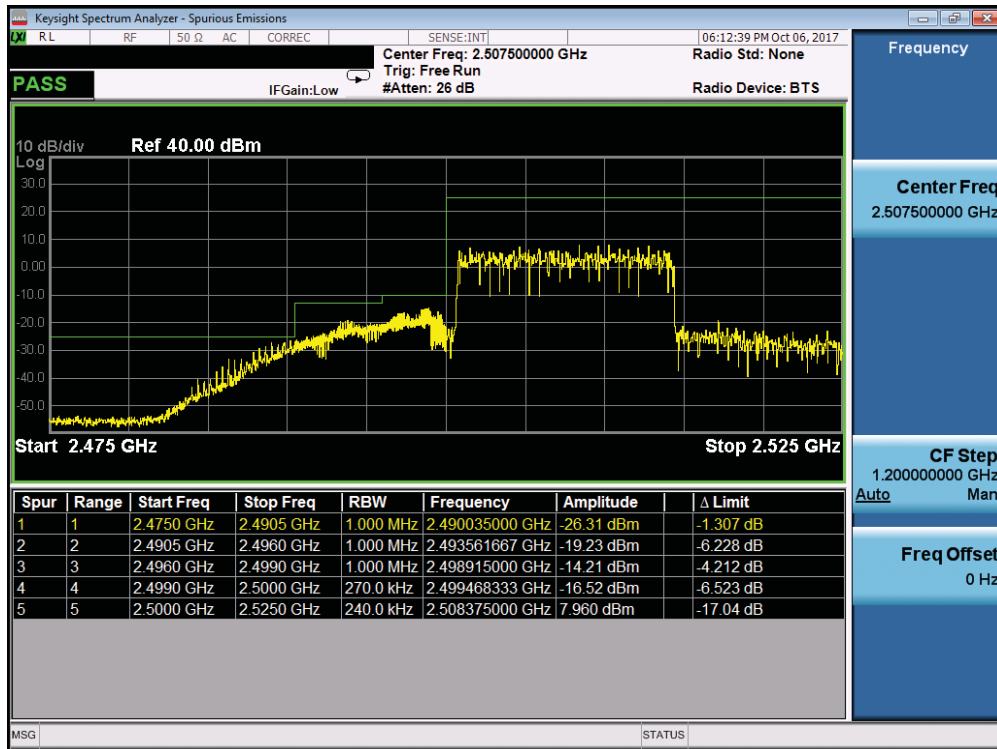
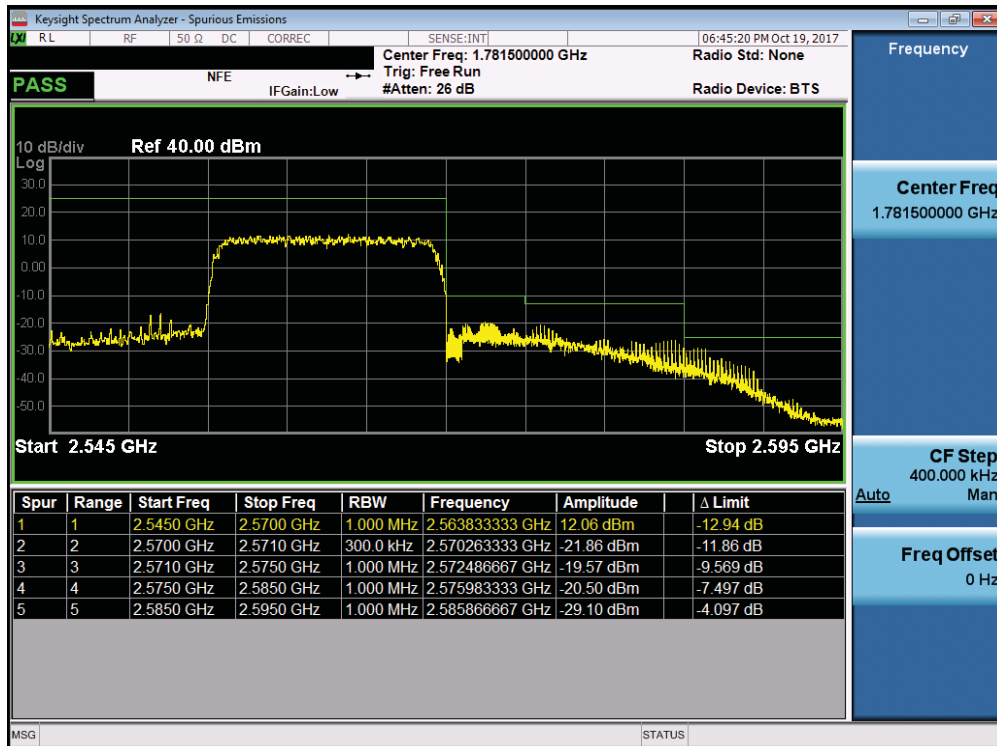


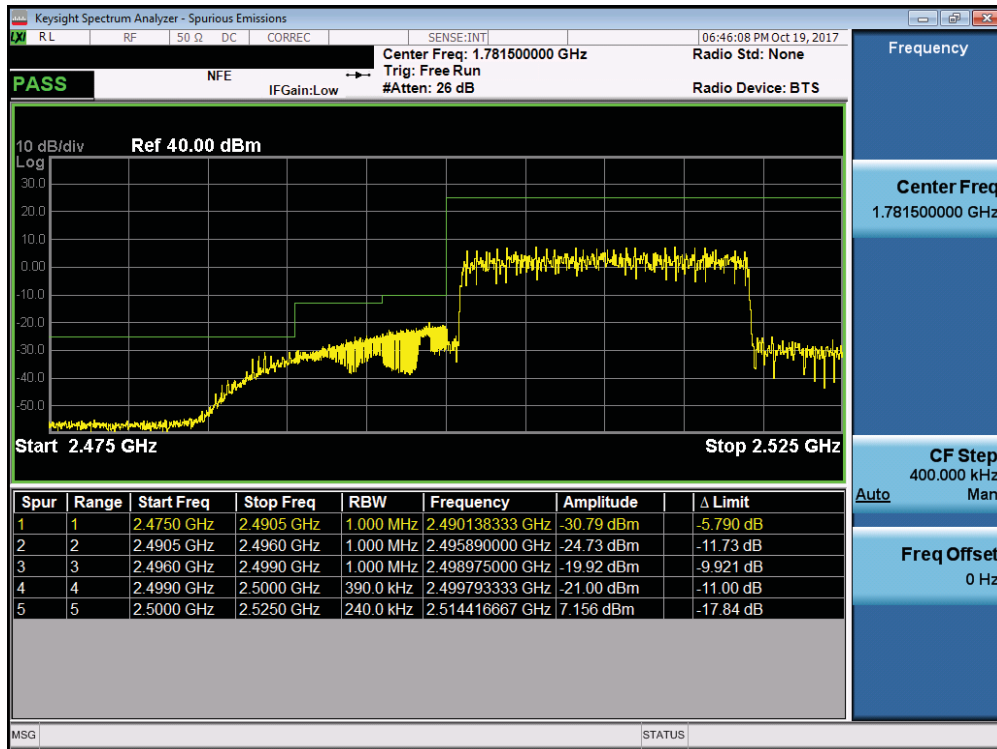


Plot 7-255. Lower ACP Plot (Band 7 - 15.0MHz QPSK - RB Size 25)

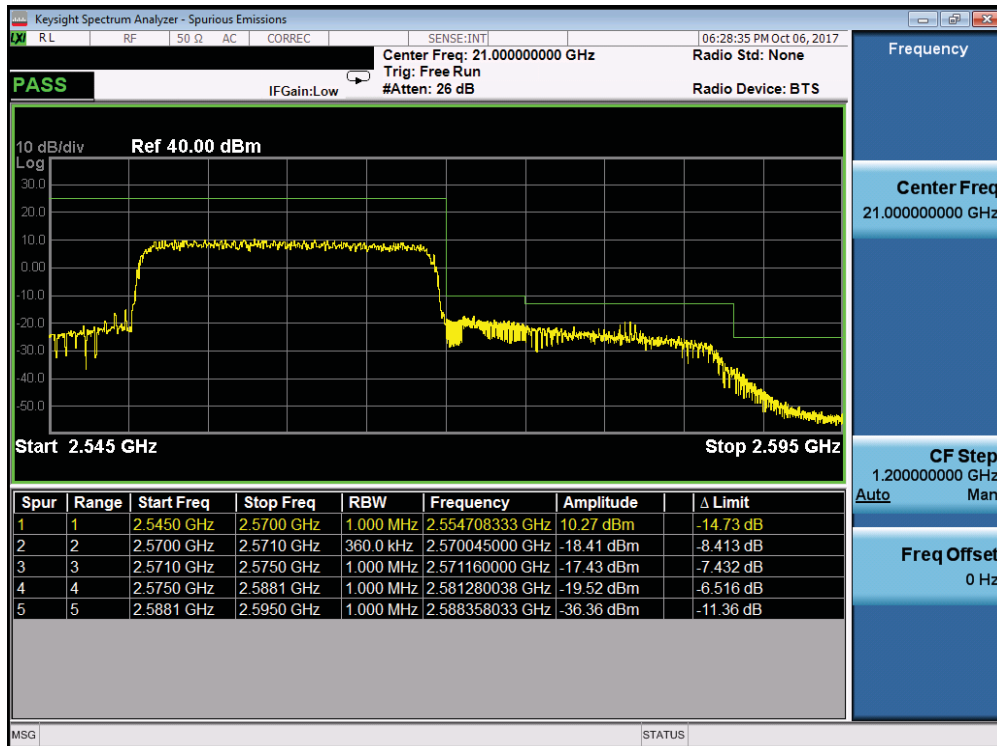


Plot 7-256. Upper ACP Plot (Band 7 - 15.0MHz QPSK - RB Size 25)

FCC ID: A3LSMG965F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1710040265-03-A3L	Test Dates: 10/4/2017-12/15/2017	EUT Type: Portable Handset		Page 151 of 250



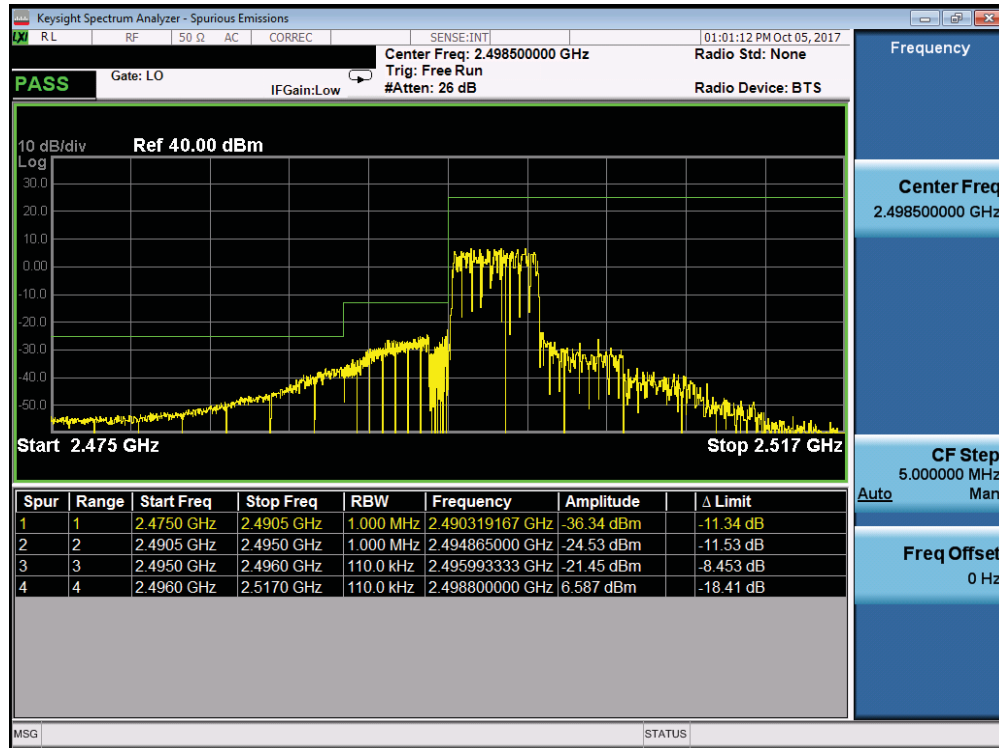
Plot 7-257. Lower ACP Plot (Band 7 - 20.0MHz QPSK - RB Size 25)



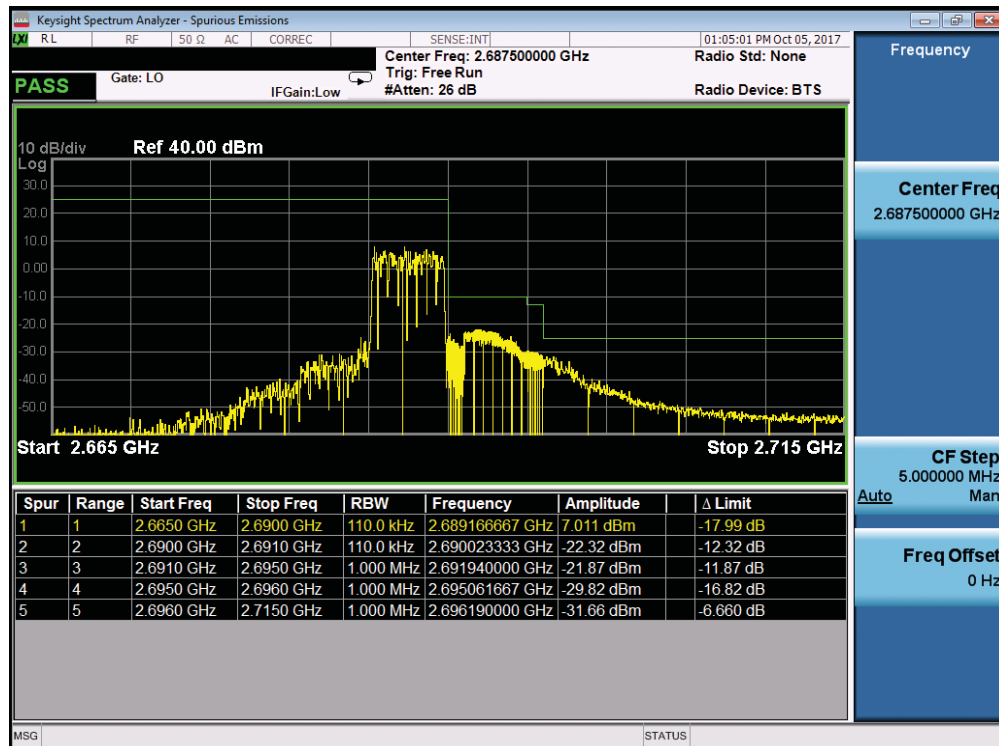
Plot 7-258. Upper ACP Plot (Band 7 - 20.0MHz QPSK - RB Size 25)

FCC ID: A3LSMG965F	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1710040265-03.A3L	Test Dates: 10/4/2017-12/15/2017	EUT Type: Portable Handset	Page 152 of 250

Band 41

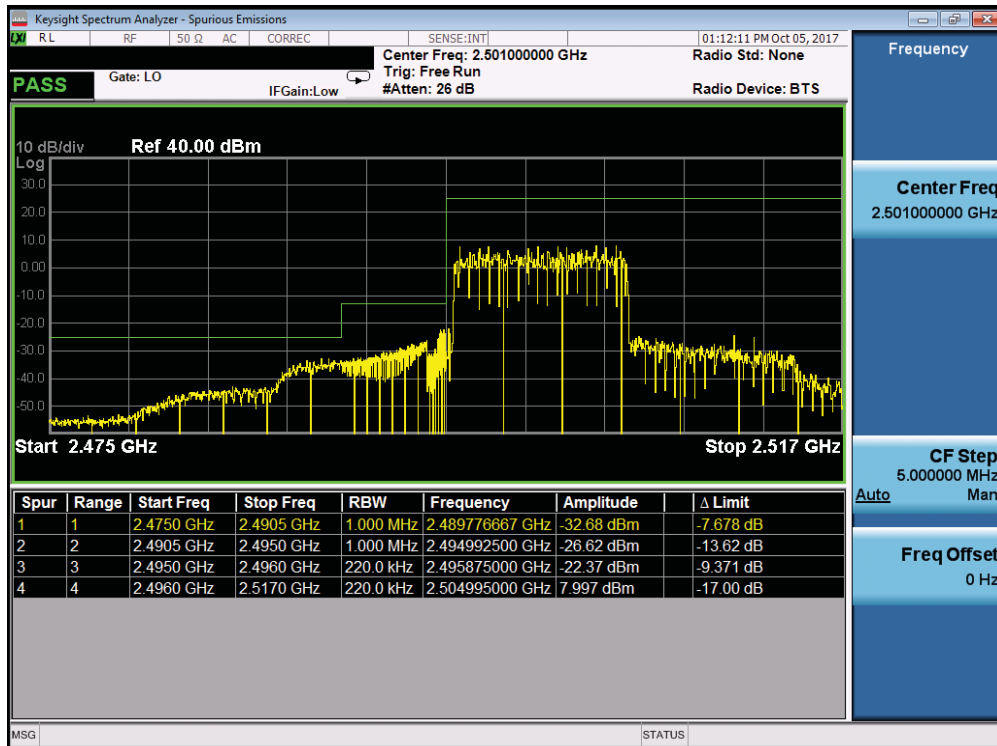


Plot 7-259. Lower ACP Plot at 2496 MHz (Band 41 - 5.0MHz QPSK - RB Size 25)

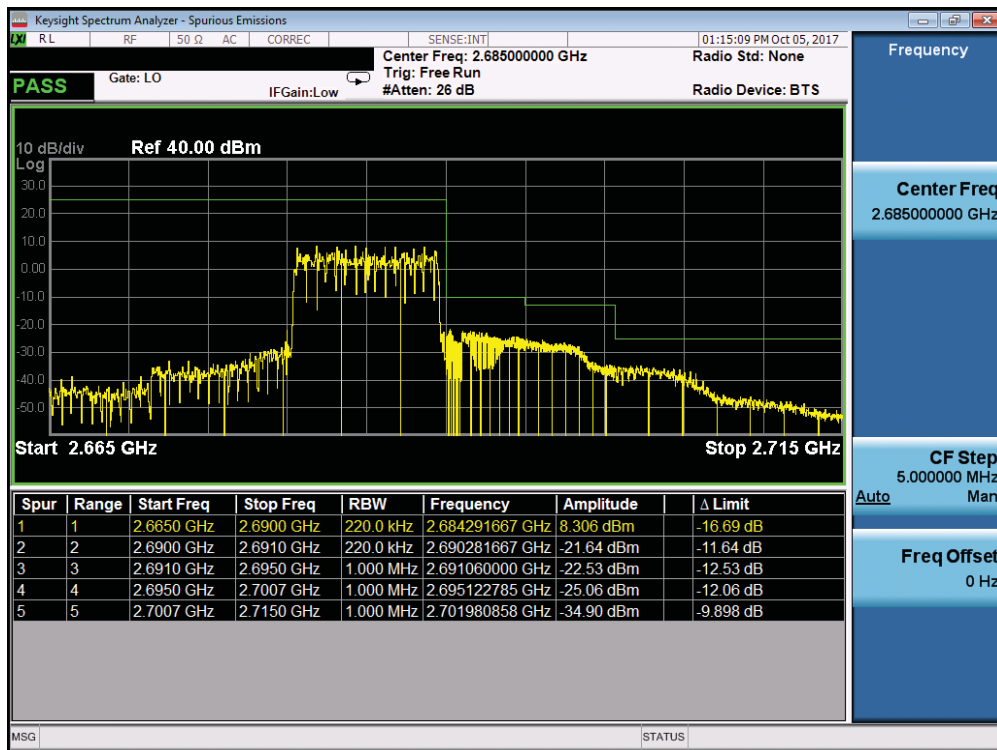


Plot 7-260. Upper ACP Plot (Band 41 - 5.0MHz QPSK - RB Size 25)

FCC ID: A3LSMG965F	 MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1710040265-03.A3L	Test Dates: 10/4/2017-12/15/2017	EUT Type: Portable Handset		Page 153 of 250

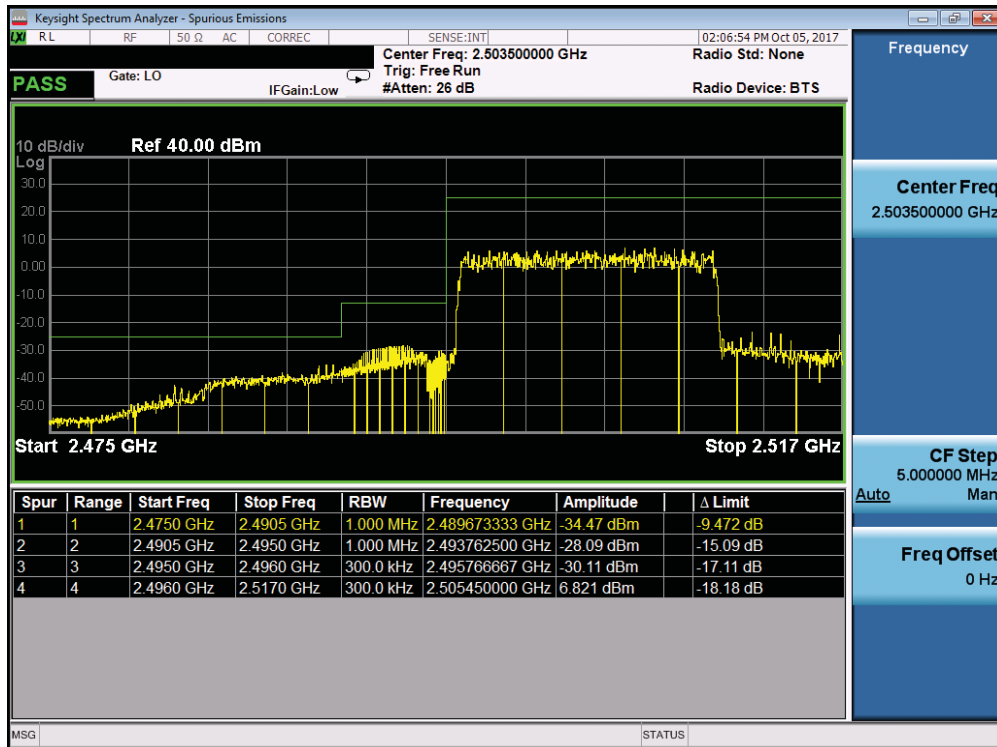


Plot 7-261. Lower ACP Plot at 2496 MHz (Band 41 - 10.0MHz QPSK - RB Size 25)

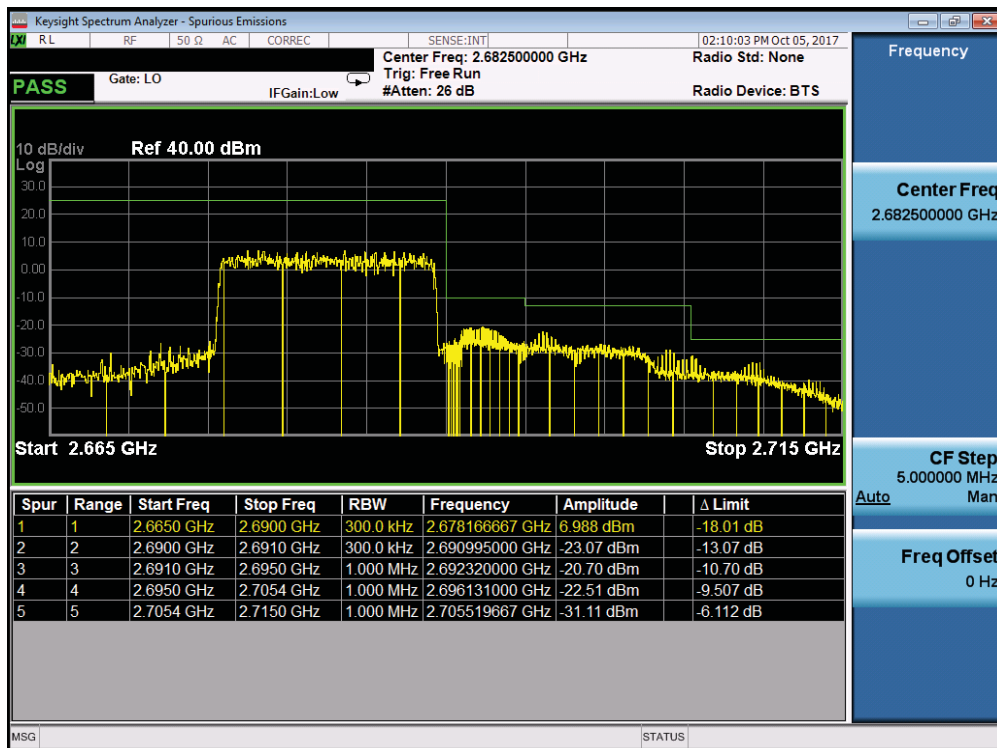


Plot 7-262. Upper ACP Plot (Band 41 - 10.0MHz QPSK - RB Size 25)

FCC ID: A3LSMG965F	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1710040265-03.A3L	Test Dates: 10/4/2017-12/15/2017	EUT Type: Portable Handset	Page 154 of 250	

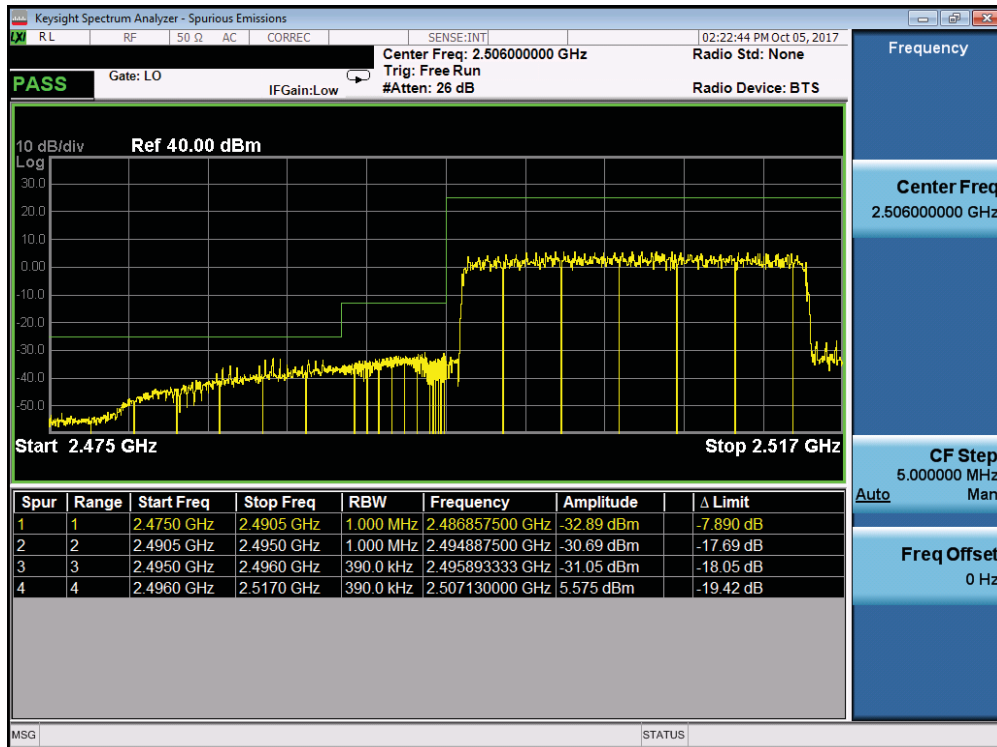


Plot 7-263. Lower ACP Plot at 2496 MHz (Band 41 - 15.0MHz QPSK - RB Size 25)

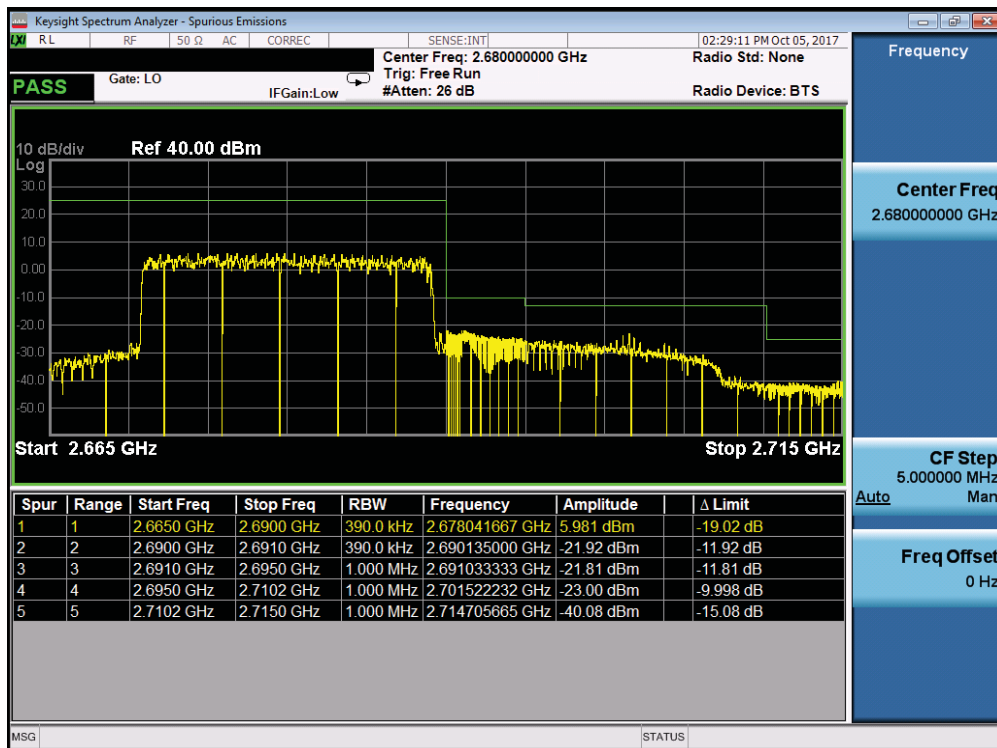


Plot 7-264. Upper ACP Plot (Band 41 - 15.0MHz QPSK - RB Size 25)

FCC ID: A3LSMG965F	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1710040265-03.A3L	Test Dates: 10/4/2017-12/15/2017	EUT Type: Portable Handset	Page 155 of 250



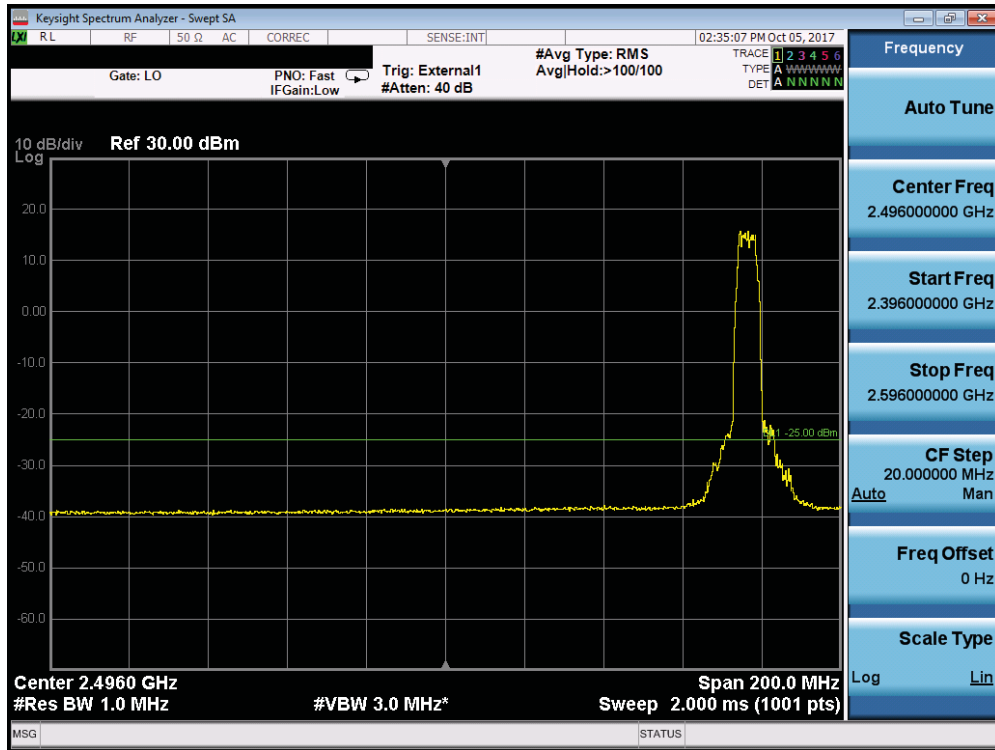
Plot 7-265. Lower ACP Plot at 2496 MHz (Band 41 - 20.0MHz QPSK - RB Size 25)



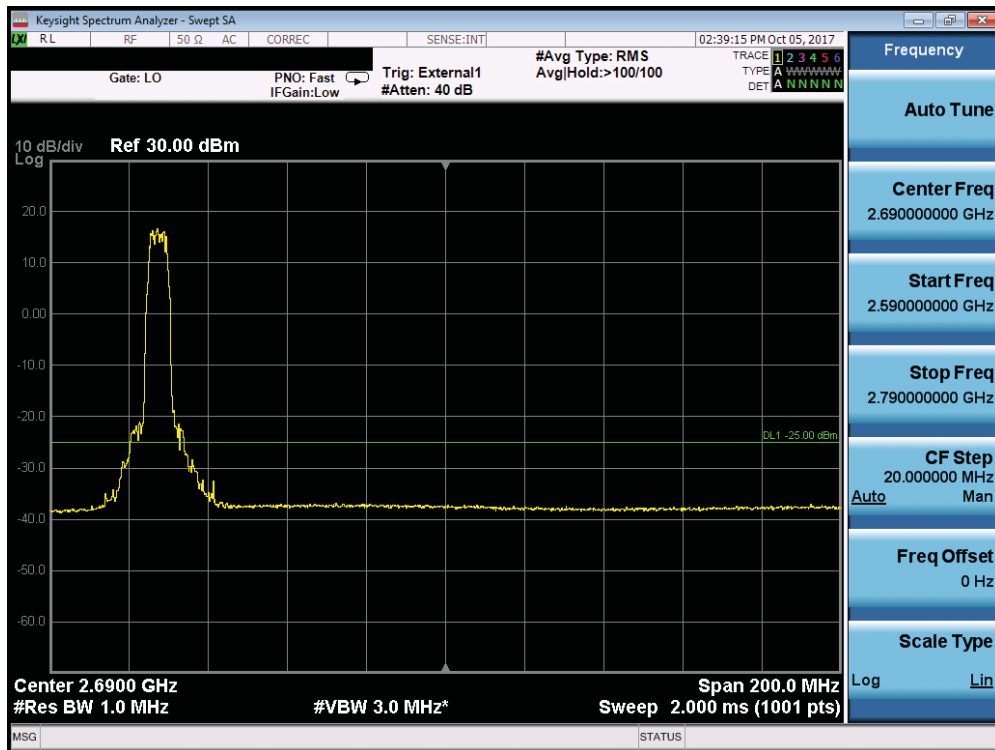
Plot 7-266. Upper ACP Plot (Band 41 - 20.0MHz QPSK - RB Size 25)

FCC ID: A3LSMG965F	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1710040265-03.A3L	Test Dates: 10/4/2017-12/15/2017	EUT Type: Portable Handset	Page 156 of 250	

Band 38

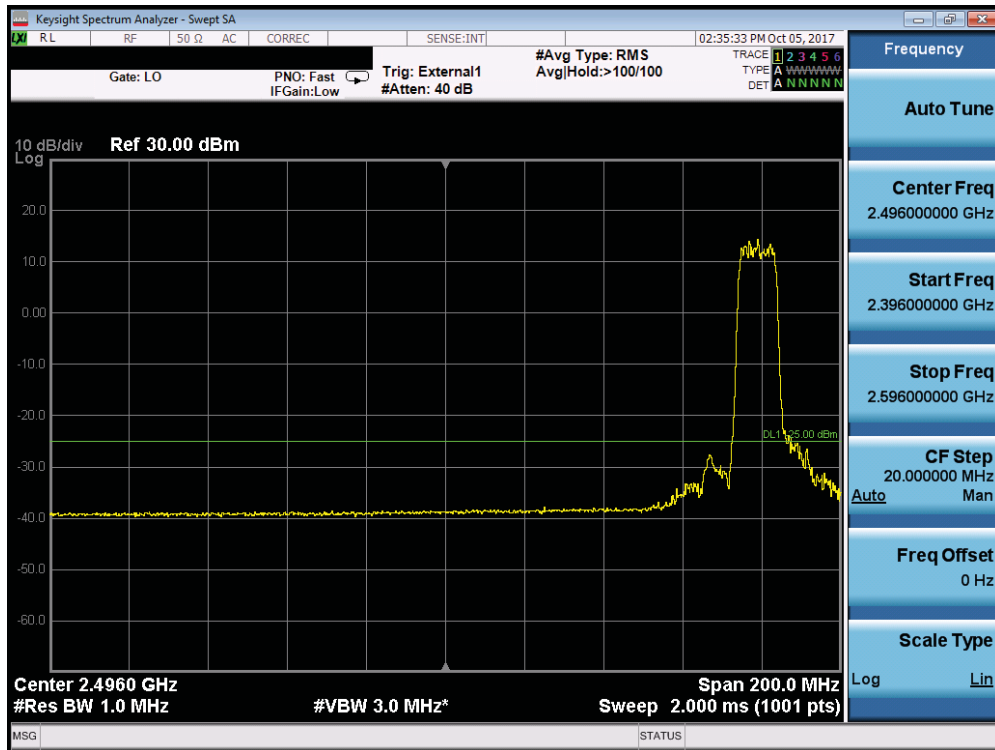


Plot 7-267. Lower Band edge (Band 38 - 5.0MHz QPSK - RB Size 25)

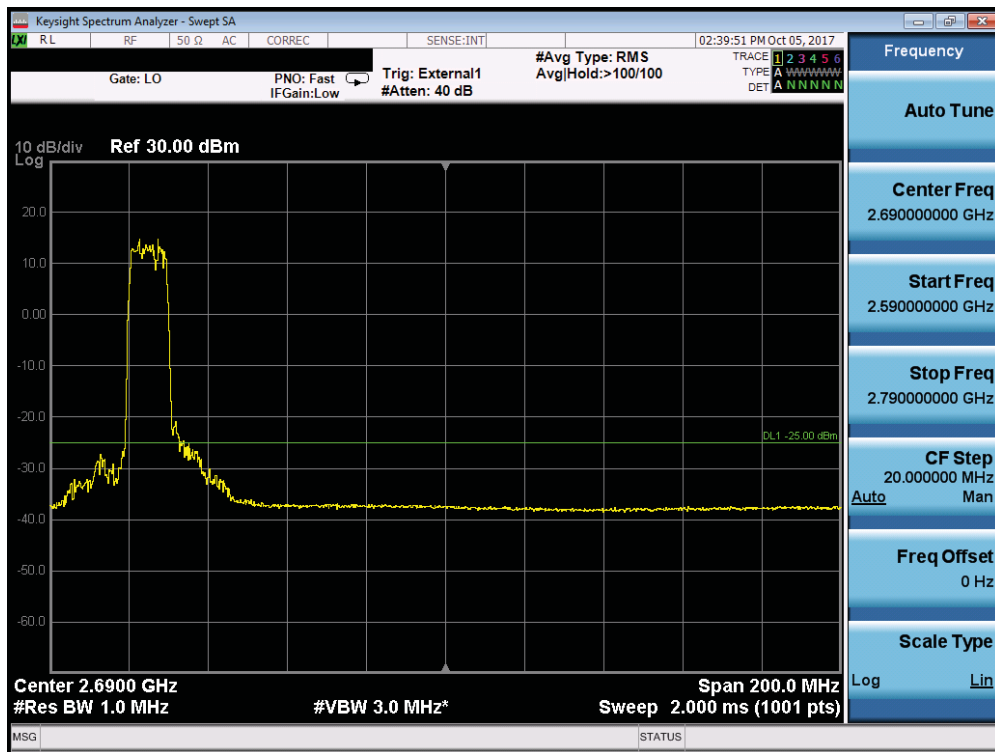


Plot 7-268. Upper Band edge (Band 38 - 5.0MHz QPSK - RB Size 25)

FCC ID: A3LSMG965F	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1710040265-03.A3L	Test Dates: 10/4/2017-12/15/2017	EUT Type: Portable Handset		Page 157 of 250

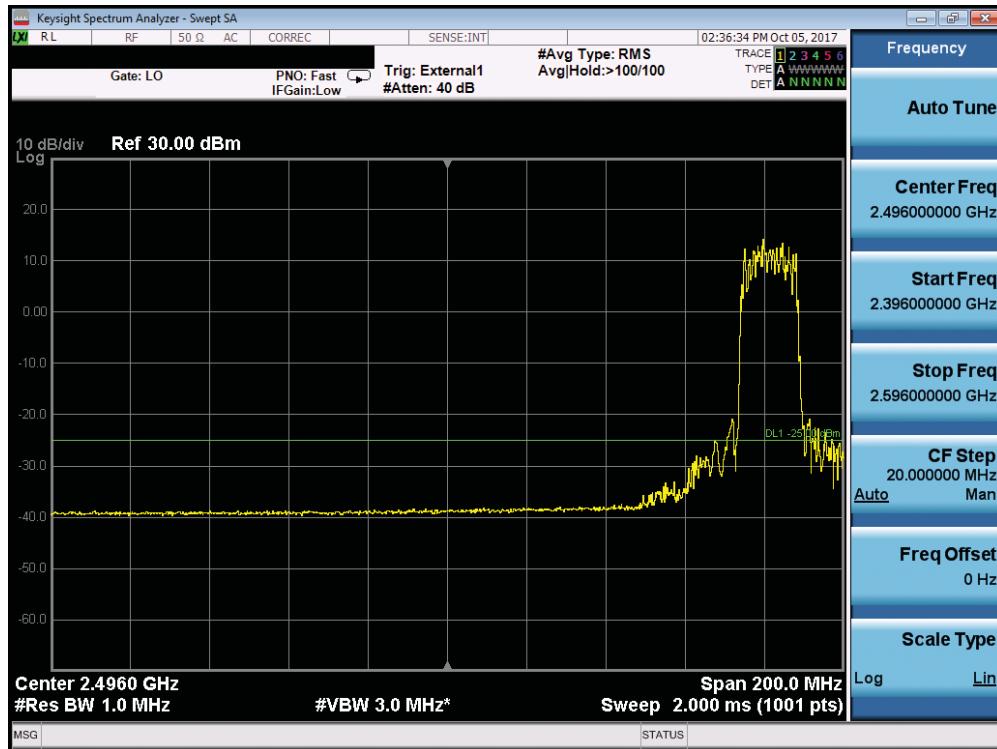


Plot 7-269. Lower Band edge (Band 38 - 10.0MHz QPSK - RB Size 50)

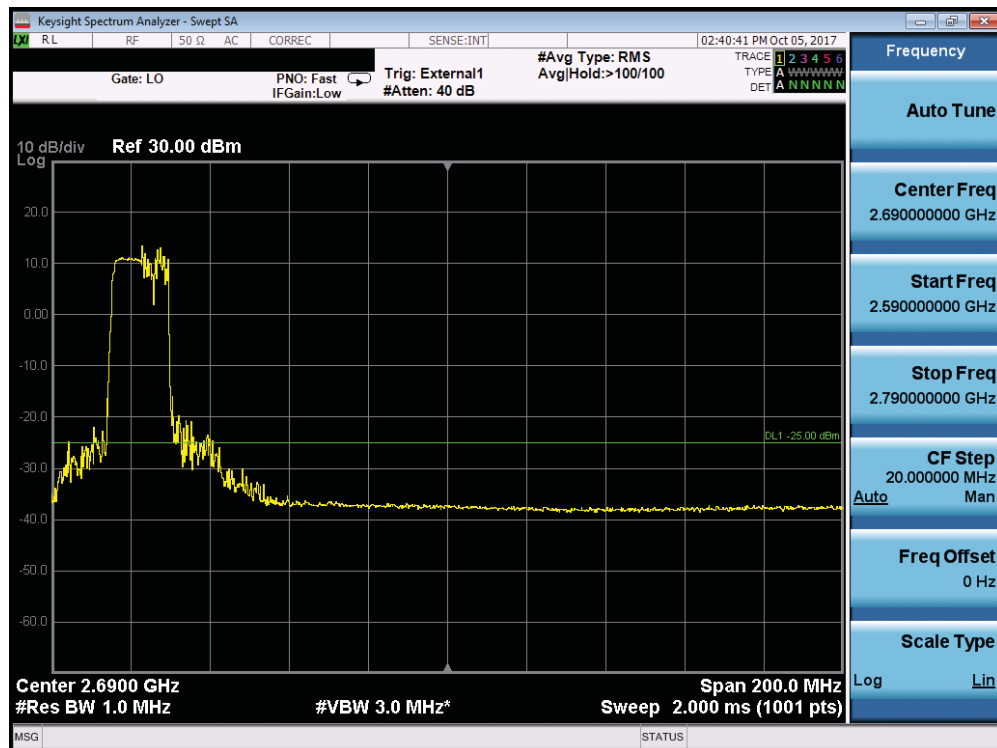


Plot 7-270. Upper Band edge (Band 38 - 10.0MHz QPSK - RB Size 50)

FCC ID: A3LSMG965F	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1710040265-03.A3L	Test Dates: 10/4/2017-12/15/2017	EUT Type: Portable Handset		Page 158 of 250

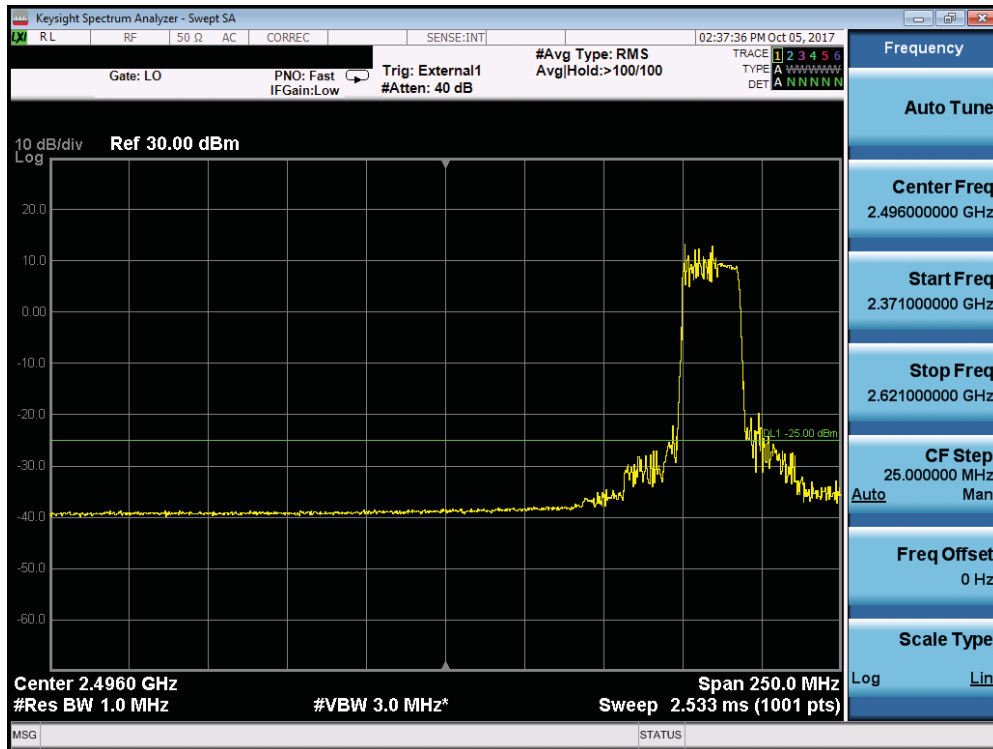


Plot 7-271. Lower Band edge (Band 38 - 15.0MHz QPSK - RB Size 75)

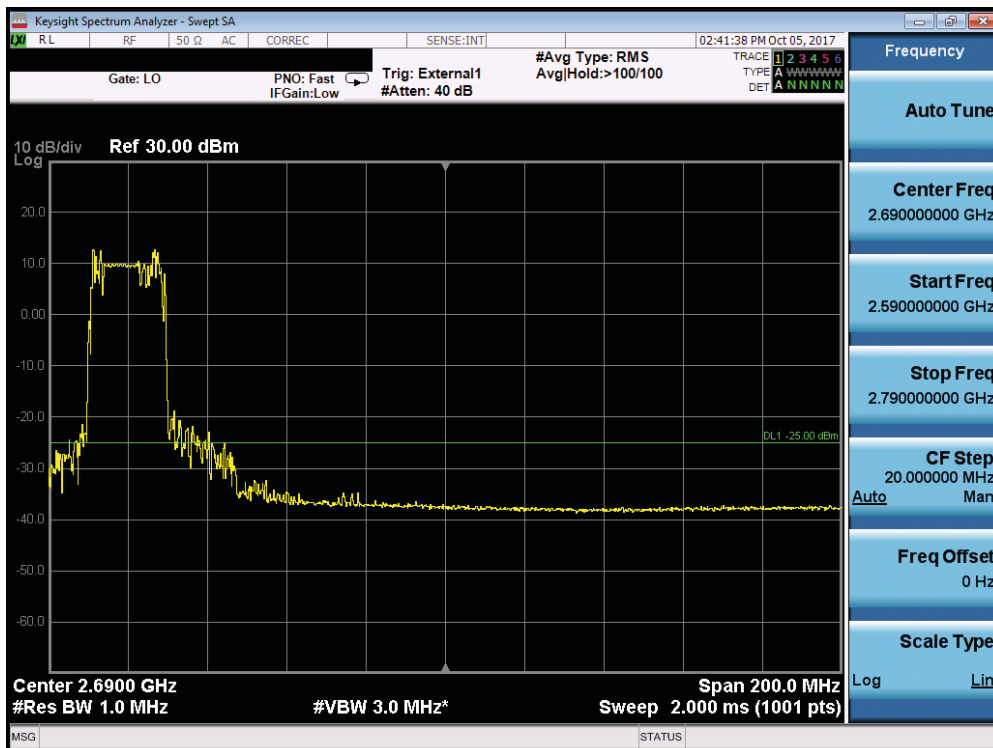


Plot 7-272. Upper Band edge (Band 38 - 15.0MHz QPSK - RB Size 75)

FCC ID: A3LSMG965F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Plot 7-273. Lower Band edge (Band 38 - 20.0MHz QPSK - RB Size 100)



Plot 7-274. Upper Band edge (Band 38 - 20.0MHz QPSK - RB Size 100)

FCC ID: A3LSMG965F	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1710040265-03.A3L	Test Dates: 10/4/2017-12/15/2017	EUT Type: Portable Handset	Page 160 of 250

7.5 Peak-Average Ratio

§24.232(d) RSS-130(4.4) RSS-132(5.4) RSS-133(6.4) RSS-139(6.5)

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 v03 – Section 5.7.1

Test Settings

1. The signal analyzer's CCDF measurement profile is enabled
2. Frequency = carrier center frequency
3. Measurement BW > Emission bandwidth of signal
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.

