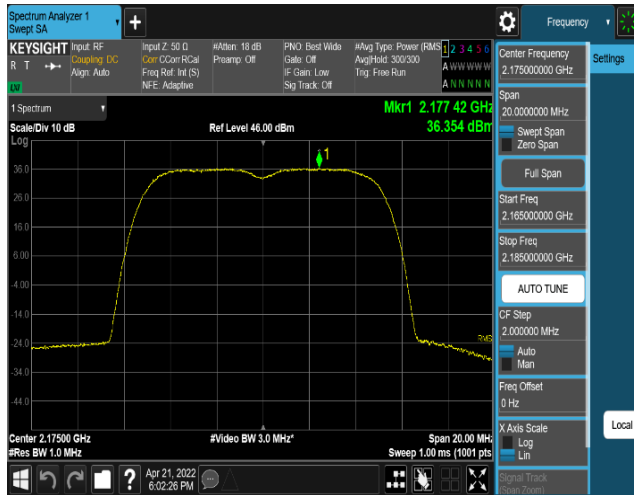




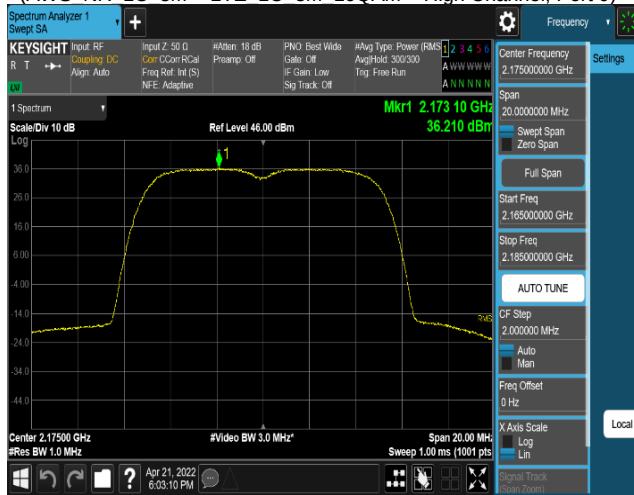
Plot 8-161. Power Spectral Density Plot

(AWS NR 1C 5M + LTE 1C 5M 16QAM – High Channel, Port 0)



Plot 8-162. Power Spectral Density Plot

(AWS NR 1C 5M + LTE 1C 5M 16QAM – High Channel, Port 1)



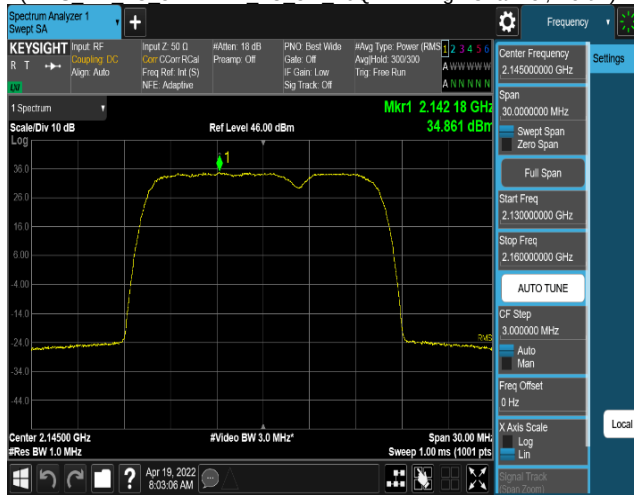
Plot 8-163. Power Spectral Density Plot

(AWS NR 1C 5M + LTE 1C 5M 16QAM – High Channel, Port 2)



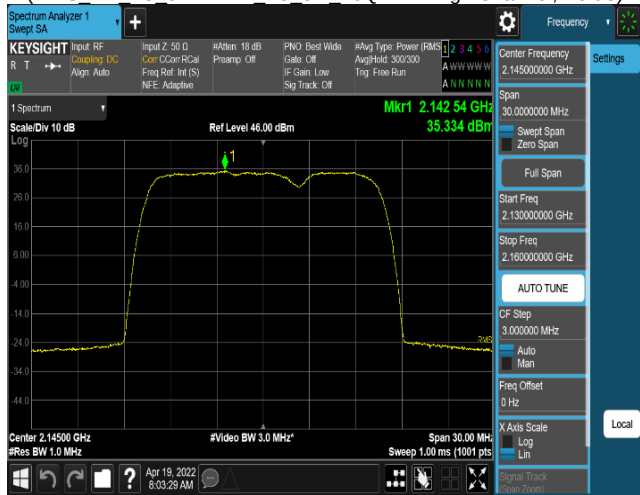
Plot 8-164. Power Spectral Density Plot

(AWS NR 1C 5M + LTE 1C 5M 16QAM – High Channel, Port 3)



Plot 8-165. Power Spectral Density Plot

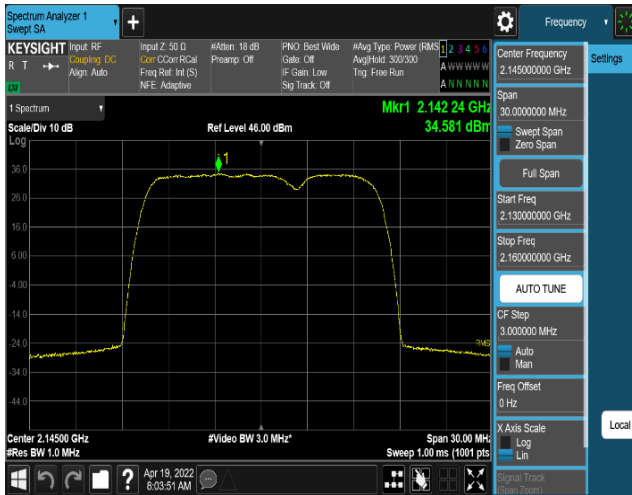
(AWS_DSS_1C_10M + NR_1C_5M_16QAM – Mid Channel, Port 0)



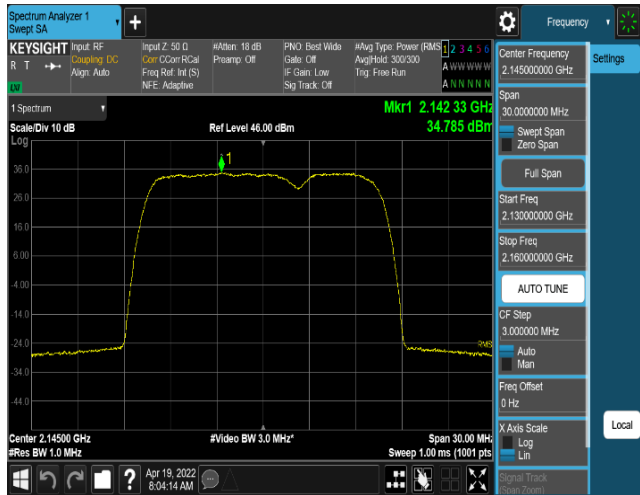
Plot 8-166. Power Spectral Density Plot

(AWS_DSS_1C_10M + NR_1C_5M_16QAM – Mid Channel, Port 1)

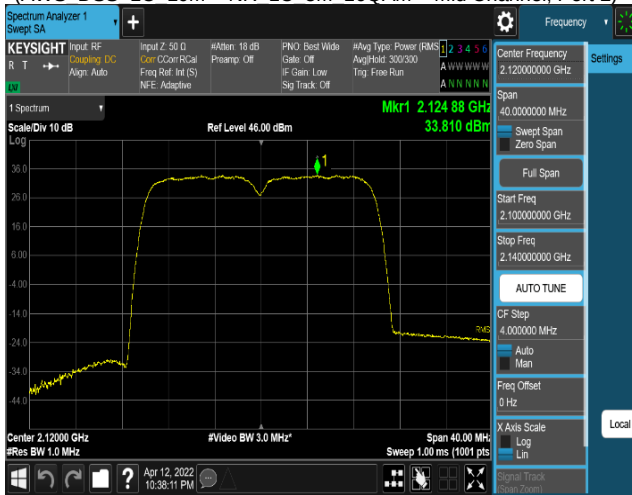
FCC ID: A3LRF4402D-D1A	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (Class II Permissive Change)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 8K22032101-00.A3L	Test Dates: 03/25/2022 - 05/03/2022	EUT Type: RRU(RF4402d)		Page 100 of 225



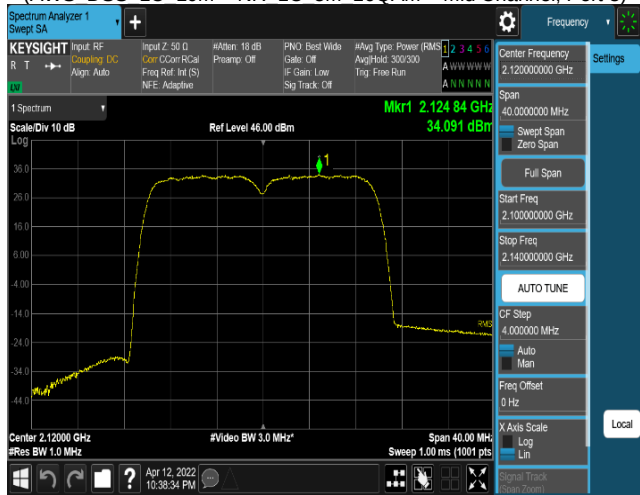
Plot 8-167. Power Spectral Density Plot
(AWS_DSS_1C_10M + NR_1C_5M_16QAM – Mid Channel, Port 2)



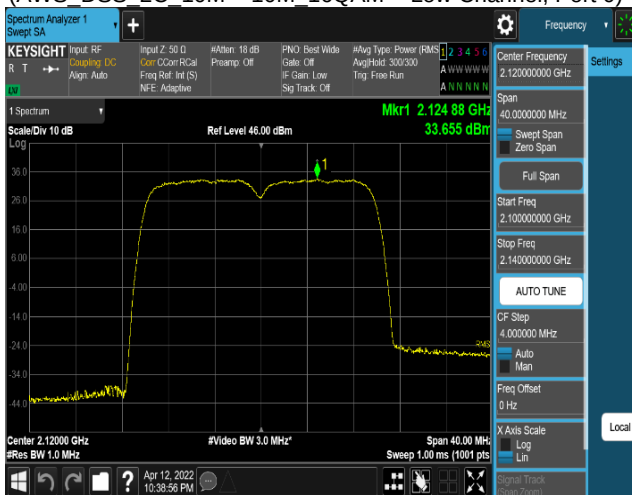
Plot 8-168. Power Spectral Density Plot
(AWS_DSS_1C_10M + NR_1C_5M_16QAM – Mid Channel, Port 3)



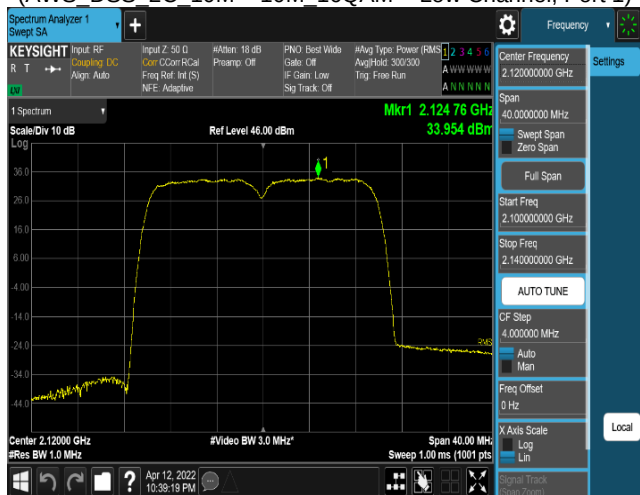
Plot 8-169. Power Spectral Density Plot
(AWS_DSS_2C_10M + 10M_16QAM – Low Channel, Port 0)



Plot 8-170. Power Spectral Density Plot
(AWS_DSS_2C_10M + 10M_16QAM – Low Channel, Port 1)

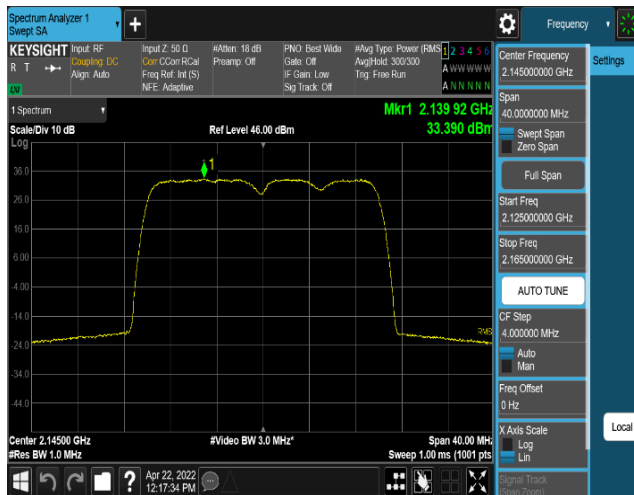


Plot 8-171. Power Spectral Density Plot
(AWS_DSS_2C_10M + 10M_16QAM – Low Channel, Port 2)

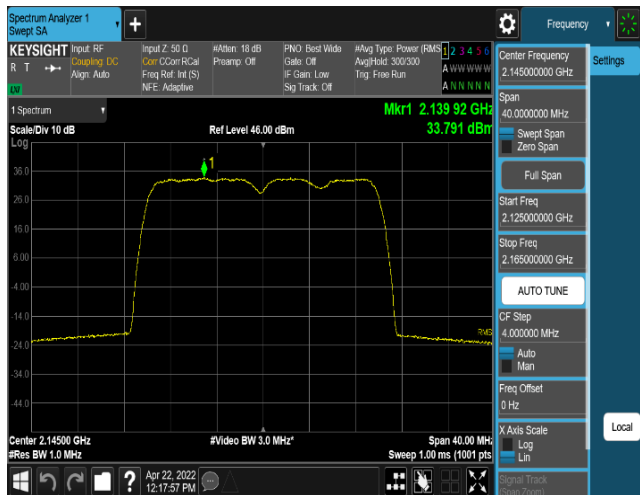


Plot 8-172. Power Spectral Density Plot
(AWS_DSS_2C_10M + 10M_16QAM – Low Channel, Port 3)

