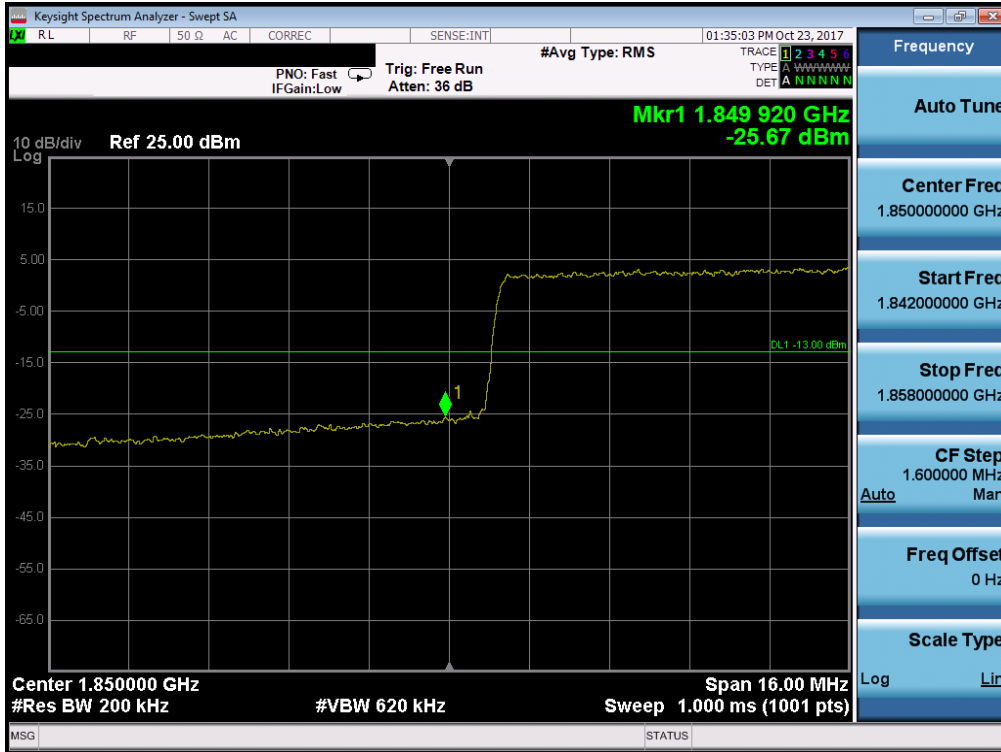
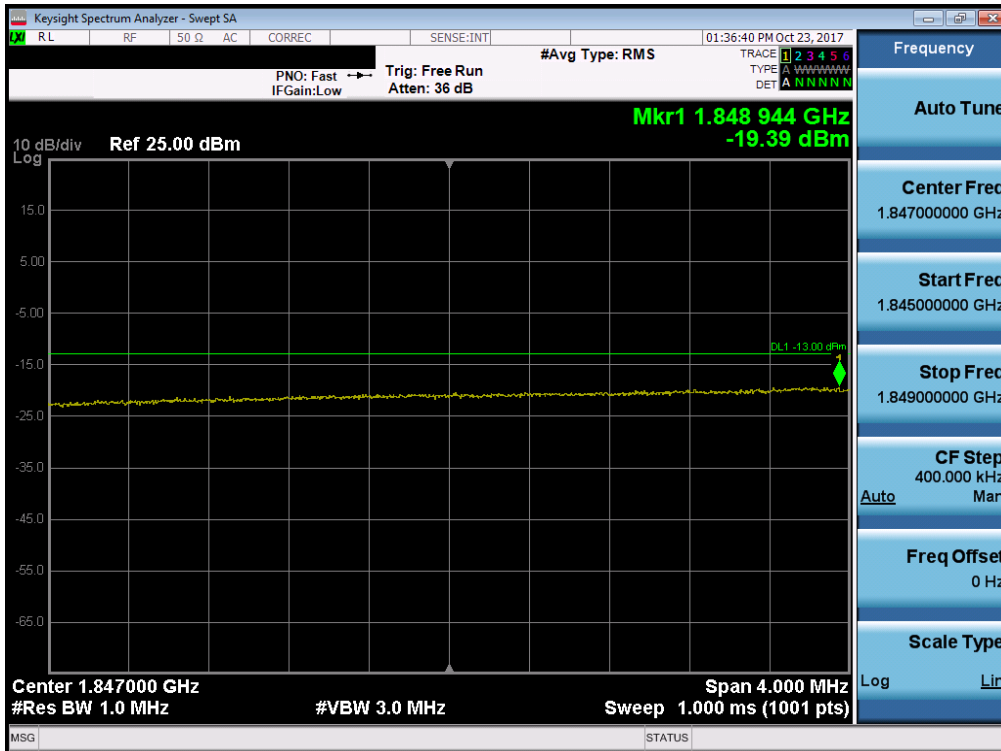


Band 25/2



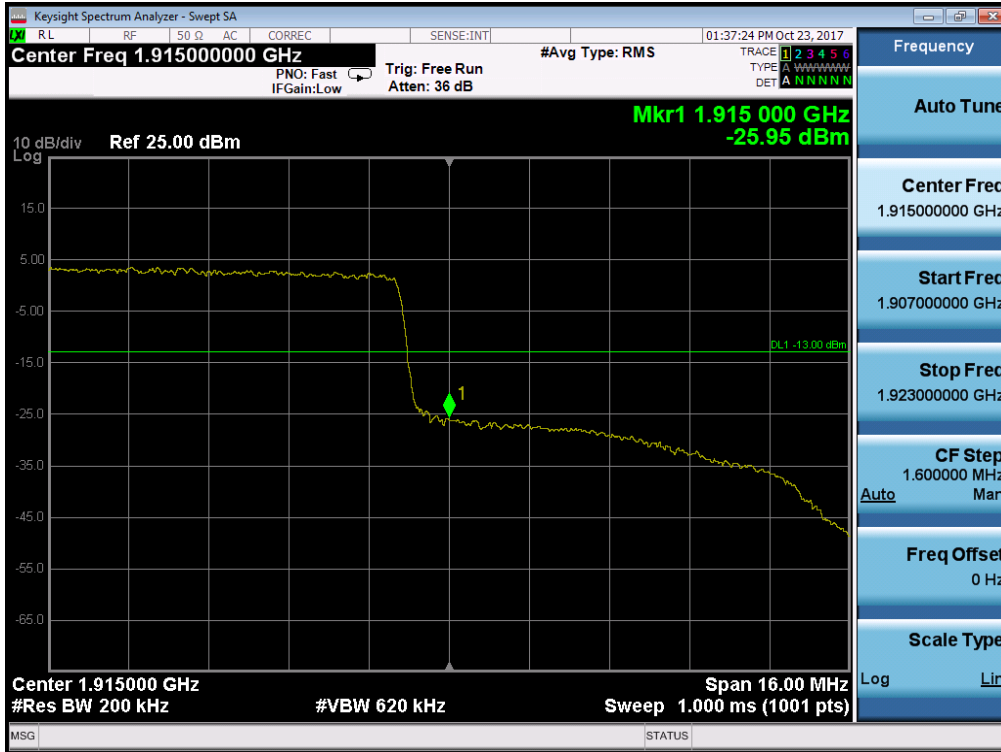
Plot 7-193. Lower Band Edge Plot (Band 25/2 - 20.0MHz QPSK - Full RB Configuration)



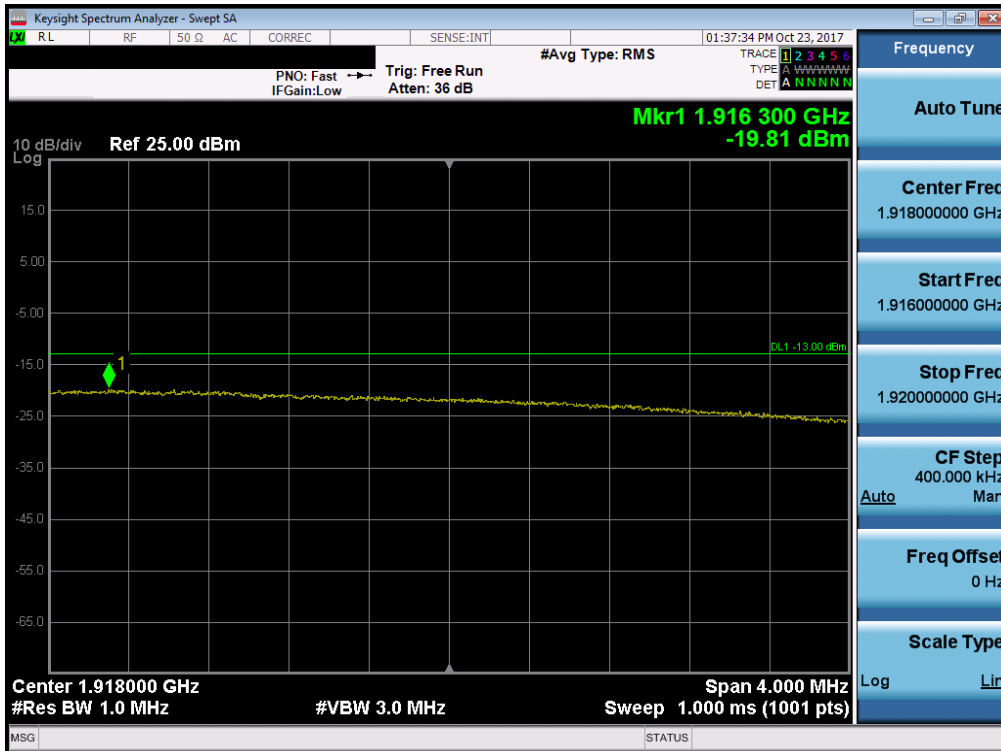
Plot 7-194. Lower Extended Band Edge Plot (Band 25/2 - 20.0MHz QPSK - Full RB Configuration)

FCC ID: A3LSMG965KOR	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Band 25



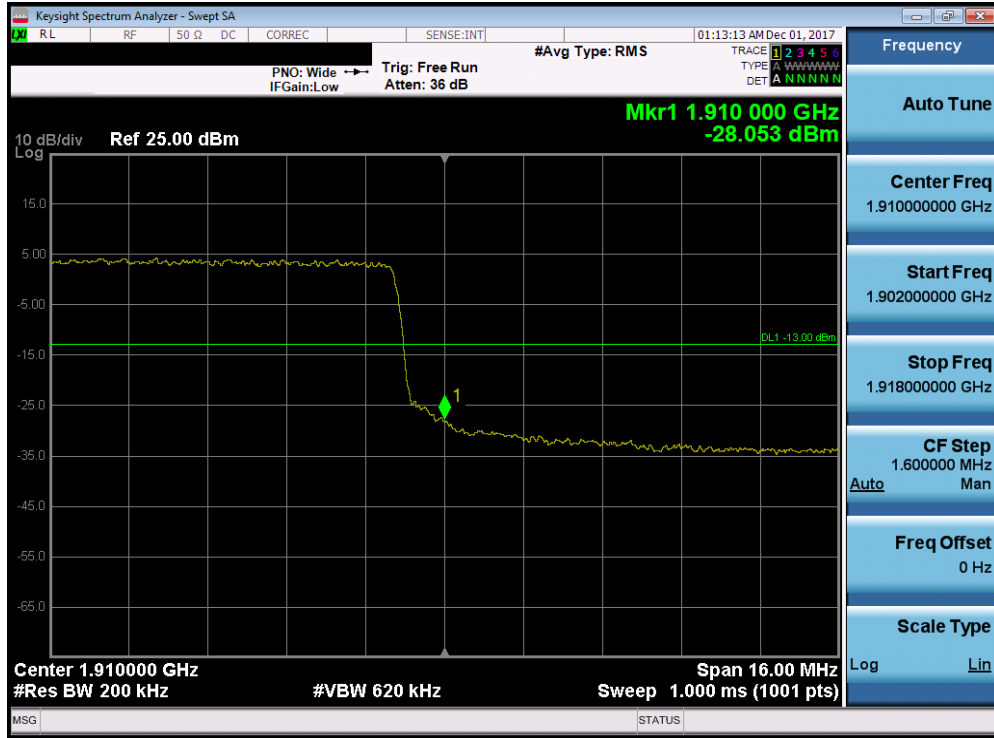
Plot 7-195. Upper Band Edge Plot (Band 25 - 20.0MHz QPSK - Full RB Configuration)



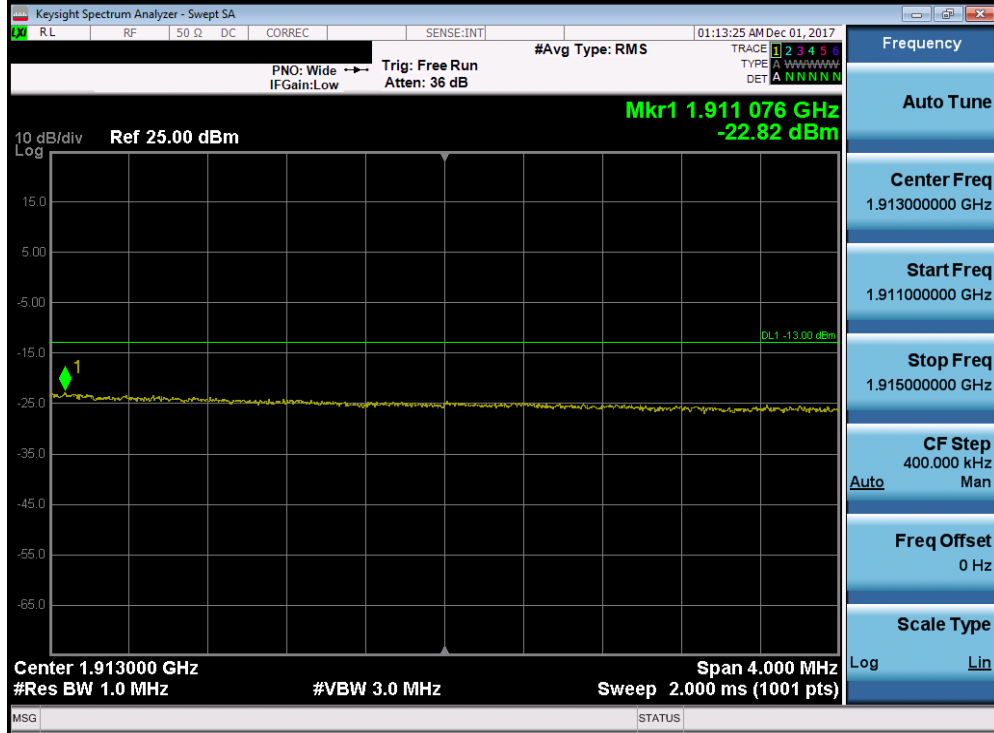
Plot 7-196. Upper Extended Band Edge Plot (Band 25 - 20.0MHz QPSK - Full RB Configuration)

FCC ID: A3LSMG965KOR		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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Band 2



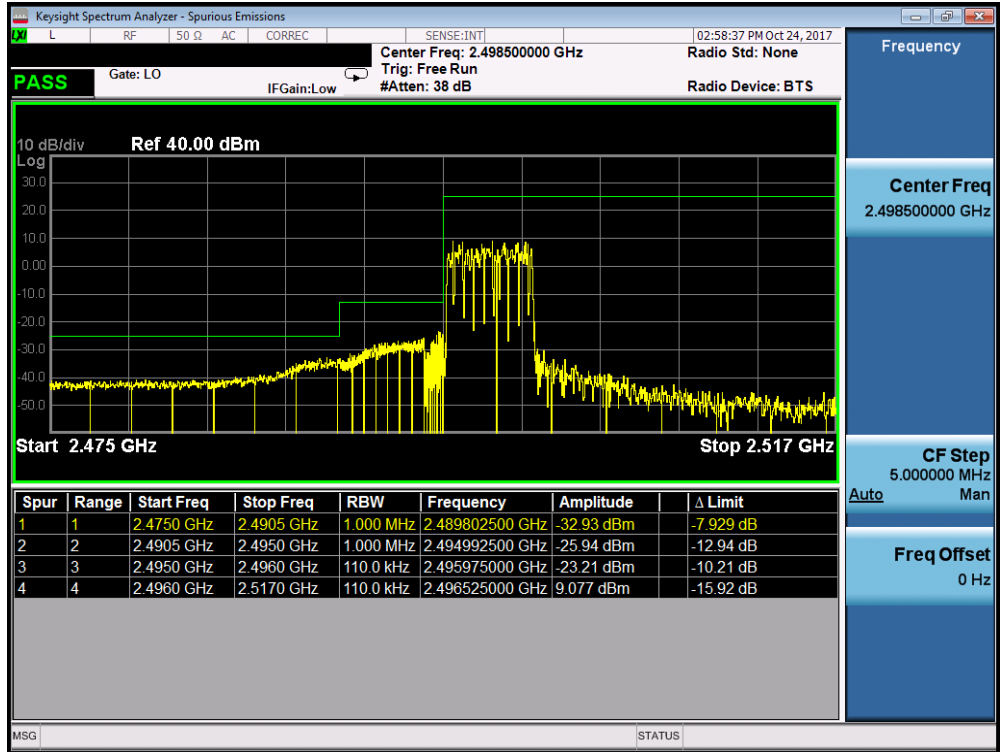
Plot 7-197. Upper Band Edge Plot (Band 2 - 20.0MHz QPSK - Full RB Configuration)



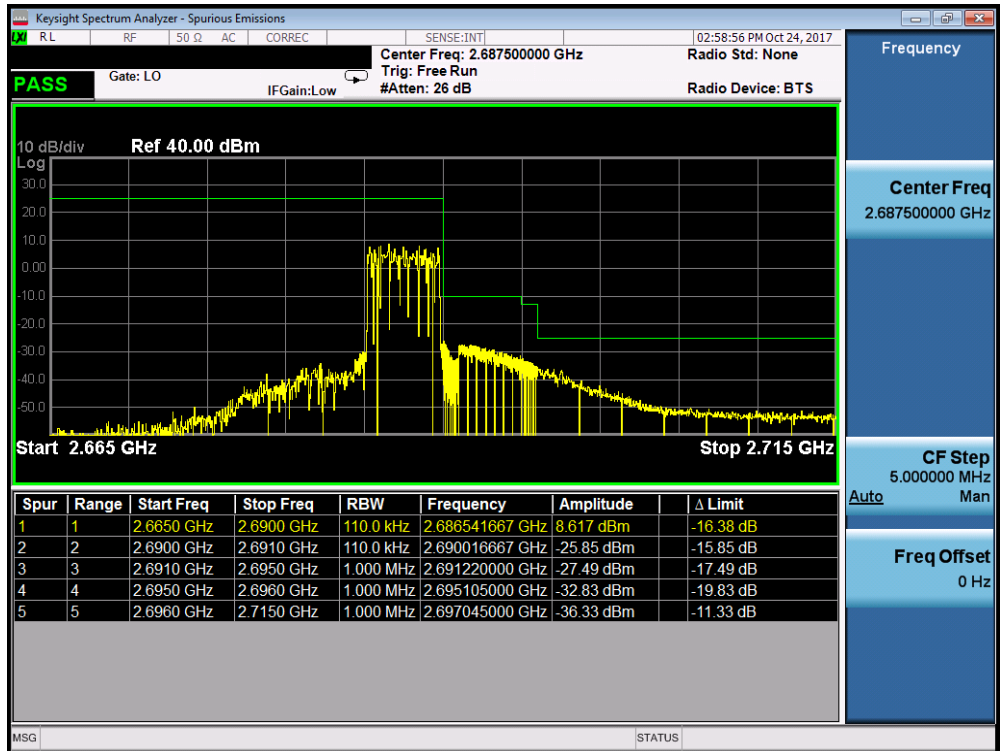
Plot 7-198. Upper Extended Band Edge Plot (Band 2 - 20.0MHz QPSK - Full RB Configuration)

FCC ID: A3LSMG965KOR	 MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
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Band 41



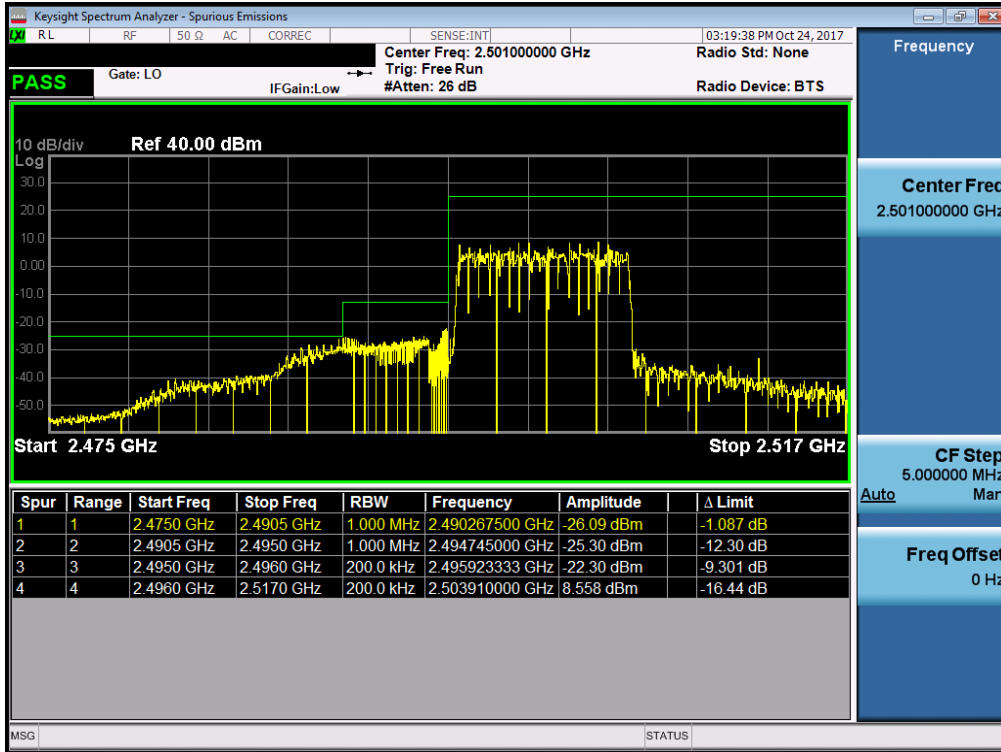
Plot 7-199. Lower ACP Plot (Band 41 - 5.0MHz QPSK - RB Size 25)



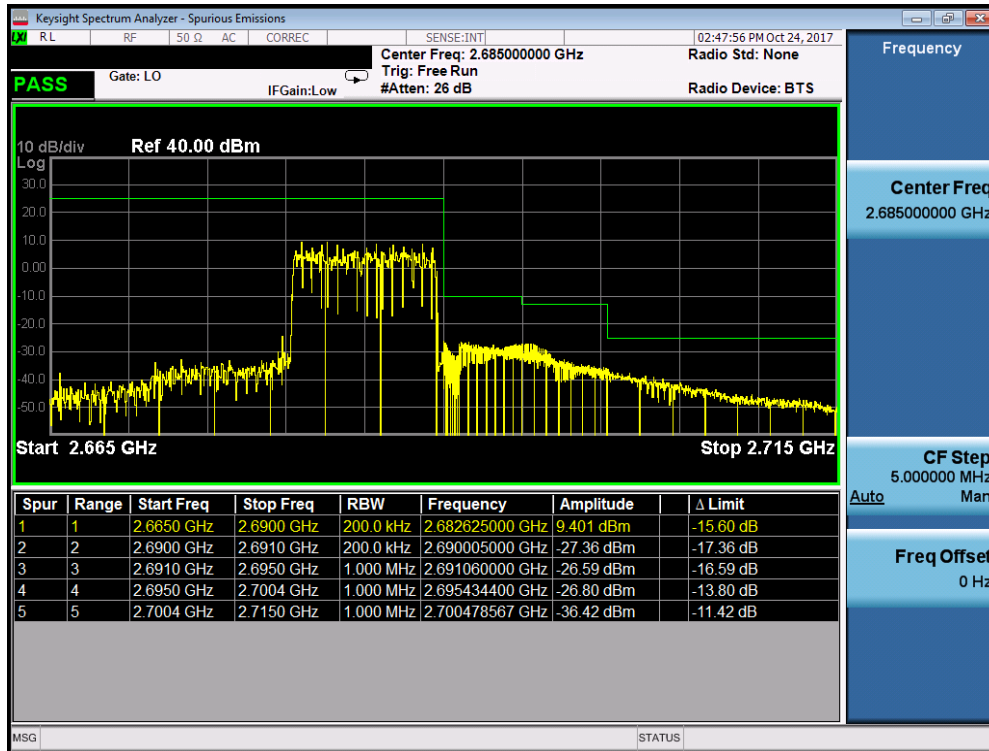
Plot 7-200. Upper ACP Plot (Band 41 - 5.0MHz QPSK - RB Size 25)

FCC ID: A3LSMG965KOR		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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Band 41



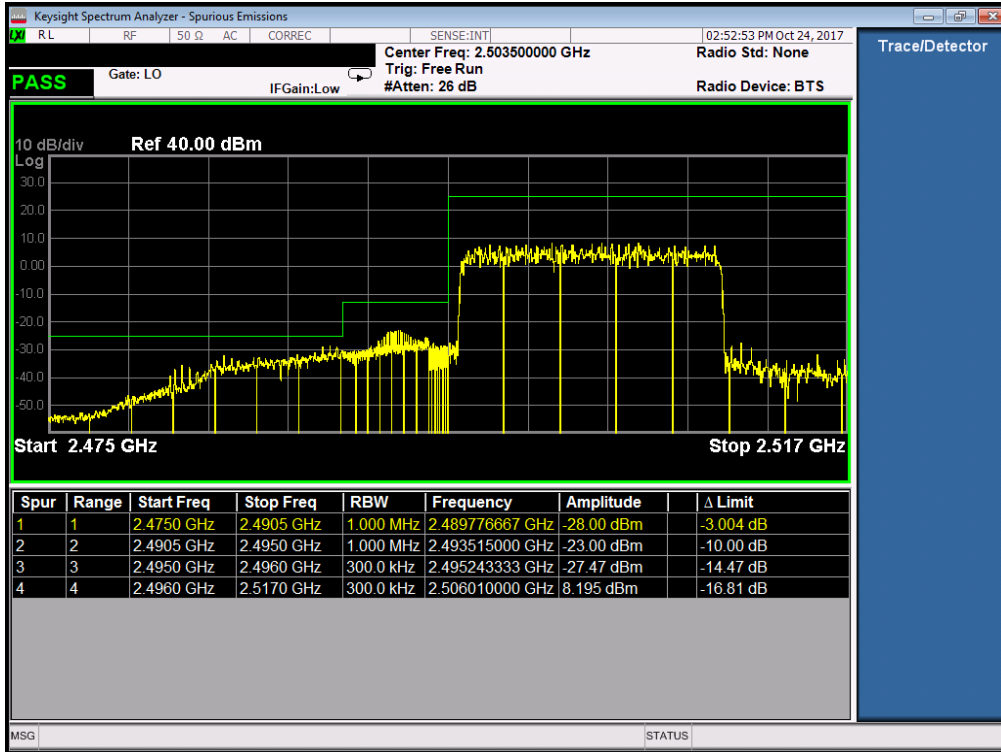
Plot 7-201. Lower ACP Plot (Band 41 - 10.0MHz QPSK - RB Size 25)



