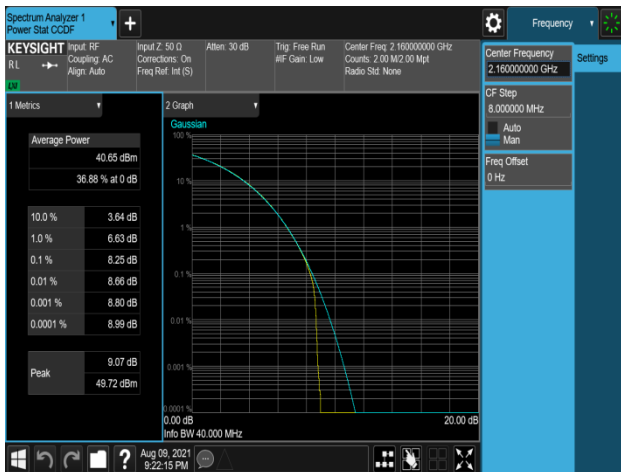




Plot 7-856. Peak To Average Power Ratio Plot (B66\_5M+5M+10M+20M\_4C\_16QAM – Low Channel, Port 0)



Plot 7-857. Peak To Average Power Ratio Plot (B66\_5M+5M+10M+20M\_4C\_64QAM – Mid Channel, Port 2)



Plot 7-858. Peak To Average Power Ratio Plot (B66\_5M+5M+10M+20M\_4C\_QPSK – High Channel, Port 0)

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## 7.6 Band Edge Emissions at Antenna Terminal § 2.1051, § 24.238, § 27.53(h)

### Test Overview

All out of band emissions are measured with a spectrum analyzer connected to the antenna terminal of the EUT while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies. All data rates were investigated to determine the worst case configuration. All modes of operation were investigated and the worst case configuration results are reported in this section.

### Test Procedure Used

KDB 971168 D01 v03r01 – Section 6

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

a) Absolute Emission Limits

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

ANSI C63.26-2015 – Section 5.7

### Test Setting

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

### Limit

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

The power of any emission outside of the authorized operating frequency range cannot exceed -13 dBm. The limit is adjusted to -19 dBm [-13 dBm -  $10 \log(4)$ ] per KDB 662911 D01 v02r01 - section E)3) because the EUT operate as a 4 port MIMO transmitter.

### Test Setup

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

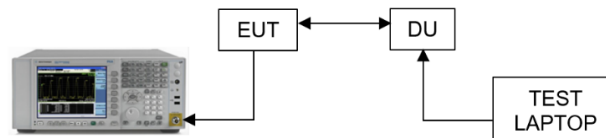






Figure 7-5. Test Instrument & Measurement Setup

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**Test Notes**

1. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater. However, in the 1 megahertz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency outside of which all emissions are attenuated at least 26 dB below the transmitter power.
2. All the measurement has been tested but test plots are referred from the highest of value of each of modulation of each antenna ports.



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Channel	Port	Measured Range (MHz)	Max. Value (dBm)				Limit (dBm)
			QPSK	16QAM	64QAM	256QAM	
Low	0	1929 to 1930	-27.67	-28.42	-27.94	-28.56	-19.02
	0	1928 to 1929	-27.86	-29.10	-26.95	-29.17	-19.02
	1	1929 to 1930	-28.31	-29.25	-28.39	-28.06	-19.02
	1	1928 to 1929	-28.08	-28.76	<b>-27.40</b>	-29.09	-19.02
	2	1929 to 1930	<b>-27.74</b>	-29.26	-27.89	-27.93	-19.02
	2	1928 to 1929	-27.74	-29.20	-26.91	-26.06	-19.02
	3	1929 to 1930	-27.85	-28.97	-28.48	-28.43	-19.02
	3	1928 to 1929	-28.56	-28.65	-27.87	-27.59	-19.02
High	0	1990 to 1991	-29.27	-30.49	-29.48	-29.25	-19.02
	0	1991 to 1992	-27.39	-27.84	-26.75	-29.10	-19.02
	1	1990 to 1991	-28.71	-30.31	-29.49	-30.10	-19.02
	1	1991 to 1992	-25.68	-26.62	-26.77	-27.86	-19.02
	2	1990 to 1991	<b>-28.38</b>	-30.06	-29.49	-29.71	-19.02
	2	1991 to 1992	-25.69	<b>-24.71</b>	-25.59	-25.99	-19.02
	3	1990 to 1991	-28.61	-30.20	-29.56	-29.39	-19.02
	3	1991 to 1992	-25.56	-25.77	-25.48	-26.56	-19.02

Table 7-178. Band Edge Emission Summary Data (B2\_5M\_1C)

Channel	Port	Measured Range (MHz)	Max. Value (dBm)				Limit (dBm)
			QPSK	16QAM	64QAM	256QAM	
Low	0	1929 to 1930	-35.32	-35.77	-33.78	-34.12	-19.02
	0	1928 to 1929	-31.38	-30.76	-27.94	-27.51	-19.02
	1	1929 to 1930	-35.52	-35.05	<b>-32.60</b>	-36.50	-19.02
	1	1928 to 1929	-30.55	-30.52	<b>-27.03</b>	-29.14	-19.02
	2	1929 to 1930	-34.84	-34.24	-32.66	-34.82	-19.02
	2	1928 to 1929	-29.70	-28.53	-29.15	-29.46	-19.02
	3	1929 to 1930	-35.56	-34.54	-33.06	-34.19	-19.02
	3	1928 to 1929	-29.85	-30.55	-28.24	-28.37	-19.02
High	0	1990 to 1991	-37.07	-36.92	<b>-33.82</b>	-36.26	-19.02
	0	1991 to 1992	-30.37	-30.18	-28.58	-28.25	-19.02
	1	1990 to 1991	-36.72	-37.51	-36.32	-35.66	-19.02
	1	1991 to 1992	-29.51	-29.42	-27.02	-28.90	-19.02
	2	1990 to 1991	-36.22	-36.36	-35.66	-34.55	-19.02
	2	1991 to 1992	-28.74	-29.99	<b>-25.58</b>	-27.40	-19.02
	3	1990 to 1991	-35.15	-35.63	-36.35	-35.41	-19.02
	3	1991 to 1992	-28.79	-29.31	-27.38	-29.29	-19.02

Table 7-179. Band Edge Emission Summary Data (B2\_10M\_1C)



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Channel	Port	Measured Range (MHz)	Max. Value (dBm)				Limit (dBm)
			QPSK	16QAM	64QAM	256QAM	
Low	0	1929 to 1930	-33.68	-33.40	-33.09	-33.83	-19.02
	0	1928 to 1929	-30.04	-30.35	-31.46	-30.83	-19.02
	1	1929 to 1930	-34.39	-34.17	-33.65	-33.80	-19.02
	1	1928 to 1929	-31.40	-31.67	-30.97	-31.40	-19.02
	2	1929 to 1930	-33.61	-34.16	<b>-32.53</b>	-33.39	-19.02
	2	1928 to 1929	-30.30	-30.53	<b>-27.67</b>	-30.05	-19.02
	3	1929 to 1930	-34.45	-33.91	-33.66	-33.63	-19.02
	3	1928 to 1929	-31.07	-31.95	-30.31	-30.82	-19.02
High	0	1990 to 1991	-35.27	-33.55	-34.50	-33.96	-19.02
	0	1991 to 1992	-30.54	-30.41	-31.47	-30.15	-19.02
	1	1990 to 1991	-34.32	-34.53	-34.84	-34.39	-19.02
	1	1991 to 1992	-32.55	-31.25	-31.79	-33.16	-19.02
	2	1990 to 1991	-33.95	-33.82	<b>-33.46</b>	-34.36	-19.02
	2	1991 to 1992	-30.55	-30.48	<b>-29.64</b>	-30.88	-19.02
	3	1990 to 1991	-33.51	-33.99	-34.11	-33.91	-19.02
	3	1991 to 1992	-30.33	-31.57	-29.66	-31.68	-19.02

**Table 7-180. Band Edge Emission Summary Data (B2\_15M\_1C)**

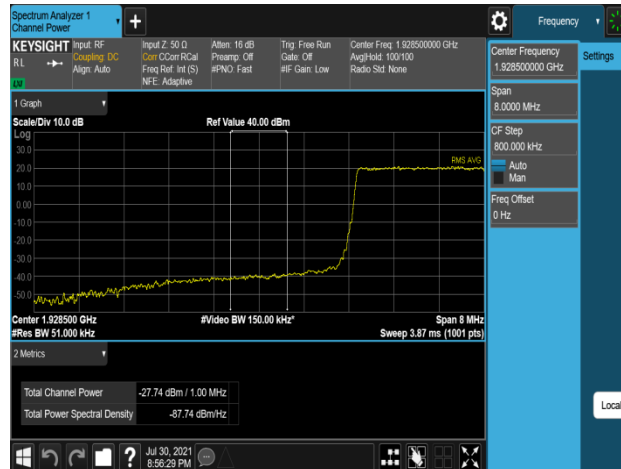
Channel	Port	Measured Range (MHz)	Max. Value (dBm)				Limit (dBm)
			QPSK	16QAM	64QAM	256QAM	
Low	0	1929 to 1930	-36.06	<b>-34.17</b>	-35.44	-34.49	-19.02
	0	1928 to 1929	-32.36	-31.69	-31.50	-31.54	-19.02
	1	1929 to 1930	-35.61	-34.72	-35.84	-34.78	-19.02
	1	1928 to 1929	-33.73	-32.36	-32.74	-32.84	-19.02
	2	1929 to 1930	-35.52	-34.23	-35.66	-35.38	-19.02
	2	1928 to 1929	-32.81	-31.99	-32.97	-32.58	-19.02
	3	1929 to 1930	-36.15	-34.45	-35.89	-34.45	-19.02
	3	1928 to 1929	-33.28	<b>-30.49</b>	-32.54	-32.42	-19.02
High	0	1990 to 1991	-35.16	-35.15	-35.83	-34.73	-19.02
	0	1991 to 1992	-32.11	-31.70	-31.41	-31.57	-19.02
	1	1990 to 1991	-35.48	-35.94	-35.79	-34.85	-19.02
	1	1991 to 1992	-32.25	-32.10	-32.69	-33.12	-19.02
	2	1990 to 1991	-35.42	-34.96	<b>-34.09</b>	-35.66	-19.02
	2	1991 to 1992	-31.76	<b>-30.50</b>	-31.73	-32.58	-19.02
	3	1990 to 1991	-34.86	-34.47	-34.73	-35.23	-19.02
	3	1991 to 1992	-32.06	-31.30	-32.49	-32.63	-19.02