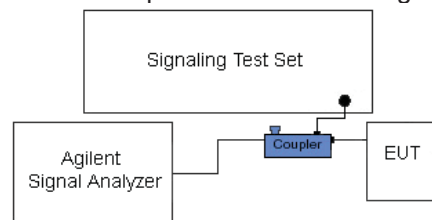
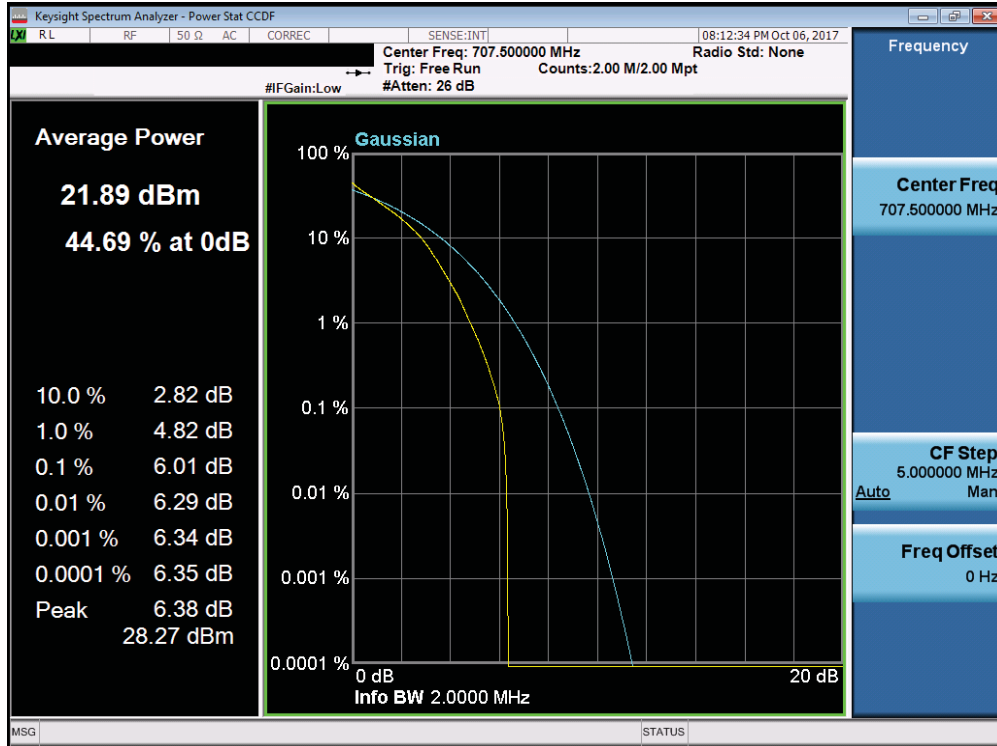


Figure 7-4. Test Instrument & Measurement Setup

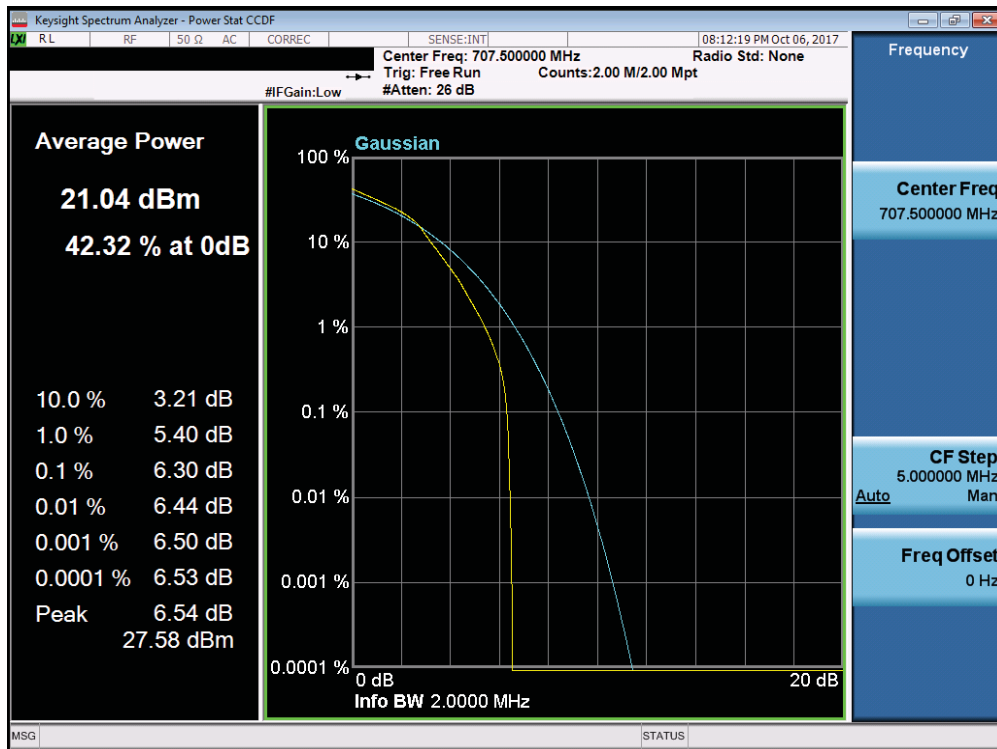
Test Notes

None.

FCC ID: A3LSMG965F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1710040265-03.A3L	Test Dates: 10/4/2017-12/15/2017	EUT Type: Portable Handset		Page 161 of 250

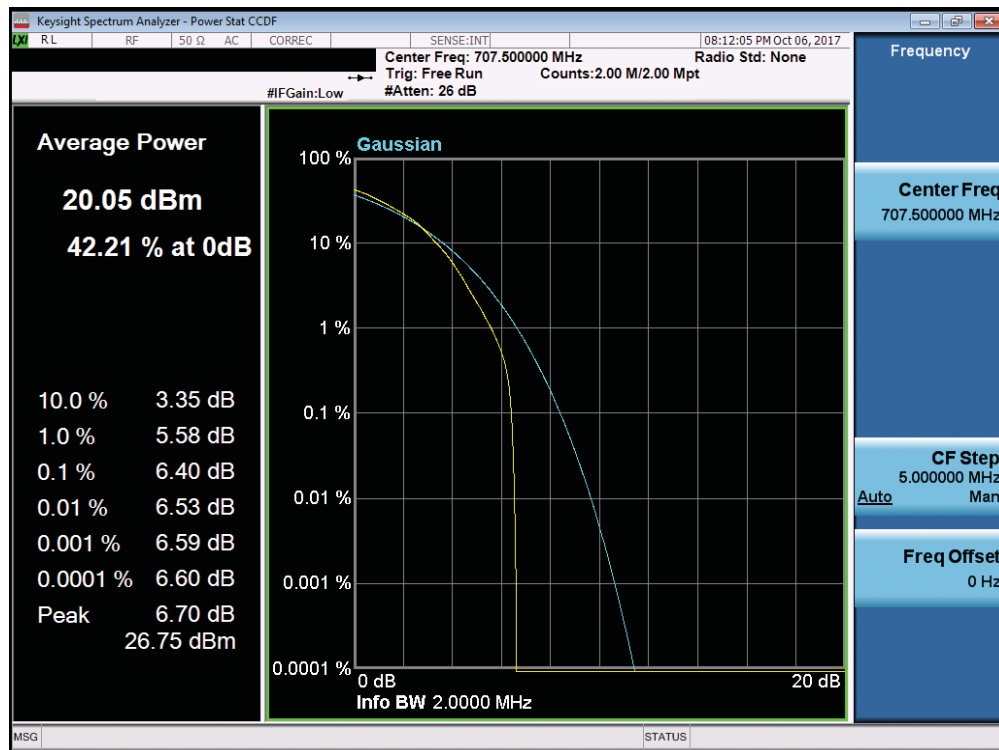


Plot 7-275. PAR Plot (Band 12 - 1.4MHz QPSK - Full RB Configuration)

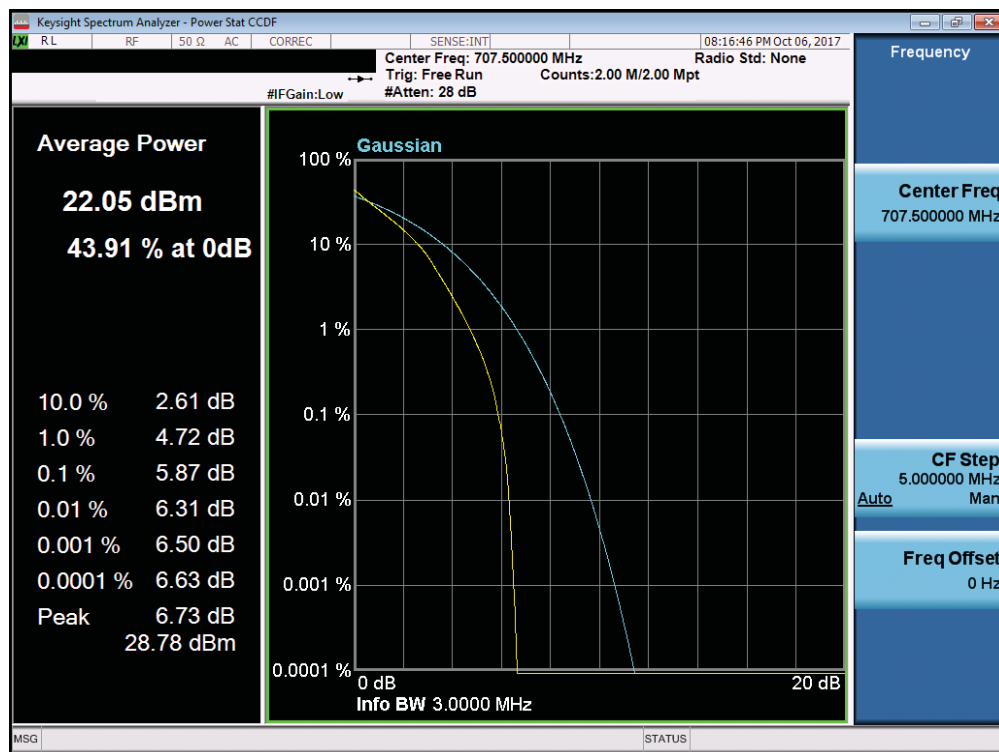


Plot 7-276. PAR Plot (Band 12 - 1.4MHz 16-QAM - Full RB Configuration)

FCC ID: A3LSMG965F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1710040265-03.A3L	Test Dates: 10/4/2017-12/15/2017	EUT Type: Portable Handset		Page 162 of 250

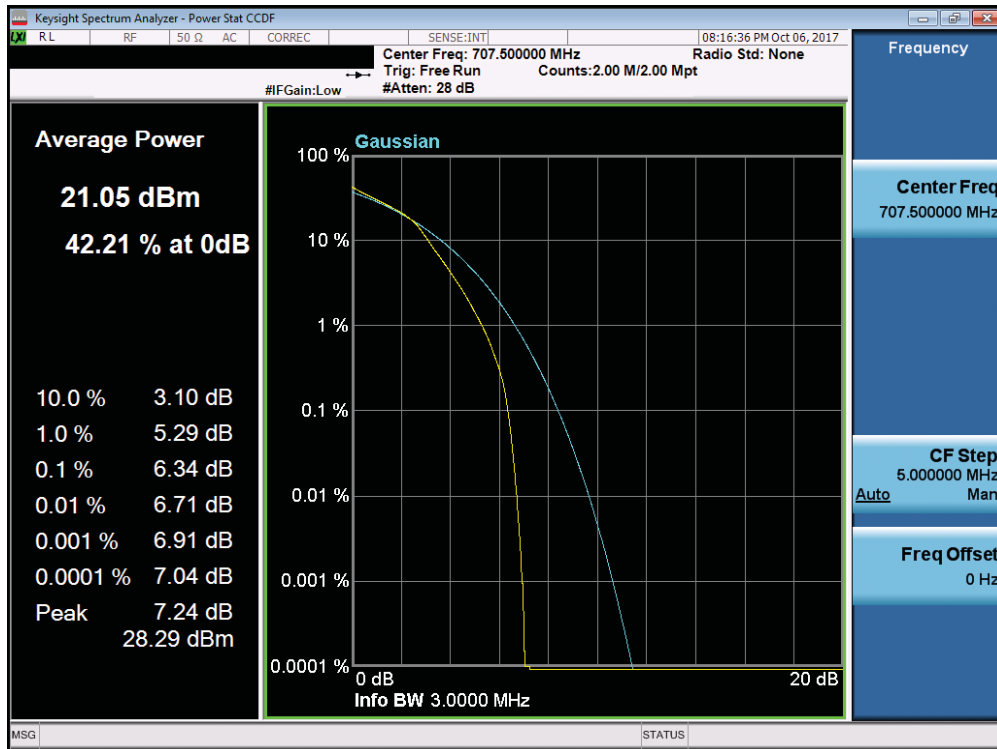


Plot 7-277. PAR Plot (Band 12 - 1.4MHz 64-QAM - Full RB Configuration)

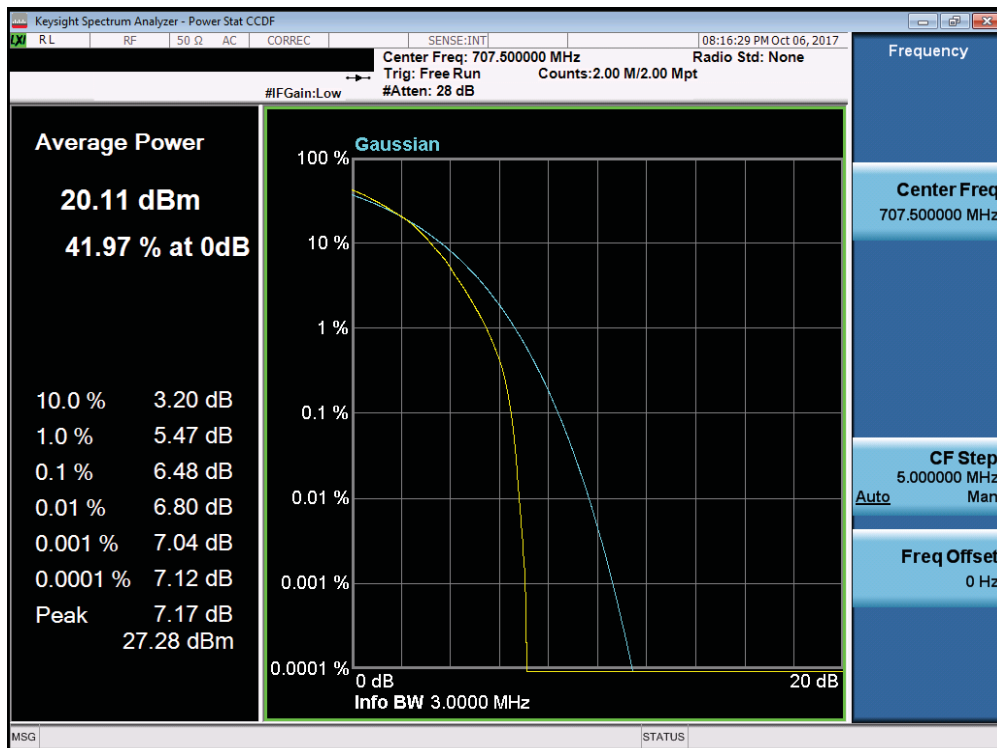


Plot 7-278. PAR Plot (Band 12 - 3.0MHz QPSK - Full RB Configuration)

FCC ID: A3LSMG965F	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1710040265-03.A3L	Test Dates: 10/4/2017-12/15/2017	EUT Type: Portable Handset		Page 163 of 250

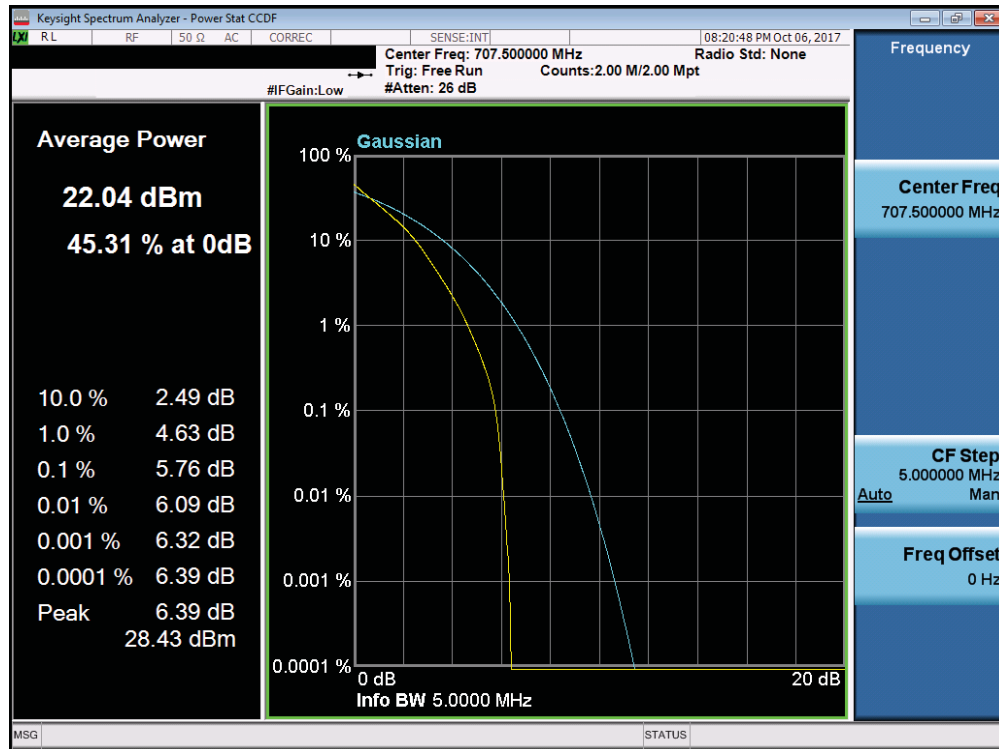


Plot 7-279. PAR Plot (Band 12 - 3.0MHz 16-QAM - Full RB Configuration)

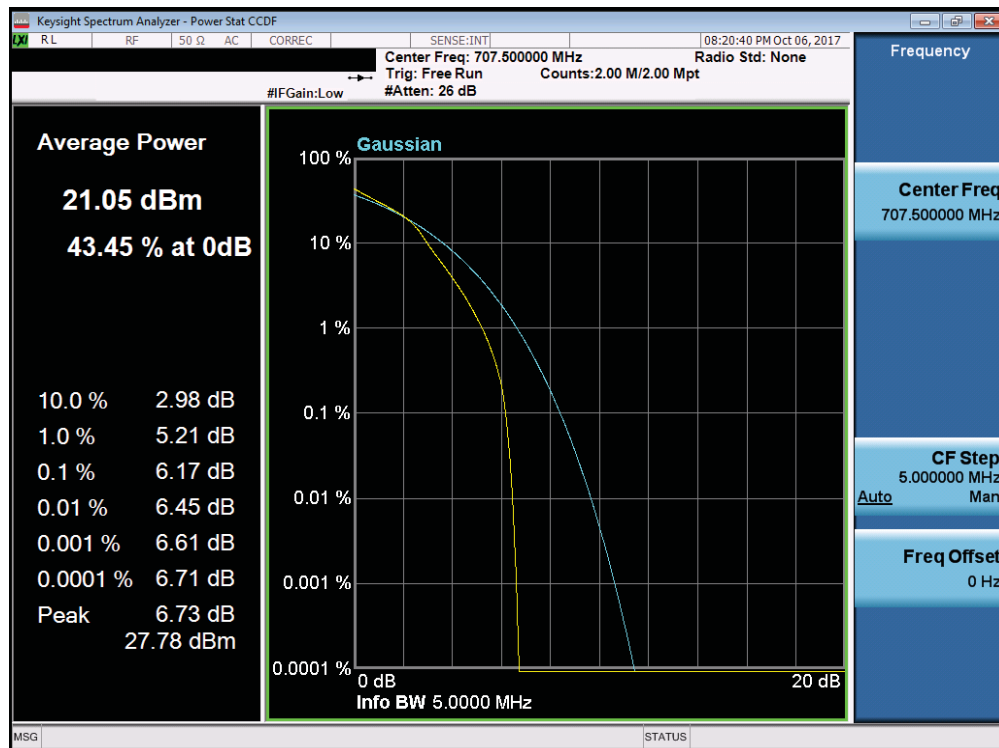


Plot 7-280. PAR Plot (Band 12 - 3.0MHz 64-QAM - Full RB Configuration)

FCC ID: A3LSMG965F	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1710040265-03.A3L	Test Dates: 10/4/2017-12/15/2017	EUT Type: Portable Handset	Page 164 of 250

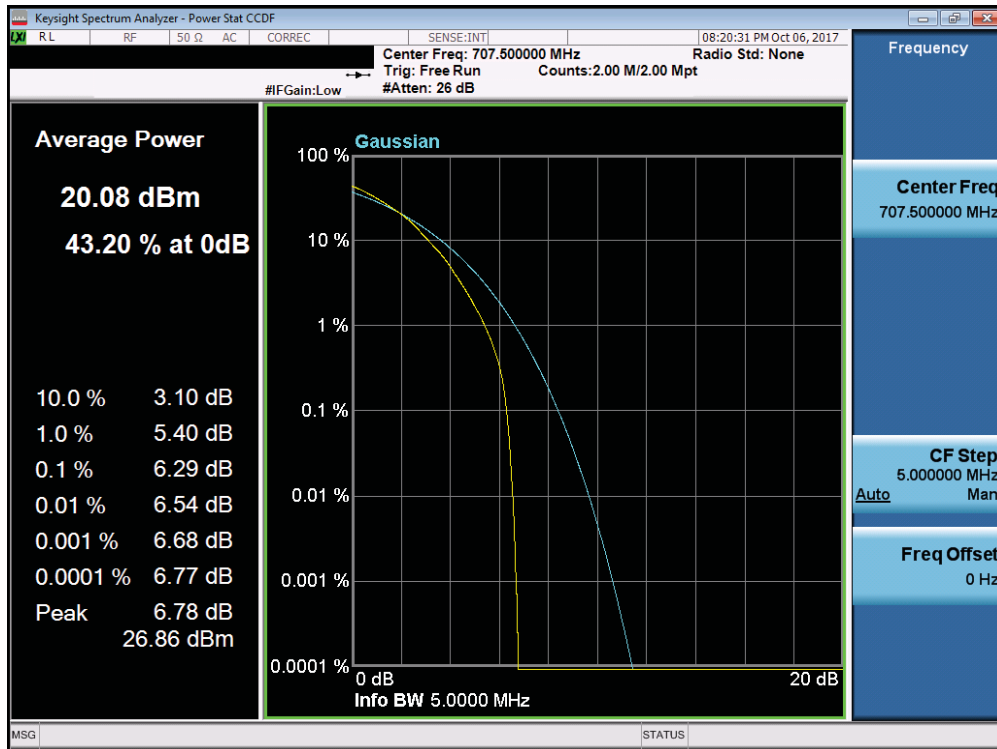


Plot 7-281. PAR Plot (Band 12/17 - 5.0MHz QPSK - Full RB Configuration)

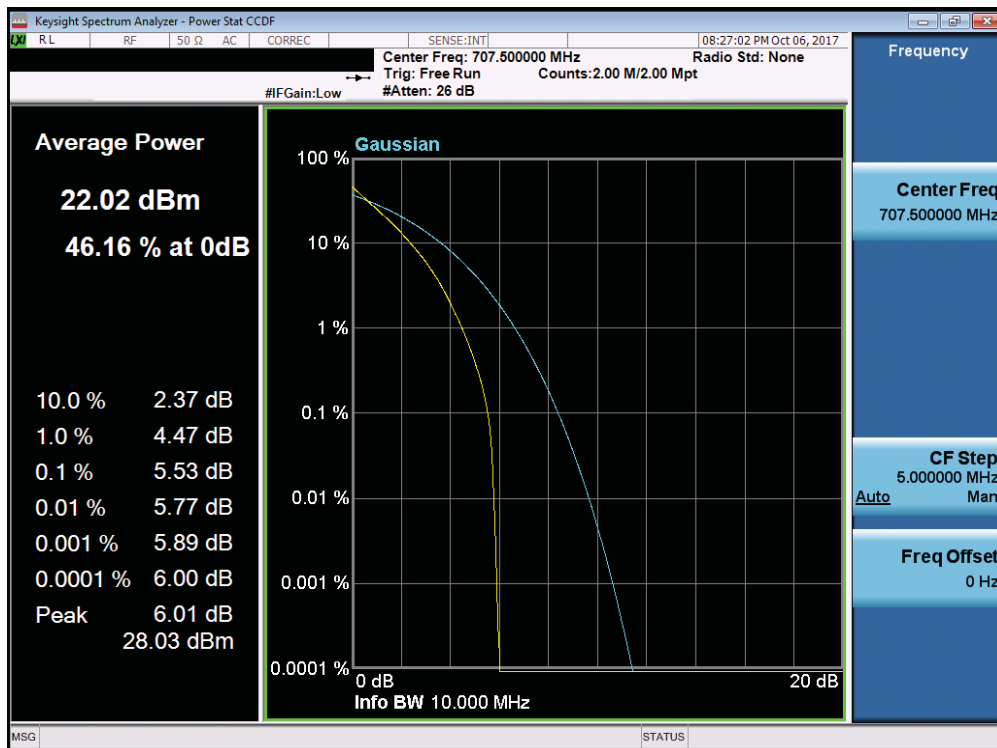


Plot 7-282. PAR Plot (Band 12/17 - 5.0MHz 16-QAM - Full RB Configuration)

FCC ID: A3LSMG965F	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1710040265-03.A3L	Test Dates: 10/4/2017-12/15/2017	EUT Type: Portable Handset	Page 165 of 250

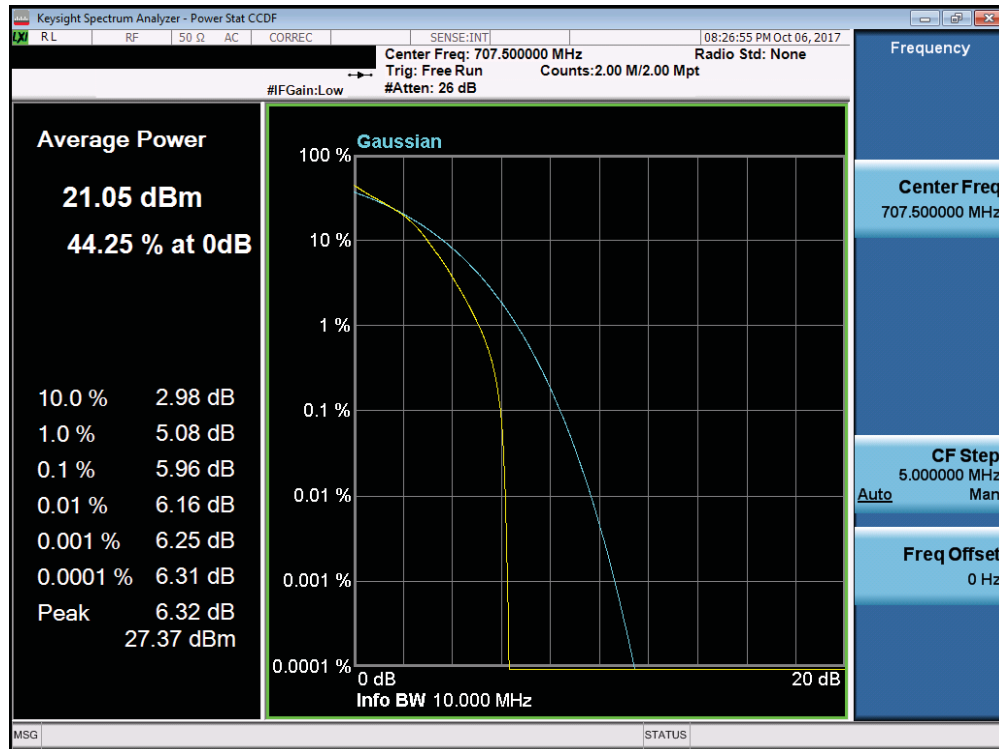


Plot 7-283. PAR Plot (Band 12/17 - 5.0MHz 64-QAM - Full RB Configuration)

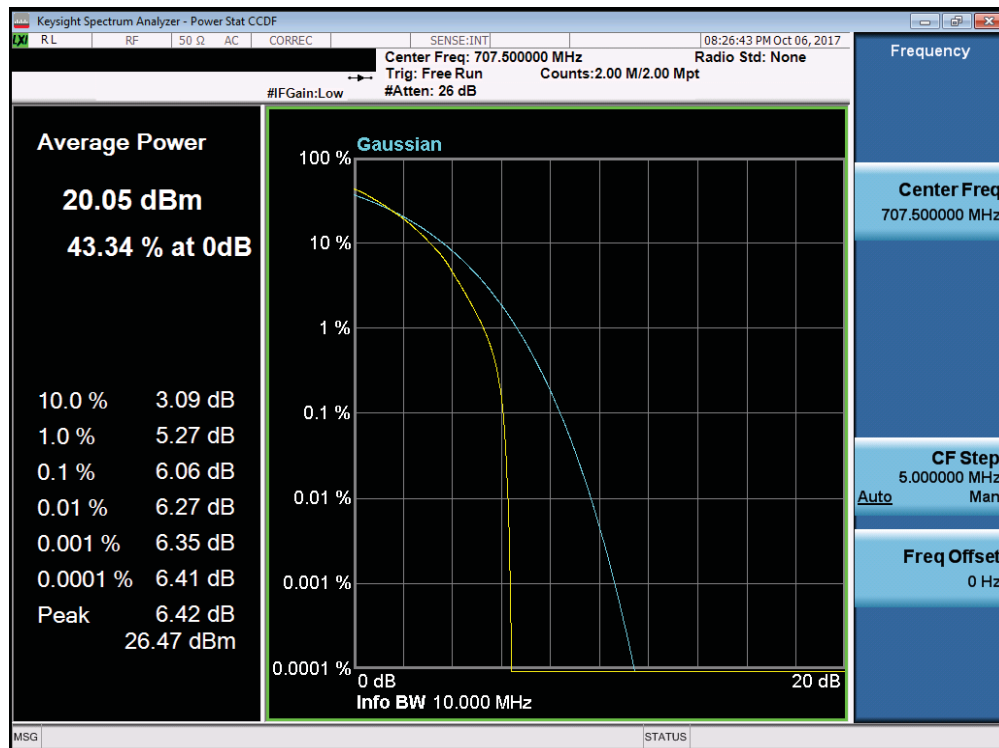


Plot 7-284. PAR Plot (Band 12/17 - 10.0MHz QPSK - Full RB Configuration)

FCC ID: A3LSMG965F	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1710040265-03.A3L	Test Dates: 10/4/2017-12/15/2017	EUT Type: Portable Handset	Page 166 of 250



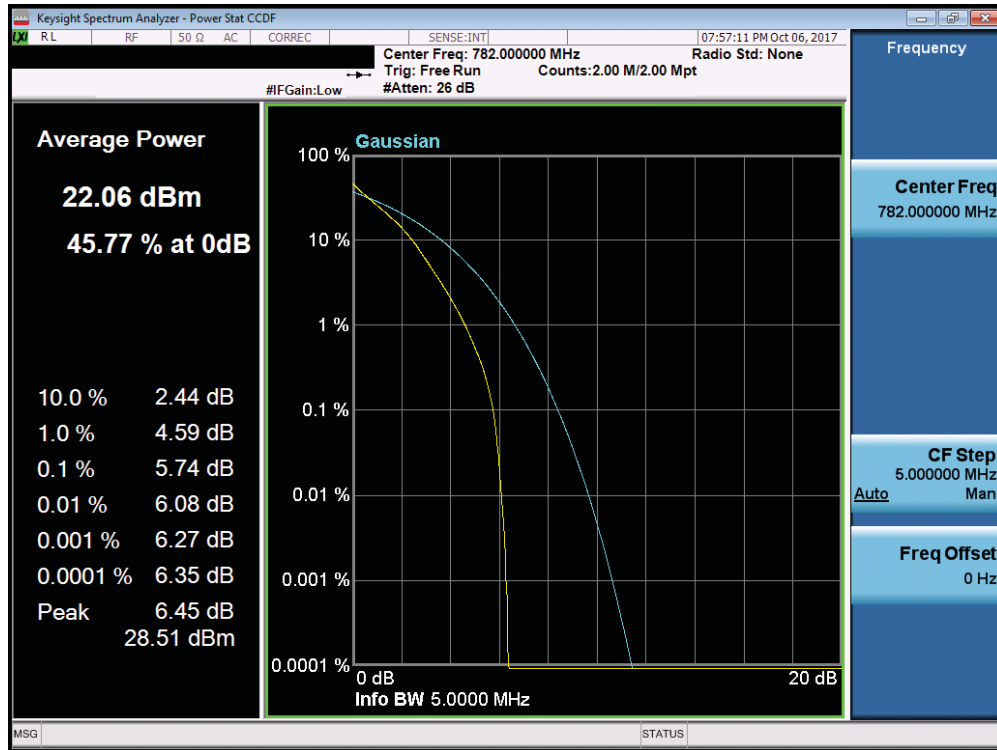
Plot 7-285. PAR Plot (Band 12/17 - 10.0MHz 16-QAM - Full RB Configuration)



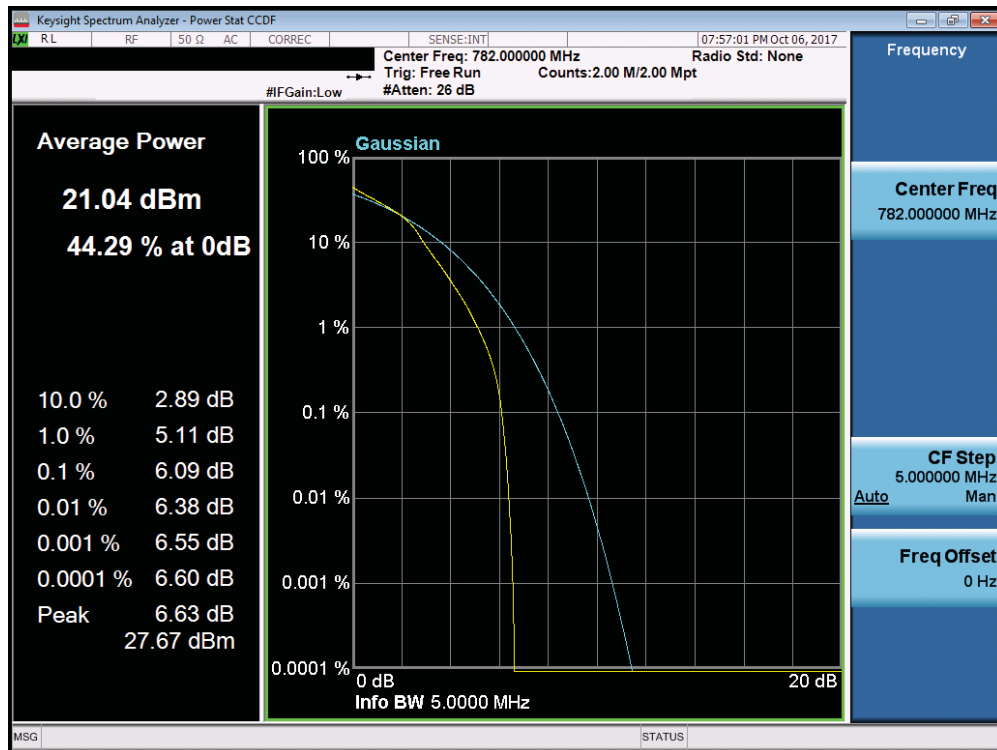
Plot 7-286. PAR Plot (Band 12/17 - 10.0MHz 64-QAM - Full RB Configuration)

FCC ID: A3LSMG965F	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1710040265-03.A3L	Test Dates: 10/4/2017-12/15/2017	EUT Type: Portable Handset	Page 167 of 250

Band 13

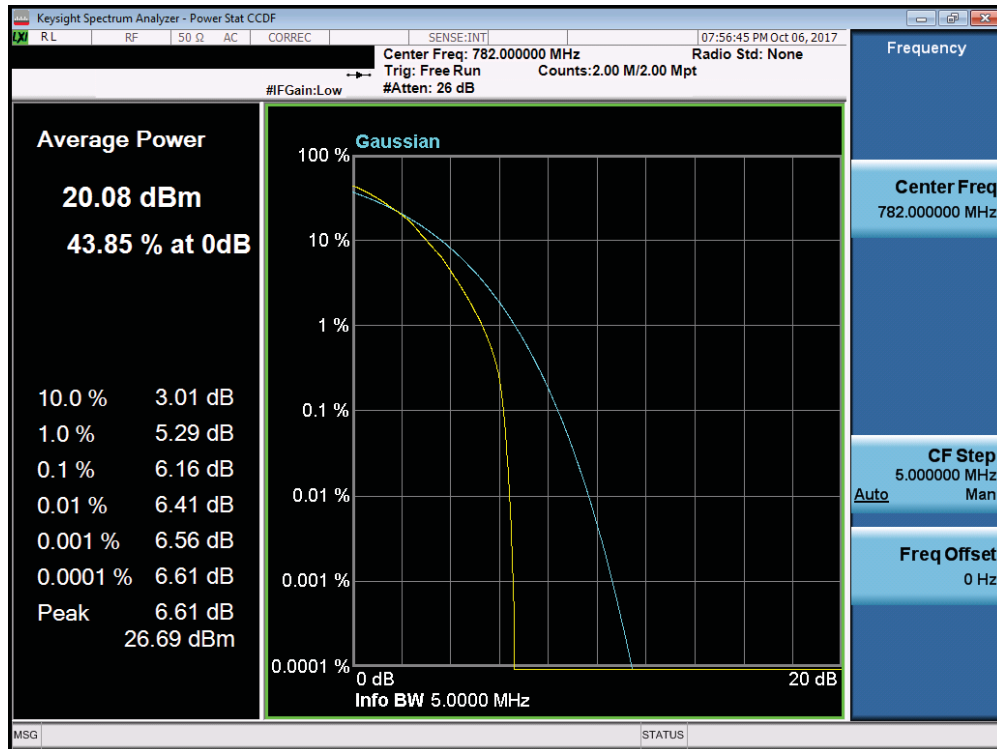


Plot 7-287. PAR Plot (Band 13 – 5.0MHz QPSK - Full RB Configuration)

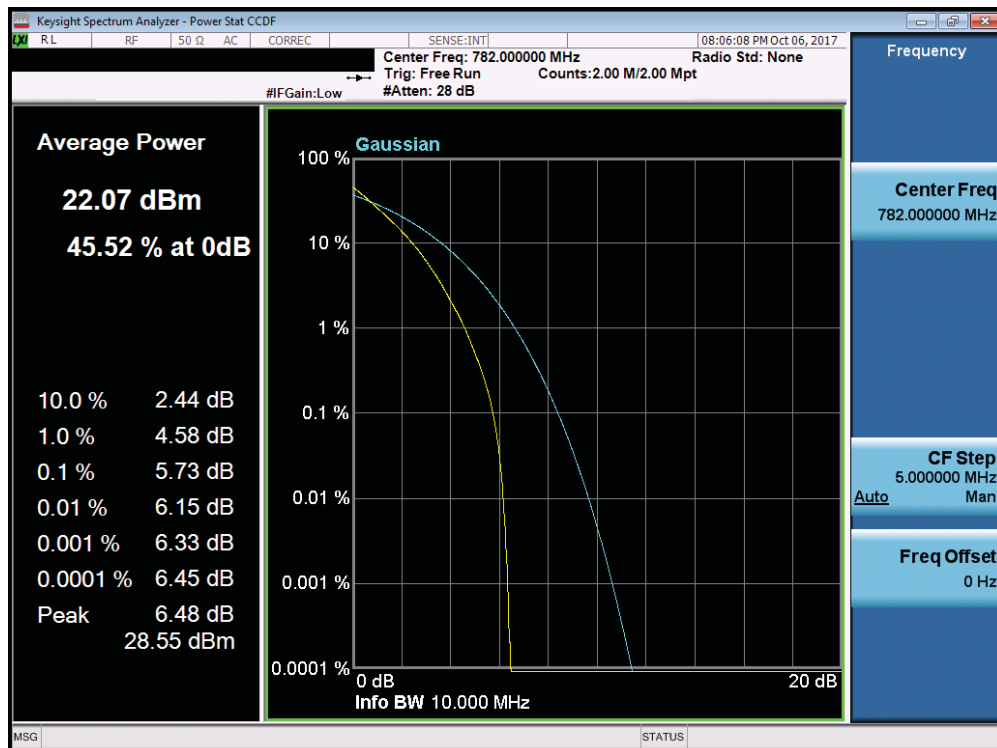


Plot 7-288. PAR Plot (Band 13 – 5.0MHz 16-QAM - Full RB Configuration)

FCC ID: A3LSMG965F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1710040265-03.A3L	Test Dates: 10/4/2017-12/15/2017	EUT Type: Portable Handset		Page 168 of 250