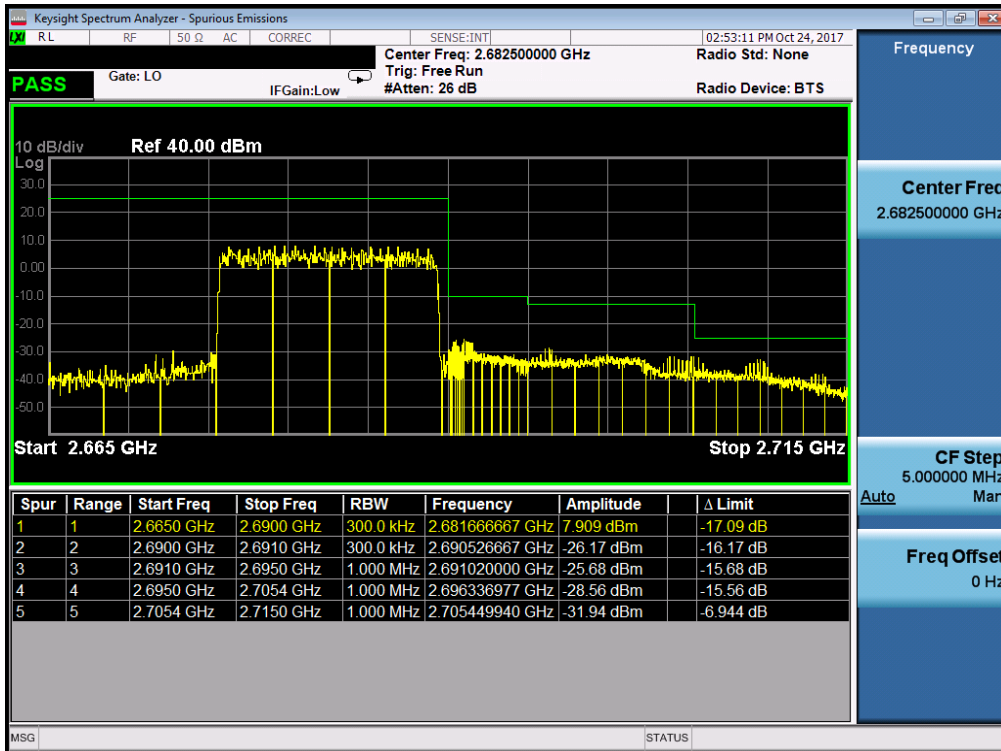
Plot 7-202. Upper ACP Plot (Band 41 - 10.0MHz QPSK - RB Size 25)

FCC ID: A3LSMG965KOR		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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Band 41



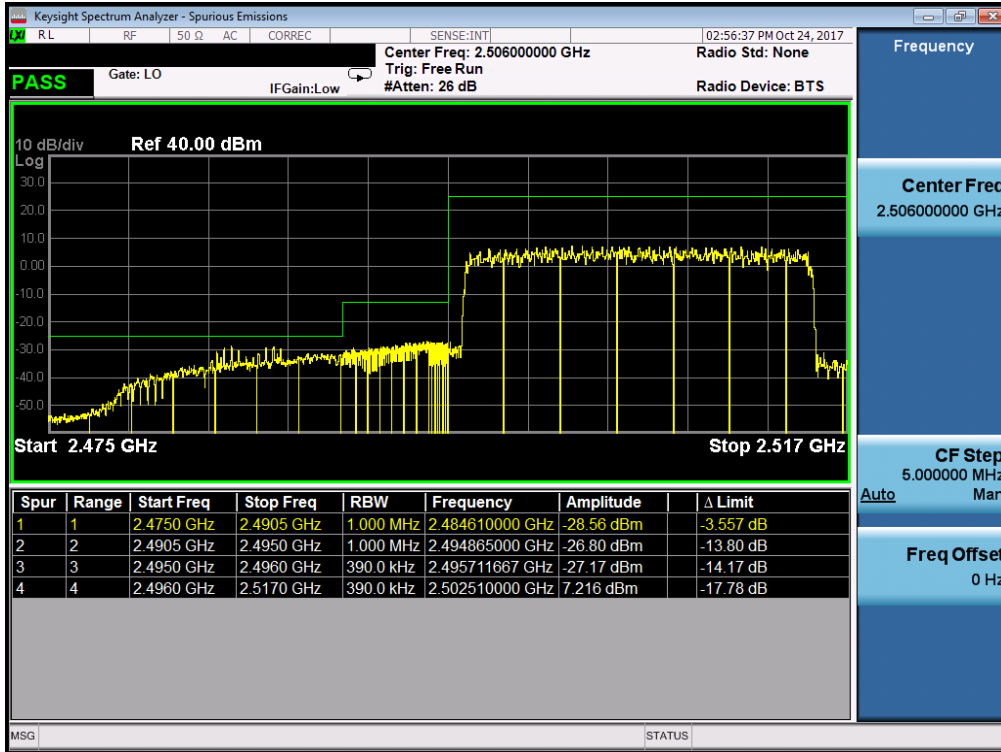
Plot 7-203. Lower ACP Plot (Band 41 - 15.0MHz QPSK - RB Size 25)



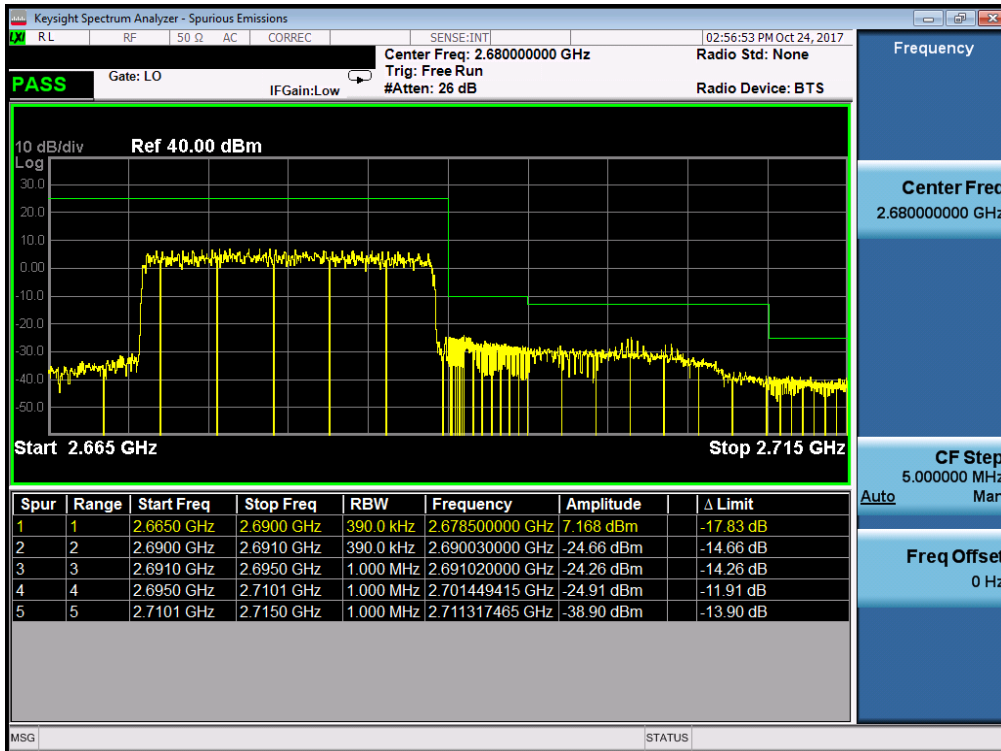
Plot 7-204. Upper ACP Plot (Band 41 - 15.0MHz QPSK - RB Size 25)

FCC ID: A3LSMG965KOR		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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Band 41



Plot 7-205. Lower ACP Plot (Band 41 - 20.0MHz QPSK - RB Size 25)



Plot 7-206. Upper ACP Plot (Band 41 - 20.0MHz QPSK - RB Size 25)

FCC ID: A3LSMG965KOR	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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7.5 Peak-Average Ratio

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

Test Overview

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

Test Procedure Used

KDB 971168 D01 v03 – Section 5.7.1

Test Settings

1. The signal analyzer’s CCDF measurement profile is enabled
2. Frequency = carrier center frequency
3. Measurement BW > Emission bandwidth of signal
4. The signal analyzer was set to collect one million samples to generate the CCDF curve
5. The measurement interval was set depending on the type of signal analyzed. For continuous signals (>98% duty cycle), the measurement interval was set to 1ms. For burst transmissions, the spectrum analyzer is set to use an internal “RF Burst” trigger that is synced with an incoming pulse and the measurement interval is set to less than the duration of the “on time” of one burst to ensure that energy is only captured during a time in which the transmitter is operating at maximum power

Test Setup

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

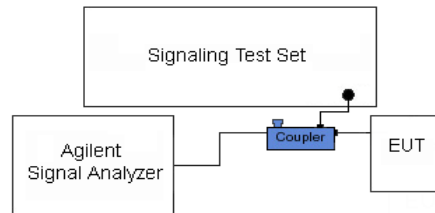


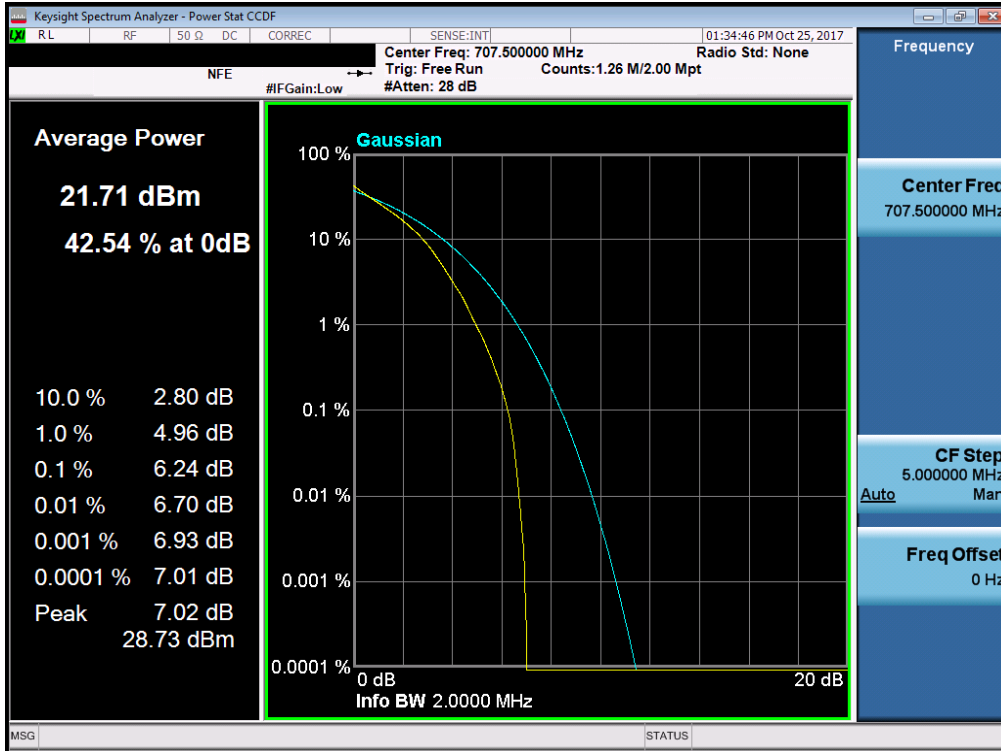
Figure 7-4. Test Instrument & Measurement Setup

Test Notes

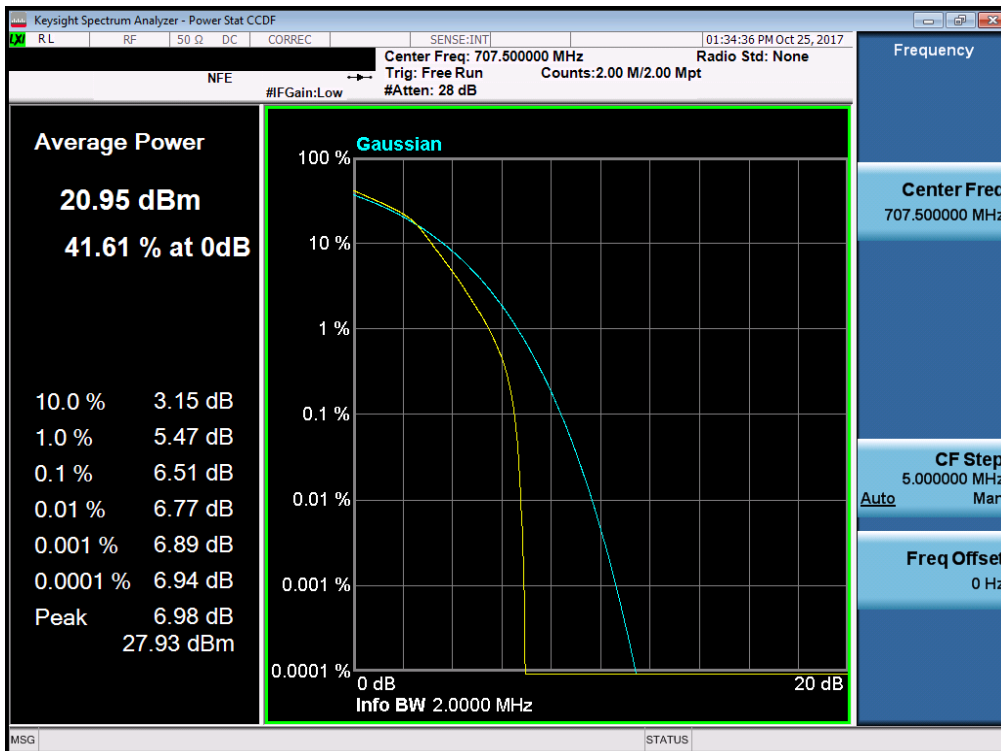
None.

FCC ID: A3LSMG965KOR		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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Band 12



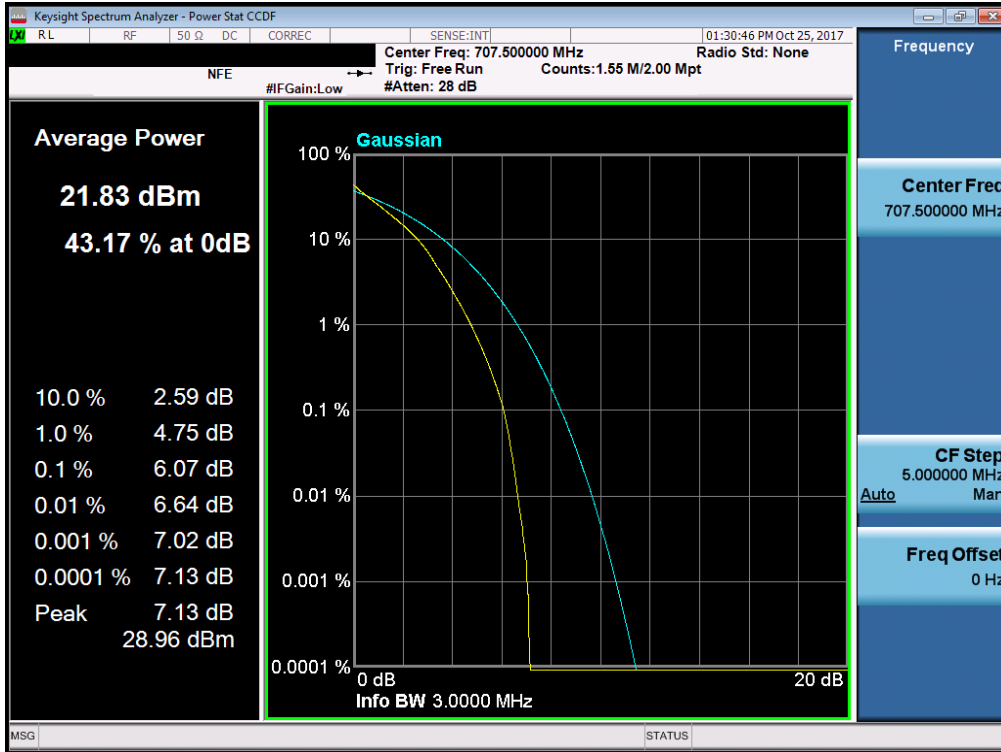
Plot 7-207. PAR Plot (Band 12 - 1.4 MHz QPSK - Full RB Configuration)



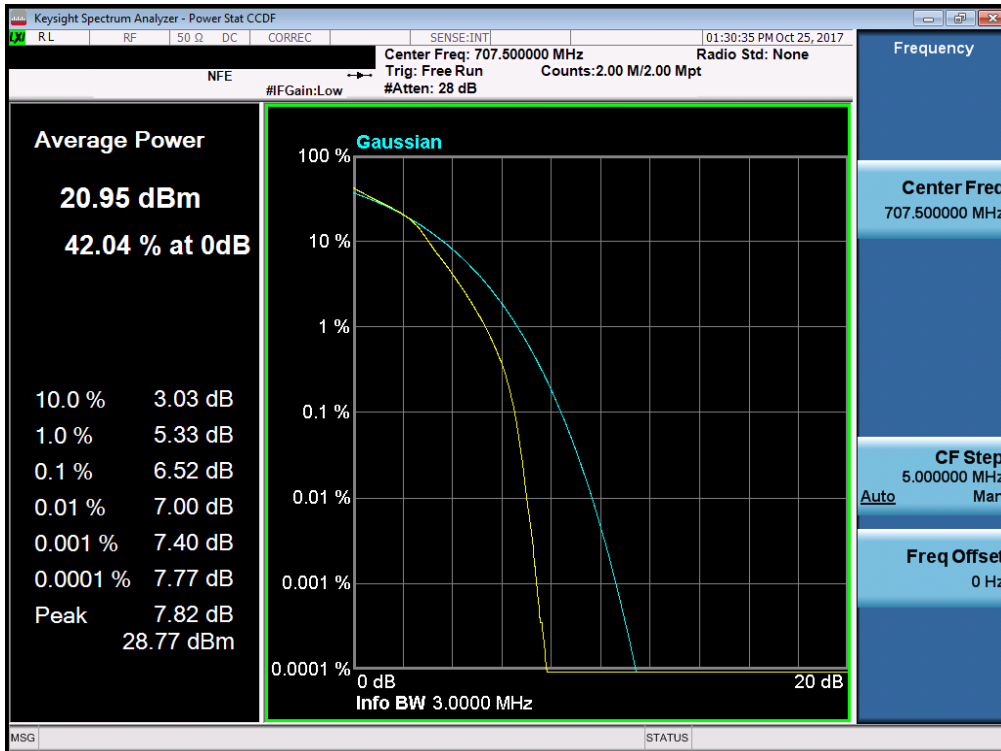
Plot 7-208. PAR Plot (Band 12 - 1.4 MHz 16-QAM - Full RB Configuration)

FCC ID: A3LSMG965KOR	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Band 12



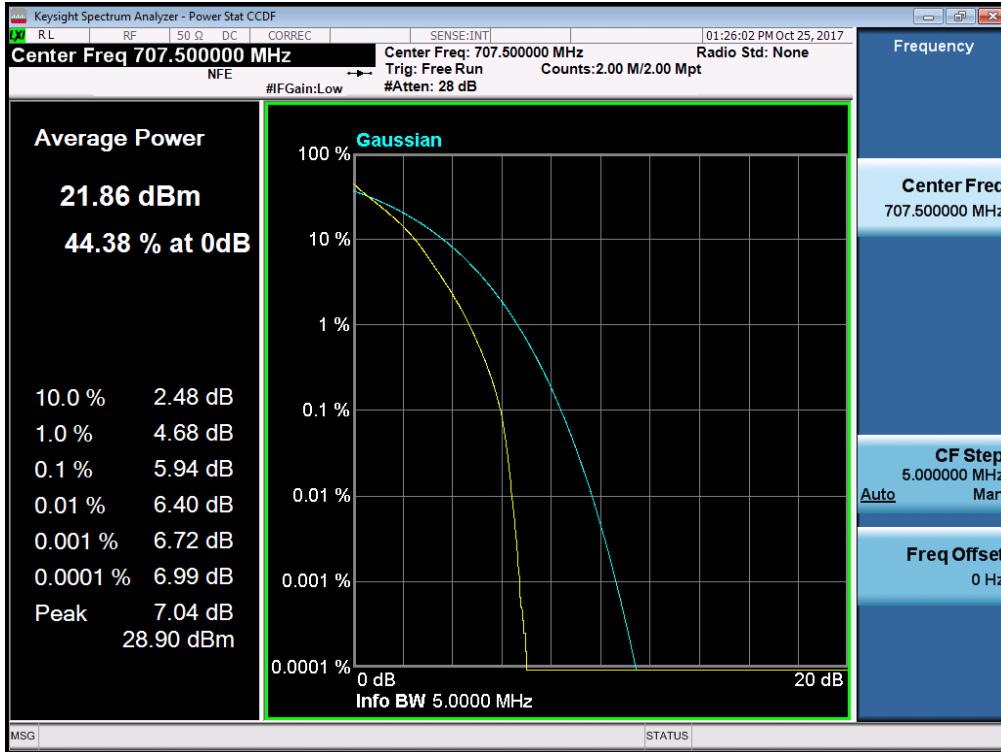
Plot 7-209. PAR Plot (Band 12 - 3.0MHz QPSK - Full RB Configuration)



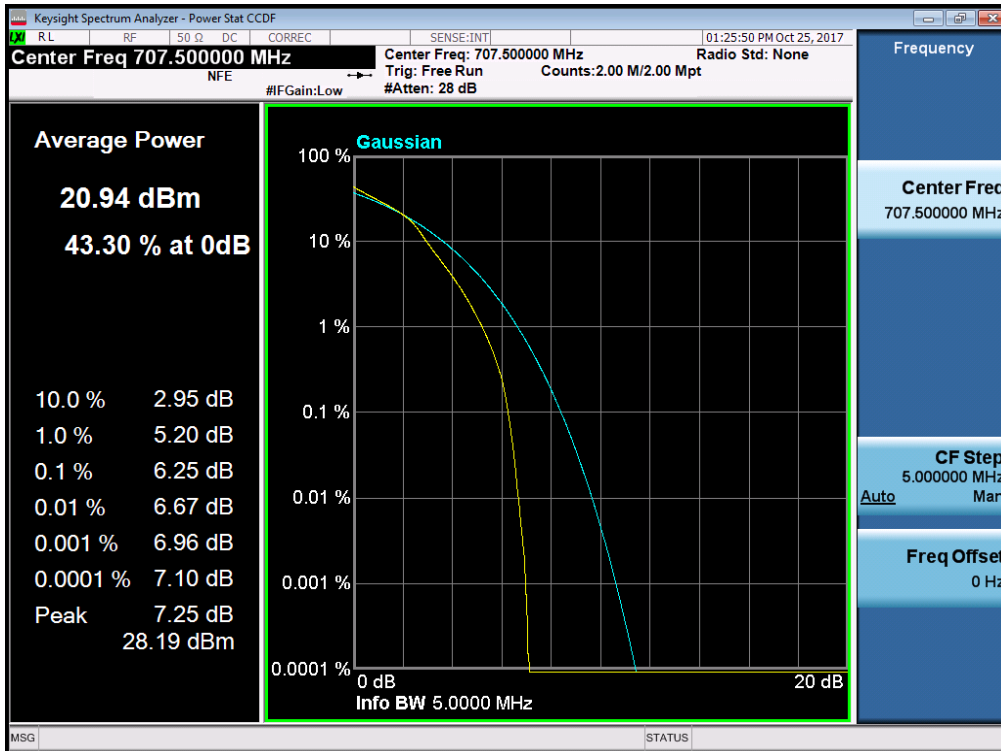
Plot 7-210. PAR Plot (Band 12 - 3.0MHz 16-QAM - Full RB Configuration)

FCC ID: A3LSMG965KOR		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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Band 12/17



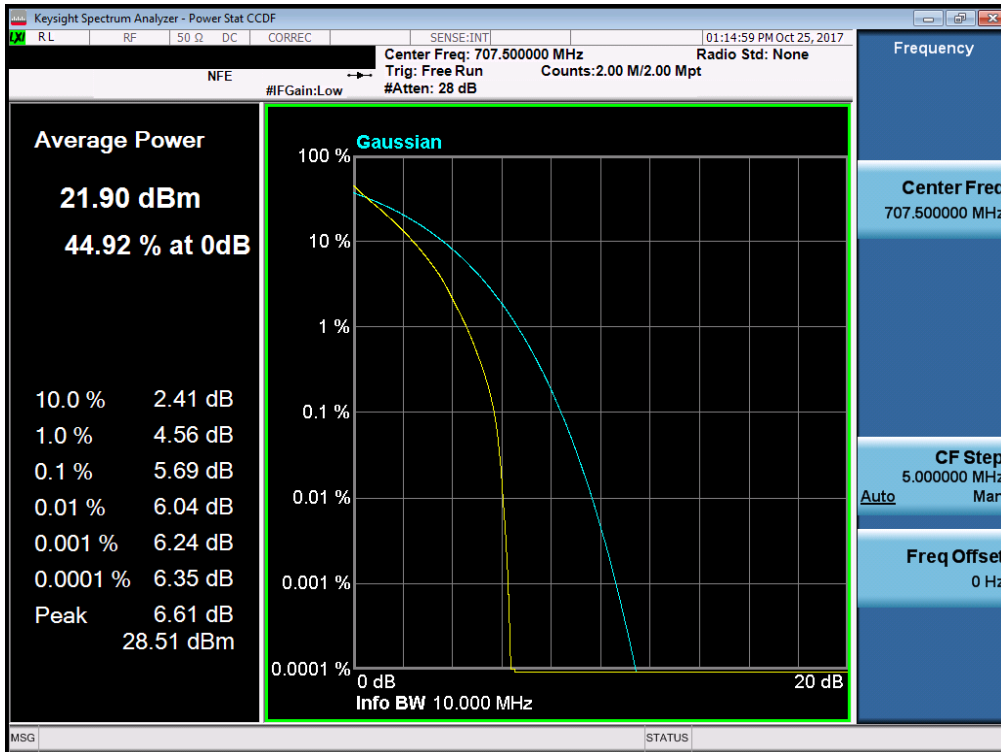
Plot 7-211. PAR Plot (Band 12/17 - 5.0MHz QPSK - Full RB Configuration)



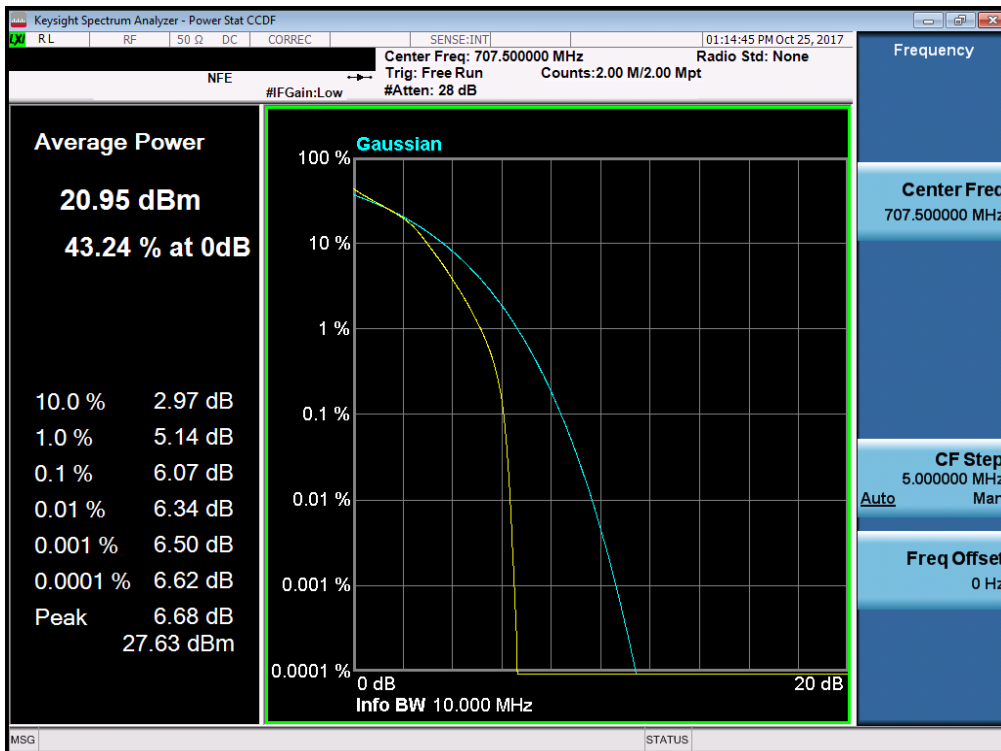
Plot 7-212. PAR Plot (Band 12/17 - 5.0MHz 16-QAM - Full RB Configuration)

