

Appendix for Test Report

FCC ID: 2ATWZ-S0

Product Name: Real-Time Multisensor

Model No: S0

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Conducted output power (EIRP)

Band	Bandwidth (MHz)	UL Channel	RB Size	RB Position	Modulation	Power (dBm)	Gain (dBi)	EIRP (dBm)	EIRP (mW)	EIRP Limit (mW)	Verdict
Band40(2305-2315)	5	38725	1	#0	QPSK	23.37	0.18	23.55	226.46	250	PASS
Band40(2305-2315)	5	38725	1	#Mid	QPSK	23.27	0.18	23.45	221.31	250	PASS
Band40(2305-2315)	5	38725	1	#Max	QPSK	23.46	0.18	23.64	231.21	250	PASS
Band40(2305-2315)	5	38725	12	#0	QPSK	22.34	0.18	22.52	178.65	250	PASS
Band40(2305-2315)	5	38725	12	#Mid	QPSK	22.42	0.18	22.60	181.97	250	PASS
Band40(2305-2315)	5	38725	12	#Max	QPSK	22.40	0.18	22.58	181.13	250	PASS
Band40(2305-2315)	5	38725	25	#0	QPSK	22.40	0.18	22.58	181.13	250	PASS
Band40(2305-2315)	5	38725	1	#0	16QAM	22.91	0.18	23.09	203.70	250	PASS
Band40(2305-2315)	5	38725	1	#Mid	16QAM	22.84	0.18	23.02	200.45	250	PASS
Band40(2305-2315)	5	38725	1	#Max	16QAM	23.09	0.18	23.27	212.32	250	PASS
Band40(2305-2315)	5	38725	12	#0	16QAM	21.48	0.18	21.66	146.55	250	PASS
Band40(2305-2315)	5	38725	12	#Mid	16QAM	21.40	0.18	21.58	143.88	250	PASS
Band40(2305-2315)	5	38725	12	#Max	16QAM	21.47	0.18	21.65	146.22	250	PASS
Band40(2305-2315)	5	38725	25	#0	16QAM	21.53	0.18	21.71	148.25	250	PASS
Band40(2305-2315)	5	38750	1	#0	QPSK	23.40	0.18	23.58	228.03	250	PASS
Band40(2305-2315)	5	38750	1	#Mid	QPSK	23.48	0.18	23.66	232.27	250	PASS
Band40(2305-2315)	5	38750	1	#Max	QPSK	23.53	0.18	23.71	234.96	250	PASS
Band40(2305-2315)	5	38750	12	#0	QPSK	22.50	0.18	22.68	185.35	250	PASS
Band40(2305-2315)	5	38750	12	#Mid	QPSK	22.49	0.18	22.67	184.9	250	PASS

)									3		
Band40(2305-2315)	5	38750	12	#Max	QPSK	22.56	0.18	22.74	187.9	250	PASS
)									3		
Band40(2305-2315)	5	38750	25	#0	QPSK	22.56	0.18	22.74	187.9	250	PASS
)									3		
Band40(2305-2315)	5	38750	1	#0	16QAM	22.80	0.18	22.98	198.6	250	PASS
)									1		
Band40(2305-2315)	5	38750	1	#Mid	16QAM	22.75	0.18	22.93	196.3	250	PASS
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Band40(2305-2315)	5	38750	1	#Max	16QAM	22.79	0.18	22.97	198.1	250	PASS
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Band40(2305-2315)	5	38750	12	#0	16QAM	21.59	0.18	21.77	150.3	250	PASS
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Band40(2305-2315)	5	38750	12	#Mid	16QAM	21.52	0.18	21.70	147.9	250	PASS
)									1		
Band40(2305-2315)	5	38750	12	#Max	16QAM	21.50	0.18	21.68	147.2	250	PASS
)									3		
Band40(2305-2315)	5	38750	25	#0	16QAM	21.68	0.18	21.86	153.4	250	PASS
)									6		
Band40(2305-2315)	5	38775	1	#0	QPSK	23.32	0.18	23.50	223.8	250	PASS
)									7		
Band40(2305-2315)	5	38775	1	#Mid	QPSK	23.32	0.18	23.50	223.8	250	PASS
)									7		
Band40(2305-2315)	5	38775	1	#Max	QPSK	23.54	0.18	23.72	235.5	250	PASS
)									0		
Band40(2305-2315)	5	38775	12	#0	QPSK	22.43	0.18	22.61	182.3	250	PASS
)									9		
Band40(2305-2315)	5	38775	12	#Mid	QPSK	22.28	0.18	22.46	176.2	250	PASS
)									0		
Band40(2305-2315)	5	38775	12	#Max	QPSK	22.36	0.18	22.54	179.4	250	PASS
)									7		
Band40(2305-2315)	5	38775	25	#0	QPSK	22.38	0.18	22.56	180.3	250	PASS
)									0		
Band40(2305-2315)	5	38775	1	#0	16QAM	23.03	0.18	23.21	209.4	250	PASS
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Band40(2305-2315)	5	38775	1	#Mid	16QAM	22.85	0.18	23.03	200.9	250	PASS
)									1		
Band40(2305-2315)	5	38775	1	#Max	16QAM	23.13	0.18	23.31	214.2	250	PASS
)									9		
Band40(2305-2315)	5	38775	12	#0	16QAM	21.55	0.18	21.73	148.9	250	PASS
)									4		
Band40(2305-2315)	5	38775	12	#Mid	16QAM	21.54	0.18	21.72	148.5	250	PASS
)									9		
Band40(2305-2315)	5	38775	12	#Max	16QAM	21.47	0.18	21.65	146.2	250	PASS

)									2		
Band40(2305-2315)	5	38775	25	#0	16QAM	21.46	0.18	21.64	145.8	250	PASS
)									8		
Band40(2305-2315)	10	38750	1	#0	QPSK	23.34	0.18	23.52	224.9	250	PASS
)									1		
Band40(2305-2315)	10	38750	1	#Mid	QPSK	23.33	0.18	23.51	224.3	250	PASS
)									9		
Band40(2305-2315)	10	38750	1	#Max	QPSK	23.58	0.18	23.76	237.6	250	PASS
)									8		
Band40(2305-2315)	10	38750	25	#0	QPSK	22.41	0.18	22.59	181.5	250	PASS
)									5		
Band40(2305-2315)	10	38750	25	#Mid	QPSK	22.42	0.18	22.60	181.9	250	PASS
)									7		
Band40(2305-2315)	10	38750	25	#Max	QPSK	22.54	0.18	22.72	187.0	250	PASS
)									7		
Band40(2305-2315)	10	38750	50	#0	QPSK	22.49	0.18	22.67	184.9	250	PASS
)									3		
Band40(2305-2315)	10	38750	1	#0	16QAM	22.91	0.18	23.09	203.7	250	PASS
)									0		
Band40(2305-2315)	10	38750	1	#Mid	16QAM	22.93	0.18	23.11	204.6	250	PASS
)									4		
Band40(2305-2315)	10	38750	1	#Max	16QAM	23.19	0.18	23.37	217.2	250	PASS
)									7		
Band40(2305-2315)	10	38750	25	#0	16QAM	21.51	0.18	21.69	147.5	250	PASS
)									7		
Band40(2305-2315)	10	38750	25	#Mid	16QAM	21.51	0.18	21.69	147.5	250	PASS
)									7		
Band40(2305-2315)	10	38750	25	#Max	16QAM	21.64	0.18	21.82	152.0	250	PASS
)									5		

