

■ Test Procedure

Maximum Power Spectral Density is measured using Measurement Procedure of **KDB789033 D02v02r01**

- 1) Create an average power spectrum for the EUT operating mode being tested by following the instructions in section II.E.2. for measuring maximum conducted output power using a spectrum analyzer or EMI receiver: select the appropriate test method (SA - 1, SA - 2, SA - 3, or alternatives to each) and apply it up to, but not including, the step labeled, "Compute power...". (This procedure is required even if the maximum conducted output power measurement was performed using a power meter, method PM.)
- 2) Use the peak search function on the instrument to find the peak of the spectrum and record its value.
- 3) Make the following adjustments to the peak value of the spectrum, if applicable:
 - a) **If Method SA - 2 or SA - 2 Alternative was used, add $10 \log(1 / x)$, where x is the duty cycle, to the peak of the spectrum.**
 - b) If Method SA - 3 Alternative was used and the linear mode was used in step II.E.2.g (viii), add 1 dB to the final result to compensate for the difference between linear averaging and power averaging.
- 4) The result is the Maximum PSD over 1 MHz reference bandwidth.
- 5) For devices operating in the bands 5.15 - 5.25 GHz, 5.25 - 5.35 GHz, and 5.47 - 5.725 GHz, the above procedures make use of 1 MHz RBW to satisfy directly the 1 MHz reference bandwidth specified in §15.407(a)(5). For devices operating in the band 5.725 - 5.85 GHz, the rules specify a measurement bandwidth of 500 kHz. Many spectrum analyzers do not have 500 kHz RBW, thus a narrower RBW may need to be used. The rules permit the use of a RBWs less than 1 MHz, or 500 kHz, "provided that the measured power is integrated over the full reference bandwidth" to show the total power over the specified measurement bandwidth (i.e., 1 MHz, or 500 kHz). If measurements are performed using a reduced resolution bandwidth (< 1 MHz, or < 500 kHz) and integrated over 1 MHz, or 500 kHz bandwidth, the following adjustments to the procedures apply:
 - a) Set $RBW \geq 1 / T$, where T is defined in section II.B.1.a). (Refer to Appendix II)
 - b) Set $VBW \geq 3 RBW$.
 - c) If measurement bandwidth of Maximum PSD is specified in 500 kHz, add $10 \log(500 \text{ kHz} / RBW)$ to the measured result, whereas $RBW (< 500 \text{ kHz})$ is the reduced resolution bandwidth of the spectrum analyzer set during measurement.
 - d) If measurement bandwidth of Maximum PSD is specified in 1 MHz, add $10 \log(1 \text{ MHz} / RBW)$ to the measured result, whereas $RBW (< 1 \text{ MHz})$ is the reduced resolution bandwidth of spectrum analyzer set during measurement.
 - e) Care must be taken to ensure that the measurements are performed during a period of continuous transmission or are corrected upward for duty cycle.

Note: As a practical matter, it is recommended to use reduced RBW of 100 kHz for the sections 5.c) and 5.d) above, since RBW = 100 kHz is available on nearly all spectrum analyzers.

■ Test Results: **Comply**

- Summed Power spectral density:

Mode	Channel	Frequency [MHz]	Test Result [dBm]		Test Result [dBm]
			ANT 1	ANT 2	ANT1+ANT2 (CDD)
TM 1	36	5180	4.20	5.60	7.97
	40	5200	4.43	5.59	8.06
	48	5240	3.75	5.47	7.70
	52	5260	3.97	5.65	7.90
	60	5300	3.06	5.42	7.41
	64	5320	3.42	5.38	7.52
	100	5500	1.26	5.75	7.07
	120	5600	2.30	5.57	7.25
	144	5720	3.96	5.54	7.83
	149	5745	1.56	3.45	5.62
	157	5785	1.70	4.49	6.33
	165	5825	2.65	3.77	6.26
TM 2	36	5180	2.67	3.99	6.39
	40	5200	3.12	4.40	6.82
	48	5240	2.05	3.98	6.13
	52	5260	2.53	4.08	6.38
	60	5300	1.98	3.81	6.00
	64	5320	2.37	3.97	6.25
	100	5500	-0.03	3.94	5.40
	120	5600	0.63	4.34	5.88
	144	5720	2.46	4.13	6.39
	149	5745	0.40	2.81	4.78
	157	5785	0.40	2.84	4.80
	165	5825	1.45	2.39	4.96
TM 3	38	5190	-0.17	1.51	3.76
	46	5230	-0.76	1.19	3.33
	54	5270	-0.51	1.47	3.60
	62	5310	-0.88	1.47	3.46
	102	5510	-2.53	1.24	2.76
	118	5590	-2.60	1.44	2.88
	142	5710	-0.63	1.59	3.63
	151	5755	-2.39	-0.25	1.82
	159	5795	-2.54	0.47	2.23
TM 4	42	5210	-3.47	-1.96	0.36
	58	5290	-4.53	-1.98	-0.06
	106	5530	-5.82	-1.89	-0.41
	122	5610	-5.28	-2.26	-0.50
	138	5690	-3.94	-2.28	-0.02
	155	5775	-5.61	-3.92	-1.67

Note 1: "U-NII 3 [T.F] = 10*LOG(500kHz/100kHz) + DCCF" = 6.99dB + DCCF

For DCCF(Duty Cycle Correction Factor) please refer to appendix II.

