

FCC UNII REPORT

Certification

Applicant Name:

SAMSUNG Electronics Co., Ltd.

Date of Issue:

February 15, 2022

Address:

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Report No.: HCT-RF-2202-FC022**FCC ID:** A3LSMA736B**APPLICANT:** SAMSUNG Electronics Co., Ltd.**Model:** SM-A736B/DS**Additional Model:** SM-A736B**EUT Type:** Mobile phone**Modulation type** OFDM**FCC Classification:** Unlicensed National Information Infrastructure(NII)**FCC Rule Part(s):** Part 15.407**Engineering Statement:**

The measurements shown in this report were made in accordance with the procedures indicated, and the emissions from this equipment were found to be within the limits applicable. I assume full responsibility for the accuracy and completeness of these measurements, and for the qualifications of all persons taking them. It is further stated that upon the basis of the measurements made, the equipment tested is capable of operation in accordance with the requirements of the FCC Rules under normal use and maintenance.

Report No.: HCT-RF-2202-FC022

REVIEWED BY



Report prepared by : Chang Hee Hwang
Engineer of Telecommunication Testing Center

Report approved by : Jong Seok Lee
Manager of Telecommunication Testing Center

This test results were applied only to the test methods required by the standard.

This laboratory is not accredited for the test results marked *.

The above Test Report is the accredited test result by (KS Q) ISO/IEC 17025 and KOLAS(Korea Laboratory Accreditation Scheme), which signed the ILAC-MRA. (HCT Accreditation No.: KT197)

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Version

TEST REPORT NO.	DATE	DESCRIPTION
HCT-RF-2202-FC022	February 15, 2022	- First Approval Report

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1. GENERAL INFORMATION

EUT DESCRIPTION

Model	SM-A736B/DS	
Additional Model	SM-A736B	
EUT Type	Mobile phone	
Power Supply	DC 3.86 V	
Modulation Type	OFDM : 802.11a, 802.11n, 802.11ac	
Frequency Range (MHz)	U-NII-1	20 MHz BW : 5180 - 5240 40 MHz BW : 5190 - 5230 80 MHz BW : 5210
	U-NII-2A	20 MHz BW : 5260 - 5320 40 MHz BW : 5270 - 5310 80 MHz BW : 5290
	U-NII-2C	20 MHz BW : 5500 - 5720 40 MHz BW : 5510 - 5710 80 MHz BW : 5530 – 5690
	U-NII-3	20 MHz BW : 5745 - 5825 40 MHz BW : 5755 - 5795 80 MHz BW : 5775
Straddle channel	Supported	
TDWR Band	Supported	
Dynamic Frequency Selection	Slave without radar detection	
Date(s) of Tests	December 13, 2021~ February 15, 2022	
Serial number	Radiated: 5c887a1521287ece Conducted: 5a1ad7cd25347ece	

2. MAXIMUM OUTPUT POWER

The transmitter has a maximum total conducted average output power as follows:

Band	Mode	Power	
		(dBm)	(W)
UNII1	802.11a	14.08	0.026
	802.11n (HT20)	14.98	0.031
	802.11n (HT40)	12.75	0.019
	802.11ac (VHT20)	13.71	0.023
	802.11ac (VHT40)	11.70	0.015
	802.11ac (VHT80)	11.24	0.013
UNII2A	802.11a	14.90	0.031
	802.11n (HT20)	14.98	0.031
	802.11n (HT40)	12.25	0.017
	802.11ac (VHT20)	13.82	0.024
	802.11ac (VHT40)	12.30	0.017
	802.11ac (VHT80)	11.61	0.015
UNII2C	802.11a	14.22	0.026
	802.11n (HT20)	14.45	0.028
	802.11n (HT40)	12.18	0.017
	802.11ac (VHT20)	13.42	0.022
	802.11ac (VHT40)	12.31	0.017
	802.11ac (VHT80)	11.71	0.015
UNII3	802.11a	14.15	0.026
	802.11n (HT20)	14.99	0.032
	802.11n (HT40)	12.47	0.018
	802.11ac (VHT20)	13.69	0.023
	802.11ac (VHT40)	12.55	0.018
	802.11ac (VHT80)	11.52	0.014

3. TEST METHODOLOGY

The measurement procedure described in FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01 dated December 14, 2017 entitled “Guidelines for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices Part15, Subpart E” and ANSI C63.10(Version : 2013) ‘the American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices’ were used in the measurement.

EUT CONFIGURATION

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner that intends to maximize its emission characteristics in a continuous normal application.

EUT EXERCISE

The EUT was operated in the engineering mode to fix the Tx frequency that was for the purpose of the measurements. According to its specifications, the EUT must comply with the requirements of the Section 15.207, 15.209 and 15.407 under the FCC Rules Part 15 Subpart E.

GENERAL TEST PROCEDURES

Conducted Emissions

The EUT is placed on the turntable, which is 0.8 m above ground plane. According to the requirements in Section 6.2 of ANSI C63.10. (Version :2013) Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30 MHz using CISPR Quasi-peak and average detector modes.

Radiated Emissions

The EUT is placed on a turn table, which is 0.8 m above ground plane below 1 GHz. Above 1 GHz with 1.5 m using absorbers between the EUT and receive antenna. The turntable shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3 m away from the receiving antenna, which varied from 1 m to 4 m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the max. emission, the relative positions of this hand-held transmitter (EUT) was rotated through three orthogonal axes according to the requirements in Section 6.6.5 of ANSI C63.10. (Version: 2013)

DESCRIPTION OF TEST MODES

The EUT has been tested under operating condition. Test program used to control the EUT for staying in continuous transmitting and receiving mode is programmed.

4. INSTRUMENT CALIBRATION

The measuring equipment, which was utilized in performing the tests documented herein, has been calibrated in accordance with the manufacturer's recommendations for utilizing calibration equipment's, which is traceable to recognized national standards.

Especially, all antenna for measurement is calibrated in accordance with the requirements of C63.5 (Version : 2017).

5. FACILITIES AND ACCREDITATIONS

5.1 FACILITIES

The SAC(Semi-Anechoic Chamber) and conducted measurement facility used to collect the radiated data are located at the 74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, 17383, Rep. of KOREA. The site is constructed in conformance with the requirements of ANSI C63.4. (Version :2014) and CISPR Publication 22.

Detailed description of test facility was submitted to the Commission and accepted dated April 02, 2018 (Registration Number: KR0032).

5.2 EQUIPMENT

Radiated emissions are measured with one or more of the following types of Linearly polarized antennas: tuned dipole, bi-conical, log periodic, bi-log, and/or ridged waveguide, horn. Spectrum analyzers with pre-selectors and quasi-peak detectors are used to perform radiated measurements.

Conducted emissions are measured with Line Impedance Stabilization Networks and EMI Test Receivers. Calibrated wideband preamplifiers, coaxial cables, and coaxial attenuators are also used for making measurements.

All receiving equipment conforms to CISPR Publication 16-1, "Radio Interference Measuring Apparatus and Measurement Methods."

6. ANTENNA REQUIREMENTS

According to FCC 47 CFR §15.203, §15.407:

"An intentional radiator antenna shall be designed to ensure that no antenna other than that furnished by the responsible party can be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section."

- (1) The antennas of this E.U.T are permanently attached.
- (2) The E.U.T Complies with the requirement of §15.203, §15.407

7. MEASUREMENT UNCERTAINTY

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI C63.10-2013.

All measurement uncertainty values are shown with a coverage factor of $k = 2$ to indicate a 95 % level of confidence.

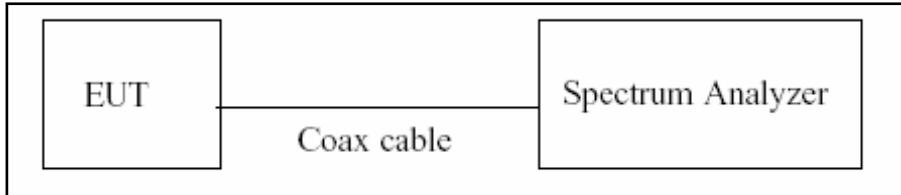
The measurement data shown herein meets or exceeds the U_{CISPR} measurement uncertainty values specified in CISPR 16-4-2 and, thus, can be compared directly to specified limits to determine compliance.

Parameter	Expanded Uncertainty (dB)
Conducted Disturbance (150 kHz ~ 30 MHz)	1.82 (Confidence level about 95 %, $k=2$)
Radiated Disturbance (9 kHz ~ 30 MHz)	3.40 (Confidence level about 95 %, $k=2$)
Radiated Disturbance (30 MHz ~ 1 GHz)	4.80 (Confidence level about 95 %, $k=2$)
Radiated Disturbance (1 GHz ~ 18 GHz)	5.70 (Confidence level about 95 %, $k=2$)
Radiated Disturbance (18 GHz ~ 40 GHz)	5.05 (Confidence level about 95 %, $k=2$)

8. DESCRIPTION OF TESTS

8.1. Duty Cycle

Test Configuration



Test Procedure

The transmitter output is connected to the Spectrum Analyzer.

We tested according to Procedure B.2 in KDB 789033 D02 v02r01.

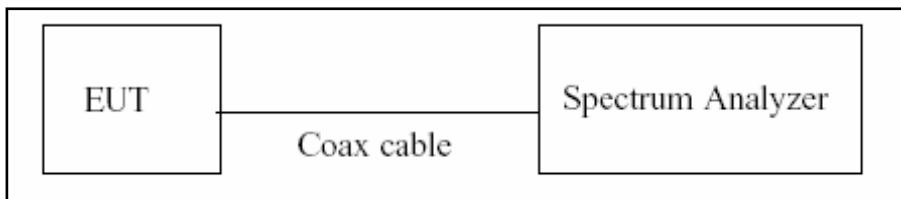
1. RBW = 8 MHz (the largest available value)
2. VBW = 8 MHz ($\geq$ RBW)
3. SPAN = 0 Hz
4. Detector = Peak
5. Number of points in sweep > 100
6. Trace mode = Clear write
7. Measure T_{total} and T_{on}
8. Calculate Duty Cycle = $T_{\text{on}} / T_{\text{total}}$ and Duty Cycle Factor = $10\log(1/\text{Duty Cycle})$

8.2. 6 dB Bandwidth & 26 dB Bandwidth

Limit

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

Test Configuration



Test Procedure(26 dB Bandwidth)

The transmitter output is connected to the Spectrum Analyzer.

We tested according to Procedure C.1 in KDB 789033 D02 v02r01.

1. RBW = approximately 1 % of the emission bandwidth
2. VBW > RBW
3. Detector = Peak
4. Trace mode = max hold
5. 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 %.

Test Procedure (6 dB Bandwidth)

The transmitter output is connected to the Spectrum Analyzer.

We tested according to Procedure C.2 in KDB 789033 D02 v02r01.

1. RBW = 100 kHz
2. VBW $\geq 3 \times$ RBW
3. Detector = Peak
4. Trace mode = max hold
5. Allow the trace to stabilize
6. 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.

Note:

1. We tested X dB bandwidth using the automatic bandwidth measurement capability of a spectrum analyzer.
2. DFS test channels should be defined. So, We performed the OBW test to prove that no part of the fundamental emissions of any channels belong to UNII1 and UNII3 band for DFS.
3. The 26 dB bandwidth is used to determine the conducted power limits.

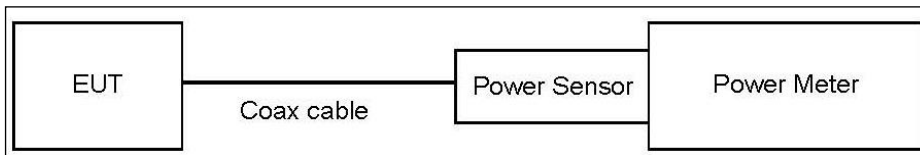
8.3. Output Power Measurement

Limit

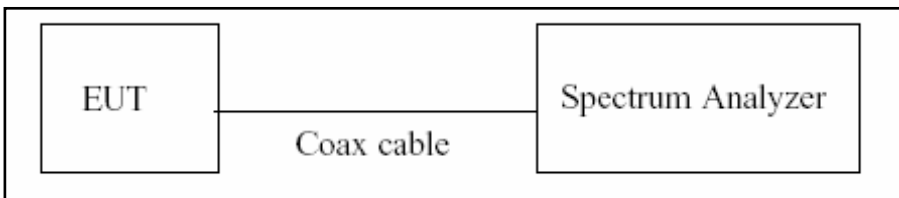
Band	Limit
UNII 1	- Master : Not exceed 1 W(=30 dBm) - Slave : Not exceed 250 mW(=23.98 dBm)
UNII 2A, 2C	Not exceed the lesser of 250 mW or 11 dBm + 10 log B, (where B is the 26 dB emission bandwidth in megahertz.)
UNII 3	Not exceed 1 W(=30 dBm)

Test Configuration

Power Meter



Spectrum Analyzer(Only Straddle Channel)



Test Procedure(Power Meter)

We tested according to Procedure E.3.a in KDB 789033 D02 v02r01.