**Table 7-181. Band Edge Emission Summary Data (B2\_20M\_1C)**

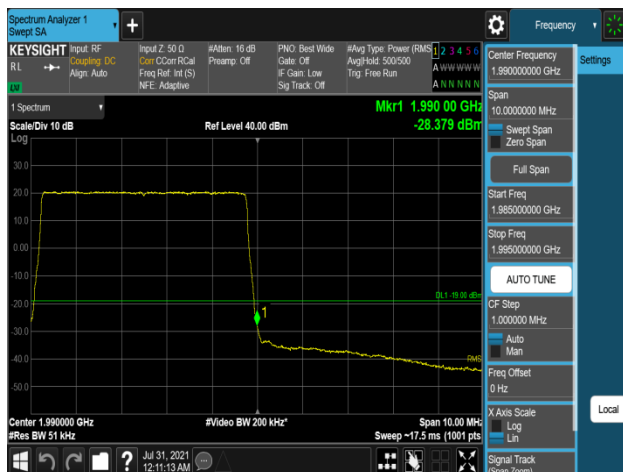
FCC ID: A3LRF4437D-25C		<b>MEASUREMENT REPORT</b>		<b>Approved by:</b> Technical Manager
<b>Test Report S/N:</b> 8K21071202-R2.A3L	<b>Test Dates:</b> 07/19/2021-08/13/2021	<b>EUT Type:</b> RRU(RF4437d)		Page 240 of 420



Plot 7-859. Band Edge Emission (1929MHz to 1930MHz) Plot (B2\_5M\_1C\_QPSK - Low Channel, Port 2)



Plot 7-860. Band Edge Emission (1928MHz to 1929MHz) Plot (B2\_5M\_1C\_64QAM - Low Channel, Port 1)



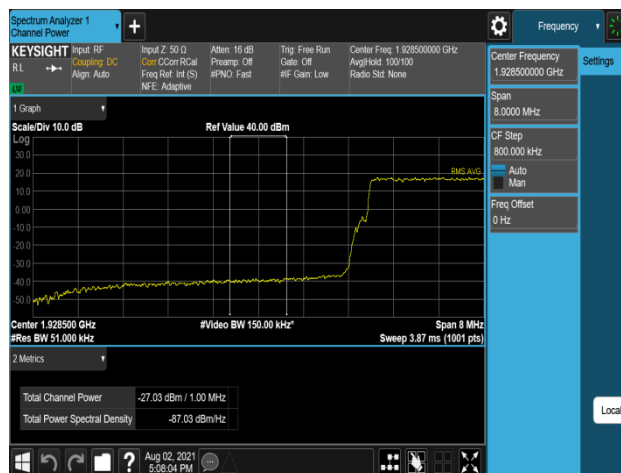
Plot 7-861. Band Edge Emission (1990MHz to 1991MHz) Plot (B2\_5M\_1C\_QPSK - High Channel, Port 2)



Plot 7-862. Band Edge Emission (1991MHz to 1992MHz) Plot (B2\_5M\_1C\_16QAM - High Channel, Port 2)



Plot 7-863. Band Edge Emission (1929MHz to 1930MHz) Plot (B2\_10M\_1C\_64QAM - Low Channel, Port 1)



Plot 7-864. Band Edge Emission (1928MHz to 1929MHz) Plot (B2\_10M\_1C\_64QAM - Low Channel, Port 1)

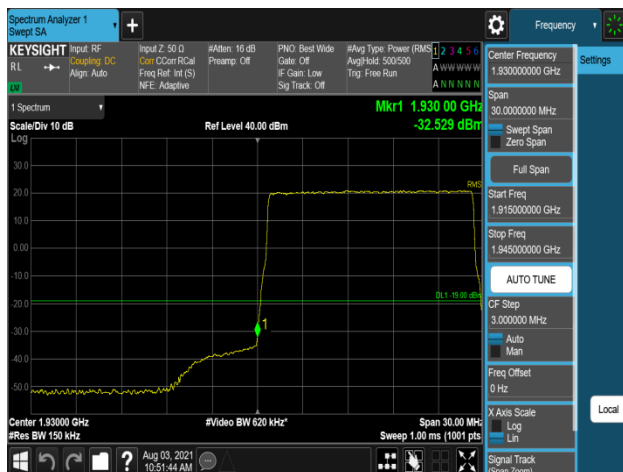
FCC ID: A3LRF4437D-25C	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 8K21071202-R2.A3L	Test Dates: 07/19/2021-08/13/2021	EUT Type: RRU(RF4437d)		Page 241 of 420



Plot 7-865. Band Edge Emission (1990MHz to 1991MHz) Plot (B2\_10M\_1C\_64QAM - High Channel, Port 0)



Plot 7-866. Band Edge Emission (1991MHz to 1992MHz) Plot (B2\_10M\_1C\_64QAM - High Channel, Port 2)



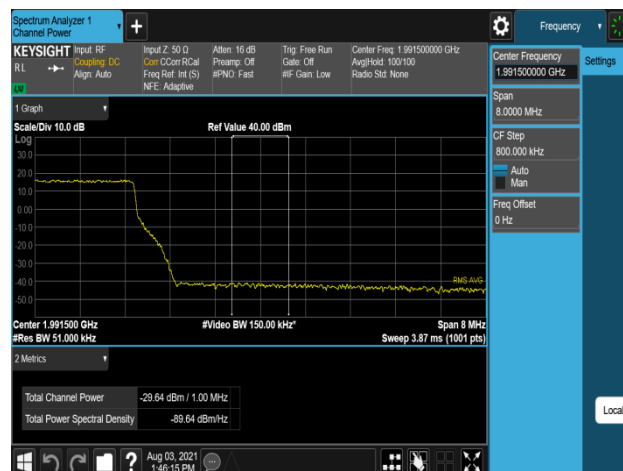
Plot 7-867. Band Edge Emission (1929MHz to 1930MHz) Plot (B2\_15M\_1C\_64QAM - Low Channel, Port 2)





Plot 7-868. Band Edge Emission (1928MHz to 1929MHz) Plot (B2\_15M\_1C\_64QAM - Low Channel, Port 2)

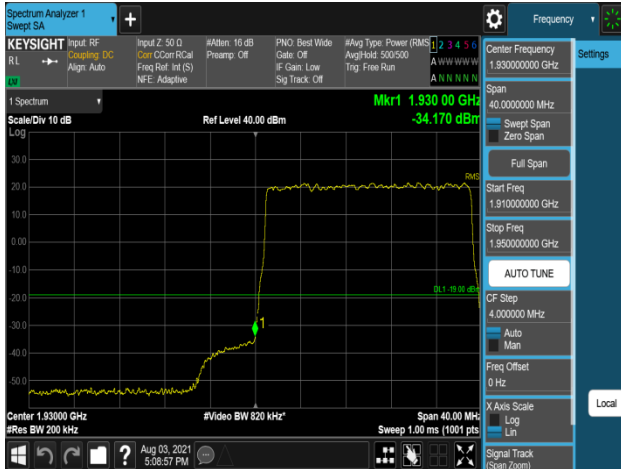


Plot 7-869. Band Edge Emission (1990MHz to 1991MHz) Plot (B2\_15M\_1C\_64QAM - High Channel, Port 2)

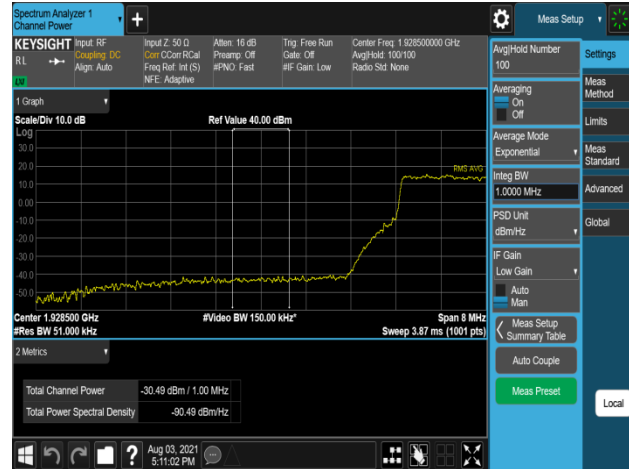


Plot 7-870. Band Edge Emission (1991MHz to 1992MHz) Plot (B2\_15M\_1C\_64QAM - High Channel, Port 2)