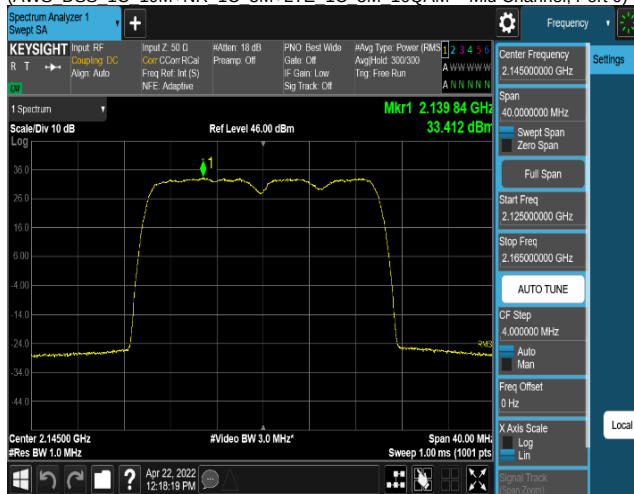
FCC ID: A3LRF4402D-D1A	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (Class II Permissive Change)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 8K22032101-00.A3L	Test Dates: 03/25/2022 - 05/03/2022	EUT Type: RRU(RF4402d)		Page 101 of 225



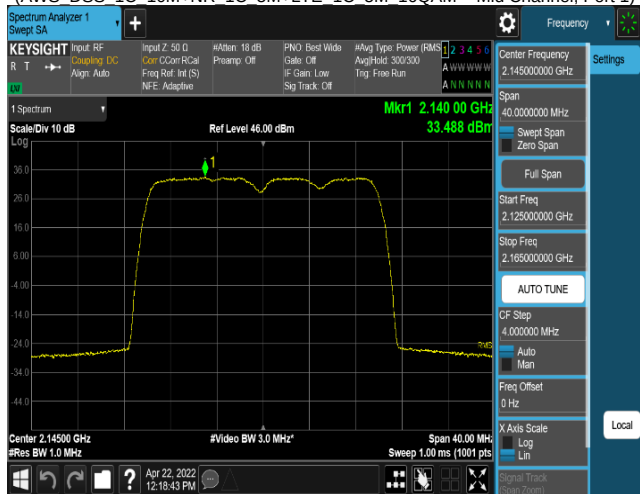
Plot 8-173. Power Spectral Density Plot
(AWS DSS 1C 10M+NR 1C 5M+LTE 1C 5M 16QAM – Mid Channel, Port 0)



Plot 8-174. Power Spectral Density Plot
(AWS DSS 1C 10M+NR 1C 5M+LTE 1C 5M 16QAM – Mid Channel, Port 1)



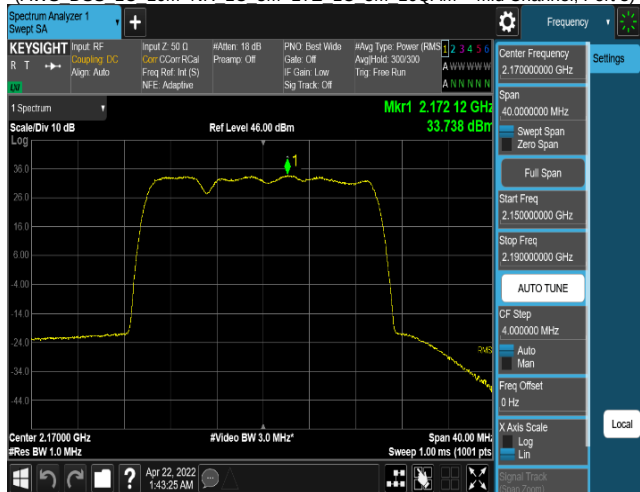
Plot 8-175. Power Spectral Density Plot
(AWS DSS 1C 10M+NR 1C 5M+LTE 1C 5M 16QAM – Mid Channel, Port 2)



Plot 8-176. Power Spectral Density Plot
(AWS DSS 1C 10M+NR 1C 5M+LTE 1C 5M 16QAM – Mid Channel, Port 3)



Plot 8-177. Power Spectral Density Plot
(AWS_DSS_1C_15M + LTE_1C_5M_16QAM – High Channel, Port 0)

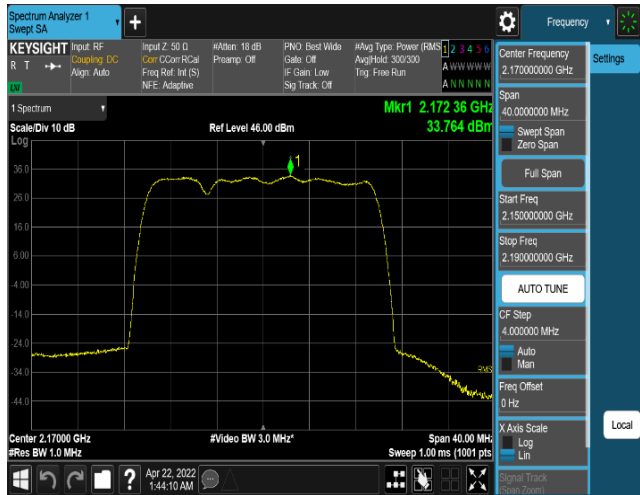


Plot 8-178. Power Spectral Density Plot
(AWS_DSS_1C_15M + LTE_1C_5M_16QAM – High Channel, Port 1)

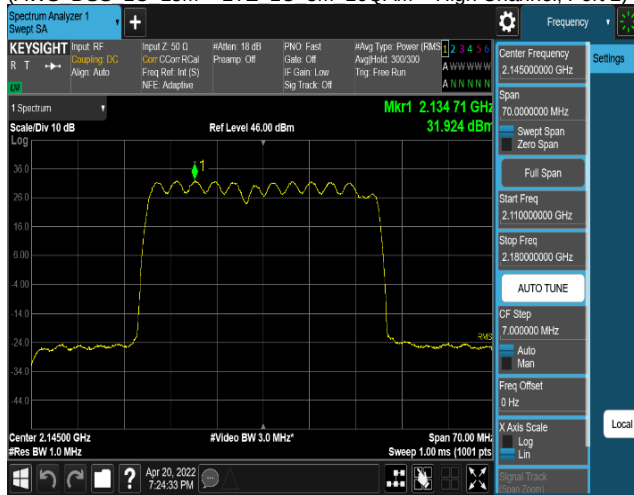
FCC ID: A3LRF4402D-D1A	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (Class II Permissive Change)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 8K22032101-00.A3L	Test Dates: 03/25/2022 - 05/03/2022	EUT Type: RRU(RF4402d)		Page 102 of 225



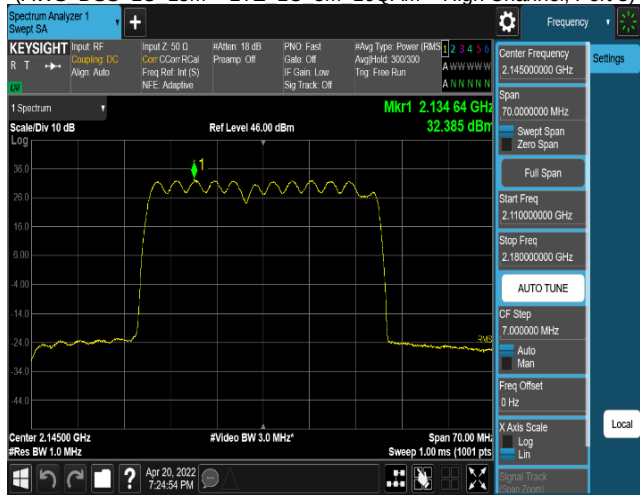
Plot 8-179. Power Spectral Density Plot
(AWS DSS 1C 15M + LTE 1C 5M 16QAM – High Channel, Port 2)



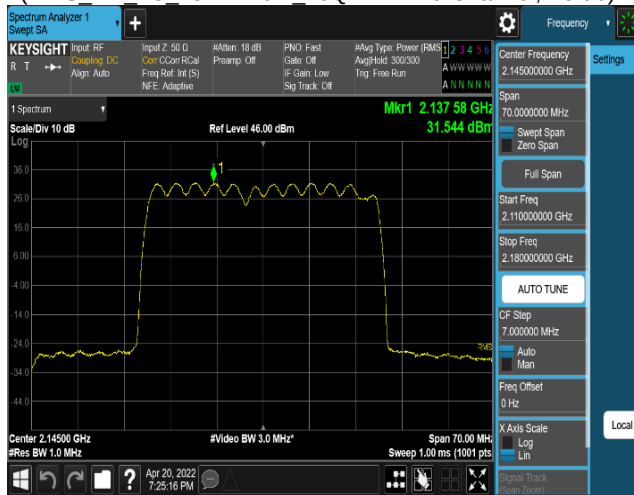
Plot 8-180. Power Spectral Density Plot
(AWS DSS 1C 15M + LTE 1C 5M 16QAM – High Channel, Port 3)



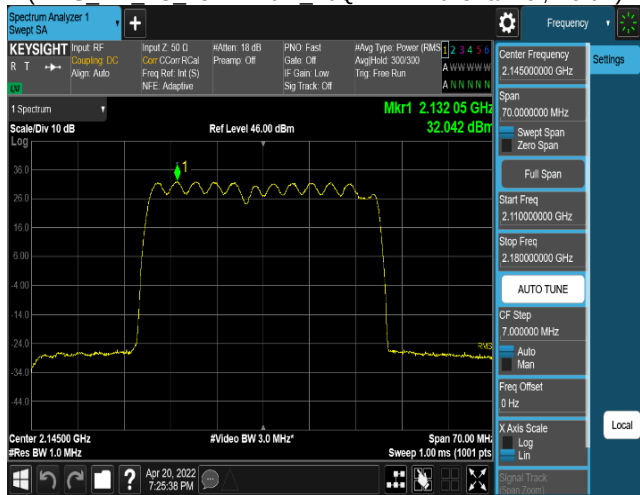
Plot 8-181. Power Spectral Density Plot
(AWS NR 2C 15M + 20M 16QAM – Mid Channel, Port 0)



Plot 8-182. Power Spectral Density Plot
(AWS NR 2C 15M + 20M 16QAM – Mid Channel, Port 1)

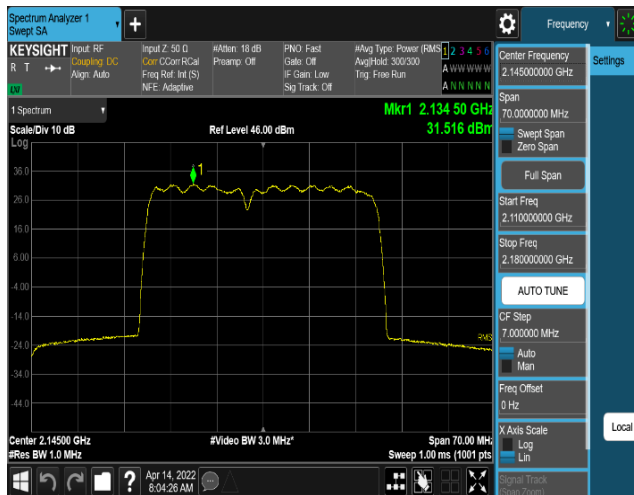


Plot 8-183. Power Spectral Density Plot
(AWS_NR_2C_15M + 20M_16QAM – Mid Channel, Port 2)

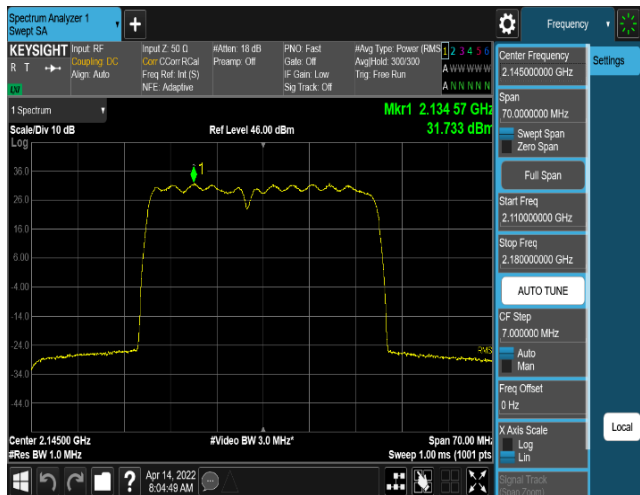


Plot 8-184. Power Spectral Density Plot
(AWS_NR_2C_15M + 20M_16QAM – Mid Channel, Port 3)

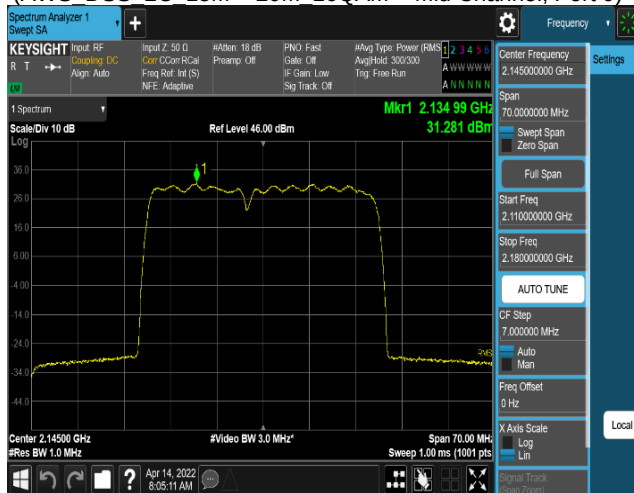
FCC ID: A3LRF4402D-D1A	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (Class II Permissive Change)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 8K22032101-00.A3L	Test Dates: 03/25/2022 - 05/03/2022	EUT Type: RRU(RF4402d)		Page 103 of 225



