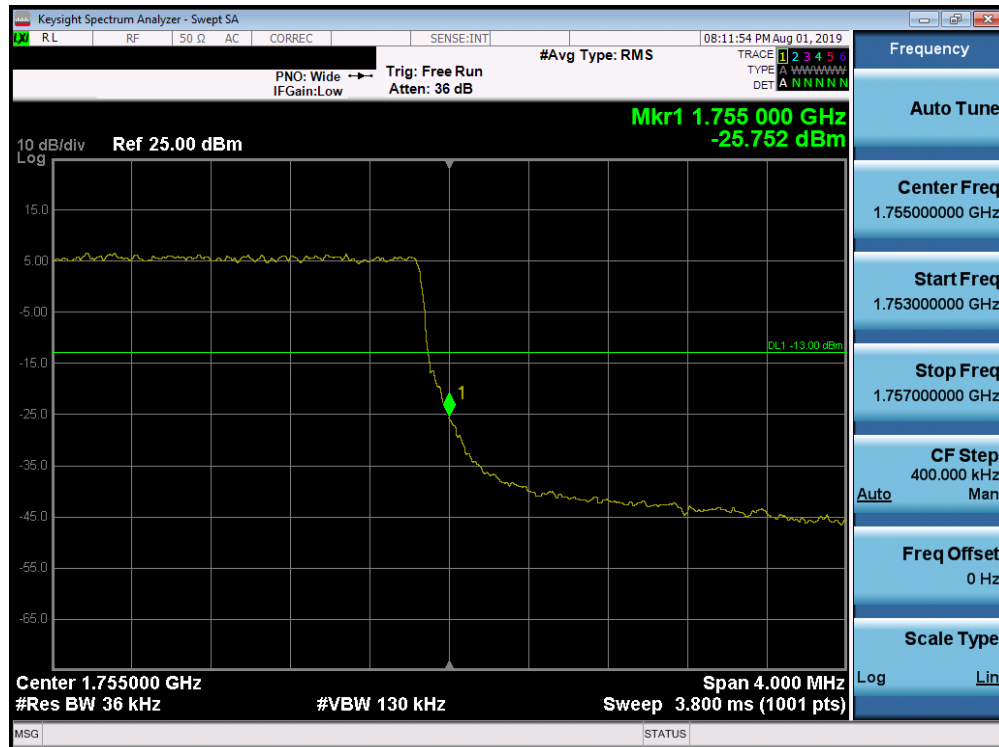
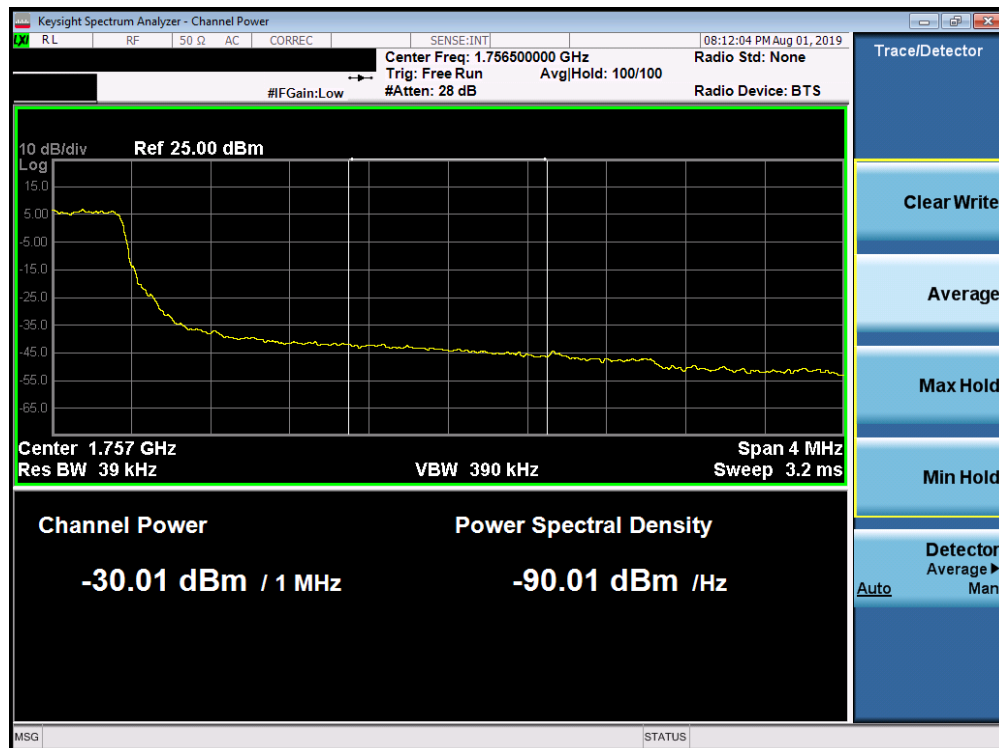


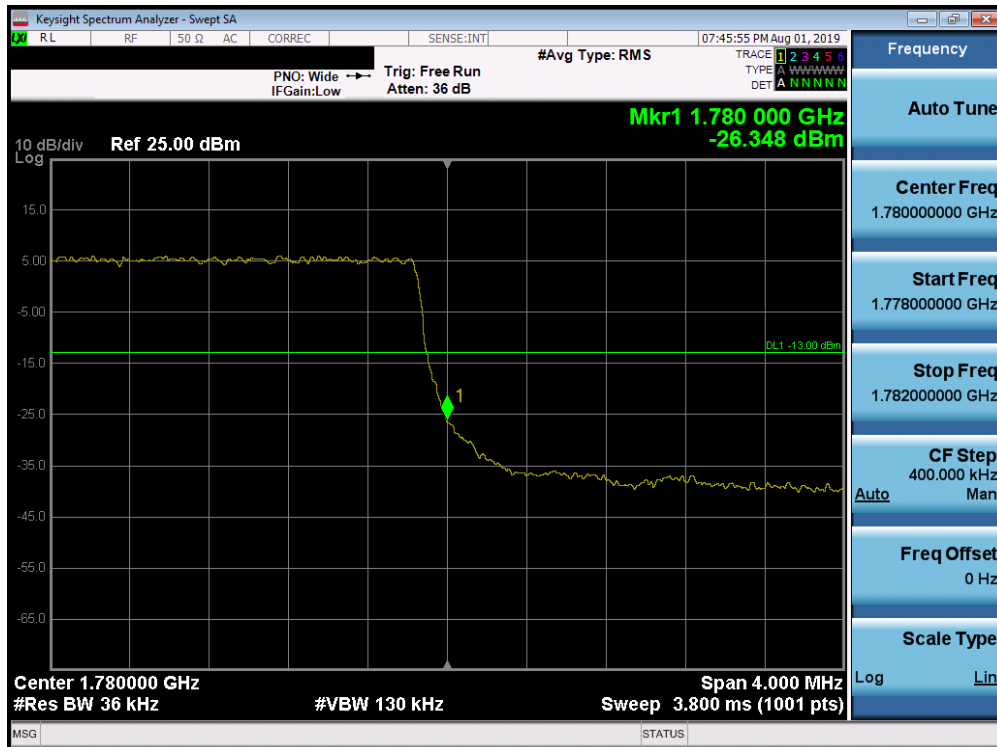


Plot 7-221. Upper Band Edge Plot (Band 4 - 3.0MHz QPSK - Full RB Configuration)

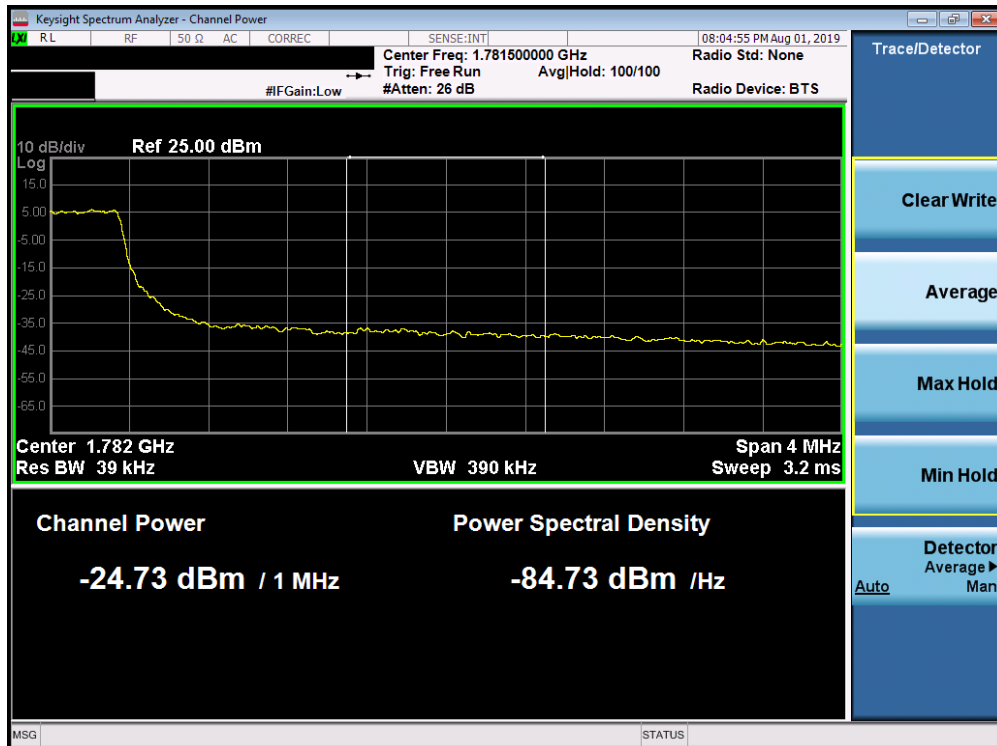


Plot 7-222. Upper Extended Band Edge Plot (Band 4 - 3.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFG850UM	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1907250129-03-R2-ZNF	Test Dates: 7/26 - 8/16/2019	EUT Type: Portable Handset		Page 136 of 283

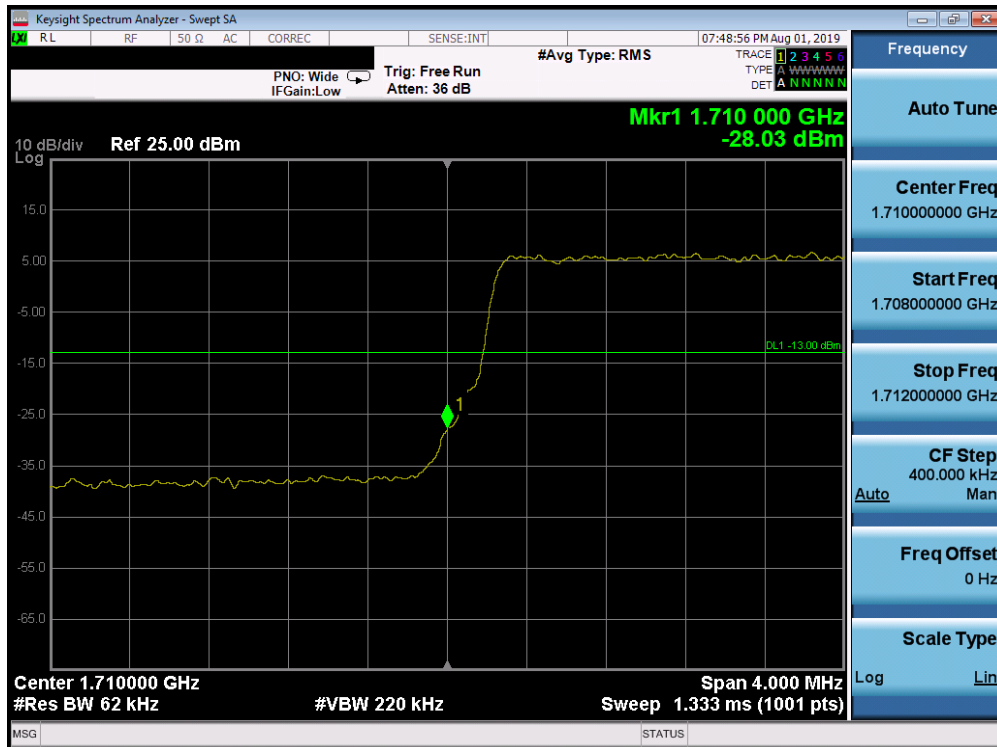


Plot 7-223. Upper Band Edge Plot (Band 66 - 3.0MHz QPSK - Full RB Configuration)

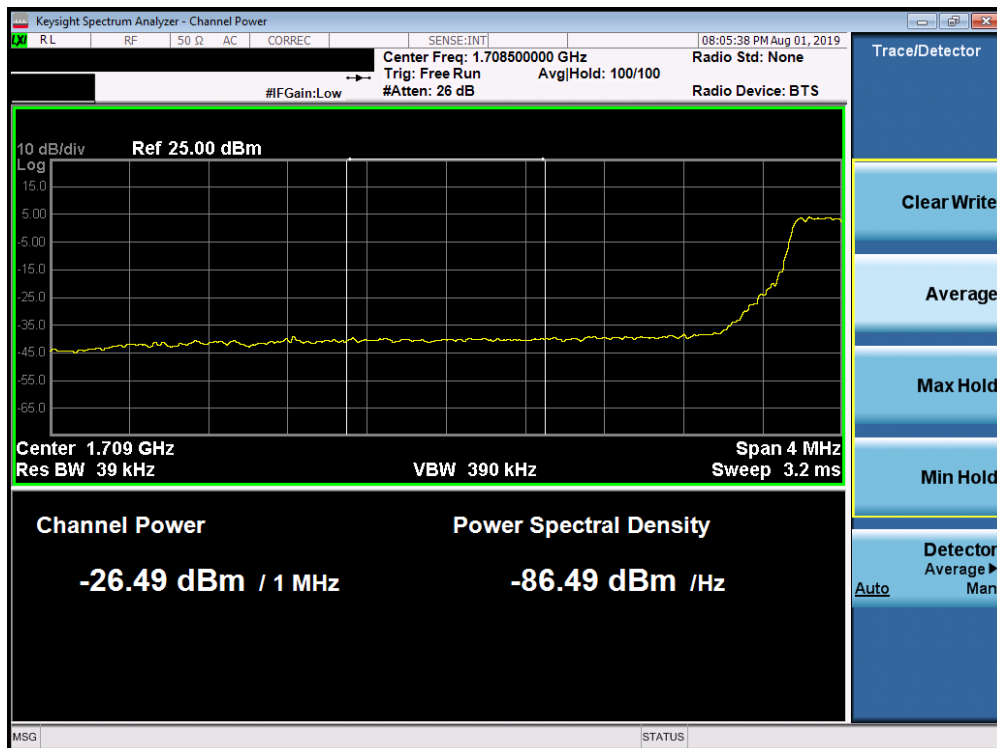


Plot 7-224. Upper Extended Band Edge Plot (Band 66 - 3.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFG850UM	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1907250129-03-R2-ZNF	Test Dates: 7/26 - 8/16/2019	EUT Type: Portable Handset		Page 137 of 283

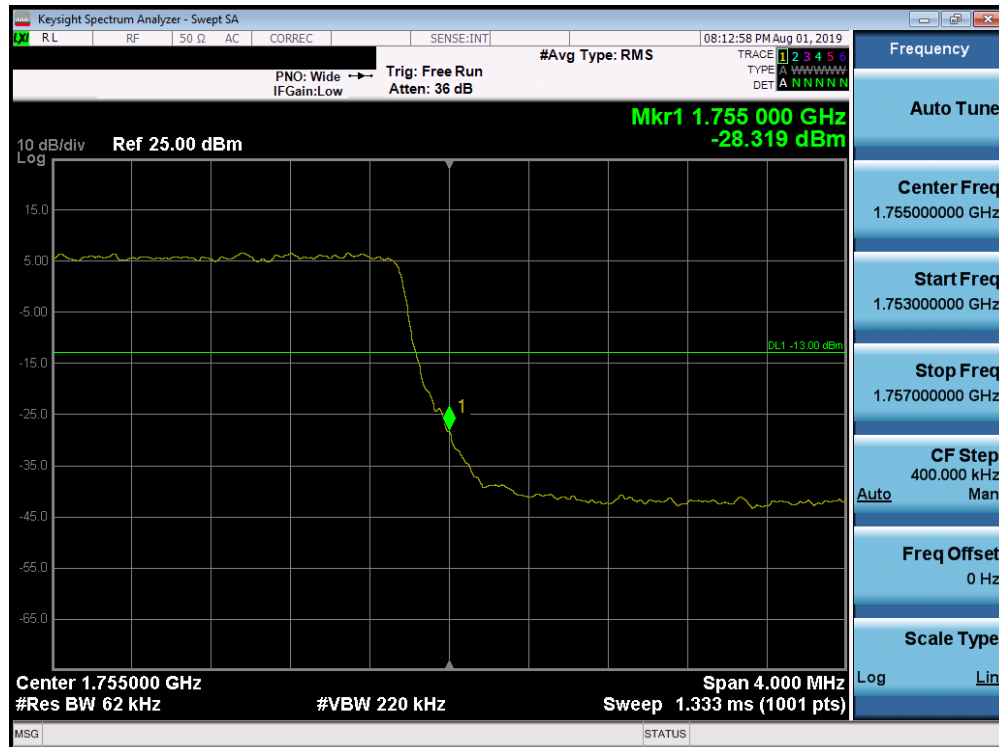


Plot 7-225. Lower Band Edge Plot (Band 66/4 - 5.0MHz QPSK - Full RB Configuration)

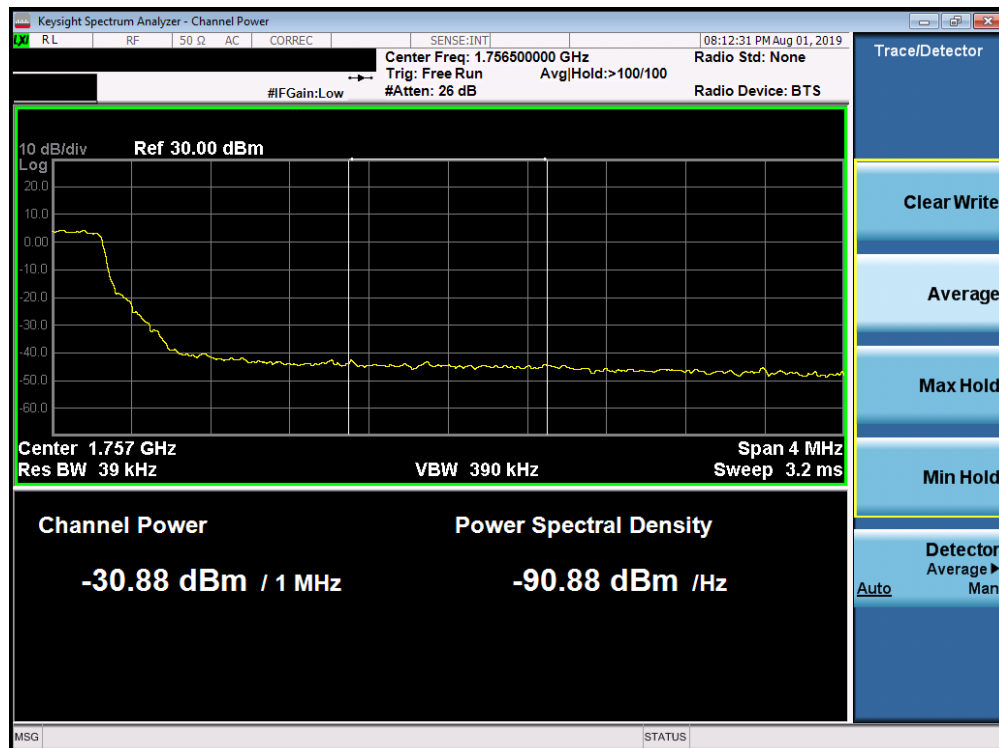


Plot 7-226. Lower Extended Band Edge Plot (Band 66/4 - 5.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFG850UM	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1907250129-03-R2-ZNF	Test Dates: 7/26 - 8/16/2019	EUT Type: Portable Handset		Page 138 of 283

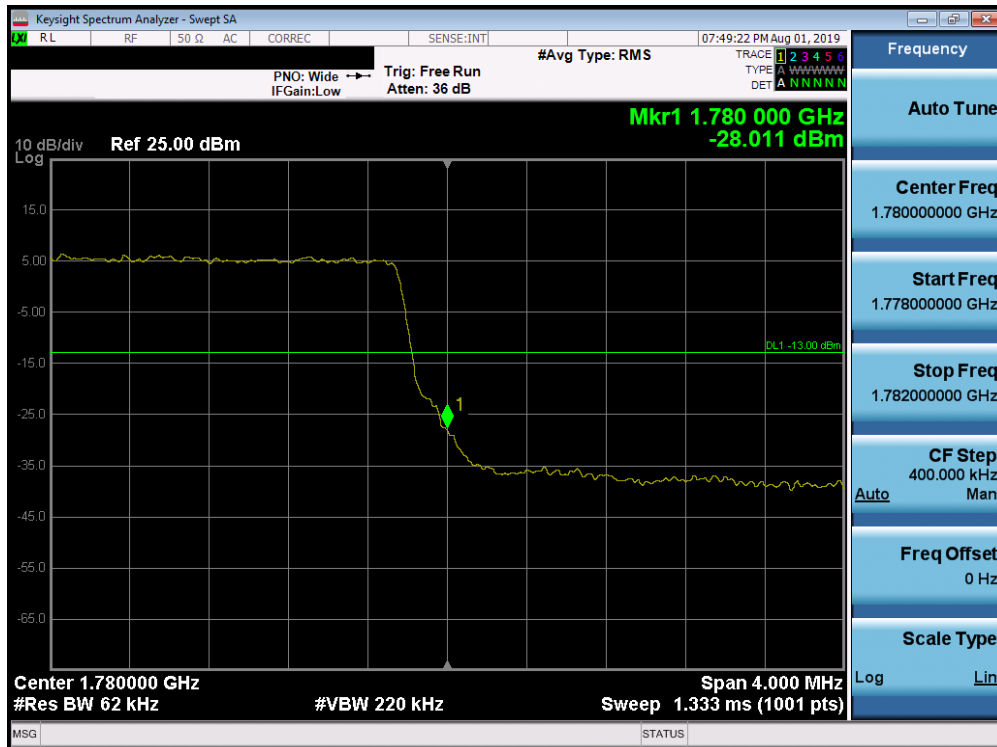


Plot 7-227. Upper Band Edge Plot (Band 4 - 5.0MHz QPSK - Full RB Configuration)

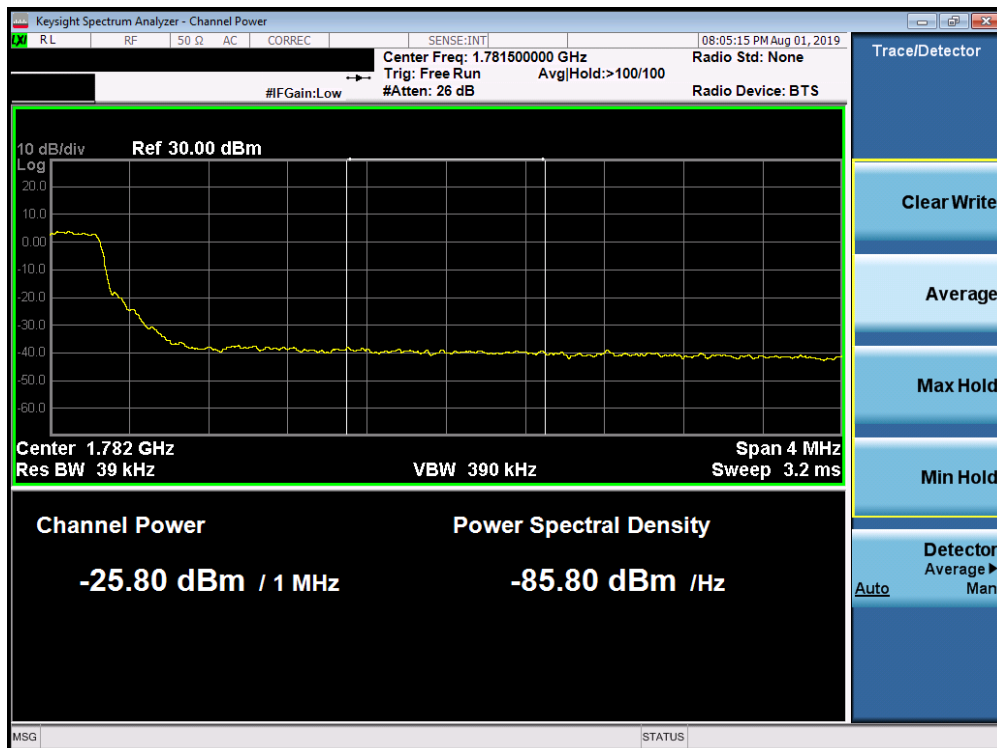


Plot 7-228. Upper Extended Band Edge Plot (Band 4 - 5.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFG850UM	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1907250129-03-R2-ZNF	Test Dates: 7/26 - 8/16/2019	EUT Type: Portable Handset		Page 139 of 283

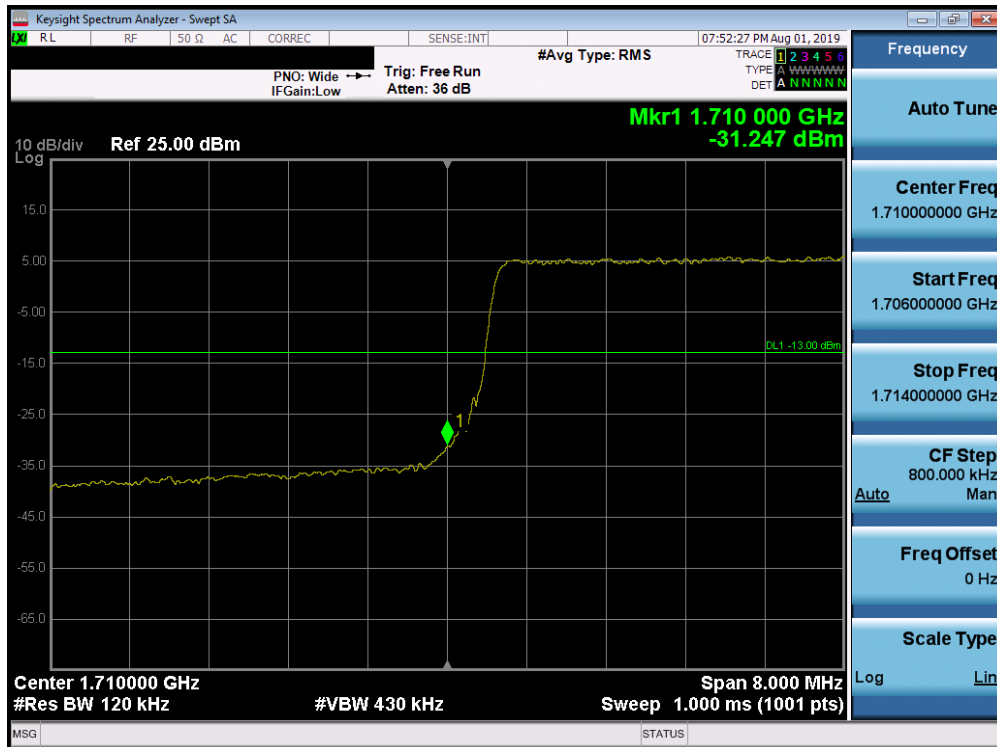


Plot 7-229. Upper Band Edge Plot (Band 66 - 5.0MHz QPSK - Full RB Configuration)

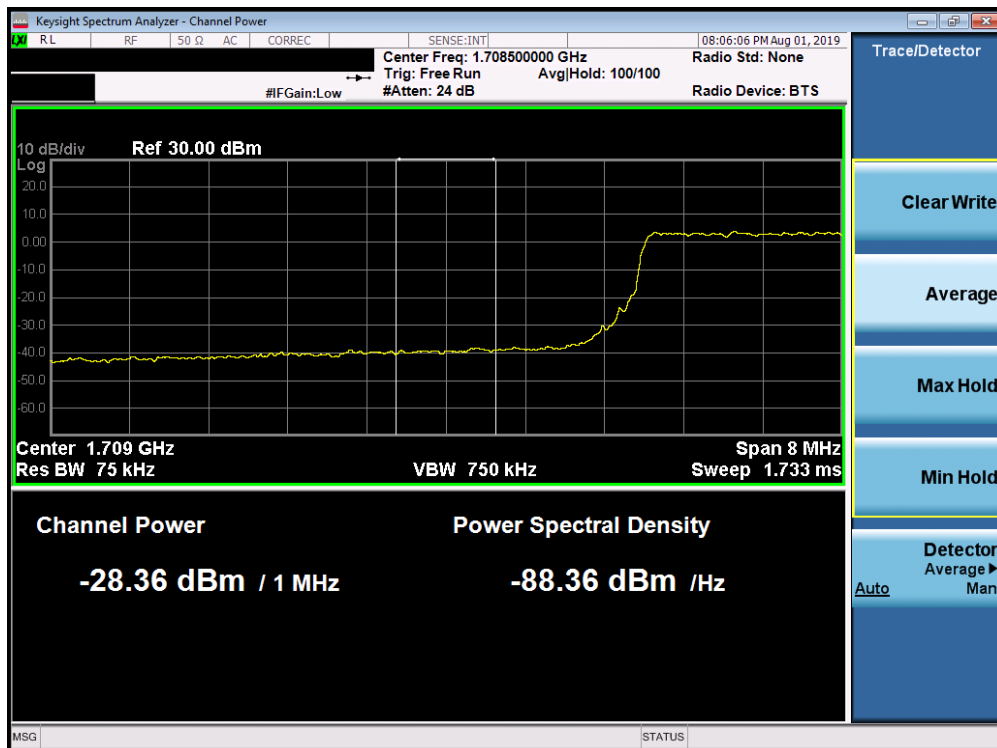


Plot 7-230. Upper Extended Band Edge Plot (Band 66 - 5.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFG850UM	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1907250129-03-R2-ZNF	Test Dates: 7/26 - 8/16/2019	EUT Type: Portable Handset		Page 140 of 283

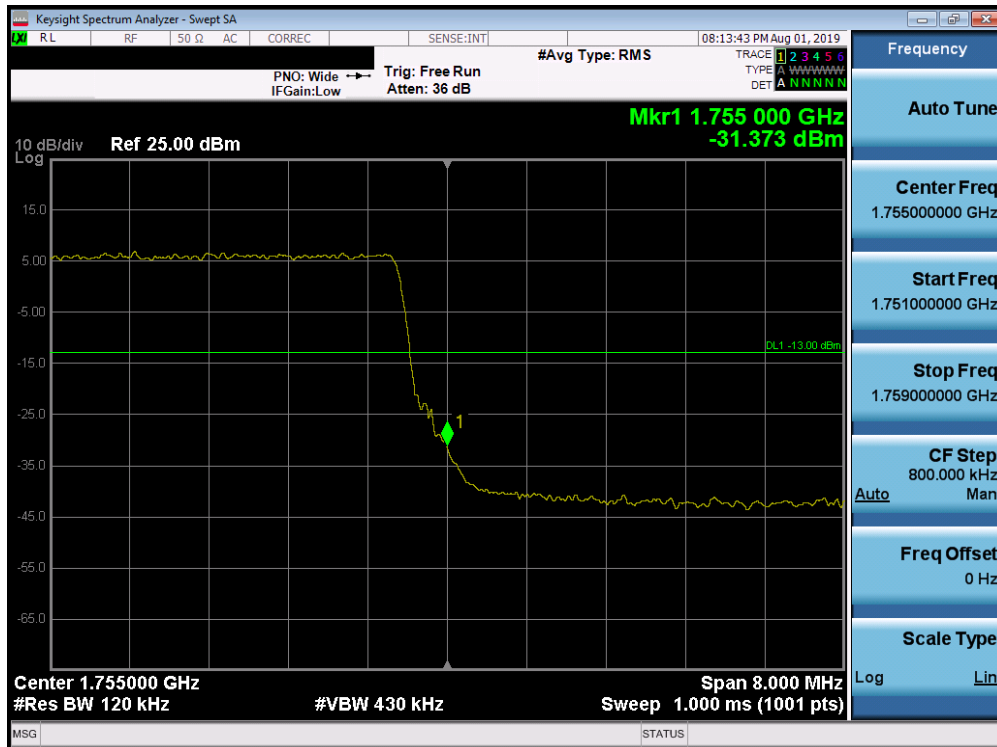


Plot 7-231. Lower Band Edge Plot (Band 66/4 - 10.0MHz QPSK - Full RB Configuration)

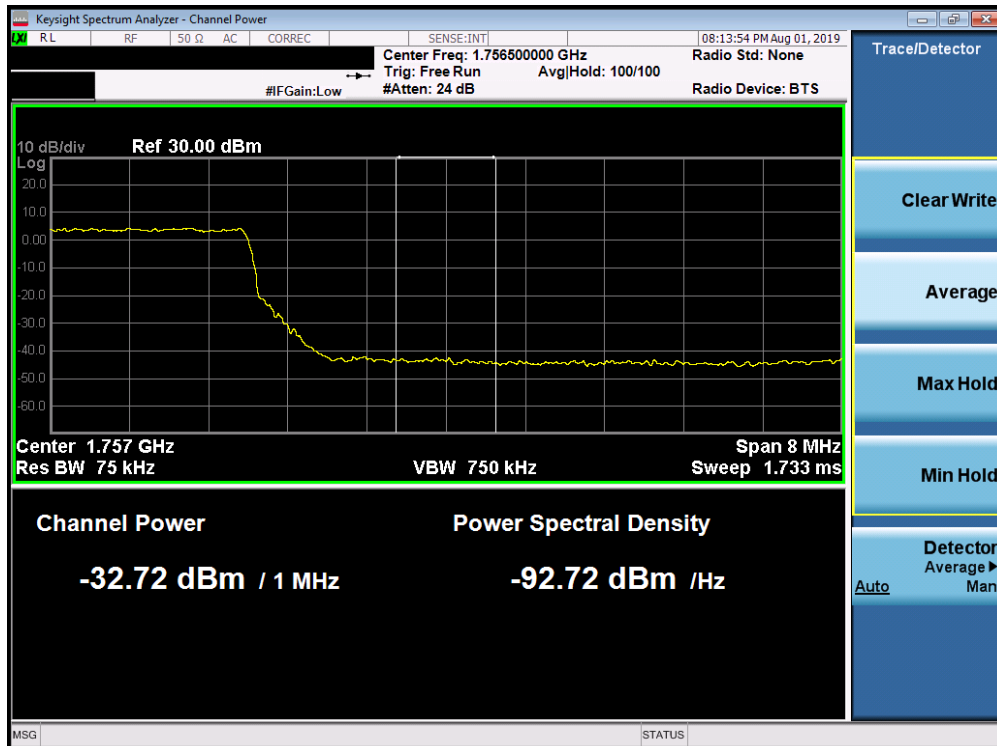


Plot 7-232. Lower Extended Band Edge Plot (Band 66/4 - 10.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFG850UM	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1907250129-03-R2-ZNF	Test Dates: 7/26 - 8/16/2019	EUT Type: Portable Handset		Page 141 of 283