FCC ID: A3LRF4437D-25C		<b>MEASUREMENT REPORT</b>		<b>Approved by:</b> Technical Manager
<b>Test Report S/N:</b> 8K21071202-R2.A3L	<b>Test Dates:</b> 07/19/2021-08/13/2021	<b>EUT Type:</b> RRU(RF4437d)		Page 242 of 420



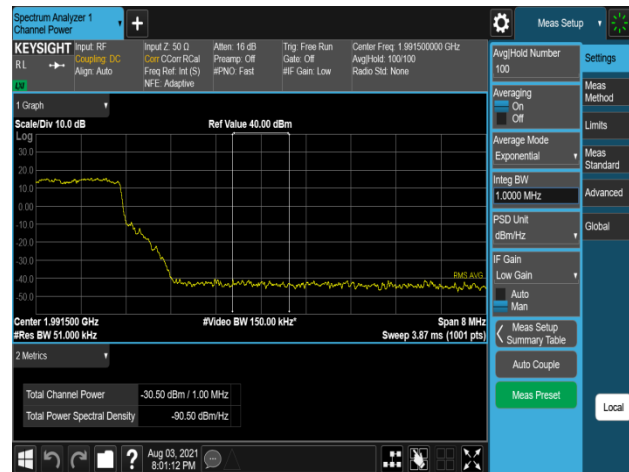
Plot 7-871. Band Edge Emission (1929MHz to 1930MHz) Plot (B2\_20M\_1C\_16QAM - Low Channel, Port 0)





Plot 7-872. Band Edge Emission (1928MHz to 1929MHz) Plot (B2\_20M\_1C\_16QAM - Low Channel, Port 3)



Plot 7-873. Band Edge Emission (1990MHz to 1991MHz) Plot (B2\_20M\_1C\_64QAM - High Channel, Port 2)



Plot 7-874. Band Edge Emission (1991MHz to 1992MHz) Plot (B2\_20M\_1C\_16QAM - High Channel, Port 2)

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Channel	Port	Measured Range (MHz)	Max. Value (dBm)				Limit (dBm)
			QPSK	16QAM	64QAM	256QAM	
Low	0	1929 to 1930	<b>-31.86</b>	-32.62	-32.74	-33.28	-19.02
	0	1928 to 1929	-29.36	-30.25	-30.04	-30.47	-19.02
	1	1929 to 1930	-32.14	-33.16	-32.87	-32.52	-19.02
	1	1928 to 1929	-29.25	-30.22	-30.98	-31.15	-19.02
	2	1929 to 1930	-49.77	-32.92	-32.55	-32.85	-19.02
	2	1928 to 1929	-37.42	-31.07	-31.55	-30.24	-19.02
	3	1929 to 1930	-49.58	-31.99	-32.14	-32.03	-19.02
	3	1928 to 1929	-37.33	-29.36	-28.81	<b>-28.60</b>	-19.02
High	0	1990 to 1991	-49.26	-34.71	-35.27	-34.41	-19.02
	0	1991 to 1992	-36.49	-29.48	-29.59	-30.51	-19.02
	1	1990 to 1991	-50.50	-33.82	-34.80	-34.45	-19.02
	1	1991 to 1992	-37.28	-29.11	-31.01	-31.11	-19.02
	2	1990 to 1991	-33.88	-33.67	-33.68	-33.52	-19.02
	2	1991 to 1992	<b>-27.23</b>	-28.45	-28.66	-28.80	-19.02
	3	1990 to 1991	-33.73	-33.48	<b>-32.89</b>	-33.65	-19.02
	3	1991 to 1992	-28.63	-28.86	-28.09	-29.20	-19.02

Table 7-182. Band Edge Emission Summary Data (B2\_5M+5M\_2C)



Channel	Port	Measured Range (MHz)	Max. Value (dBm)				Limit (dBm)
			QPSK	16QAM	64QAM	256QAM	
Low	0	1929 to 1930	<b>-36.18</b>	-36.73	-37.14	-36.28	-19.02
	0	1928 to 1929	<b>-30.79</b>	-30.88	-31.33	-31.27	-19.02
	1	1929 to 1930	-36.61	-36.75	-37.54	-36.73	-19.02
	1	1928 to 1929	-31.29	-31.69	-32.17	-31.85	-19.02
	2	1929 to 1930	-36.89	-36.21	-36.77	-37.50	-19.02
	2	1928 to 1929	-31.67	-31.78	-31.15	-31.74	-19.02
	3	1929 to 1930	-36.39	-36.44	-37.33	-37.01	-19.02
	3	1928 to 1929	-32.14	-31.38	-31.94	-32.31	-19.02
High	0	1990 to 1991	-36.21	-36.10	<b>-35.08</b>	-36.37	-19.02
	0	1991 to 1992	-31.49	-31.08	-30.44	-31.72	-19.02
	1	1990 to 1991	-36.34	-36.69	-35.50	-36.44	-19.02
	1	1991 to 1992	-32.23	<b>-28.56</b>	-31.37	-32.43	-19.02
	2	1990 to 1991	-35.84	-36.15	-35.42	-36.58	-19.02
	2	1991 to 1992	-31.08	-31.42	-31.07	-31.93	-19.02
	3	1990 to 1991	-35.72	-35.86	-35.81	-35.72	-19.02
	3	1991 to 1992	-30.24	-31.72	-31.87	-32.21	-19.02

Table 7-183. Band Edge Emission Summary Data (B2\_5M+20M\_2C)

FCC ID: A3LRF4437D-25C		MEASUREMENT REPORT		Approved by: Technical Manager
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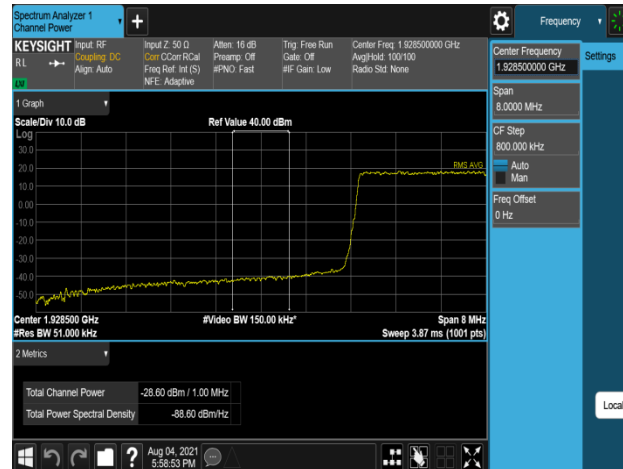
Channel	Port	Measured Range (MHz)	Max. Value (dBm)				Limit (dBm)
			QPSK	16QAM	64QAM	256QAM	
Low	0	1929 to 1930	-38.84	-38.61	-38.42	-38.65	-19.02
	0	1928 to 1929	-31.53	-31.43	<b>-30.67</b>	-31.14	-19.02
	1	1929 to 1930	-39.76	-38.91	-38.78	-38.14	-19.02
	1	1928 to 1929	-32.01	-31.51	-31.74	-31.76	-19.02
	2	1929 to 1930	-37.90	-38.78	-38.38	<b>-37.83</b>	-19.02
	2	1928 to 1929	-31.09	-32.11	-30.97	-30.93	-19.02
	3	1929 to 1930	-39.14	-38.56	-38.54	-38.44	-19.02
	3	1928 to 1929	-31.23	-31.70	-31.16	-30.88	-19.02
High	0	1990 to 1991	-35.30	-35.99	<b>-35.05</b>	-36.26	-19.02
	0	1991 to 1992	-30.29	-30.96	<b>-30.23</b>	-31.68	-19.02
	1	1990 to 1991	-35.56	-36.81	-36.13	-36.19	-19.02
	1	1991 to 1992	-30.58	-30.88	-30.76	-31.46	-19.02
	2	1990 to 1991	-36.09	-36.80	-36.91	-35.81	-19.02
	2	1991 to 1992	-31.04	-31.70	-31.47	-30.59	-19.02
	3	1990 to 1991	-35.91	-36.08	-35.82	-35.71	-19.02
	3	1991 to 1992	-31.32	-30.34	-31.66	-31.83	-19.02

Table 7-184. Band Edge Emission Summary Data (B2\_10M+20M\_2C)

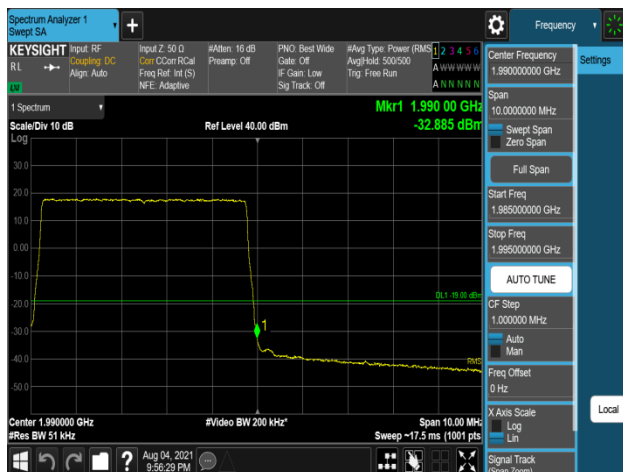
FCC ID: A3LRF4437D-25C		MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N: 8K21071202-R2.A3L	Test Dates: 07/19/2021-08/13/2021	EUT Type: RRU(RF4437d)		Page 245 of 420



