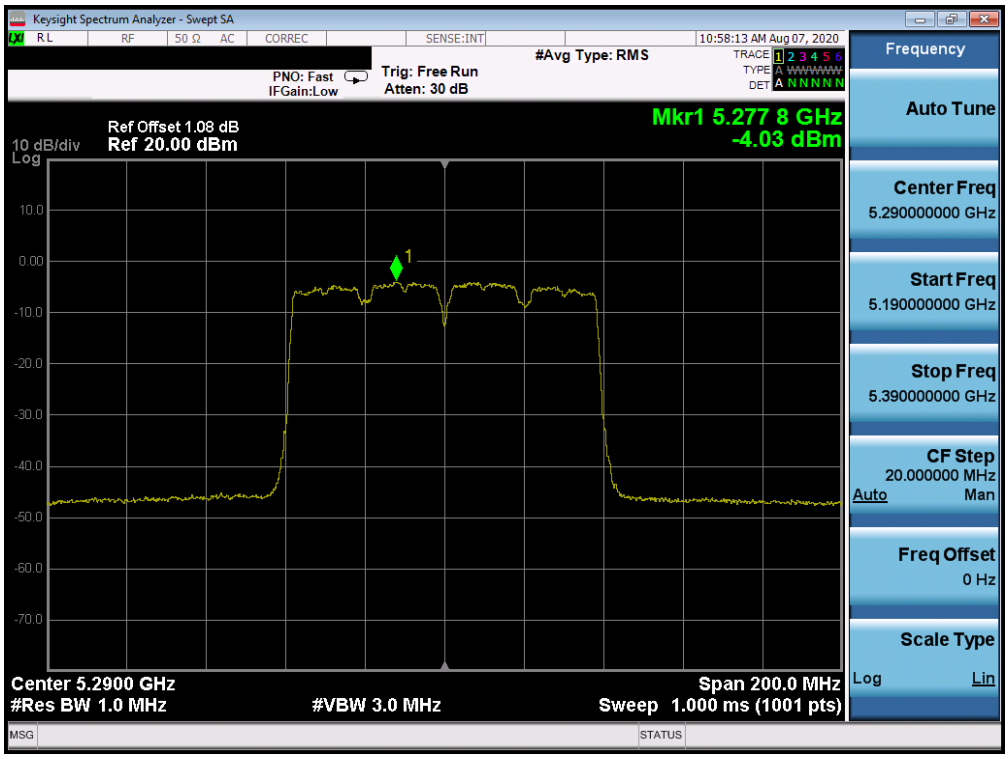
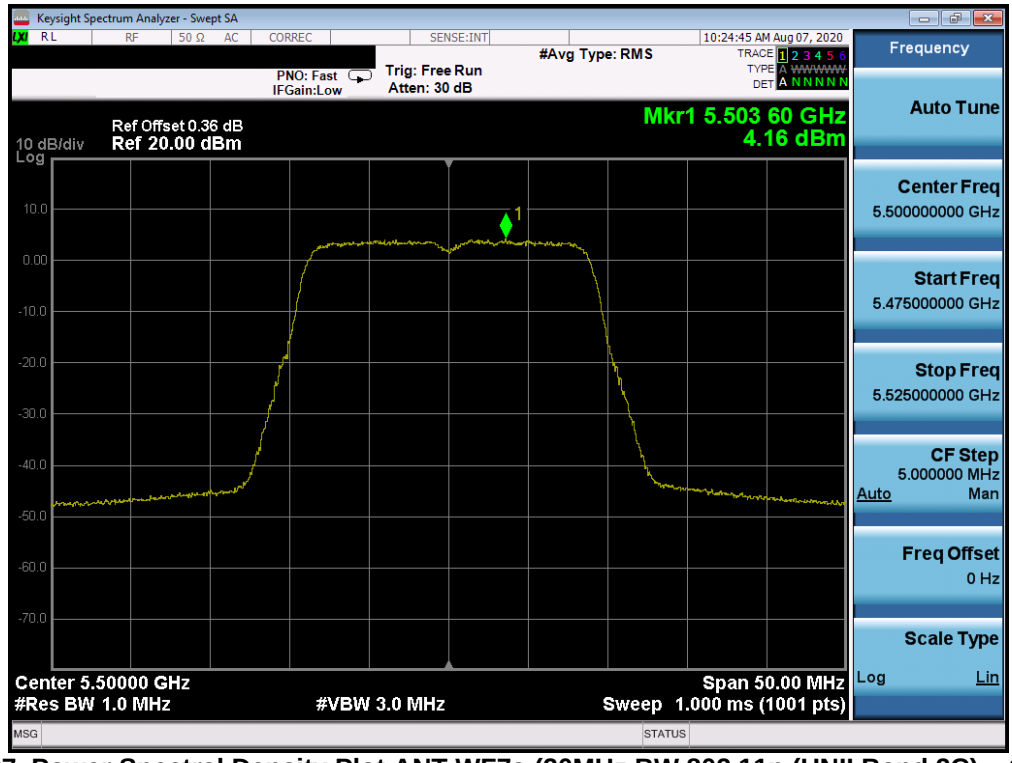
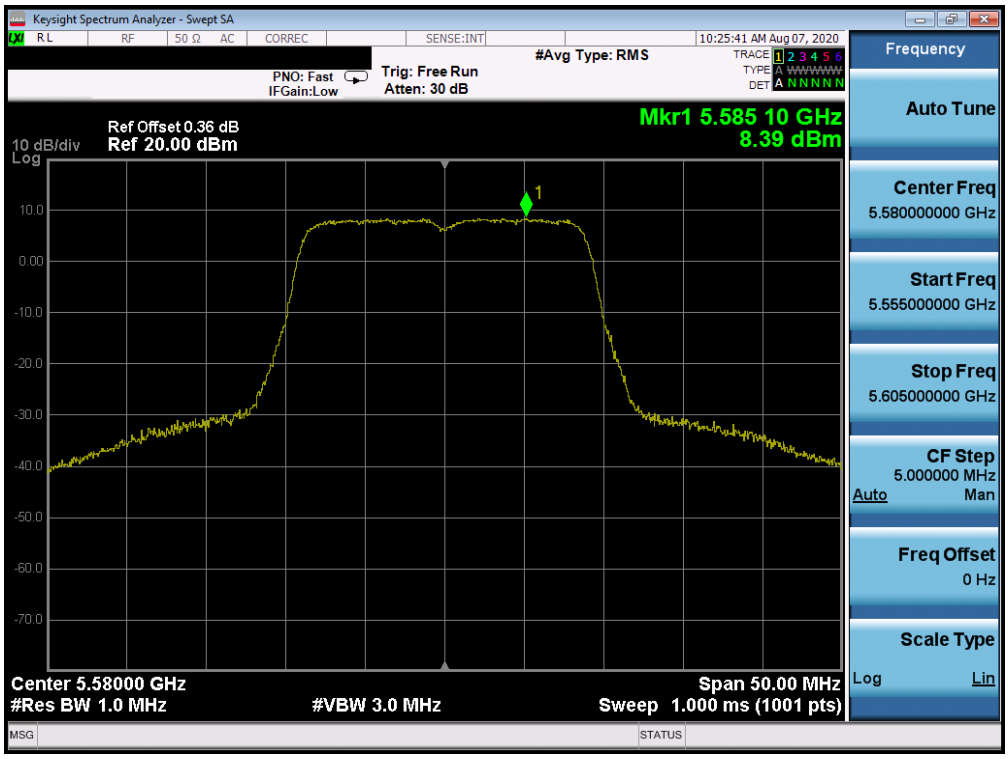


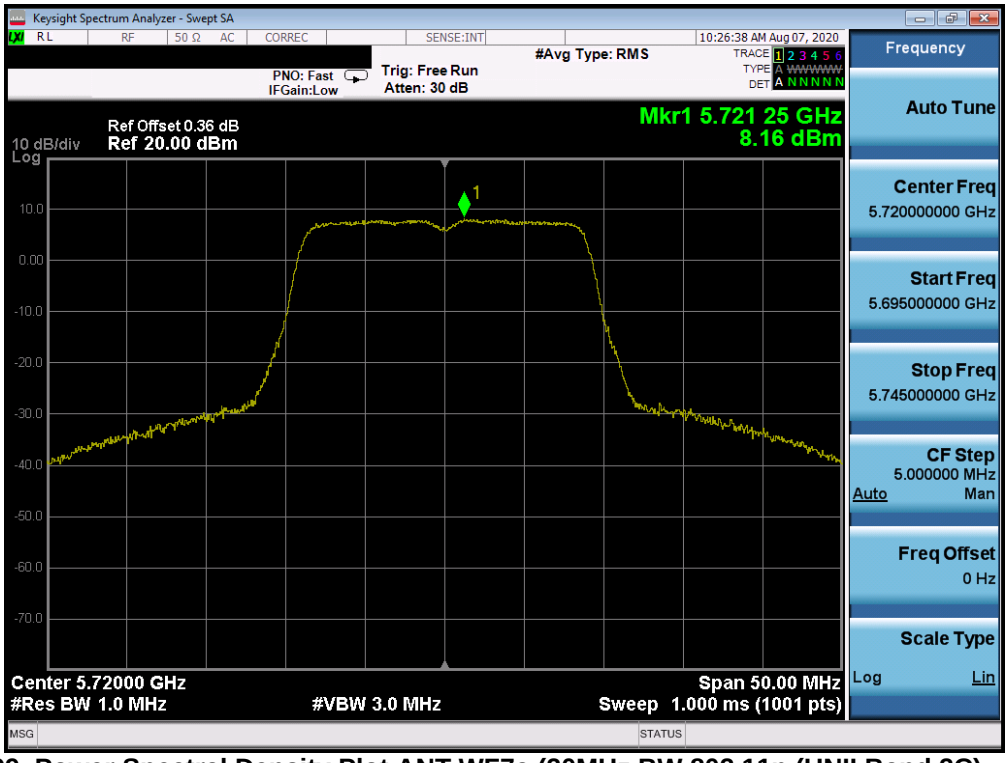
Plot 7-96. Power Spectral Density Plot ANT WF7a (80MHz BW 802.11ac (UNII Band 2A) – Ch. 58)



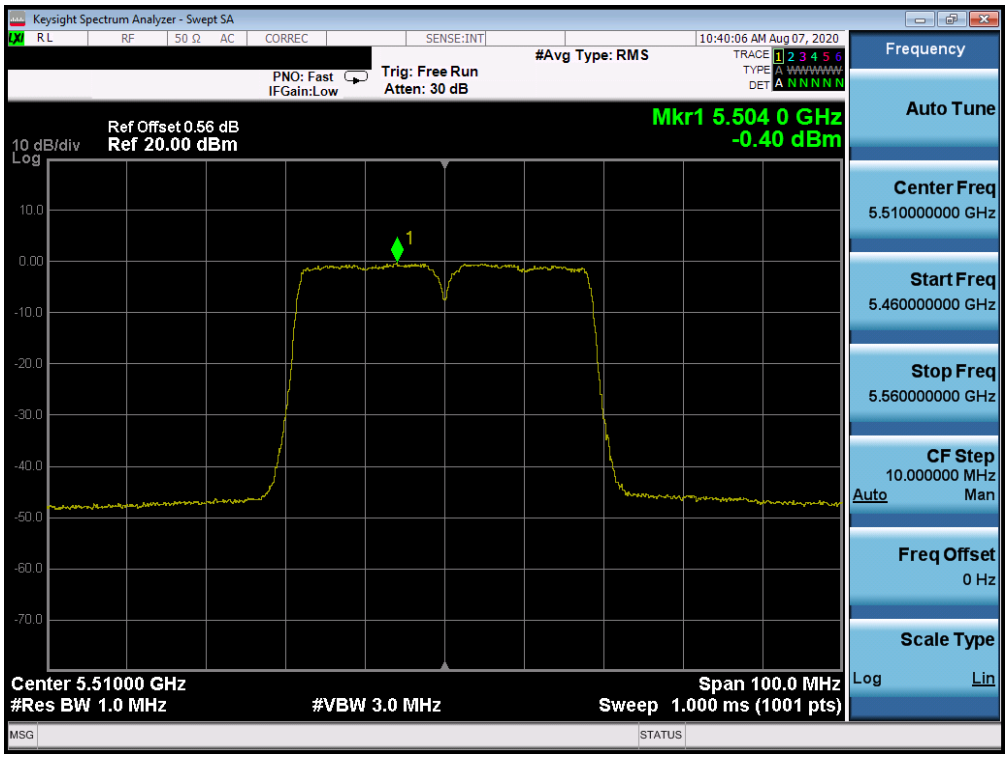
Plot 7-97. Power Spectral Density Plot ANT WF7a (20MHz BW 802.11n (UNII Band 2C) – Ch. 100)



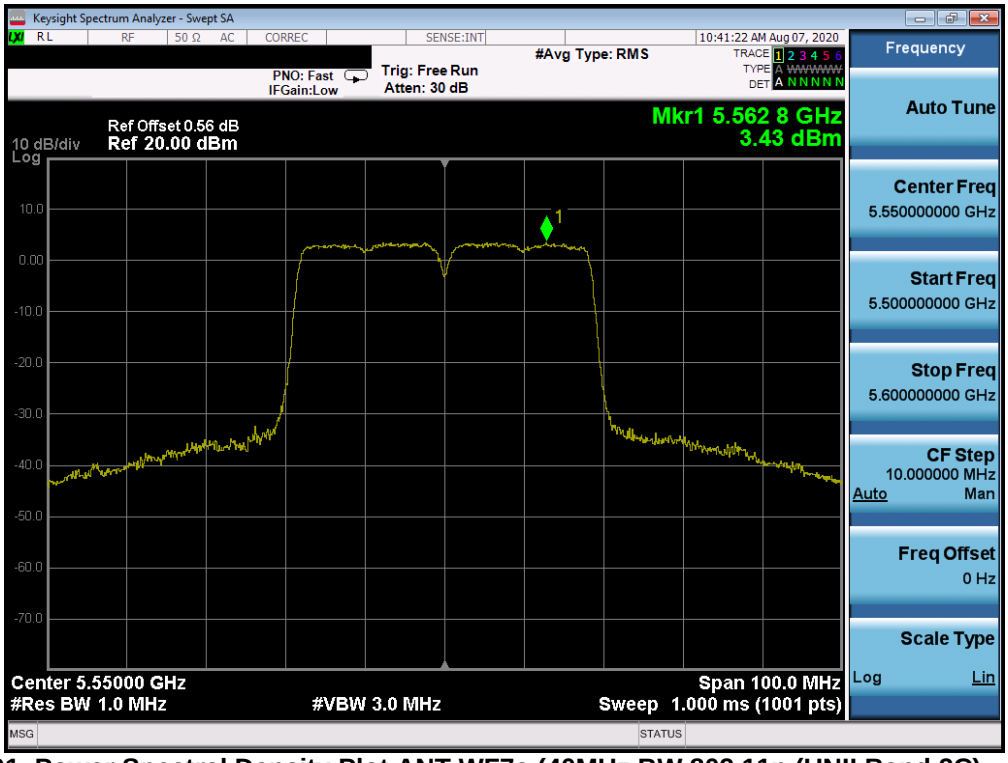
Plot 7-98. Power Spectral Density Plot ANT WF7a (20MHz BW 802.11n (UNII Band 2C) – Ch. 116



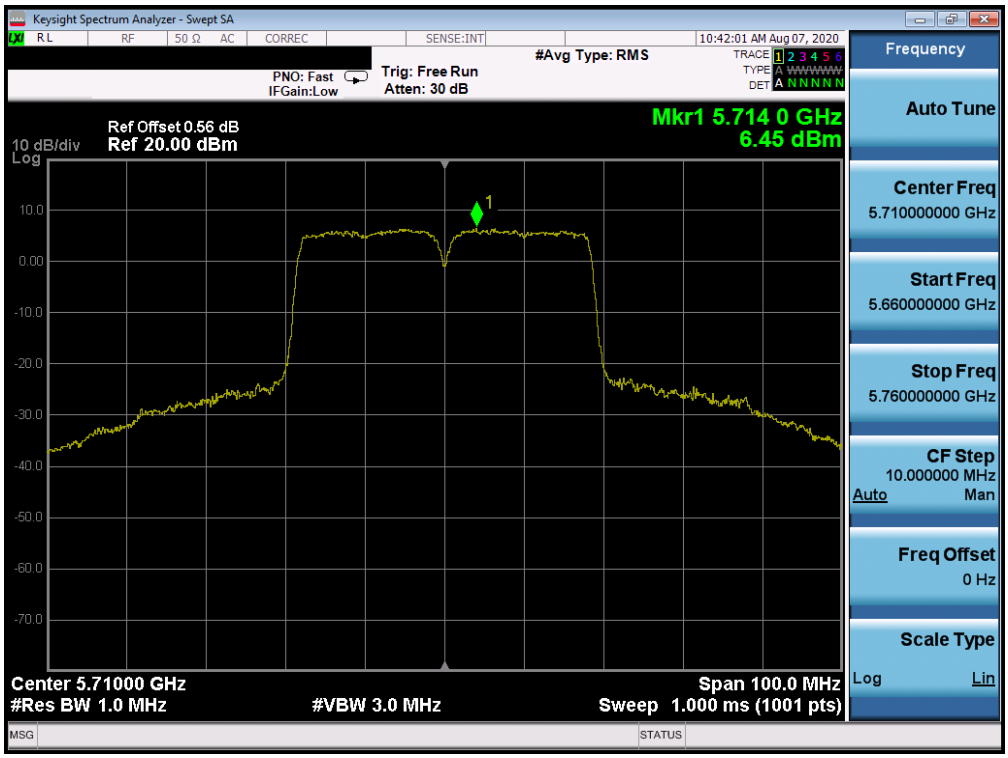
Plot 7-99. Power Spectral Density Plot ANT WF7a (20MHz BW 802.11n (UNII Band 2C) – Ch. 44)



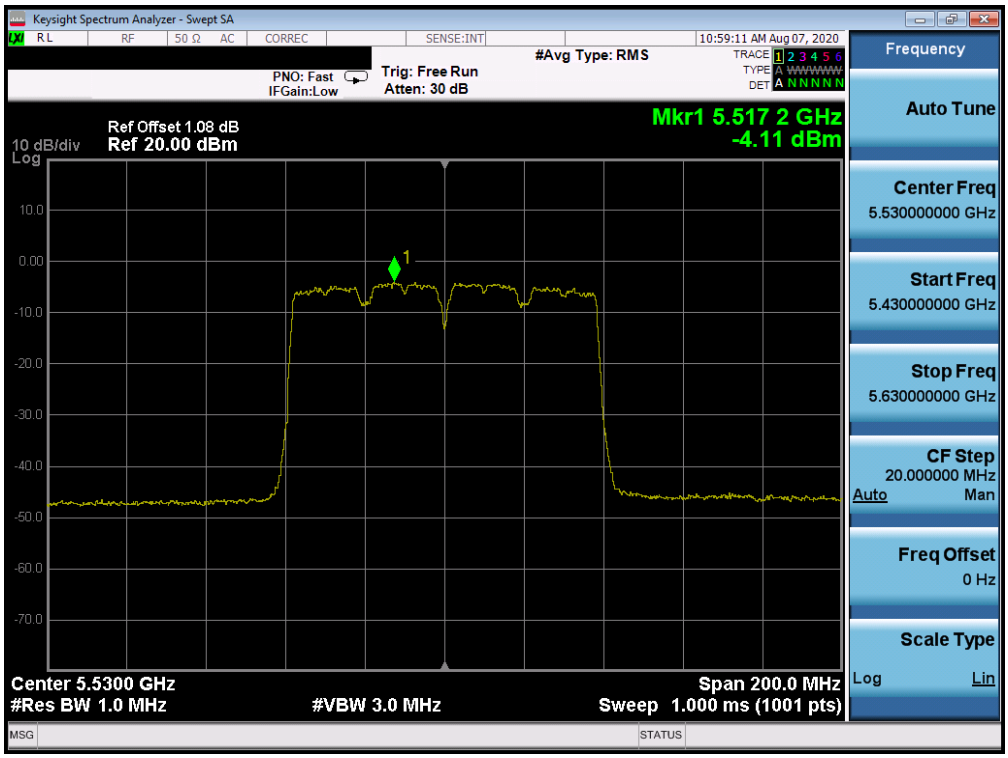
Plot 7-100. Power Spectral Density Plot ANT WF7a (40MHz BW 802.11n (UNII Band 2C) – Ch. 102)



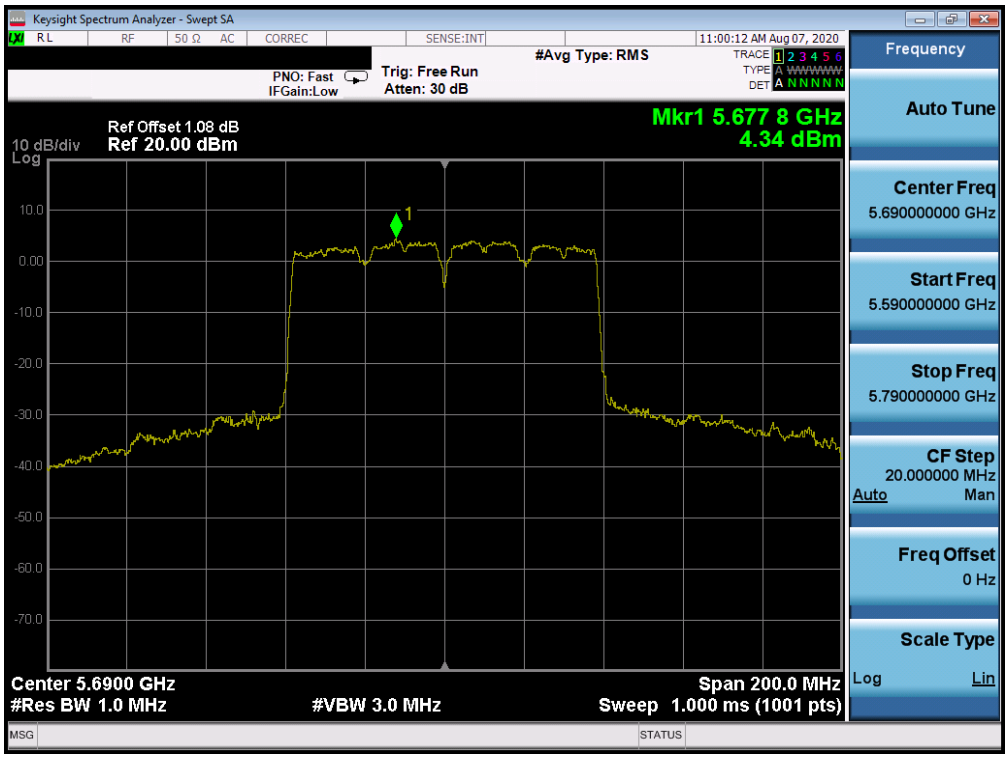
Plot 7-101. Power Spectral Density Plot ANT WF7a (40MHz BW 802.11n (UNII Band 2C) – Ch. 110)



Plot 7-102. Power Spectral Density Plot ANT WF7a (40MHz BW 802.11n (UNII Band 2C) – Ch. 142)



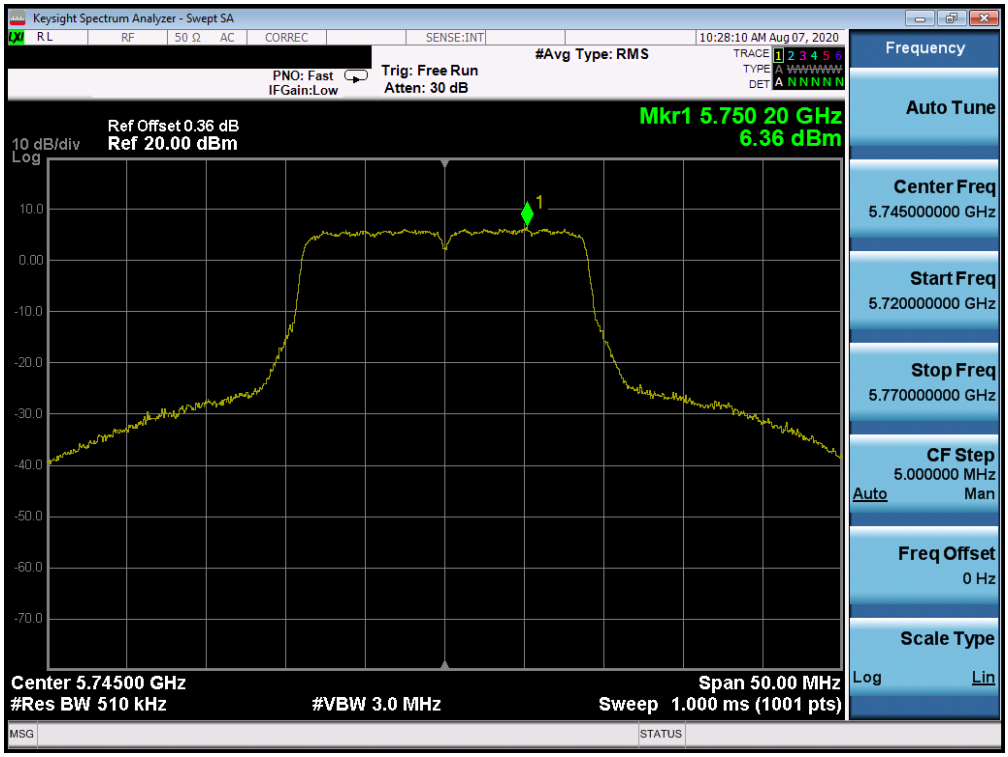
Plot 7-103. Power Spectral Density Plot ANT WF7a (80MHz BW 802.11ac (UNII Band 2C) – Ch. 106)



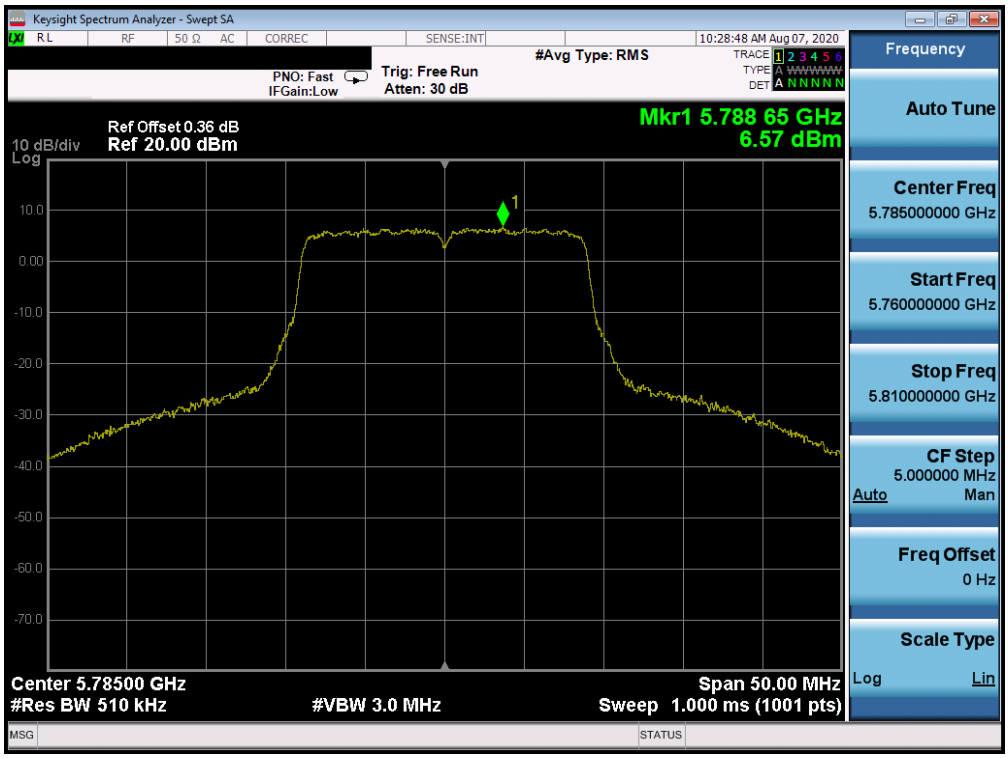
Plot 7-104. Power Spectral Density Plot ANT WF7a (80MHz BW 802.11ac (UNII Band 2C) – Ch. 138)

	Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]	Measured Power Density [dBm/500kHz]	Max Permissible Power Density [dBm/500kHz]	Margin [dB]
Band 3	5745	149	n (20MHz)	65/72.2 (MCS7)	6.36	30.0	-23.64
	5785	157	n (20MHz)	65/72.2 (MCS7)	6.57	30.0	-23.43
	5825	165	n (20MHz)	65/72.2 (MCS7)	6.61	30.0	-23.39
	5755	151	n (40MHz)	135/150 (MCS7)	3.63	30.0	-26.37
	5795	159	n (40MHz)	135/150 (MCS7)	3.88	30.0	-26.12
	5775	155	ac (80MHz)	390/433.3 (MCS9)	-1.33	30.0	-31.33