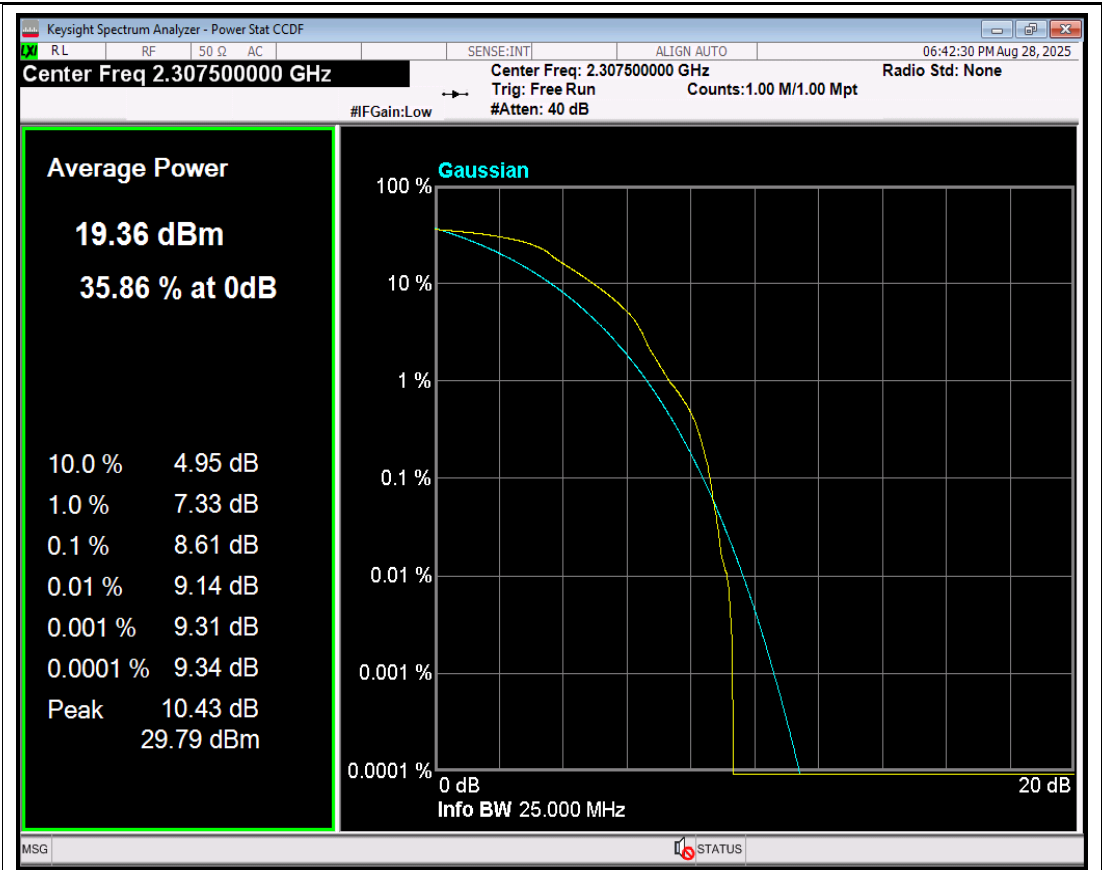
Note: EIRP = Power + Gain

Frequency stability

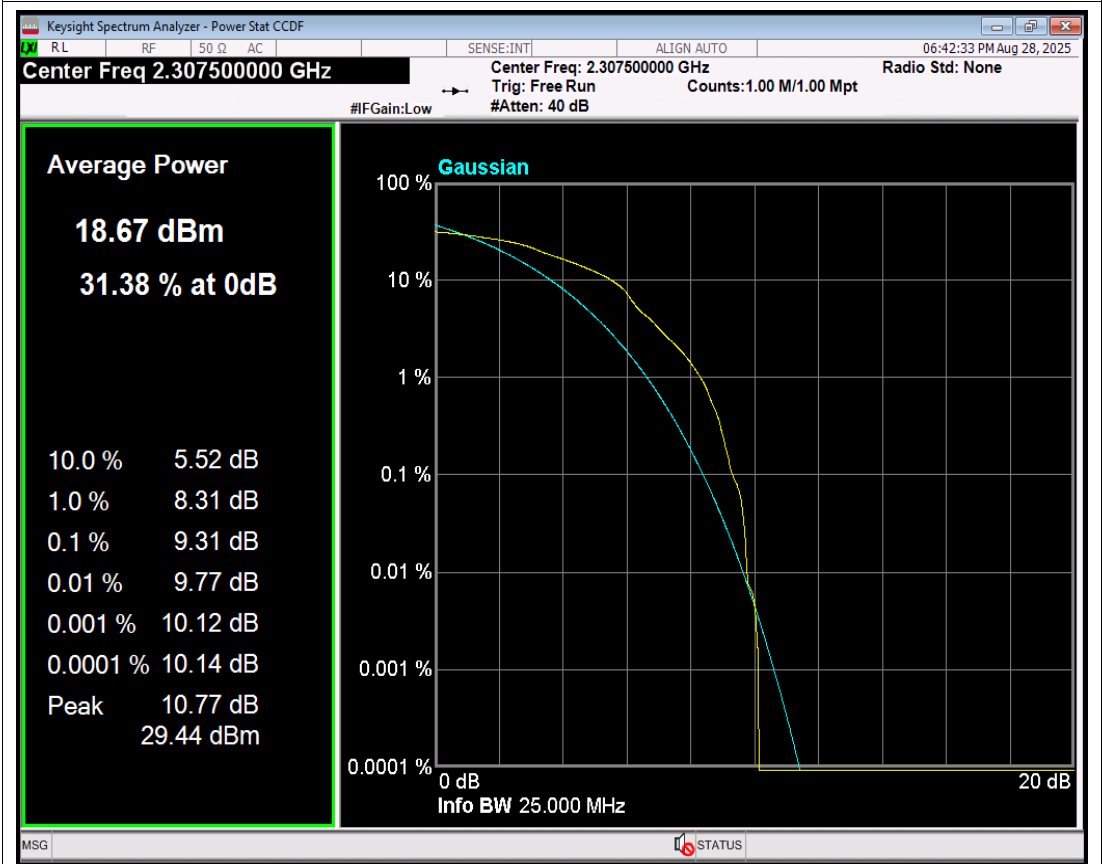
<i>Band</i>	<i>Bandwidth (MHz)</i>	<i>UL Channel</i>	<i>RB Size</i>	<i>RB Position</i>	<i>Modulation</i>	<i>Result(Hz)</i>	<i>Result (ppm)</i>	<i>Low Limit (ppm)</i>	<i>high Limit (ppm)</i>	<i>Verdict</i>
Band40(2305-2315)	10	38750	50	#0	QPSK	-0.51	0.000	-2.5	2.5	PASS

Peak-to-Average Ratio

<i>Band</i>	<i>Bandwidth (MHz)</i>	<i>UL Channel</i>	<i>RB Size</i>	<i>RB Position</i>	<i>Modulation</i>	<i>Result (dB)</i>	<i>high Limit (dB)</i>	<i>Verdict</i>
Band40(2305-2315)	5	38725	1	#0	QPSK	8.61	13	PASS
Band40(2305-2315)	5	38725	1	#0	16QAM	9.31	13	PASS
Band40(2305-2315)	5	38750	1	#0	QPSK	9.56	13	PASS
Band40(2305-2315)	5	38750	1	#0	16QAM	9.93	13	PASS
Band40(2305-2315)	5	38775	1	#0	QPSK	9.41	13	PASS
Band40(2305-2315)	5	38775	1	#0	16QAM	10.09	13	PASS
Band40(2305-2315)	10	38750	1	#0	QPSK	9.16	13	PASS
Band40(2305-2315)	10	38750	1	#0	16QAM	10.60	13	PASS



