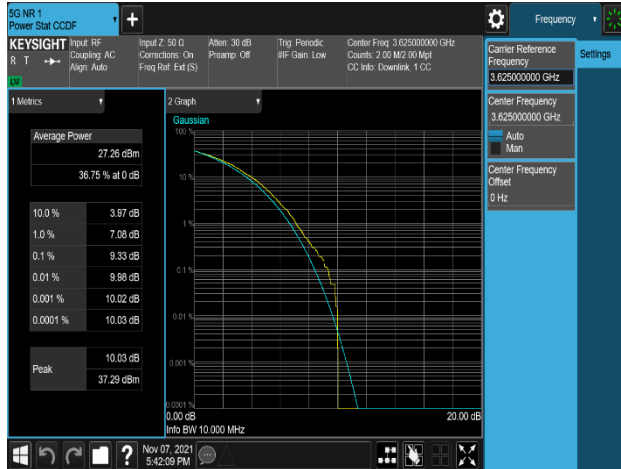
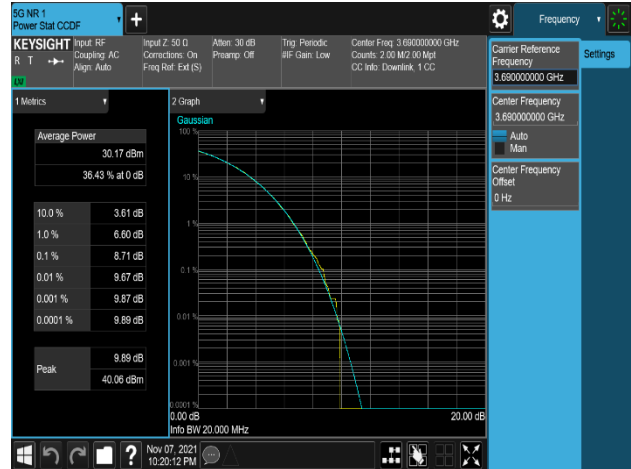
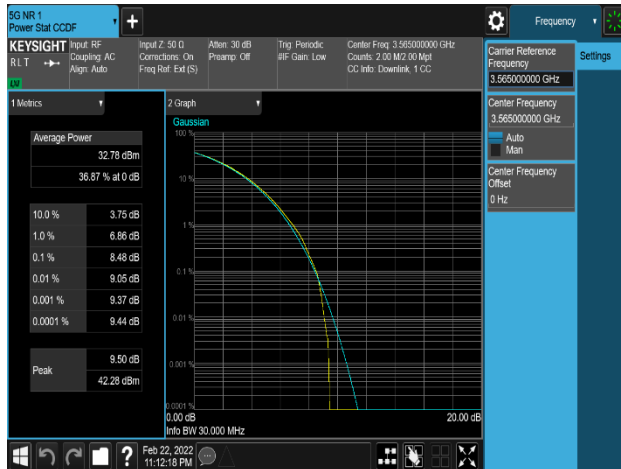




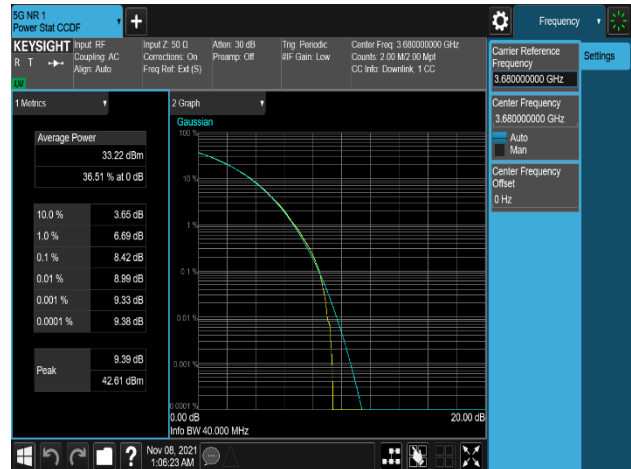
Plot 8-183. Peak To Average Power Ratio Plot
(NR_n48_1C_10M_16QAM - Mid Channel, Port 3)



Plot 8-184. Peak To Average Power Ratio Plot
(NR_n48_1C_20M_256QAM - High Channel, Port 2)



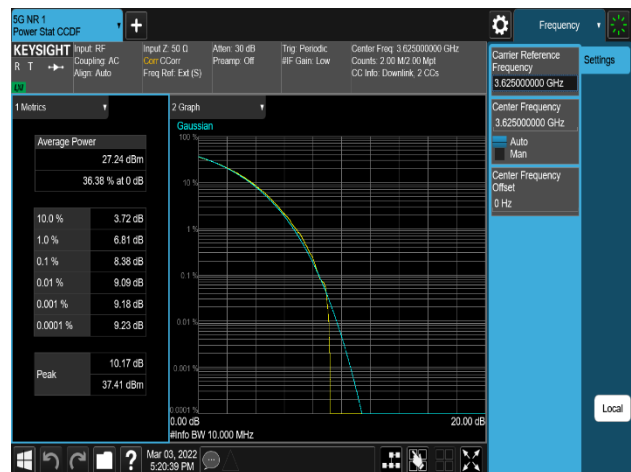
Plot 8-185. Peak To Average Power Ratio Plot
(NR_n48_1C_30M_256QAM - Low Channel, Port 2)



Plot 8-186. Peak To Average Power Ratio Plot
(NR_n48_1C_40M_64QAM - High Channel, Port 0)

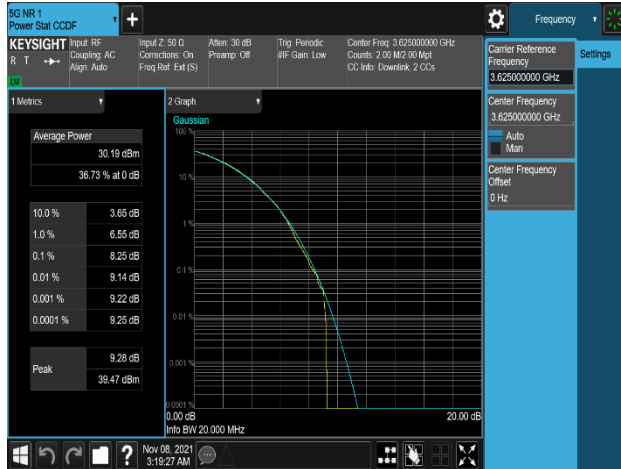


Plot 8-187. Peak To Average Power Ratio Plot
(LTE_B48_2C_5M+5M_QPSK - Mid Channel, Port 0)

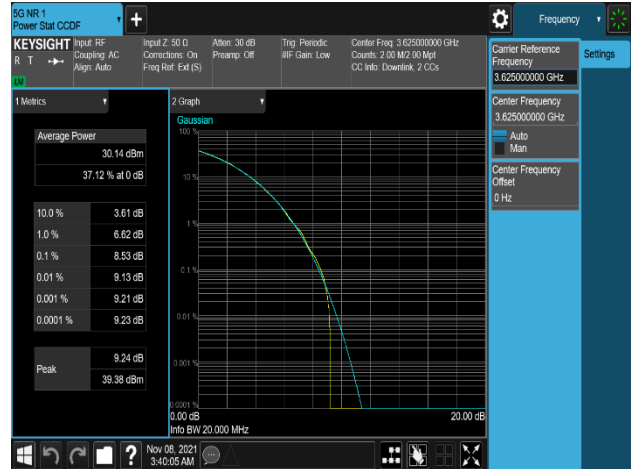


Plot 8-188. Peak To Average Power Ratio Plot
(LTE_B48_2C_5M+5M_256QAM - Mid Channel, Port 0)

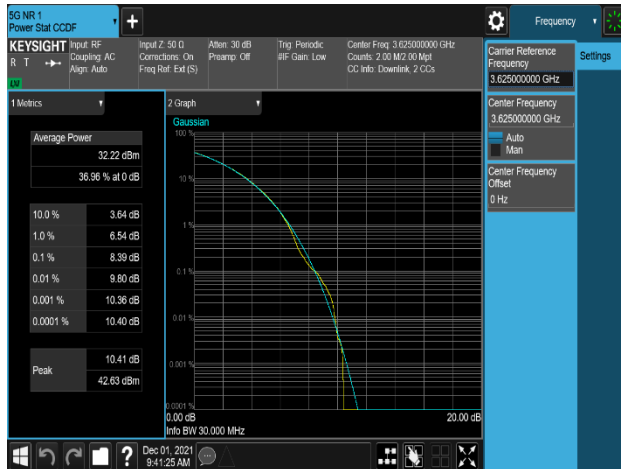
FCC: A3LRT4401-48A	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (Class II Permissive Change)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 8K21101307-R3.A3L	Test Dates: 10/15/2021 – 03/04/2022	EUT Type: RRU(RT4401)		Page 95 of 175



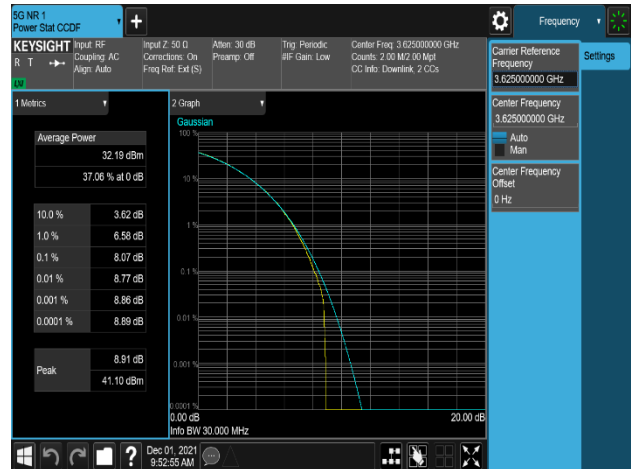
Plot 8-189. Peak To Average Power Ratio Plot
(NR_n48_2C_10M+10M_QPSK - Mid Channel, Port 0)



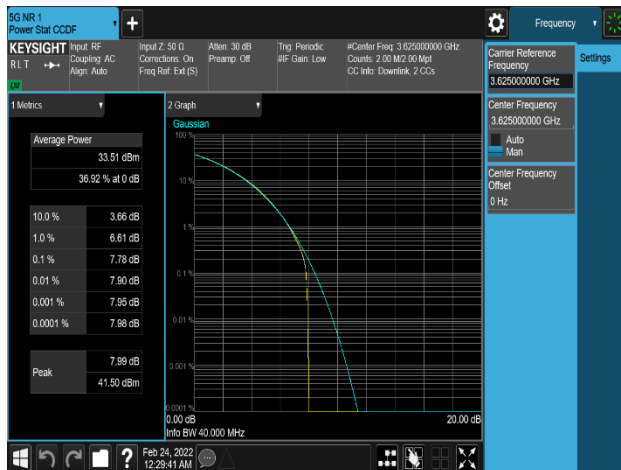
Plot 8-190. Peak To Average Power Ratio Plot
(NR_n48_2C_10M+10M_256QAM - Mid Channel, Port 0)



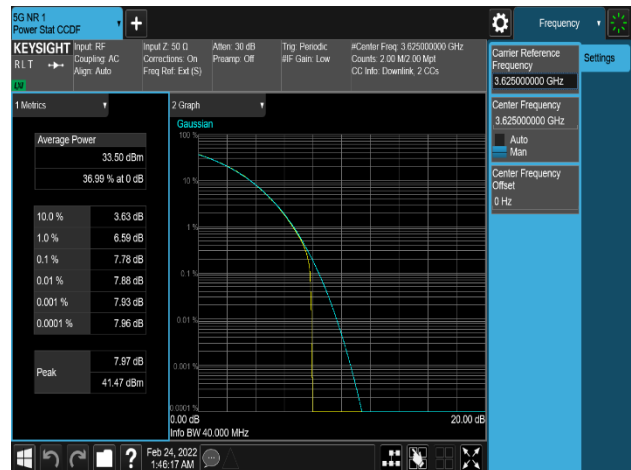
Plot 8-191. Peak To Average Power Ratio Plot
(NR_n48_2C_10M+20M_QPSK - Mid Channel, Port 0)



Plot 8-192. Peak To Average Power Ratio Plot
(NR_n48_2C_10M+20M_256QAM - Mid Channel, Port 0)

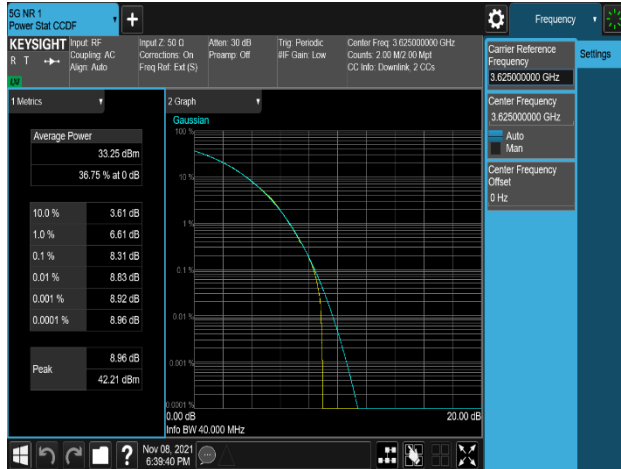


Plot 8-193. Peak To Average Power Ratio Plot
(NR_n48_2C_10M+30M_QPSK - Mid Channel, Port 0)

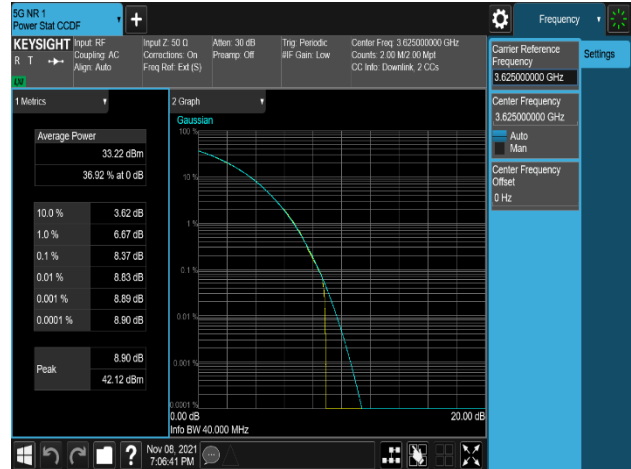


Plot 8-194. Peak To Average Power Ratio Plot
(NR_n48_2C_10M+30M_256QAM - Mid Channel, Port 0)