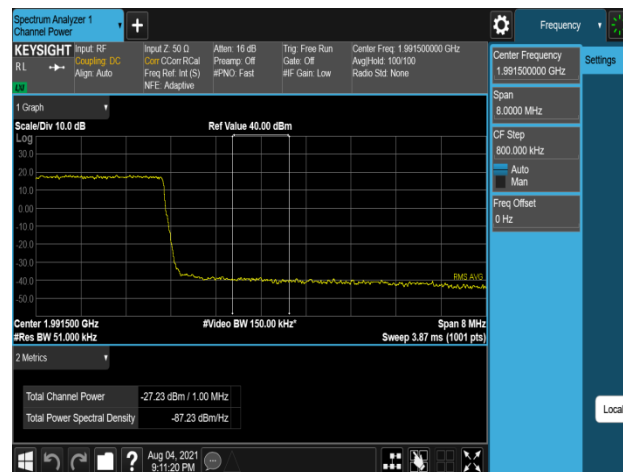
Plot 7-875. Band Edge Emission (1929MHz to 1930MHz) Plot (B2\_5M+5M\_2C\_QPSK - Low Channel, Port 0)



Plot 7-876. Band Edge Emission (1928MHz to 1929MHz) Plot (B2\_5M+5M\_2C\_256QAM - Low Channel, Port 3)



Plot 7-877. Band Edge Emission (1990MHz to 1991MHz) Plot (B2\_5M+5M\_2C\_64QAM - High Channel, Port 3)





Plot 7-878. Band Edge Emission (1991MHz to 1992MHz) Plot (B2\_5M+5M\_2C\_16QAM - High Channel, Port 2)



Plot 7-879. Band Edge Emission (1929MHz to 1930MHz) Plot (B2\_5M+20M\_2C\_QPSK - Low Channel, Port 0)



Plot 7-880. Band Edge Emission (1928MHz to 1929MHz) Plot (B2\_5M+20M\_2C\_QPSK - Low Channel, Port 0)

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Plot 7-881. Band Edge Emission (1990MHz to 1991MHz) Plot (B2\_5M+20M\_2C\_64QAM - High Channel, Port 0)



Plot 7-882. Band Edge Emission (1991MHz to 1992MHz) Plot (B2\_5M+20M\_2C\_16QAM - High Channel, Port 1)



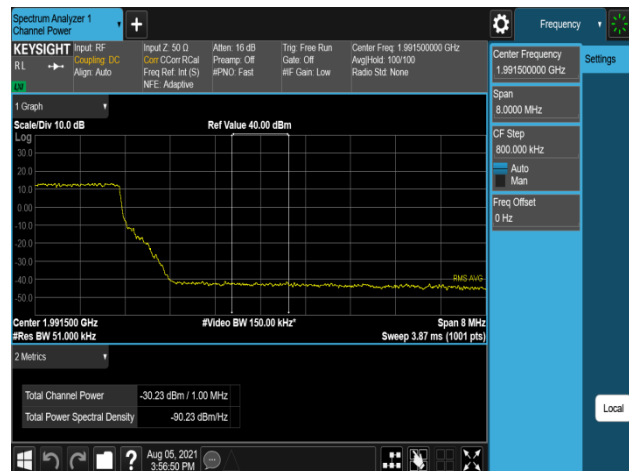
Plot 7-883. Band Edge Emission (1929MHz to 1930MHz) Plot (B2\_10M+20M\_2C\_256QAM - Low Channel, Port 2)



Plot 7-884. Band Edge Emission (1928MHz to 1929MHz) Plot (B2\_10M+20M\_2C\_64QAM - Low Channel, Port 0)



Plot 7-885. Band Edge Emission (1990MHz to 1991MHz) Plot (B2\_10M+20M\_2C\_64QAM - High Channel, Port 0)



Plot 7-886. Band Edge Emission (1991MHz to 1992MHz) Plot (B2\_10M+20M\_2C\_64QAM - High Channel, Port 0)



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Channel	Port	Measured Range (MHz)	Max. Value (dBm)				Limit (dBm)
			QPSK	16QAM	64QAM	256QAM	
Low	0	1929 to 1930	-35.08	-35.56	-35.92	-34.81	-19.02
	0	1928 to 1929	-29.15	-28.69	-28.99	-29.61	-19.02
	1	1929 to 1930	-35.82	-35.03	-34.94	-35.23	-19.02
	1	1928 to 1929	-29.66	-27.62	-30.19	-30.13	-19.02
	2	1929 to 1930	-34.89	-34.85	-35.93	-34.84	-19.02
	2	1928 to 1929	-27.97	-28.23	-29.93	-30.05	-19.02
	3	1929 to 1930	<b>-33.64</b>	-34.80	-35.92	-35.52	-19.02
	3	1928 to 1929	<b>-26.91</b>	-28.75	-29.29	-28.65	-19.02
High	0	1990 to 1991	-37.13	-37.62	-38.04	-36.68	-19.02
	0	1991 to 1992	-30.10	-30.55	-30.26	-30.06	-19.02
	1	1990 to 1991	-37.56	-37.66	-38.60	-37.66	-19.02
	1	1991 to 1992	-30.82	-31.79	-32.45	-29.57	-19.02
	2	1990 to 1991	-36.66	-37.01	<b>-36.19</b>	-37.08	-19.02
	2	1991 to 1992	<b>-28.05</b>	-28.79	-29.12	-30.53	-19.02
	3	1990 to 1991	-36.42	-36.38	-37.15	-37.94	-19.02
	3	1991 to 1992	-31.04	-29.53	-30.83	-31.54	-19.02

Table 7-185. Band Edge Emission Summary Data (B2\_5M+5M+5M\_3C)

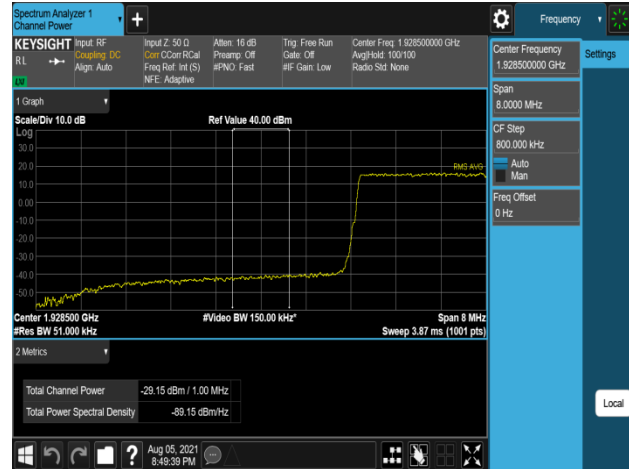
Channel	Port	Measured Range (MHz)	Max. Value (dBm)				Limit (dBm)
			QPSK	16QAM	64QAM	256QAM	
Low	0	1929 to 1930	-38.24	-39.07	-38.95	-37.59	-19.02
	0	1928 to 1929	-29.89	-31.22	-31.16	-30.09	-19.02
	1	1929 to 1930	-38.59	-39.26	-38.69	-38.66	-19.02
	1	1928 to 1929	-30.65	-31.36	-31.29	-30.79	-19.02
	2	1929 to 1930	-37.05	-38.10	-38.22	-38.59	-19.02
	2	1928 to 1929	-30.21	-30.38	-31.00	-29.72	-19.02
	3	1929 to 1930	<b>-37.02</b>	-38.05	-38.51	-38.29	-19.02
	3	1928 to 1929	<b>-29.15</b>	-30.05	-30.67	-30.39	-19.02
High	0	1990 to 1991	-35.40	-35.54	-35.58	-35.71	-19.02
	0	1991 to 1992	-29.91	-29.85	-29.08	-30.39	-19.02
	1	1990 to 1991	-35.27	-35.51	-34.93	-35.69	-19.02
	1	1991 to 1992	-30.42	-30.29	-29.77	-29.76	-19.02
	2	1990 to 1991	-35.15	<b>-33.66</b>	-34.98	-35.50	-19.02
	2	1991 to 1992	-29.26	<b>-28.43</b>	-29.66	-30.24	-19.02
	3	1990 to 1991	-35.27	-34.15	-35.26	-35.17	-19.02
	3	1991 to 1992	-30.04	-28.63	-29.24	-29.60	-19.02

Table 7-186. Band Edge Emission Summary Data (B2\_5M+5M+20M\_3C)

