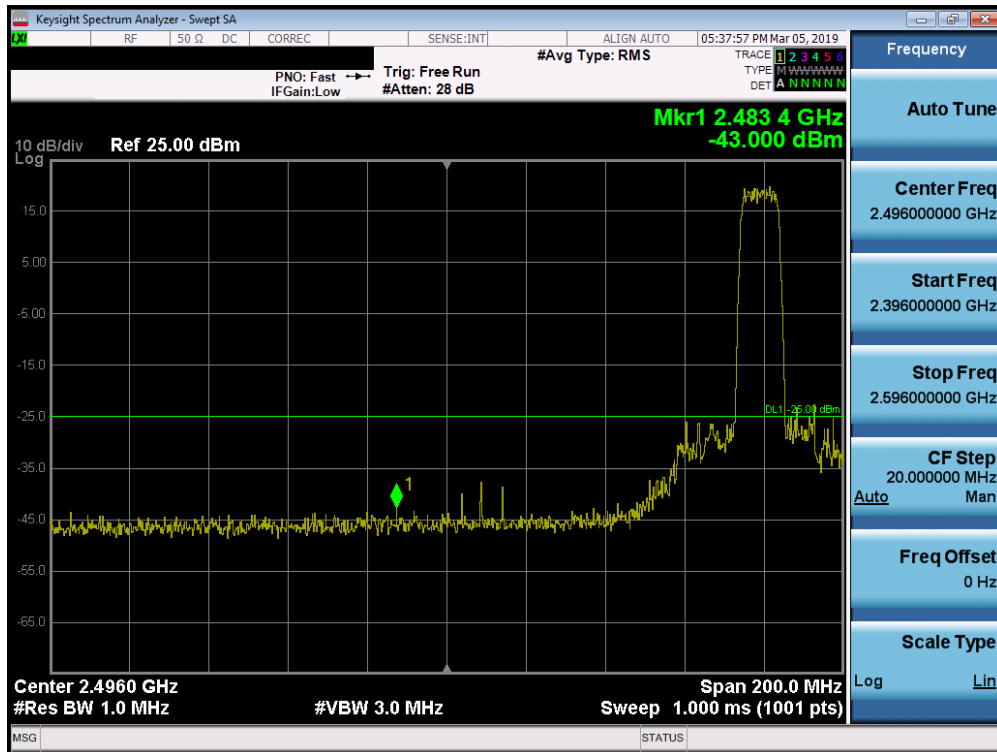
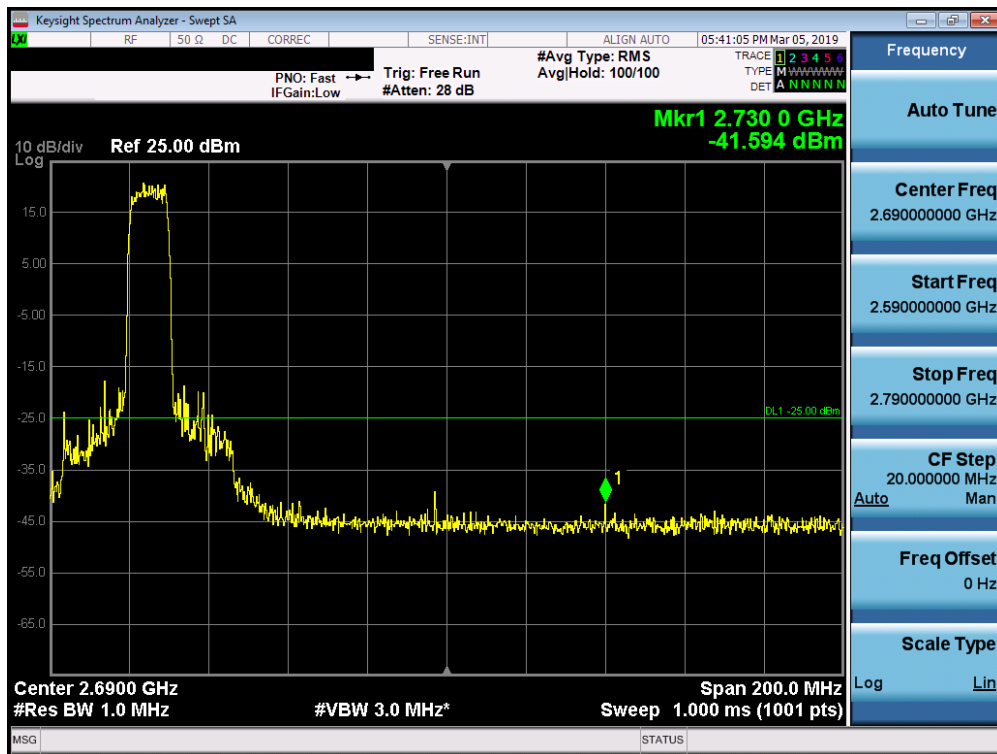


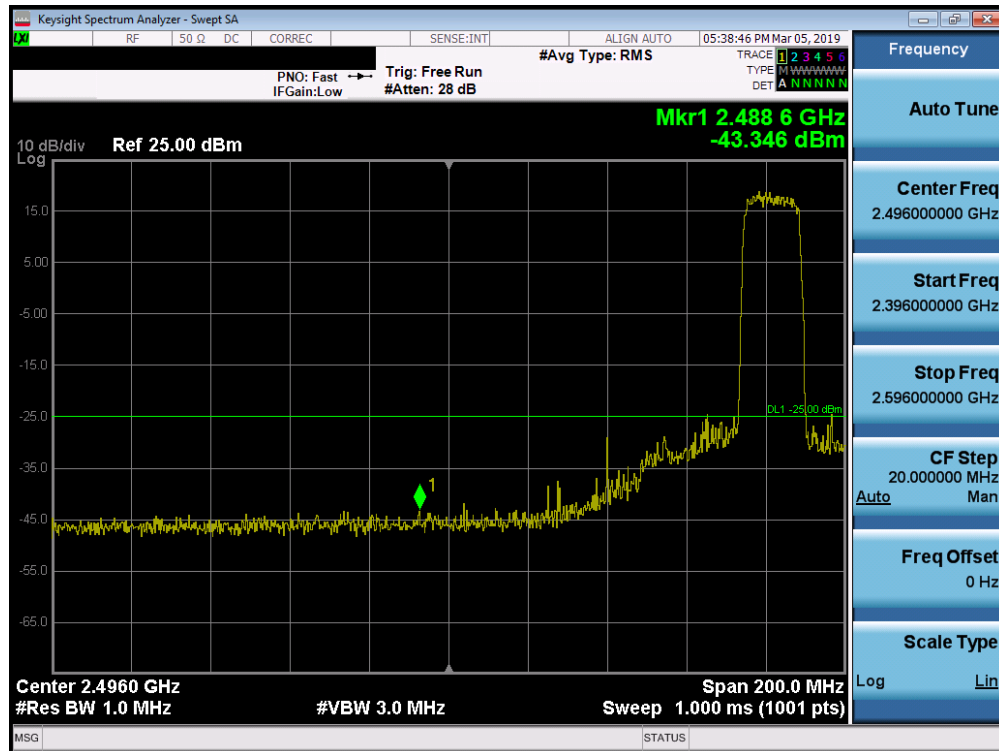


Plot 7-309. Lower ACP Plot (Band 38 - 10.0MHz QPSK - Full RB Configuration)

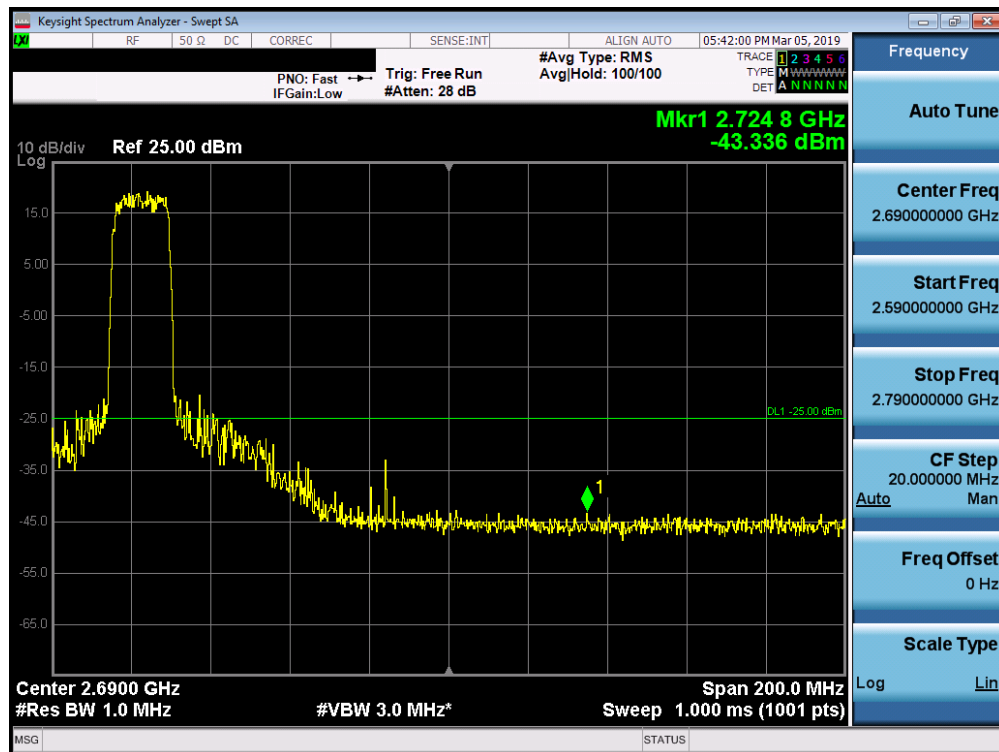


Plot 7-310. Upper ACP Plot (Band 38 - 10.0MHz QPSK - Full RB Configuration)

FCC ID: A3LSMF900F	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1901280020-03.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset	Page 180 of 312

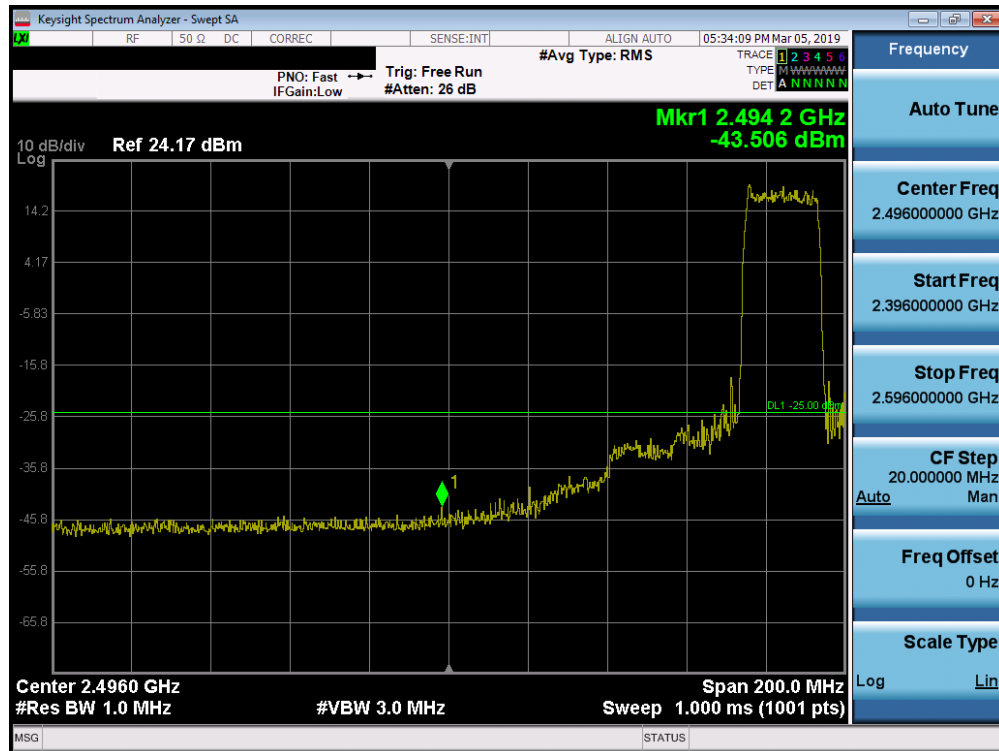


Plot 7-311. Lower ACP Plot (Band 38 - 15.0MHz QPSK - Full RB Configuration)

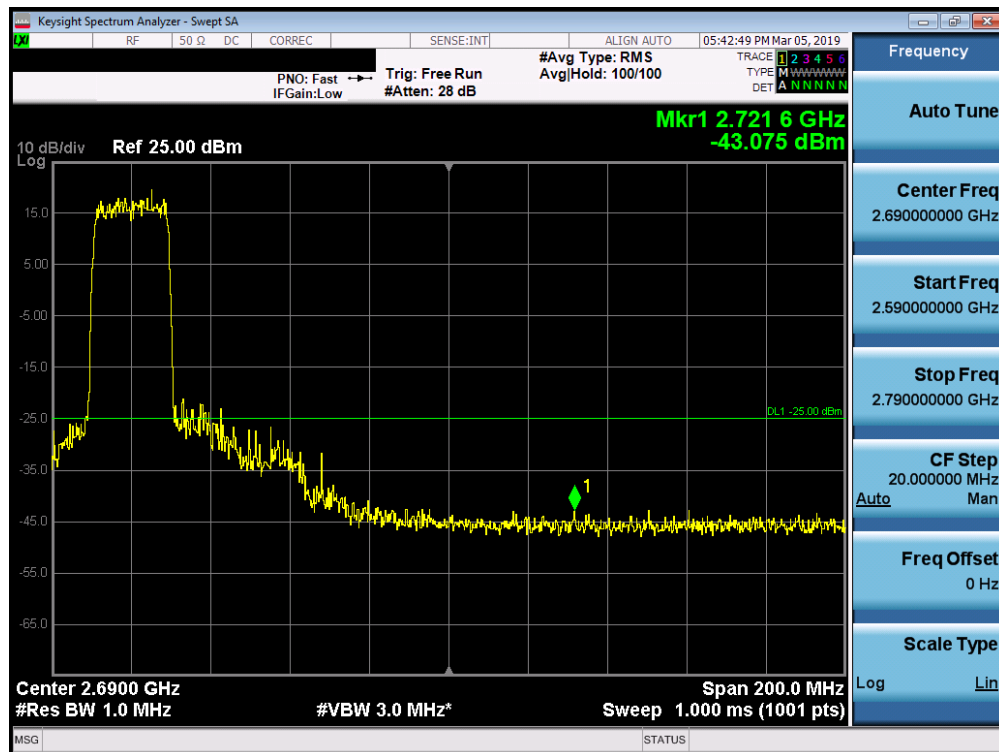


Plot 7-312. Upper ACP Plot (Band 38 - 15.0MHz QPSK - Full RB Configuration)

FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-03.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 181 of 312



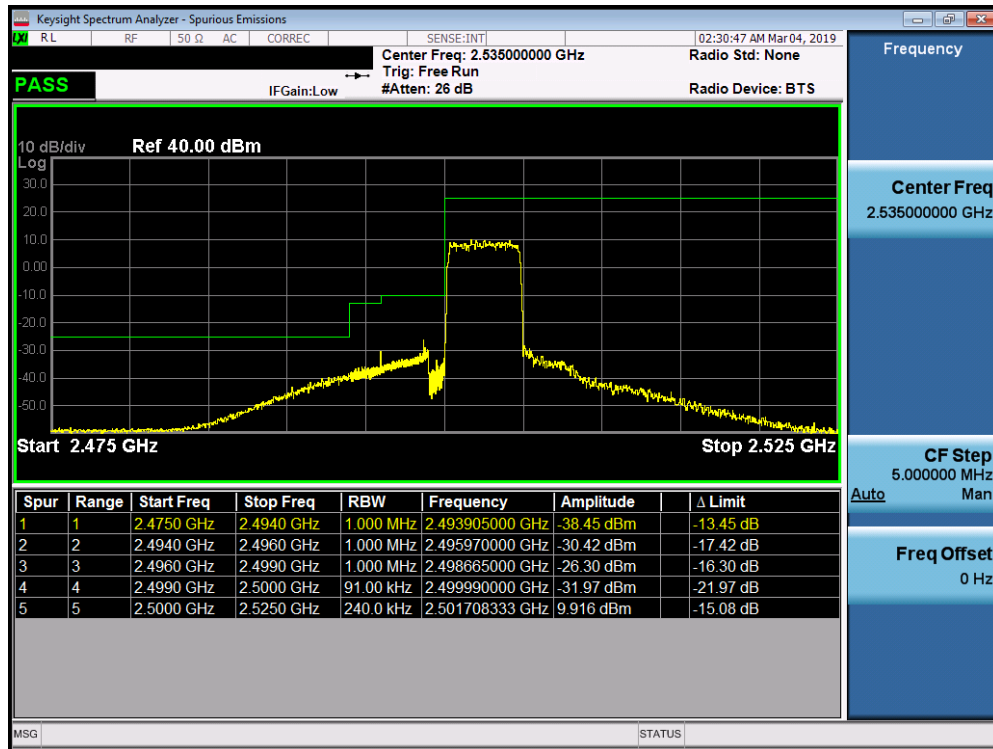
Plot 7-313. Lower ACP Plot (Band 38 - 20.0MHz QPSK - Full RB Configuration)



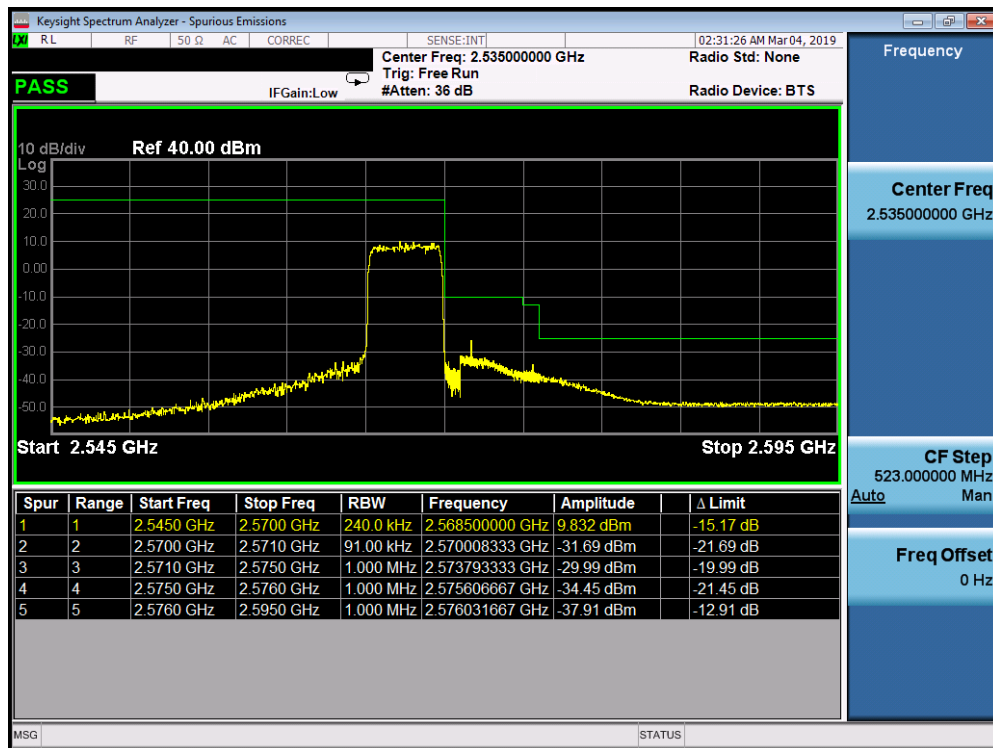
Plot 7-314. Upper ACP Plot (Band 38 - 20.0MHz QPSK - Full RB Configuration)

FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-03.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 182 of 312

Band 7

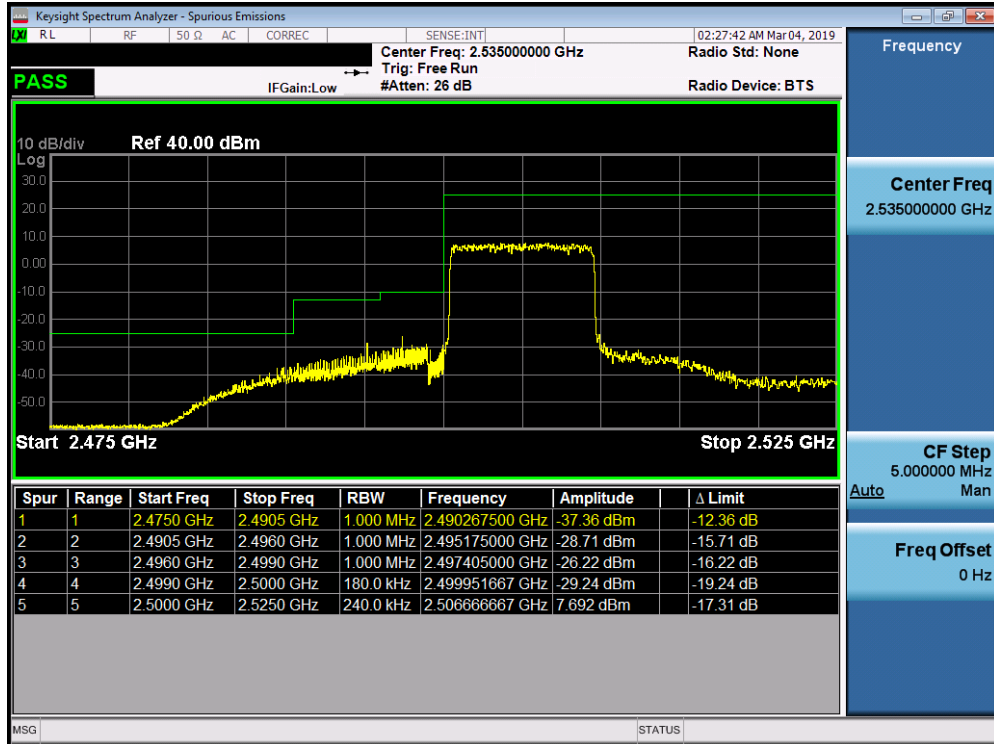


Plot 7-315. Lower ACP Plot (Band 7 – 5.0MHz QPSK - Full RB Configuration)

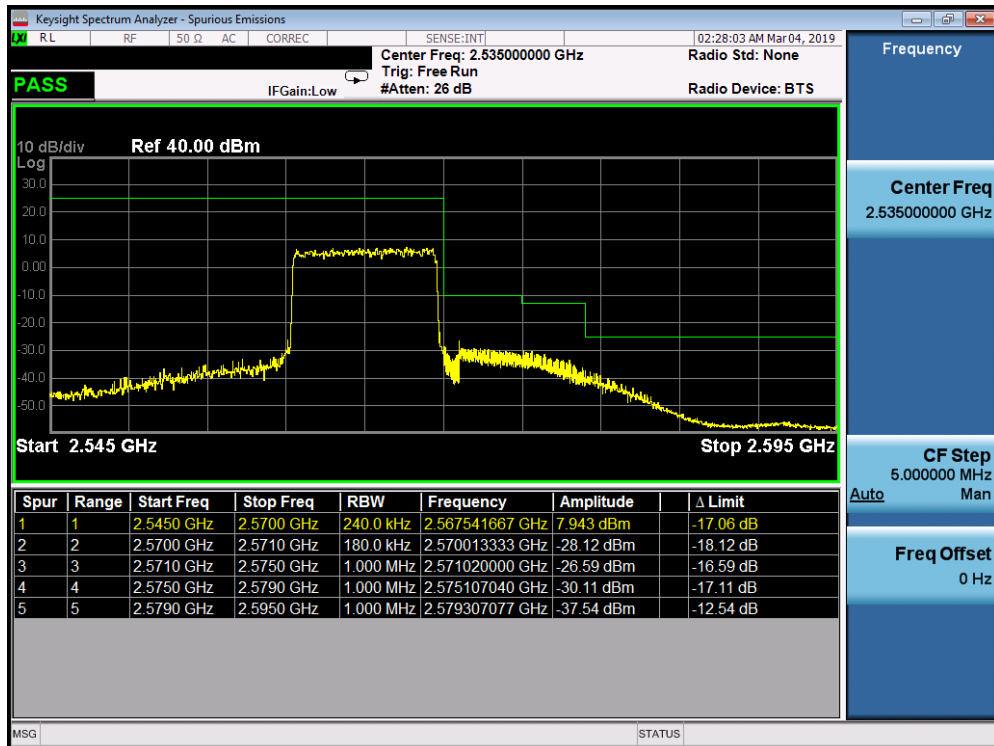


Plot 7-316. Upper ACP Plot (Band 7 – 5.0MHz QPSK - Full RB Configuration)

FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-03.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 183 of 312

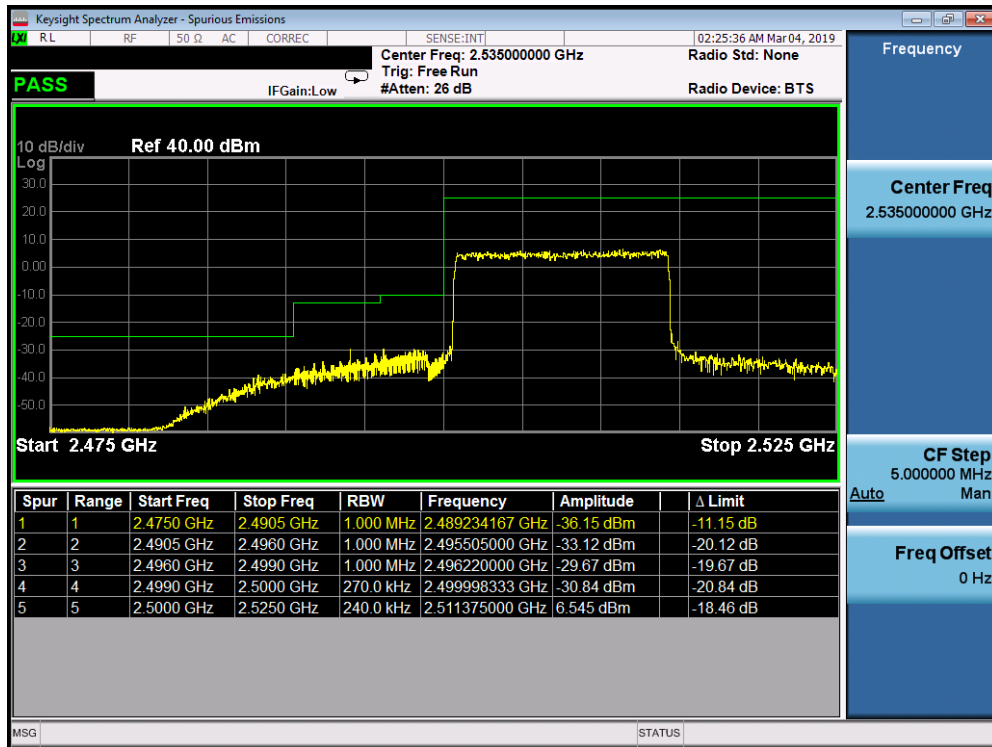


Plot 7-317. Lower ACP Plot (Band 7 – 10.0MHz QPSK - Full RB Configuration)

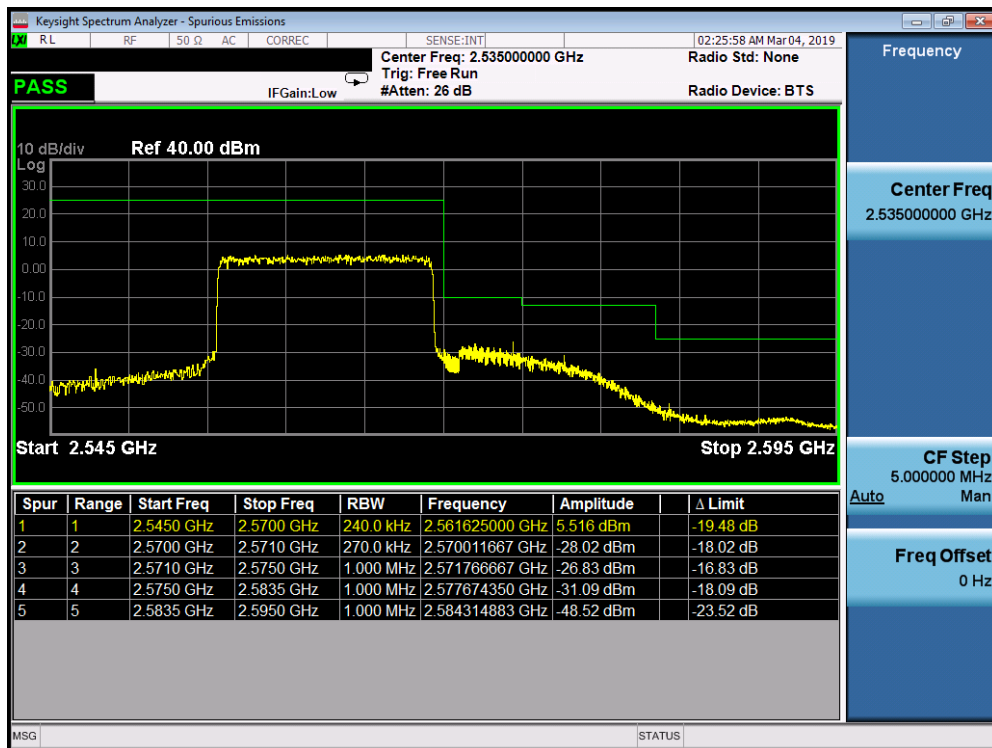


Plot 7-318. Upper ACP Plot (Band 7 – 10.0MHz QPSK - Full RB Configuration)

FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-03.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 184 of 312

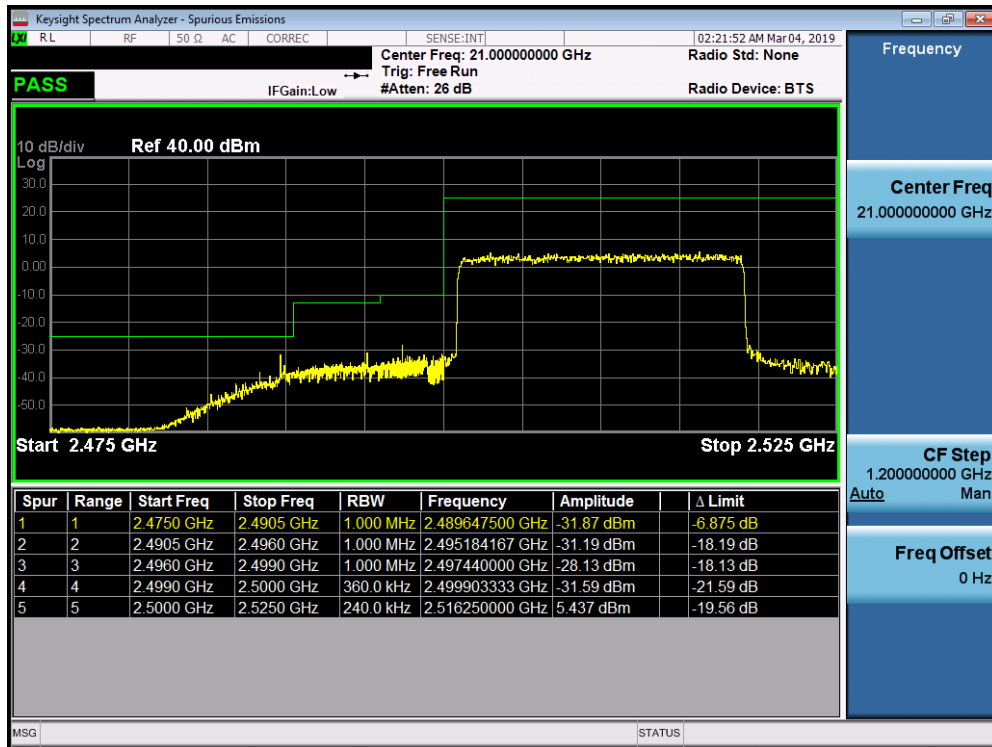


Plot 7-319. Lower ACP Plot (Band 7 – 15.0MHz QPSK - Full RB Configuration)

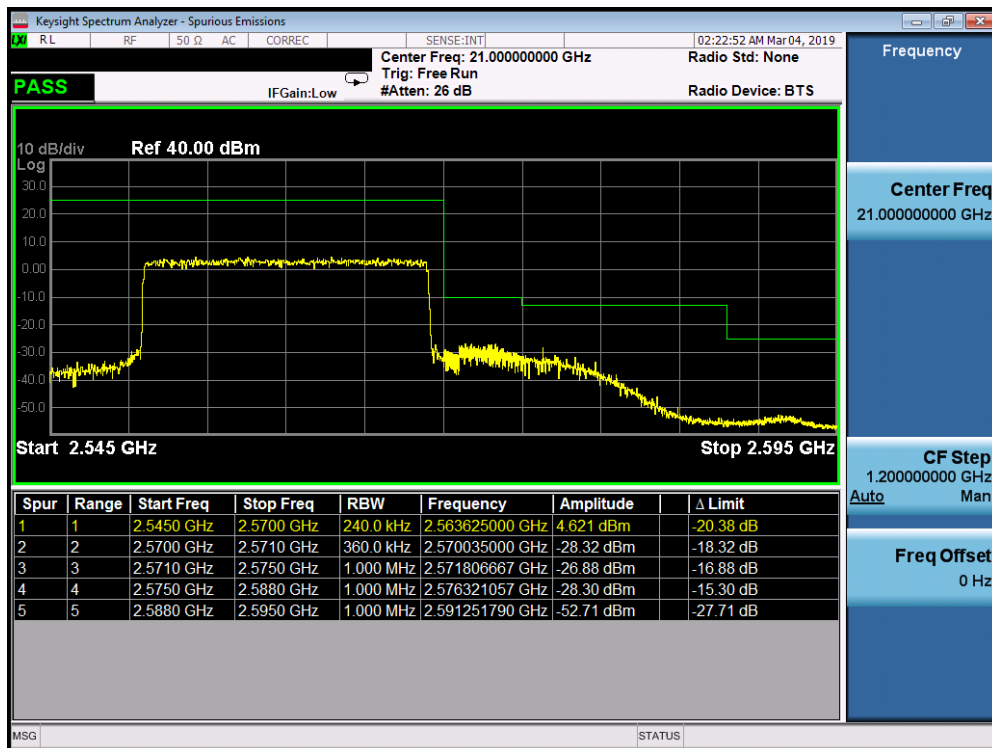


Plot 7-320. Upper ACP Plot (Band 7 – 15.0MHz QPSK - Full RB Configuration)

FCC ID: A3LSMF900F	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1901280020-03.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset	Page 185 of 312



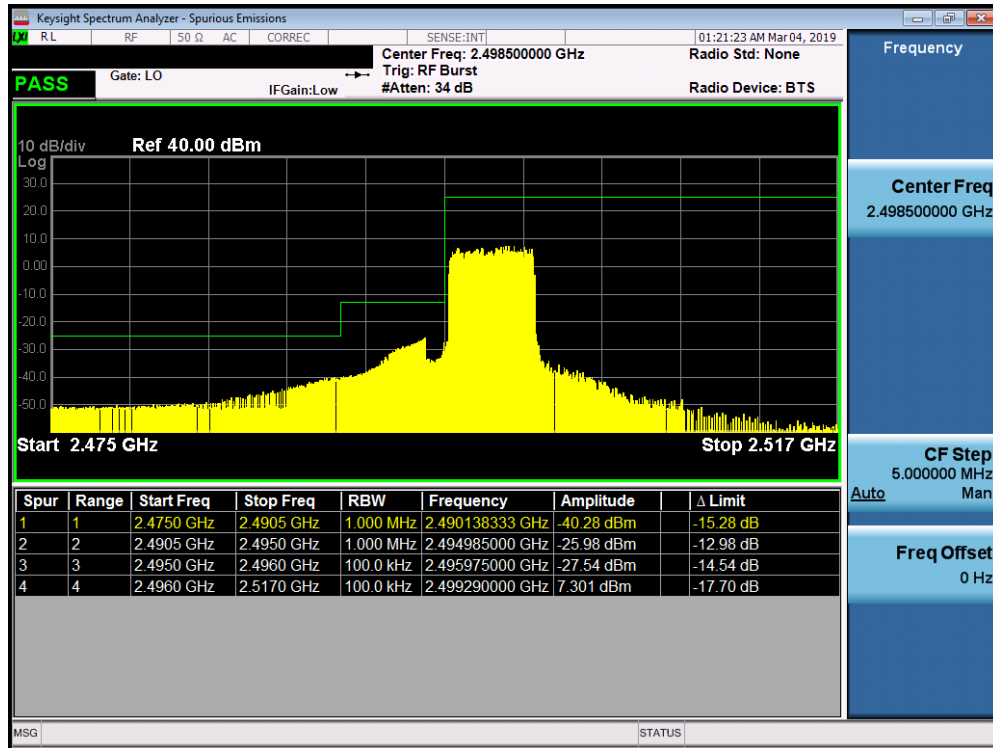
Plot 7-321. Lower ACP Plot (Band 7 – 20.0MHz QPSK - Full RB Configuration)



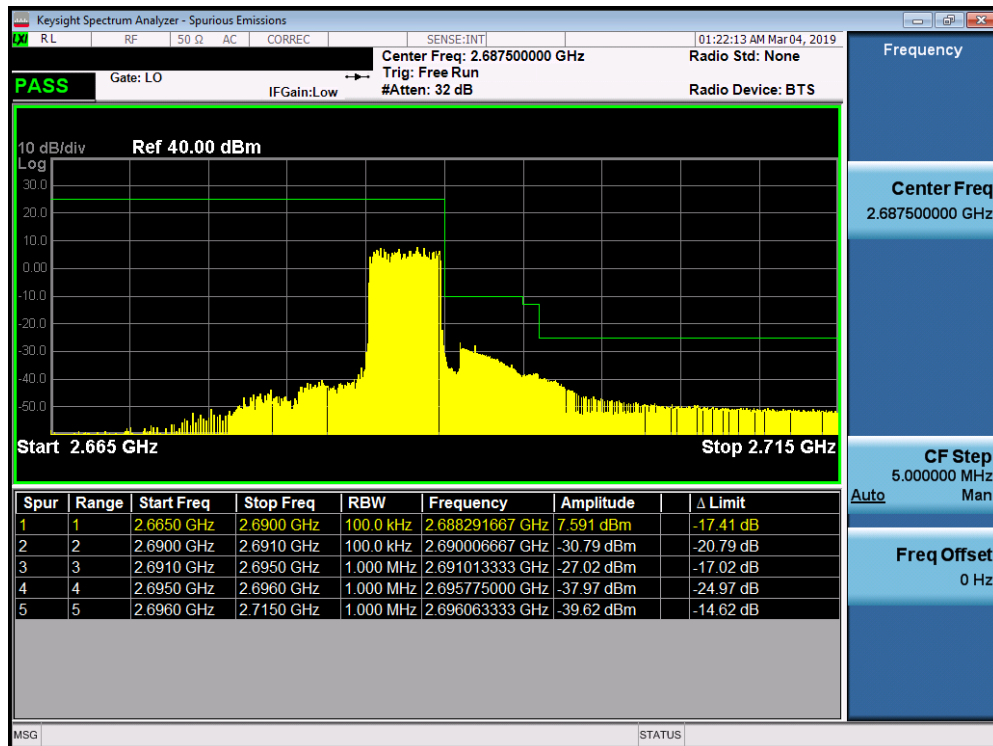
Plot 7-322. Upper ACP Plot (Band 7 – 20.0MHz QPSK - Full RB Configuration)

FCC ID: A3LSMF900F	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1901280020-03.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset	Page 186 of 312