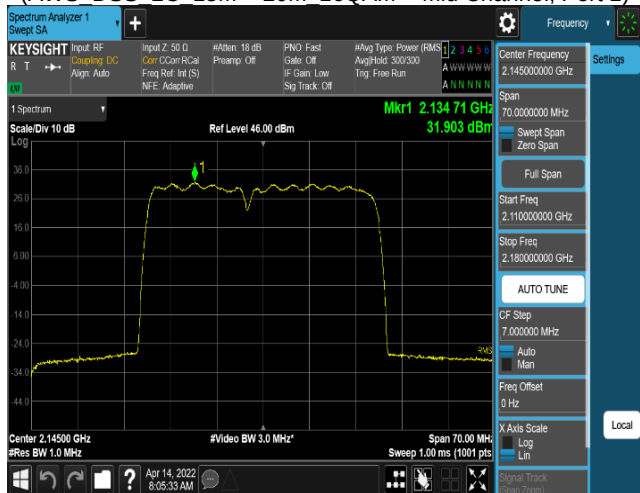
Plot 8-185. Power Spectral Density Plot
(AWS DSS 2C 15M + 20M 16QAM – Mid Channel, Port 0)



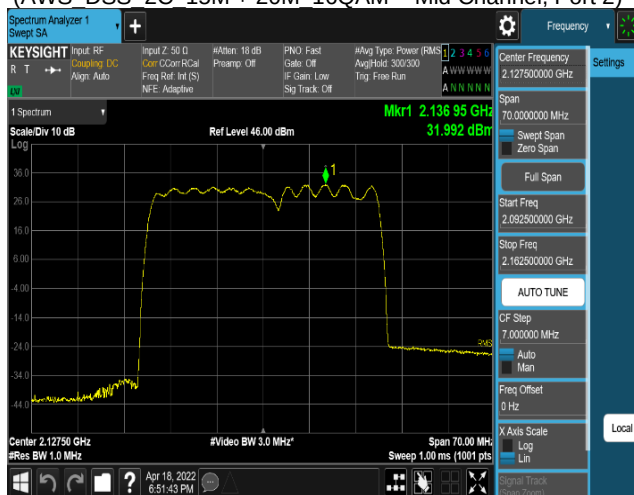
Plot 8-186. Power Spectral Density Plot
(AWS DSS 2C 15M + 20M 16QAM – Mid Channel, Port 1)



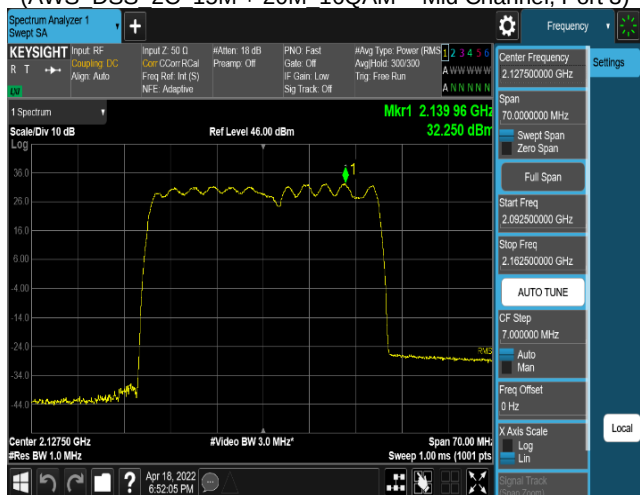
Plot 8-187. Power Spectral Density Plot
(AWS DSS 2C 15M + 20M 16QAM – Mid Channel, Port 2)



Plot 8-188. Power Spectral Density Plot
(AWS DSS 2C 15M + 20M 16QAM – Mid Channel, Port 3)

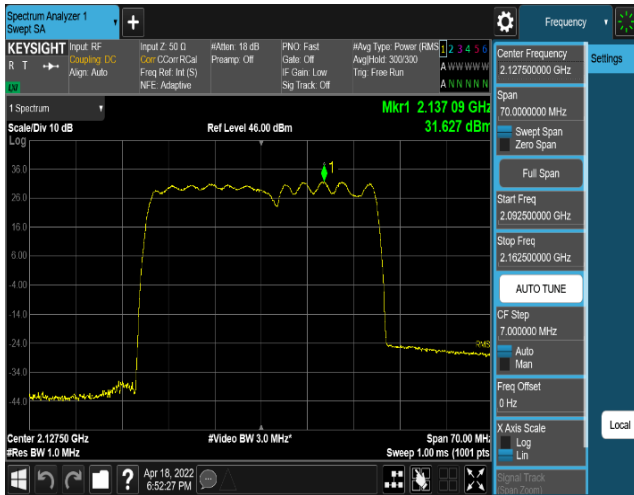


Plot 8-189. Power Spectral Density Plot
(AWS DSS 1C 20M + NR 1C 15M 16QAM – Low Channel, Port 0)

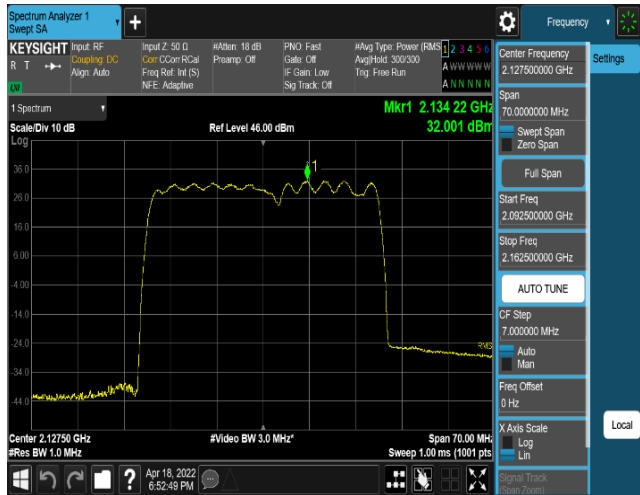


Plot 8-190. Power Spectral Density Plot
(AWS DSS 1C 20M + NR 1C 15M 16QAM – Low Channel, Port 1)

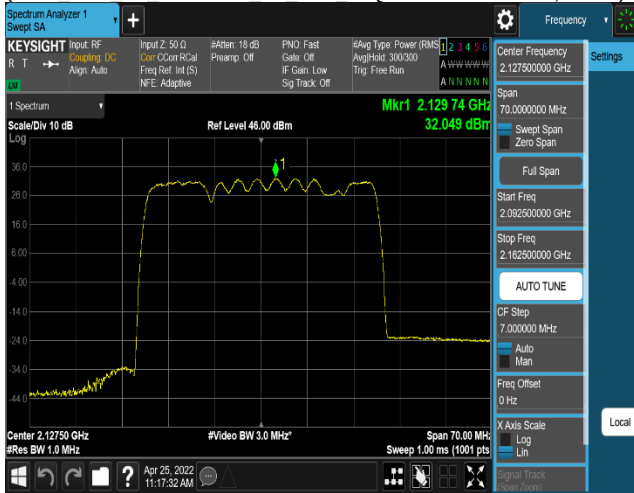
FCC ID: A3LRF4402D-D1A	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (Class II Permissive Change)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 8K22032101-00.A3L	Test Dates: 03/25/2022 - 05/03/2022	EUT Type: RRU(RF4402d)		Page 104 of 225



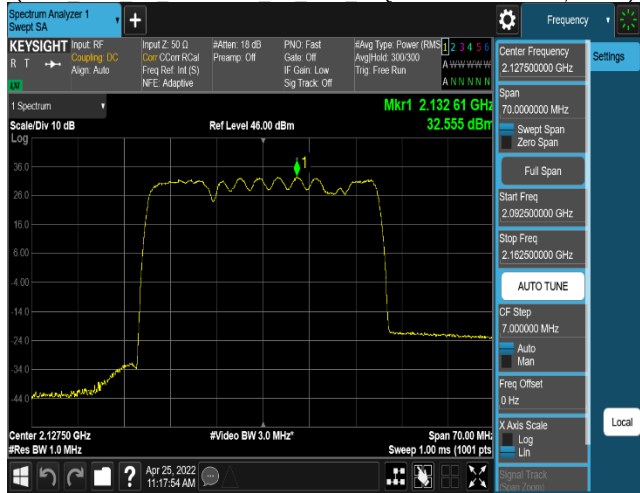
Plot 8-191. Power Spectral Density Plot
(AWS DSS 1C 20M + NR 1C 15M 16QAM – Low Channel, Port 2)



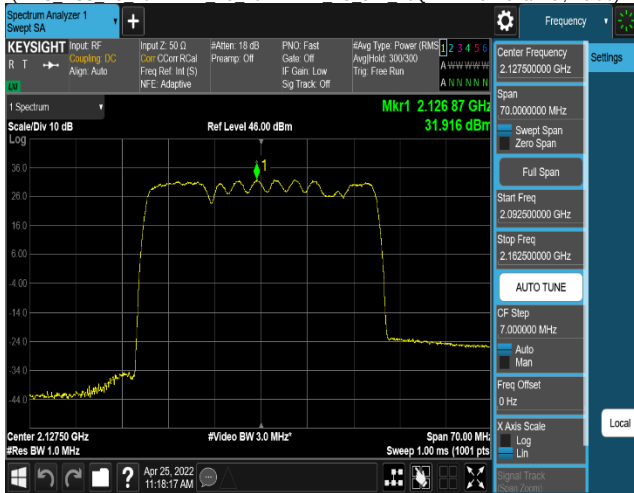
Plot 8-192. Power Spectral Density Plot
(AWS DSS 1C 20M + NR 1C 15M 16QAM – Low Channel, Port 3)



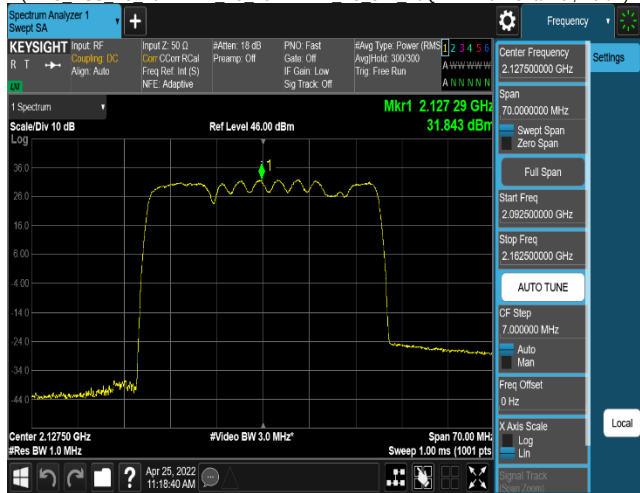
Plot 8-193. Power Spectral Density Plot
(AWS DSS 1C 10M + NR 1C 20M + LTE 1C 5M 16QAM – Low Channel, Port 0)



Plot 8-194. Power Spectral Density Plot
(AWS DSS 1C 10M + NR 1C 20M + LTE 1C 5M 16QAM – Low Channel, Port 1)