1. Measure the duty cycle.
2. Measure the average power of the transmitter. This measurement is an average over both the on and off periods of the transmitter.
3. Add 10 log (1/x), where x is the duty cycle, to the measured power in order to compute the average power during the actual transmission times.

Test Procedure(Spectrum Analyzer)

The transmitter output is connected to the Spectrum Analyzer.

We use the spectrum analyzer's integrated band power measurement function.

We tested according to Procedure E.2.d) in KDB 789033 D02 v02r01.

1. Measure the duty cycle.
2. Set span to encompass the 26 dB EBW of the signal.
3. RBW = 1 MHz.
4. VBW $\geq$ 3 MHz.
5. Number of points in sweep $\geq 2 \times \text{span/RBW}$.
6. Sweep time = auto.
7. Detector = RMS.
8. Do not use sweep triggering. Allow the sweep to "free run".
9. Trace average at least 100 traces in power averaging(RMS) mode
10. Integrated bandwidth = OBW
11. Add $10\log(1/x)$, where x is the duty cycle, to the measured power in order to compute the average power during the actual transmission times.

Sample Calculation

Total Power(dBm) = Measured Value(dBm) + ATT loss(dB) + Cable loss(dB) + Duty Cycle Factor(dB)

Note

1. Spectrum Measured Levels are not plot data.

The power results in plot is already including the actual values of loss for the attenuator and cable combination.

2. Spectrum offset

Loss = Attenuator loss(10 dB) + Cable loss

3. Actual value of loss for the attenuator and cable combination is below table.

Band	Loss(dB)
UNII 1	10.80
UNII 2A	10.80
UNII 2C	10.80
UNII 3	10.80

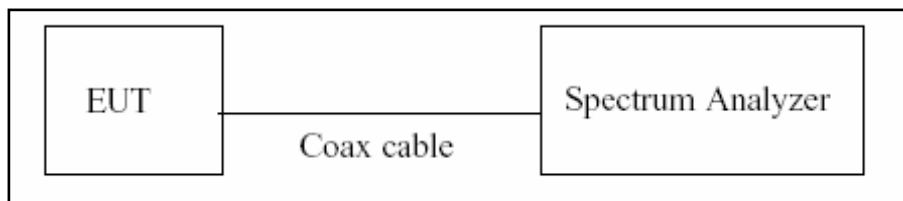
(Actual value of loss for the attenuator and cable combination)

8.4. Power Spectral Density

Limit

Band	Limit
UNII 1	11 dBm/MHz
UNII 2A, 2C	11 dBm/MHz
UNII 3	30 dBm/500 kHz

Test Configuration



Test Procedure

We tested according to Procedure F in KDB 789033 D02 v02r01.

1. Set span to encompass the entire emission bandwidth(EBW) of the signal.
2. RBW = 1 MHz(510 kHz for UNII 3)
3. VBW $\geq$ 3 MHz
4. Number of points in sweep $\geq$ 2 x span/RBW.
5. Sweep time = auto.
6. Detector = RMS(i.e., power averaging), if available. Otherwise, use sample detector mode.
7. Do not use sweep triggering. Allow the sweep to “free run”.
8. Trace average at least 100 traces in power averaging(RMS) mode
9. Use the peak search function on the spectrum analyzer to find the peak of the spectrum.
10. If Method SA-2 was used, add $10 \log(1/x)$, where x is the duty cycle, to the peak of the spectrum.

Sample Calculation

Total PSD(dBm) = Measured Value(dBm) + ATT loss(dB) + Cable loss(dB) + Duty Cycle Factor(dB)

Note

1. Spectrum Measured Levels are not plot data.

The PSD results in plot is already including the actual values of loss for the attenuator and cable combination.

2. Spectrum offset

Loss = Attenuator loss(10 dB) + Cable loss

3. Actual value of loss for the attenuator and cable combination is below table.

Band	Loss(dB)
UNII 1	10.80
UNII 2A	10.80
UNII 2C	10.80
UNII 3	10.80

(Actual value of loss for the attenuator and cable combination)

8.5. AC Power line Conducted Emissions

Limit

For an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50 μ H/50 ohms line impedance stabilization network (LISN).

Frequency Range (MHz)	Limits (dB μ V)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56 ^(a)	56 to 46 ^(a)
0.50 to 5	56	46
5 to 30	60	50

^(a)Decreases with the logarithm of the frequency.

Compliance with this provision shall be based on the measurement of the radio frequency voltage between each power line (LINE and NEUTRAL) and ground at the power terminals.

Test Configuration

See test photographs attached in Annex A for the actual connections between EUT and support equipment.

Test Procedure

1. The EUT is placed on a wooden table 80 cm above the reference ground plane.
2. The EUT is connected via LISN to a test power supply.
3. The measurement results are obtained as described below:
4. Detectors : Quasi Peak and Average Detector.

Sample Calculation

Quasi-peak(Final Result) = Measured Value + Correction Factor

8.6. Radiated Test

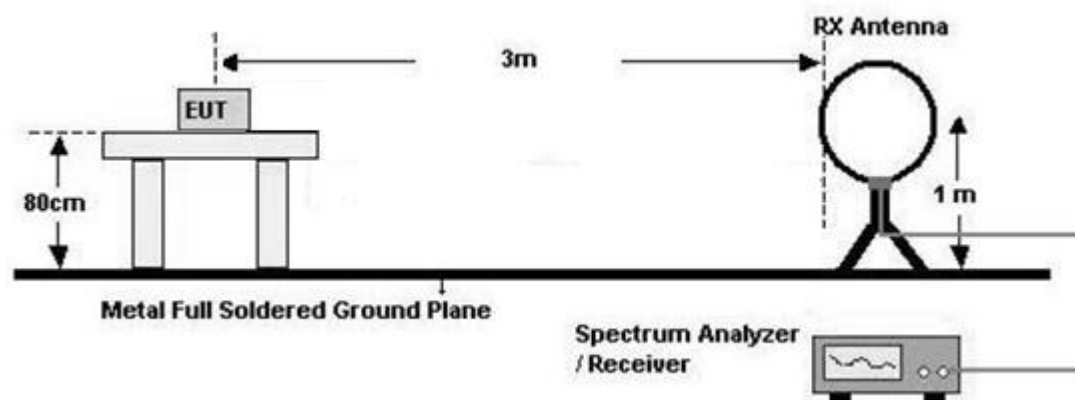
Limit

1. UNII 1: All emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of -27 dBm/MHz.
2. UNII 2A, 2C: All emissions outside of the 5.47-5.725 GHz band shall not exceed an EIRP of -27 dBm/MHz.
3. UNII 3: All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.
4. All out of band emissions appearing in a restricted band as specified in Section 15.205 of the Title 47 CFR must not exceed the limits shown in Section 15.209.

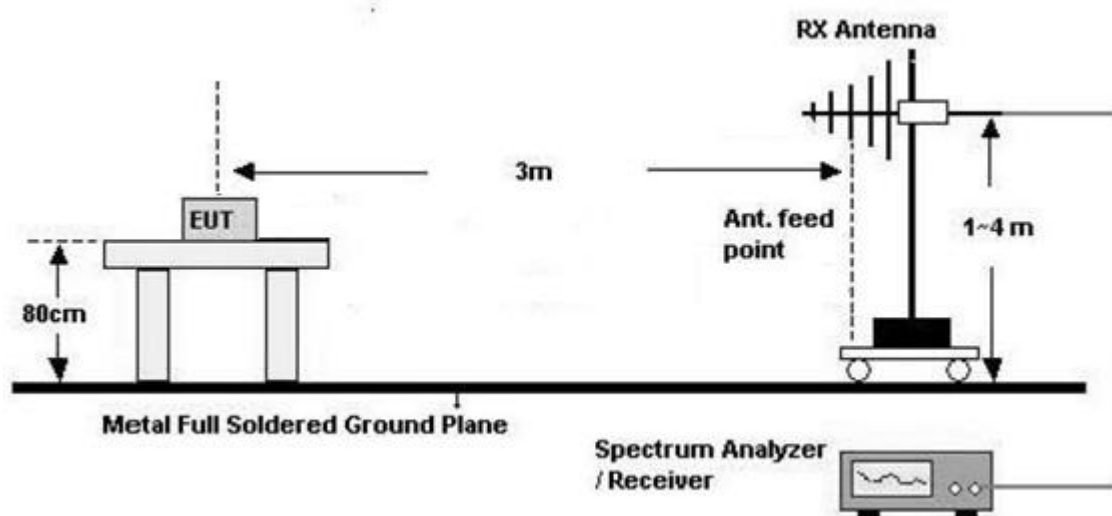
Frequency (MHz)	Field Strength (μ V/m)	Measurement Distance (m)
0.009 – 0.490	$2400/F(\text{kHz})$	300
0.490 – 1.705	$24000/F(\text{kHz})$	30
1.705 – 30	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

Test Configuration

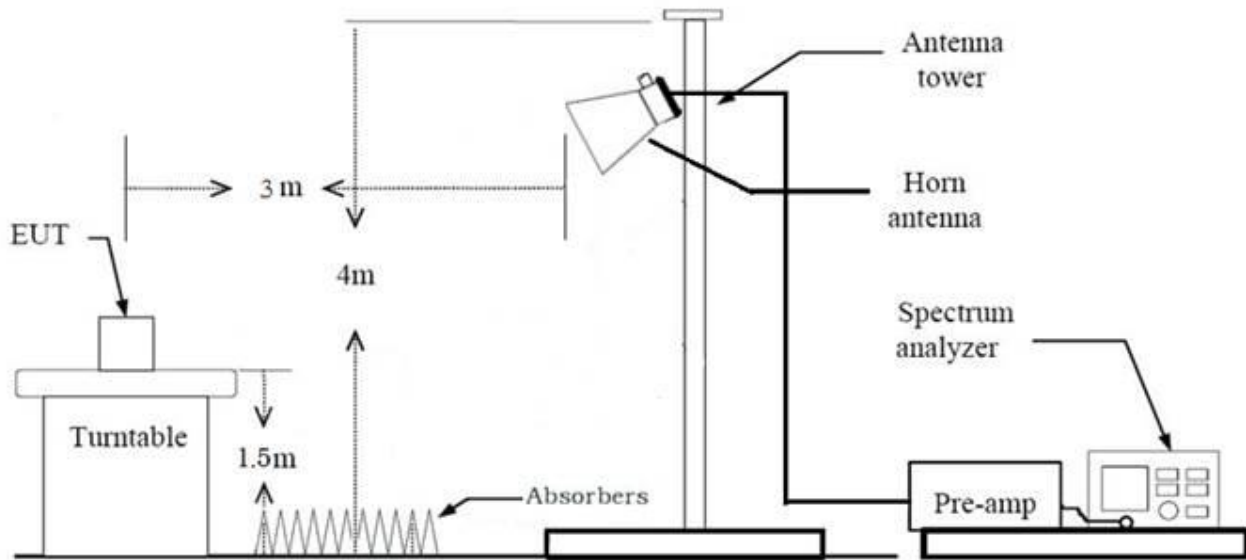
Below 30 MHz



30 MHz - 1 GHz



Above 1 GHz



Test Procedure of Radiated spurious emissions(Below 30 MHz)

1. The EUT was placed on a non-conductive table located on semi-anechoic chamber.
2. The loop antenna was placed at a location 3 m from the EUT
3. The EUT is placed on a turntable, which is 0.8 m above ground plane.
4. We have done x, y, z planes in EUT and horizontal and vertical polarization and Parallel to the ground plane in detecting antenna.
5. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
6. Distance Correction Factor(0.009 MHz – 0.490 MHz) = $40\log(3\text{ m}/300\text{ m}) = -80\text{ dB}$
Measurement Distance : 3 m
7. Distance Correction Factor(0.490 MHz – 30 MHz) = $40\log(3\text{ m}/30\text{ m}) = -40\text{ dB}$
Measurement Distance : 3 m
8. Spectrum Setting
 - Frequency Range = 9 kHz ~ 30 MHz
 - Detector = Peak
 - Trace = Maxhold
 - RBW = 9 kHz
 - VBW $\geq 3 \times$ RBW
9. Total = Measured Value + Antenna Factor(A.F) + Cable Loss(C.L) + Distance Factor(D.F)
10. Measurement value only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.

KDB 414788 OFS and Chamber Correlation Justification

Base on FCC 15.31 (f) (2): measurements may be performed at a distance closer than that specified in the regulations; however, an attempt should be made to avoid making measurements in the near field.

OFS and chamber correlation testing had been performed and chamber measured test result is the worst case test result.

