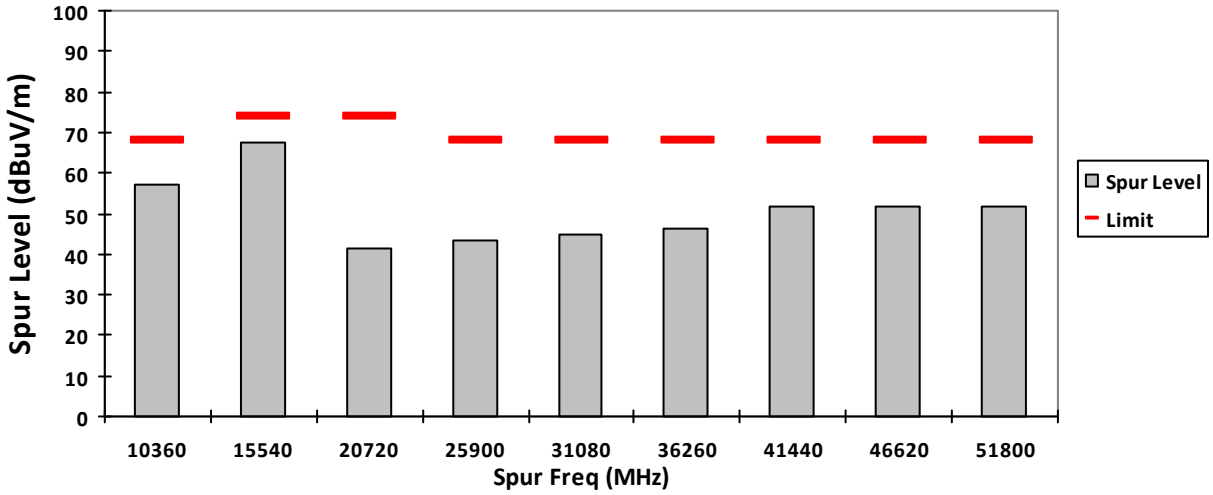
Temperature (degC): 23.5 **Humidity (%): 69.3**
Test Performed by: Nazrin & Rezza **Test Date: Sun, 18 Aug, 2024**
System MU: 5.88 dB (30-1000MHz), 5.84 dB (1000-18000MHz), 6.02 dB (18000MHz-40000MHz)

Remarks: ** Indicates the spurious emission could not be detected due to noise limitations or ambient.
***Pursuant to CFR 47 Part 2.1057 (c), emissions attenuated more than 20 dB below the permissible limit are not reported.**

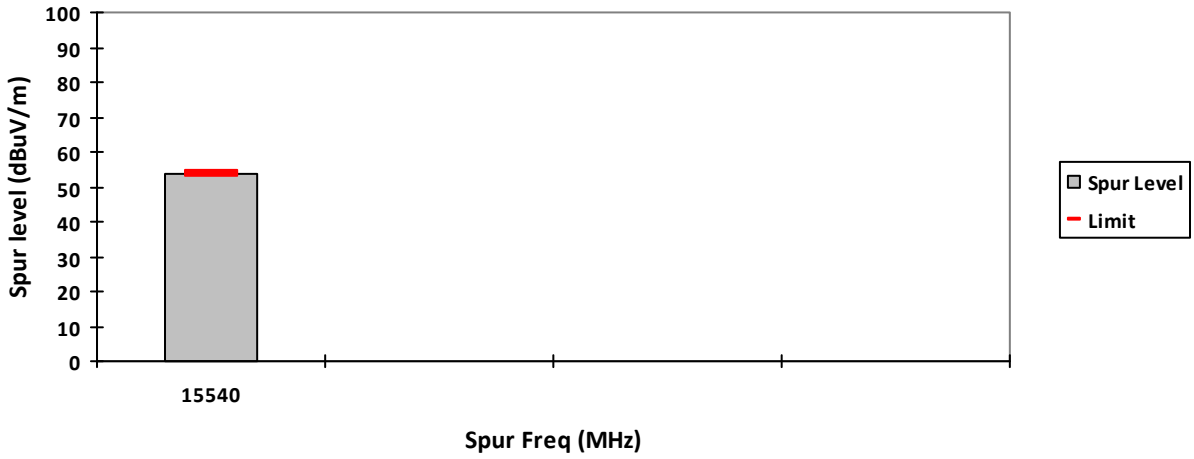
VERTICAL, PK



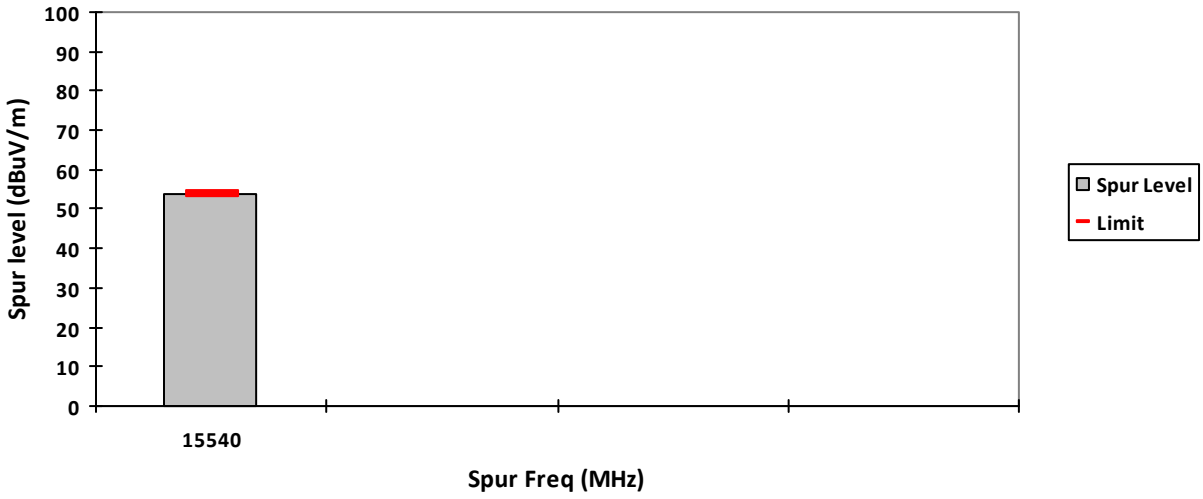
HORIZONTAL, PK



VERTICAL, AV



HORIZONTAL, AV



Test: WIFI SAC Transmitter Radiated Emission
Model#: AAH07RDH9SA1AN S/N: 651EAP0011 EMC SR ID#: 0549N01-EMC-00048
Battery: PMNN4890A Softpot power (17dBm) Accessory: PMAE4079A
Test Channel: Mid Test Frequency: 5220.0000 MHz Test Standard: ANSI C63.10-2013
Worst Case Plane: Z-Plane (802.11a 20MHz)

Radiated Emission (Mid Channel) tabular data

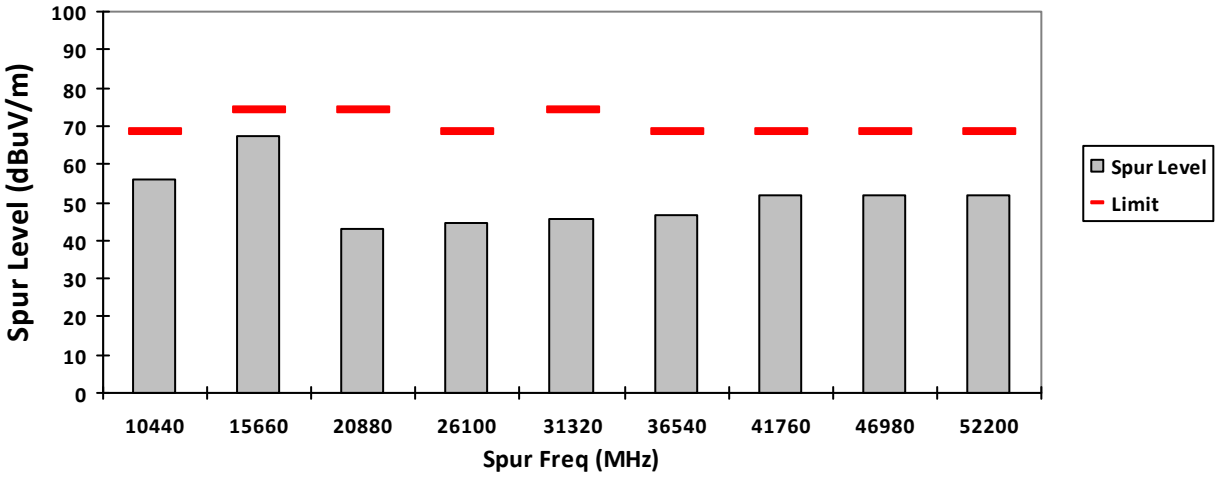
Vertical Radiated Emission Result										
Spur Freq (MHz)	Spur level QPK (dBµV/m)	Spur level PK (dBµV/m)	Spur level AV (dBµV/m)	Limit QPK (dBµV/m)	Limit PK (dBµV/m)	Limit AV (dBµV/m)	Margin QPK (dBµV/m)	Margin PK (dBµV/m)	Margin AV (dBµV/m)	Carrier PK Power (dBµV/m)
10440	-	56.0471**	-	-	68.2000	-	-	12.1529	-	-
15660	-	67.2778**	53.5128**	-	74.0000	54.0000	-	6.7222	0.4872	-
20880	-	43.2366**	-	-	74.0000	-	-	30.7634	-	-
26100	-	44.3460**	-	-	68.2000	-	-	23.8540	-	-
31320	-	45.6655**	-	-	74.0000	-	-	28.3345	-	-
36540	-	46.6106**	-	-	68.2000	-	-	21.5894	-	-
Horizontal Radiated Emission Result										
10440	-	57.2174**	-	-	68.2000	-	-	10.9826	-	-
15660	-	66.7734**	53.5136**	-	74.0000	54.0000	-	7.2266	0.4864	-
20880	-	41.9091**	-	-	74.0000	-	-	32.0909	-	-
26100	-	42.7234**	-	-	68.2000	-	-	25.4766	-	-
31320	-	45.0493**	-	-	74.0000	-	-	28.9507	-	-
36540	-	45.9376**	-	-	68.2000	-	-	22.2624	-	-

Remarks: Pass Result	Marginal Result	Fail Result

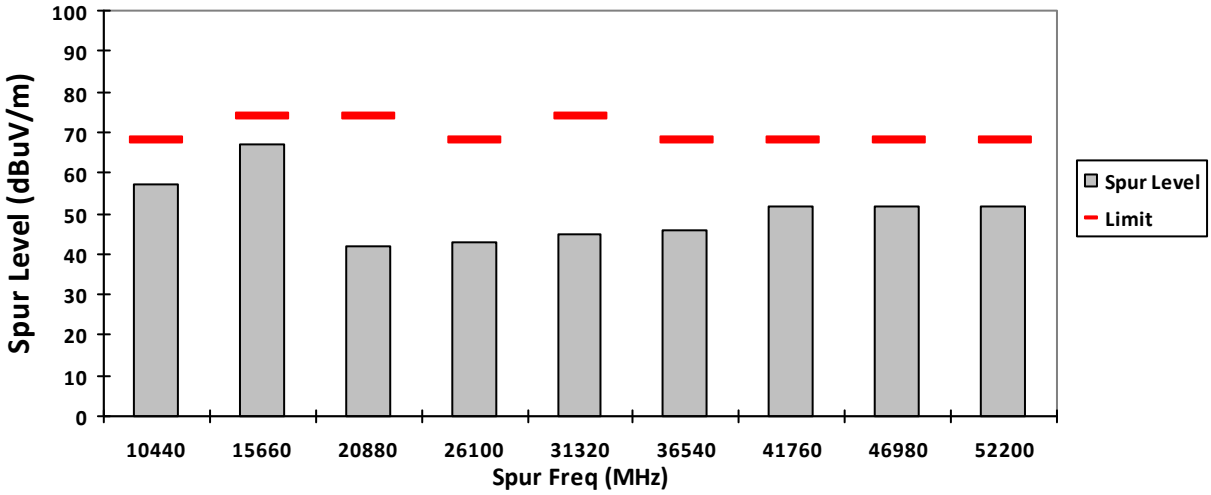
Temperature (degC): 23.5 **Humidity (%): 69.3**
Test Performed by: Nazrin & Rezza **Test Date: Sun, 18 Aug, 2024**
System MU: 5.88 dB (30-1000MHz), 5.84 dB (1000-18000MHz), 6.02 dB (18000MHz-40000MHz)

Remarks: ** Indicates the spurious emission could not be detected due to noise limitations or ambient.
***Pursuant to CFR 47 Part 2.1057 (c), emissions attenuated more than 20 dB below the permissible limit are not reported.**

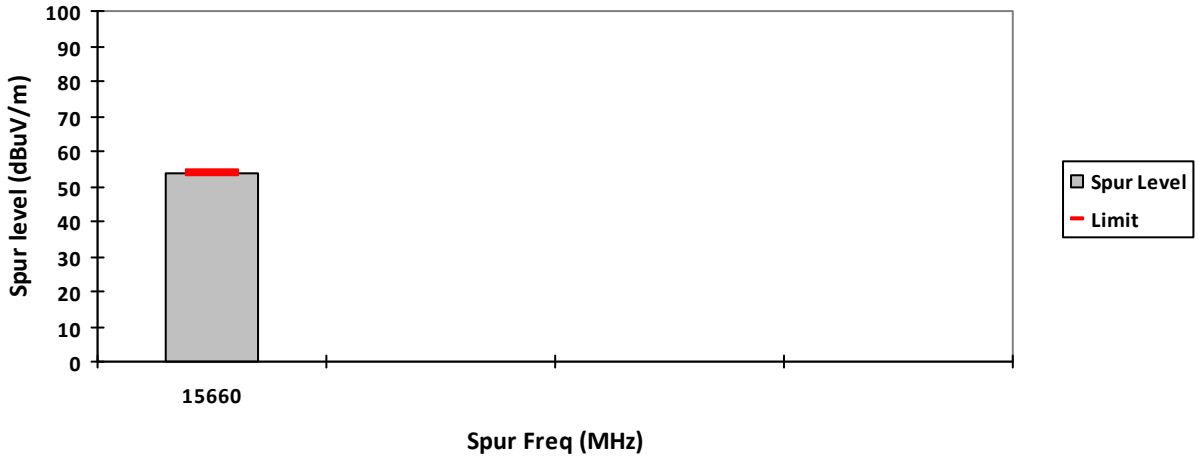
VERTICAL, PK



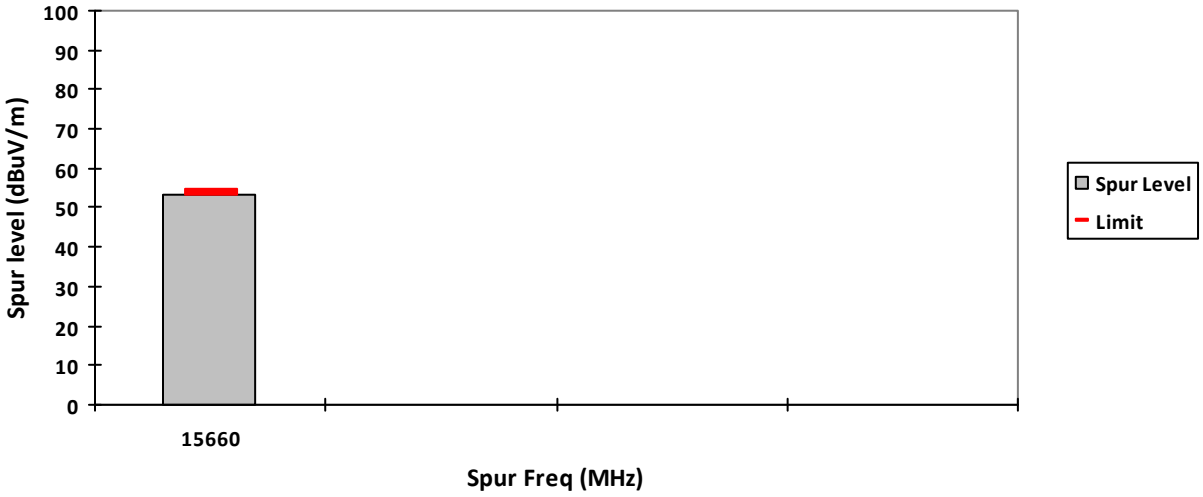
HORIZONTAL, PK



VERTICAL, AV



HORIZONTAL, AV



Test: WIFI SAC Transmitter Radiated Emission
Model#: AAH07RDH9SA1AN S/N: 651EAP0011 EMC SR ID#: 0549N01-EMC-00048
Battery: PMNN4890A Softpot power (17dBm) Accessory: PMAE4079A
Test Channel: High Test Frequency: 5240.0000 MHz Test Standard: ANSI C63.10-2013
Worst Case Plane: Z-Plane (802.11a 20MHz)

Radiated Emission (High Channel) tabular data

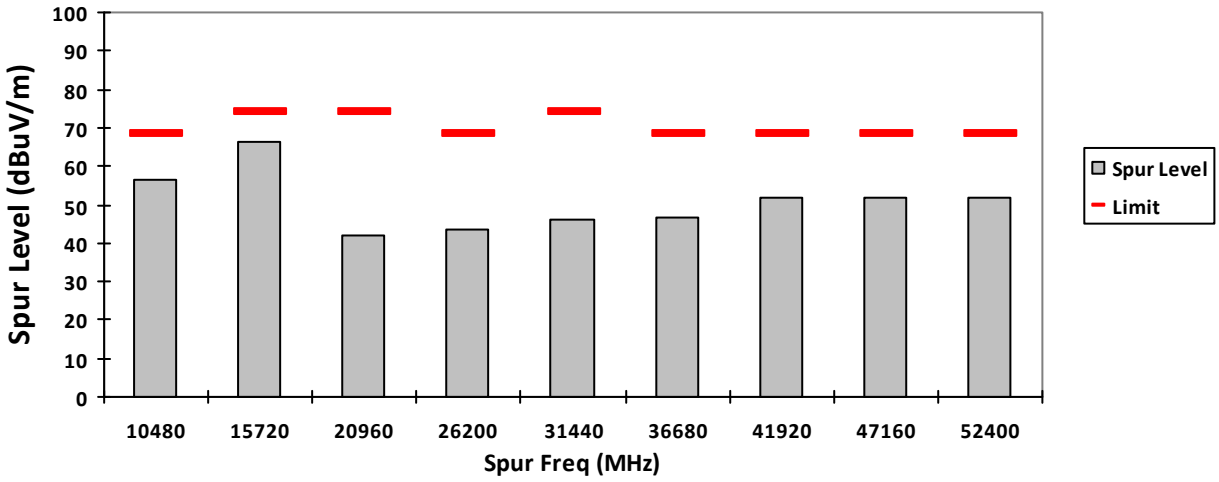
Vertical Radiated Emission Result										
Spur Freq (MHz)	Spur level QPK (dBµV/m)	Spur level PK (dBµV/m)	Spur level AV (dBµV/m)	Limit QPK (dBµV/m)	Limit PK (dBµV/m)	Limit AV (dBµV/m)	Margin QPK (dBµV/m)	Margin PK (dBµV/m)	Margin AV (dBµV/m)	Carrier PK Power (dBµV/m)
10480	-	56.5814**	-	-	68.2000	-	-	11.6186	-	-
15720	-	66.4883**	53.1401**	-	74.0000	54.0000	-	7.5117	0.8599	-
20960	-	42.0193**	-	-	74.0000	-	-	31.9807	-	-
26200	-	43.3884**	-	-	68.2000	-	-	24.8116	-	-
31440	-	45.9443**	-	-	74.0000	-	-	28.0557	-	-
36680	-	46.5218**	-	-	68.2000	-	-	21.6782	-	-
Horizontal Radiated Emission Result										
10480	-	56.2548**	-	-	68.2000	-	-	11.9452	-	-
15720	-	66.7864**	53.1399**	-	74.0000	54.0000	-	7.2136	0.8601	-
20960	-	41.9738**	-	-	74.0000	-	-	32.0262	-	-
26200	-	43.4828**	-	-	68.2000	-	-	24.7172	-	-
31440	-	44.4074**	-	-	74.0000	-	-	29.5926	-	-
36680	-	46.7378**	-	-	68.2000	-	-	21.4622	-	-

Remarks: Pass Result	Marginal Result	Fail Result

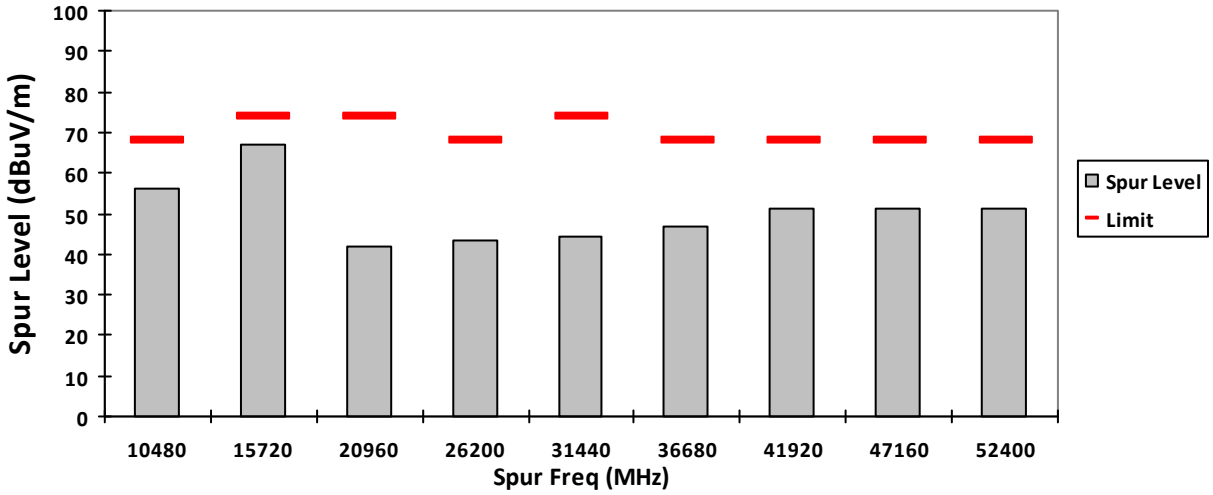
Temperature (degC): 23.5 **Humidity (%): 69.3**
Test Performed by: Nazrin & Rezza **Test Date: Sun, 18 Aug, 2024**
System MU: 5.88 dB (30-1000MHz), 5.84 dB (1000-18000MHz), 6.02 dB (18000MHz-40000MHz)

Remarks: ** Indicates the spurious emission could not be detected due to noise limitations or ambient.
***Pursuant to CFR 47 Part 2.1057 (c), emissions attenuated more than 20 dB below the permissible limit are not reported.**

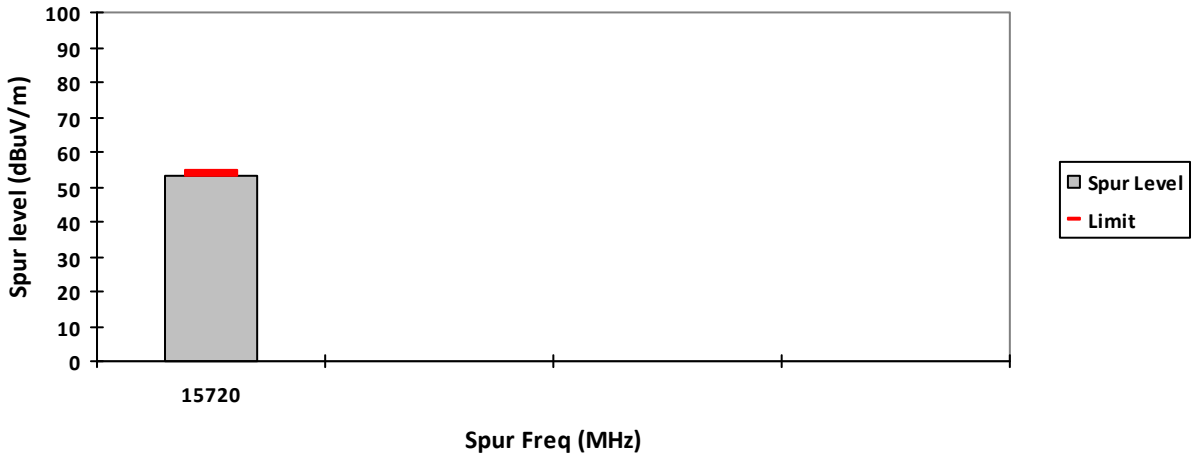
VERTICAL, PK



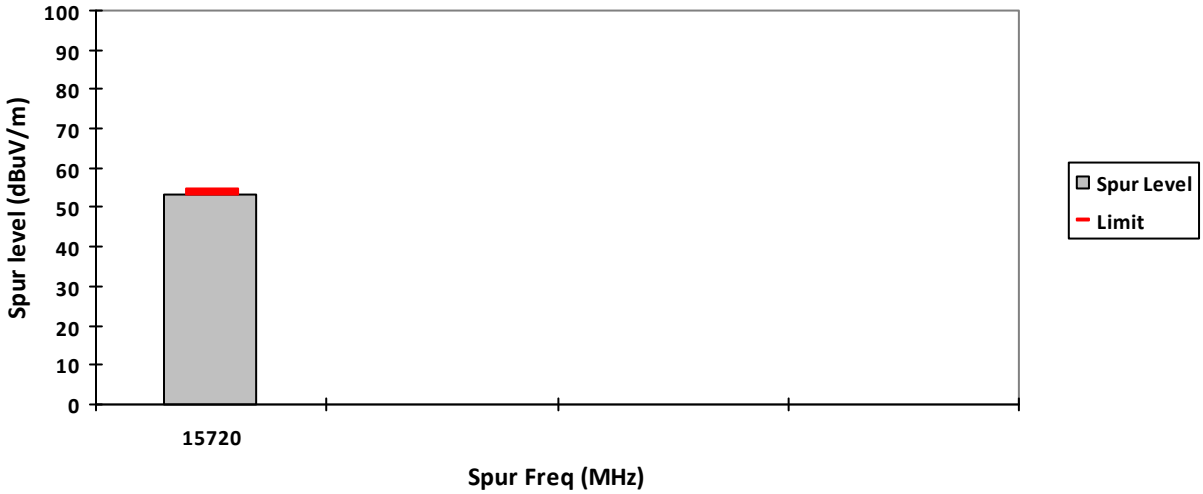
HORIZONTAL, PK



VERTICAL, AV



HORIZONTAL, AV



Test: WIFI SAC Transmitter Radiated Emission
Model#: AAH07RDH9SA1AN S/N: 651EAP0011 EMC SR ID#: 0549N01-EMC-00048
Battery: PMNN4890A Softpot power (17dBm) Accessory: PMAE4079A
Test Channel: Low Test Frequency: 5260.0000 MHz Test Standard: ANSI C63.10-2013
Worst Case Plane: Z-Plane (802.11a 20MHz)

Radiated Emission (Low Channel) tabular data

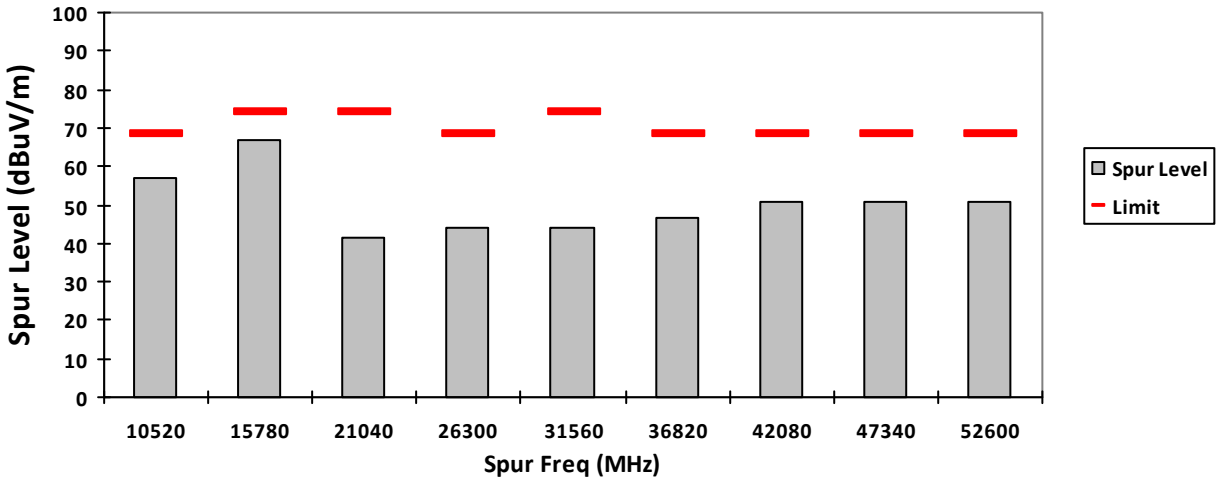
Vertical Radiated Emission Result										
Spur Freq (MHz)	Spur level QPK (dBµV/m)	Spur level PK (dBµV/m)	Spur level AV (dBµV/m)	Limit QPK (dBµV/m)	Limit PK (dBµV/m)	Limit AV (dBµV/m)	Margin QPK (dBµV/m)	Margin PK (dBµV/m)	Margin AV (dBµV/m)	Carrier PK Power (dBµV/m)
10520	-	57.0060**	-	-	68.2000	-	-	11.1940	-	-
15780	-	66.6821**	53.3921**	-	74.0000	54.0000	-	7.3179	0.6079	-
21040	-	41.2029**	-	-	74.0000	-	-	32.7971	-	-
26300	-	43.9779**	-	-	68.2000	-	-	24.2221	-	-
31560	-	44.2062**	-	-	74.0000	-	-	29.7938	-	-
36820	-	46.7808**	-	-	68.2000	-	-	21.4192	-	-
Horizontal Radiated Emission Result										
10520	-	56.7391**	-	-	68.2000	-	-	11.4609	-	-
15780	-	67.2791**	53.3957**	-	74.0000	54.0000	-	6.7209	0.6043	-
21040	-	41.7383**	-	-	74.0000	-	-	32.2617	-	-
26300	-	43.8580**	-	-	68.2000	-	-	24.3420	-	-
31560	-	45.6017**	-	-	74.0000	-	-	28.3983	-	-
36820	-	45.8849**	-	-	68.2000	-	-	22.3151	-	-

