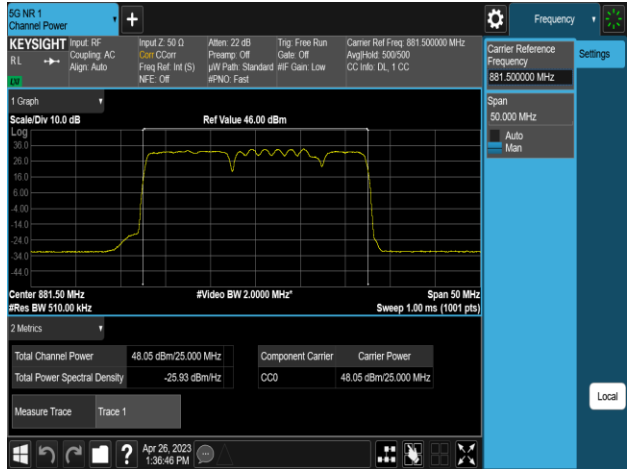
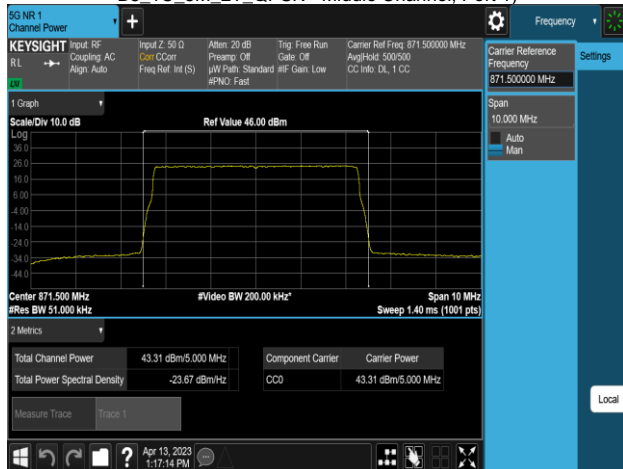


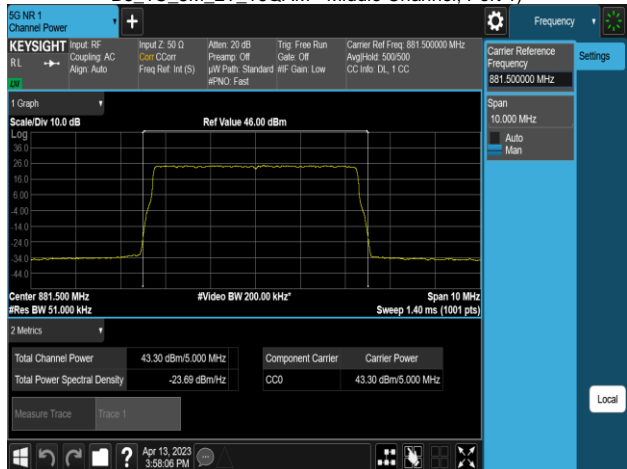
Plot 8-129. Conducted Average Output Power Plot  
(MSR 3C\_DSS B(n)5\_1C\_10M+NR n5\_1C\_10M+LTE  
B5\_1C\_5M\_2T\_QPSK - Middle Channel, Port 1)



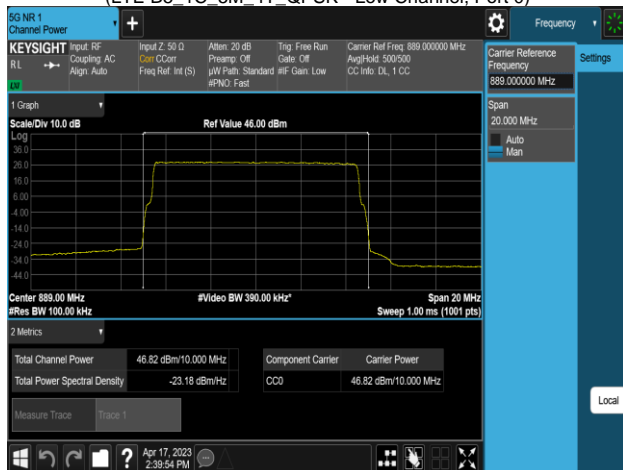
Plot 8-130. Conducted Average Output Power Plot  
(MSR 3C\_DSS B(n)5\_1C\_10M+NR n5\_1C\_10M+LTE  
B5\_1C\_5M\_2T\_16QAM - Middle Channel, Port 1)



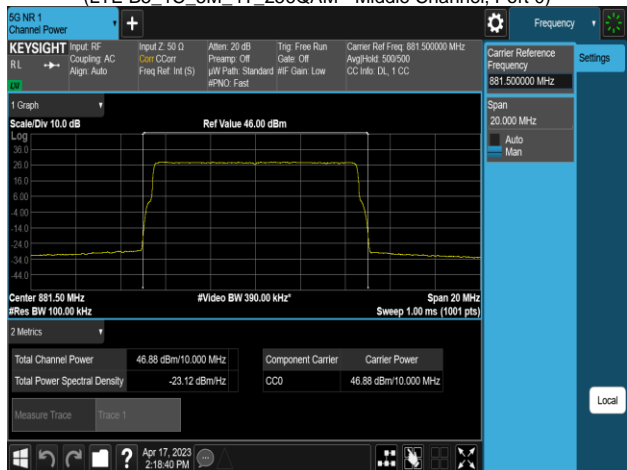
Plot 8-131. Conducted Average Output Power Plot  
(LTE B5\_1C\_5M\_4T\_QPSK - Low Channel, Port 0)



Plot 8-132. Conducted Average Output Power Plot  
(LTE B5\_1C\_5M\_4T\_256QAM - Middle Channel, Port 0)

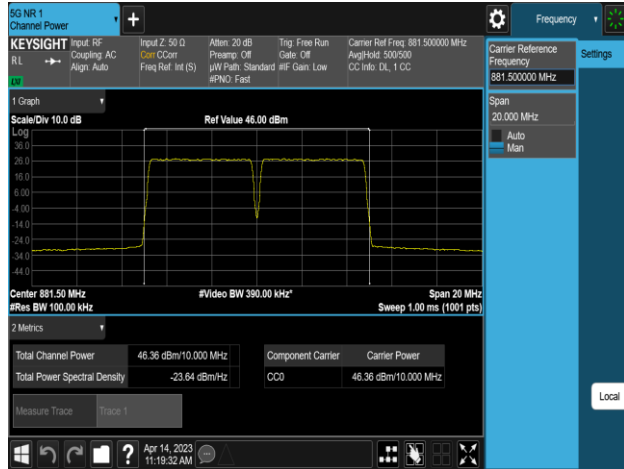


Plot 8-133. Conducted Average Output Power Plot  
(LTE B5\_1C\_10M\_4T\_QPSK - High Channel, Port 0)

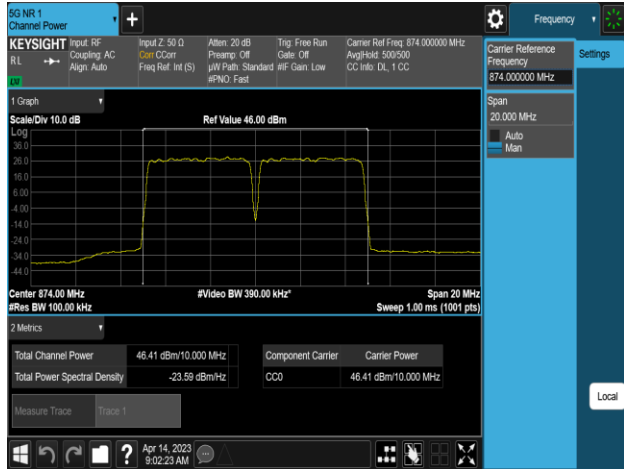


Plot 8-134. Conducted Average Output Power Plot  
(LTE B5\_1C\_10M\_4T\_256QAM - Middle Channel, Port 0)

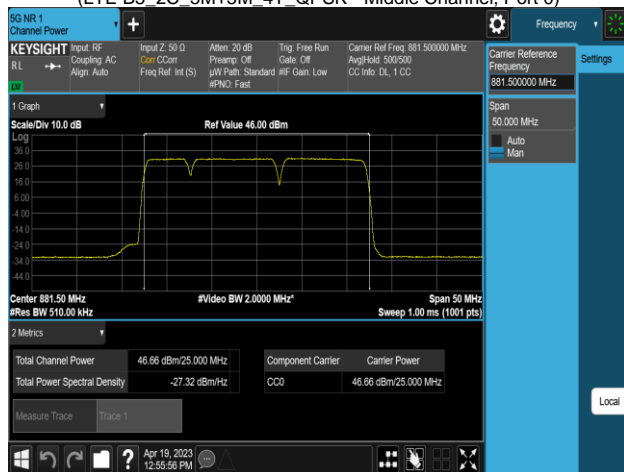
FCC ID: A3LRF4461D-13A		<b>MEASUREMENT REPORT (CERTIFICATION)</b>		<b>Approved by:</b> Technical Manager
<b>Test Report S/N:</b> 8K23073101-00.A3L	<b>Test Dates:</b> 04/12/2023 - 08/03/2023	<b>EUT Type:</b> RRU(RF4461d)		Page 103 of 404



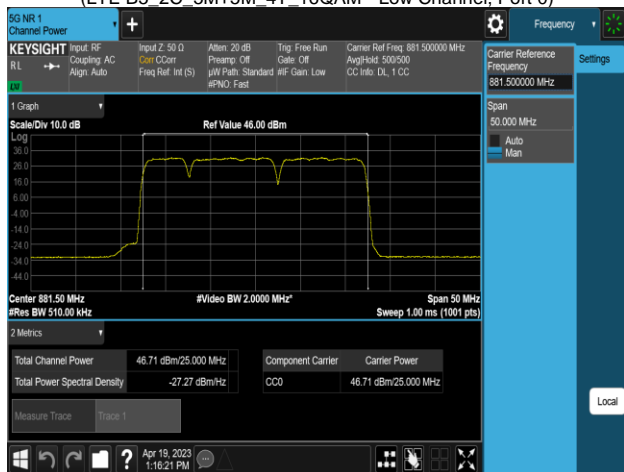
Plot 8-135. Conducted Average Output Power Plot  
(LTE B5\_2C\_5M+5M\_4T\_QPSK - Middle Channel, Port 0)



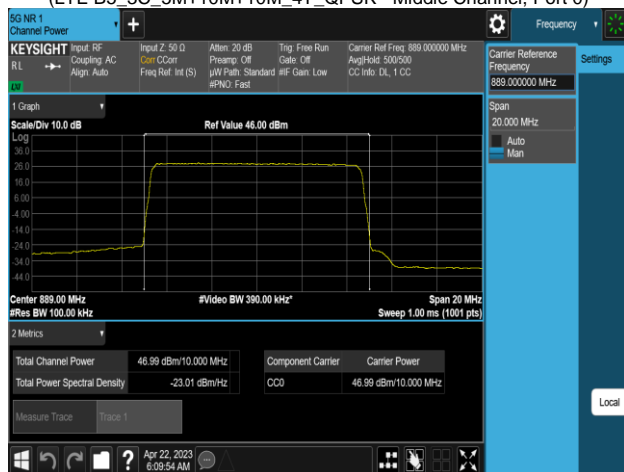
Plot 8-136. Conducted Average Output Power Plot  
(LTE B5\_2C\_5M+5M\_4T\_16QAM - Low Channel, Port 0)



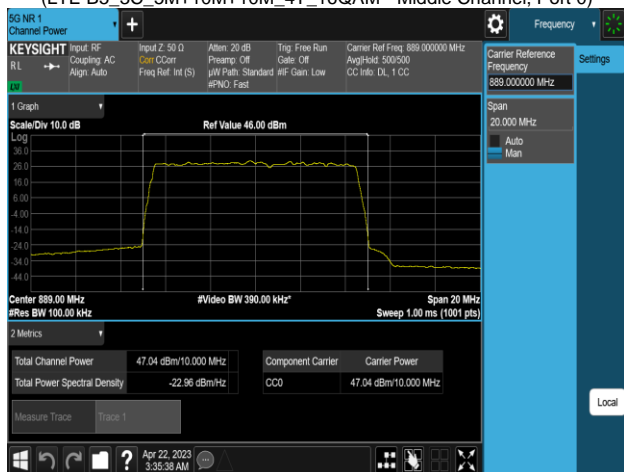
Plot 8-137. Conducted Average Output Power Plot  
(LTE B5\_3C\_5M+10M+10M\_4T\_QPSK - Middle Channel, Port 0)



Plot 8-138. Conducted Average Output Power Plot  
(LTE B5\_3C\_5M+10M+10M\_4T\_16QAM - Middle Channel, Port 0)

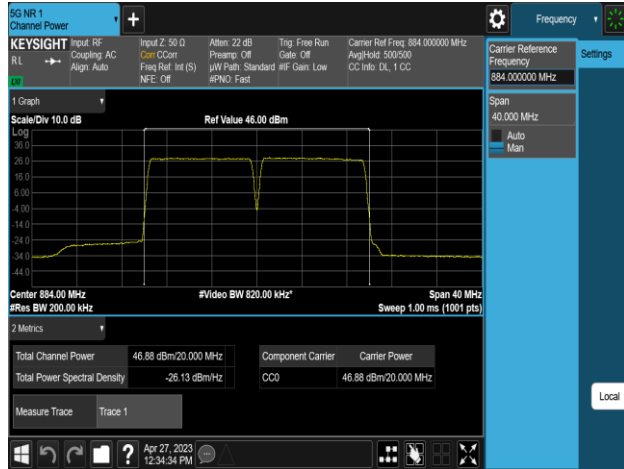


Plot 8-139. Conducted Average Output Power Plot  
(DSS\_B(n)\_10M(4:6 Ratio)\_1C\_4T\_QPSK - Low Channel, Port 0)

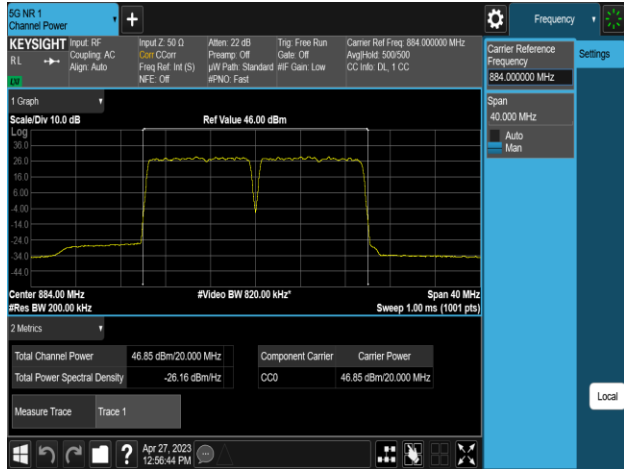


Plot 8-140. Conducted Average Output Power Plot  
(DSS\_B(n)\_10M(9:1 Ratio)\_1C\_4T\_QPSK - High Channel, Port 0)