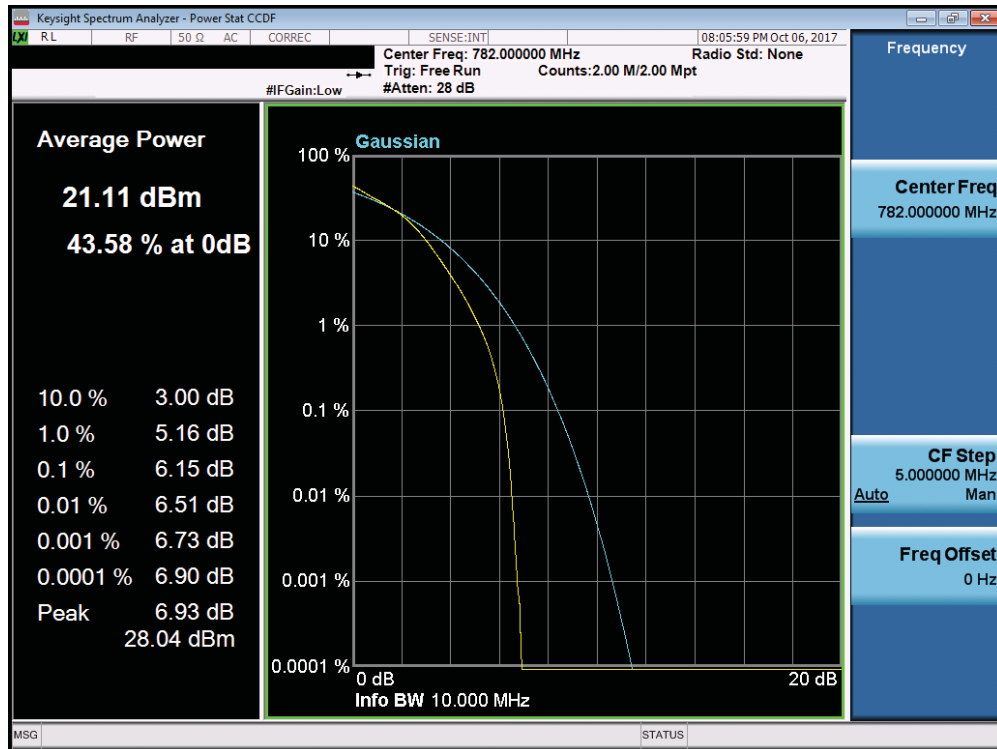


Plot 7-289. PAR Plot (Band 13 – 5.0MHz 64-QAM - Full RB Configuration)

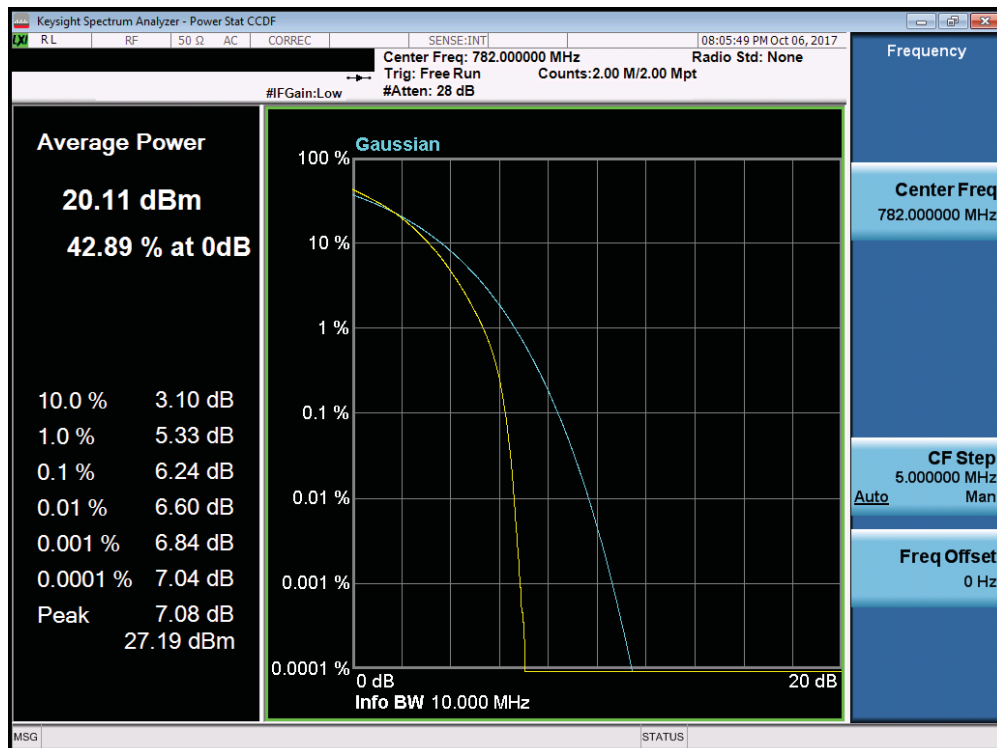


Plot 7-290. PAR Plot (Band 13 – 10.0MHz QPSK - Full RB Configuration)

FCC ID: A3LSMG965F	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1710040265-03.A3L	Test Dates: 10/4/2017-12/15/2017	EUT Type: Portable Handset	Page 169 of 250



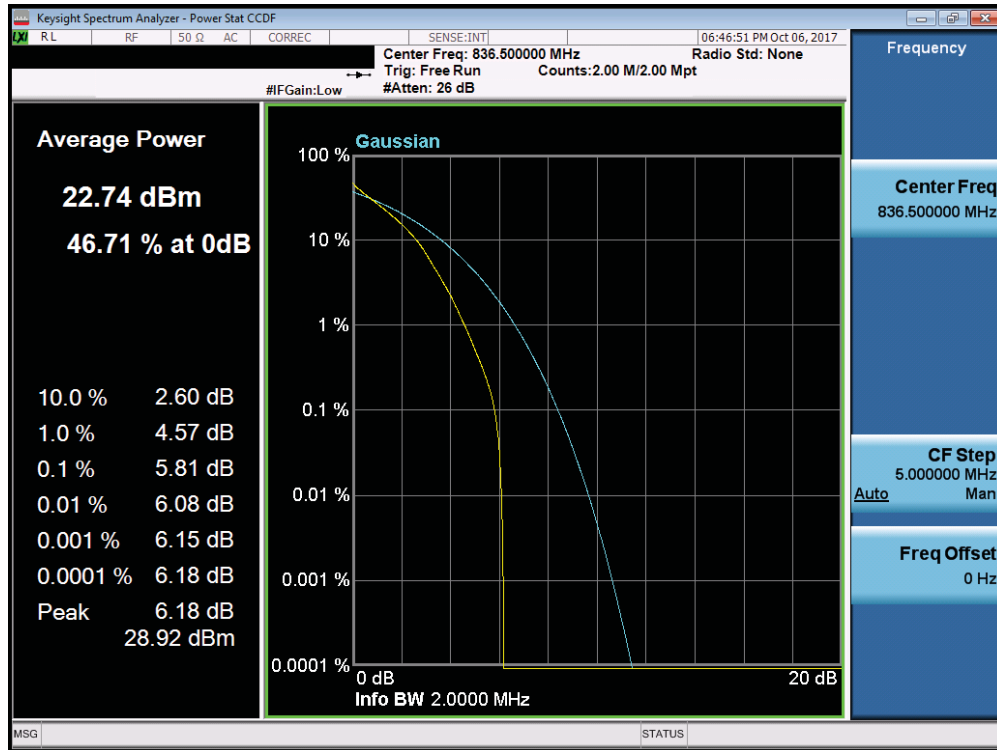
Plot 7-291. PAR Plot (Band 13 – 10.0MHz 16-QAM - Full RB Configuration)



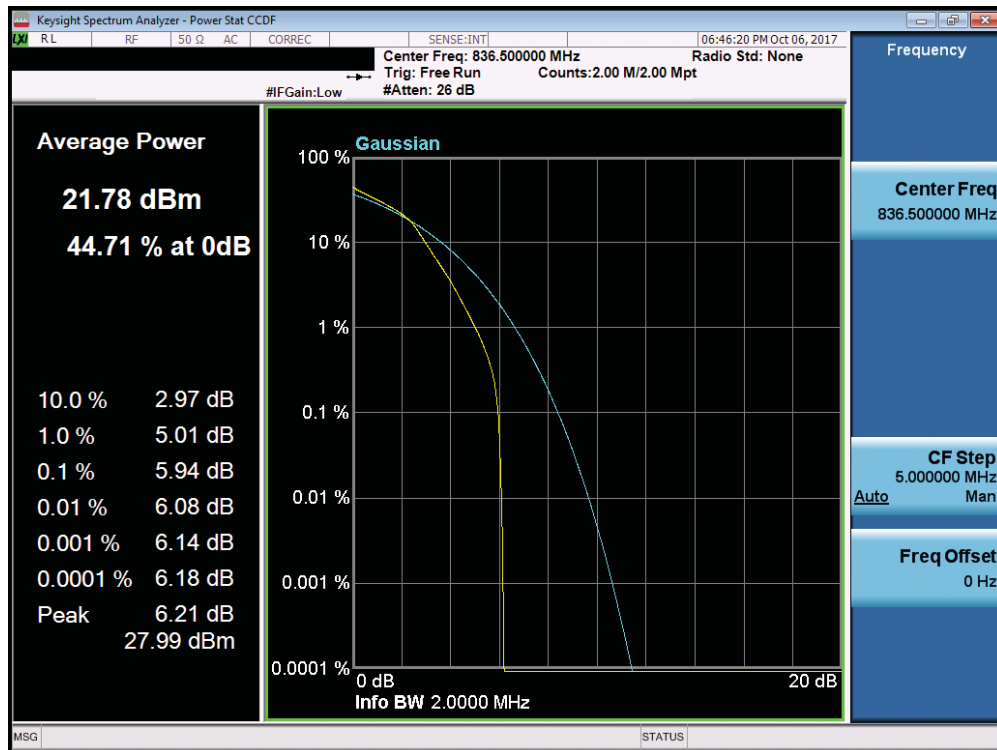
Plot 7-292. PAR Plot (Band 13 – 10.0MHz 64-QAM - Full RB Configuration)

FCC ID: A3LSMG965F	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1710040265-03.A3L	Test Dates: 10/4/2017-12/15/2017	EUT Type: Portable Handset	Page 170 of 250

Band 26/5

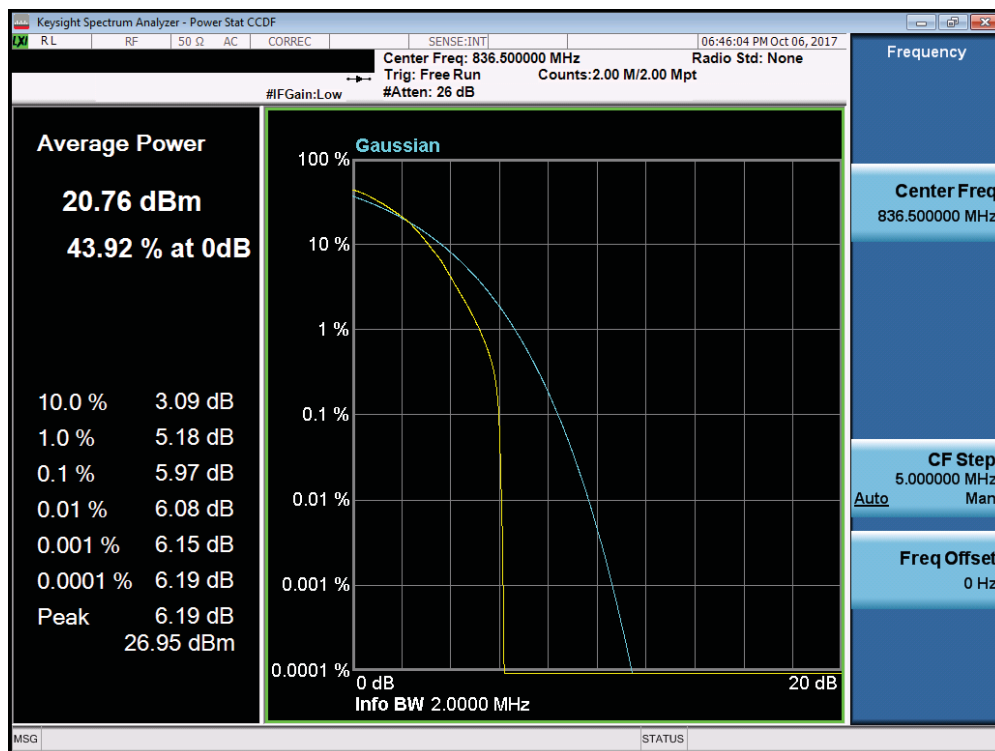


Plot 7-293. PAR Plot (Band 26/5 – 1.4MHz QPSK - Full RB Configuration)

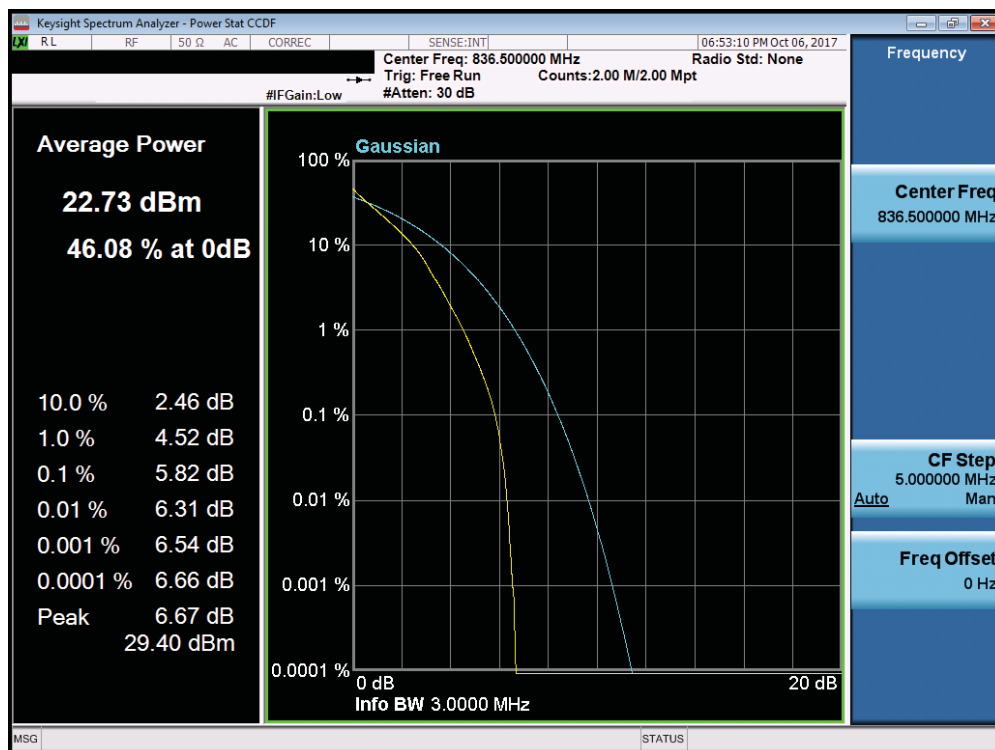


Plot 7-294. PAR Plot (Band 26/5 – 1.4MHz 16-QAM - Full RB Configuration)

FCC ID: A3LSMG965F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1710040265-03.A3L	Test Dates: 10/4/2017-12/15/2017	EUT Type: Portable Handset		Page 171 of 250

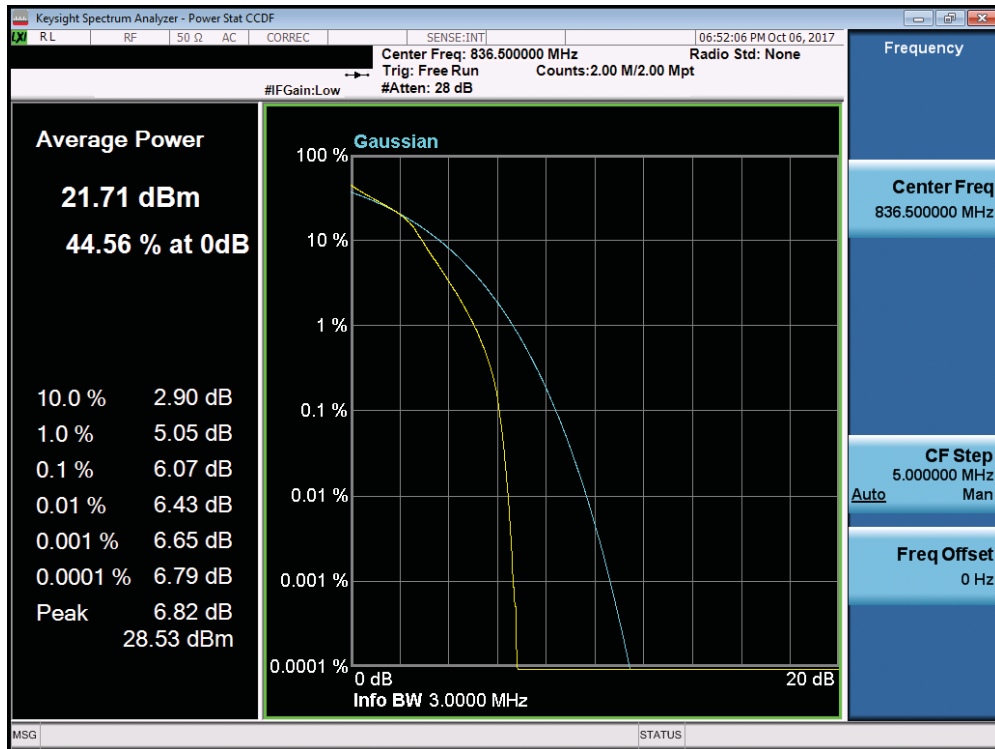


Plot 7-295. PAR Plot (Band 26/5 – 1.4MHz 64-QAM - Full RB Configuration)

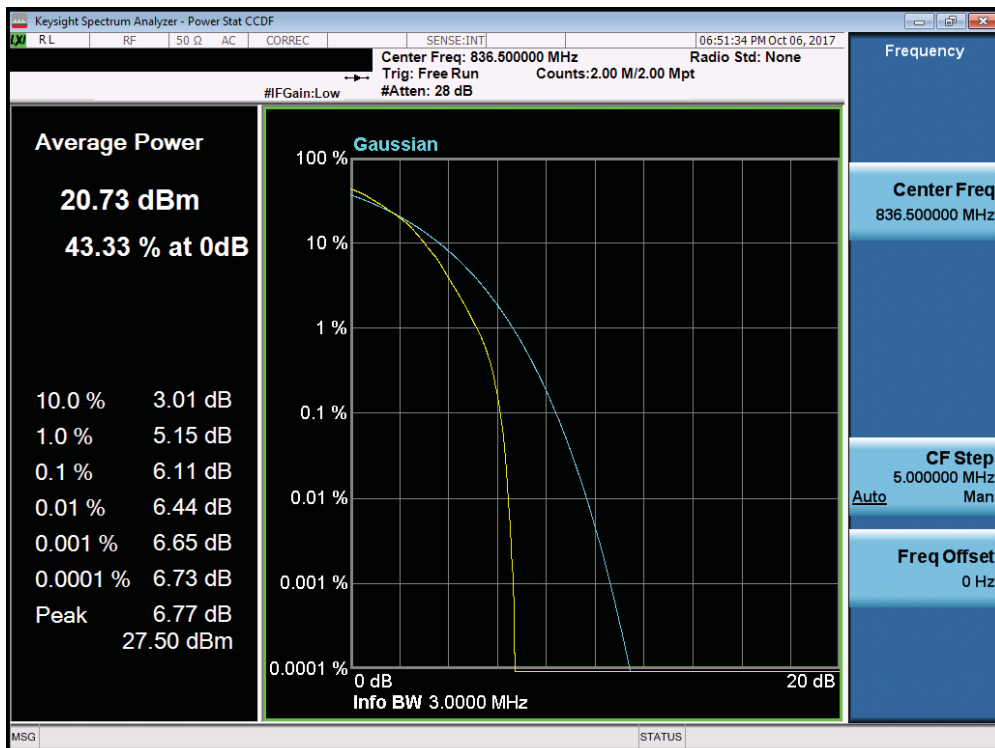


Plot 7-296. PAR Plot (Band 26/5 – 3.0MHz QPSK - Full RB Configuration)

FCC ID: A3LSMG965F	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1710040265-03.A3L	Test Dates: 10/4/2017-12/15/2017	EUT Type: Portable Handset	Page 172 of 250

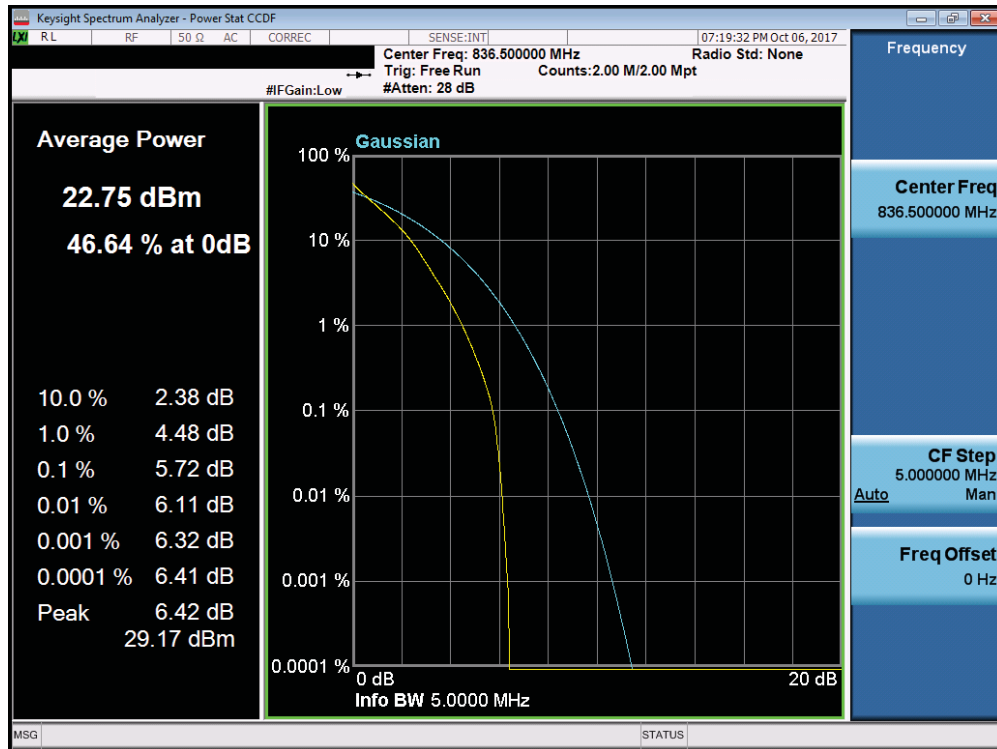


Plot 7-297. PAR Plot (Band 26/5 – 3.0MHz 16-QAM - Full RB Configuration)

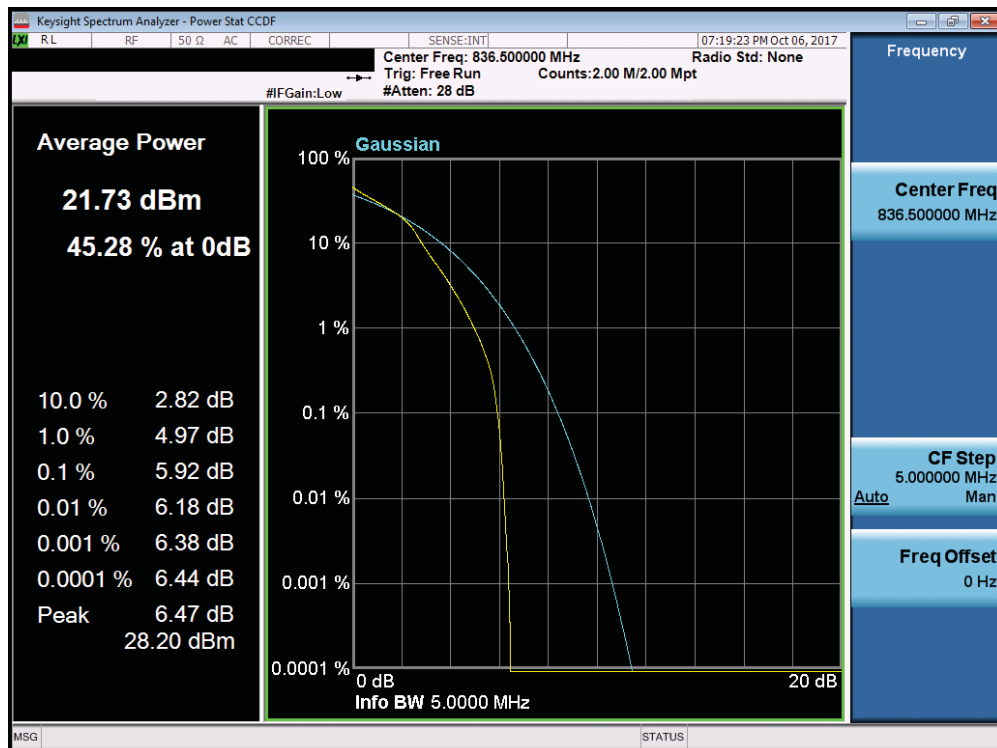


Plot 7-298. PAR Plot (Band 26/5 – 3.0MHz 64-QAM - Full RB Configuration)

FCC ID: A3LSMG965F	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1710040265-03.A3L	Test Dates: 10/4/2017-12/15/2017	EUT Type: Portable Handset	Page 173 of 250

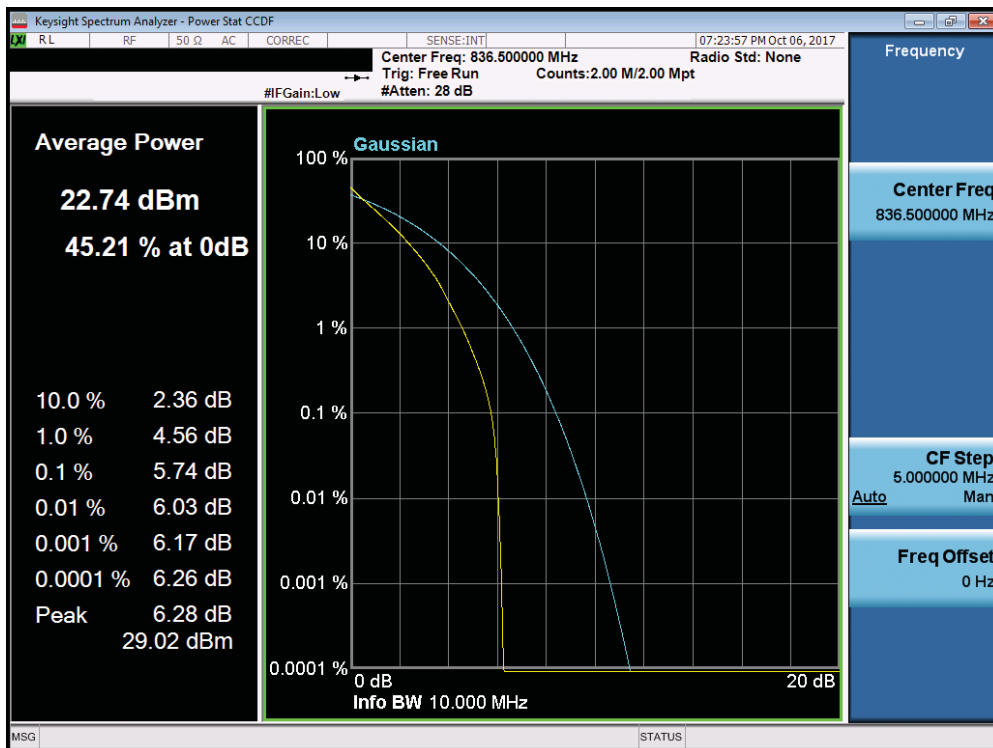
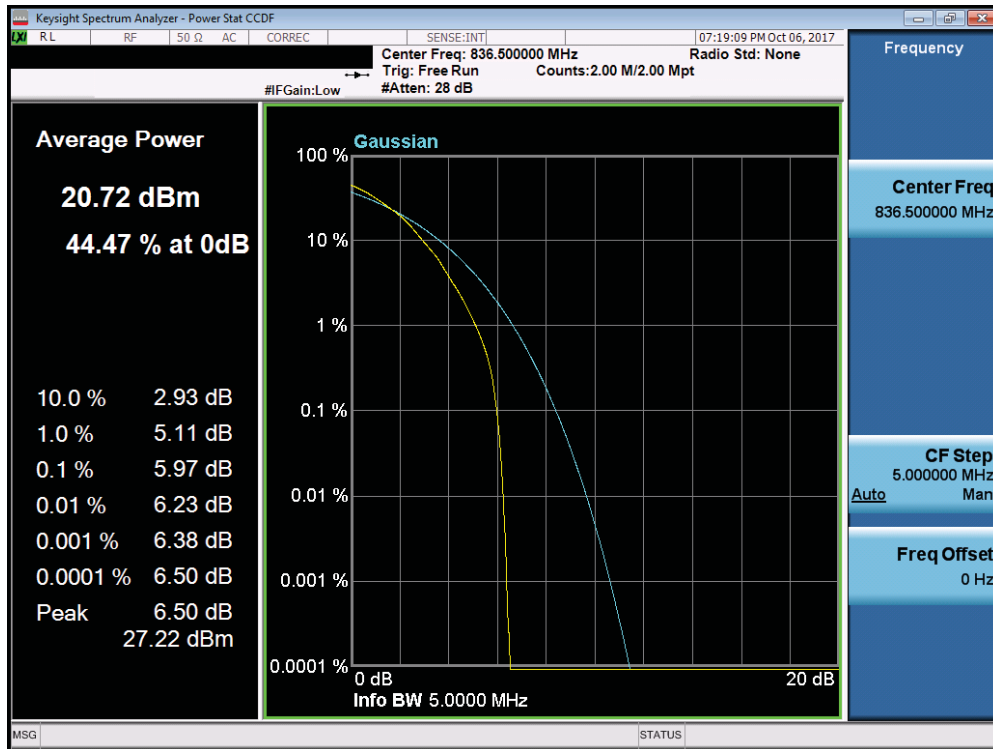


Plot 7-299. PAR Plot (Band 26/5 – 5.0MHz QPSK - Full RB Configuration)

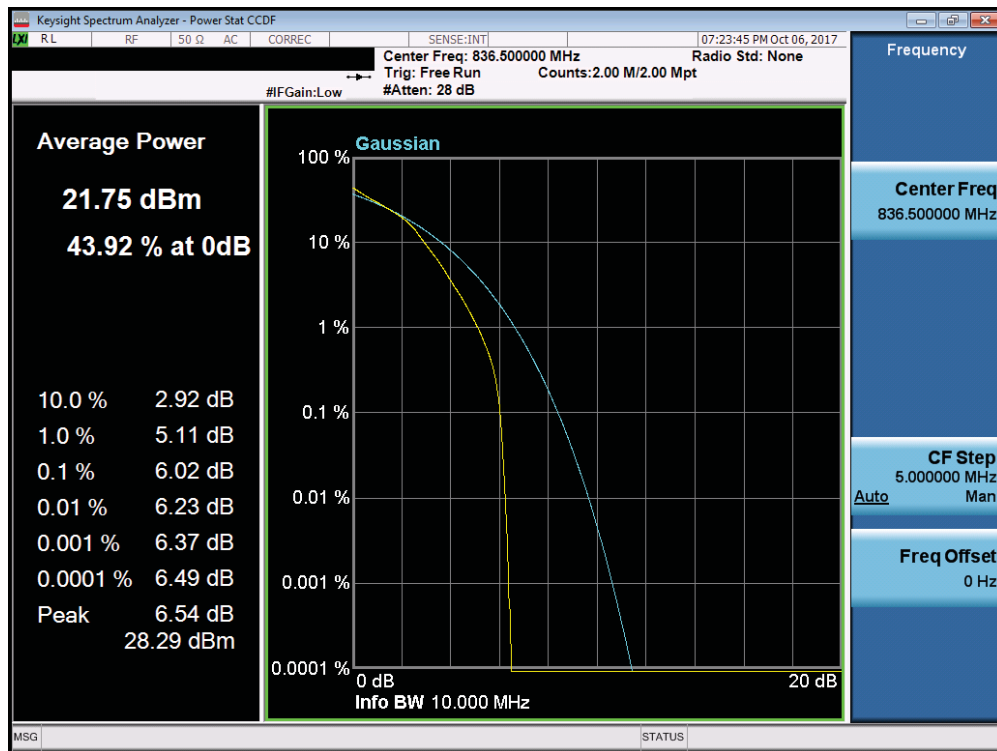


Plot 7-300. PAR Plot (Band 26/5 – 5.0MHz 16-QAM - Full RB Configuration)

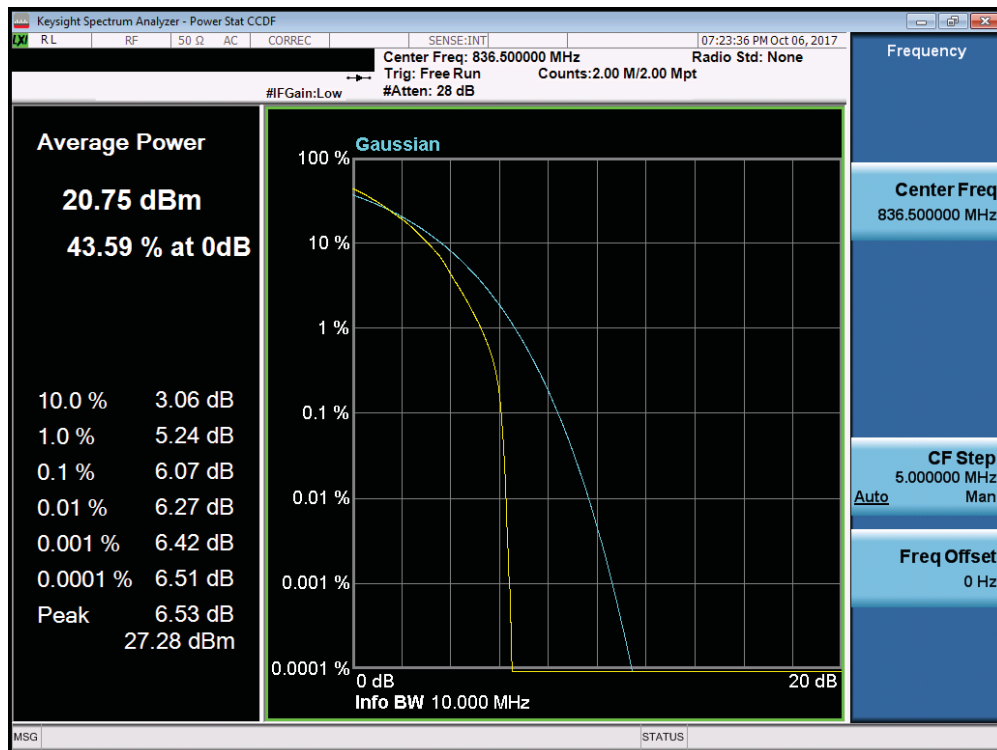
FCC ID: A3LSMG965F	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1710040265-03.A3L	Test Dates: 10/4/2017-12/15/2017	EUT Type: Portable Handset	Page 174 of 250



FCC ID: A3LSMG965F	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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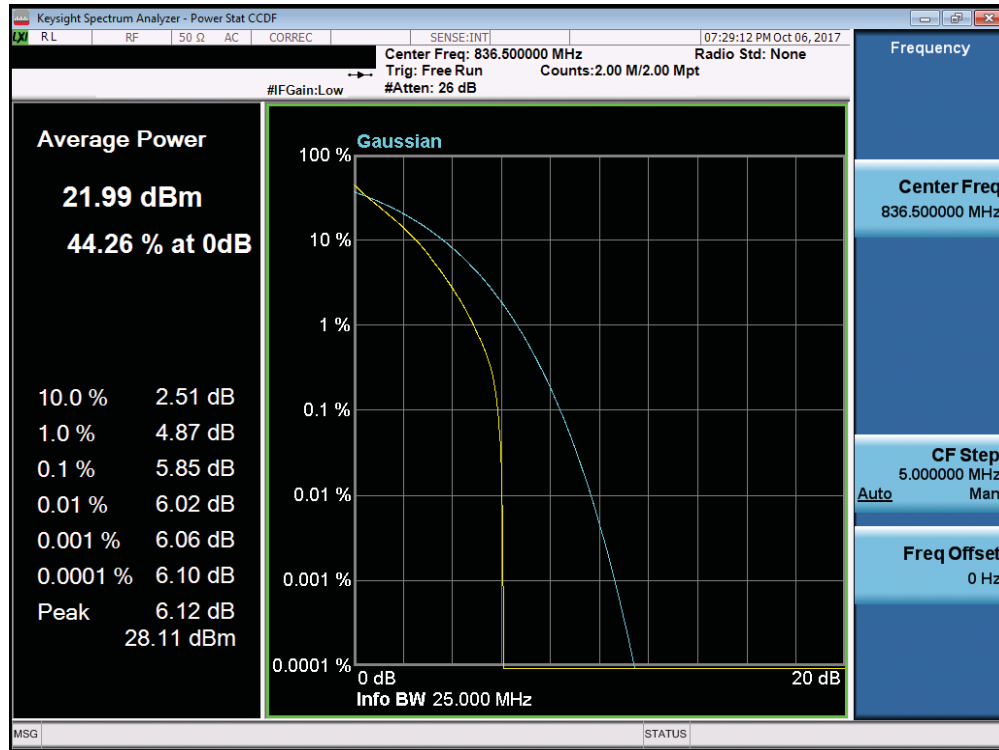
Plot 7-303. PAR Plot (Band 26/5 – 10.0MHz 16-QAM - Full RB Configuration)



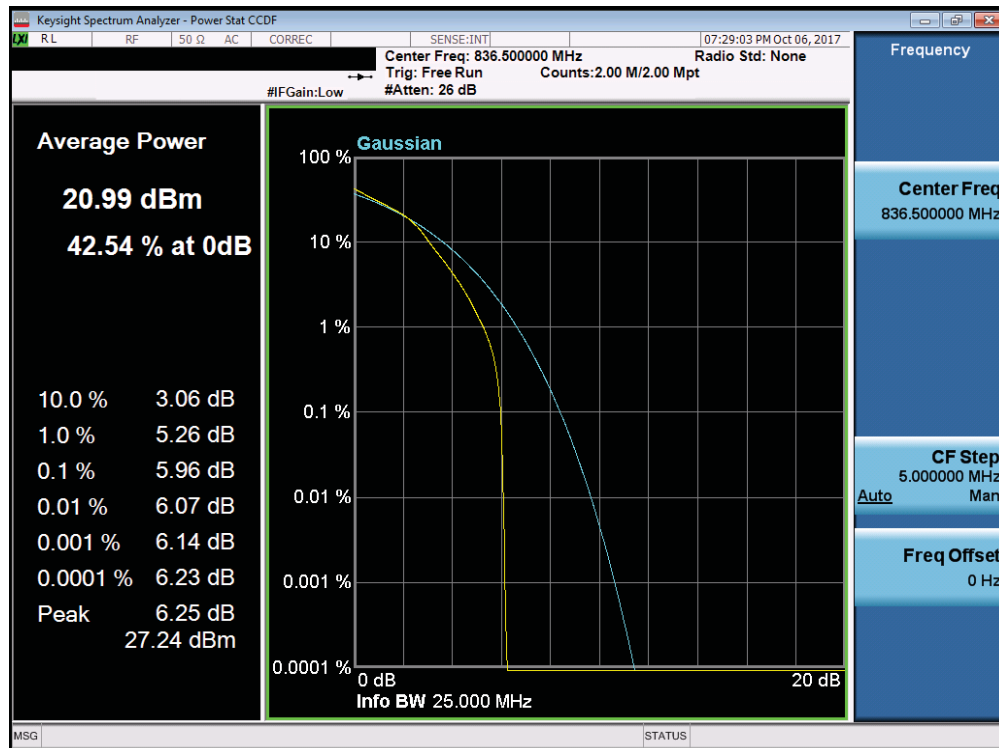
Plot 7-304. PAR Plot (Band 26/5 – 10.0MHz 64-QAM - Full RB Configuration)

FCC ID: A3LSMG965F	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1710040265-03.A3L	Test Dates: 10/4/2017-12/15/2017	EUT Type: Portable Handset	Page 176 of 250

Band 26

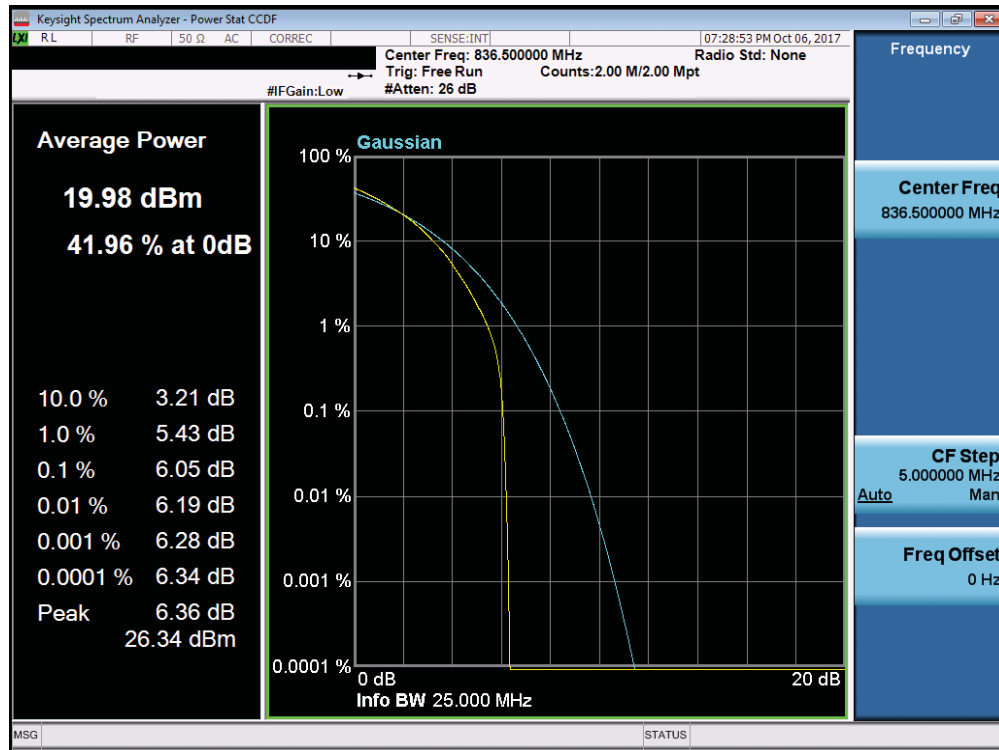


Plot 7-305. PAR Plot (Band 26 - 15.0MHz QPSK - Full RB Configuration)



Plot 7-306. PAR Plot (Band 26 - 15.0MHz 16-QAM - Full RB Configuration)

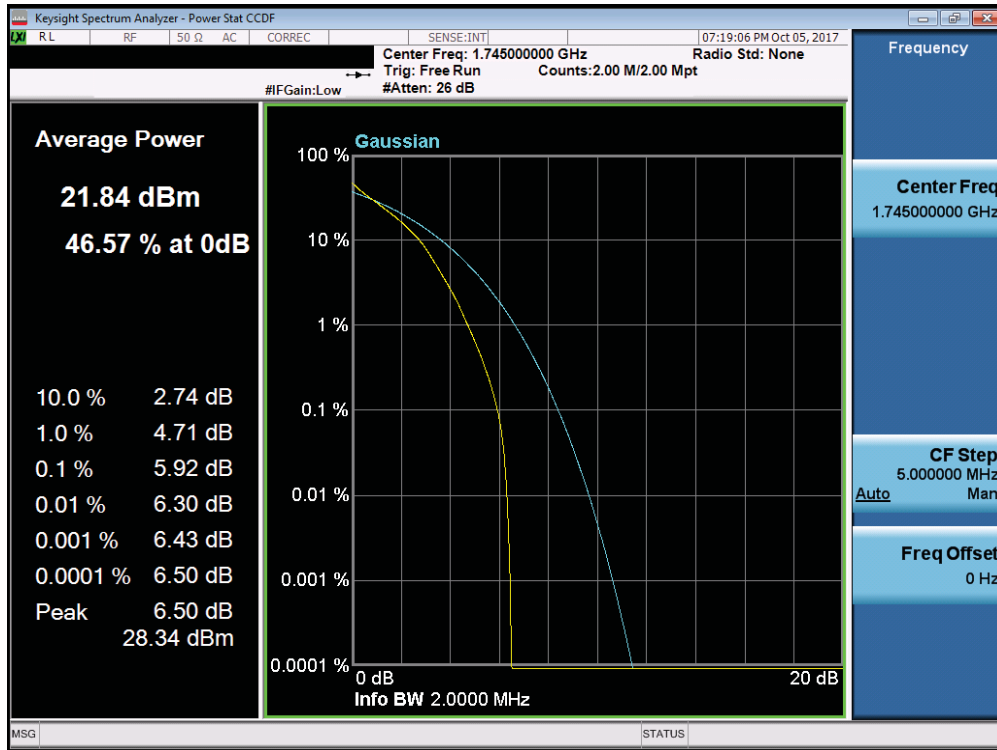
FCC ID: A3LSMG965F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1710040265-03.A3L	Test Dates: 10/4/2017-12/15/2017	EUT Type: Portable Handset		Page 177 of 250