Note 2: Test Result = Measurement Data + T.F

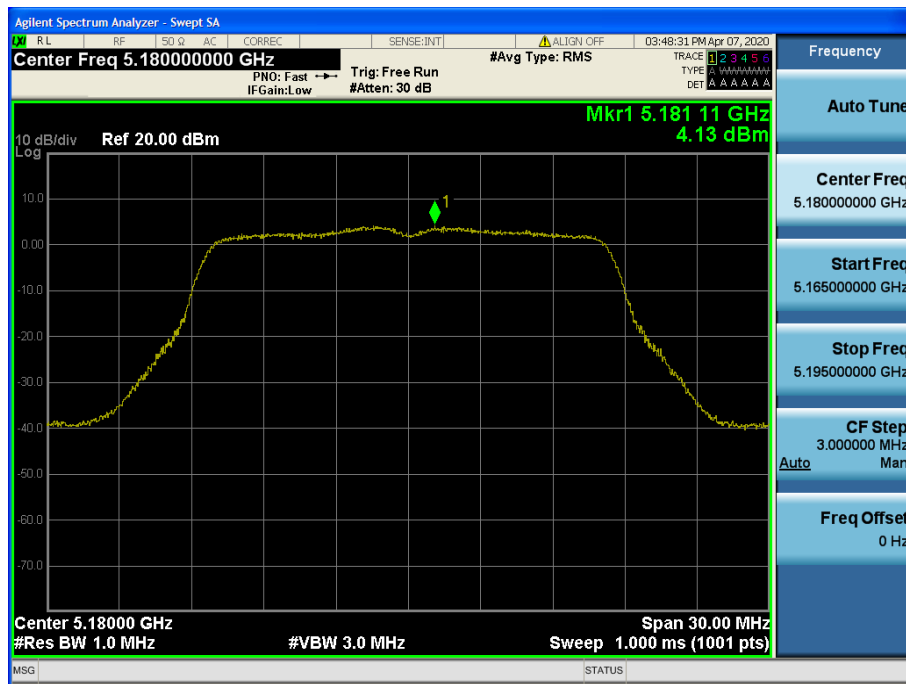
CC

■ RESULT PLOTS

- Power spectral density: Antenna 1

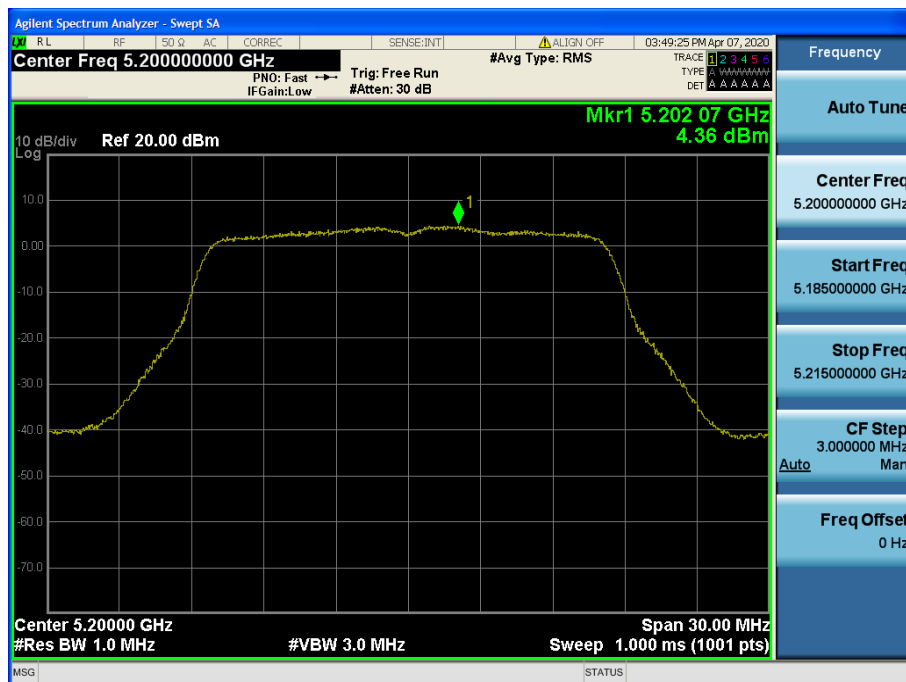
Maximum Power Spectral Density

Test Mode: TM 1 & ANT 1 & Ch.36



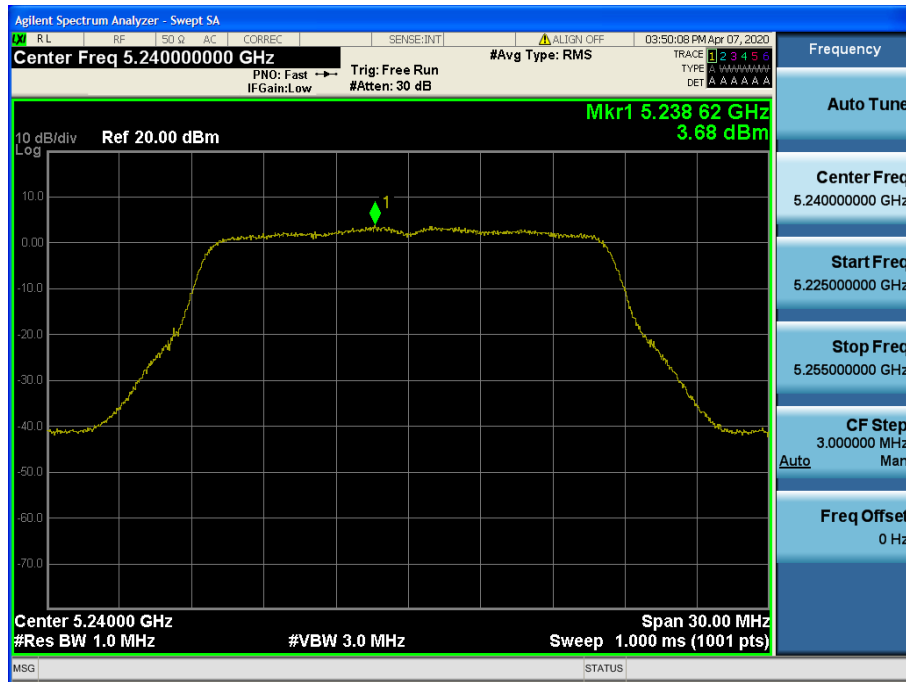
Maximum Power Spectral Density

Test Mode: TM 1 & ANT 1 & Ch.40



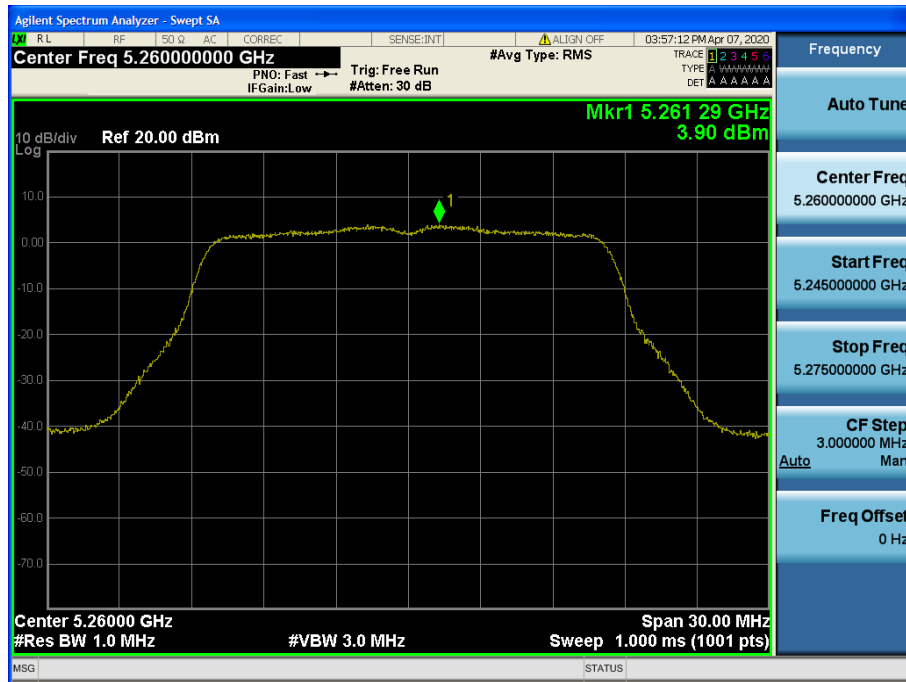
Maximum Power Spectral Density

Test Mode: TM 1 & ANT 1 & Ch.48



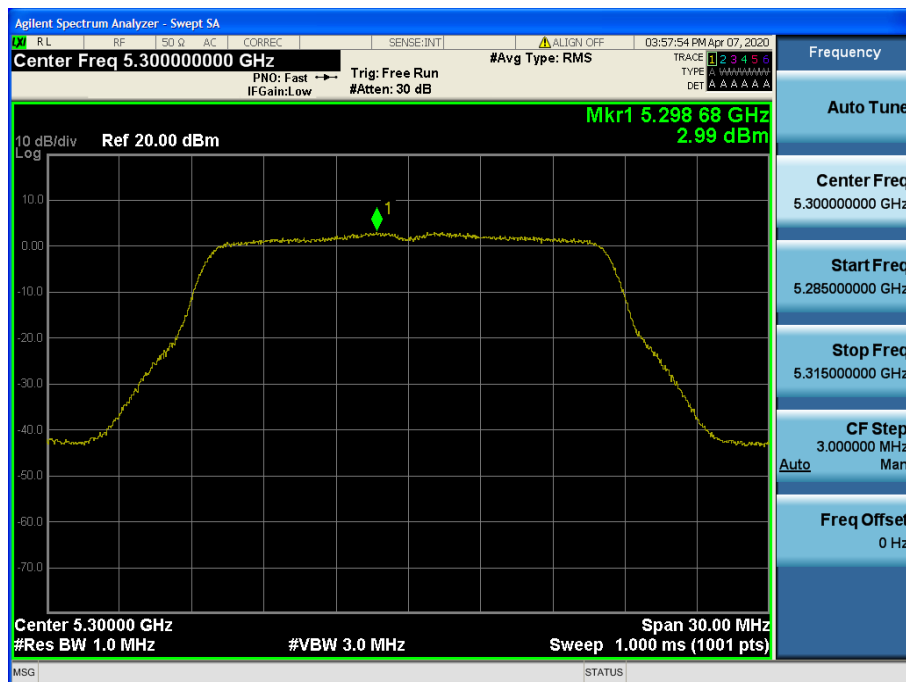
Maximum Power Spectral Density

Test Mode: TM 1 & ANT 1 & Ch.52



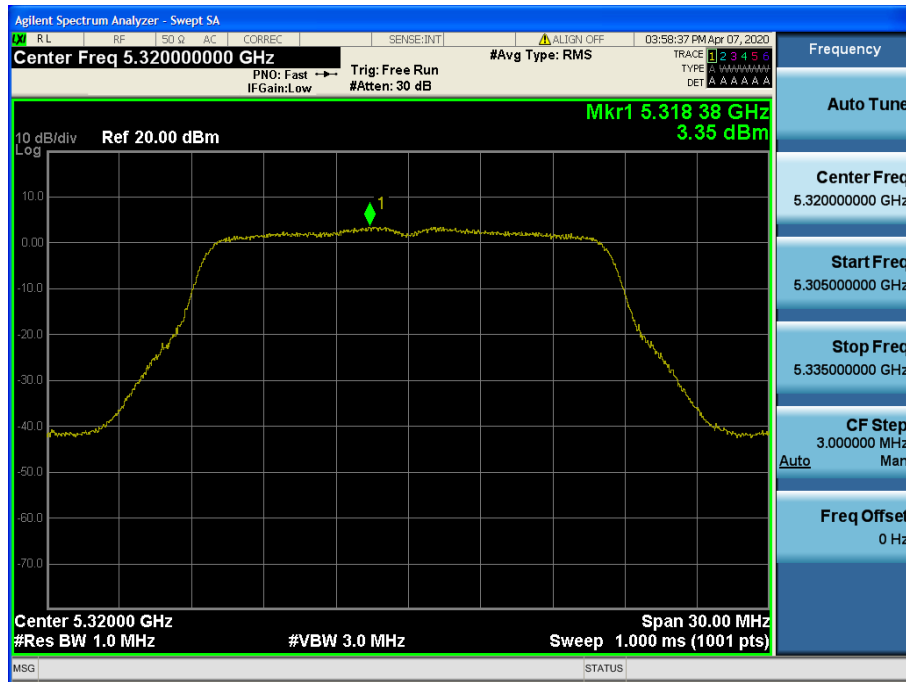
Maximum Power Spectral Density

Test Mode: TM 1 & ANT 1 & Ch.60



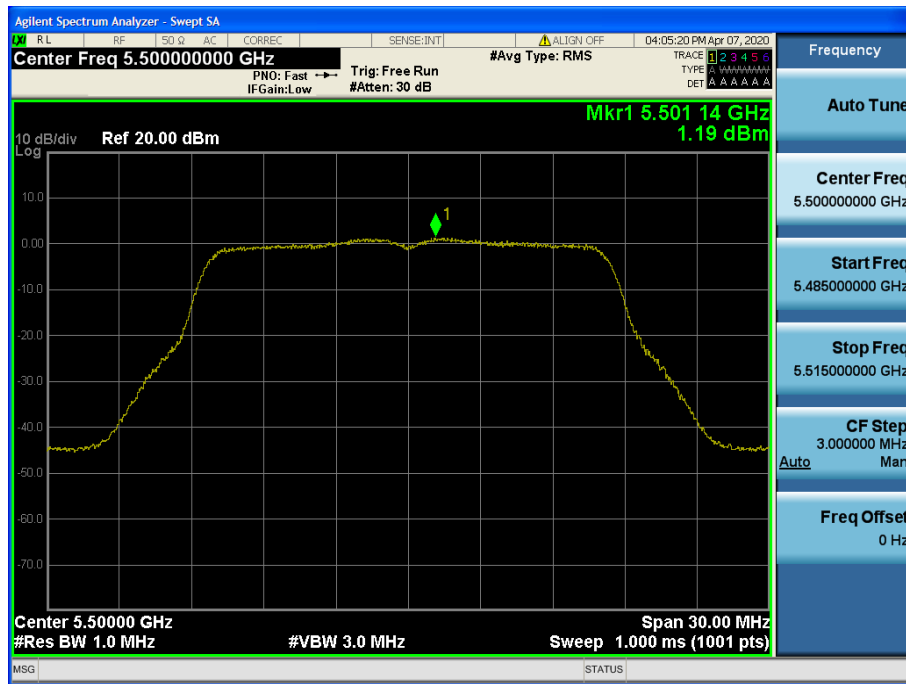
Maximum Power Spectral Density

Test Mode: TM 1 & ANT 1 & Ch.64



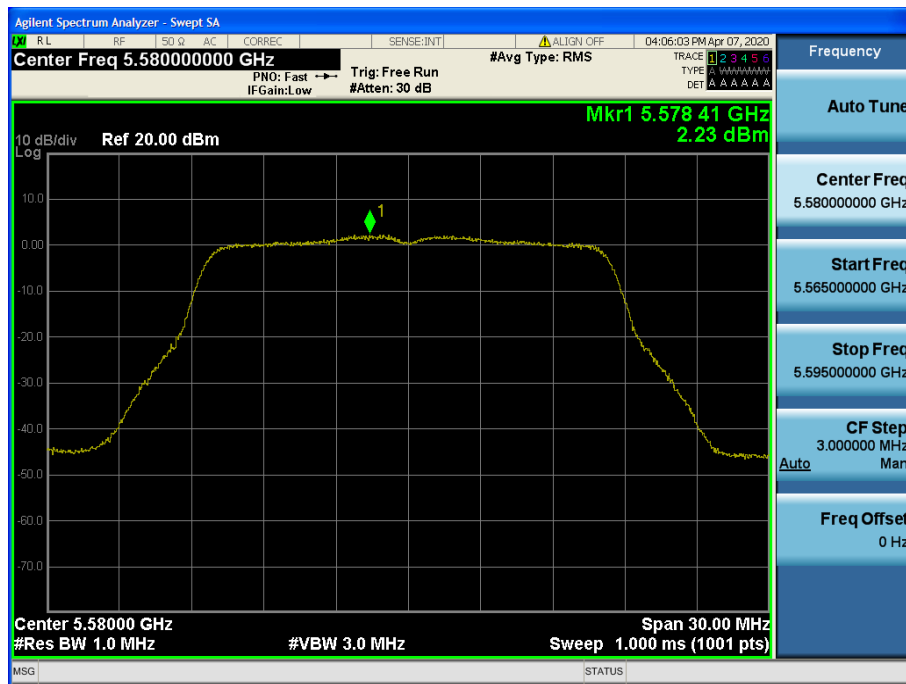
Maximum Power Spectral Density

Test Mode: TM 1 & ANT 1 & Ch.100



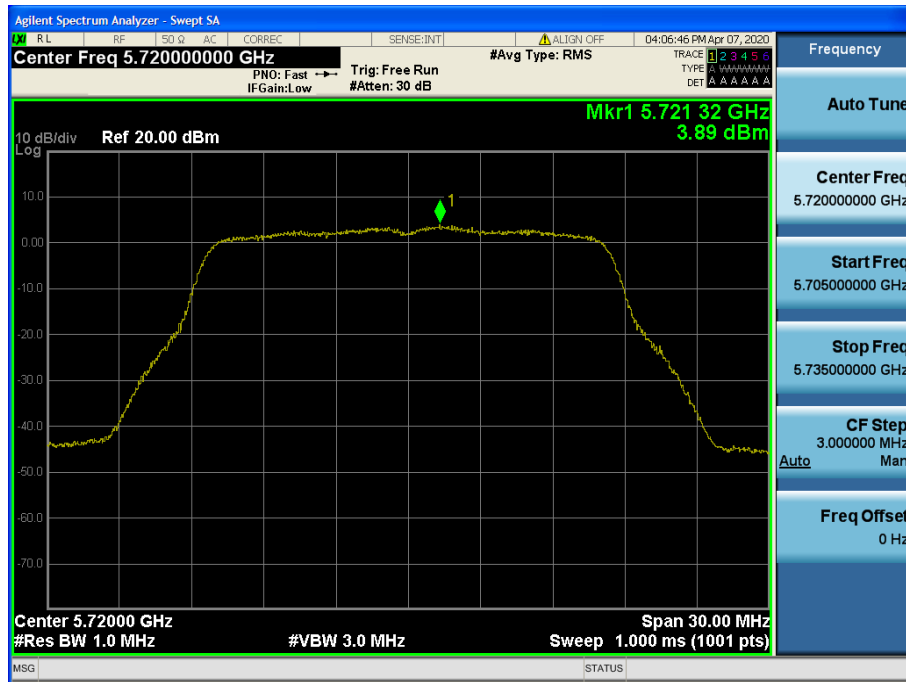
Maximum Power Spectral Density

Test Mode: TM 1 & ANT 1 & Ch.120



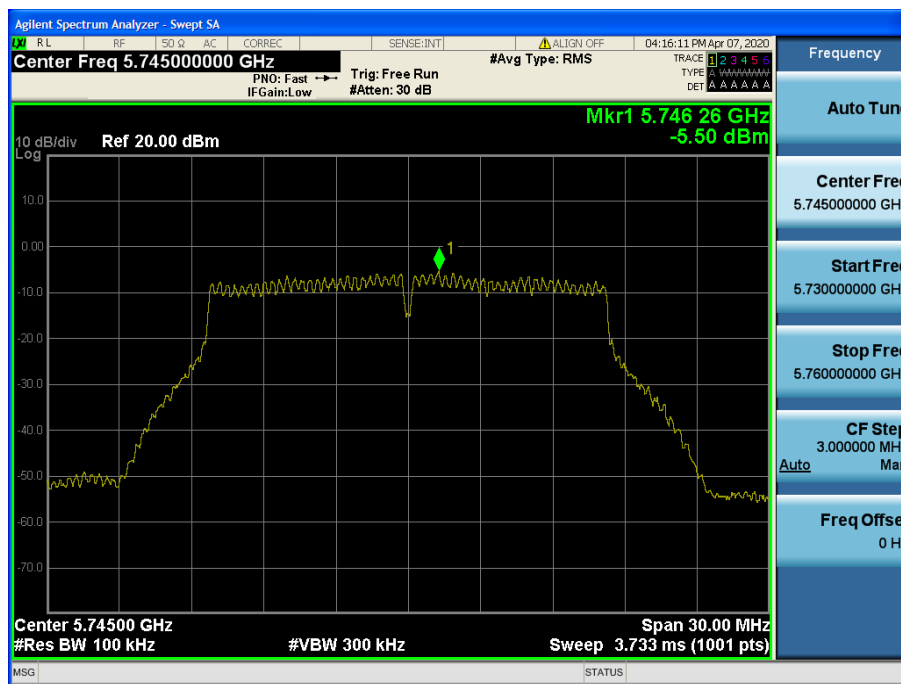
Maximum Power Spectral Density

Test Mode: TM 1 & ANT 1 & Ch.144



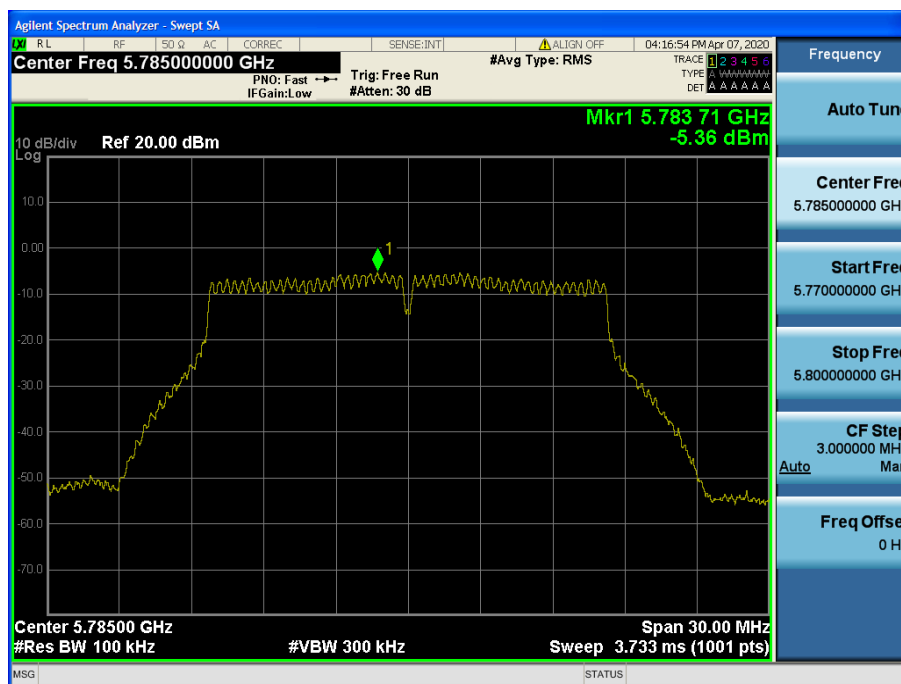
Maximum Power Spectral Density

Test Mode: TM 1 & ANT 1 & Ch.149



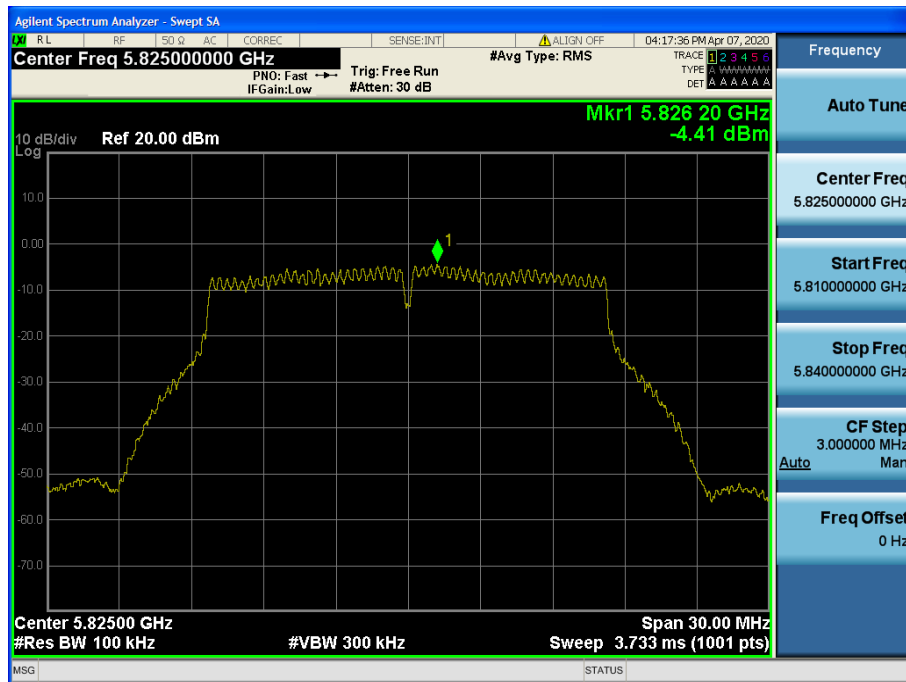
Maximum Power Spectral Density

Test Mode: TM 1 & ANT 1 & Ch.157



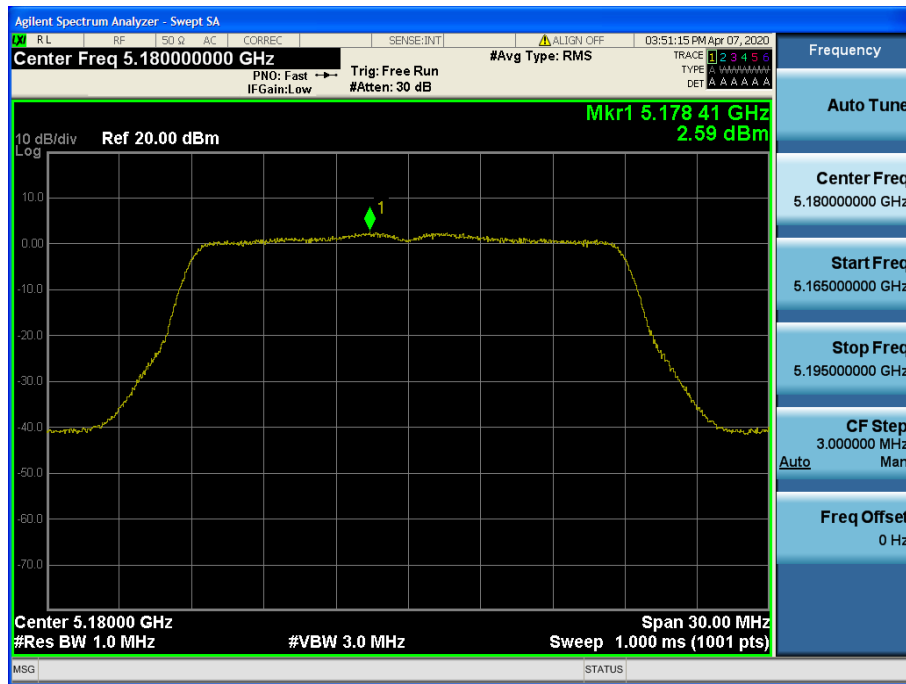
Maximum Power Spectral Density

Test Mode: TM 1 & ANT 1 & Ch.165

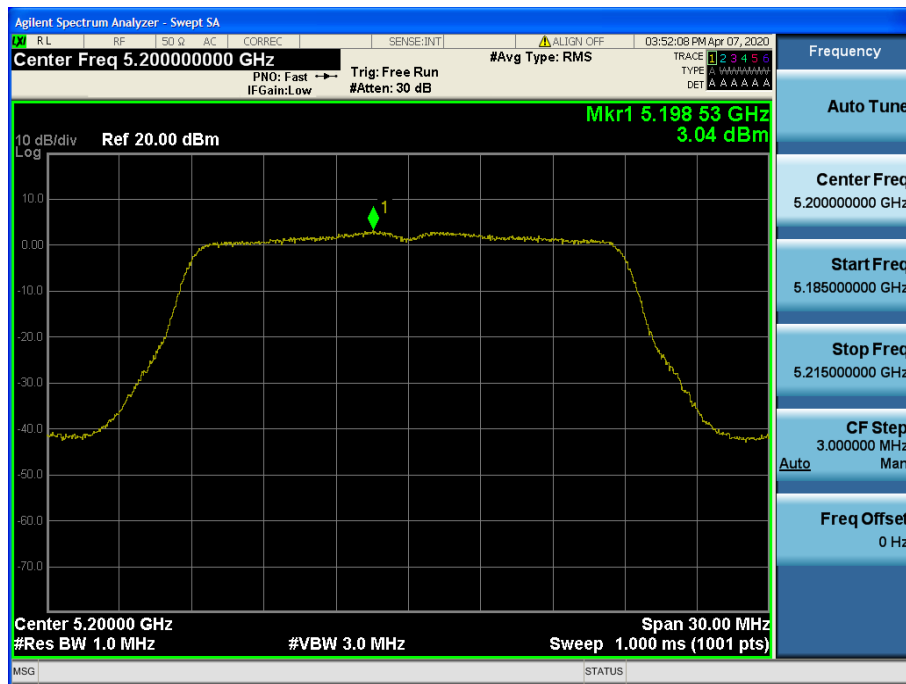


Maximum Power Spectral Density

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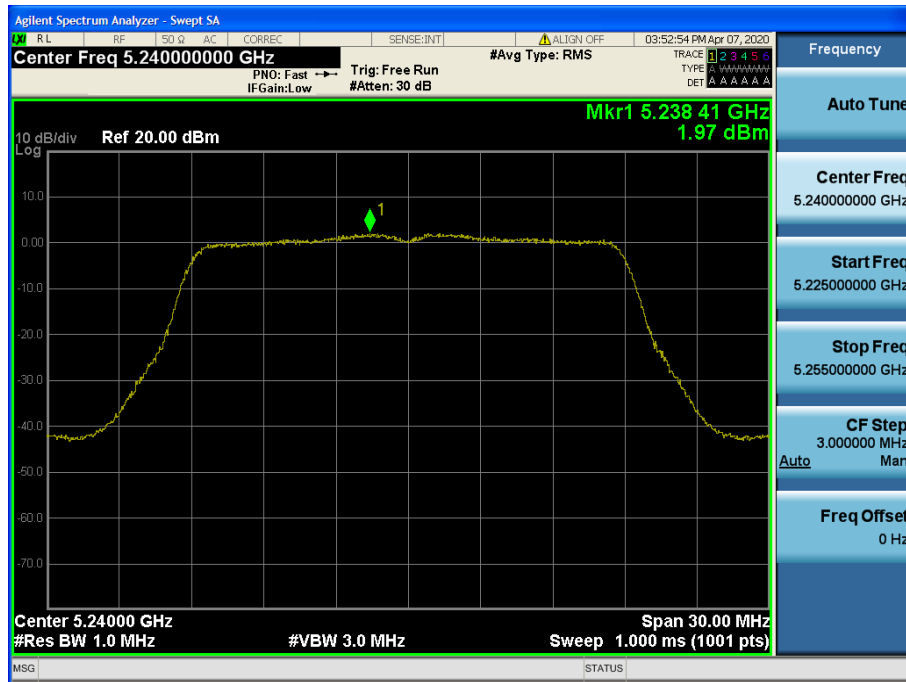


