NB-IOT Band5 Test Data

General Description of EUT	
Product Name:	SILO-HW-CELL
Test Model:	SILO-FILL-CELL
Sample No.:	HC-C-202312-0122-01-01-2#
Standard:	**47 CFR Part 2, 22(H)** **RSS-Gen Issue 5** **RSS-132 Issue 4**
Environmental Conditions	
Temperature:	23.8℃
Relative Humidity:	48%
Test Voltage:	DC 4.5V
Test Engineer:	Rick.chen
Note: For a more detailed features description, please refer to the report **TBR-C-202312-0122-66.** The report only show the worst casa data.	

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1: Conducted Output Power Data for NB1

Test Result

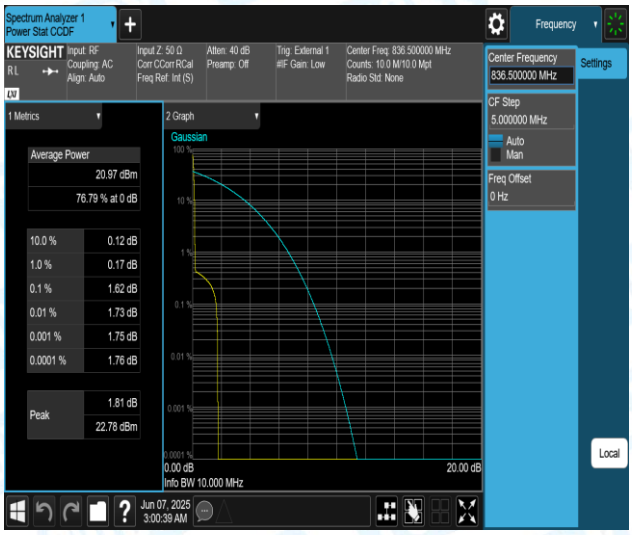
Band	OpMode	SCS	BW	Modu	Channel	Tones	Result (dBm)	Limit (dBm)	Verdict
Band5	Stand-Alone	3.75kHz	0.18	BPSK	20401	1@0	20.46	34.77	PASS
Band5	Stand-Alone	3.75kHz	0.18	QPSK	20401	1@0	20.46	34.77	PASS
Band5	Stand-Alone	3.75kHz	0.18	BPSK	20401	1@47	20.38	34.77	PASS
Band5	Stand-Alone	3.75kHz	0.18	QPSK	20401	1@47	20.37	34.77	PASS
Band5	Stand-Alone	3.75kHz	0.18	BPSK	20525	1@0	20.5	34.77	PASS
Band5	Stand-Alone	3.75kHz	0.18	QPSK	20525	1@0	20.46	34.77	PASS
Band5	Stand-Alone	3.75kHz	0.18	BPSK	20525	1@47	20.35	34.77	PASS
Band5	Stand-Alone	3.75kHz	0.18	QPSK	20525	1@47	20.41	34.77	PASS
Band5	Stand-Alone	3.75kHz	0.18	BPSK	20649	1@0	20.38	34.77	PASS
Band5	Stand-Alone	3.75kHz	0.18	QPSK	20649	1@0	20.33	34.77	PASS
Band5	Stand-Alone	3.75kHz	0.18	BPSK	20649	1@47	20.19	34.77	PASS
Band5	Stand-Alone	3.75kHz	0.18	QPSK	20649	1@47	20.17	34.77	PASS
Band5	Stand-Alone	15kHz	0.18	BPSK	20401	1@0	20.65	34.77	PASS
Band5	Stand-Alone	15kHz	0.18	QPSK	20401	1@0	20.68	34.77	PASS
Band5	Stand-Alone	15kHz	0.18	BPSK	20401	1@11	20.55	34.77	PASS
Band5	Stand-Alone	15kHz	0.18	QPSK	20401	1@11	20.68	34.77	PASS
Band5	Stand-Alone	15kHz	0.18	BPSK	20525	1@0	20.78	34.77	PASS
Band5	Stand-Alone	15kHz	0.18	QPSK	20525	1@0	20.72	34.77	PASS
Band5	Stand-Alone	15kHz	0.18	BPSK	20525	1@11	20.71	34.77	PASS
Band5	Stand-Alone	15kHz	0.18	QPSK	20525	1@11	20.71	34.77	PASS
Band5	Stand-Alone	15kHz	0.18	BPSK	20649	1@0	20.66	34.77	PASS
Band5	Stand-Alone	15kHz	0.18	QPSK	20649	1@0	20.69	34.77	PASS
Band5	Stand-Alone	15kHz	0.18	BPSK	20649	1@11	20.61	34.77	PASS
Band5	Stand-Alone	15kHz	0.18	QPSK	20649	1@11	20.6	34.77	PASS
Band5	Stand-Alone	15kHz	0.18	QPSK	20401	3@3	20.74	34.77	PASS
Band5	Stand-Alone	15kHz	0.18	QPSK	20525	3@3	20.63	34.77	PASS
Band5	Stand-Alone	15kHz	0.18	QPSK	20649	3@3	20.67	34.77	PASS