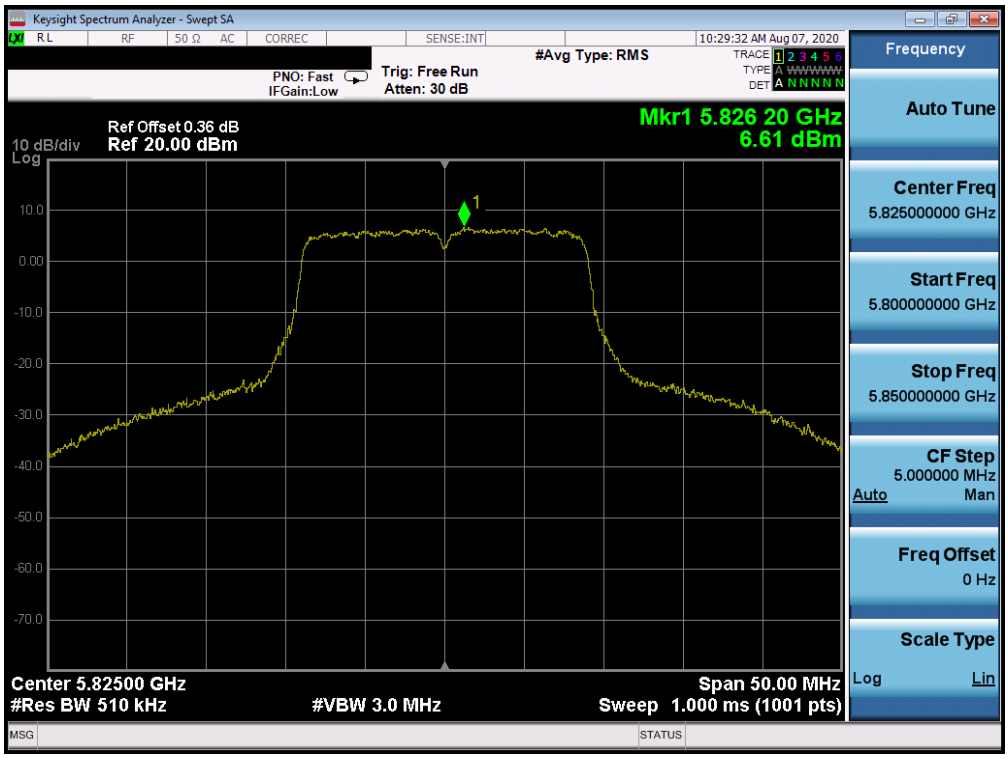
Table 7-31. Band 3 Power Spectral Density Measurements ANT WF7a



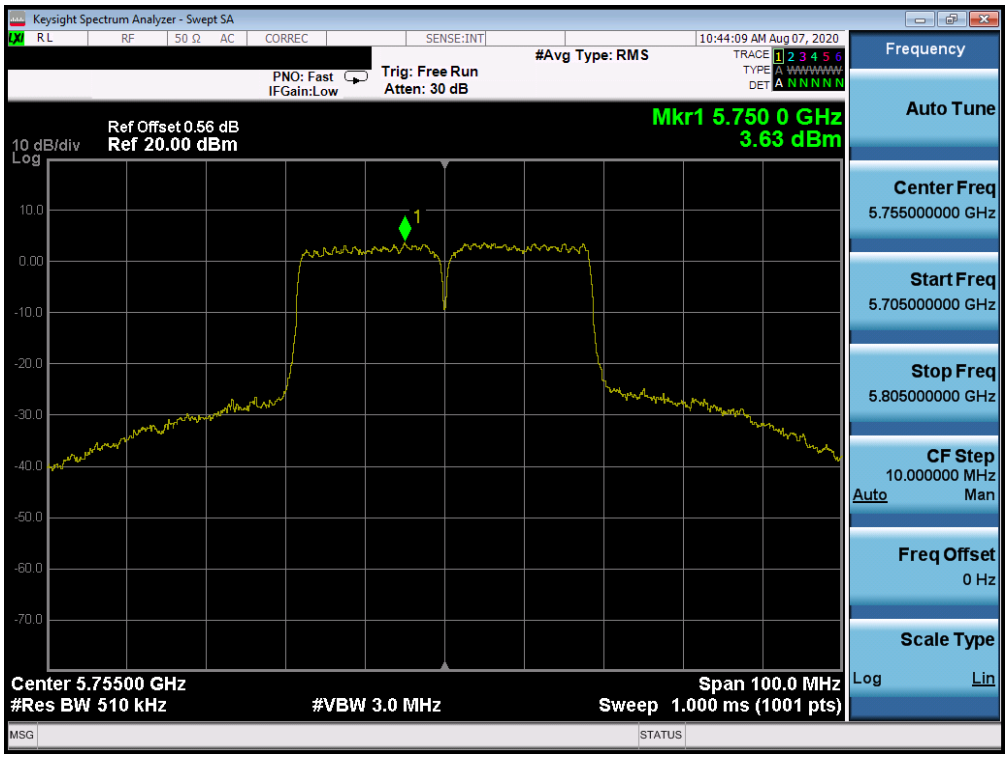
Plot 7-105. Power Spectral Density Plot ANT WF7a (20MHz BW 802.11n (UNII Band 3) – Ch. 149)



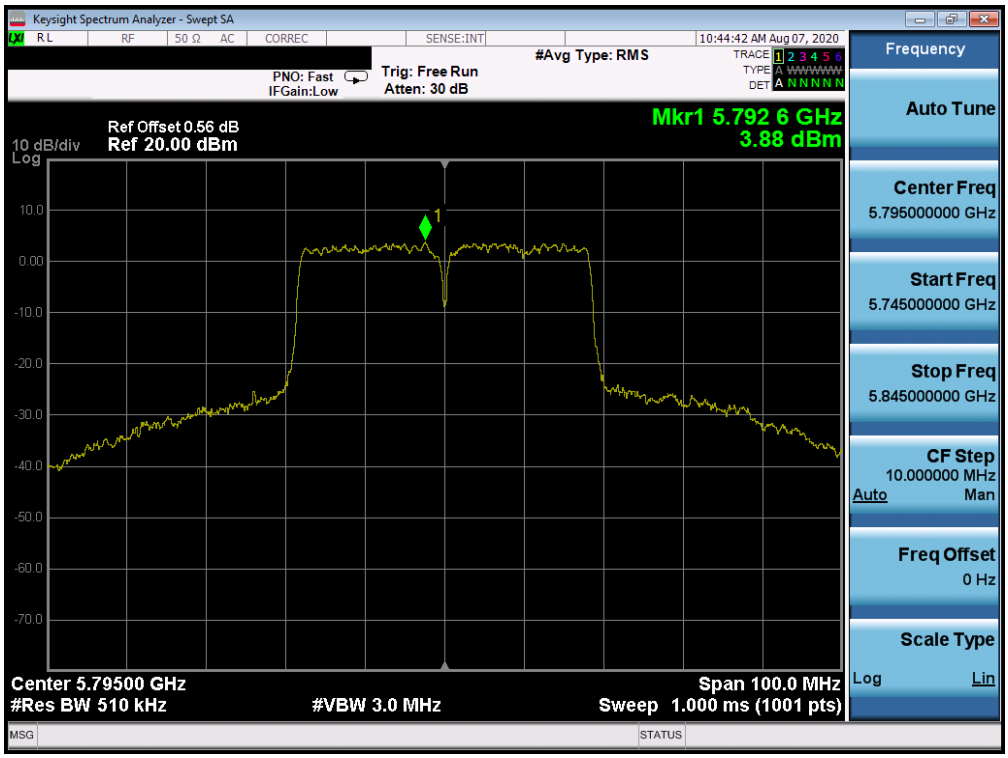
Plot 7-106. Power Spectral Density Plot ANT WF7a (20MHz BW 802.11n (UNII Band 3) – Ch. 157)



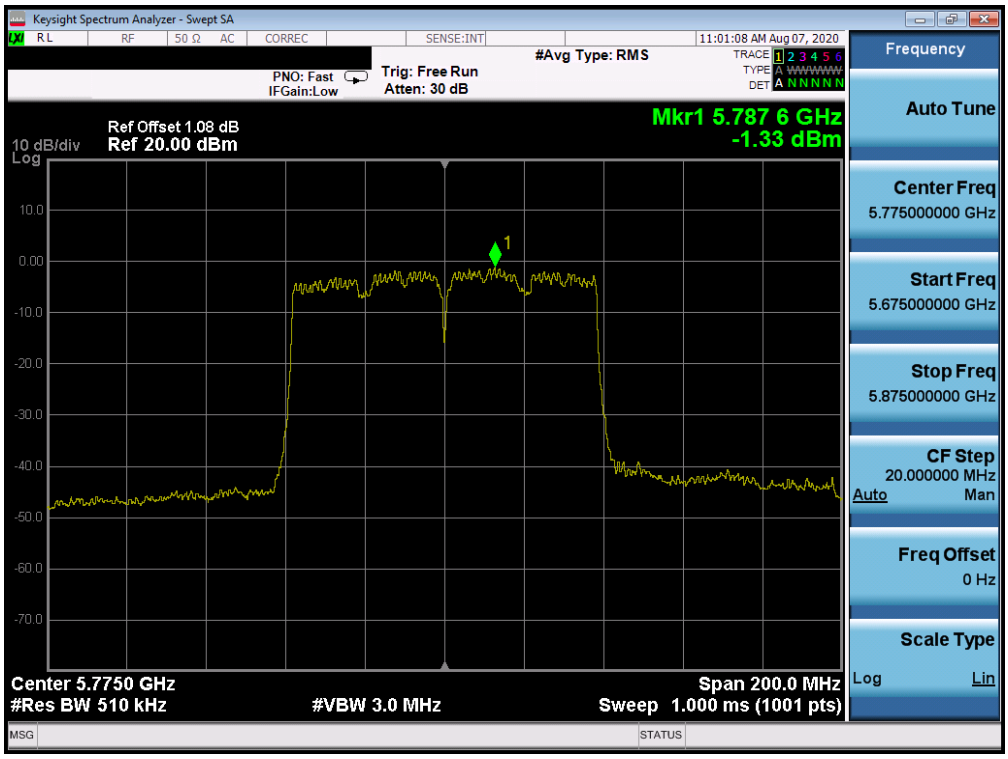
Plot 7-107. Power Spectral Density Plot ANT WF7a (20MHz BW 802.11n (UNII Band 3) – Ch. 165)



Plot 7-108. Power Spectral Density Plot ANT WF7a (40MHz BW 802.11n (UNII Band 3) – Ch. 151)



Plot 7-109. Power Spectral Density Plot ANT WF7a (40MHz BW 802.11n (UNII Band 3) – Ch. 159)



Plot 7-110. Power Spectral Density Plot ANT WF7a (80MHz BW 802.11ac (UNII Band 3) – Ch. 155)

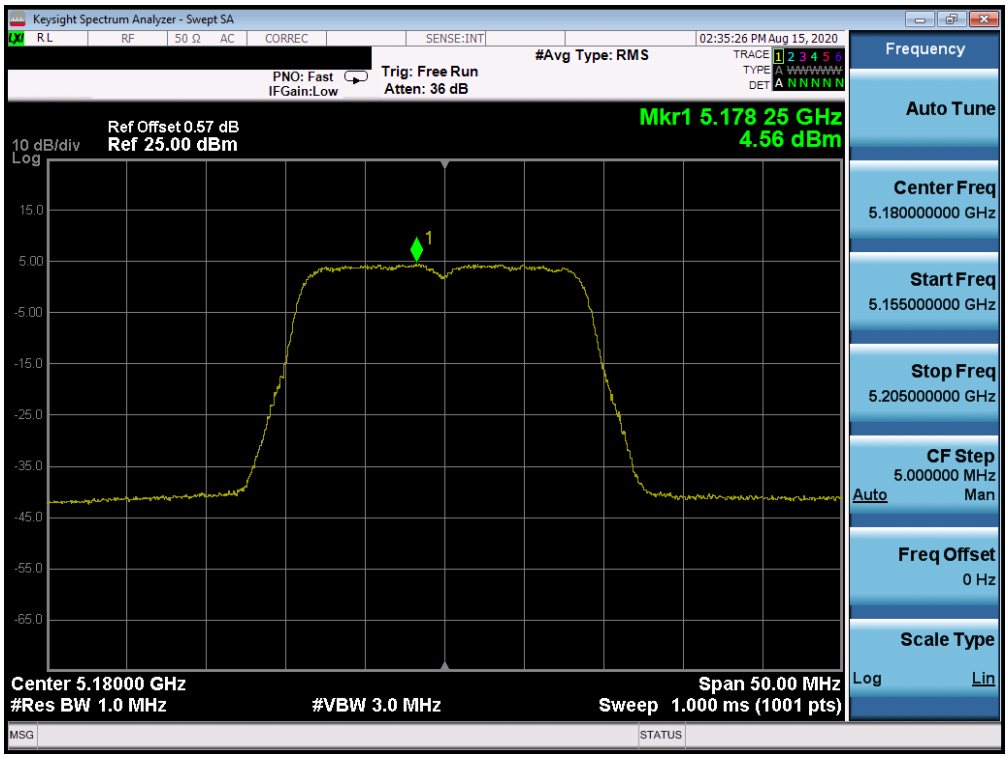
Summed CDD/SDM Power Spectral Density Measurements

	Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]	Power Density [dBm/MHz]			Max Power Density [dBm/MHz]	Margin [dB]
					ANTWF8	ANTWF7A	Summed		
Band 1	5180	36	n (20MHz)	130/144.4 (MCS15)	4.56	3.83	7.22	11.0	-3.78
	5200	40	n (20MHz)	130/144.4 (MCS15)	4.51	3.80	7.18	11.0	-3.82
	5240	48	n (20MHz)	130/144.4 (MCS15)	5.91	5.51	8.72	11.0	-2.28
	5190	38	n (40MHz)	270/300 (MCS15)	-2.21	-2.23	0.79	11.0	-10.21
	5230	46	n (40MHz)	270/300 (MCS15)	5.52	5.48	8.51	11.0	-2.49
	5210	42	ac (80MHz)	780/866.7 (MCS9)	-9.37	-9.26	-6.30	11.0	-17.30
Band 2A	5260	52	n (20MHz)	130/144.4 (MCS15)	5.89	5.53	8.72	11.0	-2.28
	5280	56	n (20MHz)	130/144.4 (MCS15)	5.87	5.48	8.69	11.0	-2.31
	5320	64	n (20MHz)	130/144.4 (MCS15)	5.48	8.01	9.94	11.0	-1.06
	5270	54	n (40MHz)	270/300 (MCS15)	6.03	5.75	8.90	11.0	-2.10
	5310	62	n (40MHz)	270/300 (MCS15)	-1.47	-0.45	2.08	11.0	-8.92
	5290	58	ac (80MHz)	780/866.7 (MCS9)	-7.83	-7.62	-4.71	11.0	-15.71
Band 2C	5500	100	n (20MHz)	130/144.4 (MCS15)	5.72	6.03	8.89	11.0	-2.11
	5580	116	n (20MHz)	130/144.4 (MCS15)	5.86	5.67	8.78	11.0	-2.22
	5720	144	n (20MHz)	130/144.4 (MCS15)	6.05	5.94	9.01	11.0	-1.99
	5510	102	n (40MHz)	270/300 (MCS15)	-2.04	-1.47	1.26	11.0	-9.74
	5550	110	n (40MHz)	270/300 (MCS15)	4.96	6.45	8.78	11.0	-2.22
	5710	142	n (40MHz)	270/300 (MCS15)	5.80	6.93	9.41	11.0	-1.59
	5530	106	ac (80MHz)	780/866.7 (MCS9)	-9.09	-8.25	-5.64	11.0	-16.64
	5690	138	ac (80MHz)	780/866.7 (MCS9)	0.68	2.05	4.43	11.0	-6.57

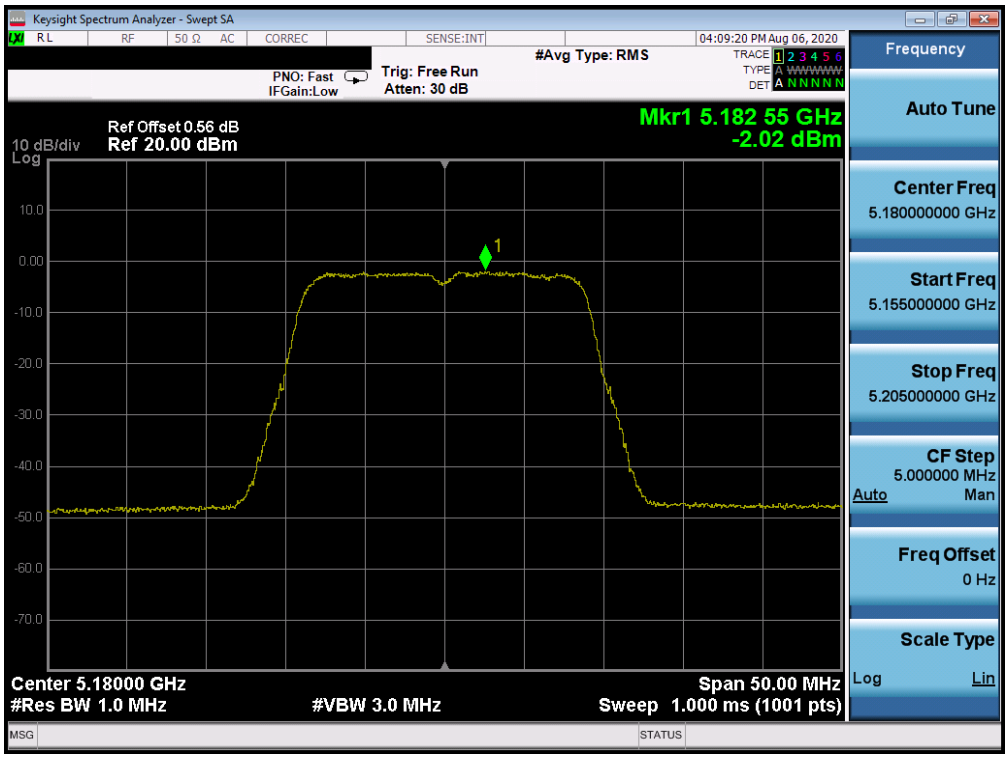
Table 7-32. Bands 1, 2A, 2C CDD/SDM Power Spectral Density Measurements

	Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]	Power Density [dBm/MHz]			Directional Antenna Gain [dBi]	e.i.r.p. Power Density [dBm/MHz]	ISED Max e.i.r.p. Power Density [dBm/MHz]	Margin [dB]
					ANTWF8	ANTWF7A	Summed				
Band 1	5180	36	n (20MHz)	130/144.4 (MCS15)	-2.02	-2.33	0.84	5.61	6.45	10.0	-3.55
	5200	40	n (20MHz)	130/144.4 (MCS15)	-1.82	-2.23	0.99	5.61	6.60	10.0	-3.40
	5240	48	n (20MHz)	130/144.4 (MCS15)	-1.74	-2.19	1.05	5.61	6.66	10.0	-3.34
	5190	38	n (40MHz)	270/300 (MCS15)	-2.38	-2.39	0.63	5.61	6.24	10.0	-3.76
	5230	46	n (40MHz)	270/300 (MCS15)	-2.14	-1.93	0.98	5.61	6.59	10.0	-3.41
	5210	42	ac (80MHz)	390/433.3 (MCS9)	-9.37	-9.26	-6.30	5.61	-0.69	10.0	-10.69

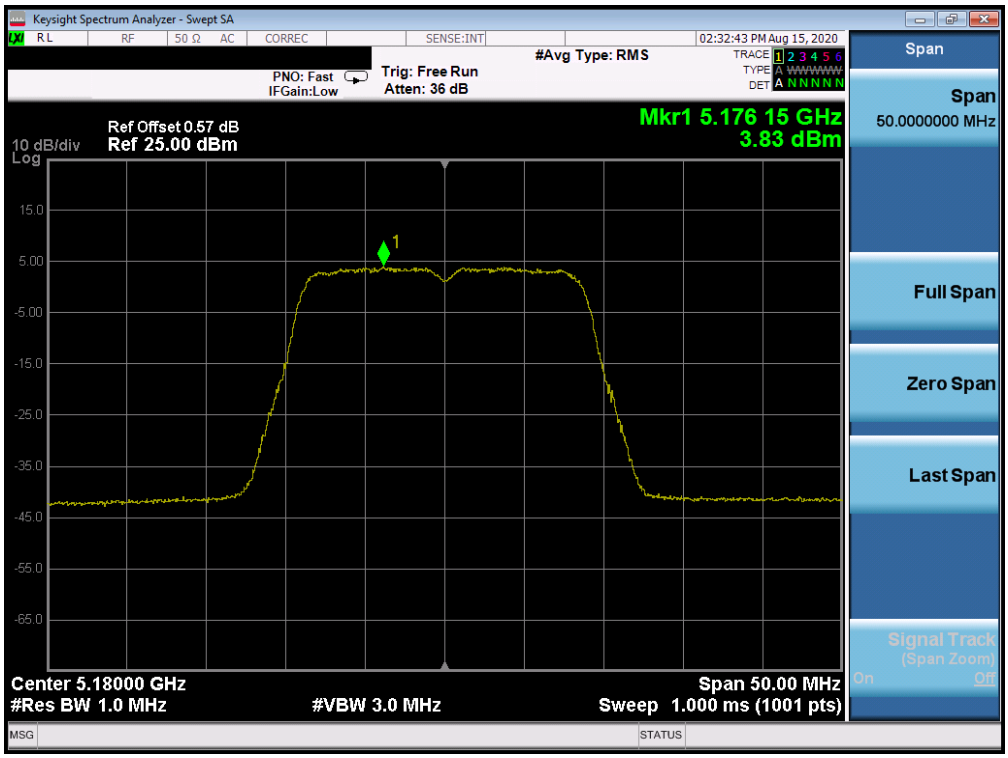
Table 7-33. Band 1 CDD e.i.r.p. Power Spectral Density Measurements (ISED)



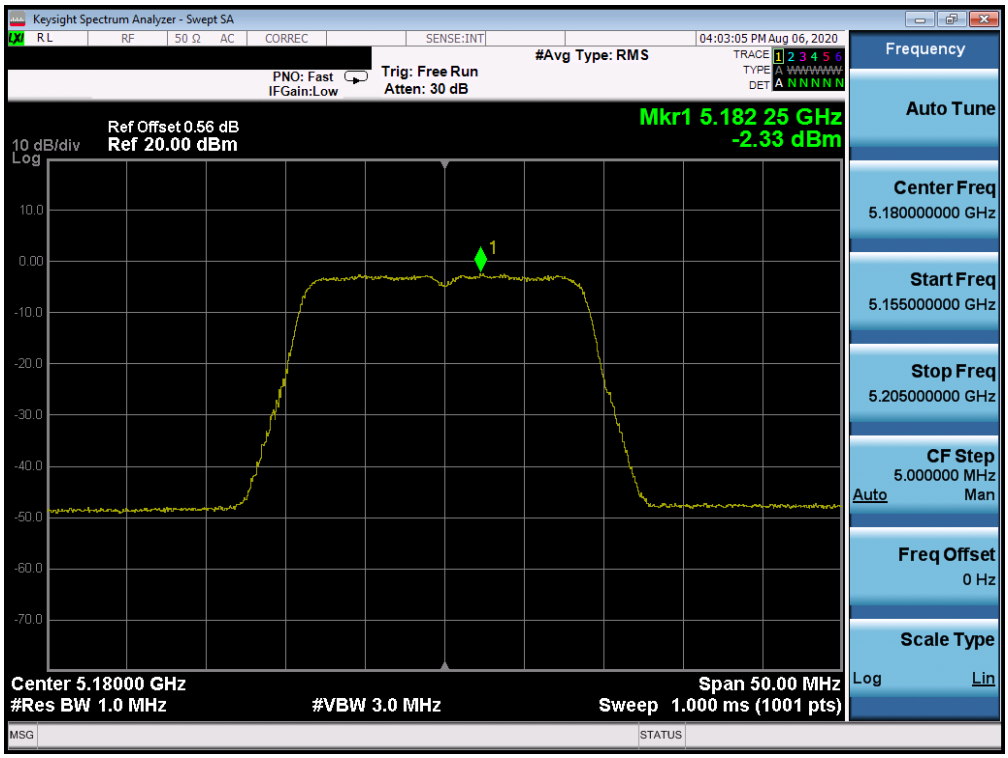
Plot 7-111. Power Spectral Density Plot CDD ANT WF8 (20MHz BW 802.11n (UNII Band 1) – Ch. 36)



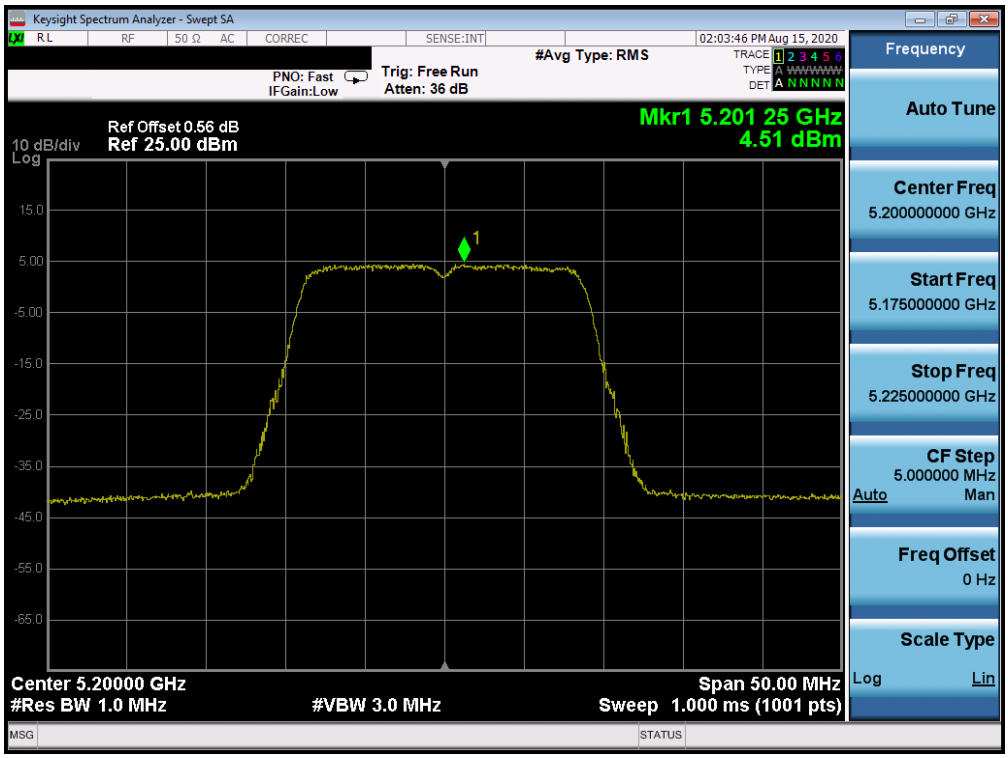
Plot 7-112. ISED Power Spectral Density Plot CDD ANT WF8 (20MHz BW 802.11n (UNII Band 1) – Ch. 36)



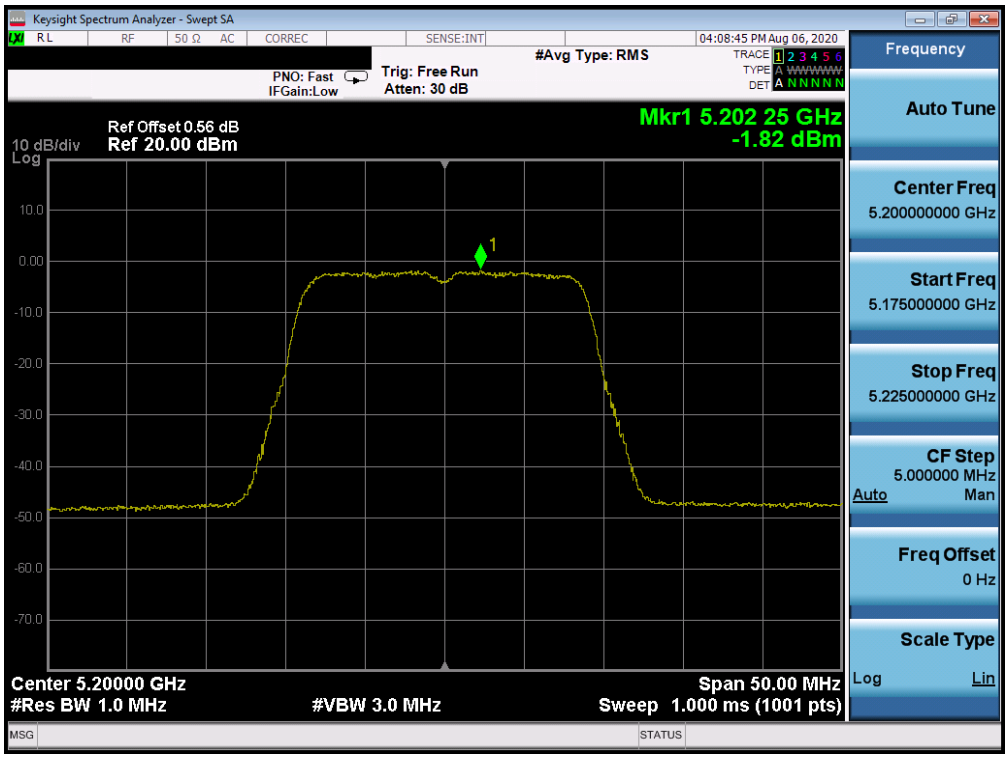
Plot 7-113. Power Spectral Density Plot CDD ANT WF7a (20MHz BW 802.11n (UNII Band 1) – Ch. 36)