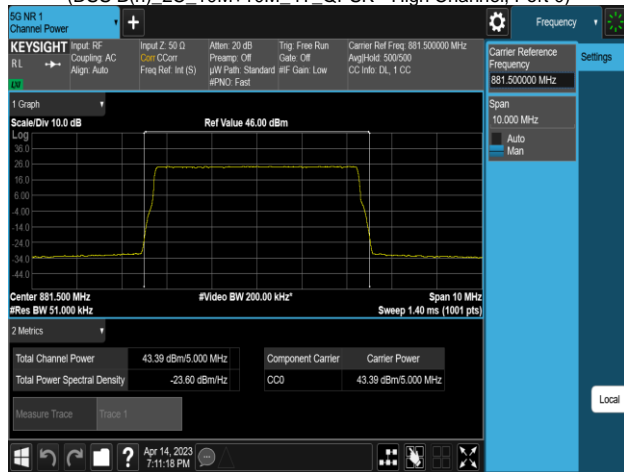
FCC ID: A3LRF4461D-13A		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 8K23073101-00.A3L	Test Dates: 04/12/2023 - 08/03/2023	EUT Type: RRU(RF4461d)		Page 104 of 404



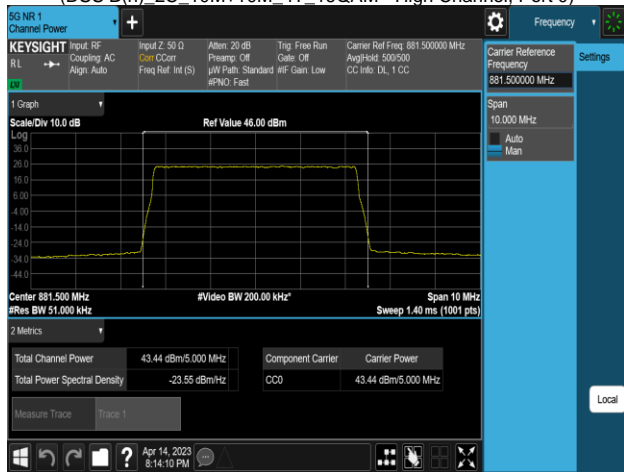
Plot 8-141. Conducted Average Output Power Plot (DSS B(n) 2C 10M+10M 4T QPSK - High Channel, Port 0)



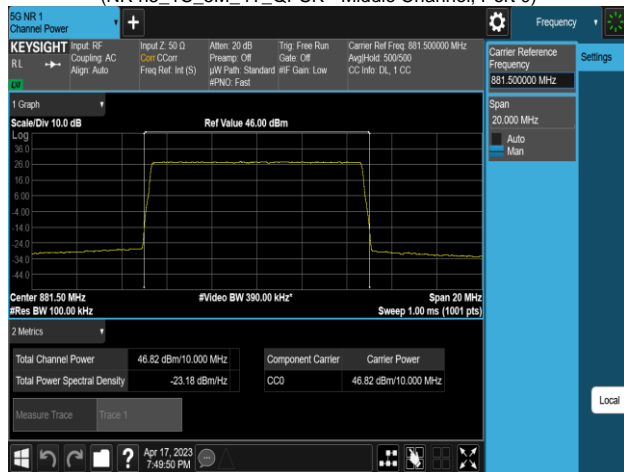
Plot 8-142. Conducted Average Output Power Plot (DSS B(n) 2C 10M+10M 4T 16QAM - High Channel, Port 0)



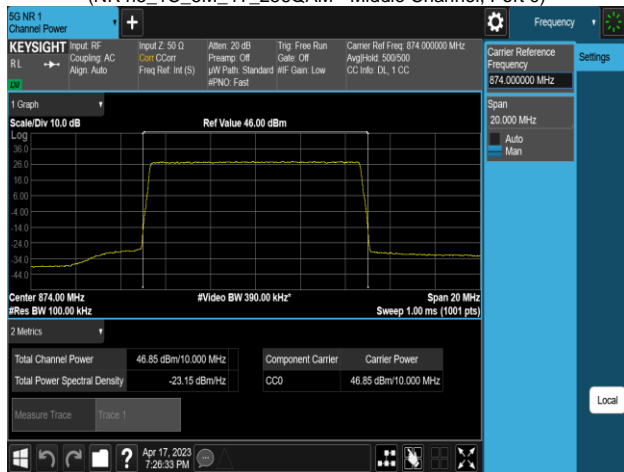
Plot 8-143. Conducted Average Output Power Plot (NR n5\_1C\_5M\_4T QPSK - Middle Channel, Port 0)



Plot 8-144. Conducted Average Output Power Plot (NR n5\_1C\_5M\_4T 256QAM - Middle Channel, Port 0)

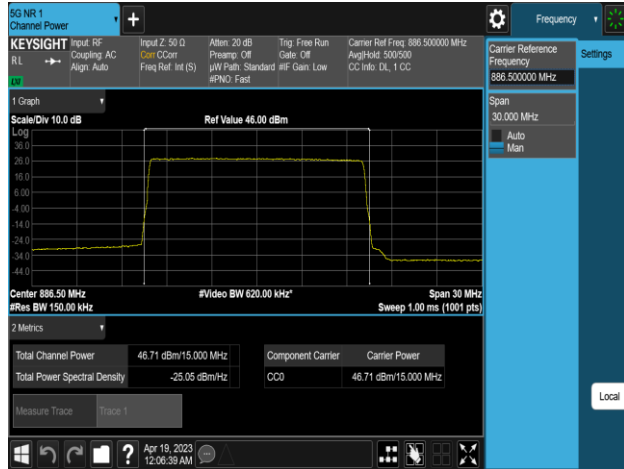


Plot 8-145. Conducted Average Output Power Plot (NR n5\_1C\_10M\_4T QPSK - Middle Channel, Port 0)

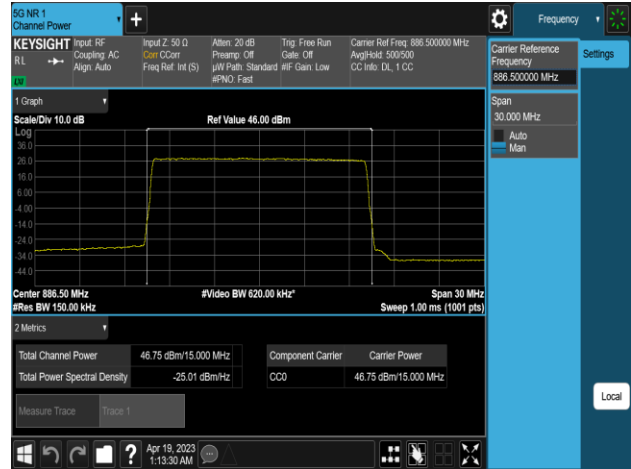


Plot 8-146. Conducted Average Output Power Plot (NR n5\_1C\_10M\_4T 256QAM - Low Channel, Port 0)

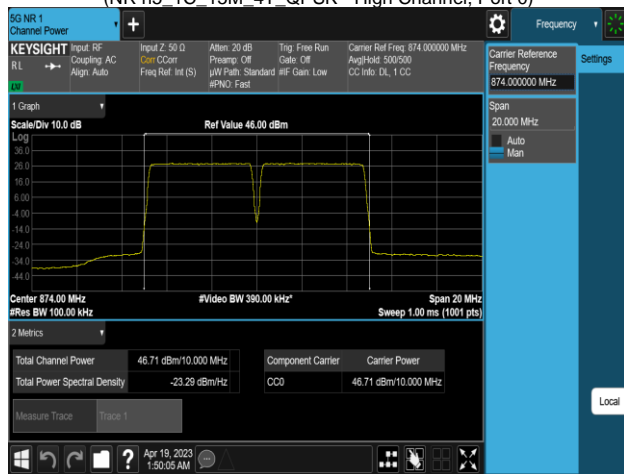
FCC ID: A3LRF4461D-13A		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 8K23073101-00.A3L	Test Dates: 04/12/2023 - 08/03/2023	EUT Type: RRU(RF4461d)		Page 105 of 404



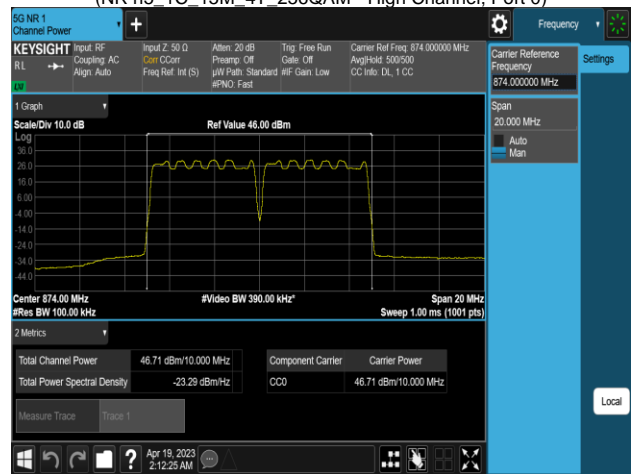
Plot 8-147. Conducted Average Output Power Plot (NR n5\_1C\_15M\_4T\_QPSK - High Channel, Port 0)



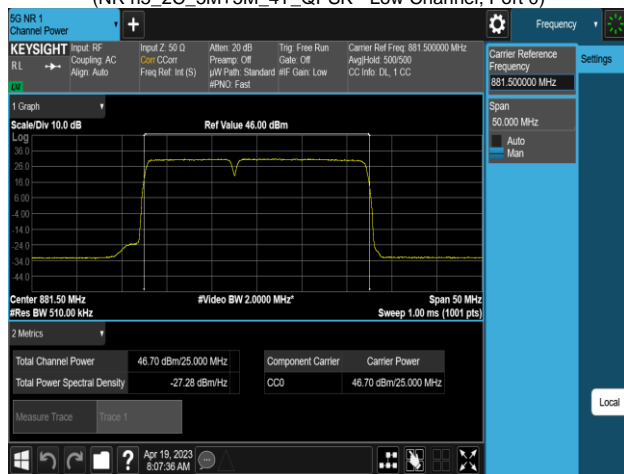
Plot 8-148. Conducted Average Output Power Plot (NR n5\_1C\_15M\_4T\_256QAM - High Channel, Port 0)



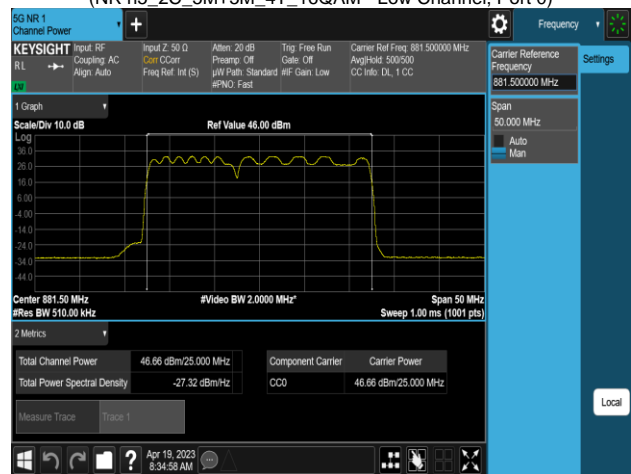
Plot 8-149. Conducted Average Output Power Plot (NR n5\_2C\_5M+5M\_4T\_QPSK - Low Channel, Port 0)



Plot 8-150. Conducted Average Output Power Plot (NR n5\_1C\_15M\_4T\_256QAM - High Channel, Port 0)

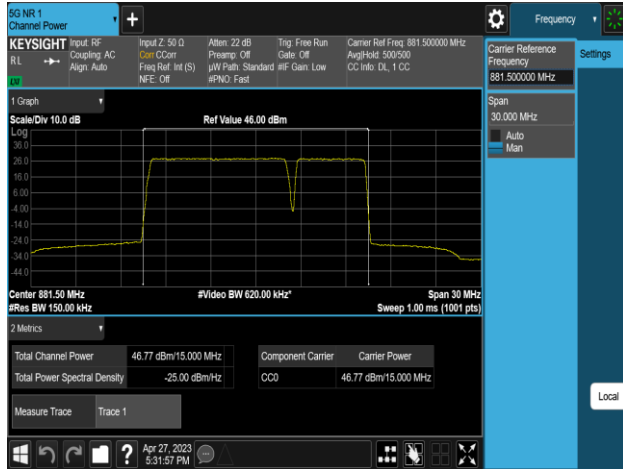


Plot 8-151. Conducted Average Output Power Plot (NR n5\_2C\_10M+15M\_4T\_QPSK - Middle Channel, Port 0)

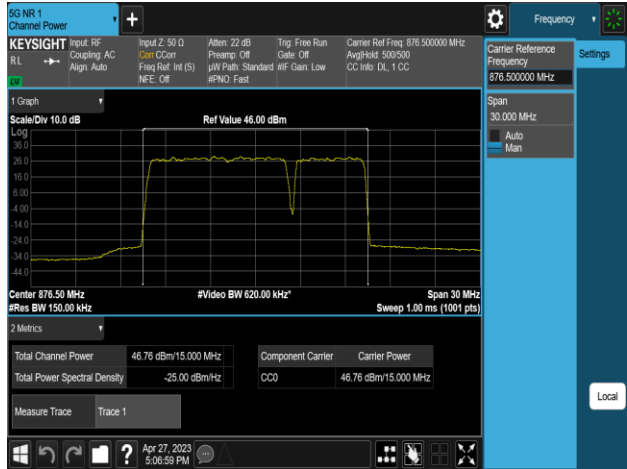


Plot 8-152. Conducted Average Output Power Plot (NR n5\_2C\_10M+15M\_4T\_16QAM - Middle Channel, Port 0)