Band 41 PC3

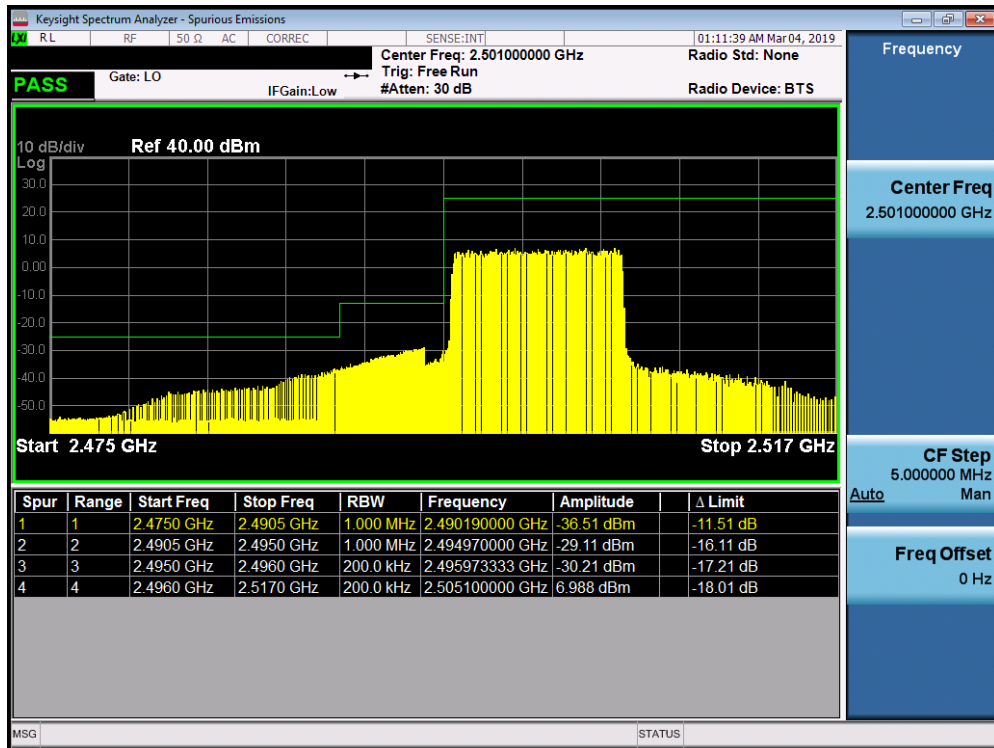


Plot 7-323. Lower ACP Plot at 2496 MHz (Band 41 PC3 - 5.0MHz QPSK - Full RB Configuration)

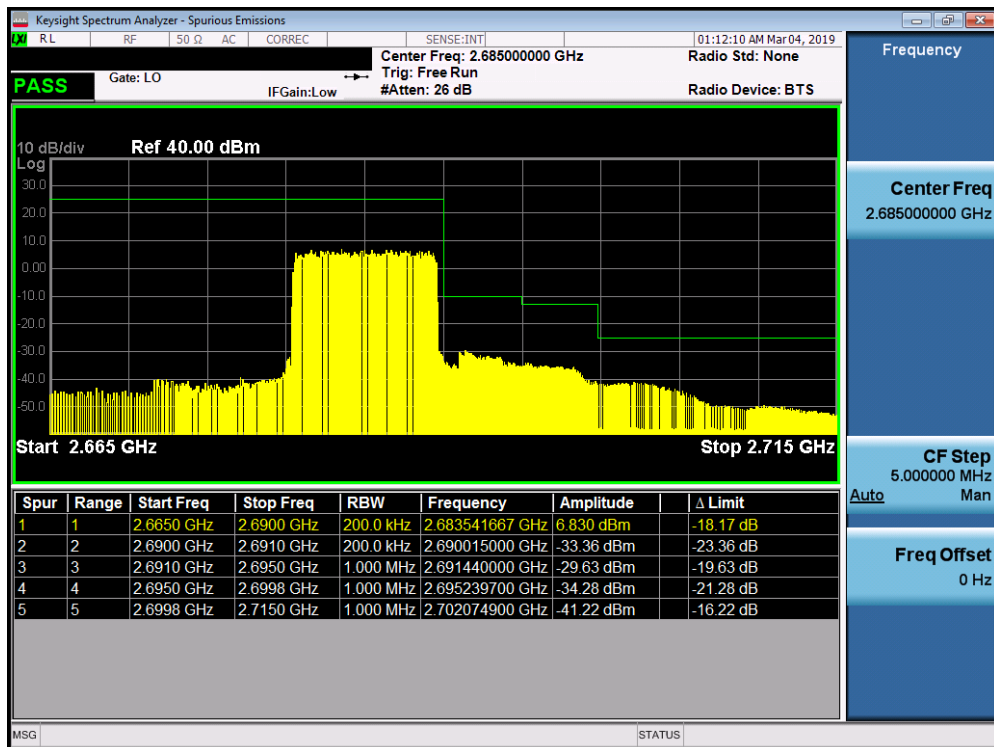


Plot 7-324. Upper ACP Plot (Band 41 PC3 - 5.0MHz QPSK - Full RB Configuration)

FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-03.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 187 of 312

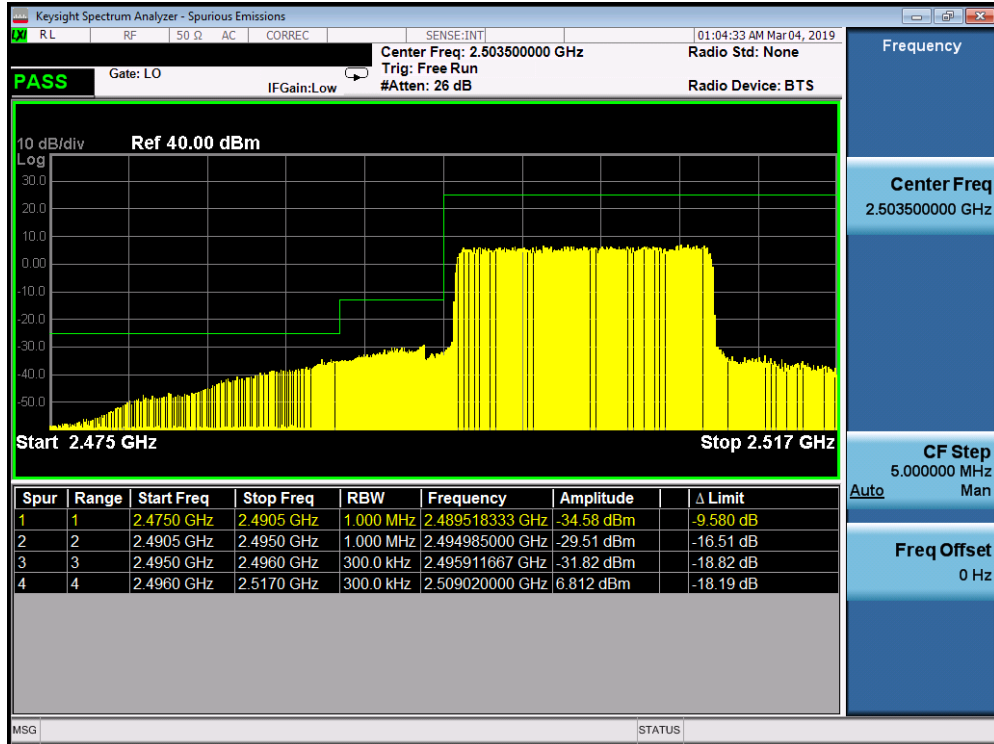


Plot 7-325. Lower ACP Plot at 2496 MHz (Band 41 PC3 - 10.0MHz QPSK - Full RB Configuration)

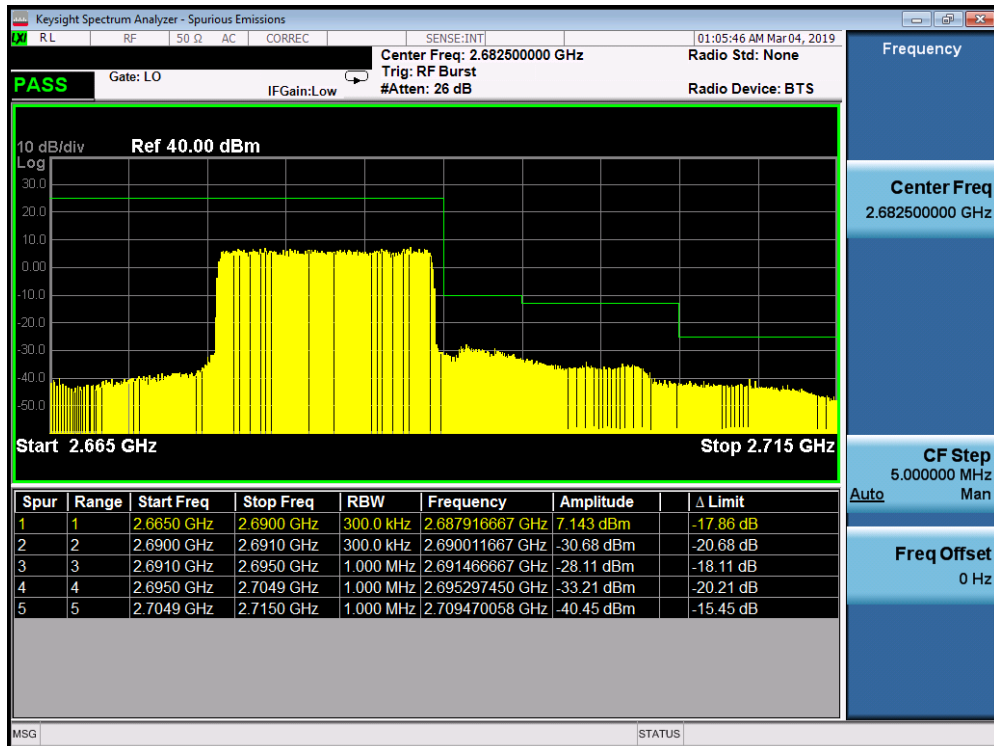


Plot 7-326. Upper ACP Plot (Band 41 PC3 - 10.0MHz QPSK - Full RB Configuration)

FCC ID: A3LSMF900F	 MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1901280020-03.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 188 of 312

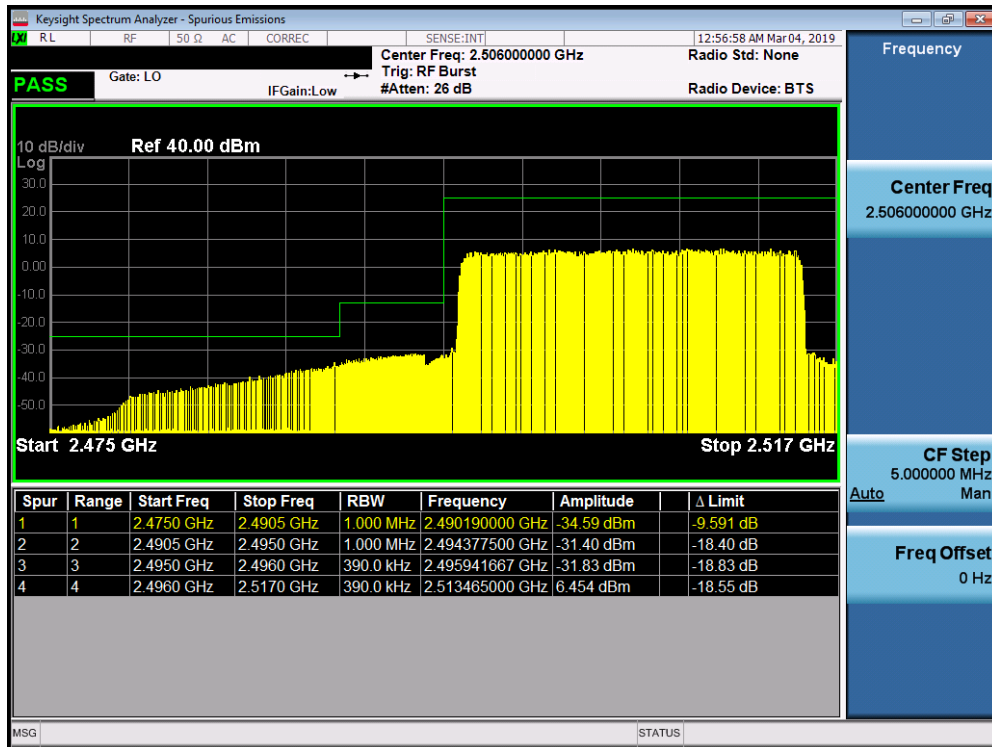


Plot 7-327. Lower ACP Plot at 2496 MHz (Band 41 PC3 - 15.0MHz QPSK - Full RB Configuration)

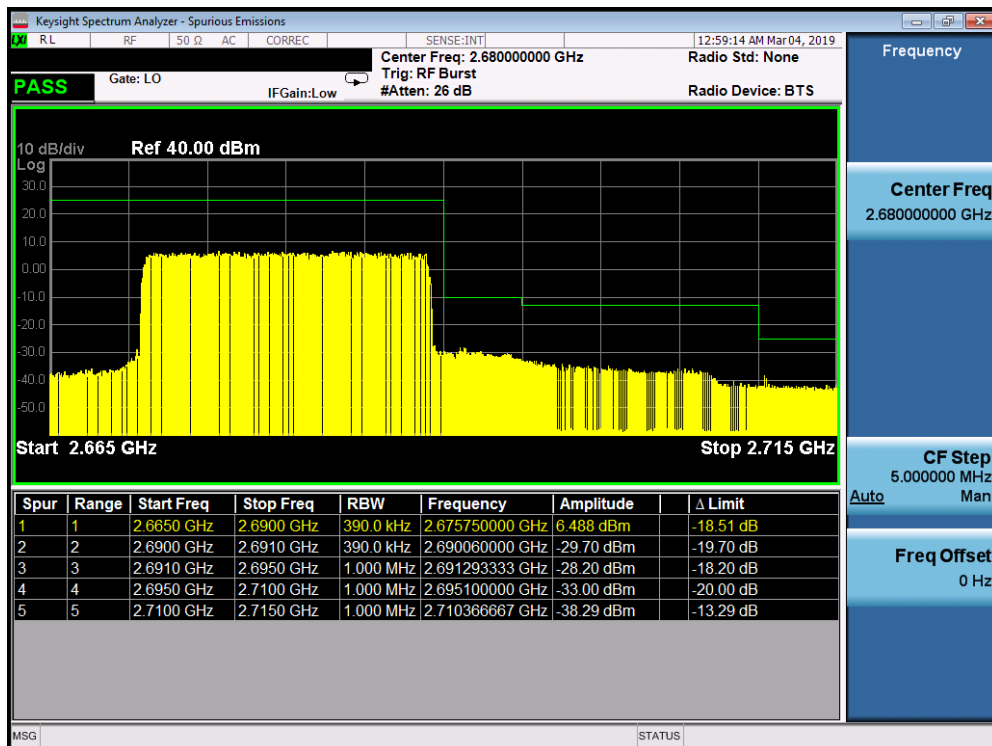


Plot 7-328. Upper ACP Plot (Band 41 PC3 - 15.0MHz QPSK - Full RB Configuration)

FCC ID: A3LSMF900F	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1901280020-03.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset	Page 189 of 312



Plot 7-329. Lower ACP Plot at 2496 MHz (Band 41 PC3 - 20.0MHz QPSK - Full RB Configuration)



Plot 7-330. Upper ACP Plot (Band 41 PC3 - 20.0MHz QPSK - Full RB Configuration)

FCC ID: A3LSMF900F	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1901280020-03.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset	Page 190 of 312

7.5 Peak-Average Ratio

Test Overview

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

Test Procedure Used

KDB 971168 D01 v03r01 – Section 5.7.1

Test Settings

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



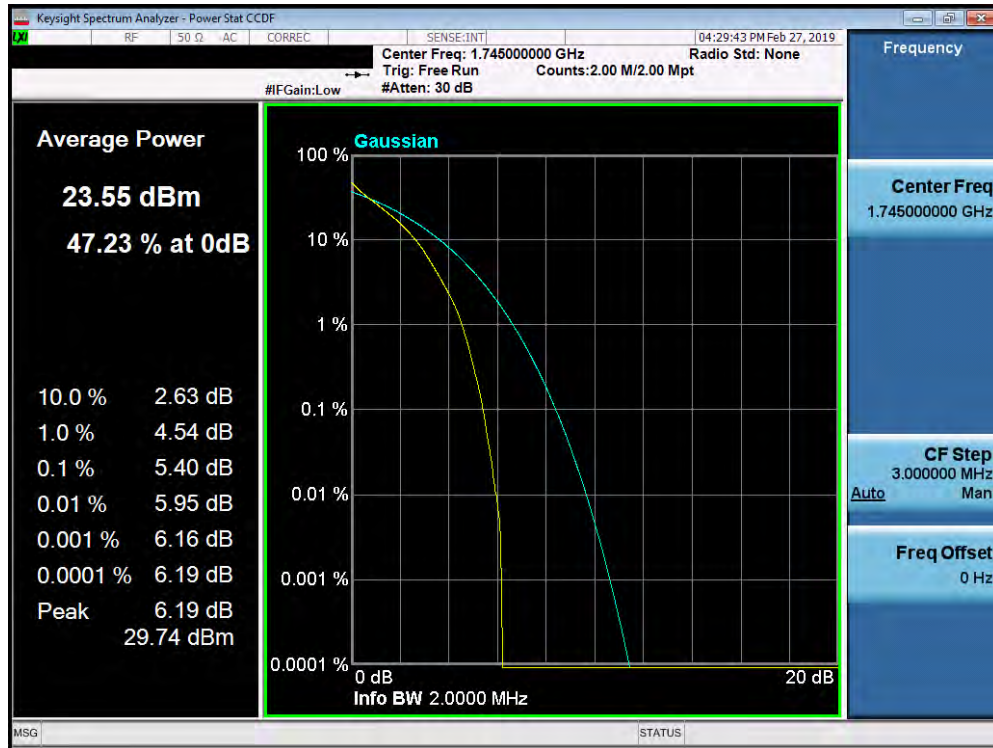
Figure 7-4. Test Instrument & Measurement Setup

Test Notes

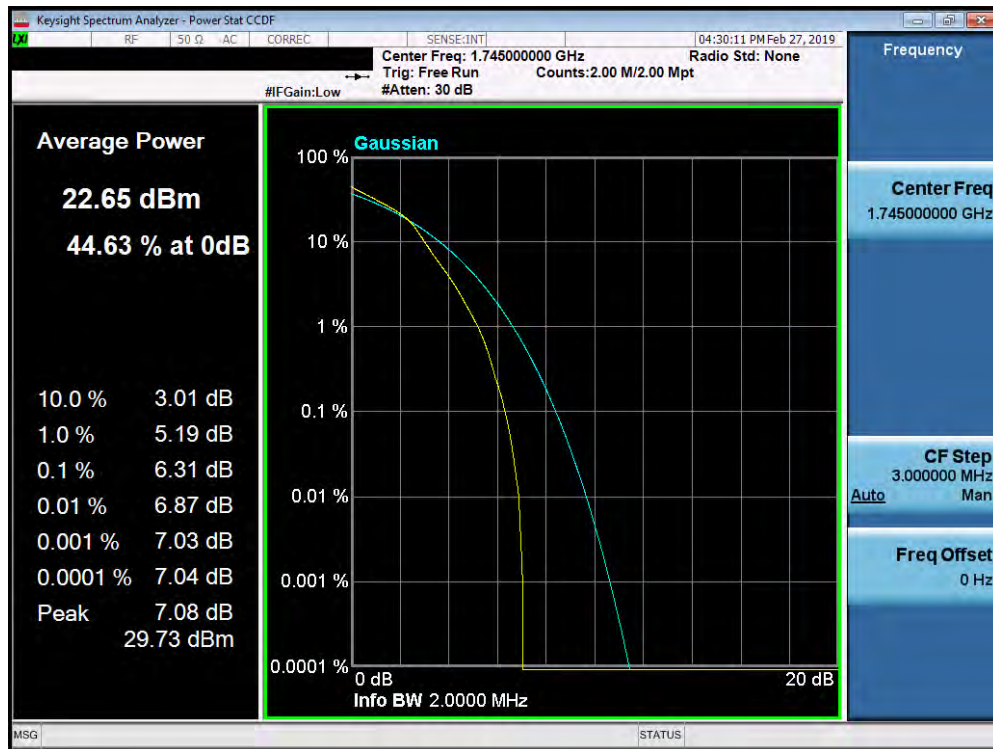
None.

FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-03.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 191 of 312

Band 66/4

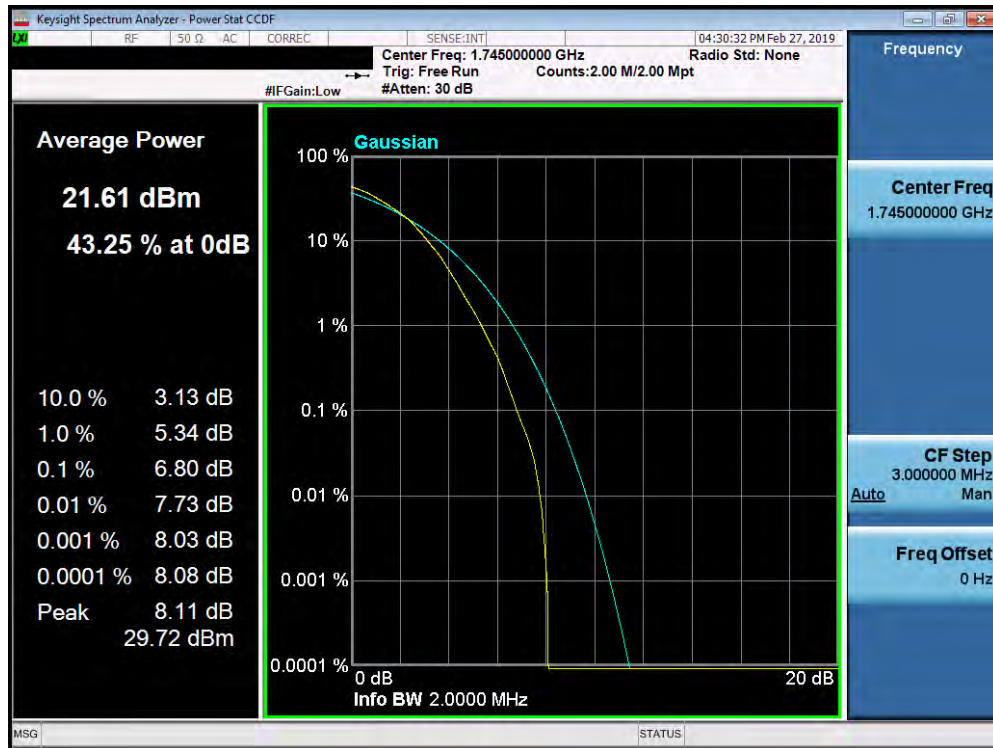


Plot 7-331. PAR Plot (Band 66/4 - 1.4MHz QPSK - Full RB Configuration)

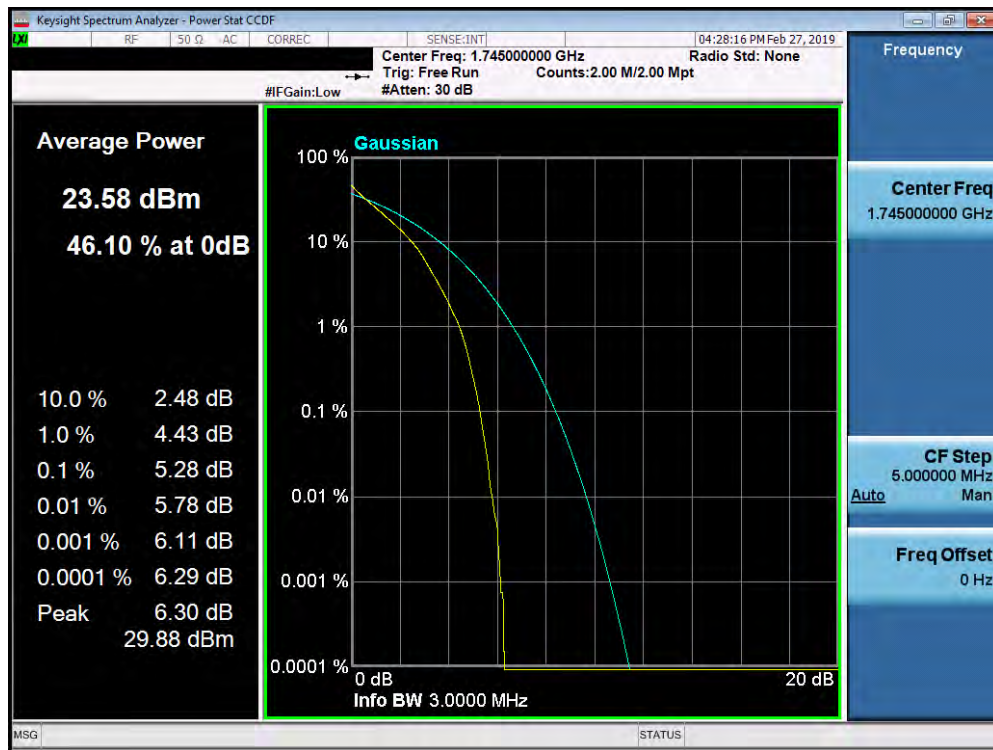


Plot 7-332. PAR Plot (Band 66/4 - 1.4MHz 16-QAM - Full RB Configuration)

FCC ID: A3LSMF900F	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1901280020-03.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 192 of 312

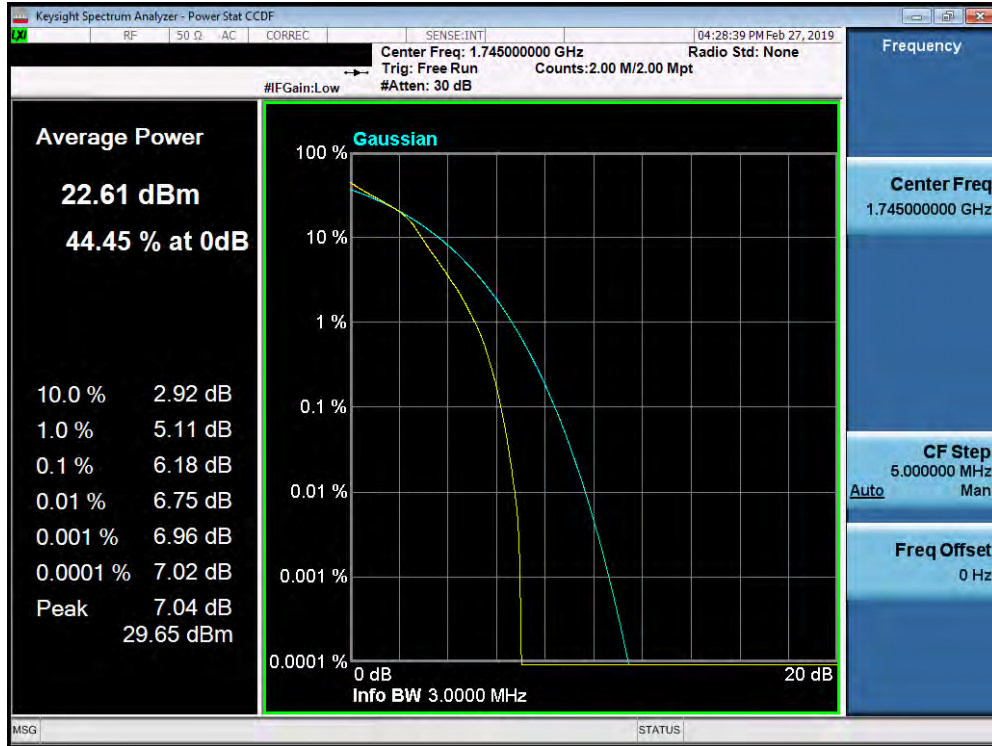


Plot 7-333. PAR Plot (Band 66/4 - 1.4MHz 64-QAM - Full RB Configuration)

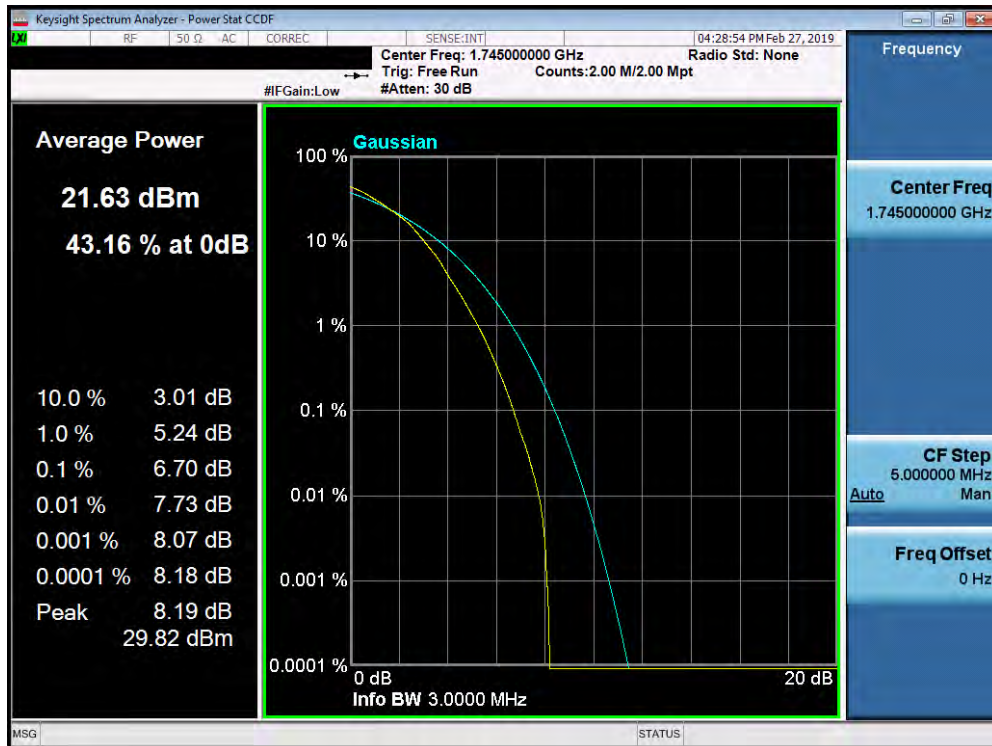


Plot 7-334. PAR Plot (Band 66/4 - 3.0MHz QPSK - Full RB Configuration)

FCC ID: A3LSMF900F	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1901280020-03.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset	Page 193 of 312

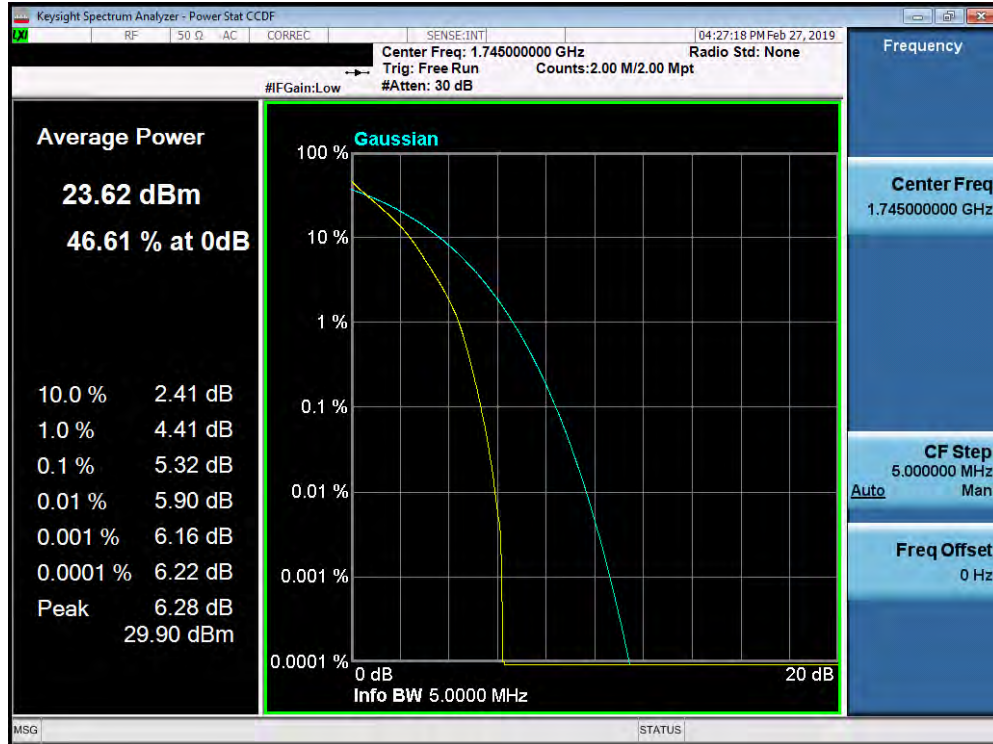


Plot 7-335. PAR Plot (Band 66/4 - 3.0MHz 16-QAM - Full RB Configuration)

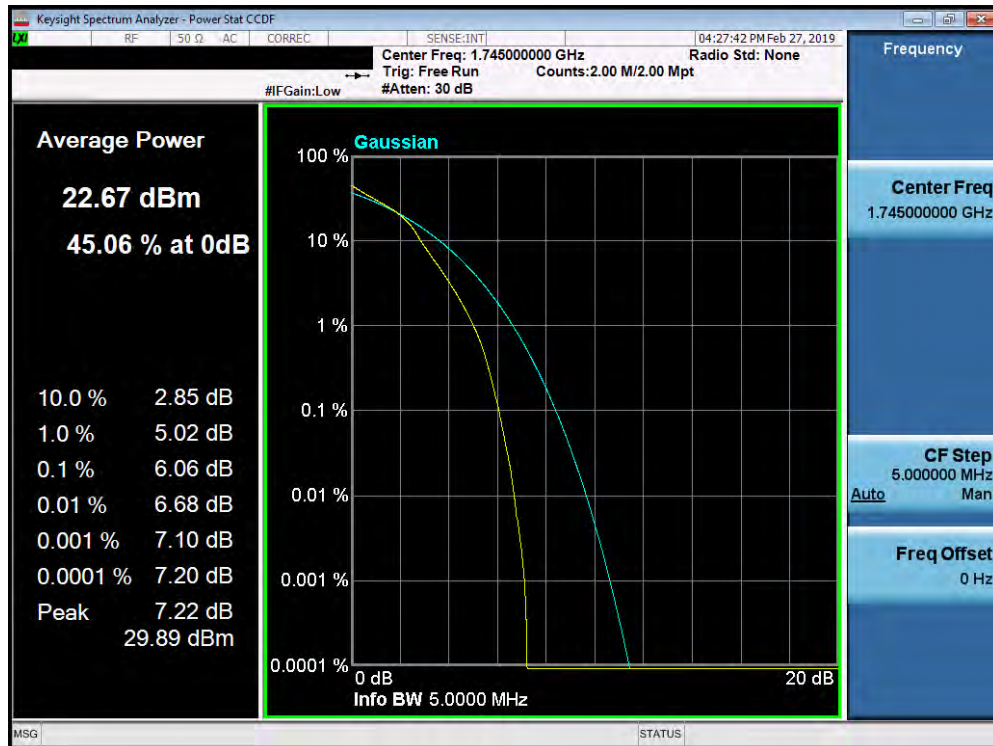


Plot 7-336. PAR Plot (Band 66/4 - 3.0MHz 64-QAM - Full RB Configuration)

FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-03.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 194 of 312

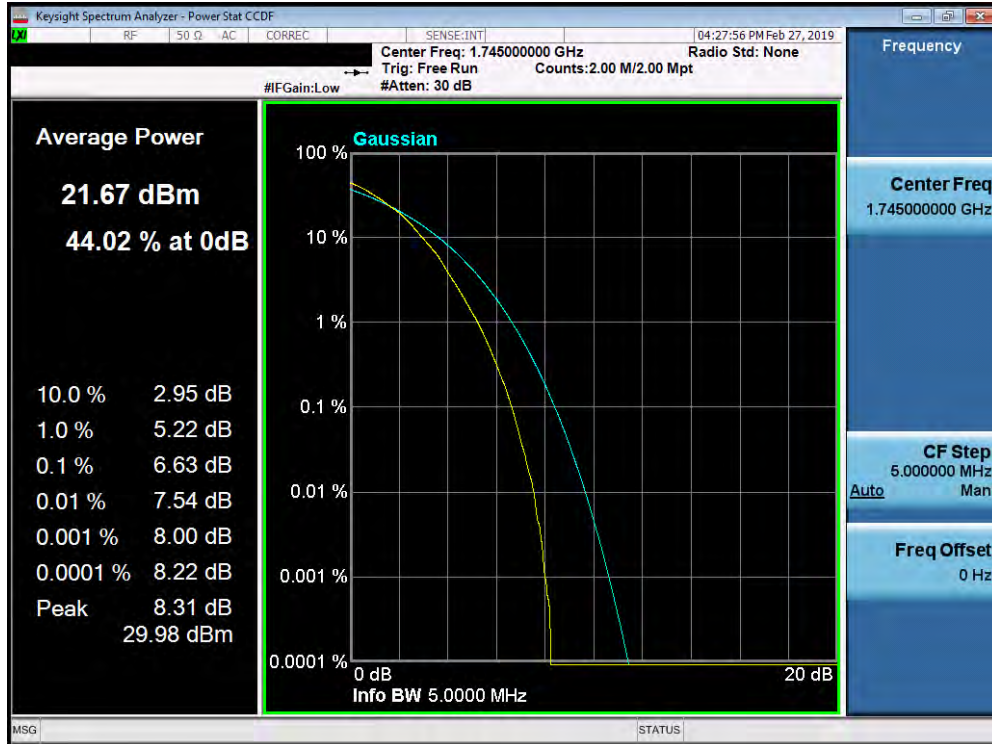


Plot 7-337. PAR Plot (Band 66/4 - 5.0MHz QPSK - Full RB Configuration)

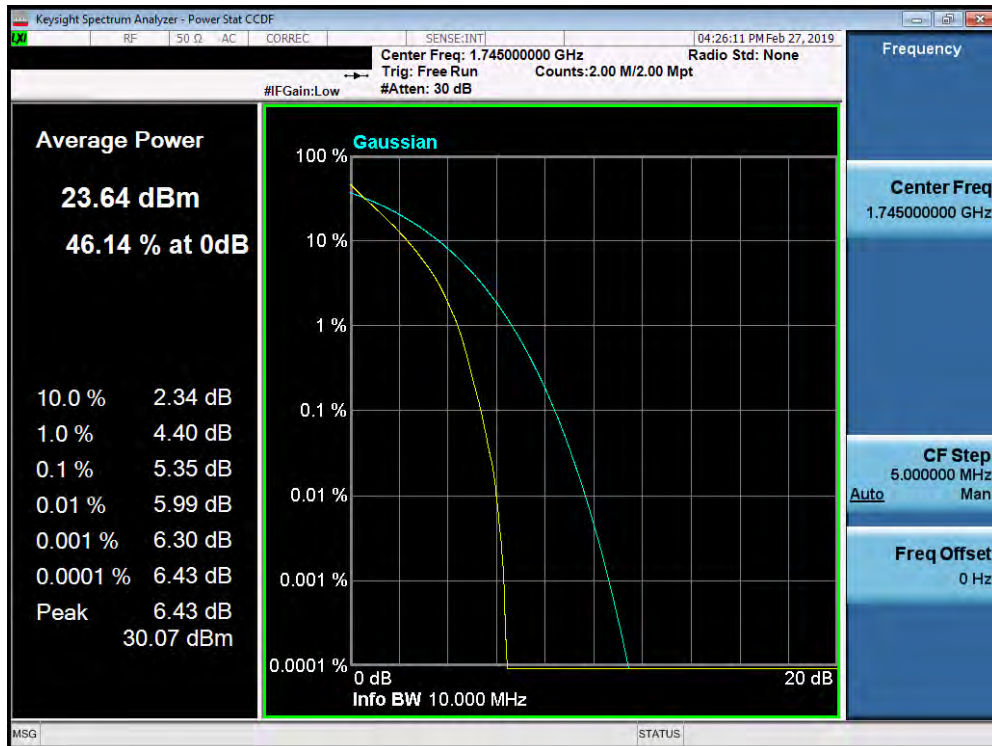


Plot 7-338. PAR Plot (Band 66/4 - 5.0MHz 16-QAM - Full RB Configuration)

FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-03.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 195 of 312

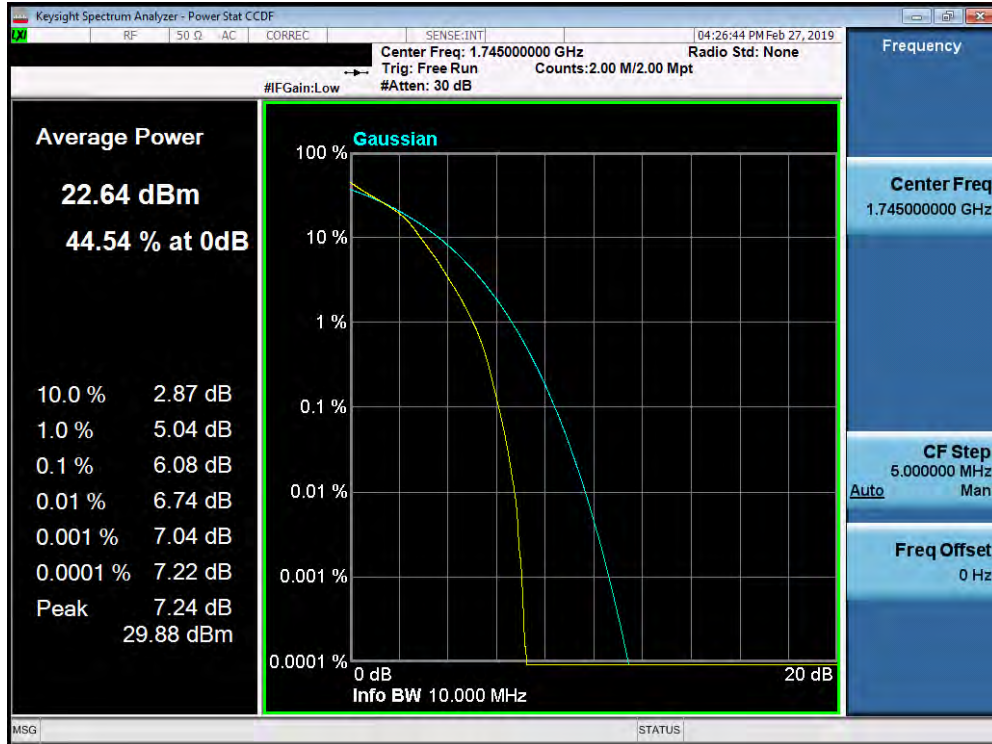


Plot 7-339. PAR Plot (Band 66/4 - 5.0MHz 64-QAM - Full RB Configuration)