FCC ID: A3LSMG965KOR	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Band 12/17



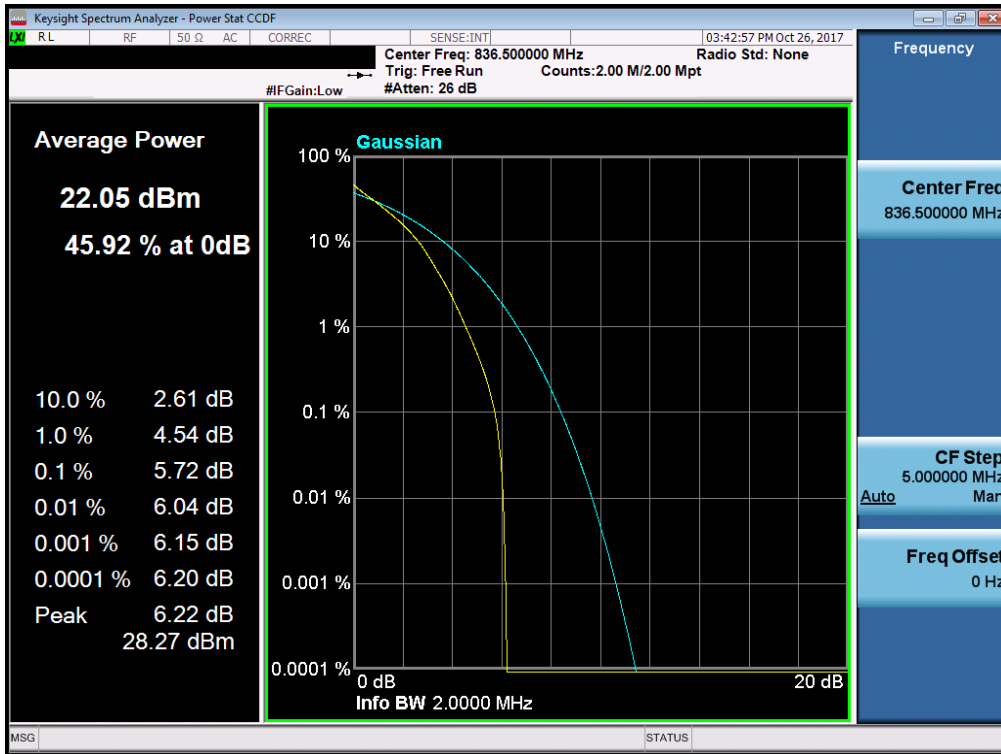
Plot 7-213. PAR Plot (Band 12/17 - 10.0MHz QPSK - Full RB Configuration)



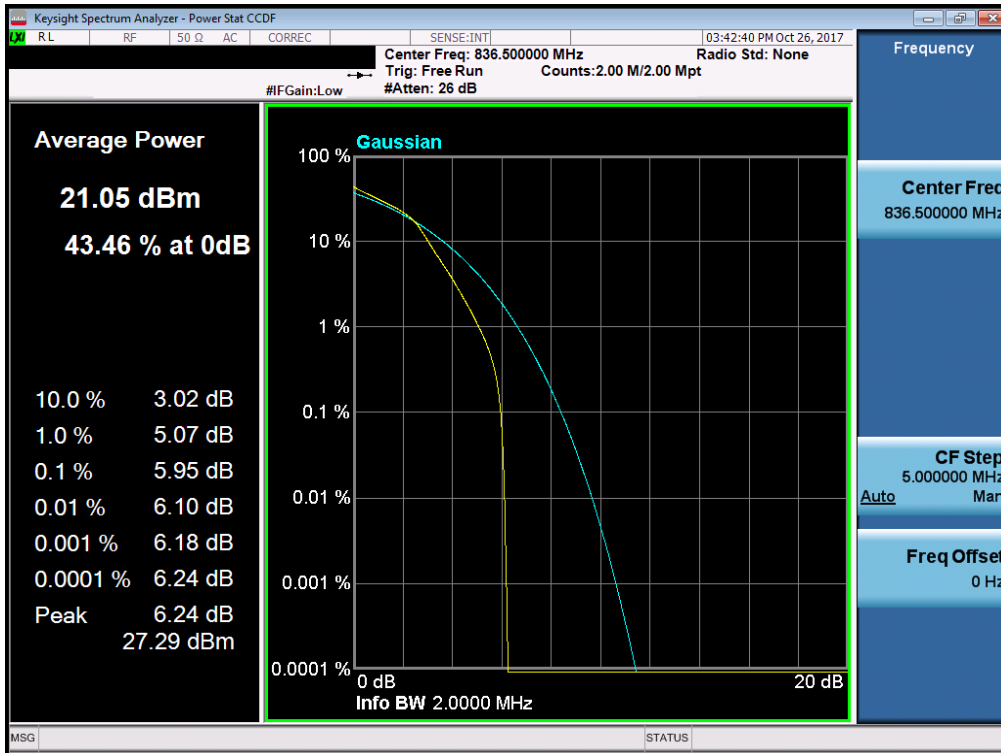
Plot 7-214. PAR Plot (Band 12/17 - 10.0MHz 16-QAM - Full RB Configuration)

FCC ID: A3LSMG965KOR	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Band 26/5



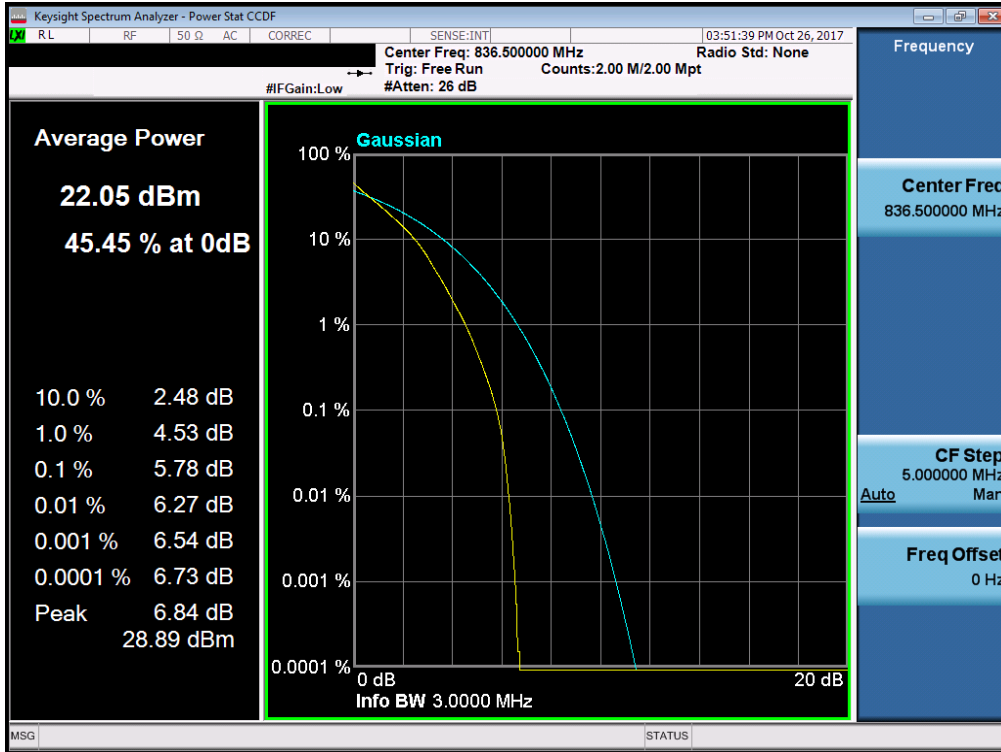
Plot 7-215. PAR Plot (Band 26/5 - 1.4 MHz QPSK - Full RB Configuration)



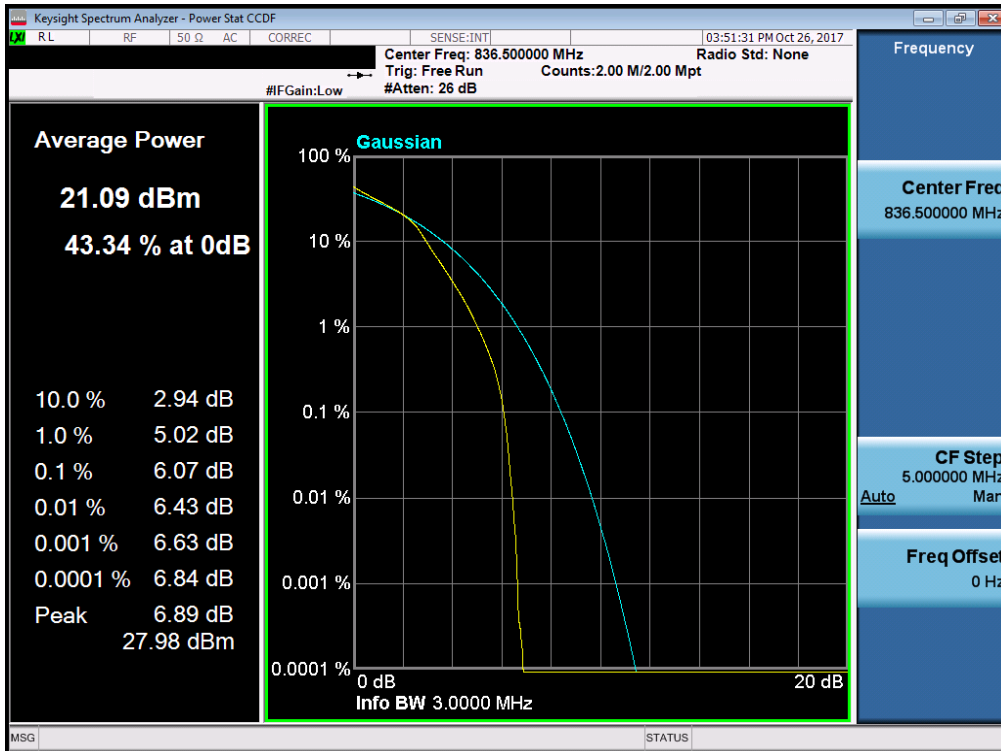
Plot 7-216. PAR Plot (Band 26/5 - 1.4 MHz 16-QAM - Full RB Configuration)

FCC ID: A3LSMG965KOR	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Band 26/5



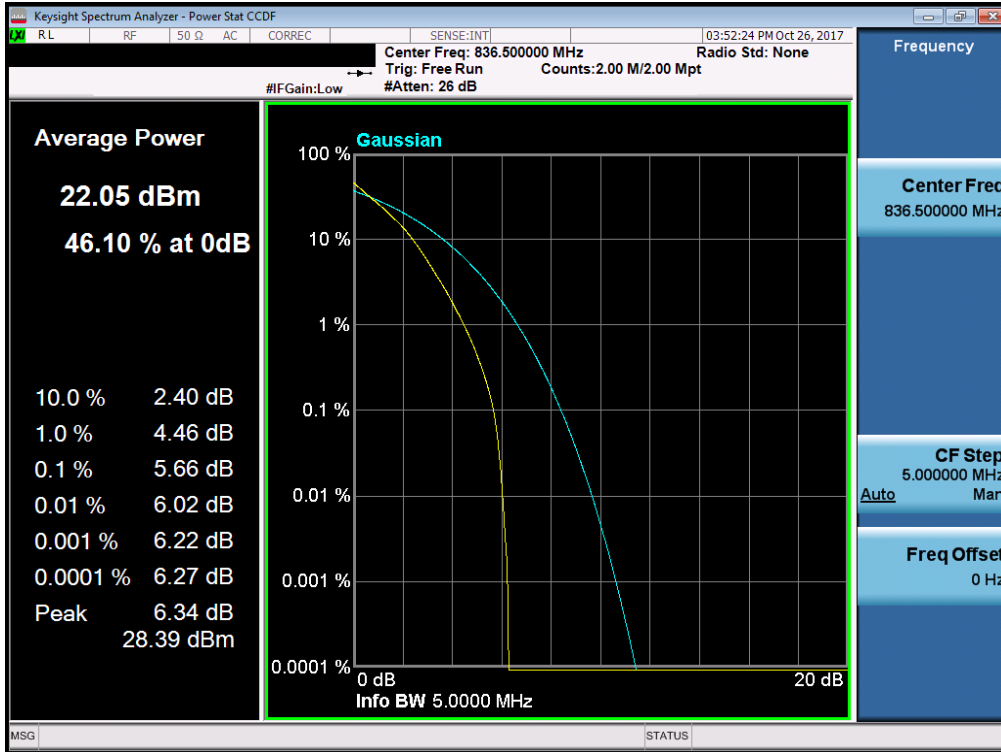
Plot 7-217. PAR Plot (Band 26/5 - 3.0MHz QPSK - Full RB Configuration)



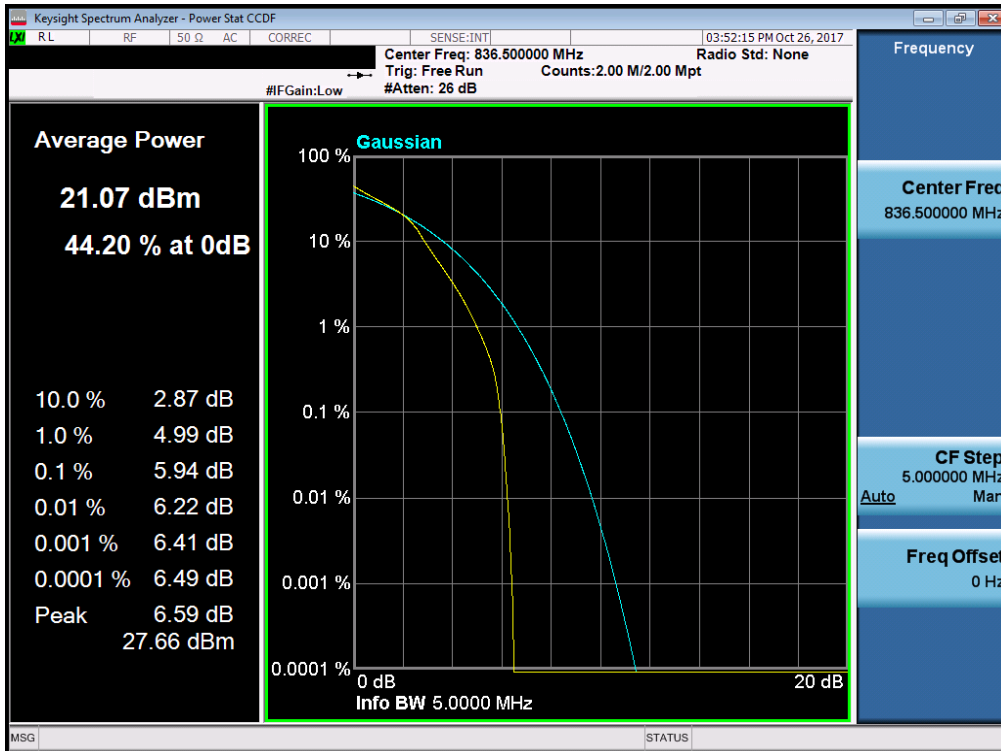
Plot 7-218. PAR Plot (Band 26/5 - 3.0MHz 16-QAM - Full RB Configuration)

FCC ID: A3LSMG965KOR		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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Band 26/5



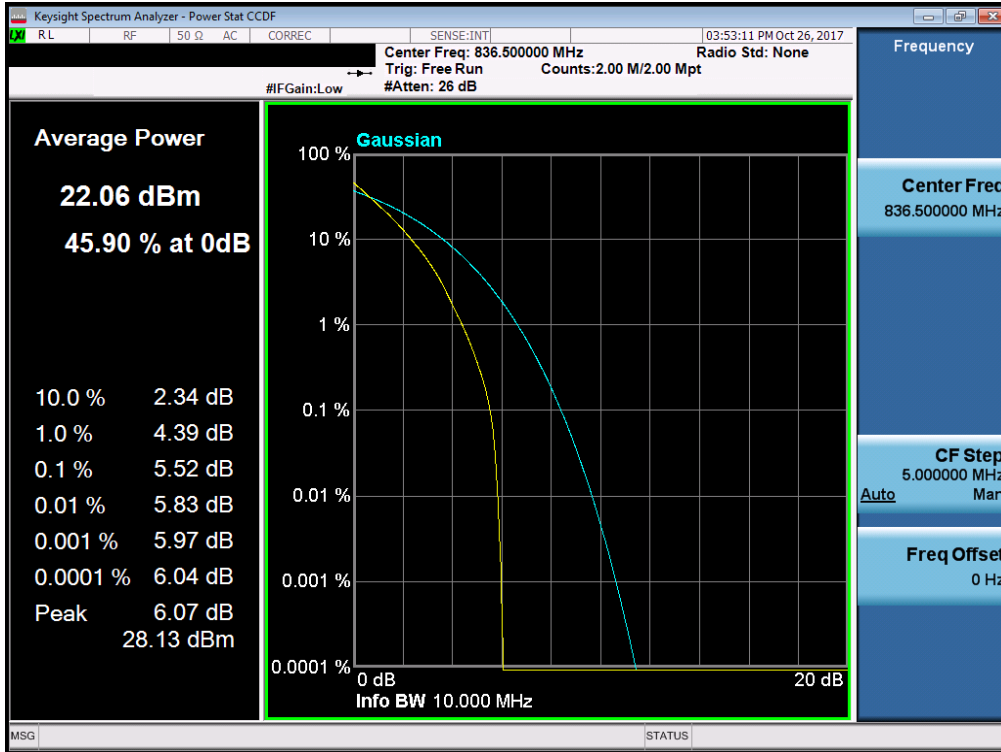
Plot 7-219. PAR Plot (Band 26/5 - 5.0MHz QPSK - Full RB Configuration)



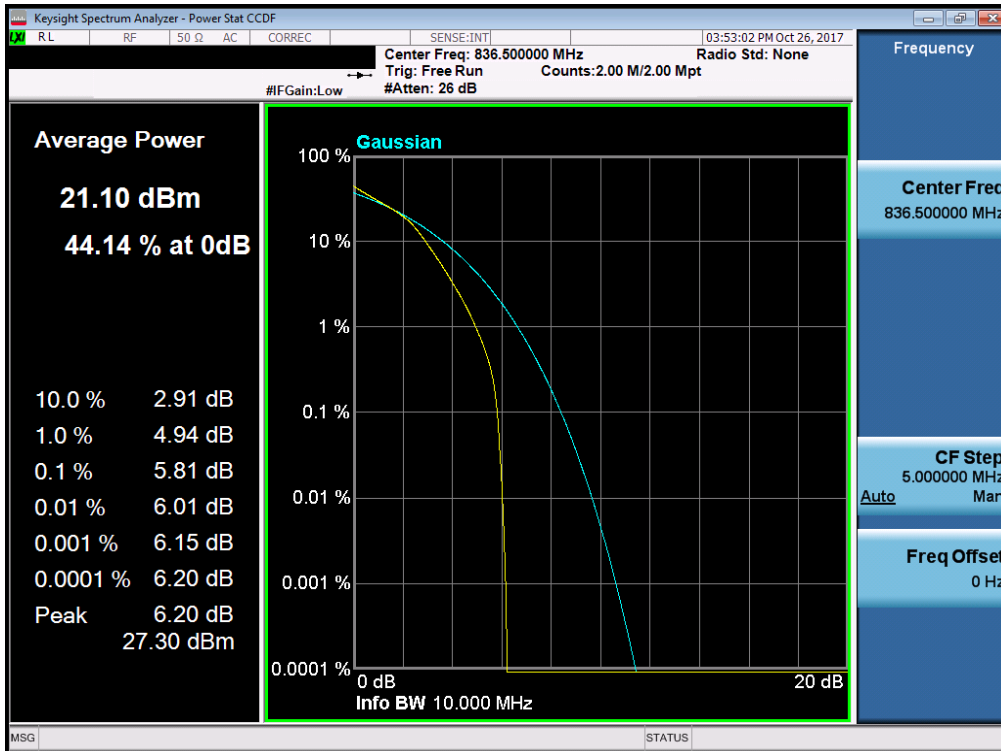
Plot 7-220. PAR Plot (Band 26/5 - 5.0MHz 16-QAM - Full RB Configuration)

FCC ID: A3LSMG965KOR	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Band 26/5



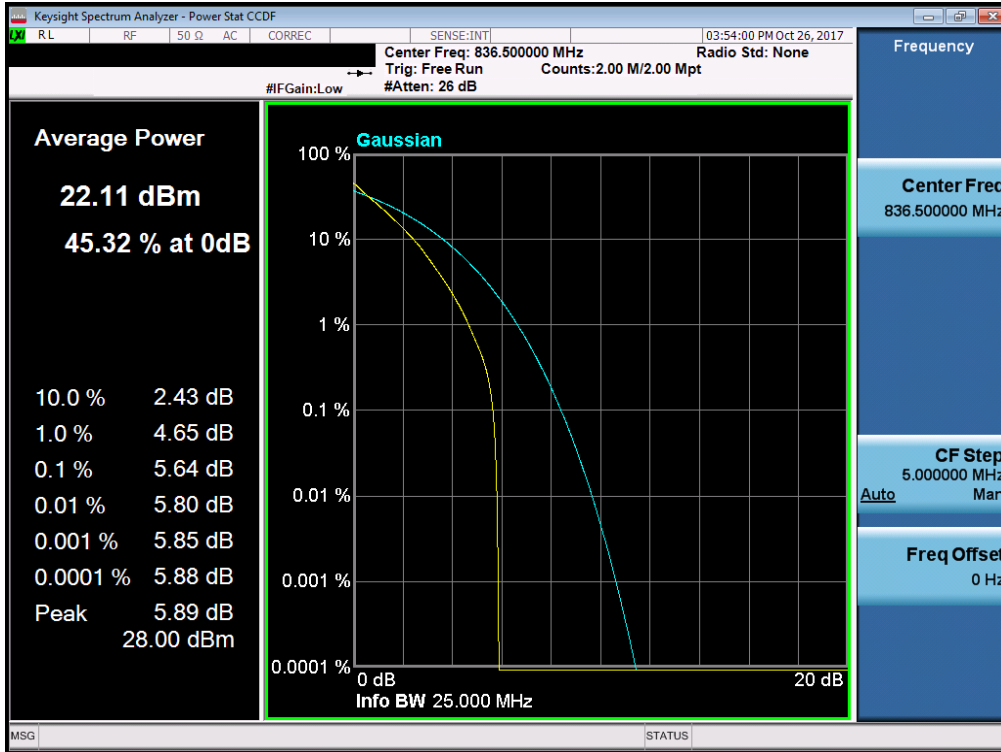
Plot 7-221. PAR Plot (Band 26/5 - 10.0MHz QPSK - Full RB Configuration)



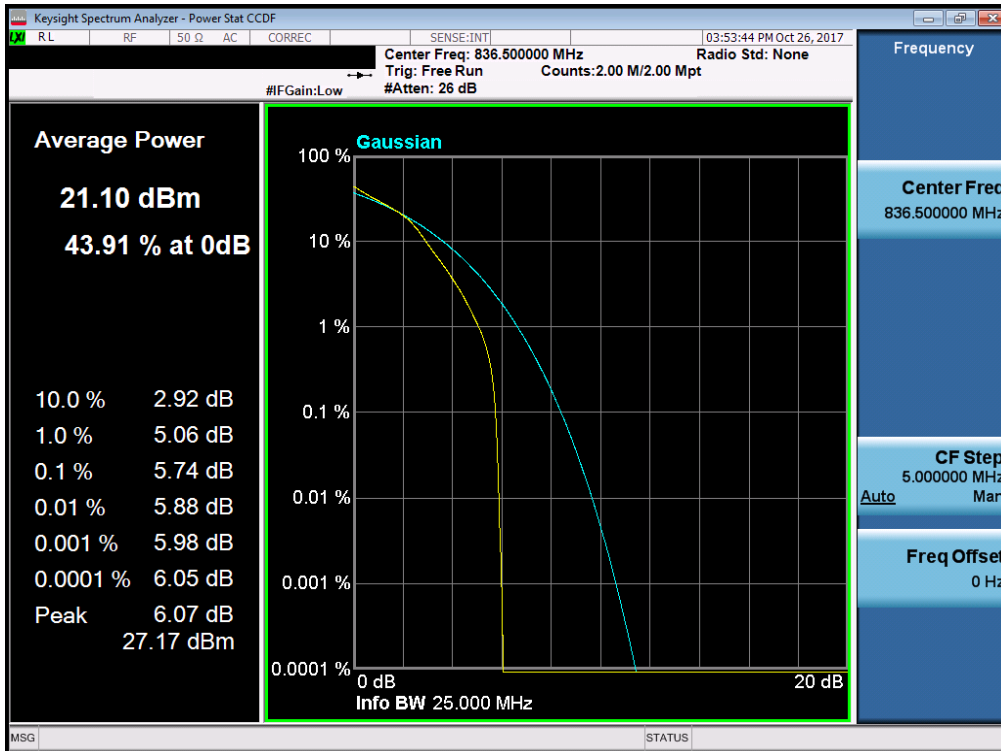
Plot 7-222. PAR Plot (Band 26/5 - 10.0MHz 16-QAM - Full RB Configuration)

FCC ID: A3LSMG965KOR	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Band 26



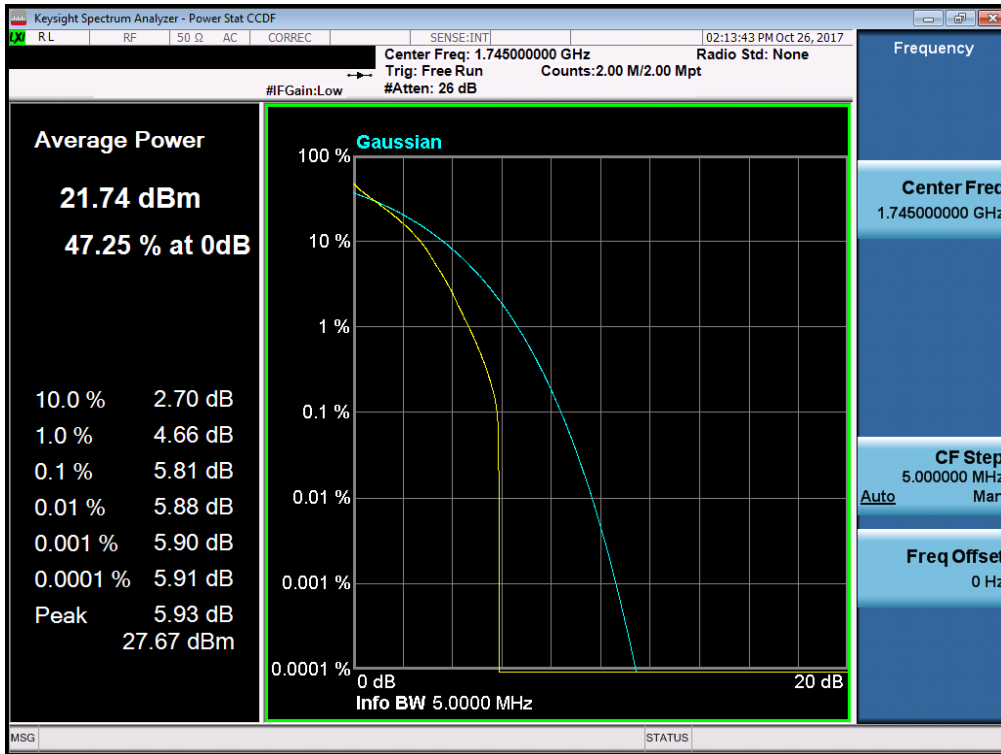
Plot 7-223. PAR Plot (Band 26 - 15.0MHz QPSK - Full RB Configuration)