Remarks: Pass Result	Marginal Result	Fail Result

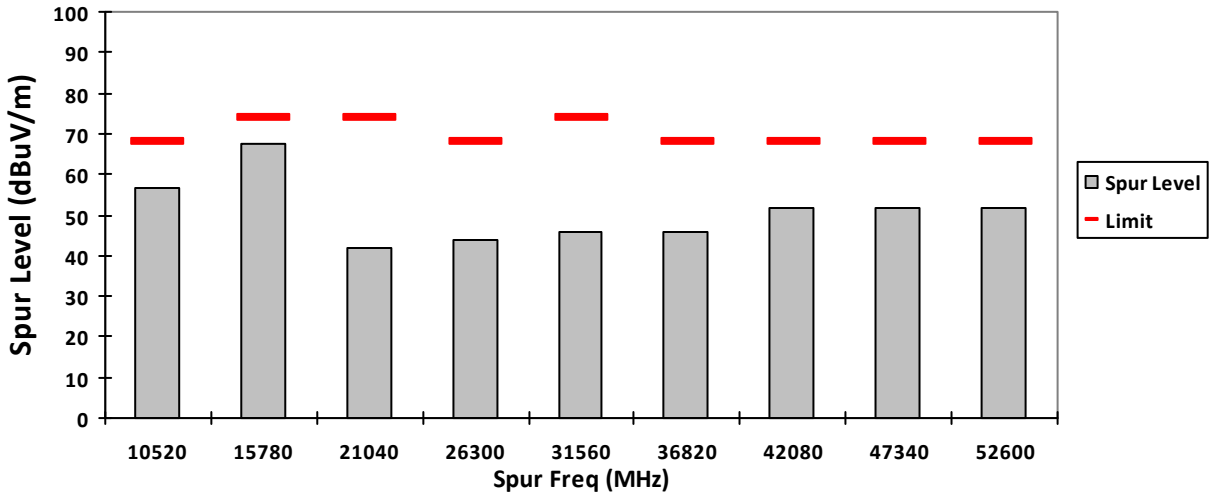
Temperature (degC): 23.5 **Humidity (%): 69.3**
Test Performed by: Nazrin & Rezza **Test Date: Sun, 18 Aug, 2024**
System MU: 5.88 dB (30-1000MHz), 5.84 dB (1000-18000MHz), 6.02 dB (18000MHz-40000MHz)

Remarks: ** Indicates the spurious emission could not be detected due to noise limitations or ambient.
***Pursuant to CFR 47 Part 2.1057 (c), emissions attenuated more than 20 dB below the permissible limit are not reported.**

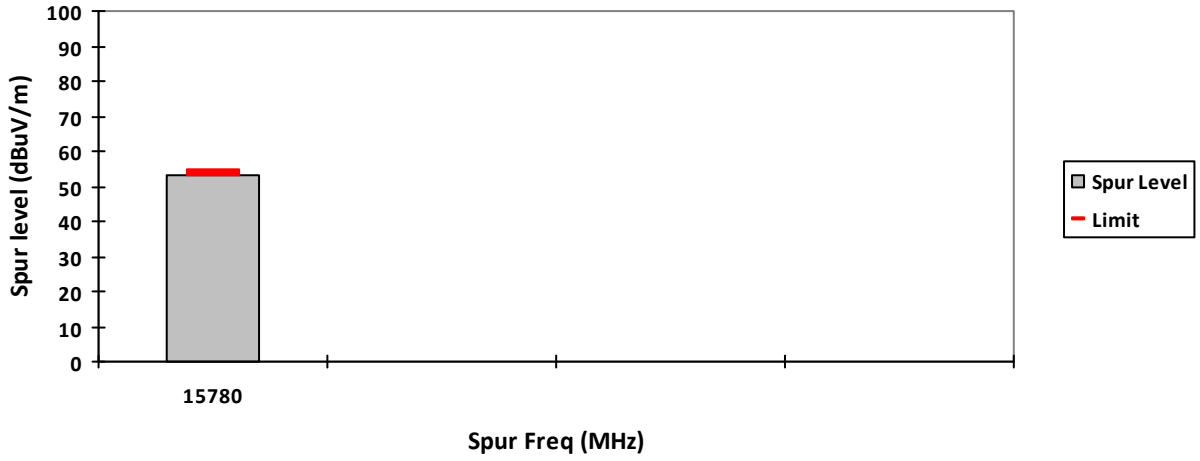
VERTICAL, PK



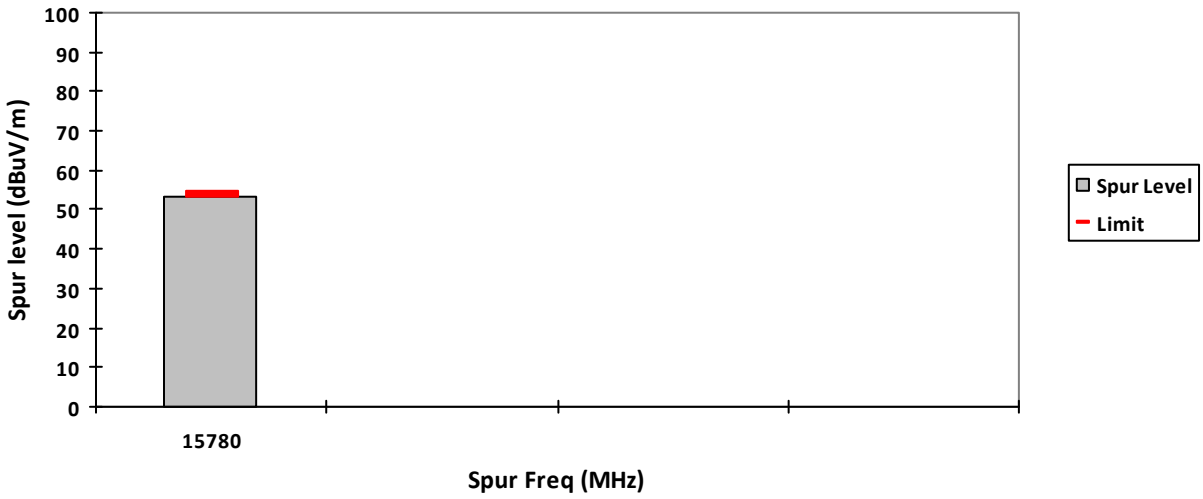
HORIZONTAL, PK



VERTICAL, AV



HORIZONTAL, AV



Test: WIFI SAC Transmitter Radiated Emission
Model#: AAH07RDH9SA1AN S/N: 651EAP0011 EMC SR ID#: 0549N01-EMC-00048
Battery: PMNN4890A Softpot power (17dBm) Accessory: PMAE4079A
Test Channel: Mid Test Frequency: 5300.0000 MHz Test Standard: ANSI C63.10-2013
Worst Case Plane: Z-Plane (802.11a 20MHz)

Radiated Emission (Mid Channel) tabular data

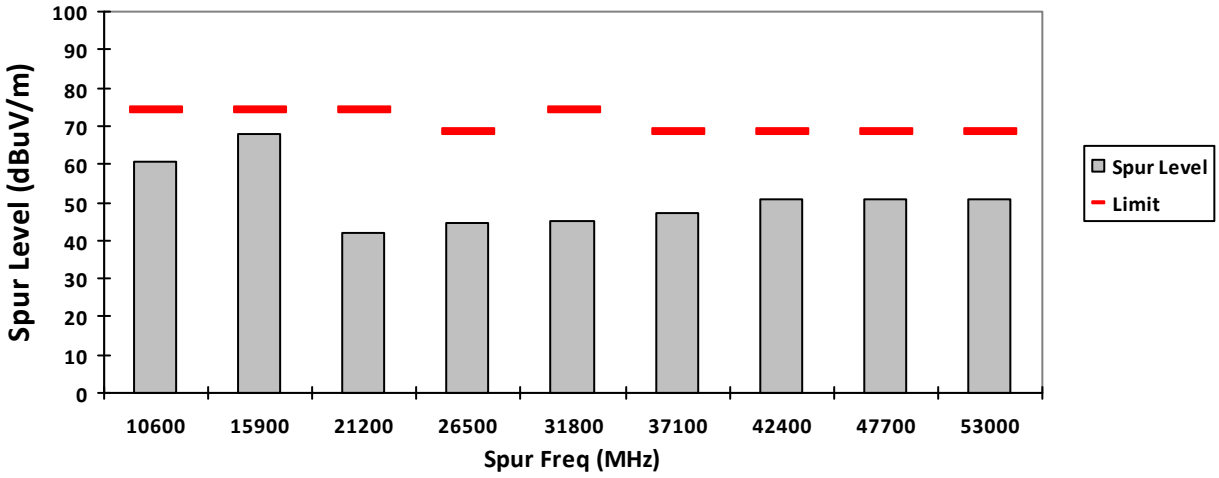
Vertical Radiated Emission Result										
Spur Freq (MHz)	Spur level QPK (dBµV/m)	Spur level PK (dBµV/m)	Spur level AV (dBµV/m)	Limit QPK (dBµV/m)	Limit PK (dBµV/m)	Limit AV (dBµV/m)	Margin QPK (dBµV/m)	Margin PK (dBµV/m)	Margin AV (dBµV/m)	Carrier PK Power (dBµV/m)
10600	-	60.4062**	47.1627**	-	74.0000	54.0000	-	13.5938	6.8373	-
15900	-	67.6671**	53.5355**	-	74.0000	54.0000	-	6.3329	0.4645	-
21200	-	41.7752**	-	-	74.0000	-	-	32.2248	-	-
26500	-	44.6608**	-	-	68.2000	-	-	23.5392	-	-
31800	-	44.8996**	-	-	74.0000	-	-	29.1004	-	-
37100	-	47.3057**	-	-	68.2000	-	-	20.8943	-	-
Horizontal Radiated Emission Result										
10600	-	60.4976**	47.1608**	-	74.0000	54.0000	-	13.5024	6.8392	-
15900	-	67.3409**	53.5366**	-	74.0000	54.0000	-	6.6591	0.4634	-
21200	-	42.2056**	-	-	74.0000	-	-	31.7944	-	-
26500	-	44.5075**	-	-	68.2000	-	-	23.6925	-	-
31800	-	45.6331**	-	-	74.0000	-	-	28.3669	-	-
37100	-	47.1430**	-	-	68.2000	-	-	21.0570	-	-

Remarks: Pass Result	Marginal Result	Fail Result

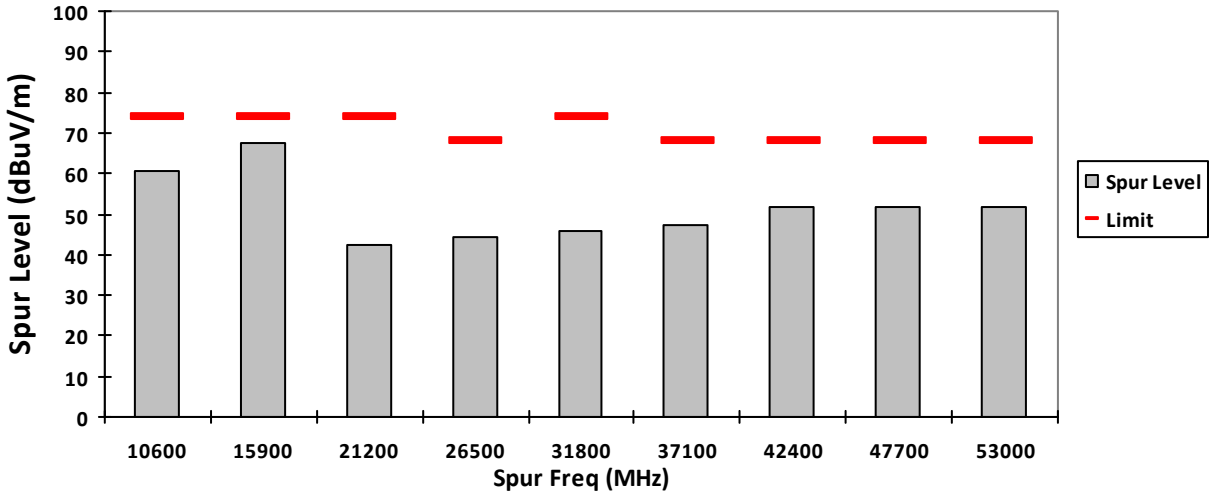
Temperature (degC): 23.5 **Humidity (%): 69.3**
Test Performed by: Nazrin & Rezza **Test Date: Sun, 18 Aug, 2024**
System MU: 5.88 dB (30-1000MHz), 5.84 dB (1000-18000MHz), 6.02 dB (18000MHz-40000MHz)

Remarks: ** Indicates the spurious emission could not be detected due to noise limitations or ambient.
***Pursuant to CFR 47 Part 2.1057 (c), emissions attenuated more than 20 dB below the permissible limit are not reported.**

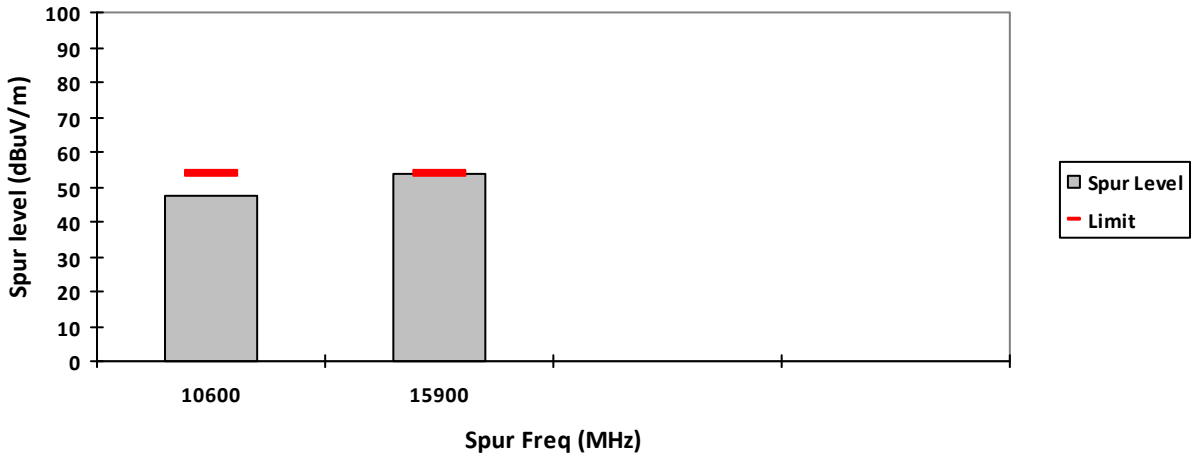
VERTICAL, PK



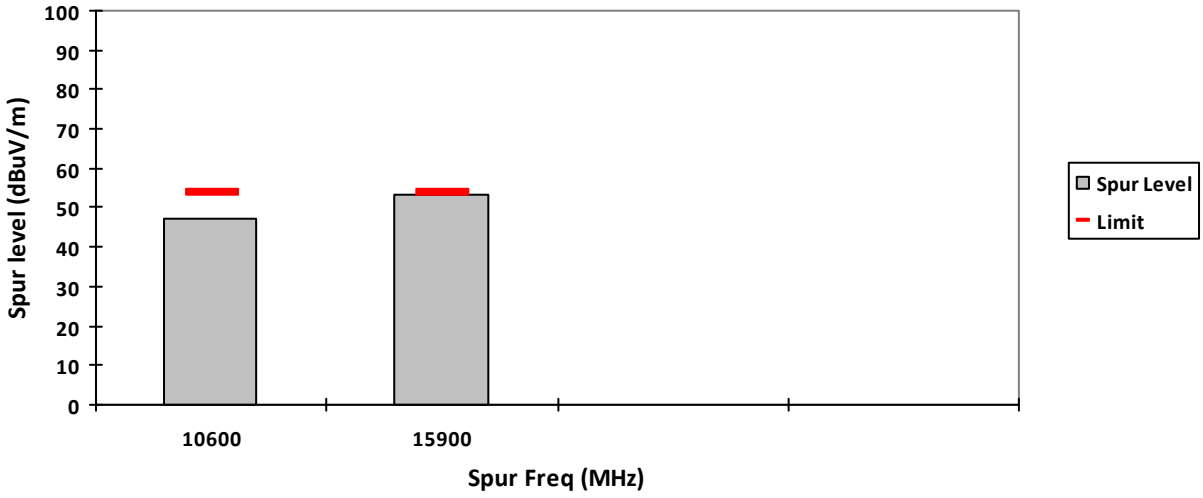
HORIZONTAL, PK



VERTICAL, AV



HORIZONTAL, AV



Test: WIFI SAC Transmitter Radiated Emission
Model#: AAH07RDH9SA1AN S/N: 651EAP0011 EMC SR ID#: 0549N01-EMC-00048
Battery: PMNN4890A Softpot power (16dBm) Accessory: PMAE4079A
Test Channel: High Test Frequency: 5320.0000 MHz Test Standard: ANSI C63.10-2013
Worst Case Plane: Z-Plane (802.11a 20MHz)

Radiated Emission (High Channel) tabular data

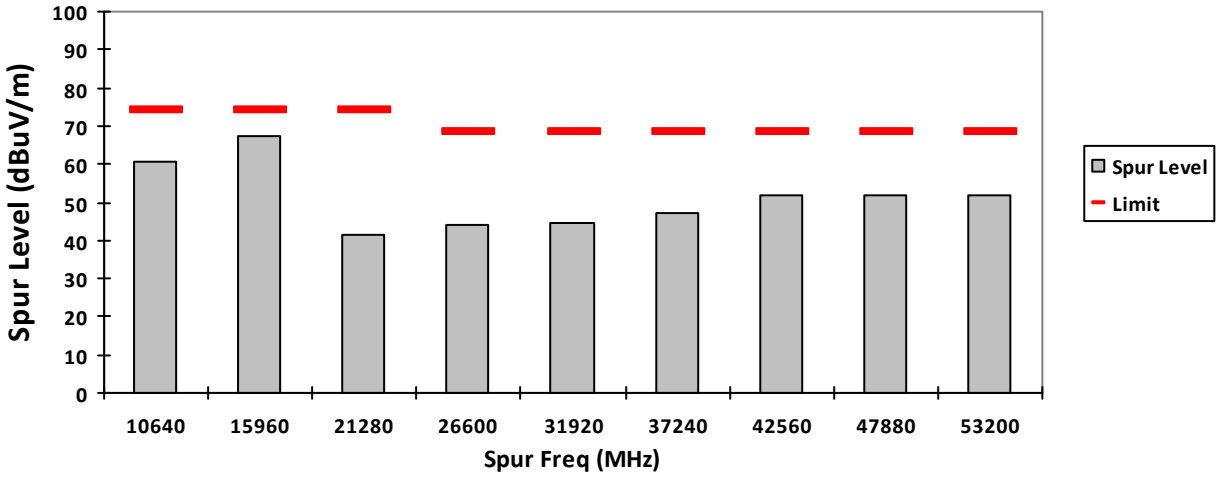
Vertical Radiated Emission Result										
Spur Freq (MHz)	Spur level QPK (dBµV/m)	Spur level PK (dBµV/m)	Spur level AV (dBµV/m)	Limit QPK (dBµV/m)	Limit PK (dBµV/m)	Limit AV (dBµV/m)	Margin QPK (dBµV/m)	Margin PK (dBµV/m)	Margin AV (dBµV/m)	Carrier PK Power (dBµV/m)
10640	-	60.8057**	47.1219**	-	74.0000	54.0000	-	13.1943	6.8781	-
15960	-	67.3161**	52.9274**	-	74.0000	54.0000	-	6.6839	1.0726	-
21280	-	41.4894**	-	-	74.0000	-	-	32.5106	-	-
26600	-	44.0389**	-	-	68.2000	-	-	24.1611	-	-
31920	-	44.5778**	-	-	68.2000	-	-	23.6222	-	-
37240	-	46.9845**	-	-	68.2000	-	-	21.2155	-	-
Horizontal Radiated Emission Result										
10640	-	60.7300**	47.2717**	-	74.0000	54.0000	-	13.2700	6.7283	-
15960	-	67.2775**	52.9298**	-	74.0000	54.0000	-	6.7225	1.0702	-
21280	-	41.3148**	-	-	74.0000	-	-	32.6852	-	-
26600	-	43.4374**	-	-	68.2000	-	-	24.7626	-	-
31920	-	44.7624**	-	-	68.2000	-	-	23.4376	-	-
37240	-	46.2795**	-	-	68.2000	-	-	21.9205	-	-

Remarks: Pass Result	Marginal Result	Fail Result

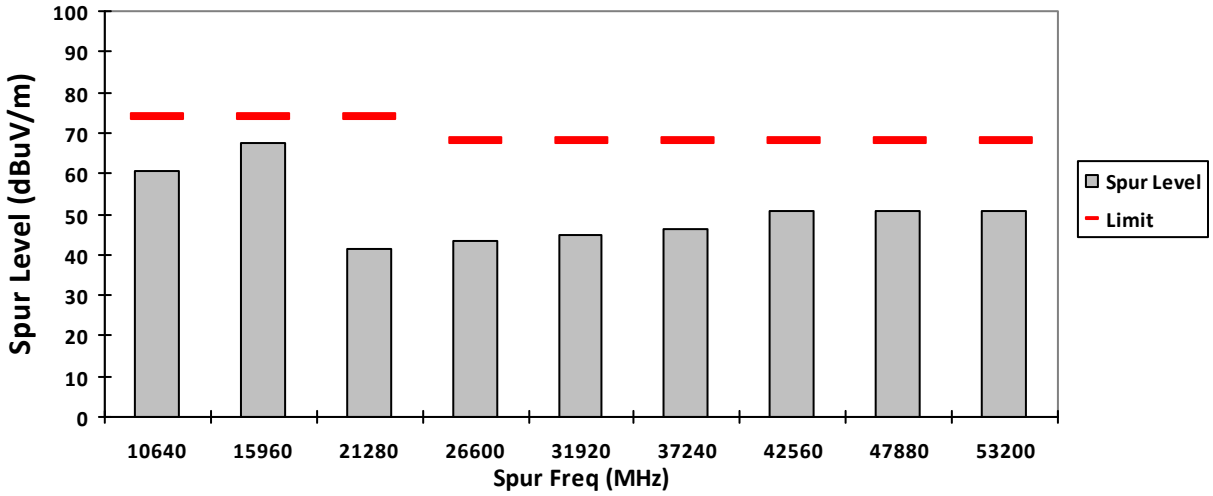
Temperature (degC): 23.5 **Humidity (%): 69.3**
Test Performed by: Nazrin & Rezza **Test Date: Sun, 18 Aug, 2024**
System MU: 5.88 dB (30-1000MHz), 5.84 dB (1000-18000MHz), 6.02 dB (18000MHz-40000MHz

Remarks: ** Indicates the spurious emission could not be detected due to noise limitations or ambient.
***Pursuant to CFR 47 Part 2.1057 (c), emissions attenuated more than 20 dB below the permissible limit are not reported.**

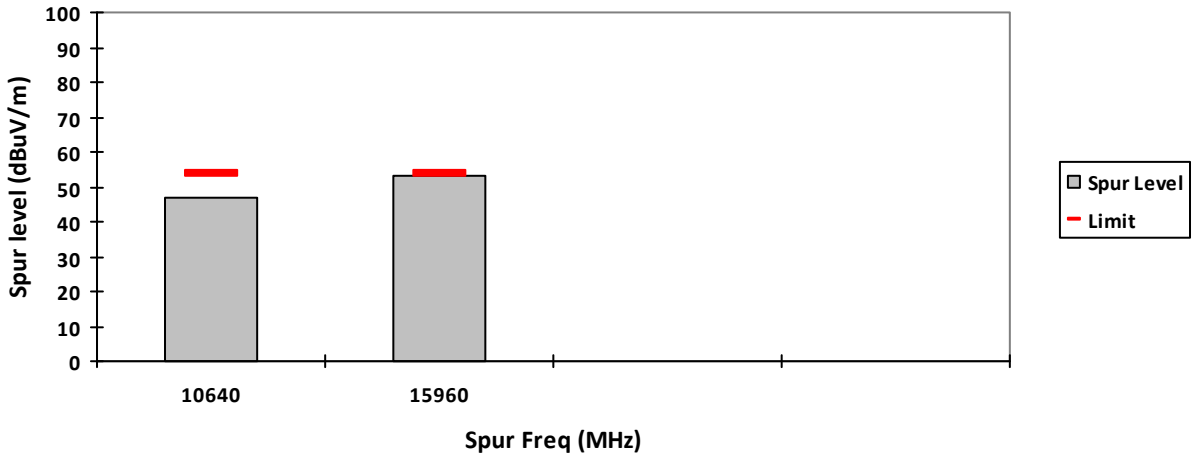
VERTICAL, PK



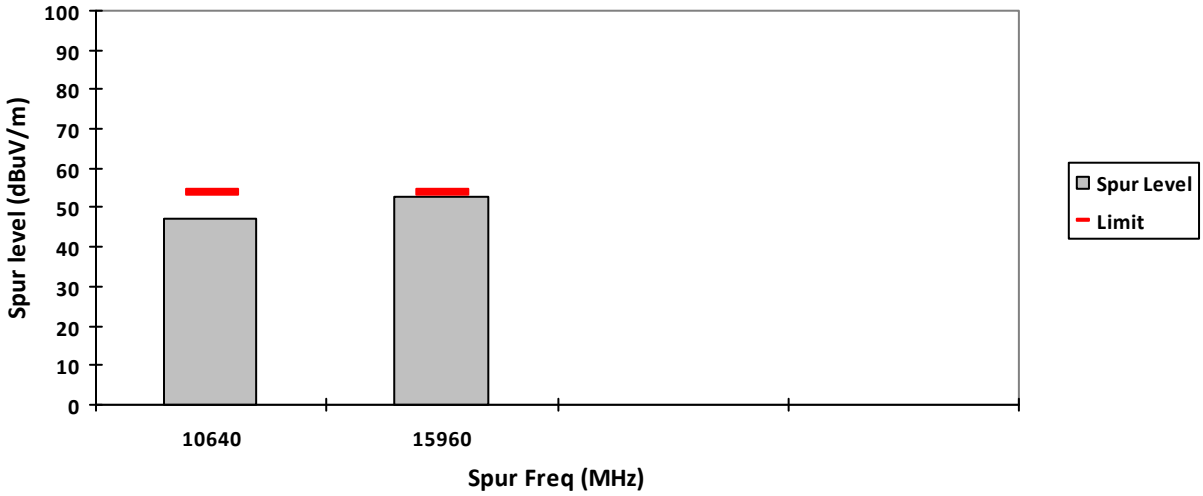
HORIZONTAL, PK



VERTICAL, AV



HORIZONTAL, AV



Test: WIFI SAC Transmitter Radiated Emission
Model#: AAH07RDH9SA1AN S/N: 651EAP0011 EMC SR ID#: 0549N01-EMC-00048
Battery: PMNN4890A Softpot power (12dBm) Accessory: PMAE4079A
Test Channel: Low Test Frequency: 5500.0000 MHz Test Standard: ANSI C63.10-2013
Worst Case Plane: Z-Plane (802.11a 20MHz)

Radiated Emission (Low Channel) tabular data

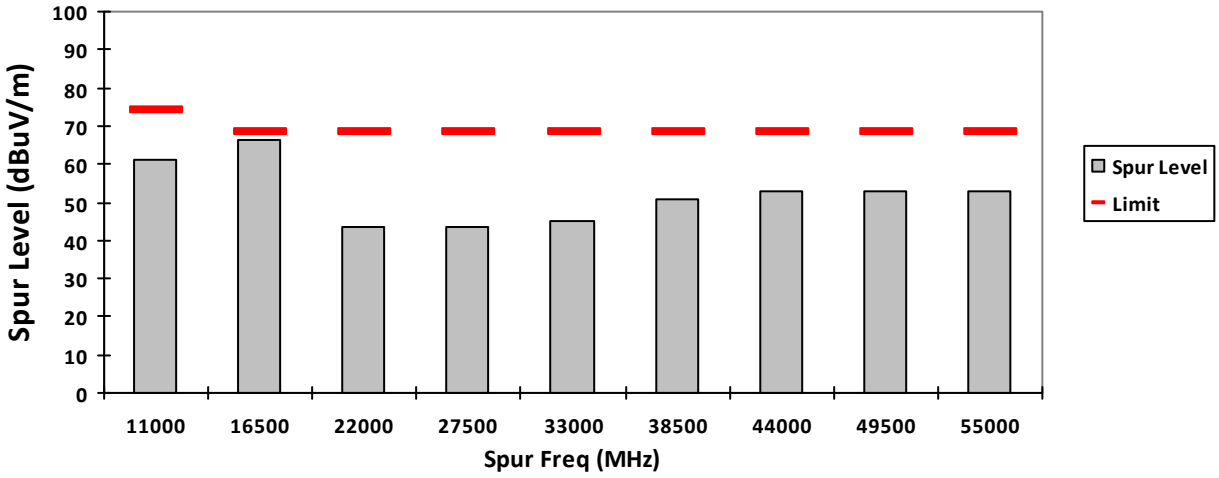
Vertical Radiated Emission Result										
Spur Freq (MHz)	Spur level QPK (dBµV/m)	Spur level PK (dBµV/m)	Spur level AV (dBµV/m)	Limit QPK (dBµV/m)	Limit PK (dBµV/m)	Limit AV (dBµV/m)	Margin QPK (dBµV/m)	Margin PK (dBµV/m)	Margin AV (dBµV/m)	Carrier PK Power (dBµV/m)
11000	-	61.3355**	47.6567**	-	74.0000	54.0000	-	12.6645	6.3433	-
16500	-	66.3627**	-	-	68.2000	-	-	1.8373	-	-
22000	-	43.3852**	-	-	68.2000	-	-	24.8148	-	-
27500	-	43.5520**	-	-	68.2000	-	-	24.6480	-	-
33000	-	45.0203**	-	-	68.2000	-	-	23.1797	-	-
38500	-	50.8107**	-	-	68.2000	-	-	17.3893	-	-
Horizontal Radiated Emission Result										
11000	-	61.0416**	47.8027**	-	74.0000	54.0000	-	12.9584	6.1973	-
16500	-	65.2803**	-	-	68.2000	54.0000	-	2.9197	-	-
22000	-	43.1667**	-	-	68.2000	54.0000	-	25.0333	-	-
27500	-	44.5186**	-	-	68.2000	54.0000	-	23.6814	-	-
33000	-	46.1192**	-	-	68.2000	54.0000	-	22.0808	-	-
38500	-	50.2872**	-	-	68.2000	54.0000	-	17.9128	-	-

