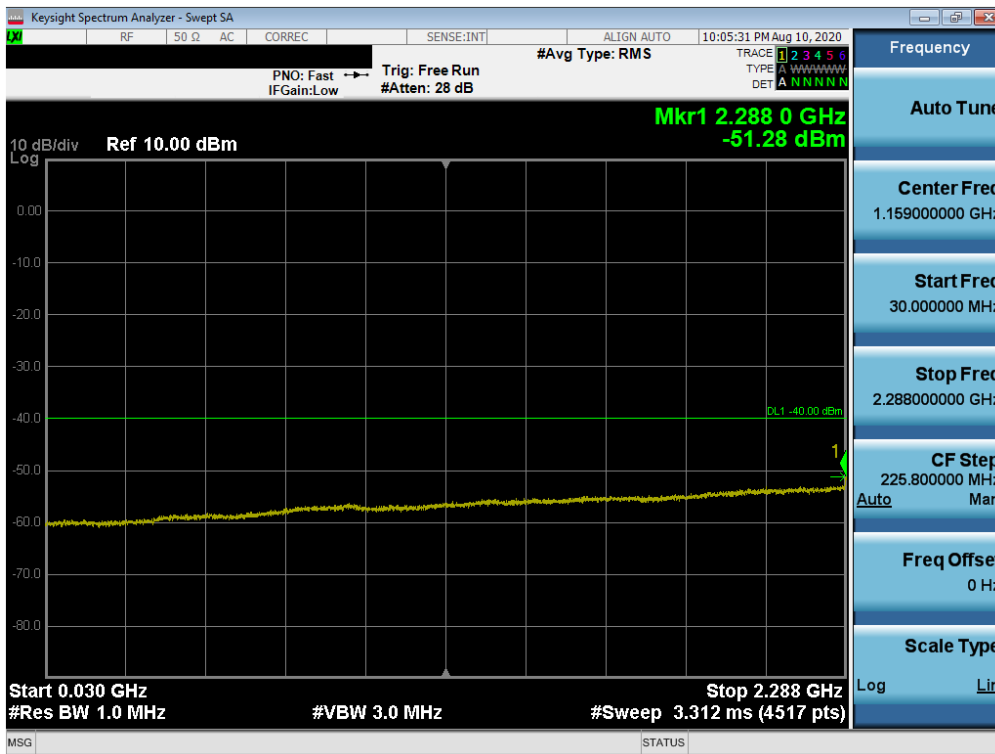




Plot 7-242. Conducted Spurious Plot (LTE Band 30 - 5MHz QPSK - RB Size 1, RB Offset 0 - Low Channel)



Plot 7-243. Conducted Spurious Plot (LTE Band 30 - 5MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel)

FCC ID: ZNFK920AM	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M2007130107-03.ZNF	Test Dates: 07/30/2020 - 09/03/2020	EUT Type: Portable Handset		Page 143 of 389



Plot 7-244. Conducted Spurious Plot (LTE Band 30 - 5MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel)

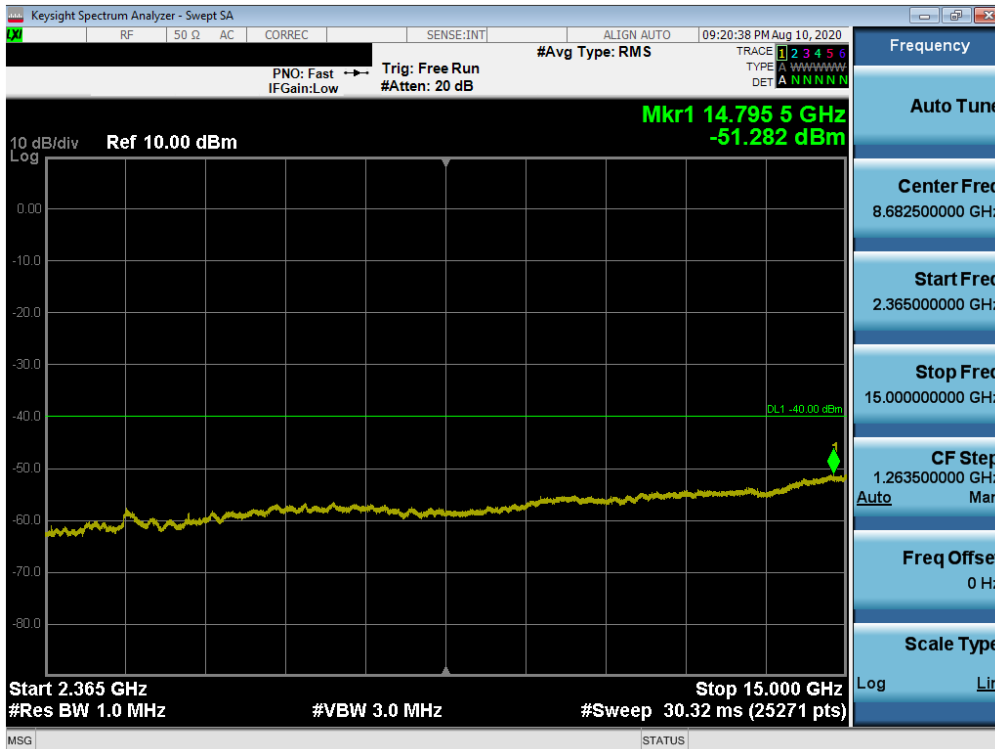


Plot 7-245. Conducted Spurious Plot (LTE Band 30 - 5MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel)

FCC ID: ZNFK920AM	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M2007130107-03.ZNF	Test Dates: 07/30/2020 - 09/03/2020	EUT Type: Portable Handset		Page 144 of 389



Plot 7-246. Conducted Spurious Plot (LTE Band 30 - 5MHz QPSK - RB Size 1, RB Offset 0 - High Channel)



Plot 7-247. Conducted Spurious Plot (LTE Band 30 - 5MHz QPSK - RB Size 1, RB Offset 0 - High Channel)

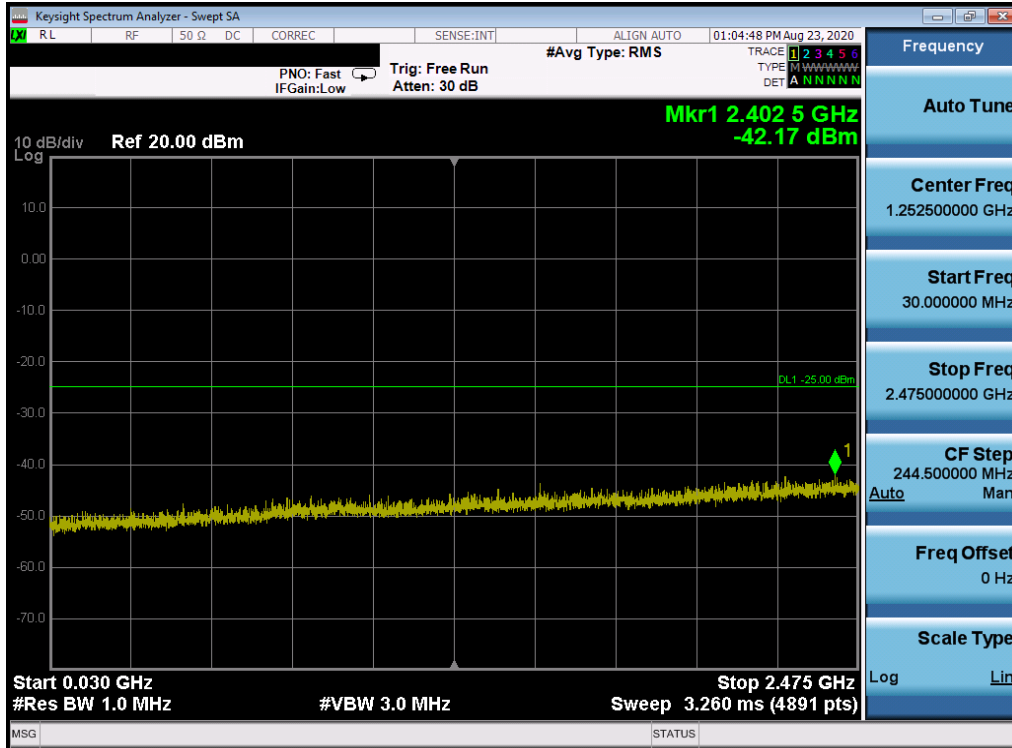
FCC ID: ZNFK920AM	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M2007130107-03.ZNF	Test Dates: 07/30/2020 - 09/03/2020	EUT Type: Portable Handset		Page 145 of 389



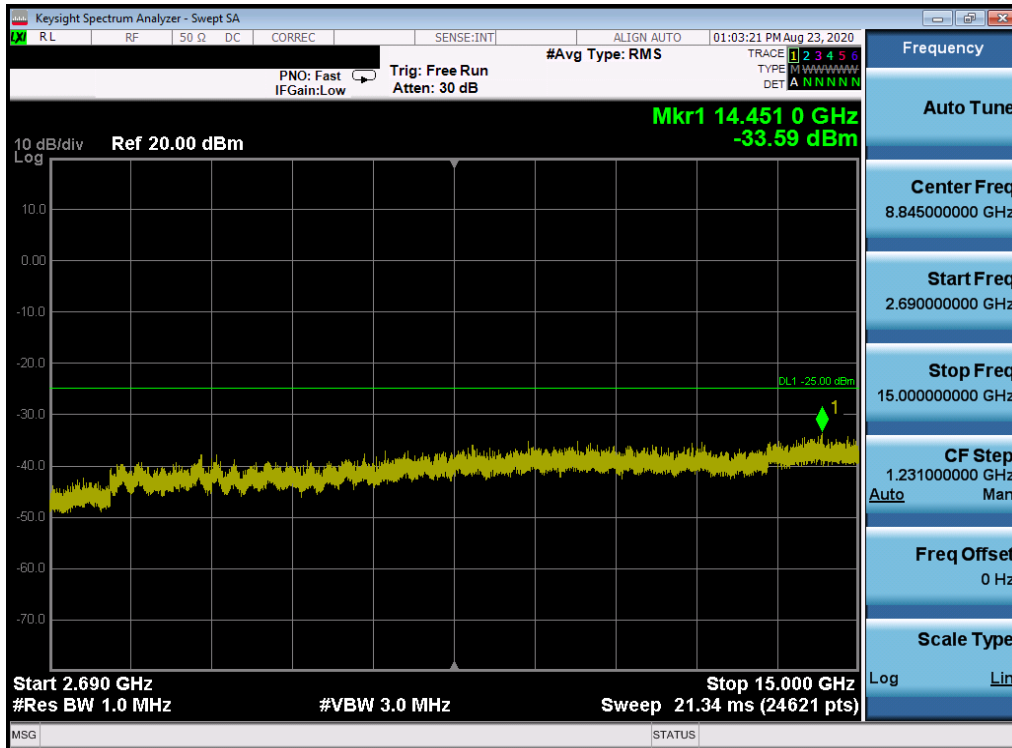
Plot 7-248. Conducted Spurious Plot (LTE Band 30 - 5MHz QPSK - RB Size 1, RB Offset 0 - High Channel)

FCC ID: ZNFK920AM	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M2007130107-03.ZNF	Test Dates: 07/30/2020 - 09/03/2020	EUT Type: Portable Handset		Page 146 of 389

LTE Band 41(PC3)

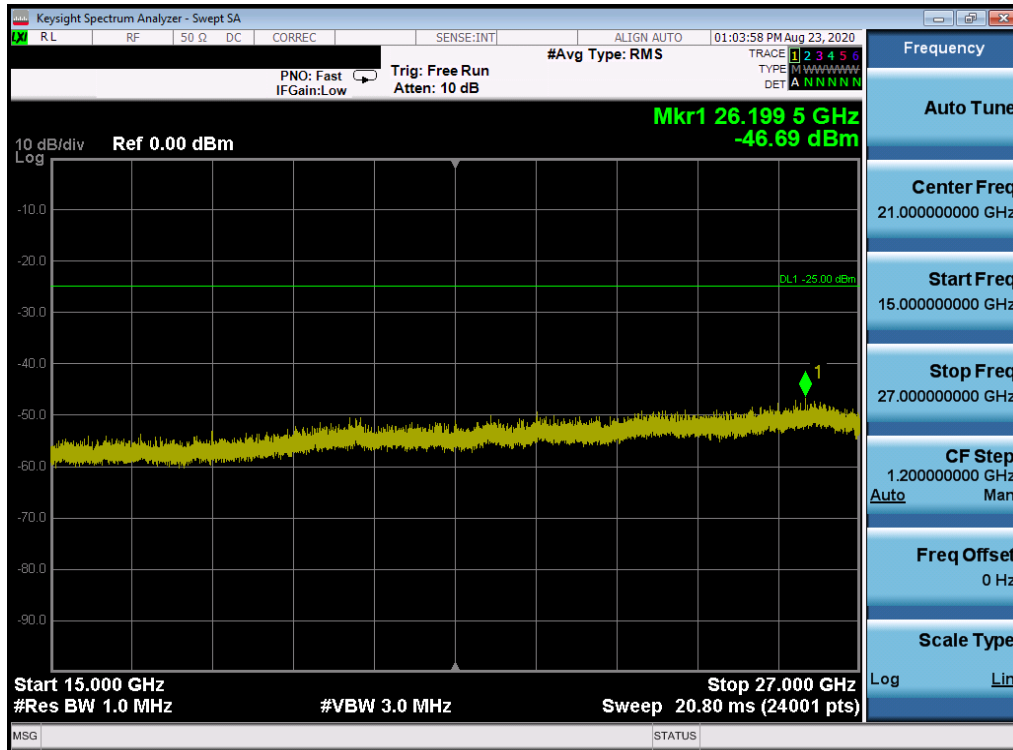


Plot 7-249. Conducted Spurious Plot (LTE Band 41(PC3) - 20MHz QPSK - RB Size 1, RB Offset 0 - Low Channel)

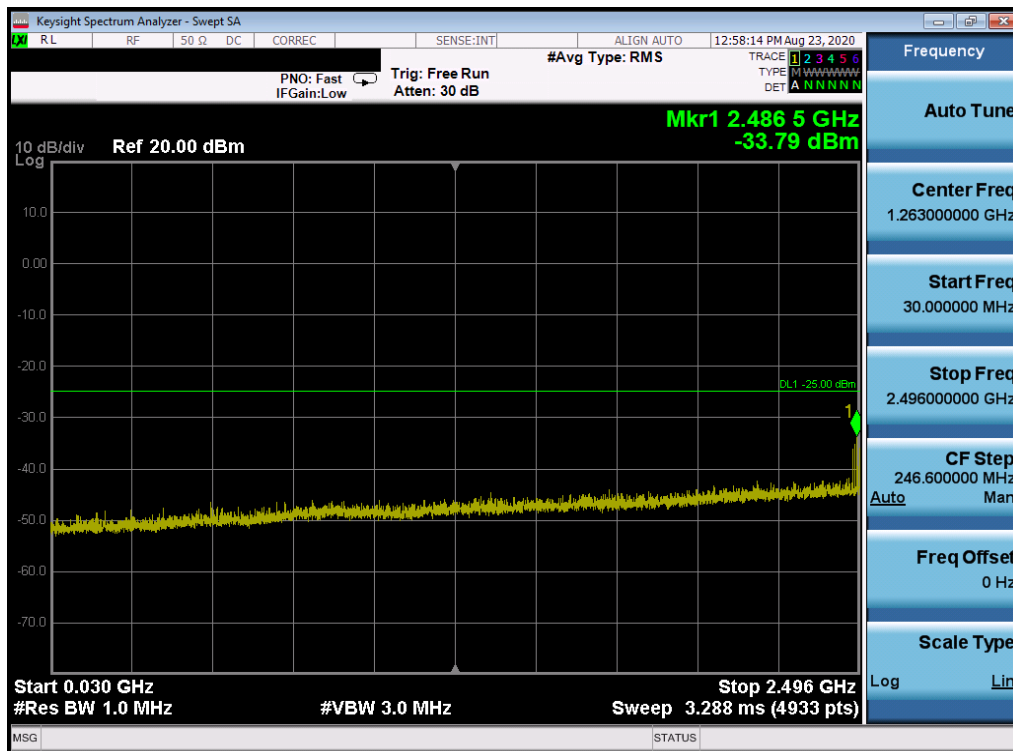


Plot 7-250. Conducted Spurious Plot (LTE Band 41(PC3) - 20MHz QPSK - RB Size 1, RB Offset 0 - Low Channel)

FCC ID: ZNFK920AM	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M2007130107-03.ZNF	Test Dates: 07/30/2020 - 09/03/2020	EUT Type: Portable Handset		Page 147 of 389

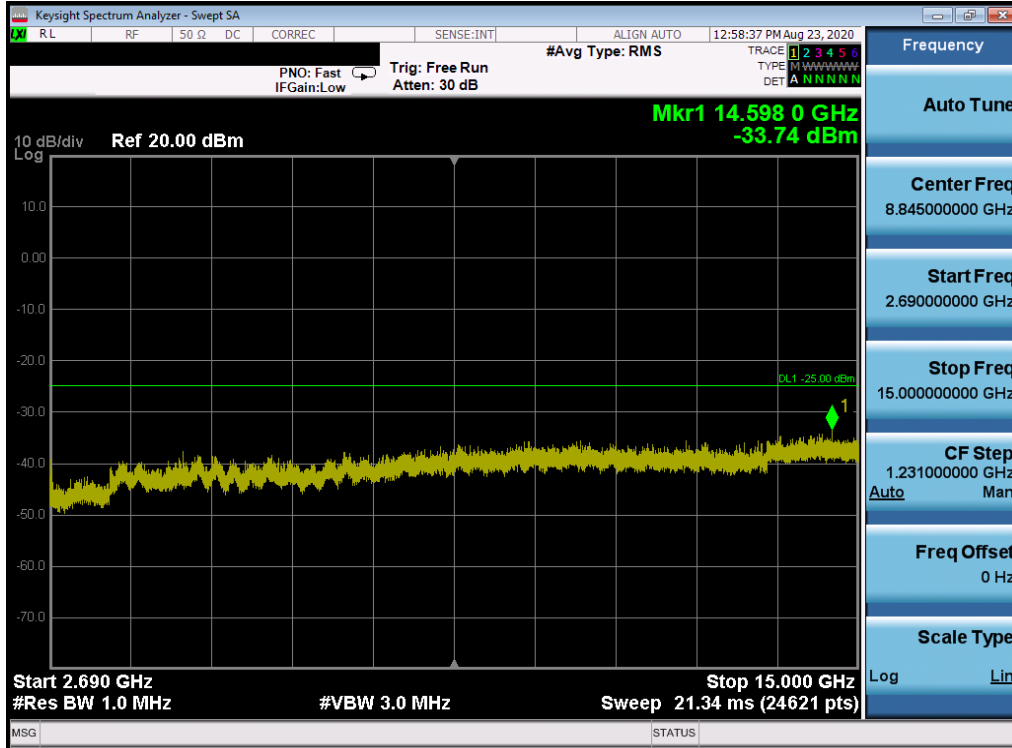


Plot 7-251. Conducted Spurious Plot (LTE Band 41(PC3) - 20MHz QPSK - RB Size 1, RB Offset 0 - Low Channel)

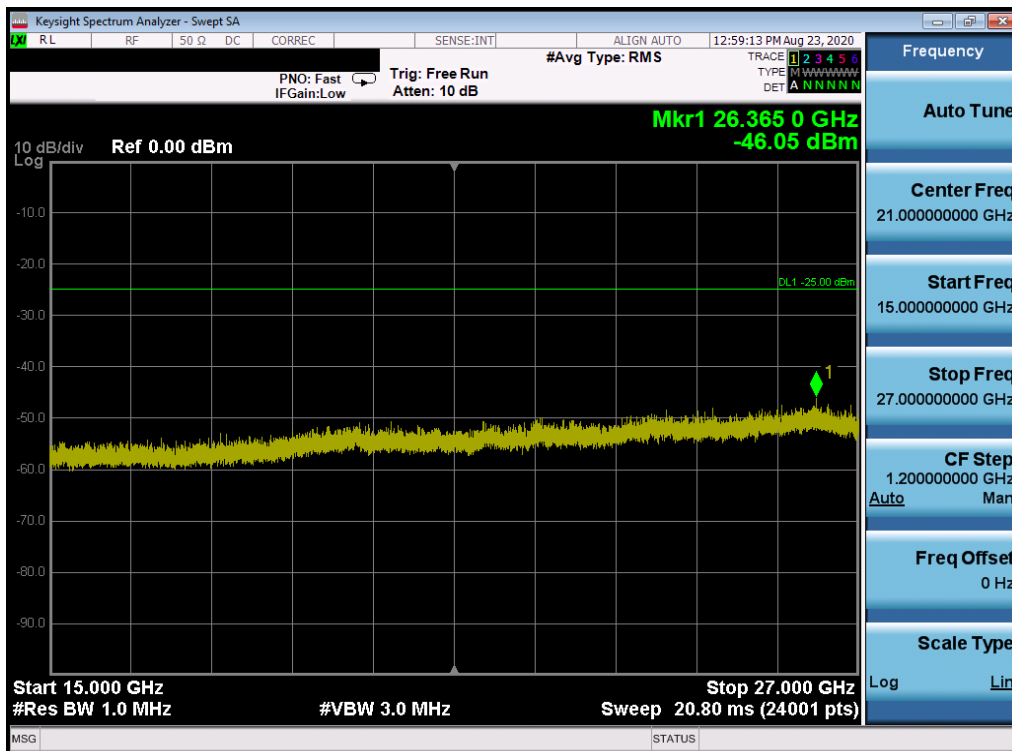


Plot 7-252. Conducted Spurious Plot (LTE Band 41(PC3) - 20MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel)

FCC ID: ZNFK920AM	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2007130107-03.ZNF	Test Dates: 07/30/2020 - 09/03/2020	EUT Type: Portable Handset		Page 148 of 389

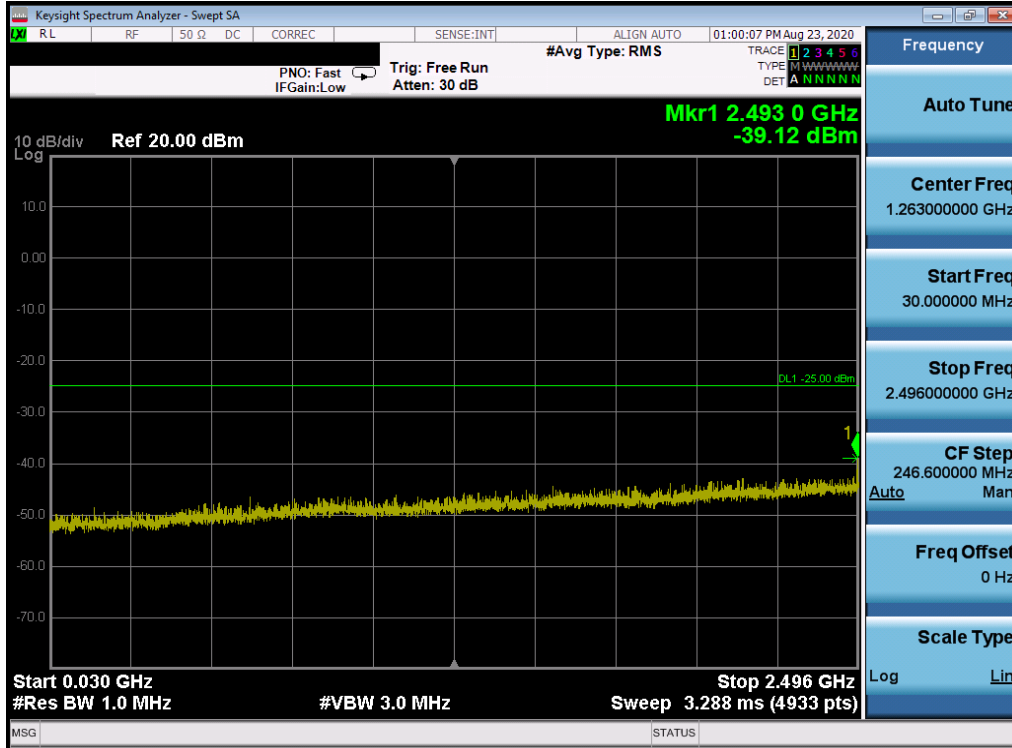


Plot 7-253. Conducted Spurious Plot (LTE Band 41(PC3) - 20MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel)

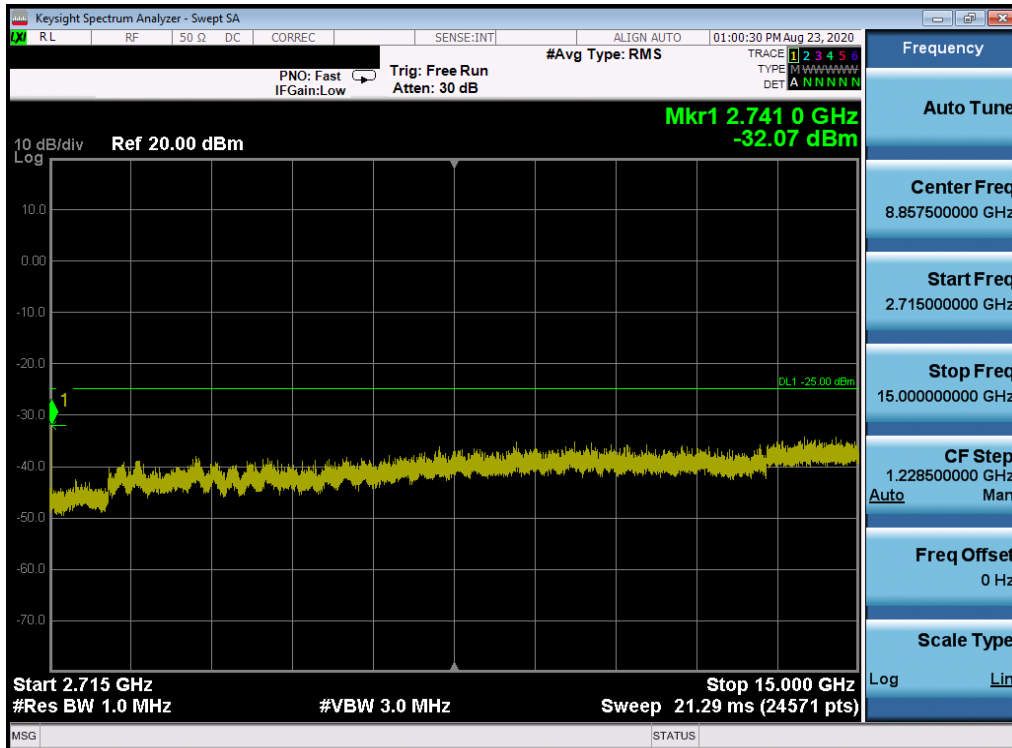


Plot 7-254. Conducted Spurious Plot (LTE Band 41(PC3) - 20MHz QPSK - RB Size 1, RB Offset 0 - Mid Channel)

FCC ID: ZNFK920AM	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2007130107-03.ZNF	Test Dates: 07/30/2020 - 09/03/2020	EUT Type: Portable Handset		Page 149 of 389

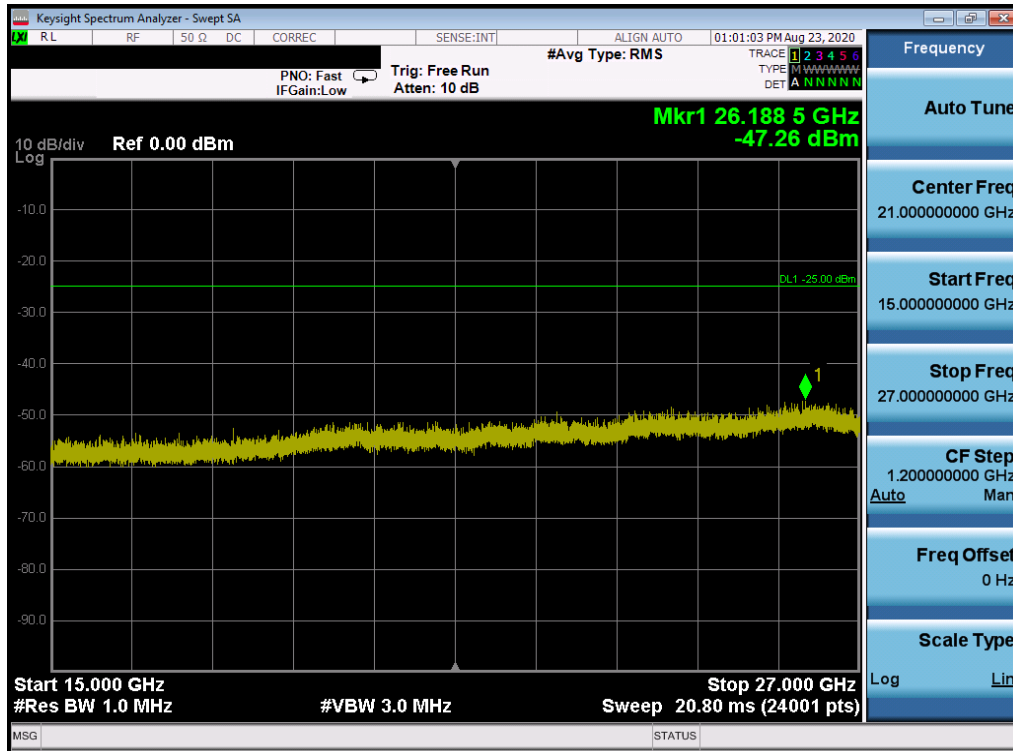


Plot 7-255. Conducted Spurious Plot (LTE Band 41(PC3) - 20MHz QPSK - RB Size 1, RB Offset 0 - High Channel)



Plot 7-256. Conducted Spurious Plot (LTE Band 41(PC3) - 20MHz QPSK - RB Size 1, RB Offset 0 - High Channel)

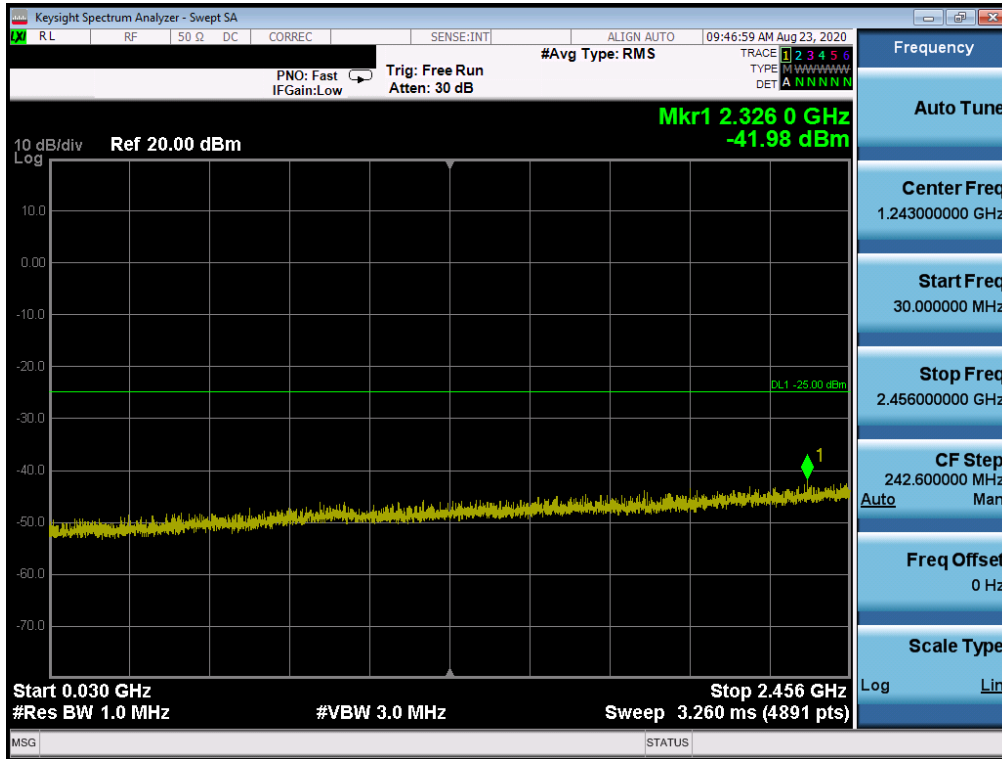
FCC ID: ZNFK920AM	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2007130107-03.ZNF	Test Dates: 07/30/2020 - 09/03/2020	EUT Type: Portable Handset		Page 150 of 389



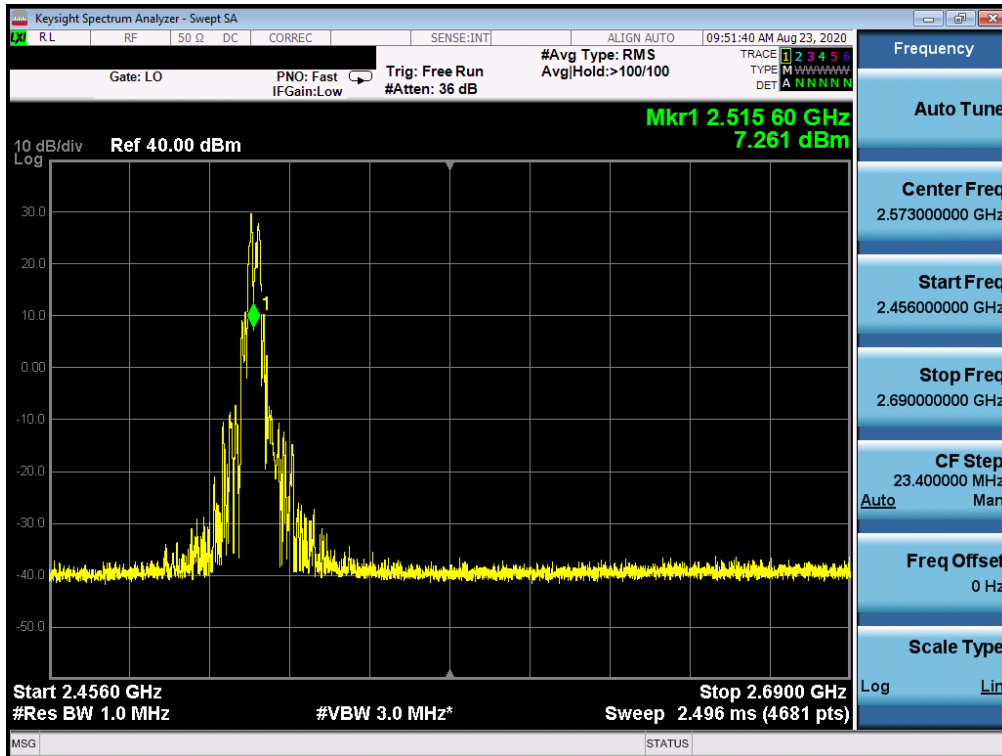
Plot 7-257. Conducted Spurious Plot (LTE Band 41(PC3) - 20MHz QPSK - RB Size 1, RB Offset 0 - High Channel)

FCC ID: ZNFK920AM	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M2007130107-03.ZNF	Test Dates: 07/30/2020 - 09/03/2020	EUT Type: Portable Handset		Page 151 of 389