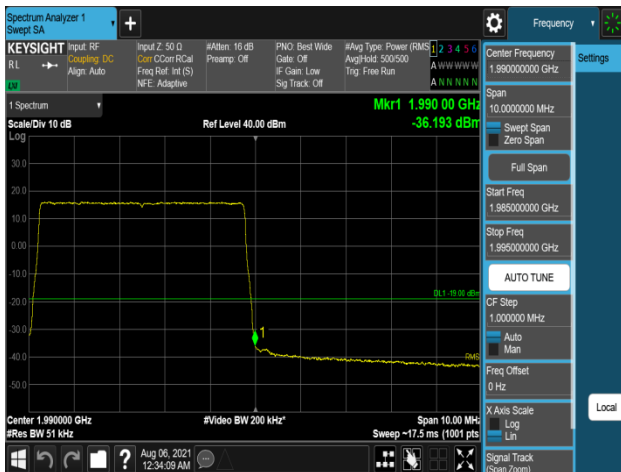
FCC ID: A3LRF4437D-25C		MEASUREMENT REPORT		Approved by: Technical Manager
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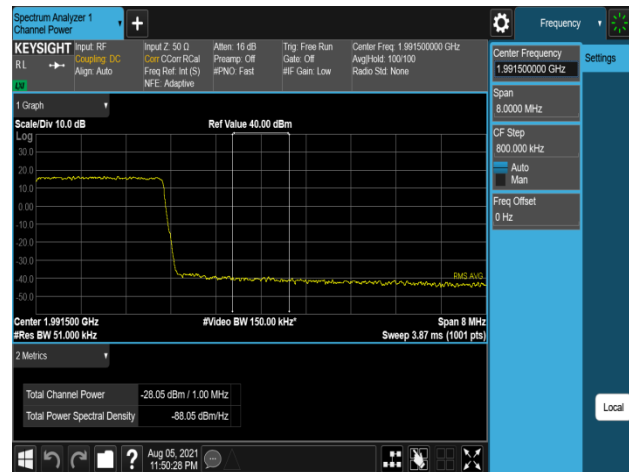
Plot 7-887. Band Edge Emission (1929MHz to 1930MHz) Plot (B2\_5M+5M+5M\_3C\_QPSK - Low Channel, Port 0)



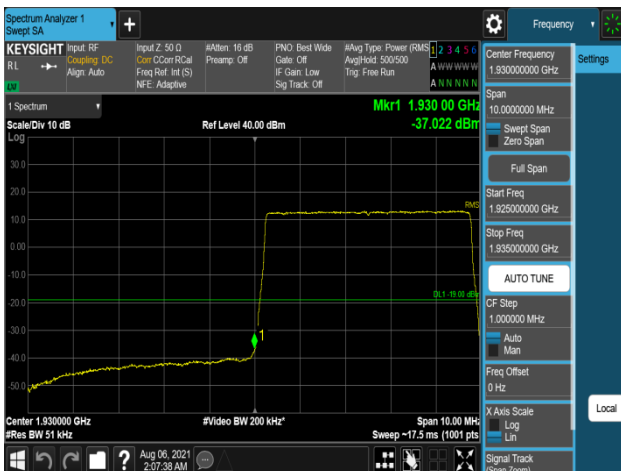
Plot 7-888. Band Edge Emission (1928MHz to 1929MHz) Plot (B2\_5M+5M+5M\_3C\_QPSK - Low Channel, Port 3)



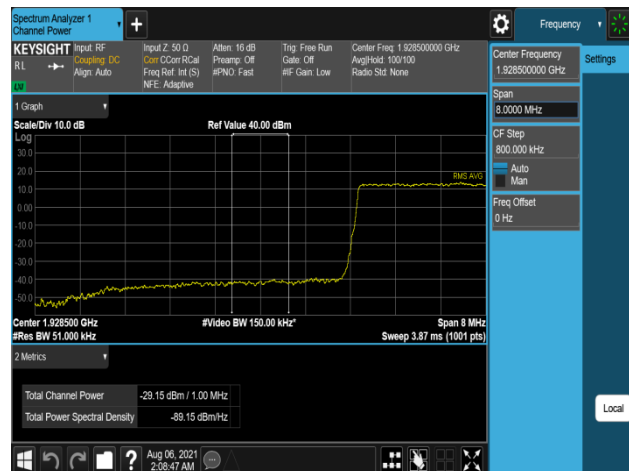
Plot 7-889. Band Edge Emission (1990MHz to 1991MHz) Plot (B2\_5M+5M+5M\_3C\_64QAM - High Channel, Port 2)



Plot 7-890. Band Edge Emission (1991MHz to 1992MHz) Plot (B2\_5M+5M+5M\_3C\_QPSK - High Channel, Port 2)

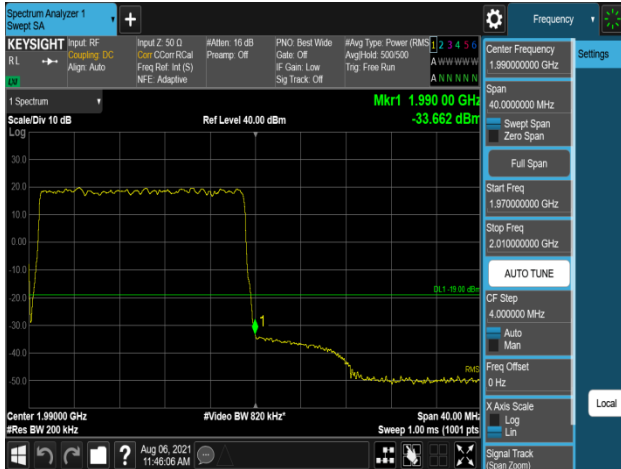


Plot 7-891. Band Edge Emission (1929MHz to 1930MHz) Plot (B2\_5M+5M+20M\_3C\_QPSK - Low Channel, Port 3)



Plot 7-892. Band Edge Emission (1928MHz to 1929MHz) Plot (B2\_5M+5M+20M\_3C\_QPSK - Low Channel, Port 3)



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Plot 7-893. Band Edge Emission (1990MHz to 1991MHz) Plot (B2\_5M+5M+20M\_3C\_16QAM - High Channel, Port 2)



Plot 7-894. Band Edge Emission (1991MHz to 1992MHz) Plot (B2\_5M+5M+20M\_3C\_16QAM - High Channel, Port 2)



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Channel	Port	Measured Range (MHz)	Max. Value (dBm)	Limit (dBm)
Low	0	1929 to 1930	-30.83	-19.02
	0	1928 to 1929	-29.63	-19.02
	1	1929 to 1930	-30.28	-19.02
	1	1928 to 1929	-29.24	-19.02
	2	1929 to 1930	<b>-29.72</b>	-19.02
	2	1928 to 1929	-29.27	-19.02
	3	1929 to 1930	-29.82	-19.02
	3	1928 to 1929	<b>-27.62</b>	-19.02
High	0	1990 to 1991	-32.32	-19.02
	0	1991 to 1992	-30.76	-19.02
	1	1990 to 1991	-31.57	-19.02
	1	1991 to 1992	-31.85	-19.02
	2	1990 to 1991	<b>-31.19</b>	-19.02
	2	1991 to 1992	<b>-30.18</b>	-19.02
	3	1990 to 1991	-31.42	-19.02
	3	1991 to 1992	-30.25	-19.02

**Table 7-187. Band Edge Emission Summary Data (B2\_5M+5M\_2C - Non-contiguous)**

Channel	Port	Measured Range (MHz)	Max. Value (dBm)	Limit (dBm)
Low	0	1929 to 1930	-35.17	-19.02
	0	1928 to 1929	<b>-32.74</b>	-19.02
	1	1929 to 1930	-35.37	-19.02
	1	1928 to 1929	-34.13	-19.02
	2	1929 to 1930	<b>-34.86</b>	-19.02
	2	1928 to 1929	-32.82	-19.02
	3	1929 to 1930	-34.88	-19.02
	3	1928 to 1929	-33.16	-19.02
High	0	1990 to 1991	<b>-36.36</b>	-19.02
	0	1991 to 1992	-33.72	-19.02
	1	1990 to 1991	-36.83	-19.02
	1	1991 to 1992	<b>-32.36</b>	-19.02
	2	1990 to 1991	-36.39	-19.02
	2	1991 to 1992	-33.94	-19.02
	3	1990 to 1991	-36.56	-19.02
	3	1991 to 1992	-33.96	-19.02



**Table 7-188. Band Edge Emission Summary Data (B2\_5M+20M\_2C - Non-contiguous)**

FCC ID: A3LRF4437D-25C	 <b>PCTEST</b> ENGINEERING LABORATORY, INC.	<b>MEASUREMENT REPORT</b>		<b>Approved by:</b> Technical Manager
<b>Test Report S/N:</b> 8K21071202-R2.A3L	<b>Test Dates:</b> 07/19/2021-08/13/2021	<b>EUT Type:</b> RRU(RF4437d)	Page 251 of 420	



Channel	Port	Measured Range (MHz)	Max. Value (dBm)	Limit (dBm)
Low	0	1929 to 1930	-39.93	-19.02
	0	1928 to 1929	-33.93	-19.02
	1	1929 to 1930	-39.91	-19.02
	1	1928 to 1929	-33.73	-19.02
	2	1929 to 1930	<b>-38.73</b>	-19.02
	2	1928 to 1929	<b>-32.55</b>	-19.02
	3	1929 to 1930	-39.19	-19.02
	3	1928 to 1929	-33.79	-19.02
High	0	1990 to 1991	-36.69	-19.02
	0	1991 to 1992	-33.51	-19.02
	1	1990 to 1991	-37.17	-19.02
	1	1991 to 1992	<b>-33.09</b>	-19.02
	2	1990 to 1991	-37.02	-19.02
	2	1991 to 1992	-33.26	-19.02
	3	1990 to 1991	<b>-36.40</b>	-19.02
	3	1991 to 1992	-33.15	-19.02