2: Peak-to-Average Ratio(CCDF) for NB1

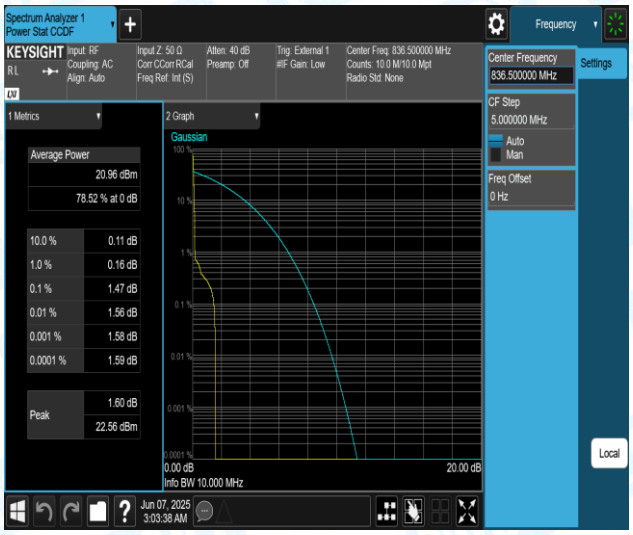
Test Result

Band	OpMode	SCS	BW	Modu	Channel	Tones	Result (dBm)	Limit (dBm)	Verdict
Band5	Stand-Alone	3.75kHz	0.18	BPSK	20525	1@0	1.62	<=13	PASS
Band5	Stand-Alone	3.75kHz	0.18	QPSK	20525	1@0	1.47	<=13	PASS
Band5	Stand-Alone	3.75kHz	0.18	BPSK	20525	1@47	0.2	<=13	PASS
Band5	Stand-Alone	3.75kHz	0.18	QPSK	20525	1@47	0.54	<=13	PASS
Band5	Stand-Alone	15kHz	0.18	QPSK	20525	1@0	1.47	<=13	PASS
Band5	Stand-Alone	15kHz	0.18	QPSK	20525	1@11	1.46	<=13	PASS
Band5	Stand-Alone	15kHz	0.18	QPSK	20525	3@3	8.43	<=13	PASS