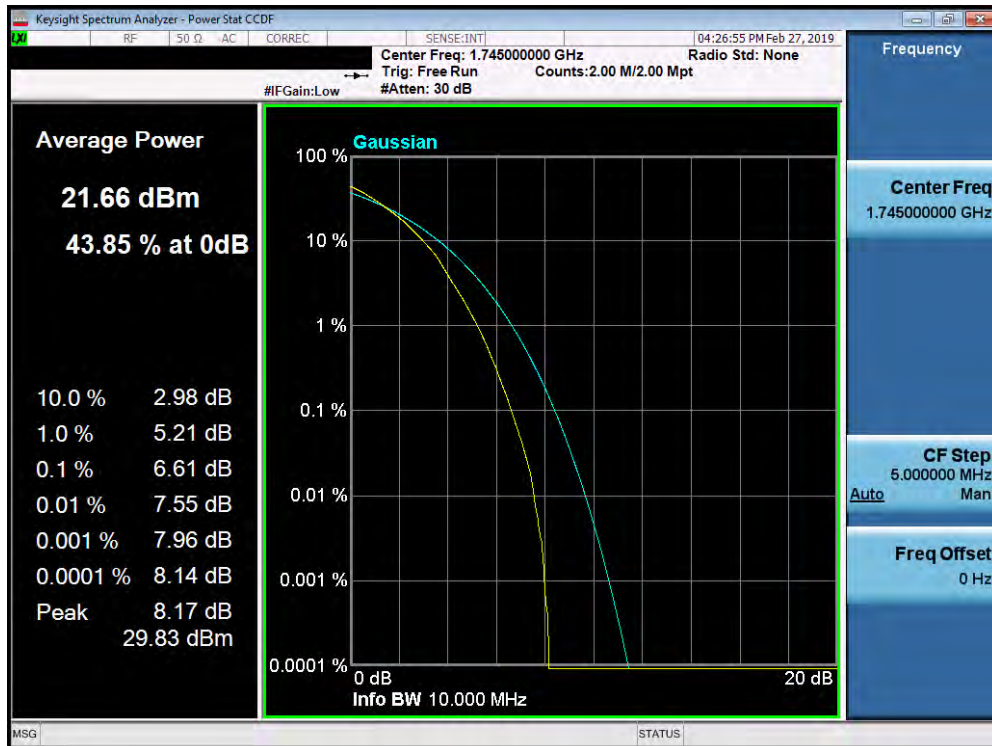


Plot 7-340. PAR Plot (Band 66/4 - 10.0MHz QPSK - Full RB Configuration)

FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-03.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 196 of 312

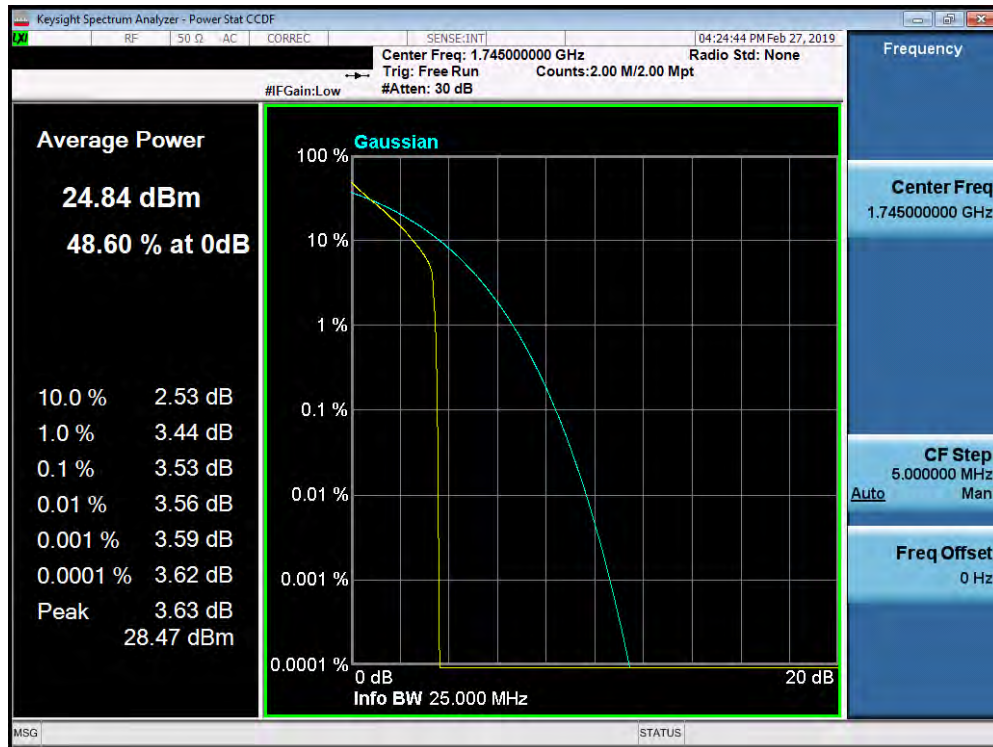


Plot 7-341. PAR Plot (Band 66/4 - 10.0MHz 16-QAM - Full RB Configuration)

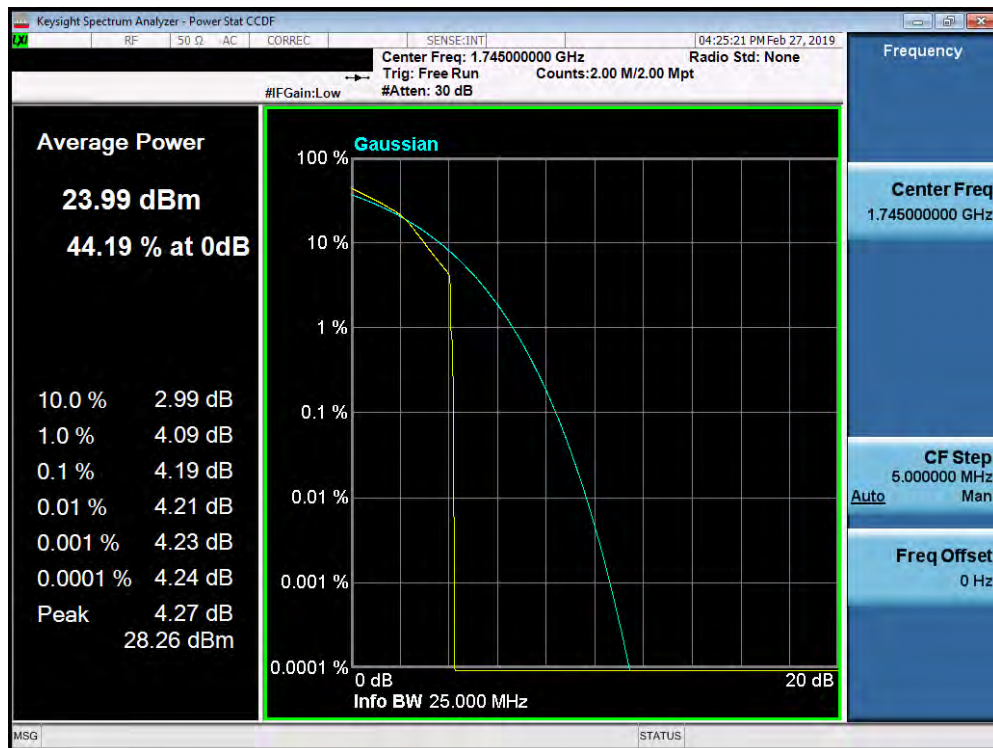


Plot 7-342. PAR Plot (Band 66/4 - 10.0MHz 64-QAM - Full RB Configuration)

FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-03.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 197 of 312

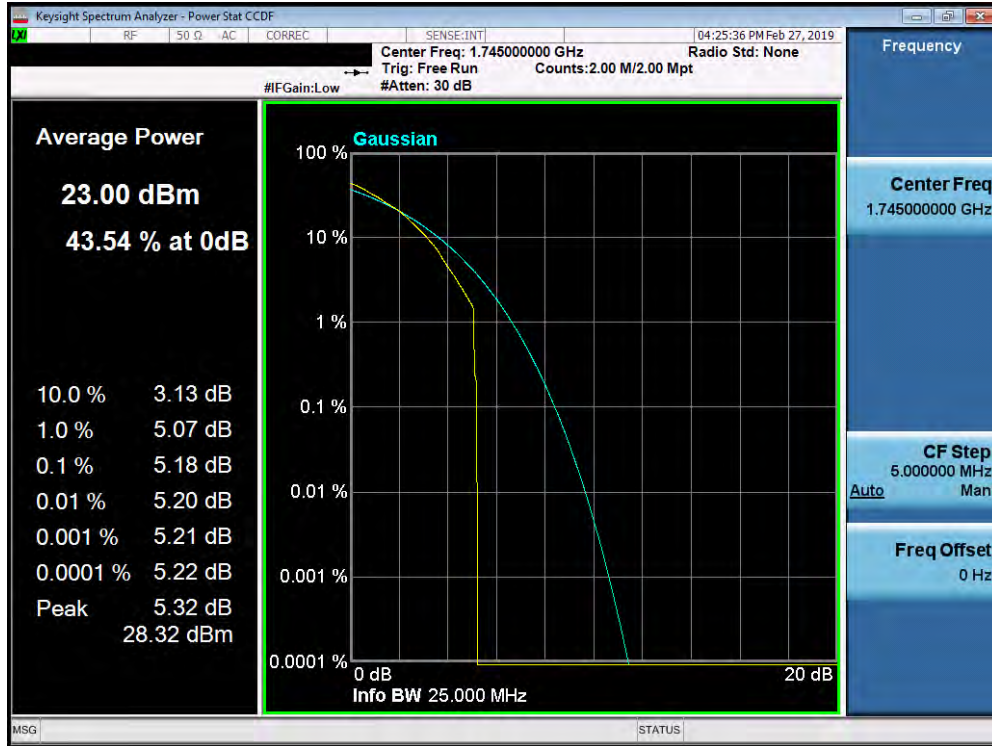


Plot 7-343. PAR Plot (Band 66/4 - 15.0MHz QPSK - Full RB Configuration)

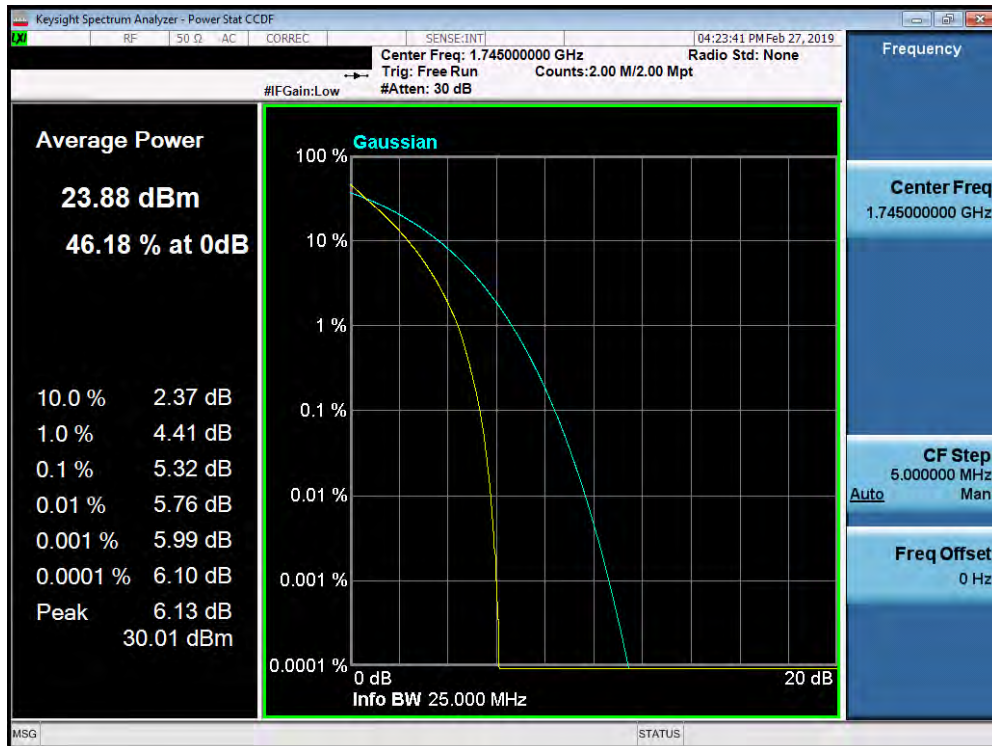


Plot 7-344. PAR Plot (Band 66/4 - 15.0MHz 16-QAM - Full RB Configuration)

FCC ID: A3LSMF900F	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1901280020-03.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset	Page 198 of 312

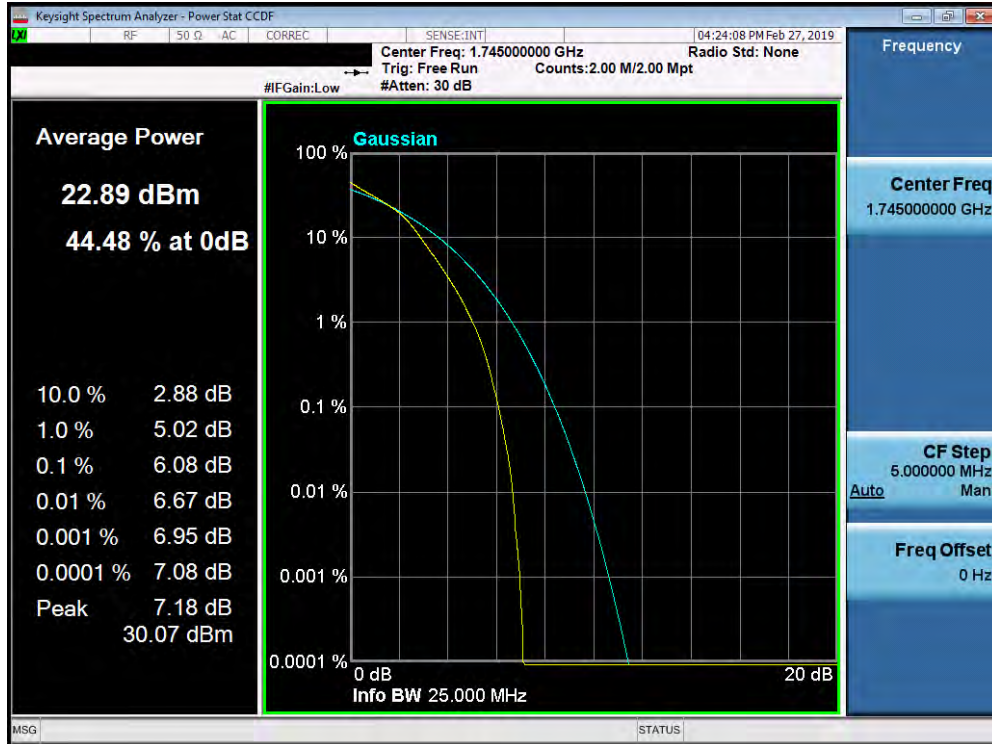


Plot 7-345. PAR Plot (Band 66/4 - 15.0MHz 64-QAM - Full RB Configuration)

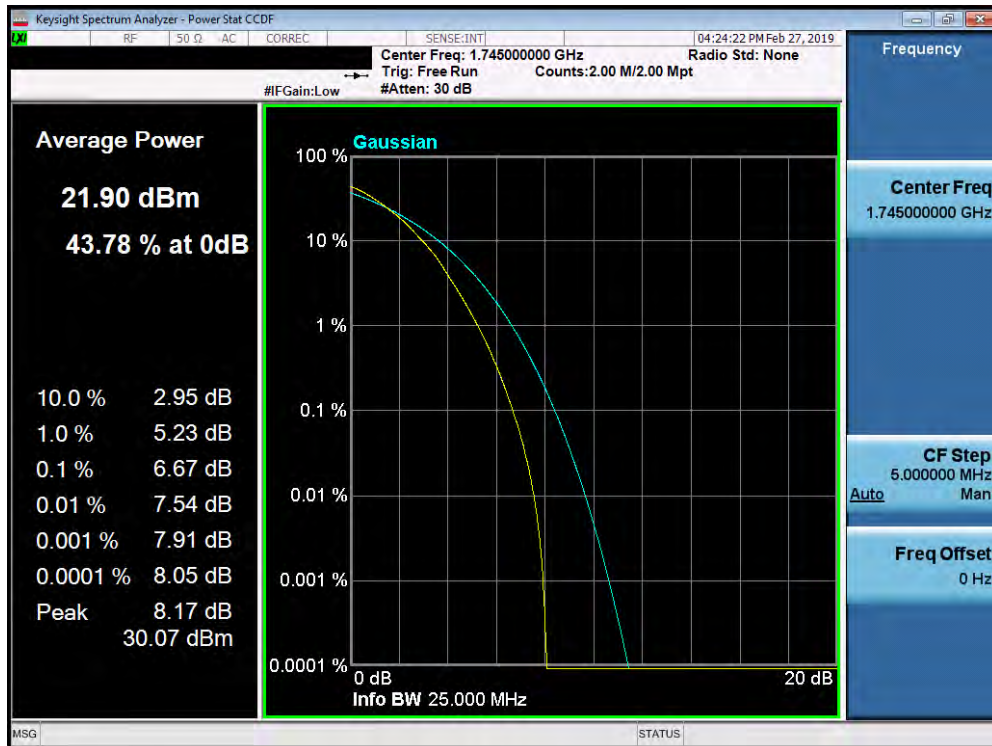


Plot 7-346. PAR Plot (Band 66/4 - 20.0MHz QPSK - Full RB Configuration)

FCC ID: A3LSMF900F	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1901280020-03.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset	Page 199 of 312



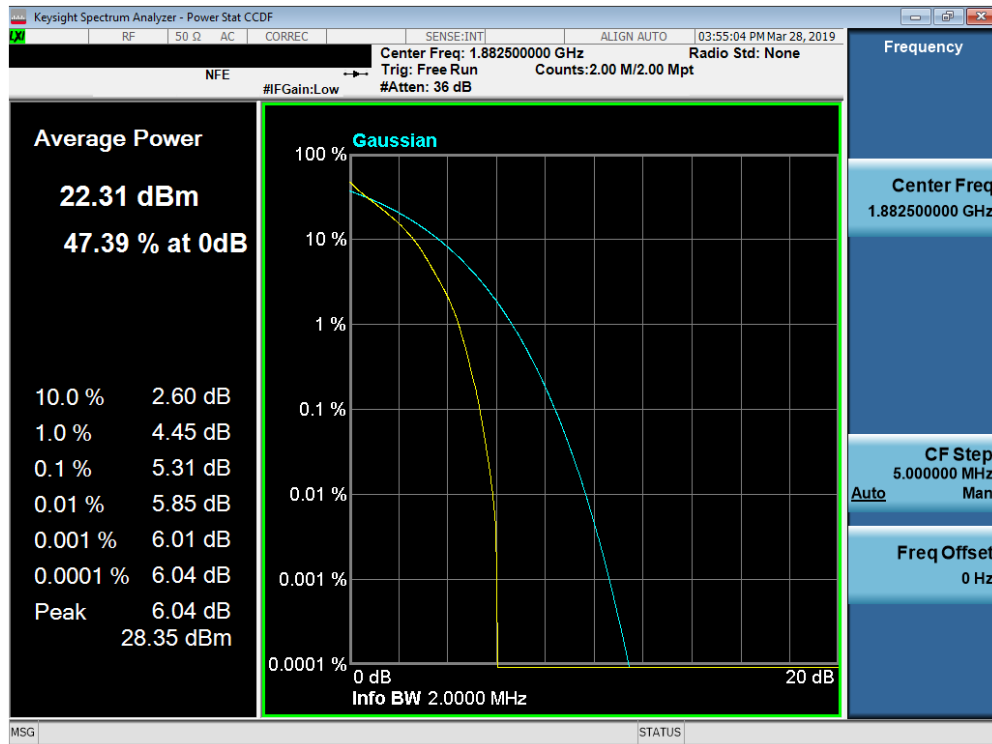
Plot 7-347. PAR Plot (Band 66/4 - 20.0MHz 16-QAM - Full RB Configuration)



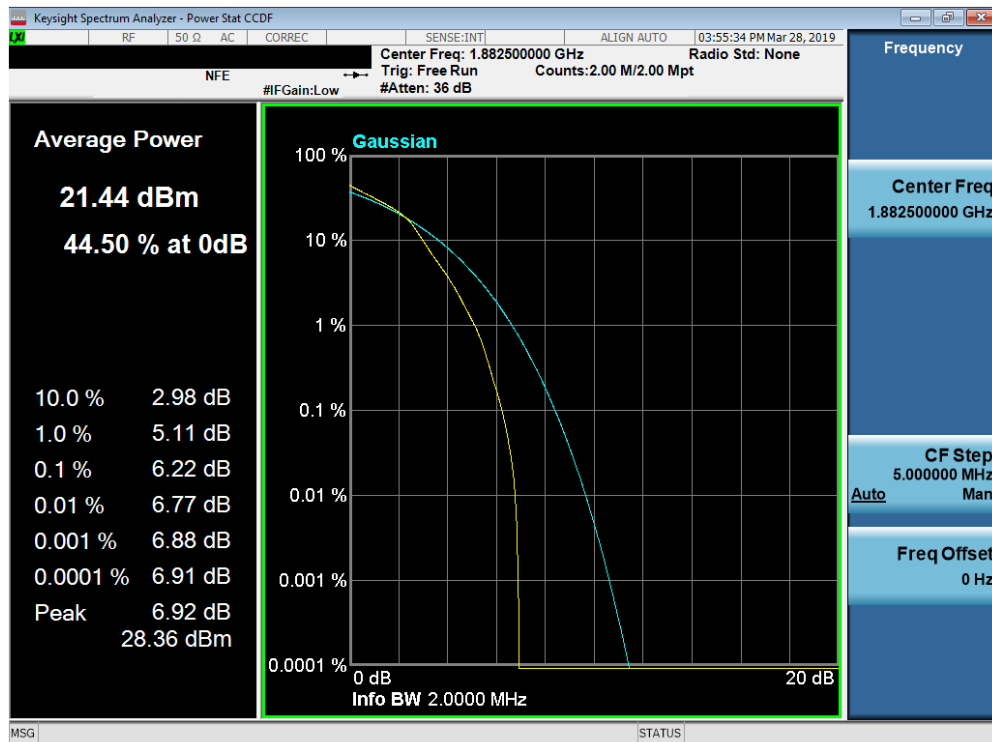
Plot 7-348. PAR Plot (Band 66/4 - 20.0MHz 64-QAM - Full RB Configuration)

FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-03.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 200 of 312

Band 25/2

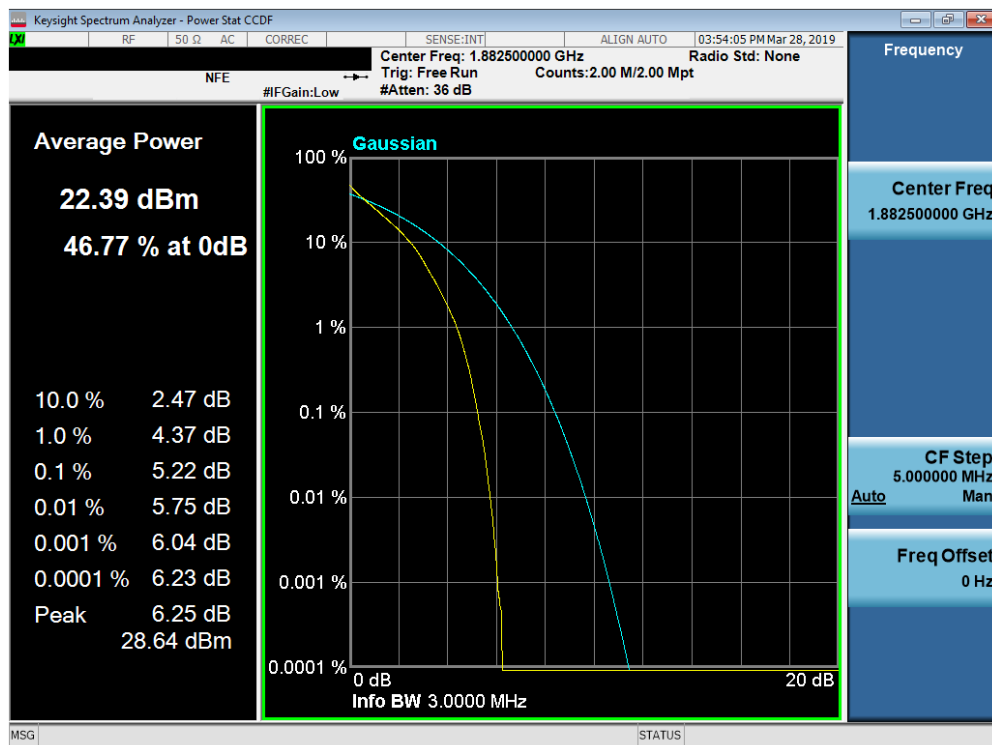
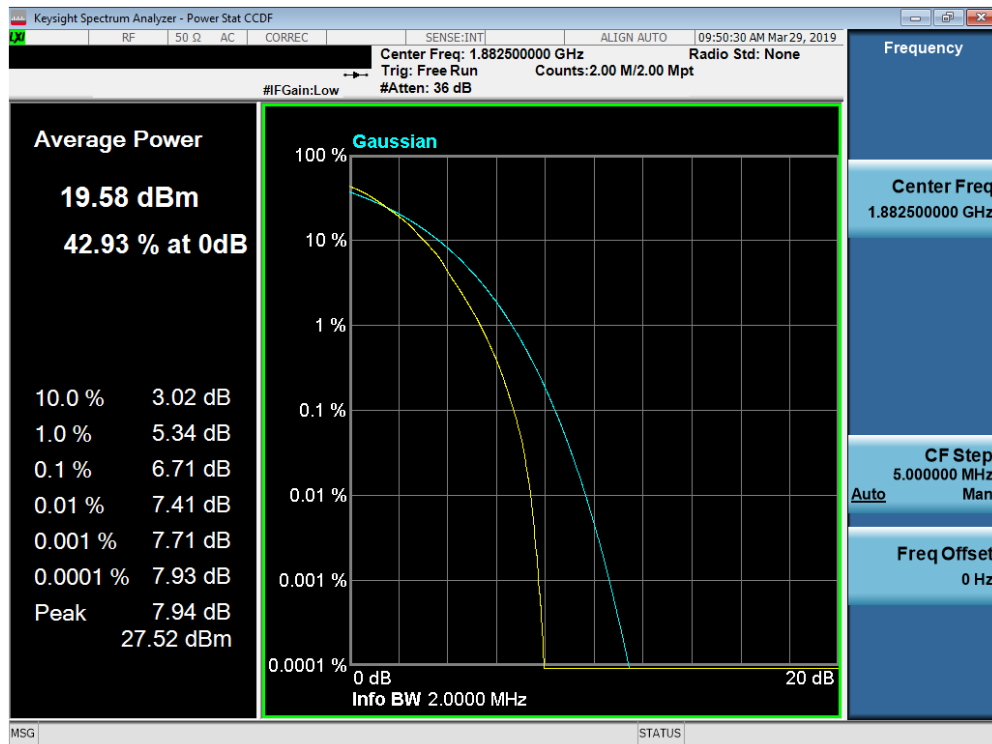


Plot 7-349. PAR Plot (Band 25/2 - 1.4MHz QPSK - Full RB Configuration)

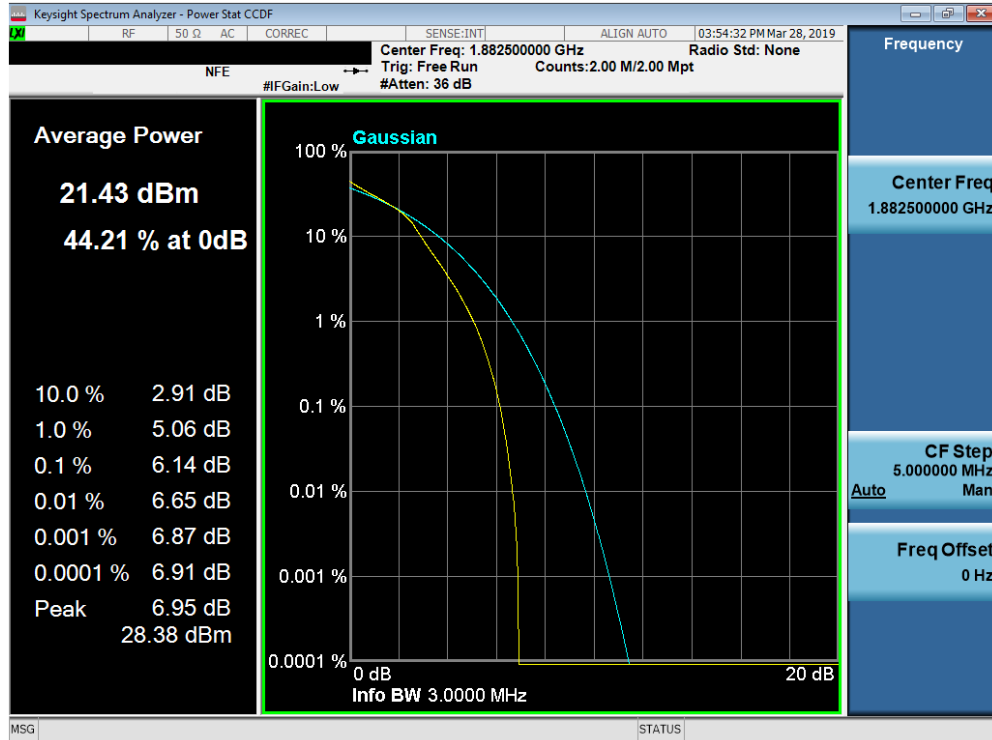


Plot 7-350. PAR Plot (Band 25/2 - 1.4MHz 16-QAM - Full RB Configuration)

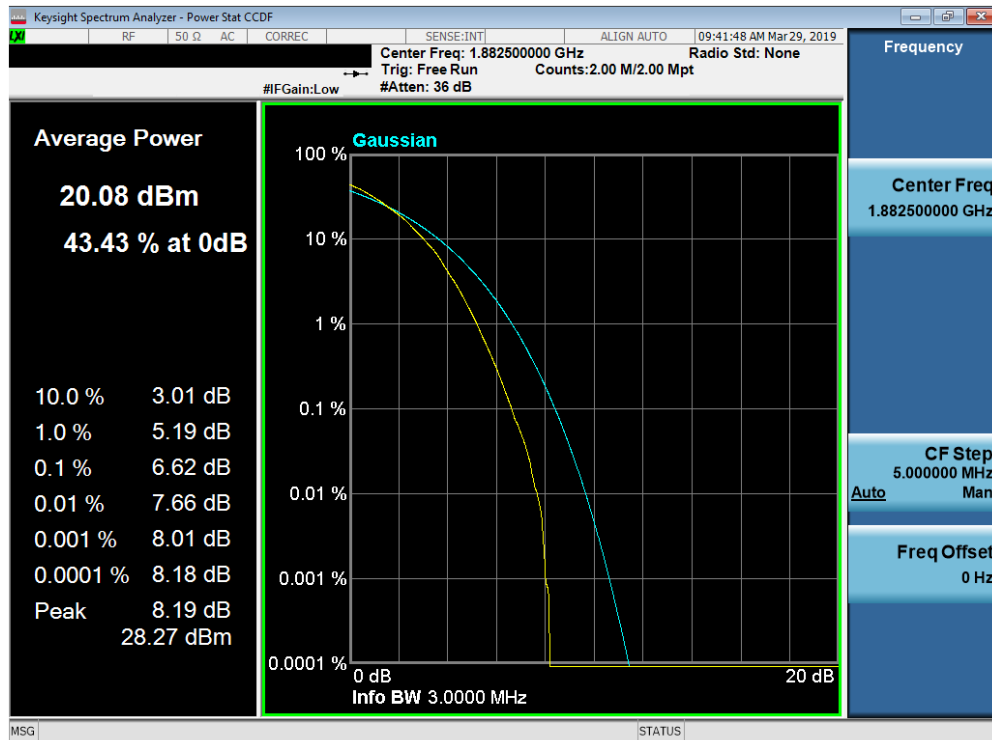
FCC ID: A3LSMF900F	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1901280020-03.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 201 of 312



FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-03.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 202 of 312

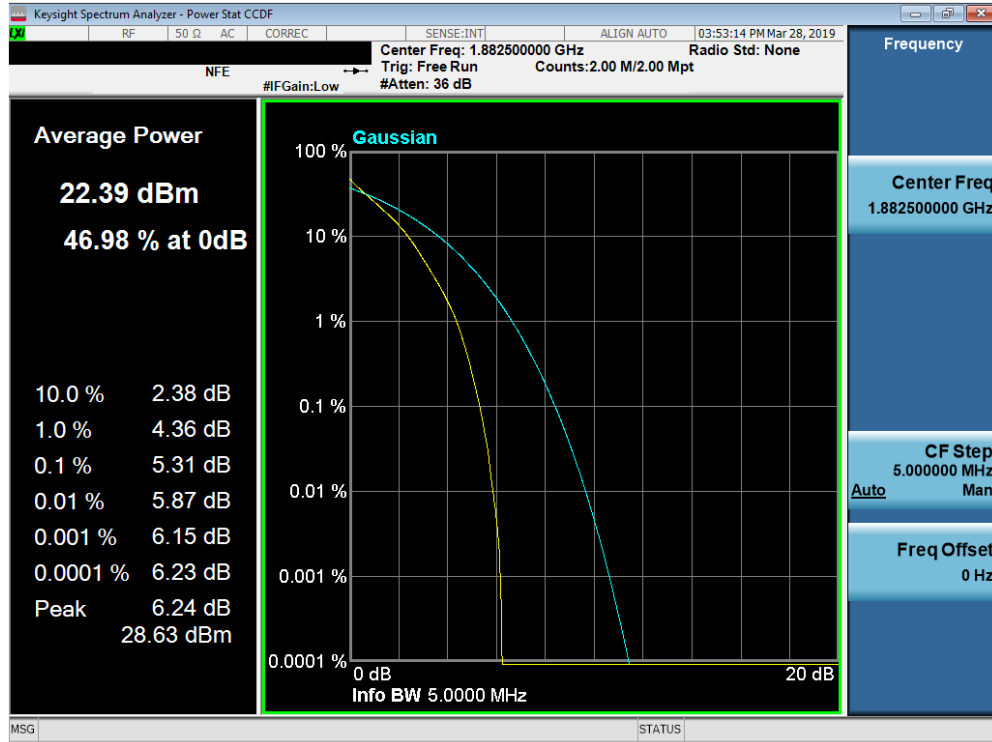


Plot 7-353. PAR Plot (Band 25/2 - 3.0MHz 16-QAM - Full RB Configuration)

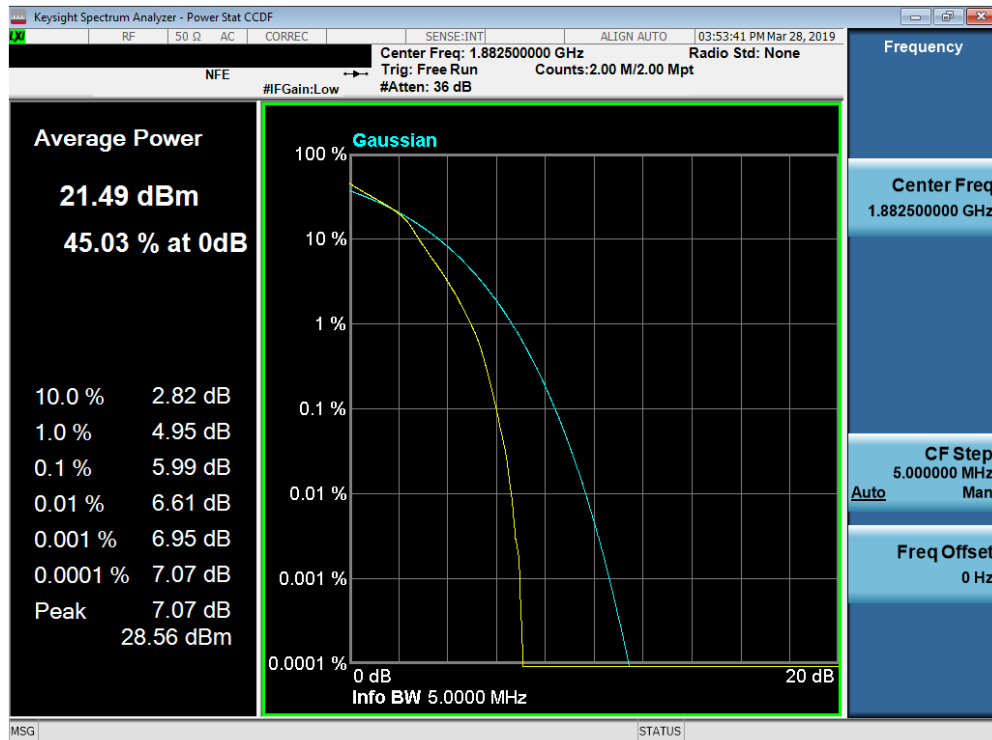


Plot 7-354. PAR Plot (Band 25/2 - 3.0MHz 64-QAM - Full RB Configuration)

FCC ID: A3LSMF900F	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1901280020-03.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset	Page 203 of 312

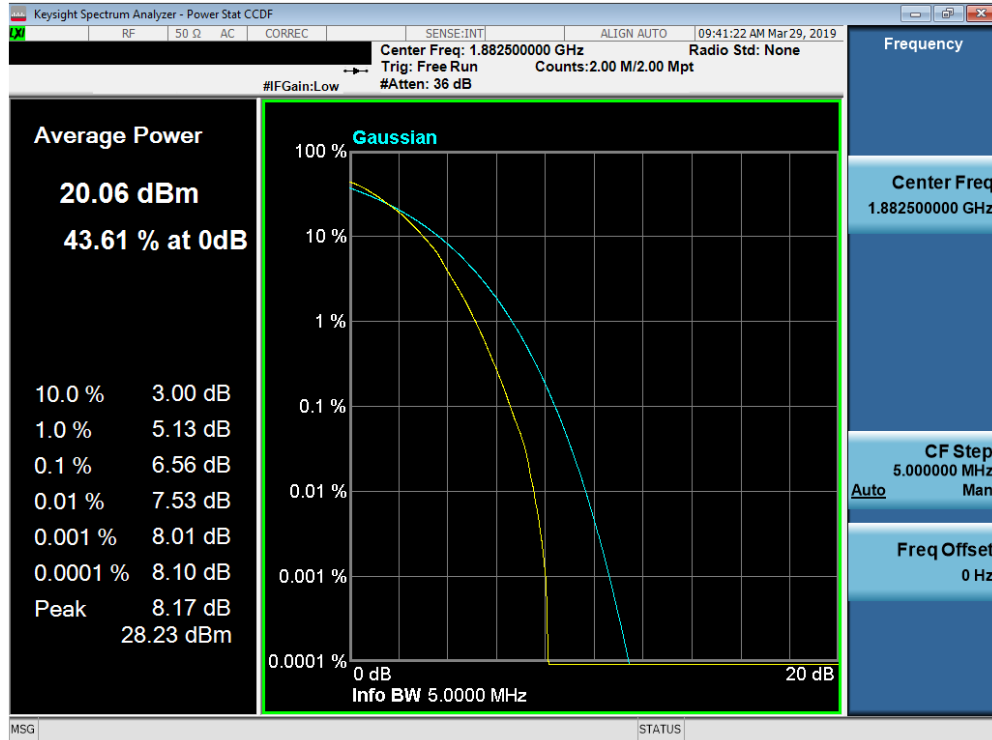


Plot 7-355. PAR Plot (Band 25/2 - 5.0MHz QPSK - Full RB Configuration)

