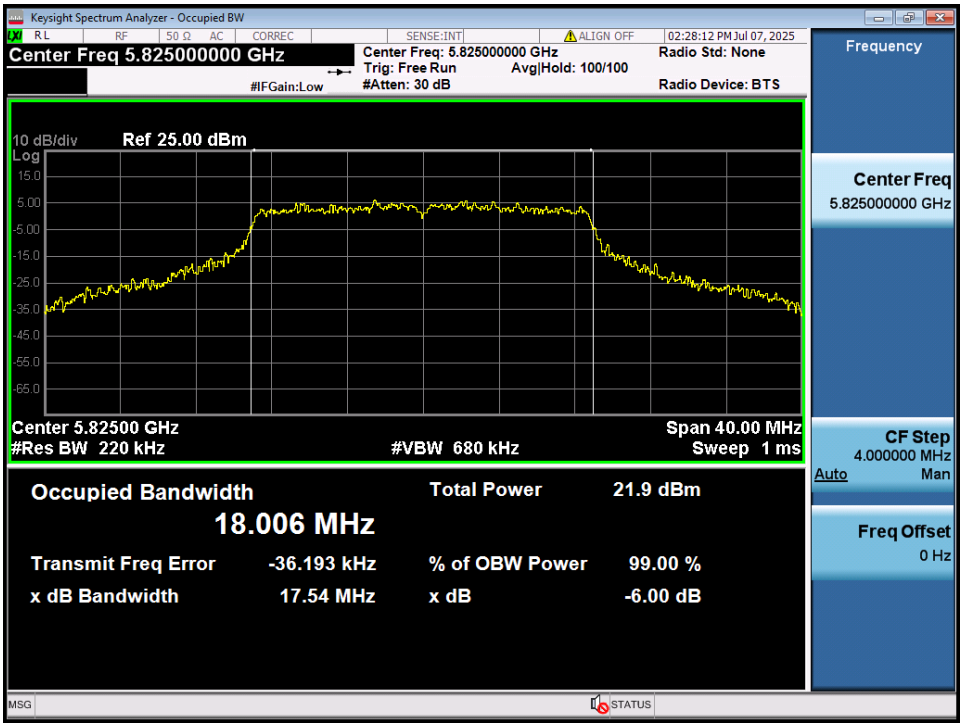
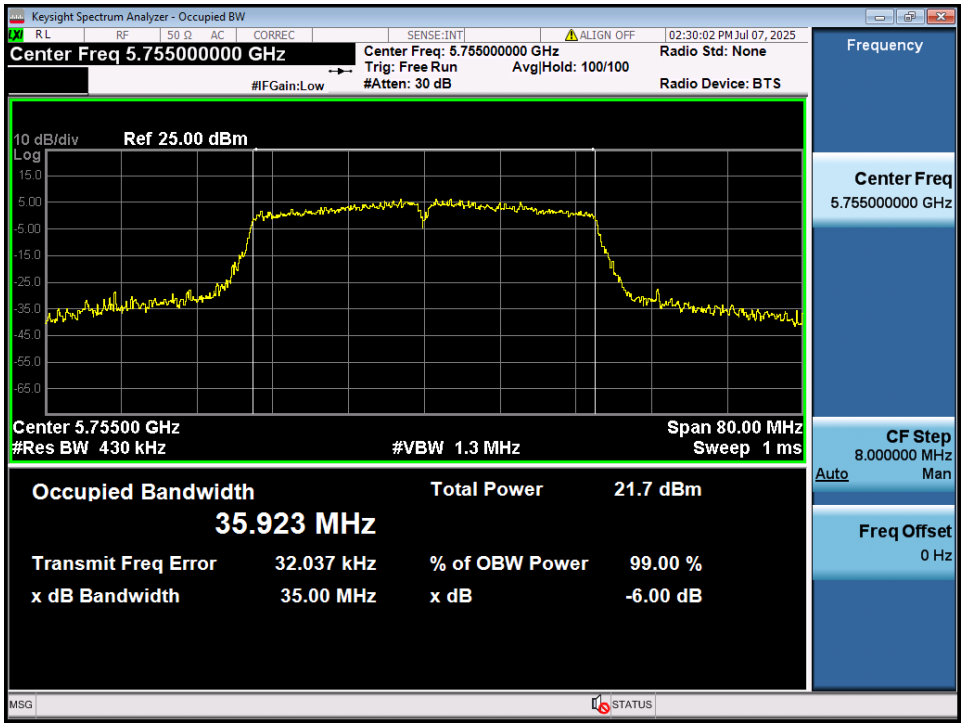
Occupied Bandwidth

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



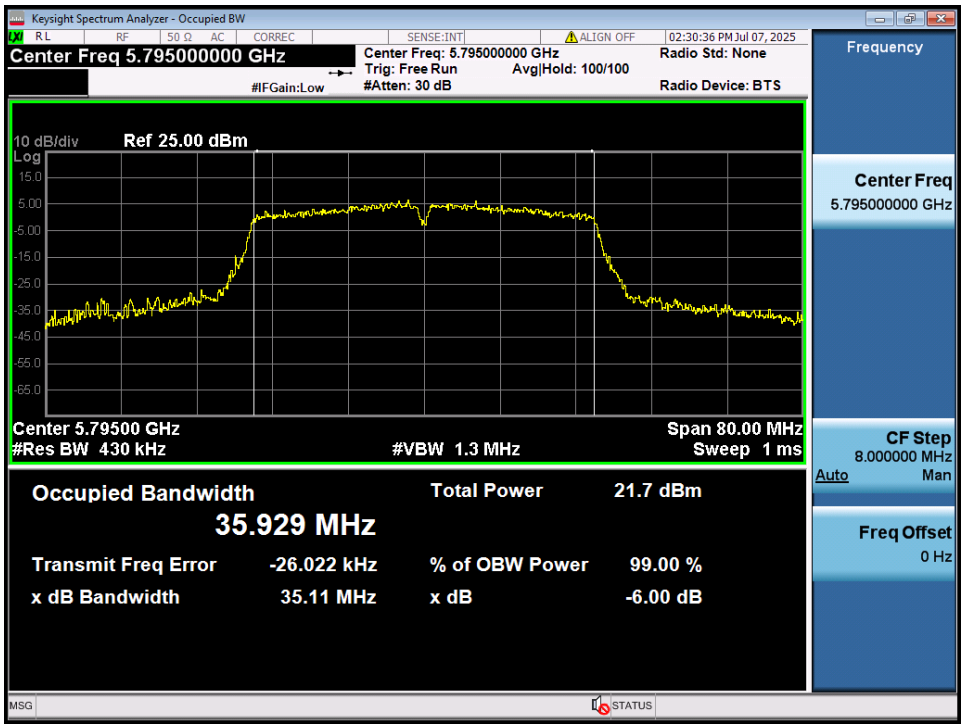
Occupied Bandwidth

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



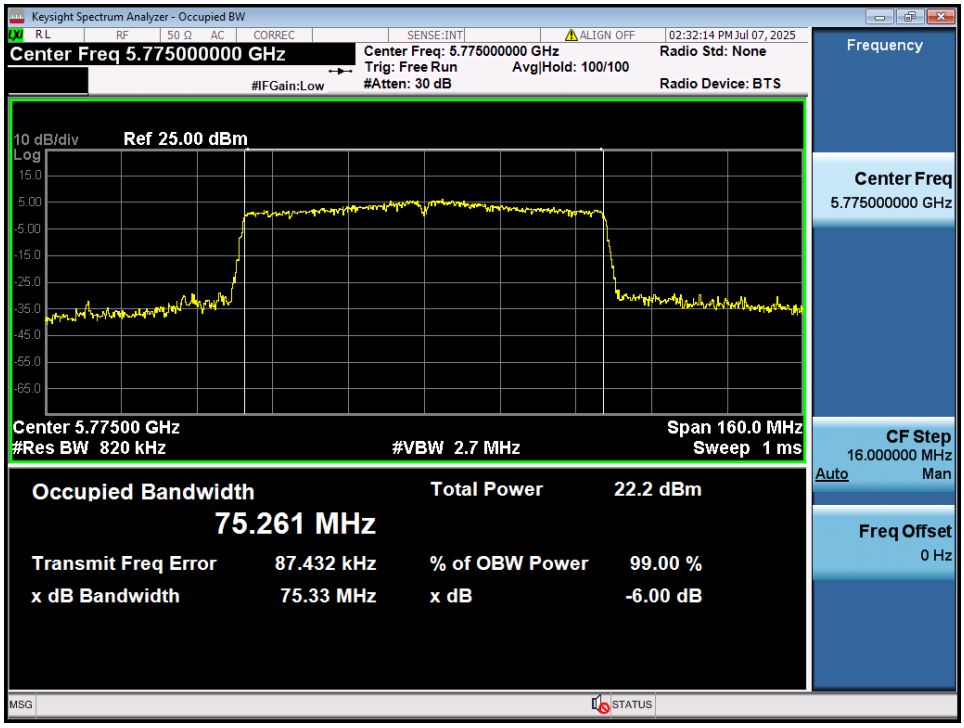
Occupied Bandwidth

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



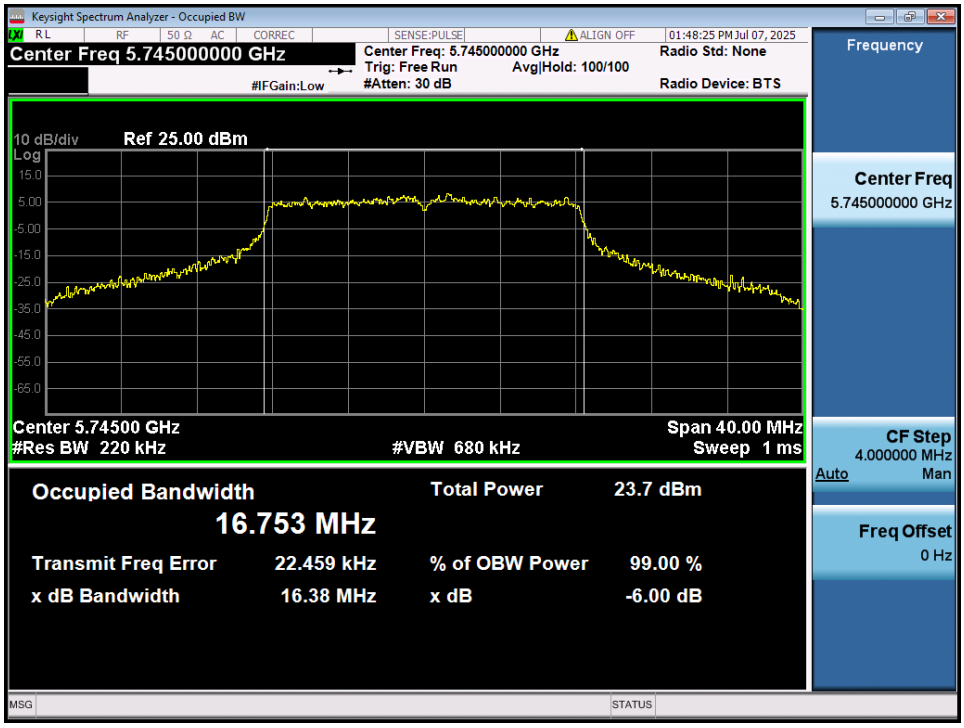
Occupied Bandwidth

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



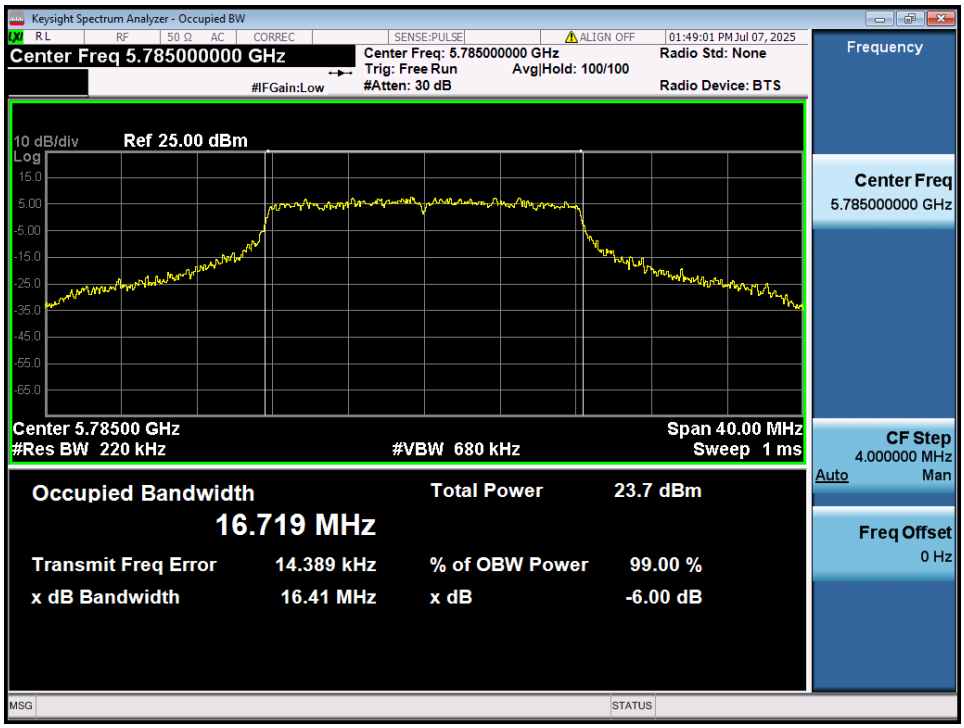
Occupied Bandwidth

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



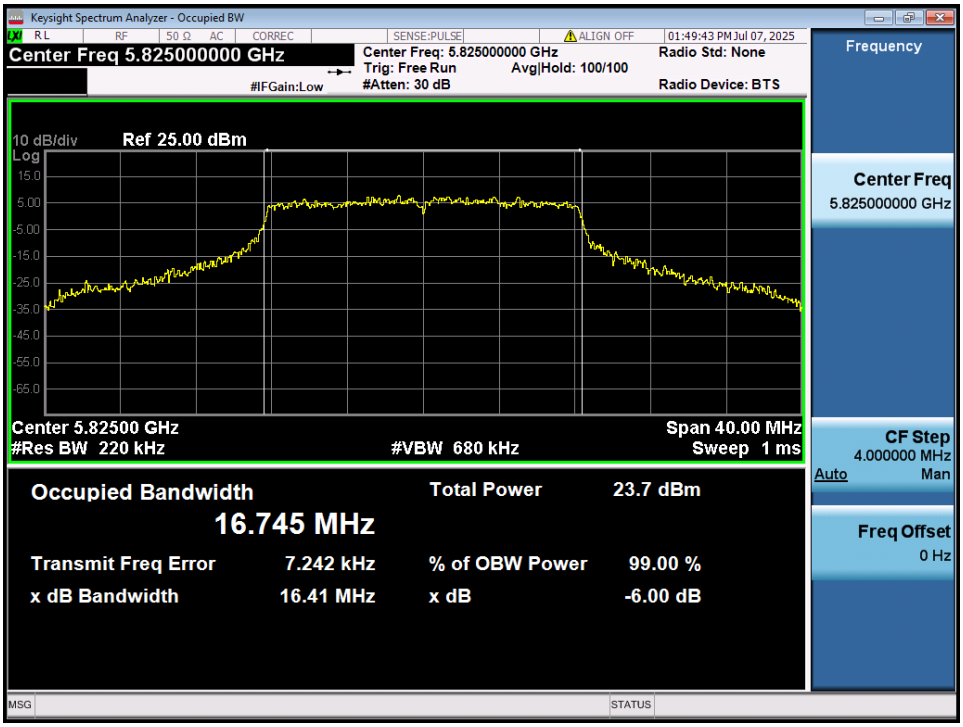
Occupied Bandwidth

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



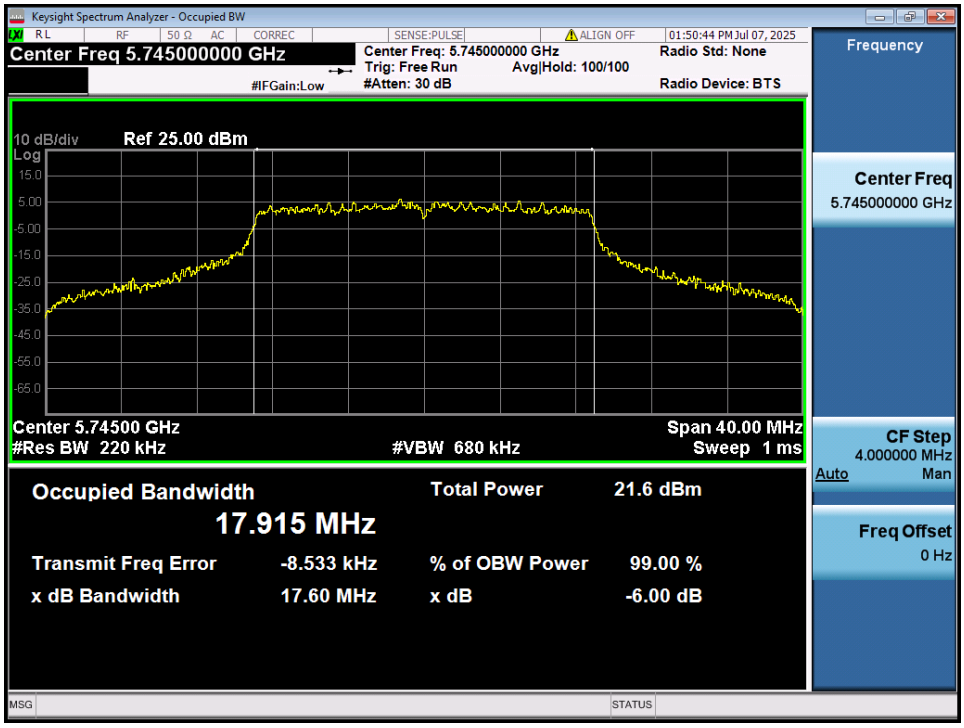
Occupied Bandwidth

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



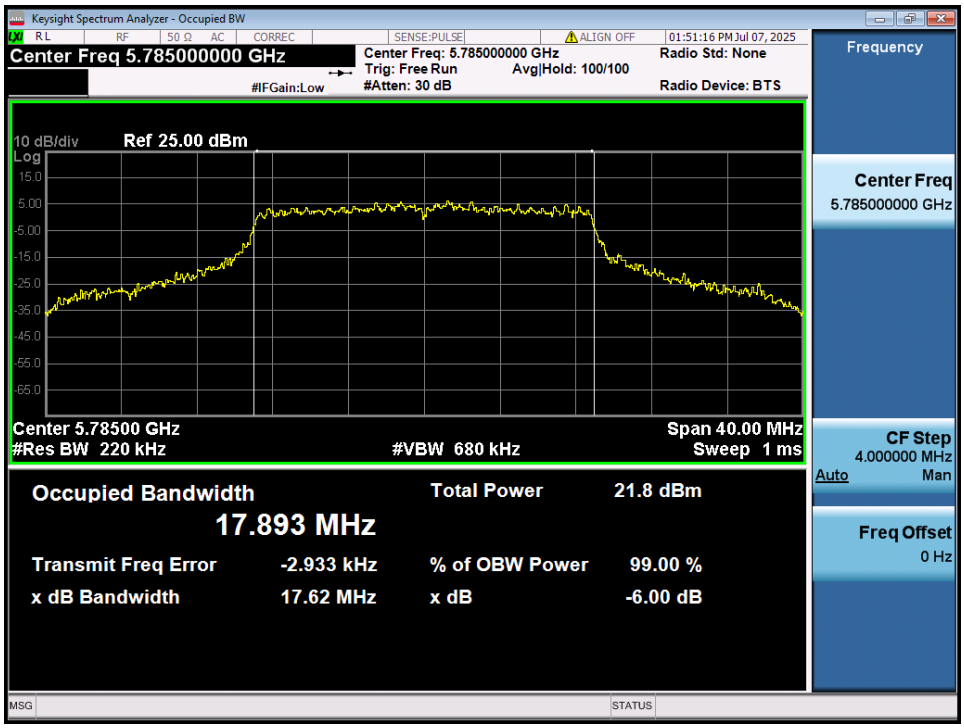
Occupied Bandwidth

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



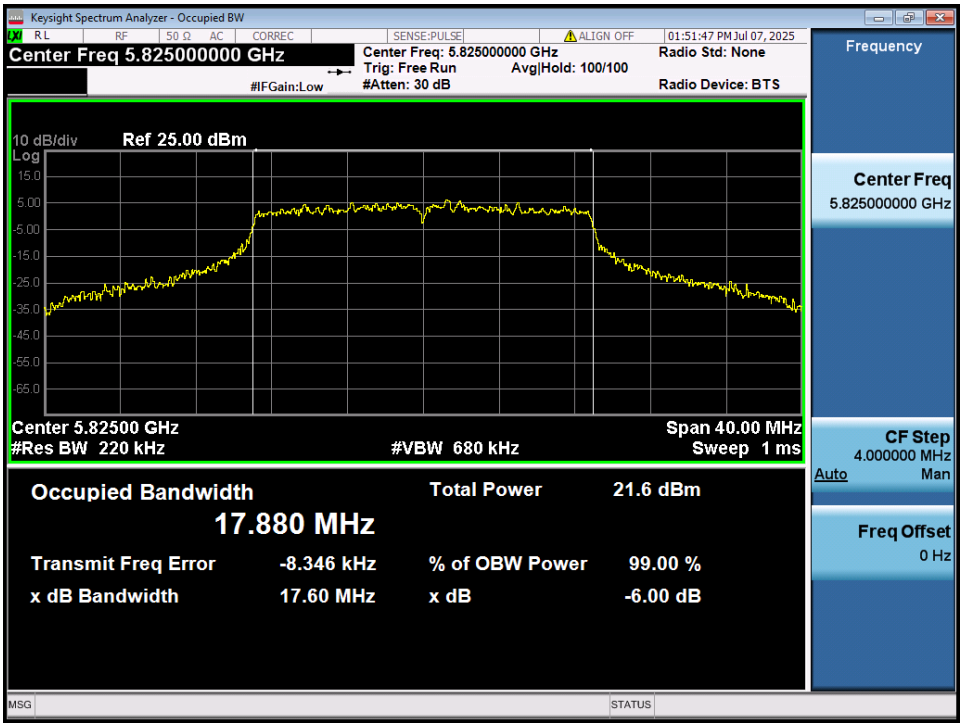
Occupied Bandwidth

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



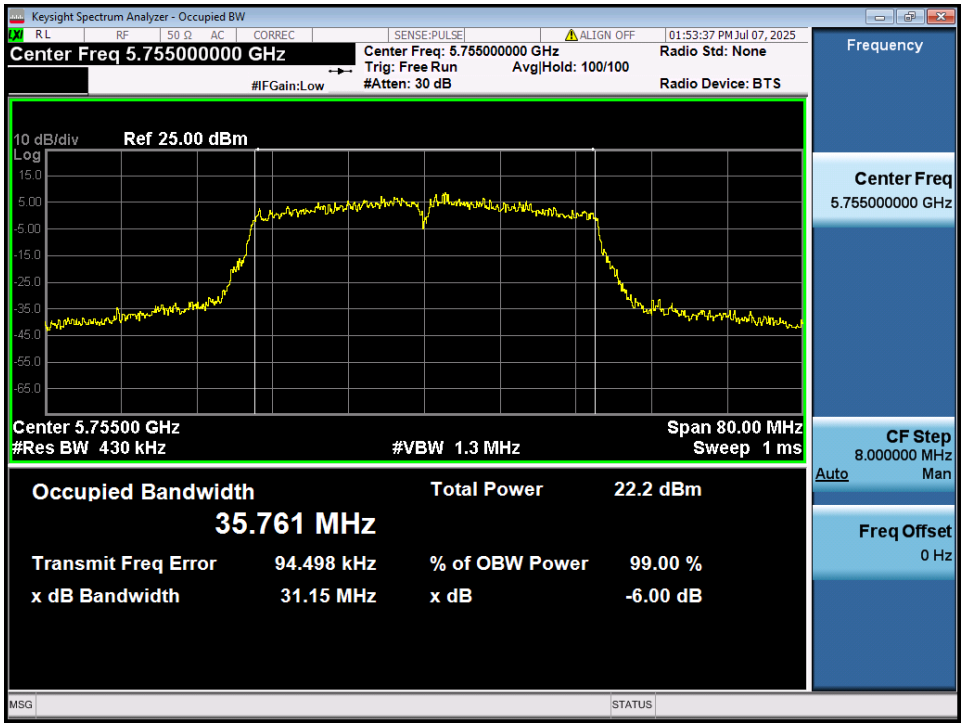
Occupied Bandwidth

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



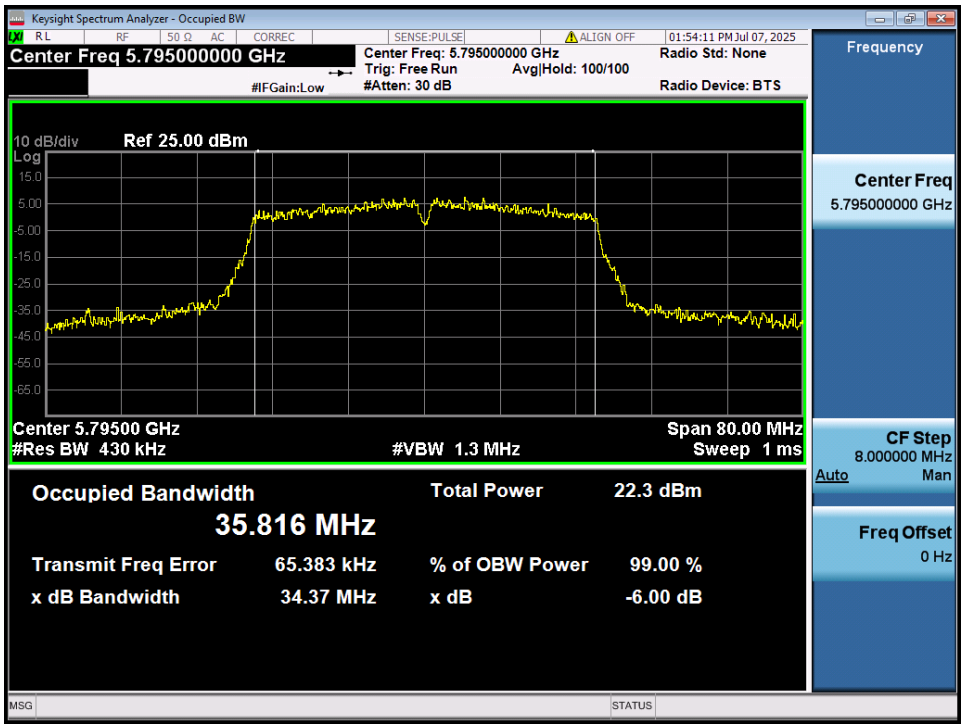
Occupied Bandwidth

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



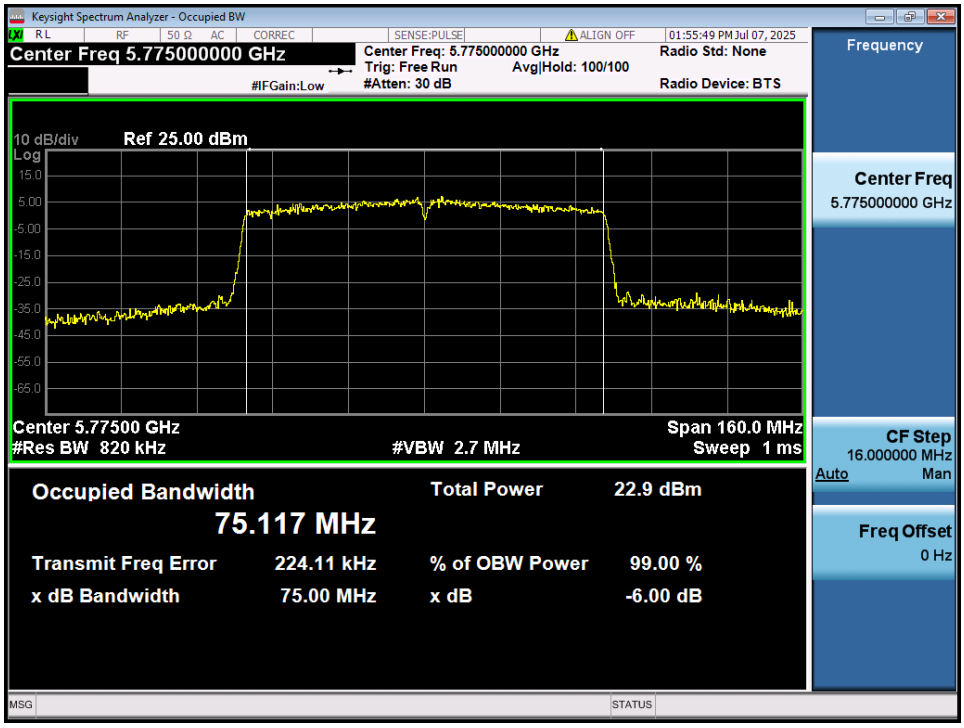
Occupied Bandwidth

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



Occupied Bandwidth

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



5.3. Maximum Conducted Output Power

▣ Test Requirements

Part. 15.407(a)

(1) For the band 5.15 GHz - 5.25 GHz.