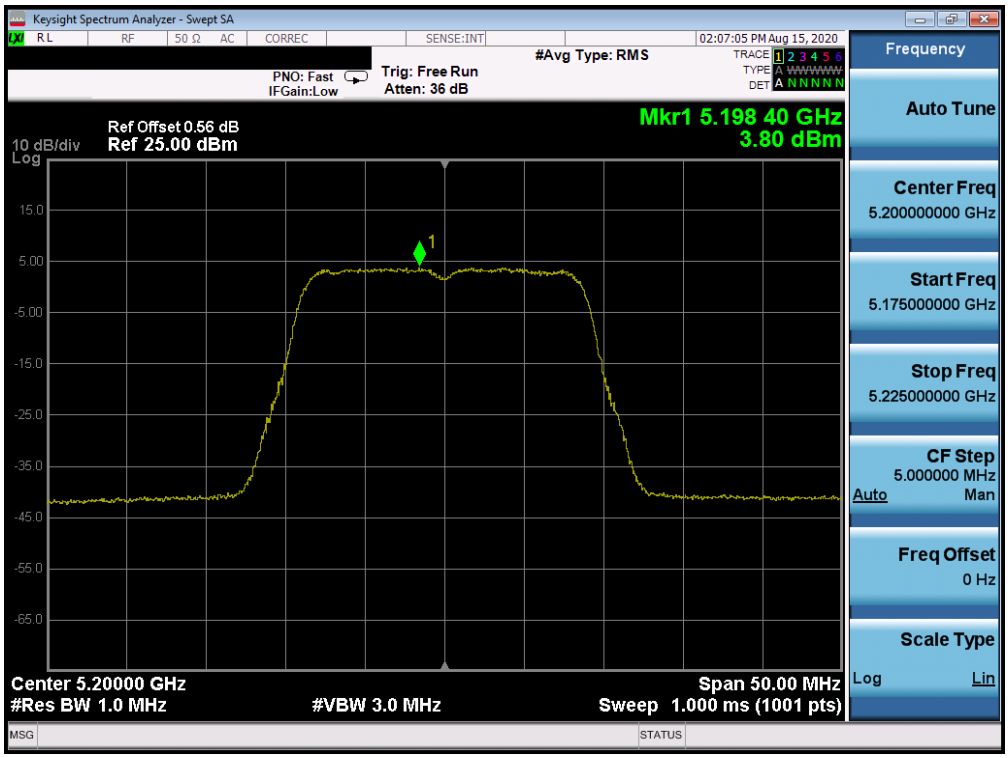
Plot 7-114. ISED Power Spectral Density Plot CDD ANT WF7a (20MHz BW 802.11n (UNII Band 1) – Ch. 36)



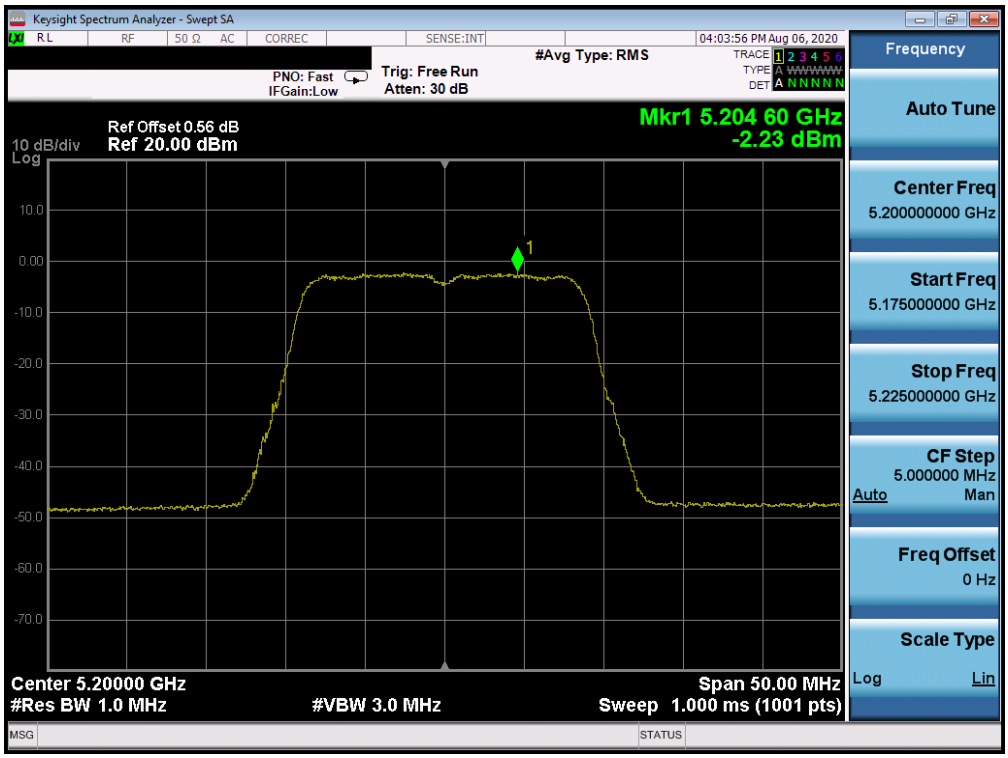
Plot 7-115. Power Spectral Density Plot CDD ANT WF8 (20MHz BW 802.11n (UNII Band 1) – Ch. 40)



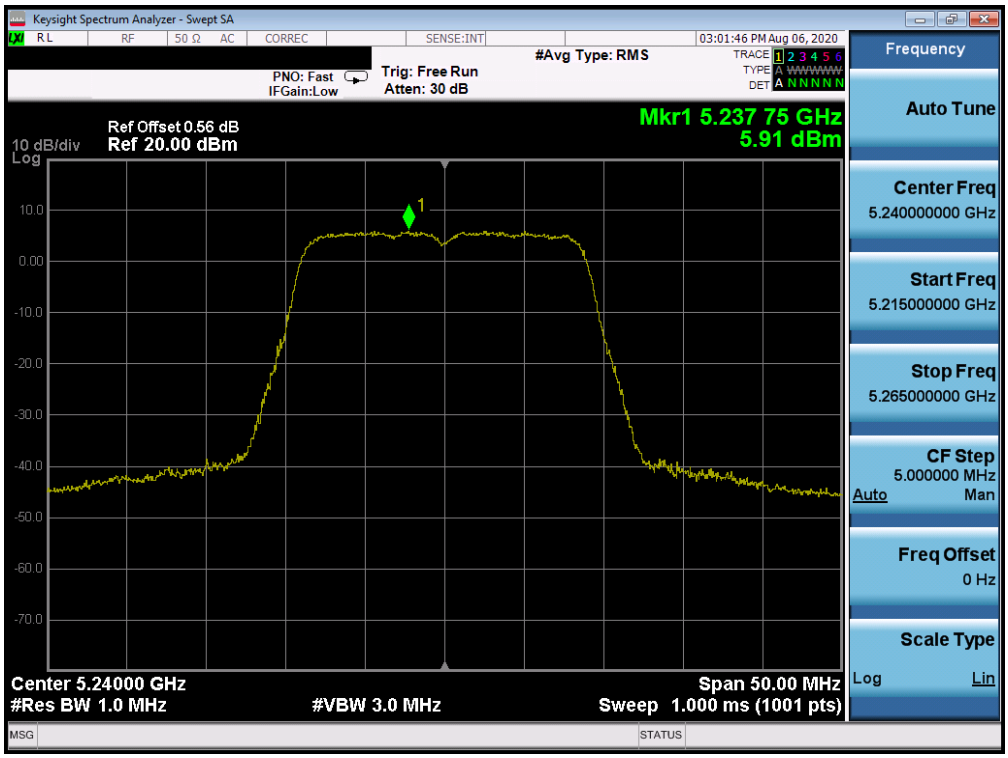
Plot 7-116. ISED Power Spectral Density Plot CDD ANT WF8 (20MHz BW 802.11n (UNII Band 1) – Ch. 40)



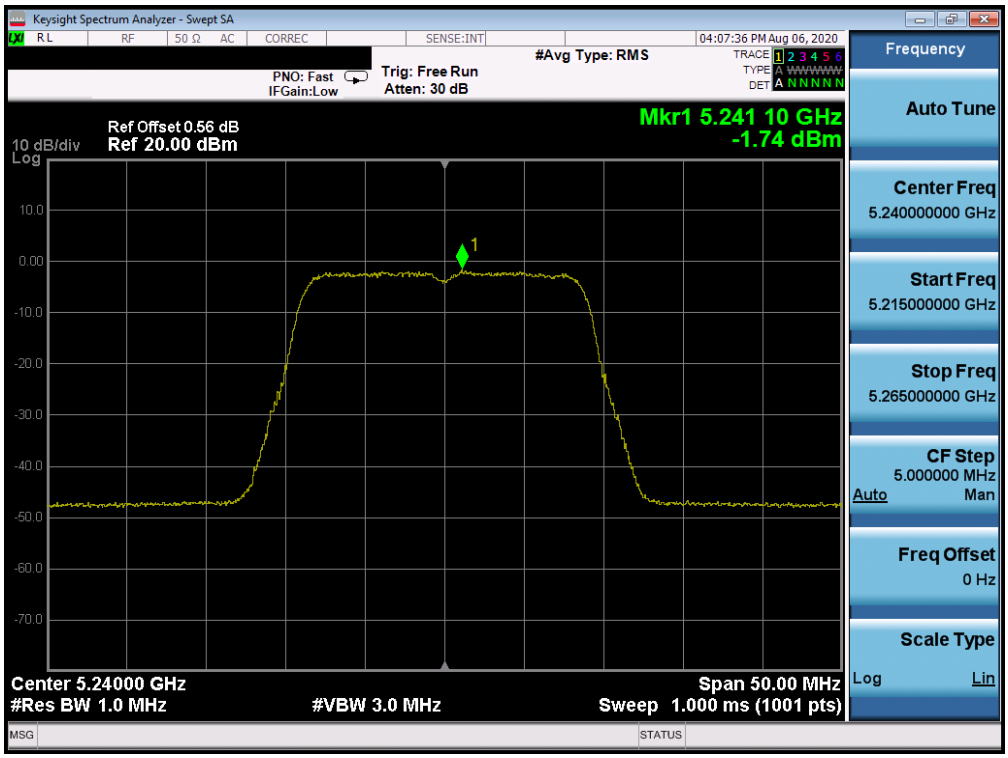
Plot 7-117. Power Spectral Density Plot CDD ANT WF7a (20MHz BW 802.11n (UNII Band 1) – Ch. 40)



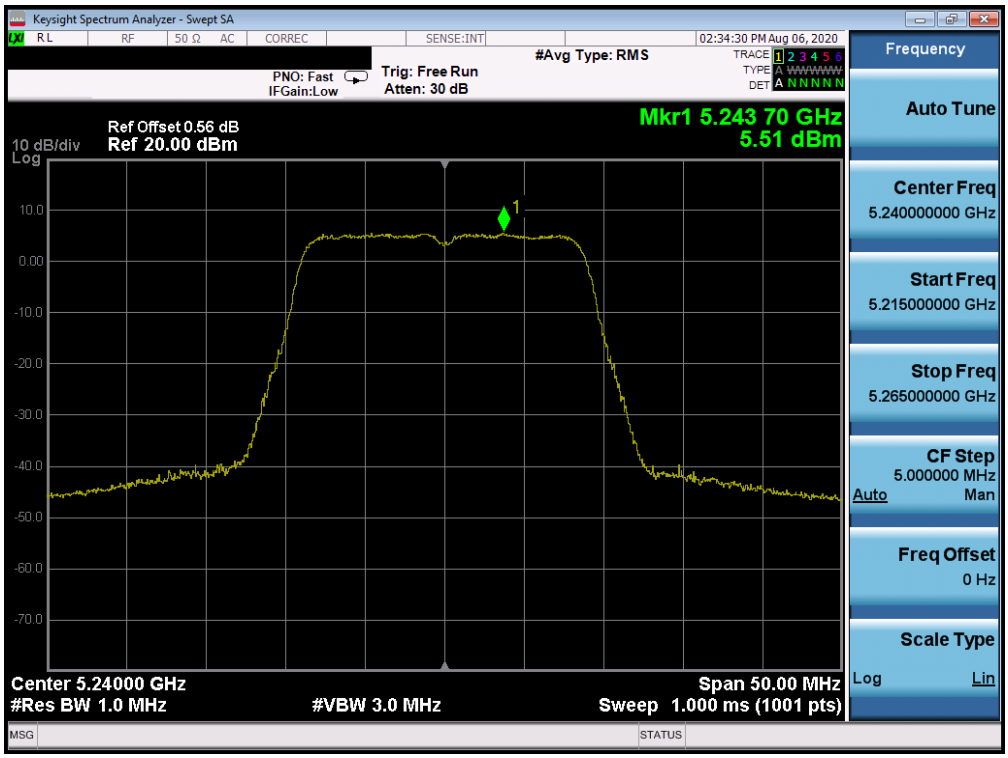
Plot 7-118. ISED Power Spectral Density Plot CDD ANT WF7a (20MHz BW 802.11n (UNII Band 1) – Ch. 40)



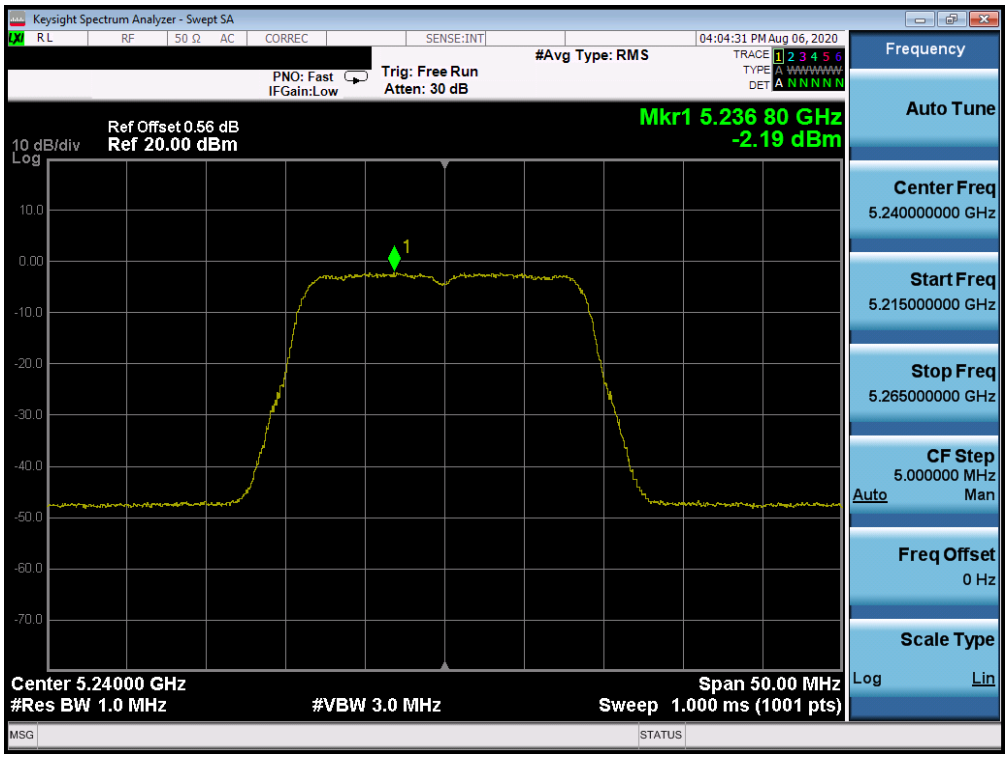
Plot 7-119. Power Spectral Density Plot CDD ANT WF8 (20MHz BW 802.11n (UNII Band 1) – Ch. 48)



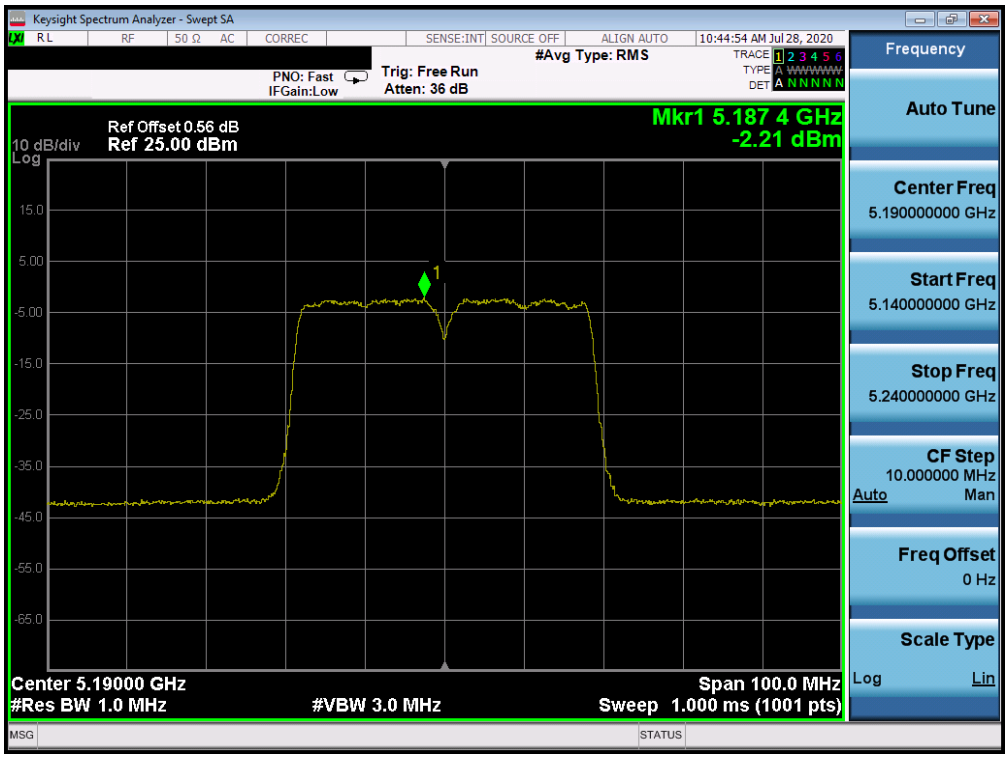
Plot 7-120. Power Spectral Density Plot CDD ANT WF8 (20MHz BW 802.11n (UNII Band 1) – Ch. 48)



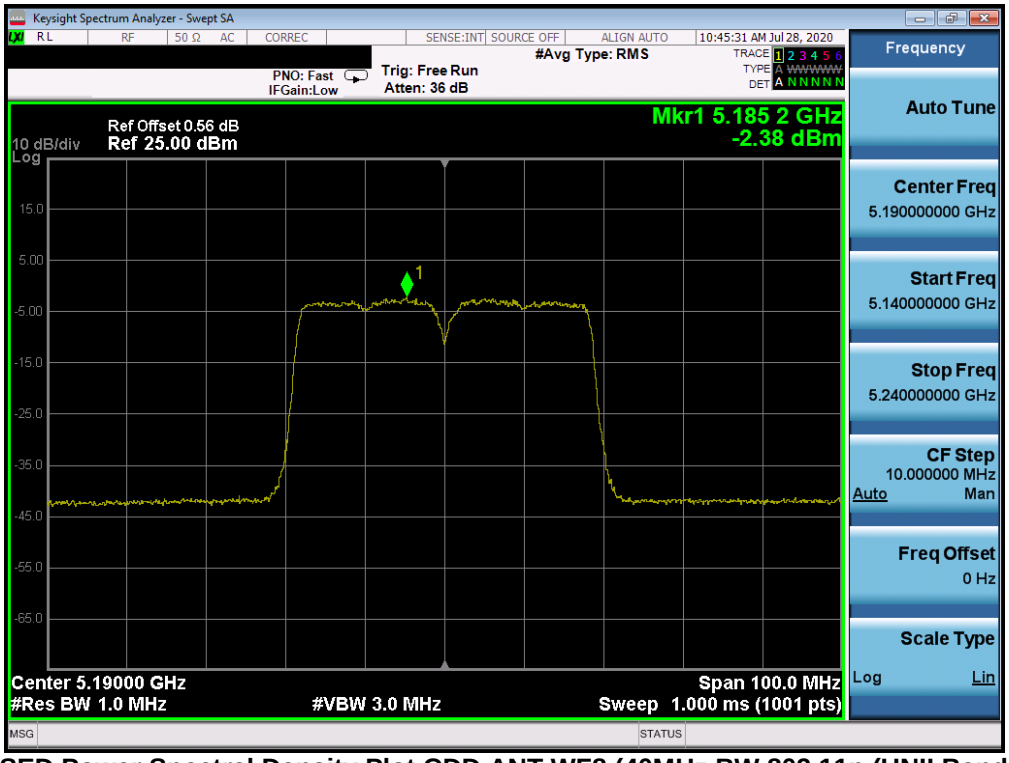
Plot 7-121. Power Spectral Density Plot CDD ANT WF7a (20MHz BW 802.11n (UNII Band 1) – Ch. 48)



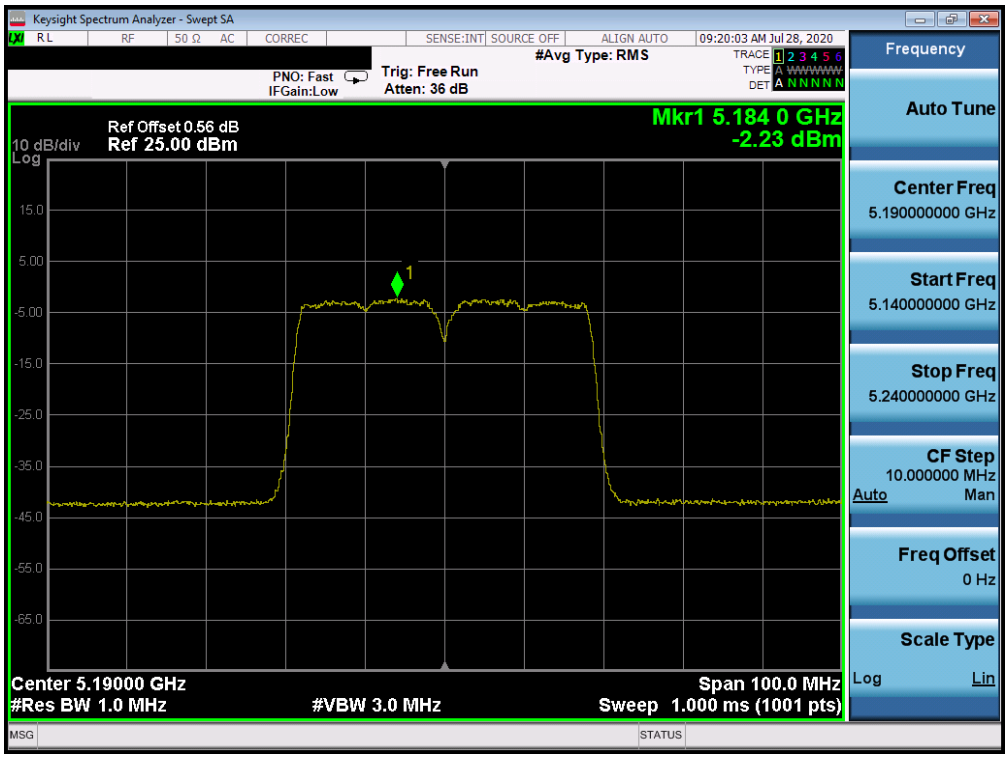
Plot 7-122. ISED Power Spectral Density Plot CDD ANT WF7a (20MHz BW 802.11n (UNII Band 1) – Ch. 48)



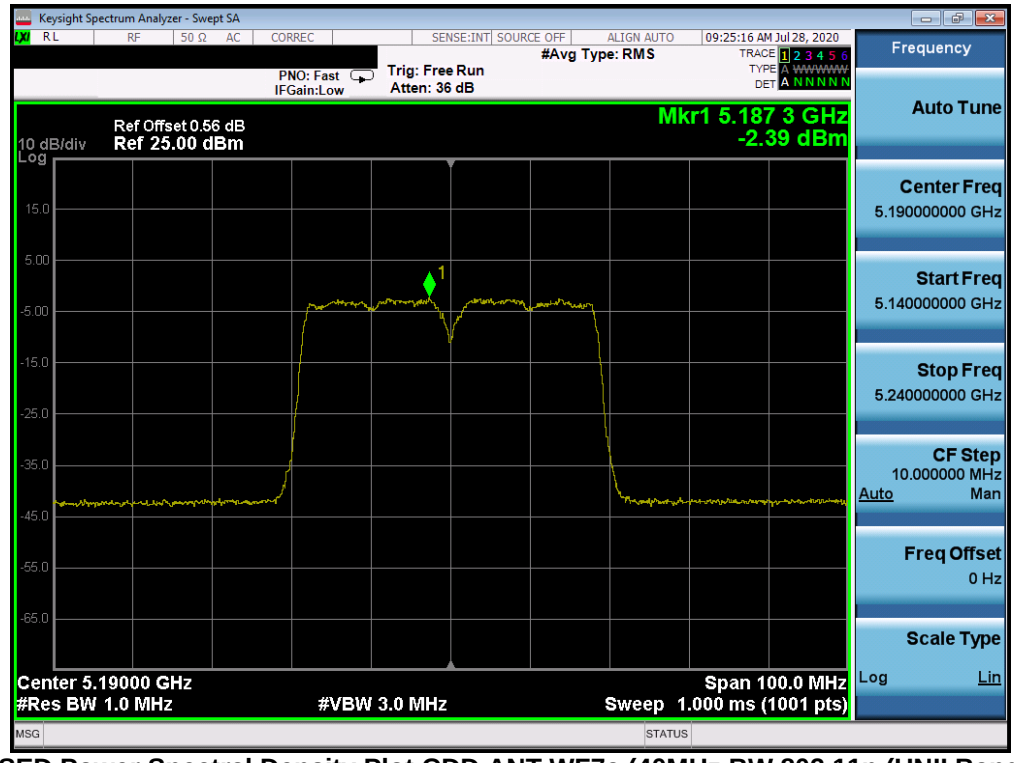
Plot 7-123. Power Spectral Density Plot CDD ANT WF8 (40MHz BW 802.11n (UNII Band 1) – Ch. 38)



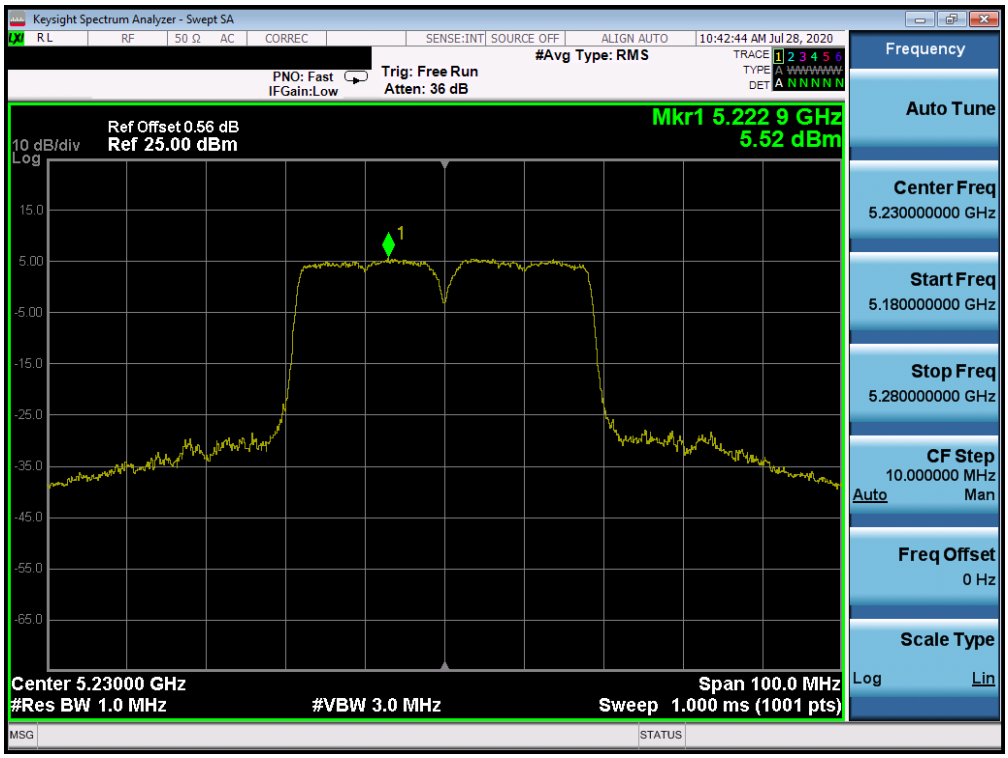
Plot 7-124. ISED Power Spectral Density Plot CDD ANT WF8 (40MHz BW 802.11n (UNII Band 1) – Ch. 38)