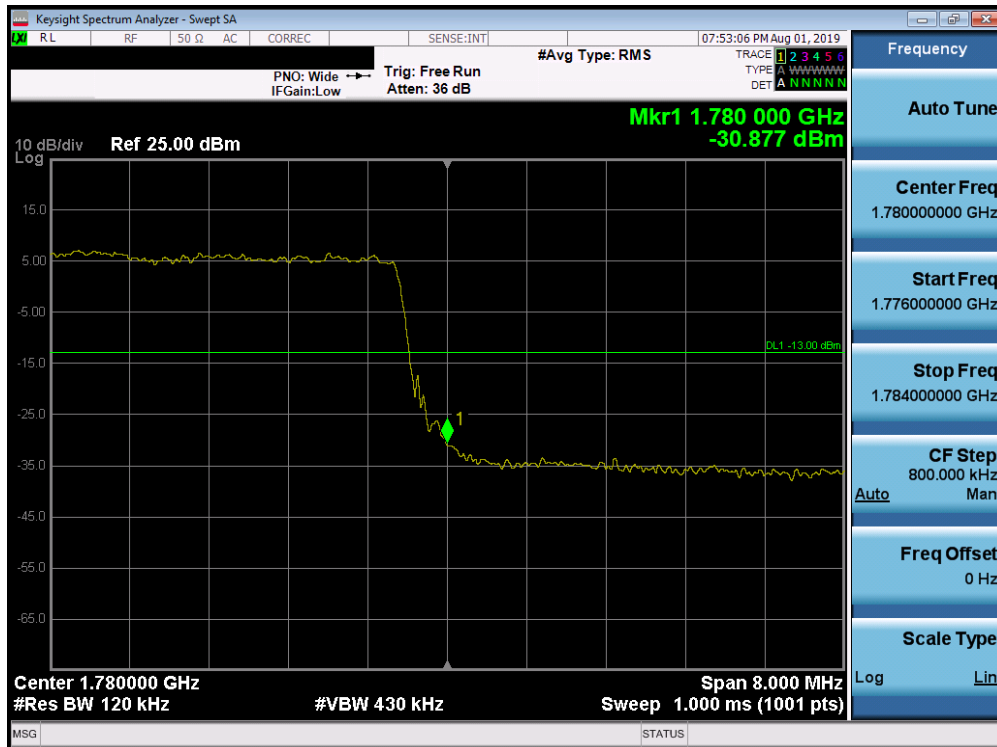


Plot 7-233. Upper Band Edge Plot (Band 4 - 10.0MHz QPSK - Full RB Configuration)

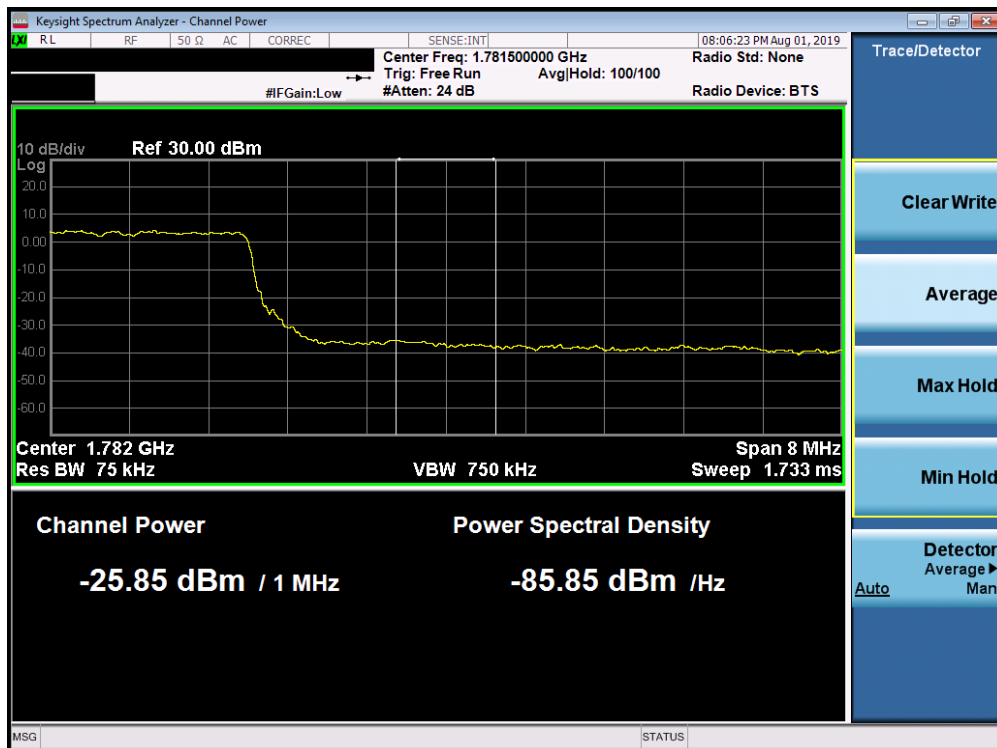


Plot 7-234. Upper Extended Band Edge Plot (Band 4 - 10.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFG850UM	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1907250129-03-R2-ZNF	Test Dates: 7/26 - 8/16/2019	EUT Type: Portable Handset		Page 142 of 283

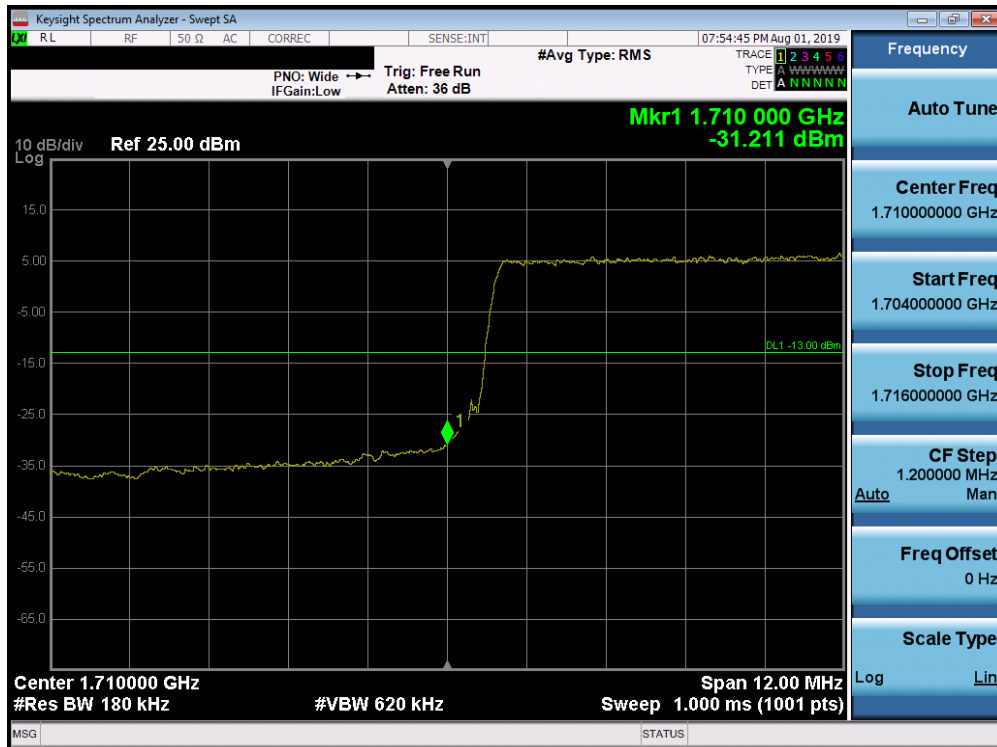


Plot 7-235. Upper Band Edge Plot (Band 66 - 10.0MHz QPSK - Full RB Configuration)

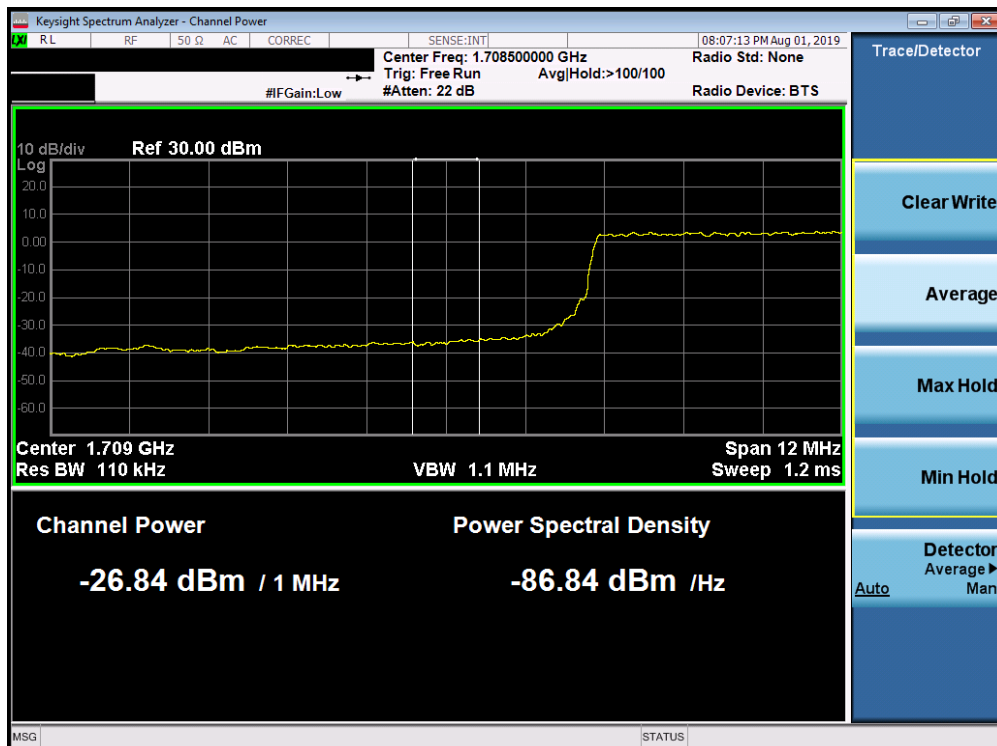


Plot 7-236. Upper Extended Band Edge Plot (Band 66 - 10.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFG850UM	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1907250129-03-R2-ZNF	Test Dates: 7/26 - 8/16/2019	EUT Type: Portable Handset		Page 143 of 283

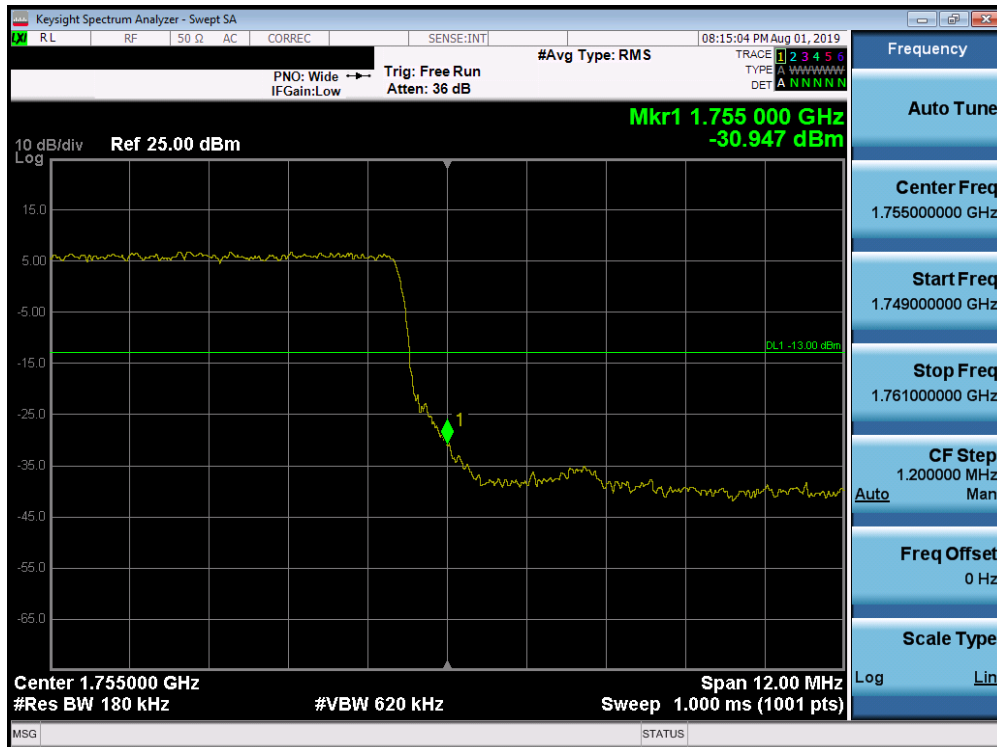


Plot 7-237. Lower Band Edge Plot (Band 66/4 - 15.0MHz QPSK - Full RB Configuration)

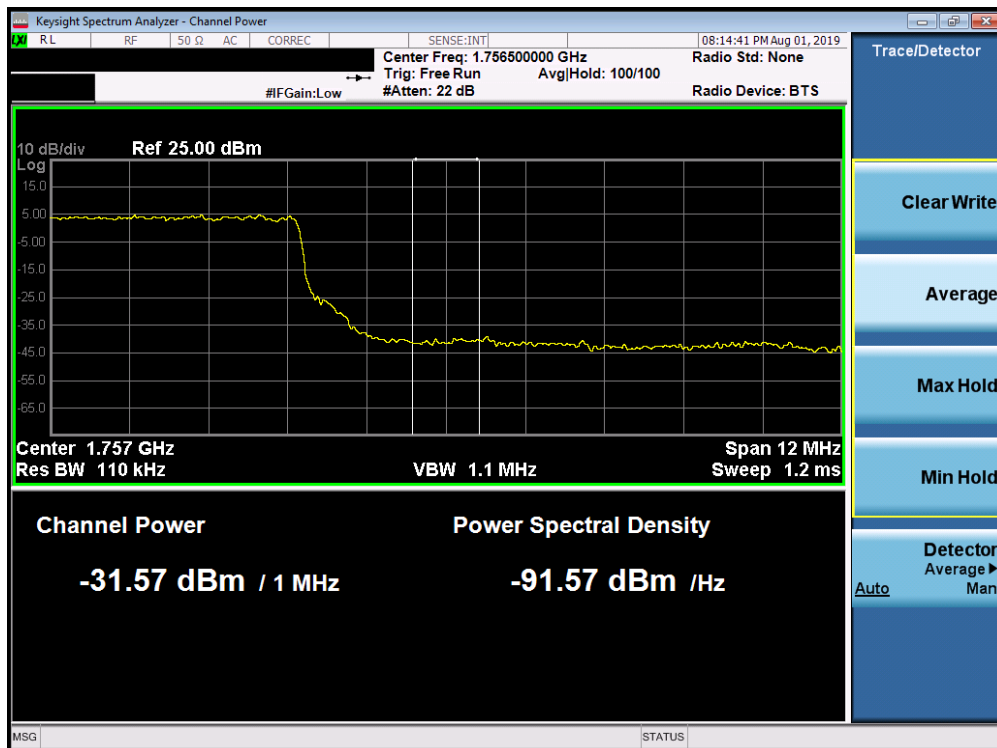


Plot 7-238. Lower Extended Band Edge Plot (Band 66/4 - 15.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFG850UM	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1907250129-03-R2.ZNF	Test Dates: 7/26 - 8/16/2019	EUT Type: Portable Handset		Page 144 of 283

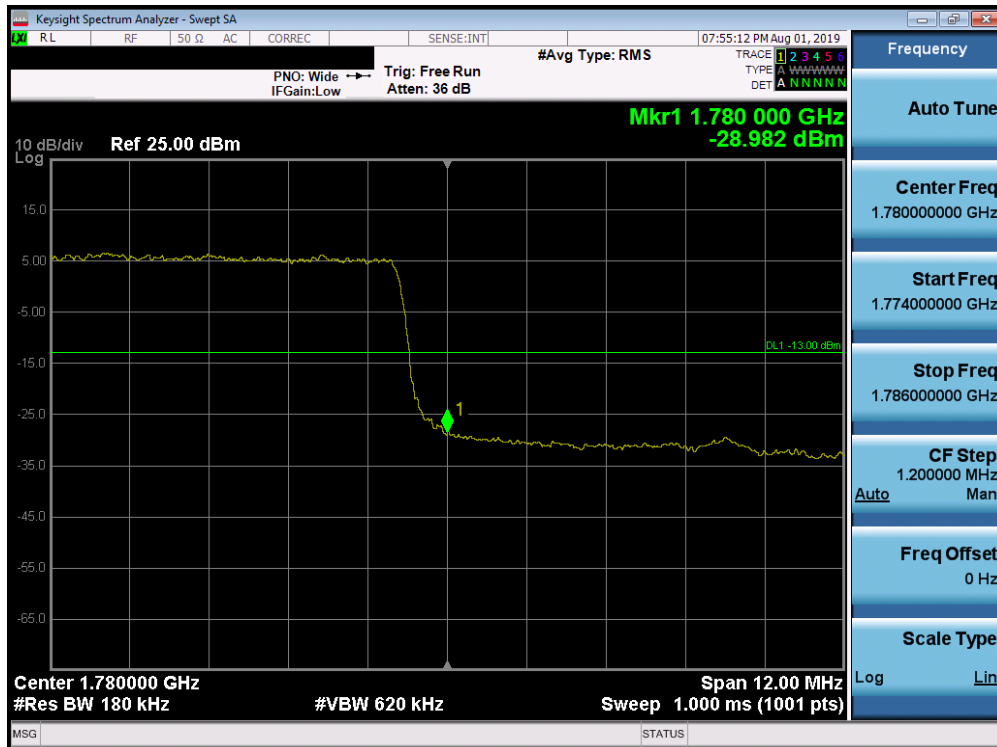


Plot 7-239. Upper Band Edge Plot (Band 4 - 15.0MHz QPSK - Full RB Configuration)

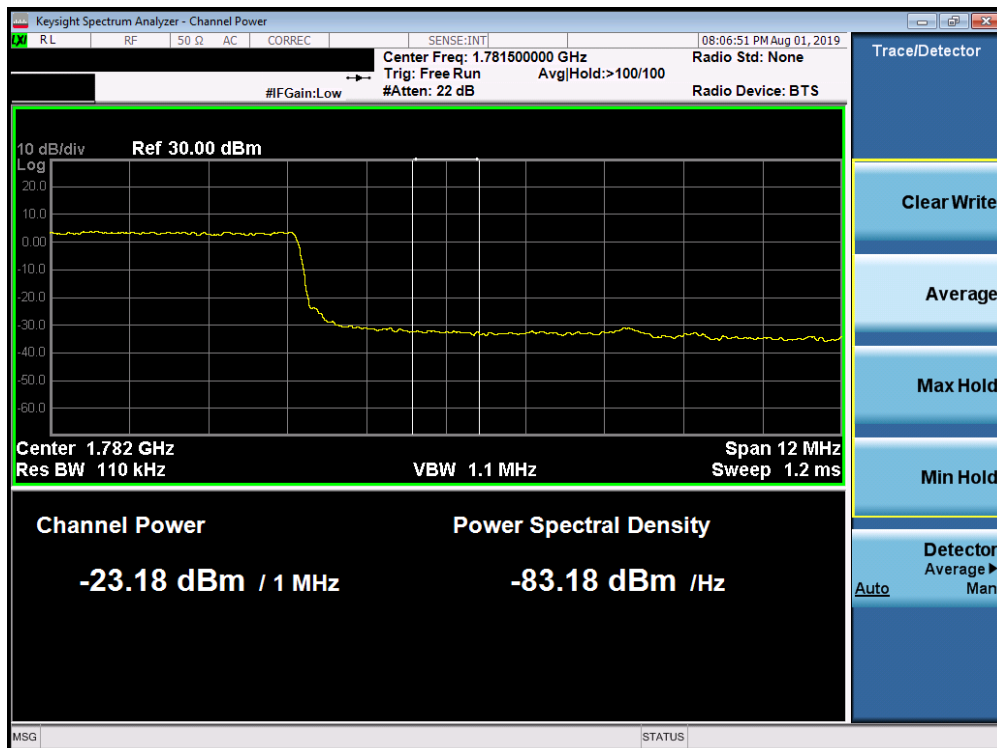


Plot 7-240. Upper Extended Band Edge Plot (Band 4 - 15.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFG850UM	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1907250129-03-R2.ZNF	Test Dates: 7/26 - 8/16/2019	EUT Type: Portable Handset	Page 145 of 283

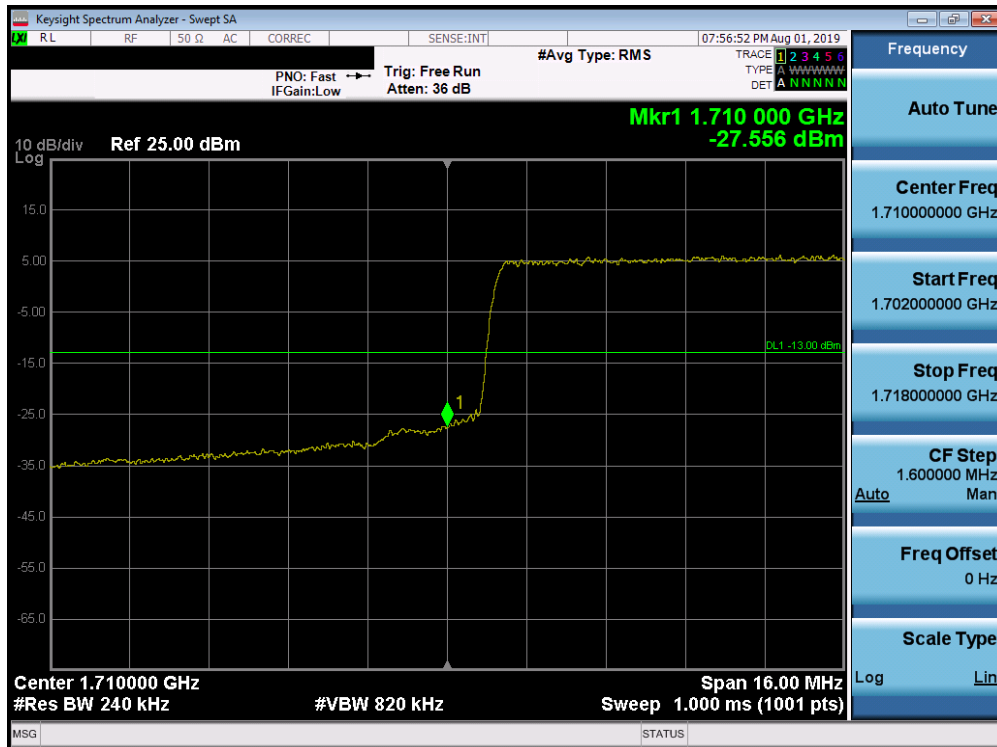


Plot 7-241. Upper Band Edge Plot (Band 66 - 15.0MHz QPSK - Full RB Configuration)

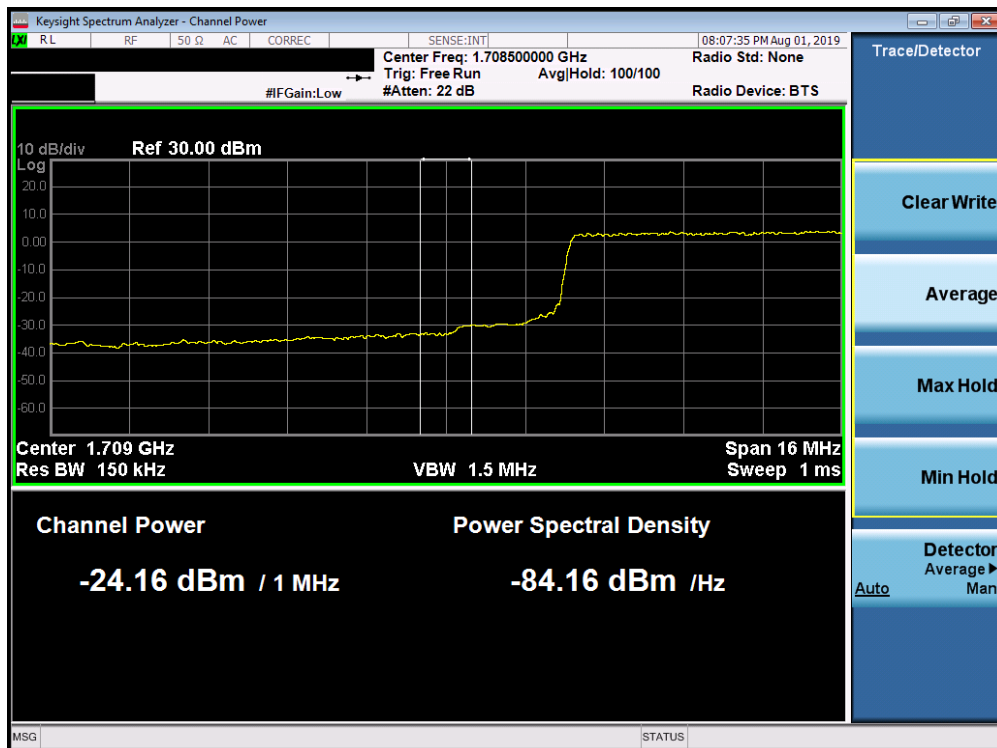


Plot 7-242. Upper Extended Band Edge Plot (Band 66 - 15.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFG850UM	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1907250129-03-R2-ZNF	Test Dates: 7/26 - 8/16/2019	EUT Type: Portable Handset		Page 146 of 283

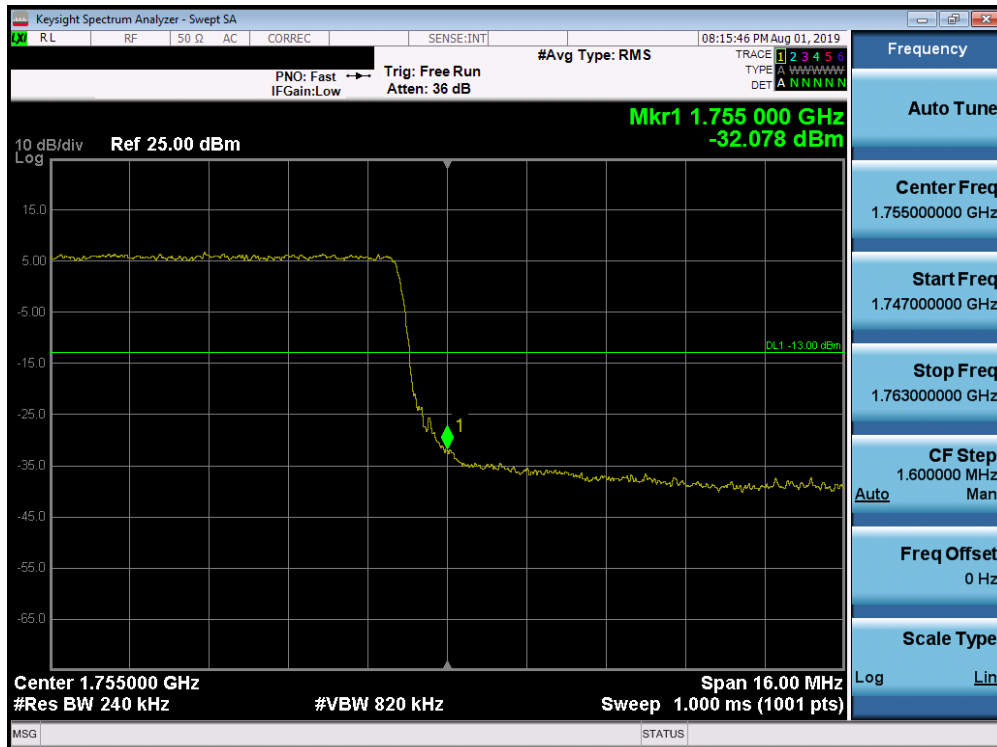


Plot 7-243. Lower Band Edge Plot (Band 66/4 - 20.0MHz QPSK - Full RB Configuration)

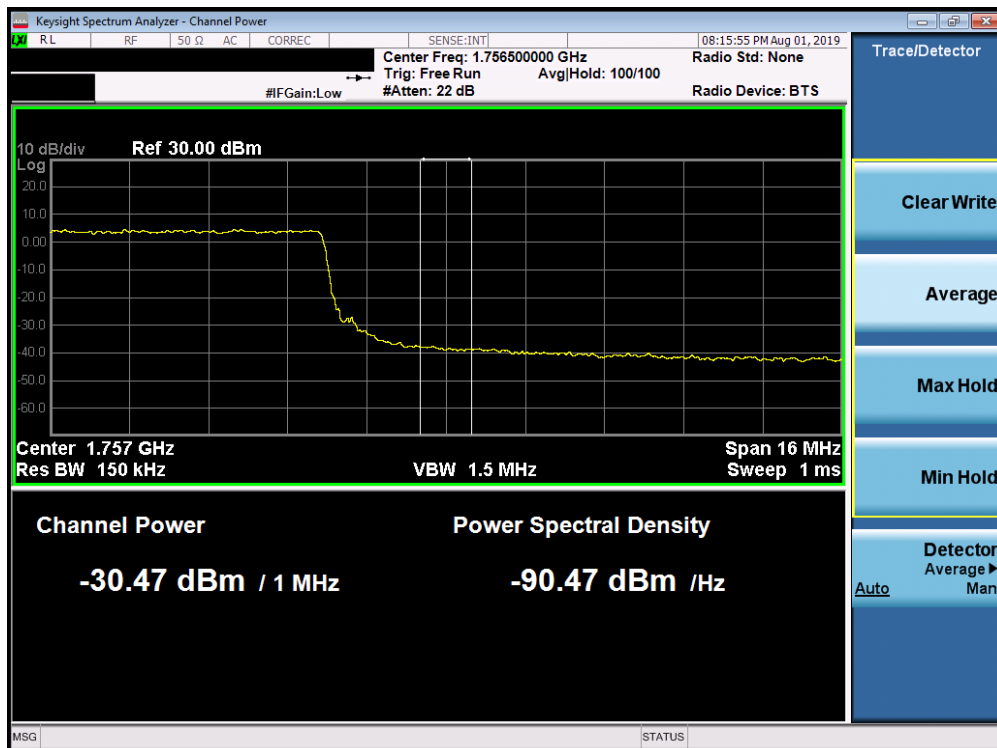


Plot 7-244. Lower Extended Band Edge Plot (Band 66/4 - 20.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFG850UM	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1907250129-03-R2-ZNF	Test Dates: 7/26 - 8/16/2019	EUT Type: Portable Handset		Page 147 of 283

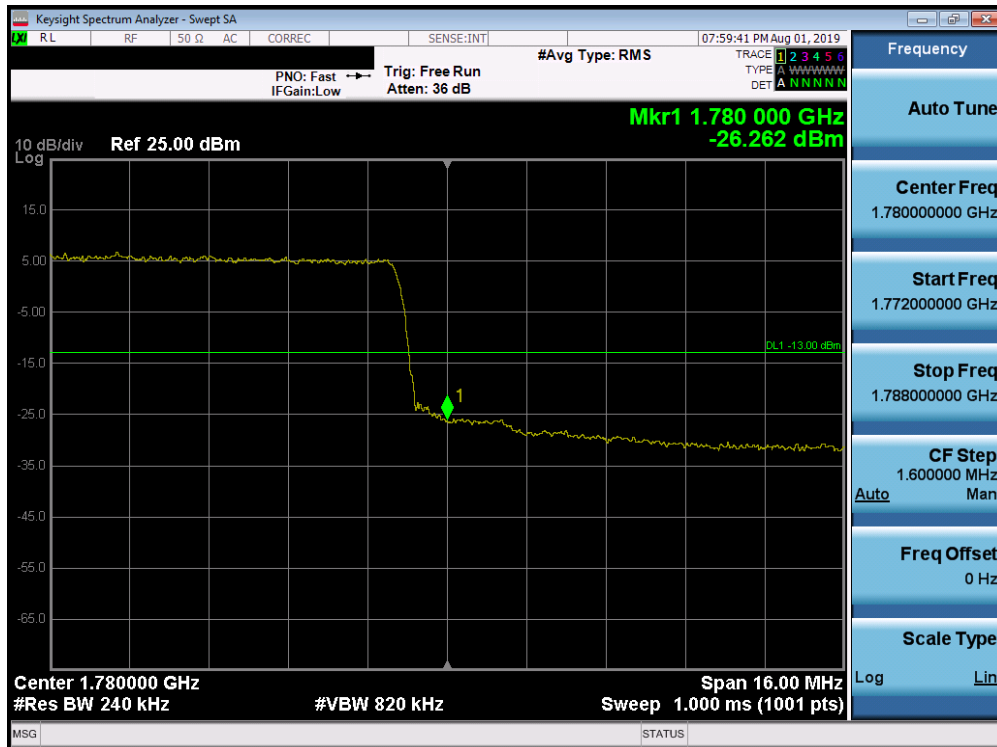


Plot 7-245. Upper Band Edge Plot (Band 4 - 20.0MHz QPSK - Full RB Configuration)