Remarks: Pass Result	Marginal Result	Fail Result

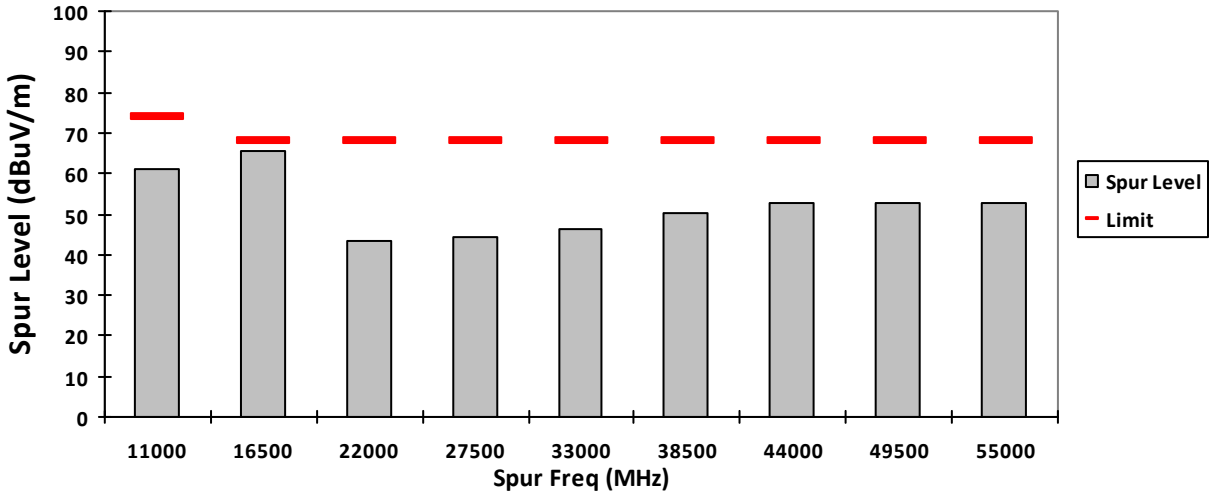
Temperature (degC): 23.5 **Humidity (%): 69.3**
Test Performed by: Nazrin & Rezza **Test Date: Sun, 18 Aug, 2024**
System MU: 5.88 dB (30-1000MHz), 5.84 dB (1000-18000MHz), 6.02 dB (18000MHz-40000MHz)

Remarks: ** Indicates the spurious emission could not be detected due to noise limitations or ambient.
***Pursuant to CFR 47 Part 2.1057 (c), emissions attenuated more than 20 dB below the permissible limit are not reported.**

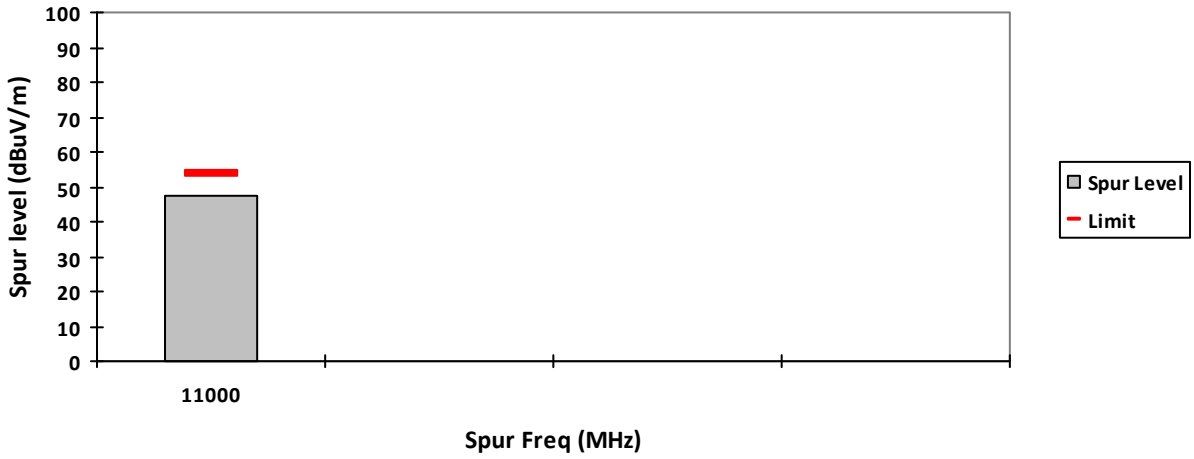
VERTICAL, PK



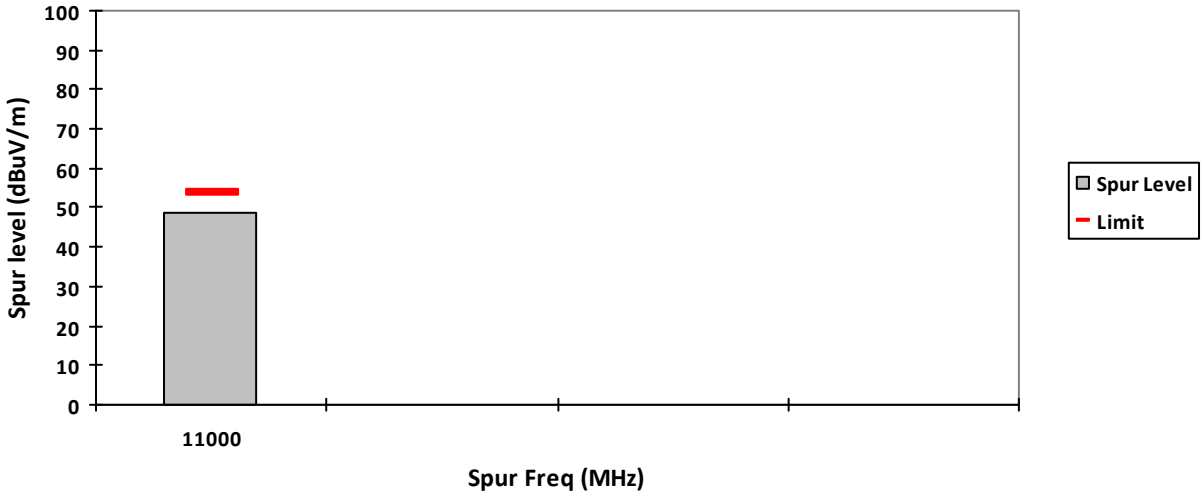
HORIZONTAL, PK



VERTICAL, AV



HORIZONTAL, AV



Test: WIFI SAC Transmitter Radiated Emission
Model#: AAH07RDH9SA1AN S/N: 651EAP0011 EMC SR ID#: 0549N01-EMC-00048
Battery: PMNN4890A Softpot power (15dBm) Accessory: PMAE4079A
Test Channel: Mid Test Frequency: 5580.0000 MHz Test Standard: ANSI C63.10-2013
Worst Case Plane: Z-Plane (802.11a 20MHz)

Radiated Emission (Mid Channel) tabular data

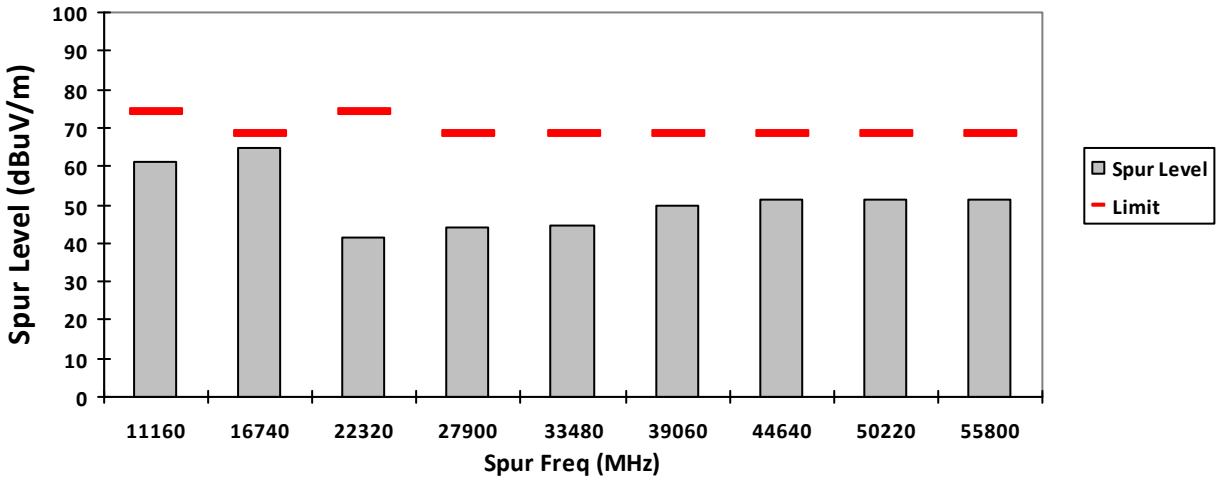
Vertical Radiated Emission Result										
Spur Freq (MHz)	Spur level QPK (dBµV/m)	Spur level PK (dBµV/m)	Spur level AV (dBµV/m)	Limit QPK (dBµV/m)	Limit PK (dBµV/m)	Limit AV (dBµV/m)	Margin QPK (dBµV/m)	Margin PK (dBµV/m)	Margin AV (dBµV/m)	Carrier PK Power (dBµV/m)
11160	-	61.2638**	47.5237**	-	74.0000	54.0000	-	12.7362	6.4763	-
16740	-	64.7195**	-	-	68.2000	-	-	3.4805	-	-
22320	-	41.4593**	-	-	74.0000	-	-	32.5407	-	-
27900	-	43.9856**	-	-	68.2000	-	-	24.2144	-	-
33480	-	44.3810**	-	-	68.2000	-	-	23.8190	-	-
39060	-	49.7783**	-	-	68.2000	-	-	18.4217	-	-
Horizontal Radiated Emission Result										
11160	-	61.2760**	47.5231**	-	74.0000	54.0000	-	12.7240	6.4769	-
16740	-	65.9060**	-	-	68.2000	-	-	2.2940	-	-
22320	-	41.4082**	-	-	74.0000	-	-	32.5918	-	-
27900	-	44.0845**	-	-	68.2000	-	-	24.1155	-	-
33480	-	44.9802**	-	-	68.2000	-	-	23.2198	-	-
39060	-	50.5546**	-	-	68.2000	-	-	17.6454	-	-

Remarks: Pass Result	Marginal Result	Fail Result

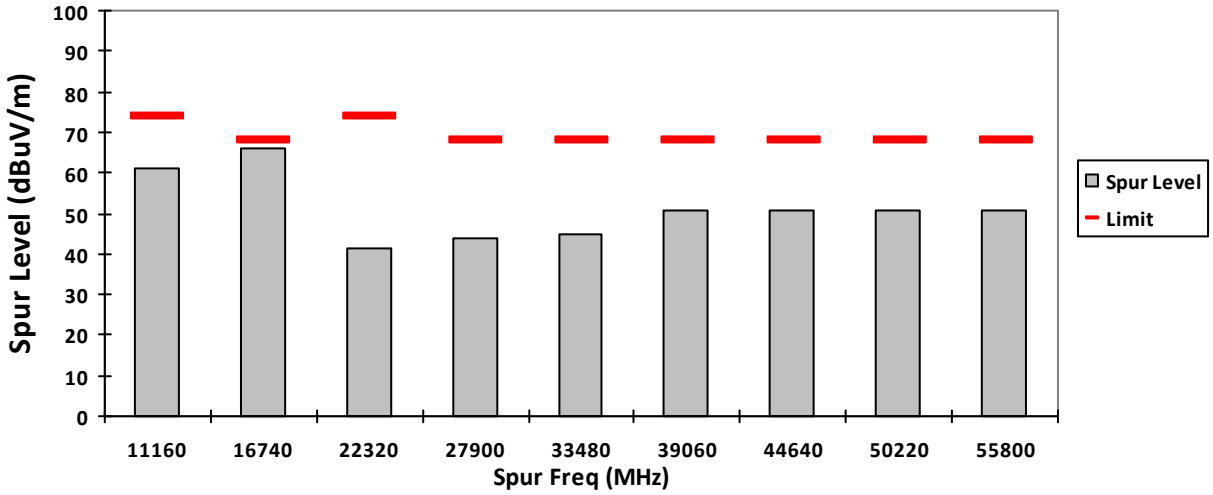
Temperature (degC): 23.5 **Humidity (%): 69.3**
Test Performed by: Nazrin & Rezza **Test Date: Sun, 18 Aug, 2024**
System MU: 5.88 dB (30-1000MHz), 5.84 dB (1000-18000MHz), 6.02 dB (18000MHz-40000MHz)

Remarks: ** Indicates the spurious emission could not be detected due to noise limitations or ambient.
***Pursuant to CFR 47 Part 2.1057 (c), emissions attenuated more than 20 dB below the permissible limit are not reported.**

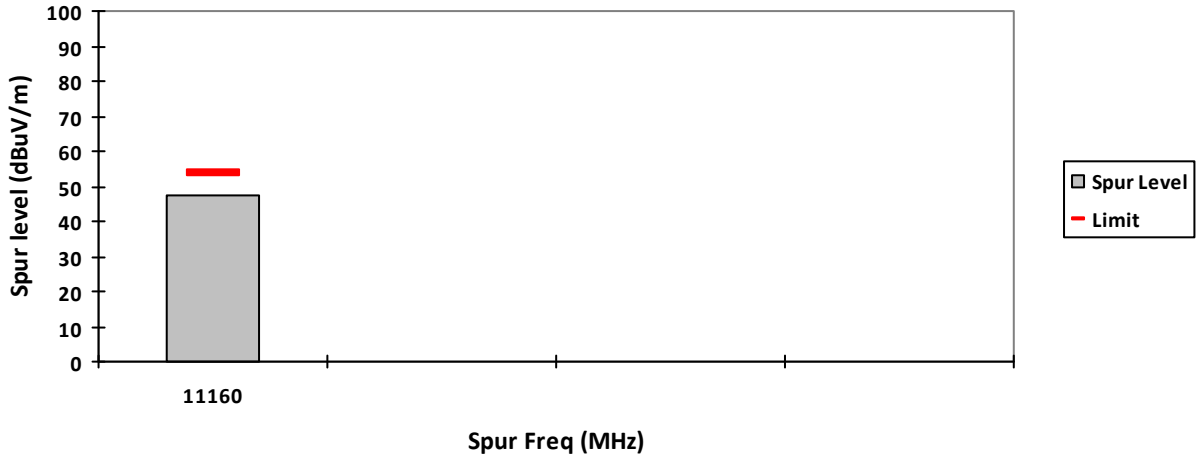
VERTICAL, PK



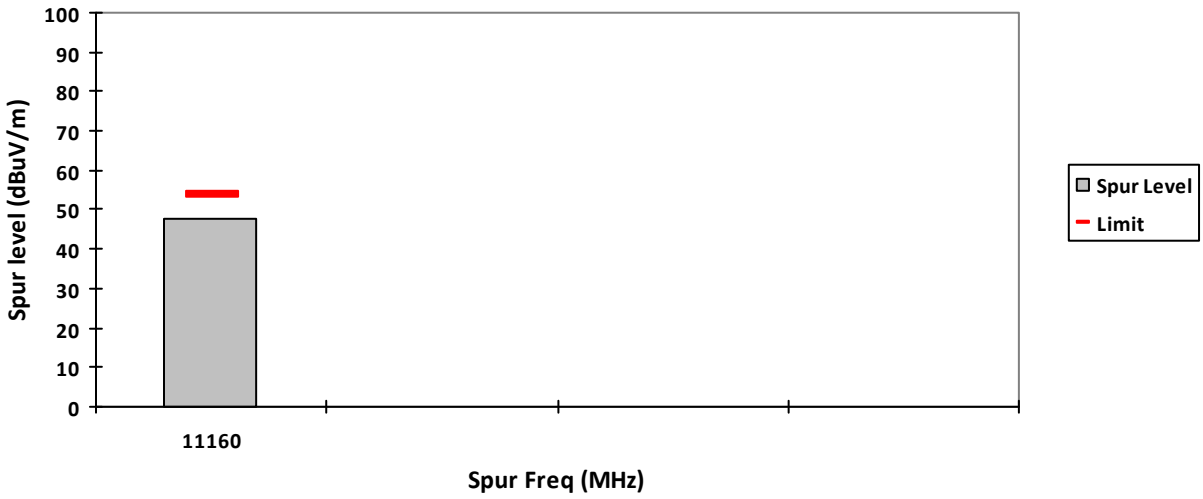
HORIZONTAL, PK



VERTICAL, AV



HORIZONTAL, AV



Test: WIFI SAC Transmitter Radiated Emission
Model#: AAH07RDH9SA1AN S/N: 651EAP0011 EMC SR ID#: 0549N01-EMC-00048
Battery: PMNN4890A Softpot power (15dBm) Accessory: PMAE4079A
Test Channel: Straddle Test Frequency: 5720.0000 MHz Test Standard: ANSI C63.10-2013
Worst Case Plane: Z-Plane (802.11a 20MHz)

Radiated Emission (Straddle Channel) tabular data

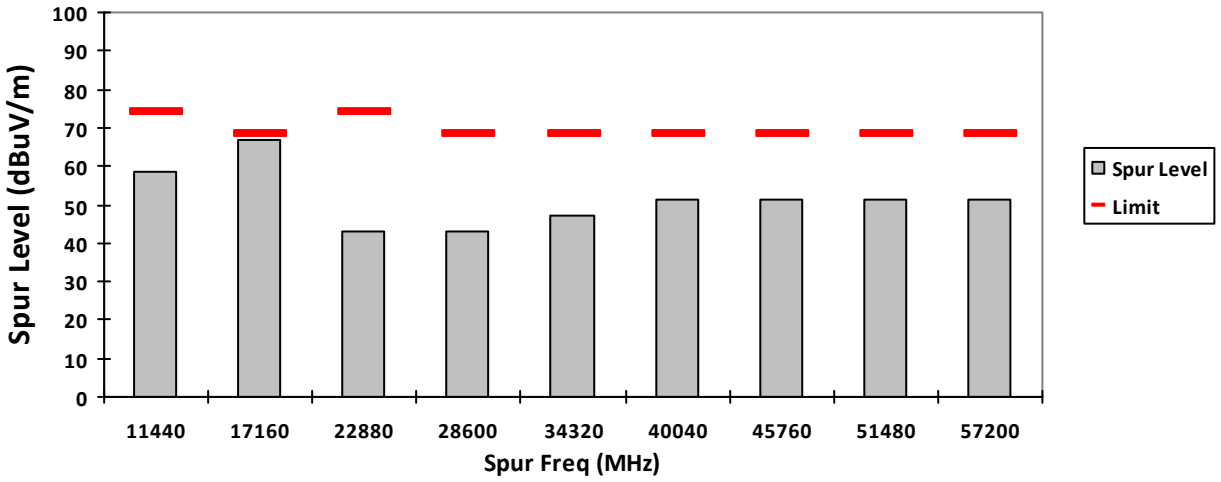
Vertical Radiated Emission Result										
Spur Freq (MHz)	Spur level QPK (dBµV/m)	Spur level PK (dBµV/m)	Spur level AV (dBµV/m)	Limit QPK (dBµV/m)	Limit PK (dBµV/m)	Limit AV (dBµV/m)	Margin QPK (dBµV/m)	Margin PK (dBµV/m)	Margin AV (dBµV/m)	Carrier PK Power (dBµV/m)
11440	-	62.2147**	48.6005**	-	74.0000	54.0000	-	11.7853	5.3995	-
17160	-	66.6166**	-	-	68.2000	-	-	1.5834	-	-
22880	-	43.0525**	-	-	74.0000	-	-	30.9475	-	-
28600	-	42.7936**	-	-	68.2000	-	-	25.4064	-	-
34320	-	47.0282**	-	-	68.2000	-	-	21.1718	-	-
Horizontal Radiated Emission Result										
11440	-	62.9754**	48.5998**	-	74.0000	54.0000	-	11.0246	5.4002	-
17160	-	66.7418**	-	-	68.2000	-	-	1.4582	-	-
22880	-	42.5920**	-	-	74.0000	-	-	31.4080	-	-
28600	-	43.4362**	-	-	68.2000	-	-	24.7638	-	-
34320	-	47.3482**	-	-	68.2000	-	-	20.8518	-	-

Remarks: Pass Result	Marginal Result	Fail Result

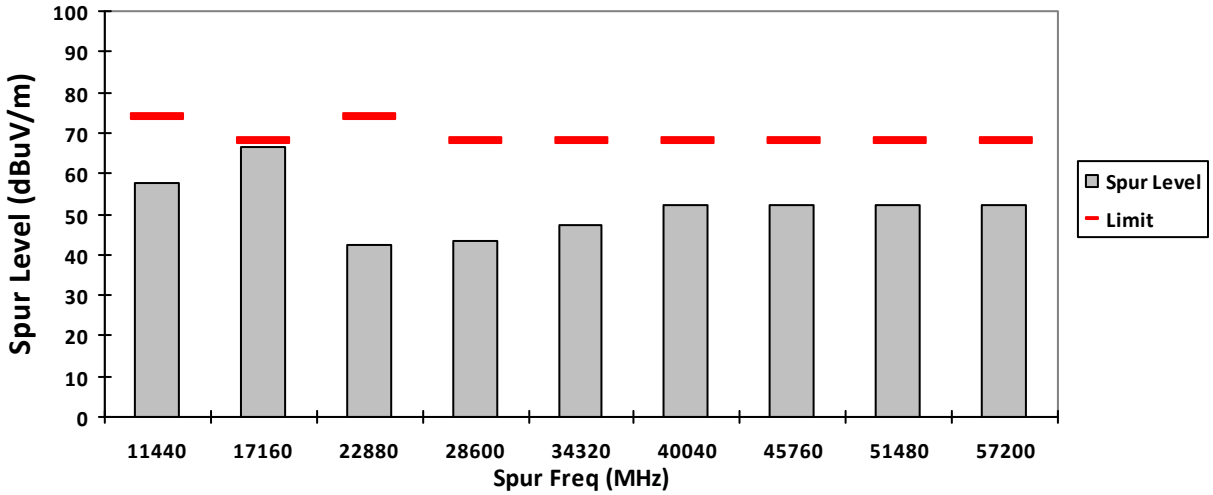
Temperature (degC): 23.5 **Humidity (%): 69.3**
Test Performed by: Nazrin & Rezza **Test Date: Sun, 18 Aug, 2024**
System MU: 5.88 dB (30-1000MHz), 5.84 dB (1000-18000MHz), 6.02 dB (18000MHz-40000MHz)

Remarks: ** Indicates the spurious emission could not be detected due to noise limitations or ambient.
***Pursuant to CFR 47 Part 2.1057 (c), emissions attenuated more than 20 dB below the permissible limit are not reported.**

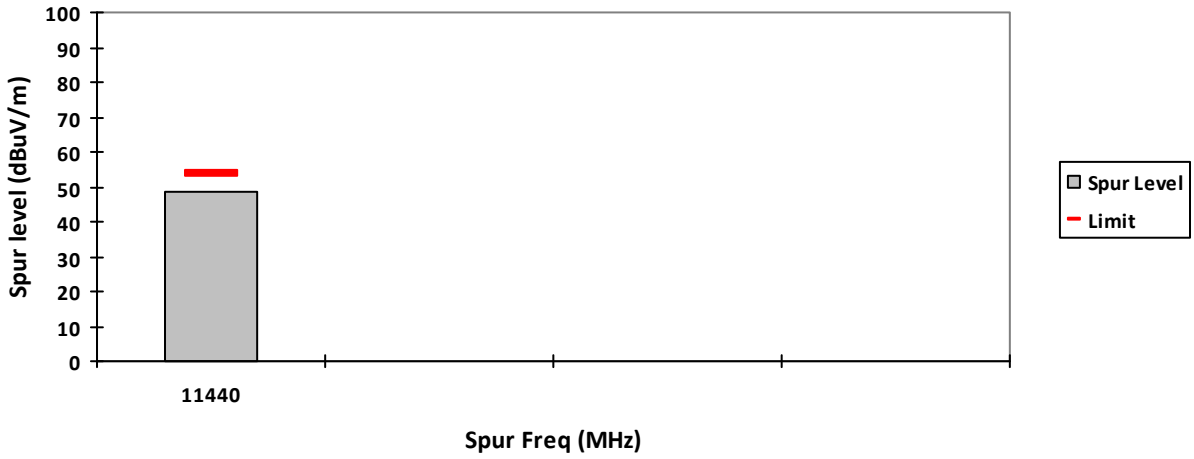
VERTICAL, PK



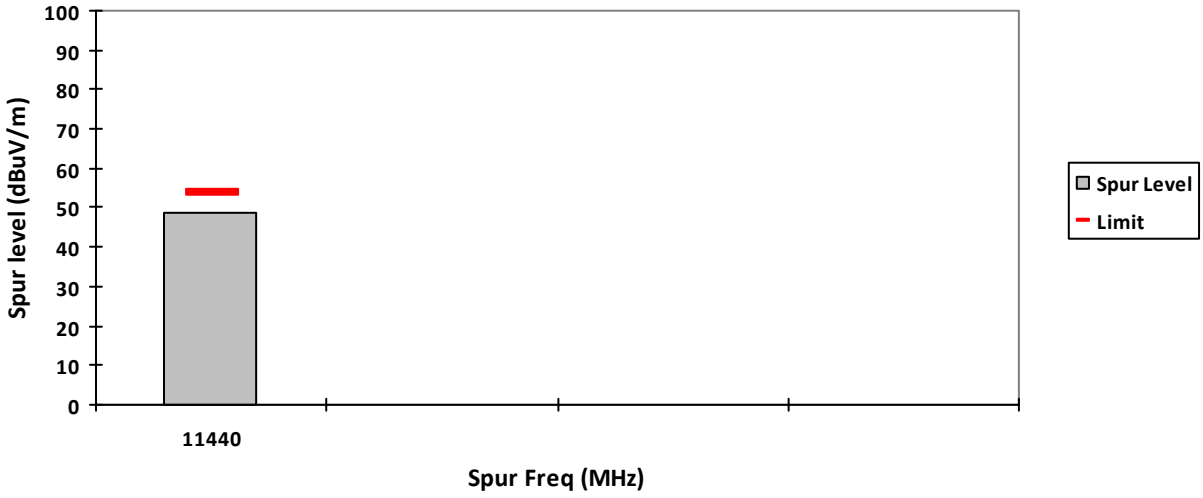
HORIZONTAL, PK



VERTICAL, AV



HORIZONTAL, AV



Test: WIFI SAC Transmitter Radiated Emission
Model#: AAH07RDH9SA1AN S/N: 651EAP0011 EMC SR ID#: 0549N01-EMC-00048
Battery: PMNN4890A Softpot power (14dBm) Accessory: PMAE4079A
Test Channel: Low Test Frequency: 5745.0000 MHz Test Standard: ANSI C63.10-2013
Worst Case Plane: Z-Plane (802.11a 20MHz)

Radiated Emission (Low Channel) tabular data

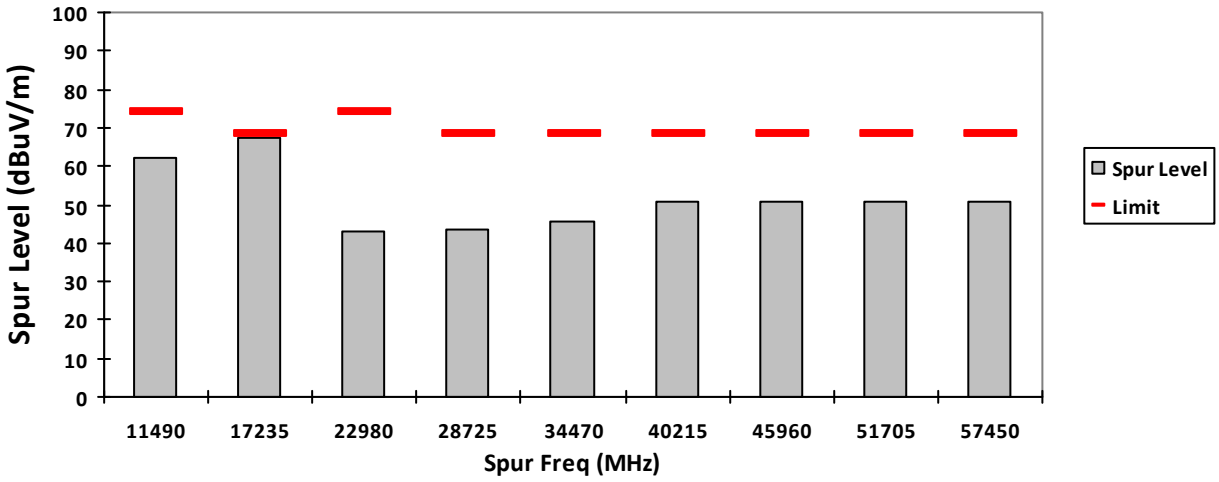
Vertical Radiated Emission Result										
Spur Freq (MHz)	Spur level QPK (dBµV/m)	Spur level PK (dBµV/m)	Spur level AV (dBµV/m)	Limit QPK (dBµV/m)	Limit PK (dBµV/m)	Limit AV (dBµV/m)	Margin QPK (dBµV/m)	Margin PK (dBµV/m)	Margin AV (dBµV/m)	Carrier PK Power (dBµV/m)
11490	-	62.2409**	48.5443**	-	74.0000	54.0000	-	11.7591	5.4557	-
17235	-	67.4567**	-	-	68.2000	-	-	0.7433	-	-
22980	-	42.9467**	-	-	74.0000	-	-	31.0533	-	-
28725	-	43.3122**	-	-	68.2000	-	-	24.8878	-	-
34470	-	45.7626**	-	-	68.2000	-	-	22.4374	-	-
Horizontal Radiated Emission Result										
11490	-	61.8422**	48.5467**	-	74.0000	54.0000	-	12.1578	5.4533	-
17235	-	67.6590**	-	-	68.2000	-	-	0.5410	-	-
22980	-	42.0224**	-	-	74.0000	-	-	31.9776	-	-
28725	-	44.2182**	-	-	68.2000	-	-	23.9818	-	-
34470	-	45.6861**	-	-	68.2000	-	-	22.5139	-	-