(i) For an outdoor access point operating in the band 5.15 GHz - 5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm).
(ii) For an indoor access point operating in the band 5.15 GHz - 5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.
(iii) For fixed point-to-point access points operating in the band 5.15 GHz - 5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. Fixed point-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power or maximum power spectral density. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power and maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.
(iv) For mobile and portable client devices in the 5.15 GHz - 5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(2) **For the 5.25 GHz - 5.35 GHz and 5.47 GHz - 5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz.** If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(3) **For the band 5.725 GHz - 5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W**. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

RSS-247[7.3] Power and unwanted emissions limits

RSS-247[7.3.1.2] For band 5 150 MHz – 5 250 MHz

For OEM devices installed in vehicles, the maximum e.i.r.p. shall not exceed the lesser of: 30 mW; or 1.76 + 10 log10B, dBm.

OEM devices installed in vehicles with a maximum e.i.r.p. greater than 15 mW shall implement TPC in order to have the capability to operate at least 3 dB below the maximum permitted e.i.r.p. of 30 mW.

For all other devices the maximum e.i.r.p. spectral density shall not exceed 10 dBm/MHz. The maximum e.i.r.p. shall not exceed the lesser of:

200 mW; or 10 + 10 log10B, dBm.

RSS-247[7.3.2.2] For band 5 250 MHz – 5 350 MHz

For OEM devices installed in vehicles, the maximum e.i.r.p. shall not exceed the lesser of:

a. 30 mW; or
b. 1.76 + 10 log10B, dBm.

OEM devices installed in vehicles with a maximum e.i.r.p. greater than 15 mW shall implement TPC in order to have the capability to operate at least 3 dB below the maximum permitted e.i.r.p. of 30 mW.

All other devices shall comply with the following:

a. the maximum power spectral density shall not exceed 11 dBm/MHz and the maximum conducted output power shall not exceed the lesser of:
   i. 250 mW; or
   ii. 11 + 10 log10B, dBm.
b. the maximum e.i.r.p. shall not exceed the lesser of:
   i. 1.0 W; or
   ii. 17 + 10 log10B, dBm.
c.Devices with a maximum e.i.r.p. greater than 500 mW shall implement TPC in order to have the capability to operate at least 6 dB below the maximum permitted e.i.r.p. of 1 W.

RSS-247[7.3.3.2] For band 5 470 MHz – 5 725 MHz

Equipment operating in the band 5470-5725 MHz band shall comply with the following power limits:

a.the maximum conducted output power shall not exceed the lesser of:
   i. 250 mW; or
   ii. 11 + 10 log10B, dBm.
b. the maximum power spectral density shall not exceed 11 dBm/MHz.
c. the maximum e.i.r.p. shall not exceed the lesser of:
   i. 1.0 W; or
   ii. 17 + 10 log10B, dBm.
d. equipment with a maximum e.i.r.p. greater than 500 mW shall implement TPC in order to have the capability to operate at least 6 dB below the maximum permitted e.i.r.p. of 1 W.

RSS-247[7.3.4.3] For band 5 725 MHz – 5 850 MHz

Equipment operating in the band 5725-5850 shall comply with the following power limits:

a. the maximum conducted output power shall not exceed 1 W; and
b. the maximum output power spectral density shall not exceed 30 dBm/500 kHz.

When using transmitting antennas with a directional gain exceeding 6 dBi, the maximum conducted output power and the output power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

However, FPTP devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter maximum conducted output power and the power spectral density. FPTP operations exclude the use of PTMP systems, omnidirectional applications and multiple collocated transmitters transmitting the same information. However, remote stations of PTMP systems shall be permitted to operate at e.i.r.p. greater than 4 W under the same conditions as for FPTP systems.

▣ Test Configuration

Method PM-G

▣ Test Procedure

Method PM-G of KDB789033 D02v02r01

Measurements may be performed using a wideband gated RF power meter provided that the gate parameters are adjusted such that the power is measured only when the EUT is transmitting at its maximum power control level. Since the measurement is made only during the ON time of the transmitter, no duty cycle correction factor is required.

▣ **Test Results: Comply**

- Summed Output Power: CDD

Mode	Band	Channel	Frequency (MHz)	Conducted Output Power(dBm)			Antenna Gain(dBi)	e.i.r.p[Note1] (dBm)
				ANT 1	ANT 2	ANT1+ANT2 (CDD)		
802.11a	U-NII 1	36	5 180	7.62	7.70	10.67	7.46	18.13
		40	5 200	7.30	8.04	10.70	7.46	18.16
		48	5 240	7.61	8.67	11.18	7.46	18.64
	U-NII 2A	52	5 260	12.76	13.75	16.29	7.46	23.75
		60	5 300	13.72	14.82	17.32	7.46	24.78
		64	5 320	12.98	14.08	16.58	7.46	24.04
	U-NII 2C	100	5 500	13.09	12.53	15.83	7.46	23.29
		116	5 580	13.41	13.37	16.40	7.46	23.86
		144	5 720	12.91	13.93	16.46	7.46	23.92
	U-NII 3	149	5 745	17.07	17.04	20.07	7.46	27.53
		157	5 785	17.93	18.11	21.03	7.46	28.49
		165	5 825	17.85	18.16	21.02	7.46	28.48
802.11n (HT20)	U-NII 1	36	5 180	6.53	6.36	9.46	7.46	16.92
		40	5 200	6.49	6.97	9.75	7.46	17.21
		48	5 240	6.76	7.52	10.17	7.46	17.63
	U-NII 2A	52	5 260	12.73	14.14	16.50	7.46	23.96
		60	5 300	13.69	14.72	17.25	7.46	24.71
		64	5 320	13.03	13.93	16.51	7.46	23.97
	U-NII 2C	100	5 500	12.96	12.55	15.77	7.46	23.23
		116	5 580	13.53	13.55	16.55	7.46	24.01
		144	5 720	12.85	13.81	16.37	7.46	23.83
	U-NII 3	149	5 745	16.06	16.05	19.07	7.46	26.53
		157	5 785	16.15	16.22	19.20	7.46	26.66
		165	5 825	16.05	16.13	19.10	7.46	26.56
802.11ac (VHT20)	U-NII 1	36	5 180	6.52	6.32	9.43	7.46	16.89
		40	5 200	6.45	6.94	9.71	7.46	17.17
		48	5 240	6.71	7.50	10.13	7.46	17.59
	U-NII 2A	52	5 260	12.66	14.10	16.45	7.46	23.91
		60	5 300	13.65	14.64	17.18	7.46	24.64
		64	5 320	13.02	13.92	16.50	7.46	23.96
	U-NII 2C	100	5 500	12.89	12.50	15.71	7.46	23.17
		116	5 580	13.51	13.48	16.51	7.46	23.97
		144	5 720	12.84	13.71	16.31	7.46	23.77
	U-NII 3	149	5 745	16.01	16.01	19.02	7.46	26.48
		157	5 785	16.09	16.18	19.15	7.46	26.61
		165	5 825	16.03	16.10	19.08	7.46	26.54

Note 1: e.i.r.p= Conducted Output Power + Antenna Gain

Mode	Band	Channel	Frequency (MHz)	Conducted Output Power(dBm)			Antenna Gain(dBi)	e.i.r.p[Note1] (dBm)
				ANT 1	ANT 2	ANT1+ANT2 (CDD)		
802.11n (HT40)	U-NII 1	38	5 190	9.12	9.13	12.14	7.46	19.60
		46	5 230	8.92	10.05	12.53	7.46	19.99
	U-NII 2A	54	5 270	12.95	13.94	16.48	7.46	23.94
		62	5 310	11.70	12.40	15.07	7.46	22.53
	U-NII 2C	102	5 510	14.01	14.00	17.02	7.46	24.48
		110	5 550	14.66	14.78	17.73	7.46	25.19
		142	5 710	15.09	15.68	18.41	7.46	25.87
	U-NII 3	151	5 755	15.93	16.05	19.00	7.46	26.46
		159	5 795	16.11	15.96	19.05	7.46	26.51
802.11ac (VHT40)	U-NII 1	38	5 190	9.11	9.08	12.11	7.46	19.57
		46	5 230	8.86	9.86	12.40	7.46	19.86
	U-NII 2A	54	5 270	12.78	13.81	16.34	7.46	23.80
		62	5 310	11.65	12.35	15.02	7.46	22.48
	U-NII 2C	102	5 510	13.98	13.86	16.93	7.46	24.39
		110	5 550	14.45	14.66	17.57	7.46	25.03
		142	5 710	15.04	15.59	18.33	7.46	25.79
	U-NII 3	151	5 755	15.77	16.01	18.90	7.46	26.36
		159	5 795	16.03	15.94	19.00	7.46	26.46
802.11ac (VHT80)	U-NII 1	42	5 210	10.25	11.07	13.69	7.46	21.15
	U-NII 2A	58	5 290	11.02	12.39	14.77	7.46	22.23
	U-NII 2C	106	5 530	12.00	11.86	14.94	7.46	22.40
		138	5 690	16.00	16.39	19.21	7.46	26.67
	U-NII 3	155	5 775	15.54	15.68	18.62	7.46	26.08

Note 1: e.i.r.p= Conducted Output Power + Antenna Gain

5.4. Maximum Power Spectral Density

▣ **Test requirements**

Part. 15.407(a)

(1) For the band 5.15 GHz - 5.25 GHz.

(i) For an outdoor access point operating in the band 5.15 GHz - 5.25 GHz, the maximum power spectral density shall not exceed 17 dBm in any 1 MHz band. **note1**

(ii) For an indoor access point operating in the band 5.15 GHz - 5.25 GHz, the maximum power spectral density shall not exceed 17 dBm in any 1 MHz band. note1

(iii) For fixed point-to-point access points operating in the band 5.15 GHz - 5.25 GHz, transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi.

(iv) For mobile and portable client devices in the 5.15 GHz - 5.25 GHz band, the maximum power spectral density shall not exceed 11 dBm in any 1 MHz band. note1

(2) For the 5.25 GHz - 5.35 GHz and 5.47 GHz - 5.725 GHz bands, the peak power spectral density shall not exceed 11 dBm in any 1 MHz band. note1

(3) For the band 5.725 GHz - 5.85 GHz, the maximum power spectral density shall not exceed 30 dBm in any 500 kHz band.note1,note2

Note1: If transmitting antennas of directional gain greater than 6 dBi are used, the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Note2: Fixed point - to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information.

RSS-247[7.3] Power and unwanted emissions limits

RSS-247[7.3.1.2] For band 5 150 MHz – 5 250 MHz

For OEM devices installed in vehicles, the maximum e.i.r.p. shall not exceed the lesser of: 30 mW; or 1.76 + 10 log10B, dBm.

OEM devices installed in vehicles with a maximum e.i.r.p. greater than 15 mW shall implement TPC in order to have the capability to operate at least 3 dB below the maximum permitted e.i.r.p. of 30 mW.

For all other devices the maximum e.i.r.p. spectral density shall not exceed 10 dBm/MHz. The maximum e.i.r.p. shall not exceed the lesser of:

200 mW; or 10 + 10 log10B, dBm.

RSS-247[7.3.2.2] For band 5 250 MHz – 5 350 MHz

For OEM devices installed in vehicles, the maximum e.i.r.p. shall not exceed the lesser of:

a. 30 mW; or

b. 1.76 + 10 log10B, dBm.

OEM devices installed in vehicles with a maximum e.i.r.p. greater than 15 mW shall implement TPC in order to have the capability to operate at least 3 dB below the maximum permitted e.i.r.p. of 30 mW.

All other devices shall comply with the following:

a. the maximum power spectral density shall not exceed 11 dBm/MHz and the maximum conducted output power shall not exceed the lesser of:

i. 250 mW; or

ii. 11 + 10 log10B, dBm.

b. the maximum e.i.r.p. shall not exceed the lesser of:

i. 1.0 W; or

ii. 17 + 10 log10B, dBm.

c.Devices with a maximum e.i.r.p. greater than 500 mW shall implement TPC in order to have the capability to operate at least 6 dB below the maximum permitted e.i.r.p. of 1 W.

RSS-247[7.3.3.2] For band 5 470 MHz – 5 725 MHz

Equipment operating in the band 5470-5725 MHz band shall comply with the following power limits:

a.the maximum conducted output power shall not exceed the lesser of:

i. 250 mW; or

ii. 11 + 10 log10B, dBm.

b. the maximum power spectral density shall not exceed 11 dBm/MHz.

c. the maximum e.i.r.p. shall not exceed the lesser of:

i. 1.0 W; or

ii. 17 + 10 log10B, dBm.

d. equipment with a maximum e.i.r.p. greater than 500 mW shall implement TPC in order to have the capability to operate at least 6 dB below the maximum permitted e.i.r.p. of 1 W.

RSS-247[7.3.4.3] For band 5 725 MHz – 5 850 MHz

Equipment operating in the band 5725-5850 shall comply with the following power limits:

a. the maximum conducted output power shall not exceed 1 W; and

b. the maximum output power spectral density shall not exceed 30 dBm/500 kHz.

When using transmitting antennas with a directional gain exceeding 6 dBi, the maximum conducted output power and the output power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

However, FPTP devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter maximum conducted output power and the power spectral density. FPTP operations exclude the use of PTMP systems, omnidirectional applications and multiple collocated transmitters transmitting the same information. However, remote stations of PTMP systems shall be permitted to operate at e.i.r.p. greater than 4 W under the same conditions as for FPTP systems.

▣ Test Configuration

Refer to the APPENDIX I.

▣ 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 = 1 MHz.
   b) Set VBW ≥ 1 / T, where T is defined in item a1) in 12.2.
   c) If measurement bandwidth of Maximum PSD is specified in 500 kHz, add 10 log(500 kHz / RBW) to the measured result, whereas RBW (< 500 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 MHz / RBW) to the measured result, whereas RBW (< 1 MHz) is the reduced resolution bandwidth of spectrum analyzer set during measurement.
   g) Detector = peak.
   h) Video filtering shall be applied to a voltage-squared or power signal (i.e., rms mode), if possible. Otherwise, it shall be set to operate on a linear voltage signal (which can require use of linear display mode). Log mode shall not be used:
      1) The preferred voltage-squared (i.e., power or rms) mode is selected on some instruments by setting the “average-VBW type” to power or rms.
      2) **If RMS mode is not available, then linear voltage mode is selected on some analyzers by setting the display mode to linear. Other instruments have a setting for “average-VBW type” that can be set to “voltage” regardless of the display mode.**
   i) Trace mode = max hold.

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**

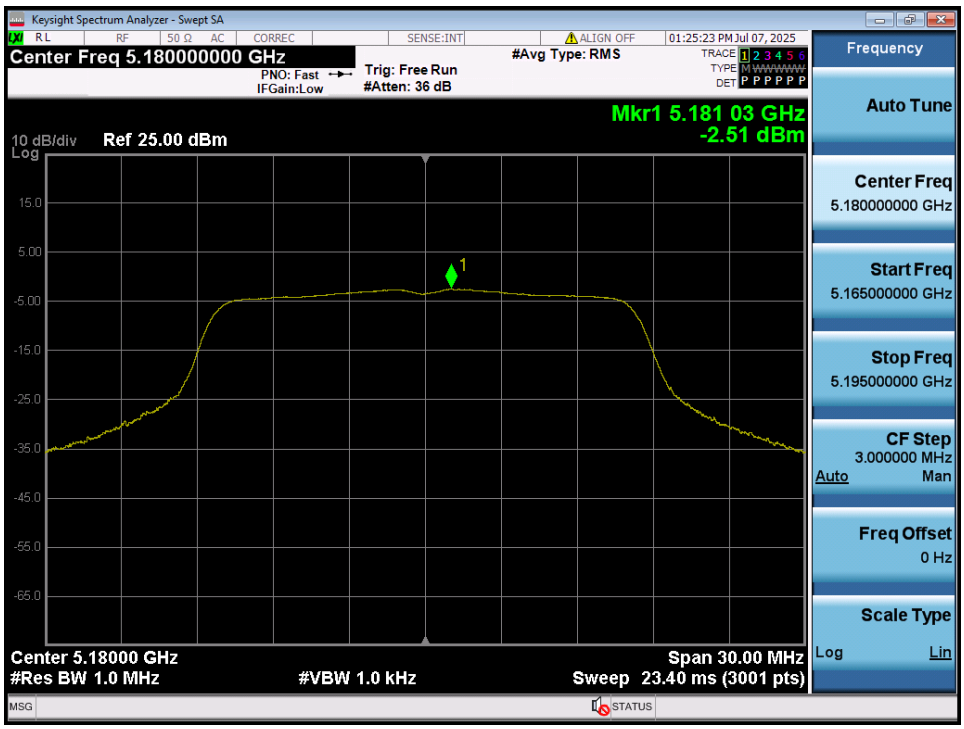
Test Mode	Band	Channel	Frequency (MHz)	Reading (dBm)		Power Spectral Density(dBm)	Antenna Gain(dBi)	e.i.r.p Spectral Density (dBm)
				ANT 1	ANT 2	ANT1+ANT2 (CDD)		
TM 1	U-NII 1	36	5 180	-2.51	-2.10	0.72	7.46	8.18
		40	5 200	-2.42	-2.03	0.79	7.46	8.25
		48	5 240	-1.92	-1.22	1.46	7.46	8.92
	U-NII 2A	52	5 260	3.28	4.24	6.80	7.46	14.26
		60	5 300	4.34	4.27	7.31	7.46	14.77
		64	5 320	3.50	3.74	6.64	7.46	14.10
	U-NII 2C	100	5 500	3.49	3.32	6.41	7.46	13.87
		116	5 580	3.63	3.33	6.49	7.46	13.95
		144	5 720	2.69	3.75	6.26	7.46	13.72
TM 2	U-NII 1	36	5 180	-3.93	-3.37	-0.66	7.46	6.80
		40	5 200	-3.72	-3.41	-0.51	7.46	6.95
		48	5 240	-3.18	-2.49	0.17	7.46	7.63
	U-NII 2A	52	5 260	3.07	3.85	6.49	7.46	13.95
		60	5 300	4.03	4.09	7.08	7.46	14.54
		64	5 320	3.14	3.34	6.25	7.46	13.71
	U-NII 2C	100	5 500	3.21	3.19	6.21	7.46	13.67
		116	5 580	3.23	3.31	6.27	7.46	13.73
		144	5 720	2.32	3.53	5.98	7.46	13.44
TM 3	U-NII 1	38	5 190	-2.86	-2.72	0.21	7.46	7.67
		46	5 230	-3.03	-2.33	0.33	7.46	7.79
	U-NII 2A	54	5 270	0.99	1.87	4.47	7.46	11.93
		62	5 310	-0.31	0.10	2.90	7.46	10.36
	U-NII 2C	102	5 510	2.06	1.90	5.00	7.46	12.46
		110	5 550	2.51	2.19	5.37	7.46	12.83
		142	5 710	2.88	3.25	6.07	7.46	13.53
TM 4	U-NII 1	42	5 210	-5.00	-4.56	-1.74	7.46	5.72
	U-NII 2A	58	5 290	-4.11	-3.23	-0.60	7.46	6.86
	U-NII 2C	106	5 530	-3.38	-3.78	-0.56	7.46	6.90
		138	5 690	1.47	1.04	4.27	7.46	11.73

Test Mode	Band	Channel	Frequency (MHz)	Reading (dBm/500kHz)		Power Spectral Density (dBm/500kHz)	Antenna Gain(dBi)	e.i.r.p Spectral Density (dBm/500kHz)
				ANT 1	ANT 2	ANT1+ANT2 (CDD)		
TM 1	U-NII 3	149	5 745	4.74	5.15	7.96	7.46	15.42
		157	5 785	5.14	5.01	8.09	7.46	15.55
		165	5 825	5.25	5.08	8.18	7.46	15.64
TM 2	U-NII 3	149	5 745	2.49	3.24	5.89	7.46	13.35
		157	5 785	2.83	2.93	5.89	7.46	13.35
		165	5 825	3.08	3.05	6.07	7.46	13.53
TM 3	U-NII 3	151	5 755	0.73	0.99	3.87	7.46	11.33
		159	5 795	0.71	0.98	3.86	7.46	11.32
TM 4	U-NII 3	155	5 775	-2.25	-2.28	0.76	7.46	8.22

Note 1: e.i.r.p Spectral Density= Power spectral density + EUT Antenna Gain(dBi)