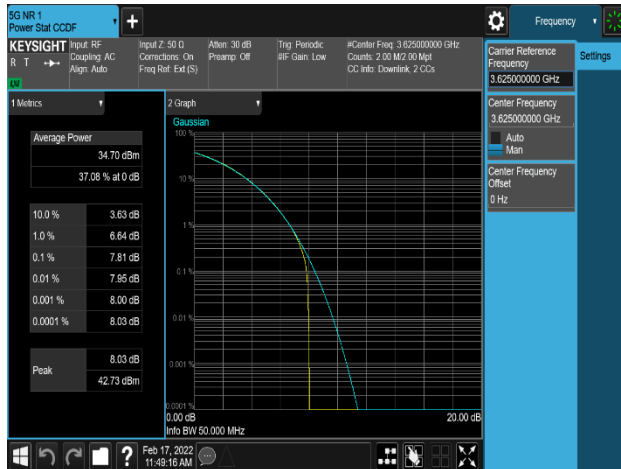
FCC: A3LRT4401-48A	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (Class II Permissive Change)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 8K21101307-R3.A3L	Test Dates: 10/15/2021 – 03/04/2022	EUT Type: RRU(RT4401)		Page 96 of 175



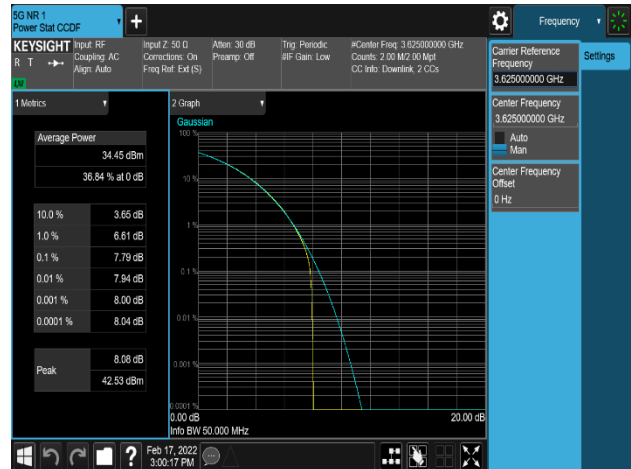
Plot 8-195. Peak To Average Power Ratio Plot
(NR_n48_2C_20M+20M_QPSK - Mid Channel, Port 0)



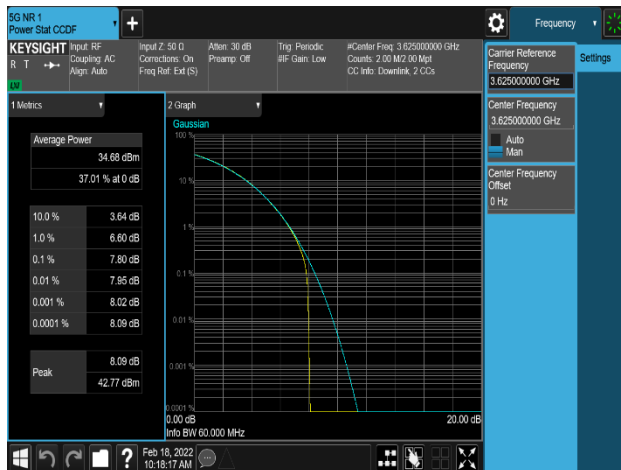
Plot 8-196. Peak To Average Power Ratio Plot
(NR_n48_2C_20M+20M_256QAM - Mid Channel, Port 0)



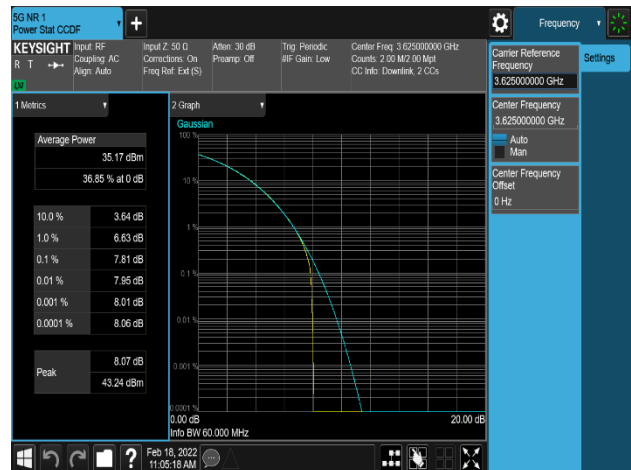
Plot 8-197. Peak To Average Power Ratio Plot
(NR_n48_2C_10M+40M_QPSK - Mid Channel, Port 0)



Plot 8-198. Peak To Average Power Ratio Plot
(NR_n48_2C_10M+40M_256QAM - Mid Channel, Port 0)

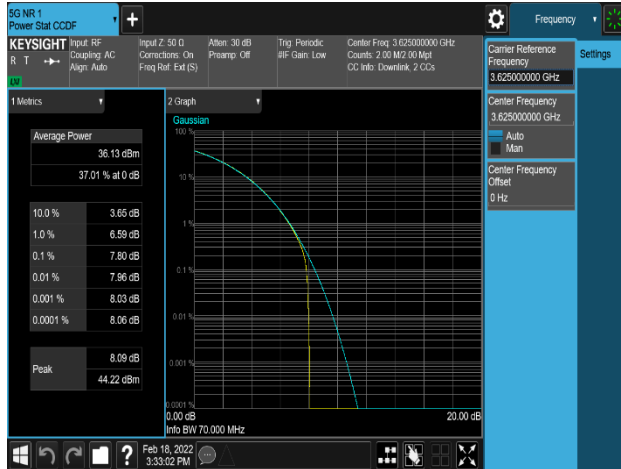


Plot 8-199. Peak To Average Power Ratio Plot
(NR_n48_2C_20M+40M_QPSK - Mid Channel, Port 0)

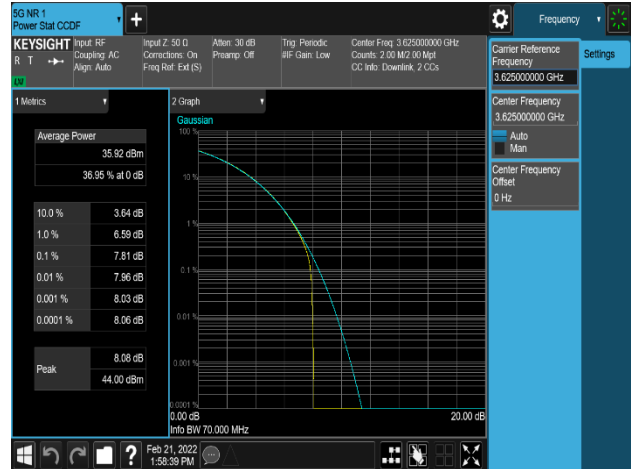


Plot 8-200. Peak To Average Power Ratio Plot
(NR_n48_2C_20M+40M_256QAM - Mid Channel, Port 0)

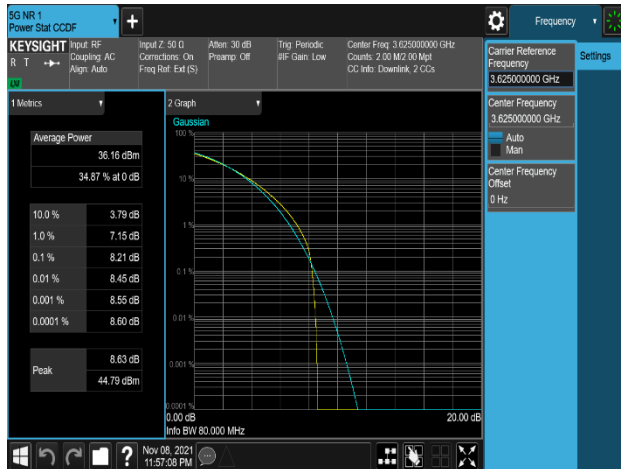
FCC: A3LRT4401-48A	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (Class II Permissive Change)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 8K21101307-R3.A3L	Test Dates: 10/15/2021 – 03/04/2022	EUT Type: RRU(RT4401)		Page 97 of 175



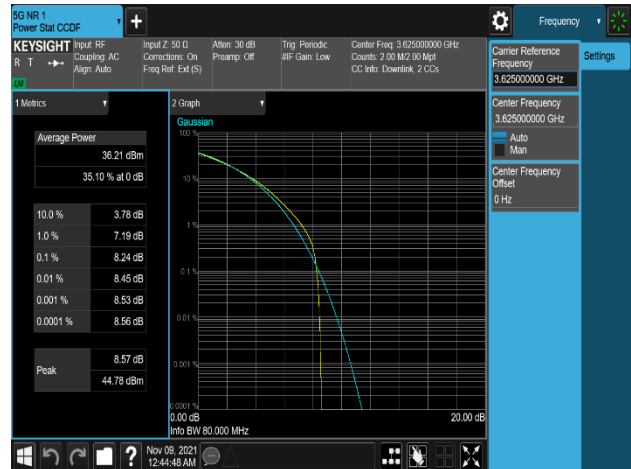
Plot 8-201. Peak To Average Power Ratio Plot
(NR_n48_2C_30M+40M_QPSK - Mid Channel, Port 0)



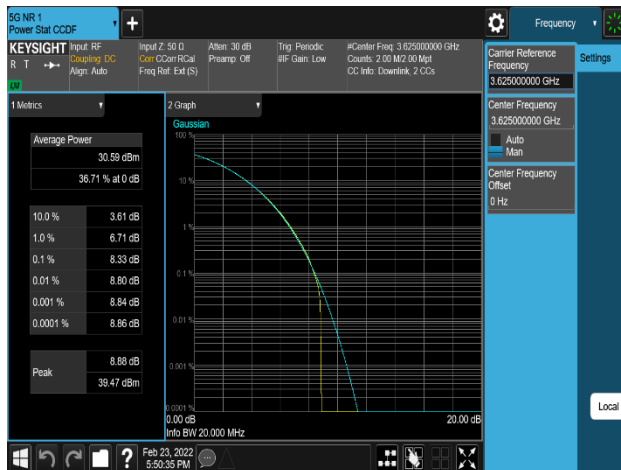
Plot 8-202. Peak To Average Power Ratio Plot
(NR_n48_2C_30M+40M_256QAM - Mid Channel, Port 0)



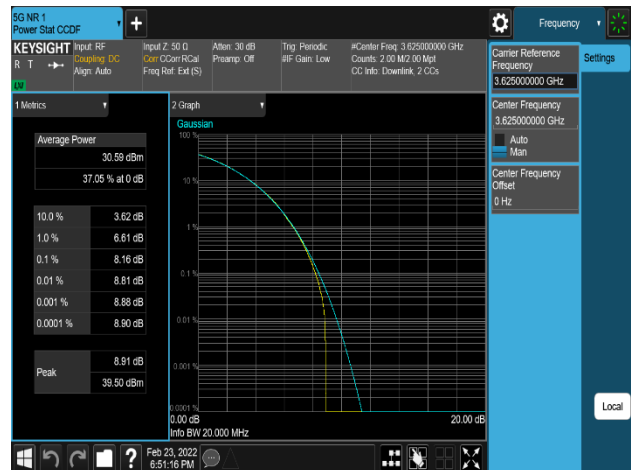
Plot 8-203. Peak To Average Power Ratio Plot
(NR_n48_2C_40M+40M_QPSK - Mid Channel, Port 0)



Plot 8-204. Peak To Average Power Ratio Plot
(NR_n48_2C_40M+40M_256QAM - Mid Channel, Port 0)

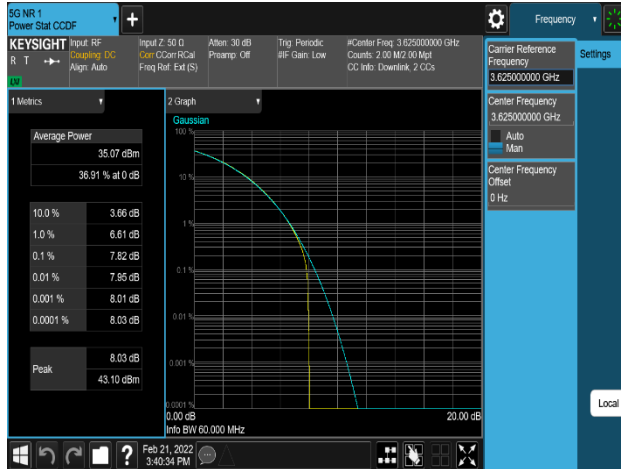


Plot 8-205. Peak To Average Power Ratio Plot
(LTE_1C+NR_1C_10M+10M_QPSK - Mid Channel, Port0)

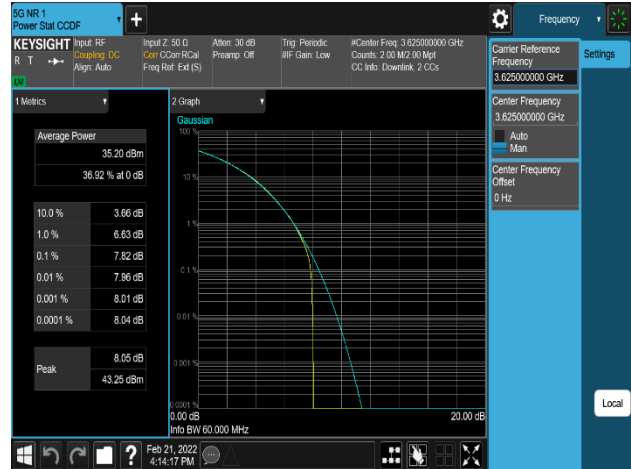


Plot 8-206. Peak To Average Power Ratio Plot
(LTE_1C+NR_1C_10M+10M_256QAM - Mid Channel, Port0)

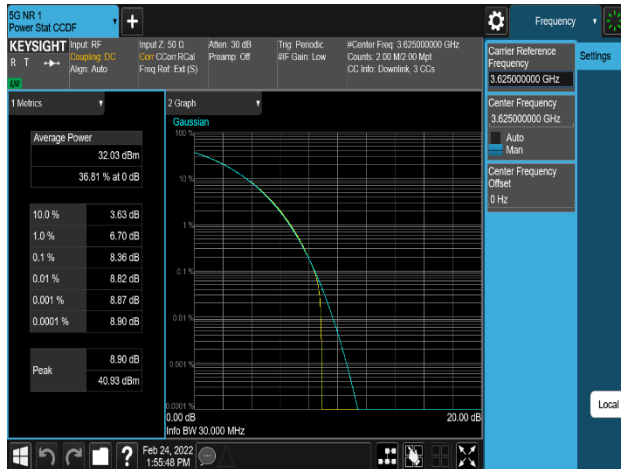
FCC: A3LRT4401-48A	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (Class II Permissive Change)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 8K21101307-R3.A3L	Test Dates: 10/15/2021 – 03/04/2022	EUT Type: RRU(RT4401)		Page 98 of 175



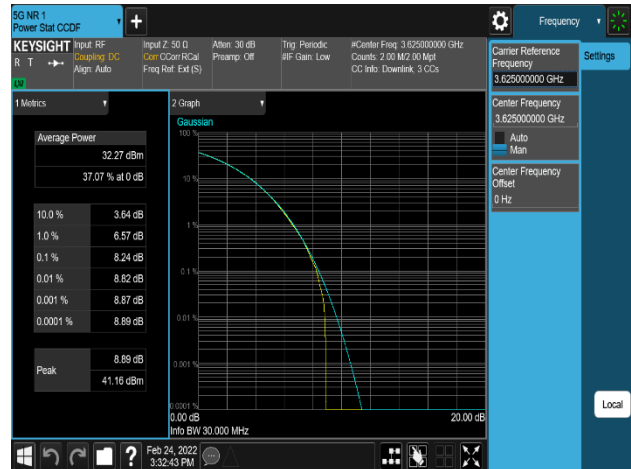
Plot 8-207. Peak To Average Power Ratio Plot
(LTE_1C+NR_1C_20M+40M_QPSK - Mid Channel, Port0)