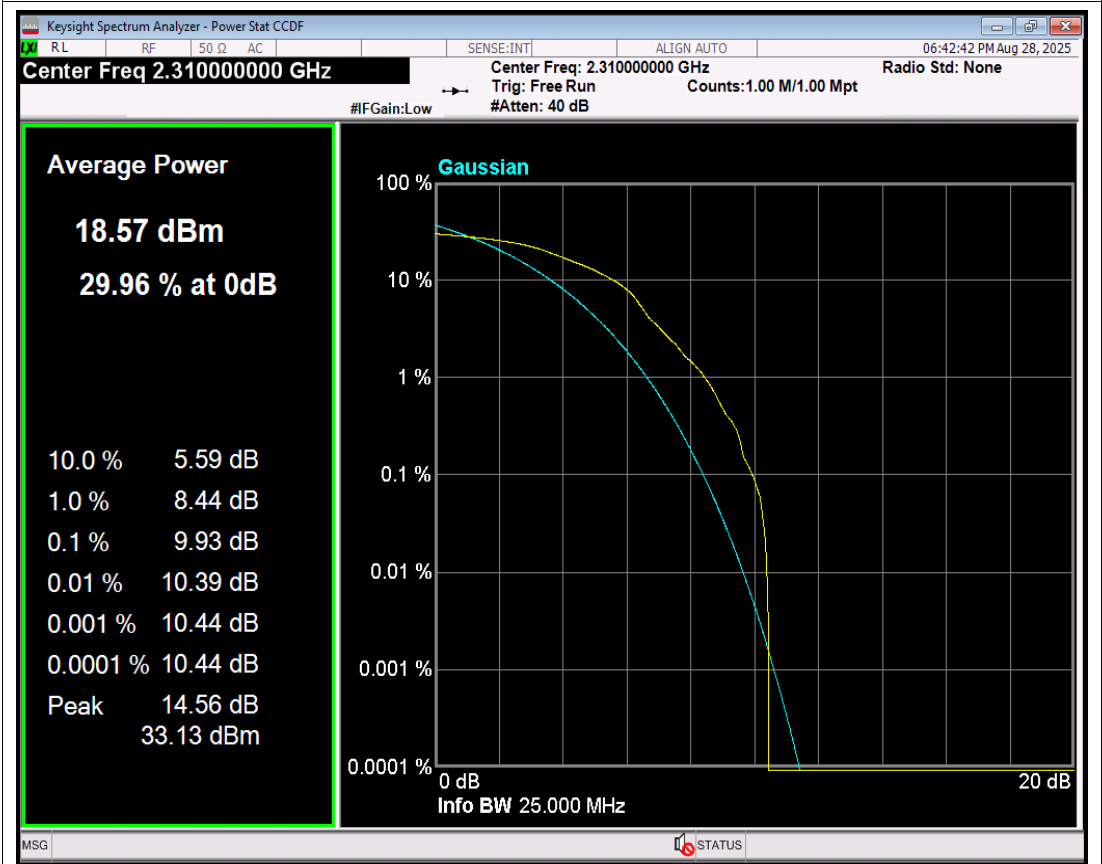
Band40(2305-2315) QPSK BW=5MHz Channel=38725 RB Size=1 Position=#0



Band40(2305-2315) 16QAM BW=5MHz Channel=38725 RB Size=1 Position=#0



Band40(2305-2315) QPSK BW=5MHz Channel=38750 RB Size=1 Position=#0



Band40(2305-2315) 16QAM BW=5MHz Channel=38750 RB Size=1 Position=#0



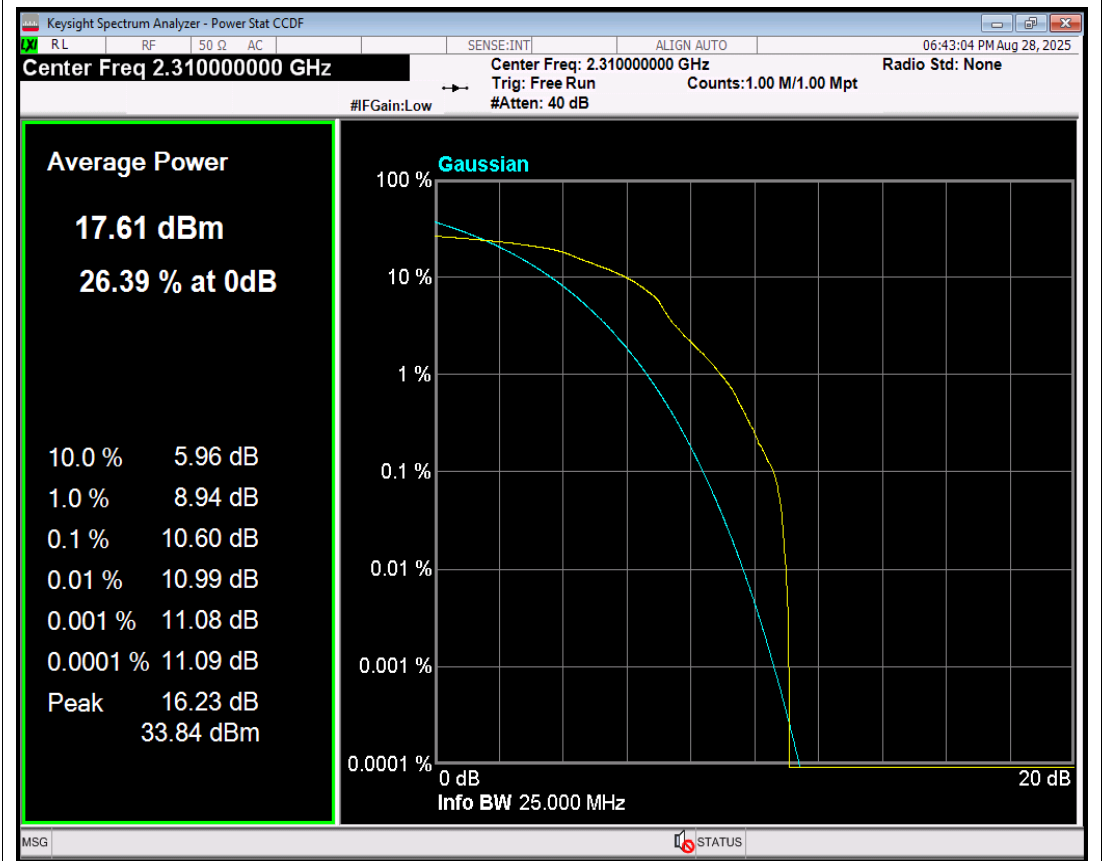
Band40(2305-2315) QPSK BW=5MHz Channel=38775 RB Size=1 Position=#0