**Table 7-189. Band Edge Emission Summary Data (B2\_10M+20M\_2C - Non-contiguous)**

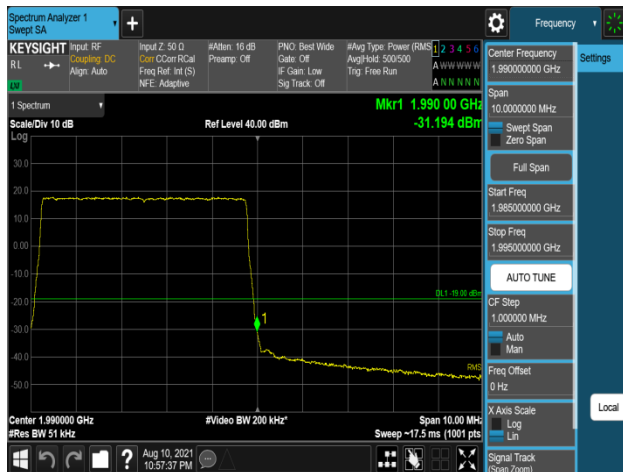
FCC ID: A3LRF4437D-25C		<b>MEASUREMENT REPORT</b>		<b>Approved by:</b> Technical Manager
<b>Test Report S/N:</b> 8K21071202-R2.A3L	<b>Test Dates:</b> 07/19/2021-08/13/2021	<b>EUT Type:</b> RRU(RF4437d)	Page 252 of 420	



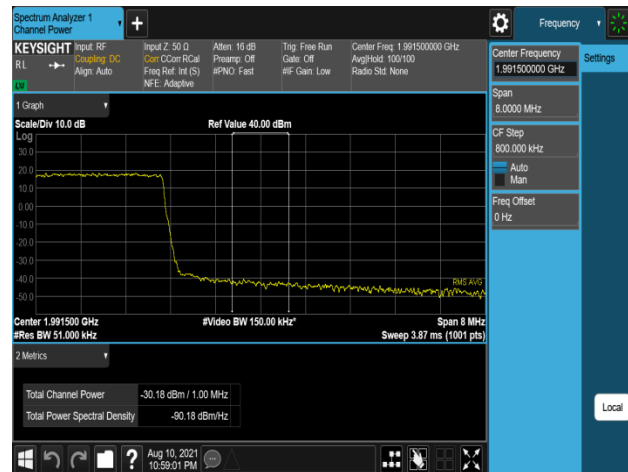
Plot 7-895. Band Edge Emission (1929MHz to 1930MHz) Plot (B2\_5M+5M\_2C\_64QAM - Low Channel, Port 2)



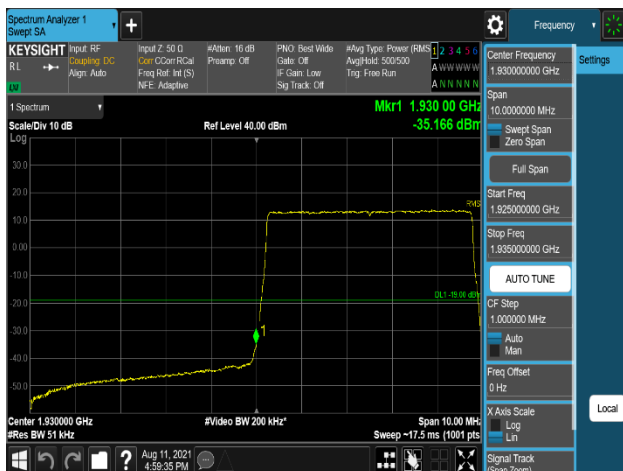
Plot 7-896. Band Edge Emission (2108MHz to 2109MHz) Plot (B2\_5M+5M\_2C\_64QAM - Low Channel, Port 3)



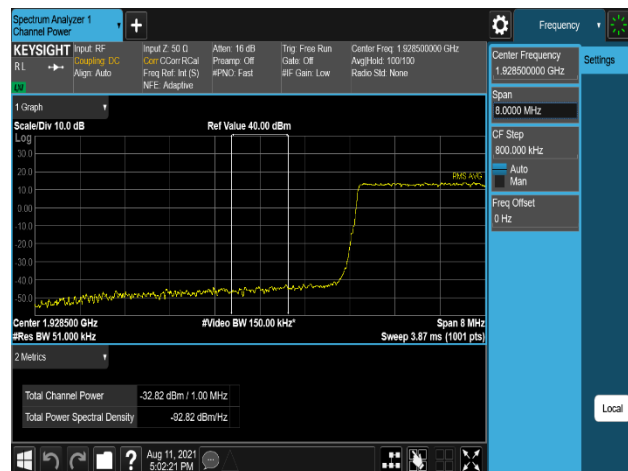
Plot 7-897. Band Edge Emission (1990MHz to 1991MHz) Plot (B2\_5M+5M\_2C\_64QAM - High Channel, Port 2)



Plot 7-898. Band Edge Emission (1991MHz to 1992MHz) Plot (B2\_5M+5M\_2C\_64QAM - High Channel, Port 2)



Plot 7-899. Band Edge Emission (1929MHz to 1930MHz) Plot (B2\_5M+20M\_2C\_64QAM - Low Channel, Port 0)

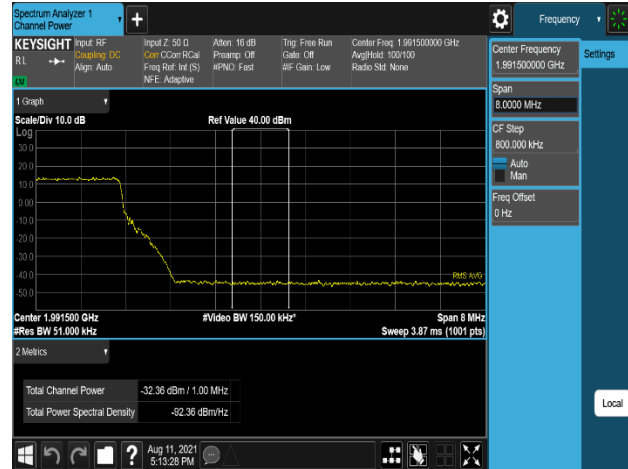


Plot 7-900. Band Edge Emission (2108MHz to 2109MHz) Plot (B2\_5M+20M\_64QAM - Low Channel, Port 2)

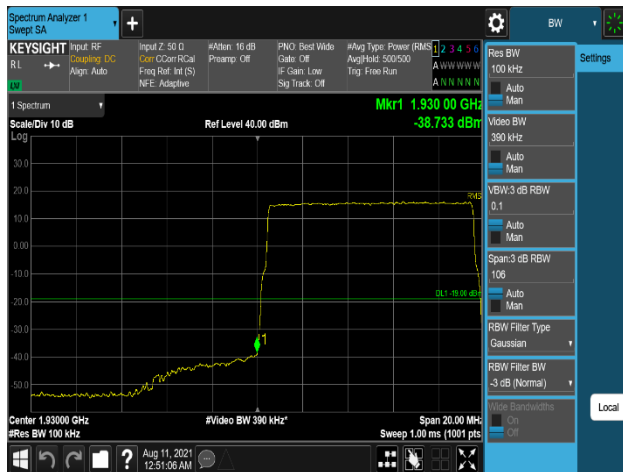
FCC ID: A3LRF4437D-25C		MEASUREMENT REPORT		Approved by: Technical Manager
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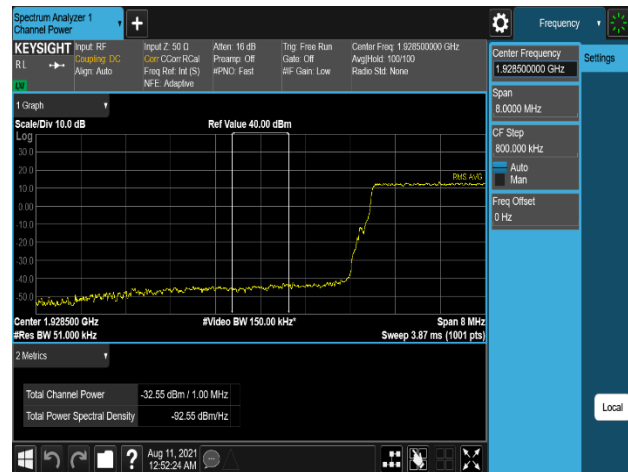
Plot 7-901. Band Edge Emission (1990MHz to 1991MHz) Plot (B2\_5M+20M\_2C\_64QAM - High Channel, Port 0)



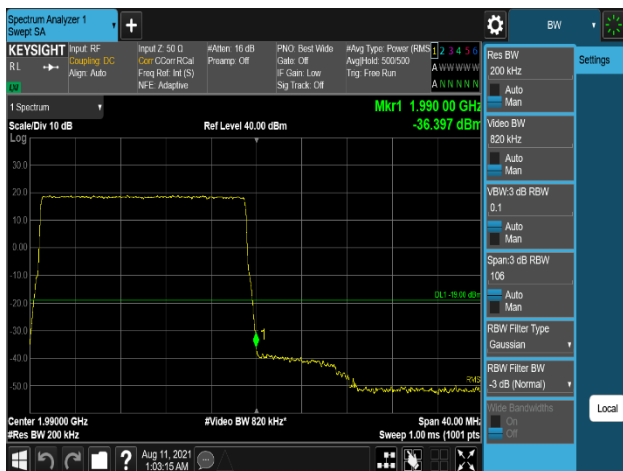
Plot 7-902. Band Edge Emission (1991MHz to 1992MHz) Plot (B2\_5M+20M\_2C\_64QAM - High Channel, Port 1)