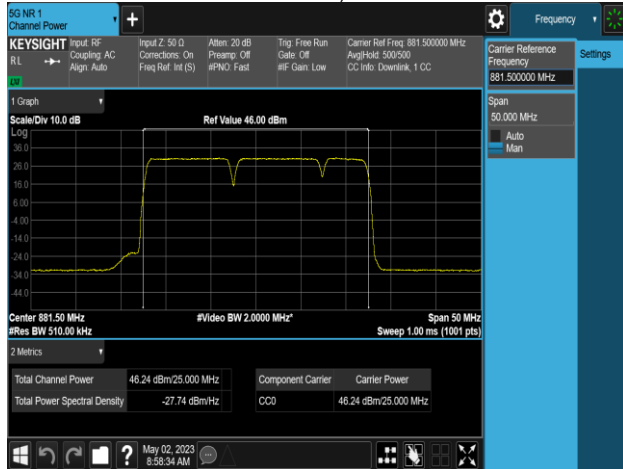
FCC ID: A3LRF4461D-13A		<b>MEASUREMENT REPORT (CERTIFICATION)</b>		<b>Approved by:</b> Technical Manager
<b>Test Report S/N:</b> 8K23073101-00.A3L	<b>Test Dates:</b> 04/12/2023 - 08/03/2023	<b>EUT Type:</b> RRU(RF4461d)		Page 106 of 404



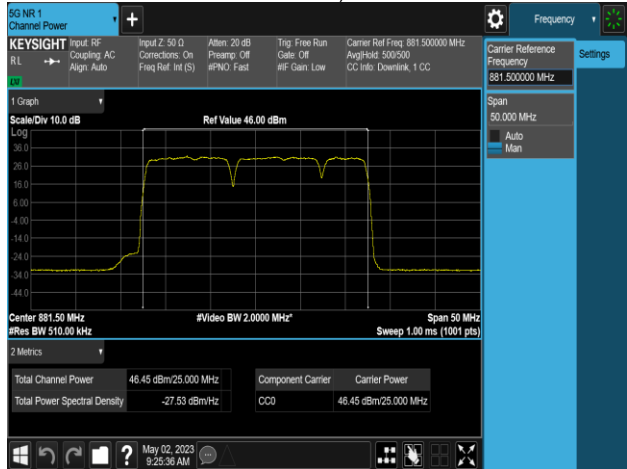
Plot 8-153. Conducted Average Output Power Plot (MSR 2C\_DSS B(n)5\_2C\_10M+LTE B5\_5M\_4T\_QPSK - Middle Channel, Port 0)



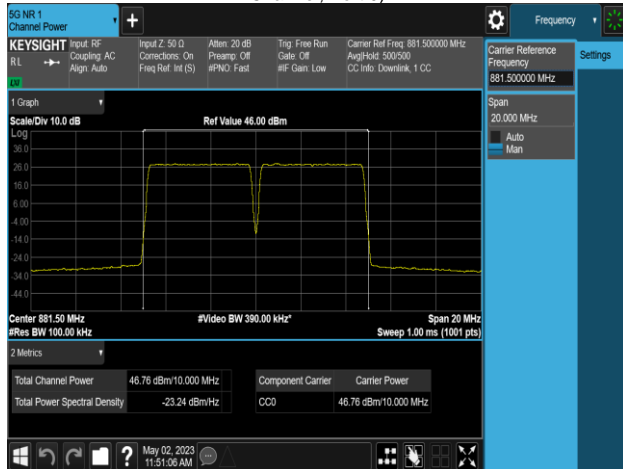
Plot 8-154. Conducted Average Output Power Plot (MSR 2C\_DSS B(n)5\_2C\_10M+LTE B5\_5M\_4T\_16QAM - Low Channel, Port 0)



Plot 8-155. Conducted Average Output Power Plot (MSR 3C\_DSS B(n)5\_2C\_10M+10M+LTE B5\_1C\_5M\_4T\_QPSK - Middle Channel, Port 0)



Plot 8-156. Conducted Average Output Power Plot (MSR 3C\_DSS B(n)5\_2C\_10M+10M+LTE B5\_1C\_5M\_4T\_16QAM - Middle Channel, Port 0)



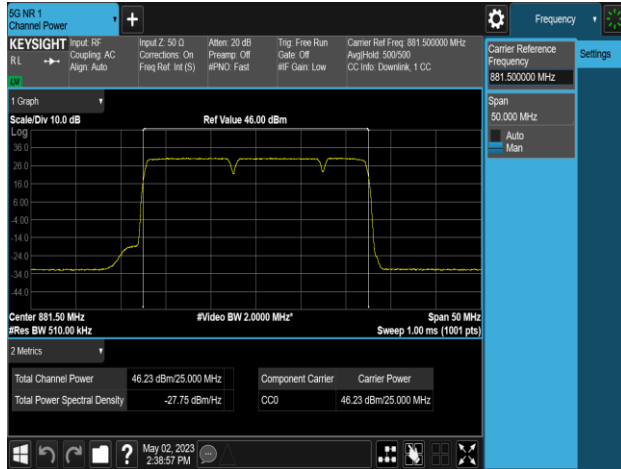
Plot 8-157. Conducted Average Output Power Plot (MSR 2C\_NR n5\_1C\_5M+LTE B5\_1C\_5M\_4T\_QPSK - Middle Channel, Port 0)



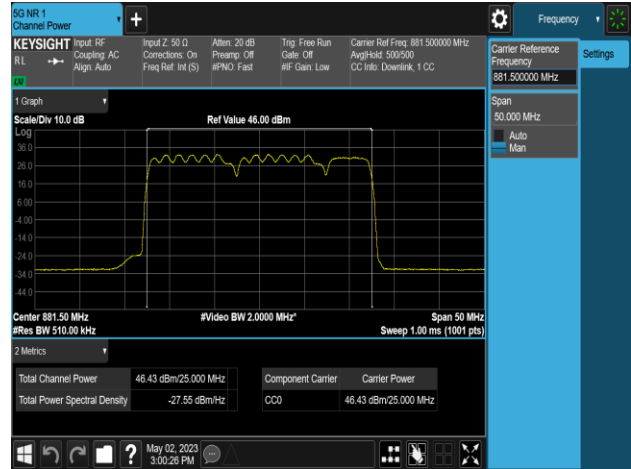
Plot 8-158. Conducted Average Output Power Plot (MSR 2C\_NR n5\_1C\_5M+LTE B5\_1C\_5M\_4T\_16QAM - Middle Channel, Port 0)

FCC ID: A3LRF4461D-13A		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
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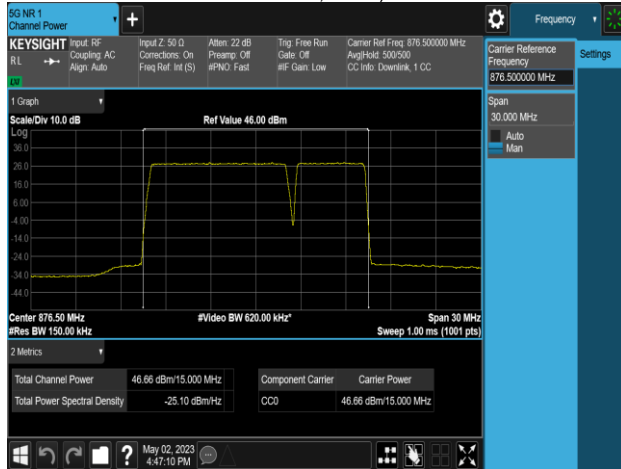




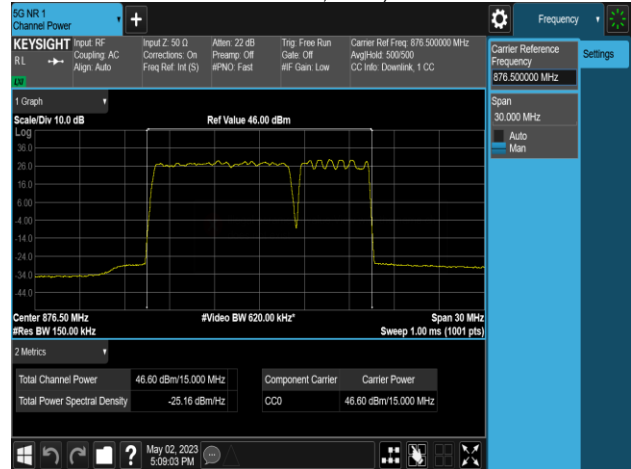
Plot 8-159. Conducted Average Output Power Plot (MSR 3C\_NR n5\_2C\_10M+10M+LTE B5\_1C\_5M\_4T\_QPSK - Middle Channel, Port 0)



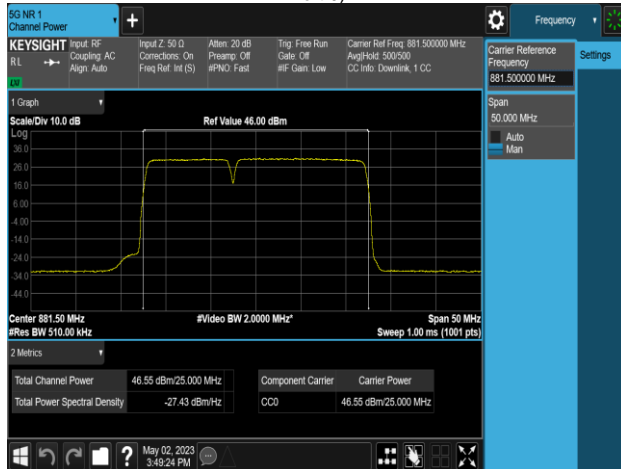
Plot 8-160. Conducted Average Output Power Plot (MSR 3C\_NR n5\_2C\_10M+10M+LTE B5\_1C\_5M\_4T\_16QAM - Middle Channel, Port 0)



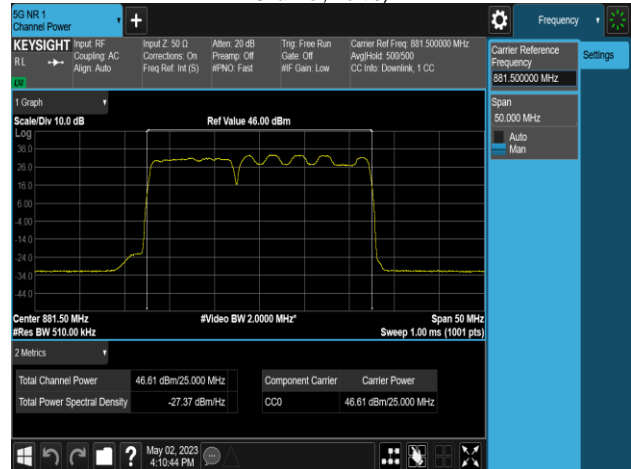
Plot 8-161. Conducted Average Output Power Plot (MSR 2C\_DSS B(n)5\_1C\_10M+NR n5\_1C\_5M\_4T\_QPSK - Low Channel, Port 0)



Plot 8-162. Conducted Average Output Power Plot (MSR 2C\_DSS B(n)5\_1C\_10M+NR n5\_1C\_5M\_4T\_16QAM - Low Channel, Port 0)

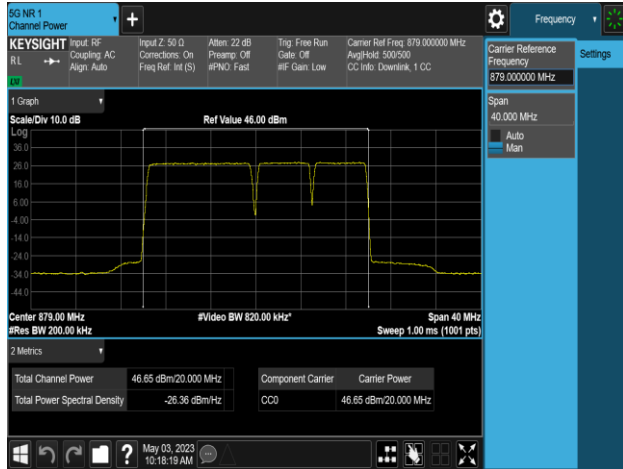


Plot 8-163. Conducted Average Output Power Plot (MSR 2C\_DSS B(n)5\_1C\_10M+NR n5\_1C\_15M\_4T\_QPSK - Middle Channel, Port 0)

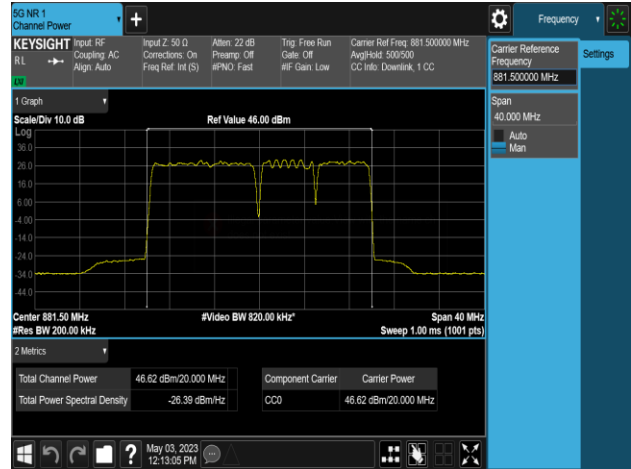


Plot 8-164. Conducted Average Output Power Plot (MSR 2C\_DSS B(n)5\_1C\_10M+NR n5\_1C\_15M\_4T\_16QAM - Middle Channel, Port 0)

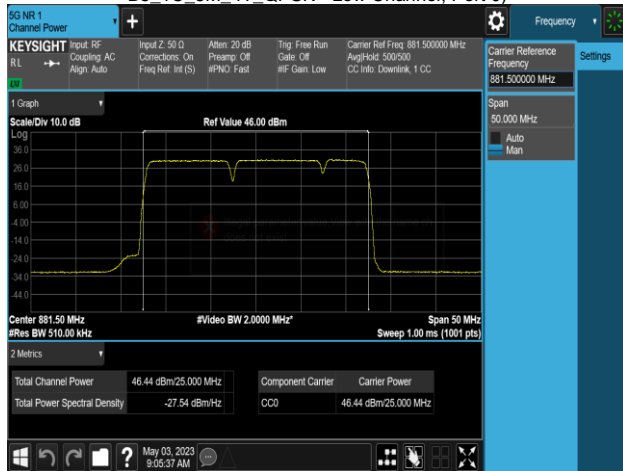
FCC ID: A3LRF4461D-13A		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
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Plot 8-165. Conducted Average Output Power Plot  
(MSR 3C\_DSS B(n)5\_1C\_10M+MSR 2C\_NR n5\_1C\_5M+LTE  
B5\_1C\_5M\_4T\_QPSK - Low Channel, Port 0)



Plot 8-166. Conducted Average Output Power Plot  
(MSR 3C\_DSS B(n)5\_1C\_10M+NR n5\_1C\_5M+LTE  
B5\_1C\_5M\_4T\_16QAM - Middle Channel, Port 0)



Plot 8-167. Conducted Average Output Power Plot  
(MSR 3C\_DSS B(n)5\_1C\_10M+NR n5\_1C\_10M+LTE  
B5\_1C\_5M\_4T\_QPSK - Middle Channel, Port 0)