Remarks: Pass Result	Marginal Result	Fail Result

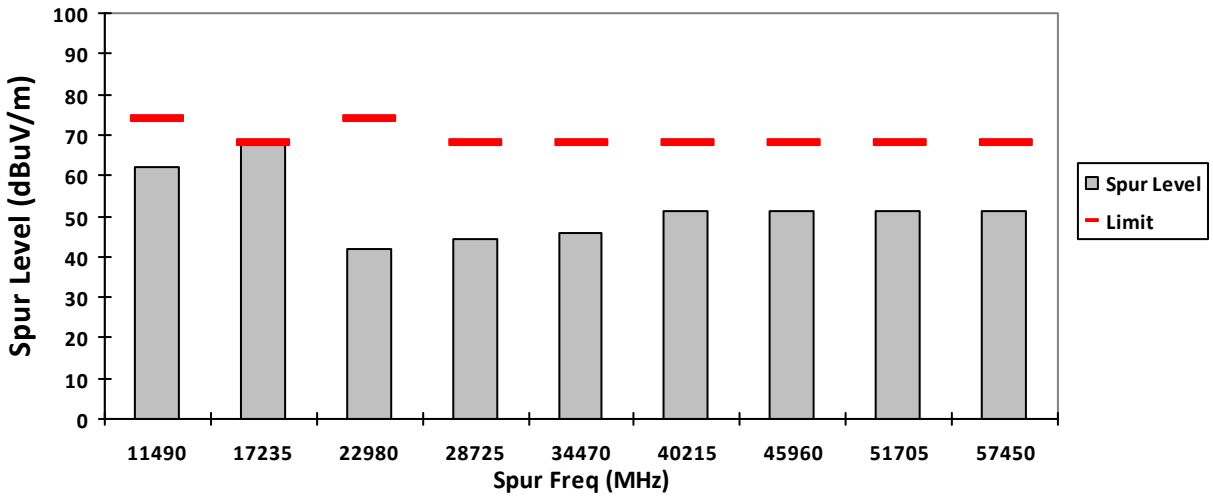
Temperature (degC): 23.5 **Humidity (%): 69.3**
Test Performed by: Nazrin & Rezza **Test Date: Sun, 18 Aug, 2024**
System MU: 5.88 dB (30-1000MHz), 5.84 dB (1000-18000MHz), 6.02 dB (18000MHz-40000MHz)

Remarks: ** Indicates the spurious emission could not be detected due to noise limitations or ambient.
***Pursuant to CFR 47 Part 2.1057 (c), emissions attenuated more than 20 dB below the permissible limit are not reported.**

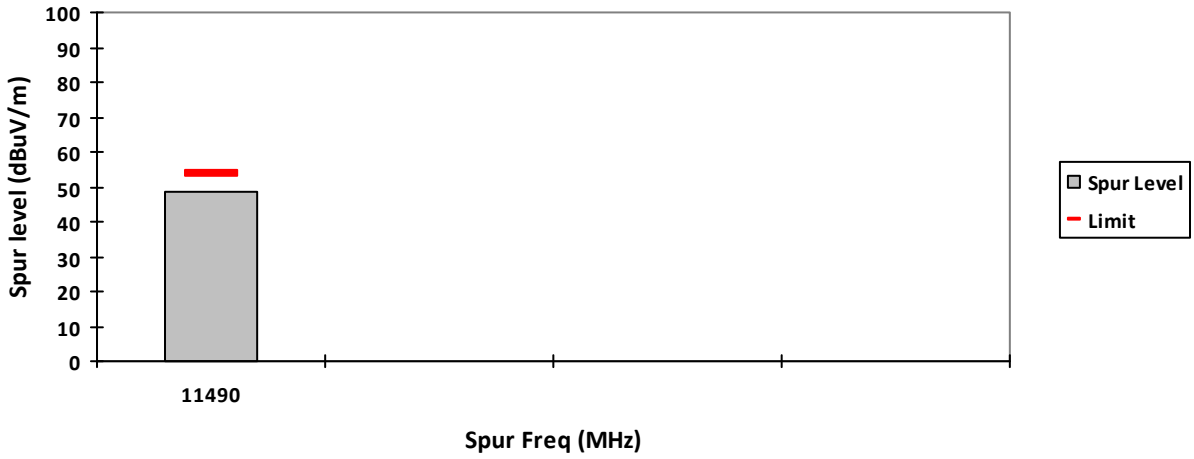
VERTICAL, PK



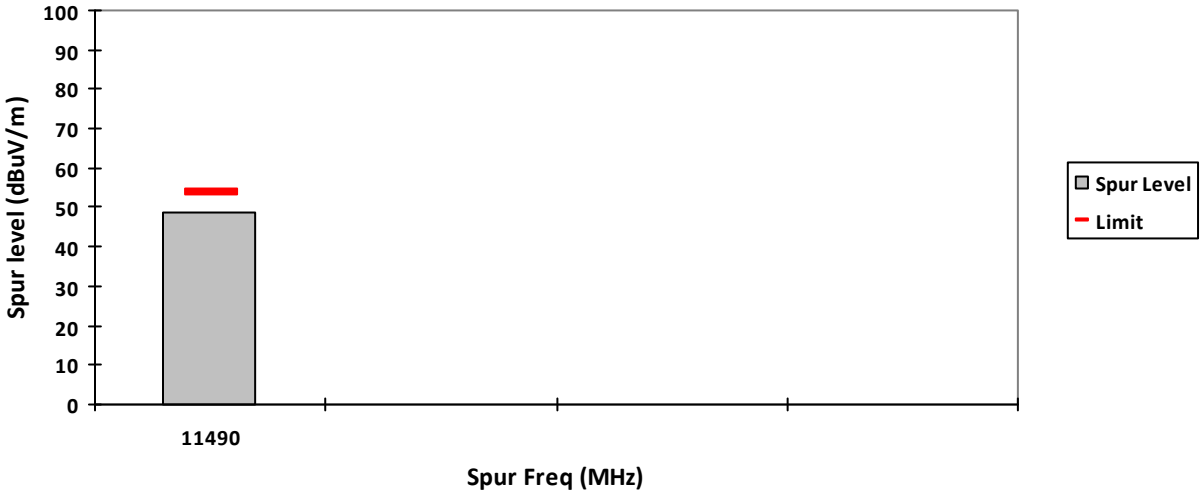
HORIZONTAL, PK



VERTICAL, AV



HORIZONTAL, AV



Test: WIFI SAC Transmitter Radiated Emission
Model#: AAH07RDH9SA1AN S/N: 651EAP0011 EMC SR ID#: 0549N01-EMC-00048
Battery: PMNN4890A Softpot power (14dBm) Accessory: PMAE4079A
Test Channel: Mid Test Frequency: 5785.0000 MHz Test Standard: ANSI C63.10-2013
Worst Case Plane: Z-Plane (802.11a 20MHz)

Radiated Emission (Mid Channel) tabular data

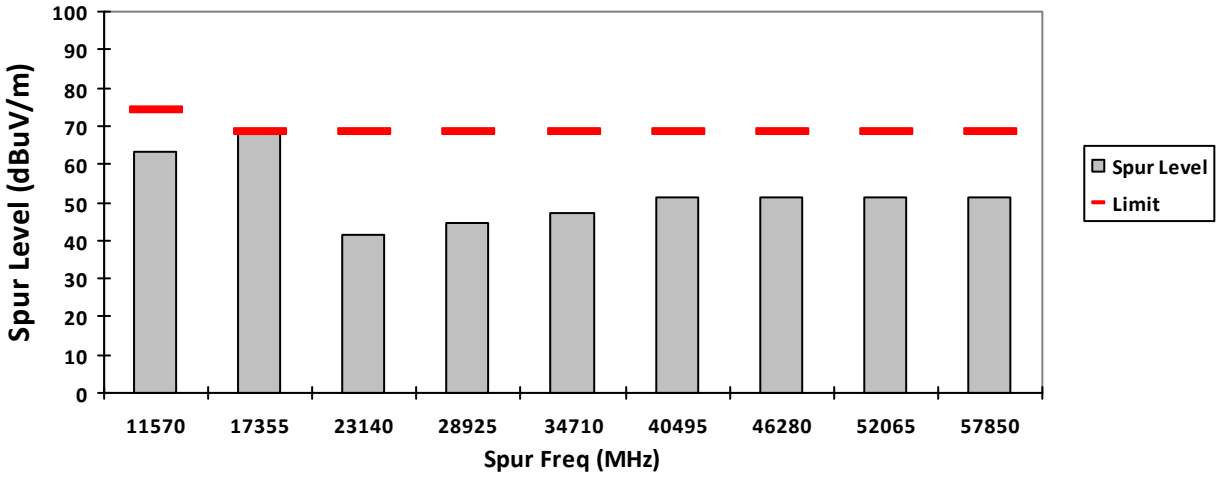
Vertical Radiated Emission Result										
Spur Freq (MHz)	Spur level QPK (dBµV/m)	Spur level PK (dBµV/m)	Spur level AV (dBµV/m)	Limit QPK (dBµV/m)	Limit PK (dBµV/m)	Limit AV (dBµV/m)	Margin QPK (dBµV/m)	Margin PK (dBµV/m)	Margin AV (dBµV/m)	Carrier PK Power (dBµV/m)
11570	-	63.1717**	48.7958**	-	74.0000	54.0000	-	10.8283	5.2042	-
17355	-	67.6444**	-	-	68.2000	-	-	0.5556	-	-
23140	-	41.5208**	-	-	68.2000	-	-	26.6792	-	-
28925	-	44.6363**	-	-	68.2000	-	-	23.5637	-	-
34710	-	46.8988**	-	-	68.2000	-	-	21.3012	-	-
Horizontal Radiated Emission Result										
11570	-	62.0205**	48.6495**	-	74.0000	54.0000	-	11.9795	5.3505	-
17355	-	67.6932**	-	-	68.2000	-	-	0.5068	-	-
23140	-	42.2408**	-	-	68.2000	-	-	25.9592	-	-
28925	-	44.5781**	-	-	68.2000	-	-	23.6219	-	-
34710	-	46.8479**	-	-	68.2000	-	-	21.3521	-	-

Remarks: Pass Result	Marginal Result	Fail Result

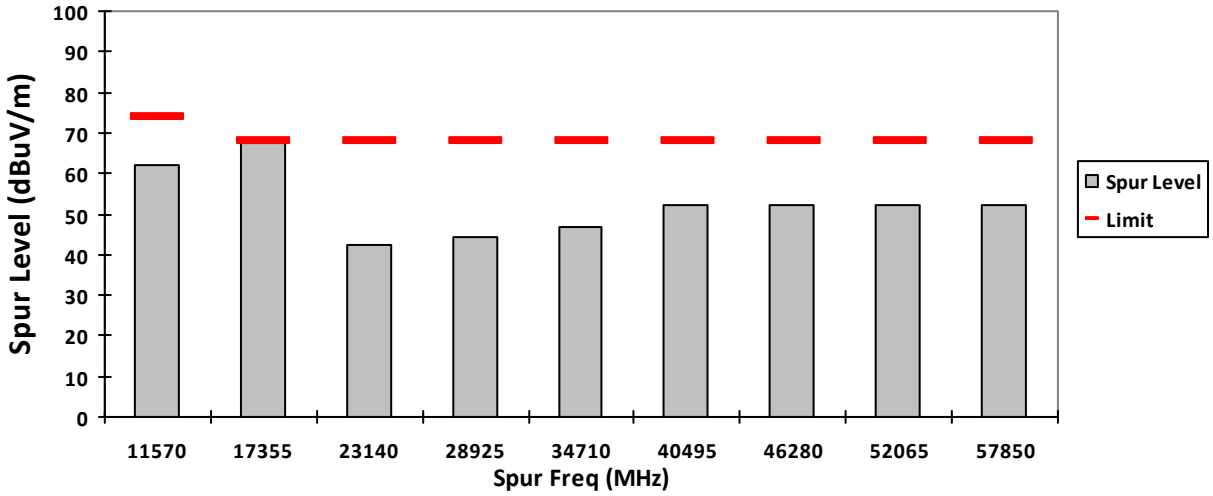
Temperature (degC): 23.5 **Humidity (%): 69.3**
Test Performed by: Nazrin & Rezza **Test Date: Sun, 18 Aug, 2024**
System MU: 5.88 dB (30-1000MHz), 5.84 dB (1000-18000MHz), 6.02 dB (18000MHz-40000MHz)

Remarks: ** Indicates the spurious emission could not be detected due to noise limitations or ambient.
***Pursuant to CFR 47 Part 2.1057 (c), emissions attenuated more than 20 dB below the permissible limit are not reported.**

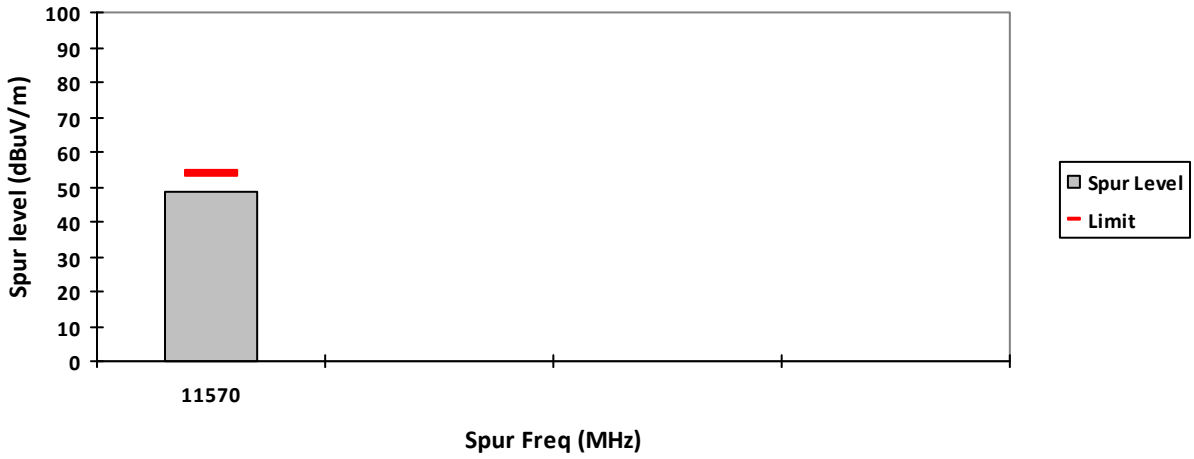
VERTICAL, PK



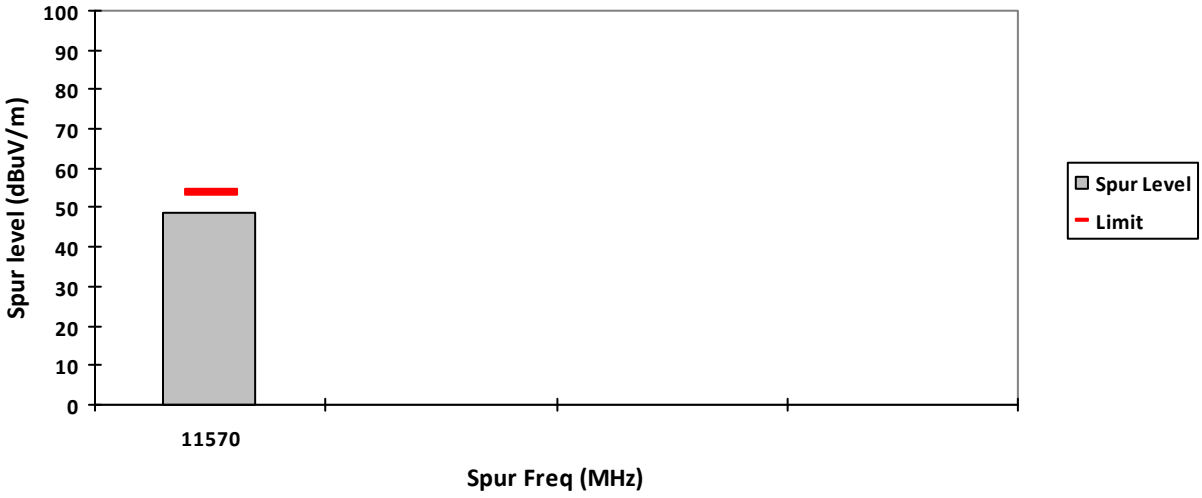
HORIZONTAL, PK



VERTICAL, AV



HORIZONTAL, AV



Test: WIFI SAC Transmitter Radiated Emission
Model#: AAH07RDH9SA1AN S/N: 651EAP0011 EMC SR ID#: 0549N01-EMC-00048
Battery: PMNN4890A Softpot power (14dBm) Accessory: PMAE4079A
Test Channel: High Test Frequency: 5825.0000 MHz Test Standard: ANSI C63.10-2013
Worst Case Plane: Z-Plane (802.11a 20MHz)

Radiated Emission (High Channel) tabular data

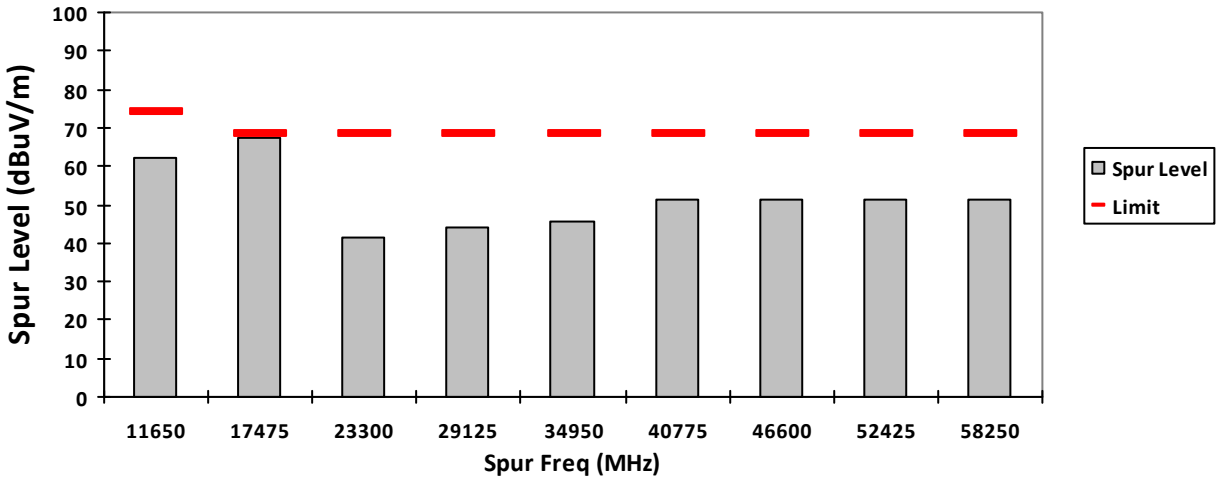
Vertical Radiated Emission Result										
Spur Freq (MHz)	Spur level QPK (dBµV/m)	Spur level PK (dBµV/m)	Spur level AV (dBµV/m)	Limit QPK (dBµV/m)	Limit PK (dBµV/m)	Limit AV (dBµV/m)	Margin QPK (dBµV/m)	Margin PK (dBµV/m)	Margin AV (dBµV/m)	Carrier PK Power (dBµV/m)
11650	-	62.3505**	48.8588**	-	74.0000	-	-	11.6495	5.1412	-
17475	-	67.1191**	-	-	68.2000	-	-	1.0809	-	-
23300	-	41.6834**	-	-	68.2000	-	-	26.5166	-	-
29125	-	44.2809**	-	-	68.2000	-	-	23.9191	-	-
34950	-	45.7401**	-	-	68.2000	-	-	22.4599	-	-
Horizontal Radiated Emission Result										
11650	-	62.0811**	48.8519**	-	74.0000	-	-	11.9189	5.1481	-
17475	-	67.8921**	-	-	68.2000	-	-	0.3079	-	-
23300	-	42.2496**	-	-	68.2000	-	-	25.9504	-	-
29125	-	43.0388**	-	-	68.2000	-	-	25.1612	-	-
34950	-	44.9234**	-	-	68.2000	-	-	23.2766	-	-

Remarks: Pass Result	Marginal Result	Fail Result

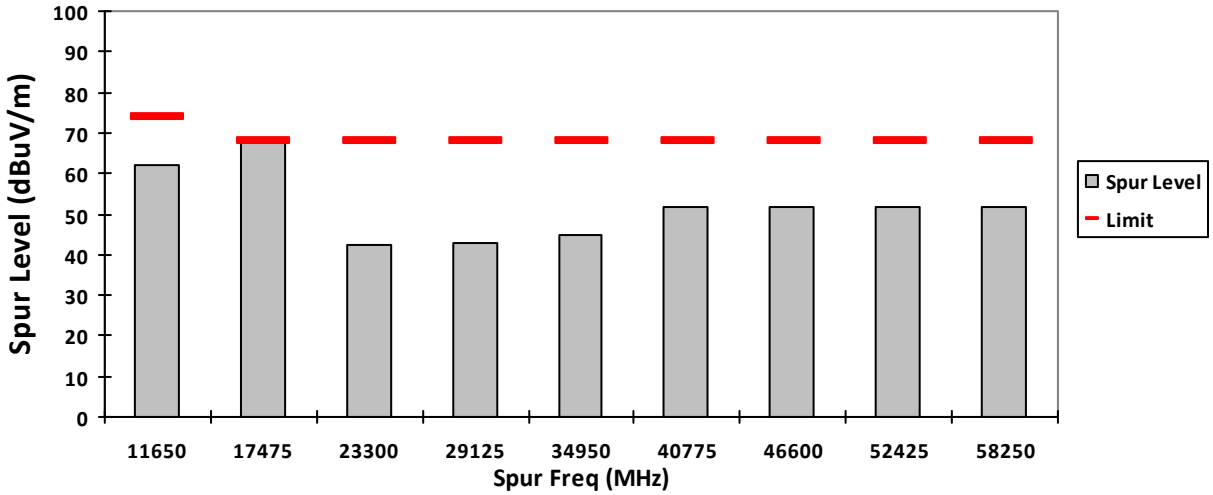
Temperature (degC): 23.5 **Humidity (%): 69.3**
Test Performed by: Nazrin & Rezza **Test Date: Sun, 18 Aug, 2024**
System MU: 5.88 dB (30-1000MHz), 5.84 dB (1000-18000MHz), 6.02 dB (18000MHz-40000MHz)

Remarks: ** Indicates the spurious emission could not be detected due to noise limitations or ambient.
***Pursuant to CFR 47 Part 2.1057 (c), emissions attenuated more than 20 dB below the permissible limit are not reported.**

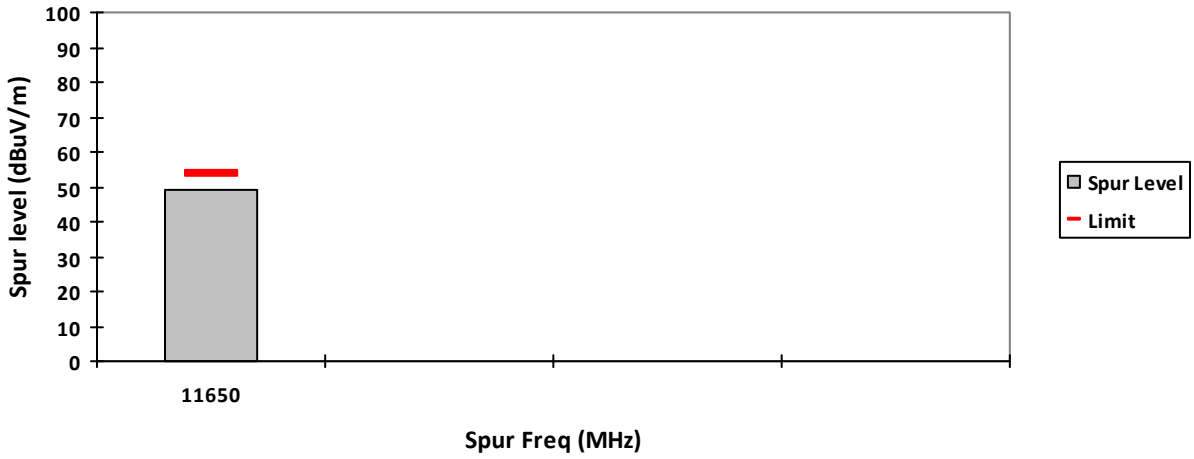
VERTICAL, PK



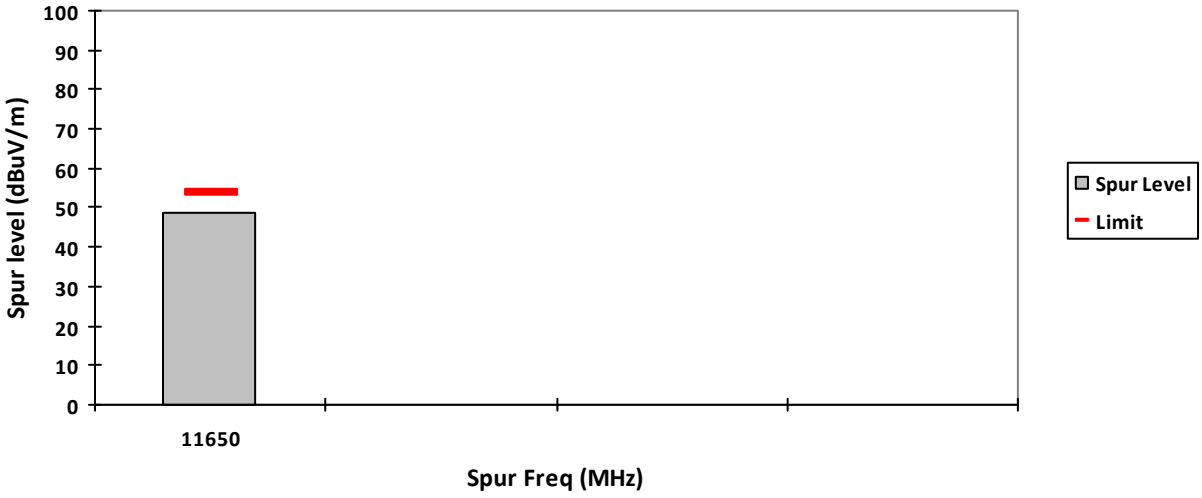
HORIZONTAL, PK



VERTICAL, AV



HORIZONTAL, AV



802.11n (HT20)

Test: WIFI SAC Transmitter Radiated Emission
Model#: AAH07RDH9SA1AN S/N: 651EAP0011 EMC SR ID#: 0549N01-EMC-00048
Battery: PMNN4890A Softpot power (15dBm) Accessory: PMAE4079A
Test Channel: Low Test Frequency: 5180.0000 MHz Test Standard: ANSI C63.10-2013
Worst Case Plane: Z-Plane (802.11n 20MHz)

Radiated Emission (Low Channel) tabular data

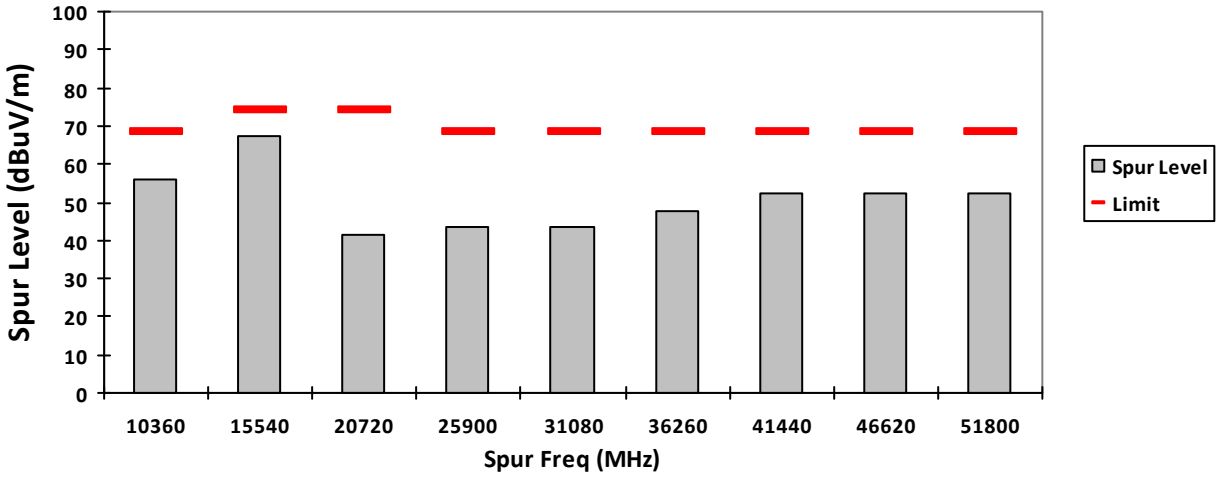
Vertical Radiated Emission Result										
Spur Freq (MHz)	Spur level QPK (dBµV/m)	Spur level PK (dBµV/m)	Spur level AV (dBµV/m)	Limit QPK (dBµV/m)	Limit PK (dBµV/m)	Limit AV (dBµV/m)	Margin QPK (dBµV/m)	Margin PK (dBµV/m)	Margin AV (dBµV/m)	Carrier PK Power (dBµV/m)
10360	-	56.1522**	-	-	68.2000	-	-	12.0478	-	-
15540	-	67.3579**	53.1351**	-	74.0000	54.0000	-	6.6421	0.8649	-
20720	-	41.3584**	-	-	74.0000	-	-	32.6416	-	-
25900	-	43.3967**	-	-	68.2000	-	-	24.8033	-	-
31080	-	43.6698**	-	-	68.2000	-	-	24.5302	-	-
36260	-	47.4235**	-	-	68.2000	-	-	20.7765	-	-
Horizontal Radiated Emission Result										
10360	-	56.2656**	-	-	68.2000	-	-	11.9344	-	-
15540	-	67.2082**	53.1711**	-	74.0000	54.0000	-	6.7918	0.8289	-
20720	-	40.6724**	-	-	74.0000	-	-	33.3276	-	-
25900	-	43.7455**	-	-	68.2000	-	-	24.4545	-	-
31080	-	44.0240**	-	-	68.2000	-	-	24.1760	-	-
36260	-	46.7543**	-	-	68.2000	-	-	21.4457	-	-

Remarks: Pass Result	Marginal Result	Fail Result

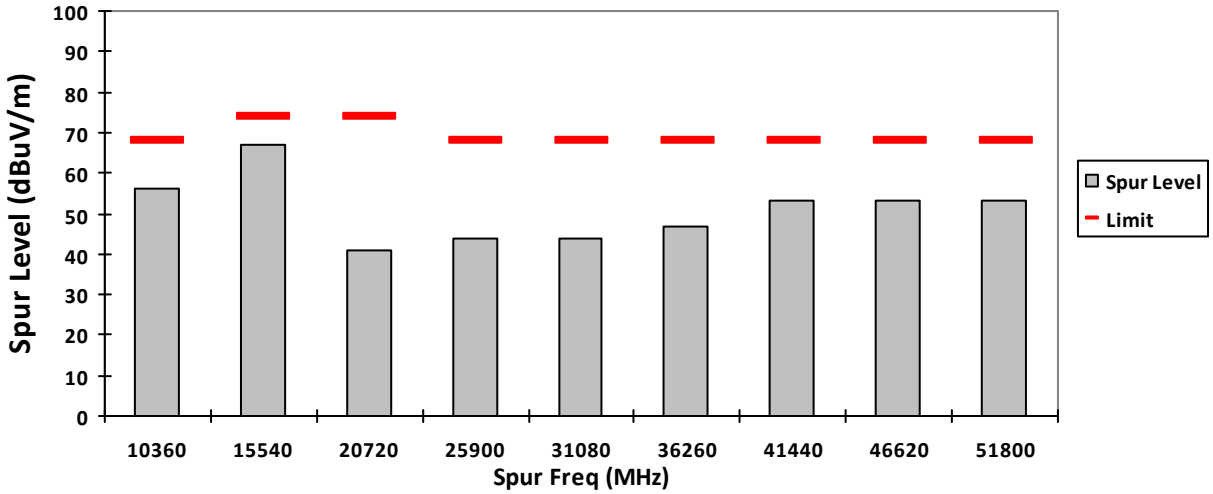
Temperature (degC): 23.5 **Humidity (%): 69.3**
Test Performed by: Nazrin & Rezza **Test Date: Sun, 18 Aug, 2024**
System MU: 5.88 dB (30-1000MHz), 5.84 dB (1000-18000MHz), 6.02 dB (18000MHz-40000MHz)