Test Procedure of Radiated spurious emissions(Below 1 GHz)

1. The EUT was placed on a non-conductive table located on semi-anechoic chamber.
2. The EUT is placed on a turntable, which is 0.8 m above ground plane.
3. The Hybrid antenna was placed at a location 3 m from the EUT, which is varied from 1 m to 4 m to find out the highest emissions.
4. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
5. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
6. Spectrum Setting
 - (1) Measurement Type(Peak):
 - Measured Frequency Range : 30 MHz – 1 GHz
 - Detector = Peak
 - Trace = Maxhold
 - RBW = 100 kHz
 - VBW $\geq 3 \times$ RBW
 - (2) Measurement Type(Quasi-peak):
 - Measured Frequency Range : 30 MHz – 1 GHz
 - Detector = Quasi-Peak
 - RBW = 120 kHz
- ※ In general, (1) is used mainly
7. Total = Measured Value + Antenna Factor(A.F) + Cable Loss(C.L)
8. Measurement value only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.

Test Procedure of Radiated spurious emissions (Above 1 GHz)

1. The EUT is placed on a turntable, which is 1.5 m above ground plane.
2. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
3. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
4. EUT is set 3 m away from the receiving antenna, which is varied from 1 m to 4 m to find out the highest emissions.
5. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
6. Each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
7. The unit was tested with its standard battery.
8. Spectrum Setting

(1) Measurement Type (Peak, G.5 in KDB 789033 v02r01):

- RBW = 1 MHz
- VBW $\geq$ 3 MHz
- Detector = Peak
- Sweep Time = auto
- Trace mode = max hold
- Allow sweeps to continue until the trace stabilizes.

Note that if the transmission is not continuous, the time required for the trace to stabilize will increase by a factor of approximately $1/x$, where x is the duty cycle.

(2) Measurement Type (Average, G.6.d in KDB 789033 v02r01):

- RBW = 1 MHz
- VBW(Duty cycle $\geq$ 98 %) = $VBW \leq RBW/100$ (i.e., 10 kHz) but not less than 10 Hz.
- VBW(Duty cycle is < 98 %) = $VBW \geq 1/T$, where T is the minimum transmission duration.
- The analyzer is set to linear detector mode.
- Detector = Peak.
- Sweep time = auto.
- Trace mode = max hold.
- Allow max hold to run for at least 50 traces if the transmitted signal is continuous or has at least 98 % duty cycle. For lower duty cycles, increase the minimum number of traces by a factor of $1/x$, where x is the duty cycle.

9. Measurement value only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor
10. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency
11. Distance extrapolation factor = $20\log(\text{test distance} / \text{specific distance})$ (dB)
12. Total = Measured Value + Antenna Factor(A.F) + Cable Loss(C.L) - Amp Gain(A.G) + Distance Factor(D.F)

Test Procedure of Radiated Restricted Band Edge

1. The EUT is placed on a turntable, which is 1.5 m above ground plane.
2. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
3. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
4. EUT is set 3 m away from the receiving antenna, which is varied from 1 m to 4 m to find out the highest emissions.
5. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
6. Each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
7. The unit was tested with its standard battery.
8. Spectrum Setting

(1) Measurement Type(Peak, G.5 in KDB 789033 v02r01):

- RBW = 1 MHz
- VBW $\geq$ 3 MHz
- Detector = Peak
- Sweep Time = auto
- Trace mode = max hold
- Allow sweeps to continue until the trace stabilizes.

Note that if the transmission is not continuous, the time required for the trace to stabilize will increase by a factor of approximately $1/x$, where x is the duty cycle.

(2) Measurement Type(Average, G.6.d in KDB 789033 v02r01):

- RBW = 1 MHz
- VBW(Duty cycle $\geq$ 98 %) = $\text{VBW} \leq \text{RBW}/100$ (i.e., 10 kHz) but not less than 10 Hz.
- VBW(Duty cycle is < 98 %) = $\text{VBW} \geq 1/T$, where T is the minimum transmission duration.
- The analyzer is set to linear detector mode.
- Detector = Peak.
- Sweep time = auto.
- Trace mode = max hold.
- Allow max hold to run for at least 50 traces if the transmitted signal is continuous or has at least 98 % duty cycle. For lower duty cycles, increase the minimum number of traces by a factor of $1/x$, where x is the duty cycle.

9. Measured Frequency Range :

- 4 500 MHz ~ 5 150 MHz
- 5 350 MHz ~ 5 460 MHz
- 5 460 MHz ~ 5 470 MHz
- (75 MHz or more below the 5 725 MHz) ~ 5 725 MHz
- 5 850 MHz ~ (75 MHz or more above the 5 850 MHz)

10. Distance extrapolation factor = $20\log$ (test distance / specific distance) (dB)

11. Total = Measured Value + Antenna Factor(A.F) + Cable Loss(C.L) - Amp Gain(A.G) + Attenuator(ATT)
+ Distance Factor(D.F)

The actual setting value of VBW

Mode	Worst Data rate (Mbps)	Duty Cycle	Duty Cycle Factor (dB)	The actual setting value of VBW (Hz)
802.11a	6	0.935	0.293	1000
802.11n(HT20)	MCS0	0.924	0.342	1000
802.11n(HT40)	MCS0	0.866	0.624	2000
802.11ac(VHT20)	MCS0	0.928	0.324	1000
802.11ac(VHT40)	MCS0	0.866	0.624	2000
802.11ac(VHT80)	MCS0	0.765	1.161	5000

8.7. Worst case configuration and mode

Radiated test

1. All modes of operation were investigated and the worst case configuration results are reported.
 - Mode : Stand alone, Stand alone + External accessories(Earphone, etc)
 - Worstcase : Stand alone
2. EUT Axis
 - Radiated Spurious Emissions : X
 - Radiated Restricted Band Edge : X, Y
3. All datarate of operation were investigated and the worst case datarate results are reported.
 - 802.11a : 6 Mbps
 - 802.11n_HT20 : MCS0
 - 802.11n_HT40 : MCS0
 - 802.11ac_VHT20 : MCS0
 - 802.11ac_VHT40 : MCS0
 - 802.11ac_VHT80 : MCS0
4. Radiated Spurious Emission
 - All modulation of operation were investigated and the worst case modulation results are reported.
(Worstcase : 802.11a_6Mbps)
5. All position of loop antenna were investigated and the test result is a no critical peak found at all positions.
 - Position : Horizontal, Vertical, Parallel to the ground plane
6. SM-A736B/DS, SM-A736B were tested and the worst case results are reported.
 - Worst case : SM-A736B/DS

Radiated test(RSDB)

The following tables show the worst case configurations determined during testing.

Description	Bluetooth Emission	5 GHz Emission
Antenna	WIFI/BT	WIFI/BT
Channel	78	138
Data Rate	1 Mbps	MCS 0
Mode	GFSK : DH5	802.11ax (HE80)

Note : Please refer to the SM-A736B/DS [UNII ax] & [BT] Test Report.

AC Power line Conducted Emissions

1. All modes of operation were investigated and the worst case configuration results are reported.
 - Mode : Stand alone + External accessories(Earphone.,etc) + Travel Adapter,
Stand alone + Travel Adapter
 - Worstcase : Stand alone + Travel Adapter
2. SM-A736B/DS, SM-A736B were tested and the worst case results are reported.
 - Worst case : SM-A736B/DS

Conducted test

1. All datarate of operation were investigated and the worst case datarate results are reported.
2. SM-A736B/DS, SM-A736B were tested and the worst case results are reported.
 - Worst case : SM-A736B/DS

9. SUMMARY OF TEST RESULTS

Test Description	FCC Part Section(s)	Test Limit	Test Condition	Test Result
26 dB Bandwidth	§15.407 (for Power Measurement)	N/A	Conducted	PASS
6 dB Bandwidth	§15.407(e)	>500 kHz (5725-5850 MHz)(UNII-3)		PASS
Maximum Conducted Output Power	§15.407(a)(1),(2),(3)	< 250 mW(5150-5250 MHz) < 250 mW or $11+10\log_{10}$ (BW) dBm (5250-5350 MHz) < 250 mW or $11+10\log_{10}$ (BW) dBm (5470-5725 MHz) <1 W (5725-5850 MHz)		PASS
Maximum EIRP Output Power	§15.407(a)(1)(3)(iii)	< EIRP 30dBm (5850-5895 MHz)		PASS
Maximum Power Spectral Density	§15.407(a)(1),(2),(3)	<11 dBm/ MHz (5150-5250 MHz) <11 dBm/ MHz (5250-5350 MHz) <11 dBm/ MHz (5470-5725 MHz) <30 dBm/500 kHz(5725-5850 MHz)		PASS
AC Conducted Emissions 150 kHz-30 MHz	15.207 15.407(b)(8)	<FCC 15.207 limits		PASS
Undesirable Emissions	§15.407(b) (1),(2),(3),(4)	<-27 dBm/MHz EIRP (UNII1, 2A, 2C) cf. Section 8.6 (UNII 3)	Radiated	PASS
General Field Strength Limits(Restricted Bands and Radiated Emission Limits)	15.205, 15.407(b)(9),(10)	Emissions in restricted bands must meet the radiated limits detailed in 15.209		PASS

10. TEST RESULT

10.1 DUTY CYCLE

Mode	Data Rate (Mbps)	T _{on} (ms)	T _{total} (ms)	Duty Cycle	Duty Cycle Factor (dB)
802.11a	6	1.464	1.566	0.935	0.293
	9	0.983	1.084	0.907	0.425
	12	0.745	0.841	0.886	0.528
	18	0.507	0.603	0.840	0.755
	24	0.380	0.481	0.790	1.026
	36	0.264	0.360	0.733	1.352
	48	0.203	0.304	0.667	1.760
	54	0.182	0.284	0.643	1.918

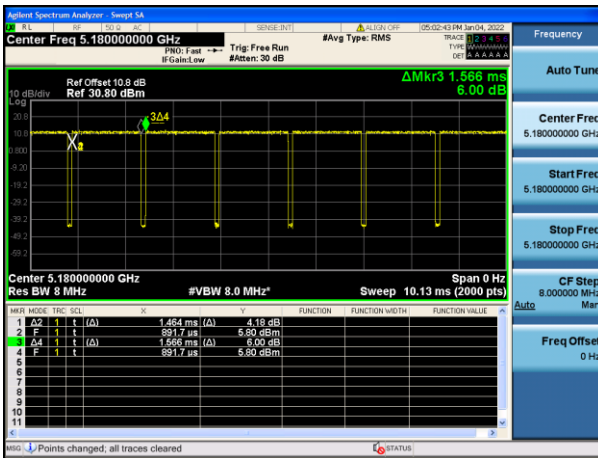
Mode	MCS Index	T _{on} (ms)	T _{total} (ms)	Duty Cycle	Duty Cycle Factor (dB)
802.11n (HT20)	0	1.246	1.348	0.924	0.342
	1	0.638	0.740	0.863	0.640
	2	0.441	0.542	0.813	0.898
	3	0.340	0.436	0.779	1.083
	4	0.238	0.340	0.701	1.541
	5	0.193	0.289	0.667	1.762
	6	0.167	0.269	0.623	2.057
	7	0.157	0.258	0.608	2.161
802.11n (HT40)	0	0.623	0.720	0.866	0.624
	1	0.329	0.426	0.774	1.114
	2	0.228	0.329	0.692	1.597
	3	0.182	0.279	0.654	1.841
	4	0.132	0.233	0.565	2.480
	5	0.112	0.213	0.524	2.807
	6	0.101	0.198	0.513	2.902
	7	0.096	0.198	0.487	3.123

Mode	MCS Index	T _{on} (ms)	T _{total} (ms)	Duty Cycle	Duty Cycle Factor(dB)
802.11ac (VHT20)	0	1.251	1.348	0.928	0.324
	1	0.649	0.745	0.871	0.601
	2	0.456	0.524	0.870	0.605
	3	0.340	0.441	0.770	1.134
	4	0.248	0.345	0.721	1.422
	5	0.193	0.289	0.667	1.762
	6	0.177	0.274	0.648	1.884
	7	0.162	0.264	0.615	2.110
	8	0.147	0.243	0.604	2.189
802.11ac (VHT40)	0	0.623	0.720	0.866	0.624
	1	0.329	0.431	0.765	1.166
	2	0.233	0.334	0.697	1.567
	3	0.188	0.284	0.661	1.799
	4	0.142	0.238	0.596	2.248
	5	0.117	0.213	0.547	2.616
	6	0.112	0.208	0.537	2.702
	7	0.101	0.198	0.513	2.902
	8	0.091	0.193	0.474	3.244
	9	0.081	0.182	0.444	3.522
802.11ac (VHT80)	0	0.314	0.410	0.765	1.161
	1	0.172	0.274	0.630	2.008
	2	0.137	0.228	0.600	2.218
	3	0.106	0.203	0.525	2.799
	4	0.091	0.188	0.486	3.130
	5	0.076	0.172	0.441	3.555
	6	0.071	0.167	0.424	3.724
	7	0.066	0.162	0.406	3.911
	8	0.066	0.162	0.406	3.911
	9	0.061	0.157	0.387	4.123

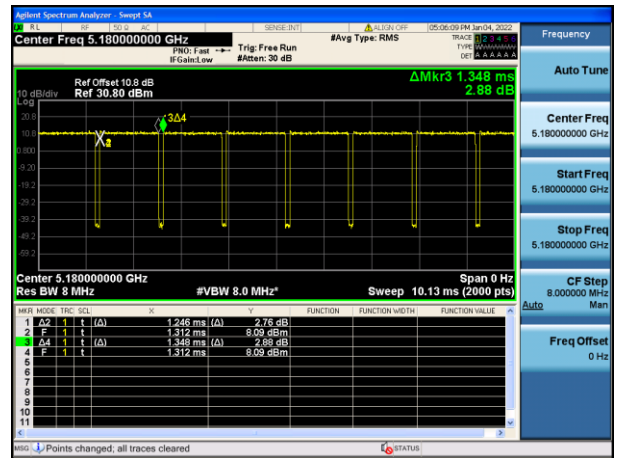
Note:

In order to simplify the report, attached plots were only lowest datarate.

