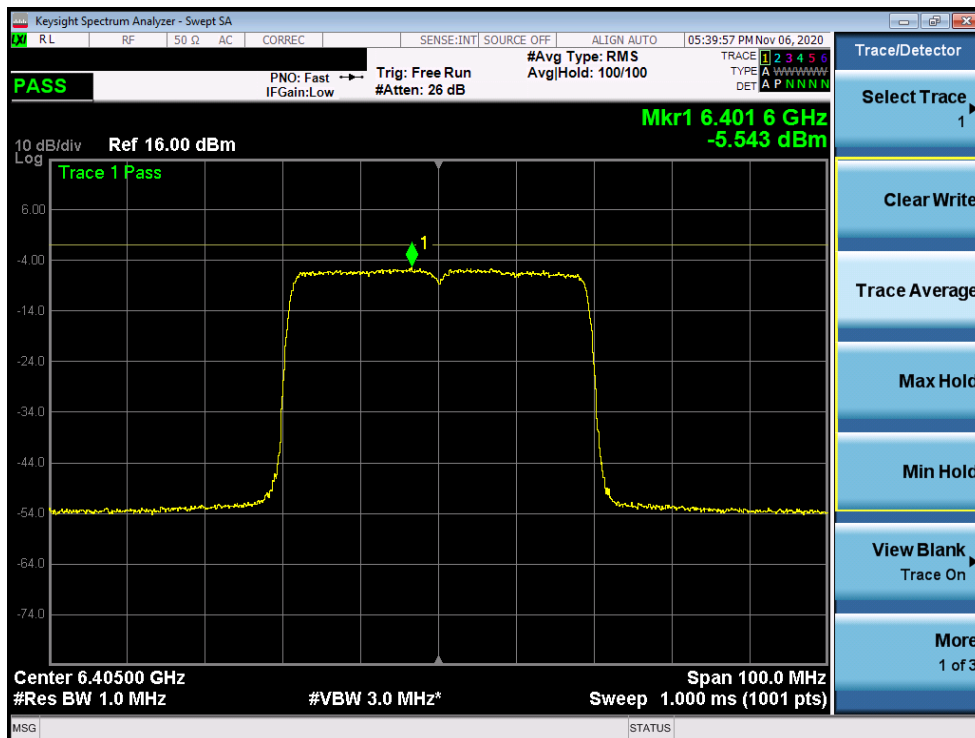
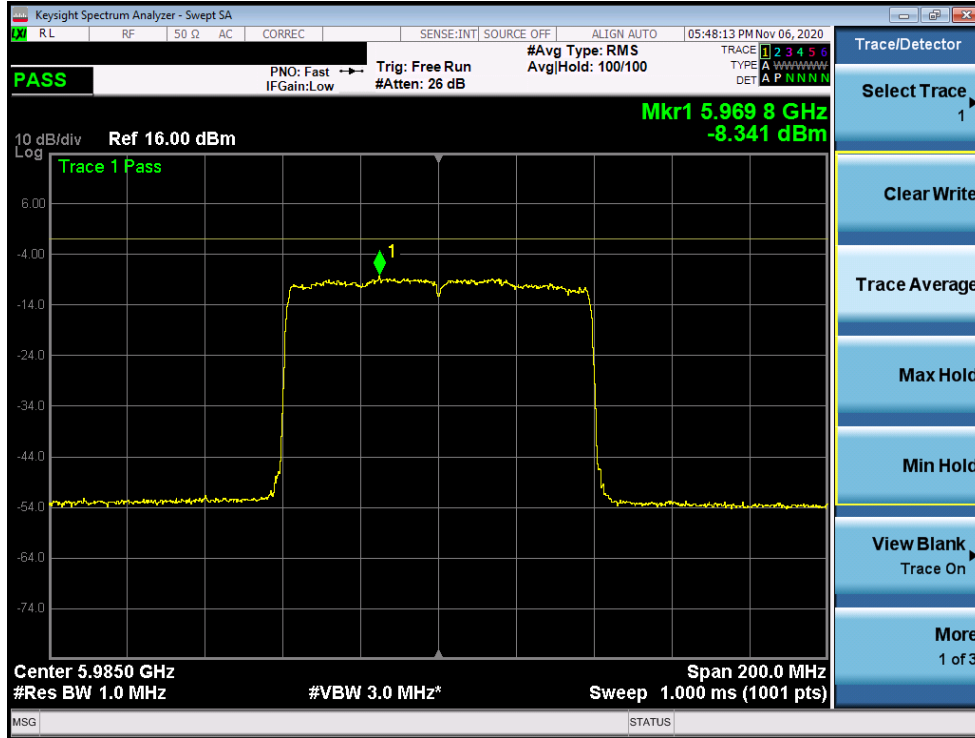


Plot 7-236. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax (Full Tones) (UNII Band 5) – Ch. 43)

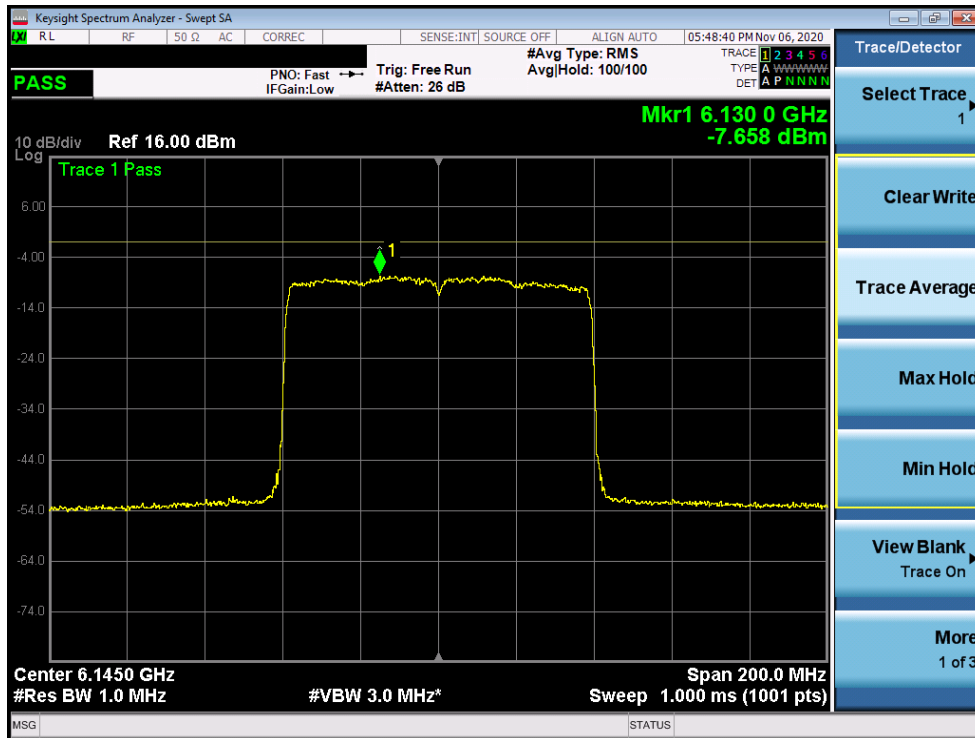


Plot 7-237. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax (Full Tones) (UNII Band 5) – Ch. 91)

FCC ID: A3LSMG998B	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2009230154-27-R1.A3L	Test Dates: 9/28/2020-12/14/2020	EUT Type: Portable Handset		Page 154 of 276

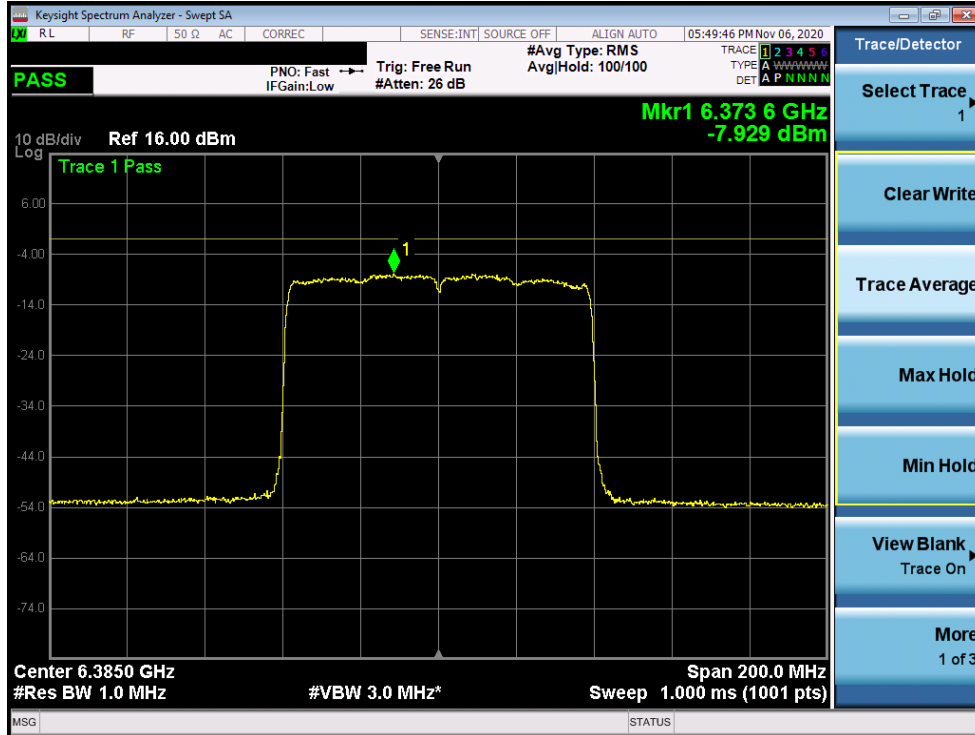


Plot 7-238. Power Spectral Density Plot MIMO ANT2 (80MHz BW 802.11ax (Full Tones) (UNII Band 5) – Ch. 7)

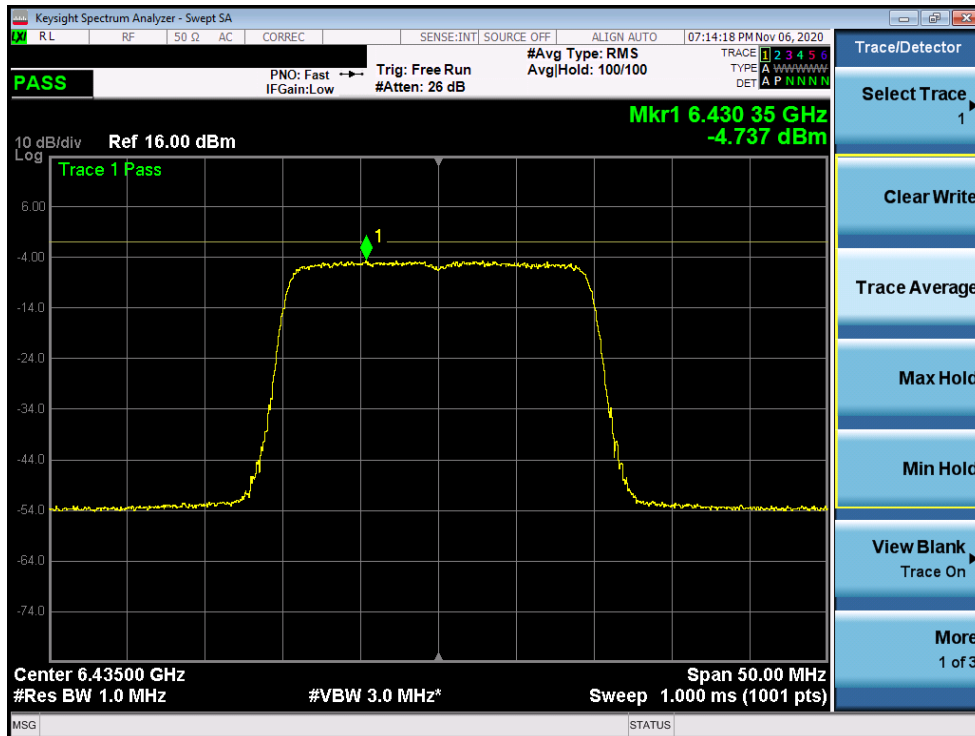


Plot 7-239. Power Spectral Density Plot MIMO ANT2 (80MHz BW 802.11ax (Full Tones) (UNII Band 5) – Ch. 39)

FCC ID: A3LSMG998B	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2009230154-27-R1.A3L	Test Dates: 9/28/2020-12/14/2020	EUT Type: Portable Handset		Page 155 of 276

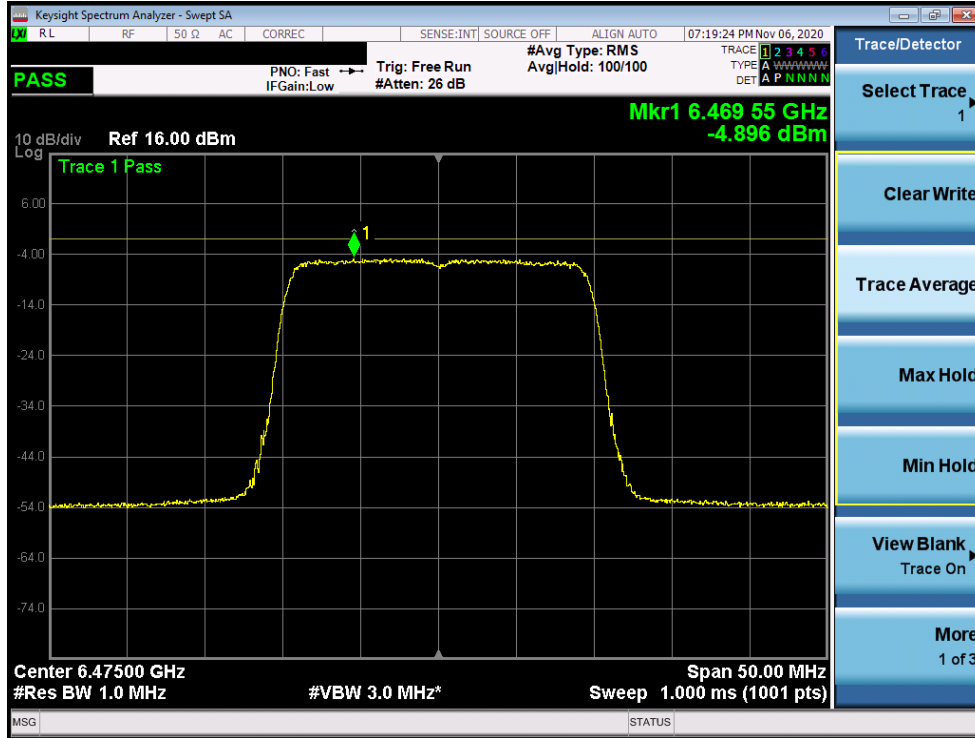


Plot 7-240. Power Spectral Density Plot MIMO ANT2 (80MHz BW 802.11ax (Full Tones) (UNII Band 5) – Ch. 87)

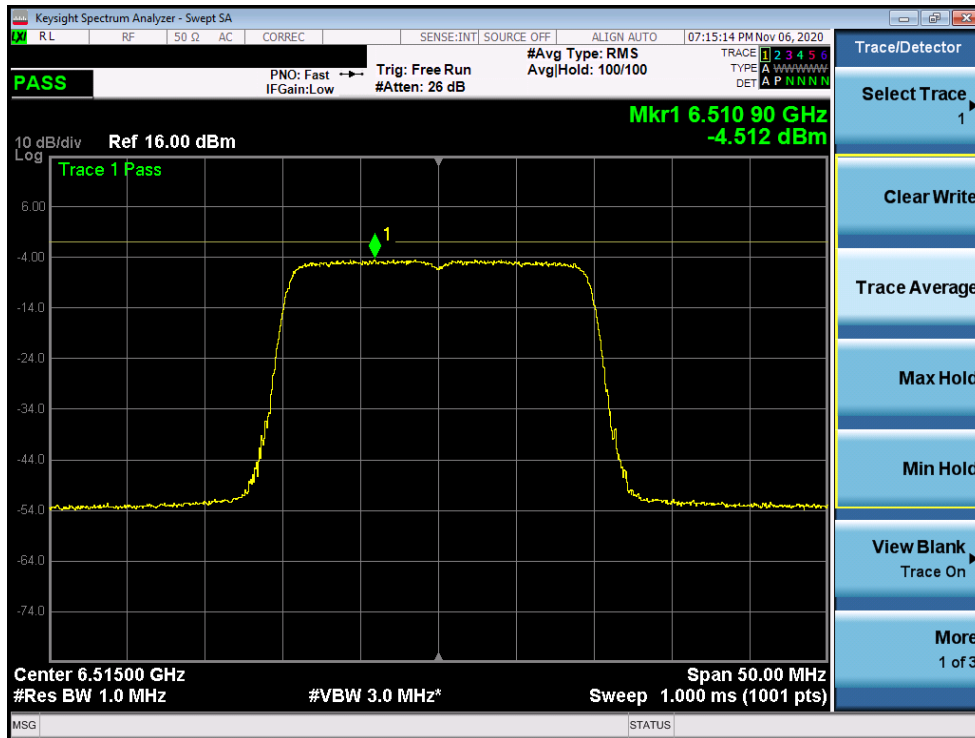


Plot 7-241. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax (Full Tones) (UNII Band 6) – Ch. 97)

FCC ID: A3LSMG998B	 PCTEST Proud to be part of 	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2009230154-27-R1.A3L	Test Dates: 9/28/2020-12/14/2020	EUT Type: Portable Handset		Page 156 of 276

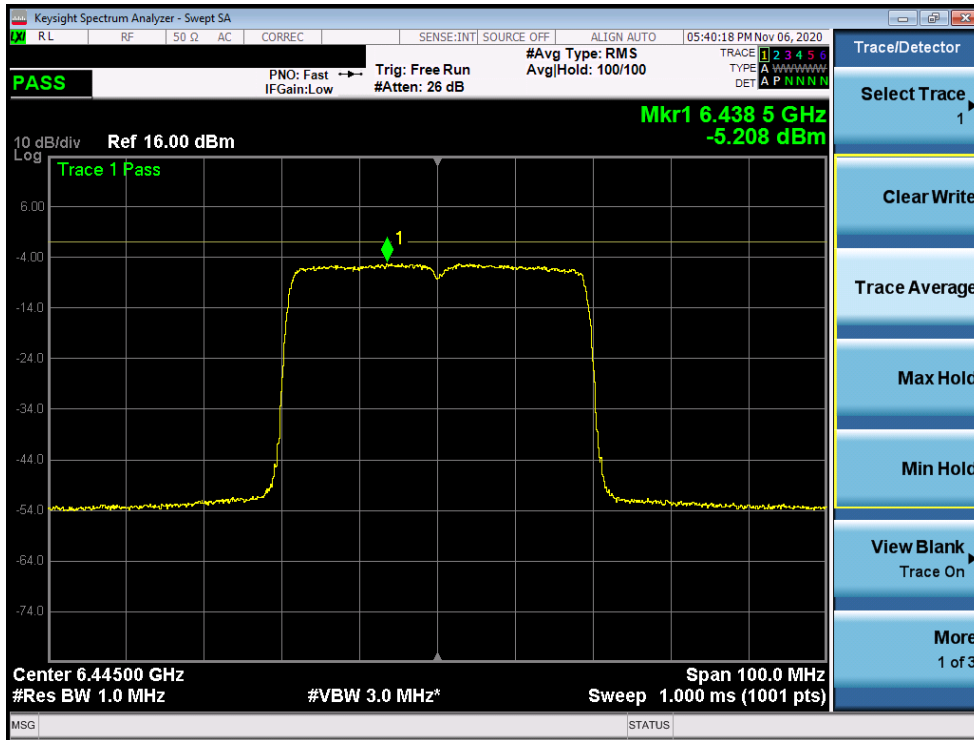


Plot 7-242. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax (Full Tones) (UNII Band 6) – Ch. 105)

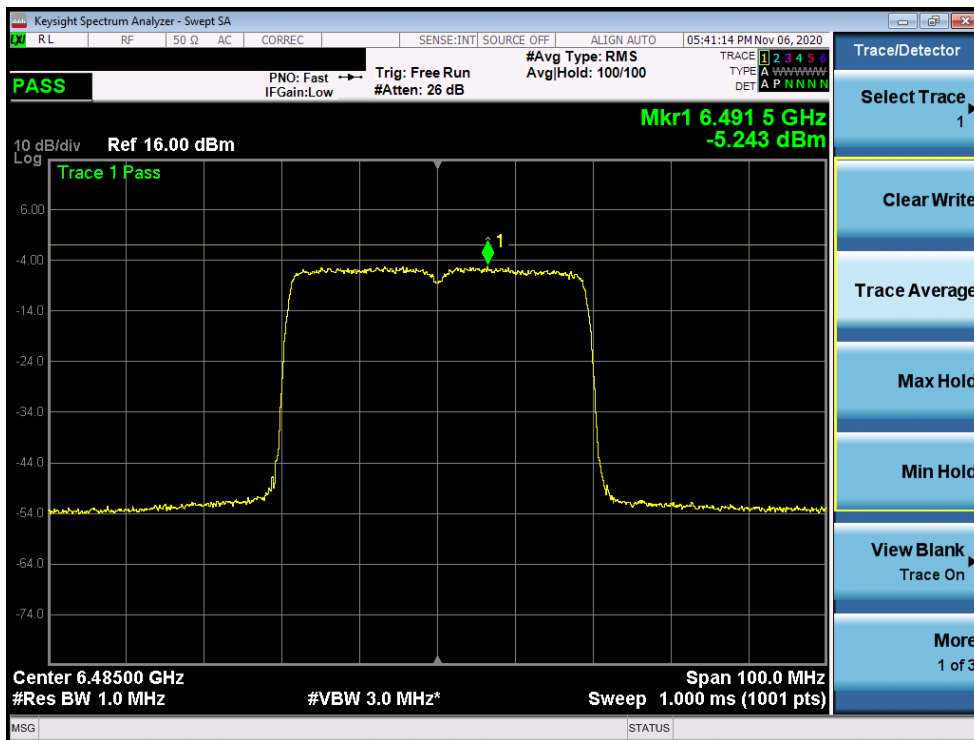


Plot 7-243. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax (Full Tones) (UNII Band 6) – Ch. 113)

FCC ID: A3LSMG998B	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2009230154-27-R1.A3L	Test Dates: 9/28/2020-12/14/2020	EUT Type: Portable Handset		Page 157 of 276

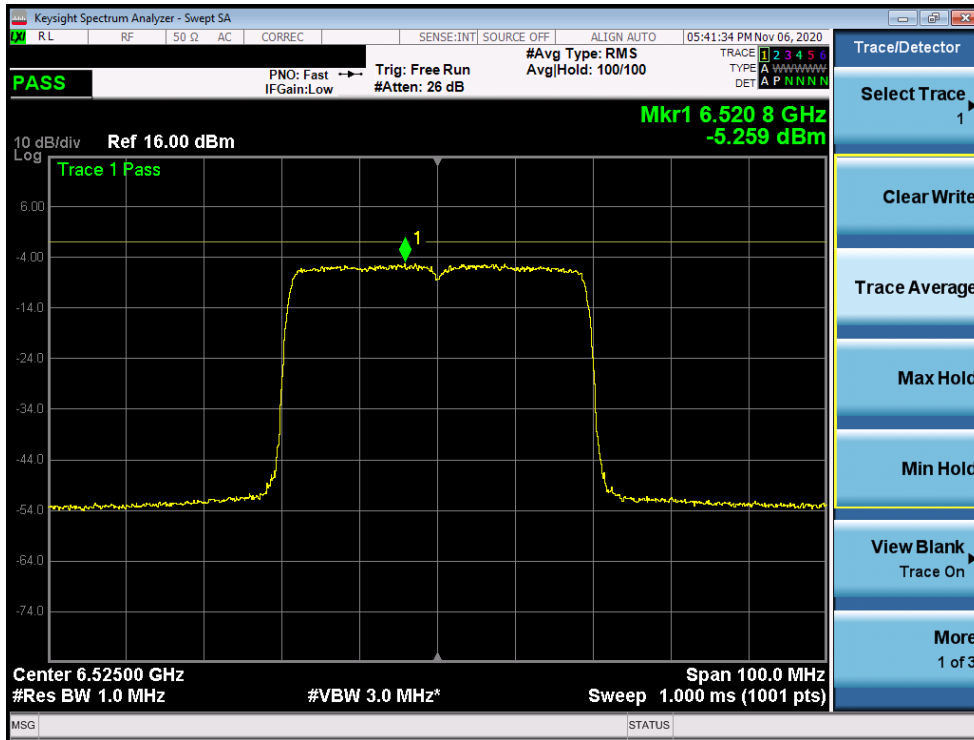


Plot 7-244. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax (Full Tones) (UNII Band 6) – Ch. 99)

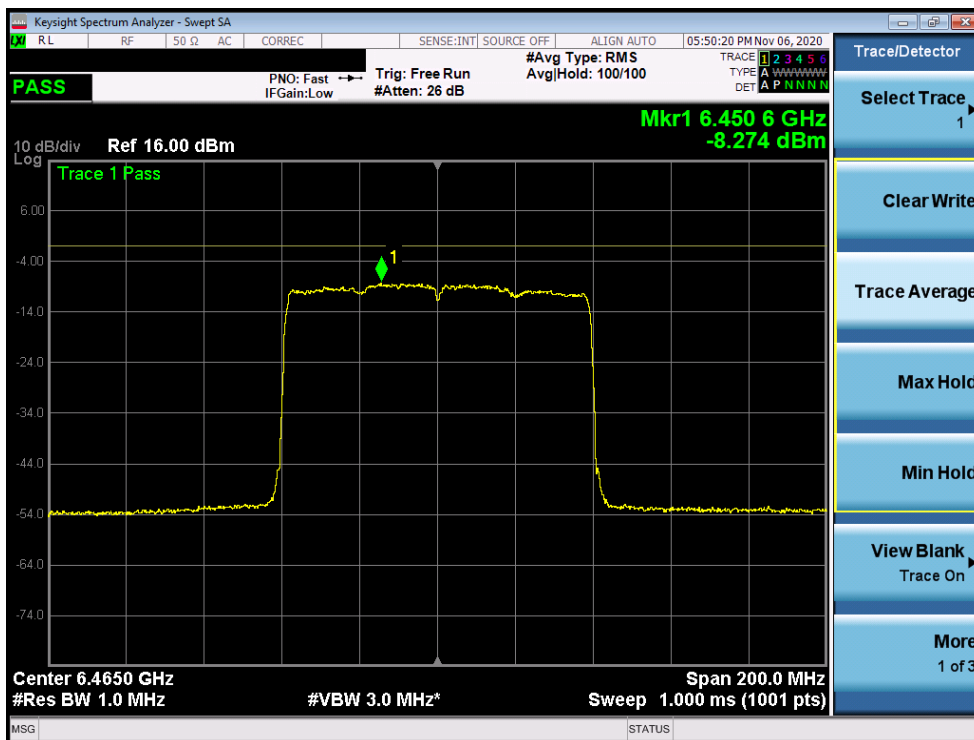


Plot 7-245. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax (Full Tones) (UNII Band 6) – Ch. 107)

FCC ID: A3LSMG998B	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2009230154-27-R1.A3L	Test Dates: 9/28/2020-12/14/2020	EUT Type: Portable Handset		Page 158 of 276

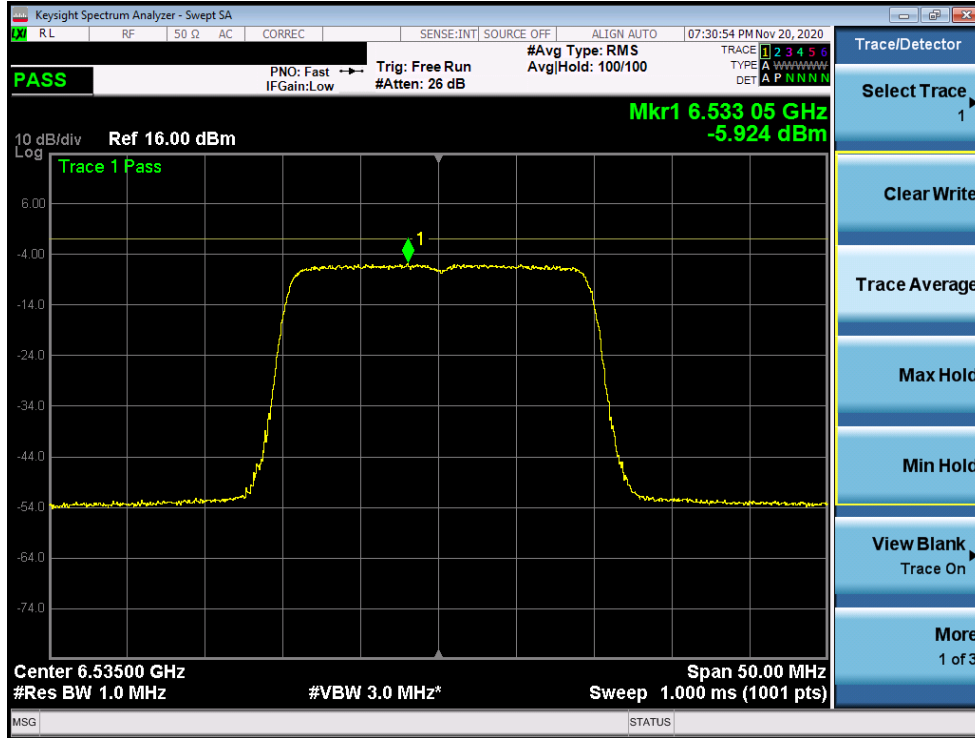


Plot 7-246. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax (Full Tones) (UNII Band 6) – Ch. 115)