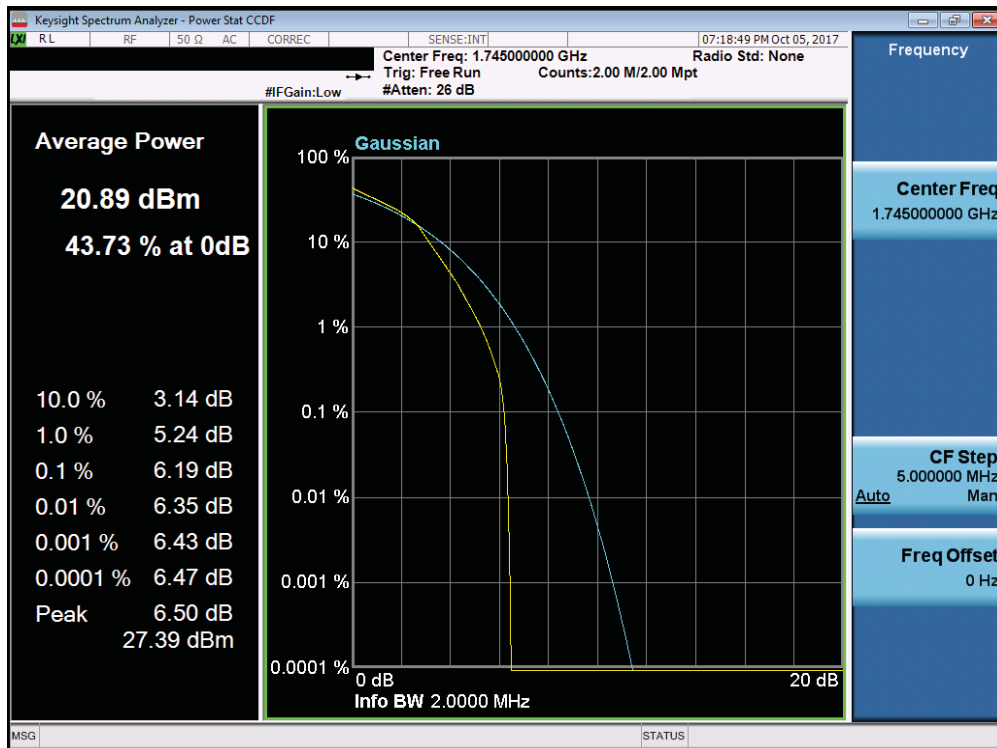
Plot 7-307. PAR Plot (Band 26 - 15.0MHz 64-QAM - Full RB Configuration)

FCC ID: A3LSMG965F	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1710040265-03.A3L	Test Dates: 10/4/2017-12/15/2017	EUT Type: Portable Handset	Page 178 of 250

Band 66/4

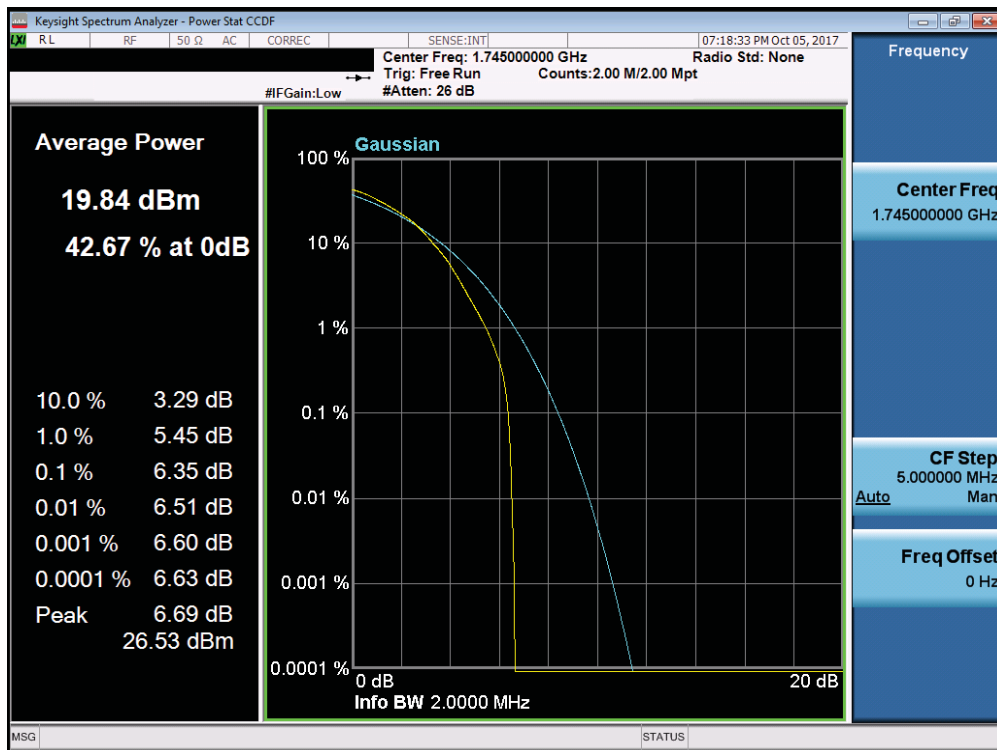


Plot 7-308. PAR Plot (Band 66/4 - 1.4MHz QPSK - Full RB Configuration)

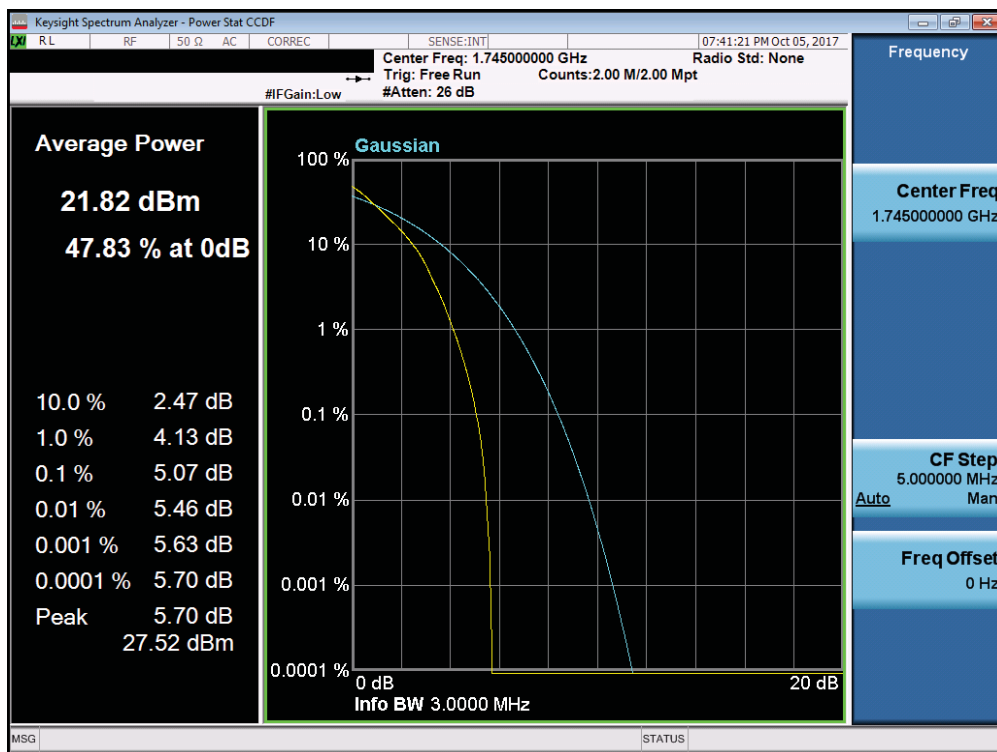


Plot 7-309. PAR Plot (Band 66/4 - 1.4MHz 16-QAM - Full RB Configuration)

FCC ID: A3LSMG965F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1710040265-03.A3L	Test Dates: 10/4/2017-12/15/2017	EUT Type: Portable Handset		Page 179 of 250

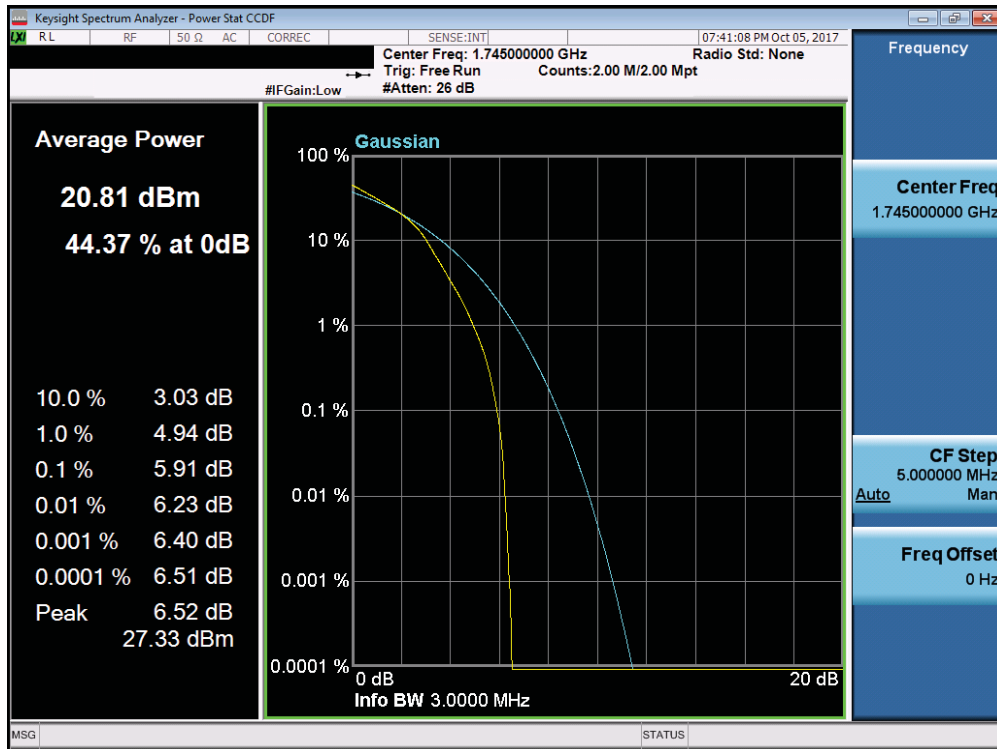


Plot 7-310. PAR Plot (Band 66/4 - 1.4MHz 64-QAM - Full RB Configuration)

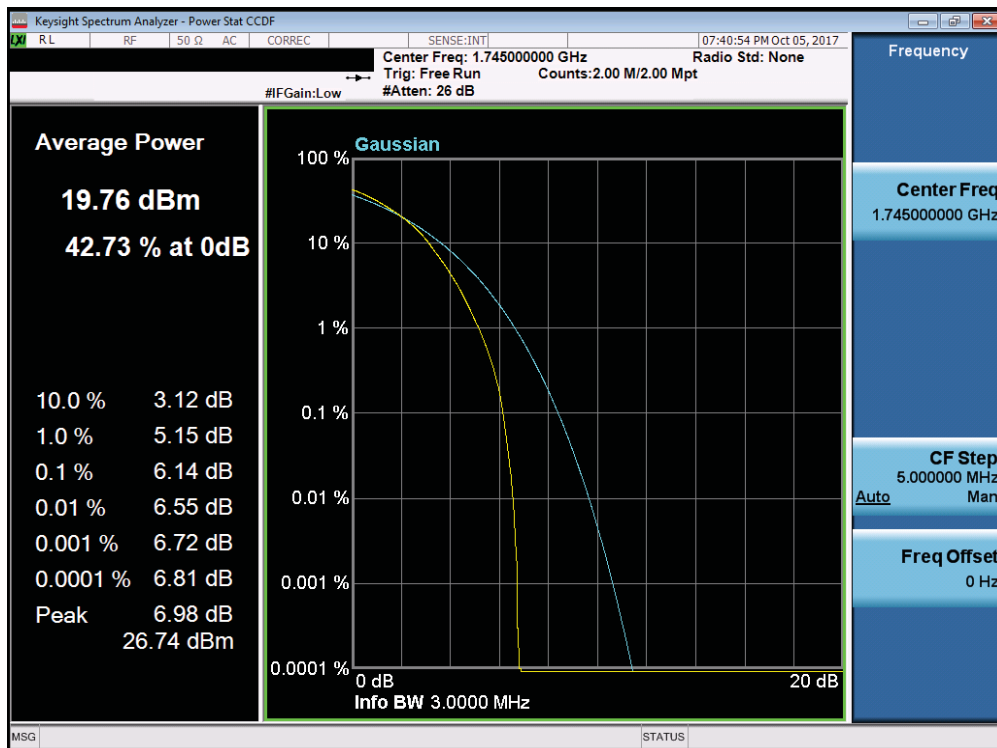


Plot 7-311. PAR Plot (Band 66/4 - 3.0MHz QPSK - Full RB Configuration)

FCC ID: A3LSMG965F	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1710040265-03.A3L	Test Dates: 10/4/2017-12/15/2017	EUT Type: Portable Handset		Page 180 of 250

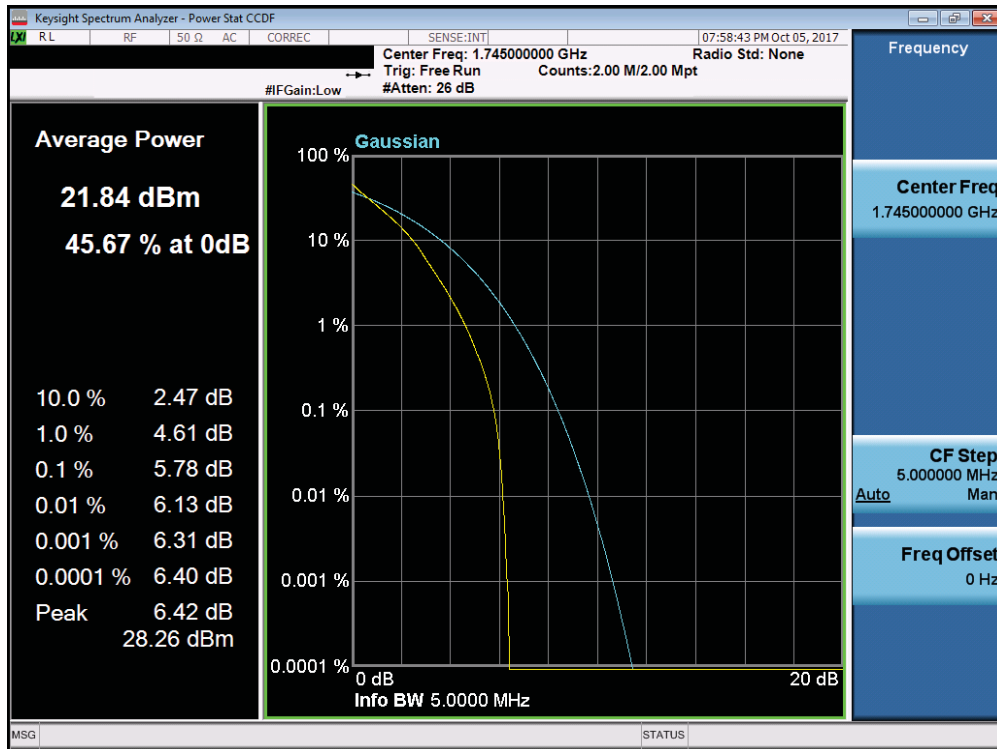


Plot 7-312. PAR Plot (Band 66/4 - 3.0MHz 16-QAM - Full RB Configuration)

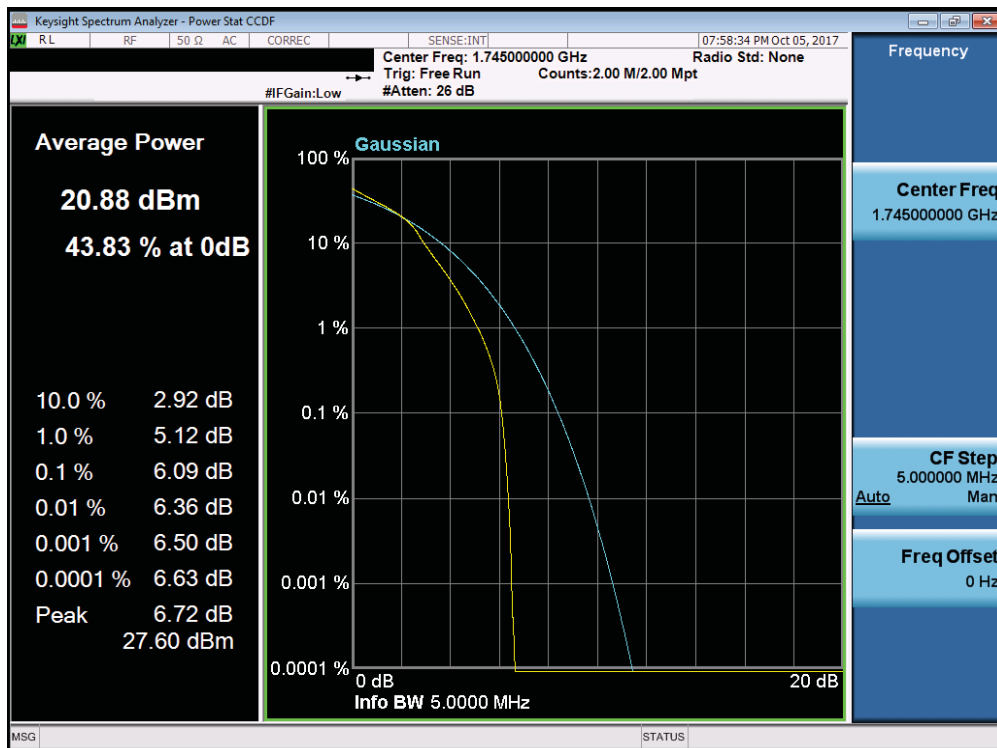


Plot 7-313. PAR Plot (Band 66/4 - 3.0MHz 64-QAM - Full RB Configuration)

FCC ID: A3LSMG965F	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1710040265-03.A3L	Test Dates: 10/4/2017-12/15/2017	EUT Type: Portable Handset	Page 181 of 250

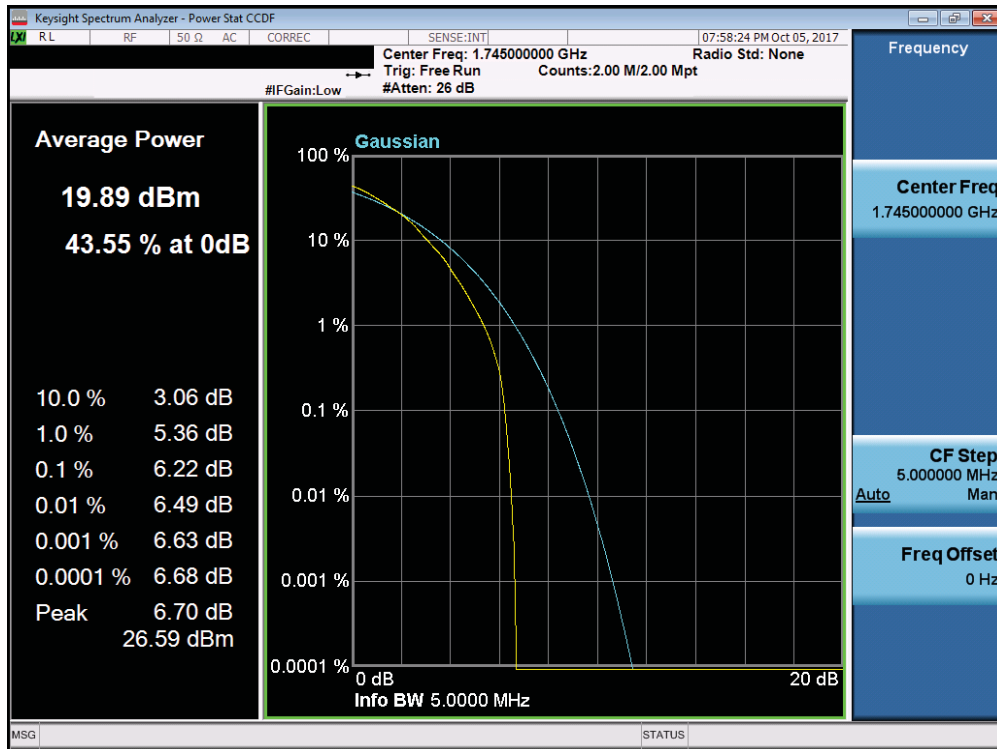


Plot 7-314. PAR Plot (Band 66/4 - 5.0MHz QPSK - Full RB Configuration)

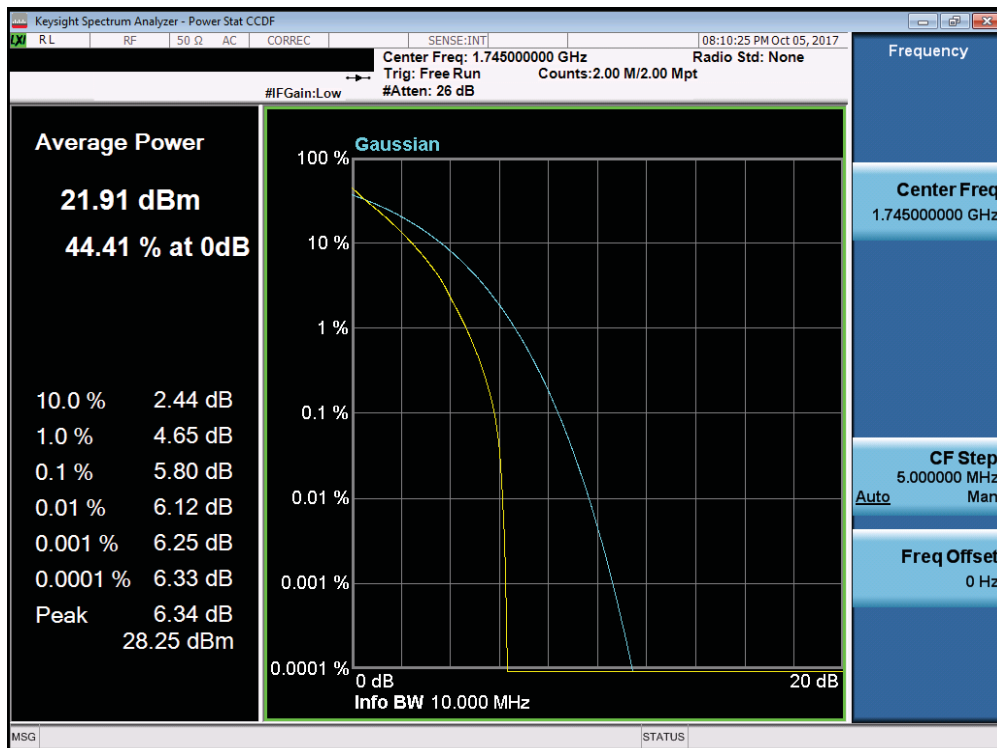


Plot 7-315. PAR Plot (Band 66/4 - 5.0MHz 16-QAM - Full RB Configuration)

FCC ID: A3LSMG965F	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1710040265-03.A3L	Test Dates: 10/4/2017-12/15/2017	EUT Type: Portable Handset	Page 182 of 250

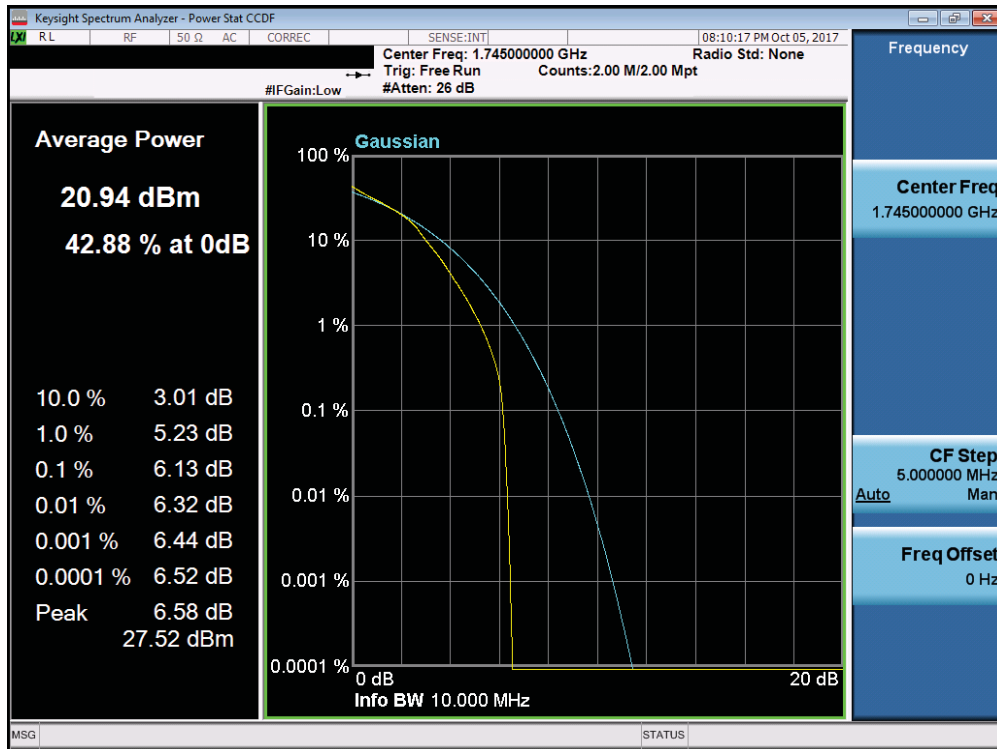


Plot 7-316. PAR Plot (Band 66/4 - 5.0MHz 64-QAM - Full RB Configuration)

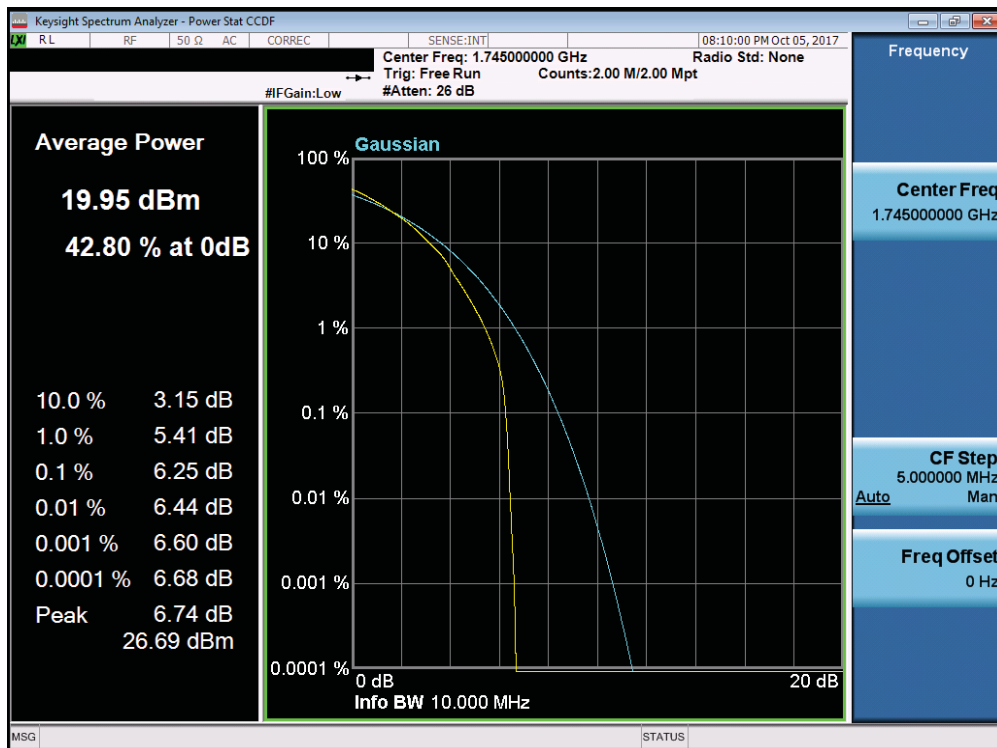


Plot 7-317. PAR Plot (Band 66/4 - 10.0MHz QPSK - Full RB Configuration)

FCC ID: A3LSMG965F	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1710040265-03.A3L	Test Dates: 10/4/2017-12/15/2017	EUT Type: Portable Handset	Page 183 of 250

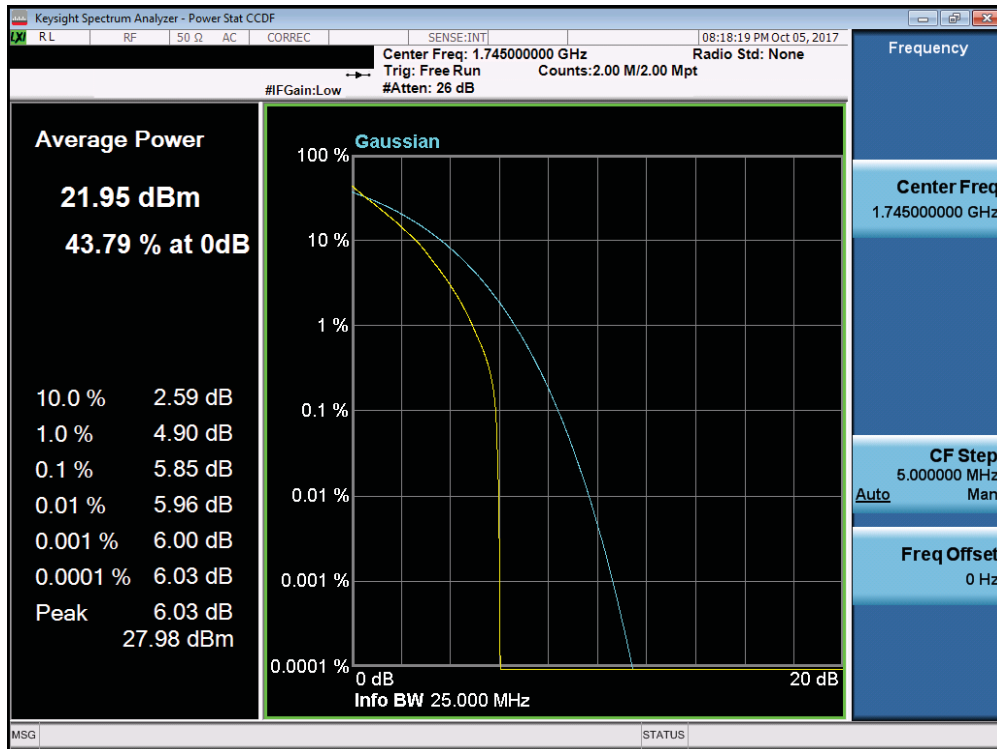


Plot 7-318. PAR Plot (Band 66/4 - 10.0MHz 16-QAM - Full RB Configuration)

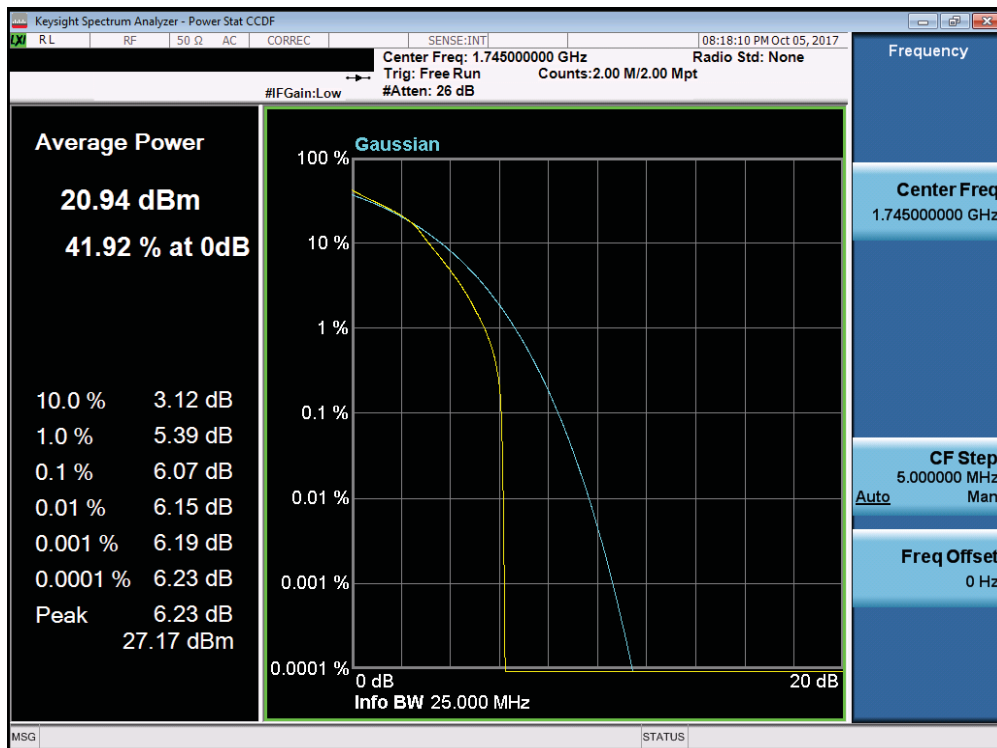


Plot 7-319. PAR Plot (Band 66/4 - 10.0MHz 64-QAM - Full RB Configuration)

FCC ID: A3LSMG965F	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1710040265-03.A3L	Test Dates: 10/4/2017-12/15/2017	EUT Type: Portable Handset	Page 184 of 250

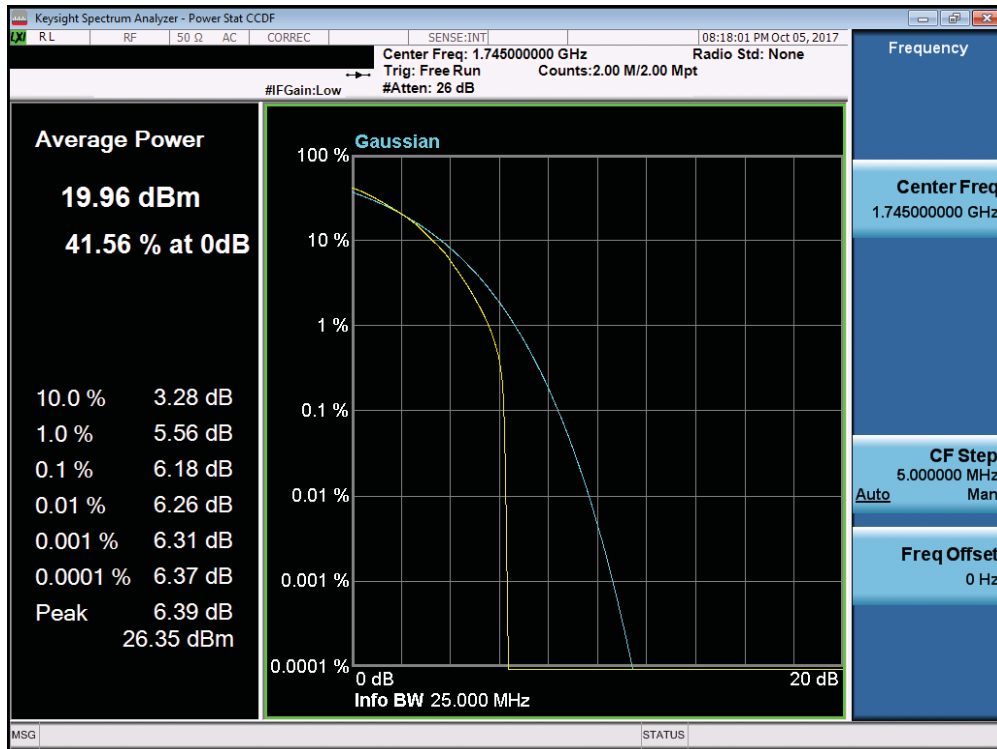


Plot 7-320. PAR Plot (Band 66/4 - 15.0MHz QPSK - Full RB Configuration)

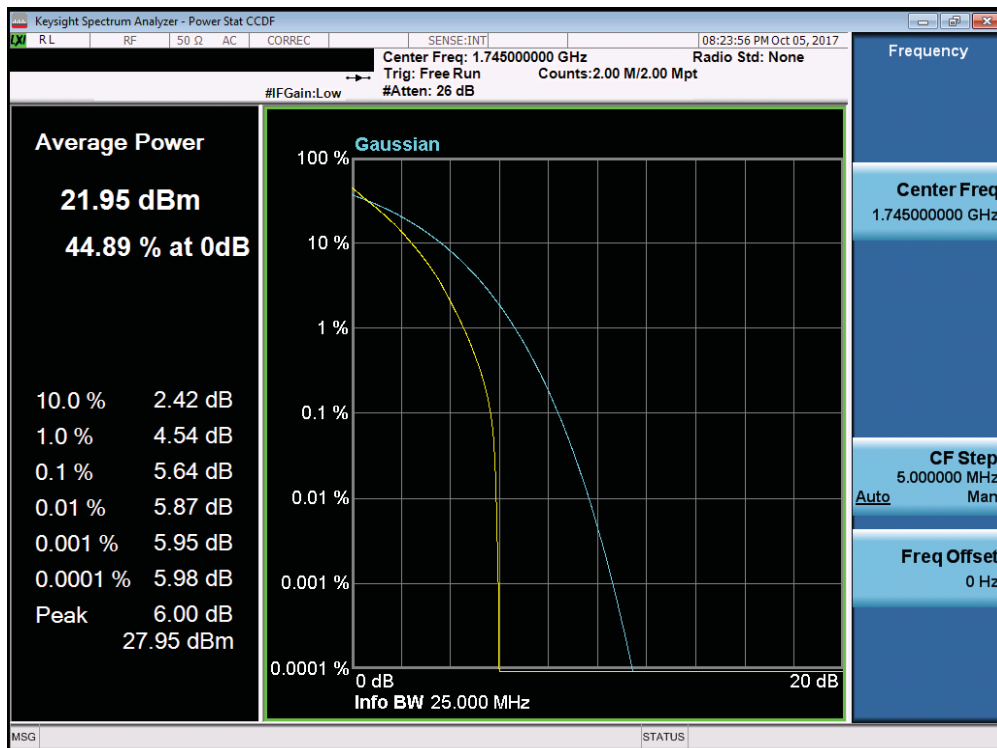


Plot 7-321. PAR Plot (Band 66/4 - 15.0MHz 16-QAM - Full RB Configuration)

FCC ID: A3LSMG965F	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1710040265-03.A3L	Test Dates: 10/4/2017-12/15/2017	EUT Type: Portable Handset		Page 185 of 250

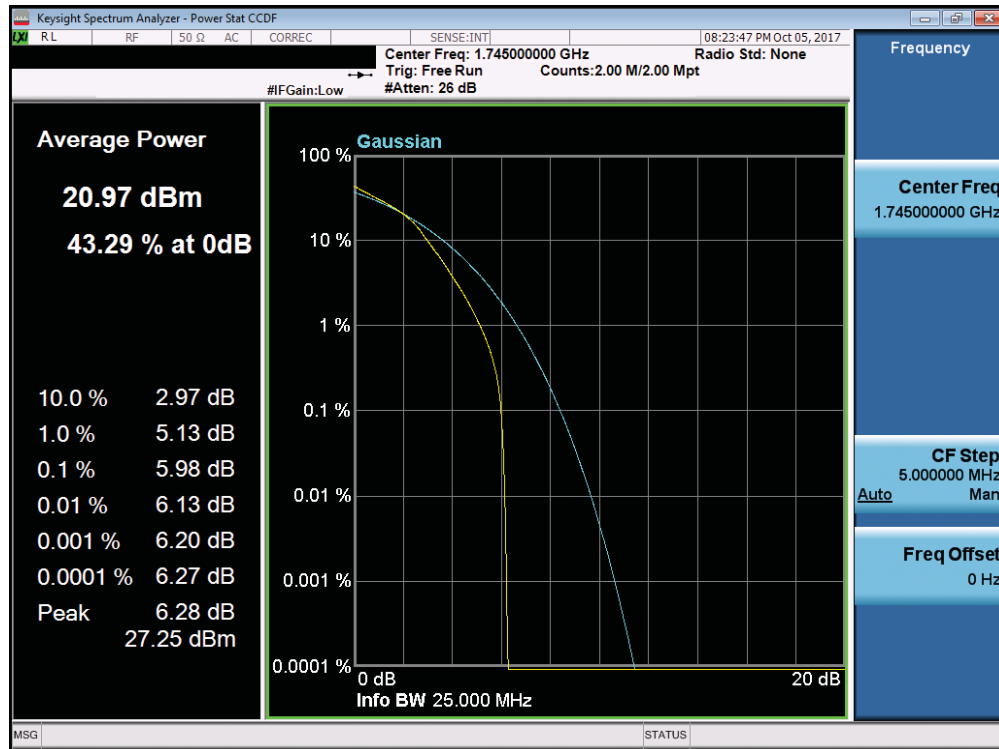


Plot 7-322. PAR Plot (Band 66/4 - 15.0MHz 64-QAM - Full RB Configuration)

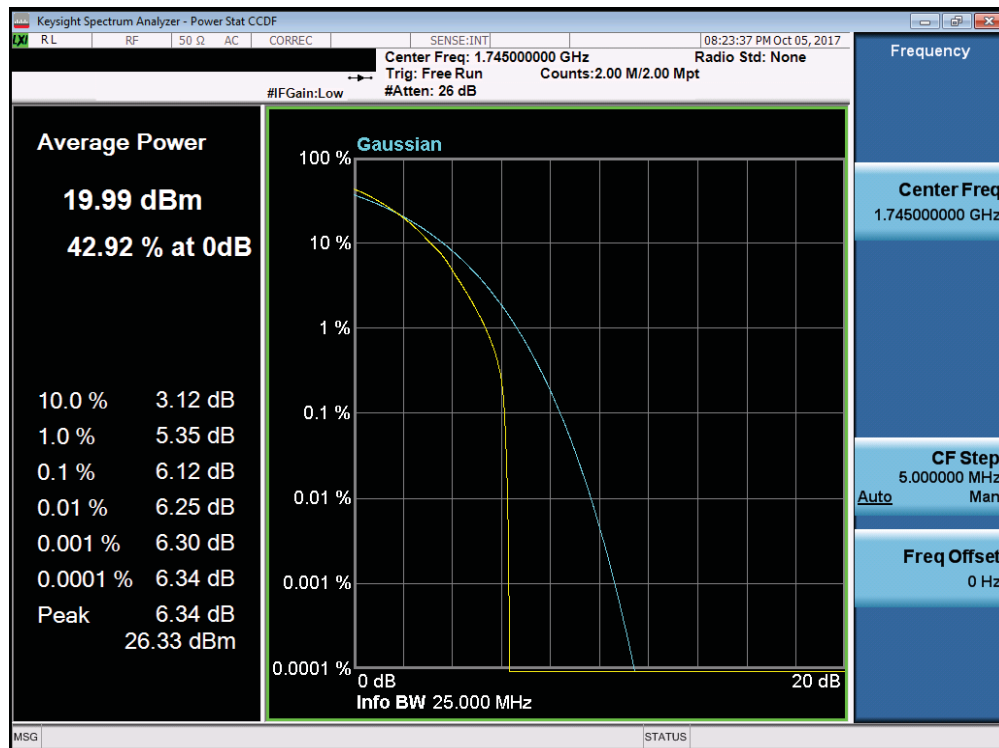


Plot 7-323. PAR Plot (Band 66/4 - 20.0MHz QPSK - Full RB Configuration)

FCC ID: A3LSMG965F	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1710040265-03.A3L	Test Dates: 10/4/2017-12/15/2017	EUT Type: Portable Handset	Page 186 of 250



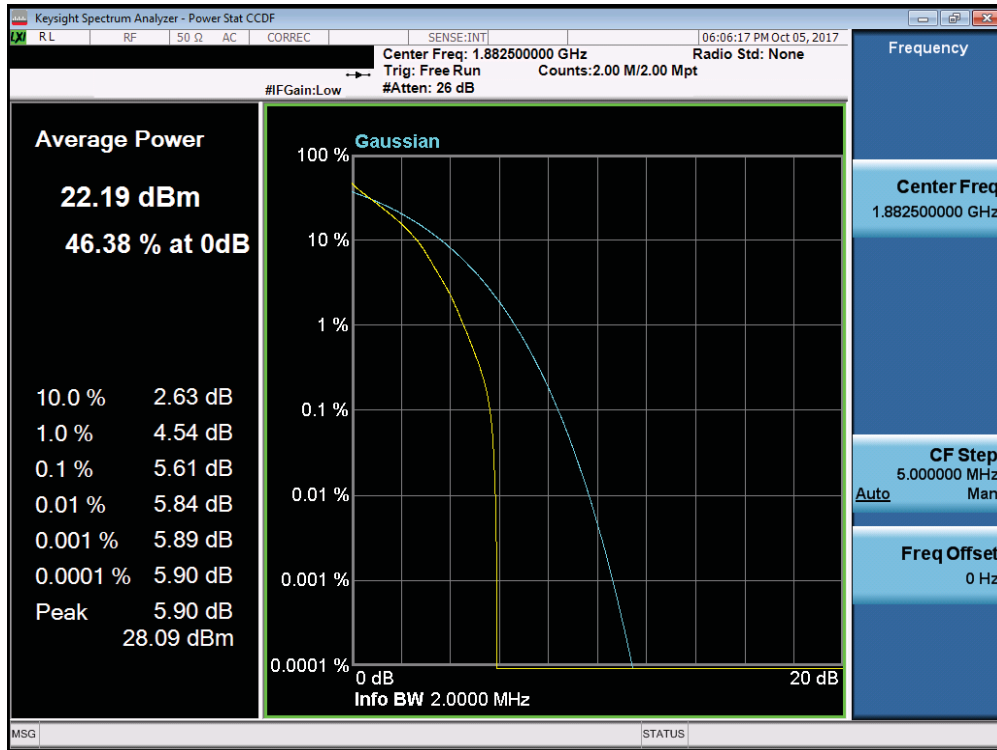
Plot 7-324. PAR Plot (Band 66/4 - 20.0MHz 16-QAM - Full RB Configuration)



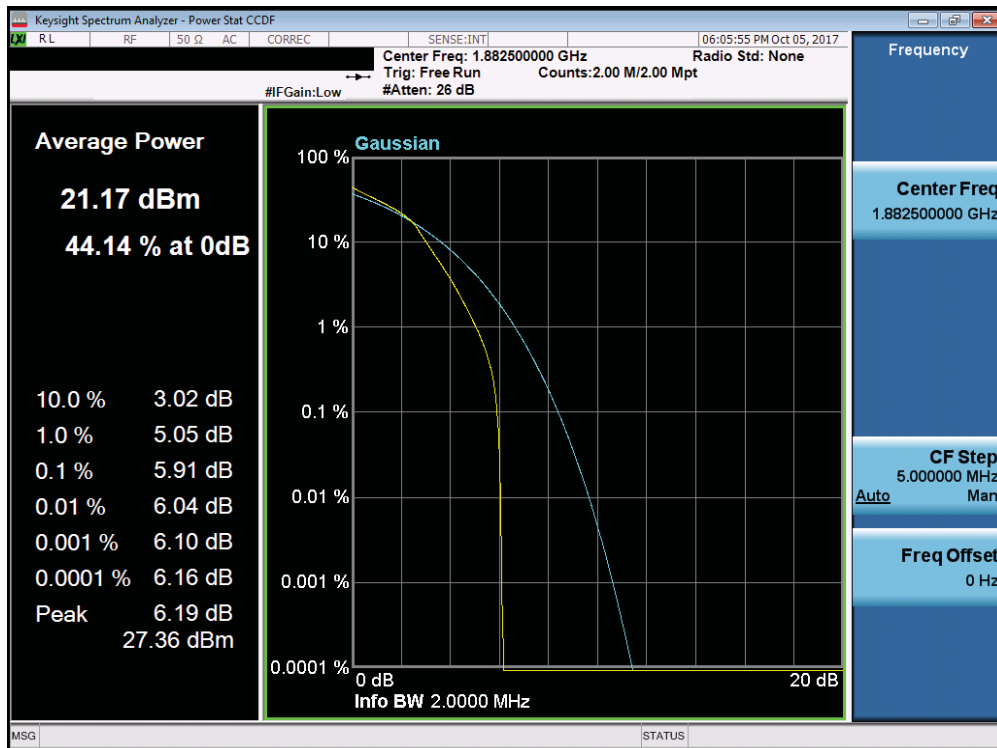
Plot 7-325. PAR Plot (Band 66/4 - 20.0MHz 64-QAM - Full RB Configuration)