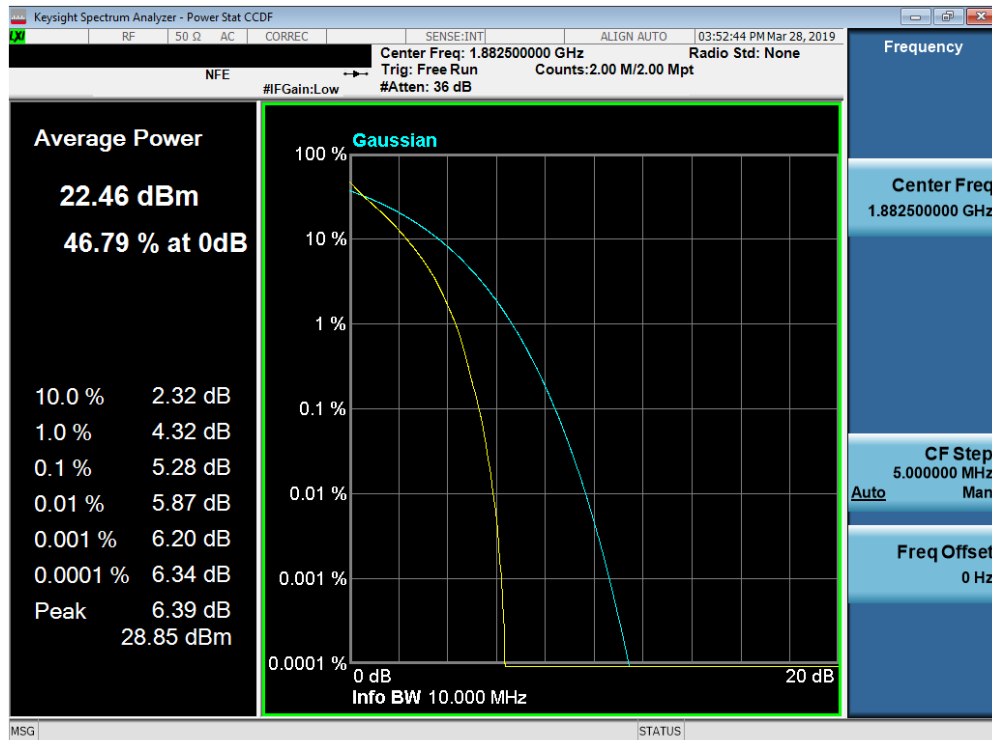


Plot 7-356. PAR Plot (Band 25/2 - 5.0MHz 16-QAM - Full RB Configuration)

FCC ID: A3LSMF900F	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1901280020-03.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset	Page 204 of 312

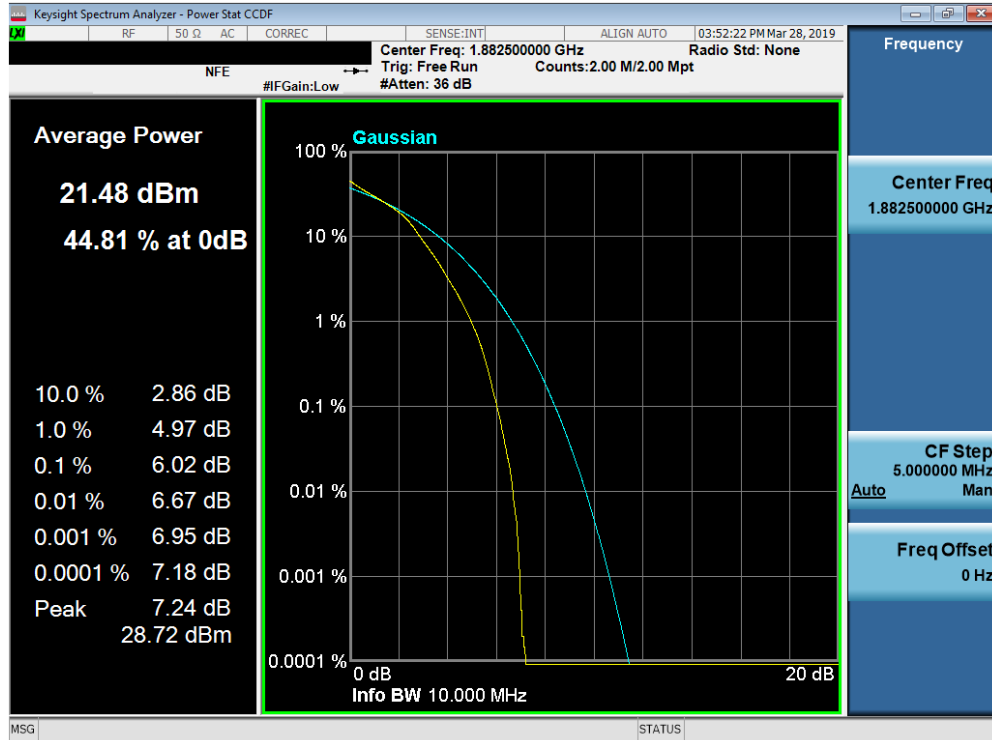


Plot 7-357. PAR Plot (Band 25/2 - 5.0MHz 64-QAM - Full RB Configuration)

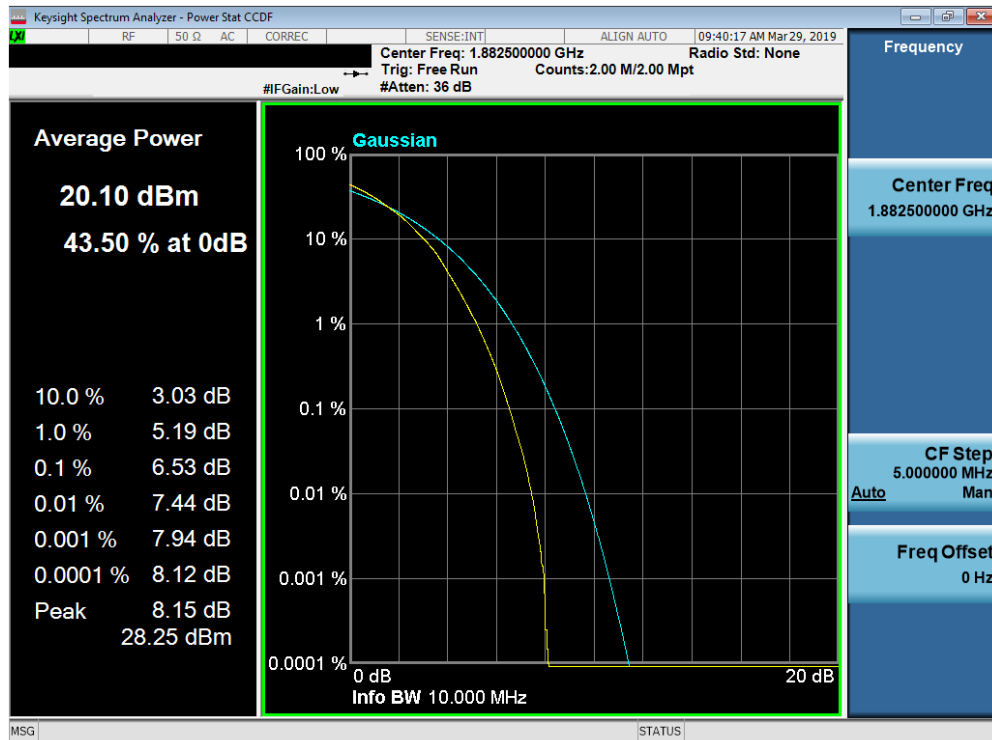


Plot 7-358. PAR Plot (Band 25/2 - 10.0MHz QPSK - Full RB Configuration)

FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-03.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 205 of 312

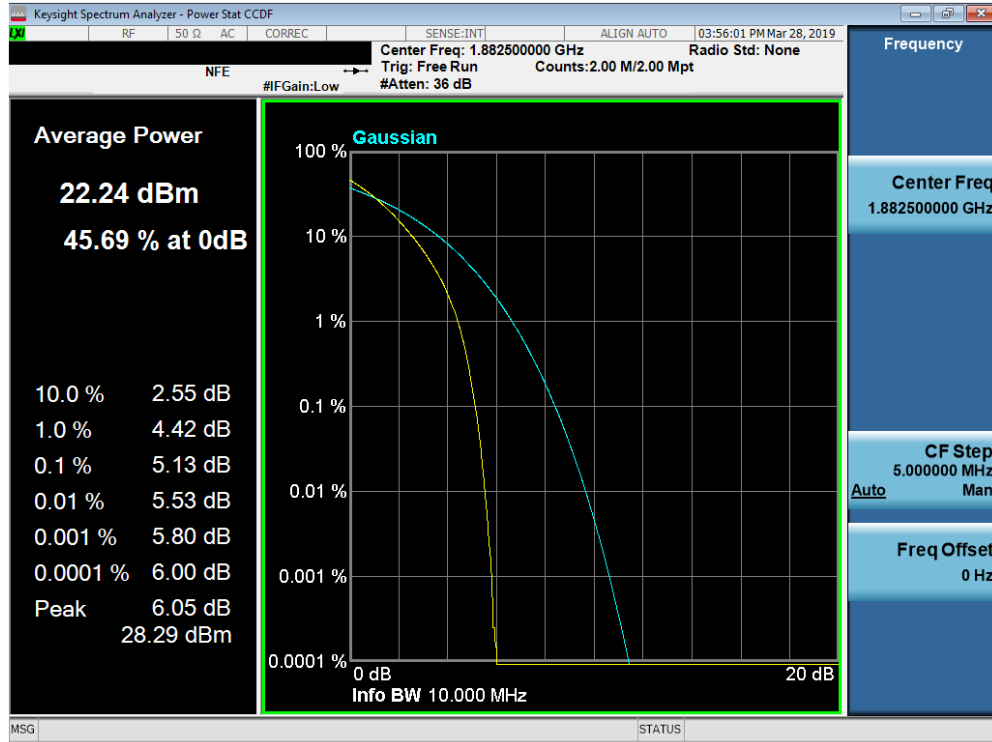


Plot 7-359. PAR Plot (Band 25/2 - 10.0MHz 16-QAM - Full RB Configuration)

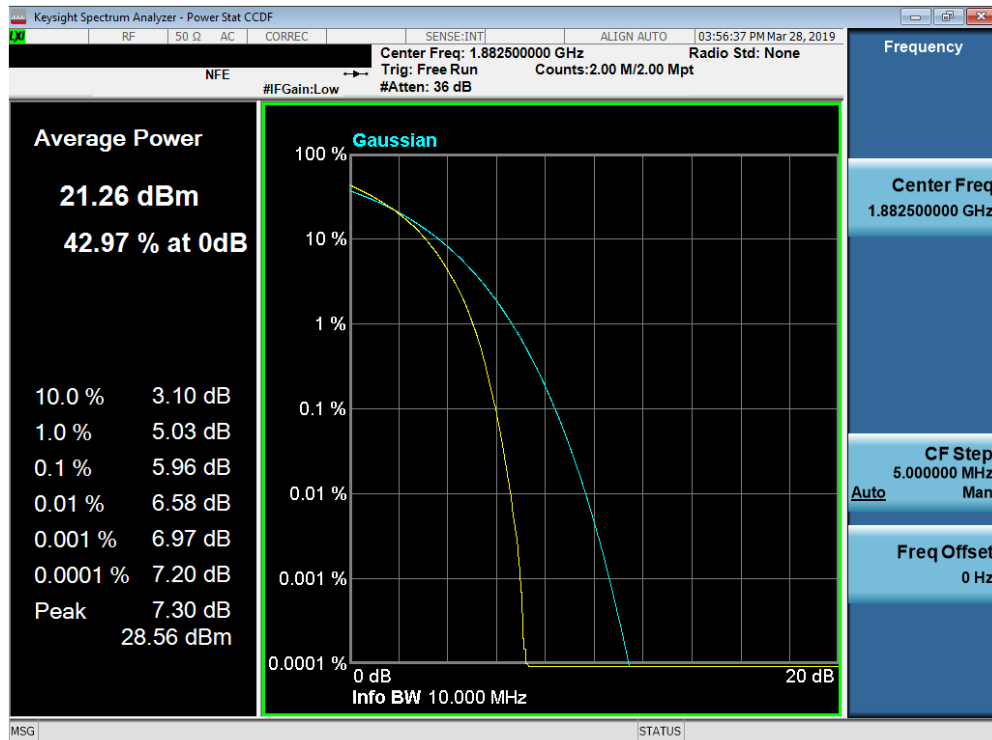


Plot 7-360. PAR Plot (Band 25/2 - 10.0MHz 64-QAM - Full RB Configuration)

FCC ID: A3LSMF900F	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1901280020-03.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset	Page 206 of 312

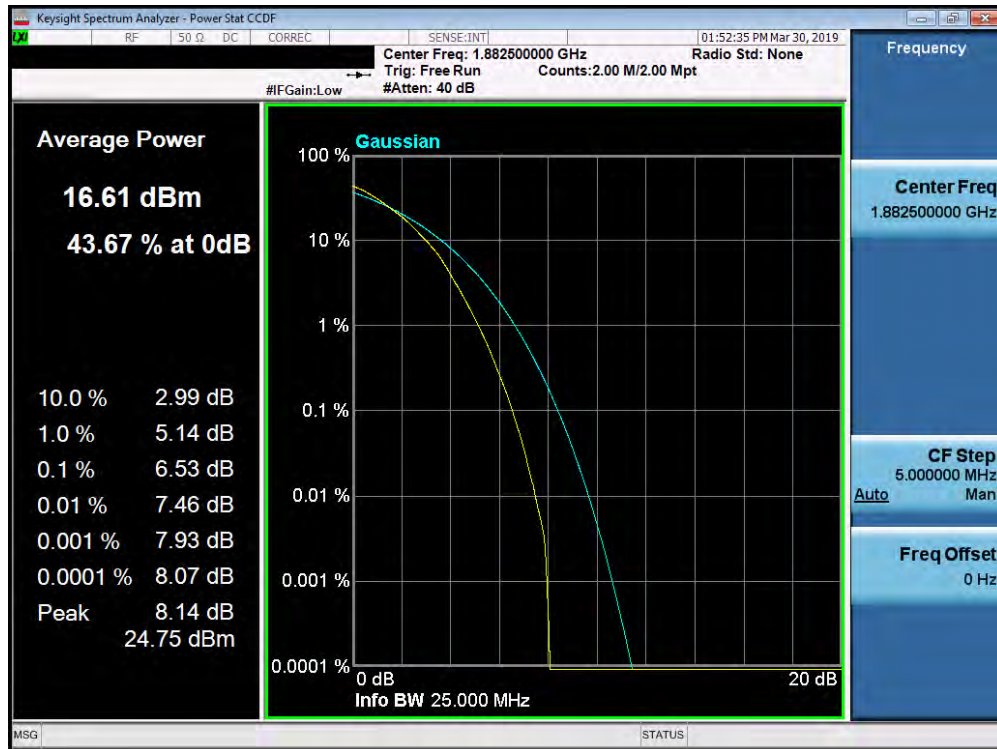


Plot 7-361. PAR Plot (Band 25/2 - 15.0MHz QPSK - Full RB Configuration)

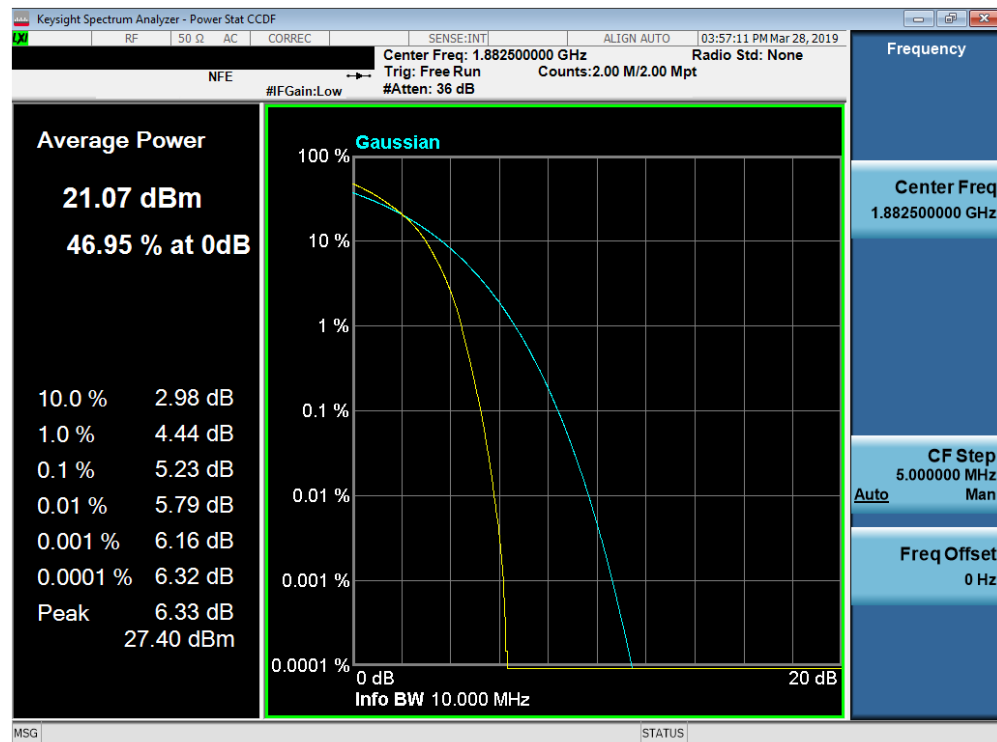


Plot 7-362. PAR Plot (Band 25/2 - 15.0MHz 16-QAM - Full RB Configuration)

FCC ID: A3LSMF900F	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1901280020-03.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset	Page 207 of 312

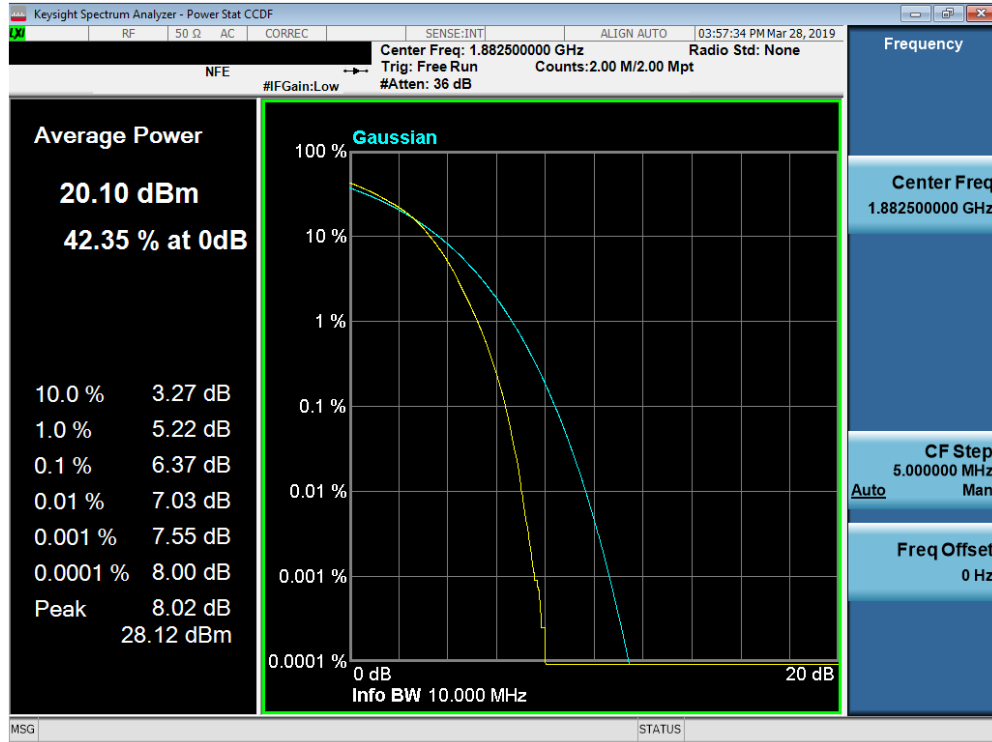


Plot 7-363. PAR Plot (Band 25/2 - 15.0MHz 64-QAM - Full RB Configuration)

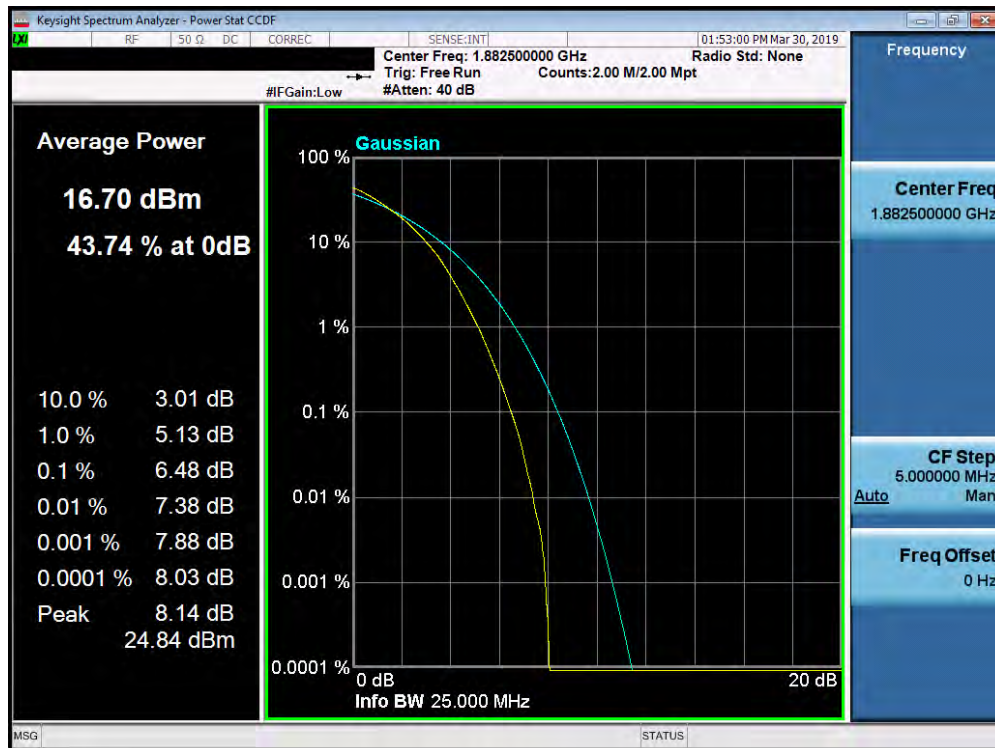


Plot 7-364. PAR Plot (Band 25/2 - 20.0MHz QPSK - Full RB Configuration)

FCC ID: A3LSMF900F	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
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Plot 7-365. PAR Plot (Band 25/2 - 20.0MHz 16-QAM - Full RB Configuration)



Plot 7-366. PAR Plot (Band 25/2 - 20.0MHz 64-QAM - Full RB Configuration)

FCC ID: A3LSMF900F	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1901280020-03.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset	Page 209 of 312

7.6 Uplink Carrier Aggregation

§27.53(m)

Test Overview

The EUT is set up to transmit two contiguous LTE channels. The power level of both carriers and the various conducted spurious and harmonic frequencies is measured by means of a calibrated spectrum analyzer. The spectrum is scanned from the lowest frequency generated in the equipment up to a frequency including its 10th harmonic. All out of band emissions are measured with a spectrum analyzer connected to the antenna terminal of the EUT while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies. All data rates were investigated to determine the worst case configuration. All modes of operation were investigated and the worst case configuration results are reported in this section.

For Band 38/41, the minimum permissible attenuation level of any spurious emission is $55 + \log_{10}(P_{\text{Watts}})$.

Test Procedure Used

KDB 971168 D01 v03r01 – Section 6.0

Test Settings

1. Start frequency was set to 30MHz and stop frequency was set to at least 10 * the fundamental frequency (separated into at least two plots per channel)
2. Detector = RMS
3. Trace mode = trace average for continuous emissions, max hold for pulse emissions
4. Sweep time = auto couple
5. The trace was allowed to stabilize
6. Please see test notes below for RBW and VBW settings

Test Setup

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

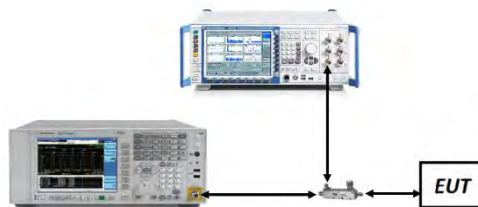


Figure 7-5. Test Instrument & Measurement Setup

FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-03.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 210 of 312

Test Notes

1. Uplink carrier aggregation is supported in this EUT while operating in Power Class 2 and 3.
2. Conducted power and spurious emissions measurements were evaluated for the two contiguous channels using various combinations of RB size, RB offset, modulation, and channel bandwidth. Channel bandwidth data is shown in the tables below based only on the channel bandwidths that were supported in this device. The worst case (highest) powers were found while operating with QPSK modulation, as shown in Table 7-503 and 7-504 below, with both carriers set to transmit using 1RB.
3. Compliance with the applicable limits is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater for frequencies less than 1 GHz and 1 MHz or greater for frequencies greater than 1 GHz. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

FCC ID: A3LSMF900F		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1901280020-03.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 211 of 312

Uplink CA Configuration 7C

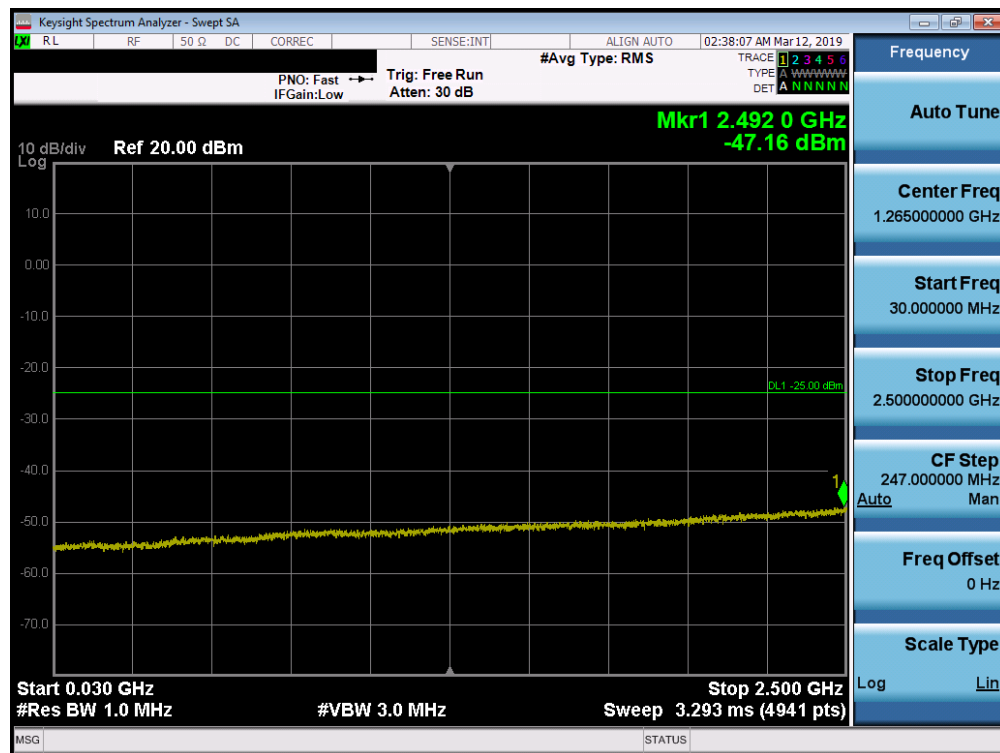
Power State	PCC							SCC							Power
	PCC Band	PCC Bandwidth [MHz]	PCC (UL) Channel	PCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	SCC Band	SCC Bandwidth [MHz]	SCC (UL) Channel	SCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	ULCA Tx.Power (dBm)
Max	LTE B7	10	20800	2505	QPSK	1	49	LTE B7	20	20944	2519.4	QPSK	1	0	23.99
Max	LTE B7	15	20825	2507.5	QPSK	1	74	LTE B7	10	20945	2519.5	QPSK	1	0	23.91
Max	LTE B7	15	20825	2507.5	QPSK	1	74	LTE B7	15	20975	2522.5	QPSK	1	0	23.89
Max	LTE B7	15	20825	2507.5	QPSK	1	74	LTE B7	20	20996	2524.6	QPSK	1	0	23.88
Max	LTE B7	20	20850	2510	QPSK	1	99	LTE B7	10	20994	2524.4	QPSK	1	0	23.77
Max	LTE B7	20	20850	2510	QPSK	1	99	LTE B7	15	21021	2527.1	QPSK	1	0	23.75
Max	LTE B7	20	20850	2510	QPSK	1	99	LTE B7	20	21048	2529.8	QPSK	1	0	23.99
Max	LTE B7	10	21100	2535	QPSK	1	49	LTE B7	20	21244	2549.4	QPSK	1	0	22.71
Max	LTE B7	15	21100	2535	QPSK	1	74	LTE B7	10	21220	2547	QPSK	1	0	23.89
Max	LTE B7	15	21100	2535	QPSK	1	74	LTE B7	15	21250	2550	QPSK	1	0	23.90
Max	LTE B7	15	21100	2535	QPSK	1	74	LTE B7	20	21271	2552.1	QPSK	1	0	23.80
Max	LTE B7	20	21100	2535	QPSK	1	99	LTE B7	10	21244	2549.4	QPSK	1	0	23.74
Max	LTE B7	20	21100	2535	QPSK	1	99	LTE B7	15	21271	2552.1	QPSK	1	0	23.61
Max	LTE B7	20	21100	2535	QPSK	1	99	LTE B7	20	21298	2554.8	QPSK	1	0	24.00
Max	LTE B7	10	21400	2565	QPSK	1	0	LTE B7	20	21256	2550.6	QPSK	1	99	23.89
Max	LTE B7	15	21375	2562.5	QPSK	1	0	LTE B7	10	21255	2550.5	QPSK	1	49	23.91
Max	LTE B7	15	21375	2562.5	QPSK	1	0	LTE B7	15	21225	2547.5	QPSK	1	74	23.92
Max	LTE B7	15	21375	2562.5	QPSK	1	0	LTE B7	20	21204	2545.4	QPSK	1	99	23.78
Max	LTE B7	20	21350	2560	QPSK	1	0	LTE B7	10	21206	2545.6	QPSK	1	49	23.63
Max	LTE B7	20	21350	2560	QPSK	1	0	LTE B7	15	21179	2542.9	QPSK	1	74	23.74
Max	LTE B7	20	21350	2560	QPSK	1	0	LTE B7	20	21152	2540.2	QPSK	1	99	23.94

Table 7-3. Conducted Powers (7B)

FCC ID: A3LSMF900F	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1901280020-03.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset	Page 212 of 312

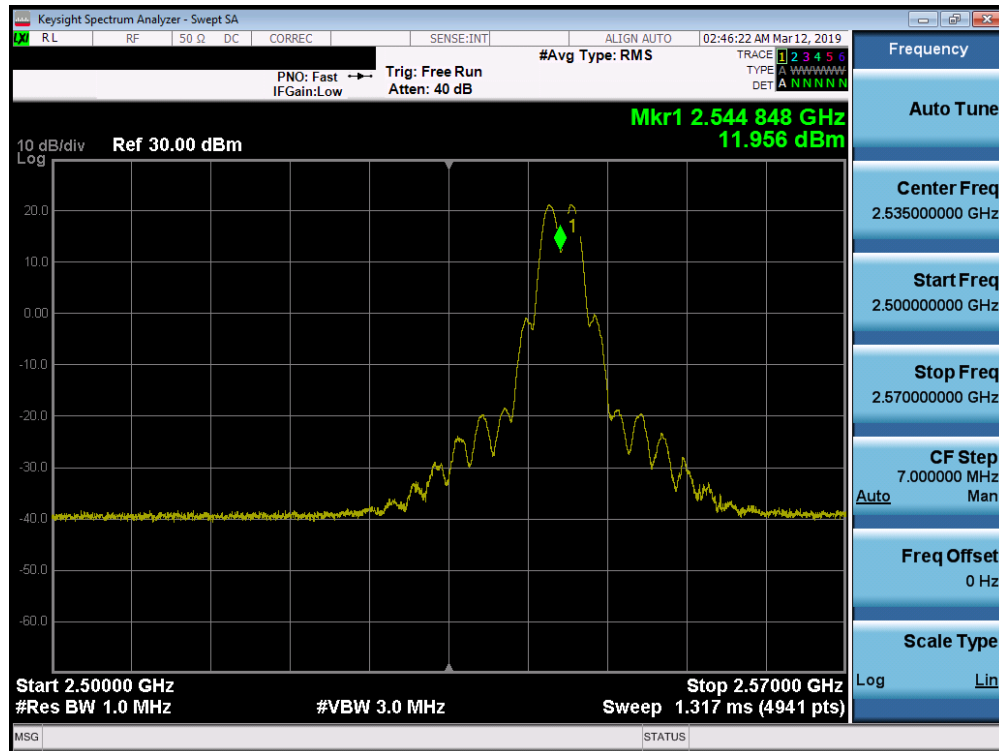
Power State	PCC								SCC						Power
	PCC Band	PCC Bandwidth [MHz]	PCC (UL) Channel	PCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	SCC Band	SCC Bandwidth [MHz]	SCC (UL) Channel	SCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	ULCA Tx.Power (dBm)
Max	LTE B7	20	21100	2535	QPSK	1	0	LTE B7	20	21298	2554.8	QPSK	1	0	18.68
Max	LTE B7	20	21100	2535	QPSK	1	99	LTE B7	20	21298	2554.8	QPSK	1	99	18.46
Max	LTE B7	20	21100	2535	QPSK	1	0	LTE B7	20	21298	2554.8	QPSK	1	99	16.14
Max	LTE B7	20	21100	2535	QPSK	1	50	LTE B7	20	21298	2554.8	QPSK	1	50	19.90
Max	LTE B7	20	21100	2535	QPSK	1	99	LTE B7	20	21298	2554.8	QPSK	1	0	24.00
Max	LTE B7	20	21100	2535	QPSK	100	0	LTE B7	20	21298	2554.8	QPSK	100	0	22.69
Max	LTE B7	20	21100	2535	16-QAM	100	0	LTE B7	20	21298	2554.8	16-QAM	100	0	21.26
Max	LTE B7	20	21100	2535	64-QAM	100	0	LTE B7	20	21298	2554.8	64-QAM	100	0	20.13

Table 7-4. Conducted Powers (7C with Various Combinations for 20MHz Channel Bandwidth)

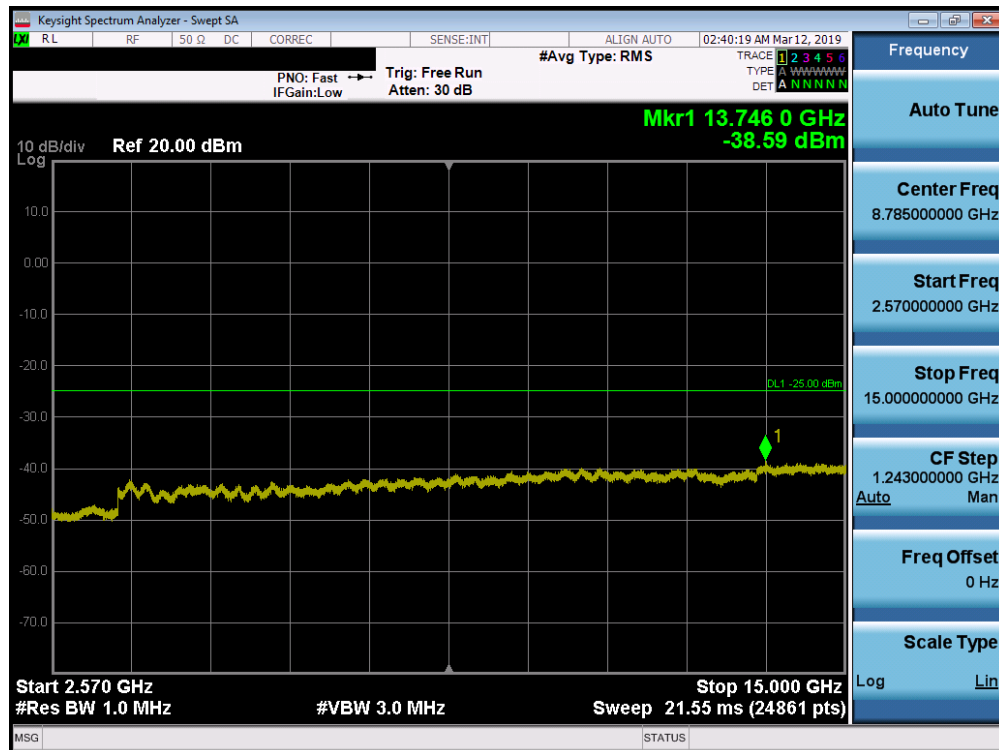


Plot 7-367. Conducted Spurious Plot (Band 7C – 20 + 20 MHz QPSK – PCC 1/0 SCC 1/99 – Mid Channel)

FCC ID: A3LSMF900F	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1901280020-03.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 213 of 312

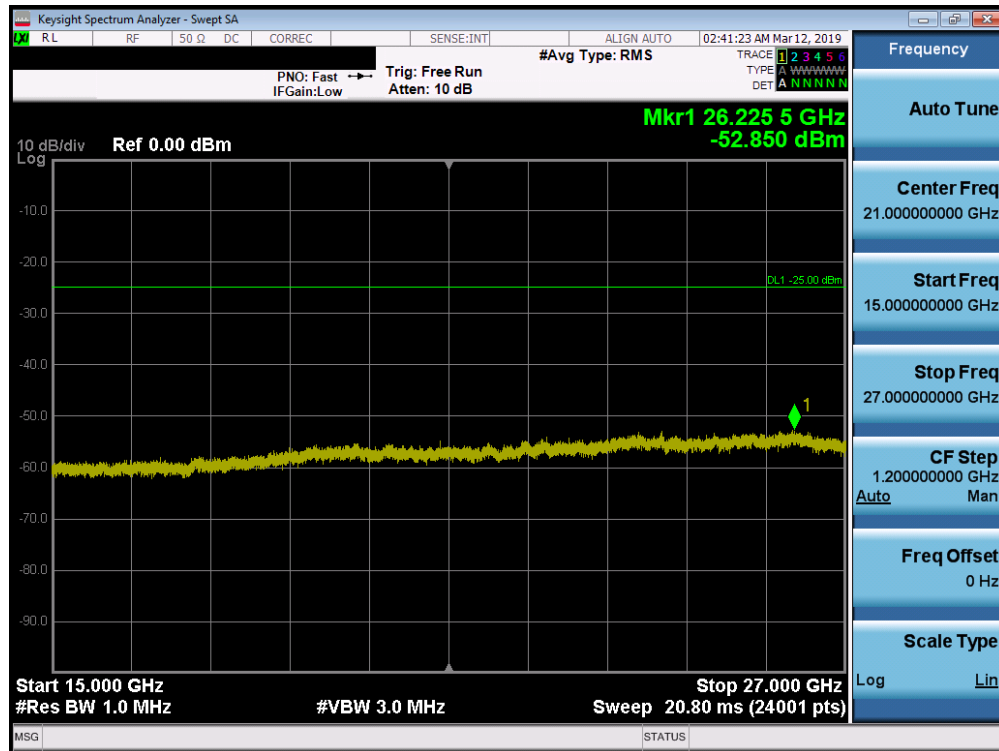


Plot 7-368. Conducted Spurious Plot (Band 7C – 20 + 20MHz QPSK – PCC 1/0 SCC 1/99 – Mid Channel)

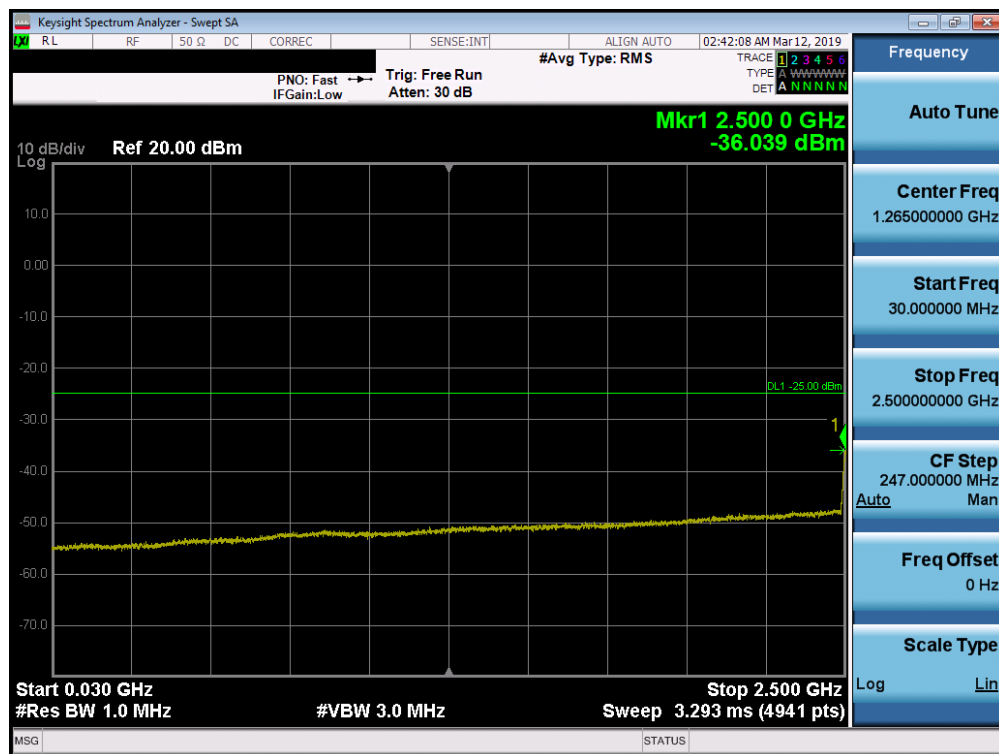


Plot 7-369. Conducted Spurious Plot (Band 7C – 20 + 20MHz QPSK – PCC 1/0 SCC 1/99 – Mid Channel)

FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-03.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 214 of 312

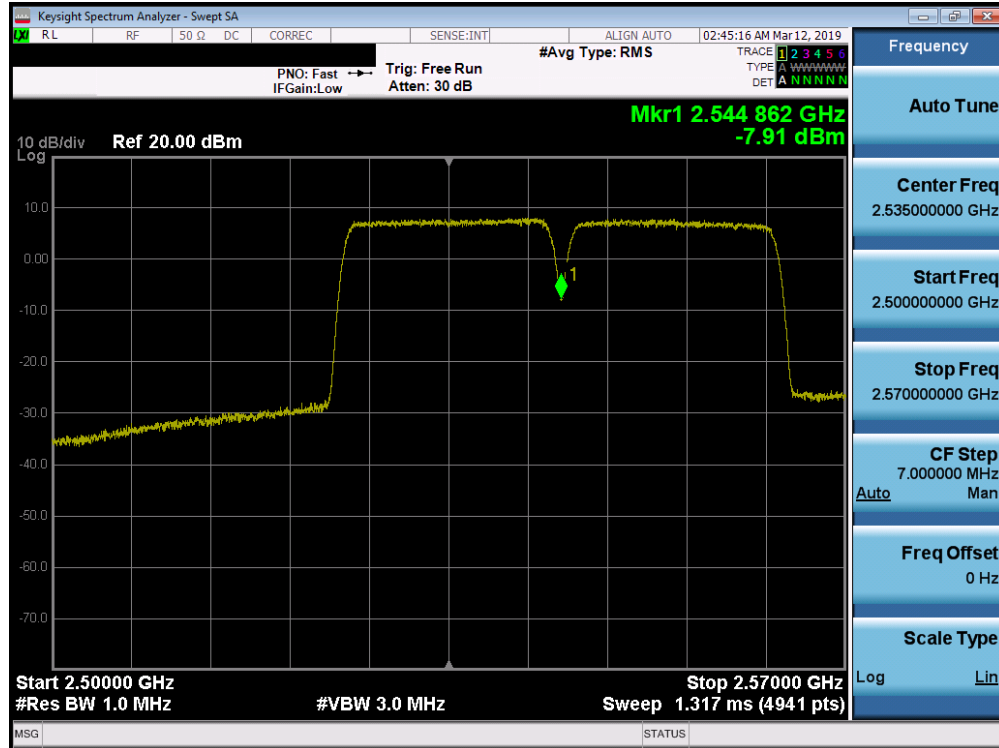


Plot 7-370. Conducted Spurious Plot (Band 7C – 20 + 20MHz QPSK – PCC 1/0 SCC 1/99 – Mid Channel)

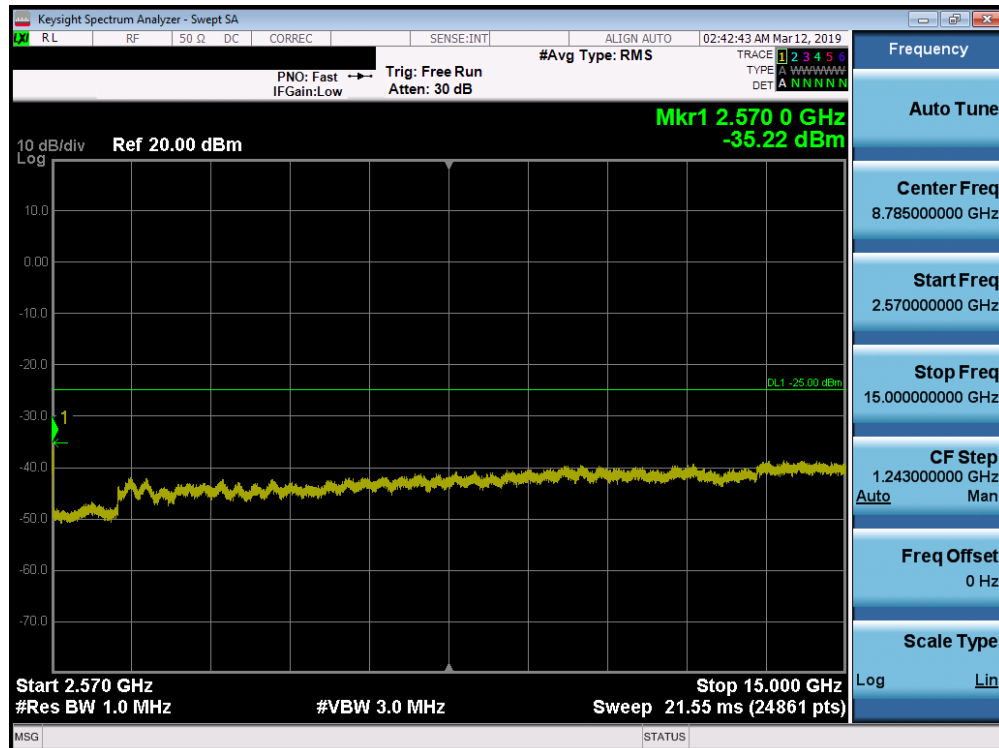


Plot 7-371. Conducted Spurious Plot (Band 7C – 20 + 20MHz QPSK – PCC 100/0 SCC 100/0 – Mid Channel)

FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-03.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 215 of 312

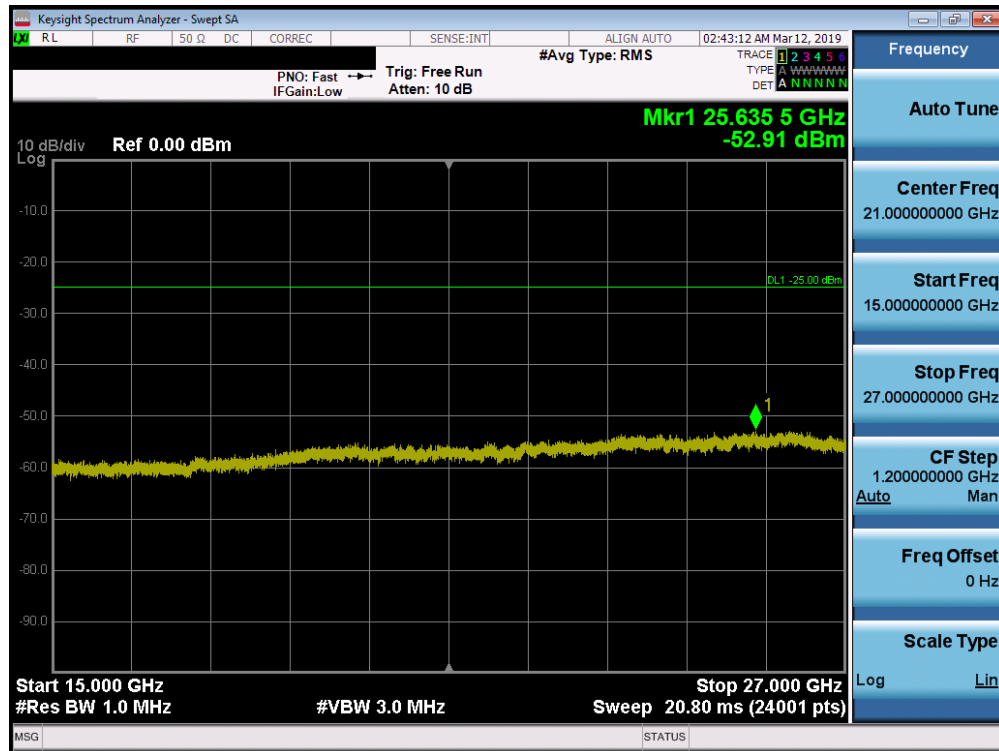


Plot 7-372. Conducted Spurious Plot (Band 7C – 20 + 20MHz QPSK – PCC 100/0 SCC 100/0 – Mid Channel)

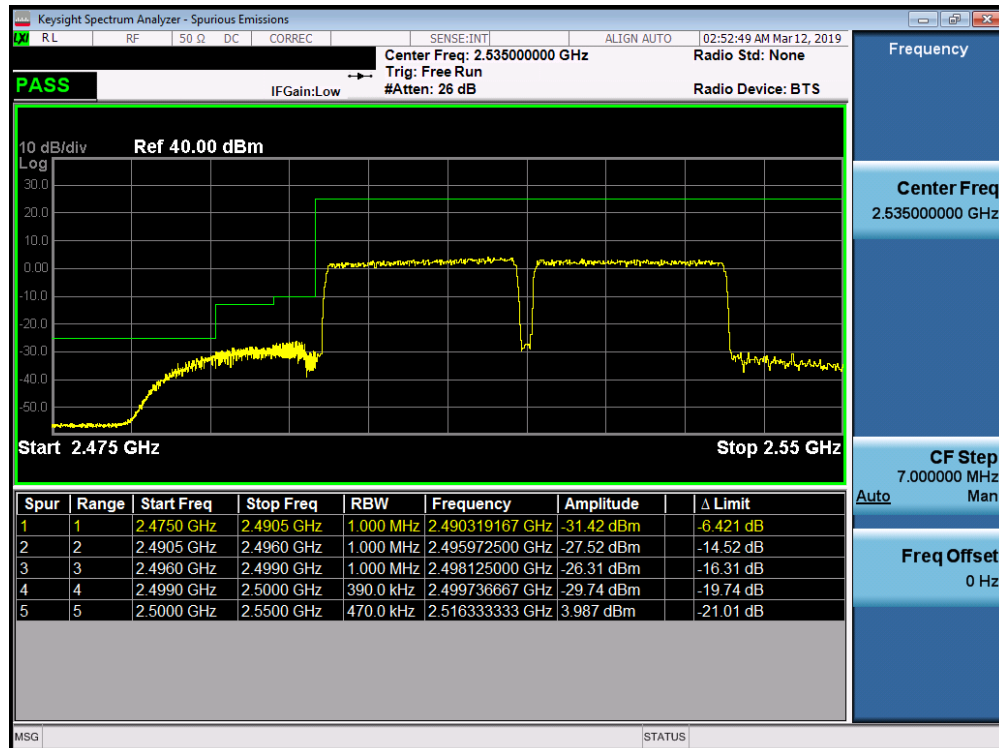


Plot 7-373. Conducted Spurious Plot (Band 7C – 20 + 20MHz QPSK – PCC 100/0 SCC 100/0 – Mid Channel)

FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-03.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 216 of 312

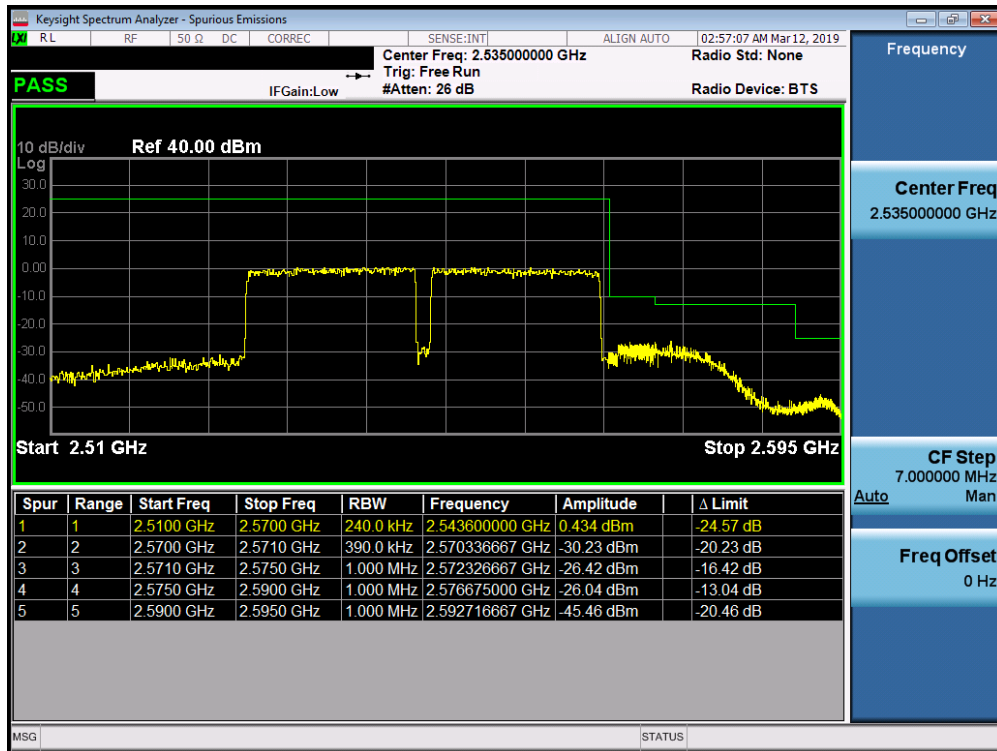


Plot 7-374. Conducted Spurious Plot (Band 7C – 20 + 20MHz QPSK – PCC 100/0 SCC 100/0 – Mid Channel)



Plot 7-375. Lower Band Edge Plot (Band 7C QPSK – PCC:20 MHz SCC:20 MHz – Full RB)

FCC ID: A3LSMF900F	MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1901280020-03.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 217 of 312



Plot 7-376. Upper Band Edge Plot (Band 7C QPSK – PCC:20 MHz SCC:20 MHz – Full RB)

FCC ID: A3LSMF900F	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1901280020-03.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset	Page 218 of 312

Uplink CA Configuration 66B

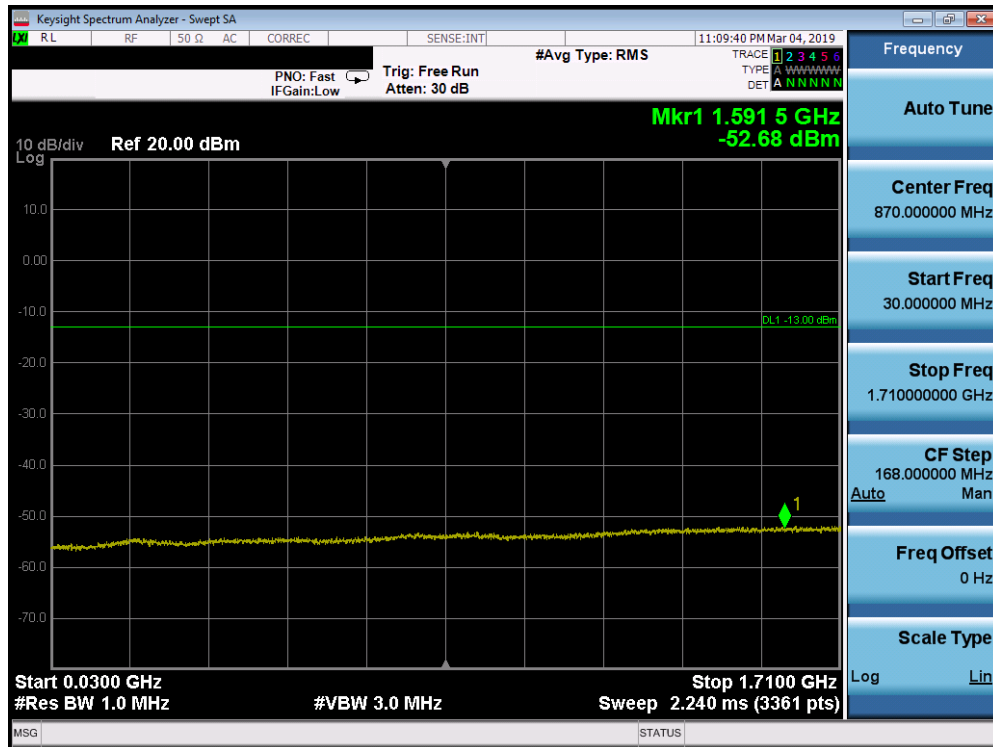
Power State	PCC							SCC							Power ULCA Tx.Power (dBm)
	PCC Band	PCC Bandwidth [MHz]	PCC (UL) Channel	PCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	SCC Band	SCC Bandwidth [MHz]	SCC (UL) Channel	SCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	
Max	LTE B66	5	131997	1712.5	QPSK	1	24	LTE B66	5	132045	1717.3	QPSK	1	0	22.10
Max	LTE B66	5	131997	1712.5	QPSK	1	24	LTE B66	10	132069	1719.7	QPSK	1	0	22.43
Max	LTE B66	5	131997	1712.5	QPSK	1	24	LTE B66	15	132090	1721.8	QPSK	1	0	22.10
Max	LTE B66	10	132022	1715	QPSK	1	49	LTE B41	5	132094	1722.2	QPSK	1	0	22.41
Max	LTE B66	10	132022	1715	QPSK	1	49	LTE B41	10	132121	1724.9	QPSK	1	0	22.25
Max	LTE B66	15	132047	1717.5	QPSK	1	74	LTE B66	5	132140	1726.8	QPSK	1	0	22.80
Max	LTE B66	5	132322	1745	QPSK	1	24	LTE B66	5	132370	1749.8	QPSK	1	0	22.49
Max	LTE B66	5	132322	1745	QPSK	1	24	LTE B66	10	132394	1752.2	QPSK	1	0	22.82
Max	LTE B66	5	132322	1745	QPSK	1	24	LTE B66	15	132415	1754.3	QPSK	1	0	22.49
Max	LTE B66	10	132322	1745	QPSK	1	49	LTE B66	5	132394	1752.2	QPSK	1	0	22.80
Max	LTE B66	10	132322	1745	QPSK	1	49	LTE B66	10	132421	1754.9	QPSK	1	0	22.64
Max	LTE B66	15	132322	1745	QPSK	1	74	LTE B66	5	132415	1754.3	QPSK	1	0	23.19
Max	LTE B66	5	132647	1777.5	QPSK	1	0	LTE B66	5	132599	1772.7	QPSK	1	24	23.13
Max	LTE B66	5	132647	1777.5	QPSK	1	0	LTE B66	10	132575	1770.3	QPSK	1	49	23.46
Max	LTE B66	5	132647	1777.5	QPSK	1	0	LTE B66	15	132554	1768.2	QPSK	1	74	23.13
Max	LTE B66	10	132622	1775	QPSK	1	0	LTE B66	5	132550	1767.8	QPSK	1	24	23.44
Max	LTE B66	10	132622	1775	QPSK	1	0	LTE B66	10	132523	1765.1	QPSK	1	49	23.28
Max	LTE B66	15	132597	1772.5	QPSK	1	0	LTE B66	5	132504	1763.2	QPSK	1	24	23.83

Table 7-5. Conducted Powers (66B)

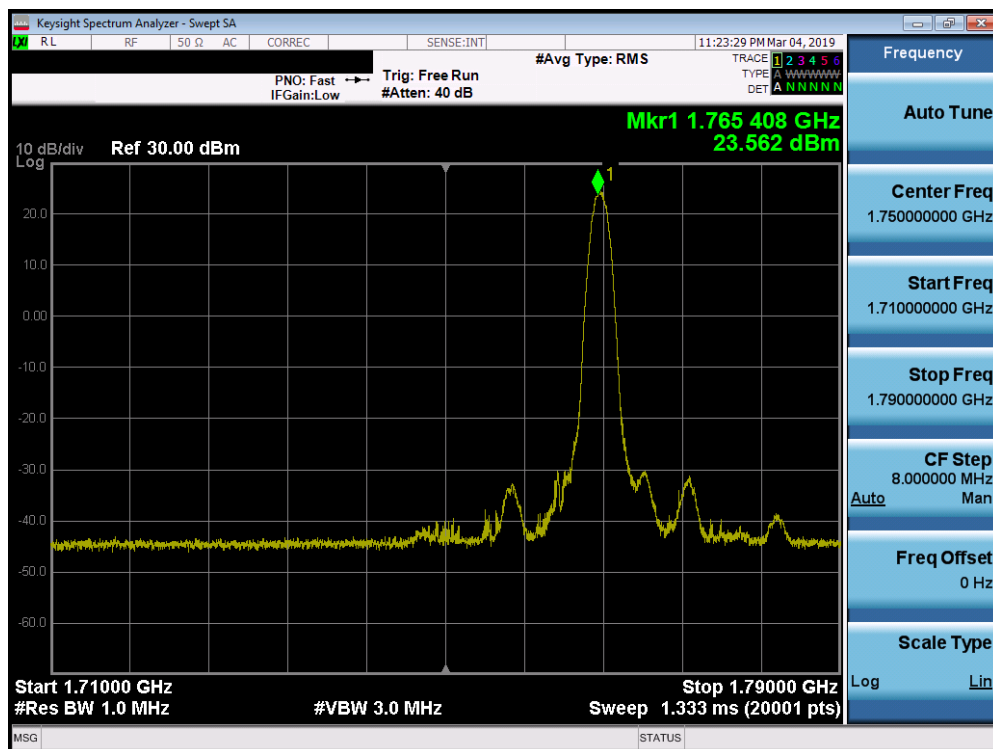
Power State	PCC							SCC							Power ULCA Tx.Power (dBm)
	PCC Band	PCC Bandwidth [MHz]	PCC (UL) Channel	PCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	SCC Band	SCC Bandwidth [MHz]	SCC (UL) Channel	SCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	
Max	LTE B66	15	132597	1772.5	QPSK	1	0	LTE B66	5	132690	1781.8	QPSK	1	0	15.83
Max	LTE B66	15	132597	1772.5	QPSK	1	73	LTE B66	5	132690	1781.8	QPSK	1	24	14.87
Max	LTE B66	15	132597	1772.5	QPSK	1	0	LTE B66	5	132690	1781.8	QPSK	1	24	23.83
Max	LTE B66	15	132597	1772.5	QPSK	1	38	LTE B66	5	132690	1781.8	QPSK	1	13	14.72
Max	LTE B66	15	132597	1772.5	QPSK	1	73	LTE B66	5	132690	1781.8	QPSK	1	0	12.85
Max	LTE B66	15	132597	1772.5	QPSK	75	0	LTE B66	5	132690	1781.8	QPSK	25	0	21.41
Max	LTE B66	15	132597	1772.5	16-QAM	75	0	LTE B66	5	132690	1781.8	16-QAM	25	0	20.40
Max	LTE B66	15	132597	1772.5	64-QAM	75	0	LTE B66	5	132690	1781.8	64-QAM	25	0	19.23
Max	LTE B66	15	132597	1772.5	256-QAM	75	0	LTE B66	5	132690	1781.8	256-QAM	25	0	17.14

Table 7-6. Conducted Powers (66B with Various Combinations for 15 + 5MHz Channel Bandwidth)

FCC ID: A3LSMF900F			MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1901280020-03.A3L	Test Dates: 01/22/2019 - 03/28/2019		EUT Type: Portable Handset		Page 219 of 312	

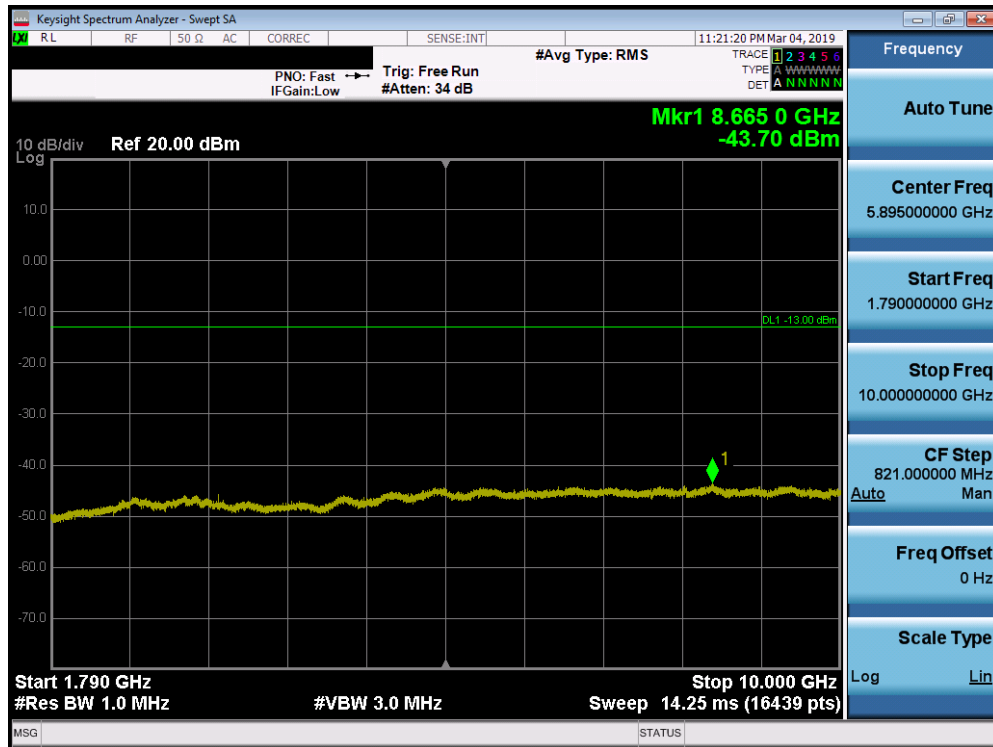


Plot 7-377. Conducted Spurious Plot (Band 66B – 15 + 5MHz QPSK – PCC 1/74 SCC 1/0 – High Channel)

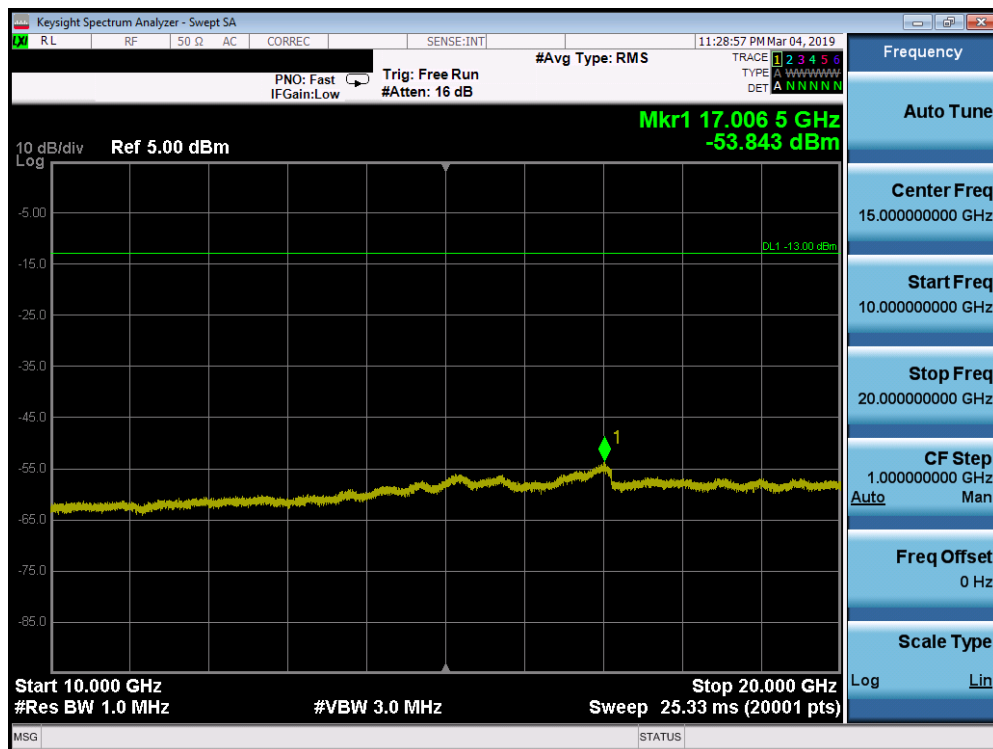


Plot 7-378. Conducted Spurious Plot (Band 66B – 15 + 5MHz QPSK – PCC 1/74 SCC 1/0 – High Channel)

FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-03.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 220 of 312

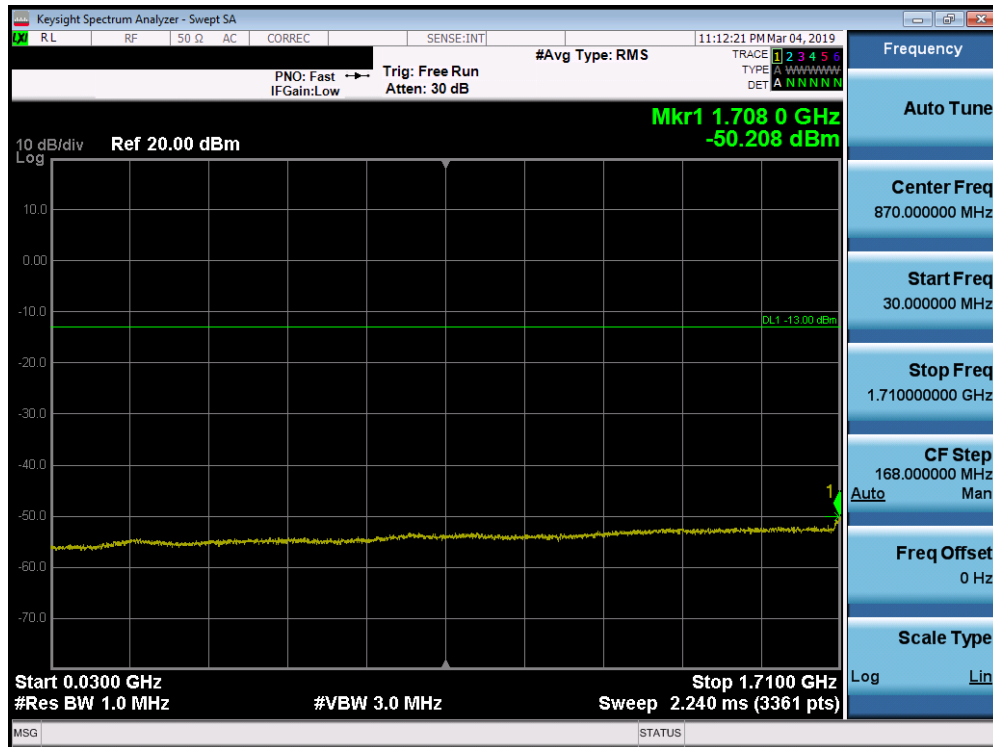


Plot 7-379. Conducted Spurious Plot (Band 66B – 15 + 5MHz QPSK – PCC 1/74 SCC 1/0 – High Channel)

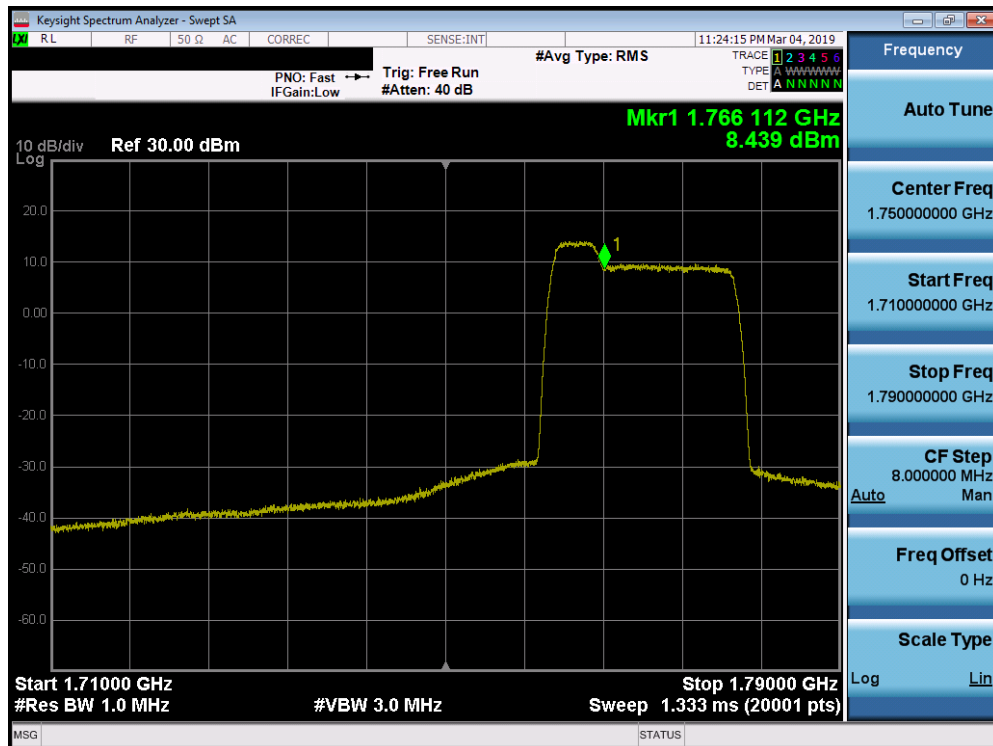


Plot 7-380. Conducted Spurious Plot (Band 66B – 15 + 5MHz QPSK – PCC 1/74 SCC 1/0 – High Channel)

FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-03.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 221 of 312

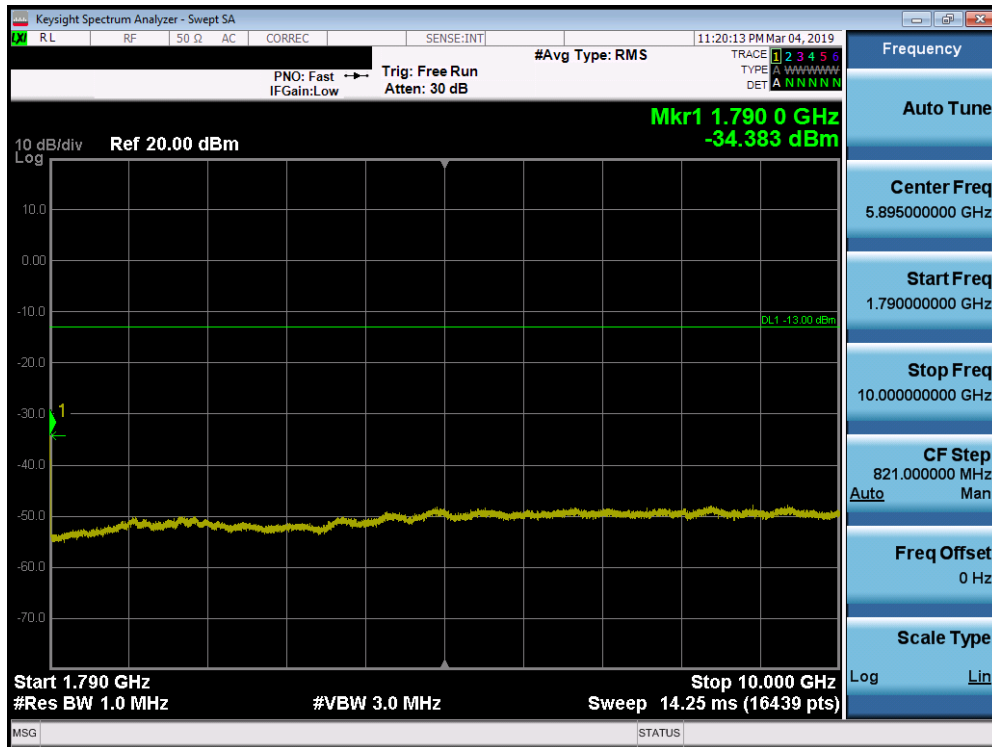


Plot 7-381. Conducted Spurious Plot (Band 66B – 15 + 5MHz QPSK – PCC 75/0 SCC 25/0 – High Channel)

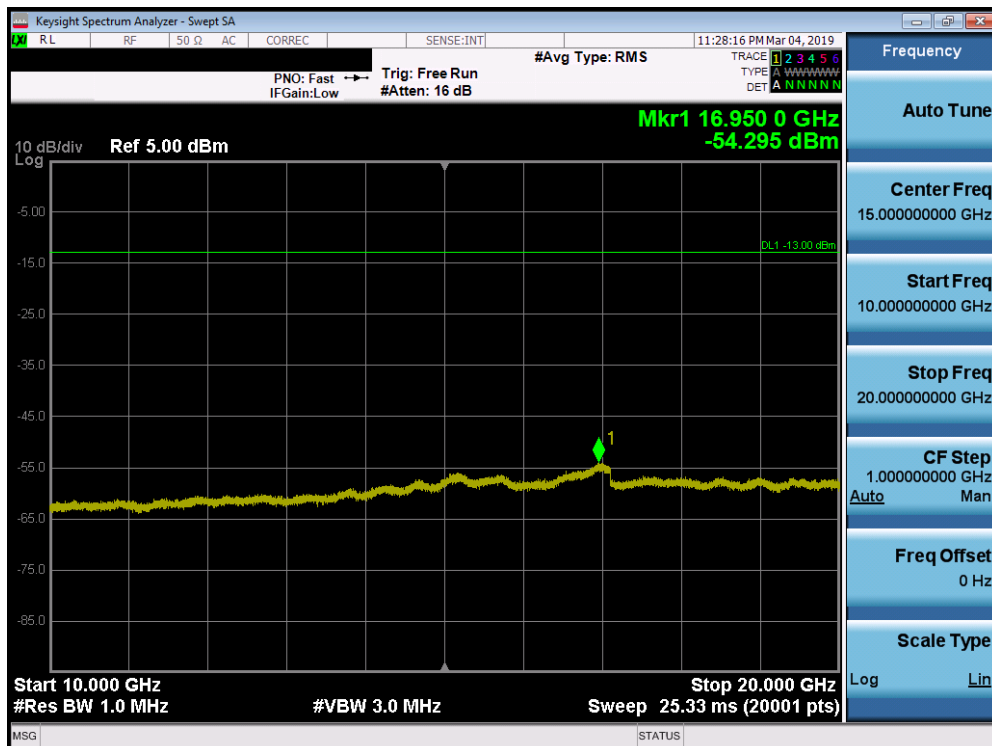


Plot 7-382. Conducted Spurious Plot (Band 66B – 15 + 5MHz QPSK – PCC 75/0 SCC 25/0 – High Channel)

FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-03.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 222 of 312

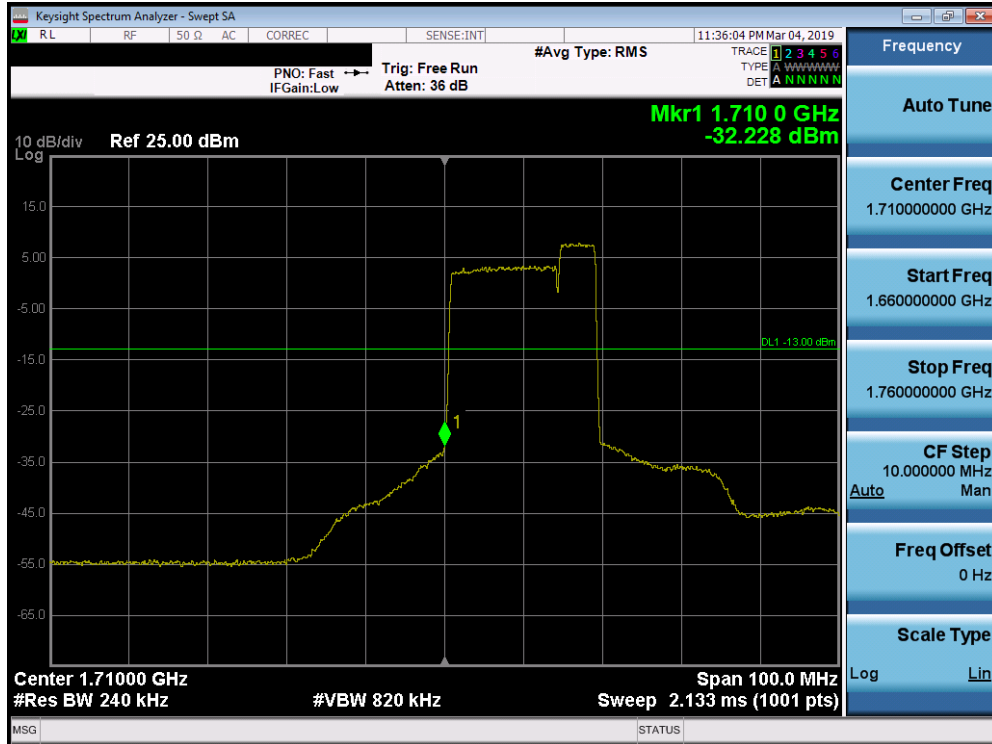


Plot 7-383. Conducted Spurious Plot (Band 66B – 15 + 5MHz QPSK – PCC 75/0 SCC 25/0 – High Channel)