ULCA LTE Band 41

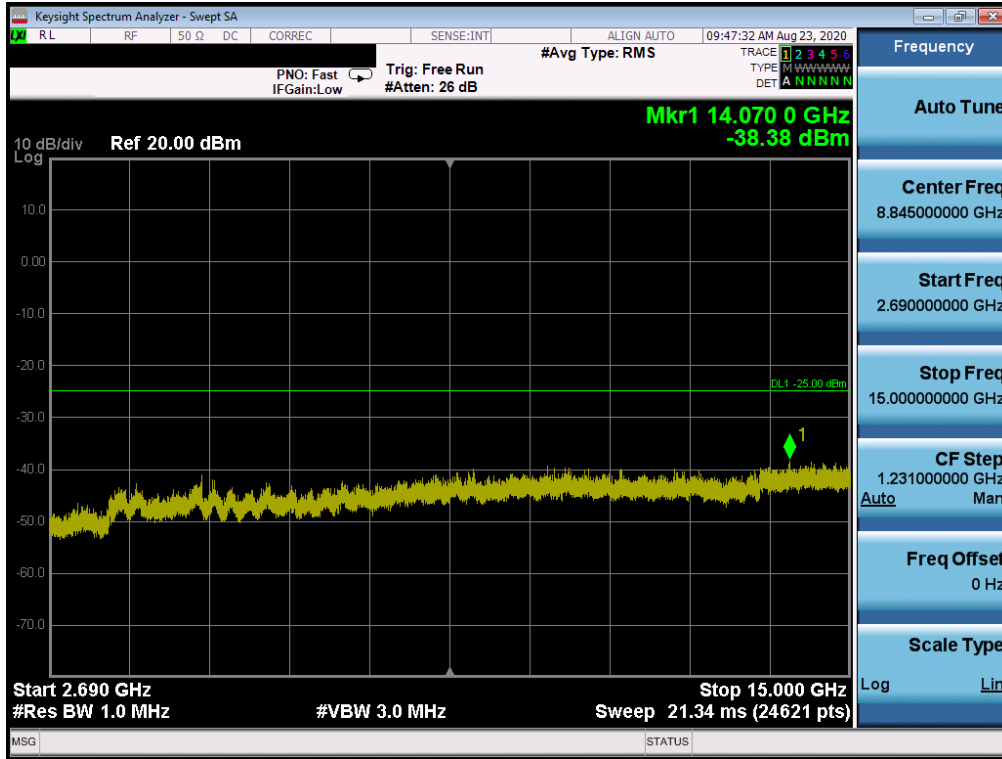


Plot 7-258. Conducted Spurious Plot (ULCA LTE Band 41 – (20 + 20)MHz QPSK – PCC 1/99 SCC 1/0 - Low Channel)

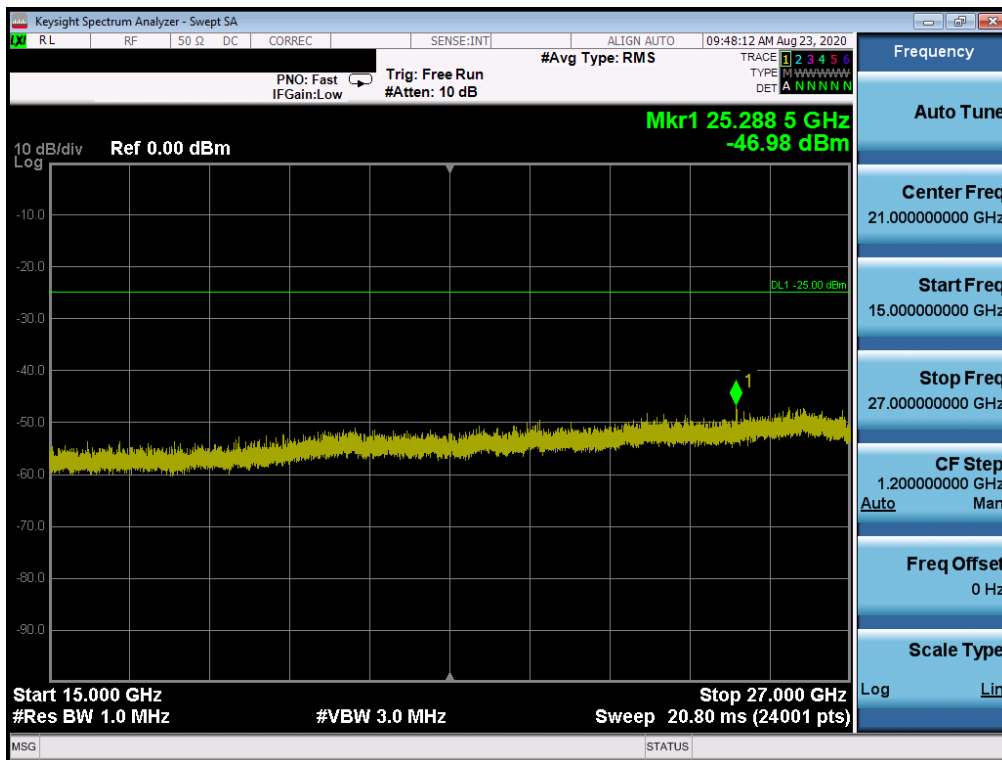


Plot 7-259. Conducted Spurious Plot (ULCA LTE Band 41 – (20 + 20)MHz QPSK – PCC 1/99 SCC 1/0 - Low Channel)

FCC ID: ZNFK920AM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2007130107-03.ZNF	Test Dates: 07/30/2020 - 09/03/2020	EUT Type: Portable Handset		Page 152 of 389

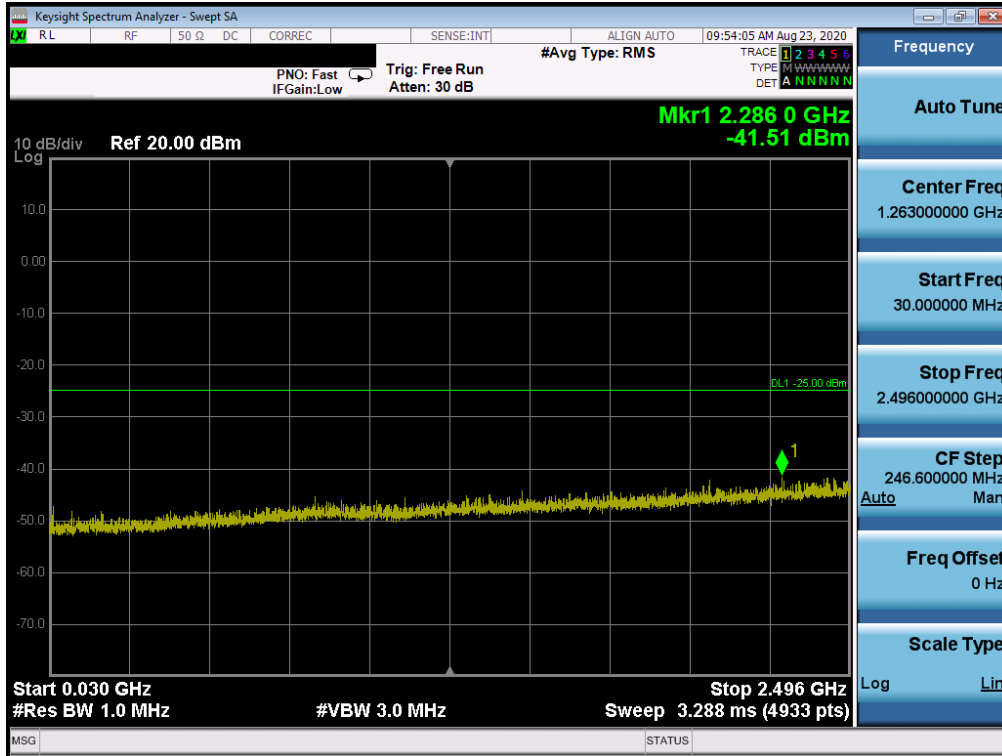


Plot 7-260. Conducted Spurious Plot (ULCA LTE Band 41 – (20 + 20)MHz QPSK – PCC 1/99 SCC 1/0 - Low Channel)

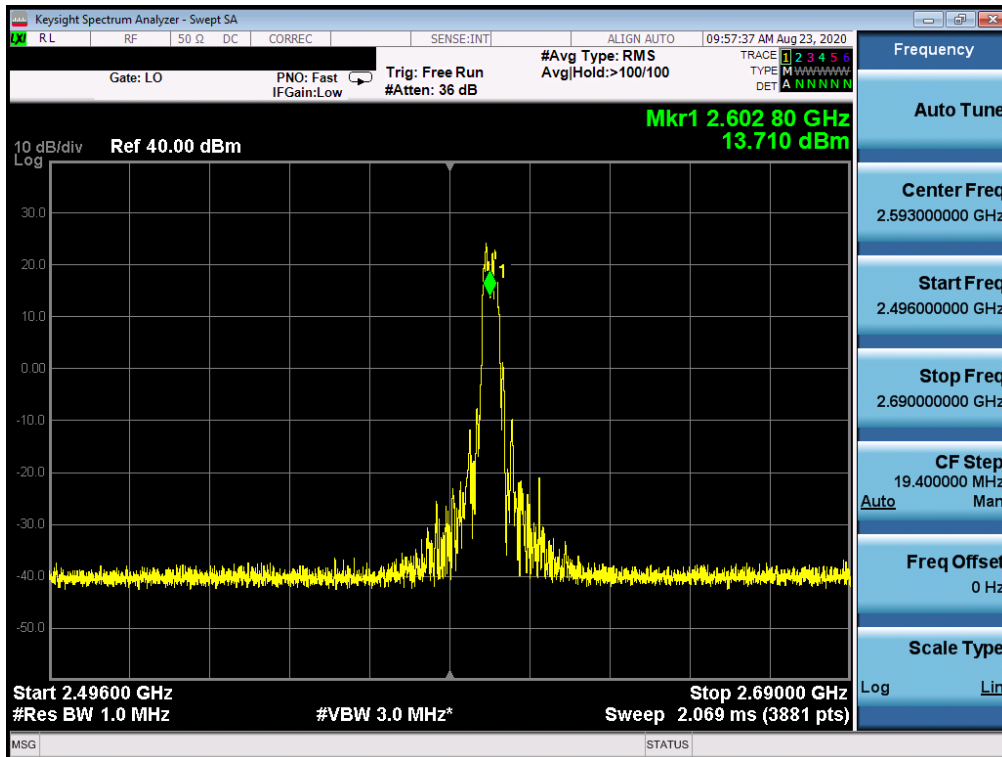


Plot 7-261. Conducted Spurious Plot (ULCA LTE Band 41 – (20 + 20)MHz QPSK – PCC 1/99 SCC 1/0 - Low Channel)

FCC ID: ZNFK920AM	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M2007130107-03.ZNF	Test Dates: 07/30/2020 - 09/03/2020	EUT Type: Portable Handset		Page 153 of 389

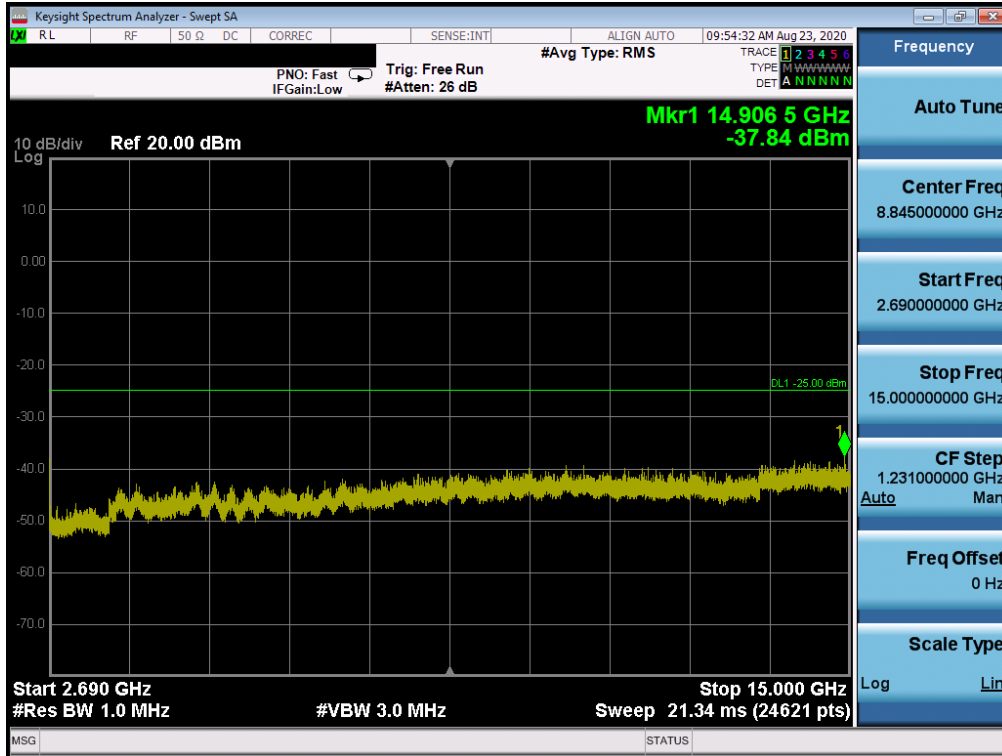


Plot 7-262. Conducted Spurious Plot (ULCA LTE Band 41 – (20 + 20)MHz QPSK – PCC 1/99 SCC 1/0 - Mid Channel)

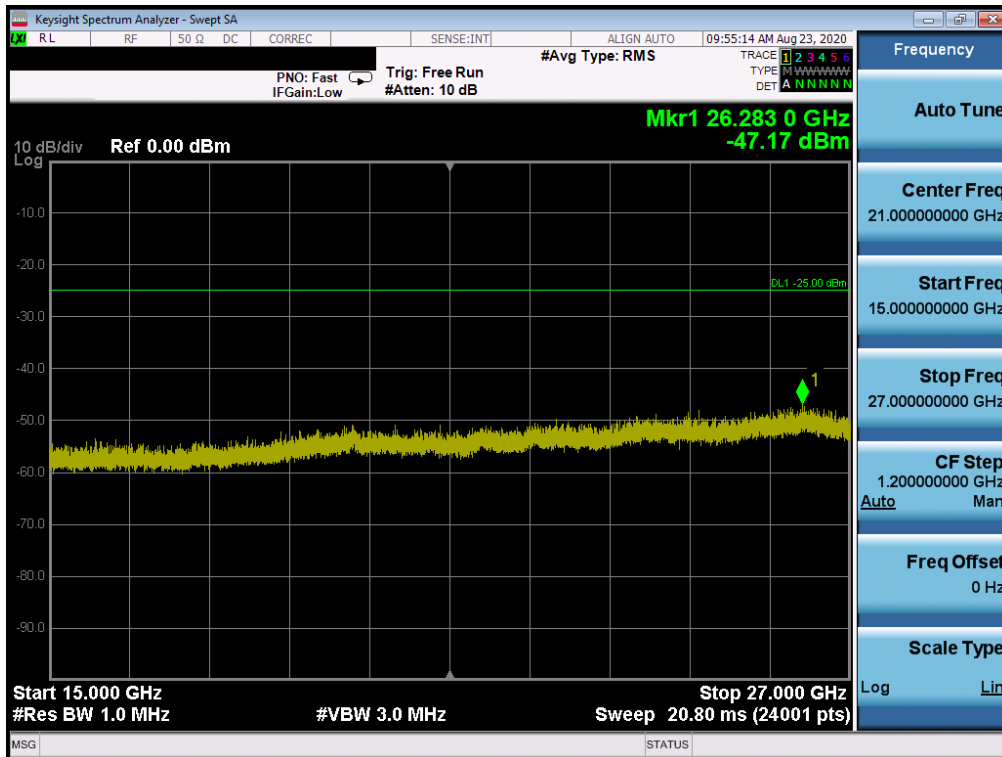


Plot 7-263. Conducted Spurious Plot (ULCA LTE Band 41 – (20 + 20)MHz QPSK – PCC 1/99 SCC 1/0 - Mid Channel)

FCC ID: ZNFK920AM	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2007130107-03.ZNF	Test Dates: 07/30/2020 - 09/03/2020	EUT Type: Portable Handset		Page 154 of 389

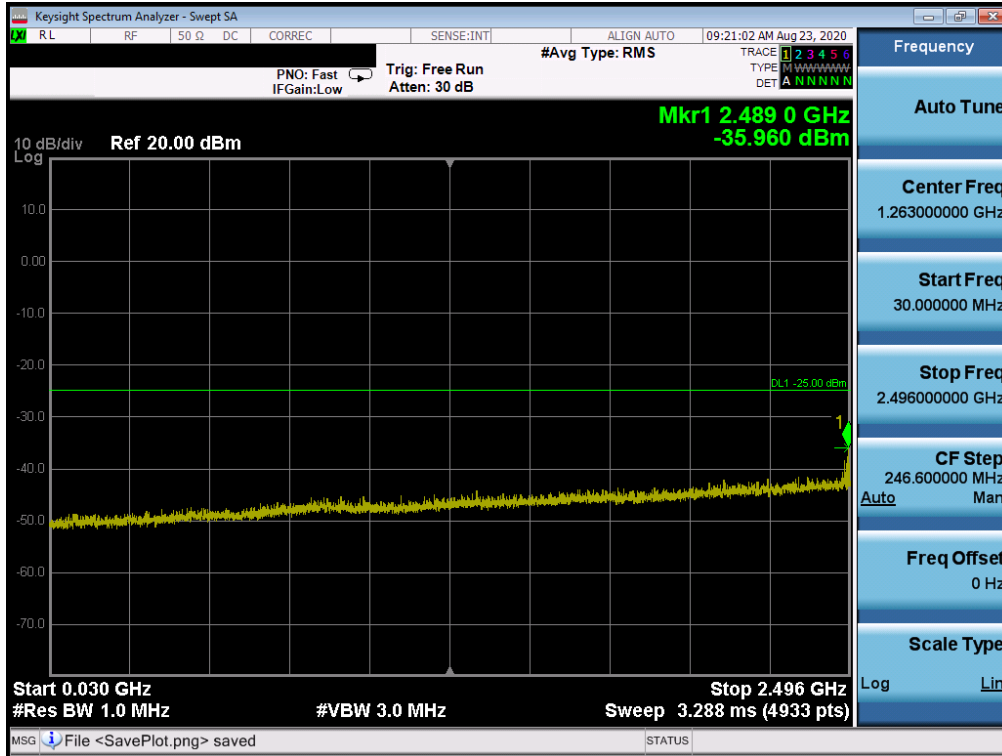


Plot 7-264. Conducted Spurious Plot (ULCA LTE Band 41 – (20 + 20)MHz QPSK – PCC 1/99 SCC 1/0 - Mid Channel)

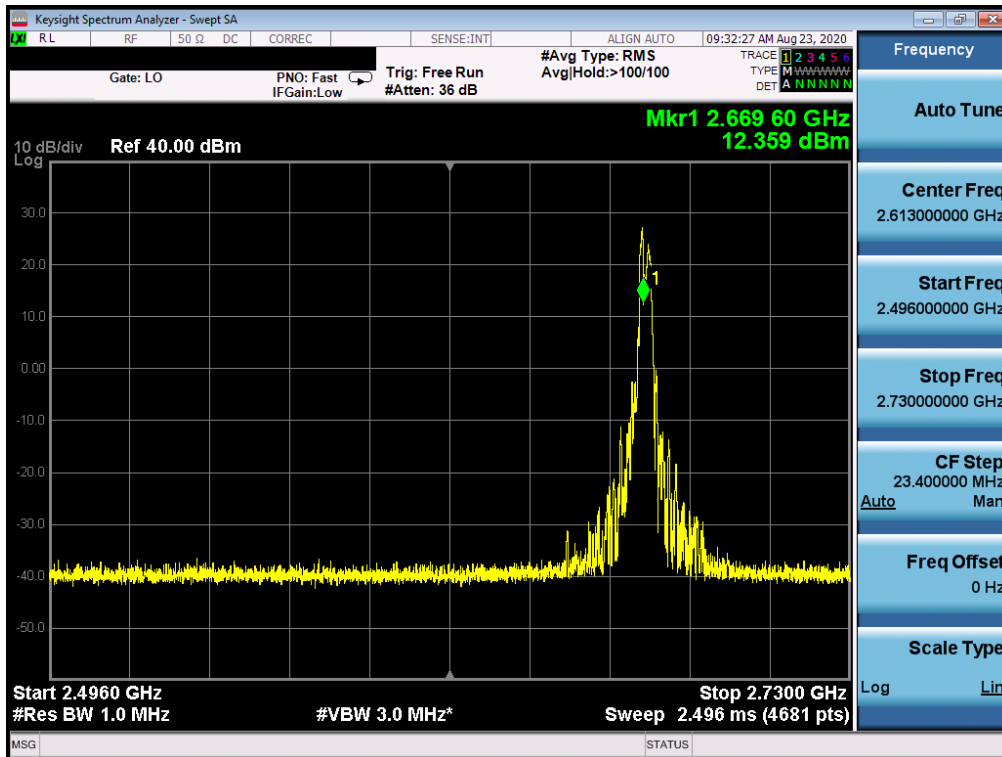


Plot 7-265. Conducted Spurious Plot (ULCA LTE Band 41 – (20 + 20)MHz QPSK – PCC 1/99 SCC 1/0 - Mid Channel)

FCC ID: ZNFK920AM	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M2007130107-03.ZNF	Test Dates: 07/30/2020 - 09/03/2020	EUT Type: Portable Handset		Page 155 of 389

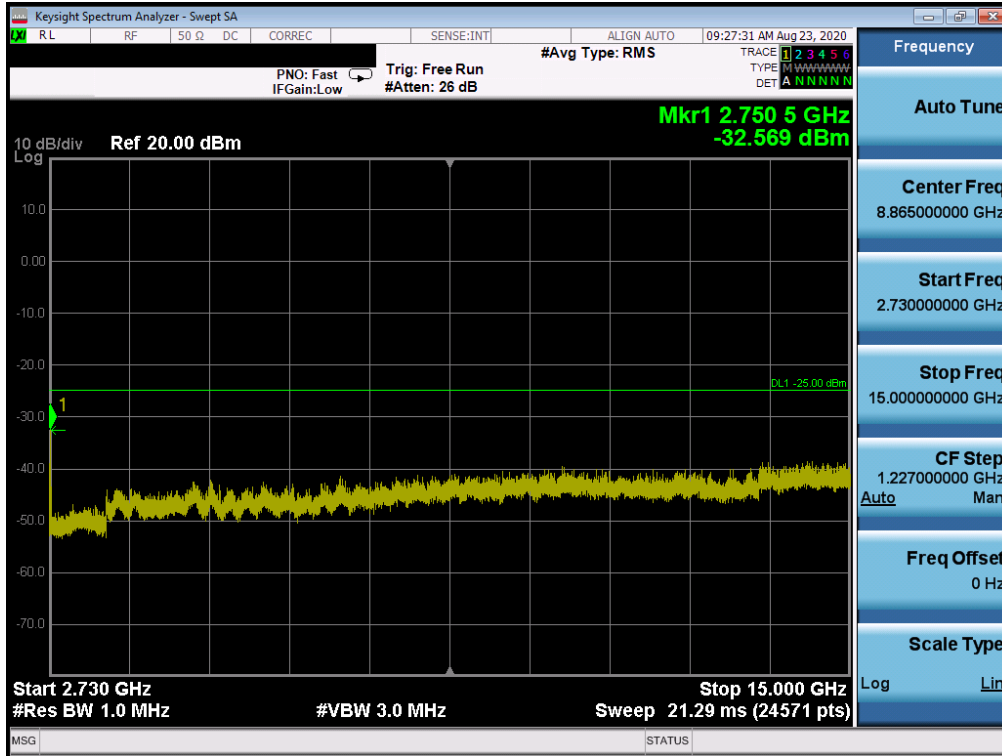


Plot 7-266. Conducted Spurious Plot (ULCA LTE Band 41 – (20 + 20)MHz QPSK – PCC 1/0 SCC 1/99 - High Channel)

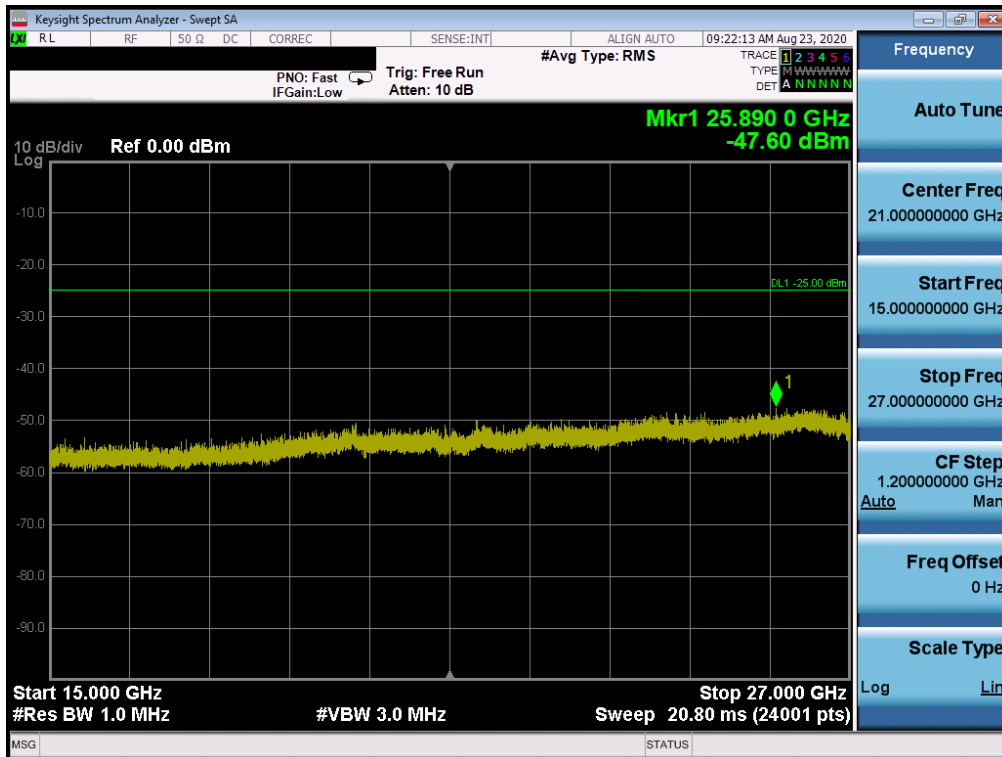


Plot 7-267. Conducted Spurious Plot (ULCA LTE Band 41 – (20 + 20)MHz QPSK – PCC 1/0 SCC 1/99 - High Channel)

FCC ID: ZNFK920AM	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2007130107-03.ZNF	Test Dates: 07/30/2020 - 09/03/2020	EUT Type: Portable Handset		Page 156 of 389



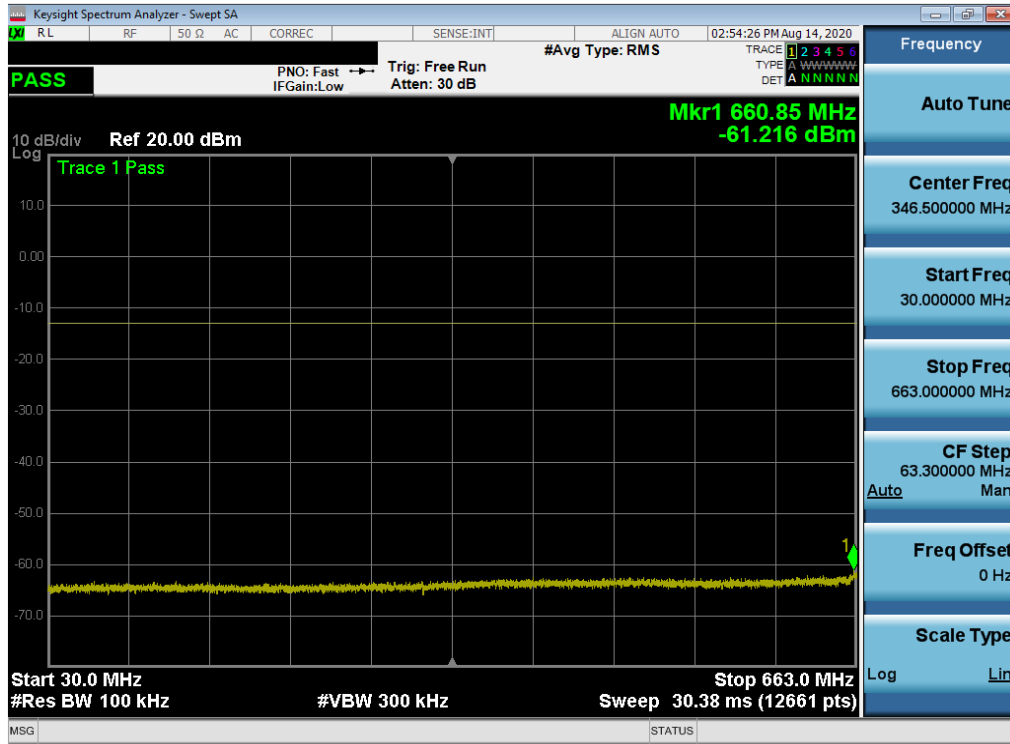
Plot 7-268. Conducted Spurious Plot (ULCA LTE Band 41 – (20 + 20)MHz QPSK – PCC 1/0 SCC 1/99 - High Channel)



Plot 7-269. Conducted Spurious Plot (ULCA LTE Band 41 – (20 + 20)MHz QPSK – PCC 1/0 SCC 1/99 - High Channel)

FCC ID: ZNFK920AM	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M2007130107-03.ZNF	Test Dates: 07/30/2020 - 09/03/2020	EUT Type: Portable Handset		Page 157 of 389

NR Band n71

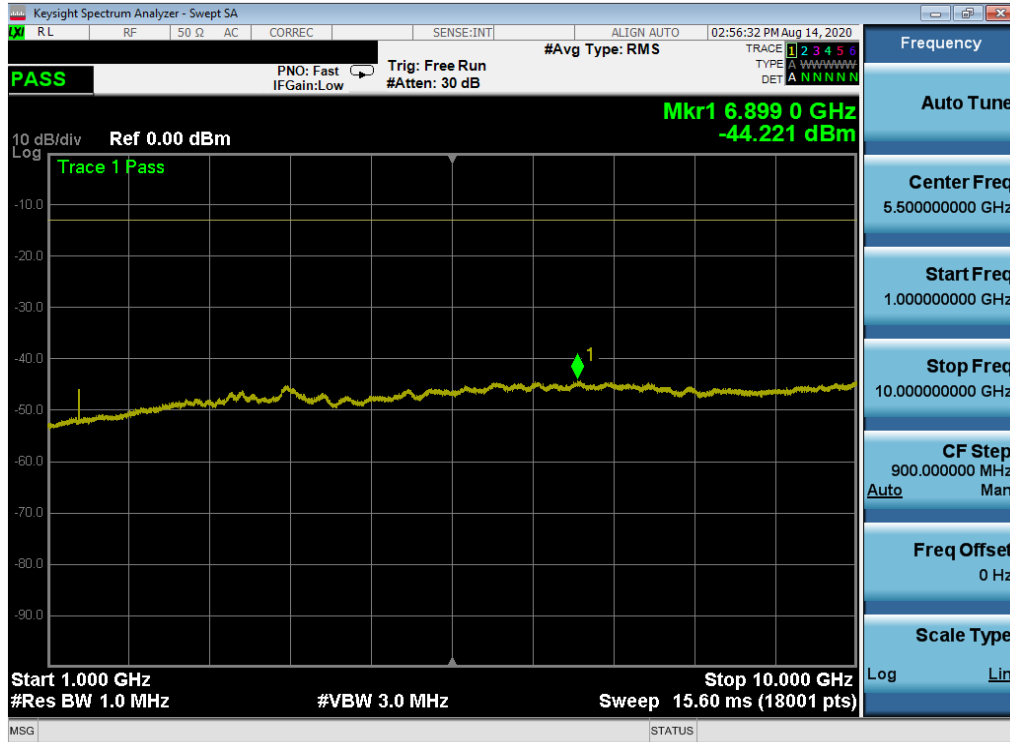


Plot 7-270. Conducted Spurious Plot (NR Band n71 -20.0MHz - RB Size 1, RB Offset 0 - Low Channel)

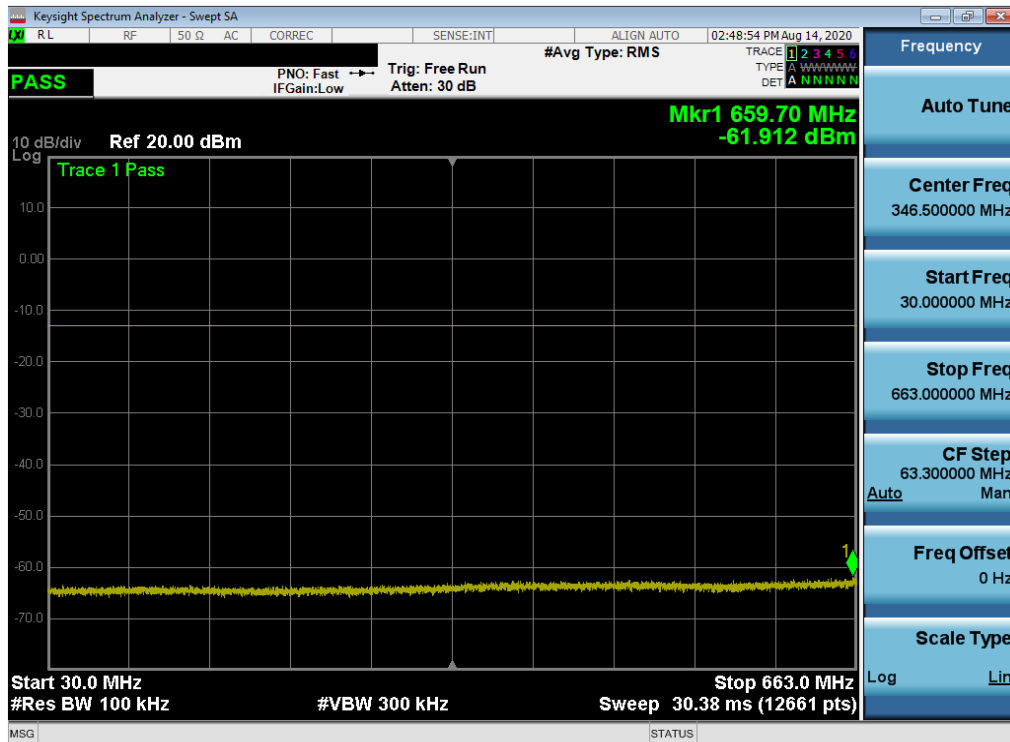


Plot 7-271. Conducted Spurious Plot (NR Band n71 - 20.0MHz - RB Size 1, RB Offset 0 - Low Channel)

FCC ID: ZNFK920AM	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M2007130107-03.ZNF	Test Dates: 07/30/2020 - 09/03/2020	EUT Type: Portable Handset		Page 158 of 389

