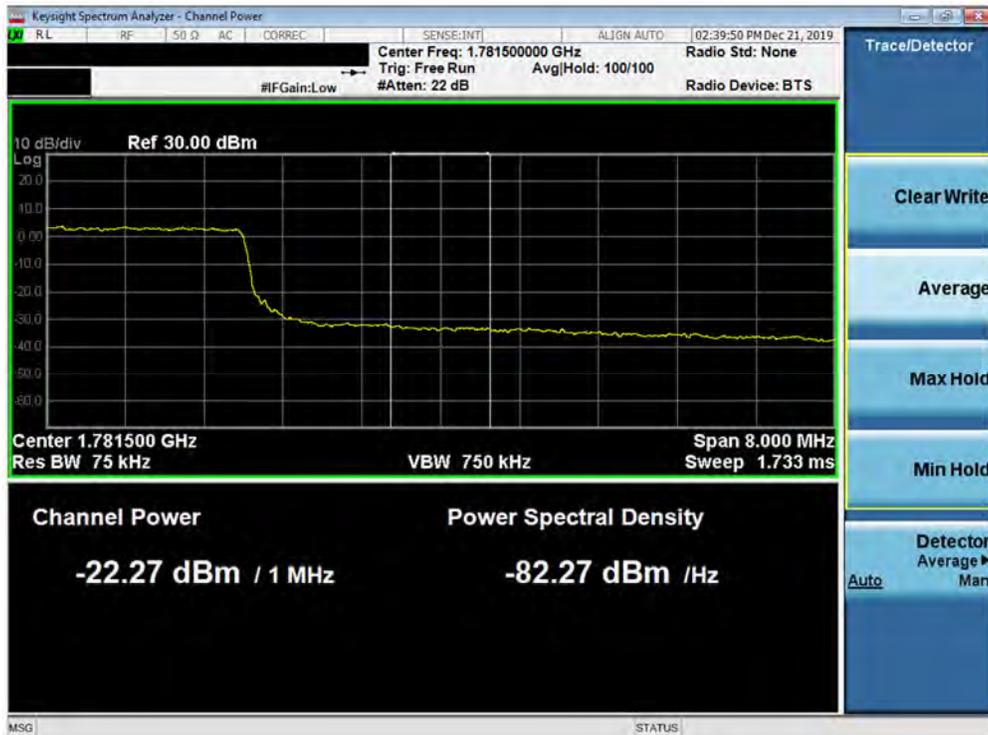


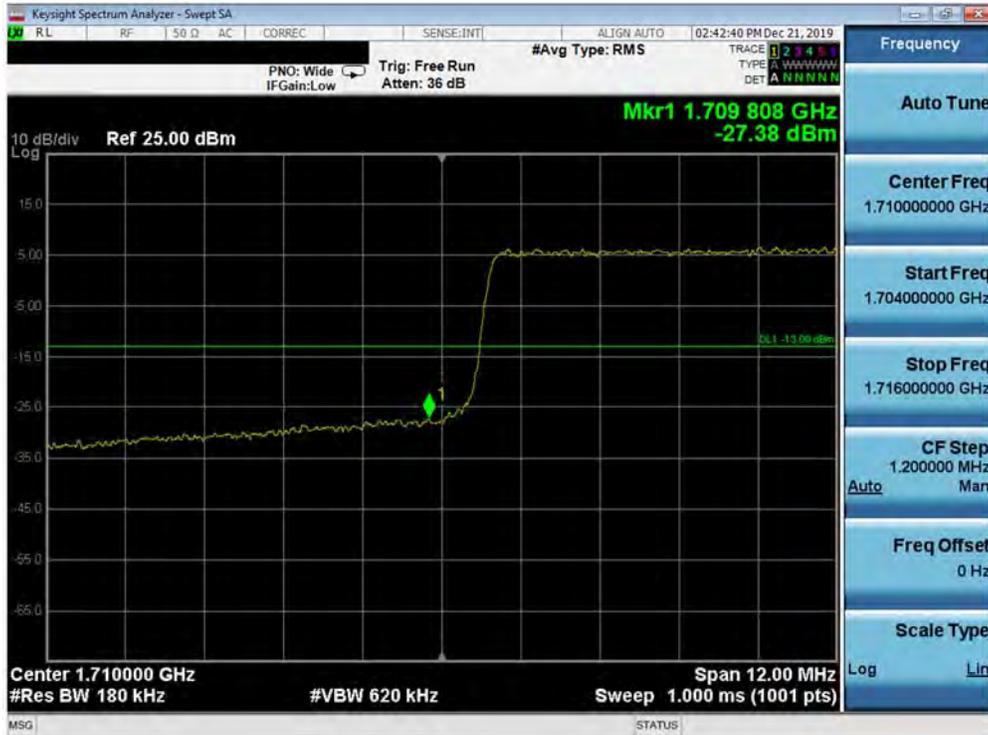


Plot 7-276. Upper Band Edge Plot (Band 66 - 10.0MHz QPSK - Full RB Configuration)

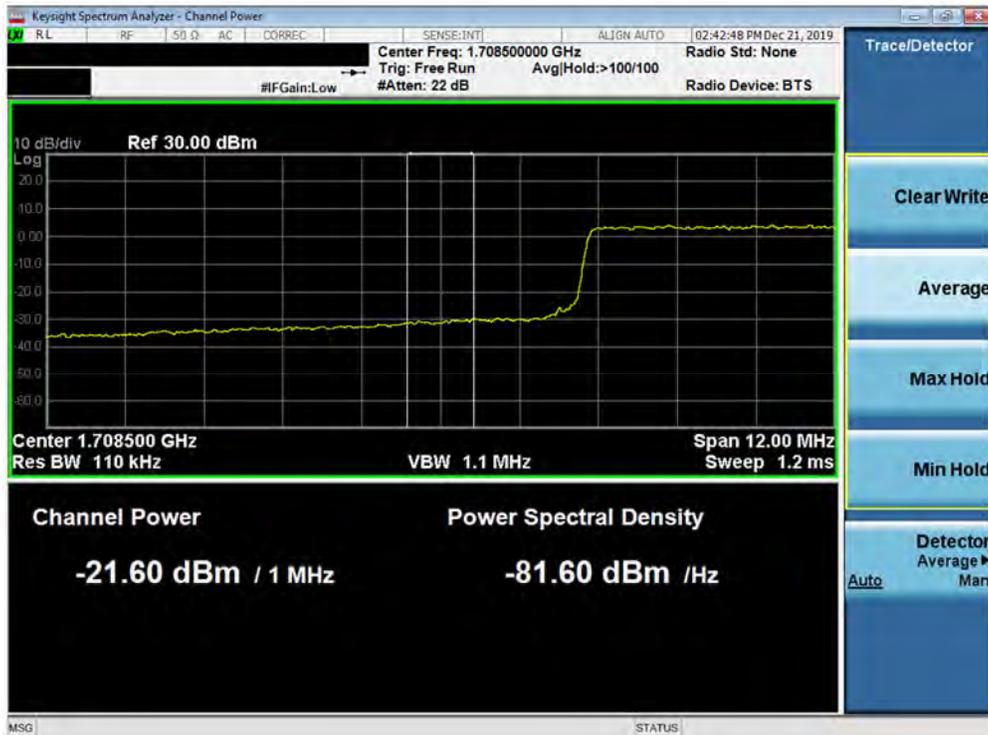


Plot 7-277. Upper Extended Band Edge Plot (Band 66 - 10.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 166 of 329



Plot 7-278. Lower Band Edge Plot (Band 66/4 - 15.0MHz QPSK - Full RB Configuration)

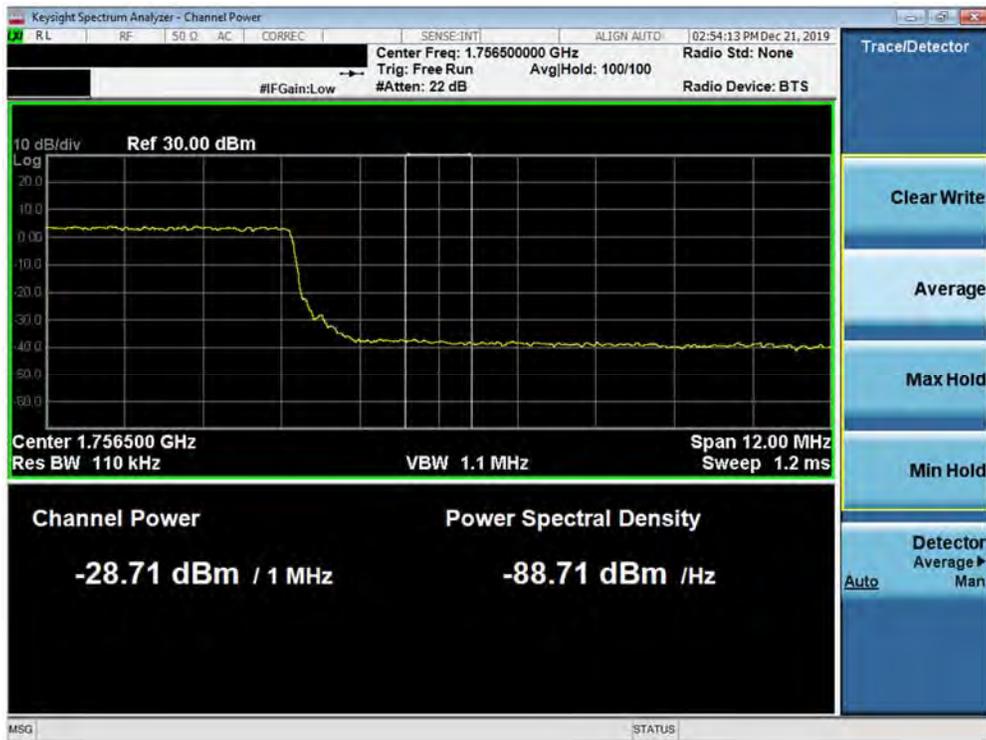


Plot 7-279. Lower Extended Band Edge Plot (Band 66/4 - 15.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 167 of 329



Plot 7-280. Upper Band Edge Plot (Band 4 - 15.0MHz QPSK - Full RB Configuration)

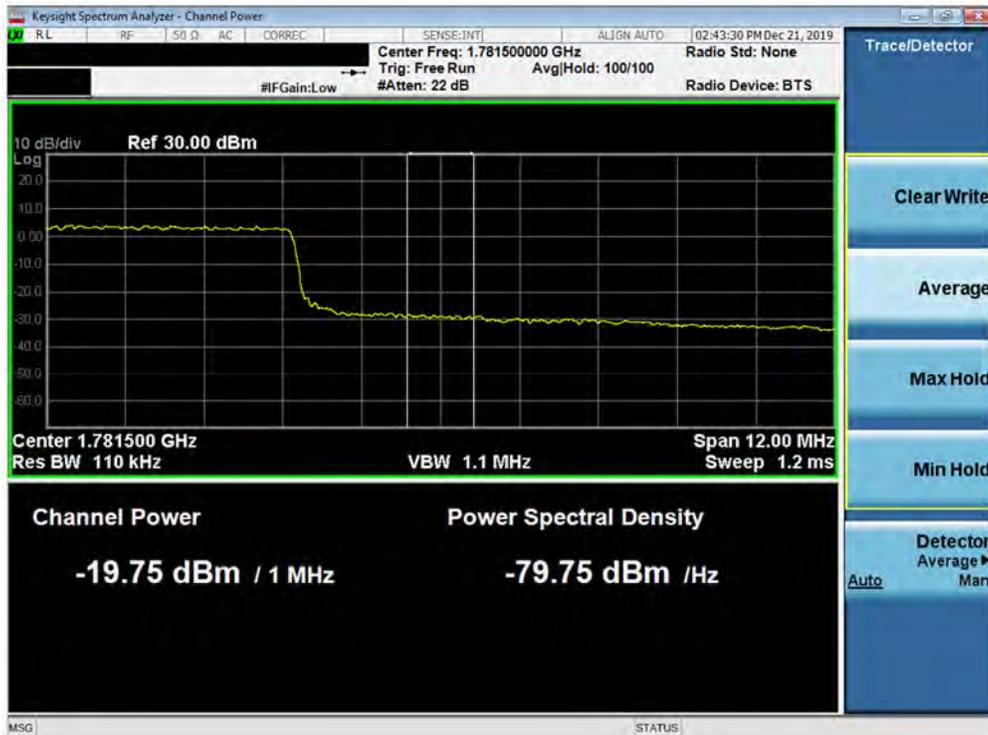


Plot 7-281. Upper Extended Band Edge Plot (Band 4 - 15.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 168 of 329

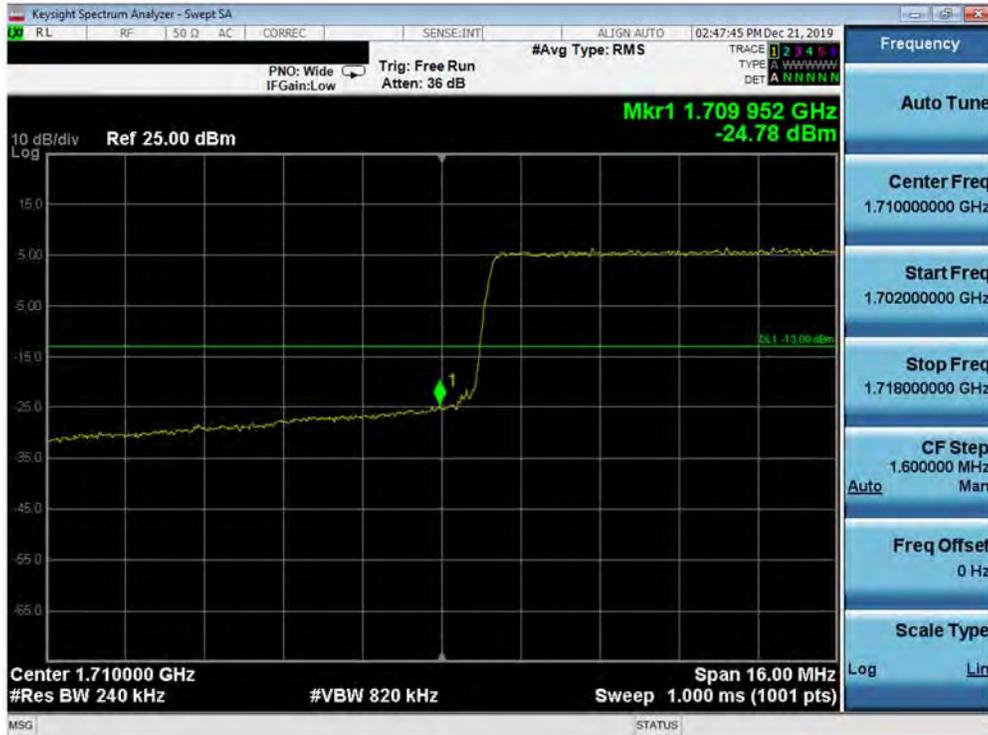


Plot 7-282. Upper Band Edge Plot (Band 66 - 15.0MHz QPSK - Full RB Configuration)

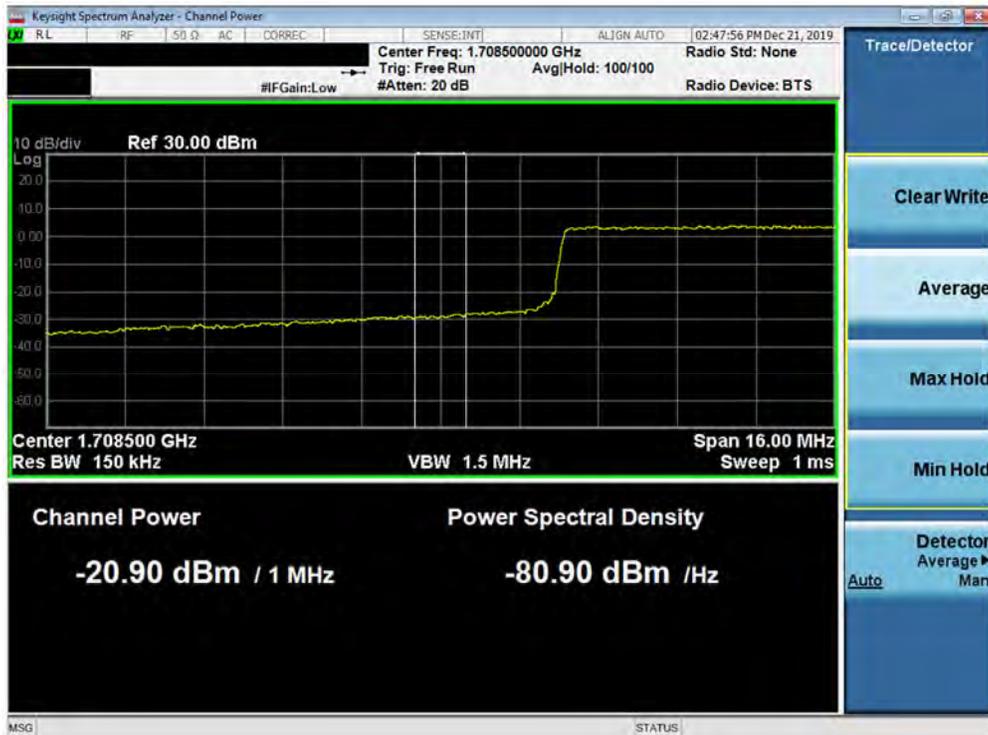


Plot 7-283. Upper Extended Band Edge Plot (Band 66 - 15.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 169 of 329



Plot 7-284. Lower Band Edge Plot (Band 66/4 - 20.0MHz QPSK - Full RB Configuration)

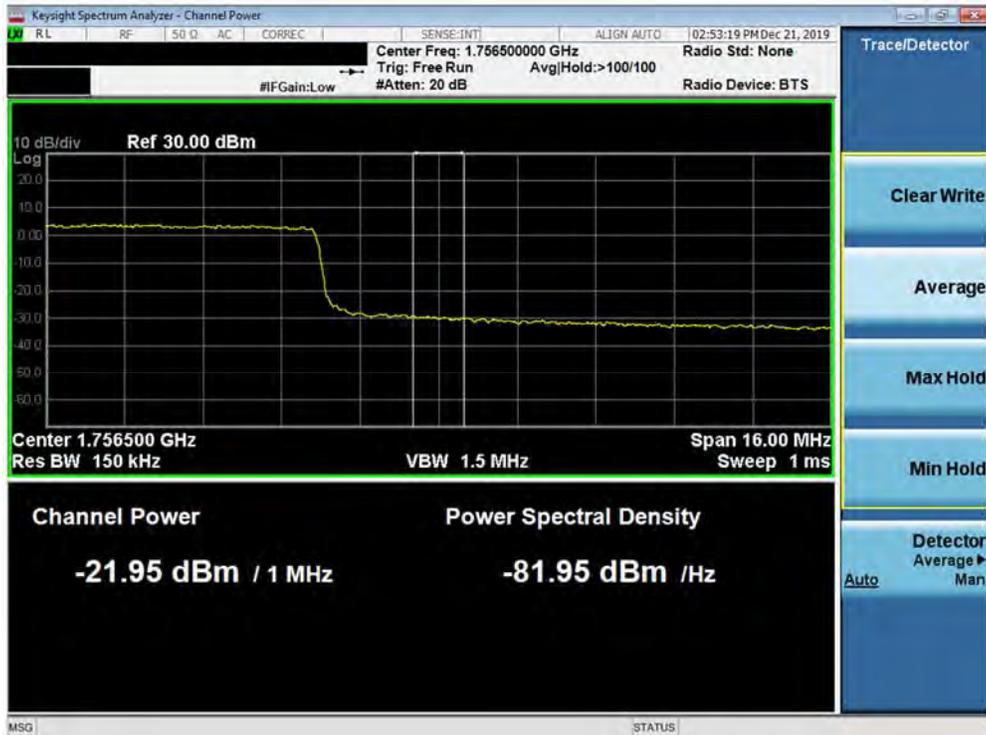


Plot 7-285. Lower Extended Band Edge Plot (Band 66/4 - 20.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-11/17/2019	EUT Type: Portable Handset		Page 170 of 329

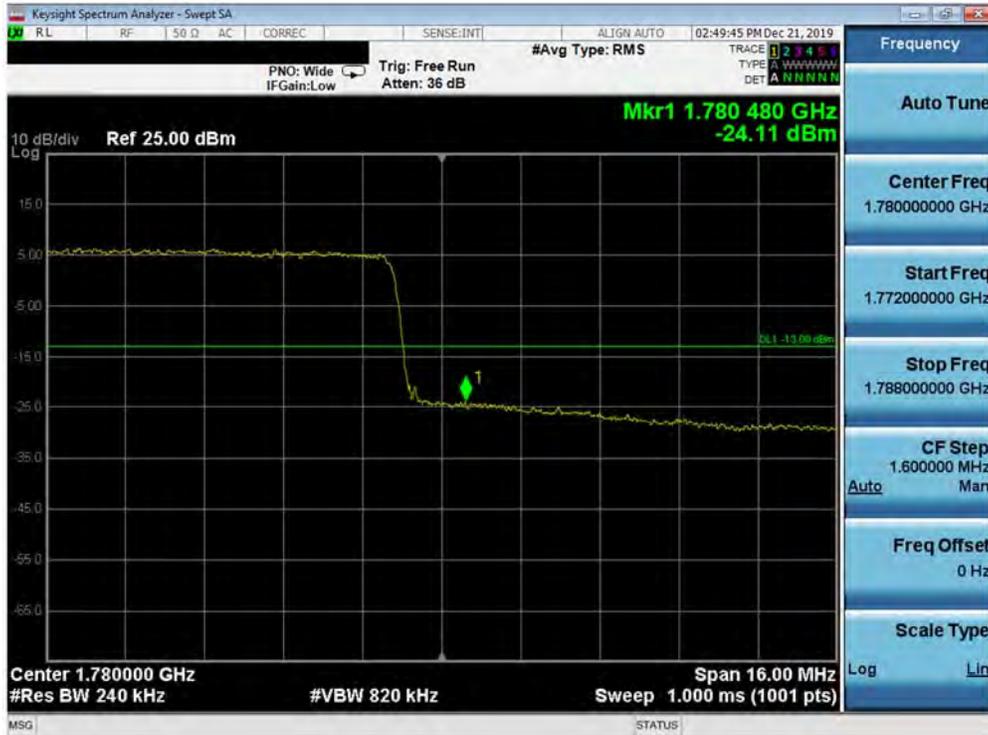


Plot 7-286. Upper Band Edge Plot (Band 4 - 20.0MHz QPSK - Full RB Configuration)

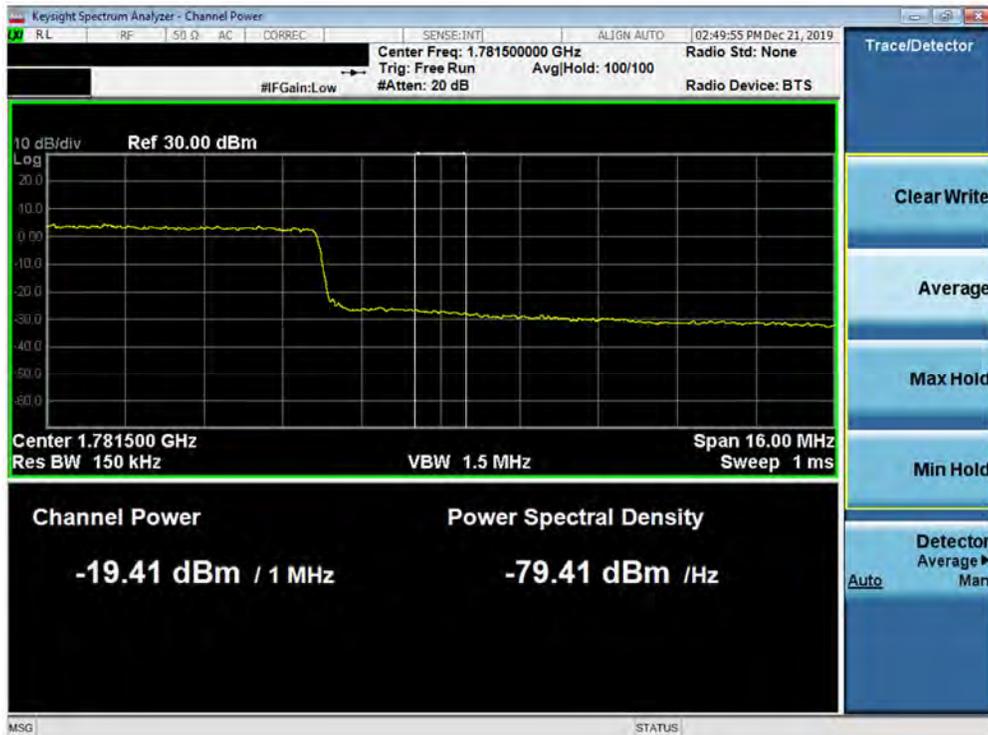


Plot 7-287. Upper Extended Band Edge Plot (Band 4 - 20.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 171 of 329



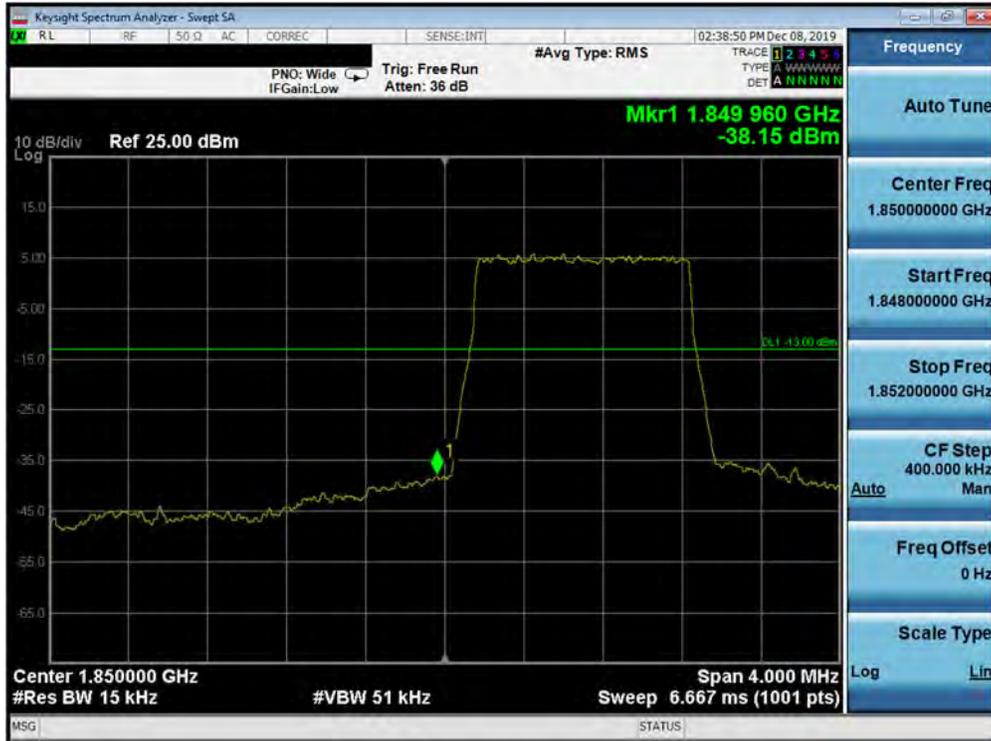
Plot 7-288. Upper Band Edge Plot (Band 66 - 20.0MHz QPSK - Full RB Configuration)



Plot 7-289. Upper Extended Band Edge Plot (Band 66 - 20.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 172 of 329

Band 2

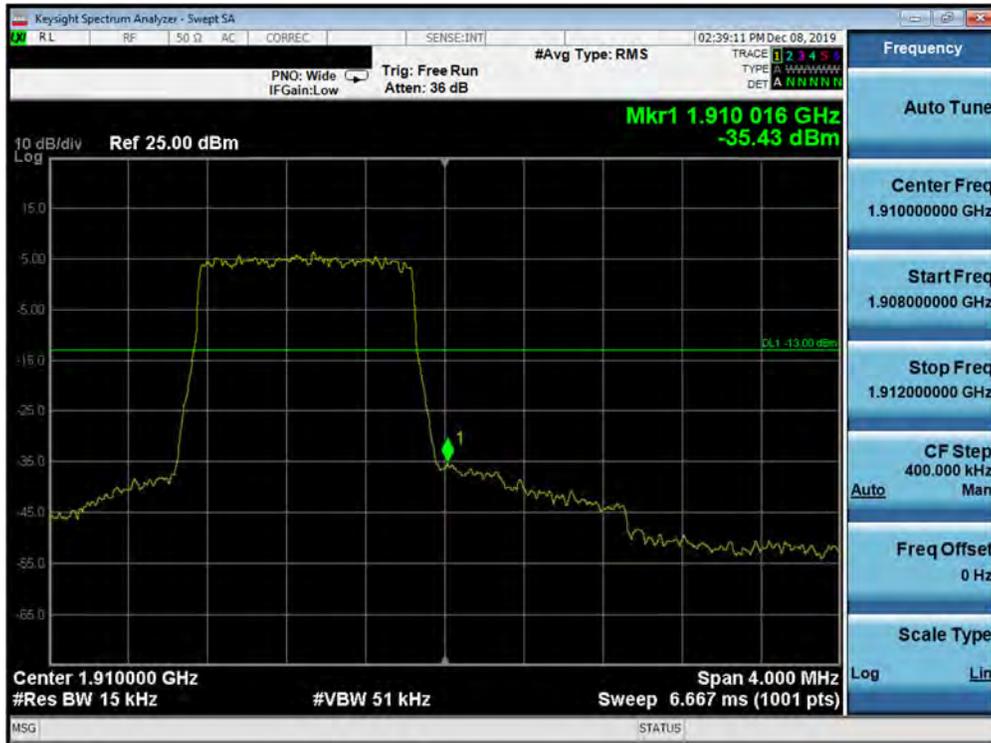


Plot 7-290. Lower Band Edge Plot (Band 2 - 1.4MHz QPSK - Full RB Configuration)