Plot 8-168. Conducted Average Output Power Plot  
(MSR 3C\_DSS B(n)5\_1C\_10M+NR n5\_1C\_10M+LTE  
B5\_1C\_5M\_4T\_16QAM - Middle Channel, Port 0)


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<b>Test Report S/N:</b> 8K23073101-00.A3L	<b>Test Dates:</b> 04/12/2023 - 08/03/2023	<b>EUT Type:</b> RRU(RF4461d)		Page 109 of 404

Low Channel	Port	QPSK	16QAM	64QAM	256QAM
Power Spectral Density (dBm/MHz)	0	38.76	38.93	38.61	38.64
	1	<b>38.92</b>	<b>39.36</b>	38.93	38.84
Total MIMO PSD Power (mW/MHz)		15316.60	16445.52	15086.41	14957.26
Total MIMO PSD Power (dBm/MHz)		41.85	42.16	41.79	41.75
Middle Channel	Port	QPSK	16QAM	64QAM	256QAM
Power Spectral Density (dBm/MHz)	0	38.68	38.96	38.76	38.69
	1	38.87	39.13	38.85	38.88
Total MIMO PSD Power (mW/MHz)		15088.15	16056.82	15186.73	15119.45
Total MIMO PSD Power (dBm/MHz)		41.79	42.06	41.81	41.80
High Channel	Port	QPSK	16QAM	64QAM	256QAM
Power Spectral Density (dBm/MHz)	0	38.65	38.91	38.70	38.70
	1	38.91	39.13	38.95	38.83
Total MIMO PSD Power (mW/MHz)		15107.24	15948.64	15261.94	15057.03
Total MIMO PSD Power (dBm/MHz)		41.79	42.03	41.84	41.78

**Table 8-96. Peak Power Spectral Density Table (LTE B13\_1C\_5M\_2T)**

Mid Channel	Port	QPSK	16QAM	64QAM	256QAM
Power Spectral Density (dBm/MHz)	0	38.58	38.76	38.55	38.50
	1	<b>38.91</b>	<b>39.11</b>	38.93	38.93
Total MIMO PSD Power (mW/MHz)		14983.35	15676.10	14969.07	14898.42
Total MIMO PSD Power (dBm/MHz)		41.76	41.95	41.75	41.73

**Table 8-97. Peak Power Spectral Density Table (LTE B13\_1C\_10M\_2T)**

FCC ID: A3LRF4461D-13A		MEASUREMENT REPORT (CERTIFICATION)			Approved by: Technical Manager
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Mid Channel	Port	QPSK	16QAM
Power Spectral Density (dBm/MHz)	0	38.51	38.70
	1	<b>38.94</b>	<b>39.20</b>
Total MIMO PSD Power (mW/MHz)		14931.57	15739.78
Total MIMO PSD Power (dBm/MHz)		41.74	41.97

**Table 8-98. Peak Power Spectral Density Table (LTE B13\_2C\_5M+5M\_2T)**

Low Channel	Port	QPSK
Power Spectral Density (dBm/MHz)	0	39.69
	1	39.55
Total MIMO PSD Power (mW/MHz)		18320.56
Total MIMO PSD Power (dBm/MHz)		42.63
Mid Channel	Port	QPSK
Power Spectral Density (dBm/MHz)	0	<b>39.97</b>
	1	39.89
Total MIMO PSD Power (mW/MHz)		19681.14
Total MIMO PSD Power (dBm/MHz)		42.94
High Channel	Port	QPSK
Power Spectral Density (dBm/MHz)	0	39.61
	1	39.50
Total MIMO PSD Power (mW/MHz)		18057.91
Total MIMO PSD Power (dBm/MHz)		42.57

**Table 8-99. Peak Power Spectral Density Table (LTE B13\_1C\_5M+NB-IoT(1IB)\_2T)**

FCC ID: A3LRF4461D-13A		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
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Mid Channel	Port	LTE10M+NB-IoT (2GB)	LTE10M+NB-IoT (1GB+1IB)	LTE10M+NB-IoT (1IB+1GB)	LTE10M+NB-IoT (2IB)
Power Spectral Density (dBm/MHz)	0	40.00	40.45	<b>40.47</b>	40.09
	1	39.75	40.00	39.90	39.90
Total MIMO PSD Power (mW/MHz)		19429.75	21090.70	20929.52	19986.27
Total MIMO PSD Power (dBm/MHz)		42.88	43.24	43.21	43.01

**Table 8-100. Peak Power Spectral Density Table (LTE B13\_1C\_10M+NB-IoT\_2T)**

FCC ID: A3LRF4461D-13A		<b>MEASUREMENT REPORT (CERTIFICATION)</b>		<b>Approved by:</b> Technical Manager
<b>Test Report S/N:</b> 8K23073101-00.A3L	<b>Test Dates:</b> 04/12/2023 - 08/03/2023	<b>EUT Type:</b> RRU(RF4461d)		Page 112 of 404

Low Channel	Port	QPSK	16QAM	64QAM	256QAM
Power Spectral Density (dBm/MHz)	0	37.36	37.77	37.51	37.55
	1	37.06	37.50	37.05	37.22
	2	37.04	37.51	37.15	37.29
	3	37.24	37.73	37.23	37.29
Total MIMO PSD Power (mW/MHz)		20879.18	23158.64	21176.21	21676.73
Total MIMO PSD Power (dBm/MHz)		43.20	43.65	43.26	43.36
Middle Channel	Port	QPSK	16QAM	64QAM	256QAM
Power Spectral Density (dBm/MHz)	0	37.48	<b>37.85</b>	37.51	37.61
	1	37.12	37.38	37.02	37.15
	2	37.14	37.49	37.12	37.12
	3	37.30	37.64	37.32	37.39
Total MIMO PSD Power (mW/MHz)		21288.77	22975.63	21218.28	21592.92
Total MIMO PSD Power (dBm/MHz)		43.28	43.61	43.27	43.34
High Channel	Port	QPSK	16QAM	64QAM	256QAM
Power Spectral Density (dBm/MHz)	0	<b>37.50</b>	37.78	37.62	37.57
	1	37.08	37.37	37.02	37.15
	2	37.09	37.33	37.01	37.11
	3	37.29	37.53	37.27	37.33
Total MIMO PSD Power (mW/MHz)		21203.01	22516.67	21174.51	21449.72
Total MIMO PSD Power (dBm/MHz)		43.26	43.53	43.26	43.31

**Table 8-101. Peak Power Spectral Density Table (LTE B13\_1C\_5M\_4T)**

FCC ID: A3LRF4461D-13A		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
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Middle Channel	Port	QPSK	16QAM	64QAM	256QAM
Power Spectral Density (dBm/MHz)	0	<b>37.61</b>	<b>37.82</b>	37.42	37.41
	1	37.16	37.47	37.14	37.07
	2	37.17	37.34	37.06	37.16
	3	37.25	37.55	37.25	37.29
Total MIMO PSD Power (mW/MHz)		21485.50	22743.99	21085.01	21161.75
Total MIMO PSD Power (dBm/MHz)		43.32	43.57	43.24	43.26

**Table 8-102. Peak Power Spectral Density Table (LTE B13\_1C\_10M\_4T)**

Middle Channel	Port	QPSK	16QAM
Power Spectral Density (dBm/MHz)	0	<b>37.37</b>	<b>37.79</b>
	1	37.11	37.29
	2	37.03	37.50
	3	37.22	37.53
Total MIMO PSD Power (mW/MHz)		20909.82	22660.72
Total MIMO PSD Power (dBm/MHz)		43.20	43.55

**Table 8-103. Peak Power Spectral Density Table (LTE B13\_2C\_5M+5M\_4T)**

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<b>Test Report S/N:</b> 8K23073101-00.A3L	<b>Test Dates:</b> 04/12/2023 - 08/03/2023	<b>EUT Type:</b> RRU(RF4461d)	Page 114 of 404	

Low Channel	Port	QPSK
Power Spectral Density (dBm/MHz)	0	37.86
	1	37.81
	2	37.71
	3	38.09
Total MIMO PSD Power (mW/MHz)		24491.42
Total MIMO PSD Power (dBm/MHz)		43.89
Mid Channel	Port	QPSK
Power Spectral Density (dBm/MHz)	0	38.41
	1	38.12
	2	38.01
	3	<b>38.43</b>
Total MIMO PSD Power (mW/MHz)		26716.73
Total MIMO PSD Power (dBm/MHz)		44.27
High Channel	Port	QPSK
Power Spectral Density (dBm/MHz)	0	37.86
	1	37.74
	2	37.60
	3	37.99
Total MIMO PSD Power (mW/MHz)		24099.61
Total MIMO PSD Power (dBm/MHz)		43.82

**Table 8-104. Peak Power Spectral Density Table (LTE B13\_1C\_5M+NB-IoT(11B)\_4T)**

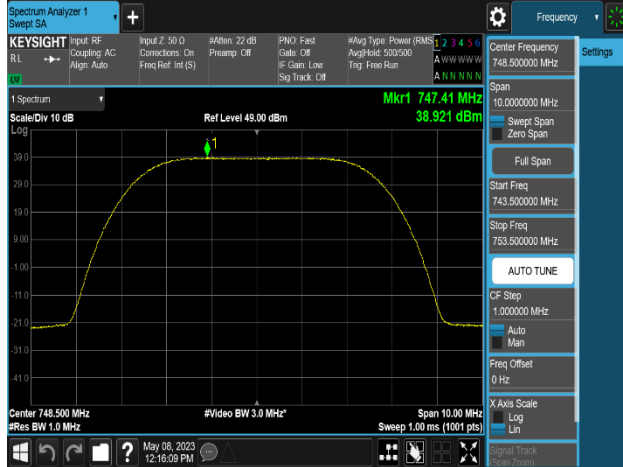
FCC ID: A3LRF4461D-13A		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 8K23073101-00.A3L	Test Dates: 04/12/2023 - 08/03/2023	EUT Type: RRU(RF4461d)	Page 115 of 404	

Mid Channel	Port	LTE10M+NB-IoT (2GB)	LTE10M+NB-IoT (1GB+1IB)	LTE10M+NB-IoT (1IB+1GB)	LTE10M+NB-IoT (2IB)
Power Spectral Density (dBm/MHz)	0	38.76	38.77	<b>38.94</b>	38.26
	1	38.18	38.14	38.27	38.22
	2	38.17	38.25	38.06	38.09
	3	38.27	38.54	38.83	38.47
Total MIMO PSD Power (mW/MHz)		27363.66	27883.58	28571.49	26795.38
Total MIMO PSD Power (dBm/MHz)		44.37	44.45	44.56	44.28

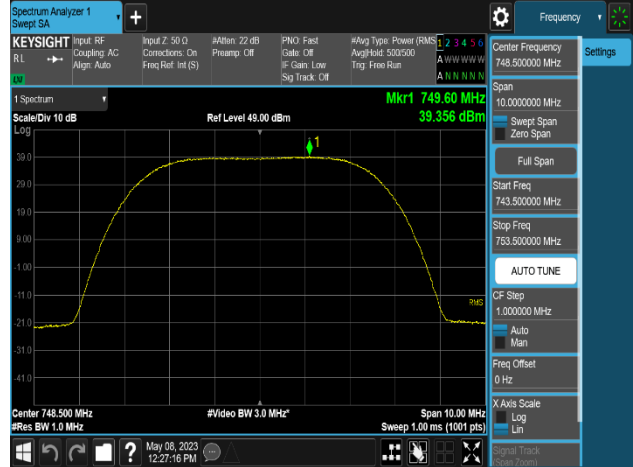
**Table 8-105. Peak Power Spectral Density Table (LTE B13\_1C\_10M+NB-IoT\_4T)**

FCC ID: A3LRF4461D-13A		<b>MEASUREMENT REPORT (CERTIFICATION)</b>		<b>Approved by:</b> Technical Manager
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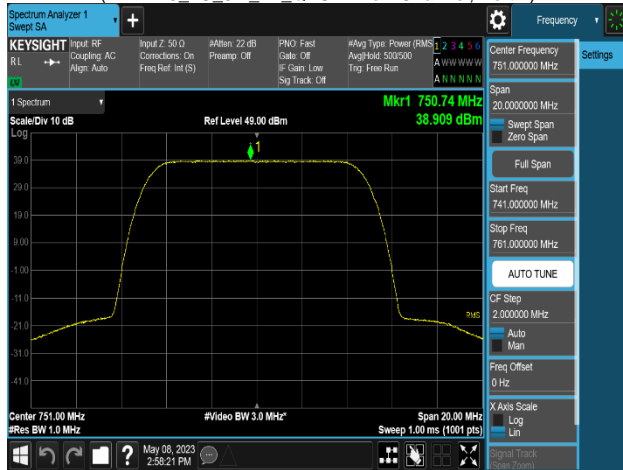




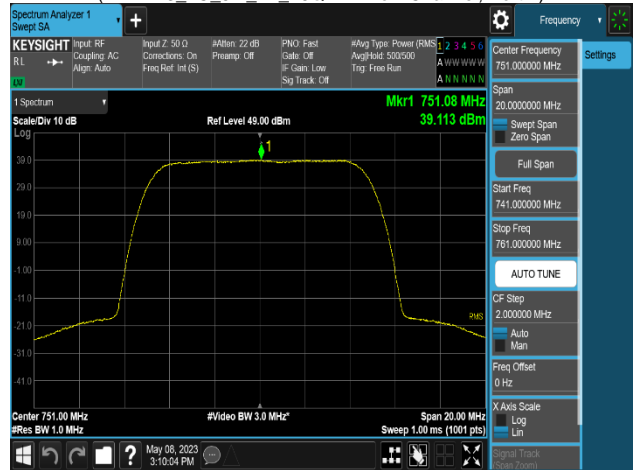
Plot 8-169. Peak Power Spectral Density Plot  
(LTE B13\_1C\_5M\_2T\_QPSK - Low Channel, Port 1)



Plot 8-170. Peak Power Spectral Density Plot  
(LTE B13\_1C\_5M\_2T\_16QAM - Low Channel, Port 1)



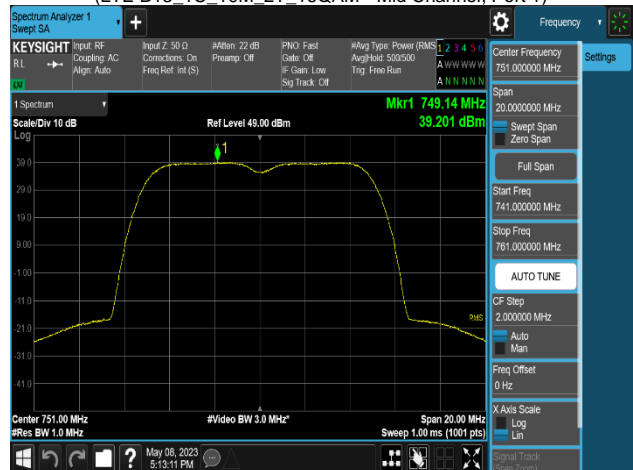
Plot 8-171. Peak Power Spectral Density Plot  
(LTE B13\_1C\_10M\_2T\_QPSK - Mid Channel, Port 1)