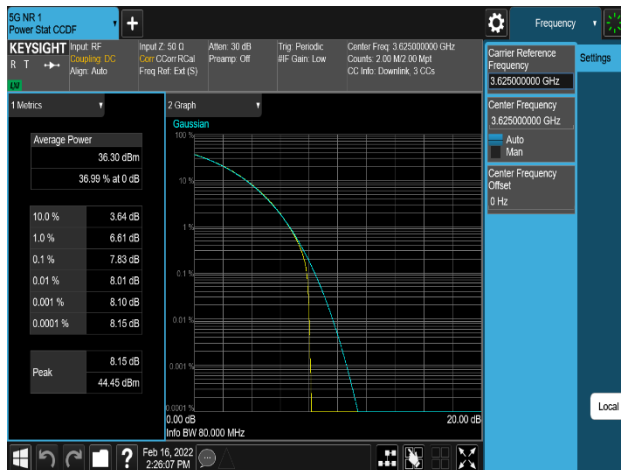
Plot 8-208. Peak To Average Power Ratio Plot
(LTE_1C+NR_1C_20M+40M_256QAM - Mid Channel, Port0)



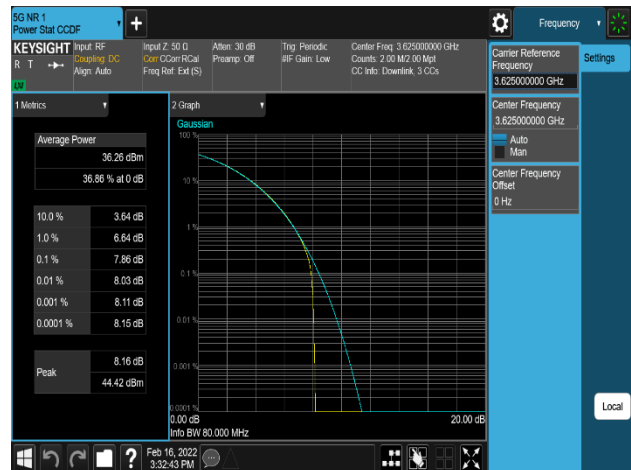
Plot 8-209. Peak To Average Power Ratio Plot
(LTE_2C+NR_1C_10M+10M+10M_QPSK - Mid Channel, Port0)



Plot 8-210. Peak To Average Power Ratio Plot
(LTE_2C+NR_1C_10M+10M+10M_256QAM - Mid Channel, Port0)



Plot 8-211. Peak To Average Power Ratio Plot
(LTE_2C+NR_1C_20M+20M+40M_QPSK - Mid Channel, Port0)



Plot 8-212. Peak To Average Power Ratio Plot
(LTE_2C+NR_1C_20M+20M+40M_256QAM - Mid Channel, Port0)

FCC: A3LRT4401-48A	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (Class II Permissive Change)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 8K21101307-R3.A3L	Test Dates: 10/15/2021 – 03/04/2022	EUT Type: RRU(RT4401)		Page 99 of 175

8.7 Channel 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

ANSI C63.26 - Section 5.2.3.4.

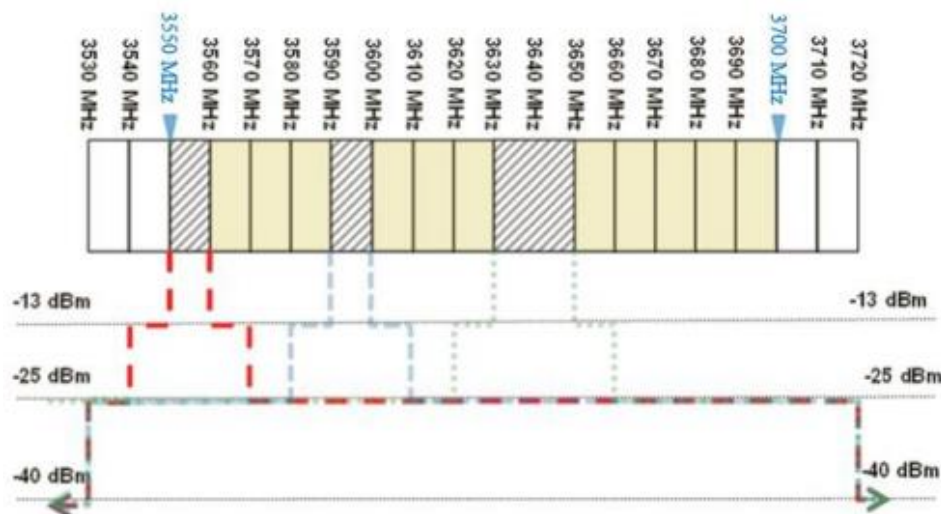
KDB 971168 D01 v03r01 - Section 5.7

KDB 662911 D01 v02r01 - Section E)3)

Test Setting

1. Start and stop frequency were set such that the Channel 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 Channel Edge
3. RBW: 1% of fundamental for measurements within 1 MHz immediately outside the authorized channel
1 MHz for beyond 1 MHz outside the authorized channel.
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



- Within 0 MHz to 10 MHz above and below the assigned channel ≤ -13 dBm/MHz
- Greater than 10 MHz above and below the assigned channel ≤ -25 dBm/MHz
- Any emission below 3530 MHz and above 3720 MHz ≤ -40 dBm/MHz

FCC: A3LRT4401-48A	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (Class II Permissive Change)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 8K21101307-R3.A3L	Test Dates: 10/15/2021 – 03/04/2022	EUT Type: RRU(RT4401)		Page 100 of 175

Test Setup

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

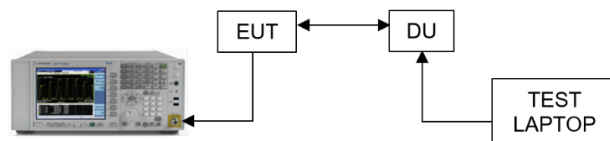


Figure 8-6. Test Instrument & Measurement Setup

Test Notes

1. For single carrier configuration, all measurement has been tested but test plots are referred from the worst of value of each of modulation of each antenna ports.
2. For multi carriers configuration, the worst case were found while operating with QPSK mode and only the worst case data were reported.
3. The following value has been applied as reference offset in the spectrum analyzer.
Duty cycle correction factor was added to spectrum analyzer.
Duty cycle = transmit on-time / transmitter period = 3.72 ms / 5.00 ms = 0.74
Duty cycle correction factor = $10 \cdot \log(1/\text{duty cycle}) = 10 \cdot \log(1/0.74) = 1.28 \text{ dB}$
4. Per Section 96.41(e)(3)—resolution bandwidth 1% of fundamental for measurements within 1 MHz immediately outside the authorized channel; and 1 MHz for beyond 1 MHz outside the authorized channel.
5. The limits were adjusted by a factor of $[-10 \cdot \log(4)] \text{ dB}$ to account for the device operation as a 4 port MIMO transmitter, as per FCC KDB 622911. MIMO Factor calculation as below:
MIMO Factor = $10 \cdot \log(4) = 6.02 \text{ dB}$
6. 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. 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.

Frequency range	Basic Limit (dBm/MHz)	MIMO Factor (dB)	Adjusted limit (dBm)
0 MHz to 10 MHz above and below the assigned channel	-13	6.02	- 19.02
10 MHz above and below the assigned channel	-25	6.02	- 31.02
below 3530 MHz and above 3720 MHz	-40	6.02	- 46.02
Note: Adjusted limit (dBm/MHz) = Basic limit (dBm/1MHz) - MIMO Factor			

FCC: A3LRT4401-48A	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (Class II Permissive Change)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 8K21101307-R3.A3L	Test Dates: 10/15/2021 – 03/04/2022	EUT Type: RRU(RT4401)	Page 101 of 175	

Channel	Port	Measured Range (GHz)	Max. Value (dBm)				Limit (dBm)	Worst Margin(dB)
			QPSK	16QAM	64QAM	256QAM		
Low	0	3.530 to 3.540	-45.42	-45.40	-45.21	-45.35	-31.02	-14.19
	0	3.540 to 3.549	-26.97	-32.44	-32.01	-30.99	-19.02	-7.95
	0	3.549 to 3.550	-35.47	-45.62	-44.68	-41.31	-19.02	-16.45
	0	3.560 to 3.561	-33.57	-38.71	-37.97	-38.06	-19.02	-14.55
	0	3.561 to 3.570	-27.13	-33.10	-31.77	-30.78	-19.02	-8.11
	0	3.570 to 3.720	-40.61	-40.77	-40.37	-40.44	-31.02	-9.35
	1	3.530 to 3.540	-43.77	-44.15	-44.02	-43.92	-31.02	-12.75
	1	3.540 to 3.549	-31.22	-32.94	-31.54	-29.77	-19.02	-10.75
	1	3.549 to 3.550	-43.80	-46.24	-45.89	-37.42	-19.02	-18.40
	1	3.560 to 3.561	-36.94	-41.36	-41.20	-37.89	-19.02	-17.92
	1	3.561 to 3.570	-31.73	-33.19	-32.16	-30.52	-19.02	-11.50
	1	3.570 to 3.720	-39.15	-42.06	-41.99	-41.94	-31.02	-8.13
	2	3.530 to 3.540	-44.97	-44.81	-44.88	-44.69	-31.02	-13.67
	2	3.540 to 3.549	-28.76	-31.50	-31.55	-30.78	-19.02	-9.74
	2	3.549 to 3.550	-34.17	-44.29	-44.91	-42.10	-19.02	-15.15
	2	3.560 to 3.561	-33.68	-38.78	-40.49	-38.51	-19.02	-14.66
	2	3.561 to 3.570	-27.43	-31.81	-31.58	-31.62	-19.02	-8.41
	2	3.570 to 3.720	-42.18	-41.87	-42.33	-41.62	-31.02	-10.60
	3	3.530 to 3.540	-44.37	-44.56	-44.32	-44.48	-31.02	-13.30
	3	3.540 to 3.549	-31.74	-32.13	-31.49	-30.80	-19.02	-11.78
	3	3.549 to 3.550	-45.00	-44.94	-44.89	-42.99	-19.02	-23.97
	3	3.560 to 3.561	-39.25	-39.52	-39.14	-40.63	-19.02	-20.12
	3	3.561 to 3.570	-32.02	-32.59	-31.96	-31.46	-19.02	-12.44
	3	3.570 to 3.720	-38.89	-39.03	-38.91	-39.16	-31.02	-7.87
Middle	0	3.530 to 3.610	-40.69	-40.68	-40.50	-38.94	-31.02	-7.92
	0	3.610 to 3.619	-31.24	-32.36	-26.16	-24.84	-19.02	-5.82
	0	3.619 to 3.620	-40.28	-40.45	-34.04	-32.29	-19.02	-13.27
	0	3.630 to 3.631	-42.68	-44.32	-32.82	-31.82	-19.02	-12.80
	0	3.631 to 3.640	-32.45	-33.50	-27.61	-24.60	-19.02	-5.58
	0	3.640 to 3.720	-40.98	-41.37	-41.02	-39.43	-31.02	-8.41
	1	3.530 to 3.610	-42.39	-42.58	-42.42	-41.91	-31.02	-10.89
	1	3.610 to 3.619	-31.52	-32.29	-31.53	-31.18	-19.02	-12.16
	1	3.619 to 3.620	-41.28	-41.05	-39.67	-41.08	-19.02	-20.65
	1	3.630 to 3.631	-45.09	-46.18	-45.36	-45.17	-19.02	-26.07
	1	3.631 to 3.640	-31.77	-32.99	-31.49	-32.23	-19.02	-12.47
	1	3.640 to 3.720	-42.77	-42.94	-42.39	-42.62	-31.02	-11.37
	2	3.530 to 3.610	-42.34	-41.75	-42.37	-41.93	-31.02	-10.73
	2	3.610 to 3.619	-31.50	-32.79	-29.26	-25.30	-19.02	-6.28
	2	3.619 to 3.620	-39.44	-38.92	-32.90	-31.82	-19.02	-12.80
	2	3.630 to 3.631	-47.00	-43.15	-34.13	-33.98	-19.02	-14.96
	2	3.631 to 3.640	-32.51	-33.20	-27.36	-25.65	-19.02	-6.63
	2	3.640 to 3.720	-43.15	-42.66	-42.85	-42.49	-31.02	-11.47

FCC: A3LRT4401-48A	 MEASUREMENT REPORT (Class II Permissive Change)			Approved by: Technical Manager
Test Report S/N: 8K21101307-R3.A3L	Test Dates: 10/15/2021 – 03/04/2022	EUT Type: RRU(RT4401)	Page 102 of 175	

	3	3.530 to 3.610	-39.48	-39.38	-39.19	-39.08	-31.02	-8.06
	3	3.610 to 3.619	-32.01	-32.76	-31.85	-31.78	-19.02	-12.76
	3	3.619 to 3.620	-40.65	-41.04	-40.98	-40.85	-19.02	-21.63
	3	3.630 to 3.631	-43.99	-44.68	-44.02	-43.86	-19.02	-24.84
	3	3.631 to 3.640	-32.47	-32.47	-32.28	-32.79	-19.02	-13.26
	3	3.640 to 3.720	-40.20	-40.37	-40.01	-40.08	-31.02	-8.99
High	0	3.530 to 3.680	-39.36	-39.41	-36.61	-39.47	-31.02	-5.59
	0	3.680 to 3.689	-25.15	-31.85	-26.45	-30.68	-19.02	-6.13
	0	3.689 to 3.690	-31.74	-41.93	-31.01	-39.05	-19.02	-11.99
	0	3.700 to 3.701	-33.66	-46.59	-32.11	-42.00	-19.02	-13.09
	0	3.701 to 3.710	-25.45	-34.22	-26.71	-32.86	-19.02	-6.43
	0	3.710 to 3.720	-44.72	-44.86	-43.59	-45.11	-31.02	-12.57
	1	3.530 to 3.680	-39.41	-40.52	-39.89	-40.14	-31.02	-8.39
	1	3.680 to 3.689	-29.16	-30.31	-30.14	-30.26	-19.02	-10.14
	1	3.689 to 3.690	-39.56	-41.63	-39.37	-34.40	-19.02	-15.38
	1	3.700 to 3.701	-43.42	-46.74	-39.22	-43.68	-19.02	-20.20
	1	3.701 to 3.710	-32.96	-34.76	-31.57	-32.63	-19.02	-12.55
	1	3.710 to 3.720	-43.91	-43.94	-43.86	-43.78	-31.02	-12.76
	2	3.530 to 3.680	-37.46	-40.29	-40.19	-39.08	-31.02	-6.44
	2	3.680 to 3.689	-24.99	-31.31	-24.13	-30.25	-19.02	-5.11
	2	3.689 to 3.690	-31.82	-40.63	-31.21	-40.94	-19.02	-12.19
	2	3.700 to 3.701	-33.78	-45.86	-33.99	-45.18	-19.02	-14.76
	2	3.701 to 3.710	-26.90	-34.16	-27.72	-33.83	-19.02	-7.88
	2	3.710 to 3.720	-43.99	-44.14	-44.25	-43.91	-31.02	-12.89
	3	3.530 to 3.680	-37.89	-37.99	-38.00	-37.87	-31.02	-6.85
	3	3.680 to 3.689	-31.29	-30.97	-30.38	-30.21	-19.02	-11.19
	3	3.689 to 3.690	-40.72	-41.91	-40.85	-39.52	-19.02	-20.50
	3	3.700 to 3.701	-44.76	-45.34	-44.16	-42.36	-19.02	-23.34
	3	3.701 to 3.710	-33.12	-33.84	-33.59	-33.06	-19.02	-14.04
	3	3.710 to 3.720	-44.28	-44.21	-44.12	-44.37	-31.02	-13.10