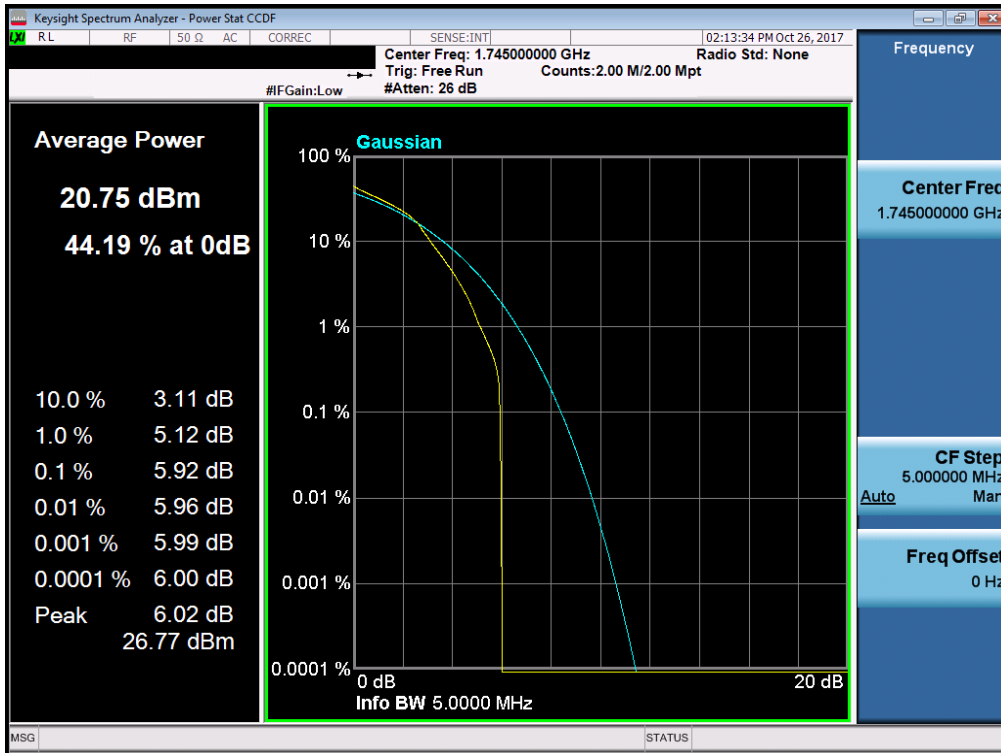
Plot 7-224. PAR Plot (Band 26 - 15.0MHz 16-QAM - Full RB Configuration)

FCC ID: A3LSMG965KOR		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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Band 66/4



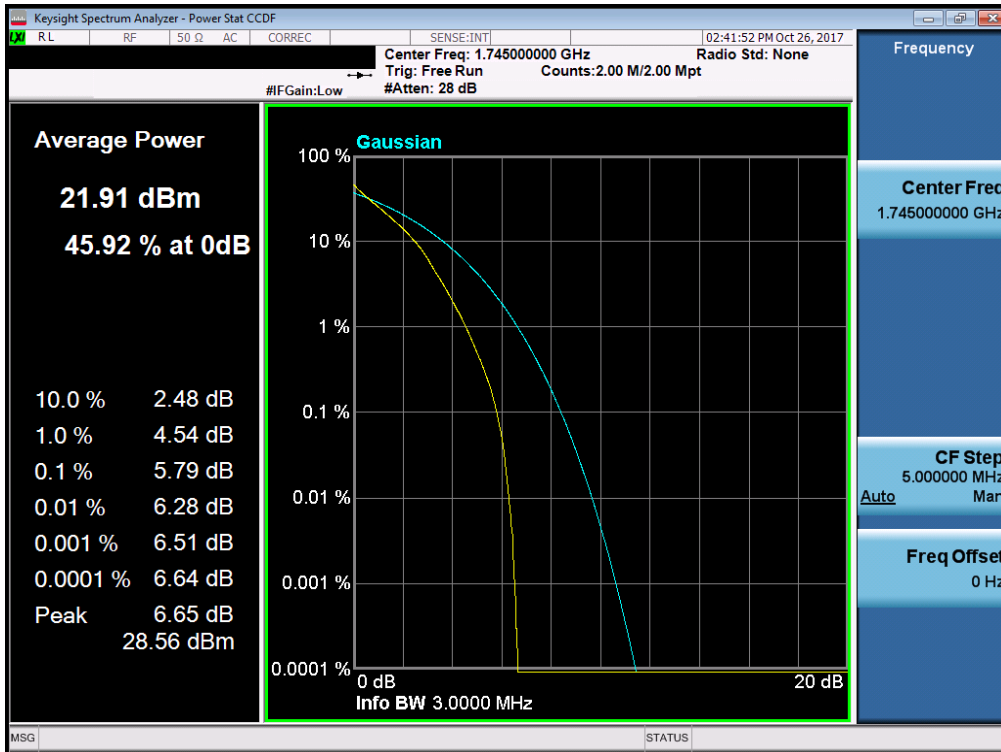
Plot 7-225. PAR Plot (Band 66/4 - 1.4 MHz QPSK - Full RB Configuration)



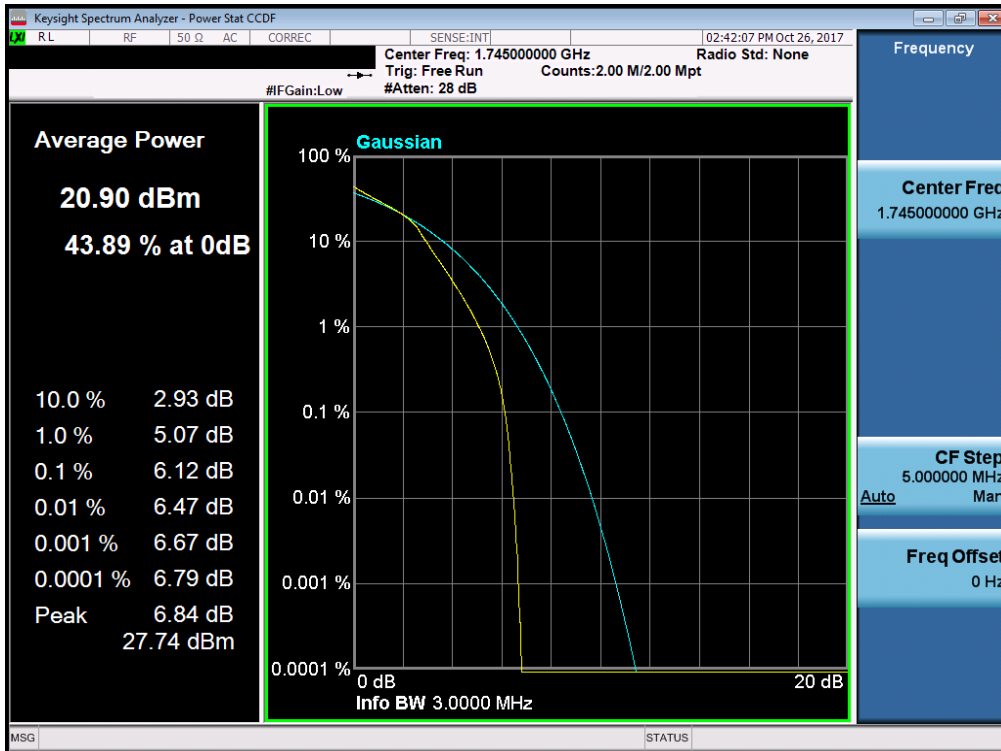
Plot 7-226. PAR Plot (Band 66/4 - 1.4 MHz 16-QAM - Full RB Configuration)

FCC ID: A3LSMG965KOR		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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Band 66/4



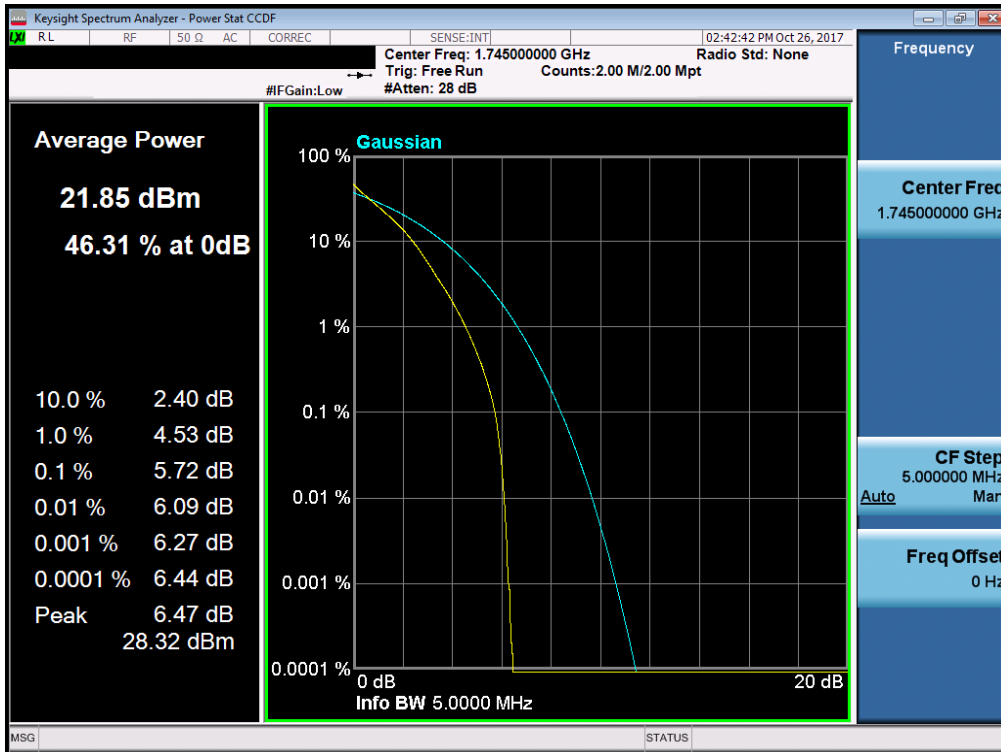
Plot 7-227. PAR Plot (Band 66/4 - 3.0MHz QPSK - Full RB Configuration)



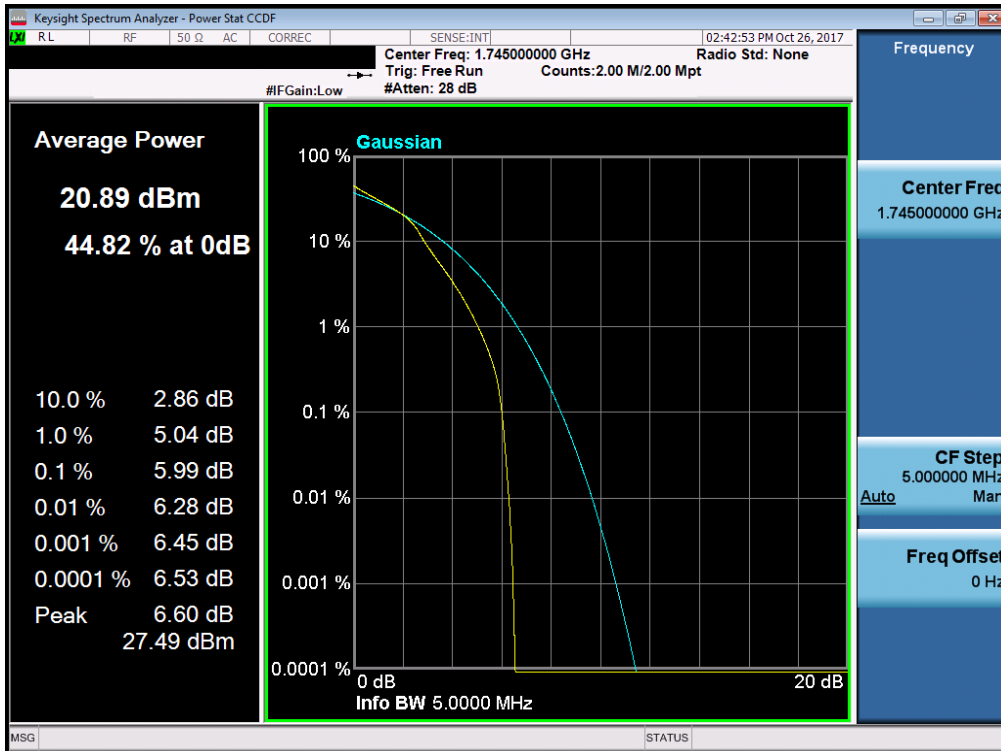
Plot 7-228. PAR Plot (Band 66/4 - 3.0MHz 16-QAM - Full RB Configuration)

FCC ID: A3LSMG965KOR		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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Band 66/4



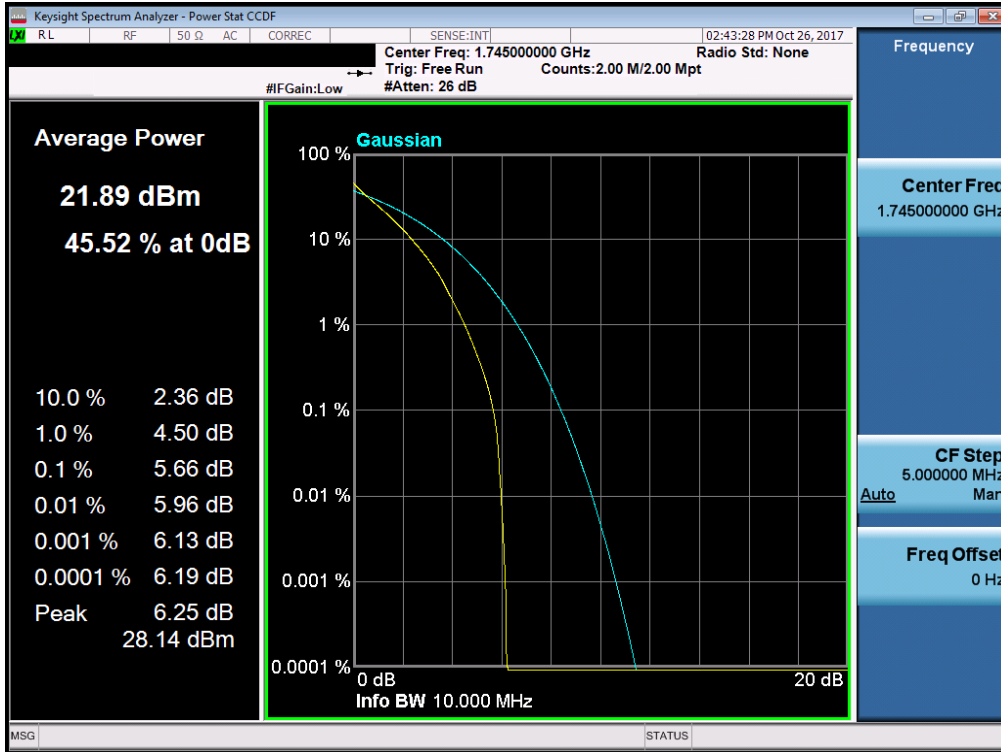
Plot 7-229. PAR Plot (Band 66/4 - 5.0MHz QPSK - Full RB Configuration)



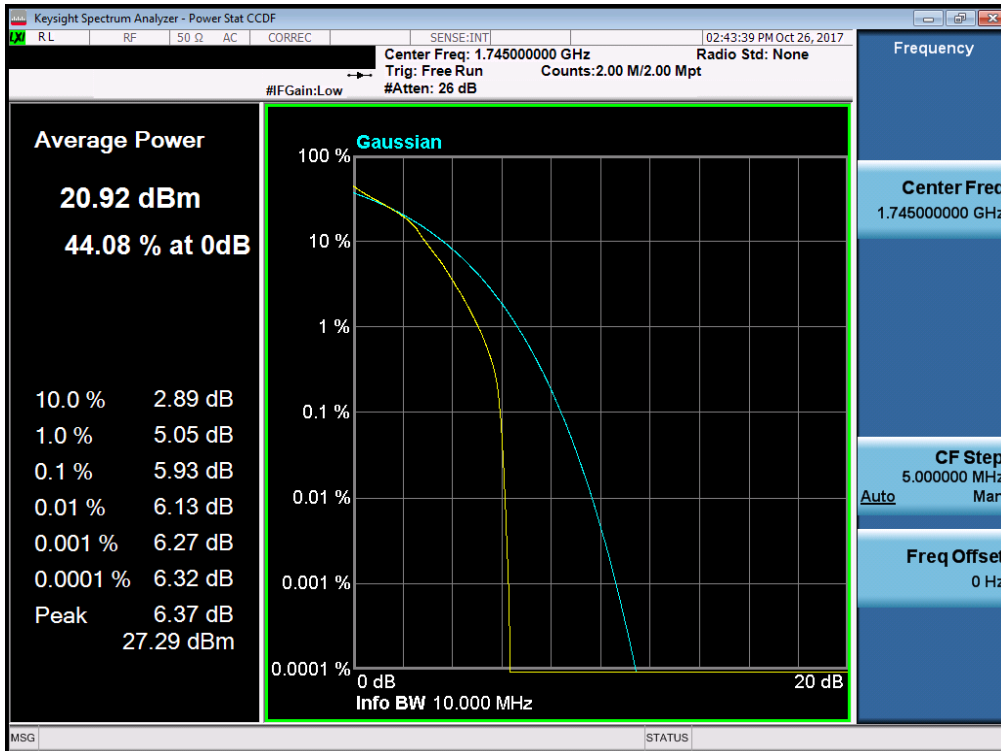
Plot 7-230. PAR Plot (Band 66/4 - 5.0MHz 16-QAM - Full RB Configuration)

FCC ID: A3LSMG965KOR		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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Band 66/4



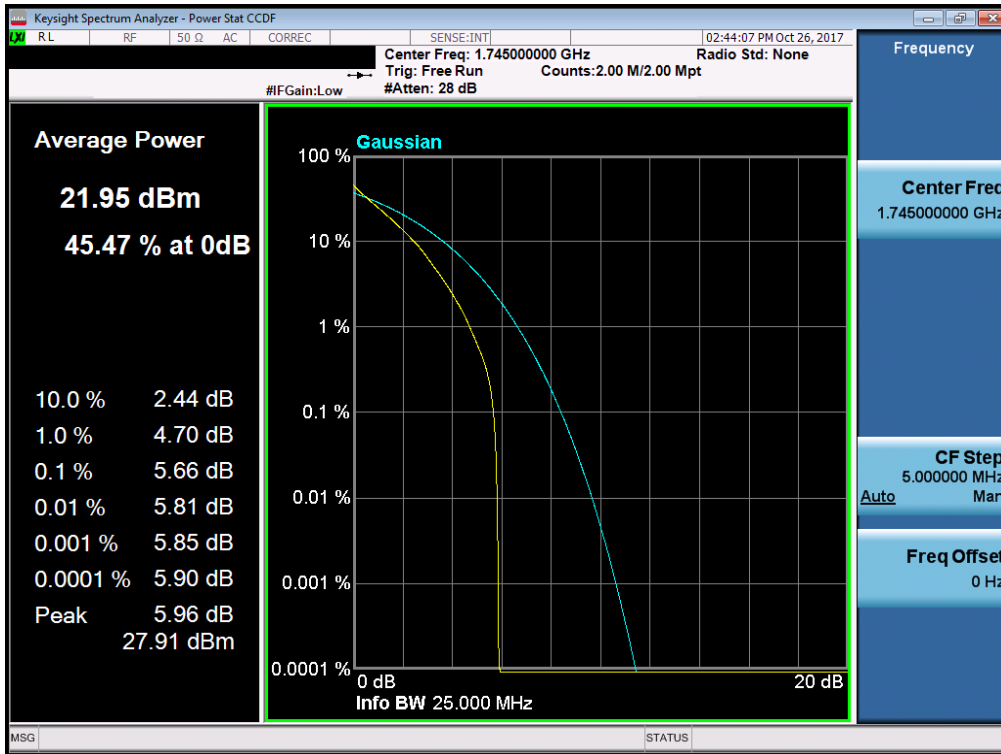
Plot 7-231. PAR Plot (Band 66/4 - 10.0MHz QPSK - Full RB Configuration)



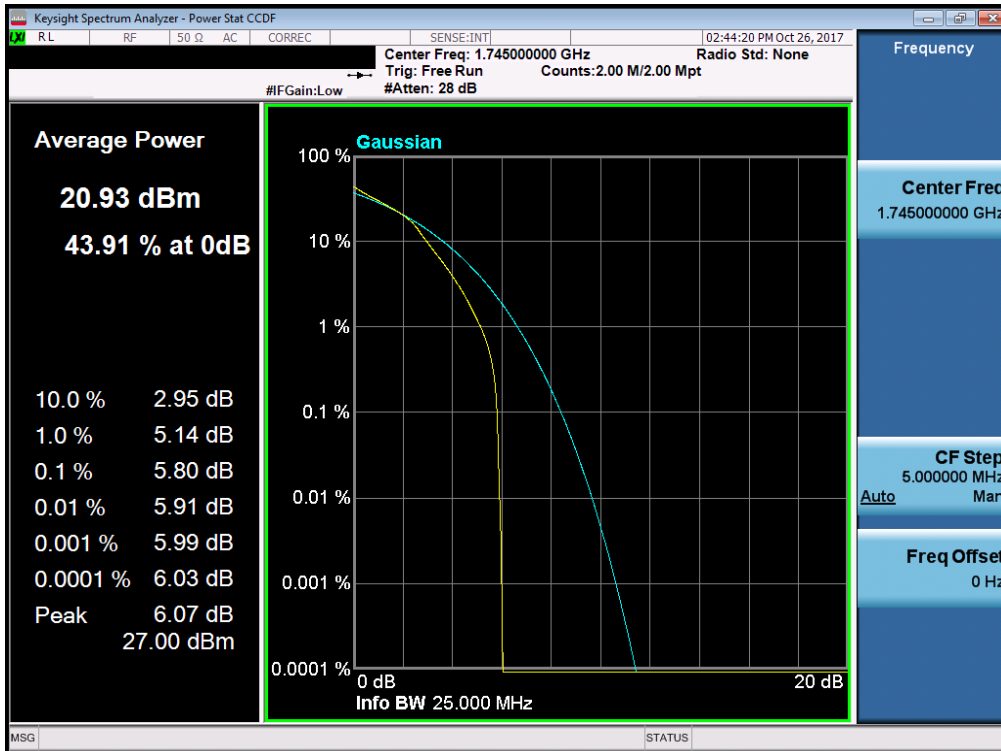
Plot 7-232. PAR Plot (Band 66/4 - 10.0MHz 16-QAM - Full RB Configuration)

FCC ID: A3LSMG965KOR		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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Band 66/4



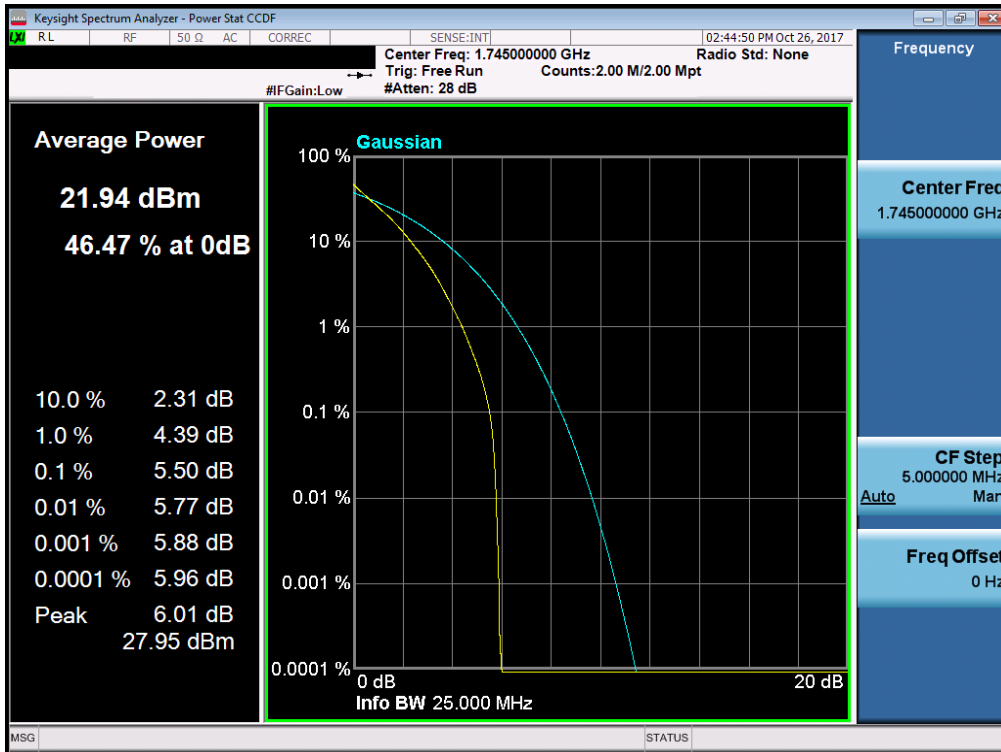
Plot 7-233. PAR Plot (Band 66/4 - 15.0MHz QPSK - Full RB Configuration)



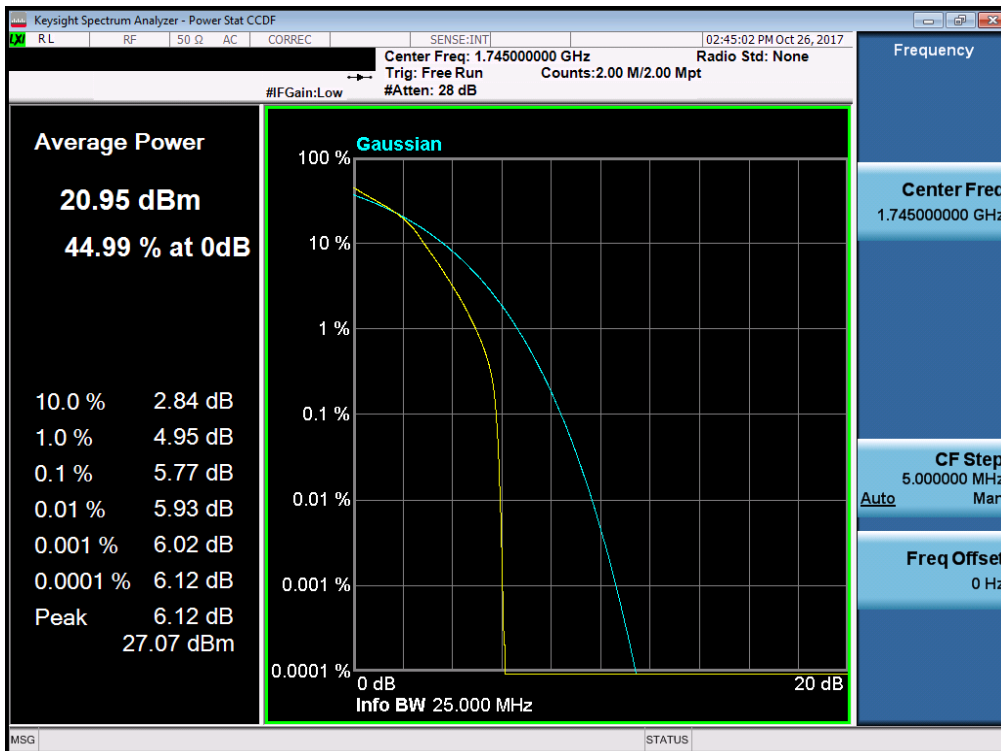
Plot 7-234. PAR Plot (Band 66/4 - 15.0MHz 16-QAM - Full RB Configuration)