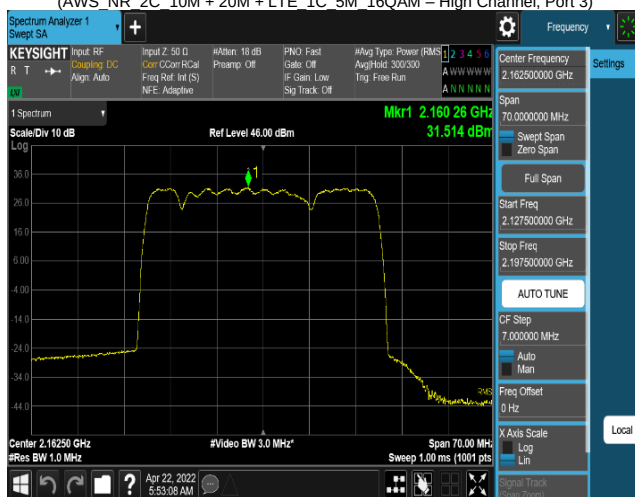
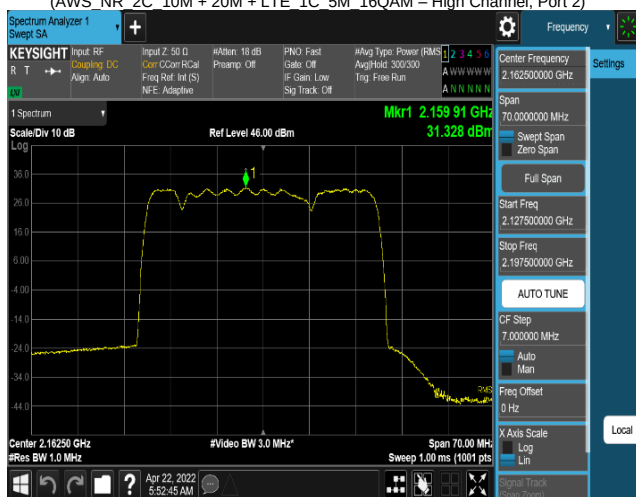
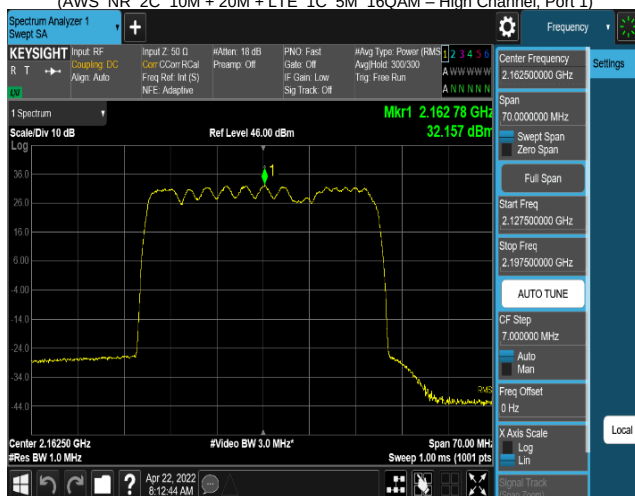
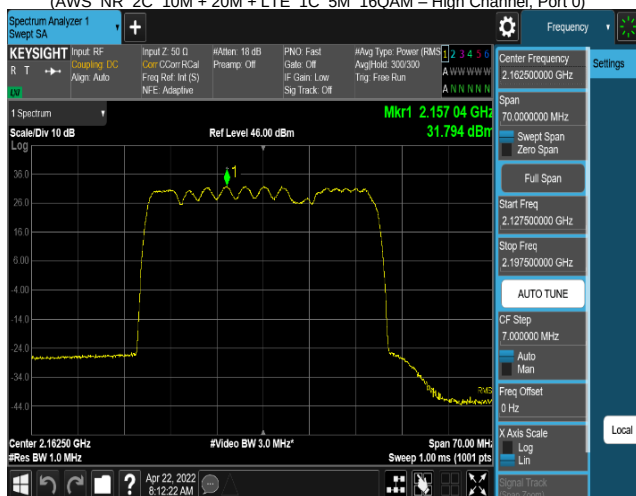
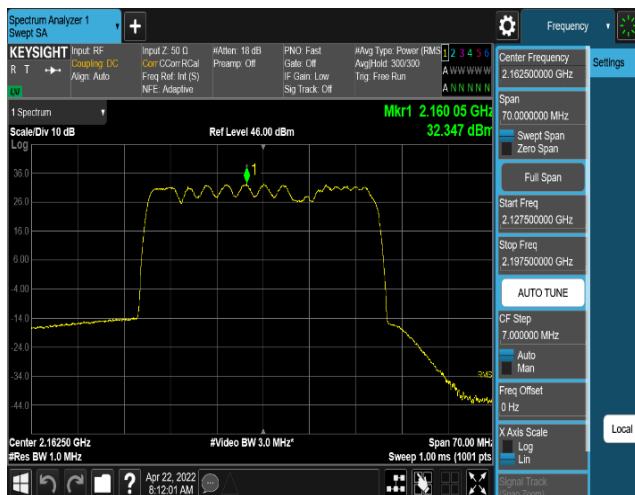
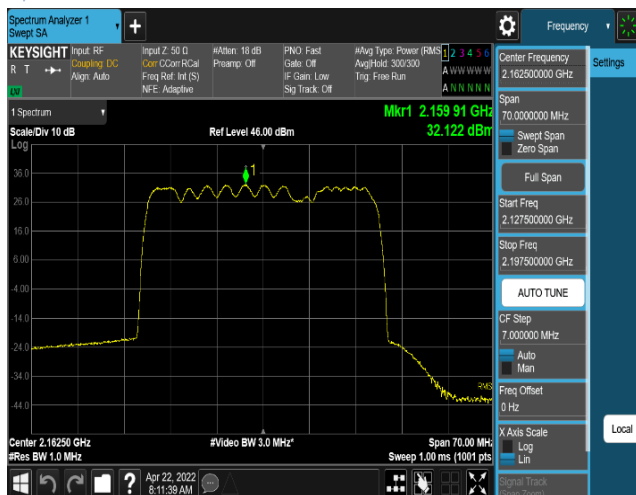


Plot 8-195. Power Spectral Density Plot
(AWS DSS 1C 10M + NR 1C 20M + LTE 1C 5M 16QAM – Low Channel, Port 2)

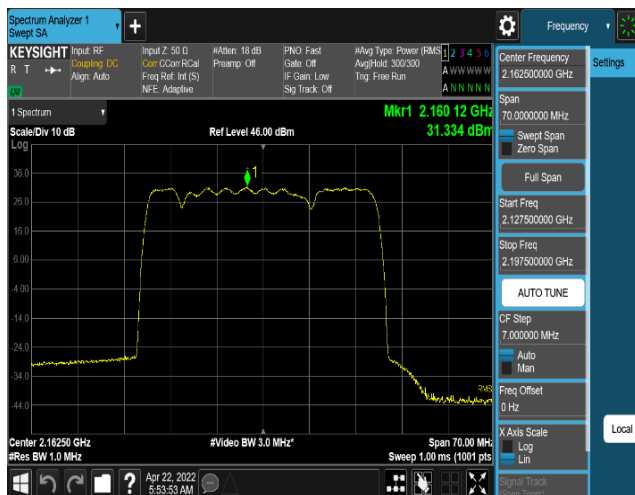
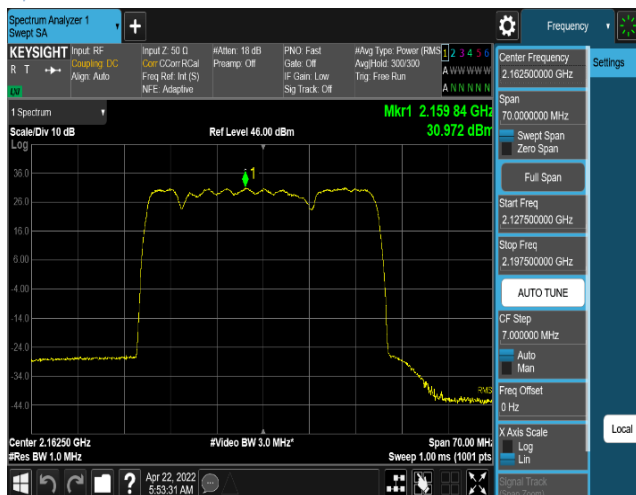


Plot 8-196. Power Spectral Density Plot
(AWS DSS 1C 10M + NR 1C 20M + LTE 1C 5M 16QAM – Low Channel, Port 3)

FCC ID: A3LRF4402D-D1A	 MEASUREMENT REPORT (Class II Permissive Change)			Approved by: Technical Manager
Test Report S/N: 8K22032101-00.A3L	Test Dates: 03/25/2022 - 05/03/2022	EUT Type: RRU(RF4402d)		Page 105 of 225



FCC ID: A3LRF4402D-D1A	MEASUREMENT REPORT (Class II Permissive Change)			Approved by: Technical Manager
Test Report S/N: 8K22032101-00.A3L	Test Dates: 03/25/2022 - 05/03/2022	EUT Type: RRU(RF4402d)		Page 106 of 225



FCC ID: A3LRF4402D-D1A	MEASUREMENT REPORT (Class II Permissive Change)			Approved by: Technical Manager
Test Report S/N: 8K22032101-00.A3L	Test Dates: 03/25/2022 - 05/03/2022	EUT Type: RRU(RF4402d)	Page 107 of 225	

8.4 Peak To Average Ratio

Test Overview

The 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

ANSI C63.26-2015 – Section 5.2.3.4

Test Setting

The measurement was made using a direct connection between the RF output of the EUT and the spectrum analyzer. The spectrum analyzer setting were as follows:

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

Test Setup

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

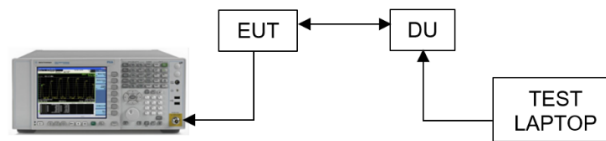


Figure 8-4. Test Instrument & Measurement Setup

Limit

The peak-to-average power ratio (PAPR) limit shall not exceed 13 dB for more than 0.1% of the time.

FCC ID: A3LRF4402D-D1A	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (Class II Permissive Change)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 8K22032101-00.A3L	Test Dates: 03/25/2022 - 05/03/2022	EUT Type: RRU(RF4402d)		Page 108 of 225

Channel	Port	PAPR (dB)				Limit (dB)
		QPSK	16QAM	64QAM	256QAM	
Low	0	7.72	7.73	7.76	7.75	≤ 13
	1	7.75	7.73	7.73	7.76	
	2	7.75	7.74	7.78	7.75	
	3	7.73	7.71	7.76	7.77	
Middle	0	7.76	7.72	7.79	7.72	
	1	7.75	7.72	7.78	7.73	
	2	7.77	7.74	7.78	7.74	
	3	7.76	7.74	7.77	7.74	
High	0	7.76	7.74	7.74	7.72	
	1	7.76	7.74	7.77	7.71	
	2	7.75	7.73	7.77	7.73	
	3	7.76	7.73	7.77	7.74	

Table 8-76. Peak To Average Power Ratio Summary Data (PCS_NR_1C_5M)

Channel	Port	PAPR (dB)				Limit (dB)
		QPSK	16QAM	64QAM	256QAM	
Low	0	7.73	7.69	7.71	7.69	≤ 13
	1	7.71	7.69	7.74	7.68	
	2	7.68	7.69	7.69	7.71	
	3	7.68	7.67	7.70	7.69	
Middle	0	7.70	7.69	7.69	7.71	
	1	7.69	7.68	7.69	7.69	
	2	7.70	7.70	7.70	7.70	
	3	7.71	7.68	7.73	7.69	
High	0	7.68	7.68	7.70	7.68	
	1	7.70	7.67	7.72	7.68	
	2	7.70	7.69	7.70	7.68	
	3	7.69	7.66	7.66	7.69	

Table 8-76. Peak To Average Power Ratio Summary Data (PCS_NR_1C_10M)

FCC ID: A3LRF4402D-D1A		MEASUREMENT REPORT (Class II Permissive Change)			Approved by: Technical Manager
Test Report S/N: 8K22032101-00.A3L	Test Dates: 03/25/2022 - 05/03/2022	EUT Type: RRU(RF4402d)		Page 109 of 225	

Channel	Port	PAPR (dB)				Limit (dB)
		QPSK	16QAM	64QAM	256QAM	
Low	0	7.89	7.88	7.88	7.87	≤ 13
	1	7.79	7.90	7.86	7.90	
	2	7.89	7.87	7.87	7.86	
	3	7.93	7.89	7.90	7.88	
Middle	0	7.86	7.89	7.90	7.87	
	1	7.86	7.87	7.87	7.87	
	2	7.88	7.88	7.85	7.87	
	3	7.87	7.87	7.90	7.88	
High	0	7.88	7.88	7.86	7.84	
	1	7.86	7.85	7.88	7.86	
	2	7.87	7.86	7.85	7.86	
	3	7.87	7.88	7.86	7.86	

Table 8-76. Peak To Average Power Ratio Summary Data (PCS_NR_1C_15M)

Channel	Port	PAPR (dB)				Limit (dB)
		QPSK	16QAM	64QAM	256QAM	
Low	0	8.03	8.02	8.05	8.00	≤ 13
	1	8.02	8.02	8.03	7.98	
	2	8.01	8.02	8.03	7.99	
	3	8.03	8.04	8.05	8.02	
Middle	0	8.00	7.98	7.99	8.00	
	1	7.99	8.00	8.01	8.00	
	2	7.98	8.05	8.00	8.01	
	3	7.98	8.03	7.98	8.01	
High	0	7.98	7.95	8.00	7.99	
	1	7.96	7.99	8.05	7.97	
	2	7.96	7.98	8.00	7.99	
	3	7.97	7.99	7.99	8.00	

Table 8-76. Peak To Average Power Ratio Summary Data (PCS_NR_1C_20M)

FCC ID: A3LRF4402D-D1A		MEASUREMENT REPORT (Class II Permissive Change)		Approved by: Technical Manager
Test Report S/N: 8K22032101-00.A3L	Test Dates: 03/25/2022 - 05/03/2022	EUT Type: RRU(RF4402d)		Page 110 of 225

Channel	DSS Ratio	Port	PAPR (dB)				Limit (dB)
			QPSK	16QAM	64QAM	256QAM	
Low	LTE: 9 NR: 1	0	8.01	8.07	8.05	8.07	≤ 13
		1	8.04	8.07	8.05	8.08	
		2	8.02	8.06	8.06	8.09	
		3	8.01	8.06	8.06	8.09	
Middle		0	8.05	8.07	8.07	8.09	
		1	8.07	8.12	8.09	8.11	
		2	8.06	8.07	8.09	8.11	
		3	8.05	8.10	8.10	8.12	
High		0	8.07	8.13	8.10	8.10	
		1	8.09	8.14	8.08	8.11	
		2	8.06	8.08	8.10	8.12	
		3	8.04	8.09	8.12	8.11	
Low	LTE: 5 NR: 5	0	7.99	8.03	8.02	8.03	
		1	8.00	8.03	8.02	8.02	
		2	8.03	8.01	8.02	8.02	
		3	8.05	8.03	8.03	8.03	
Middle		0	8.03	8.02	8.04	8.05	
		1	8.02	8.04	8.01	8.04	
		2	8.04	8.02	8.07	8.05	
		3	8.00	8.03	8.04	8.05	
High		0	8.05	8.02	8.03	8.03	
		1	8.00	8.07	8.05	8.06	
		2	8.02	8.04	8.05	8.03	
		3	8.04	8.04	8.05	8.05	
Low	LTE: 2 NR: 8	0	7.95	7.98	8.01	8.03	
		1	7.98	7.96	7.97	8.02	
		2	7.98	7.96	7.99	7.98	
		3	7.94	7.98	8.01	8.01	
Middle		0	8.01	7.96	8.00	8.01	
		1	8.01	7.97	7.99	8.01	
		2	8.02	7.97	7.97	8.03	
		3	8.02	7.96	8.00	8.02	
High		0	7.96	8.00	8.01	7.99	
		1	7.97	7.97	8.01	8.00	
		2	8.01	7.99	7.99	8.01	
		3	7.98	7.98	8.01	7.99	