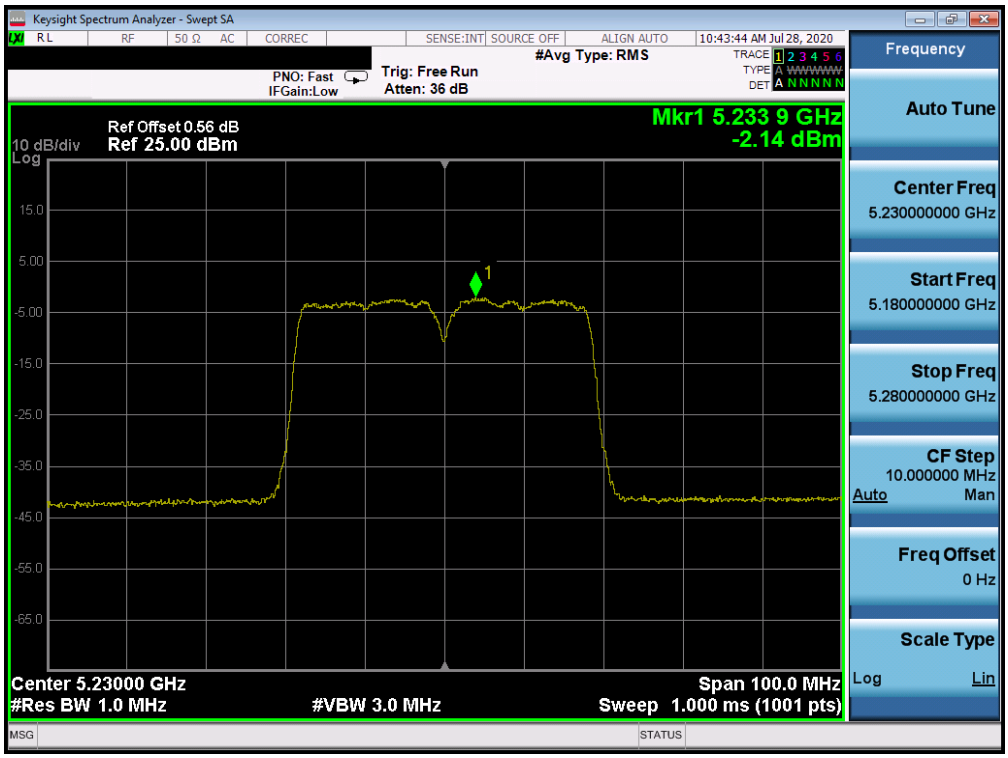
Plot 7-125. Power Spectral Density Plot CDD ANT WF7a (40MHz BW 802.11n (UNII Band 1) – Ch. 38)



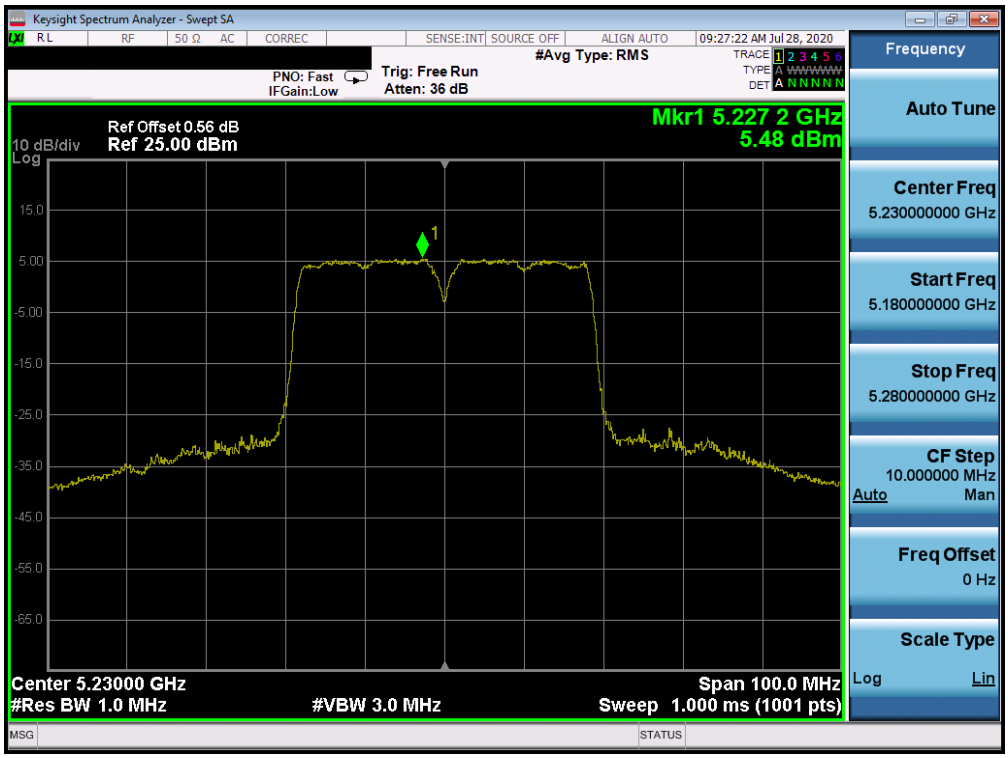
Plot 7-126. ISED Power Spectral Density Plot CDD ANT WF7a (40MHz BW 802.11n (UNII Band 1) – Ch. 38)



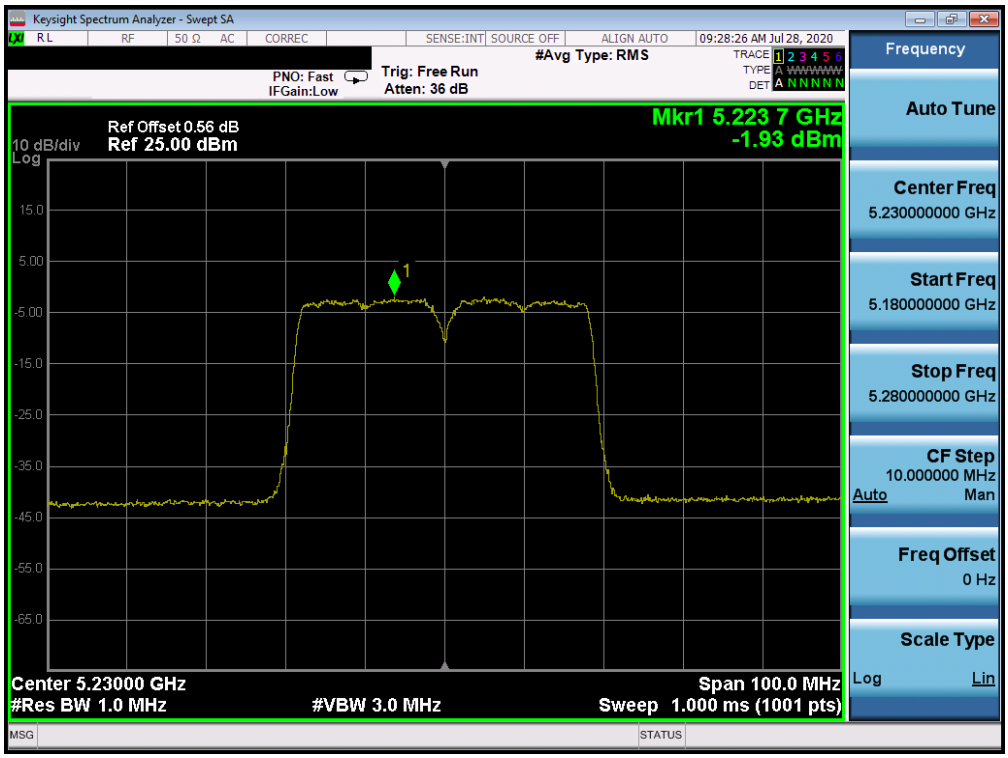
Plot 7-127. Power Spectral Density Plot CDD ANT WF8 (40MHz BW 802.11n (UNII Band 1) – Ch. 46)



Plot 7-128. ISED Power Spectral Density Plot CDD ANT WF8 (40MHz BW 802.11n (UNII Band 1) – Ch. 46)



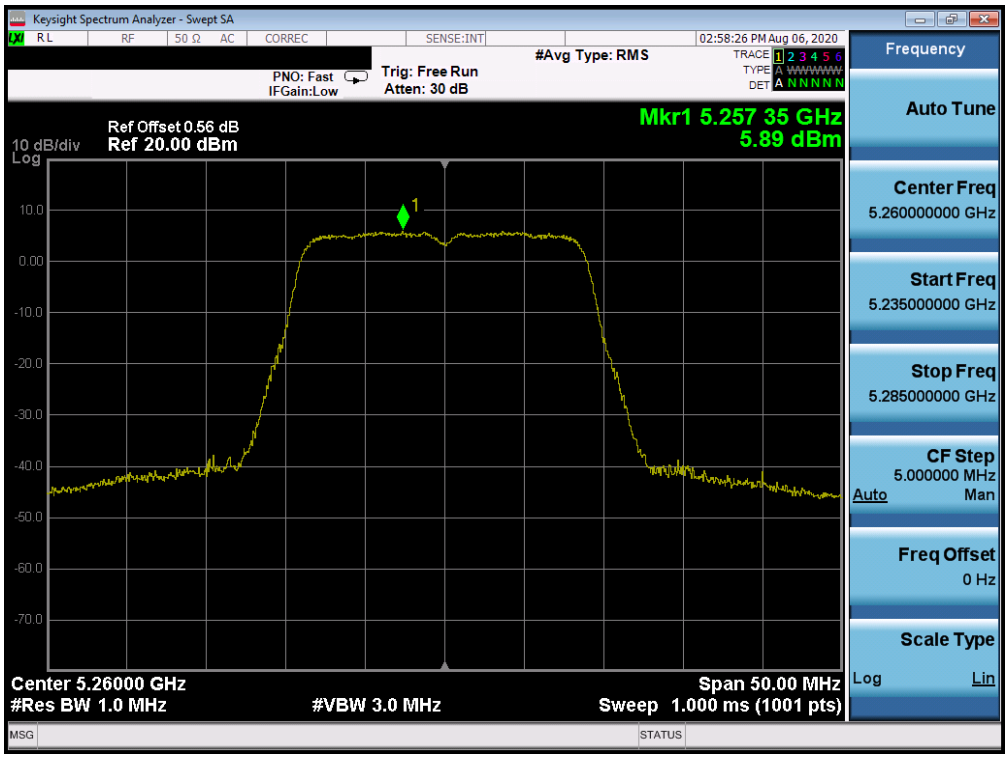
Plot 7-129. Power Spectral Density Plot CDD ANT WF7a (40MHz BW 802.11n (UNII Band 1) – Ch. 46)



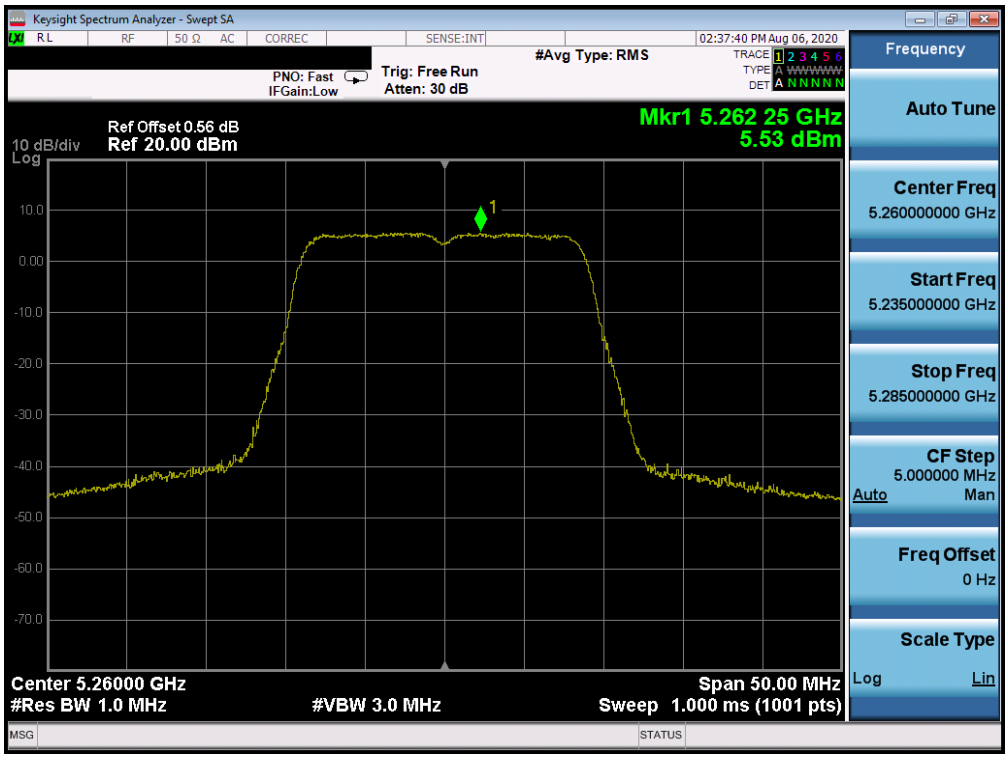
Plot 7-130. ISED Power Spectral Density Plot CDD ANT WF7a (40MHz BW 802.11n (UNII Band 1) – Ch. 46)

Plot 7-131. Power Spectral Density Plot CDD ANT WF8 (80MHz BW 802.11ac (UNII Band 1) – Ch. 42)

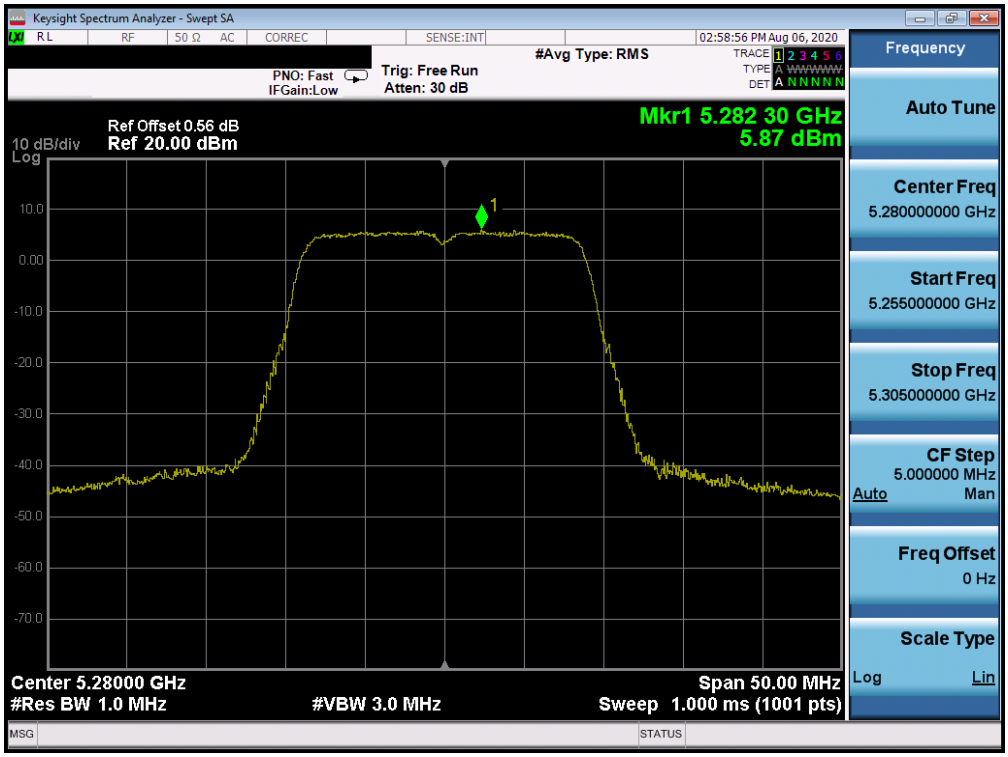
Plot 7-132. Power Spectral Density Plot CDD ANT WF7a (80MHz BW 802.11ac (UNII Band 1) – Ch. 42)



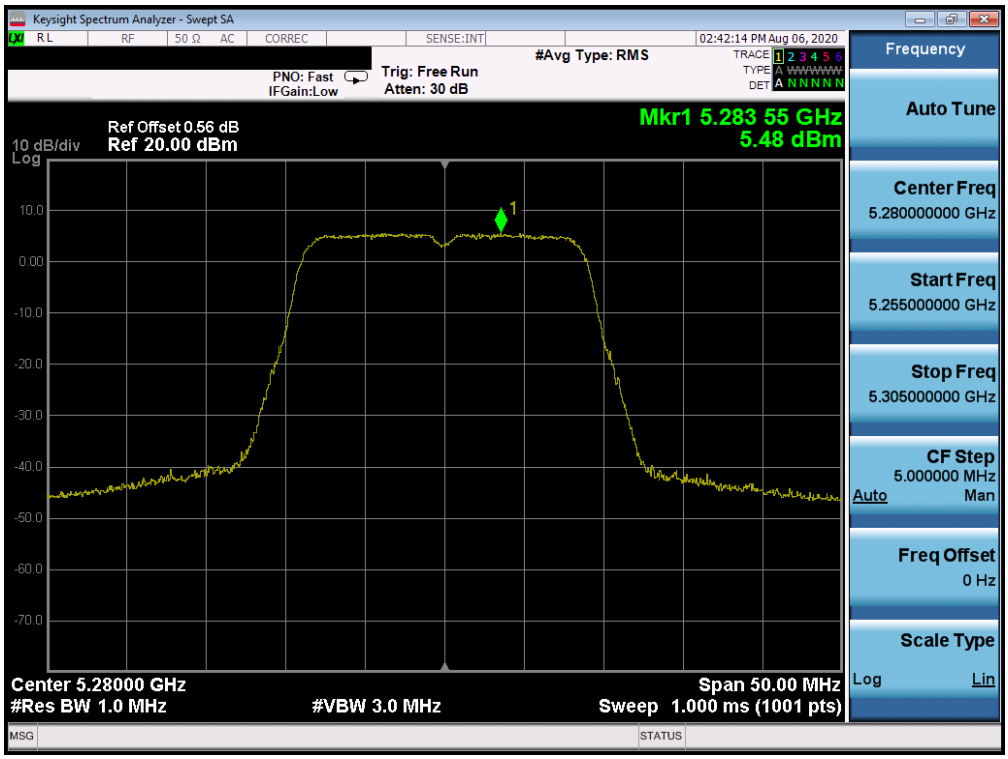
Plot 7-133. Power Spectral Density Plot SDM ANT WF8 (20MHz BW 802.11n (UNII Band 2A) – Ch. 52)



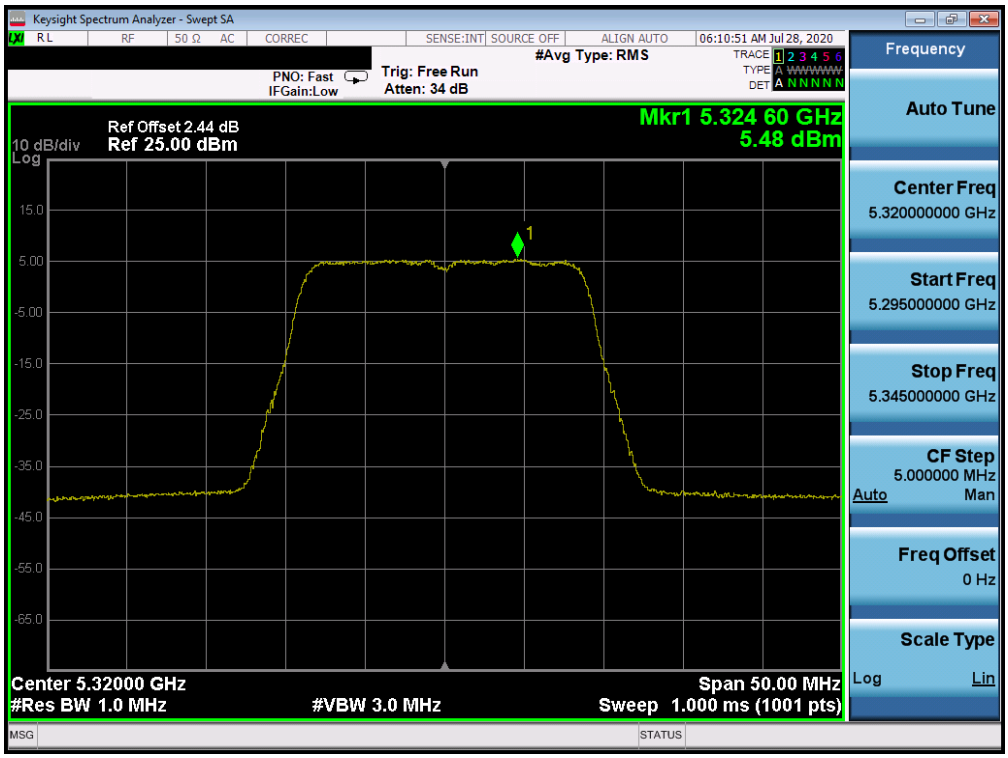
Plot 7-134. Power Spectral Density Plot SDM ANT WF7a (20MHz BW 802.11n (UNII Band 2A) – Ch. 52)



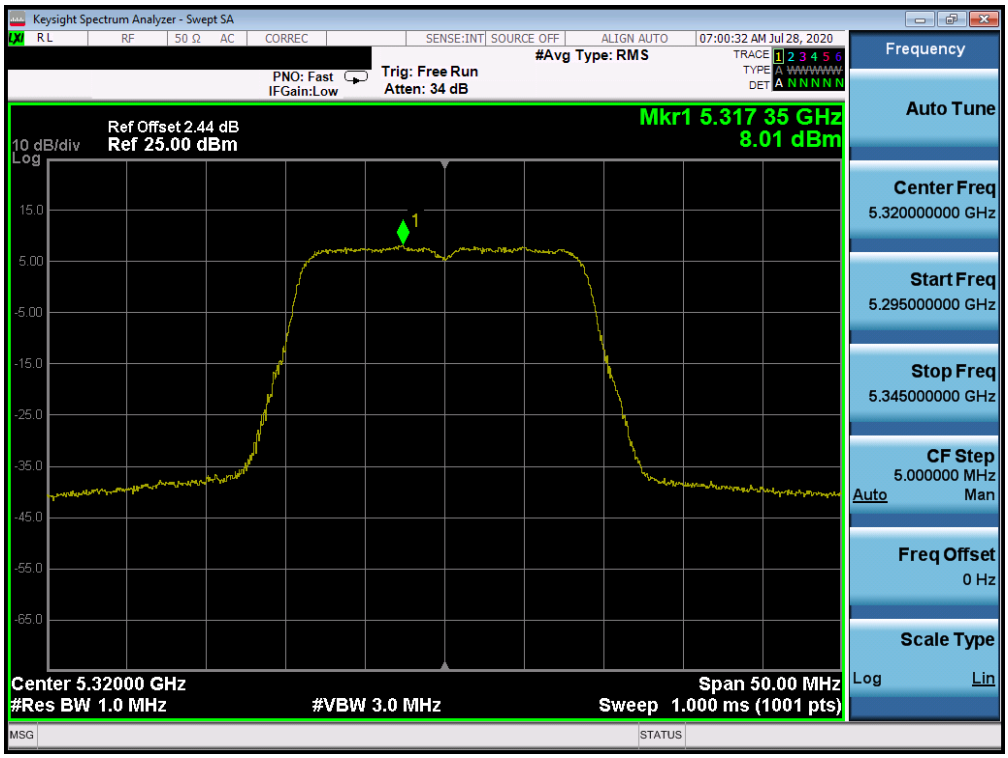
Plot 7-135. Power Spectral Density Plot SDM ANT WF8 (20MHz BW 802.11n (UNII Band 2A) – Ch. 56)



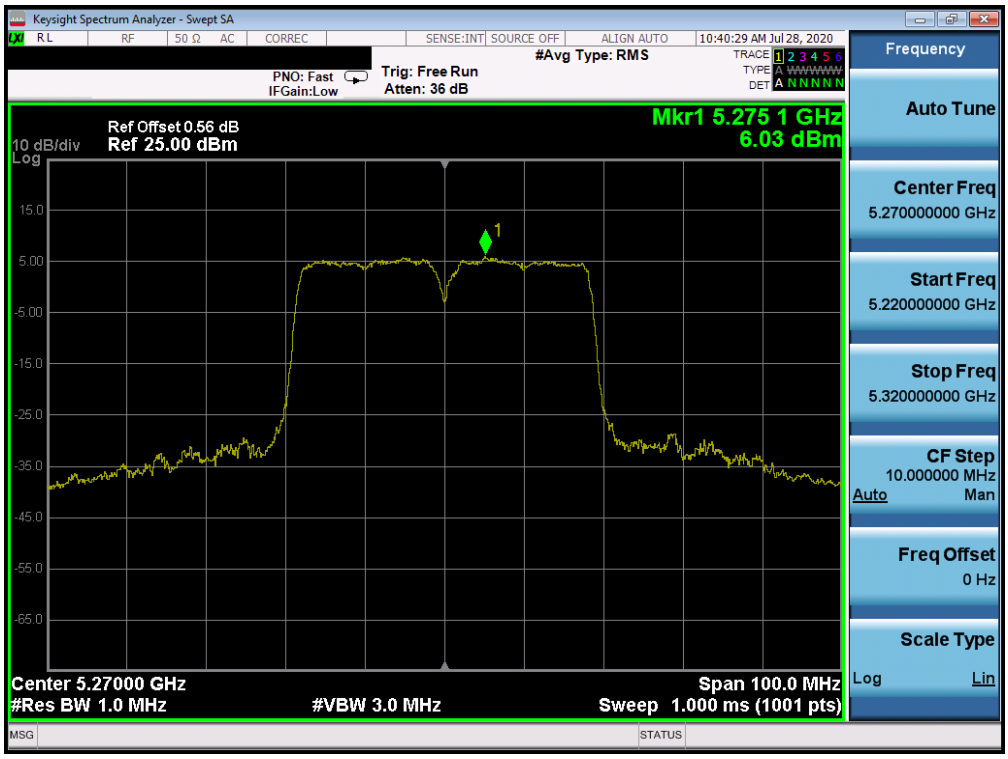
Plot 7-136. Power Spectral Density Plot SDM ANT WF7a (20MHz BW 802.11n (UNII Band 2A) – Ch. 56)



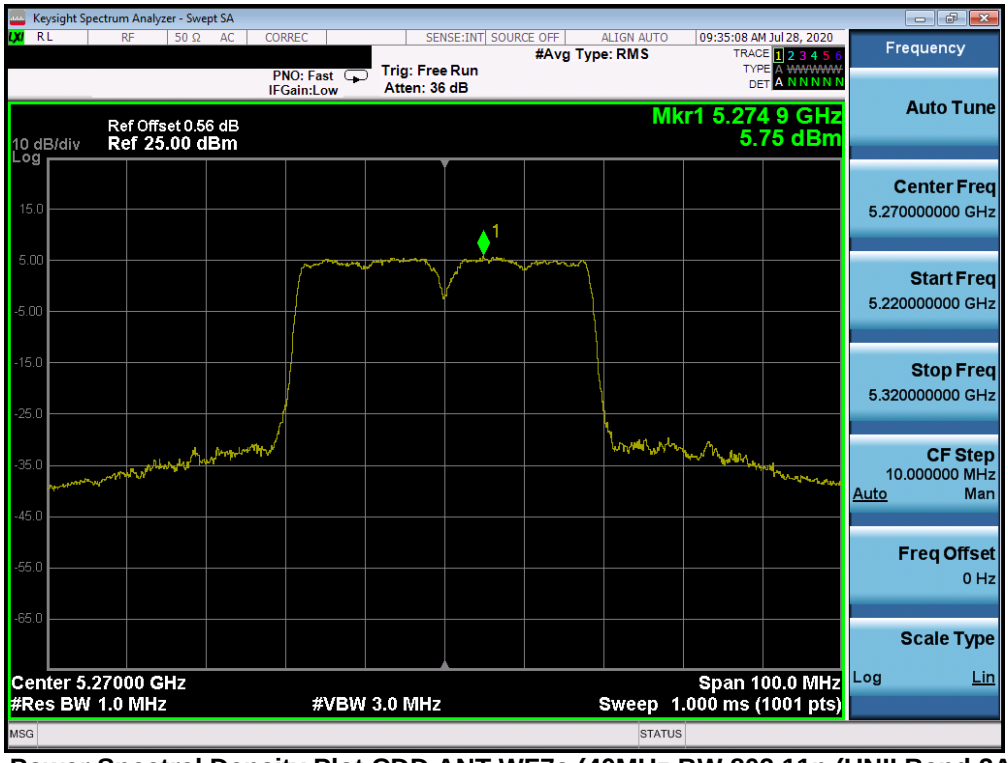
Plot 7-137. Power Spectral Density Plot CDD ANT WF8 (20MHz BW 802.11n (UNII Band 2A) – Ch. 64)



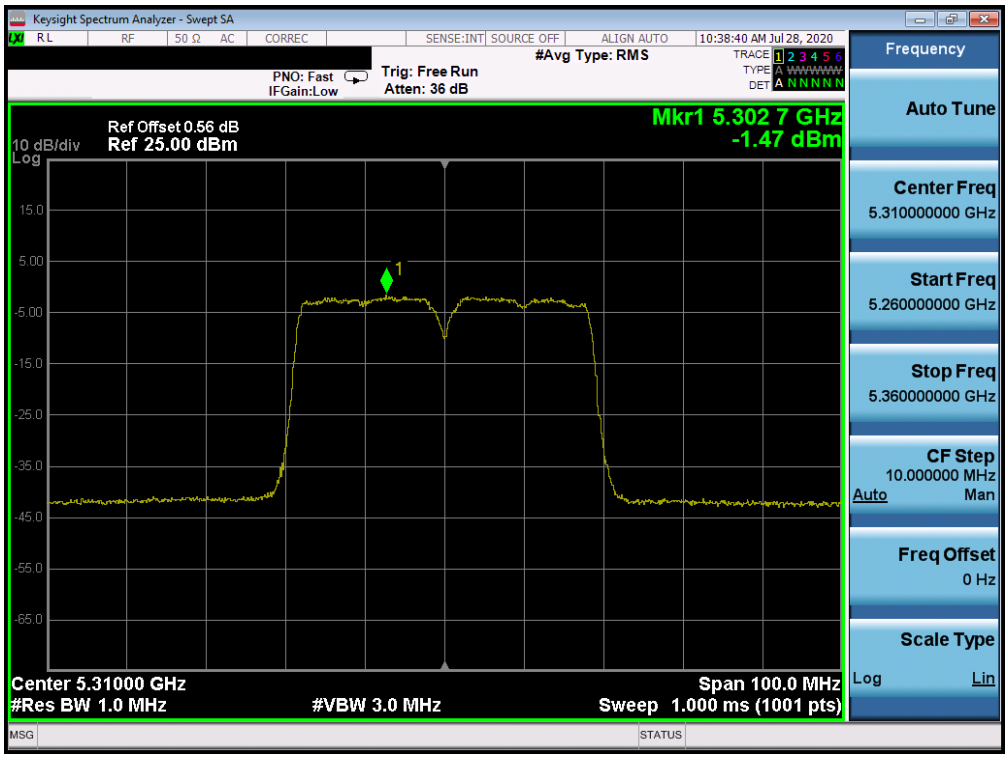
Plot 7-138. Power Spectral Density Plot CDD ANT WF7a (20MHz BW 802.11n (UNII Band 2A) – Ch. 64)