Band40(2305-2315) 16QAM BW=5MHz Channel=38775 RB Size=1 Position=#0



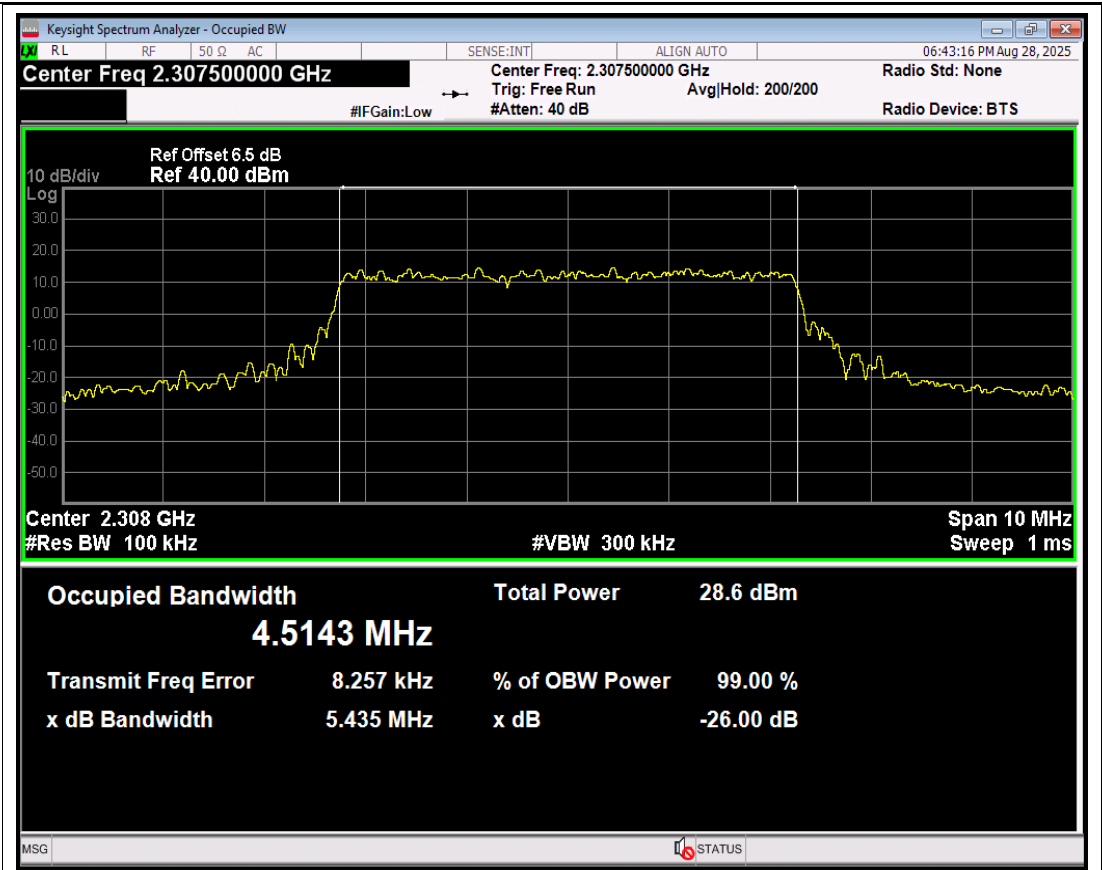
Band40(2305-2315) QPSK BW=10MHz Channel=38750 RB Size=1 Position=#0



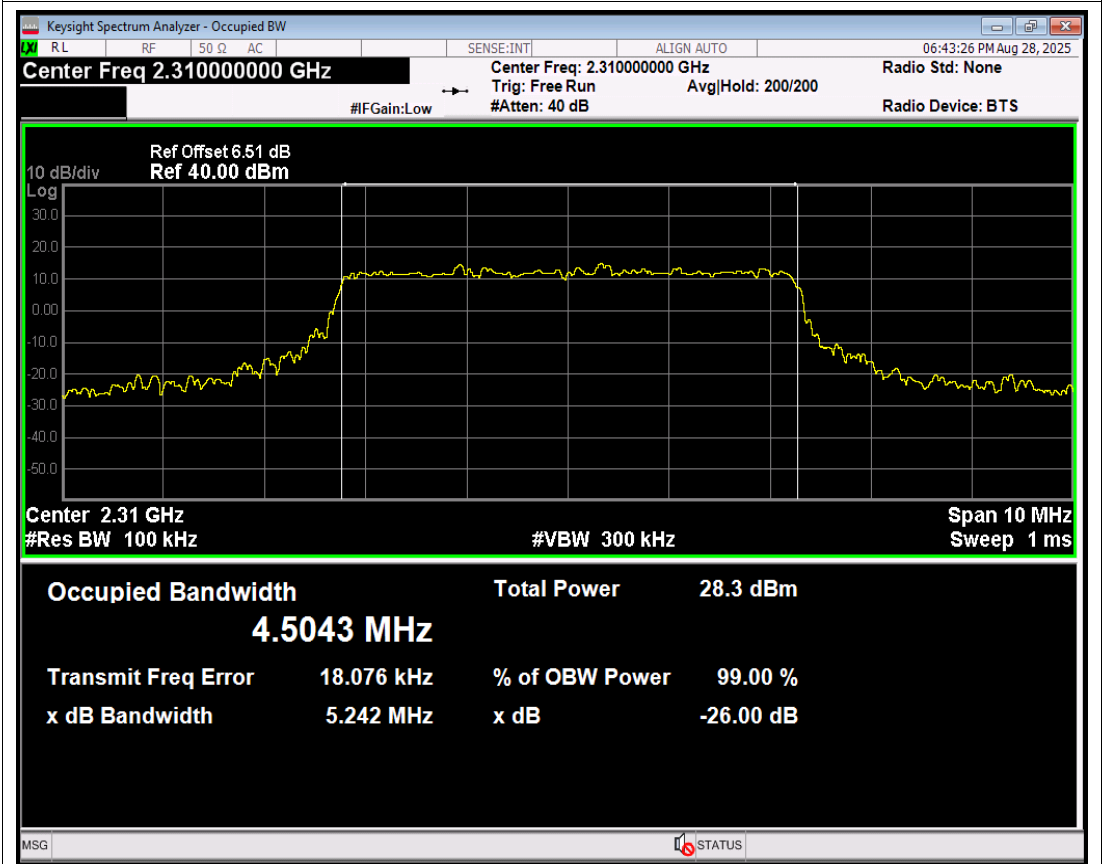
Band40(2305-2315) 16QAM BW=10MHz Channel=38750 RB Size=1 Position=#0