Test Graphs



B a n d 5 - 0 . 1 8 - B P S K - 2 0 5 2 5 - P A S S



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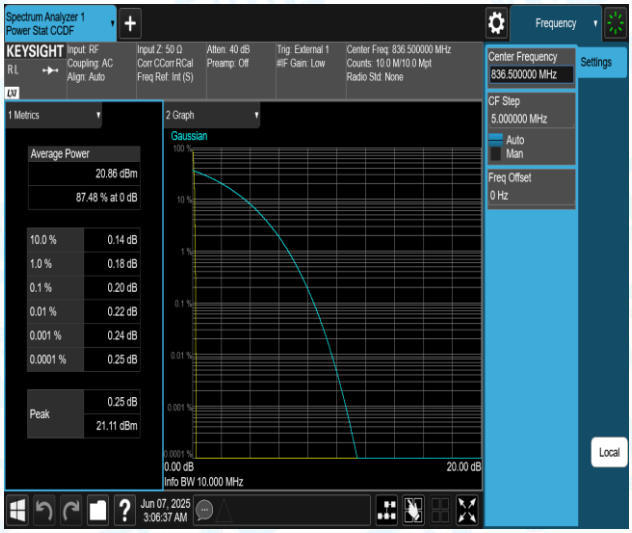
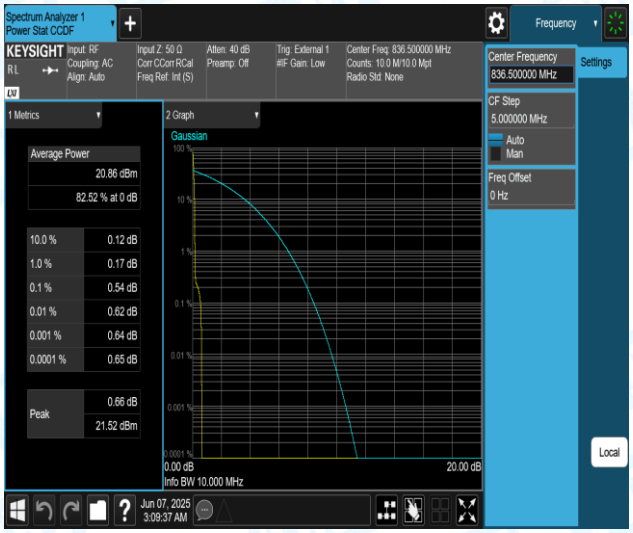


B a n d 5 - 0 . 1 8 - B P S K - 2 0 5 2 5 - P A S S



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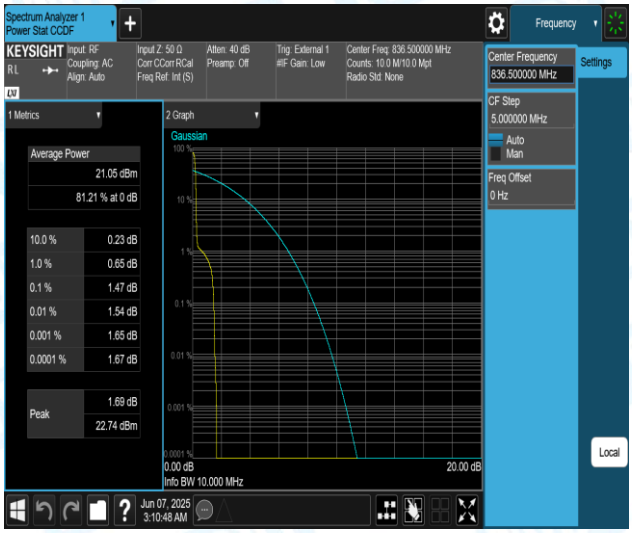

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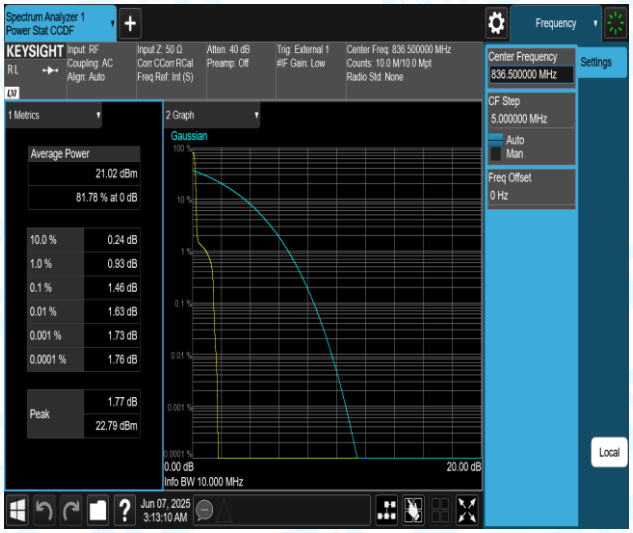