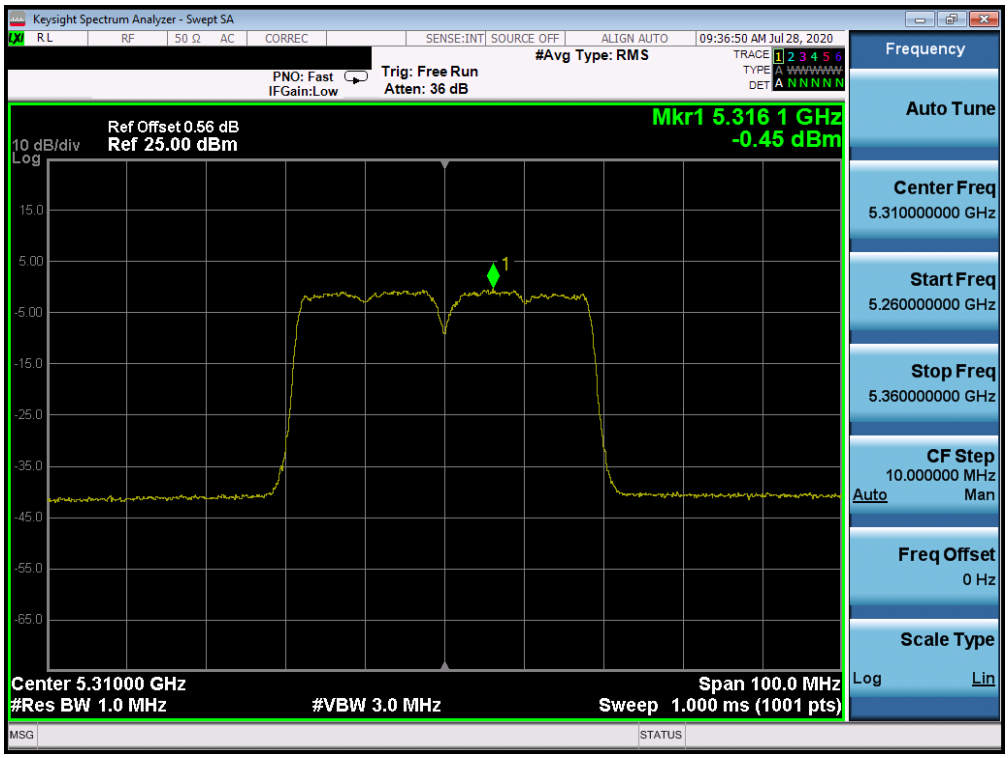
Plot 7-139. Power Spectral Density Plot CDD ANT WF8 (40MHz BW 802.11n (UNII Band 2A) – Ch. 54)



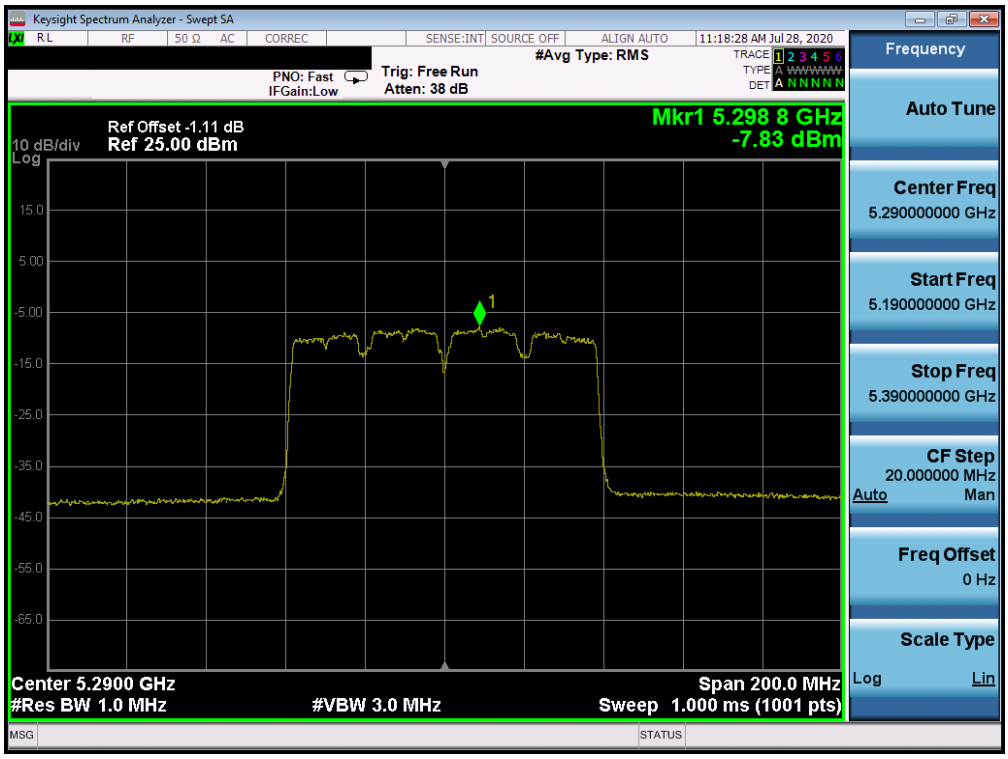
Plot 7-140. Power Spectral Density Plot CDD ANT WF7a (40MHz BW 802.11n (UNII Band 2A) – Ch. 54)



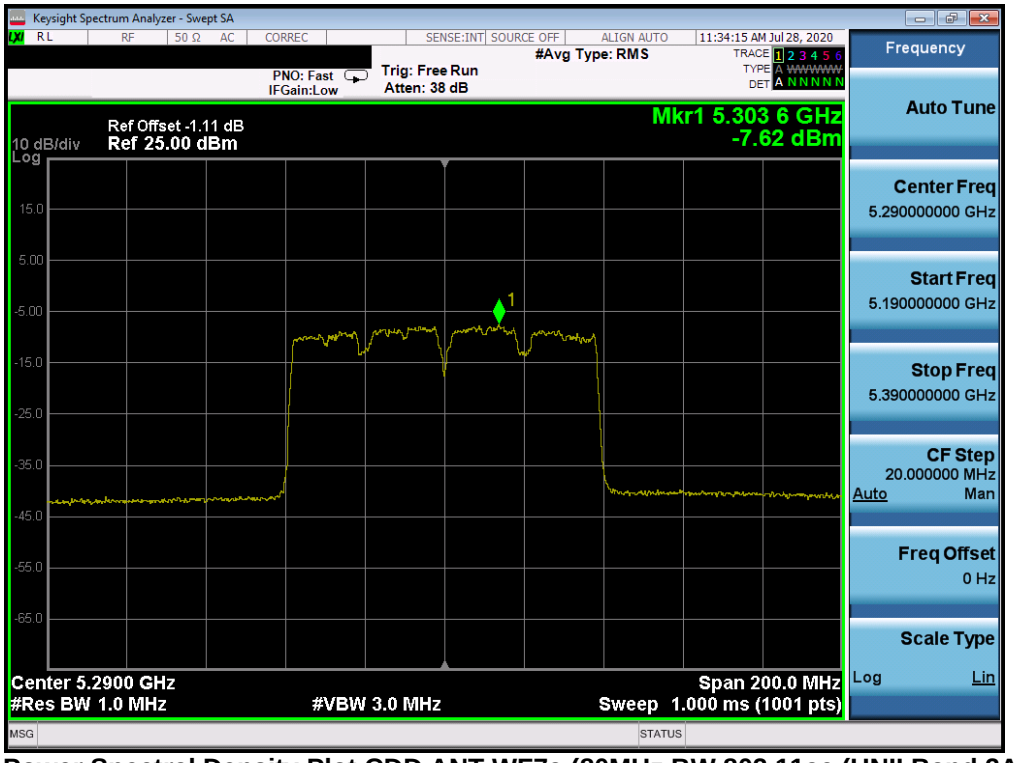
Plot 7-141. Power Spectral Density Plot CDD ANT WF8 (40MHz BW 802.11n (UNII Band 2A) – Ch. 62)



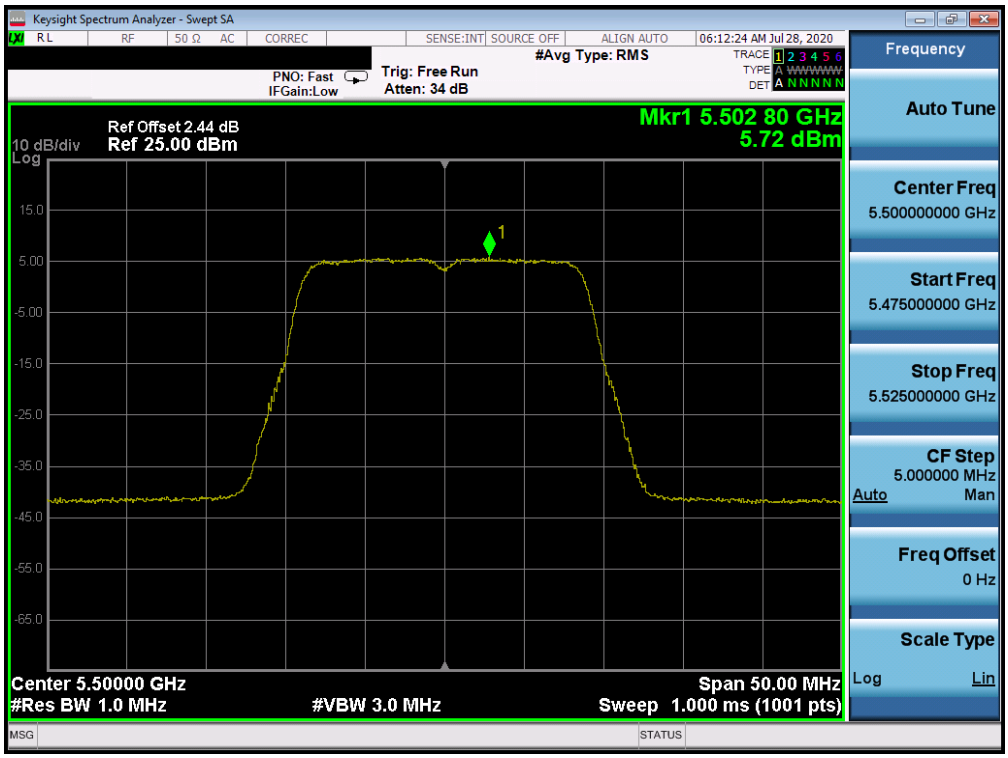
Plot 7-142. Power Spectral Density Plot CDD ANT WF7a (40MHz BW 802.11n (UNII Band 2A) – Ch. 62)



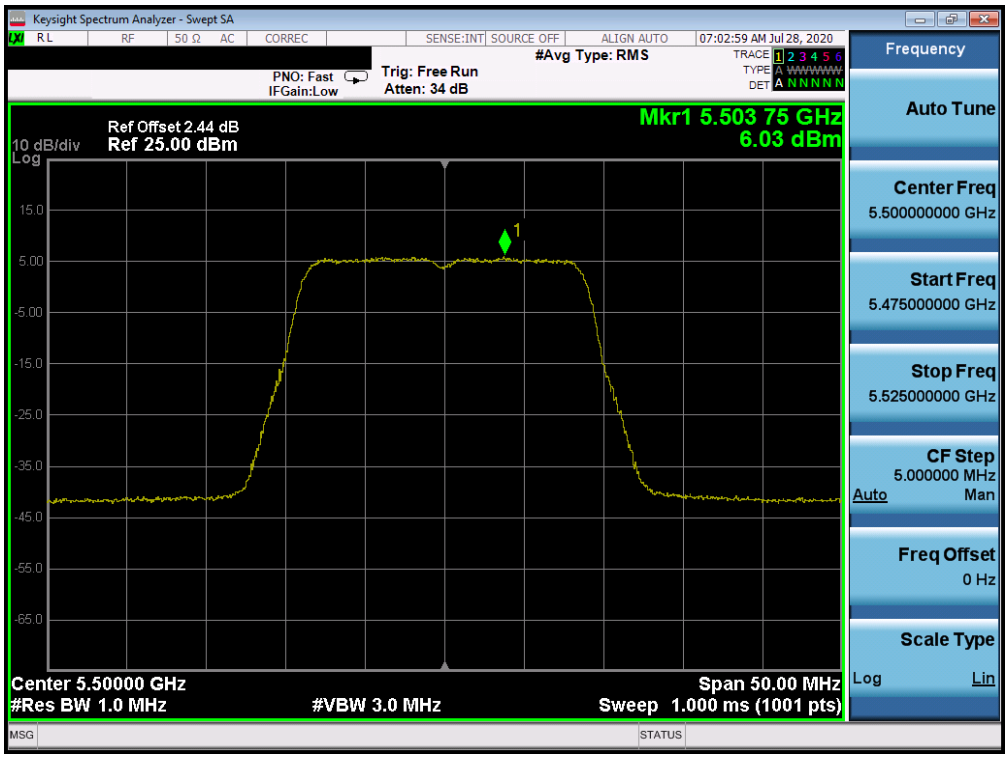
Plot 7-143. Power Spectral Density Plot CDD ANT WF8 (80MHz BW 802.11ac (UNII Band 2A) – Ch. 58)



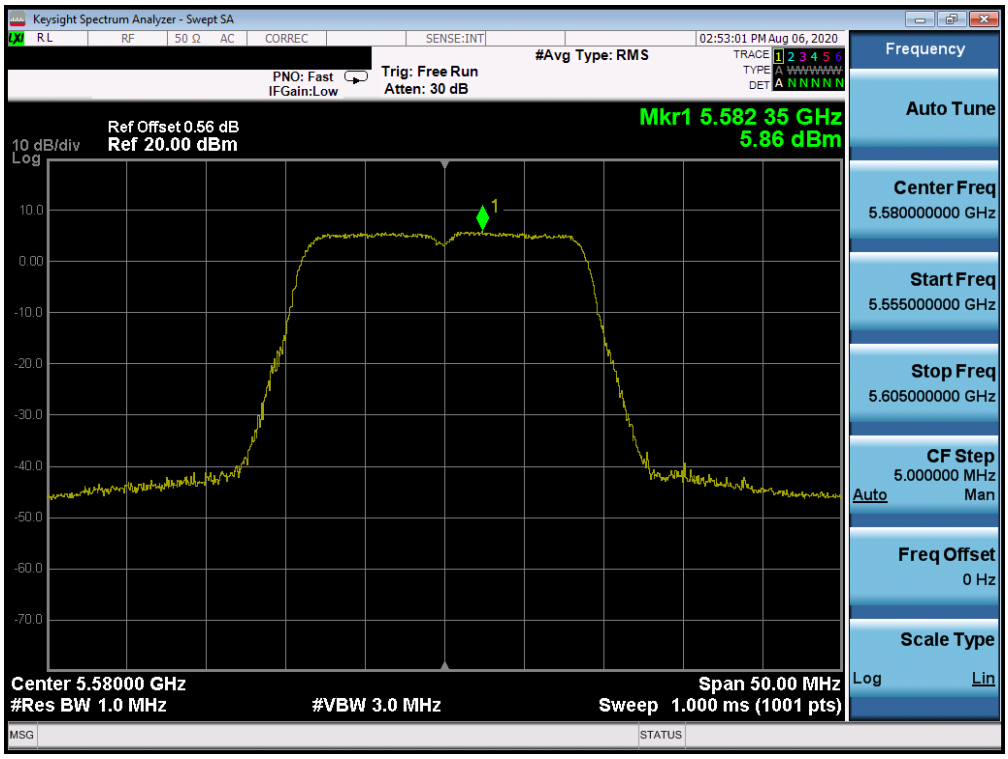
Plot 7-144. Power Spectral Density Plot CDD ANT WF7a (80MHz BW 802.11ac (UNII Band 2A) – Ch. 58)



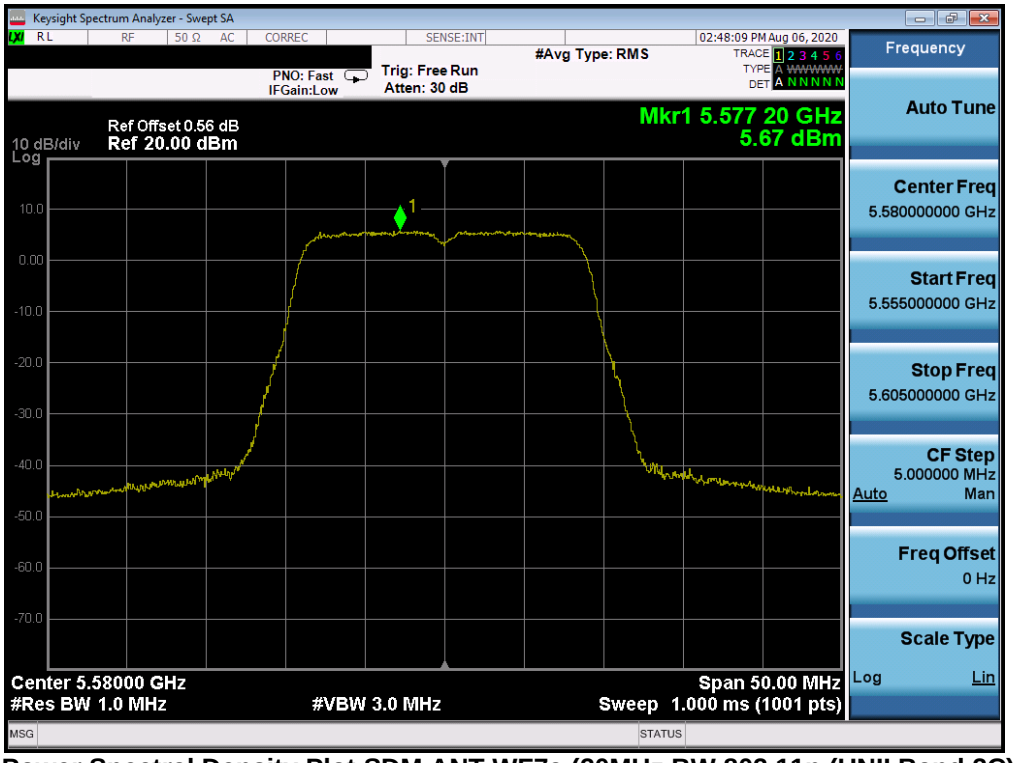
Plot 7-145. Power Spectral Density Plot CDD ANT WF8 (20MHz BW 802.11n (UNII Band 2C) – Ch. 100)



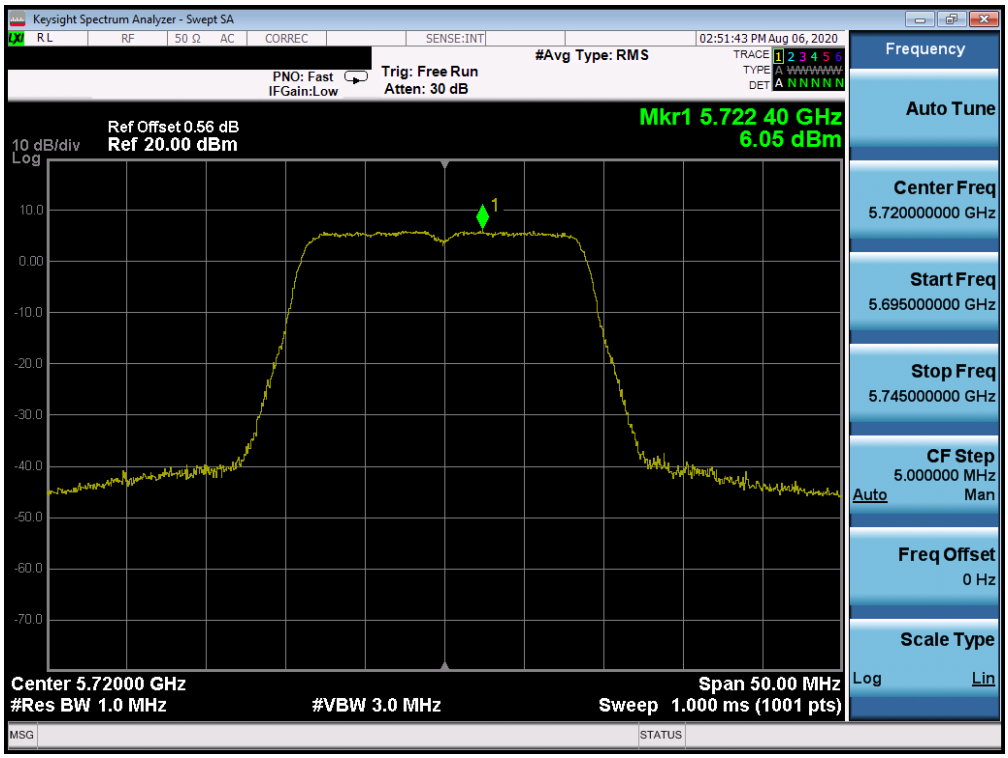
Plot 7-146. Power Spectral Density Plot CDD ANT WF7a (20MHz BW 802.11n (UNII Band 2C) – Ch. 100)



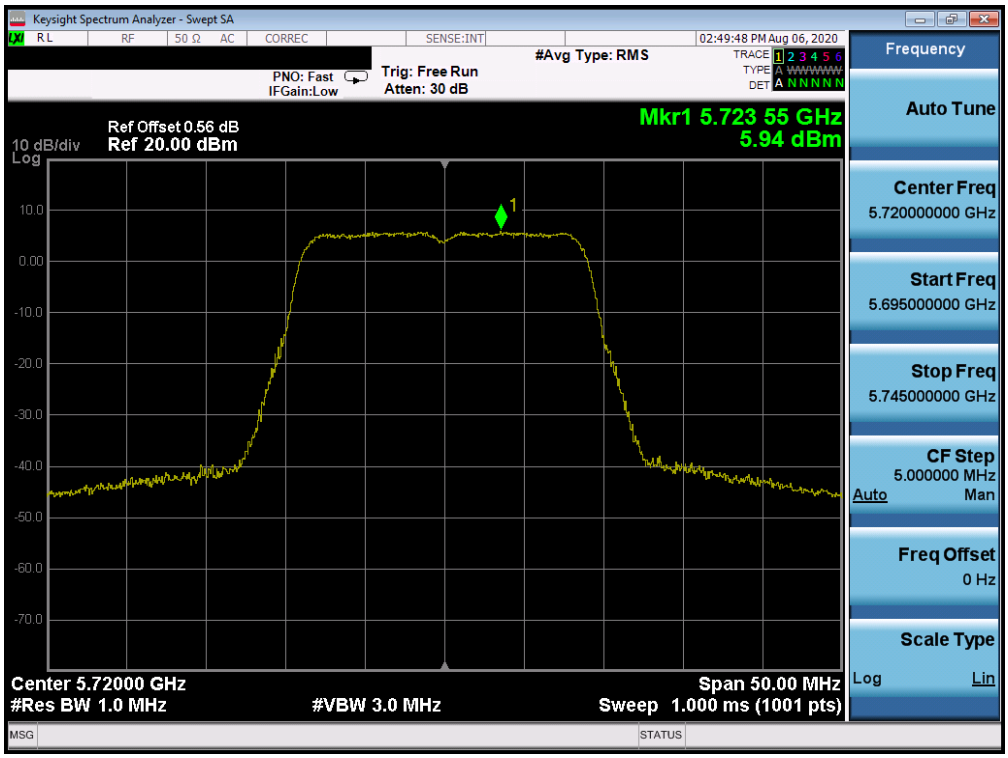
Plot 7-147. Power Spectral Density Plot SDM ANT WF8 (20MHz BW 802.11n (UNII Band 2C) – Ch. 116



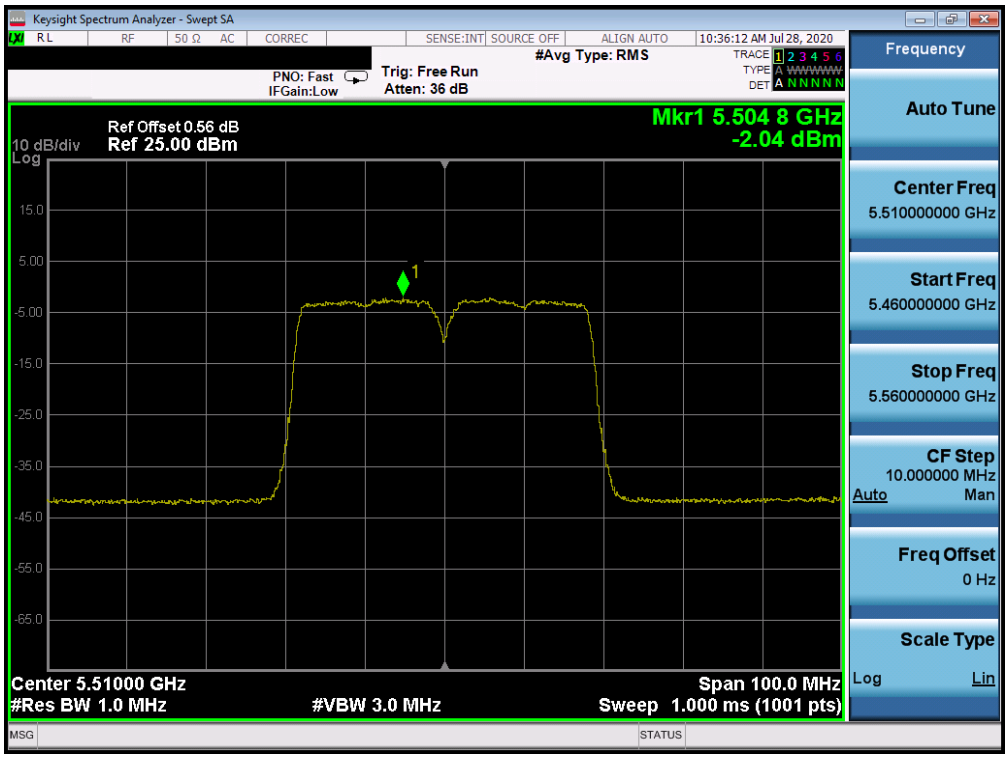
Plot 7-148. Power Spectral Density Plot SDM ANT WF7a (20MHz BW 802.11n (UNII Band 2C) – Ch. 116)



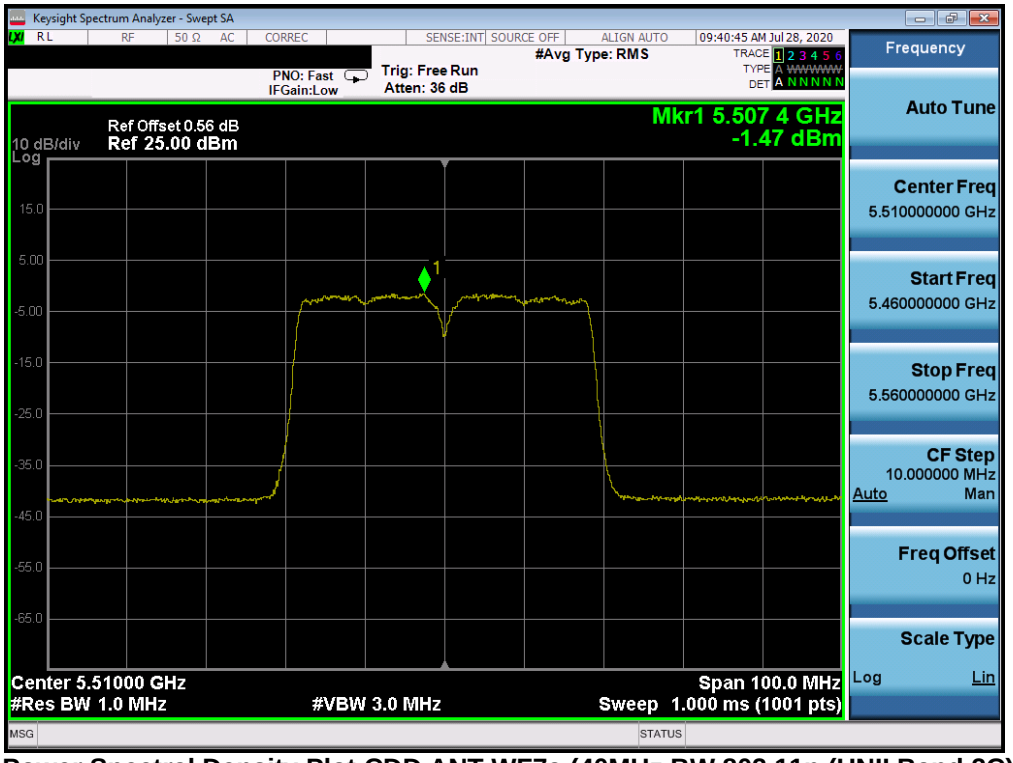
Plot 7-149. Power Spectral Density Plot SDM ANT WF8 (20MHz BW 802.11n (UNII Band 2C) – Ch. 144