Occupied bandwidth

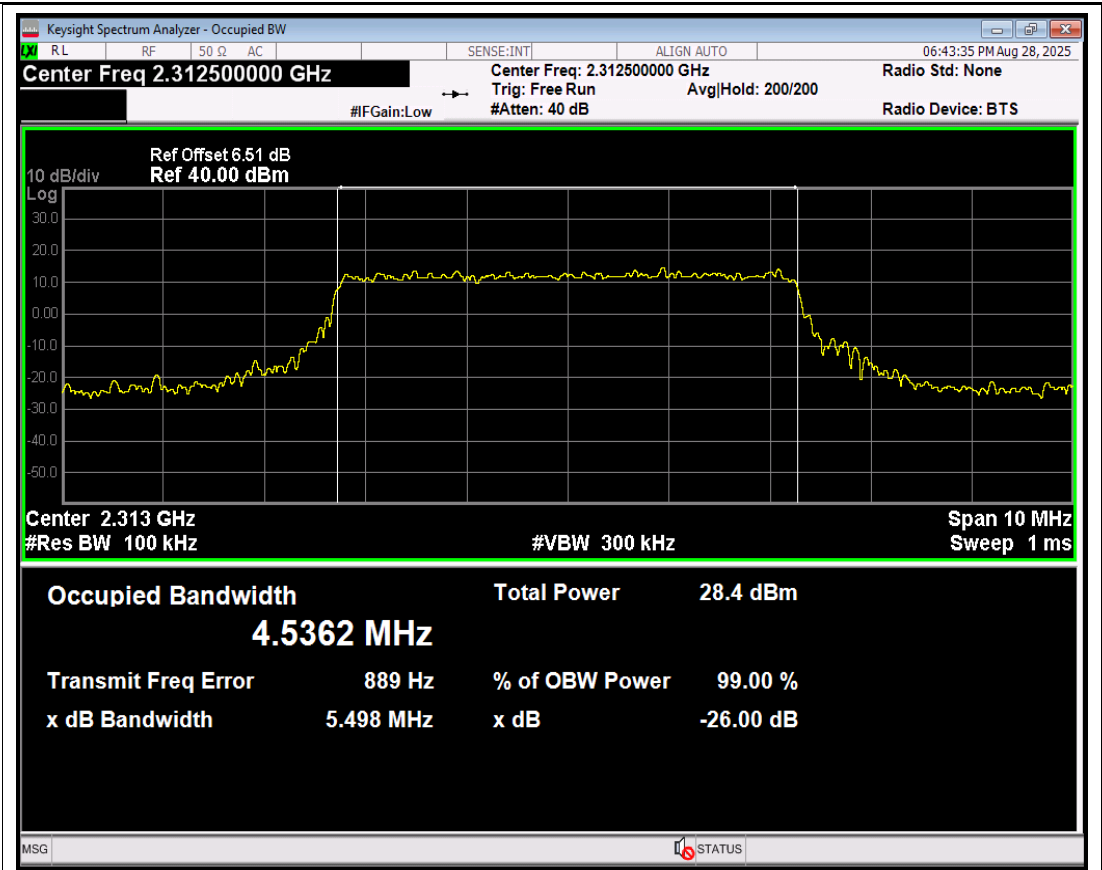
<i>Band</i>	<i>Bandwidth (MHz)</i>	<i>UL Channel</i>	<i>RB Size</i>	<i>RB Position</i>	<i>Modulation</i>	<i>99% OBW (MHz)</i>	<i>-26dB EBW (MHz)</i>	<i>Verdict</i>
Band40(2305-2315)	5	38725	25	#0	QPSK	4.516	5.061	PASS
Band40(2305-2315)	5	38725	25	#0	16QAM	4.514	5.435	PASS
Band40(2305-2315)	5	38750	25	#0	QPSK	4.511	5.064	PASS
Band40(2305-2315)	5	38750	25	#0	16QAM	4.504	5.242	PASS
Band40(2305-2315)	5	38775	25	#0	QPSK	4.520	5.377	PASS
Band40(2305-2315)	5	38775	25	#0	16QAM	4.536	5.498	PASS
Band40(2305-2315)	10	38750	50	#0	QPSK	9.008	10.240	PASS



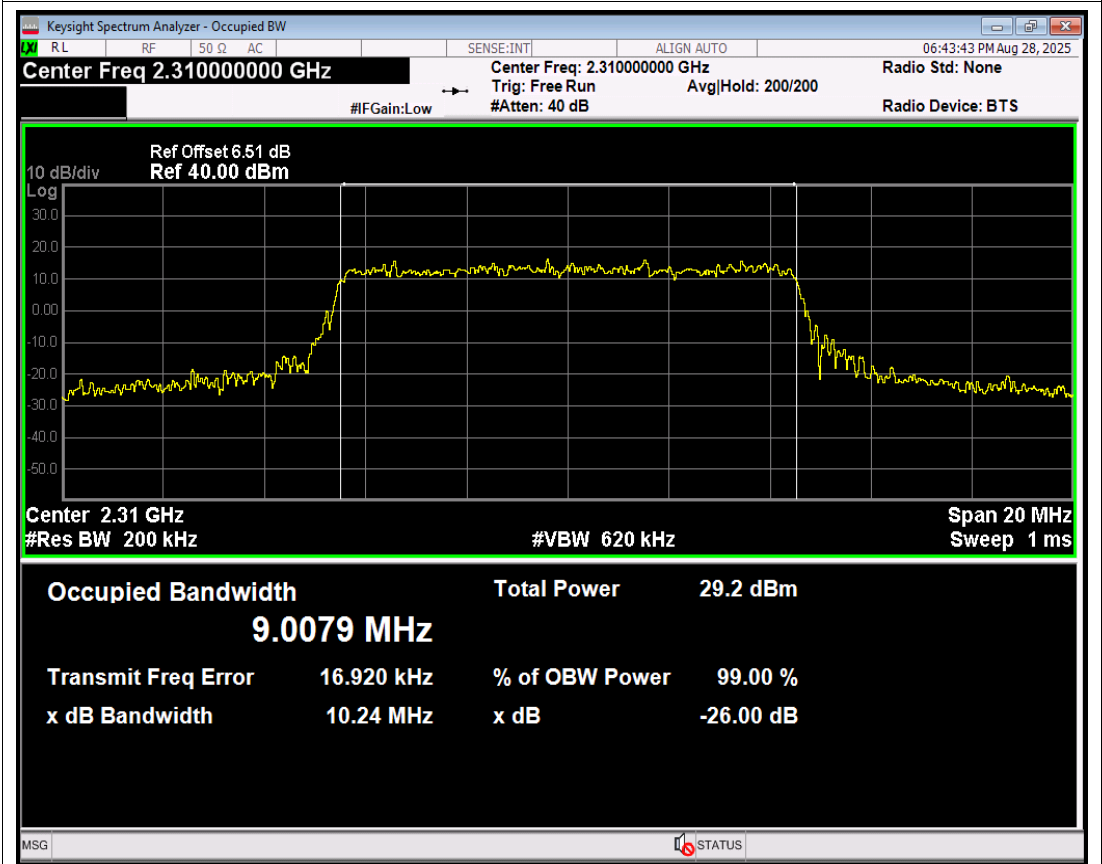
Band40(2305-2315) 16QAM BW=5MHz Channel=38725 RB Size=25 Position=#0



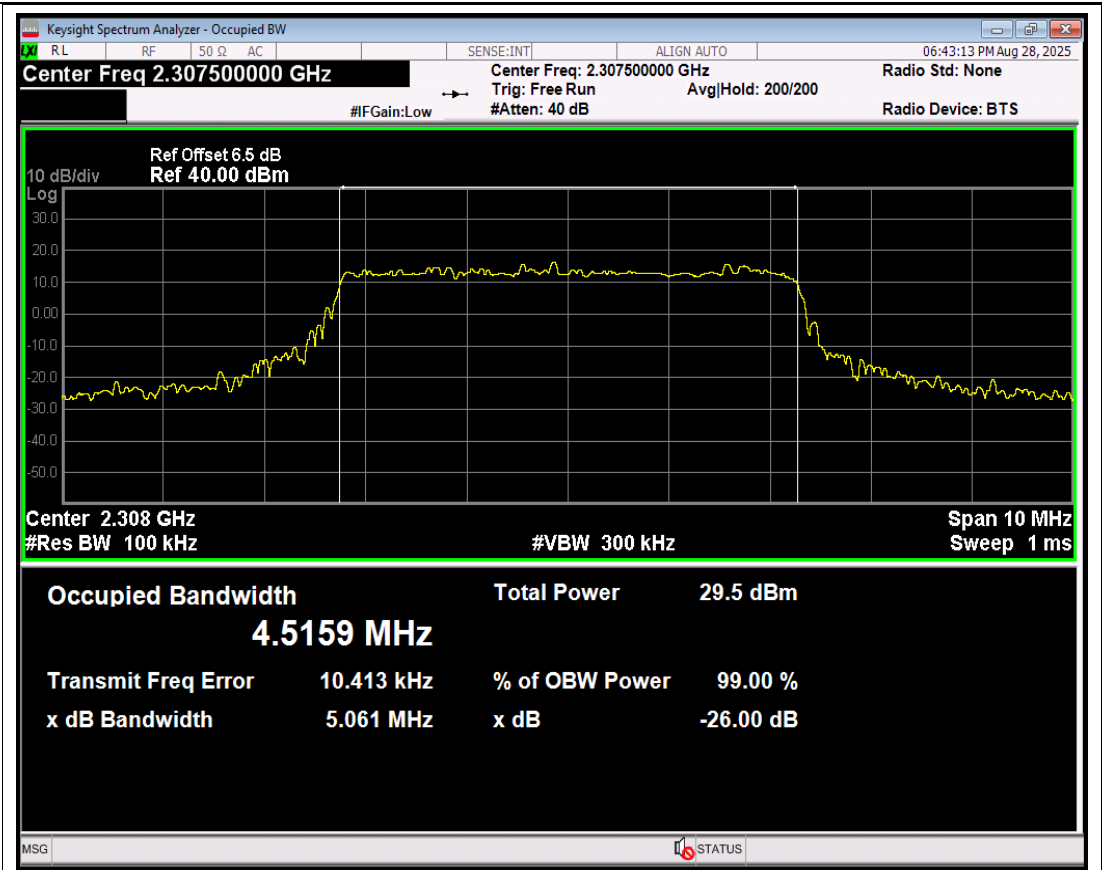
Band40(2305-2315) 16QAM BW=5MHz Channel=38750 RB Size=25 Position=#0