Remarks: ** Indicates the spurious emission could not be detected due to noise limitations or ambient.
***Pursuant to CFR 47 Part 2.1057 (c), emissions attenuated more than 20 dB below the permissible limit are not reported.**

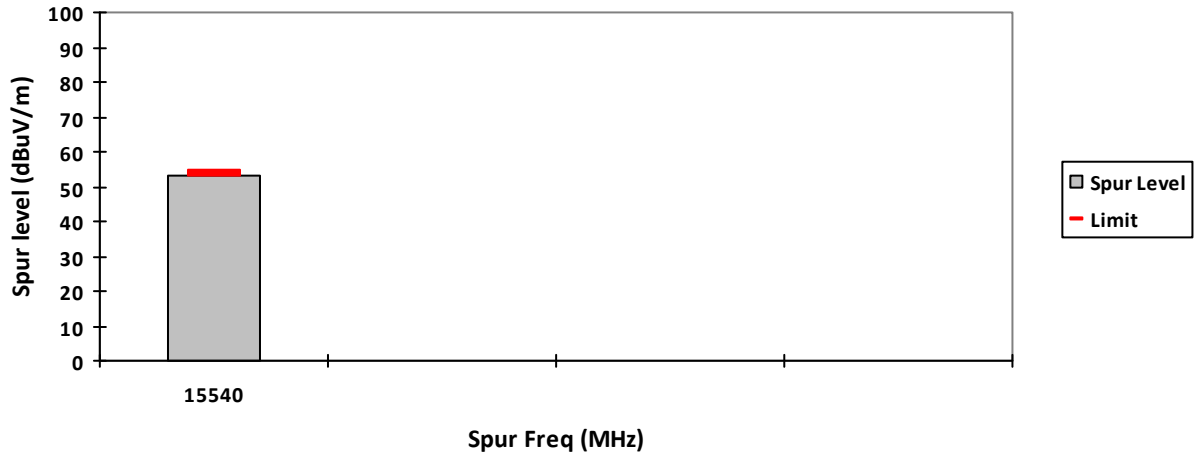
VERTICAL, PK



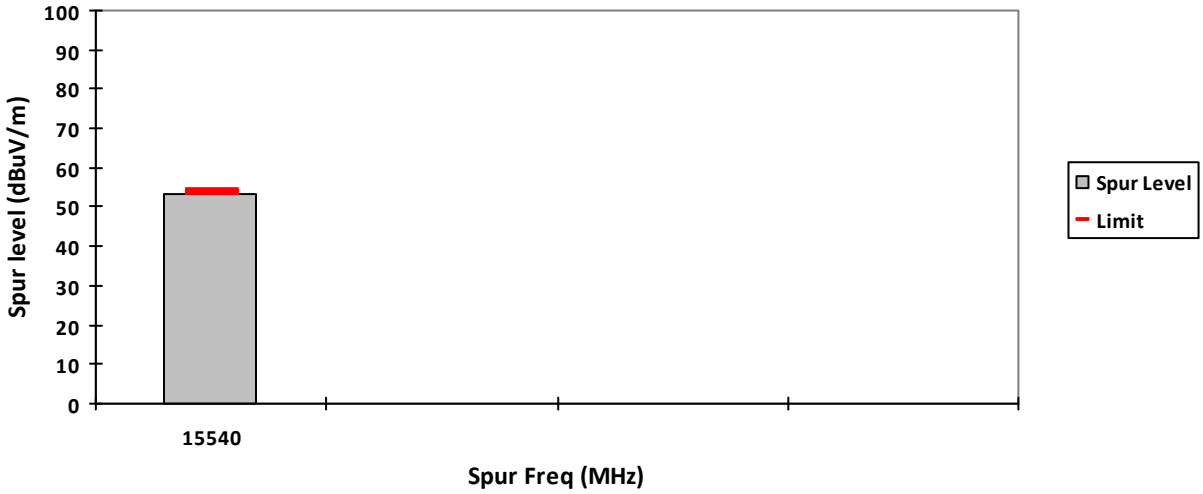
HORIZONTAL, PK



VERTICAL, AV



HORIZONTAL, AV



Test: WIFI SAC Transmitter Radiated Emission
Model#: AAH07RDH9SA1AN S/N: 651EAP0011 EMC SR ID#: 0549N01-EMC-00048
Battery: PMNN4890A Softpot power (17dBm) Accessory: PMAE4079A
Test Channel: Mid Test Frequency: 5220.0000 MHz Test Standard: ANSI C63.10-2013
Worst Case Plane: Z-Plane (802.11n 20MHz)

Radiated Emission (Mid Channel) tabular data

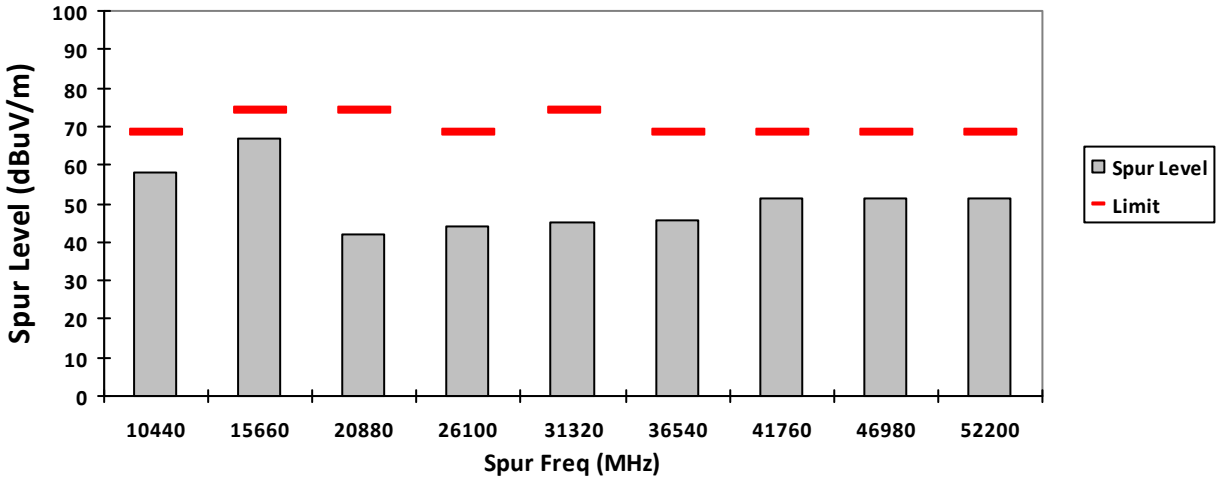
Vertical Radiated Emission Result										
Spur Freq (MHz)	Spur level QPK (dBµV/m)	Spur level PK (dBµV/m)	Spur level AV (dBµV/m)	Limit QPK (dBµV/m)	Limit PK (dBµV/m)	Limit AV (dBµV/m)	Margin QPK (dBµV/m)	Margin PK (dBµV/m)	Margin AV (dBµV/m)	Carrier PK Power (dBµV/m)
10440	-	58.0836**	-	-	68.2000	-	-	10.1164	-	-
15660	-	66.9940**	53.2395**	-	74.0000	54.0000	-	7.0060	0.7605	-
20880	-	42.0844**	-	-	74.0000	-	-	31.9156	-	-
26100	-	44.1868**	-	-	68.2000	-	-	24.0132	-	-
31320	-	45.1252**	-	-	74.0000	-	-	28.8748	-	-
36540	-	45.5528**	-	-	68.2000	-	-	22.6472	-	-
Horizontal Radiated Emission Result										
10440	-	56.7778**	-	-	68.2000	-	-	11.4222	-	-
15660	-	66.8624**	53.2402**	-	74.0000	54.0000	-	7.1376	0.7598	-
20880	-	40.8793**	-	-	74.0000	-	-	33.1207	-	-
26100	-	44.6152**	-	-	68.2000	-	-	23.5848	-	-
31320	-	44.8753**	-	-	74.0000	-	-	29.1247	-	-
36540	-	46.2917**	-	-	68.2000	-	-	21.9083	-	-

Remarks: Pass Result	Marginal Result	Fail Result

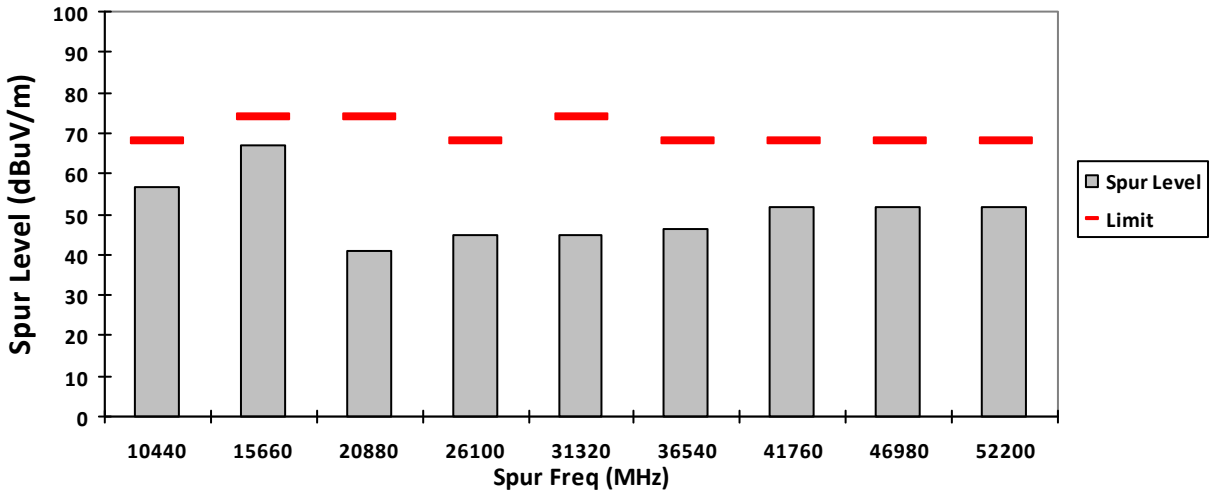
Temperature (degC): 23.5 **Humidity (%): 69.3**
Test Performed by: Nazrin & Rezza **Test Date: Sun, 18 Aug, 2024**
System MU: 5.88 dB (30-1000MHz), 5.84 dB (1000-18000MHz), 6.02 dB (18000MHz-40000MHz)

Remarks: ** Indicates the spurious emission could not be detected due to noise limitations or ambient.
***Pursuant to CFR 47 Part 2.1057 (c), emissions attenuated more than 20 dB below the permissible limit are not reported.**

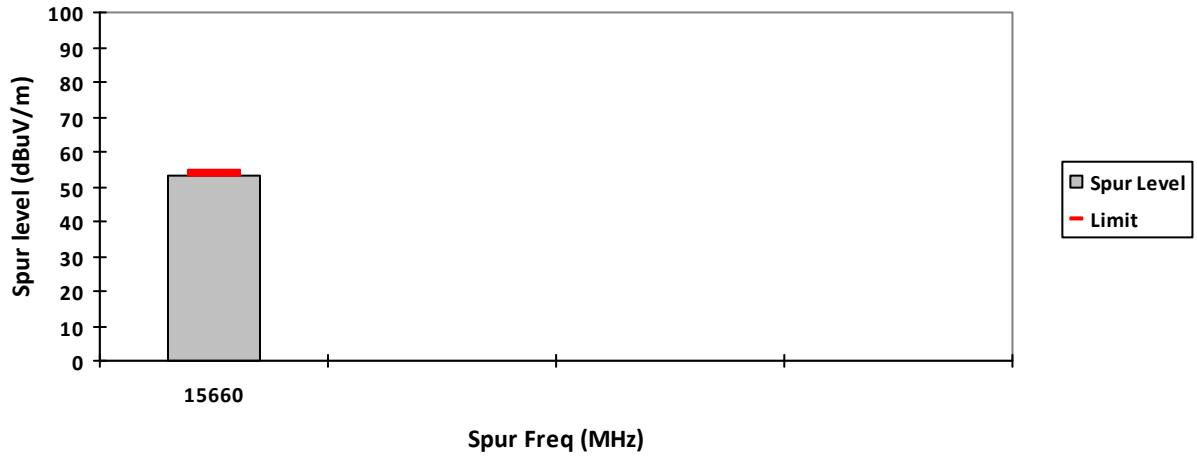
VERTICAL, PK



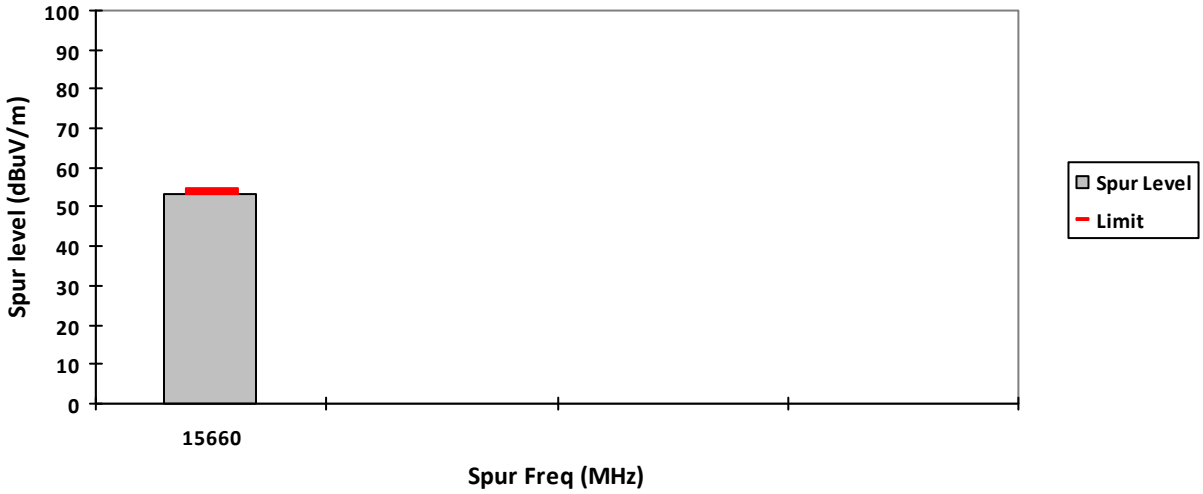
HORIZONTAL, PK



VERTICAL, AV



HORIZONTAL, AV



Test: WIFI SAC Transmitter Radiated Emission
Model#: AAH07RDH9SA1AN S/N: 651EAP0011 EMC SR ID#: 0549N01-EMC-00048
Battery: PMNN4890A Softpot power (17dBm) Accessory: PMAE4079A
Test Channel: High Test Frequency: 5240.0000 MHz Test Standard: ANSI C63.10-2013
Worst Case Plane: Z-Plane (802.11n 20MHz)

Radiated Emission (High Channel) tabular data

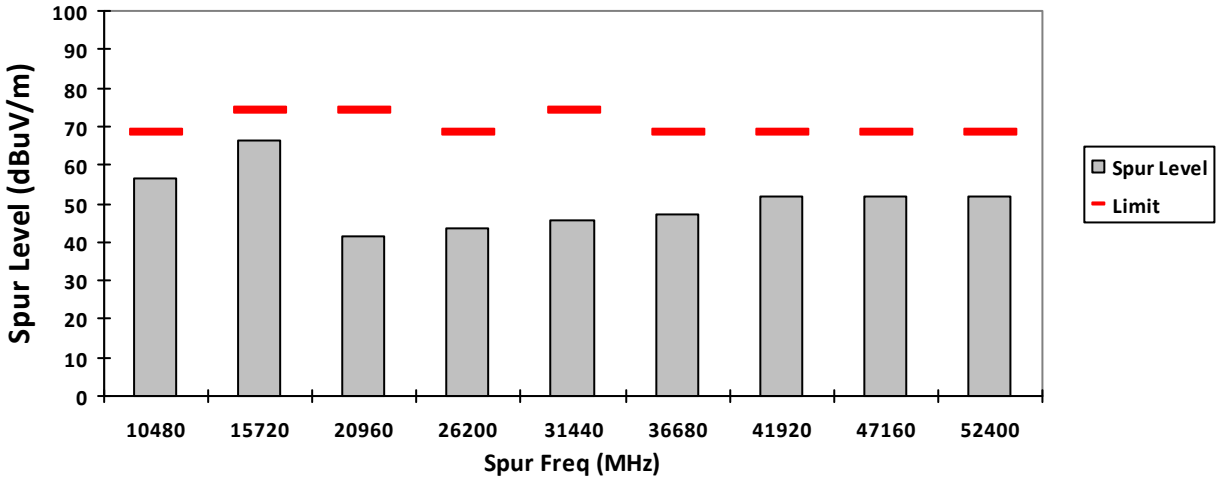
Vertical Radiated Emission Result										
Spur Freq (MHz)	Spur level QPK (dBµV/m)	Spur level PK (dBµV/m)	Spur level AV (dBµV/m)	Limit QPK (dBµV/m)	Limit PK (dBµV/m)	Limit AV (dBµV/m)	Margin QPK (dBµV/m)	Margin PK (dBµV/m)	Margin AV (dBµV/m)	Carrier PK Power (dBµV/m)
10480	-	56.7270**	-	-	68.2000	-	-	11.4730	-	-
15720	-	66.2693**	52.8385**	-	74.0000	54.0000	-	7.7307	1.1615	-
20960	-	41.5717**	-	-	74.0000	-	-	32.4283	-	-
26200	-	43.2753**	-	-	68.2000	-	-	24.9247	-	-
31440	-	45.3998**	-	-	74.0000	-	-	28.6002	-	-
36680	-	47.0071**	-	-	68.2000	-	-	21.1929	-	-
Horizontal Radiated Emission Result										
10480	-	56.8880**	-	-	68.2000	-	-	11.3120	-	-
15720	-	66.4111**	52.8408**	-	74.0000	54.0000	-	7.5889	1.1592	-
20960	-	41.4648**	-	-	74.0000	-	-	32.5352	-	-
26200	-	43.9663**	-	-	68.2000	-	-	24.2337	-	-
31440	-	45.4212**	-	-	74.0000	-	-	28.5788	-	-
36680	-	47.3954**	-	-	68.2000	-	-	20.8046	-	-

Remarks: Pass Result	Marginal Result	Fail Result

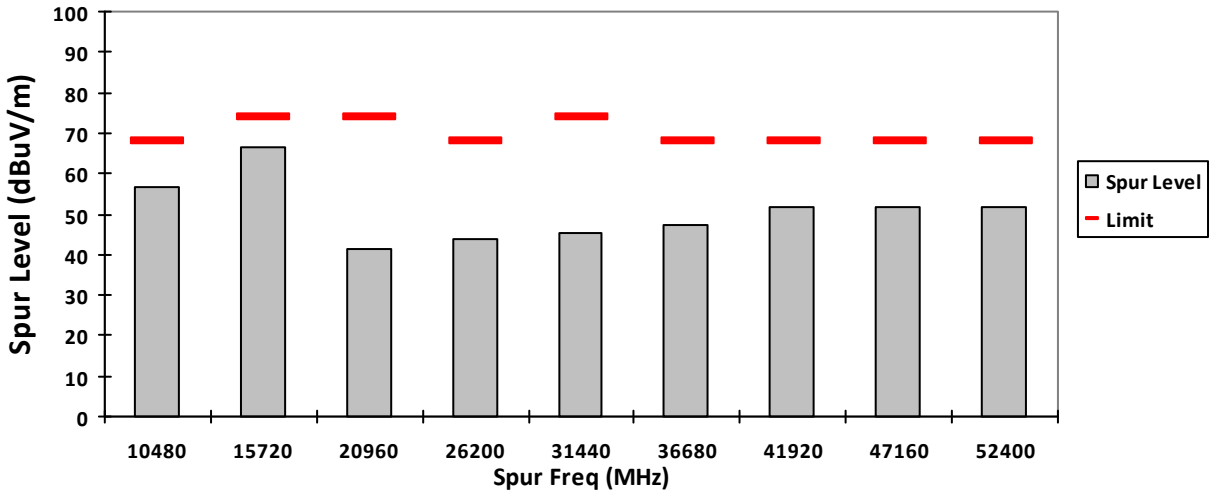
Temperature (degC): 23.5 **Humidity (%): 69.3**
Test Performed by: Nazrin & Rezza **Test Date: Sun, 18 Aug, 2024**
System MU: 5.88 dB (30-1000MHz), 5.84 dB (1000-18000MHz), 6.02 dB (18000MHz-40000MHz)

Remarks: ** Indicates the spurious emission could not be detected due to noise limitations or ambient.
***Pursuant to CFR 47 Part 2.1057 (c), emissions attenuated more than 20 dB below the permissible limit are not reported.**

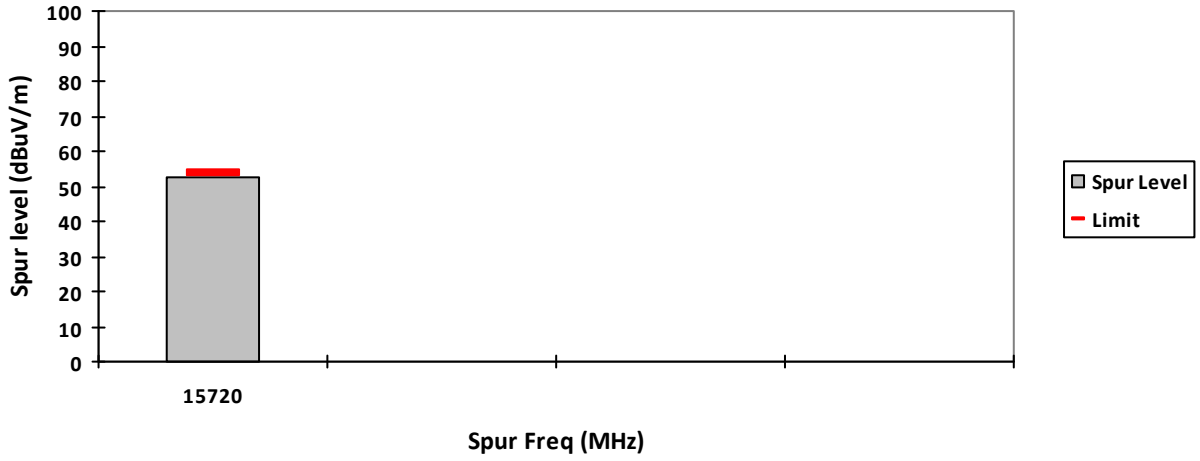
VERTICAL, PK



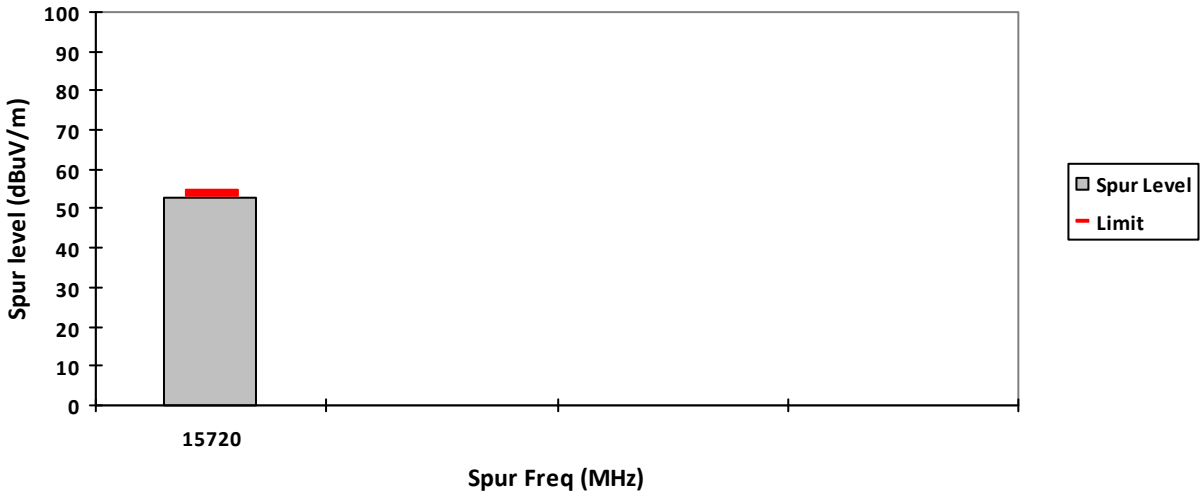
HORIZONTAL, PK



VERTICAL, AV



HORIZONTAL, AV



Test: WIFI SAC Transmitter Radiated Emission
Model#: AAH07RDH9SA1AN S/N: 651EAP0011 EMC SR ID#: 0549N01-EMC-00048
Battery: PMNN4890A Softpot power (17dBm) Accessory: PMAE4079A
Test Channel: Low Test Frequency: 5260.0000 MHz Test Standard: ANSI C63.10-2013
Worst Case Plane: Z-Plane (802.11n 20MHz)

Radiated Emission (Low Channel) tabular data

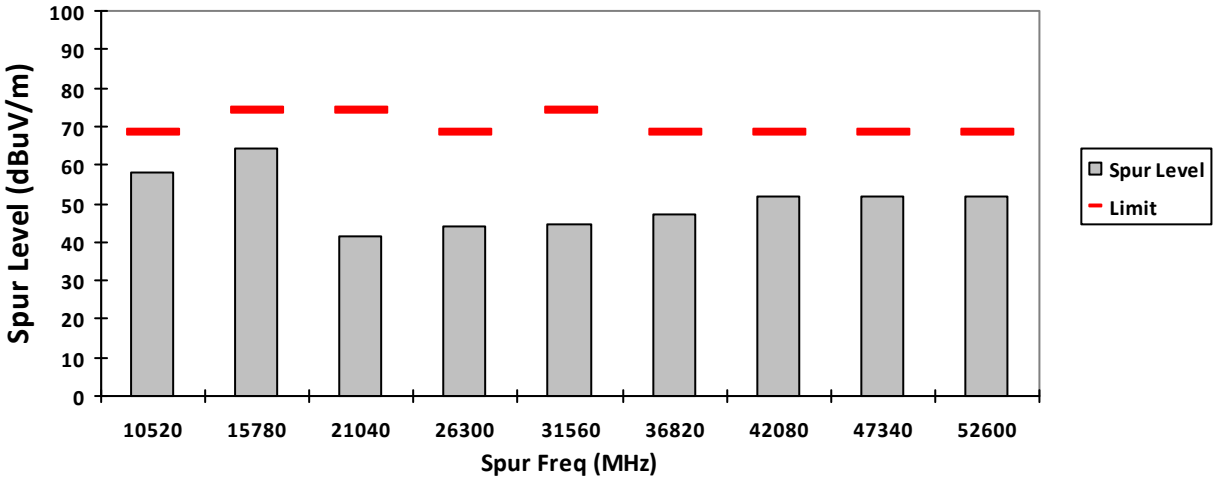
Vertical Radiated Emission Result										
Spur Freq (MHz)	Spur level QPK (dBµV/m)	Spur level PK (dBµV/m)	Spur level AV (dBµV/m)	Limit QPK (dBµV/m)	Limit PK (dBµV/m)	Limit AV (dBµV/m)	Margin QPK (dBµV/m)	Margin PK (dBµV/m)	Margin AV (dBµV/m)	Carrier PK Power (dBµV/m)
10520	-	57.8859**	-	-	68.2000	-	-	10.3141	-	-
15780	-	67.2750**	53.3901**	-	74.0000	54.0000	-	6.7250	0.6099	-
21040	-	41.2567**	-	-	74.0000	-	-	32.7433	-	-
26300	-	44.0765**	-	-	68.2000	-	-	24.1235	-	-
31560	-	44.3411**	-	-	74.0000	-	-	29.6589	-	-
36820	-	47.3644**	-	-	68.2000	-	-	20.8356	-	-
Horizontal Radiated Emission Result										
10520	-	55.8674**	-	-	68.2000	-	-	12.3326	-	-
15780	-	66.9678**	53.2528**	-	74.0000	54.0000	-	7.0322	0.7472	-
21040	-	41.1883**	-	-	74.0000	-	-	32.8117	-	-
26300	-	45.0228**	-	-	68.2000	-	-	23.1772	-	-
31560	-	44.4150**	-	-	74.0000	-	-	29.5850	-	-
36820	-	47.3905**	-	-	68.2000	-	-	20.8095	-	-

Remarks: Pass Result	Marginal Result	Fail Result

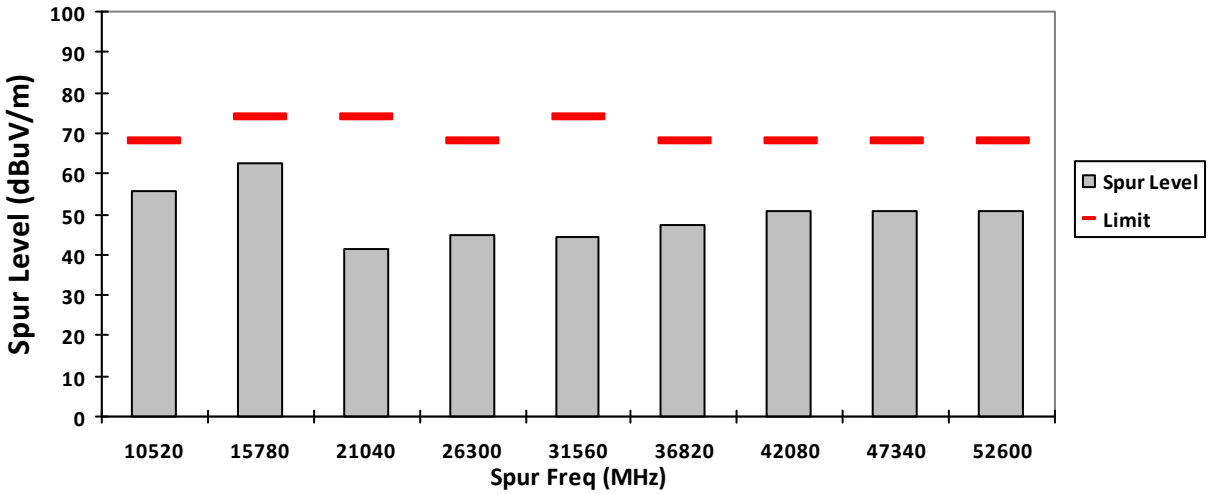
Temperature (degC): 23.5 **Humidity (%): 69.3**
Test Performed by: Nazrin & Rezza **Test Date: Sun, 18 Aug, 2024**
System MU: 5.88 dB (30-1000MHz), 5.84 dB (1000-18000MHz), 6.02 dB (18000MHz-40000MHz)