Table 8-50. Channel Edge Emission Summary Data (NR_n48_1C_10M)

FCC: A3LRT4401-48A	 MEASUREMENT REPORT (Class II Permissive Change)			Approved by: Technical Manager
Test Report S/N: 8K21101307-R3.A3L	Test Dates: 10/15/2021 – 03/04/2022	EUT Type: RRU(RT4401)	Page 103 of 175	

Channel	Port	Measured Range (GHz)	Max. Value (dBm)				Limit (dBm)	Worst Margin(dB)
			QPSK	16QAM	64QAM	256QAM		
Low	0	3.530 to 3.540	-50.36	-51.41	-51.86	-50.94	-31.02	-19.34
	0	3.540 to 3.549	-36.19	-38.26	-37.69	-36.90	-19.02	-17.17
	0	3.549 to 3.550	-32.67	-34.23	-33.37	-33.47	-19.02	-13.65
	0	3.570 to 3.571	-27.87	-29.61	-28.96	-29.83	-19.02	-8.85
	0	3.571 to 3.580	-35.68	-36.77	-36.67	-36.12	-19.02	-16.66
	0	3.580 to 3.720	-36.05	-39.34	-39.23	-39.28	-31.02	-5.03
	1	3.530 to 3.540	-48.66	-48.59	-48.02	-49.07	-31.02	-17.00
	1	3.540 to 3.549	-38.17	-37.26	-37.87	-37.78	-19.02	-18.24
	1	3.549 to 3.550	-34.40	-34.69	-32.80	-33.94	-19.02	-13.78
	1	3.570 to 3.571	-29.55	-30.28	-30.15	-30.89	-19.02	-10.53
	1	3.571 to 3.580	-37.79	-36.50	-37.22	-36.76	-19.02	-17.48
	1	3.580 to 3.720	-40.51	-40.66	-39.64	-40.59	-31.02	-8.62
	2	3.530 to 3.540	-51.73	-52.32	-51.17	-50.89	-31.02	-19.87
	2	3.540 to 3.549	-37.56	-38.47	-37.79	-35.58	-19.02	-16.56
	2	3.549 to 3.550	-33.57	-34.04	-34.12	-33.06	-19.02	-14.04
	2	3.570 to 3.571	-29.58	-31.05	-29.22	-29.97	-19.02	-10.20
	2	3.571 to 3.580	-36.88	-37.81	-37.04	-36.41	-19.02	-17.39
	2	3.580 to 3.720	-40.74	-41.41	-40.19	-40.58	-31.02	-9.17
	3	3.530 to 3.540	-50.03	-50.36	-49.66	-49.82	-31.02	-18.64
	3	3.540 to 3.549	-37.04	-37.43	-36.44	-36.75	-19.02	-17.42
	3	3.549 to 3.550	-34.07	-34.39	-32.82	-33.42	-19.02	-13.80
	3	3.570 to 3.571	-29.19	-29.97	-28.90	-30.32	-19.02	-9.88
	3	3.571 to 3.580	-35.90	-36.08	-35.50	-36.26	-19.02	-16.48
	3	3.580 to 3.720	-38.48	-38.96	-36.98	-38.63	-31.02	-5.96
Middle	0	3.530 to 3.605	-37.85	-39.40	-39.03	-38.79	-31.02	-6.83
	0	3.605 to 3.614	-35.88	-36.70	-36.20	-35.90	-19.02	-16.86
	0	3.614 to 3.615	-29.11	-31.78	-31.20	-30.60	-19.02	-10.09
	0	3.635 to 3.636	-30.72	-31.57	-31.20	-31.41	-19.02	-11.70
	0	3.636 to 3.645	-37.44	-37.64	-37.22	-37.59	-19.02	-18.20
	0	3.645 to 3.720	-40.21	-40.20	-40.95	-39.49	-31.02	-8.47
	1	3.530 to 3.605	-39.05	-39.31	-40.34	-39.79	-31.02	-8.03
	1	3.605 to 3.614	-36.58	-36.25	-36.27	-36.46	-19.02	-17.23
	1	3.614 to 3.615	-30.93	-30.86	-28.47	-29.63	-19.02	-9.45
	1	3.635 to 3.636	-31.30	-31.50	-31.31	-31.69	-19.02	-12.28
	1	3.636 to 3.645	-38.37	-37.01	-37.37	-37.48	-19.02	-17.99
	1	3.645 to 3.720	-40.52	-41.96	-40.72	-39.18	-31.02	-8.16
	2	3.530 to 3.605	-40.39	-39.81	-40.65	-40.40	-31.02	-8.79
	2	3.605 to 3.614	-36.84	-36.90	-36.70	-36.74	-19.02	-17.68
	2	3.614 to 3.615	-31.13	-29.78	-29.39	-31.09	-19.02	-10.37
	2	3.635 to 3.636	-32.79	-32.13	-31.86	-32.29	-19.02	-12.84
	2	3.636 to 3.645	-38.02	-37.17	-38.27	-38.23	-19.02	-18.15
	2	3.645 to 3.720	-39.47	-41.07	-41.29	-39.10	-31.02	-8.08

FCC: A3LRT4401-48A	 MEASUREMENT REPORT (Class II Permissive Change)			Approved by: Technical Manager
Test Report S/N: 8K21101307-R3.A3L	Test Dates: 10/15/2021 – 03/04/2022	EUT Type: RRU(RT4401)	Page 104 of 175	

	3	3.530 to 3.605	-36.51	-38.08	-36.30	-38.18	-31.02	-5.28
	3	3.605 to 3.614	-35.15	-36.24	-35.48	-35.89	-19.02	-16.13
	3	3.614 to 3.615	-30.01	-32.10	-29.88	-29.52	-19.02	-10.50
	3	3.635 to 3.636	-32.27	-31.35	-31.83	-31.82	-19.02	-12.33
	3	3.636 to 3.645	-36.46	-37.26	-36.77	-36.78	-19.02	-17.44
	3	3.645 to 3.720	-38.67	-39.35	-38.63	-39.17	-31.02	-7.61
High	0	3.530 to 3.670	-39.23	-39.34	-39.06	-39.00	-31.02	-7.98
	0	3.670 to 3.679	-35.90	-36.24	-36.36	-36.28	-19.02	-16.88
	0	3.679 to 3.680	-31.13	-31.43	-29.99	-28.07	-19.02	-9.05
	0	3.700 to 3.701	-33.88	-33.42	-32.43	-32.29	-19.02	-13.27
	0	3.701 to 3.710	-37.87	-38.98	-38.58	-38.08	-19.02	-18.85
	0	3.710 to 3.720	-51.18	-51.61	-51.86	-51.21	-31.02	-20.16
	1	3.530 to 3.670	-38.03	-39.28	-37.19	-40.56	-31.02	-6.17
	1	3.670 to 3.679	-37.03	-36.42	-35.95	-36.21	-19.02	-16.93
	1	3.679 to 3.680	-29.90	-31.03	-28.98	-27.17	-19.02	-8.15
	1	3.700 to 3.701	-31.46	-33.11	-32.50	-32.59	-19.02	-12.44
	1	3.701 to 3.710	-38.23	-38.40	-37.94	-38.58	-19.02	-18.92
	1	3.710 to 3.720	-50.30	-49.81	-50.74	-49.78	-31.02	-18.76
	2	3.530 to 3.670	-39.35	-38.70	-39.80	-40.08	-31.02	-7.68
	2	3.670 to 3.679	-36.28	-37.10	-36.91	-36.52	-19.02	-17.26
	2	3.679 to 3.680	-31.05	-30.40	-29.83	-30.92	-19.02	-10.81
	2	3.700 to 3.701	-33.49	-34.49	-31.72	-32.04	-19.02	-12.70
	2	3.701 to 3.710	-39.06	-38.82	-38.46	-39.22	-19.02	-19.44
	2	3.710 to 3.720	-51.01	-51.24	-51.62	-51.60	-31.02	-19.99
	3	3.530 to 3.670	-37.95	-36.69	-35.45	-38.38	-31.02	-4.43
	3	3.670 to 3.679	-35.92	-36.15	-36.27	-36.22	-19.02	-16.90
	3	3.679 to 3.680	-29.74	-29.87	-29.39	-30.35	-19.02	-10.37
	3	3.700 to 3.701	-32.35	-33.58	-31.58	-31.91	-19.02	-12.56
	3	3.701 to 3.710	-37.66	-38.76	-37.85	-37.82	-19.02	-18.64
	3	3.710 to 3.720	-51.31	-51.37	-50.38	-51.33	-31.02	-19.36

Table 8-51. Channel Edge Emission Summary Data (NR_n48_1C_20M)

FCC: A3LRT4401-48A	 MEASUREMENT REPORT (Class II Permissive Change)			Approved by: Technical Manager
Test Report S/N: 8K21101307-R3.A3L	Test Dates: 10/15/2021 – 03/04/2022	EUT Type: RRU(RT4401)		Page 105 of 175

Channel	Port	Measured Range (GHz)	Max. Value (dBm)				Limit (dBm)	Worst Margin(dB)
			QPSK	16QAM	64QAM	256QAM		
Low	0	3.530 to 3.540	-40.25	-40.44	-40.31	-40.35	-31.02	-9.23
	0	3.540 to 3.549	-36.13	-36.80	-35.79	-36.42	-19.02	-16.77
	0	3.549 to 3.550	-32.64	-32.06	-30.58	-32.56	-19.02	-11.56
	0	3.580 to 3.581	-27.42	-28.49	-29.56	-28.81	-19.02	-8.40
	0	3.581 to 3.590	-34.29	-34.80	-34.92	-34.88	-19.02	-15.27
	0	3.890 to 3.720	-40.36	-40.76	-40.16	-40.09	-31.02	-9.07
	1	3.530 to 3.540	-41.68	-41.98	-41.31	-41.76	-31.02	-10.29
	1	3.540 to 3.549	-35.66	-36.86	-36.86	-35.74	-19.02	-16.64
	1	3.549 to 3.550	-31.42	-33.14	-31.16	-31.65	-19.02	-12.14
	1	3.580 to 3.581	-29.30	-27.80	-27.55	-27.54	-19.02	-8.52
	1	3.581 to 3.590	-34.82	-35.21	-34.43	-35.06	-19.02	-15.41
	1	3.890 to 3.720	-40.58	-40.60	-39.42	-40.02	-31.02	-8.40
	2	3.530 to 3.540	-41.63	-42.05	-41.90	-41.88	-31.02	-10.61
	2	3.540 to 3.549	-35.38	-36.57	-37.32	-35.84	-19.02	-16.36
	2	3.549 to 3.550	-31.89	-32.08	-31.05	-32.41	-19.02	-12.03
	2	3.580 to 3.581	-29.65	-29.99	-29.72	-30.01	-19.02	-10.63
	2	3.581 to 3.590	-36.01	-35.58	-35.65	-35.38	-19.02	-16.36
	2	3.890 to 3.720	-40.62	-40.97	-40.18	-39.28	-31.02	-8.26
	3	3.530 to 3.540	-41.26	-41.28	-41.10	-40.99	-31.02	-9.97
	3	3.540 to 3.549	-35.48	-35.44	-34.95	-34.82	-19.02	-15.80
	3	3.549 to 3.550	-30.60	-32.32	-32.81	-31.11	-19.02	-11.58
	3	3.580 to 3.581	-27.56	-27.83	-28.40	-29.15	-19.02	-8.54
	3	3.581 to 3.590	-33.21	-33.44	-33.75	-33.61	-19.02	-14.19
	3	3.890 to 3.720	-38.85	-38.41	-38.77	-38.79	-31.02	-7.39
Middle	0	3.530 to 3.600	-38.52	-38.79	-39.14	-37.70	-31.02	-6.68
	0	3.600 to 3.609	-34.35	-34.96	-34.48	-33.91	-19.02	-14.89
	0	3.609 to 3.610	-27.39	-27.47	-29.44	-29.65	-19.02	-8.37
	0	3.640 to 3.641	-29.73	-27.59	-29.44	-29.77	-19.02	-8.57
	0	3.641 to 3.650	-35.67	-35.63	-35.26	-35.57	-19.02	-16.24
	0	3.650 to 3.720	-39.78	-40.26	-40.01	-39.74	-31.02	-8.72
	1	3.530 to 3.600	-39.49	-38.03	-38.24	-39.14	-31.02	-7.01
	1	3.600 to 3.609	-34.81	-34.68	-34.80	-35.24	-19.02	-15.66
	1	3.609 to 3.610	-26.00	-29.27	-28.62	-28.10	-19.02	-6.98
	1	3.640 to 3.641	-29.25	-30.80	-29.36	-29.28	-19.02	-10.23
	1	3.641 to 3.650	-35.74	-35.05	-35.86	-35.14	-19.02	-16.03
	1	3.650 to 3.720	-39.60	-40.30	-39.72	-39.35	-31.02	-8.33
	2	3.530 to 3.600	-38.27	-39.28	-38.06	-37.85	-31.02	-6.83
	2	3.600 to 3.609	-34.51	-35.50	-35.04	-35.57	-19.02	-15.49
	2	3.609 to 3.610	-28.21	-29.25	-29.89	-28.03	-19.02	-9.01
	2	3.640 to 3.641	-29.07	-29.20	-30.59	-30.24	-19.02	-10.05
	2	3.641 to 3.650	-36.52	-36.26	-35.79	-35.89	-19.02	-16.77
	2	3.650 to 3.720	-40.22	-40.76	-40.37	-39.74	-31.02	-8.72

FCC: A3LRT4401-48A	 MEASUREMENT REPORT (Class II Permissive Change)			Approved by: Technical Manager
Test Report S/N: 8K21101307-R3.A3L	Test Dates: 10/15/2021 – 03/04/2022	EUT Type: RRU(RT4401)	Page 106 of 175	