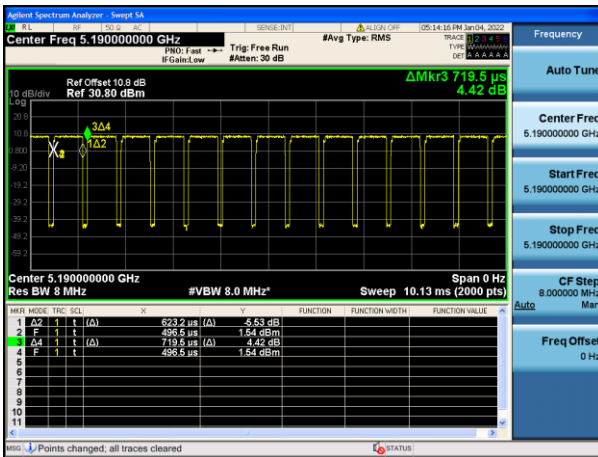
802.11a



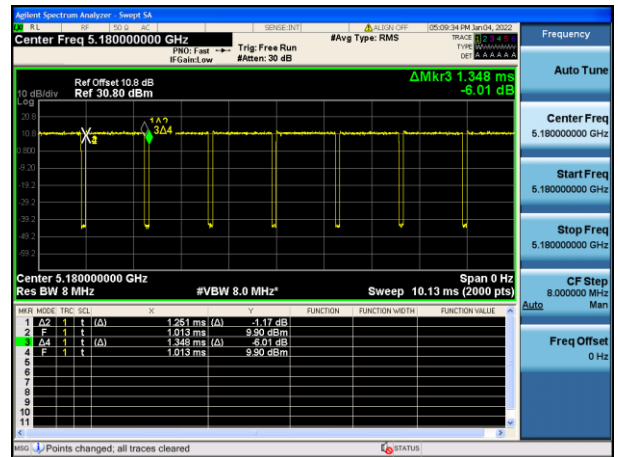
802.11n(HT20)



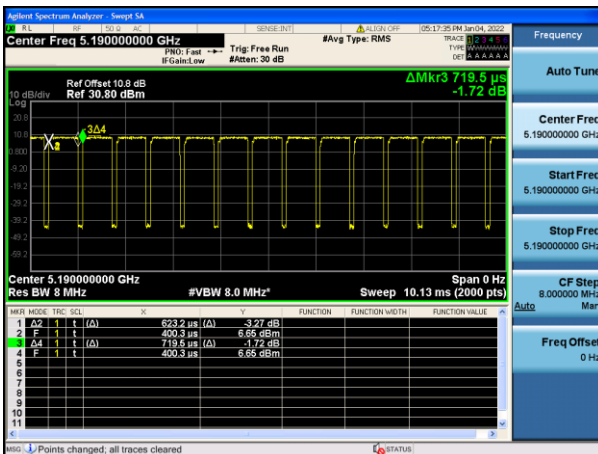
802.11n(HT40)



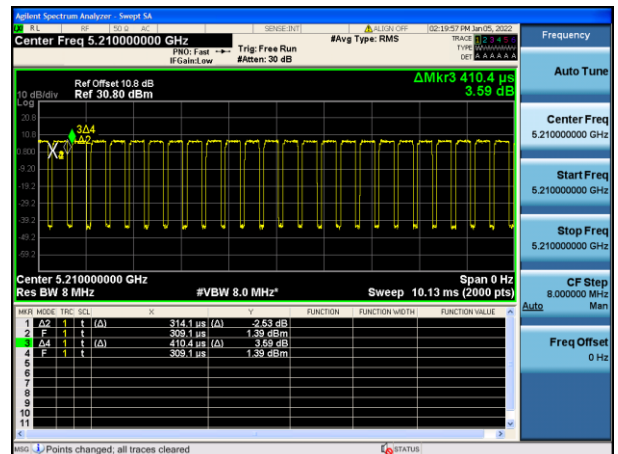
802.11ac(VHT20)



802.11ac(VHT40)



802.11ac(VHT80)



10.2 26 dB Bandwidth

Straddle channel data in the table below are for reporting purposes only. Straddle channel data were added in section 10.7.1.

802.11a Mode		26 dB Bandwidth [MHz]	99 % bandwidth [MHz]
Frequency [MHz]	Channel No.		
5180	36	18.55	16.280
5200	40	18.47	16.280
5240	48	18.43	16.280
5260	52	18.61	16.278
5300	60	18.67	16.278
5320	64	19.54	16.287
5500	100	18.35	16.284
5600	120	18.27	16.273
5720	144	18.62	16.287
5745	149	18.23	16.274
5785	157	18.49	16.272
5825	165	18.77	16.278

802.11n(HT20) Mode		26 dB Bandwidth [MHz]	99 % bandwidth [MHz]
Frequency [MHz]	Channel No.		
5180	36	19.76	17.472
5200	40	20.63	17.498
5240	48	19.53	17.477
5260	52	19.53	17.492
5300	60	19.69	17.487
5320	64	19.57	17.473
5500	100	19.55	17.463
5600	120	19.45	17.489
5720	144	19.63	17.469
5745	149	19.57	17.463
5785	157	19.67	17.481
5825	165	19.58	17.465

802.11n(HT40) Mode		26 dB Bandwidth [MHz]	99 % bandwidth [MHz]
Frequency [MHz]	Channel No.		
5190	38	39.23	35.900
5230	46	39.26	35.878
5270	54	39.16	35.858
5310	62	39.51	35.826
5510	102	39.19	35.888
5590	118	39.50	35.887
5710	142	39.22	35.836
5755	151	39.23	35.836
5795	159	39.29	35.853

802.11ac(VHT20) Mode		26 dB Bandwidth [MHz]	99 % bandwidth [MHz]
Frequency [MHz]	Channel No.		
5180	36	19.59	17.484
5200	40	19.62	17.470
5240	48	19.53	17.500
5260	52	19.77	17.491
5300	60	19.73	17.463
5320	64	19.65	17.465
5500	100	19.56	17.486
5600	120	19.22	17.484
5720	144	19.72	17.489
5745	149	19.57	17.470
5785	157	19.71	17.489
5825	165	19.62	17.511

802.11ac(VHT40) Mode		26 dB Bandwidth [MHz]	99 % bandwidth [MHz]
Frequency [MHz]	Channel No.		
5190	38	39.20	35.867
5230	46	39.28	35.835
5270	54	39.49	35.863
5310	62	39.49	35.849
5510	102	39.19	35.848
5590	118	39.26	35.864
5710	142	39.19	35.826
5755	151	39.20	35.852
5795	159	39.30	35.859

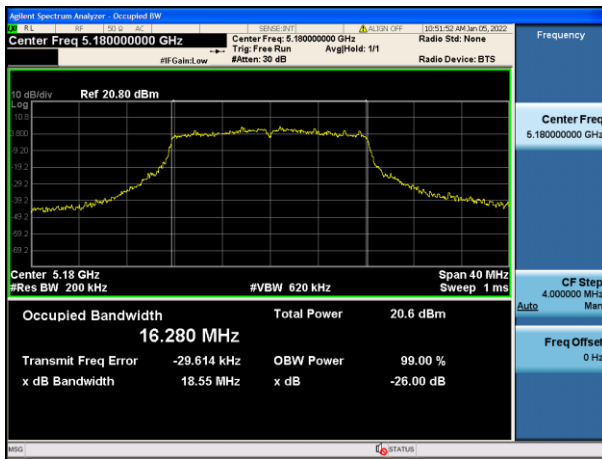
802.11ac(VHT80) Mode		26 dB Bandwidth [MHz]	99 % bandwidth [MHz]
Frequency [MHz]	Channel No.		
5210	42	80.01	74.966
5290	58	80.60	75.006
5530	106	79.87	74.959
5610	122	80.10	74.991
5690	138	80.27	74.976
5775	155	80.39	75.080

■ Test Plots(802.11a)

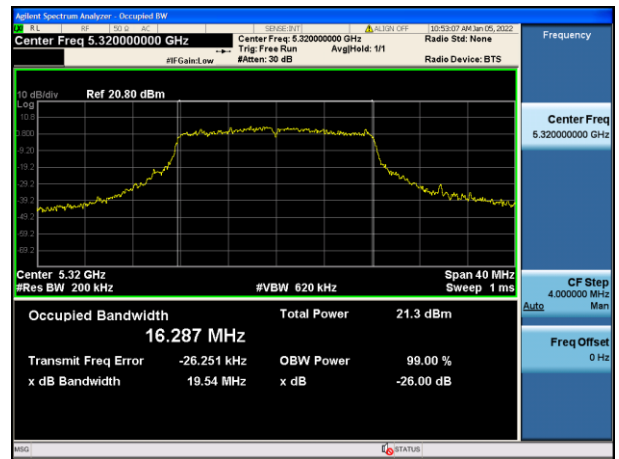
Note:

In order to simplify the report, attached plots were only the most wide channel.

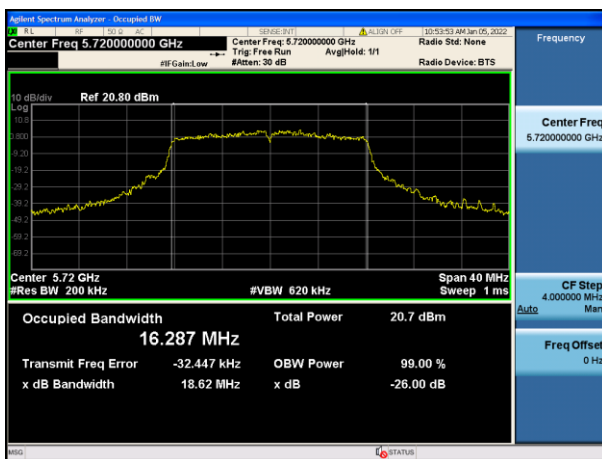
802.11a UNII 1 BAND 26 dB Bandwidth (CH 36)



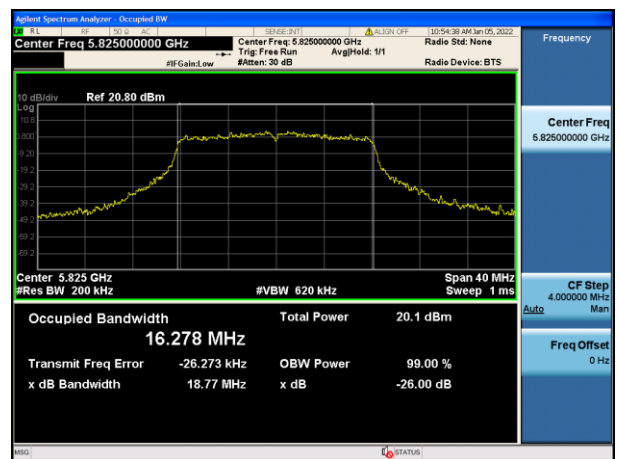
802.11a UNII 2A BAND 26 dB Bandwidth (CH 64)



802.11a UNII 2C BAND 26 dB Bandwidth (CH 144)



802.11a UNII 3 BAND 26 dB Bandwidth (CH 165)

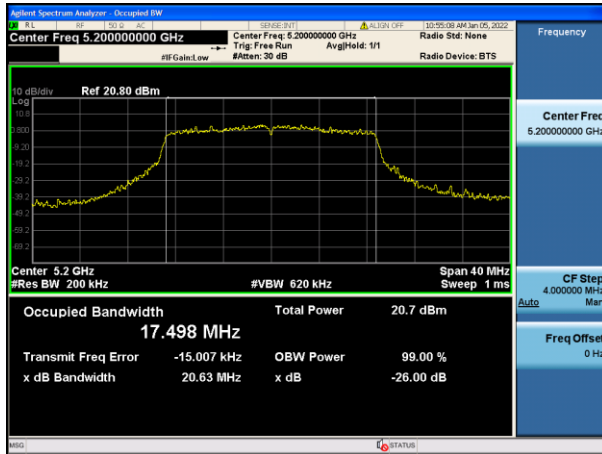


☐ Test Plots(802.11n(HT20))

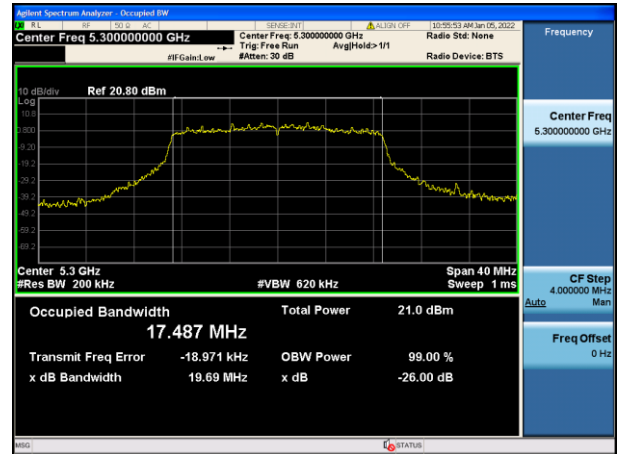
Note:

In order to simplify the report, attached plots were only the most wide channel.