FCC ID: A3LSMG965KOR		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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Band 66/4



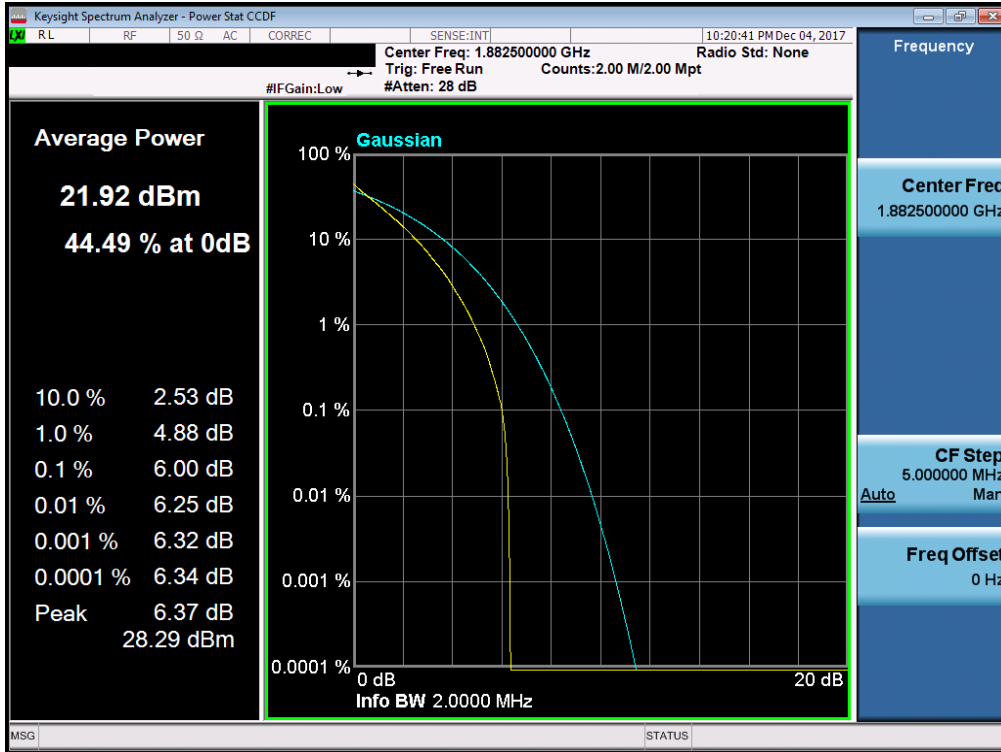
Plot 7-235. PAR Plot (Band 66/4 - 20.0MHz QPSK - Full RB Configuration)



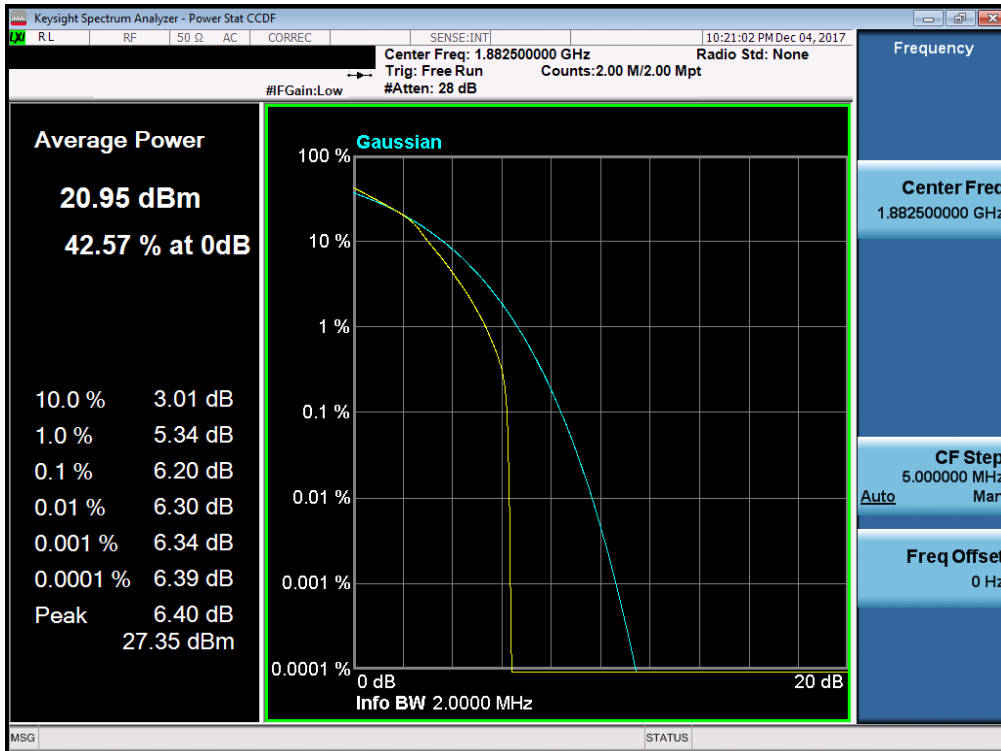
Plot 7-236. PAR Plot (Band 66/4 - 20.0MHz 16-QAM - Full RB Configuration)

FCC ID: A3LSMG965KOR	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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Band 25/2



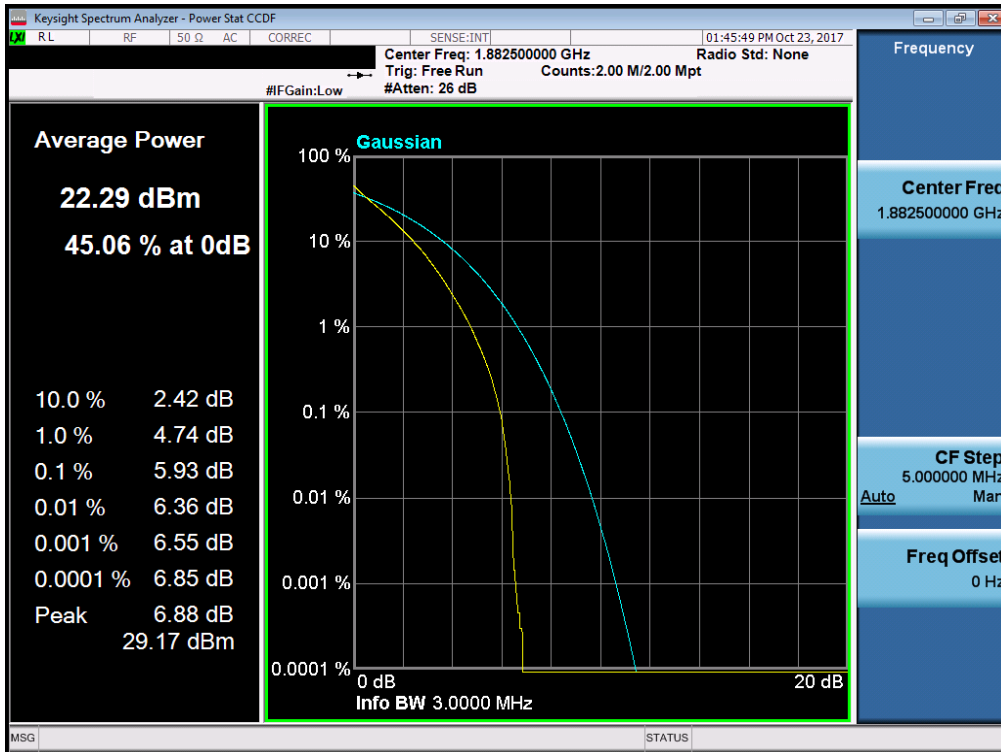
Plot 7-237. PAR Plot (Band 25/2 - 1.4 MHz QPSK - Full RB Configuration)



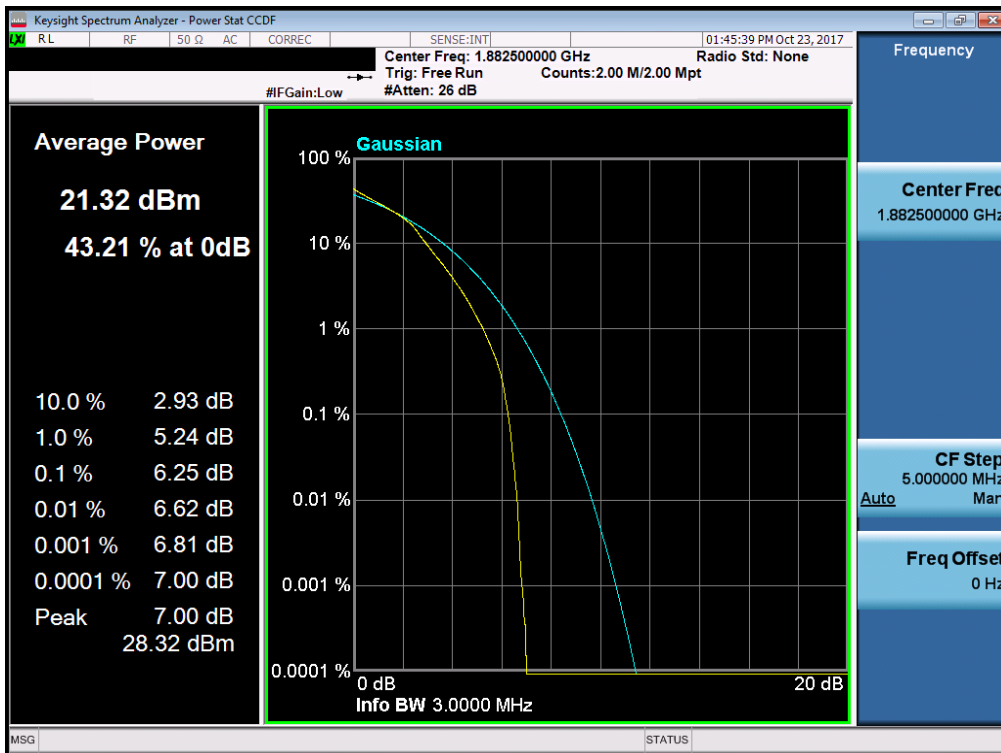
Plot 7-238. PAR Plot (Band 25/2 - 1.4 MHz 16-QAM - Full RB Configuration)

FCC ID: A3LSMG965KOR		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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Band 25/2



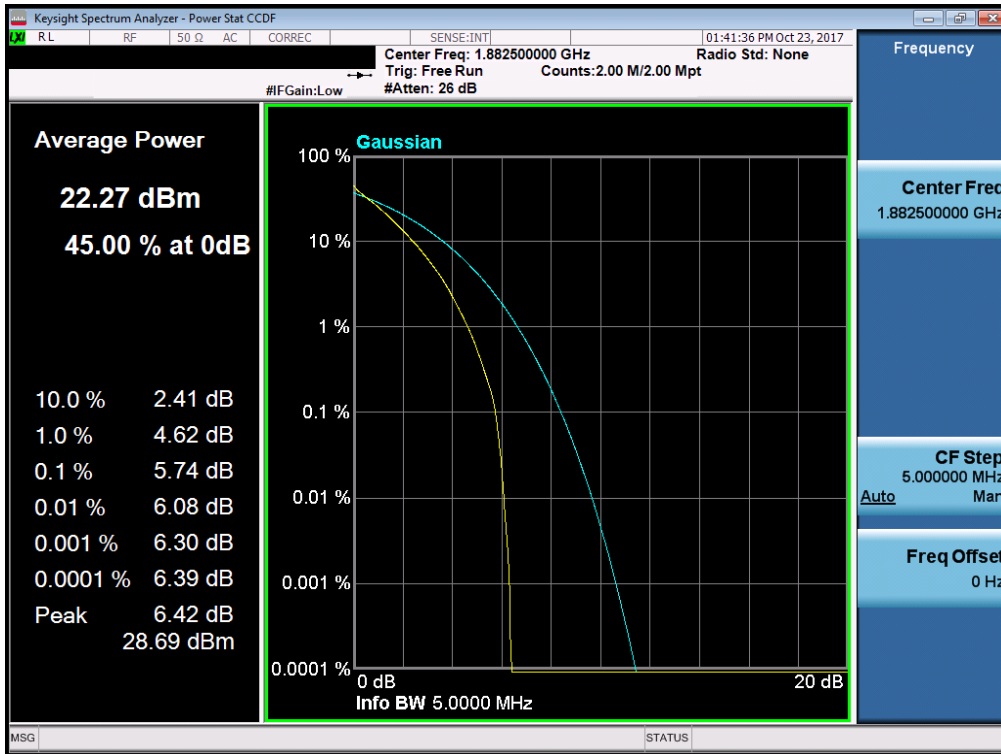
Plot 7-239. PAR Plot (Band 25/2 - 3.0MHz QPSK - Full RB Configuration)



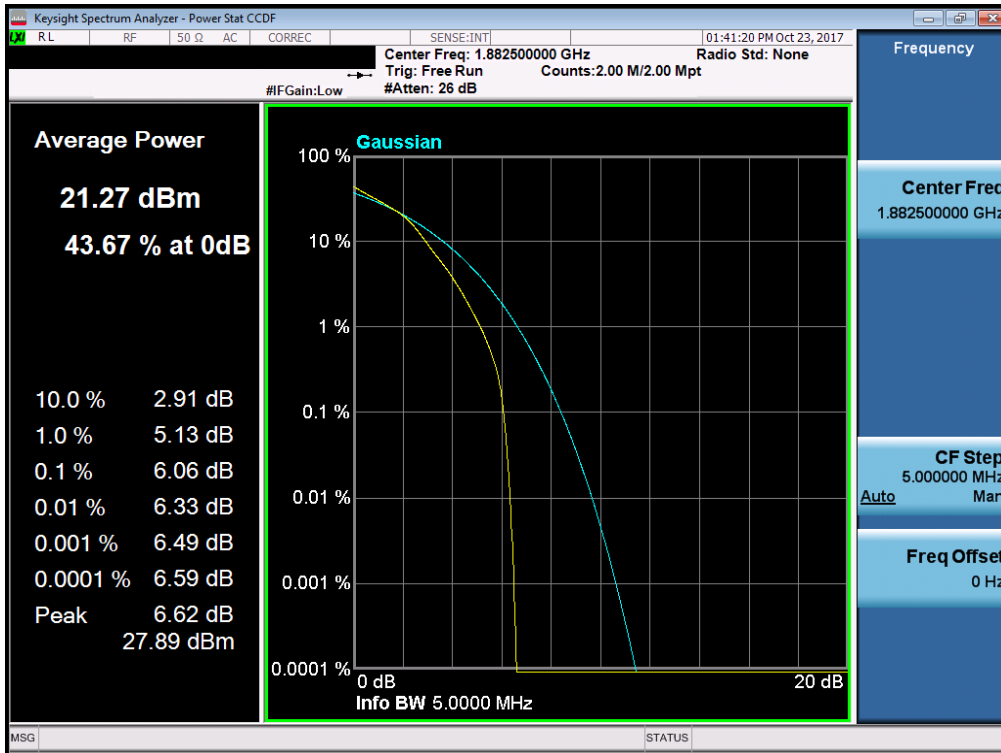
Plot 7-240. PAR Plot (Band 25/2 - 3.0MHz 16-QAM - Full RB Configuration)

FCC ID: A3LSMG965KOR		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1710200271-03.A3L	Test Dates: 10/20 - 12/5/2017	EUT Type: Portable Handset		Page 143 of 185

Band 25/2



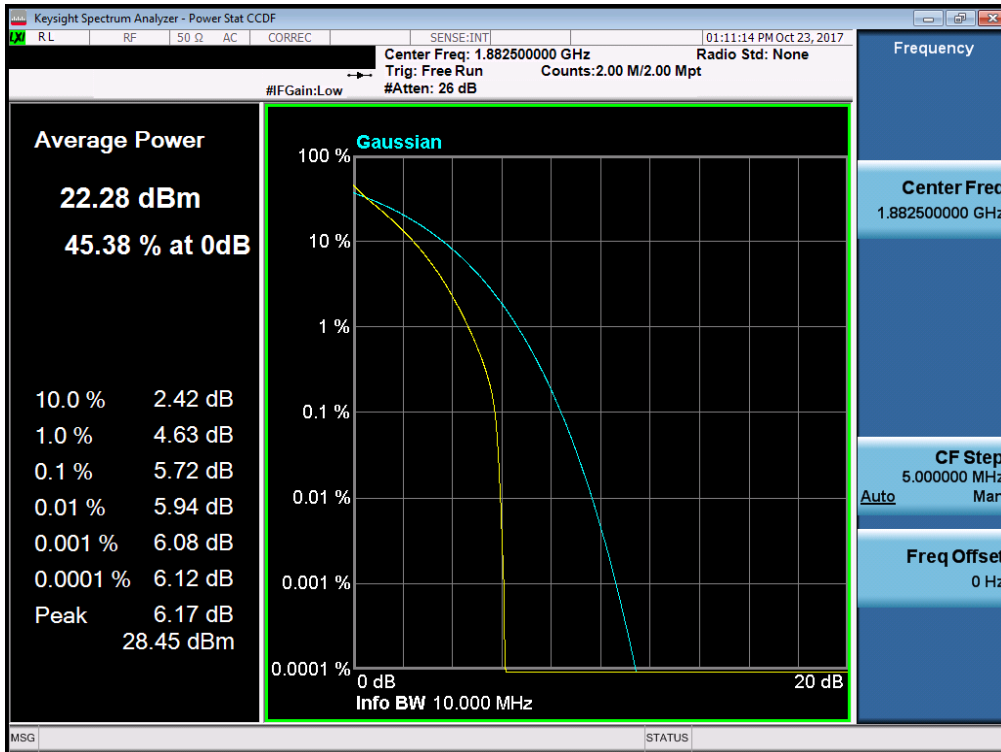
Plot 7-241. PAR Plot (Band 25/2 - 5.0MHz QPSK - Full RB Configuration)



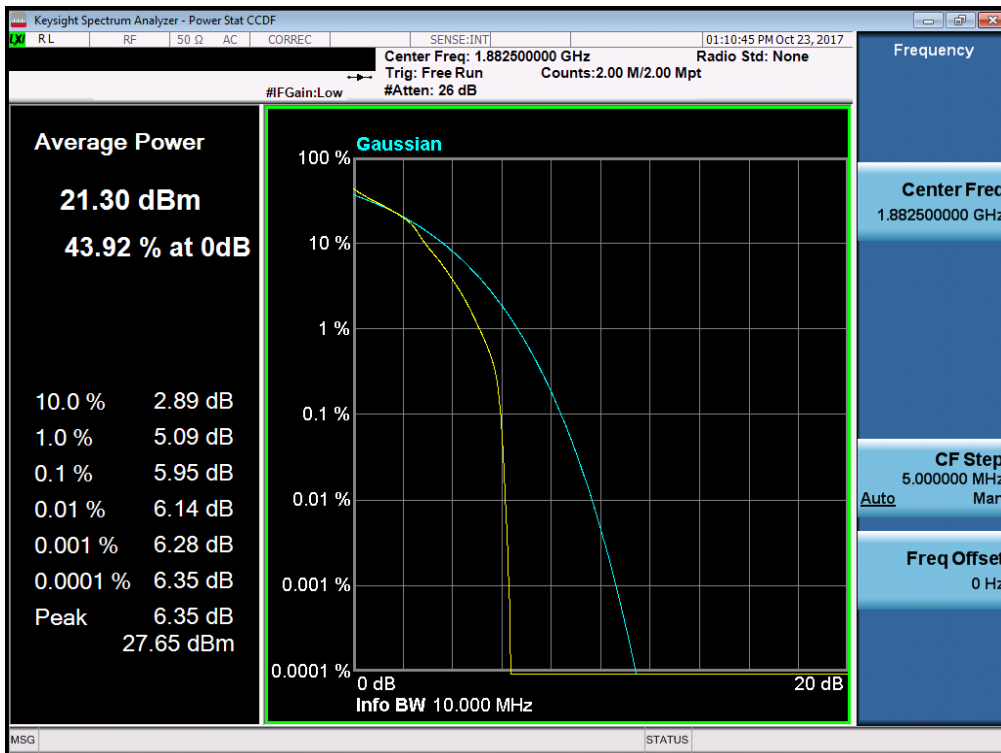
Plot 7-242. PAR Plot (Band 25/2 - 5.0MHz 16-QAM - Full RB Configuration)

FCC ID: A3LSMG965KOR		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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Band 25/2



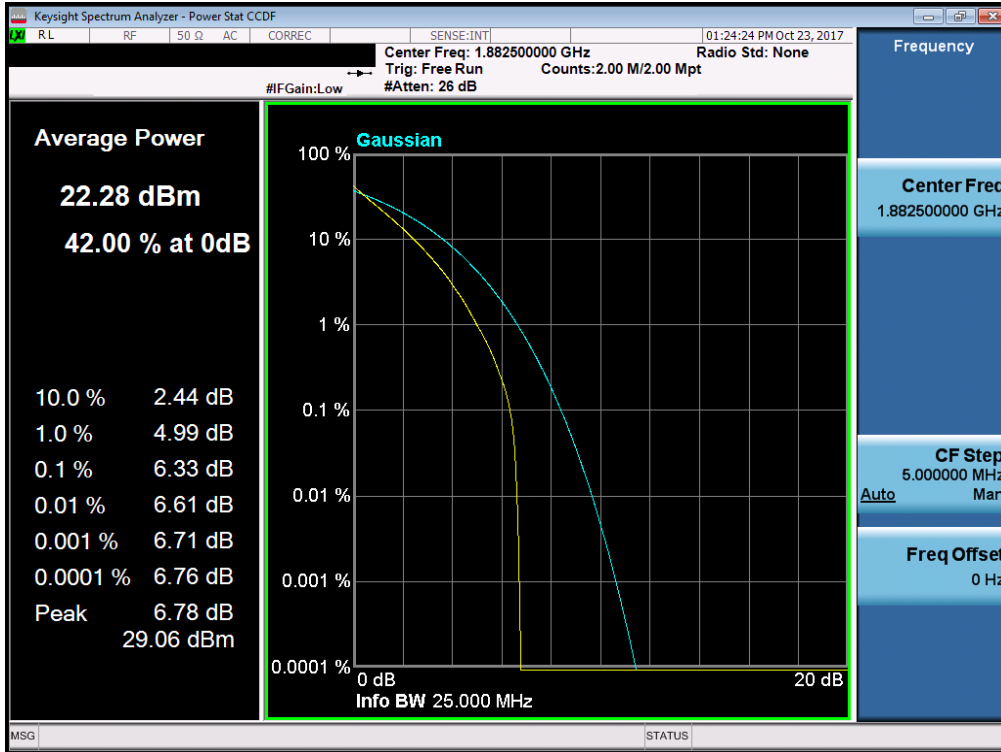
Plot 7-243. PAR Plot (Band 25/2 - 10.0MHz QPSK - Full RB Configuration)



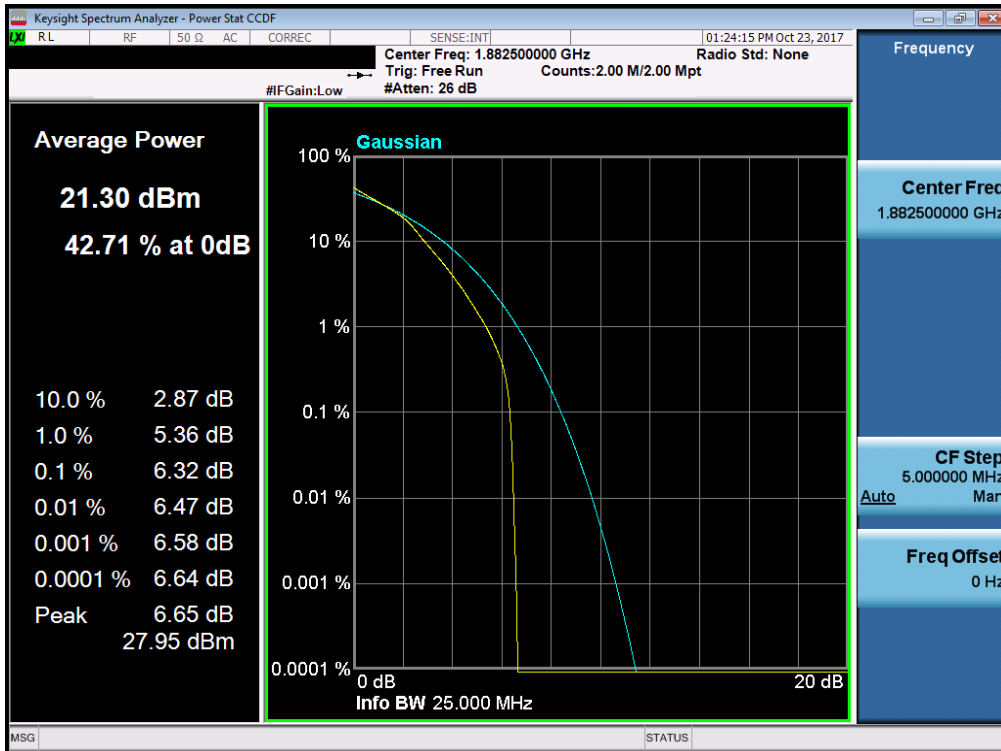
Plot 7-244. PAR Plot (Band 25/2 - 10.0MHz 16-QAM - Full RB Configuration)

FCC ID: A3LSMG965KOR	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1710200271-03.A3L	Test Dates: 10/20 - 12/5/2017	EUT Type: Portable Handset		Page 145 of 185

Band 25/2



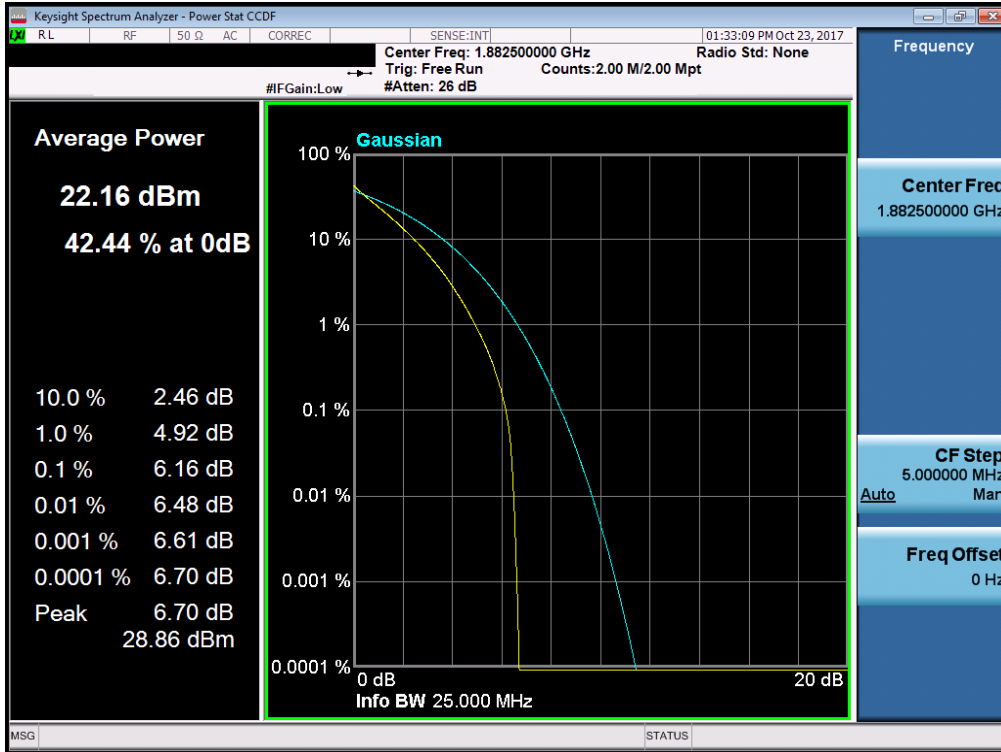
Plot 7-245. PAR Plot (Band 25/2 - 15.0MHz QPSK - Full RB Configuration)