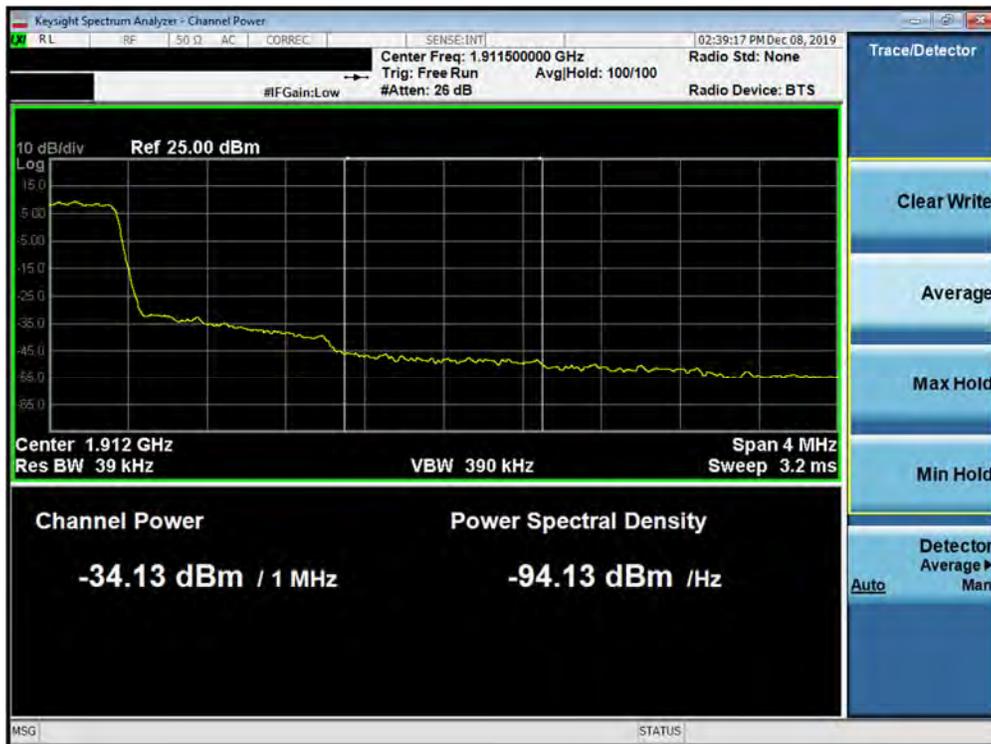


Plot 7-291. Lower Extended Band Edge Plot (Band 2 - 1.4MHz QPSK - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 173 of 329

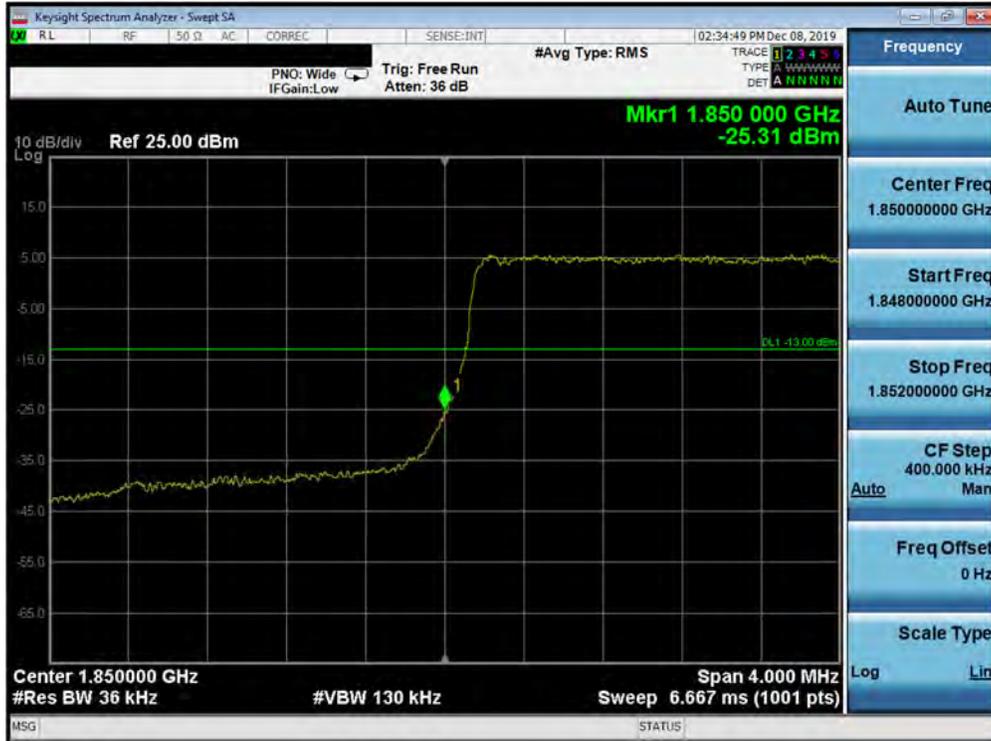


Plot 7-292. Upper Band Edge Plot (Band 2 - 1.4MHz QPSK - Full RB Configuration)



Plot 7-293. Upper Extended Band Edge Plot (Band 2 - 1.4MHz QPSK - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 174 of 329

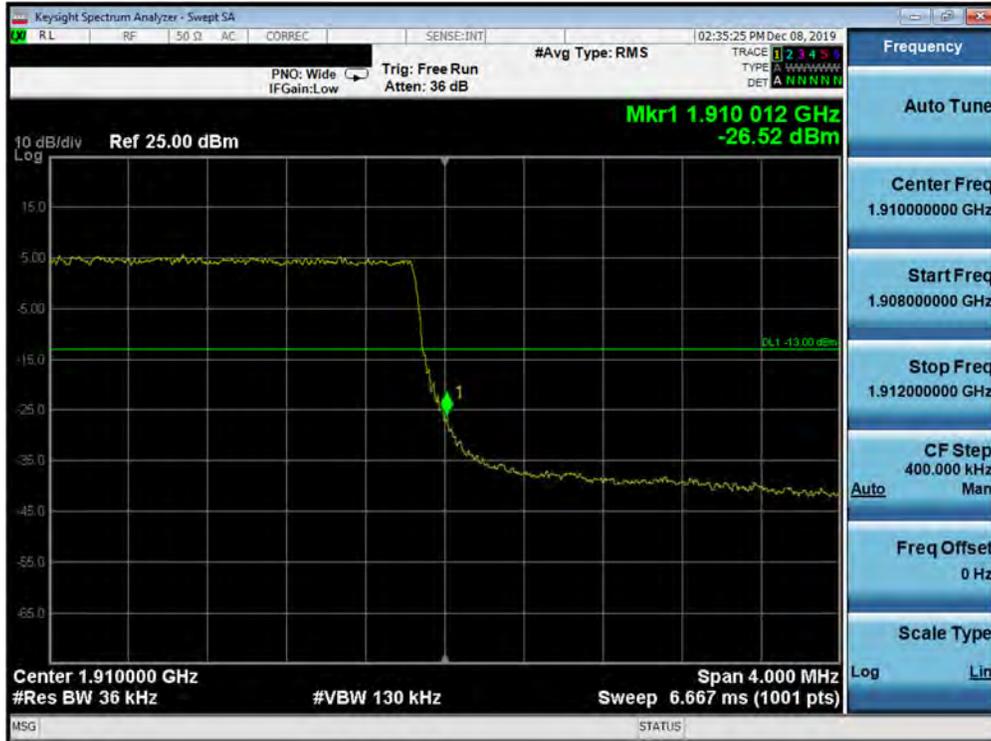


Plot 7-294. Lower Band Edge Plot (Band 2 - 3.0MHz QPSK - Full RB Configuration)

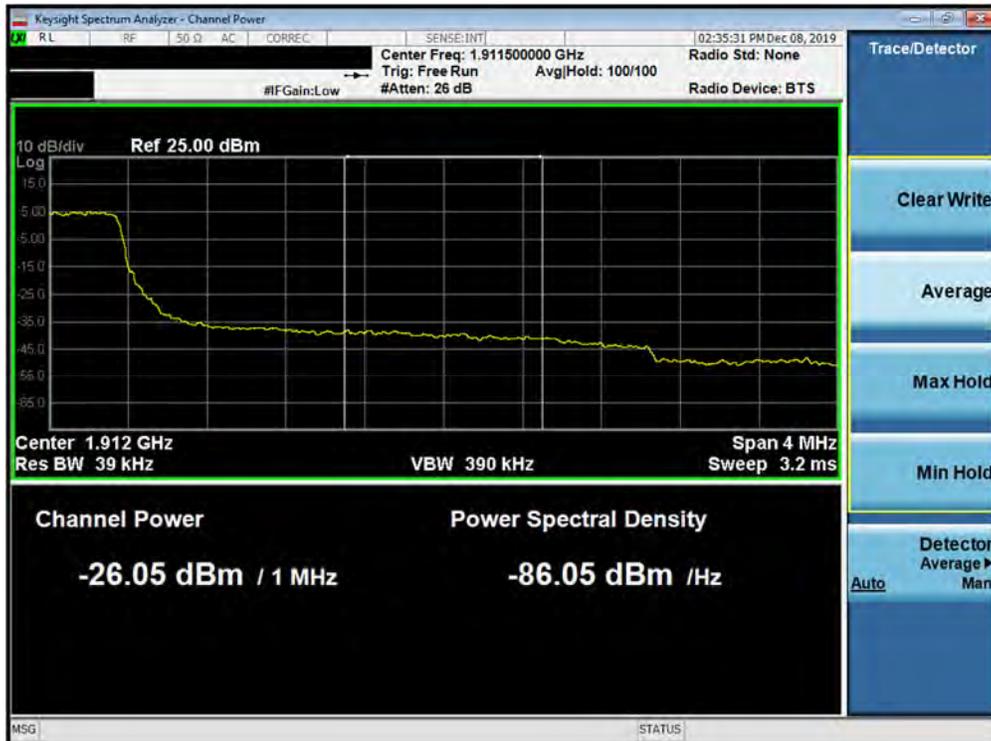


Plot 7-295. Lower Extended Band Edge Plot (Band 2 - 3.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 175 of 329

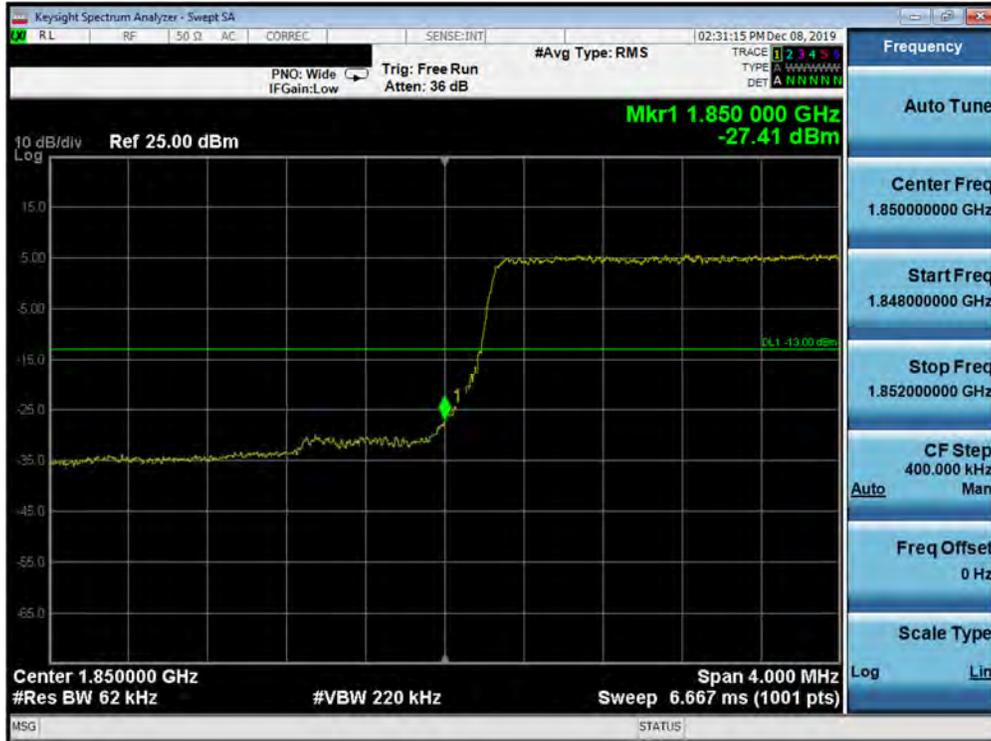


Plot 7-296. Upper Band Edge Plot (Band 2 - 3.0MHz QPSK - Full RB Configuration)

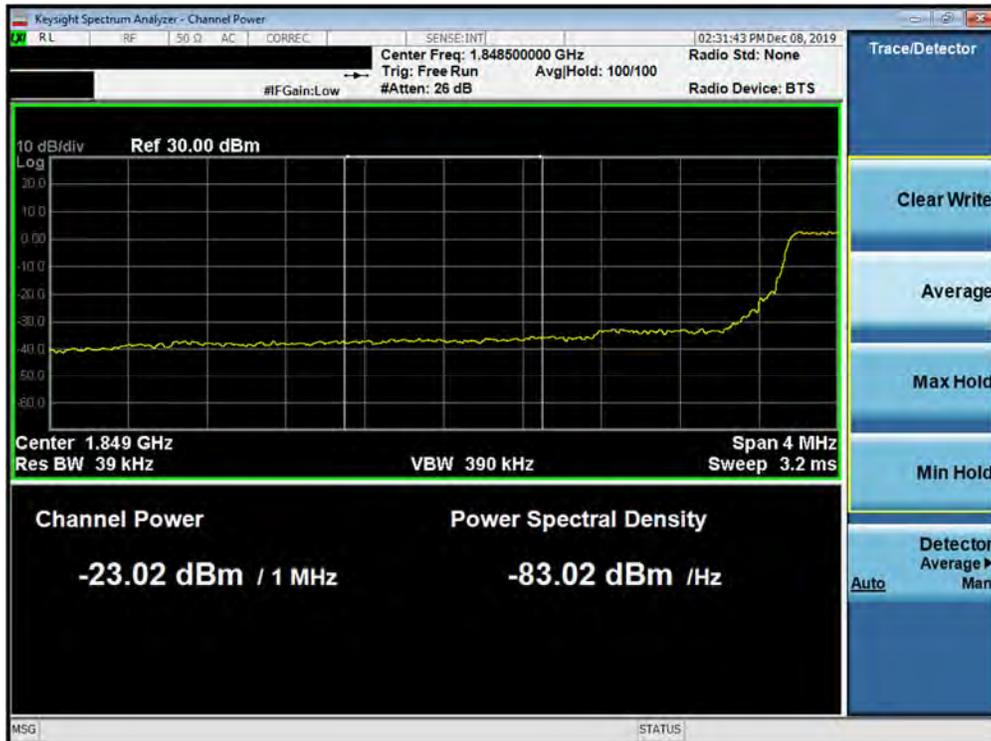


Plot 7-297. Upper Extended Band Edge Plot (Band 2 - 3.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 176 of 329

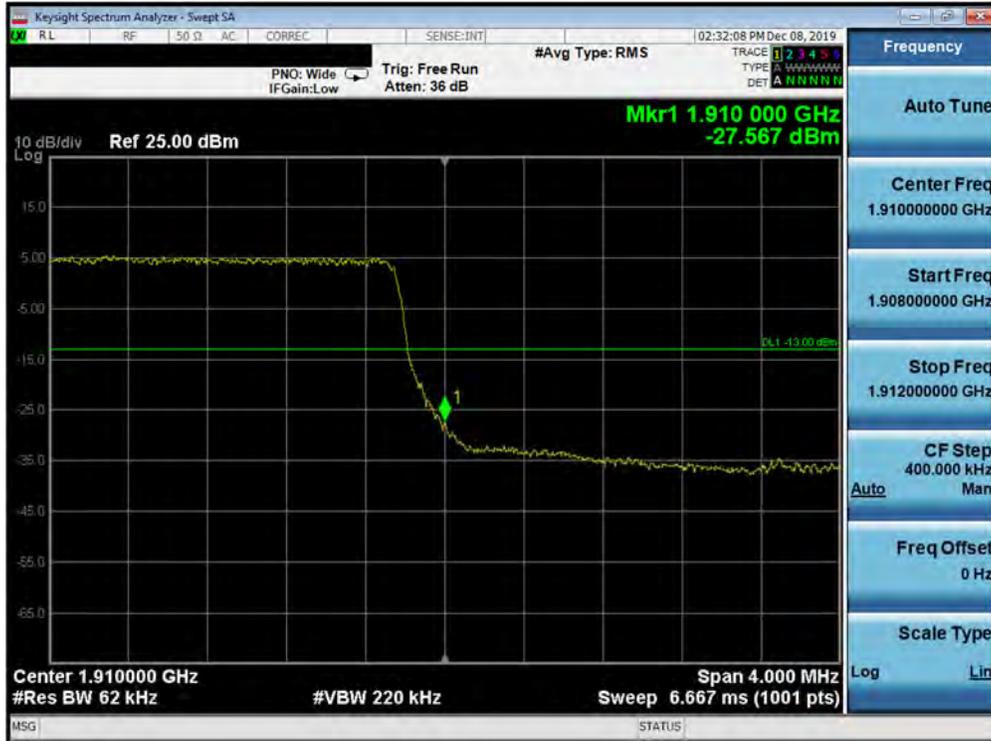


Plot 7-298. Lower Band Edge Plot (Band 2 - 5.0MHz QPSK - Full RB Configuration)

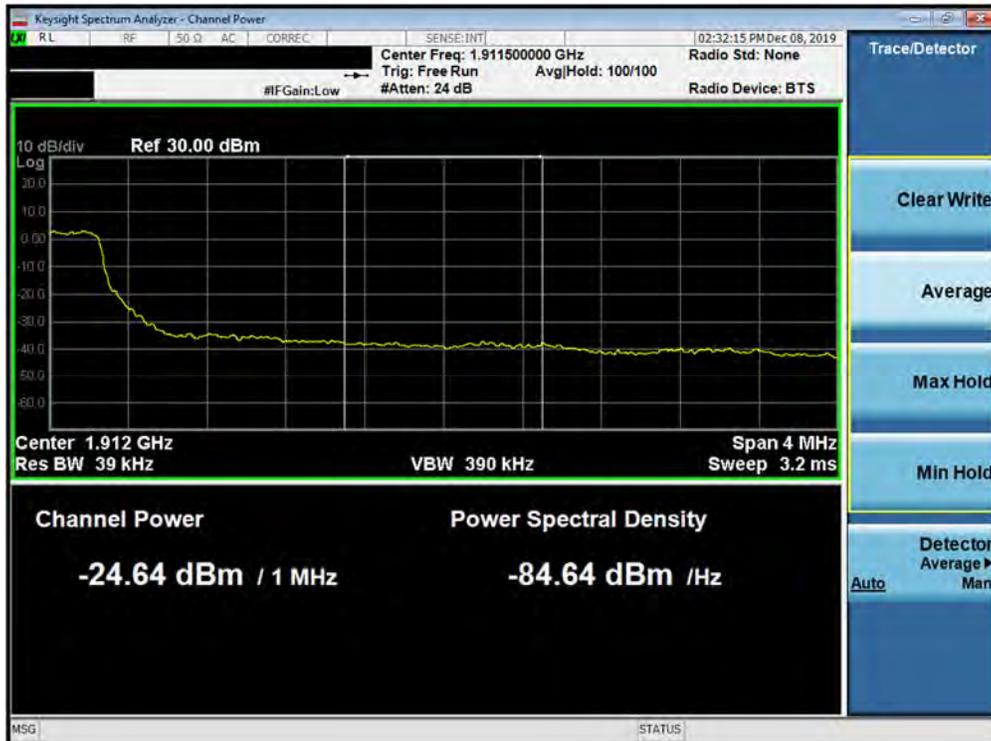


Plot 7-299. Lower Extended Band Edge Plot (Band 2 - 5.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-11/17/2019	EUT Type: Portable Handset		Page 177 of 329

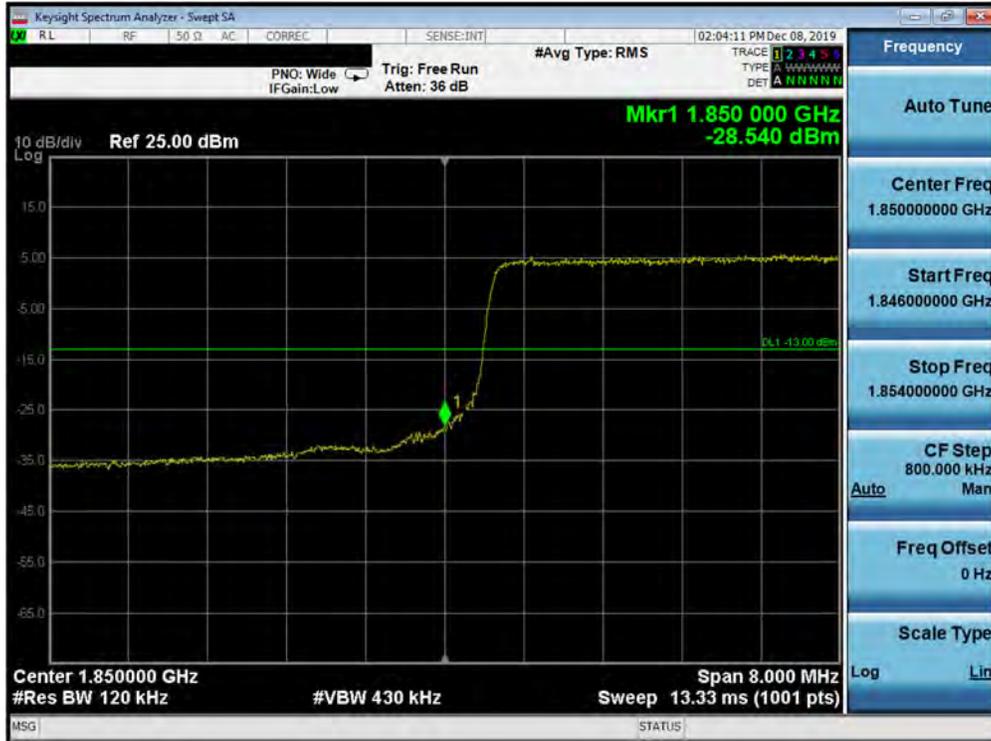


Plot 7-300. Upper Band Edge Plot (Band 2 - 5.0MHz QPSK - Full RB Configuration)

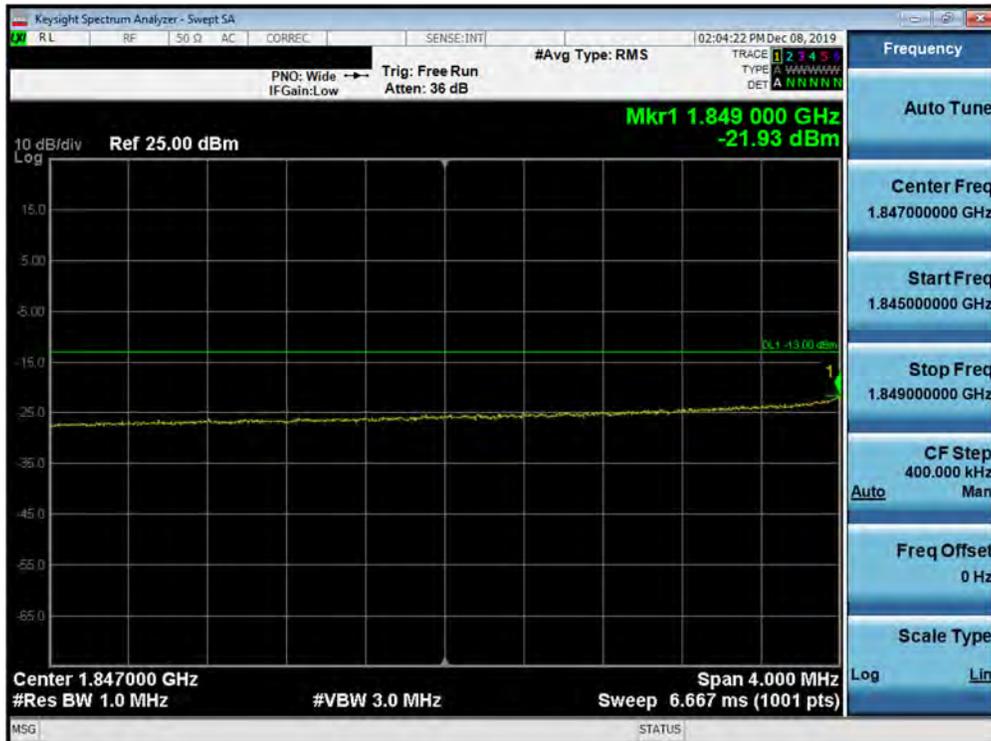


Plot 7-301. Upper Extended Band Edge Plot (Band 2 - 5.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-11/17/2019	EUT Type: Portable Handset		Page 178 of 329

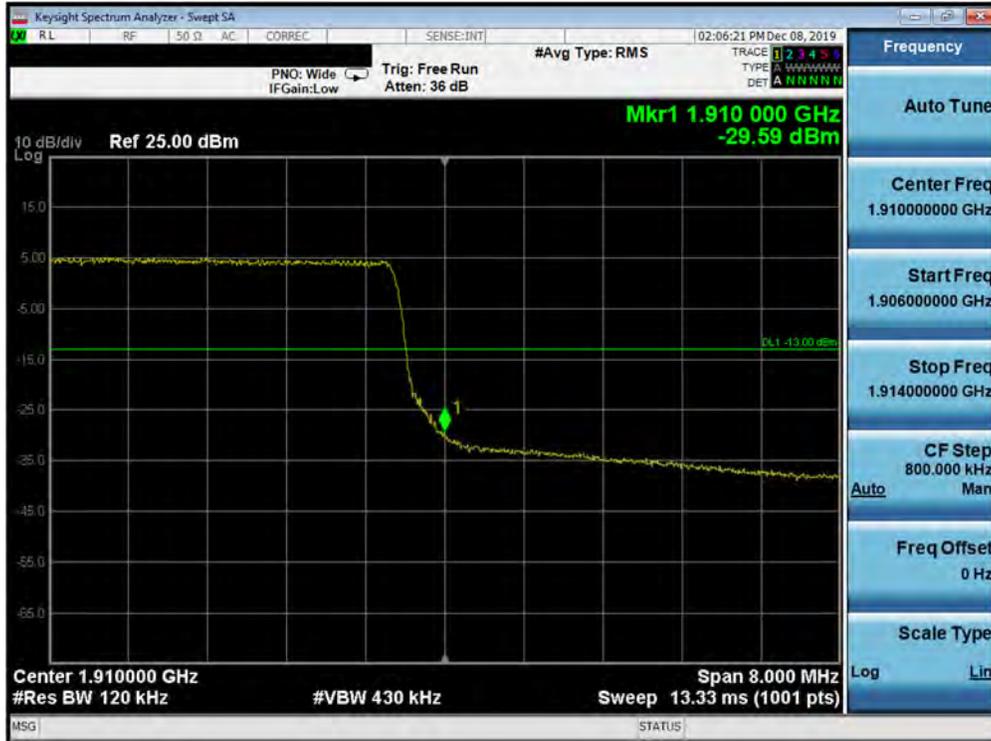


Plot 7-302. Lower Band Edge Plot (Band 2 - 10.0MHz QPSK - Full RB Configuration)



Plot 7-303. Lower Extended Band Edge Plot (Band 2 - 10.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 179 of 329

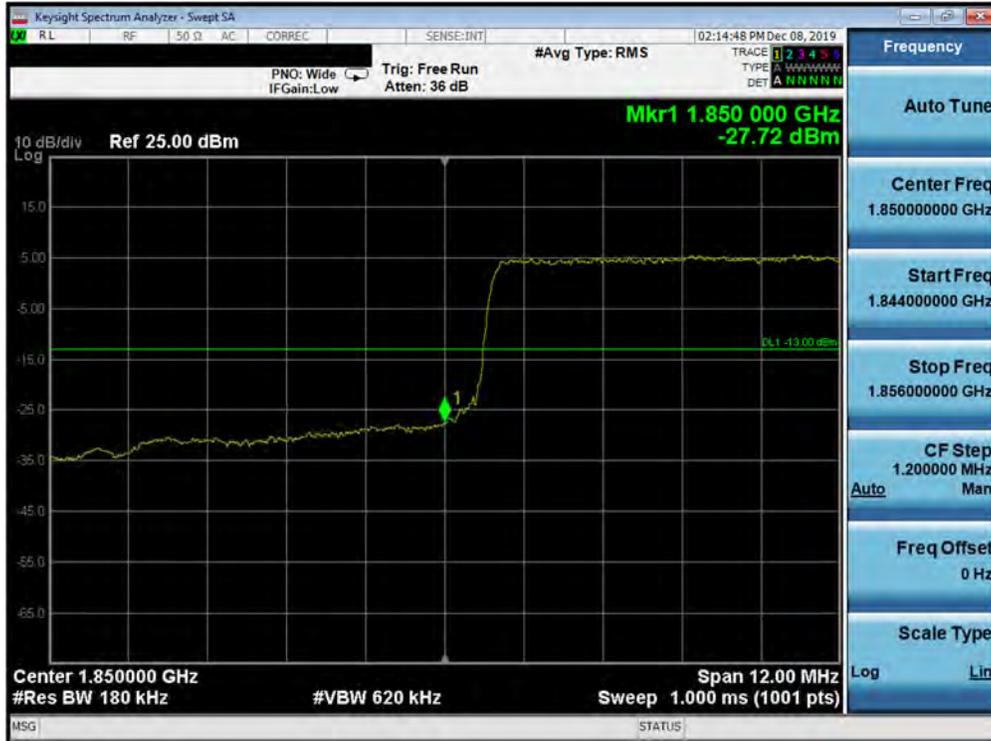


Plot 7-304. Upper Band Edge Plot (Band 2 - 10.0MHz QPSK - Full RB Configuration)

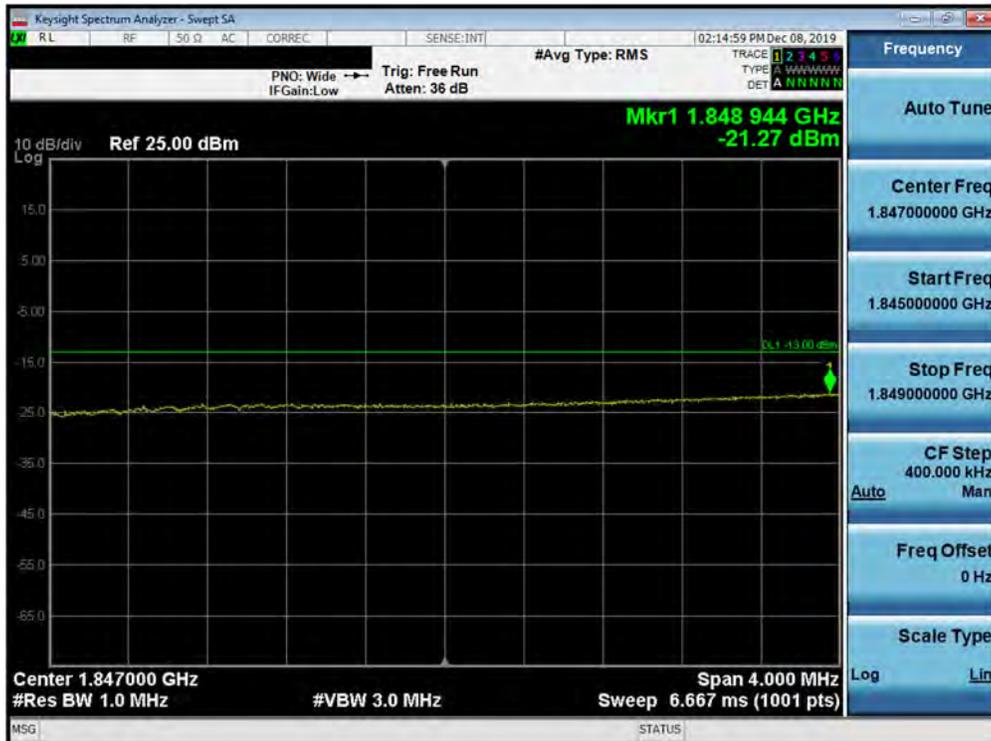


Plot 7-305. Upper Extended Band Edge Plot (Band 2 - 10.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 180 of 329