	3	3.530 to 3.600	-37.62	-37.95	-38.26	-37.52	-31.02	-6.50
	3	3.600 to 3.609	-34.91	-34.46	-34.90	-35.26	-19.02	-15.44
	3	3.609 to 3.610	-27.15	-28.54	-30.12	-24.64	-19.02	-5.62
	3	3.640 to 3.641	-30.78	-30.47	-30.19	-29.78	-19.02	-10.76
	3	3.641 to 3.650	-35.76	-35.90	-34.41	-35.43	-19.02	-15.39
	3	3.650 to 3.720	-39.33	-39.15	-39.31	-38.44	-31.02	-7.42
High	0	3.530 to 3.660	-39.26	-39.44	-39.24	-39.32	-31.02	-8.22
	0	3.660 to 3.669	-35.58	-36.23	-34.63	-35.33	-19.02	-15.61
	0	3.669 to 3.670	-28.32	-28.54	-28.60	-27.50	-19.02	-8.48
	0	3.700 to 3.701	-31.02	-29.48	-32.65	-30.85	-19.02	-10.46
	0	3.701 to 3.710	-37.31	-36.63	-36.23	-36.86	-19.02	-17.21
	0	3.710 to 3.720	-41.53	-41.44	-41.34	-41.17	-31.02	-10.15
	1	3.530 to 3.660	-39.42	-38.83	-38.79	-39.38	-31.02	-7.77
	1	3.660 to 3.669	-35.08	-35.67	-34.67	-35.79	-19.02	-15.65
	1	3.669 to 3.670	-27.05	-26.79	-28.32	-29.12	-19.02	-7.77
	1	3.700 to 3.701	-31.41	-29.97	-32.67	-30.41	-19.02	-10.95
	1	3.701 to 3.710	-36.20	-36.13	-36.36	-36.40	-19.02	-17.11
	1	3.710 to 3.720	-41.34	-41.17	-41.37	-41.47	-31.02	-10.15
	2	3.530 to 3.660	-38.79	-39.07	-38.53	-39.34	-31.02	-7.51
	2	3.660 to 3.669	-34.55	-34.43	-35.17	-34.60	-19.02	-15.41
	2	3.669 to 3.670	-29.28	-26.64	-28.77	-28.72	-19.02	-7.62
	2	3.700 to 3.701	-32.03	-31.23	-31.06	-31.66	-19.02	-12.04
	2	3.701 to 3.710	-36.00	-36.79	-36.42	-36.18	-19.02	-16.98
	2	3.710 to 3.720	-41.25	-41.02	-41.34	-40.96	-31.02	-9.94
	3	3.530 to 3.660	-37.91	-37.82	-37.55	-37.79	-31.02	-6.53
	3	3.660 to 3.669	-35.35	-35.11	-35.96	-34.10	-19.02	-15.08
	3	3.669 to 3.670	-28.53	-27.51	-25.97	-29.14	-19.02	-6.95
	3	3.700 to 3.701	-31.35	-32.12	-31.06	-30.88	-19.02	-11.86
	3	3.701 to 3.710	-36.95	-37.12	-36.42	-36.15	-19.02	-17.13
	3	3.710 to 3.720	-41.82	-41.66	-41.82	-41.79	-31.02	-10.64

Table 8-52. Channel Edge Emission Summary Data (NR_n48_1C_30M)

FCC: A3LRT4401-48A	 MEASUREMENT REPORT (Class II Permissive Change)			Approved by: Technical Manager
Test Report S/N: 8K21101307-R3.A3L	Test Dates: 10/15/2021 – 03/04/2022	EUT Type: RRU(RT4401)		Page 107 of 175

Channel	Port	Measured Range (GHz)	Max. Value (dBm)				Limit (dBm)	Worst Margin(dB)
			QPSK	16QAM	64QAM	256QAM		
Low	0	3.530 to 3.540	-49.87	-49.47	-50.02	-50.27	-31.02	-18.45
	0	3.540 to 3.549	-38.47	-37.60	-38.21	-37.89	-19.02	-18.58
	0	3.549 to 3.550	-23.33	-23.59	-23.11	-21.64	-19.02	-2.62
	0	3.590 to 3.591	-23.22	-21.07	-21.29	-20.93	-19.02	-1.91
	0	3.591 to 3.600	-37.20	-37.69	-36.91	-36.42	-19.02	-17.40
	0	3.600 to 3.720	-39.57	-39.32	-39.23	-39.39	-31.02	-8.21
	1	3.530 to 3.540	-47.48	-48.09	-46.56	-47.62	-31.02	-15.54
	1	3.540 to 3.549	-38.19	-39.23	-37.49	-38.49	-19.02	-18.47
	1	3.549 to 3.550	-21.77	-24.48	-23.31	-23.03	-19.02	-2.75
	1	3.590 to 3.591	-21.54	-20.23	-20.87	-21.42	-19.02	-1.21
	1	3.591 to 3.600	-36.81	-37.44	-36.62	-37.28	-19.02	-17.60
	1	3.600 to 3.720	-39.53	-39.47	-40.33	-40.33	-31.02	-8.45
	2	3.530 to 3.540	-49.84	-49.85	-49.96	-50.19	-31.02	-18.82
	2	3.540 to 3.549	-37.77	-38.28	-38.21	-38.93	-19.02	-18.75
	2	3.549 to 3.550	-22.27	-23.93	-22.77	-23.10	-19.02	-3.25
	2	3.590 to 3.591	-21.84	-20.25	-21.36	-20.54	-19.02	-1.23
	2	3.591 to 3.600	-37.60	-36.85	-37.09	-37.60	-19.02	-17.83
	2	3.600 to 3.720	-39.10	-39.56	-39.96	-39.72	-31.02	-8.08
	3	3.530 to 3.540	-48.78	-48.48	-49.08	-48.52	-31.02	-17.46
	3	3.540 to 3.549	-37.07	-37.23	-37.18	-37.34	-19.02	-18.05
	3	3.549 to 3.550	-22.40	-23.79	-23.10	-23.31	-19.02	-3.38
	3	3.590 to 3.591	-21.70	-21.03	-22.18	-21.04	-19.02	-2.01
	3	3.591 to 3.600	-35.25	-36.20	-35.94	-35.54	-19.02	-16.23
	3	3.600 to 3.720	-37.25	-38.41	-37.91	-37.68	-31.02	-6.23
Middle	0	3.530 to 3.595	-36.89	-37.27	-37.94	-37.08	-31.02	-5.87
	0	3.595 to 3.604	-35.80	-35.81	-36.62	-35.82	-19.02	-16.78
	0	3.604 to 3.605	-22.29	-22.28	-22.31	-21.42	-19.02	-2.40
	0	3.645 to 3.646	-22.52	-21.73	-22.86	-21.97	-19.02	-2.71
	0	3.646 to 3.655	-37.58	-37.79	-37.79	-37.58	-19.02	-18.56
	0	3.655 to 3.720	-40.25	-39.96	-40.20	-39.89	-31.02	-8.87
	1	3.530 to 3.595	-37.41	-39.19	-38.81	-38.38	-31.02	-6.39
	1	3.595 to 3.604	-36.66	-37.17	-37.75	-36.84	-19.02	-17.64
	1	3.604 to 3.605	-21.53	-23.66	-21.65	-21.29	-19.02	-2.27
	1	3.645 to 3.646	-22.60	-22.89	-22.76	-20.37	-19.02	-1.35
	1	3.646 to 3.655	-37.75	-37.95	-37.76	-38.12	-19.02	-18.73
	1	3.655 to 3.720	-40.03	-40.36	-40.53	-40.45	-31.02	-9.01
	2	3.530 to 3.595	-39.31	-39.14	-38.56	-38.90	-31.02	-7.54
	2	3.595 to 3.604	-36.88	-37.33	-36.77	-35.88	-19.02	-16.86
	2	3.604 to 3.605	-21.84	-22.73	-21.47	-21.69	-19.02	-2.45
	2	3.645 to 3.646	-22.06	-22.10	-21.85	-23.40	-19.02	-2.83
	2	3.646 to 3.655	-38.08	-38.00	-37.92	-38.04	-19.02	-18.90
	2	3.655 to 3.720	-40.84	-40.97	-40.63	-40.21	-31.02	-9.19

FCC: A3LRT4401-48A	 MEASUREMENT REPORT (Class II Permissive Change)			Approved by: Technical Manager
Test Report S/N: 8K21101307-R3.A3L	Test Dates: 10/15/2021 – 03/04/2022	EUT Type: RRU(RT4401)	Page 108 of 175	

	3	3.530 to 3.595	-36.76	-37.32	-37.23	-36.74	-31.02	-5.72
	3	3.595 to 3.604	-35.64	-36.57	-35.88	-36.24	-19.02	-16.62
	3	3.604 to 3.605	-22.72	-22.61	-22.11	-21.58	-19.02	-2.56
	3	3.645 to 3.646	-22.95	-22.72	-22.28	-20.80	-19.02	-1.78
	3	3.646 to 3.655	-36.60	-37.15	-37.04	-35.70	-19.02	-16.68
	3	3.655 to 3.720	-38.95	-38.57	-38.89	-38.27	-31.02	-7.25
High	0	3.530 to 3.650	-38.97	-37.57	-37.70	-37.47	-31.02	-6.45
	0	3.650 to 3.659	-37.10	-36.58	-37.09	-37.15	-19.02	-17.56
	0	3.659 to 3.660	-21.43	-21.04	-21.31	-21.52	-19.02	-2.02
	0	3.700 to 3.701	-23.16	-23.70	-23.50	-23.94	-19.02	-4.14
	0	3.701 to 3.710	-38.15	-38.31	-38.07	-38.65	-19.02	-19.05
	0	3.710 to 3.720	-49.56	-48.69	-49.73	-49.60	-31.02	-17.67
	1	3.530 to 3.650	-39.68	-38.15	-38.25	-38.03	-31.02	-7.01
	1	3.650 to 3.659	-37.57	-36.80	-36.96	-37.25	-19.02	-17.78
	1	3.659 to 3.660	-21.52	-20.59	-22.30	-21.84	-19.02	-1.57
	1	3.700 to 3.701	-23.36	-23.59	-23.46	-23.45	-19.02	-4.34
	1	3.701 to 3.710	-38.52	-37.76	-38.47	-38.12	-19.02	-18.74
	1	3.710 to 3.720	-47.71	-48.54	-48.33	-48.47	-31.02	-16.69
	2	3.530 to 3.650	-38.41	-38.32	-38.00	-38.11	-31.02	-6.98
	2	3.650 to 3.659	-36.91	-36.63	-36.94	-36.69	-19.02	-17.61
	2	3.659 to 3.660	-22.16	-20.42	-22.11	-20.94	-19.02	-1.40
	2	3.700 to 3.701	-22.61	-23.45	-23.41	-23.21	-19.02	-3.59
	2	3.701 to 3.710	-38.65	-38.18	-38.22	-38.61	-19.02	-19.16
	2	3.710 to 3.720	-49.01	-48.85	-48.81	-48.85	-31.02	-17.79
	3	3.530 to 3.650	-37.18	-36.76	-36.84	-36.68	-31.02	-5.66
	3	3.650 to 3.659	-36.16	-36.37	-36.42	-36.34	-19.02	-17.14
	3	3.659 to 3.660	-22.18	-20.73	-21.49	-21.43	-19.02	-1.71
	3	3.700 to 3.701	-23.99	-24.24	-21.95	-23.34	-19.02	-2.93
	3	3.701 to 3.710	-37.51	-37.08	-37.59	-36.89	-19.02	-17.87
	3	3.710 to 3.720	-48.52	-48.94	-49.23	-49.21	-31.02	-17.50

Table 8-53. Channel Edge Emission Summary Data (NR_n48_1C_40M)

FCC: A3LRT4401-48A	 MEASUREMENT REPORT (Class II Permissive Change)			Approved by: Technical Manager
Test Report S/N: 8K21101307-R3.A3L	Test Dates: 10/15/2021 – 03/04/2022	EUT Type: RRU(RT4401)		Page 109 of 175

Configuration	Max. Value (dBm)						Limit (dBm)	Worst Margin (dB)
	Measured Range (GHz)	QPSK	Measured Range (GHz)	QPSK	Measured Range (GHz)	QPSK		
		Low		Middle		High		
LTE_2C_5M +5M	3.530 to 3.540	-38.98	3.530 to 3.610	-36.61	3.530 to 3.680	-36.95	-31.02	-5.59
	3.540 to 3.549	-43.49	3.610 to 3.619	-40.88	3.680 to 3.689	-43.83	-29.02	-11.86
	3.549 to 3.550	-32.10	3.619 to 3.620	-28.85	3.689 to 3.690	-30.59	-19.02	-9.83
	3.560 to 3.561	-31.41	3.630 to 3.631	-30.54	3.700 to 3.701	-29.33	-19.02	-10.31
	3.561 to 3.570	-43.17	3.631 to 3.640	-43.55	3.701 to 3.710	-45.35	-29.02	-14.15
	3.570 to 3.720	-40.25	3.640 to 3.720	-37.87	3.710 to 3.720	-47.74	-31.02	-6.85

Table 8-54. Channel Edge Emission Summary Data (LTE_B48_Multi Carrier)

Note: To increase accuracy, the limit for the greater than 10 MHz above and below the assigned channel range was adjusted to -29dBm to correct for a spectrum analyzer RBW of 100kHz versus required RBW of 1MHz [i.e.: -29dBm = -19dBm -10log(100kHz/1MHz)].