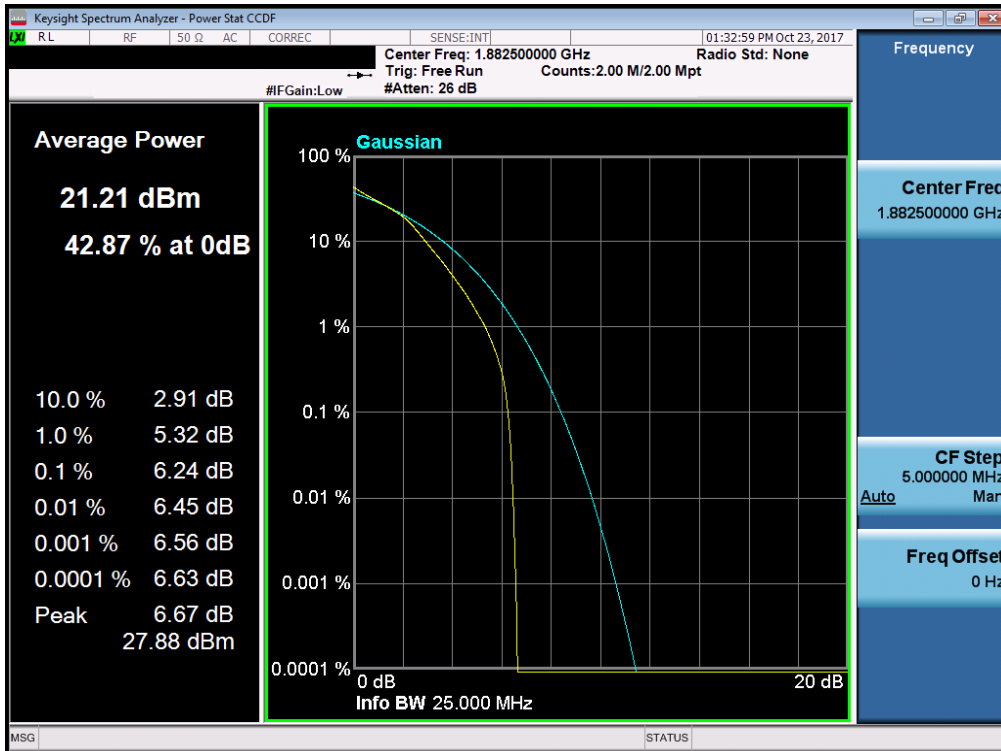
Plot 7-246. PAR Plot (Band 25/2 - 15.0MHz 16-QAM - Full RB Configuration)

FCC ID: A3LSMG965KOR	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
Test Report S/N: 1M1710200271-03.A3L	Test Dates: 10/20 - 12/5/2017	EUT Type: Portable Handset		Page 146 of 185

Band 25/2



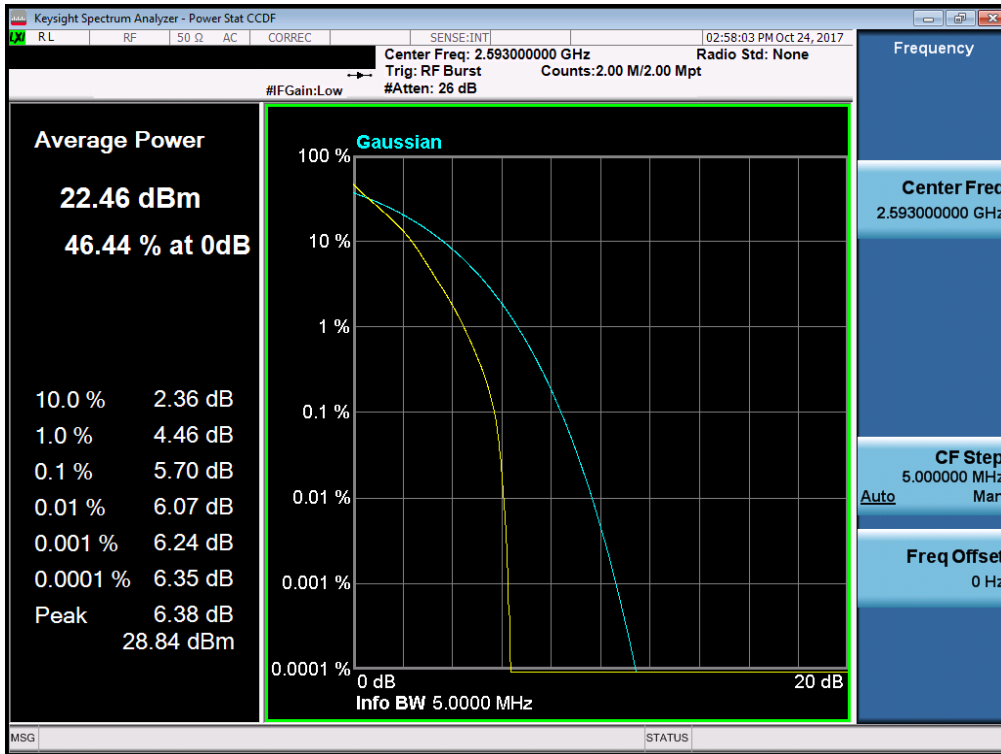
Plot 7-247. PAR Plot (Band 25/2 - 20.0MHz QPSK - Full RB Configuration)



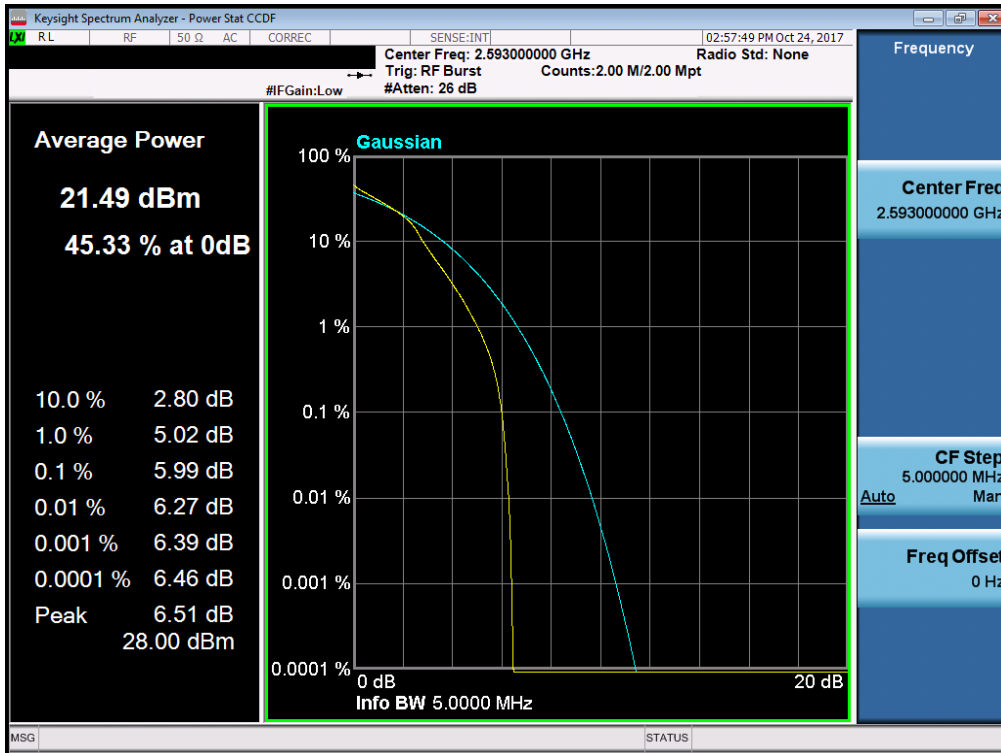
Plot 7-248. PAR Plot (Band 25/2 - 20.0MHz 16-QAM - Full RB Configuration)

FCC ID: A3LSMG965KOR		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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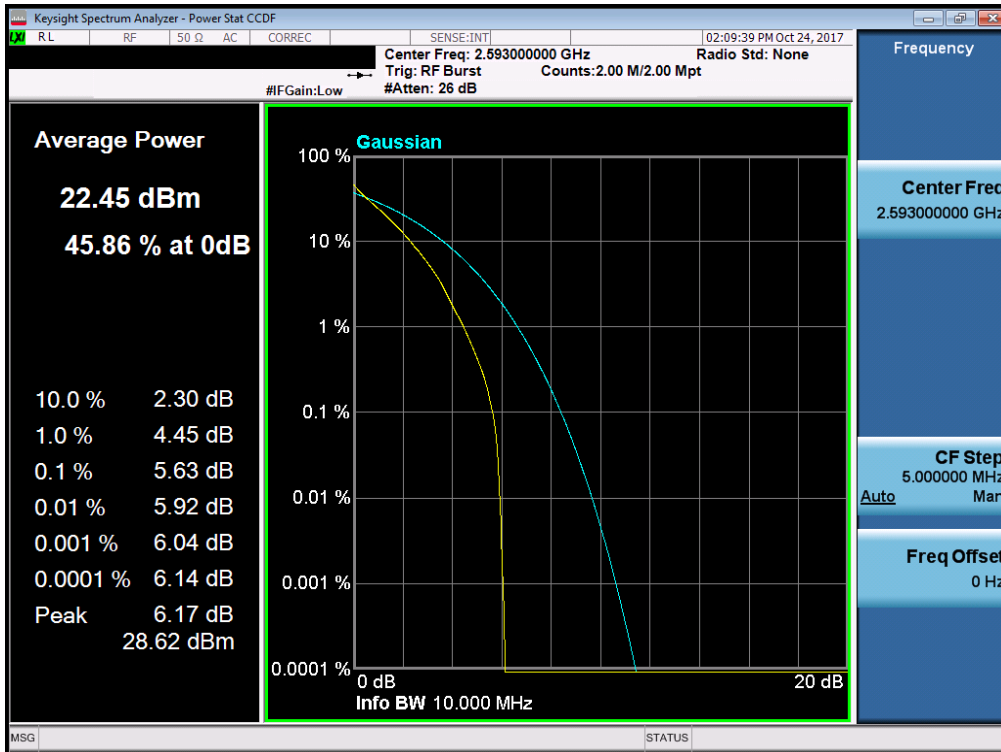
Plot 7-249. PAR Plot (Band 41 - 5.0MHz QPSK - Full RB Configuration)



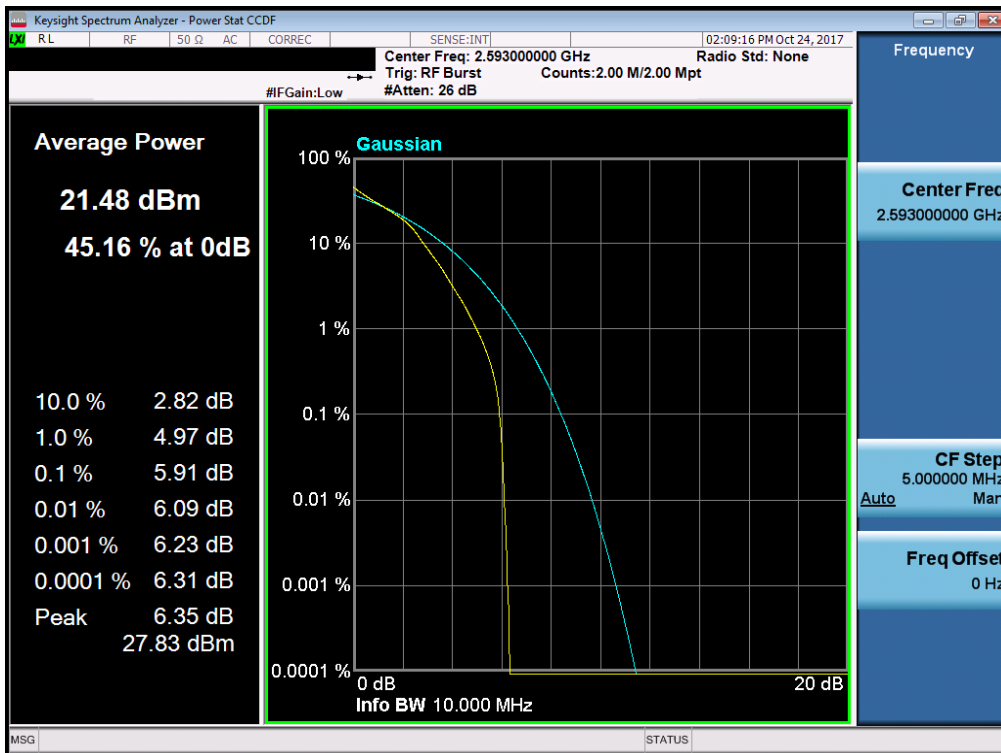
Plot 7-250. PAR Plot (Band 41 - 5.0MHz 16-QAM - Full RB Configuration)

FCC ID: A3LSMG965KOR		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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Band 41



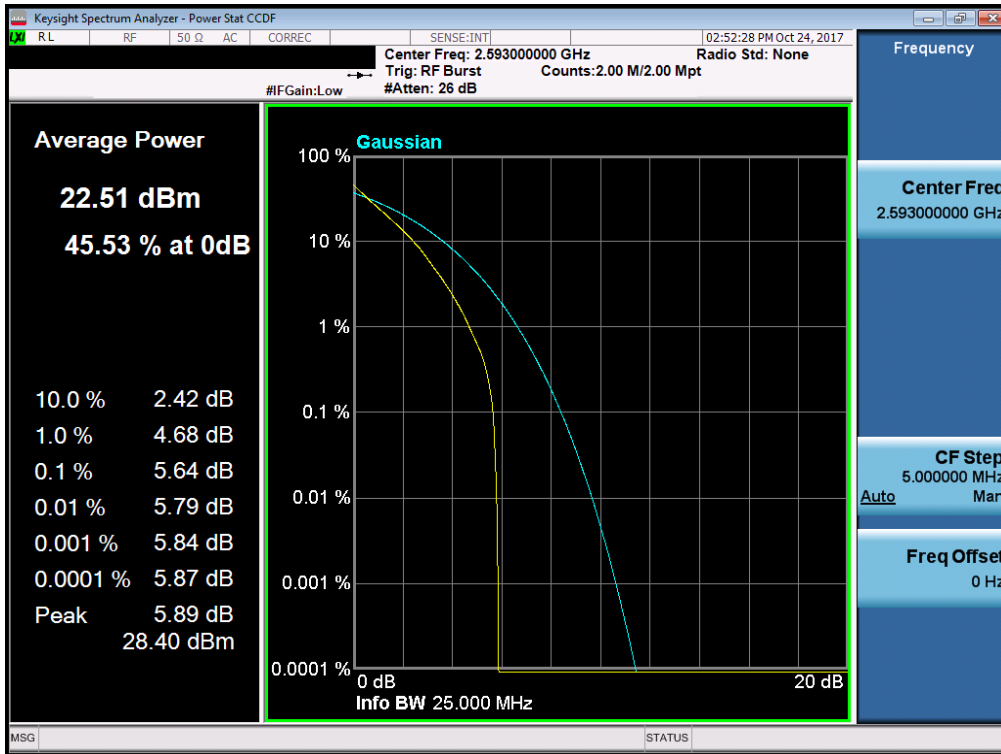
Plot 7-251. PAR Plot (Band 41 - 10.0MHz QPSK - Full RB Configuration)



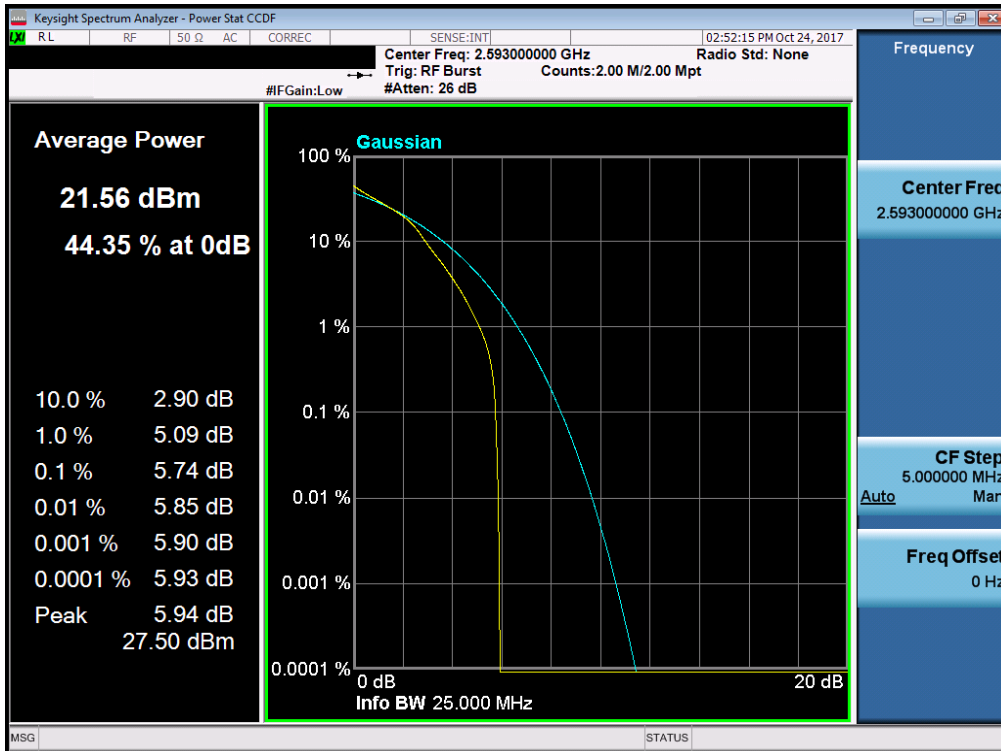
Plot 7-252. PAR Plot (Band 41 - 10.0MHz 16-QAM - Full RB Configuration)

FCC ID: A3LSMG965KOR		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1710200271-03.A3L	Test Dates: 10/20 - 12/5/2017	EUT Type: Portable Handset		Page 149 of 185

Band 41



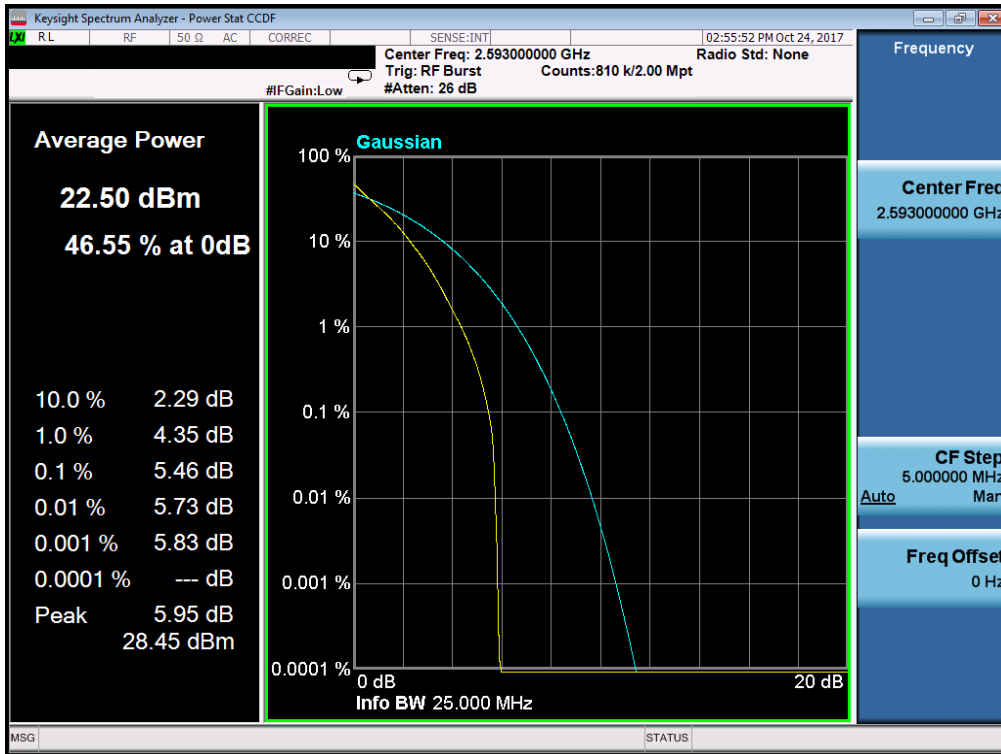
Plot 7-253. PAR Plot (Band 41 - 15.0MHz QPSK - Full RB Configuration)



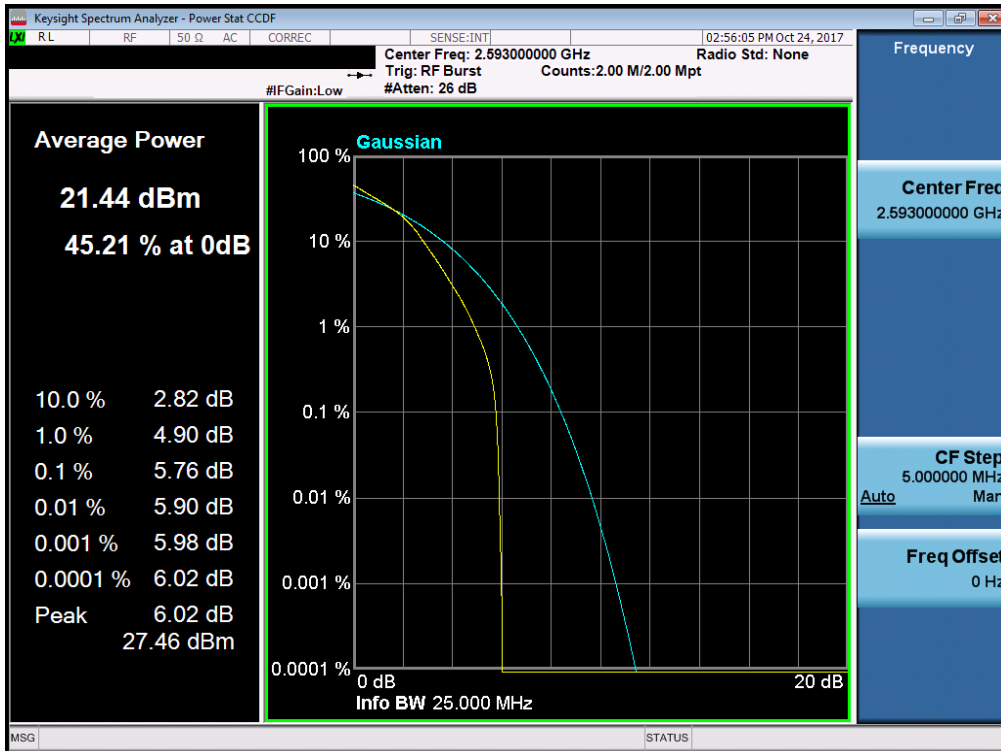
Plot 7-254. PAR Plot (Band 41 - 15.0MHz 16-QAM - Full RB Configuration)

FCC ID: A3LSMG965KOR		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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Band 41



Plot 7-255. PAR Plot (Band 41 - 20.0MHz QPSK - Full RB Configuration)



Plot 7-256. PAR Plot (Band 41 - 20.0MHz 16-QAM - Full RB Configuration)

FCC ID: A3LSMG965KOR	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	SAMSUNG	Approved by: Quality Manager
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7.6 Radiated Power (ERP/EIRP)

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

Test Overview

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

Test Procedures Used

KDB 971168 D01 v03 – Section 5.2.1

ANSI/TIA-603-E-2016 – Section 2.2.17

Test Settings

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

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Test Setup

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

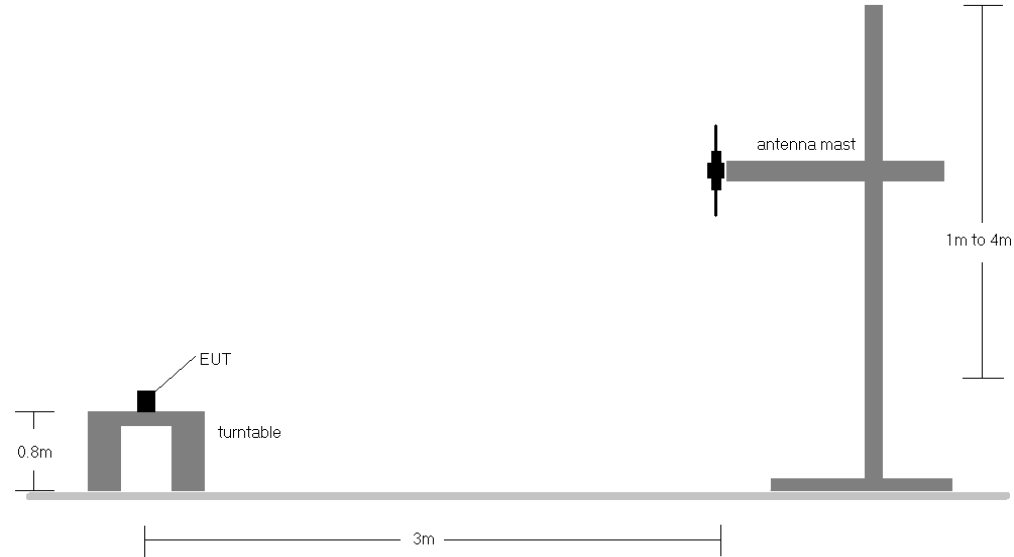


Figure 7-5. Radiated Test Setup <1GHz

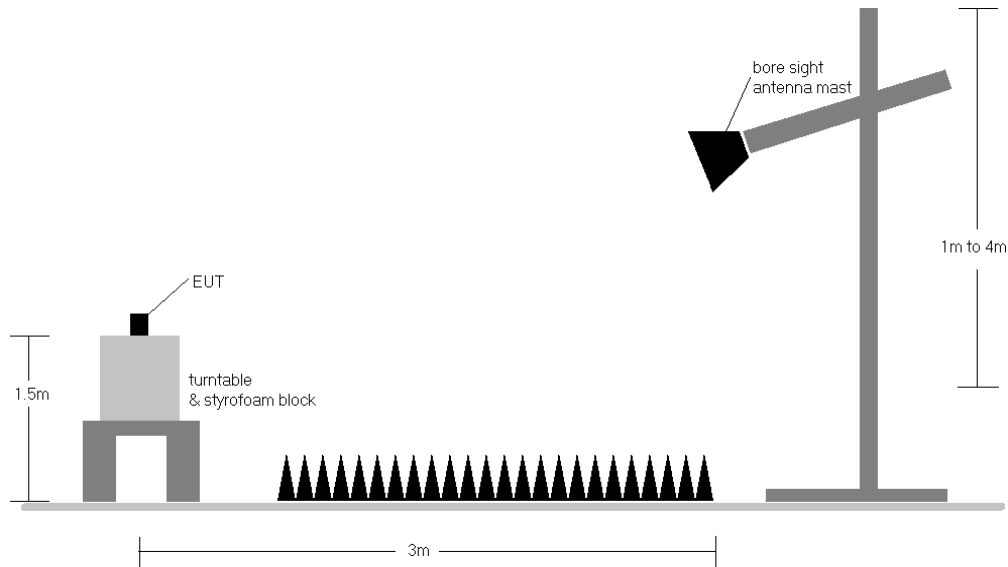


Figure 7-6. Radiated Test Setup >1GHz

Test Notes

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

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Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	RB Size/Offset	Substitute Level [dBm]	Ant. Gain [dBi]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
699.70	1.4	QPSK	H	150	304	1 / 5	15.79	1.90	15.54	0.036	34.77	-19.23	17.69	0.059	40.61	-22.92
707.50	1.4	QPSK	H	150	304	1 / 0	16.35	1.87	16.07	0.040	34.77	-18.70	18.22	0.066	40.61	-22.39
715.30	1.4	QPSK	H	150	297	1 / 0	16.61	1.84	16.30	0.043	34.77	-18.47	18.45	0.070	40.61	-22.16
715.30	1.4	16-QAM	H	150	297	1 / 0	15.87	1.84	15.56	0.036	34.77	-19.21	17.71	0.059	40.61	-22.90
700.50	3	QPSK	H	150	306	1 / 14	16.01	1.90	15.76	0.038	34.77	-19.01	17.91	0.062	40.61	-22.70
707.50	3	QPSK	H	150	300	1 / 14	16.39	1.87	16.11	0.041	34.77	-18.66	18.26	0.067	40.61	-22.35
714.50	3	QPSK	H	150	301	1 / 0	16.72	1.84	16.41	0.044	34.77	-18.36	18.56	0.072	40.61	-22.05
714.50	3	16-QAM	H	150	301	1 / 0	16.03	1.84	15.72	0.037	34.77	-19.05	17.87	0.061	40.61	-22.74
714.50	3	QPSK	V	150	201	1 / 0	16.21	1.87	15.93	0.039	34.77	-18.84	18.08	0.064	40.61	-22.53
714.50	3 (WCP)	QPSK	H	144	151	1 / 0	16.48	1.87	16.20	0.042	34.77	-18.57	18.35	0.068	40.61	-22.26