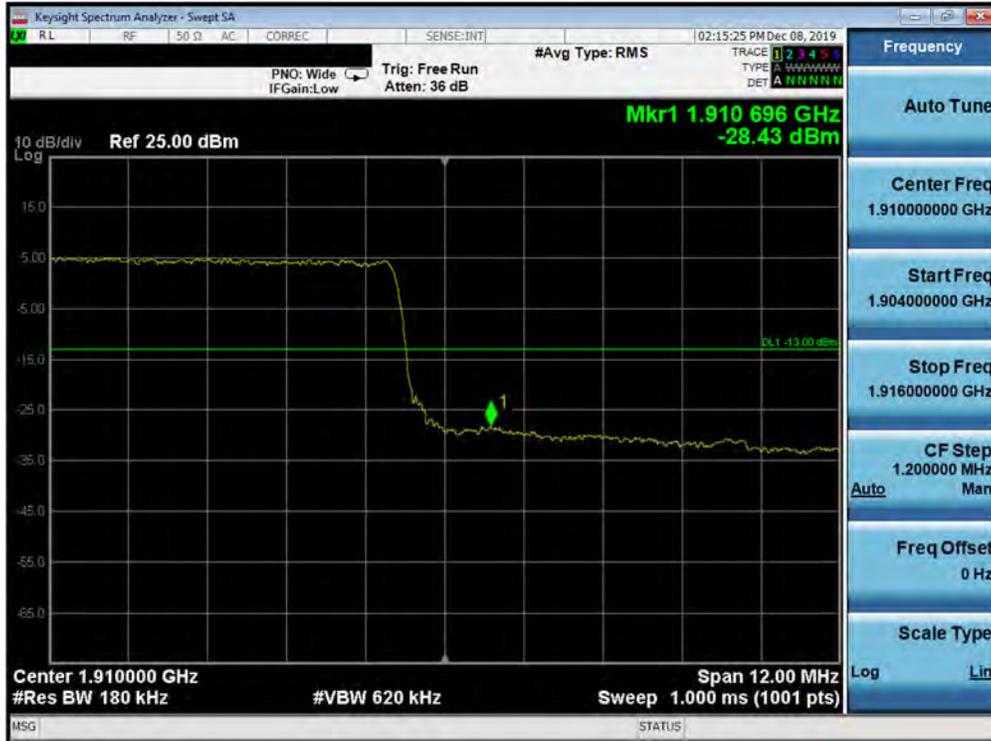


Plot 7-306. Lower Band Edge Plot (Band 2 - 15.0MHz QPSK - Full RB Configuration)

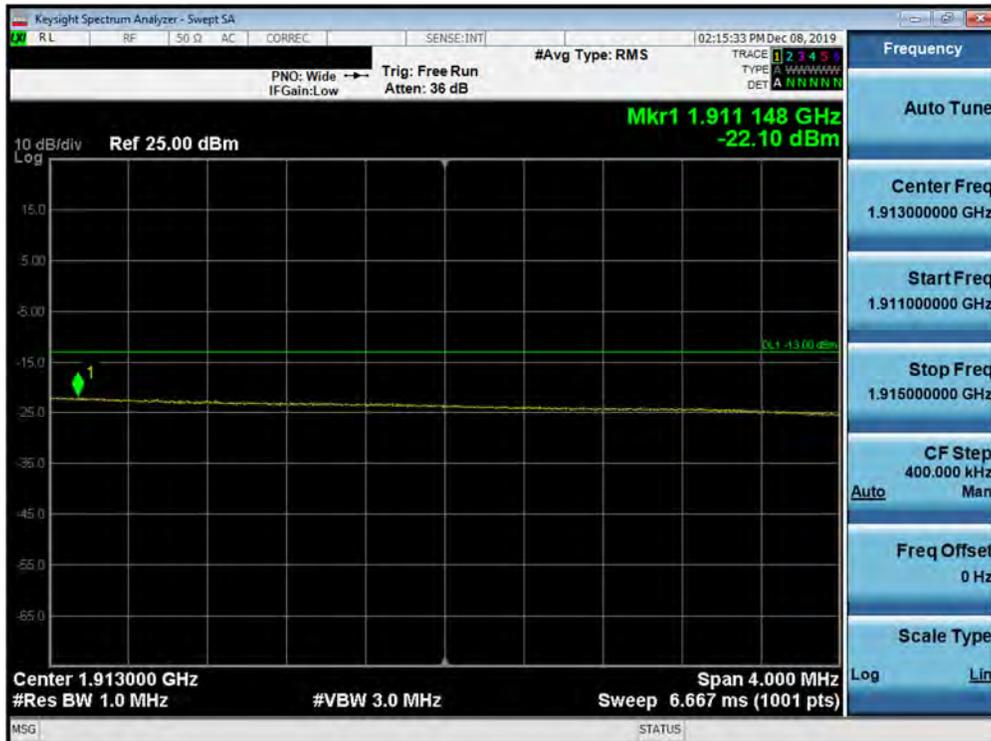


Plot 7-307. Lower Extended Band Edge Plot (Band 2 - 15.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 181 of 329



Plot 7-308. Upper Band Edge Plot (Band 2 - 15.0MHz QPSK - Full RB Configuration)

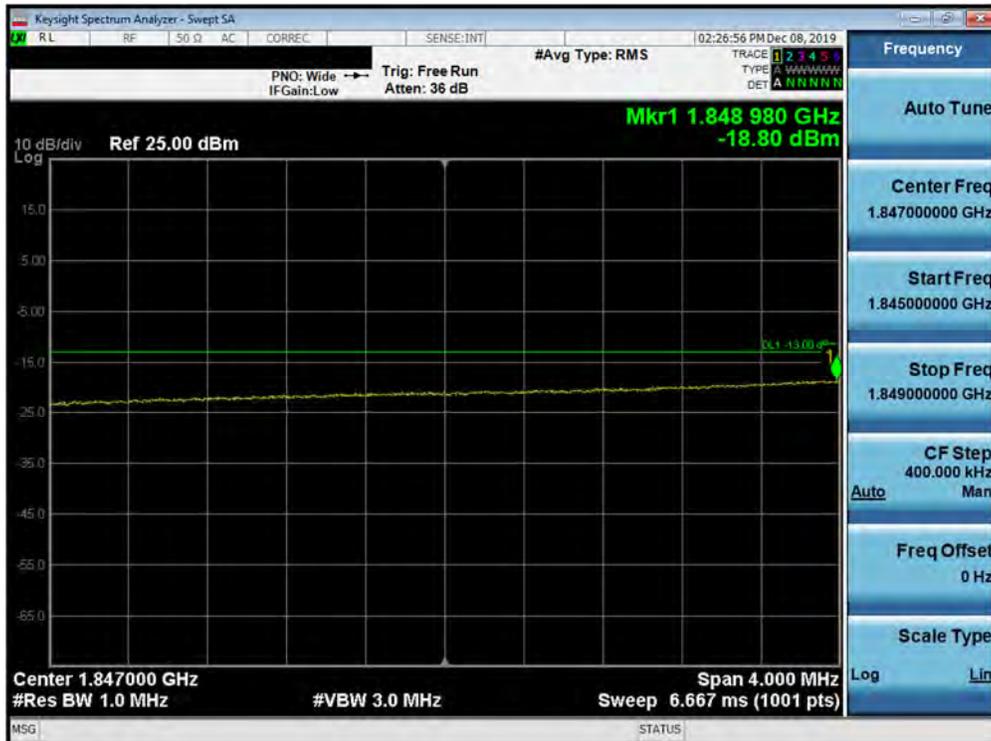


Plot 7-309. Upper Extended Band Edge Plot (Band 2 - 15.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 182 of 329



Plot 7-310. Lower Band Edge Plot (Band 2 - 20.0MHz QPSK - Full RB Configuration)



Plot 7-311. Lower Extended Band Edge Plot (Band 2 - 20.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 183 of 329



Plot 7-312. Upper Band Edge Plot (Band 2 - 20.0MHz QPSK - Full RB Configuration)



Plot 7-313. Upper Extended Band Edge Plot (Band 2 - 20.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 184 of 329

Band 30



Plot 7-314. Lower Band Edge Plot (Band 30 - 5.0MHz QPSK - Full RB Configuration)



Plot 7-315. Lower Extended Band Edge Plot (Band 30 - 5.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 185 of 329



Plot 7-316. Upper Extended Band Edge Plot (Band 30 - 5.0MHz QPSK - Full RB Configuration)

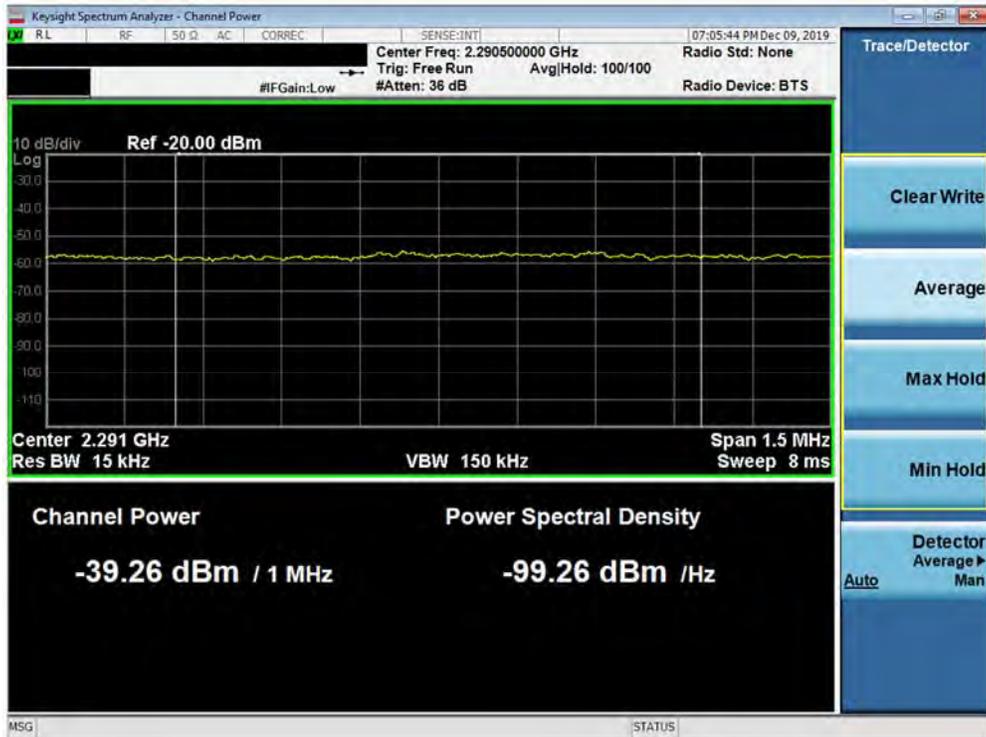


Plot 7-317. Lower Band Edge Plot (Band 30 - 10.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 186 of 329

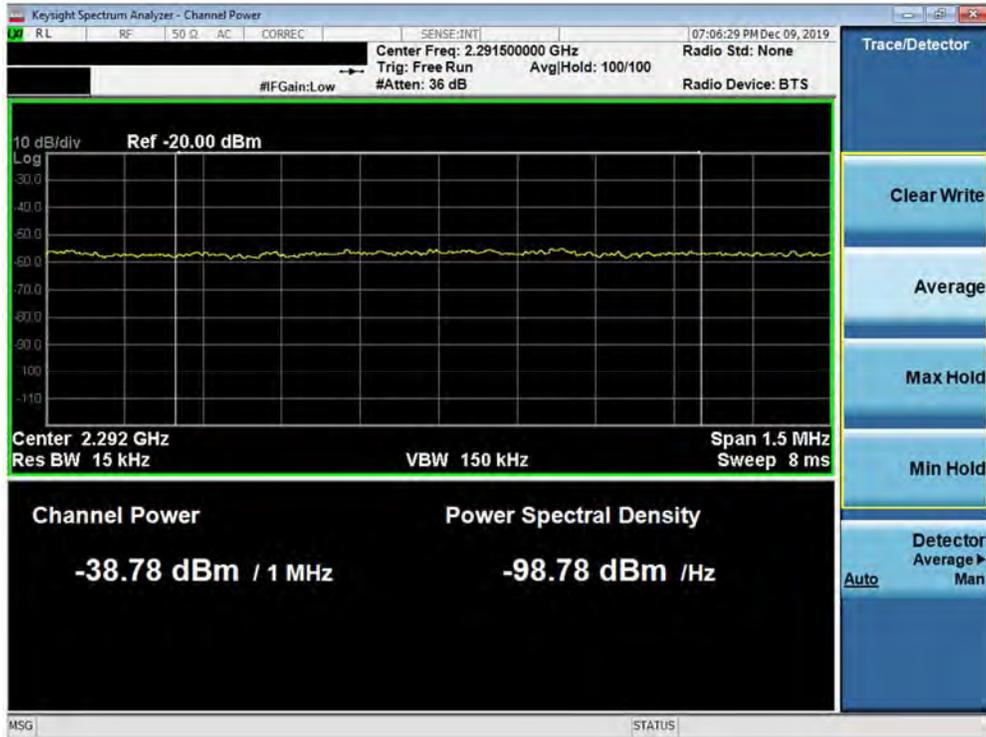


Plot 7-318. Lower Extended Band Edge Plot (Band 30 - 5.0MHz QPSK - Full RB Configuration)



Plot 7-319. Lower Extended Band Edge Plot (Band 30 - 5.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 187 of 329



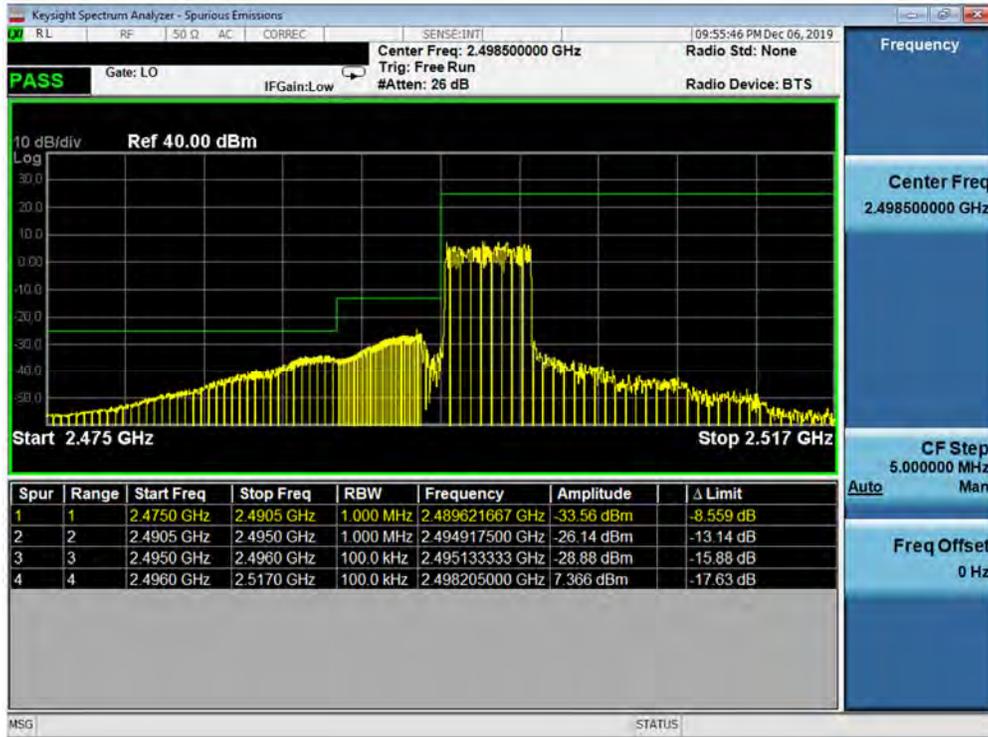
Plot 7-320. Lower Extended Band Edge Plot (Band 30 - 5.0MHz QPSK - Full RB Configuration)



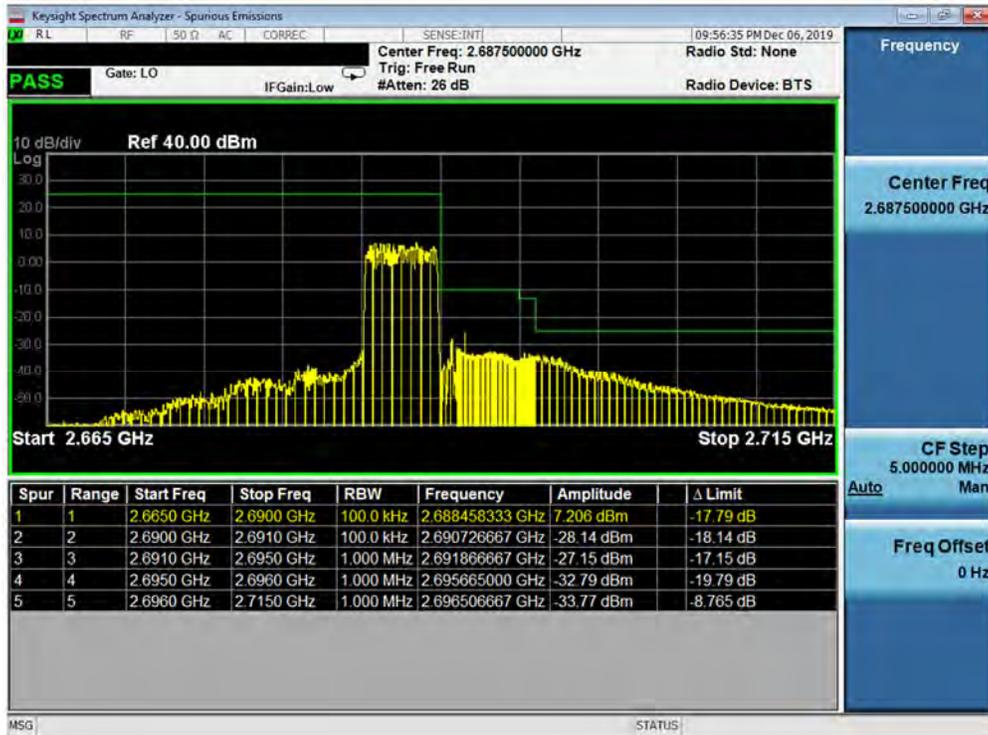
Plot 7-321. Lower Extended Band Edge Plot (Band 30 - 5.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 188 of 329

Band 41



Plot 7-323. Lower ACP Plot at 2496 MHz (Band 41 - 5.0MHz QPSK - Full RB Configuration)



Plot 7-324. Upper ACP Plot (Band 41 - 5.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 190 of 329

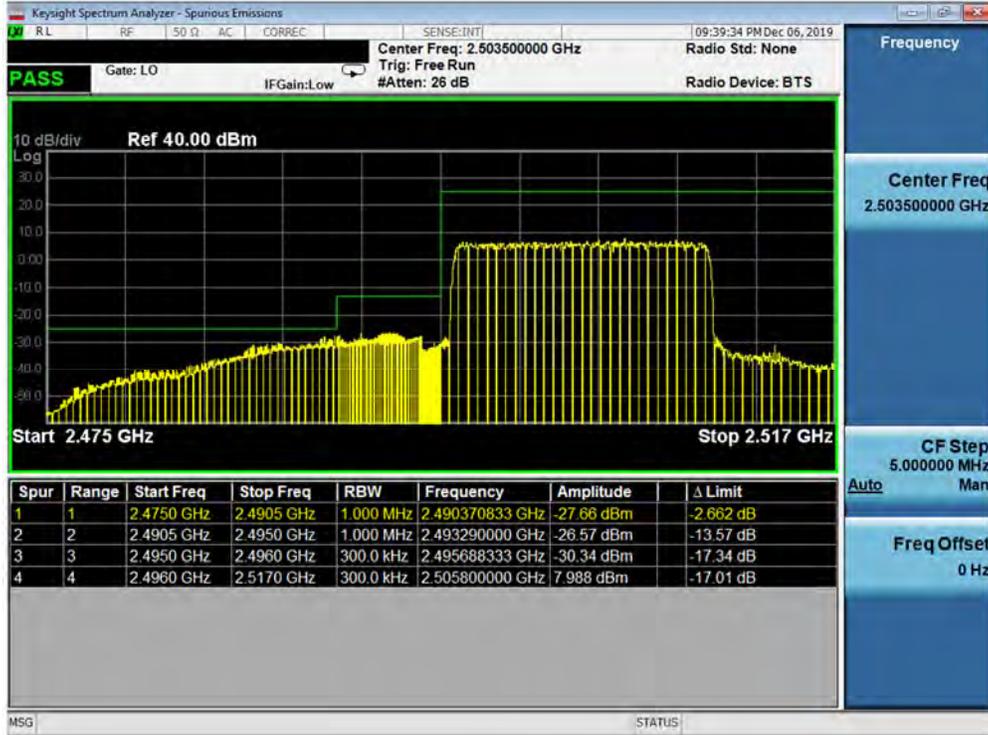


Plot 7-325. Lower ACP Plot at 2496 MHz (Band 41 - 10.0MHz QPSK - Full RB Configuration)



Plot 7-326. Upper ACP Plot (Band 41 - 10.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 191 of 329

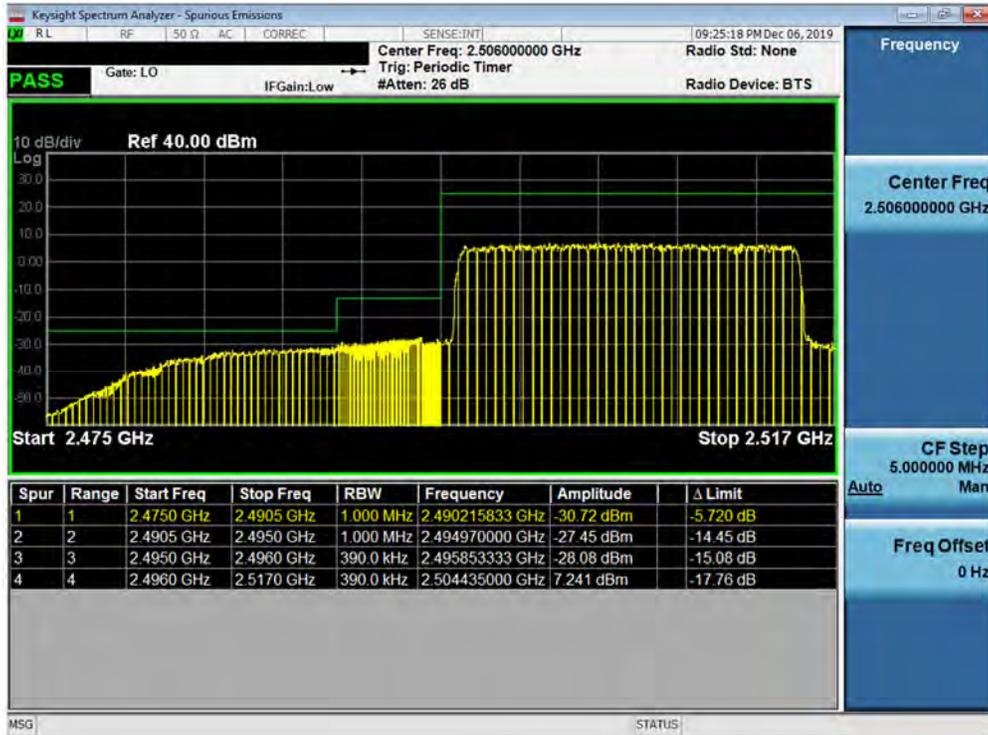


Plot 7-327. Lower ACP Plot at 2496 MHz (Band 41 - 15.0MHz QPSK - Full RB Configuration)

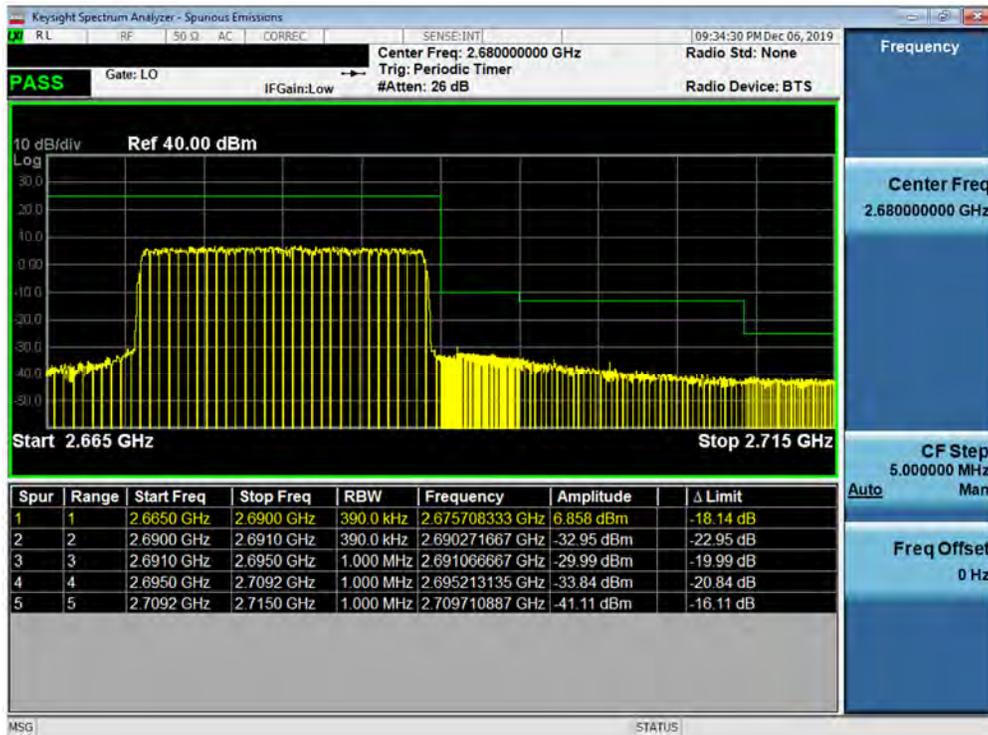


Plot 7-328. Upper ACP Plot (Band 41 - 15.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 192 of 329



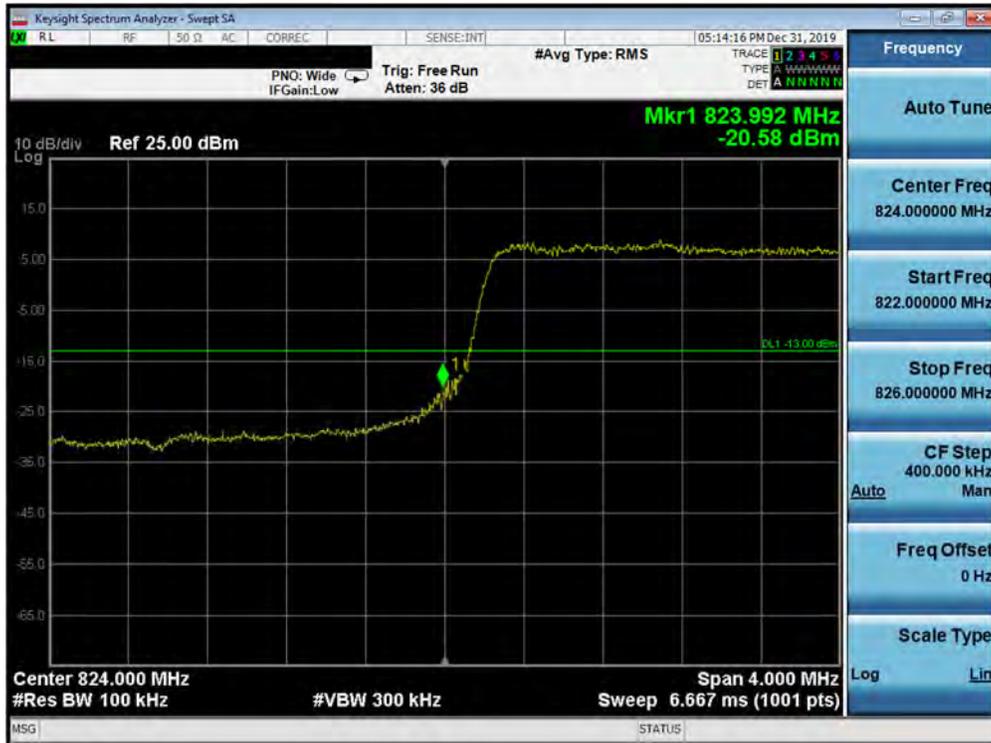
Plot 7-329. Lower ACP Plot at 2496 MHz (Band 41 - 20.0MHz QPSK - Full RB Configuration)