Configuration	Max. Value (dBm)						Limit (dBm)	Worst Margin (dB)
	Measured Range (GHz)	QPSK	Measured Range (GHz)	QPSK	Measured Range (GHz)	QPSK		
		Low		Middle		High		
NR_2C_10M +10M	3.530 to 3.540	-51.48	3.530 to 3.605	-39.15	3.530 to 3.670	-39.20	-31.02	-8.13
	3.540 to 3.549	-32.74	3.605 to 3.614	-33.32	3.670 to 3.679	-31.81	-19.02	-12.79
	3.549 to 3.550	-41.93	3.614 to 3.615	-41.27	3.679 to 3.680	-31.97	-19.02	-12.95
	3.570 to 3.571	-35.65	3.635 to 3.636	-40.86	3.700 to 3.701	-42.16	-19.02	-16.63
	3.571 to 3.580	-33.53	3.636 to 3.645	-33.17	3.701 to 3.710	-34.92	-19.02	-14.15
	3.580 to 3.720	-40.44	3.645 to 3.720	-40.35	3.710 to 3.720	-51.15	-31.02	-9.33
NR_2C_10M +20M	3.530 to 3.540	-42.29	3.530 to 3.600	-36.96	3.530 to 3.660	-37.02	-31.02	-5.94
	3.540 to 3.549	-31.63	3.600 to 3.609	-30.31	3.660 to 3.669	-31.45	-19.02	-11.29
	3.549 to 3.550	-34.81	3.609 to 3.610	-33.03	3.669 to 3.670	-29.23	-19.02	-10.21
	3.580 to 3.581	-24.32	3.640 to 3.641	-25.62	3.700 to 3.701	-25.12	-19.02	-5.30
	3.581 to 3.590	-32.53	3.641 to 3.650	-34.20	3.701 to 3.710	-33.89	-19.02	-13.51
	3.590 to 3.720	-37.66	3.650 to 3.720	-38.17	3.710 to 3.720	-42.86	-31.02	-6.64
NR_2C_10M +30M	3.530 to 3.540	-39.78	3.530 to 3.595	-38.07	3.530 to 3.650	-38.83	-31.02	-7.05
	3.540 to 3.549	-30.26	3.595 to 3.604	-31.02	3.650 to 3.659	-30.64	-19.02	-11.24
	3.549 to 3.550	-23.35	3.604 to 3.605	-21.36	3.659 to 3.660	-22.15	-19.02	-2.34
	3.590 to 3.591	-21.83	3.645 to 3.646	-22.43	3.700 to 3.701	-23.95	-19.02	-2.81
	3.591 to 3.600	-33.64	3.646 to 3.655	-33.97	3.701 to 3.710	-36.16	-19.02	-14.62
	3.600 to 3.720	-38.68	3.655 to 3.720	-37.76	3.710 to 3.720	-41.50	-31.02	-6.74
NR_2C_20M +20M	3.530 to 3.540	-49.54	3.530 to 3.595	-36.60	3.530 to 3.650	-38.82	-31.02	-5.58
	3.540 to 3.549	-37.25	3.595 to 3.604	-36.21	3.650 to 3.659	-36.55	-19.02	-17.19
	3.549 to 3.550	-21.96	3.604 to 3.605	-20.93	3.659 to 3.660	-20.73	-19.02	-1.71
	3.590 to 3.591	-20.78	3.645 to 3.646	-21.07	3.700 to 3.701	-21.68	-19.02	-1.76
	3.591 to 3.600	-35.72	3.646 to 3.655	-37.32	3.701 to 3.710	-37.52	-19.02	-16.70
	3.600 to 3.720	-38.72	3.654 to 3.720	-40.06	3.710 to 3.720	-50.89	-31.02	-7.70
NR_2C_10M +40M	3.530 to 3.540	-38.84	3.530 to 3.590	-35.15	3.530 to 3.640	-37.13	-31.02	-4.13
	3.540 to 3.549	-29.97	3.590 to 3.599	-30.21	3.640 to 3.649	-30.29	-19.02	-10.95

FCC: A3LRT4401-48A	 MEASUREMENT REPORT (Class II Permissive Change)			Approved by: Technical Manager
Test Report S/N: BK21101307-R3.A3L	Test Dates: 10/15/2021 – 03/04/2022	EUT Type: RRU(RT4401)	Page 110 of 175	

	3.549 to 3.550	-36.67	3.599 to 3.600	-35.85	3.649 to 3.650	-35.51	-19.02	-16.49
	3.600 to 3.601	-34.44	3.650 to 3.651	-35.03	3.700 to 3.701	-35.86	-19.02	-15.42
	3.601 to 3.610	-33.56	3.651 to 3.656	-33.16	3.701 to 3.710	-34.19	-19.02	-14.14
	3.610 to 3.720	-37.19	3.656 to 3.720	-37.49	3.710 to 3.720	-47.68	-31.02	-6.17
NR_2C_20M +40M	3.530 to 3.540	-38.90	3.530 to 3.585	-35.19	3.530 to 3.630	-36.07	-31.02	-4.17
	3.540 to 3.549	-32.56	3.585 to 3.594	-33.65	3.630 to 3.639	-32.88	-19.02	-13.54
	3.549 to 3.550	-35.94	3.594 to 3.595	-34.19	3.639 to 3.640	-33.70	-19.02	-14.68
	3.610 to 3.611	-34.08	3.655 to 3.656	-33.18	3.700 to 3.701	-33.87	-19.02	-14.16
	3.611 to 3.620	-32.49	3.656 to 3.661	-32.91	3.701 to 3.710	-34.31	-19.02	-13.47
	3.620 to 3.720	-37.03	3.661 to 3.720	-36.90	3.710 to 3.720	-47.93	-31.02	-5.88
NR_2C_30M +40M	3.530 to 3.540	-38.63	3.530 to 3.580	-34.98	3.530 to 3.620	-36.25	-31.02	-3.96
	3.540 to 3.549	-33.96	3.580 to 3.589	-34.05	3.620 to 3.629	-34.58	-19.02	-14.94
	3.549 to 3.550	-35.77	3.589 to 3.590	-34.79	3.629 to 3.630	-34.05	-19.02	-15.03
	3.620 to 3.621	-33.84	3.660 to 3.661	-33.42	3.700 to 3.701	-34.42	-19.02	-14.40
	3.621 to 3.630	-33.55	3.661 to 3.670	-31.96	3.701 to 3.710	-33.53	-19.02	-12.94
	3.630 to 3.720	-36.96	3.670 to 3.720	-36.85	3.710 to 3.720	-47.19	-31.02	-5.83
NR_2C_40M +40M	3.530 to 3.540	-41.42	3.530 to 3.575	-35.51	3.530 to 3.600	-36.17	-31.02	-4.49
	3.540 to 3.549	-23.26	3.575 to 3.584	-32.86	3.600 to 3.619	-32.56	-19.02	-4.24
	3.549 to 3.550	-34.37	3.584 to 3.585	-33.83	3.619 to 3.620	-32.82	-19.02	-13.80
	3.630 to 3.631	-24.62	3.665 to 3.666	-26.23	3.700 to 3.701	-26.47	-19.02	-5.60
	3.631 to 3.640	-24.96	3.666 to 3.675	-25.30	3.701 to 3.710	-24.81	-19.02	-5.79
	3.640 to 3.720	-32.69	3.675 to 3.720	-32.63	3.710 to 3.720	-41.33	-31.02	-1.61

Table 8-55. Channel Edge Emission Summary Data (NR_n48 Multi Carrier)

FCC: A3LRT4401-48A	 MEASUREMENT REPORT (Class II Permissive Change)			Approved by: Technical Manager
Test Report S/N: 8K21101307-R3.A3L	Test Dates: 10/15/2021 – 03/04/2022	EUT Type: RRU(RT4401)		Page 111 of 175

Configuration	Max. Value (dBm)						Limit (dBm)	Worst Margin (dB)
	Measured Range (GHz)	QPSK	Measured Range (GHz)	QPSK	Measured Range (GHz)	QPSK		
		Low		Middle		High		
LTE_1C_10M+NR_1C_10M	3.530 to 3.540	-51.04	3.530 to 3.605	-39.34	3.530 to 3.670	-37.52	-31.02	-6.50
	3.540 to 3.549	-23.86	3.605 to 3.614	-23.40	3.670 to 3.679	-23.62	-19.02	-4.38
	3.549 to 3.550	-33.28	3.614 to 3.615	-32.21	3.679 to 3.680	-31.84	-19.02	-12.82
	3.570 to 3.571	-32.60	3.635 to 3.636	-39.22	3.700 to 3.701	-40.50	-19.02	-13.58
	3.571 to 3.580	-32.78	3.636 to 3.645	-32.92	3.701 to 3.710	-35.05	-19.02	-13.76
	3.580 to 3.720	-39.92	3.645 to 3.720	-39.67	3.710 to 3.720	-51.30	-31.02	-8.65
LTE_1C_20M + NR_1C_40M	3.530 to 3.540	-48.17	3.530 to 3.585	-36.95	3.530 to 3.630	-37.55	-31.02	-5.93
	3.540 to 3.549	-37.07	3.585 to 3.594	-37.38	3.630 to 3.639	-37.76	-19.02	-18.05
	3.549 to 3.550	-37.42	3.594 to 3.595	-37.35	3.639 to 3.640	-37.19	-19.02	-18.17
	3.610 to 3.611	-34.83	3.655 to 3.656	-35.82	3.700 to 3.701	-37.20	-19.02	-15.81
	3.611 to 3.620	-35.62	3.656 to 3.661	-36.39	3.701 to 3.710	-38.11	-19.02	-16.60
	3.620 to 3.720	-37.36	3.661 to 3.720	-38.85	3.710 to 3.720	-51.37	-31.02	-6.34
LTE_2C_10M+10M+NR_1C_10M	3.530 to 3.540	-51.37	3.530 to 3.600	-38.73	3.530 to 3.660	-38.82	-31.02	-7.71
	3.540 to 3.549	-23.70	3.600 to 3.609	-24.17	3.660 to 3.669	-24.32	-19.02	-4.68
	3.549 to 3.550	-26.69	3.609 to 3.610	-24.28	3.669 to 3.670	-26.13	-19.02	-5.26
	3.580 to 3.581	-27.88	3.640 to 3.641	-33.28	3.700 to 3.701	-34.59	-19.02	-8.86
	3.581 to 3.590	-32.57	3.641 to 3.650	-32.84	3.701 to 3.710	-34.21	-19.02	-13.55
	3.890 to 3.720	-39.44	3.650 to 3.720	-39.14	3.710 to 3.720	-52.84	-31.02	-8.12
LTE_2C_20M+20M+NR_1C_40M	3.530 to 3.540	-46.37	3.530 to 3.575	-36.51	3.530 to 3.600	-36.41	-31.02	-5.39
	3.540 to 3.549	-36.59	3.575 to 3.584	-36.21	3.600 to 3.619	-37.01	-19.02	-17.19
	3.549 to 3.550	-35.78	3.584 to 3.585	-35.56	3.619 to 3.620	-36.71	-19.02	-16.54
	3.630 to 3.631	-34.33	3.665 to 3.666	-35.52	3.700 to 3.701	-36.21	-19.02	-15.31
	3.631 to 3.640	-35.83	3.666 to 3.675	-36.99	3.701 to 3.710	-38.03	-19.02	-16.81
	3.640 to 3.720	-35.89	3.675 to 3.720	-37.89	3.710 to 3.720	-50.64	-31.02	-4.87

Table 8-56. Channel Edge Emission Summary Data (LTE_B48 + NR_n48_Multi-RAT)

FCC: A3LRT4401-48A	 MEASUREMENT REPORT (Class II Permissive Change)			Approved by: Technical Manager
Test Report S/N: 8K21101307-R3.A3L	Test Dates: 10/15/2021 – 03/04/2022	EUT Type: RRU(RT4401)	Page 112 of 175	

Configuration	Max. Value (dBm)		Limit (dBm)	Margin (dB)
	Measured Range (GHz)	QPSK		
NR_2C_10M +10M Non-Contiguous	3.530 to 3.540	-51.27	-31.02	-20.25
	3.540 to 3.549	-32.43	-19.02	-13.41
	3.549 to 3.550	-29.76	-19.02	-10.74
	3.560 to 3.561	-44.22	-19.02	-25.20
	3.561 to 3.570	-33.84	-19.02	-14.82
	3.570 to 3.680	-37.83	-31.02	-6.81
	3.680 to 3.689	-32.03	-19.02	-13.01
	3.689 to 3.690	-30.84	-19.02	-11.82
	3.700 to 3.701	-30.27	-19.02	-11.25
	3.701 to 3.710	-33.81	-19.02	-14.79
	3.710 to 3.720	-51.03	-31.02	-20.01
NR_2C_10M +20M Non-Contiguous	3.530 to 3.540	-42.43	-31.02	-11.41
	3.540 to 3.549	-31.00	-19.02	-11.98
	3.549 to 3.550	-41.74	-19.02	-22.72
	3.560 to 3.561	-41.27	-19.02	-22.25
	3.561 to 3.570	-30.89	-19.02	-11.87
	3.570 to 3.670	-34.73	-31.02	-3.71
	3.670 to 3.679	-32.37	-19.02	-13.35
	3.679 to 3.680	-29.76	-19.02	-10.74
	3.700 to 3.701	-32.24	-19.02	-13.22
	3.701 to 3.710	-33.78	-19.02	-14.76
	3.710 to 3.720	-42.81	-31.02	-11.79
NR_2C_10M +30M Non-Contiguous	3.530 to 3.540	-39.16	-31.02	-8.14
	3.540 to 3.549	-31.34	-19.02	-12.32
	3.549 to 3.550	-43.19	-19.02	-24.17
	3.560 to 3.561	-43.40	-19.02	-24.38
	3.561 to 3.570	-31.62	-19.02	-12.60
	3.570 to 3.660	-36.42	-31.02	-5.40
	3.660 to 3.669	-34.89	-19.02	-15.87
	3.669 to 3.670	-28.96	-19.02	-9.94
	3.700 to 3.701	-33.38	-19.02	-14.36
	3.701 to 3.710	-35.58	-19.02	-16.56
	3.710 to 3.720	-41.53	-31.02	-10.51
NR_2C_20M +20M Non-Contiguous	3.530 to 3.540	-49.43	-31.02	-18.41
	3.540 to 3.549	-35.37	-19.02	-16.35
	3.549 to 3.550	-33.42	-19.02	-14.40
	3.570 to 3.571	-29.25	-19.02	-10.23
	3.571 to 3.580	-34.83	-19.02	-15.81
	3.580 to 3.670	-36.27	-31.02	-5.25
	3.670 to 3.679	-35.95	-19.02	-16.93
	3.679 to 3.680	-31.11	-19.02	-12.09

FCC: A3LRT4401-48A	 MEASUREMENT REPORT (Class II Permissive Change)			Approved by: Technical Manager
Test Report S/N: 8K21101307-R3.A3L	Test Dates: 10/15/2021 – 03/04/2022	EUT Type: RRU(RT4401)	Page 113 of 175	

	3.700 to 3.701	-31.89	-19.02	-12.87
	3.701 to 3.710	-37.28	-19.02	-18.26
	3.710 to 3.720	-49.11	-31.02	-18.09
NR_2C_40M +40M Non- Contiguous	3.530 to 3.540	-43.18	-31.02	-12.16
	3.540 to 3.549	-32.45	-19.02	-13.43
	3.549 to 3.550	-34.60	-19.02	-15.58
	3.590 to 3.591	-33.95	-19.02	-14.93
	3.591 to 3.600	-33.47	-19.02	-14.45
	3.600 to 3.650	-32.17	-31.02	-1.15
	3.650 to 3.659	-24.86	-19.02	-5.84
	3.659 to 3.660	-25.49	-19.02	-6.47
	3.700 to 3.701	-26.80	-19.02	-7.78
	3.701 to 3.710	-25.40	-19.02	-6.38
	3.710 to 3.720	-41.06	-31.02	-10.04

Table 8-57. Channel Edge Emission Summary Data (NR_n48_2C_Non-Contiguous)

FCC: A3LRT4401-48A	 MEASUREMENT REPORT (Class II Permissive Change)			Approved by: Technical Manager
Test Report S/N: 8K21101307-R3.A3L	Test Dates: 10/15/2021 – 03/04/2022	EUT Type: RRU(RT4401)	Page 114 of 175	