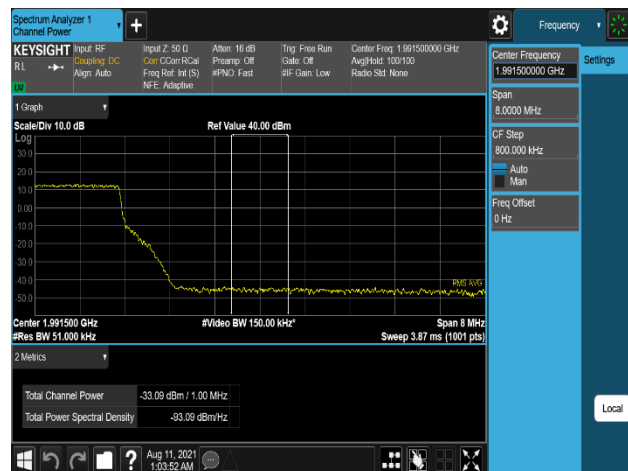
Plot 7-903. Band Edge Emission (1929MHz to 1930MHz) Plot (B2\_10M+20M\_2C\_QPSK - Low Channel, Port 2)



Plot 7-904. Band Edge Emission (2108MHz to 2109MHz) Plot (B2\_10M+20M\_2C\_QPSK - Low Channel, Port 2)



Plot 7-905. Band Edge Emission (1990MHz to 1991MHz) Plot (B2\_10M+20M\_2C\_QPSK - High Channel, Port 3)



Plot 7-906. Band Edge Emission (1991MHz to 1992MHz) Plot (B2\_10M+20M\_2C\_QPSK - High Channel, Port 1)



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Channel	Port	Measured Range (MHz)	Max. Value (dBm)	Limit (dBm)
Low	0	1929 to 1930	-33.65	-19.02
	0	1928 to 1929	-32.25	-19.02
	1	1929 to 1930	-33.84	-19.02
	1	1928 to 1929	-31.71	-19.02
	2	1929 to 1930	-32.97	-19.02
	2	1928 to 1929	-30.87	-19.02
	3	1929 to 1930	<b>-32.96</b>	-19.02
	3	1928 to 1929	<b>-30.77</b>	-19.02
High	0	1990 to 1991	<b>-35.18</b>	-19.02
	0	1991 to 1992	-32.05	-19.02
	1	1990 to 1991	-36.19	-19.02
	1	1991 to 1992	-32.77	-19.02
	2	1990 to 1991	-35.45	-19.02
	2	1991 to 1992	<b>-31.90</b>	-19.02
	3	1990 to 1991	-35.23	-19.02
	3	1991 to 1992	-32.17	-19.02

**Table 7-190. Band Edge Emission Summary Data (B2\_5M+5M+5M\_3C - Non-contiguous)**

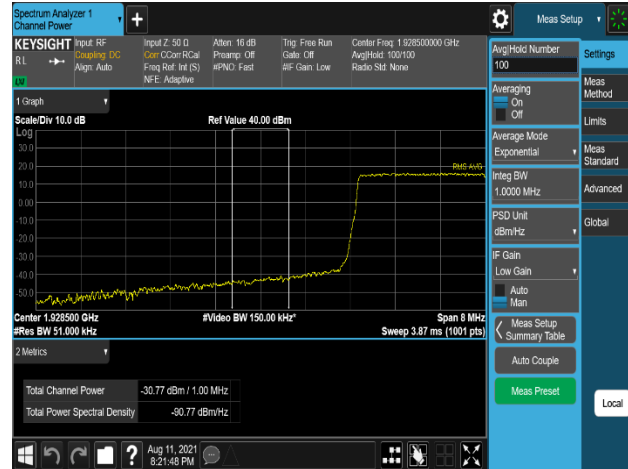
Channel	Port	Measured Range (MHz)	Max. Value (dBm)	Limit (dBm)
Low	0	1929 to 1930	<b>-37.42</b>	-19.02
	0	1928 to 1929	<b>-31.58</b>	-19.02
	1	1929 to 1930	-37.78	-19.02
	1	1928 to 1929	-32.90	-19.02
	2	1929 to 1930	-37.53	-19.02
	2	1928 to 1929	-32.68	-19.02
	3	1929 to 1930	-38.07	-19.02
	3	1928 to 1929	-32.07	-19.02
High	0	1990 to 1991	<b>-36.28</b>	-19.02
	0	1991 to 1992	-31.51	-19.02
	1	1990 to 1991	-36.76	-19.02
	1	1991 to 1992	-32.08	-19.02
	2	1990 to 1991	-36.36	-19.02
	2	1991 to 1992	<b>-30.79</b>	-19.02
	3	1990 to 1991	-36.97	-19.02
	3	1991 to 1992	-31.66	-19.02

**Table 7-191. Band Edge Emission Summary Data (B2\_5M+5M+20MHz\_3C - Non-contiguous)**

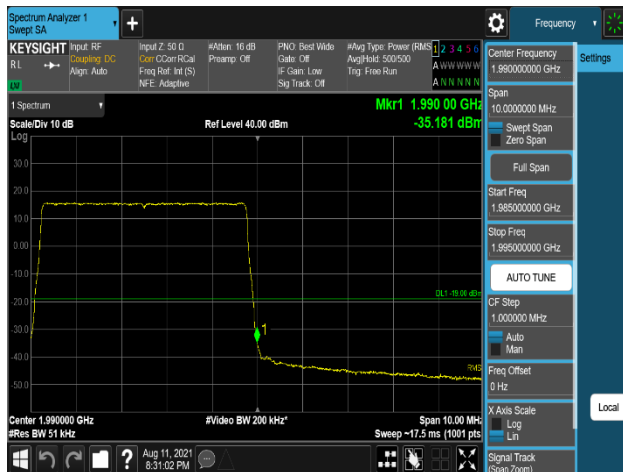
FCC ID: A3LRF4437D-25C	 <b>PCTEST</b> ENGINEERING LABORATORY, INC.	<b>MEASUREMENT REPORT</b>		<b>Approved by:</b> Technical Manager
<b>Test Report S/N:</b> 8K21071202-R2.A3L	<b>Test Dates:</b> 07/19/2021-08/13/2021	<b>EUT Type:</b> RRU(RF4437d)	Page 255 of 420	



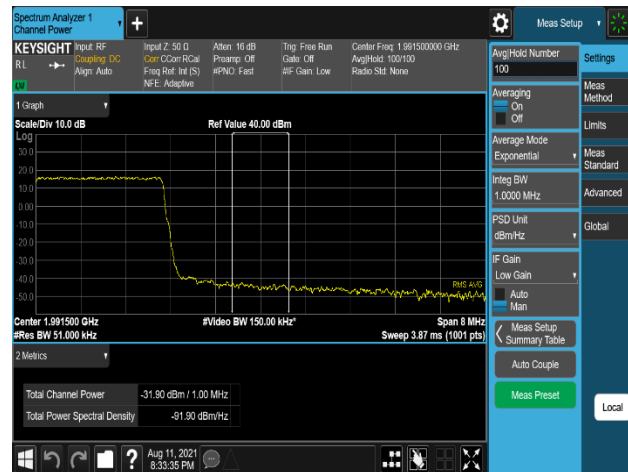
Plot 7-907. Band Edge Emission (1929MHz to 1930MHz) Plot (B2\_5M+5M+5M\_3C\_QPSK - Low Channel, Port 3)



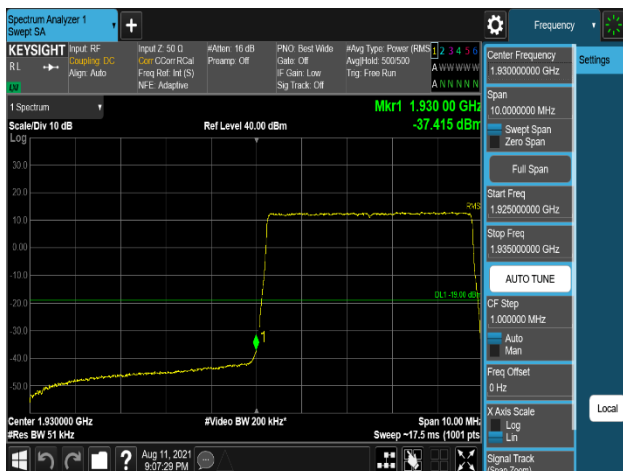
Plot 7-908. Band Edge Emission (2108MHz to 2109MHz) Plot (B2\_5M+5M+5M\_3C\_QPSK - Low Channel, Port 3)



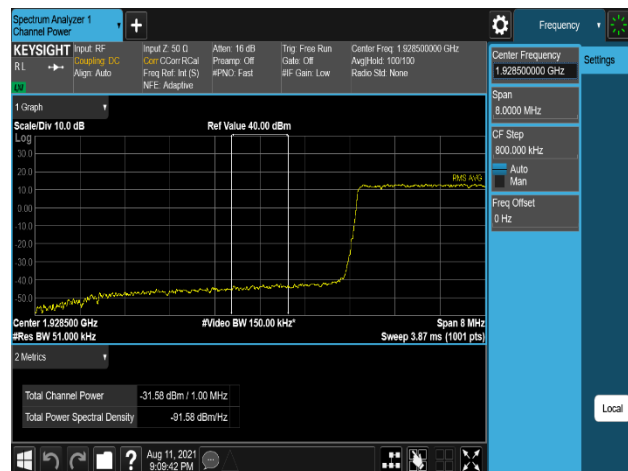
Plot 7-909. Band Edge Emission (1990MHz to 1991MHz) Plot (B2\_5M+5M+5M\_3C\_QPSK - High Channel, Port 0)