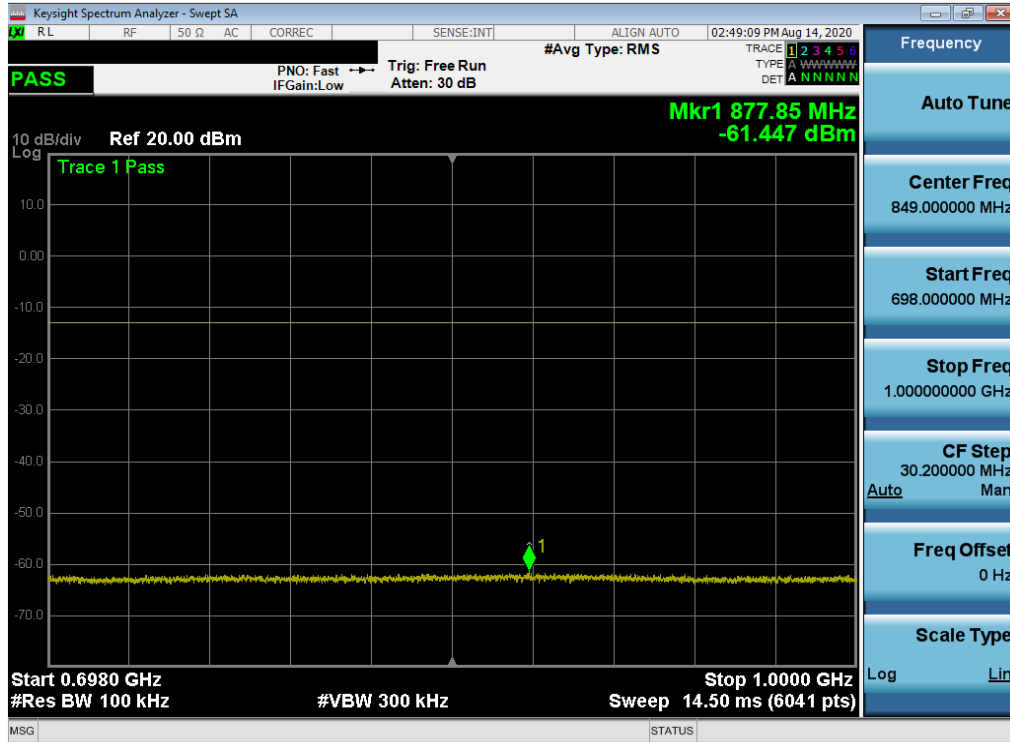


Plot 7-272. Conducted Spurious Plot (NR Band n71 - 20.0MHz - RB Size 1, RB Offset 0 - Low Channel)

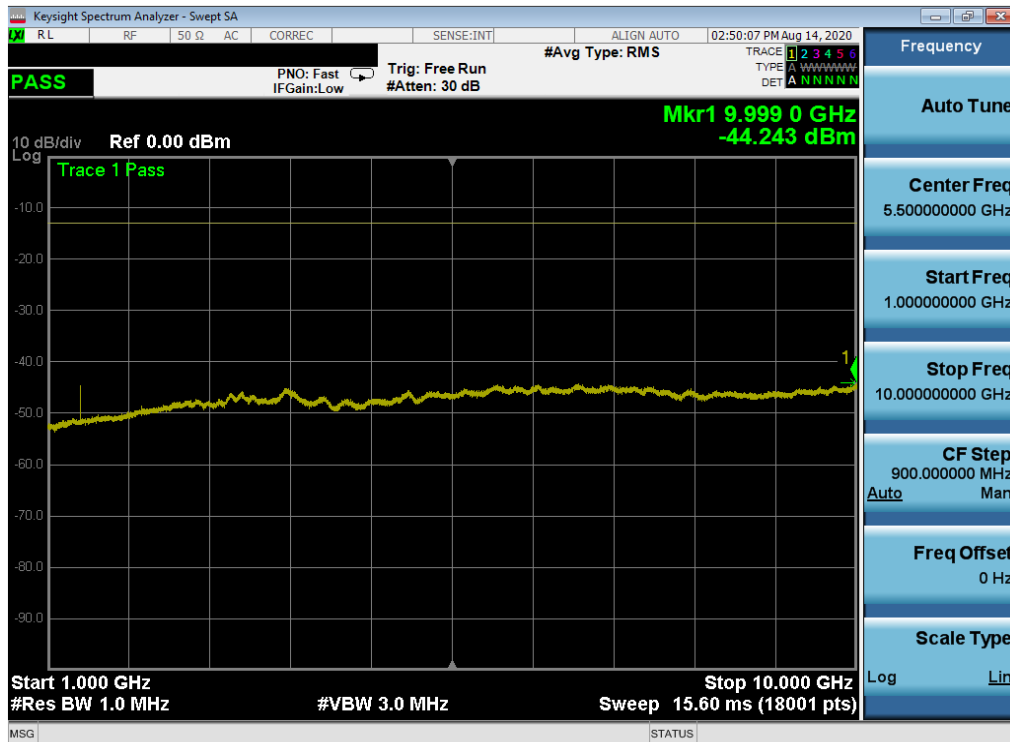


Plot 7-273. Conducted Spurious Plot (NR Band n71 - 20.0MHz - RB Size 1, RB Offset 0 - Mid Channel)

FCC ID: ZNFK920AM	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2007130107-03.ZNF	Test Dates: 07/30/2020 - 09/03/2020	EUT Type: Portable Handset		Page 159 of 389

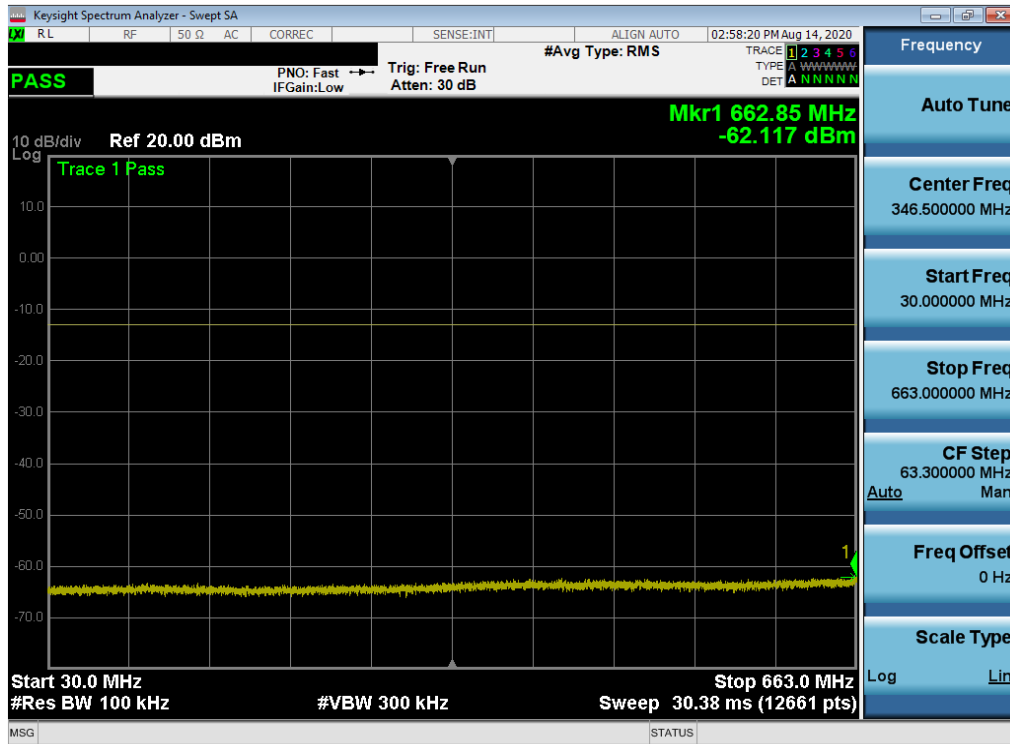


Plot 7-274. Conducted Spurious Plot (NR Band n71 - 20.0MHz - RB Size 1, RB Offset 0 - Mid Channel)

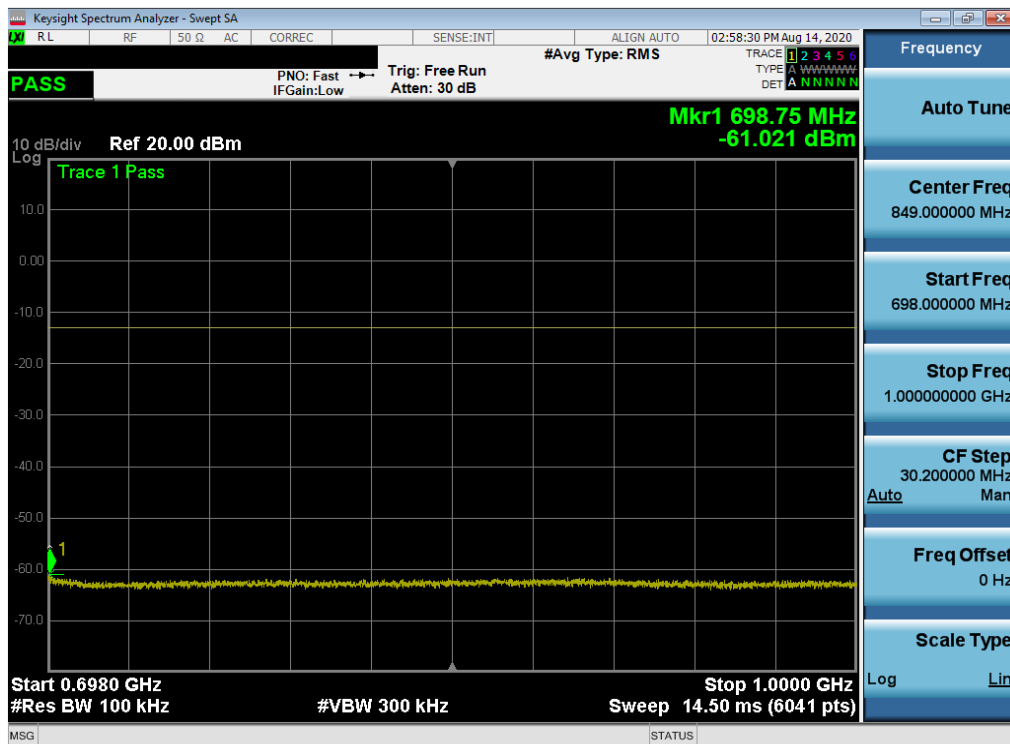


Plot 7-275. Conducted Spurious Plot (NR Band n71 - 20.0MHz - RB Size 1, RB Offset 0 - Mid Channel)

FCC ID: ZNFK920AM	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M2007130107-03.ZNF	Test Dates: 07/30/2020 - 09/03/2020	EUT Type: Portable Handset		Page 160 of 389

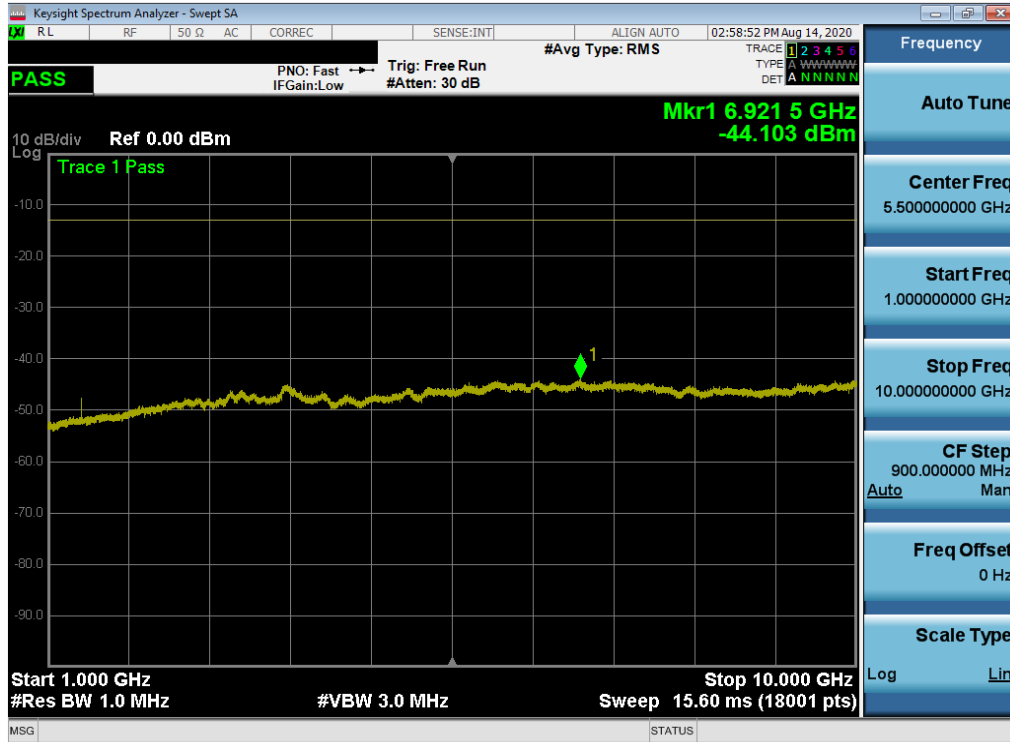


Plot 7-276. Conducted Spurious Plot (NR Band n71 - 20.0MHz - RB Size 1, RB Offset 0 - High Channel)



Plot 7-277. Conducted Spurious Plot (NR Band n71 - 20.0MHz - RB Size 1, RB Offset 0 - High Channel)

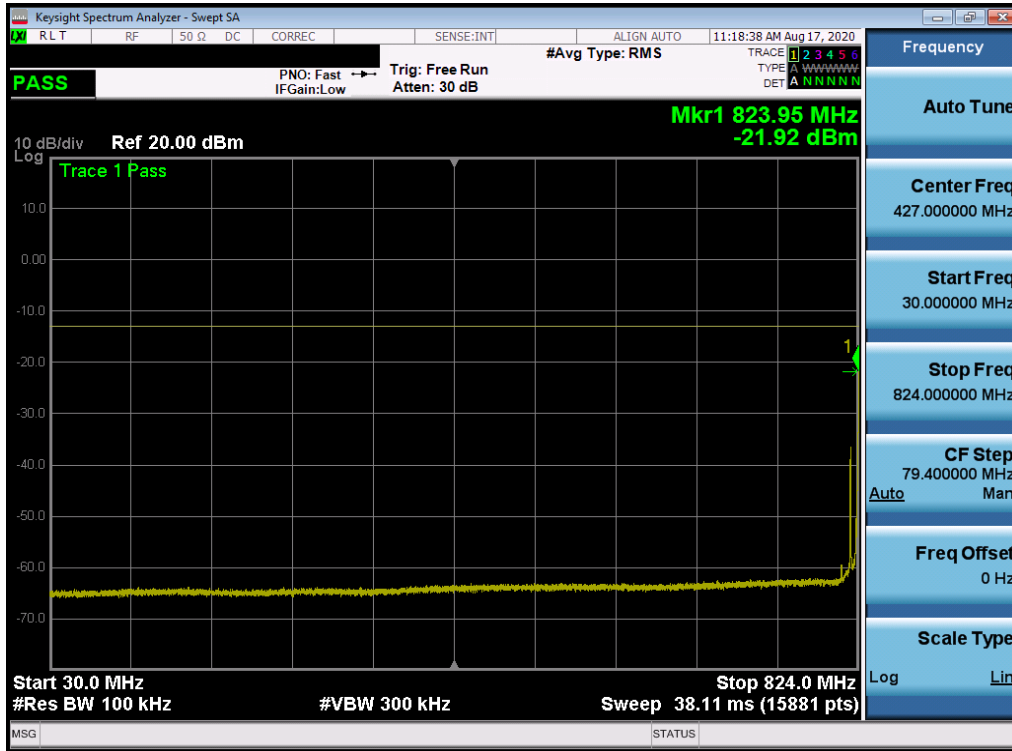
FCC ID: ZNFK920AM	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M2007130107-03.ZNF	Test Dates: 07/30/2020 - 09/03/2020	EUT Type: Portable Handset		Page 161 of 389



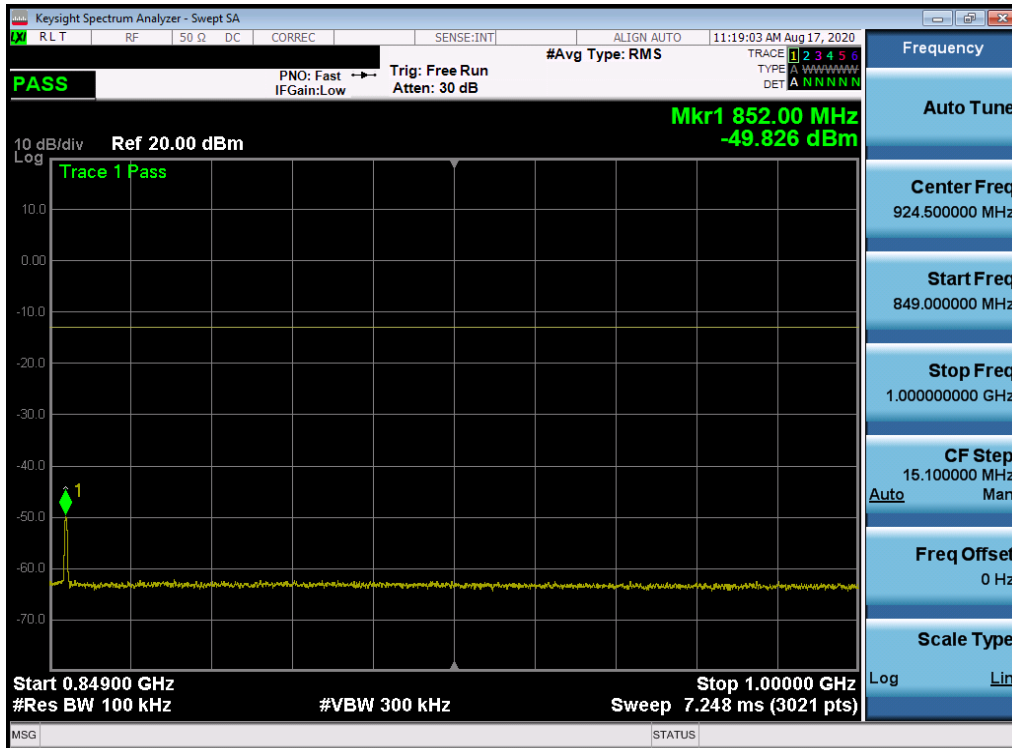
Plot 7-278. Conducted Spurious Plot (NR Band n71 - 20.0MHz - RB Size 1, RB Offset 0 - High Channel)

FCC ID: ZNFK920AM	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M2007130107-03.ZNF	Test Dates: 07/30/2020 - 09/03/2020	EUT Type: Portable Handset		Page 162 of 389

NR Band n5

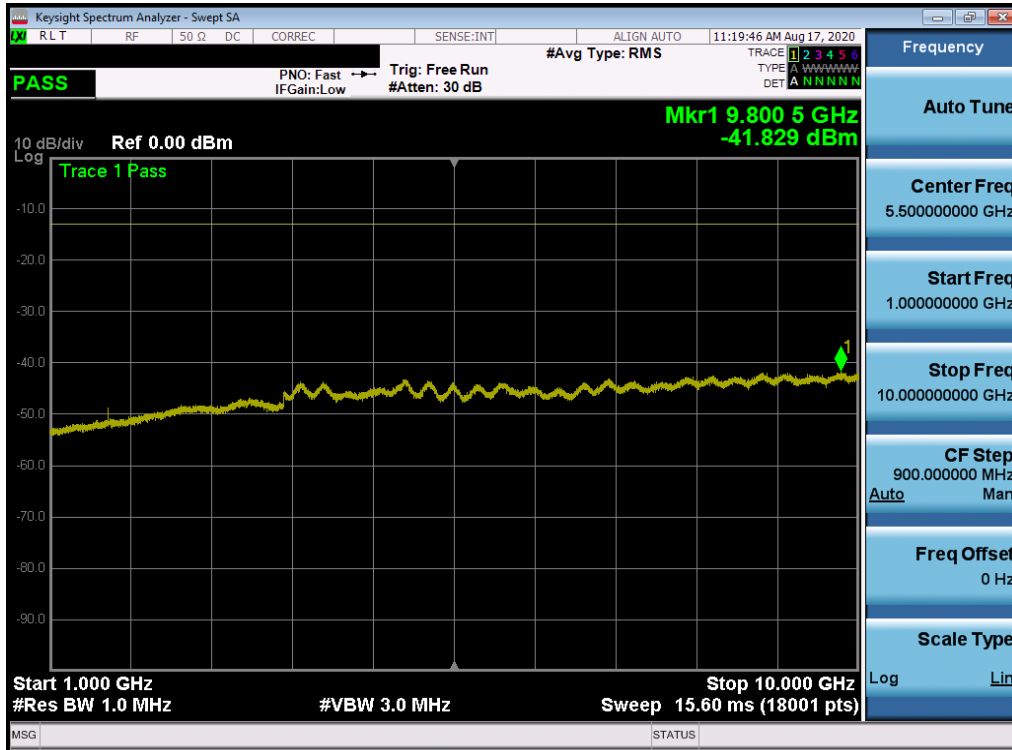


Plot 7-279. Conducted Spurious Plot (NR Band n5 - 20.0MHz - RB Size 1, RB Offset 0 - Low Channel)

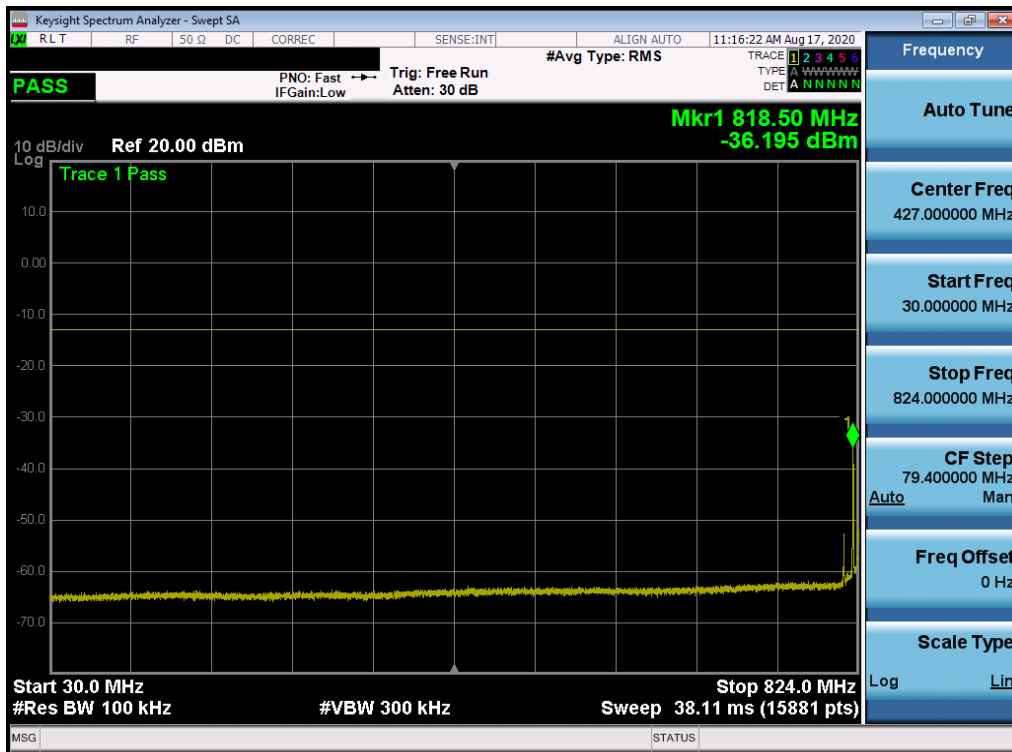


Plot 7-280. Conducted Spurious Plot (NR Band n5 - 20.0MHz - RB Size 1, RB Offset 0 - Low Channel)

FCC ID: ZNFK920AM	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M2007130107-03.ZNF	Test Dates: 07/30/2020 - 09/03/2020	EUT Type: Portable Handset		Page 163 of 389

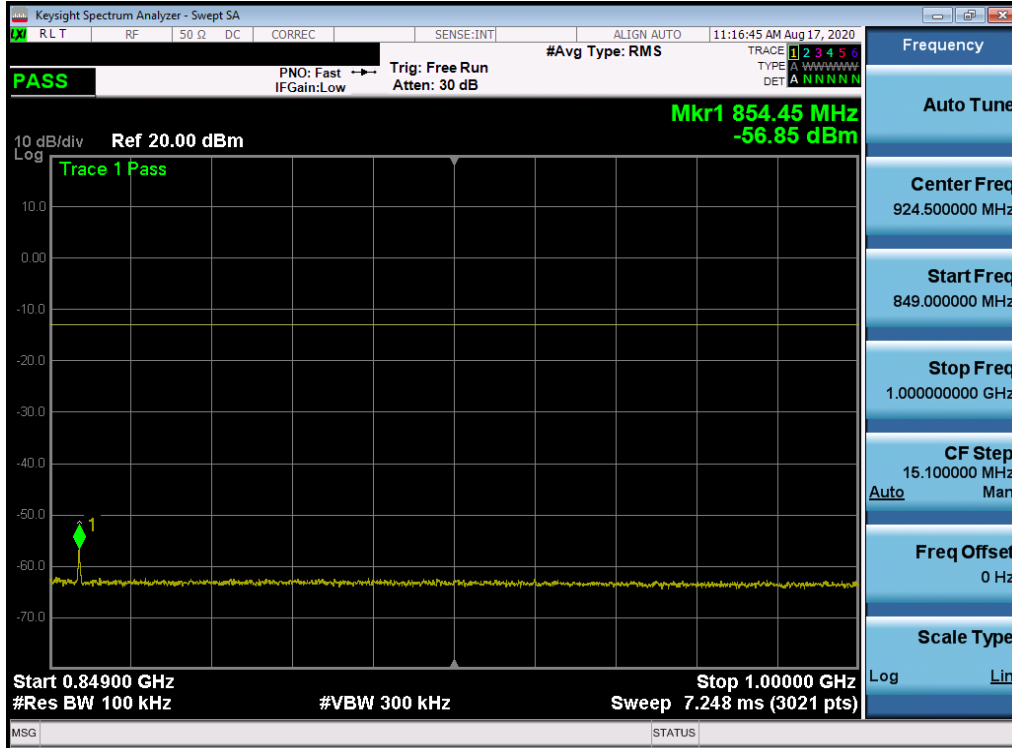


Plot 7-281. Conducted Spurious Plot (NR Band n5 - 20.0MHz - RB Size 1, RB Offset 0 - Low Channel)

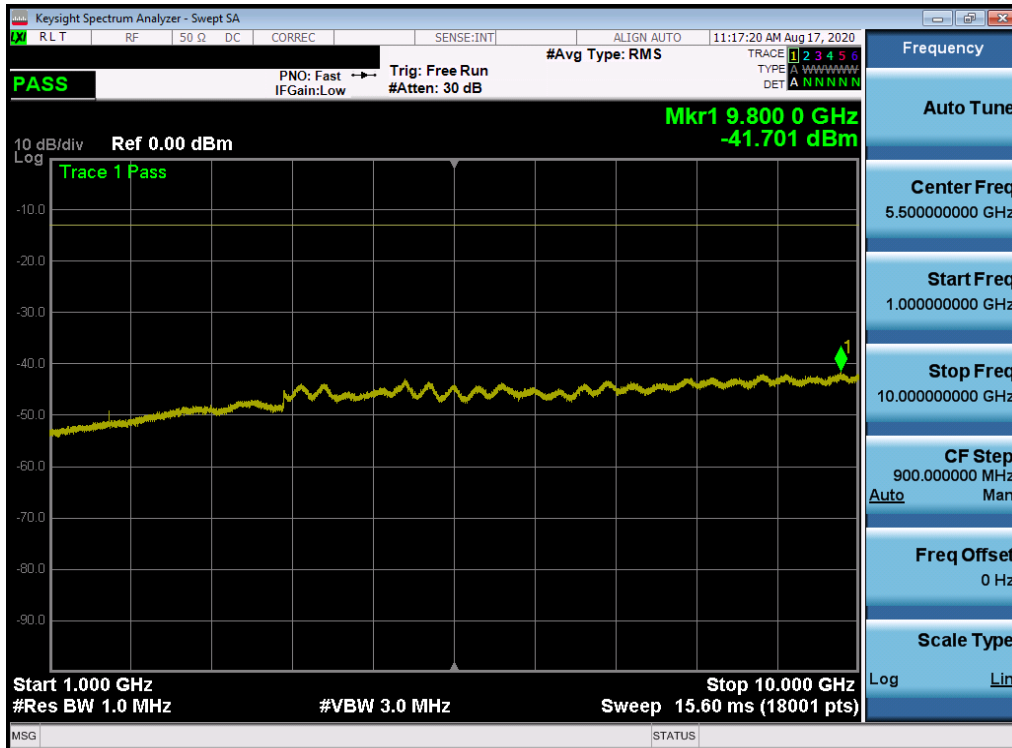


Plot 7-282. Conducted Spurious Plot (NR Band n5 - 20.0MHz - RB Size 1, RB Offset 0 - Mid Channel)

FCC ID: ZNFK920AM	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M2007130107-03.ZNF	Test Dates: 07/30/2020 - 09/03/2020	EUT Type: Portable Handset		Page 164 of 389

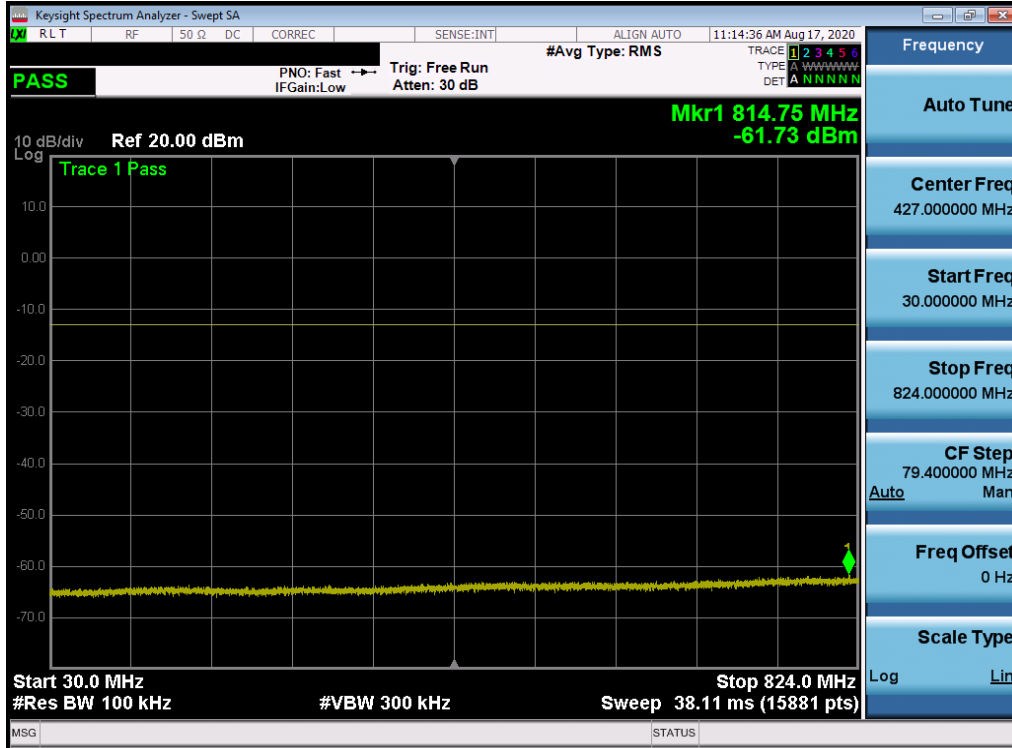


Plot 7-283. Conducted Spurious Plot (NR Band n5 - 20.0MHz - RB Size 1, RB Offset 0 - Mid Channel)

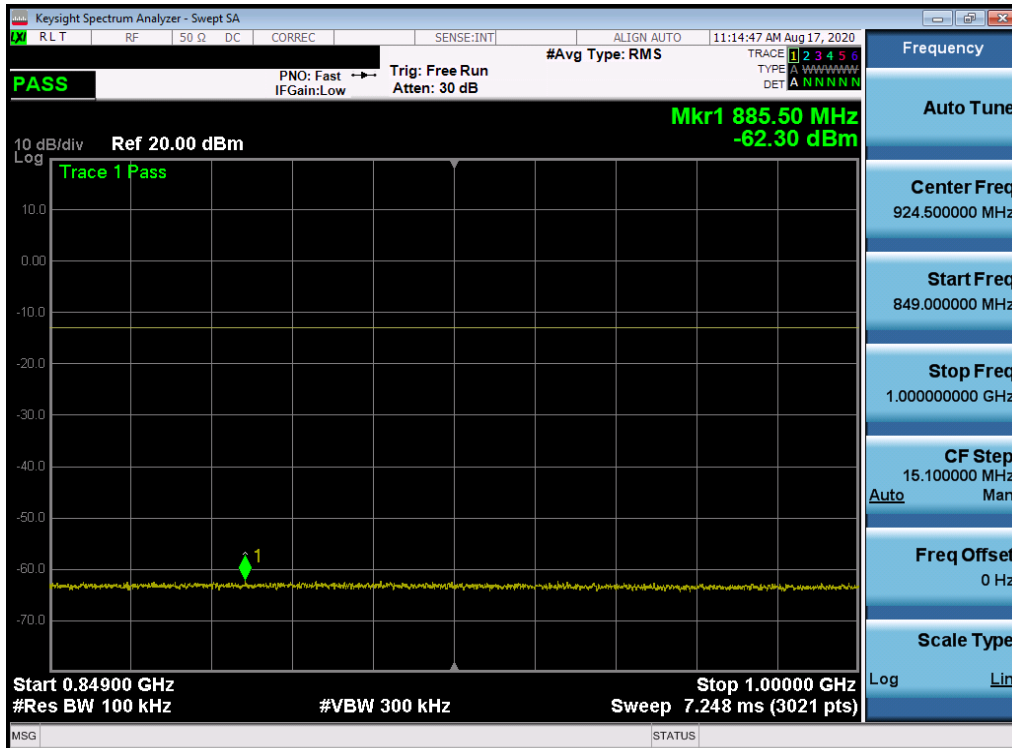


Plot 7-284. Conducted Spurious Plot (NR Band n5 - 20.0MHz - RB Size 1, RB Offset 0 - Mid Channel)

FCC ID: ZNFK920AM	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M2007130107-03.ZNF	Test Dates: 07/30/2020 - 09/03/2020	EUT Type: Portable Handset		Page 165 of 389