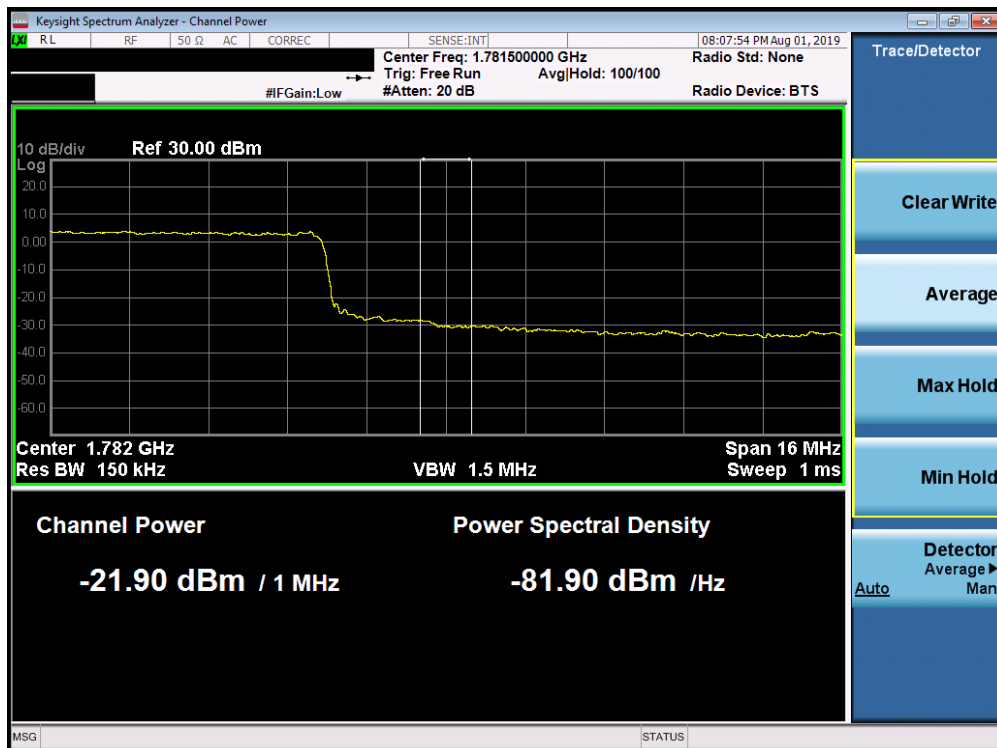


Plot 7-246. Upper Extended Band Edge Plot (Band 4 - 20.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFG850UM	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1907250129-03-R2-ZNF	Test Dates: 7/26 - 8/16/2019	EUT Type: Portable Handset		Page 148 of 283



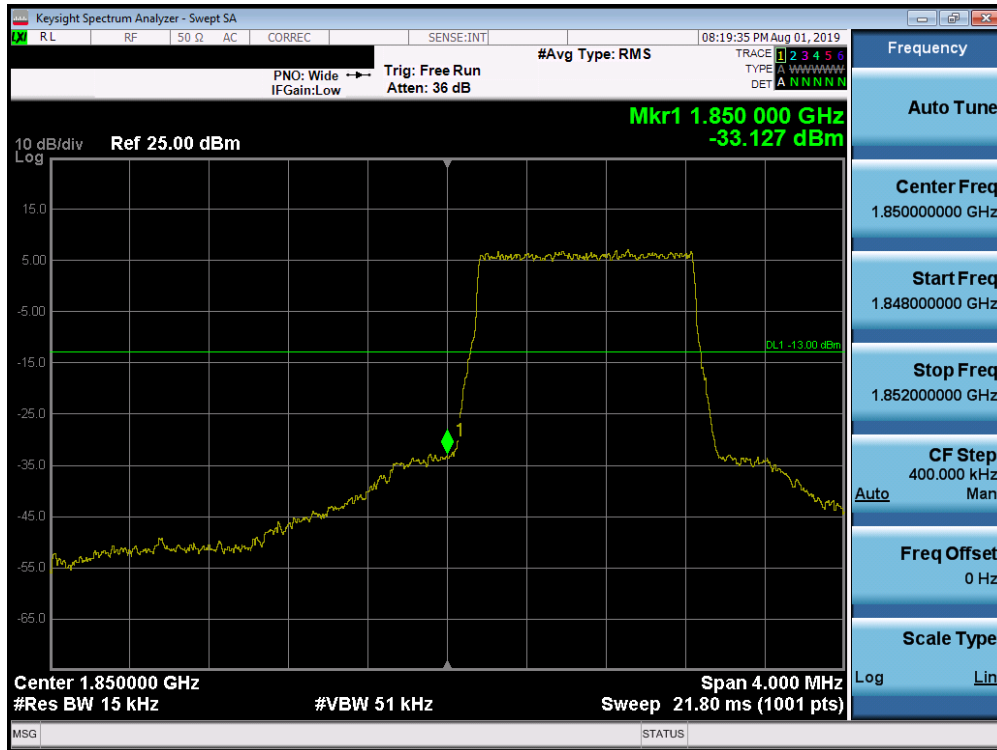
Plot 7-247. Upper Band Edge Plot (Band 66 - 20.0MHz QPSK - Full RB Configuration)



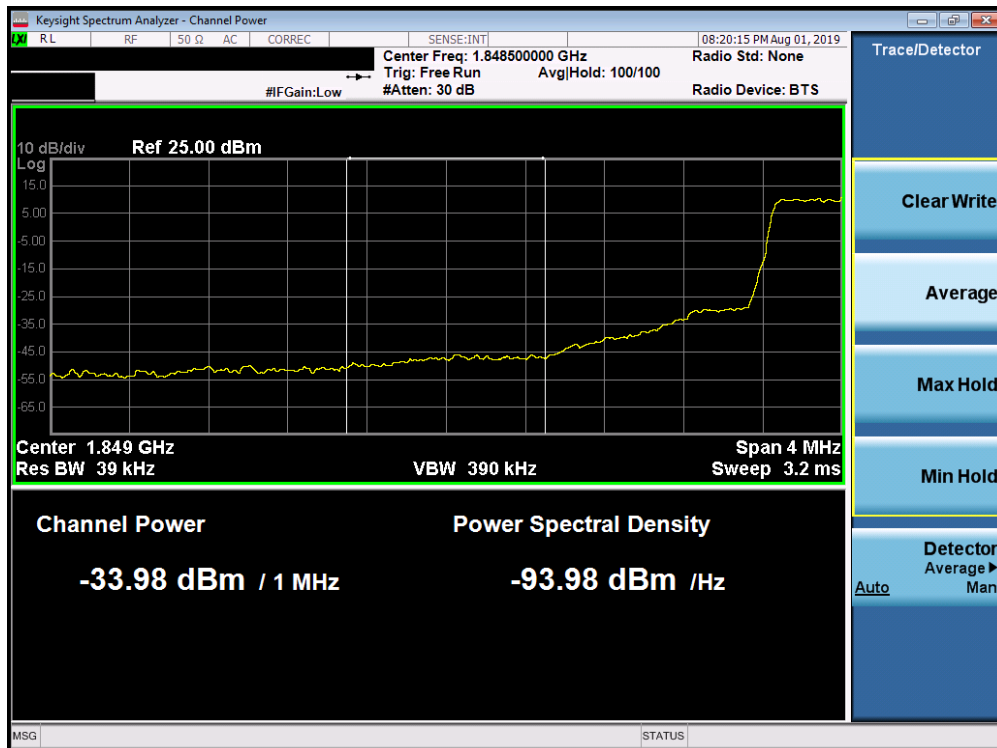
Plot 7-248. Upper Extended Band Edge Plot (Band 66 - 20.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFG850UM	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1907250129-03-R2-ZNF	Test Dates: 7/26 - 8/16/2019	EUT Type: Portable Handset		Page 149 of 283

Band 25/2

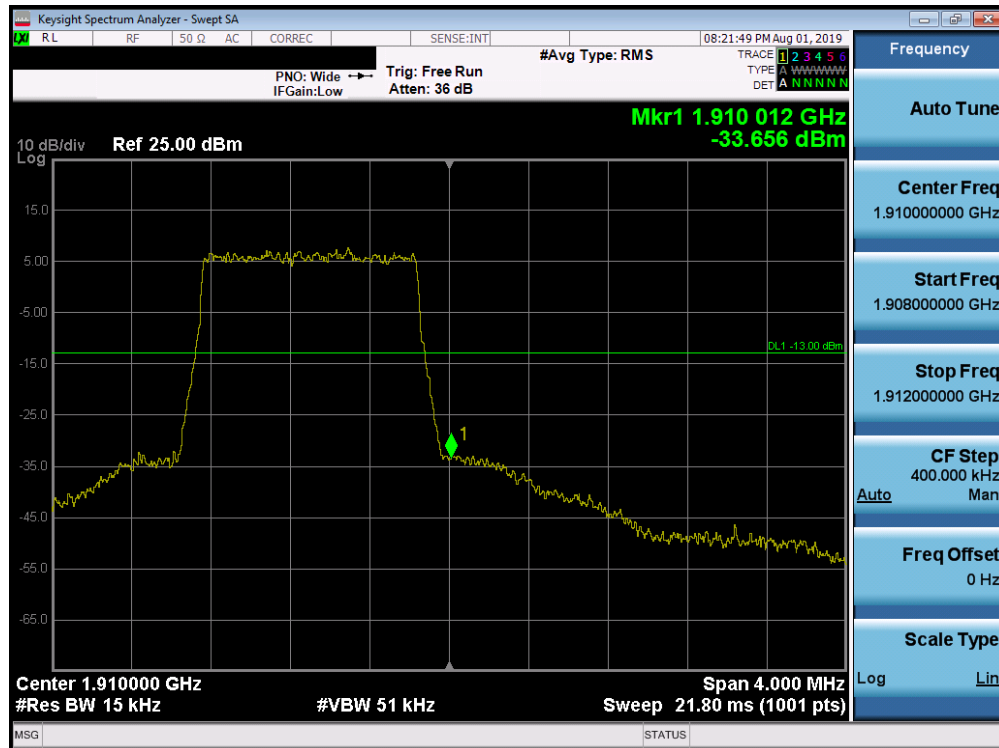


Plot 7-249. Lower Band Edge Plot (Band 25/2 - 1.4MHz QPSK - Full RB Configuration)

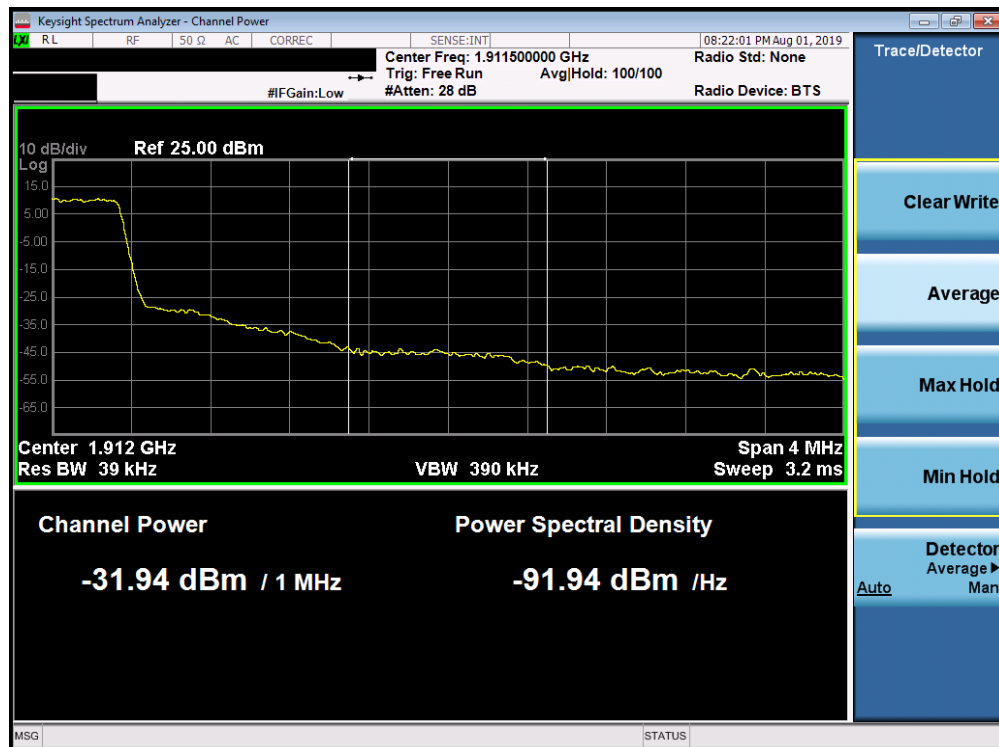


Plot 7-250. Lower Extended Band Edge Plot (Band 25/2 - 1.4MHz QPSK - Full RB Configuration)

FCC ID: ZNFG850UM	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1907250129-03-R2-ZNF	Test Dates: 7/26 - 8/16/2019	EUT Type: Portable Handset		Page 150 of 283

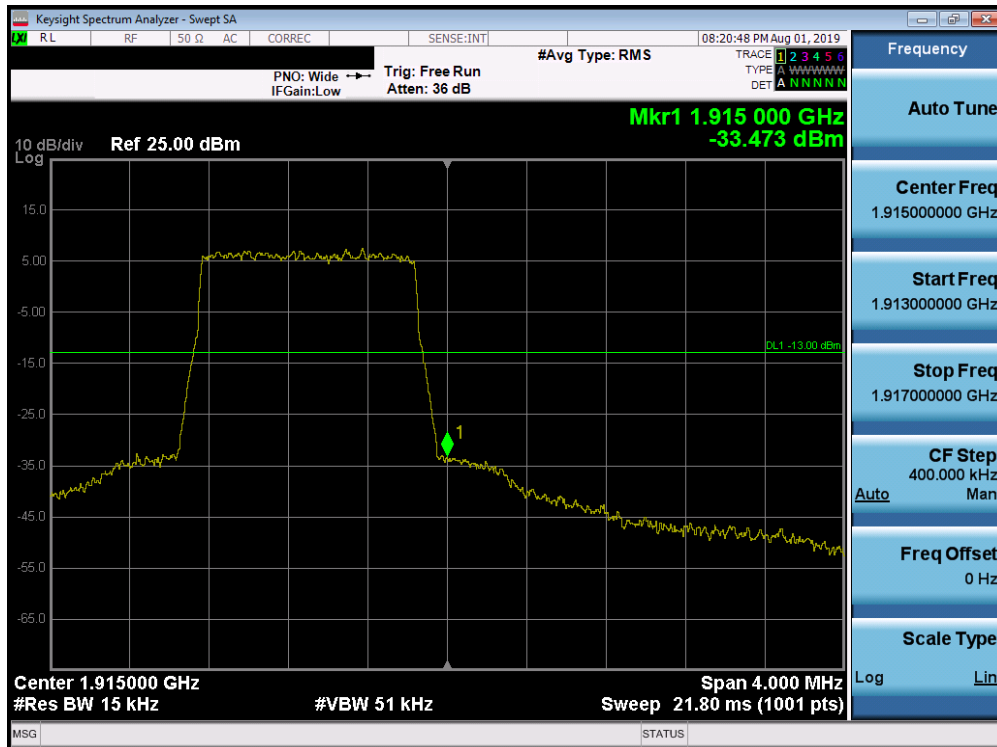


Plot 7-251. Upper Band Edge Plot (Band 2 - 1.4MHz QPSK - Full RB Configuration)

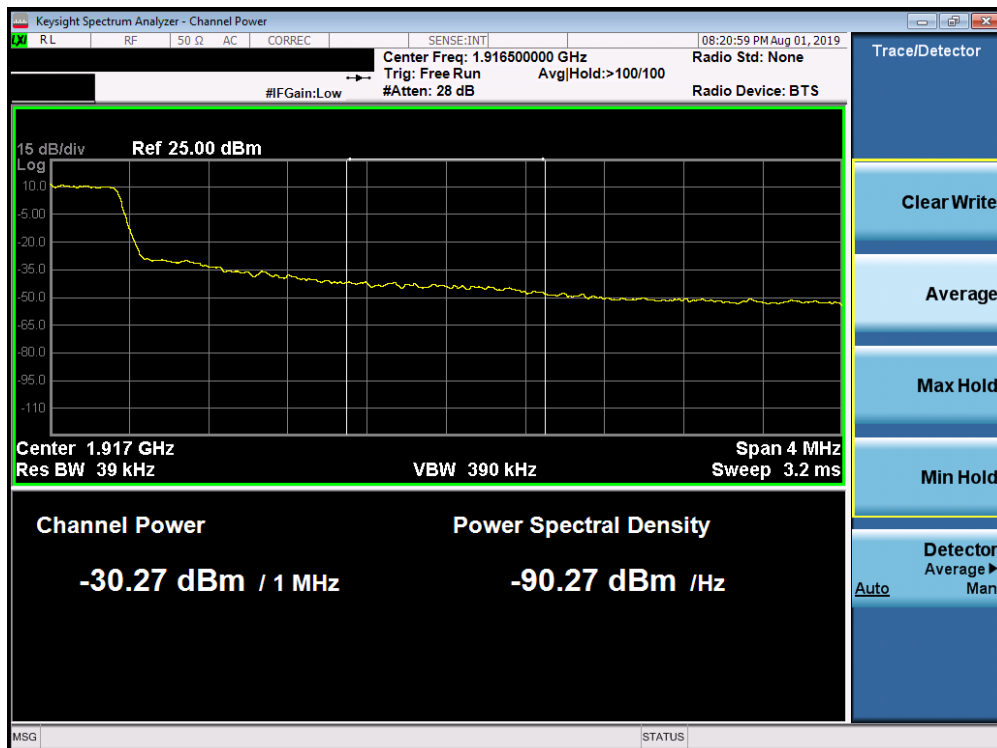


Plot 7-252. Upper Extended Band Edge Plot (Band 2 - 1.4MHz QPSK - Full RB Configuration)

FCC ID: ZNFG850UM	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1907250129-03-R2-ZNF	Test Dates: 7/26 - 8/16/2019	EUT Type: Portable Handset		Page 151 of 283

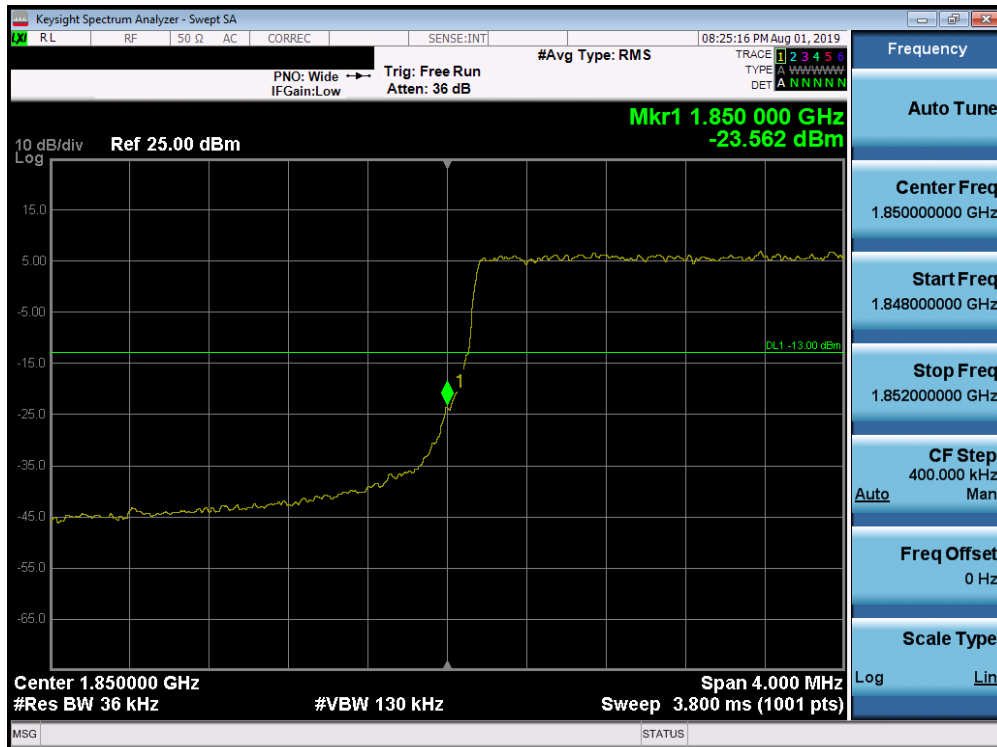


Plot 7-253. Upper Band Edge Plot (Band 25 - 1.4MHz QPSK - Full RB Configuration)

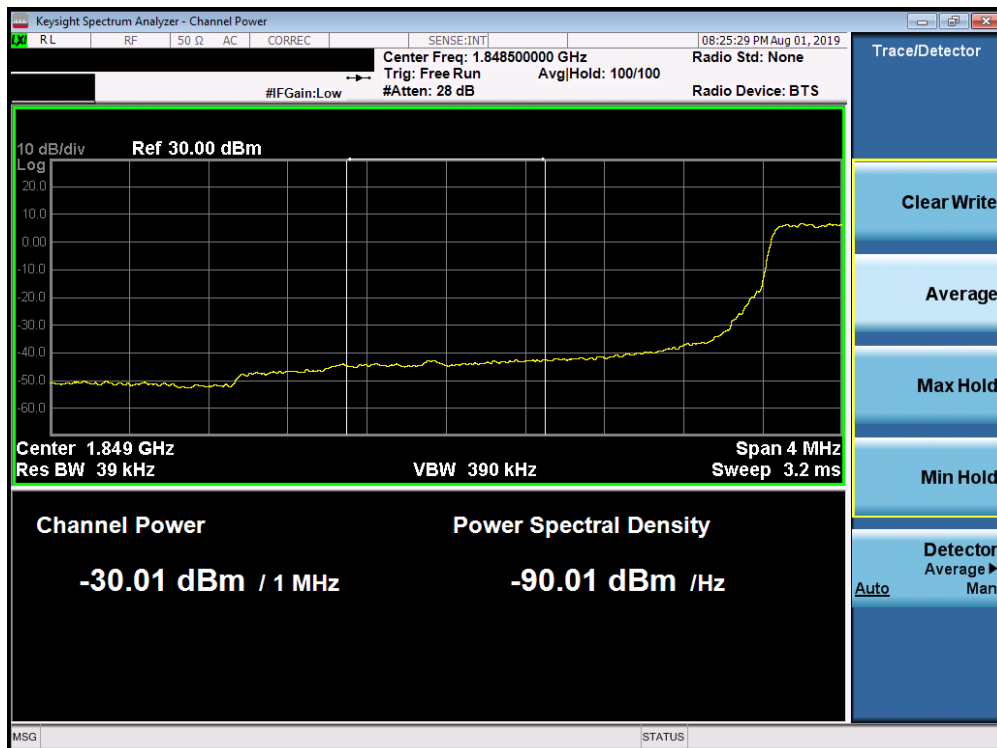


Plot 7-254. Upper Extended Band Edge Plot (Band 25 - 1.4MHz QPSK - Full RB Configuration)

FCC ID: ZNFG850UM	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1907250129-03-R2-ZNF	Test Dates: 7/26 - 8/16/2019	EUT Type: Portable Handset		Page 152 of 283

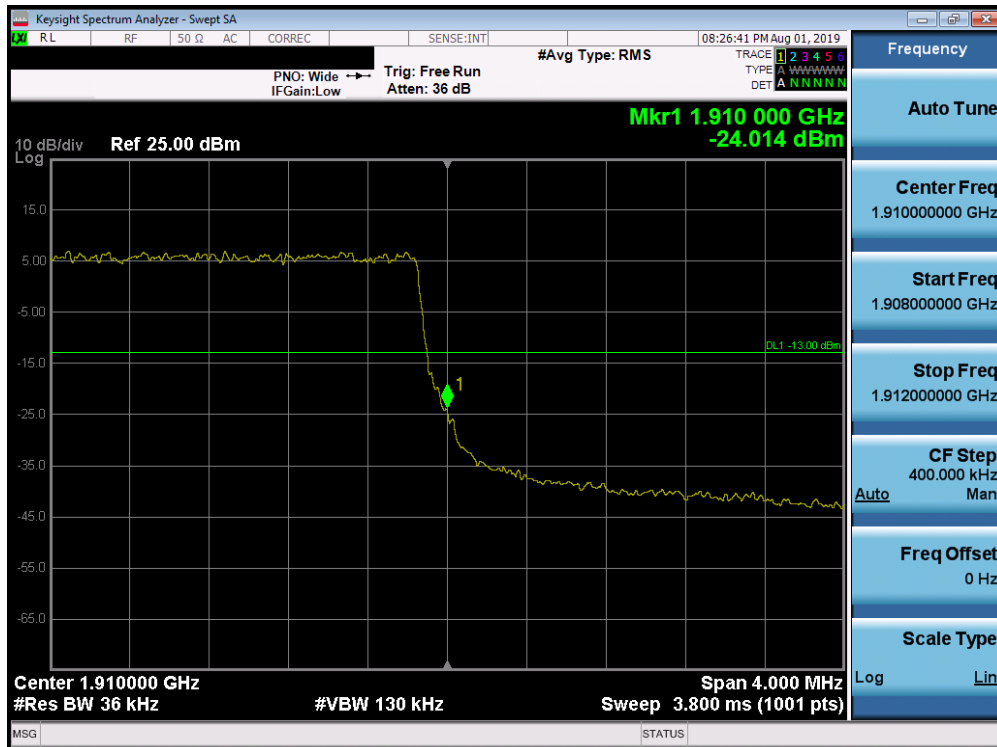


Plot 7-255. Lower Band Edge Plot (Band 25/2 - 3.0MHz QPSK - Full RB Configuration)

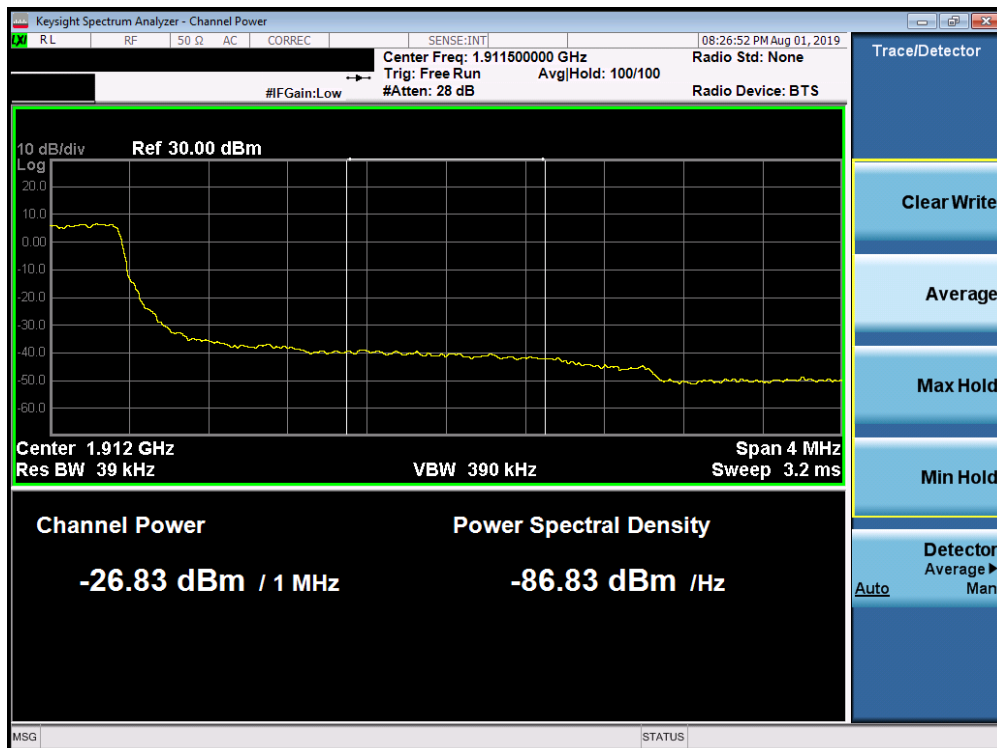


Plot 7-256. Lower Extended Band Edge Plot (Band 25/2 - 3.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFG850UM	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1907250129-03-R2-ZNF	Test Dates: 7/26 - 8/16/2019	EUT Type: Portable Handset		Page 153 of 283

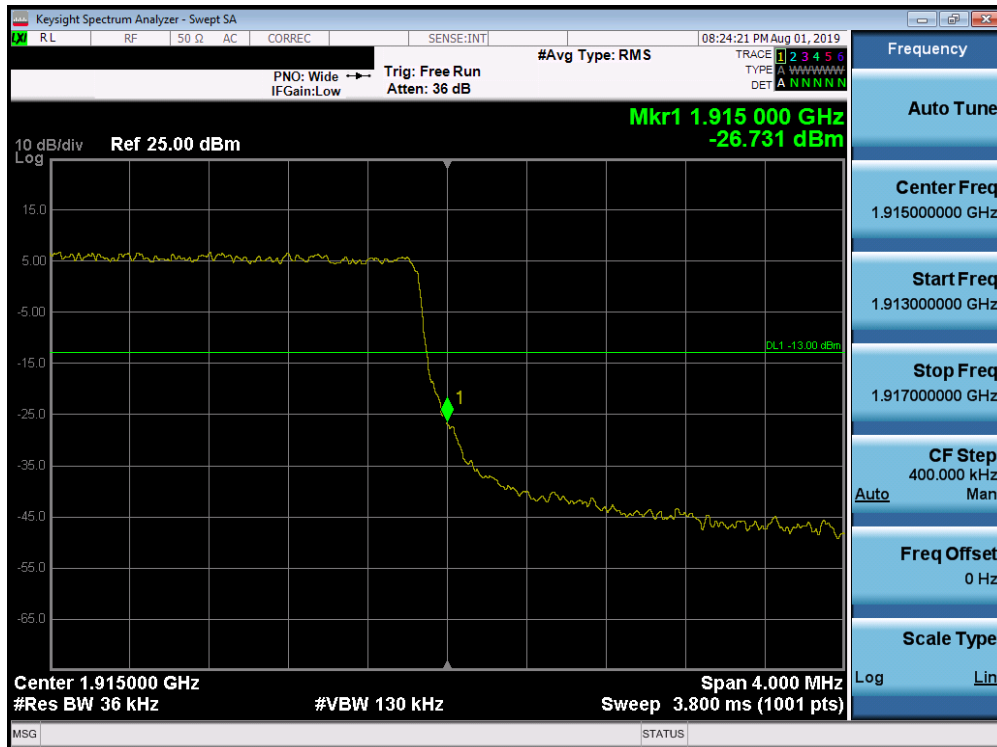


Plot 7-257. Upper Band Edge Plot (Band 2 - 3.0MHz QPSK - Full RB Configuration)

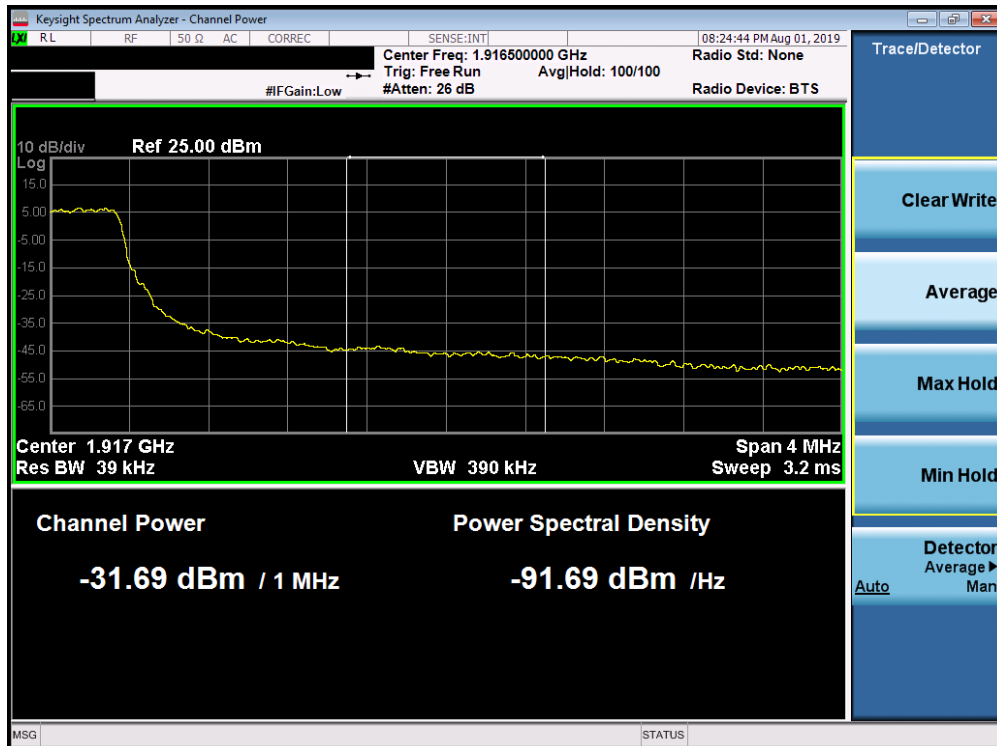


Plot 7-258. Upper Extended Band Edge Plot (Band 2 - 3.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFG850UM	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1907250129-03-R2-ZNF	Test Dates: 7/26 - 8/16/2019	EUT Type: Portable Handset		Page 154 of 283

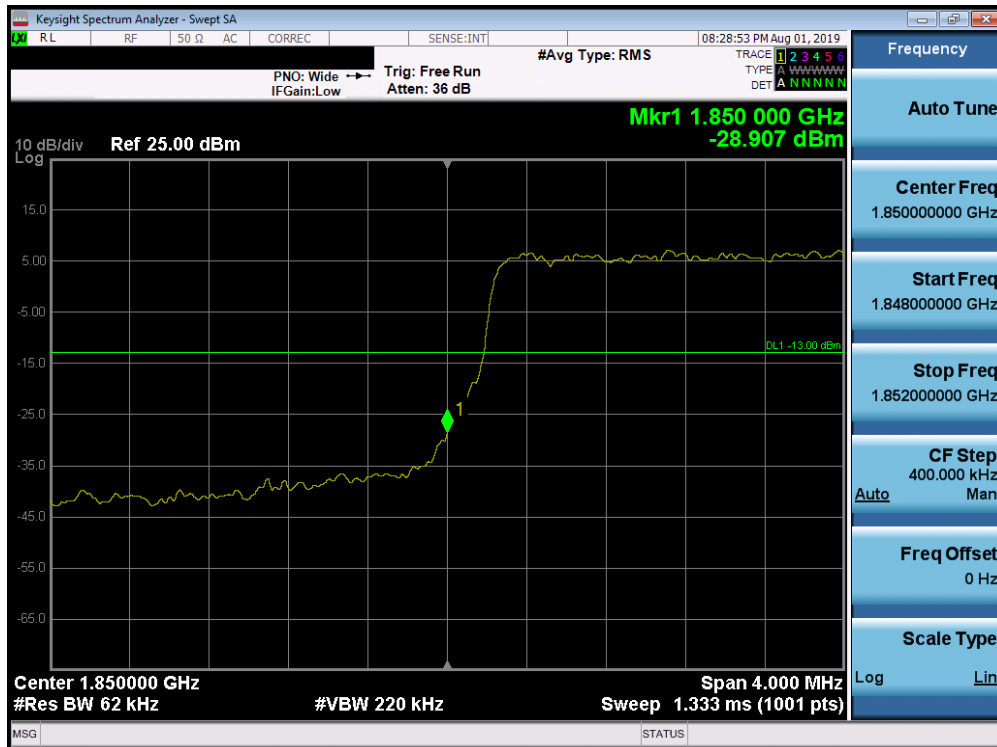


Plot 7-259. Upper Band Edge Plot (Band 25 - 3.0MHz QPSK - Full RB Configuration)