Test Mode: TM 2 & ANT 1 & Ch.40



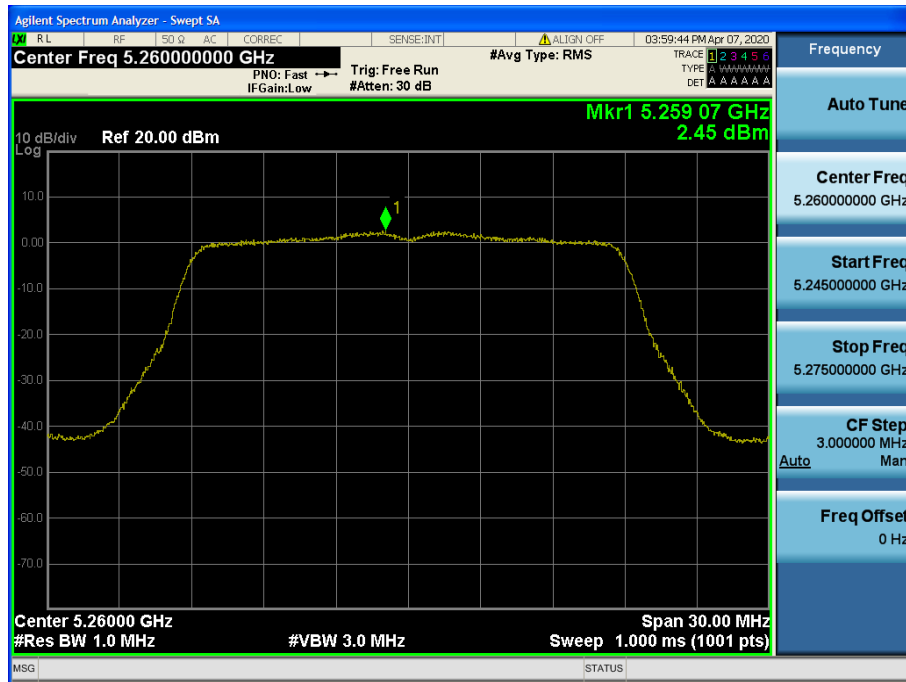
Maximum Power Spectral Density

Test Mode: TM 2 & ANT 1 & Ch.48



Maximum Power Spectral Density

Test Mode: TM 2 & ANT 1 & Ch.52



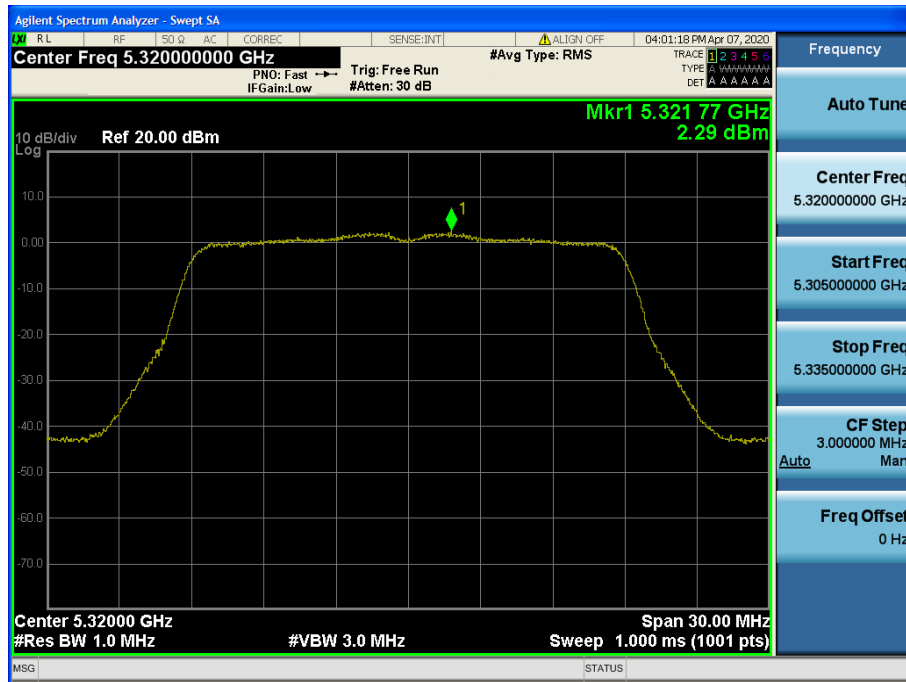
Maximum Power Spectral Density

Test Mode: TM 2 & ANT 1 & Ch.60



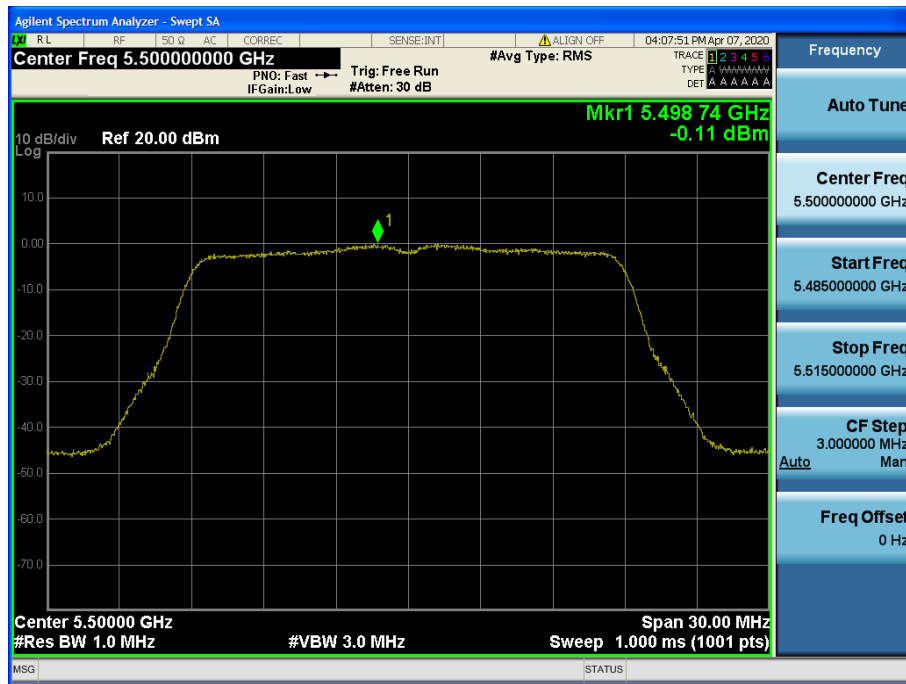
Maximum Power Spectral Density

Test Mode: TM 2 & ANT 1 & Ch.64



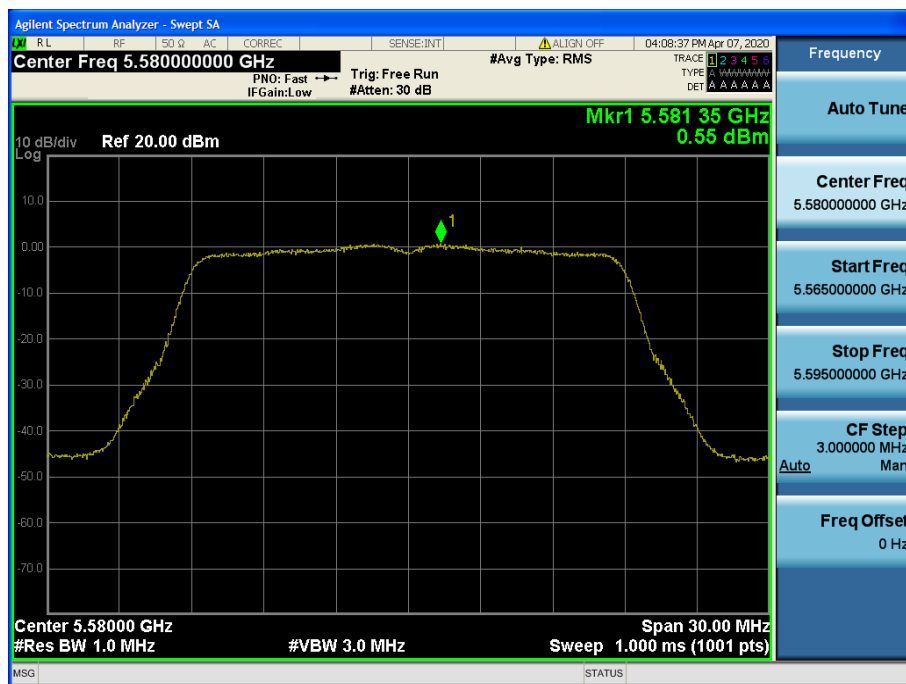
Maximum Power Spectral Density

Test Mode: TM 2 & ANT 1 & Ch.100



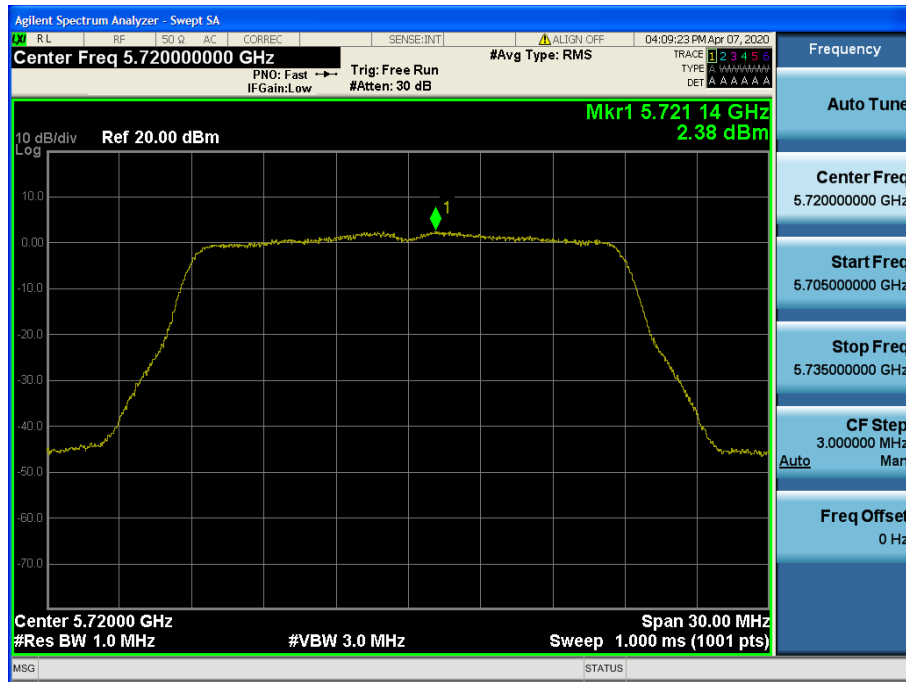
Maximum Power Spectral Density

Test Mode: TM 2 & ANT 1 & Ch.120



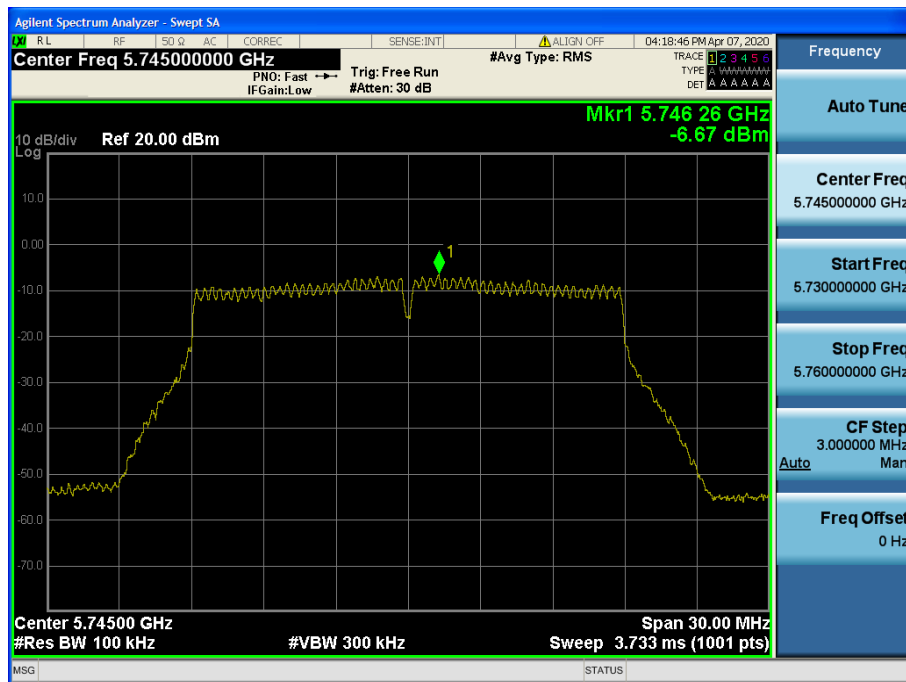
Maximum Power Spectral Density

Test Mode: TM 2 & ANT 1 & Ch.144



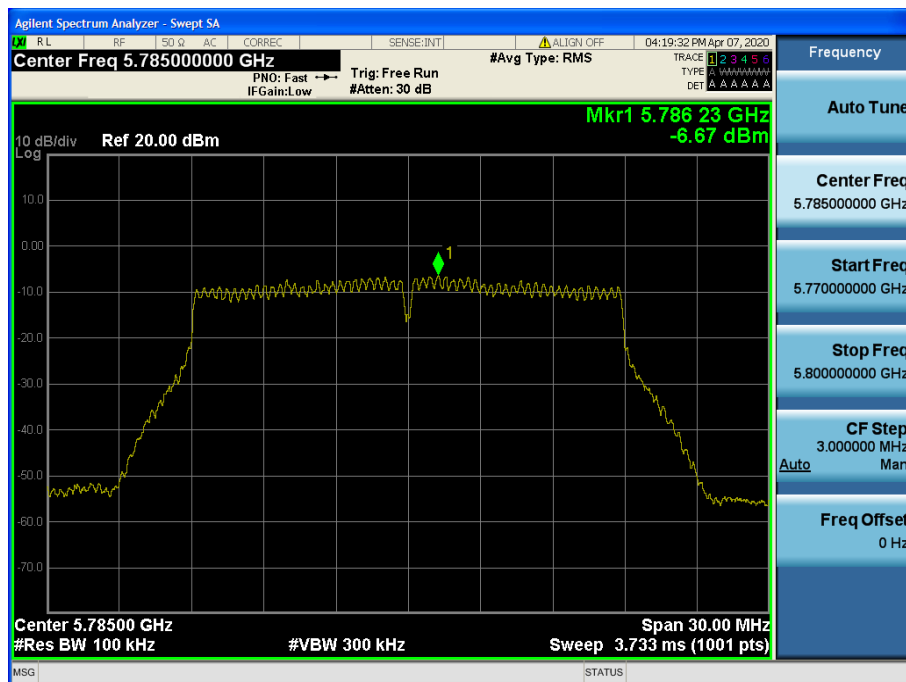
Maximum Power Spectral Density

Test Mode: TM 2 & ANT 1 & Ch.149



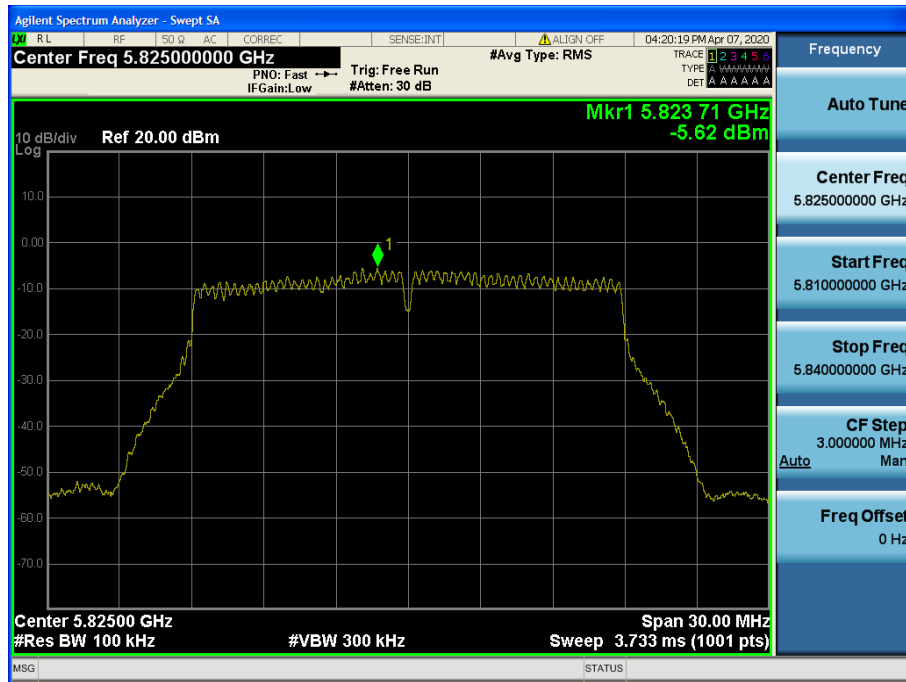
Maximum Power Spectral Density

Test Mode: TM 2 & ANT 1 & Ch.157



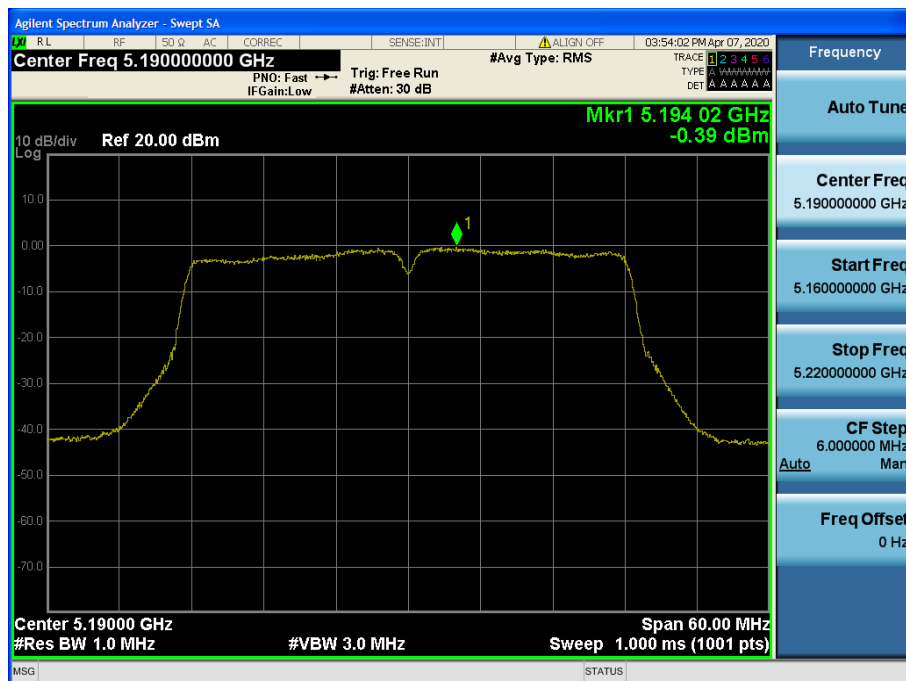
Maximum Power Spectral Density

Test Mode: TM 2 & ANT 1 & Ch.165



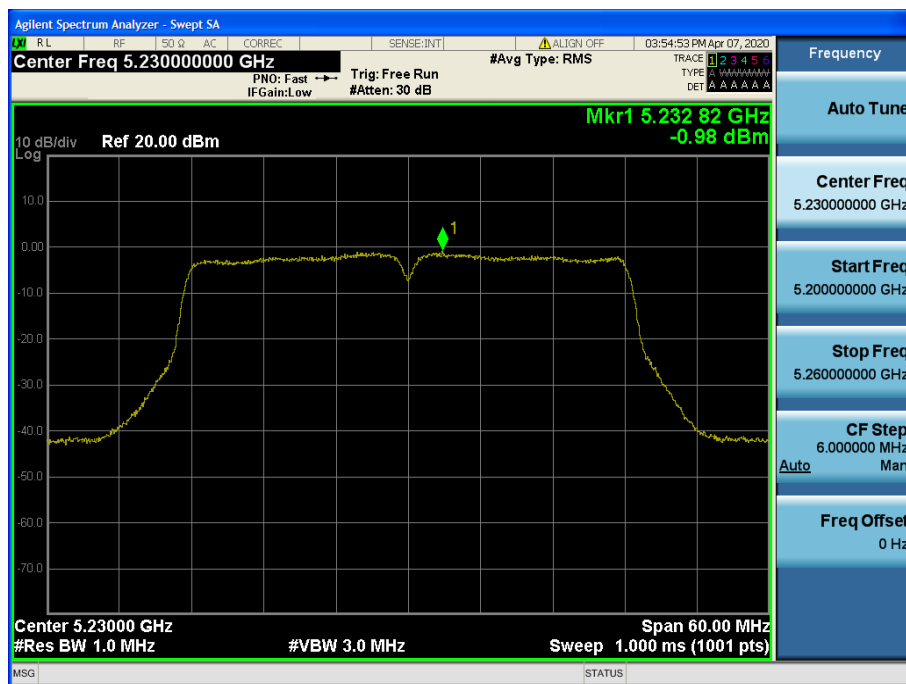
Maximum Power Spectral Density

Test Mode: TM 3 & ANT 1 & Ch.38



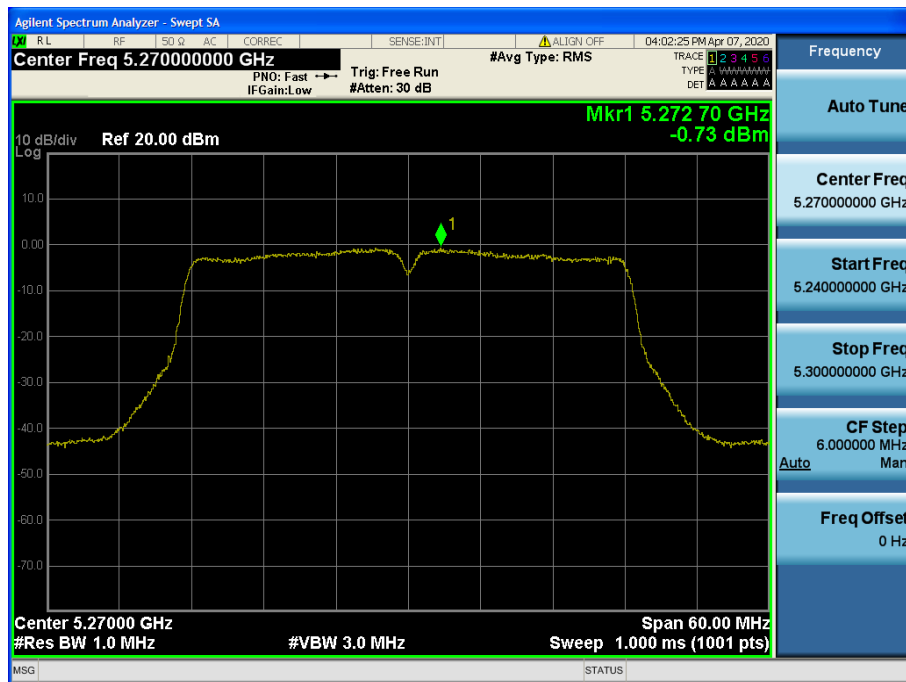
Maximum Power Spectral Density

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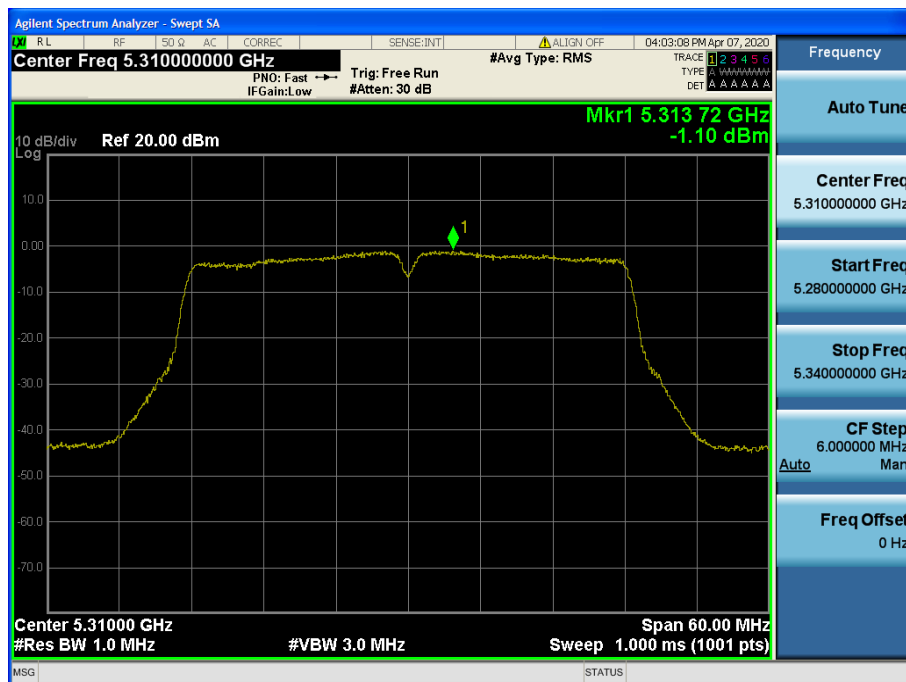
Maximum Power Spectral Density