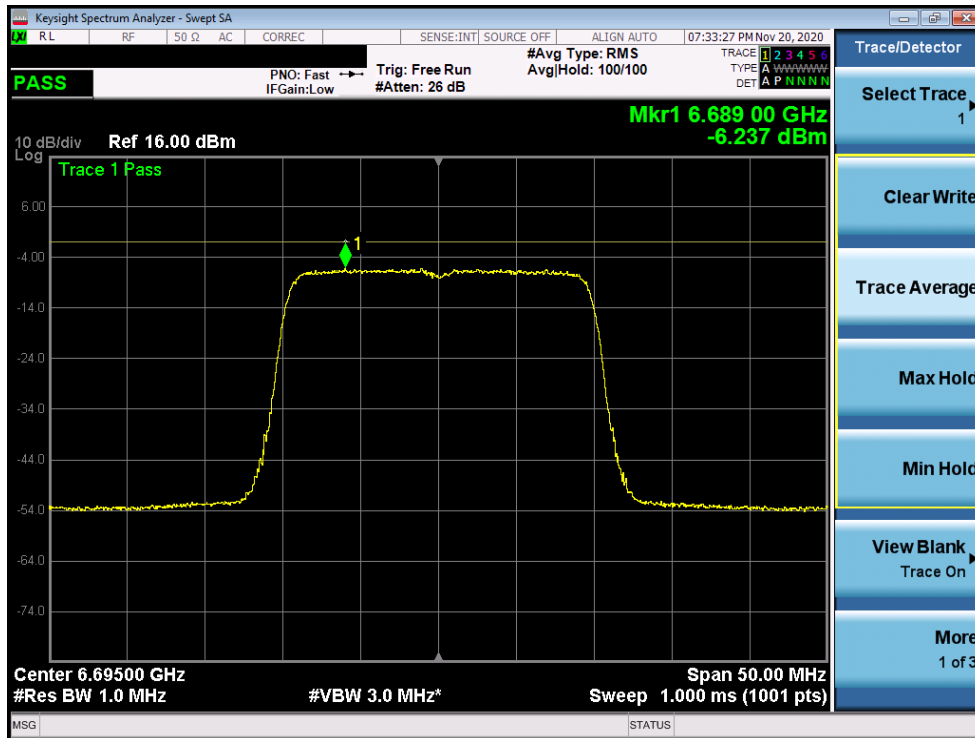


Plot 7-247. Power Spectral Density Plot MIMO ANT2 (80MHz BW 802.11ax (Full Tones) (UNII Band 6) – Ch. 103)

FCC ID: A3LSMG998B	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2009230154-27-R1.A3L	Test Dates: 9/28/2020-12/14/2020	EUT Type: Portable Handset		Page 159 of 276

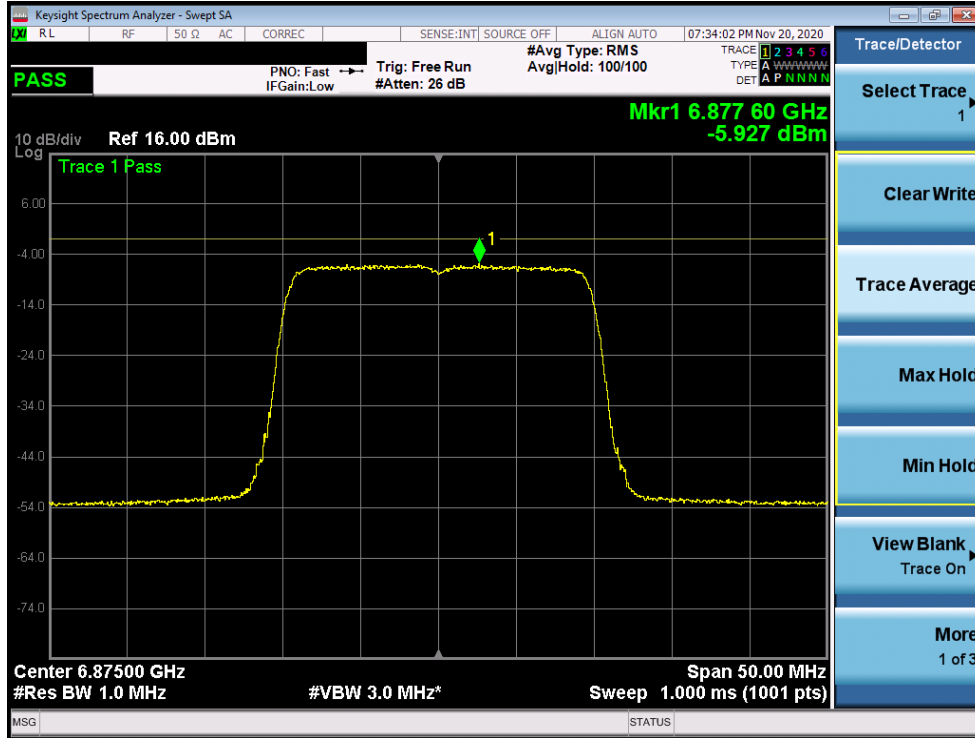


Plot 7-248. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax (Full Tones) (UNII Band 7) – Ch. 117)

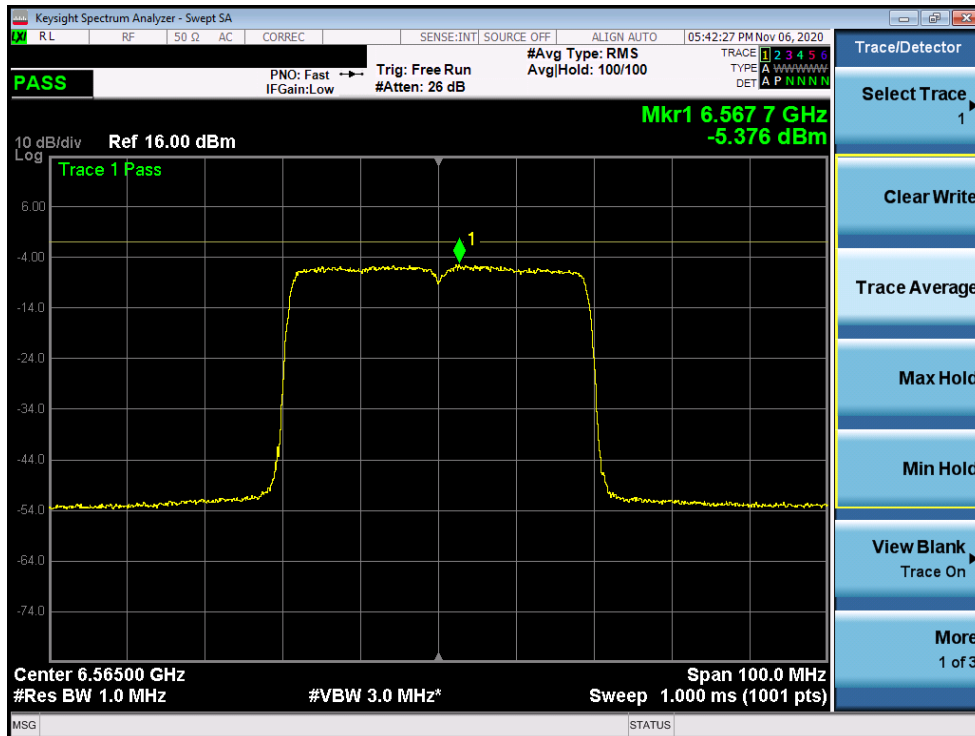


Plot 7-249. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax (Full Tones) (UNII Band 7) – Ch. 149)

FCC ID: A3LSMG998B	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2009230154-27-R1.A3L	Test Dates: 9/28/2020-12/14/2020	EUT Type: Portable Handset		Page 160 of 276

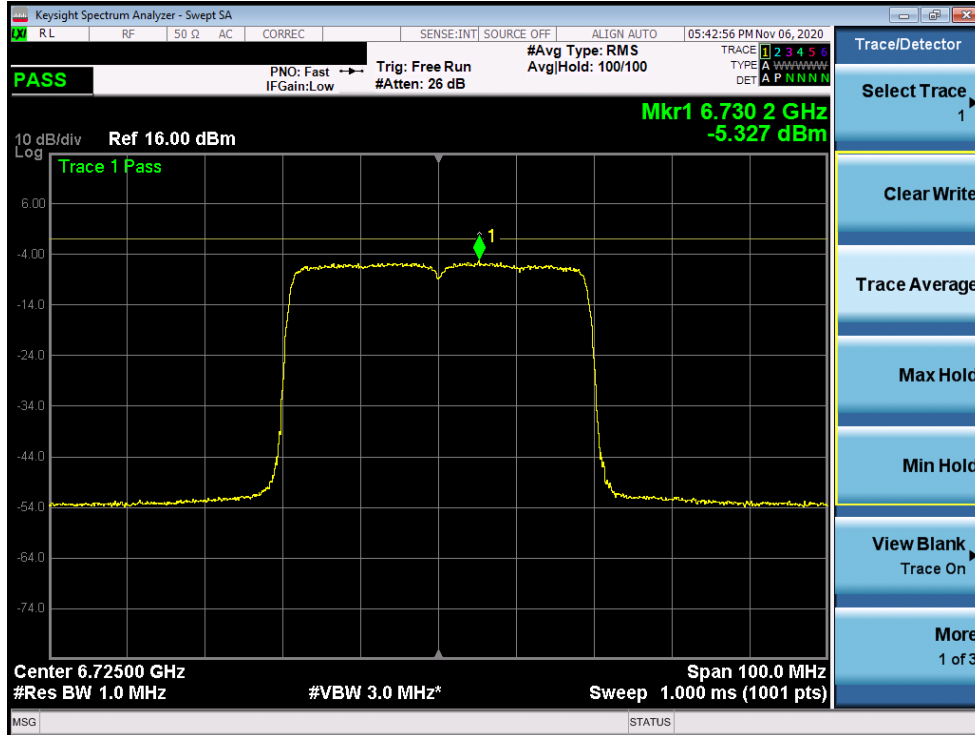


Plot 7-250. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax (Full Tones) (UNII Band 7) – Ch. 185)

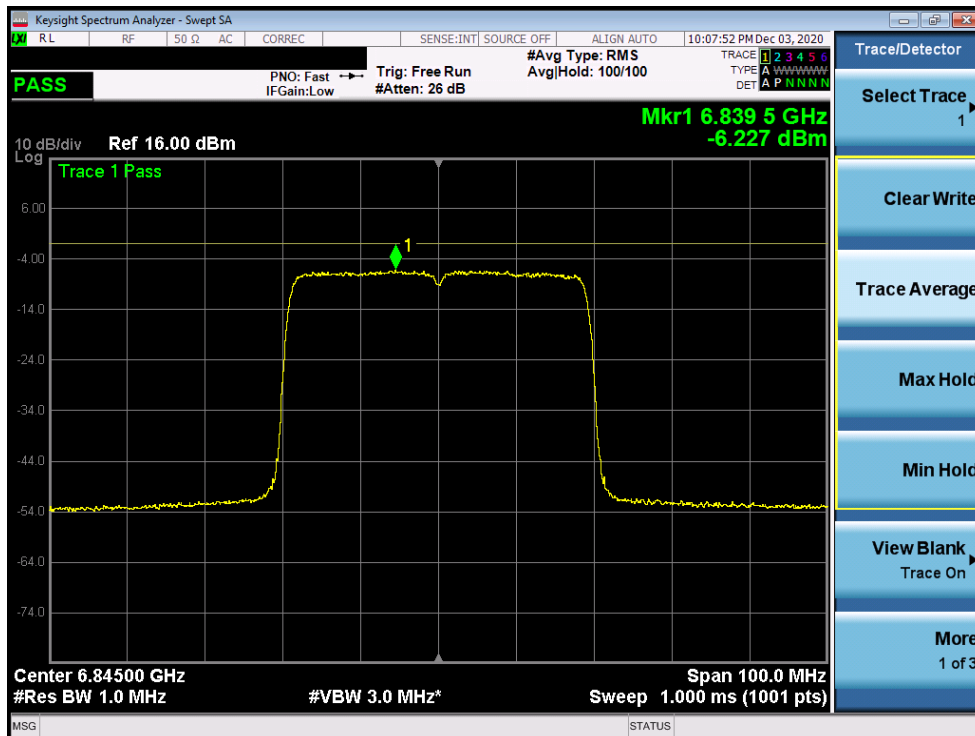


Plot 7-251. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax (Full Tones) (UNII Band 7) – Ch. 123)

FCC ID: A3LSMG998B	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2009230154-27-R1.A3L	Test Dates: 9/28/2020-12/14/2020	EUT Type: Portable Handset		Page 161 of 276

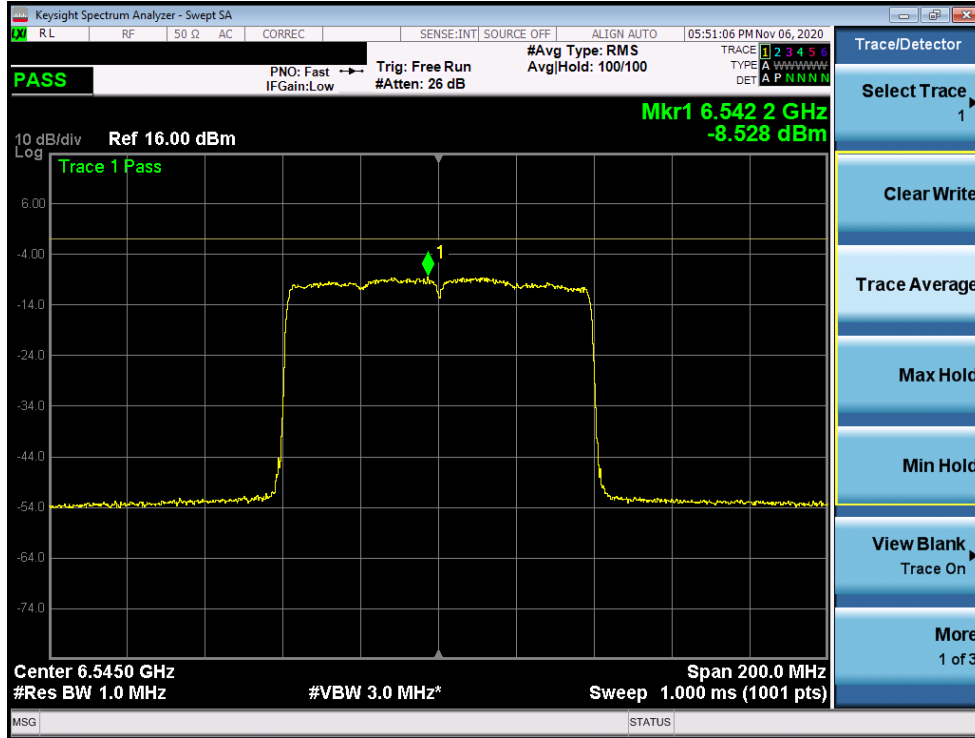


Plot 7-252. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax (Full Tones) (UNII Band 7) – Ch. 155)

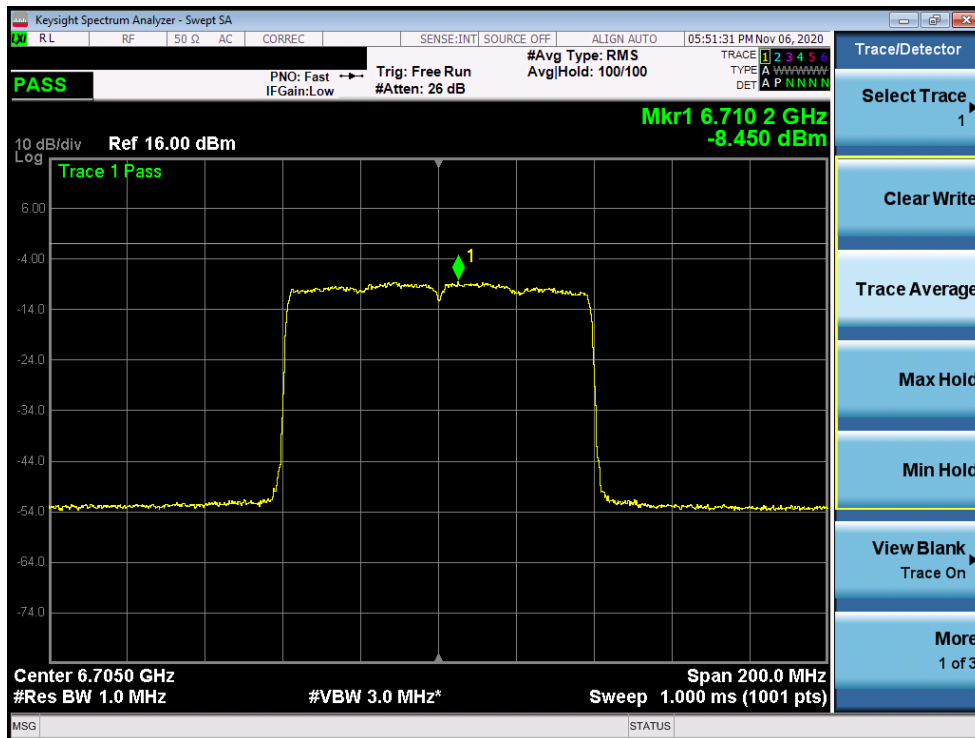


Plot 7-253. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax (Full Tones) (UNII Band 7) – Ch. 179)

FCC ID: A3LSMG998B	 Proud to be part of 	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2009230154-27-R1.A3L	Test Dates: 9/28/2020-12/14/2020	EUT Type: Portable Handset		Page 162 of 276

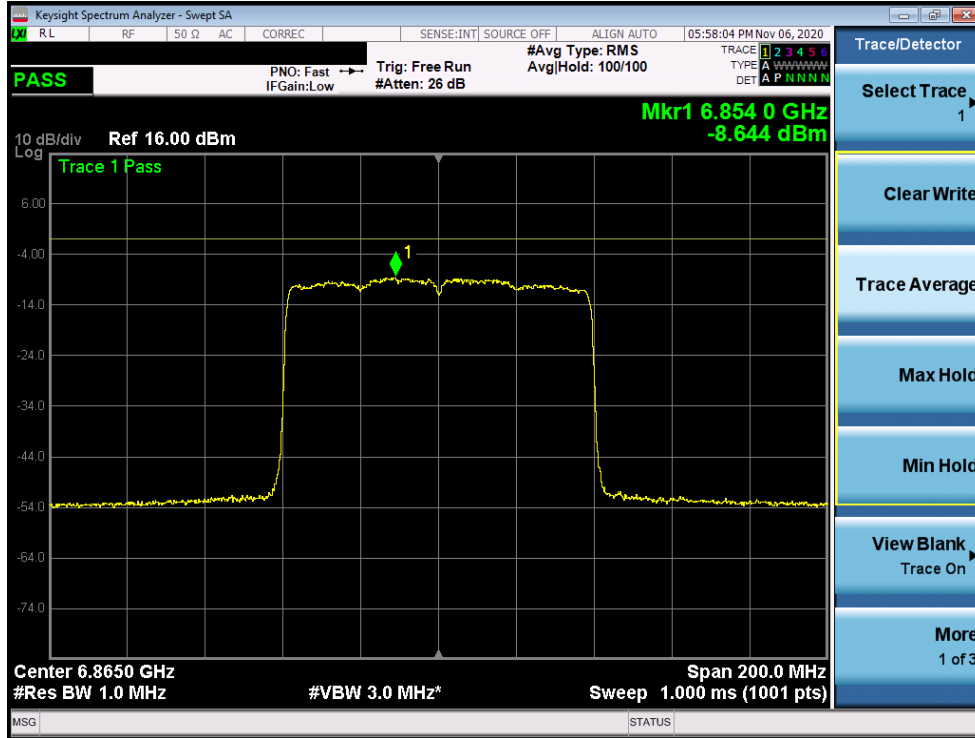


Plot 7-254. Power Spectral Density Plot MIMO ANT2 (80MHz BW 802.11ax (Full Tones) (UNII Band 7) – Ch. 119)

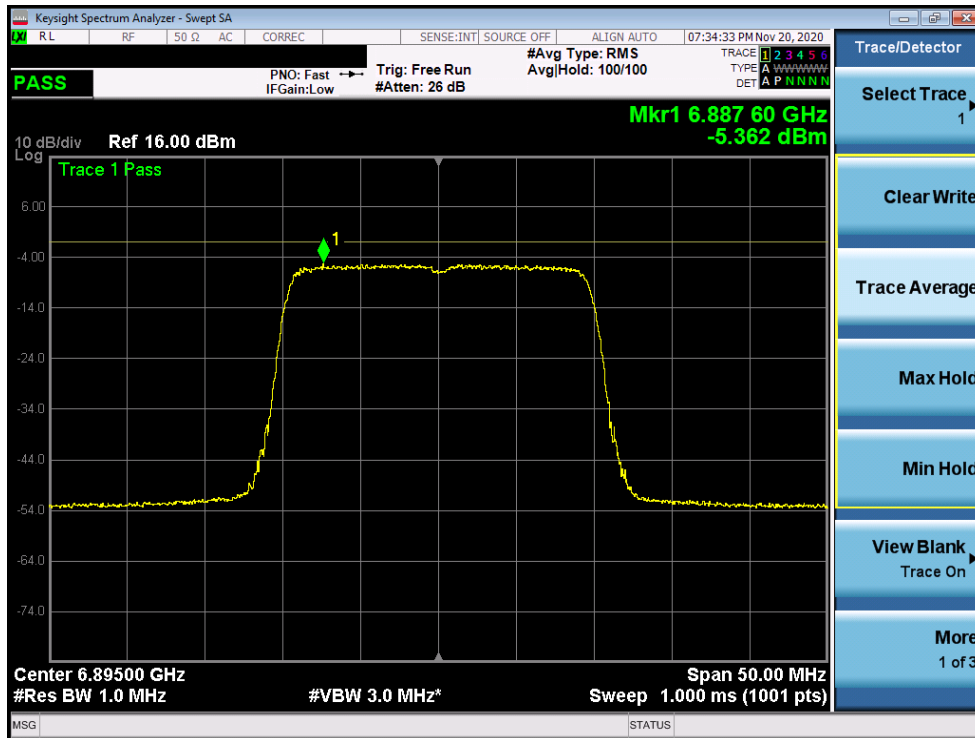


Plot 7-255. Power Spectral Density Plot MIMO ANT2 (80MHz BW 802.11ax (Full Tones) (UNII Band 7) – Ch. 151)

FCC ID: A3LSMG998B	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2009230154-27-R1.A3L	Test Dates: 9/28/2020-12/14/2020	EUT Type: Portable Handset		Page 163 of 276

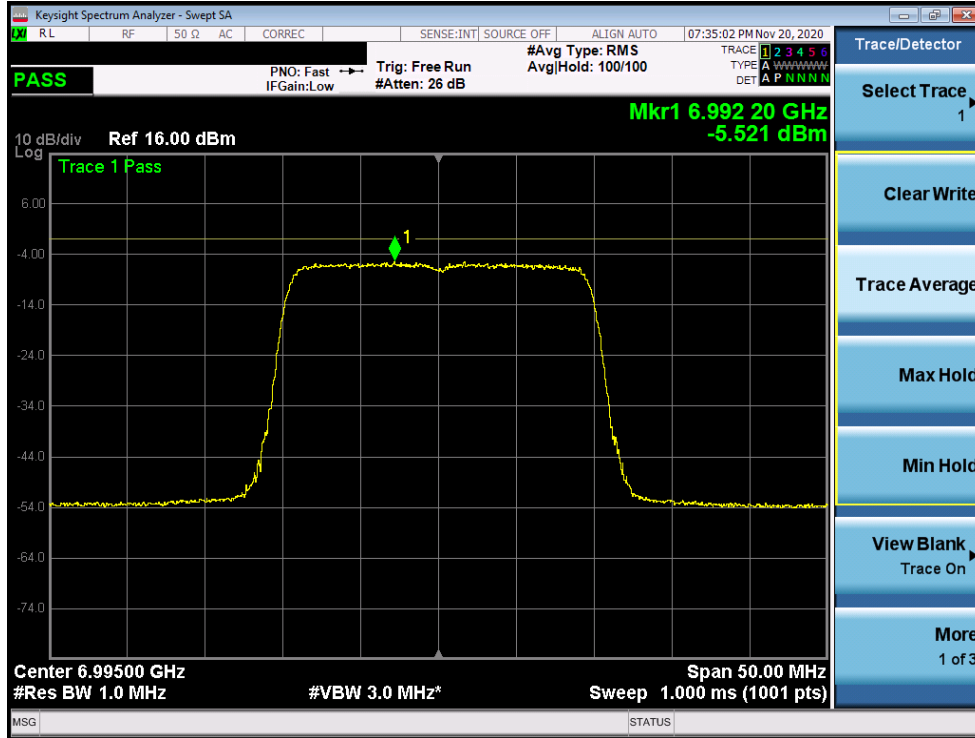


Plot 7-256. Power Spectral Density Plot MIMO ANT2 (80MHz BW 802.11ax (Full Tones) (UNII Band 7) – Ch. 183)

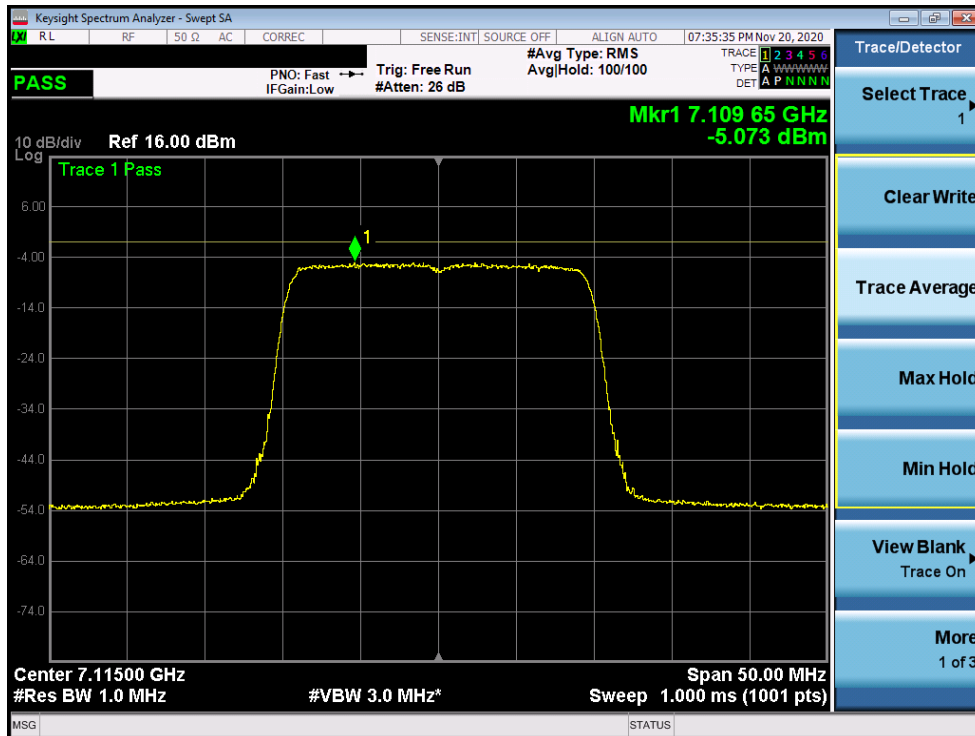


Plot 7-257. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax (Full Tones) (UNII Band 8) – Ch. 189)

FCC ID: A3LSMG998B	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2009230154-27-R1.A3L	Test Dates: 9/28/2020-12/14/2020	EUT Type: Portable Handset		Page 164 of 276

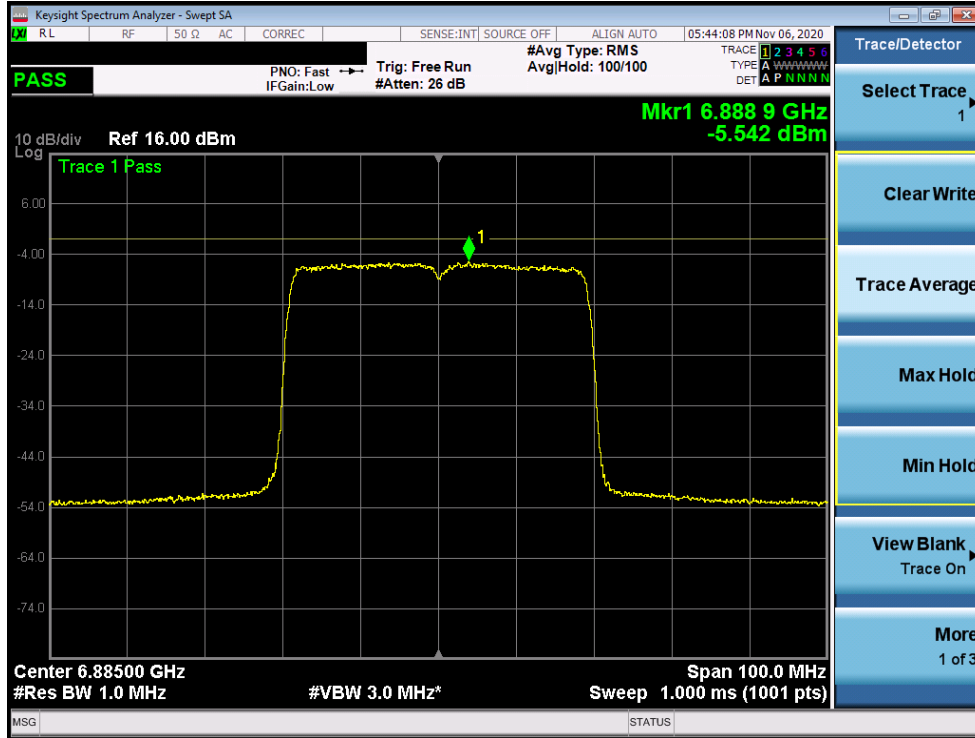


Plot 7-258. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax (Full Tones) (UNII Band 8) – Ch. 209)