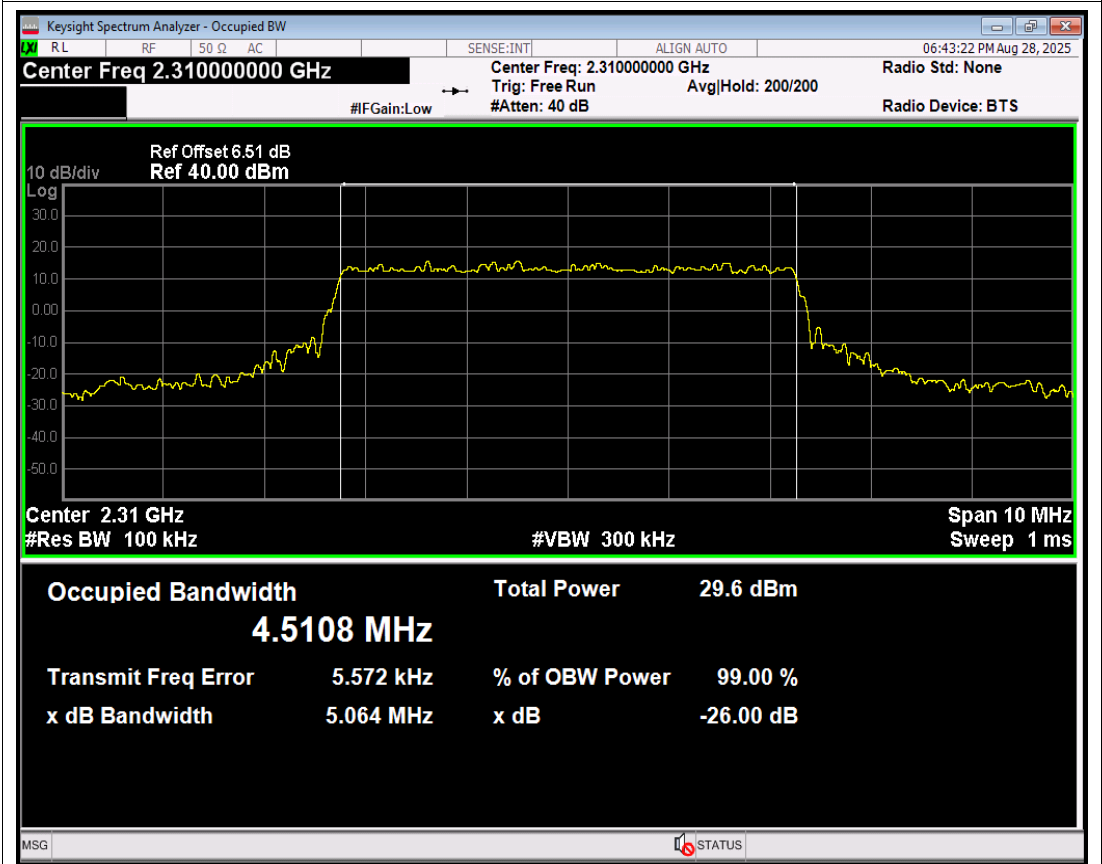
Band40(2305-2315) 16QAM BW=5MHz Channel=38775 RB Size=25 Position=#0



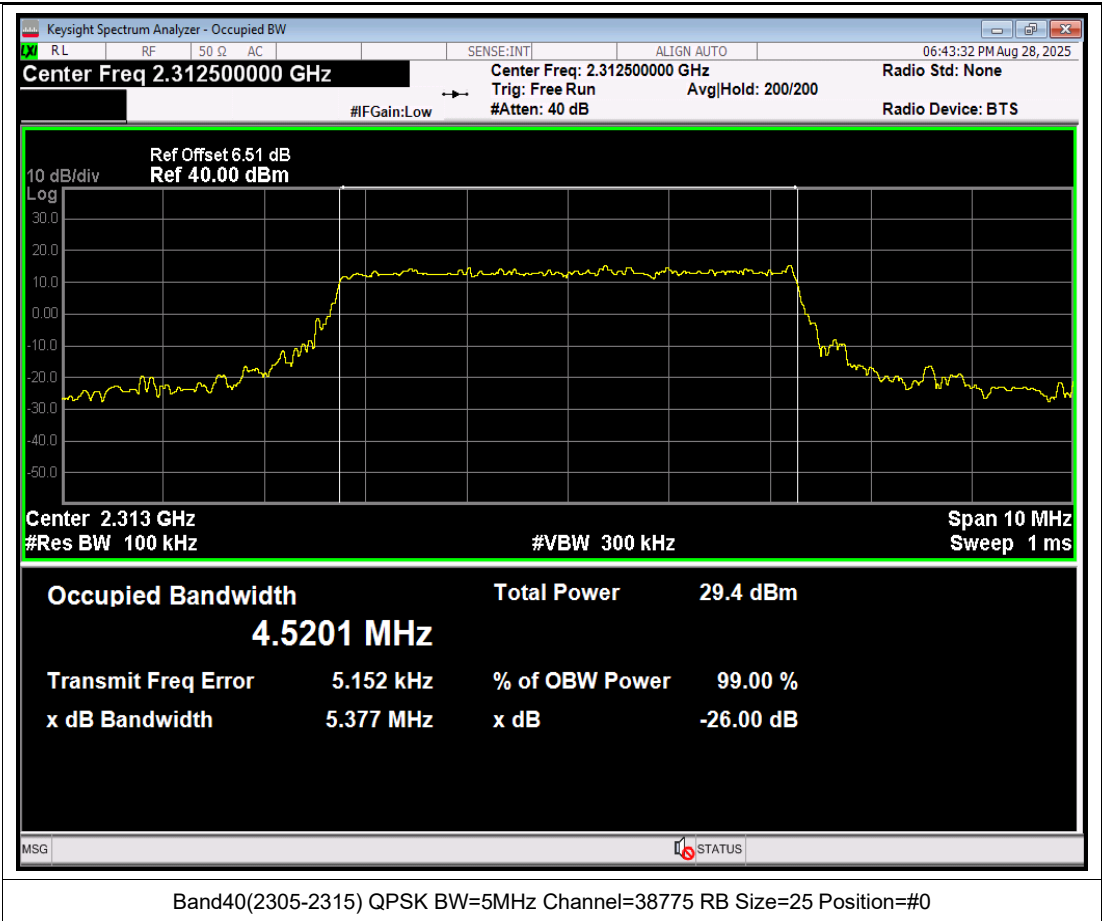
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Band40(2305-2315) QPSK BW=5MHz Channel=38725 RB Size=25 Position=#0