Table 8-76. Peak To Average Power Ratio Summary Data (PCS_DSS_1C_15M)

FCC ID: A3LRF4402D-D1A		MEASUREMENT REPORT (Class II Permissive Change)		Approved by: Technical Manager
Test Report S/N: 8K22032101-00.A3L	Test Dates: 03/25/2022 - 05/03/2022	EUT Type: RRU(RF4402d)	Page 111 of 225	

Channel	DSS Ratio	Port	PAPR (dB)				Limit (dB)
			QPSK	16QAM	64QAM	256QAM	
Low	LTE: 9 NR: 1	0	8.12	8.13	8.11	8.11	≤ 13
		1	8.12	8.12	8.12	8.09	
		2	8.15	8.15	8.11	8.10	
		3	8.14	8.13	8.12	8.10	
Middle		0	8.14	8.11	8.11	8.09	
		1	8.12	8.17	8.13	8.16	
		2	8.14	8.16	8.12	8.14	
		3	8.14	8.11	8.15	8.10	
High		0	8.12	8.10	8.16	8.11	
		1	8.12	8.15	8.16	8.13	
		2	8.14	8.13	8.12	8.13	
		3	8.13	8.13	8.16	8.14	
Low	LTE: 5 NR: 5	0	8.08	8.07	8.11	8.10	
		1	8.08	8.00	8.11	8.08	
		2	8.08	8.05	8.12	8.07	
		3	8.11	8.05	8.12	8.04	
Middle		0	8.07	8.09	8.12	8.12	
		1	8.06	8.06	8.10	8.09	
		2	8.08	8.08	8.11	8.09	
		3	8.08	8.08	8.11	8.10	
High		0	8.07	8.08	8.12	8.09	
		1	8.07	8.10	8.08	8.10	
		2	8.07	8.07	8.12	8.09	
		3	8.08	8.09	8.12	8.07	
Low	LTE: 2 NR: 8	0	8.08	8.03	8.06	8.04	
		1	8.07	8.02	8.08	8.06	
		2	8.06	8.06	8.07	8.03	
		3	8.08	8.06	8.08	8.05	
Middle		0	8.06	8.05	8.09	8.05	
		1	8.05	8.06	8.09	8.02	
		2	8.06	8.03	8.07	8.06	
		3	8.04	8.05	8.04	8.03	
High		0	8.06	8.03	8.01	8.05	
		1	8.03	8.04	8.04	8.04	
		2	8.01	8.03	8.04	8.03	
		3	8.05	8.03	8.06	8.06	

Table 8-76. Peak To Average Power Ratio Summary Data (PCS_DSS_1C_20M)

FCC ID: A3LRF4402D-D1A		MEASUREMENT REPORT (Class II Permissive Change)		Approved by: Technical Manager
Test Report S/N: 8K22032101-00.A3L	Test Dates: 03/25/2022 - 05/03/2022	EUT Type: RRU(RF4402d)		Page 112 of 225

Channel	PAPR (dB)			Limit (dB)
	Configuration	QPSK	16QAM	
Middle	NR_2C_5M + 5M	8.02	8.05	≤ 13
	NR_1C_5M + LTE_1C_5M	8.09	8.02	
	DSS_1C_10M + NR_1C_5M	8.04	8.10	
	DSS_2C_10M + 10M	8.20	8.18	
	DSS_1C_15M + LTE_1C_5M	8.26	8.31	
	NR_2C_10M + 15M	8.19	8.18	
	DSS_2C_10M + 15M	8.27	8.20	
	DSS_1C_20M + LTE_1C_5M	8.25	8.27	
	DSS_1C_20M + NR_1C_5M	8.28	8.31	
	NR_1C_20M + LTE_1C_5M	8.29	8.20	

Table 8-77. Peak To Average Power Ratio Summary Data (PCS_ Multi Carrier)

FCC ID: A3LRF4402D-D1A		MEASUREMENT REPORT (Class II Permissive Change)		Approved by: Technical Manager
Test Report S/N: 8K22032101-00.A3L	Test Dates: 03/25/2022 - 05/03/2022	EUT Type: RRU(RF4402d)	Page 113 of 225	

Channel	Port	PAPR (dB)				Limit (dB)
		QPSK	16QAM	64QAM	256QAM	
Low	0	7.75	7.75	7.76	7.78	≤ 13
	1	7.76	7.76	7.76	7.78	
	2	7.76	7.76	7.75	7.78	
	3	7.76	7.75	7.76	7.79	
Middle	0	7.75	7.76	7.77	7.79	
	1	7.77	7.76	7.77	7.79	
	2	7.75	7.75	7.78	7.78	
	3	7.76	7.76	7.76	7.78	
High	0	7.73	7.76	7.75	7.77	
	1	7.75	7.75	7.76	7.78	
	2	7.75	7.75	7.78	7.78	
	3	7.74	7.75	7.76	7.77	

Table 8-76. Peak To Average Power Ratio Summary Data (AWS_NR_1C_5M)

Channel	Port	PAPR (dB)				Limit (dB)
		QPSK	16QAM	64QAM	256QAM	
Low	0	7.46	7.44	7.46	7.50	≤ 13
	1	7.47	7.45	7.46	7.51	
	2	7.47	7.45	7.47	7.53	
	3	7.46	7.45	7.47	7.52	
Middle	0	7.37	7.36	7.35	7.38	
	1	7.37	7.37	7.36	7.39	
	2	7.36	7.36	7.37	7.38	
	3	7.36	7.36	7.36	7.39	
High	0	7.37	7.38	7.36	7.38	
	1	7.36	7.37	7.36	7.38	
	2	7.35	7.36	7.36	7.37	
	3	7.36	7.39	7.37	7.38	

Table 8-76. Peak To Average Power Ratio Summary Data (AWS_NR_1C_10M)

FCC ID: A3LRF4402D-D1A		MEASUREMENT REPORT (Class II Permissive Change)			Approved by: Technical Manager
Test Report S/N: 8K22032101-00.A3L	Test Dates: 03/25/2022 - 05/03/2022	EUT Type: RRU(RF4402d)		Page 114 of 225	

Channel	Port	PAPR (dB)				Limit (dB)
		QPSK	16QAM	64QAM	256QAM	
Low	0	7.66	7.68	7.63	7.66	≤ 13
	1	7.66	7.71	7.66	7.65	
	2	7.66	7.69	7.63	7.66	
	3	7.67	7.72	7.66	7.67	
Middle	0	7.56	7.56	7.55	7.56	
	1	7.58	7.57	7.56	7.56	
	2	7.57	7.57	7.56	7.54	
	3	7.57	7.57	7.56	7.55	
High	0	7.56	7.55	7.55	7.57	
	1	7.56	7.56	7.56	7.58	
	2	7.55	7.57	7.56	7.56	
	3	7.57	7.56	7.56	7.57	

Table 8-76. Peak To Average Power Ratio Summary Data (AWS_NR_1C_15M)

Channel	Port	PAPR (dB)				Limit (dB)
		QPSK	16QAM	64QAM	256QAM	
Low	0	7.78	7.78	7.83	7.84	≤ 13
	1	7.78	7.79	7.81	7.84	
	2	7.78	7.79	7.81	7.84	
	3	7.80	7.79	7.82	7.85	
Middle	0	7.72	7.72	7.72	7.74	
	1	7.71	7.73	7.74	7.74	
	2	7.71	7.72	7.75	7.76	
	3	7.72	7.72	7.72	7.76	
High	0	7.72	7.72	7.71	7.73	
	1	7.72	7.72	7.74	7.73	
	2	7.71	7.70	7.71	7.73	
	3	7.69	7.73	7.71	7.73	

Table 8-76. Peak To Average Power Ratio Summary Data (AWS_NR_1C_20M)

FCC ID: A3LRF4402D-D1A		MEASUREMENT REPORT (Class II Permissive Change)			Approved by: Technical Manager
Test Report S/N: 8K22032101-00.A3L	Test Dates: 03/25/2022 - 05/03/2022	EUT Type: RRU(RF4402d)		Page 115 of 225	

Channel	DSS Ratio	Port	PAPR (dB)				Limit (dB)
			QPSK	16QAM	64QAM	256QAM	
Low	LTE: 9 NR: 1	0	7.59	7.60	7.62	7.63	≤ 13
		1	7.60	7.62	7.63	7.62	
		2	7.61	7.62	7.63	7.62	
		3	7.61	7.62	7.65	7.62	
Middle		0	7.55	7.55	7.54	7.55	
		1	7.55	7.56	7.55	7.53	
		2	7.55	7.57	7.55	7.55	
		3	7.54	7.56	7.50	7.55	
High		0	7.54	7.54	7.55	7.53	
		1	7.53	7.55	7.54	7.53	
		2	7.54	7.54	7.54	7.55	
		3	7.52	7.54	7.54	7.54	
Low	LTE: 5 NR: 5	0	7.56	7.56	7.59	7.60	
		1	7.58	7.58	7.58	7.61	
		2	7.58	7.57	7.57	7.61	
		3	7.59	7.63	7.59	7.61	
Middle		0	7.49	7.50	7.51	7.50	
		1	7.50	7.50	7.49	7.50	
		2	7.50	7.49	7.50	7.50	
		3	7.48	7.50	7.50	7.50	
High		0	7.47	7.48	7.48	7.49	
		1	7.49	7.48	7.47	7.49	
		2	7.49	7.47	7.49	7.49	
		3	7.48	7.50	7.49	7.48	
Low	LTE: 2 NR: 8	0	7.55	7.49	7.57	7.56	
		1	7.54	7.53	7.57	7.58	
		2	7.55	7.54	7.58	7.58	
		3	7.55	7.55	7.56	7.56	
Middle		0	7.45	7.42	7.45	7.46	
		1	7.44	7.46	7.46	7.46	
		2	7.45	7.45	7.44	7.47	
		3	7.45	7.46	7.46	7.46	
High		0	7.42	7.43	7.45	7.44	
		1	7.45	7.44	7.43	7.43	
		2	7.45	7.44	7.44	7.45	
		3	7.45	7.45	7.46	7.45	

Table 8-76. Peak To Average Power Ratio Summary Data (AWS_DSS_1C_10M)

FCC ID: A3LRF4402D-D1A		MEASUREMENT REPORT (Class II Permissive Change)		Approved by: Technical Manager
Test Report S/N: 8K22032101-00.A3L	Test Dates: 03/25/2022 - 05/03/2022	EUT Type: RRU(RF4402d)	Page 116 of 225	

Channel	DSS Ratio	Port	PAPR (dB)				Limit (dB)
			QPSK	16QAM	64QAM	256QAM	
Low	LTE: 9 NR: 1	0	7.81	7.82	7.82	7.81	≤ 13
		1	7.81	7.83	7.81	7.80	
		2	7.82	7.83	7.81	7.82	
		3	7.81	7.84	7.83	7.78	
Middle		0	7.79	7.81	7.79	7.79	
		1	7.79	7.81	7.79	7.79	
		2	7.81	7.81	7.80	7.78	
		3	7.79	7.82	7.80	7.79	
High		0	7.79	7.79	7.77	7.79	
		1	7.76	7.80	7.75	7.78	
		2	7.78	7.79	7.77	7.78	
		3	7.79	7.78	7.77	7.78	
Low	LTE: 5 NR: 5	0	7.77	7.77	7.77	7.78	
		1	7.78	7.79	7.77	7.77	
		2	7.76	7.80	7.79	7.78	
		3	7.78	7.78	7.79	7.79	
Middle		0	7.75	7.76	7.75	7.75	
		1	7.73	7.75	7.75	7.74	
		2	7.74	7.77	7.75	7.75	
		3	7.74	7.78	7.74	7.75	
High		0	7.74	7.71	7.74	7.72	
		1	7.73	7.73	7.73	7.71	
		2	7.76	7.71	7.73	7.71	
		3	7.75	7.73	7.75	7.73	
Low	LTE: 2 NR: 8	0	7.77	7.76	7.76	7.74	
		1	7.77	7.77	7.78	7.75	
		2	7.76	7.76	7.78	7.72	
		3	7.78	7.76	7.79	7.76	
Middle		0	7.70	7.72	7.71	7.70	
		1	7.70	7.70	7.72	7.71	
		2	7.72	7.72	7.73	7.72	
		3	7.73	7.72	7.72	7.72	
High		0	7.69	7.70	7.67	7.71	
		1	7.71	7.71	7.71	7.72	
		2	7.71	7.71	7.68	7.71	
		3	7.67	7.70	7.70	7.73	

Table 8-76. Peak To Average Power Ratio Summary Data (AWS_DSS_1C_15M)

FCC ID: A3LRF4402D-D1A		MEASUREMENT REPORT (Class II Permissive Change)		Approved by: Technical Manager
Test Report S/N: 8K22032101-00.A3L	Test Dates: 03/25/2022 - 05/03/2022	EUT Type: RRU(RF4402d)		Page 117 of 225