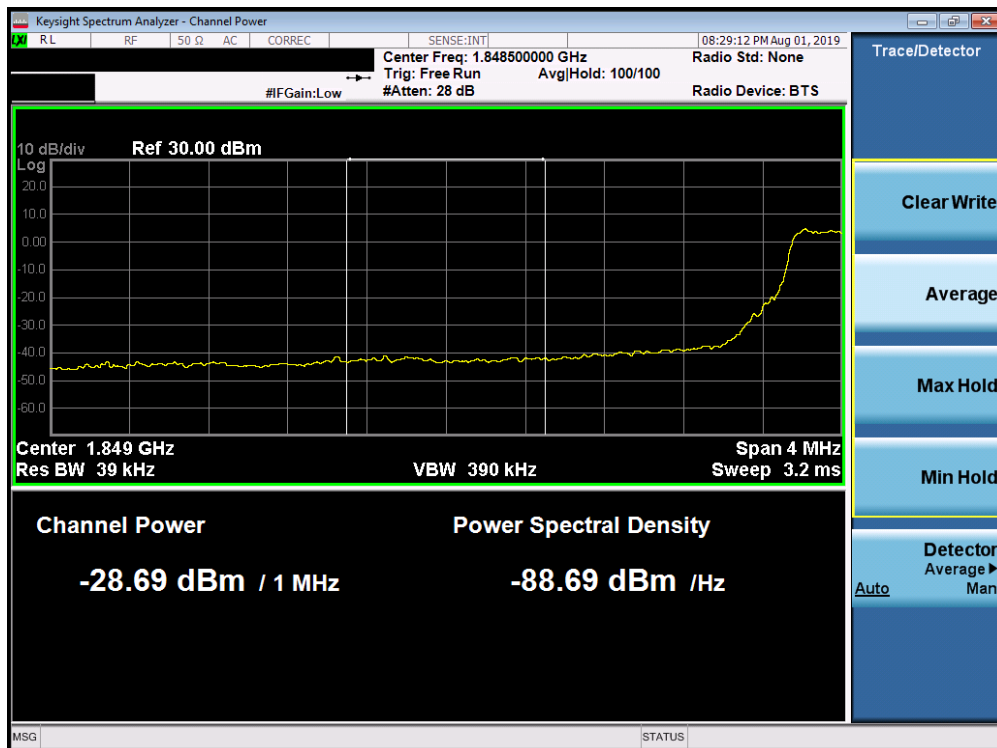


Plot 7-260. Upper Extended Band Edge Plot (Band 25 - 3.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFG850UM	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1907250129-03-R2-ZNF	Test Dates: 7/26 - 8/16/2019	EUT Type: Portable Handset		Page 155 of 283

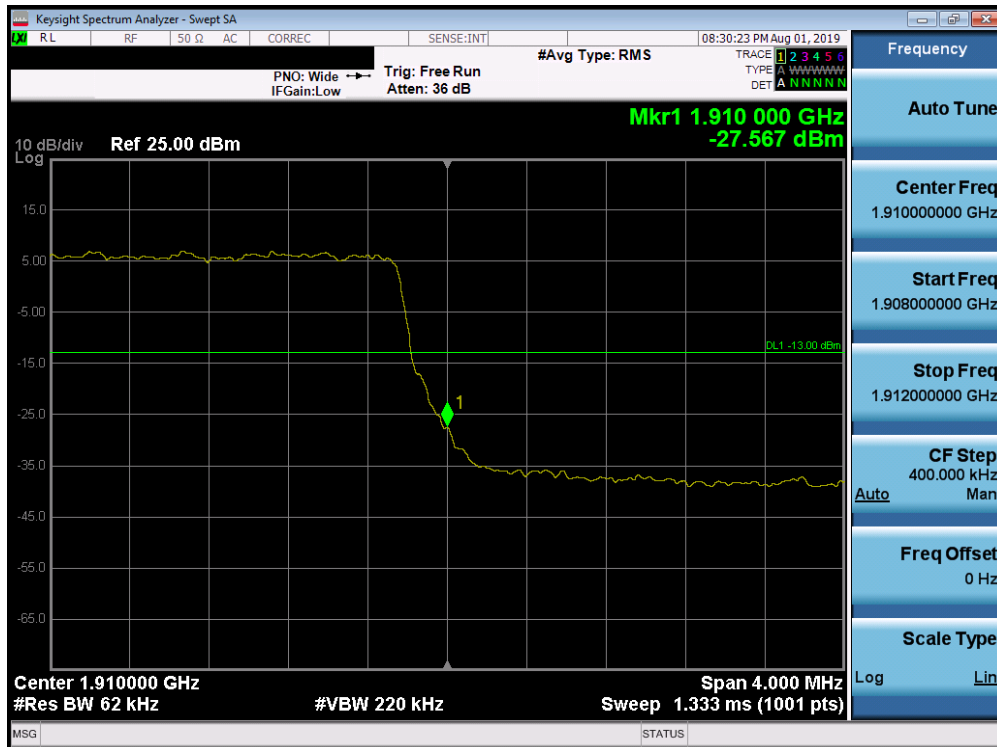


Plot 7-261. Lower Band Edge Plot (Band 25/2 - 5.0MHz QPSK - Full RB Configuration)

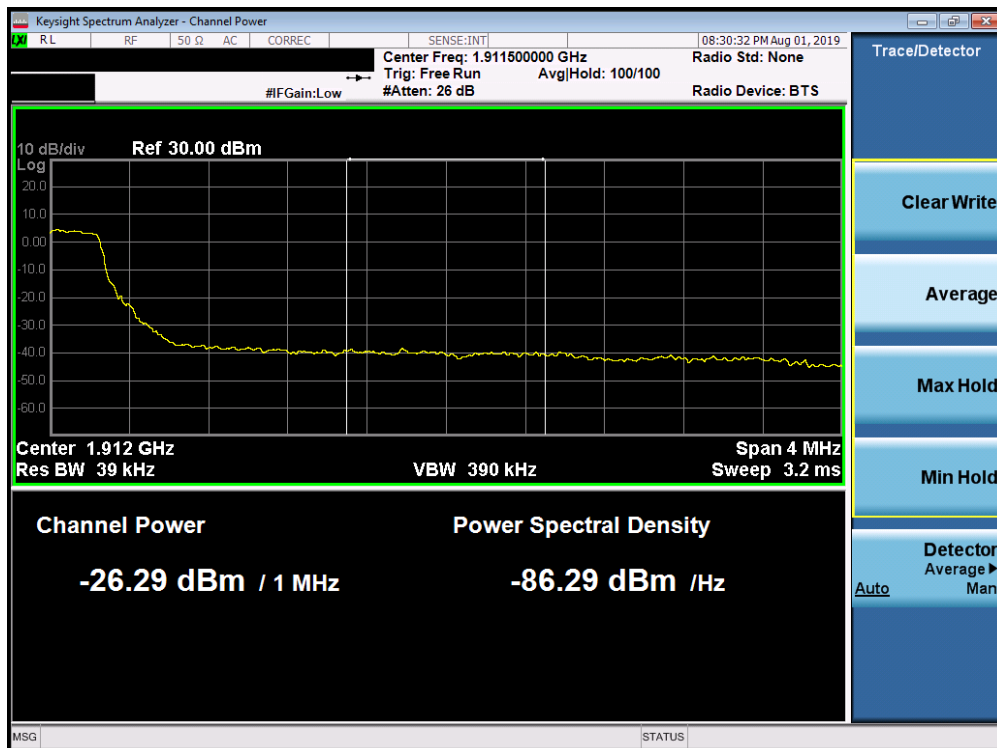


Plot 7-262. Lower Extended Band Edge Plot (Band 25/2 - 5.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFG850UM	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1907250129-03-R2-ZNF	Test Dates: 7/26 - 8/16/2019	EUT Type: Portable Handset		Page 156 of 283

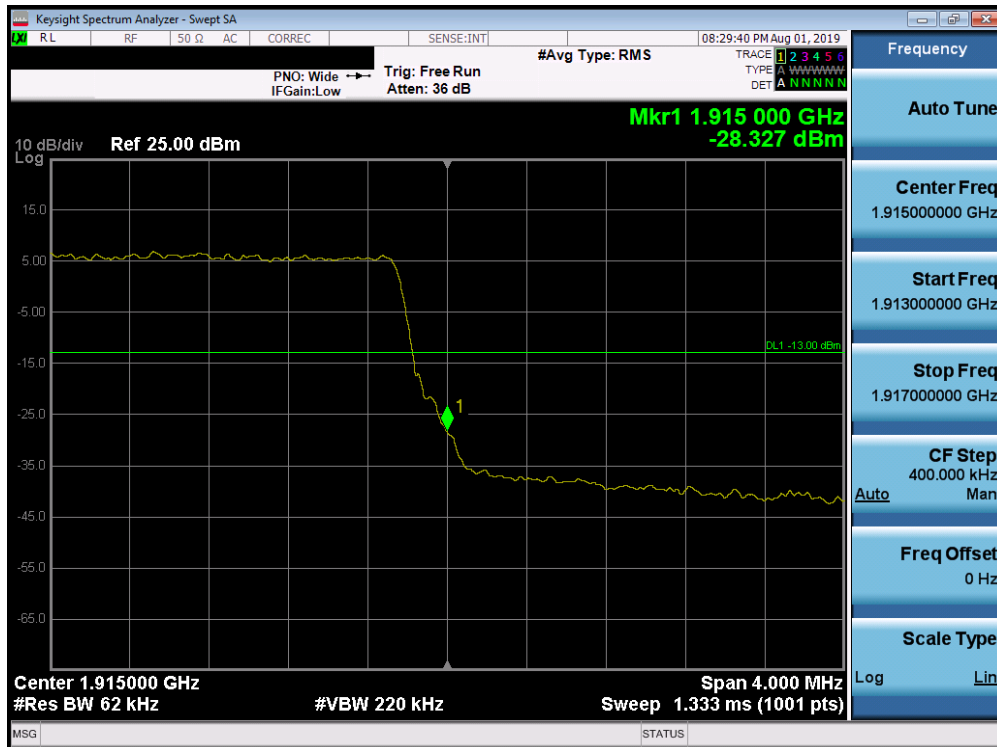


Plot 7-263. Upper Band Edge Plot (Band 2 - 5.0MHz QPSK - Full RB Configuration)

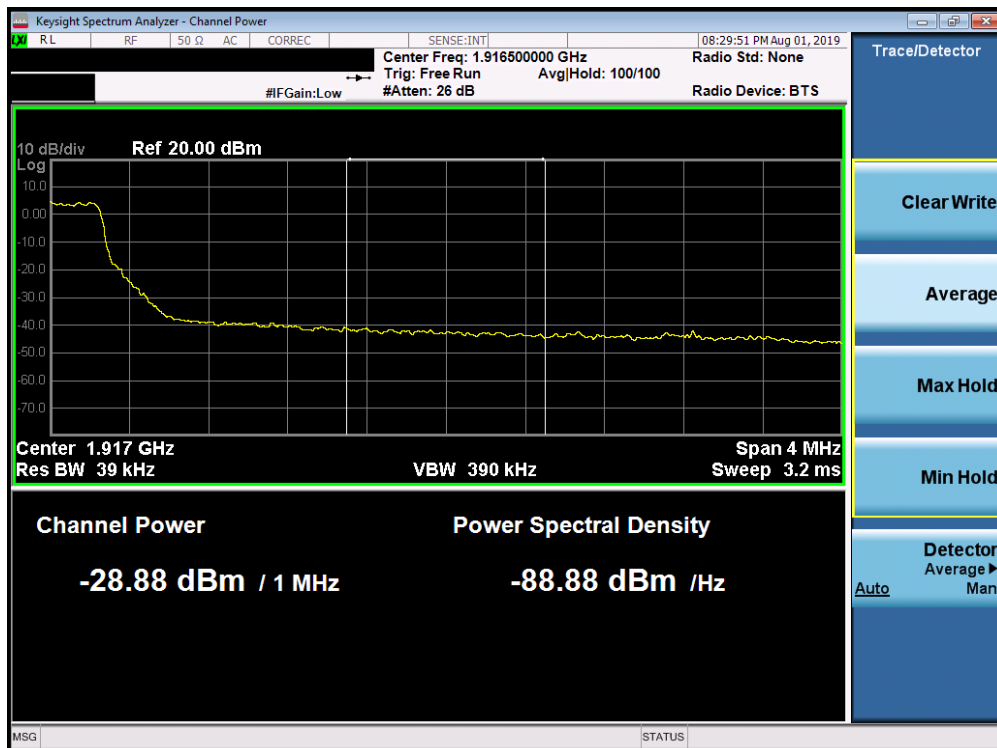


Plot 7-264. Upper Extended Band Edge Plot (Band 2 - 5.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFG850UM	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1907250129-03-R2-ZNF	Test Dates: 7/26 - 8/16/2019	EUT Type: Portable Handset		Page 157 of 283

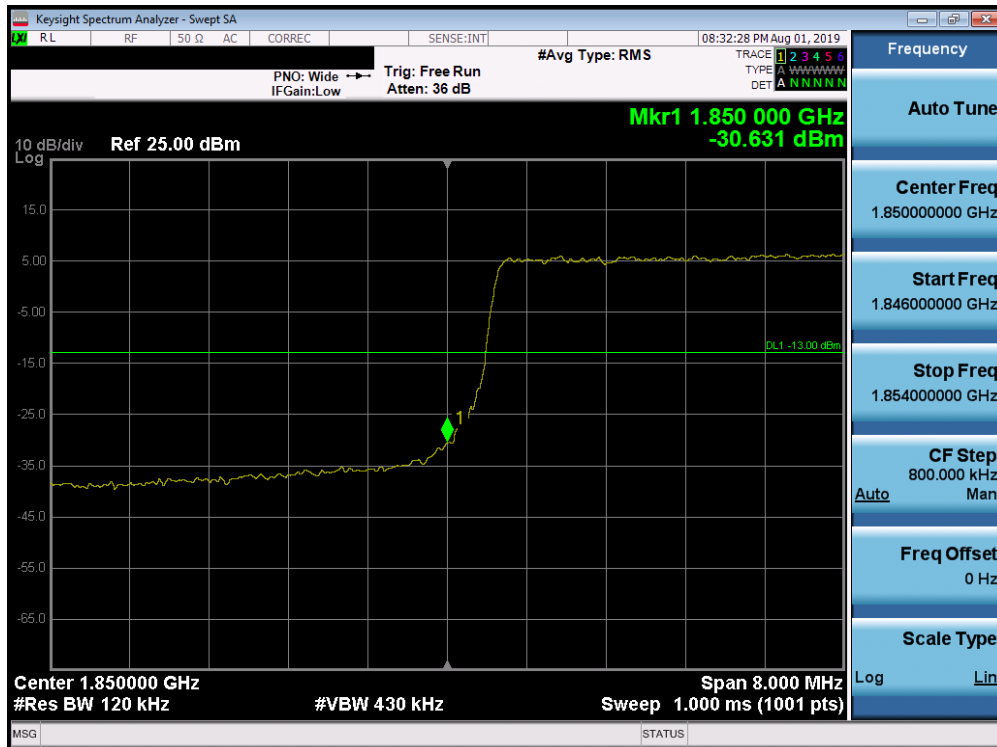


Plot 7-265. Upper Band Edge Plot (Band 25 - 5.0MHz QPSK - Full RB Configuration)

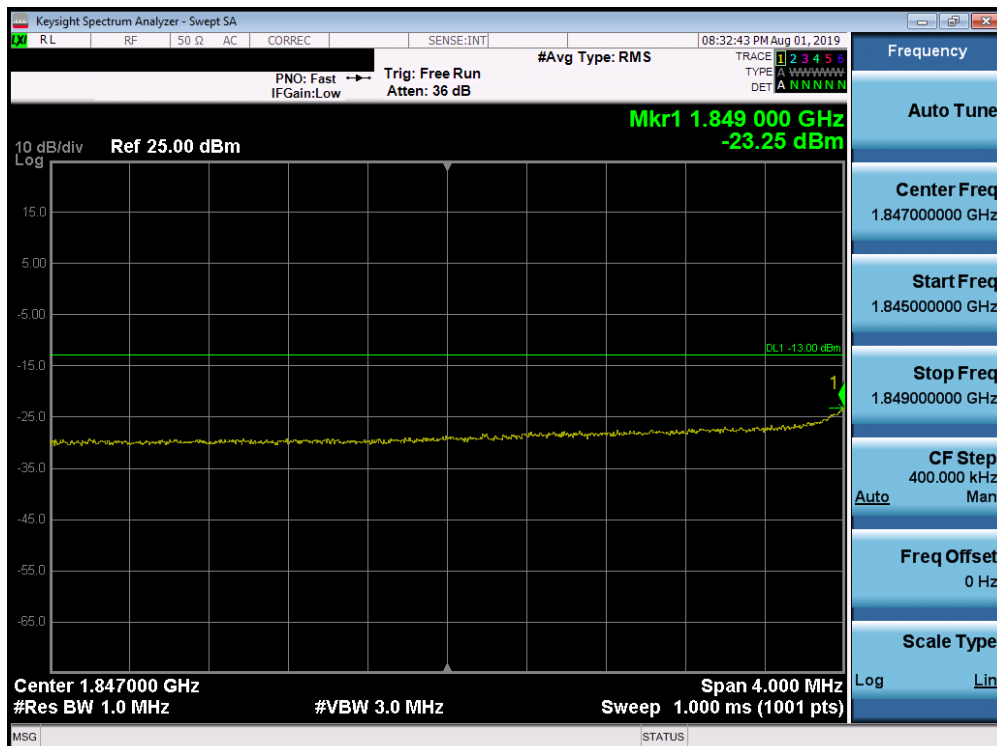


Plot 7-266. Upper Extended Band Edge Plot (Band 25 - 5.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFG850UM	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1907250129-03-R2-ZNF	Test Dates: 7/26 - 8/16/2019	EUT Type: Portable Handset		Page 158 of 283

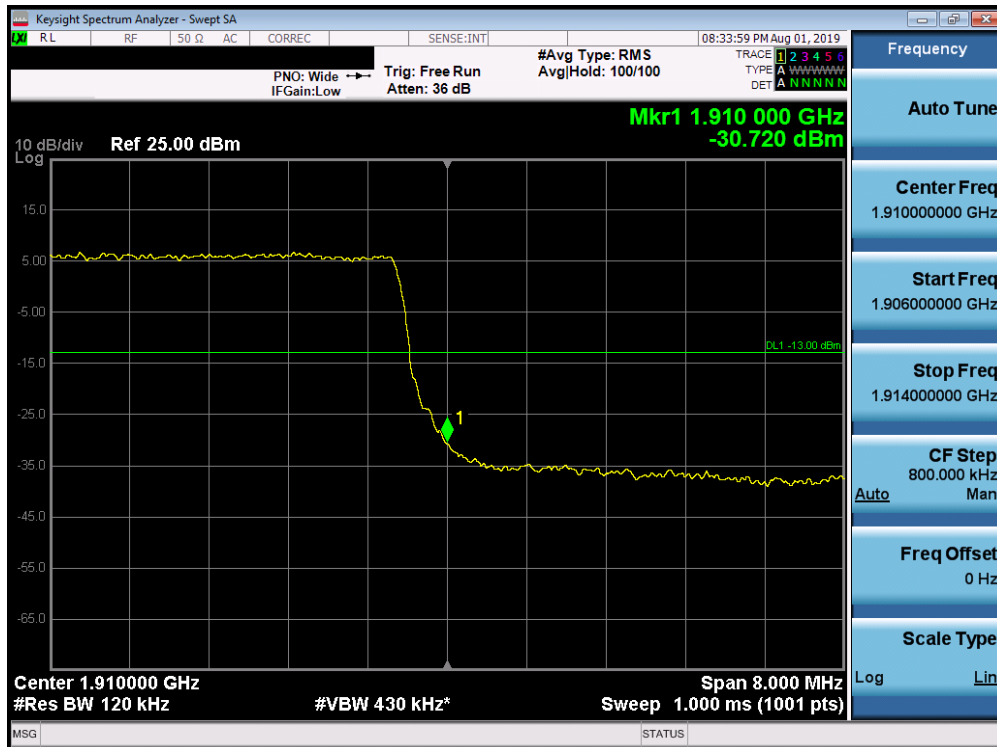


Plot 7-267. Lower Band Edge Plot (Band 25/2 - 10.0MHz QPSK - Full RB Configuration)

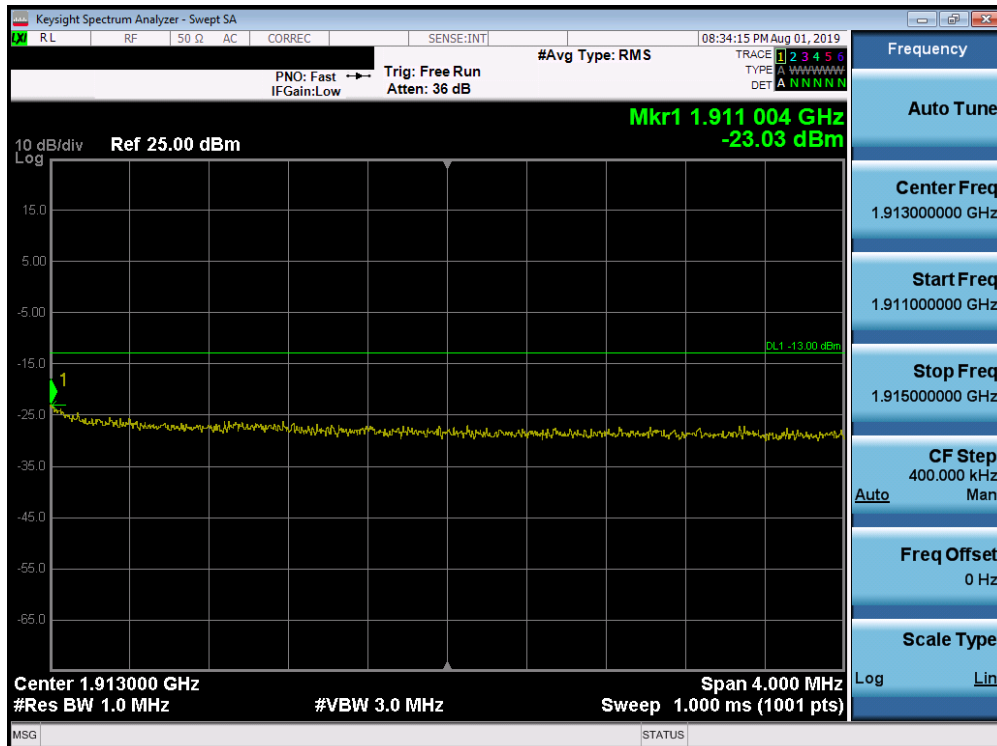


Plot 7-268. Lower Extended Band Edge Plot (Band 25/2 - 10.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFG850UM	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1907250129-03-R2-ZNF	Test Dates: 7/26 - 8/16/2019	EUT Type: Portable Handset		Page 159 of 283

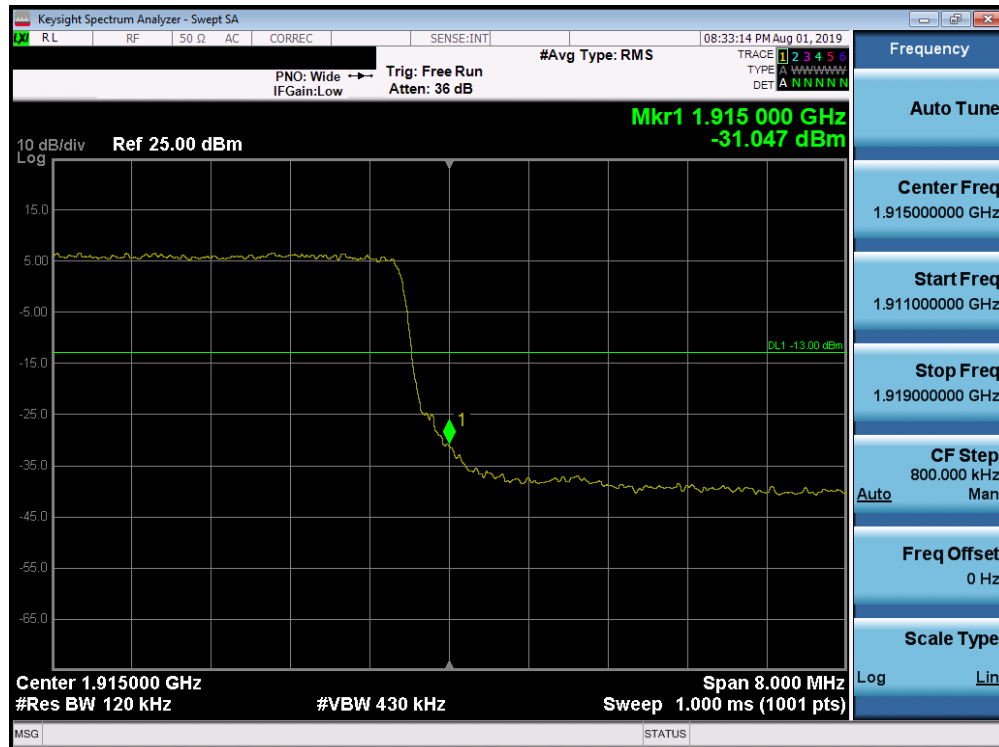


Plot 7-269. Upper Band Edge Plot (Band 2 - 10.0MHz QPSK - Full RB Configuration)

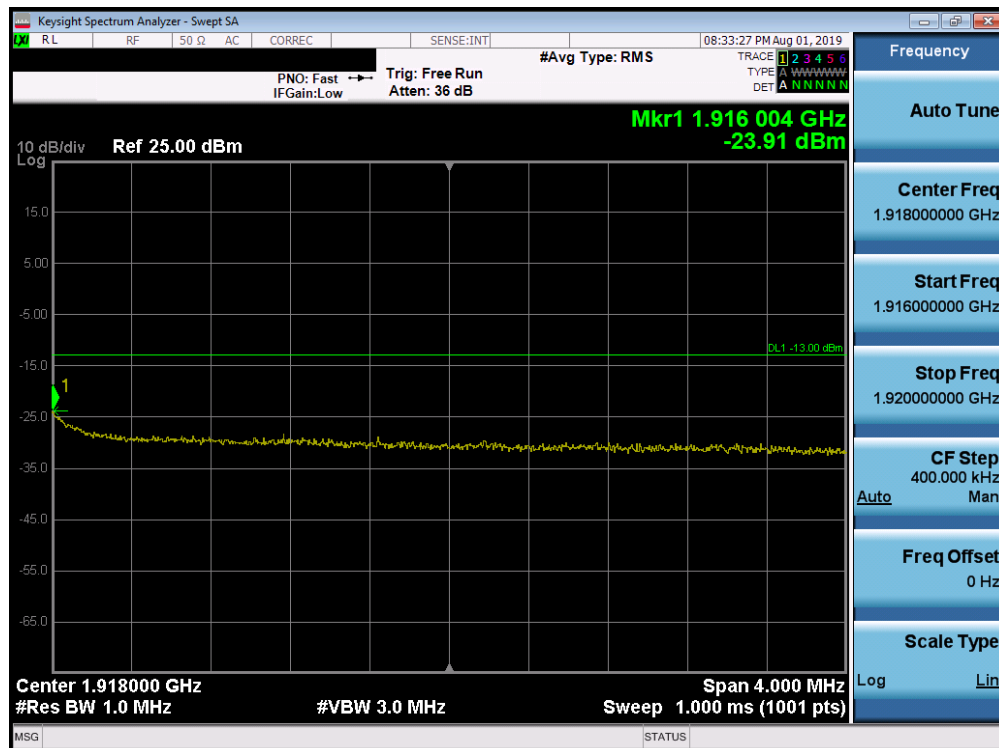


Plot 7-270. Upper Extended Band Edge Plot (Band 2 - 10.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFG850UM	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1907250129-03-R2-ZNF	Test Dates: 7/26 - 8/16/2019	EUT Type: Portable Handset		Page 160 of 283

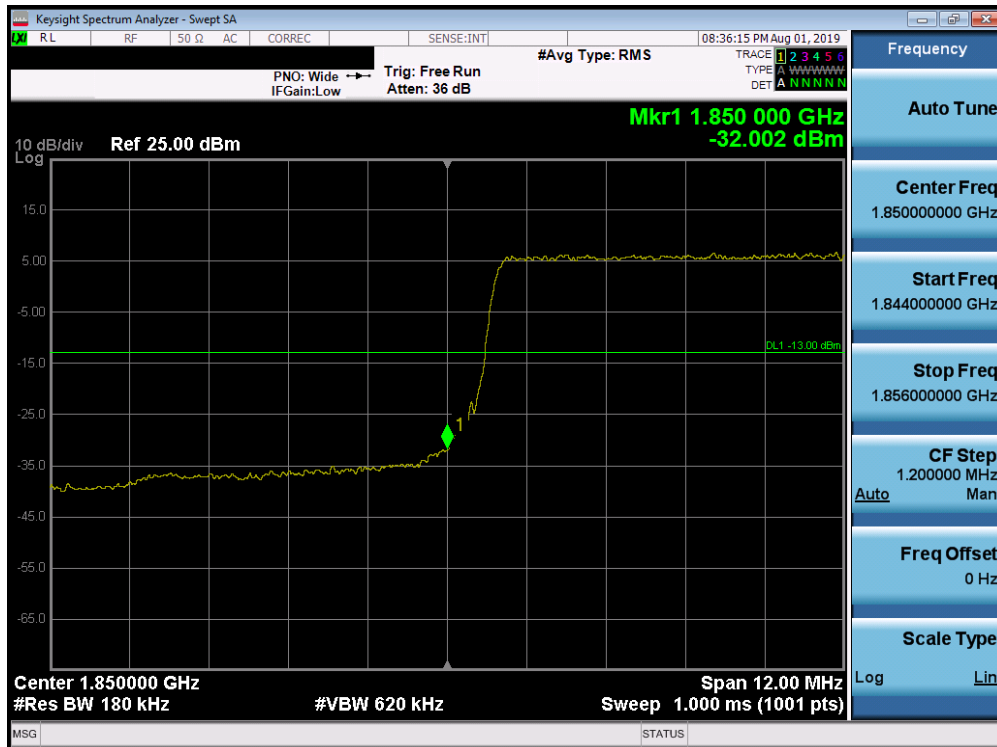


Plot 7-271. Upper Band Edge Plot (Band 25 - 10.0MHz QPSK - Full RB Configuration)

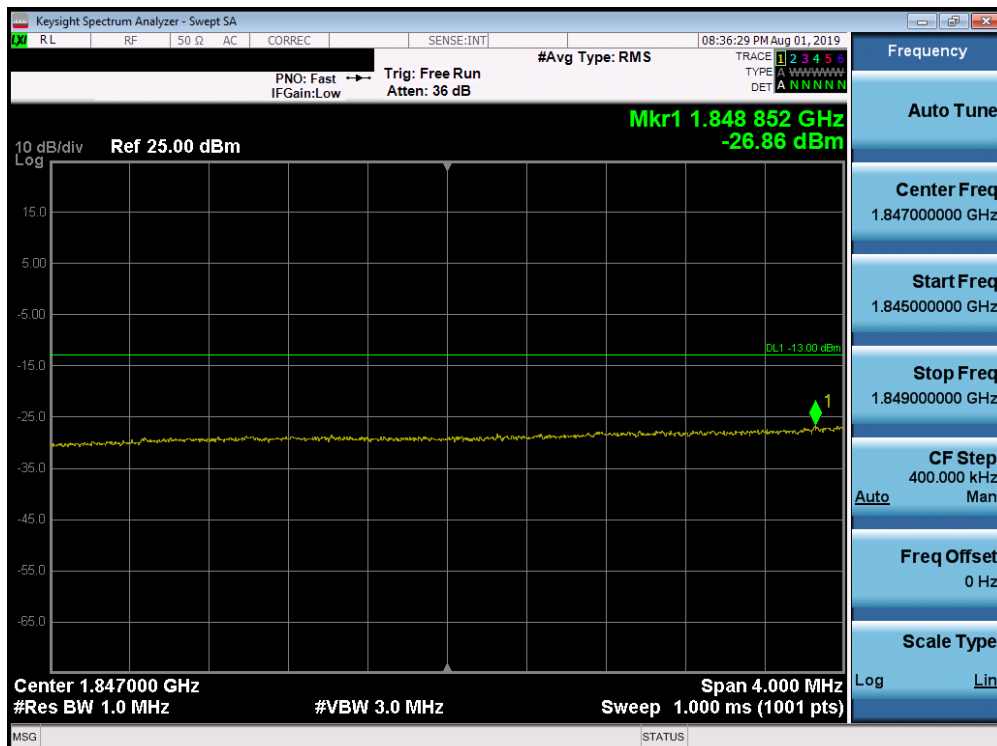


Plot 7-272. Upper Extended Band Edge Plot (Band 25 - 10.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFG850UM	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1907250129-03-R2-ZNF	Test Dates: 7/26 - 8/16/2019	EUT Type: Portable Handset		Page 161 of 283

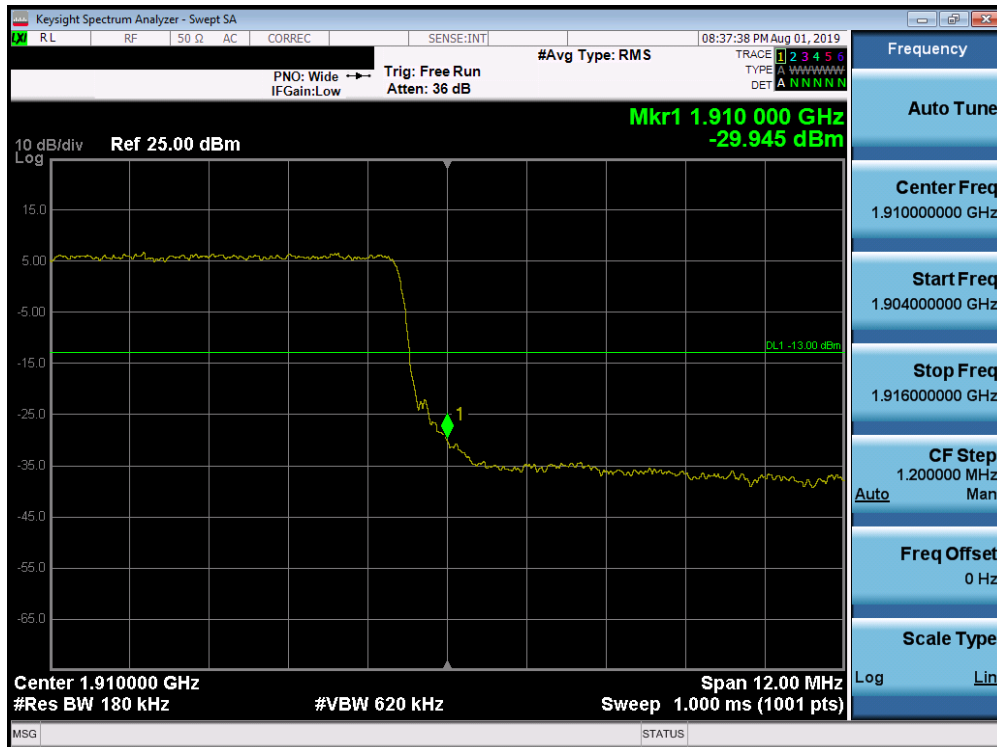


Plot 7-273. Lower Band Edge Plot (Band 25/2 - 15.0MHz QPSK - Full RB Configuration)