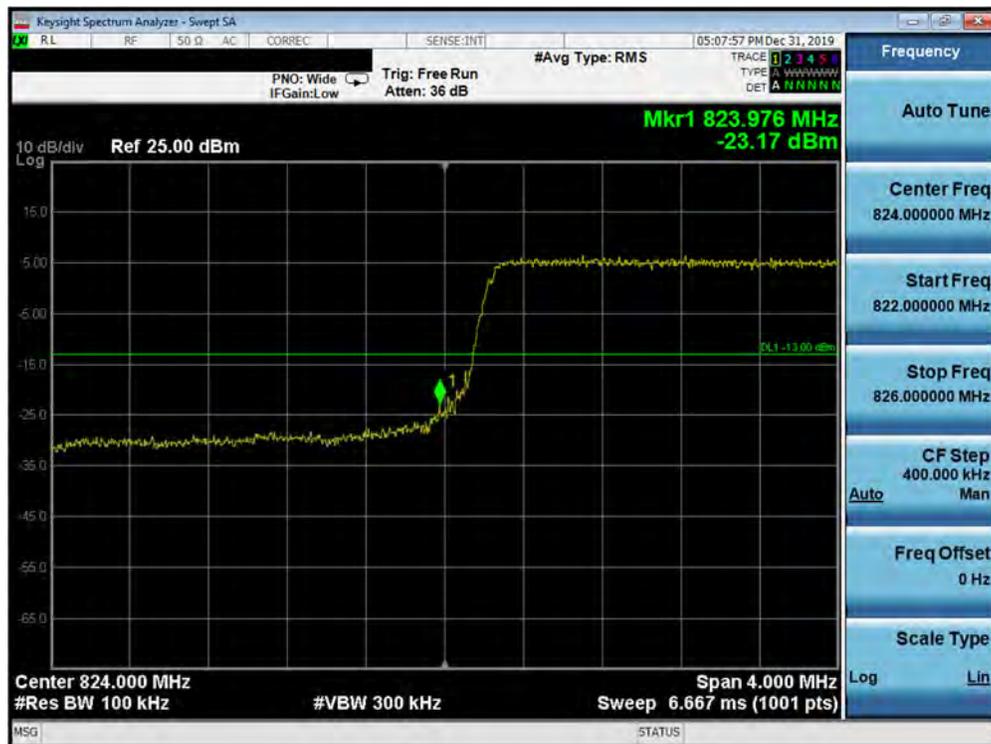
Plot 7-330. Upper ACP Plot (Band 41 - 20.0MHz QPSK - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 193 of 329

5G NR n5



Plot 7-331. Lower Band Edge Plot (5G NR n5 - 5.0MHz QPSK - DFT-s - Full RB Configuration)

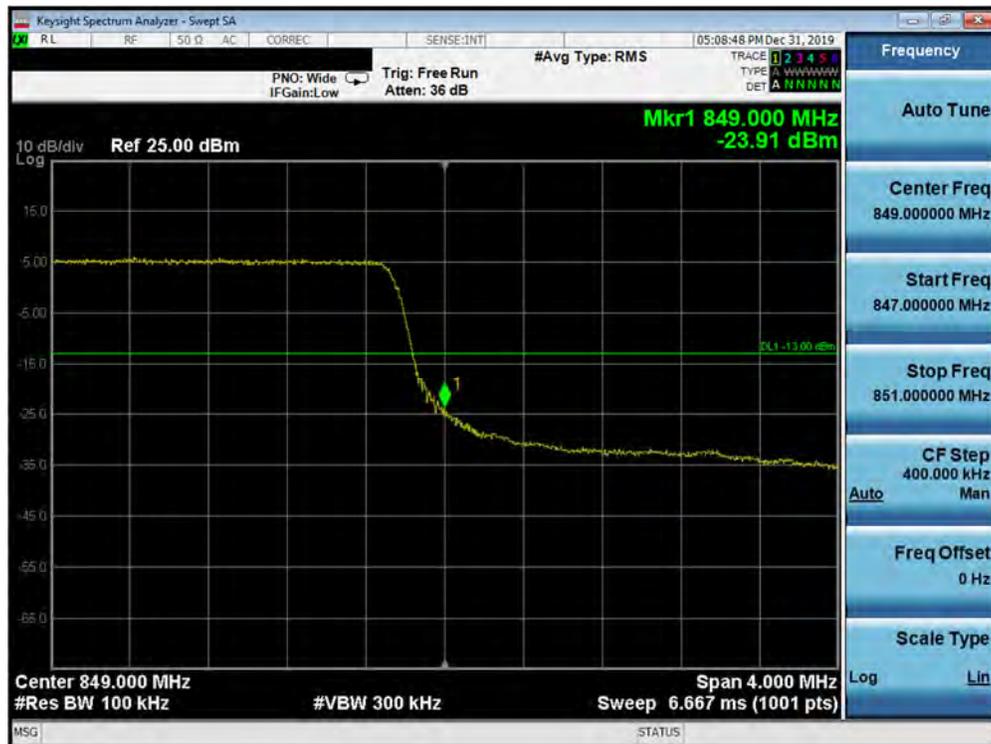


Plot 7-332. Lower Band Edge Plot (5G NR n5 - 5.0MHz QPSK - CP - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 194 of 329



Plot 7-333. Upper Band Edge Plot (5G NR n5 - 5.0MHz QPSK - DFT-s - Full RB Configuration)



Plot 7-334. Upper Band Edge Plot (5G NR n5 - 5.0MHz QPSK - CP - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 195 of 329

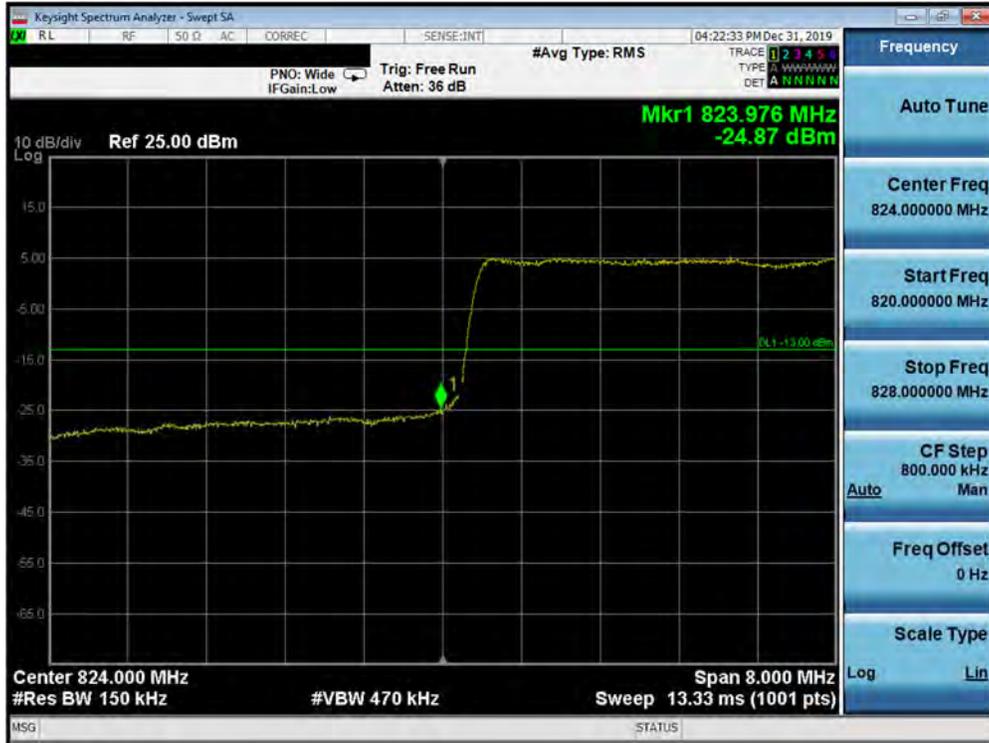


Plot 7-337. Upper Band Edge Plot (5G NR n5 - 10.0MHz QPSK - DFT-s - Full RB Configuration)

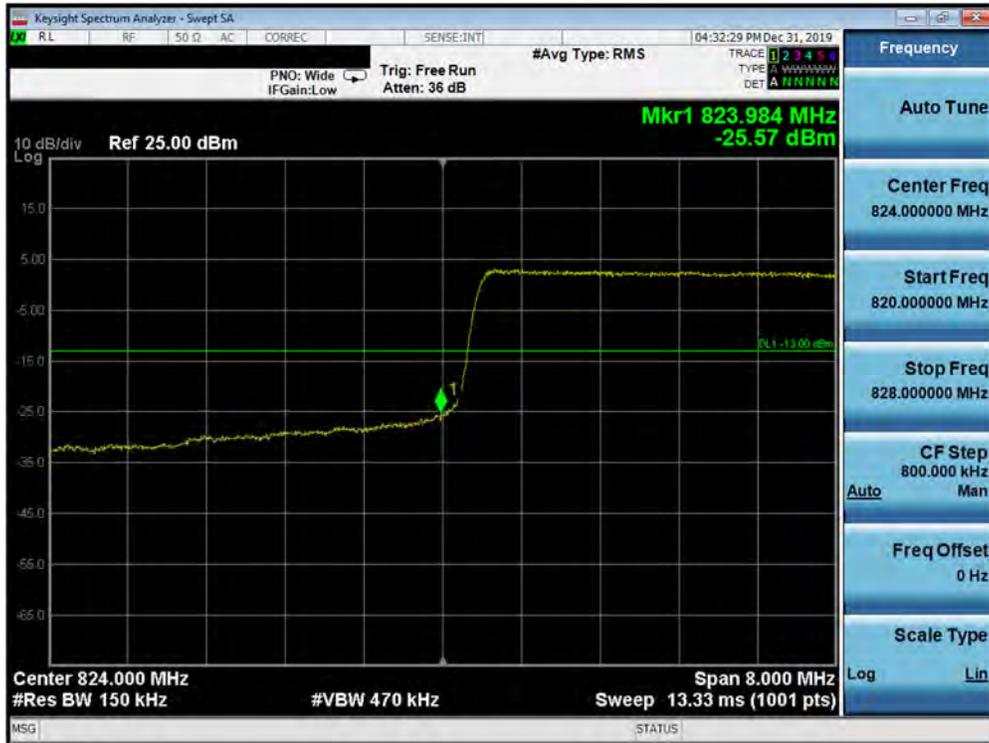


Plot 7-338. Upper Band Edge Plot (5G NR n5 - 10.0MHz QPSK - CP - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 197 of 329



Plot 7-339. Lower Band Edge Plot (5G NR n5 - 15.0MHz QPSK - DFT-s - Full RB Configuration)



Plot 7-340. Lower Band Edge Plot (5G NR n5 - 15.0MHz QPSK - CP - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 198 of 329



Plot 7-341. Upper Band Edge Plot (5G NR n5 - 15.0MHz QPSK - DFT-s - Full RB Configuration)



Plot 7-342. Upper Band Edge Plot (5G NR n5 - 15.0MHz QPSK - CP - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 199 of 329



Plot 7-343. Lower Band Edge Plot (5G NR n5 - 20.0MHz QPSK - DFT-s - Full RB Configuration)



Plot 7-344. Lower Band Edge Plot (5G NR n5 - 20.0MHz QPSK - CP - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-11/17/2019	EUT Type: Portable Handset		Page 200 of 329



Plot 7-345. Upper Band Edge Plot (5G NR n5 - 20.0MHz QPSK - DFT-s - Full RB Configuration)



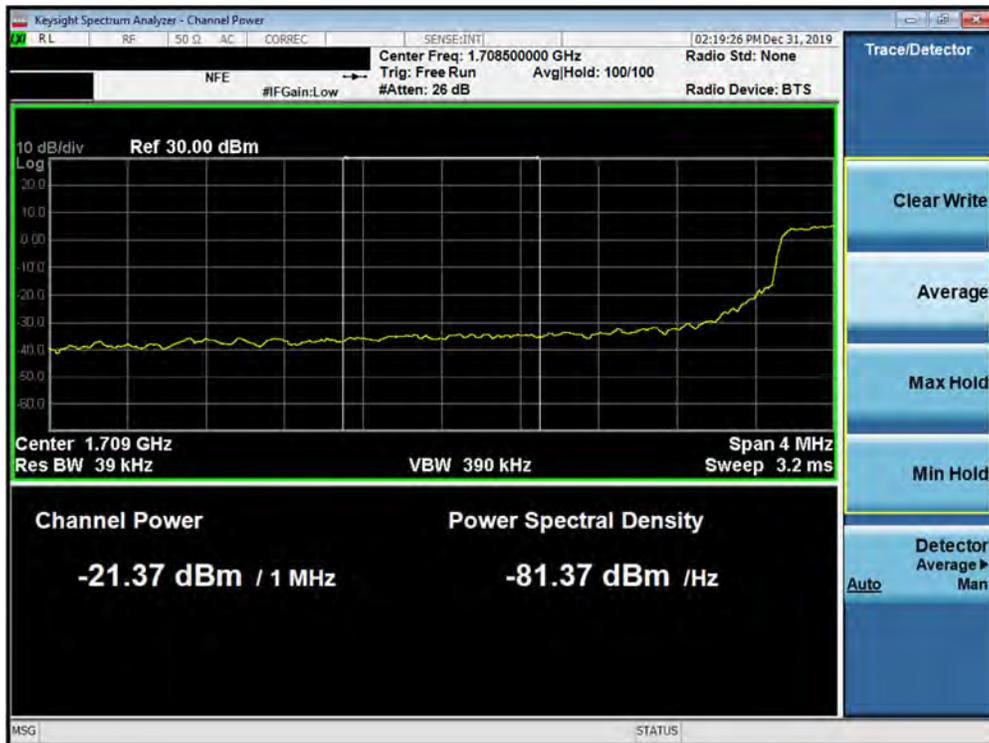
Plot 7-346. Upper Band Edge Plot (5G NR n5 - 20.0MHz QPSK - CP - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 201 of 329

5G NR n66



Plot 7-347. Lower Band Edge Plot (5G NR n66 - 5.0MHz QPSK - DFT-s - Full RB Configuration)

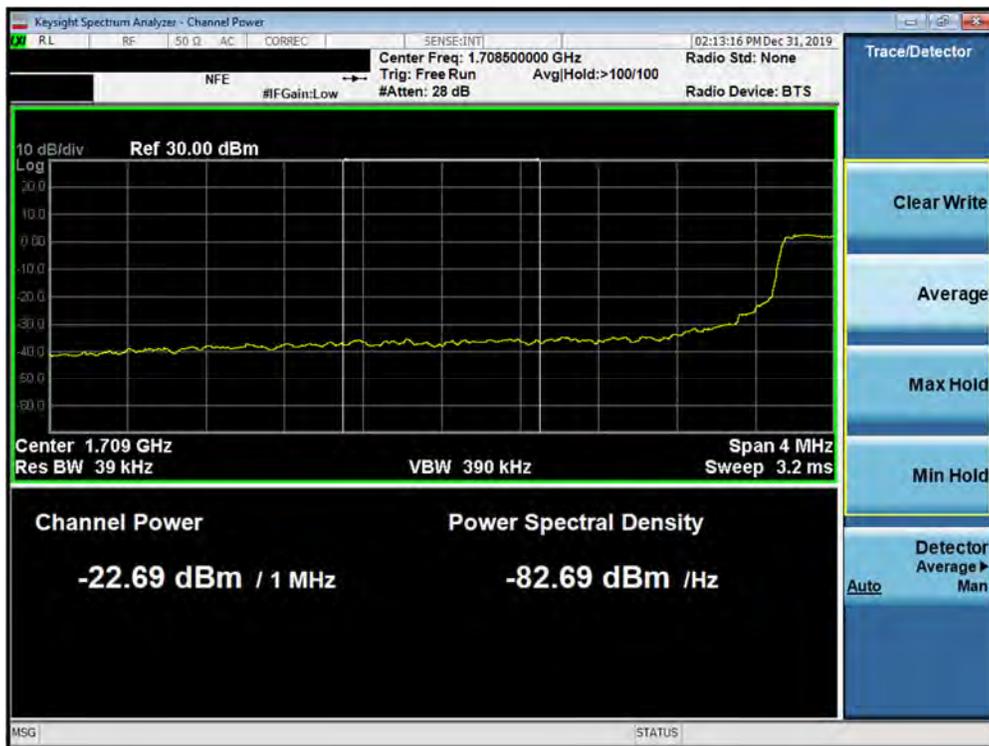


Plot 7-348. Lower Extended Band Edge Plot (5G NR n66 - 5.0MHz QPSK - DFT-s - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 202 of 329



Plot 7-349. Lower Band Edge Plot (5G NR n66 - 5.0MHz QPSK - CP - Full RB Configuration)

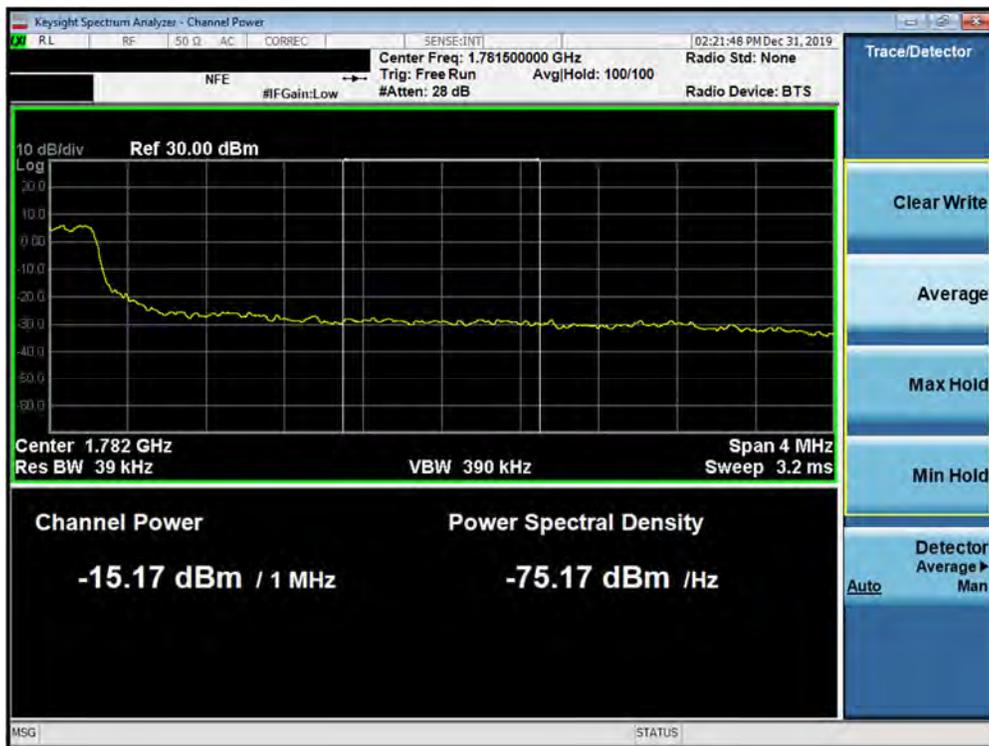


Plot 7-350. Lower Extended Band Edge Plot (5G NR n66 - 5.0MHz QPSK - CP - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-11/17/2019	EUT Type: Portable Handset		Page 203 of 329



Plot 7-351. Upper Band Edge Plot (5G NR n66 - 5.0MHz QPSK - DFT-s - Full RB Configuration)

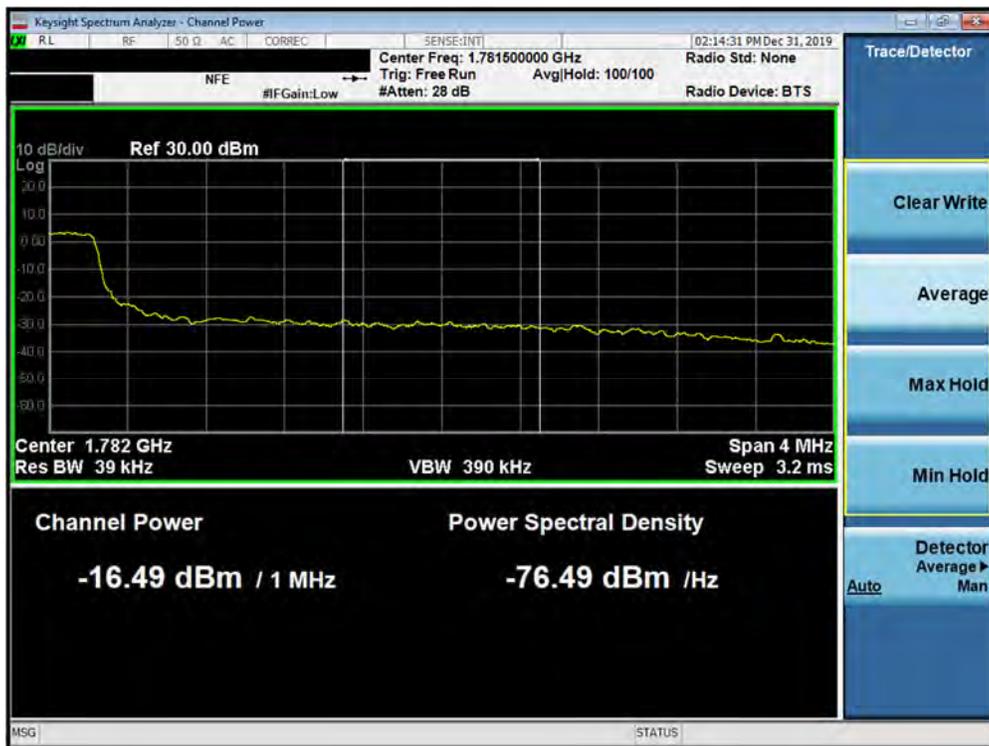


Plot 7-352. Upper Extended Band Edge Plot (5G NR n66 - 5.0MHz QPSK - DFT-s - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-11/17/2019	EUT Type: Portable Handset		Page 204 of 329



Plot 7-353. Upper Band Edge Plot (5G NR n66 - 5.0MHz QPSK - CP - Full RB Configuration)

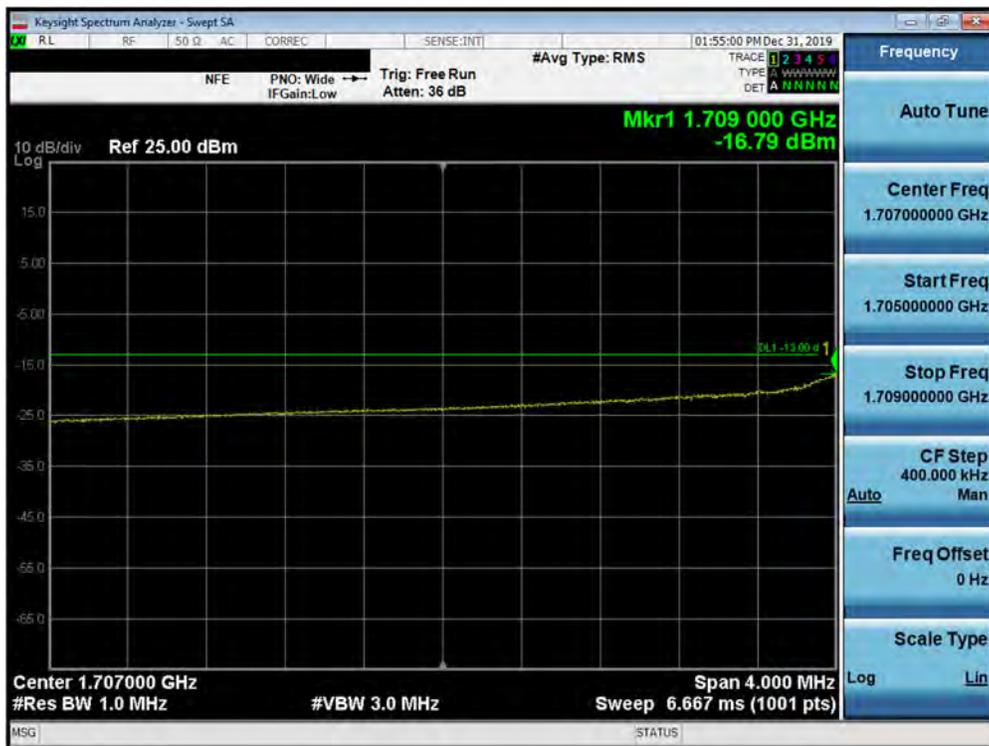


Plot 7-354. Upper Extended Band Edge Plot (5G NR n66 - 5.0MHz QPSK - CP - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 205 of 329

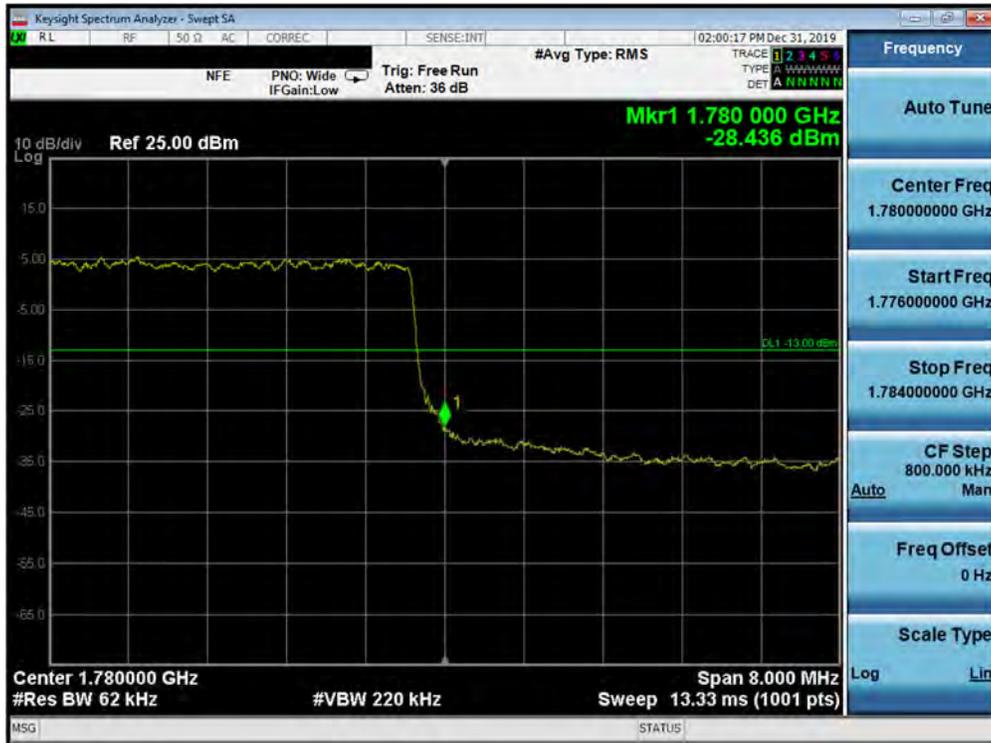


Plot 7-357. Lower Band Edge Plot (5G NR n66 - 10.0MHz QPSK - CP - Full RB Configuration)

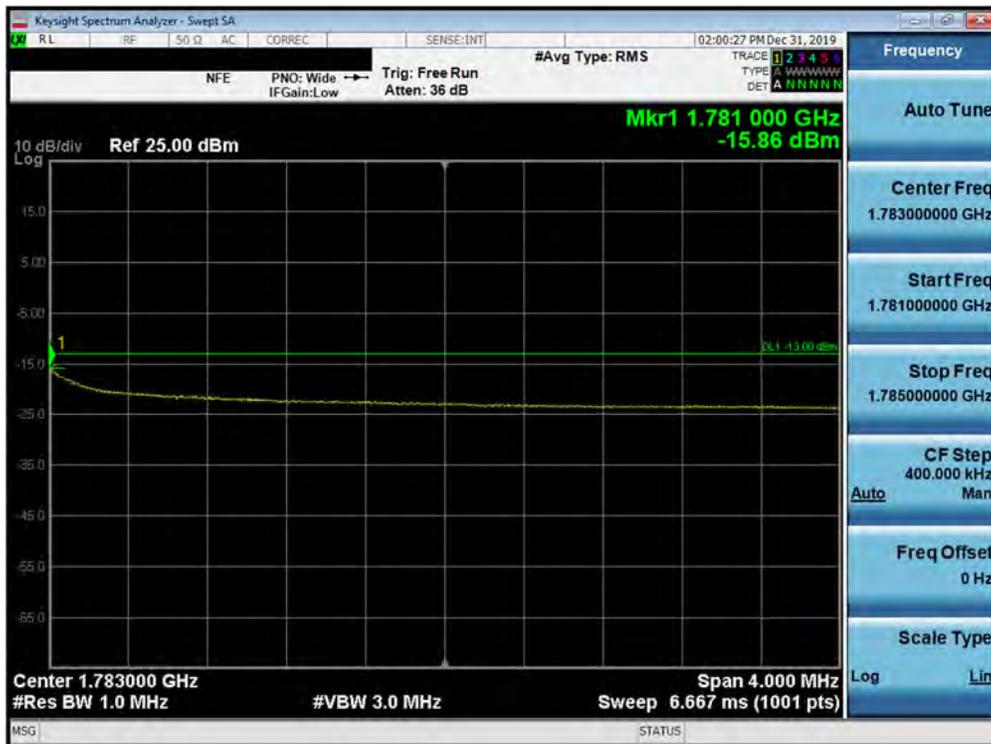


Plot 7-358. Lower Extended Band Edge Plot (5G NR n66 - 10.0MHz QPSK - CP - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-11/17/2019	EUT Type: Portable Handset		Page 207 of 329



Plot 7-359. Upper Band Edge Plot (5G NR n66 - 10.0MHz QPSK - DFT-s - Full RB Configuration)



Plot 7-360. Upper Extended Band Edge Plot (5G NR n66 - 10.0MHz QPSK - DFT-s - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 208 of 329



Plot 7-361. Upper Band Edge Plot (5G NR n66 - 10.0MHz QPSK - CP - Full RB Configuration)

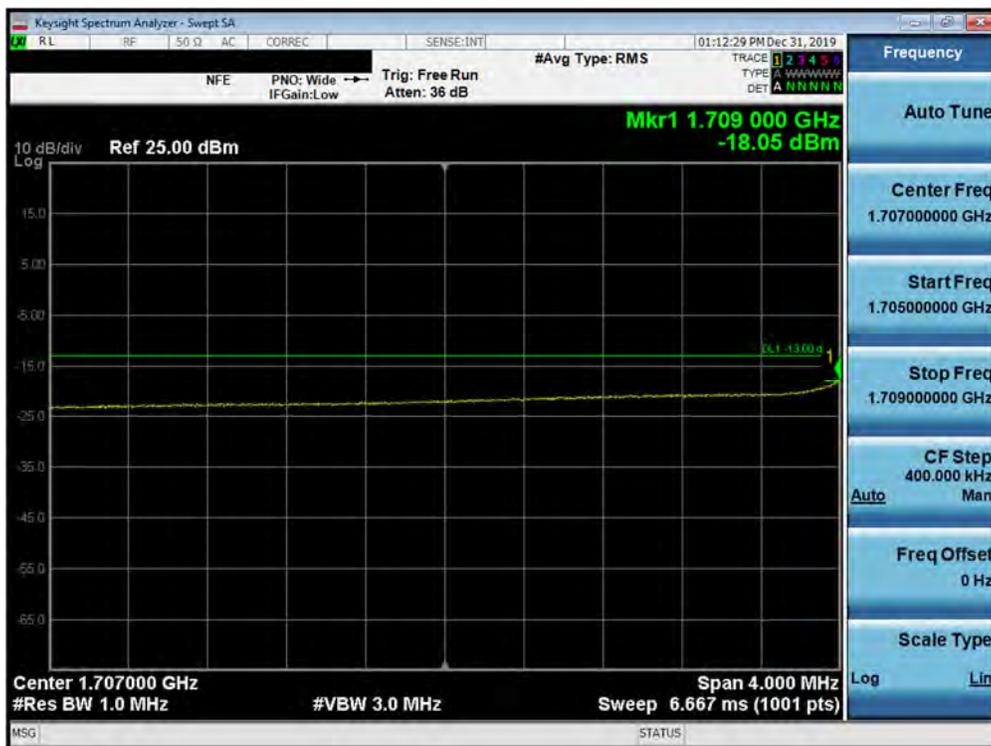


Plot 7-362. Upper Extended Band Edge Plot (5G NR n66 - 10.0MHz QPSK - CP - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 209 of 329