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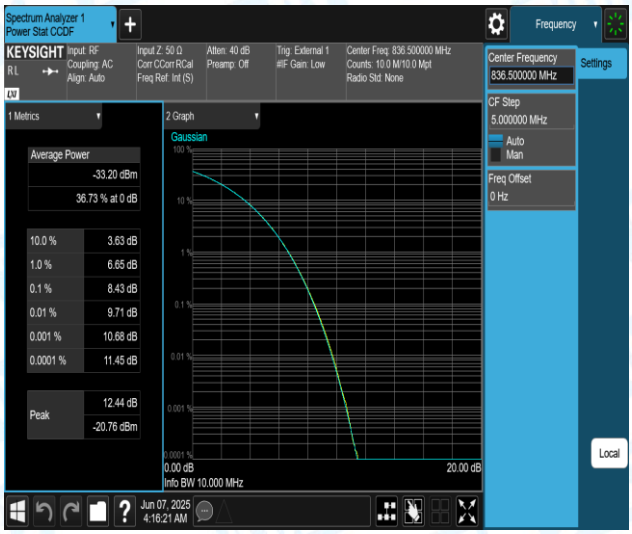


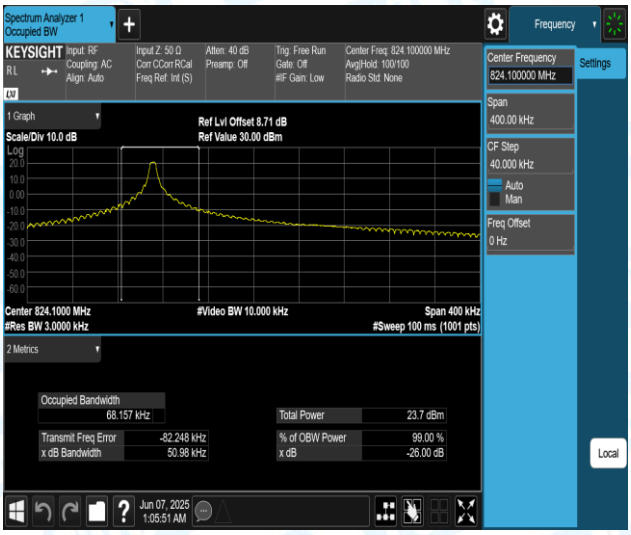
Band5-0.18-QPSK-20525-PASS

3: Emission Bandwidth for NB1

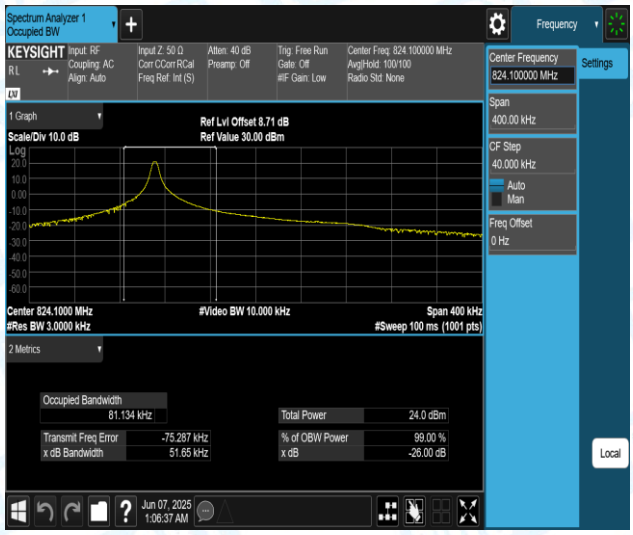
Test Result

Band	OpMode	SCS	BW	Modu	Channel	Tones	OBW (MHz)	EBW (MHz)	Verdict
Band5	Stand-Alone	3.75kHz	0.18	BPSK	20401	1@0	0.06816	0.0510	PASS
Band5	Stand-Alone	3.75kHz	0.18	QPSK	20401	1@0	0.08113	0.0517	PASS
Band5	Stand-Alone	3.75kHz	0.18	BPSK	20525	1@0	0.06749	0.0513	PASS
Band5	Stand-Alone	3.75kHz	0.18	QPSK	20525	1@0	0.08101	0.0512	PASS
Band5	Stand-Alone	3.75kHz	0.18	BPSK	20649	1@0	0.06740	0.0504	PASS
Band5	Stand-Alone	3.75kHz	0.18	QPSK	20649	1@0	0.07953	0.0507	PASS
Band5	Stand-Alone	15kHz	0.18	BPSK	20401	1@0	0.12371	0.1061	PASS
Band5	Stand-Alone	15kHz	0.18	QPSK	20401	1@0	0.12172	0.1182	PASS