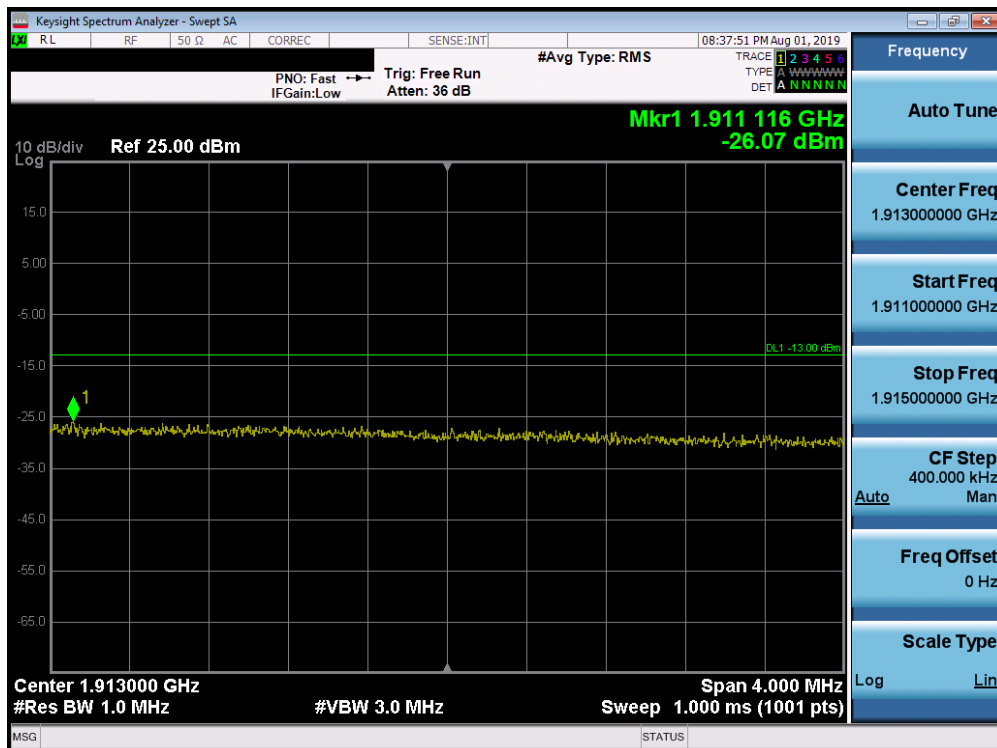


Plot 7-274. Lower Extended Band Edge Plot (Band 25/2 - 15.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFG850UM	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1907250129-03-R2-ZNF	Test Dates: 7/26 - 8/16/2019	EUT Type: Portable Handset		Page 162 of 283

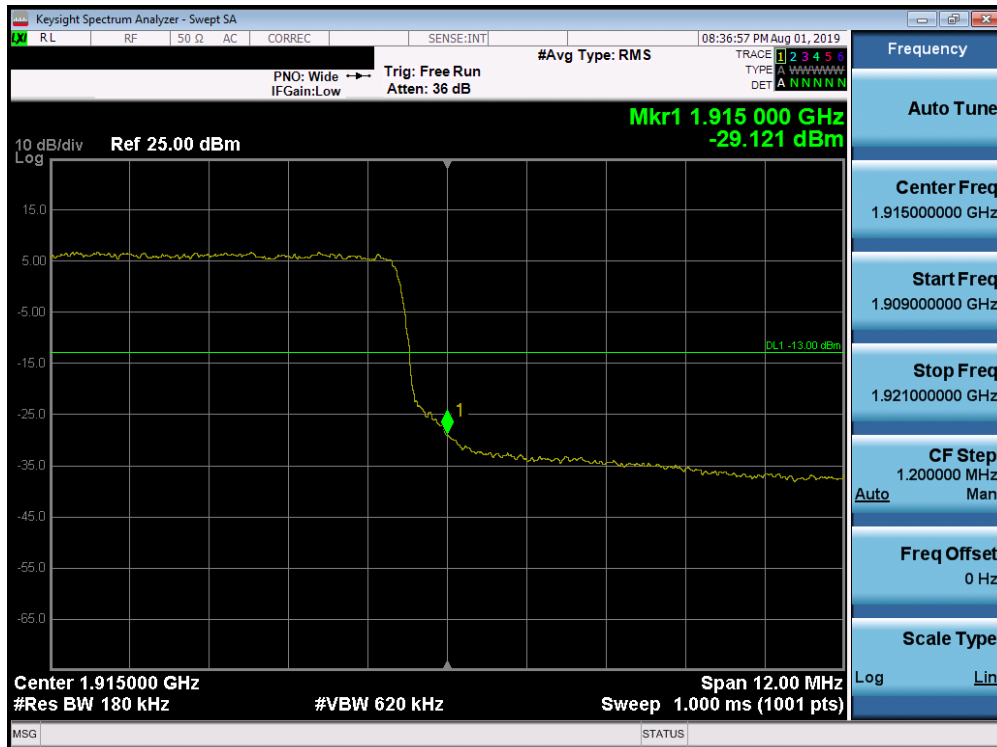


Plot 7-275. Upper Band Edge Plot (Band 2 - 15.0MHz QPSK - Full RB Configuration)

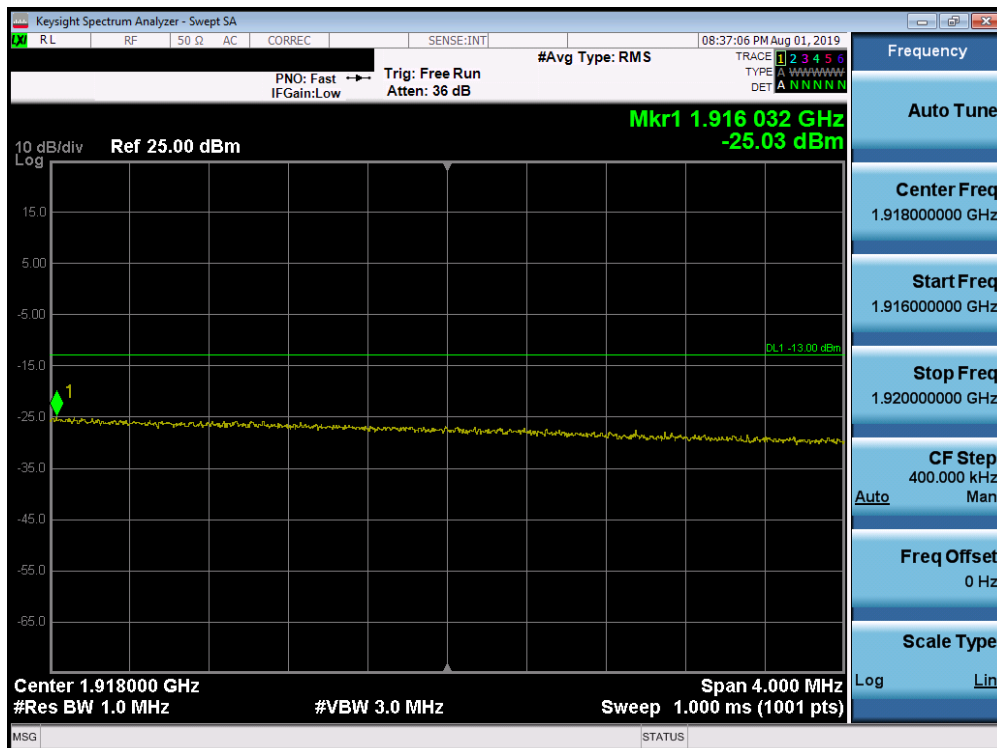


Plot 7-276. Upper Extended Band Edge Plot (Band 2 - 15.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFG850UM	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1907250129-03-R2-ZNF	Test Dates: 7/26 - 8/16/2019	EUT Type: Portable Handset		Page 163 of 283

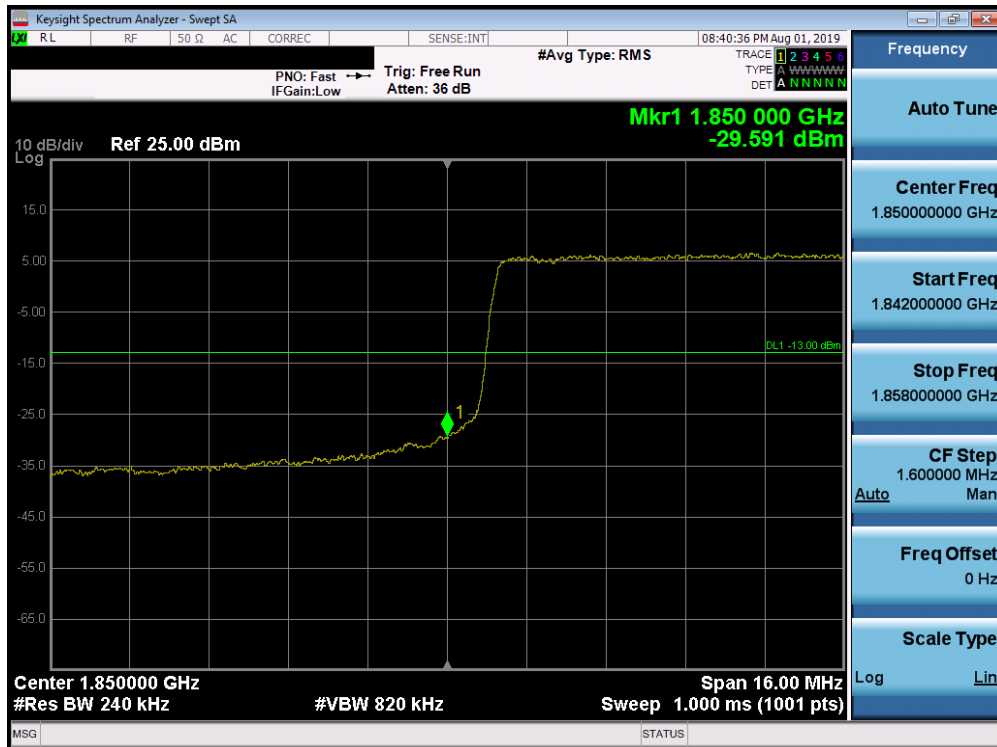


Plot 7-277. Upper Band Edge Plot (Band 25 - 15.0MHz QPSK - Full RB Configuration)

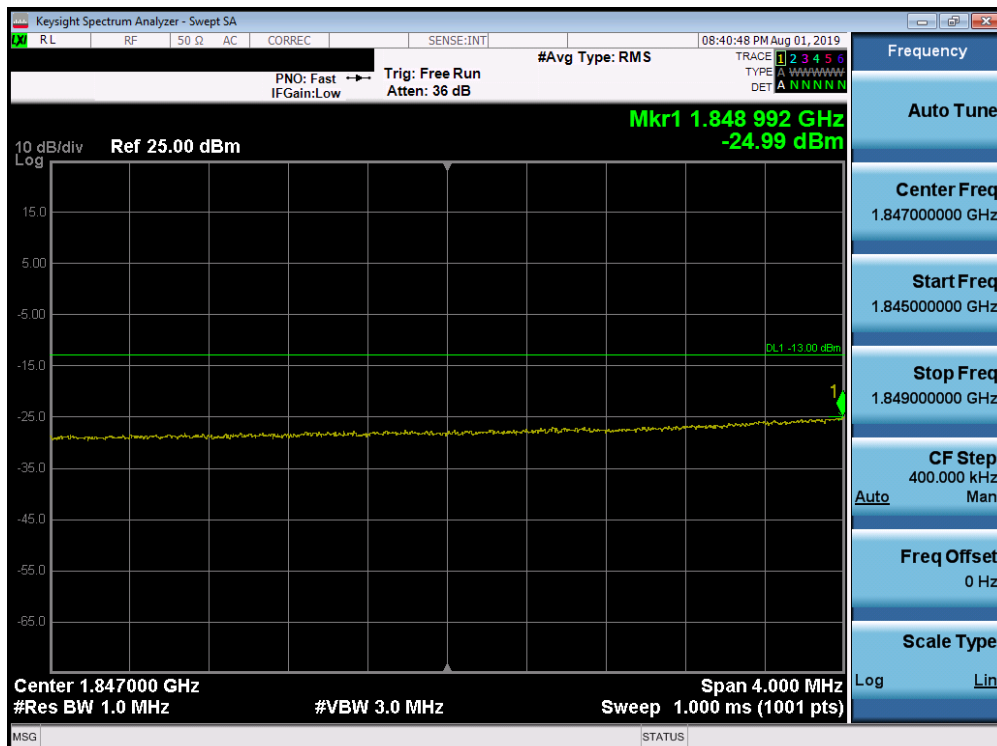


Plot 7-278. Upper Extended Band Edge Plot (Band 25 - 15.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFG850UM	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1907250129-03-R2-ZNF	Test Dates: 7/26 - 8/16/2019	EUT Type: Portable Handset		Page 164 of 283

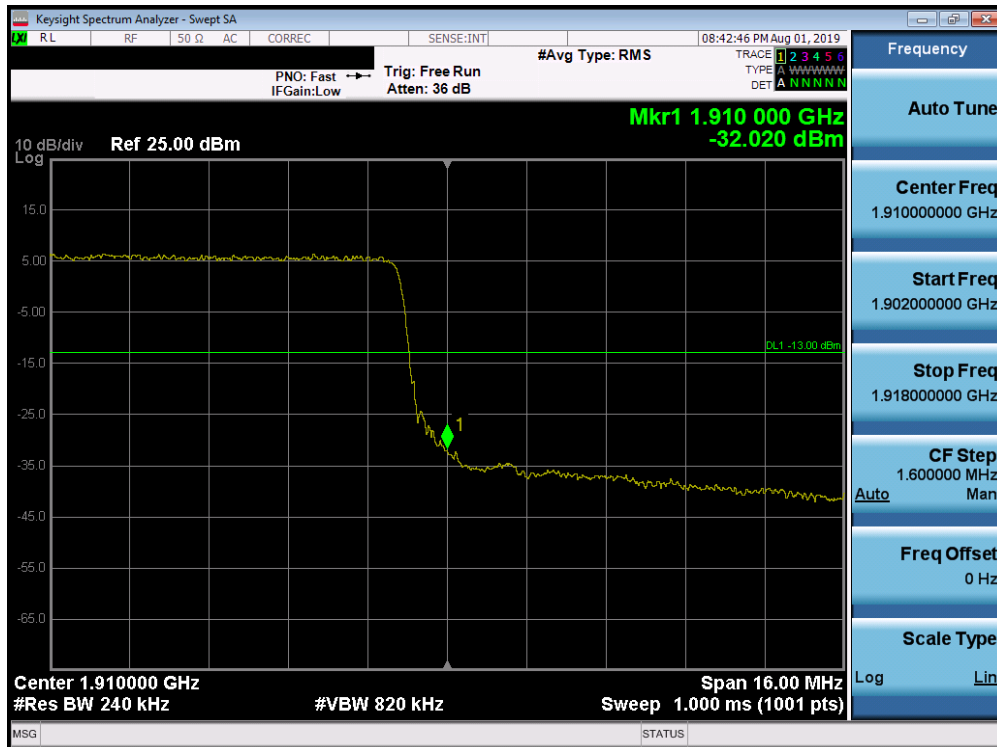


Plot 7-279. Lower Band Edge Plot (Band 25/2 - 20.0MHz QPSK - Full RB Configuration)

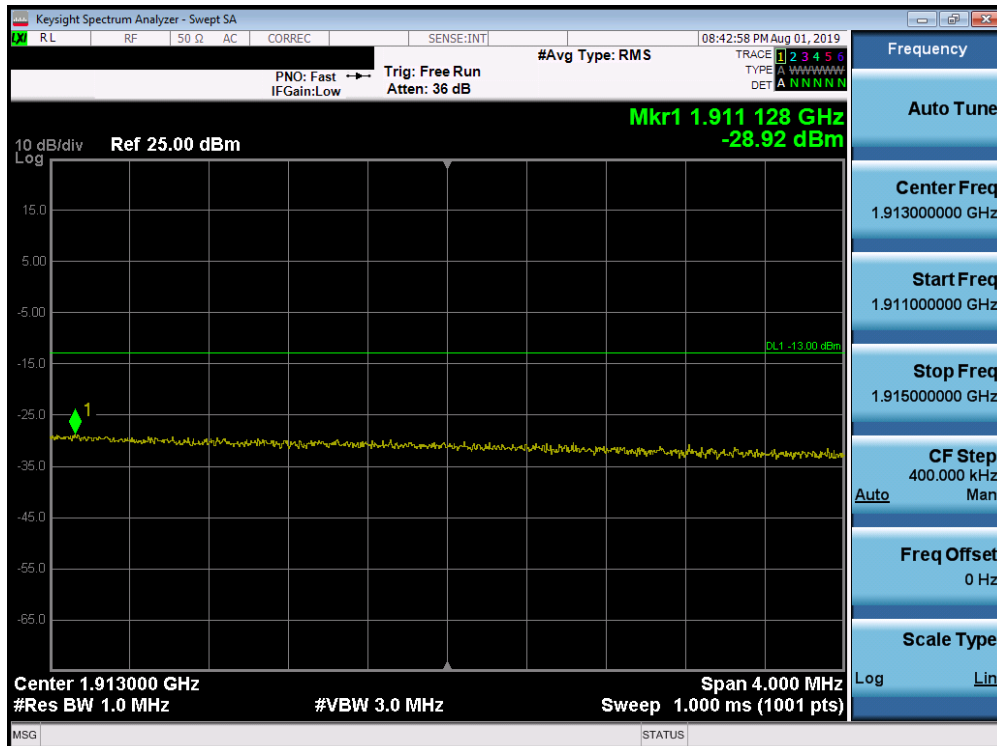


Plot 7-280. Lower Extended Band Edge Plot (Band 25/2 - 20.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFG850UM	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1907250129-03-R2-ZNF	Test Dates: 7/26 - 8/16/2019	EUT Type: Portable Handset		Page 165 of 283



Plot 7-281. Upper Band Edge Plot (Band 2 - 20.0MHz QPSK - Full RB Configuration)

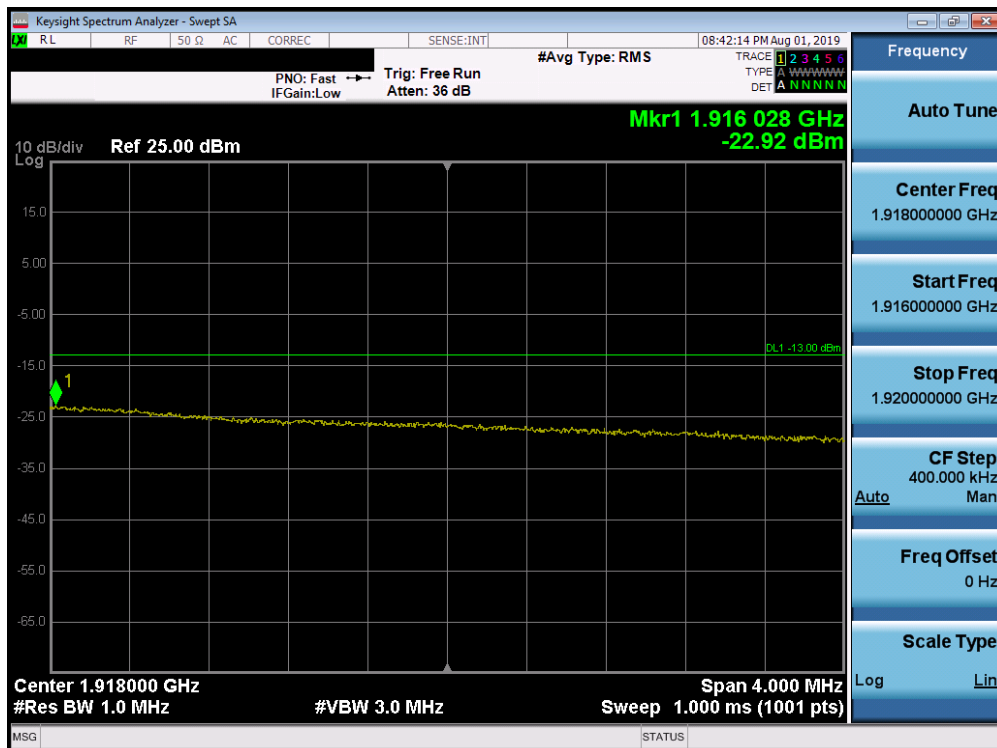


Plot 7-282. Upper Extended Band Edge Plot (Band 2 - 20.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFG850UM	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1907250129-03-R2-ZNF	Test Dates: 7/26 - 8/16/2019	EUT Type: Portable Handset		Page 166 of 283



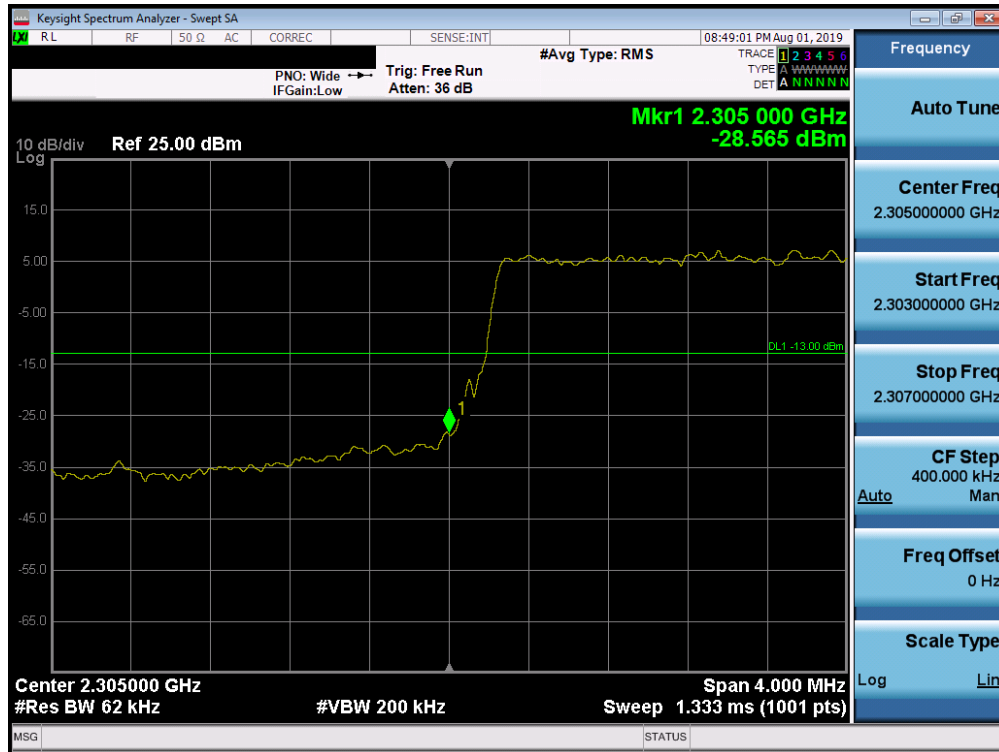
Plot 7-283. Upper Band Edge Plot (Band 25 - 20.0MHz QPSK - Full RB Configuration)



Plot 7-284. Upper Extended Band Edge Plot (Band 25 - 20.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFG850UM	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1907250129-03-R2-ZNF	Test Dates: 7/26 - 8/16/2019	EUT Type: Portable Handset		Page 167 of 283

Band 30

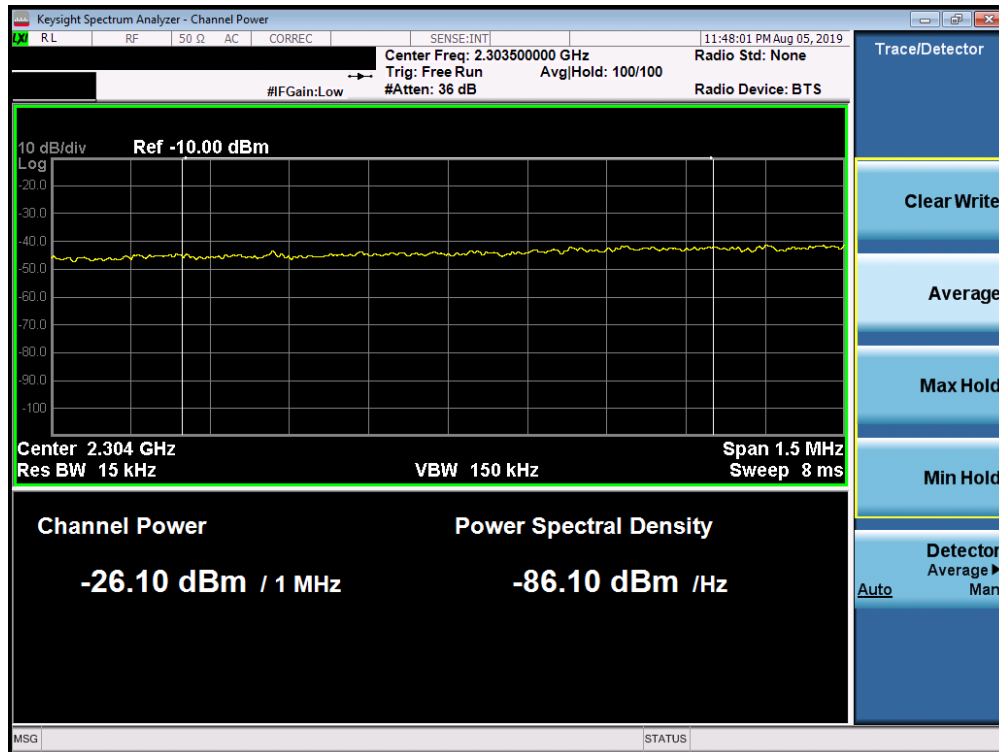


Plot 7-285. Lower Band Edge Plot (Band 30 - 5.0MHz QPSK - Full RB Configuration)



Plot 7-286. Lower Extended Band Edge Plot 2288-2303 MHz (Band 30 - 5.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFG850UM	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1907250129-03-R2-ZNF	Test Dates: 7/26 - 8/16/2019	EUT Type: Portable Handset		Page 168 of 283

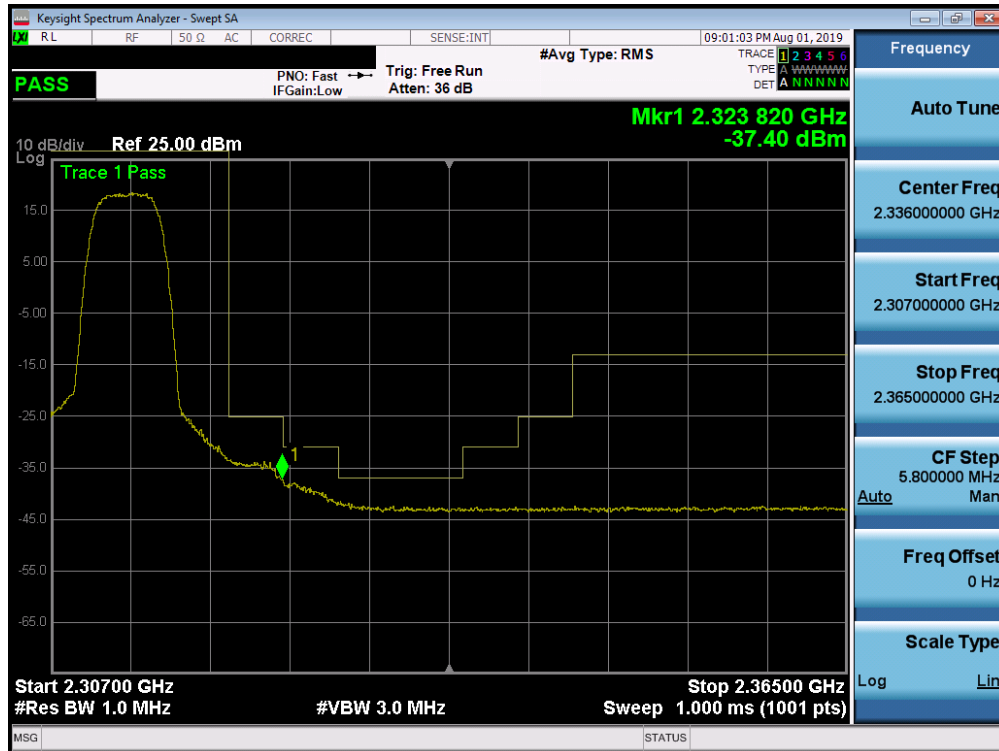


Plot 7-287. Lower Extended Band Edge Plot 2303-2304 MHz (Band 30 - 5.0MHz QPSK - Full RB Configuration)

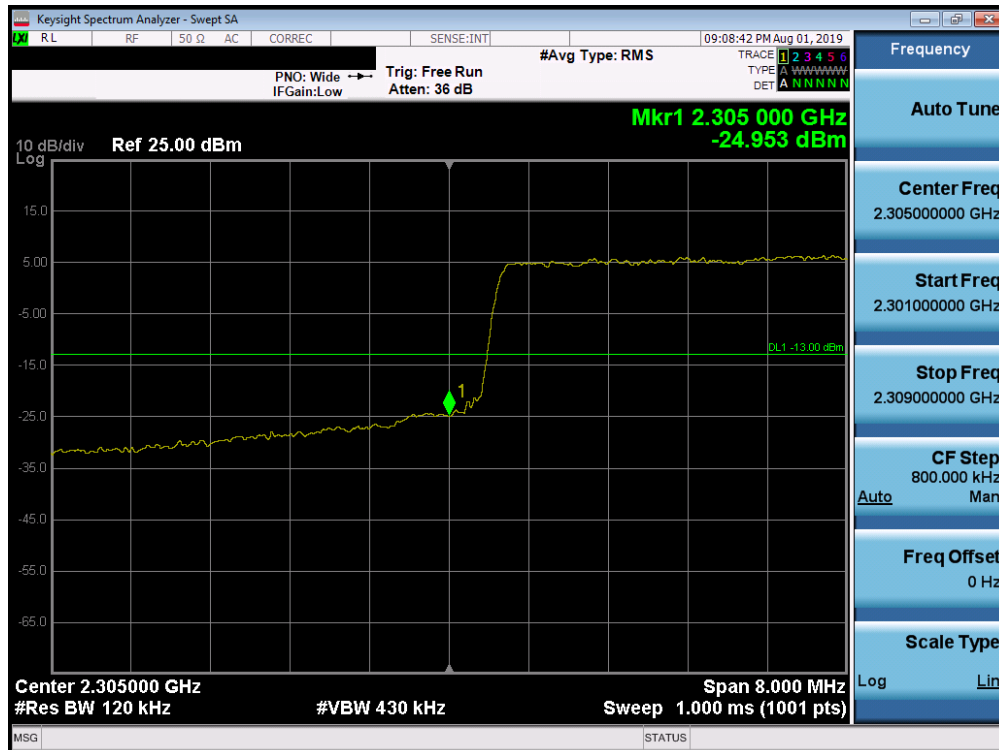


Plot 7-288. Upper Band Edge Plot (Band 30 - 5.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFG850UM	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1907250129-03-R2-ZNF	Test Dates: 7/26 - 8/16/2019	EUT Type: Portable Handset		Page 169 of 283



Plot 7-289. Upper Extended Band Edge Plot (Band 30 - 5.0MHz QPSK - Full RB Configuration)

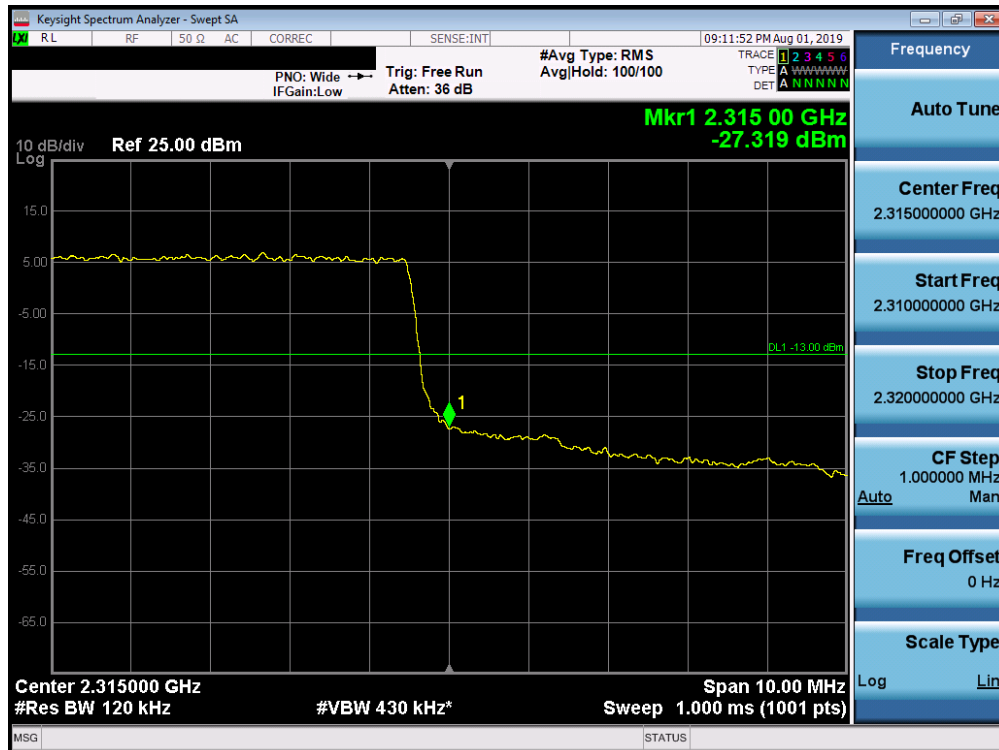


Plot 7-290. Lower Band Edge Plot (Band 30 - 10.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFG850UM	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1907250129-03-R2-ZNF	Test Dates: 7/26 - 8/16/2019	EUT Type: Portable Handset		Page 170 of 283