FCC ID: A3LSMG965F	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1710040265-03.A3L	Test Dates: 10/4/2017-12/15/2017	EUT Type: Portable Handset	Page 187 of 250	

Band 25/2

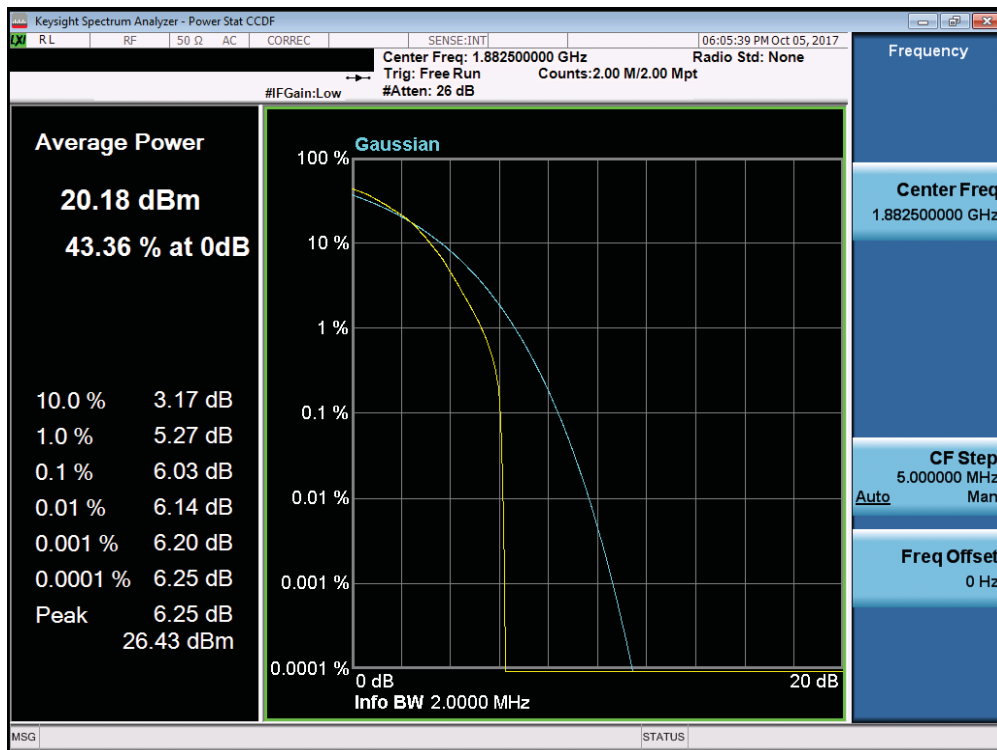


Plot 7-326. PAR Plot (Band 25/2 - 1.4MHz QPSK - Full RB Configuration)

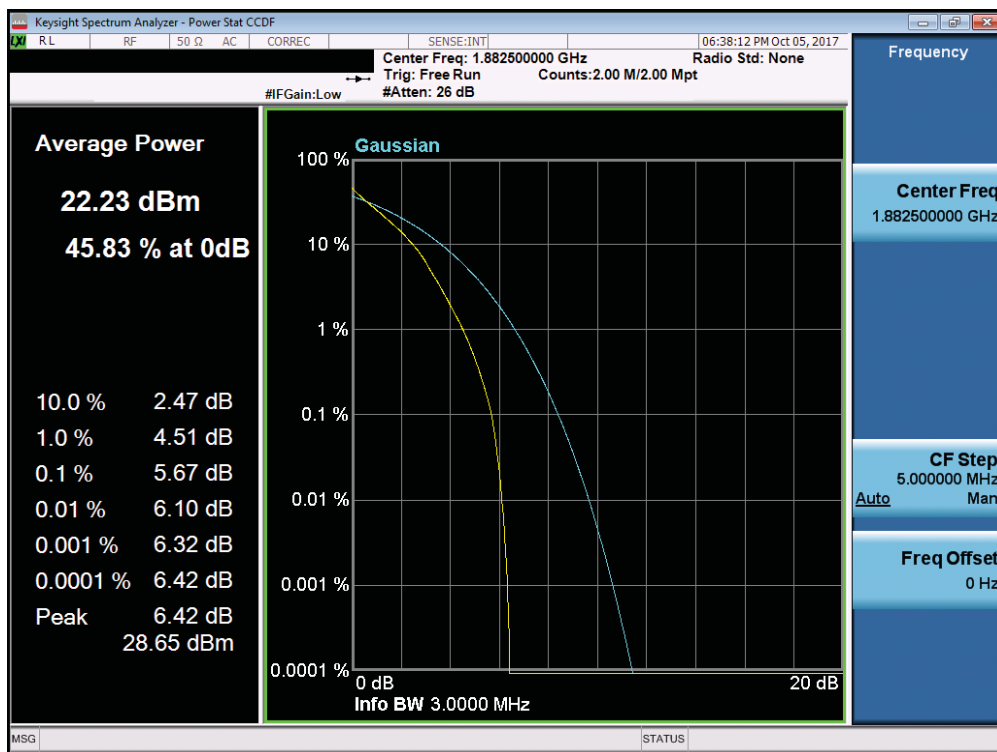


Plot 7-327. PAR Plot (Band 25/2 - 1.4MHz 16-QAM - Full RB Configuration)

FCC ID: A3LSMG965F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1710040265-03.A3L	Test Dates: 10/4/2017-12/15/2017	EUT Type: Portable Handset		Page 188 of 250

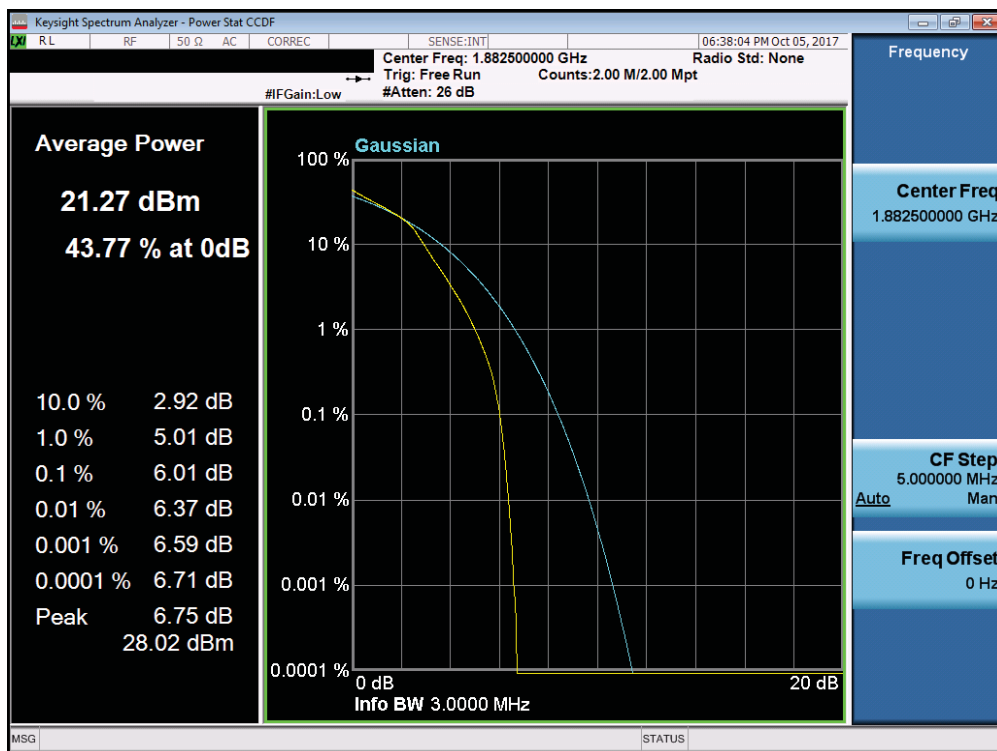


Plot 7-328. PAR Plot (Band 25/2 - 1.4MHz 64-QAM - Full RB Configuration)

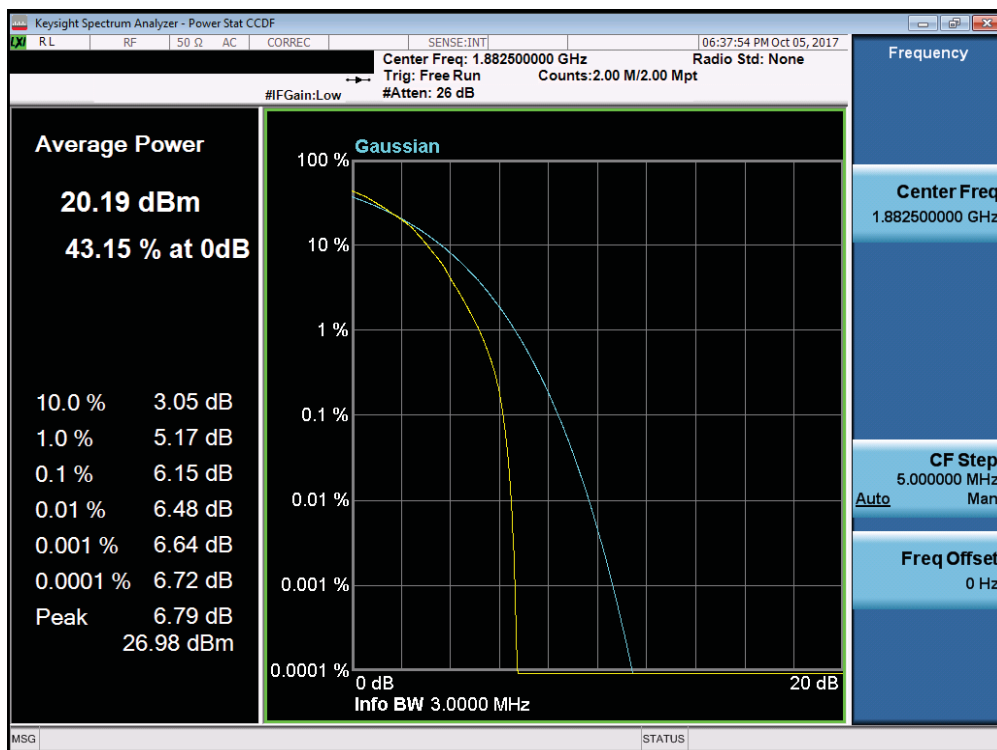


Plot 7-329. PAR Plot (Band 25/2 - 3.0MHz QPSK - Full RB Configuration)

FCC ID: A3LSMG965F	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1710040265-03.A3L	Test Dates: 10/4/2017-12/15/2017	EUT Type: Portable Handset	Page 189 of 250

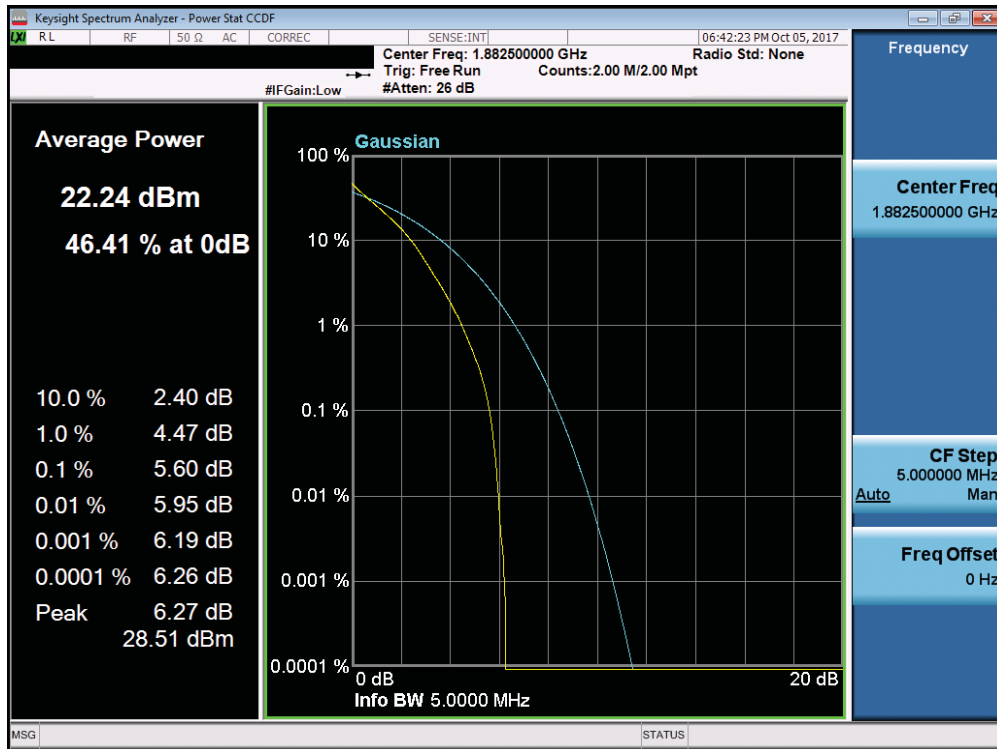


Plot 7-330. PAR Plot (Band 25/2 - 3.0MHz 16-QAM - Full RB Configuration)

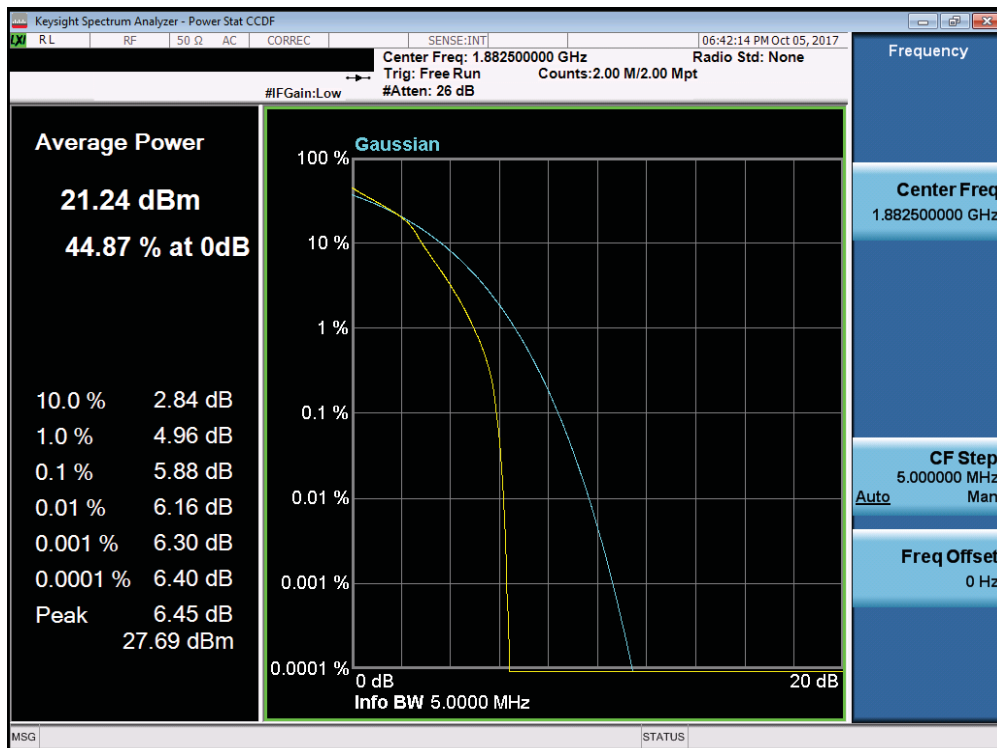


Plot 7-331. PAR Plot (Band 25/2 - 3.0MHz 64-QAM - Full RB Configuration)

FCC ID: A3LSMG965F	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1710040265-03.A3L	Test Dates: 10/4/2017-12/15/2017	EUT Type: Portable Handset		Page 190 of 250

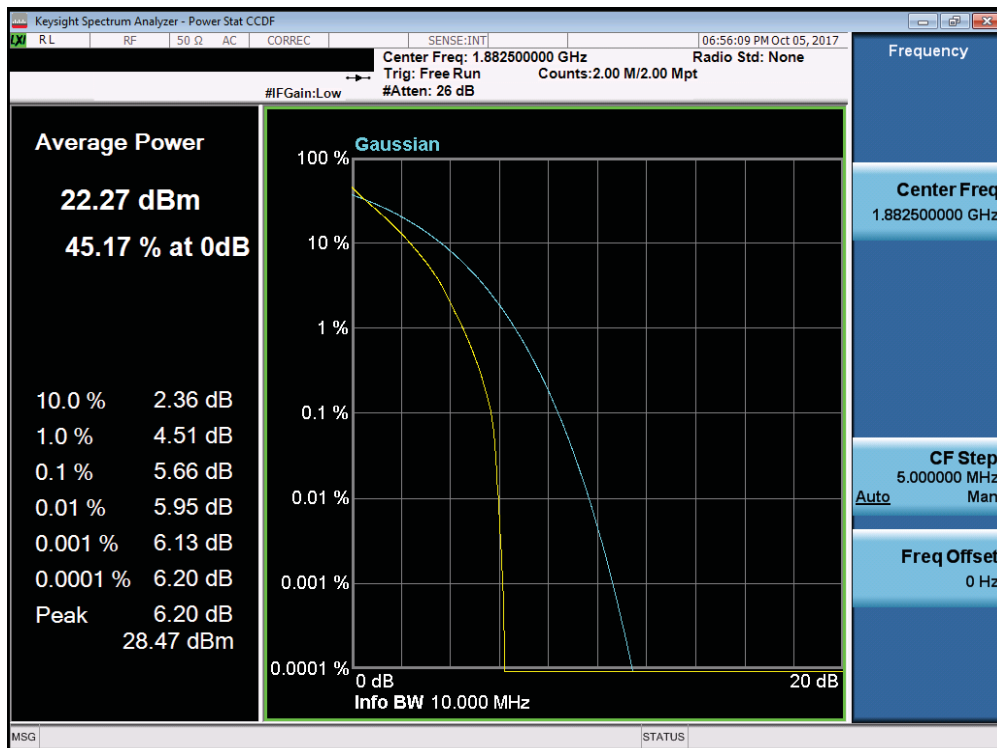
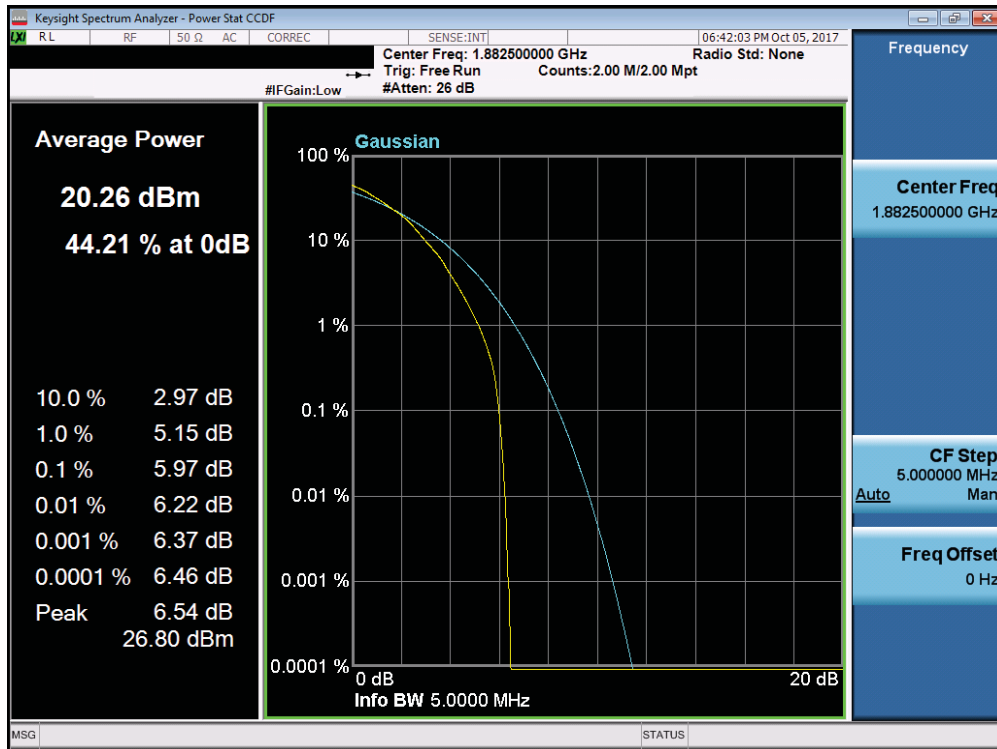


Plot 7-332. PAR Plot (Band 25/2 - 5.0MHz QPSK - Full RB Configuration)

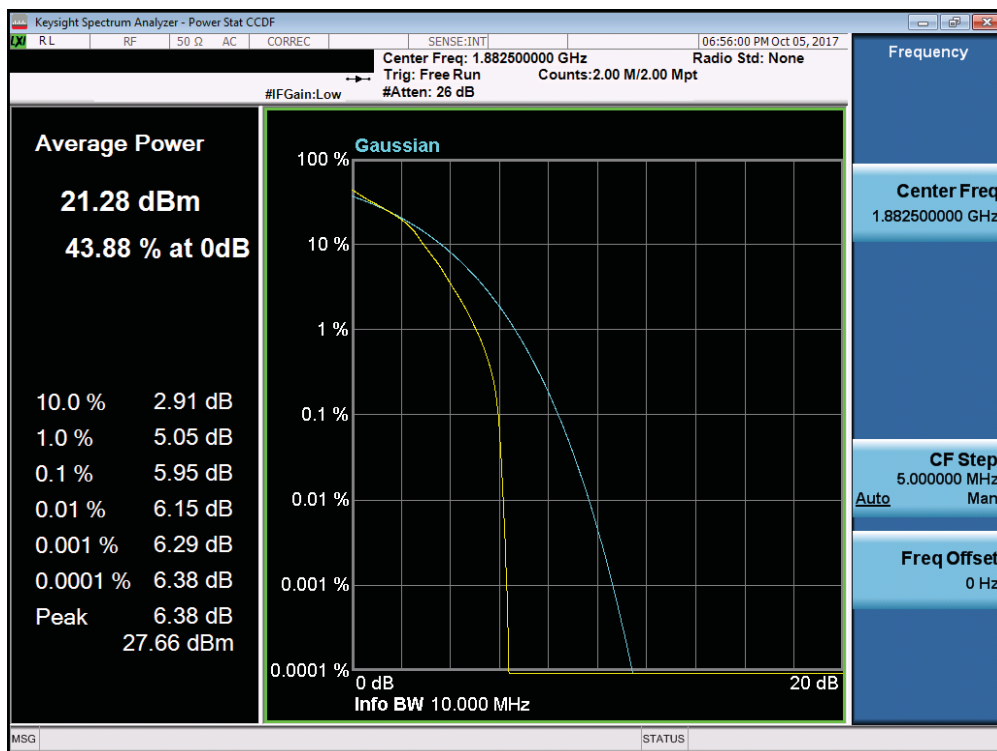


Plot 7-333. PAR Plot (Band 25/2 - 5.0MHz 16-QAM - Full RB Configuration)

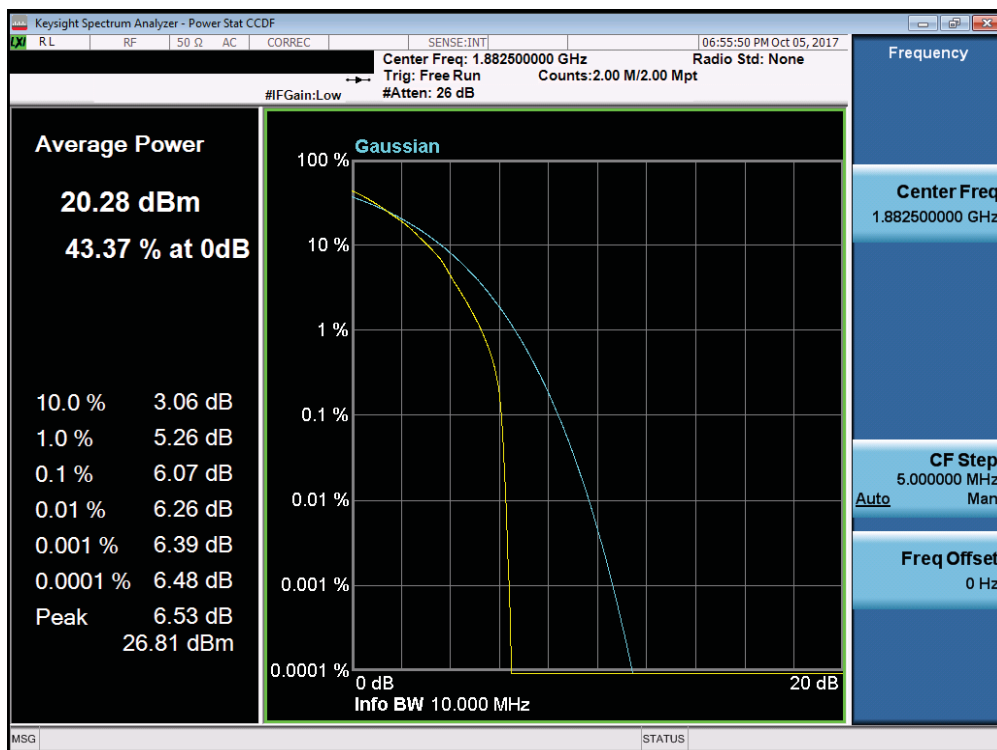
FCC ID: A3LSMG965F	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1710040265-03.A3L	Test Dates: 10/4/2017-12/15/2017	EUT Type: Portable Handset	Page 191 of 250



FCC ID: A3LSMG965F	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1710040265-03.A3L	Test Dates: 10/4/2017-12/15/2017	EUT Type: Portable Handset	Page 192 of 250

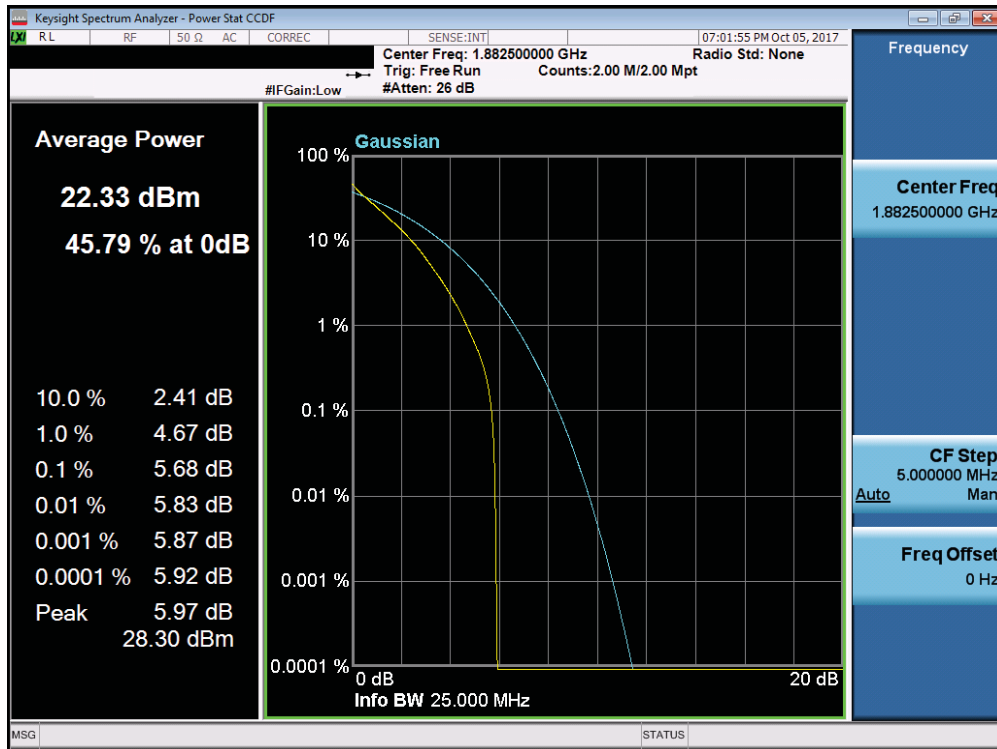


Plot 7-336. PAR Plot (Band 25/2 - 10.0MHz 16-QAM - Full RB Configuration)

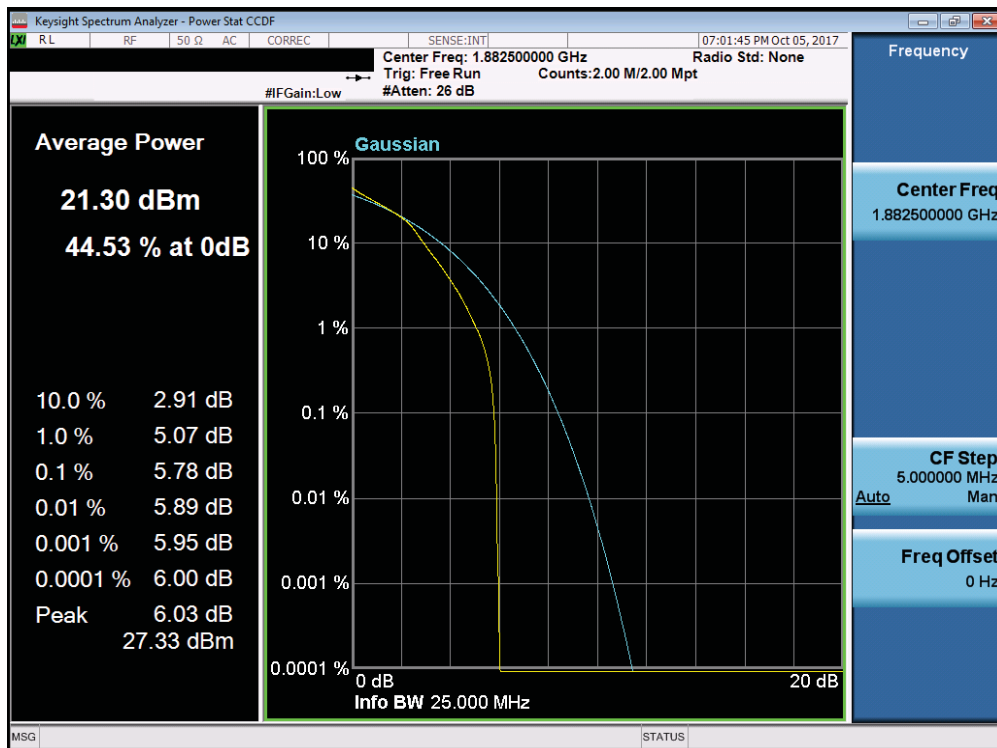


Plot 7-337. PAR Plot (Band 25/2 - 10.0MHz 64-QAM - Full RB Configuration)

FCC ID: A3LSMG965F	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1710040265-03.A3L	Test Dates: 10/4/2017-12/15/2017	EUT Type: Portable Handset		Page 193 of 250

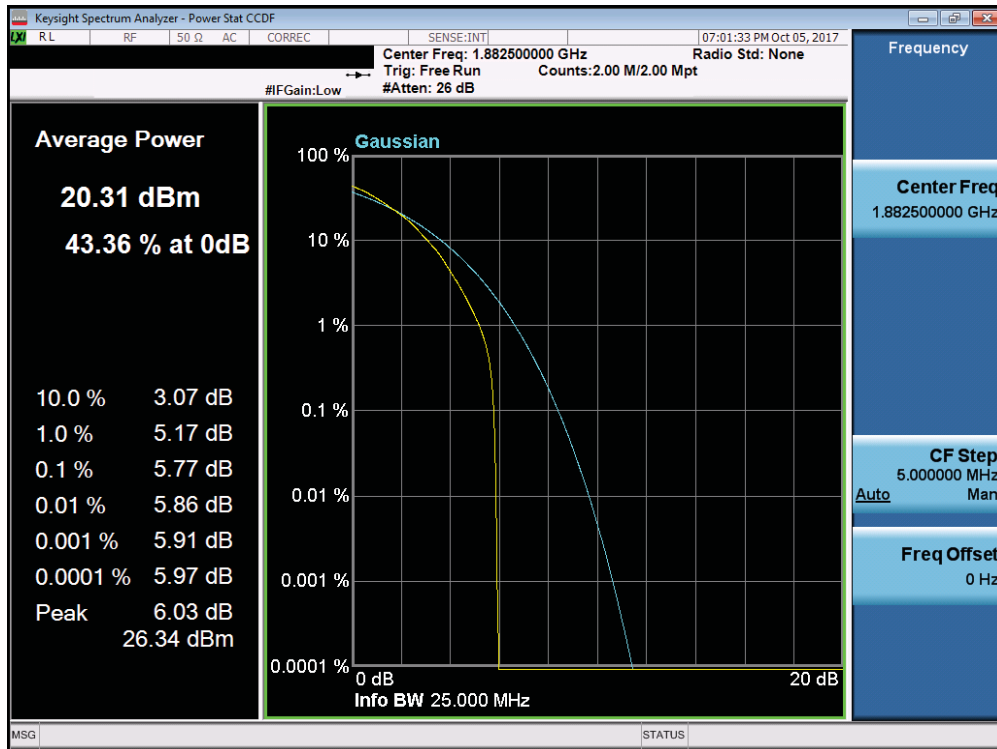


Plot 7-338. PAR Plot (Band 25/2 - 15.0MHz QPSK - Full RB Configuration)

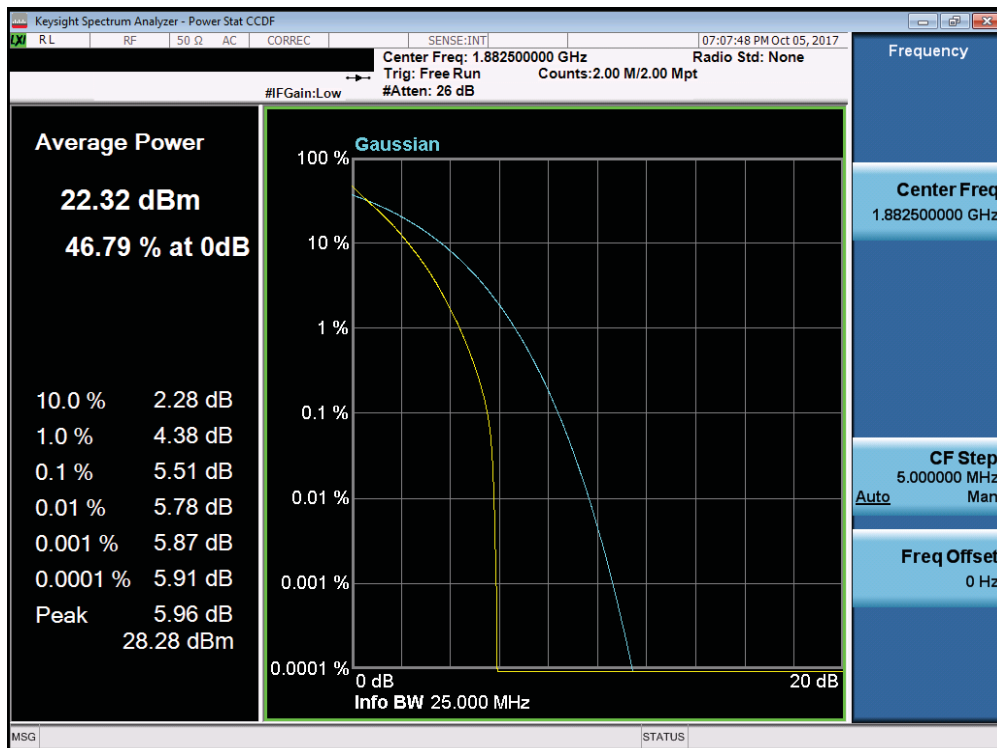


Plot 7-339. PAR Plot (Band 25/2 - 15.0MHz 16-QAM - Full RB Configuration)

FCC ID: A3LSMG965F	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1710040265-03.A3L	Test Dates: 10/4/2017-12/15/2017	EUT Type: Portable Handset	Page 194 of 250	

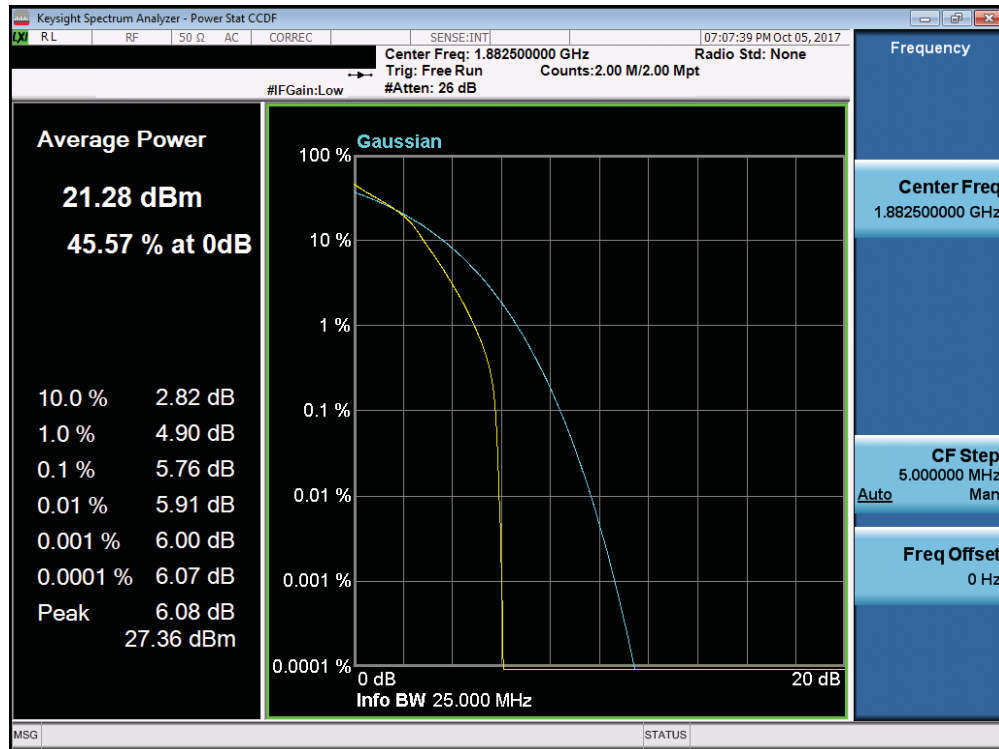


Plot 7-340. PAR Plot (Band 25/2 - 15.0MHz 64-QAM - Full RB Configuration)

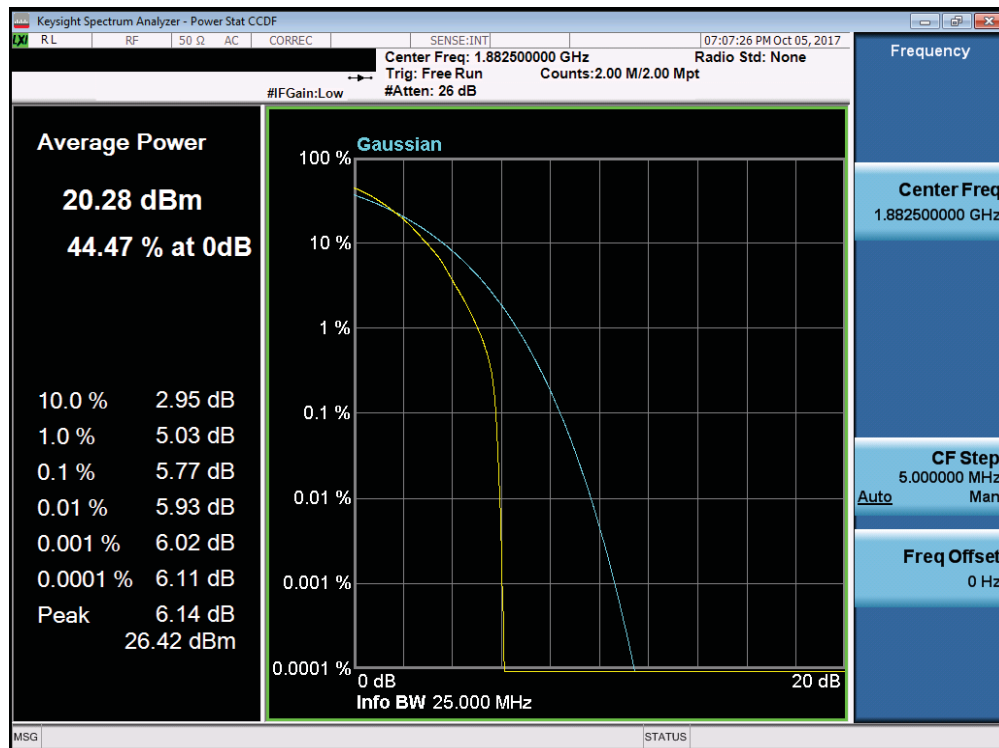


Plot 7-341. PAR Plot (Band 25/2 - 20.0MHz QPSK - Full RB Configuration)

FCC ID: A3LSMG965F	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1710040265-03.A3L	Test Dates: 10/4/2017-12/15/2017	EUT Type: Portable Handset		Page 195 of 250



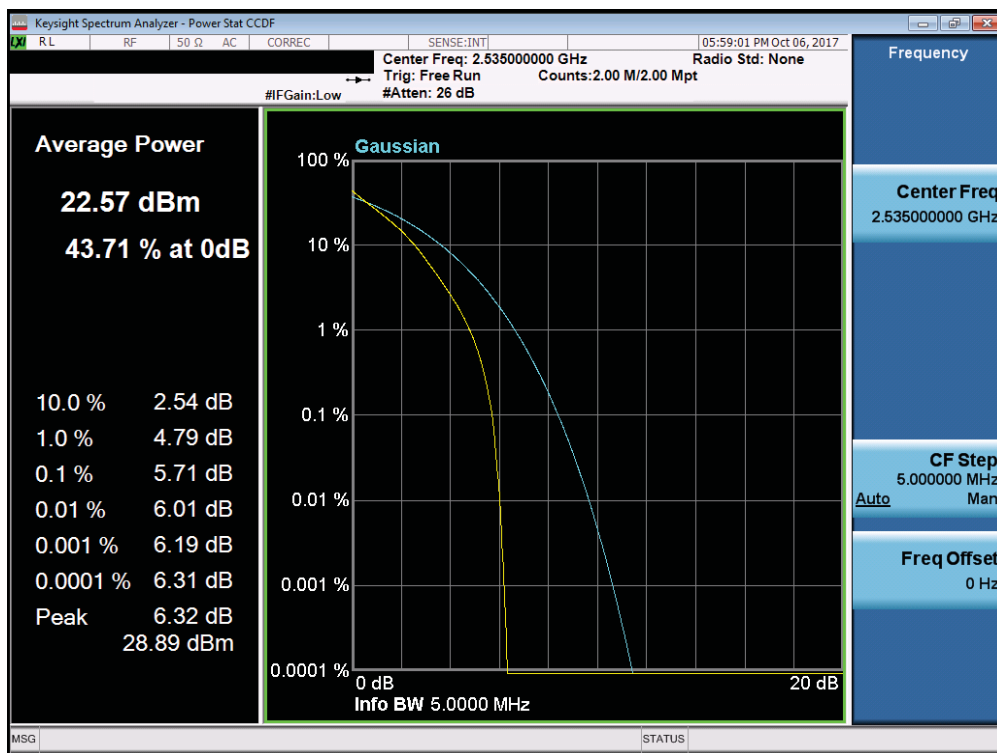
Plot 7-342. PAR Plot (Band 25/2 - 20.0MHz 16-QAM - Full RB Configuration)



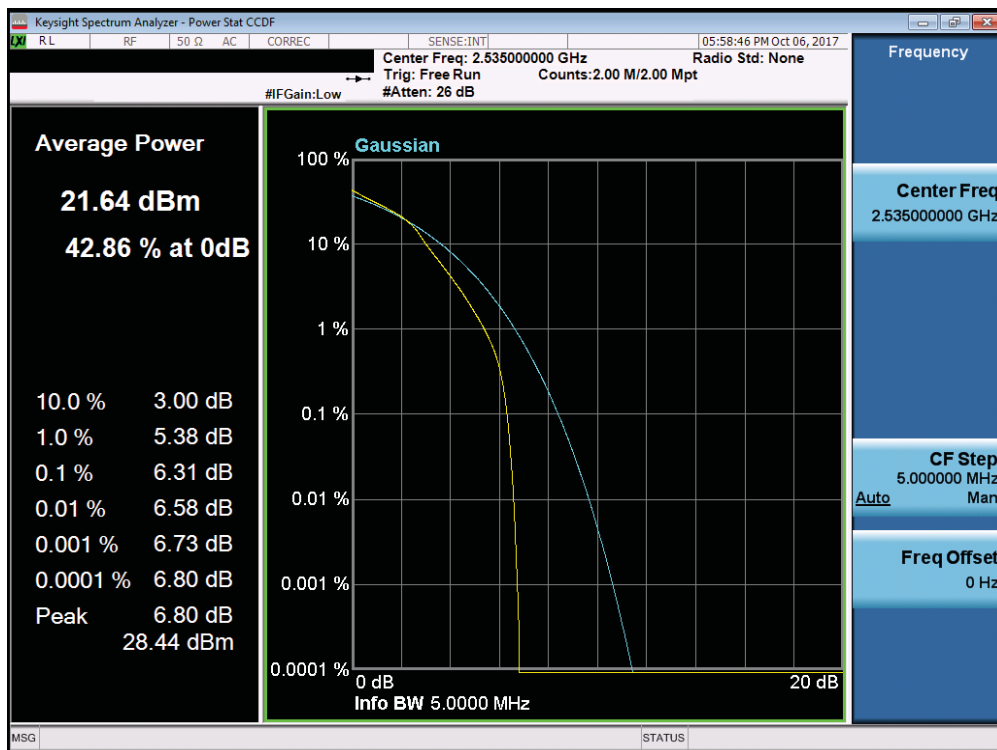
Plot 7-343. PAR Plot (Band 25/2 - 20.0MHz 64-QAM - Full RB Configuration)