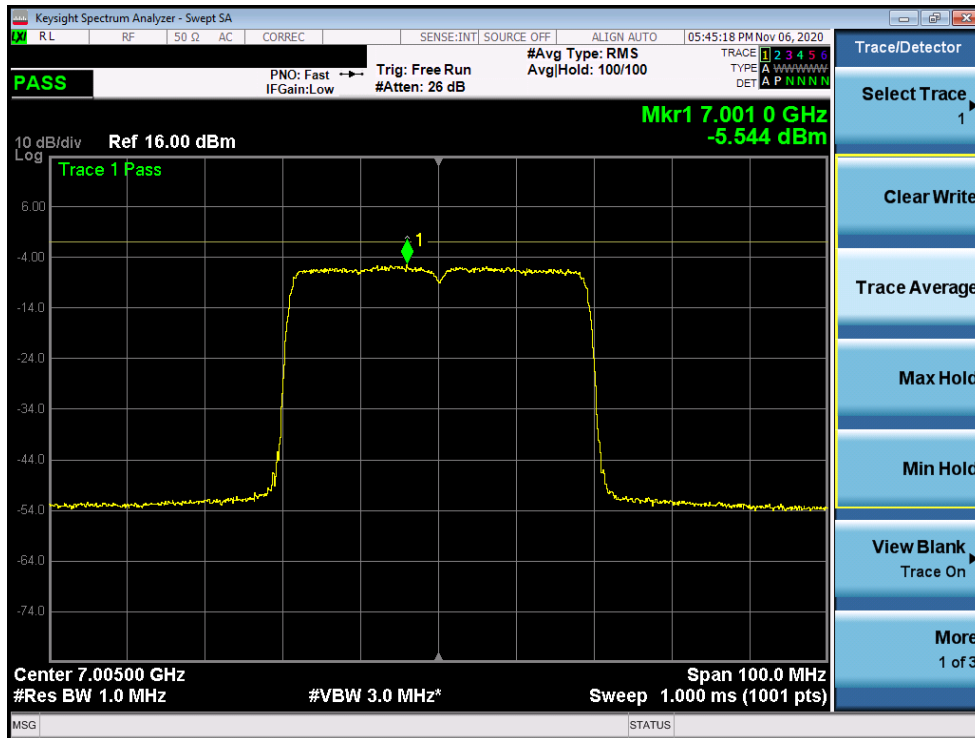


Plot 7-259. Power Spectral Density Plot MIMO ANT2 (20MHz BW 802.11ax (Full Tones) (UNII Band 8) – Ch. 233)

FCC ID: A3LSMG998B	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2009230154-27-R1.A3L	Test Dates: 9/28/2020-12/14/2020	EUT Type: Portable Handset		Page 165 of 276

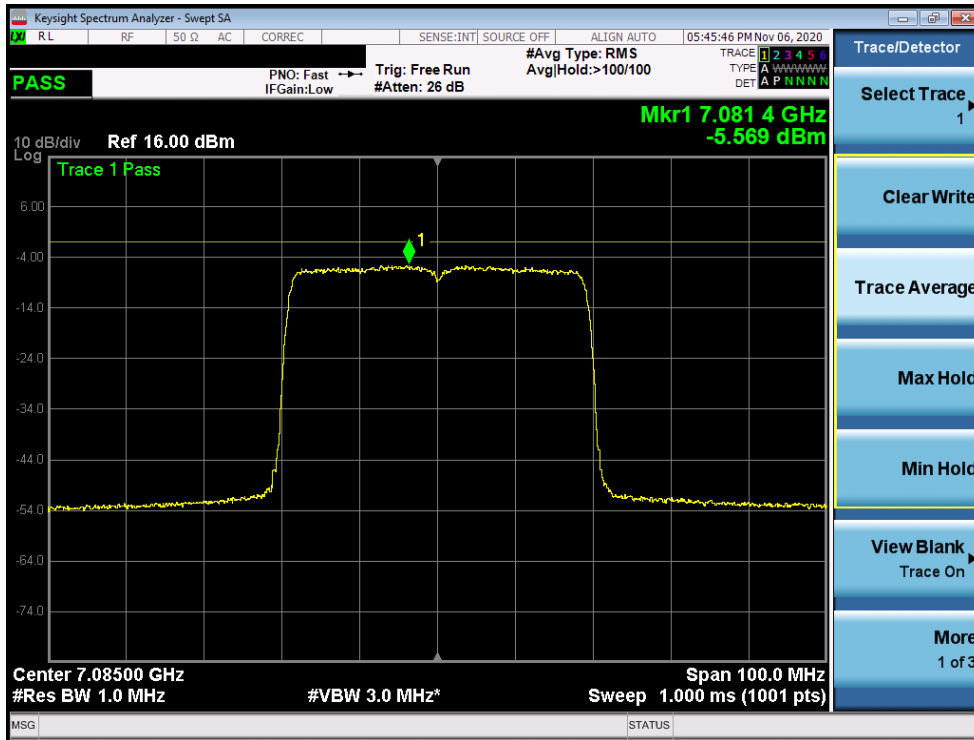


Plot 7-260. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax (Full Tones) (UNII Band 8) – Ch. 187)

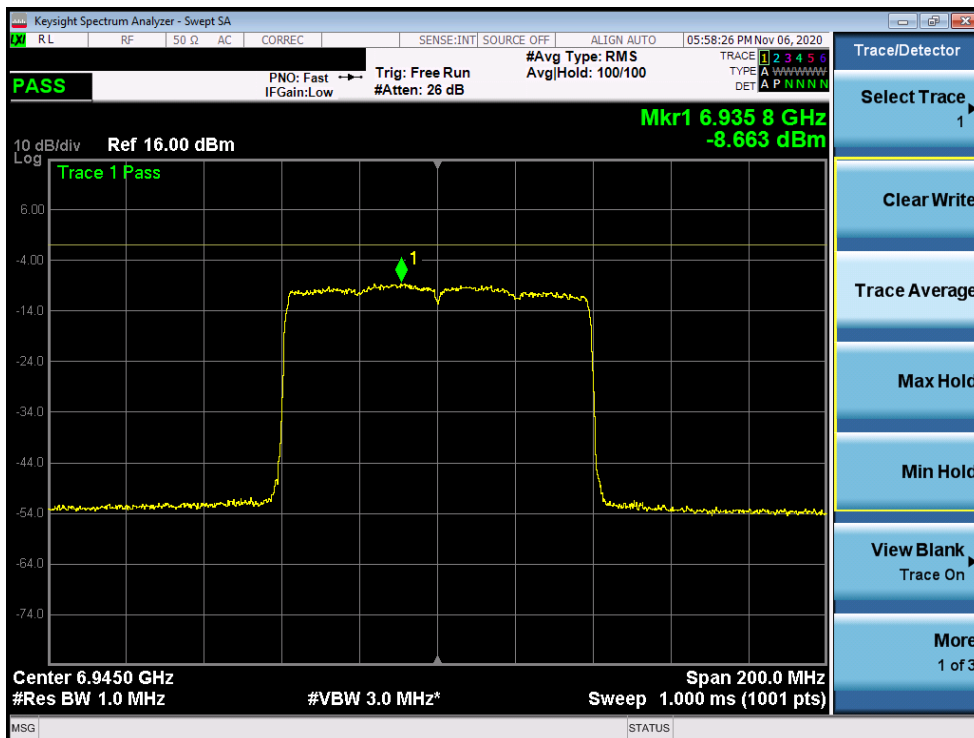


Plot 7-261. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax (Full Tones) (UNII Band 8) – Ch. 211)

FCC ID: A3LSMG998B	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2009230154-27-R1.A3L	Test Dates: 9/28/2020-12/14/2020	EUT Type: Portable Handset		Page 166 of 276

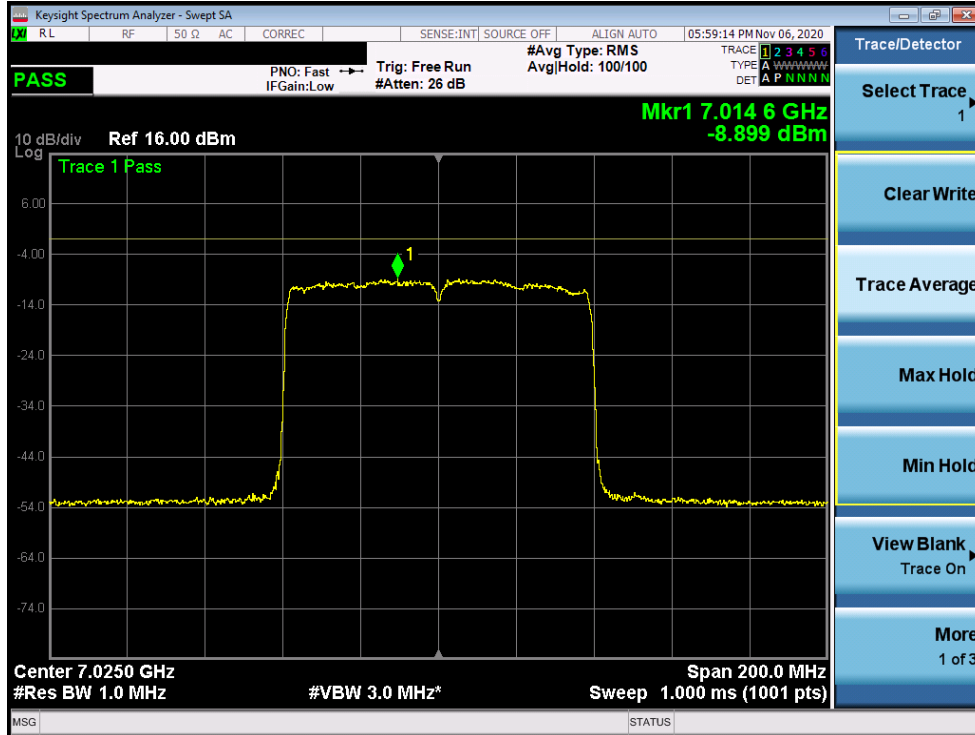


Plot 7-262. Power Spectral Density Plot MIMO ANT2 (40MHz BW 802.11ax (Full Tones) (UNII Band 8) – Ch. 227)



Plot 7-263. Power Spectral Density Plot MIMO ANT2 (80MHz BW 802.11ax (Full Tones) (UNII Band 8) – Ch. 199)

FCC ID: A3LSMG998B	 PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2009230154-27-R1.A3L	Test Dates: 9/28/2020-12/14/2020	EUT Type: Portable Handset		Page 167 of 276



Plot 7-264. Power Spectral Density Plot MIMO ANT2 (80MHz BW 802.11ax (Full Tones) (UNII Band 8) – Ch. 215)

FCC ID: A3LSMG998B	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2009230154-27-R1.A3L	Test Dates: 9/28/2020-12/14/2020	EUT Type: Portable Handset		Page 168 of 276

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 MIMO Calculation:

At 5935MHz in 802.11ax (20MHz BW) mode, the average conducted power spectral density was measured to be -5.94 dBm for Antenna-1 and -5.42 dBm for Antenna-2.

$$\text{Antenna 1} + \text{Antenna 2} = \text{MIMO}$$

$$(-5.94 \text{ dBm} + -5.42 \text{ dBm}) = (.255 \text{ mW} + .287 \text{ mW}) = .542 \text{ mW} = -2.66 \text{ dBm}$$

FCC ID: A3LSMG998B	 Proud to be part of 	MEASUREMENT REPORT (CERTIFICATION)	 Approved by: Technical Manager
Test Report S/N: 1M2009230154-27-R1.A3L	Test Dates: 9/28/2020-12/14/2020	EUT Type: Portable Handset	Page 169 of 276

7.5 In-Band Emissions – 802.11ax

§15.407(b)(6)

Test Overview and Limit

The spectrum analyzer was connected to the antenna terminal while the EUT was 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.

For transmitters operating within the 5.925-7.125 GHz bands: Power spectral density must be suppressed by 20 dB at 1 MHz outside of channel edge, by 28 dB at one channel bandwidth from the channel center, and by 40 dB at one- and one-half times the channel bandwidth away from channel center. At frequencies between one megahertz outside an unlicensed device's channel edge and one channel bandwidth from the center of the channel, the limits must be linearly interpolated between 20 dB and 28 dB suppression, and at frequencies between one and one- and one-half times an unlicensed device's channel bandwidth, the limits must be linearly interpolated between 28 dB and 40 dB suppression. Emissions removed from the channel center by more than one- and one-half times the channel bandwidth must be suppressed by at least 40 dB.

Test Procedure Used

ANSI C63.10-2013 – Section 12.3.2.2
KDB 987594 D02

Test Settings

1. Connect output of the antenna port to a spectrum analyzer or EMI receiver, with appropriate attenuation, as to not damage the instrumentation.
2. Set the reference level of the measuring equipment in accordance with procedure 4.1.5.2 of ANSI C63.10-2013.
3. Measure the 26 dB EBW using the test procedure 12.4.1 of ANSI C63.10-2013. (This will be used to determine the channel edge.)
4. Measure the power spectral density (which will be used for emissions mask reference) using the following procedure:
 - a) Set the span to encompass the entire 26 dB EBW of the signal.
 - b) Set RBW = same RBW used for 26 dB EBW measurement.
 - c) Set VBW $\geq 3 \times$ RBW
 - d) Number of points in sweep $\geq [2 \times \text{span} / \text{RBW}]$.
 - e) Sweep time = auto.
 - f) Detector = RMS (i.e., power averaging)
 - g) Trace average at least 100 traces in power averaging (rms) mode.
 - h) Use the peak search function on the instrument to find the peak of the spectrum.
5. For the purposes of developing the emission mask, the channel bandwidth is defined as the 26 dB EBW.
6. Using the measuring equipment limit line function, develop the emissions mask based on the following requirements. The emissions power spectral density must be reduced below the peak power spectral density (in dB) as follows:
 - a) Suppressed by 20 dB at 1 MHz outside of the channel edge. (The channel edge is defined as the 26-dB point on either side of the carrier center frequency.)
 - b) Suppressed by 28 dB at one channel bandwidth from the channel center.
 - c) Suppressed by 40 dB at one- and one-half times the channel bandwidth from the channel center.
7. Adjust the span to encompass the entire mask as necessary.
8. Clear trace.
9. Trace average at least 100 traces in power averaging (rms) mode.
10. Adjust the reference level as necessary so that the crest of the channel touches the top of the emission mask.

Test Setup

FCC ID: A3LSMG998B		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
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The EUT and measurement equipment were set up as shown in the diagram below.



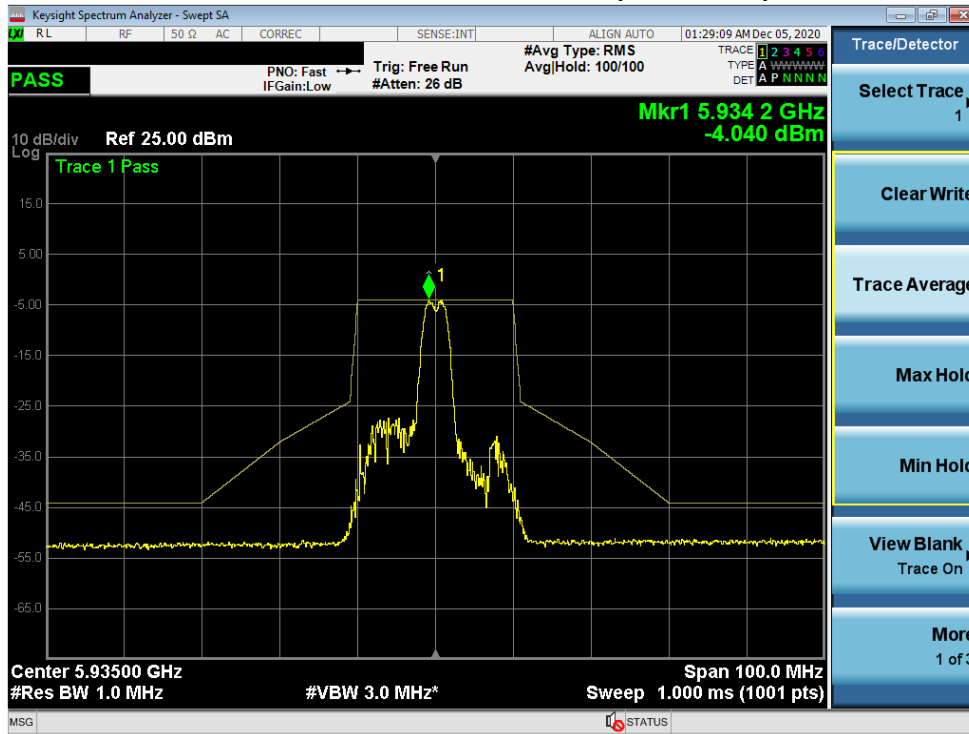
Figure 7-4. Test Instrument & Measurement Setup

Test Notes

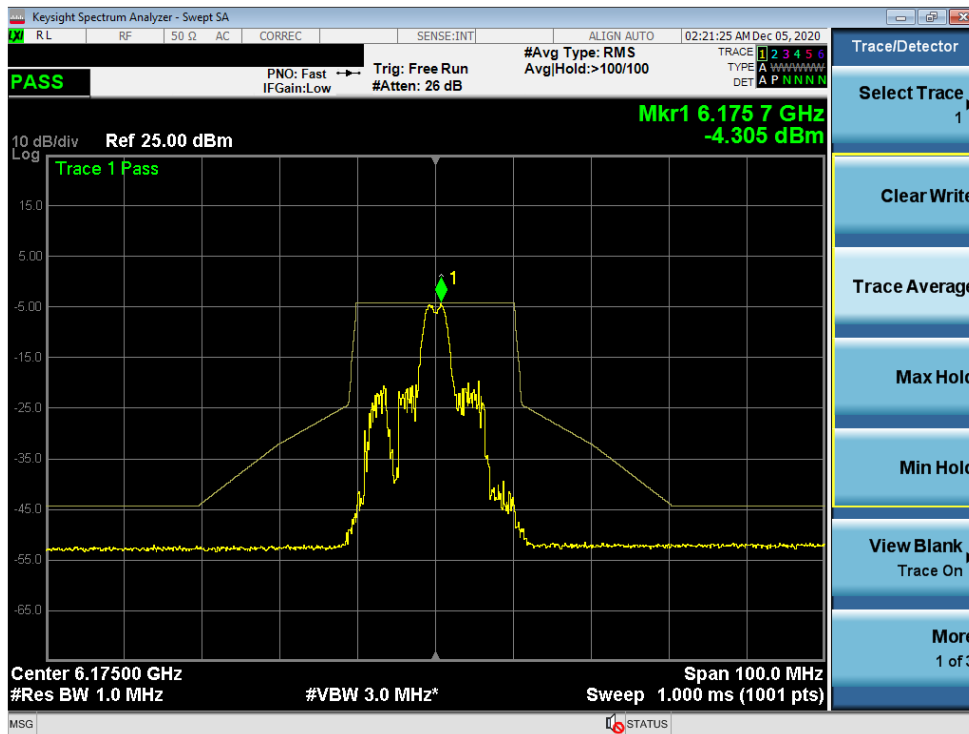
None

FCC ID: A3LSMG998B	 Proud to be part of 	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2009230154-27-R1.A3L	Test Dates: 9/28/2020-12/14/2020	EUT Type: Portable Handset	Page 171 of 276	

MIMO Antenna-1 In-Band Emissions Measurements (26 Tones)

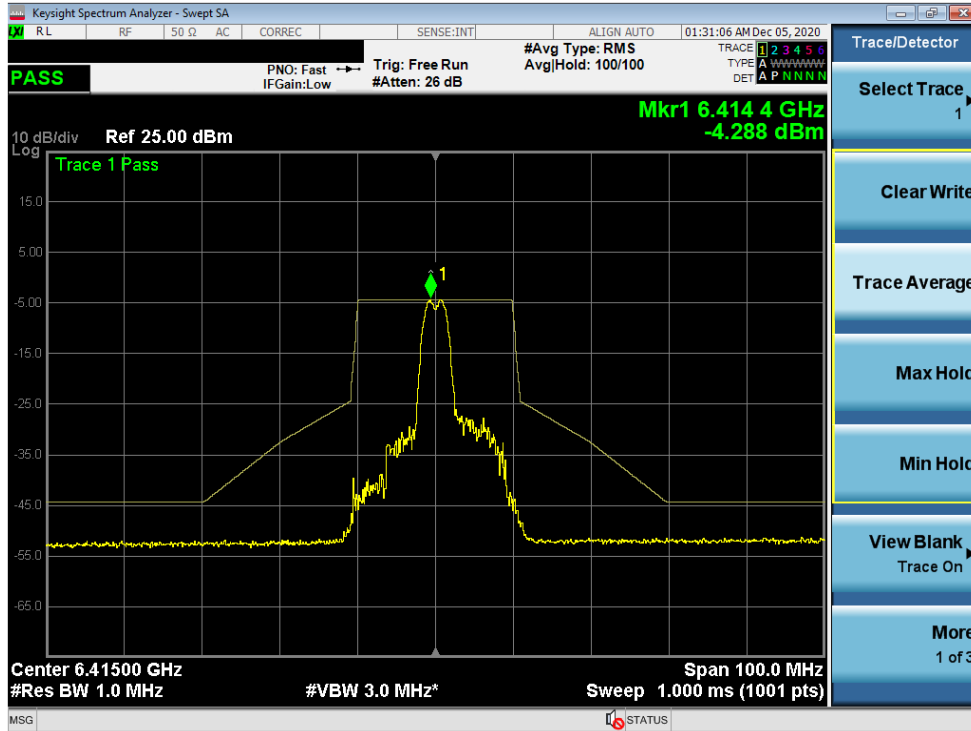


Plot 7-265. In-Band Emissions Plot MIMO ANT1 (20MHz BW 802.11ax (26 Tones) UNII Band 5) – Ch. 2)

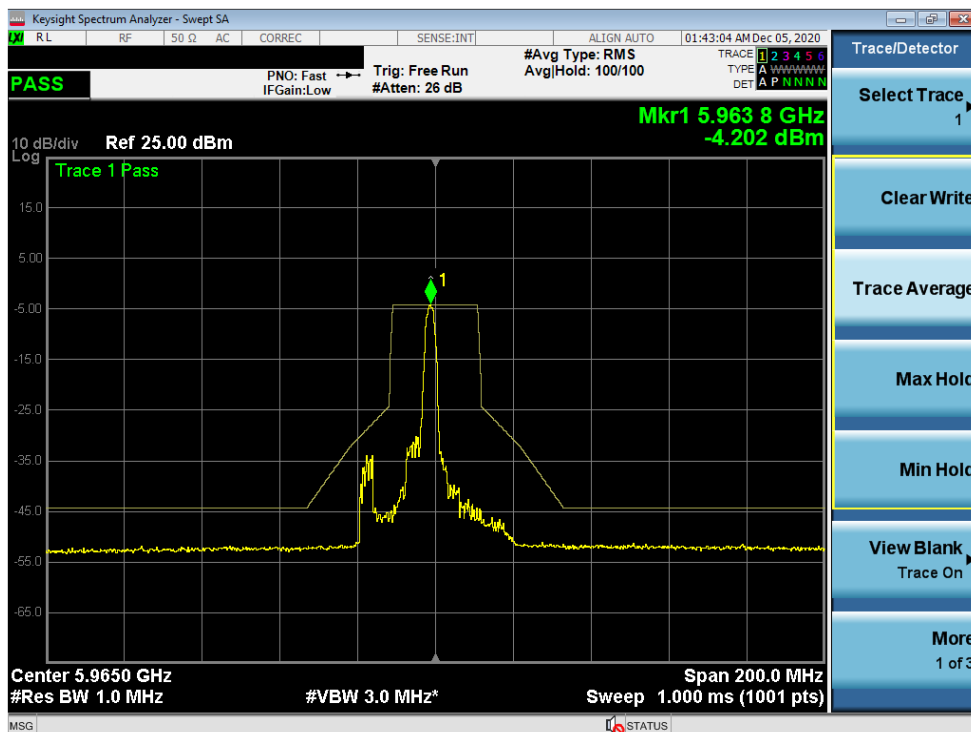


Plot 7-266. In-Band Emissions Plot MIMO ANT1 (20MHz BW 802.11ax (26 Tones) (UNII Band 5) – Ch. 45)

FCC ID: A3LSMG998B	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2009230154-27-R1.A3L	Test Dates: 9/28/2020-12/14/2020	EUT Type: Portable Handset		Page 172 of 276

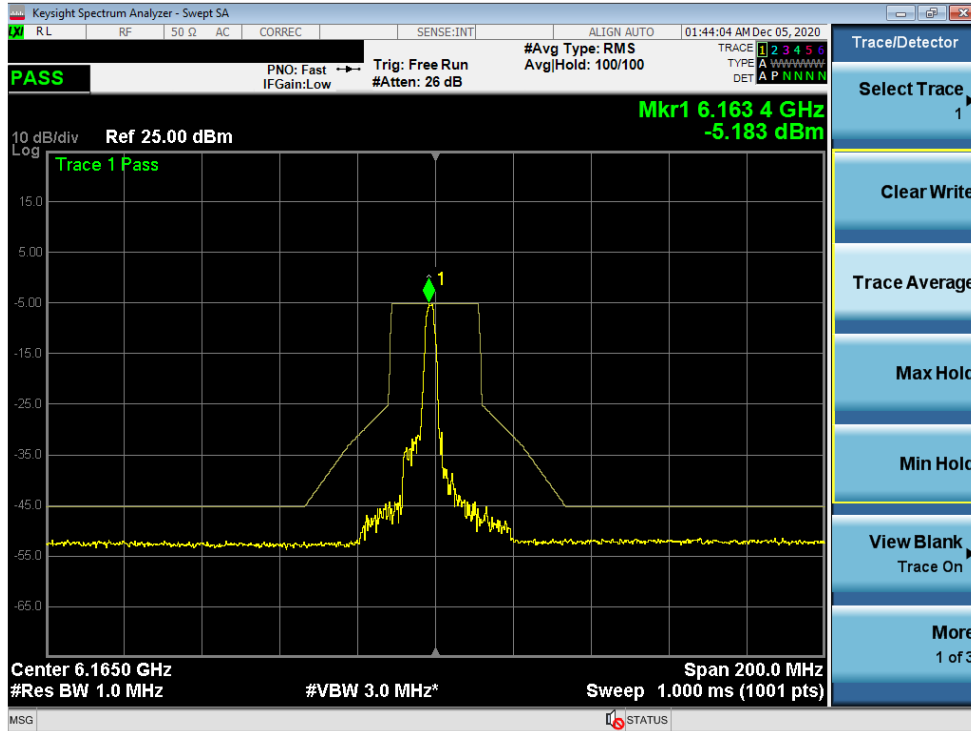


Plot 7-267. In-Band Emissions Plot MIMO ANT1 (20MHz BW 802.11ax (26 Tones) UNII Band 5) – Ch. 93

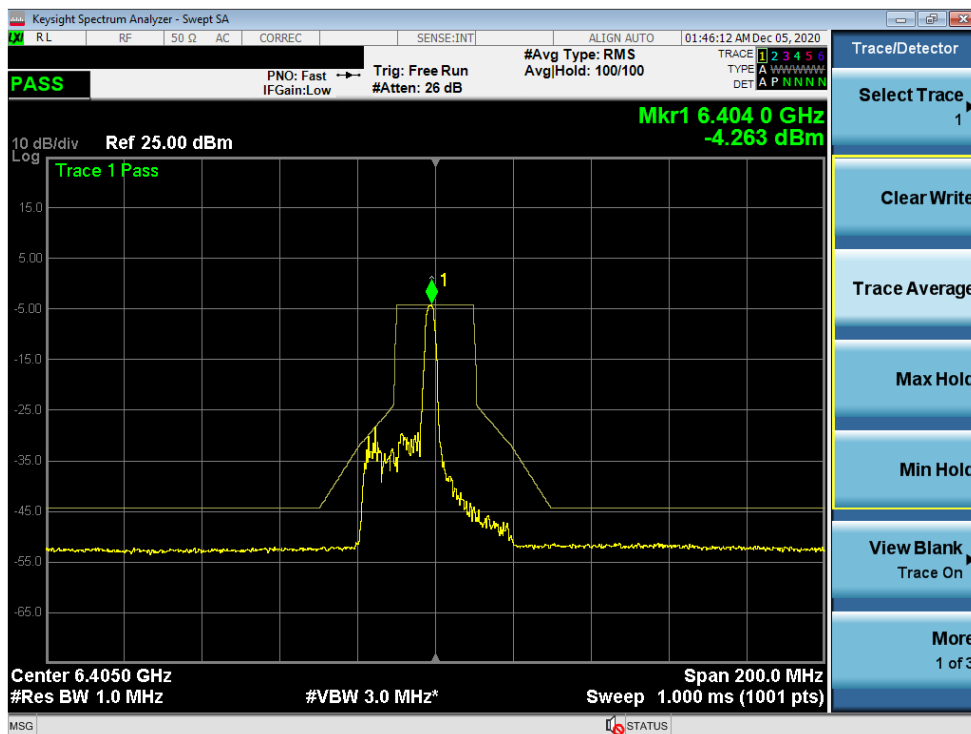


Plot 7-268. In-Band Emissions Plot MIMO ANT1 (40MHz BW 802.11ax (26 Tones) (UNII Band 5) – Ch. 3)

FCC ID: A3LSMG998B	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2009230154-27-R1.A3L	Test Dates: 9/28/2020-12/14/2020	EUT Type: Portable Handset		Page 173 of 276

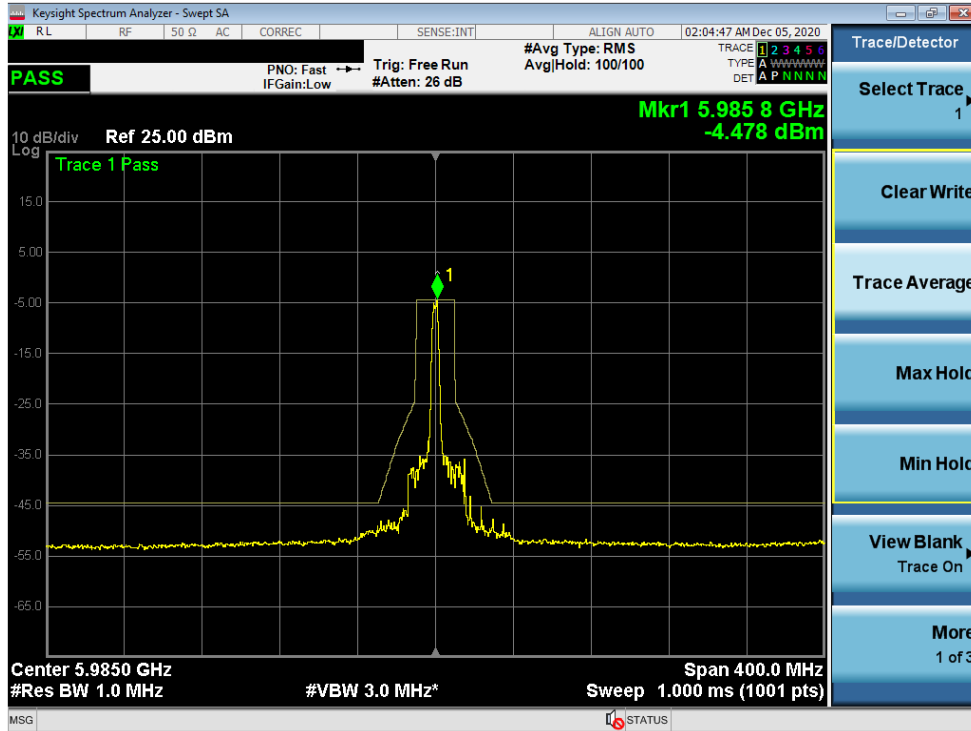


Plot 7-269. In-Band Emissions Plot MIMO ANT1 (40MHz BW 802.11ax (26 Tones) (UNII Band 5) – Ch. 43)