Plot 7-291. Lower Extended Band Edge Plot (Band 30 - 10.0MHz QPSK - Full RB Configuration)



Plot 7-292. Upper Band Edge Plot (Band 30 - 10.0MHz QPSK - Full RB Configuration)

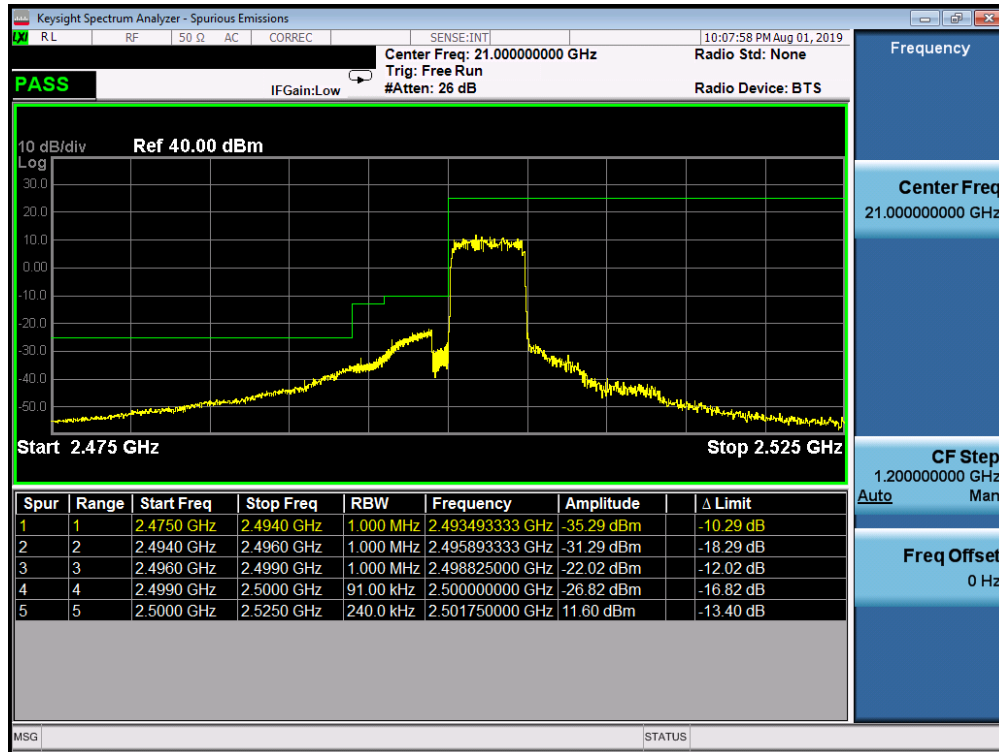
FCC ID: ZNFG850UM	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1907250129-03-R2-ZNF	Test Dates: 7/26 - 8/16/2019	EUT Type: Portable Handset		Page 171 of 283



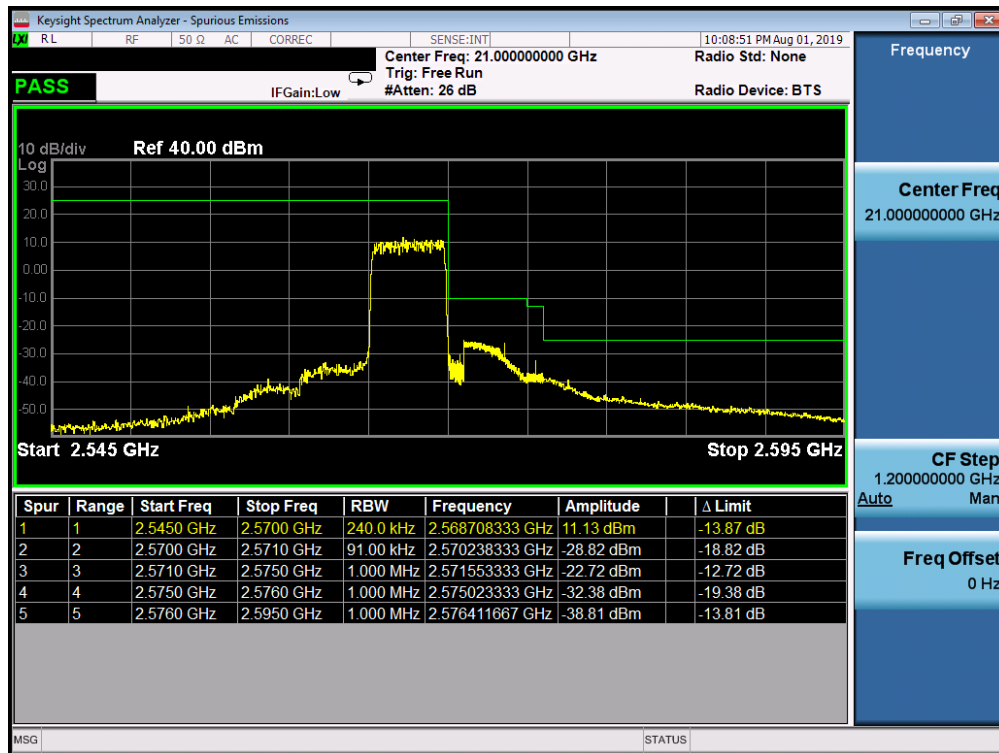
Plot 7-293. Upper Extended Band Edge Plot (Band 30 - 10.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFG850UM	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1907250129-03-R2.ZNF	Test Dates: 7/26 - 8/16/2019	EUT Type: Portable Handset		Page 172 of 283

Band 7

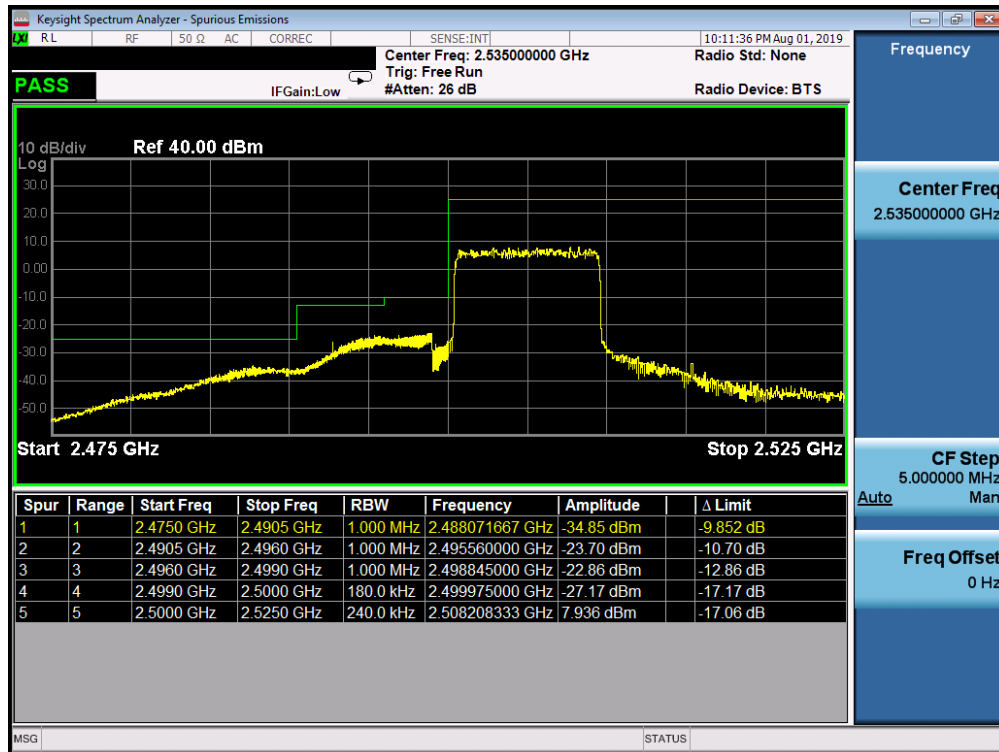


Plot 7-294. Lower ACP Plot (Band 7 - 5.0MHz QPSK - Full RB Configuration)

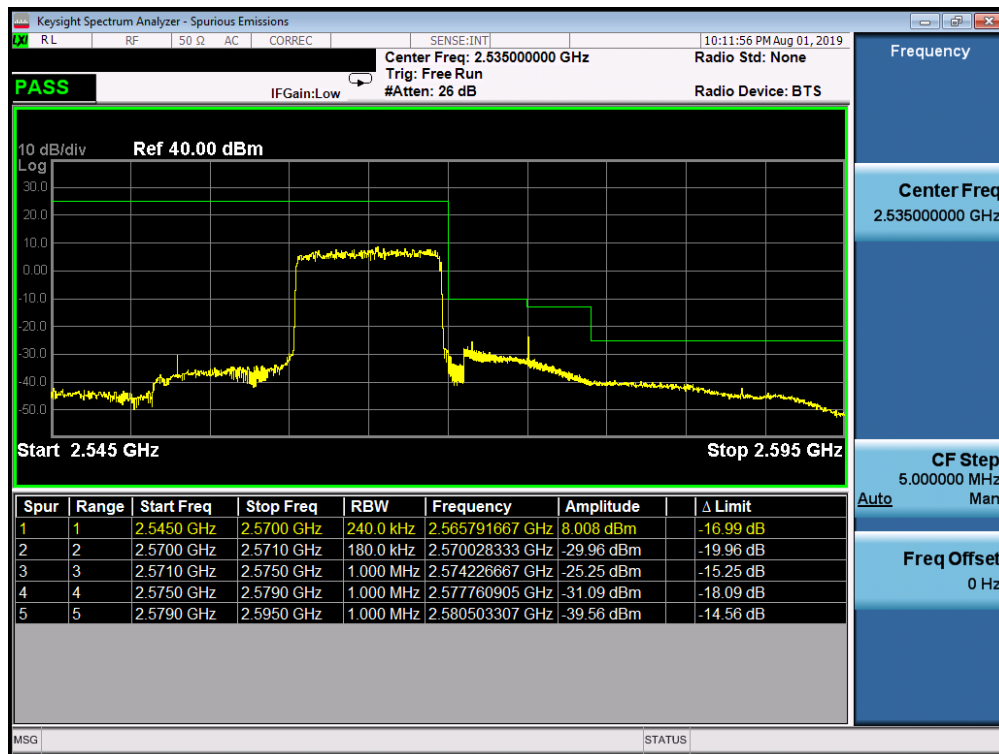


Plot 7-295. Upper ACP Plot (Band 7 - 5.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFG850UM	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1907250129-03-R2.ZNF	Test Dates: 7/26 - 8/16/2019	EUT Type: Portable Handset		Page 173 of 283

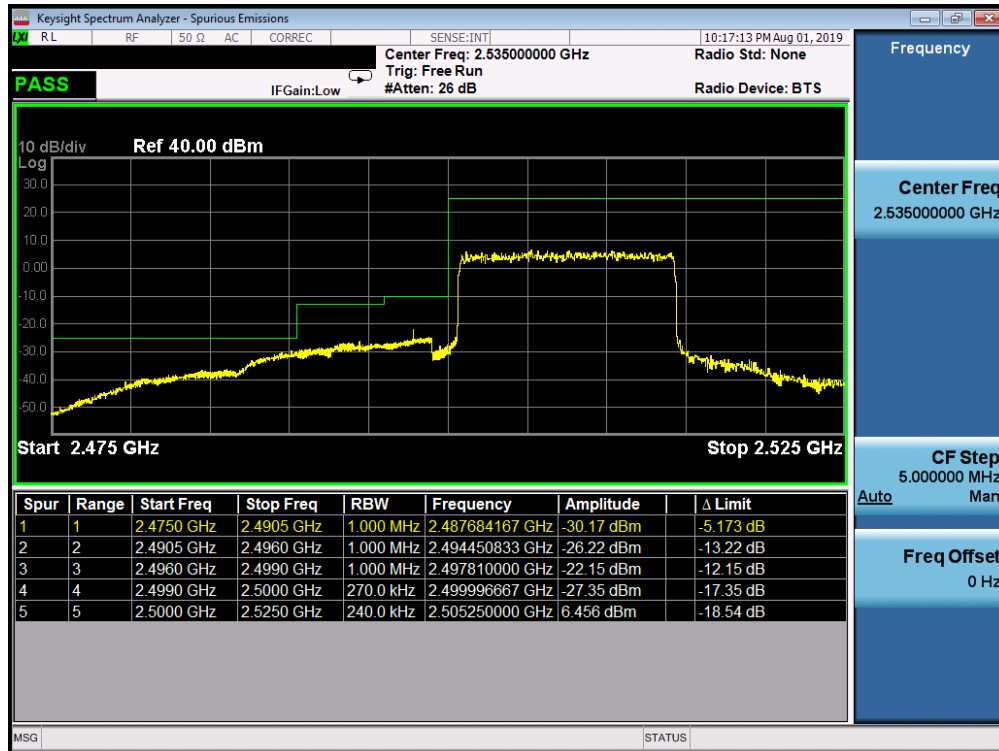


Plot 7-296. Lower ACP Plot (Band 7 - 10.0MHz QPSK - Full RB Configuration)

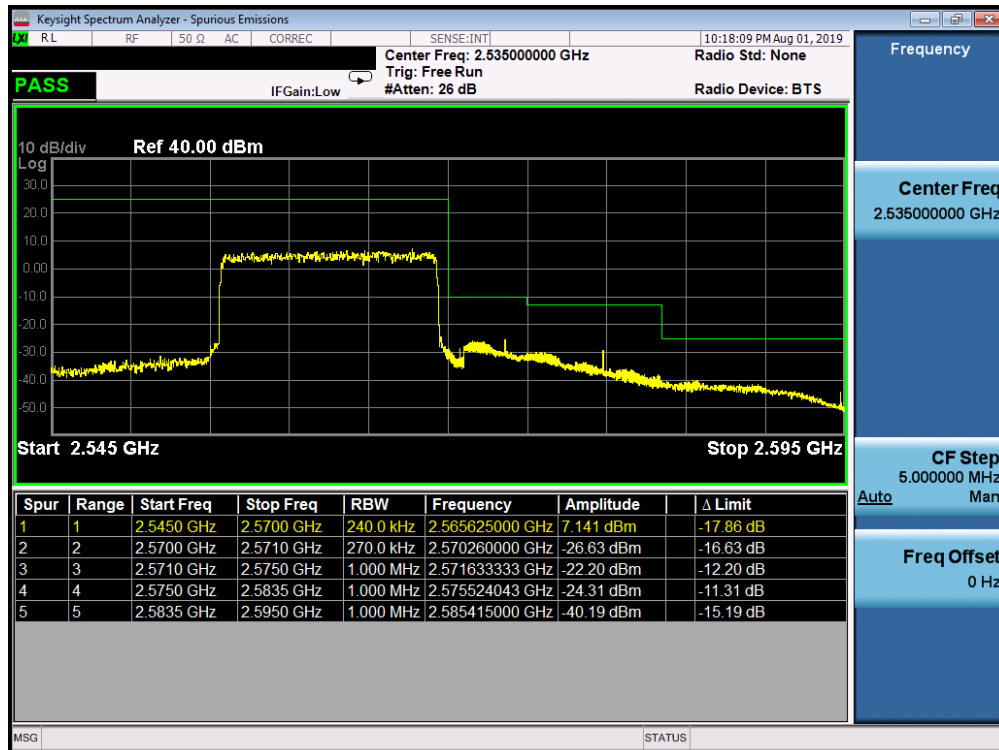


Plot 7-297. Upper ACP Plot (Band 7 - 10.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFG850UM	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1907250129-03-R2.ZNF	Test Dates: 7/26 - 8/16/2019	EUT Type: Portable Handset		Page 174 of 283

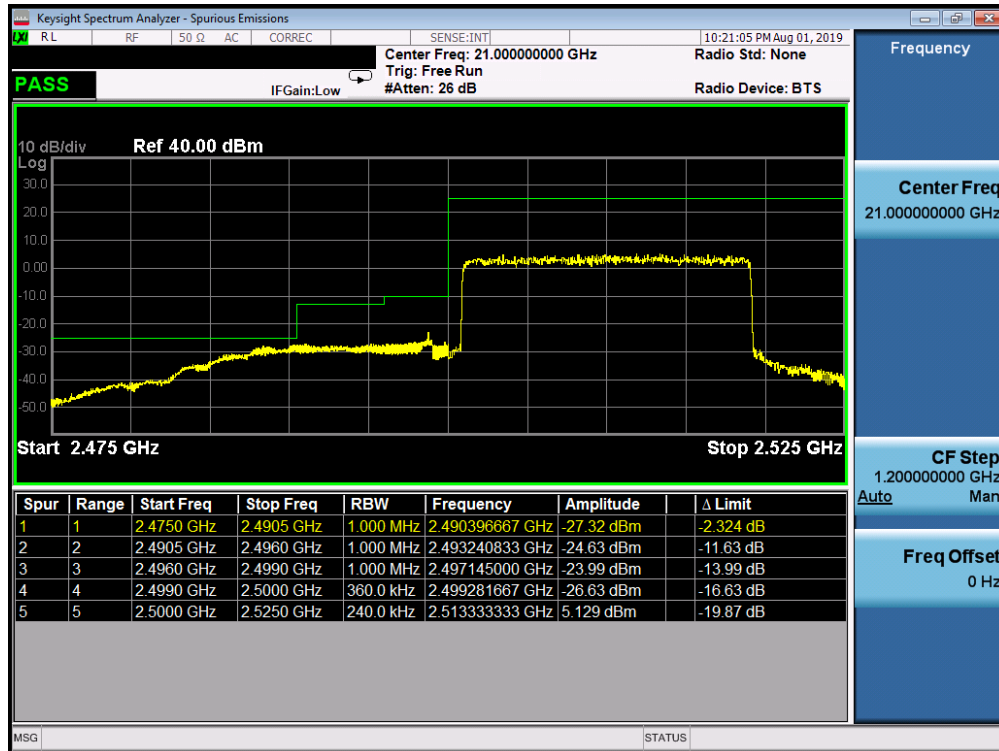


Plot 7-298. Lower ACP Plot at (Band 7 - 15.0MHz QPSK - Full RB Configuration)

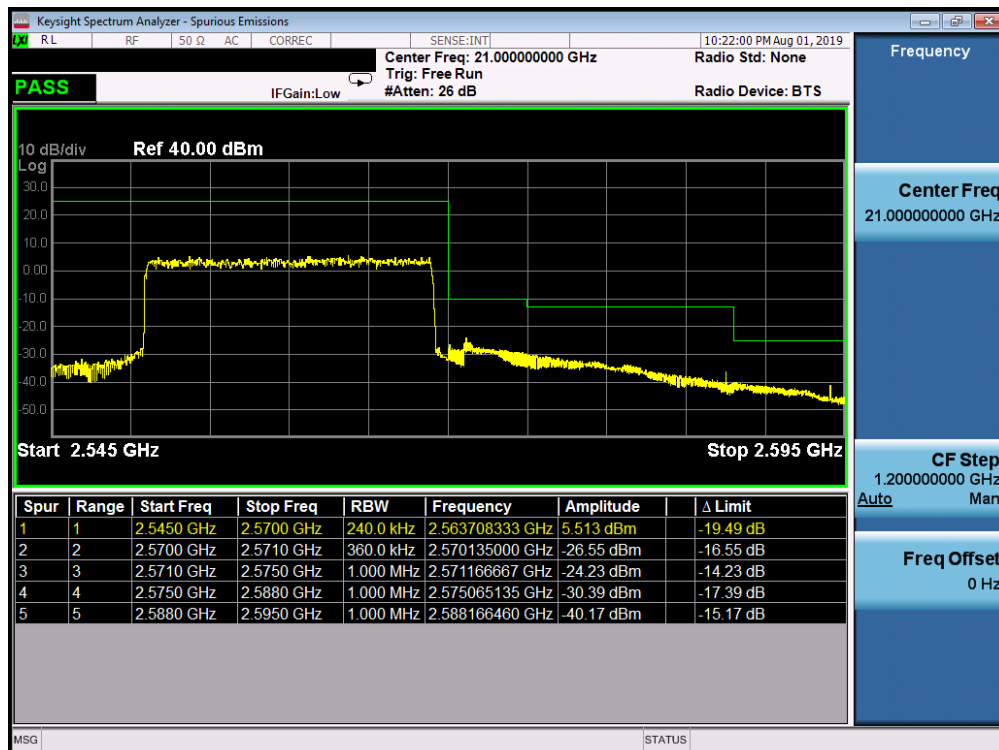


Plot 7-299. Upper ACP Plot (Band 7 - 15.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFG850UM	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1907250129-03-R2.ZNF	Test Dates: 7/26 - 8/16/2019	EUT Type: Portable Handset		Page 175 of 283



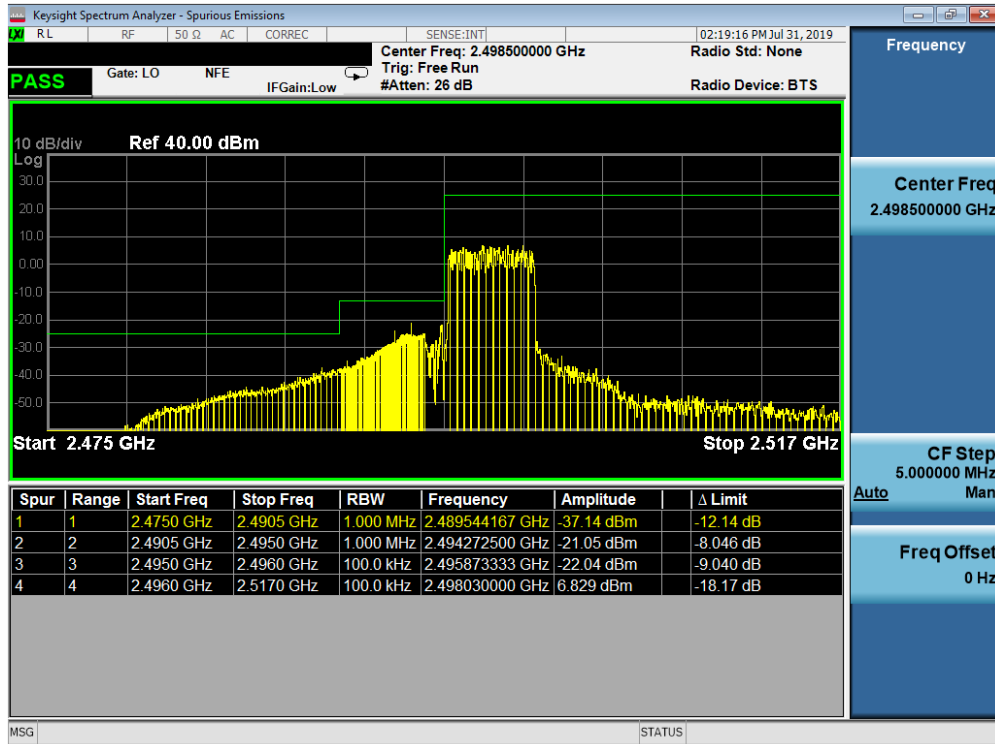
Plot 7-300. Lower ACP Plot (Band 7 - 20.0MHz QPSK - Full RB Configuration)



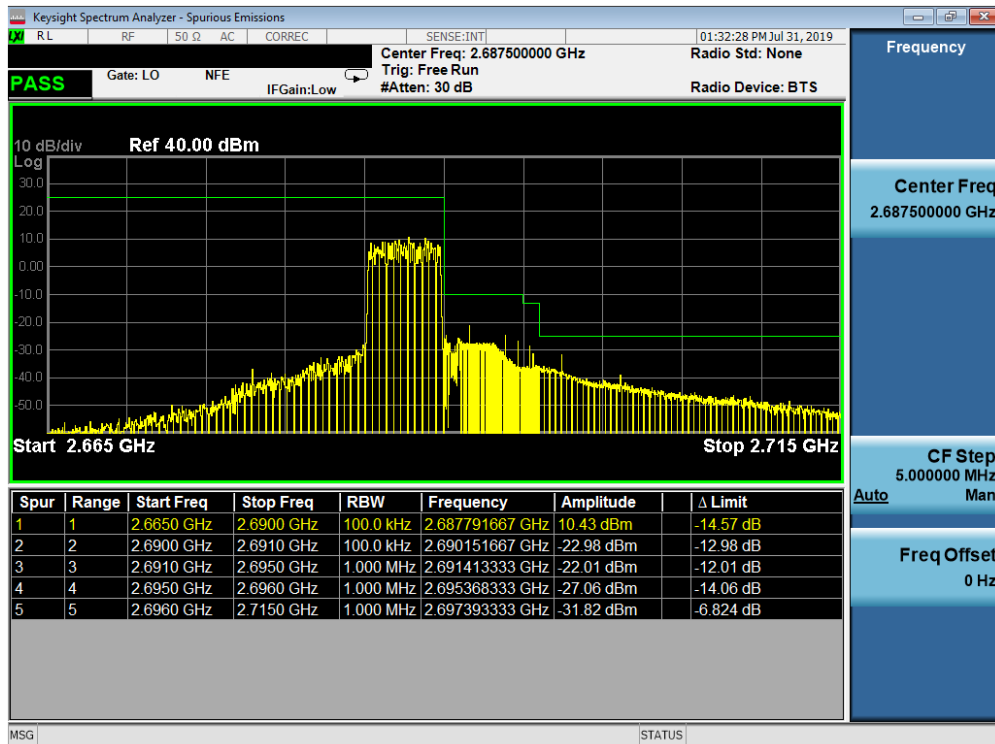
Plot 7-301. Upper ACP Plot (Band 7 - 20.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFG850UM	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)		LG	Approved by: Quality Manager
Test Report S/N: 1M1907250129-03-R2.ZNF	Test Dates: 7/26 - 8/16/2019	EUT Type: Portable Handset			Page 176 of 283

Band 41 (PC2)

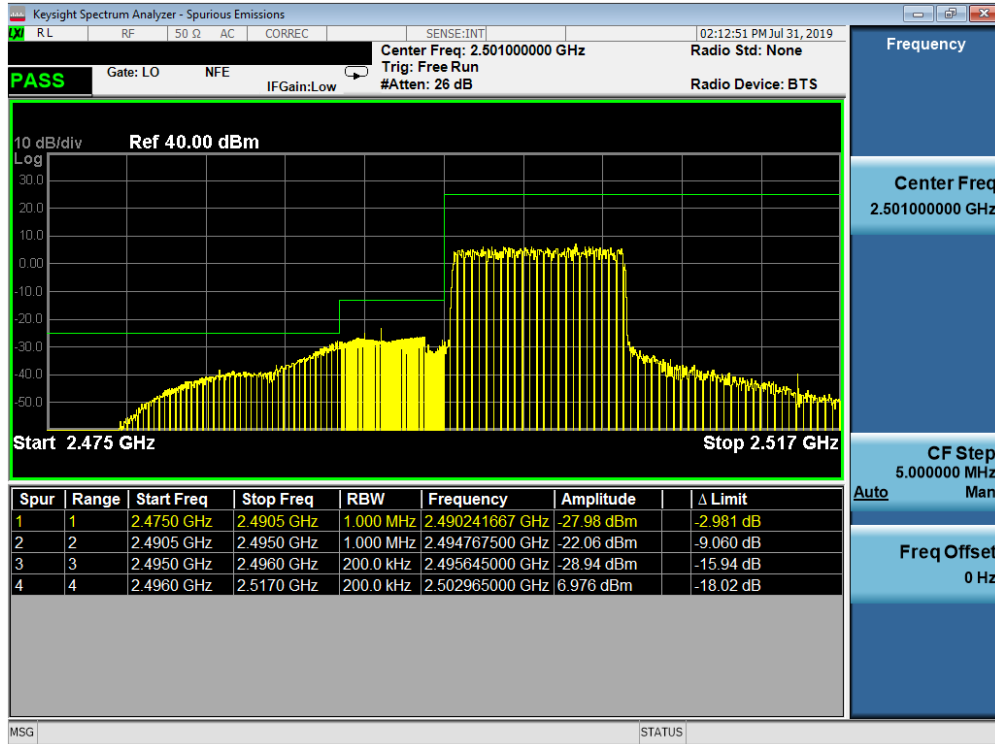


Plot 7-302. Lower ACP Plot (Band 41 (PC2) - 5.0MHz QPSK - Full RB Configuration)

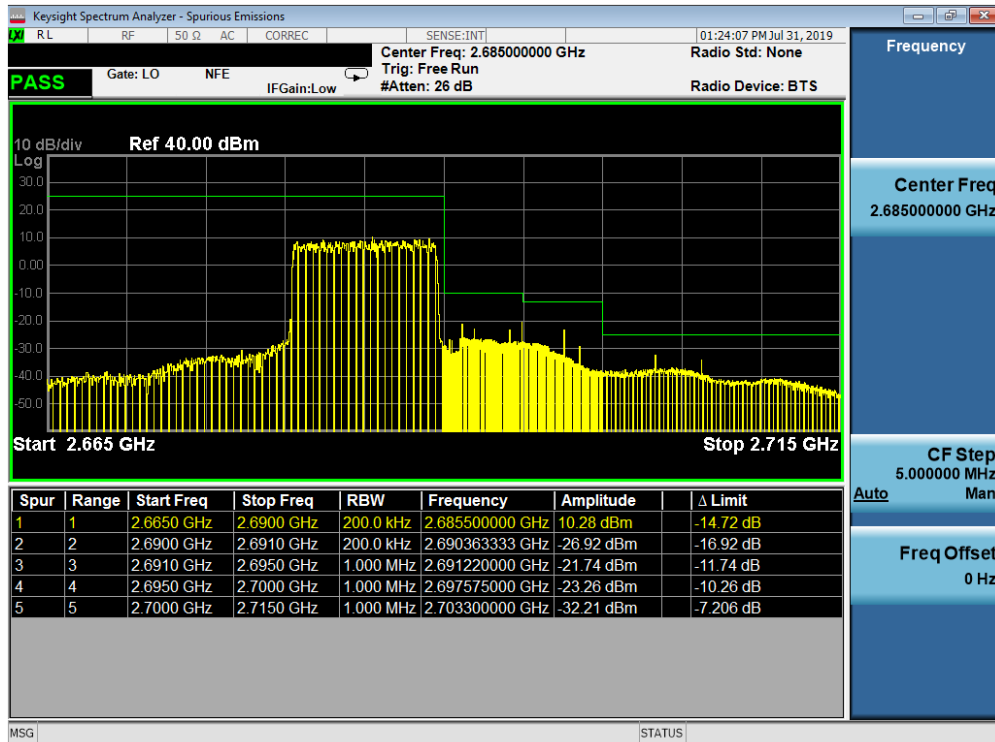


Plot 7-303. Upper ACP Plot (Band 41 (PC2) - 5.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFG850UM	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1907250129-03-R2.ZNF	Test Dates: 7/26 - 8/16/2019	EUT Type: Portable Handset		Page 177 of 283

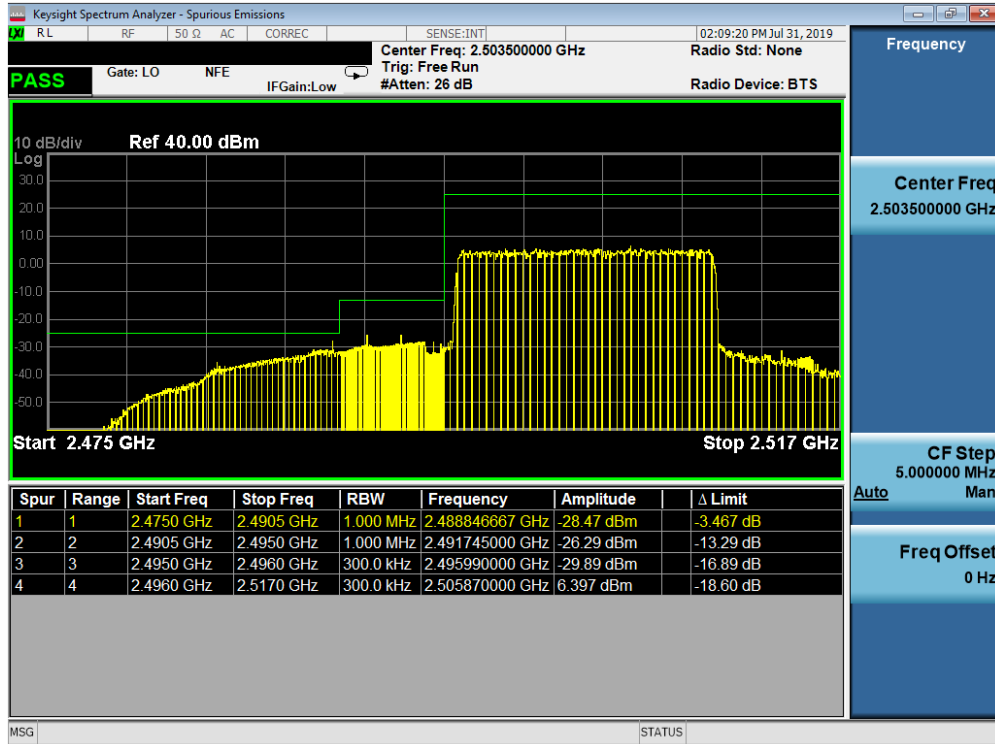


Plot 7-304. Lower ACP Plot (Band 41 (PC2) - 10.0MHz QPSK - Full RB Configuration)

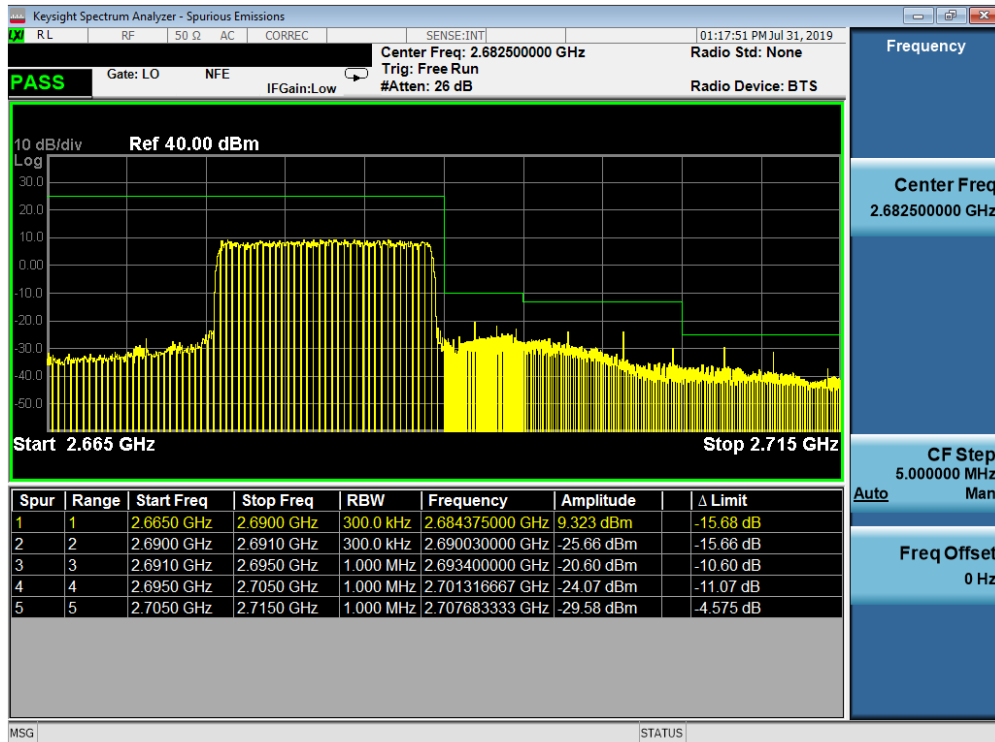


Plot 7-305. Upper ACP Plot (Band 41 (PC2) - 10.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFG850UM	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1907250129-03-R2.ZNF	Test Dates: 7/26 - 8/16/2019	EUT Type: Portable Handset	Page 178 of 283