Test Mode: TM 3 & ANT 1 & Ch.54



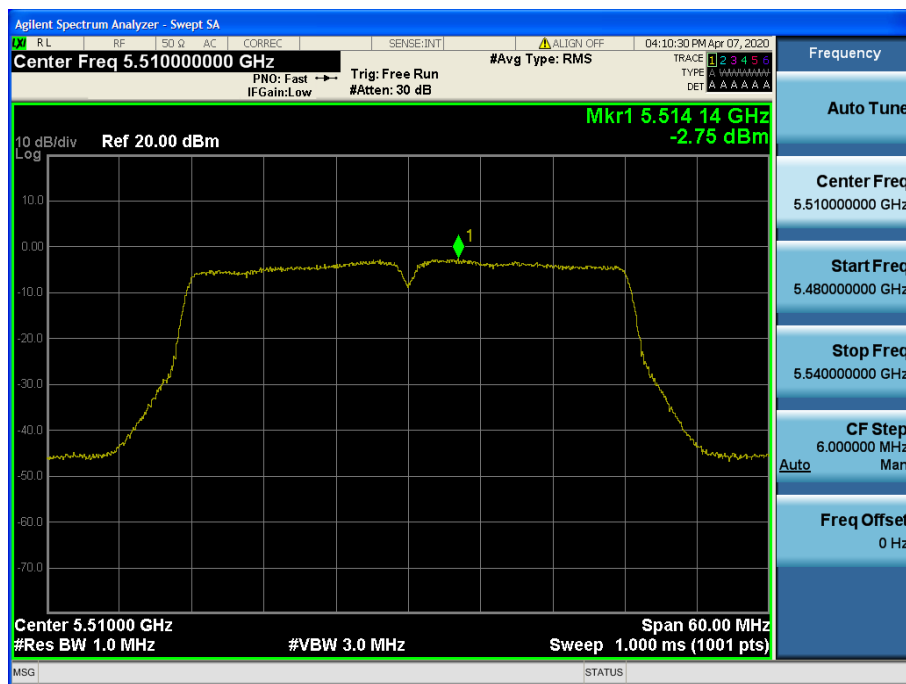
Maximum Power Spectral Density

Test Mode: TM 3 & ANT 1 & Ch.62



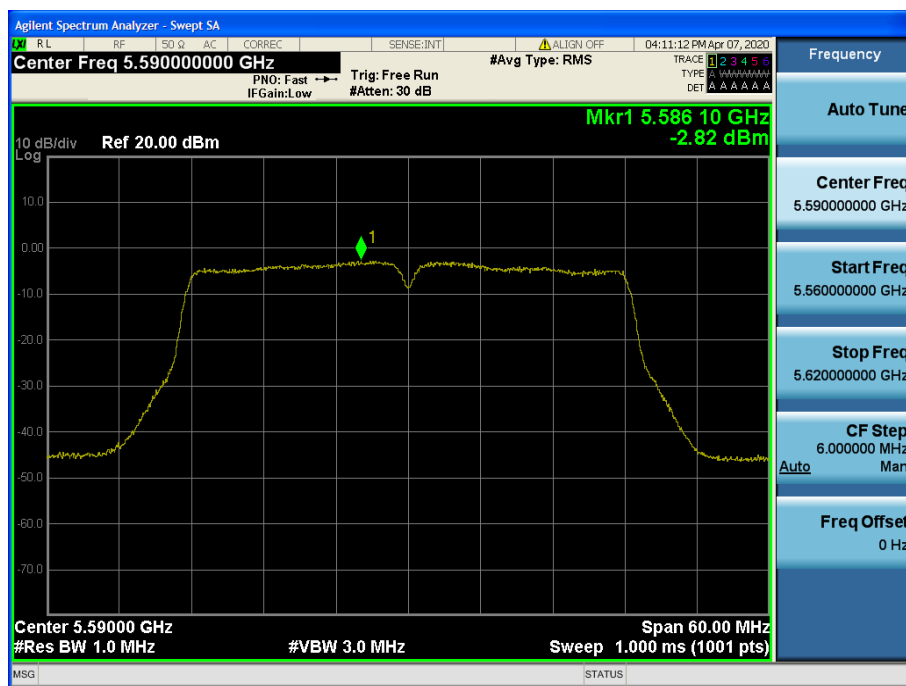
Maximum Power Spectral Density

Test Mode: TM 3 & ANT 1 & Ch.102



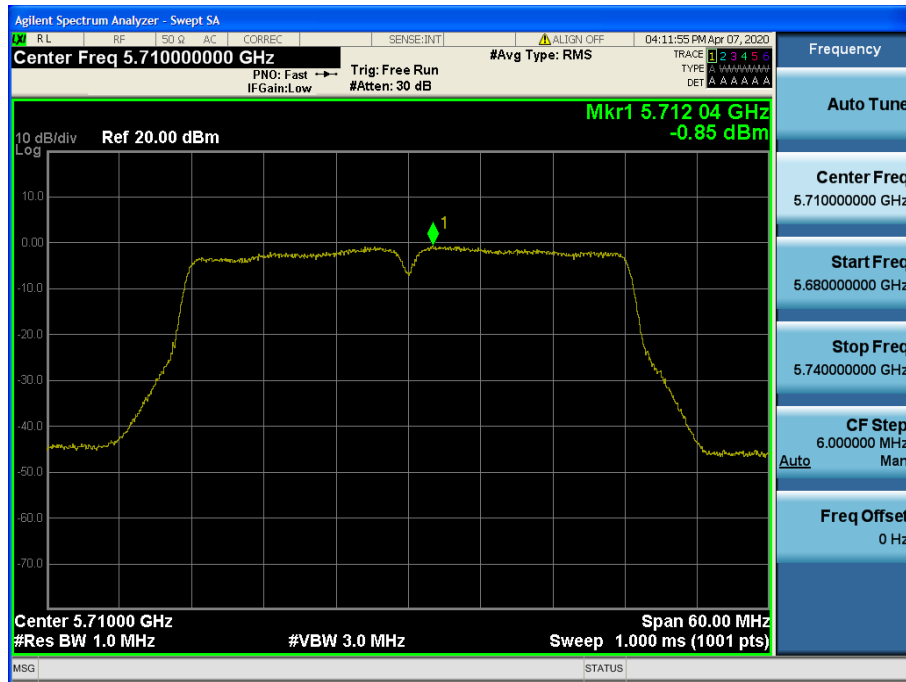
Maximum Power Spectral Density

Test Mode: TM 3 & ANT 1 & Ch.118



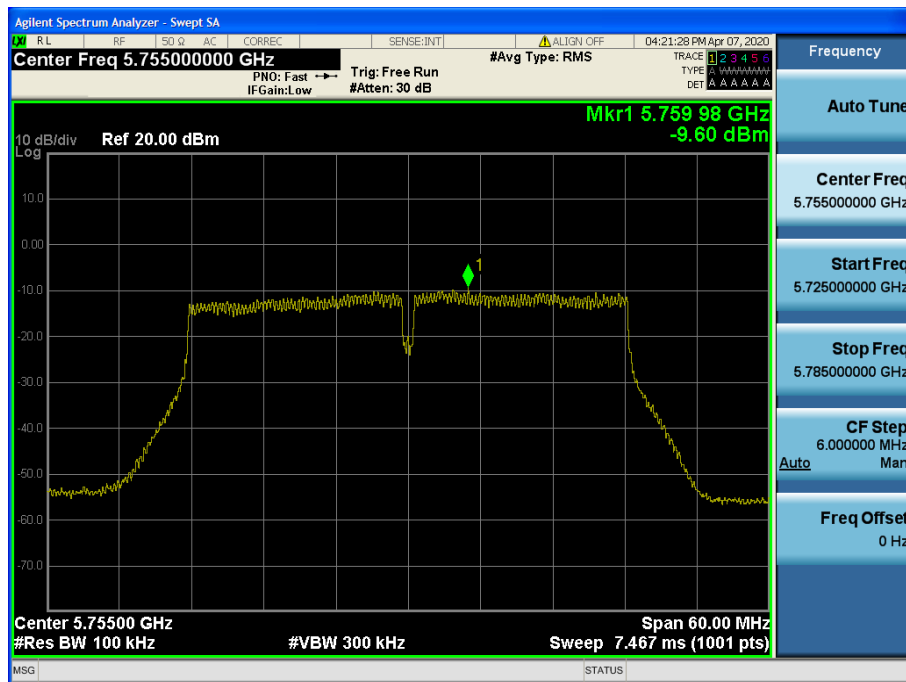
Maximum Power Spectral Density

Test Mode: TM 3 & ANT 1 & Ch.142



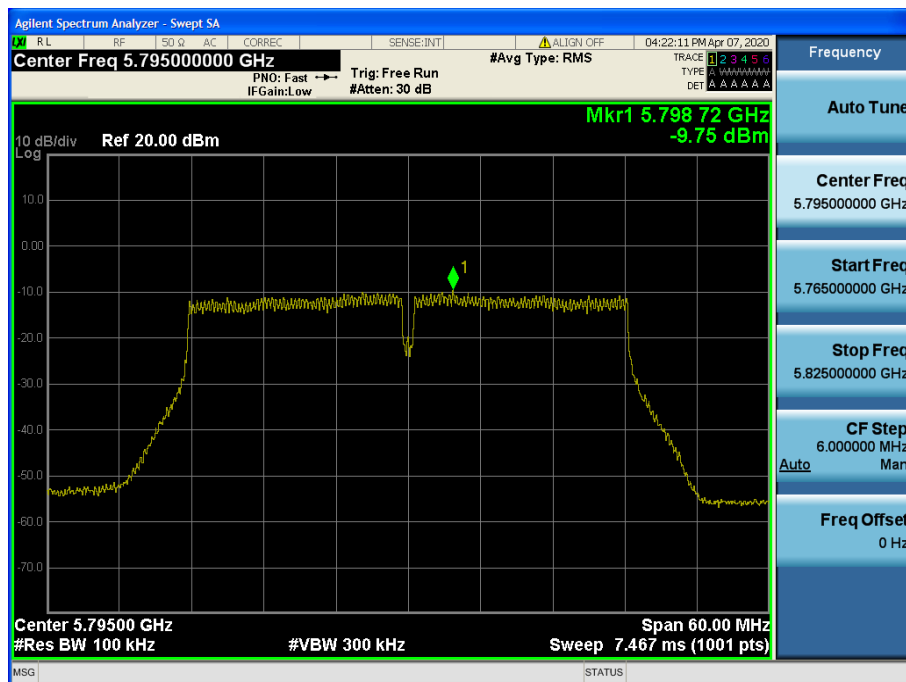
Maximum Power Spectral Density

Test Mode: TM 3 & ANT 1 & Ch.151



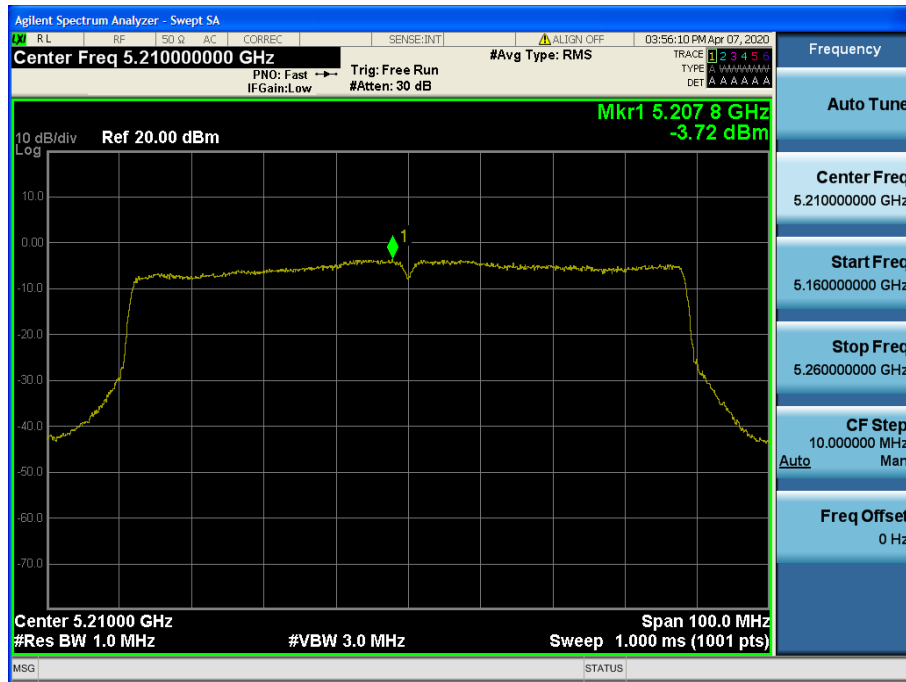
Maximum Power Spectral Density

Test Mode: TM 3 & ANT 1 & Ch.159



Maximum Power Spectral Density

Test Mode: TM 4 & ANT 1 & Ch.42



Maximum Power Spectral Density

Test Mode: TM 4 & ANT 1 & Ch.58



Maximum Power Spectral Density

Test Mode: TM 4 & ANT 1 & Ch.106



Maximum Power Spectral Density

Test Mode: TM 4 & ANT 1 & Ch.122



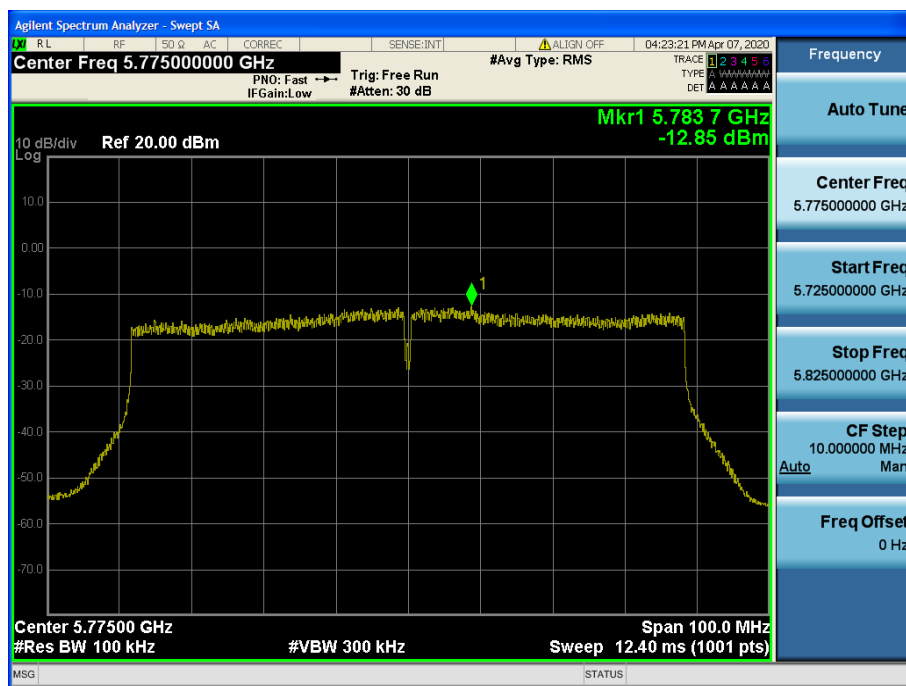
Maximum Power Spectral Density

Test Mode: TM 4 & ANT 1 & Ch.138



Maximum Power Spectral Density

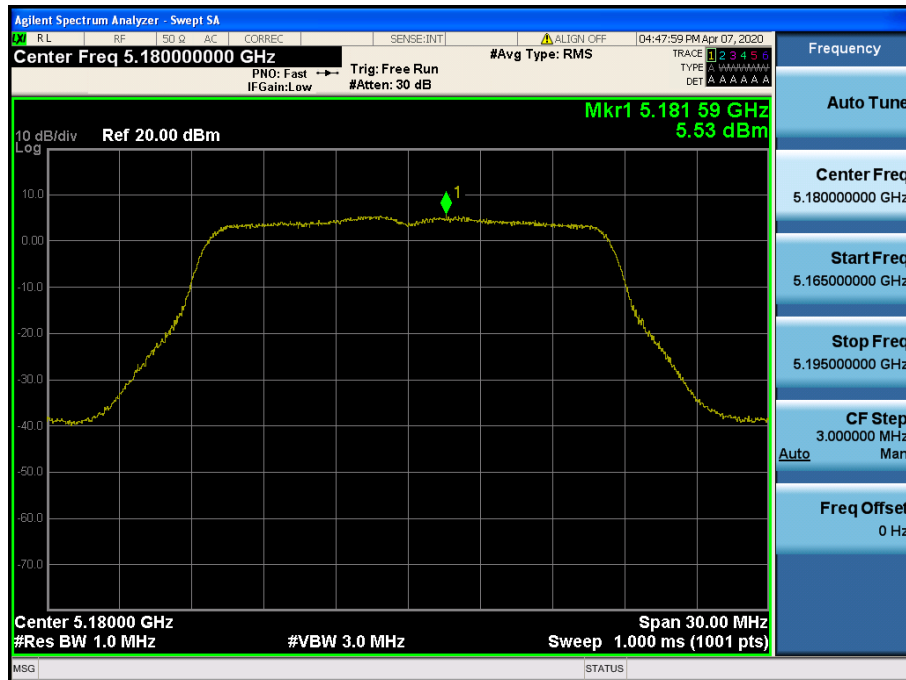
Test Mode: TM 4 & ANT 1 & Ch.155



- Power spectral density: Antenna 2

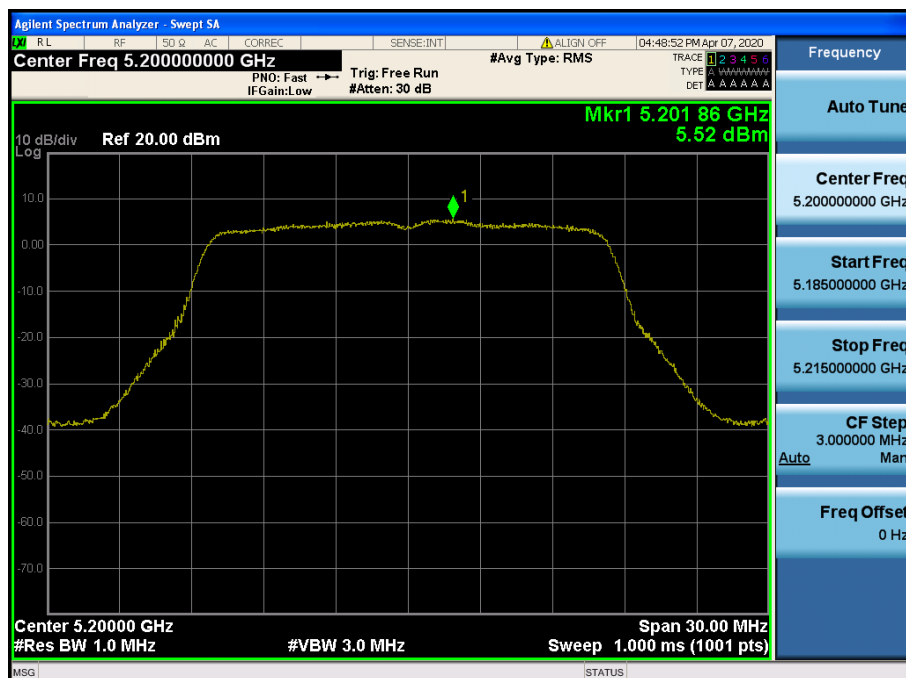
Maximum Power Spectral Density

Test Mode: TM 1 & ANT 2 & Ch.36



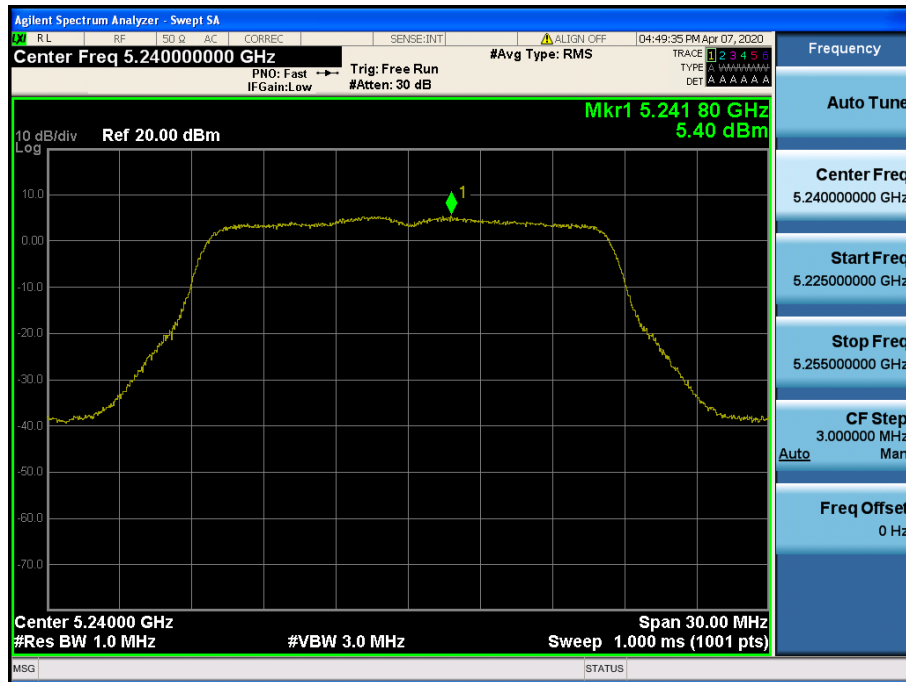
Maximum Power Spectral Density

Test Mode: TM 1 & ANT 2 & Ch.40



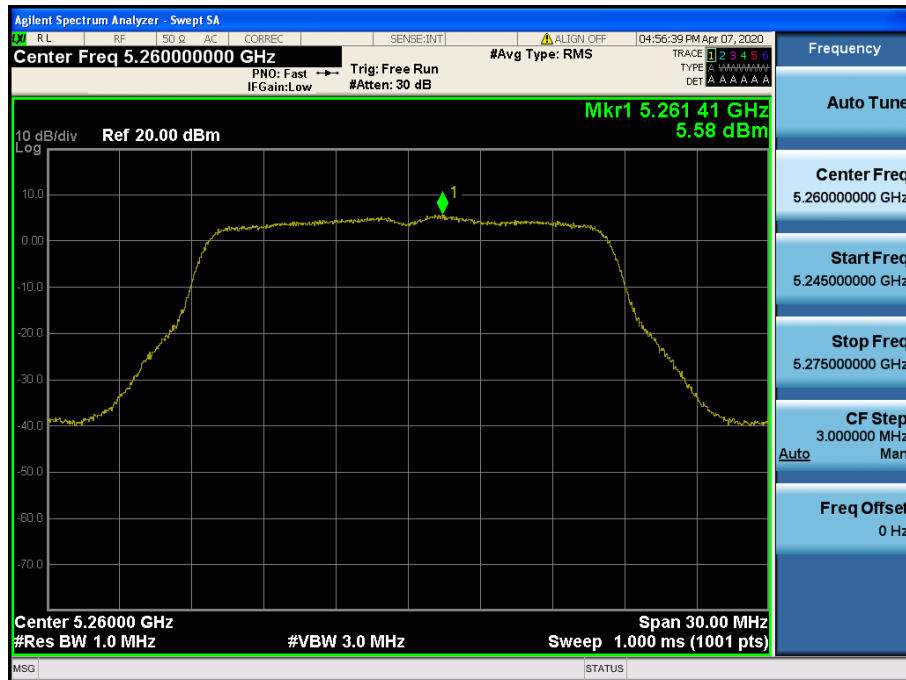
Maximum Power Spectral Density

Test Mode: TM 1 & ANT 2 & Ch.48



Maximum Power Spectral Density

Test Mode: TM 1 & ANT 2 & Ch.52



Maximum Power Spectral Density

Test Mode: TM 1 & ANT 2 & Ch.60



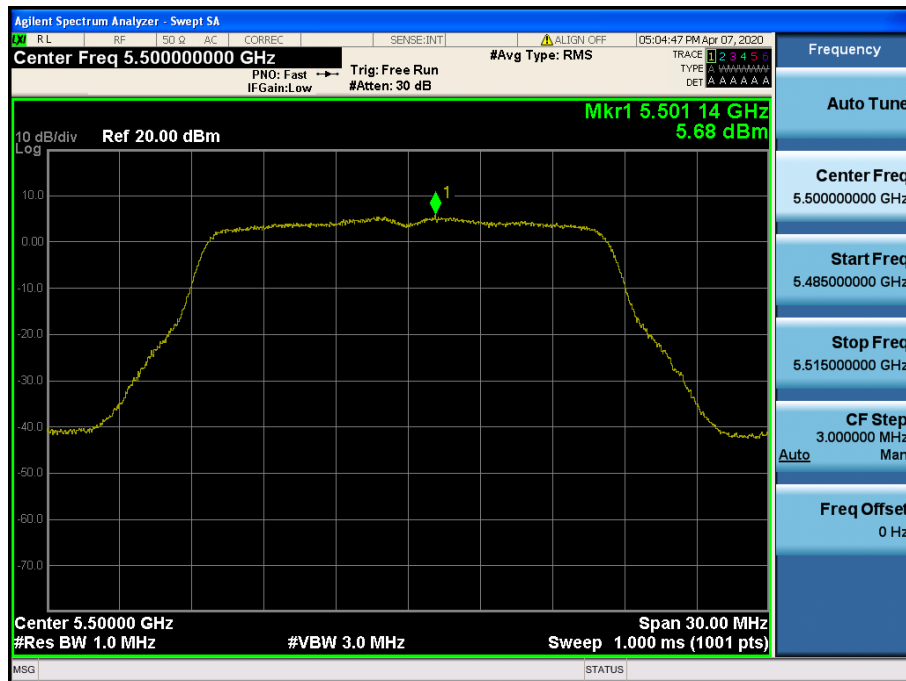
Maximum Power Spectral Density