Remarks: ** Indicates the spurious emission could not be detected due to noise limitations or ambient.
***Pursuant to CFR 47 Part 2.1057 (c), emissions attenuated more than 20 dB below the permissible limit are not reported.**

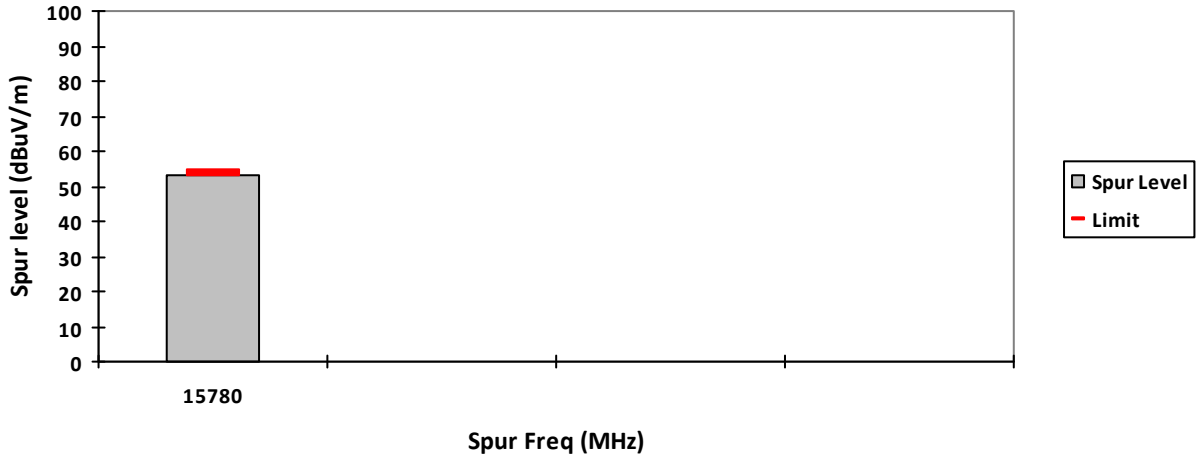
VERTICAL, PK



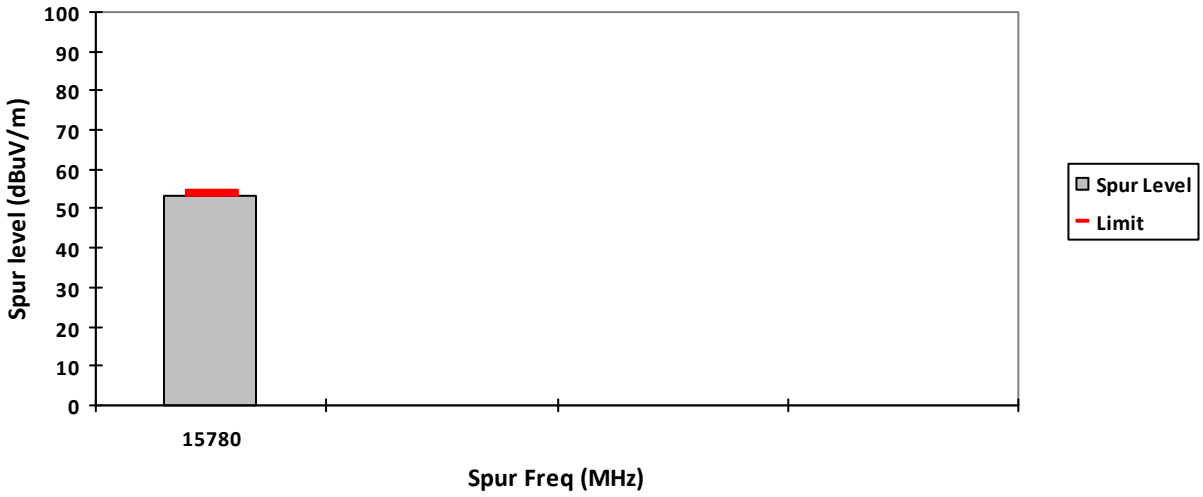
HORIZONTAL, PK



VERTICAL, AV



HORIZONTAL, AV



Test: WIFI SAC Transmitter Radiated Emission
Model#: AAH07RDH9SA1AN S/N: 651EAP0011 EMC SR ID#: 0549N01-EMC-00048
Battery: PMNN4890A Softpot power (17dBm) Accessory: PMAE4079A
Test Channel: Mid Test Frequency: 5300.0000 MHz Test Standard: ANSI C63.10-2013
Worst Case Plane: Z-Plane (802.11n 20MHz)

Radiated Emission (Mid Channel) tabular data

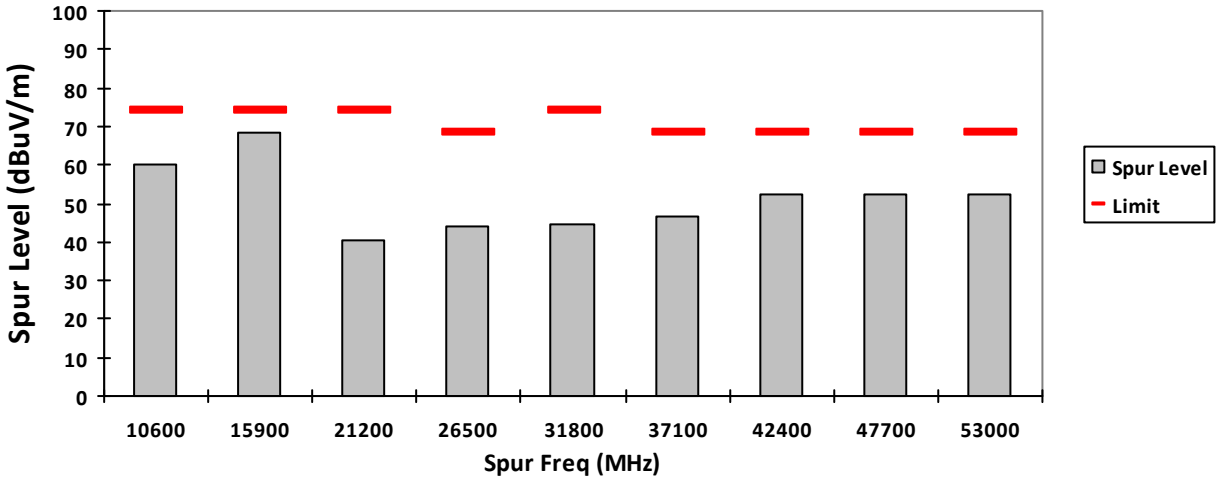
Vertical Radiated Emission Result										
Spur Freq (MHz)	Spur level QPK (dBµV/m)	Spur level PK (dBµV/m)	Spur level AV (dBµV/m)	Limit QPK (dBµV/m)	Limit PK (dBµV/m)	Limit AV (dBµV/m)	Margin QPK (dBµV/m)	Margin PK (dBµV/m)	Margin AV (dBµV/m)	Carrier PK Power (dBµV/m)
10600	-	60.1773**	46.8994**	-	74.0000	54.0000	-	13.8227	7.1006	-
15900	-	68.3034**	52.4324**	-	74.0000	54.0000	-	5.6966	1.5676	-
21200	-	40.6239**	-	-	74.0000	-	-	33.3761	-	-
26500	-	44.2161**	-	-	68.2000	-	-	23.9839	-	-
31800	-	44.5597**	-	-	74.0000	-	-	29.4403	-	-
37100	-	46.8562**	-	-	68.2000	-	-	21.3438	-	-
Horizontal Radiated Emission Result										
10600	-	60.2381**	46.9000**	-	74.0000	54.0000	-	13.7619	7.1000	-
15900	-	68.0253**	52.6962**	-	74.0000	54.0000	-	5.9747	1.3038	-
21200	-	41.7545**	-	-	74.0000	-	-	32.2455	-	-
26500	-	44.3844**	-	-	68.2000	-	-	23.8156	-	-
31800	-	46.2751**	-	-	74.0000	-	-	27.7249	-	-
37100	-	47.5451**	-	-	68.2000	-	-	20.6549	-	-

Remarks: Pass Result	Marginal Result	Fail Result

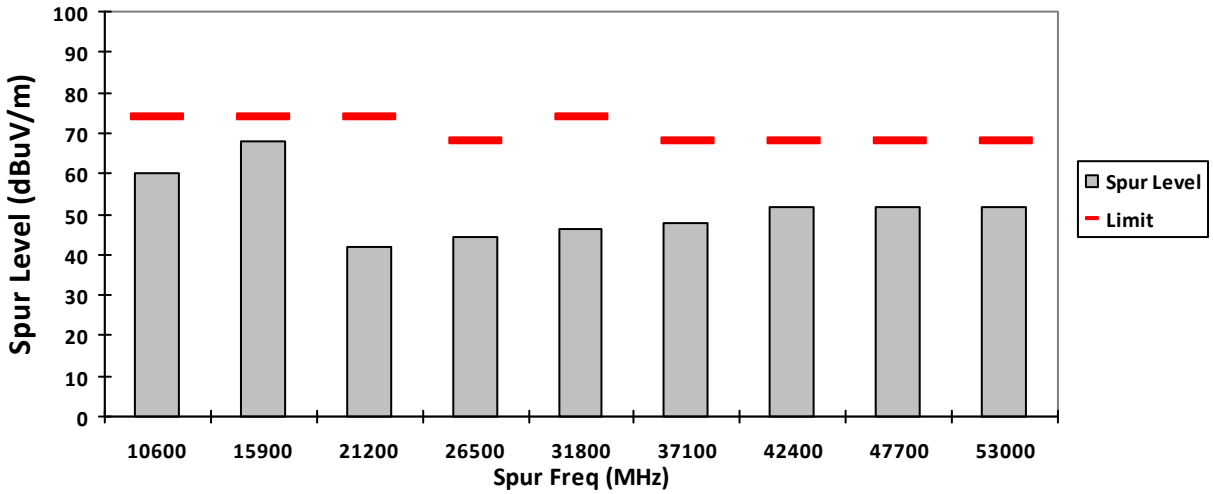
Temperature (degC): 23.5 **Humidity (%): 69.3**
Test Performed by: Nazrin & Rezza **Test Date: Sun, 18 Aug, 2024**
System MU: 5.88 dB (30-1000MHz), 5.84 dB (1000-18000MHz), 6.02 dB (18000MHz-40000MHz)

Remarks: ** Indicates the spurious emission could not be detected due to noise limitations or ambient.
***Pursuant to CFR 47 Part 2.1057 (c), emissions attenuated more than 20 dB below the permissible limit are not reported.**

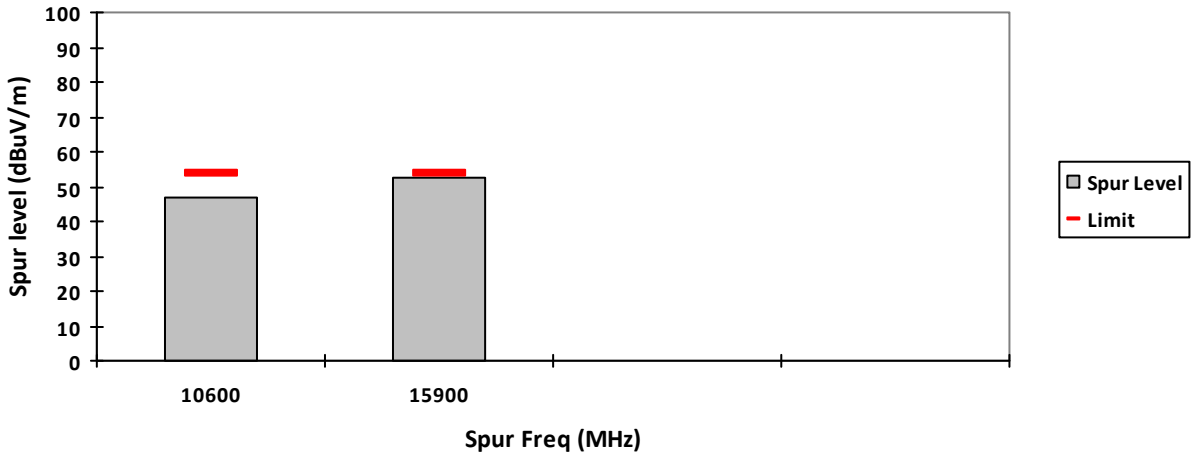
VERTICAL, PK



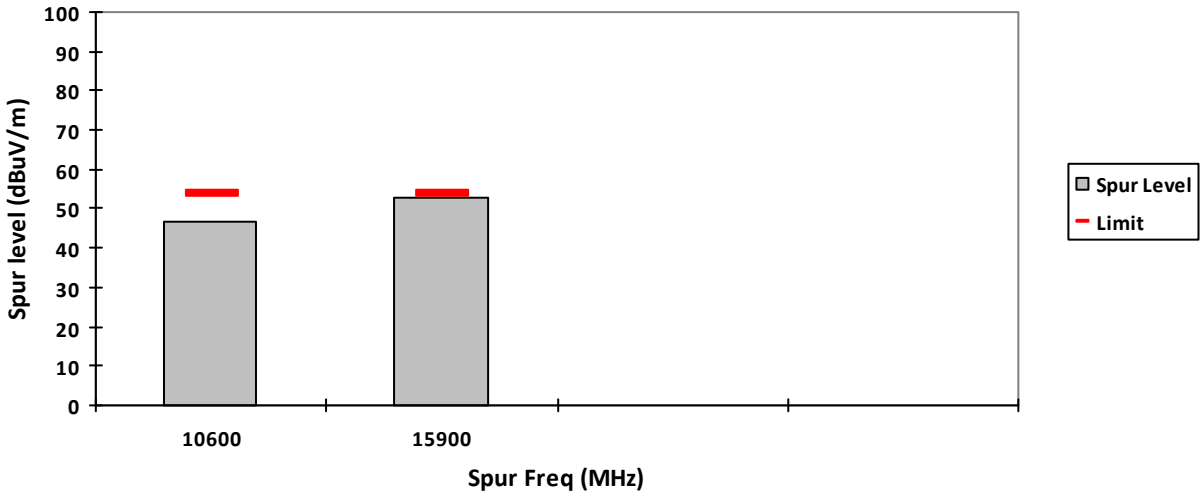
HORIZONTAL, PK



VERTICAL, AV



HORIZONTAL, AV



Test: WIFI SAC Transmitter Radiated Emission
Model#: AAH07RDH9SA1AN S/N: 651EAP0011 EMC SR ID#: 0549N01-EMC-00048
Battery: PMNN4890A Softpot power (15dBm) Accessory: PMAE4079A
Test Channel: High Test Frequency: 5320.0000 MHz Test Standard: ANSI C63.10-2013
Worst Case Plane: Z-Plane (802.11n 20MHz)

Radiated Emission (High Channel) tabular data

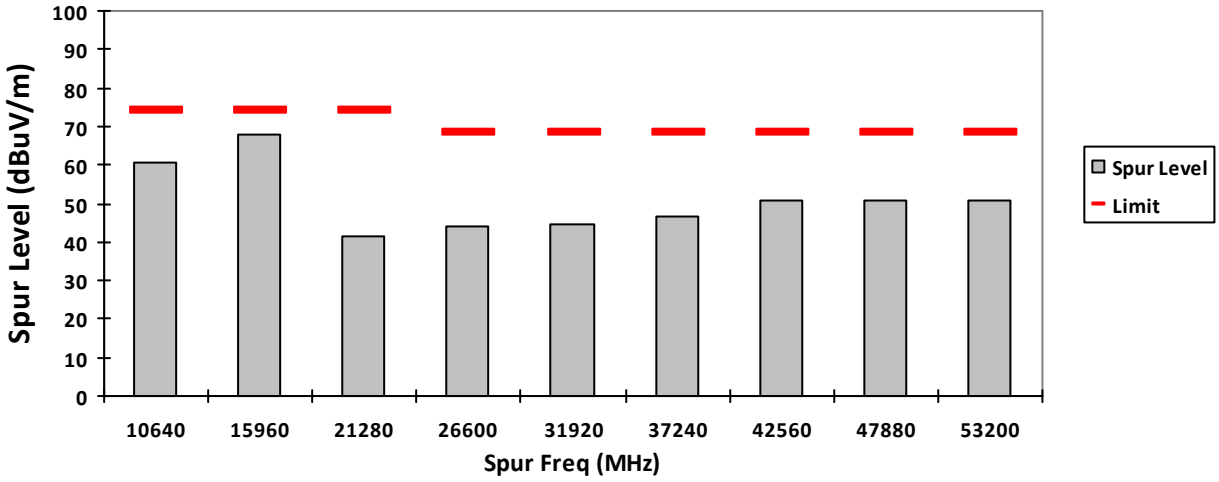
Vertical Radiated Emission Result										
Spur Freq (MHz)	Spur level QPK (dBµV/m)	Spur level PK (dBµV/m)	Spur level AV (dBµV/m)	Limit QPK (dBµV/m)	Limit PK (dBµV/m)	Limit AV (dBµV/m)	Margin QPK (dBµV/m)	Margin PK (dBµV/m)	Margin AV (dBµV/m)	Carrier PK Power (dBµV/m)
10640	-	60.4969**	46.9670**	-	74.0000	54.0000	-	13.5031	7.0330	-
15960	-	68.0478**	52.2157**	-	74.0000	54.0000	-	5.9522	1.7843	-
21280	-	41.5908**	-	-	74.0000	-	-	32.4092	-	-
26600	-	43.9557**	-	-	68.2000	-	-	24.2443	-	-
31920	-	44.5029**	-	-	68.2000	-	-	23.6971	-	-
37240	-	46.7453**	-	-	68.2000	-	-	21.4547	-	-
Horizontal Radiated Emission Result										
10640	-	60.3605**	46.9685**	-	74.0000	54.0000	-	13.6395	7.0315	-
15960	-	67.7089**	52.2158**	-	74.0000	54.0000	-	6.2911	1.7842	-
21280	-	41.0622**	-	-	74.0000	-	-	32.9378	-	-
26600	-	43.0434**	-	-	68.2000	-	-	25.1566	-	-
31920	-	44.6326**	-	-	68.2000	-	-	23.5674	-	-
37240	-	47.3715**	-	-	68.2000	-	-	20.8285	-	-

Remarks: Pass Result	Marginal Result	Fail Result

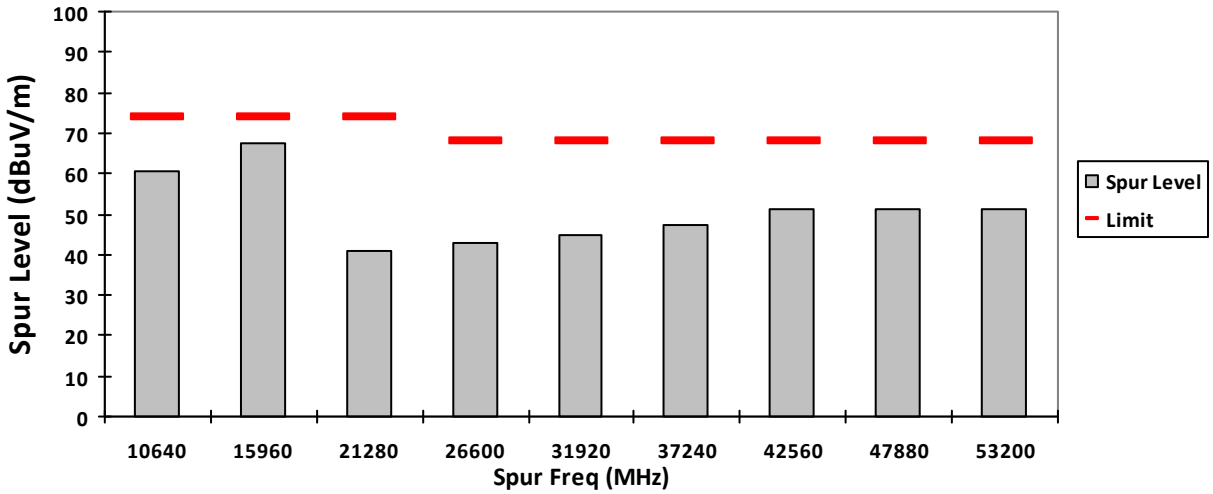
Temperature (degC): 23.5 **Humidity (%): 69.3**
Test Performed by: Nazrin & Rezza **Test Date: Sun, 18 Aug, 2024**
System MU: 5.88 dB (30-1000MHz), 5.84 dB (1000-18000MHz), 6.02 dB (18000MHz-40000MHz)

Remarks: ** Indicates the spurious emission could not be detected due to noise limitations or ambient.
***Pursuant to CFR 47 Part 2.1057 (c), emissions attenuated more than 20 dB below the permissible limit are not reported.**

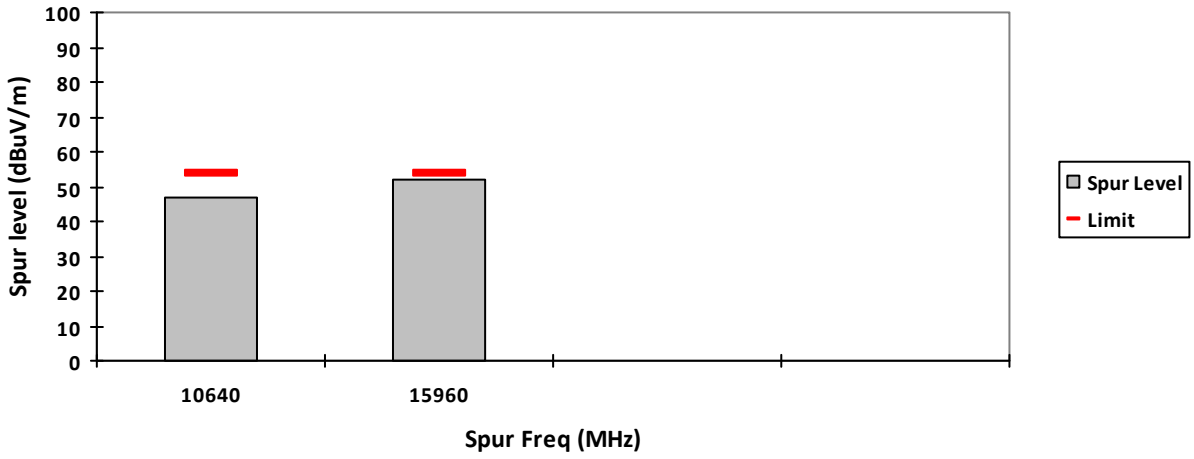
VERTICAL, PK



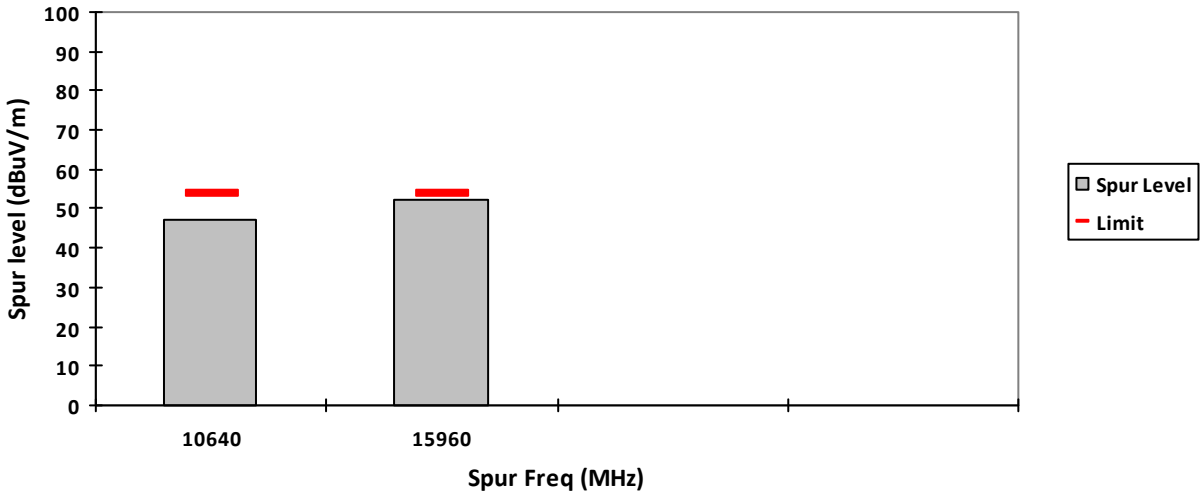
HORIZONTAL, PK



VERTICAL, AV



HORIZONTAL, AV



Test: WIFI SAC Transmitter Radiated Emission
Model#: AAH07RDH9SA1AN S/N: 651EAP0011 EMC SR ID#: 0549N01-EMC-00048
Battery: PMNN4890A Softpot power (13dBm) Accessory: PMAE4079A
Test Channel: Low Test Frequency: 5500.0000 MHz Test Standard: ANSI C63.10-2013
Worst Case Plane: Z-Plane (802.11n 20MHz)

Radiated Emission (Low Channel) tabular data

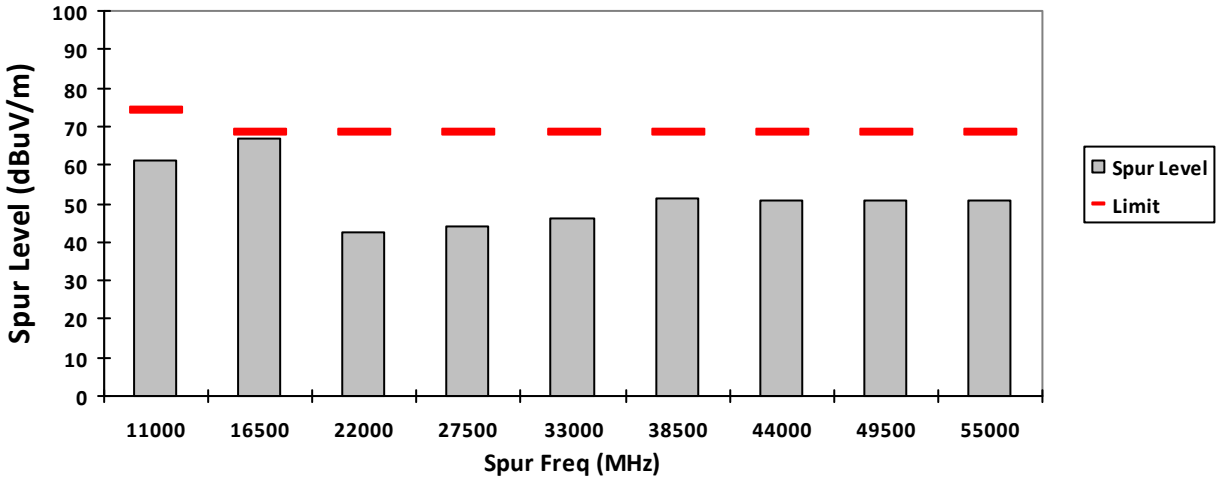
Vertical Radiated Emission Result										
Spur Freq (MHz)	Spur level QPK (dBµV/m)	Spur level PK (dBµV/m)	Spur level AV (dBµV/m)	Limit QPK (dBµV/m)	Limit PK (dBµV/m)	Limit AV (dBµV/m)	Margin QPK (dBµV/m)	Margin PK (dBµV/m)	Margin AV (dBµV/m)	Carrier PK Power (dBµV/m)
11000	-	61.2432**	47.6570**	-	74.0000	54.0000	-	12.7568	6.3430	-
16500	-	66.6825**	-	-	68.2000	-	-	1.5175	-	-
22000	-	42.7423**	-	-	68.2000	-	-	25.4577	-	-
27500	-	44.0331**	-	-	68.2000	-	-	24.1669	-	-
33000	-	45.9417**	-	-	68.2000	-	-	22.2583	-	-
38500	-	51.3786**	-	-	68.2000	-	-	16.8214	-	-
Horizontal Radiated Emission Result										
11000	-	61.0106**	47.6558**	-	74.0000	54.0000	-	12.9894	6.3442	-
16500	-	66.8822**	-	-	68.2000	-	-	1.3178	-	-
22000	-	43.0698**	-	-	68.2000	-	-	25.1302	-	-
27500	-	43.7261**	-	-	68.2000	-	-	24.4739	-	-
33000	-	44.6432**	-	-	68.2000	-	-	23.5568	-	-
38500	-	50.2050**	-	-	68.2000	-	-	17.9950	-	-

Remarks: Pass Result	Marginal Result	Fail Result

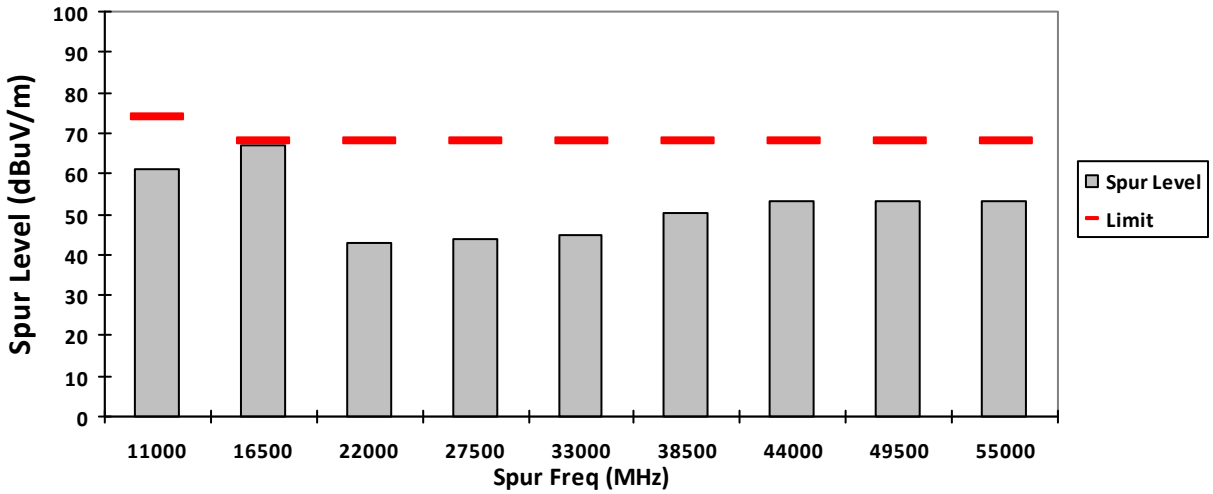
Temperature (degC): 23.5 **Humidity (%): 69.3**
Test Performed by: Nazrin & Rezza **Test Date: Sun, 18 Aug, 2024**
System MU: 5.88 dB (30-1000MHz), 5.84 dB (1000-18000MHz), 6.02 dB (18000MHz-40000MHz)