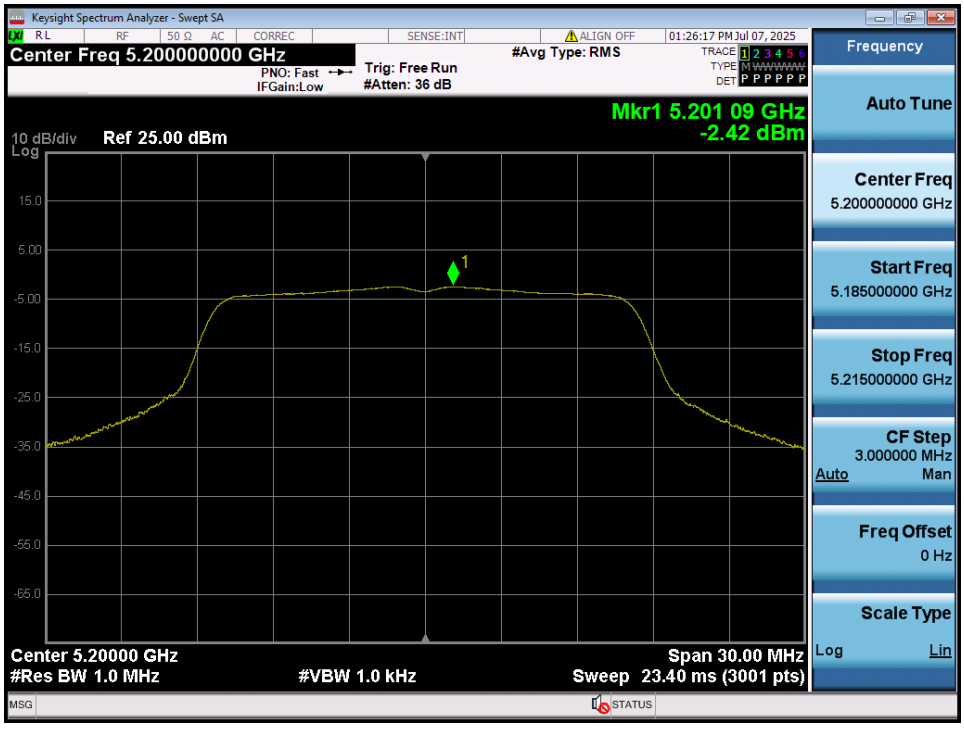
Maximum Power Spectral Density

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

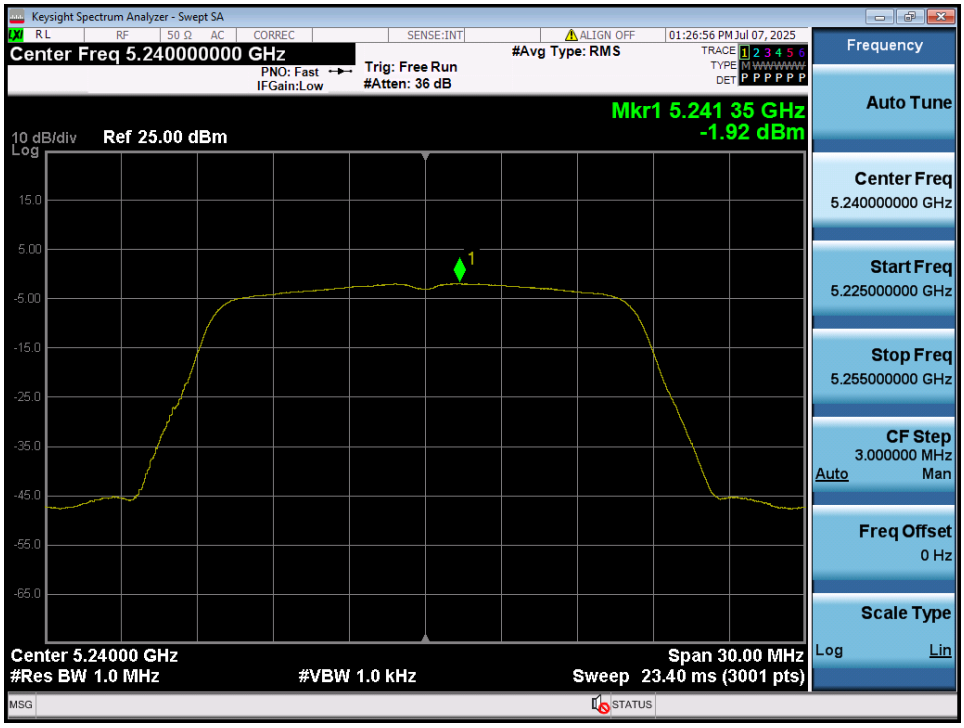


Maximum Power Spectral Density

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

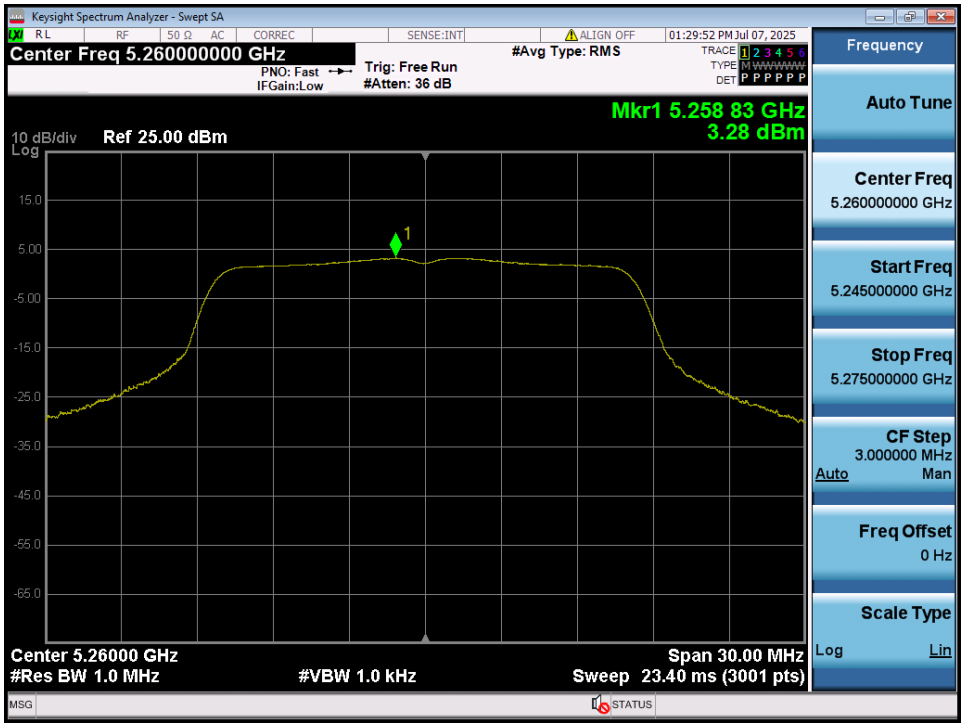


Maximum Power Spectral Density Test Mode: TM 1 & ANT 1 & Ch.48



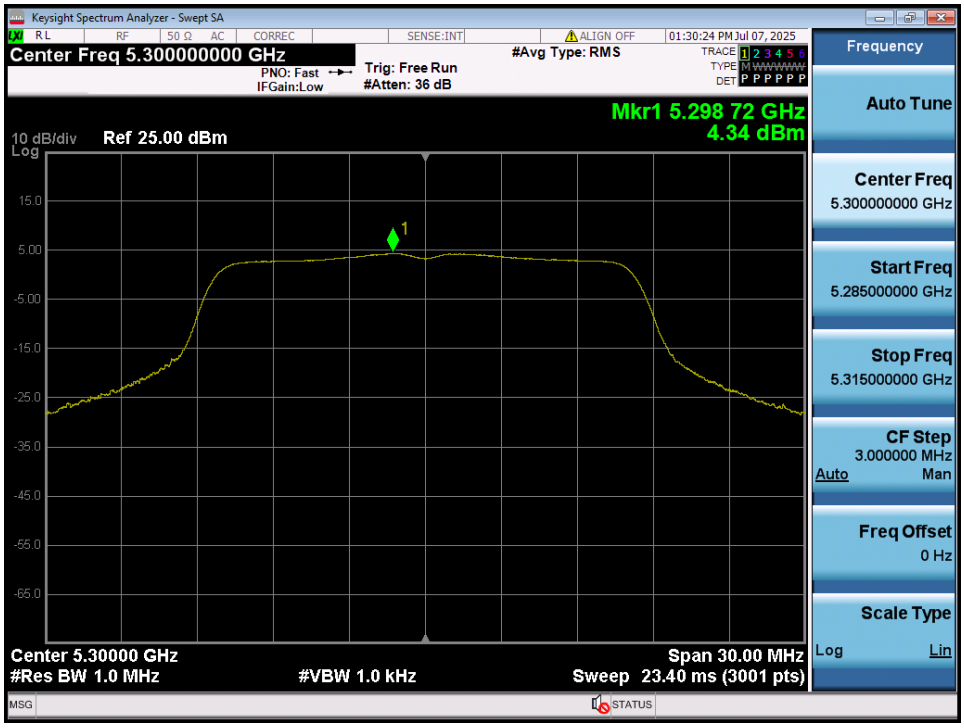
Maximum Power Spectral Density

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

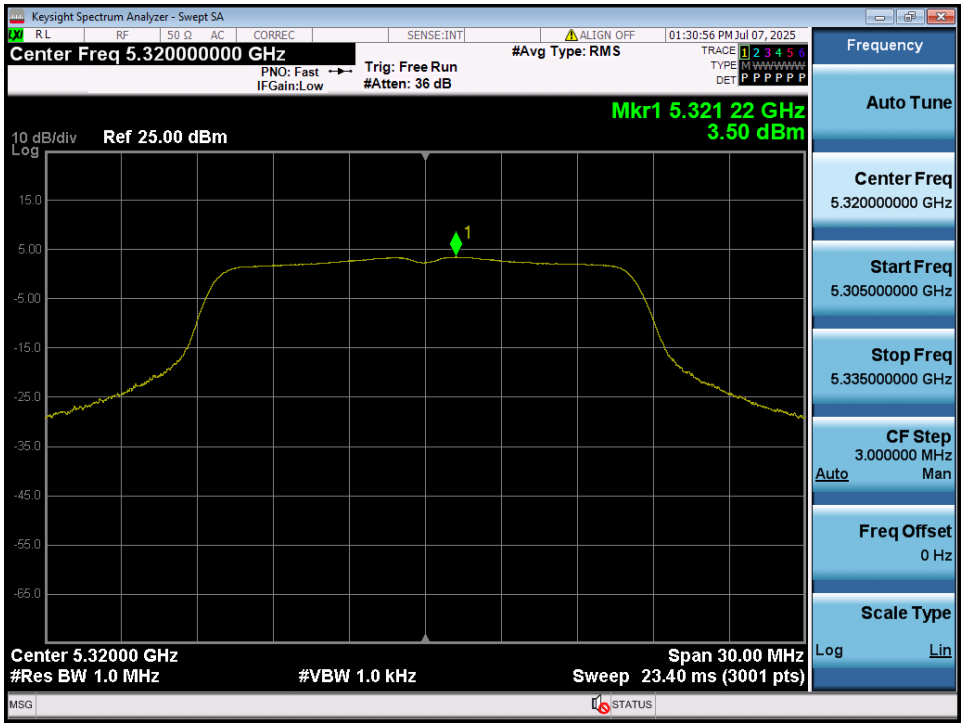


Maximum Power Spectral Density

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

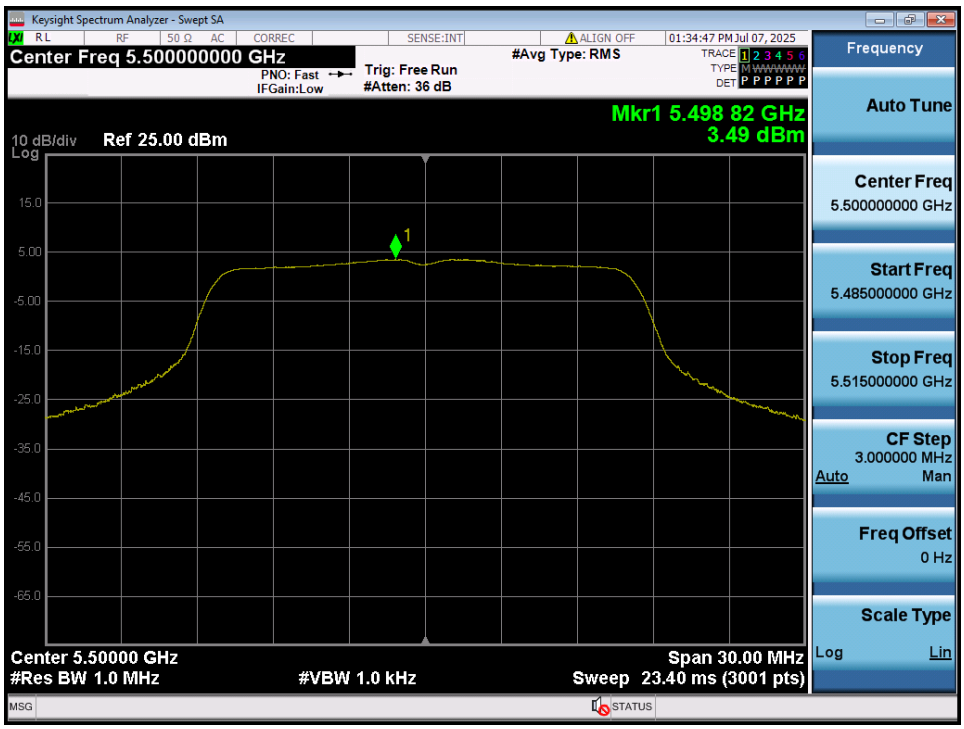


Maximum Power Spectral Density Test Mode: TM 1 & ANT 1 & Ch.64



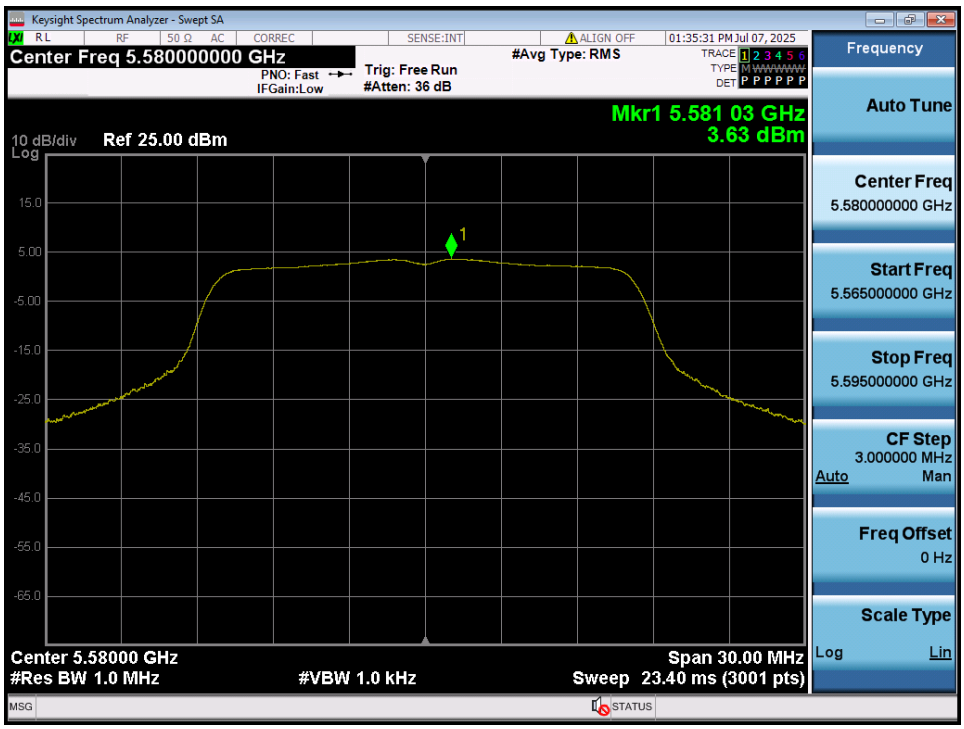
Maximum Power Spectral Density

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



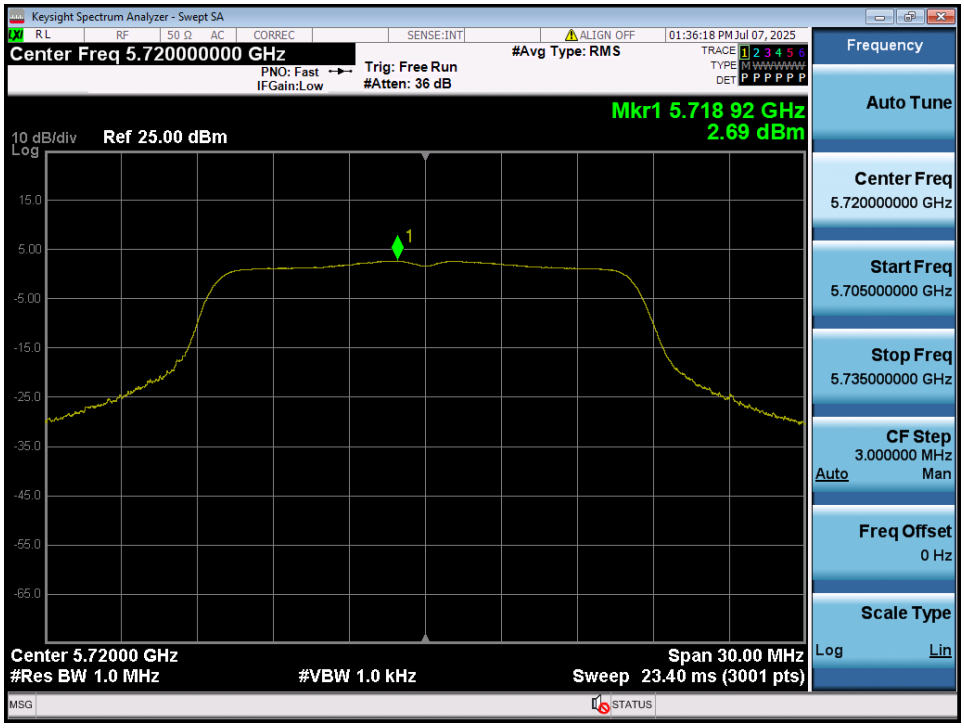
Maximum Power Spectral Density

Test Mode: TM 1 & ANT 1 & Ch.116



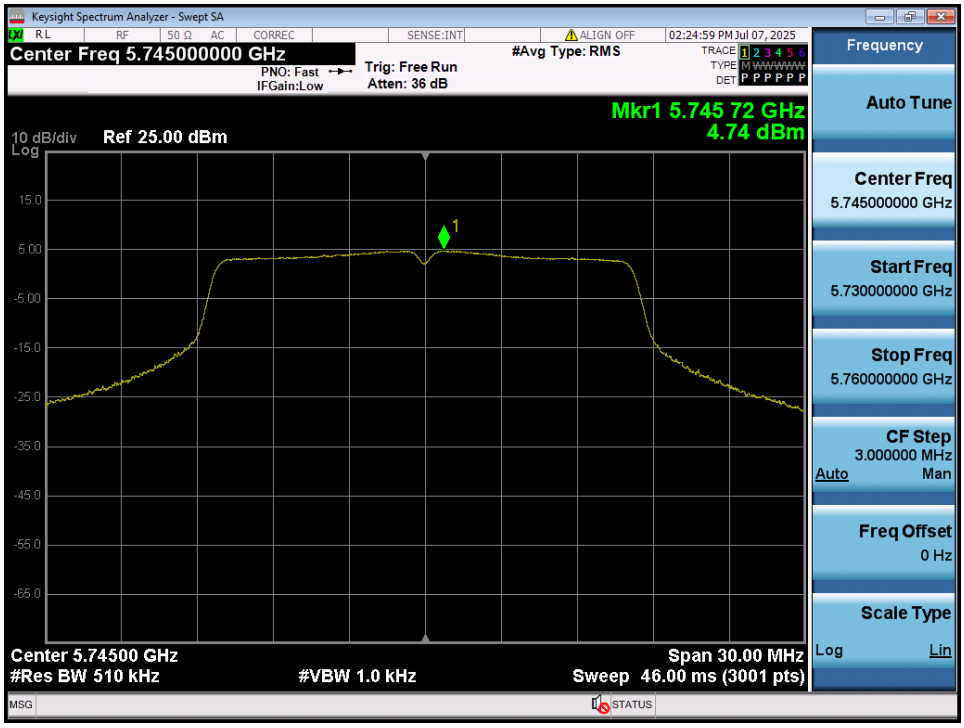
Maximum Power Spectral Density

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



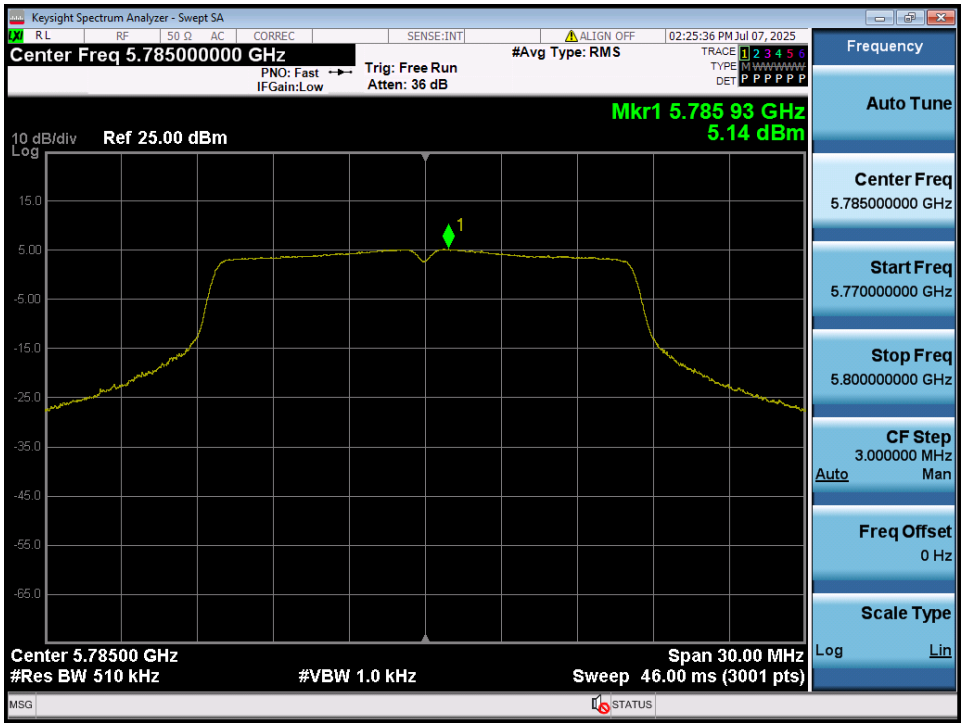
Maximum Power Spectral Density

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



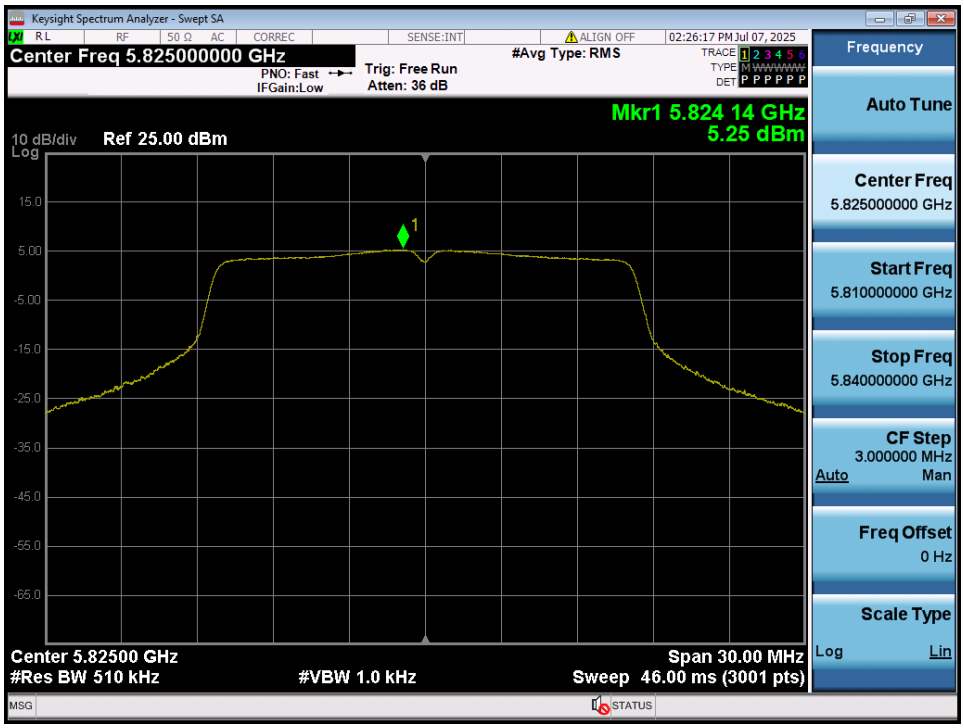
Maximum Power Spectral Density

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



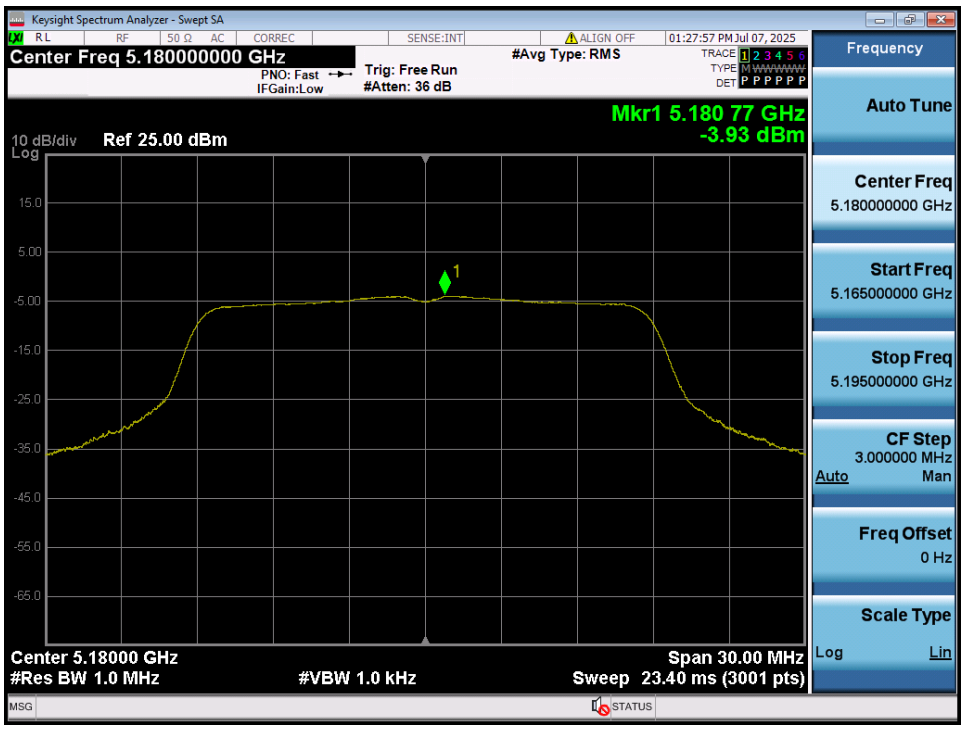
Maximum Power Spectral Density

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



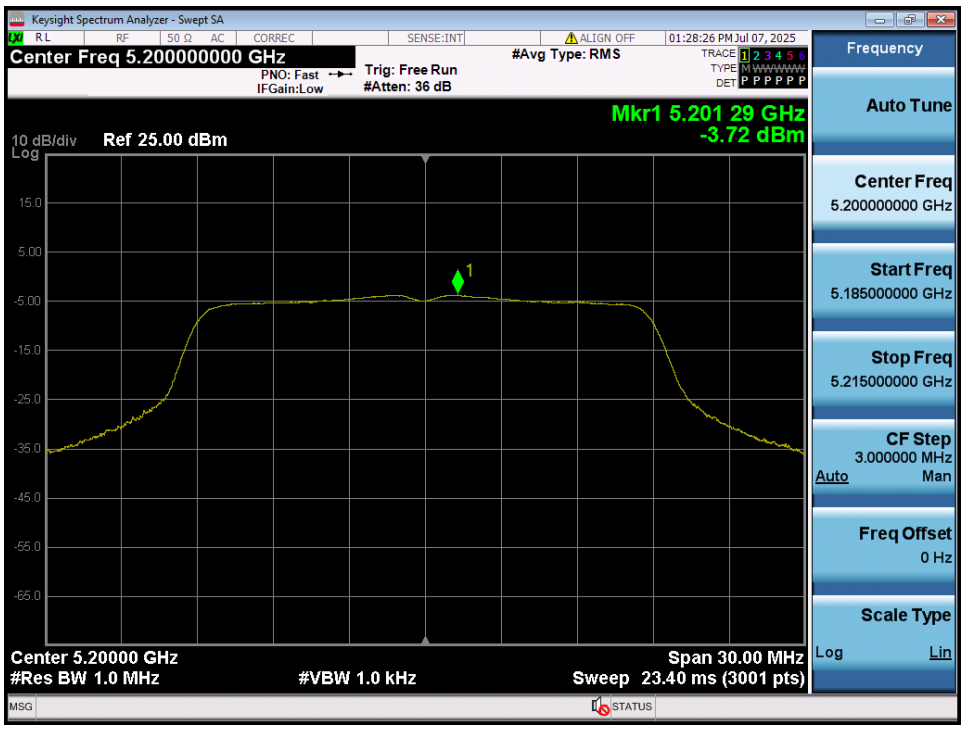
Maximum Power Spectral Density

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