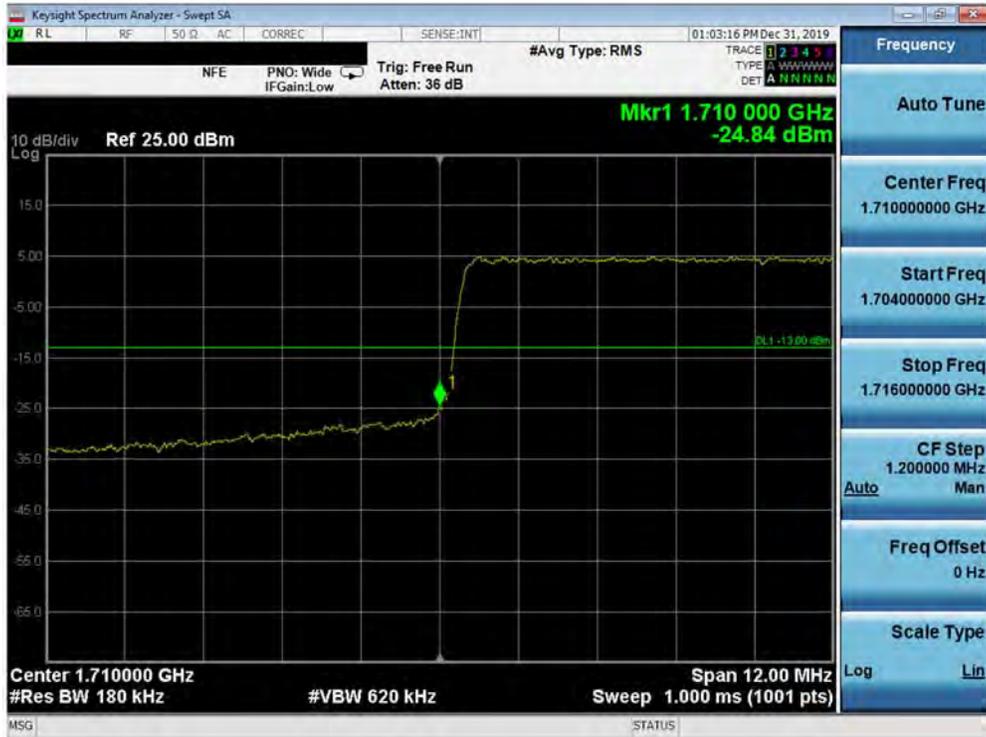


Plot 7-363. Lower Band Edge Plot (5G NR n66 - 15.0MHz QPSK - DFT-s - Full RB Configuration)



Plot 7-364. Lower Extended Band Edge Plot (5G NR n66 - 15.0MHz QPSK - DFT-s - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 210 of 329



Plot 7-365. Lower Band Edge Plot (5G NR n66 - 15.0MHz QPSK - CP - Full RB Configuration)

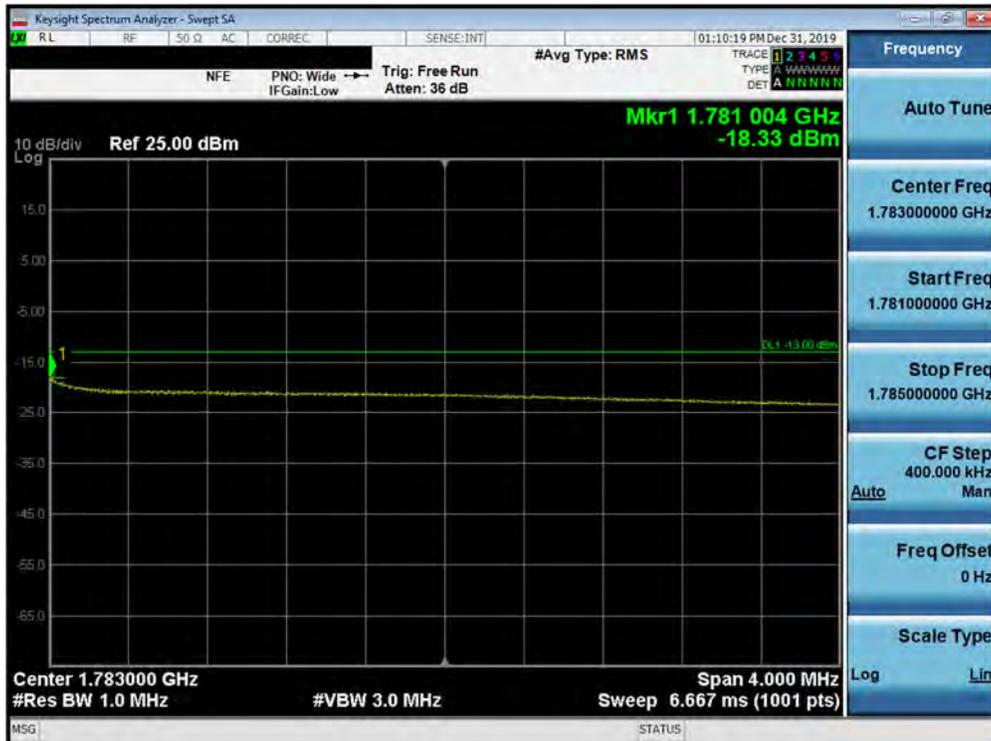


Plot 7-366. Lower Extended Band Edge Plot (5G NR n66 - 15.0MHz QPSK - CP - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 211 of 329



Plot 7-367. Upper Band Edge Plot (5G NR n66 - 15.0MHz QPSK - DFT-s - Full RB Configuration)



Plot 7-368. Upper Extended Band Edge Plot (5G NR n66 - 15.0MHz QPSK - DFT-s - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 212 of 329



Plot 7-369. Upper Band Edge Plot (5G NR n66 - 15.0MHz QPSK - CP - Full RB Configuration)

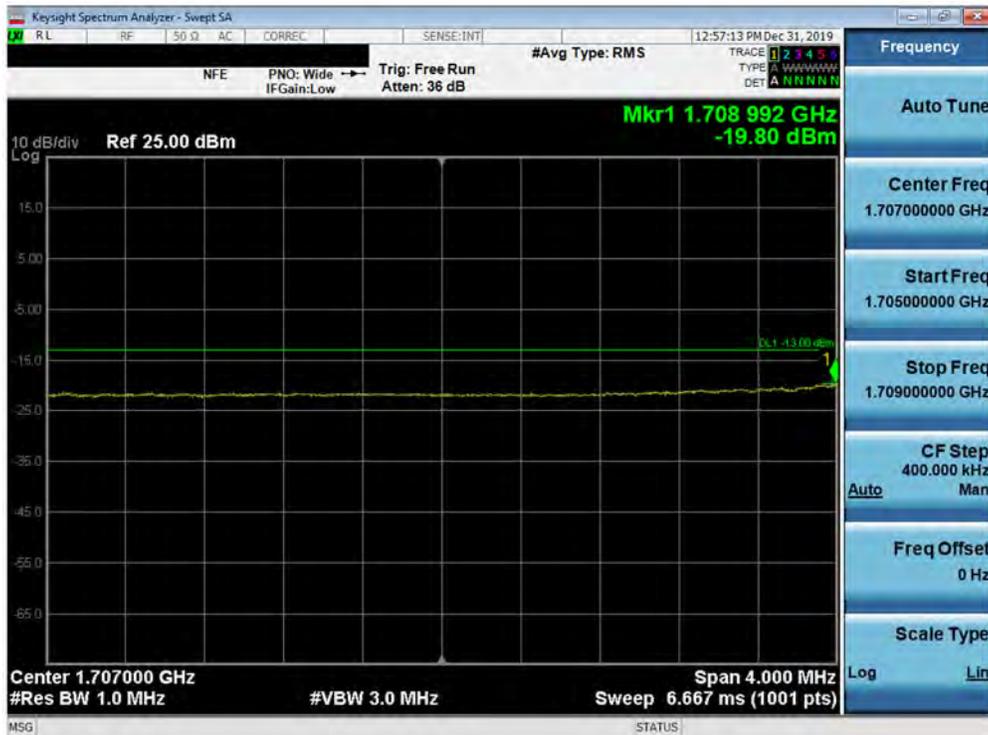


Plot 7-370. Upper Extended Band Edge Plot (5G NR n66 - 15.0MHz QPSK - CP - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 213 of 329



Plot 7-371. Lower Band Edge Plot (5G NR n66 - 20.0MHz QPSK - DFT-s - Full RB Configuration)

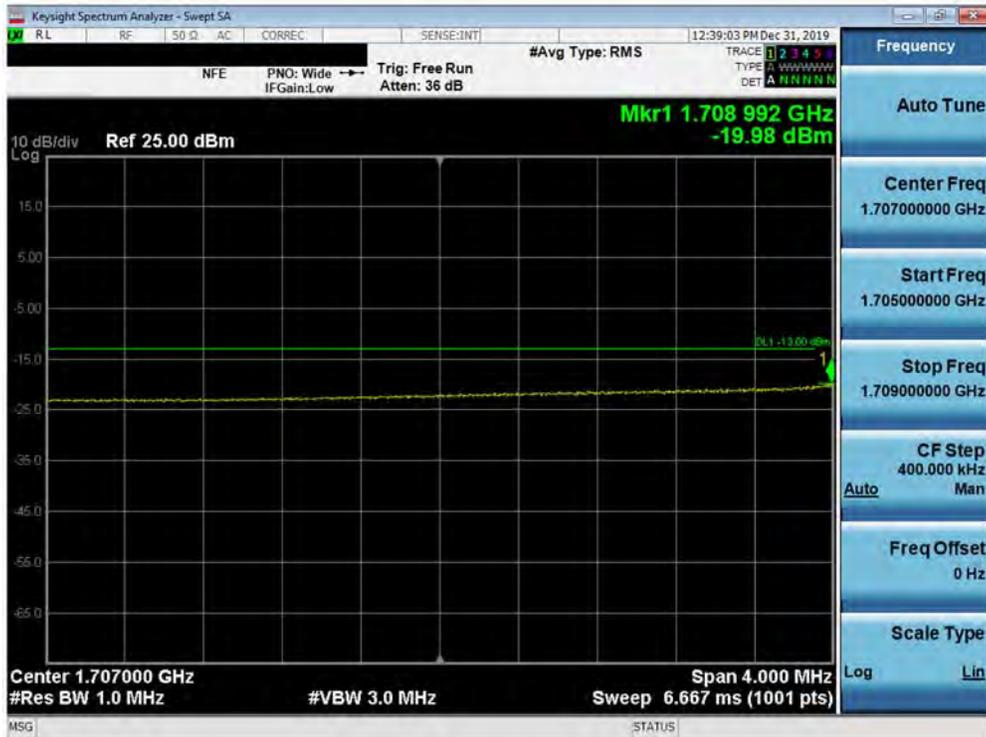


Plot 7-372. Lower Extended Band Edge Plot (5G NR n66 - 20.0MHz QPSK - DFT-s - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 214 of 329



Plot 7-373. Lower Band Edge Plot (5G NR n66 - 20.0MHz QPSK - CP - Full RB Configuration)



Plot 7-374. Lower Extended Band Edge Plot (5G NR n66 - 20.0MHz QPSK - CP - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 215 of 329



Plot 7-375. Upper Band Edge Plot (5G NR n66 - 20.0MHz QPSK - DFT-s - Full RB Configuration)



Plot 7-376. Upper Extended Band Edge Plot (5G NR n66 - 20.0MHz QPSK - DFT-s - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 216 of 329



Plot 7-377. Upper Band Edge Plot (5G NR n66 - 20.0MHz QPSK - CP - Full RB Configuration)



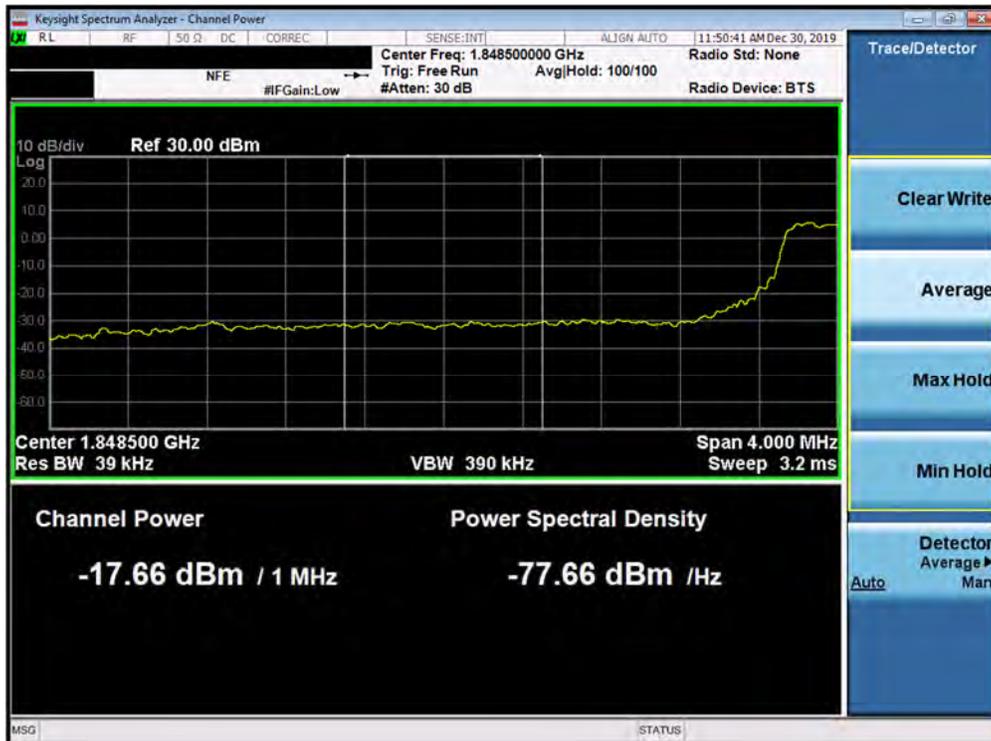
Plot 7-378. Upper Extended Band Edge Plot (5G NR n66 - 20.0MHz QPSK - CP - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 217 of 329

5G NR n2

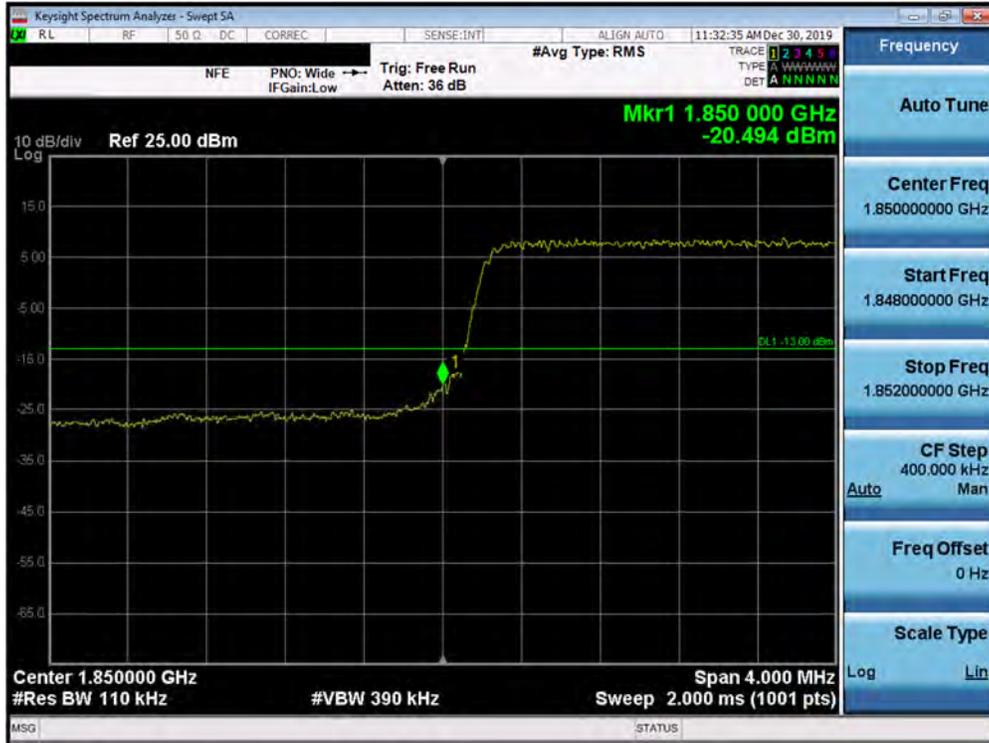


Plot 7-379. Lower Band Edge Plot (5G NR n2 - 5.0MHz QPSK - DFT-s - Full RB Configuration)

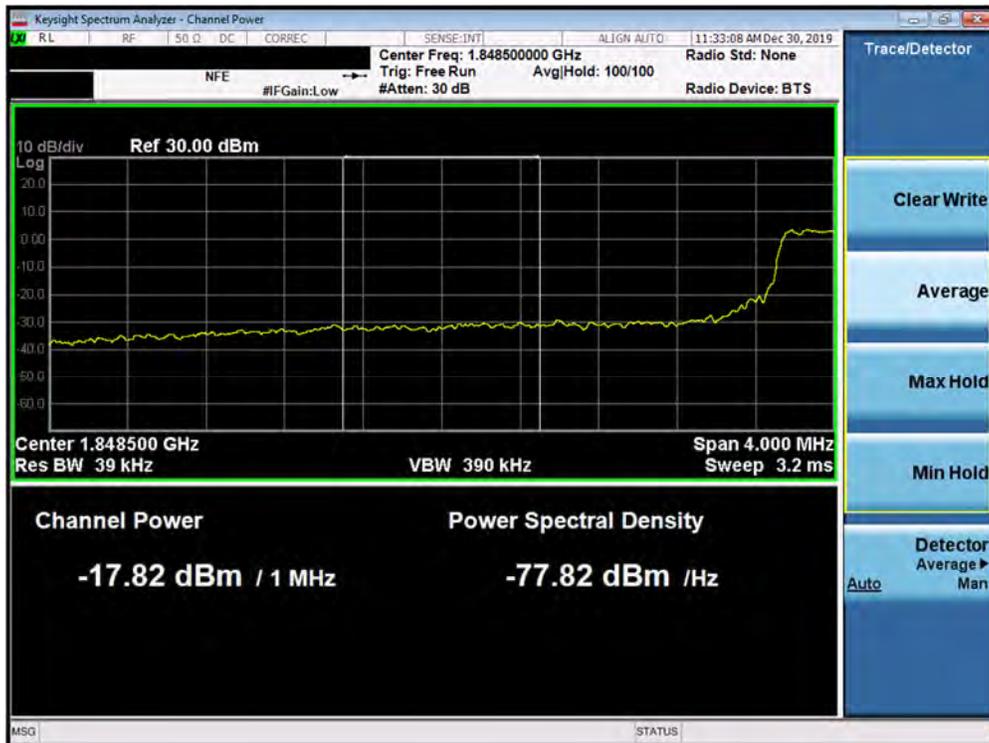


Plot 7-380. Lower Extended Band Edge Plot (5G NR n2 - 5.0MHz QPSK - DFT-s - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-11/17/2019	EUT Type: Portable Handset		Page 218 of 329

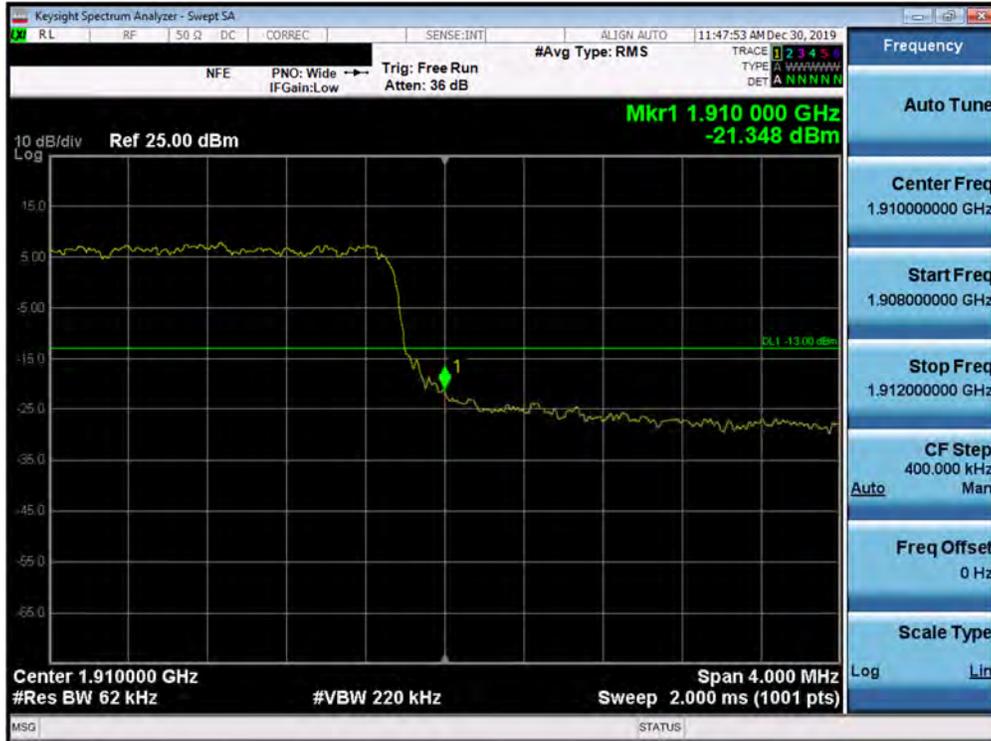


Plot 7-381. Lower Band Edge Plot (5G NR n2 - 5.0MHz QPSK - CP - Full RB Configuration)

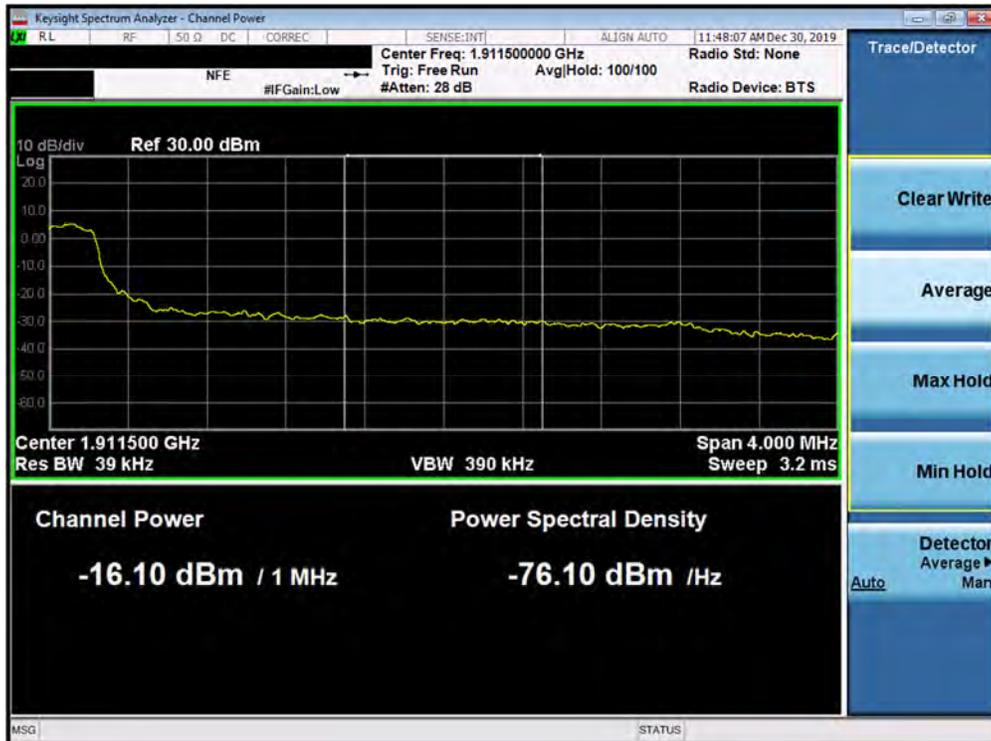


Plot 7-382. Lower Extended Band Edge Plot (5G NR n2 - 5.0MHz QPSK - CP - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-11/17/2019	EUT Type: Portable Handset		Page 219 of 329

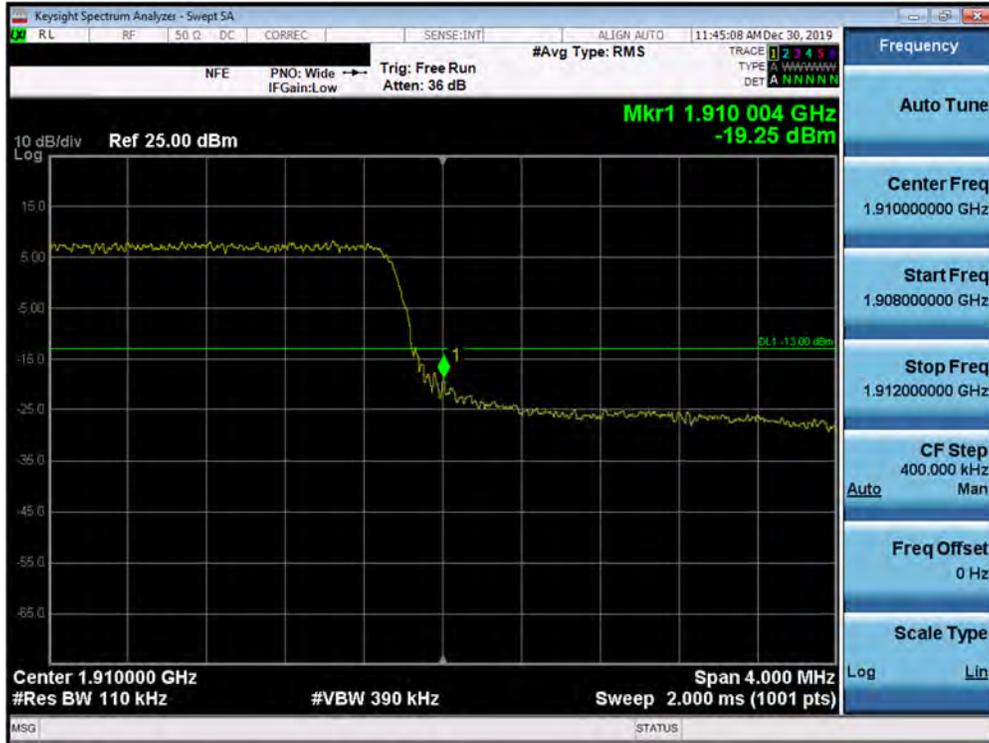


Plot 7-383. Upper Band Edge Plot (5G NR n2 - 5.0MHz QPSK - DFT-s - Full RB Configuration)

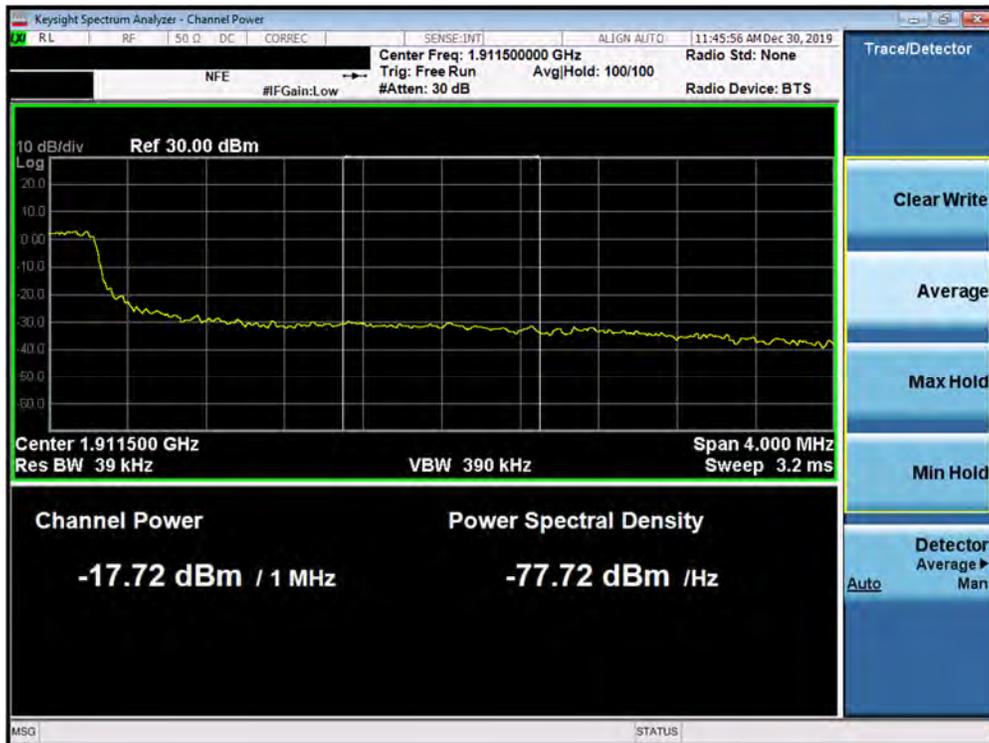


Plot 7-384. Upper Extended Band Edge Plot (5G NR n2 - 5.0MHz QPSK - DFT-s - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-11/17/2019	EUT Type: Portable Handset		Page 220 of 329