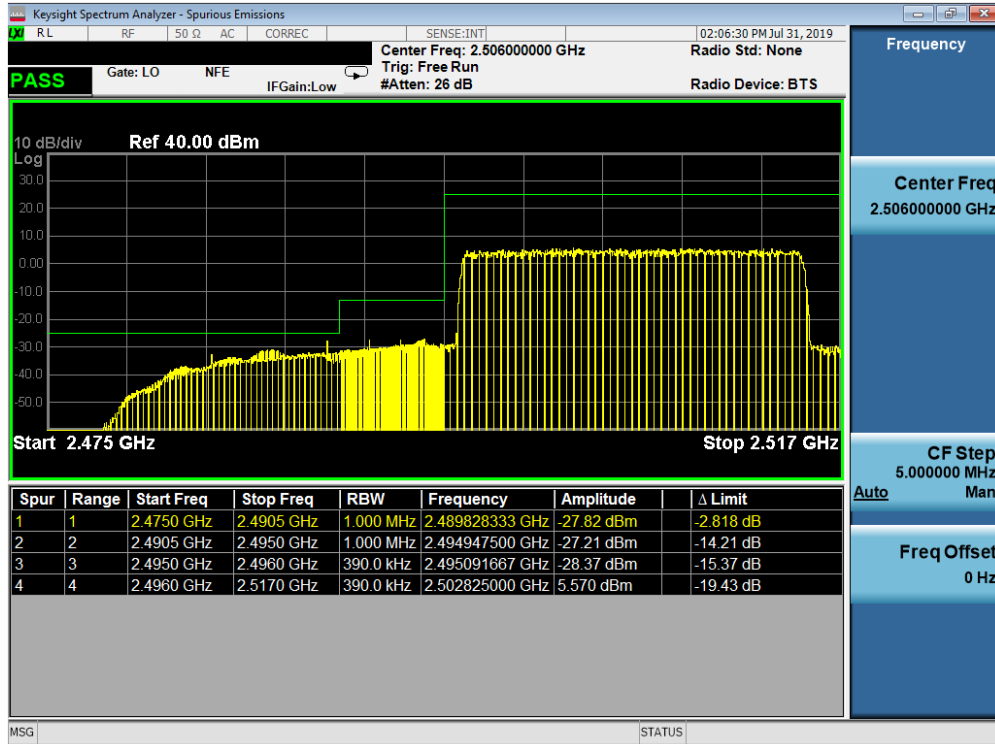


Plot 7-306. Lower ACP Plot (Band 41 (PC2) - 15.0MHz QPSK - Full RB Configuration)

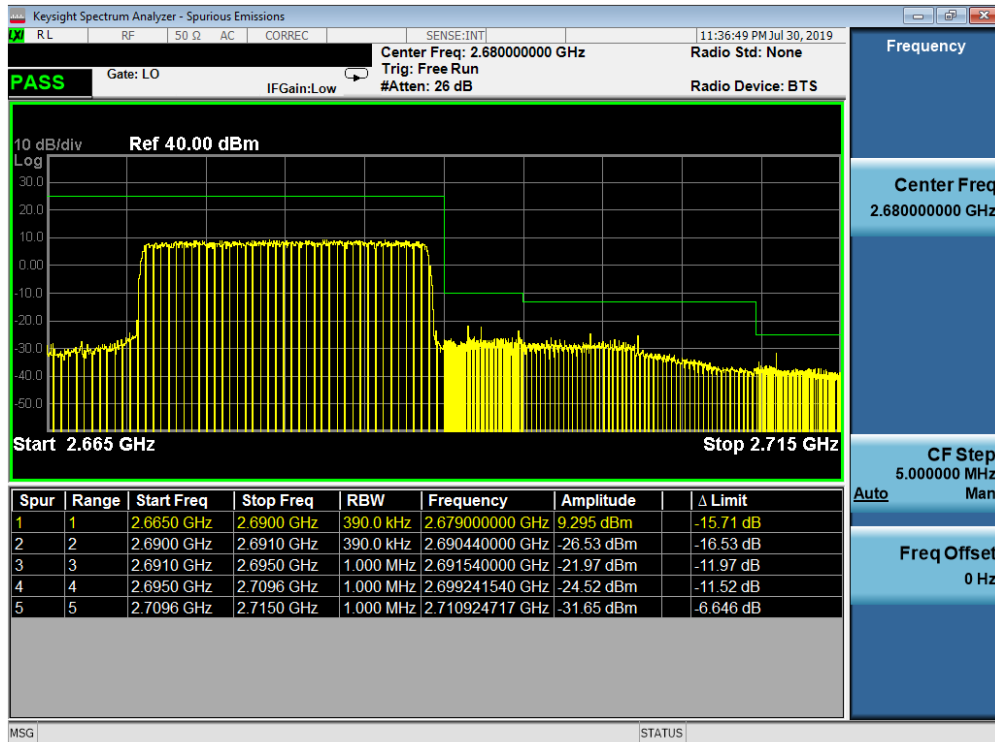


Plot 7-307. Upper ACP Plot (Band 41 (PC2) - 15.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFG850UM	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1907250129-03-R2.ZNF	Test Dates: 7/26 - 8/16/2019	EUT Type: Portable Handset		Page 179 of 283



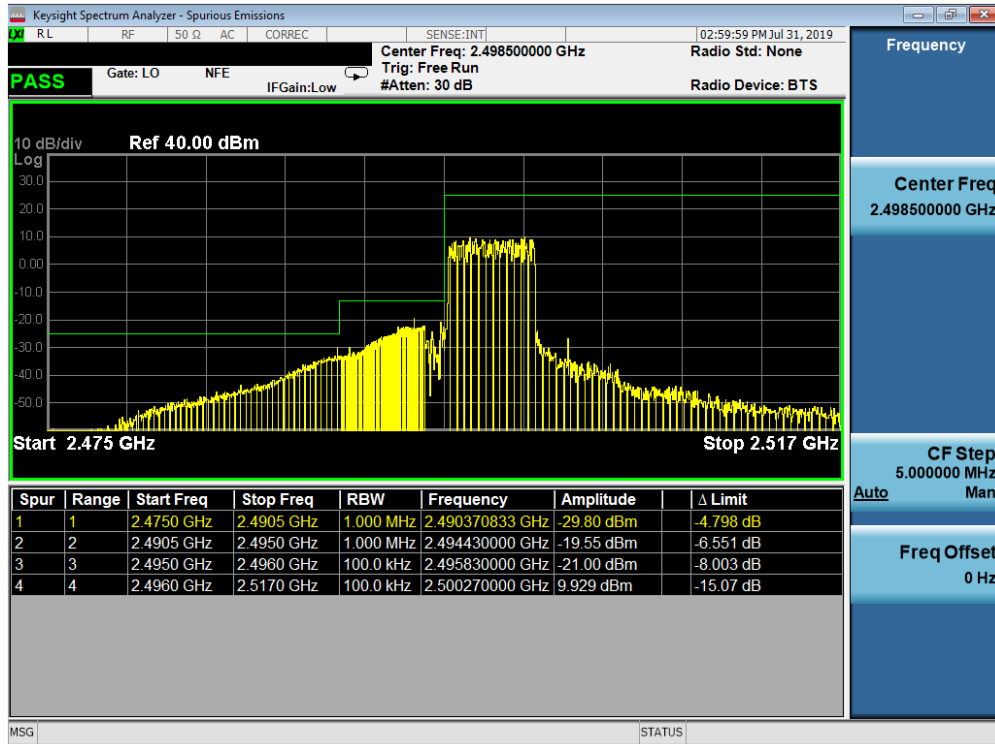
Plot 7-308. Lower ACP Plot (Band 41 (PC2) - 20.0MHz QPSK - Full RB Configuration)



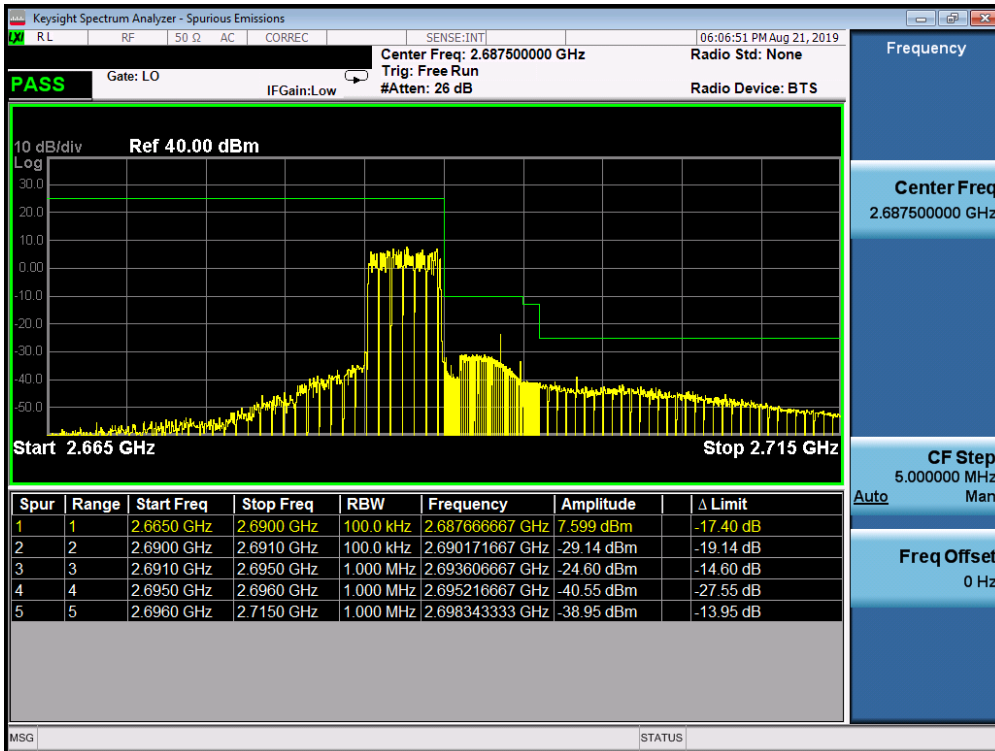
Plot 7-309. Upper ACP Plot (Band 41 (PC2) - 20.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFG850UM	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1907250129-03-R2-ZNF	Test Dates: 7/26 - 8/16/2019	EUT Type: Portable Handset		Page 180 of 283

Band 41 (PC3)

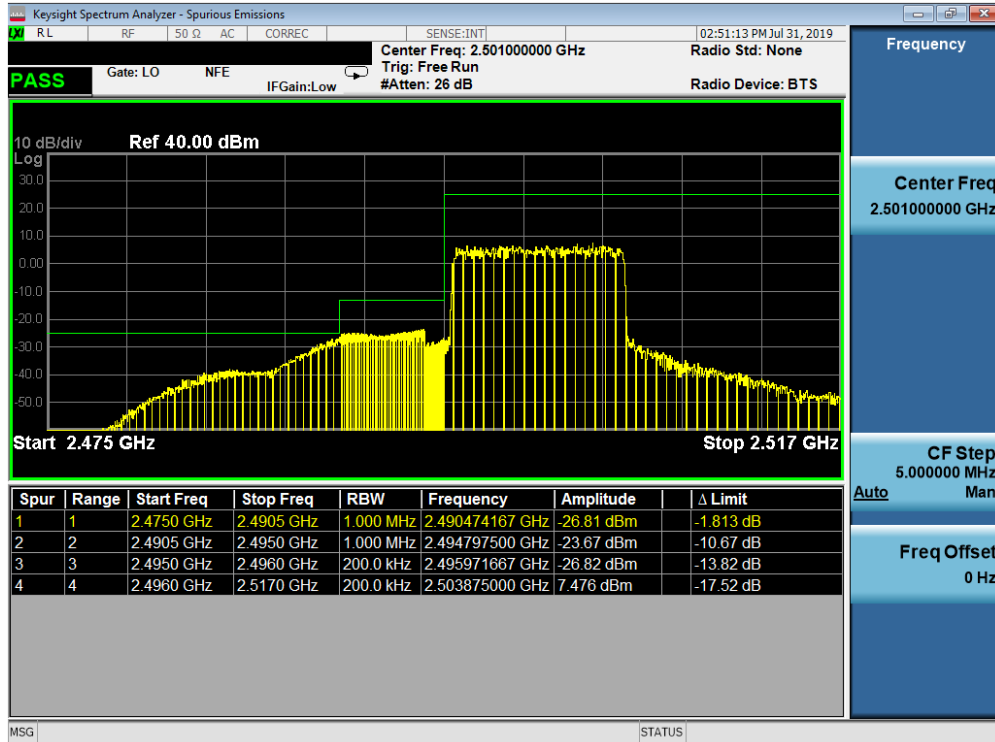


Plot 7-310. Lower ACP Plot (Band 41 (PC3) - 5.0MHz QPSK - Full RB Configuration)

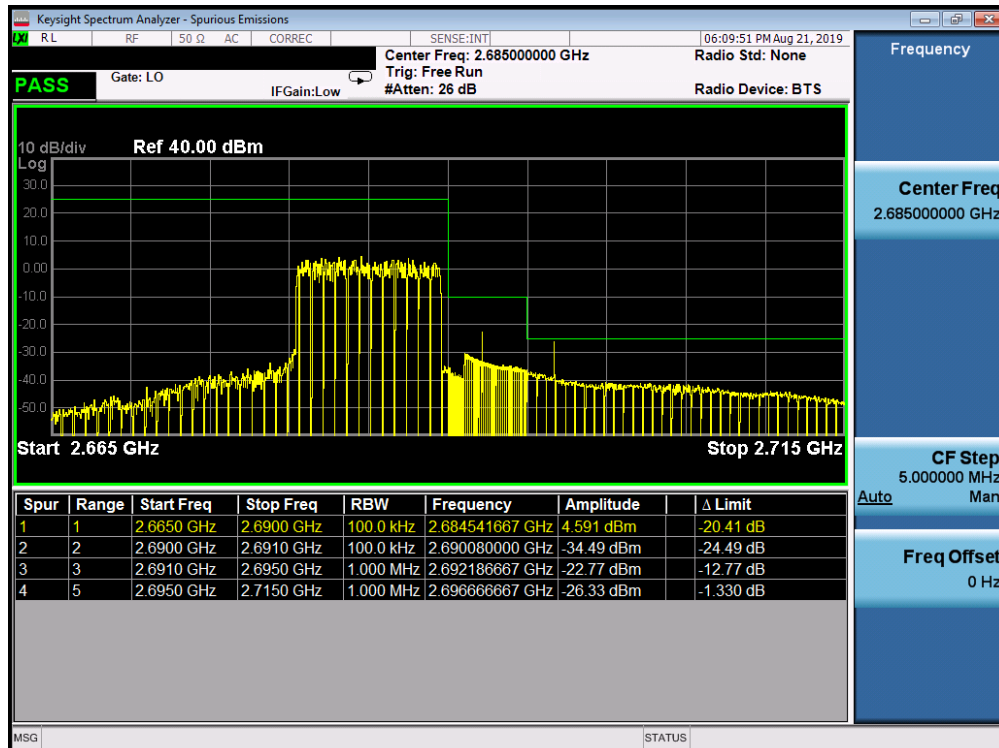


Plot 7-311. Upper ACP Plot (Band 41 (PC3) - 5.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFG850UM	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1907250129-03-R2.ZNF	Test Dates: 7/26 - 8/16/2019	EUT Type: Portable Handset		Page 181 of 283

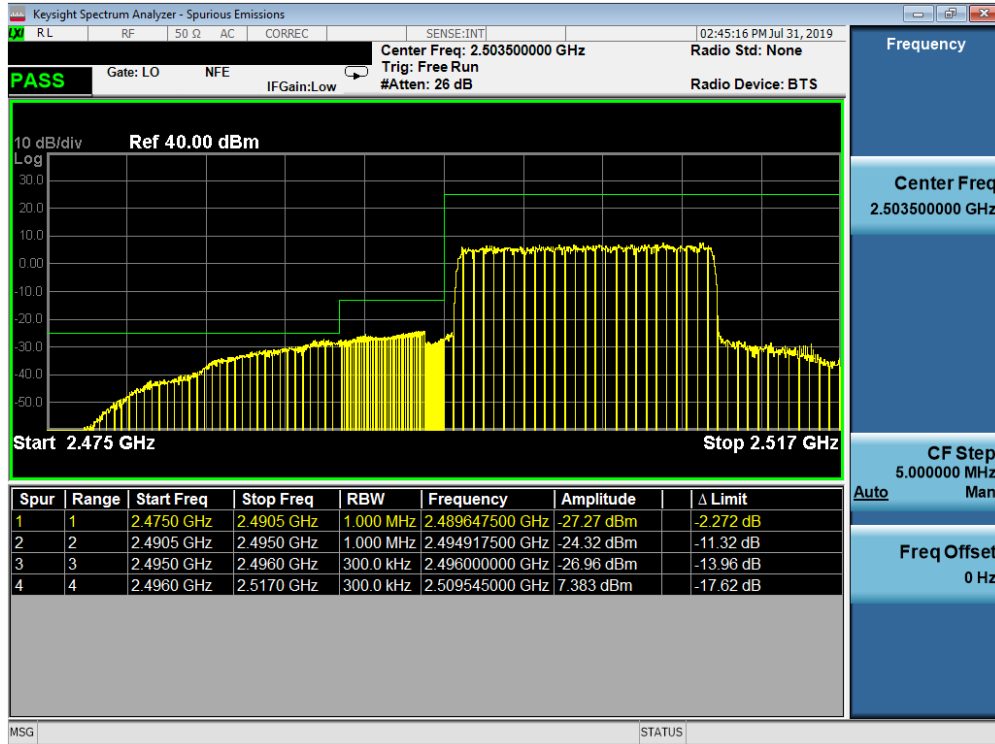


Plot 7-312. Lower ACP Plot (Band 41 (PC3) - 10.0MHz QPSK - Full RB Configuration)

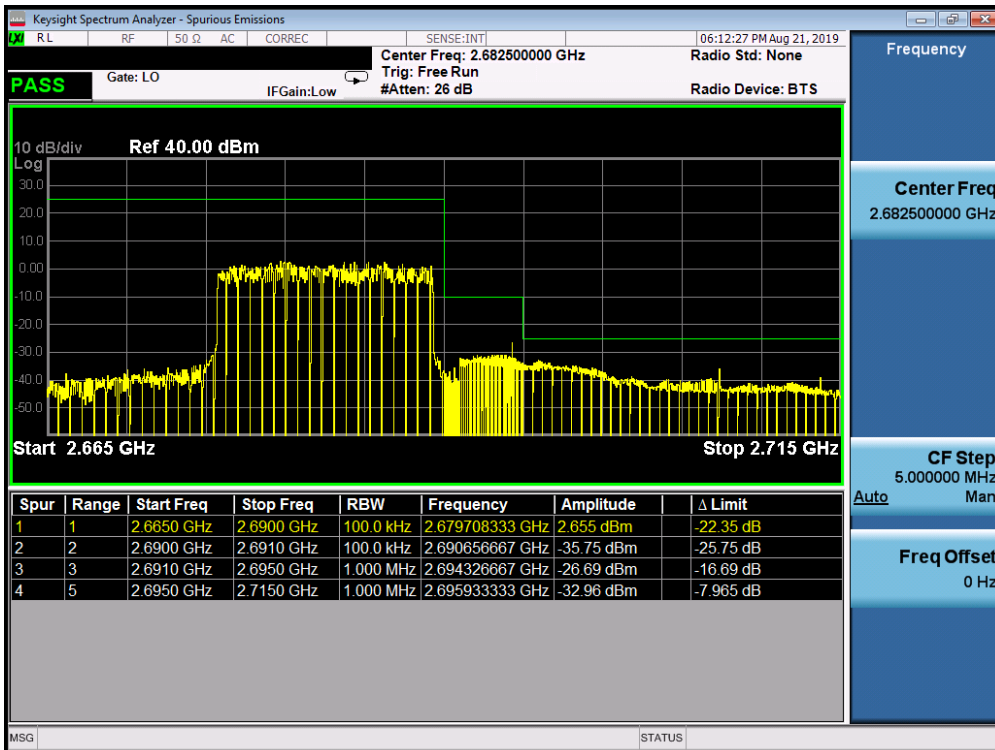


Plot 7-313. Upper ACP Plot (Band 41 (PC3) - 10.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFG850UM	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1907250129-03-R2-ZNF	Test Dates: 7/26 - 8/16/2019	EUT Type: Portable Handset		Page 182 of 283

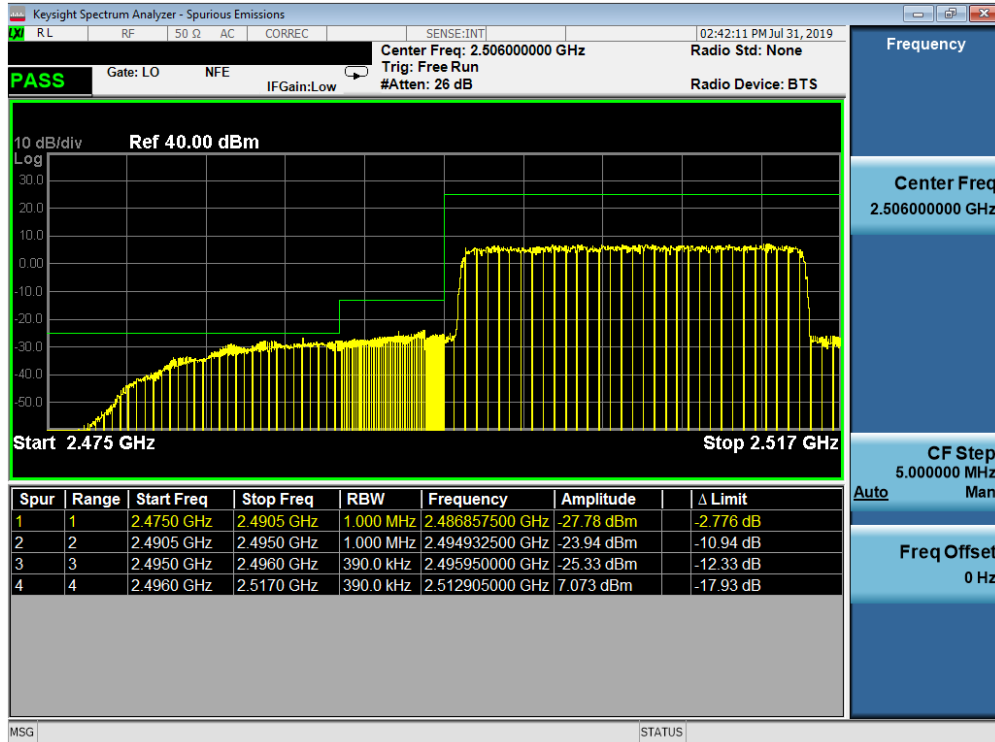


Plot 7-314. Lower ACP Plot (Band 41 (PC3) - 15.0MHz QPSK - Full RB Configuration)

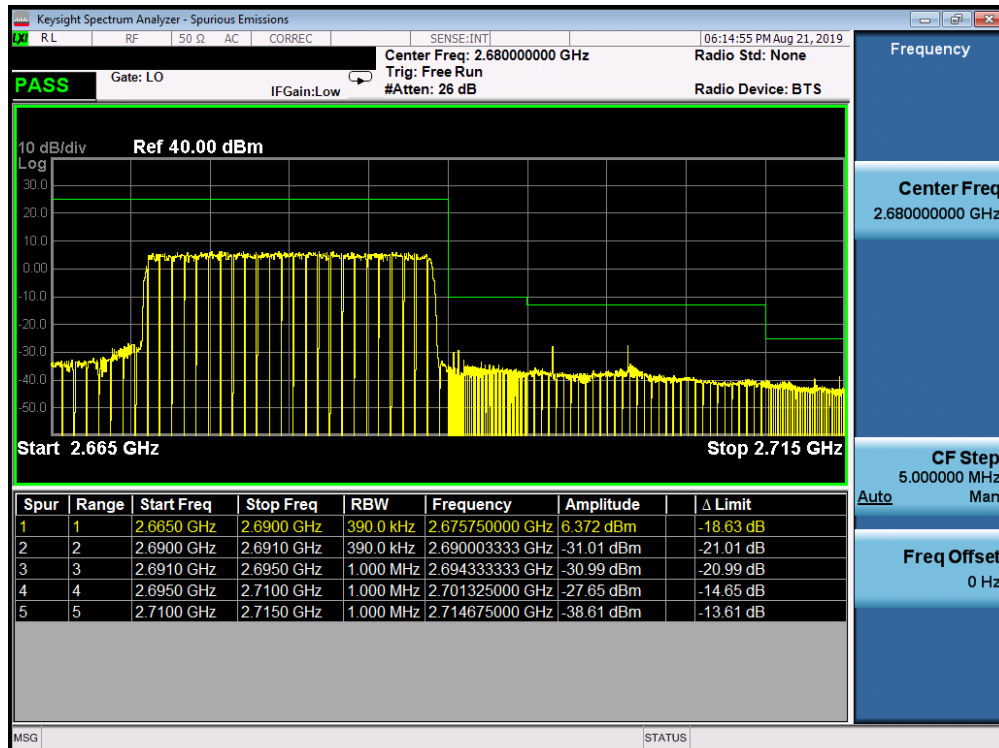


Plot 7-315. Upper ACP Plot (Band 41 (PC3) - 15.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFG850UM	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1907250129-03-R2-ZNF	Test Dates: 7/26 - 8/16/2019	EUT Type: Portable Handset		Page 183 of 283



Plot 7-316. Lower ACP Plot (Band 41 (PC3) - 20.0MHz QPSK - Full RB Configuration)



Plot 7-317. Upper ACP Plot (Band 41 (PC3) - 20.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFG850UM	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1907250129-03-R2.ZNF	Test Dates: 7/26 - 8/16/2019	EUT Type: Portable Handset		Page 184 of 283

7.5 Peak-Average Ratio

Test Overview

A peak to average ratio measurement is performed at the conducted port of the EUT. The spectrum analyzers Complementary Cumulative Distribution Function (CCDF) measurement profile is used to determine the largest deviation between the average and the peak power of the EUT in a given bandwidth. The CCDF curve shows how much time the peak waveform spends at or above a given average power level. The percent of time the signal spends at or above the level defines the probability for that particular power level.

Test Procedure Used

KDB 971168 D01 v03r01 – Section 5.7.1

Test Settings

1. The signal analyzer's CCDF measurement profile is enabled
2. Frequency = carrier center frequency
3. Measurement BW $\geq$ OBW or specified reference bandwidth
4. The signal analyzer was set to collect one million samples to generate the CCDF curve
5. The measurement interval was set depending on the type of signal analyzed. For continuous signals (>98% duty cycle), the measurement interval was set to 1ms.

Test Setup

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

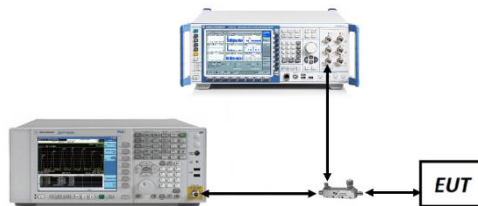


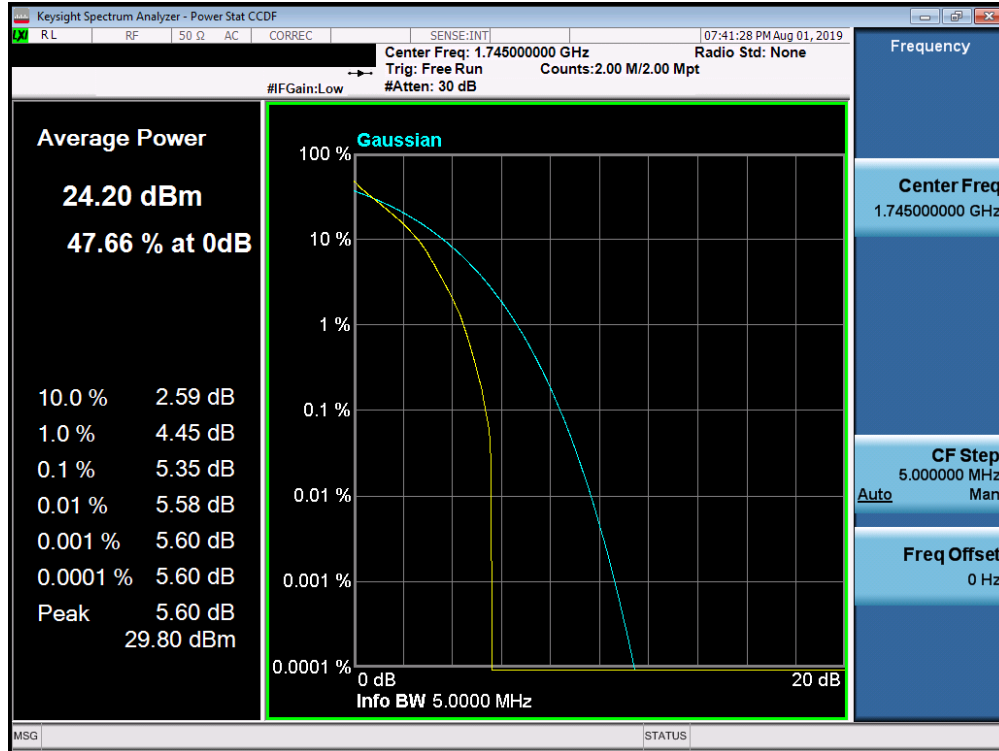
Figure 7-4. Test Instrument & Measurement Setup

Test Notes

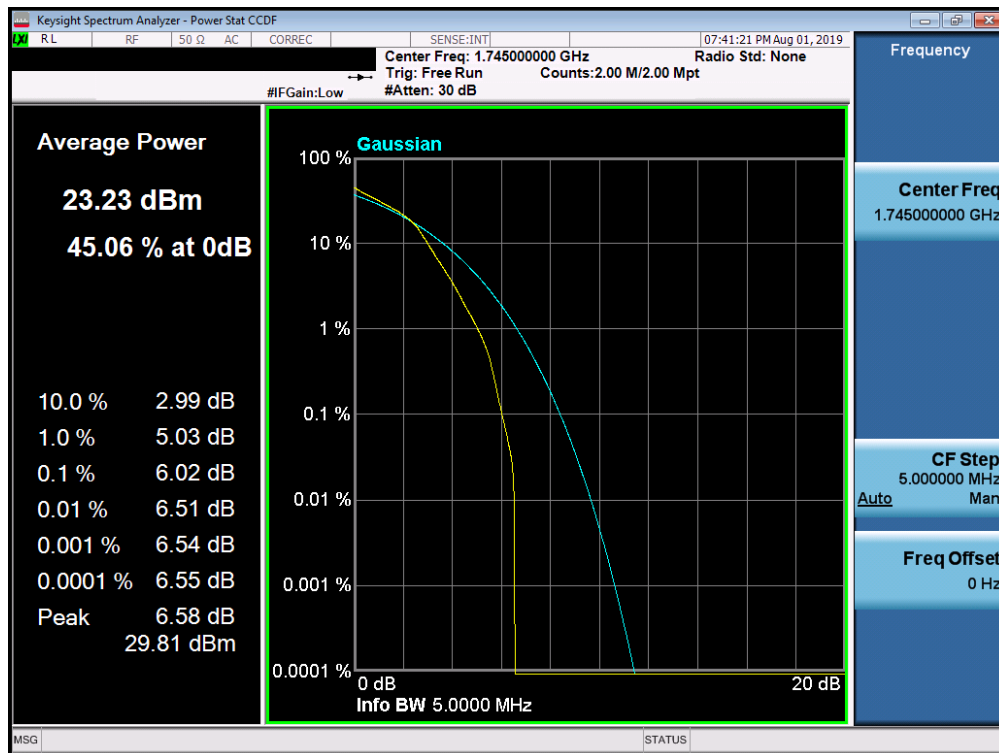
None.