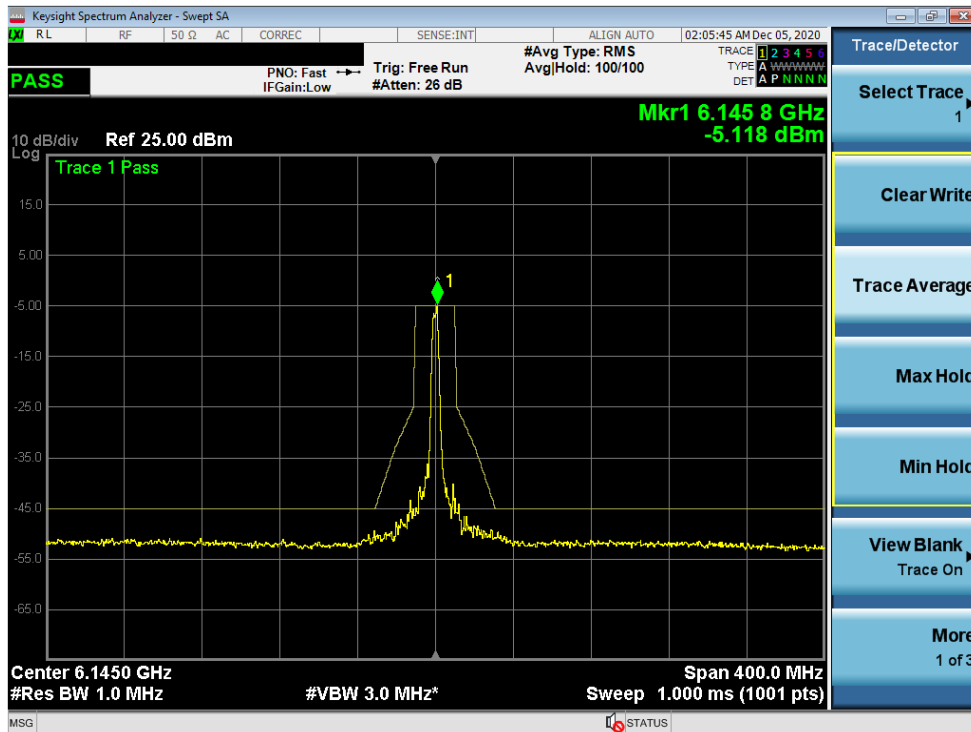


Plot 7-270. In-Band Emissions Plot MIMO ANT1 (40MHz BW 802.11ax (26 Tones) (UNII Band 5) – Ch. 91)

FCC ID: A3LSMG998B	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2009230154-27-R1.A3L	Test Dates: 9/28/2020-12/14/2020	EUT Type: Portable Handset		Page 174 of 276

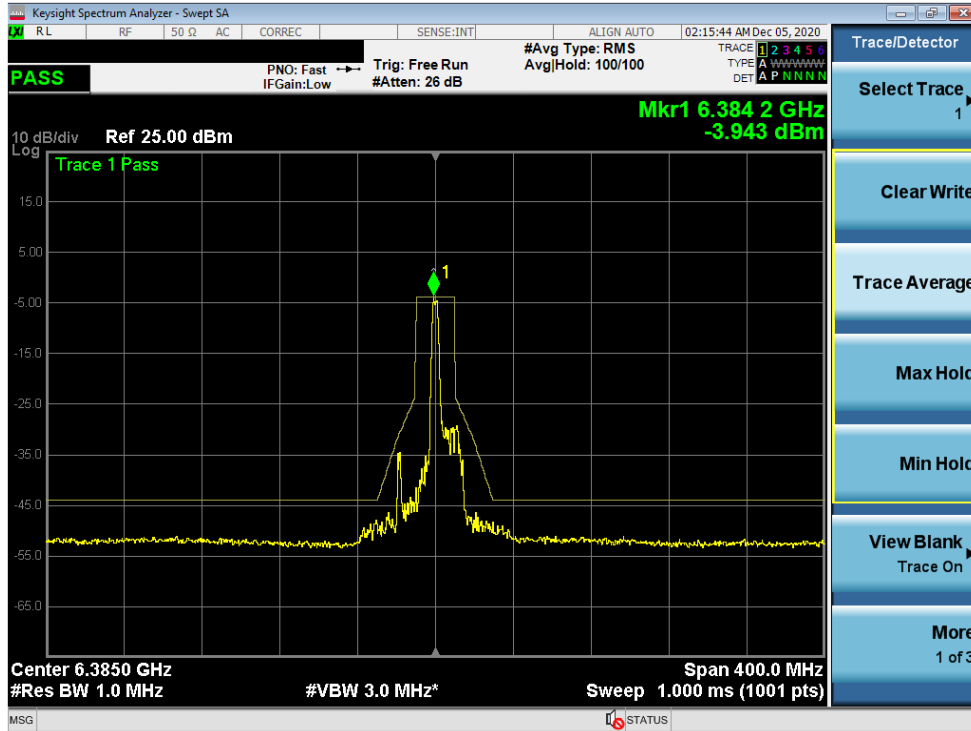


Plot 7-271. In-Band Emissions Plot MIMO ANT1 (80MHz BW 802.11ax (26 Tones) (UNII Band 5) – Ch. 7)

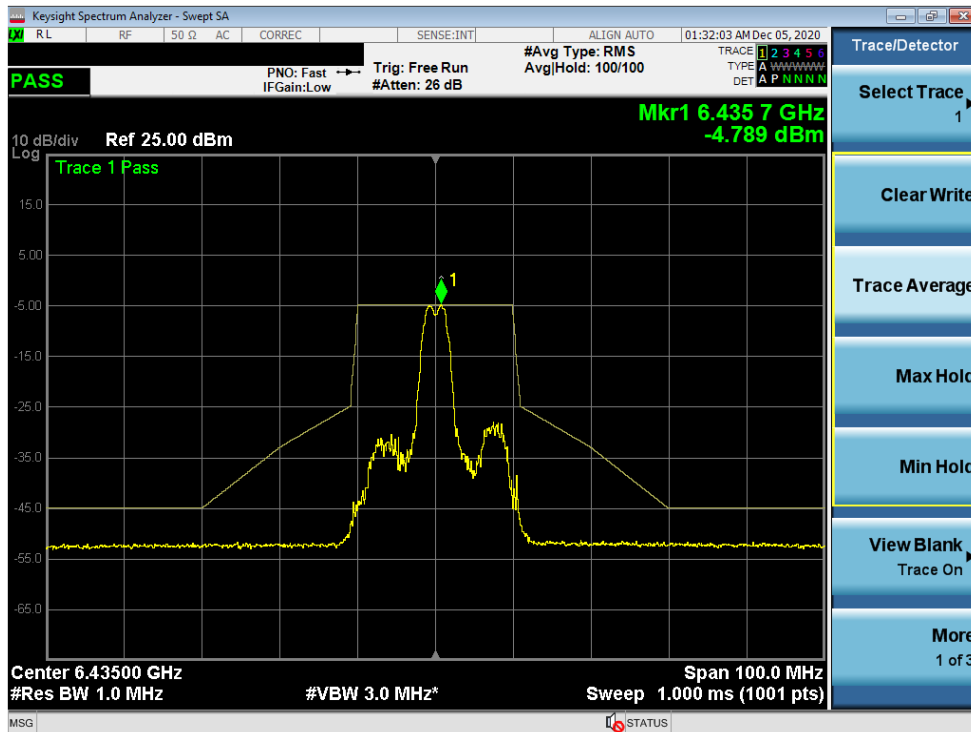


Plot 7-272. In-Band Emissions Plot MIMO ANT1 (80MHz BW 802.11ax (26 Tones) (UNII Band 5) – Ch. 39)

FCC ID: A3LSMG998B	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2009230154-27-R1.A3L	Test Dates: 9/28/2020-12/14/2020	EUT Type: Portable Handset		Page 175 of 276

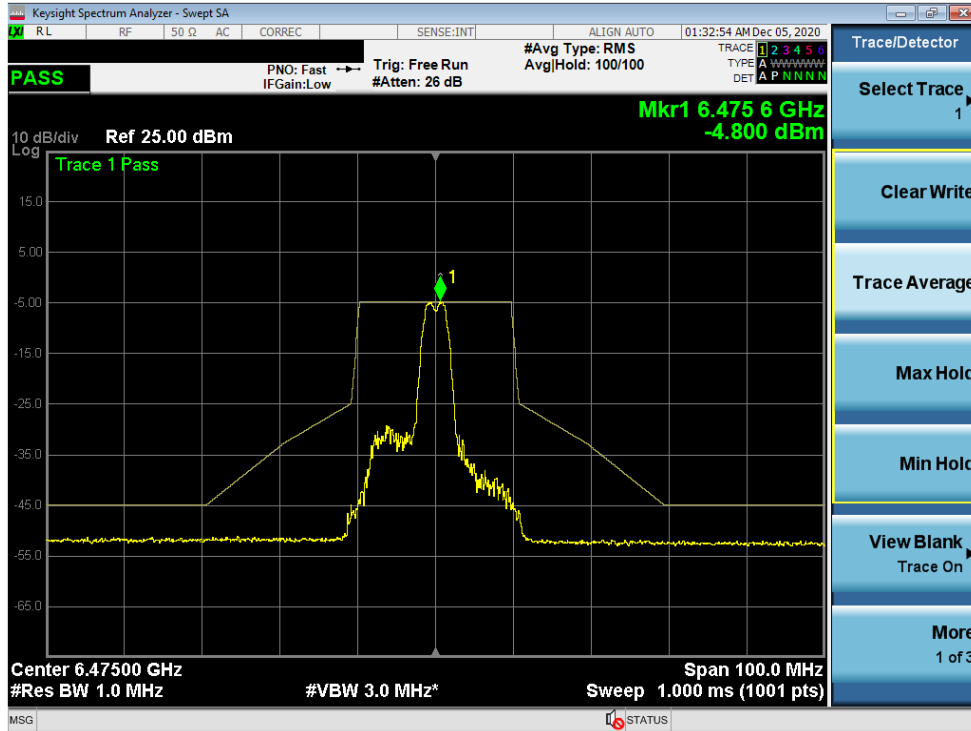


Plot 7-273. In-Band Emissions Plot MIMO ANT1 (80MHz BW 802.11ax (26 Tones) (UNII Band 5) – Ch. 87)

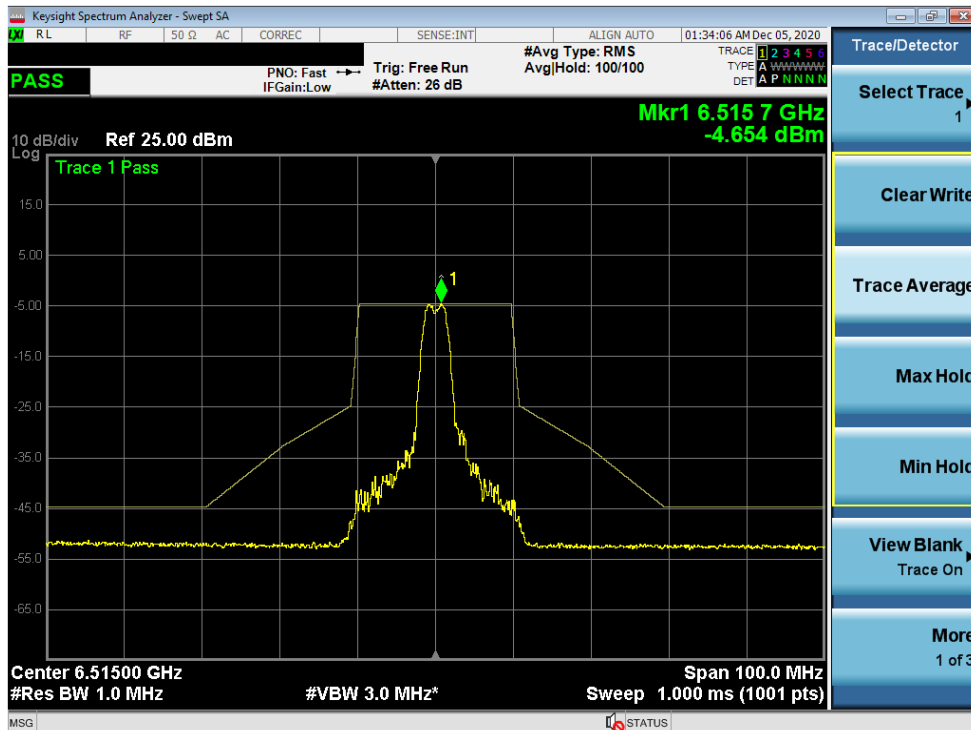


Plot 7-274. In-Band Emissions Plot MIMO ANT1 (20MHz BW 802.11ax (26 Tones) (UNII Band 6) – Ch. 97)

FCC ID: A3LSMG998B		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2009230154-27-R1.A3L	Test Dates: 9/28/2020-12/14/2020	EUT Type: Portable Handset		Page 176 of 276

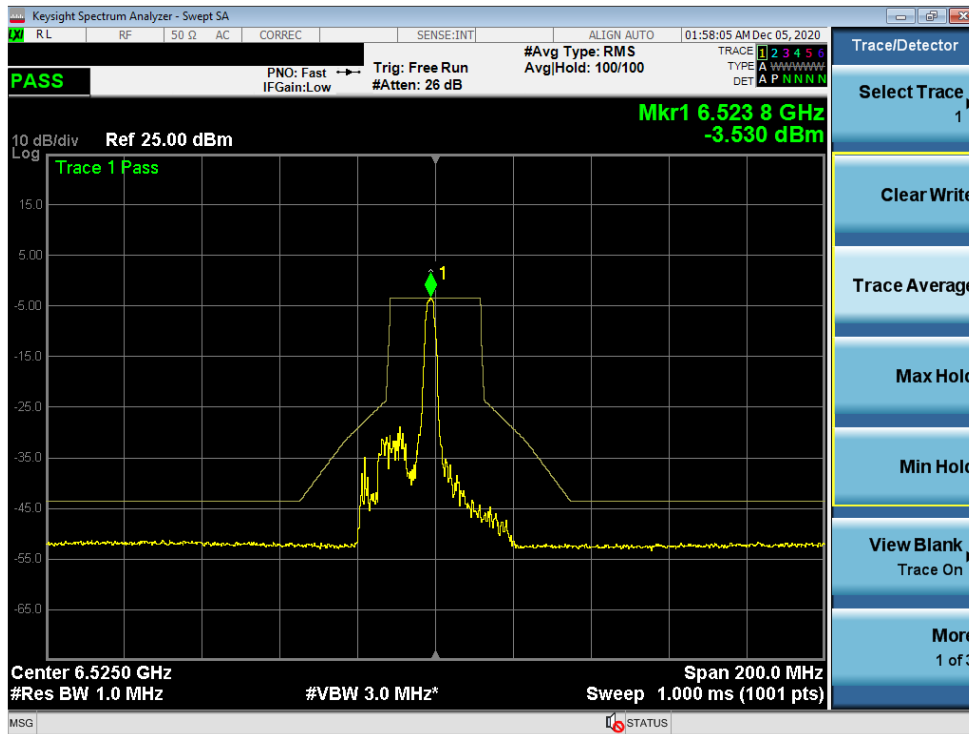


Plot 7-275. In-Band Emissions Plot MIMO ANT1 (20MHz BW 802.11ax (26 Tones) (UNII Band 6) – Ch. 105)

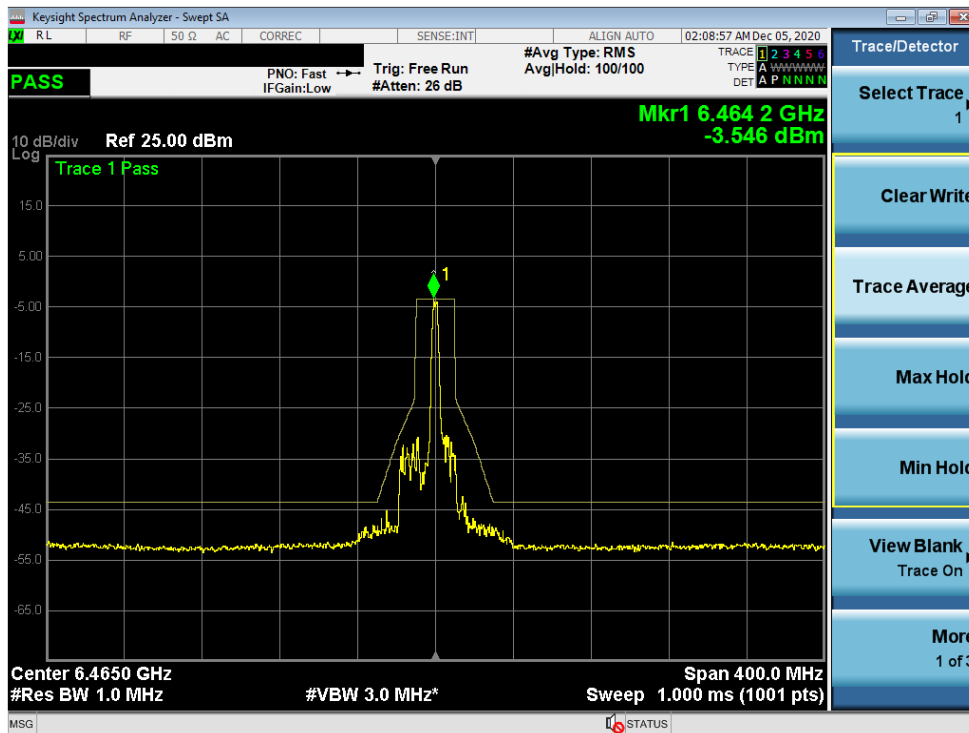


Plot 7-276. In-Band Emissions Plot MIMO ANT1 (20MHz BW 802.11ax (26 Tones) (UNII Band 6) – Ch. 113)

FCC ID: A3LSMG998B	 PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2009230154-27-R1.A3L	Test Dates: 9/28/2020-12/14/2020	EUT Type: Portable Handset		Page 177 of 276

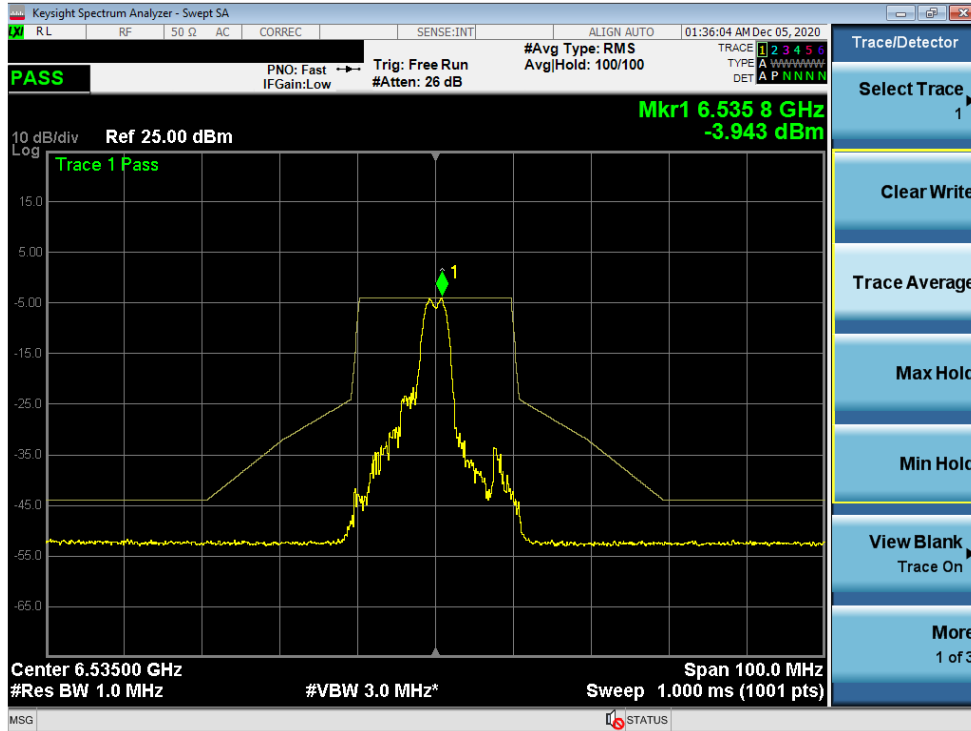


Plot 7-279. In-Band Emissions Plot MIMO ANT1 (40MHz BW 802.11ax (26 Tones) (UNII Band 6) – Ch. 115)

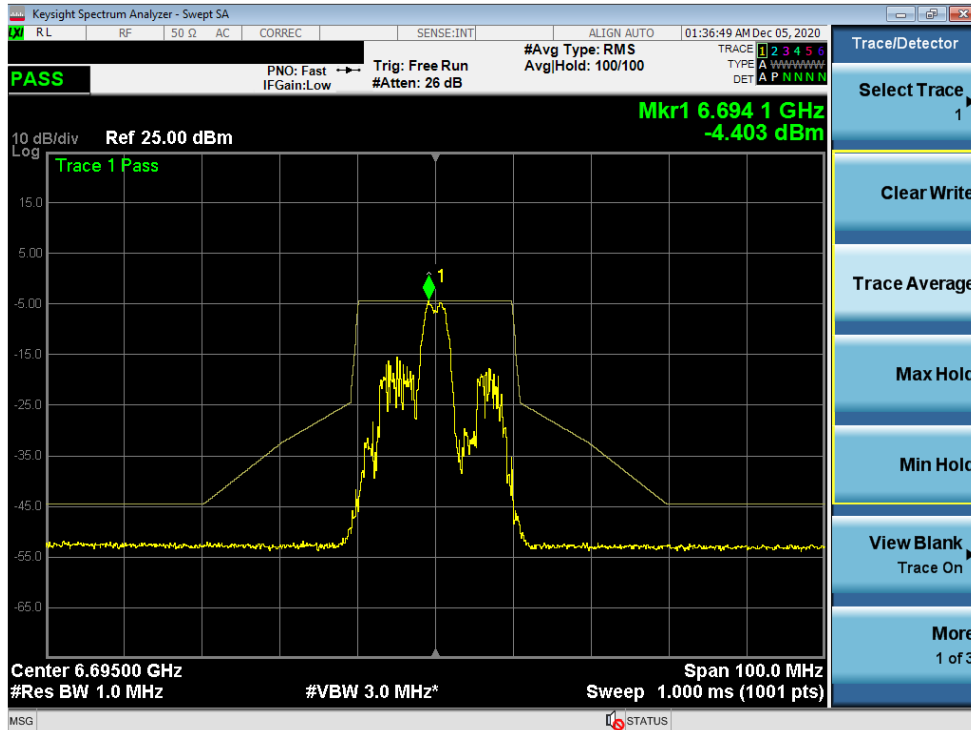


Plot 7-280. In-Band Emissions Plot MIMO ANT1 (80MHz BW 802.11ax (26 Tones) (UNII Band 6) – Ch. 103)

FCC ID: A3LSMG998B	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2009230154-27-R1.A3L	Test Dates: 9/28/2020-12/14/2020	EUT Type: Portable Handset		Page 179 of 276

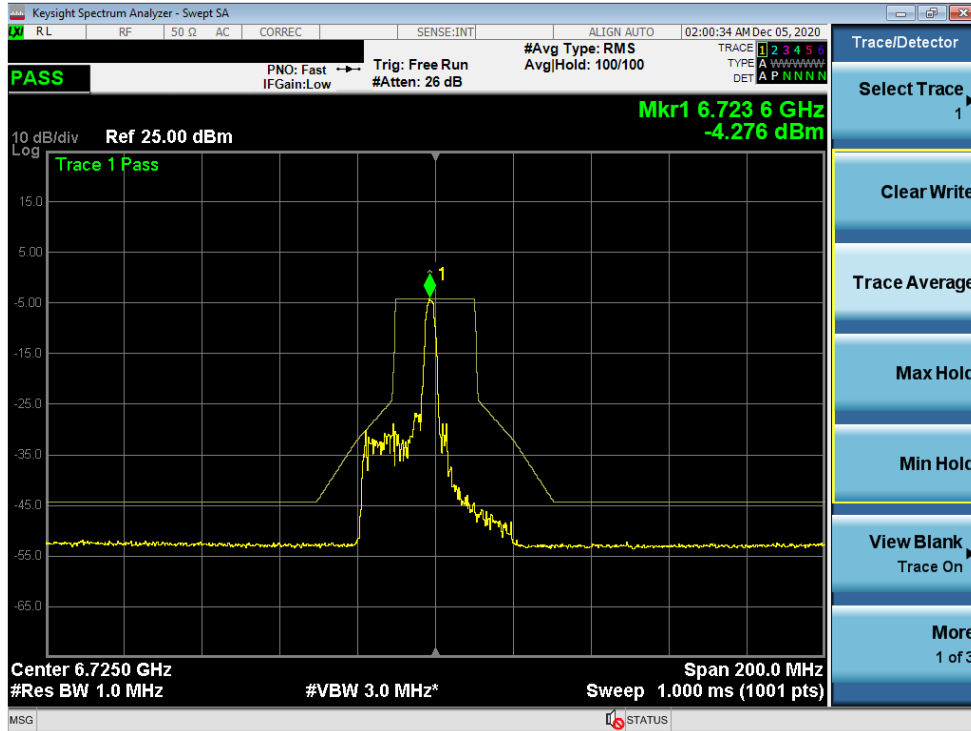


Plot 7-281. In-Band Emissions Plot MIMO ANT1 (20MHz BW 802.11ax (26 Tones) (UNII Band 7) – Ch. 117)

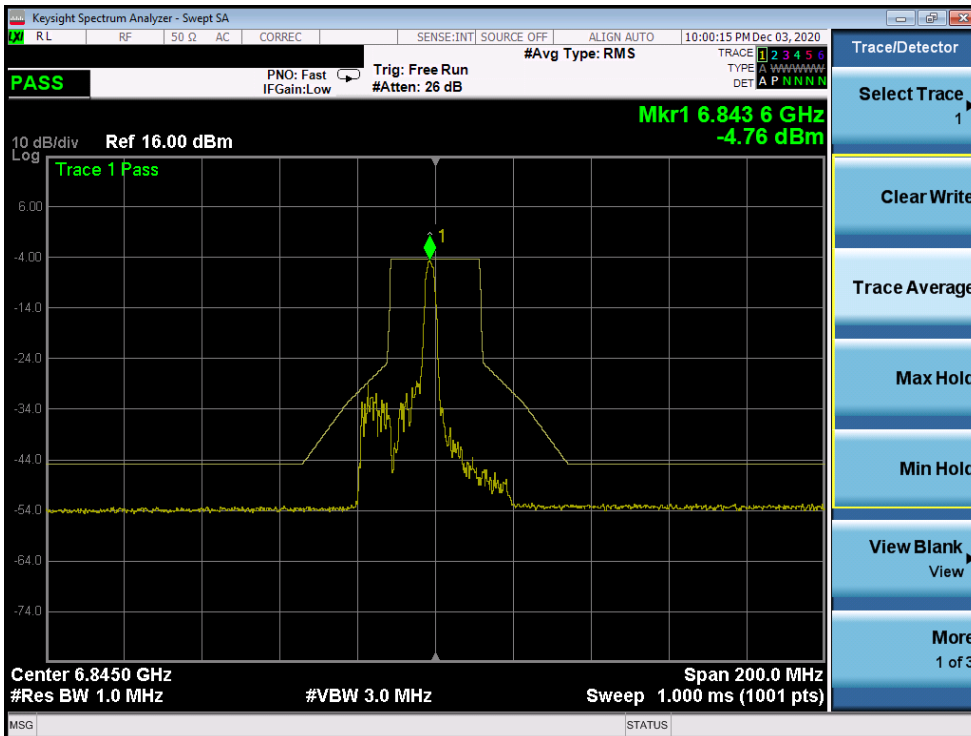


Plot 7-282. In-Band Emissions Plot MIMO ANT1 (20MHz BW 802.11ax (26 Tones) (UNII Band 7) – Ch. 149)

FCC ID: A3LSMG998B	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2009230154-27-R1.A3L	Test Dates: 9/28/2020-12/14/2020	EUT Type: Portable Handset		Page 180 of 276

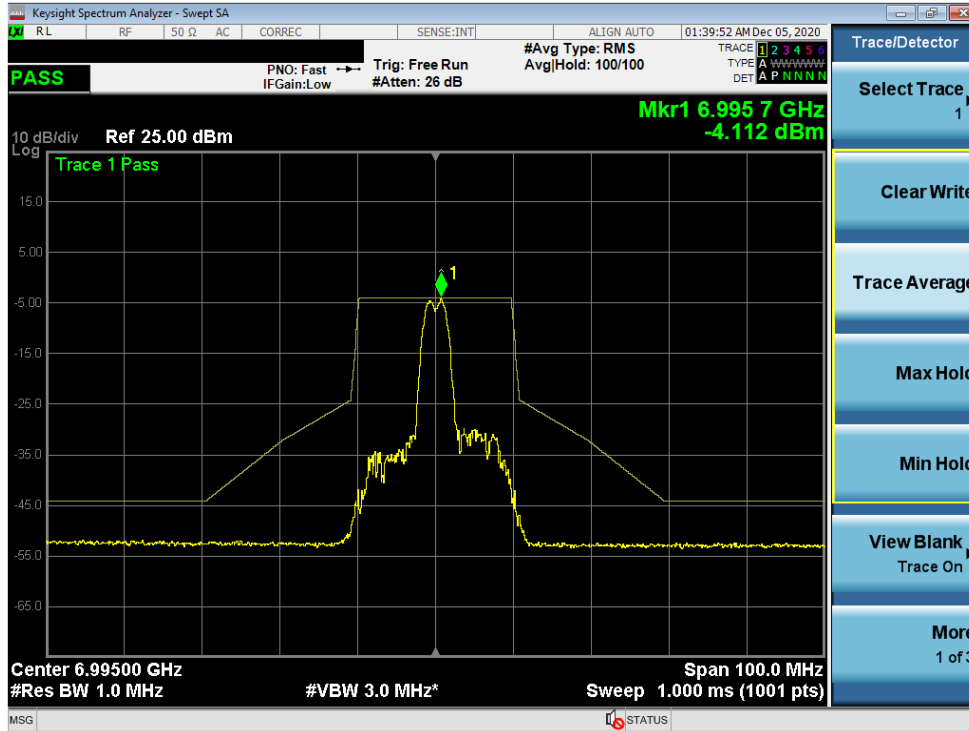


Plot 7-285. In-Band Emissions Plot MIMO ANT1 (40MHz BW 802.11ax (26 Tones) (UNII Band 7) – Ch. 155)