Channel	DSS Ratio	Port	PAPR (dB)				Limit (dB)
			QPSK	16QAM	64QAM	256QAM	
Low	LTE: 9 NR: 1	0	7.89	7.90	7.90	7.88	≤ 13
		1	7.87	7.91	7.91	7.89	
		2	7.91	7.90	7.91	7.91	
		3	7.92	7.91	7.91	7.89	
Middle		0	7.88	7.89	7.90	7.88	
		1	7.88	7.89	7.88	7.90	
		2	7.87	7.89	7.87	7.89	
		3	7.88	7.89	7.89	7.90	
High		0	7.87	7.88	7.87	7.86	
		1	7.87	7.87	7.87	7.85	
		2	7.88	7.85	7.86	7.86	
		3	7.87	7.94	7.85	7.86	
Low	LTE: 5 NR: 5	0	7.87	7.87	7.87	7.81	
		1	7.86	7.87	7.87	7.86	
		2	7.86	7.84	7.86	7.83	
		3	7.87	7.85	7.88	7.86	
Middle		0	7.84	7.80	7.84	7.81	
		1	7.84	7.82	7.84	7.83	
		2	7.84	7.82	7.84	7.82	
		3	7.83	7.81	7.84	7.83	
High		0	7.81	7.81	7.84	7.79	
		1	7.82	7.81	7.82	7.80	
		2	7.83	7.82	7.83	7.79	
		3	7.83	7.79	7.83	7.81	
Low	LTE: 2 NR: 8	0	7.83	7.85	7.83	7.78	
		1	7.83	7.84	7.83	7.78	
		2	7.83	7.87	7.85	7.79	
		3	7.85	7.86	7.84	7.80	
Middle		0	7.80	7.76	7.77	7.77	
		1	7.80	7.77	7.79	7.77	
		2	7.80	7.78	7.81	7.77	
		3	7.79	7.77	7.80	7.78	
High		0	7.77	7.76	7.78	7.75	
		1	7.80	7.77	7.79	7.74	
		2	7.78	7.76	7.75	7.74	
		3	7.78	7.76	7.78	7.75	

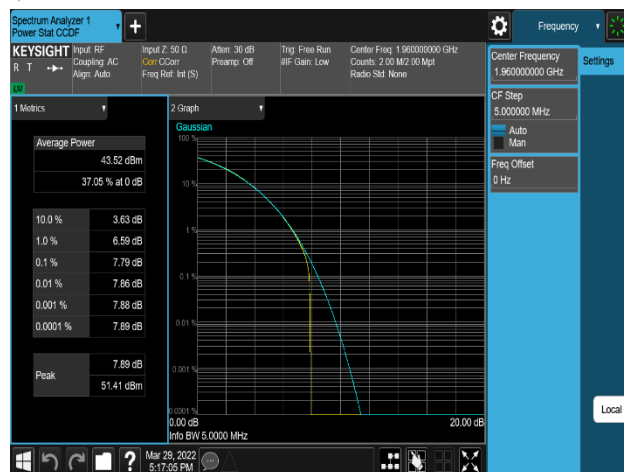
Table 8-76. Peak To Average Power Ratio Summary Data (AWS_DSS_1C_20M)

FCC ID: A3LRF4402D-D1A		MEASUREMENT REPORT (Class II Permissive Change)		Approved by: Technical Manager
Test Report S/N: 8K22032101-00.A3L	Test Dates: 03/25/2022 - 05/03/2022	EUT Type: RRU(RF4402d)		Page 118 of 225

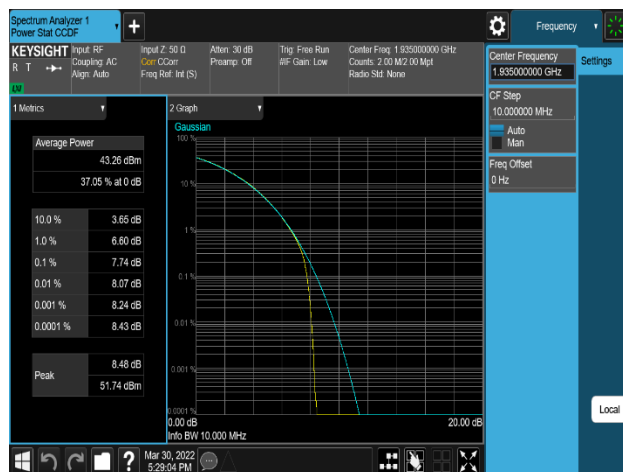
Channel	PAPR (dB)			Limit (dB)
	Configuration	QPSK	16QAM	
Middle	NR_2C_5M + 5M	7.75	7.76	≤ 13
	NR_1C_5M + LTE_1C_5M	7.77	7.79	
	DSS_1C_10M + NR_1C_5M	7.76	7.76	
	DSS_2C_10M + 10M	7.95	7.99	
	DSS_1C_10M + NR_1C_5M + LTE_1C_5M	7.94	7.91	
	DSS_1C_15M + LTE_1C_5M	8.10	8.11	
	NR_2C_15M + 20M	8.05	8.08	
	DSS_2C_15M + 20M	8.13	8.07	
	DSS_1C_20M + NR_1C_15M	8.11	8.14	
	DSS_1C_10M + NR_1C_20M + LTE_1C_5M	8.11	8.09	
	NR_2C_10M + 20M + LTE_1C_5M	8.04	8.05	
	DSS_2C_10M + 20M + LTE_1C_5M	8.11	8.09	

Table 8-77. Peak To Average Power Ratio Summary Data (AWS_ Multi Carrier)

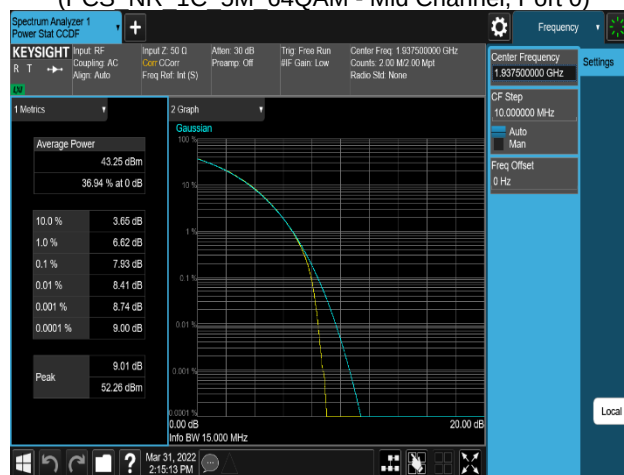
FCC ID: A3LRF4402D-D1A		MEASUREMENT REPORT (Class II Permissive Change)		Approved by: Technical Manager
Test Report S/N: 8K22032101-00.A3L	Test Dates: 03/25/2022 - 05/03/2022	EUT Type: RRU(RF4402d)	Page 119 of 225	



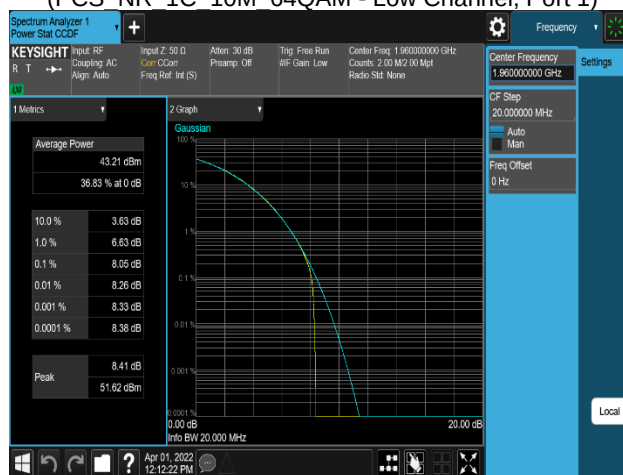
Plot 8-205. Peak To Average Power Ratio Plot
(PCS NR 1C 5M 64QAM - Mid Channel, Port 0)



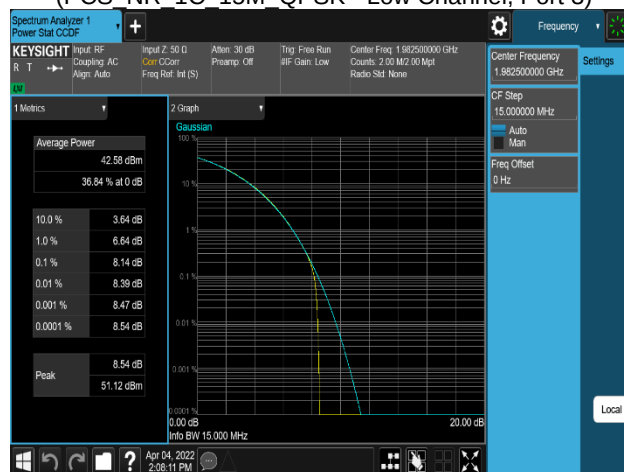
Plot 8-206. Peak To Average Power Ratio Plot
(PCS NR 1C 10M 64QAM - Low Channel, Port 1)



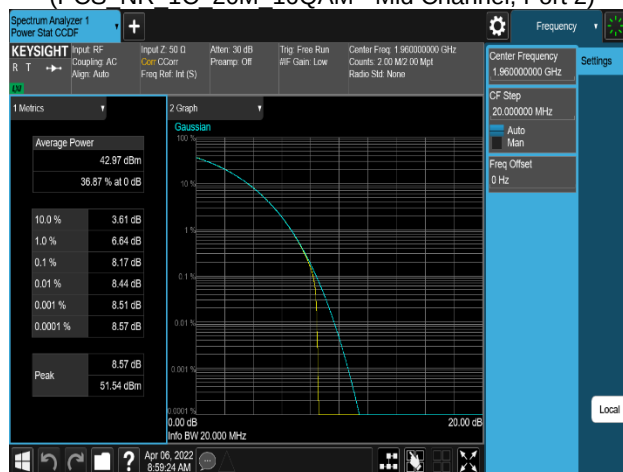
Plot 8-207. Peak To Average Power Ratio Plot
(PCS NR 1C 15M QPSK - Low Channel, Port 3)



Plot 8-208. Peak To Average Power Ratio Plot
(PCS NR 1C 20M 16QAM - Mid Channel, Port 2)



Plot 8-209. Peak To Average Power Ratio Plot
(PCS_DSS_1C_15M_16QAM - High Channel, Port 1)



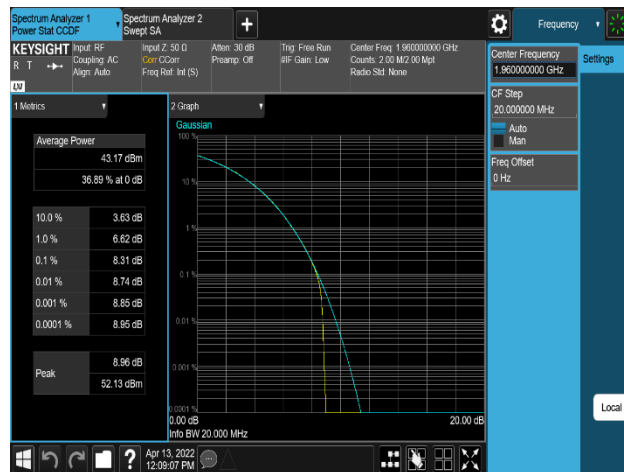
Plot 8-210. Peak To Average Power Ratio Plot
(PCS_DSS_1C_20M_16QAM - Mid Channel, Port 1)

FCC ID: A3LRF4402D-D1A	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (Class II Permissive Change)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 8K22032101-00.A3L	Test Dates: 03/25/2022 - 05/03/2022	EUT Type: RRU(RF4402d)		Page 120 of 225

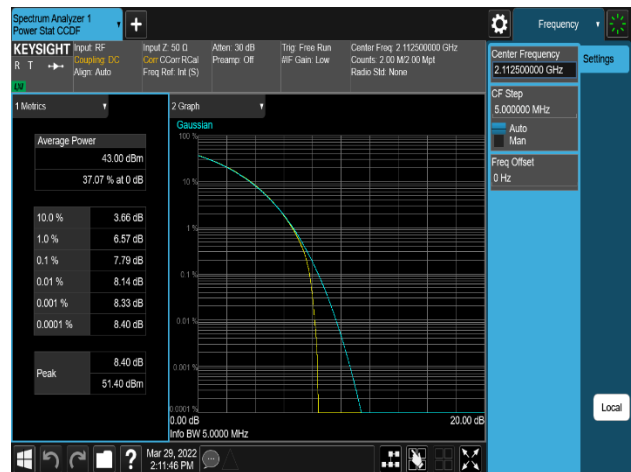
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Plot 8-211. Peak To Average Power Ratio Plot
(DSS_1C_15M + LTE_1C_5M_16QAM - Mid Channel, Port 0)



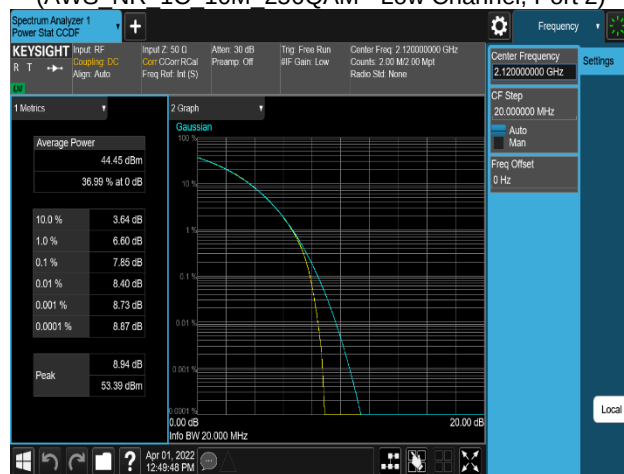
Plot 8-212. Peak To Average Power Ratio Plot
(AWS_NR_1C_5M_256QAM - Low Channel, Port 3)



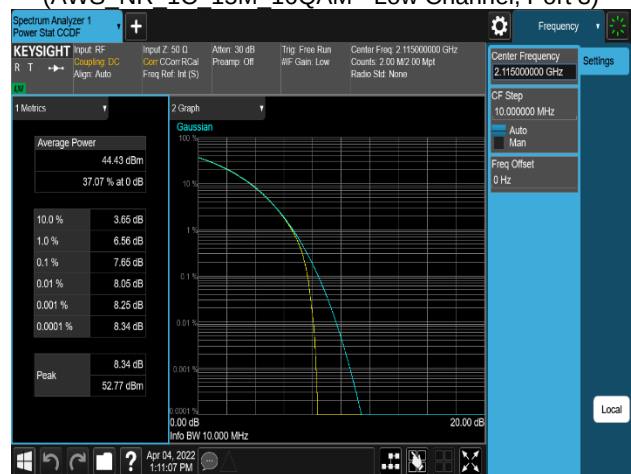
Plot 8-213. Peak To Average Power Ratio Plot
(AWS_NR_1C_10M_256QAM - Low Channel, Port 2)