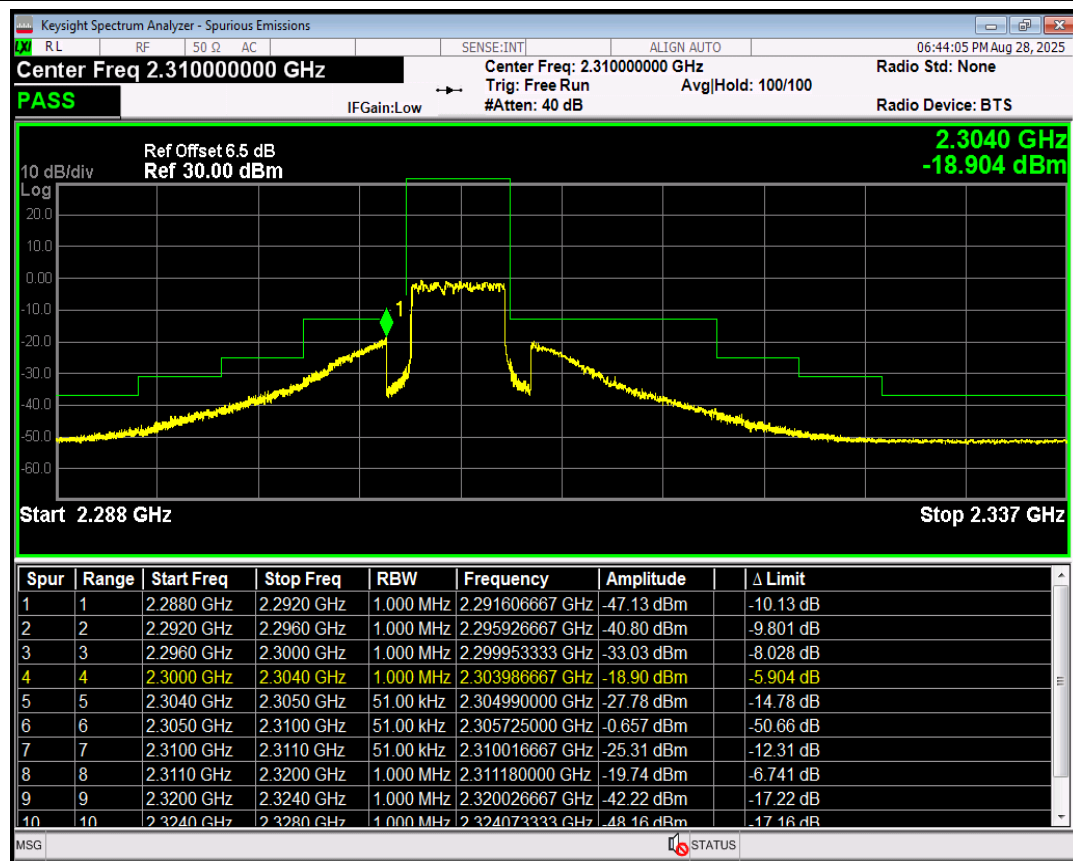


Band40(2305-2315) QPSK BW=5MHz Channel=38750 RB Size=25 Position=#0

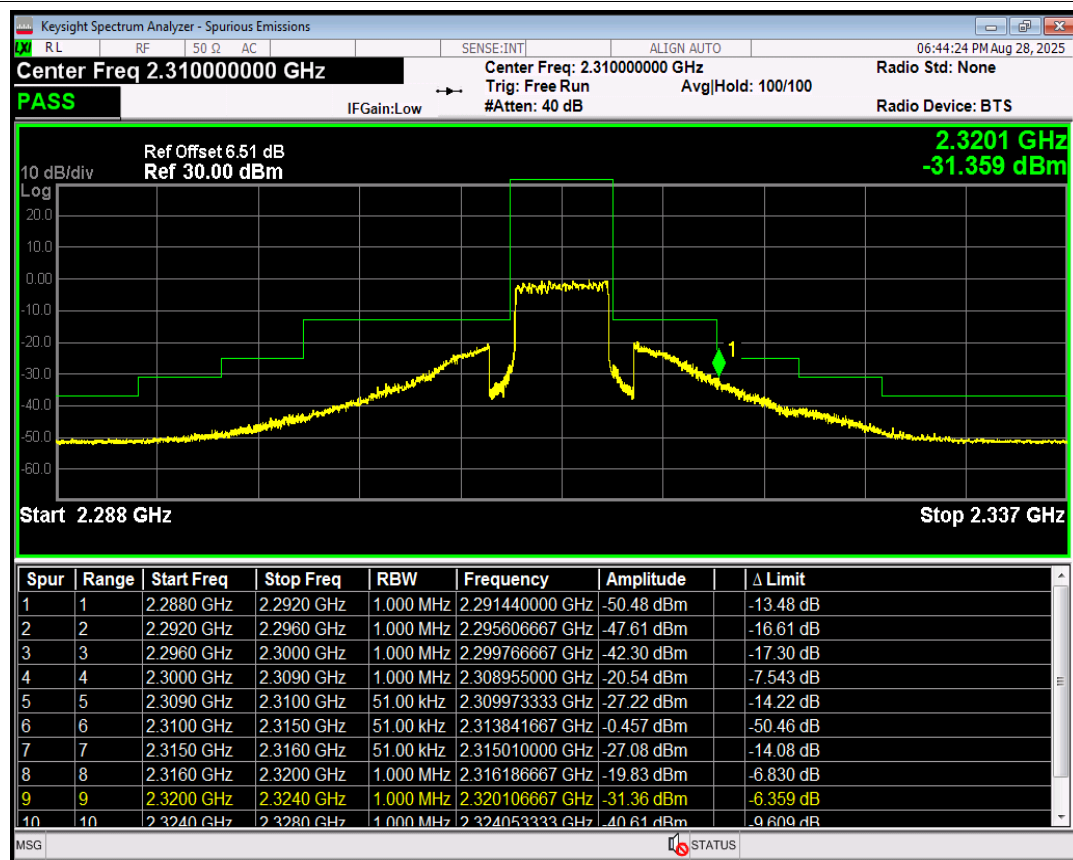


Band edge

<i>Band</i>	<i>Bandwidth (MHz)</i>	<i>UL Channel</i>	<i>RB Size</i>	<i>RB Position</i>	<i>Modulation</i>	<i>Spur Freq (MHz)</i>	<i>Spur Level (dBm)</i>	<i>Limit (dBm)</i>	<i>Verdict</i>
Band40(2305-2315)	5	38725	25	#0	QPSK	2299.89	-31.48	-25	PASS
Band40(2305-2315)	5	38725	25	#0	16QAM	2303.99	-18.90	-13	PASS
Band40(2305-2315)	5	38775	25	#0	QPSK	2320.21	-31.51	-25	PASS
Band40(2305-2315)	5	38775	25	#0	16QAM	2320.11	-31.36	-25	PASS
Band40(2305-2315)	10	38750	50	#0	QPSK	2328.75	-37.87	-37	PASS