FCC ID: A3LSMG965F	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1710040265-03.A3L	Test Dates: 10/4/2017-12/15/2017	EUT Type: Portable Handset	Page 196 of 250

Band 7

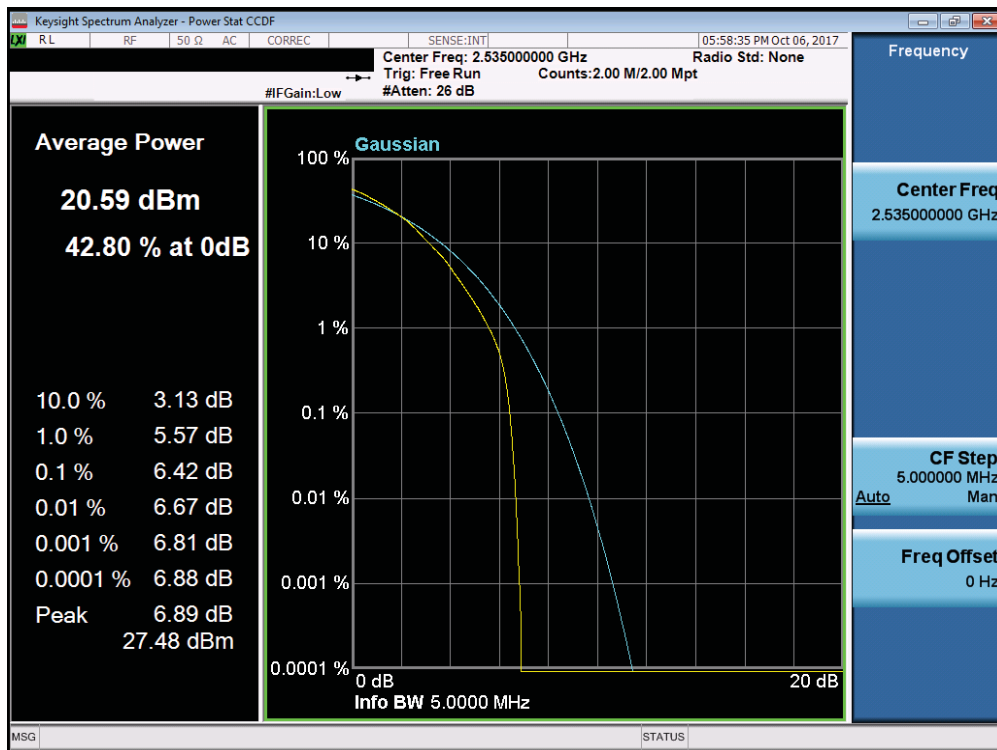


Plot 7-344. PAR Plot (Band 7 - 5.0MHz QPSK - Full RB Configuration)

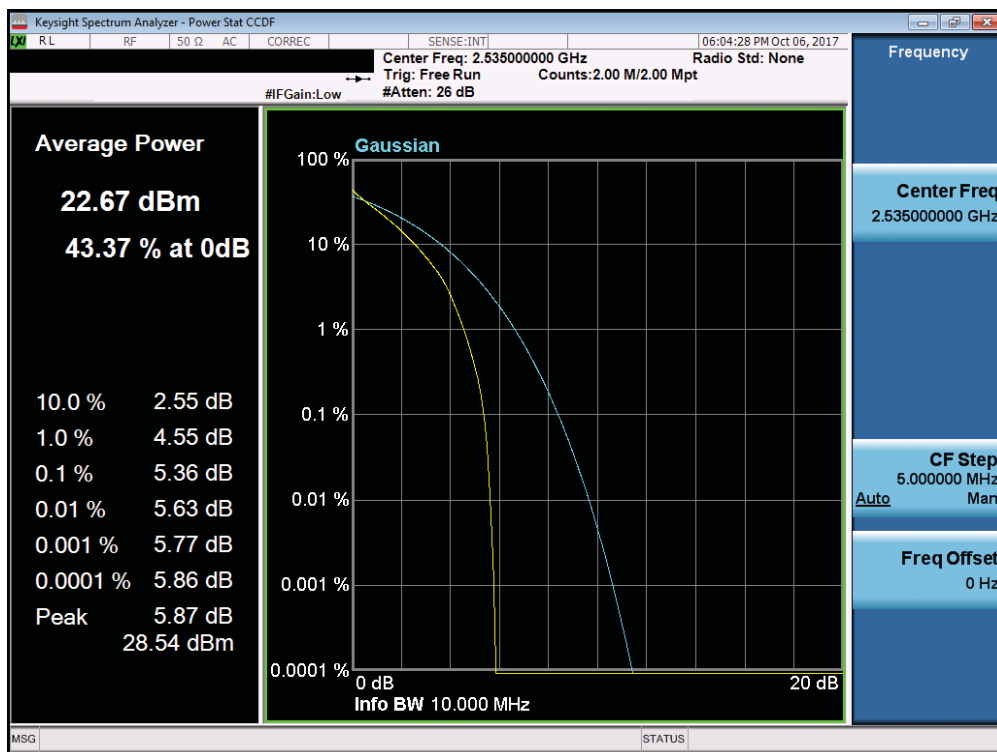


Plot 7-345. PAR Plot (Band 7 - 5.0MHz 16-QAM - Full RB Configuration)

FCC ID: A3LSMG965F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1710040265-03.A3L	Test Dates: 10/4/2017-12/15/2017	EUT Type: Portable Handset		Page 197 of 250

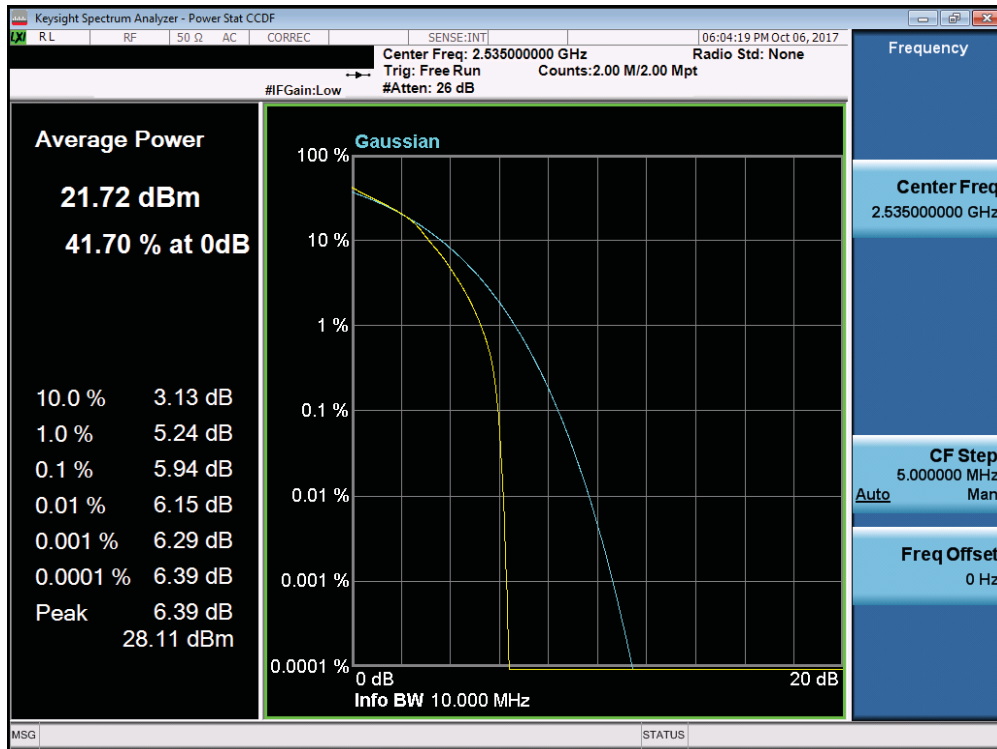


Plot 7-346. PAR Plot (Band 7 - 5.0MHz 64-QAM - Full RB Configuration)

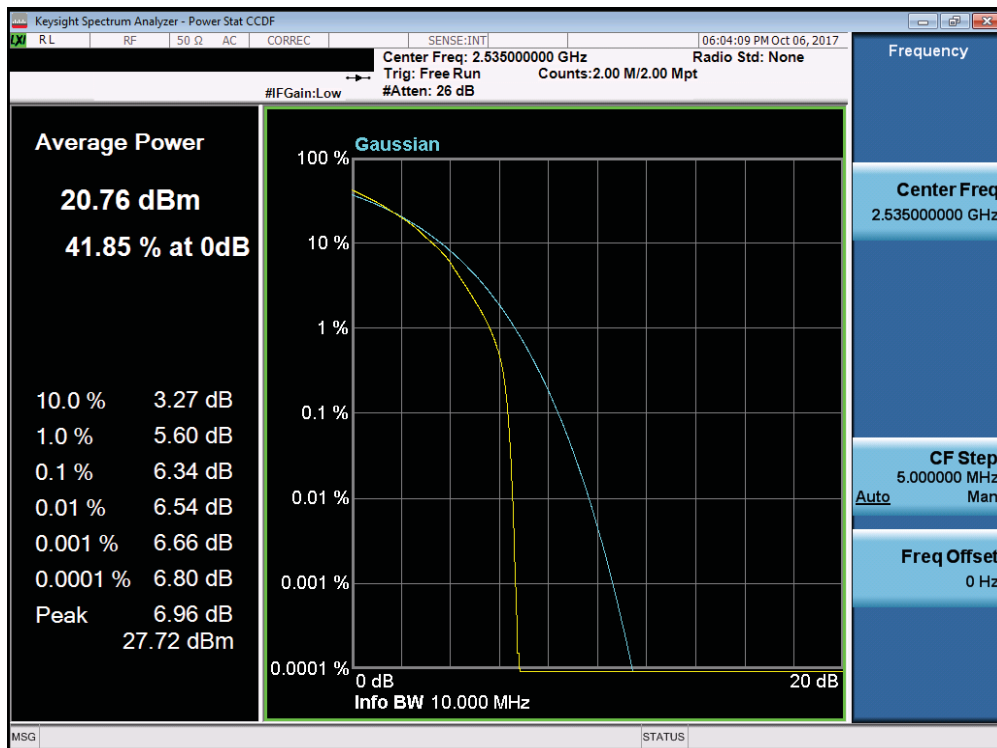


Plot 7-347. PAR Plot (Band 7 - 10.0MHz QPSK - Full RB Configuration)

FCC ID: A3LSMG965F	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1710040265-03.A3L	Test Dates: 10/4/2017-12/15/2017	EUT Type: Portable Handset		Page 198 of 250

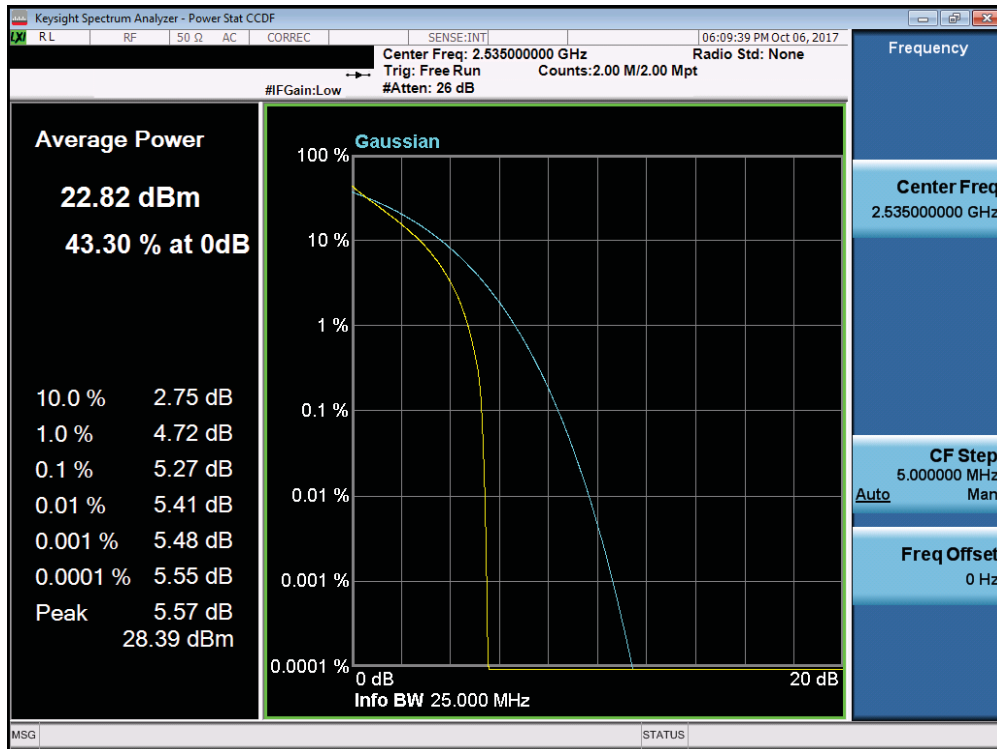


Plot 7-348. PAR Plot (Band 7 - 10.0MHz 16-QAM - Full RB Configuration)

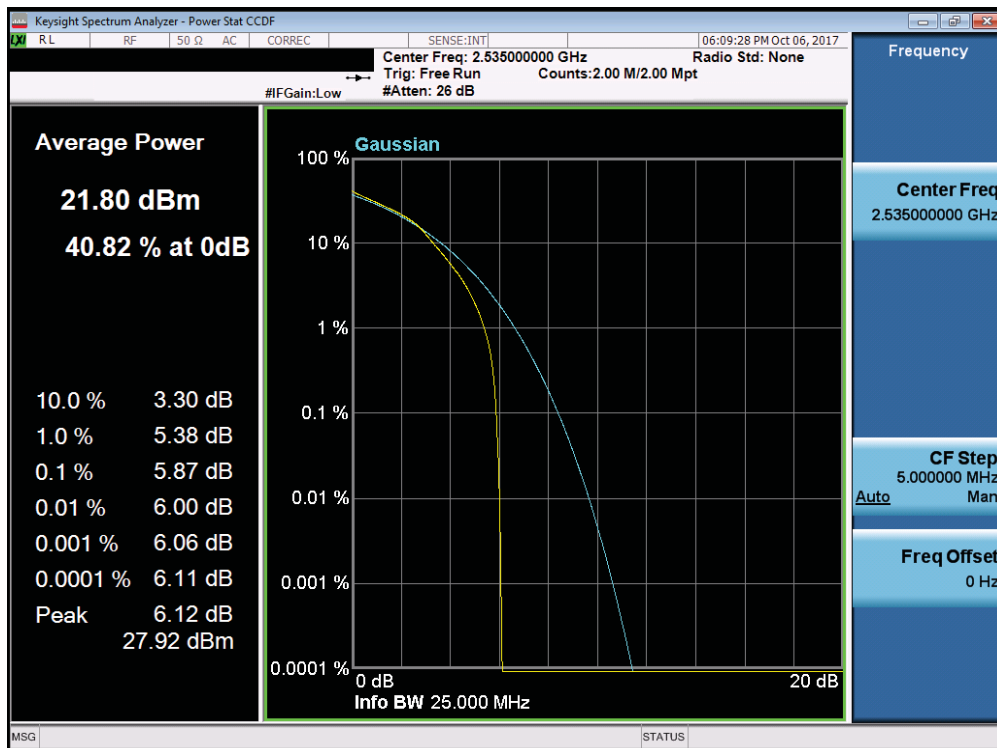


Plot 7-349. PAR Plot (Band 7 - 10.0MHz 64-QAM - Full RB Configuration)

FCC ID: A3LSMG965F	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1710040265-03.A3L	Test Dates: 10/4/2017-12/15/2017	EUT Type: Portable Handset	Page 199 of 250

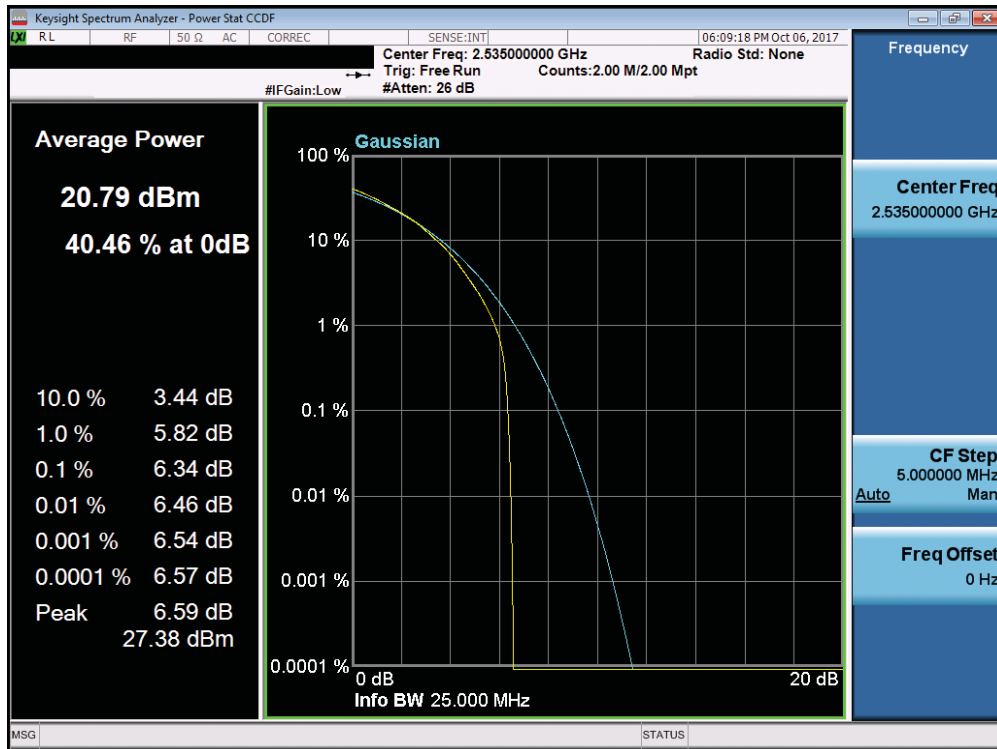


Plot 7-350. PAR Plot (Band 7 - 15.0MHz QPSK - Full RB Configuration)

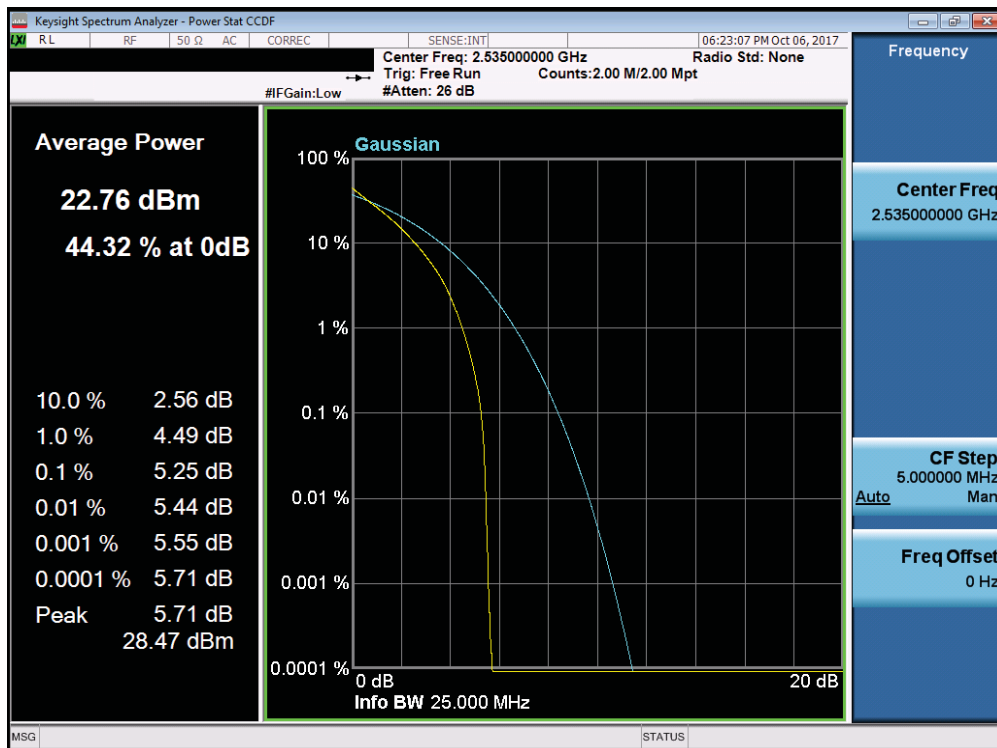


Plot 7-351. PAR Plot (Band 7 - 15.0MHz 16-QAM - Full RB Configuration)

FCC ID: A3LSMG965F	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1710040265-03.A3L	Test Dates: 10/4/2017-12/15/2017	EUT Type: Portable Handset	Page 200 of 250

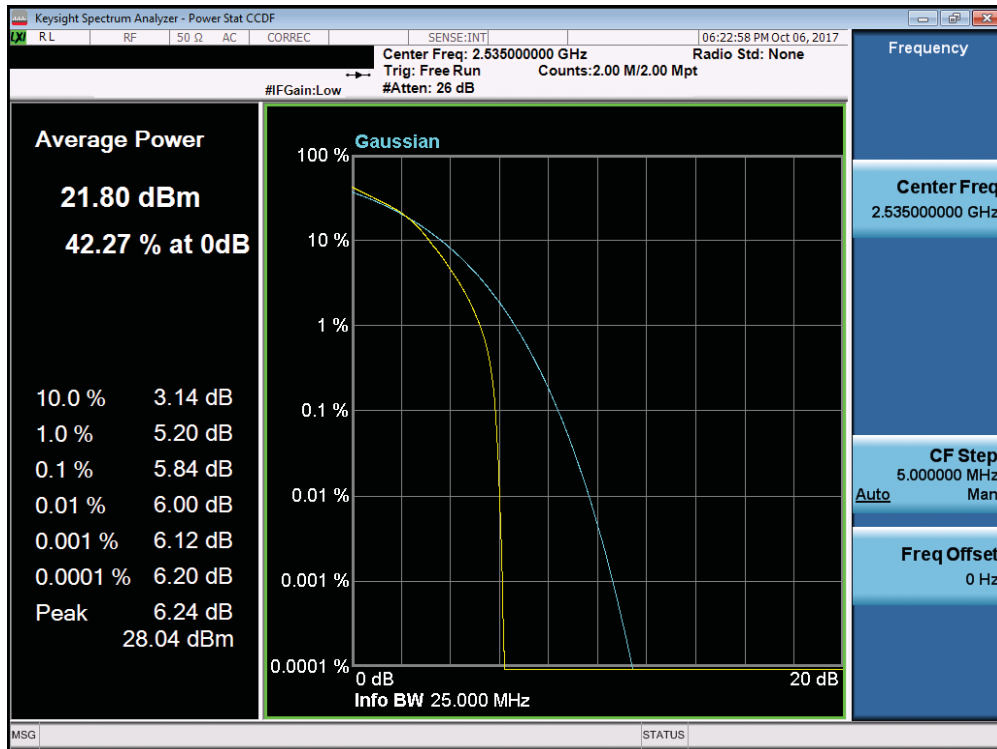


Plot 7-352. PAR Plot (Band 7 - 15.0MHz 64-QAM - Full RB Configuration)

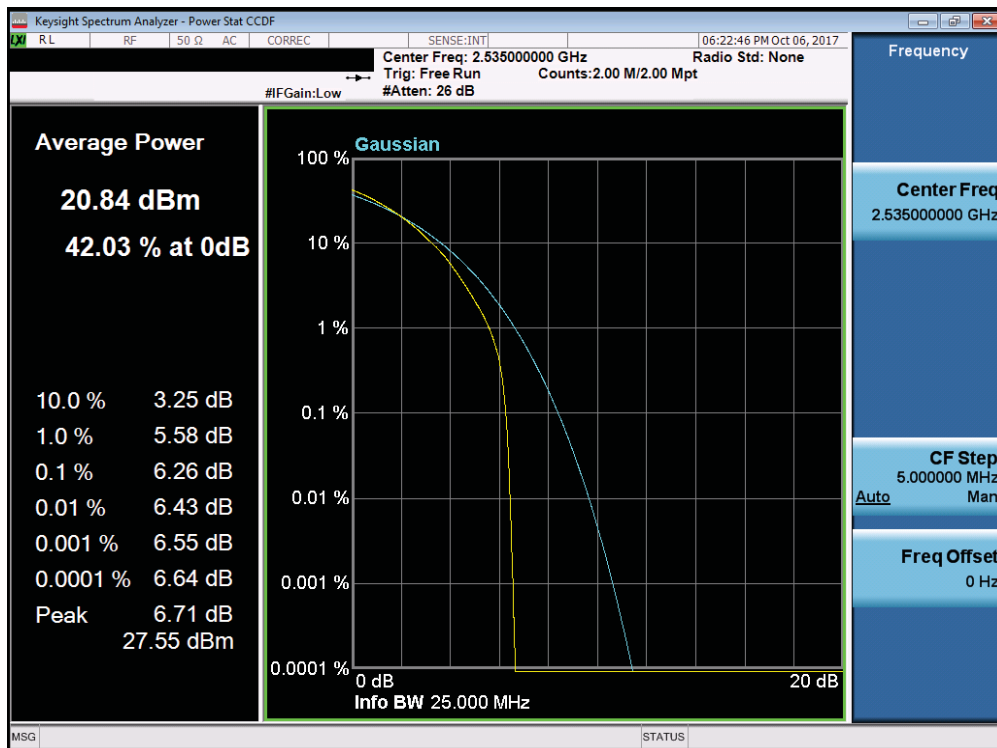


Plot 7-353. PAR Plot (Band 7 - 20.0MHz QPSK - Full RB Configuration)

FCC ID: A3LSMG965F	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1710040265-03.A3L	Test Dates: 10/4/2017-12/15/2017	EUT Type: Portable Handset		Page 201 of 250



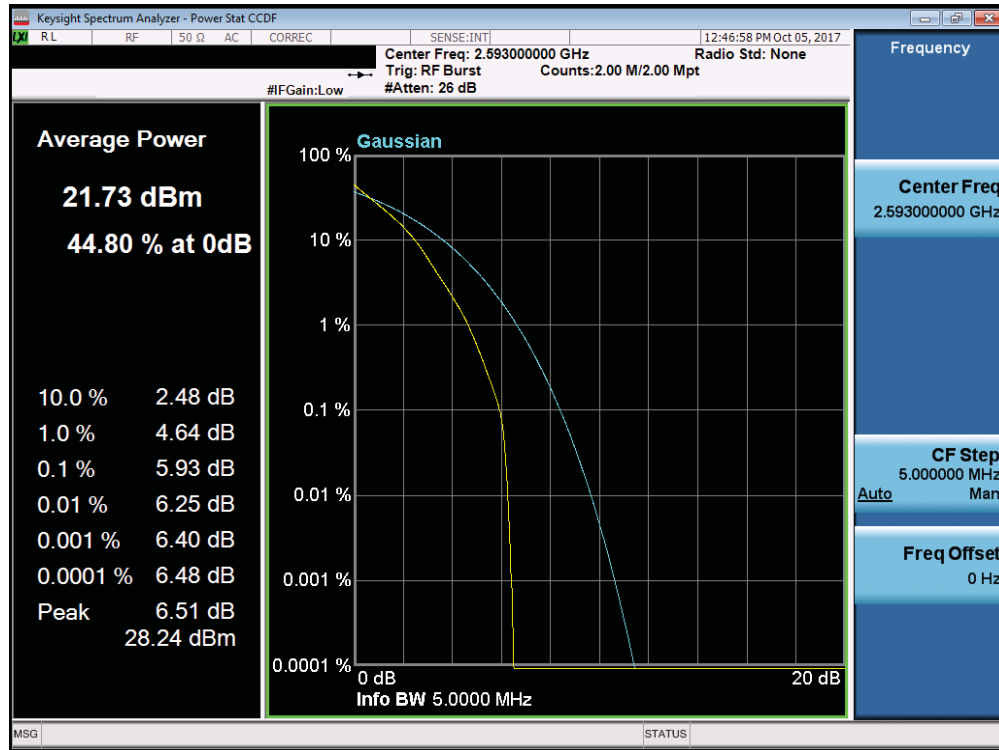
Plot 7-354. PAR Plot (Band 7 - 20.0MHz 16-QAM - Full RB Configuration)



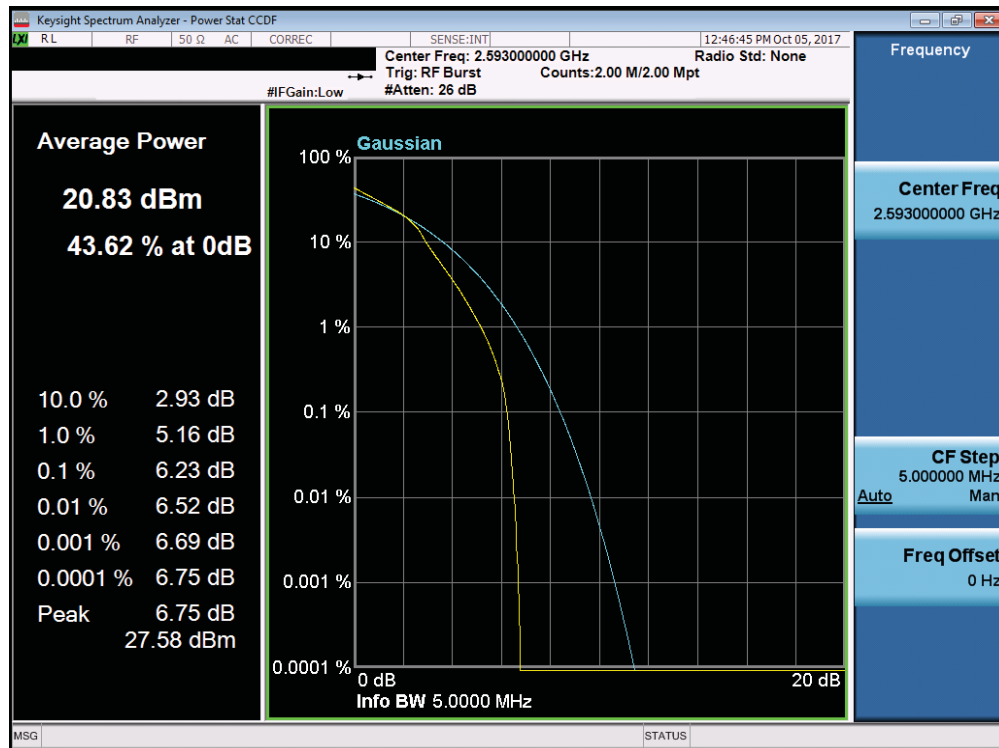
Plot 7-355. PAR Plot (Band 7 - 20.0MHz 64-QAM - Full RB Configuration)

FCC ID: A3LSMG965F	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1710040265-03.A3L	Test Dates: 10/4/2017-12/15/2017	EUT Type: Portable Handset	Page 202 of 250

Band 38/41

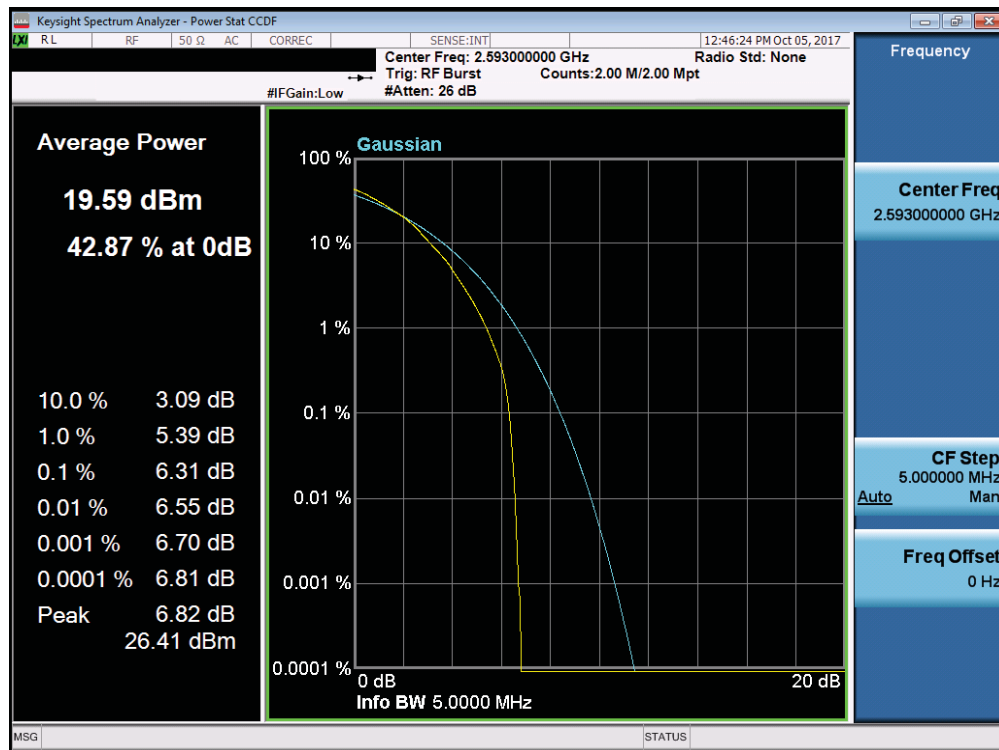


Plot 7-356. PAR Plot (Band 38/41 - 5.0MHz QPSK - Full RB Configuration)

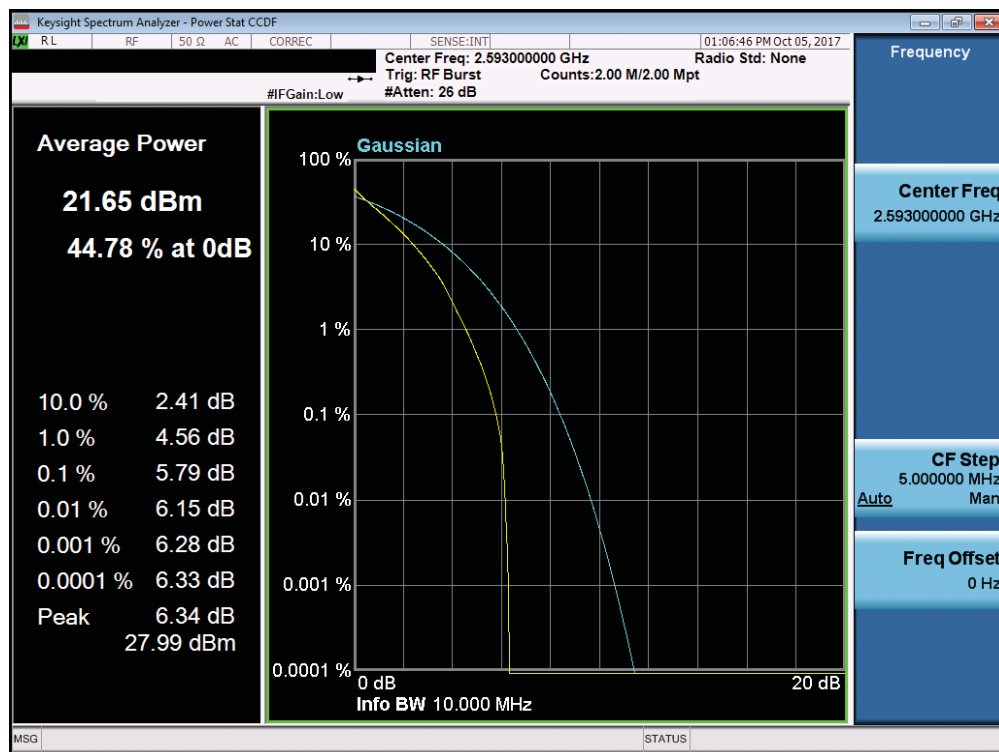


Plot 7-357. PAR Plot (Band 38/41 - 5.0MHz 16-QAM - Full RB Configuration)

FCC ID: A3LSMG965F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1710040265-03-A3L	Test Dates: 10/4/2017-12/15/2017	EUT Type: Portable Handset		Page 203 of 250

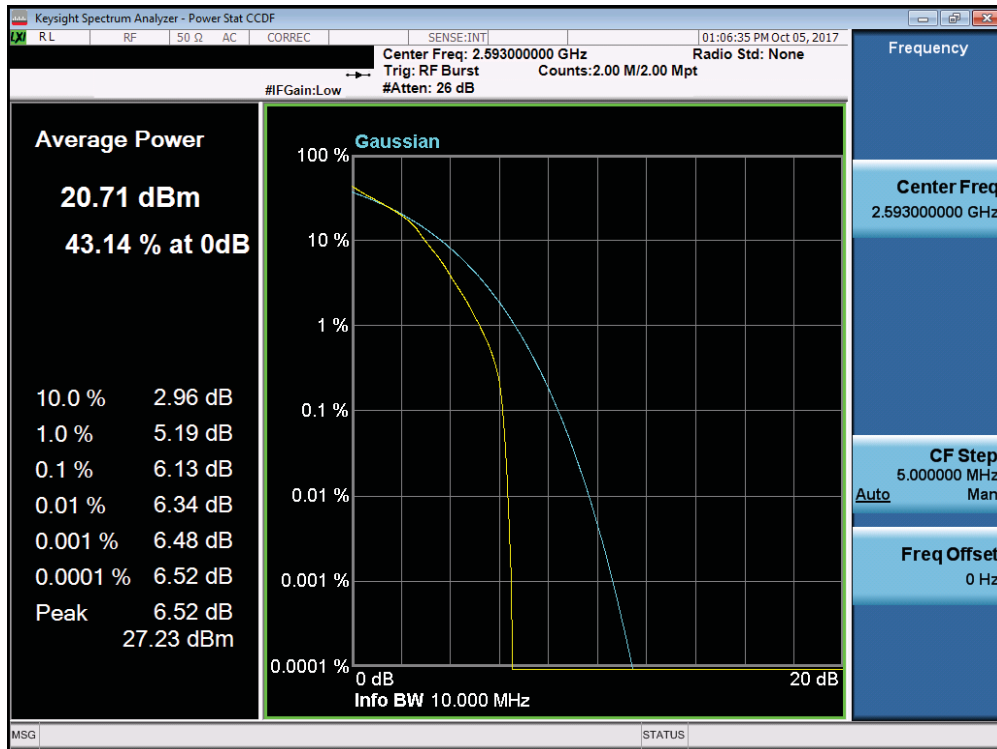


Plot 7-358. PAR Plot (Band 38/41 - 5.0MHz 64-QAM - Full RB Configuration)

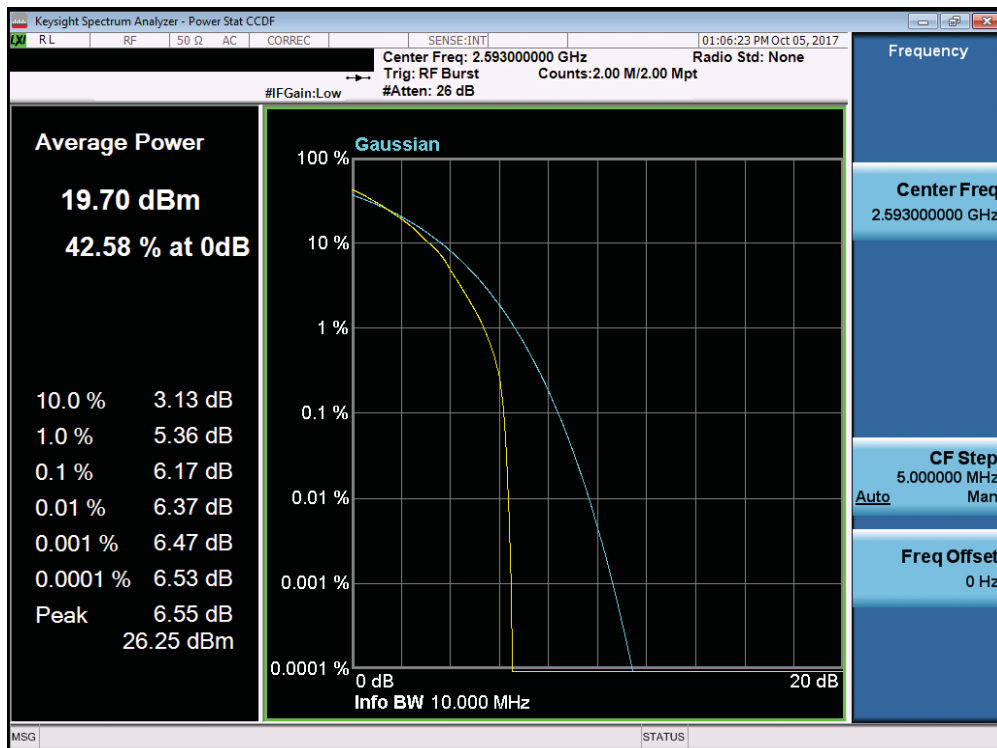


Plot 7-359. PAR Plot (Band 38/41 - 10.0MHz QPSK - Full RB Configuration)

FCC ID: A3LSMG965F	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1710040265-03.A3L	Test Dates: 10/4/2017-12/15/2017	EUT Type: Portable Handset	Page 204 of 250	

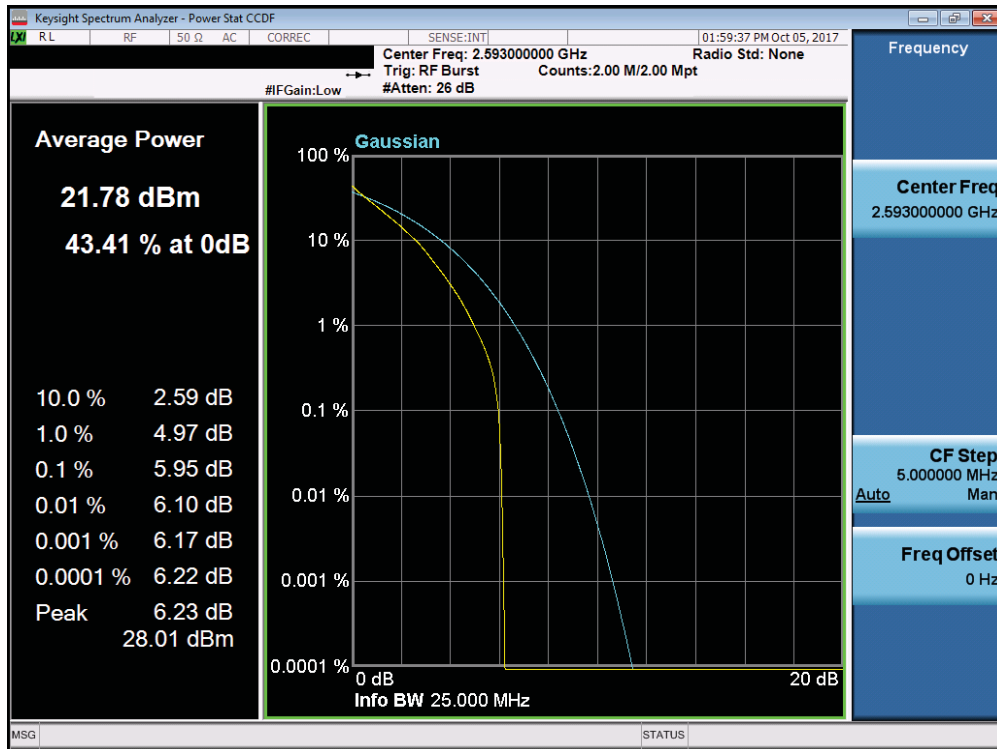


Plot 7-360. PAR Plot (Band 38/41 - 10.0MHz 16-QAM - Full RB Configuration)

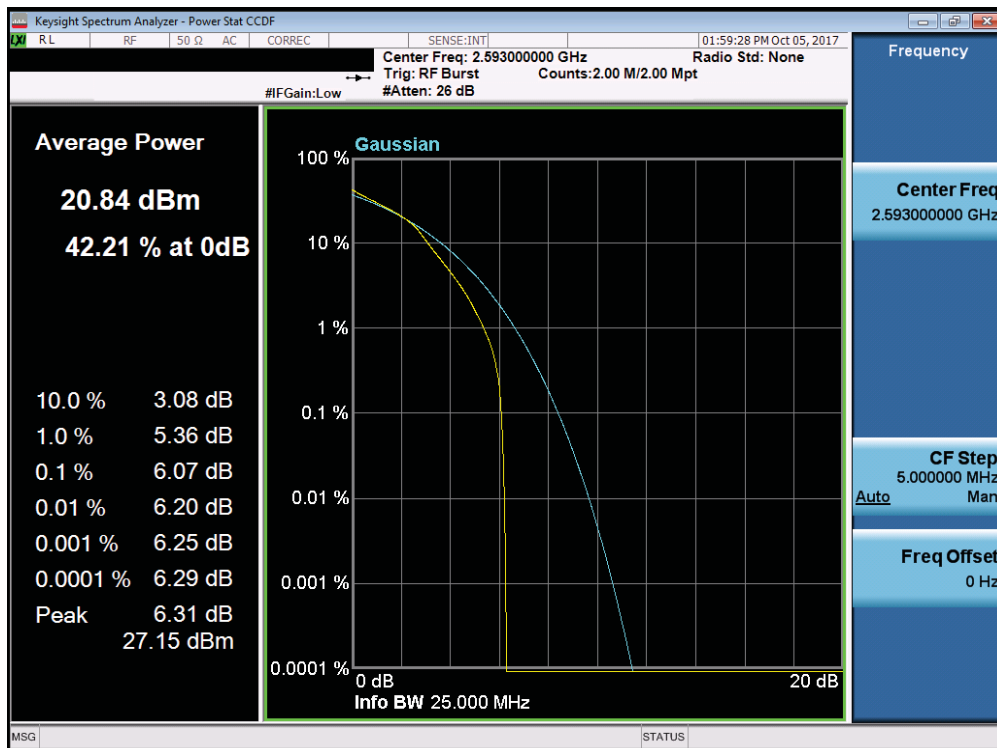


Plot 7-361. PAR Plot (Band 38/41 - 10.0MHz 64-QAM - Full RB Configuration)