Plot 8-214. Peak To Average Power Ratio Plot
(AWS_NR_1C_15M_16QAM - Low Channel, Port 3)



Plot 8-215. Peak To Average Power Ratio Plot
(AWS_NR_1C_20M_256QAM - Low Channel, Port 3)



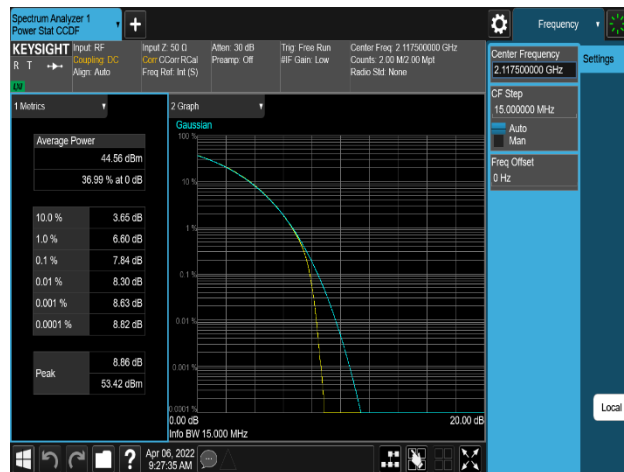
Plot 8-216. Peak To Average Power Ratio Plot
(AWS_DSS_9:1_1C_10M_64QAM - Low Channel, Port 3)

FCC ID: A3LRF4402D-D1A	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (Class II Permissive Change)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 8K22032101-00.A3L	Test Dates: 03/25/2022 - 05/03/2022	EUT Type: RRU(RF4402d)		Page 121 of 225

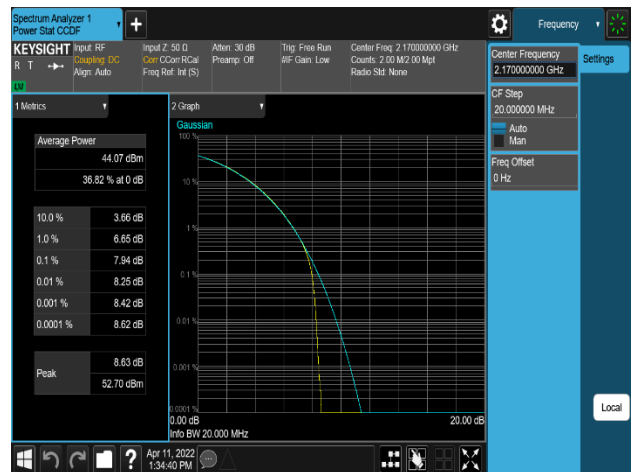
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Plot 8-217. Peak To Average Power Ratio Plot
(AWS_DSS_9:1_1C_15M_16QAM - Low Channel, Port 3)



Plot 8-218. Peak To Average Power Ratio Plot
(AWS_DSS_9:1_1C_20M_16QAM - High Channel, Port 3)



Plot 8-219. Peak To Average Power Ratio Plot
(AWS_DSS_1C_20M + NR_1C_15M_16QAM - Mid Channel, Port 0)

FCC ID: A3LRF4402D-D1A	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (Class II Permissive Change)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 8K22032101-00.A3L	Test Dates: 03/25/2022 - 05/03/2022	EUT Type: RRU(RF4402d)		Page 122 of 225

8.5 Band Edge Emissions at Antenna Terminal

Test Overview

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.

Test Procedure Used

KDB 971168 D01 v03r01 – Section 6

KDB 662911 D01 v02r01 – Section E)3) Out-of-Band and Spurious Emission Measurements

a) Absolute Emission Limits

iii) Measure and add $10 \log(N_{ANT})$ dB

ANSI C63.26-2015 – Section 5.7.3

Test Setting

1. Start and stop frequency were set such that the band edge would be placed in the center of the plot
2. Span was set large enough so as to capture all out of band emissions near the band edge
3. RBW: Please see test notes below.
4. VBW $\geq 3 \times$ RBW
5. Detector = RMS
6. Number of sweep points $\geq 2 \times$ Span/RBW
7. Trace mode = trace average
8. Sweep time = auto couple
9. The trace was allowed to stabilize

Limit

The minimum permissible attenuation level of any spurious emission is $43 + \log_{10}(P_{[Watts]})$, where P is the transmitter power in Watts.

The power of any emission outside of the authorized operating frequency range cannot exceed -13 dBm.

Test Setup

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

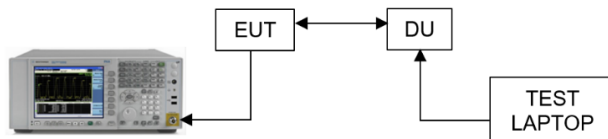


Figure 8-5. Test Instrument & Measurement Setup

FCC ID: A3LRF4402D-D1A	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (Class II Permissive Change)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 8K22032101-00.A3L	Test Dates: 03/25/2022 - 05/03/2022	EUT Type: RRU(RF4402d)		Page 123 of 225

Test Notes

1. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater. However, in the 1 megahertz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.
2. All the measurement has been tested but test plots are referred from the highest of value of each of modulation of each antenna ports.
3. When the channel edge detect with a margin of under 1dB to Limit, That used to integration method was performed using the spectrum analyzer's band power functions according to ANSI C63.26-2015 – Section 5.7. The spectrum analyzer marker was placed at one-half of the RBW away from the band edge. The integration value was set to a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter.
4. The limits were adjusted by a factor of $[-10 \cdot \log(4)]$ dB to account for the device operation as a 4 port MIMO transmitter, as per FCC KDB 622911. MIMO Factor calculation as below:

$$\text{MIMO Factor} = 10 \cdot \log(4) = 6.02 \text{ dB}$$

Frequency range	Basic Limit (dBm/MHz)	MIMO Factor (dB)	RBW Factor (dB)	Adjusted limit (dBm)
Low Frequency block – 2MHz	-13	6.02	0	-19.02
High Frequency block + 2MHz	-13	6.02	0	-19.02
Note: Adjusted limit (dBm/MHz) = Basic limit (dBm/1MHz) - MIMO Factor - RBW Factor				

FCC ID: A3LRF4402D-D1A		MEASUREMENT REPORT (Class II Permissive Change)		Approved by: Technical Manager
Test Report S/N: 8K22032101-00.A3L	Test Dates: 03/25/2022 - 05/03/2022	EUT Type: RRU(RF4402d)	Page 124 of 225	

Channel	Port	Measured Range (MHz)	Max. Value (dBm)				Limit (dBm)
			QPSK	16QAM	64QAM	256QAM	
Low	0	1929 to 1930	-20.64	-20.15	-21.08	-21.86	-19.02
	0	1928 to 1929	-21.34	-22.38	-21.69	-20.09	
	1	1929 to 1930	-21.28	-21.48	-20.42	-21.47	
	1	1928 to 1929	-21.88	-21.49	-21.33	-20.27	
	2	1929 to 1930	-20.31	-20.13	-20.48	-20.78	
	2	1928 to 1929	-22.85	-21.07	-21.82	-20.51	
	3	1929 to 1930	-20.97	-20.77	-21.60	-20.46	
	3	1928 to 1929	-21.14	-21.33	-20.09	-20.31	
High	0	1990 to 1991	-20.29	-20.02	-20.68	-20.64	
	0	1991 to 1992	-22.99	-22.75	-25.00	-23.34	
	1	1990 to 1991	-20.78	-20.08	-21.70	-21.65	
	1	1991 to 1992	-21.11	-22.49	-22.60	-24.04	
	2	1990 to 1991	-20.74	-20.52	-20.18	-20.78	
	2	1991 to 1992	-23.44	-22.97	-22.76	-23.17	
	3	1990 to 1991	-20.64	-20.51	-19.63	-20.83	
	3	1991 to 1992	-22.75	-21.77	-23.84	-24.05	

Table 8-78. Band Edge Emission Summary Data (PCS_NR_1C_5M)

Channel	Port	Measured Range (MHz)	Max. Value (dBm)				Limit (dBm)
			QPSK	16QAM	64QAM	256QAM	
Low	0	1929 to 1930	-22.52	-22.42	-21.69	-21.76	-19.02
	0	1928 to 1929	-26.24	-25.88	-26.37	-25.57	
	1	1929 to 1930	-22.64	-23.58	-22.57	-21.77	
	1	1928 to 1929	-26.86	-23.24	-25.94	-23.38	
	2	1929 to 1930	-23.20	-22.55	-21.95	-22.23	
	2	1928 to 1929	-25.94	-25.53	-25.65	-24.97	
	3	1929 to 1930	-22.06	-22.04	-21.91	-22.08	
	3	1928 to 1929	-25.97	-25.44	-26.47	-25.27	
High	0	1990 to 1991	-24.43	-24.03	-24.84	-24.93	
	0	1991 to 1992	-26.25	-25.22	-25.86	-24.50	
	1	1990 to 1991	-24.63	-23.51	-23.46	-24.31	
	1	1991 to 1992	-24.83	-24.73	-24.51	-23.11	
	2	1990 to 1991	-23.60	-24.79	-23.79	-24.23	
	2	1991 to 1992	-25.52	-25.12	-26.36	-24.87	
	3	1990 to 1991	-23.44	-23.87	-23.62	-24.10	
	3	1991 to 1992	-23.48	-24.44	-23.99	-23.83	

Table 8-79. Band Edge Emission Summary Data (PCS_NR_1C_10M)

FCC ID: A3LRF4402D-D1A		MEASUREMENT REPORT (Class II Permissive Change)		Approved by: Technical Manager
Test Report S/N: 8K22032101-00.A3L	Test Dates: 03/25/2022 - 05/03/2022	EUT Type: RRU(RF4402d)	Page 125 of 225	

Channel	Port	Measured Range (MHz)	Max. Value (dBm)				Limit (dBm)
			QPSK	16QAM	64QAM	256QAM	
Low	0	1929 to 1930	-28.35	-29.71	-29.64	-28.57	-19.02
	0	1928 to 1929	-26.71	-28.16	-28.94	-28.43	
	1	1929 to 1930	-29.24	-29.43	-29.68	-27.60	
	1	1928 to 1929	-25.43	-27.68	-28.41	-24.61	
	2	1929 to 1930	-29.68	-29.65	-29.71	-29.47	
	2	1928 to 1929	-28.30	-28.21	-28.45	-29.11	
	3	1929 to 1930	-29.49	-29.77	-29.58	-29.68	
	3	1928 to 1929	-26.28	-27.65	-28.10	-28.67	
High	0	1990 to 1991	-29.72	-29.39	-30.39	-29.58	
	0	1991 to 1992	-27.02	-27.20	-27.83	-27.11	
	1	1990 to 1991	-27.73	-28.44	-29.38	-28.49	
	1	1991 to 1992	-24.48	-23.84	-25.19	-24.15	
	2	1990 to 1991	-29.19	-29.08	-29.72	-29.01	
	2	1991 to 1992	-26.03	-26.01	-27.11	-26.98	
	3	1990 to 1991	-29.32	-28.85	-29.34	-28.84	
	3	1991 to 1992	-25.73	-25.84	-26.41	-26.60	

Table 8-80. Band Edge Emission Summary Data (PCS_NR_1C_15M)

Channel	Port	Measured Range (MHz)	Max. Value (dBm)				Limit (dBm)
			QPSK	16QAM	64QAM	256QAM	
Low	0	1929 to 1930	-32.23	-31.91	-32.66	-32.61	-19.02
	0	1928 to 1929	-29.62	-29.59	-29.67	-29.78	
	1	1929 to 1930	-31.90	-31.91	-30.47	-31.44	
	1	1928 to 1929	-28.82	-29.49	-29.15	-29.13	
	2	1929 to 1930	-32.47	-32.12	-32.38	-32.47	
	2	1928 to 1929	-26.10	-29.45	-30.21	-29.63	
	3	1929 to 1930	-31.75	-32.45	-32.30	-31.86	
	3	1928 to 1929	-30.03	-29.84	-29.67	-29.91	
High	0	1990 to 1991	-31.66	-31.66	-32.14	-32.18	
	0	1991 to 1992	-27.66	-28.00	-28.15	-28.05	
	1	1990 to 1991	-29.82	-29.76	-29.79	-28.71	
	1	1991 to 1992	-24.97	-24.28	-24.59	-25.30	
	2	1990 to 1991	-31.77	-31.29	-30.16	-31.61	
	2	1991 to 1992	-27.47	-27.69	-27.27	-26.26	
	3	1990 to 1991	-30.96	-30.96	-31.08	-31.05	
	3	1991 to 1992	-26.45	-26.58	-26.95	-26.31	

Table 8-81. Band Edge Emission Summary Data (PCS_NR_1C_20M)

FCC ID: A3LRF4402D-D1A		MEASUREMENT REPORT (Class II Permissive Change)			Approved by: Technical Manager
Test Report S/N: 8K22032101-00.A3L	Test Dates: 03/25/2022 - 05/03/2022	EUT Type: RRU(RF4402d)			Page 126 of 225