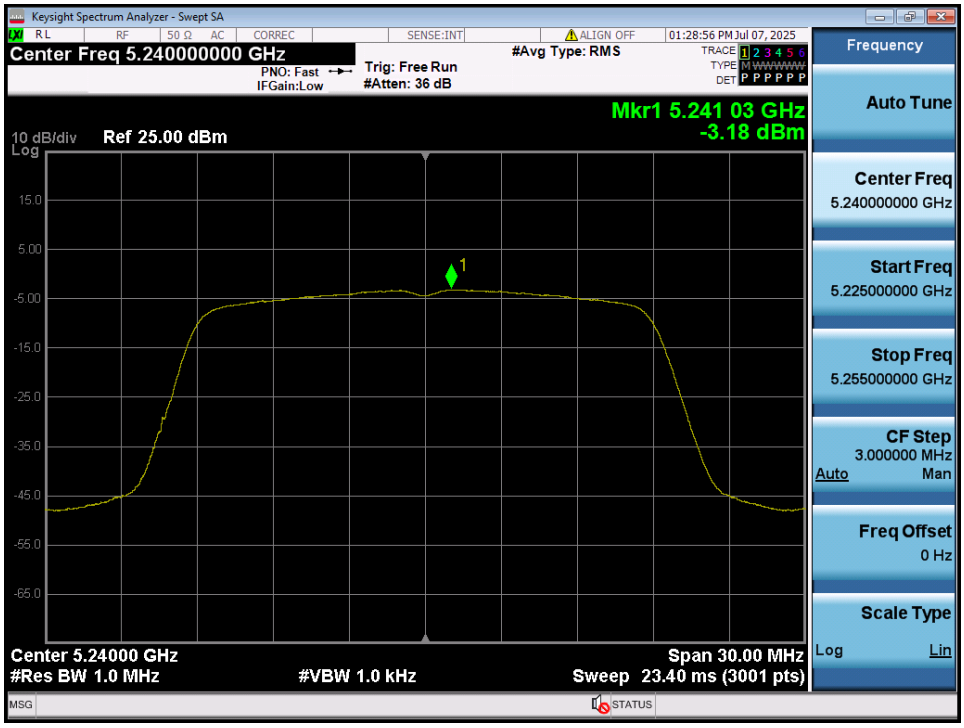


Maximum Power Spectral Density

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

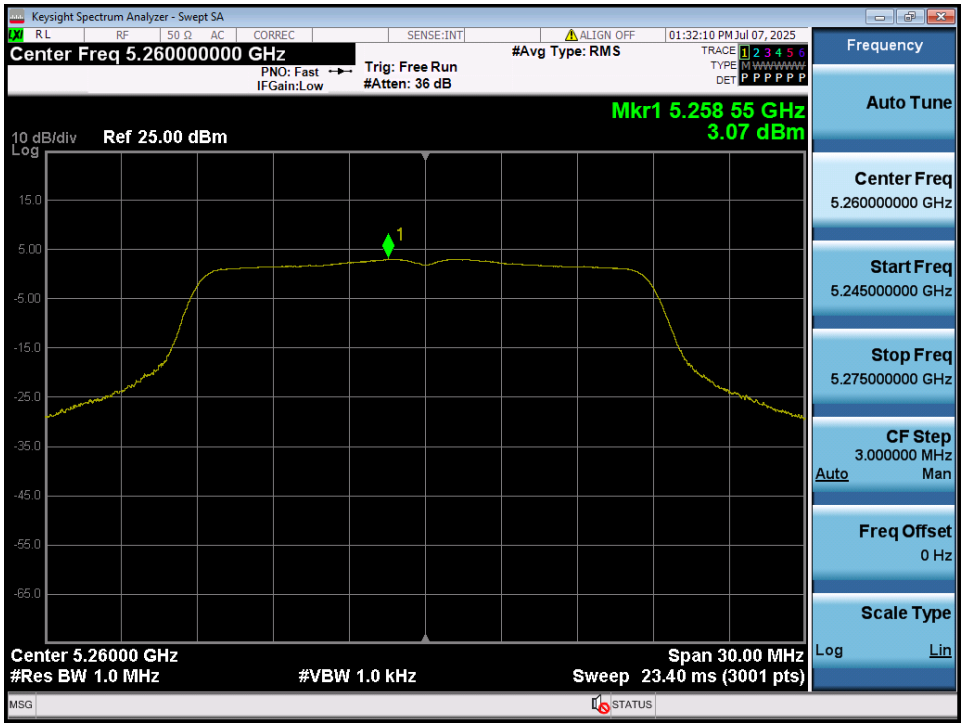


Maximum Power Spectral Density Test Mode: TM 2 & ANT 1 & Ch.48



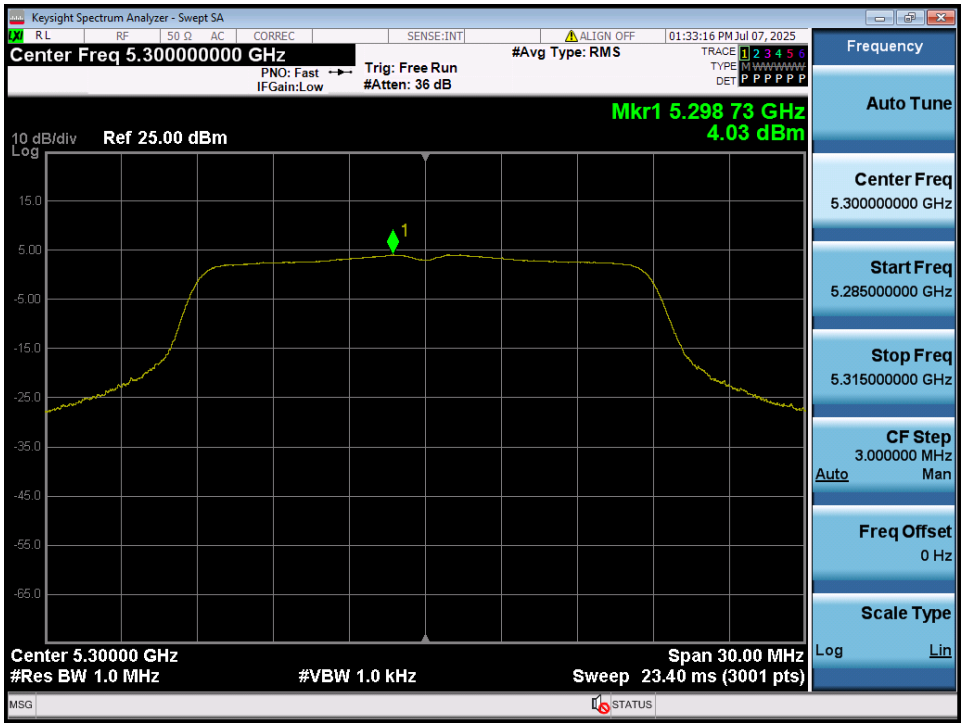
Maximum Power Spectral Density

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

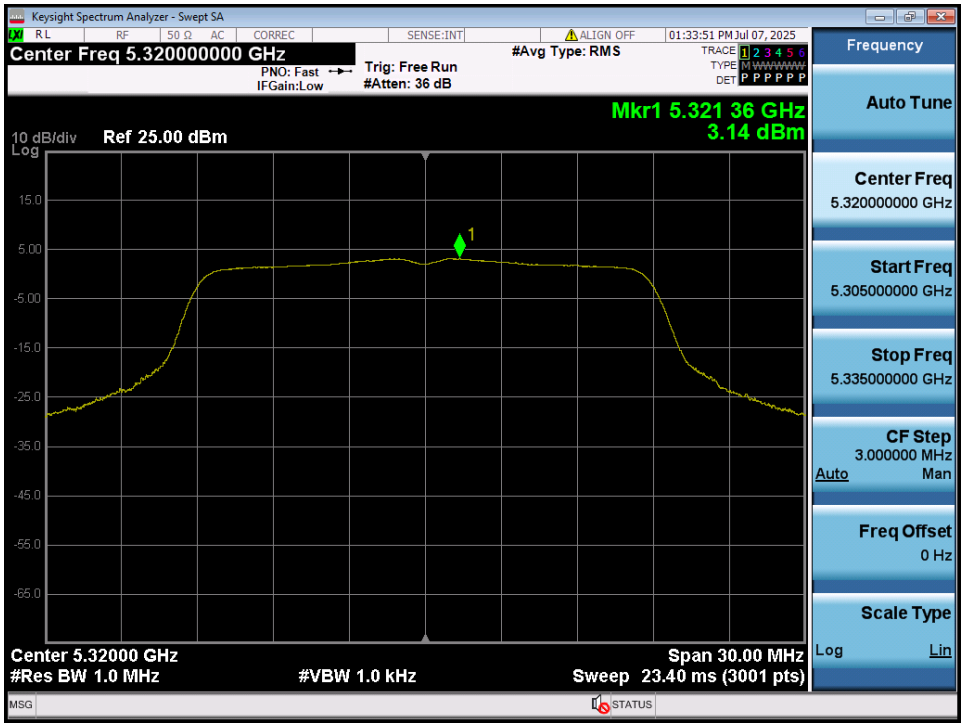


Maximum Power Spectral Density

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

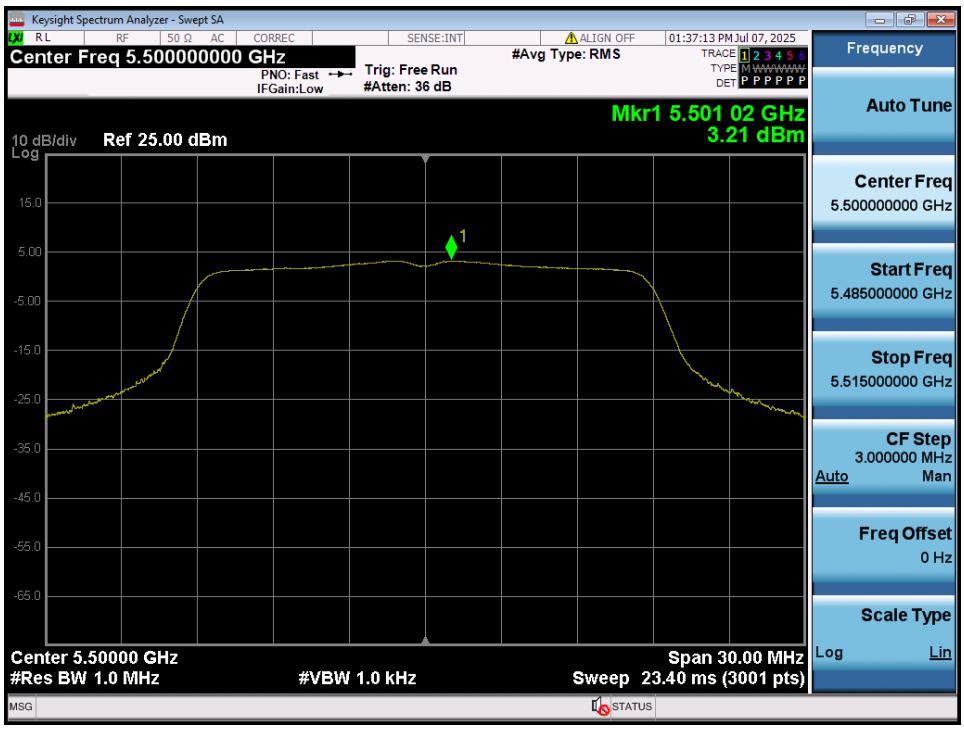


Maximum Power Spectral Density Test Mode: TM 2 & ANT 1 & Ch.64



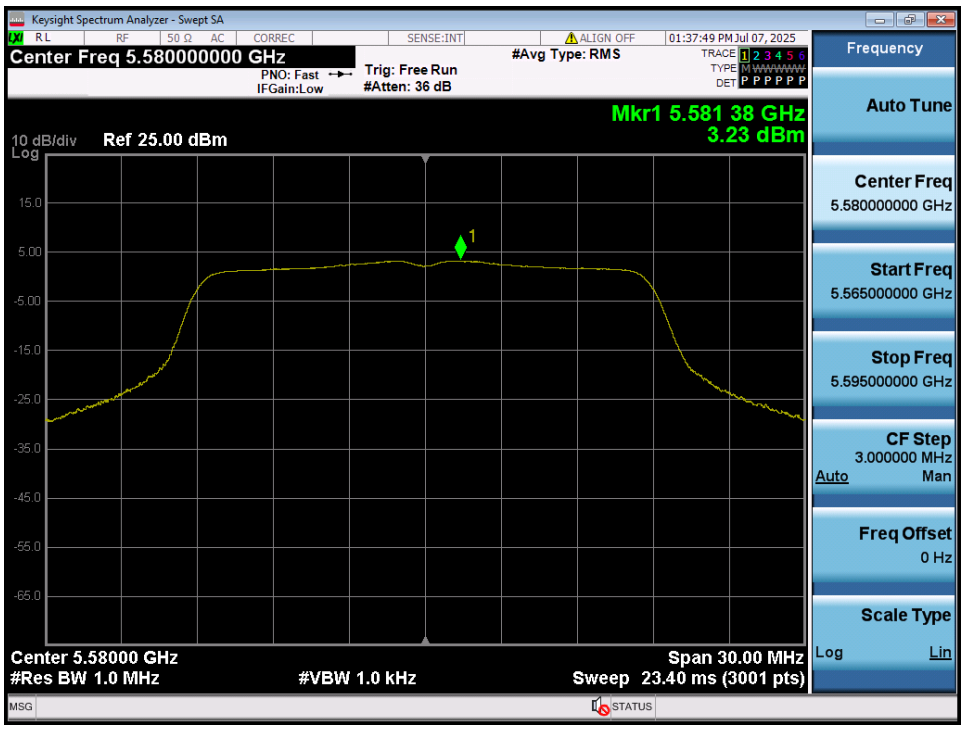
Maximum Power Spectral Density

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



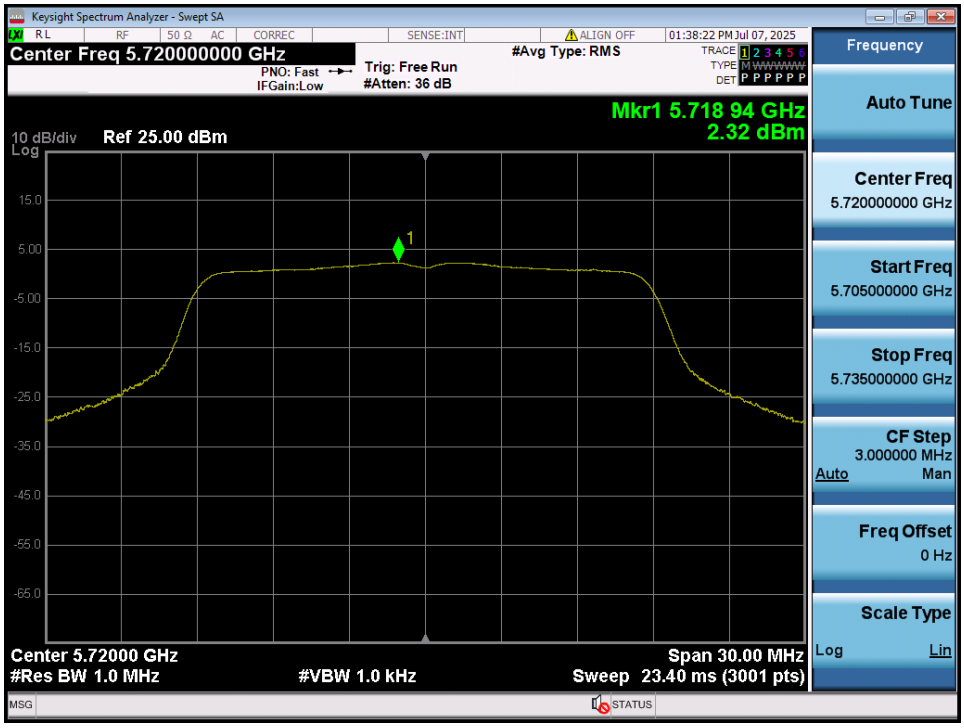
Maximum Power Spectral Density

Test Mode: TM 2 & ANT 1 & Ch.116



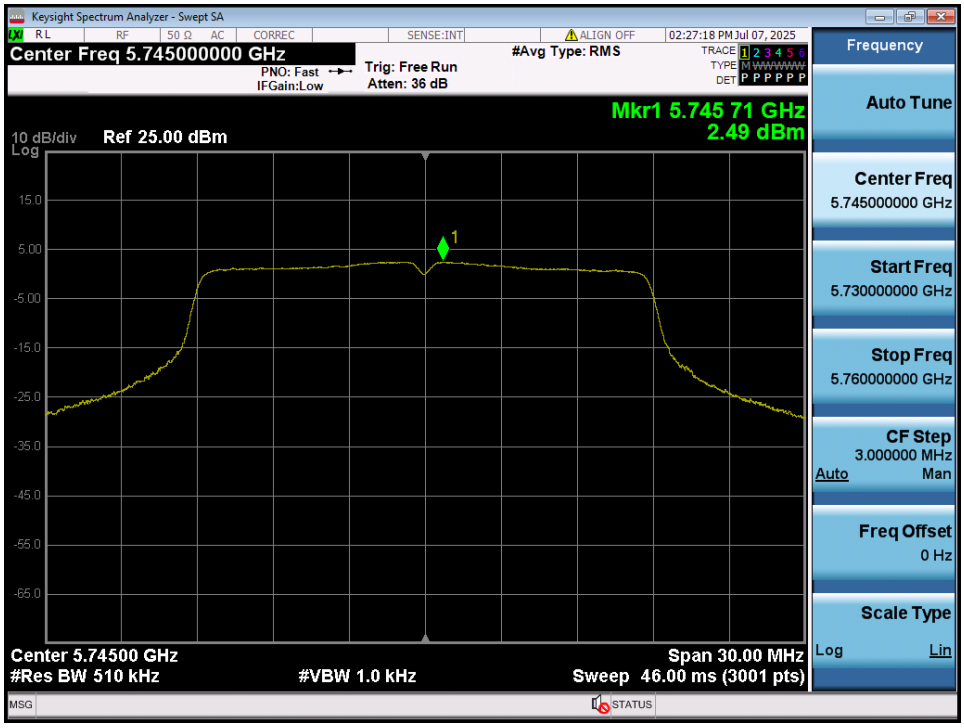
Maximum Power Spectral Density

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



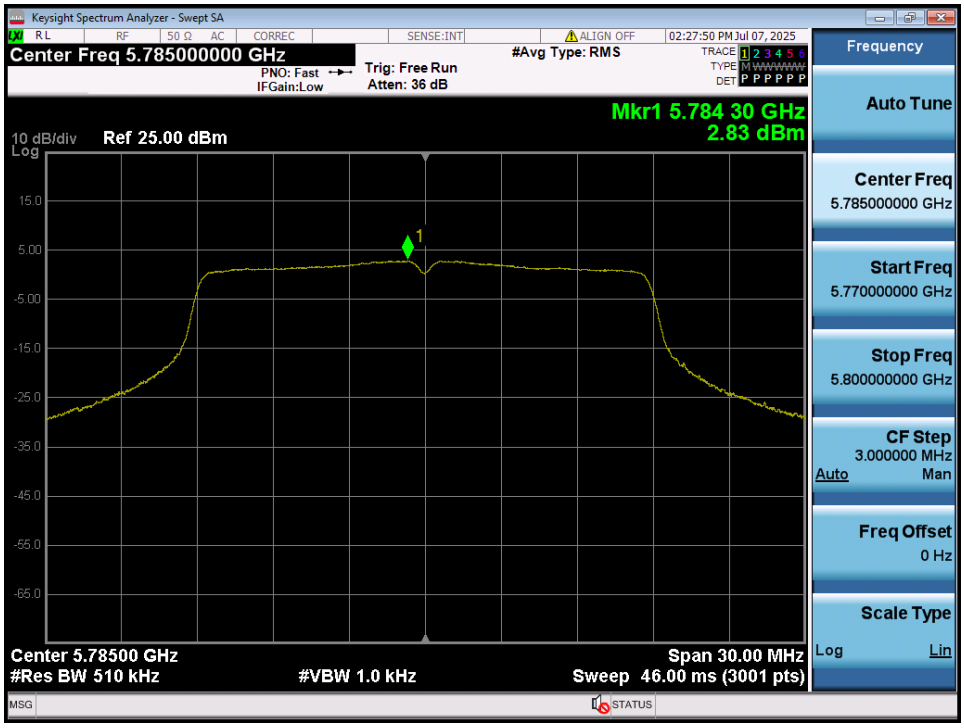
Maximum Power Spectral Density

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



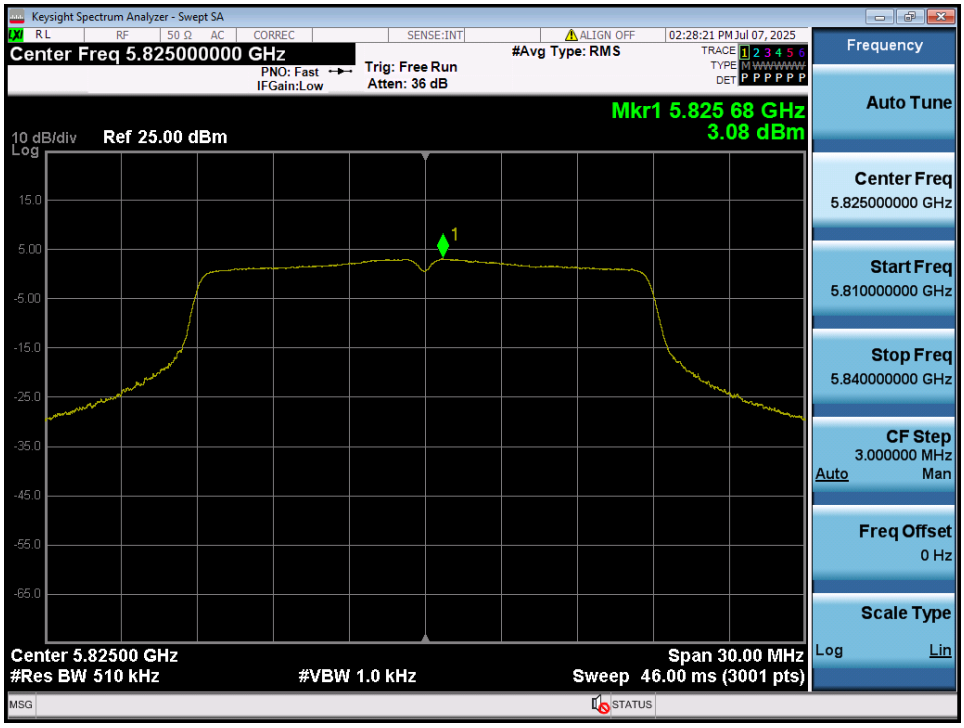
Maximum Power Spectral Density

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



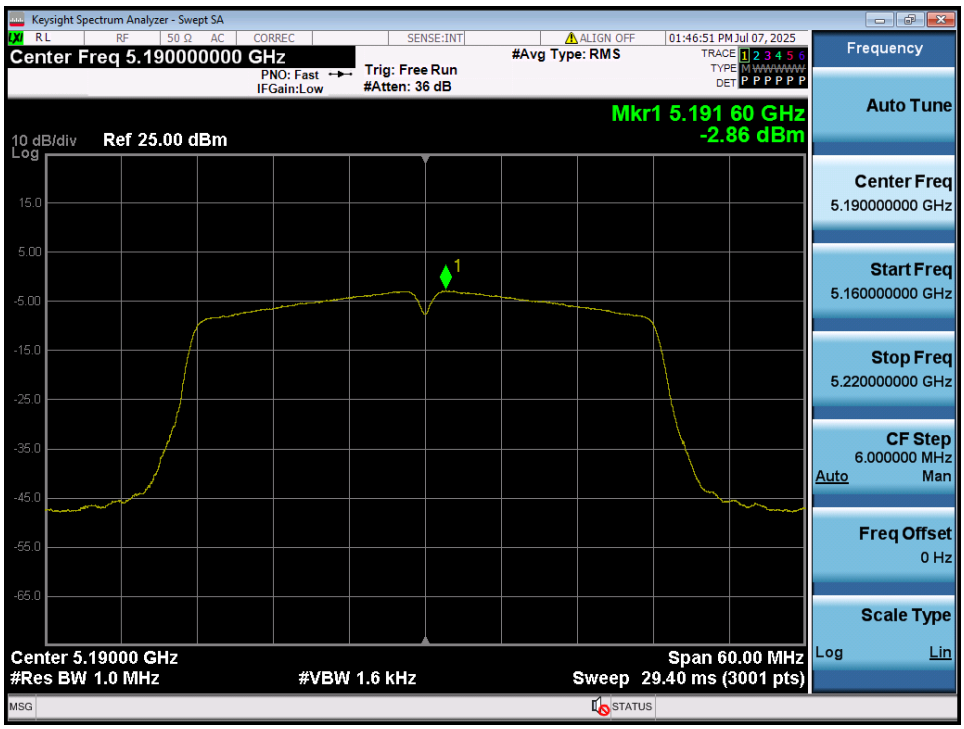
Maximum Power Spectral Density

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



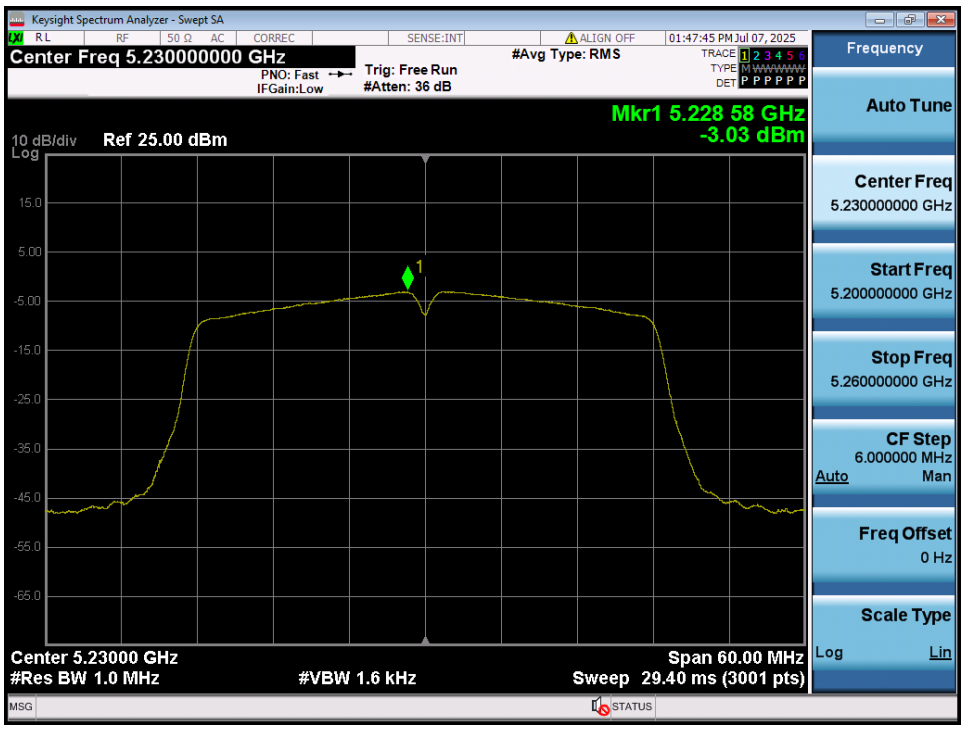
Maximum Power Spectral Density

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



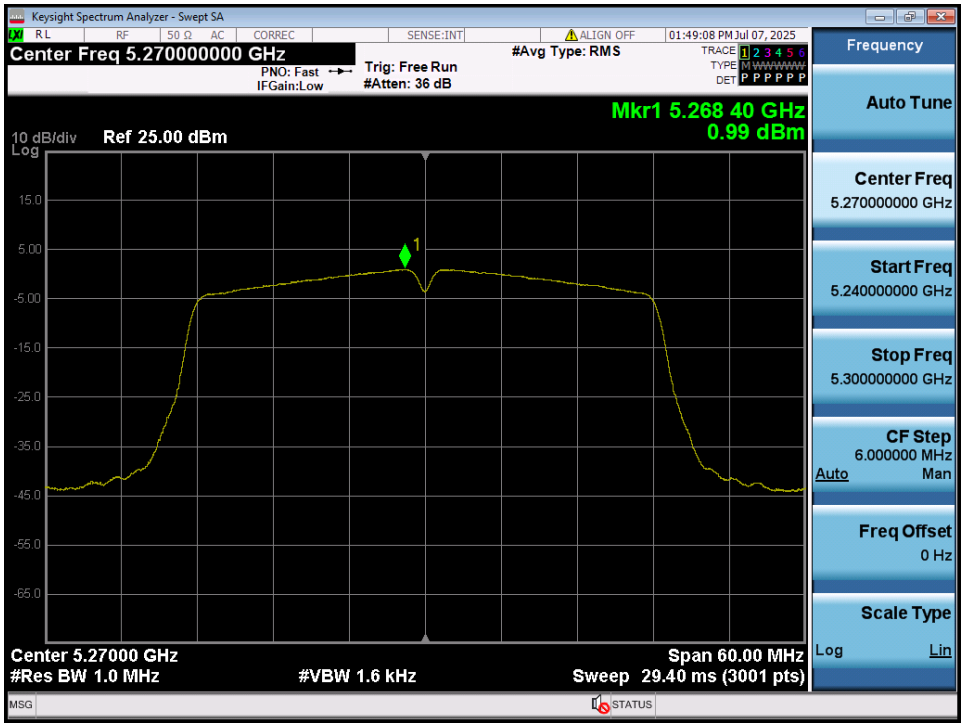
Maximum Power Spectral Density

Test Mode: TM 3 & ANT 1 & Ch.46



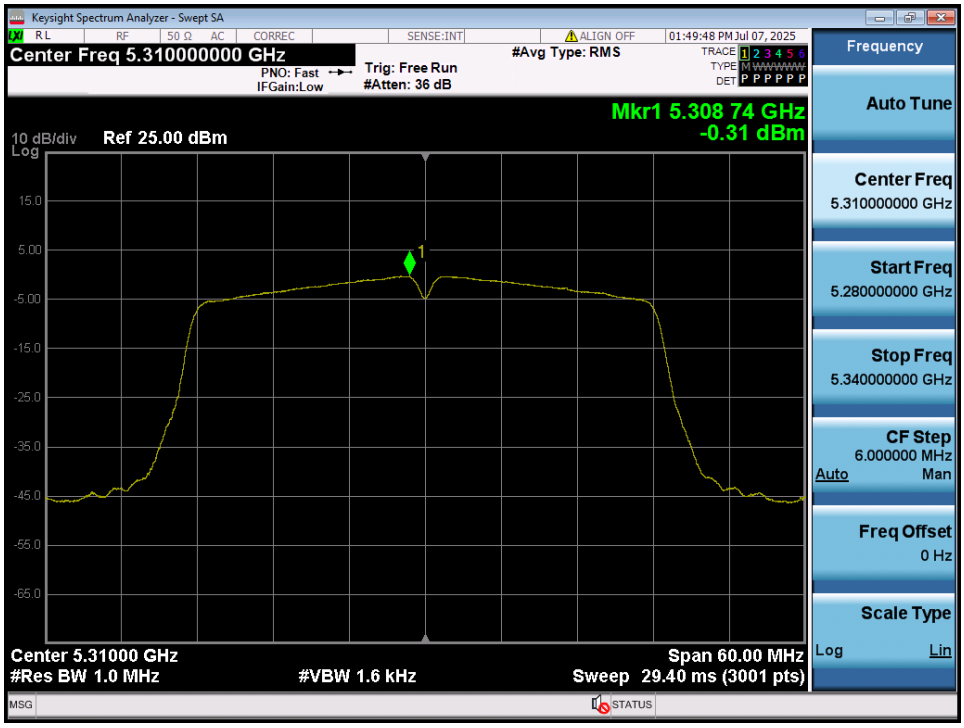