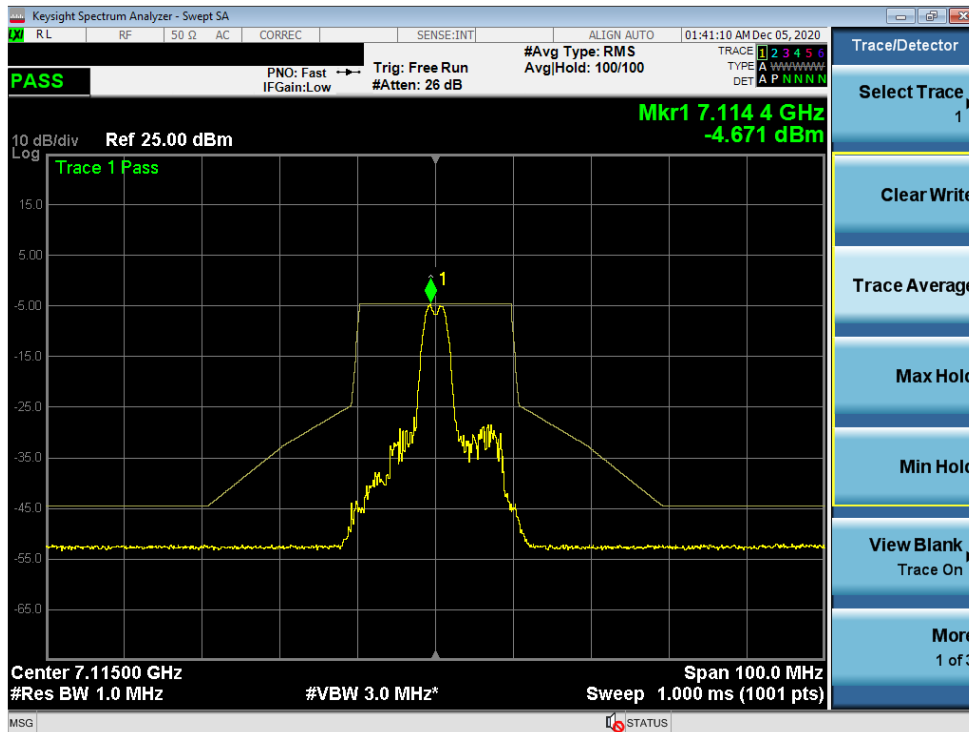


Plot 7-286. In-Band Emissions Plot MIMO ANT1 (40MHz BW 802.11ax (26 Tones) (UNII Band 7) – Ch. 179)

FCC ID: A3LSMG998B	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2009230154-27-R1.A3L	Test Dates: 9/28/2020-12/14/2020	EUT Type: Portable Handset		Page 182 of 276

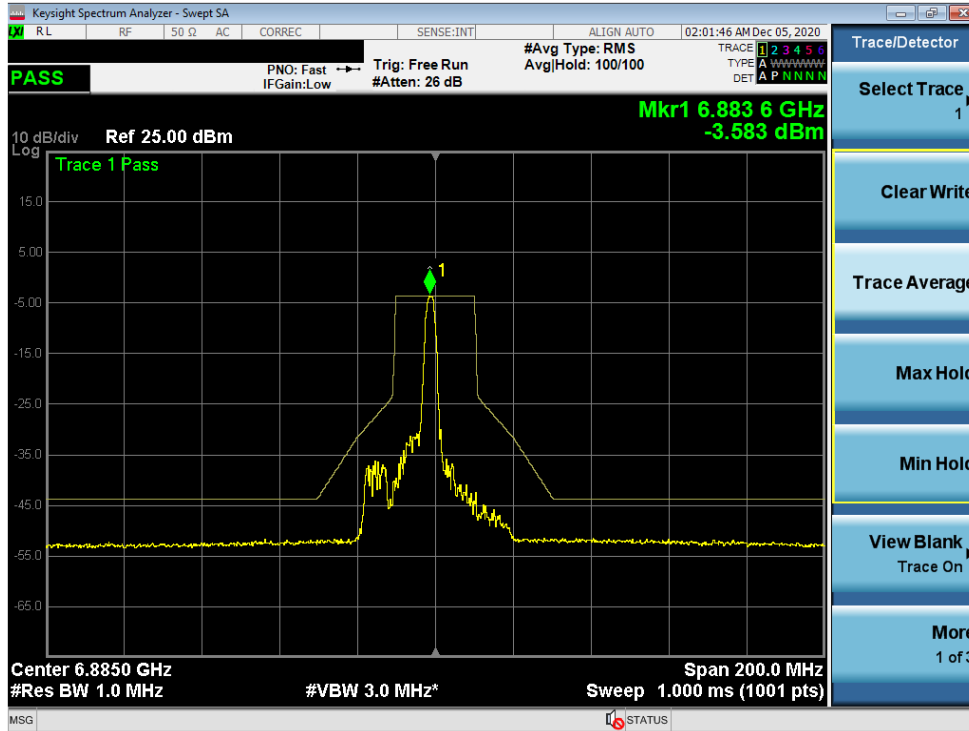


Plot 7-291. In-Band Emissions Plot MIMO ANT1 (20MHz BW 802.11ax (26 Tones) (UNII Band 8) – Ch. 209)

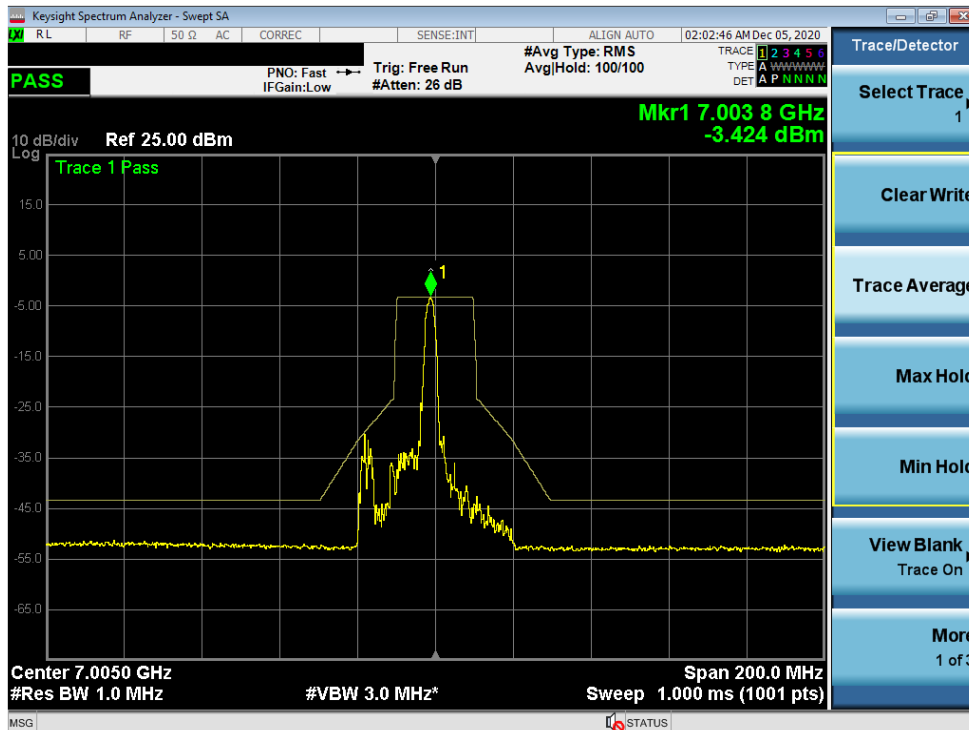


Plot 7-292. In-Band Emissions Plot MIMO ANT1 (20MHz BW 802.11ax (26 Tones) (UNII Band 8) – Ch. 233)

FCC ID: A3LSMG998B	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2009230154-27-R1.A3L	Test Dates: 9/28/2020-12/14/2020	EUT Type: Portable Handset		Page 185 of 276

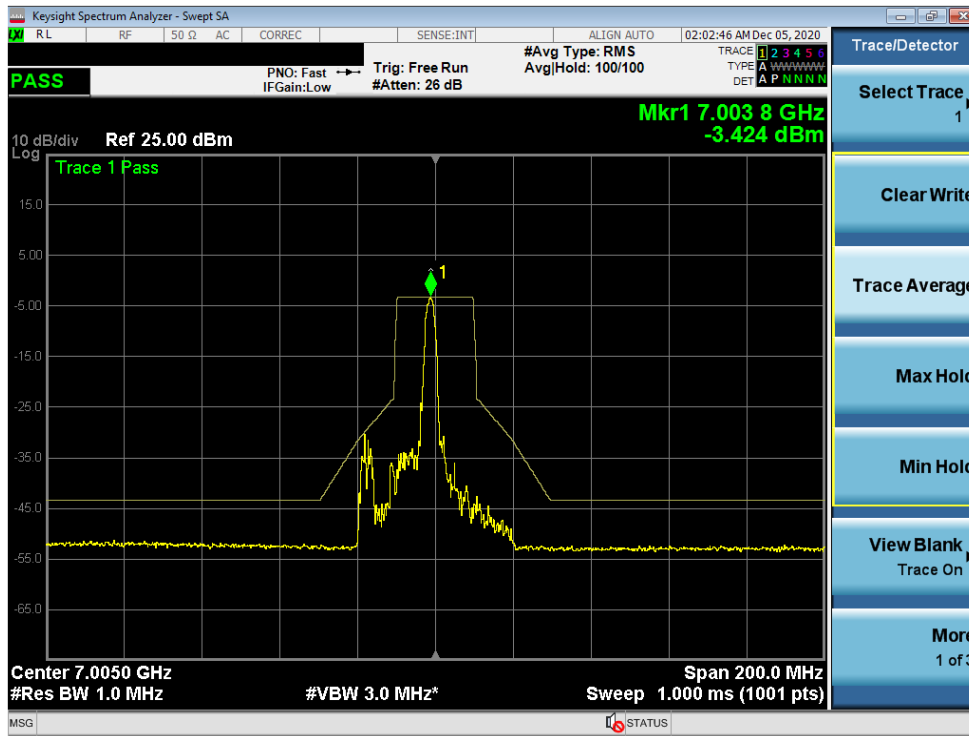


Plot 7-293. In-Band Emissions Plot MIMO ANT1 (40MHz BW 802.11ax (26 Tones) (UNII Band 8) – Ch. 187)

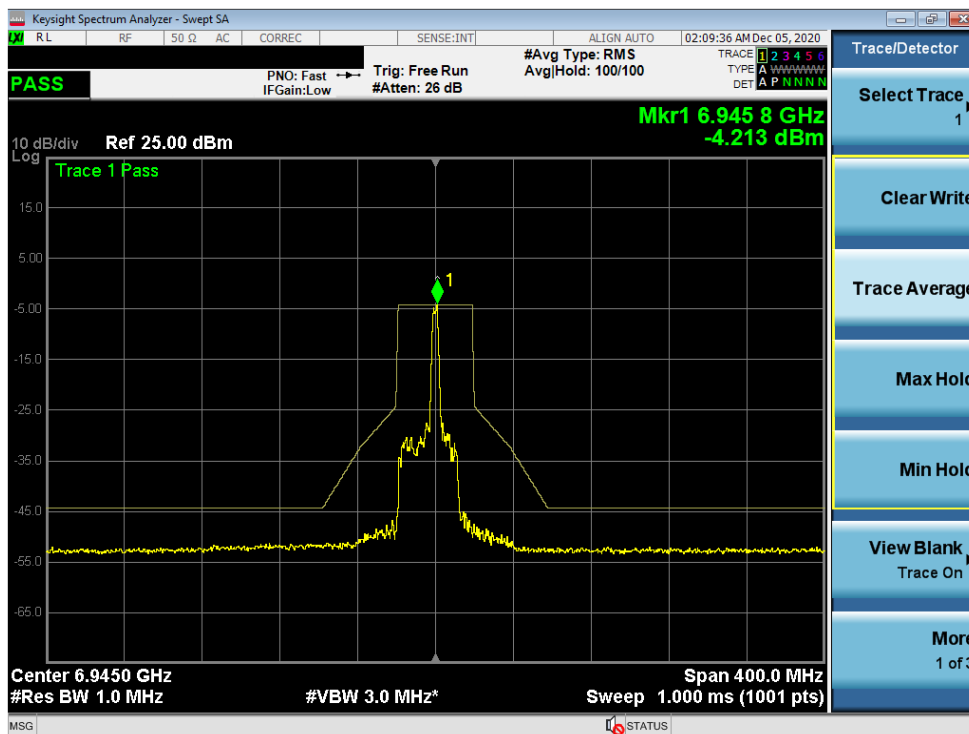


Plot 7-294. In-Band Emissions Plot MIMO ANT1 (40MHz BW 802.11ax (26 Tones) (UNII Band 8) – Ch. 211)

FCC ID: A3LSMG998B	 PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2009230154-27-R1.A3L	Test Dates: 9/28/2020-12/14/2020	EUT Type: Portable Handset		Page 186 of 276

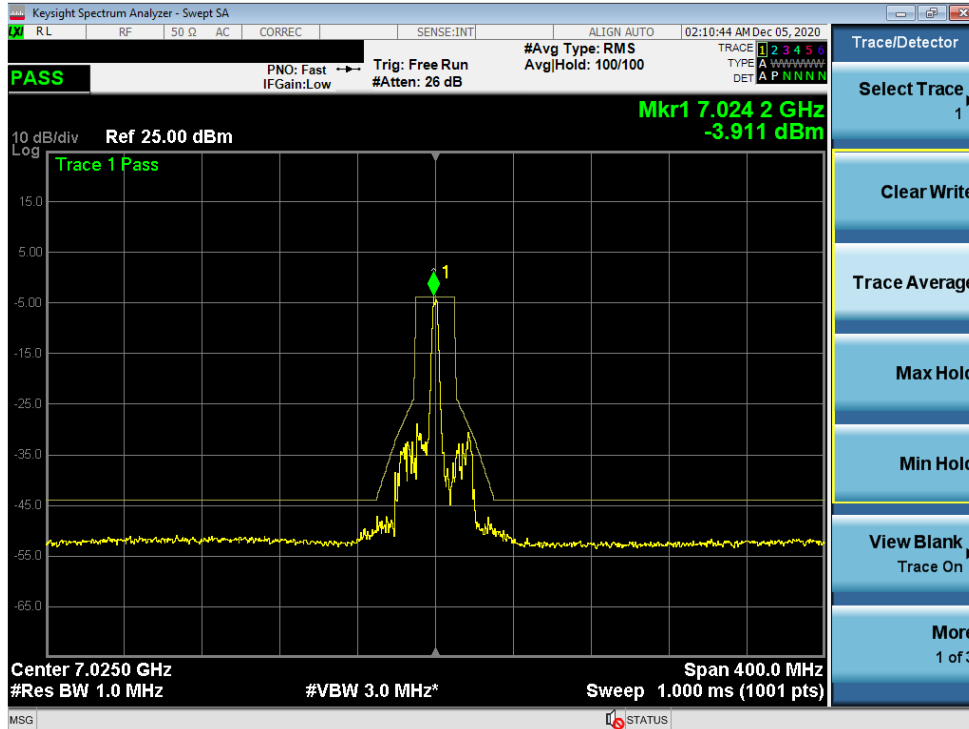


Plot 7-295. In-Band Emissions Plot MIMO ANT1 (40MHz BW 802.11ax (26 Tones) (UNII Band 8) – Ch. 227)



Plot 7-296. In-Band Emissions Plot MIMO ANT1 (80MHz BW 802.11ax (26 Tones) (UNII Band 8) – Ch. 199)

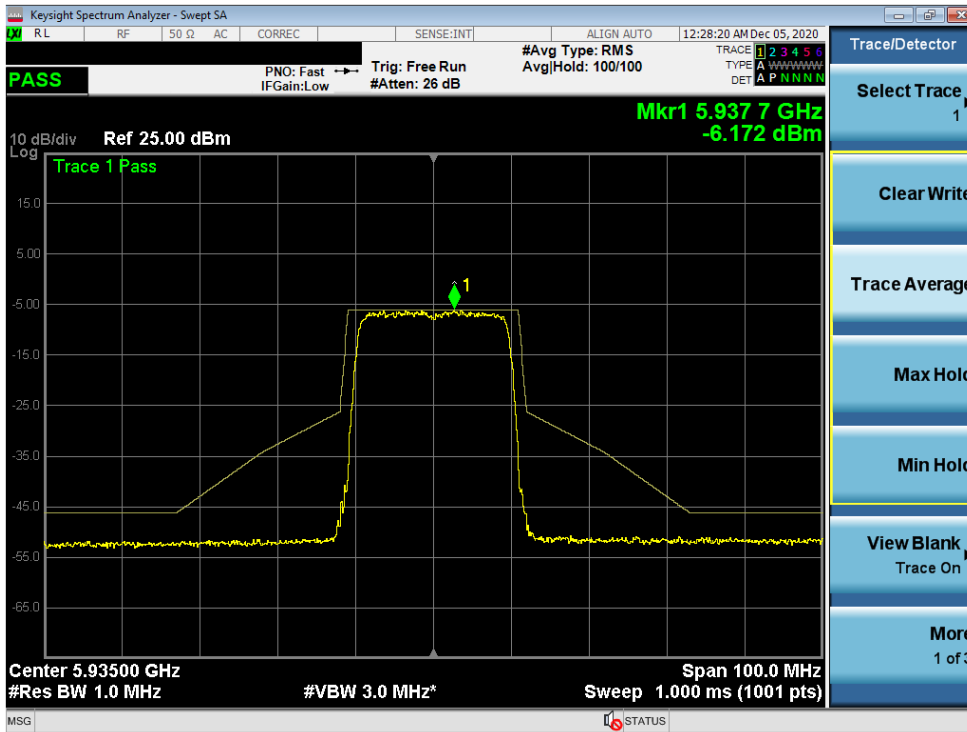
FCC ID: A3LSMG998B	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2009230154-27-R1.A3L	Test Dates: 9/28/2020-12/14/2020	EUT Type: Portable Handset		Page 187 of 276



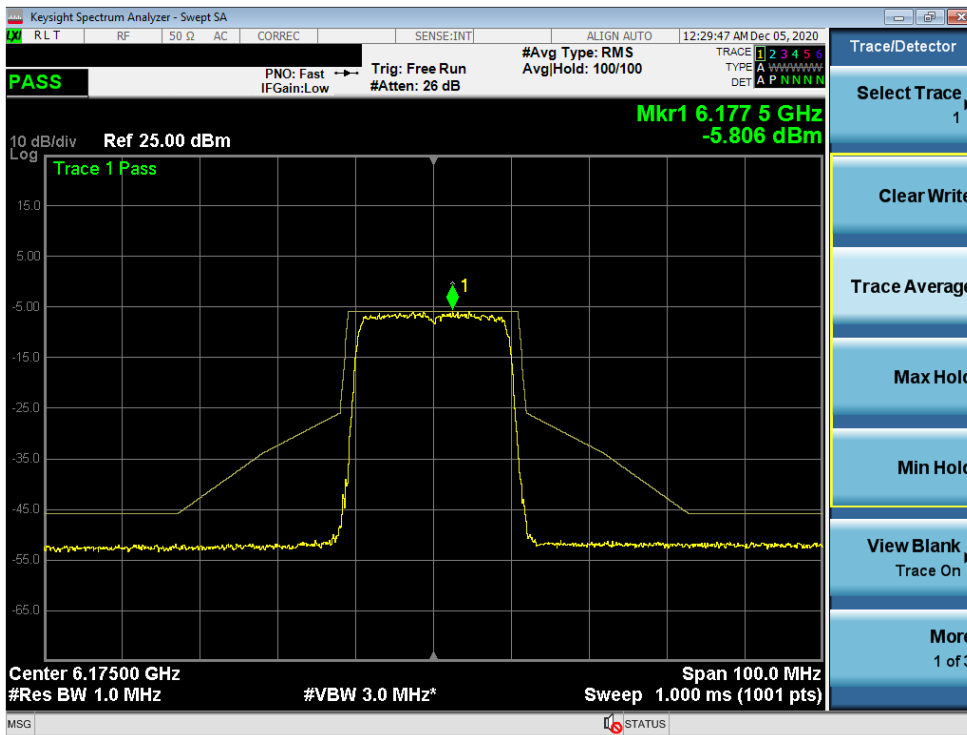
Plot 7-297. In-Band Emissions Plot MIMO ANT1 (80MHz BW 802.11ax (26 Tones) (UNII Band 8) – Ch. 215)

FCC ID: A3LSMG998B	 Proud to be part of 	MEASUREMENT REPORT (CERTIFICATION)	 Approved by: Technical Manager
Test Report S/N: 1M2009230154-27-R1.A3L	Test Dates: 9/28/2020-12/14/2020	EUT Type: Portable Handset	Page 188 of 276

MIMO Antenna-1 In-Band Emissions Measurements (Full Tones)

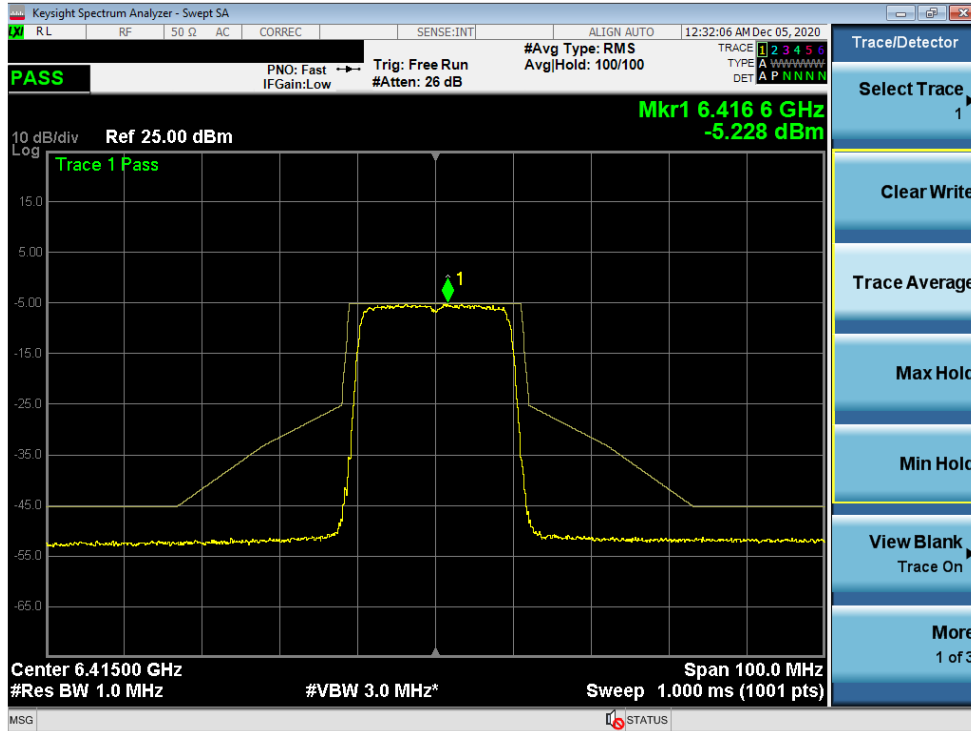


Plot 7-298. In-Band Emissions Plot MIMO ANT1 (20MHz BW 802.11ax (Full Tones) UNII Band 5) – Ch. 2)

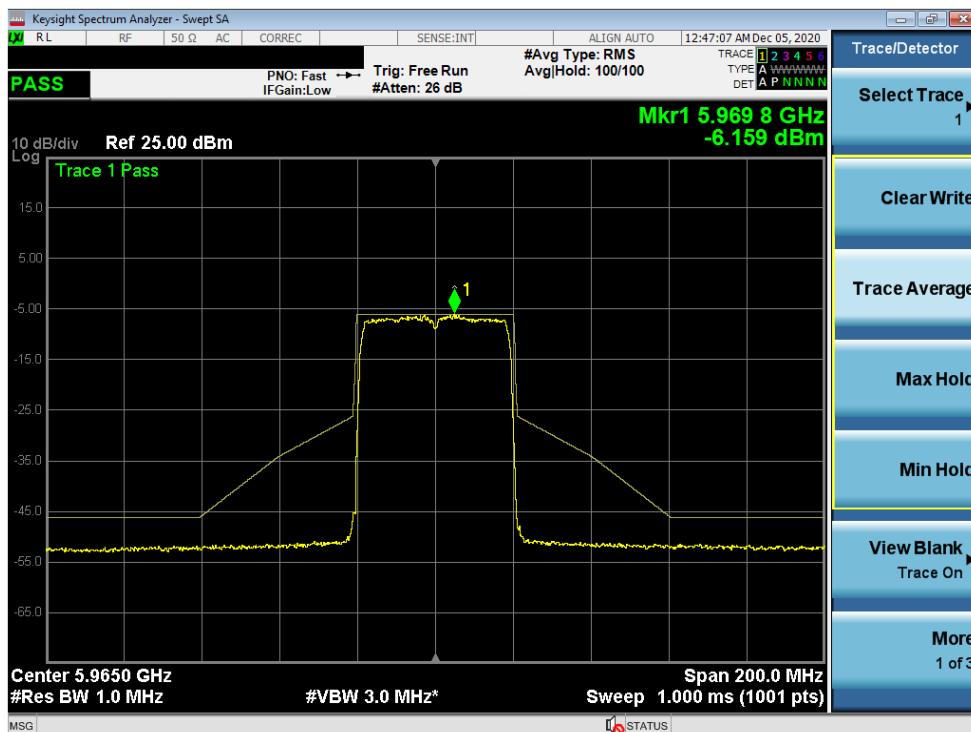


Plot 7-299. In-Band Emissions Plot MIMO ANT1 (20MHz BW 802.11ax (Full Tones) (UNII Band 5) – Ch. 45)

FCC ID: A3LSMG998B	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2009230154-27-R1.A3L	Test Dates: 9/28/2020-12/14/2020	EUT Type: Portable Handset		Page 189 of 276

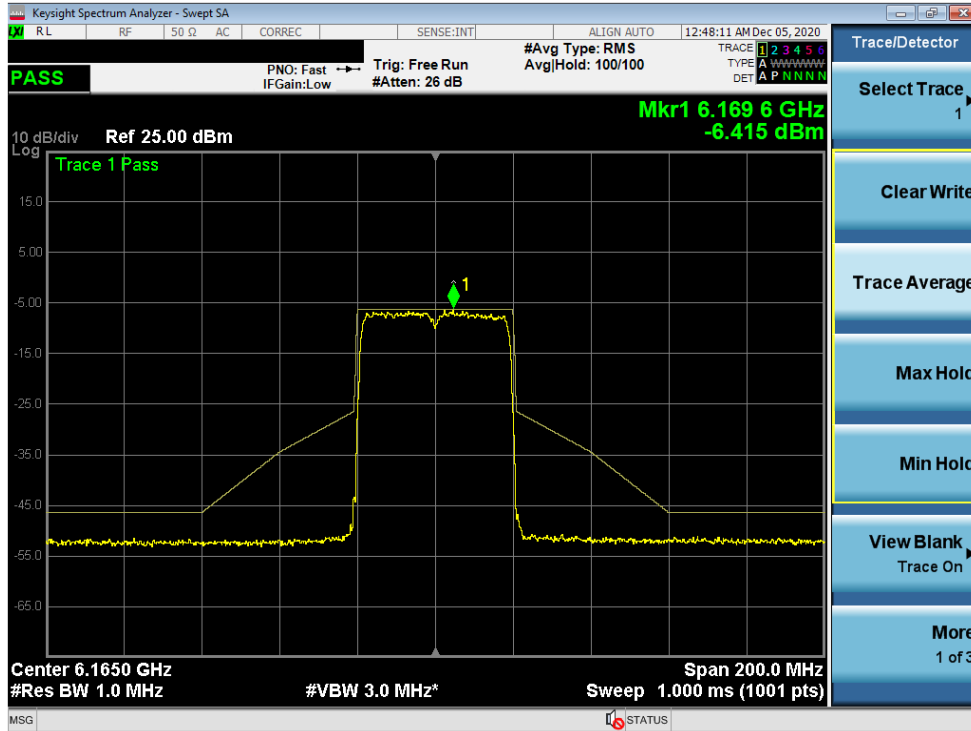


Plot 7-300. In-Band Emissions Plot MIMO ANT1 (20MHz BW 802.11ax (Full Tones) UNII Band 5) – Ch. 93)

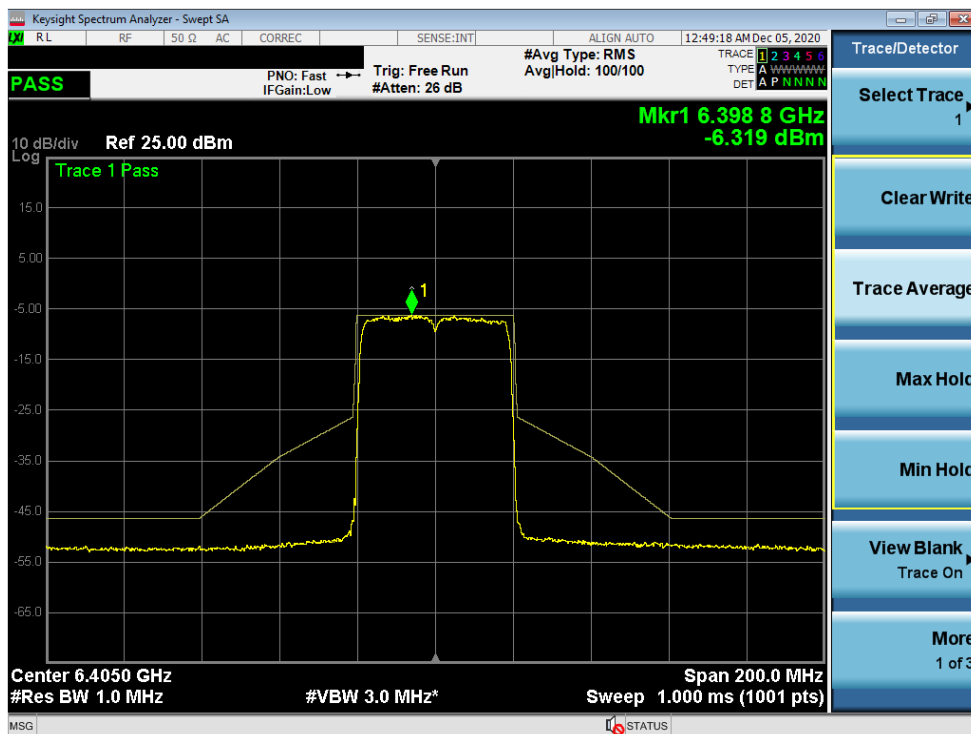


Plot 7-301. In-Band Emissions Plot MIMO ANT1 (40MHz BW 802.11ax (Full Tones) (UNII Band 5) – Ch. 3)