Plot 8-172. Peak Power Spectral Density Plot  
(LTE B13\_1C\_10M\_2T\_16QAM - Mid Channel, Port 1)

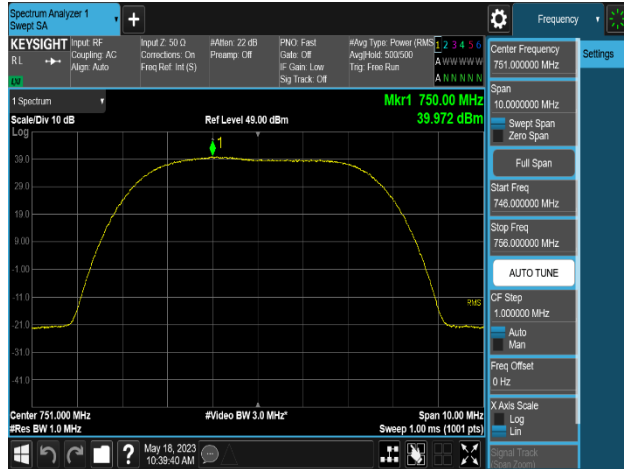


Plot 8-173. Peak Power Spectral Density Plot  
(LTE B13\_2C\_5M+5M\_2T\_QPSK - Mid Channel, Port 1)

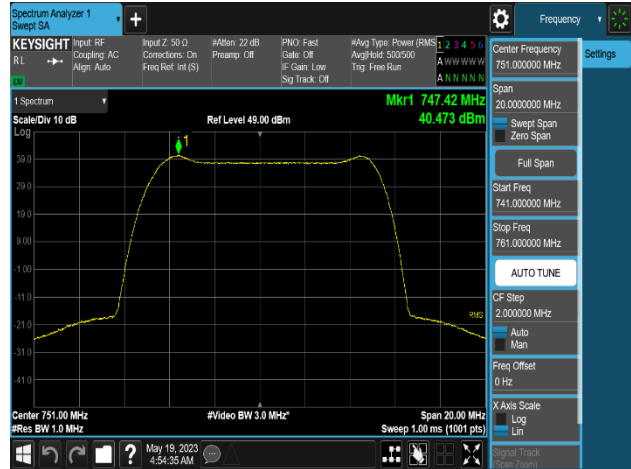


Plot 8-174. Peak Power Spectral Density Plot  
(LTE B13\_2C\_5M+5M\_2T\_16QAM - Mid Channel, Port 1)

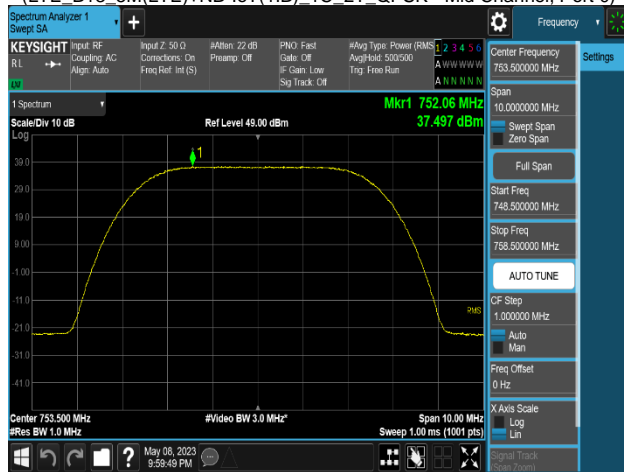
FCC ID: A3LRF4461D-13A		<b>MEASUREMENT REPORT (CERTIFICATION)</b>		<b>Approved by:</b> Technical Manager
<b>Test Report S/N:</b> 8K23073101-00.A3L	<b>Test Dates:</b> 04/12/2023 - 08/03/2023	<b>EUT Type:</b> RRU(RF4461d)		Page 117 of 404



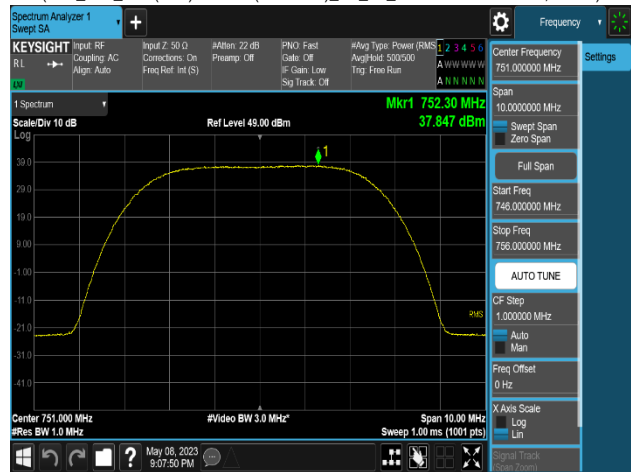
Plot 8-175. Peak Power Spectral Density Plot  
(LTE\_B13\_5M(LTE)+NB-IoT(1IB)\_1C\_2T\_QPSK - Mid Channel, Port 0)



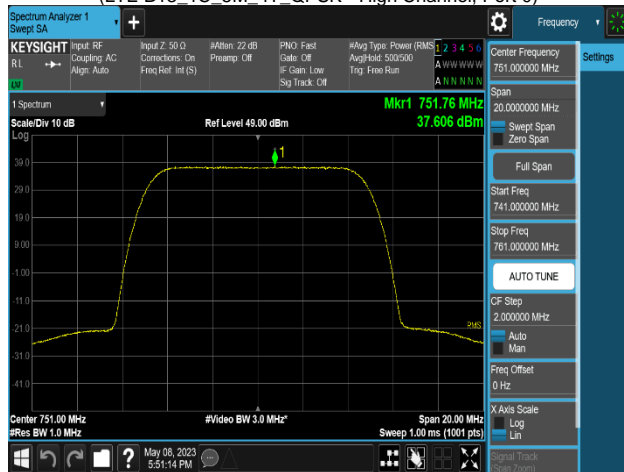
Plot 8-176. Peak Power Spectral Density Plot  
(LTE\_B13\_10M(LTE)+NB-IoT(1IB+1GB)\_1C\_2T\_QPSK - Mid Channel, Port 0)



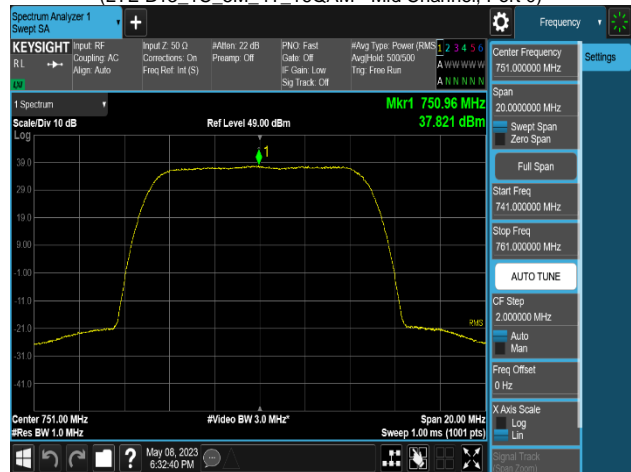
Plot 8-177. Peak Power Spectral Density Plot  
(LTE\_B13\_1C\_5M\_4T\_QPSK - High Channel, Port 0)



Plot 8-178. Peak Power Spectral Density Plot  
(LTE\_B13\_1C\_5M\_4T\_QPSK - Mid Channel, Port 0)

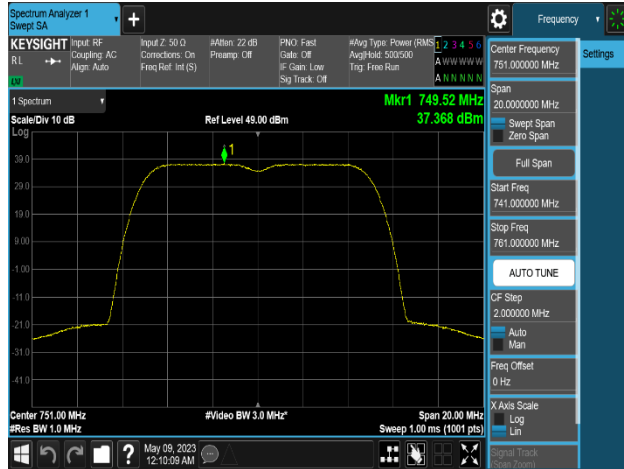


Plot 8-179. Peak Power Spectral Density Plot  
(LTE\_B13\_1C\_10M\_4T\_QPSK - Mid Channel, Port 0)

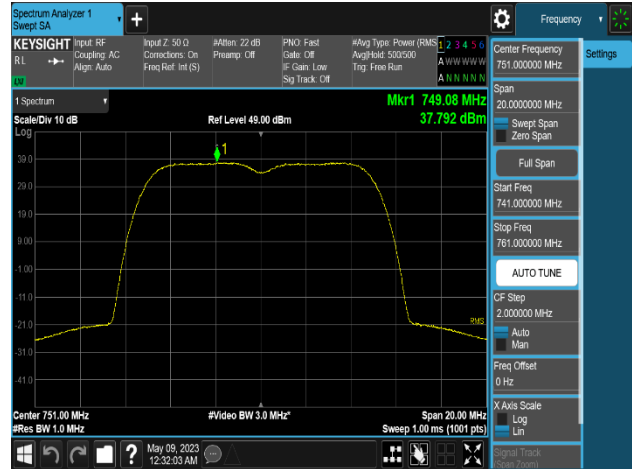


Plot 8-180. Peak Power Spectral Density Plot  
(LTE\_B13\_1C\_10M\_4T\_16QAM - Mid Channel, Port 0)

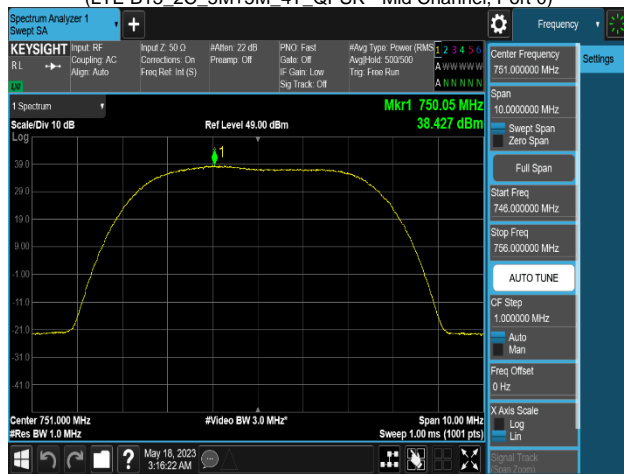
FCC ID: A3LRF4461D-13A		<b>MEASUREMENT REPORT (CERTIFICATION)</b>		<b>Approved by:</b> Technical Manager
<b>Test Report S/N:</b> 8K23073101-00.A3L	<b>Test Dates:</b> 04/12/2023 - 08/03/2023	<b>EUT Type:</b> RRU(RF4461d)		Page 118 of 404



Plot 8-181. Peak Power Spectral Density Plot  
(LTE B13 2C 5M+5M 4T\_QPSK - Mid Channel, Port 0)



Plot 8-182. Peak Power Spectral Density Plot  
(LTE B13 2C 5M+5M 4T 16QAM - Mid Channel, Port 0)



Plot 8-183. Peak Power Spectral Density Plot  
(LTE\_B13\_5M(LTE)+NB-IoT(11B)\_1C\_4T\_QPSK - Mid Channel, Port 3)



Plot 8-184. Peak Power Spectral Density Plot  
(LTE\_B13\_10M(LTE)+NB-IoT(11B+1GB)\_1C\_4T\_QPSK - Mid Channel, Port 0)

FCC ID: A3LRF4461D-13A		<b>MEASUREMENT REPORT (CERTIFICATION)</b>		<b>Approved by:</b> Technical Manager
<b>Test Report S/N:</b> 8K23073101-00.A3L	<b>Test Dates:</b> 04/12/2023 - 08/03/2023	<b>EUT Type:</b> RRU(RF4461d)		Page 119 of 404

## 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

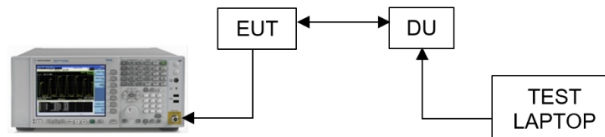
ANSI C63.26-2015 – Section 5.2.3.4

### Test Setting

The measurement was made using a direct connection between the RF output of the EUT and the spectrum analyzer. The spectrum analyzer settings 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



**Figure 8-4. Test Instrument & Measurement Setup**

### Limit

§22.913 (d)

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

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Channel	Port	PAPR (dB)				Limit (dB)
		QPSK	16QAM	64QAM	256QAM	
Low	0	8.38	8.37	8.29	8.31	≤ 13
	1	8.41	8.40	8.29	8.30	≤ 13
Middle	0	8.41	<b>8.41</b>	8.32	8.31	≤ 13
	1	<b>8.48</b>	8.37	8.31	8.32	≤ 13
High	0	8.34	8.37	8.31	8.29	≤ 13
	1	8.39	8.36	8.29	8.27	≤ 13

**Table 8-106. Peak To Average Power Ratio Summary Data (LTE B5\_1C\_5M\_2T)**

Channel	Port	PAPR (dB)				Limit (dB)
		QPSK	16QAM	64QAM	256QAM	
Low	0	7.64	7.61	7.62	7.64	≤ 13
	1	7.64	7.61	7.61	7.65	≤ 13
Middle	0	7.59	7.59	7.59	7.60	≤ 13
	1	7.58	7.59	7.58	7.60	≤ 13
High	0	<b>7.78</b>	<b>7.83</b>	7.79	7.81	≤ 13
	1	7.78	7.82	7.77	7.80	≤ 13

**Table 8-107. Peak To Average Power Ratio Summary Data (LTE B5\_1C\_10M\_2T)**

Channel	Port	PAPR (dB)		Limit (dB)
		QPSK	16QAM	
Low	0	7.99	8.00	≤ 13
	1	<b>8.02</b>	7.98	≤ 13
Middle	0	8.02	7.99	≤ 13
	1	7.99	<b>8.01</b>	≤ 13
High	0	7.83	7.83	≤ 13
	1	7.82	7.86	≤ 13