Maximum Power Spectral Density

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



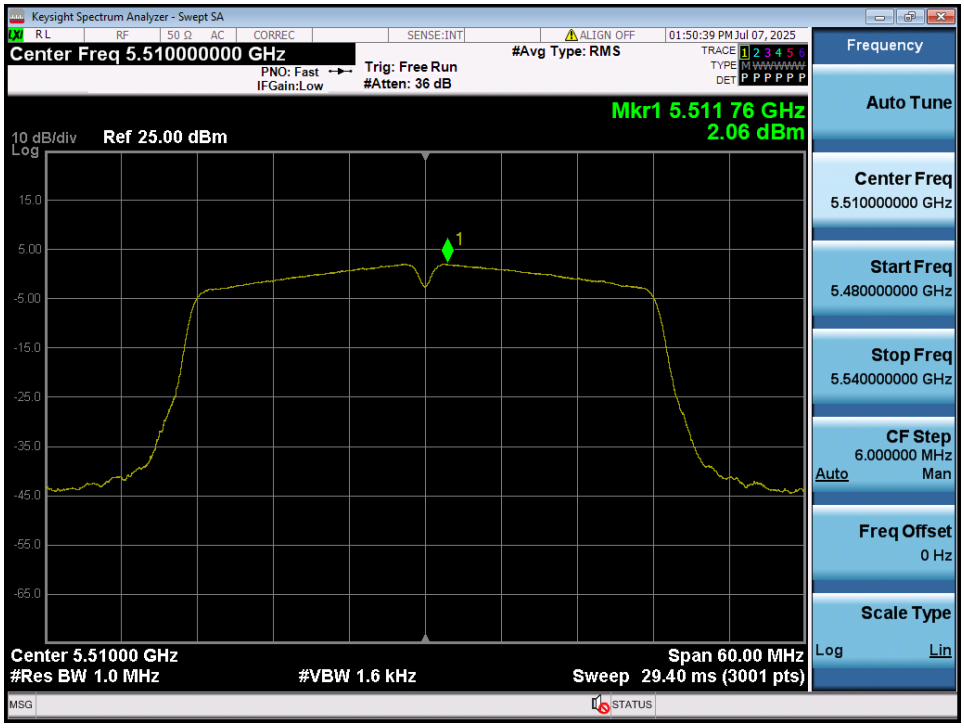
Maximum Power Spectral Density

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



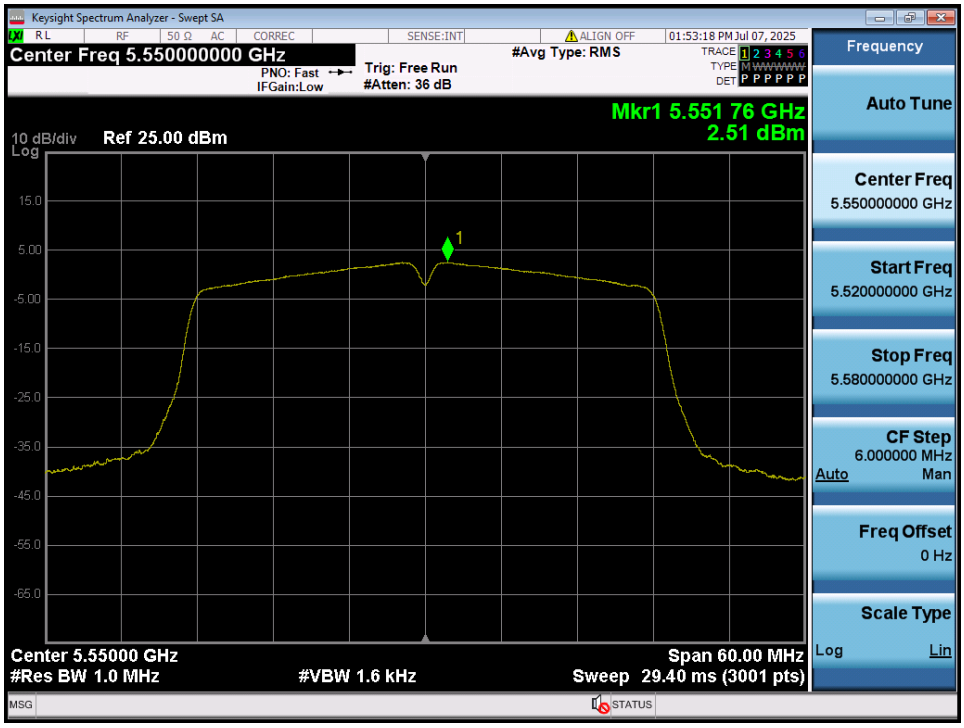
Maximum Power Spectral Density

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



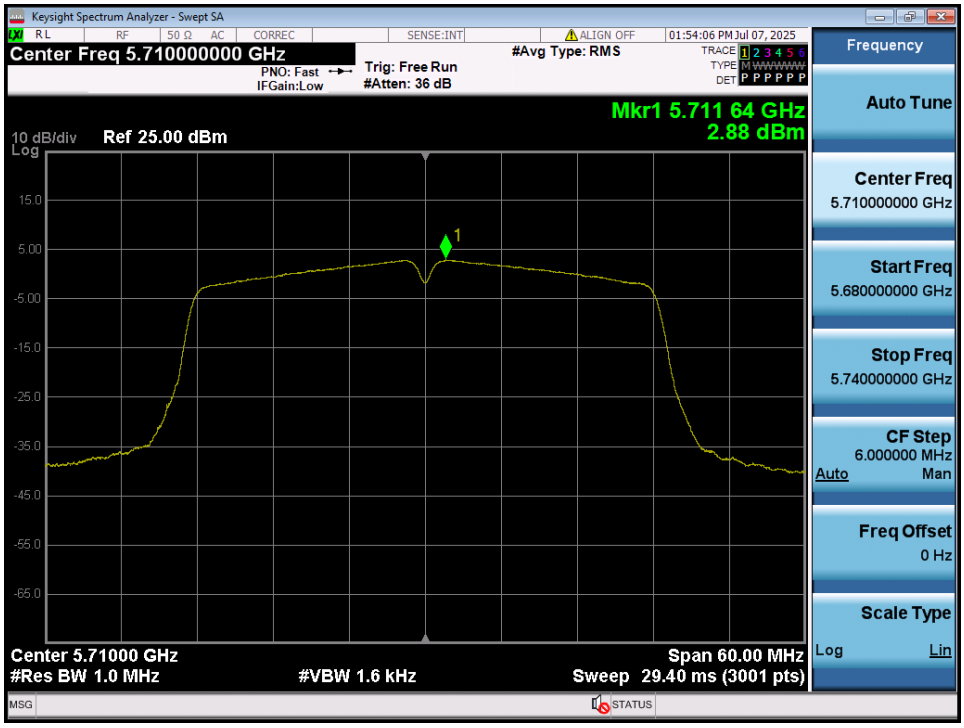
Maximum Power Spectral Density

Test Mode: TM 3 & ANT 1 & Ch.110



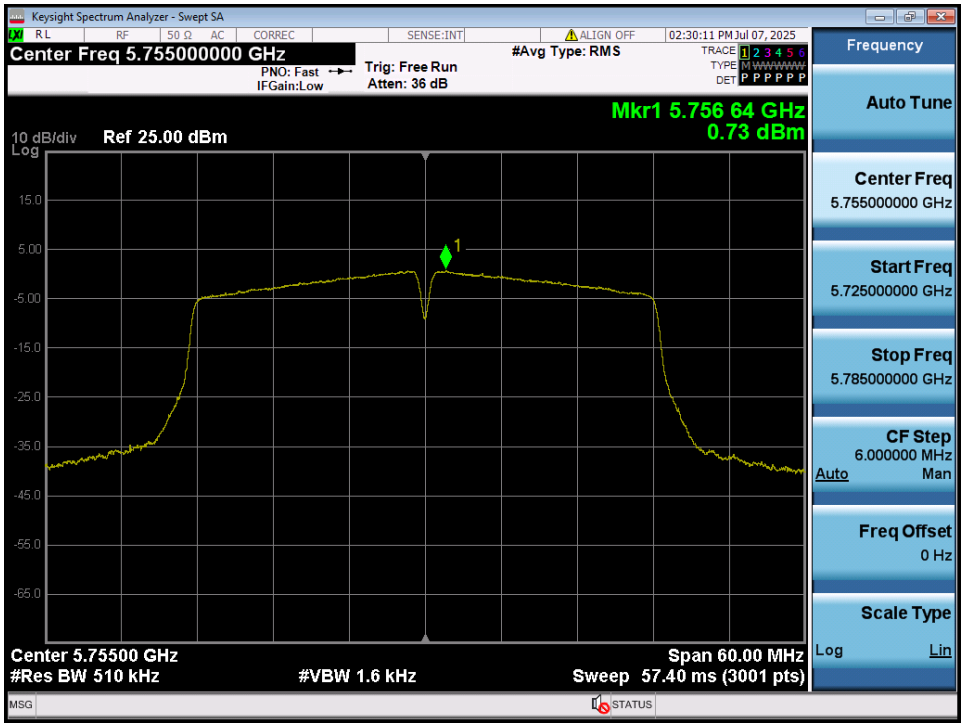
Maximum Power Spectral Density

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



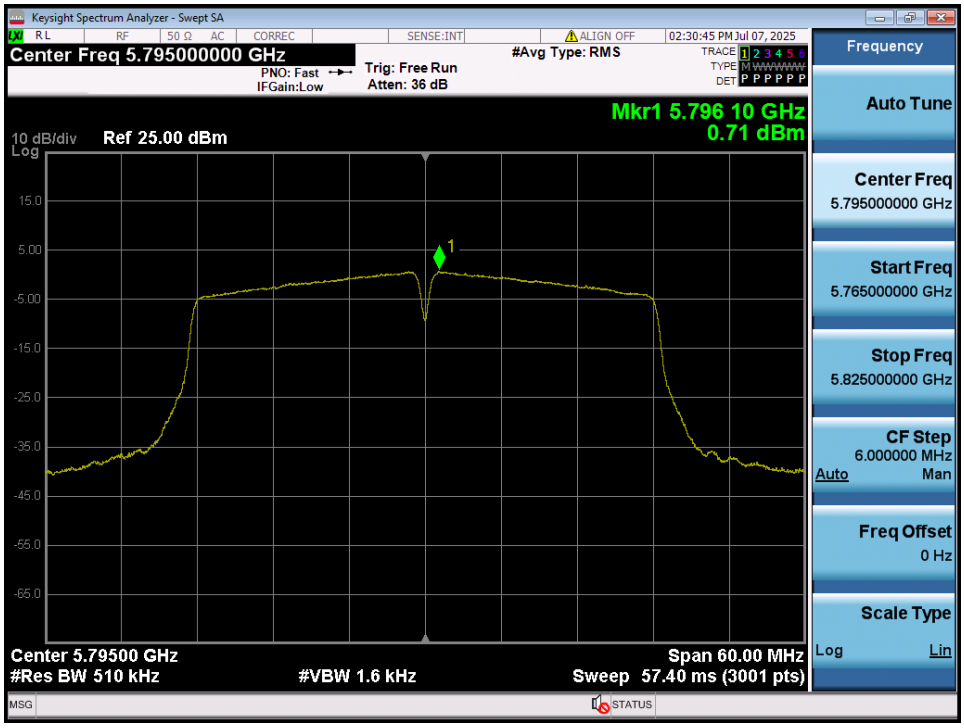
Maximum Power Spectral Density

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



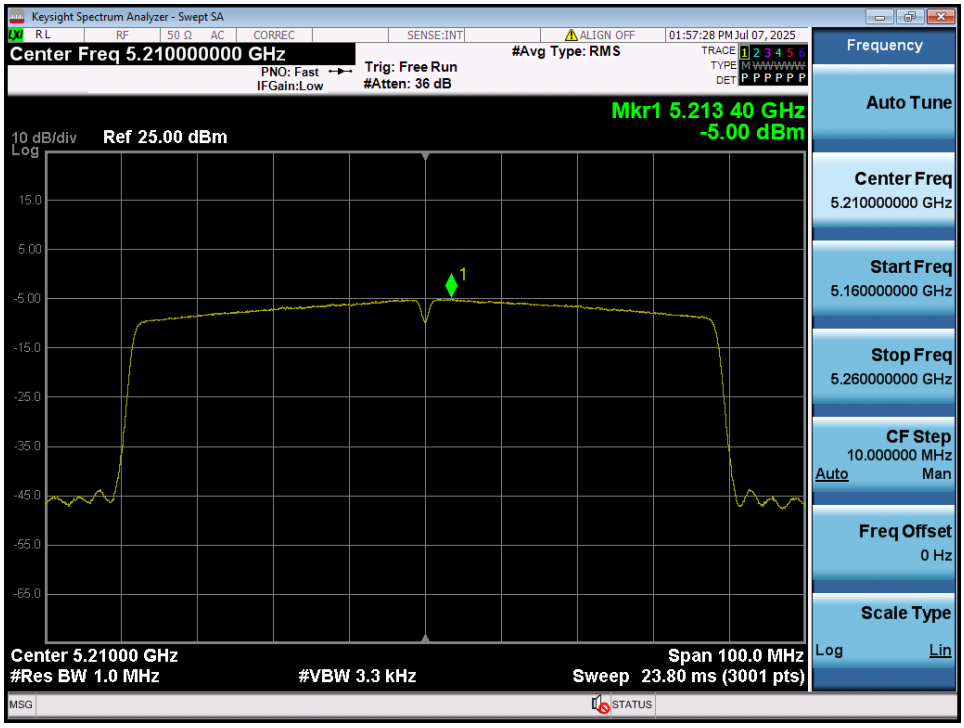
Maximum Power Spectral Density

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



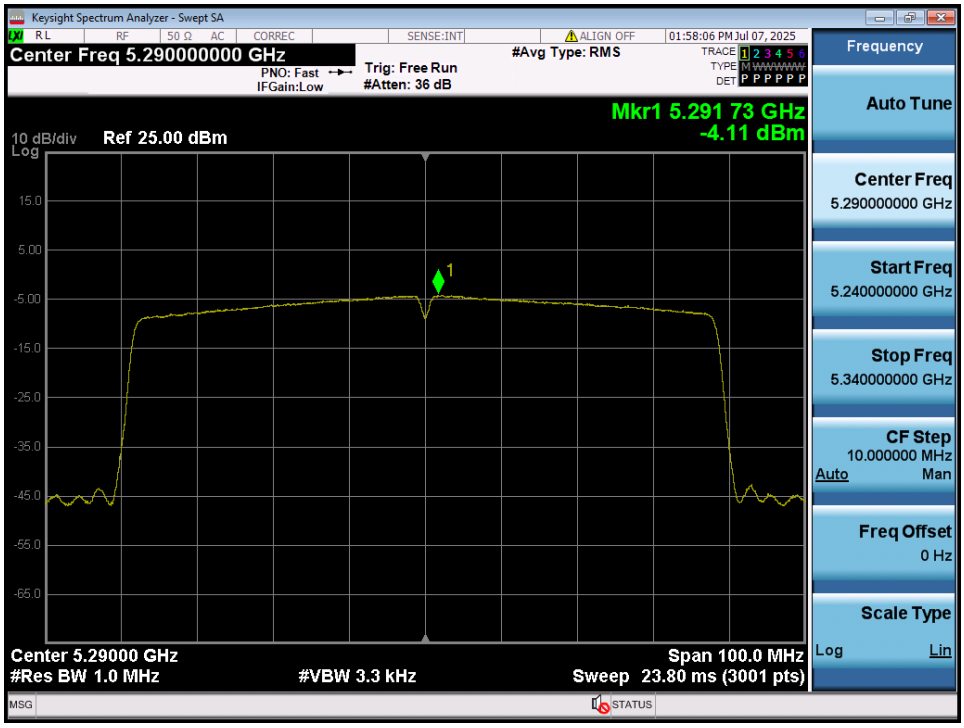
Maximum Power Spectral Density

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



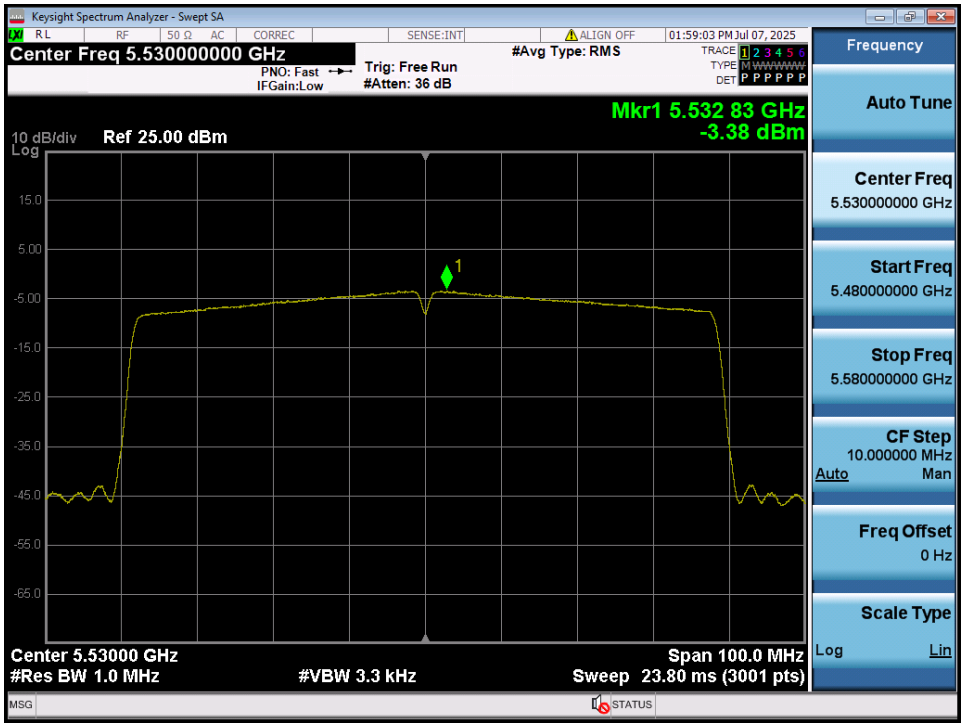
Maximum Power Spectral Density

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



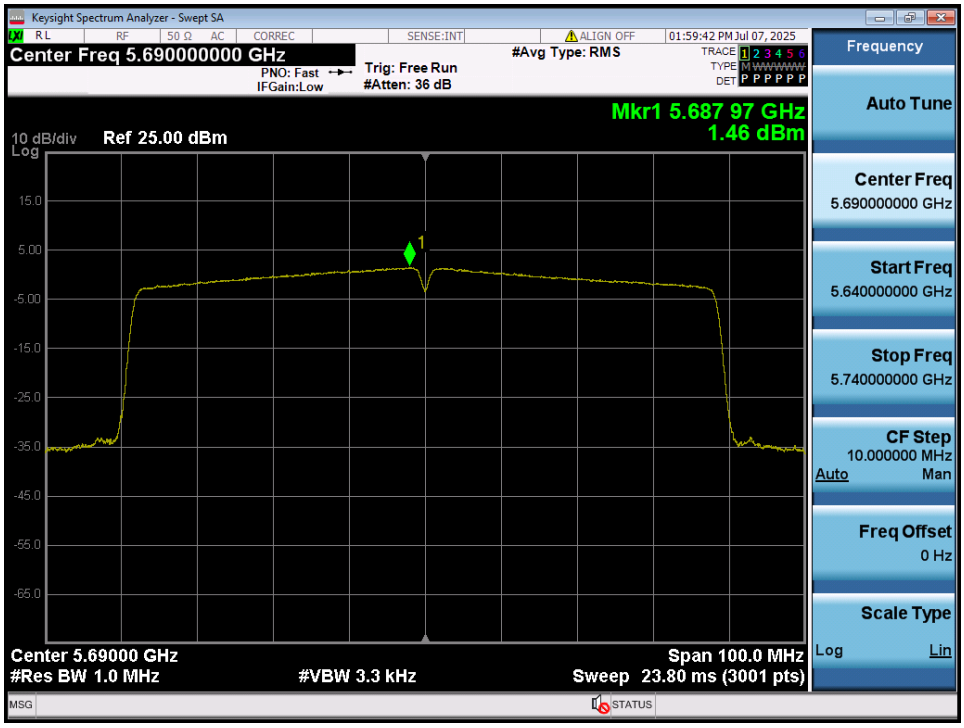
Maximum Power Spectral Density

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



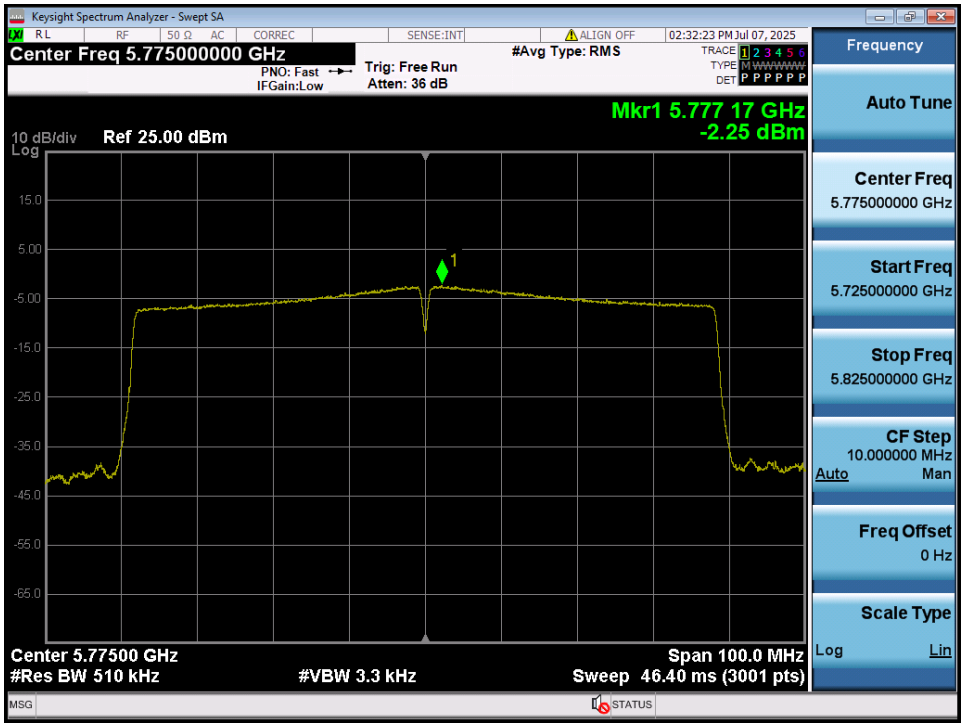
Maximum Power Spectral Density

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



Maximum Power Spectral Density

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



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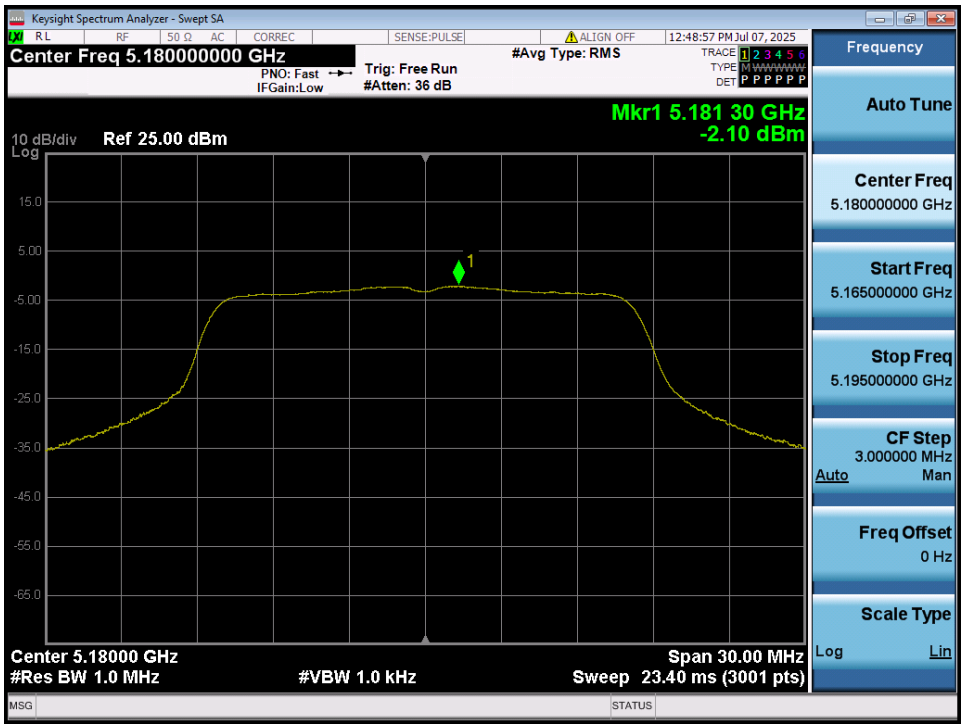
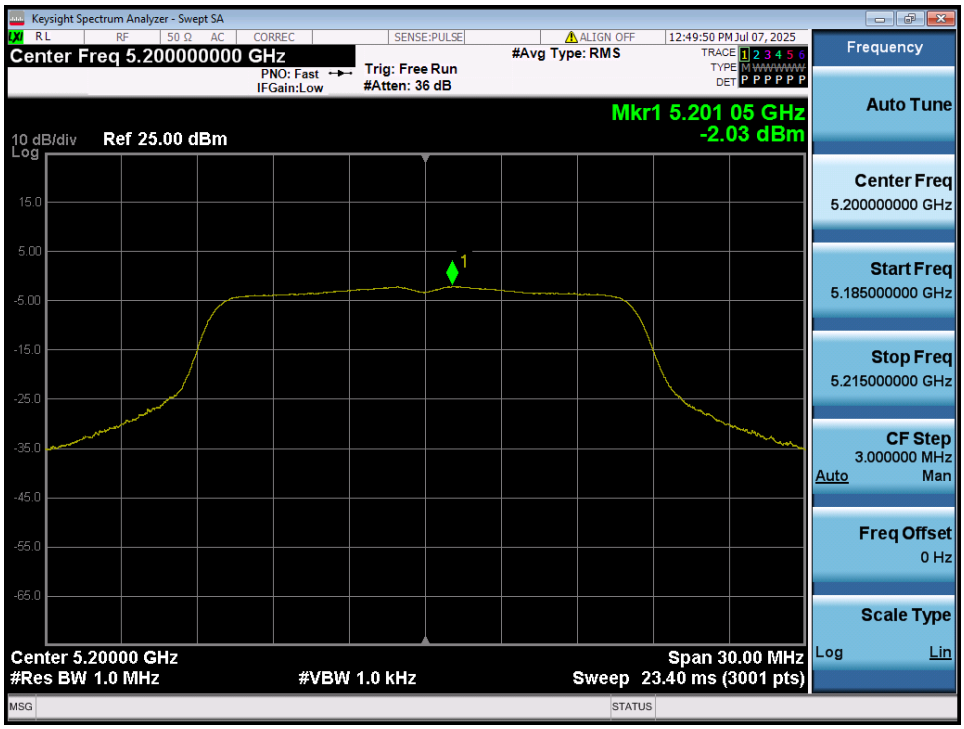
Maximum Power Spectral Density