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

Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	RB Size/Offset	Substitute Level [dBm]	Ant. Gain [dBi]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
701.50	5	QPSK	H	150	300	1 / 24	16.31	1.89	16.05	0.040	34.77	-18.72	18.20	0.066	40.61	-22.40
707.50	5	QPSK	H	150	309	1 / 24	16.35	1.87	16.07	0.040	34.77	-18.70	18.22	0.066	40.61	-22.39
713.50	5	QPSK	H	150	298	1 / 24	16.54	1.85	16.24	0.042	34.77	-18.54	18.39	0.069	40.61	-22.22
713.50	5	16-QAM	H	150	298	1 / 24	15.73	1.85	15.43	0.035	34.77	-19.35	17.58	0.057	40.61	-23.03
704.00	10	QPSK	H	150	297	1 / 49	16.53	1.88	16.26	0.042	34.77	-18.51	18.41	0.069	40.61	-22.19
707.50	10	QPSK	H	150	299	1 / 49	16.59	1.87	16.31	0.043	34.77	-18.46	18.46	0.070	40.61	-22.15
711.00	10	QPSK	H	150	302	1 / 49	16.68	1.86	16.39	0.044	34.77	-18.39	18.54	0.071	40.61	-22.07
711.00	10	16-QAM	H	150	302	1 / 49	16.01	1.86	15.72	0.037	34.77	-19.06	17.87	0.061	40.61	-22.74

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

Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	RB Size/Offset	Substitute Level [dBm]	Ant. Gain [dBi]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
779.50	5	QPSK	H	150	288	1 / 0	15.24	1.32	14.41	0.028	34.77	-20.36	16.56	0.045	40.61	-24.05
782.00	5	QPSK	H	150	290	1 / 0	14.77	1.33	13.95	0.025	34.77	-20.82	16.10	0.041	40.61	-24.51
784.50	5	QPSK	H	150	286	1 / 0	14.64	1.34	13.83	0.024	34.77	-20.94	15.98	0.040	40.61	-24.63
779.50	5	16-QAM	H	150	288	1 / 0	14.04	1.32	13.21	0.021	34.77	-21.56	15.36	0.034	40.61	-25.25
782.00	10	QPSK	H	150	287	1 / 25	14.98	1.33	14.16	0.026	34.77	-20.61	16.31	0.043	40.61	-24.30
782.00	10	16-QAM	H	150	287	1 / 0	14.27	1.33	13.45	0.022	34.77	-21.32	15.60	0.036	40.61	-25.01
779.50	5	QPSK	V	150	196	1 / 0	14.39	1.32	13.56	0.023	34.77	-21.21	15.71	0.037	40.61	-24.90
779.50	5 (WCP)	QPSK	H	141	166	1 / 0	14.92	1.32	14.09	0.026	34.77	-20.68	16.24	0.042	40.61	-24.37

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

FCC ID: A3LSMG965KOR		MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
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Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	RB Size/Offset	Substitute Level [dBm]	Ant. Gain [dBi]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
824.70	1.4	QPSK	H	150	301	1 / 0	19.00	1.40	18.25	0.067	38.45	-20.20	20.40	0.110	36.99	-16.59
836.50	1.4	QPSK	H	150	301	1 / 3	18.67	1.31	17.83	0.061	38.45	-20.62	19.98	0.099	36.99	-17.01
848.30	1.4	QPSK	H	150	307	1 / 0	18.11	1.21	17.17	0.052	38.45	-21.28	19.32	0.086	36.99	-17.67
824.70	1.4	16-QAM	H	150	301	1 / 0	18.19	1.40	17.44	0.055	38.45	-21.01	19.59	0.091	36.99	-17.40
825.50	3	QPSK	H	150	299	1 / 0	19.06	1.40	18.31	0.068	38.45	-20.15	20.46	0.111	36.99	-16.53
836.50	3	QPSK	H	150	298	1 / 14	18.67	1.31	17.83	0.061	38.45	-20.62	19.98	0.099	36.99	-17.01
847.50	3	QPSK	H	150	297	1 / 0	18.25	1.22	17.32	0.054	38.45	-21.13	19.47	0.089	36.99	-17.52
825.50	3	16-QAM	H	150	299	1 / 0	18.46	1.40	17.71	0.059	38.45	-20.75	19.86	0.097	36.99	-17.13
826.50	5	QPSK	H	150	300	1 / 0	18.79	1.39	18.03	0.064	38.45	-20.42	20.18	0.104	36.99	-16.81
836.50	5	QPSK	H	150	306	1 / 0	18.74	1.31	17.90	0.062	38.45	-20.55	20.05	0.101	36.99	-16.94
846.50	5	QPSK	H	150	301	1 / 0	18.34	1.23	17.42	0.055	38.45	-21.03	19.57	0.091	36.99	-17.42
826.50	5	16-QAM	H	150	300	1 / 0	18.21	1.39	17.45	0.056	38.45	-21.00	19.60	0.091	36.99	-17.39
829.00	10	QPSK	H	150	307	1 / 49	18.92	1.37	18.14	0.065	38.45	-20.31	20.29	0.107	36.99	-16.70
836.50	10	QPSK	H	150	301	1 / 25	18.78	1.31	17.94	0.062	38.45	-20.51	20.09	0.102	36.99	-16.90
844.00	10	QPSK	H	150	305	1 / 0	18.65	1.25	17.75	0.060	38.45	-20.70	19.90	0.098	36.99	-17.09
829.00	10	16-QAM	H	150	307	1 / 49	17.80	1.37	17.02	0.050	38.45	-21.43	19.17	0.083	36.99	-17.82
831.50	15	QPSK	H	150	304	1 / 0	18.89	1.35	18.09	0.064	38.45	-20.36	20.24	0.106	36.99	-16.75
836.50	15	QPSK	H	150	296	1 / 0	18.81	1.31	17.97	0.063	38.45	-20.48	20.12	0.103	36.99	-16.87
841.50	15	QPSK	H	150	295	1 / 0	18.41	1.27	17.53	0.057	38.45	-20.92	19.68	0.093	36.99	-17.31
831.50	15	16-QAM	H	150	304	1 / 0	18.31	1.35	17.51	0.056	38.45	-20.94	19.66	0.092	36.99	-17.33
825.50	3	QPSK	V	150	133	1 / 0	18.98	1.40	18.23	0.066	38.45	-20.23	20.38	0.109	36.99	-16.61
825.50	3 (WCP)	QPSK	H	135	190	1 / 0	18.60	1.40	17.85	0.061	38.45	-20.61	20.00	0.100	36.99	-16.99

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

FCC ID: A3LSMG965KOR		MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
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Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	RB Size/Offset	Substitute Level [dBm]	Ant. Gain [dBi]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
1710.70	1.4	QPSK	H	150	15	1 / 5	17.97	5.65	23.62	0.230	30.00	-6.38
1745.00	1.4	QPSK	H	150	21	1 / 5	17.73	5.41	23.14	0.206	30.00	-6.86
1779.30	1.4	QPSK	H	150	18	1 / 5	18.36	5.17	23.53	0.225	30.00	-6.47
1710.70	1.4	16-QAM	H	150	15	1 / 5	16.97	5.65	22.62	0.183	30.00	-7.38
1711.50	3	QPSK	H	150	22	1 / 14	18.01	5.64	23.65	0.232	30.00	-6.35
1745.00	3	QPSK	H	150	17	1 / 14	17.70	5.41	23.11	0.204	30.00	-6.89
1778.50	3	QPSK	H	150	15	1 / 14	18.42	5.18	23.60	0.229	30.00	-6.40
1711.50	3	16-QAM	H	150	22	1 / 14	17.05	5.64	22.69	0.186	30.00	-7.31
1712.50	5	QPSK	H	150	18	1 / 0	18.29	5.63	23.92	0.246	30.00	-6.08
1745.00	5	QPSK	H	150	24	1 / 0	17.47	5.41	22.88	0.194	30.00	-7.12
1777.50	5	QPSK	H	150	16	1 / 24	18.47	5.19	23.66	0.232	30.00	-6.34
1712.50	5	16-QAM	H	150	18	1 / 0	17.33	5.63	22.96	0.197	30.00	-7.04
1715.00	10	QPSK	H	150	25	1 / 0	18.03	5.60	23.63	0.231	30.00	-6.37
1745.00	10	QPSK	H	150	13	25 / 12	17.96	5.41	23.37	0.217	30.00	-6.63
1775.00	10	QPSK	H	150	19	1 / 49	17.77	5.22	22.99	0.199	30.00	-7.01
1715.00	10	16-QAM	H	150	25	1 / 0	17.29	5.60	22.89	0.194	30.00	-7.11
1717.50	15	QPSK	H	150	7	1 / 74	18.25	5.57	23.82	0.241	30.00	-6.18
1745.00	15	QPSK	H	150	13	1 / 74	18.26	5.41	23.67	0.233	30.00	-6.33
1772.50	15	QPSK	H	150	12	1 / 0	18.39	5.24	23.63	0.231	30.00	-6.37
1717.50	15	16-QAM	H	150	7	1 / 74	17.61	5.57	23.18	0.208	30.00	-6.82
1720.00	20	QPSK	H	150	16	1 / 99	18.40	5.54	23.94	0.248	30.00	-6.06
1745.00	20	QPSK	H	150	14	1 / 99	17.98	5.41	23.39	0.218	30.00	-6.61
1770.00	20	QPSK	H	150	12	1 / 99	18.70	5.27	23.97	0.249	30.00	-6.03
1720.00	20	16-QAM	H	150	16	1 / 99	17.61	5.54	23.15	0.207	30.00	-6.85
1770.00	20	QPSK	V	150	248	1 / 99	17.97	5.27	23.24	0.211	30.00	-6.76
1745.00	20 (WCP)	QPSK	H	144	211	1 / 99	16.56	5.27	21.83	0.152	30.00	-8.17

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

FCC ID: A3LSMG965KOR		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	RB Size/Offset	Substitute Level [dBm]	Ant. Gain [dBi]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
1850.70	1.4	QPSK	H	150	10	1 / 0	15.42	4.79	20.21	0.105	33.01	-12.80
1882.50	1.4	QPSK	H	150	19	1 / 0	13.19	4.84	18.03	0.064	33.01	-14.98
1914.30	1.4	QPSK	H	150	13	1 / 5	12.03	4.86	16.89	0.049	33.01	-16.12
1850.70	1.4	16-QAM	H	150	10	1 / 0	14.56	4.79	19.35	0.086	33.01	-13.66
1851.50	3	QPSK	H	150	9	1 / 0	15.36	4.79	20.15	0.103	33.01	-12.86
1882.50	3	QPSK	H	150	11	1 / 0	13.30	4.84	18.14	0.065	33.01	-14.87
1913.50	3	QPSK	H	150	10	1 / 0	12.53	4.86	17.39	0.055	33.01	-15.62
1851.50	3	16-QAM	H	150	9	1 / 0	14.72	4.79	19.51	0.089	33.01	-13.50
1852.50	5	QPSK	H	150	12	1 / 24	15.47	4.79	20.26	0.106	33.01	-12.75
1882.50	5	QPSK	H	150	18	1 / 0	13.06	4.84	17.90	0.062	33.01	-15.11
1912.50	5	QPSK	H	150	17	1 / 24	12.72	4.87	17.59	0.057	33.01	-15.42
1852.50	5	16-QAM	H	150	12	1 / 24	14.25	4.79	19.04	0.080	33.01	-13.97
1855.00	10	QPSK	H	150	13	25 / 12	15.41	4.80	20.21	0.105	33.01	-12.80
1882.50	10	QPSK	H	150	8	1 / 0	13.16	4.84	18.00	0.063	33.01	-15.01
1910.00	10	QPSK	H	150	7	1 / 49	12.18	4.87	17.05	0.051	33.01	-15.96
1855.00	10	16-QAM	H	150	13	25 / 12	14.03	4.80	18.83	0.076	33.01	-14.18
1857.50	15	QPSK	H	150	6	1 / 0	15.13	4.80	19.93	0.098	33.01	-13.08
1882.50	15	QPSK	H	150	15	1 / 0	12.93	4.84	17.77	0.060	33.01	-15.24
1907.50	15	QPSK	H	150	5	1 / 74	12.16	4.88	17.04	0.051	33.01	-15.97
1857.50	15	16-QAM	H	150	6	1 / 0	14.25	4.80	19.05	0.080	33.01	-13.96
1860.00	20	QPSK	H	150	7	1 / 99	15.06	4.81	19.87	0.097	33.01	-13.15
1882.50	20	QPSK	H	150	10	1 / 0	12.97	4.84	17.81	0.060	33.01	-15.20
1905.00	20	QPSK	H	150	10	1 / 99	12.20	4.88	17.08	0.051	33.01	-15.93
1860.00	20	16-QAM	H	150	7	1 / 99	14.21	4.81	19.02	0.080	33.01	-14.00
1852.50	5	QPSK	V	150	221	1 / 99	16.03	4.79	20.82	0.121	33.01	-12.19
1852.50	5 (WCP)	QPSK	H	147	177	1 / 99	13.47	4.79	18.26	0.067	33.01	-14.75

Table 7-8. EIRP Data (Band 25/2)

FCC ID: A3LSMG965KOR			MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	RB Size/Offset	Substitute Level [dBm]	Ant. Gain [dBi]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
2498.50	5	QPSK	H	186	191	1 / 12	12.45	9.78	22.23	0.167	33.01	-10.78
2593.00	5	QPSK	H	114	197	1 / 12	9.94	9.71	19.65	0.092	33.01	-13.36
2687.50	5	QPSK	H	121	211	1 / 12	7.53	9.96	17.49	0.056	33.01	-15.52
2498.50	5	16-QAM	H	186	191	1 / 12	11.58	9.78	21.36	0.137	33.01	-11.65
2501.00	10	QPSK	H	110	217	1 / 25	12.56	9.78	22.34	0.172	33.01	-10.67
2593.00	10	QPSK	H	131	212	1 / 0	10.36	9.71	20.07	0.102	33.01	-12.94
2685.00	10	QPSK	H	122	211	1 / 0	8.45	9.96	18.41	0.069	33.01	-14.60
2501.00	10	16-QAM	H	110	217	1 / 25	11.93	9.78	21.71	0.148	33.01	-11.30
2503.50	15	QPSK	H	142	209	1 / 74	13.08	9.78	22.86	0.193	33.01	-10.15
2593.00	15	QPSK	H	142	215	1 / 74	11.12	9.71	20.83	0.121	33.01	-12.18
2682.50	15	QPSK	H	137	220	1 / 37	9.16	9.95	19.11	0.081	33.01	-13.90
2503.50	15	16-QAM	H	142	209	1 / 74	12.36	9.78	22.14	0.164	33.01	-10.87
2506.00	20	QPSK	H	137	201	1 / 99	13.32	9.78	23.10	0.204	33.01	-9.91
2593.00	20	QPSK	H	131	209	1 / 99	11.17	9.71	20.88	0.122	33.01	-12.13
2680.00	20	QPSK	H	122	216	1 / 50	8.94	9.94	18.88	0.077	33.01	-14.13
2506.00	20	16-QAM	H	137	201	1 / 99	12.47	9.78	22.25	0.168	33.01	-10.76
2506.00	20	QPSK	V	180	249	1 / 99	10.96	9.78	20.74	0.119	33.01	-12.27
2506.00	20 (WCP)	QPSK	H	116	219	1 / 99	13.23	9.78	23.01	0.200	33.01	-10.00

Table 7-9. EIRP Data (Band 41)

FCC ID: A3LSMG965KOR		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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7.7 Radiated Spurious Emissions Measurements

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

Test Overview

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

Test Procedures Used

KDB 971168 D01 v03 – Section 5.8

ANSI/TIA-603-E-2016 – Section 2.2.12

Test Settings

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

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Test Setup

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

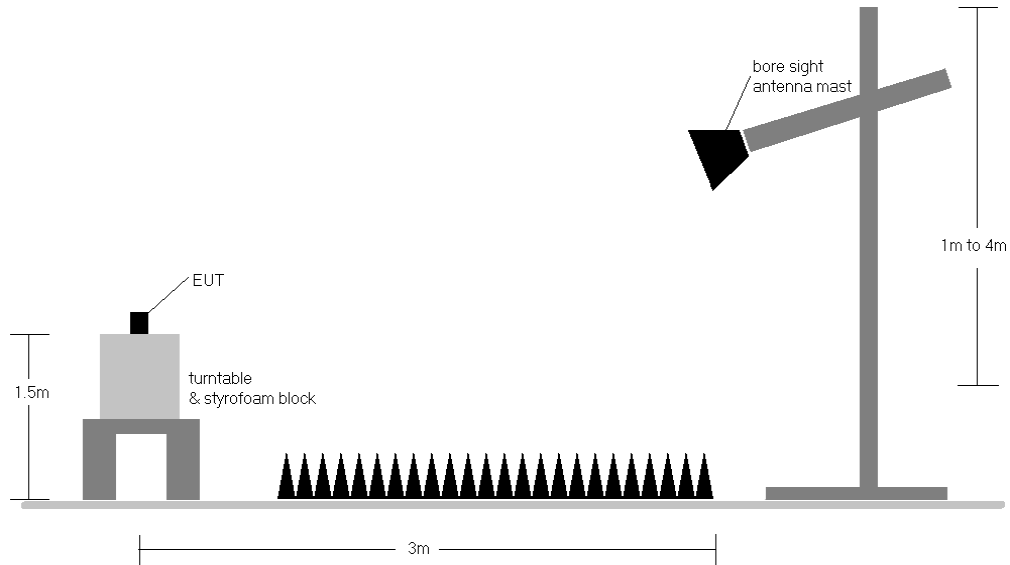


Figure 7-7. Test Instrument & Measurement Setup

Test Notes

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

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Band 12/17

OPERATING FREQUENCY: 701.50 MHz
 CHANNEL: 23035
 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]
1403.00	V	150	284	-69.83	7.79	-62.04	-49.0
2104.50	V	-	-	-70.47	8.17	-62.30	-49.3
2806.00	V	-	-	-71.49	10.04	-61.45	-48.4

Table 7-10. Radiated Spurious Data (Band 12/17 – Low Channel)

OPERATING FREQUENCY: 707.50 MHz
 CHANNEL: 23095
 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]
1415.00	V	150	315	-70.77	7.85	-62.92	-49.9
2122.50	V	-	-	-70.12	8.31	-61.81	-48.8
2830.00	V	-	-	-72.38	10.07	-62.31	-49.3

Table 7-11. Radiated Spurious Data (Band 12/17 – Mid Channel)

FCC ID: A3LSMG965KOR		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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OPERATING FREQUENCY: 713.50 MHz
 CHANNEL: 23155
 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]
1427.00	V	150	284	-70.44	7.91	-62.53	-49.5
2140.50	V	-	-	-71.82	8.44	-63.38	-50.4
2854.00	V	-	-	-70.01	10.09	-59.92	-46.9

Table 7-12. Radiated Spurious Data (Band 12/17 – High Channel)

OPERATING FREQUENCY: 713.50 MHz
 CHANNEL: 23165
 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]
1427.00	H	153	353	-66.44	7.91	-58.54	-45.5
2140.50	H	-	-	-69.32	8.44	-60.88	-47.9
2854.00	H	-	-	-69.98	10.09	-59.89	-46.9

Table 7-13. Radiated Spurious Data with WCP (Band 12/17 – High Channel)

FCC ID: A3LSMG965KOR		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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OPERATING FREQUENCY: 782.00 MHz
 CHANNEL: 23230
 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]
2346.00	V	-	-	-71.48	9.50	-61.98	-49.0
3128.00	V	-	-	-71.62	10.10	-61.53	-48.5

Table 7-14. Radiated Spurious Data (Band 13 – Mid Channel)

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

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1564.00	V	-	-	-73.23	8.53	-64.71	-24.7

Table 7-15. Radiated Spurious Data (Band 13 – 1559-1610MHz Band)

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

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1559.00	V	-	-	-73.06	8.50	-64.55	-51.6
2338.50	V	-	-	-71.40	9.47	-61.93	-48.9

Table 7-16. Radiated Spurious Data with WCP (Band 13 – Mid Channel)

FCC ID: A3LSMG965KOR		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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Band 26/5

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

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1651.00	V	150	359	-72.71	8.95	-63.76	-50.8
2476.50	V	-	-	-71.72	10.01	-61.71	-48.7
3302.00	V	-	-	-67.64	10.00	-57.64	-44.6

Table 7-17. Radiated Spurious Data (Band 26/5 – Low Channel)

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

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1673.00	V	150	354	-72.88	9.05	-63.83	-50.8
2509.50	V	-	-	-72.13	10.10	-62.03	-49.0
3346.00	V	-	-	-67.80	10.00	-57.80	-44.8

Table 7-18. Radiated Spurious Data (Band 26/5 – Mid Channel)

FCC ID: A3LSMG965KOR		MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
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Band 26/5

OPERATING FREQUENCY: 847.50 MHz
 CHANNEL: 27025
 MODULATION SIGNAL: QPSK
 BANDWIDTH: 3.0 MHz
 DISTANCE: 3 meters
 LIMIT: -13 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1695.00	V	150	265	-72.25	9.15	-63.10	-50.1
2542.50	V	-	-	-72.10	10.08	-62.02	-49.0
3390.00	V	-	-	-67.64	10.00	-57.64	-44.6

Table 7-19. Radiated Spurious Data (Band 26/5 – High Channel)

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

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1651.00	H	127	338	-72.83	8.95	-63.88	-50.9
2476.50	H	-	-	-71.79	10.01	-61.78	-48.8
3302.00	H	-	-	-69.37	10.00	-59.37	-46.4

Table 7-20. Radiated Spurious Data with WCP (Band 26/5 – Low Channel)

FCC ID: A3LSMG965KOR		MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
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Band 66/4

OPERATING FREQUENCY: 1720.00 MHz
 CHANNEL: 20050
 MODULATION SIGNAL: QPSK
 BANDWIDTH: 20.0 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]
3440.00	H	174	212	-64.17	9.12	-55.04	-42.0
5160.00	H	124	309	-67.29	12.48	-54.82	-41.8
6880.00	H	-	-	-59.84	10.46	-49.38	-36.4

Table 7-21. Radiated Spurious Data (Band 66/4 – Low Channel)

OPERATING FREQUENCY: 1732.50 MHz
 CHANNEL: 20175
 MODULATION SIGNAL: QPSK
 BANDWIDTH: 20.0 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]
3465.00	H	104	327	-57.52	9.22	-48.31	-35.3
5197.50	H	236	41	-66.37	12.69	-53.68	-40.7
6930.00	H	-	-	-59.76	10.19	-49.56	-36.6

Table 7-22. Radiated Spurious Data (Band 66/4 – Mid Channel)

FCC ID: A3LSMG965KOR		MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
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Band 66/4

OPERATING FREQUENCY: 1745.00 MHz
 CHANNEL: 20300
 MODULATION SIGNAL: QPSK
 BANDWIDTH: 20.0 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	104	206	-60.72	9.31	-51.41	-38.4
5235.00	H	161	143	-68.78	12.83	-55.95	-43.0
6980.00	H	-	-	-58.76	9.98	-48.79	-35.8

Table 7-23. Radiated Spurious Data (Band 66/4 – High Channel)

OPERATING FREQUENCY: 1745.00 MHz
 CHANNEL: 20300
 MODULATION SIGNAL: QPSK
 BANDWIDTH: 20.0 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	203	29	-62.16	9.31	-52.85	-39.9
5235.00	H	141	43	-68.72	12.83	-55.89	-42.9
6980.00	H	-	-	-60.20	9.98	-50.23	-37.2

Table 7-24. Radiated Spurious Data with WCP (Band 66/4 – High Channel)

FCC ID: A3LSMG965KOR		MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
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Band 25/2

OPERATING FREQUENCY: 1852.50 MHz
 CHANNEL: 18625
 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]
3705.00	H	-	-	-65.44	9.52	-55.92	-42.9

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

OPERATING FREQUENCY: 1880.00 MHz
 CHANNEL: 18900
 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]
3760.00	H	-	-	-65.11	9.39	-55.72	-42.7

Table 7-26. Radiated Spurious Data (Band 25/2 – Mid Channel)

Band 25/2

FCC ID: A3LSMG965KOR		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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OPERATING FREQUENCY: 1907.50 MHz
 CHANNEL: 19175
 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]
3815.00	H	-	-	-65.15	9.32	-55.83	-42.8

Table 7-27. Radiated Spurious Data (Band 25/2 – High Channel)

OPERATING FREQUENCY: 1852.50 MHz
 CHANNEL: 18625
 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]
3705.00	H	175	49	-64.36	9.52	-54.84	-41.8
5557.50	H	-	-	-64.99	11.03	-53.96	-41.0

Table 7-28. Radiated Spurious Data with WCP (Band 25/2 – Low Channel)

FCC ID: A3LSMG965KOR		MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
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Band 41

OPERATING FREQUENCY: 2506.00 MHz
 CHANNEL: 39750
 MODULATION SIGNAL: QPSK
 BANDWIDTH: 20.0 MHz
 DISTANCE: 3 meters
 LIMIT: -25 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5012.00	H	162	325	-53.69	11.20	-42.49	-17.5
7518.00	H	161	349	-46.76	10.97	-35.79	-10.8
10024.00	H	-	-	-58.21	12.13	-46.08	-21.1