Channel	Ratio	Port	Measured Range (MHz)	Max. Value (dBm)				Limit (dBm)
				QPSK	16QAM	64QAM	256QAM	
Low	LTE: 9 NR: 1	0	1929 to 1930	-22.67	-22.34	-22.61	-22.43	-19.02
		0	1928 to 1929	-29.92	-29.61	-29.56	-28.91	
		1	1929 to 1930	-23.07	-24.39	-23.50	-21.38	
		1	1928 to 1929	-29.28	-24.60	-28.84	-28.59	
		2	1929 to 1930	-23.01	-23.14	-24.25	-22.42	
		2	1928 to 1929	-25.90	-29.02	-28.45	-28.54	
		3	1929 to 1930	-22.71	-21.80	-22.99	-23.71	
		3	1928 to 1929	-25.51	-29.14	-29.52	-28.97	
High		0	1990 to 1991	-22.41	-22.32	-22.90	-22.68	
		0	1991 to 1992	-27.73	-27.74	-27.89	-27.41	
		1	1990 to 1991	-22.74	-21.73	-22.01	-21.46	
		1	1991 to 1992	-24.91	-24.79	-25.25	-24.82	
		2	1990 to 1991	-22.35	-20.77	-21.55	-22.13	
		2	1991 to 1992	-27.02	-27.31	-27.03	-26.51	
		3	1990 to 1991	-21.78	-22.98	-21.52	-22.40	
		3	1991 to 1992	-26.74	-26.83	-26.66	-26.72	
Low	LTE: 5 NR: 5	0	1929 to 1930	-21.63	-21.07	-22.11	-20.73	
		0	1928 to 1929	-28.37	-28.30	-28.63	-28.59	
		1	1929 to 1930	-21.23	-21.70	-22.46	-21.24	
		1	1928 to 1929	-22.37	-28.12	-27.76	-28.07	
		2	1929 to 1930	-20.74	-22.65	-22.48	-21.61	
		2	1928 to 1929	-28.33	-28.61	-28.66	-28.01	
		3	1929 to 1930	-21.38	-21.32	-21.84	-21.65	
		3	1928 to 1929	-28.39	-28.72	-28.74	-27.04	
High		0	1990 to 1991	-21.92	-21.60	-21.27	-21.96	
		0	1991 to 1992	-27.16	-27.05	-27.15	-27.80	
		1	1990 to 1991	-21.94	-21.66	-21.13	-22.18	
		1	1991 to 1992	-24.54	-23.92	-24.41	-24.89	
		2	1990 to 1991	-21.33	-20.68	-21.56	-22.63	
		2	1991 to 1992	-26.70	-26.78	-26.02	-26.56	
		3	1990 to 1991	-21.56	-20.32	-20.76	-21.45	
		3	1991 to 1992	-26.24	-25.98	-26.19	-26.74	
Low	LTE: 2 NR: 8	0	1929 to 1930	-21.30	-20.73	-21.58	-20.10	
		0	1928 to 1929	-29.50	-28.27	-27.80	-28.48	
		1	1929 to 1930	-22.12	-20.92	-20.75	-20.48	
		1	1928 to 1929	-27.91	-27.97	-27.10	-28.26	
		2	1929 to 1930	-21.49	-21.41	-21.11	-21.74	
		2	1928 to 1929	-28.41	-28.20	-28.04	-28.30	
		3	1929 to 1930	-21.00	-20.92	-20.56	-21.67	
		3	1928 to 1929	-28.87	-27.53	-28.38	-28.42	
High		0	1990 to 1991	-21.26	-20.49	-20.77	-21.69	
		0	1991 to 1992	-27.60	-26.87	-26.93	-26.99	
		1	1990 to 1991	-20.92	-20.03	-20.83	-21.36	
		1	1991 to 1992	-23.91	-24.56	-23.67	-24.28	
		2	1990 to 1991	-21.14	-20.04	-21.28	-20.40	
		2	1991 to 1992	-26.04	-26.47	-25.88	-26.35	
		3	1990 to 1991	-20.25	-20.44	-20.28	-20.83	
		3	1991 to 1992	-25.90	-26.41	-25.93	-26.18	

Table 8-82. Band Edge Emission Summary Data (PCS_DSS_1C_15M)

FCC ID: A3LRF4402D-D1A		MEASUREMENT REPORT (Class II Permissive Change)			Approved by: Technical Manager
Test Report S/N: 8K22032101-00.A3L	Test Dates: 03/25/2022 - 05/03/2022	EUT Type: RRU(RF4402d)			Page 127 of 225

Channel	Ratio	Port	Measured Range (MHz)	Max. Value (dBm)				Limit (dBm)
				QPSK	16QAM	64QAM	256QAM	
Low	LTE: 9 NR: 1	0	1929 to 1930	-25.81	-27.07	-26.42	-26.03	-19.02
		0	1928 to 1929	-30.13	-29.27	-29.93	-30.00	
		1	1929 to 1930	-26.40	-26.88	-26.48	-24.70	
		1	1928 to 1929	-29.93	-29.20	-29.24	-28.91	
		2	1929 to 1930	-24.49	-24.64	-28.04	-25.40	
		2	1928 to 1929	-29.85	-29.88	-29.84	-30.42	
		3	1929 to 1930	-24.62	-23.75	-26.00	-26.86	
		3	1928 to 1929	-29.74	-29.05	-30.01	-29.75	
High		0	1990 to 1991	-25.69	-25.37	-25.23	-24.69	
		0	1991 to 1992	-28.52	-28.35	-26.86	-28.34	
		1	1990 to 1991	-25.31	-24.70	-24.40	-25.86	
		1	1991 to 1992	-25.01	-25.29	-25.11	-24.81	
		2	1990 to 1991	-25.14	-25.72	-24.73	-26.31	
		2	1991 to 1992	-28.09	-27.76	-27.17	-28.22	
		3	1990 to 1991	-24.16	-25.04	-24.33	-24.98	
		3	1991 to 1992	-27.08	-27.15	-27.53	-27.19	
Low	LTE: 5 NR: 5	0	1929 to 1930	-24.40	-26.00	-24.79	-25.51	
		0	1928 to 1929	-29.26	-29.27	-29.71	-29.29	
		1	1929 to 1930	-24.31	-24.29	-24.58	-23.75	
		1	1928 to 1929	-28.99	-28.28	-29.01	-29.55	
		2	1929 to 1930	-24.20	-24.98	-24.25	-24.73	
		2	1928 to 1929	-29.57	-29.08	-30.15	-29.74	
		3	1929 to 1930	-23.75	-24.74	-24.03	-25.61	
		3	1928 to 1929	-28.96	-28.39	-29.61	-29.38	
High		0	1990 to 1991	-23.70	-25.61	-23.31	-25.93	
		0	1991 to 1992	-28.23	-28.46	-28.13	-28.03	
		1	1990 to 1991	-24.03	-24.59	-24.21	-24.64	
		1	1991 to 1992	-25.04	-25.42	-24.55	-24.84	
		2	1990 to 1991	-23.77	-24.07	-23.32	-23.59	
		2	1991 to 1992	-27.22	-27.97	-27.51	-27.43	
		3	1990 to 1991	-23.62	-23.68	-23.04	-24.70	
		3	1991 to 1992	-27.07	-26.76	-26.74	-26.79	
Low	LTE: 2 NR: 8	0	1929 to 1930	-24.16	-22.95	-21.90	-26.64	
		0	1928 to 1929	-29.85	-29.55	-29.33	-29.10	
		1	1929 to 1930	-25.20	-23.36	-22.64	-22.33	
		1	1928 to 1929	-29.68	-28.83	-29.17	-28.70	
		2	1929 to 1930	-22.53	-23.79	-23.75	-25.29	
		2	1928 to 1929	-29.22	-29.18	-29.58	-29.40	
		3	1929 to 1930	-24.59	-22.72	-21.84	-24.11	
		3	1928 to 1929	-29.89	-29.20	-29.47	-28.91	
High		0	1990 to 1991	-23.90	-24.41	-24.13	-23.75	
		0	1991 to 1992	-27.90	-27.53	-27.79	-27.53	
		1	1990 to 1991	-22.33	-24.35	-23.24	-23.31	
		1	1991 to 1992	-25.01	-25.02	-24.65	-24.52	
		2	1990 to 1991	-23.88	-23.70	-22.74	-24.32	
		2	1991 to 1992	-27.29	-27.60	-27.00	-26.90	
		3	1990 to 1991	-22.59	-23.44	-22.88	-23.32	
		3	1991 to 1992	-26.72	-27.04	-26.64	-26.61	

Table 8-83. Band Edge Emission Summary Data (PCS_DSS_1C_20M)

FCC ID: A3LRF4402D-D1A	 MEASUREMENT REPORT (Class II Permissive Change)			Approved by: Technical Manager
Test Report S/N: 8K22032101-00.A3L	Test Dates: 03/25/2022 - 05/03/2022	EUT Type: RRU(RF4402d)		Page 128 of 225

Channel	Configuration	Measured Range (MHz)	Max. Value (dBm)	Limit (dBm)
			QPSK	
Low	NR_2C_5M + 5M	1929 to 1930	-27.70	-19.02
		1928 to 1929	-25.40	
	NR_1C_5M + LTE_1C_5M	1929 to 1930	-27.58	
		1928 to 1929	-25.73	
	DSS_1C_10M + NR_1C_5M	1929 to 1930	-30.16	
		1928 to 1929	-28.24	
	DSS_2C_10M + 10M	1929 to 1930	-30.56	
		1928 to 1929	-27.83	
	DSS_1C_15M + LTE_1C_5M	1929 to 1930	-32.31	
		1928 to 1929	-28.35	
	NR_2C_10M + 15M	1929 to 1930	-30.37	
		1928 to 1929	-27.70	
	DSS_2C_10M + 15M	1929 to 1930	-32.01	
		1928 to 1929	-29.40	
	DSS_1C_20M + LTE_1C_5M	1929 to 1930	-22.27	
		1928 to 1929	-29.55	
High	NR_2C_5M + 5M	1929 to 1930	-33.46	
		1928 to 1929	-30.04	
	NR_1C_20M + LTE_1C_5M	1929 to 1930	-32.95	
		1928 to 1929	-29.73	
	NR_2C_5M + 5M	1990 to 1991	-26.82	
		1991 to 1992	-24.66	
	NR_1C_5M + LTE_1C_5M	1990 to 1991	-28.27	
		1991 to 1992	-25.15	
	DSS_1C_10M + NR_1C_5M	1990 to 1991	-29.52	
		1991 to 1992	-26.08	
	DSS_2C_10M + 10M	1990 to 1991	-29.45	
		1991 to 1992	-26.32	
	DSS_1C_15M + LTE_1C_5M	1990 to 1991	-32.28	
		1991 to 1992	-26.56	
	NR_2C_10M + 15M	1990 to 1991	-30.64	
		1991 to 1992	-26.98	
	DSS_2C_10M + 15M	1990 to 1991	-30.56	
		1991 to 1992	-27.51	
	DSS_1C_20M + LTE_1C_5M	1990 to 1991	-20.94	
		1991 to 1992	-28.08	
	DSS_1C_20M + NR_1C_5M	1990 to 1991	-32.92	
		1991 to 1992	-28.26	
	NR_1C_20M + LTE_1C_5M	1990 to 1991	-32.83	
		1991 to 1992	-28.51	

Table 8-84. Band Edge Emission Summary Data (PCS_Contiguous_Multi Carrier)

FCC ID: A3LRF4402D-D1A		MEASUREMENT REPORT (Class II Permissive Change)		Approved by: Technical Manager
Test Report S/N: 8K22032101-00.A3L	Test Dates: 03/25/2022 - 05/03/2022	EUT Type: RRU(RF4402d)	Page 129 of 225	

Channel	Configuration	Measured Range (MHz)	Max. Value (dBm)	Limit (dBm)
			QPSK	
Low	NR_2C_5M + 5M	1929 to 1930	-23.76	-19.02
		1928 to 1929	-24.35	
	NR_1C_5M + LTE_1C_5M	1929 to 1930	-23.97	
		1928 to 1929	-23.70	
	DSS_1C_10M + NR_1C_5M	1929 to 1930	-28.03	
		1928 to 1929	-26.68	
	DSS_2C_10M + 10M	1929 to 1930	-30.52	
		1928 to 1929	-26.86	
	DSS_1C_15M + LTE_1C_5M	1929 to 1930	-30.32	
		1928 to 1929	-28.06	
	NR_2C_10M + 15M	1929 to 1930	-28.56	
		1928 to 1929	-27.49	
	DSS_2C_10M + 15M	1929 to 1930	-30.23	
		1928 to 1929	-28.39	
	DSS_1C_20M + LTE_1C_5M	1929 to 1930	-31.73	
		1928 to 1929	-28.87	
High	NR_2C_5M + 5M	1929 to 1930	-27.33	
		1928 to 1929	-28.68	
	NR_1C_20M + LTE_1C_5M	1929 to 1930	-34.99	
		1928 to 1929	-29.71	
	NR_2C_5M + 5M	1990 to 1991	-22.62	
		1991 to 1992	-23.01	
	NR_1C_5M + LTE_1C_5M	1990 to 1991	-25.85	
		1991 to 1992	-25.03	
	DSS_1C_10M + NR_1C_5M	1990 to 1991	-29.11	
		1991 to 1992	-26.26	
	DSS_2C_10M + 10M	1990 to 1991	-29.34	
		1991 to 1992	-25.78	
	DSS_1C_15M + LTE_1C_5M	1990 to 1991	-30.02	
		1991 to 1992	-26.28	
	NR_2C_10M + 15M	1990 to 1991	-30.23	
		1991 to 1992	-27.40	
	DSS_2C_10M + 15M	1990 to 1991	-30.91	
		1991 to 1992	-27.60	
	DSS_1C_20M + LTE_1C_5M	1990 to 1991	-30.20	
		1991 to 1992	-26.13	
	DSS_1C_20M + NR_1C_5M	1990 to 1991	-30.06	
		1991 to 1992	-26.95	
	NR_1C_20M + LTE_1C_5M	1990 to 1991	-33.79	
		1991 to 1992	-27.55	

Table 8-85. Band Edge Emission Summary Data (PCS_ Non-Contiguous_Multi Carrier)

FCC ID: A3LRF4402D-D1A		MEASUREMENT REPORT (Class II Permissive Change)		Approved by: Technical Manager
Test Report S/N: 8K22032101-00.A3L	Test Dates: 03/25/2022 - 05/03/2022	EUT Type: RRU(RF4402d)	Page 130 of 225	