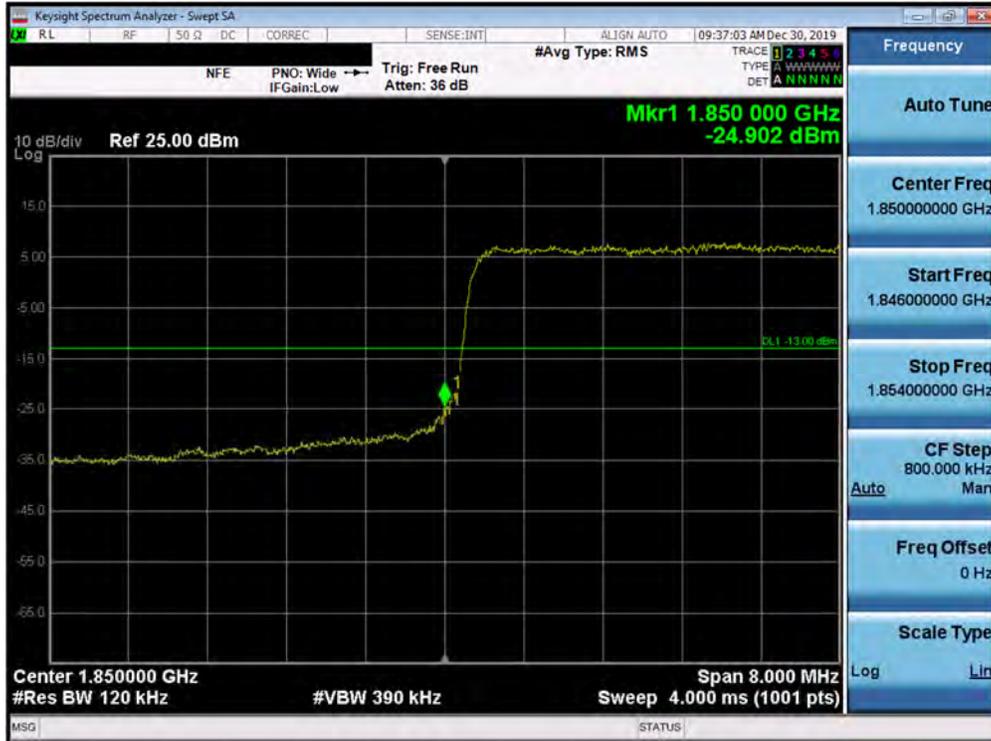


Plot 7-385. Upper Band Edge Plot (5G NR n2 - 5.0MHz QPSK - CP - Full RB Configuration)

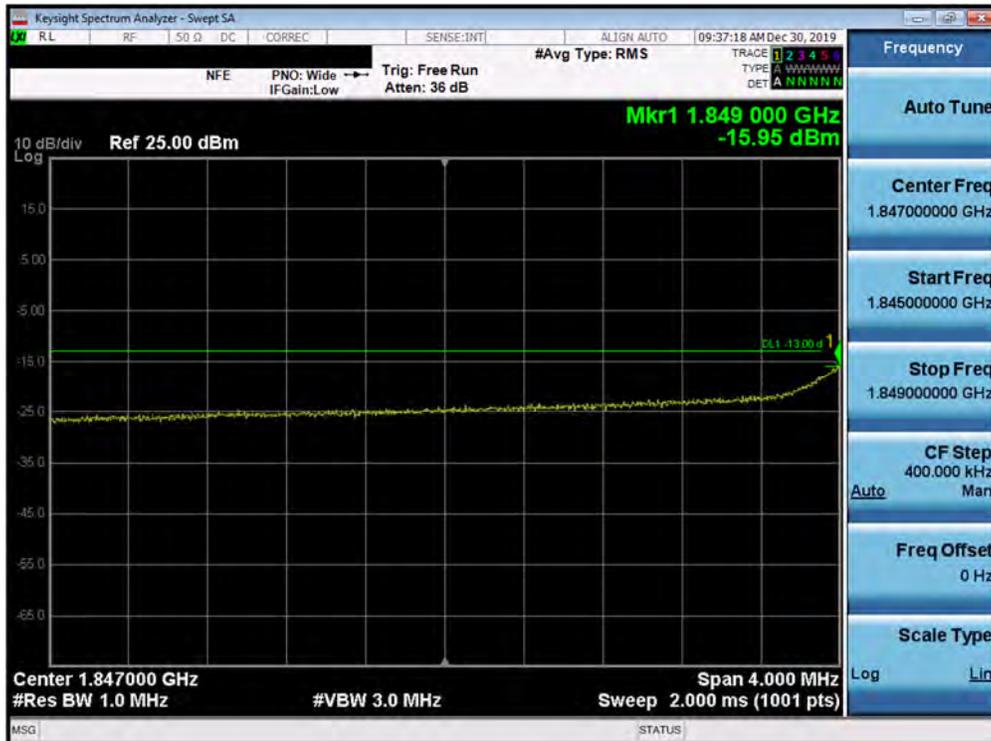


Plot 7-386. Upper Extended Band Edge Plot (5G NR n2 - 5.0MHz QPSK - CP - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-11/17/2019	EUT Type: Portable Handset		Page 221 of 329

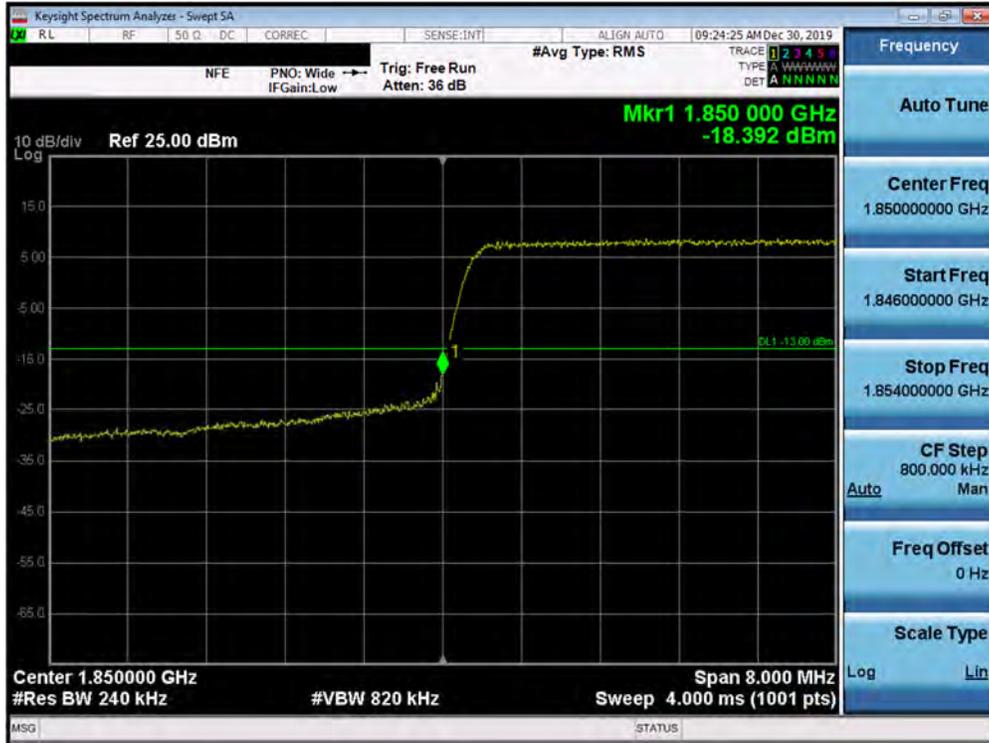


Plot 7-387. Lower Band Edge Plot (5G NR n2 - 10.0MHz QPSK - DFT-s - Full RB Configuration)

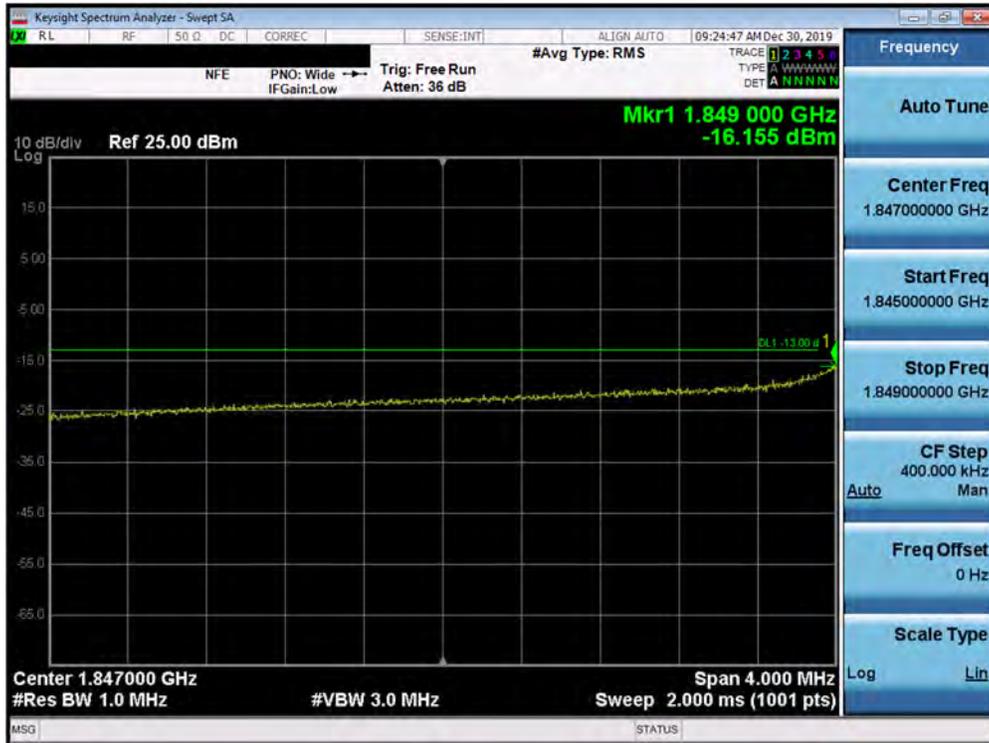


Plot 7-388. Lower Extended Band Edge Plot (5G NR n2 - 10.0MHz QPSK - DFT-s - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 222 of 329

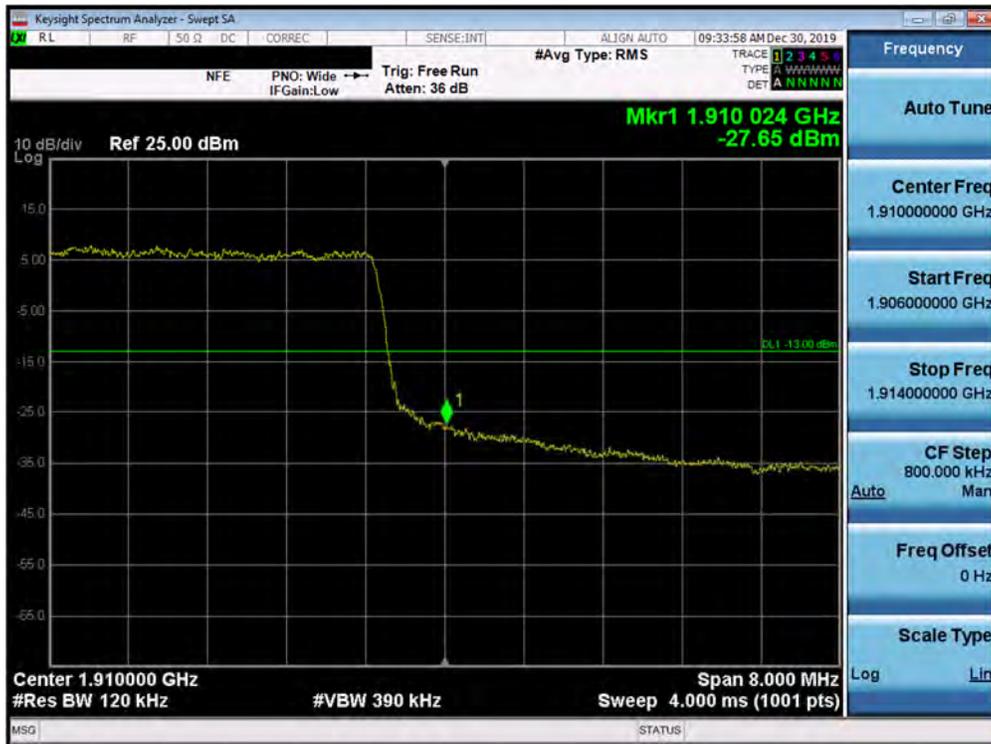


Plot 7-389. Lower Band Edge Plot (5G NR n2 - 10.0MHz QPSK - CP - Full RB Configuration)

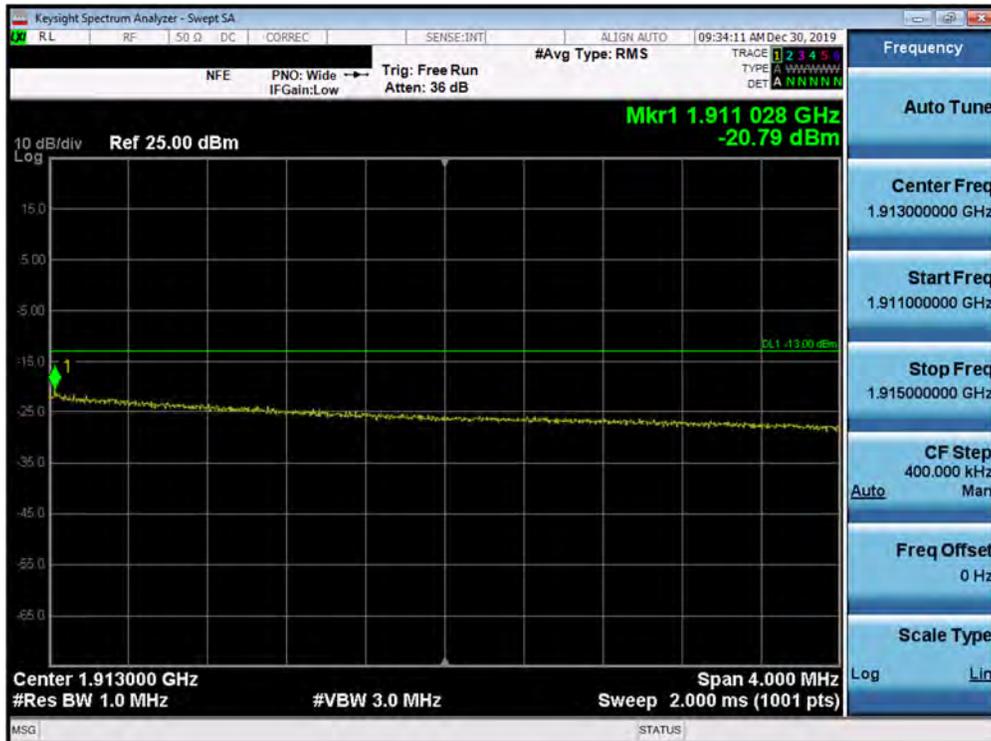


Plot 7-390. Lower Extended Band Edge Plot (5G NR n2 - 10.0MHz QPSK - CP - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 223 of 329



Plot 7-391. Upper Band Edge Plot (5G NR n2 - 10.0MHz QPSK - DFT-s - Full RB Configuration)

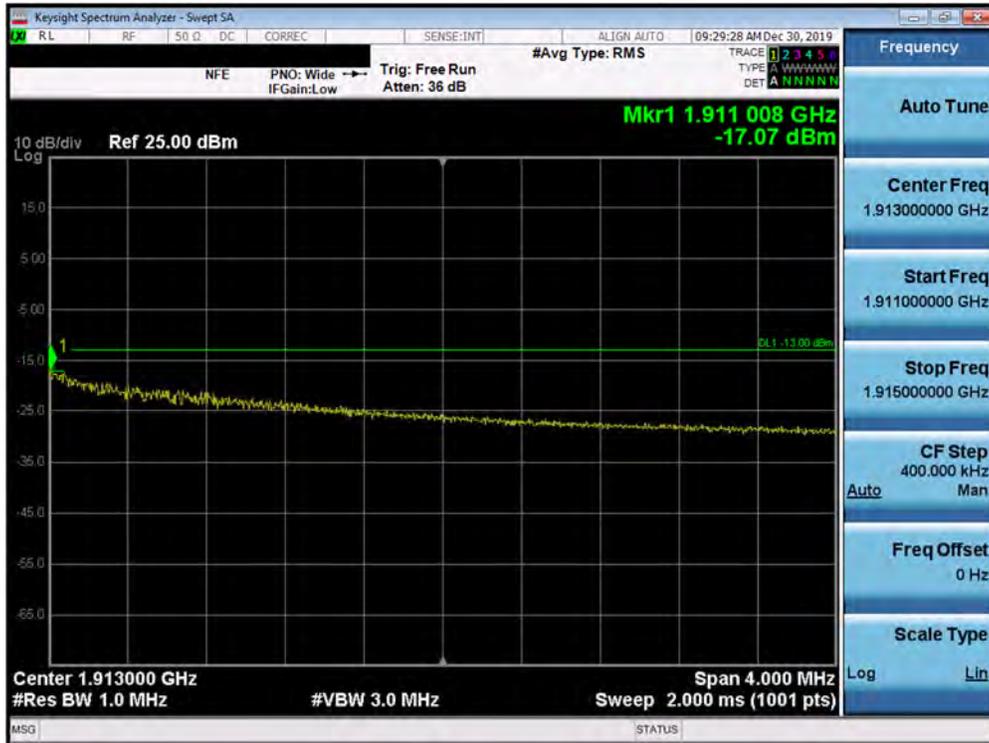


Plot 7-392. Upper Extended Band Edge Plot (5G NR n2 - 10.0MHz QPSK - DFT-s - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 224 of 329

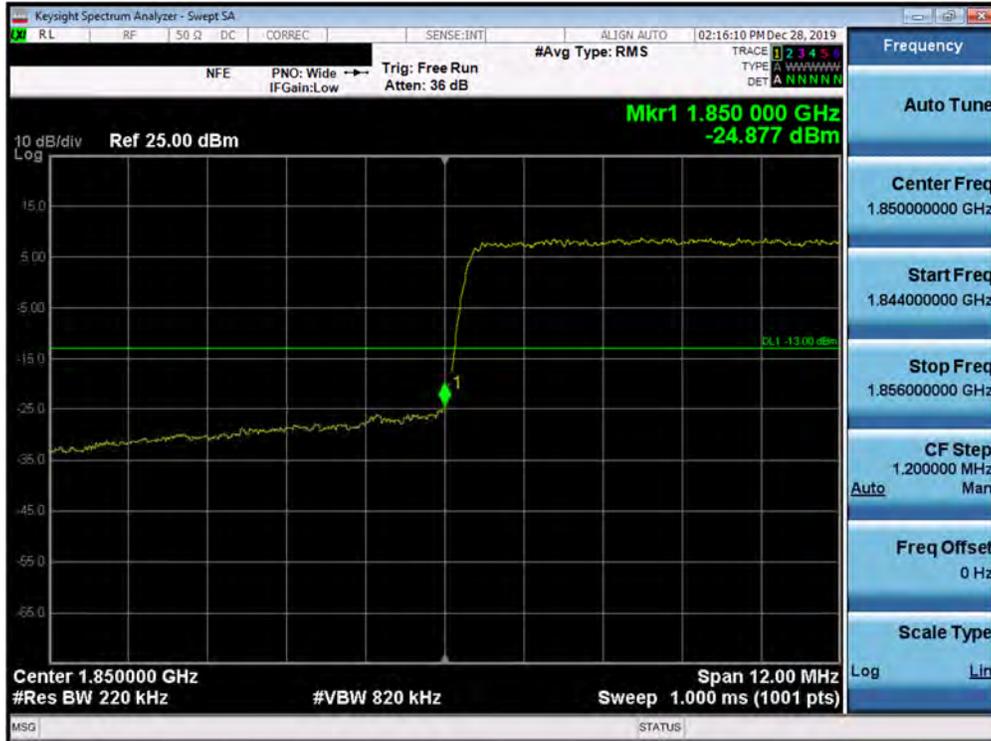


Plot 7-393. Upper Band Edge Plot (5G NR n2 - 10.0MHz QPSK - CP - Full RB Configuration)

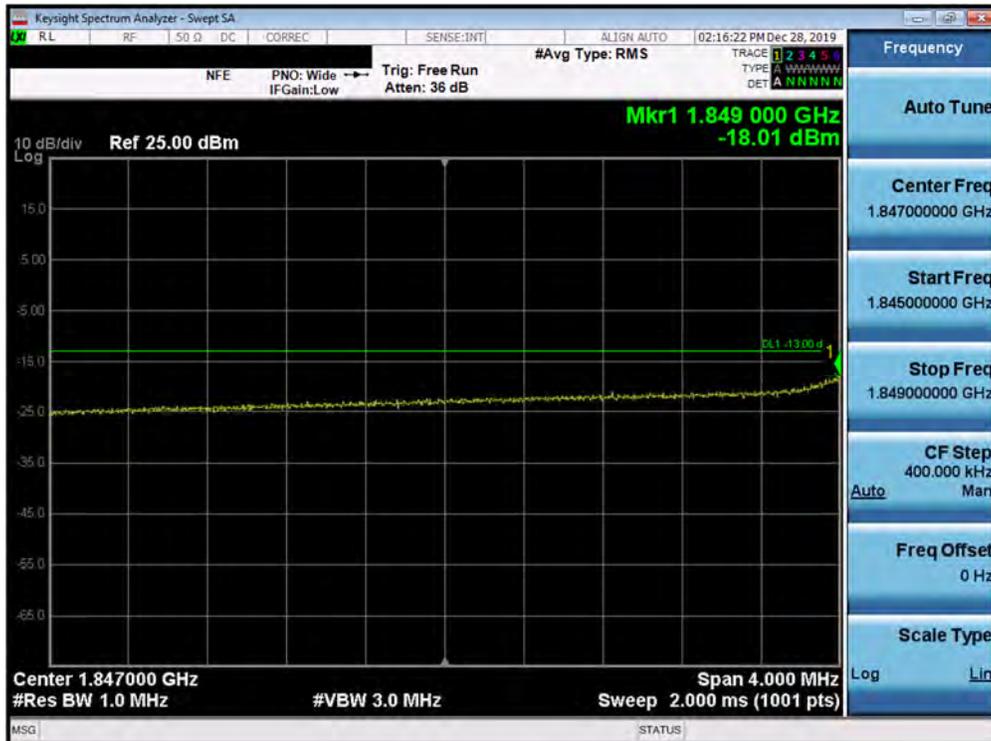


Plot 7-394. Upper Extended Band Edge Plot (5G NR n2 - 10.0MHz QPSK - CP - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 225 of 329

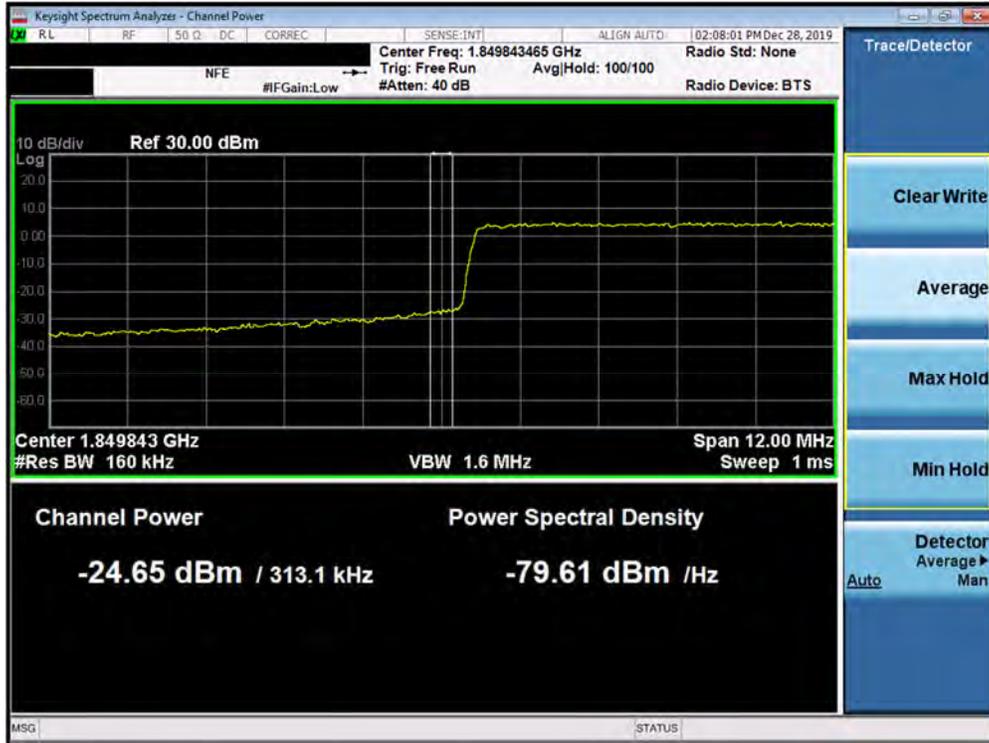


Plot 7-395. Lower Band Edge Plot (5G NR n2 - 15.0MHz QPSK - DFT-s - Full RB Configuration)

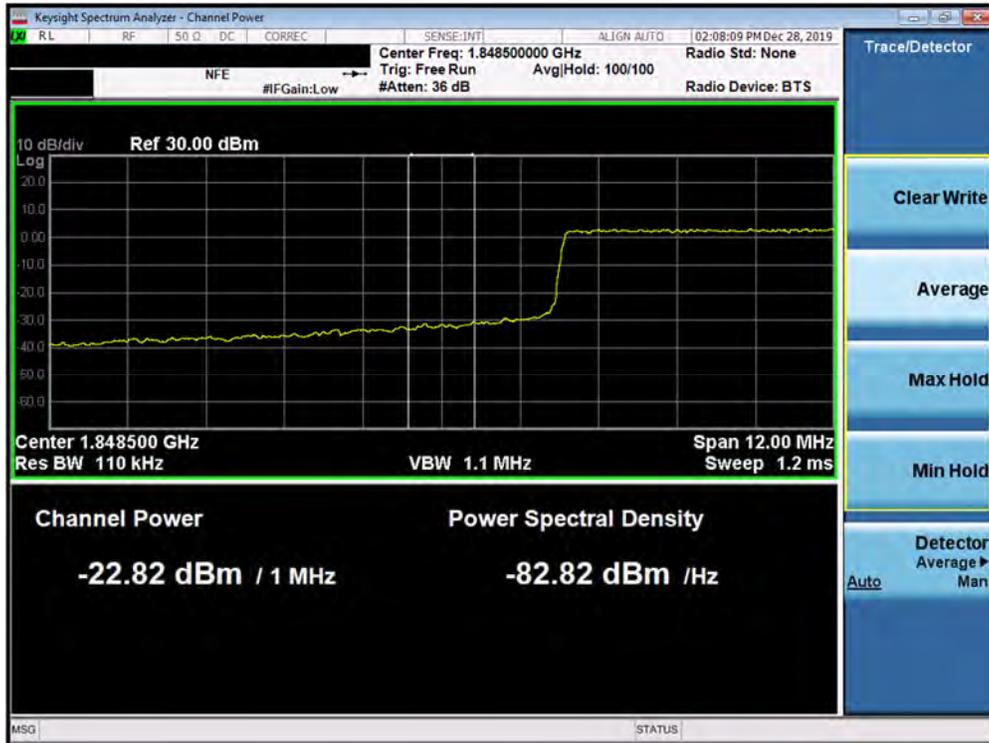


Plot 7-396. Lower Extended Band Edge Plot (5G NR n2 - 15.0MHz QPSK - DFT-s - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 226 of 329

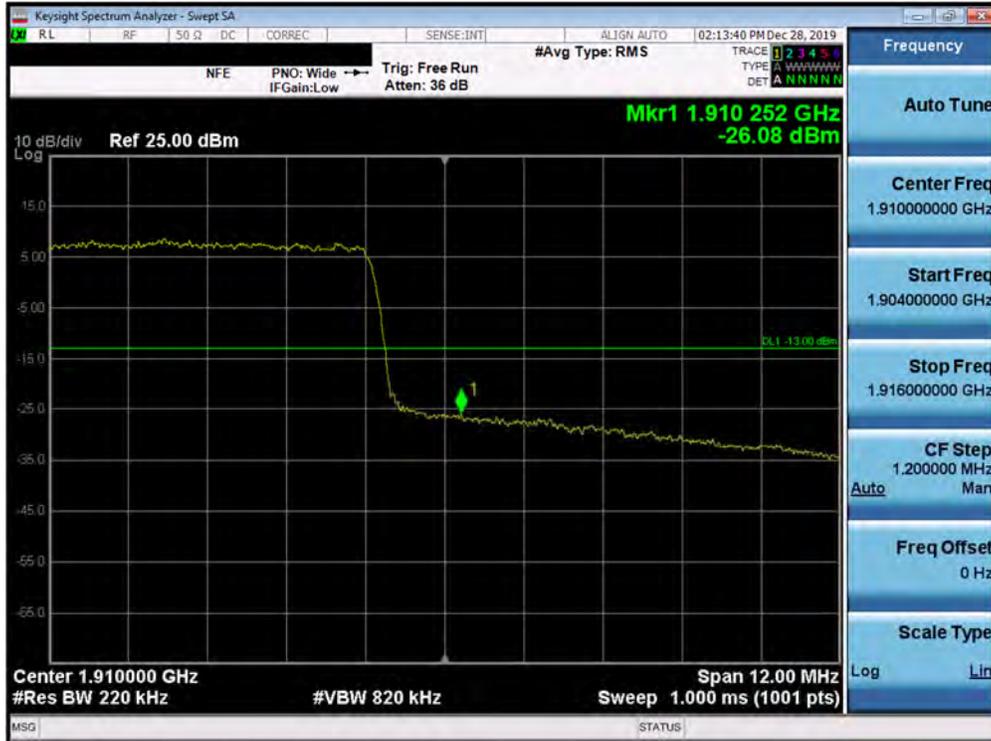


Plot 7-397. Lower Band Edge Plot (5G NR n2 - 15.0MHz QPSK - CP - Full RB Configuration)

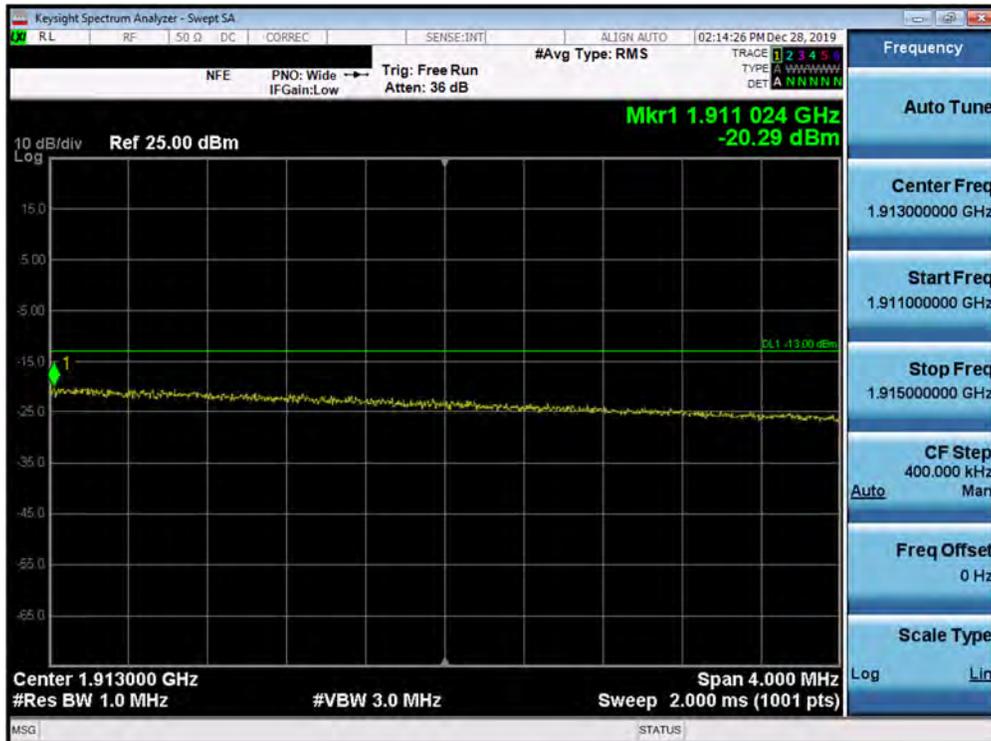


Plot 7-398. Lower Extended Band Edge Plot (5G NR n2 - 15.0MHz QPSK - CP - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 227 of 329