FCC ID: A3LSMG965F	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1710040265-03.A3L	Test Dates: 10/4/2017-12/15/2017	EUT Type: Portable Handset	Page 205 of 250

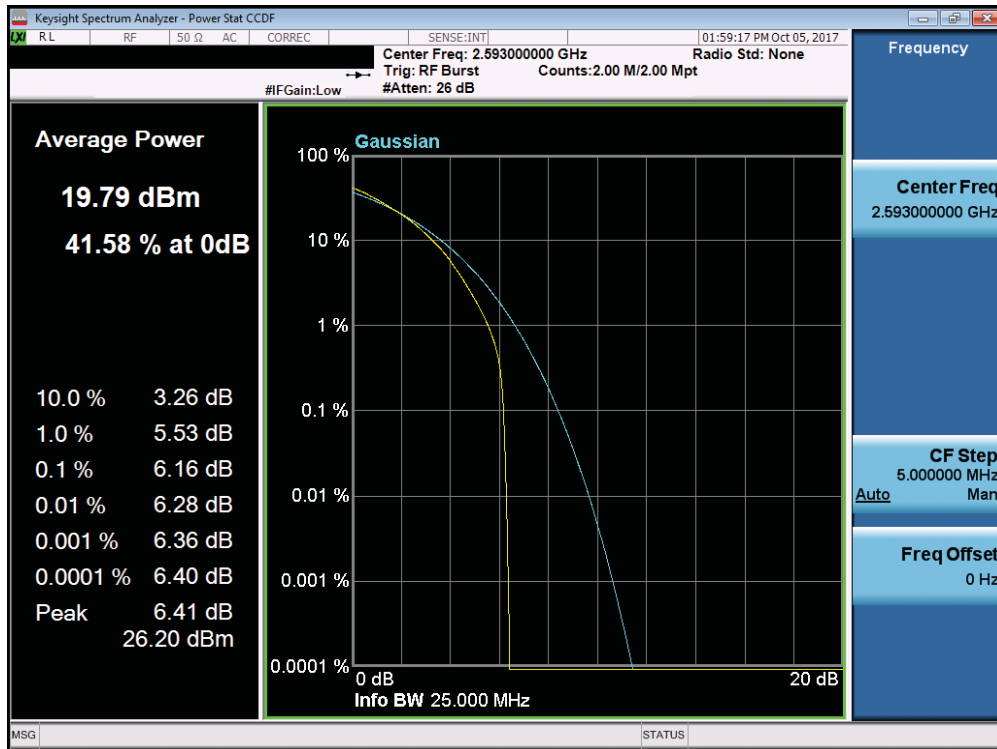


Plot 7-362. PAR Plot (Band 38/41 - 15.0MHz QPSK - Full RB Configuration)

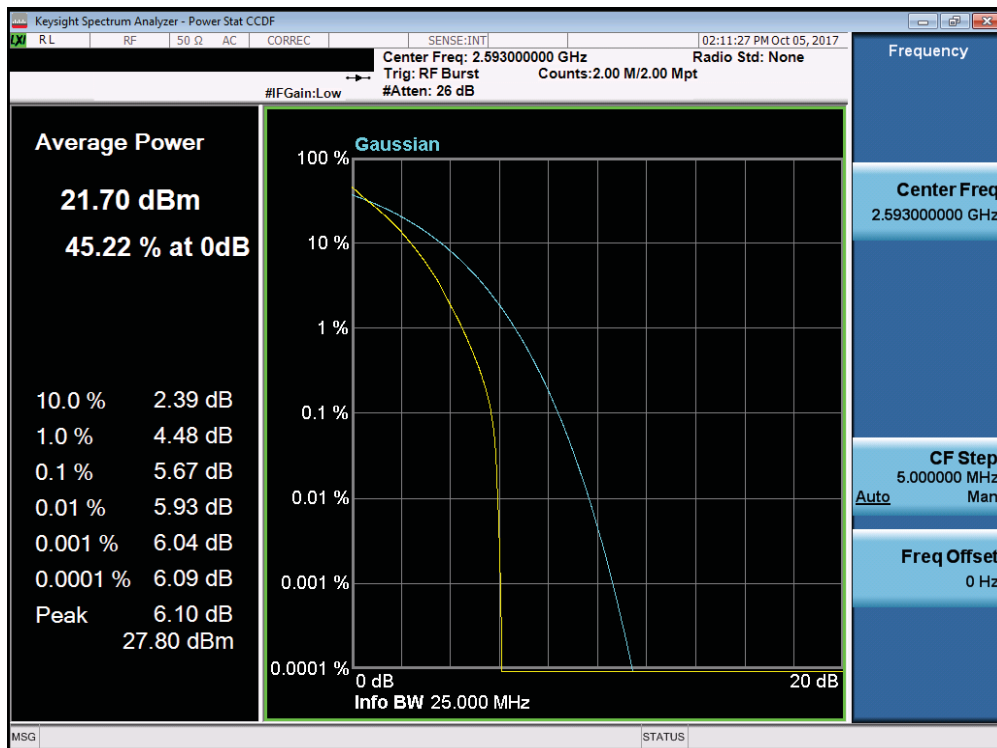


Plot 7-363. PAR Plot (Band 38/41 - 15.0MHz 16-QAM - Full RB Configuration)

FCC ID: A3LSMG965F	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1710040265-03.A3L	Test Dates: 10/4/2017-12/15/2017	EUT Type: Portable Handset	Page 206 of 250

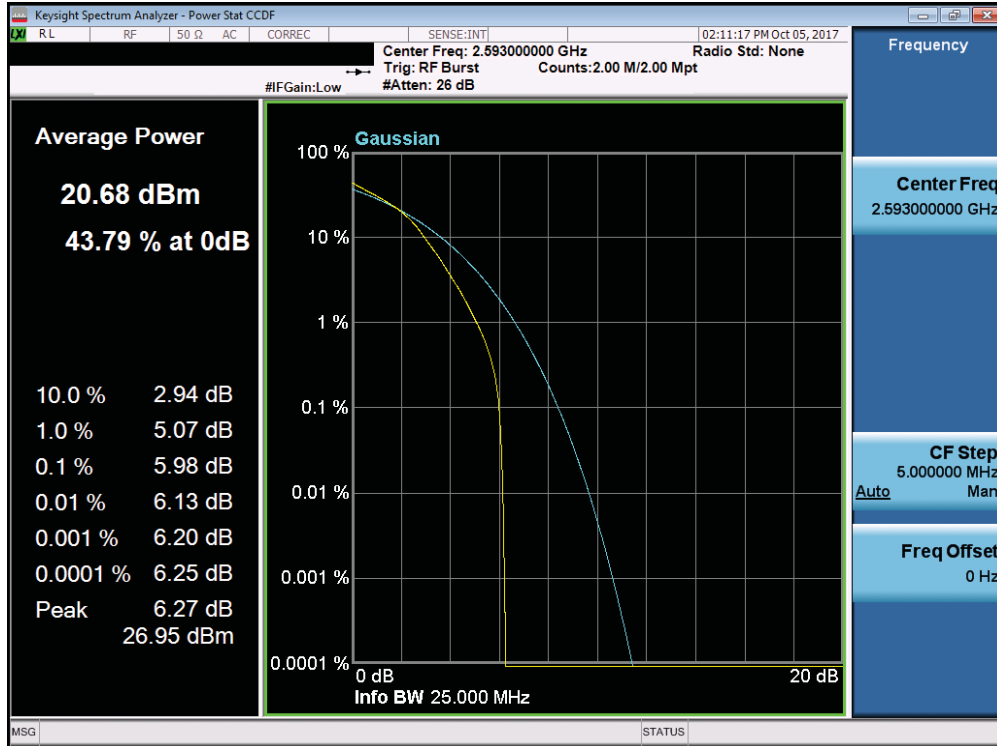


Plot 7-364. PAR Plot (Band 38/41 - 15.0MHz 64-QAM - Full RB Configuration)

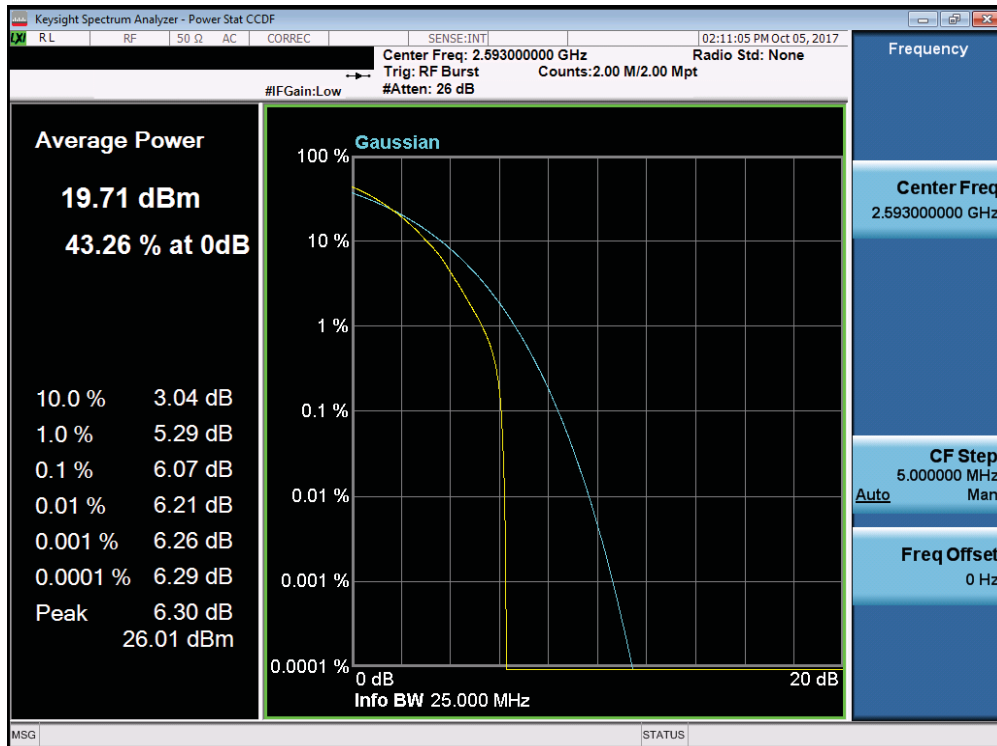


Plot 7-365. PAR Plot (Band 38/41 - 20.0MHz QPSK - Full RB Configuration)

FCC ID: A3LSMG965F	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1710040265-03.A3L	Test Dates: 10/4/2017-12/15/2017	EUT Type: Portable Handset	Page 207 of 250



Plot 7-366. PAR Plot (Band 38/41 - 20.0MHz 16-QAM - Full RB Configuration)



Plot 7-367. PAR Plot (Band 38/41 - 20.0MHz 64-QAM - Full RB Configuration)

FCC ID: A3LSMG965F	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1710040265-03.A3L	Test Dates: 10/4/2017-12/15/2017	EUT Type: Portable Handset	Page 208 of 250	

7.6 Radiated Power (ERP/EIRP)

§22.913(a)(2) §24.232(c.2) §27.50(h)(2) §27.50(b)(10) §27.50(c)(10) §27.50(d)(4) RSS-130(4.4) RSS-132(5.4) RSS-133(6.4) RSS-139(6.5) RSS-199(4.4)

Test Overview

Effective Radiated Power (ERP) and Equivalent Isotropic Radiated Power (EIRP) measurements are performed using the substitution method described in ANSI/TIA-603-E-2016 with the EUT transmitting into an integral antenna. Measurements on signals operating below 1GHz are performed using vertically and horizontally polarized tuned dipole antennas. Measurements on signals operating above 1GHz are performed using vertically and horizontally polarized broadband horn antennas. All measurements are performed as RMS average measurements while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies.

Test Procedures Used

KDB 971168 D01 v03 – Section 5.2.1

ANSI/TIA-603-E-2016 – Section 2.2.17

Test Settings

1. Radiated power measurements are performed using the signal analyzer's "channel power" measurement capability for signals with continuous operation. For signals with burst transmission, the signal analyzer's "time domain power" measurement capability is used
2. RBW = 1 – 5% of the expected OBW, not to exceed 1MHz
3. VBW $\geq 3 \times$ RBW
4. Span = 1.5 times the OBW
5. No. of sweep points $\geq 2 \times$ span / RBW
6. Detector = RMS
7. Trigger is set to "free run" for signals with continuous operation with the sweep times set to "auto". Trigger is set to enable triggering only on full power bursts with the sweep time set less than or equal to the transmission burst duration
8. The integration bandwidth was roughly set equal to the measured OBW of the signal for signals with continuous operation. For signals with burst transmission, the "gating" function was enabled to ensure that measurements are performed during times in which the transmitter is operating at its maximum power
9. Trace mode = trace averaging (RMS) over 100 sweeps
10. The trace was allowed to stabilize

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Test Setup

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

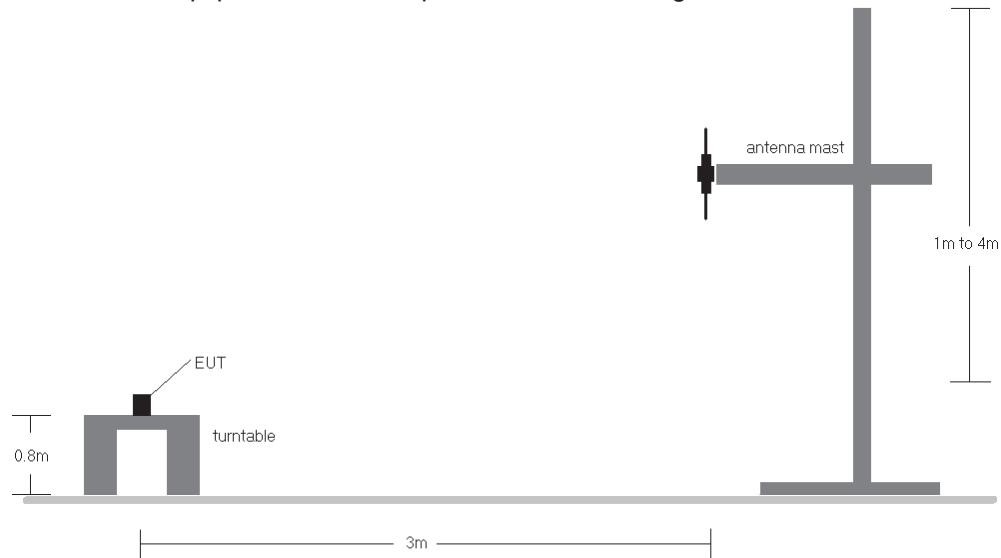


Figure 7-5. Radiated Test Setup <1GHz

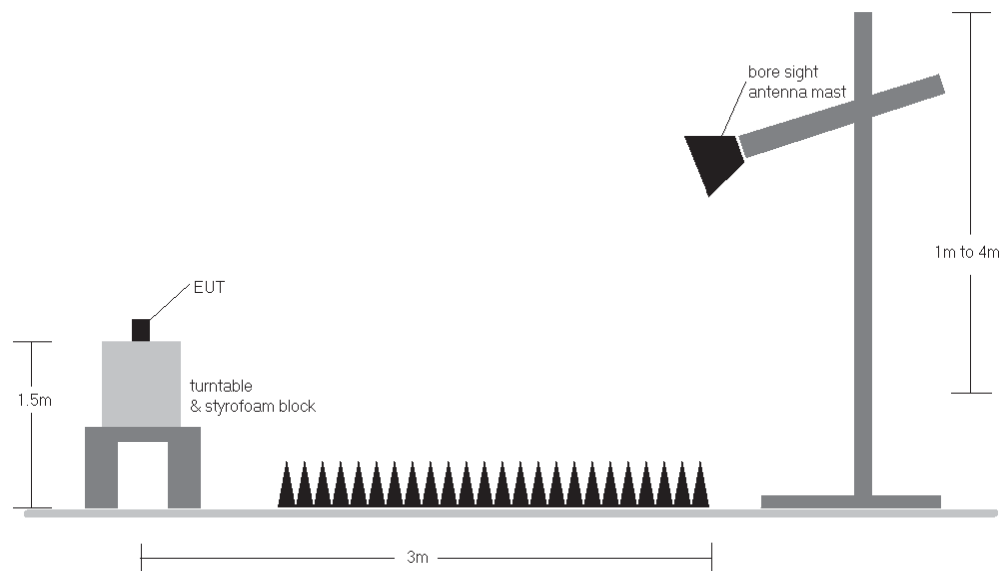


Figure 7-6. Radiated Test Setup >1GHz

Test Notes

- 1) The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case emissions are reported with the EUT positioning, modulations, RB sizes and offsets, and channel bandwidth configurations shown in the tables below.
- 2) This unit was tested with its standard battery.

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Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	RB Size/Offset	Substitute Level [dBm]	Ant. Gain [dBi]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
699.70	1.4	QPSK	V	150	251	1 / 0	17.15	-1.05	13.95	0.025	34.77	-20.82	16.10	0.041	36.99	-20.89
707.50	1.4	QPSK	V	150	370	1 / 0	17.66	-1.02	14.49	0.028	34.77	-20.28	16.64	0.046	36.99	-20.35
715.30	1.4	QPSK	V	150	257	1 / 0	17.95	-0.99	14.81	0.030	34.77	-19.96	16.96	0.050	36.99	-20.03
715.30	1.4	16-QAM	V	150	257	1 / 0	17.21	-0.99	14.07	0.026	34.77	-20.70	16.22	0.042	36.99	-20.77
715.30	1.4	64-QAM	V	150	257	1 / 0	16.19	-0.99	13.05	0.020	34.77	-21.72	15.20	0.033	36.99	-21.79
700.50	3	QPSK	V	150	255	1 / 14	17.12	-1.05	13.92	0.025	34.77	-20.85	16.07	0.040	36.99	-20.92
707.50	3	QPSK	V	150	245	1 / 14	17.73	-1.02	14.56	0.029	34.77	-20.21	16.71	0.047	36.99	-20.28
714.50	3	QPSK	V	150	258	1 / 0	17.91	-0.99	14.77	0.030	34.77	-20.00	16.92	0.049	36.99	-20.07
714.50	3	16-QAM	V	150	258	1 / 0	17.07	-0.99	13.93	0.025	34.77	-20.84	16.08	0.041	36.99	-20.91
714.50	3	64-QAM	V	150	258	1 / 14	16.11	-0.99	12.97	0.020	34.77	-21.80	15.12	0.032	36.99	-21.87
715.30	1.4	QPSK	H	150	324	1 / 5	16.76	-0.99	13.62	0.023	34.77	-21.15	15.77	0.038	36.99	-21.22
715.30	1.4 (WCP)	QPSK	V	150	250	1 / 0	16.45	-0.99	13.31	0.021	34.77	-21.46	15.46	0.035	36.99	-21.53

Table 7-3. ERP/EIRP Data (Band 12)

Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	RB Size/Offset	Substitute Level [dBm]	Ant. Gain [dBi]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
701.50	5	QPSK	V	150	256	1 / 24	17.35	-1.04	14.16	0.026	34.77	-20.62	16.31	0.043	36.99	-20.68
707.50	5	QPSK	V	150	248	1 / 0	17.63	-1.02	14.46	0.028	34.77	-20.31	16.61	0.046	36.99	-20.38
713.50	5	QPSK	V	150	237	1 / 0	17.45	-1.00	14.30	0.027	34.77	-20.47	16.45	0.044	36.99	-20.54
713.50	5	16-QAM	V	150	237	1 / 0	16.89	-1.00	13.74	0.024	34.77	-21.03	15.89	0.039	36.99	-21.10
713.50	5	64-QAM	V	150	237	1 / 0	15.63	-1.00	12.48	0.018	34.77	-22.29	14.63	0.029	36.99	-22.36
704.00	10	QPSK	V	150	257	1 / 49	17.41	-1.03	14.23	0.026	34.77	-20.54	16.38	0.043	36.99	-20.61
707.50	10	QPSK	V	150	254	1 / 0	17.53	-1.02	14.36	0.027	34.77	-20.41	16.51	0.045	36.99	-20.48
711.00	10	QPSK	V	150	258	1 / 0	17.34	-1.01	14.18	0.026	34.77	-20.59	16.33	0.043	36.99	-20.66
711.00	10	16-QAM	V	150	258	1 / 0	16.72	-1.01	13.56	0.023	34.77	-21.21	15.71	0.037	36.99	-21.28
711.00	10	64-QAM	V	150	254	1 / 0	15.71	-1.02	12.54	0.018	34.77	-22.23	14.69	0.029	36.99	-22.30

Table 7-4. ERP/EIRP Data (Band 12/17)

FCC ID: A3LSMG965F	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
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Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	RB Size/Offset	Substitute Level [dBm]	Ant. Gain [dBi]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
779.50	5	QPSK	H	150	329	1 / 0	16.63	-0.83	13.65	0.023	34.77	-21.12	15.80	0.038	36.99	-21.19
782.00	5	QPSK	H	150	353	1 / 24	16.51	-0.82	13.54	0.023	34.77	-21.23	15.69	0.037	36.99	-21.30
784.50	5	QPSK	H	150	357	1 / 24	16.29	-0.81	13.33	0.022	34.77	-21.44	15.48	0.035	36.99	-21.51
779.50	5	16-QAM	H	150	329	1 / 0	15.79	-0.83	12.81	0.019	34.77	-21.96	14.96	0.031	36.99	-22.03
779.50	5	64-QAM	H	150	329	1 / 0	14.67	-0.83	11.69	0.015	34.77	-23.08	13.84	0.024	36.99	-23.15
782.00	10	QPSK	H	150	2	1 / 49	16.18	-0.82	13.21	0.021	34.77	-21.56	15.36	0.034	36.99	-21.63
782.00	10	16-QAM	H	150	2	1 / 49	15.31	-0.82	12.34	0.017	34.77	-22.43	14.49	0.028	36.99	-22.50
782.00	10	64-QAM	H	150	2	1 / 49	14.37	-0.82	11.40	0.014	34.77	-23.37	13.55	0.023	36.99	-23.44
779.50	5	QPSK	V	150	231	1 / 0	15.76	-0.83	12.78	0.019	34.77	-21.99	14.93	0.031	36.99	-22.06
779.50	5 (WCP)	QPSK	H	150	272	1 / 24	15.78	-0.83	12.80	0.019	34.77	-21.97	14.95	0.031	36.99	-22.04

Table 7-5. ERP/EIRP Data (Band 13)

Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	RB Size/Offset	Substitute Level [dBm]	Ant. Gain [dBi]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
824.70	1.4	QPSK	H	150	294	1 / 5	19.01	-0.65	16.21	0.042	38.45	-22.24	18.36	0.069	40.61	-22.25
836.50	1.4	QPSK	H	150	292	1 / 5	18.44	-0.65	15.64	0.037	38.45	-22.81	17.79	0.060	40.61	-22.82
848.30	1.4	QPSK	H	150	303	1 / 5	17.92	-0.65	15.12	0.033	38.45	-23.33	17.27	0.053	40.61	-23.34
824.70	1.4	16-QAM	H	150	294	1 / 5	18.03	-0.65	15.23	0.033	38.45	-23.22	17.38	0.055	40.61	-23.23
824.70	1.4	64-QAM	H	150	294	1 / 5	17.17	-0.65	14.37	0.027	38.45	-24.08	16.52	0.045	40.61	-24.09
825.50	3	QPSK	H	150	295	1 / 0	19.13	-0.65	16.33	0.043	38.45	-22.12	18.48	0.070	40.61	-22.13
836.50	3	QPSK	H	150	308	1 / 0	18.25	-0.65	15.45	0.035	38.45	-23.00	17.60	0.058	40.61	-23.01
847.50	3	QPSK	H	150	301	1 / 14	18.05	-0.65	15.25	0.033	38.45	-23.20	17.40	0.055	40.61	-23.21
825.50	3	16-QAM	H	150	295	1 / 0	18.25	-0.65	15.45	0.035	38.45	-23.00	17.60	0.058	40.61	-23.01
825.50	3	64-QAM	H	150	295	1 / 0	17.23	-0.65	14.43	0.028	38.45	-24.02	16.58	0.045	40.61	-24.03
825.50	5	QPSK	H	150	295	1 / 0	18.66	-0.65	15.86	0.039	38.45	-22.59	18.01	0.063	40.61	-22.60
836.50	5	QPSK	H	150	292	1 / 0	18.39	-0.65	15.59	0.036	38.45	-22.86	17.74	0.059	40.61	-22.87
846.50	5	QPSK	H	150	303	1 / 0	17.90	-0.65	15.10	0.032	38.45	-23.35	17.25	0.053	40.61	-23.36
826.50	5	16-QAM	H	150	295	1 / 0	17.69	-0.65	14.89	0.031	38.45	-23.56	17.04	0.051	40.61	-23.57
826.50	5	64-QAM	H	150	295	1 / 0	16.76	-0.65	13.96	0.025	38.45	-24.49	16.11	0.041	40.61	-24.50
829.00	10	QPSK	H	150	293	1 / 0	18.29	-0.65	15.49	0.035	38.45	-22.96	17.64	0.058	40.61	-22.97
836.50	10	QPSK	H	150	301	1 / 49	18.22	-0.65	15.42	0.035	38.45	-23.03	17.57	0.057	40.61	-23.04
844.00	10	QPSK	H	150	295	1 / 0	17.98	-0.65	15.18	0.033	38.45	-23.27	17.33	0.054	40.61	-23.28
844.00	10	16-QAM	H	150	295	1 / 0	17.27	-0.65	14.47	0.028	38.45	-23.98	16.62	0.046	40.61	-23.99
844.00	10	64-QAM	H	150	293	1 / 0	16.42	-0.65	13.62	0.023	38.45	-24.83	15.77	0.038	40.61	-24.84
825.50	3 (WCP)	QPSK	H	150	220	1 / 0	18.31	-0.65	15.51	0.036	38.45	-22.94	17.66	0.058	40.61	-22.95

Table 7-6. ERP/EIRP Data (Band 5/26)

FCC ID: A3LSMG965F		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1710040265-03-A3L	Test Dates: 10/4/2017-12/15/2017	EUT Type: Portable Handset	Page 212 of 250	

Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	RB Size/Offset	Substitute Level [dBm]	Ant. Gain [dBi]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
831.50	15	QPSK	H	150	288	1 / 0	17.71	-0.65	14.91	0.031	38.45	-23.54	17.06	0.051	40.61	-23.55
836.50	15	QPSK	H	150	308	1 / 0	17.93	-0.65	15.13	0.033	38.45	-23.32	17.28	0.053	40.61	-23.33
841.50	15	QPSK	H	150	288	1 / 0	17.52	-0.65	14.72	0.030	38.45	-23.73	16.87	0.049	40.61	-23.74
831.50	15	16-QAM	H	150	288	1 / 0	17.00	-0.65	14.20	0.026	38.45	-24.25	16.35	0.043	40.61	-24.26
836.50	15	64-QAM	H	150	308	1 / 0	16.00	-0.65	13.20	0.021	38.45	-25.25	15.35	0.034	40.61	-25.26

Table 7-7. ERP/EIRP Data (Band 26)

FCC ID: A3LSMG965F		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	RB Size/Offset	Substitute Level [dBm]	Ant. Gain [dBi]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
1710.70	1.4	QPSK	H	150	23	1 / 0	18.90	5.56	24.46	0.279	30.00	-5.54
1745.00	1.4	QPSK	H	150	9	3 / 2	18.90	5.32	24.22	0.264	30.00	-5.78
1779.30	1.4	QPSK	H	150	13	3 / 2	18.48	5.09	23.57	0.228	30.00	-6.43
1710.70	1.4	16-QAM	H	150	23	1 / 0	18.04	5.56	23.60	0.229	30.00	-6.40
1710.70	1.4	64-QAM	H	150	23	1 / 0	17.09	5.56	22.65	0.184	30.00	-7.35
1711.50	3	QPSK	H	150	20	1 / 0	18.58	5.55	24.13	0.259	30.00	-5.87
1745.00	3	QPSK	H	150	18	1 / 14	18.64	5.32	23.96	0.249	30.00	-6.04
1778.50	3	QPSK	H	150	16	1 / 14	19.06	5.10	24.16	0.260	30.00	-5.84
1778.50	3	16-QAM	H	150	16	1 / 14	18.31	5.10	23.41	0.219	30.00	-6.59
1778.50	3	64-QAM	H	150	16	1 / 14	16.96	5.10	22.06	0.161	30.00	-7.94
1712.50	5	QPSK	H	150	6	1 / 24	18.58	5.55	24.13	0.259	30.00	-5.87
1745.00	5	QPSK	H	150	12	1 / 24	18.73	5.32	24.05	0.254	30.00	-5.95
1777.50	5	QPSK	H	150	12	1 / 0	19.01	5.10	24.11	0.258	30.00	-5.89
1712.50	5	16-QAM	H	150	6	1 / 24	17.82	5.55	23.37	0.217	30.00	-6.63
1712.50	5	64-QAM	H	150	6	1 / 24	16.93	5.55	22.48	0.177	30.00	-7.52
1715.00	10	QPSK	H	150	12	1 / 25	18.55	5.53	24.08	0.256	30.00	-5.92
1745.00	10	QPSK	H	150	6	1 / 25	18.65	5.32	23.97	0.250	30.00	-6.03
1775.00	10	QPSK	H	150	11	1 / 25	19.03	5.12	24.15	0.260	30.00	-5.85
1775.00	10	16-QAM	H	150	11	1 / 25	18.34	5.12	23.46	0.222	30.00	-6.54
1775.00	10	64-QAM	H	150	11	1 / 25	17.17	5.12	22.29	0.169	30.00	-7.71
1717.50	15	QPSK	H	150	12	1 / 74	18.65	5.51	24.16	0.261	30.00	-5.84
1745.00	15	QPSK	H	150	13	1 / 74	18.90	5.32	24.22	0.264	30.00	-5.78
1772.50	15	QPSK	H	150	18	1 / 36	18.92	5.14	24.06	0.255	30.00	-5.94
1745.00	15	16-QAM	H	150	13	1 / 74	18.33	5.32	23.65	0.232	30.00	-6.35
1745.00	15	64-QAM	H	150	13	1 / 74	17.17	5.32	22.49	0.178	30.00	-7.51
1720.00	20	QPSK	H	150	5	1 / 50	18.66	5.49	24.15	0.260	30.00	-5.85
1745.00	20	QPSK	H	150	6	1 / 99	18.80	5.32	24.12	0.258	30.00	-5.88
1770.00	20	QPSK	H	150	15	1 / 0	19.15	5.15	24.30	0.269	30.00	-5.70
1770.00	20	16-QAM	H	150	15	1 / 0	18.58	5.15	23.73	0.236	30.00	-6.27
1770.00	20	64-QAM	H	150	15	1 / 0	17.44	5.15	22.59	0.182	30.00	-7.41
1710.70	1.4	QPSK	V	150	68	3 / 2	14.57	5.15	19.72	0.094	30.00	-10.28
1710.70	1.4 (WCP)	QPSK	H	150	10	3 / 2	16.70	5.15	21.85	0.153	30.00	-8.15

Table 7-8. EIRP Data (Band 4/66)

FCC ID: A3LSMG965F	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1710040265-03.A3L	Test Dates: 10/4/2017-12/15/2017	EUT Type: Portable Handset	Page 214 of 250

Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	RB Size/Offset	Substitute Level [dBm]	Ant. Gain [dBi]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
1850.70	1.4	QPSK	H	150	13	1 / 0	18.32	4.82	23.14	0.206	33.01	-9.87
1882.50	1.4	QPSK	H	150	15	1 / 0	15.80	4.73	20.53	0.113	33.01	-12.48
1914.30	1.4	QPSK	H	150	12	1 / 3	15.50	4.68	20.18	0.104	33.01	-12.83
1850.70	1.4	16-QAM	H	150	13	1 / 0	17.51	4.82	22.33	0.171	33.01	-10.68
1850.70	1.4	64-QAM	H	150	13	1 / 0	15.92	4.82	20.74	0.119	33.01	-12.27
1851.50	3	QPSK	H	150	17	1 / 0	18.09	4.82	22.91	0.195	33.01	-10.10
1882.50	3	QPSK	H	150	11	1 / 0	15.20	4.73	19.93	0.098	33.01	-13.08
1913.50	3	QPSK	H	150	5	1 / 14	14.98	4.68	19.66	0.092	33.01	-13.35
1851.50	3	16-QAM	H	150	17	1 / 0	17.65	4.82	22.47	0.176	33.01	-10.54
1851.50	3	64-QAM	H	150	17	1 / 0	16.18	4.82	21.00	0.126	33.01	-12.01
1852.50	5	QPSK	H	150	13	1 / 0	18.24	4.81	23.05	0.202	33.01	-9.96
1882.50	5	QPSK	H	150	14	1 / 12	15.54	4.73	20.27	0.107	33.01	-12.74
1912.50	5	QPSK	H	150	8	1 / 12	15.40	4.68	20.08	0.102	33.01	-12.93
1852.50	5	16-QAM	H	150	13	1 / 0	17.39	4.81	22.20	0.166	33.01	-10.81
1852.50	5	64-QAM	H	150	13	1 / 0	16.40	4.81	21.21	0.132	33.01	-11.80
1855.00	10	QPSK	H	150	20	1 / 0	18.04	4.81	22.85	0.193	33.01	-10.16
1882.50	10	QPSK	H	150	18	1 / 0	15.75	4.73	20.48	0.112	33.01	-12.53
1910.00	10	QPSK	H	150	12	1 / 49	15.27	4.68	19.95	0.099	33.01	-13.06
1855.00	10	16-QAM	H	150	20	1 / 0	17.50	4.81	22.31	0.170	33.01	-10.70
1855.00	10	64-QAM	H	150	20	1 / 0	16.16	4.81	20.97	0.125	33.01	-12.04
1857.50	15	QPSK	H	150	12	1 / 0	18.05	4.80	22.85	0.193	33.01	-10.16
1882.50	15	QPSK	H	150	13	1 / 0	15.78	4.73	20.51	0.113	33.01	-12.50
1907.50	15	QPSK	H	150	18	1 / 74	15.57	4.68	20.25	0.106	33.01	-12.76
1857.50	15	16-QAM	H	150	12	1 / 0	17.30	4.80	22.10	0.162	33.01	-10.91
1857.50	15	64-QAM	H	150	12	1 / 0	16.29	4.80	21.09	0.129	33.01	-11.92
1860.00	20	QPSK	H	150	17	1 / 0	17.90	4.79	22.69	0.186	33.01	-10.32
1882.50	20	QPSK	H	150	18	1 / 0	16.00	4.73	20.73	0.118	33.01	-12.28
1905.00	20	QPSK	H	150	16	1 / 99	15.51	4.68	20.19	0.105	33.01	-12.82
1860.00	20	16-QAM	H	150	17	1 / 0	17.31	4.79	22.10	0.162	33.01	-10.91
1860.00	20	64-QAM	H	150	17	1 / 0	16.18	4.79	20.97	0.125	33.01	-12.04
1850.70	1.4	QPSK	V	150	331	1 / 3	15.43	4.79	20.22	0.105	33.01	-12.79
1850.70	1.4 (WCP)	QPSK	H	150	19	1 / 0	17.89	4.82	22.71	0.187	33.01	-10.30

Table 7-9. EIRP Data (Band 2/25)

FCC ID: A3LSMG965F	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1710040265-03.A3L	Test Dates: 10/4/2017-12/15/2017	EUT Type: Portable Handset	Page 215 of 250

Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	RB Size/Offset	Substitute Level [dBm]	Ant. Gain [dBi]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
2502.50	5	QPSK	H	150	224	1 / 24	17.98	5.74	23.72	0.235	33.01	-9.29
2535.00	5	QPSK	H	150	231	1 / 0	18.03	5.86	23.89	0.245	33.01	-9.12
2567.50	5	QPSK	H	150	227	1 / 0	16.52	5.98	22.50	0.178	33.01	-10.51
2535.00	5	16-QAM	H	150	231	1 / 0	16.51	5.86	22.37	0.173	33.01	-10.64
2535.00	5	64-QAM	H	150	231	1 / 0	15.76	5.86	21.62	0.145	33.01	-11.39
2505.00	10	QPSK	H	150	222	1 / 49	17.65	5.75	23.40	0.219	33.01	-9.61
2535.00	10	QPSK	H	150	228	1 / 0	18.09	5.86	23.95	0.248	33.01	-9.06
2565.00	10	QPSK	H	150	223	1 / 0	16.48	5.97	22.45	0.176	33.01	-10.56
2535.00	10	16-QAM	H	150	228	1 / 0	16.92	5.86	22.78	0.190	33.01	-10.23
2535.00	10	64-QAM	H	150	228	1 / 0	15.69	5.86	21.55	0.143	33.01	-11.46
2507.50	15	QPSK	H	150	225	1 / 0	17.96	5.76	23.72	0.235	33.01	-9.29
2535.00	15	QPSK	H	150	231	1 / 0	18.08	5.86	23.94	0.248	33.01	-9.07
2562.50	15	QPSK	H	150	230	1 / 0	16.58	5.96	22.54	0.180	33.01	-10.47
2535.00	15	16-QAM	H	150	231	1 / 0	16.89	5.86	22.75	0.188	33.01	-10.26
2535.00	15	64-QAM	H	150	231	1 / 0	16.05	5.86	21.91	0.155	33.01	-11.10
2510.00	20	QPSK	H	150	229	1 / 99	17.99	5.77	23.76	0.238	33.01	-9.25
2535.00	20	QPSK	H	150	231	1 / 0	18.15	5.86	24.01	0.252	33.01	-9.00
2560.00	20	QPSK	H	150	230	1 / 50	16.97	5.95	22.92	0.196	33.01	-10.09
2535.00	20	16-QAM	H	150	231	1 / 0	16.92	5.86	22.78	0.190	33.01	-10.23
2535.00	20	64-QAM	H	150	231	1 / 0	15.74	5.86	21.60	0.145	33.01	-11.41
2535.00	20	QPSK	V	150	296	1 / 99	17.88	5.85	23.73	0.236	33.01	-9.28
2535.00	20 (WCP)	QPSK	H	150	218	1 / 99	17.55	5.86	23.41	0.219	33.01	-9.60

Table 7-10. EIRP Data (Band 7)

FCC ID: A3LSMG965F	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1710040265-03.A3L	Test Dates: 10/4/2017-12/15/2017	EUT Type: Portable Handset	Page 216 of 250

Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	RB Size/Offset	Substitute Level [dBm]	Ant. Gain [dBi]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
2498.50	5	QPSK	H	150	221	1 / 12	17.42	5.73	23.15	0.207	33.01	-9.86
2593.00	5	QPSK	H	150	235	1 / 0	13.59	6.07	19.66	0.093	33.01	-13.35
2687.50	5	QPSK	H	150	242	1 / 12	12.55	6.48	19.03	0.080	33.01	-13.98
2498.50	5	16-QAM	H	150	221	1 / 12	16.31	5.73	22.04	0.160	33.01	-10.97
2498.50	5	64-QAM	H	150	221	1 / 12	16.18	5.73	21.91	0.155	33.01	-11.10
2501.00	10	QPSK	H	150	227	1 / 49	17.51	5.73	23.24	0.211	33.01	-9.77
2593.00	10	QPSK	H	150	231	1 / 0	14.02	6.07	20.09	0.102	33.01	-12.92
2685.00	10	QPSK	H	150	228	1 / 25	12.95	6.47	19.42	0.088	33.01	-13.59
2501.00	10	16-QAM	H	150	227	1 / 49	16.55	5.73	22.28	0.169	33.01	-10.73
2501.00	10	64-QAM	H	150	227	1 / 49	16.43	5.73	22.16	0.165	33.01	-10.85
2503.50	15	QPSK	H	150	227	1 / 74	18.09	5.74	23.83	0.242	33.01	-9.18
2593.00	15	QPSK	H	150	222	1 / 74	14.18	6.07	20.25	0.106	33.01	-12.76
2682.50	15	QPSK	H	150	232	1 / 74	13.24	6.46	19.70	0.093	33.01	-13.31
2503.50	15	16-QAM	H	150	227	1 / 74	16.76	5.74	22.50	0.178	33.01	-10.51
2503.50	15	64-QAM	H	150	227	1 / 74	14.83	5.74	20.57	0.114	33.01	-12.44
2506.00	20	QPSK	H	150	233	1 / 99	17.37	5.75	23.12	0.205	33.01	-9.89
2593.00	20	QPSK	H	150	227	1 / 99	13.95	6.07	20.02	0.101	33.01	-12.99
2680.00	20	QPSK	H	150	232	1 / 99	13.64	6.45	20.09	0.102	33.01	-12.92
2506.00	20	16-QAM	H	150	233	1 / 99	16.41	5.75	22.16	0.165	33.01	-10.85
2506.00	20	64-QAM	H	150	233	1 / 99	15.32	5.75	21.07	0.128	33.01	-11.94
2503.50	15	QPSK	V	150	76	1 / 74	17.22	5.61	22.83	0.192	33.01	-10.18
2503.50	15 (WCP)	QPSK	H	150	224	1 / 74	18.80	5.74	24.54	0.285	33.01	-8.47

Table 7-11. EIRP Data (Band 38/41)

FCC ID: A3LSMG965F	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1710040265-03.A3L	Test Dates: 10/4/2017-12/15/2017	EUT Type: Portable Handset	Page 217 of 250

7.7 Radiated Spurious Emissions Measurements

§2.1053 §22.917(a) §24.238(a) §27.53(c) §27.53(f) §27.53(g) §27.53(h) §27.53(m) RSS-130(4.6) RSS-132(5.5) RSS-133(6.5) RSS-139(6.6) RSS-199(4.5)

Test Overview

Radiated spurious emissions measurements are performed using the substitution method described in ANSI/TIA-603-E-2016 with the EUT transmitting into an integral antenna. Measurements on signals operating below 1GHz are performed using vertically and horizontally polarized tuned dipole antennas. Measurements on signals operating above 1GHz are performed using vertically and horizontally polarized broadband horn antennas.

Test Procedures Used

KDB 971168 D01 v03 – Section 5.8

ANSI/TIA-603-E-2016 – Section 2.2.12

Test Settings

1. RBW = 100kHz for emissions below 1GHz and 1MHz for emissions above 1GHz
2. VBW $\geq 3 \times$ RBW
3. Span = 1.5 times the OBW
4. No. of sweep points $\geq 2 \times$ span / RBW
5. Detector = RMS
6. Trace mode = Average (Max Hold for pulsed emissions)
7. The trace was allowed to stabilize

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Test Setup

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

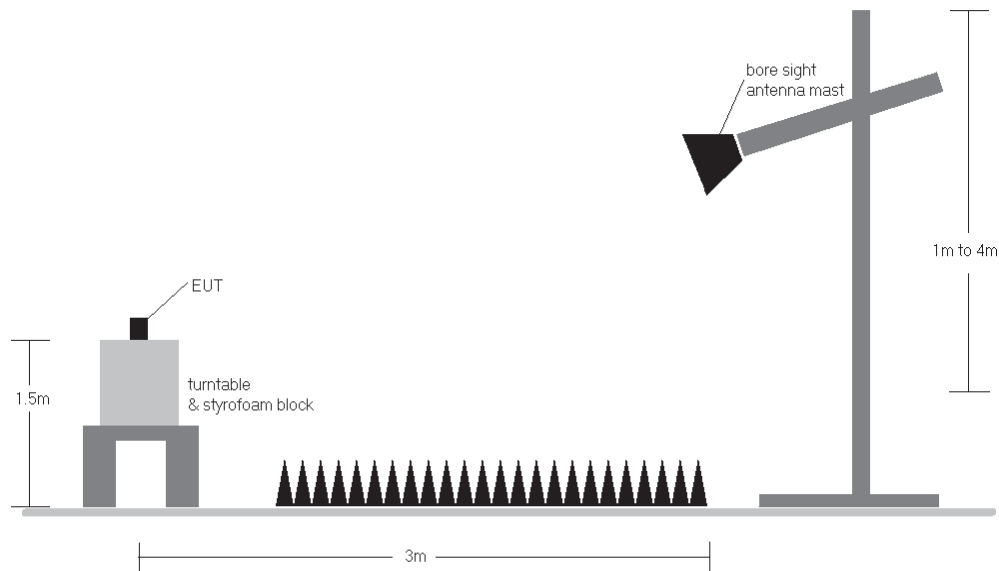


Figure 7-7. Test Instrument & Measurement Setup

Test Notes

- 1) The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case emissions are reported with the EUT positioning, modulations, RB sizes and offsets, and channel bandwidth configurations shown in the tables below.
- 2) This unit was tested with its standard battery.
- 3) The spectrum is measured from 9kHz to the 10th harmonic of the fundamental frequency of the transmitter. The worst-case emissions are reported.
- 4) Emissions below 18GHz were measured at a 3 meter test distance while emissions above 18GHz were measured at a 1 meter test distance with the application of a distance correction factor.
- 5) The "-" shown in the following RSE tables are used to denote a noise floor measurement.