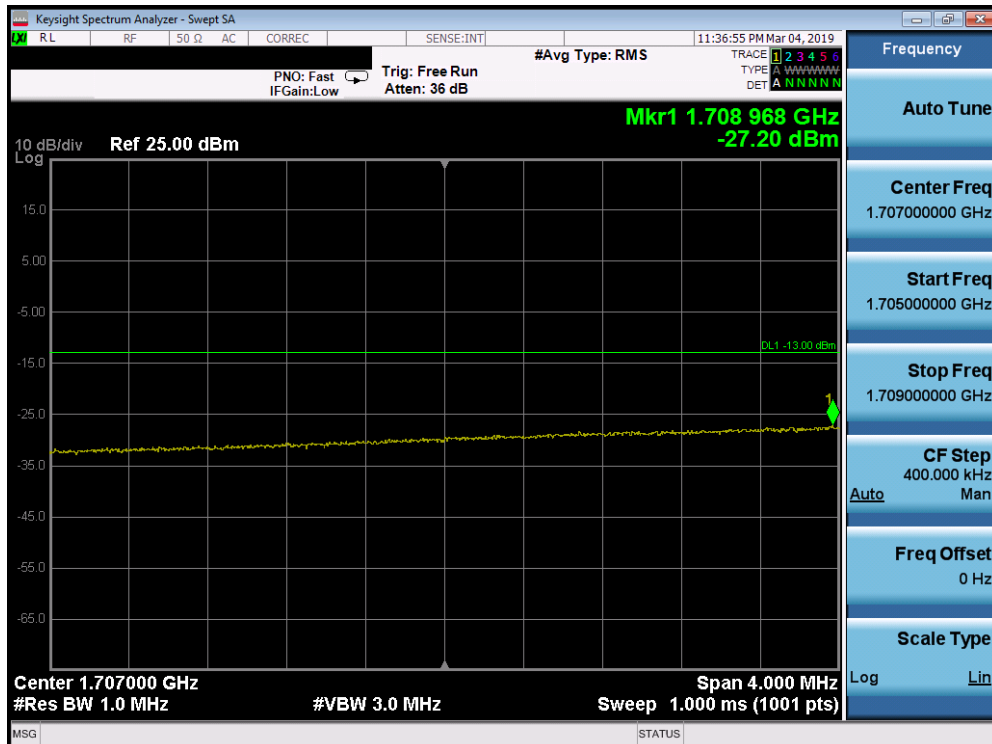


Plot 7-384. Conducted Spurious Plot (Band 66B – 15 + 5MHz QPSK – PCC 75/0 SCC 25/0 – High Channel)

FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-03.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 223 of 312

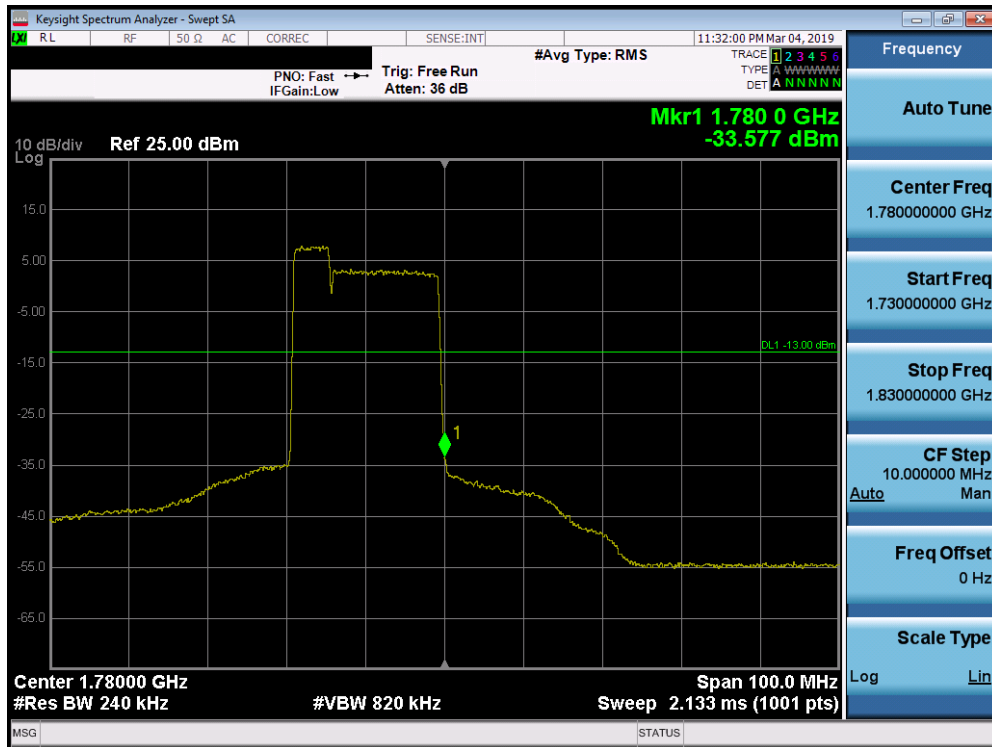


Plot 7-385. Lower Band Edge Plot (Band 66B QPSK – PCC: 15.0MHz SCC: 5.0MHz – Full RB)

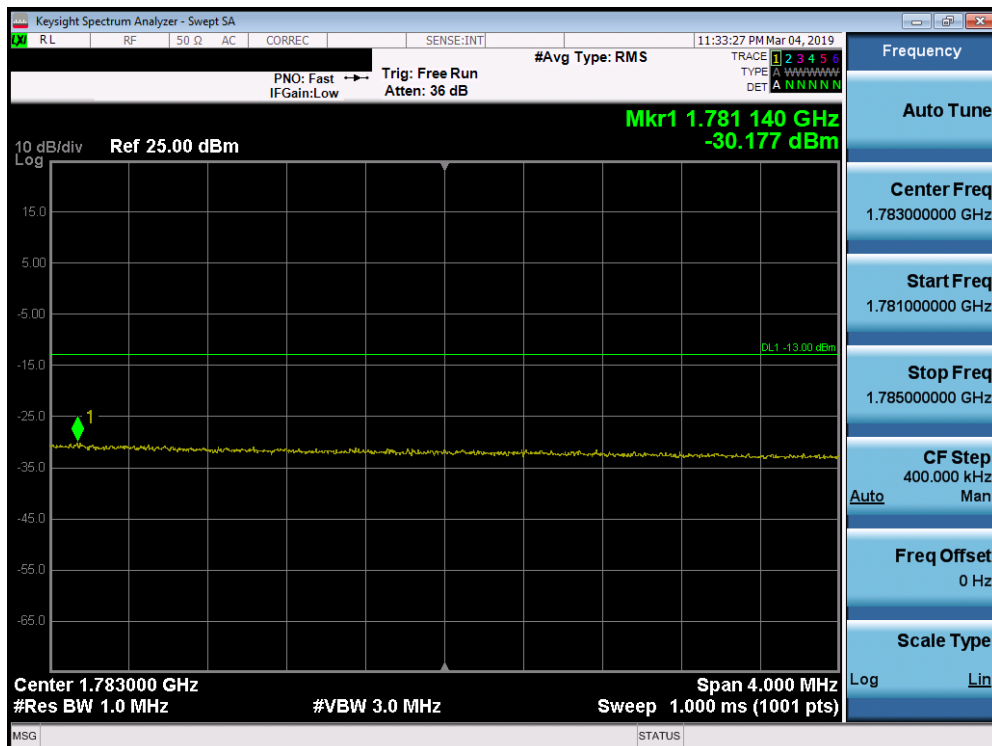


Plot 7-386. Lower Extended Band Edge Plot (Band 66B QPSK – PCC: 15.0MHz SCC: 5.0MHz – Full RB)

FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-03.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 224 of 312



Plot 7-387. Upper Band Edge Plot (Band 66B QPSK – PCC: 15.0MHz SCC: 5.0MHz – Full RB)



Plot 7-388. Upper Extended Band Edge Plot (Band 66B QPSK – PCC: 15.0MHz SCC: 5.0MHz – Full RB)

FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-03.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 225 of 312

Uplink CA Configuration 66C

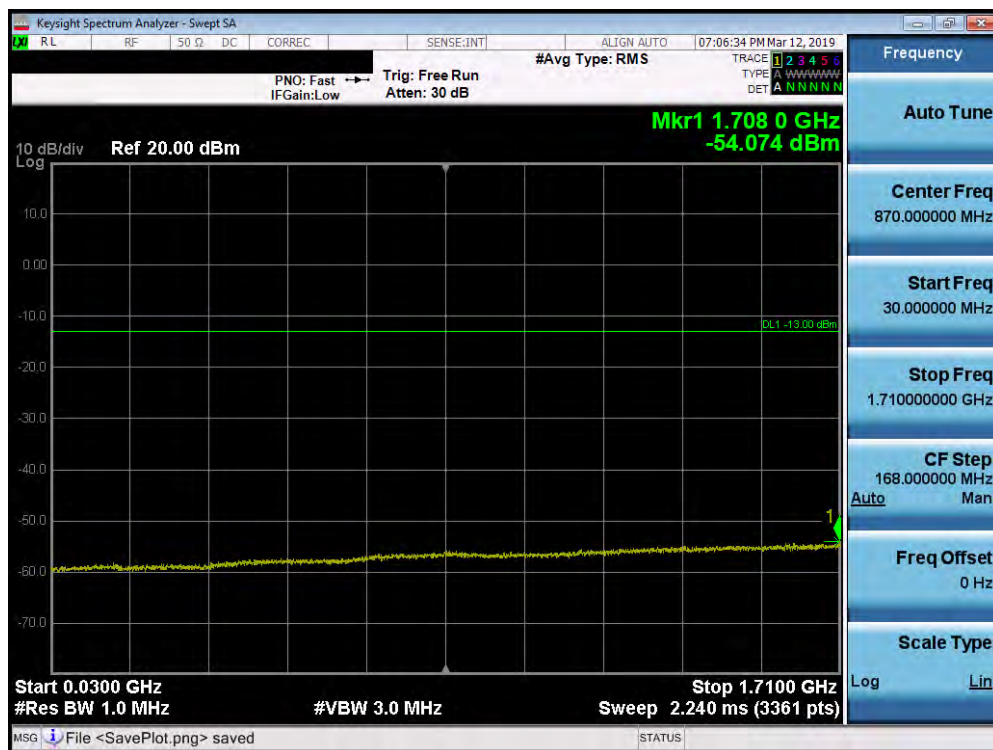
Power State	PCC							SCC							Power ULCA Tx.Power (dBm)
	PCC Band	PCC Bandwidth [MHz]	PCC (UL) Channel	PCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	SCC Band	SCC Bandwidth [MHz]	SCC (UL) Channel	SCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	
Max	LTE B66	5	131997	1712.5	QPSK	1	24	LTE B66	20	132114	1724.2	QPSK	1	0	21.93
Max	LTE B66	10	132022	1715	QPSK	1	49	LTE B66	15	132142	1727	QPSK	1	0	22.09
Max	LTE B66	10	132022	1715	QPSK	1	49	LTE B66	20	132166	1729.4	QPSK	1	0	22.08
Max	LTE B66	15	132047	1717.5	QPSK	1	74	LTE B66	10	132167	1729.5	QPSK	1	0	22.10
Max	LTE B66	15	132047	1717.5	QPSK	1	74	LTE B66	15	132197	1732.5	QPSK	1	0	22.15
Max	LTE B66	15	132047	1717.5	QPSK	1	74	LTE B66	20	132218	1734.6	QPSK	1	0	22.02
Max	LTE B66	20	132072	1720	QPSK	1	99	LTE B66	5	132189	1731.7	QPSK	1	0	22.22
Max	LTE B66	20	132072	1720	QPSK	1	99	LTE B66	10	132216	1734.4	QPSK	1	0	22.04
Max	LTE B66	20	132072	1720	QPSK	1	99	LTE B66	15	132243	1737.1	QPSK	1	0	22.09
Max	LTE B66	20	132072	1720	QPSK	1	99	LTE B66	20	132270	1739.8	QPSK	1	0	22.12
Max	LTE B66	5	132322	1745	QPSK	1	24	LTE B66	20	132439	1756.7	QPSK	1	0	21.92
Max	LTE B66	10	132322	1745	QPSK	1	49	LTE B66	15	132442	1757	QPSK	1	0	23.01
Max	LTE B66	10	132322	1745	QPSK	1	49	LTE B66	20	132466	1759.4	QPSK	1	0	23.02
Max	LTE B66	15	132322	1745	QPSK	1	74	LTE B66	10	132442	1757	QPSK	1	0	23.10
Max	LTE B66	15	132322	1745	QPSK	1	74	LTE B66	15	132472	1760	QPSK	1	0	23.06
Max	LTE B66	15	132322	1745	QPSK	1	74	LTE B66	20	132493	1762.1	QPSK	1	0	23.10
Max	LTE B66	20	132322	1745	QPSK	1	99	LTE B66	5	132439	1756.7	QPSK	1	0	23.20
Max	LTE B66	20	132322	1745	QPSK	1	99	LTE B66	10	132466	1759.4	QPSK	1	0	23.15
Max	LTE B66	20	132322	1745	QPSK	1	99	LTE B66	15	132493	1762.1	QPSK	1	0	23.19
Max	LTE B66	20	132322	1745	QPSK	1	99	LTE B66	20	132520	1764.8	QPSK	1	0	23.33
Max	LTE B66	5	132647	1777.5	QPSK	1	0	LTE B66	20	132530	1765.8	QPSK	1	99	22.15
Max	LTE B66	10	132622	1775	QPSK	1	0	LTE B66	15	132502	1763	QPSK	1	74	22.78
Max	LTE B66	10	132622	1775	QPSK	1	0	LTE B66	20	132478	1760.6	QPSK	1	99	22.69
Max	LTE B66	15	132597	1772.5	QPSK	1	0	LTE B66	10	132477	1760.5	QPSK	1	49	22.36
Max	LTE B66	15	132597	1772.5	QPSK	1	0	LTE B66	15	132447	1757.5	QPSK	1	74	22.13
Max	LTE B66	15	132597	1772.5	QPSK	1	0	LTE B66	20	132426	1755.4	QPSK	1	99	22.09
Max	LTE B66	20	132572	1770	QPSK	1	0	LTE B66	5	132455	1758.3	QPSK	1	24	22.23
Max	LTE B66	20	132572	1770	QPSK	1	0	LTE B66	10	132428	1755.6	QPSK	1	49	22.74
Max	LTE B66	20	132572	1770	QPSK	1	0	LTE B66	15	132401	1752.9	QPSK	1	74	22.51
Max	LTE B66	20	132572	1770	QPSK	1	0	LTE B66	20	132374	1750.2	QPSK	1	99	22.84

Table 7-7. Conducted Powers (66C)

FCC ID: A3LSMF900F	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1901280020-03.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset	Page 226 of 312

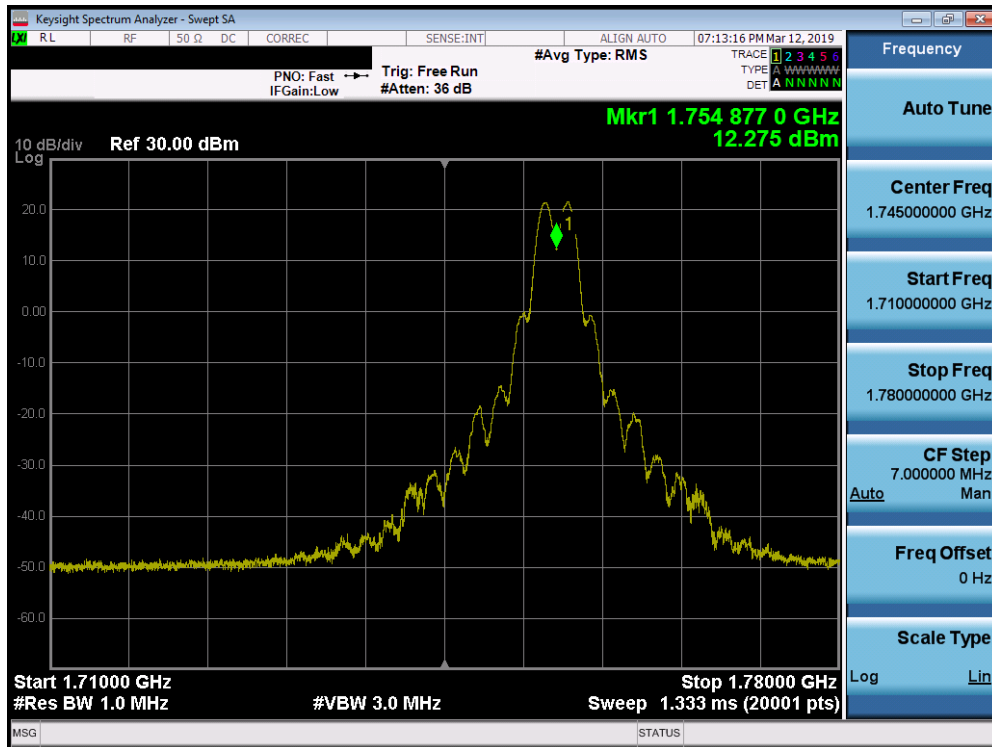
Power State	PCC							SCC							Power
	PCC Band	PCC Bandwidth [MHz]	PCC (UL) Channel	PCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	SCC Band	SCC Bandwidth [MHz]	SCC (UL) Channel	SCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	ULCA Tx.Power (dBm)
Max	LTE B66	20	132322	1745	QPSK	1	0	LTE B66	20	132520	1764.8	QPSK	1	0	17.24
Max	LTE B66	20	132322	1745	QPSK	1	99	LTE B66	20	132520	1764.8	QPSK	1	99	17.61
Max	LTE B66	20	132322	1745	QPSK	1	0	LTE B66	20	132520	1764.8	QPSK	1	99	16.76
Max	LTE B66	20	132322	1745	QPSK	1	50	LTE B66	20	132520	1764.8	QPSK	1	50	18.88
Max	LTE B66	20	132322	1745	QPSK	1	99	LTE B66	20	132520	1764.8	QPSK	1	0	23.33
Max	LTE B66	20	132322	1745	QPSK	100	0	LTE B66	20	132520	1764.8	QPSK	100	0	21.64
Max	LTE B66	20	132322	1745	16-QAM	100	0	LTE B66	20	132520	1764.8	16-QAM	100	0	20.74
Max	LTE B66	20	132322	1745	64-QAM	100	0	LTE B66	20	132520	1764.8	64-QAM	100	0	19.55
Max	LTE B66	20	132322	1745	256-QAM	100	0	LTE B66	20	132520	1764.8	256-QAM	100	0	17.47

Table 7-8. Conducted Powers (66C with Various Combinations for 20MHz Channel Bandwidth)

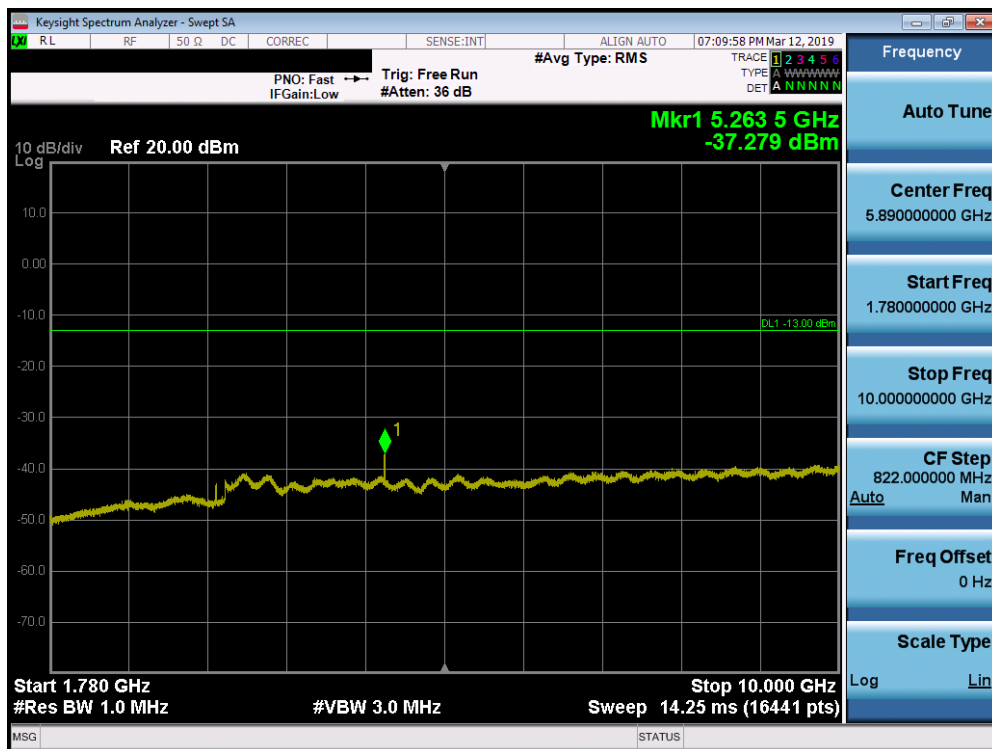


Plot 7-389. Conducted Spurious Plot (Band 66C – 20.0MHz QPSK – PCC 1/99 SCC 1/0 – Mid Channel)

FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)		SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-03.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset			Page 227 of 312

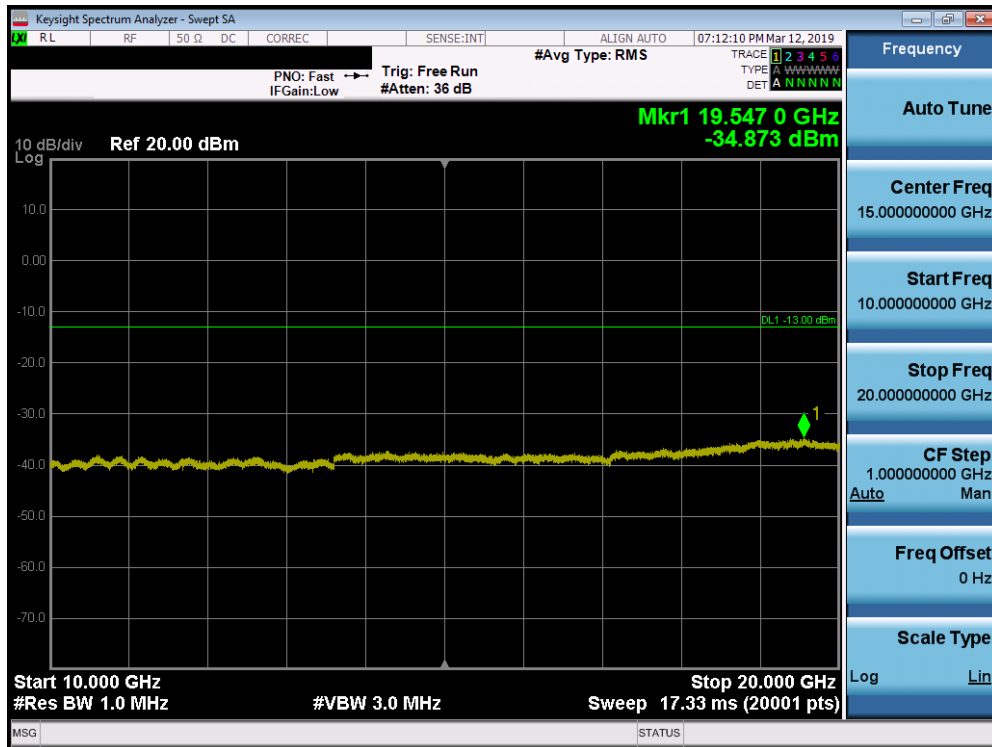


Plot 7-390. Conducted Spurious Plot (Band 66C – 20.0MHz QPSK – PCC 1/99 SCC 1/0 – Mid Channel)

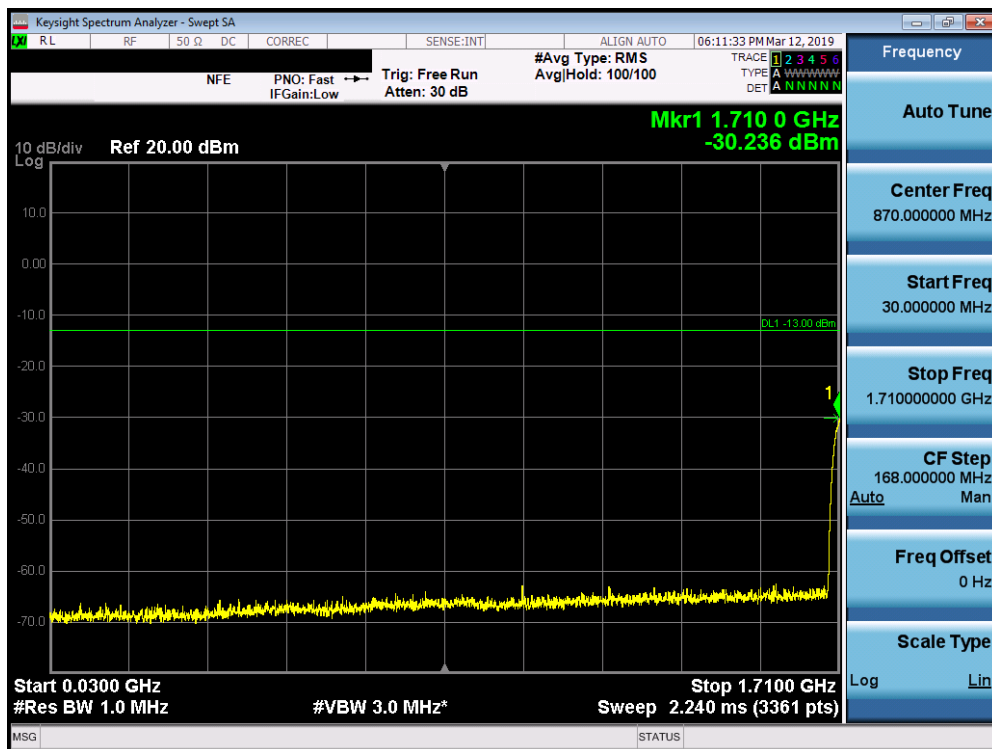


Plot 7-391. Conducted Spurious Plot (Band 66C – 20.0MHz QPSK – PCC 1/99 SCC 1/0 – Mid Channel)

FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-03.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 228 of 312

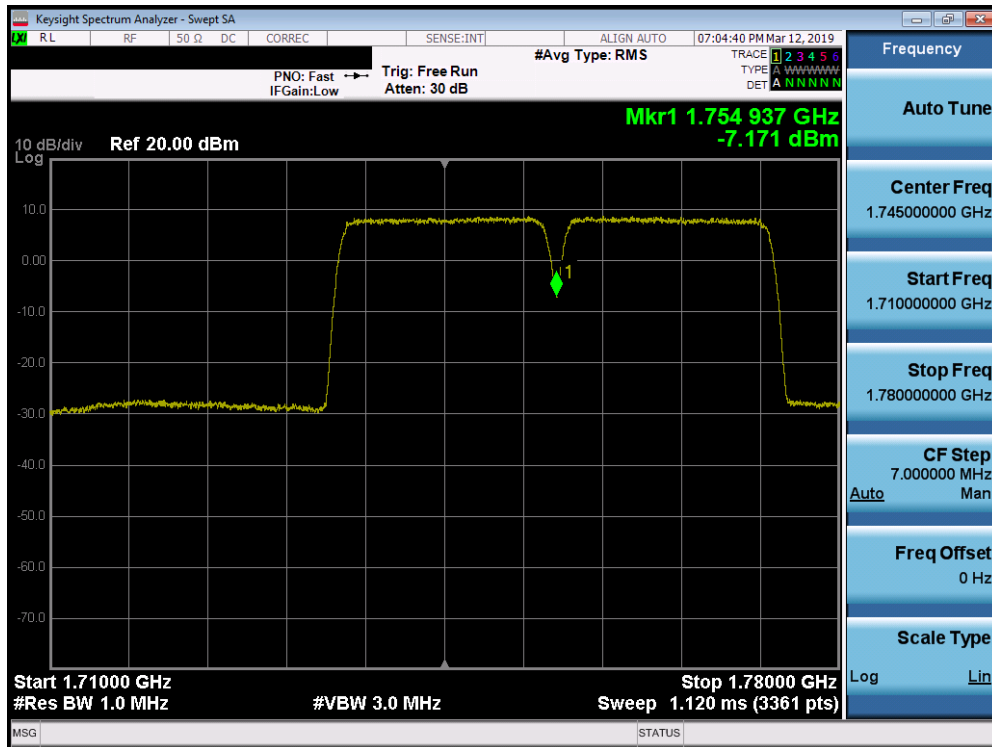


Plot 7-392. Conducted Spurious Plot (Band 66C – 20.0MHz QPSK – PCC 1/99 SCC 1/0 – Mid Channel)

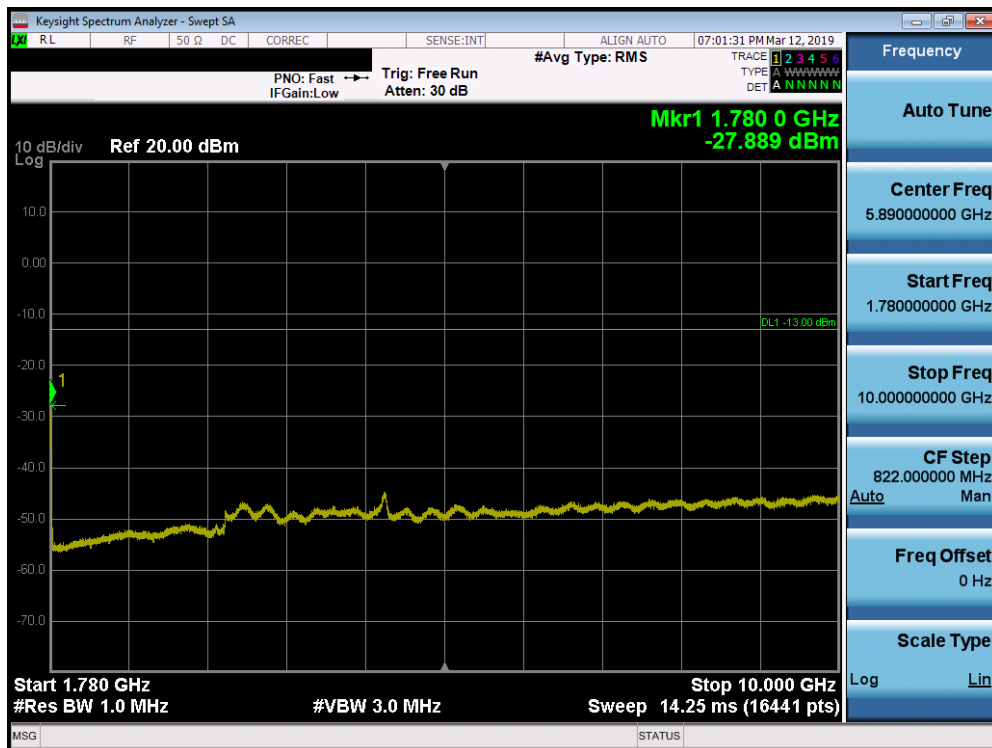


Plot 7-393. Conducted Spurious Plot (Band 66C – 20.0MHz QPSK – PCC 100/0 SCC 100/0 – Mid Channel)

FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-03.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 229 of 312

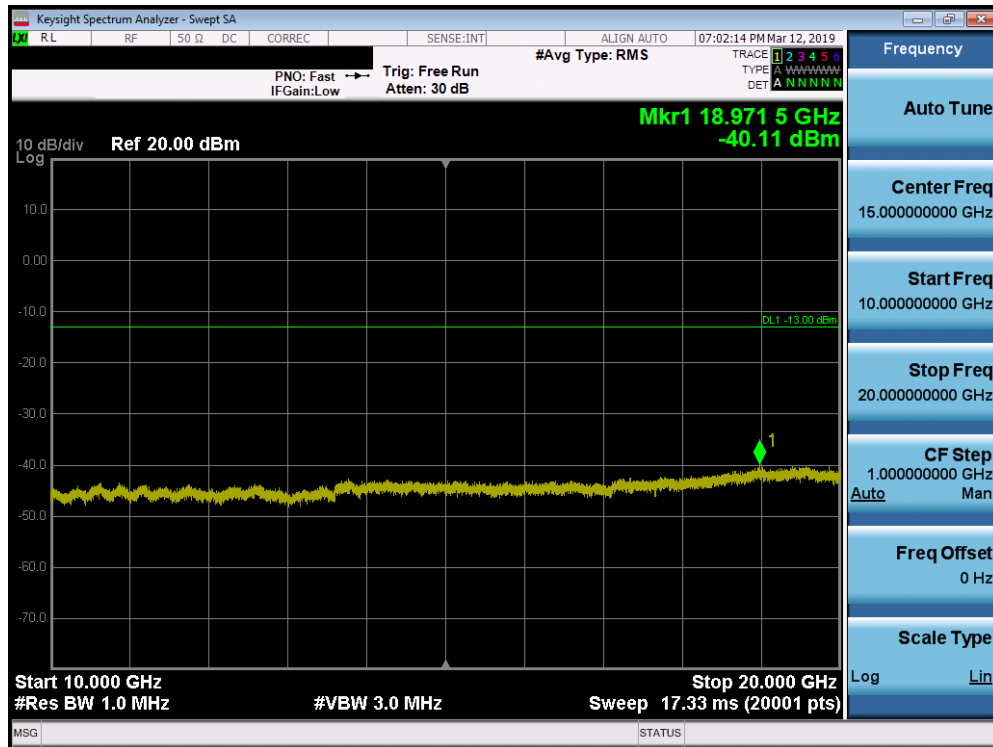


Plot 7-394. Conducted Spurious Plot (Band 66C – 20.0MHz QPSK – PCC 100/0 SCC 100/0 – Mid Channel)

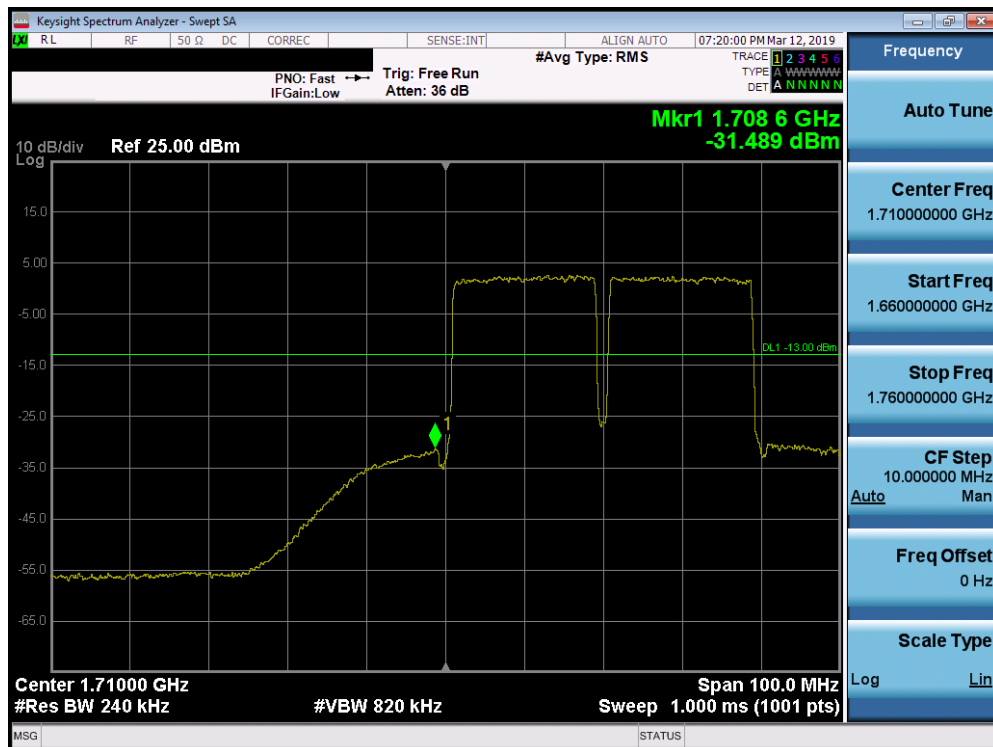


Plot 7-395. Conducted Spurious Plot (Band 66C – 20.0MHz QPSK – PCC 100/0 SCC 100/0 – Mid Channel)

FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-03.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 230 of 312

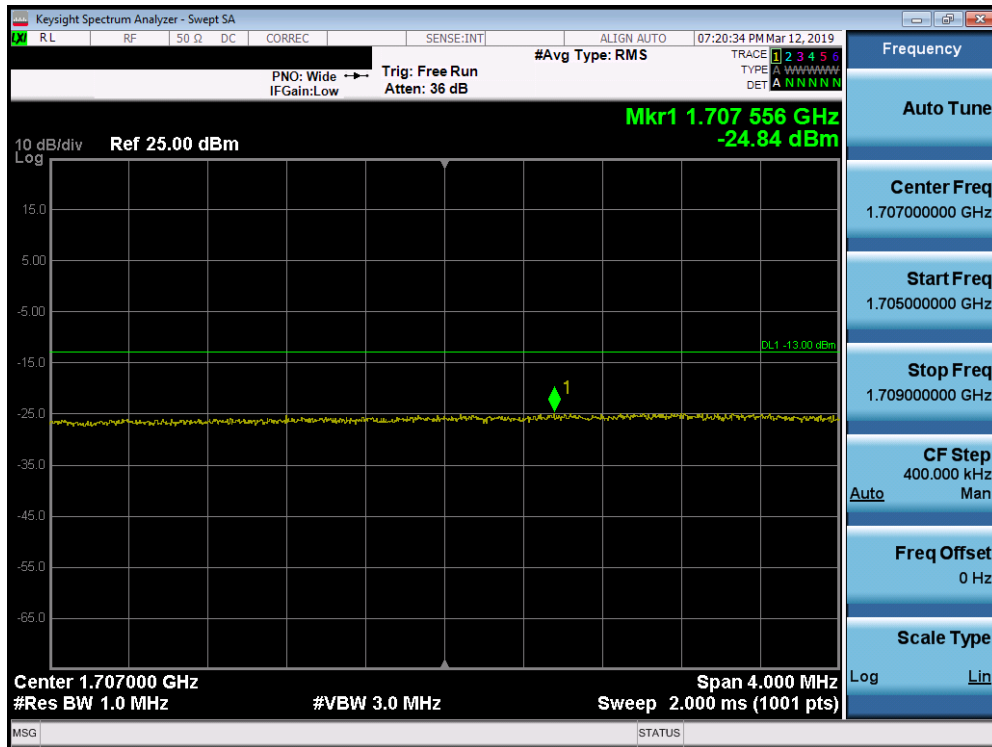


Plot 7-396. Conducted Spurious Plot (Band 66C – 20.0MHz QPSK – PCC 100/0 SCC 100/0 – Mid Channel)

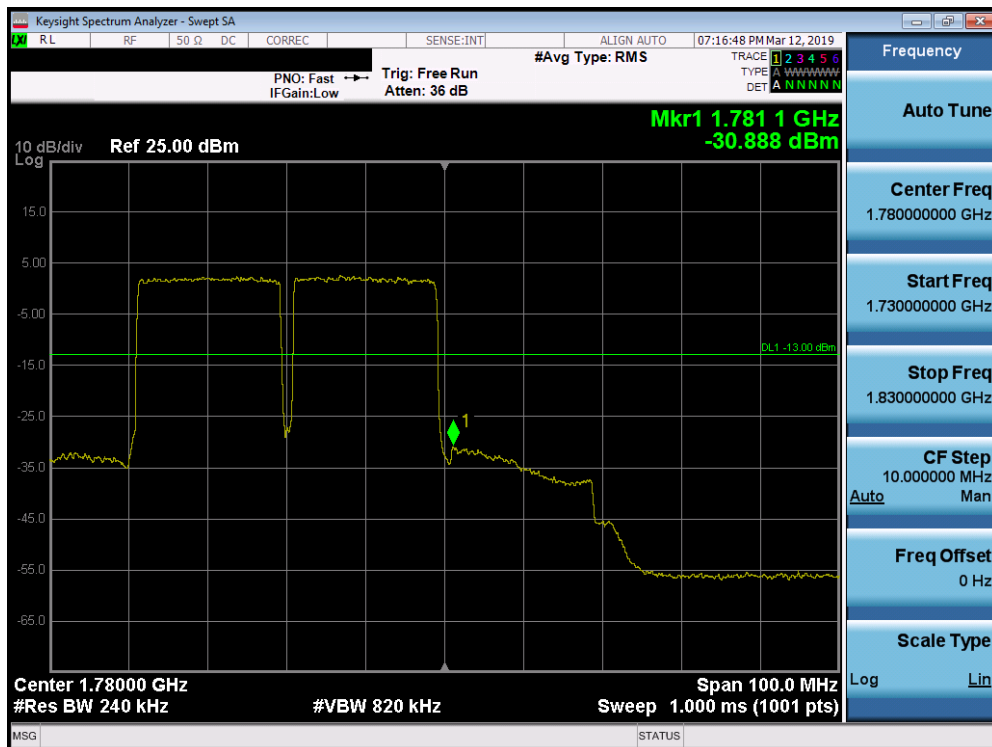


Plot 7-397. Lower Band Edge Plot (Band 66C QPSK – PCC:20.0MHz SCC:20.0MHz – Full RB)

FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-03.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 231 of 312

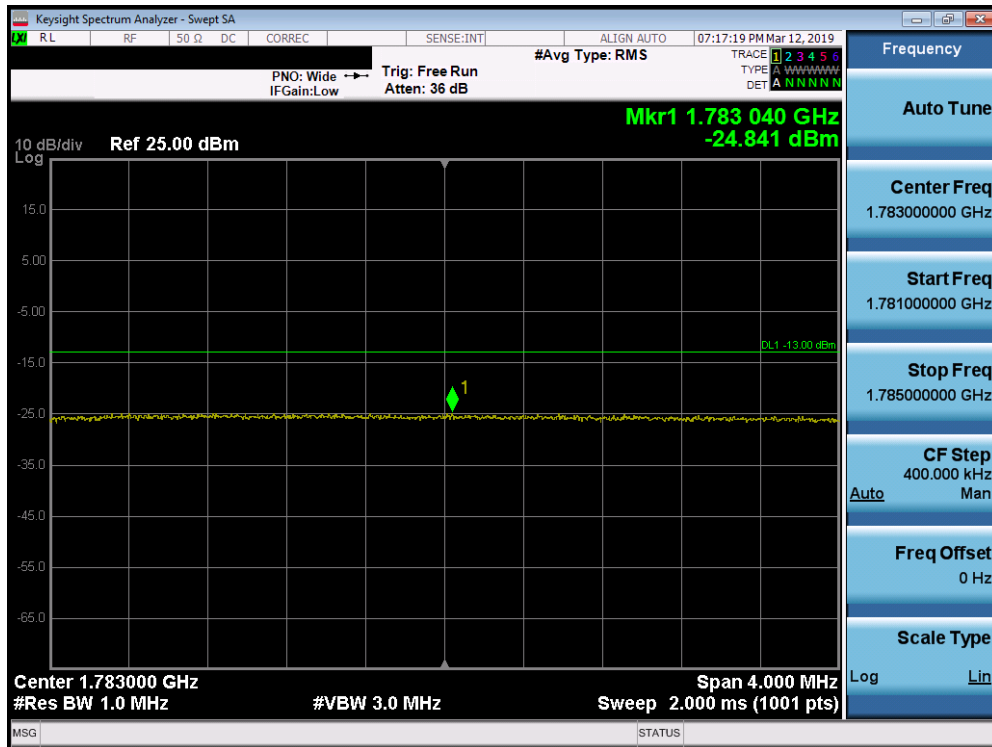


Plot 7-398. Lower Extended Band Edge Plot (Band 66C QPSK – PCC:20.0MHz SCC:20.0MHz – Full RB)



Plot 7-399. Upper Band Edge Plot (Band 66C QPSK – PCC:20.0MHz SCC:20.0MHz – Full RB)

FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-03.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 232 of 312



Plot 7-400. Upper Extended Band Edge Plot (Band 66C QPSK – PCC:20.0MHz SCC:20.0MHz – Full RB)

FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-03.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 233 of 312

7.7 Radiated Power (ERP/EIRP)

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 v03r01 – 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

FCC ID: A3LSMF900F		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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Test Setup

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

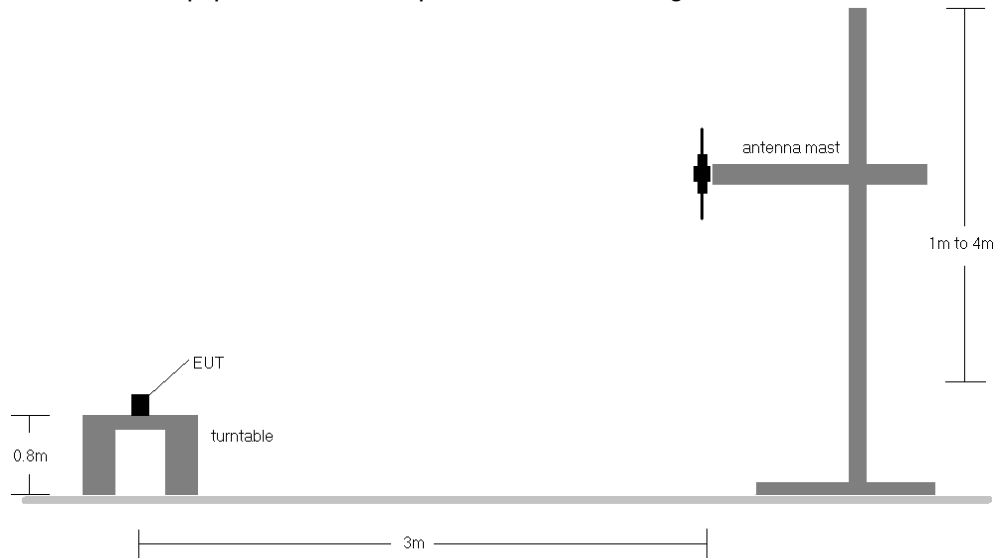


Figure 7-6. Radiated Test Setup <1GHz

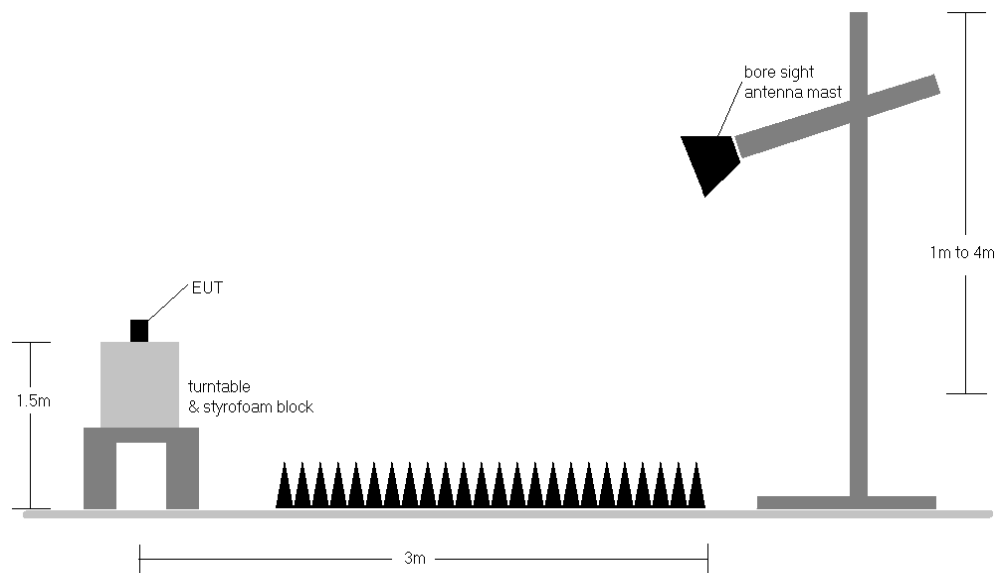


Figure 7-7. Radiated Test Setup >1GHz

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.

FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	EUT Configuration	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]
665.50	5	QPSK	Open	H	157	320	1 / 24	14.33	2.90	15.08	0.032	34.77	-19.69
680.50	5	QPSK	Open	H	138	327	1 / 24	17.26	3.20	18.31	0.068	34.77	-16.46
695.50	5	QPSK	Open	H	148	314	1 / 24	16.56	3.30	17.71	0.059	34.77	-17.06
680.50	5	16-QAM	Open	H	138	327	1 / 24	16.42	3.20	17.47	0.056	34.77	-17.30
680.50	5	64-QAM	Open	H	138	327	1 / 24	15.50	3.20	16.55	0.045	34.77	-18.22
668.00	10	QPSK	Open	H	131	315	1 / 49	16.61	2.90	17.36	0.054	34.77	-17.41
680.50	10	QPSK	Open	H	138	314	1 / 49	17.45	3.20	18.50	0.071	34.77	-16.27
693.00	10	QPSK	Open	H	143	320	1 / 0	17.51	3.30	18.66	0.073	34.77	-16.11
693.00	10	16-QAM	Open	H	143	320	1 / 0	16.75	3.30	17.90	0.062	34.77	-16.87
693.00	10	64-QAM	Open	H	143	320	1 / 0	15.74	3.30	16.89	0.049	34.77	-17.88
670.50	15	QPSK	Open	H	126	318	1 / 74	17.08	3.00	17.93	0.062	34.77	-16.84
680.50	15	QPSK	Open	H	137	327	1 / 74	17.44	3.20	18.49	0.071	34.77	-16.28
690.50	15	QPSK	Open	H	141	317	1 / 0	17.56	3.30	18.71	0.074	34.77	-16.06
690.50	15	16-QAM	Open	H	141	317	1 / 0	16.78	3.30	17.93	0.062	34.77	-16.84
690.50	15	64-QAM	Open	H	141	317	1 / 0	15.74	3.30	16.89	0.049	34.77	-17.88
673.00	20	QPSK	Open	H	130	314	1 / 99	17.40	3.10	18.35	0.068	34.77	-16.42
680.50	20	QPSK	Open	H	143	321	1 / 0	17.57	3.20	18.62	0.073	34.77	-16.15
688.00	20	QPSK	Open	H	145	326	1 / 99	17.24	3.30	18.39	0.069	34.77	-16.38
680.50	20	16-QAM	Open	H	143	321	1 / 0	16.71	3.20	17.76	0.060	34.77	-17.01
680.50	20	64-QAM	Open	H	143	321	1 / 0	15.67	3.20	16.72	0.047	34.77	-18.05
690.50	15	QPSK	Open	V	159	250	3.30	17.73	3.30	18.88	0.077	34.77	-15.89
690.50	15 (WCP)	QPSK	Open	H	101	159	3.30	16.37	3.30	17.52	0.056	34.77	-17.25
690.50	15	QPSK	Closed	H	138	244	3.30	17.32	3.30	18.47	0.070	34.77	-16.30

Table 7-9. ERP Data (Band 71)

FCC ID: A3LSMF900F	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1901280020-03.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset	Page 236 of 312

Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	EUT Configuration	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	Open	H	183	7	1 / 0	13.22	5.19	16.26	0.042	34.77	-18.51	18.41	0.069	36.99	-18.58
707.50	1.4	QPSK	Open	H	179	4	6 / 0	14.91	5.19	17.95	0.062	34.77	-16.82	20.10	0.102	36.99	-16.89
715.30	1.4	QPSK	Open	H	177	6	1 / 0	13.01	5.26	16.12	0.041	34.77	-18.66	18.27	0.067	36.99	-18.72
707.50	1.4	16-QAM	Open	H	179	4	1 / 0	13.02	5.19	16.06	0.040	34.77	-18.71	18.21	0.066	36.99	-18.78
707.50	1.4	64-QAM	Open	H	179	4	1 / 0	12.22	5.19	15.26	0.034	34.77	-19.51	17.41	0.055	36.99	-19.58
700.50	3	QPSK	Open	H	174	10	15 / 0	14.94	5.14	17.93	0.062	34.77	-16.84	20.08	0.102	36.99	-16.91
707.50	3	QPSK	Open	H	167	356	15 / 0	15.17	5.19	18.21	0.066	34.77	-16.56	20.36	0.109	36.99	-16.63
714.50	3	QPSK	Open	H	174	10	15 / 0	14.74	5.25	17.84	0.061	34.77	-16.93	19.99	0.100	36.99	-17.00
707.50	3	16-QAM	Open	H	167	356	1 / 0	14.62	5.19	17.66	0.058	34.77	-17.11	19.81	0.096	36.99	-17.18
707.50	3	64-QAM	Open	H	167	356	1 / 0	13.15	5.19	16.19	0.042	34.77	-18.58	18.34	0.068	36.99	-18.65
701.50	5	QPSK	Open	H	295	338	25 / 0	14.22	5.15	17.22	0.053	34.77	-17.55	19.37	0.086	36.99	-17.62
707.50	5	QPSK	Open	H	295	338	25 / 0	14.35	5.19	17.39	0.055	34.77	-17.38	19.54	0.090	36.99	-17.45
713.50	5	QPSK	Open	H	177	7	1 / 0	15.74	5.24	18.83	0.076	34.77	-15.94	20.98	0.125	36.99	-16.01
713.50	5	16-QAM	Open	H	177	7	1 / 0	15.11	5.24	18.20	0.066	34.77	-16.57	20.35	0.108	36.99	-16.64
713.50	5	64-QAM	Open	H	177	7	1 / 0	13.90	5.24	16.99	0.050	34.77	-17.78	19.14	0.082	36.99	-17.85
704.00	10	QPSK	Open	H	297	322	1 / 0	15.64	5.17	18.66	0.073	34.77	-16.11	20.81	0.120	36.99	-16.18
707.50	10	QPSK	Open	H	297	322	1 / 49	16.18	5.19	19.22	0.084	34.77	-15.55	21.37	0.137	36.99	-15.62
711.00	10	QPSK	Open	H	297	322	1 / 49	15.88	5.22	18.95	0.079	34.77	-15.82	21.10	0.129	36.99	-15.89
707.50	10	16-QAM	Open	H	297	322	1 / 49	15.33	5.19	18.37	0.069	34.77	-16.40	20.52	0.113	36.99	-16.47
707.50	10	64-QAM	Open	H	297	322	1 / 49	14.29	5.19	17.33	0.054	34.77	-17.44	19.48	0.089	36.99	-17.51
707.50	10	Open	Open	V	166	189	5.19	14.00	5.19	17.04	0.051	34.77	-17.73	19.19	0.083	36.99	-17.80
707.50	10 (WCP)	QPSK	Open	H	100	323	5.19	14.42	5.19	17.46	0.056	34.77	-17.31	19.61	0.091	36.99	-17.38
707.50	10	QPSK	Closed	H	197	30	5.19	15.52	5.19	18.56	0.072	34.77	-16.21	20.71	0.118	36.99	-16.28

Table 7-10. ERP Data (Band 12)

Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	EUT Configuration	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	Open	H	245	1	1 / 24	16.51	6.09	20.44	0.111	34.77	-14.33	22.59	0.182	36.99	-14.40
782.00	5	QPSK	Open	H	245	1	1 / 24	17.11	6.13	21.09	0.129	34.77	-13.68	23.24	0.211	36.99	-13.75
784.50	5	QPSK	Open	H	245	1	1 / 0	16.48	6.18	20.51	0.112	34.77	-14.26	22.66	0.184	36.99	-14.33
779.50	5	16-QAM	Open	H	245	1	1 / 24	12.54	6.09	16.48	0.044	34.77	-18.29	18.63	0.073	36.99	-18.36
782.00	5	16-QAM	Open	H	245	1	1 / 24	16.54	6.13	20.52	0.113	34.77	-14.25	22.67	0.185	36.99	-14.31
784.50	5	16-QAM	Open	H	245	1	1 / 0	12.70	6.18	16.73	0.047	34.77	-18.04	18.88	0.077	36.99	-18.11
782.00	5	64-QAM	Open	H	245	1	1 / 24	15.30	6.13	19.28	0.085	34.77	-15.49	21.43	0.139	36.99	-15.55
782.00	10	QPSK	Open	H	246	7	1 / 0	16.53	6.13	20.51	0.113	34.77	-14.26	22.66	0.185	36.99	-14.32
782.00	10	16-QAM	Open	H	246	7	1 / 0	16.08	6.13	20.06	0.102	34.77	-14.71	22.21	0.167	36.99	-14.77
782.00	10	64-QAM	Open	H	246	7	1 / 0	15.16	6.13	19.14	0.082	34.77	-15.63	21.29	0.135	36.99	-15.69
782.00	5	QPSK	V	V	165	109	6.13	15.03	6.46	19.34	0.086	34.77	-15.43	21.49	0.141	36.99	-15.50
782.00	5 (WCP)	QPSK	H	H	148	180	6.13	15.88	6.13	19.86	0.097	34.77	-14.91	22.01	0.159	36.99	-14.97
782.00	5	QPSK	Closed	H	243	182	6.13	16.38	6.13	20.36	0.109	34.77	-14.41	22.51	0.178	36.99	-14.47

Table 7-11. ERP Data (Band 13)

FCC ID: A3LSMF900F		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1901280020-03.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 237 of 312

Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	EUT Configuration	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	Open	H	373	52	1 / 0	16.66	6.89	21.40	0.138	38.45	-17.05	23.55	0.226	40.61	-17.06
836.50	1.4	QPSK	Open	H	142	11	1 / 0	16.50	7.08	21.43	0.139	38.45	-17.02	23.58	0.228	40.61	-17.02
848.30	1.4	QPSK	Open	H	250	69	1 / 0	16.06	7.28	21.19	0.131	38.45	-17.26	23.34	0.216	40.61	-17.27
836.50	1.4	16-QAM	Open	H	142	11	1 / 5	13.72	7.08	18.65	0.073	38.45	-19.80	20.80	0.120	40.61	-19.80
836.50	1.4	64-QAM	Open	H	142	11	1 / 5	12.87	7.08	17.80	0.060	38.45	-20.65	19.95	0.099	40.61	-20.65
825.50	3	QPSK	Open	H	226	27	1 / 0	12.91	6.90	17.66	0.058	38.45	-20.79	19.81	0.096	40.61	-20.80
836.50	3	QPSK	Open	H	226	27	1 / 0	13.68	7.08	18.61	0.073	38.45	-19.84	20.76	0.119	40.61	-19.84
847.50	3	QPSK	Open	H	226	27	1 / 0	13.64	7.26	18.75	0.075	38.45	-19.70	20.90	0.123	40.61	-19.70
847.50	3	16-QAM	Open	H	226	27	1 / 0	12.88	7.26	17.99	0.063	38.45	-20.46	20.14	0.103	40.61	-20.46
847.50	3	64-QAM	Open	H	226	27	1 / 0	11.97	7.26	17.08	0.051	38.45	-21.37	19.23	0.084	40.61	-21.37
826.50	5	QPSK	Open	H	237	36	1 / 24	13.49	6.92	18.26	0.067	38.45	-20.19	20.41	0.110	40.61	-20.20
836.50	5	QPSK	Open	H	237	36	1 / 0	14.25	7.08	19.18	0.083	38.45	-19.27	21.33	0.136	40.61	-19.27
846.50	5	QPSK	Open	H	222	42	1 / 0	13.92	7.25	19.02	0.080	38.45	-19.43	21.17	0.131	40.61	-19.44
836.50	5	16-QAM	Open	H	237	36	1 / 0	13.49	7.08	18.42	0.070	38.45	-20.03	20.57	0.114	40.61	-20.03
836.50	5	64-QAM	Open	H	237	36	1 / 0	12.55	7.08	17.48	0.056	38.45	-20.97	19.63	0.092	40.61	-20.97
829.00	10	QPSK	Open	H	132	45	1 / 0	13.56	6.96	18.37	0.069	38.45	-20.08	20.52	0.113	40.61	-20.09
836.50	10	QPSK	Open	H	132	45	1 / 0	13.88	7.08	18.81	0.076	38.45	-19.64	20.96	0.125	40.61	-19.64
844.00	10	QPSK	Open	H	247	248	1 / 0	13.30	7.21	18.36	0.068	38.45	-20.09	20.51	0.112	40.61	-20.10
836.50	10	16-QAM	Open	H	132	45	1 / 0	13.34	7.08	18.27	0.067	38.45	-20.18	20.42	0.110	40.61	-20.18
836.50	10	64-QAM	Open	H	132	45	1 / 0	11.92	7.08	16.85	0.048	38.45	-21.60	19.00	0.079	40.61	-21.60
836.50	1.4	QPSK	Open	V	145	198	7.08	7.65	7.08	12.58	0.018	38.45	-25.87	14.73	0.030	40.61	-25.87
836.50	1.4 (WCP)	QPSK	Open	H	214	307	7.08	11.65	7.08	16.58	0.046	38.45	-21.87	18.73	0.075	40.61	-21.87
836.50	1.4	QPSK	Closed	H	272	216	7.08	13.61	7.08	18.54	0.072	38.45	-19.91	20.69	0.117	40.61	-19.91

Table 7-12. ERP Data (Band 26/5)

Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	EUT Configuration	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	Open	H	247	242	1 / 74	9.38	7.00	14.23	0.026	38.45	-24.22	16.38	0.043	40.61	-24.23
836.50	15	QPSK	Open	H	247	242	1 / 74	10.35	7.08	15.28	0.034	38.45	-23.17	17.43	0.055	40.61	-23.17
841.50	15	QPSK	Open	H	247	242	1 / 74	9.64	7.17	14.66	0.029	38.45	-23.80	16.81	0.048	40.61	-23.80
836.50	15	16-QAM	Open	H	247	242	1 / 74	9.52	7.08	14.45	0.028	38.45	-24.00	16.60	0.046	40.61	-24.00
836.50	15	64-QAM	Open	H	247	242	1 / 74	8.49	7.08	13.42	0.022	38.45	-25.03	15.57	0.036	40.61	-25.03

Table 7-13. ERP Data (Band 26)

FCC ID: A3LSMF900F	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1901280020-03.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset	
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Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	EUT Configuration	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	Open	V	210	134	1 / 5	14.46	9.60	24.06	0.255	30.00	-5.94
1745.00	1.4	QPSK	Open	V	140	26	1 / 5	15.08	9.48	24.56	0.286	30.00	-5.44
1779.30	1.4	QPSK	Open	V	130	145	1 / 5	14.12	9.34	23.46	0.222	30.00	-6.54
1745.00	1.4	16-QAM	Open	V	140	26	1 / 5	14.20	9.48	23.68	0.234	30.00	-6.32
1745.00	1.4	64-QAM	Open	V	140	26	1 / 5	13.22	9.48	22.70	0.186	30.00	-7.30
1711.50	3	QPSK	Open	V	140	39	1 / 0	13.42	9.60	23.02	0.200	30.00	-6.98
1745.00	3	QPSK	Open	V	140	39	1 / 0	15.37	9.48	24.85	0.306	30.00	-5.15
1778.50	3	QPSK	Open	V	128	146	1 / 0	14.15	9.34	23.49	0.223	30.00	-6.51
1745.00	3	16-QAM	Open	V	140	39	1 / 0	14.61	9.48	24.09	0.257	30.00	-5.91
1745.00	3	64-QAM	Open	V	140	39	1 / 0	13.62	9.48	23.10	0.204	30.00	-6.90
1712.50	5	QPSK	Open	V	106	139	1 / 24	14.05	9.59	23.64	0.231	30.00	-6.36
1745.00	5	QPSK	Open	V	140	27	1 / 24	15.85	9.48	25.33	0.341	30.00	-4.67
1777.50	5	QPSK	Open	V	106	139	1 / 24	14.32	9.35	23.67	0.233	30.00	-6.33
1745.00	5	16-QAM	Open	V	140	27	1 / 24	15.21	9.48	24.69	0.295	30.00	-5.31
1745.00	5	64-QAM	Open	V	140	27	1 / 24	14.27	9.48	23.75	0.237	30.00	-6.25
1715.00	10	QPSK	Open	V	104	35	1 / 0	13.91	9.59	23.50	0.224	30.00	-6.50
1745.00	10	QPSK	Open	V	104	35	1 / 0	15.11	9.48	24.59	0.288	30.00	-5.41
1775.00	10	QPSK	Open	V	140	146	1 / 0	14.23	9.36	23.59	0.228	30.00	-6.41
1745.00	10	16-QAM	Open	V	104	35	1 / 0	14.32	9.48	23.80	0.240	30.00	-6.20
1745.00	10	64-QAM	Open	V	104	35	1 / 0	13.26	9.48	22.74	0.188	30.00	-7.26
1717.50	15	QPSK	Open	V	138	19	1 / 74	14.20	9.58	23.78	0.239	30.00	-6.22
1745.00	15	QPSK	Open	V	138	19	1 / 74	15.49	9.48	24.97	0.314	30.00	-5.03
1772.50	15	QPSK	Open	V	138	19	1 / 74	13.90	9.37	23.27	0.212	30.00	-6.73
1745.00	15	16-QAM	Open	V	138	19	1 / 74	14.73	9.48	24.21	0.264	30.00	-5.79
1745.00	15	64-QAM	Open	V	138	19	1 / 74	13.75	9.48	23.23	0.211	30.00	-6.77
1720.00	20	QPSK	Open	V	138	18	1 / 99	15.33	9.57	24.90	0.309	30.00	-5.10
1745.00	20	QPSK	Open	V	138	18	1 / 99	15.23	9.48	24.71	0.296	30.00	-5.29
1770.00	20	QPSK	Open	V	138	18	1 / 99	15.15	9.38	24.53	0.284	30.00	-5.47
1745.00	20	16-QAM	Open	V	138	18	1 / 99	14.58	9.48	24.06	0.255	30.00	-5.94
1745.00	20	64-QAM	Open	V	138	18	1 / 99	13.52	9.48	23.00	0.200	30.00	-7.00
1745.00	5	QPSK	Open	H	138	141	9.48	14.36	9.48	23.84	0.242	30.00	-6.16
1745.00	5 (WCP)	QPSK	Open	V	157	351	9.48	11.38	9.48	20.86	0.122	30.00	-9.14
1745.00	5	QPSK	Closed	V	194	313	9.48	14.83	9.48	24.31	0.270	30.00	-5.69

Table 7-14. EIRP Data (Band 66/4)

FCC ID: A3LSMF900F	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1901280020-03.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset	Page 239 of 312

Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	EUT Configuration	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	Open	H	230	344	1 / 0	14.39	9.07	23.46	0.222	33.01	-9.56
1880.00	1.4	QPSK	Open	H	223	342	1 / 0	14.28	9.15	23.43	0.220	33.01	-9.58
1909.30	1.4	QPSK	Open	H	218	337	1 / 0	14.26	9.27	23.53	0.225	33.01	-9.48
1909.30	1.4	16-QAM	Open	H	218	337	1 / 0	13.47	9.27	22.74	0.188	33.01	-10.27
1909.30	1.4	64-QAM	Open	H	218	337	1 / 0	12.53	9.27	21.80	0.151	33.01	-11.21
1851.50	3	QPSK	Open	H	234	340	1 / 0	13.75	9.07	22.82	0.191	33.01	-10.19
1880.00	3	QPSK	Open	H	234	340	1 / 0	14.30	9.15	23.45	0.221	33.01	-9.56
1908.50	3	QPSK	Open	H	234	340	1 / 0	13.16	9.26	22.42	0.175	33.01	-10.59
1880.00	3	16-QAM	Open	H	234	340	1 / 0	13.48	9.15	22.63	0.183	33.01	-10.38
1880.00	3	64-QAM	Open	H	234	340	1 / 0	12.51	9.15	21.66	0.146	33.01	-11.35
1852.50	5	QPSK	Open	H	228	335	1 / 0	13.08	9.07	22.15	0.164	33.01	-10.86
1880.00	5	QPSK	Open	H	228	335	1 / 0	14.26	9.15	23.41	0.219	33.01	-9.60
1907.50	5	QPSK	Open	H	228	335	1 / 0	13.02	9.26	22.28	0.169	33.01	-10.73
1880.00	5	16-QAM	Open	H	228	335	1 / 0	13.11	9.15	22.26	0.168	33.01	-10.75
1880.00	5	64-QAM	Open	H	228	335	1 / 0	12.27	9.15	21.42	0.139	33.01	-11.59
1855.00	10	QPSK	Open	H	228	326	1 / 49	13.27	9.08	22.35	0.172	33.01	-10.66
1880.00	10	QPSK	Open	H	228	326	1 / 0	14.21	9.15	23.36	0.217	33.01	-9.65
1905.00	10	QPSK	Open	H	102	332	1 / 49	14.35	9.24	23.59	0.229	33.01	-9.42
1880.00	10	16-QAM	Open	H	228	326	1 / 0	13.38	9.15	22.53	0.179	33.01	-10.48
1880.00	10	64-QAM	Open	H	228	326	1 / 0	12.40	9.15	21.55	0.143	33.01	-11.46
1857.50	15	QPSK	Open	H	226	328	1 / 0	13.14	9.08	22.22	0.167	33.01	-10.79
1880.00	15	QPSK	Open	H	226	328	1 / 0	14.30	9.15	23.45	0.221	33.01	-9.56
1902.50	15	QPSK	Open	H	226	328	1 / 74	14.65	9.22	23.87	0.244	33.01	-9.14
1880.00	15	16-QAM	Open	H	226	328	1 / 0	13.44	9.15	22.59	0.181	33.01	-10.42
1880.00	15	64-QAM	Open	H	226	328	1 / 0	12.49	9.15	21.64	0.146	33.01	-11.37
1860.00	20	QPSK	Open	H	226	326	1 / 99	13.86	9.09	22.95	0.197	33.01	-10.06
1880.00	20	QPSK	Open	H	226	326	1 / 0	14.09	9.15	23.24	0.211	33.01	-9.77
1900.00	20	QPSK	Open	H	108	339	1 / 99	14.30	9.20	23.50	0.224	33.01	-9.51
1880.00	20	16-QAM	Open	H	226	326	1 / 0	13.29	9.15	22.44	0.175	33.01	-10.57
1880.00	20	64-QAM	Open	H	226	326	1 / 0	12.31	9.15	21.46	0.140	33.01	-11.55
1902.50	15	QPSK	Open	V	119	318	1 / 74	14.36	8.36	22.72	0.187	33.01	-10.29
1902.50	15 (WCP)	QPSK	Open	H	111	355	1 / 74	13.25	9.20	22.45	0.176	33.01	-10.56
1902.50	15	QPSK	Closed	H	157	297	1 / 74	13.63	9.20	22.83	0.192	33.01	-10.18

Table 7-15. EIRP Data (Band 25/2)

FCC ID: A3LSMF900F	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1901280020-03.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset	Page 240 of 312

Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	EUT Configuration	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]
2307.50	5	QPSK	Open	H	150	168	1 / 0	13.40	8.71	22.11	0.162	23.98	-1.87
2312.50	5	QPSK	Open	H	148	164	1 / 0	13.12	8.71	21.83	0.153	23.98	-2.15
2312.50	5	16-QAM	Open	H	148	164	1 / 0	12.44	8.71	21.15	0.130	23.98	-2.83
2307.50	5	64-QAM	Open	H	150	168	1 / 0	11.74	8.71	20.45	0.111	23.98	-3.53
2310.00	10	QPSK	Open	H	144	201	1 / 49	13.22	8.71	21.93	0.156	23.98	-2.05
2310.00	10	16-QAM	Open	H	144	201	1 / 49	12.29	8.71	21.00	0.126	23.98	-2.98
2310.00	10	64-QAM	Open	H	144	201	1 / 49	11.35	8.71	20.06	0.101	23.98	-3.92
5.00	5	QPSK	Open	V	159	243	1 / 0	10.29	8.69	18.98	0.079	23.98	-5.00
2307.50	10 (WCP)	QPSK	Open	H	159	243	1 / 0	10.80	8.71	19.51	0.089	23.98	-4.47
2307.50	10	QPSK	Closed	H	197	281	1 / 49	11.41	8.71	20.12	0.103	23.98	-3.86

Table 7-16. EIRP Data (Band 30)

FCC ID: A3LSMF900F	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1901280020-03.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset	Page 241 of 312

Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	EUT Configuration	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	Open	H	146	154	1 / 0	14.40	8.34	22.74	0.188	33.01	-10.27
2535.00	5	QPSK	Open	H	138	155	1 / 0	14.53	8.28	22.81	0.191	33.01	-10.20
2567.50	5	QPSK	Open	H	135	148	1 / 24	14.46	8.17	22.63	0.183	33.01	-10.38
2535.00	5	16-QAM	Open	H	138	155	1 / 0	13.75	8.28	22.03	0.160	33.01	-10.98
2535.00	5	64-QAM	Open	H	138	155	1 / 0	11.85	8.28	20.13	0.103	33.01	-12.88
2505.00	10	QPSK	Open	H	121	154	1 / 0	14.24	8.33	22.57	0.181	33.01	-10.44
2535.00	10	QPSK	Open	H	121	168	1 / 49	14.64	8.28	22.92	0.196	33.01	-10.09
2565.00	10	QPSK	Open	H	110	148	1 / 49	14.32	8.18	22.50	0.178	33.01	-10.51
2535.00	10	16-QAM	Open	H	121	168	1 / 49	13.76	8.28	22.04	0.160	33.01	-10.97
2535.00	10	64-QAM	Open	H	121	168	1 / 49	11.83	8.28	20.11	0.103	33.01	-12.90
2507.50	15	QPSK	Open	H	141	158	1 / 74	14.38	8.33	22.71	0.187	33.01	-10.30
2535.00	15	QPSK	Open	H	135	148	1 / 0	14.75	8.28	23.03	0.201	33.01	-9.98
2562.50	15	QPSK	Open	H	143	167	1 / 0	14.41	8.19	22.60	0.182	33.01	-10.41
2535.00	15	16-QAM	Open	H	135	148	1 / 0	13.91	8.28	22.19	0.166	33.01	-10.82
2535.00	15	64-QAM	Open	H	135	148	1 / 0	12.01	8.28	20.29	0.107	33.01	-12.72
2510.00	20	QPSK	Open	H	140	174	1 / 99	15.33	8.33	23.66	0.232	33.01	-9.35
2535.00	20	QPSK	Open	H	142	169	1 / 0	15.48	8.28	23.76	0.238	33.01	-9.25
2560.00	20	QPSK	Open	H	140	168	1 / 0	14.92	8.21	23.13	0.205	33.01	-9.88
2535.00	20	16-QAM	Open	H	142	169	1 / 0	14.72	8.28	23.00	0.200	33.01	-10.01
2510.00	20	64-QAM	Open	H	140	174	1 / 99	12.99	8.33	21.32	0.135	33.01	-11.69
2535.00	20	QPSK	Open	V	119	318	8.28	14.44	8.36	22.80	0.191	33.01	-10.21
2535.00	20 (WCP)	QPSK	Open	H	119	318	8.28	13.78	8.36	22.14	0.164	33.01	-10.87
2535.00	20	QPSK	Closed	H	184	35	8.28	12.98	8.28	21.26	0.134	33.01	-11.75

Table 7-17. EIRP Data (Band 7)

FCC ID: A3LSMF900F	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1901280020-03.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset	Page 242 of 312

Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	EUT Configuration	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	Open	H	113	159	1 / 24	14.65	8.35	23.00	0.200	33.01	-10.01
2593.00	5	QPSK	Open	H	111	152	1 / 0	15.45	8.04	23.49	0.223	33.01	-9.52
2687.50	5	QPSK	Open	H	125	155	1 / 0	14.30	7.94	22.24	0.167	33.01	-10.77
2593.00	5	16-QAM	Open	H	111	152	1 / 0	14.58	8.04	22.62	0.183	33.01	-10.39
2593.00	5	64-QAM	Open	H	111	152	1 / 0	13.55	8.04	21.59	0.144	33.01	-11.42
2501.00	10	QPSK	Open	H	111	158	1 / 0	14.80	8.34	23.14	0.206	33.01	-9.87
2593.00	10	QPSK	Open	H	102	164	1 / 49	15.37	8.04	23.41	0.219	33.01	-9.60
2685.00	10	QPSK	Open	H	115	159	1 / 0	13.72	7.93	21.65	0.146	33.01	-11.36
2593.00	10	16-QAM	Open	H	102	164	1 / 49	14.49	8.04	22.53	0.179	33.01	-10.48
2593.00	10	64-QAM	Open	H	102	164	1 / 49	13.47	8.04	21.51	0.141	33.01	-11.50
2503.50	15	QPSK	Open	H	115	160	1 / 0	14.79	8.34	23.13	0.205	33.01	-9.88
2593.00	15	QPSK	Open	H	108	161	1 / 0	15.82	8.04	23.86	0.243	33.01	-9.15
2682.50	15	QPSK	Open	H	121	146	1 / 0	14.22	7.92	22.14	0.164	33.01	-10.87
2593.00	15	16-QAM	Open	H	108	161	1 / 0	14.81	8.04	22.85	0.193	33.01	-10.16
2593.00	15	64-QAM	Open	H	108	161	1 / 0	13.88	8.04	21.92	0.155	33.01	-11.09
2506.00	20	QPSK	Open	H	146	159	1 / 0	15.63	8.33	23.96	0.249	33.01	-9.05
2593.00	20	QPSK	Open	H	136	163	1 / 99	15.36	8.04	23.40	0.219	33.01	-9.61
2680.00	20	QPSK	Open	H	150	174	1 / 99	13.67	7.91	21.58	0.144	33.01	-11.43
2506.00	20	16-QAM	Open	H	146	159	1 / 0	14.48	8.33	22.81	0.191	33.01	-10.20
2506.00	20	64-QAM	Open	H	146	159	1 / 0	13.72	8.33	22.05	0.160	33.01	-10.96
2506.00	20	QPSK	Open	V	100	311	8.33	13.39	8.37	21.76	0.150	33.01	-11.25
2506.00	20 (WCP)	QPSK	Open	H	100	311	8.33	13.39	8.37	21.76	0.150	33.01	-11.25
2506.00	20	QPSK	Closed	H	113	42	8.33	12.90	8.33	21.23	0.133	33.01	-11.78

Table 7-18. EIRP Data (Band 41/38 PC3)

FCC ID: A3LSMF900F	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1901280020-03.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset	Page 243 of 312

7.8 Radiated Spurious Emissions Measurements

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 v03r01 – 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

FCC ID: A3LSMF900F		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1901280020-03.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 244 of 312

Test Setup

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

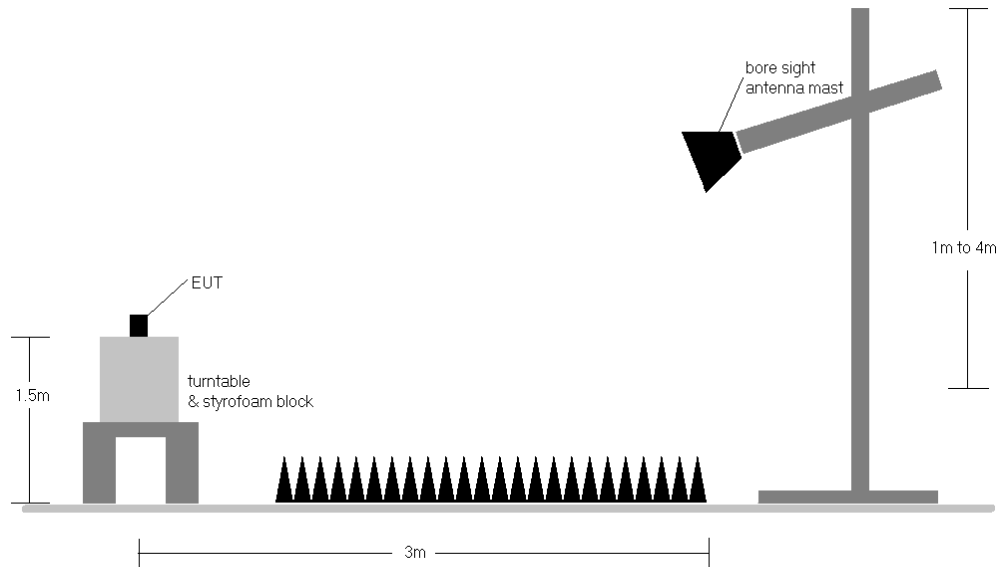


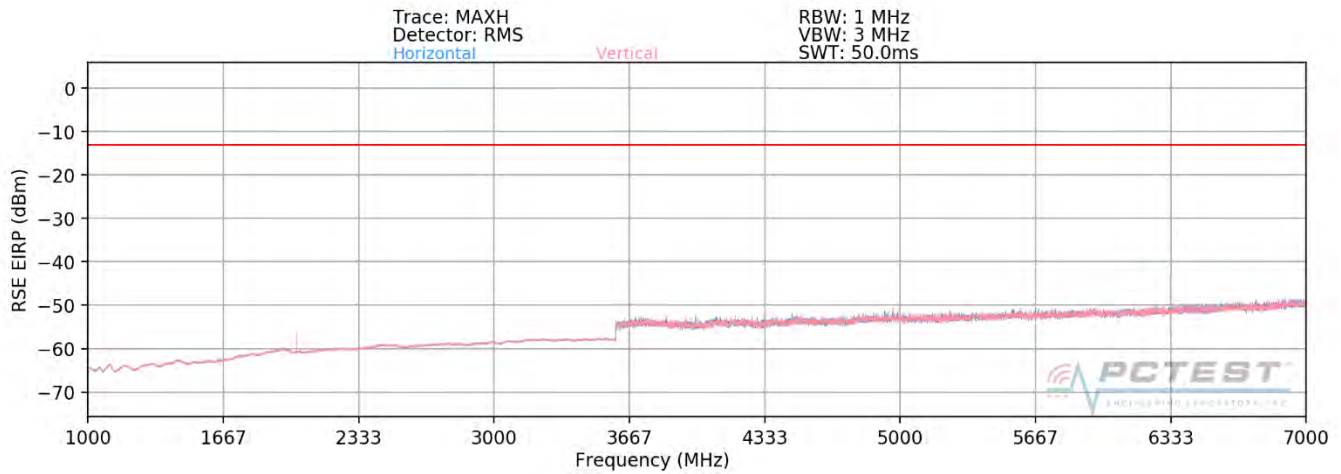
Figure 7-8. Test Instrument & Measurement Setup