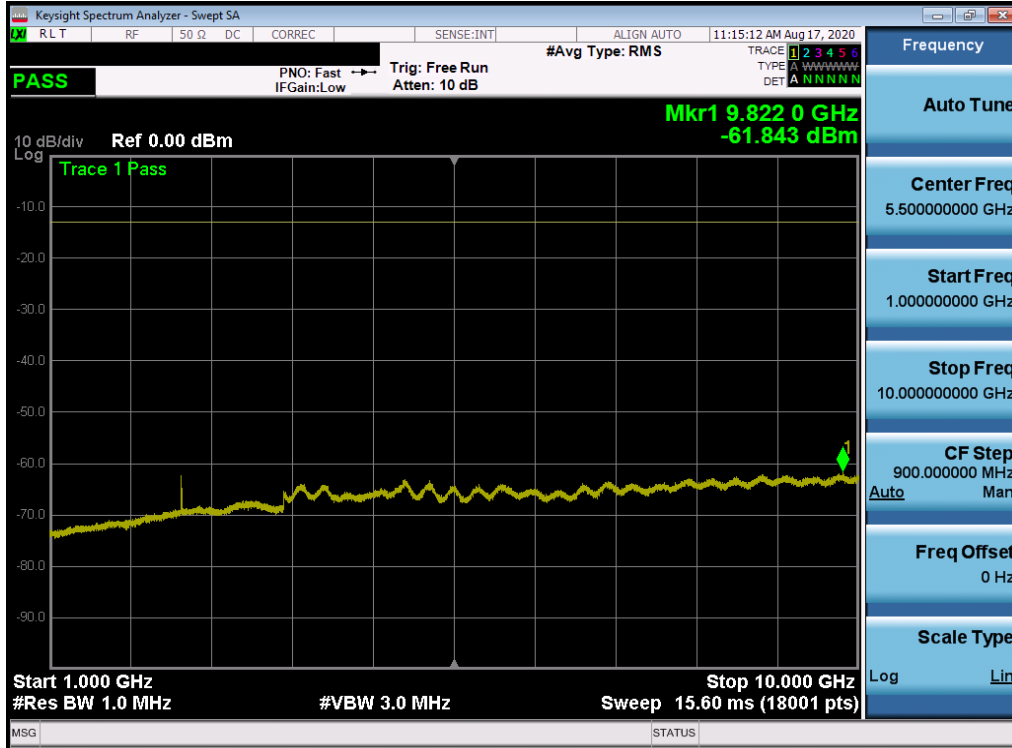


Plot 7-285. Conducted Spurious Plot (NR Band n5 - 20.0MHz - RB Size 1, RB Offset 0 - High Channel)



Plot 7-286. Conducted Spurious Plot (NR Band n5 - 20.0MHz - RB Size 1, RB Offset 0 - High Channel)

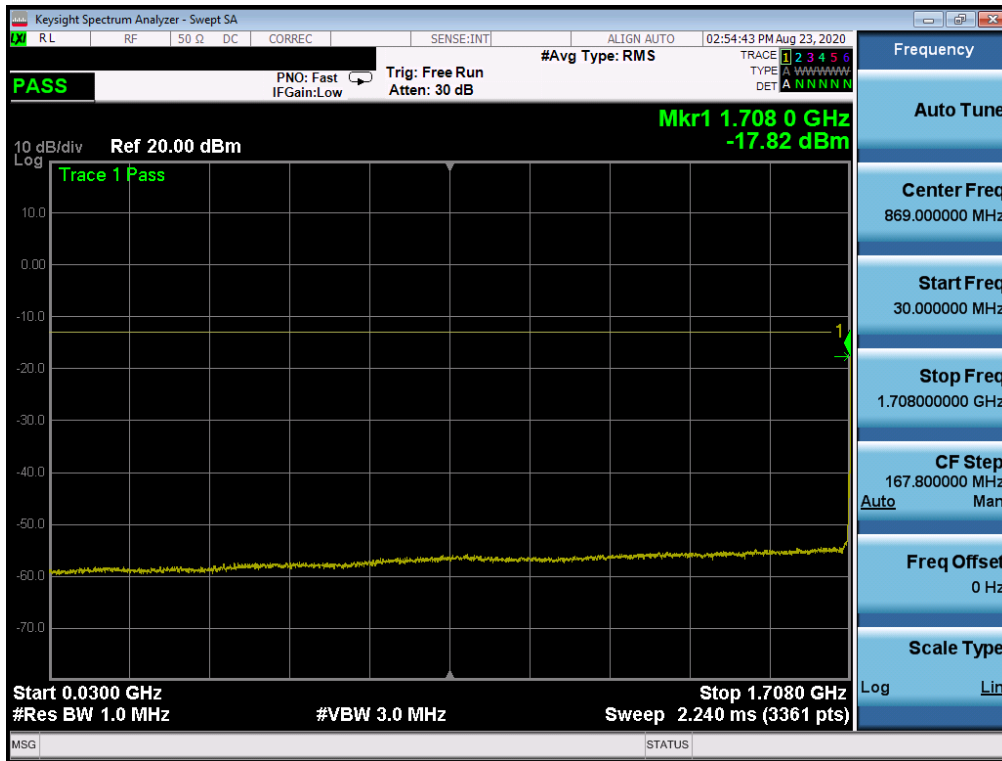
FCC ID: ZNFK920AM	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M2007130107-03.ZNF	Test Dates: 07/30/2020 - 09/03/2020	EUT Type: Portable Handset		Page 166 of 389



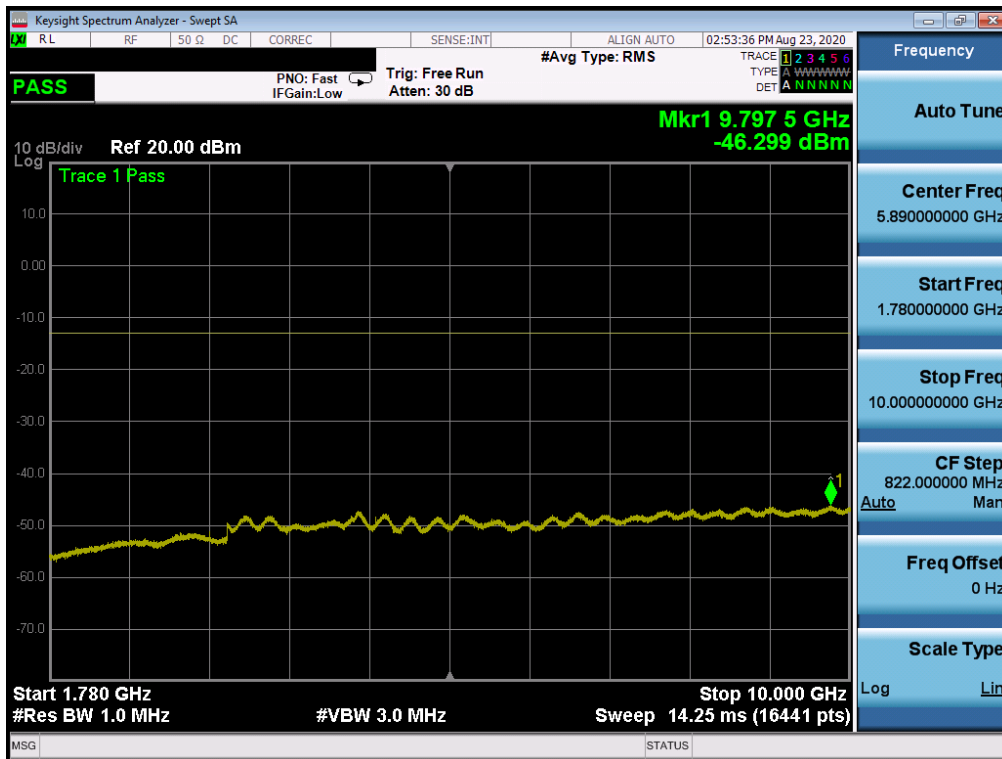
Plot 7-287. Conducted Spurious Plot (NR Band n5 - 20.0MHz - RB Size 1, RB Offset 0 - High Channel)

FCC ID: ZNFK920AM	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M2007130107-03.ZNF	Test Dates: 07/30/2020 - 09/03/2020	EUT Type: Portable Handset		Page 167 of 389

NR Band n66

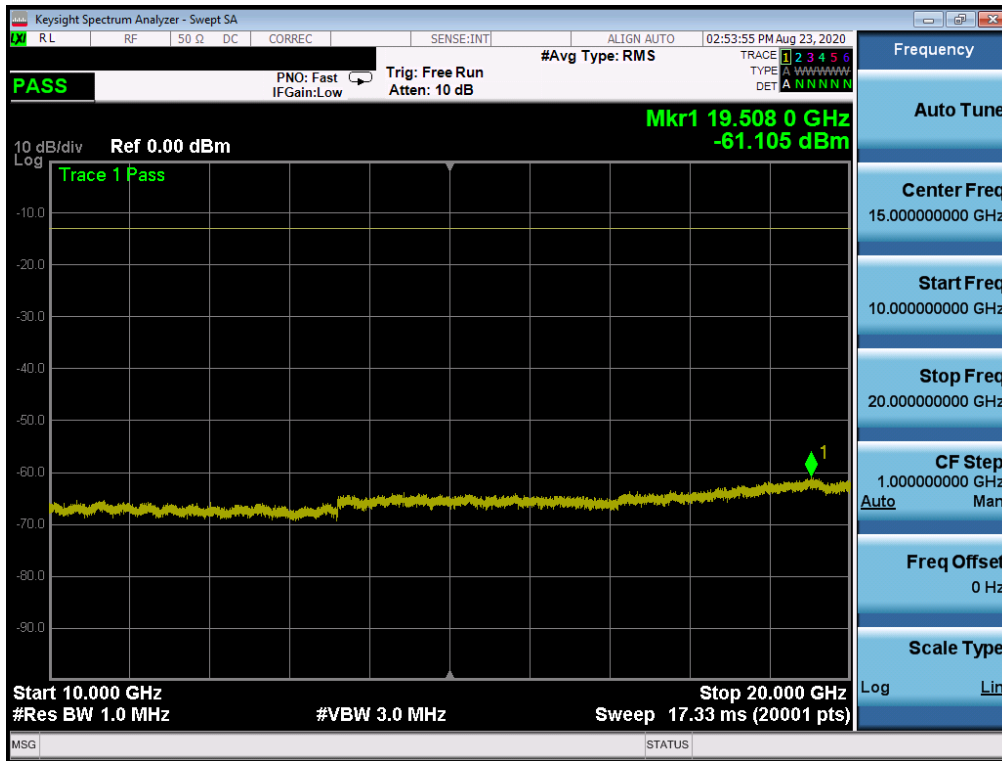


Plot 7-288. Conducted Spurious Plot (NR Band n66 -20.0MHz - RB Size 1, RB Offset 0 - Low Channel)

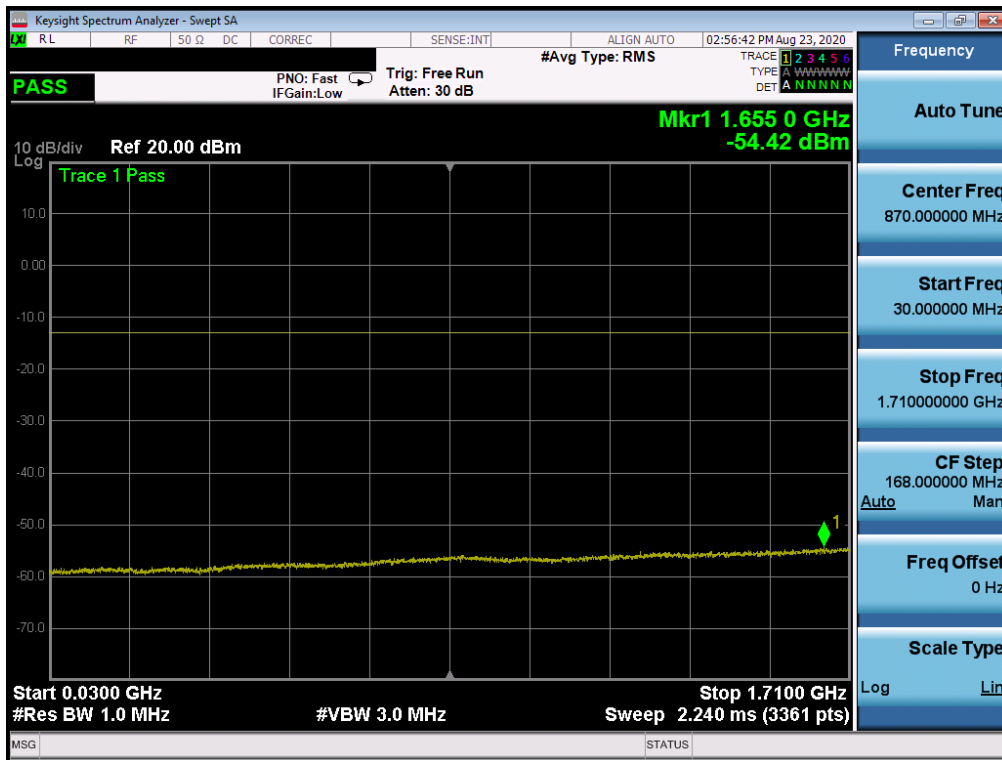


Plot 7-289. Conducted Spurious Plot (NR Band n66 - 20.0MHz - RB Size 1, RB Offset 0 - Low Channel)

FCC ID: ZNFK920AM	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M2007130107-03.ZNF	Test Dates: 07/30/2020 - 09/03/2020	EUT Type: Portable Handset		Page 168 of 389

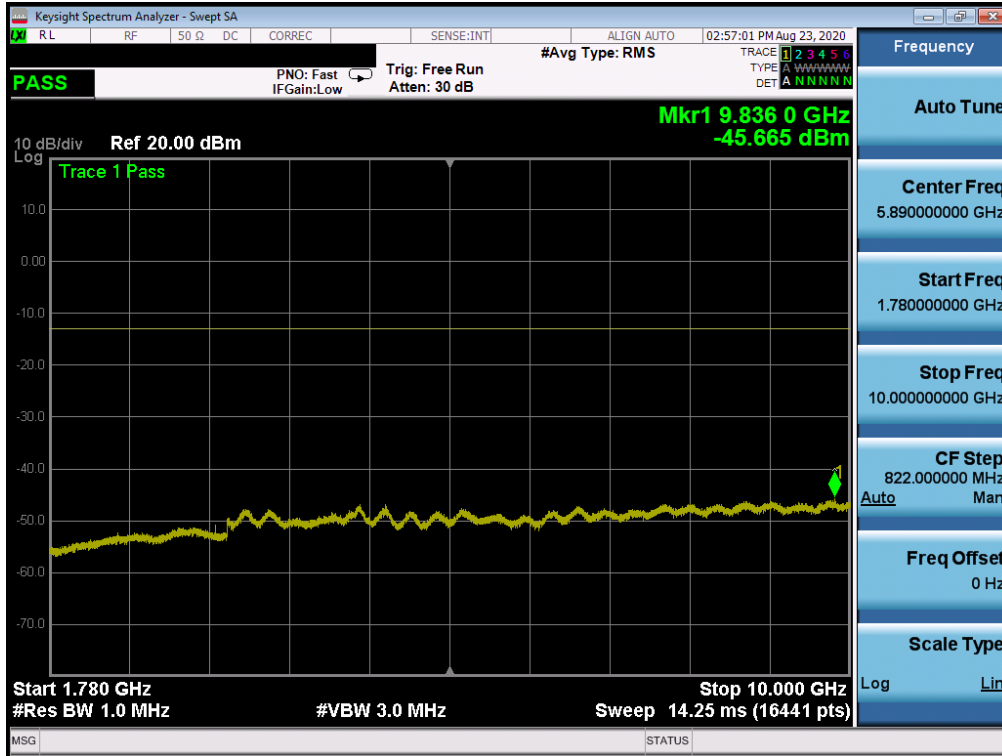


Plot 7-290. Conducted Spurious Plot (NR Band n66 - 20.0MHz - RB Size 1, RB Offset 0 - Low Channel)

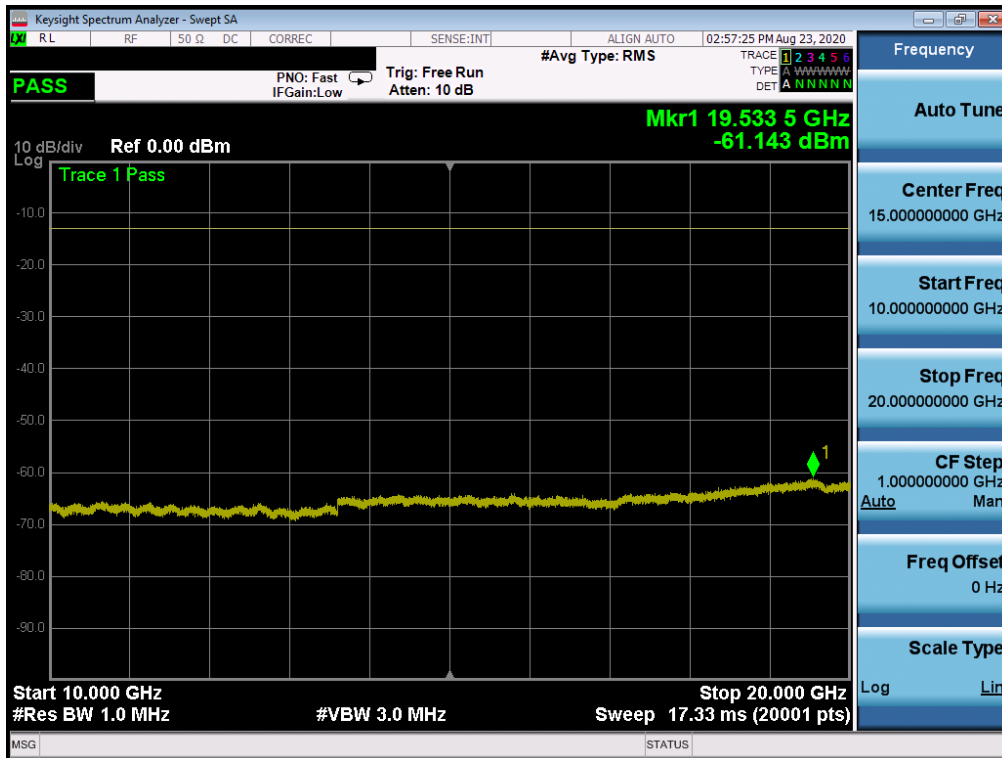


Plot 7-291. Conducted Spurious Plot (NR Band n66 - 20.0MHz - RB Size 1, RB Offset 0 - Mid Channel)

FCC ID: ZNFK920AM	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M2007130107-03.ZNF	Test Dates: 07/30/2020 - 09/03/2020	EUT Type: Portable Handset		Page 169 of 389

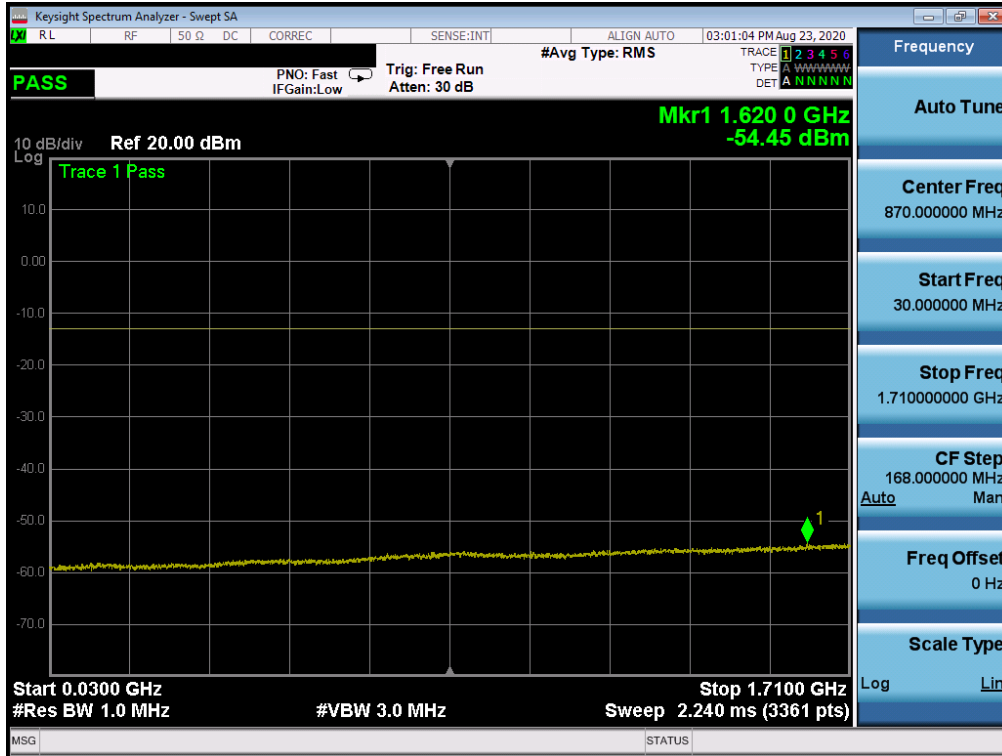


Plot 7-292. Conducted Spurious Plot (NR Band n66 - 20.0MHz - RB Size 1, RB Offset 0 - Mid Channel)

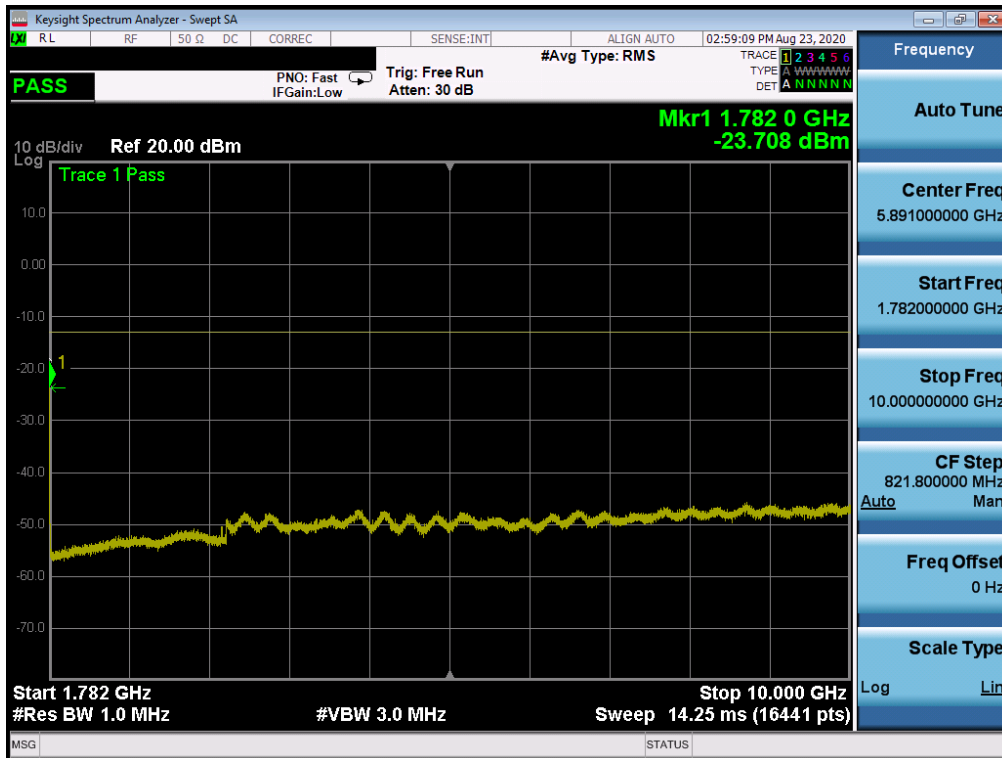


Plot 7-293. Conducted Spurious Plot (NR Band n66 - 20.0MHz - RB Size 1, RB Offset 0 - Mid Channel)

FCC ID: ZNFK920AM	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M2007130107-03.ZNF	Test Dates: 07/30/2020 - 09/03/2020	EUT Type: Portable Handset		Page 170 of 389

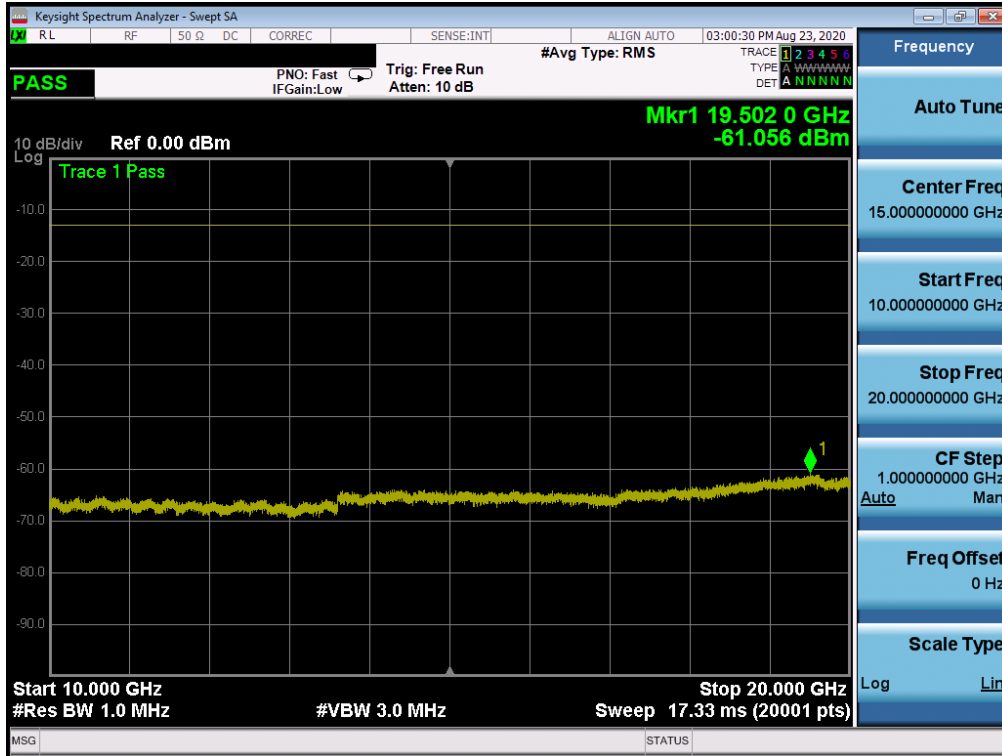


Plot 7-294. Conducted Spurious Plot (NR Band n66 - 20.0MHz - RB Size 1, RB Offset 0 - High Channel)



Plot 7-295. Conducted Spurious Plot (NR Band n66 - 20.0MHz - RB Size 1, RB Offset 0 - High Channel)

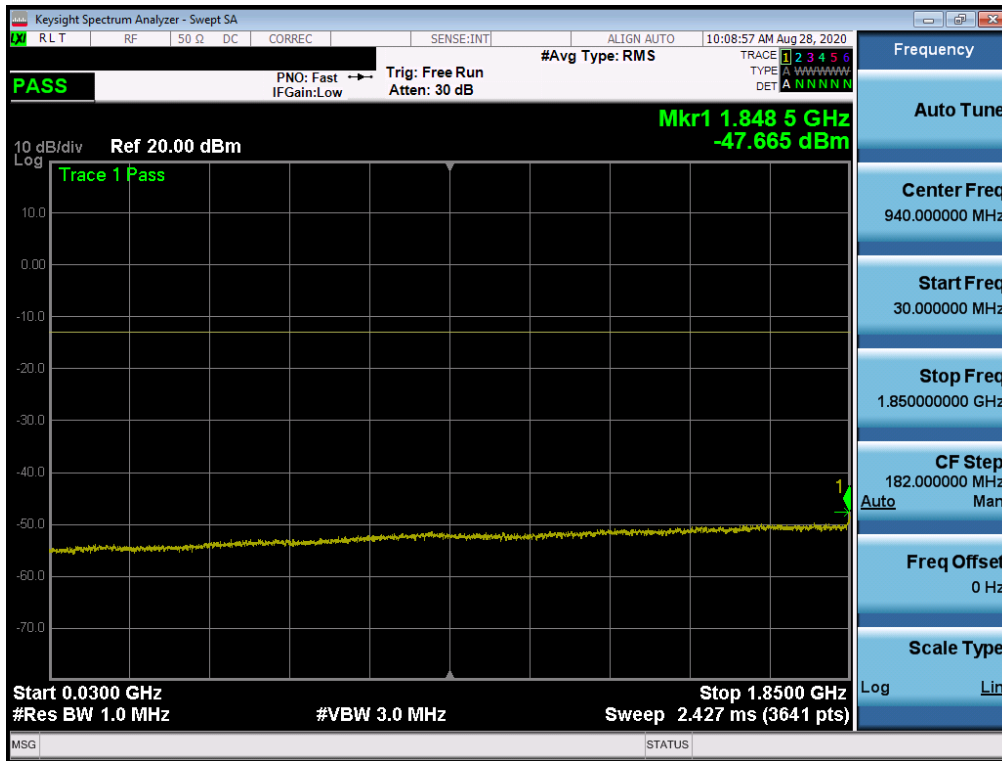
FCC ID: ZNFK920AM	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M2007130107-03.ZNF	Test Dates: 07/30/2020 - 09/03/2020	EUT Type: Portable Handset		Page 171 of 389



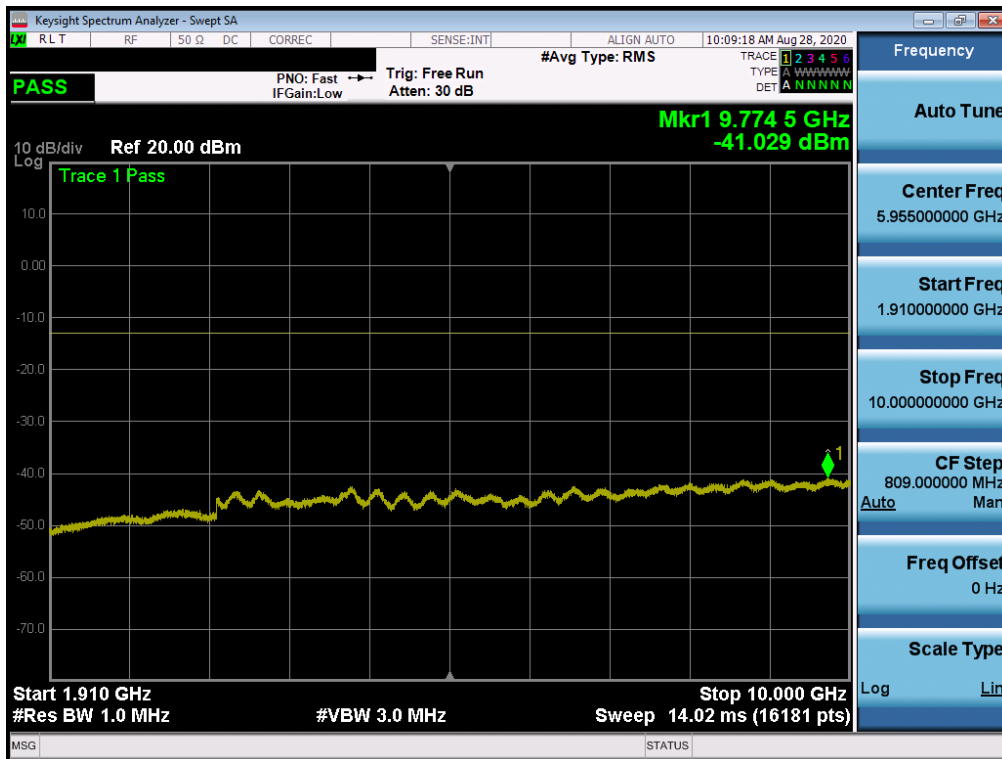
Plot 7-296. Conducted Spurious Plot (NR Band n66 - 20.0MHz - RB Size 1, RB Offset 0 - High Channel)

FCC ID: ZNFK920AM	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2007130107-03.ZNF	Test Dates: 07/30/2020 - 09/03/2020	EUT Type: Portable Handset		Page 172 of 389

NR Band n2

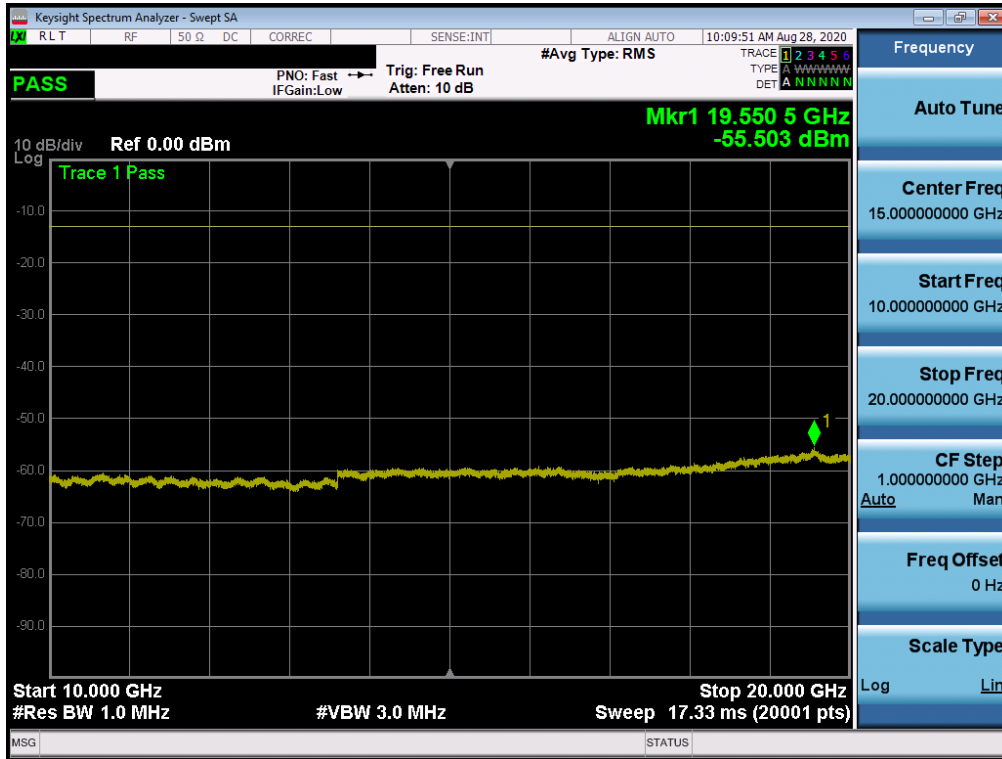


Plot 7-297. Conducted Spurious Plot (NR Band n2 -20.0MHz - RB Size 1, RB Offset 0 - Low Channel)



Plot 7-298. Conducted Spurious Plot (NR Band n2 - 20.0MHz - RB Size 1, RB Offset 0 - Low Channel)

FCC ID: ZNFK920AM	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M2007130107-03.ZNF	Test Dates: 07/30/2020 - 09/03/2020	EUT Type: Portable Handset		Page 173 of 389

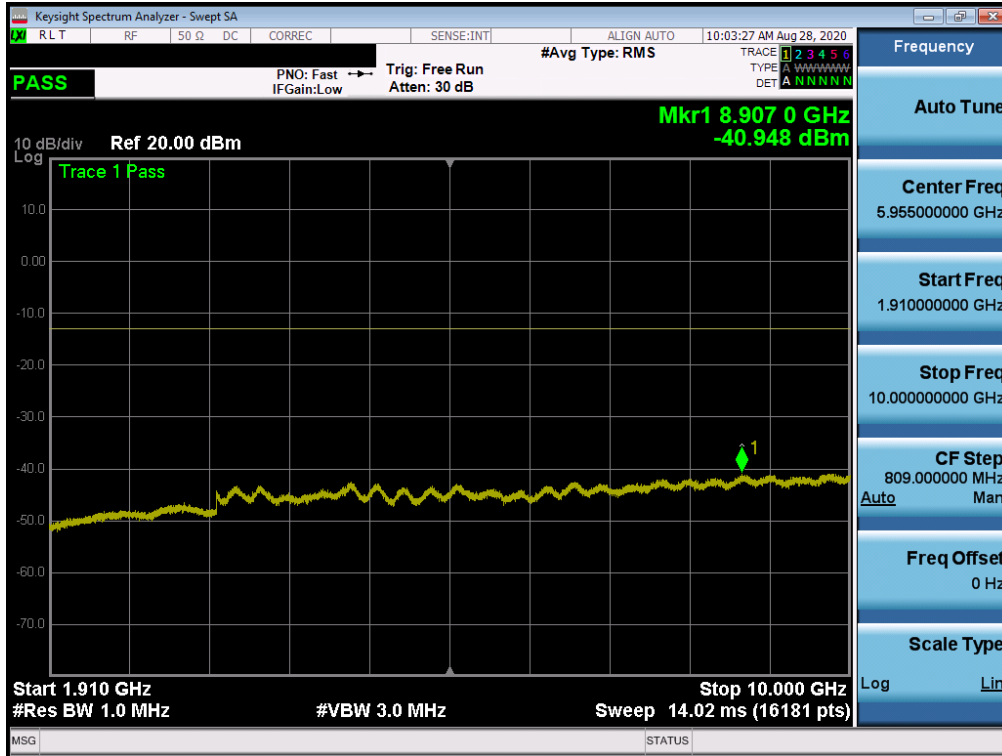


Plot 7-299. Conducted Spurious Plot (NR Band n2 - 20.0MHz - RB Size 1, RB Offset 0 - Low Channel)