FCC ID: ZNFG850UM	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1907250129-03-R2.ZNF	Test Dates: 7/26 - 8/16/2019	EUT Type: Portable Handset		Page 185 of 283

Band 66/4

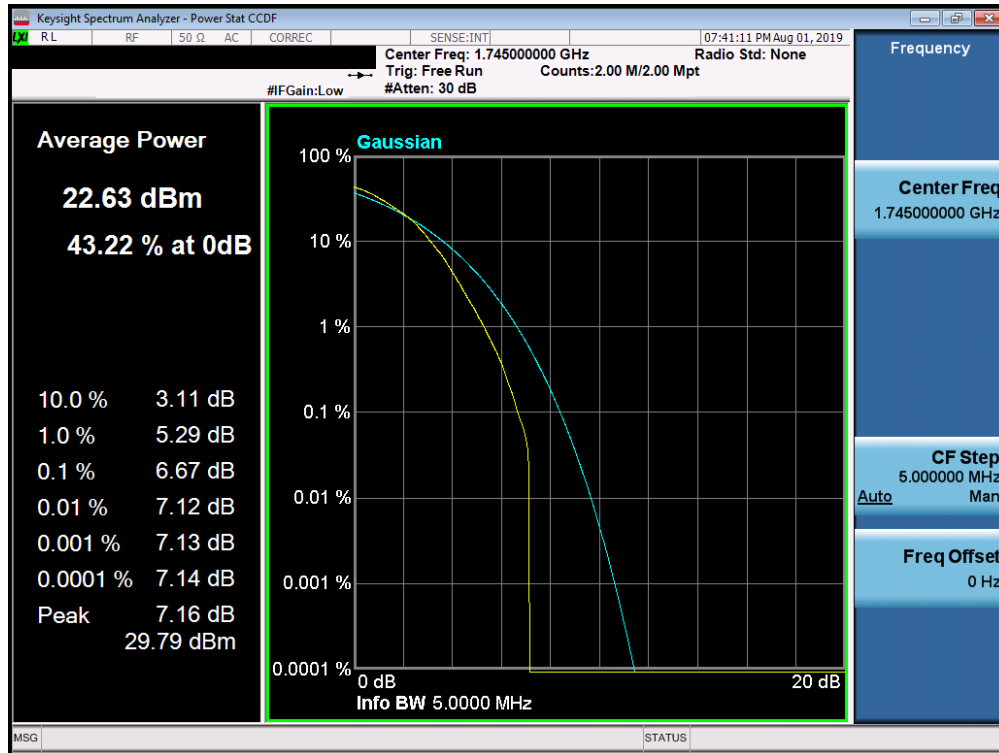


Plot 7-318. PAR Plot (Band 66/4 - 1.4MHz QPSK - Full RB Configuration)

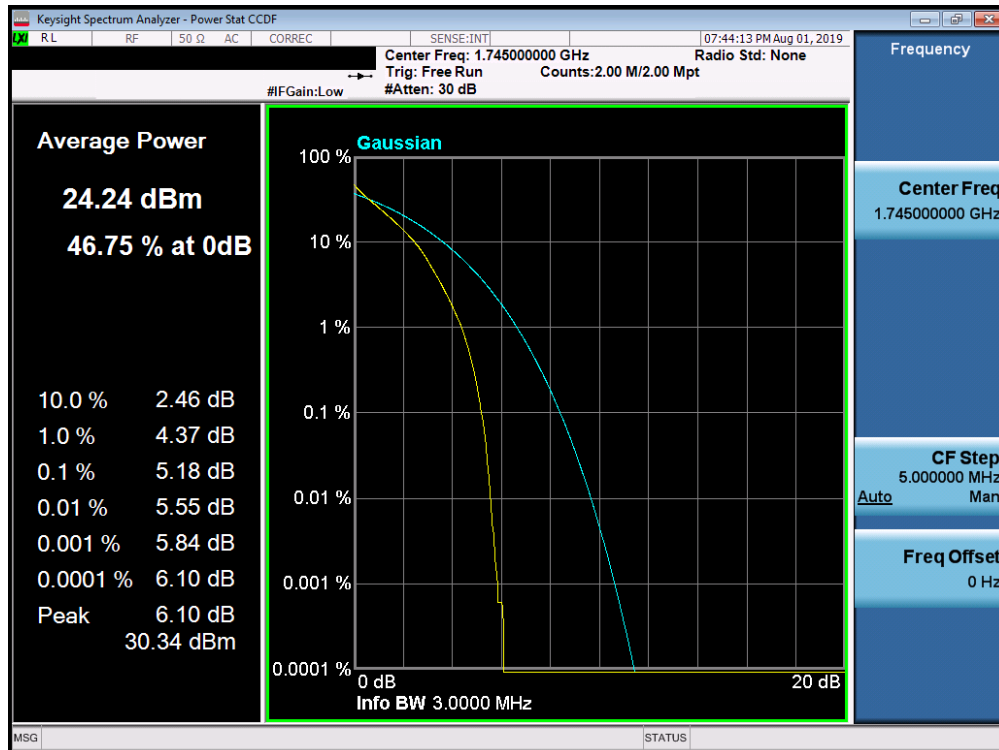


Plot 7-319. PAR Plot (Band 66/4 - 1.4MHz 16-QAM - Full RB Configuration)

FCC ID: ZNFG850UM	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1907250129-03-R2-ZNF	Test Dates: 7/26 - 8/16/2019	EUT Type: Portable Handset		Page 186 of 283

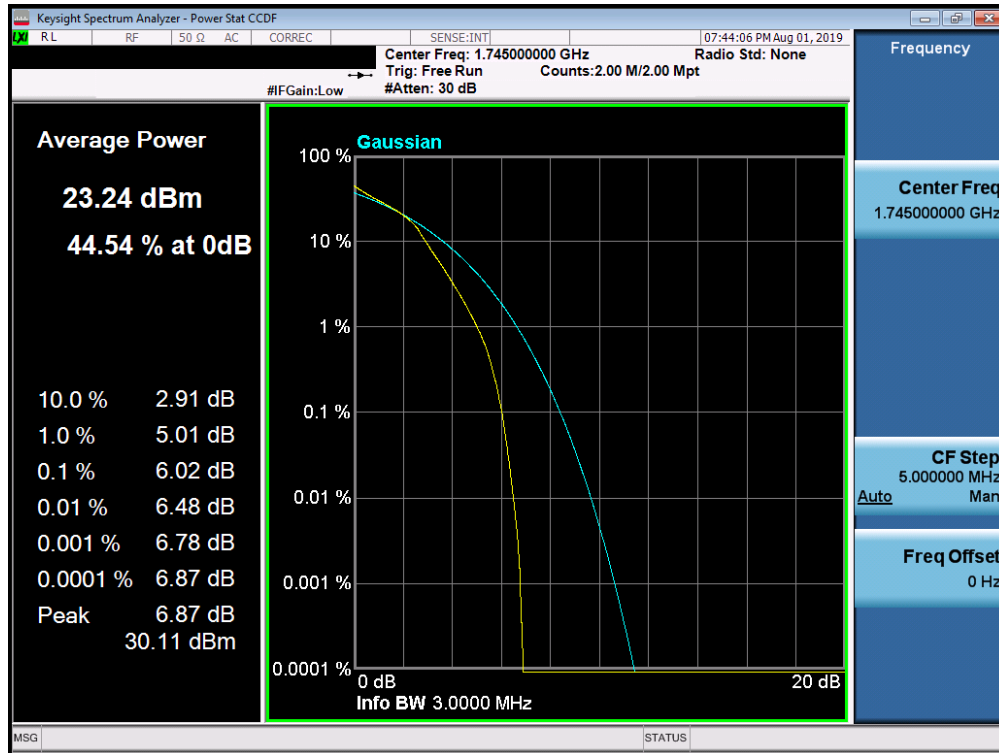


Plot 7-320. PAR Plot (Band 66/4 - 1.4MHz 64-QAM - Full RB Configuration)

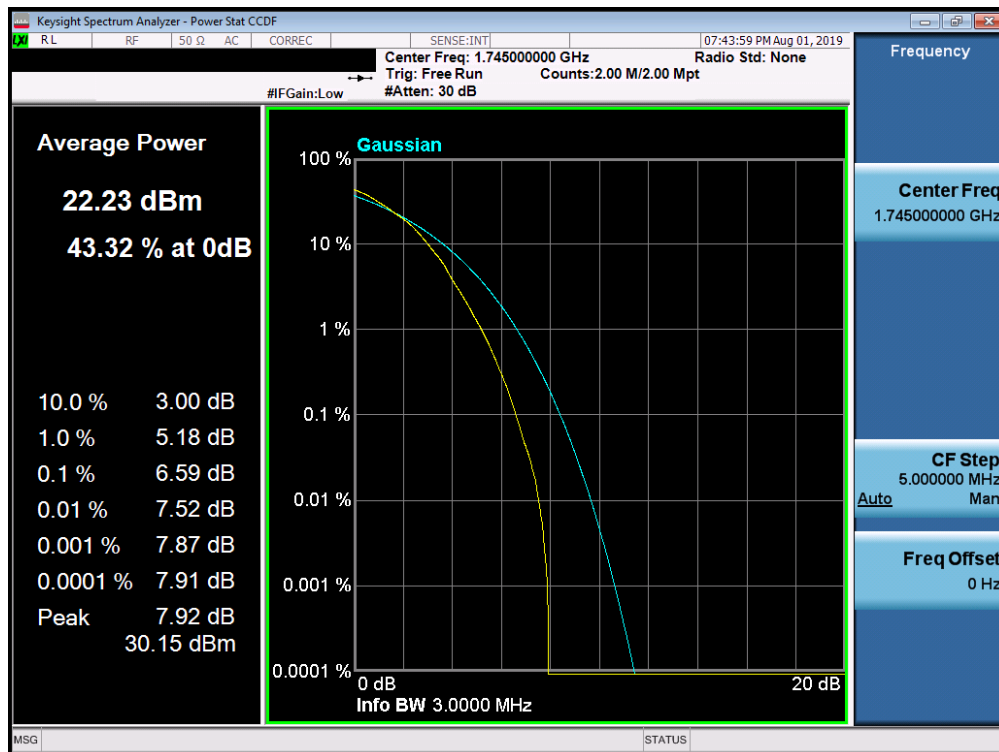


Plot 7-321. PAR Plot (Band 66/4 - 3.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFG850UM	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1907250129-03-R2-ZNF	Test Dates: 7/26 - 8/16/2019	EUT Type: Portable Handset		Page 187 of 283

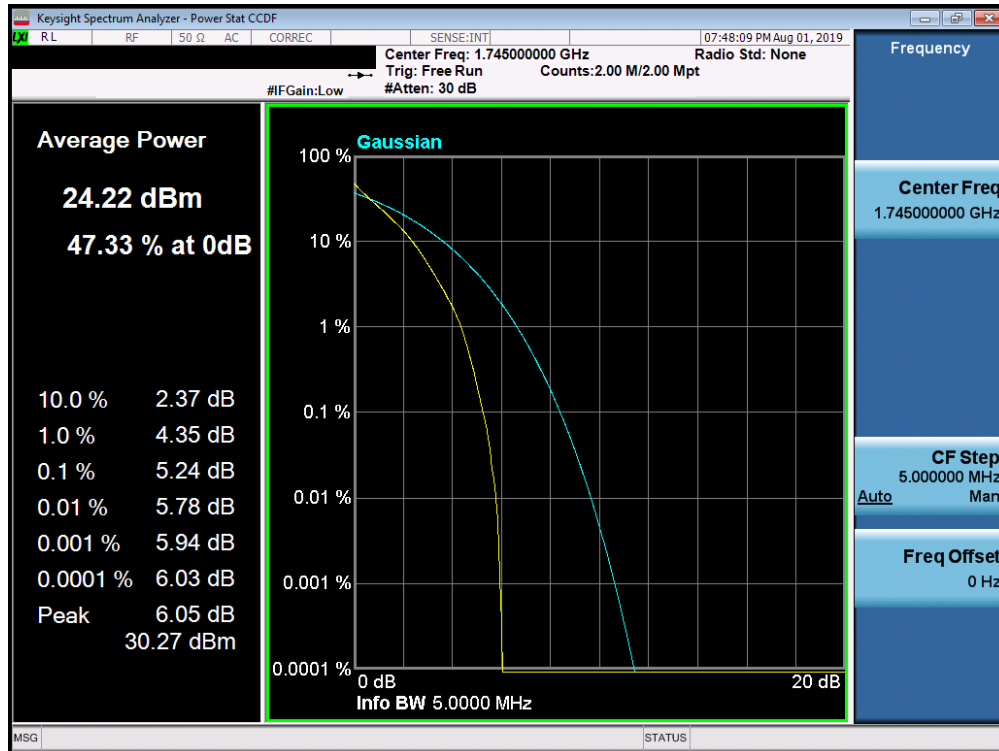


Plot 7-322. PAR Plot (Band 66/4 – 3.0MHz 16-QAM - Full RB Configuration)

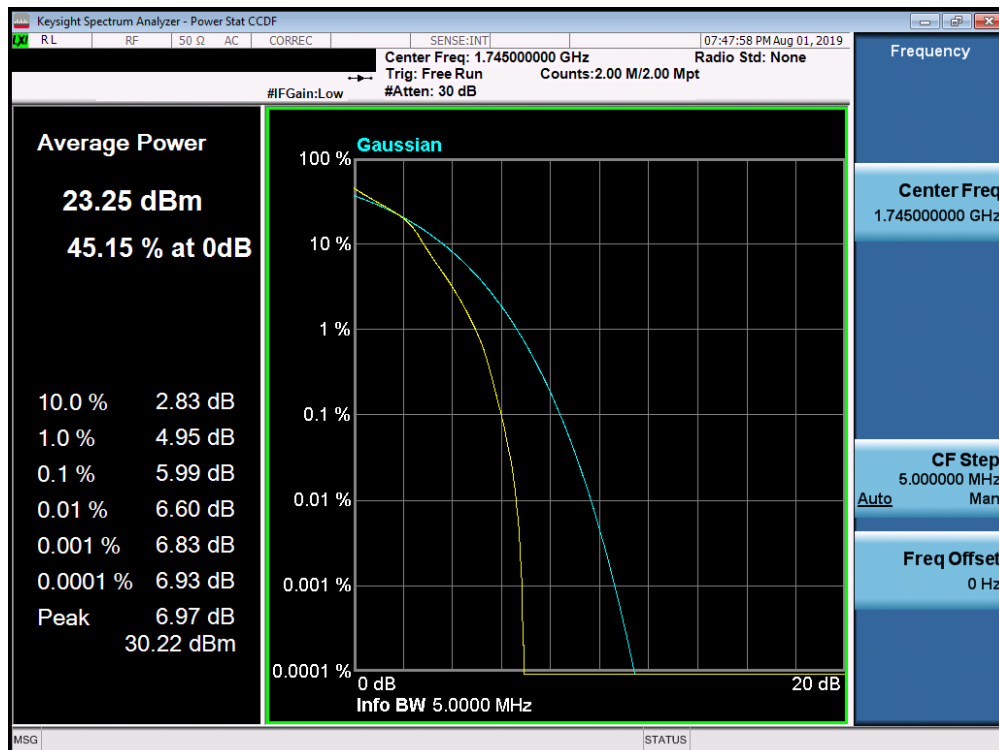


Plot 7-323. PAR Plot (Band 66/4 - 3.0MHz 64-QAM - Full RB Configuration)

FCC ID: ZNFG850UM	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1907250129-03-R2-ZNF	Test Dates: 7/26 - 8/16/2019	EUT Type: Portable Handset	Page 188 of 283

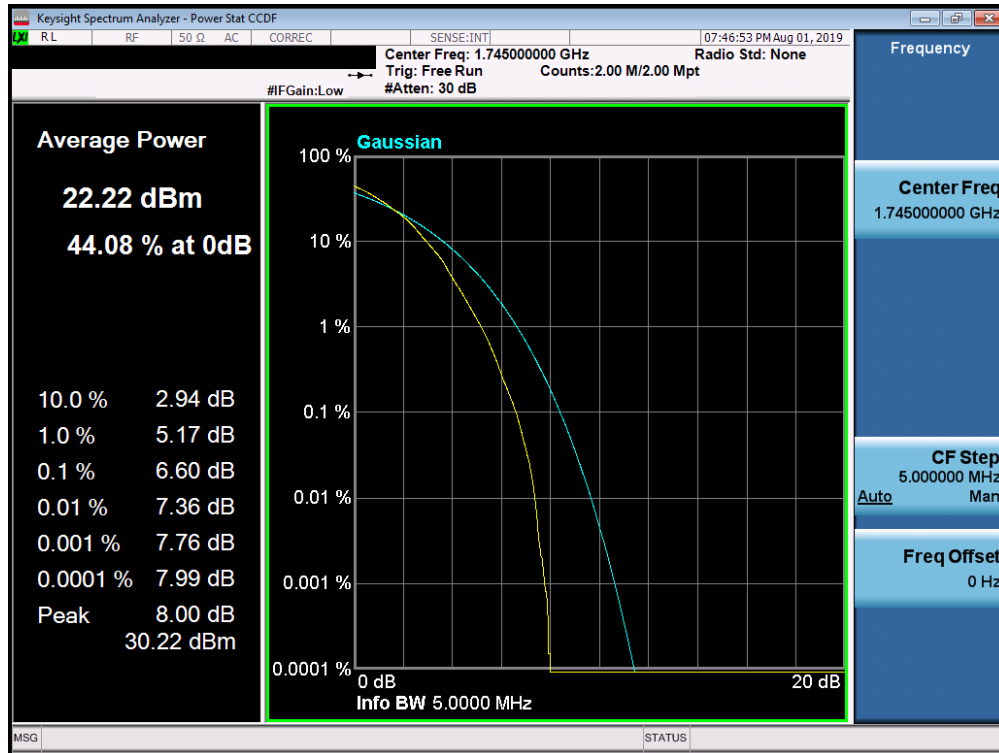


Plot 7-324. PAR Plot (Band 66/4 – 5.0MHz QPSK - Full RB Configuration)

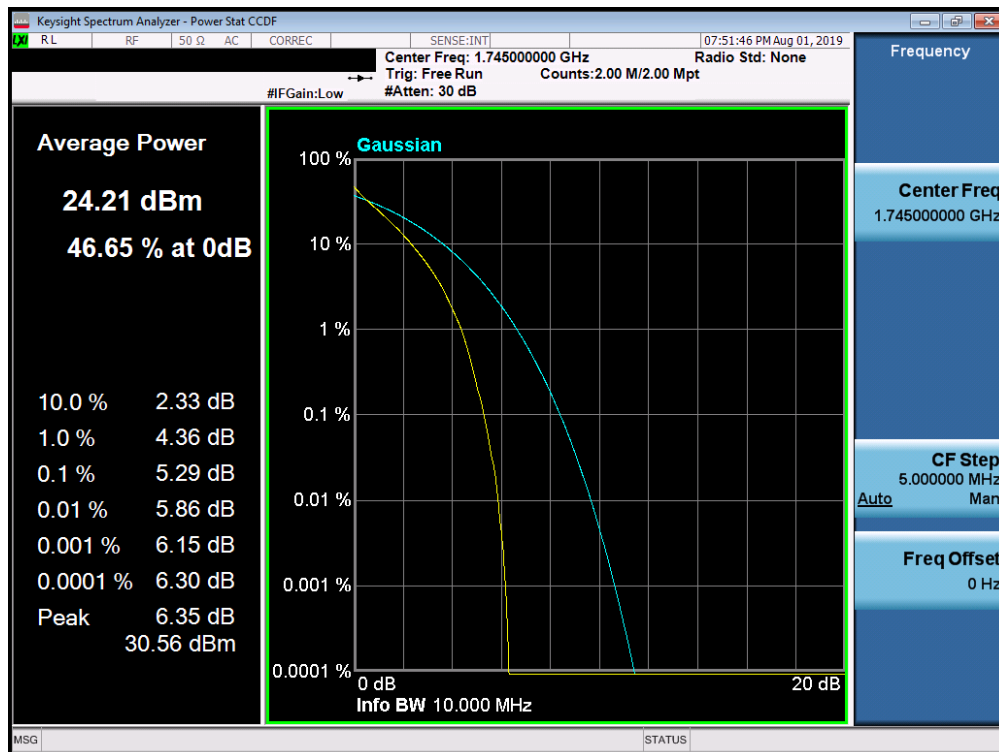


Plot 7-325. PAR Plot (Band 66/4 – 5.0MHz 16-QAM - Full RB Configuration)

FCC ID: ZNFG850UM	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1907250129-03-R2-ZNF	Test Dates: 7/26 - 8/16/2019	EUT Type: Portable Handset	Page 189 of 283

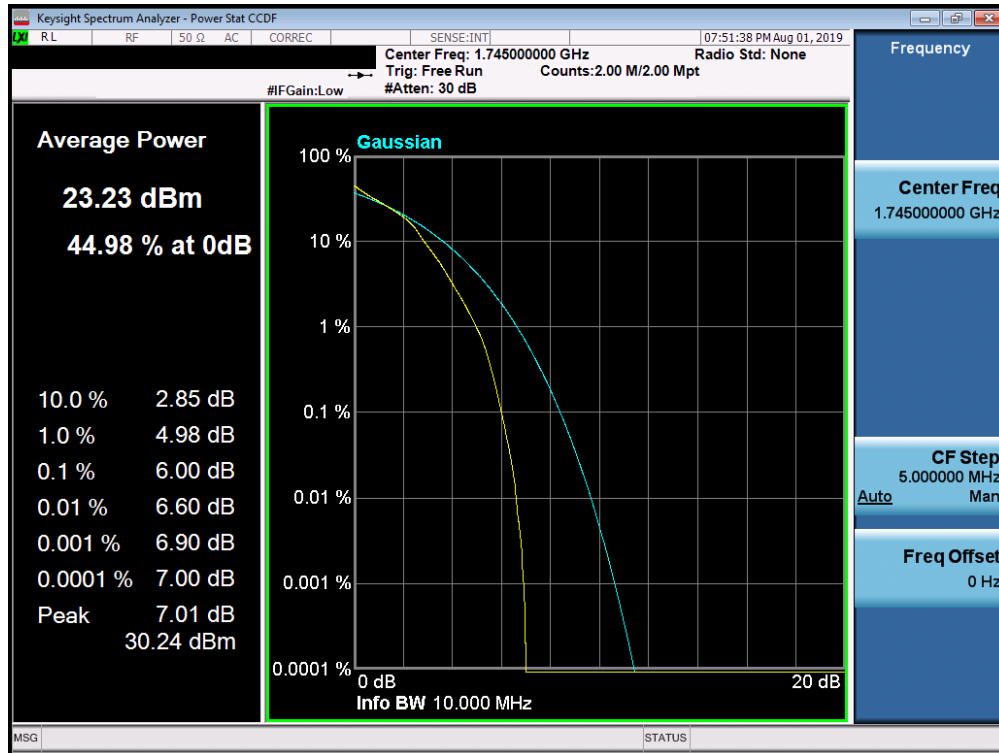


Plot 7-326. PAR Plot (Band 66/4 – 5.0MHz 64-QAM - Full RB Configuration)

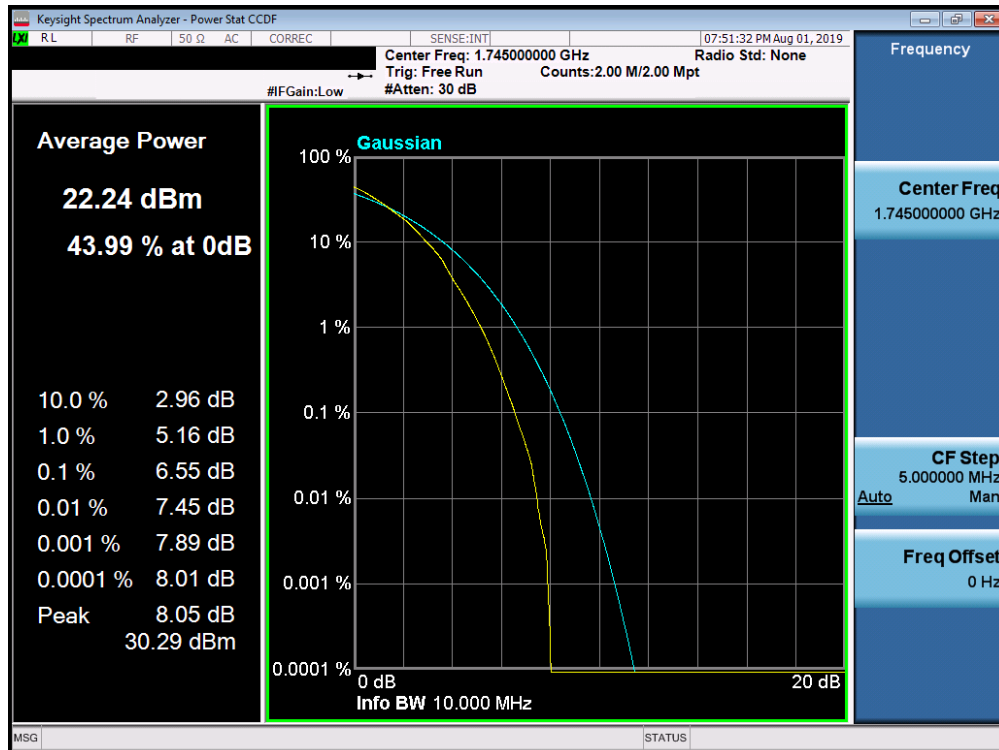


Plot 7-327. PAR Plot (Band 66/4 – 10.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFG850UM	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1907250129-03-R2-ZNF	Test Dates: 7/26 - 8/16/2019	EUT Type: Portable Handset		Page 190 of 283

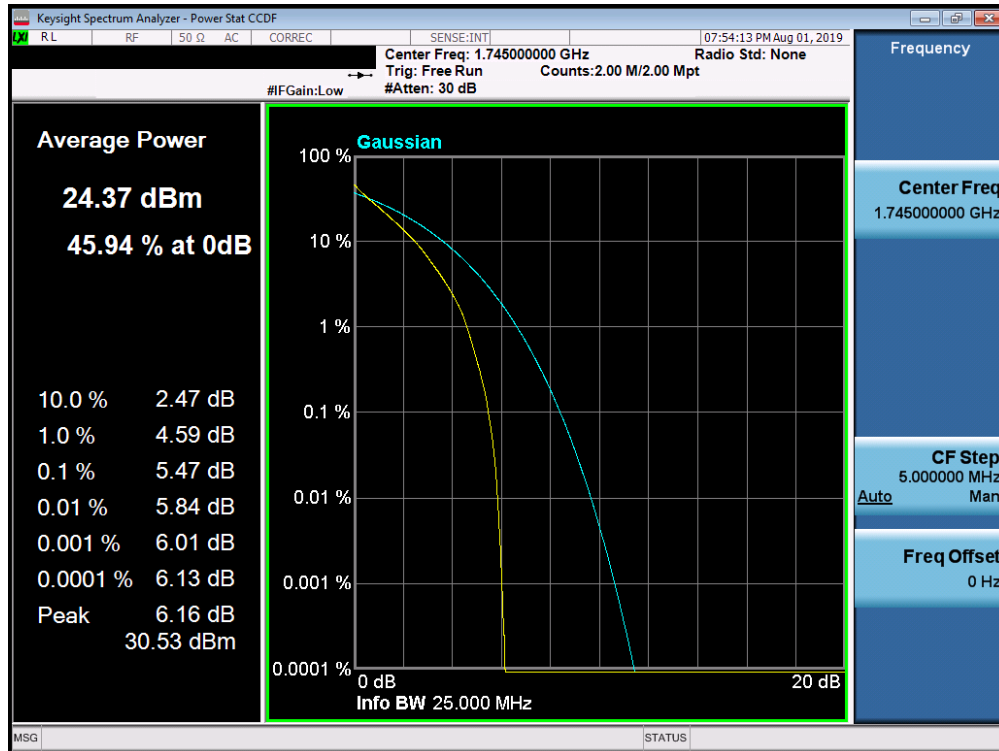


Plot 7-328. PAR Plot (Band 66/4 – 10.0MHz 16-QAM - Full RB Configuration)

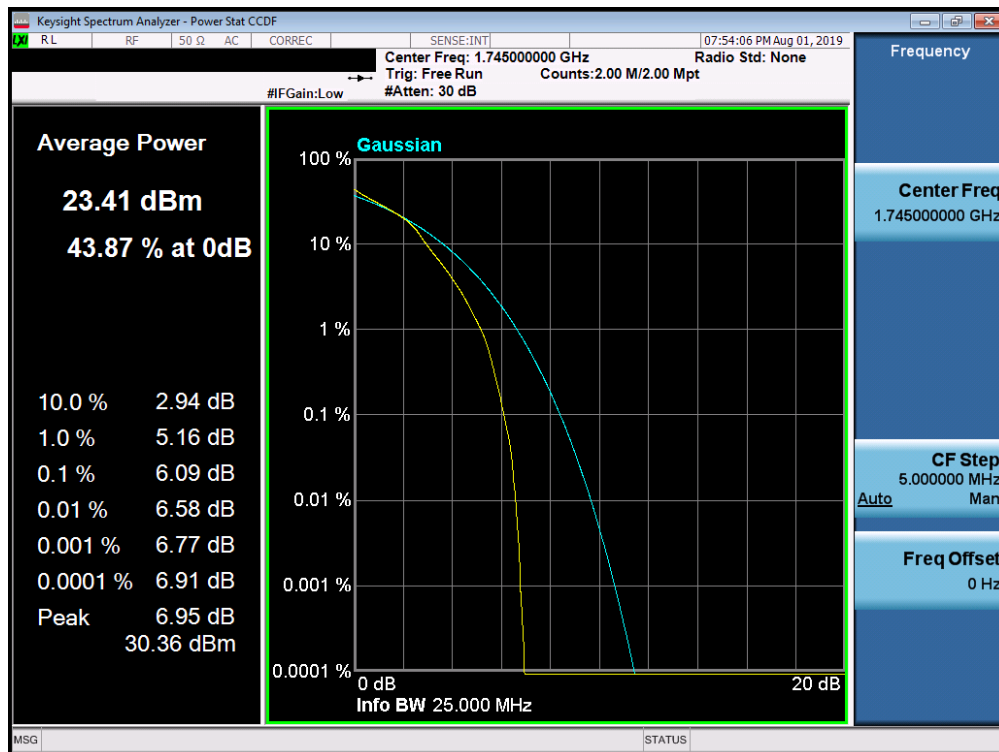


Plot 7-329. PAR Plot (Band 66/4 - 10.0MHz 64-QAM - Full RB Configuration)

FCC ID: ZNFG850UM	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1907250129-03-R2-ZNF	Test Dates: 7/26 - 8/16/2019	EUT Type: Portable Handset		Page 191 of 283

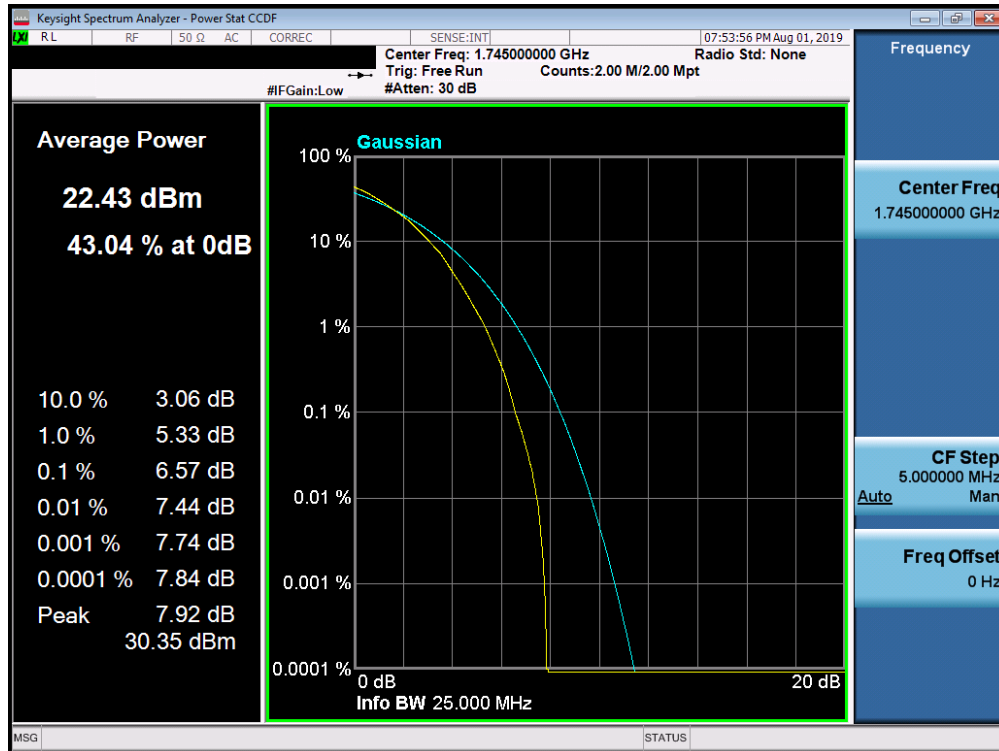


Plot 7-330. PAR Plot (Band 66/4 – 15.0MHz QPSK - Full RB Configuration)

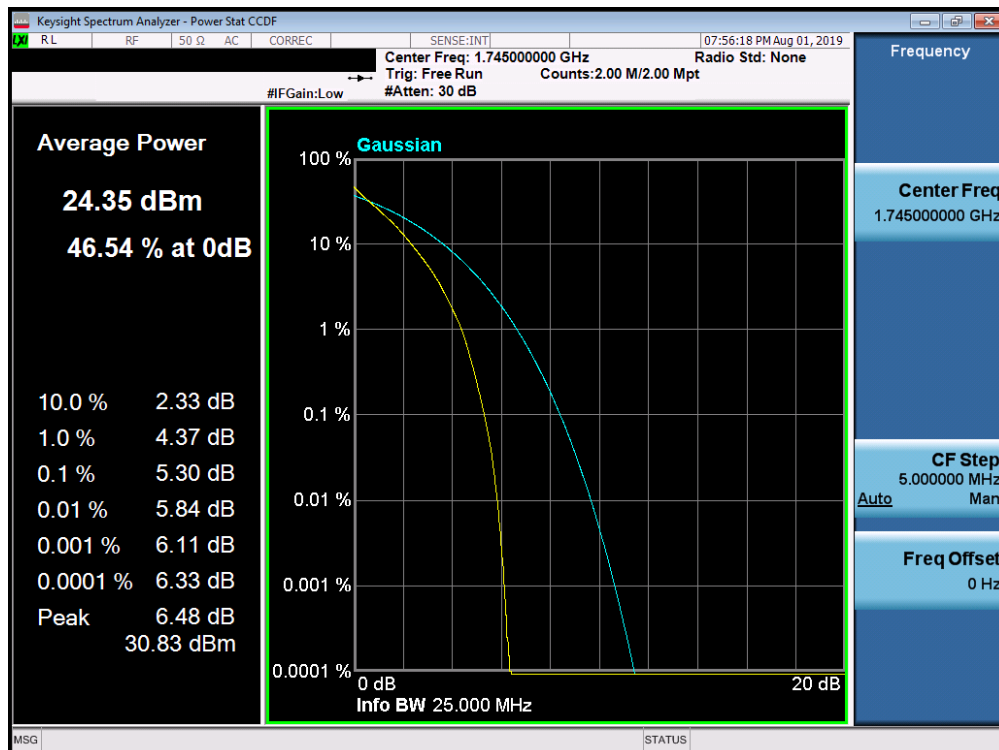


Plot 7-331. PAR Plot (Band 66/4 – 15.0MHz 16-QAM - Full RB Configuration)

FCC ID: ZNFG850UM	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1907250129-03-R2-ZNF	Test Dates: 7/26 - 8/16/2019	EUT Type: Portable Handset		Page 192 of 283



Plot 7-332. PAR Plot (Band 66/4 – 15.0MHz 64-QAM - Full RB Configuration)



Plot 7-333. PAR Plot (Band 66/4 – 20.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFG850UM	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M1907250129-03-R2-ZNF	Test Dates: 7/26 - 8/16/2019	EUT Type: Portable Handset		Page 193 of 283