FCC ID: A3LSMG998B	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2009230154-27-R1.A3L	Test Dates: 9/28/2020-12/14/2020	EUT Type: Portable Handset		Page 190 of 276

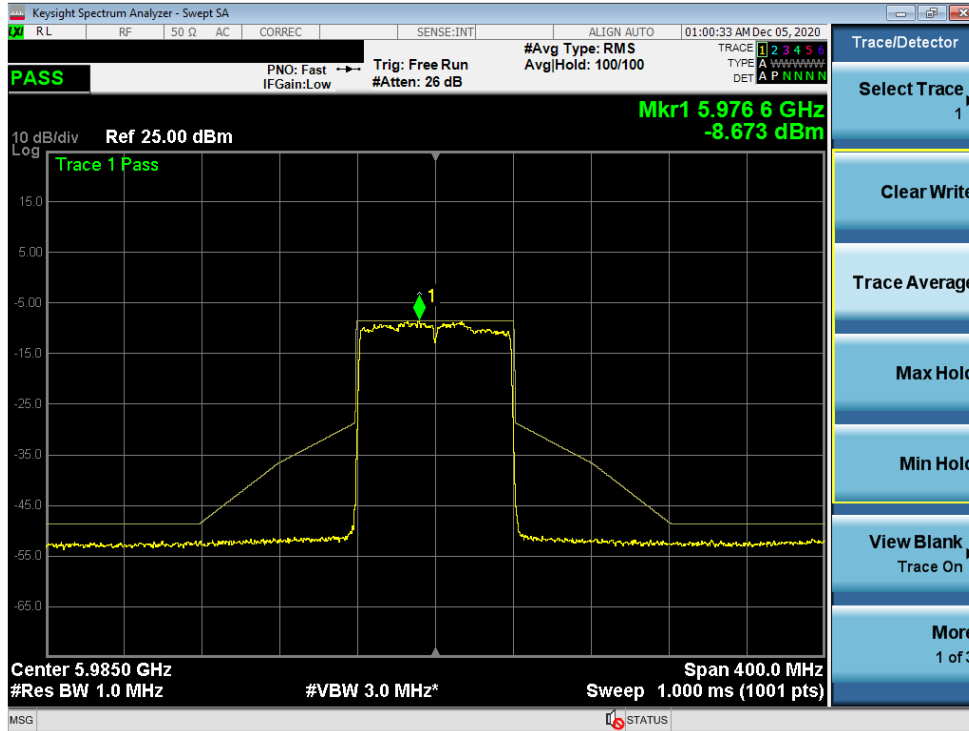


Plot 7-302. In-Band Emissions Plot MIMO ANT1 (40MHz BW 802.11ax (Full Tones) (UNII Band 5) – Ch. 43)

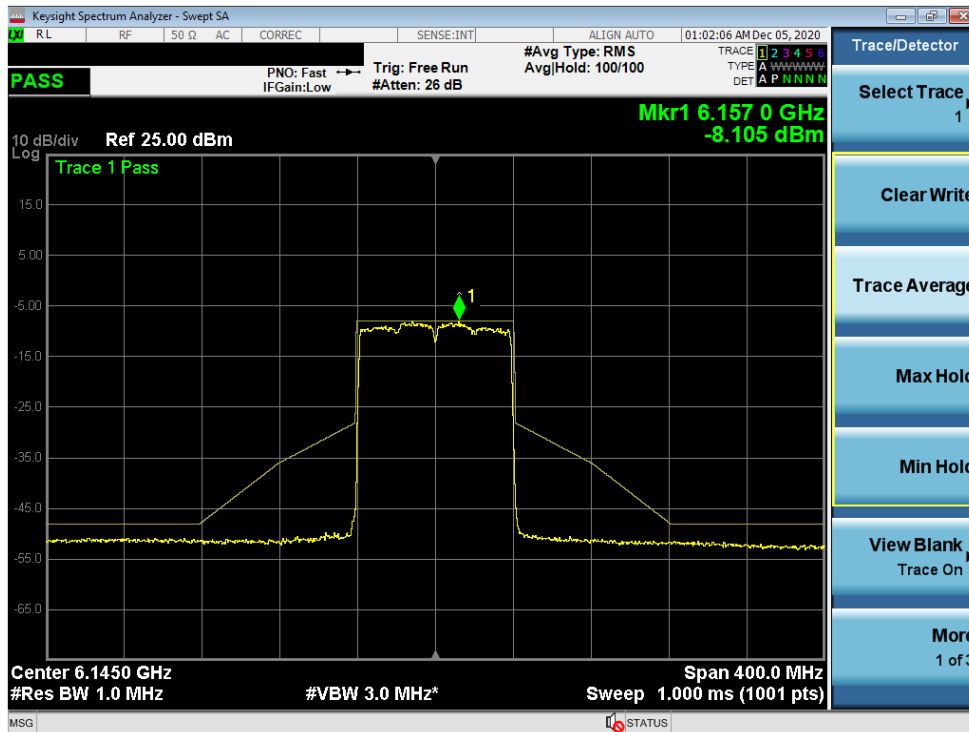


Plot 7-303. In-Band Emissions Plot MIMO ANT1 (40MHz BW 802.11ax (Full Tones) (UNII Band 5) – Ch. 91)

FCC ID: A3LSMG998B	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2009230154-27-R1.A3L	Test Dates: 9/28/2020-12/14/2020	EUT Type: Portable Handset		Page 191 of 276

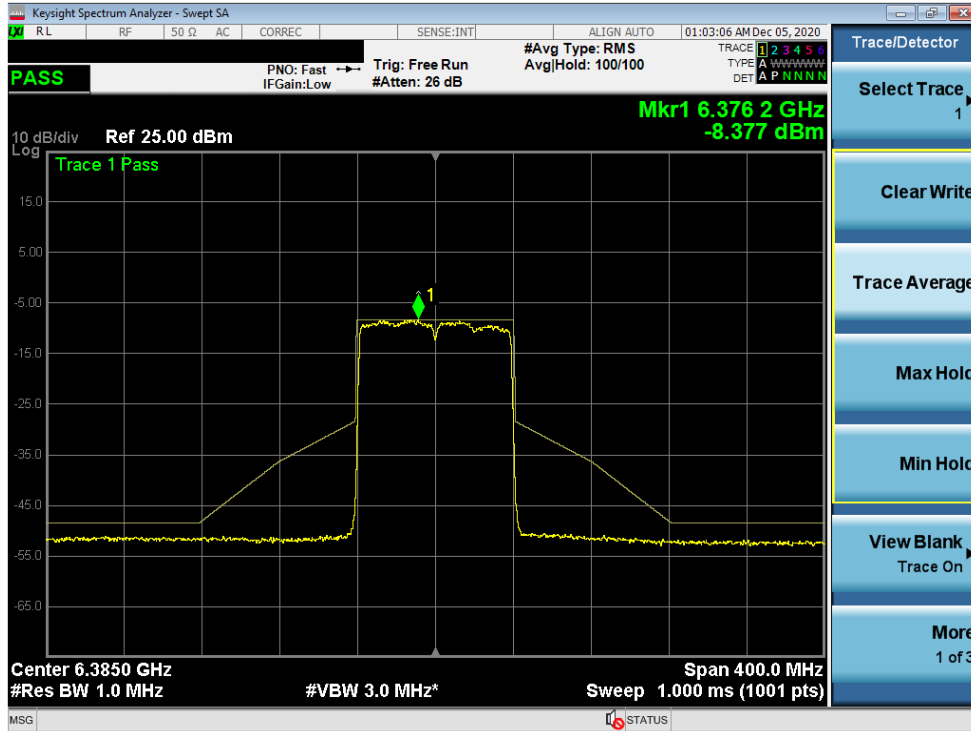


Plot 7-304. In-Band Emissions Plot MIMO ANT1 (80MHz BW 802.11ax (Full Tones) (UNII Band 5) – Ch. 7)

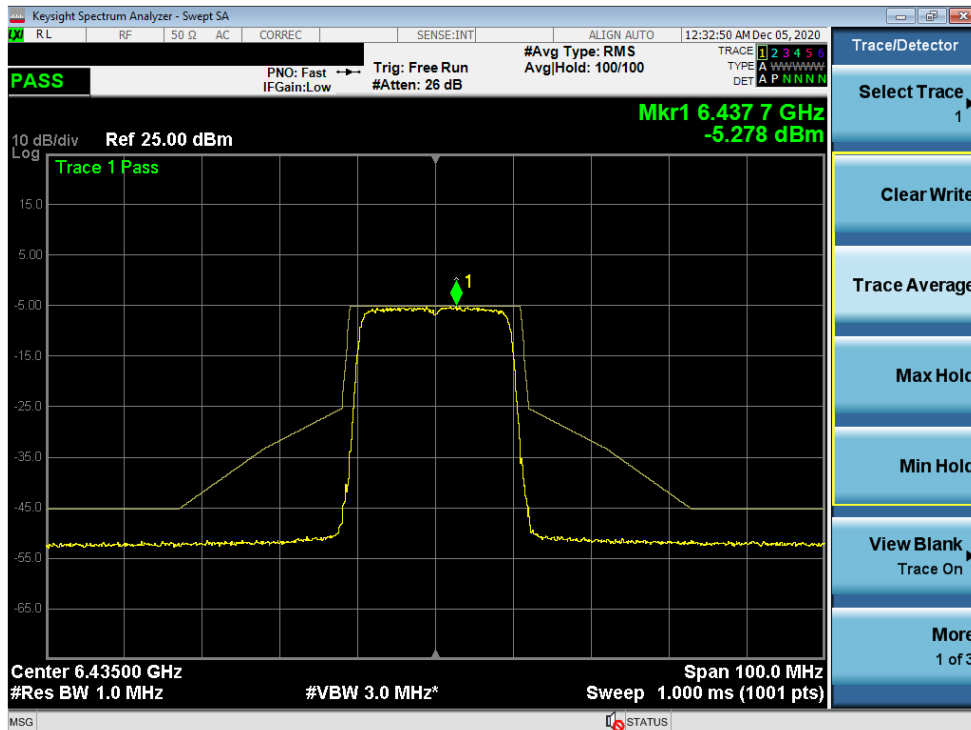


Plot 7-305. In-Band Emissions Plot MIMO ANT1 (80MHz BW 802.11ax (Full Tones) (UNII Band 5) – Ch. 39)

FCC ID: A3LSMG998B	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2009230154-27-R1.A3L	Test Dates: 9/28/2020-12/14/2020	EUT Type: Portable Handset		Page 192 of 276

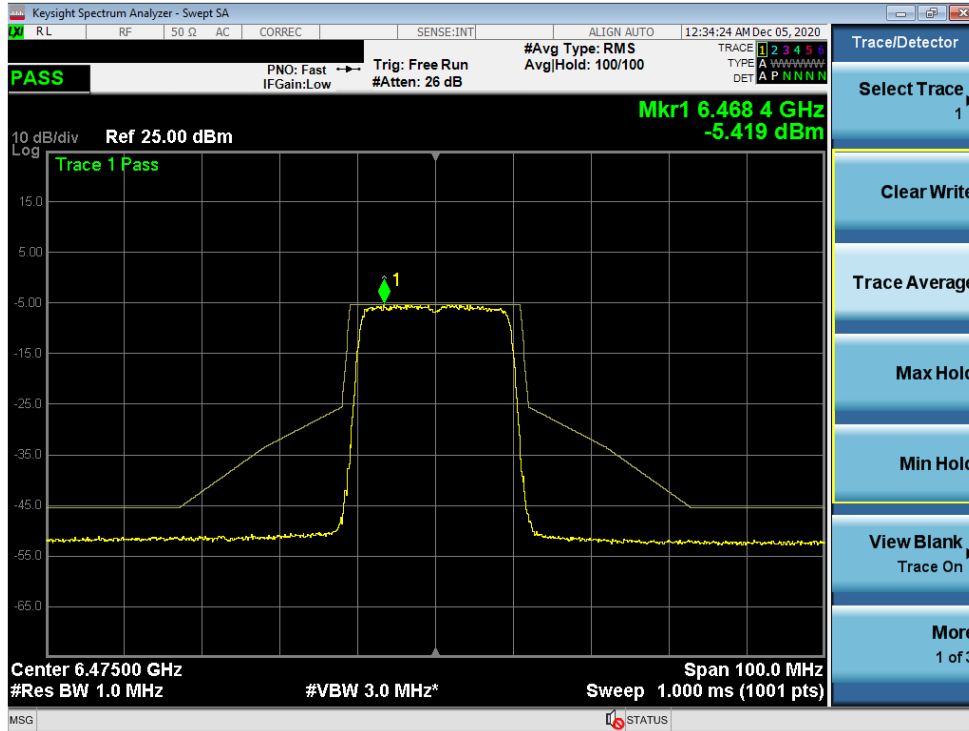


Plot 7-306. In-Band Emissions Plot MIMO ANT1 (80MHz BW 802.11ax (Full Tones) (UNII Band 5) – Ch. 87)

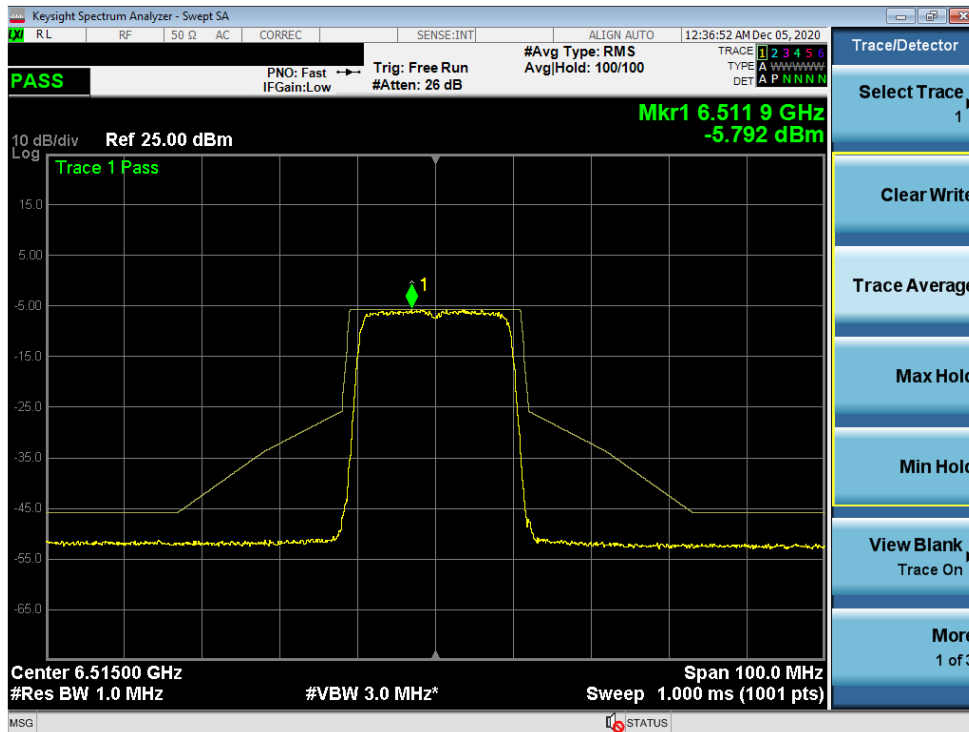


Plot 7-307. In-Band Emissions Plot MIMO ANT1 (20MHz BW 802.11ax (Full Tones) (UNII Band 6) – Ch. 97)

FCC ID: A3LSMG998B	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2009230154-27-R1.A3L	Test Dates: 9/28/2020-12/14/2020	EUT Type: Portable Handset		Page 193 of 276

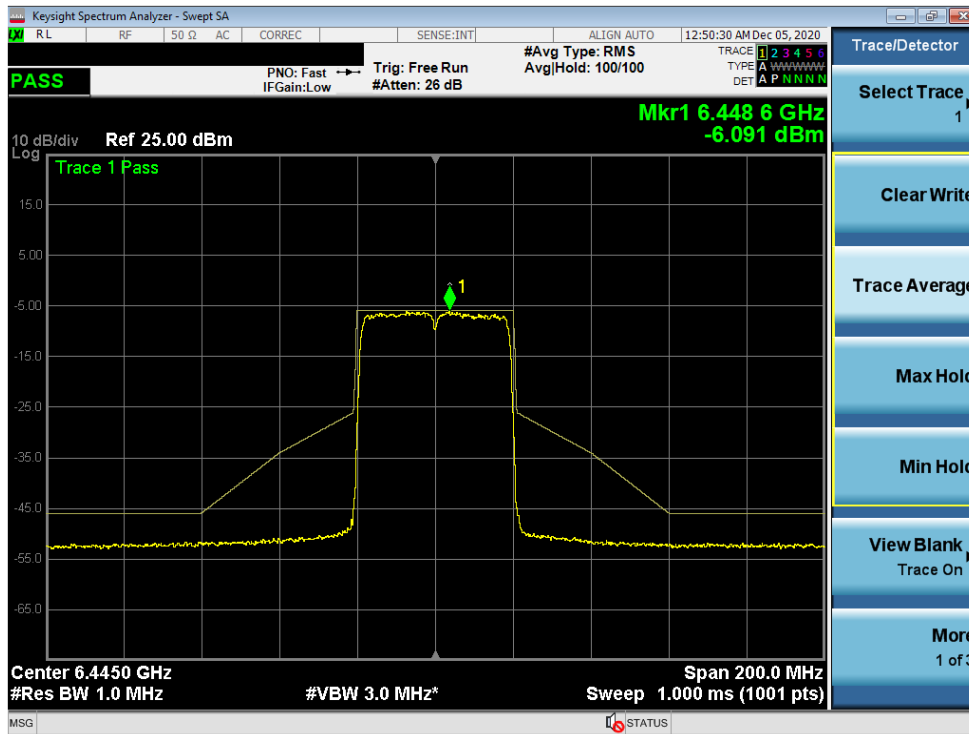


Plot 7-308. In-Band Emissions Plot MIMO ANT1 (20MHz BW 802.11ax (Full Tones) (UNII Band 6) – Ch. 105)

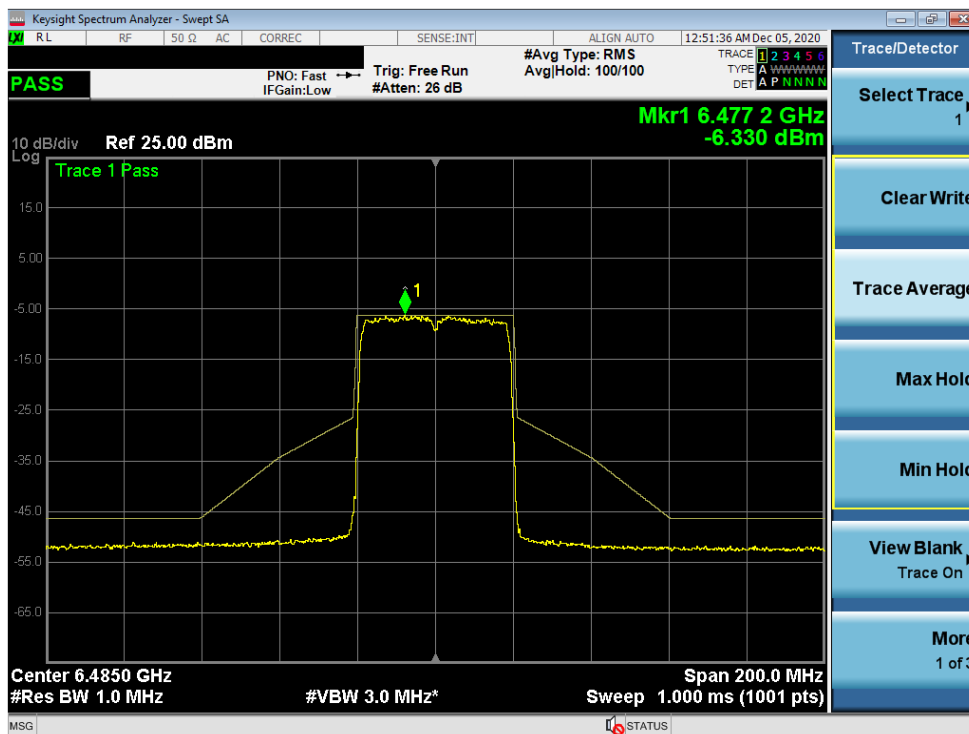


Plot 7-309. In-Band Emissions Plot MIMO ANT1 (20MHz BW 802.11ax (Full Tones) (UNII Band 6) – Ch. 113)

FCC ID: A3LSMG998B	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2009230154-27-R1.A3L	Test Dates: 9/28/2020-12/14/2020	EUT Type: Portable Handset		Page 194 of 276

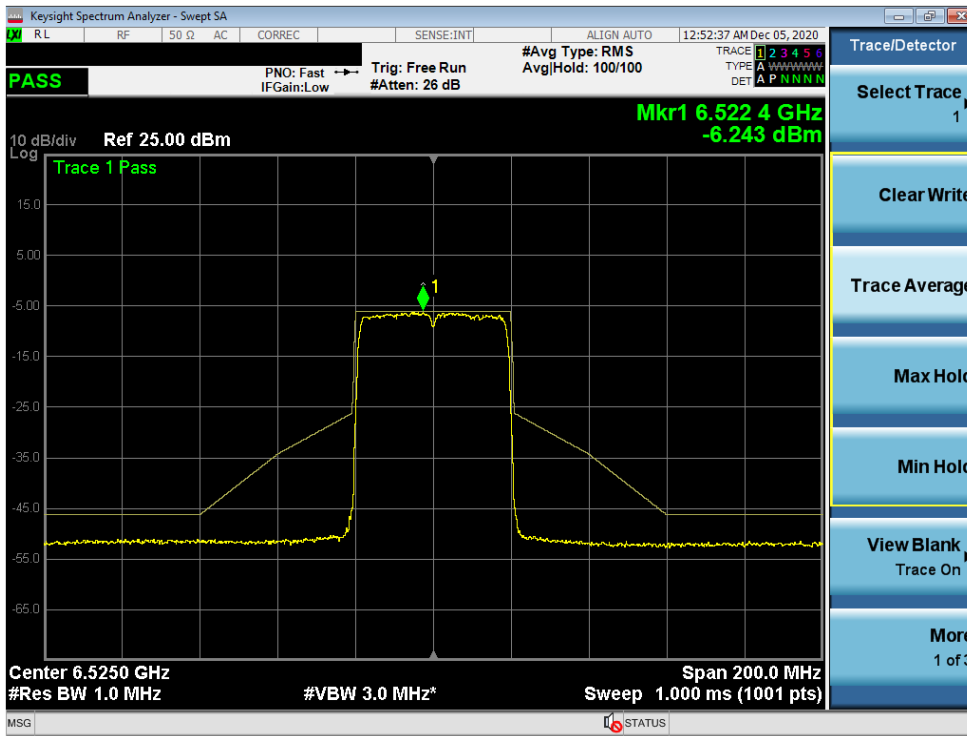


Plot 7-310. In-Band Emissions Plot MIMO ANT1 (40MHz BW 802.11ax (Full Tones) (UNII Band 6) – Ch. 99)

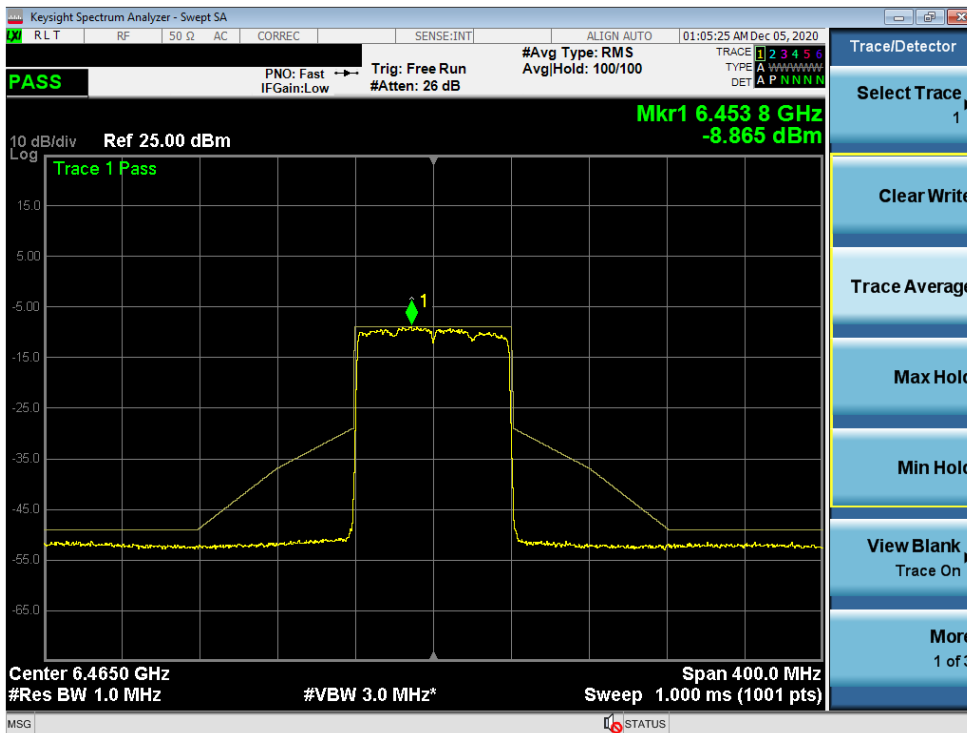


Plot 7-311. In-Band Emissions Plot MIMO ANT1 (40MHz BW 802.11ax (Full Tones) (UNII Band 6) – Ch. 107)

FCC ID: A3LSMG998B	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2009230154-27-R1.A3L	Test Dates: 9/28/2020-12/14/2020	EUT Type: Portable Handset		Page 195 of 276

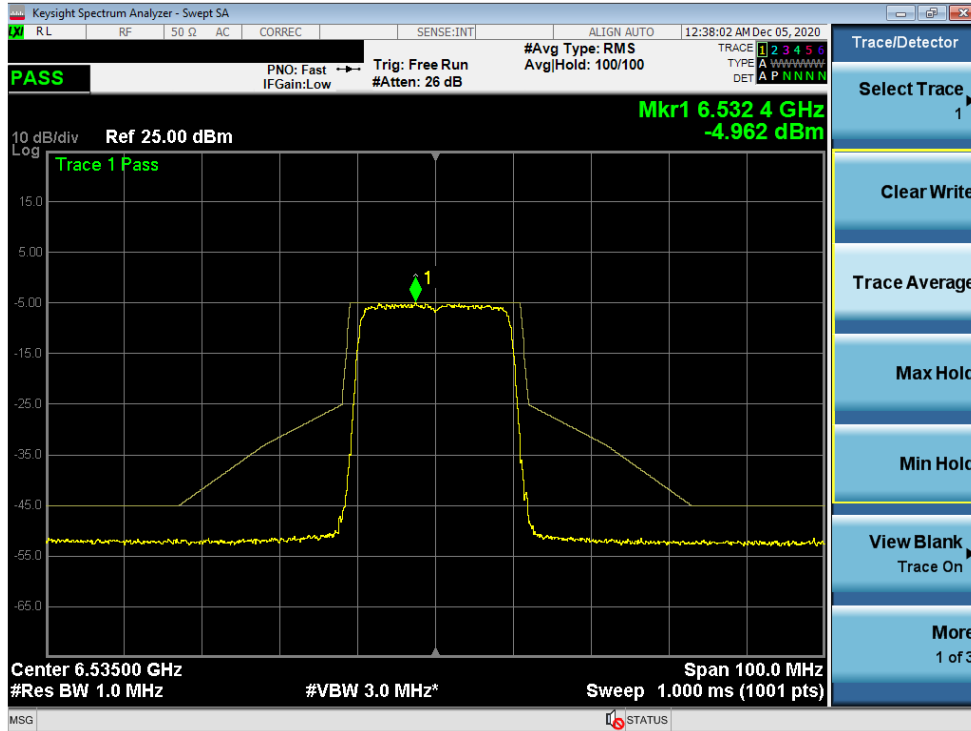


Plot 7-312. In-Band Emissions Plot MIMO ANT1 (40MHz BW 802.11ax (Full Tones) (UNII Band 6) – Ch. 115)