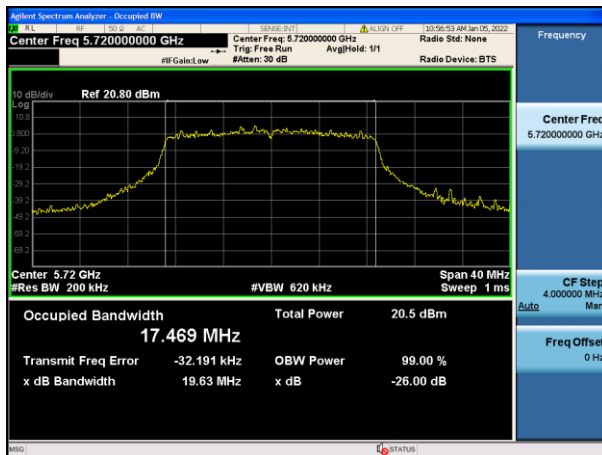
802.11n_HT20 UNII 1 BAND 26 dB Bandwidth(CH 40)



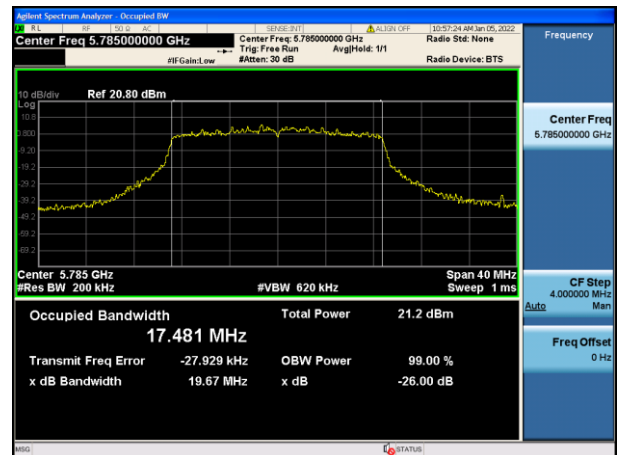
802.11n_HT20 UNII 2A BAND 26 dB Bandwidth(CH 60)



802.11n_HT20 UNII 2C BAND 26 dB Bandwidth(CH 144)



802.11n_HT20 UNII 3 BAND 26 dB Bandwidth(CH 157)



☐ Test Plots(802.11n(HT40))

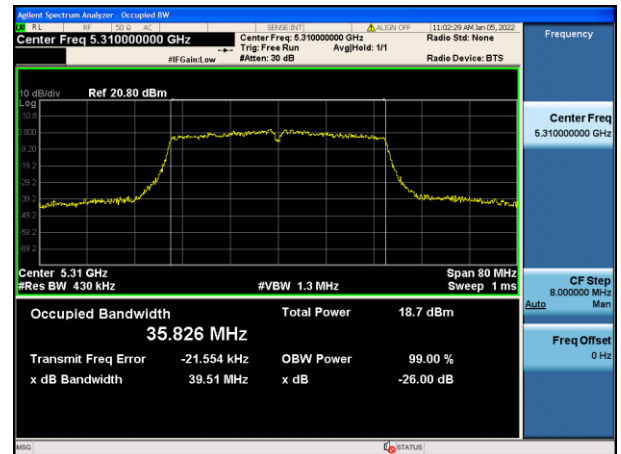
Note:

In order to simplify the report, attached plots were only the most wide channel.

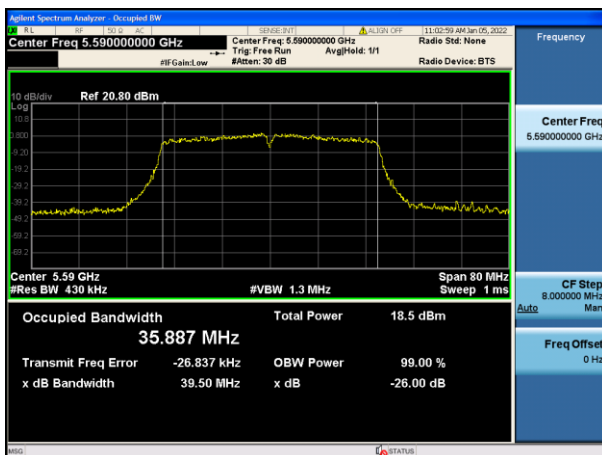
802.11n_HT40 UNII 1 BAND 26 dB Bandwidth(CH 46)



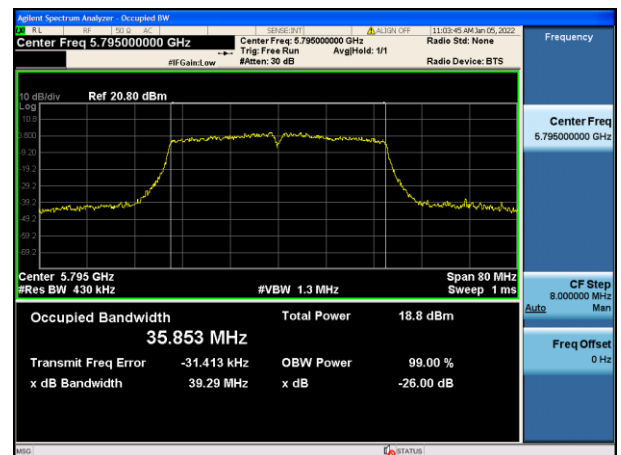
802.11n_HT40 UNII 2A BAND 26 dB Bandwidth (CH 62)



802.11n_HT40 UNII 2C BAND 26 dB Bandwidth(CH 118)



802.11n_HT40 UNII 3 BAND 26 dB Bandwidth (CH 159)

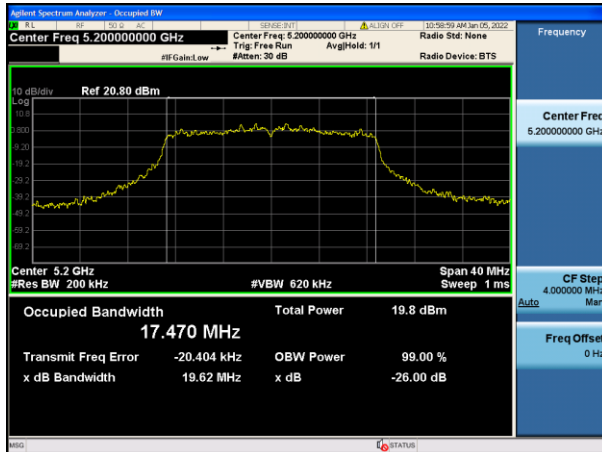


☐ Test Plots(802.11ac(VHT20))

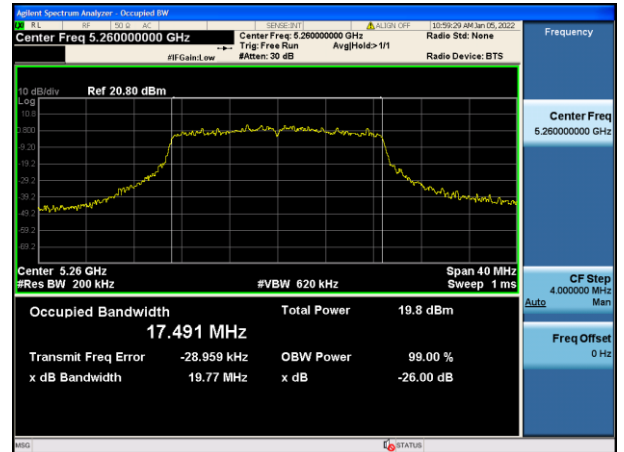
Note:

In order to simplify the report, attached plots were only the most wide channel.

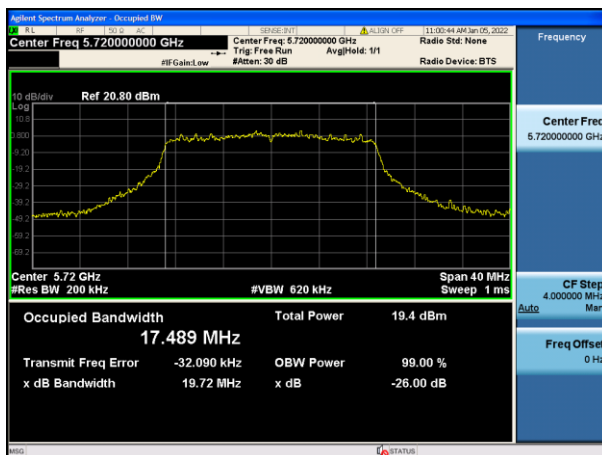
802.11ac_VHT20 UNII 1 BAND 26 dB Bandwidth(CH 40)



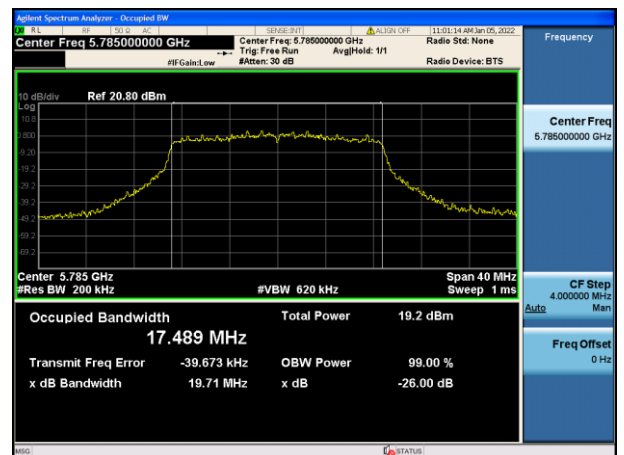
802.11ac_VHT20 UNII 2A BAND 26 dB Bandwidth(CH 52)



802.11ac_VHT20 UNII 2C BAND 26 dB Bandwidth(CH 144)



802.11ac_VHT20 UNII 3 BAND 26 dB Bandwidth(CH 157)

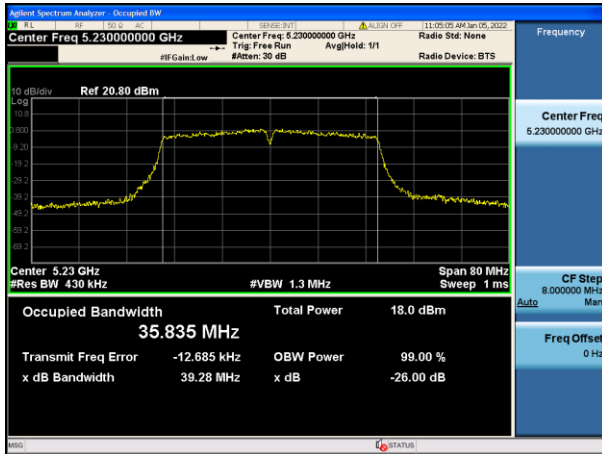


☐ Test Plots(802.11ac(VHT40))

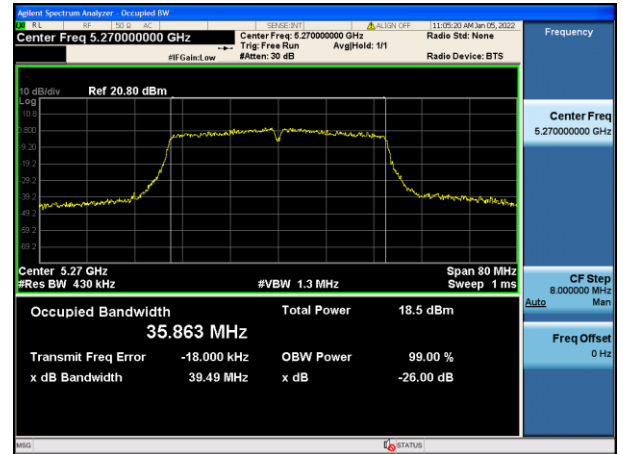
Note:

In order to simplify the report, attached plots were only the most wide channel.