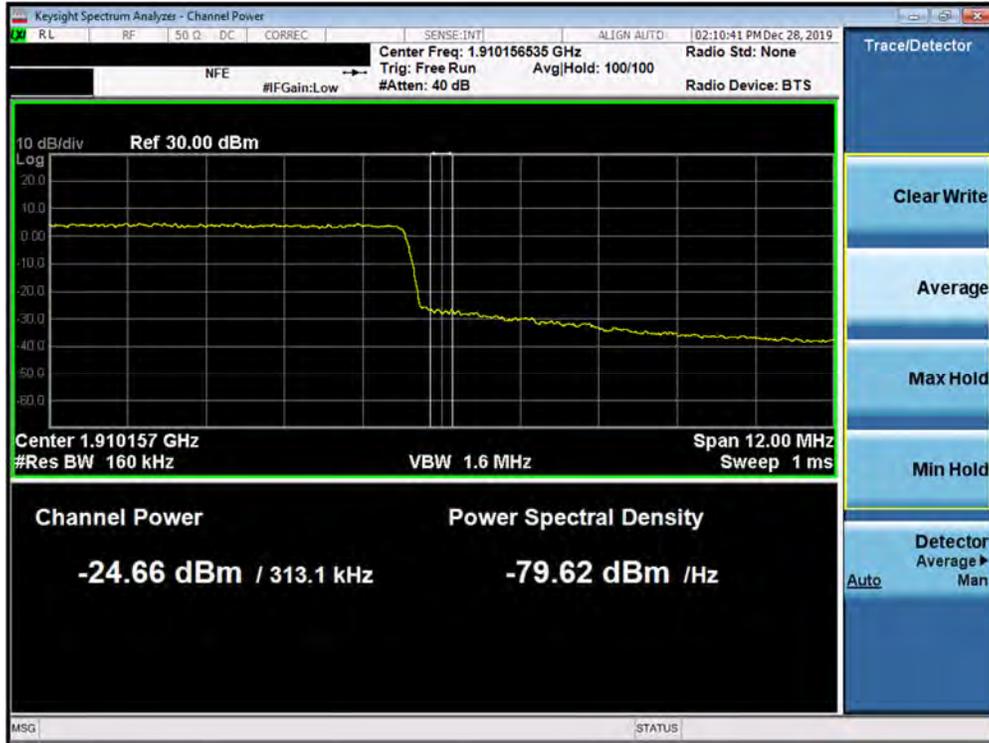


Plot 7-399. Upper Band Edge Plot (5G NR n2 - 15.0MHz QPSK - DFT-s - Full RB Configuration)

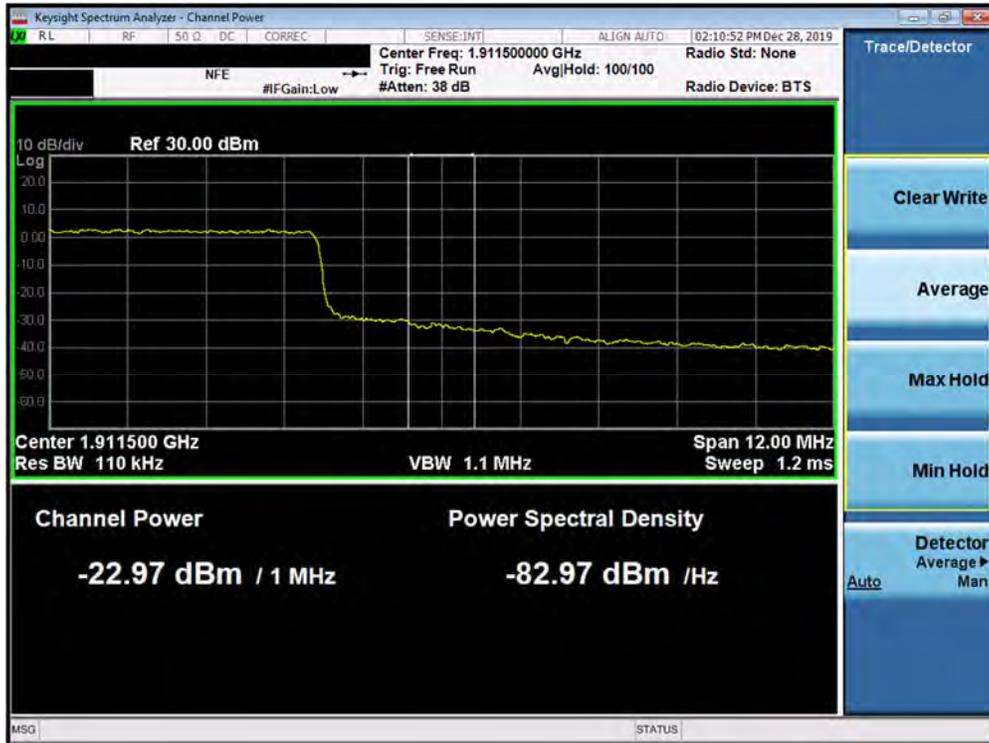


Plot 7-400. Upper Extended Band Edge Plot (5G NR n2 - 15.0MHz QPSK - DFT-s - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 228 of 329

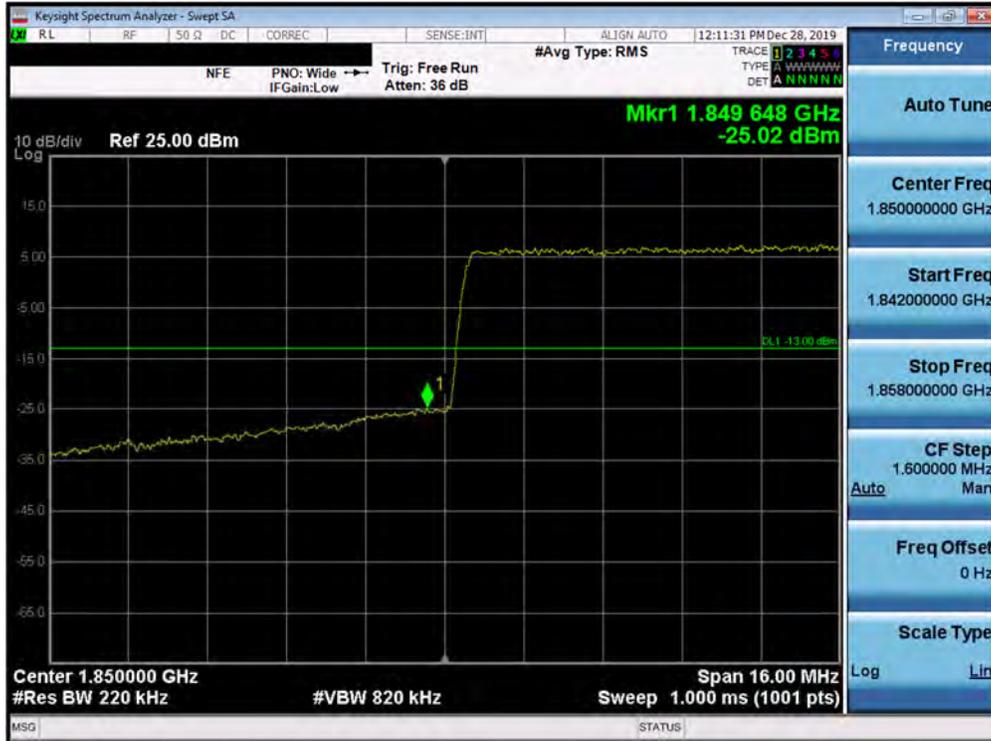


Plot 7-401. Upper Band Edge Plot (5G NR n2 - 15.0MHz QPSK - CP - Full RB Configuration)

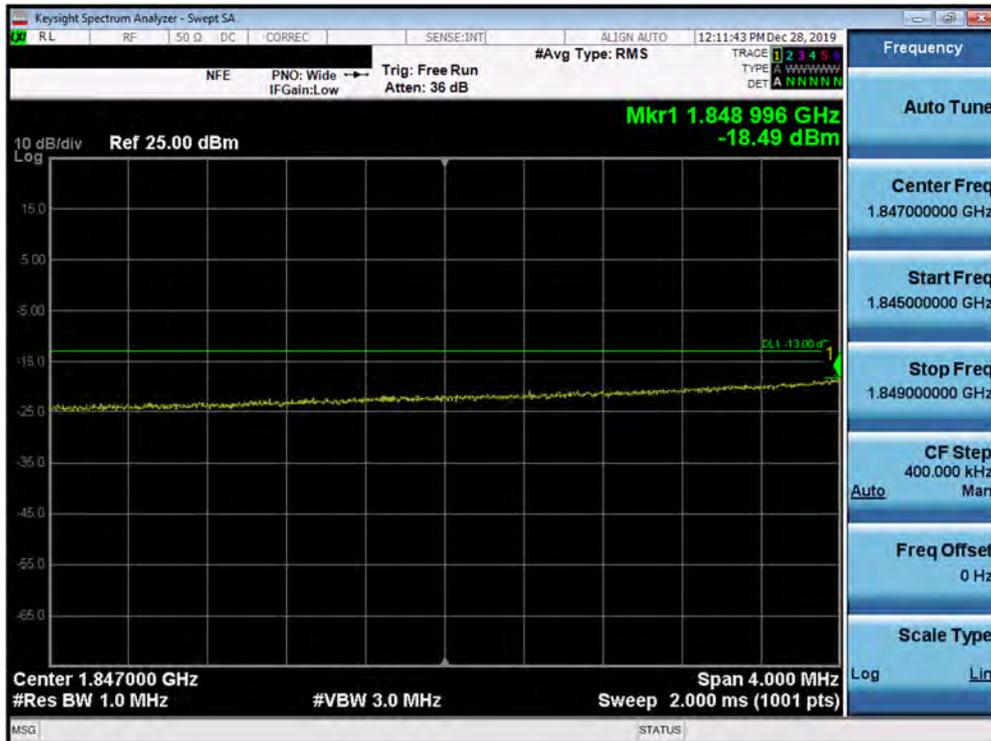


Plot 7-402. Upper Extended Band Edge Plot (5G NR n2 - 15.0MHz QPSK - CP - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 229 of 329

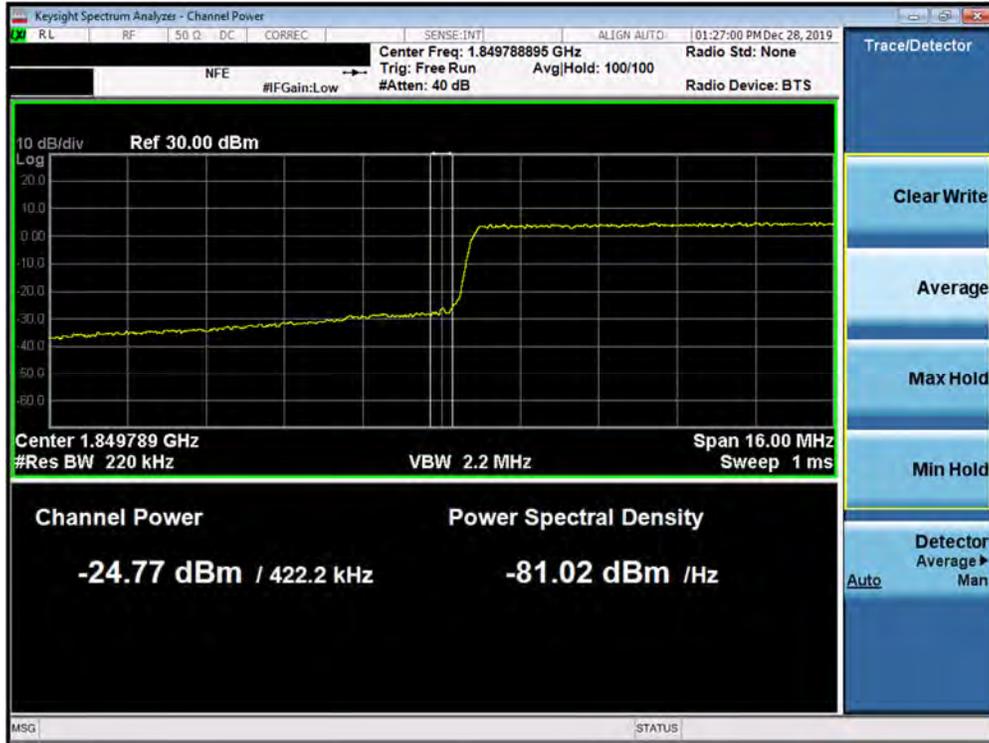


Plot 7-403. Lower Band Edge Plot (5G NR n2 - 20.0MHz QPSK - DFT-s - Full RB Configuration)

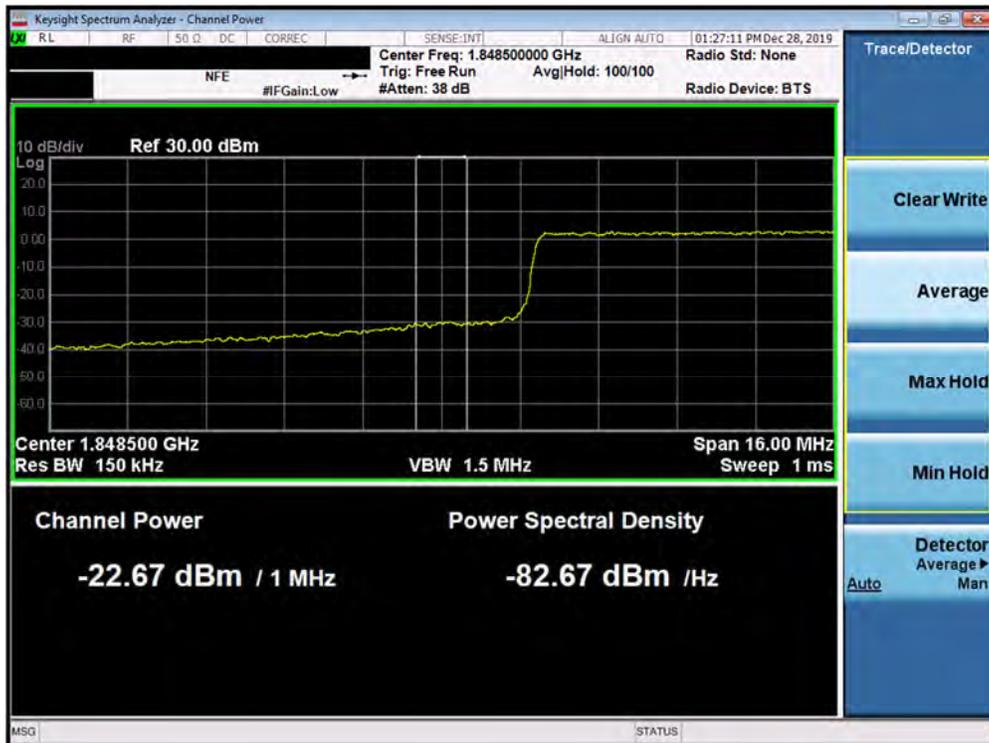


Plot 7-404. Lower Extended Band Edge Plot (5G NR n2 - 20.0MHz QPSK - DFT-s - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-11/17/2019	EUT Type: Portable Handset		Page 230 of 329

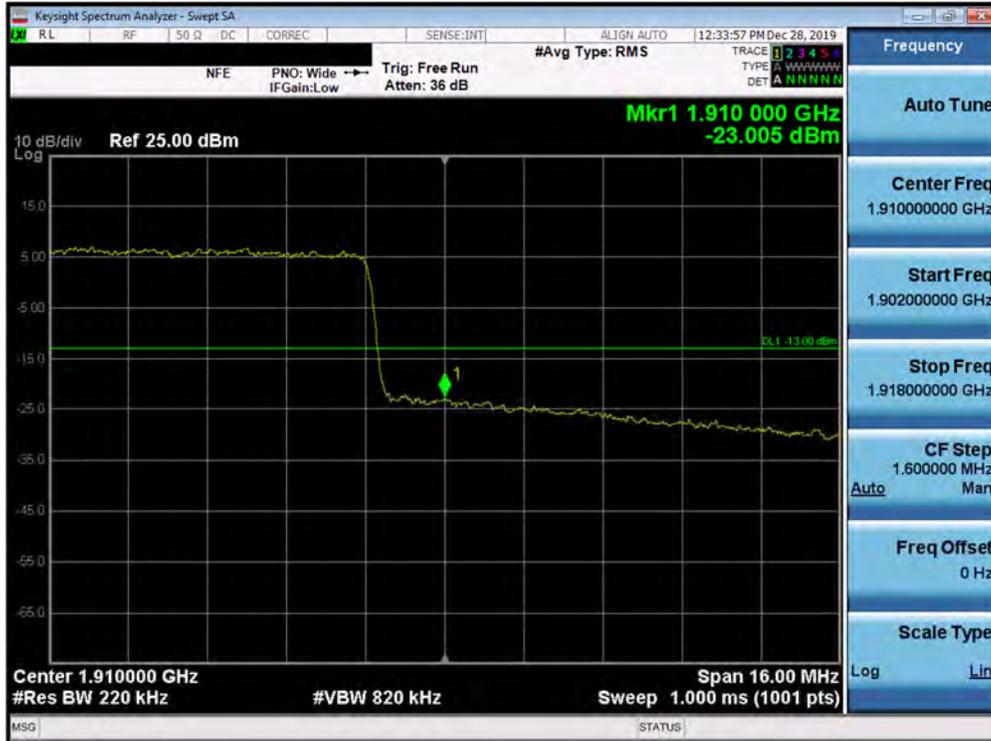


Plot 7-405. Lower Band Edge Plot (5G NR n2 - 20.0MHz QPSK - CP - Full RB Configuration)

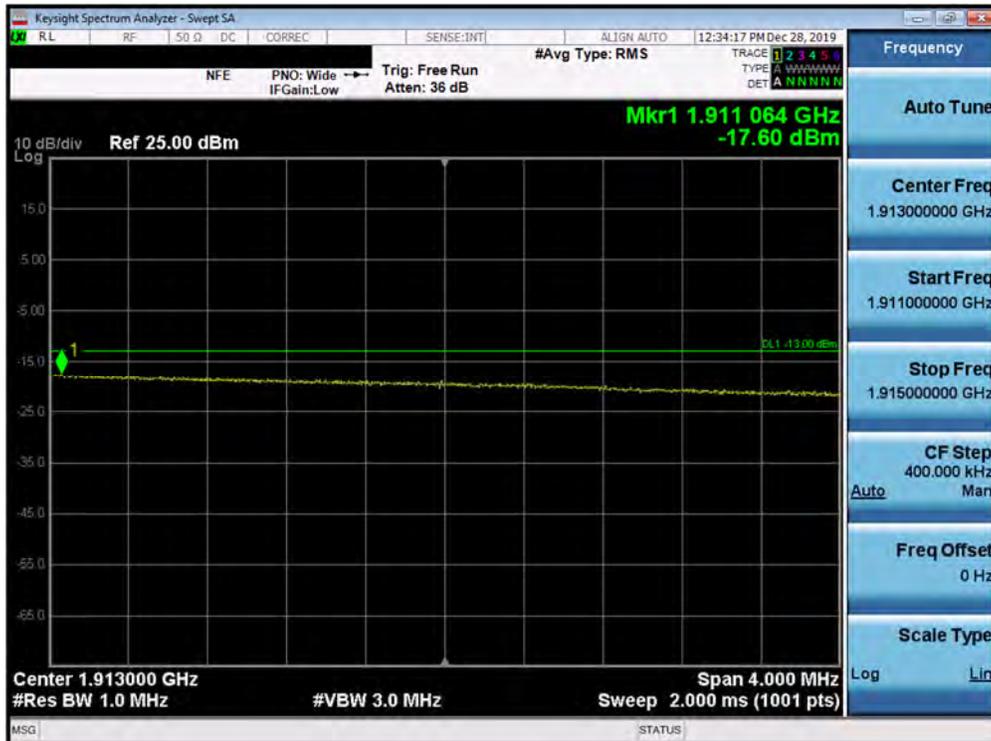


Plot 7-406. Lower Extended Band Edge Plot (5G NR n2 - 20.0MHz QPSK - CP - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 231 of 329

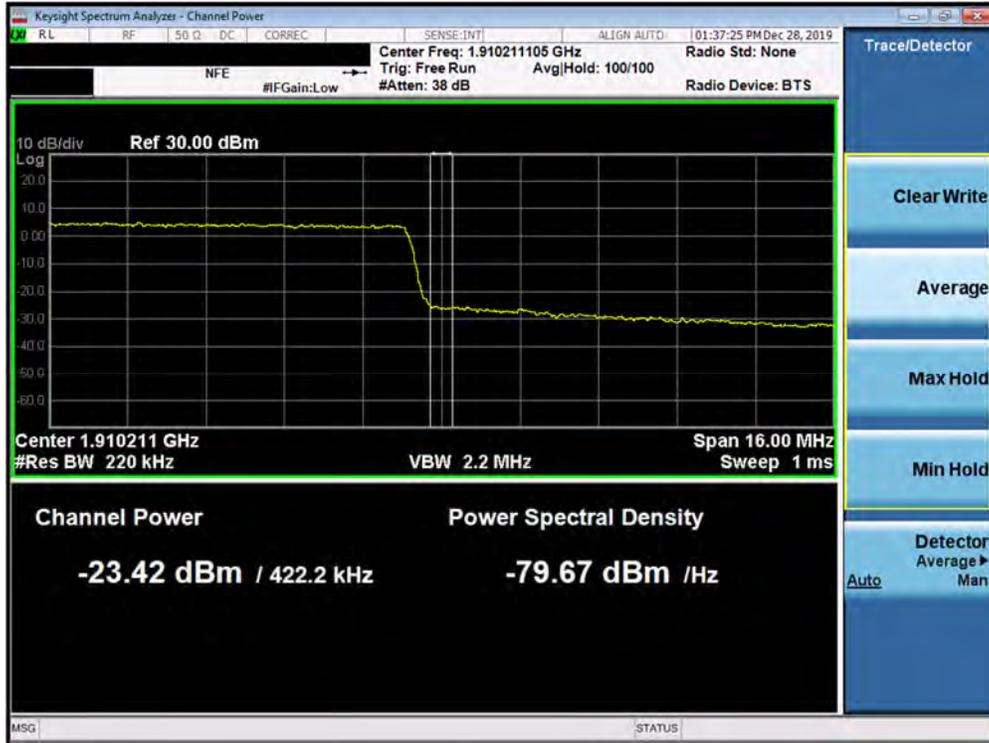


Plot 7-407. Upper Band Edge Plot (5G NR n2 - 20.0MHz QPSK - DFT-s - Full RB Configuration)

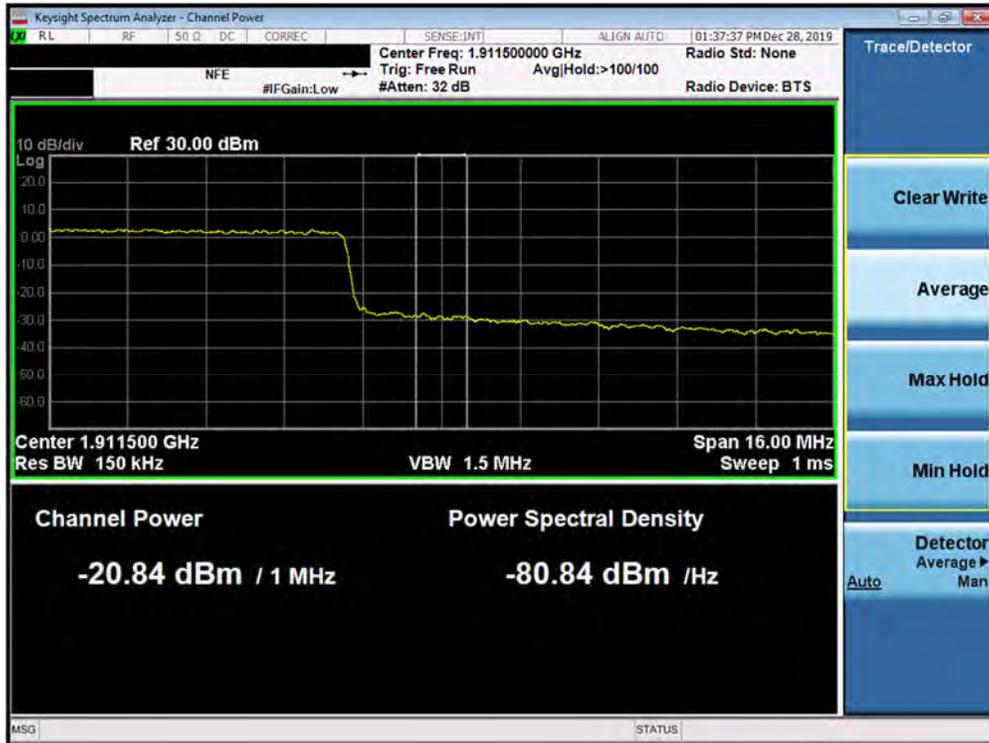


Plot 7-408. Upper Extended Band Edge Plot (5G NR n2 - 20.0MHz QPSK - DFT-s - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 232 of 329



Plot 7-409. Upper Band Edge Plot (5G NR n2 - 20.0MHz QPSK - CP - Full RB Configuration)



Plot 7-410. Upper Extended Band Edge Plot (5G NR n2 - 20.0MHz QPSK - CP - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 233 of 329

7.5 Conducted Power Output Data

§2.1046

Bandwidth	Modulation	Channel	Frequency [MHz]	RB Size/Offset	Conducted Power [dBm]	Conducted Power [Watts]
20 MHz	DFT-s-OFDM $\pi/2$ BPSK	372000	1860.0	1 / 1	23.30	0.214
		376000	1880.0	1 / 104	23.35	0.216
		380000	1900.0	1 / 104	23.36	0.217
	DFT-s-OFDM QPSK	372000	1860.0	1 / 1	23.27	0.212
		376000	1880.0	1 / 104	23.36	0.217
		380000	1900.0	1 / 104	23.32	0.215
	DFT-s-OFDM 16QAM	372000	1860.0	1 / 1	23.20	0.209
		376000	1880.0	1 / 1	23.06	0.202
		380000	1900.0	1 / 1	22.89	0.195
	CP-OFDM QPSK	372000	1860.0	1 / 1	23.19	0.208
		376000	1880.0	1 / 1	23.12	0.205
		380000	1900.0	1 / 1	23.19	0.208
15 MHz	DFT-s-OFDM $\pi/2$ BPSK	371500	1857.5	1 / 77	23.56	0.227
		376000	1880.0	1 / 77	23.70	0.234
		380500	1902.5	1 / 77	23.49	0.223
	DFT-s-OFDM QPSK	371500	1857.5	1 / 77	23.68	0.233
		376000	1880.0	1 / 40	23.69	0.234
		380500	1902.5	1 / 1	23.40	0.219
	DFT-s-OFDM 16QAM	371500	1857.5	1 / 1	23.25	0.211
		376000	1880.0	1 / 1	23.70	0.234
		380500	1902.5	1 / 1	23.47	0.222
	CP-OFDM QPSK	371500	1857.5	1 / 1	23.18	0.208
		376000	1880.0	1 / 1	23.20	0.209
		380500	1902.5	1 / 1	23.13	0.206
10 MHz	DFT-s-OFDM $\pi/2$ BPSK	371000	1855.0	1 / 26	23.35	0.216
		376000	1880.0	1 / 50	23.42	0.220
		381000	1905.0	1 / 36	23.34	0.216
	DFT-s-OFDM QPSK	371000	1855.0	1 / 50	23.61	0.230
		376000	1880.0	1 / 1	23.56	0.227
		381000	1905.0	1 / 50	23.56	0.227
	DFT-s-OFDM 16QAM	371000	1855.0	1 / 1	23.26	0.212
		376000	1880.0	1 / 1	23.39	0.218
		381000	1905.0	1 / 1	23.37	0.217
	CP-OFDM QPSK	371000	1855.0	1 / 1	23.20	0.209
		376000	1880.0	1 / 1	22.87	0.194
		381000	1905.0	1 / 1	23.01	0.200
5 MHz	DFT-s-OFDM $\pi/2$ BPSK	370500	1852.5	1 / 1	23.37	0.217
		376000	1880.0	1 / 13	23.26	0.212
		381500	1907.5	1 / 1	23.37	0.217
	DFT-s-OFDM QPSK	370500	1852.5	1 / 23	23.37	0.217
		376000	1880.0	1 / 13	23.22	0.210
		381500	1907.5	1 / 1	23.39	0.218
	DFT-s-OFDM 16QAM	370500	1852.5	1 / 1	23.21	0.209
		376000	1880.0	1 / 1	23.29	0.213
		381500	1907.5	1 / 1	23.32	0.215
	CP-OFDM QPSK	370500	1852.5	1 / 1	22.91	0.195
		376000	1880.0	1 / 1	23.16	0.207
		381500	1907.5	1 / 1	23.20	0.209

Table 7-3. Sub 6GHz NR n2 Conducted Power Output Data

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 234 of 329

Bandwidth	Modulation	Channel	Frequency [MHz]	RB Size/Offset	Conducted Power [dBm]	Conducted Power [Watts]
20 MHz	DFT-s-OFDM $\pi/2$ BPSK	344000	1720.0	1 / 104	23.53	0.225
		349000	1745.0	1 / 1	23.29	0.213
		354000	1770.0	1 / 104	23.34	0.216
	DFT-s-OFDM QPSK	344000	1720.0	1 / 104	23.76	0.238
		349000	1745.0	1 / 104	23.50	0.224
		354000	1770.0	1 / 104	23.56	0.227
	DFT-s-OFDM 16QAM	344000	1720.0	1 / 1	23.63	0.231
		349000	1745.0	1 / 1	23.46	0.222
		354000	1770.0	1 / 1	23.65	0.232
	CP-OFDM QPSK	344000	1720.0	1 / 1	23.32	0.215
		349000	1745.0	1 / 1	23.06	0.202
		354000	1770.0	1 / 1	23.07	0.203