Test Mode: TM 1 & ANT 2 & Ch.64



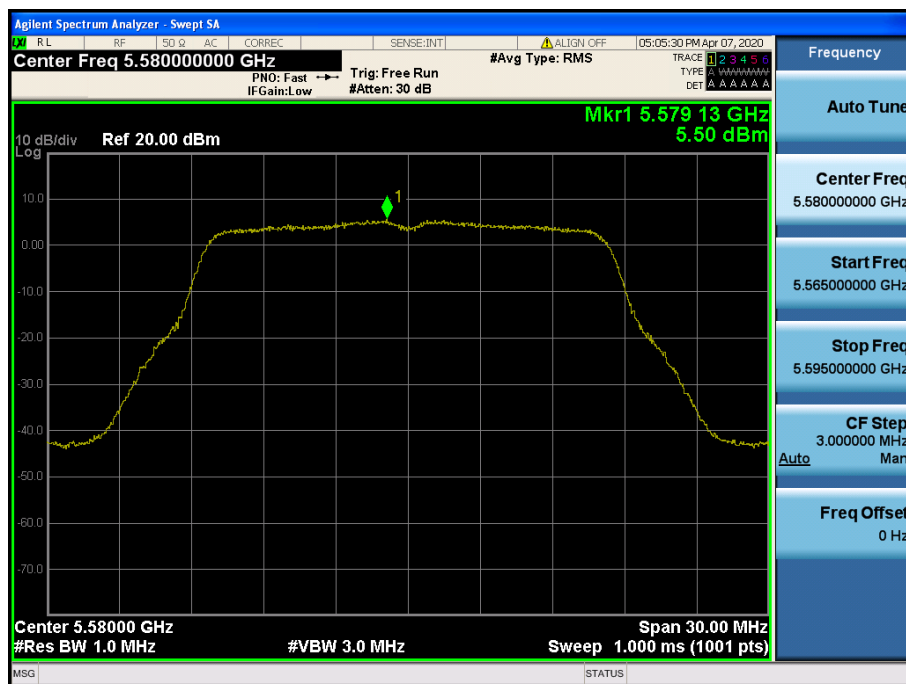
Maximum Power Spectral Density

Test Mode: TM 1 & ANT 2 & Ch.100



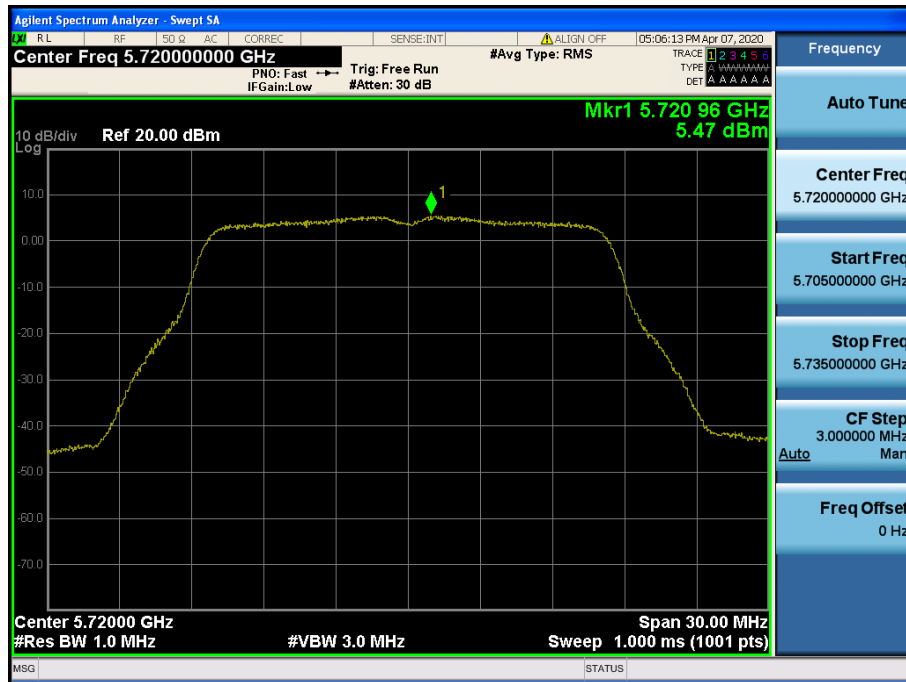
Maximum Power Spectral Density

Test Mode: TM 1 & ANT 2 & Ch.120



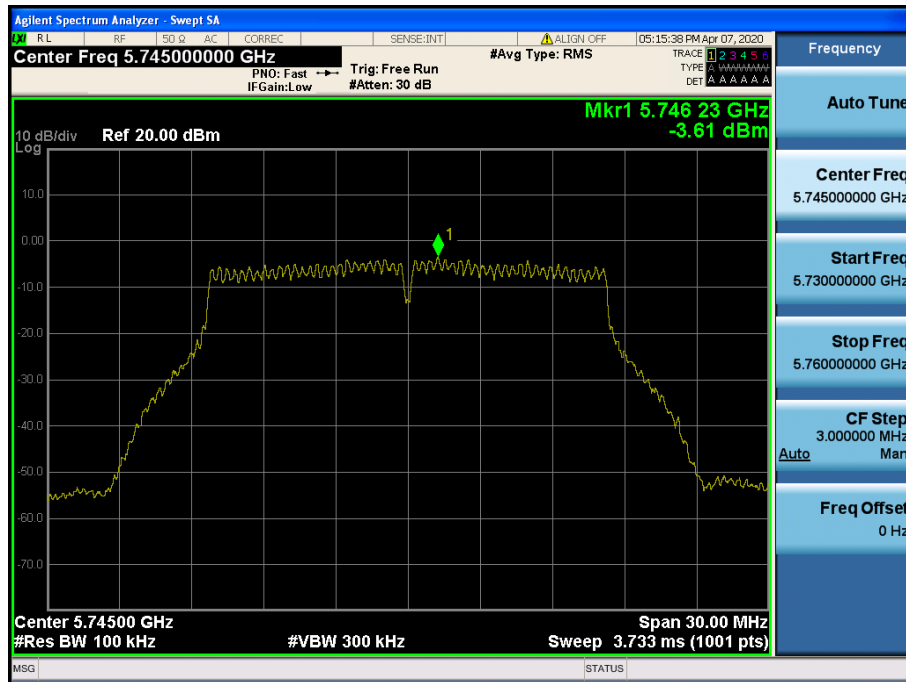
Maximum Power Spectral Density

Test Mode: TM 1 & ANT 2 & Ch.144



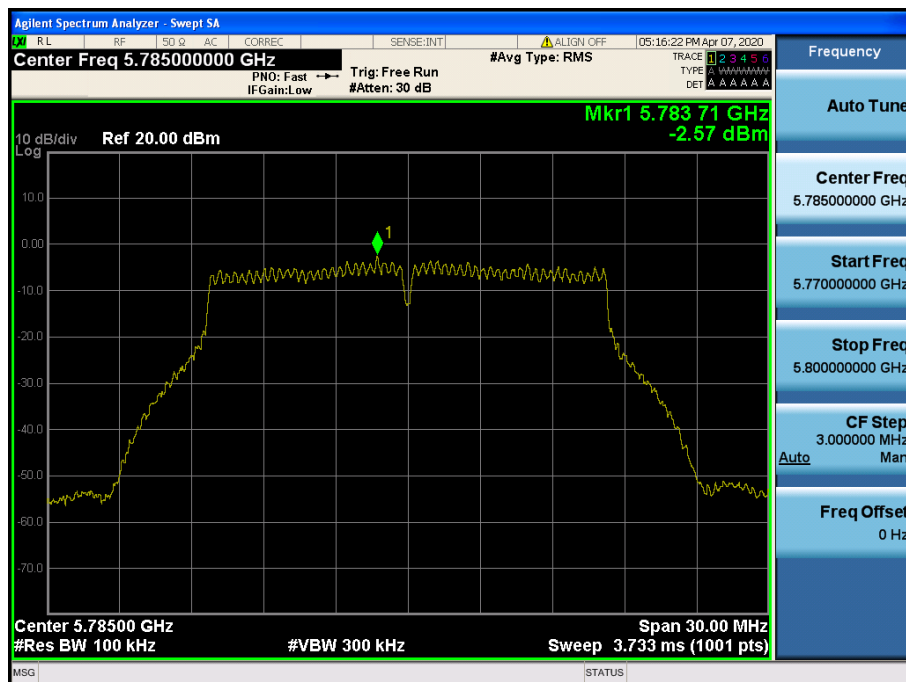
Maximum Power Spectral Density

Test Mode: TM 1 & ANT 2 & Ch.149



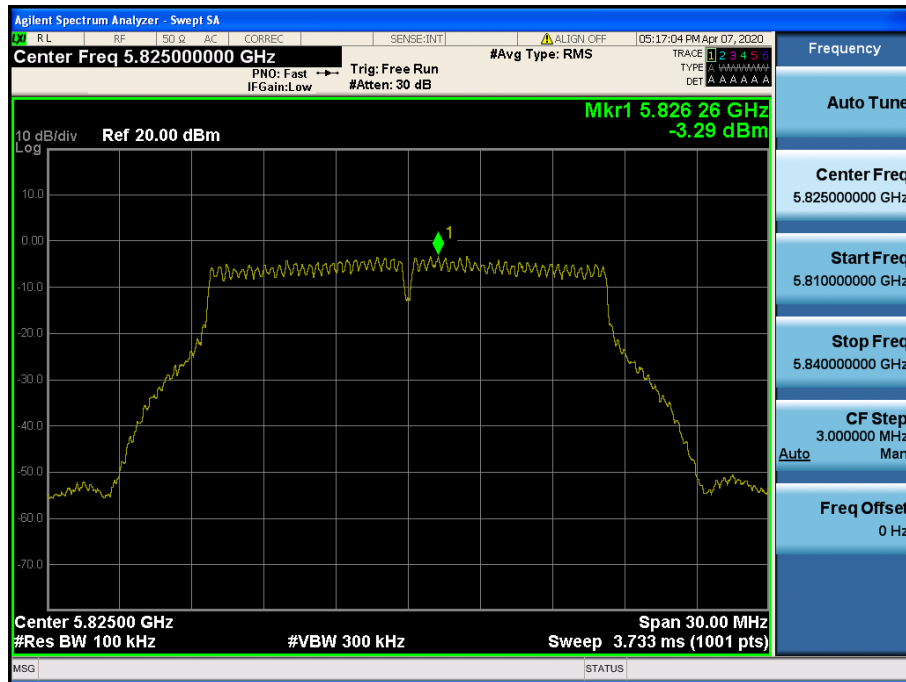
Maximum Power Spectral Density

Test Mode: TM 1 & ANT 2 & Ch.157



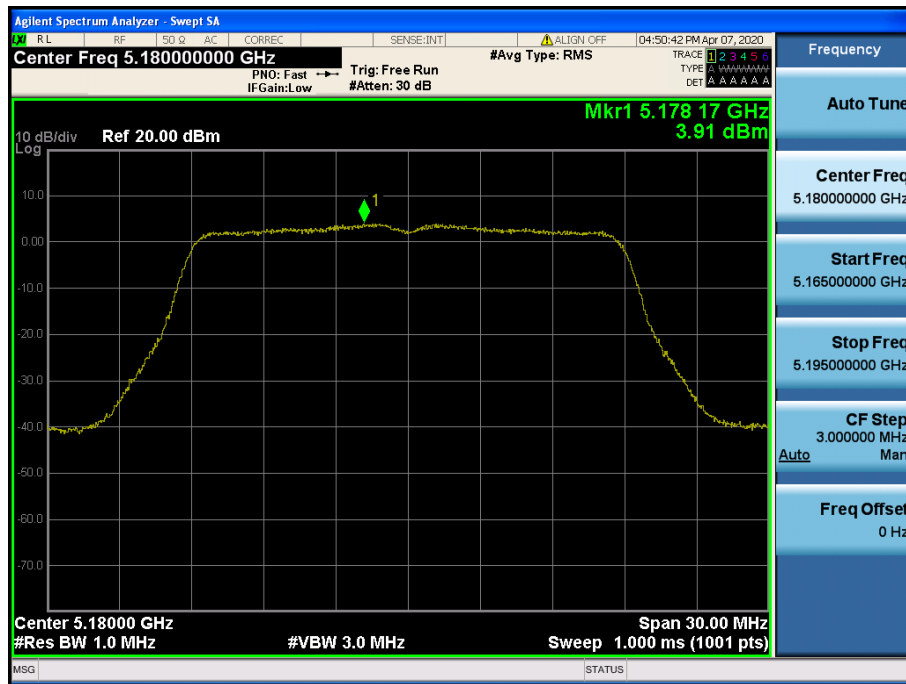
Maximum Power Spectral Density

Test Mode: TM 1 & ANT 2 & Ch.165



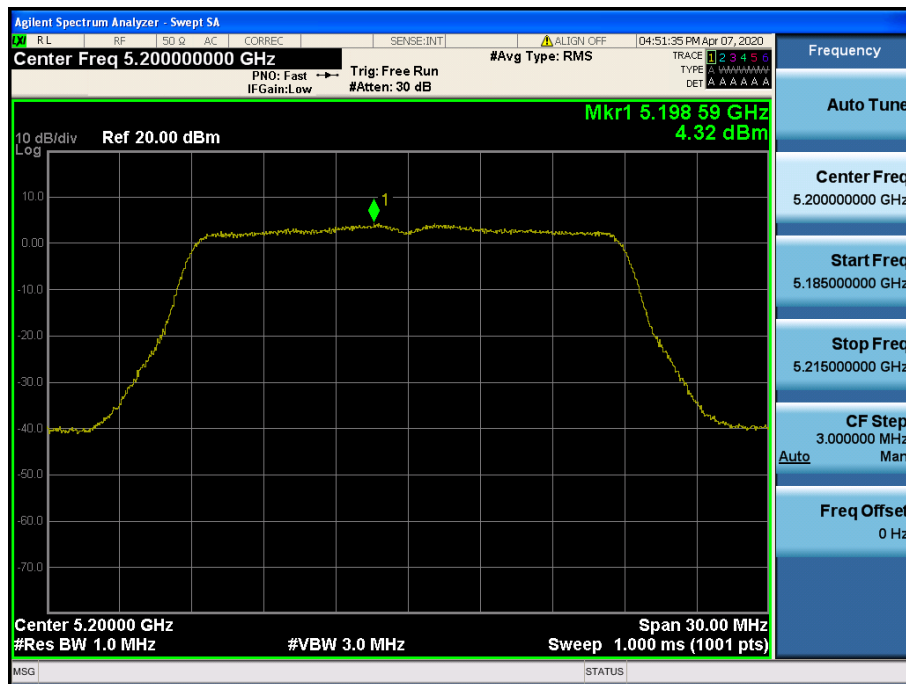
Maximum Power Spectral Density

Test Mode: TM 2 & ANT 2 & Ch.36



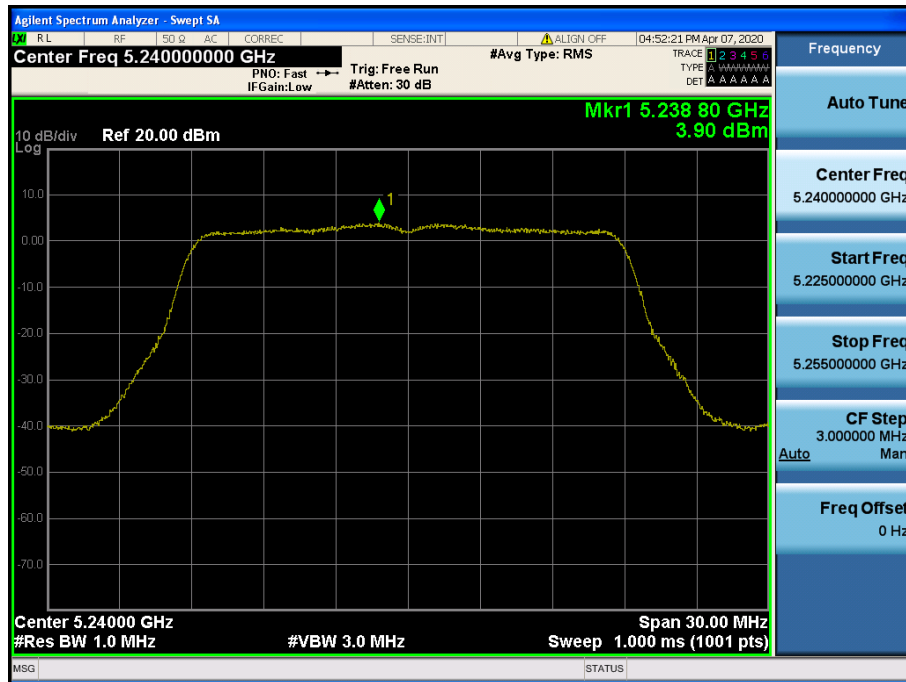
Maximum Power Spectral Density

Test Mode: TM 2 & ANT 2 & Ch.40



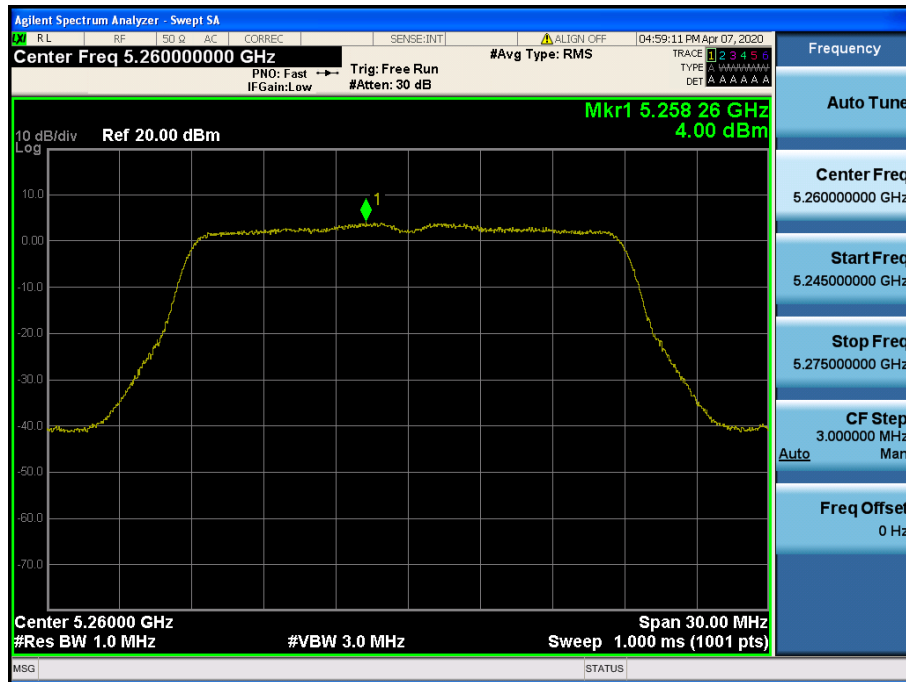
Maximum Power Spectral Density

Test Mode: TM 2 & ANT 2 & Ch.48



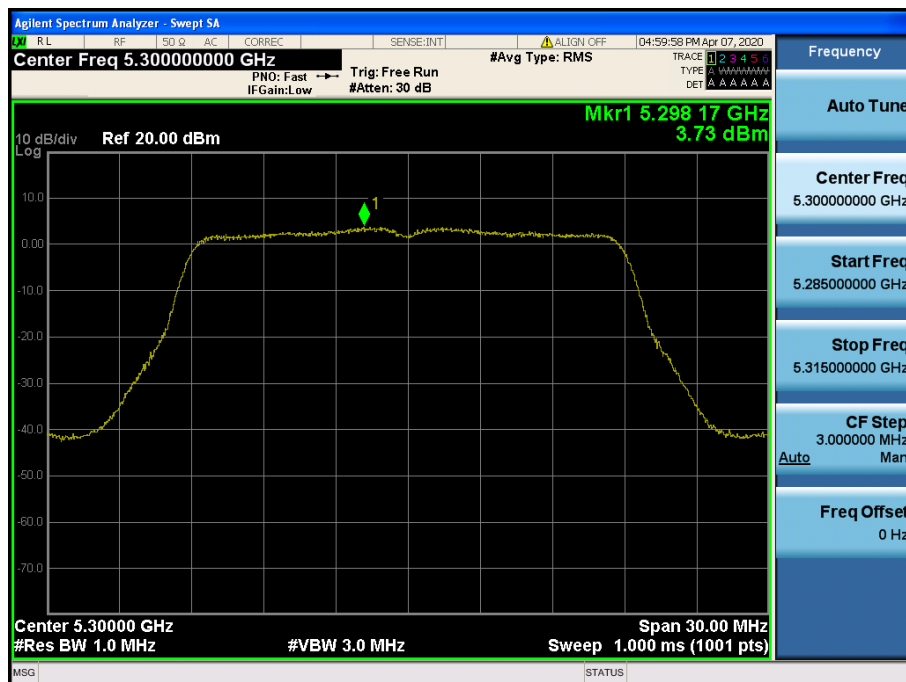
Maximum Power Spectral Density

Test Mode: TM 2 & ANT 2 & Ch.52



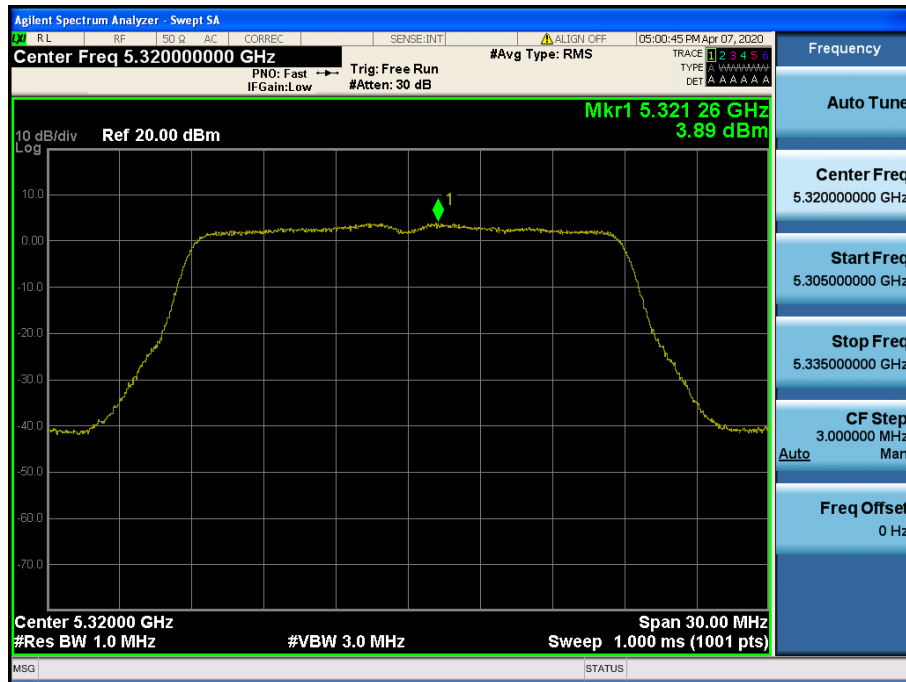
Maximum Power Spectral Density

Test Mode: TM 2 & ANT 2 & Ch.60



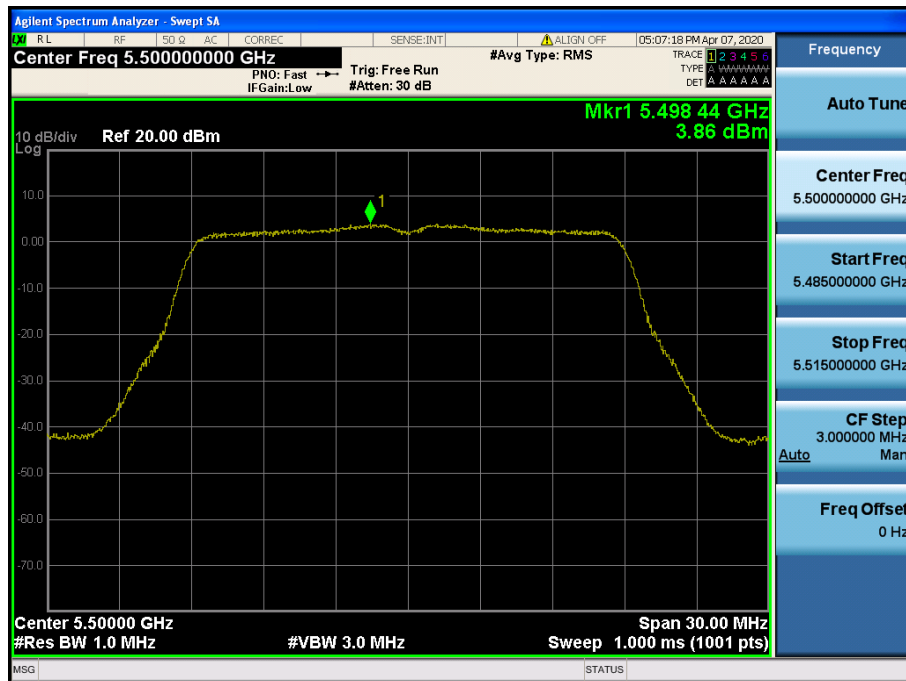
Maximum Power Spectral Density

Test Mode: TM 2 & ANT 2 & Ch.64



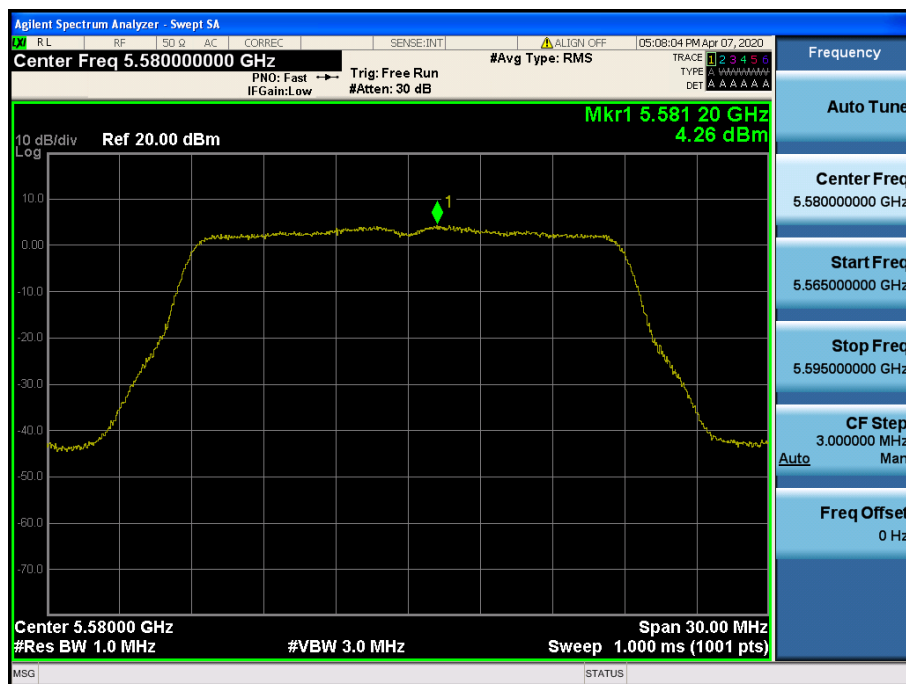
Maximum Power Spectral Density

Test Mode: TM 2 & ANT 2 & Ch.100



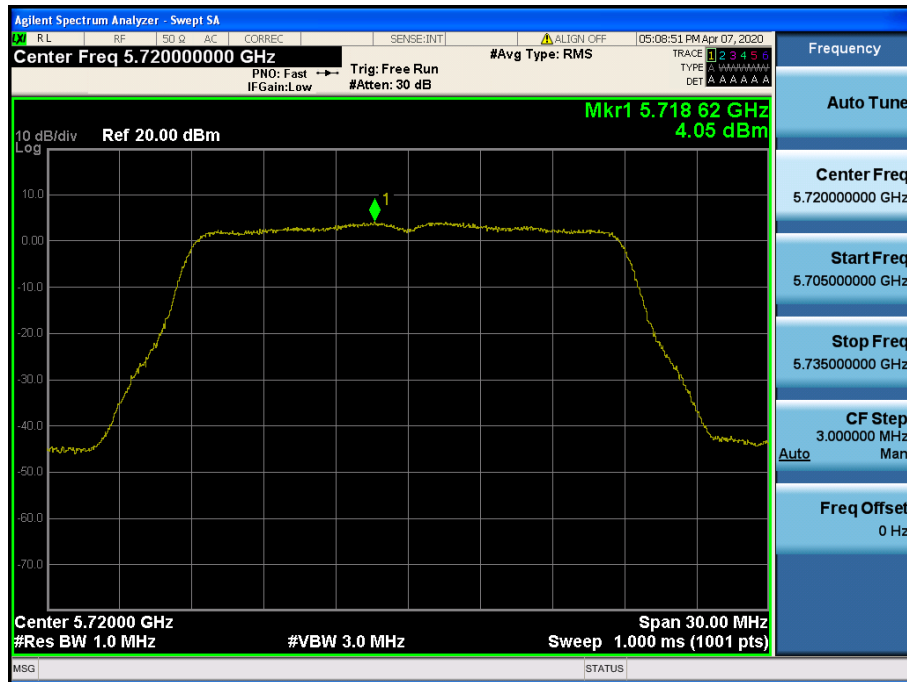
Maximum Power Spectral Density

Test Mode: TM 2 & ANT 2 & Ch.120



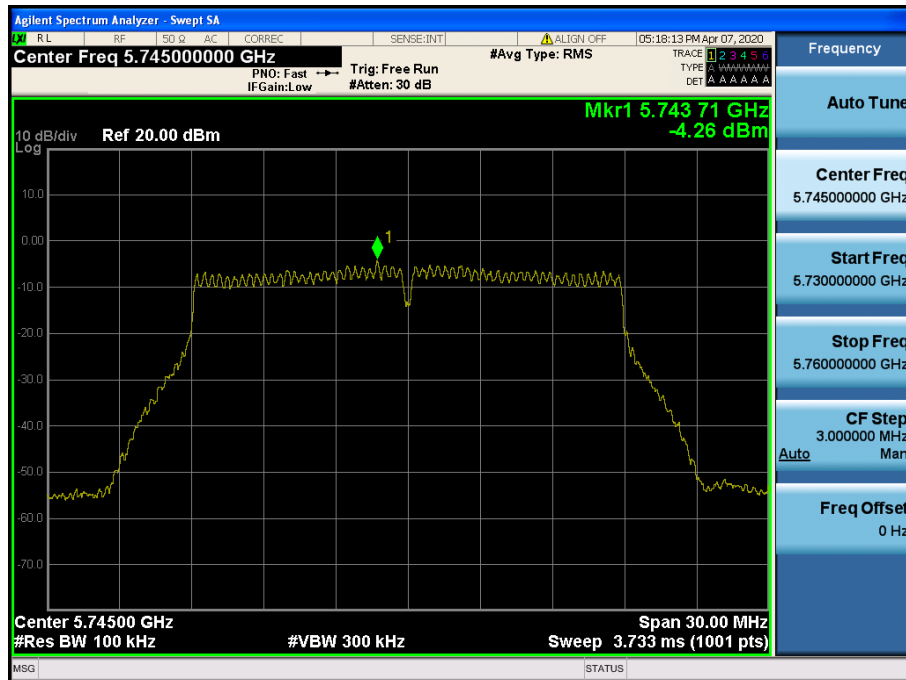
Maximum Power Spectral Density

Test Mode: TM 2 & ANT 2 & Ch.144



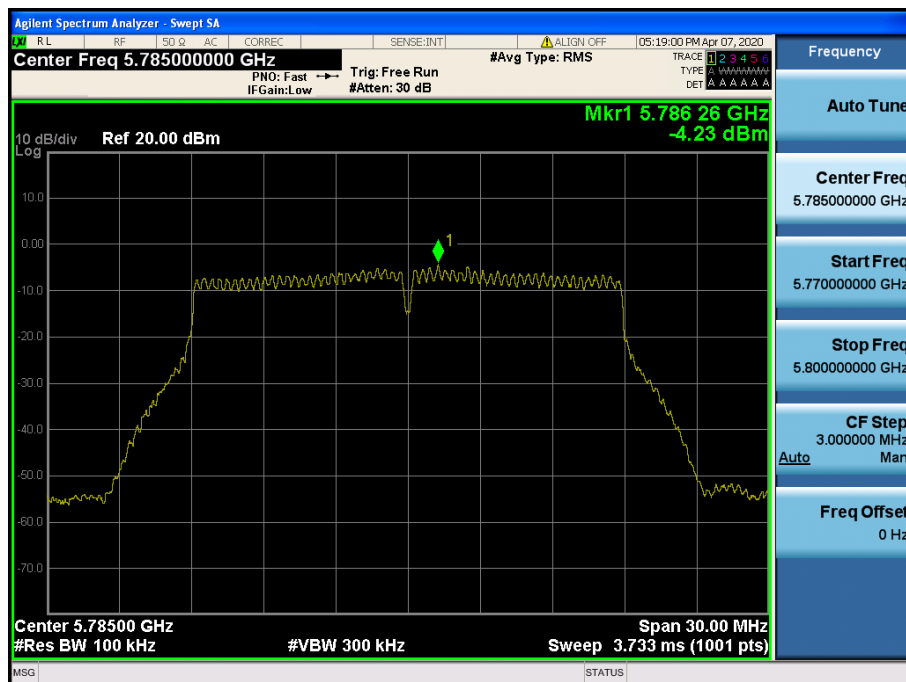
Maximum Power Spectral Density

Test Mode: TM 2 & ANT 2 & Ch.149