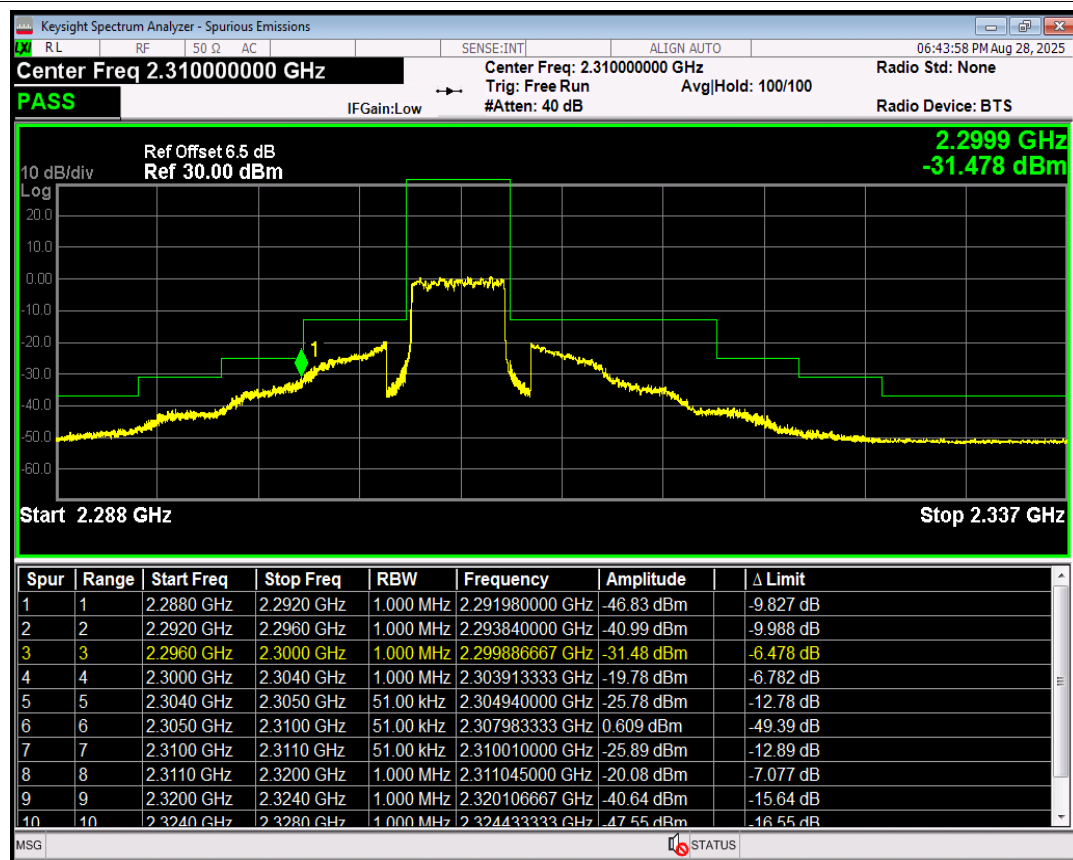
Band40(2305-2315) 16QAM BW=5MHz Channel=38725 RB Size=25 Position=#0



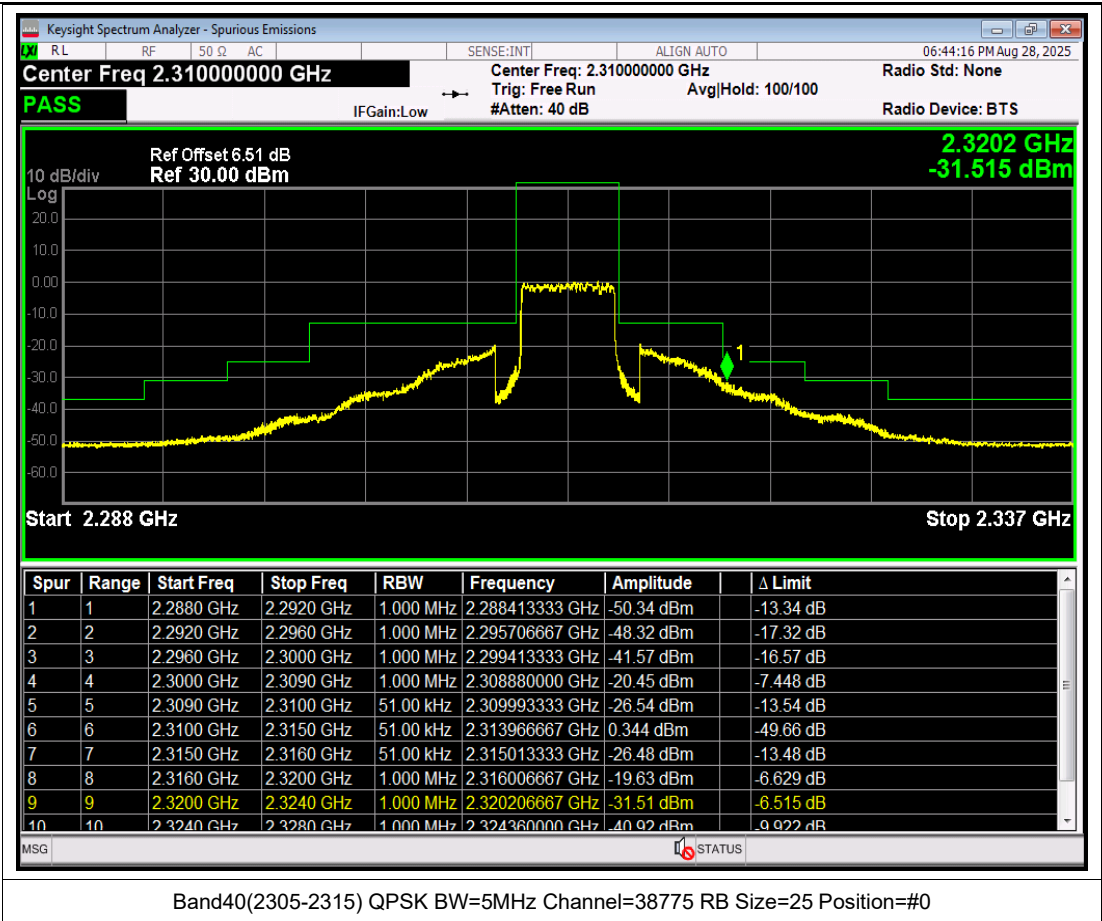
Band40(2305-2315) 16QAM BW=5MHz Channel=38775 RB Size=25 Position=#0



Band40(2305-2315) QPSK BW=10MHz Channel=38750 RB Size=50 Position=#0



Band40(2305-2315) QPSK BW=5MHz Channel=38725 RB Size=25 Position=#0



Out-of-band emissions

<i>Band</i>	<i>Bandwidth (MHz)</i>	<i>UL Channel</i>	<i>RB Size</i>	<i>RB Position</i>	<i>Modulation</i>	<i>Spur Freq (MHz)</i>	<i>Spur Level (dBm)</i>	<i>Limit (dBm)</i>	<i>Verdict</i>
Band40(2305-2315)	5	38725	25	#0	QPSK	4615.26	-47.87	-40	PASS
Band40(2305-2315)	5	38725	25	#0	16QAM	4615.90	-47.93	-40	PASS
Band40(2305-2315)	5	38750	25	#0	QPSK	4620.36	-48.18	-40	PASS
Band40(2305-2315)	5	38750	25	#0	16QAM	4619.09	-47.49	-40	PASS
Band40(2305-2315)	5	38775	25	#0	QPSK	2335.56	-43.81	-40	PASS
Band40(2305-2315)	5	38775	25	#0	16QAM	4622.91	-49.63	-40	PASS
Band40(2305-2315)	10	38750	50	#0	QPSK	2357.24	-48.54	-40	PASS