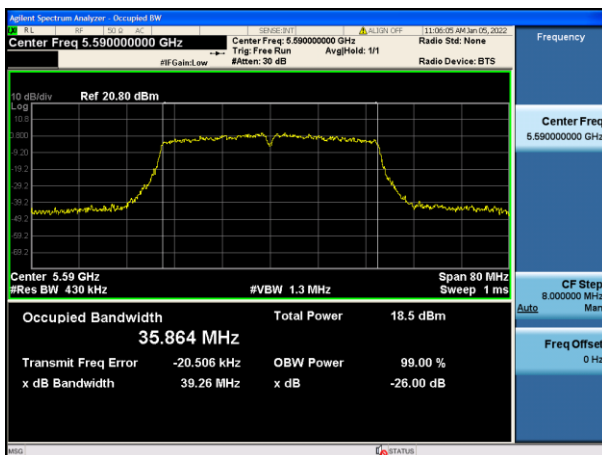
802.11ac_VHT40 UNII 1 BAND 26 dB Bandwidth(CH 46)



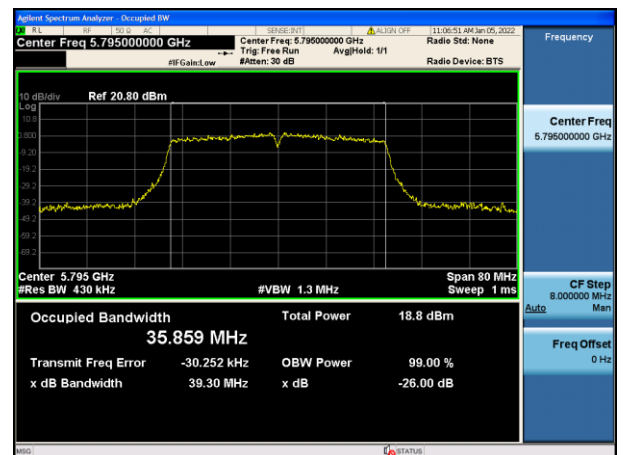
802.11ac_VHT40 UNII 2A BAND 26 dB Bandwidth (CH 54)



802.11ac_VHT40 UNII 2C BAND 26 dB Bandwidth(CH 118)



802.11ac_VHT40 UNII 3 BAND 26 dB Bandwidth (CH 159)

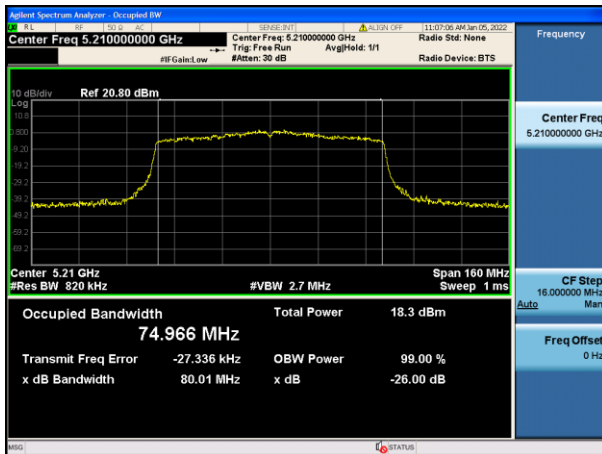


☐ Test Plots(802.11ac(VHT80))

Note:

In order to simplify the report, attached plots were only the most wide channel.

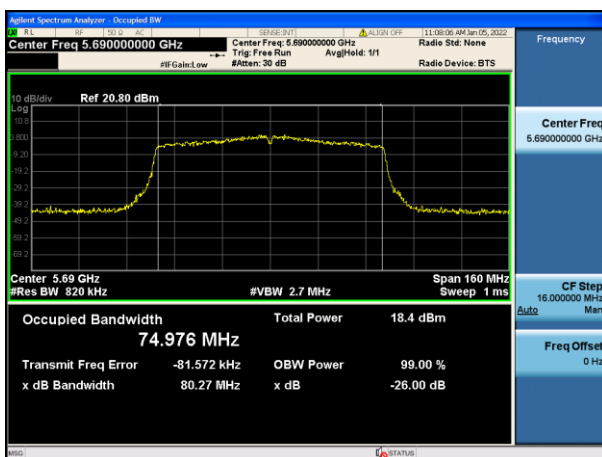
802.11ac_VHT80 UNII 1 BAND 26 dB Bandwidth(CH 42)



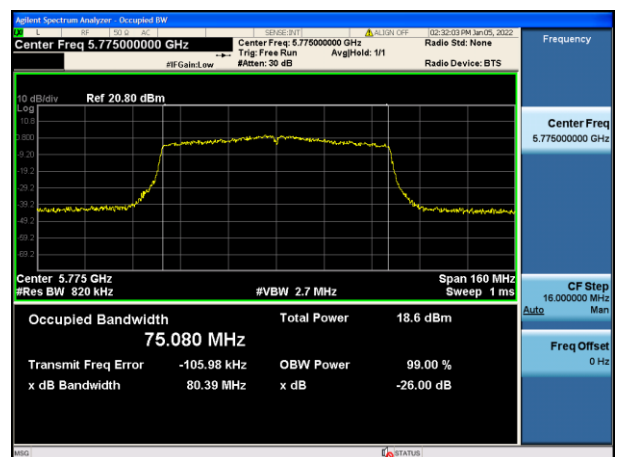
802.11ac_VHT80 UNII 2A BAND 26 dB Bandwidth (CH 58)



802.11ac_VHT80 UNII 2C BAND 26 dB Bandwidth(CH 138)



802.11ac_VHT80 UNII 3 BAND 26 dB Bandwidth (CH 155)



10.3 6 dB BANDWIDTH

802.11a Mode		Measured Bandwidth [MHz]	Limit [MHz]	Pass / Fail
Frequency [MHz]	Channel No.			
5745	149	15.16	> 0.5	Pass
5785	157	15.10	> 0.5	Pass
5825	165	13.76	> 0.5	Pass

802.11n(HT20) Mode		Measured Bandwidth [MHz]	Limit [MHz]	Pass / Fail
Frequency [MHz]	Channel No.			
5745	149	15.14	> 0.5	Pass
5785	157	15.15	> 0.5	Pass
5825	165	15.05	> 0.5	Pass

802.11n(HT40) Mode		Measured Bandwidth [MHz]	Limit [MHz]	Pass / Fail
Frequency [MHz]	Channel No.			
5755	151	35.05	> 0.5	Pass
5795	159	33.97	> 0.5	Pass

802.11ac(VHT20) Mode		Measured Bandwidth [MHz]	Limit [MHz]	Pass / Fail
Frequency [MHz]	Channel No.			
5745	149	15.15	> 0.5	Pass
5785	157	15.10	> 0.5	Pass
5825	165	15.03	> 0.5	Pass

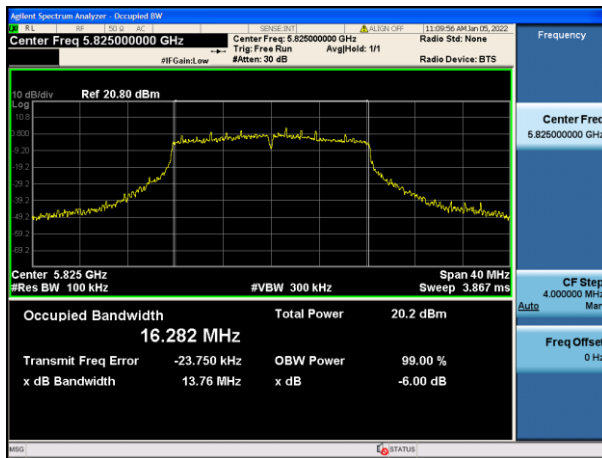
802.11ac(VHT40) Mode		Measured Bandwidth [MHz]	Limit [MHz]	Pass / Fail
Frequency [MHz]	Channel No.			
5755	151	35.15	> 0.5	Pass
5795	159	35.14	> 0.5	Pass

802.11ac(VHT80) Mode		Measured Bandwidth [MHz]	Limit [MHz]	Pass / Fail
Frequency [MHz]	Channel No.			
5775	155	71.41	> 0.5	Pass

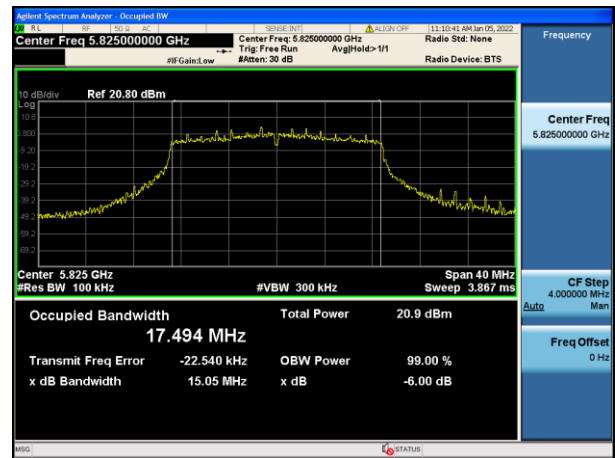
Test Plots

Note: In order to simplify the report, attached plots were only the most narrow channel.

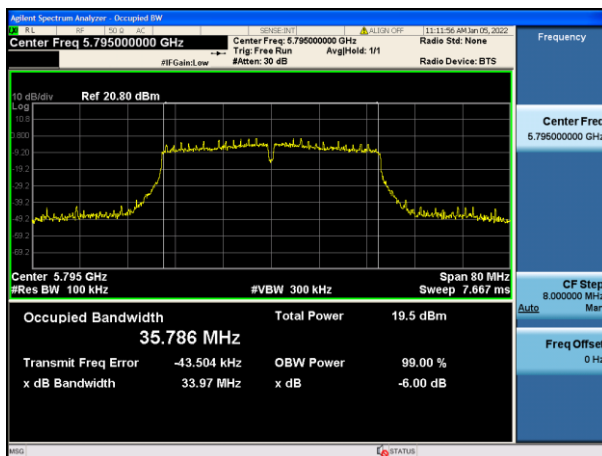
802.11a (CH.165)



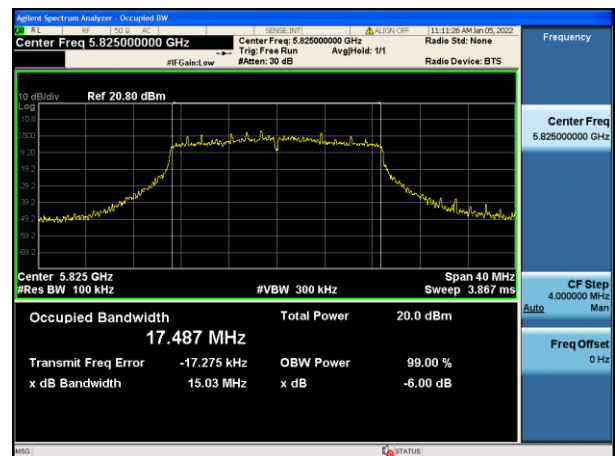
802.11n(HT20) (CH.165)



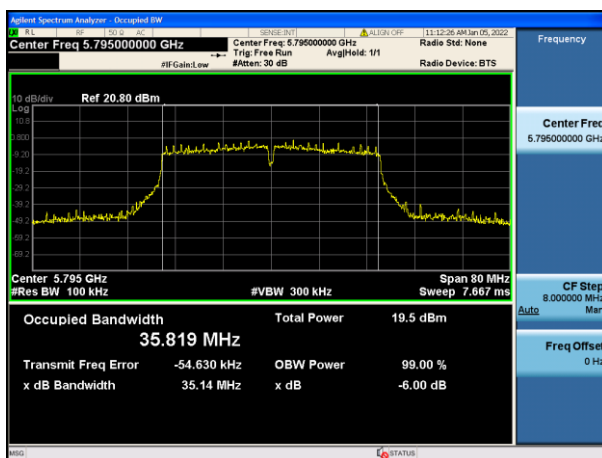
802.11n(HT40) (CH.159)



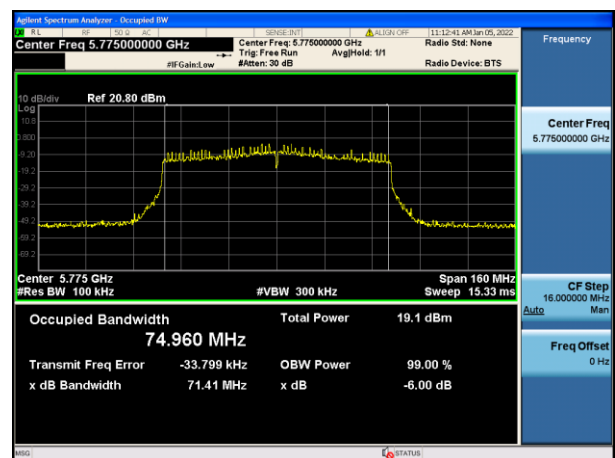
802.11ac(VHT20) (CH.165)



802.11ac(VHT40) (CH.159)



802.11ac(VHT80) (CH.155)



10.4 OUTPUT POWER MEASUREMENT

Straddle channel data in the table below are for reporting purposes only.