FCC ID: A3LSMG965F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Band 12/17

OPERATING FREQUENCY: 699.70 MHz
 CHANNEL: 23017
 MODULATION SIGNAL: QPSK
 BANDWIDTH: 1.4 MHz
 DISTANCE: 3 meters
 LIMIT: -13 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1399.40	H	150	96	-77.80	8.85	-68.95	-56.0
2099.10	H	-	-	-78.89	9.58	-69.32	-56.3
2798.80	H	-	-	-77.93	10.38	-67.55	-54.6

Table 7-12. Radiated Spurious Data (Band 12 – Low Channel)

OPERATING FREQUENCY: 707.50 MHz
 CHANNEL: 23095
 MODULATION SIGNAL: QPSK
 BANDWIDTH: 1.4 MHz
 DISTANCE: 3 meters
 LIMIT: -13 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1415.00	H	150	288	-79.36	8.94	-70.42	-57.4
2122.50	H	-	-	-78.06	9.46	-68.60	-55.6
2830.00	H	-	-	-77.67	10.46	-67.21	-54.2

Table 7-13. Radiated Spurious Data (Band 12 – Mid Channel)

FCC ID: A3LSMG965F		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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OPERATING FREQUENCY: 715.30 MHz
 CHANNEL: 23173
 MODULATION SIGNAL: QPSK
 BANDWIDTH: 1.4 MHz
 DISTANCE: 3 meters
 LIMIT: -13 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1430.60	H	150	275	-78.99	9.13	-69.86	-56.9
2145.90	H	-	-	-78.61	9.39	-69.22	-56.2
2861.20	H	-	-	-76.88	10.54	-66.34	-53.3

Table 7-14. Radiated Spurious Data (Band 12 – High Channel)

OPERATING FREQUENCY: 715.30 MHz
 CHANNEL: 23173
 MODULATION SIGNAL: QPSK
 BANDWIDTH: 1.4 MHz
 DISTANCE: 3 meters
 LIMIT: -13 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1430.60	H	150	16	-79.42	8.94	-70.48	-57.5
2145.90	H	-	-	-78.34	9.46	-68.88	-55.9
2861.20	H	-	-	-77.97	10.46	-67.51	-54.5

Table 7-15. Radiated Spurious Data with WCP (Band 12 – 23173 Channel)

FCC ID: A3LSMG965F	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
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Band 13

OPERATING FREQUENCY: 779.50 MHz
 CHANNEL: 23205
 MODULATION SIGNAL: QPSK
 BANDWIDTH: 5.0 MHz
 DISTANCE: 3 meters
 LIMIT: -13 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
2338.50	H	-	-	-78.22	9.52	-68.70	-55.7
3118.00	H	-	-	-77.58	10.80	-66.78	-53.8

Table 7-16. Radiated Spurious Data (Band 13 – Low Channel)

OPERATING FREQUENCY: 782.00 MHz
 CHANNEL: 23230
 MODULATION SIGNAL: QPSK
 BANDWIDTH: 5.0 MHz
 DISTANCE: 3 meters
 LIMIT: -13 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
2346.00	H	-	-	-77.75	9.47	-68.29	-55.3
3128.00	H	-	-	-77.64	10.83	-66.81	-53.8

Table 7-17. Radiated Spurious Data (Band 13 – Mid Channel)

FCC ID: A3LSMG965F		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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OPERATING FREQUENCY: 784.50 MHz
 CHANNEL: 23255
 MODULATION SIGNAL: QPSK
 BANDWIDTH: 5.0 MHz
 DISTANCE: 3 meters
 LIMIT: -13 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
2353.50	H	-	-	-77.47	9.49	-67.98	-55.0
3138.00	H	-	-	-77.62	10.86	-66.76	-53.8

Table 7-18. Radiated Spurious Data (Band 13 – High Channel)

MODULATION SIGNAL: QPSK
 BANDWIDTH: 5.00 MHz
 DISTANCE: 3 meters
 NARROWBAND EMISSION LIMIT: -50 dBm
 WIDEBAND EMISSION LIMIT: -40 dBm/MHz

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1559.00	H	-	-	-81.33	9.48	-71.84	-31.8
1564.00	H	-	-	-81.59	9.47	-72.12	-32.1
1569.00	H	-	-	-81.86	9.44	-72.42	-32.4

Table 7-19. Radiated Spurious Data (Band 13 – 1559-1610MHz Band)

FCC ID: A3LSMG965F	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
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OPERATING FREQUENCY: 779.50 MHz
 CHANNEL: 23205
 MODULATION SIGNAL: QPSK
 BANDWIDTH: 5.0 MHz
 DISTANCE: 3 meters
 LIMIT: -13 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
2338.50	H	-	-	-77.90	9.47	-68.44	-55.4
3118.00	H	-	-	-78.37	10.83	-67.54	-54.5

Table 7-20. Radiated Spurious Data with WCP (Band 13 – 23205 Channel)

MODULATION SIGNAL: QPSK
 BANDWIDTH: 5.00 MHz
 DISTANCE: 3 meters
 NARROWBAND EMISSION LIMIT: -50 dBm
 WIDEBAND EMISSION LIMIT: -40 dBm/MHz

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1559.00	H	-	-	-81.68	9.47	-72.21	-32.2

Table 7-21. Radiated Spurious Data with WCP (Band 13 – 1559-1610MHz Band)

FCC ID: A3LSMG965F		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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Band 5/26

OPERATING FREQUENCY: 825.50 MHz
 CHANNEL: 26805
 MODULATION SIGNAL: QPSK
 BANDWIDTH: 3.0 MHz
 DISTANCE: 3 meters
 LIMIT: -13 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1651.00	H	-	-	-81.27	9.09	-72.18	-59.2
2476.50	H	-	-	-76.91	9.52	-67.39	-54.4
3302.00	H	-	-	-76.60	10.87	-65.73	-52.7

Table 7-22. Radiated Spurious Data (Band 5/26 – Low Channel)

OPERATING FREQUENCY: 836.50 MHz
 CHANNEL: 26915
 MODULATION SIGNAL: QPSK
 BANDWIDTH: 3.0 MHz
 DISTANCE: 3 meters
 LIMIT: -13 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1673.00	H	-	-	-80.71	9.03	-71.68	-58.7
2509.50	H	-	-	-77.53	9.60	-67.94	-54.9
3346.00	H	-	-	-76.78	10.98	-65.79	-52.8

Table 7-23. Radiated Spurious Data (Band 5/26 – Mid Channel)

FCC ID: A3LSMG965F	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
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OPERATING FREQUENCY: 847.50 MHz
 CHANNEL: 27025
 MODULATION SIGNAL: QPSK
 BANDWIDTH: 3.0 MHz
 DISTANCE: 3 meters
 LIMIT: -13 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1695.00	H	-	-	-79.61	9.00	-70.61	-57.6
2542.50	H	-	-	-77.61	9.78	-67.83	-54.8
3390.00	H	-	-	-76.39	10.99	-65.39	-52.4

Table 7-24. Radiated Spurious Data (Band 5/26 – High Channel)

OPERATING FREQUENCY: 825.50 MHz
 CHANNEL: 26805
 MODULATION SIGNAL: QPSK
 BANDWIDTH: 3.0 MHz
 DISTANCE: 3 meters
 LIMIT: -13 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1651.00	H	-	-	-81.27	9.09	-72.18	-59.2
2476.50	H	-	-	-77.04	9.52	-67.53	-54.5
3302.00	H	-	-	-76.50	10.87	-65.63	-52.6

Table 7-25. Radiated Spurious Data with WCP (Band 5/26 – 26805 Channel)

FCC ID: A3LSMG965F	 MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
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Band 4/66

OPERATING FREQUENCY: 1710.70 MHz
 CHANNEL: 131979
 MODULATION SIGNAL: QPSK
 BANDWIDTH: 1.4 MHz
 DISTANCE: 3 meters
 LIMIT: -13 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3421.40	H	150	245	-67.36	11.16	-56.20	-43.2
5132.10	H	-	-	-74.85	13.36	-61.49	-48.5
6842.80	H	-	-	-72.93	13.84	-59.08	-46.1

Table 7-26. Radiated Spurious Data (Band 4/66 – Low Channel)

OPERATING FREQUENCY: 1745.00 MHz
 CHANNEL: 132322
 MODULATION SIGNAL: QPSK
 BANDWIDTH: 1.4 MHz
 DISTANCE: 3 meters
 LIMIT: -13 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3490.00	H	150	237	-69.30	11.28	-58.02	-45.0
5235.00	H	150	83	-73.06	13.43	-59.63	-46.6
6980.00	H	-	-	-71.93	13.64	-58.29	-45.3
8725.00	H	-	-	-70.28	14.74	-55.55	-42.5

Table 7-27. Radiated Spurious Data (Band 4/66 – Mid Channel)

FCC ID: A3LSMG965F		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1710040265-03.A3L	Test Dates: 10/4/2017-12/15/2017	EUT Type: Portable Handset		Page 227 of 250

OPERATING FREQUENCY: 1779.30 MHz
 CHANNEL: 132665
 MODULATION SIGNAL: QPSK
 BANDWIDTH: 1.4 MHz
 DISTANCE: 3 meters
 LIMIT: -13 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3558.60	H	150	233	-76.71	11.43	-65.28	-52.3
5337.90	H	150	147	-72.21	13.39	-58.81	-45.8
7117.20	H	-	-	-71.36	13.44	-57.93	-44.9

Table 7-28. Radiated Spurious Data (Band 4/66 – High Channel)

OPERATING FREQUENCY: 1710.70 MHz
 CHANNEL: 131979
 MODULATION SIGNAL: QPSK
 BANDWIDTH: 1.4 MHz
 DISTANCE: 3 meters
 LIMIT: -13 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3421.40	H	150	230	-66.54	11.16	-55.38	-42.4
5132.10	H	150	226	-74.02	13.36	-60.66	-47.7
6842.80	H	-	-	-72.89	13.84	-59.04	-46.0

Table 7-29. Radiated Spurious Data with WCP (Band 4/66 – 131979 Channel)

FCC ID: A3LSMG965F		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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Band 2/25

OPERATING FREQUENCY: 1850.70 MHz
 CHANNEL: 26047
 MODULATION SIGNAL: QPSK
 BANDWIDTH: 1.4 MHz
 DISTANCE: 3 meters
 LIMIT: -13 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3701.40	H	-	-	-75.62	11.59	-64.03	-51.0
5552.10	H	-	-	-74.21	13.41	-60.79	-47.8

Table 7-30. Radiated Spurious Data (Band 2/25 – Low Channel)

OPERATING FREQUENCY: 1882.50 MHz
 CHANNEL: 26365
 MODULATION SIGNAL: QPSK
 BANDWIDTH: 1.4 MHz
 DISTANCE: 3 meters
 LIMIT: -13 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3765.00	H	-	-	-75.63	11.74	-63.90	-50.9
5647.50	H	-	-	-76.57	13.56	-63.01	-50.0

Table 7-31. Radiated Spurious Data (Band 2/25 – Mid Channel)

FCC ID: A3LSMG965F		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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OPERATING FREQUENCY: 1914.30 MHz
 CHANNEL: 26683
 MODULATION SIGNAL: QPSK
 BANDWIDTH: 1.4 MHz
 DISTANCE: 3 meters
 LIMIT: -13 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3828.60	H	-	-	-75.03	11.83	-63.21	-50.2
5742.90	H	-	-	-75.01	13.69	-61.32	-48.3

Table 7-32. Radiated Spurious Data (Band 2/25 – High Channel)

OPERATING FREQUENCY: 1914.30 MHz
 CHANNEL: 26683
 MODULATION SIGNAL: QPSK
 BANDWIDTH: 1.4 MHz
 DISTANCE: 3 meters
 LIMIT: -13 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
3828.60	H	150	46	-74.08	11.83	-62.26	-49.3
5742.90	H	-	-	-74.84	13.69	-61.15	-48.2

Table 7-33. Radiated Spurious Data with WCP (Band 2/25 – 26683 Channel)

FCC ID: A3LSMG965F		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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Band 7

OPERATING FREQUENCY: 2510.00 MHz
 CHANNEL: 20850
 MODULATION SIGNAL: QPSK
 BANDWIDTH: 20.0 MHz
 DISTANCE: 3 meters
 LIMIT: -25 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5020.00	V	150	316	-73.95	13.30	-60.65	-35.7
7530.00	V	150	46	-66.92	13.30	-53.63	-28.6
10040.00	V	-	-	-70.10	14.68	-55.42	-30.4

Table 7-34. Radiated Spurious Data (Band 7 – Low Channel)

OPERATING FREQUENCY: 2535.00 MHz
 CHANNEL: 21100
 MODULATION SIGNAL: QPSK
 BANDWIDTH: 20.0 MHz
 DISTANCE: 3 meters
 LIMIT: -25 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5070.00	V	150	320	-70.09	13.32	-56.77	-31.8
7605.00	V	-	-	-71.82	13.35	-58.47	-33.5
10140.00	V	-	-	-70.47	14.64	-55.83	-30.8

Table 7-35. Radiated Spurious Data (Band 7 – Mid Channel)

FCC ID: A3LSMG965F		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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OPERATING FREQUENCY: 2560.00 MHz
CHANNEL: 21350
MODULATION SIGNAL: QPSK
BANDWIDTH: 20.0 MHz
DISTANCE: 3 meters
LIMIT: -25 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5120.00	V	150	330	-67.93	13.37	-54.56	-29.6
7680.00	V	150	50	-69.01	13.49	-55.52	-30.5
10240.00	V	150	307	-69.59	14.55	-55.04	-30.0
12800.00	V	-	-	-68.45	14.17	-54.28	-29.3

Table 7-36. Radiated Spurious Data (Band 7 – High Channel)

OPERATING FREQUENCY: 2560.00 MHz
CHANNEL: 21350
MODULATION SIGNAL: QPSK
BANDWIDTH: 20.0 MHz
DISTANCE: 3 meters
LIMIT: -25 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5120.00	V	150	320	-72.66	13.37	-59.29	-34.3
7680.00	V	150	35	-70.27	13.49	-56.78	-31.8
10240.00	V	150	61	-68.98	14.55	-54.43	-29.4
12800.00	V	-	-	-68.20	14.17	-54.03	-29.0

Table 7-37. Radiated Spurious Data with WCP (Band 7 – 21350 Channel)

FCC ID: A3LSMG965F		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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Band 38/41

OPERATING FREQUENCY: 2503.50 MHz
 CHANNEL: 39725
 MODULATION SIGNAL: QPSK
 BANDWIDTH: 15.0 MHz
 DISTANCE: 3 meters
 LIMIT: -25 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5007.00	H	150	354	-66.31	13.30	-53.01	-28.0
7510.50	H	150	42	-57.05	13.31	-43.74	-18.7
10014.00	H	-	-	-62.58	14.71	-47.87	-22.9

Table 7-38. Radiated Spurious Data (Band 38/41 – Low Channel)

OPERATING FREQUENCY: 2593.00 MHz
 CHANNEL: 40620
 MODULATION SIGNAL: QPSK
 BANDWIDTH: 15.0 MHz
 DISTANCE: 3 meters
 LIMIT: -25 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5186.00	H	150	309	-61.86	13.42	-48.44	-23.4
7779.00	H	150	49	-57.09	13.60	-43.48	-18.5
10372.00	H	-	-	-62.32	14.59	-47.73	-22.7
12965.00	H	-	-	-60.02	14.08	-45.94	-20.9

Table 7-39. Radiated Spurious Data (Band 38/41 – Mid Channel)

FCC ID: A3LSMG965F			MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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OPERATING FREQUENCY: 2682.50 MHz
 CHANNEL: 41515
 MODULATION SIGNAL: QPSK
 BANDWIDTH: 15.0 MHz
 DISTANCE: 3 meters
 LIMIT: -25 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5365.00	H	150	336	-58.92	13.38	-45.53	-20.5
8047.50	H	150	91	-64.07	14.04	-50.04	-25.0
10730.00	H	-	-	-60.53	14.43	-46.09	-21.1

Table 7-40. Radiated Spurious Data (Band 38/41 – High Channel)

OPERATING FREQUENCY: 2593.00 MHz
 CHANNEL: 40620
 MODULATION SIGNAL: QPSK
 BANDWIDTH: 15.0 MHz
 DISTANCE: 3 meters
 LIMIT: -25 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5186.00	H	-	-	-66.51	13.42	-53.09	-28.1
7779.00	H	150	22	-62.41	13.60	-48.80	-23.8
10372.00	H	-	-	-61.79	14.59	-47.20	-22.2
12965.00	H	-	-	-60.98	14.08	-46.90	-21.9

Table 7-41. Radiated Spurious Data with WCP (Band 38/41 – 40620 Channel)

FCC ID: A3LSMG965F		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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7.8 Frequency Stability / Temperature Variation

\$2.1055 \$22.355 \$24.235 \$27.54 RSS-130(4.3) RSS-132(5.3) RSS-133(6.3) RSS-139(6.3) RSS-195(5.4) RSS-199(4.3)

Test Overview and Limit

Frequency stability testing is performed in accordance with the guidelines of ANSI/TIA-603-E-2016. The frequency stability of the transmitter is measured by:

- a.) **Temperature:** The temperature is varied from -30°C to +50°C in 10°C increments using an environmental chamber.
- b.) **Primary Supply Voltage:** The primary supply voltage is varied from 85% to 115% of the nominal value for non hand-carried battery and AC powered equipment. For hand-carried, battery-powered equipment, primary supply voltage is reduced to the battery operating end point which shall be specified by the manufacturer.

For Part 22, RSS-132 and RSS-133, the frequency stability of the transmitter shall be maintained within $\pm 0.00025\%$ (± 2.5 ppm) of the center frequency. For Part 24, Part 27, RSS-130, RSS-139 and RSS-199, the frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

Test Procedure Used

ANSI/TIA-603-E-2016

Test Settings

1. The carrier frequency of the transmitter is measured at room temperature (20°C to provide a reference).
2. The equipment is turned on in a "standby" condition for fifteen minutes before applying power to the transmitter. Measurement of the carrier frequency of the transmitter is made within one minute after applying power to the transmitter.
3. Frequency measurements are made at 10°C intervals ranging from -30°C to +50°C. A period of at least one half-hour is provided to allow stabilization of the equipment at each temperature level.

Test Setup

The EUT was connected via an RF cable to a spectrum analyzer with the EUT placed inside an environmental chamber.

Test Notes

None

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Band 12 Frequency Stability Measurements

§2.1055 §27.54 RSS-130(4.3)

OPERATING FREQUENCY: 707,500,000 Hz

CHANNEL: 23790

REFERENCE VOLTAGE: 3.85 VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.85	+ 20 (Ref)	707,499,766	-234	-0.0000331
100 %		- 30	707,500,105	105	0.0000148
100 %		- 20	707,499,785	-215	-0.0000304
100 %		- 10	707,499,811	-189	-0.0000267
100 %		0	707,500,148	148	0.0000209
100 %		+ 10	707,500,079	79	0.0000112
100 %		+ 20	707,500,129	129	0.0000182
100 %		+ 30	707,499,705	-295	-0.0000417
100 %		+ 40	707,499,881	-119	-0.0000168
100 %		+ 50	707,499,952	-48	-0.0000068
BATT. ENDPOINT	3.45	+ 20	707,499,982	-18	-0.0000025

Table 7-42. Frequency Stability Data (Band 12)

Note:

Based on the results of the frequency stability test at the center channel the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency deviation noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

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Band 12 Frequency Stability Measurements

§2.1055 §27.54 RSS-130(4.3)

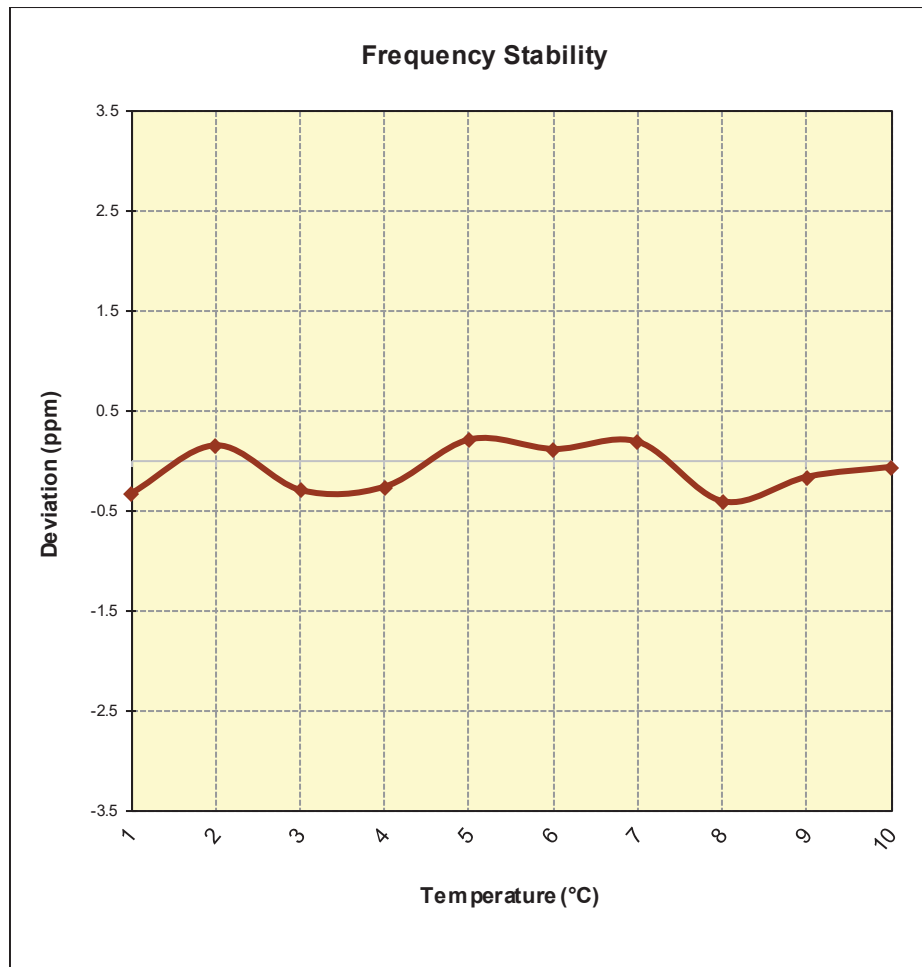


Figure 7-8. Frequency Stability Graph (Band 12)

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Band 13 Frequency Stability Measurements

§2.1055 §27.54 RSS-130(4.3)

OPERATING FREQUENCY: 782,000,000 Hz

CHANNEL: 23230

REFERENCE VOLTAGE: 3.85 VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.85	+ 20 (Ref)	781,999,951	-49	-0.0000063
100 %		- 30	782,000,040	40	0.0000051
100 %		- 20	781,999,676	-324	-0.0000414
100 %		- 10	782,000,240	240	0.0000307
100 %		0	781,999,992	-8	-0.0000010
100 %		+ 10	781,999,976	-24	-0.0000031
100 %		+ 20	782,000,079	79	0.0000101
100 %		+ 30	782,000,402	402	0.0000514
100 %		+ 40	781,999,757	-243	-0.0000311
100 %		+ 50	782,000,037	37	0.0000047
BATT. ENDPOINT	3.45	+ 20	781,999,723	-277	-0.0000354

Table 7-43. Frequency Stability Data (Band 13)

Note:

Based on the results of the frequency stability test at the center channel the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency deviation noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

FCC ID: A3LSMG965F	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
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Band 13 Frequency Stability Measurements

§2.1055 §27.54 RSS-130(4.3)

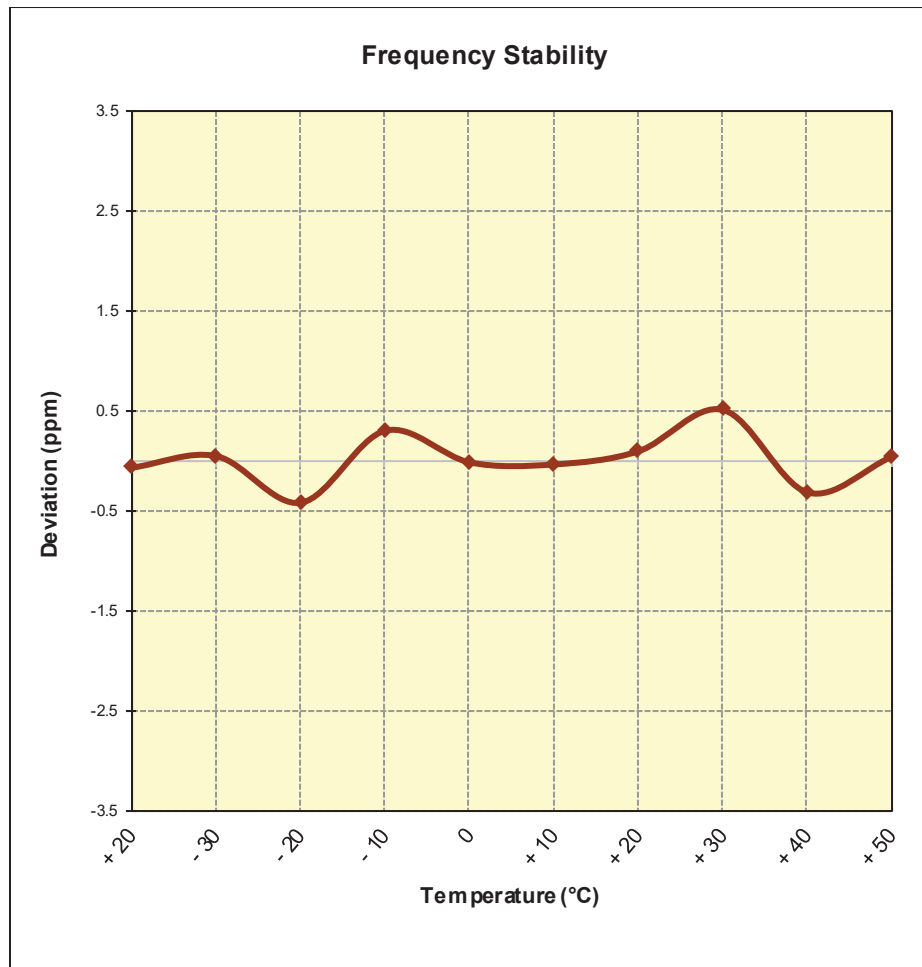


Figure 7-9. Frequency Stability Graph (Band 13)

FCC ID: A3LSMG965F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Band 26 Frequency Stability Measurements

§2.1055 §22.355 RSS-132(5.3)

OPERATING FREQUENCY: 831,500,000 Hz

CHANNEL: 26865

REFERENCE VOLTAGE: 3.85 VDC

DEVIATION LIMIT: ± 0.00025 % or 2.5 ppm

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.85	+ 20 (Ref)	831,499,684	-316	-0.0000380
100 %		- 30	831,499,898	-102	-0.0000123
100 %		- 20	831,499,541	-459	-0.0000552
100 %		- 10	831,500,369	369	0.0000444
100 %		0	831,499,956	-44	-0.0000053
100 %		+ 10	831,500,157	157	0.0000189
100 %		+ 20	831,499,920	-80	-0.0000096
100 %		+ 30	831,500,231	231	0.0000278
100 %		+ 40	831,499,856	-144	-0.0000173
100 %		+ 50	831,500,336	336	0.0000404
BATT. ENDPOINT	3.45	+ 20	831,499,950	-50	-0.0000060

Table 7-44. Frequency Stability Data (Band 26)

FCC ID: A3LSMG965F	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
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Band 26 Frequency Stability Measurements

§2.1055 §22.355 RSS-132(5.3)

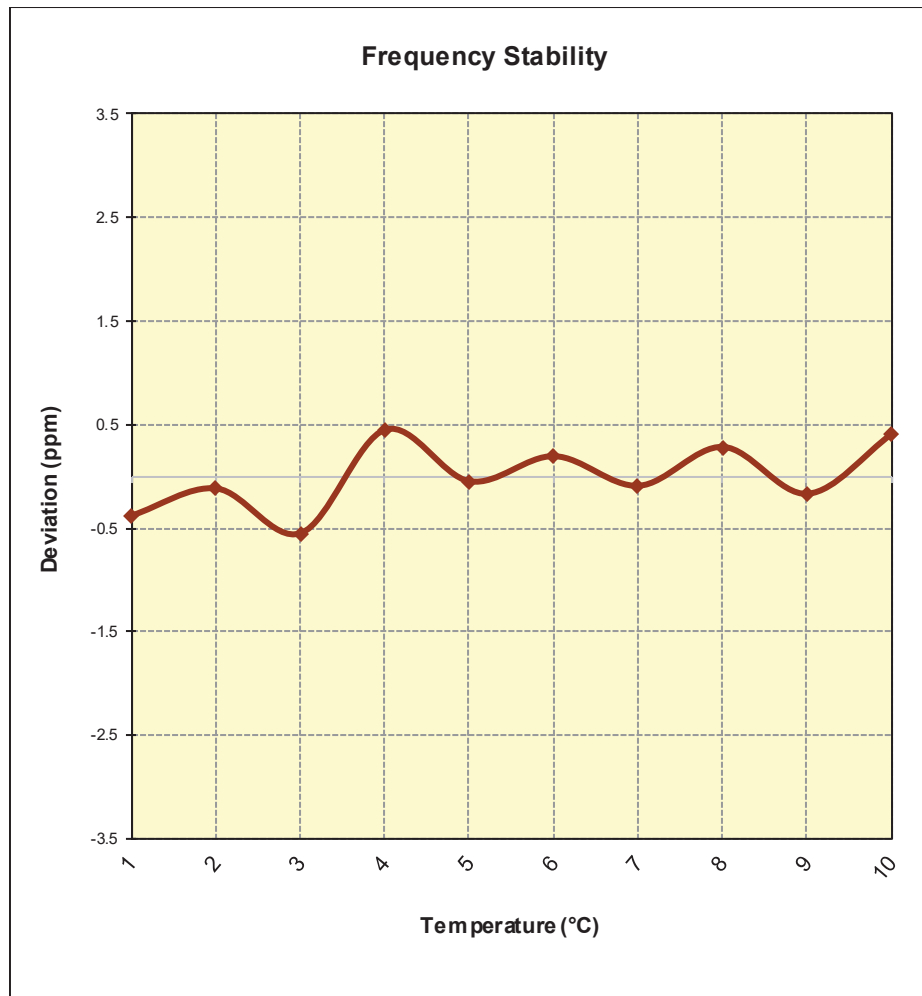


Figure 7-10. Frequency Stability Graph (Band 26)

FCC ID: A3LSMG965F		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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Band 66 Frequency Stability Measurements

§2.1055 §§27.54 RSS-139(6.4)

OPERATING FREQUENCY: 1,745,000,000 Hz

CHANNEL: 132322

REFERENCE VOLTAGE: 3.85 VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.85	+ 20 (Ref)	1,745,000,176	176	0.0000101
100 %		- 30	1,744,999,975	-25	-0.0000014
100 %		- 20	1,745,000,069	69	0.0000040
100 %		- 10	1,745,000,258	258	0.0000148
100 %		0	1,745,000,246	246	0.0000141
100 %		+ 10	1,744,999,606	-394	-0.0000226
100 %		+ 20	1,745,000,002	2	0.0000001
100 %		+ 30	1,745,000,152	152	0.0000087
100 %		+ 40	1,744,999,979	-21	-0.0000012
100 %		+ 50	1,745,000,051	51	0.0000029
BATT. ENDPOINT	3.45	+ 20	1,745,000,081	81	0.0000046

Table 7-45. Frequency Stability Data (Band 66)

Note:

Based on the results of the frequency stability test at the center channel the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency deviation noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

FCC ID: A3LSMG965F	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
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Band 66 Frequency Stability Measurements **§2.1055 §§27.54 RSS-139(6.4)**

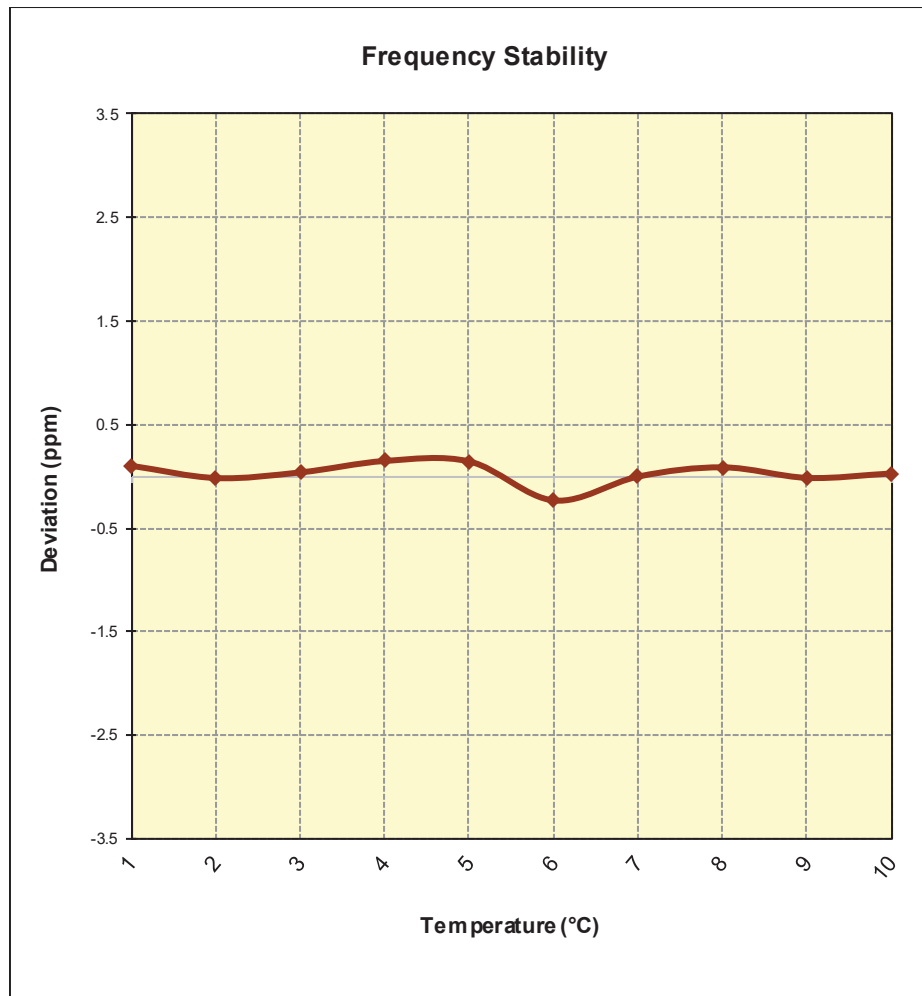


Figure 7-11. Frequency Stability Graph (Band 66)

FCC ID: A3LSMG965F	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
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Band 25 Frequency Stability Measurements

§2.1055 §24.235 RSS-133(6.3)

OPERATING FREQUENCY: 1,882,500,000 Hz

CHANNEL: 26365

REFERENCE VOLTAGE: 3.85 VDC

DEVIATION LIMIT: ± 0.00025 % or 2.5 ppm

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.85	+ 20 (Ref)	1,882,500,144	144	0.0000076
100 %		- 30	1,882,499,890	-110	-0.0000058
100 %		- 20	1,882,499,989	-11	-0.0000006
100 %		- 10	1,882,500,028	28	0.0000015
100 %		0	1,882,500,107	107	0.0000057
100 %		+ 10	1,882,499,812	-188	-0.0000100
100 %		+ 20	1,882,499,577	-423	-0.0000225
100 %		+ 30	1,882,499,879	-121	-0.0000064
100 %		+ 40	1,882,499,816	-184	-0.0000098
100 %		+ 50	1,882,499,640	-360	-0.0000191
BATT. ENDPOINT	3.45	+ 20	1,882,499,952	-48	-0.0000025

Table 7-46. Frequency Stability Data (Band 25)

FCC ID: A3LSMG965F	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
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Band 25 Frequency Stability Measurements **§2.1055 §24.235 RSS-133(6.3)**

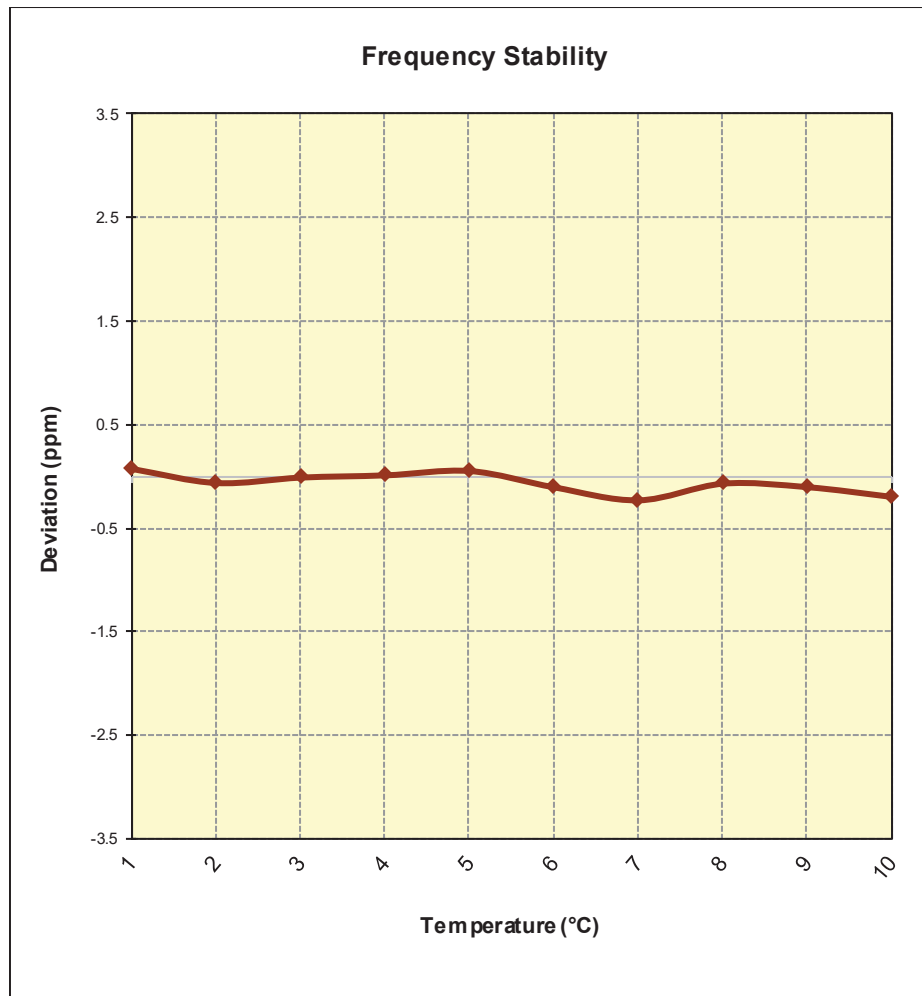


Figure 7-12. Frequency Stability Graph (Band 25)

FCC ID: A3LSMG965F	 MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
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Band 7 Frequency Stability Measurements

§2.1055 §27.54 RSS-199(4.3)

OPERATING FREQUENCY: 2,535,000,000 Hz
 CHANNEL: 21100
 REFERENCE VOLTAGE: 3.85 VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.85	+ 20 (Ref)	2,535,000,320	320	0.0000126
100 %		- 30	2,534,999,910	-90	-0.0000036
100 %		- 20	2,534,999,922	-78	-0.0000031
100 %		- 10	2,534,999,973	-27	-0.0000011
100 %		0	2,534,999,978	-22	-0.0000009
100 %		+ 10	2,535,000,252	252	0.0000099
100 %		+ 20	2,534,999,747	-253	-0.0000100
100 %		+ 30	2,534,999,958	-42	-0.0000017
100 %		+ 40	2,535,000,151	151	0.0000060
100 %		+ 50	2,534,999,850	-150	-0.0000059
BATT. ENDPOINT	3.45	+ 20	2,535,000,079	79	0.0000031

Table 7-47. Frequency Stability Data (Band 7)

Note:

Based on the results of the frequency stability test at the center channel the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency deviation noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

FCC ID: A3LSMG965F	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
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Band 7 Frequency Stability Measurements

§2.1055 §27.54 RSS-199(4.3)

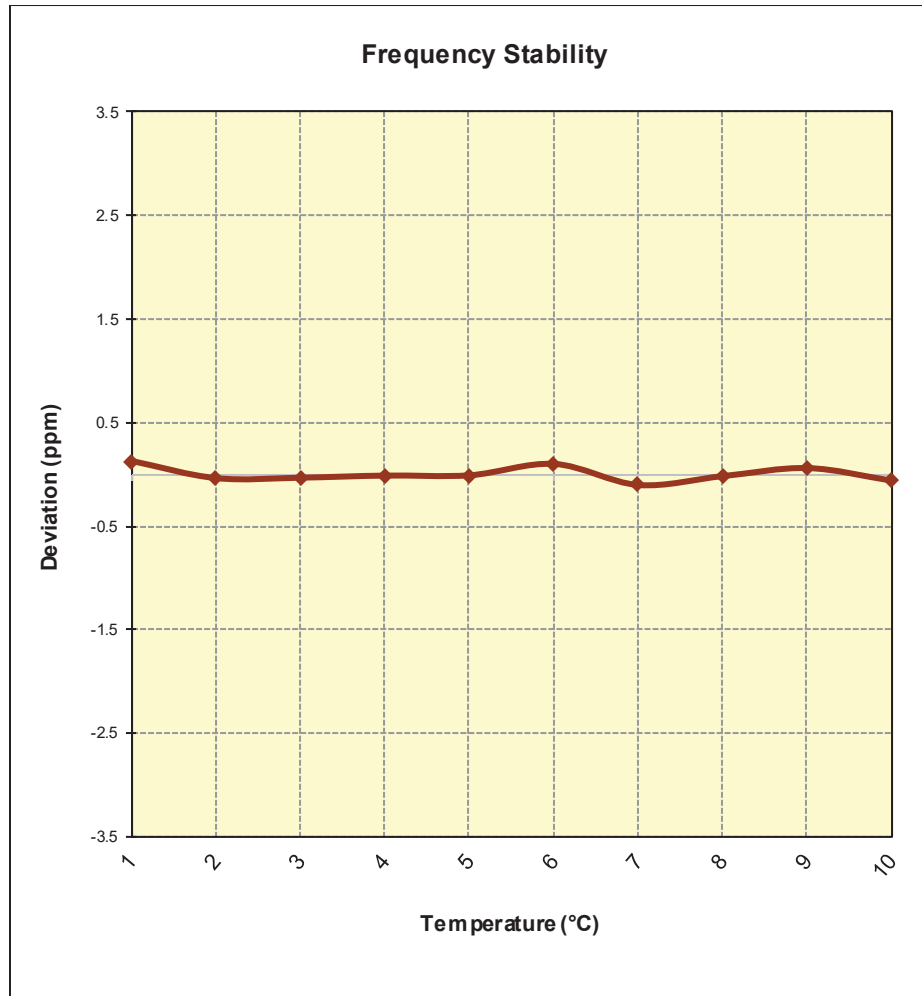


Figure 7-13. Frequency Stability Graph (Band 7)

FCC ID: A3LSMG965F	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
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Band 38/41 Frequency Stability Measurements

§2.1055 §27.54 RSS-199(4.3)

OPERATING FREQUENCY: 2,593,000,000 Hz

CHANNEL: 40620

REFERENCE VOLTAGE: 3.85 VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.85	+ 20 (Ref)	2,593,000,120	120	0.0000046
100 %		- 30	2,593,000,183	183	0.0000071
100 %		- 20	2,593,000,150	150	0.0000058
100 %		- 10	2,592,999,802	-198	-0.0000076
100 %		0	2,593,000,349	349	0.0000135
100 %		+ 10	2,592,999,965	-35	-0.0000013
100 %		+ 20	2,593,000,060	60	0.0000023
100 %		+ 30	2,592,999,898	-102	-0.0000039
100 %		+ 40	2,593,000,030	30	0.0000012
100 %		+ 50	2,592,999,882	-118	-0.0000046
BATT. ENDPOINT		+ 20	2,592,999,981	-19	-0.0000007

Table 7-48. Frequency Stability Data (Band 38/41)

Note:

Based on the results of the frequency stability test at the center channel the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency deviation noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

FCC ID: A3LSMG965F	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
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Band 38/41 Frequency Stability Measurements
§2.1055 §27.54 RSS-199(4.3)

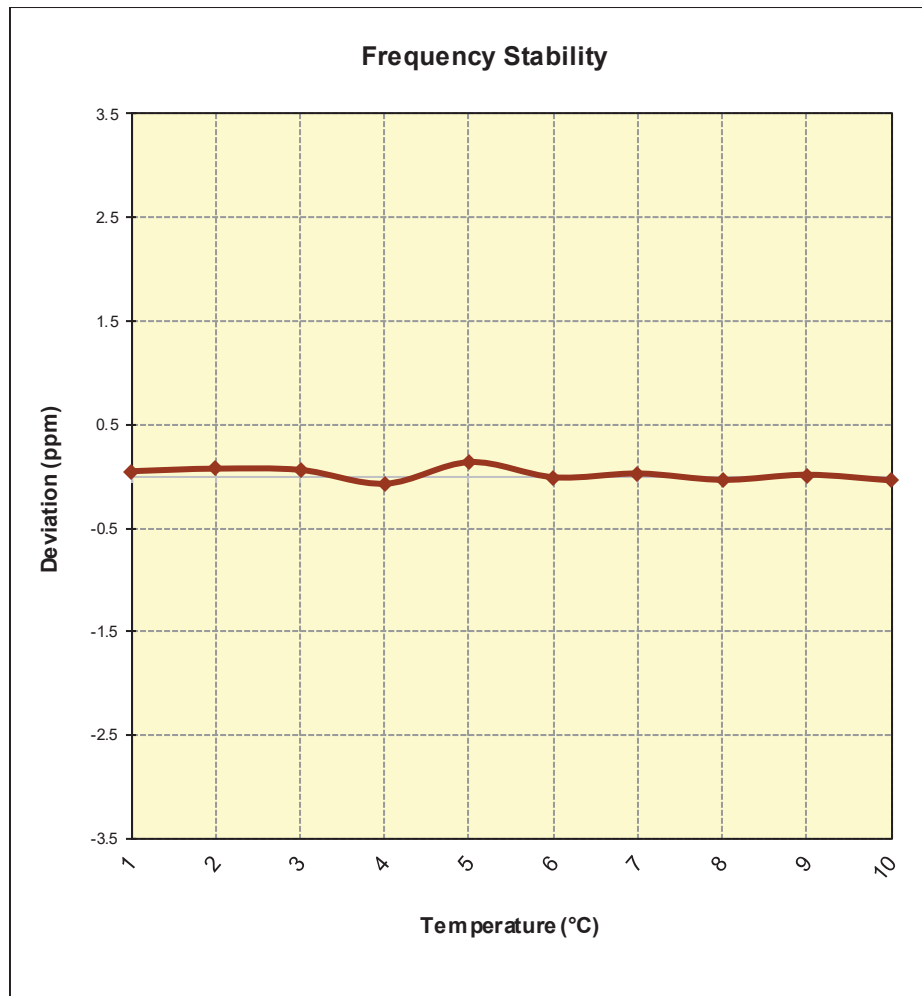


Figure 7-14. Frequency Stability Graph (Band 38/41)

FCC ID: A3LSMG965F		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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8.0 CONCLUSION

The data collected relate only to the item(s) tested and show that the **Samsung Portable Handset FCC ID: A3LSMG965F** complies with all the requirements of Part 22, 24, & 27 of the FCC Rules for LTE operation only.

FCC ID: A3LSMG965F		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1710040265-03.A3L	Test Dates: 10/4/2017-12/15/2017	EUT Type: Portable Handset	Page 250 of 250	