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

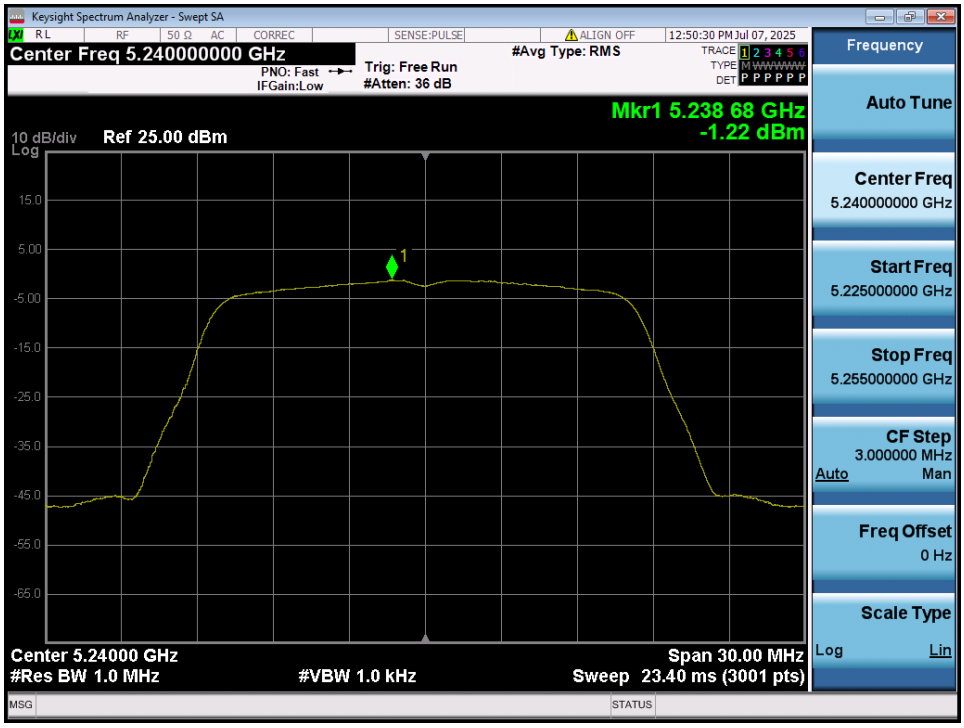


Maximum Power Spectral Density

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

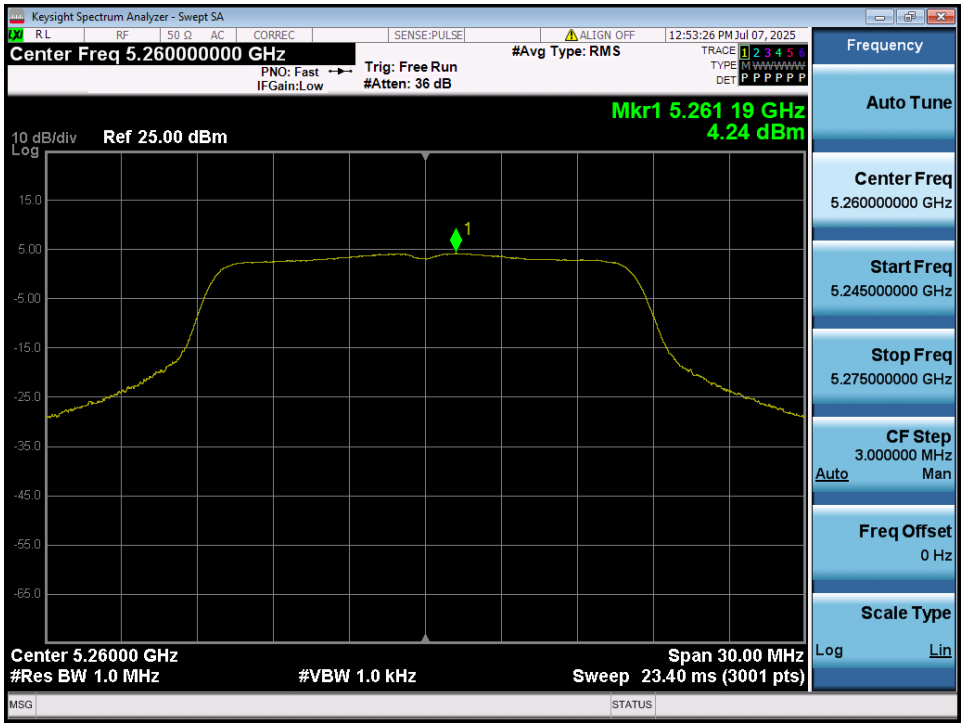


Maximum Power Spectral Density Test Mode: TM 1 & ANT 2 & Ch.48



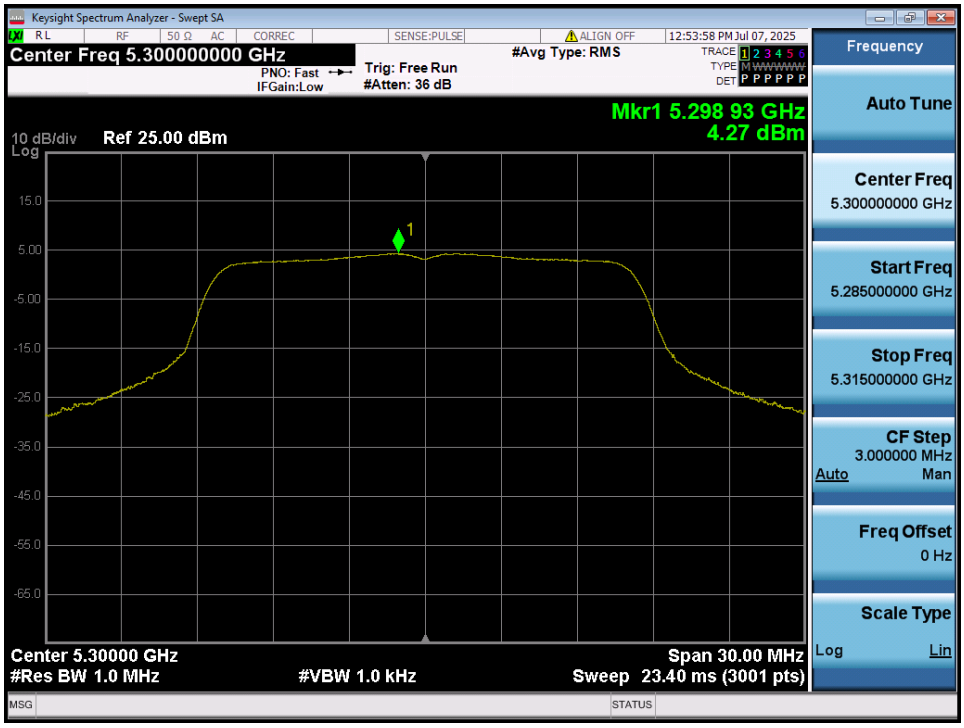
Maximum Power Spectral Density

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

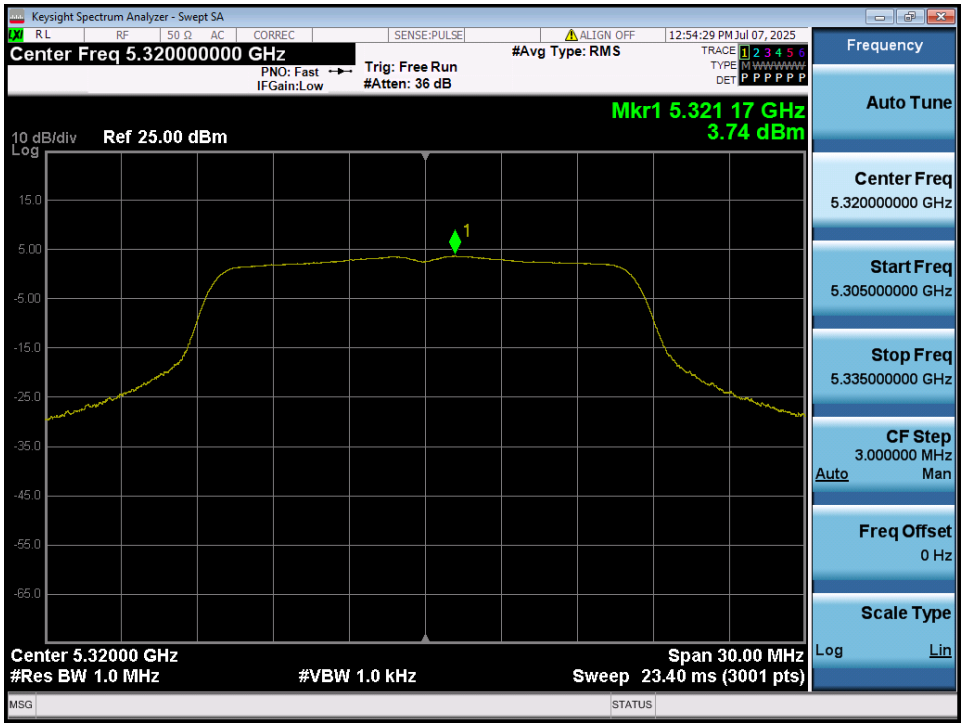


Maximum Power Spectral Density

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

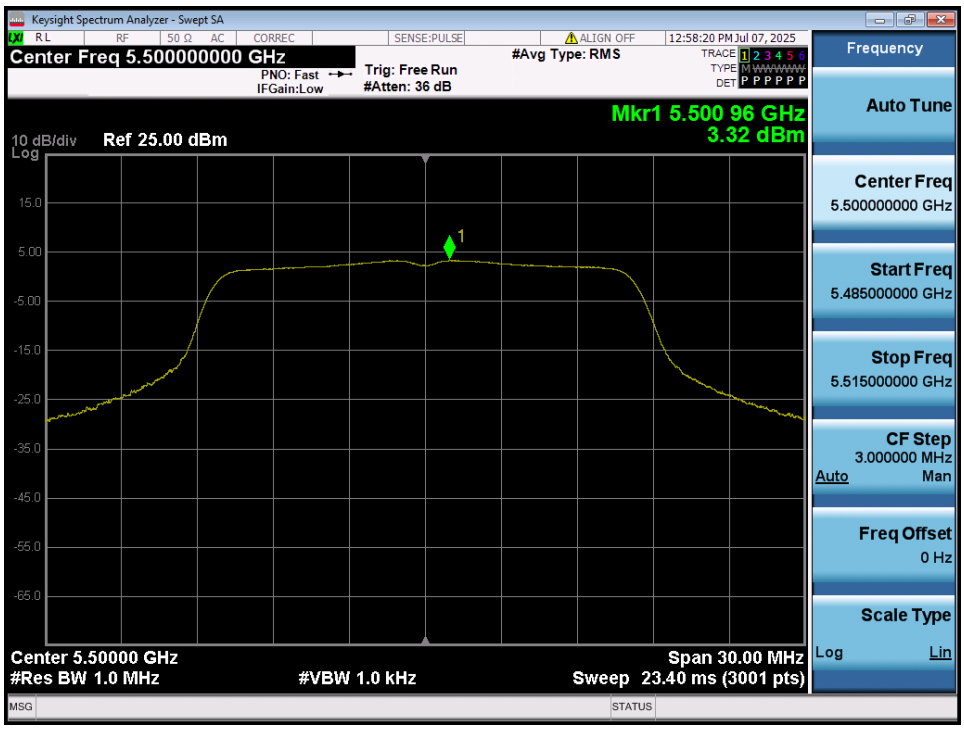


Maximum Power Spectral Density Test Mode: TM 1 & ANT 2 & Ch.64



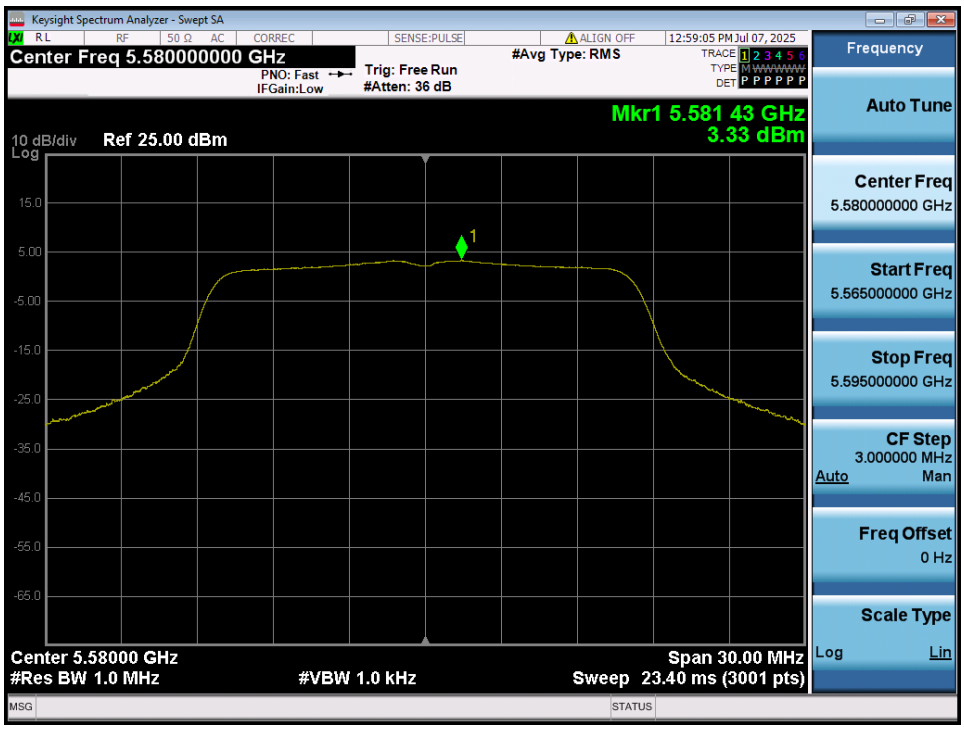
Maximum Power Spectral Density

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

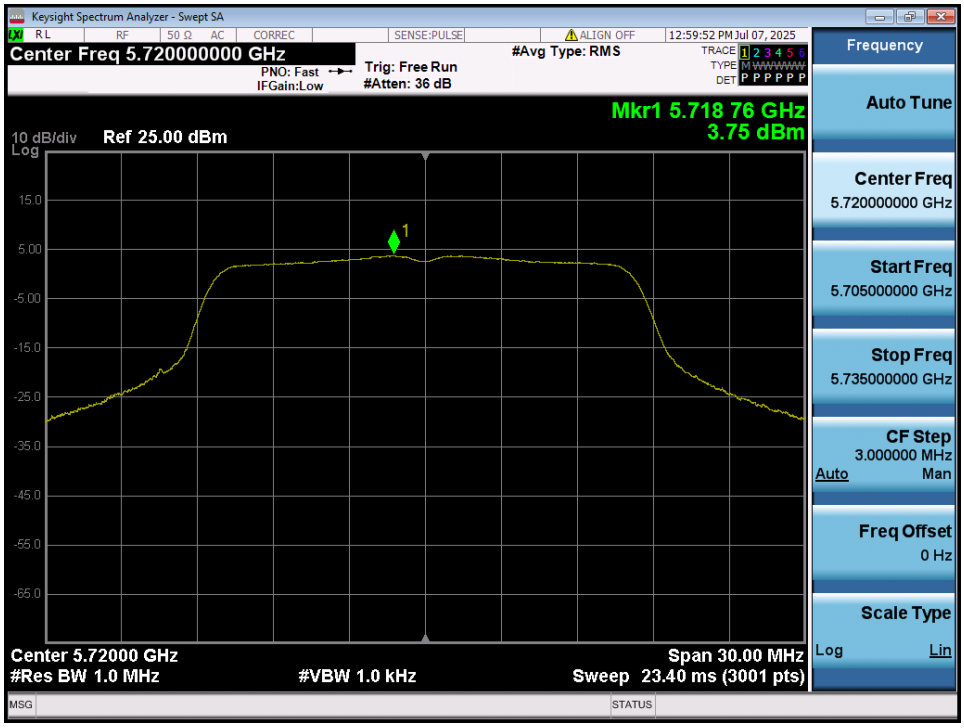


Maximum Power Spectral Density

Test Mode: TM 1 & ANT 2 & Ch.116

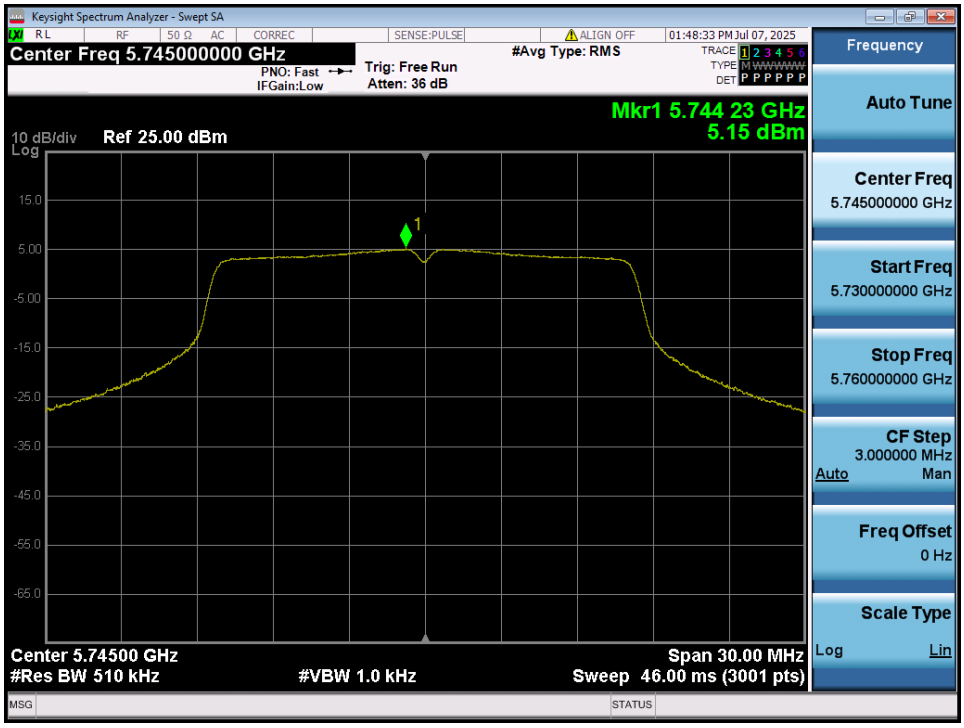


Maximum Power Spectral Density Test Mode: TM 1 & ANT 2 & Ch.144



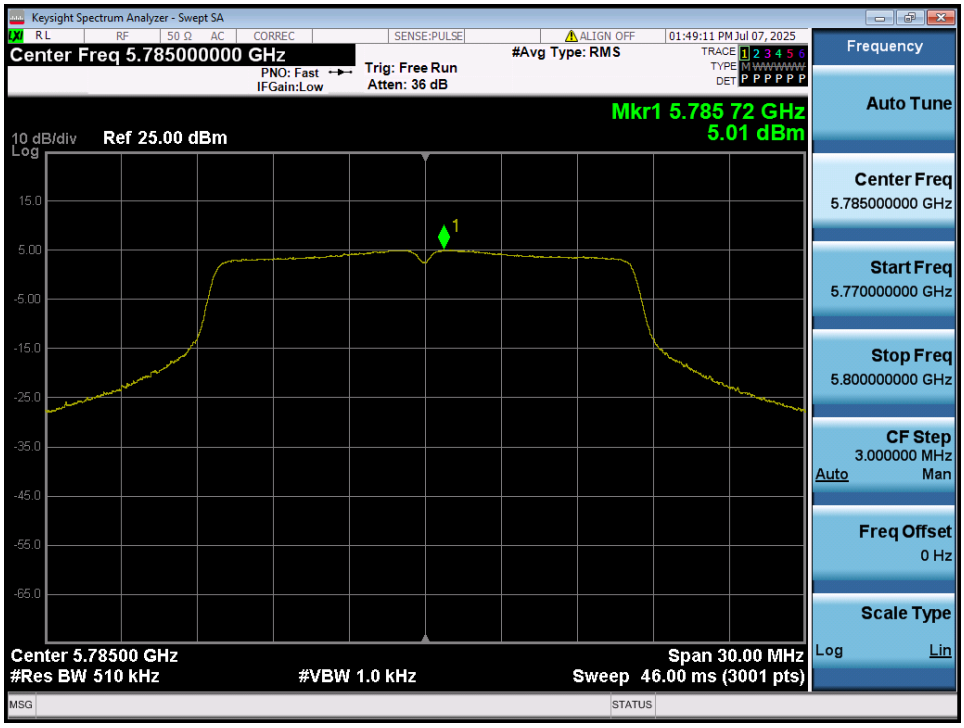
Maximum Power Spectral Density

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



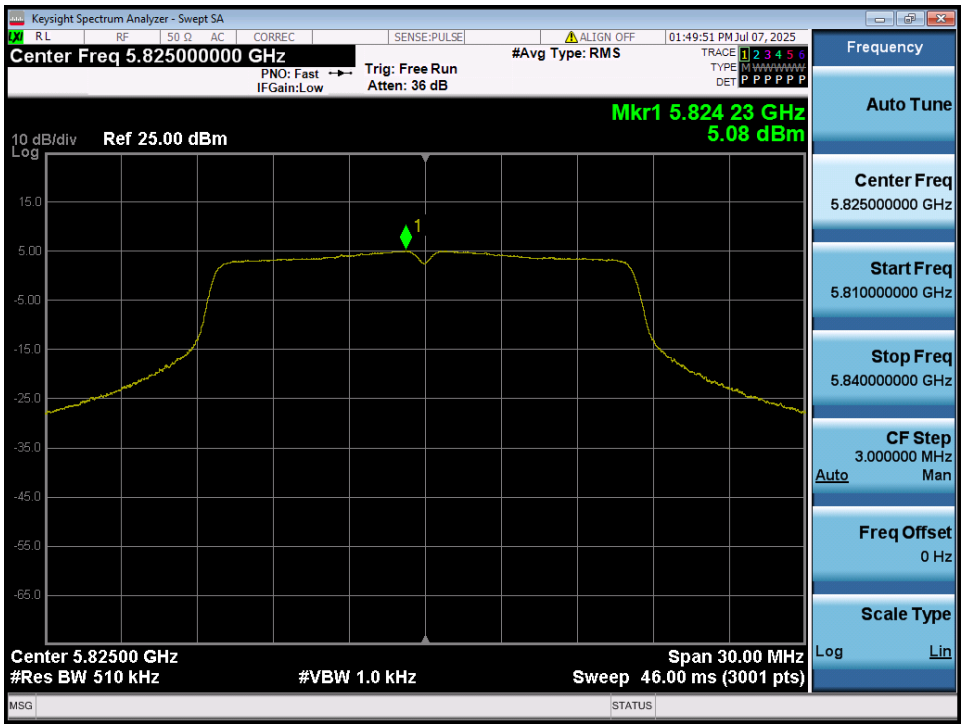
Maximum Power Spectral Density

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



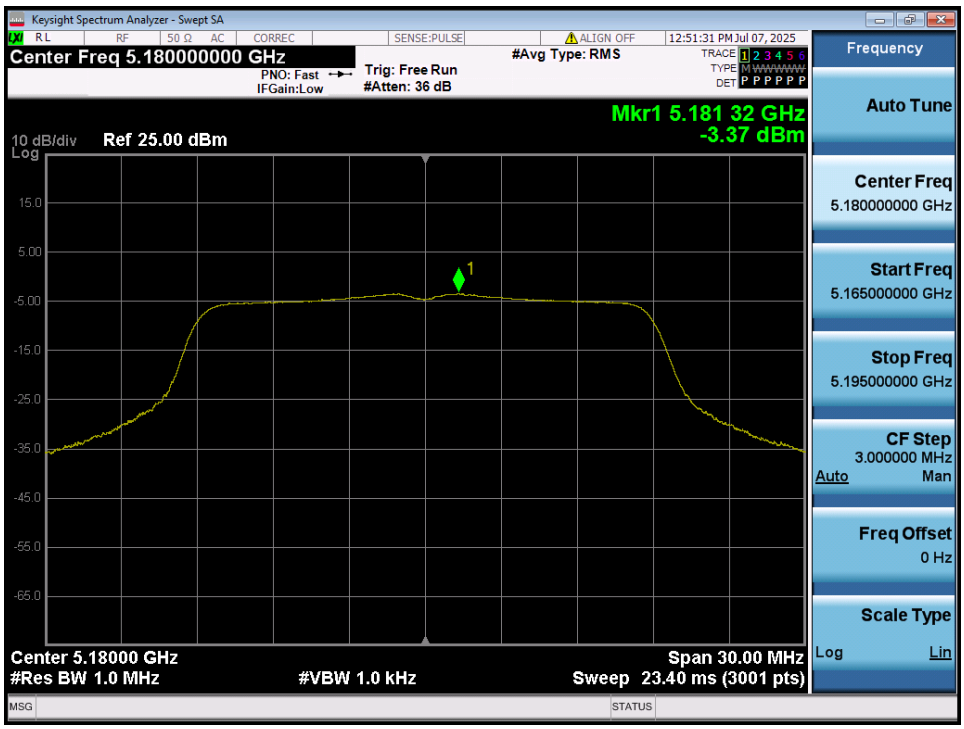
Maximum Power Spectral Density

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



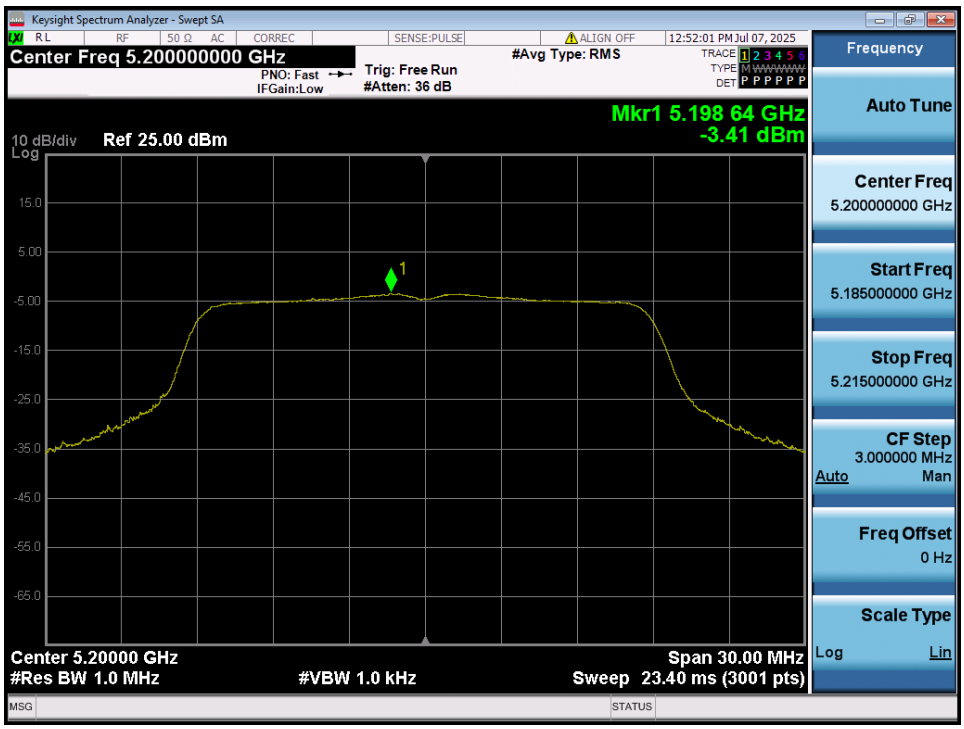
Maximum Power Spectral Density

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

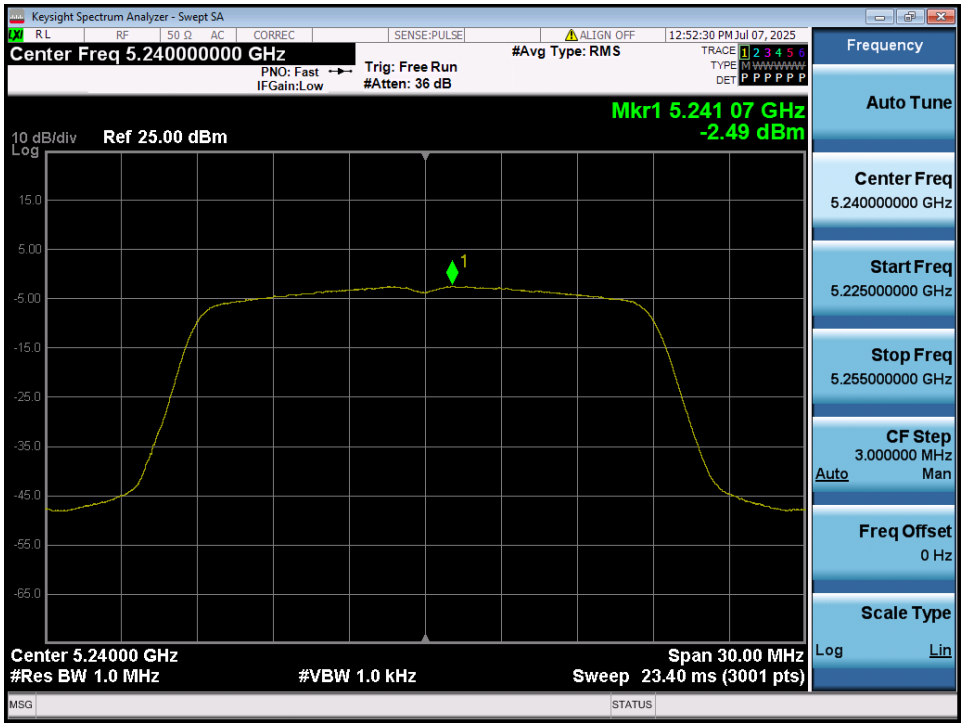


Maximum Power Spectral Density

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

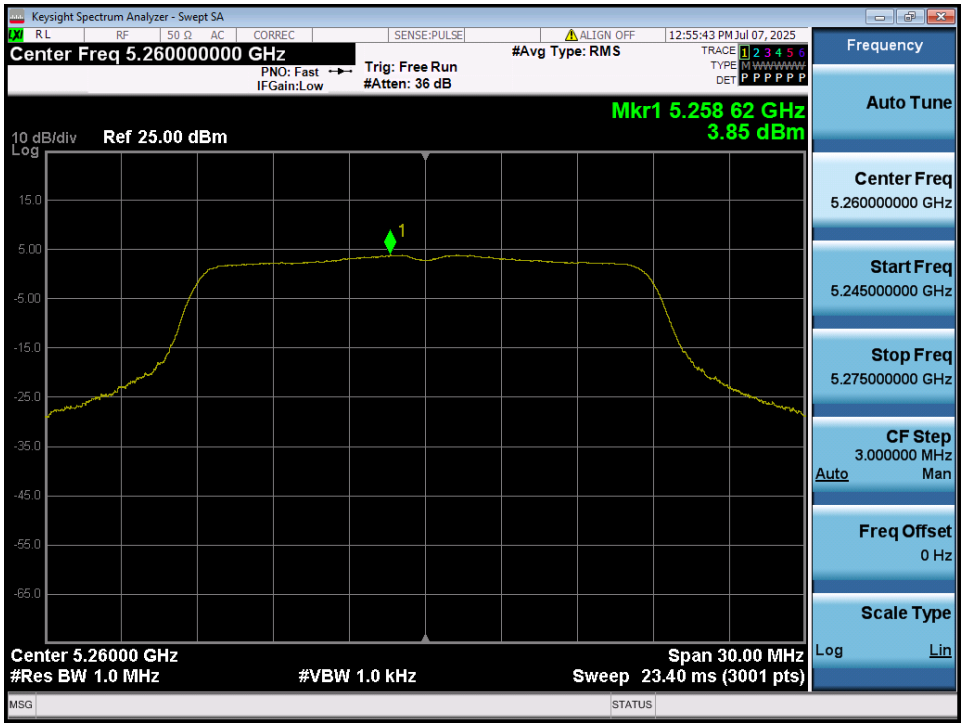


Maximum Power Spectral Density Test Mode: TM 2 & ANT 2 & Ch.48



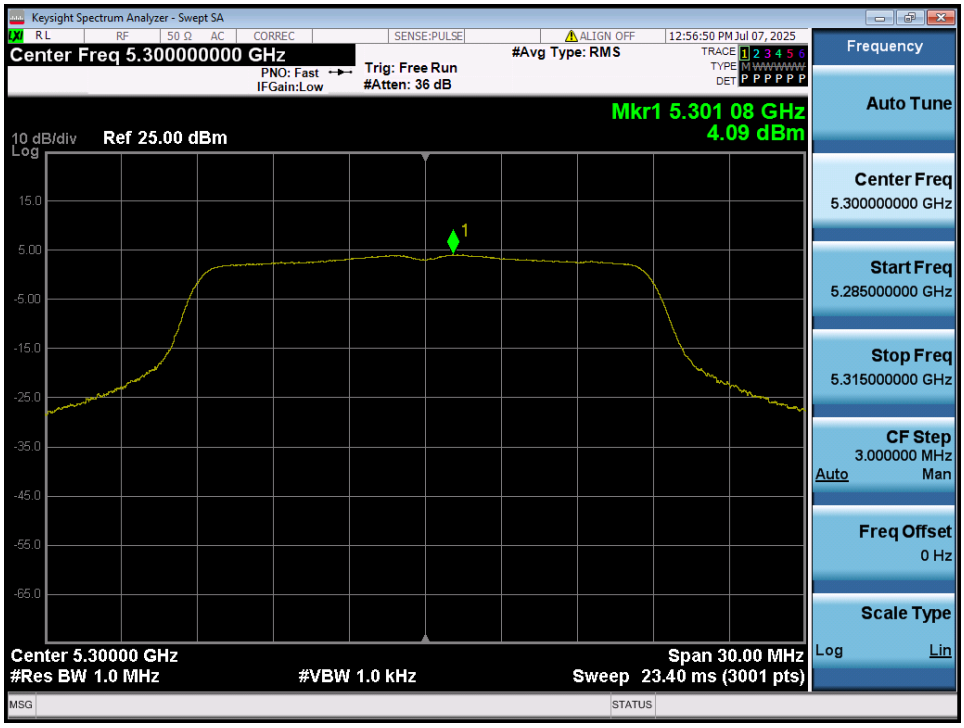
Maximum Power Spectral Density

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

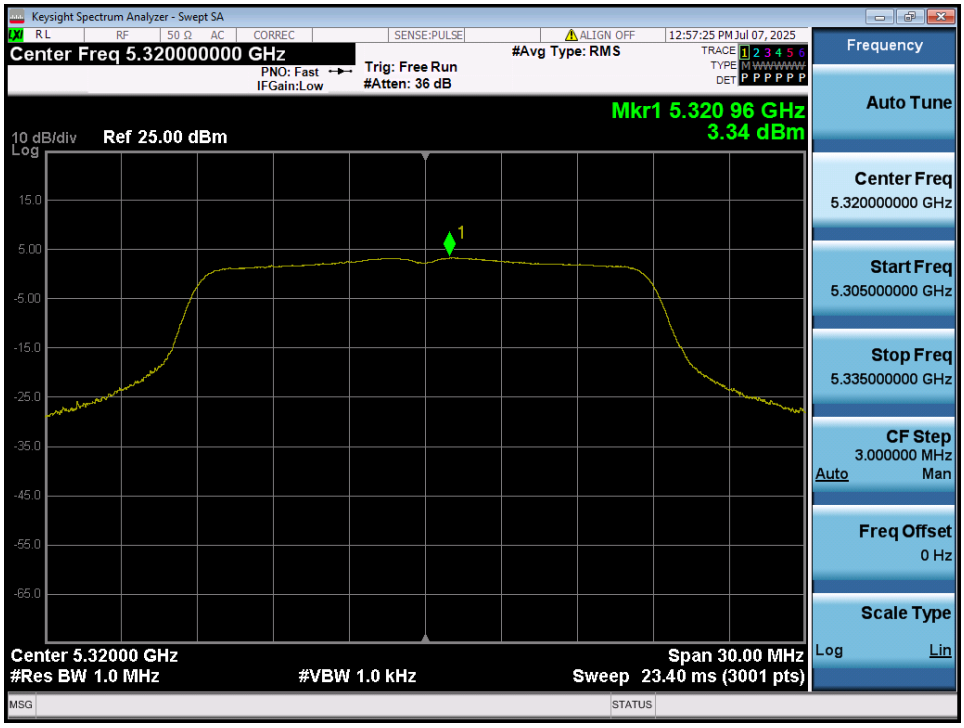


Maximum Power Spectral Density

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

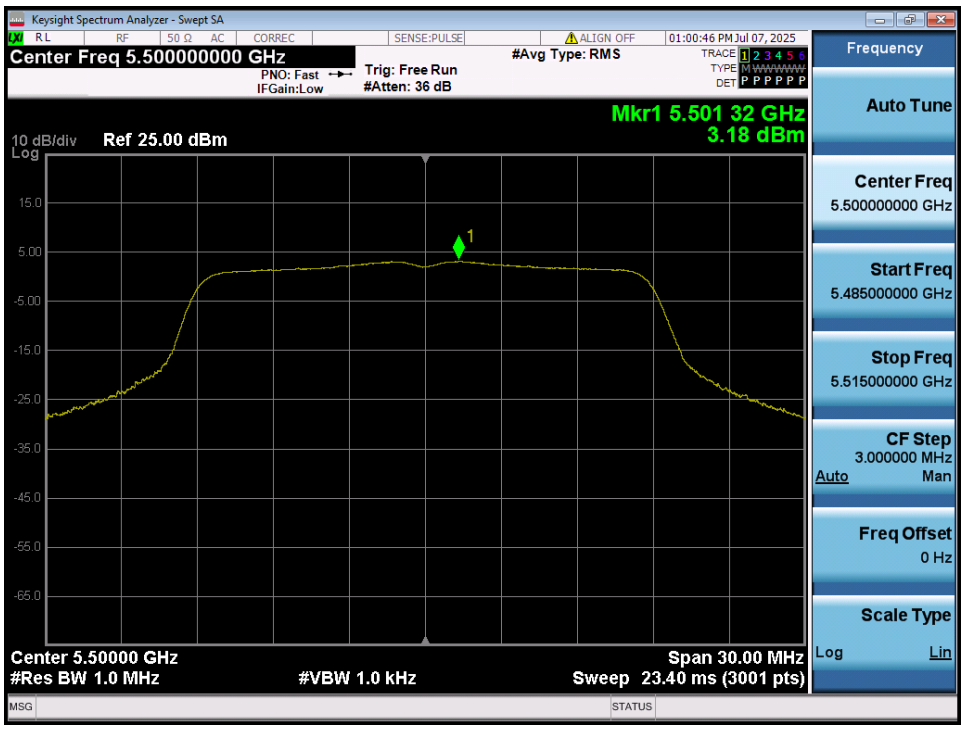


Maximum Power Spectral Density Test Mode: TM 2 & ANT 2 & Ch.64



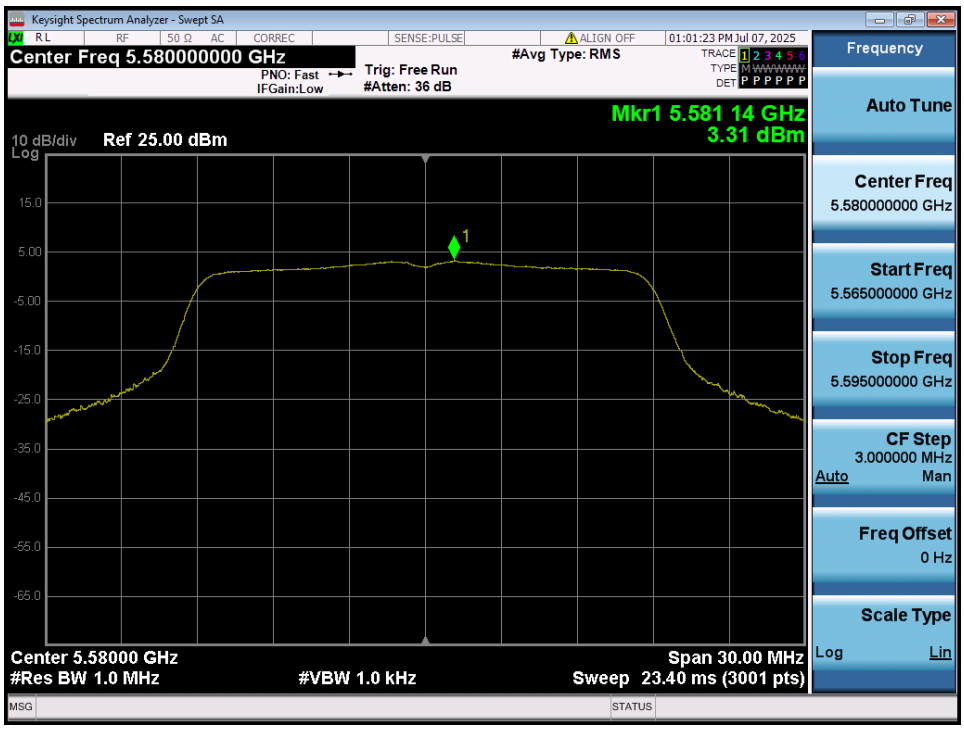
Maximum Power Spectral Density

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



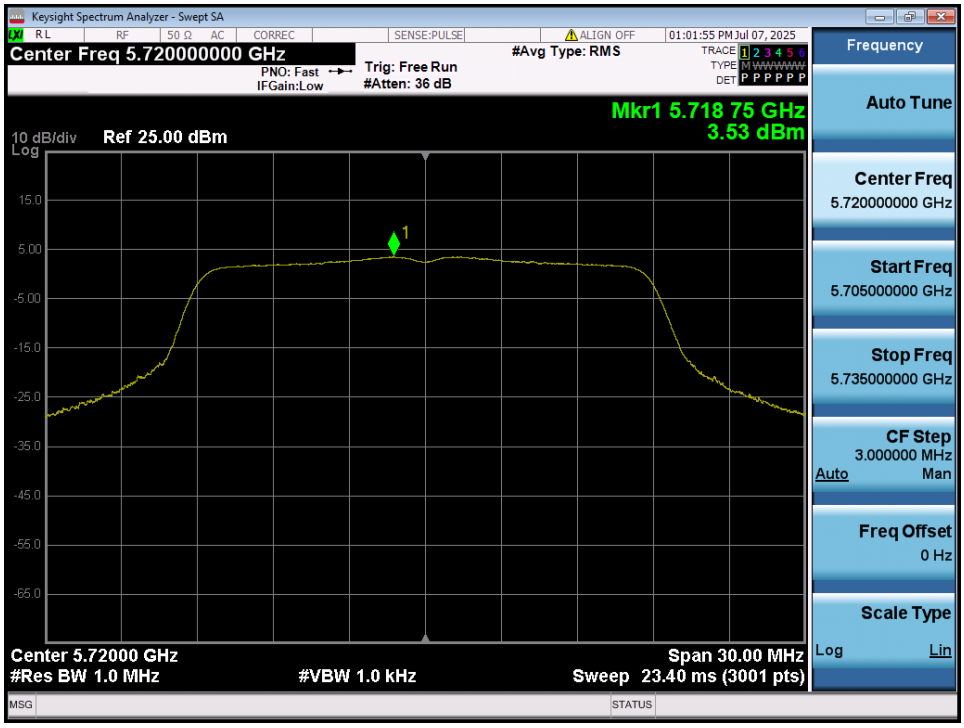
Maximum Power Spectral Density

Test Mode: TM 2 & ANT 2 & Ch.116



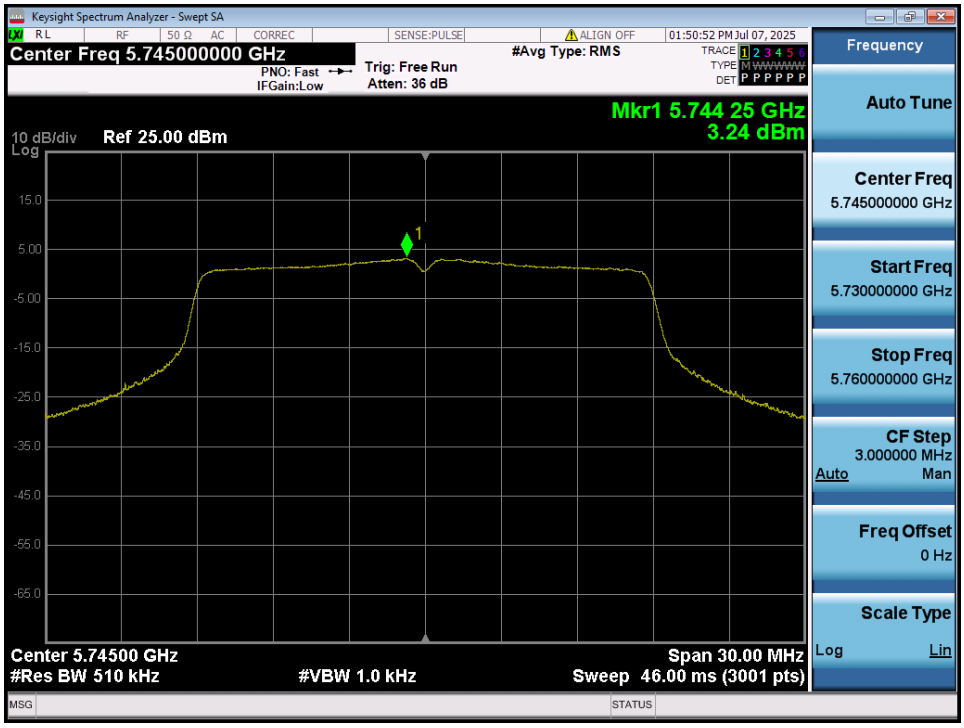
Maximum Power Spectral Density

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



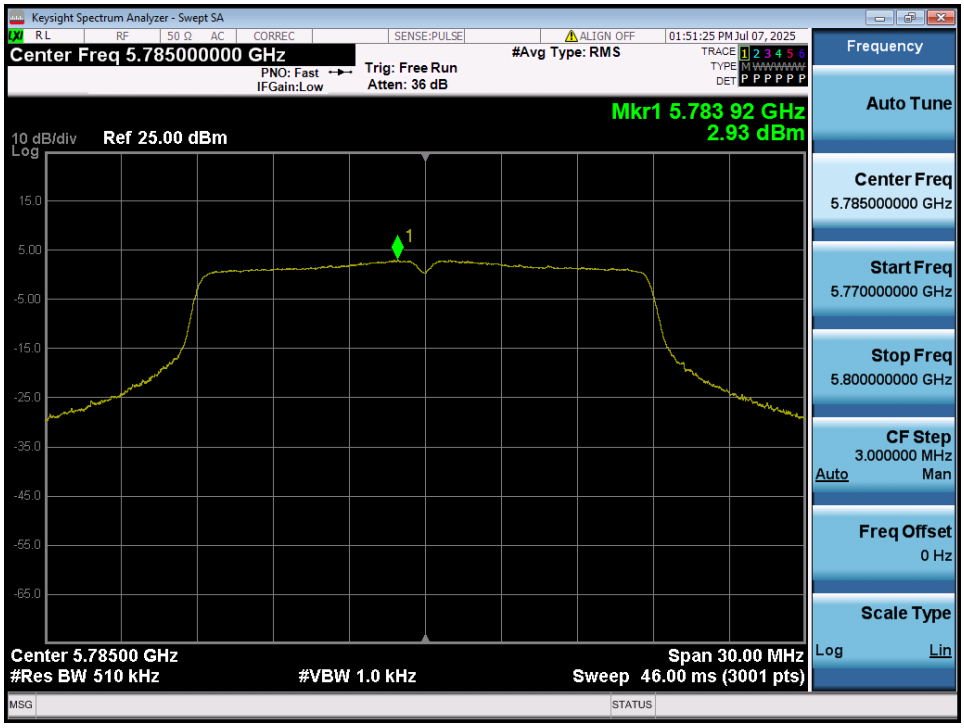
Maximum Power Spectral Density

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



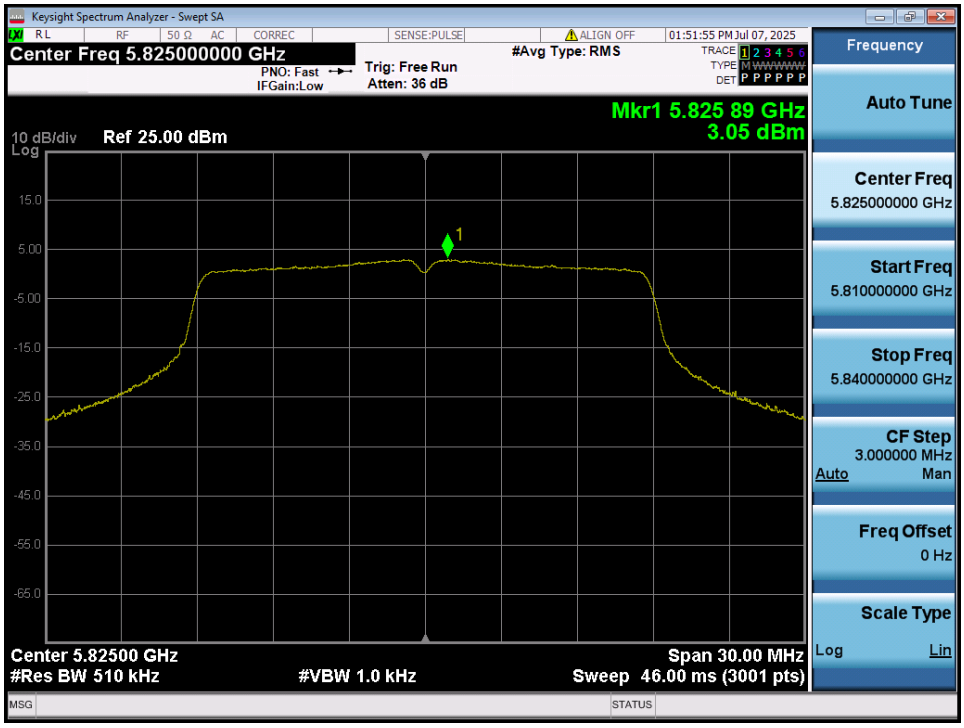
Maximum Power Spectral Density

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



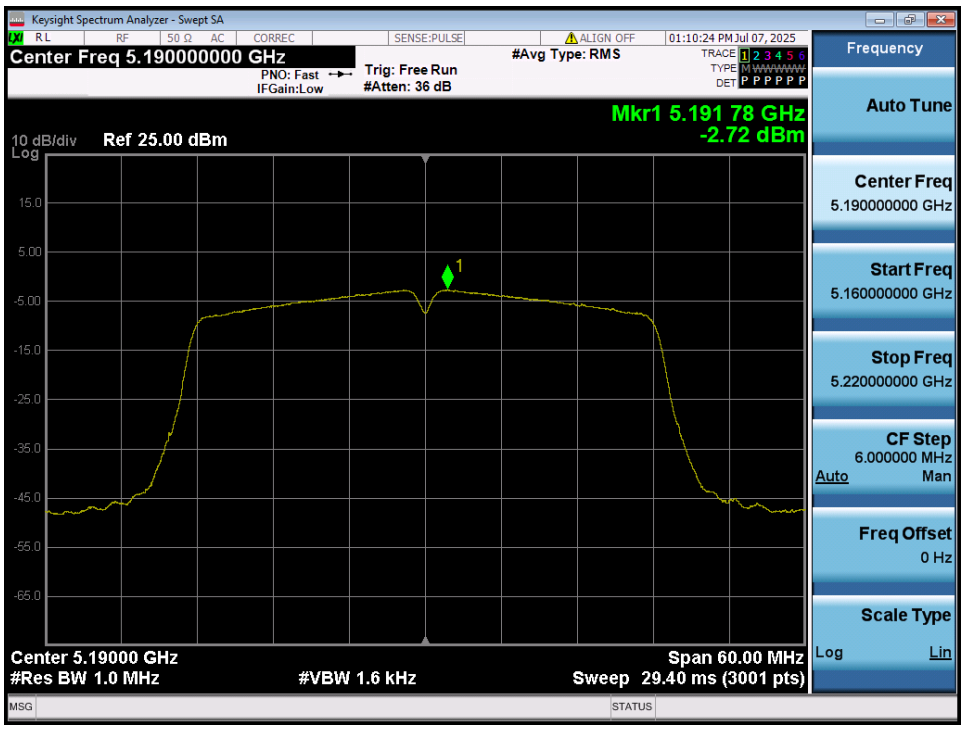
Maximum Power Spectral Density

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



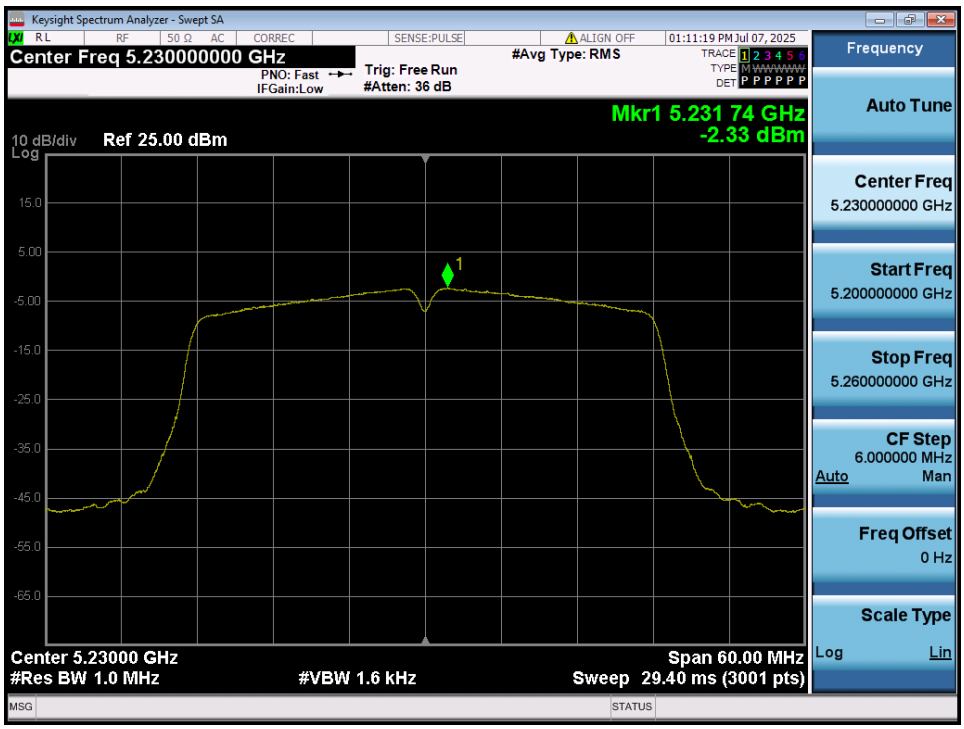
Maximum Power Spectral Density

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



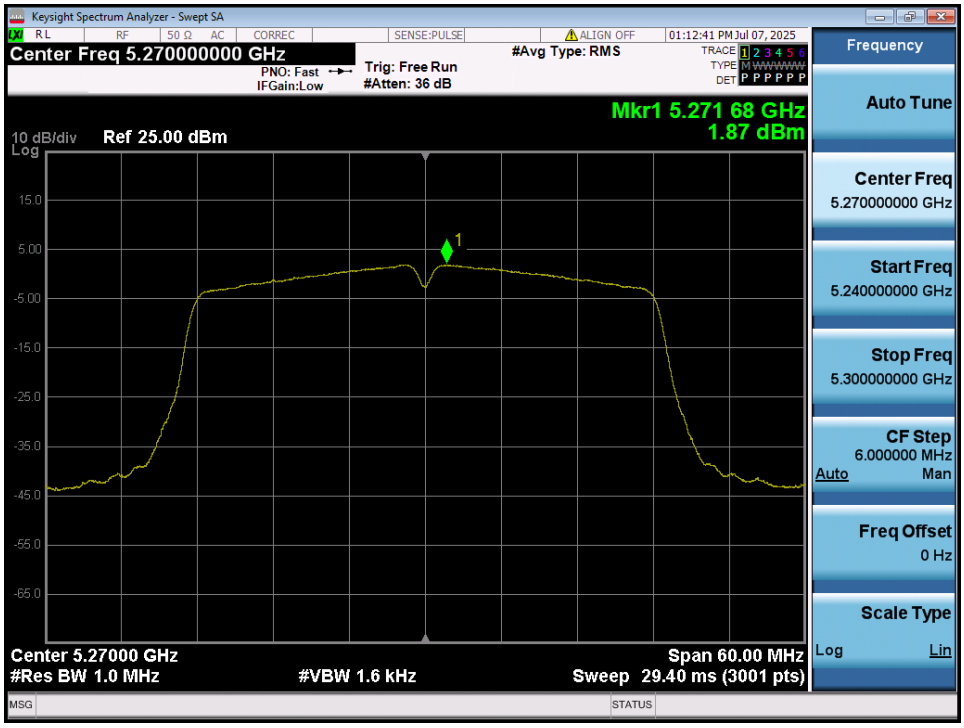
Maximum Power Spectral Density

Test Mode: TM 3 & ANT 2 & Ch.46



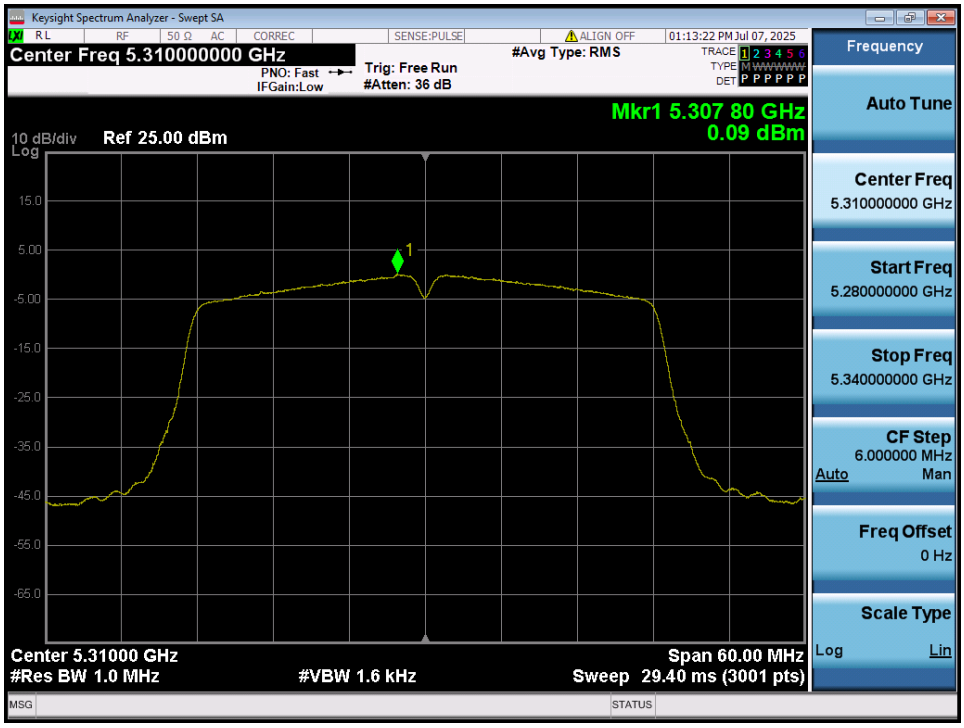
Maximum Power Spectral Density

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



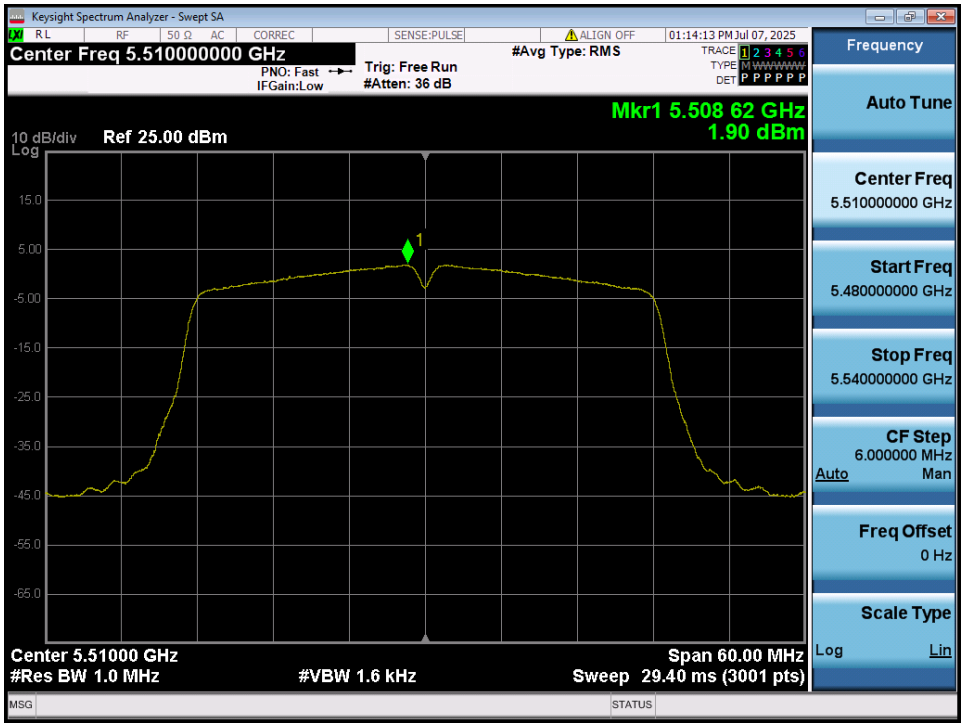
Maximum Power Spectral Density

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



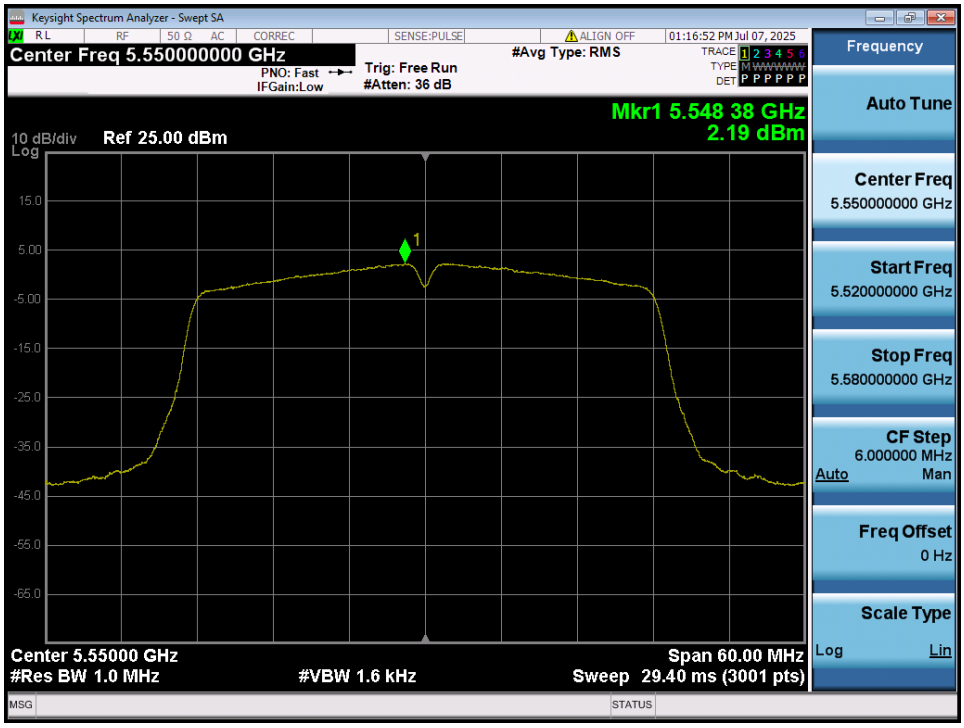
Maximum Power Spectral Density

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

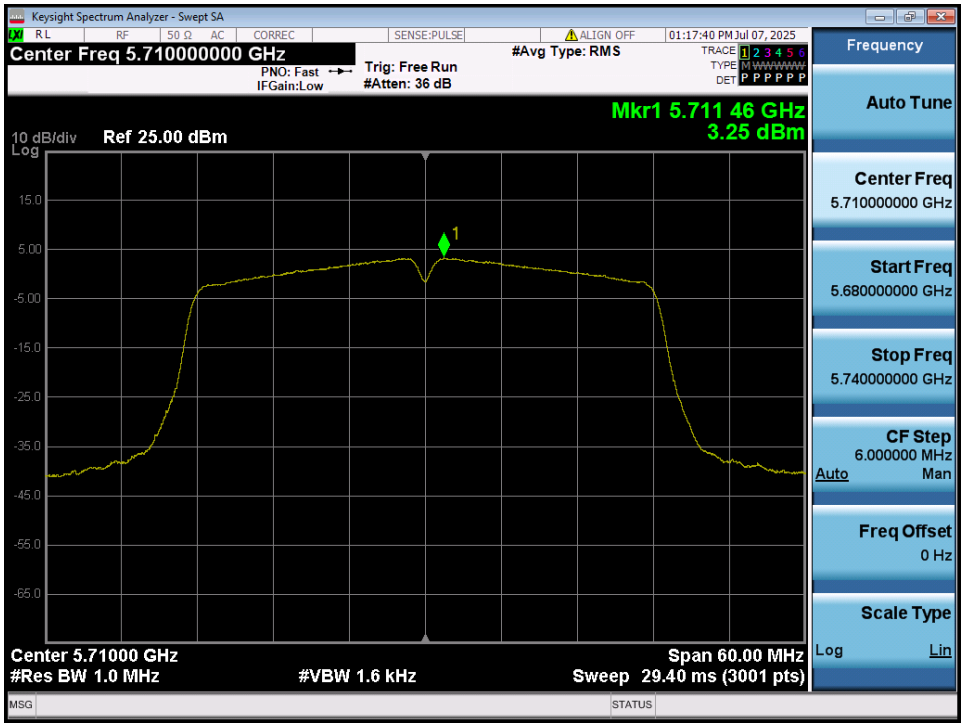


Maximum Power Spectral Density

Test Mode: TM 3 & ANT 2 & Ch.110

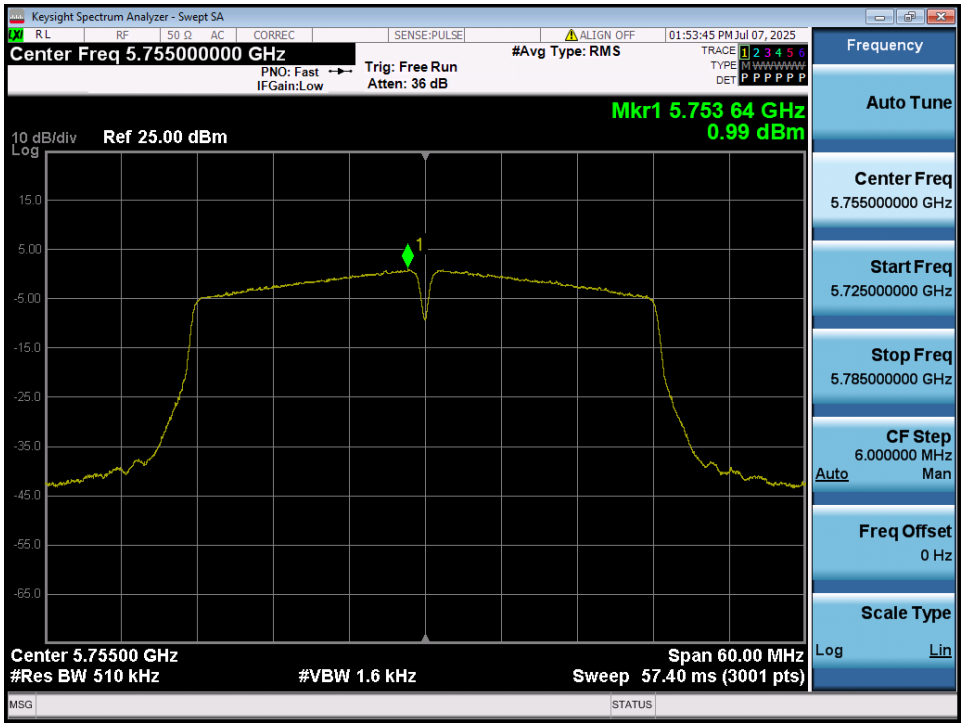


Maximum Power Spectral Density Test Mode: TM 3 & ANT 2 & Ch.142



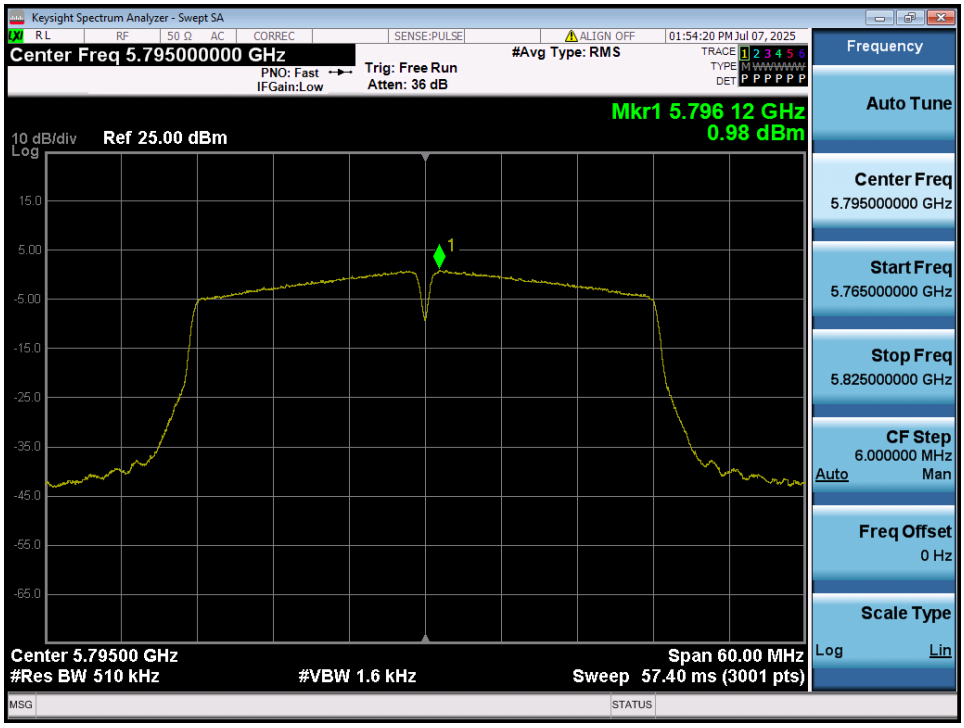
Maximum Power Spectral Density

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



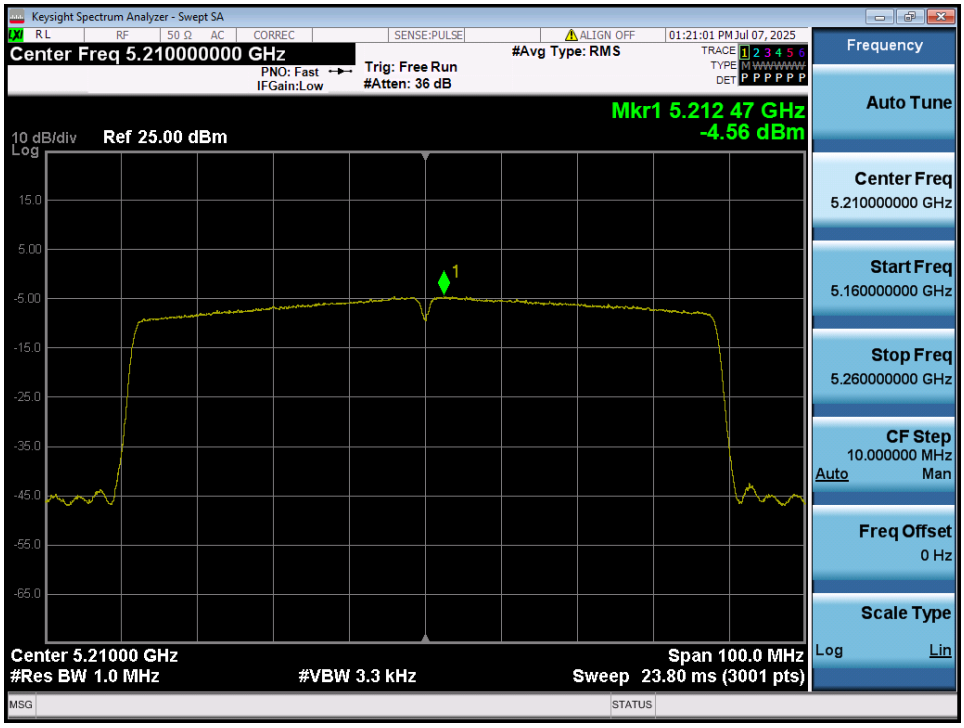
Maximum Power Spectral Density

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



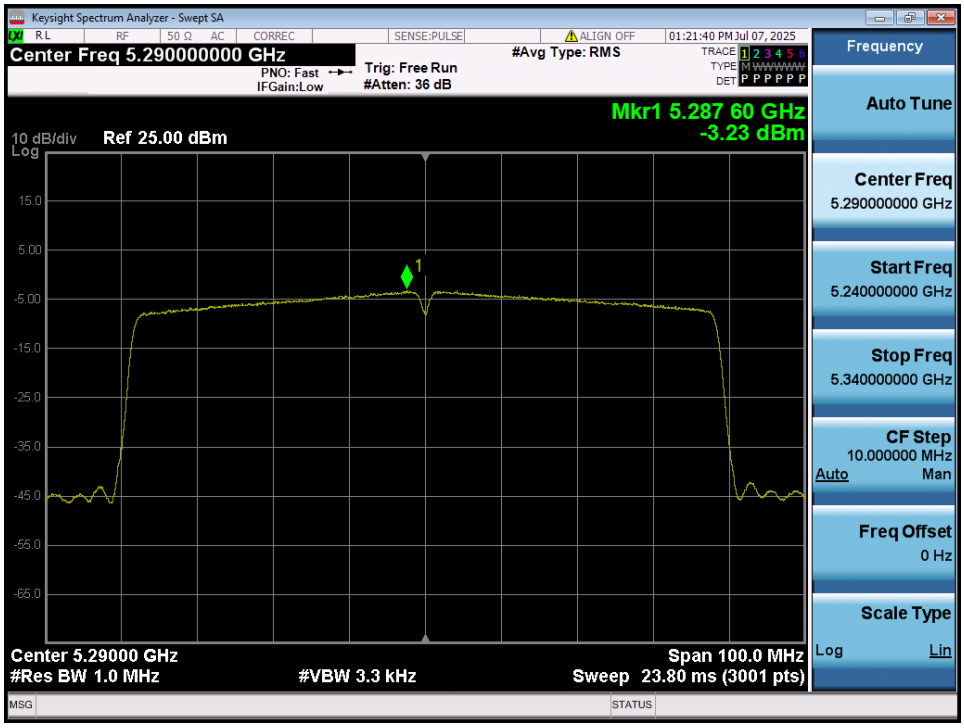
Maximum Power Spectral Density

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



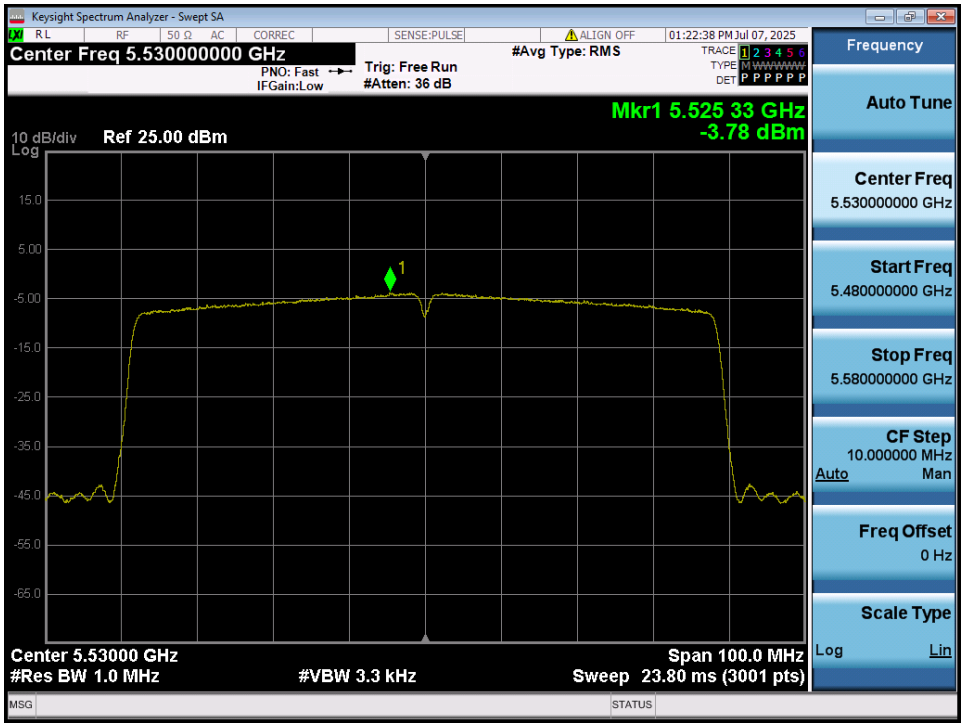
Maximum Power Spectral Density

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



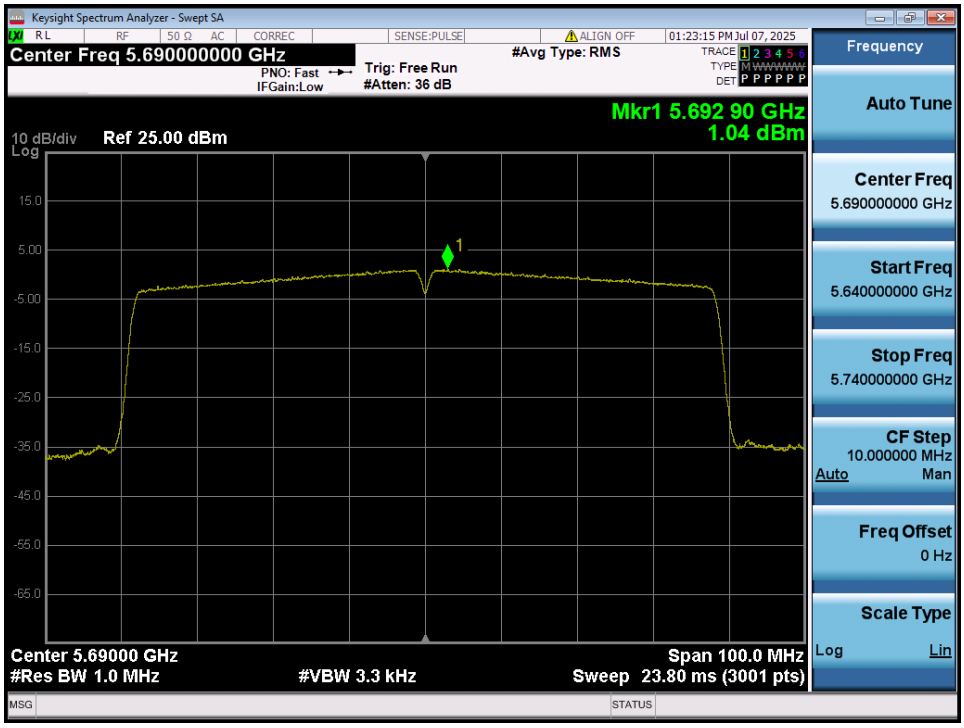
Maximum Power Spectral Density

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



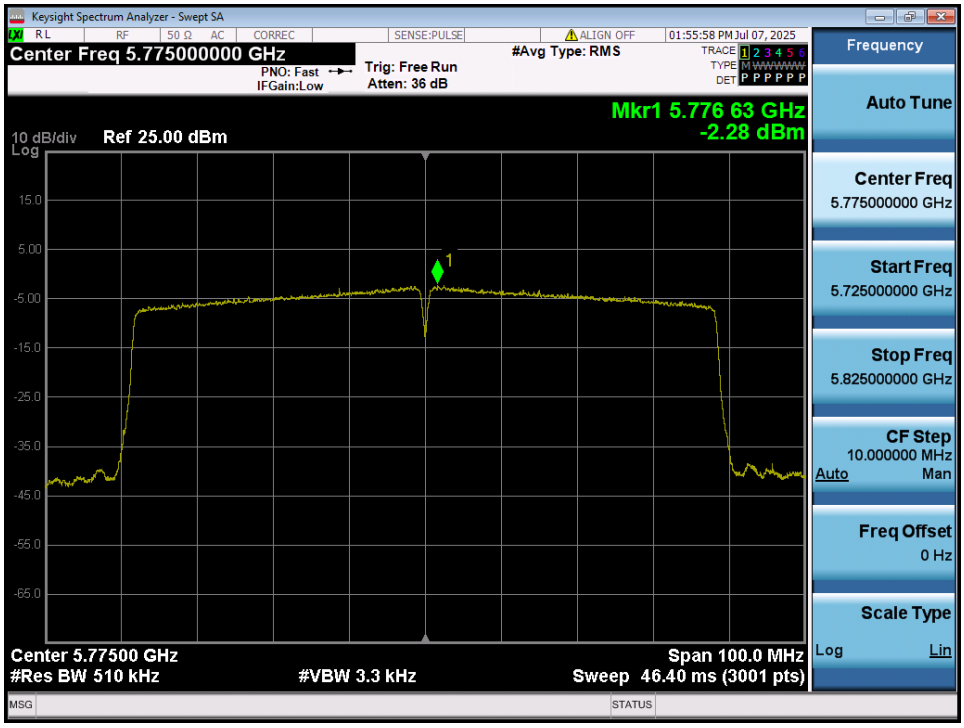
Maximum Power Spectral Density

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



Maximum Power Spectral Density

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



5.5. Unwanted Emissions

▣ Test Requirements

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 GHz - 5.25 GHz band**: all emissions outside of the **5.15 GHz - 5.35 GHz band** shall not exceed an **EIRP of -27 dBm/MHz**.