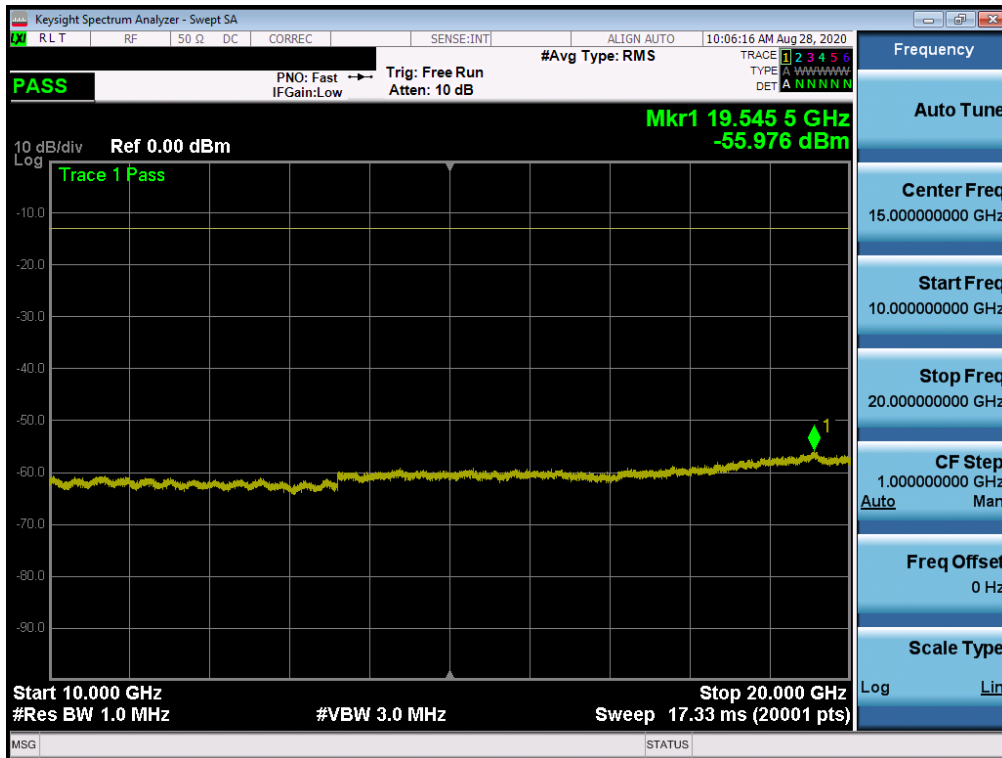


Plot 7-300. Conducted Spurious Plot (NR Band n2 - 20.0MHz - RB Size 1, RB Offset 0 - Mid Channel)

FCC ID: ZNFK920AM	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M2007130107-03.ZNF	Test Dates: 07/30/2020 - 09/03/2020	EUT Type: Portable Handset		Page 174 of 389

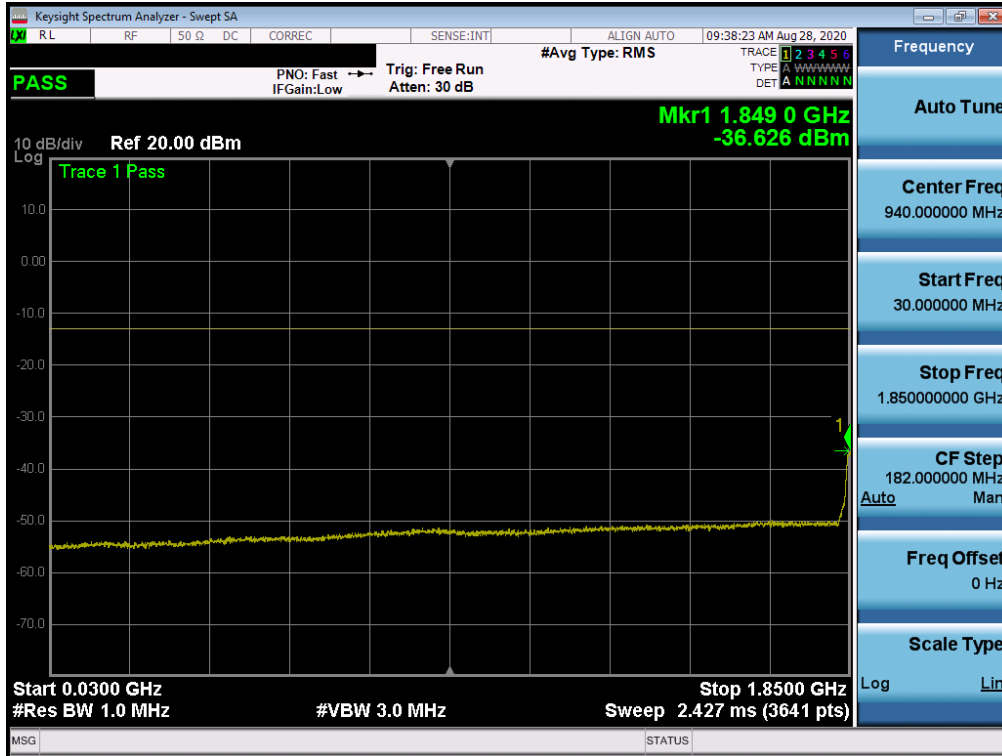


Plot 7-301. Conducted Spurious Plot (NR Band n2 - 20.0MHz - RB Size 1, RB Offset 0 - Mid Channel)



Plot 7-302. Conducted Spurious Plot (NR Band n2 - 20.0MHz - RB Size 1, RB Offset 0 - Mid Channel)

FCC ID: ZNFK920AM	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M2007130107-03.ZNF	Test Dates: 07/30/2020 - 09/03/2020	EUT Type: Portable Handset		Page 175 of 389

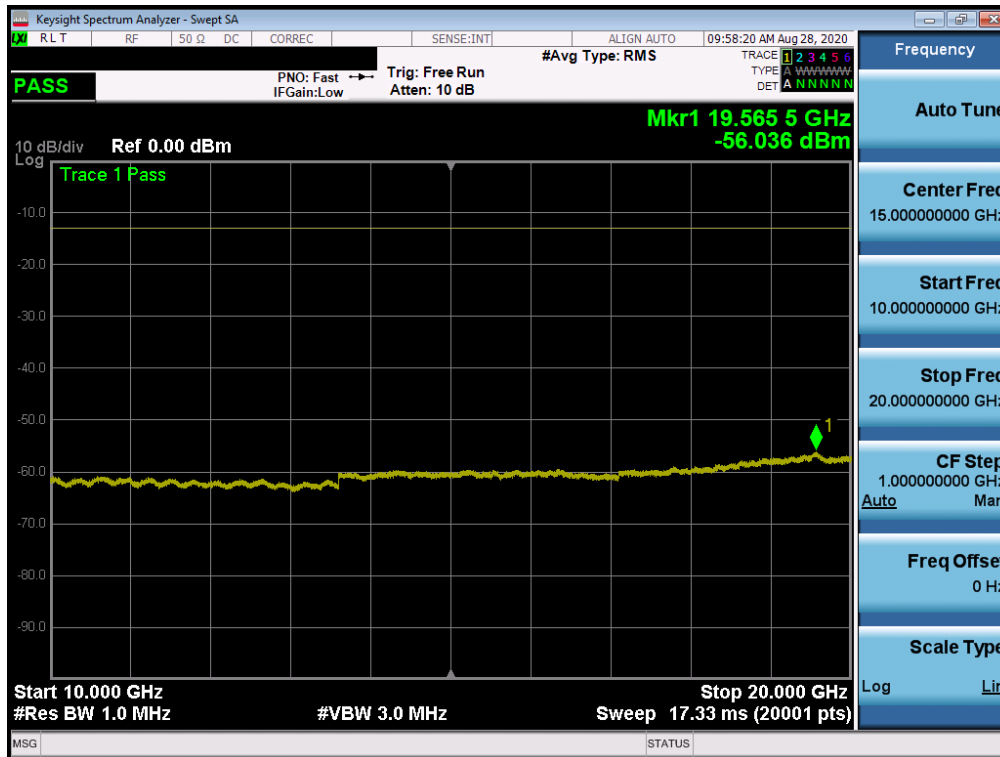


Plot 7-303. Conducted Spurious Plot (NR Band n2 - 20.0MHz - RB Size 1, RB Offset 0 - High Channel)



Plot 7-304. Conducted Spurious Plot (NR Band n2 - 20.0MHz - RB Size 1, RB Offset 0 - High Channel)

FCC ID: ZNFK920AM	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M2007130107-03.ZNF	Test Dates: 07/30/2020 - 09/03/2020	EUT Type: Portable Handset		Page 176 of 389



Plot 7-305. Conducted Spurious Plot (NR Band n2 - 20.0MHz - RB Size 1, RB Offset 0 - High Channel)

FCC ID: ZNFK920AM	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M2007130107-03.ZNF	Test Dates: 07/30/2020 - 09/03/2020	EUT Type: Portable Handset		Page 177 of 389

7.4 Band Edge Emissions at Antenna Terminal

Test Overview

All out of band emissions are measured with a spectrum analyzer connected to the antenna terminal of the EUT while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies. All data rates were investigated to determine the worst case configuration. All modes of operation were investigated and the worst case configuration results are reported in this section.

The minimum permissible attenuation level of any spurious emission is $43 + 10 \log_{10}(P_{[Watts]})$, where P is the transmitter power in Watts.

The minimum permissible attenuation level for Band 30 is $> 43 + 10 \log_{10}(P_{[Watts]})$ at 2300-2305MHz & 2345-2360MHz, $> 55 + 10 \log_{10}(P_{[Watts]})$ at 2320-2324MHz & 2341-2345MHz, $> 61 + 10 \log_{10}(P_{[Watts]})$ at 2324-2328MHz & 2337-2341MHz, $> 67 + 10 \log_{10}(P_{[Watts]})$ at 2288-2292MHz & 2328-2337MHz, and $> 70 + 10 \log_{10}(P_{[Watts]})$ at frequencies $< 2288\text{MHz}$ & $> 2365\text{MHz}$.

The minimum permissible attenuation level for Band 41 is as noted in the Test Notes on the following page.

Test Procedure Used

KDB 971168 D01 v03r01 – Section 6.0

Test Settings

1. Start and stop frequency were set such that the band edge would be placed in the center of the plot
2. Span was set large enough so as to capture all out of band emissions near the band edge
3. RBW \geq 1% of the emission bandwidth
4. VBW \geq 3 x RBW
5. Detector = RMS
6. Number of sweep points \geq 2 x Span/RBW
7. Trace mode = trace average for continuous emissions, max hold for pulse emissions
8. Sweep time = auto couple
9. The trace was allowed to stabilize

Test Setup

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

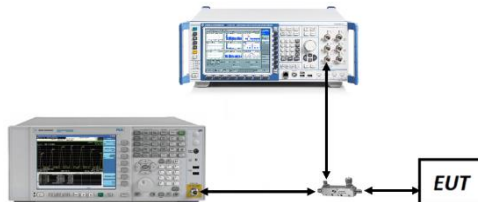


Figure 7-3. Test Instrument & Measurement Setup

FCC ID: ZNFK920AM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2007130107-03.ZNF	Test Dates: 07/30/2020 - 09/03/2020	EUT Type: Portable Handset		Page 178 of 389

Test Notes

Per 22.917(b) 24.238(a) 27.53(h) in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed to demonstrate compliance with the out-of-band emissions limit. The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emission are attenuated at least 26 dB below the transmitter power.

Per 27.53(g) for operations in the 698-746 MHz band, in the 100 kHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least 30 kHz may be employed to demonstrate compliance with the out-of-band emissions limit.

Per 27.53(c)(5) for operations in the 776-788 MHz band, in the 100 kHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least 30 kHz may be employed to demonstrate compliance with the out-of-band emissions limit.

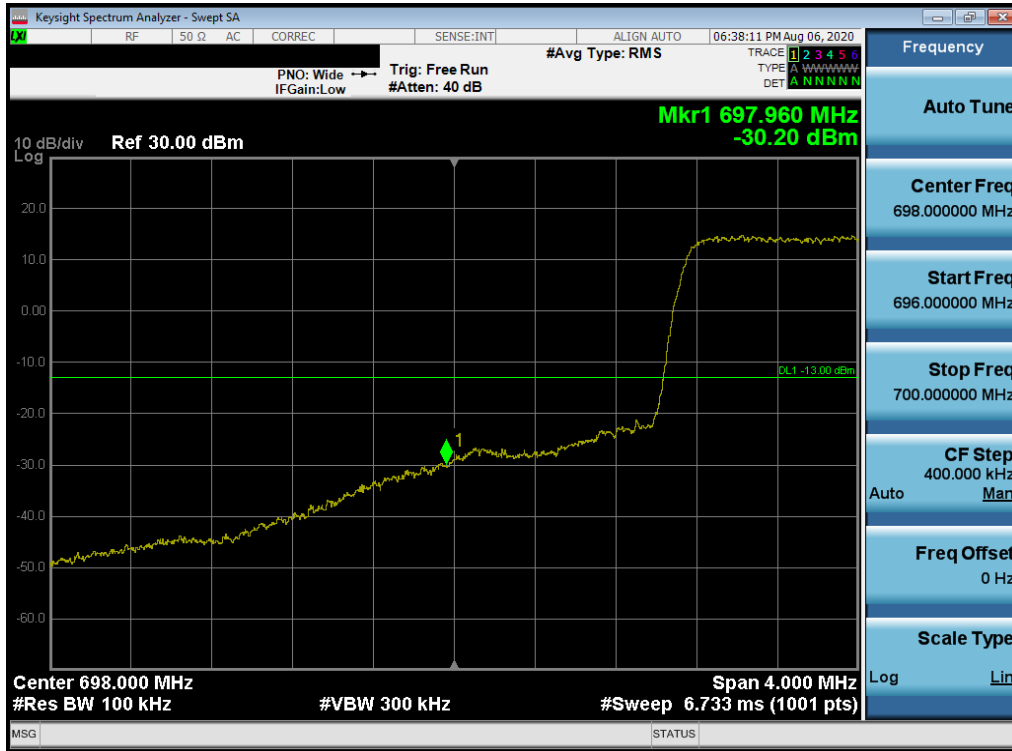
For all plots showing emissions in the 763 – 775MHz and 793 – 805MHz band, the FCC limit per 27.53(c)(4) is $65 + 10 \log_{10}(P) = -35\text{dBm}$ in a 6.25kHz bandwidth.

Per 27.53(a)(5) in the 1 MHz bands immediately outside and adjacent to the channel blocks at 2305, 2310, 2315, 2320, 2345, 2350, 2355, and 2360 MHz, a resolution bandwidth of at least 1 percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (i.e., 1 MHz). The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

Per 27.53(m) for operations in the BRS/EBS bands, the attenuation factor shall be not less than $40 + 10 \log (P)$ dB on all frequencies between the channel edge and 5 megahertz from the channel edge, $43 + 10 \log (P)$ dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and $55 + 10 \log (P)$ dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth. In addition, the attenuation factor shall not be less that $43 + 10 \log (P)$ dB on all frequencies between 2490.5 MHz and 2496 MHz and $55 + 10 \log (P)$ dB at or below 2490.5 MHz.

FCC ID: ZNFK920AM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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LTE Band 12/17

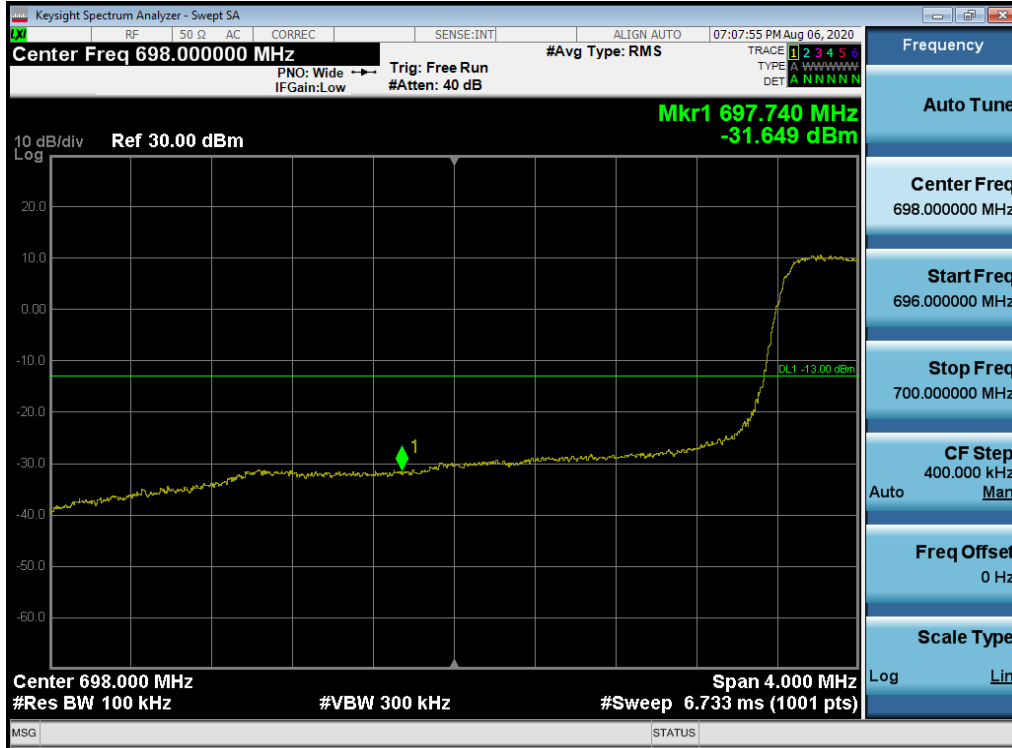


Plot 7-306. Lower Band Edge Plot (LTE Band 12 – 1.4MHz QPSK – Full RB Configuration)

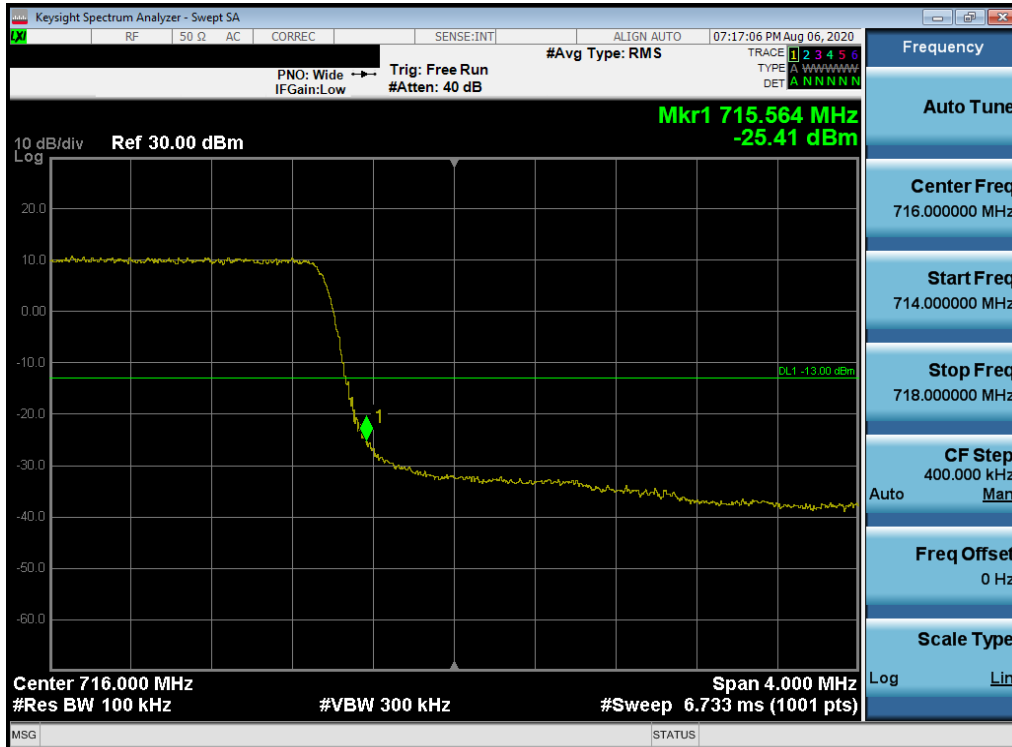


Plot 7-307. Upper Band Edge Plot (LTE Band 12 – 1.4MHz QPSK – Full RB Configuration)

FCC ID: ZNFK920AM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2007130107-03.ZNF	Test Dates: 07/30/2020 - 09/03/2020	EUT Type: Portable Handset	Page 180 of 389	

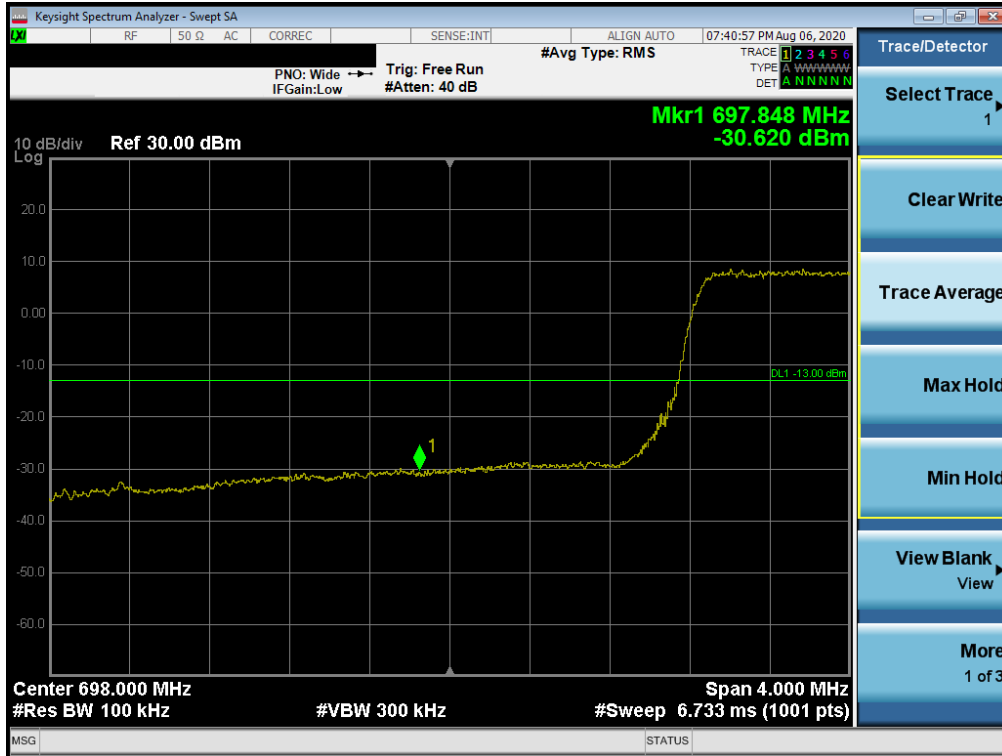


Plot 7-308. Lower Band Edge Plot (LTE Band 12 - 3MHz QPSK – Full RB Configuration)

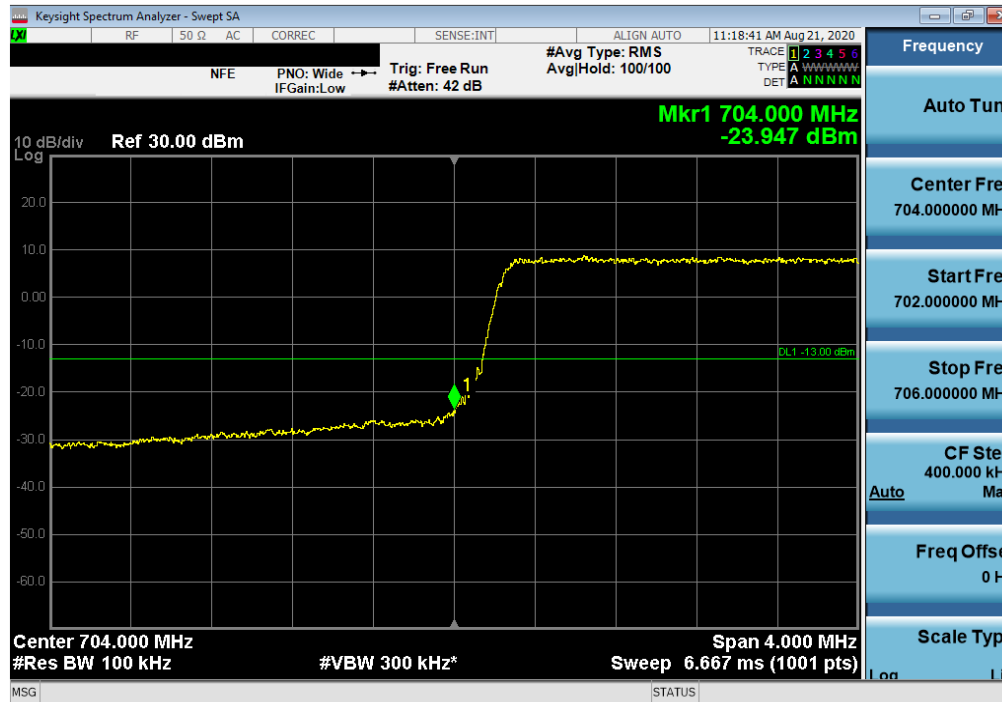


Plot 7-309. Upper Band Edge Plot (LTE Band 12 - 3MHz QPSK – Full RB Configuration)

FCC ID: ZNFK920AM	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2007130107-03.ZNF	Test Dates: 07/30/2020 - 09/03/2020	EUT Type: Portable Handset		Page 181 of 389

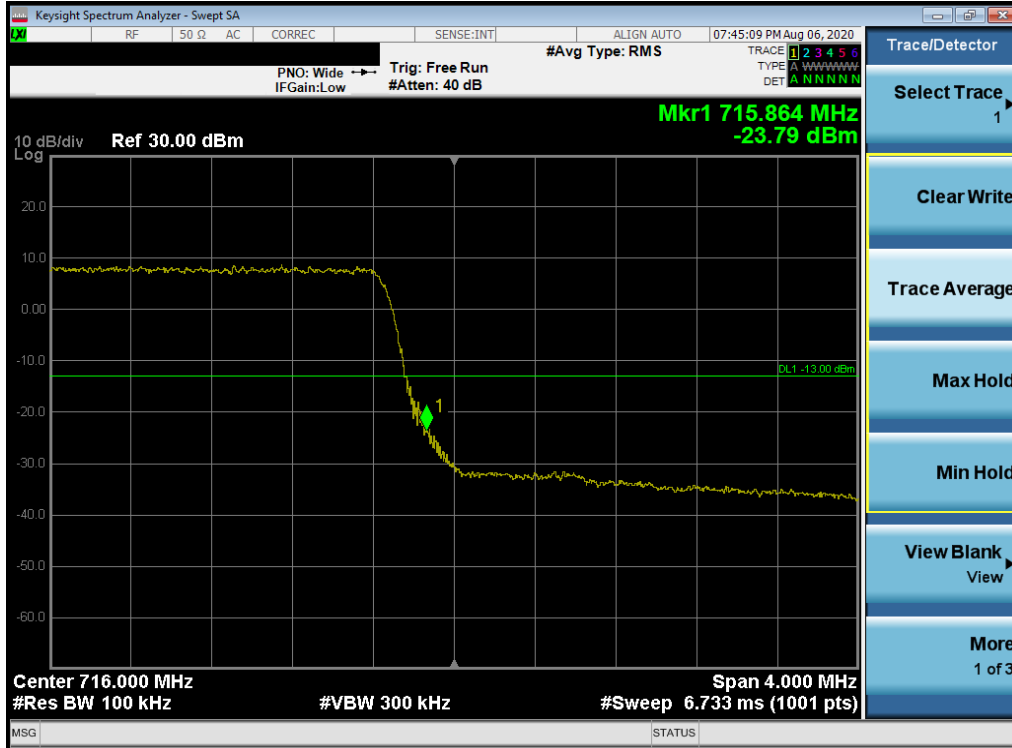


Plot 7-310. Lower Band Edge Plot (LTE Band 12 - 5MHz QPSK – Full RB Configuration)

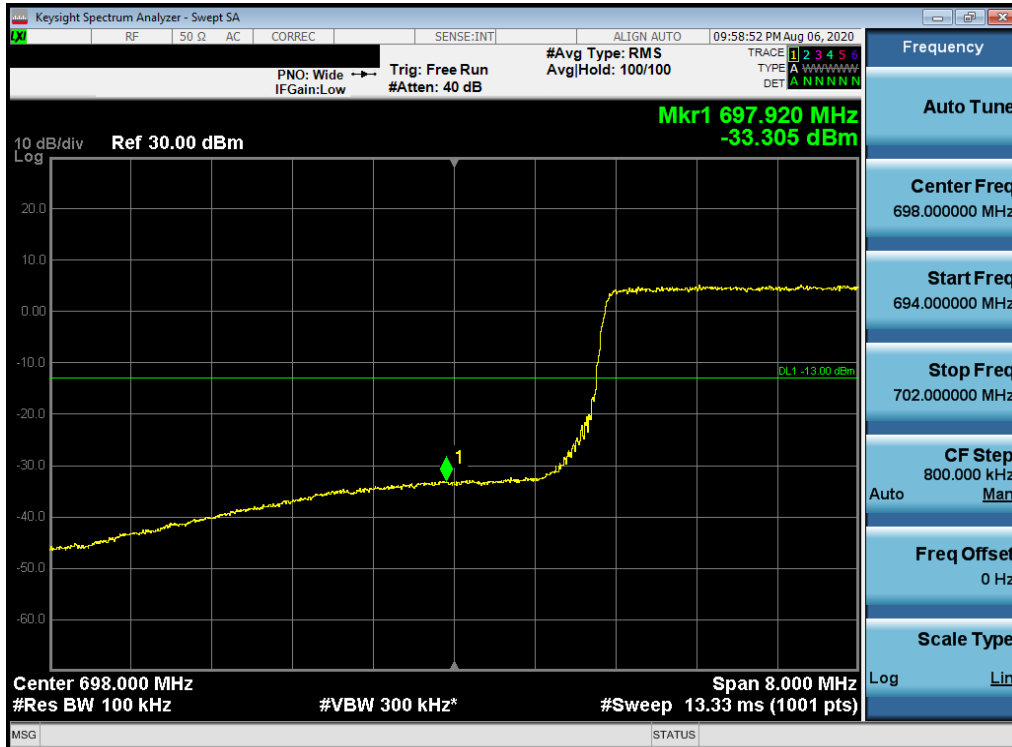


Plot 7-311. Lower Band Edge Plot (LTE Band 17 - 5MHz QPSK – Full RB Configuration)

FCC ID: ZNFK920AM	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2007130107-03.ZNF	Test Dates: 07/30/2020 - 09/03/2020	EUT Type: Portable Handset		Page 182 of 389

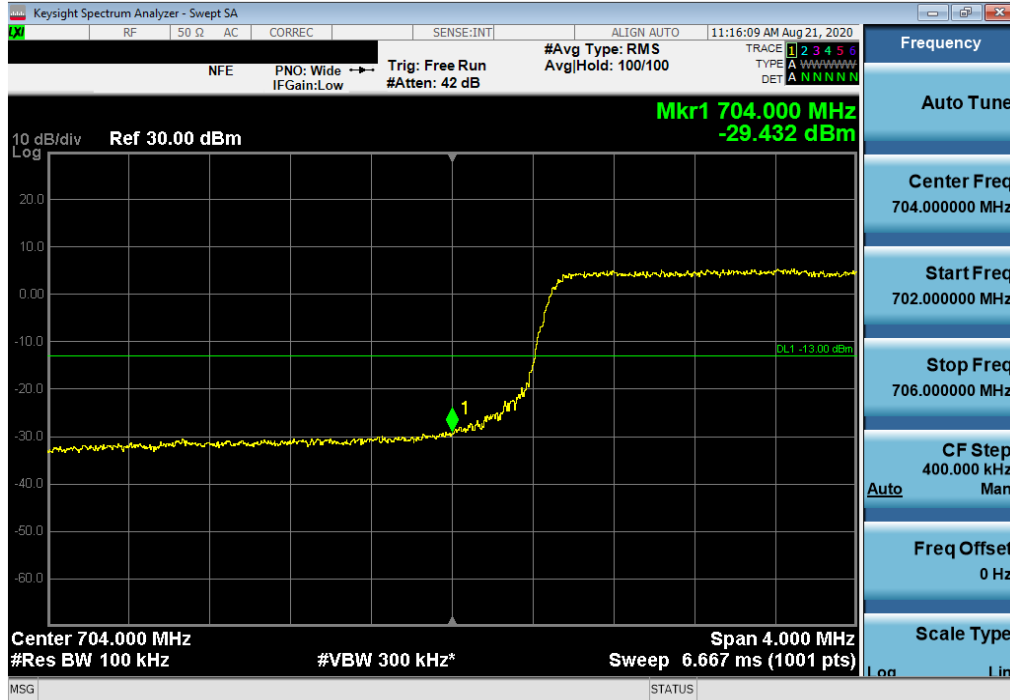


Plot 7-312. Upper Band Edge Plot (LTE Band 12/17 - 5MHz QPSK – Full RB Configuration)