**Table 8-108. Peak To Average Power Ratio Summary Data (LTE B5\_2C\_5M+5M\_2T)**

Channel	Port	PAPR (dB)		Limit (dB)
		QPSK	16QAM	
Middle	0	<b>8.11</b>	8.05	≤ 13
	1	8.07	<b>8.08</b>	≤ 13

**Table 8-109. Peak To Average Power Ratio Summary Data (LTE B5\_3C\_5M+10M+10M\_2T)**

FCC ID: A3LRF4461D-13A		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
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DSS Ratio	Channel	Port	PAPR (dB)				Limit (dB)
			QPSK	16QAM	64QAM	256QAM	
LTE 9 : NR 1	Low	0	8.00	8.01	<b>8.43</b>	8.02	≤ 13
		1	7.98	7.99	8.41	7.99	≤ 13
	Middle	0	8.00	8.02	8.28	8.02	≤ 13
		1	8.00	8.02	8.38	8.02	≤ 13
	High	0	8.13	8.05	8.31	8.04	≤ 13
		1	8.10	8.04	8.35	8.06	≤ 13
LTE 8 : NR 2	Low	0	8.01	8.02	8.01	8.03	≤ 13
		1	7.98	8.03	8.00	8.02	≤ 13
	Middle	0	8.01	8.04	8.04	8.04	≤ 13
		1	8.03	8.06	8.03	8.05	≤ 13
	High	0	8.14	8.10	8.11	8.11	≤ 13
		1	8.13	8.08	8.09	8.11	≤ 13
LTE 7 : NR 3	Low	0	8.00	8.06	8.03	8.07	≤ 13
		1	8.02	8.04	8.03	8.06	≤ 13
	Middle	0	8.04	8.07	8.06	8.07	≤ 13
		1	8.04	8.05	8.06	8.06	≤ 13
	High	0	8.17	8.15	8.11	8.15	≤ 13
		1	8.15	8.17	8.13	8.14	≤ 13
LTE 6 : NR 4	Low	0	8.03	8.07	8.05	8.13	≤ 13
		1	8.04	8.06	8.04	8.10	≤ 13
	Middle	0	8.07	8.09	8.06	8.09	≤ 13
		1	8.06	8.08	8.07	8.09	≤ 13
	High	0	8.03	8.07	8.05	8.13	≤ 13
		1	8.04	8.06	8.04	8.10	≤ 13
LTE 5 : NR 5	Low	0	8.06	8.08	8.09	8.11	≤ 13
		1	8.08	8.07	8.09	8.09	≤ 13
	Middle	0	8.08	8.10	8.07	8.10	≤ 13
		1	8.07	8.09	8.07	8.09	≤ 13
	High	0	8.21	8.24	8.22	8.22	≤ 13
		1	8.19	8.23	8.19	8.21	≤ 13
LTE 4 : NR 6	Low	0	8.10	8.09	8.13	8.16	≤ 13
		1	8.10	8.11	8.11	8.15	≤ 13
	Middle	0	8.09	8.08	8.08	8.10	≤ 13
		1	8.09	8.08	8.09	8.10	≤ 13
	High	0	8.29	8.27	8.23	8.29	≤ 13
		1	8.26	8.23	8.23	8.24	≤ 13
LTE 3 : NR 7	Low	0	8.09	8.14	8.09	8.17	≤ 13
		1	8.11	8.13	8.14	8.18	≤ 13
	Middle	0	8.10	8.10	8.09	8.12	≤ 13
		1	8.11	8.13	8.10	8.10	≤ 13
	High	0	8.29	8.32	8.29	8.30	≤ 13
		1	8.27	8.28	8.25	8.29	≤ 13
LTE 2 : NR 8	Low	0	8.13	8.14	8.11	8.19	≤ 13
		1	8.13	8.15	8.11	8.18	≤ 13
	Middle	0	8.15	8.14	8.10	8.12	≤ 13
		1	8.12	8.13	8.10	8.11	≤ 13
	High	0	<b>8.32</b>	8.33	8.32	8.31	≤ 13
		1	8.32	8.30	8.30	8.30	≤ 13

**Table 8-110. Peak To Average Power Ratio Summary Data (DSS B(n)5\_1C\_10M\_2T)**

FCC ID: A3LRF4461D-13A		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
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DSS Ratio	Channel	Port	PAPR (dB)		Limit (dB)
			QPSK	16QAM	
LTE 9 : NR 1	Low	0	8.01	8.04	≤ 13
		1	8.00	8.01	≤ 13
	Middle	0	8.00	8.04	≤ 13
		1	8.03	7.99	≤ 13
	High	0	8.14	<b>8.16</b>	≤ 13
		1	<b>8.16</b>	8.14	≤ 13

**Table 8-111. Peak To Average Power Ratio Summary Data (DSS B(n)5\_2C\_10M+10M\_2T)**

Channel	Port	PAPR (dB)				Limit (dB)
		QPSK	16QAM	64QAM	256QAM	
Low	0	8.38	8.44	8.35	8.33	≤ 13
	1	<b>8.40</b>	<b>8.47</b>	8.36	8.32	≤ 13
Middle	0	8.35	8.42	8.32	8.33	≤ 13
	1	8.39	8.45	8.32	8.37	≤ 13
High	0	8.35	8.41	8.34	8.33	≤ 13
	1	8.35	8.41	8.35	8.32	≤ 13

**Table 8-112. Peak To Average Power Ratio Summary Data (NR n5\_1C\_5M\_2T)**

Channel	Port	PAPR (dB)				Limit (dB)
		QPSK	16QAM	64QAM	256QAM	
Low	0	7.62	7.64	7.63	7.61	≤ 13
	1	7.60	7.64	7.62	7.62	≤ 13
Middle	0	7.60	7.61	7.60	7.58	≤ 13
	1	7.60	7.61	7.59	7.56	≤ 13
High	0	<b>7.83</b>	<b>7.81</b>	7.81	7.77	≤ 13
	1	7.80	7.79	7.77	7.76	≤ 13

**Table 8-113. Peak To Average Power Ratio Summary Data (NR n5\_1C\_10M\_2T)**

FCC ID: A3LRF4461D-13A		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
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Channel	Port	PAPR (dB)				Limit (dB)
		QPSK	16QAM	64QAM	256QAM	
Low	0	7.67	7.70	7.70	7.66	≤ 13
	1	7.67	7.71	7.69	7.68	≤ 13
Middle	0	7.59	7.60	7.59	7.60	≤ 13
	1	7.60	7.61	7.58	7.59	≤ 13
High	0	<b>7.86</b>	<b>7.93</b>	7.86	7.89	≤ 13
	1	7.86	7.92	7.87	7.89	≤ 13

**Table 8-114. Peak To Average Power Ratio Summary Data (NR n5\_1C\_15M\_2T)**

Channel	Port	PAPR (dB)		Limit (dB)
		QPSK	16QAM	
Low	0	7.96	7.96	≤ 13
	1	8.02	7.95	≤ 13
Middle	0	8.01	8.00	≤ 13
	1	8.01	8.00	≤ 13
High	0	<b>8.04</b>	<b>8.03</b>	≤ 13
	1	8.04	8.03	≤ 13

**Table 8-115. Peak To Average Power Ratio Summary Data (NR n5\_2C\_5M+5M\_2T)**

Channel	Port	PAPR (dB)		Limit (dB)
		QPSK	16QAM	
Middle	0	<b>8.04</b>	<b>8.07</b>	≤ 13
	1	8.03	8.03	≤ 13

**Table 8-116. Peak To Average Power Ratio Summary Data (NR n5\_2C\_10M+15M\_2T)**

DSS Ratio	Channel	Port	PAPR (dB)		Limit (dB)
			QPSK	16QAM	
LTE 9 : NR 1	Low	0	8.03	7.99	≤ 13
		1	8.01	8.02	≤ 13
	Middle	0	8.06	8.02	≤ 13
		1	8.07	8.03	≤ 13
	High	0	<b>8.20</b>	<b>8.15</b>	≤ 13
		1	8.20	8.14	≤ 13

**Table 8-117. Peak To Average Power Ratio Summary Data (MSR 2C\_DSS B(n)5\_1C\_10M+LTE B5\_1C\_5M\_2T)**

FCC ID: A3LRF4461D-13A		MEASUREMENT REPORT (CERTIFICATION)			Approved by: Technical Manager
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DSS Ratio	Channel	Port	PAPR (dB)		Limit (dB)
			QPSK	16QAM	
LTE 9 : NR 1	Middle	0	<b>8.17</b>	<b>8.21</b>	≤ 13
		1	8.17	8.16	≤ 13

**Table 8-118. Peak To Average Power Ratio Summary Data (MSR 3C\_DSS B(n)5\_2C\_10M+10M+LTE B5\_1C\_5M\_2T)**

Channel	Port	PAPR (dB)		Limit (dB)
		QPSK	16QAM	
Low	0	7.98	7.99	≤ 13
	1	7.97	7.95	≤ 13
Middle	0	7.99	8.01	≤ 13
	1	7.99	7.99	≤ 13
High	0	<b>8.04</b>	<b>8.02</b>	≤ 13
	1	8.00	8.01	≤ 13

**Table 8-119. Peak To Average Power Ratio Summary Data (MSR 2C\_NR n5\_1C\_5M+LTE B5\_1C\_5M\_2T)**

Channel	Port	PAPR (dB)		Limit (dB)
		QPSK	16QAM	
Middle	0	8.14	8.10	≤ 13
	1	<b>8.14</b>	<b>8.12</b>	≤ 13

**Table 8-120. Peak To Average Power Ratio Summary Data (MSR 3C\_NR n5\_2C\_10M+10M+LTE B5\_1C\_5M\_2T)**

DSS Ratio	Channel	Port	PAPR (dB)		Limit (dB)
			QPSK	16QAM	
LTE 9 : NR 1	Low	0	7.99	8.01	≤ 13
		1	8.01	8.03	≤ 13
	Middle	0	8.01	8.03	≤ 13
		1	8.04	8.04	≤ 13
	High	0	<b>8.15</b>	8.10	≤ 13
		1	8.14	<b>8.17</b>	≤ 13

**Table 8-121. Peak To Average Power Ratio Summary Data (MSR 2C\_DSS B(n)5\_1C\_10M+NR n5\_1C\_5M\_2T)**

FCC ID: A3LRF4461D-13A		MEASUREMENT REPORT (CERTIFICATION)			Approved by: Technical Manager
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DSS Ratio	Channel	Port	PAPR (dB)		Limit (dB)
			QPSK	16QAM	
LTE 9 : NR 1	Middle	0	8.04	<b>8.09</b>	≤ 13
		1	<b>8.06</b>	8.04	≤ 13

**Table 8-122. Peak To Average Power Ratio Summary Data (MSR 2C\_DSS B(n)5\_1C\_10M+NR n5\_1C\_15M\_2T)**

DSS Ratio	Channel	Port	PAPR (dB)		Limit (dB)
			QPSK	16QAM	
LTE 9 : NR 1	Low	0	7.97	7.98	≤ 13
		1	7.98	7.99	≤ 13
	Middle	0	8.00	7.99	≤ 13
		1	8.04	8.01	≤ 13
	High	0	<b>8.18</b>	<b>8.14</b>	≤ 13
		1	8.11	8.13	≤ 13

**Table 8-123. Peak To Average Power Ratio Summary Data (MSR 3C\_DSS B(n)5\_1C\_10M+NR n5\_1C\_5M+LTE B5\_1C\_5M\_2T)**

DSS Ratio	Channel	Port	PAPR (dB)		Limit (dB)
			QPSK	16QAM	
LTE 9 : NR 1	Middle	0	<b>8.16</b>	<b>8.17</b>	≤ 13
		1	8.14	8.15	≤ 13

**Table 8-124. Peak To Average Power Ratio Summary Data (MSR 3C\_DSS B(n)5\_1C\_10M+NR n5\_1C\_10M+LTE B5\_1C\_5M\_2T)**

FCC ID: A3LRF4461D-13A		MEASUREMENT REPORT (CERTIFICATION)			Approved by: Technical Manager
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Channel	Port	PAPR (dB)				Limit (dB)
		QPSK	16QAM	64QAM	256QAM	
Low	0	8.27	8.41	8.34	8.31	≤ 13
	1	8.25	8.41	8.33	8.31	≤ 13
Middle	0	8.28	8.43	8.34	8.30	≤ 13
	1	<b>8.29</b>	<b>8.44</b>	8.34	8.29	≤ 13
High	0	8.27	8.42	8.35	8.29	≤ 13
	1	8.28	8.43	8.33	8.28	≤ 13

**Table 8-125. Peak To Average Power Ratio Summary Data (LTE B13\_1C\_5M\_2T)**

Channel	Port	PAPR (dB)				Limit (dB)
		QPSK	16QAM	64QAM	256QAM	
Middle	0	<b>7.61</b>	7.60	<b>7.62</b>	7.59	≤ 13
	1	7.60	7.59	7.62	7.59	≤ 13

**Table 8-126. Peak To Average Power Ratio Summary Data (LTE B13\_1C\_10M\_2T)**

Channel	Port	PAPR (dB)		Limit (dB)
		QPSK	16QAM	
Middle	0	<b>7.64</b>	<b>7.65</b>	≤ 13
	1	7.63	7.64	≤ 13

**Table 8-127. Peak To Average Power Ratio Summary Data (LTE B13\_2C\_5M+5M\_2T)**

Channel	Port	PAPR (dB)	Limit (dB)
		QPSK	
Low	0	<b>8.48</b>	≤ 13
	1	8.47	≤ 13
Middle	0	8.39	≤ 13
	1	8.40	≤ 13
High	0	8.45	≤ 13
	1	8.44	≤ 13

**Table 8-128. Peak To Average Power Ratio Summary Data (LTE B13\_1C\_5M+NB-IoT(11B)\_2T)**

Channel	Port	PAPR (dB)				Limit (dB)
		QPSK				
		LTE B13_1C_10M+ NB-IoT(2GB)	LTE B13_1C_10M+ NB-IoT(GB+IB)	LTE B13_1C_10M+ NB-IoT(IB+GB)	LTE B13_1C_10M+ NB-IoT(2IB)	
Middle	0	7.78	7.86	7.87	7.76	≤ 13
	1	7.78	<b>7.87</b>	7.87	7.76	≤ 13