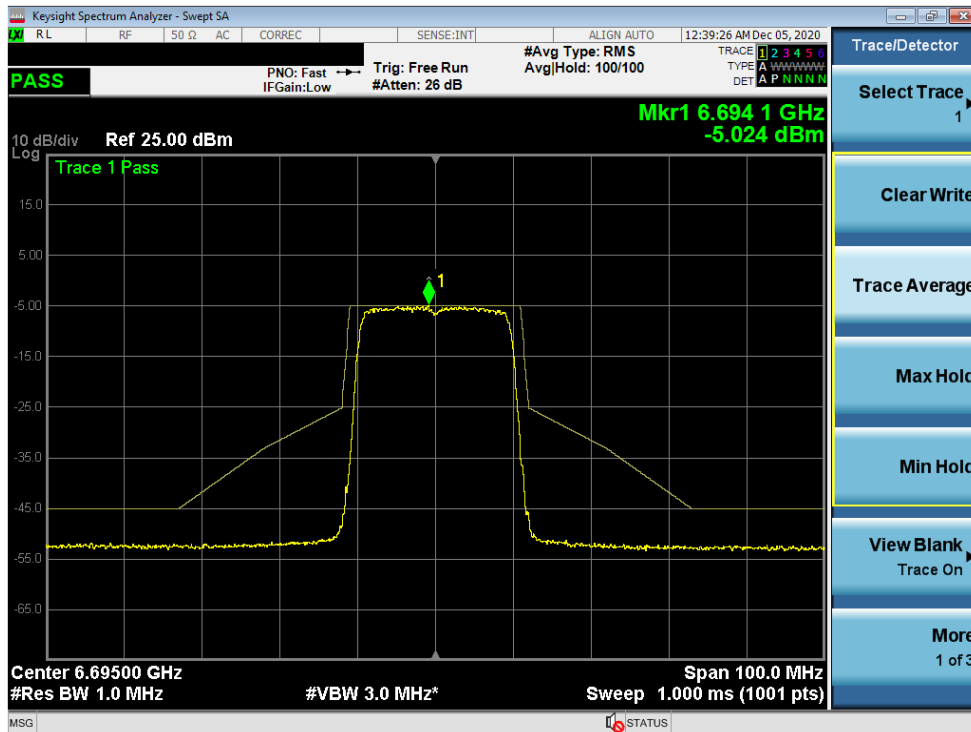


Plot 7-313. In-Band Emissions Plot MIMO ANT1 (80MHz BW 802.11ax (Full Tones) (UNII Band 6) – Ch. 103)

FCC ID: A3LSMG998B		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2009230154-27-R1.A3L	Test Dates: 9/28/2020-12/14/2020	EUT Type: Portable Handset		Page 196 of 276

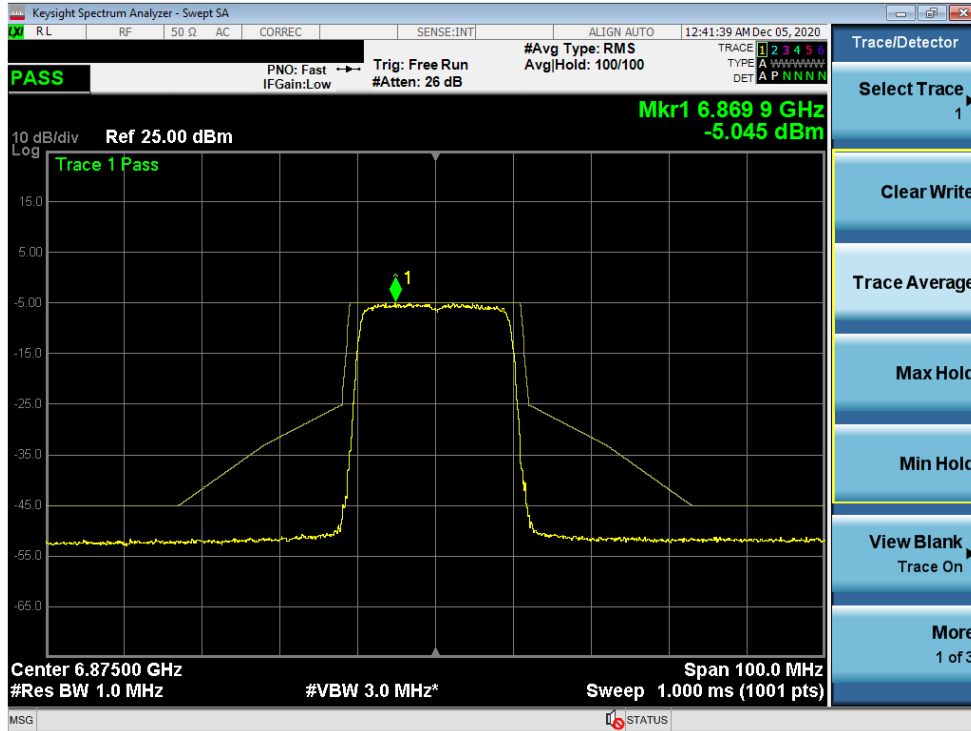


Plot 7-314. In-Band Emissions Plot MIMO ANT1 (20MHz BW 802.11ax (Full Tones) (UNII Band 7) – Ch. 117)

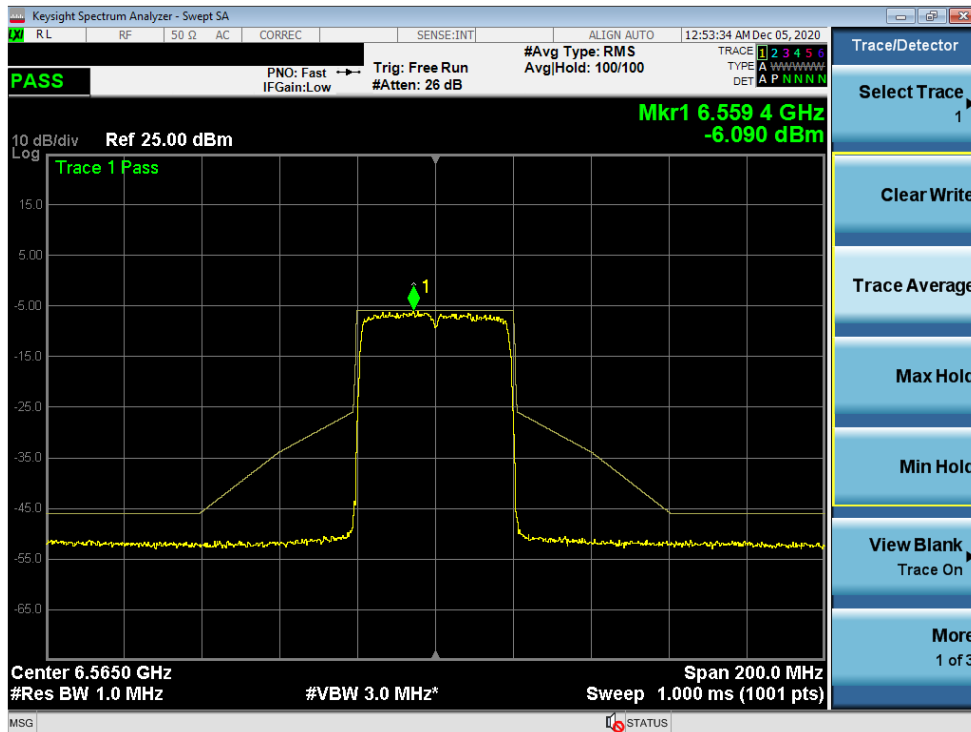


Plot 7-315. In-Band Emissions Plot MIMO ANT1 (20MHz BW 802.11ax (Full Tones) (UNII Band 7) – Ch. 149)

FCC ID: A3LSMG998B	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2009230154-27-R1.A3L	Test Dates: 9/28/2020-12/14/2020	EUT Type: Portable Handset		Page 197 of 276

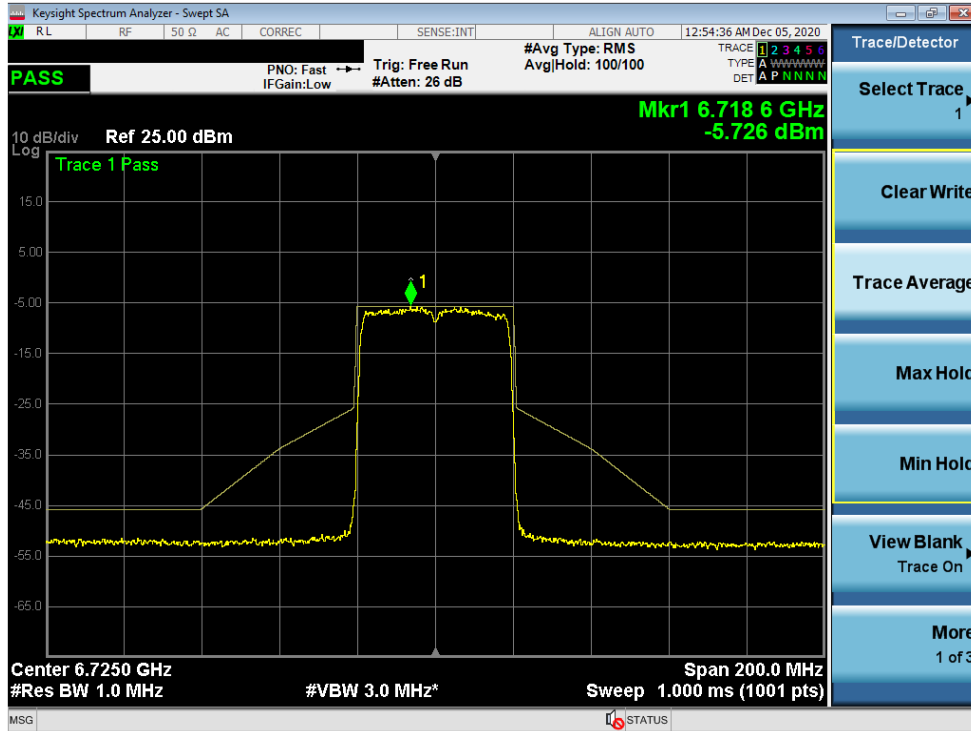


Plot 7-316. In-Band Emissions Plot MIMO ANT1 (20MHz BW 802.11ax (Full Tones) (UNII Band 7) – Ch. 185)

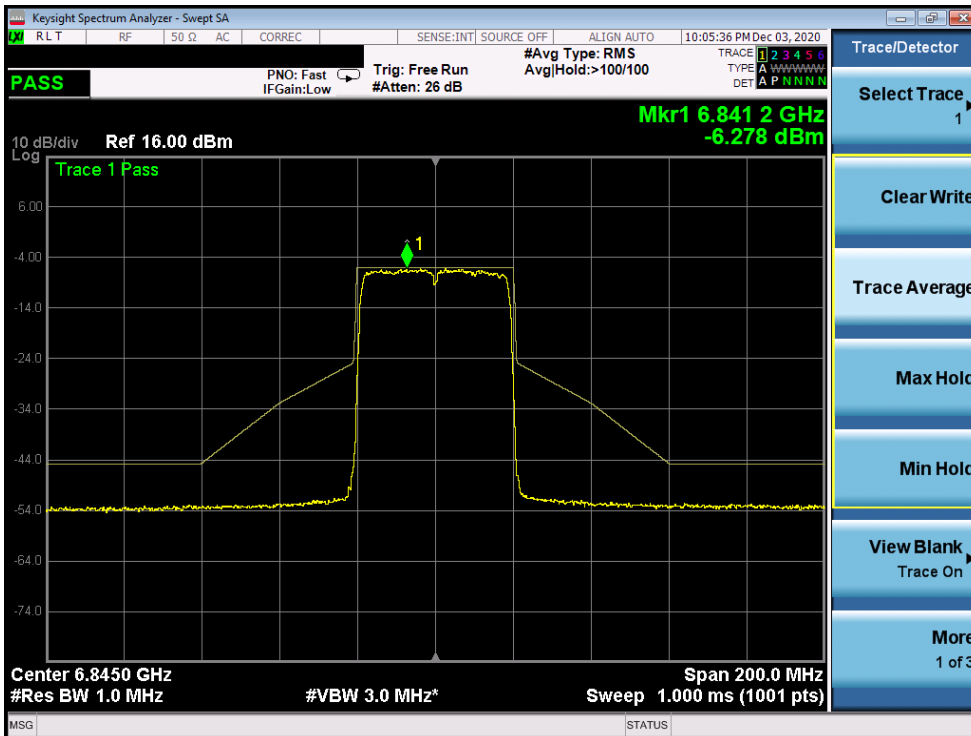


Plot 7-317. In-Band Emissions Plot MIMO ANT1 (40MHz BW 802.11ax (Full Tones) (UNII Band 7) – Ch. 123)

FCC ID: A3LSMG998B	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2009230154-27-R1.A3L	Test Dates: 9/28/2020-12/14/2020	EUT Type: Portable Handset		Page 198 of 276

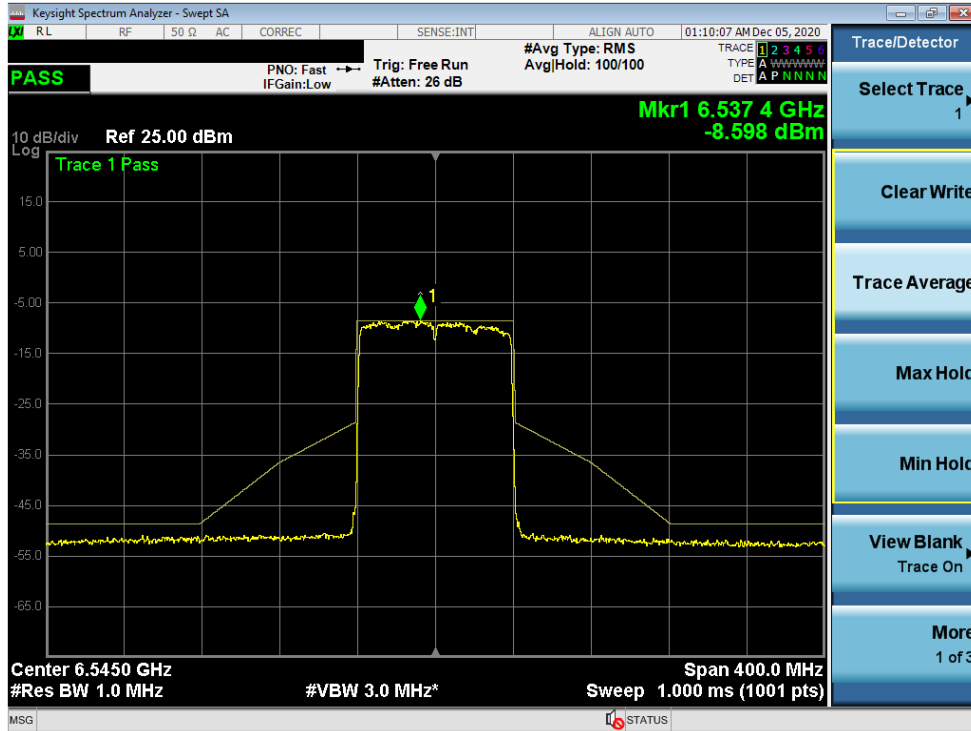


Plot 7-318. In-Band Emissions Plot MIMO ANT1 (40MHz BW 802.11ax (Full Tones) (UNII Band 7) – Ch. 155)

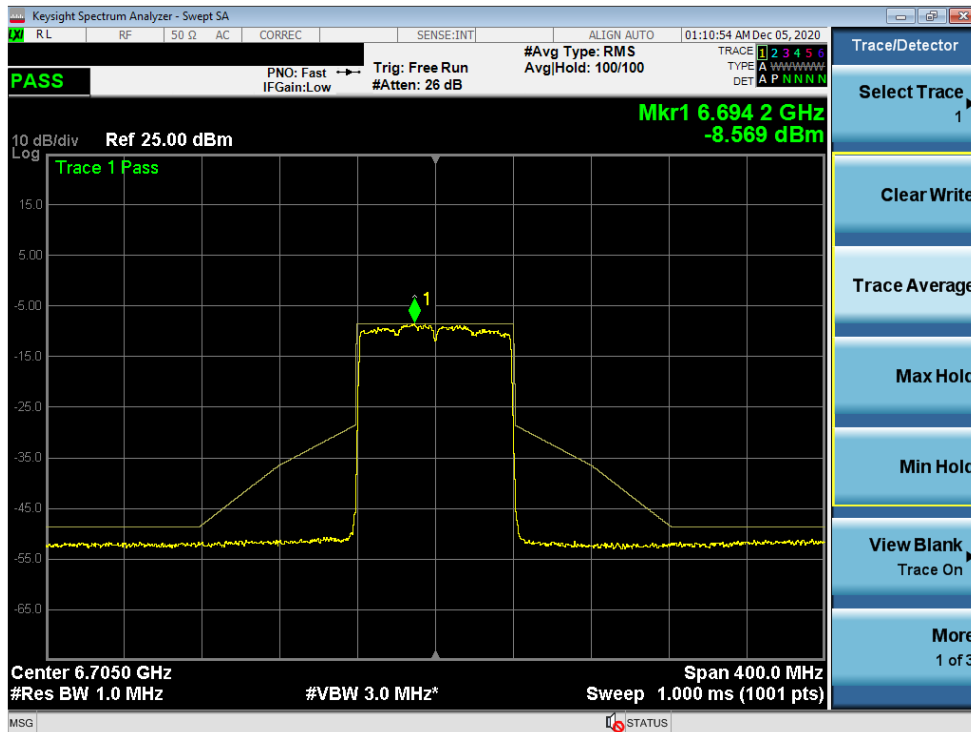


Plot 7-319. In-Band Emissions Plot MIMO ANT1 (40MHz BW 802.11ax (Full Tones) (UNII Band 7) – Ch. 179)

FCC ID: A3LSMG998B	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2009230154-27-R1.A3L	Test Dates: 9/28/2020-12/14/2020	EUT Type: Portable Handset		Page 199 of 276

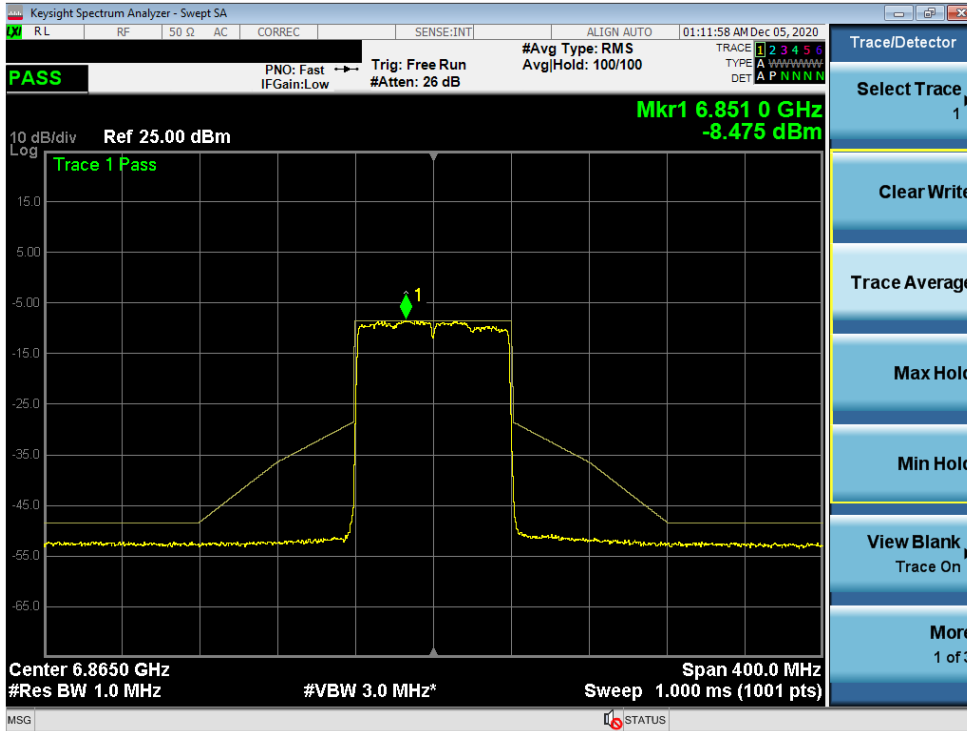


Plot 7-320. In-Band Emissions Plot MIMO ANT1 (80MHz BW 802.11ax (Full Tones) (UNII Band 7) – Ch. 119)

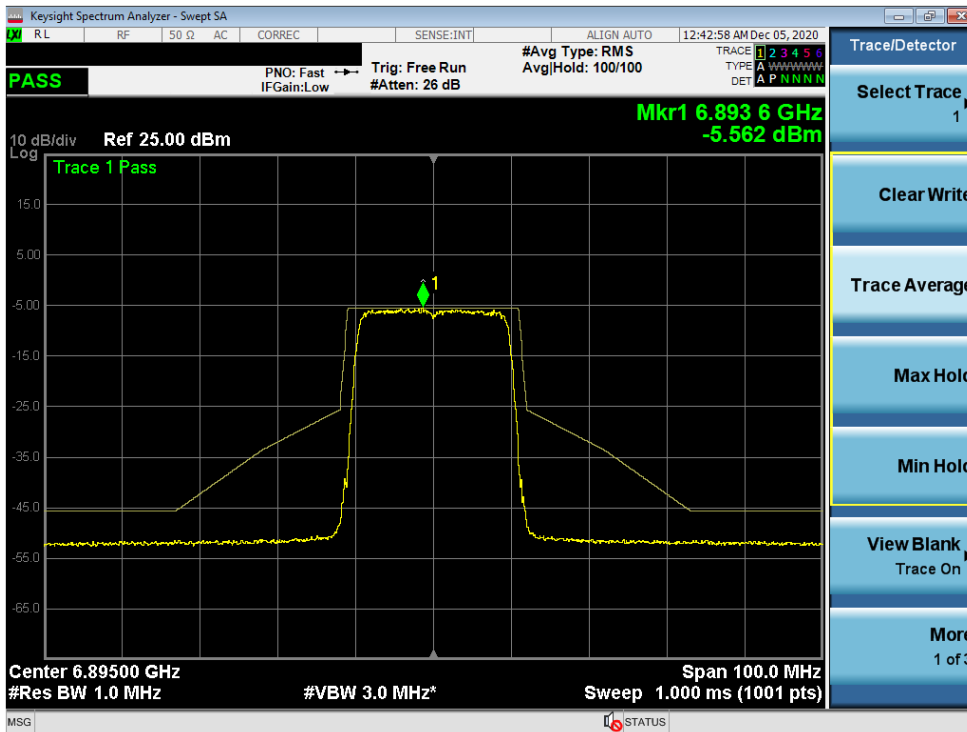


Plot 7-321. In-Band Emissions Plot MIMO ANT1 (80MHz BW 802.11ax (Full Tones) (UNII Band 7) – Ch. 151)

FCC ID: A3LSMG998B		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2009230154-27-R1.A3L	Test Dates: 9/28/2020-12/14/2020	EUT Type: Portable Handset		Page 200 of 276

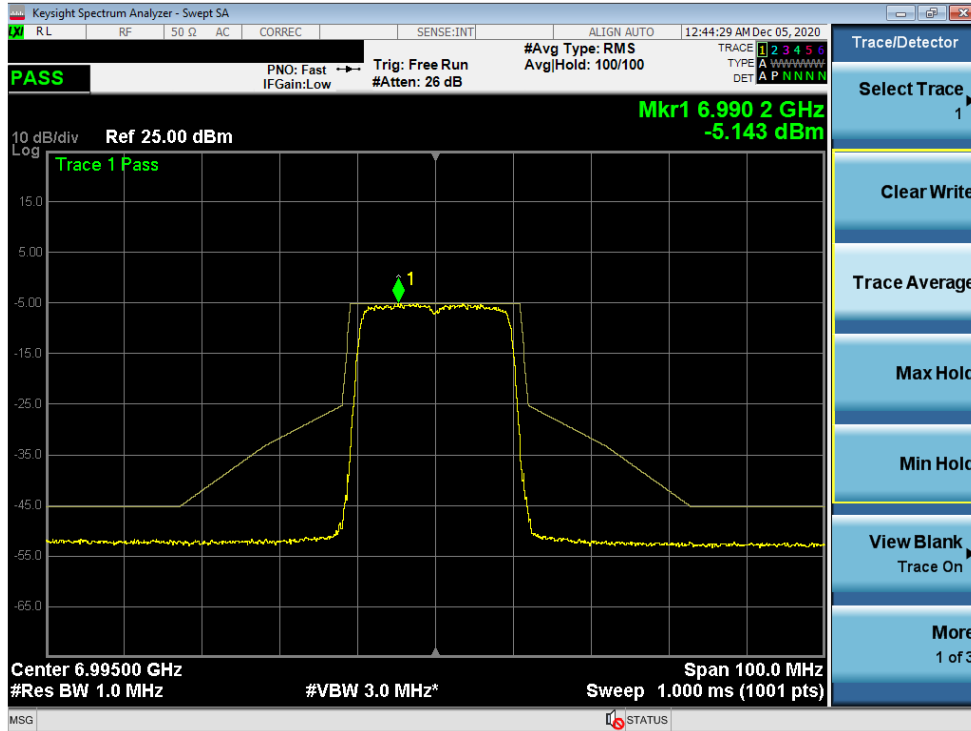


Plot 7-322. In-Band Emissions Plot MIMO ANT1 (80MHz BW 802.11ax (Full Tones) (UNII Band 7) – Ch. 183)

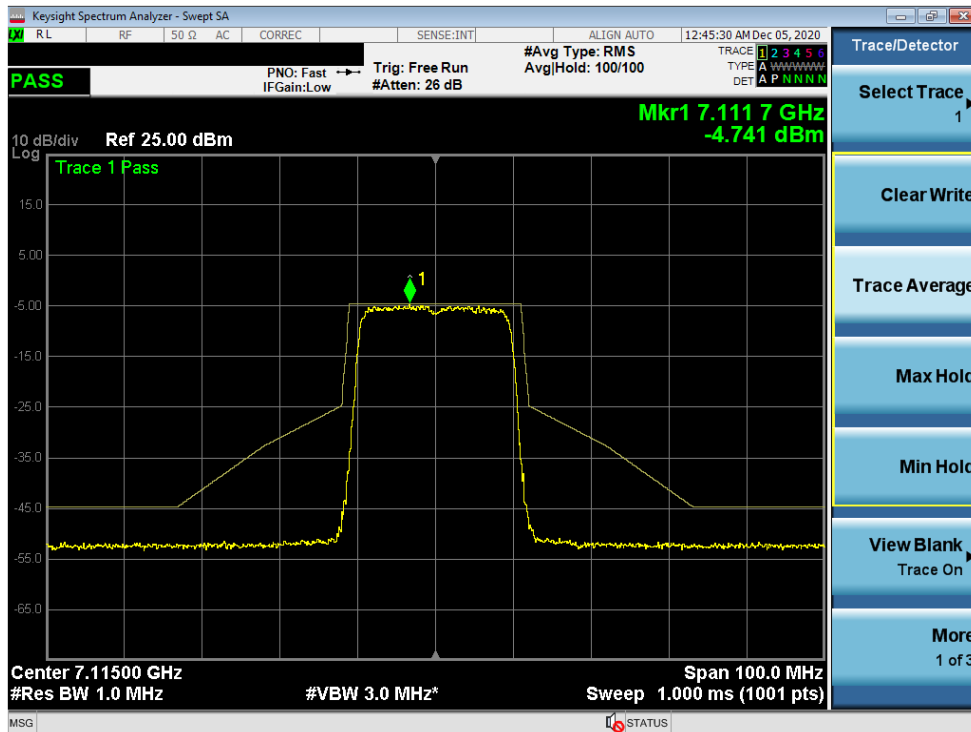


Plot 7-323. In-Band Emissions Plot MIMO ANT1 (20MHz BW 802.11ax (Full Tones) (UNII Band 8) – Ch. 189)

FCC ID: A3LSMG998B	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2009230154-27-R1.A3L	Test Dates: 9/28/2020-12/14/2020	EUT Type: Portable Handset		Page 201 of 276

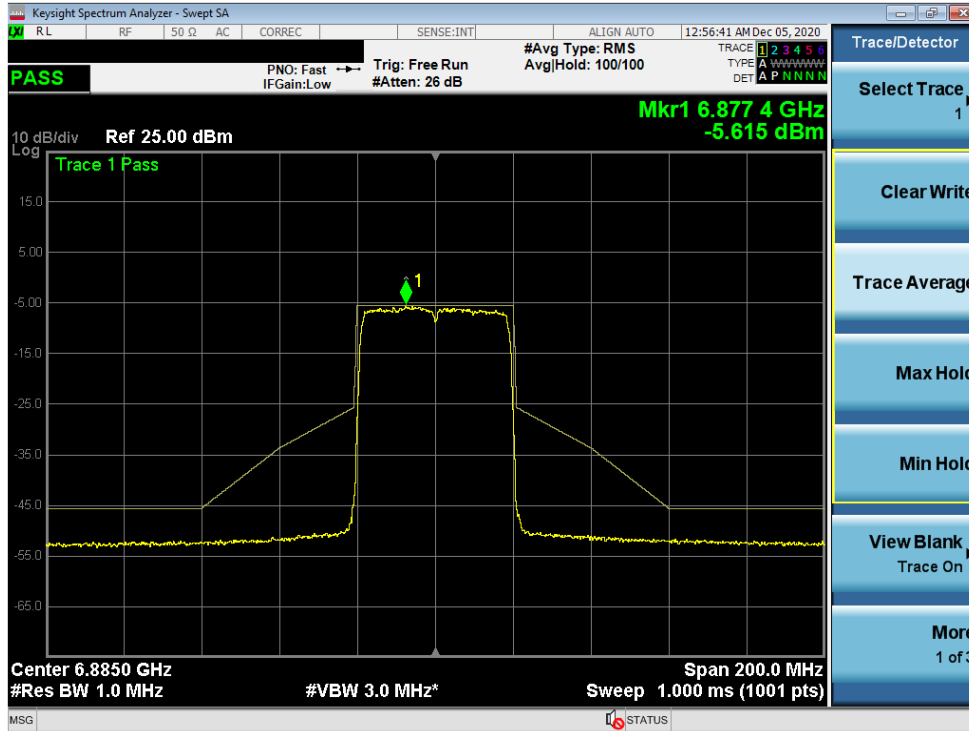


Plot 7-324. In-Band Emissions Plot MIMO ANT1 (20MHz BW 802.11ax (Full Tones) (UNII Band 8) – Ch. 209)