(2) For transmitters operating in the **5.25 GHz - 5.35 GHz band**: all emissions outside of the **5.15 GHz - 5.35 GHz band** shall not exceed an **EIRP of -27 dBm/MHz**.

(3) For transmitters operating in the **5.47 GHz - 5.725 GHz band**: all emissions outside of the **5.47 GHz - 5.725 GHz band** shall not exceed an **EIRP of -27 dBm/MHz.**

(4) For transmitters operating in the **5.725 GHz - 5.85 GHz band**: (i) 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. 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.

(5) 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**.

RSS-247[7.3.3] Power and unwanted emissions limits

RSS-247[7.3.1.3]

For transmitters with operating frequencies in the band 5150-5250 MHz:

a. all emissions outside the 5150-5350 MHz band shall not exceed -27 dBm/MHz peak e.i.r.p. spectral density;

b. any unwanted emissions that falls between the upper edge of the 26 dB bandwidth and 5350 MHz shall be attenuated below the channel power by at least 26 dB, when measured using a resolution bandwidth between 1 and 5% of the occupied bandwidth.

c. if the occupied bandwidth also falls within the 5250-5350 MHz band, the transmission is considered as intentional and the devices shall comply with all requirements in the band 5250-5350 MHz including implementing DFS (see section 7.3.6) and TPC, on the portion of the emission that resides in the 5250-5350 MHz band

RSS-247[7.3.2.3]

Devices shall comply with the following:

a. all emissions outside the band 5150-5350 MHz shall not exceed -27 dBm/MHz peak e.i.r.p spectral density.

b. all emissions inside the band 5150-5250 MHz shall either:

i. not exceed -27 dBm/MHz peak e.i.r.p spectral density, or

ii. comply with the power spectral density for operation in section 7.3.1.2.

RSS-247[7.3.3.3]

Equipment operating in the bands 5470-5725 MHz shall comply with the following unwanted emission limits:

a. for devices with fundamental emissions fully contained within the 5470-5725 MHz band, all unwanted emissions outside the band 5470-5725 MHz shall not exceed -27 dBm/MHz peak e.i.r.p. spectral density.

b. for devices with bandwidth overlapping the band edge of 5725 MHz, all unwanted emissions shall not exceed -27 dBm/MHz peak e.i.r.p. spectral density at 5850 MHz instead of 5725 MHz.

RSS-247[7.3.4.4]

Equipment operating in the band 5725-5850 MHz shall comply with the following peak e.i.r.p. spectral density limits:

a. 27 dBm/MHz at frequencies from the band edges decreasing linearly to 15.6 dBm/MHz at 5 MHz above or below the band edges;

b. 15.6 dBm/MHz at 5 MHz above or below the band edges decreasing linearly to 10 dBm/MHz at 25 MHz above or below the band edges;

c. 10 dBm/MHz at 25 MHz above or below the band edges decreasing linearly to -27 dBm/MHz at 75 MHz above or below the band edges; and

d. -27 dBm/MHz at frequencies more than 75 MHz above or below the band edges.

Part 15.209 & RSS-Gen[8.9]: General requirements

Frequency (MHz)	FCC Limit (uV/m)	IC Limit (μA/m)	Measurement Distance (m)
0.009 – 0.490	2 400 / F (kHz)	6.37/F (F in kHz)	300
0.490 – 1.705	24 000 / F (kHz)	63.7/F (F in kHz)	30
1.705 – 30.0	30	0.08	30

Frequency (MHz)	FCC Limit (uV/m)	IC Limit (uV/m)	Measurement Distance (m)
30 ~ 88	100 **	100	3
88 ~ 216	150 **	150	3
216 ~ 960	200 **	200	3
Above 960	500	500	3

**Except as provided in paragraph (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.

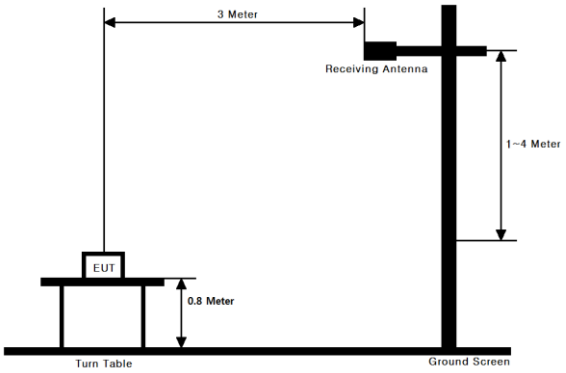
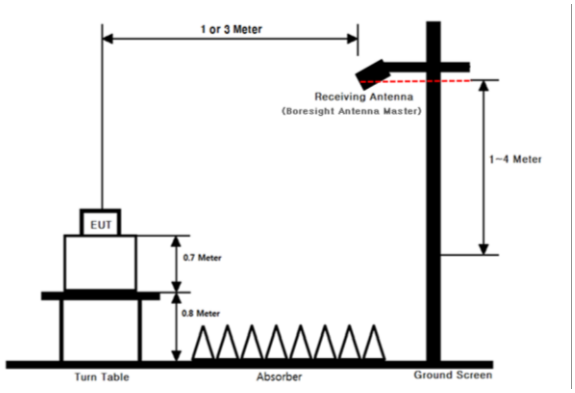
Part 15.205(a): Restricted band of operation

MHz	MHz	MHz	MHz	GHz	GHz
0.009 ~ 0.110	8.414 25 ~ 8.414 75	108 ~ 121.94	1 300 ~ 1 427	4.5 ~ 5.15	14.47 ~ 14.5
0.495 ~ 0.505	12.29 ~ 12.293	123 ~ 138	1 435 ~ 1 626.5	5.35 ~ 5.46	15.35 ~ 16.2
2.173 5 ~ 2.190 5	12.519 75 ~ 12.520 25	149.9 ~ 150.05	1 645.5 ~ 1 646.5	7.25 ~ 7.75	17.7 ~ 21.4
4.125 ~ 4.128	12.576 75 ~ 12.577 25	156.524 75 ~ 156.525 25	1 660 ~ 1 710	8.025 ~ 8.5	22.01 ~ 23.12
4.177 25 ~ 4.177 75	13.36 ~ 13.41	156.7 ~ 156.9	1 718.8 ~ 1 722.2	9.0 ~ 9.2	23.6 ~ 24.0
4.207 25 ~ 4.207 75	16.42 ~ 16.423	162.012 5 ~ 167.17	2 200 ~ 2 300	9.3 ~ 9.5	31.2 ~ 31.8
6.215 ~ 6.218	16.694 75 ~ 16.695 25	167.72 ~ 173.2	2 310 ~ 2 390	10.6 ~ 12.7	36.43 ~ 36.5
6.267 75 ~ 6.268 25	16.804 25 ~ 16.804 75	240 ~ 285	2 483.5 ~ 2 500	13.25 ~ 13.4	Above 38.6
6.311 75 ~ 6.312 25	25.5 ~ 25.67	322 ~ 335.4	2 655 ~ 2 900		
8.291 ~ 8.294	37.5 ~ 38.25	399.90 ~ 410	3 260 ~ 3 267		
8.362 ~ 8.366	73 ~ 74.6	608 ~ 614	3 332 ~ 3 339		
8.376 25 ~ 8.386 75	74.8 ~ 75.2	960 ~ 1 240	3 345.8 ~ 3 358		
			3 600 ~ 4 400		

RSS-Gen[8.10]: Restricted frequency bands

MHz	MHz	MHz	MHz	MHz	GHz
0.090 ~ 0.110	8.362 ~ 8.366	73 ~ 74.6	608 ~ 614	3 345.8 ~ 3 358	9.0 ~ 9.2