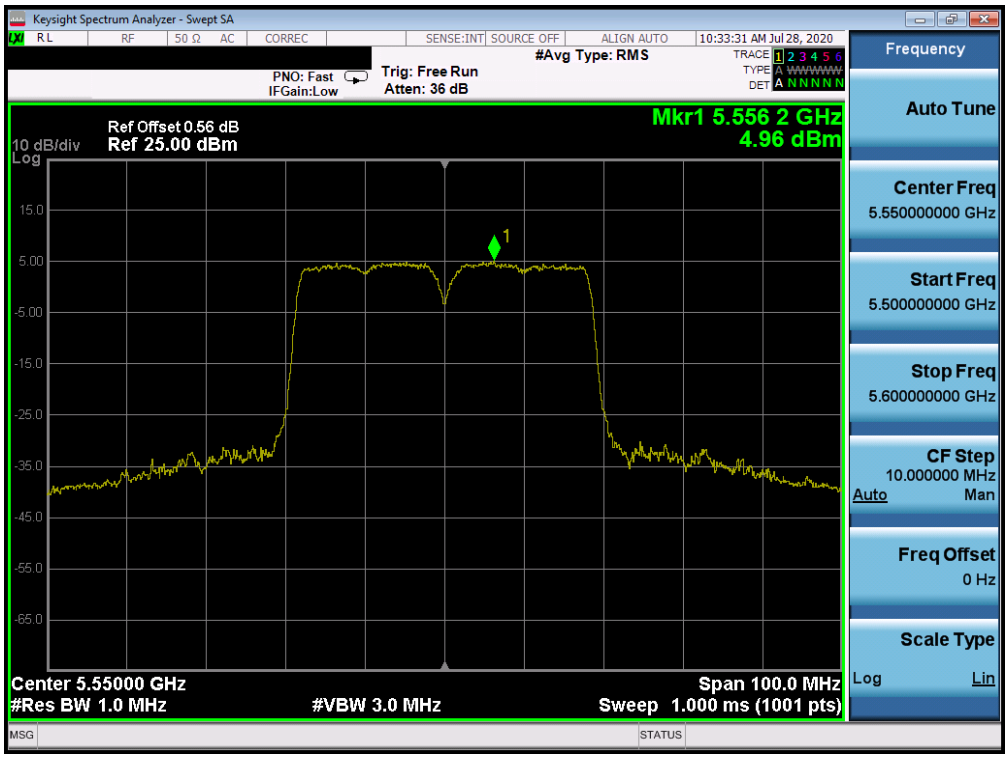
Plot 7-150. Power Spectral Density Plot SDM ANT WF7a (20MHz BW 802.11n (UNII Band 2C) – Ch. 144)



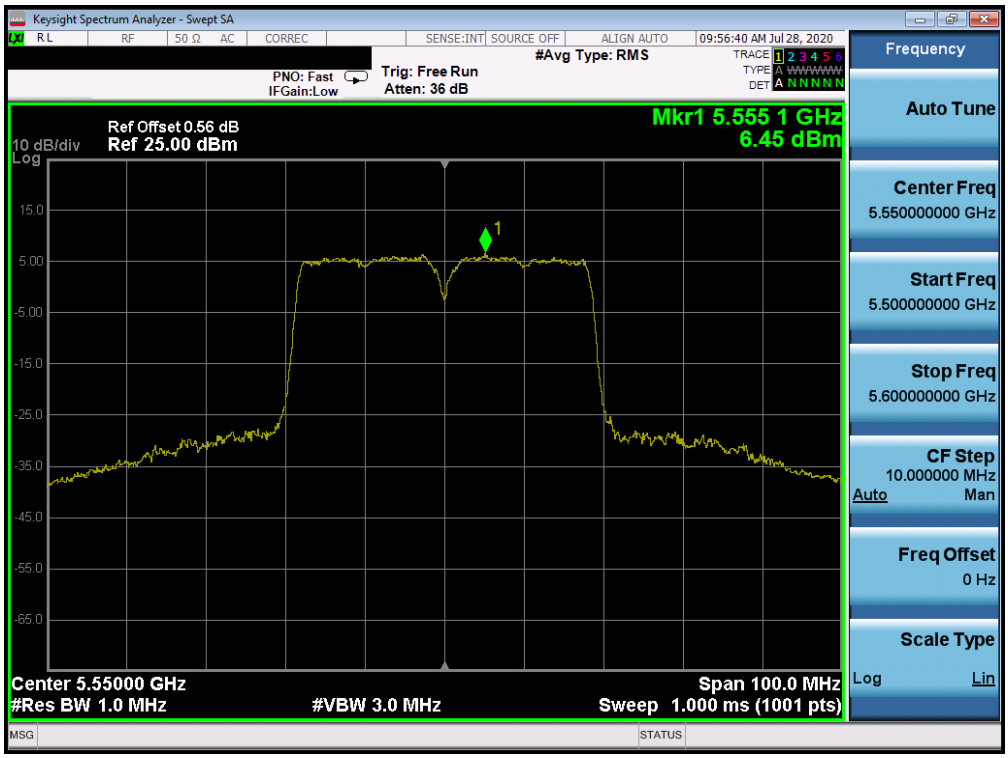
Plot 7-151. Power Spectral Density Plot CDD ANT WF8 (40MHz BW 802.11n (UNII Band 2C) – Ch. 102)



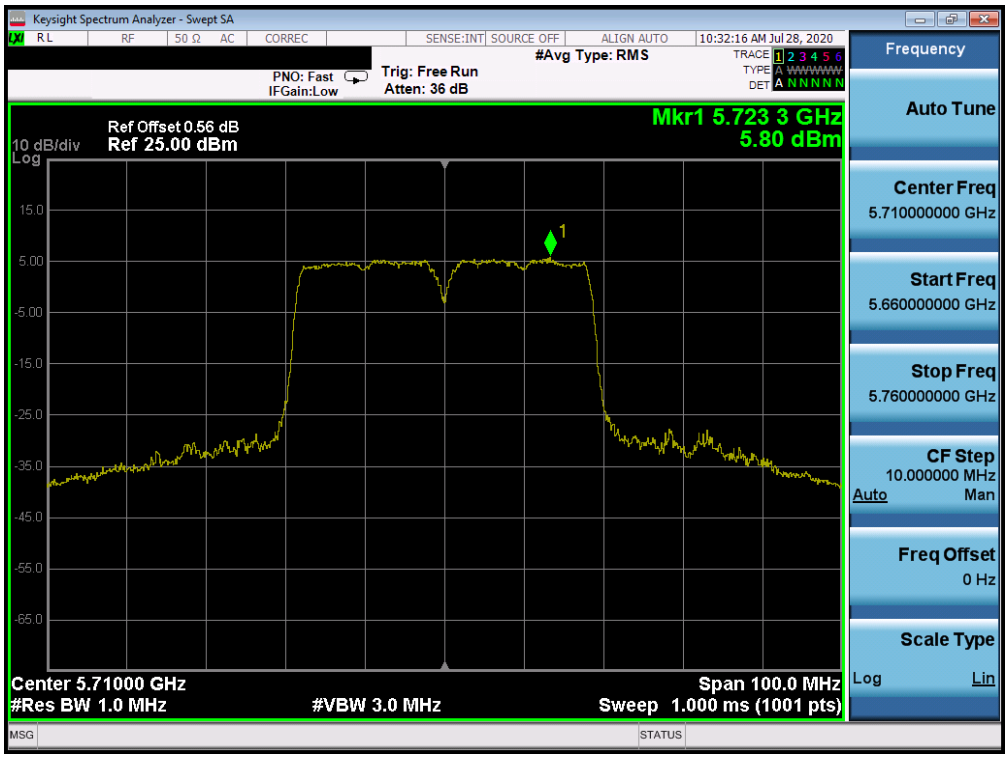
Plot 7-152. Power Spectral Density Plot CDD ANT WF7a (40MHz BW 802.11n (UNII Band 2C) – Ch. 102)



Plot 7-153. Power Spectral Density Plot CDD ANT WF8 (40MHz BW 802.11n (UNII Band 2C) – Ch. 110)



Plot 7-154. Power Spectral Density Plot CDD ANT WF7a (40MHz BW 802.11n (UNII Band 2C) – Ch. 110)

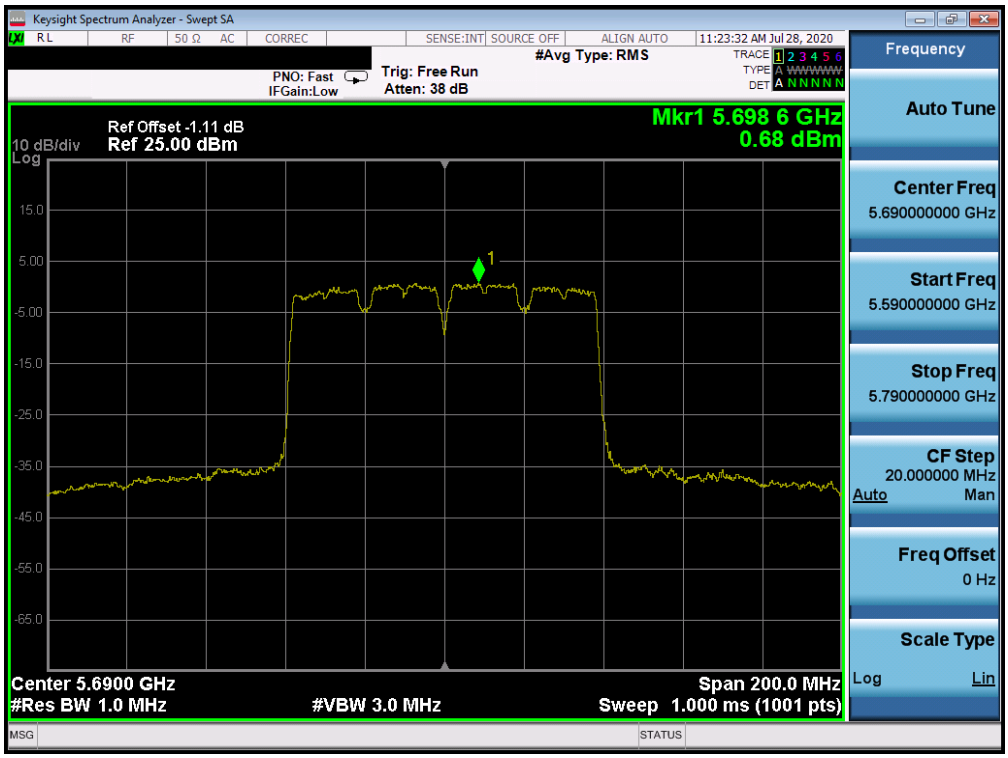


Plot 7-155. Power Spectral Density Plot CDD ANT WF8 (40MHz BW 802.11n (UNII Band 2C) – Ch. 142)

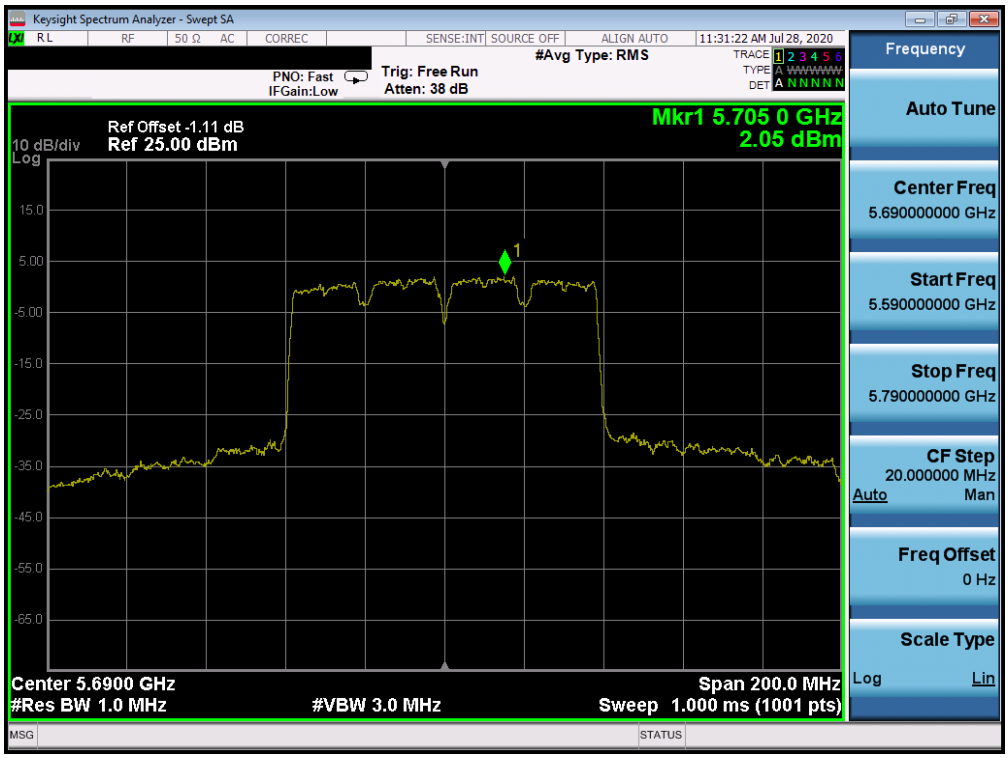
Plot 7-156. Power Spectral Density Plot CDD ANT WF7a (40MHz BW 802.11n (UNII Band 2C) – Ch. 142)

Plot 7-157. Power Spectral Density Plot CDD ANT WF8 (80MHz BW 802.11ac (UNII Band 2C) – Ch. 106)

Plot 7-158. Power Spectral Density Plot CDD ANT WF7a (80MHz BW 802.11ac (UNII Band 2C) – Ch. 106)



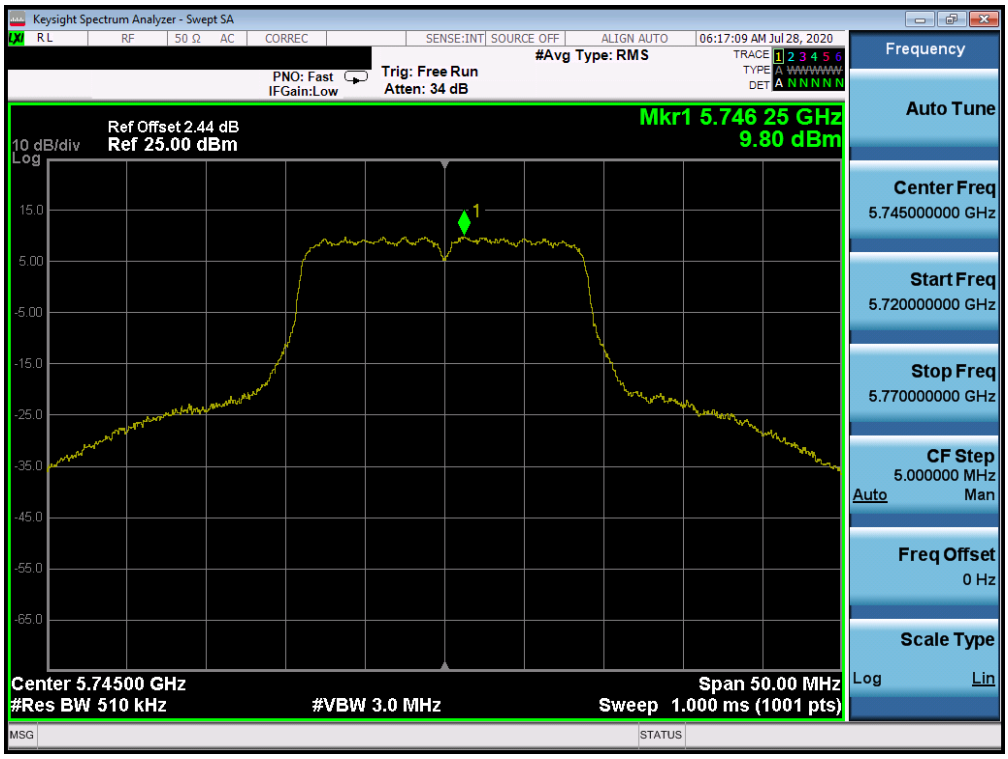
Plot 7-159. Power Spectral Density Plot CDD ANT WF8 (80MHz BW 802.11ac (UNII Band 2C) – Ch. 138)



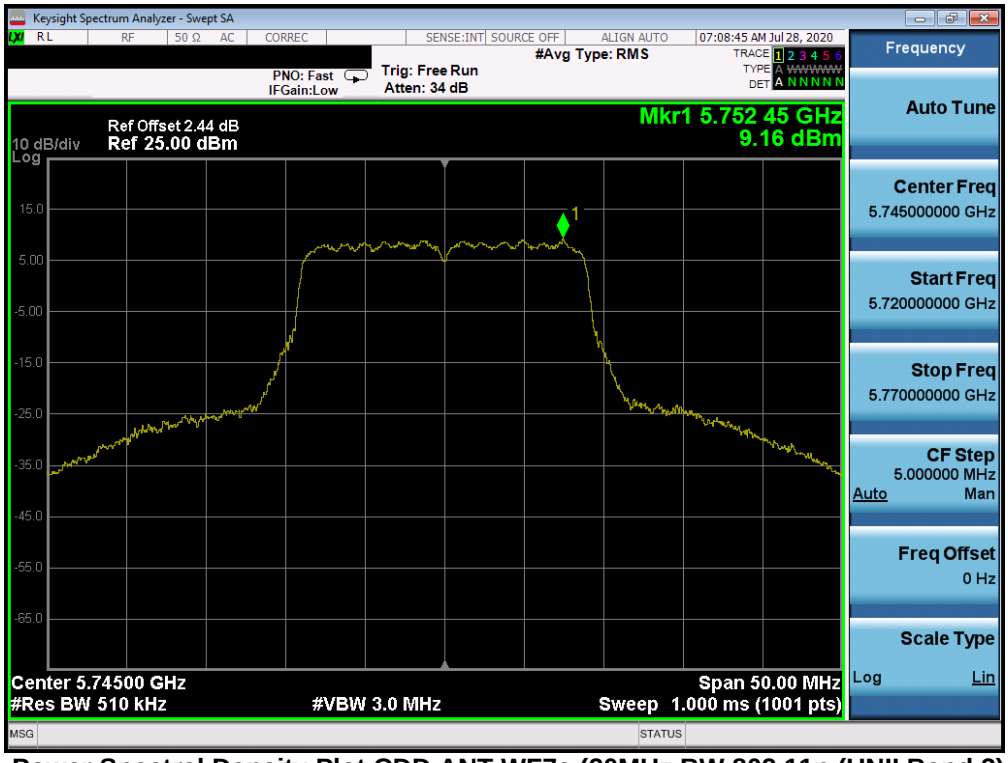
Plot 7-160. Power Spectral Density Plot CDD ANT WF7a (80MHz BW 802.11ac (UNII Band 2C) – Ch. 138)

	Frequency [MHz]	Channel No.	802.11 Mode	Data Rate [Mbps]	Power Density [dBm/500kHz]			Max Permissible Power Density [dBm/500kHz]	Margin [dB]
					ANTWF8	ANTWF7A	Summed		
Band 3	5745	149	n (20MHz)	130/144.4 (MCS15)	9.80	9.16	12.50	30.0	-17.50
	5785	157	n (20MHz)	130/144.4 (MCS15)	9.93	9.18	12.58	30.0	-17.42
	5825	165	n (20MHz)	130/144.4 (MCS15)	9.80	8.85	12.36	30.0	-17.64
	5755	151	n (40MHz)	270/300 (MCS15)	5.05	6.10	8.62	30.0	-21.38
	5795	159	n (40MHz)	270/300 (MCS15)	5.02	5.37	8.21	30.0	-21.79
	5775	155	ac (80MHz)	390/433.3 (MCS9)	-3.59	-2.63	-0.07	30.0	-30.07

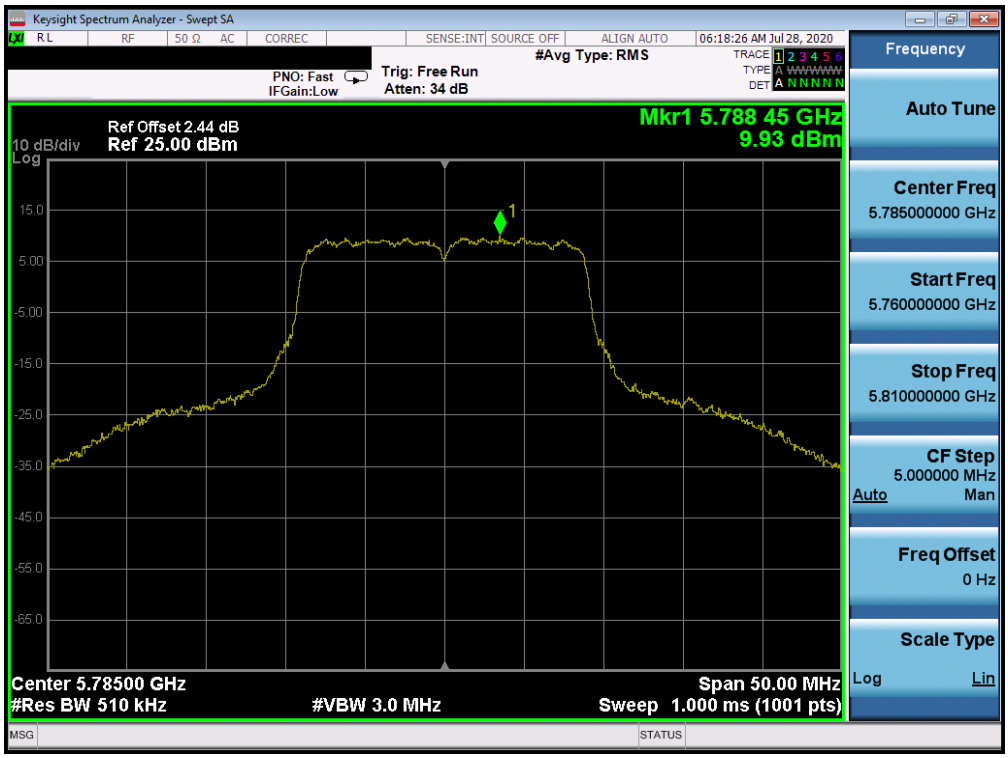
Table 7-34. Band 3 CDD Power Spectral Density Measurements



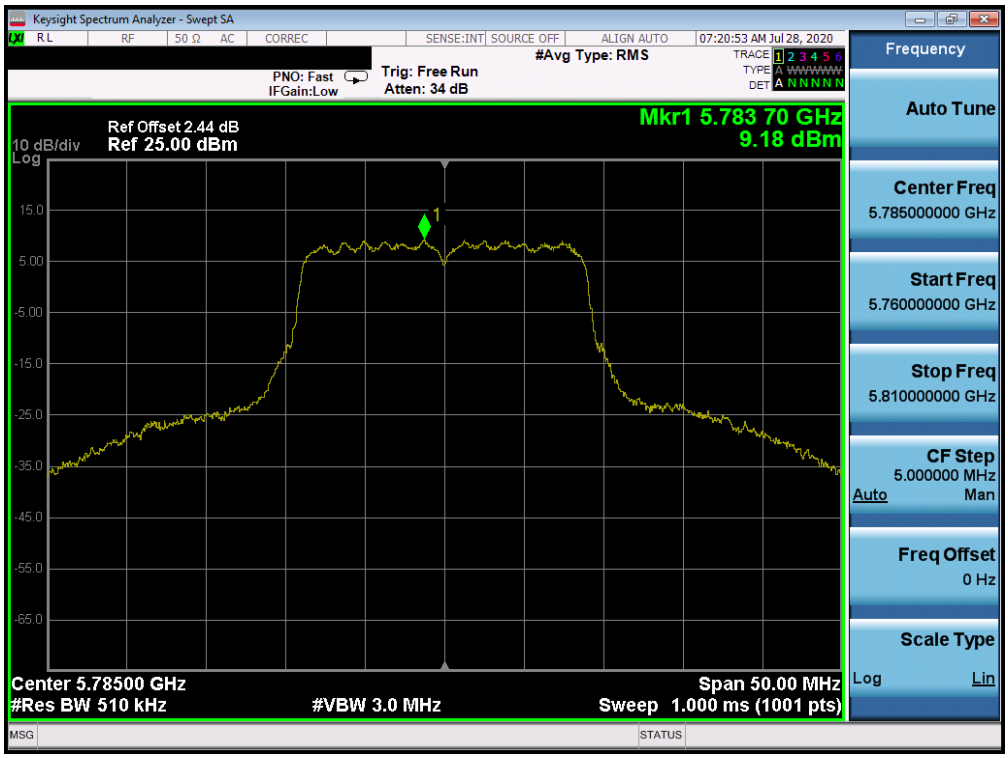
Plot 7-161. Power Spectral Density Plot CDD ANT WF8 (20MHz BW 802.11n (UNII Band 3) – Ch. 149)



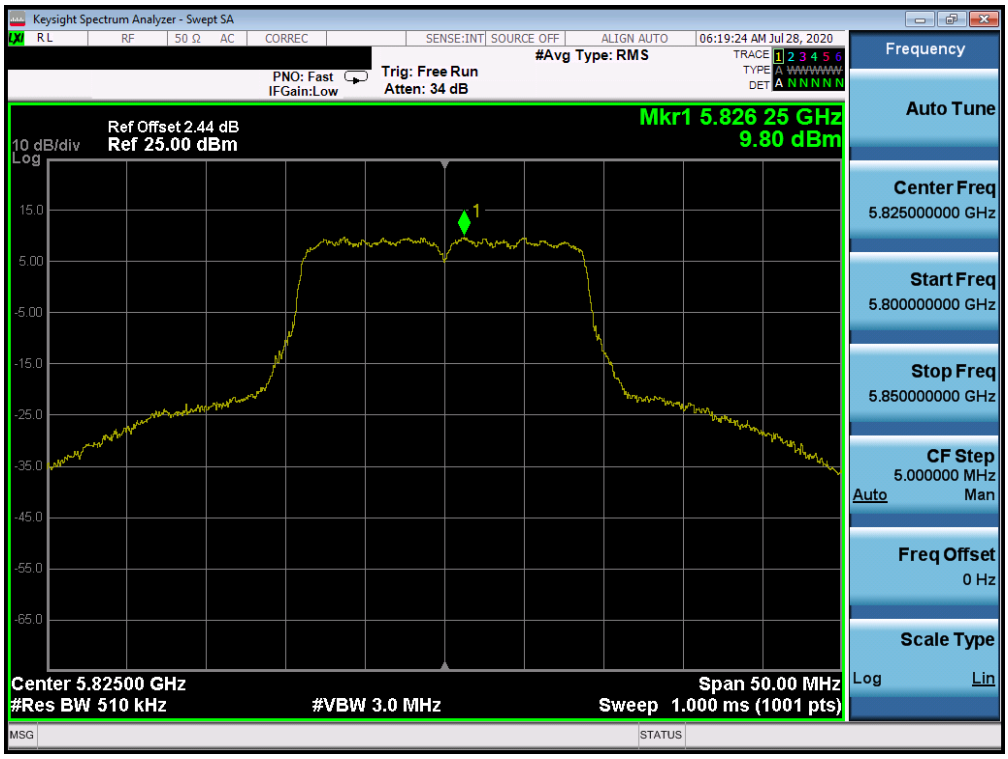
Plot 7-162. Power Spectral Density Plot CDD ANT WF7a (20MHz BW 802.11n (UNII Band 3) – Ch. 149)



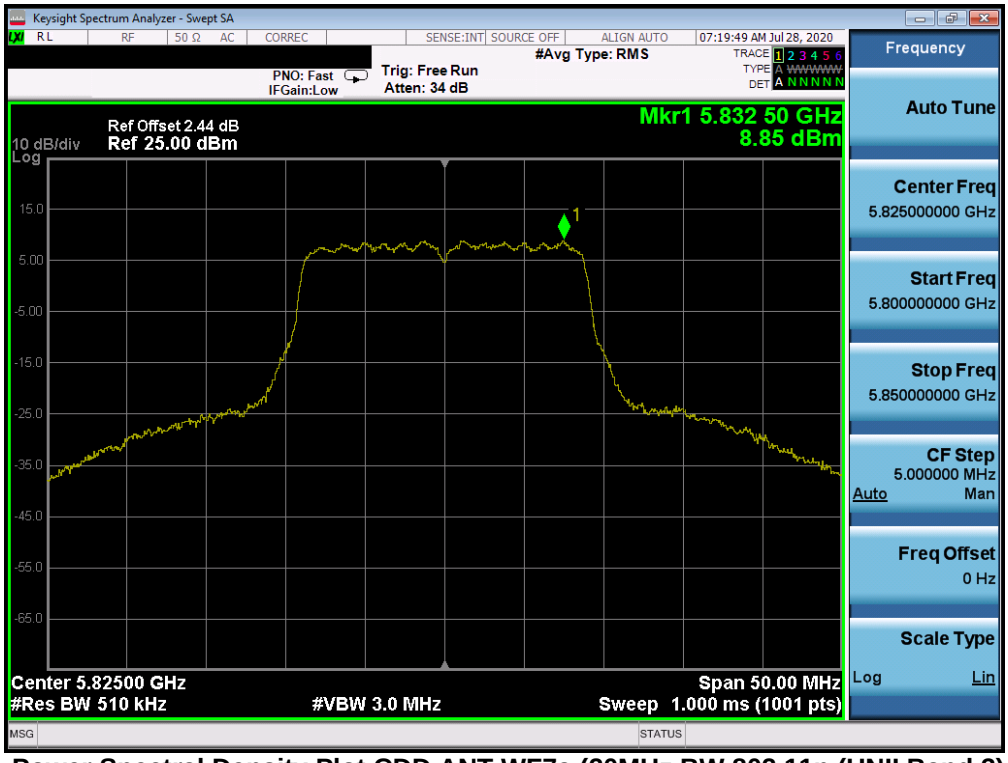
Plot 7-163. Power Spectral Density Plot CDD ANT WF8 (20MHz BW 802.11n (UNII Band 3) – Ch. 157)