Plot 7-910. Band Edge Emission (1991MHz to 1992MHz) Plot (B2\_5M+5M+5M\_3C\_QPSK - High Channel, Port 2)

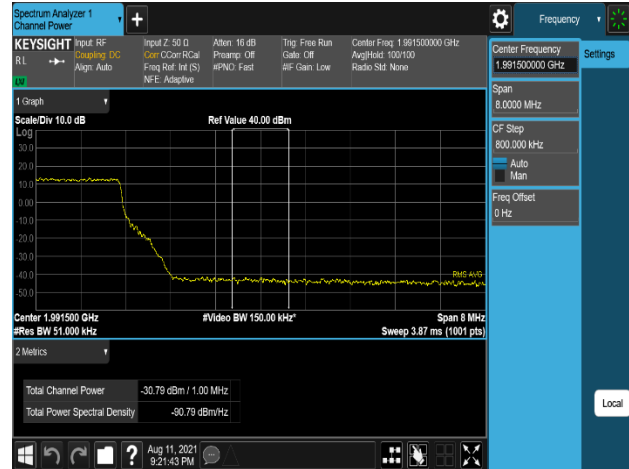
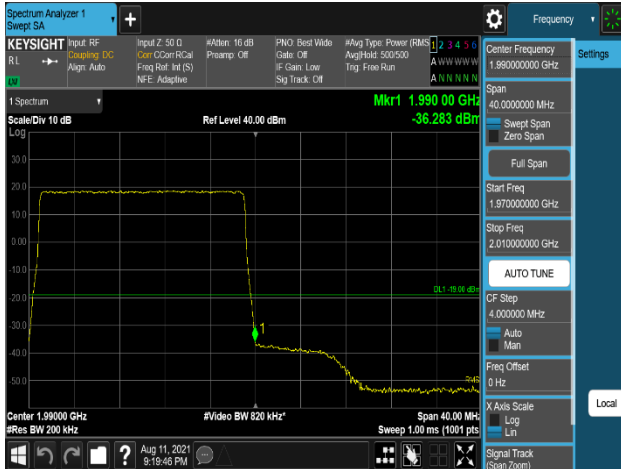




Plot 7-911. Band Edge Emission (1929MHz to 1930MHz) Plot (B2\_5M+5M+20M\_3C\_64QAM - Low Channel, Port 0)



Plot 7-912. Band Edge Emission (2108MHz to 2109MHz) Plot (B2\_5M+5M+20M\_3C\_64QAM - Low Channel, Port 0)

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Channel	Port	Measured Range (MHz)	Max. Value (dBm)				Limit (dBm)
			QPSK	16QAM	64QAM	256QAM	
Low	0	2109 to 2110	-26.90	-28.88	-26.48	-26.09	-19.02
	0	2108 to 2109	-39.50	-38.90	-38.27	-38.40	-19.02
	1	2109 to 2110	-27.88	-28.36	-28.86	-27.02	-19.02
	1	2108 to 2109	-34.76	-36.71	-35.87	-35.77	-19.02
	2	2109 to 2110	-27.11	-28.15	-24.80	-26.53	-19.02
	2	2108 to 2109	-36.07	-37.32	<b>-29.00</b>	-35.59	-19.02
	3	2109 to 2110	-29.28	-29.93	<b>-23.01</b>	-26.43	-19.02
	3	2108 to 2109	-40.52	-40.78	-32.48	-40.19	-19.02
High	0	2180 to 2181	-26.00	-27.40	-27.04	-26.74	-19.02
	0	2181 to 2182	-24.66	-24.55	-23.90	-24.55	-19.02
	1	2180 to 2181	-26.29	-27.41	-27.05	-28.63	-19.02
	1	2181 to 2182	-25.61	-24.90	-25.16	-24.43	-19.02
	2	2180 to 2181	-27.46	-27.28	-25.72	<b>-25.56</b>	-19.02
	2	2181 to 2182	-27.37	-26.62	<b>-23.17</b>	-25.47	-19.02
	3	2180 to 2181	-26.18	-26.42	-25.96	-26.15	-19.02
	3	2181 to 2182	-25.81	-25.80	-22.22	-24.59	-19.02

Table 7-192. Band Edge Emission Summary Data (B66\_5M\_1C)

Channel	Port	Measured Range (MHz)	Max. Value (dBm)				Limit (dBm)
			QPSK	16QAM	64QAM	256QAM	
Low	0	2109 to 2110	-36.44	-37.78	-36.23	-37.33	-19.02
	0	2108 to 2109	-43.31	-43.30	-43.04	-43.16	-19.02
	1	2109 to 2110	-38.63	-38.48	<b>-35.66</b>	-36.31	-19.02
	1	2108 to 2109	-39.72	-40.05	<b>-38.38</b>	-40.74	-19.02
	2	2109 to 2110	-37.21	-38.12	-35.82	-36.80	-19.02
	2	2108 to 2109	-39.75	-39.45	-39.80	-39.50	-19.02
	3	2109 to 2110	-38.15	-37.28	-37.61	-38.43	-19.02
	3	2108 to 2109	-41.80	-41.82	-42.01	-41.92	-19.02
High	0	2180 to 2181	-33.14	-33.98	-33.34	-32.98	-19.02
	0	2181 to 2182	-26.42	-26.97	-25.79	-26.55	-19.02
	1	2180 to 2181	-33.72	-32.60	-32.74	-32.68	-19.02
	1	2181 to 2182	-27.58	-27.75	-26.32	-26.67	-19.02
	2	2180 to 2181	-32.91	-34.44	-32.31	-33.52	-19.02
	2	2181 to 2182	-27.03	-27.91	-26.01	-25.94	-19.02
	3	2180 to 2181	-34.37	-34.63	<b>-32.24</b>	-32.50	-19.02
	3	2181 to 2182	<b>-25.59</b>	-27.23	-26.02	-25.63	-19.02

Table 7-193. Band Edge Emission Summary Data (B66\_10M\_1C)



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Channel	Port	Measured Range (MHz)	Max. Value (dBm)				Limit (dBm)
			QPSK	16QAM	64QAM	256QAM	
Low	0	2109 to 2110	-36.15	-35.52	-34.63	-35.98	-19.02
	0	2108 to 2109	-43.74	-43.92	-43.89	-43.90	-19.02
	1	2109 to 2110	-34.88	-35.78	<b>-34.50</b>	-35.96	-19.02
	1	2108 to 2109	-40.89	-40.83	-41.03	-41.31	-19.02
	2	2109 to 2110	-37.61	-36.85	-34.81	-34.72	-19.02
	2	2108 to 2109	-40.14	<b>-39.74</b>	-39.81	-40.04	-19.02
	3	2109 to 2110	-36.95	-36.89	-37.15	-36.87	-19.02
	3	2108 to 2109	-42.04	-41.89	-42.35	-41.94	-19.02
High	0	2180 to 2181	-32.54	-31.16	-30.87	-32.76	-19.02
	0	2181 to 2182	-28.58	-28.43	-29.19	-28.03	-19.02
	1	2180 to 2181	-32.22	-32.91	-31.82	-31.81	-19.02
	1	2181 to 2182	-29.15	-28.45	-29.28	-28.80	-19.02
	2	2180 to 2181	-32.53	-31.90	-31.09	-32.16	-19.02
	2	2181 to 2182	-27.39	-29.25	-28.59	-29.20	-19.02
	3	2180 to 2181	-30.80	-32.01	-31.51	<b>-30.78</b>	-19.02
	3	2181 to 2182	-27.86	-28.03	<b>-26.67</b>	-28.62	-19.02

**Table 7-194. Band Edge Emission Summary Data (B66\_15M\_1C)**

Channel	Port	Measured Range (MHz)	Max. Value (dBm)				Limit (dBm)
			QPSK	16QAM	64QAM	256QAM	
Low	0	2109 to 2110	-36.90	-35.33	-37.00	-36.79	-19.02
	0	2108 to 2109	-43.63	-43.32	-43.74	-43.64	-19.02
	1	2109 to 2110	-36.83	<b>-30.60</b>	-36.40	-35.74	-19.02
	1	2108 to 2109	-40.54	-39.80	-40.93	-40.39	-19.02
	2	2109 to 2110	-34.63	-36.20	-35.53	-36.52	-19.02
	2	2108 to 2109	-39.93	<b>-39.35</b>	-39.87	-39.76	-19.02
	3	2109 to 2110	-38.62	-34.77	-37.13	-37.23	-19.02
	3	2108 to 2109	-42.12	-41.73	-42.24	-42.04	-19.02
High	0	2180 to 2181	<b>-27.87</b>	-30.82	-32.47	-32.66	-19.02
	0	2181 to 2182	-27.84	-25.52	-28.01	-27.60	-19.02
	1	2180 to 2181	-30.19	-30.40	-34.23	-33.82	-19.02
	1	2181 to 2182	-27.42	-26.33	-28.44	-28.66	-19.02
	2	2180 to 2181	-32.40	-30.28	-28.74	-31.76	-19.02
	2	2181 to 2182	-29.35	<b>-25.46</b>	-28.28	-28.80	-19.02
	3	2180 to 2181	-33.40	-30.98	-33.71	-32.49	-19.02
	3	2181 to 2182	-27.90	-25.96	-28.62	-28.74	-19.02

**Table 7-195. Band Edge Emission Summary Data (B66\_20M\_1C)**

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