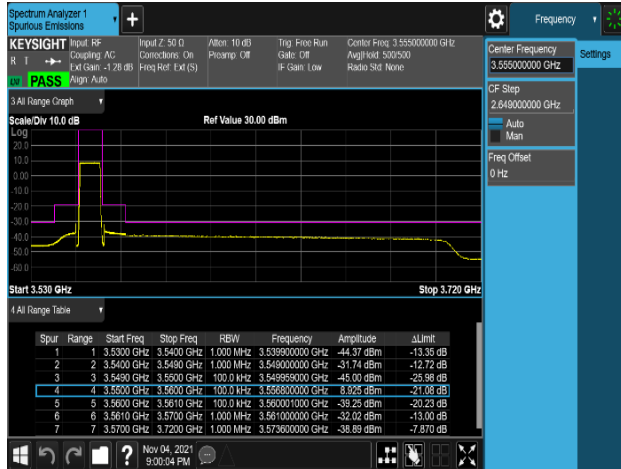
Configuration	Max. Value (dBm)		Limit (dBm)	Margin (dB)
	Measured Range (GHz)	QPSK		
LTE_1C_10M+NR_1C_10M Non-Contiguous	3.530 to 3.540	-47.14	-31.02	-16.12
	3.540 to 3.549	-24.05	-19.02	-5.03
	3.549 to 3.550	-40.73	-19.02	-21.71
	3.560 to 3.561	-40.39	-19.02	-21.37
	3.561 to 3.570	-24.19	-19.02	-5.17
	3.570 to 3.680	-39.86	-31.02	-8.84
	3.680 to 3.689	-31.97	-19.02	-12.95
	3.689 to 3.690	-40.01	-19.02	-20.99
	3.700 to 3.701	-41.95	-19.02	-22.93
	3.701 to 3.710	-33.65	-19.02	-14.63
	3.710 to 3.720	-53.45	-31.02	-22.43
LTE_1C_20M+NR_1C_40M Non-Contiguous	3.530 to 3.540	-46.64	-31.02	-15.62
	3.540 to 3.549	-35.82	-19.02	-16.80
	3.549 to 3.550	-38.92	-19.02	-19.90
	3.570 to 3.571	-39.19	-19.02	-20.17
	3.571 to 3.580	-35.85	-19.02	-16.83
	3.580 to 3.650	-36.03	-31.02	-5.01
	3.650 to 3.659	-35.83	-19.02	-16.81
	3.659 to 3.660	-22.71	-19.02	-3.69
	3.700 to 3.701	-22.69	-19.02	-3.67
	3.701 to 3.710	-37.24	-19.02	-18.22
	3.710 to 3.720	-50.92	-31.02	-19.90
LTE_2C_10M+10M+NR_1C_10M Non-Contiguous	3.530 to 3.540	-50.36	-31.02	-19.34
	3.540 to 3.549	-23.12	-19.02	-4.10
	3.549 to 3.550	-39.29	-19.02	-20.27
	3.560 to 3.561	-39.56	-19.02	-20.54
	3.561 to 3.570	-24.14	-19.02	-5.12
	3.570 to 3.610	-38.90	-19.02	-19.88
	3.610 to 3.619	-24.20	-19.02	-5.18
	3.619 to 3.620	-40.50	-19.02	-21.48
	3.630 to 3.631	-37.98	-19.02	-18.96
	3.631. to 3.640	-23.09	-19.02	-4.07
	3.640 to 3.680	-39.55	-19.02	-20.53
	3.680 to 3.689	-31.69	-19.02	-12.67
	3.689 to 3.690	-40.74	-19.02	-21.72
	3.700 to 3.701	-41.35	-19.02	-22.33
	3.701. to 3.710	-33.39	-19.02	-14.37
	3.710 to 3.720	-52.38	-19.02	-33.36
LTE_2C_	3.530 to 3.540	-46.99	-31.02	-15.97
	3.540 to 3.549	-35.73	-19.02	-16.71

FCC: A3LRT4401-48A	 MEASUREMENT REPORT (Class II Permissive Change)			Approved by: Technical Manager
Test Report S/N: 8K21101307-R3.A3L	Test Dates: 10/15/2021 – 03/04/2022	EUT Type: RRU(RT4401)	Page 115 of 175	

20M+20M+ NR_1C_40M Non- Contiguous	3.549 to 3.550	-38.34	-19.02	-19.32
	3.570 to 3.571	-39.34	-19.02	-20.32
	3.571 to 3.580	-36.11	-19.02	-17.09
	3.580 to 3.595	-34.39	-19.02	-15.37
	3.595 to 3.640	-34.98	-19.02	-15.96
	3.640 to 3.605	-38.79	-19.02	-19.77
	3.625 to 3.626	-37.56	-19.02	-18.54
	3.626 to 3.635	-34.84	-19.02	-15.82
	3.635 to 3.650	-34.34	-19.02	-15.32
	3.650 to 3.659	-36.02	-19.02	-17.00
	3.659 to 3.660	-22.68	-19.02	-3.66
	3.700 to 3.701	-22.61	-19.02	-3.59
	3.701 to 3.720	-36.97	-19.02	-17.95
	3.710 to 3.540	-49.66	-19.02	-30.64

Table 8-58. Channel Edge Emission Summary Data (Multi-RAT_n48_2C_Non-Contiguous)

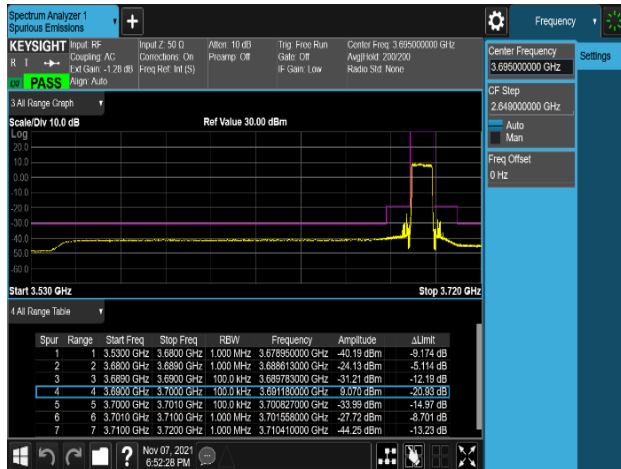
FCC: A3LRT4401-48A	 MEASUREMENT REPORT (Class II Permissive Change)			Approved by: Technical Manager
Test Report S/N: 8K21101307-R3.A3L	Test Dates: 10/15/2021 – 03/04/2022	EUT Type: RRU(RT4401)	Page 116 of 175	



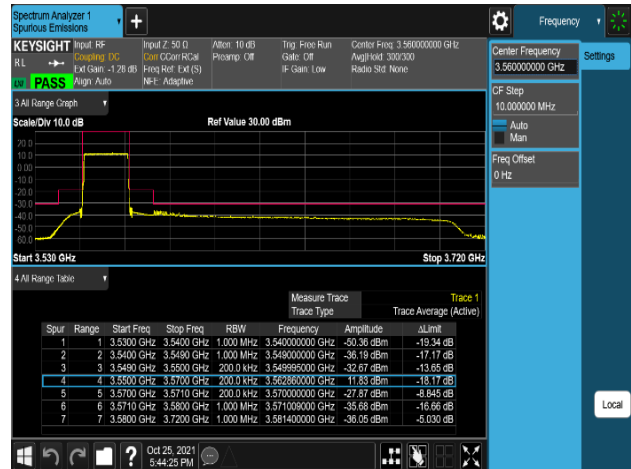
Plot 8-213. Channel Edge Emission Plot
(NR_n48_1C_10M_QPSK – Low Channel, Port 3)



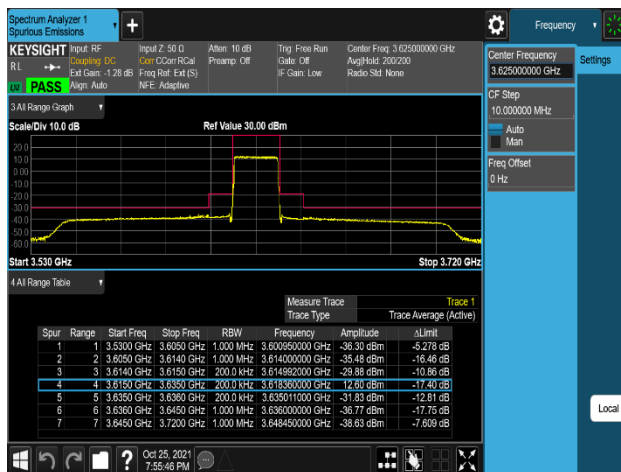
Plot 8-214. Channel Edge Emission Plot
(NR_n48_1C_10M_256QAM – Mid Channel, Port 0)



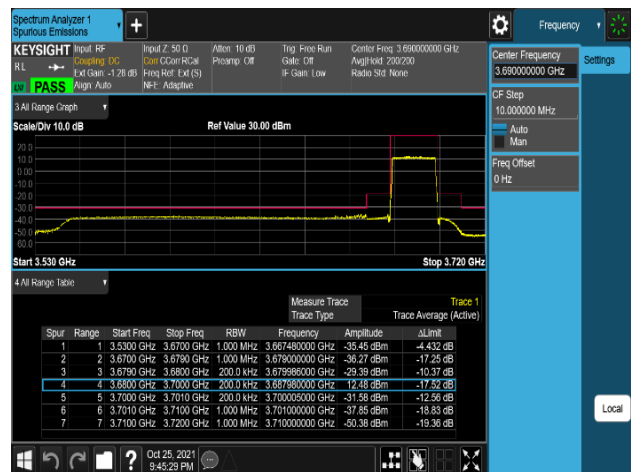
Plot 8-215. Channel Edge Emission Plot
(NR_n48_1C_10M_64QAM – High Channel, Port 2)



Plot 8-216. Channel Edge Emission Plot
(NR_n48_1C_20M_QPSK – Low Channel, Port 0)

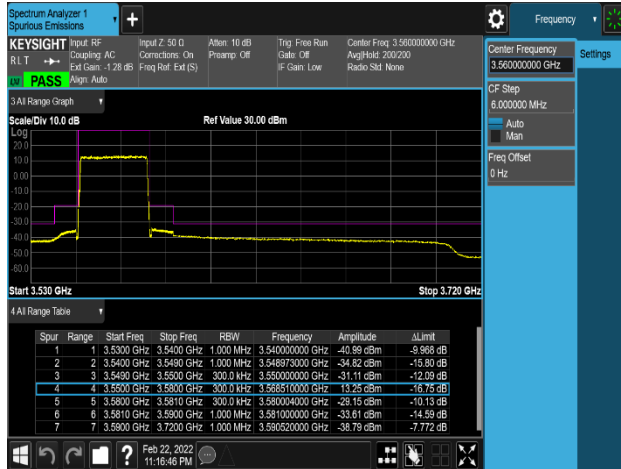


Plot 8-217. Channel Edge Emission Plot
(NR_n48_1C_20M_64QAM – Mid Channel, Port 3)

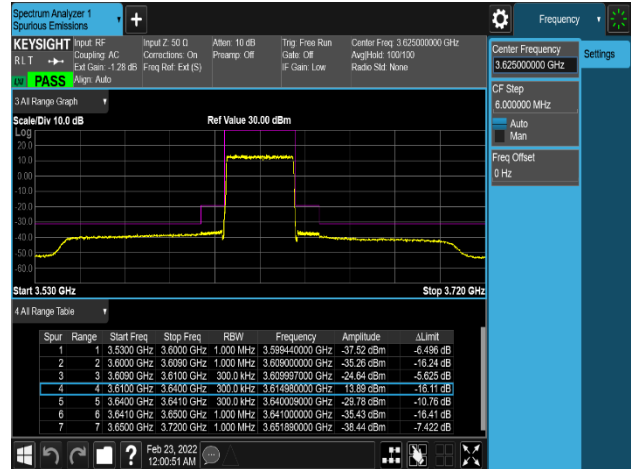


Plot 8-218. Channel Edge Emission Plot
(NR_n48_1C_20M_64QAM – High Channel, Port 3)

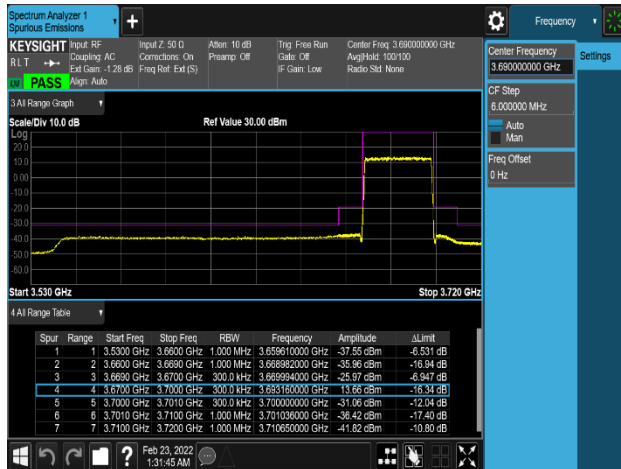
FCC: A3LRT4401-48A	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (Class II Permissive Change)	SAMSUNG	Approved by: Technical Manager
Test Report S/N: 8K21101307-R3.A3L	Test Dates: 10/15/2021 – 03/04/2022	EUT Type: RRU(RT4401)		Page 117 of 175



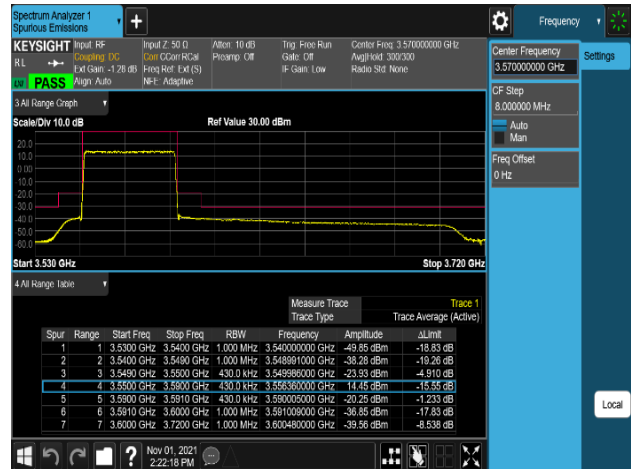
Plot 8-219. Channel Edge Emission Plot
(NR_n48_1C_30M_256QAM – Low Channel, Port 3)



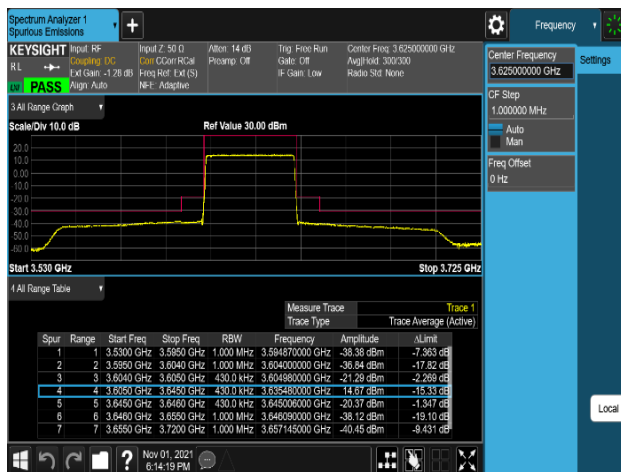
Plot 8-220. Channel Edge Emission Plot
(NR_n48_1C_30M_256QAM – Mid Channel, Port 3)