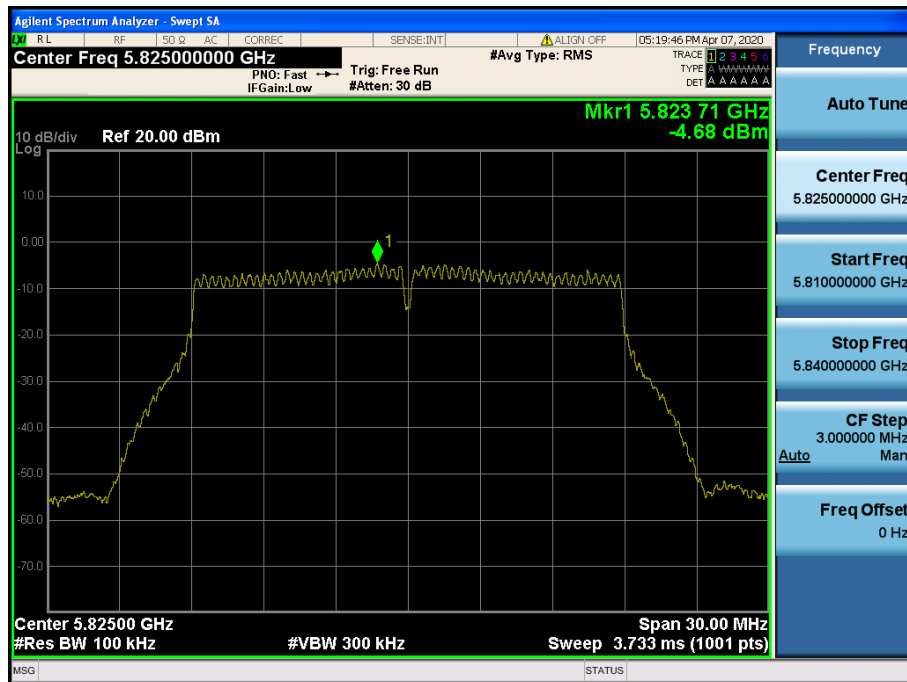
Maximum Power Spectral Density

Test Mode: TM 2 & ANT 2 & Ch.157



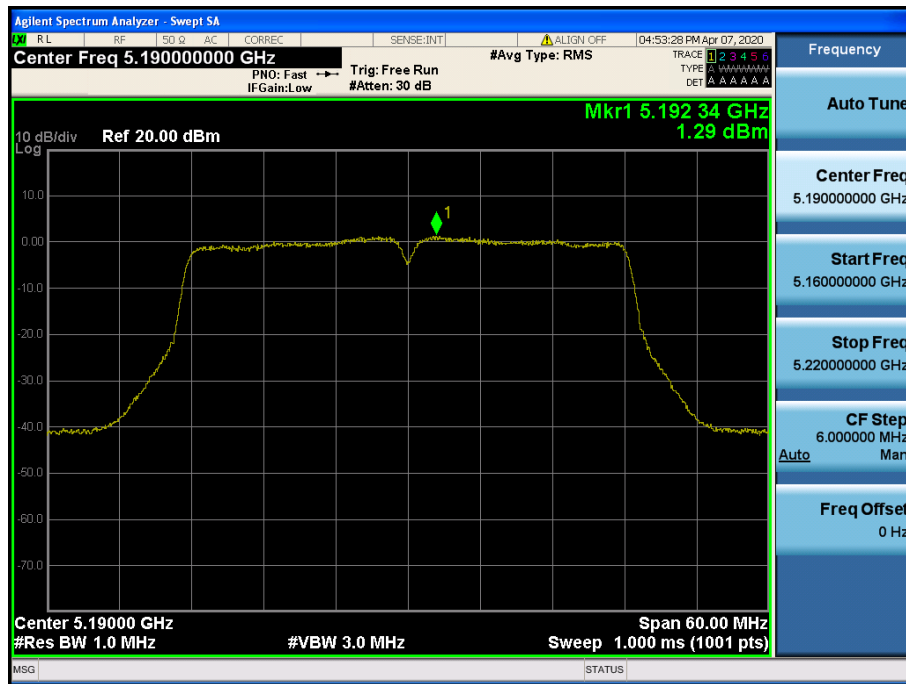
Maximum Power Spectral Density

Test Mode: TM 2 & ANT 2 & Ch.165



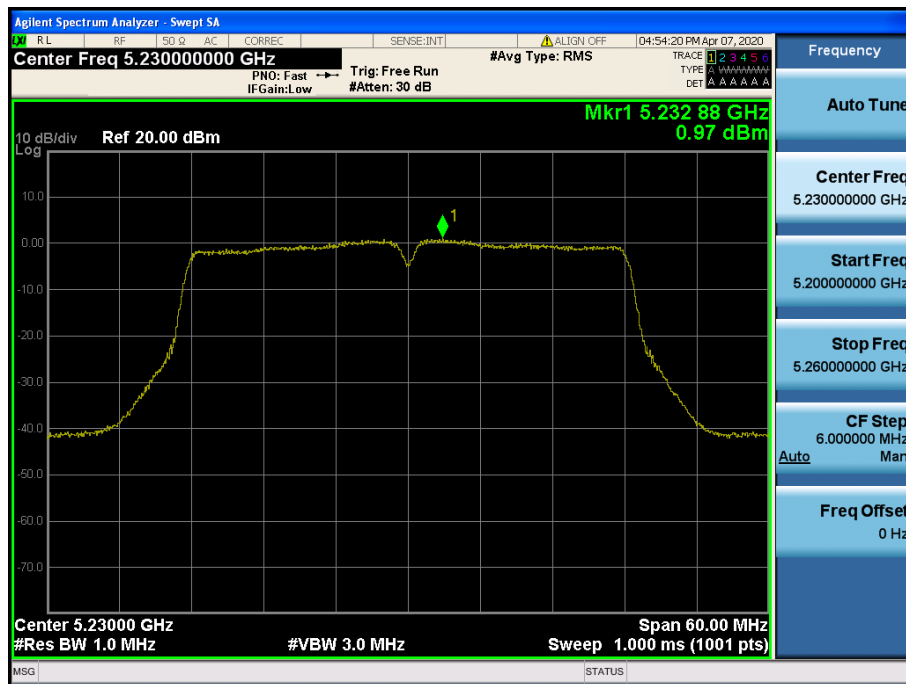
Maximum Power Spectral Density

Test Mode: TM 3 & ANT 2 & Ch.38



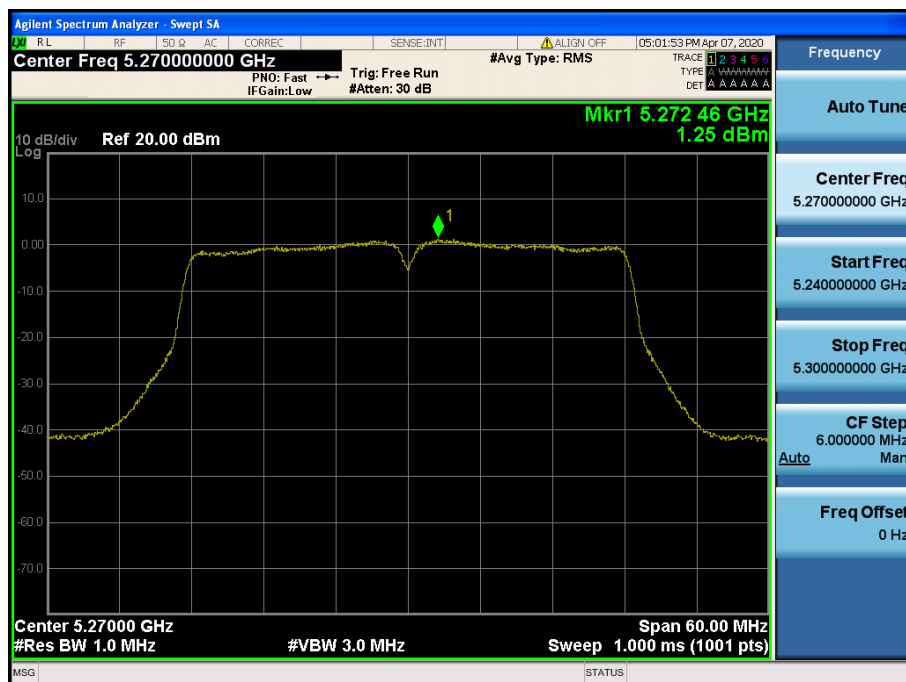
Maximum Power Spectral Density

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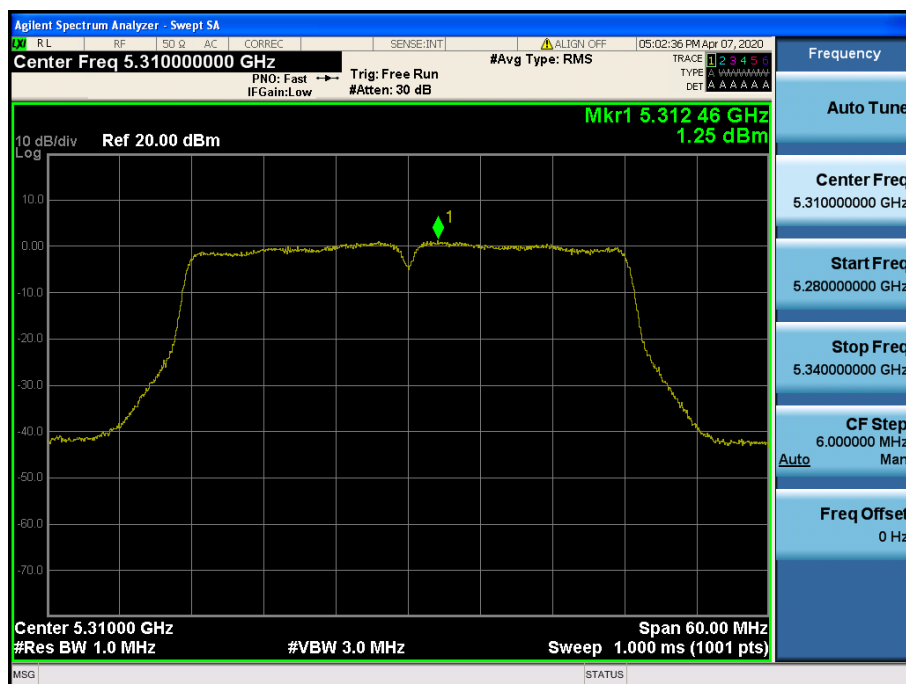
Maximum Power Spectral Density

Test Mode: TM 3 & ANT 2 & Ch.54



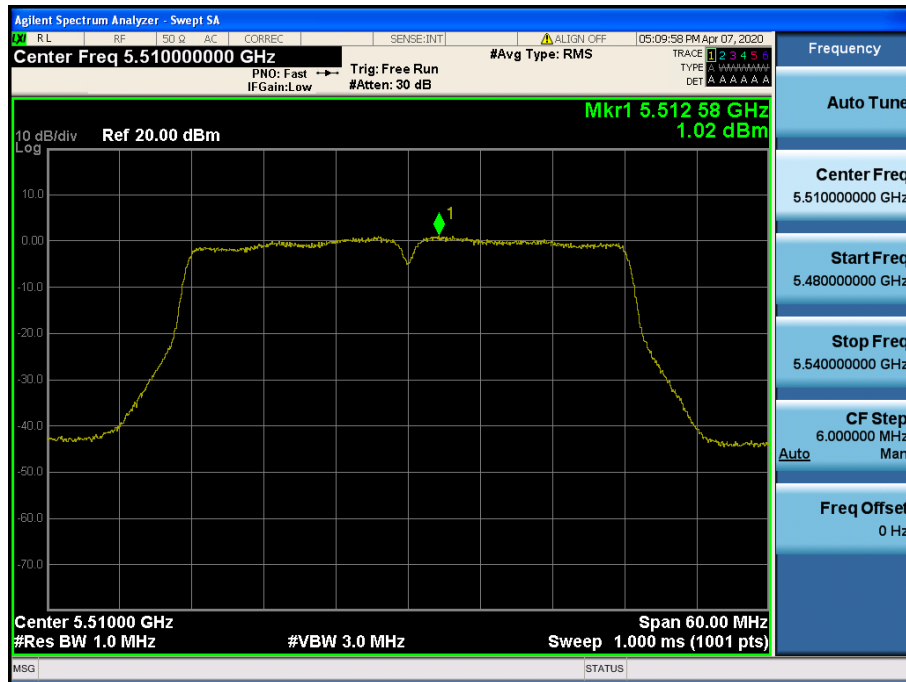
Maximum Power Spectral Density

Test Mode: TM 3 & ANT 2 & Ch.62



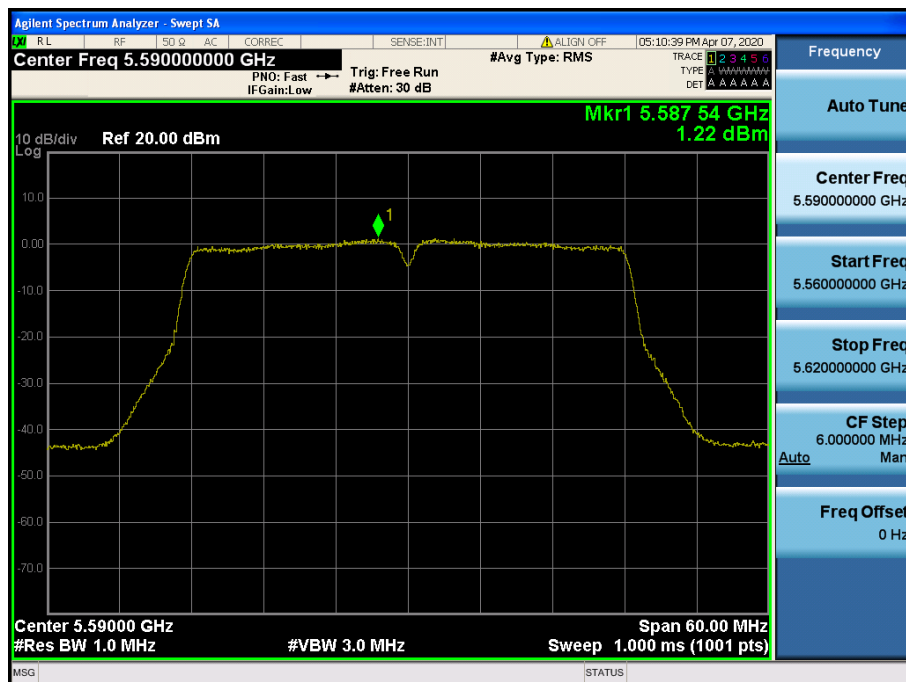
Maximum Power Spectral Density

Test Mode: TM 3 & ANT 2 & Ch.102



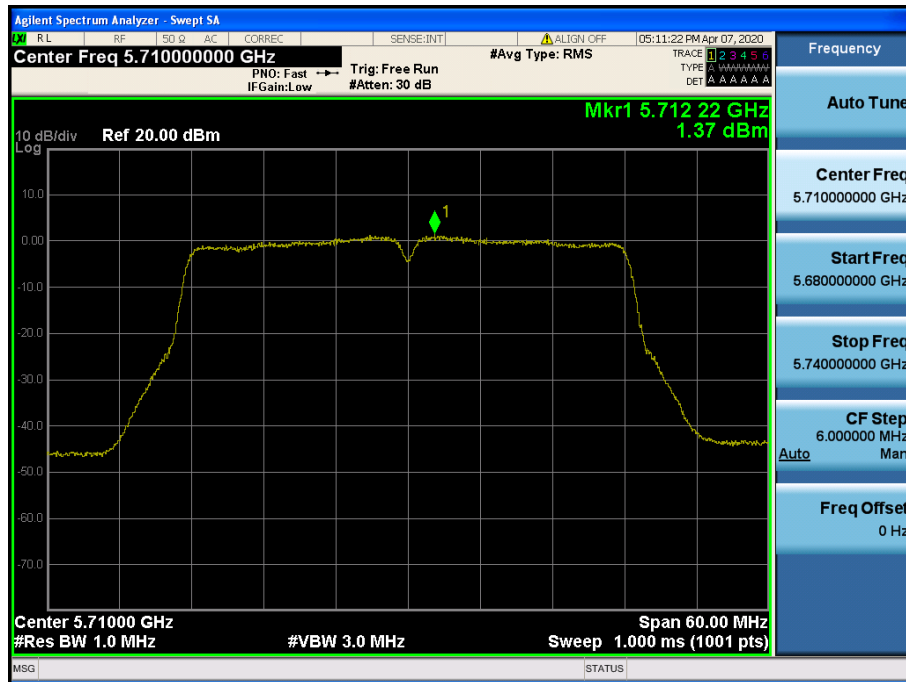
Maximum Power Spectral Density

Test Mode: TM 3 & ANT 2 & Ch.118



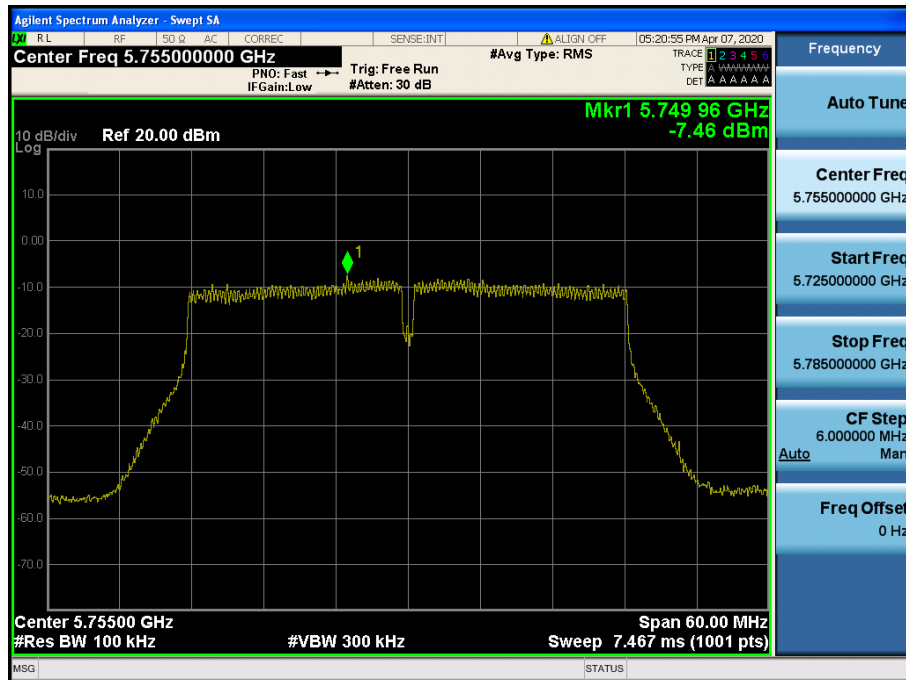
Maximum Power Spectral Density

Test Mode: TM 3 & ANT 2 & Ch.142



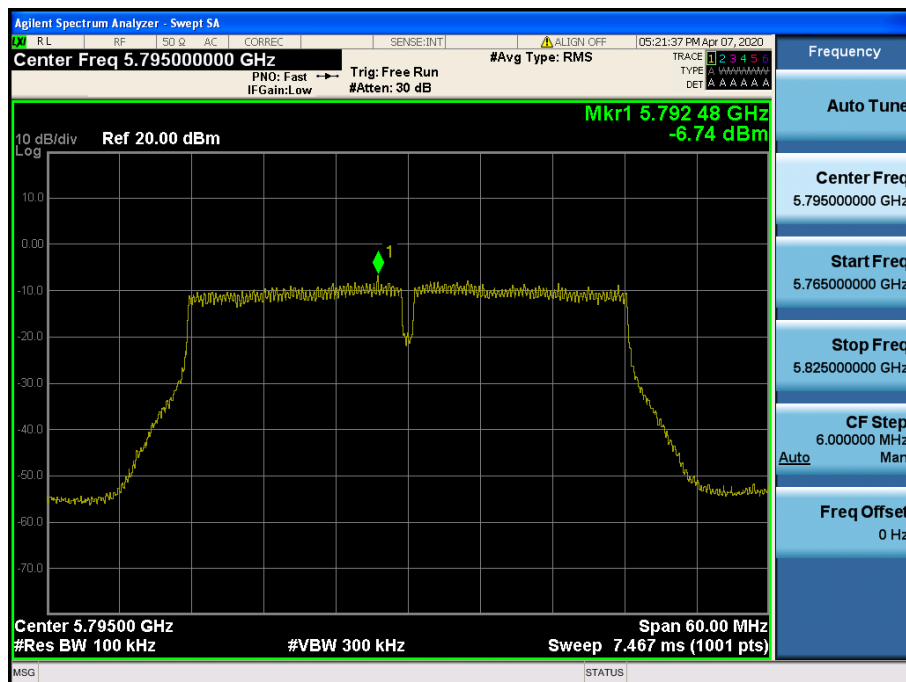
Maximum Power Spectral Density

Test Mode: TM 3 & ANT 2 & Ch.151



Maximum Power Spectral Density

Test Mode: TM 3 & ANT 2 & Ch.159



Maximum Power Spectral Density

Test Mode: TM 4 & ANT 2 & Ch.42



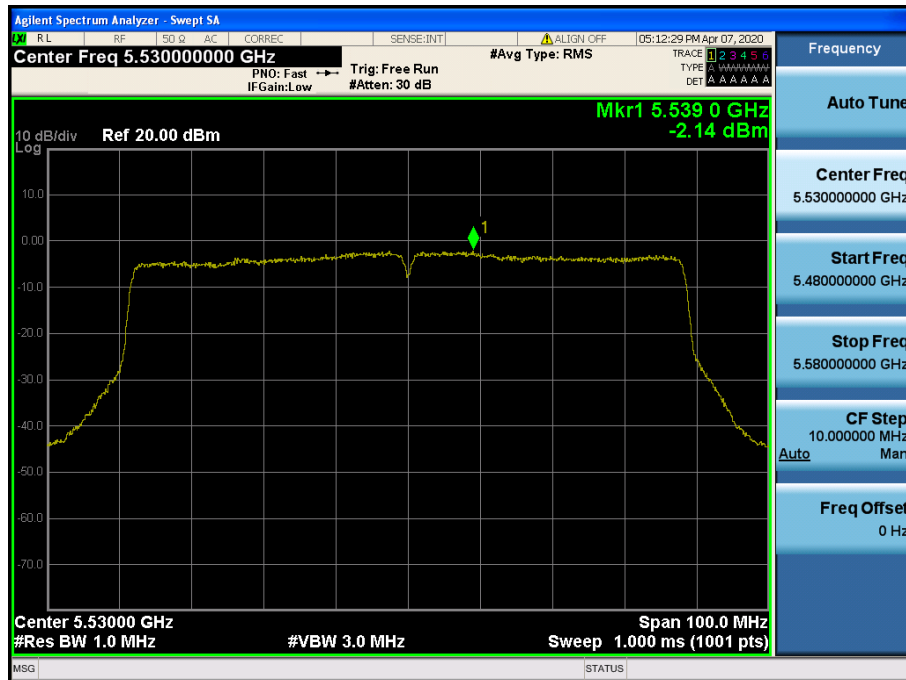
Maximum Power Spectral Density

Test Mode: TM 4 & ANT 2 & Ch.58



Maximum Power Spectral Density

Test Mode: TM 4 & ANT 2 & Ch.106



Maximum Power Spectral Density

Test Mode: TM 4 & ANT 2 & Ch.122



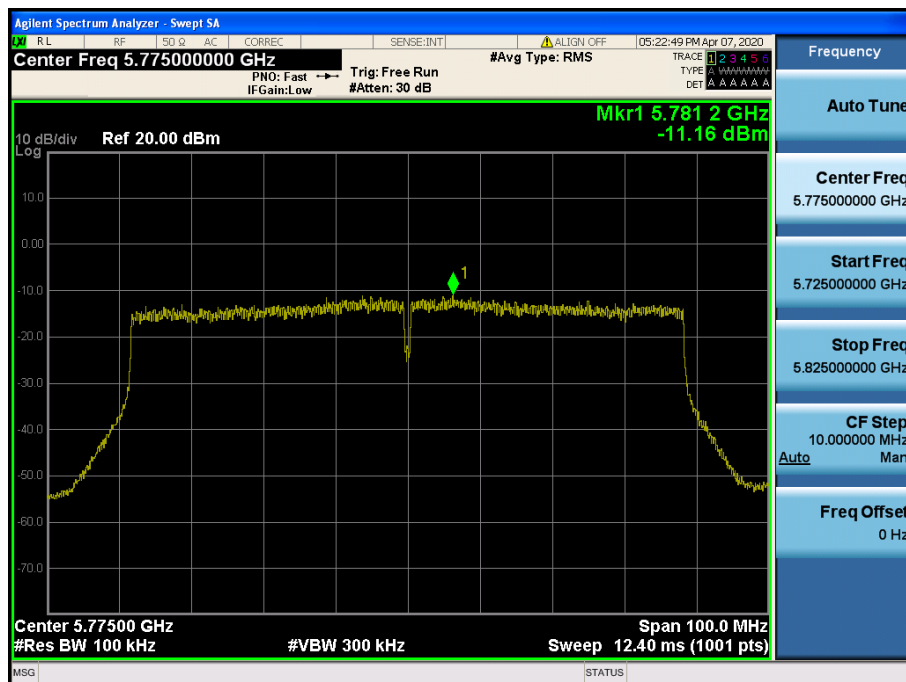
Maximum Power Spectral Density

Test Mode: TM 4 & ANT 2 & Ch.138



Maximum Power Spectral Density

Test Mode: TM 4 & ANT 2 & Ch.155



8.5 Radiated Spurious Emission Measurements

■ Test Requirements

• FCC Part 15.209(a) and (b)