Table 7-4. Sub 6GHz NR n66 Conducted Power Output Data

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset	Page 235 of 329	

7.6 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. For burst transmissions, the spectrum analyzer is set to use an internal "RF Burst" trigger that is synced with an incoming pulse and the measurement interval is set to less than the duration of the "on time" of one burst to ensure that energy is only captured during a time in which the transmitter is operating at maximum power

Test Setup

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



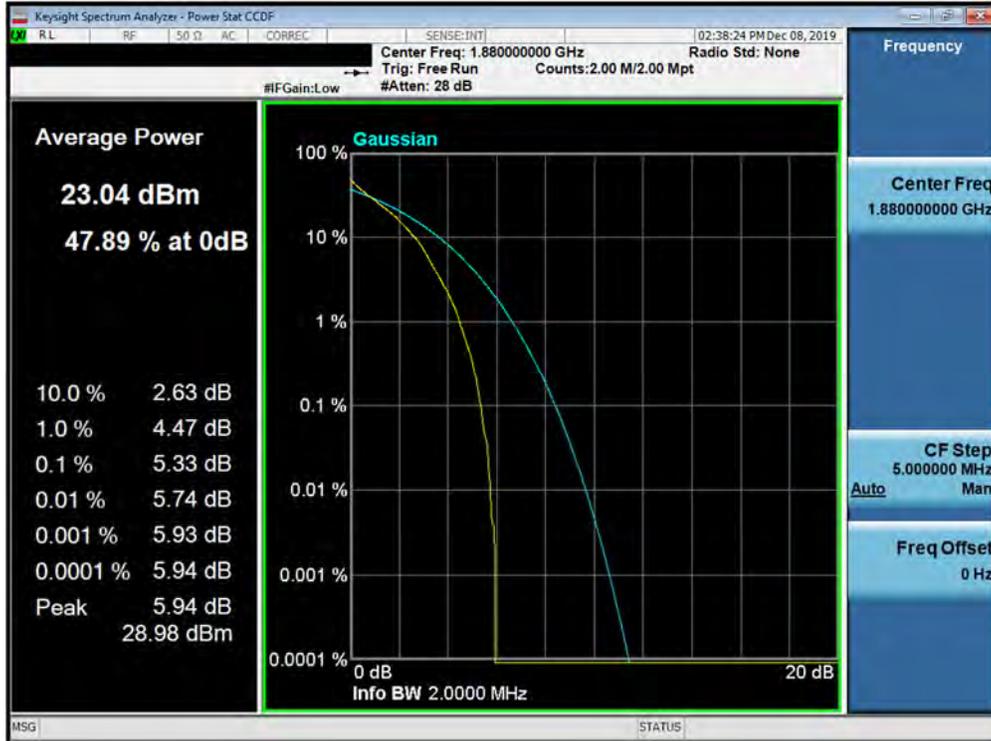
Figure 7-4. Test Instrument & Measurement Setup

Test Notes

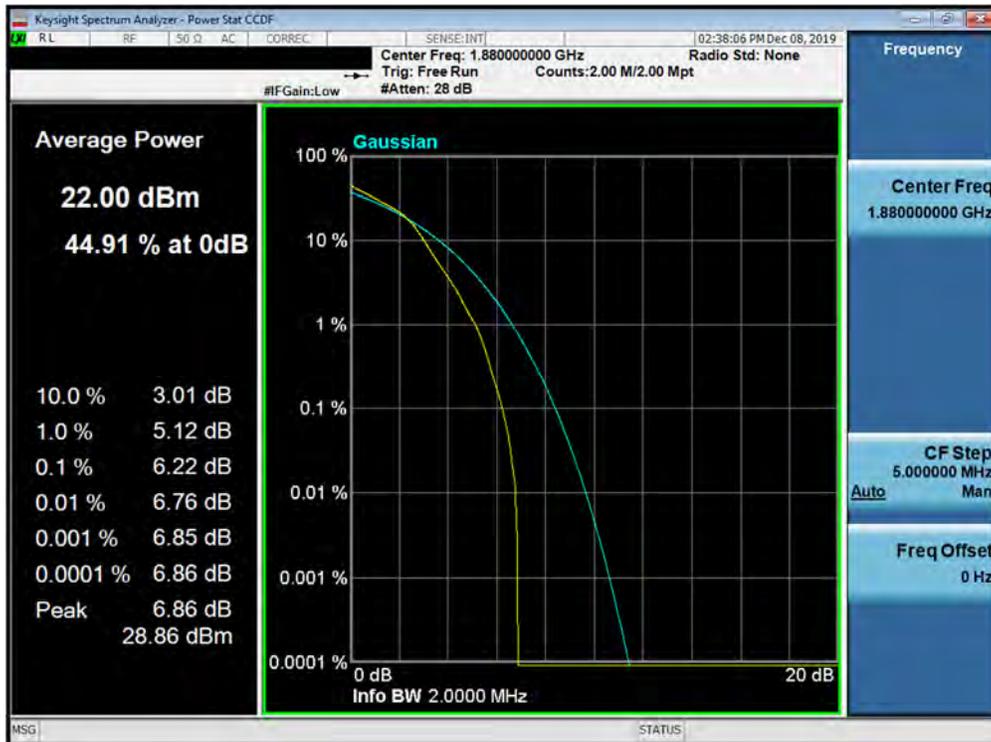
This device employs Sub 6GHz NR technologies. All SCS's and Waveforms (CP-OFDM vs DFT-s OFDM) were investigated to determine the worst case configuration. All modes of operation were investigated and the worst case configuration results are reported in this section.

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 236 of 329

Band 2

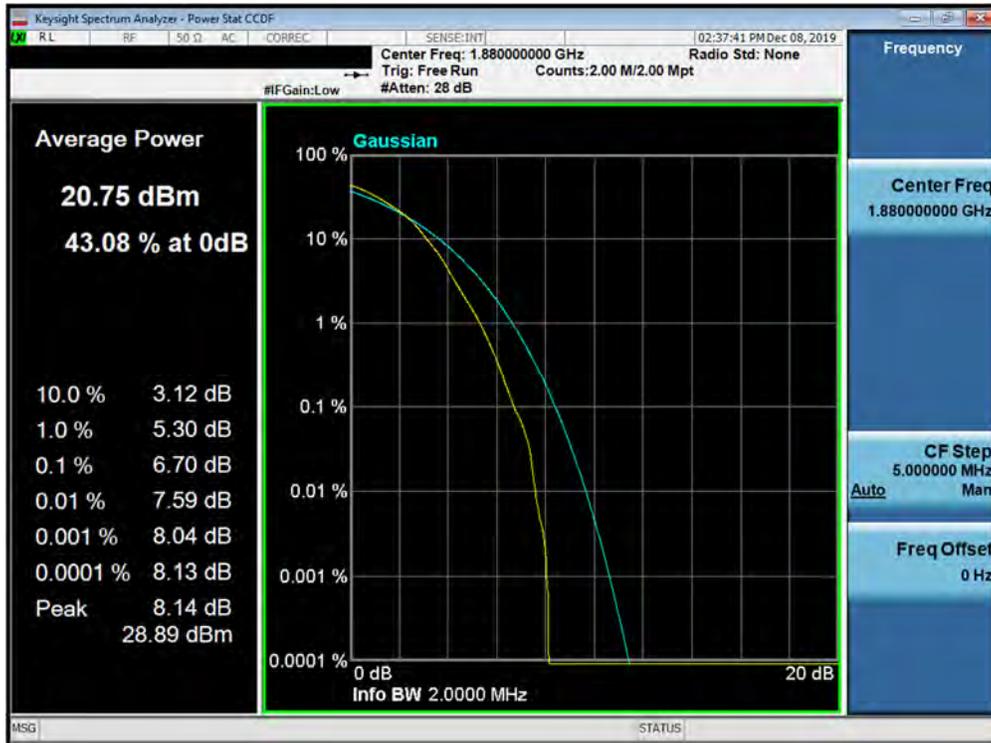


Plot 7-411. PAR Plot (Band 2 - 1.4MHz QPSK - Full RB Configuration)

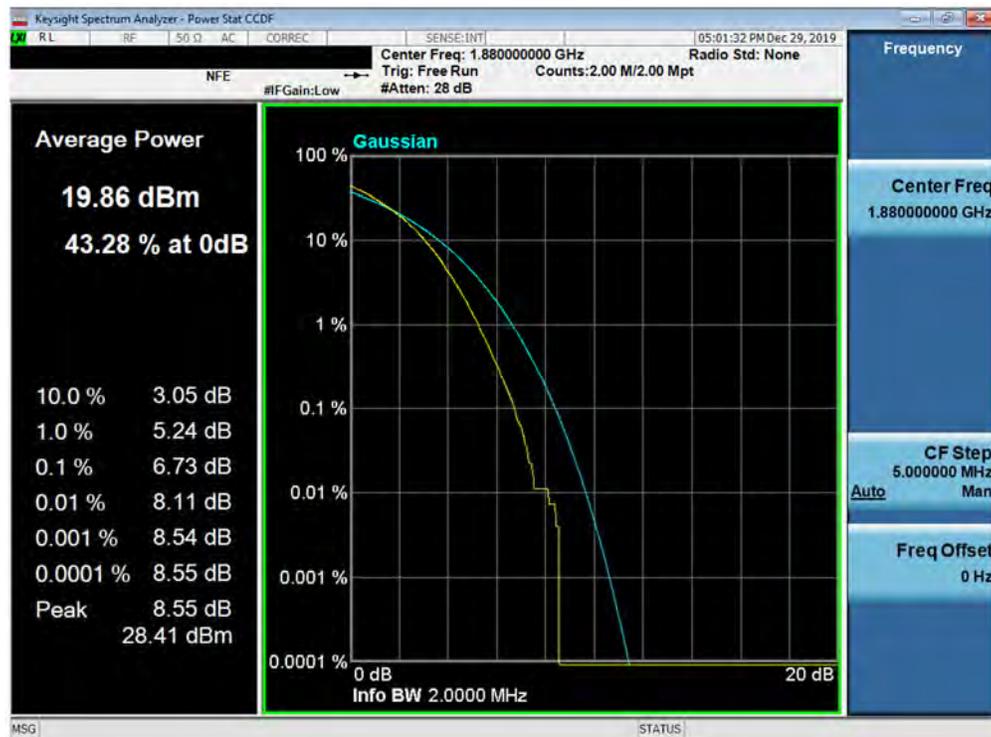


Plot 7-412. PAR Plot (Band 2 - 1.4MHz 16-QAM - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 237 of 329

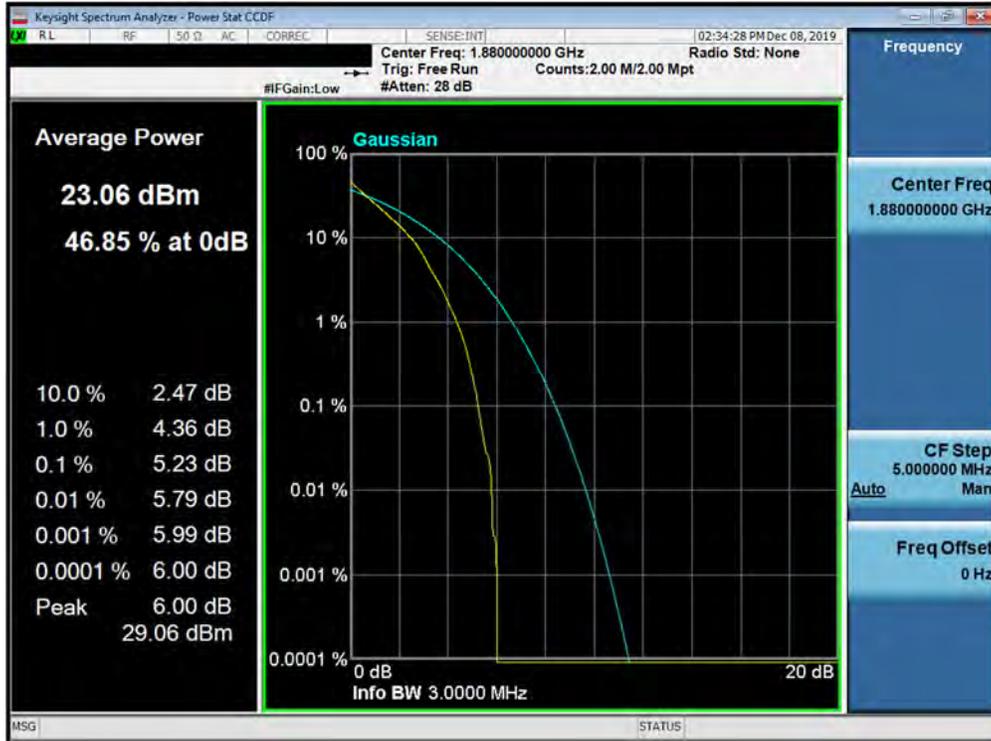


Plot 7-413. PAR Plot (Band 2 - 1.4MHz 64-QAM - Full RB Configuration)

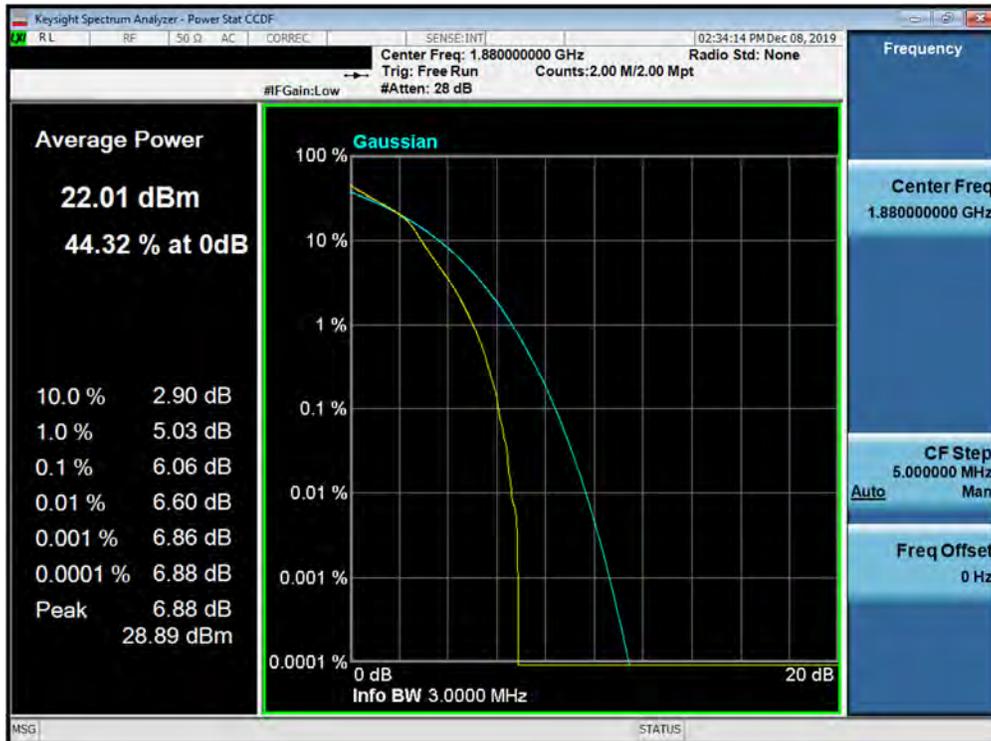


Plot 7-414. PAR Plot (Band 2 - 1.4MHz 256-QAM - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 238 of 329

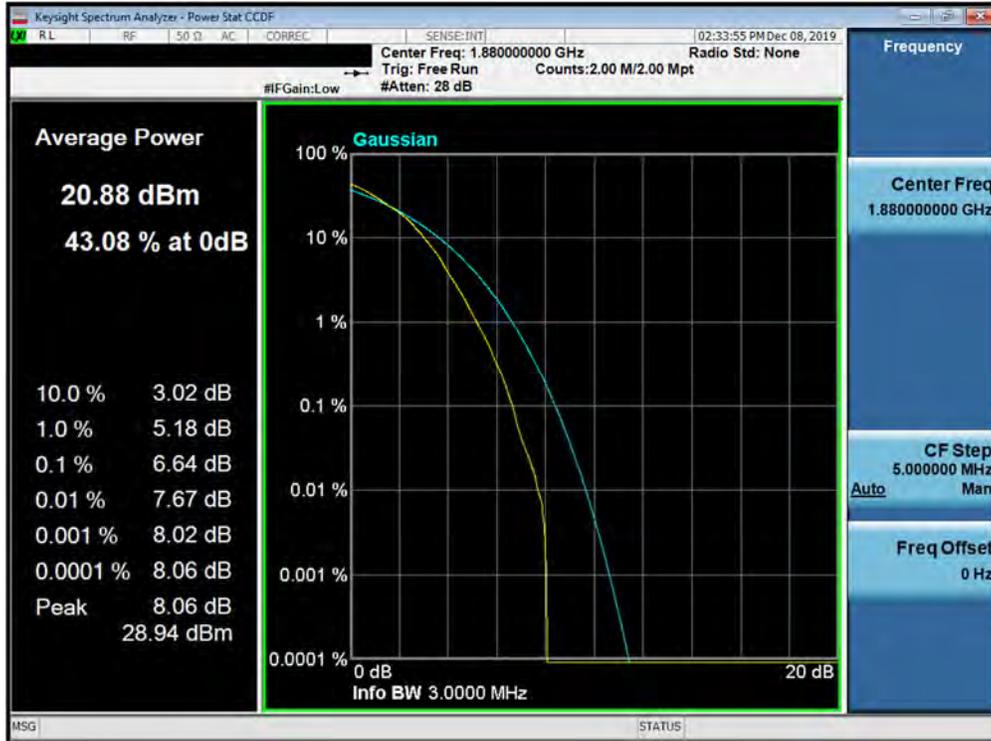


Plot 7-415. PAR Plot (Band 2 - 3.0MHz QPSK - Full RB Configuration)

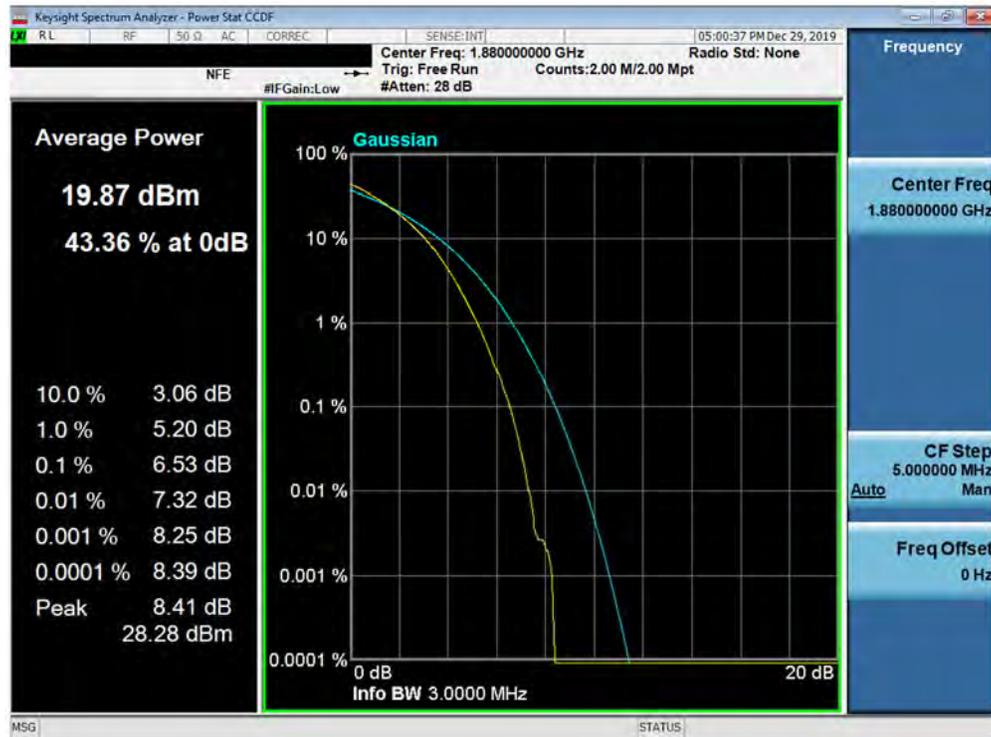


Plot 7-416. PAR Plot (Band 2 - 3.0MHz 16-QAM - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 239 of 329

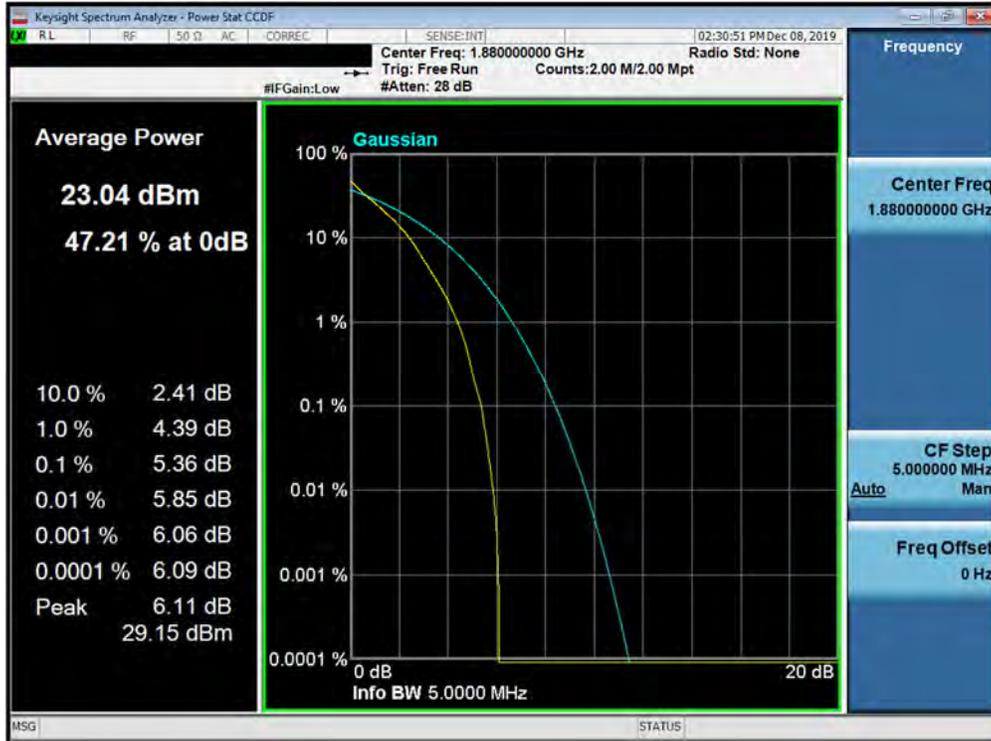


Plot 7-417. PAR Plot (Band 2 - 3.0MHz 64-QAM - Full RB Configuration)

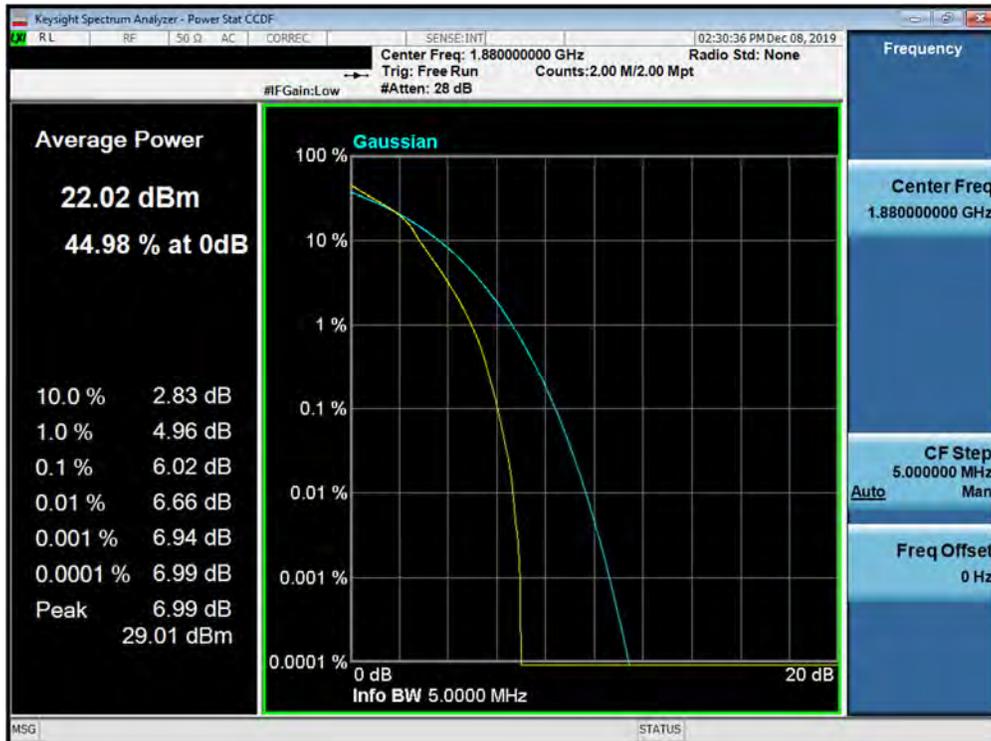


Plot 7-418. PAR Plot (Band 2 - 3.0MHz 256-QAM - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 240 of 329

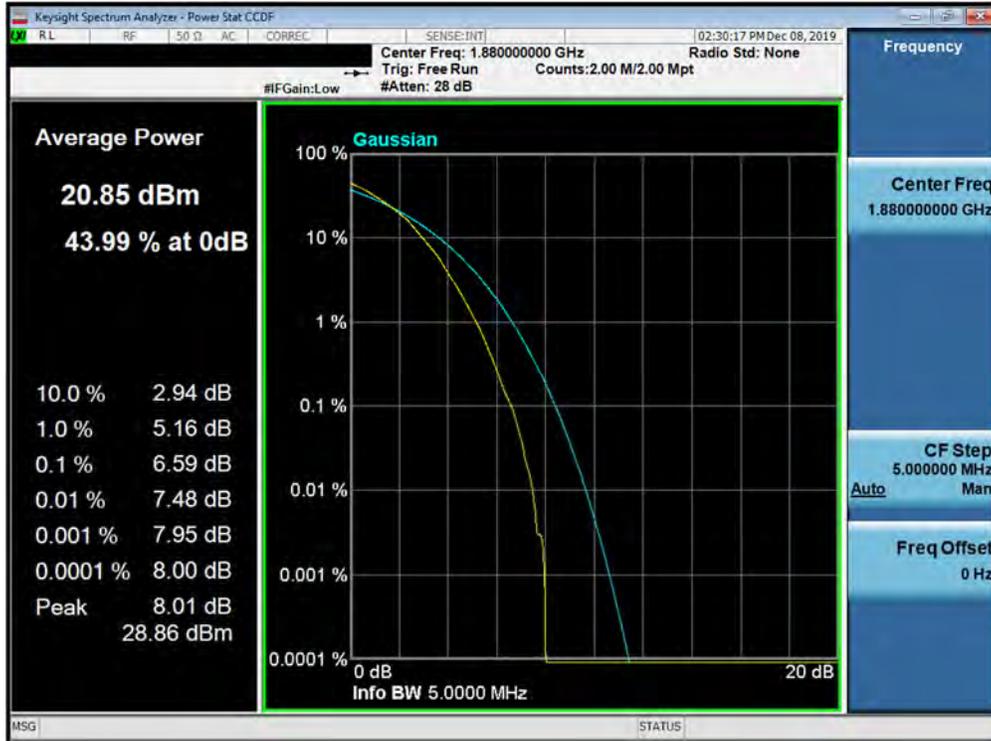


Plot 7-419. PAR Plot (Band 2 - 5.0MHz QPSK - Full RB Configuration)

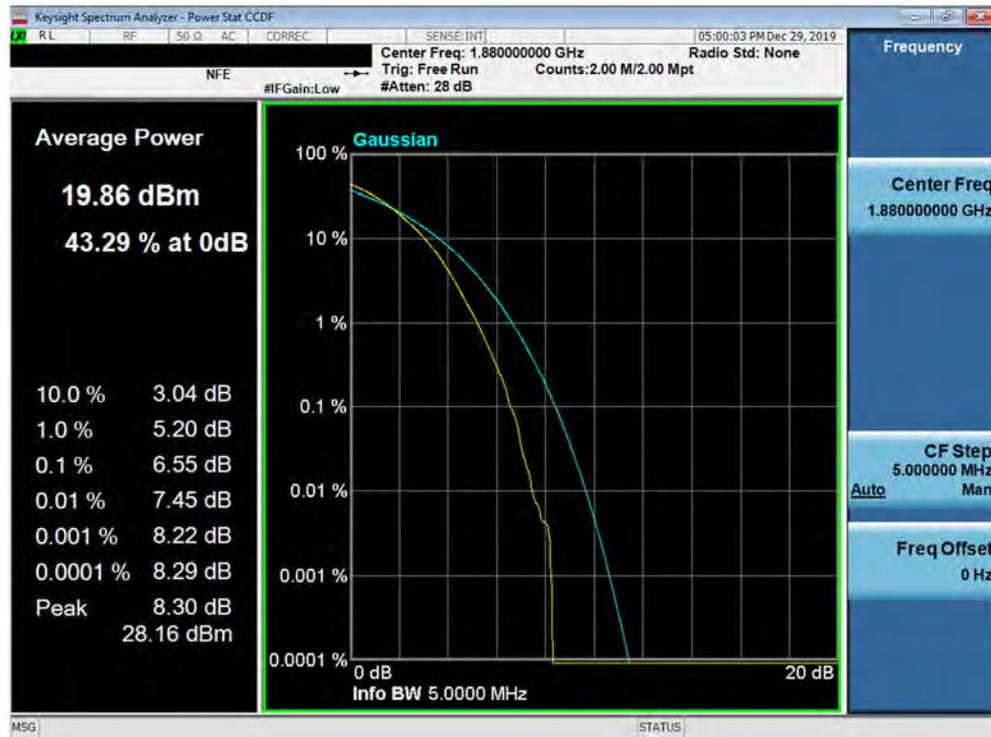


Plot 7-420. PAR Plot (Band 2 - 5.0MHz 16-QAM - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 241 of 329



Plot 7-421. PAR Plot (Band 2 - 5.0MHz 64-QAM - Full RB Configuration)



Plot 7-422. PAR Plot (Band 2 - 5.0MHz 256-QAM - Full RB Configuration)

FCC ID: ZNFV600VM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1911250199-03.ZNF	Test Dates: 11/25/2019-1/17/2019	EUT Type: Portable Handset		Page 242 of 329