Test Notes

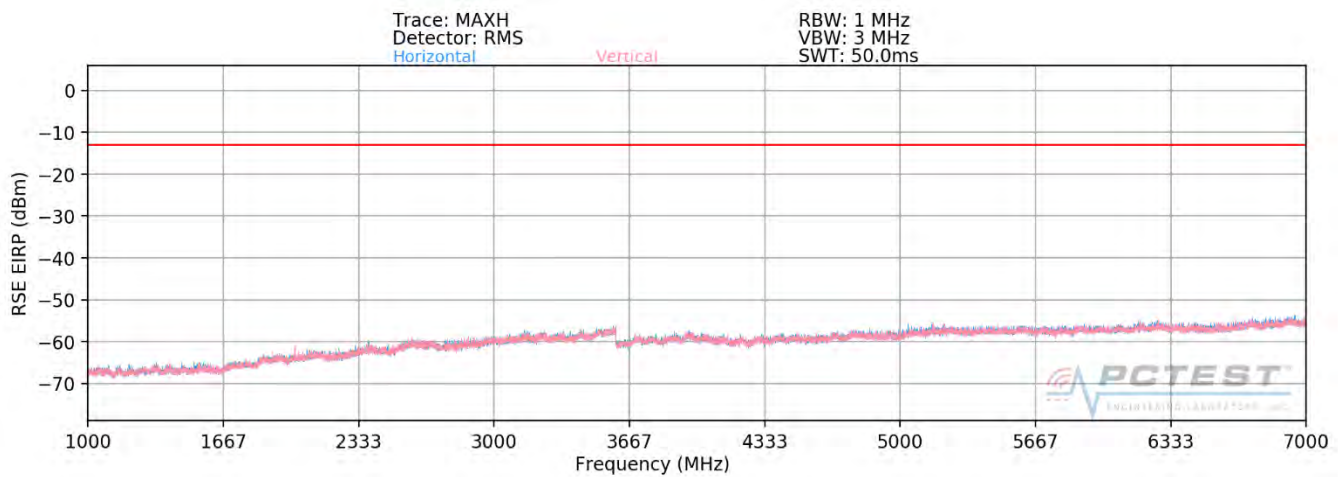
- 1) The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case emissions are reported with the EUT positioning, modulations, RB sizes and offsets, and channel bandwidth configurations shown in the tables below.
- 2) This unit was tested with 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: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-03.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 245 of 312

Band 71



Plot 7-401. Radiated Spurious Plot above 1GHz (Band 71 - CLOSED)



Plot 7-402. Radiated Spurious Plot above 1GHz (Band 71 - OPEN)

FCC ID: A3LSMF900F		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1901280020-03.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 246 of 312

OPERATING FREQUENCY: 670.50 MHz
 MODULATION SIGNAL: QPSK
 BANDWIDTH: 15.0 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]
1341.00	H	166	8	-62.27	7.44	-54.83	-41.8
2011.50	H	-	-	-61.11	8.66	-52.45	-39.5
2682.00	H	-	-	-60.69	9.96	-50.72	-37.7

Table 7-19. Radiated Spurious Data (Band 71 – Low Channel - CLOSED)

OPERATING FREQUENCY: 680.50 MHz
 MODULATION SIGNAL: QPSK
 BANDWIDTH: 15.0 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]
1361.00	H	346	152	-65.37	7.48	-57.88	-44.9
2041.50	H	-	-	-61.02	8.76	-52.25	-39.3
2722.00	H	-	-	-60.37	10.08	-50.29	-37.3

Table 7-20. Radiated Spurious Data (Band 71 – Mid Channel - CLOSED)

FCC ID: A3LSMF900F		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1901280020-03.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 247 of 312

OPERATING FREQUENCY: 690.50 MHz
 MODULATION SIGNAL: QPSK
 BANDWIDTH: 15.0 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]
1381.00	H	-	-	-62.45	7.46	-54.99	-42.0
2071.50	H	-	-	-60.21	8.81	-51.40	-38.4
2762.00	H	-	-	-60.32	10.16	-50.15	-37.2

Table 7-21. Radiated Spurious Data (Band 71 – High Channel - CLOSED)

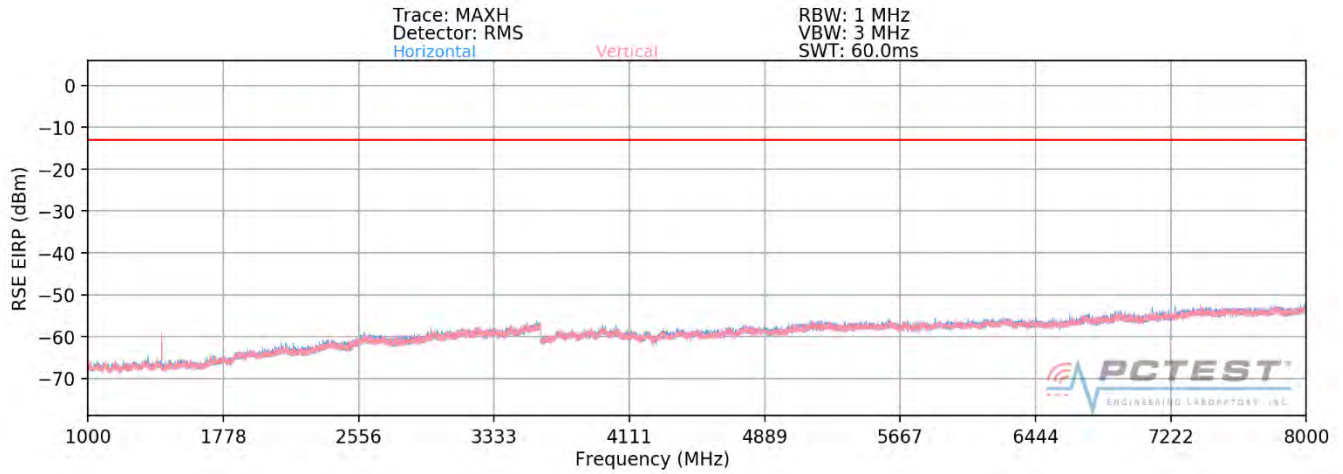
OPERATING FREQUENCY: 690.50 MHz
 MODULATION SIGNAL: QPSK
 BANDWIDTH: 15.0 MHz
 DISTANCE: 3 meters
 LIMIT: -13 dBm

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]
1381.00	H	-	-	-63.04	7.46	-55.58	-42.6
2071.50	H	-	-	-61.44	8.81	-52.63	-39.6

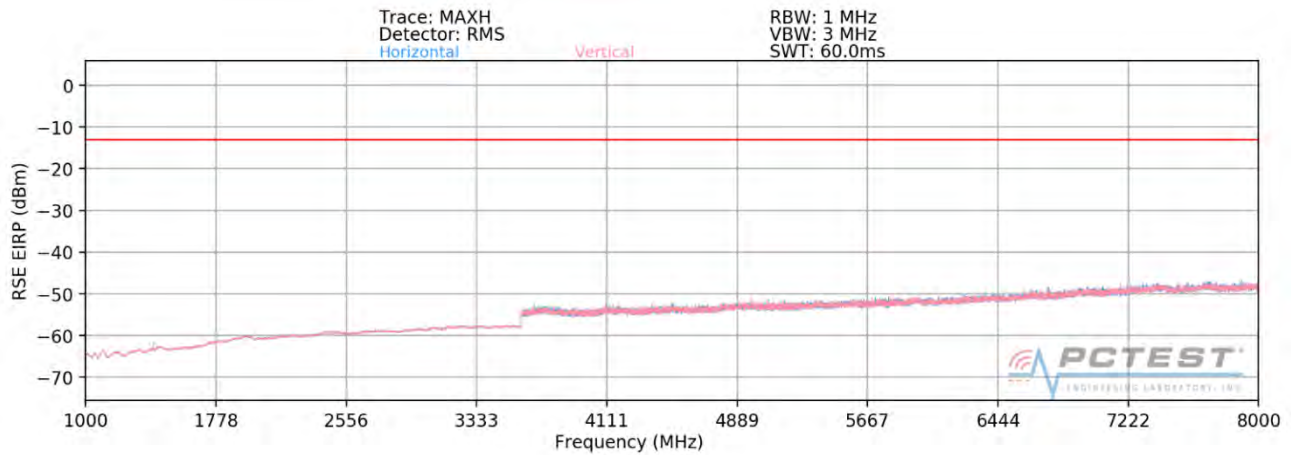
Table 7-22. Radiated Spurious Data with WCP (Band 71 – High Channel - CLOSED)

FCC ID: A3LSMF900F		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1901280020-03.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 248 of 312

Band 12



Plot 7-403. Radiated Spurious Plot above 1GHz (Band 12 - CLOSED)



Plot 7-404. Radiated Spurious Plot above 1GHz (Band 12 - OPEN)

FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-03.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 249 of 312

OPERATING FREQUENCY: 704.00 MHz
 MODULATION SIGNAL: QPSK
 BANDWIDTH: 10.0 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]
1408.00	H	-	-	-70.92	7.54	-63.38	-50.4
2112.00	H	-	-	-68.02	8.85	-59.17	-46.2
2816.00	H	-	-	-68.58	10.12	-58.46	-45.5

Table 7-23. Radiated Spurious Data (Band 12 – Low Channel - CLOSED)

OPERATING FREQUENCY: 707.50 MHz
 MODULATION SIGNAL: QPSK
 BANDWIDTH: 10.0 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]
1415.00	H	-	-	-69.65	7.63	-62.01	-49.0
2122.50	H	-	-	-69.50	8.86	-60.64	-47.6
2830.00	H	-	-	-64.99	10.10	-54.90	-41.9

Table 7-24. Radiated Spurious Data (Band 12 – Mid Channel - CLOSED)

FCC ID: A3LSMF900F		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1901280020-03.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 250 of 312

OPERATING FREQUENCY: 711.00 MHz
 MODULATION SIGNAL: QPSK
 BANDWIDTH: 10.0 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]
1422.00	H	-	-	-70.94	7.72	-63.22	-50.2
2133.00	H	-	-	-67.40	8.87	-58.53	-45.5
2844.00	H	-	-	-69.17	10.07	-59.10	-46.1

Table 7-25. Radiated Spurious Data (Band 12 – High Channel - CLOSED)

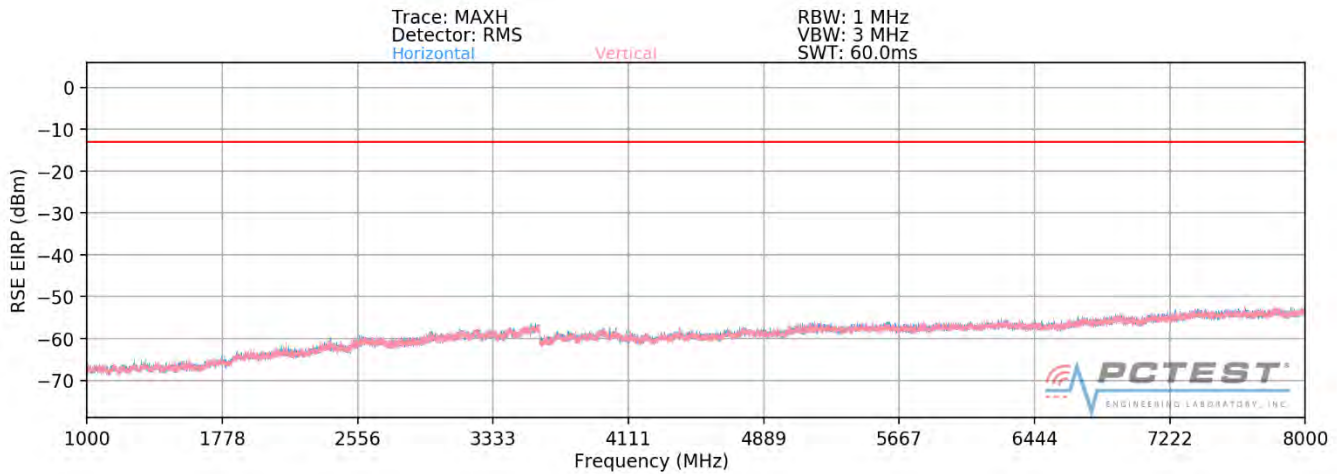
OPERATING FREQUENCY: 707.50 MHz
 MODULATION SIGNAL: QPSK
 BANDWIDTH: 10.0 MHz
 DISTANCE: 3 meters
 LIMIT: -13 dBm

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]
1415.00	H	-	-	-69.45	7.63	-61.81	-48.8
2122.50	H	-	-	-68.92	8.86	-60.06	-47.1
2830.00	H	-	-	-65.04	10.10	-54.95	-41.9

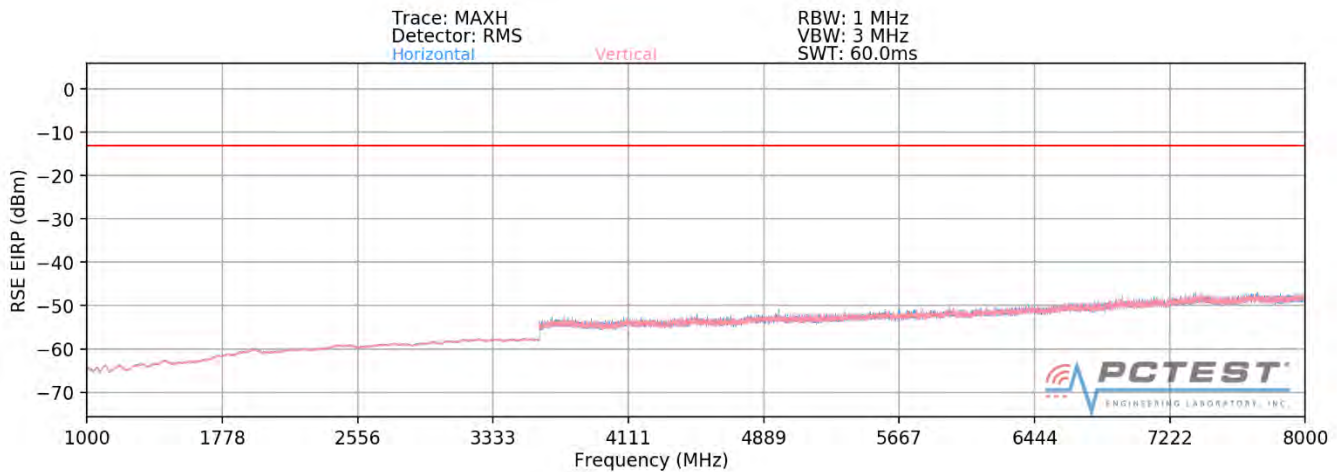
Table 7-26. Radiated Spurious Data with WCP (Band 12 – Mid Channel - CLOSED)

FCC ID: A3LSMF900F		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1901280020-03.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 251 of 312

Band 13



Plot 7-405. Radiated Spurious Plot above 1GHz (Band 13 - CLOSED)



Plot 7-406. Radiated Spurious Plot above 1GHz (Band 13 - OPEN)

FCC ID: A3LSMF900F	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1901280020-03.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset	
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OPERATING FREQUENCY: 779.50 MHz
 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	-	-	-69.17	9.47	-59.70	-46.7
3118.00	H	-	-	-66.67	9.35	-57.31	-44.3
3897.50	H	-	-	-63.70	9.35	-54.35	-41.4

Table 7-27. Radiated Spurious Data (Band 13 – Low Channel - CLOSED)

OPERATING FREQUENCY: 782.00 MHz
 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	-	-	-69.03	9.43	-59.60	-46.6
3128.00	H	-	-	-67.04	9.34	-57.70	-44.7
3910.00	H	-	-	-65.18	9.37	-55.81	-42.8

Table 7-28. Radiated Spurious Data (Band 13 – Mid Channel - CLOSED)

FCC ID: A3LSMF900F		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1901280020-03.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 253 of 312

OPERATING FREQUENCY: 784.50 MHz
 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	-	-	-70.95	9.41	-61.54	-48.5
3138.00	H	-	-	-66.96	9.33	-57.63	-44.6
3922.50	H	-	-	-63.30	9.40	-53.90	-40.9

Table 7-29. Radiated Spurious Data (Band 13 – High Channel - CLOSED)

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	-	-	-72.69	8.51	-64.18	-24.2
1564.00	H	-	-	-71.61	8.53	-63.08	-23.1
1569.00	H	-	-	-70.41	8.55	-61.86	-21.9

Table 7-30. Radiated Spurious Data (Band 13 – 1559-1610MHz Band - CLOSED)

FCC ID: A3LSMF900F	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
Test Report S/N: 1M1901280020-03.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset	
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OPERATING FREQUENCY: 782.00 MHz
 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	-	-	-70.28	9.41	-60.87	-47.9
3118.00	H	-	-	-65.61	9.33	-56.28	-43.3
3897.50	H	-	-	-64.33	9.40	-54.93	-41.9

Table 7-31. Radiated Spurious Data with WCP (Band 13 – High Channel - CLOSED)

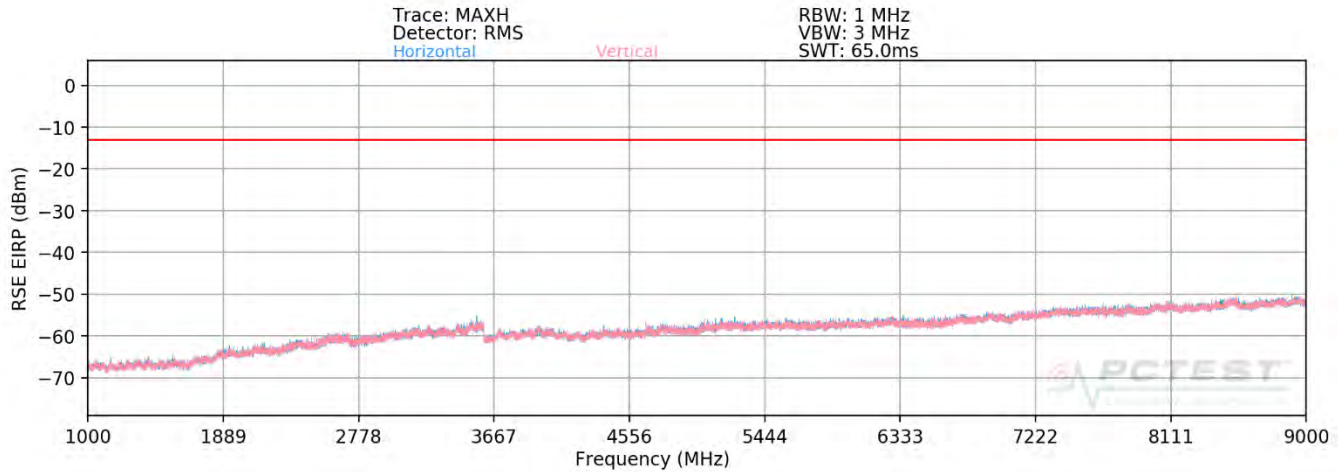
MODULATION SIGNAL: QPSK
 BANDWIDTH: 5.00 MHz
 DISTANCE: 3 meters
 NARROWBAND EMISSION LIMIT: -50 dBm
 WIDEBAND EMISSION LIMIT: -40 dBm/MHz

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]
1599.00	H	-	-	-68.23	8.55	-59.68	-19.7

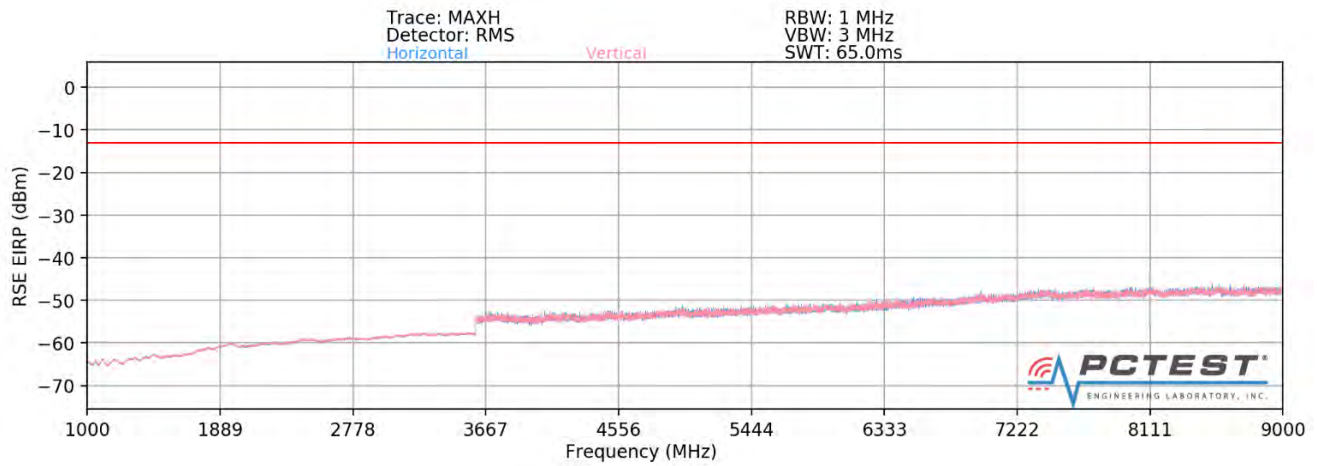
Table 7-32. Radiated Spurious Data with WCP (Band 13 – 1559-1610MHz Band - CLOSED)

FCC ID: A3LSMF900F		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1901280020-03.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 255 of 312

Band 26/5



Plot 7-407. Radiated Spurious Plot above 1GHz (Band 26 - CLOSED)



Plot 7-408. Radiated Spurious Plot above 1GHz (Band 26 - OPEN)

FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-03.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 256 of 312

OPERATING FREQUENCY: 824.70 MHz
 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]
1649.40	H	-	-	-74.74	8.95	-65.79	-52.8
2474.10	H	-	-	-72.32	9.65	-62.67	-49.7
3298.80	H	-	-	-71.02	9.58	-61.44	-48.4

Table 7-33. Radiated Spurious Data (Band 26/5 – Low Channel - CLOSED)

OPERATING FREQUENCY: 836.50 MHz
 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]
1673.00	H	-	-	-77.22	8.95	-68.27	-55.3
2509.50	H	-	-	-72.24	9.75	-62.49	-49.5
3346.00	H	-	-	-70.79	9.60	-61.19	-48.2

Table 7-34. Radiated Spurious Data (Band 26/5 – Mid Channel - CLOSED)

FCC ID: A3LSMF900F		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1901280020-03.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 257 of 312

OPERATING FREQUENCY: 848.30 MHz
 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]
1696.60	H	-	-	-74.47	8.95	-65.51	-52.5
2544.90	H	-	-	-72.47	9.74	-62.72	-49.7
3393.20	H	-	-	-71.32	9.77	-61.55	-48.5

Table 7-35. Radiated Spurious Data (Band 26/5 – High Channel - CLOSED)

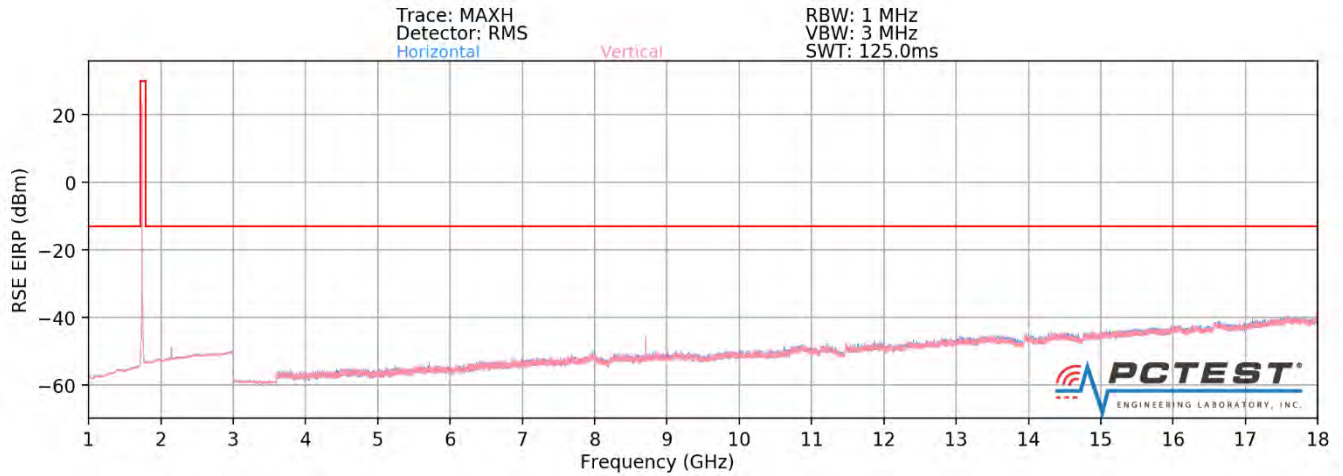
OPERATING FREQUENCY: 836.50 MHz
 MODULATION SIGNAL: QPSK
 BANDWIDTH: 1.4 MHz
 DISTANCE: 3 meters
 LIMIT: -13 dBm

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]
1673.00	H	-	-	-65.62	8.95	-56.67	-43.7
2509.50	H	-	-	-62.53	9.75	-52.78	-39.8

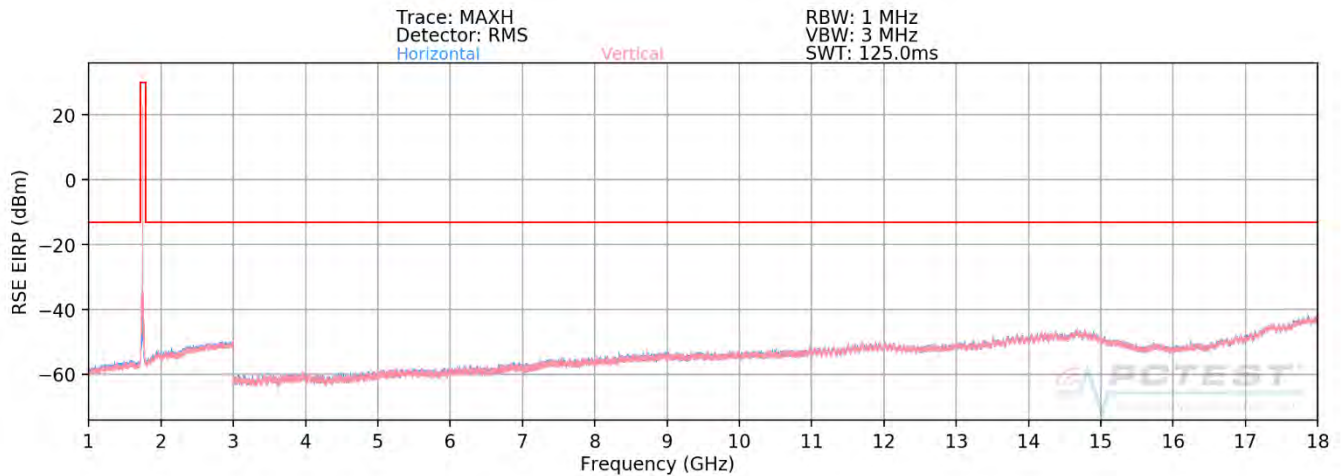
Table 7-36. Radiated Spurious Data with WCP (Band 26/5 – Mid Channel - CLOSED)

FCC ID: A3LSMF900F		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1901280020-03.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 258 of 312

Band 66/4



Plot 7-409. Radiated Spurious Plot above 1GHz (Band 66/4 - CLOSED)



Plot 7-410. Radiated Spurious Plot above 1GHz (Band 66/4 - OPEN)

FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-03.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 259 of 312

OPERATING FREQUENCY: 1712.50 MHz
 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]
3425.00	H	-	-	-70.74	9.83	-60.91	-47.9
5137.50	H	187	180	-58.58	10.69	-47.89	-34.9
6850.00	H	-	-	-67.98	11.64	-56.34	-43.3

Table 7-37. Radiated Spurious Data (Band 66/4 – Low Channel – CLOSED)

OPERATING FREQUENCY: 1745.00 MHz
 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]
3490.00	H	-	-	-71.05	9.91	-61.14	-48.1
5235.00	H	135	223	-60.31	10.73	-49.58	-36.6
6980.00	H	-	-	-68.19	11.82	-56.37	-43.4

Table 7-38. Radiated Spurious Data (Band 66/4 – Mid Channel - CLOSED)

FCC ID: A3LSMF900F		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1901280020-03.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 260 of 312

OPERATING FREQUENCY: 1777.50 MHz
 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]
3555.00	H	-	-	-70.76	9.89	-60.87	-47.9
5332.50	H	89	308	-59.22	10.70	-48.52	-35.5
7110.00	H	-	-	-67.88	11.73	-56.15	-43.2

Table 7-39. Radiated Spurious Data (Band 66/4 – High Channel - CLOSED)

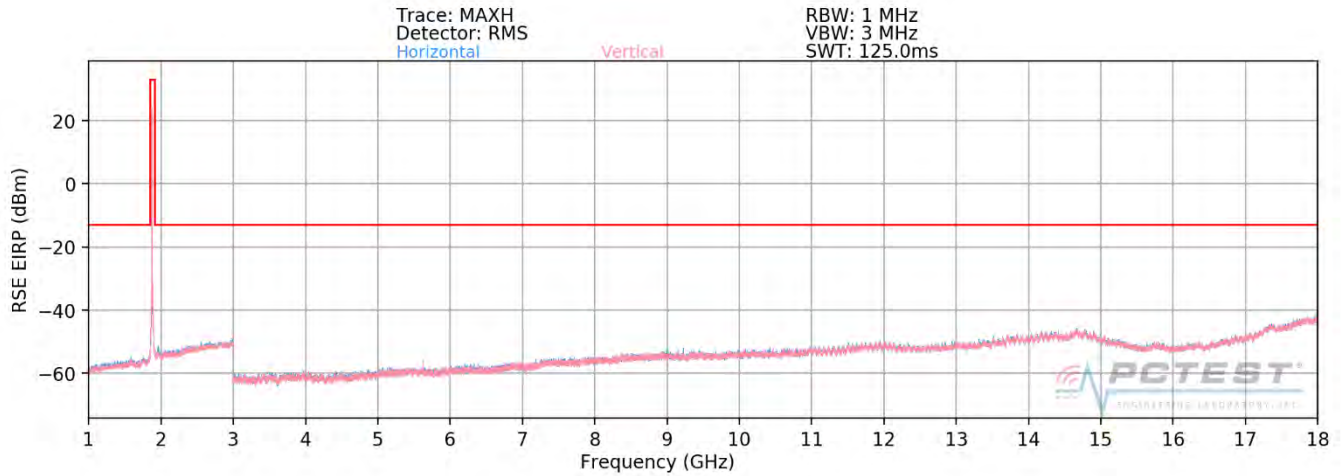
OPERATING FREQUENCY: 1777.50 MHz
 MODULATION SIGNAL: QPSK
 BANDWIDTH: 5.0 MHz
 DISTANCE: 3 meters
 LIMIT: -13 dBm

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]
3555.00	H	-	-	-61.83	9.90	-51.94	-38.9
5332.50	H	123	299	-58.90	10.70	-48.20	-35.2
7110.00	H	-	-	-68.06	11.72	-56.34	-43.3

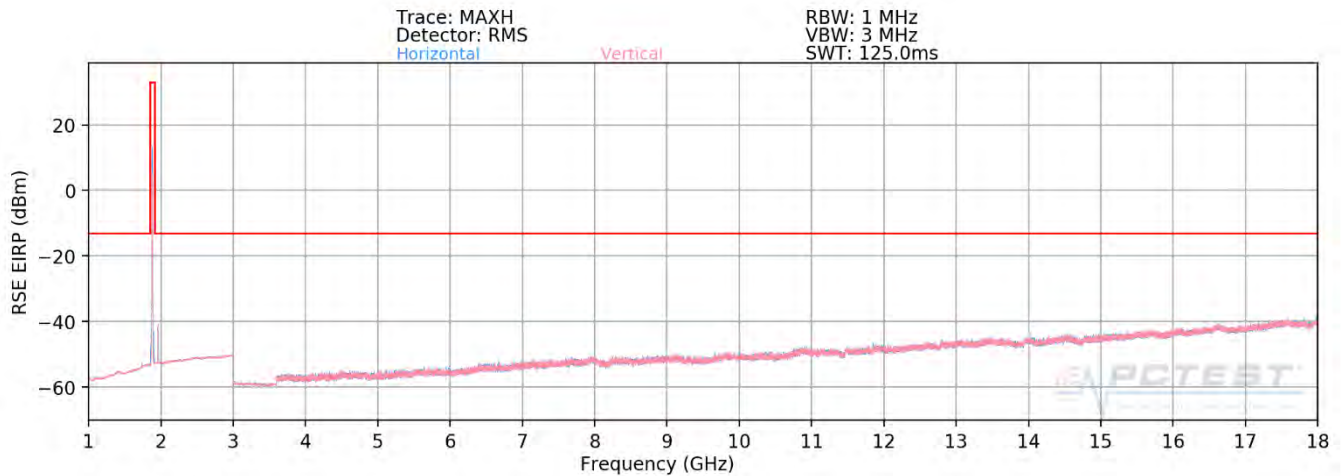
Table 7-40. Radiated Spurious Data with WCP (Band 66/4 – High Channel - CLOSED)

FCC ID: A3LSMF900F		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1901280020-03.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 261 of 312

Band 25/2



Plot 7-411. Radiated Spurious Plot above 1GHz (Band 25 - CLOSED)



Plot 7-412. Radiated Spurious Plot above 1GHz (Band 25/2 - OPEN)

FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-03.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 262 of 312

OPERATING FREQUENCY: 1857.50 MHz
 MODULATION SIGNAL: QPSK
 BANDWIDTH: 15.0 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]
3715.00	H	-	-	-70.73	9.53	-61.21	-48.2
5572.50	H	-	-	-69.90	10.97	-58.93	-45.9
7430.00	H	-	-	-66.55	10.98	-55.57	-42.6

Table 7-41. Radiated Spurious Data (Band 25/2 – Low Channel - CLOSED)

OPERATING FREQUENCY: 1882.50 MHz
 MODULATION SIGNAL: QPSK
 BANDWIDTH: 15.0 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]
3765.00	H	-	-	-70.36	9.36	-61.00	-48.0
5647.50	H	-	-	-70.54	11.19	-59.35	-46.4
7530.00	H	-	-	-66.44	11.13	-55.31	-42.3

Table 7-42. Radiated Spurious Data (Band 25/2 – Mid Channel - CLOSED)

FCC ID: A3LSMF900F		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1901280020-03.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 263 of 312

OPERATING FREQUENCY: 1907.50 MHz
 MODULATION SIGNAL: QPSK
 BANDWIDTH: 15.0 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]
3815.00	H	-	-	-70.35	9.30	-61.05	-48.0
5722.50	H	-	-	-70.49	11.37	-59.12	-46.1
7630.00	H	-	-	-66.88	11.31	-55.57	-42.6

Table 7-43. Radiated Spurious Data (Band 25/2 – High Channel - CLOSED)

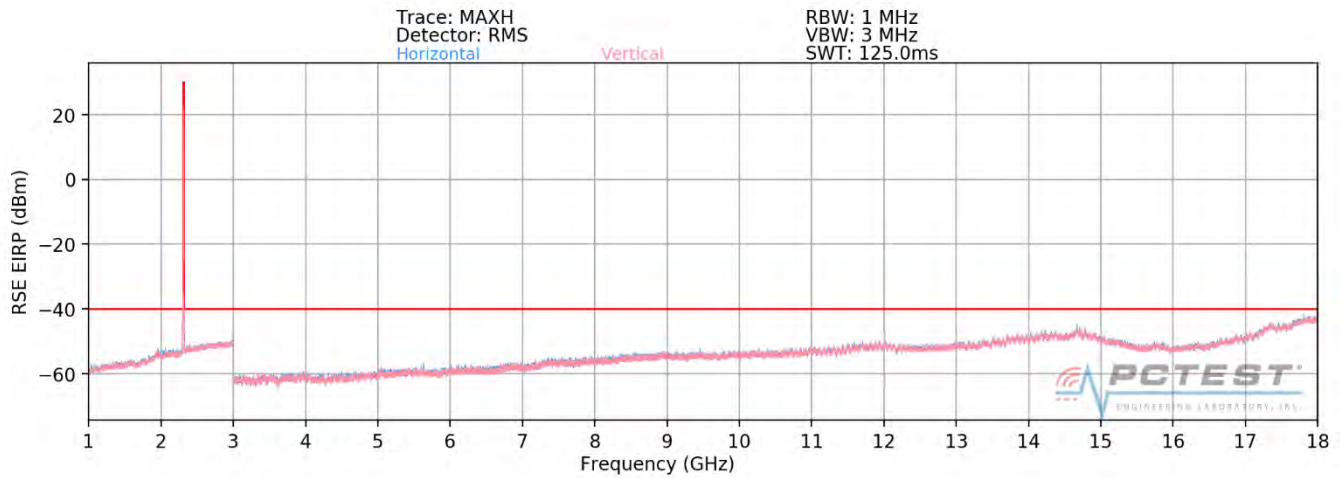
OPERATING FREQUENCY: 1882.50 MHz
 MODULATION SIGNAL: QPSK
 BANDWIDTH: 15.0 MHz
 DISTANCE: 3 meters
 LIMIT: -13 dBm

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]
3765.00	H	-	-	-61.29	9.36	-51.93	-38.9
5647.50	H	-	-	-61.82	11.19	-50.63	-37.6
7530.00	H	-	-	-66.38	11.13	-55.25	-42.2

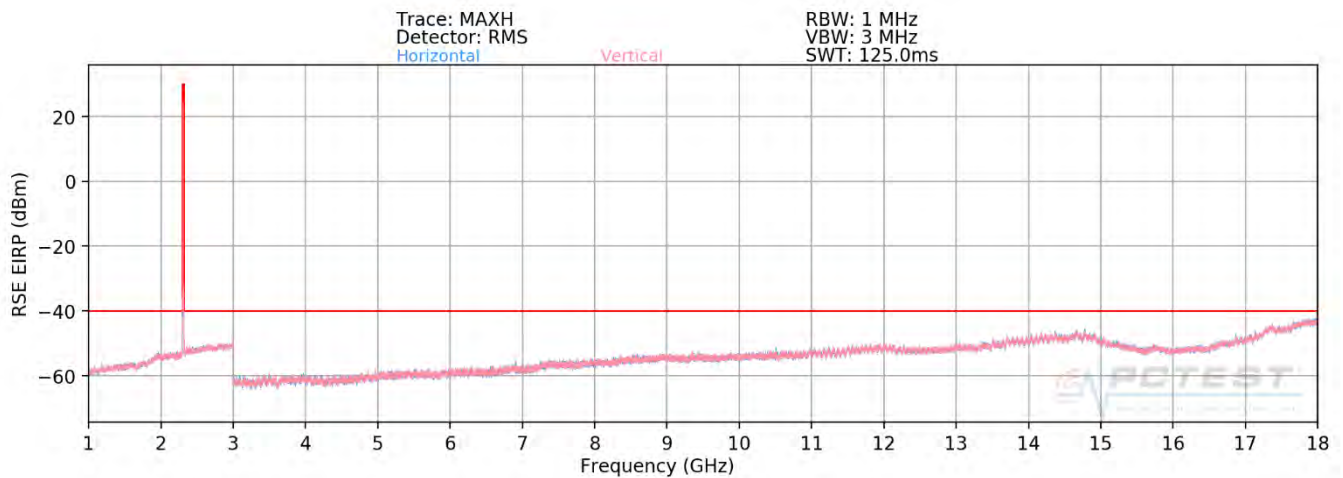
Table 7-44. Radiated Spurious Data with WCP (Band 25/2 – Mid Channel - CLOSED)

FCC ID: A3LSMF900F		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1901280020-03.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 264 of 312

Band 30



Plot 7-413. Radiated Spurious Plot 1GHz - 18GHz (Band 30 - CLOSED)



Plot 7-414. Radiated Spurious Plot 1GHz - 18GHz (Band 30 - OPEN)

FCC ID: A3LSMF900F	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1901280020-03.A3L	Test Dates: 01/22/2019 - 03/28/2019	EUT Type: Portable Handset		Page 265 of 312