Table 7-29. Radiated Spurious Data (Band 41 – Low Channel)

OPERATING FREQUENCY: 2593.00 MHz
 CHANNEL: 40620
 MODULATION SIGNAL: QPSK
 BANDWIDTH: 20.0 MHz
 DISTANCE: 3 meters
 LIMIT: -25 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5186.00	H	125	320	-53.94	10.82	-43.12	-18.1
7779.00	H	161	326	-46.99	11.45	-35.54	-10.5
10372.00	H	-	-	-58.80	12.53	-46.27	-21.3

Table 7-30. Radiated Spurious Data (Band 41 – Mid Channel)

FCC ID: A3LSMG965KOR		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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Band 41

OPERATING FREQUENCY: 2680.00 MHz
 CHANNEL: 41490
 MODULATION SIGNAL: QPSK
 BANDWIDTH: 20.0 MHz
 DISTANCE: 3 meters
 LIMIT: -25 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5360.00	H	145	8	-51.48	11.05	-40.44	-15.4
8040.00	H	149	5	-54.26	11.41	-42.85	-17.8
10720.00	H	-	-	-61.00	12.87	-48.13	-23.1

Table 7-31. Radiated Spurious Data (Band 41 – High Channel)

OPERATING FREQUENCY: 2506.00 MHz
 CHANNEL: 39750
 MODULATION SIGNAL: QPSK
 BANDWIDTH: 20.0 MHz
 DISTANCE: 3 meters
 LIMIT: -25 dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5012.00	H	147	310	-59.09	11.20	-47.89	-22.9
7518.00	H	157	136	-58.23	10.97	-47.26	-22.3
10024.00	H	-	-	-58.52	12.13	-46.39	-21.4

Table 7-32. Radiated Spurious Data with WCP (Band 41 – Low Channel)

FCC ID: A3LSMG965KOR		MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1710200271-03.A3L	Test Dates: 10/20 - 12/5/2017	EUT Type: Portable Handset		Page 171 of 185	

7.8 Frequency Stability / Temperature Variation

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

Test Overview and Limit

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

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

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

Test Procedure Used

ANSI/TIA-603-E-2016

Test Settings

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

Test Setup

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

Test Notes

None

FCC ID: A3LSMG965KOR		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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Band 12/17 Frequency Stability Measurements
§2.1055 §27.54 RSS-130(4.3)

OPERATING FREQUENCY: 707,500,000 Hz
 CHANNEL: 23790
 REFERENCE VOLTAGE: 3.85 VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.85	+ 20 (Ref)	707,499,985	-15	-0.0000021
100 %		- 30	707,499,992	-8	-0.0000011
100 %		- 20	707,500,004	4	0.0000006
100 %		- 10	707,499,998	-2	-0.0000003
100 %		0	707,500,349	349	0.0000493
100 %		+ 10	707,500,090	90	0.0000127
100 %		+ 20	707,500,209	209	0.0000295
100 %		+ 30	707,500,192	192	0.0000271
100 %		+ 40	707,499,926	-74	-0.0000105
100 %		+ 50	707,499,920	-80	-0.0000113
BATT. ENDPOINT		3.45	+ 20	707,500,005	5

Table 7-33. Frequency Stability Data (Band 12/17)

Note:

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

FCC ID: A3LSMG965KOR		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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Band 12/17 Frequency Stability Measurements
§2.1055 §27.54 RSS-130(4.3)

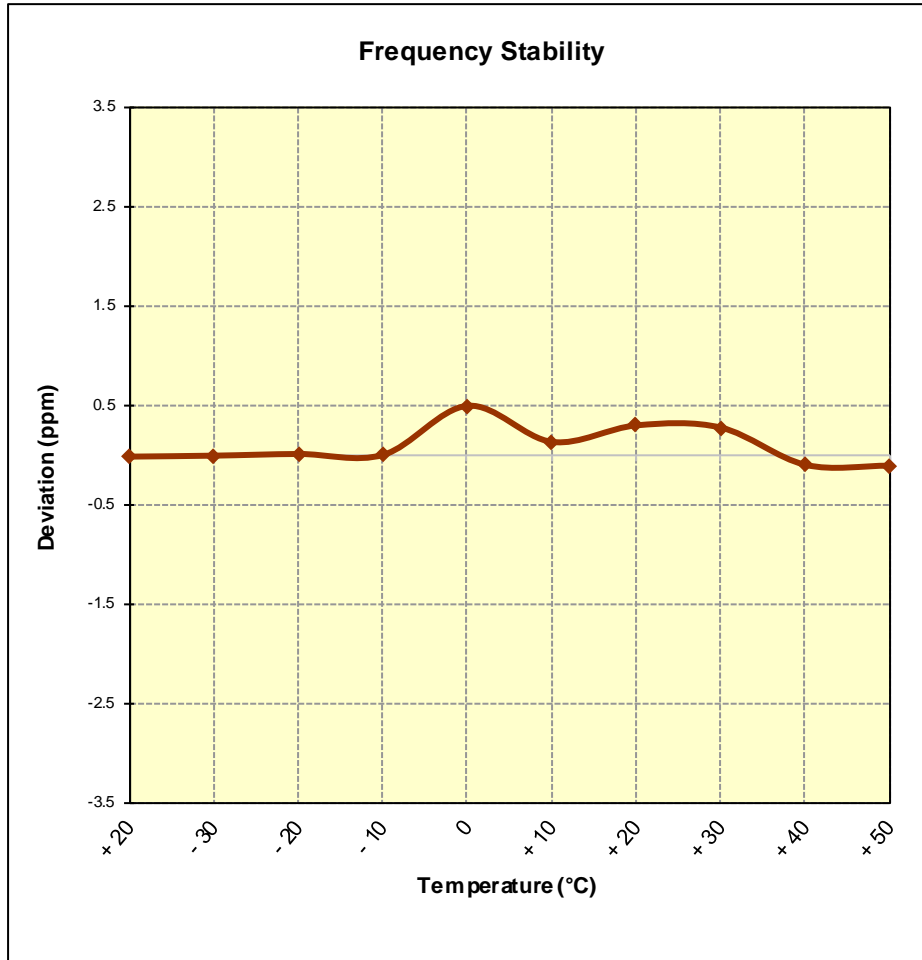


Figure 7-8. Frequency Stability Graph (Band 12/17)

FCC ID: A3LSMG965KOR	 MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
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Band 13 Frequency Stability Measurements
§2.1055 §27.54 RSS-130(4.3)

OPERATING FREQUENCY: 782,000,000 Hz
 CHANNEL: 23230
 REFERENCE VOLTAGE: 3.85 VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.85	+ 20 (Ref)	781,999,795	-205	-0.0000262
100 %		- 30	781,999,665	-335	-0.0000428
100 %		- 20	781,999,954	-46	-0.0000059
100 %		- 10	782,000,231	231	0.0000295
100 %		0	781,999,885	-115	-0.0000147
100 %		+ 10	782,000,146	146	0.0000187
100 %		+ 20	781,999,924	-76	-0.0000097
100 %		+ 30	781,999,888	-112	-0.0000143
100 %		+ 40	781,999,970	-30	-0.0000038
100 %		+ 50	781,999,831	-169	-0.0000216
BATT. ENDPOINT		3.45	+ 20	781,999,638	-362

Table 7-34. Frequency Stability Data (Band 13)

Note:

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

FCC ID: A3LSMG965KOR			MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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Band 13 Frequency Stability Measurements
§2.1055 §27.54 RSS-130(4.3)

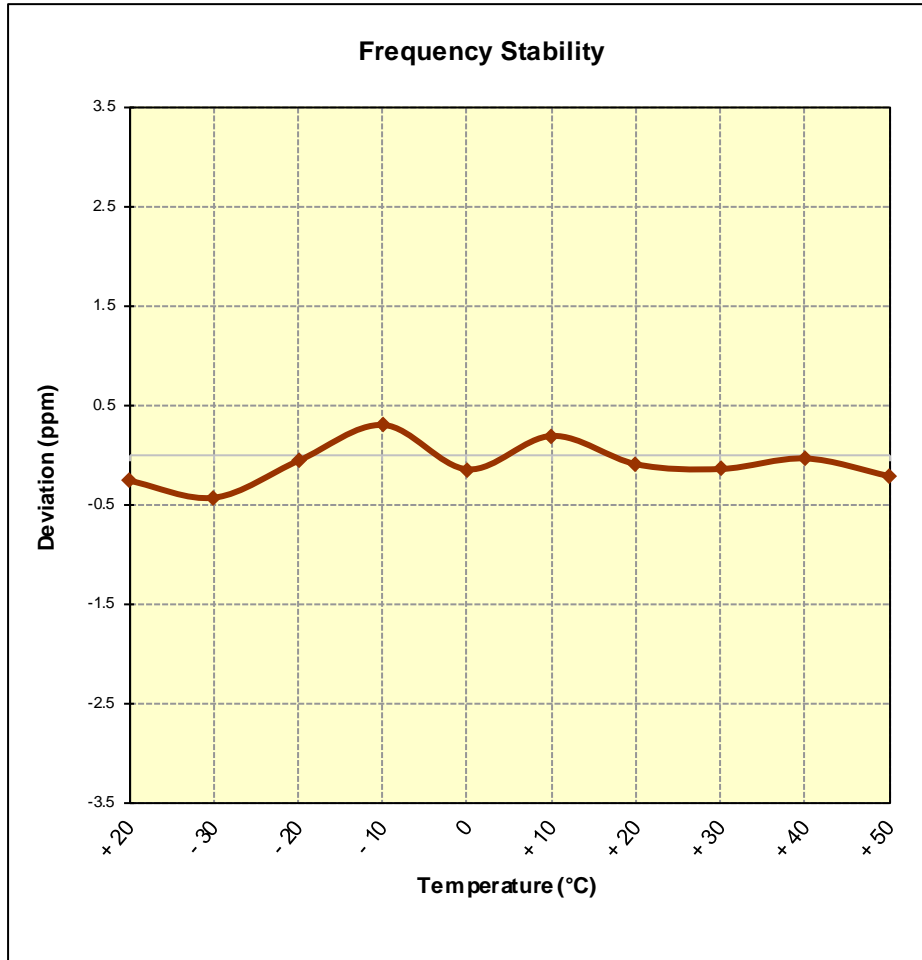


Figure 7-9. Frequency Stability Graph (Band 13)

FCC ID: A3LSMG965KOR	 MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
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Band 26/5 Frequency Stability Measurements
§2.1055 §22.355 RSS-132(5.3)

OPERATING FREQUENCY: 831,500,000 Hz
 CHANNEL: 26865
 REFERENCE VOLTAGE: 3.85 VDC
 DEVIATION LIMIT: ± 0.00025 % or 2.5 ppm

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.85	+ 20 (Ref)	831,500,070	70	0.0000084
100 %		- 30	831,500,026	26	0.0000031
100 %		- 20	831,499,831	-169	-0.0000203
100 %		- 10	831,499,942	-58	-0.0000070
100 %		0	831,499,915	-85	-0.0000102
100 %		+ 10	831,499,869	-131	-0.0000158
100 %		+ 20	831,500,184	184	0.0000221
100 %		+ 30	831,499,930	-70	-0.0000084
100 %		+ 40	831,500,092	92	0.0000111
100 %		+ 50	831,500,026	26	0.0000031
BATT. ENDPOINT		3.45	+ 20	831,499,979	-21

Table 7-35. Frequency Stability Data (Band 26/5)

FCC ID: A3LSMG965KOR		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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Band 26/5 Frequency Stability Measurements
§2.1055 §22.355 RSS-132(5.3)

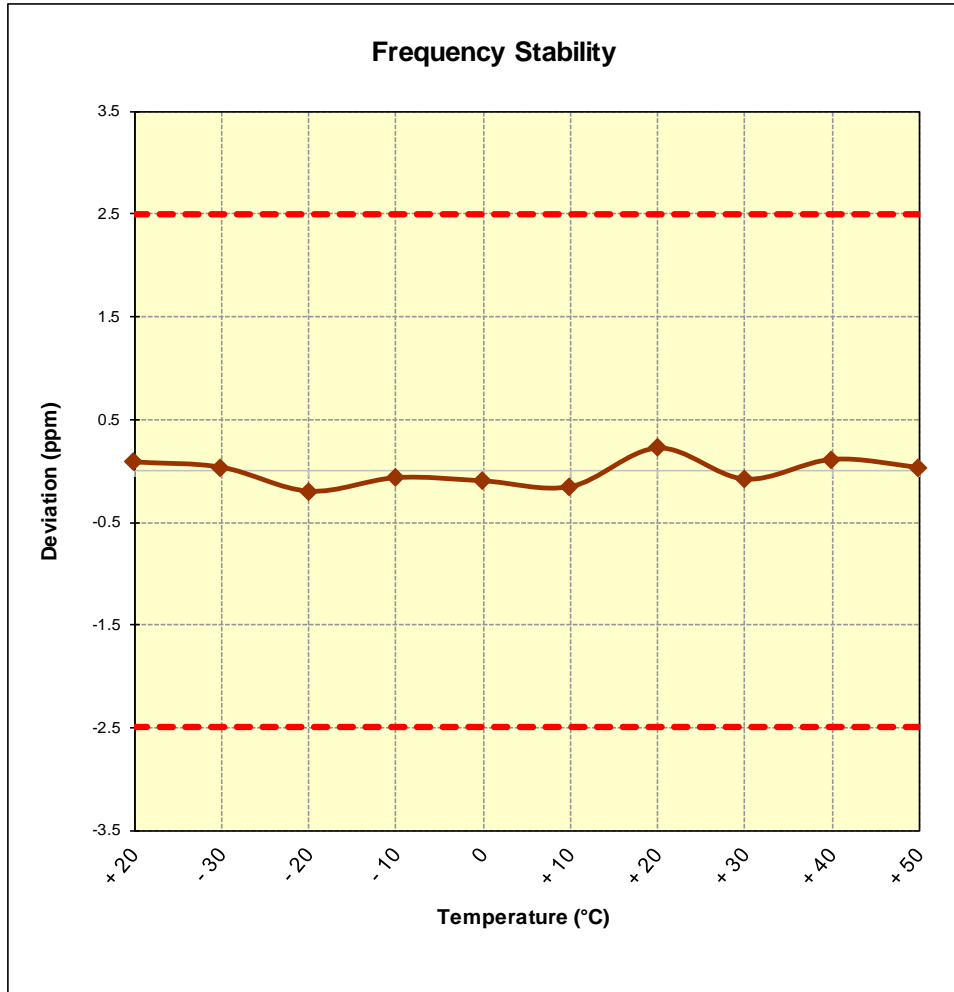


Figure 7-10. Frequency Stability Graph (Band 26/5)

FCC ID: A3LSMG965KOR		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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Band 66/4 Frequency Stability Measurements
§2.1055 §27.54 RSS-139(6.4)

OPERATING FREQUENCY: 1,745,000,000 Hz
 CHANNEL: 132322
 REFERENCE VOLTAGE: 3.85 VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.85	+ 20 (Ref)	1,744,999,801	-199	-0.0000114
100 %		- 30	1,745,000,306	306	0.0000175
100 %		- 20	1,745,000,413	413	0.0000237
100 %		- 10	1,745,000,132	132	0.0000076
100 %		0	1,745,000,021	21	0.0000012
100 %		+ 10	1,745,000,152	152	0.0000087
100 %		+ 20	1,745,000,245	245	0.0000140
100 %		+ 30	1,745,000,029	29	0.0000017
100 %		+ 40	1,744,999,990	-10	-0.0000006
100 %		+ 50	1,744,999,617	-383	-0.0000219
BATT. ENDPOINT		3.45	+ 20	1,745,000,217	217

Table 7-36. Frequency Stability Data (Band 66/4)

Note:

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

FCC ID: A3LSMG965KOR		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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Band 66/4 Frequency Stability Measurements
§2.1055 §§27.54 RSS-139(6.4)

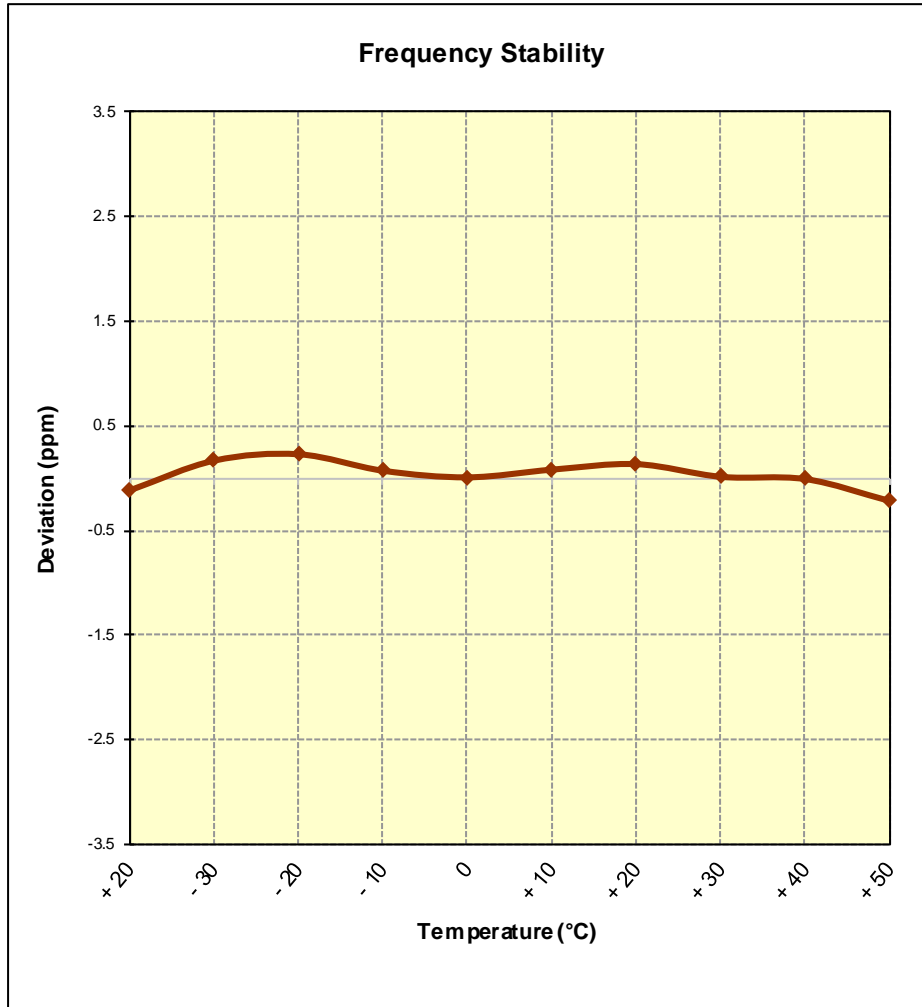


Figure 7-11. Frequency Stability Graph (Band 66/4)

FCC ID: A3LSMG965KOR	 MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
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Band 25/2 Frequency Stability Measurements
§2.1055 §24.235 RSS-133(6.3)

OPERATING FREQUENCY: 1,882,500,000 Hz
 CHANNEL: 26365
 REFERENCE VOLTAGE: 3.85 VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.85	+ 20 (Ref)	1,882,500,014	14	0.0000007
100 %		- 30	1,882,500,272	272	0.0000144
100 %		- 20	1,882,499,747	-253	-0.0000134
100 %		- 10	1,882,500,121	121	0.0000064
100 %		0	1,882,499,989	-11	-0.0000006
100 %		+ 10	1,882,500,290	290	0.0000154
100 %		+ 20	1,882,499,826	-174	-0.0000092
100 %		+ 30	1,882,499,978	-22	-0.0000012
100 %		+ 40	1,882,500,017	17	0.0000009
100 %		+ 50	1,882,500,006	6	0.0000003
85 %		3.27	+ 20	1,882,499,934	-66
BATT. ENDPOINT	3.45	+ 20	1,882,500,050	50	0.0000027

Table 7-37. Frequency Stability Data (Band 25/2)

FCC ID: A3LSMG965KOR		MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
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Band 25/2 Frequency Stability Measurements
§2.1055 §24.235 RSS-133(6.3)

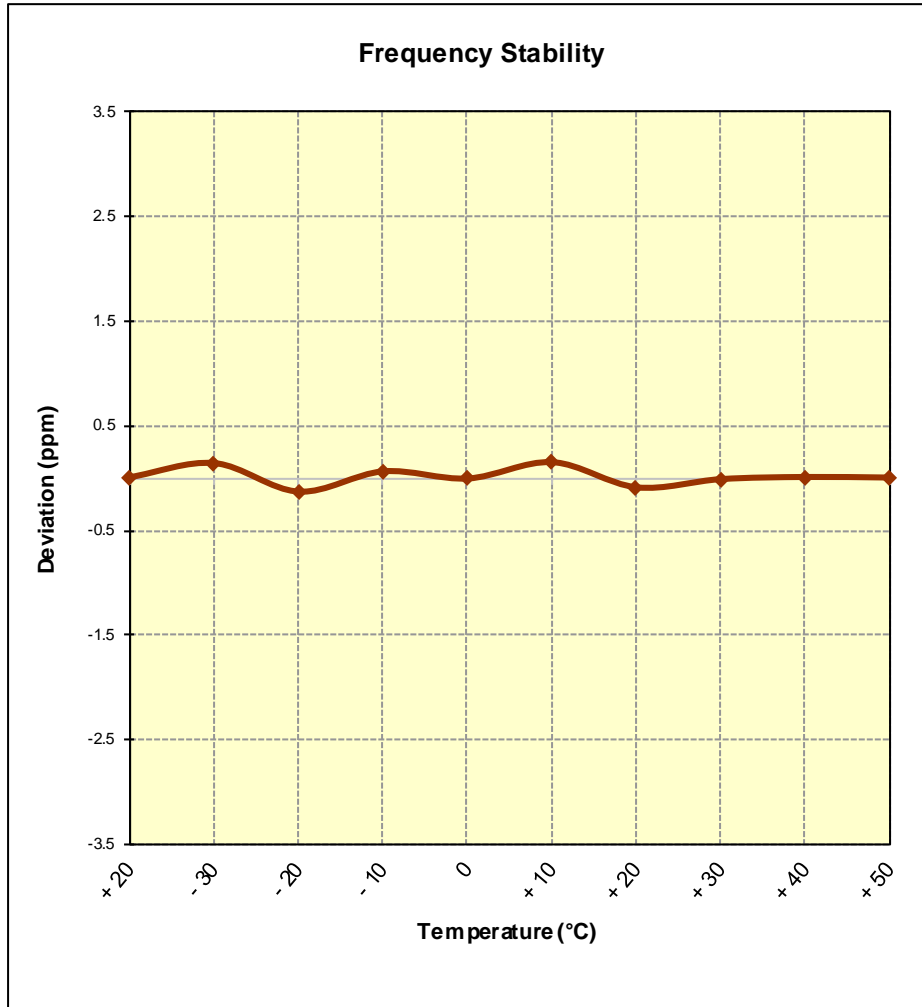


Figure 7-12. Frequency Stability Graph (Band 25/2)

FCC ID: A3LSMG965KOR	 MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
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Band 41 Frequency Stability Measurements
§2.1055 §27.54 RSS-199(4.3)

OPERATING FREQUENCY: 2,593,000,000 Hz
 CHANNEL: 40620
 REFERENCE VOLTAGE: 3.85 VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.85	+ 20 (Ref)	2,593,000,018	18	0.0000007
100 %		- 30	2,592,999,762	-238	-0.0000092
100 %		- 20	2,592,999,750	-250	-0.0000096
100 %		- 10	2,593,000,219	219	0.0000084
100 %		0	2,593,000,206	206	0.0000079
100 %		+ 10	2,592,999,847	-153	-0.0000059
100 %		+ 20	2,592,999,986	-14	-0.0000005
100 %		+ 30	2,592,999,813	-187	-0.0000072
100 %		+ 40	2,593,000,222	222	0.0000086
100 %		+ 50	2,593,000,045	45	0.0000017
BATT. ENDPOINT		3.45	+ 20	2,592,999,629	-371

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

Note:

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

FCC ID: A3LSMG965KOR		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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Band 41 Frequency Stability Measurements
§2.1055 §27.54 RSS-199(4.3)

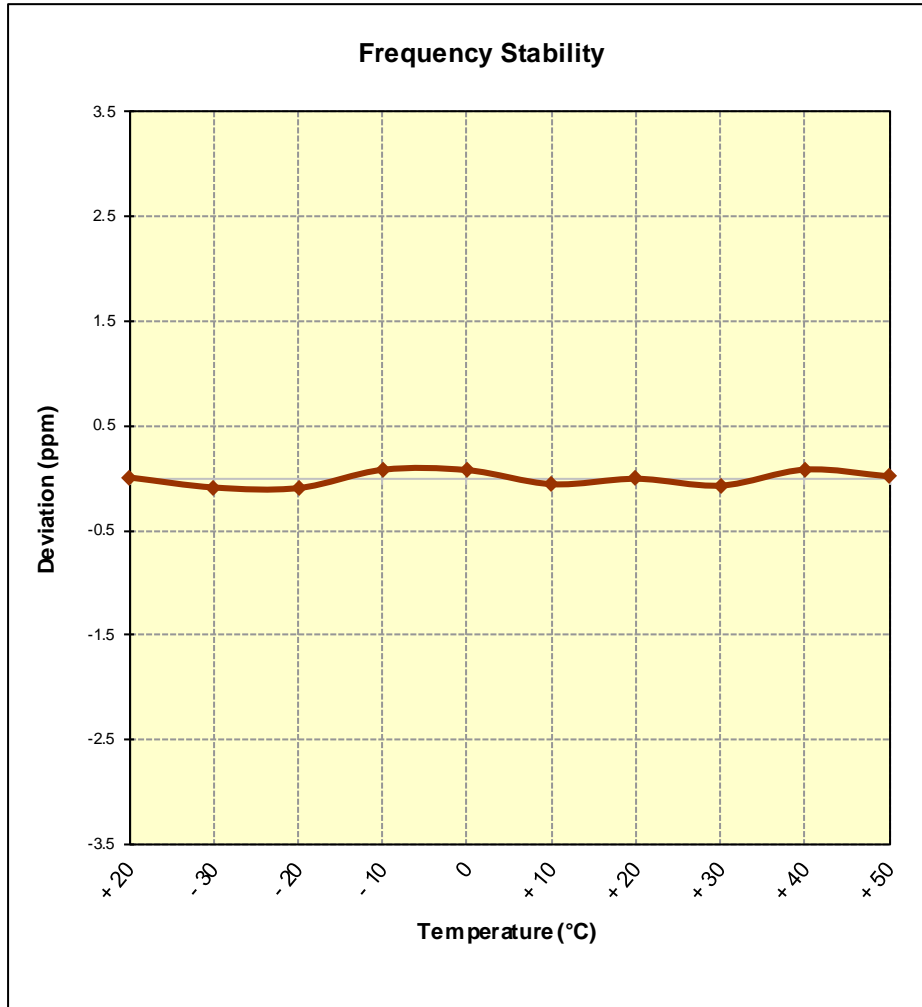


Figure 7-13. Frequency Stability Graph (Band 41)

FCC ID: A3LSMG965KOR	 MEASUREMENT REPORT (CERTIFICATION) 		Approved by: Quality Manager
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8.0 CONCLUSION

The data collected relate only to the item(s) tested and show that the **Samsung Portable Handset FCC ID: A3LSMG965KOR** complies with all the requirements of Part 22, 24, & 27 of the FCC Rules for LTE operation only.

FCC ID: A3LSMG965KOR		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1710200271-03.A3L	Test Dates: 10/20 - 12/5/2017	EUT Type: Portable Handset		Page 185 of 185