Remarks: ** Indicates the spurious emission could not be detected due to noise limitations or ambient.
***Pursuant to CFR 47 Part 2.1057 (c), emissions attenuated more than 20 dB below the permissible limit are not reported.**

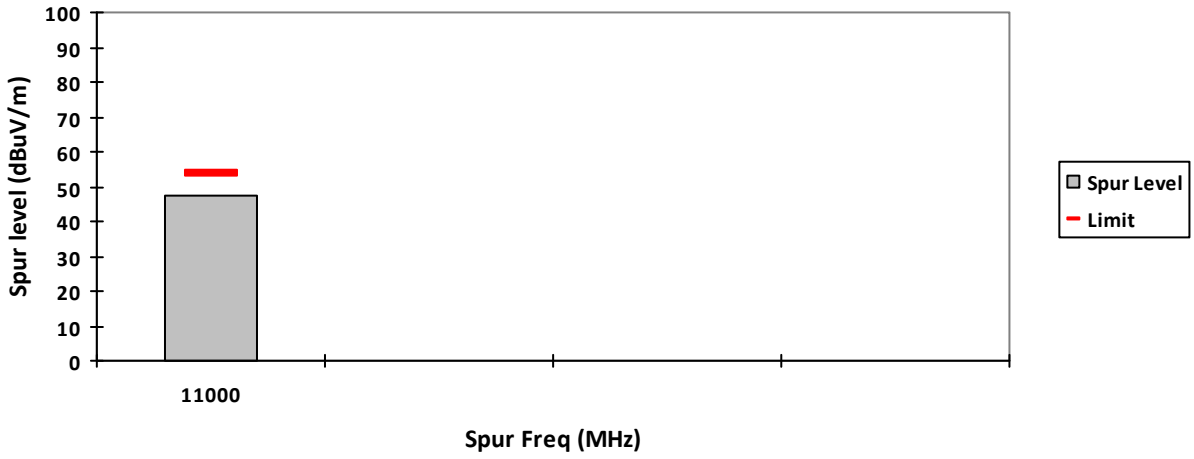
VERTICAL, PK



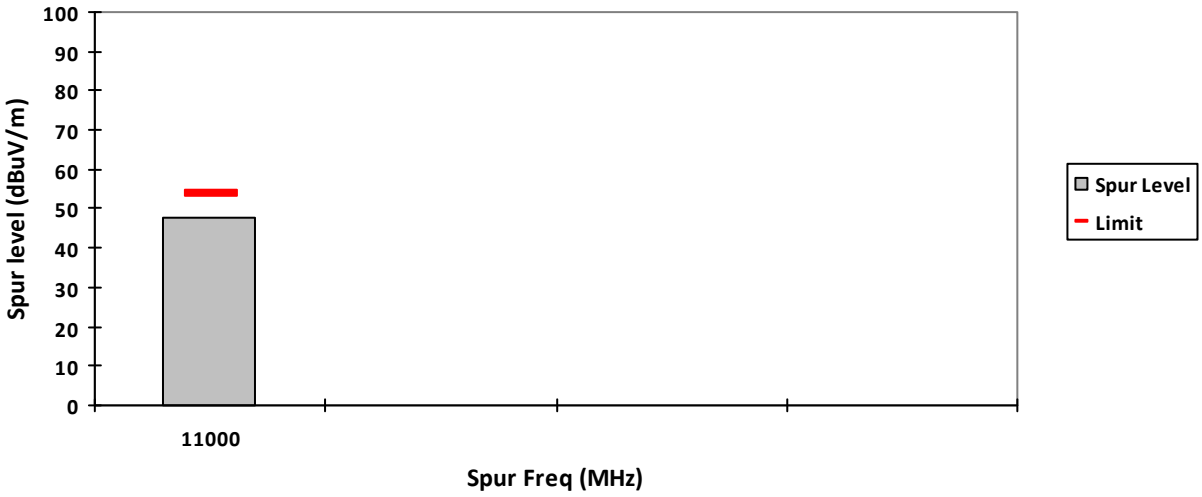
HORIZONTAL, PK



VERTICAL, AV



HORIZONTAL, AV



Test: WIFI SAC Transmitter Radiated Emission
Model#: AAH07RDH9SA1AN S/N: 651EAP0011 EMC SR ID#: 0549N01-EMC-00048
Battery: PMNN4890A Softpot power (15dBm) Accessory: PMAE4079A
Test Channel: Mid Test Frequency: 5580.0000 MHz Test Standard: ANSI C63.10-2013
Worst Case Plane: Z-Plane (802.11n 20MHz)

Radiated Emission (Mid Channel) tabular data

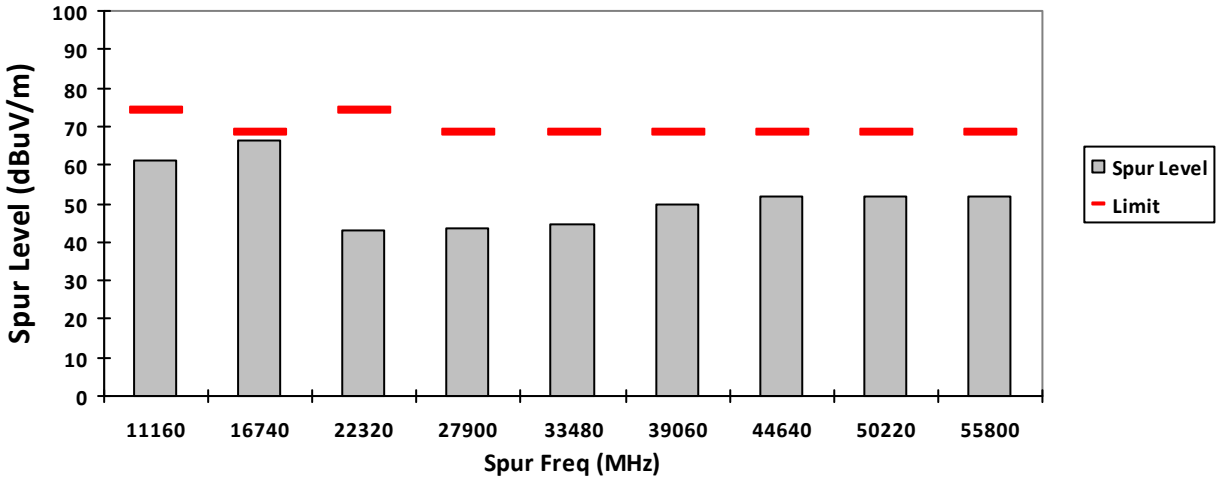
Vertical Radiated Emission Result										
Spur Freq (MHz)	Spur level QPK (dBµV/m)	Spur level PK (dBµV/m)	Spur level AV (dBµV/m)	Limit QPK (dBµV/m)	Limit PK (dBµV/m)	Limit AV (dBµV/m)	Margin QPK (dBµV/m)	Margin PK (dBµV/m)	Margin AV (dBµV/m)	Carrier PK Power (dBµV/m)
11160	-	61.1321**	47.5193**	-	74.0000	54.0000	-	12.8679	6.4807	-
16740	-	66.5084**	-	-	68.2000	-	-	1.6916	-	-
22320	-	42.8475**	-	-	74.0000	-	-	31.1525	-	-
27900	-	43.6656**	-	-	68.2000	-	-	24.5344	-	-
33480	-	44.7173**	-	-	68.2000	-	-	23.4827	-	-
39060	-	49.9005**	-	-	68.2000	-	-	18.2995	-	-
Horizontal Radiated Emission Result										
11160	-	61.4597**	47.5222**	-	74.0000	54.0000	-	12.5403	6.4778	-
16740	-	66.8633**	-	-	68.2000	-	-	1.3367	-	-
22320	-	42.3393**	-	-	74.0000	-	-	31.6607	-	-
27900	-	44.1630**	-	-	68.2000	-	-	24.0370	-	-
33480	-	44.8344**	-	-	68.2000	-	-	23.3656	-	-
39060	-	50.7001**	-	-	68.2000	-	-	17.4999	-	-

Remarks: Pass Result	Marginal Result	Fail Result

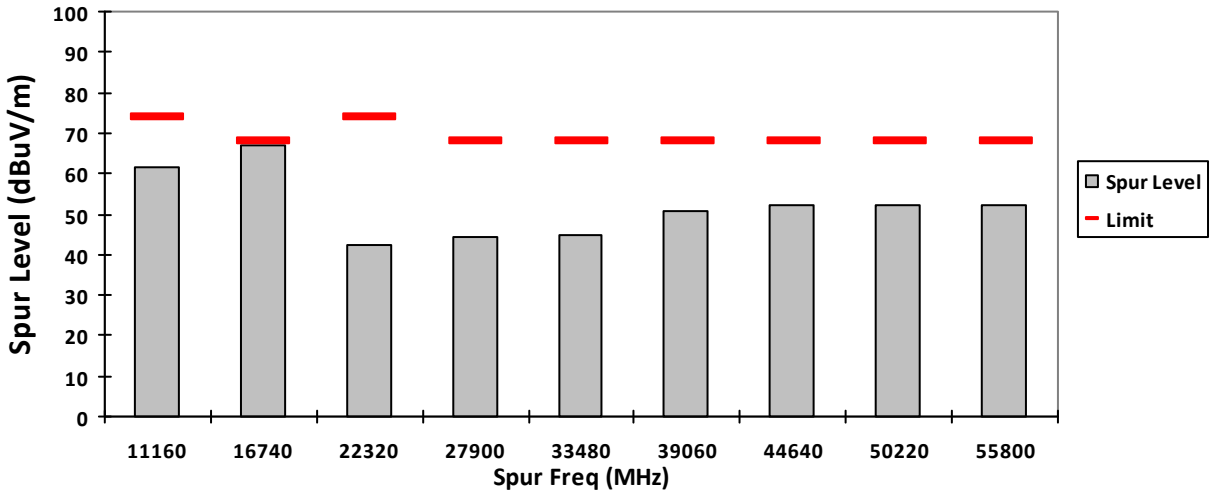
Temperature (degC): 23.5 **Humidity (%): 69.3**
Test Performed by: Nazrin & Rezza **Test Date: Sun, 18 Aug, 2024**
System MU: 5.88 dB (30-1000MHz), 5.84 dB (1000-18000MHz), 6.02 dB (18000MHz-40000MHz)

Remarks: ** Indicates the spurious emission could not be detected due to noise limitations or ambient.
***Pursuant to CFR 47 Part 2.1057 (c), emissions attenuated more than 20 dB below the permissible limit are not reported.**

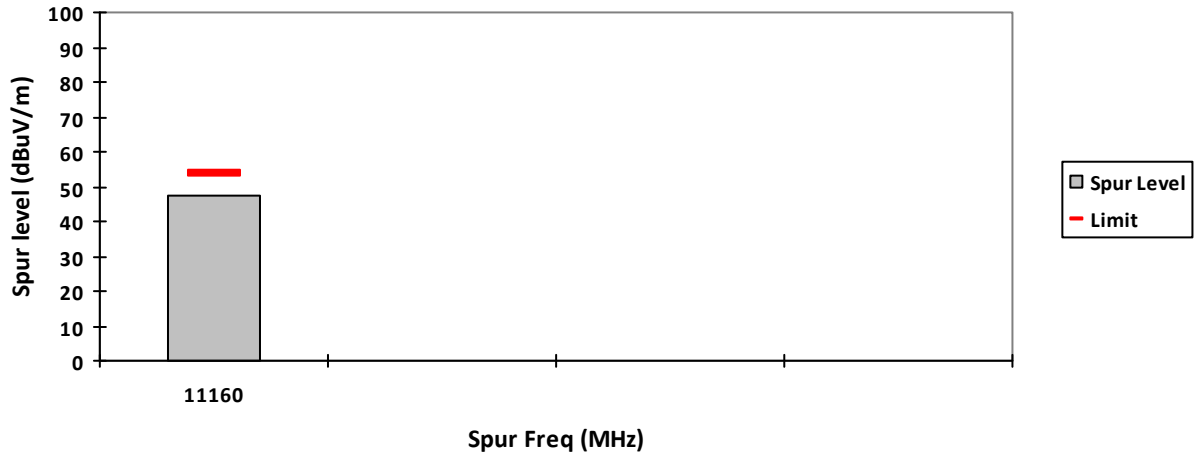
VERTICAL, PK



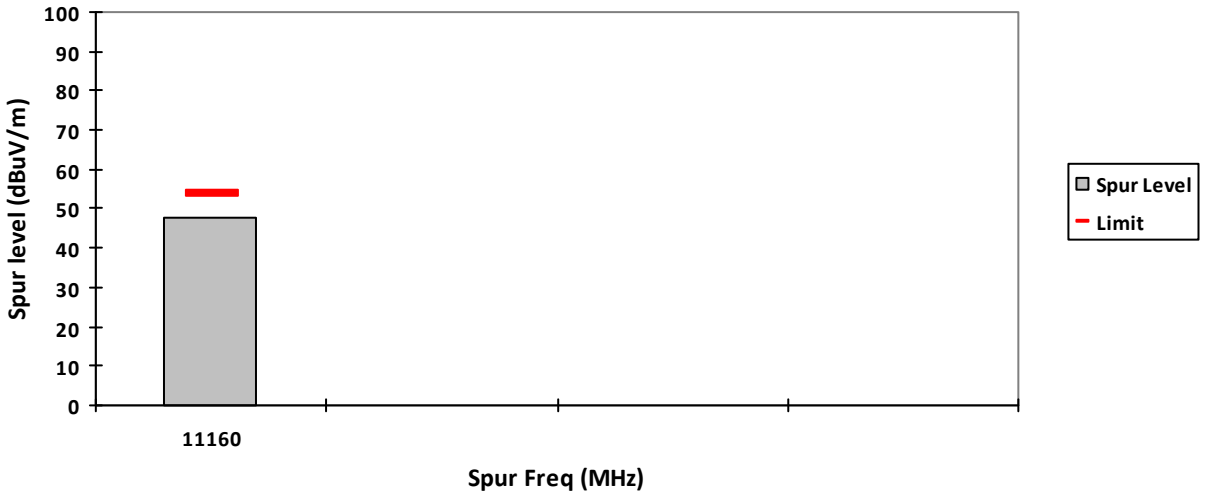
HORIZONTAL, PK



VERTICAL, AV



HORIZONTAL, AV



Test: WIFI SAC Transmitter Radiated Emission
Model#: AAH07RDH9SA1AN S/N: 651EAP0011 EMC SR ID#: 0549N01-EMC-00048
Battery: PMNN4890A Softpot power (15dBm) Accessory: PMAE4079A
Test Channel: Straddle Test Frequency: 5720.0000 MHz Test Standard: ANSI C63.10-2013
Worst Case Plane: Z-Plane (802.11n 20MHz)

Radiated Emission (Straddle Channel) tabular data

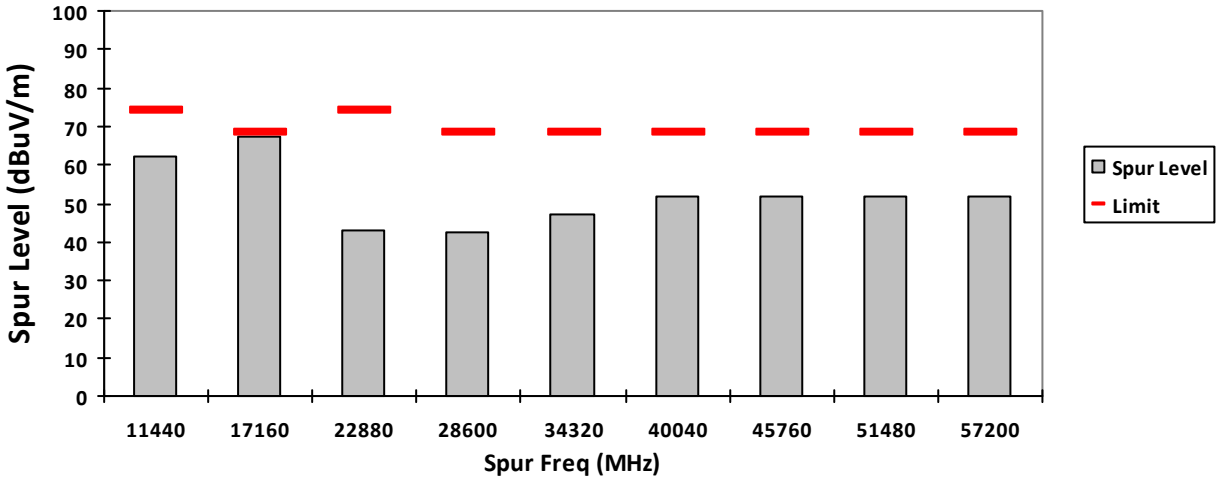
Vertical Radiated Emission Result										
Spur Freq (MHz)	Spur level QPK (dBµV/m)	Spur level PK (dBµV/m)	Spur level AV (dBµV/m)	Limit QPK (dBµV/m)	Limit PK (dBµV/m)	Limit AV (dBµV/m)	Margin QPK (dBµV/m)	Margin PK (dBµV/m)	Margin AV (dBµV/m)	Carrier PK Power (dBµV/m)
11440	-	62.0158**	48.6002**	-	74.0000	54.0000	-	11.9842	5.3998	-
17160	-	67.5938**	-	-	68.2000	-	-	0.6062	-	-
22880	-	42.8957**	-	-	74.0000	-	-	31.1043	-	-
28600	-	42.5121**	-	-	68.2000	-	-	25.6879	-	-
34320	-	47.1803**	-	-	68.2000	-	-	21.0197	-	-
Horizontal Radiated Emission Result										
11440	-	62.1993**	48.6002**	-	74.0000	54.0000	-	11.8007	5.3998	-
17160	-	67.0171**	-	-	68.2000	-	-	1.1829	-	-
22880	-	43.1211**	-	-	74.0000	-	-	30.8789	-	-
28600	-	45.3504**	-	-	68.2000	-	-	22.8496	-	-
34320	-	46.7377**	-	-	68.2000	-	-	21.4623	-	-

Remarks: Pass Result	Marginal Result	Fail Result

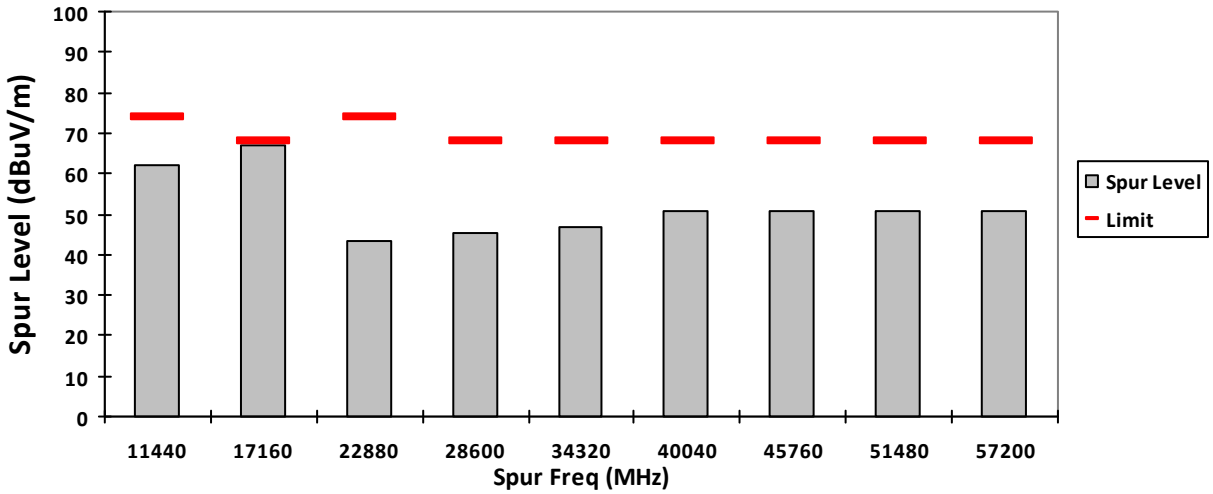
Temperature (degC): 23.5 **Humidity (%): 69.3**
Test Performed by: Nazrin & Rezza **Test Date: Sun, 18 Aug, 2024**
System MU: 5.88 dB (30-1000MHz), 5.84 dB (1000-18000MHz), 6.02 dB (18000MHz-40000MHz)

Remarks: ** Indicates the spurious emission could not be detected due to noise limitations or ambient.
***Pursuant to CFR 47 Part 2.1057 (c), emissions attenuated more than 20 dB below the permissible limit are not reported.**

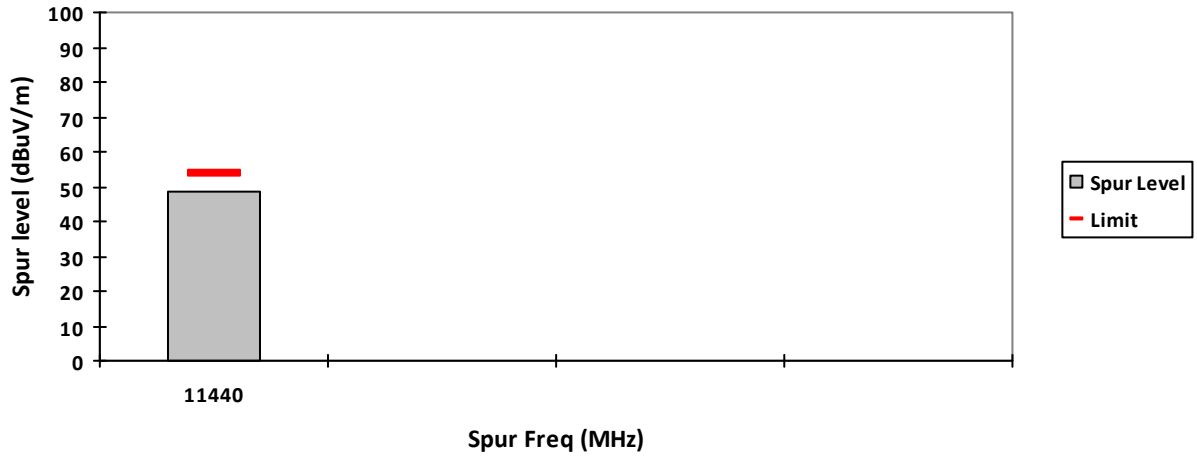
VERTICAL, PK



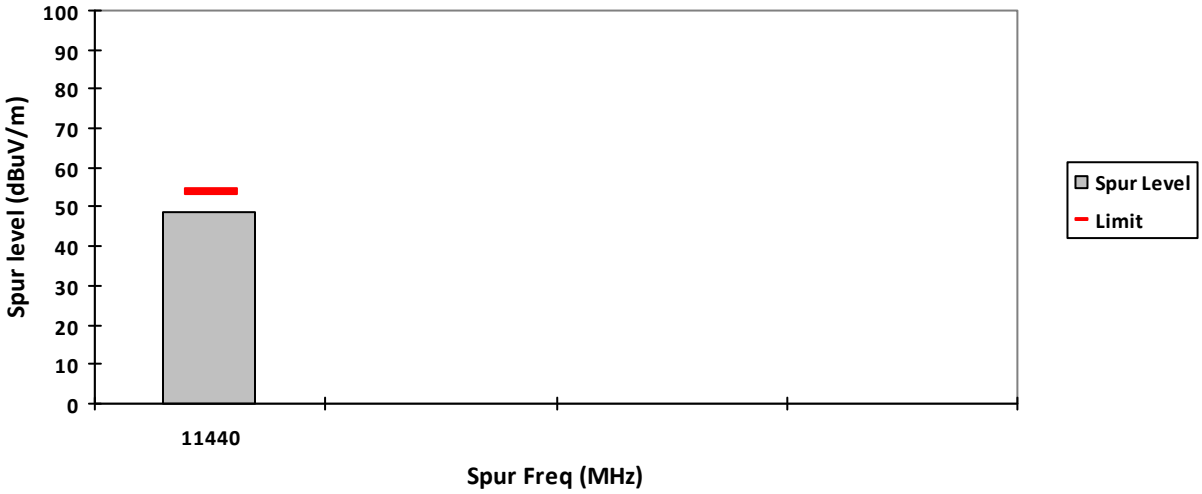
HORIZONTAL, PK



VERTICAL, AV



HORIZONTAL, AV



Test: WIFI SAC Transmitter Radiated Emission
Model#: AAH07RDH9SA1AN S/N: 651EAP0011 EMC SR ID#: 0549N01-EMC-00048
Battery: PMNN4890A Softpot power (14dBm) Accessory: PMAE4079A
Test Channel: Low Test Frequency: 5745.0000 MHz Test Standard: ANSI C63.10-2013
Worst Case Plane: Z-Plane (802.11n 20MHz)

Radiated Emission (Low Channel) tabular data

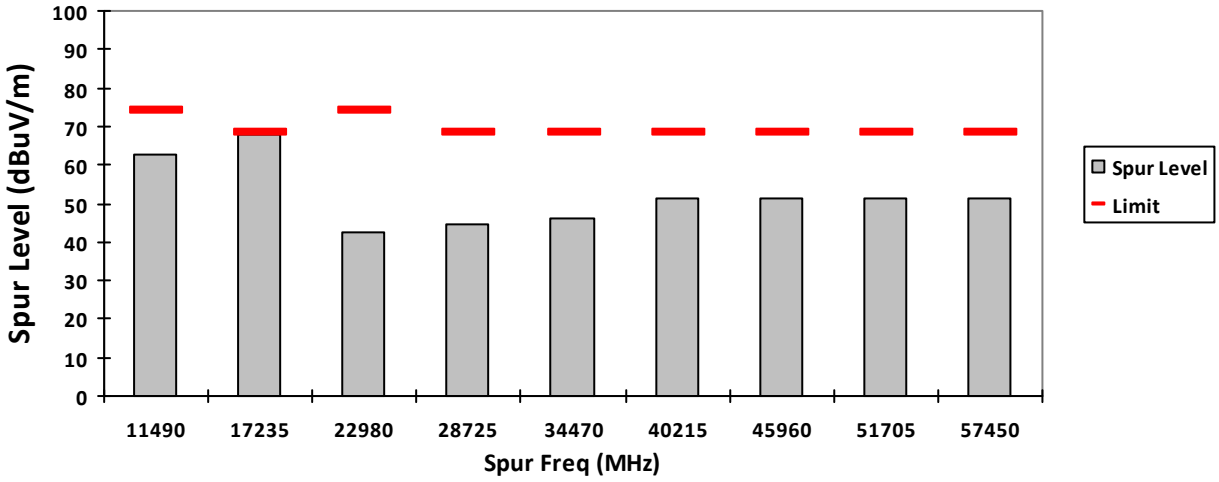
Vertical Radiated Emission Result										
Spur Freq (MHz)	Spur level QPK (dBµV/m)	Spur level PK (dBµV/m)	Spur level AV (dBµV/m)	Limit QPK (dBµV/m)	Limit PK (dBµV/m)	Limit AV (dBµV/m)	Margin QPK (dBµV/m)	Margin PK (dBµV/m)	Margin AV (dBµV/m)	Carrier PK Power (dBµV/m)
11490	-	62.7126**	48.5403**	-	74.0000	54.0000	-	11.2874	5.4597	-
17235	-	67.6252**	-	-	68.2000	-	-	0.5748	-	-
22980	-	42.7254**	-	-	74.0000	-	-	31.2746	-	-
28725	-	44.5417**	-	-	68.2000	-	-	23.6583	-	-
34470	-	45.8896**	-	-	68.2000	-	-	22.3104	-	-
Horizontal Radiated Emission Result										
11490	-	61.6881**	48.5460**	-	74.0000	54.0000	-	12.3119	5.4540	-
17235	-	67.1087**	-	-	68.2000	-	-	1.0913	-	-
22980	-	41.6235**	-	-	74.0000	-	-	32.3765	-	-
28725	-	45.7884**	-	-	68.2000	-	-	22.4116	-	-
34470	-	45.8678**	-	-	68.2000	-	-	22.3322	-	-

Remarks: Pass Result	Marginal Result	Fail Result

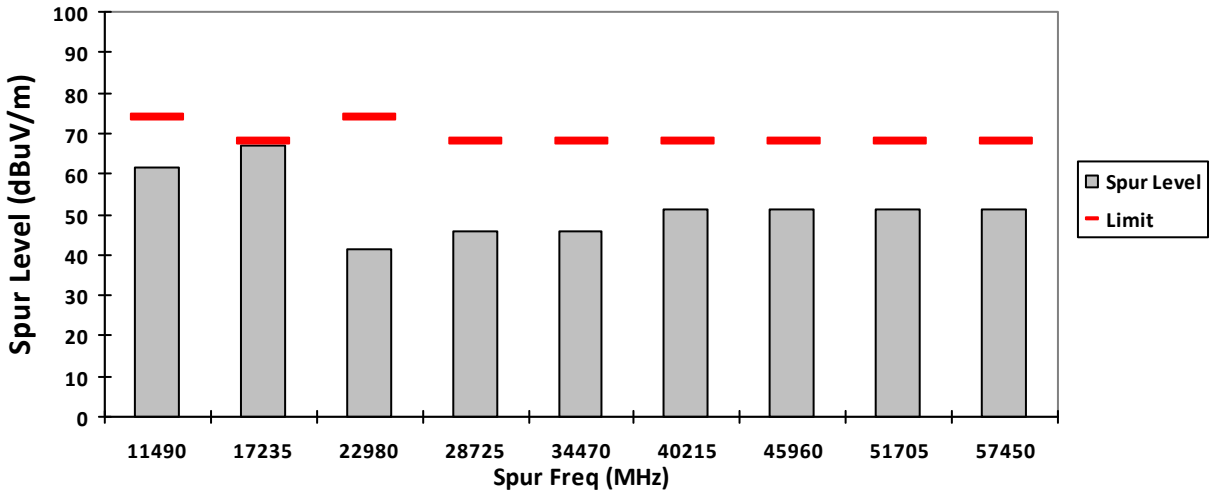
Temperature (degC): 23.5 **Humidity (%): 69.3**
Test Performed by: Nazrin & Rezza **Test Date: Sun, 18 Aug, 2024**
System MU: 5.88 dB (30-1000MHz), 5.84 dB (1000-18000MHz), 6.02 dB (18000MHz-40000MHz)