Frequency (MHz)	Limit (uV/m)	Measurement Distance (meter)
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

** Except as provided in 15.209(g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this Part, e.g. 15.231 and 15.241.

• FCC Part 15.205 (a): Only spurious emissions are permitted in any of the frequency bands listed below:

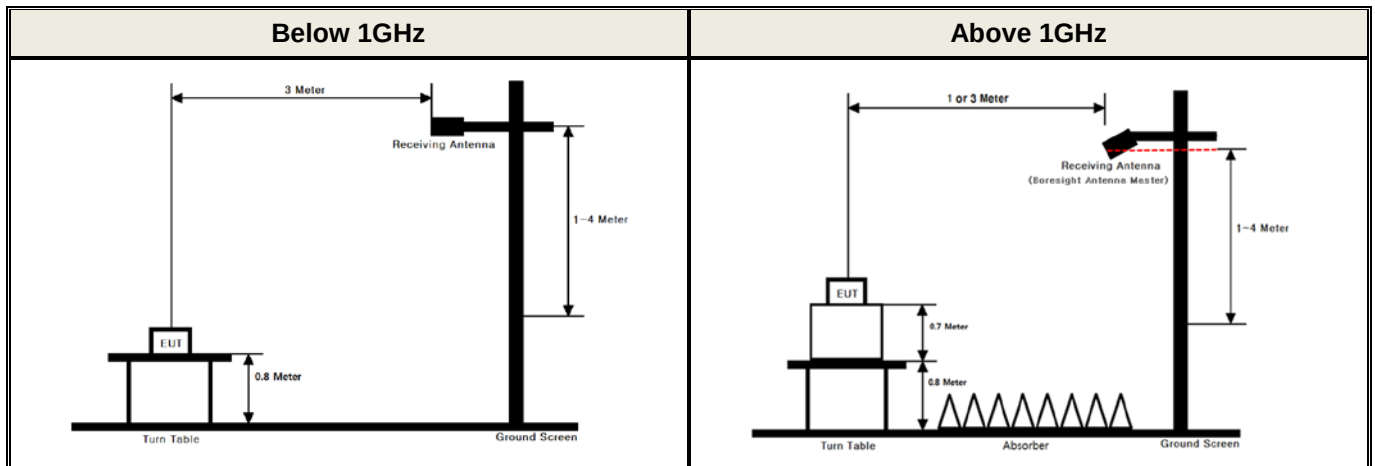
MHz	MHz	MHz	MHz	GHz	GHz
0.009 ~ 0.110	8.41425 ~ 8.41475	108 ~ 121.94	1300 ~ 1427	4.5 ~ 5.15	14.47 ~ 14.5
0.495 ~ 0.505	12.29 ~ 12.293	123 ~ 138	1435 ~ 1626.5	5.35 ~ 5.46	15.35 ~ 16.2
2.1735 ~ 2.1905	12.51975 ~	149.9 ~ 150.05	1645.5 ~ 1646.5	7.25 ~ 7.75	17.7 ~ 21.4
4.125 ~ 4.128	12.52025	160.52475 ~	1660 ~ 1710	8.025 ~ 8.5	22.01 ~ 23.12
4.17725 ~ 4.17775	12.57675 ~	160.52525	1718.8 ~ 1722.2	9.0 ~ 9.2	23.6 ~ 24.0
4.20725 ~ 4.20775	12.57725	160.7 ~ 160.9	2200 ~ 2300	9.3 ~ 9.5	31.2 ~ 31.8
6.215 ~ 6.218	13.36 ~ 13.41	162.0125 ~ 167.17	2310 ~ 2390	10.6 ~ 12.7	36.43 ~ 36.5
6.26775 ~ 6.26825	16.42 ~ 16.423	167.72 ~ 173.2	2483.5 ~ 2500	13.25 ~ 13.4	Above 38.6
6.31175 ~ 6.31225	16.69475 ~	240 ~ 285	2655 ~ 2900		
8.291 ~ 8.294	16.69525	322 ~ 335.4	3260 ~ 3267		
8.362 ~ 8.366	16.80425 ~	399.90 ~ 410	3332 ~ 3339		
8.37625 ~ 8.38675	16.80475	608 ~ 614	3345.8 ~ 3358		
	25.5 ~ 25.67	960 ~ 1240	3600 ~ 4000		
	37.5 ~ 38.25				
	73 ~ 74.6				
	74.8 ~ 75.2				

• **FCC Part 15.205(b):** The field strength of emissions appearing within these frequency bands shall not exceed the limits shown in §15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in §15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in §15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in §15.35 apply to these measurements.

• **FCC Part 15.407 (b):** Undesirable emission limits. Except as shown in paragraph (b)(7) of this section, the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

- (1) For transmitters operating in the **5.15-5.25 GHz band**: all emissions outside of the **5.15-5.35 GHz band** shall not exceed an **EIRP of -27 dBm/MHz**.
- (2) For transmitters operating in the **5.25-5.35 GHz band**: all emissions outside of the **5.15-5.35 GHz band** shall not exceed an **EIRP of -27 dBm/MHz**.
- (3) For transmitters operating in the **5.47-5.725 GHz band**: all emissions outside of the **5.47-5.725 GHz band** shall not exceed an **EIRP of -27 dBm/MHz**.
- (4) For transmitters operating in the **5.725-5.85 GHz band**: 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.
- (5) The emission measurements shall be performed using a minimum resolution bandwidth of 1 MHz. A lower resolution bandwidth may be employed near the band edge, when necessary, provided the measured energy is integrated to show the total power over 1 MHz.
- (6) Unwanted emissions **below 1 GHz** must comply with the general field strength limits set forth in **Section 15.209**. Further, any U-NII devices using an **AC power line** are required to comply also with the conducted limits set forth in **Section 15.207**.
- (7) The provisions of §15.205 apply to intentional radiators operating under this section
- (8) When measuring the emission limits, the nominal carrier frequency shall be adjusted as close to the upper and lower frequency band edges as the design of the equipment permits.

■ Test Configuration



■ Test Procedure

1. The EUT is placed on a non-conductive table. For emission measurements at or below 1 GHz, the table height is 80 cm. For emission measurements above 1 GHz, the table height is 1.5 m.
2. The turn table shall be rotated for 360 degrees to determine the position of maximum emission level.
3. EUT is set 1m or 3 m away from the receiving antenna, which is varied from 1m to 4 m to find out the highest emissions.
4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
5. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
6. Repeat above procedures until the measurements for all frequencies are complete.

Radiated spurious emission measured using following Measurement Procedure of **KDB789033 D02v02r01**

► General Requirements for Unwanted Emissions Measurements

The following requirements apply to all unwanted emissions measurements, both in and outside of the restricted bands:

▪ EUT Duty Cycle

- (1) The EUT shall be configured or modified to **transmit continuously** except as stated in (ii), below. The intent is to test at 100 percent duty cycle; however a small reduction in duty cycle (**to no lower than 98 percent**) is permitted if required by the EUT for amplitude control purposes. Manufacturers are expected to provide software to the test lab to permit such continuous operation.
- (2) If **continuous transmission (or at least 98 percent duty cycle) cannot be achieved** due to hardware limitations of the EUT (e.g., overheating), the following additions to the measurement and reporting procedures are required:
 - The EUT shall be configured to operate at the maximum achievable duty cycle.
 - Measure the duty cycle, x, of the transmitter output signal.
 - Adjustments to measurement procedures (e.g., increasing test time and number of traces averaged) shall be performed as described in the procedures below.
 - The test report shall include the following additional information:
 - The reason for the duty cycle limitation.
 - The duty cycle achieved for testing and the associated transmit duration and interval between transmissions.
 - The sweep time and the amount of time used for trace stabilization during max-hold measurements for peak emission measurements.
- (3) Reduction of the measured emission amplitude levels to account for operational duty factor is not permitted. Compliance is based on emission levels occurring during transmission - not on an average across on and off times of the transmitter.

► **Measurements below 1000 MHz**

- a) Follow the requirements in section II.G.3, "General Requirements for Unwanted Emissions Measurements".
- b) Compliance shall be demonstrated using **CISPR quasi-peak detection**; however, **peak detection** is permitted as an alternative to quasi-peak detection.

► **Measurements Above 1000 MHz (Peak)**

- a) Follow the requirements in section II.G.3, "General Requirements for Unwanted Emissions Measurements".
- b) Peak emission levels are measured by setting the analyzer as follows:
 - (i) **RBW = 1 MHz.**
 - (ii) **VBW ≥ 3 MHz.**
 - (iii) **Detector = Peak.**
 - (iv) Sweep time = Auto.
 - (v) Trace mode = Max hold.
 - (vi) 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. For example, at 50 percent duty cycle, the measurement time will increase by a factor of two relative to measurement time for continuous transmission.

► **Measurements Above 1000 MHz (Method AD)**

- (i) **RBW = 1 MHz.**
- (ii) **VBW ≥ 3 MHz.**
- (iii) **Detector = RMS**, if $\text{span} / (\# \text{ of points in sweep}) \leq \text{RBW} / 2$. Satisfying this condition may require increasing the number of points in the sweep or reducing the span. If the condition is not satisfied, the detector mode shall be set to peak.
- (iv) Averaging type = power (i.e., RMS)
 - As an alternative, the detector and averaging type may be set for linear voltage averaging. Some analyzers require linear display mode in order to use linear voltage averaging. Log or dB averaging shall not be used.
- (v) Sweep time = Auto.
- (vi) Perform a trace average of at least 100 traces if the transmission is continuous. If the transmission is not continuous, the number of traces shall be increased by a factor of $1/x$, where x is the duty cycle. For example, with 50 percent duty cycle, at least 200 traces shall be averaged.
- (vii) If tests are performed with the EUT transmitting at a duty cycle less than 98 percent, a correction factor shall be added to the measurement results prior to comparing to the emission limit in order to compute the emission level that would have been measured had the test been performed at 100 percent duty cycle. The correction factor is computed as follows:
 - **If power averaging (RMS) mode was used in step (iv) above, the correction factor is $10 \log(1/x)$, where x is the duty cycle.** For example, if the transmit duty cycle was 50 percent, then 3 dB must be added to the measured emission levels.
 - If linear voltage averaging mode was used in step (iv) above, the correction factor is $20 \log(1/x)$, where x is the duty cycle. For example, if the transmit duty cycle was 50 percent, then 6 dB must be added to the measured emission levels.
 - If a specific emission is demonstrated to be continuous (100 percent duty cycle) rather than turning on and off with the transmit cycle, no duty cycle correction is required for that emission.

Please refer to Appendix II for the duty correction factor

Test Results

Test Notes

- No other spurious and harmonic emissions were found greater than listed emissions on below table.
- Sample Calculation.

$$\text{Margin} = \text{Limit} - \text{Result} \quad / \quad \text{Result} = \text{Reading} + \text{T.F} + \text{DCCF} + \text{DCF} \quad / \quad \text{T.F} = \text{AF} + \text{CL} - \text{AG}$$

Where, T.F = Total Factor, AF = Antenna Factor, CL = Cable Loss, AG = Amplifier Gain,

DCCF = Duty Cycle Correction Factor, DCF = Distance Correction Factor

- Information of Distance Factor

For finding emissions, the test distance might be reduced from 3m to 1m. In this case, the distance factor(-9.54dB) is applied to the result.

- Calculation of distance factor = $20 \log(\text{applied distance} / \text{required distance}) = 20 \log(1 \text{ m} / 3 \text{ m}) = -9.54 \text{ dB}$

When distance factor is "N/A", the distance is 3 m and distance factor is not applied.

- The limit is converted to field strength.

$$E[\text{dBuV/m}] = \text{EIRP}[\text{dBm}] + 95.2 \text{ dB} = -27 \text{ dBm} + 95.2 = 68.2 \text{ dBuV/m}$$

Radiated Spurious Emissions data(9 kHz ~ 40 GHz) : TM1 Normal

Band	Tested Channel	Freq. (MHz)	ANT Pol	EUT Position (Axis)	Detector Mode	Reading (dBuV)	T.F (dB/m)	DCCF (dB)	DCF (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
U-NII 1	36 (5180 MHz)	5148.69	V	Z	PK	51.49	1.99	N/A	N/A	53.48	74.00	20.52
		5148.95	V	Z	AV	41.33	1.99	N/A	N/A	43.32	54.00	10.68
		10359.78	H	Y	PK	43.42	10.82	N/A	N/A	54.24	68.20	13.96
	40 (5200 MHz)	10399.86	H	Y	PK	43.17	10.63	N/A	N/A	53.80	68.20	14.40
	48 (5240 MHz)	10480.45	H	Y	PK	43.30	10.62	N/A	N/A	53.92	68.20	14.28
U-NII 2A	52 (5260 MHz)	10519.82	H	Y	PK	43.91	10.72	N/A	N/A	54.63	68.20	13.57
	60 (5300 MHz)	10600.20	H	Y	PK	43.97	10.74	N/A	N/A	54.71	74.00	19.29
		10600.06	H	Y	AV	33.67	10.74	N/A	N/A	44.41	54.00	9.59
	64 (5320 MHz)	5350.47	V	Z	PK	53.52	3.03	N/A	N/A	56.55	74.00	17.45
		5350.75	V	Z	AV	41.94	3.03	N/A	N/A	44.97	54.00	9.03
		10640.12	H	Y	PK	42.73	10.82	N/A	N/A	53.55	74.00	20.45
		10640.06	H	Y	AV	32.40	10.82	N/A	N/A	43.22	54.00	10.78
U-NII 2C	100 (5500 MHz)	5459.06	V	Z	PK	51.26	3.15	N/A	N/A	54.41	74.00	19.59
		5459.01	V	Z	AV	41.39	3.15	N/A	N/A	44.54	54.00	9.46
		5468.25	V	Z	PK	50.93	3.17	N/A	N/A	54.10	68.20	14.10
		11000.41	H	Y	PK	43.84	10.95	N/A	N/A	54.79	74.00	19.21
		11000.12	H	Y	AV	33.31	10.95	N/A	N/A	44.26	54.00	9.74
	120 (5600 MHz)	11200.27	H	Y	PK	43.76	10.87	N/A	N/A	54.63	74.00	19.37
		11200.34	H	Y	AV	33.94	10.87	N/A	N/A	44.81	54.00	9.19
	144 (5720 MHz)	11439.76	H	Y	PK	43.91	11.14	N/A	N/A	55.05	74.00	18.95
		11439.64	H	Y	AV	33.69	11.14	N/A	N/A	44.83	54.00	9.17
U-NII 3	149 (5745 MHz)	5712.10	V	Z	PK	51.02	3.17	N/A	N/A	54.19	68.20	14.01
		5723.88	V	Z	PK	50.83	2.99	N/A	N/A	53.82	78.20	24.38
		11489.78	H	Y	PK	44.97	11.32	N/A	N/A	56.29	74.00	17.71
		11489.58	H	Y	AV	33.60	11.32	N/A	N/A	44.92	54.00	9.08
	157 (5785 MHz)	11569.88	H	Y	PK	44.41	11.63	N/A	N/A	56.04	74.00	17.96
		11569.88	H	Y	AV	34.07	11.63	N/A	N/A	45.70	54.00	8.30
	165 (5825 MHz)	5851.03	V	Z	PK	50.90	3.68	N/A	N/A	54.58	78.20	23.62
		5862.93	V	Z	PK	50.83	3.65	N/A	N/A	54.48	68.20	13.72
		11650.11	H	Y	PK	44.62	11.85	N/A	N/A	56.47	74.00	17.53
		11650.38	H	Y	AV	33.88	11.85	N/A	N/A	45.73	54.00	8.27

Radiated Spurious Emissions data(9 kHz ~ 40 GHz) : TM2 Normal

Band	Tested Channel	Freq. (MHz)	ANT Pol	EUT Position (Axis)	Detector Mode	Reading (dBuV)	T.F (dB/m)	DCCF (dB)	DCF (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
U-NII 1	36 (5180 MHz)	5148.74	V	Z	PK	49.79	1.99	N/A	N/A	51.78	74.00	22.22
		5148.79	V	Z	AV	39.49	1.99	N/A	N/A	41.48	54.00	12.52
		10359.94	H	Y	PK	43.64	10.82	N/A	N/A	54.46	68.20	13.74
	40 (5200 MHz)	10399.83	H	Y	PK	43.86	10.63	N/A	N/A	54.49	68.20	13.71
	48 (5240 MHz)	10480.44	H	Y	PK	43.64	10.62	N/A	N/A	54.26	68.20	13.94
U-NII 2A	52 (5260 MHz)	10519.61	H	Y	PK	43.70	10.72	N/A	N/A	54.42	68.20	13.78
		10600.06	H	Y	PK	43.80	10.74	N/A	N/A	54.54	74.00	19.46
		10600.40	H	Y	AV	33.35	10.74	N/A	N/A	44.09	54.00	9.91
	64 (5320 MHz)	5352.73	V	Z	PK	48.33	3.03	N/A	N/A	51.36	74.00	22.64
		5352.10	V	Z	AV	39.05	3.03	N/A	N/A	42.08	54.00	11.92
		10639.65	H	Y	PK	42.72	10.82	N/A	N/A	53.54	74.00	20.46
		10639.73	H	Y	AV	32.29	10.82	N/A	N/A	43.11	54.00	10.89
U-NII 2C	100 (5500 MHz)	5458.75	V	Z	PK	48.34	3.15	N/A	N/A	51.49	74.00	22.51
		5458.75	V	Z	AV	38.27	3.15	N/A	N/A	41.42	54.00	12.58
		5467.76	V	Z	PK	47.83	3.17	N/A	N/A	51.00	68.20	17.20
		10999.69	H	Y	PK	44.07	10.95	N/A	N/A	55.02	74.00	18.98
		10999.87	H	Y	AV	33.51	10.95	N/A	N/A	44.46	54.00	9.54
	120 (5600 MHz)	11200.13	H	Y	PK	44.86	10.87	N/A	N/A	55.73	74.00	18.27
		11200.05	H	Y	AV	33.92	10.87	N/A	N/A	44.79	54.00	9.21
	144 (5720 MHz)	11439.67	H	Y	PK	43.80	11.14	N/A	N/A	54.94	74.00	19.06
		11439.85	H	Y	AV	33.41	11.14	N/A	N/A	44.55	54.00	9.45
U-NII 3	149 (5745 MHz)	5714.66	V	Z	PK	49.01	3.17	N/A	N/A	52.18	68.20	16.02
		5723.37	V	Z	PK	48.10	3.00	N/A	N/A	51.10	78.20	27.10
		11489.72	H	Y	PK	44.23	11.32	N/A	N/A	55.55	74.00	18.45
		11489.82	H	Y	AV	33.55	11.32	N/A	N/A	44.87	54.00	9.13
	157 (5785 MHz)	11570.09	H	Y	PK	44.94	11.63	N/A	N/A	56.57	74.00	17.43
		11570.17	H	Y	AV	34.03	11.63	N/A	N/A	45.66	54.00	8.34
	165 (5825 MHz)	5851.26	V	Z	PK	48.15	3.68	N/A	N/A	51.83	78.20	26.37
		5861.32	V	Z	PK	48.84	3.69	N/A	N/A	52.53	68.20	15.67
		11649.86	H	Y	PK	44.92	11.85	N/A	N/A	56.77	74.00	17.23
		11649.56	H	Y	AV	33.84	11.85	N/A	N/A	45.69	54.00	8.31

Radiated Spurious Emissions data(9 kHz ~ 40 GHz) : TM3 Normal

Band	Tested Channel	Freq. (MHz)	ANT Pol	EUT Position (Axis)	Detector Mode	Reading (dBuV)	T.F (dB/m)	DCCF (dB)	DCF (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
U-NII 1	38 (5190 MHz)	5147.19	V	Z	PK	52.48	1.98	N/A	N/A	54.46	74.00	19.54
		5147.56	V	Z	AV	42.06	1.99	0.22	N/A	44.27	54.00	9.73
		10379.98	H	Y	PK	43.74	10.72	N/A	N/A	54.46	68.20	13.74
	46 (5230 MHz)	10459.78	H	Y	PK	43.79	10.59	N/A	N/A	54.38	68.20	13.82
U-NII 2A	54 (5270 MHz)	10539.98	H	Y	PK	43.80	10.80	N/A	N/A	54.60	68.20	13.60
	62 (5310 MHz)	5352.82	V	Z	PK	52.13	3.03	N/A	N/A	55.16	74.00	18.84
		5353.03	V	Z	AV	41.72	3.03	0.22	N/A	44.97	54.00	9.03
		10620.12	H	Y	PK	43.49	10.78	N/A	N/A	54.27	74.00	19.73
		10620.14	H	Y	AV	33.14	10.78	0.22	N/A	44.14	54.00	9.86
U-NII 2C	102 (5510 MHz)	5459.66	V	Z	PK	51.09	3.15	N/A	N/A	54.24	74.00	19.76
		5459.50	V	Z	AV	40.78	3.15	0.22	N/A	44.15	54.00	9.85
		5467.29	V	Z	PK	51.49	3.16	N/A	N/A	54.65	68.20	13.55
		11019.89	H	Y	PK	44.93	10.90	N/A	N/A	55.83	74.00	18.17
		11019.83	H	Y	AV	34.08	10.90	0.22	N/A	45.20	54.00	8.80
	118 (5590 MHz)	11179.77	H	Y	PK	44.95	10.92	N/A	N/A	55.87	74.00	18.13
		11179.70	H	Y	AV	33.85	10.92	0.22	N/A	44.99	54.00	9.01
	142 (5710 MHz)	11419.77	H	Y	PK	44.65	11.07	N/A	N/A	55.72	74.00	18.28
		11419.98	H	Y	AV	33.79	11.07	0.22	N/A	45.08	54.00	8.92
U-NII 3	151 (5755 MHz)	5714.66	V	Z	PK	52.30	3.17	N/A	N/A	55.47	68.20	12.73
		5723.58	V	Z	PK	53.35	3.00	N/A	N/A	56.35	78.20	21.85
		11510.44	H	Y	PK	45.22	11.39	N/A	N/A	56.61	74.00	17.39
		11510.02	H	Y	AV	33.80	11.39	0.22	N/A	45.41	54.00	8.59
	159 (5795 MHz)	5851.51	V	Z	PK	50.60	3.68	N/A	N/A	54.28	78.20	23.92
		5860.95	V	Z	PK	51.50	3.70	N/A	N/A	55.20	68.20	13.00
		11589.62	H	Y	PK	44.61	11.73	N/A	N/A	56.34	74.00	17.66
		11589.64	H	Y	AV	34.07	11.74	0.22	N/A	46.03	54.00	7.97

Radiated Spurious Emissions data(9 kHz ~ 40 GHz) : TM4 Normal

Band	Tested Channel	Freq. (MHz)	ANT Pol	EUT Position (Axis)	Detector Mode	Reading (dBuV)	T.F (dB/m)	DCCF (dB)	DCF (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
U-NII 1	42 (5210 MHz)	5149.18	H	Z	PK	54.57	1.99	N/A	N/A	56.56	74.00	17.44
		5149.51	H	Z	AV	44.41	1.99	0.25	N/A	46.65	54.00	7.35
		10419.96	H	Y	PK	43.60	10.61	N/A	N/A	54.21	68.20	13.99
U-NII 2A	58 (5290 MHz)	5352.40	H	Z	PK	51.08	3.03	N/A	N/A	54.11	74.00	19.89
		5352.03	H	Z	AV	40.75	3.03	0.25	N/A	44.03	54.00	9.97
		10579.72	H	Y	PK	44.08	10.78	N/A	N/A	54.86	68.20	13.34
U-NII 2C	106 (5530 MHz)	5459.34	H	Z	PK	51.42	3.15	N/A	N/A	54.57	74.00	19.43
		5459.57	H	Z	AV	42.19	3.15	0.25	N/A	45.59	54.00	8.41
		5466.20	H	Z	PK	52.81	3.16	N/A	N/A	55.97	68.20	12.23
		11060.25	H	Y	PK	44.27	10.85	N/A	N/A	55.12	74.00	18.88
		11060.18	H	Y	AV	33.97	10.85	0.25	N/A	45.07	54.00	8.93
	122 (5610 MHz)	11220.43	H	Y	PK	43.92	10.91	N/A	N/A	54.83	74.00	19.17
		11220.13	H	Y	AV	33.62	10.91	0.25	N/A	44.78	54.00	9.22
	138 (5690 MHz)	11380.02	H	Y	PK	44.53	11.01	N/A	N/A	55.54	74.00	18.46
		11380.30	H	Y	AV	33.58	11.01	0.25	N/A	44.84	54.00	9.16
U-NII 3	155 (5775 MHz)	5714.29	H	Z	PK	51.40	3.17	N/A	N/A	54.57	68.20	13.63
		5721.64	H	Z	PK	52.82	3.04	N/A	N/A	55.86	78.20	22.34
		5852.93	H	Z	PK	50.68	3.69	N/A	N/A	54.37	78.20	23.83
		5861.97	H	Z	PK	48.92	3.67	N/A	N/A	52.59	68.20	15.61
		11549.53	H	Y	PK	44.28	11.52	N/A	N/A	55.80	74.00	18.20
		11549.76	H	Y	AV	33.60	11.52	0.25	N/A	45.37	54.00	8.63