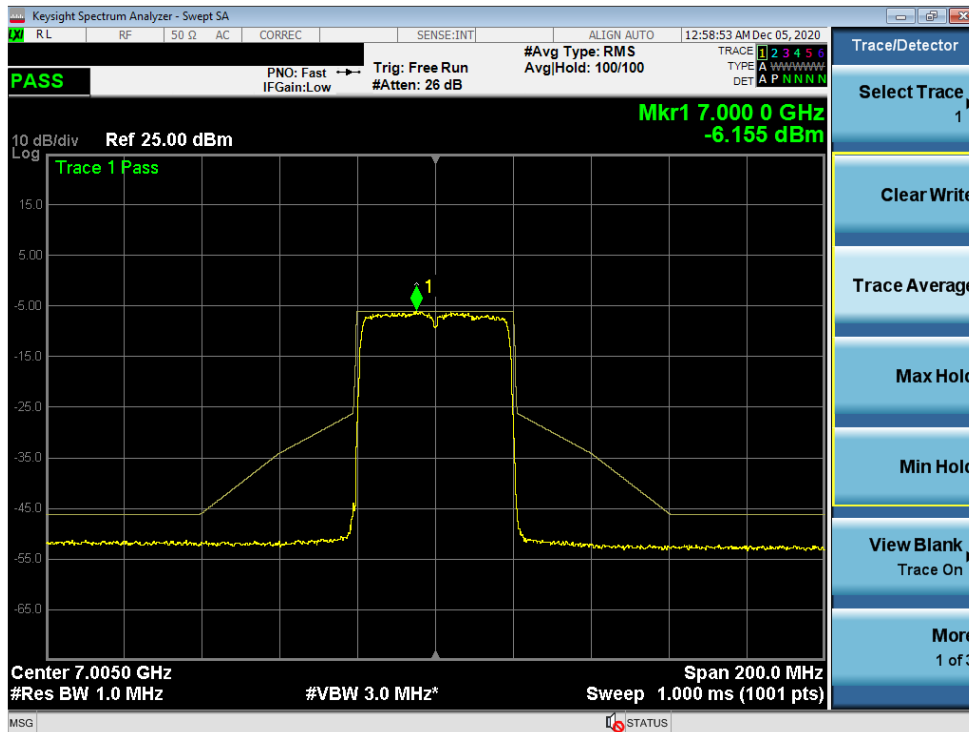


Plot 7-325. In-Band Emissions Plot MIMO ANT1 (20MHz BW 802.11ax (Full Tones) (UNII Band 8) – Ch. 233)

FCC ID: A3LSMG998B	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2009230154-27-R1.A3L	Test Dates: 9/28/2020-12/14/2020	EUT Type: Portable Handset		Page 202 of 276

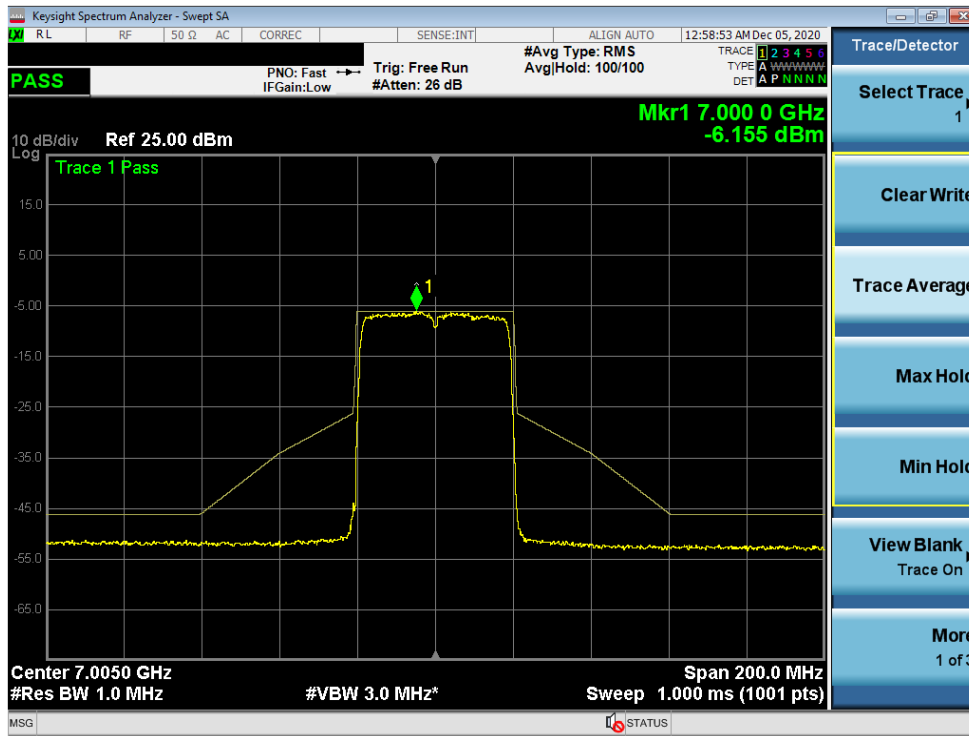


Plot 7-326. In-Band Emissions Plot MIMO ANT1 (40MHz BW 802.11ax (Full Tones) (UNII Band 8) – Ch. 187)

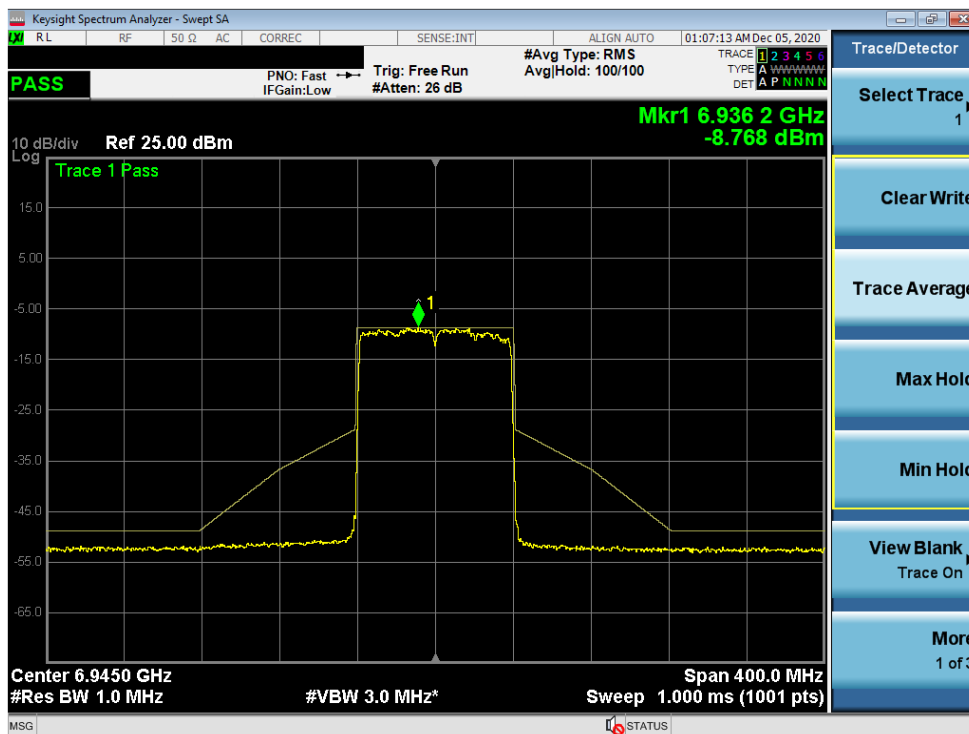


Plot 7-327. In-Band Emissions Plot MIMO ANT1 (40MHz BW 802.11ax (Full Tones) (UNII Band 8) – Ch. 211)

FCC ID: A3LSMG998B	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2009230154-27-R1.A3L	Test Dates: 9/28/2020-12/14/2020	EUT Type: Portable Handset		Page 203 of 276

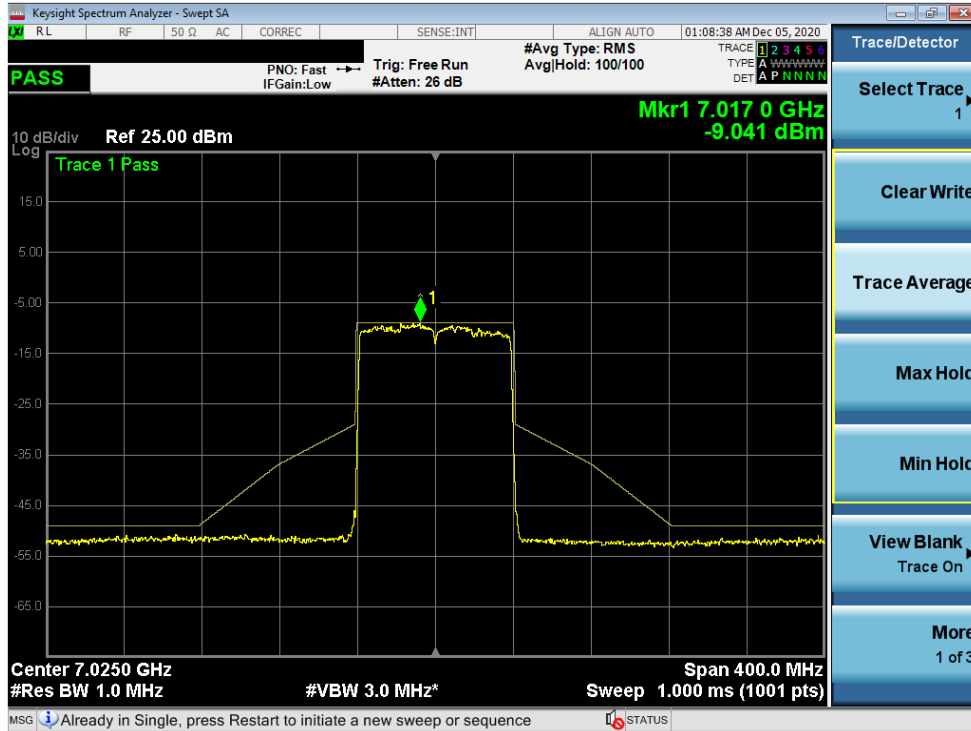


Plot 7-328. In-Band Emissions Plot MIMO ANT1 (40MHz BW 802.11ax (Full Tones) (UNII Band 8) – Ch. 227)



Plot 7-329. In-Band Emissions Plot MIMO ANT1 (80MHz BW 802.11ax (Full Tones) (UNII Band 8) – Ch. 199)

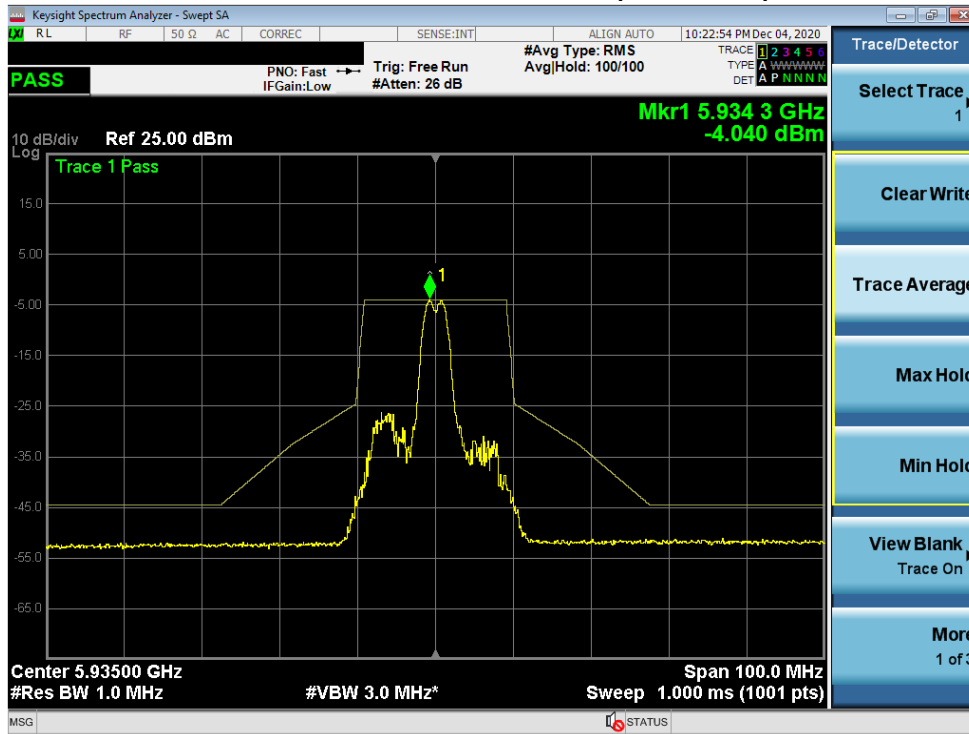
FCC ID: A3LSMG998B	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2009230154-27-R1.A3L	Test Dates: 9/28/2020-12/14/2020	EUT Type: Portable Handset		Page 204 of 276



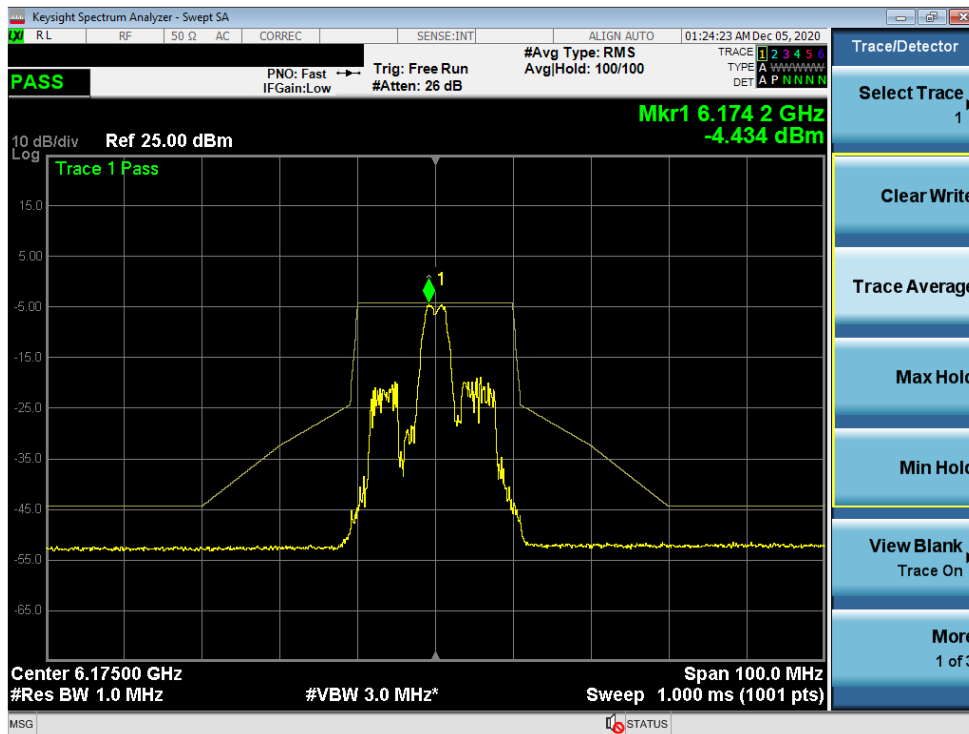
Plot 7-330. In-Band Emissions Plot MIMO ANT1 (80MHz BW 802.11ax (Full Tones) (UNII Band 8) – Ch. 215)

FCC ID: A3LSMG998B		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2009230154-27-R1.A3L	Test Dates: 9/28/2020-12/14/2020	EUT Type: Portable Handset	Page 205 of 276	

MIMO Antenna-2 In-Band Emissions Measurements (26 Tones)

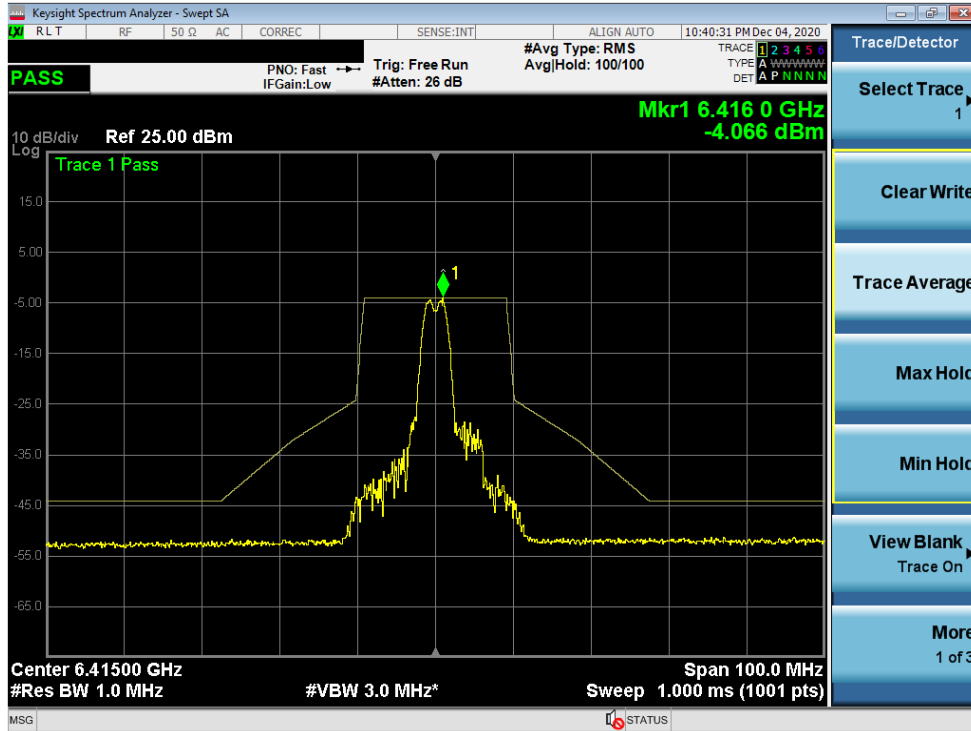


Plot 7-331. In-Band Emissions Plot MIMO ANT2 (20MHz BW 802.11ax (26 Tones) UNII Band 5) – Ch. 2)

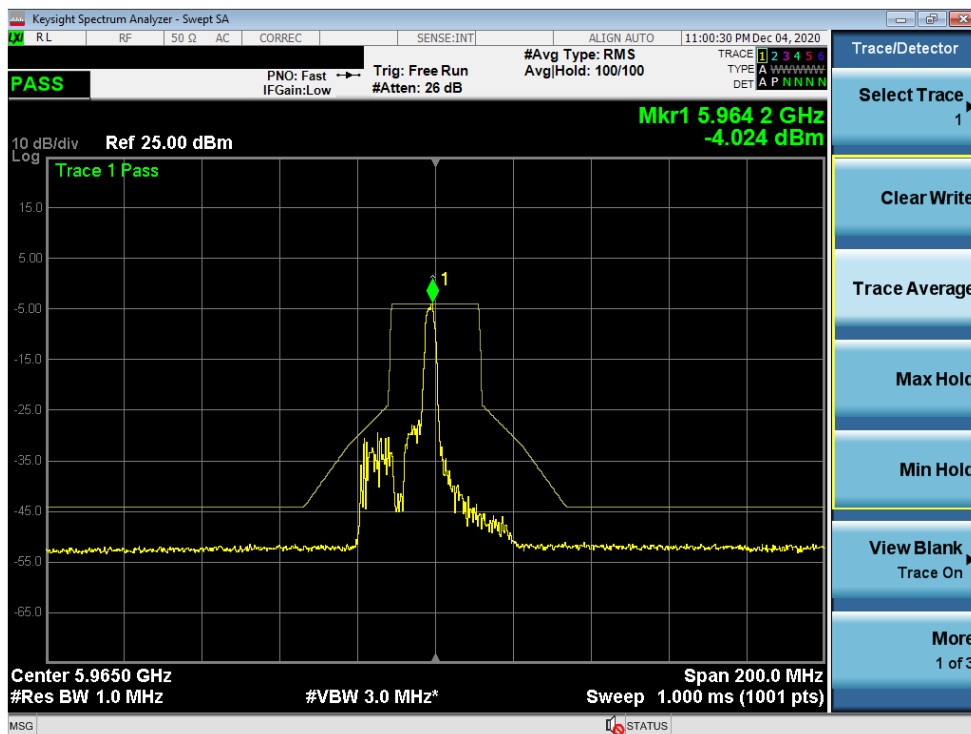


Plot 7-332. In-Band Emissions Plot MIMO ANT2 (20MHz BW 802.11ax (26 Tones) (UNII Band 5) – Ch. 45)

FCC ID: A3LSMG998B	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2009230154-27-R1.A3L	Test Dates: 9/28/2020-12/14/2020	EUT Type: Portable Handset		Page 206 of 276

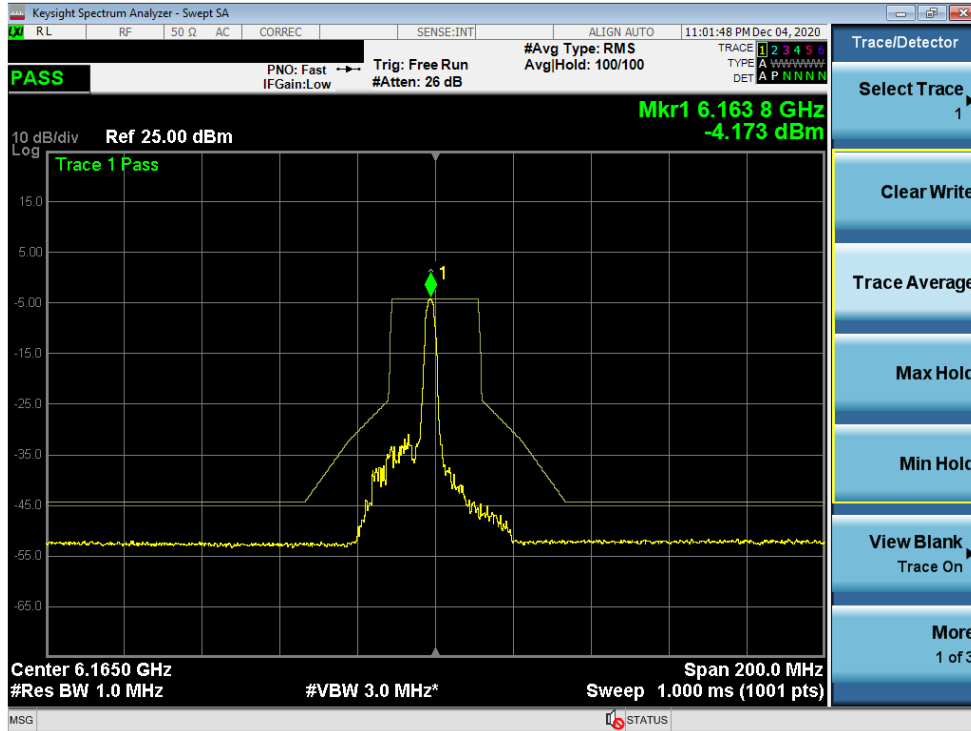


Plot 7-333. In-Band Emissions Plot MIMO ANT2 (20MHz BW 802.11ax (26 Tones) UNII Band 5) – Ch. 93)

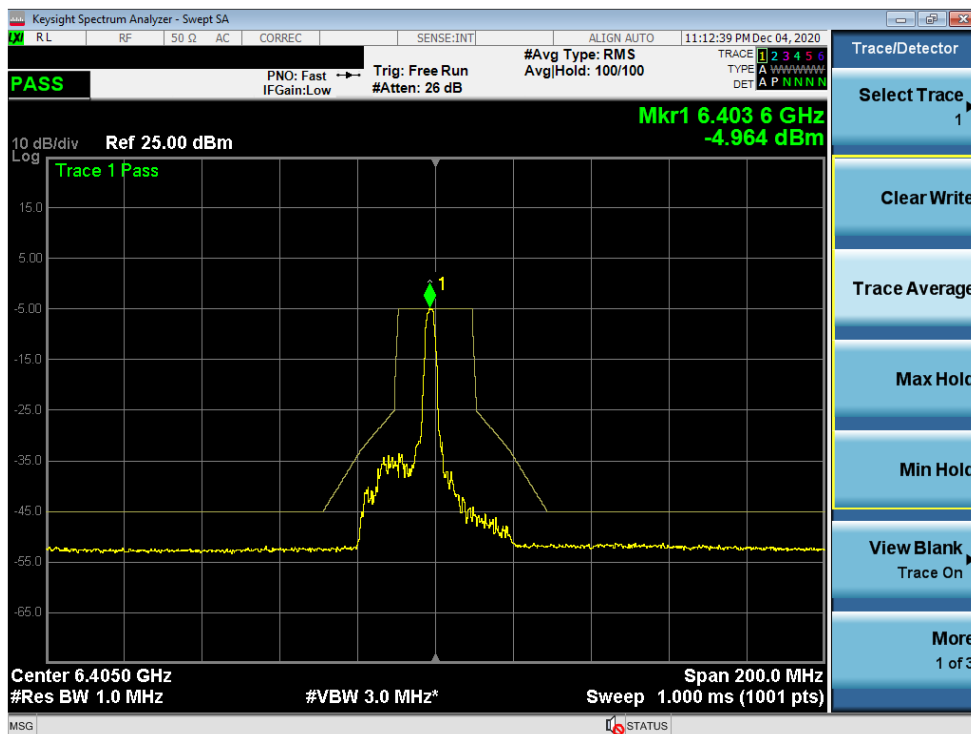


Plot 7-334. In-Band Emissions Plot MIMO ANT2 (40MHz BW 802.11ax (26 Tones) (UNII Band 5) – Ch. 3)

FCC ID: A3LSMG998B	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2009230154-27-R1.A3L	Test Dates: 9/28/2020-12/14/2020	EUT Type: Portable Handset		Page 207 of 276

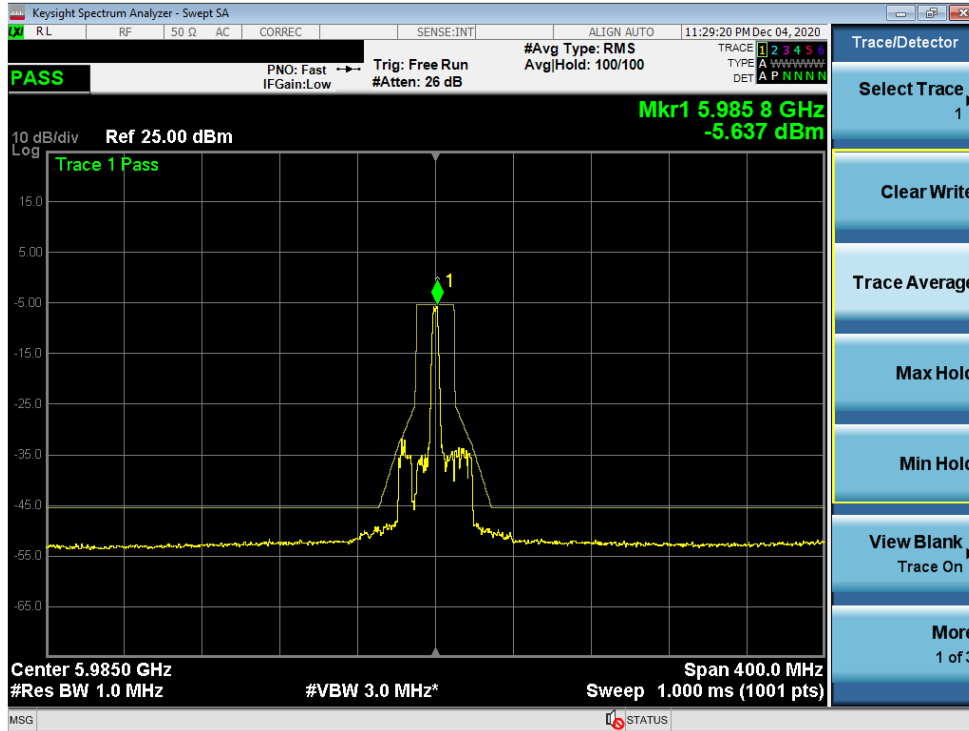


Plot 7-335. In-Band Emissions Plot MIMO ANT2 (40MHz BW 802.11ax (26 Tones) (UNII Band 5) – Ch. 43)

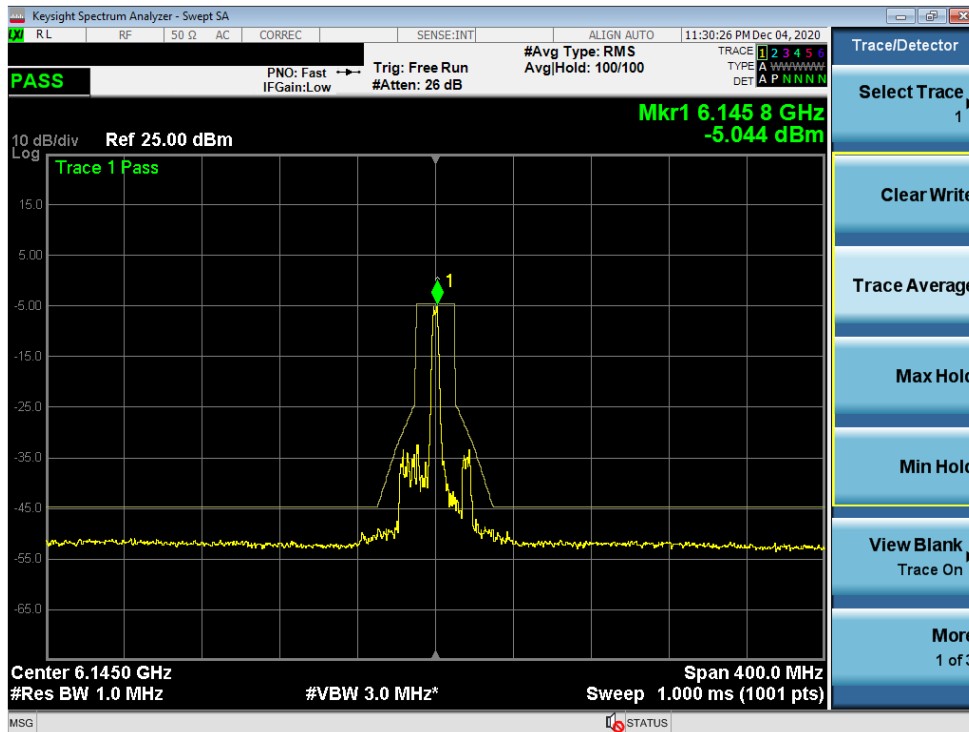


Plot 7-336. In-Band Emissions Plot MIMO ANT2 (40MHz BW 802.11ax (26 Tones) (UNII Band 5) – Ch. 91)

FCC ID: A3LSMG998B	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 1M2009230154-27-R1.A3L	Test Dates: 9/28/2020-12/14/2020	EUT Type: Portable Handset		Page 208 of 276



Plot 7-337. In-Band Emissions Plot MIMO ANT2 (80MHz BW 802.11ax (26 Tones) (UNII Band 5) – Ch. 7)



Plot 7-338. In-Band Emissions Plot MIMO ANT2 (80MHz BW 802.11ax (26 Tones) (UNII Band 5) – Ch. 39)

FCC ID: A3LSMG998B	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 1M2009230154-27-R1.A3L	Test Dates: 9/28/2020-12/14/2020	EUT Type: Portable Handset		Page 209 of 276