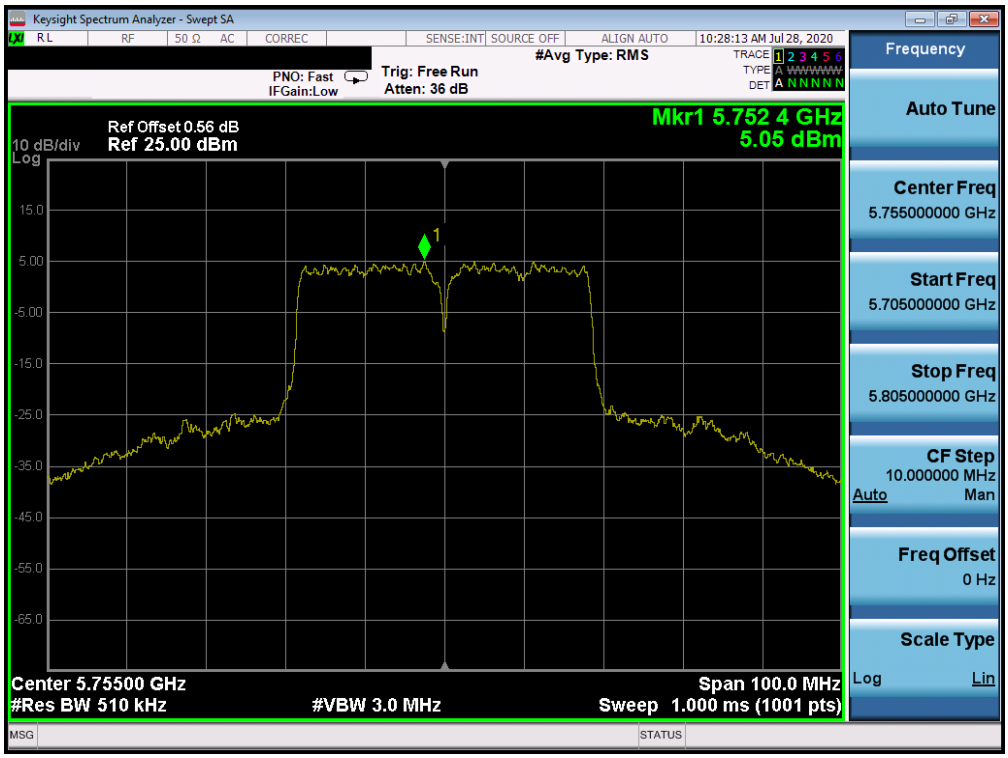
Plot 7-164. Power Spectral Density Plot CDD ANT WF7a (20MHz BW 802.11n (UNII Band 3) – Ch. 157)



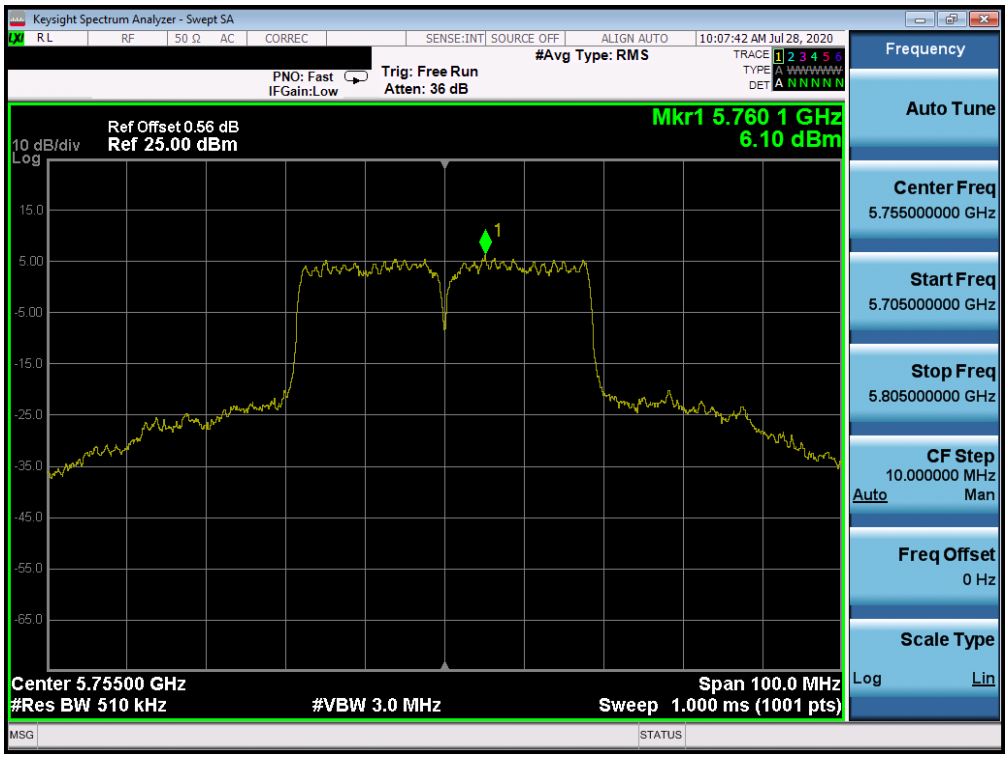
Plot 7-165. Power Spectral Density Plot CDD ANT WF8 (20MHz BW 802.11n (UNII Band 3) – Ch. 165)



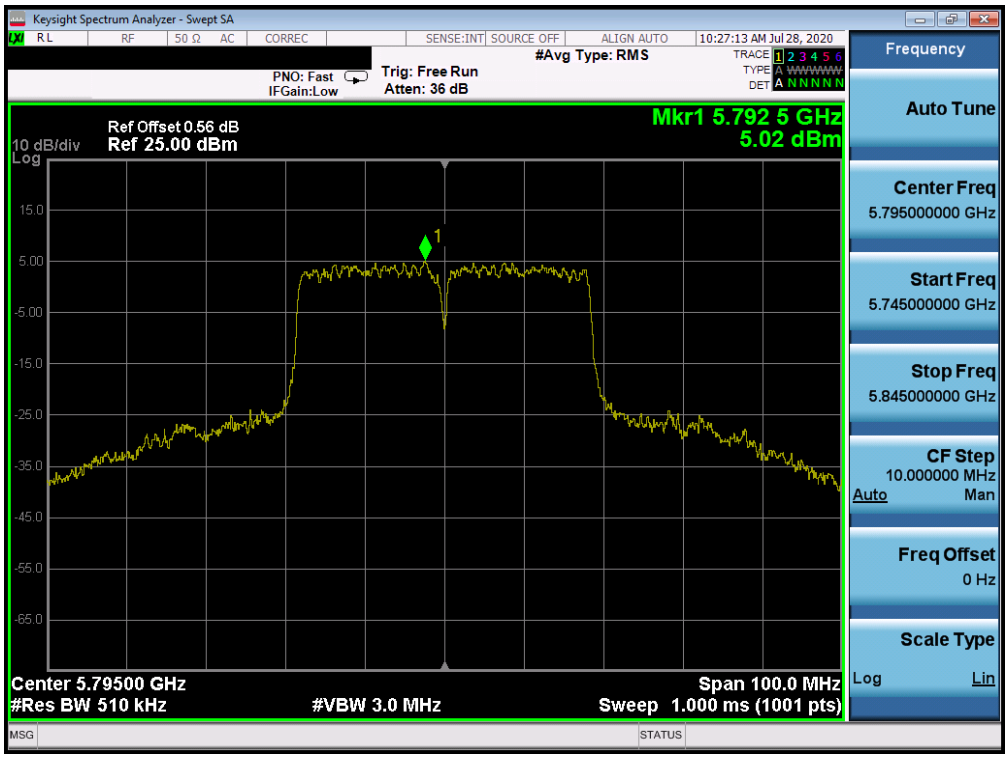
Plot 7-166. Power Spectral Density Plot CDD ANT WF7a (20MHz BW 802.11n (UNII Band 3) – Ch. 165)



Plot 7-167. Power Spectral Density Plot CDD ANT WF8 (40MHz BW 802.11n (UNII Band 3) – Ch. 151)

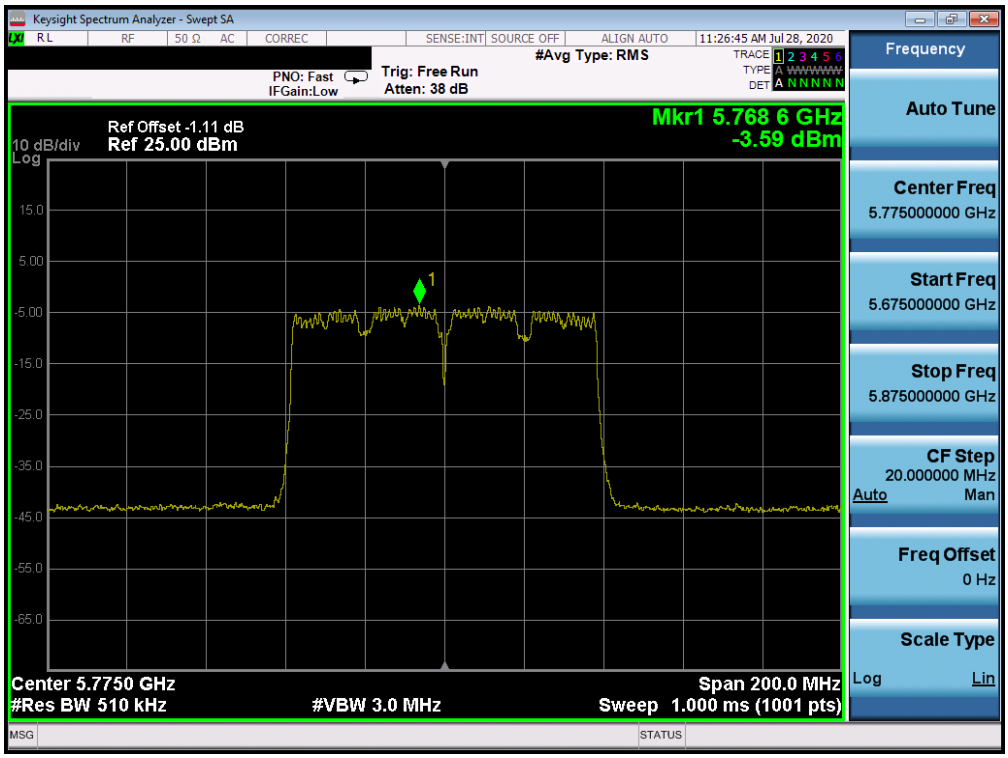


Plot 7-168. Power Spectral Density Plot CDD ANT WF7a (40MHz BW 802.11n (UNII Band 3) – Ch. 151)

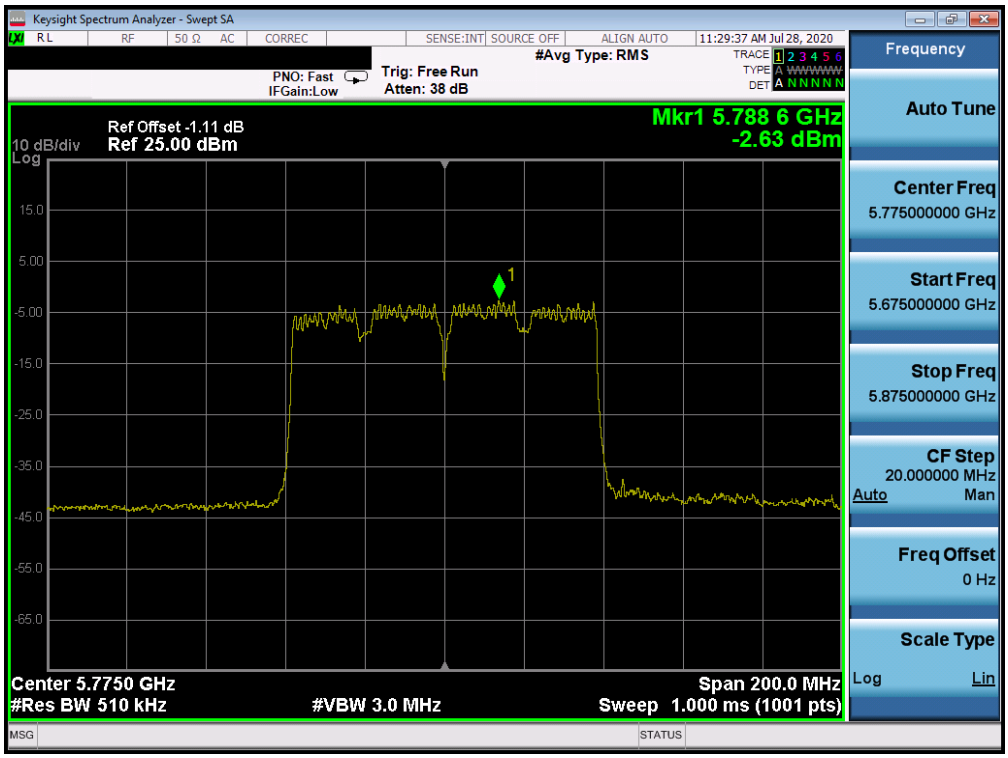


Plot 7-169. Power Spectral Density Plot CDD ANT WF8 (40MHz BW 802.11n (UNII Band 3) – Ch. 159)

Plot 7-170. Power Spectral Density Plot CDD ANT WF7a (40MHz BW 802.11n (UNII Band 3) – Ch. 159)



Plot 7-171. Power Spectral Density Plot CDD ANT WF8 (80MHz BW 802.11ac (UNII Band 3) – Ch. 155)



Plot 7-172. Power Spectral Density Plot CDD ANT WF7a (80MHz BW 802.11ac (UNII Band 3) – Ch. 155)

Note:

Per ANSI C63.10-2013 Section 14.3.2.2 and KDB 662911 v02r01 Section E)2), the power spectral density at Antenna 1 and Antenna 2 were first measured separately as shown in the section above. The measured values were then summed in linear power units then converted back to dBm.

Sample CDD/SDM Calculation:

At 5180MHz in 802.11n (20MHz BW) mode, the average conducted power spectral density was measured to be 4.56 dBm for ANT WF8 and 3.83 dBm for ANT WF7a.

ANT WF8 + ANT WF7a = CDD/SDM

(4.56 dBm + 3.83 dBm) = (2.86 mW + 2.42 mW) = 5.27 mW = 7.22 dBm

Sample e.i.r.p Power Spectral Density Calculation:

At 5180MHz in 802.11n (20MHz BW) mode, the average MIMO power density was calculated to be 7.22 dBm with directional gain of 5.61 dBi.

e.i.r.p. Power Spectral Density(dBm) = Power Spectral Density (dBm) + Ant gain (dBi)

7.22 dBm + 5.61 dBi = 6.45 dBm

7.6 Radiated Spurious Emissions – Above 1GHz

§15.407(b) §15.205 §15.209; RSS-Gen [8.9]

Test Overview and Limit

All out of band radiated spurious emissions are measured with a spectrum analyzer connected to a receive antenna while the EUT is operating at its maximum duty cycle, at its maximum power control level, as defined in ANSI C63.10-2013 and KDB 789033 D02 v02r01, and at the appropriate frequencies. All channels, modes (e.g. 802.11a, 802.11n (20MHz BW), 802.11n (40MHz BW), and 802.11ac (80MHz)), and modulations/data rates were investigated among all UNII bands. Only the radiated emissions of the configuration that produced the worst case emissions are reported in this section.

For transmitters operating in the 5.15-5.25 GHz and 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.

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.

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.

All out of band emissions appearing in a restricted band as specified in Section 15.205 of the Title 47 CFR and Table 7 of RSS-Gen (8.10) must not exceed the limits shown in Table 7-35 per Section 15.209 and RSS-Gen (8.9).

Frequency	Field Strength [μV/m]	Measured Distance [Meters]
Above 960.0 MHz	500	3

Table 7-35. Radiated Limits

Test Procedures Used

ANSI C63.10-2013 – Sections 12.7.7.2, 12.7.6, 12.7.5
KDB 789033 D02 v02r01 – Section G

Test Settings

Average Field Strength Measurements

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW = 3MHz
4. Detector = power average (RMS)
5. Number of measurement points = 1001 (Number of points must be ≥ 2 x span/RBW)
6. Averaging type = power (RMS)
7. Sweep time = auto couple
8. Trace was averaged over 100 sweeps

Peak Field Strength Measurements

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW = 3MHz
4. Detector = peak
5. Sweep time = auto couple
6. Trace mode = max hold
7. Trace was allowed to stabilize

Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.

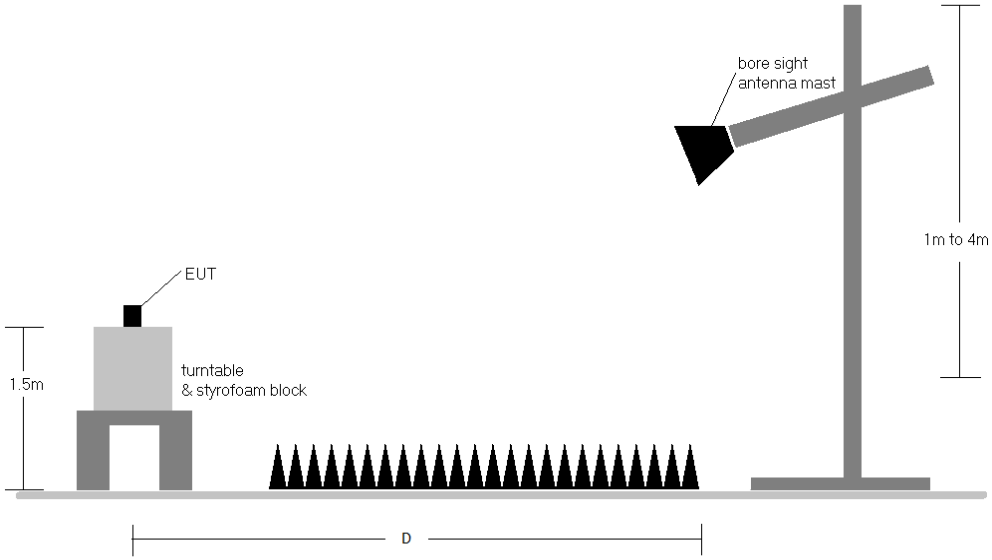


Figure 7-5. Test Instrument & Measurement Setup

Test Notes

1. All emissions that lie in the restricted bands (denoted by a * next to the frequency) specified in §15.205 and Section 8.10 of RSS-Gen are below the limit shown in Table 7-35.
2. All spurious emissions lying in restricted bands specified in §15.205 and Section 8.10 of RSS-Gen are below the limit shown in Table 7-35. All spurious emissions that do not lie in a restricted band are subject to a peak limit of -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a "conversion" factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions of 68.2dBμV/m.
3. The antenna is manipulated through typical positions, polarity and length during the tests. The EUT is manipulated through three orthogonal planes.
4. This unit was tested with its standard battery.
5. The spectrum is measured from 9kHz to the 10th harmonic of the fundamental frequency of the transmitter using CISPR quasi peak detector below 1GHz. Above 1 GHz, average and peak measurements were taken using linearly polarized horn antennas.
6. D is the measurement test distance and emissions 1-18GHz were measured at a 3 meters test distance while emissions above 18GHz were measured at a 1 meter test distance with the application of a distance correction factor.
7. The wide spectrum spurious emissions plots shown on the following pages are used only for the purpose of emission identification. Any emissions found to be within 20dB of the limit are fully investigated and the results are shown in this section.
8. All data rates were investigated and only the worse case is reported
9. The unit was tested with all possible modes and only the highest emission is reported.
10. The "-" shown in the following RSE tables are used to denote a noise floor measurement.

Sample Calculations

Determining Spurious Emissions Levels

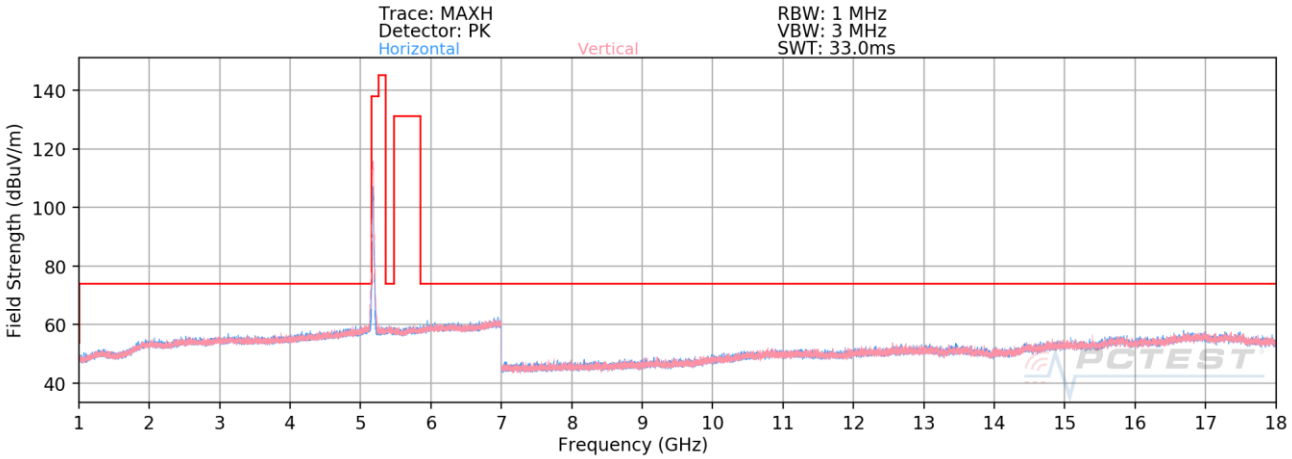
- Field Strength Level [dBμV/m] = Analyzer Level [dBm] + 107 + AFCL [dB/m]
- AFCL [dB/m] = Antenna Factor [dB/m] + Cable Loss [dB] – Preamplifier Gain [dB]
- Margin [dB] = Field Strength Level [dBμV/m] – Limit [dBμV/m]

Radiated Band Edge Measurement Offset

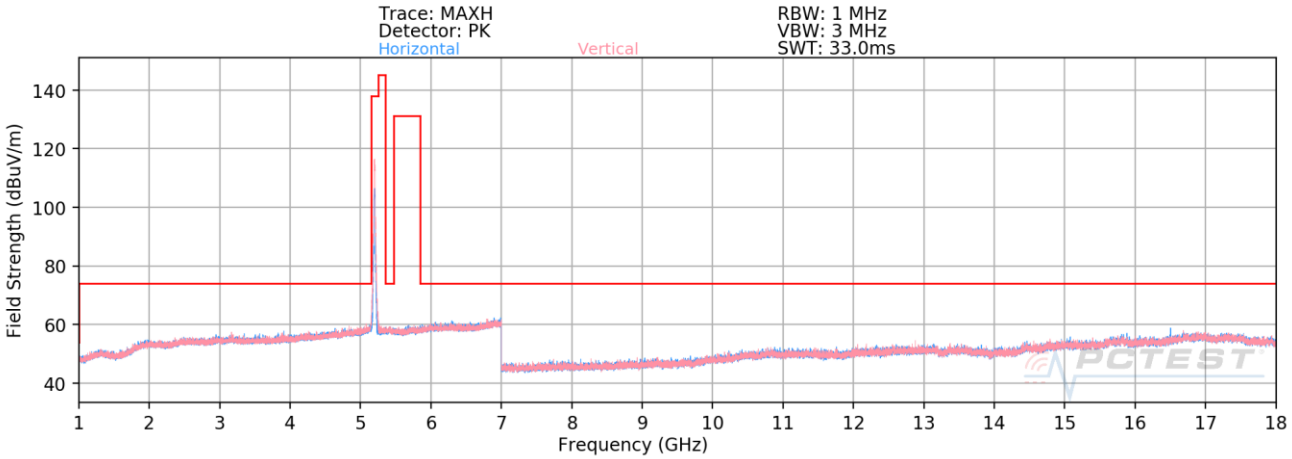
- The amplitude offset shown in the radiated restricted band edge plots in Section 7.6 was calculated using the formula:

  Offset (dB) = (Antenna Factor + Cable Loss + Attenuator) – Preamplifier Gain

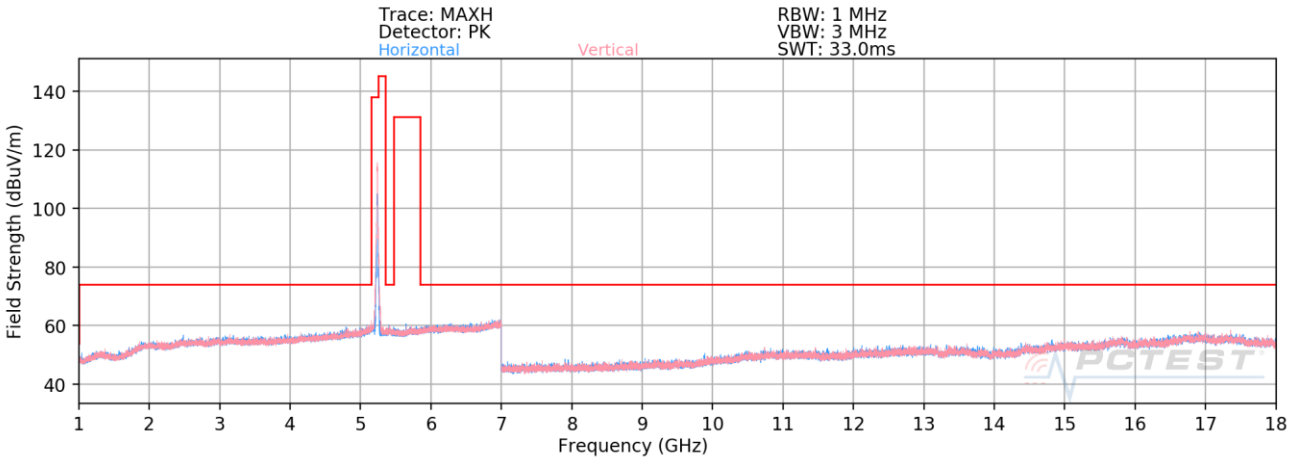
7.6.1 Antenna WF8 Radiated Spurious Emission



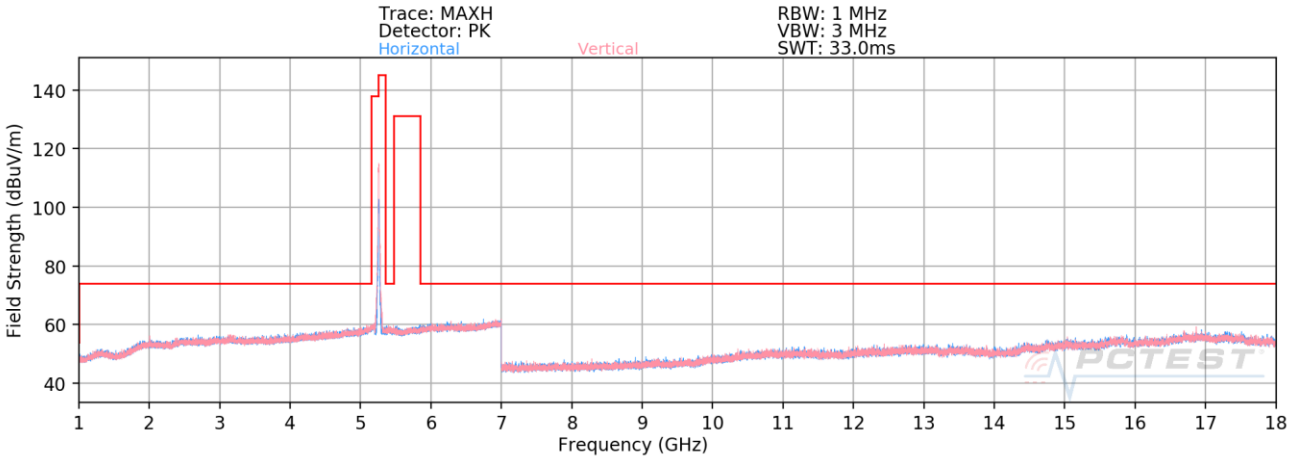
Plot 7-173. Radiated Spurious Emissions above 1GHz ANT WF8 (802.11n – UNII 1 Ch. 36)