0.495 ~ 0.505	8.376 25 ~ 8.386 75	74.8 ~ 75.2	960 ~ 1 427	3 500 ~ 4 400	9.3 ~ 9.5
2.173 5 ~ 2.190 5	8.414 25 ~ 8.414 75	108 ~ 138	1 435 ~ 1 626.5	4 500 ~ 5 150	10.6 ~ 12.7
3.020 ~ 3.026	12.29 ~ 12.293	149.9 ~ 150.05	1 645.5 ~ 1 646.5	5 350 ~ 5 460	13.25 ~ 13.4
4.125 ~ 4.128	12.519 75 ~ 12.520 25	156.524 75 ~	1 660 ~ 1 710	7 250 ~ 7 750	14.47 ~ 14.5
4.177 25 ~ 4.177 75	12.576 75 ~ 12.577 25	156.525 25	1 718.8 ~ 1 722.2	8 025 ~ 8 500	15.35 ~ 16.2
4.207 25 ~ 4.207 75	13.36 ~ 13.41	156.7 ~ 156.9	2 200 ~ 2 300		17.7 ~ 21.4
5.677 ~ 5.683	16.42 ~ 16.423	162.01 25 ~ 167.17	2 310 ~ 2 390		22.01 ~ 23.12
6.215 ~ 6.218	16.694 75 ~ 16.695 25	167.72 ~ 173.2	2 483.5 ~ 2 500		23.6 ~ 24.0
6.267 75 ~ 6.268 25	16.804 25 ~ 16.804 75	240 ~ 285	2 655 ~ 2 900		31.2 ~ 31.8
6.311 75 ~ 6.312 25	25.5 ~ 25.67	322 ~ 335.4	3 260 ~ 3 267		36.43 ~ 36.5
8.291 ~ 8.294	37.5 ~ 38.25	399.90 ~ 410	3 332 ~ 3 339		Above 38.6

▣ Test Configuration

Below 1 GHz	Above 1 GHz
	

▣ 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 1 m or 3 m away from the receiving antenna, which is varied from 1 m 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 1 000 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 1 000 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 span / (# of points in sweep) ≤ 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.

▣ Test Results

Test Notes

1. The radiated emissions were investigated 9 kHz to 40 GHz. And no other spurious and harmonic emissions were found below listed frequencies.
2. Information of Distance Correction Factor
   For finding emissions, measurements may be performed at a distance closer than that specified in the regulations.
   In this case, the distance factor is applied to the result.
   - Calculation of distance correction factor
   At frequencies below 30 MHz = 40 log(tested distance / specified distance)
   At frequencies at or above 30 MHz = 20 log(tested distance / specified distance)
   When distance factor is “N/A”, the measurements were performed at the specified distance and distance factor is not applied.
3. Sample Calculation.
   Margin = Limit – Result / Result = Reading + TF+ DCCF + DCF / TF = AF + CL + HL + AL – AG
   Where, TF = Total Factor, AF = Antenna Factor, CL = Cable Loss, AG = Amplifier Gain, HL = High pass filter Loss, AL = Attenuator Loss,
   DCCF = Duty Cycle Correction Factor, DCF = Distance Correction Factor
   Please refer to the Appendix II for Duty Cycle Correction factor.
4. The limit is converted to field strength.
   E(dBuV/m) = EIRP(dBm) + 95.2 dB = -27 dBm + 95.2 = 68.2 dBuV/m

Unwanted Emissions data(9 kHz ~ 40 GHz) : *TM 1*

Band	Tested Frequency (MHz)	Freq. (MHz)	ANT Pol	EUT Position (Axis)	Detector Mode	Reading (dBuV)	TF (dB/m)	DCCF (dB)	DCF (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
U-NII 1	5 180	5 148.57	H	Z	PK	51.45	2.77	N/A	N/A	54.22	74.00	19.78
		5 148.57	H	Z	AV	41.85	2.77	0.68	N/A	45.30	54.00	8.70
		10 355.42	V	Z	PK	44.11	9.22	N/A	N/A	53.33	68.20	14.87
	5 200	10 396.03	V	Z	PK	43.69	9.20	N/A	N/A	52.89	68.20	15.31
	5 240	10 476.56	V	Z	PK	43.40	9.46	N/A	N/A	52.86	68.20	15.34
U-NII 2A	5 260	10 522.20	V	Z	PK	45.70	9.51	N/A	N/A	55.21	68.20	12.99
	5 300	10 597.37	V	Z	PK	45.62	9.39	N/A	N/A	55.01	68.20	13.19
		10 602.00	V	Z	PK	46.40	9.38	N/A	N/A	55.78	74.00	18.22
		10 602.27	V	Z	AV	35.46	9.38	0.68	N/A	45.52	54.00	8.48
	5 320	5 351.81	H	Z	PK	58.34	3.21	N/A	N/A	61.55	74.00	12.45
		5 352.59	H	Z	AV	46.99	3.21	0.68	N/A	50.88	54.00	3.12
		10 641.86	V	Z	PK	45.32	9.32	N/A	N/A	54.64	74.00	19.36
		10 642.43	V	Z	AV	34.90	9.32	0.68	N/A	44.90	54.00	9.10
U-NII 2C	5 500	5 453.54	H	Z	PK	53.66	3.53	N/A	N/A	57.19	74.00	16.81
		5 465.02	H	Z	PK	53.82	3.59	N/A	N/A	57.41	68.20	10.79
		5 453.23	H	Z	AV	43.20	3.53	0.68	N/A	47.41	54.00	6.59
		11 001.06	V	Z	PK	46.43	8.88	N/A	N/A	55.31	74.00	18.69
		11 001.48	V	Z	AV	35.81	8.88	0.68	N/A	45.37	54.00	8.63
	5 580	11 160.22	V	Z	PK	45.59	9.00	N/A	N/A	54.59	74.00	19.41
		11 160.98	V	Z	AV	35.39	9.00	0.68	N/A	45.07	54.00	8.93
	5 700	5 725.92	H	Z	PK	55.45	3.56	N/A	N/A	59.01	68.20	9.19
	5 720	11 441.45	V	Z	PK	46.55	9.22	N/A	N/A	55.77	74.00	18.23
		11 441.01	V	Z	AV	36.06	9.21	0.68	N/A	45.95	54.00	8.05
U-NII 3	5 745	5 647.28	H	Z	PK	53.63	3.56	N/A	N/A	57.19	68.20	11.01
		5 717.28	H	Z	PK	73.16	3.50	N/A	N/A	76.66	110.04	33.38
		11 491.68	V	Z	PK	47.41	9.24	N/A	N/A	56.65	74.00	17.35
		11 491.38	V	Z	AV	37.19	9.24	0.68	N/A	47.11	54.00	6.89
	5 785	11 570.80	V	Z	PK	48.57	9.34	N/A	N/A	57.91	74.00	16.09
		11 571.21	V	Z	AV	38.26	9.34	0.68	N/A	48.28	54.00	5.72
	5 825	5 855.99	H	Z	PK	64.90	3.62	N/A	N/A	68.52	110.52	42.00
		5 929.30	H	Z	PK	52.82	4.62	N/A	N/A	57.44	68.20	10.76
		11 651.40	V	Z	PK	47.15	9.48	N/A	N/A	56.63	74.00	17.37
		11 651.55	V	Z	AV	37.51	9.48	0.68	N/A	47.67	54.00	6.33