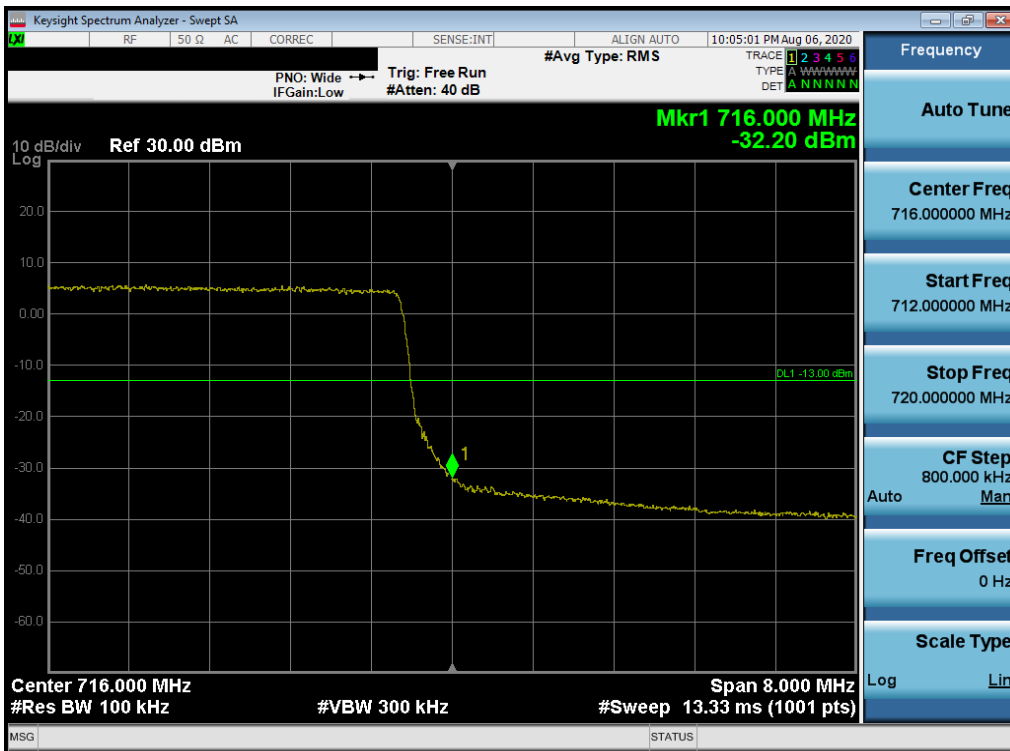


Plot 7-313. Lower Band Edge Plot (LTE Band 12 - 10MHz QPSK – Full RB Configuration)

FCC ID: ZNFK920AM	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M2007130107-03.ZNF	Test Dates: 07/30/2020 - 09/03/2020	EUT Type: Portable Handset		Page 183 of 389



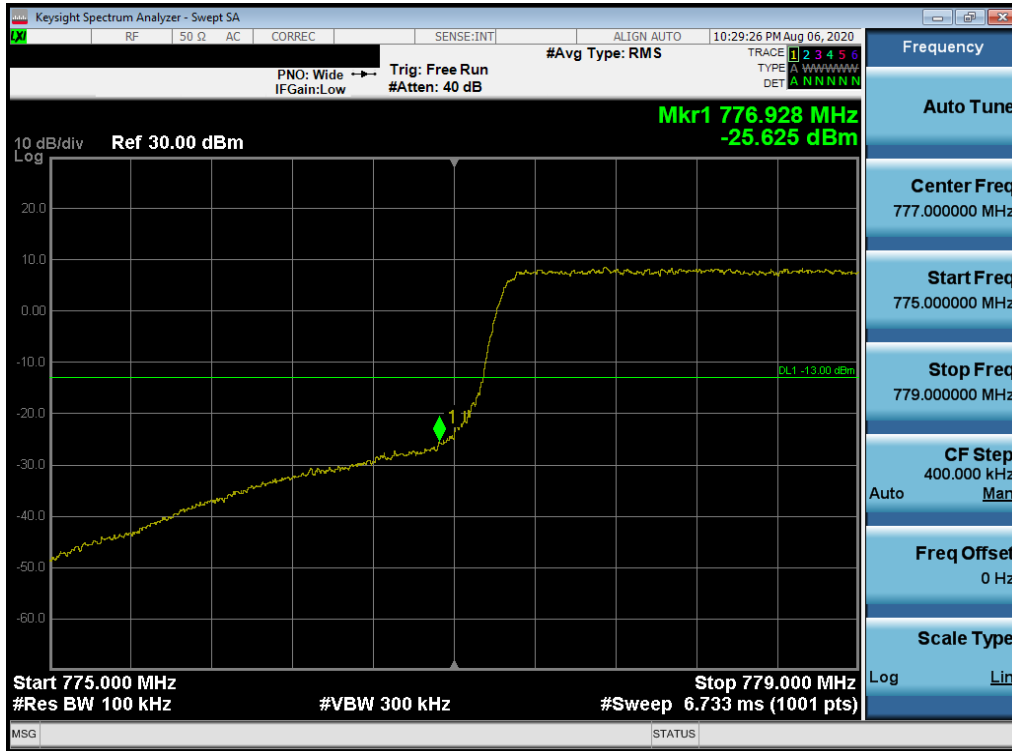
Plot 7-314. Lower Band Edge Plot (LTE Band 17 - 10MHz QPSK – Full RB Configuration)



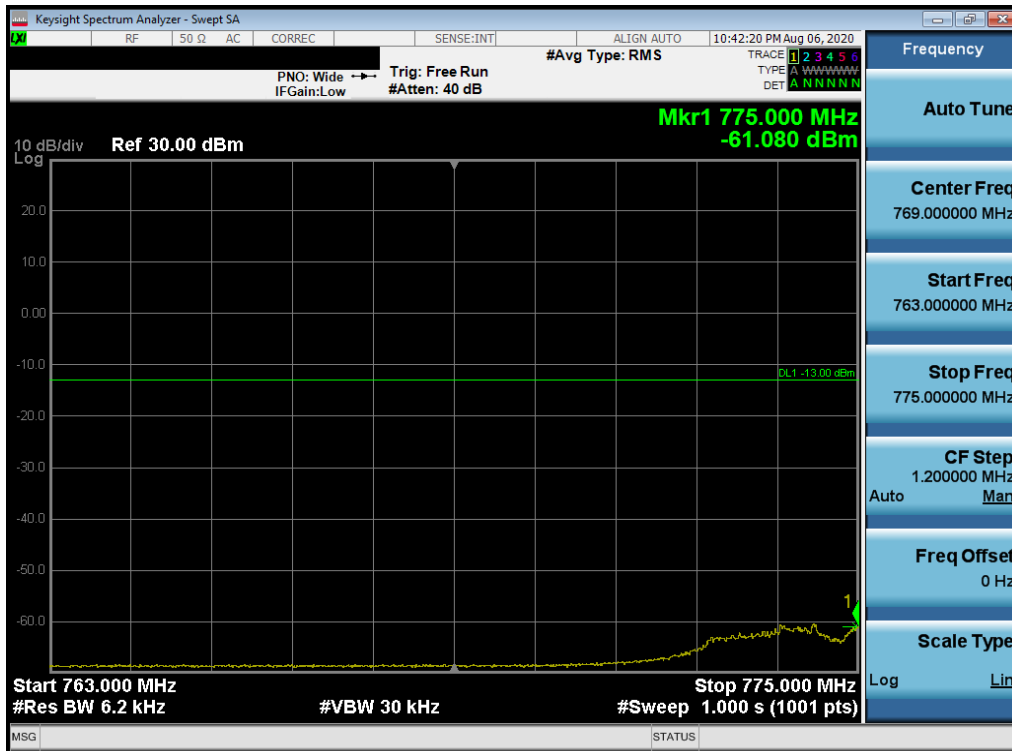
Plot 7-315. Upper Band Edge Plot (LTE Band 12/17 - 10MHz QPSK – Full RB Configuration)

FCC ID: ZNFK920AM	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M2007130107-03.ZNF	Test Dates: 07/30/2020 - 09/03/2020	EUT Type: Portable Handset		Page 184 of 389

LTE Band 13

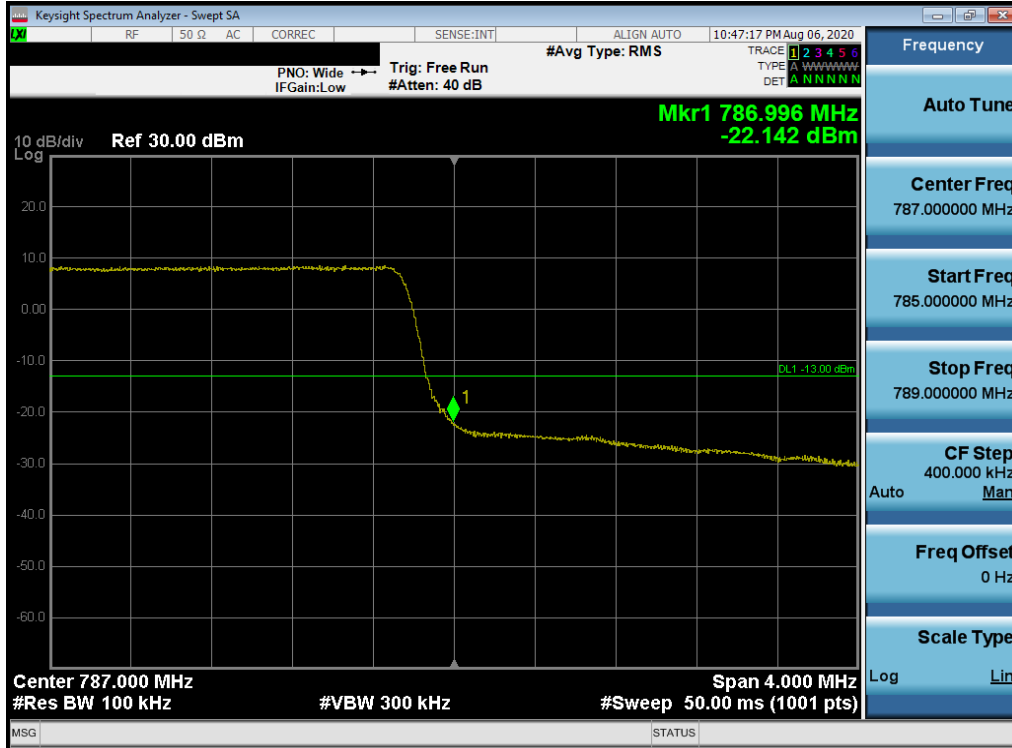


Plot 7-316. Lower Band Edge Plot (LTE Band 13 - 5MHz QPSK – Full RB Configuration)

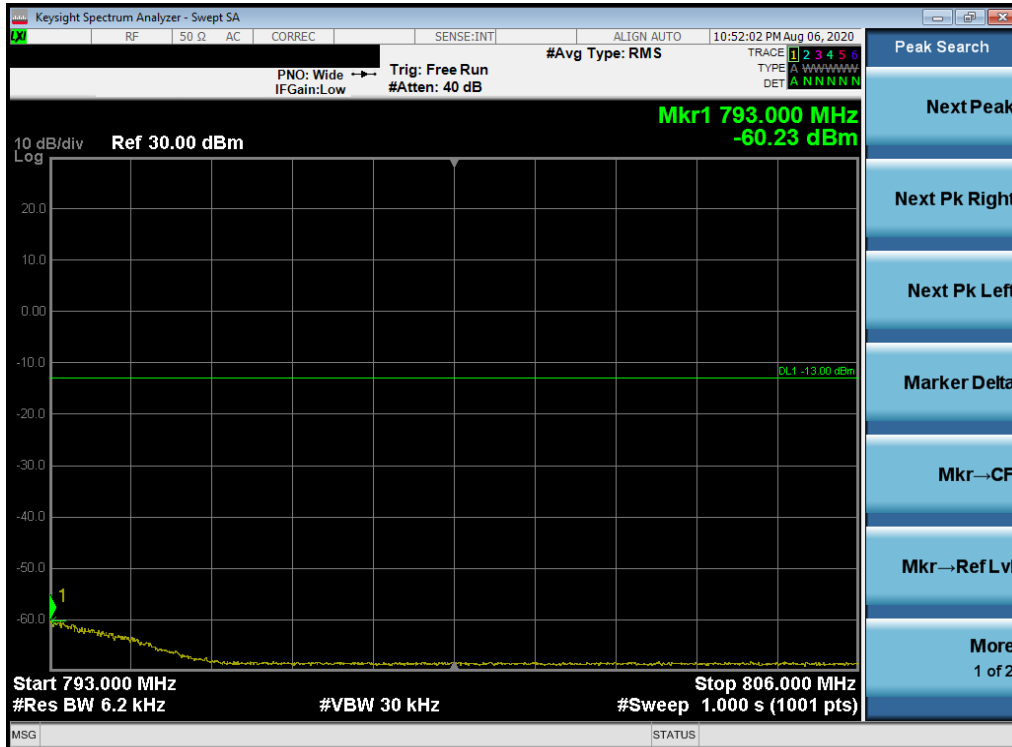


Plot 7-317. Lower Emission Mask Plot (LTE Band 13 - 5MHz QPSK – Full RB Configuration)

FCC ID: ZNFK920AM	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M2007130107-03.ZNF	Test Dates: 07/30/2020 - 09/03/2020	EUT Type: Portable Handset		Page 185 of 389

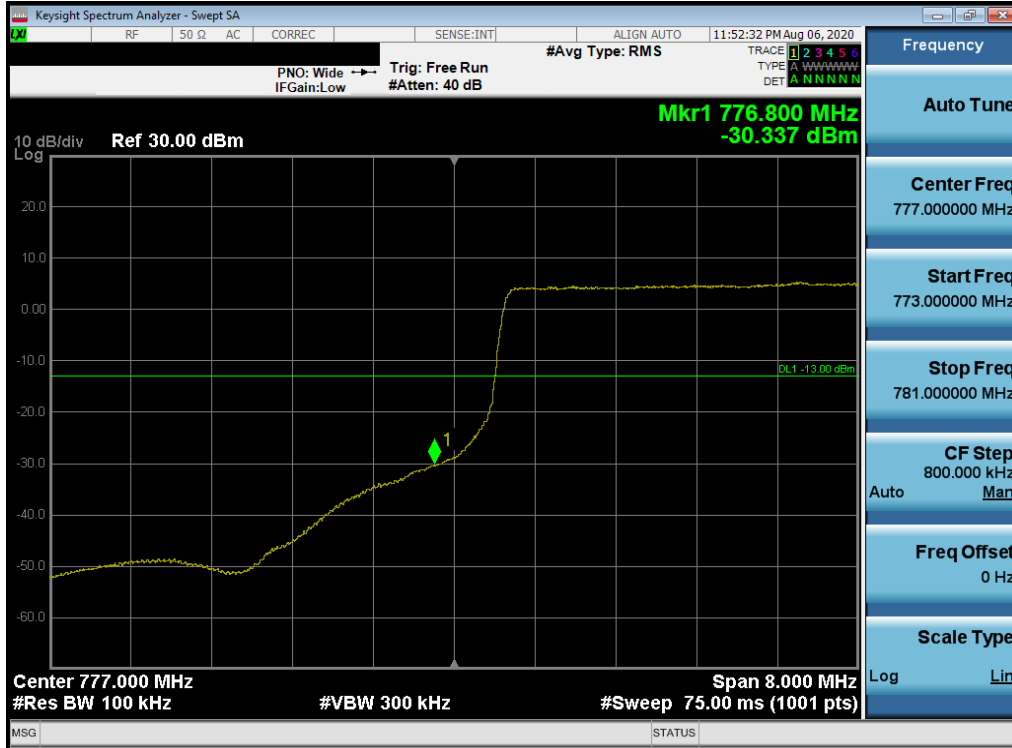


Plot 7-318. Upper Band Edge Plot (LTE Band 13 - 5MHz QPSK – Full RB Configuration)

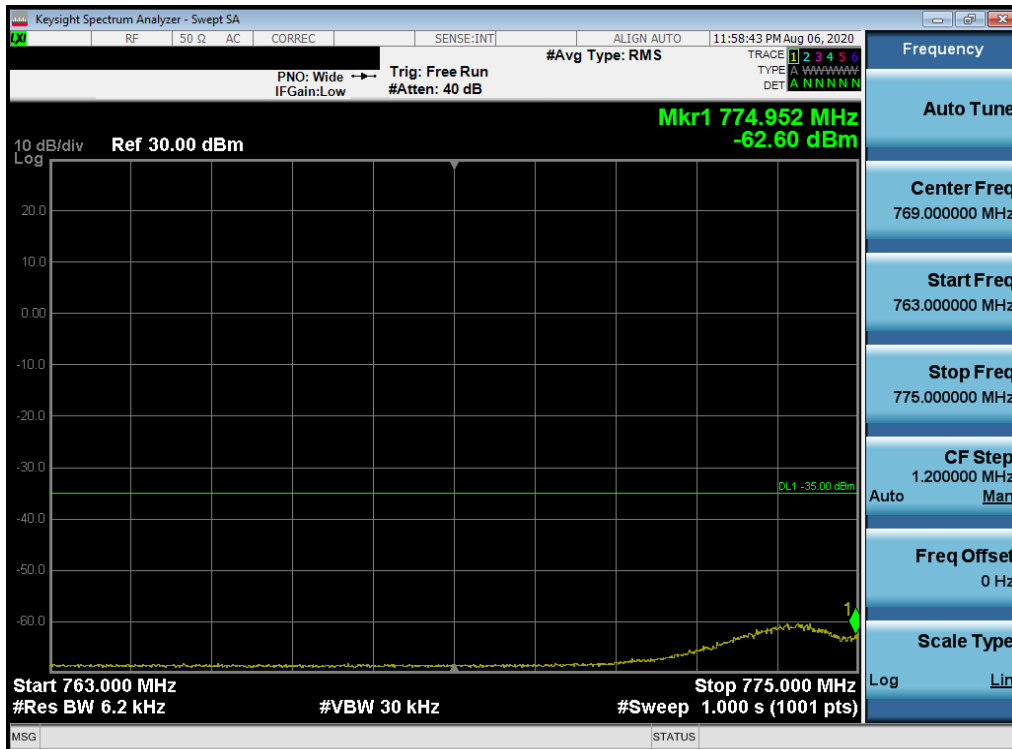


Plot 7-319. Upper Emission Mask Plot (LTE Band 13 - 5MHz QPSK – Full RB Configuration)

FCC ID: ZNFK920AM	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M2007130107-03.ZNF	Test Dates: 07/30/2020 - 09/03/2020	EUT Type: Portable Handset		Page 186 of 389



Plot 7-320. Lower Band Edge Plot (LTE Band 13 - 10MHz QPSK – Full RB Configuration)

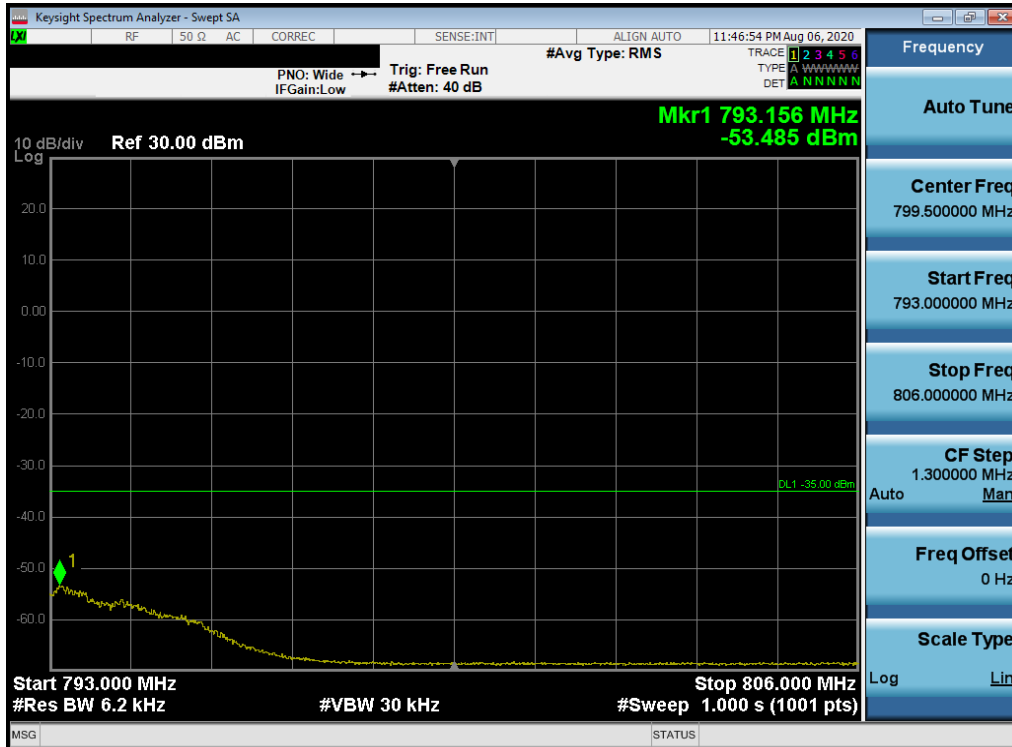


Plot 7-321. Lower Emission Mask Plot (LTE Band 13 - 10MHz QPSK – Full RB Configuration)

FCC ID: ZNFK920AM	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M2007130107-03.ZNF	Test Dates: 07/30/2020 - 09/03/2020	EUT Type: Portable Handset		Page 187 of 389



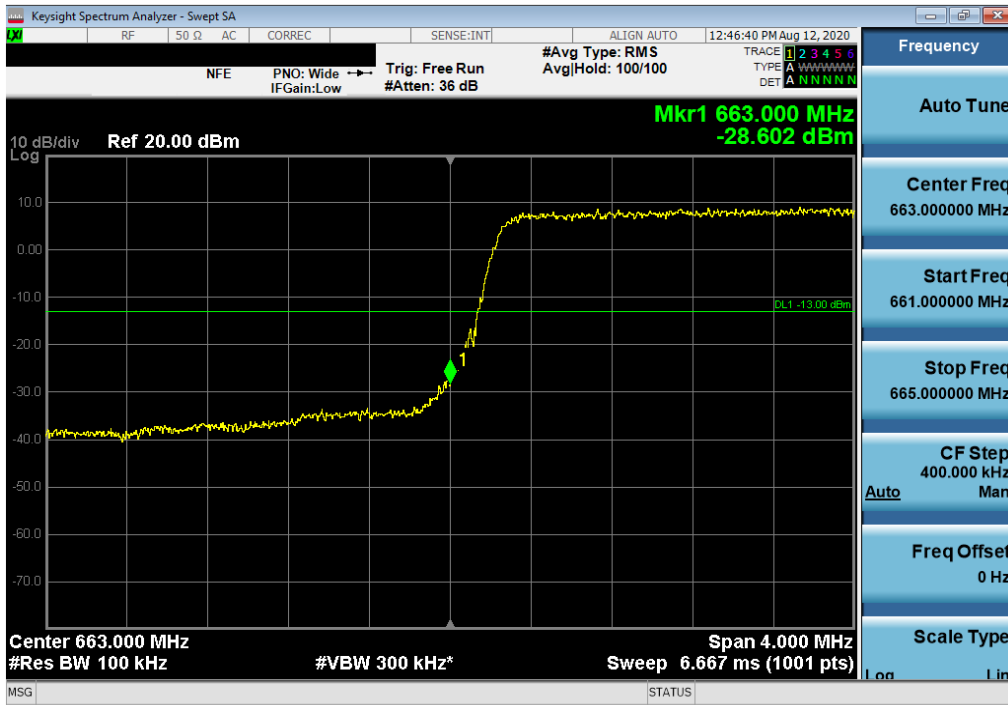
Plot 7-322. Upper Band Edge Plot (LTE Band 13 - 10MHz QPSK – Full RB Configuration)



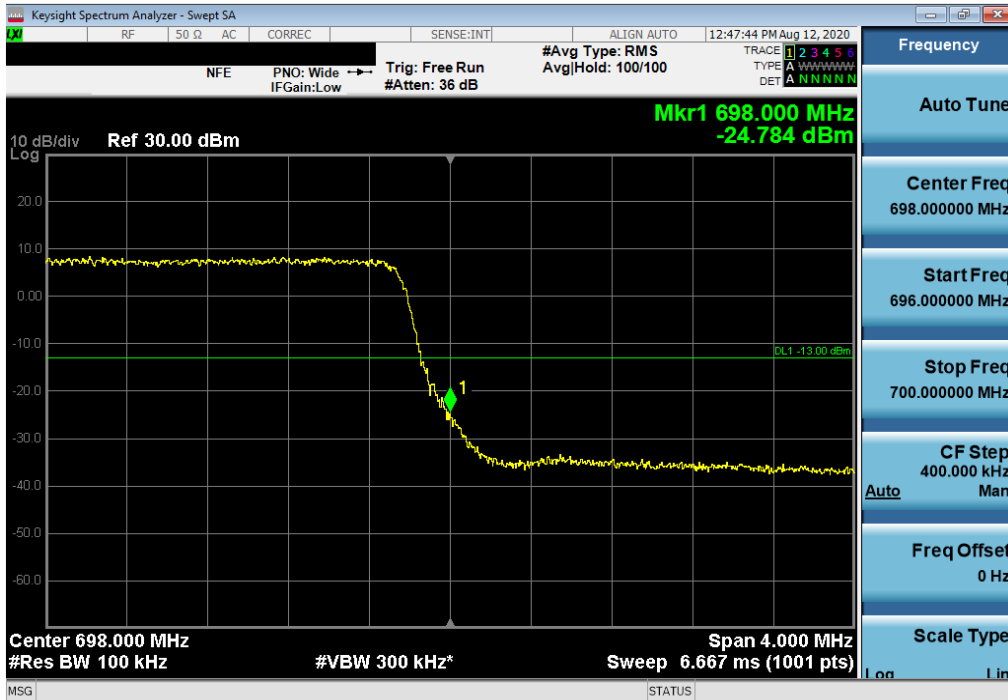
Plot 7-323. Upper Emission Mask Plot (LTE Band 13 - 10MHz QPSK – Full RB Configuration)

FCC ID: ZNFK920AM	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M2007130107-03.ZNF	Test Dates: 07/30/2020 - 09/03/2020	EUT Type: Portable Handset		Page 188 of 389

LTE Band 71

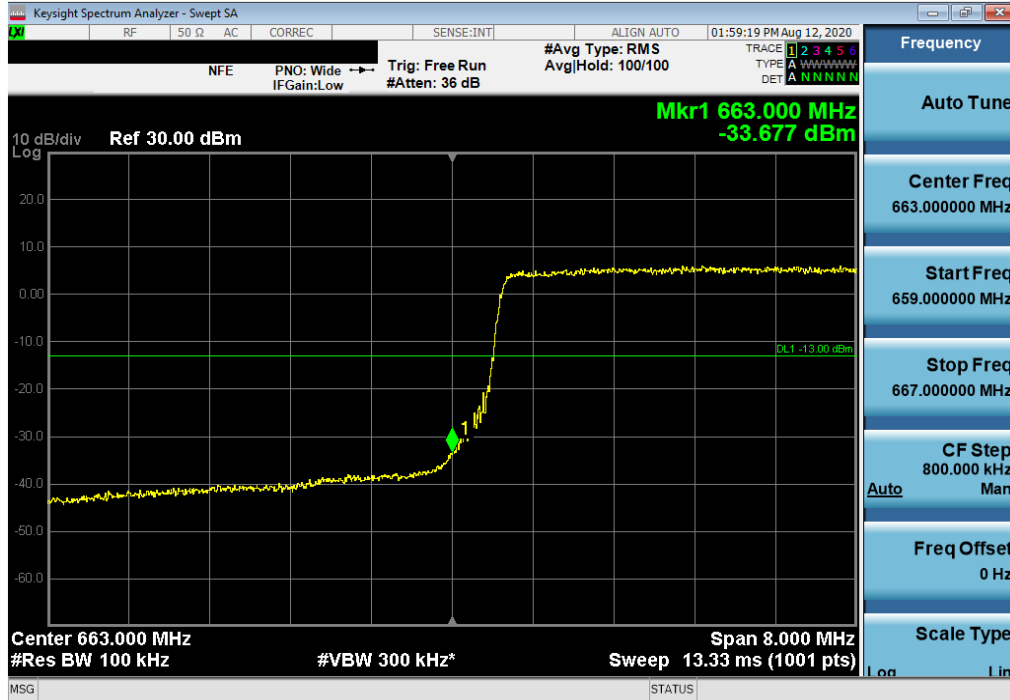


Plot 7-324. Lower Band Edge Plot (LTE Band 71 - 5MHz QPSK – Full RB Configuration)

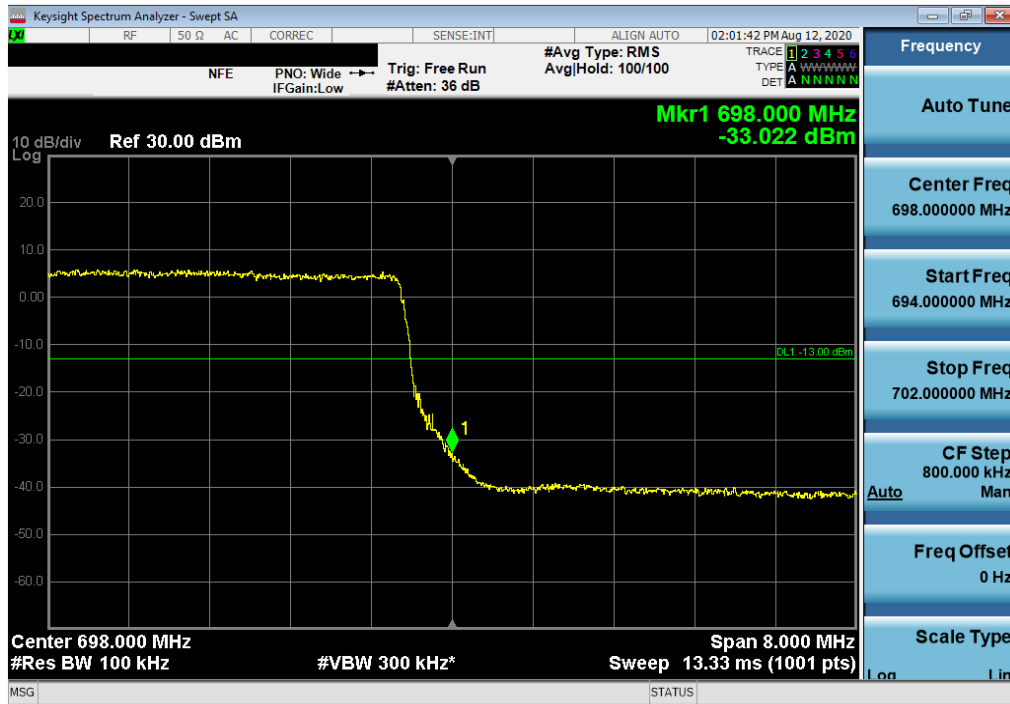


Plot 7-325. Upper Band Edge Plot (LTE Band 71 - 5MHz QPSK – Full RB Configuration)

FCC ID: ZNFK920AM	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M2007130107-03.ZNF	Test Dates: 07/30/2020 - 09/03/2020	EUT Type: Portable Handset		Page 189 of 389



Plot 7-326. Lower Band Edge Plot (LTE Band 71 - 10MHz QPSK – Full RB Configuration)



Plot 7-327. Upper Band Edge Plot (LTE Band 71 - 10MHz QPSK – Full RB Configuration)

FCC ID: ZNFK920AM	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M2007130107-03.ZNF	Test Dates: 07/30/2020 - 09/03/2020	EUT Type: Portable Handset		Page 190 of 389

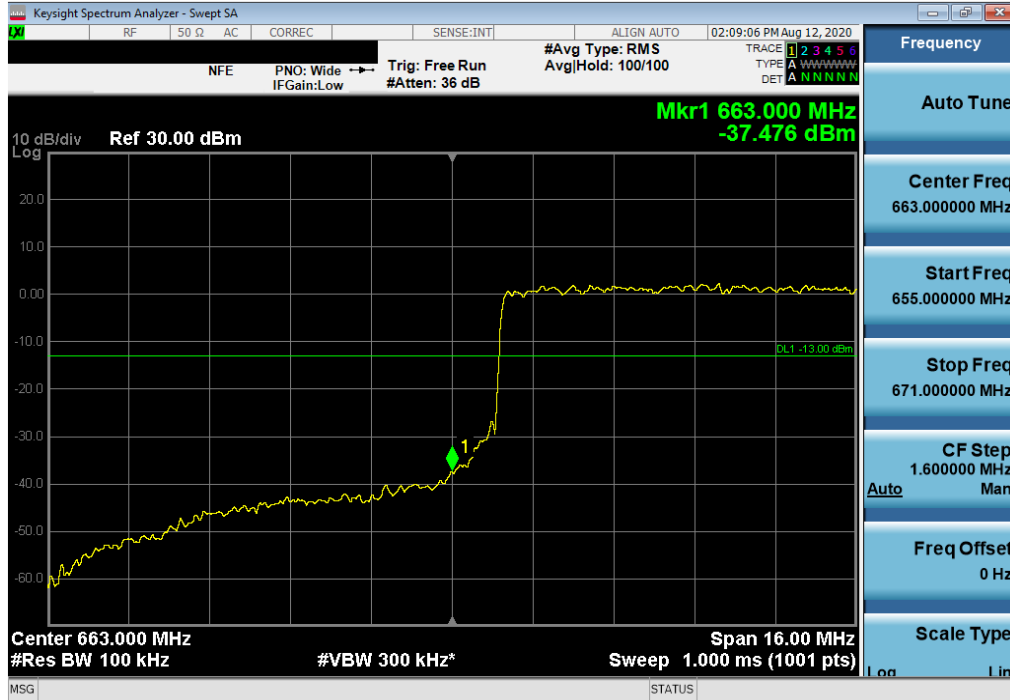


Plot 7-328. Lower Band Edge Plot (LTE Band 71 - 15MHz QPSK – Full RB Configuration)

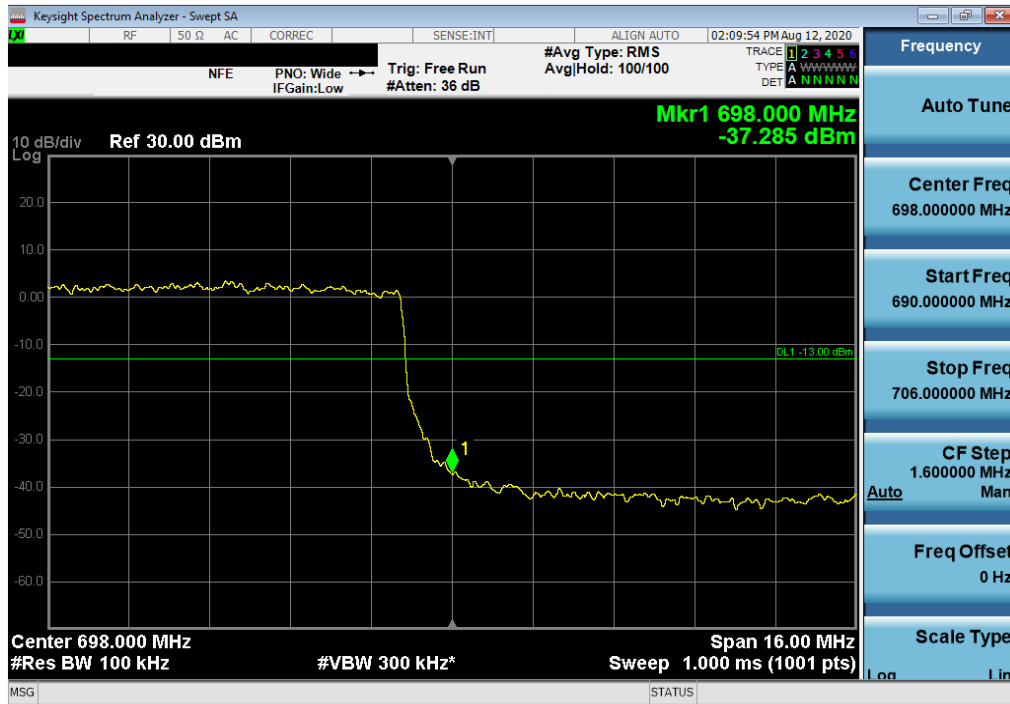


Plot 7-329. Upper Band Edge Plot (LTE Band 71 - 15MHz QPSK – Full RB Configuration)