**Table 8-129. Peak To Average Power Ratio Summary Data (LTE B13\_1C\_10M+NB-IoT\_2T)**

FCC ID: A3LRF4461D-13A		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
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Channel	Port	PAPR (dB)				Limit (dB)
		QPSK	16QAM	64QAM	256QAM	
Low	0	8.45	8.42	8.32	8.35	≤ 13
	1	8.42	8.41	8.25	8.35	≤ 13
	2	8.44	8.37	8.34	8.37	≤ 13
	3	8.40	8.37	8.31	8.36	≤ 13
Middle	0	<b>8.47</b>	8.40	8.32	8.38	≤ 13
	1	8.46	<b>8.43</b>	8.28	8.35	≤ 13
	2	8.47	8.35	8.34	8.35	≤ 13
	3	8.37	8.35	8.32	8.34	≤ 13
High	0	8.38	8.35	8.26	8.34	≤ 13
	1	8.41	8.35	8.27	8.32	≤ 13
	2	8.42	8.34	8.31	8.30	≤ 13
	3	8.39	8.31	8.33	8.30	≤ 13

**Table 8-130. Peak To Average Power Ratio Summary Data (LTE B5\_1C\_5M\_4T)**

Channel	Port	PAPR (dB)				Limit (dB)
		QPSK	16QAM	64QAM	256QAM	
Low	0	8.35	8.37	8.39	8.42	≤ 13
	1	8.36	8.36	8.36	8.40	≤ 13
	2	7.63	7.63	7.64	7.65	≤ 13
	3	7.63	7.65	7.64	7.66	≤ 13
Middle	0	<b>8.38</b>	8.36	8.35	<b>8.44</b>	≤ 13
	1	8.37	8.34	8.33	8.40	≤ 13
	2	7.62	7.62	7.61	7.62	≤ 13
	3	7.61	7.62	7.62	7.62	≤ 13
High	0	8.38	8.34	8.36	8.41	≤ 13
	1	8.36	8.37	8.36	8.39	≤ 13
	2	7.82	7.74	7.80	7.82	≤ 13
	3	7.81	7.77	7.79	7.81	≤ 13

**Table 8-131. Peak To Average Power Ratio Summary Data (LTE B5\_1C\_10M\_4T)**

FCC ID: A3LRF4461D-13A		<b>MEASUREMENT REPORT (CERTIFICATION)</b>		<b>Approved by:</b> Technical Manager
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Channel	Port	PAPR (dB)		Limit (dB)
		QPSK	16QAM	
Low	0	<b>8.47</b>	8.44	≤ 13
	1	8.47	8.44	≤ 13
	2	8.04	8.02	≤ 13
	3	8.03	8.02	≤ 13
Middle	0	8.44	8.43	≤ 13
	1	8.43	8.45	≤ 13
	2	8.07	8.06	≤ 13
	3	8.07	8.06	≤ 13
High	0	8.46	<b>8.52</b>	≤ 13
	1	8.39	8.51	≤ 13
	2	8.07	8.12	≤ 13
	3	8.07	8.12	≤ 13

**Table 8-132. Peak To Average Power Ratio Summary Data (LTE B5\_2C\_5M+5M\_4T)**


Channel	Port	PAPR (dB)		Limit (dB)
		QPSK	16QAM	
Middle	0	<b>8.39</b>	8.38	≤ 13
	1	8.36	<b>8.40</b>	≤ 13
	2	7.88	7.91	≤ 13
	3	7.88	7.91	≤ 13

**Table 8-133. Peak To Average Power Ratio Summary Data (LTE B5\_3C\_5M+10M+10M\_4T)**

FCC ID: A3LRF4461D-13A		<b>MEASUREMENT REPORT (CERTIFICATION)</b>		<b>Approved by:</b> Technical Manager
<b>Test Report S/N:</b> 8K23073101-00.A3L	<b>Test Dates:</b> 04/12/2023 - 08/03/2023	<b>EUT Type:</b> RRU(RF4461d)	Page 129 of 404	

DSS Ratio	Channel	Port	PAPR (dB)				Limit (dB)
			QPSK	16QAM	64QAM	256QAM	
LTE 9 : NR 1	Low	0	8.51	8.52	8.85	8.54	≤ 13
		1	8.45	8.56	8.82	8.48	≤ 13
		2	8.01	8.02	8.51	8.04	≤ 13
		3	8.00	8.04	8.49	8.05	≤ 13
	Middle	0	8.48	8.54	8.80	8.54	≤ 13
		1	8.49	8.49	8.78	8.53	≤ 13
		2	8.03	8.09	8.38	8.06	≤ 13
		3	8.04	8.07	8.44	8.07	≤ 13
	High	0	8.50	8.48	8.81	8.54	≤ 13
		1	8.50	8.47	8.87	8.51	≤ 13
		2	8.05	8.06	8.46	8.08	≤ 13
		3	8.08	8.07	8.47	8.07	≤ 13
LTE 8 : NR 2	Low	0	8.54	8.66	8.62	8.58	≤ 13
		1	8.57	8.68	8.58	8.56	≤ 13
		2	8.05	8.08	8.06	8.05	≤ 13
		3	8.06	8.06	8.06	8.06	≤ 13
	Middle	0	8.56	8.57	8.62	8.62	≤ 13
		1	8.54	8.58	8.62	8.55	≤ 13
		2	8.06	8.07	8.07	8.07	≤ 13
		3	8.05	8.07	8.07	8.07	≤ 13
	High	0	8.59	8.56	8.61	8.50	≤ 13
		1	8.62	8.56	8.56	8.52	≤ 13
		2	8.13	8.07	8.13	8.09	≤ 13
		3	8.14	8.06	8.13	8.08	≤ 13
LTE 4 : NR 6	Low	0	8.82	8.80	8.90	8.95	≤ 13
		1	8.83	8.82	8.88	9.00	≤ 13
		2	8.11	8.11	8.13	8.14	≤ 13
		3	8.11	8.11	8.13	8.13	≤ 13
	Middle	0	8.82	8.84	8.95	<b>9.01</b>	≤ 13
		1	8.82	8.79	8.91	8.95	≤ 13
		2	8.11	8.10	8.13	8.10	≤ 13
		3	8.12	8.09	8.13	8.10	≤ 13
	High	0	<b>8.84</b>	8.79	8.88	8.90	≤ 13
		1	8.84	8.76	8.77	8.86	≤ 13
		2	8.27	8.20	8.27	8.27	≤ 13
		3	8.25	8.21	8.28	8.27	≤ 13

**Table 8-134. Peak To Average Power Ratio Summary Data (DSS B(n)5\_1C\_10M\_4T)**

FCC ID: A3LRF4461D-13A		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
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DSS Ratio	Channel	Port	PAPR (dB)		Limit (dB)
			QPSK	16QAM	
LTE 9 : NR 1	Low	0	8.15	<b>8.57</b>	≤ 13
		1	8.51	8.52	≤ 13
		2	8.04	8.06	≤ 13
		3	8.05	8.04	≤ 13
	Middle	0	8.51	8.52	≤ 13
		1	<b>8.52</b>	8.48	≤ 13
		2	8.04	8.05	≤ 13
		3	8.04	8.05	≤ 13
	High	0	8.47	8.57	≤ 13
		1	8.51	8.50	≤ 13
		2	8.16	8.17	≤ 13
		3	8.16	8.19	≤ 13

**Table 8-135. Peak To Average Power Ratio Summary Data (DSS B(n)5\_2C\_10M+10M\_4T)**

Channel	Port	PAPR (dB)				Limit (dB)
		QPSK	16QAM	64QAM	256QAM	
Low	0	8.37	8.28	8.39	8.34	≤ 13
	1	8.39	8.30	8.36	8.36	≤ 13
	2	8.39	8.28	8.32	8.31	≤ 13
	3	8.40	8.27	8.36	8.33	≤ 13
Middle	0	8.35	8.37	8.32	8.35	≤ 13
	1	8.37	8.29	8.32	<b>8.39</b>	≤ 13
	2	8.39	8.30	8.39	8.36	≤ 13
	3	8.39	8.34	8.36	8.39	≤ 13
High	0	8.36	8.35	8.35	8.31	≤ 13
	1	8.39	8.32	8.32	8.36	≤ 13
	2	<b>8.41</b>	8.31	8.36	8.32	≤ 13
	3	8.41	8.32	8.34	8.32	≤ 13

**Table 8-136. Peak To Average Power Ratio Summary Data (NR n5\_1C\_5M\_4T)**

FCC ID: A3LRF4461D-13A		<b>MEASUREMENT REPORT (CERTIFICATION)</b>		<b>Approved by:</b> Technical Manager
<b>Test Report S/N:</b> 8K23073101-00.A3L	<b>Test Dates:</b> 04/12/2023 - 08/03/2023	<b>EUT Type:</b> RRU(RF4461d)	Page 131 of 404	

Channel	Port	PAPR (dB)				Limit (dB)
		QPSK	16QAM	64QAM	256QAM	
Low	0	8.36	8.33	8.43	8.42	≤ 13
	1	8.38	8.31	8.40	8.43	≤ 13
	2	7.64	7.62	7.65	7.65	≤ 13
	3	7.63	7.62	7.64	7.65	≤ 13
Middle	0	8.37	8.31	8.39	8.44	≤ 13
	1	8.38	8.30	8.38	<b>8.45</b>	≤ 13
	2	7.60	7.60	7.61	7.61	≤ 13
	3	7.60	7.61	7.60	7.61	≤ 13
High	0	<b>8.40</b>	8.32	8.36	8.43	≤ 13
	1	8.39	8.30	8.37	8.42	≤ 13
	2	7.80	7.75	7.80	7.80	≤ 13
	3	7.81	7.75	7.81	7.83	≤ 13

**Table 8-137. Peak To Average Power Ratio Summary Data (NR n5\_1C\_10M\_4T)**

Channel	Port	PAPR (dB)				Limit (dB)
		QPSK	16QAM	64QAM	256QAM	
Low	0	8.36	8.34	8.41	8.32	≤ 13
	1	8.36	8.31	8.38	8.30	≤ 13
	2	7.69	7.68	7.67	7.69	≤ 13
	3	7.68	7.68	7.67	7.67	≤ 13
Middle	0	<b>8.37</b>	8.33	8.42	8.33	≤ 13
	1	8.37	8.30	<b>8.43</b>	8.33	≤ 13
	2	7.62	7.61	7.62	7.64	≤ 13
	3	7.62	7.62	7.63	7.64	≤ 13
High	0	8.36	8.27	8.36	8.35	≤ 13
	1	8.34	8.27	8.38	8.33	≤ 13
	2	7.90	7.89	7.90	7.89	≤ 13
	3	7.90	7.90	7.91	7.90	≤ 13

**Table 8-138. Peak To Average Power Ratio Summary Data (NR n5\_1C\_15M\_4T)**

FCC ID: A3LRF4461D-13A		<b>MEASUREMENT REPORT (CERTIFICATION)</b>		<b>Approved by:</b> Technical Manager
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Channel	Port	PAPR (dB)		Limit (dB)
		QPSK	16QAM	
Low	0	8.43	8.42	≤ 13
	1	8.39	8.41	≤ 13
	2	8.00	8.02	≤ 13
	3	8.00	8.01	≤ 13
Middle	0	<b>8.45</b>	8.40	≤ 13
	1	8.41	<b>8.46</b>	≤ 13
	2	8.05	8.03	≤ 13
	3	8.01	8.03	≤ 13
High	0	8.41	8.42	≤ 13
	1	8.44	8.39	≤ 13
	2	8.08	8.07	≤ 13
	3	8.02	8.06	≤ 13

**Table 8-139. Peak To Average Power Ratio Summary Data (NR n5\_2C\_5M+5M\_4T)**

Channel	Port	PAPR (dB)		Limit (dB)
		QPSK	16QAM	
Middle	0	8.40	8.36	≤ 13
	1	<b>8.43</b>	<b>8.38</b>	≤ 13
	2	8.08	8.09	≤ 13
	3	7.90	7.89	≤ 13

**Table 8-140. Peak To Average Power Ratio Summary Data (NR n5\_2C\_10M+15M\_4T)**

FCC ID: A3LRF4461D-13A		<b>MEASUREMENT REPORT (CERTIFICATION)</b>		<b>Approved by:</b> Technical Manager
<b>Test Report S/N:</b> 8K23073101-00.A3L	<b>Test Dates:</b> 04/12/2023 - 08/03/2023	<b>EUT Type:</b> RRU(RF4461d)		Page 133 of 404

DSS Ratio	Channel	Port	PAPR (dB)		Limit (dB)
			QPSK	16QAM	
LTE 9 : NR 1	Low	0	8.45	8.38	≤ 13
		1	8.44	<b>8.43</b>	≤ 13
		2	7.96	8.01	≤ 13
		3	7.99	7.98	≤ 13
	Middle	0	8.47	8.39	≤ 13
		1	8.47	8.41	≤ 13
		2	8.03	8.03	≤ 13
		3	8.06	8.03	≤ 13
	High	0	<b>8.48</b>	8.37	≤ 13
		1	8.39	8.36	≤ 13
		2	8.14	8.15	≤ 13
		3	8.23	8.15	≤ 13

**Table 8-141. Peak To Average Power Ratio Summary Data (MSR 2C\_DSS B(n)5\_1C\_10M+LTE B5\_1C\_5M\_4T)**

DSS Ratio	Channel	Port	PAPR (dB)		Limit (dB)
			QPSK	16QAM	
LTE 9 : NR 1	Middle	0	8.45	<b>8.48</b>	≤ 13
		1	<b>8.46</b>	8.46	≤ 13
		2	8.18	8.22	≤ 13
		3	8.20	8.20	≤ 13

**Table 8-142. Peak To Average Power Ratio Summary Data (MSR 3C\_DSS B(n)5\_2C\_10M+10M+LTE B5\_1C\_5M\_4T)**

FCC ID: A3LRF4461D-13A		MEASUREMENT REPORT (CERTIFICATION)			Approved by: Technical Manager
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Channel	Port	PAPR (dB)		Limit (dB)
		QPSK	16QAM	
Low	0	8.36	<b>8.40</b>	≤ 13
	1	8.38	8.39	≤ 13
	2	7.98	8.03	≤ 13
	3	8.01	8.03	≤ 13
Middle	0	8.33	8.38	≤ 13
	1	<b>8.40</b>	8.35	≤ 13
	2	8.01	8.03	≤ 13
	3	8.00	8.03	≤ 13
High	0	8.39	8.37	≤ 13
	1	8.38	8.39	≤ 13
	2	8.07	8.06	≤ 13
	3	8.06	8.04	≤ 13

**Table 8-143. Peak To Average Power Ratio Summary Data (MSR 2C\_NR n5\_1C\_5M+LTE B5\_1C\_5M\_4T)**

Channel	Port	PAPR (dB)		Limit (dB)
		QPSK	16QAM	
Middle	0	8.42	8.37	≤ 13
	1	<b>8.43</b>	<b>8.39</b>	≤ 13
	2	8.17	8.14	≤ 13
	3	8.18	8.18	≤ 13