Straddle channel data were added in section 10.7.3.

802.11a Mode		Measured Power [dBm]	Duty Cycle Factor [dB]	Total Power [dBm]	Limit [dBm]	Worstcase Datarate [Mbps]
Frequency [MHz]	Channel No.					
5180	36	13.33	0.755	14.08	23.98	18M
5200	40	12.77	0.755	13.53	23.98	18M
5240	48	13.05	0.755	13.80	23.98	18M
5260	52	13.94	0.755	14.69	23.70	18M
5300	60	14.15	0.755	14.90	23.71	18M
5320	64	13.96	0.755	14.71	23.91	18M
5500	100	13.31	0.755	14.06	23.64	18M
5600	120	12.76	0.755	13.51	23.62	18M
5720	144	13.47	0.755	14.22	23.70	18M
5745	149	13.40	0.755	14.15	30.00	18M
5785	157	13.33	0.755	14.08	30.00	18M
5825	165	12.87	0.755	13.62	30.00	18M

802.11n(20 MHz) Mode		Measured Power [dBm]	Duty Cycle Factor [dB]	Total Power [dBm]	Limit [dBm]	Worstcase MCS Index
Frequency [MHz]	Channel No.					
5180	36	12.10	2.057	14.15	23.98	MCS6
5200	40	12.60	2.057	14.66	23.98	MCS6
5240	48	12.92	2.057	14.98	23.98	MCS6
5260	52	12.78	2.057	14.84	23.91	MCS6
5300	60	12.92	2.057	14.98	23.94	MCS6
5320	64	12.80	2.057	14.86	23.92	MCS6
5500	100	12.05	2.057	14.10	23.91	MCS6
5600	120	12.39	2.057	14.45	23.89	MCS6
5720	144	12.25	2.057	14.31	23.93	MCS6
5745	149	12.19	2.057	14.25	30.00	MCS6
5785	157	12.83	2.161	14.99	30.00	MCS7
5825	165	12.59	2.057	14.65	30.00	MCS6

802.11n(40 MHz) Mode		Measured Power [dBm]	Duty Cycle Factor [dB]	Total Power [dBm]	Limit [dBm]	Worstcase MCS Index
Frequency [MHz]	Channel No.					
5190	38	10.40	1.114	11.51	23.98	MCS1
5230	46	11.64	1.114	12.75	23.98	MCS1
5270	54	10.94	1.114	12.05	23.98	MCS1
5310	62	11.13	1.114	12.25	23.98	MCS1
5510	102	10.41	1.114	11.53	23.98	MCS1
5590	118	11.06	1.114	12.18	23.98	MCS1
5710	142	10.39	1.114	11.50	23.98	MCS1
5755	151	11.35	1.114	12.47	30.00	MCS1
5795	159	11.29	1.114	12.41	30.00	MCS1

802.11ac(20 MHz) Mode		Measured Power [dBm]	Duty Cycle Factor [dB]	Total Power [dBm]	Limit [dBm]	Worstcase MCS Index
Frequency [MHz]	Channel No.					
5180	36	11.01	2.110	13.12	23.98	MCS7
5200	40	11.50	2.110	13.61	23.98	MCS7
5240	48	11.60	2.110	13.71	23.98	MCS7
5260	52	11.53	2.110	13.64	23.96	MCS7
5300	60	11.71	2.110	13.82	23.95	MCS7
5320	64	11.45	2.110	13.56	23.93	MCS7
5500	100	10.88	2.110	12.99	23.91	MCS7
5600	120	11.31	2.110	13.42	23.84	MCS7
5720	144	11.12	2.110	13.23	23.95	MCS7
5745	149	11.13	2.110	13.24	30.00	MCS7
5785	157	11.12	2.110	13.23	30.00	MCS7
5825	165	11.58	2.110	13.69	30.00	MCS7

802.11ac(40 MHz) Mode		Measured Power [dBm]	Duty Cycle Factor [dB]	Total Power [dBm]	Limit [dBm]	Worstcase MCS Index
Frequency [MHz]	Channel No.					
5190	38	10.33	1.166	11.50	23.98	MCS1
5230	46	10.53	1.166	11.70	23.98	MCS1
5270	54	10.95	1.166	12.12	23.98	MCS1
5310	62	11.13	1.166	12.30	23.98	MCS1
5510	102	10.48	1.166	11.65	23.98	MCS1
5590	118	11.14	1.166	12.31	23.98	MCS1
5710	142	10.45	1.166	11.61	23.98	MCS1
5755	151	11.38	1.166	12.55	30.00	MCS1
5795	159	11.26	1.166	12.42	30.00	MCS1

802.11ac(80 MHz) Mode		Measured Power [dBm]	Duty Cycle Factor [dB]	Total Power [dBm]	Limit [dBm]	Worstcase MCS Index
Frequency [MHz]	Channel No.					
5210	42	9.24	2.008	11.24	23.98	MCS1
5290	58	9.61	2.008	11.61	23.98	MCS1
5530	106	9.70	2.008	11.71	23.98	MCS1
5610	122	8.99	2.008	11.00	23.98	MCS1
5690	138	9.31	2.008	11.32	23.98	MCS1
5775	155	9.51	2.008	11.52	30.00	MCS1

10.5 POWER SPECTRAL DENSITY

802.11a Mode		Measured PSD [dBm]	Duty Cycle Factor [dB]	Total PSD [dBm]	Worstcase Datarate [Mbps]	Limit
Frequency [MHz]	Channel No.					
5180	36	3.661	0.755	4.416	18M	11 dBm/MHz
5200	40	3.248	0.755	4.003	18M	
5240	48	3.718	0.755	4.473	18M	
5260	52	4.423	0.755	5.178	18M	
5300	60	4.444	0.755	5.199	18M	
5320	64	4.090	0.755	4.845	18M	
5500	100	3.692	0.755	4.447	18M	
5600	120	2.933	0.755	3.688	18M	
5720	144	3.807	0.755	4.562	18M	
5745	149	1.374	0.755	2.129	18M	30 dBm/500 kHz
5785	157	1.324	0.755	2.079	18M	
5825	165	0.489	0.755	1.244	18M	

802.11n(20 MHz) Mode		Measured PSD [dBm]	Duty Cycle Factor [dB]	Total PSD [dBm]	Worstcase MCS Index	Limit
Frequency [MHz]	Channel No.					
5180	36	1.444	2.057	3.501	MCS6	11 dBm/MHz
5200	40	2.498	2.057	4.555	MCS6	
5240	48	2.964	2.057	5.021	MCS6	
5260	52	2.085	2.057	4.142	MCS6	
5300	60	2.423	2.057	4.480	MCS6	
5320	64	2.187	2.057	4.244	MCS6	
5500	100	1.479	2.057	3.536	MCS6	
5600	120	2.019	2.057	4.076	MCS6	
5720	144	1.655	2.057	3.712	MCS6	
5745	149	-1.095	2.057	0.962	MCS6	30 dBm/500 kHz
5785	157	-0.488	2.161	1.673	MCS7	
5825	165	-0.573	2.057	1.484	MCS6	

802.11n(40 MHz) Mode		Measured PSD [dBm]	Duty Cycle Factor [dB]	Total PSD [dBm]	Worstcase MCS Index	Limit
Frequency [MHz]	Channel No.					
5190	38	-2.827	1.114	-1.713	MCS1	11 dBm/MHz
5230	46	-1.100	1.114	0.014	MCS1	
5270	54	-1.699	1.114	-0.585	MCS1	
5310	62	-1.603	1.114	-0.489	MCS1	
5510	102	-1.876	1.114	-0.762	MCS1	
5590	118	-1.920	1.114	-0.806	MCS1	
5710	142	-2.625	1.114	-1.511	MCS1	30 dBm /500 kHz
5755	151	-4.134	1.114	-3.020	MCS1	
5795	159	-4.062	1.114	-2.948	MCS1	

802.11ac(20 MHz) Mode		Measured PSD [dBm]	Duty Cycle Factor [dB]	Total PSD [dBm]	Worstcase MCS Index	Limit
Frequency [MHz]	Channel No.					
5180	36	0.181	2.110	2.291	MCS7	11 dBm/MHz
5200	40	0.868	2.110	2.978	MCS7	
5240	48	0.952	2.110	3.062	MCS7	
5260	52	0.847	2.110	2.957	MCS7	
5300	60	1.002	2.110	3.112	MCS7	
5320	64	0.768	2.110	2.878	MCS7	
5500	100	0.069	2.110	2.179	MCS7	
5600	120	0.567	2.110	2.677	MCS7	
5720	144	0.297	2.110	2.407	MCS7	
5745	149	-2.921	2.110	-0.811	MCS7	30 dBm/500 kHz
5785	157	-2.410	2.110	-0.300	MCS7	
5825	165	-1.727	2.110	0.383	MCS7	

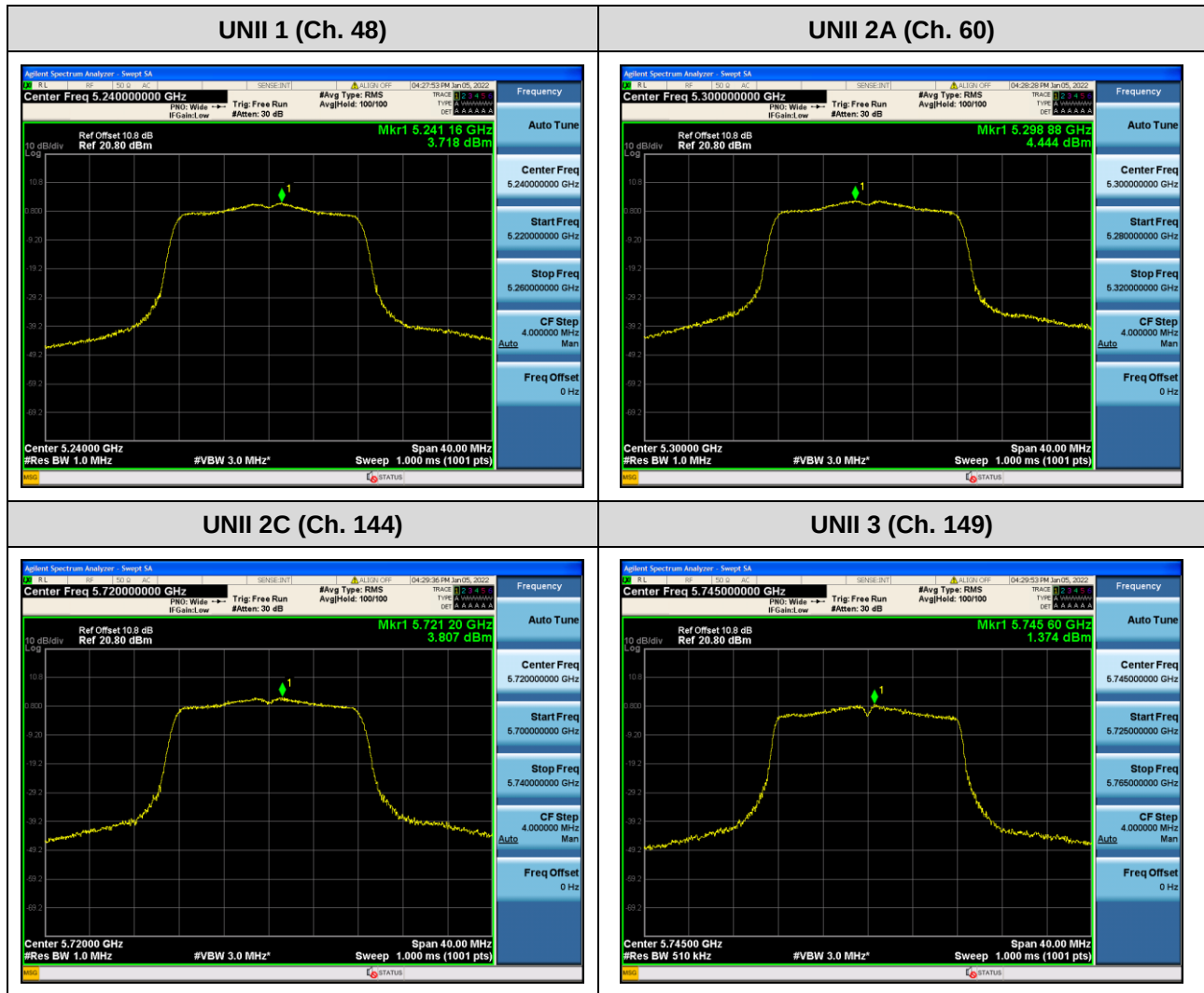
802.11ac(40 MHz) Mode		Measured PSD [dBm]	Duty Cycle Factor [dB]	Total PSD [dBm]	Worstcase MCS Index	Limit
Frequency [MHz]	Channel No.					
5190	38	-2.499	1.166	-1.333	MCS1	11 dBm/MHz
5230	46	-2.311	1.166	-1.145	MCS1	
5270	54	-1.798	1.166	-0.632	MCS1	
5310	62	-1.852	1.166	-0.686	MCS1	
5510	102	-2.717	1.166	-1.551	MCS1	
5590	118	-1.809	1.166	-0.643	MCS1	
5710	142	-2.610	1.166	-1.444	MCS1	
5755	151	-4.410	1.166	-3.244	MCS1	30 dBm/500 kHz
5795	159	-4.185	1.166	-3.019	MCS1	