FCC ID: ZNFK920AM	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M2007130107-03.ZNF	Test Dates: 07/30/2020 - 09/03/2020	EUT Type: Portable Handset		Page 191 of 389



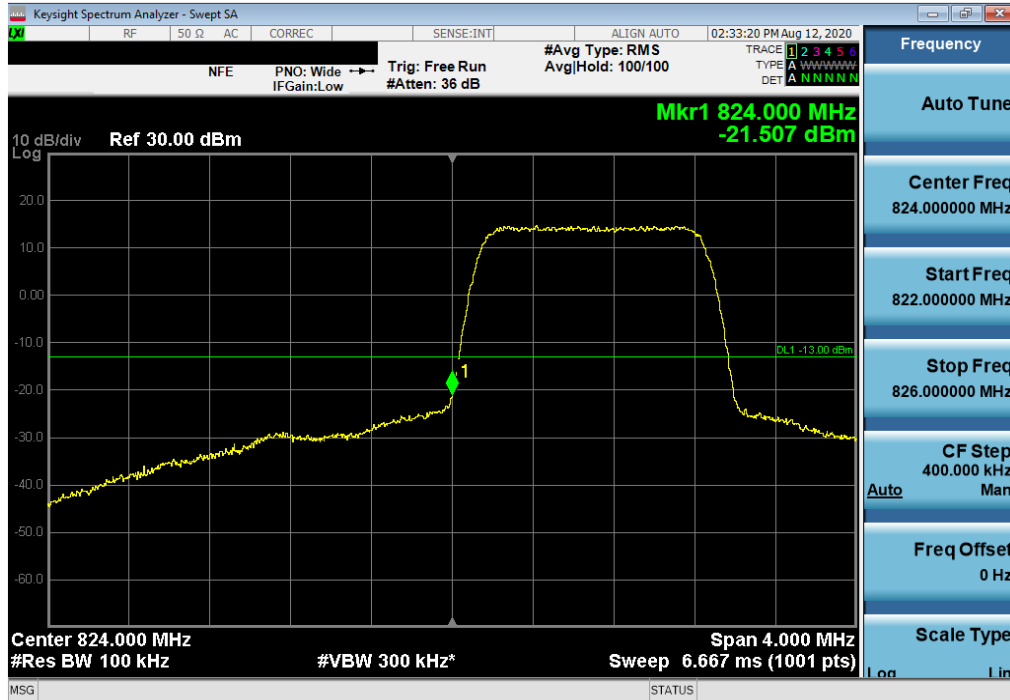
Plot 7-330. Lower Band Edge Plot (LTE Band 71 - 20MHz QPSK – Full RB Configuration)



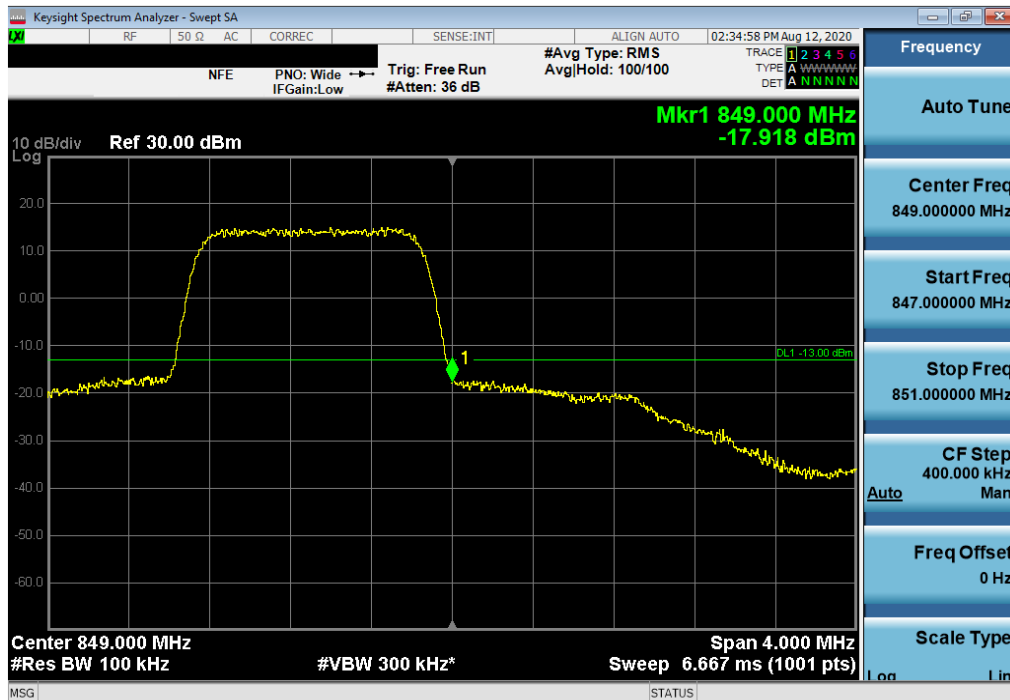
Plot 7-331. Upper Band Edge Plot (LTE Band 71 - 20MHz QPSK – Full RB Configuration)

FCC ID: ZNFK920AM	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2007130107-03.ZNF	Test Dates: 07/30/2020 - 09/03/2020	EUT Type: Portable Handset		Page 192 of 389

LTE Band 26/5

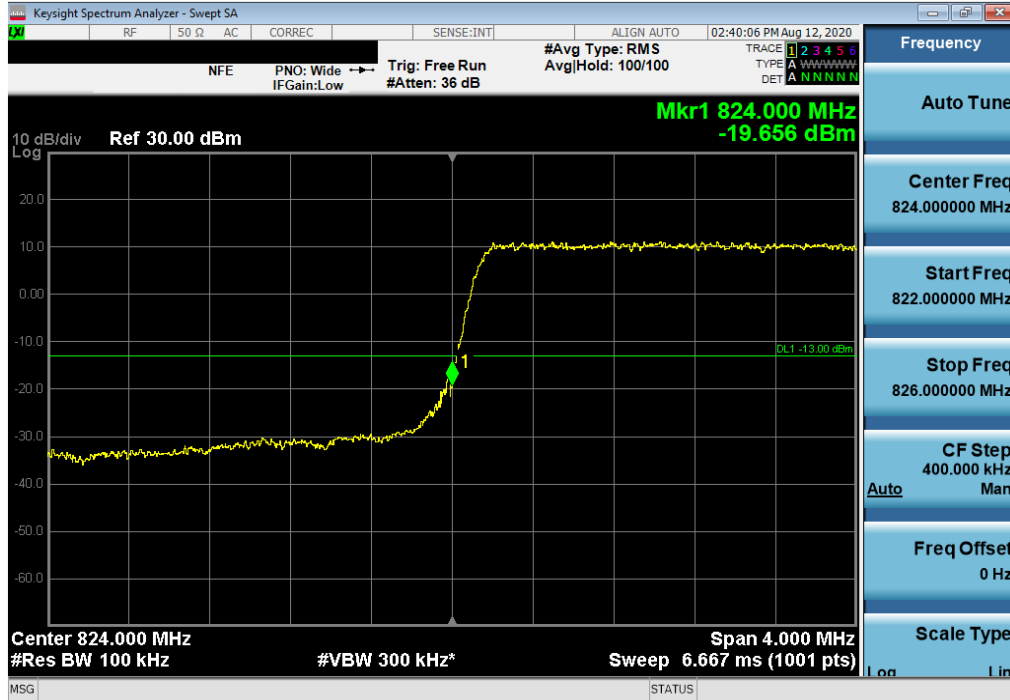


Plot 7-332. Lower Band Edge Plot (LTE Band 26/5 – 1.4MHz QPSK – Full RB Configuration)



Plot 7-333. Upper Band Edge Plot (LTE Band 26/5 – 1.4MHz QPSK – Full RB Configuration)

FCC ID: ZNFK920AM	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M2007130107-03.ZNF	Test Dates: 07/30/2020 - 09/03/2020	EUT Type: Portable Handset		Page 193 of 389

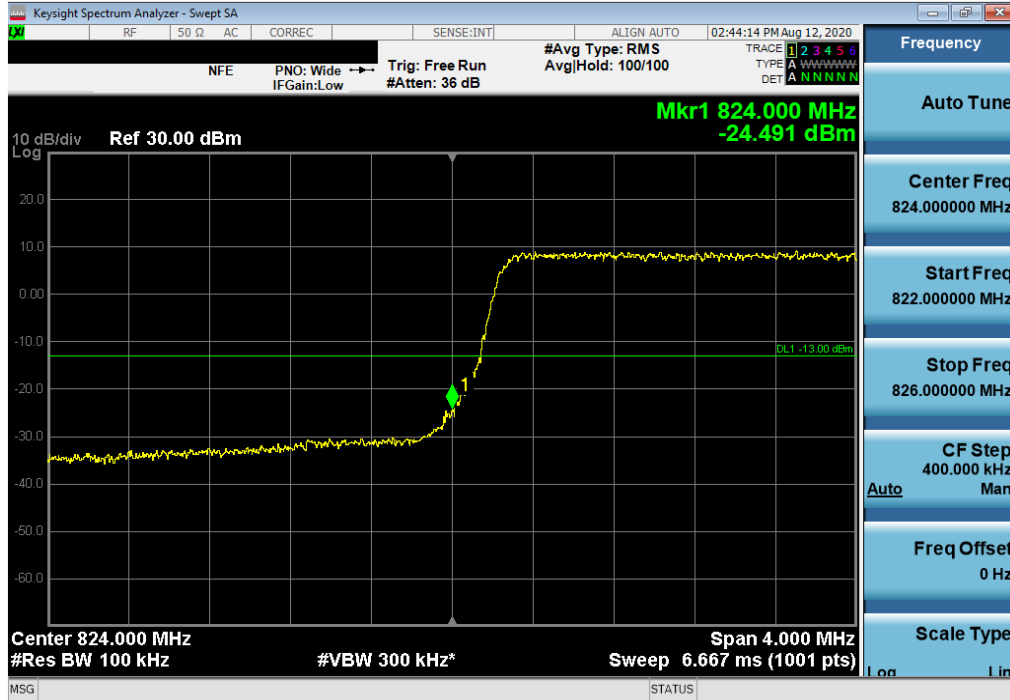


Plot 7-334. Lower Band Edge Plot (LTE Band 26/5 - 3MHz QPSK – Full RB Configuration)

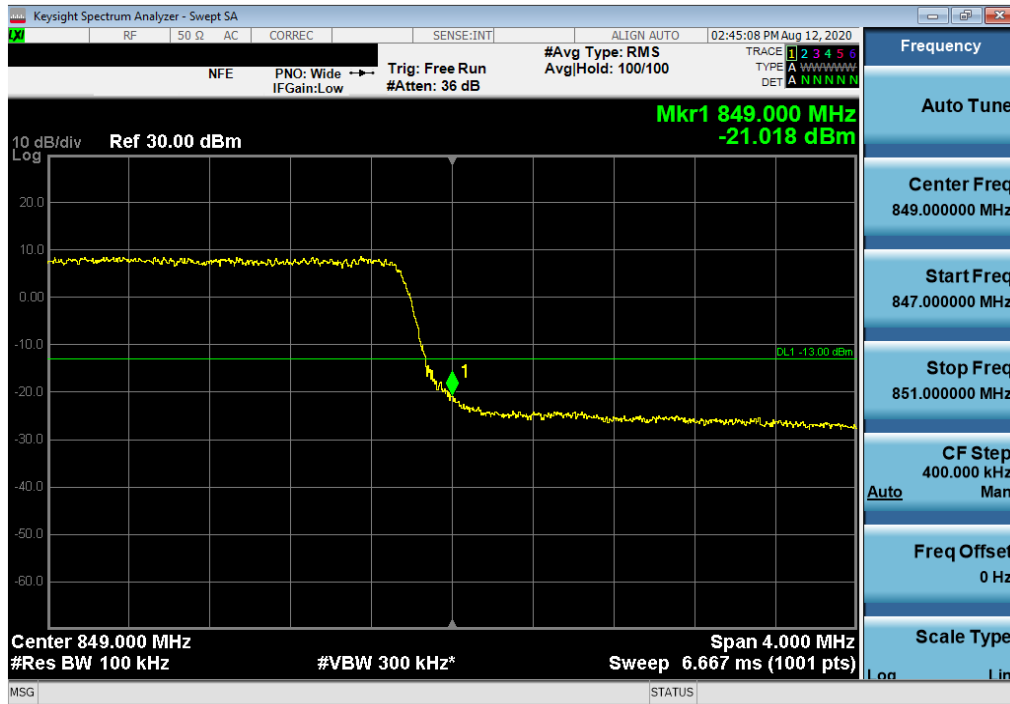


Plot 7-335. Upper Band Edge Plot (LTE Band 26/5 - 3MHz QPSK – Full RB Configuration)

FCC ID: ZNFK920AM	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2007130107-03.ZNF	Test Dates: 07/30/2020 - 09/03/2020	EUT Type: Portable Handset		Page 194 of 389

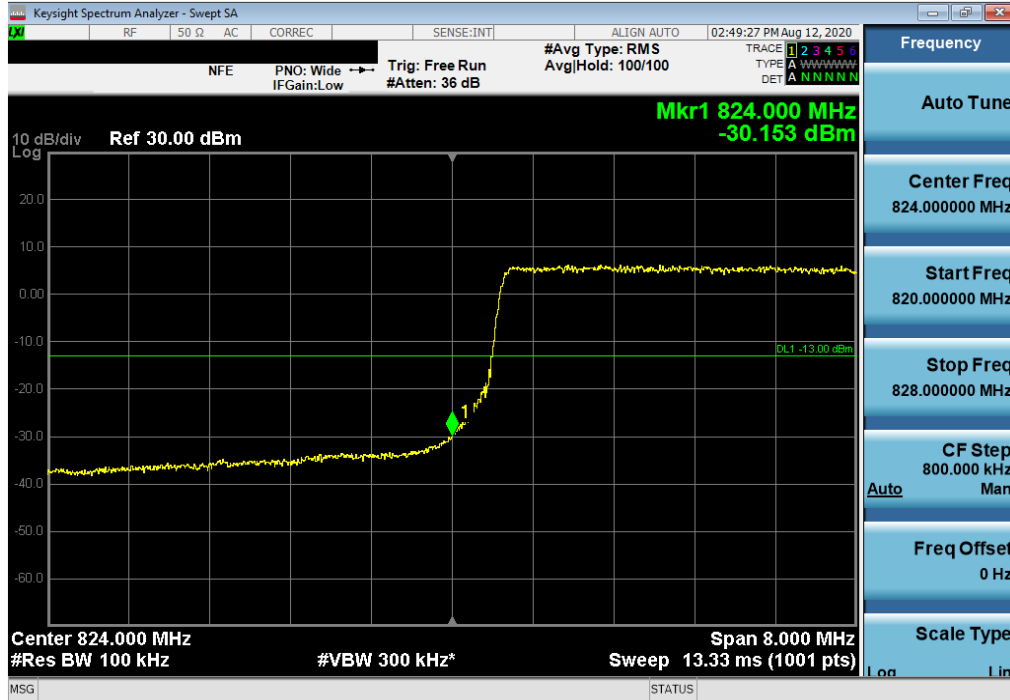


Plot 7-336. Lower Band Edge Plot (LTE Band 26/5 - 5MHz QPSK – Full RB Configuration)

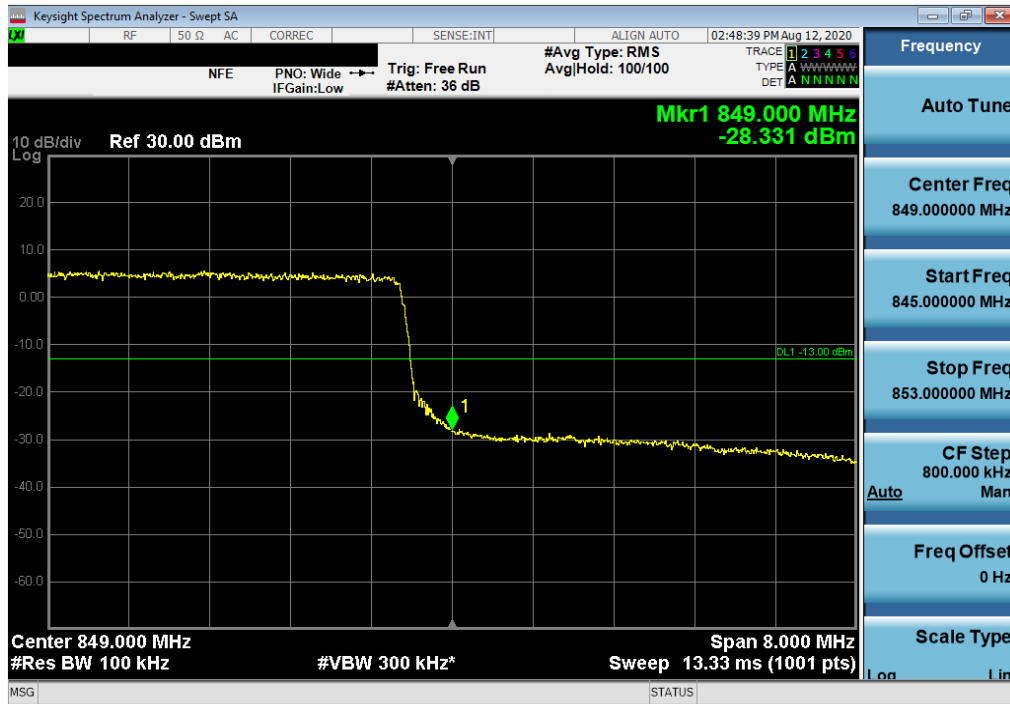


Plot 7-337. Upper Band Edge Plot (LTE Band 26/5 - 5MHz QPSK – Full RB Configuration)

FCC ID: ZNFK920AM	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
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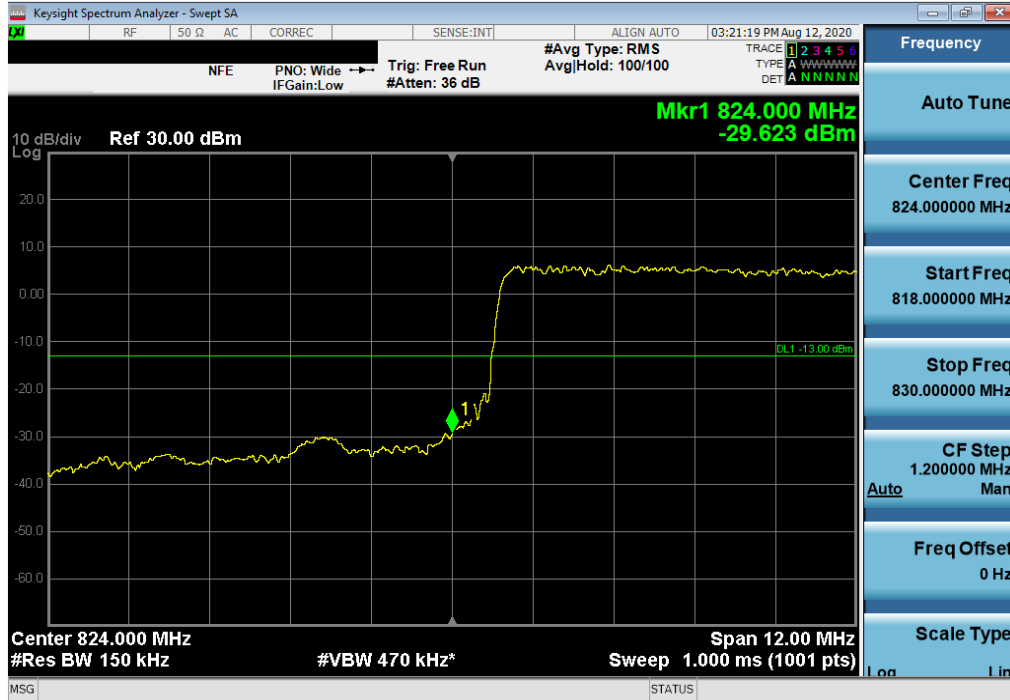


Plot 7-338. Lower Band Edge Plot (LTE Band 26/5 - 10MHz QPSK – Full RB Configuration)



Plot 7-339. Upper Band Edge Plot (LTE Band 26/5 - 10MHz QPSK – Full RB Configuration)

FCC ID: ZNFK920AM	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M2007130107-03.ZNF	Test Dates: 07/30/2020 - 09/03/2020	EUT Type: Portable Handset		Page 196 of 389



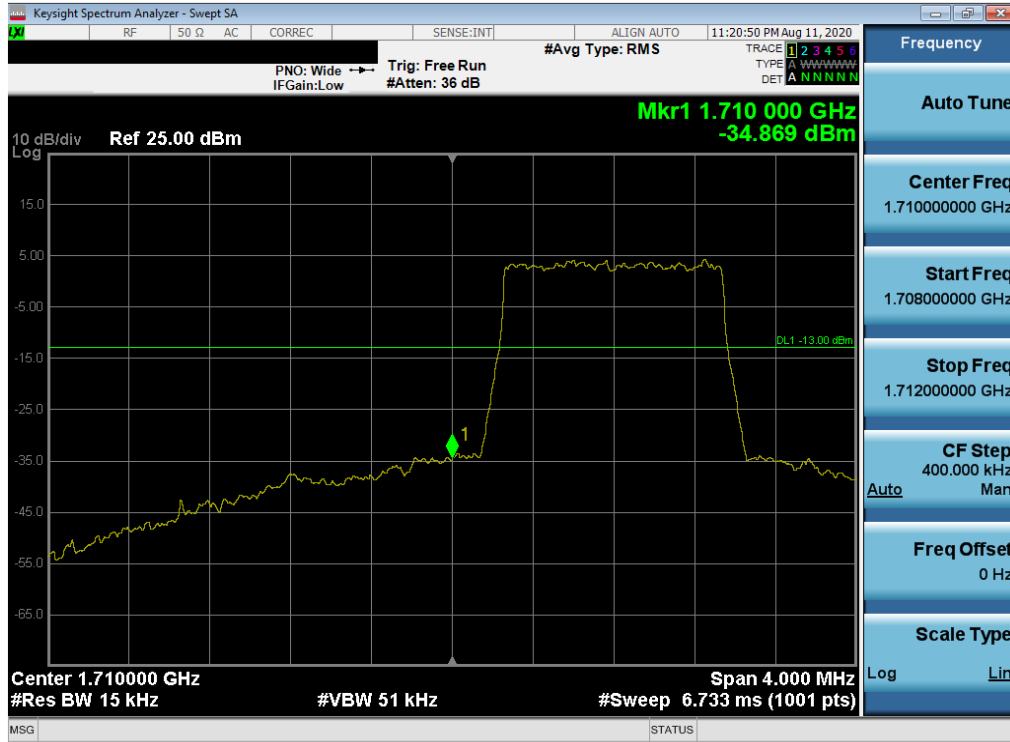
Plot 7-340. Lower Band Edge Plot (LTE Band 26 - 15MHz QPSK – Full RB Configuration)



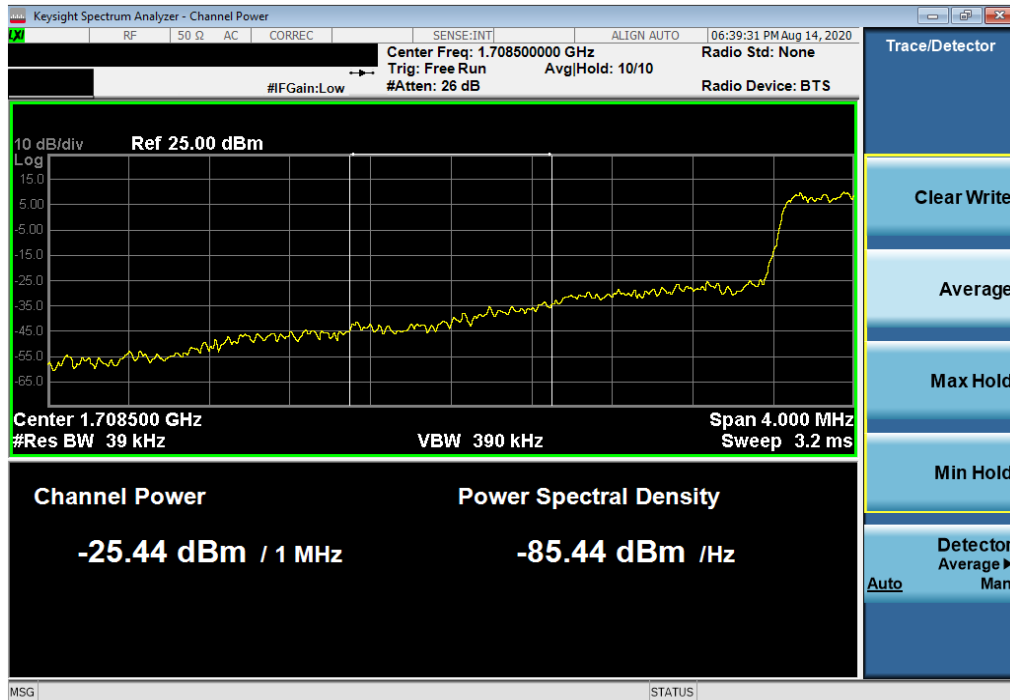
Plot 7-341. Upper Band Edge Plot (LTE Band 26 - 15MHz QPSK – Full RB Configuration)

FCC ID: ZNFK920AM	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M2007130107-03.ZNF	Test Dates: 07/30/2020 - 09/03/2020	EUT Type: Portable Handset		Page 197 of 389

LTE Band 66/4



Plot 7-342. Lower Band Edge Plot (LTE Band 66/4 – 1.4MHz QPSK – Full RB Configuration)

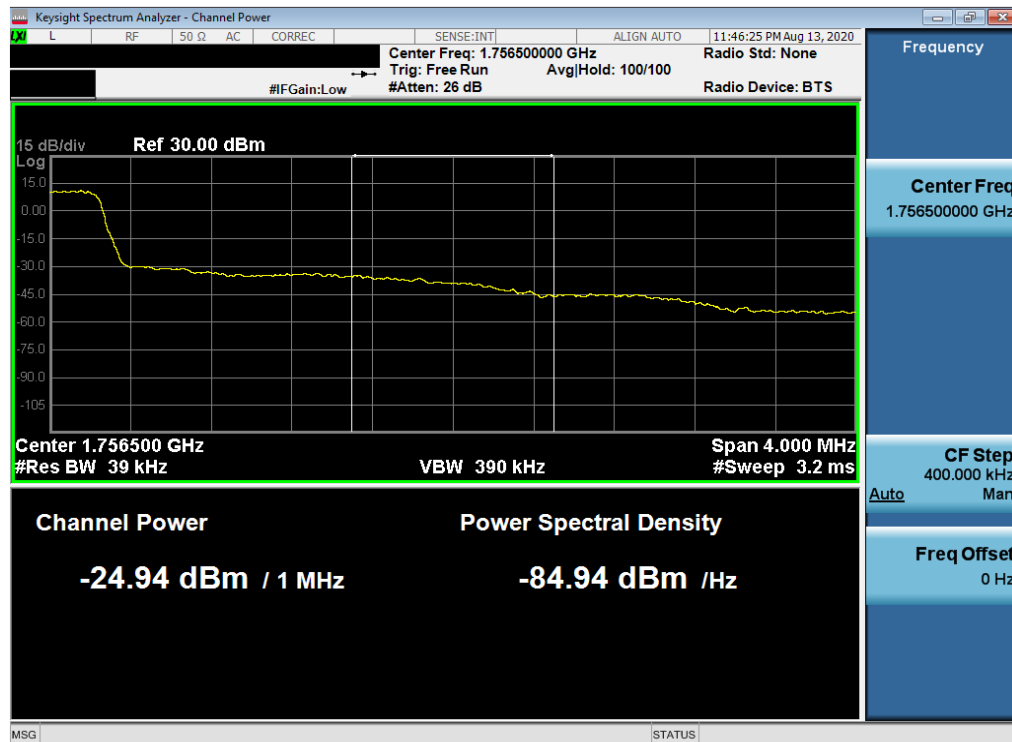


Plot 7-343. Lower Extended Band Edge Plot (LTE Band 66/4 – 1.4MHz QPSK – Full RB Configuration)

FCC ID: ZNFK920AM	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M2007130107-03.ZNF	Test Dates: 07/30/2020 - 09/03/2020	EUT Type: Portable Handset		Page 198 of 389

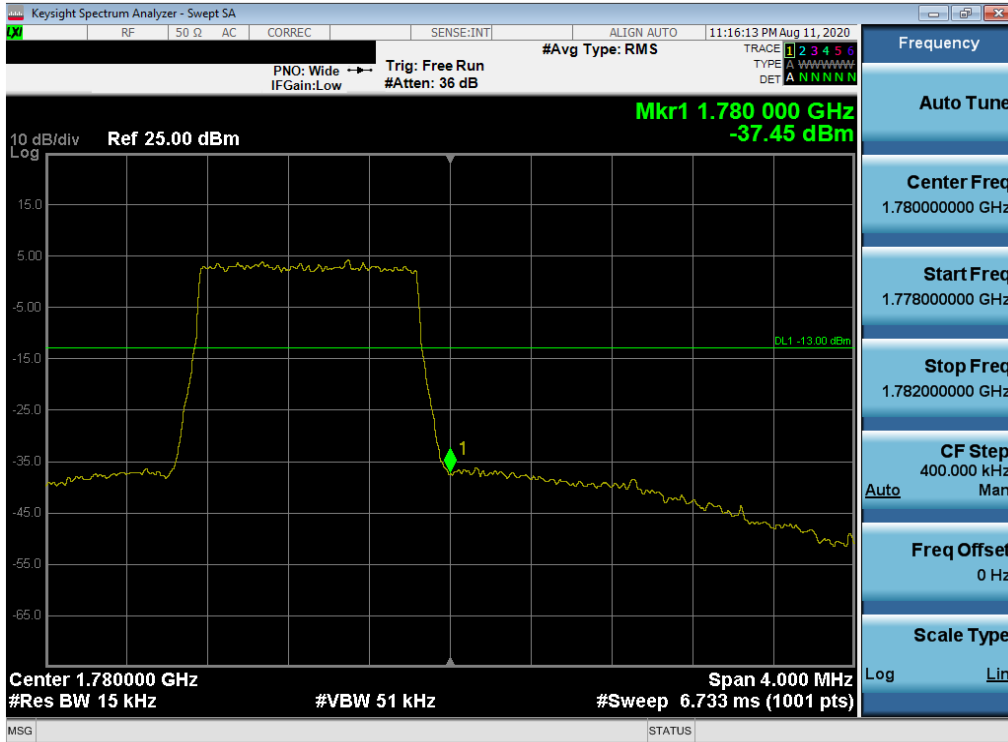


Plot 7-344. Upper Band Edge Plot (LTE Band 4 – 1.4MHz QPSK – Full RB Configuration)

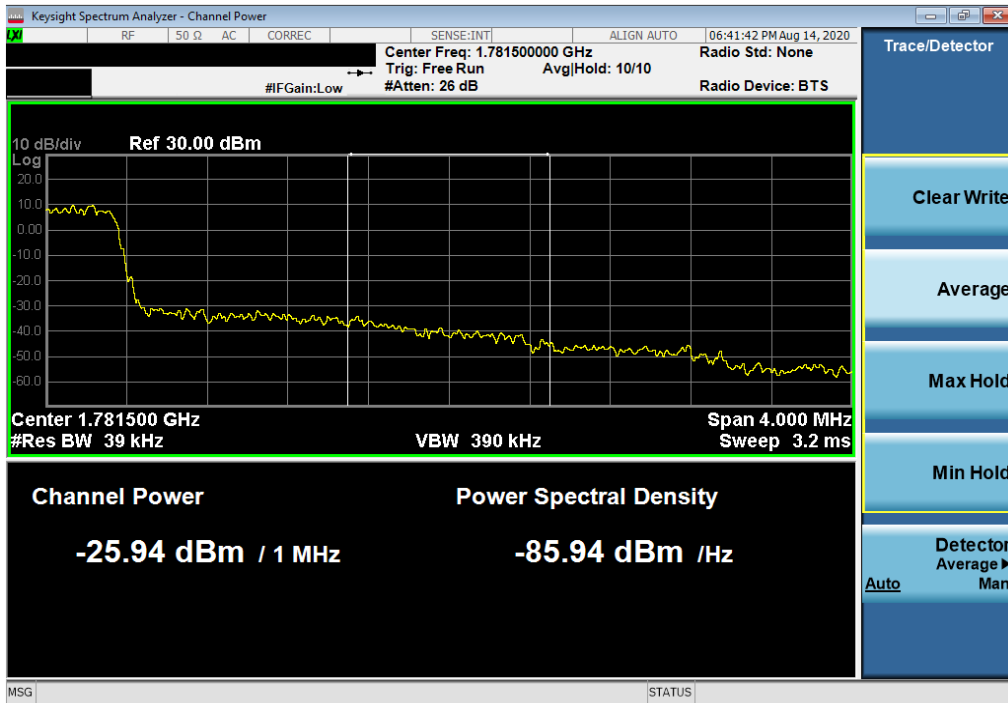


Plot 7-345. Upper Extended Band Edge Plot (LTE Band 4 – 1.4MHz QPSK – Full RB Configuration)

FCC ID: ZNFK920AM	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M2007130107-03.ZNF	Test Dates: 07/30/2020 - 09/03/2020	EUT Type: Portable Handset		Page 199 of 389

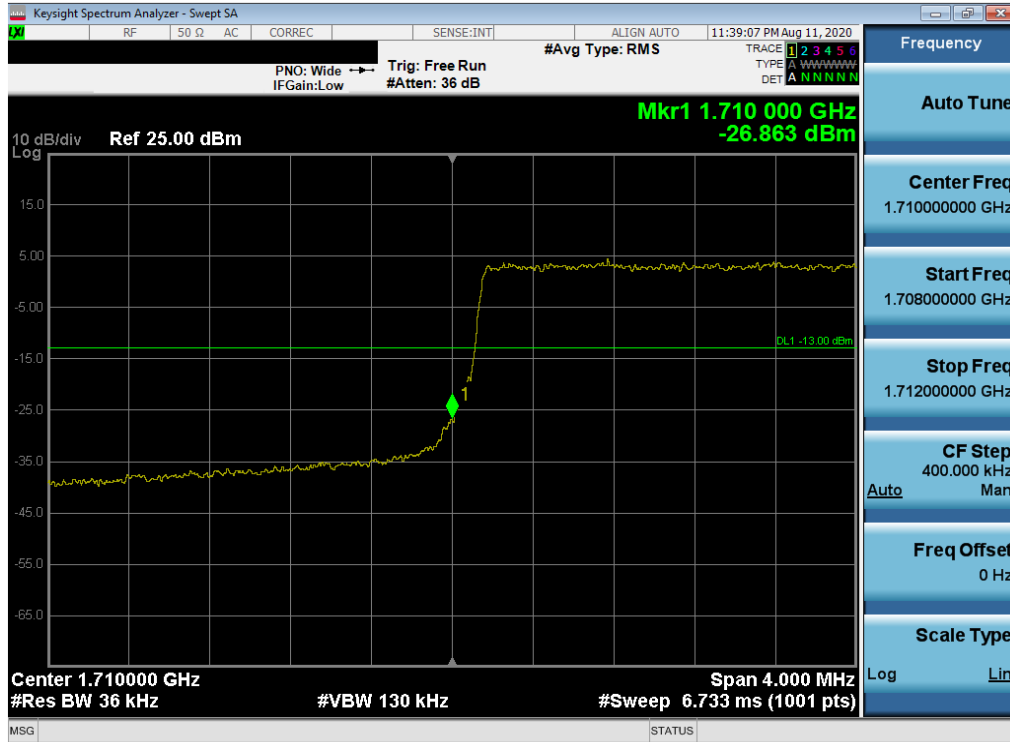


Plot 7-346. Upper Band Edge Plot (LTE Band 66 – 1.4MHz QPSK – Full RB Configuration)