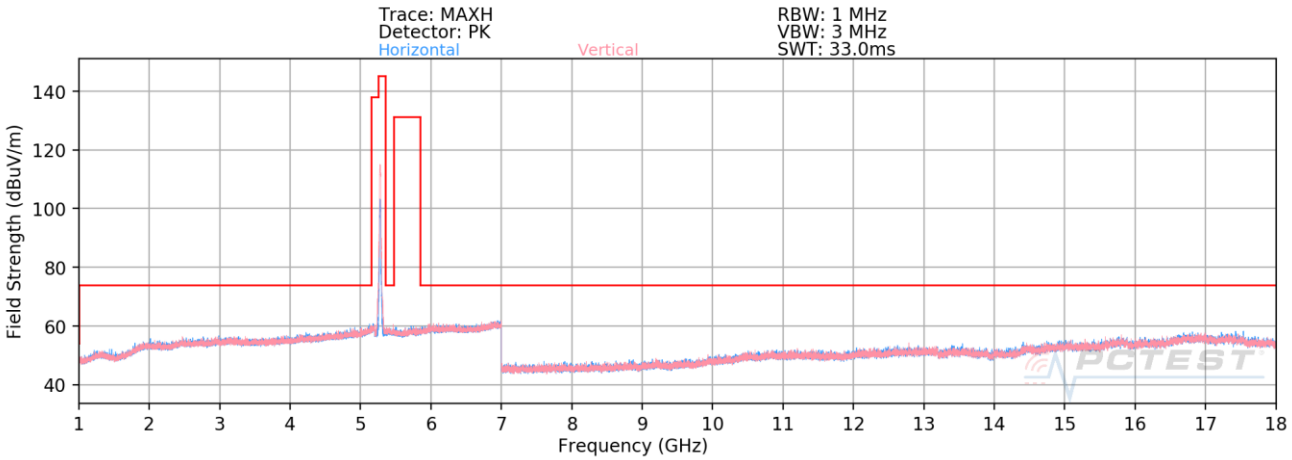
Plot 7-174. Radiated Spurious Emissions above 1GHz ANT WF8 (802.11n – UNII 1 Ch. 40)



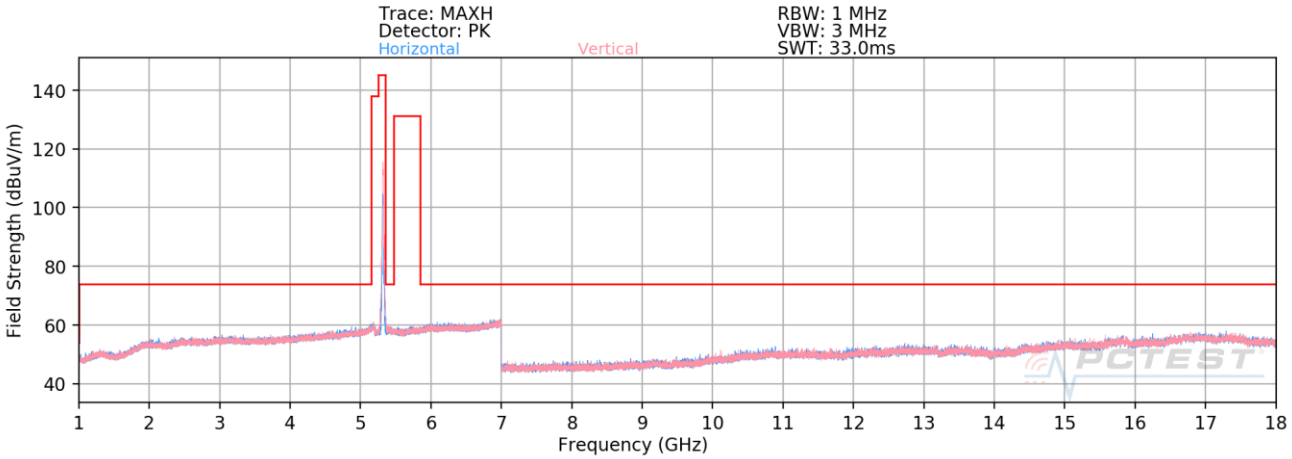
Plot 7-175. Radiated Spurious Emissions above 1GHz ANT WF8 (802.11n – UNII 1 Ch. 48)



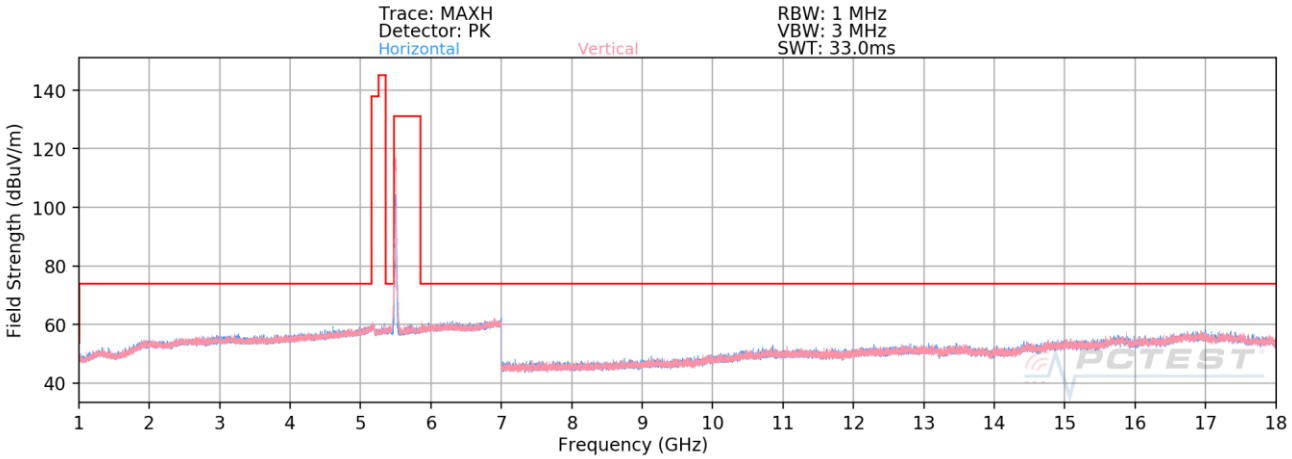
Plot 7-176. Radiated Spurious Emissions above 1GHz ANT WF8 (802.11n – UNII 2A Ch. 52)



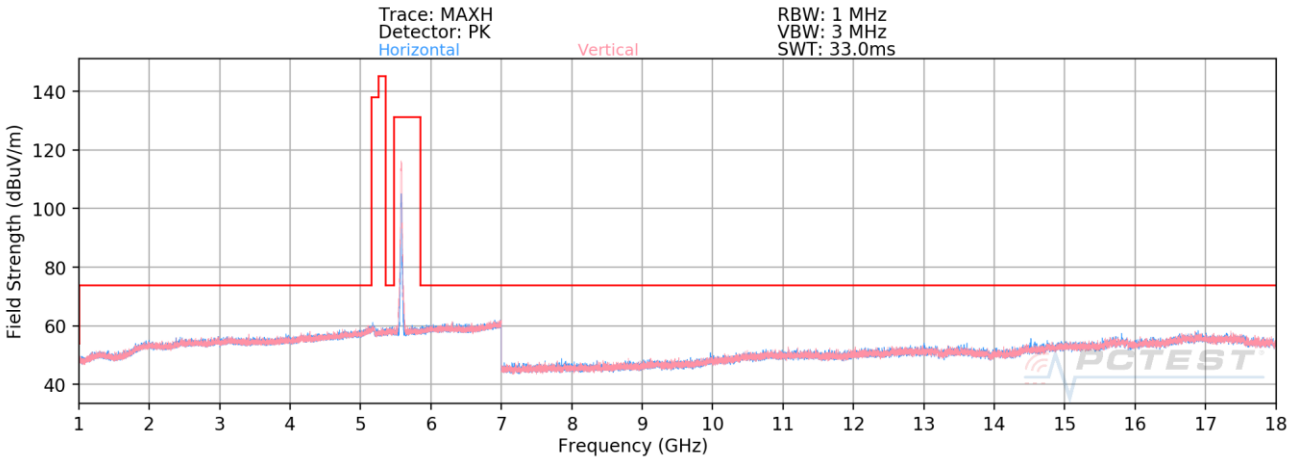
Plot 7-177. Radiated Spurious Emissions above 1GHz ANT WF8 (802.11n – UNII 2A Ch. 56)



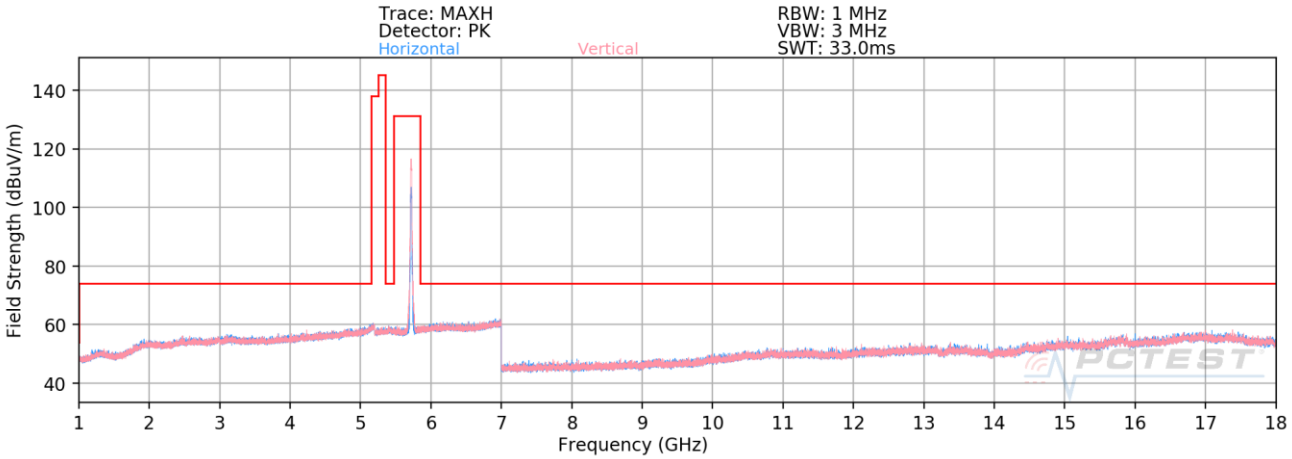
Plot 7-178. Radiated Spurious Emissions above 1GHz ANT WF8 (802.11n – UNII 2A Ch. 64)



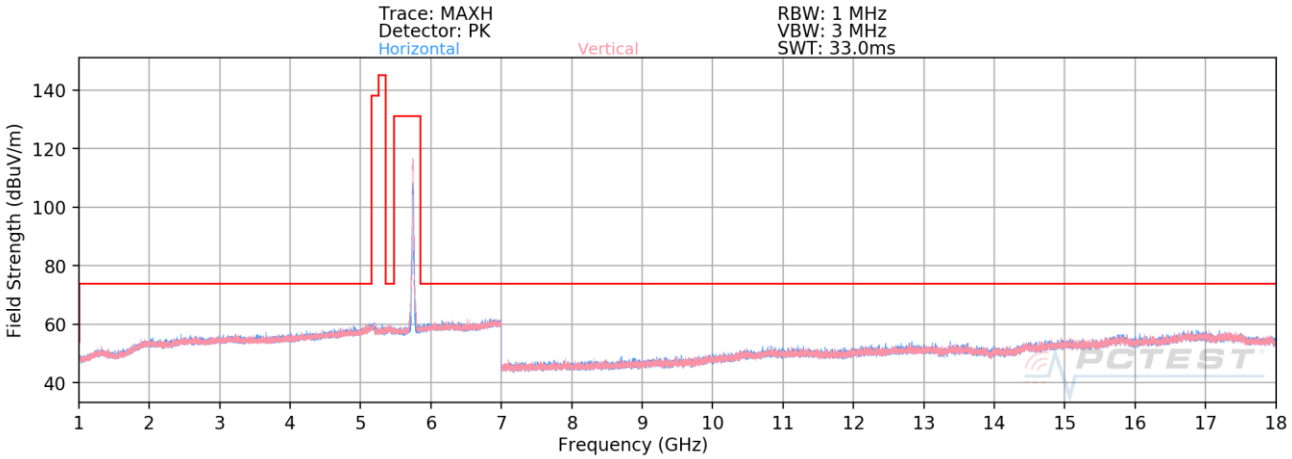
Plot 7-179. Radiated Spurious Emissions above 1GHz ANT WF8 (802.11n – UNII 2C Ch. 100)



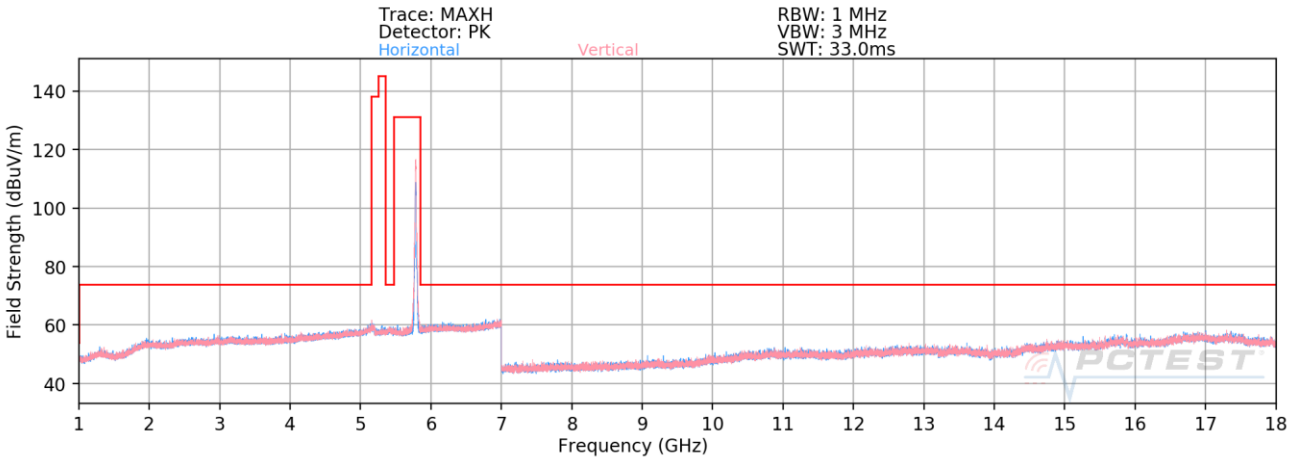
Plot 7-180. Radiated Spurious Emissions above 1GHz ANT WF8 (802.11n – UNII 2C Ch. 116)



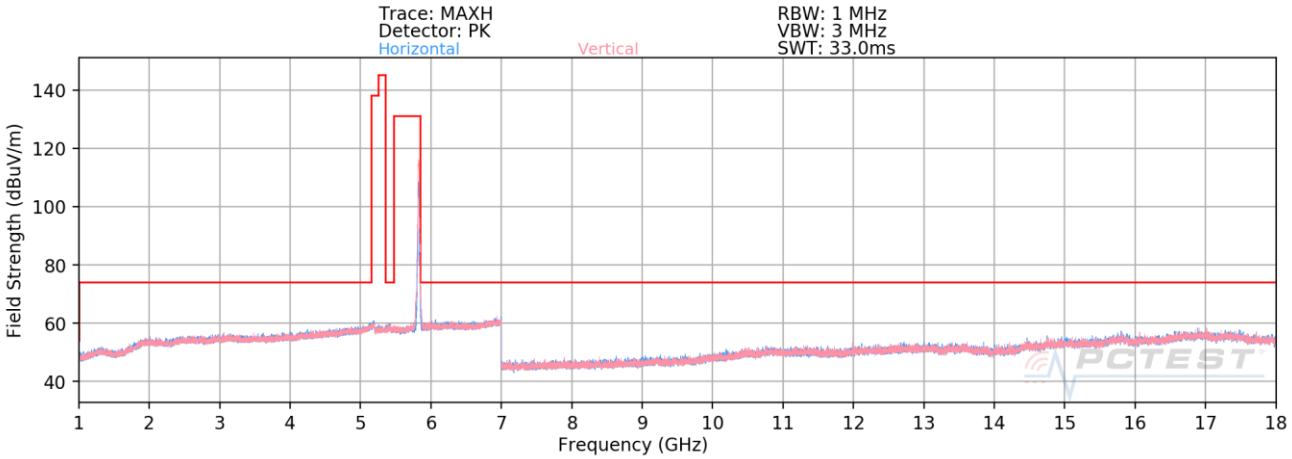
Plot 7-181. Radiated Spurious Emissions above 1GHz ANT WF8 (802.11n – UNII 2C Ch. 144)



Plot 7-182. Radiated Spurious Emissions above 1GHz ANT WF8 (802.11n – UNII 3 Ch. 149)



Plot 7-183. Radiated Spurious Emissions above 1GHz ANT WF8 (802.11n – UNII 3 Ch. 157)



Plot 7-184. Radiated Spurious Emissions above 1GHz ANT WF8 (802.11n – UNII 3 Ch. 165)

Antenna WF8 Radiated Spurious Emission

§15.407(b) §15.205 & §15.209; RSS-Gen [8.9]

Worst Case Mode:	802.11n
Worst Case Transfer Rate:	MCS7
Distance of Measurements:	3 Meters
Operating Frequency:	5180MHz
Channel:	36

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
	10360.00	Peak	V	-	-	-71.11	14.57	50.46	68.20	-17.74
*	15540.00	Average	V	-	-	-83.89	19.85	42.96	53.98	-11.02
*	15540.00	Peak	V	-	-	-72.27	19.85	54.58	73.98	-19.40

Table 7-36. Radiated Measurements ANT WF8

Worst Case Mode:	802.11n
Worst Case Transfer Rate:	MCS7
Distance of Measurements:	3 Meters
Operating Frequency:	5200MHz
Channel:	40

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
	10400.00	Peak	V	-	-	-70.91	14.49	50.58	68.20	-17.62
*	15600.00	Average	V	-	-	-83.41	20.15	43.74	53.98	-10.24
*	15600.00	Peak	V	-	-	-72.06	20.15	55.09	73.98	-18.89

Table 7-37. Radiated Measurements ANT WF8

Worst Case Mode:	802.11n
Worst Case Transfer Rate:	MCS7
Distance of Measurements:	3 Meters
Operating Frequency:	5240MHz
Channel:	48

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
	10480.00	Peak	V	-	-	-70.20	14.35	51.15	68.20	-17.05
*	15720.00	Average	V	-	-	-83.71	20.73	44.02	53.98	-9.96
*	15720.00	Peak	V	-	-	-71.98	20.73	55.75	73.98	-18.23

Table 7-38. Radiated Measurements ANT WF8

Worst Case Mode:	802.11n
Worst Case Transfer Rate:	MCS7
Distance of Measurements:	3 Meters
Operating Frequency:	5260MHz
Channel:	52

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
	10520.00	Peak	V	-	-	-70.32	14.54	51.22	68.20	-16.98
*	15780.00	Average	V	-	-	-83.68	21.34	44.66	53.98	-9.32
*	15780.00	Peak	V	-	-	-72.52	21.34	55.82	73.98	-18.16

Table 7-39. Radiated Measurements ANT WF8

Worst Case Mode:	802.11n
Worst Case Transfer Rate:	MCS7
Distance of Measurements:	3 Meters
Operating Frequency:	5280MHz
Channel:	56

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
	10560.00	Peak	V	-	-	-70.07	14.17	51.10	68.20	-17.10
*	15840.00	Average	V	-	-	-84.11	21.61	44.50	53.98	-9.48
*	15840.00	Peak	V	-	-	-72.48	21.61	56.13	73.98	-17.85

Table 7-40. Radiated Measurements ANT WF8

Worst Case Mode:	802.11n
Worst Case Transfer Rate:	MCS7
Distance of Measurements:	3 Meters
Operating Frequency:	5320MHz
Channel:	64

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	10640.00	Average	V	-	-	-82.14	14.67	39.53	53.98	-14.45
*	10640.00	Peak	V	-	-	-70.75	14.67	50.92	73.98	-23.06
*	15960.00	Average	V	-	-	-84.01	21.15	44.14	53.98	-9.84
*	15960.00	Peak	V	-	-	-72.45	21.15	55.70	73.98	-18.28

Table 7-41. Radiated Measurements ANT WF8

Worst Case Mode:	802.11n
Worst Case Transfer Rate:	MCS7
Distance of Measurements:	3 Meters
Operating Frequency:	5500MHz
Channel:	100

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11000.00	Average	H	-	-	-82.64	15.56	39.92	53.98	-14.06
*	11000.00	Peak	H	-	-	-70.64	15.56	51.92	73.98	-22.06
	16500.00	Peak	H	-	-	-72.12	21.60	56.48	68.20	-11.72

Table 7-42. Radiated Measurements ANT WF8

Worst Case Mode:	802.11n
Worst Case Transfer Rate:	MCS7
Distance of Measurements:	3 Meters
Operating Frequency:	5580Hz
Channel:	116

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11160.00	Average	H	-	-	-82.87	15.65	39.78	53.98	-14.20
*	11160.00	Peak	H	-	-	-70.98	15.65	51.67	73.98	-22.31
	16740.00	Peak	H	-	-	-72.37	22.90	57.53	68.20	-10.67

Table 7-43. Radiated Measurements ANT WF8

Worst Case Mode:	802.11n
Worst Case Transfer Rate:	MCS7
Distance of Measurements:	3 Meters
Operating Frequency:	5720
Channel:	144

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11440.00	Average	H	-	-	-83.31	16.36	40.05	53.98	-13.93
*	11440.00	Peak	H	-	-	-71.84	16.36	51.52	73.98	-22.46
	17160.00	Peak	H	-	-	-72.34	21.80	56.46	68.20	-11.74

Table 7-44. Radiated Measurements ANT WF8

Worst Case Mode:	802.11n
Worst Case Transfer Rate:	MCS7
Distance of Measurements:	3 Meters
Operating Frequency:	5745MHz
Channel:	149

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11490.00	Average	V	-	-	-83.21	16.43	40.22	53.98	-13.76
*	11490.00	Peak	V	-	-	-71.19	16.43	52.24	73.98	-21.74
	17235.00	Peak	V	-	-	-72.19	22.05	56.86	68.20	-11.34

Table 7-45. Radiated Measurements ANT WF8

Worst Case Mode:	802.11n
Worst Case Transfer Rate:	MCS7
Distance of Measurements:	3 Meters
Operating Frequency:	5785MHz
Channel:	157

	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11570.00	Average	V	-	-	-83.65	16.26	39.61	53.98	-14.37
*	11570.00	Peak	V	-	-	-72.25	16.26	51.01	73.98	-22.97
	17355.00	Peak	V	-	-	-74.77	22.82	55.05	68.20	-13.15

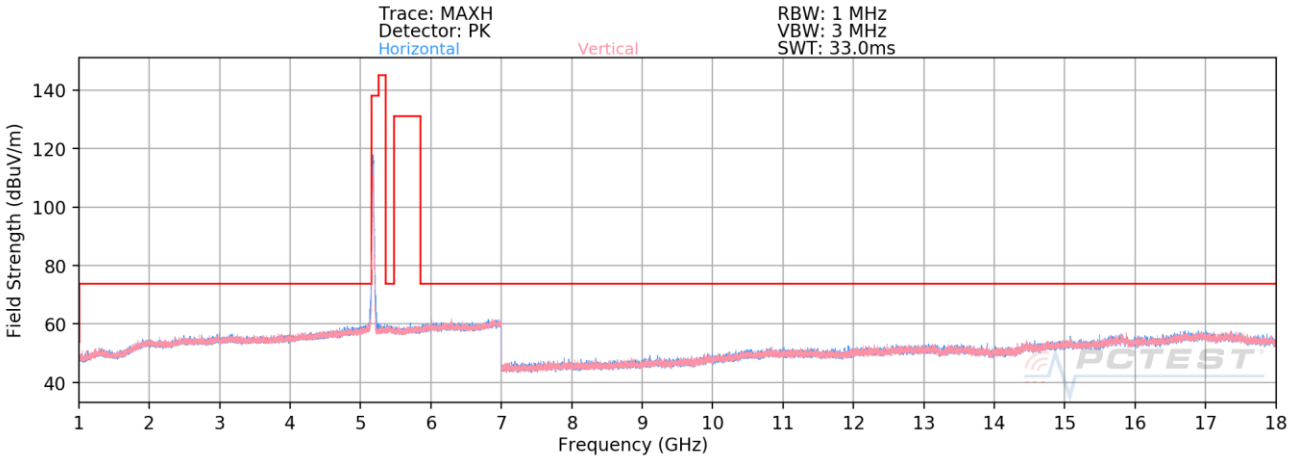
Table 7-46. Radiated Measurements ANT WF8

Worst Case Mode:	802.11n
Worst Case Transfer Rate:	MCS7
Distance of Measurements:	3 Meters
Operating Frequency:	5825MHz
Channel:	165

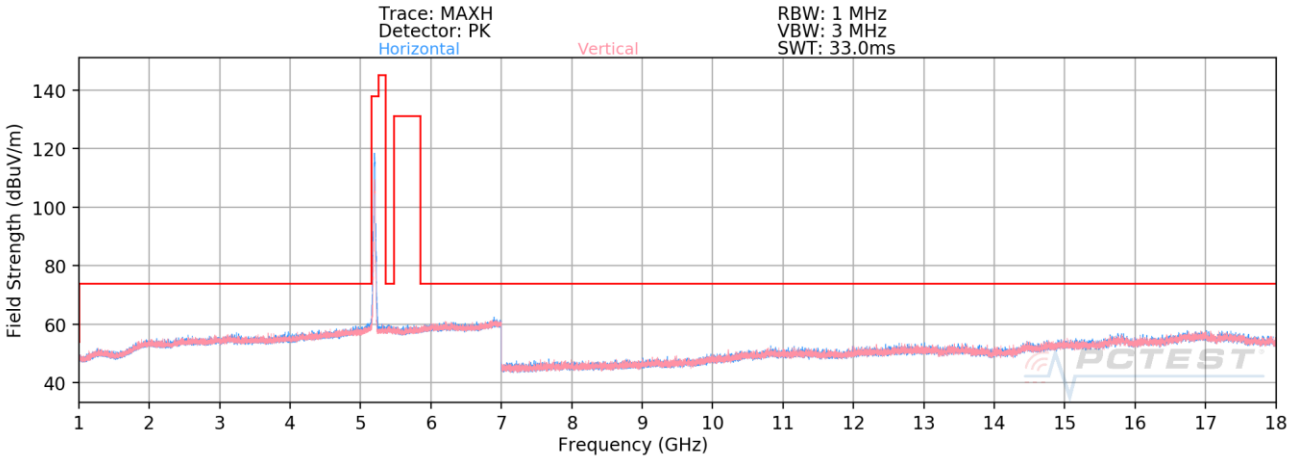
	Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
*	11650.00	Average	V	-	-	-83.94	16.71	39.77	53.98	-14.21
*	11650.00	Peak	V	-	-	-72.10	16.71	51.61	73.98	-22.37
	17475.00	Peak	V	-	-	-71.86	22.03	57.17	68.20	-11.03

Table 7-47. Radiated Measurements ANT WF8

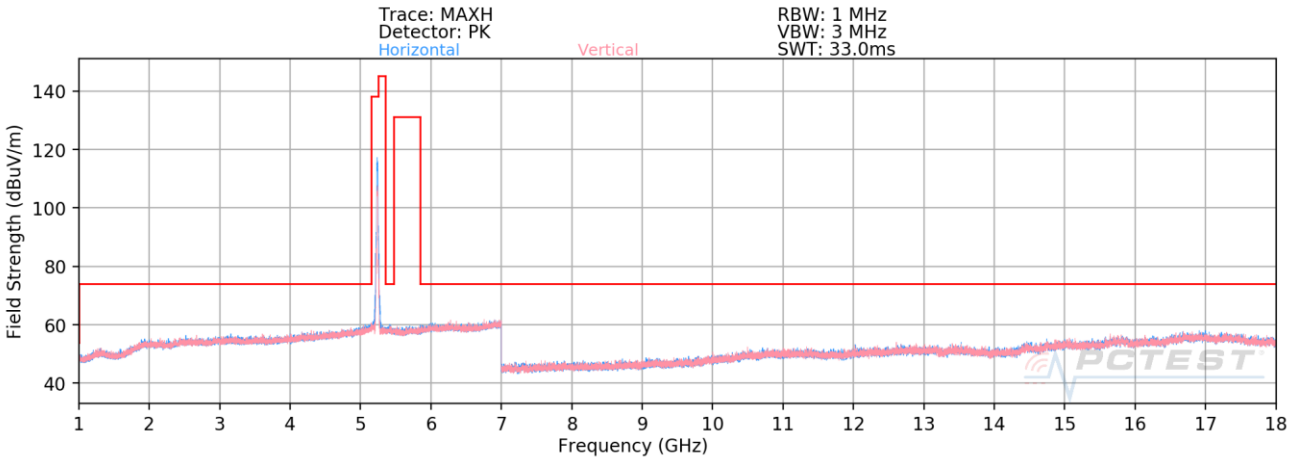
7.6.2 Antenna WF7a Radiated Spurious Emission



Plot 7-185. Radiated Spurious Emissions above 1GHz ANT WF7a (802.11n – UNII 1 Ch. 36)



Plot 7-186. Radiated Spurious Emissions above 1GHz ANT WF7a (802.11n – UNII 1 Ch. 40)



Plot 7-187. Radiated Spurious Emissions above 1GHz ANT WF7a (802.11n – UNII 1 Ch. 48)