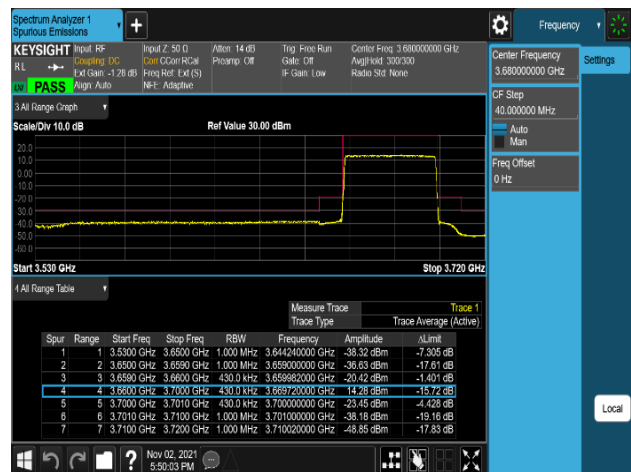
Plot 8-221. Channel Edge Emission Plot
(NR_n48_1C_30M_64QAM – High Channel, Port 3)



Plot 8-222. Channel Edge Emission Plot
(NR_n48_1C_40M_16QAM – Low Channel, Port 2)

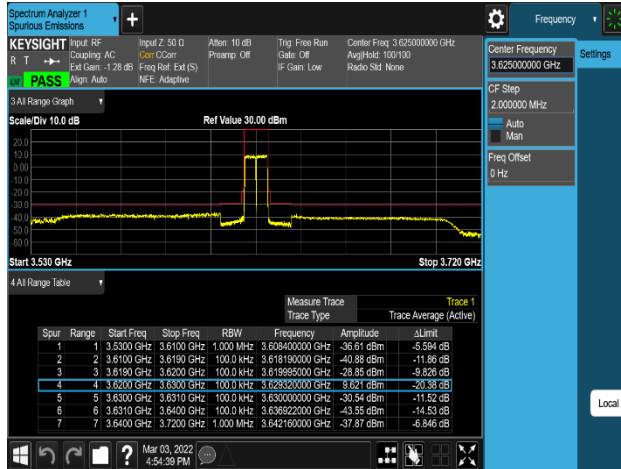


Plot 8-223. Channel Edge Emission Plot
(NR_n48_1C_40M_256QAM – Mid Channel, Port 1)

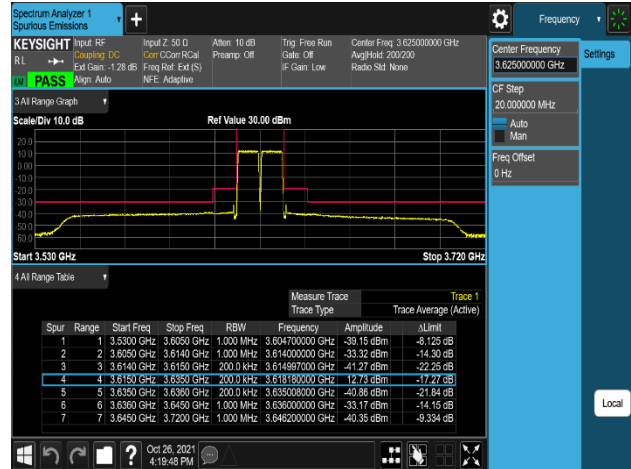


Plot 8-224. Channel Edge Emission Plot
(NR_n48_1C_40M_16QAM – High Channel, Port 2)

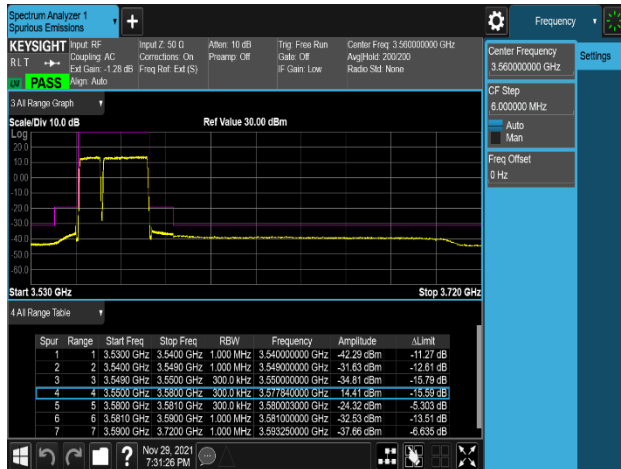
FCC: A3LRT4401-48A		MEASUREMENT REPORT (Class II Permissive Change)		 Approved by: Technical Manager
Test Report S/N: BK21101307-R3.A3L	Test Dates: 10/15/2021 – 03/04/2022	EUT Type: RRU(RT4401)		Page 118 of 175



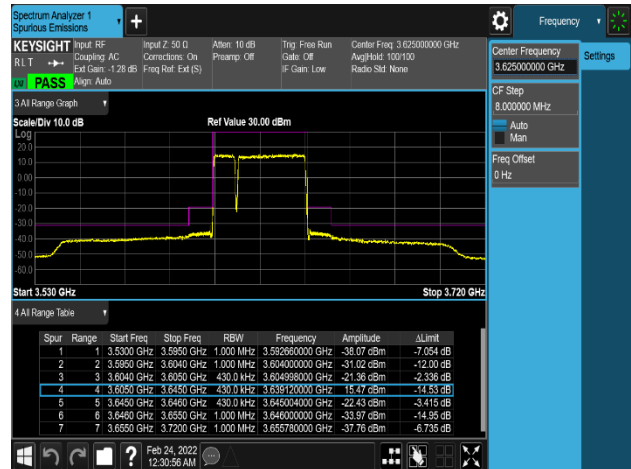
Plot 8-225. Channel Edge Emission Plot
(LTE_B48_2C_5M+5M_QPSK – Mid Channel, Port 0)



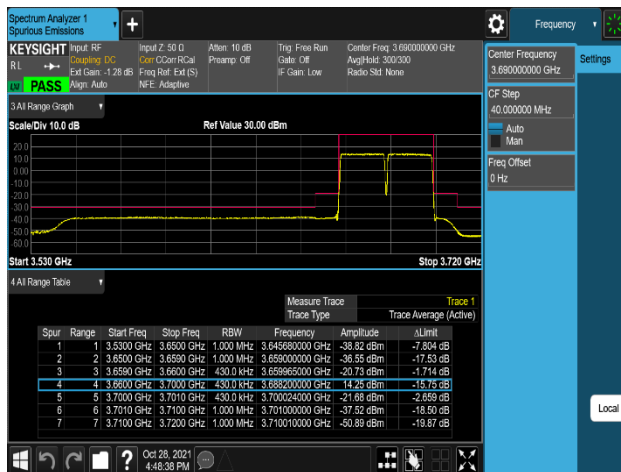
Plot 8-226. Channel Edge Emission Plot
(NR_n48_2C_10M+10M_QPSK – Mid Channel, Port 0)



Plot 8-227. Channel Edge Emission Plot
(NR_n48_2C_10M+20M_QPSK – Low Channel, Port 0)

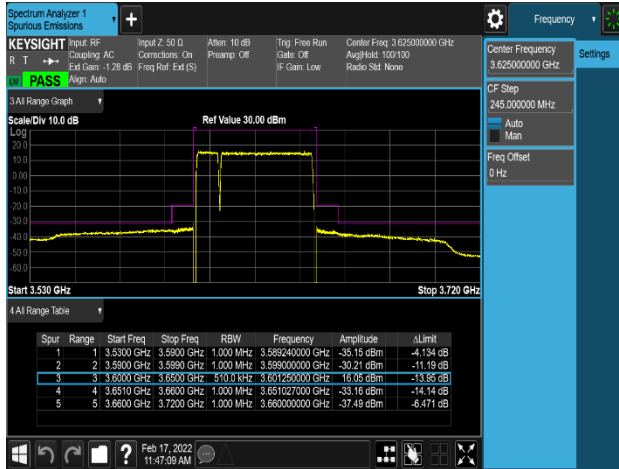


Plot 8-228. Channel Edge Emission Plot
(NR_n48_2C_10M+30M_QPSK – Mid Channel, Port 0)

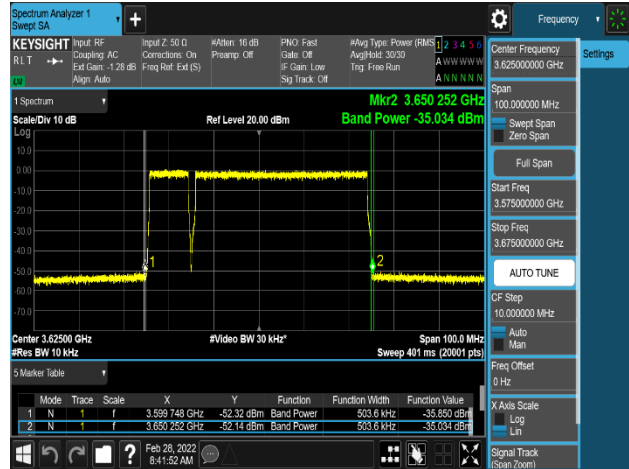


Plot 8-229. Channel Edge Emission Plot
(NR_n48_2C_20M+20M_QPSK – High Channel, Port 0)

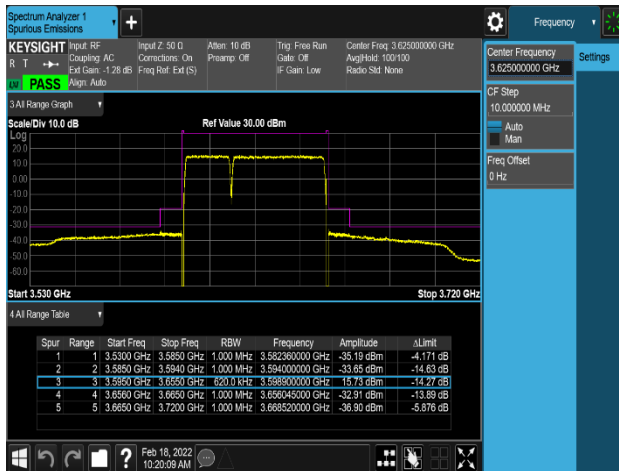
FCC: A3LRT4401-48A		MEASUREMENT REPORT (Class II Permissive Change)		Approved by: Technical Manager
Test Report S/N: BK21101307-R3.A3L	Test Dates: 10/15/2021 – 03/04/2022	EUT Type: RRU(RT4401)		Page 119 of 175



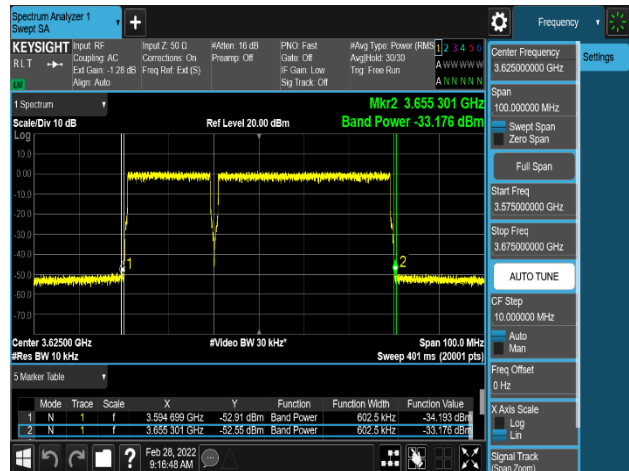
Plot 8-230. Channel Edge Emission Plot
(NR_n48_2C_10M+40M_QPSK – Mid Channel, Port 0)



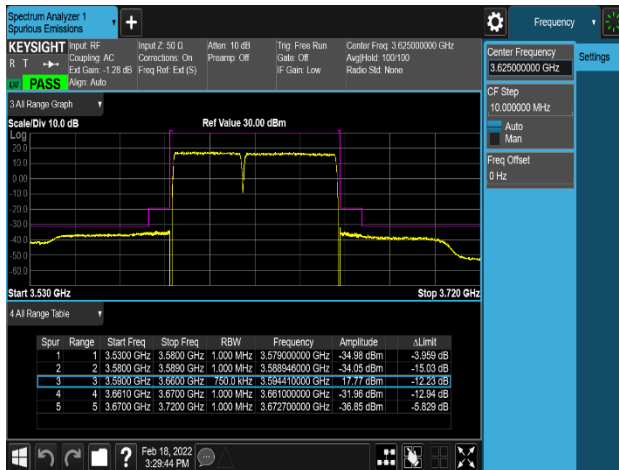
Plot 8-231. Channel Edge Emission Band Power integration method Plot
(NR_n48_2C_10M+40M_QPSK – Mid Channel, Port 0)



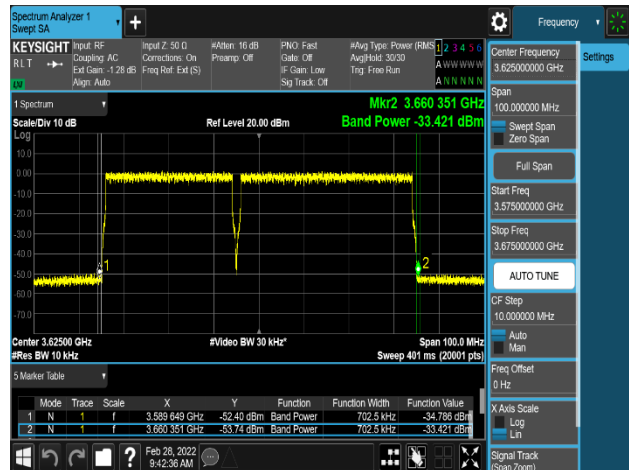
Plot 8-232. Channel Edge Emission Plot
(NR_n48_2C_20M+40M_QPSK – Mid Channel, Port 0)



Plot 8-233. Channel Edge Emission Band Power integration method Plot
(NR_n48_2C_20M+40M_QPSK – Mid Channel, Port 0)



Plot 8-234. Channel Edge Emission Plot
(NR_n48_2C_30M+40M_QPSK – Mid Channel, Port 0)



Plot 8-235. Channel Edge Emission Band Power integration method Plot
(NR_n48_2C_30M+40M_QPSK – Mid Channel, Port 0)

FCC: A3LRT4401-48A	MEASUREMENT REPORT (Class II Permissive Change)			Approved by: Technical Manager
Test Report S/N: 8K21101307-R3.A3L	Test Dates: 10/15/2021 – 03/04/2022	EUT Type: RRU(RT4401)	Page 120 of 175	