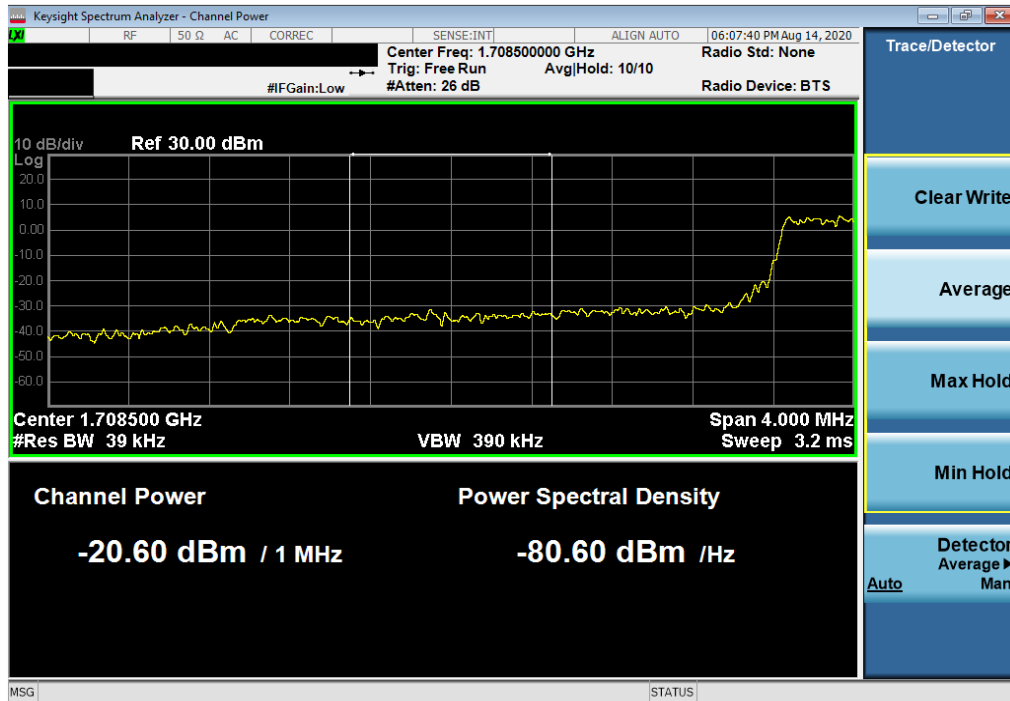


Plot 7-347. Upper Extended Band Edge Plot (LTE Band 66 – 1.4MHz QPSK – Full RB Configuration)

FCC ID: ZNFK920AM	Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2007130107-03.ZNF	Test Dates: 07/30/2020 - 09/03/2020	EUT Type: Portable Handset		Page 200 of 389

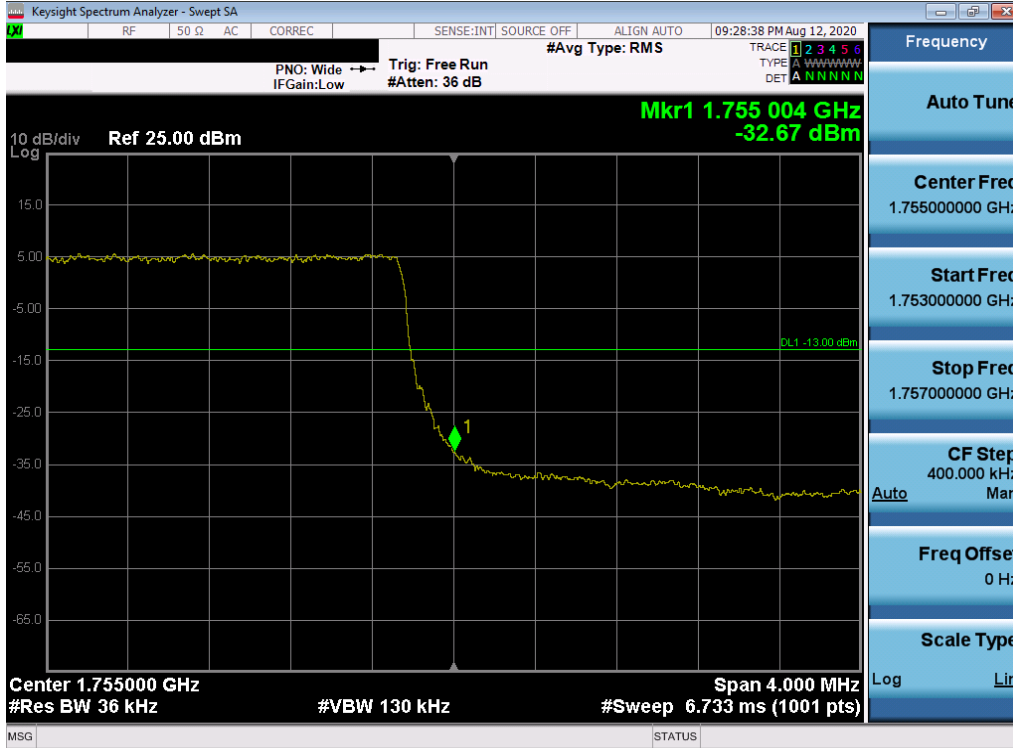


Plot 7-348. Lower Band Edge Plot (LTE Band 66/4 - 3MHz QPSK – Full RB Configuration)

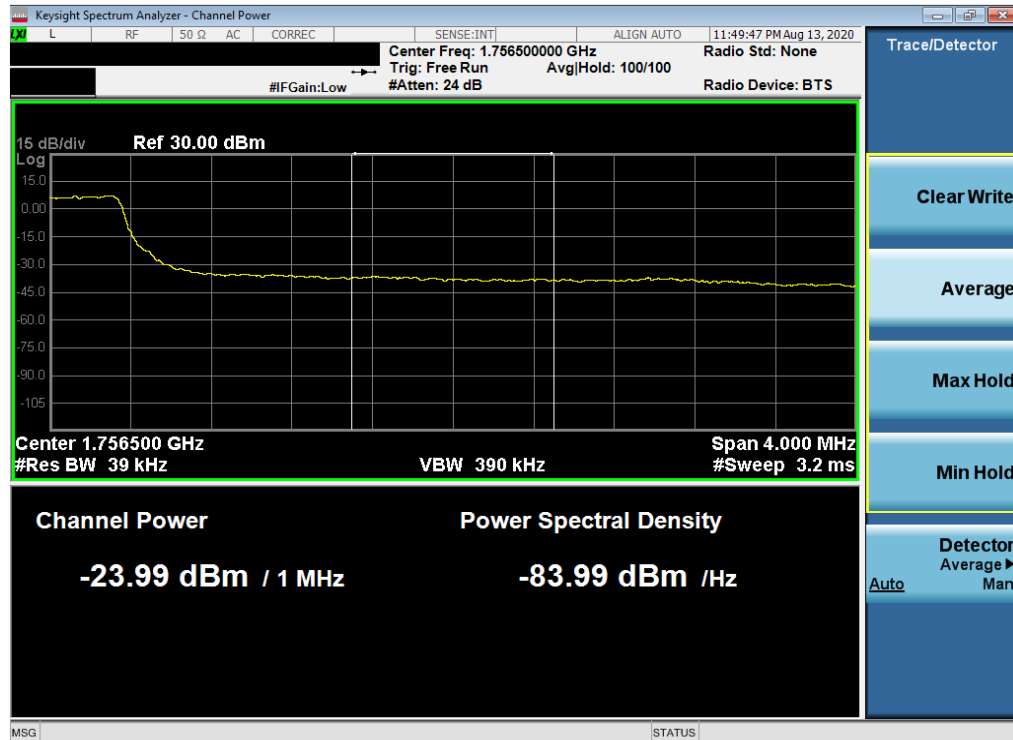


Plot 7-349. Lower Extended Band Edge Plot (LTE Band 66/4 - 3MHz QPSK – Full RB Configuration)

FCC ID: ZNFK920AM	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M2007130107-03.ZNF	Test Dates: 07/30/2020 - 09/03/2020	EUT Type: Portable Handset		Page 201 of 389

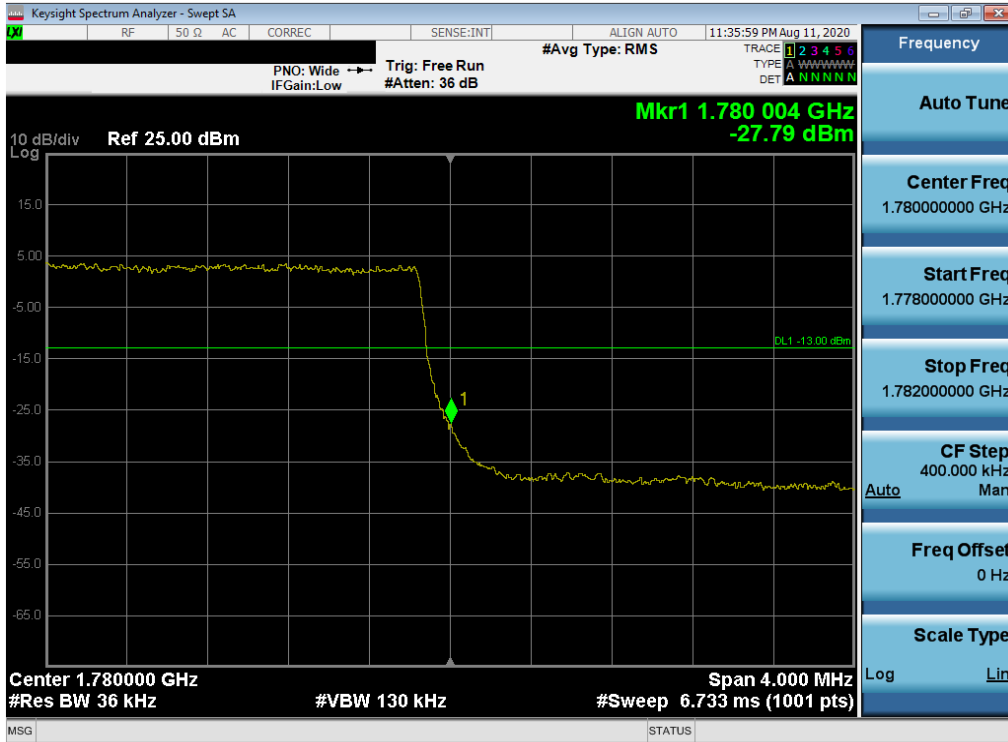


Plot 7-350. Upper Band Edge Plot (LTE Band 4 - 3MHz QPSK – Full RB Configuration)

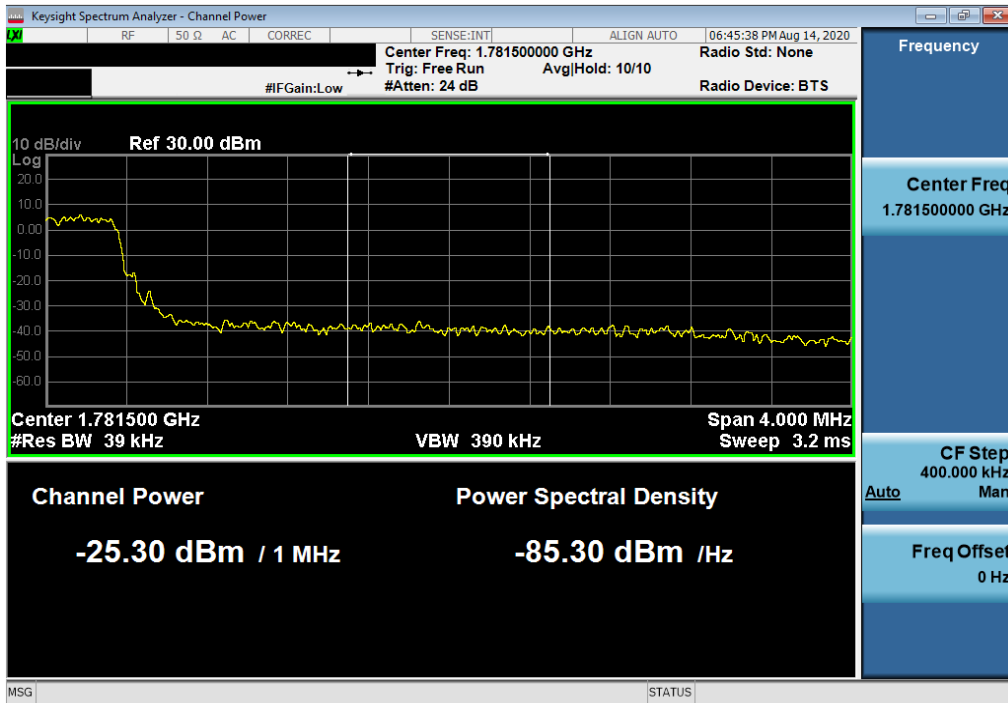


Plot 7-351. Upper Extended Band Edge Plot (LTE Band 4 - 3MHz QPSK – Full RB Configuration)

FCC ID: ZNFK920AM	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M2007130107-03.ZNF	Test Dates: 07/30/2020 - 09/03/2020	EUT Type: Portable Handset		Page 202 of 389

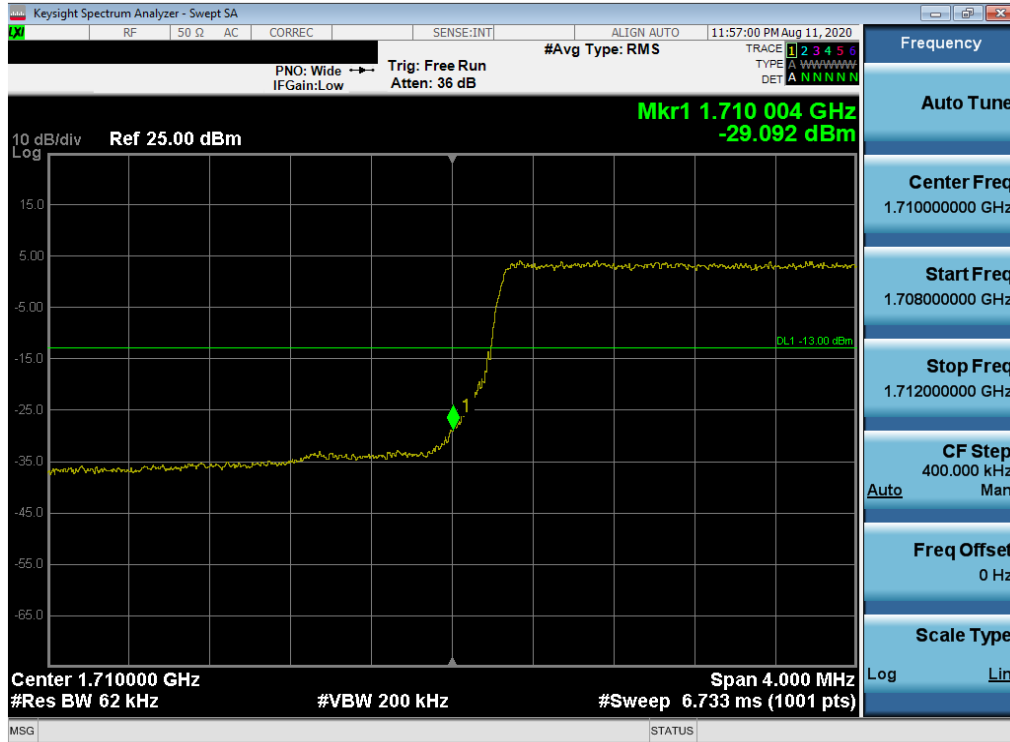


Plot 7-352. Upper Band Edge Plot (LTE Band 66 - 3MHz QPSK – Full RB Configuration)

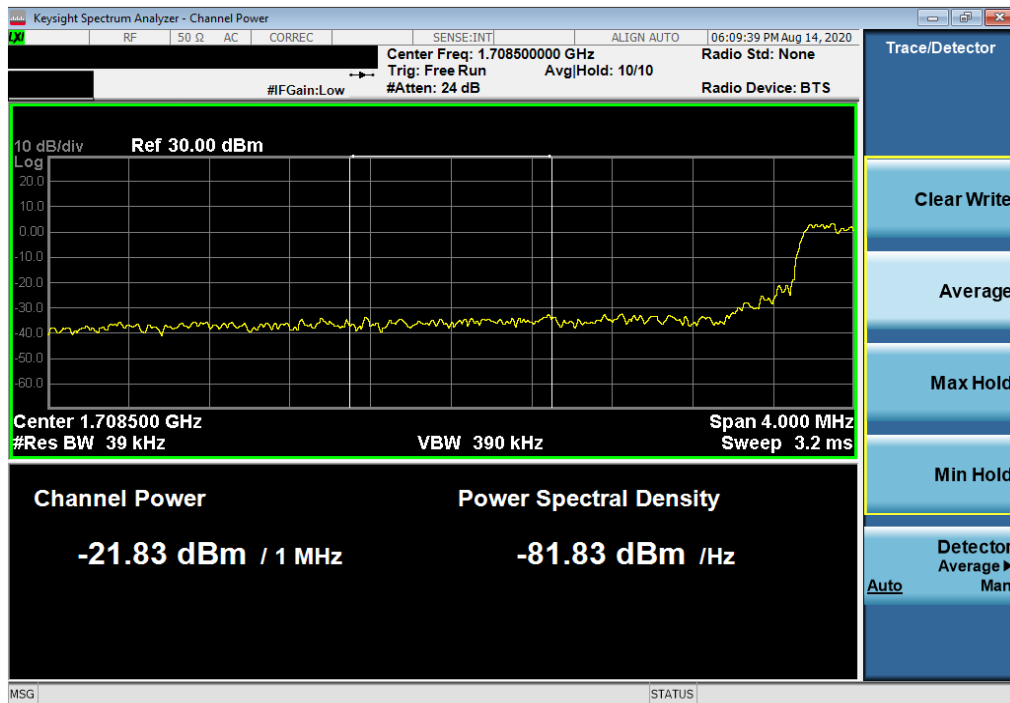


Plot 7-353. Upper Extended Band Edge Plot (LTE Band 66 - 3MHz QPSK – Full RB Configuration)

FCC ID: ZNFK920AM	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M2007130107-03.ZNF	Test Dates: 07/30/2020 - 09/03/2020	EUT Type: Portable Handset		Page 203 of 389

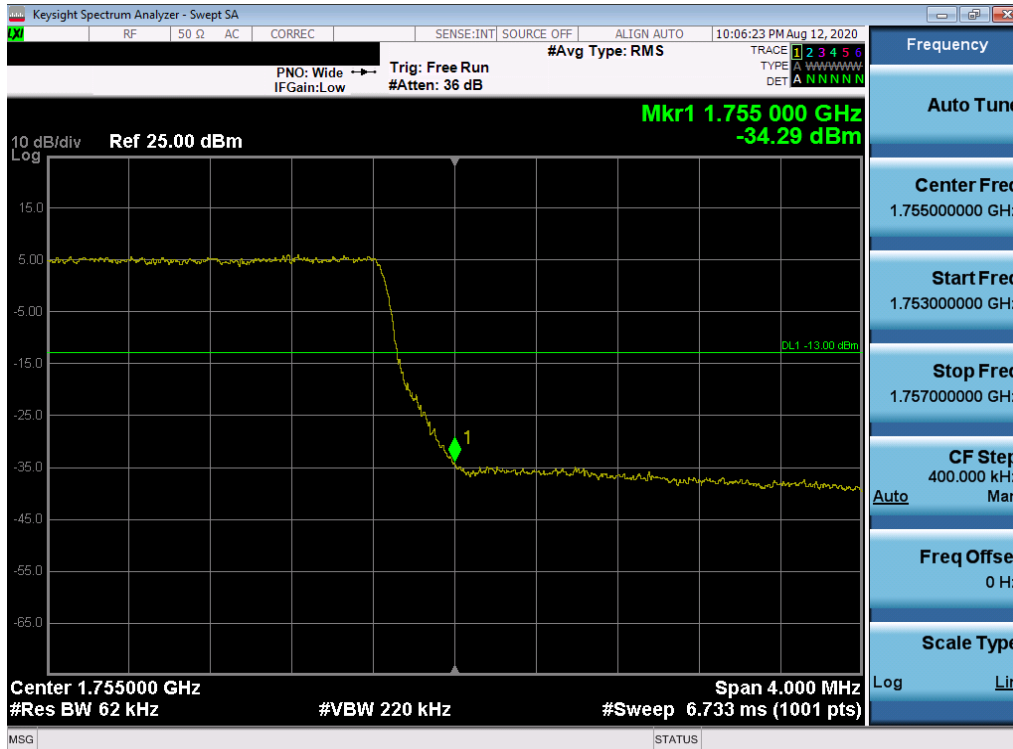


Plot 7-354. Lower Band Edge Plot (LTE Band 66/4 - 5MHz QPSK – Full RB Configuration)

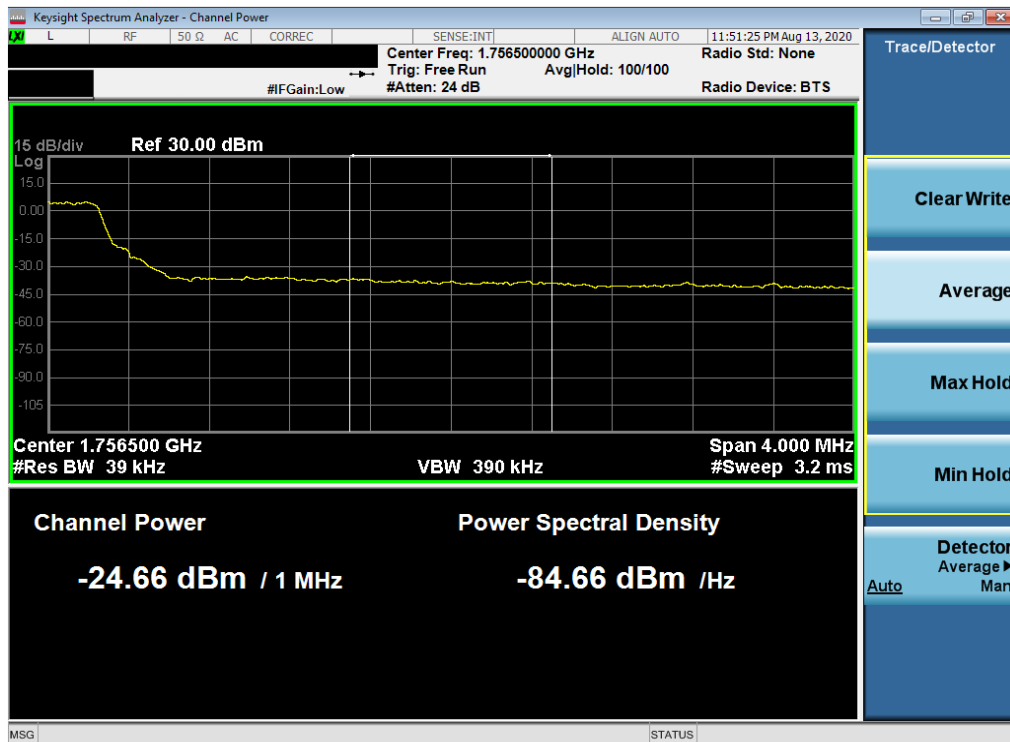


Plot 7-355. Lower Extended Band Edge Plot (LTE Band 66/4 - 5MHz QPSK – Full RB Configuration)

FCC ID: ZNFK920AM	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M2007130107-03.ZNF	Test Dates: 07/30/2020 - 09/03/2020	EUT Type: Portable Handset		Page 204 of 389

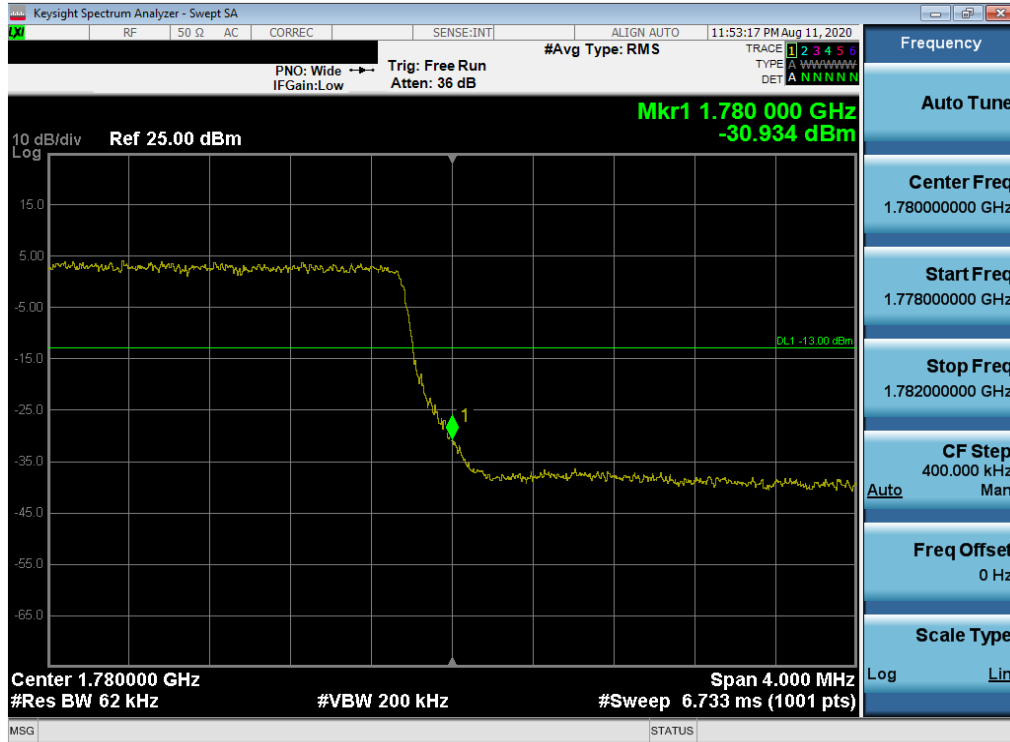


Plot 7-356. Upper Band Edge Plot (LTE Band 4 - 5MHz QPSK – Full RB Configuration)

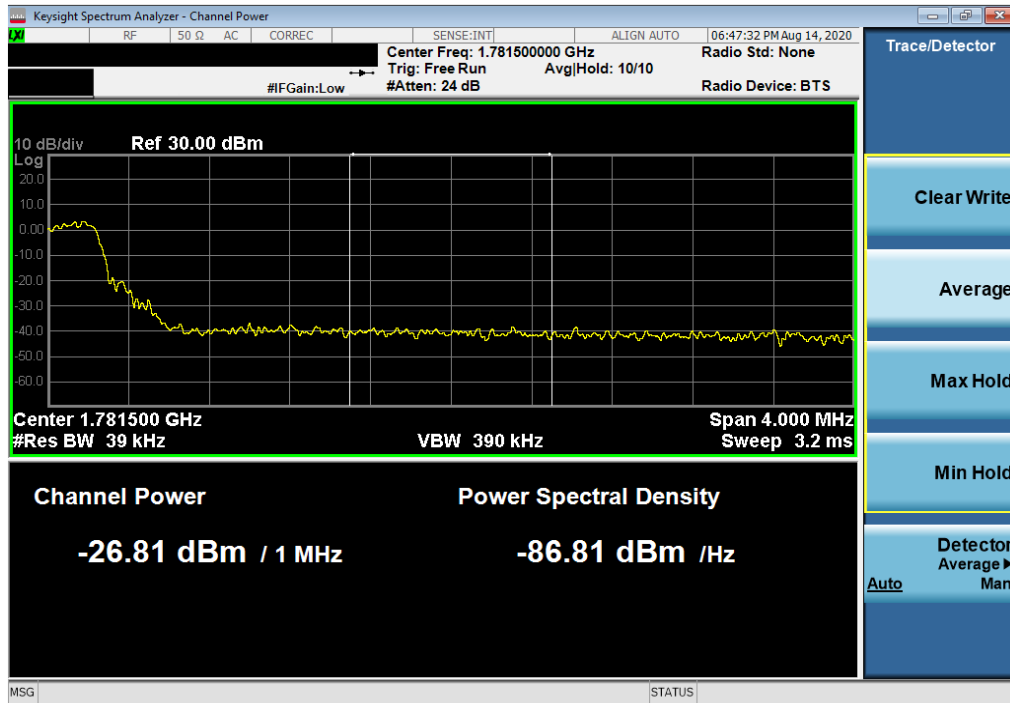


Plot 7-357. Upper Extended Band Edge Plot (LTE Band 4 - 5MHz QPSK – Full RB Configuration)

FCC ID: ZNFK920AM	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M2007130107-03.ZNF	Test Dates: 07/30/2020 - 09/03/2020	EUT Type: Portable Handset		Page 205 of 389

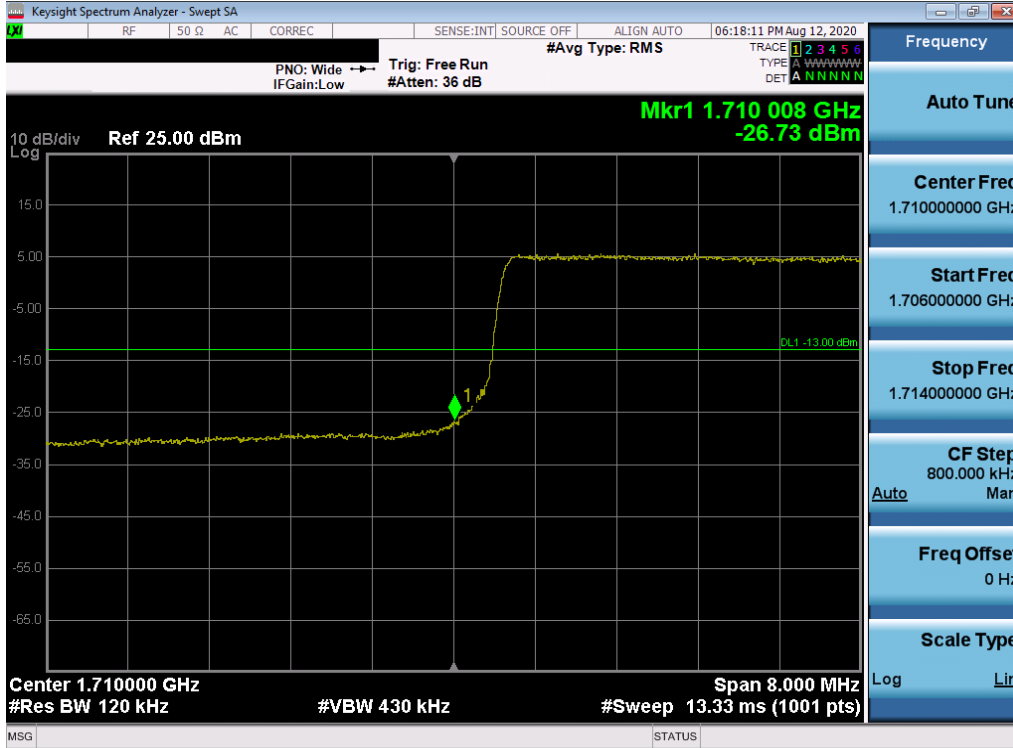


Plot 7-358. Upper Band Edge Plot (LTE Band 66 - 5MHz QPSK – Full RB Configuration)

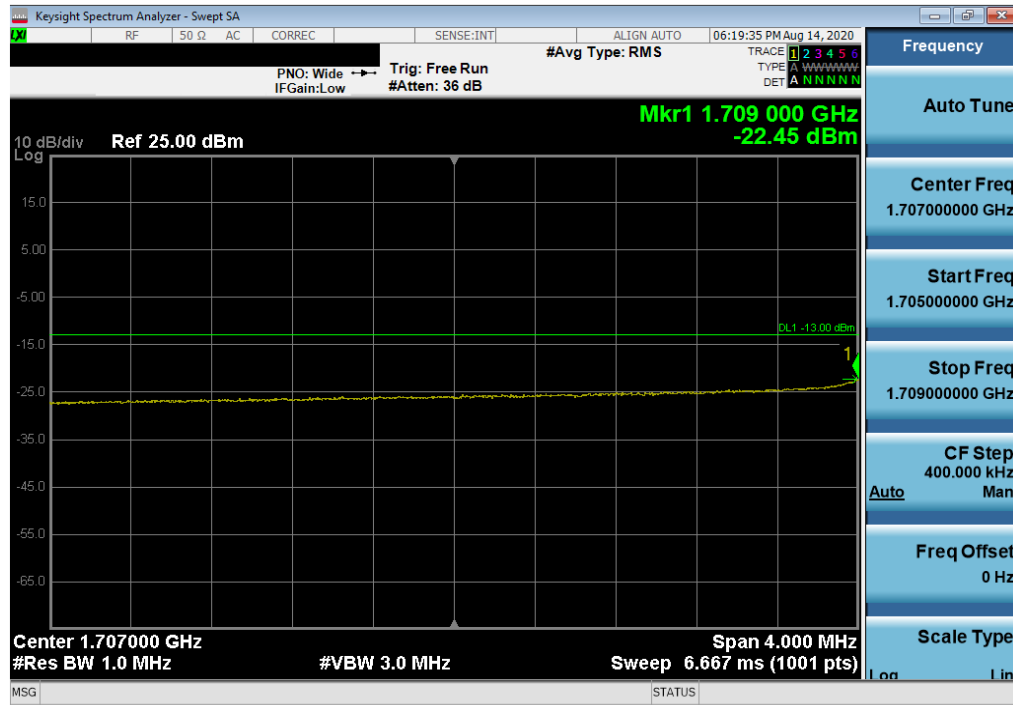


Plot 7-359. Upper Extended Band Edge Plot (LTE Band 66 - 5MHz QPSK – Full RB Configuration)

FCC ID: ZNFK920AM	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M2007130107-03.ZNF	Test Dates: 07/30/2020 - 09/03/2020	EUT Type: Portable Handset		Page 206 of 389



Plot 7-360. Lower Band Edge Plot (LTE Band 66/4 - 10MHz QPSK – Full RB Configuration)



Plot 7-361. Lower Extended Band Edge Plot (LTE Band 66/4 - 10MHz QPSK – Full RB Configuration)

FCC ID: ZNFK920AM	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M2007130107-03.ZNF	Test Dates: 07/30/2020 - 09/03/2020	EUT Type: Portable Handset		Page 207 of 389



Plot 7-362. Upper Band Edge Plot (LTE Band 4 - 10MHz QPSK – Full RB Configuration)



Plot 7-363. Upper Extended Band Edge Plot (LTE Band 4 - 10MHz QPSK – Full RB Configuration)

FCC ID: ZNFK920AM	PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M2007130107-03.ZNF	Test Dates: 07/30/2020 - 09/03/2020	EUT Type: Portable Handset		Page 208 of 389