Remarks: ** Indicates the spurious emission could not be detected due to noise limitations or ambient.
***Pursuant to CFR 47 Part 2.1057 (c), emissions attenuated more than 20 dB below the permissible limit are not reported.**

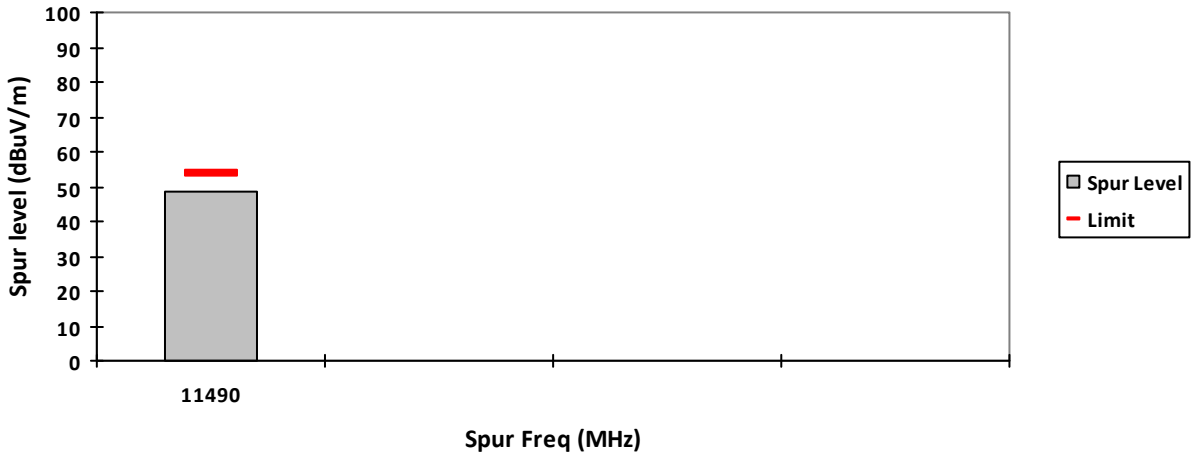
VERTICAL, PK



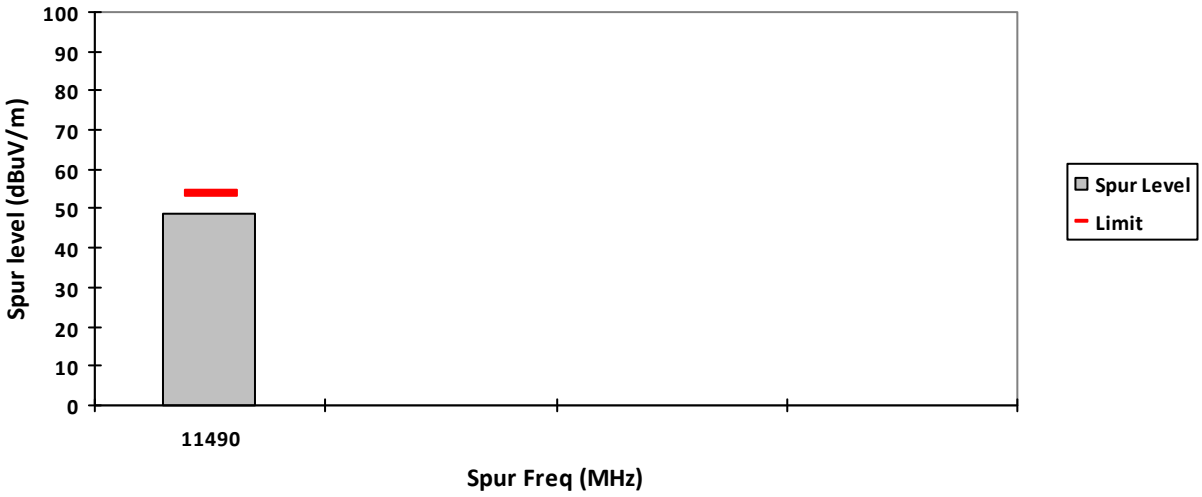
HORIZONTAL, PK



VERTICAL, AV



HORIZONTAL, AV



Test: WIFI SAC Transmitter Radiated Emission
Model#: AAH07RDH9SA1AN S/N: 651EAP0011 EMC SR ID#: 0549N01-EMC-00048
Battery: PMNN4890A Softpot power (14dBm) Accessory: PMAE4079A
Test Channel: Mid Test Frequency: 5785.0000 MHz Test Standard: ANSI C63.10-2013
Worst Case Plane: Z-Plane (802.11n 20MHz)

Radiated Emission (Mid Channel) tabular data

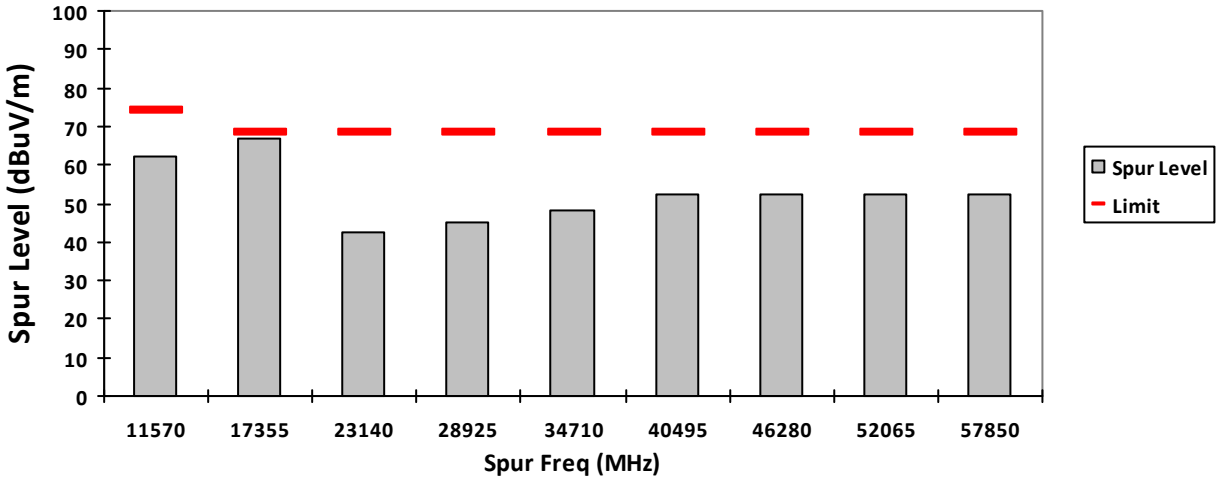
Vertical Radiated Emission Result										
Spur Freq (MHz)	Spur level QPK (dBµV/m)	Spur level PK (dBµV/m)	Spur level AV (dBµV/m)	Limit QPK (dBµV/m)	Limit PK (dBµV/m)	Limit AV (dBµV/m)	Margin QPK (dBµV/m)	Margin PK (dBµV/m)	Margin AV (dBµV/m)	Carrier PK Power (dBµV/m)
11570	-	61.9192**	48.6461**	-	74.0000	54.0000	-	12.0808	5.3539	-
17355	-	67.0273**	-	-	68.2000	-	-	1.1727	-	-
23140	-	42.6610**	-	-	68.2000	-	-	25.5390	-	-
28925	-	45.3250**	-	-	68.2000	-	-	22.8750	-	-
34710	-	48.4241**	-	-	68.2000	-	-	19.7759	-	-
Horizontal Radiated Emission Result										
11570	-	62.1637**	48.6493**	-	74.0000	54.0000	-	11.8363	5.3507	-
17355	-	67.2007**	-	-	68.2000	-	-	0.9993	-	-
23140	-	41.7928**	-	-	68.2000	-	-	26.4072	-	-
28925	-	45.0989**	-	-	68.2000	-	-	23.1011	-	-
34710	-	47.6933**	-	-	68.2000	-	-	20.5067	-	-

Remarks: Pass Result	Marginal Result	Fail Result

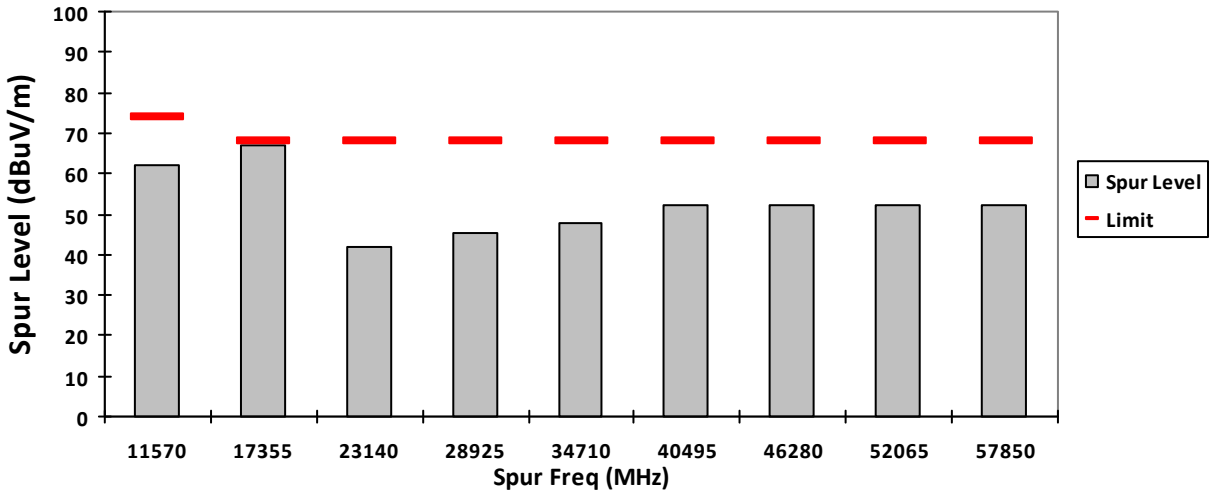
Temperature (degC): 23.5 **Humidity (%): 69.3**
Test Performed by: Nazrin & Rezza **Test Date: Sun, 18 Aug, 2024**
System MU: 5.88 dB (30-1000MHz), 5.84 dB (1000-18000MHz), 6.02 dB (18000MHz-40000MHz)

Remarks: ** Indicates the spurious emission could not be detected due to noise limitations or ambient.
***Pursuant to CFR 47 Part 2.1057 (c), emissions attenuated more than 20 dB below the permissible limit are not reported.**

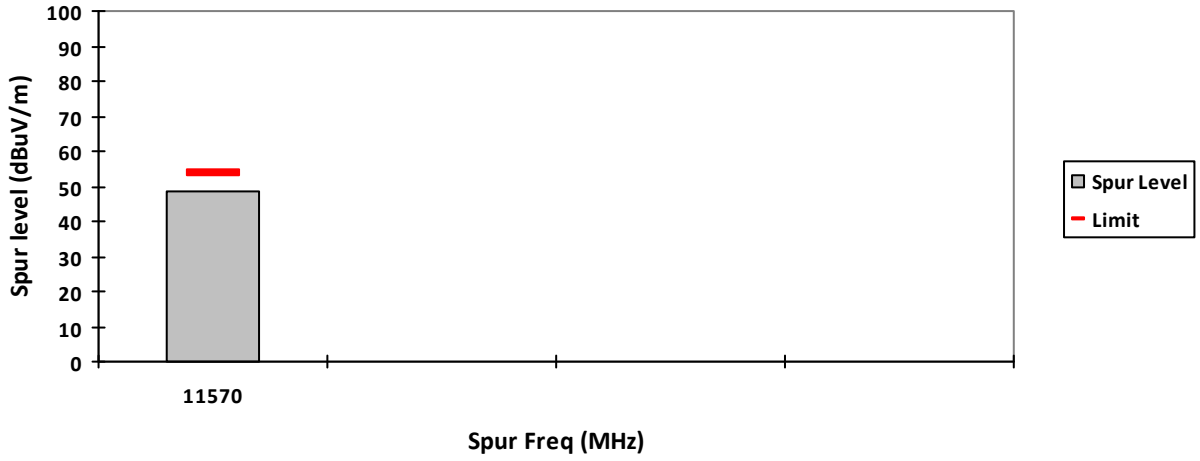
VERTICAL, PK



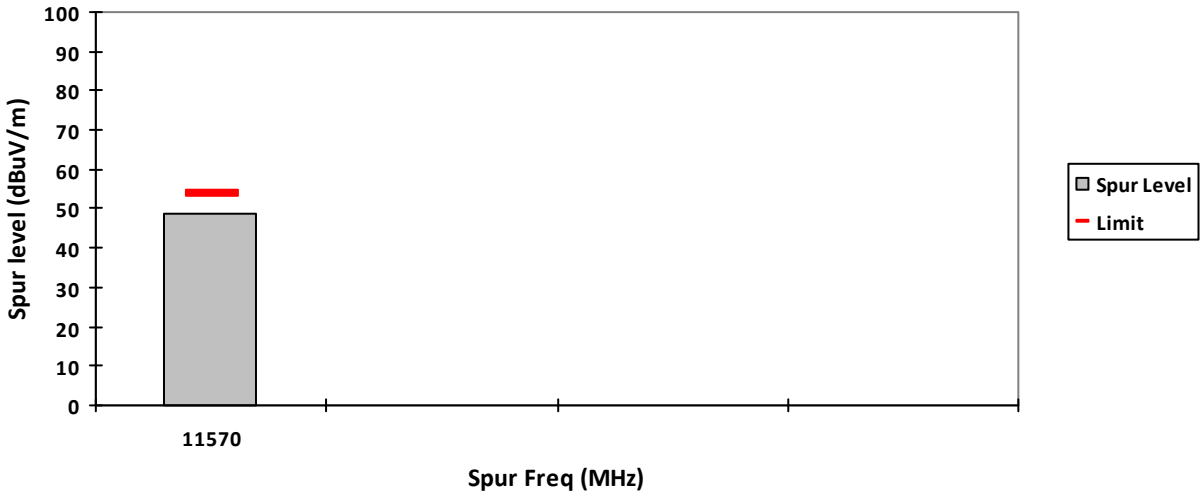
HORIZONTAL, PK



VERTICAL, AV



HORIZONTAL, AV



Test: WIFI SAC Transmitter Radiated Emission
Model#: AAH07RDH9SA1AN S/N: 651EAP0011 EMC SR ID#: 0549N01-EMC-00048
Battery: PMNN4890A Softpot power (14dBm) Accessory: PMAE4079A
Test Channel: High Test Frequency: 5825.0000 MHz Test Standard: ANSI C63.10-2013
Worst Case Plane: Z-Plane (802.11n 20MHz)

Radiated Emission (High Channel) tabular data

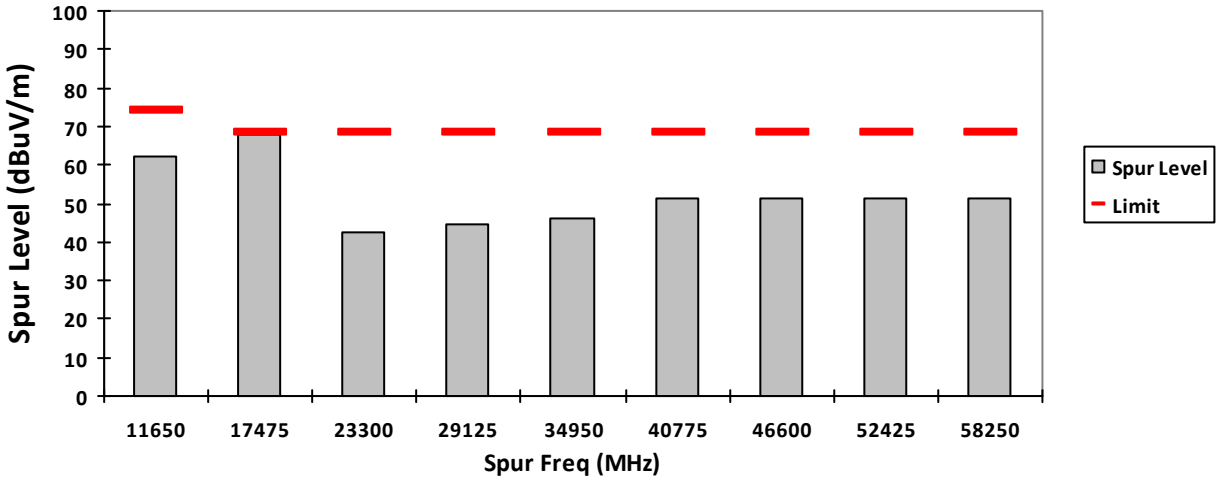
Vertical Radiated Emission Result										
Spur Freq (MHz)	Spur level QPK (dBµV/m)	Spur level PK (dBµV/m)	Spur level AV (dBµV/m)	Limit QPK (dBµV/m)	Limit PK (dBµV/m)	Limit AV (dBµV/m)	Margin QPK (dBµV/m)	Margin PK (dBµV/m)	Margin AV (dBµV/m)	Carrier PK Power (dBµV/m)
11650	-	62.3332**	48.8552**	-	74.0000	54.0000	-	11.6668	5.1448	-
17475	-	67.6175**	-	-	68.2000	-	-	0.5825	-	-
23300	-	42.5145**	-	-	68.2000	-	-	25.6855	-	-
29125	-	44.4339**	-	-	68.2000	-	-	23.7661	-	-
34950	-	46.0283**	-	-	68.2000	-	-	22.1717	-	-
Horizontal Radiated Emission Result										
11650	-	62.6687**	48.8551**	-	74.0000	54.0000	-	11.3313	5.1449	-
17475	-	67.5867**	-	-	68.2000	-	-	0.6133	-	-
23300	-	41.2153**	-	-	68.2000	-	-	26.9847	-	-
29125	-	44.2426**	-	-	68.2000	-	-	23.9574	-	-
34950	-	45.0543**	-	-	68.2000	-	-	23.1457	-	-

Remarks: Pass Result	Marginal Result	Fail Result

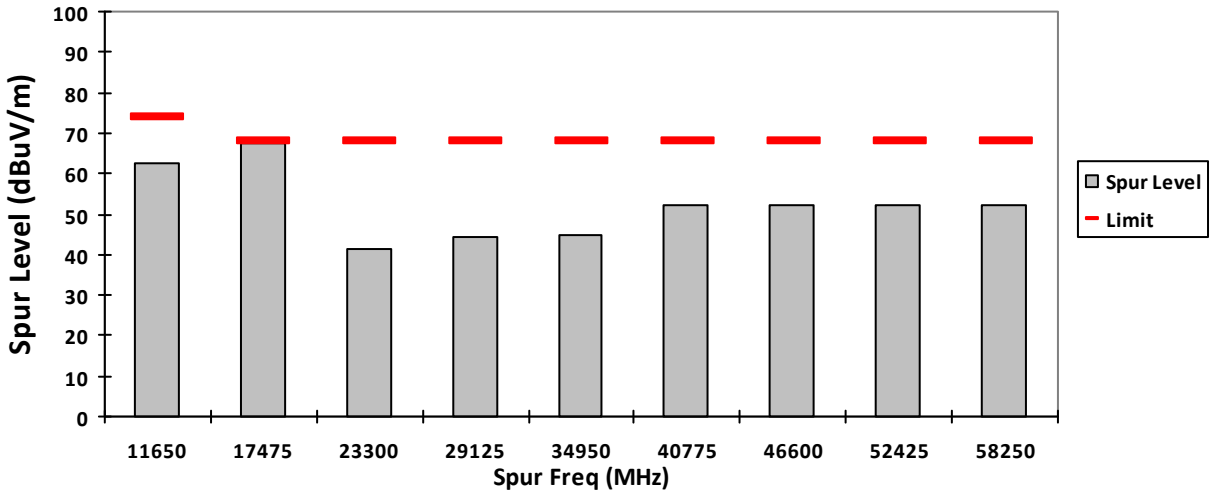
Temperature (degC): 23.5 **Humidity (%): 69.3**
Test Performed by: Nazrin & Rezza **Test Date: Sun, 18 Aug, 2024**
System MU: 5.88 dB (30-1000MHz), 5.84 dB (1000-18000MHz), 6.02 dB (18000MHz-40000MHz)

Remarks: ** Indicates the spurious emission could not be detected due to noise limitations or ambient.
***Pursuant to CFR 47 Part 2.1057 (c), emissions attenuated more than 20 dB below the permissible limit are not reported.**

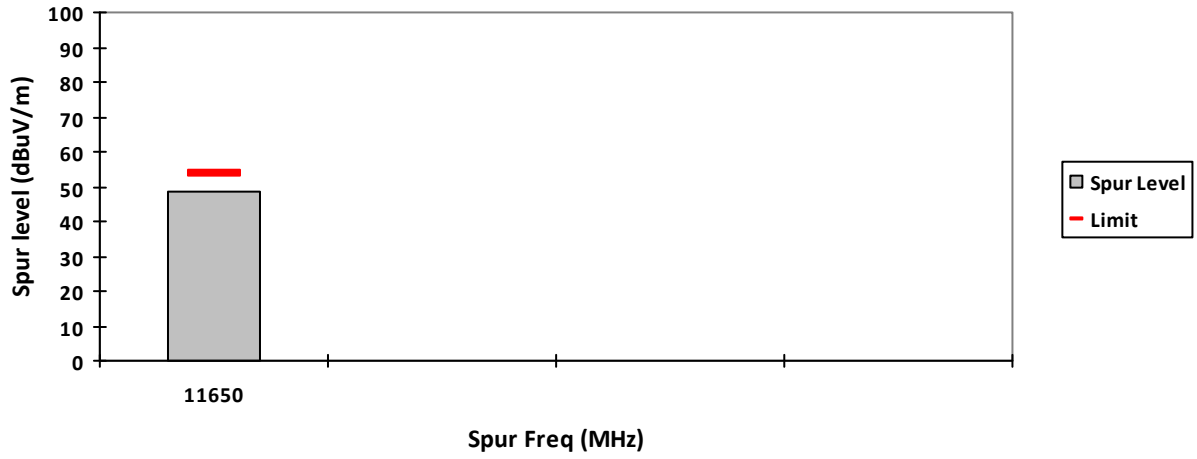
VERTICAL, PK



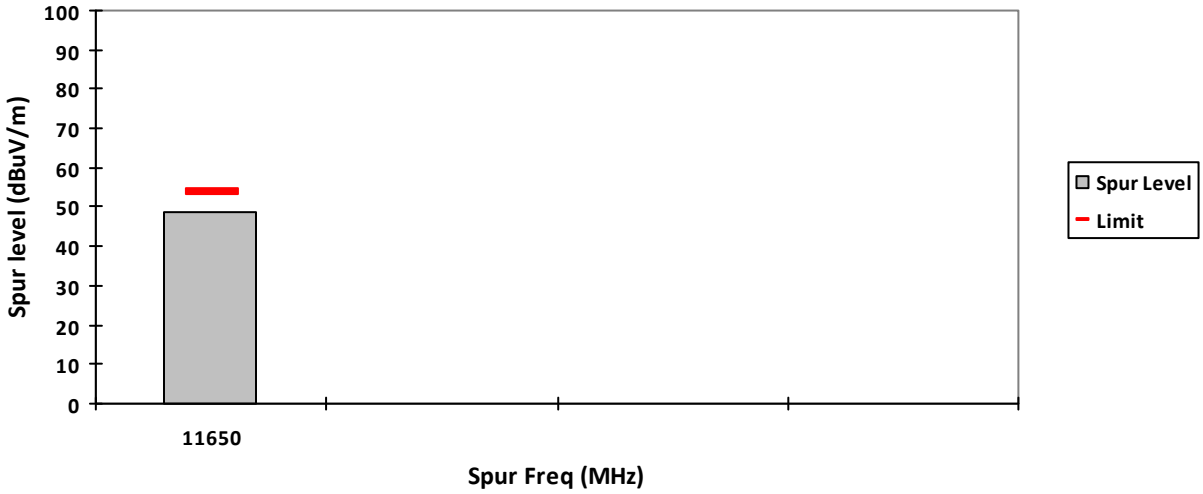
HORIZONTAL, PK



VERTICAL, AV

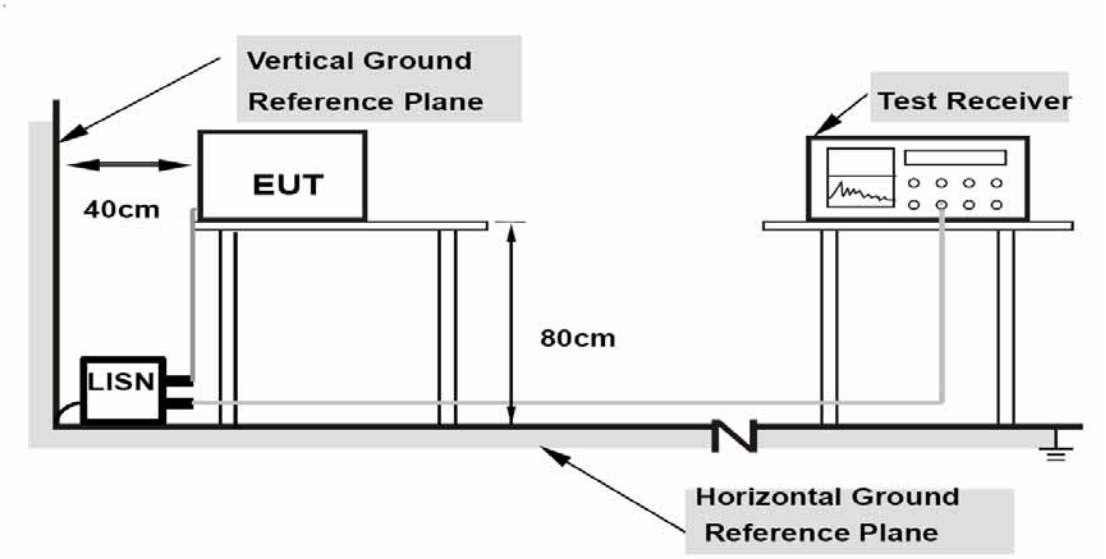


HORIZONTAL, AV



7.8. AC Powerline Conducted Emission

7.8.1. Test Setup



1) Tests were conducted for both Receive and Transmit Mode of the EUT.
2) The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/50uH of coupling impedance for the measuring instrument.
3) Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
4) The frequency range from 150 kHz to 30MHz was measured.

7.8.2. Test Limits

For AC Power Line Conducted Test Limit can be Class A or B depends on product classification.

Limits for conducted disturbance at the mains ports of class A ITE

Frequency range MHz	Limits dB(μV)	
	Quasi-peak	Average
0,15 to 0,50	79	66
0,50 to 30	73	60
NOTE The lower limit shall apply at the transition frequency.		

Table 1: Limits for Conducted Disturbance at the Mains Ports of Class A ITE.

Limits for conducted disturbance at the mains ports of class B ITE

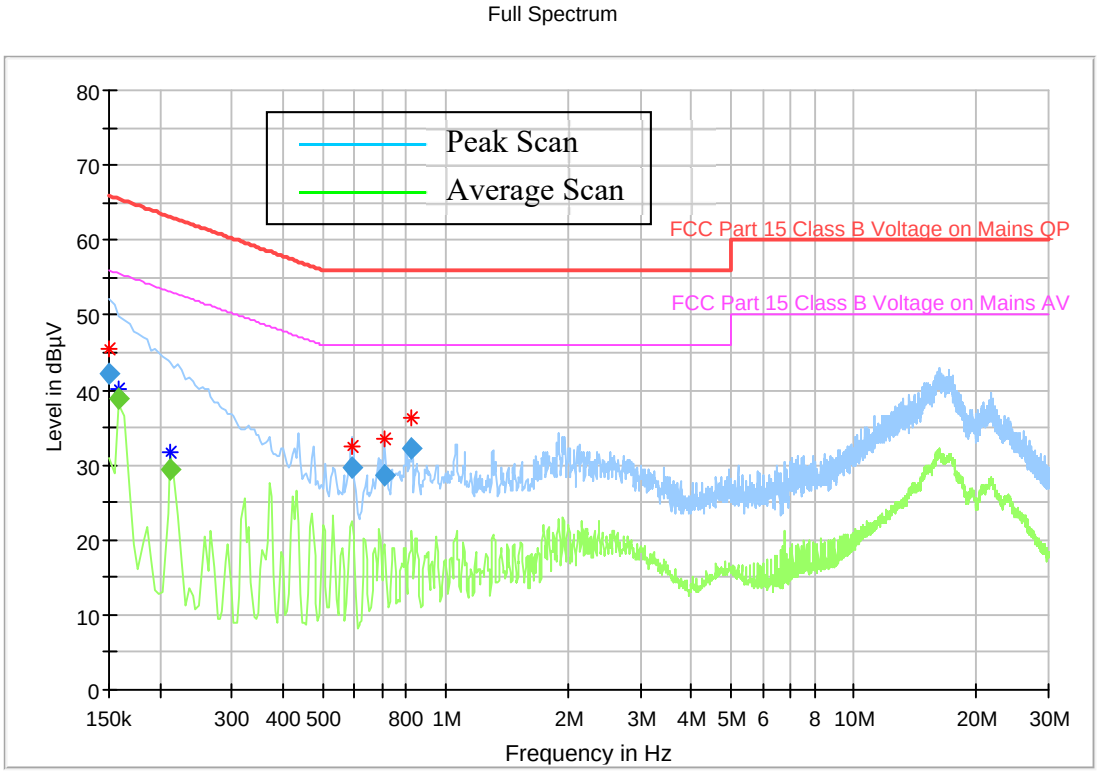
Frequency range MHz	Limits dB(µV)	
	Quasi-peak	Average
0,15 to 0,50	66 to 56	56 to 46
0,50 to 5	56	46
5 to 30	60	50
NOTE 1 The lower limit shall apply at the transition frequencies. NOTE 2 The limit decreases linearly with the logarithm of the frequency in the range 0,15 MHz to 0,50 MHz.		

Table 2: Limits for Conducted Disturbance at the Mains Ports of Class B ITE

7.8.3. Test Data

120 VAC, 60Hz

1) Charger + Radio TX WiFi 5GHz 802.11n20



Quasipeak and Average Measurement

Frequency (MHz)	QuasiPeak (dBµV)	CAverage (dBµV)	Limit (dBµV)	Margin (dB)	Line	Filter	Corr. (dB)
0.150000	42.15	---	66.00	23.85	L1	ON	10.4
0.159000	---	38.75	55.52	16.77	L1	ON	10.6
0.213000	---	29.29	53.09	23.80	L1	ON	10.5
0.591000	29.67	---	56.00	26.33	N	ON	10.7
0.708000	28.67	---	56.00	27.33	N	ON	10.7
0.829500	32.18	---	56.00	23.82	N	ON	10.6

END OF TEST REPORT