**Table 8-144. Peak To Average Power Ratio Summary Data (MSR 3C\_NR n5\_2C\_10M+10M+LTE B5\_1C\_5M\_4T)**

FCC ID: A3LRF4461D-13A		<b>MEASUREMENT REPORT (CERTIFICATION)</b>		<b>Approved by:</b> Technical Manager
<b>Test Report S/N:</b> 8K23073101-00.A3L	<b>Test Dates:</b> 04/12/2023 - 08/03/2023	<b>EUT Type:</b> RRU(RF4461d)		Page 135 of 404

Channel	Port	PAPR (dB)		Limit (dB)
		QPSK	16QAM	
Low	0	8.59	8.67	≤ 13
	1	8.62	8.66	≤ 13
	2	8.24	8.26	≤ 13
	3	8.24	8.29	≤ 13
Middle	0	8.61	8.63	≤ 13
	1	<b>8.68</b>	8.66	≤ 13
	2	8.27	8.31	≤ 13
	3	8.27	8.28	≤ 13
High	0	8.63	<b>8.69</b>	≤ 13
	1	8.62	8.58	≤ 13
	2	8.42	8.38	≤ 13
	3	8.40	8.36	≤ 13

**Table 8-145. Peak To Average Power Ratio Summary Data (MSR 2C\_DSS B(n)5\_1C\_10M+NR n5\_1C\_5M\_4T)**

Channel	Port	PAPR (dB)		Limit (dB)
		QPSK	16QAM	
Mid	0	8.52	<b>8.51</b>	≤ 13
	1	<b>8.54</b>	8.50	≤ 13
	2	8.22	8.27	≤ 13
	3	8.20	8.20	≤ 13

**Table 8-146. Peak To Average Power Ratio Summary Data (MSR 2C\_DSS B(n)5\_1C\_10M+NR n5\_1C\_15M\_4T)**

FCC ID: A3LRF4461D-13A		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
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Channel	Port	PAPR (dB)		Limit (dB)
		QPSK	16QAM	
Low	0	8.45	8.54	≤ 13
	1	8.48	8.58	≤ 13
	2	8.10	8.11	≤ 13
	3	8.16	8.10	≤ 13
Middle	0	8.56	8.59	≤ 13
	1	8.59	8.46	≤ 13
	2	8.18	8.21	≤ 13
	3	8.21	8.25	≤ 13
High	0	<b>8.60</b>	8.54	≤ 13
	1	8.54	<b>8.67</b>	≤ 13
	2	8.26	8.40	≤ 13
	3	8.30	8.24	≤ 13

**Table 8-147. Peak To Average Power Ratio Summary Data (MSR 3C\_DSS B(n)5\_1C\_10M+NR n5\_1C\_5M+LTE B5\_1C\_5M\_4T)**

Channel	Port	PAPR (dB)		Limit (dB)
		QPSK	16QAM	
Middle	0	<b>8.50</b>	<b>8.57</b>	≤ 13
	1	8.49	8.55	≤ 13
	2	8.24	8.23	≤ 13
	3	8.30	8.30	≤ 13

**Table 8-148. Peak To Average Power Ratio Summary Data (MSR 3C\_DSS B(n)5\_1C\_10M+NR n5\_1C\_10M+LTE B5\_1C\_5M\_4T)**

FCC ID: A3LRF4461D-13A		<b>MEASUREMENT REPORT (CERTIFICATION)</b>		<b>Approved by:</b> Technical Manager
<b>Test Report S/N:</b> 8K23073101-00.A3L	<b>Test Dates:</b> 04/12/2023 - 08/03/2023	<b>EUT Type:</b> RRU(RF4461d)	Page 137 of 404	

Channel	Port	PAPR (dB)				Limit (dB)
		QPSK	16QAM	64QAM	256QAM	
Low	0	8.42	8.34	8.31	8.36	≤ 13
	1	8.42	8.35	8.34	8.34	≤ 13
	2	8.42	8.34	8.32	8.36	≤ 13
	3	8.42	8.34	8.31	8.34	≤ 13
Middle	0	<b>8.44</b>	8.33	8.32	8.34	≤ 13
	1	8.43	8.33	8.32	8.36	≤ 13
	2	8.43	8.33	8.33	8.34	≤ 13
	3	8.42	8.34	8.30	8.34	≤ 13
High	0	8.42	8.34	8.30	8.35	≤ 13
	1	8.41	<b>8.36</b>	8.33	8.35	≤ 13
	2	8.41	8.32	8.34	8.35	≤ 13
	3	8.41	8.33	8.31	8.36	≤ 13

**Table 8-149. Peak To Average Power Ratio Summary Data (LTE B13\_1C\_5M\_4T)**

Channel	Port	PAPR (dB)				Limit (dB)
		QPSK	16QAM	64QAM	256QAM	
Middle	0	<b>8.37</b>	8.35	8.31	<b>8.41</b>	≤ 13
	1	8.35	8.36	8.35	8.41	≤ 13
	2	7.62	7.63	7.62	7.63	≤ 13
	3	7.61	7.61	7.62	7.62	≤ 13

**Table 8-150. Peak To Average Power Ratio Summary Data (LTE B13\_1C\_10M\_4T)**

Channel	Port	PAPR (dB)		Limit (dB)
		QPSK	16QAM	
Middle	0	8.40	<b>8.42</b>	≤ 13
	1	<b>8.41</b>	8.39	≤ 13
	2	7.67	7.67	≤ 13
	3	7.66	7.65	≤ 13

**Table 8-151. Peak To Average Power Ratio Summary Data (LTE B13\_2C\_5M+5M\_4T)**

FCC ID: A3LRF4461D-13A		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 8K23073101-00.A3L	Test Dates: 04/12/2023 - 08/03/2023	EUT Type: RRU(RF4461d)		Page 138 of 404

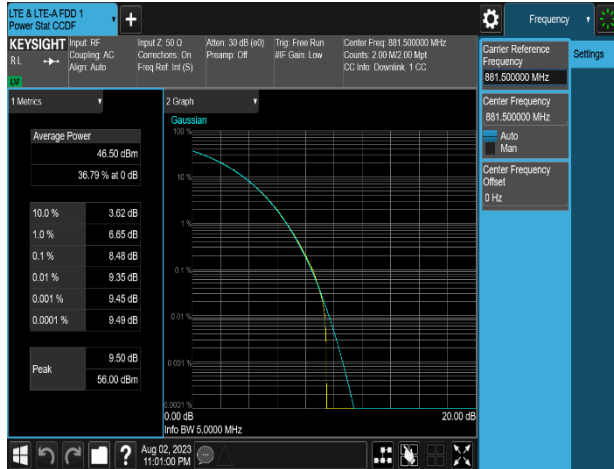
Channel	Port	PAPR (dB)		Limit (dB)
		QPSK		
Low	0	8.49		≤ 13
	1	<b>8.52</b>		≤ 13
	2	8.52		≤ 13
	3	8.50		≤ 13
Middle	0	8.40		≤ 13
	1	8.38		≤ 13
	2	8.40		≤ 13
	3	8.39		≤ 13
High	0	8.45		≤ 13
	1	8.46		≤ 13
	2	8.49		≤ 13
	3	8.48		≤ 13

**Table 8-152. Peak To Average Power Ratio Summary Data (LTE B13\_1C\_5M+NB-IoT(11B)\_4T)**

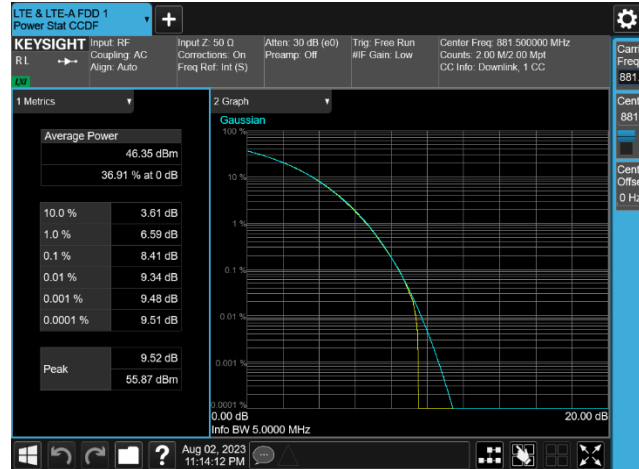
Channel	Port	PAPR (dB)				Limit (dB)
		QPSK				
		LTE B13_1C_10M+ NB-IoT(2GB)	LTE B13_1C_10M+ NB-IoT(GB+IB)	LTE B13_1C_10M+ NB-IoT(IB+GB)	LTE B13_1C_10M+ NB-IoT(2IB)	
Middle	0	8.66	8.47	8.50	8.42	≤ 13
	1	<b>8.69</b>	8.46	8.51	8.44	≤ 13
	2	7.76	7.88	7.88	8.46	≤ 13
	3	7.76	7.87	7.88	8.46	≤ 13

**Table 7 103. Peak To Average Power Ratio Summary Data (LTE B13\_1C\_10M+NB-IoT\_4T)**

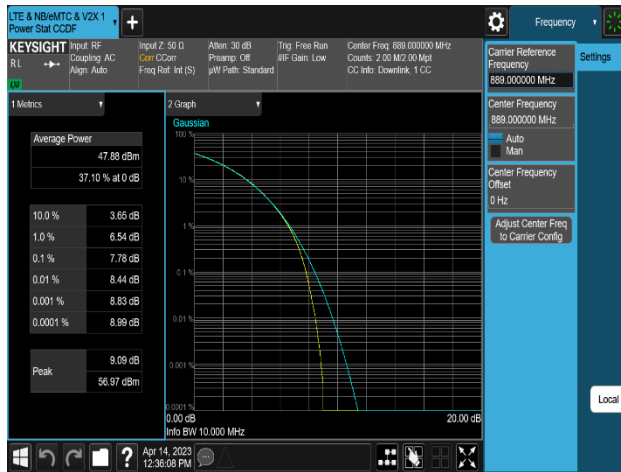
FCC ID: A3LRF4461D-13A		MEASUREMENT REPORT (CERTIFICATION)			Approved by: Technical Manager
Test Report S/N: 8K23073101-00.A3L	Test Dates: 04/12/2023 - 08/03/2023	EUT Type: RRU(RF4461d)		Page 139 of 404	



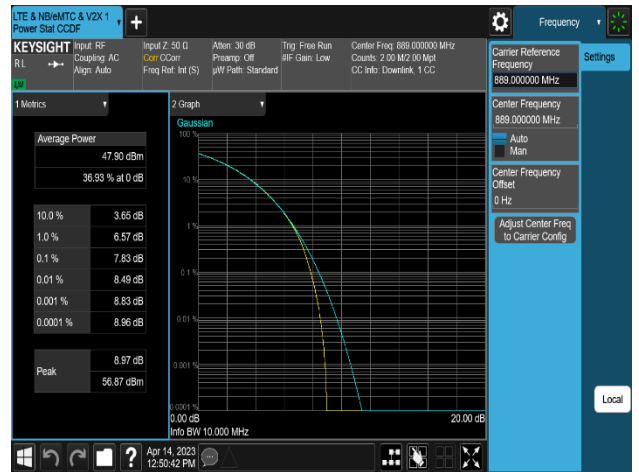
Plot 8-185. Peak To Average Power Ratio Plot  
(LTE B5\_1C\_5M\_QPSK - Mid Channel\_2T, Port 1)



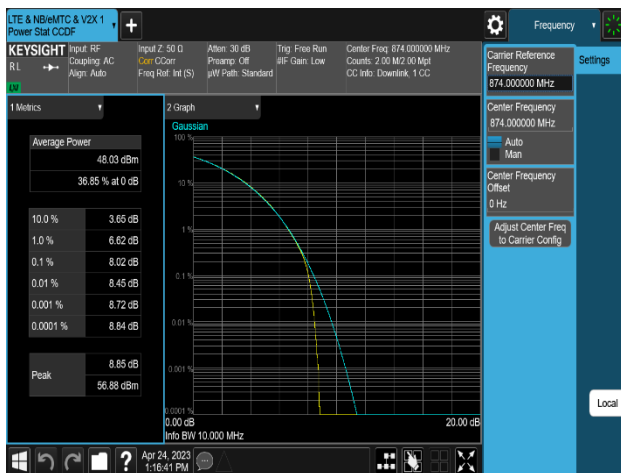
Plot 8-186. Peak To Average Power Ratio Plot  
(LTE B5\_1C\_5M\_16QAM - Mid Channel\_2T, Port 0)



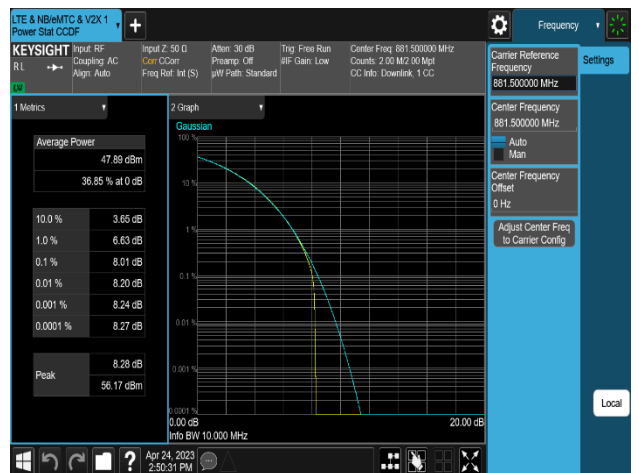
Plot 8-187. Peak To Average Power Ratio Plot  
(LTE B5\_1C\_10M\_QPSK - High Channel\_2T, Port 0)



Plot 8-188. Peak To Average Power Ratio Plot  
(LTE B5\_1C\_10M\_16QAM - High Channel\_2T, Port 0)



Plot 8-189. Peak To Average Power Ratio Plot  
(LTE B5\_2C\_5M+5M\_QPSK - Low Channel\_2T, Port 1)



Plot 8-190. Peak To Average Power Ratio Plot  
(LTE B5\_2C\_5M+5M\_16QAM - Mid Channel\_2T, Port 1)

FCC ID: A3LRF4461D-13A		<b>MEASUREMENT REPORT (CERTIFICATION)</b>		<b>Approved by:</b> Technical Manager
<b>Test Report S/N:</b> 8K23073101-00.A3L	<b>Test Dates:</b> 04/12/2023 - 08/03/2023	<b>EUT Type:</b> RRU(RF4461d)		Page 140 of 404