802.11ac(80 MHz) Mode		Measured PSD [dBm]	Duty Cycle Factor [dB]	Total PSD [dBm]	Worstcase MCS Index	Limit
Frequency [MHz]	Channel No.					
5210	42	-5.902	2.008	-3.894	MCS1	11 dBm/MHz
5290	58	-4.909	2.008	-2.901	MCS1	
5530	106	-5.814	2.008	-3.806	MCS1	
5610	122	-6.276	2.008	-4.268	MCS1	
5690	138	-5.325	2.008	-3.317	MCS1	
5775	155	-8.570	2.008	-6.562	MCS1	30 dBm/500 kHz

☐ Test Plots(802.11a)

Note:

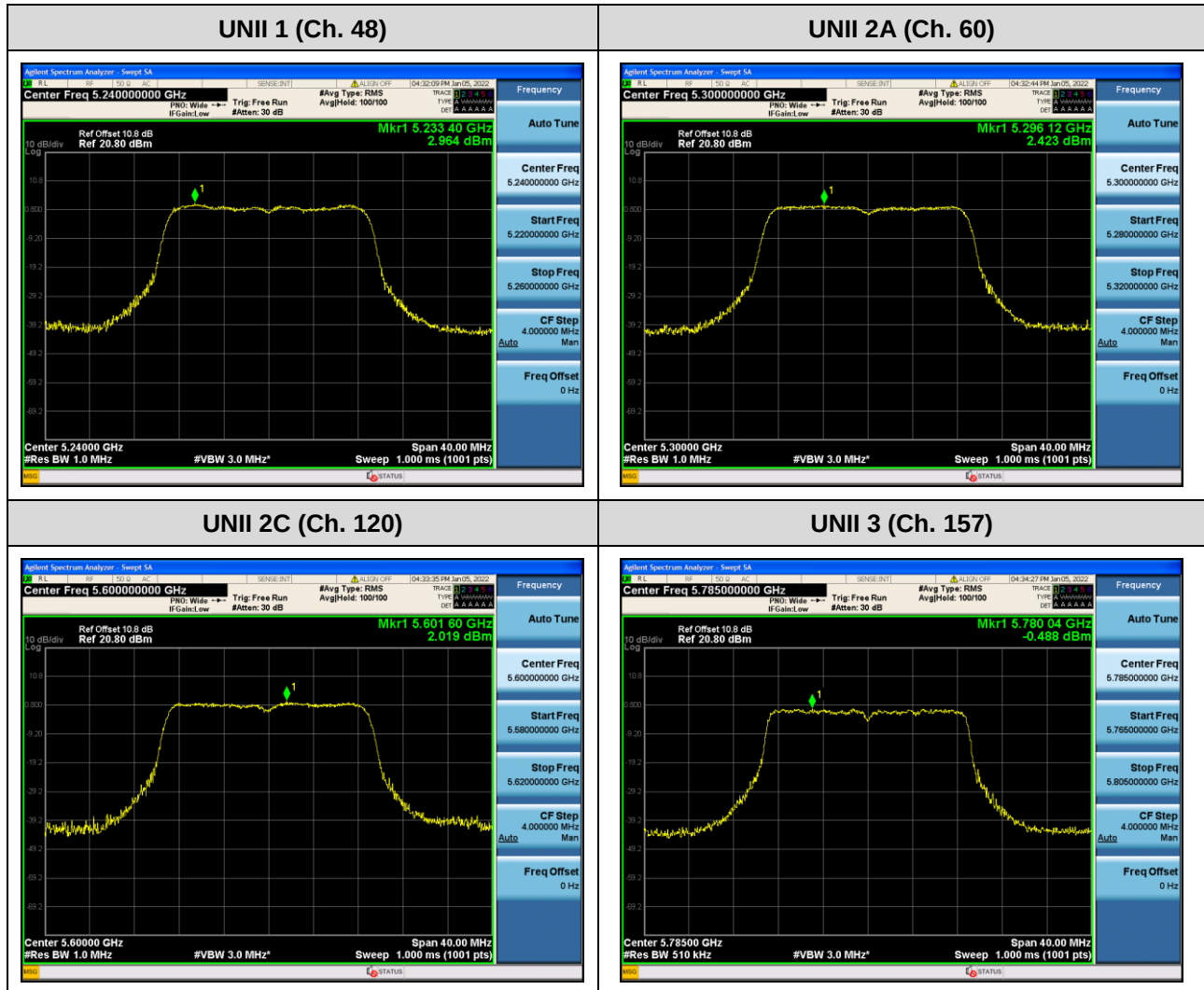
In order to simplify the report, attached plots were only channel of highest power.



☐ Test Plots(802.11n(HT20))

Note:

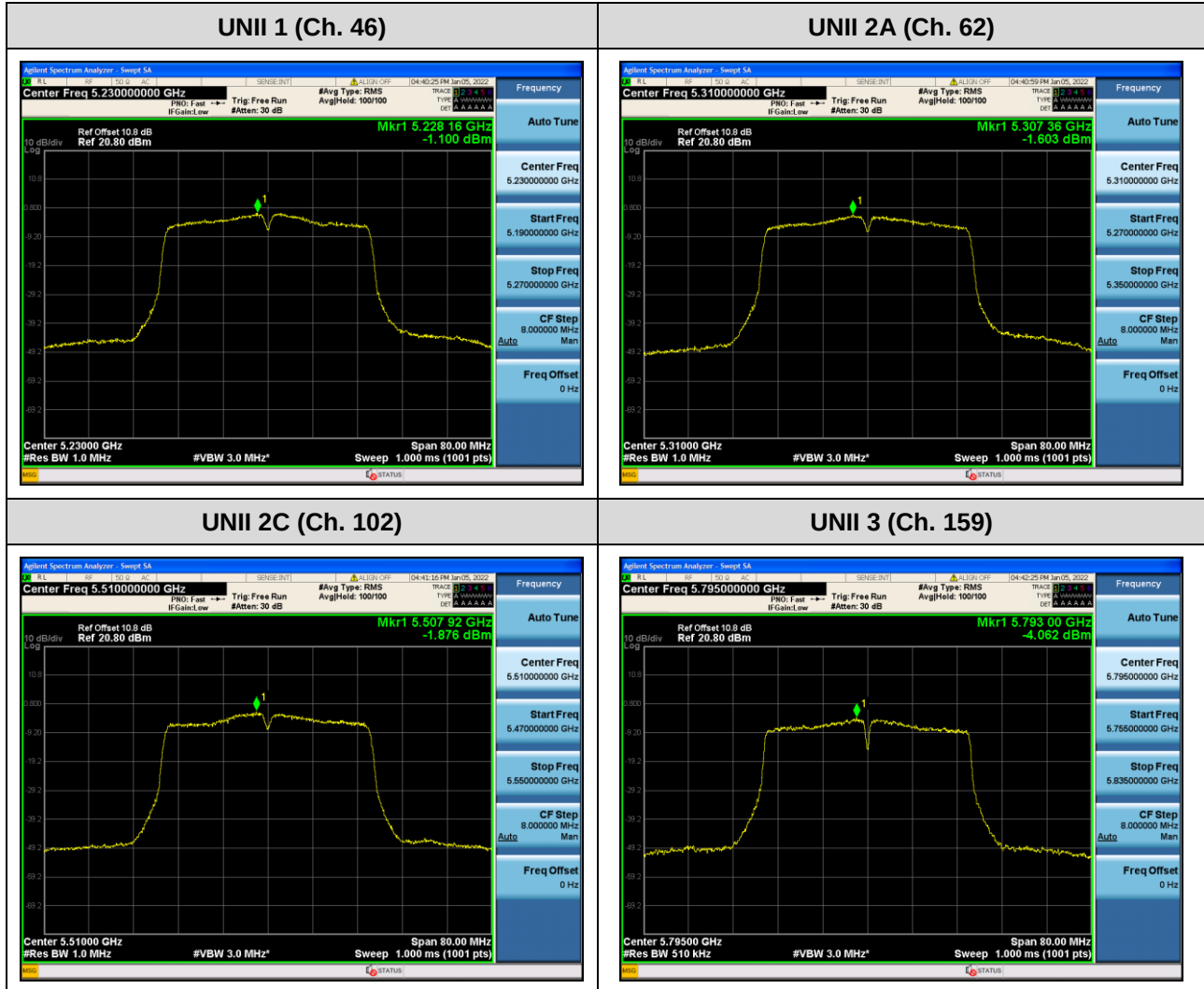
In order to simplify the report, attached plots were only channel of highest power.



■ Test Plots(802.11n(HT40))

Note:

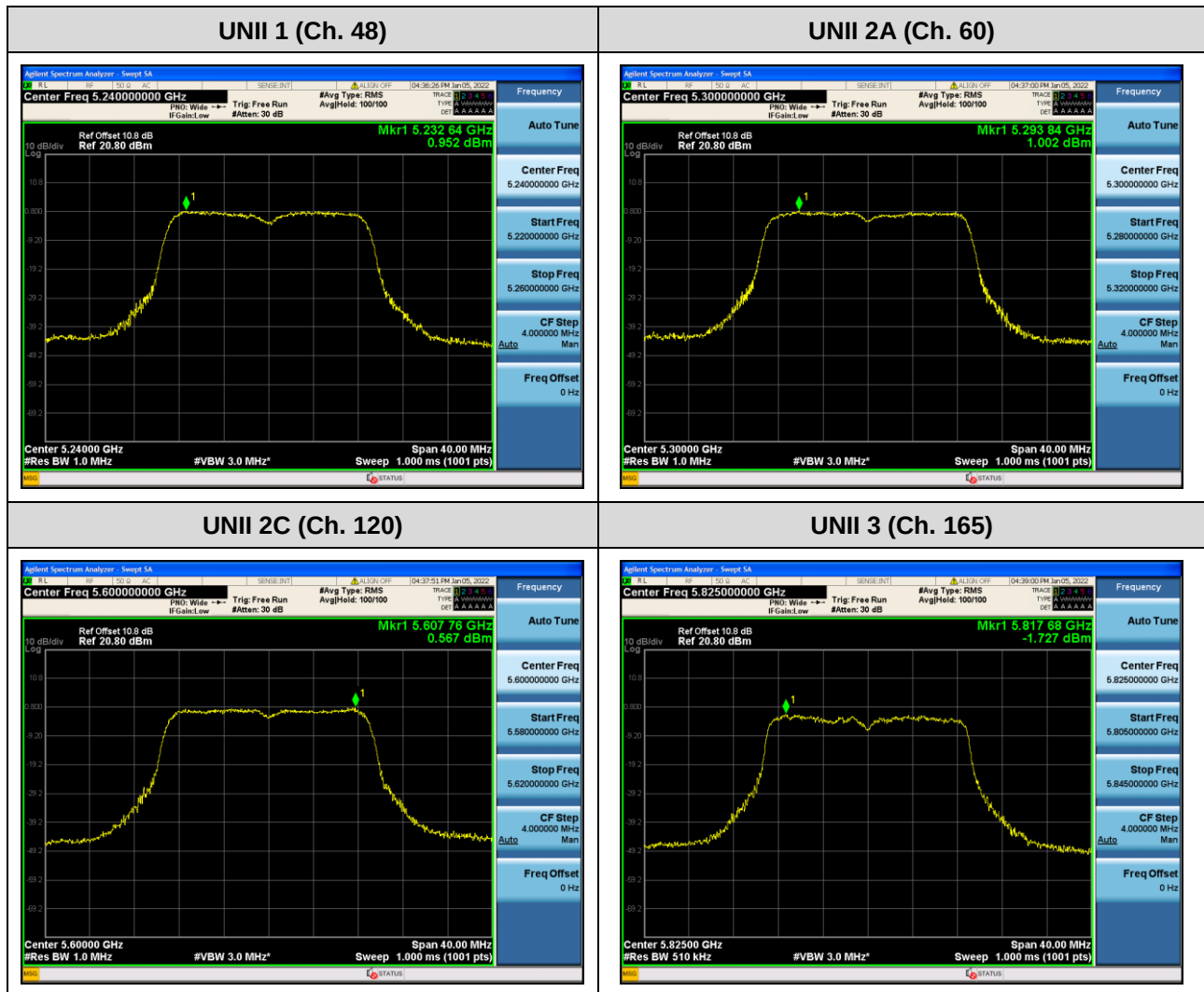
In order to simplify the report, attached plots were only channel of highest power.



■ Test Plots(802.11ac(VHT20))

Note:

In order to simplify the report, attached plots were only channel of highest power.



■ Test Plots(802.11ac(VHT40))

Note:

In order to simplify the report, attached plots were only channel of highest power.