Radiated Spurious Emissions data(9 kHz ~ 40 GHz) : TM 4 & With Wireless charging pad

Band	Tested Channel	Freq. (MHz)	ANT Pol	EUT Position (Axis)	Detector Mode	Reading (dBuV)	T.F (dB/m)	DCCF (dB)	DCF (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
U-NII 1	42 (5210 MHz)	5149.44	V	X	PK	52.68	1.99	N/A	N/A	54.67	74.00	19.33
		5149.46	V	X	AV	43.21	1.99	0.25	N/A	45.45	54.00	8.55
		10419.75	H	X	PK	43.42	10.61	N/A	N/A	54.03	68.20	14.17

Radiated Spurious Emissions data(9 kHz ~ 40 GHz) : TM 3 & With Wireless charging pad

Band	Tested Channel	Freq. (MHz)	ANT Pol	EUT Position (Axis)	Detector Mode	Reading (dBuV)	T.F (dB/m)	DCCF (dB)	DCF (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
U-NII 2A	62 (5310 MHz)	5351.03	V	X	PK	48.59	3.03	N/A	N/A	51.62	74.00	22.38
		5351.17	V	X	AV	39.02	3.03	0.22	N/A	42.27	54.00	11.73
		10620.10	H	X	PK	43.22	10.78	N/A	N/A	54.00	74.00	20.00
		10620.01	H	X	AV	32.98	10.78	0.22	N/A	43.98	54.00	10.02

Radiated Spurious Emissions data(9 kHz ~ 40 GHz) : TM 4 & With Wireless charging pad

Band	Tested Channel	Freq. (MHz)	ANT Pol	EUT Position (Axis)	Detector Mode	Reading (dBuV)	T.F (dB/m)	DCCF (dB)	DCF (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
U-NII 2C	106 (5530 MHz)	5459.06	V	X	PK	51.60	3.15	N/A	N/A	54.75	74.00	19.25
		5459.38	V	X	AV	42.28	3.15	0.25	N/A	45.68	54.00	8.32
		5466.48	V	X	PK	52.94	3.16	N/A	N/A	56.10	68.20	12.10
		11060.37	H	X	PK	44.68	10.85	N/A	N/A	55.53	74.00	18.47
		11060.13	H	X	AV	33.87	10.85	0.25	N/A	44.97	54.00	9.03

Radiated Spurious Emissions data(9 kHz ~ 40 GHz) : TM 3 & With Wireless charging pad

Band	Tested Channel	Freq. (MHz)	ANT Pol	EUT Position (Axis)	Detector Mode	Reading (dBuV)	T.F (dB/m)	DCCF (dB)	DCF (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
U-NII 3	159 (5795 MHz)	5853.16	V	X	PK	48.89	3.69	N/A	N/A	52.58	78.20	25.62
		5860.87	V	X	PK	48.53	3.71	N/A	N/A	52.24	68.20	15.96
		11590.05	V	X	PK	43.99	11.74	N/A	N/A	55.73	74.00	18.27
		11590.03	V	X	AV	33.97	11.74	0.22	N/A	45.93	54.00	8.07

Radiated Spurious Emissions data(9 kHz ~ 40 GHz) : TM 4 & With Dual display

Band	Tested Channel	Freq. (MHz)	ANT Pol	EUT Position (Axis)	Detector Mode	Reading (dBuV)	T.F (dB/m)	DCCF (dB)	DCF (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
U-NII 1	42 (5210 MHz)	5147.32	H	Z	PK	57.13	1.98	N/A	N/A	59.11	74.00	14.89
		5147.32	H	Z	AV	46.58	1.98	0.25	N/A	48.81	54.00	5.19
		10419.72	H	Z	PK	44.57	10.61	N/A	N/A	55.18	68.20	13.02
		15629.69	H	Z	PK	44.04	13.05	N/A	N/A	57.09	74.00	16.91
		15629.80	H	Z	AV	33.82	13.05	0.25	N/A	47.12	54.00	6.88

Radiated Spurious Emissions data(9 kHz ~ 40 GHz) : TM 3 & With Dual display

Band	Tested Channel	Freq. (MHz)	ANT Pol	EUT Position (Axis)	Detector Mode	Reading (dBuV)	T.F (dB/m)	DCCF (dB)	DCF (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
U-NII 2A	62 (5310 MHz)	5350.84	V	Z	PK	49.39	3.03	N/A	N/A	52.42	74.00	21.58
		5351.24	V	Z	AV	39.45	3.03	0.22	N/A	42.70	54.00	11.30
		10620.35	V	Z	PK	43.72	10.78	N/A	N/A	54.50	74.00	19.50
		10620.45	V	Z	AV	32.99	10.78	0.22	N/A	43.99	54.00	10.01
		15930.10	V	Z	PK	43.52	14.37	N/A	N/A	57.89	74.00	16.11
		15930.33	V	Z	AV	33.04	14.37	0.22	N/A	47.63	54.00	6.37

Radiated Spurious Emissions data(9 kHz ~ 40 GHz) : TM 4 & With Dual display

Band	Tested Channel	Freq. (MHz)	ANT Pol	EUT Position (Axis)	Detector Mode	Reading (dBuV)	T.F (dB/m)	DCCF (dB)	DCF (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
U-NII 2C	106 (5530 MHz)	5458.66	H	Z	PK	52.40	3.15	N/A	N/A	55.55	74.00	18.45
		5458.92	H	Z	AV	41.96	3.15	0.25	N/A	45.36	54.00	8.64
		5469.53	H	Z	PK	52.73	3.17	N/A	N/A	55.90	68.20	12.30
		11060.32	H	Z	PK	44.54	10.85	N/A	N/A	55.39	74.00	18.61
		11060.48	H	Z	AV	33.97	10.85	0.25	N/A	45.07	54.00	8.93
		16590.10	H	Z	PK	43.62	17.31	N/A	N/A	60.93	68.20	7.27

Radiated Spurious Emissions data(9 kHz ~ 40 GHz) : TM 3 & With Dual display

Band	Tested Channel	Freq. (MHz)	ANT Pol	EUT Position (Axis)	Detector Mode	Reading (dBuV)	T.F (dB/m)	DCCF (dB)	DCF (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
U-NII 3	159 (5795 MHz)	5852.60	H	Y	PK	48.65	3.69	N/A	N/A	52.34	78.20	25.86
		5861.85	H	Y	PK	48.73	3.68	N/A	N/A	52.41	68.20	15.79
		11589.77	H	Y	PK	44.72	11.74	N/A	N/A	56.46	74.00	17.54
		11589.72	H	Y	AV	34.00	11.74	0.22	N/A	45.96	54.00	8.04
		17384.77	H	Y	PK	40.67	22.68	N/A	N/A	63.35	68.20	4.85

Radiated Spurious Emissions data(9 kHz ~ 40 GHz) : TM 4 & With Dual Display + WCP

Band	Tested Channel	Freq. (MHz)	ANT Pol	EUT Position (Axis)	Detector Mode	Reading (dBuV)	T.F (dB/m)	DCCF (dB)	DCF (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
U-NII 1	42 (5210 MHz)	5149.28	V	X	PK	52.26	1.99	N/A	N/A	54.25	74.00	19.75
		5149.51	V	X	AV	42.40	1.99	0.25	N/A	44.64	54.00	9.36
		10419.99	V	X	PK	43.99	10.61	N/A	N/A	54.60	68.20	13.60
		15629.96	V	X	PK	44.98	13.05	N/A	N/A	58.03	74.00	15.97
		15629.66	V	X	AV	34.04	13.05	0.25	N/A	47.34	54.00	6.66

Radiated Spurious Emissions data(9 kHz ~ 40 GHz) : TM 3 & With Dual Display + WCP

Band	Tested Channel	Freq. (MHz)	ANT Pol	EUT Position (Axis)	Detector Mode	Reading (dBuV)	T.F (dB/m)	DCCF (dB)	DCF (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
U-NII 2A	62 (5310 MHz)	5351.19	V	X	PK	51.44	3.03	N/A	N/A	54.47	74.00	19.53
		5350.84	V	X	AV	41.58	3.03	0.22	N/A	44.83	54.00	9.17
		10620.16	V	X	PK	43.14	10.78	N/A	N/A	53.92	74.00	20.08
		10620.09	V	X	AV	32.89	10.78	0.22	N/A	43.89	54.00	10.11
		15930.33	V	X	PK	44.24	14.37	N/A	N/A	58.61	74.00	15.39
		15930.11	V	X	AV	33.28	14.37	0.22	N/A	47.87	54.00	6.13

Radiated Spurious Emissions data(9 kHz ~ 40 GHz) : TM 4 & With Dual Display + WCP

Band	Tested Channel	Freq. (MHz)	ANT Pol	EUT Position (Axis)	Detector Mode	Reading (dBuV)	T.F (dB/m)	DCCF (dB)	DCF (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
U-NII 2C	106 (5530 MHz)	5459.31	V	X	PK	49.45	3.15	N/A	N/A	52.60	74.00	21.40
		5458.92	V	X	AV	40.17	3.15	0.25	N/A	43.57	54.00	10.43
		5467.67	V	X	PK	49.67	3.17	N/A	N/A	52.84	68.20	15.36
		11059.84	V	X	PK	44.63	10.85	N/A	N/A	55.48	74.00	18.52
		11059.71	V	X	AV	34.13	10.85	0.25	N/A	45.23	54.00	8.77
		16590.04	V	X	PK	43.65	17.31	N/A	N/A	60.96	68.20	7.24

Radiated Spurious Emissions data(9 kHz ~ 40 GHz) : TM 3 & With Dual Display + WCP

Band	Tested Channel	Freq. (MHz)	ANT Pol	EUT Position (Axis)	Detector Mode	Reading (dBuV)	T.F (dB/m)	DCCF (dB)	DCF (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
U-NII 3	159 (5795 MHz)	5851.35	V	X	PK	48.07	3.68	N/A	N/A	51.75	78.20	26.45
		5860.97	V	X	PK	48.33	3.70	N/A	N/A	52.03	68.20	16.17
		11589.78	V	X	PK	43.95	11.74	N/A	N/A	55.69	74.00	18.31
		11589.64	V	X	AV	33.90	11.74	0.22	N/A	45.86	54.00	8.14
		17384.73	V	X	PK	40.64	22.68	N/A	N/A	63.32	68.20	4.88

- WiFi DBS(Dual-Band Simultaneous) Test Results

Radiated Spurious Emissions data(9 kHz ~ 40 GHz) :

Simultaneously transmission - Normal

	Antenna	Band	Mode	TX Frequency(MHz)
Transmitting Configuration	1	2.4GHz	802.11n(HT20)	2462 MHz
	2	U-NII 1	802.11ac(VHT80)	5210 MHz

Freq. (MHz)	ANT Pol	EUT Position (Axis)	Detector Mode	Reading (dBUV)	T.F (dB/m)	DCCF (dB)	DCF (dB)	Result (dBUV/m)	Limit (dBUV/m)	Margin (dB)
2483.60	H	X	PK	54.09	5.09	N/A	N/A	59.18	74.00	14.82
2483.65	H	X	AV	42.64	5.09	0.56	N/A	48.29	54.00	5.71
4923.65	V	X	PK	49.92	1.35	N/A	N/A	51.27	74.00	22.73
4923.56	V	X	AV	39.52	1.35	0.56	N/A	41.43	54.00	12.57
5149.37	H	Z	PK	50.54	1.99	N/A	N/A	52.53	74.00	21.47
5149.18	H	Z	AV	40.87	1.99	0.25	N/A	43.11	54.00	10.89
10419.91	H	Y	PK	44.21	10.61	N/A	N/A	54.82	68.20	13.38

Radiated Spurious Emissions data(9 kHz ~ 40 GHz) :

Simultaneously transmission - With Wireless charging pad

	Antenna	Band	Mode	TX Frequency(MHz)
Transmitting Configuration	1	2.4GHz	802.11n(HT20)	2462 MHz
	2	U-NII 1	802.11ac(VHT80)	5210 MHz

Freq. (MHz)	ANT Pol	EUT Position (Axis)	Detector Mode	Reading (dBUV)	T.F (dB/m)	DCCF (dB)	DCF (dB)	Result (dBUV/m)	Limit (dBUV/m)	Margin (dB)
2483.67	V	X	PK	52.29	5.09	N/A	N/A	57.38	74.00	16.62
2483.67	V	X	AV	41.39	5.09	0.56	N/A	47.04	54.00	6.96
4923.60	H	X	PK	50.14	1.35	N/A	N/A	51.49	74.00	22.51
4923.58	H	X	AV	39.57	1.35	0.56	N/A	41.48	54.00	12.52
5148.95	V	X	PK	49.36	1.99	N/A	N/A	51.35	74.00	22.65
5148.72	V	X	AV	40.27	1.99	0.25	N/A	42.51	54.00	11.49
10420.36	H	X	PK	43.88	10.61	N/A	N/A	54.49	68.20	13.71

Radiated Spurious Emissions data(9 kHz ~ 40 GHz) :
Simultaneously transmission - With Dual Display

	Antenna	Band	Mode	TX Frequency(MHz)
Transmitting Configuration	1	2.4GHz	802.11n(HT20)	2462 MHz
	2	U-NII 1	802.11ac(VHT80)	5210 MHz

Freq. (MHz)	ANT Pol	EUT Position (Axis)	Detector Mode	Reading (dBuV)	T.F (dB/m)	DCCF (dB)	DCF (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
2483.59	H	X	PK	57.06	5.09	N/A	N/A	62.15	74.00	11.85
2483.65	H	X	AV	45.28	5.09	0.56	N/A	50.93	54.00	3.07
4923.89	V	X	PK	49.82	1.35	N/A	N/A	51.17	74.00	22.83
4923.96	V	X	AV	39.69	1.35	0.56	N/A	41.60	54.00	12.40
5148.44	H	Z	PK	50.38	1.99	N/A	N/A	52.37	74.00	21.63
5148.09	H	Z	AV	41.82	1.99	0.25	N/A	44.06	54.00	9.94
10419.67	H	Y	PK	44.31	10.61	N/A	N/A	54.92	68.20	13.28

Radiated Spurious Emissions data(9 kHz ~ 40 GHz) :
Simultaneously transmission - With Dual Display + Wireless charging pad

	Antenna	Band	Mode	TX Frequency(MHz)
Transmitting Configuration	1	2.4GHz	802.11n(HT20)	2462 MHz
	2	U-NII 1	802.11ac(VHT80)	5210 MHz

Freq. (MHz)	ANT Pol	EUT Position (Axis)	Detector Mode	Reading (dBuV)	T.F (dB/m)	DCCF (dB)	DCF (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
2484.33	V	X	PK	52.83	5.09	N/A	N/A	57.92	74.00	16.08
2484.09	V	X	AV	41.58	5.09	0.56	N/A	47.23	54.00	6.77
4924.06	H	X	PK	49.58	1.35	N/A	N/A	50.93	74.00	23.07
4924.29	H	X	AV	39.71	1.35	0.56	N/A	41.62	54.00	12.38
5147.95	V	X	PK	50.54	1.99	N/A	N/A	52.53	74.00	21.47
5148.18	V	X	AV	40.88	1.99	0.25	N/A	43.12	54.00	10.88
10420.19	H	X	PK	44.13	10.61	N/A	N/A	54.74	68.20	13.46

8.6 AC Conducted Emissions

■ Test Requirements and limit, §15.207

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)	Conducted Limit (dBuV)	
	Quasi-Peak	Average
0.15 ~ 0.5	66 to 56 *	56 to 46 *
0.5 ~ 5	56	46
5 ~ 30	60	50

* 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 for the actual connections between EUT and support equipment.

■ Test Procedure

Conducted emissions from the EUT were measured according to the ANSI C63.10-2013.

1. The test procedure is performed in a 6.5 m $\times$ 3.5 m $\times$ 3.5 m (L $\times$ W $\times$ H) shielded room. The EUT along with its peripherals were placed on a 1.0 m (W) $\times$ 1.5 m (L) and 0.8 m in height wooden table and the EUT was adjusted to maintain a 0.4 meter space from a vertical reference plane.
2. The EUT was connected to power mains through a line impedance stabilization network (LISN) which provides 50 ohm coupling impedance for measuring instrument and the chassis ground was bounded to the horizontal ground plane of shielded room.
3. All peripherals were connected to the second LISN and the chassis ground also bounded to the horizontal ground plane of shielded room.
4. The excess power cable between the EUT and the LISN was bundled. The power cables of peripherals were unbundled. All connecting cables of EUT and peripherals were moved to find the maximum emission.

■ Test Results: **Comply**

Note 1: See next pages for actual measured spectrum plots and data for worst case result.

AC Line Conducted Emissions (Graph)

Test Mode: U-NII 1 & TM 1 & MIMO(CDD) & 5240 MHz

Results of Conducted Emission

DTNC

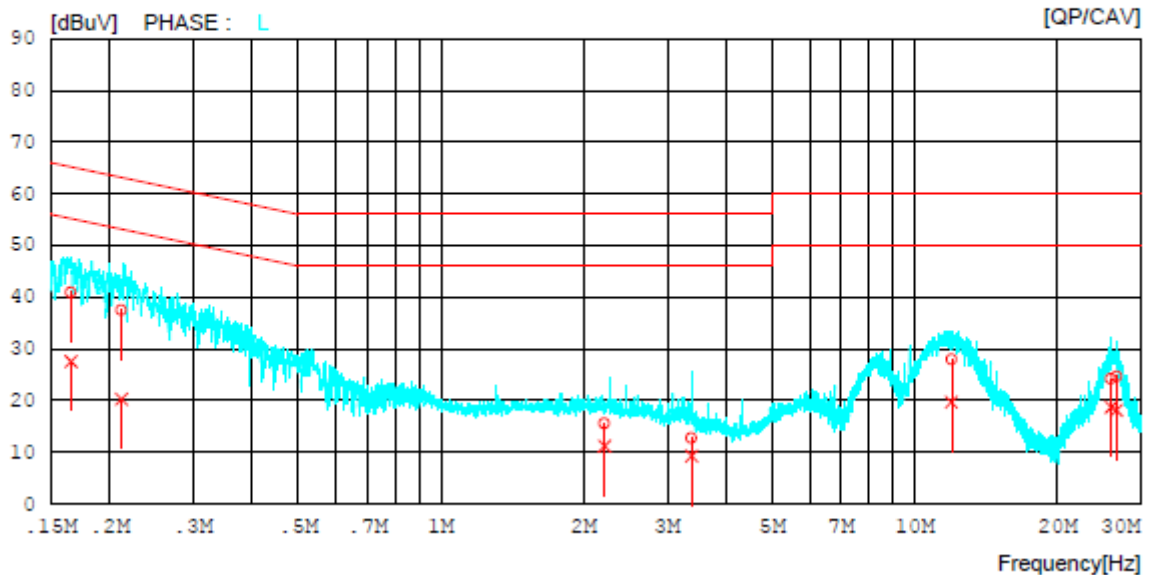
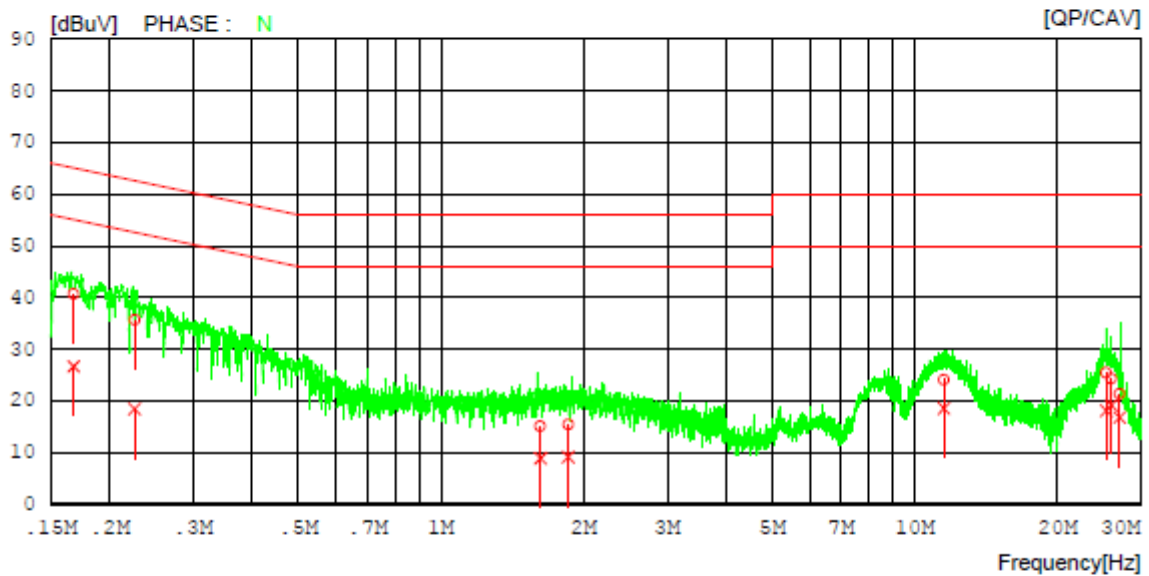
Date 2020-04-10

Order No.
Model No. LM-G900EM
Serial No.
Test Condition 5.1G WLAN

Reference No.
Power Supply 120 V, 60 Hz
Temp/Humi. 23 °C / 35 %
Operator J.H.Bang

Memo

LIMIT : FCC P15.207 QP
FCC P15.207 AV



AC Line Conducted Emissions (Data List)

Test Mode: U-NII 1 & TM 1 & MIMO(CDD) & 5240 MHz

Results of Conducted Emission

DTNC

Date 2020-04-10

Order No.		Reference No.	
Model No.	LM-G900EM	Power Supply	120 V, 60 Hz
Serial No.		Temp/Humi.	23 °C / 35 %
Test Condition	5.1G WLAN	Operator	J.H.Bang

Memo

LIMIT : FCC P15.207 QP
FCC P15.207 AV

NO	FREQ [MHz]	READING		C.FACTOR [dB]	RESULT		LIMIT		MARGIN		PHASE
		QP [dBuV]	CAV [dBuV]		QP [dBuV]	CAV [dBuV]	QP [dBuV]	CAV [dBuV]	QP [dBuV]	CAV [dBuV]	
1	0.16763	30.67	16.69	10.02	40.69	26.71	65.08	55.08	24.39	28.37	N
2	0.22550	25.68	8.47	10.02	35.70	18.49	62.61	52.61	26.91	34.12	N
3	1.61987	4.97	-1.17	10.09	15.06	8.92	56.00	46.00	40.94	37.08	N
4	1.85498	5.35	-0.97	10.10	15.45	9.13	56.00	46.00	40.55	36.87	N
5	11.52618	13.74	8.20	10.38	24.12	18.58	60.00	50.00	35.88	31.42	N
6	25.36587	14.93	7.55	10.58	25.51	18.13	60.00	50.00	34.49	31.87	N
7	26.00557	13.68	8.62	10.60	24.28	19.22	60.00	50.00	35.72	30.78	N
8	27.06680	10.77	6.21	10.62	21.39	16.83	60.00	50.00	38.61	33.17	N
9	0.16550	30.88	17.52	10.01	40.89	27.53	65.18	55.18	24.29	27.65	L
10	0.21150	27.51	10.25	10.02	37.53	20.27	63.15	53.15	25.62	32.88	L
11	2.21093	5.38	1.01	10.12	15.50	11.13	56.00	46.00	40.50	34.87	L
12	3.37574	2.51	-0.94	10.16	12.67	9.22	56.00	46.00	43.33	36.78	L
13	11.95169	17.57	9.29	10.38	27.95	19.67	60.00	50.00	32.05	30.33	L
14	25.95545	13.66	8.09	10.55	24.21	18.64	60.00	50.00	35.79	31.36	L
15	26.65082	14.02	7.49	10.56	24.58	18.05	60.00	50.00	35.42	31.95	L