Band5	Stand-Alone	15kHz	0.18	BPSK	20401	12@0	0.18428	0.2400	PASS
Band5	Stand-Alone	15kHz	0.18	QPSK	20401	12@0	0.18425	0.2507	PASS
Band5	Stand-Alone	15kHz	0.18	BPSK	20525	1@0	0.12590	0.1064	PASS
Band5	Stand-Alone	15kHz	0.18	QPSK	20525	1@0	0.11933	0.1300	PASS
Band5	Stand-Alone	15kHz	0.18	BPSK	20525	12@0	0.18456	0.2456	PASS
Band5	Stand-Alone	15kHz	0.18	QPSK	20525	12@0	0.18422	0.2516	PASS
Band5	Stand-Alone	15kHz	0.18	BPSK	20649	1@0	0.12520	0.1046	PASS
Band5	Stand-Alone	15kHz	0.18	QPSK	20649	1@0	0.12623	0.1166	PASS
Band5	Stand-Alone	15kHz	0.18	BPSK	20649	12@0	0.18400	0.2414	PASS
Band5	Stand-Alone	15kHz	0.18	QPSK	20649	12@0	0.18481	0.2398	PASS

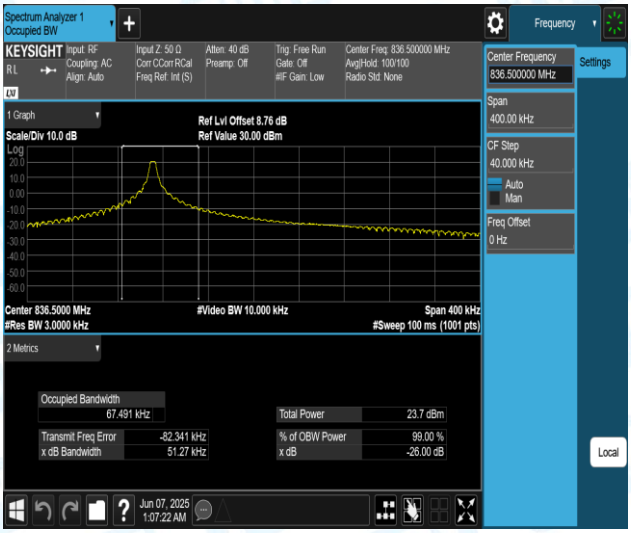
Test Graphs



B a n d 5 - 0 . 1 8 - B P S K - 2 0 4 0 1 - P A S S



B a n d 5 - 0 . 1 8 - Q P S K - 2 0 4 0 1 - P A S S



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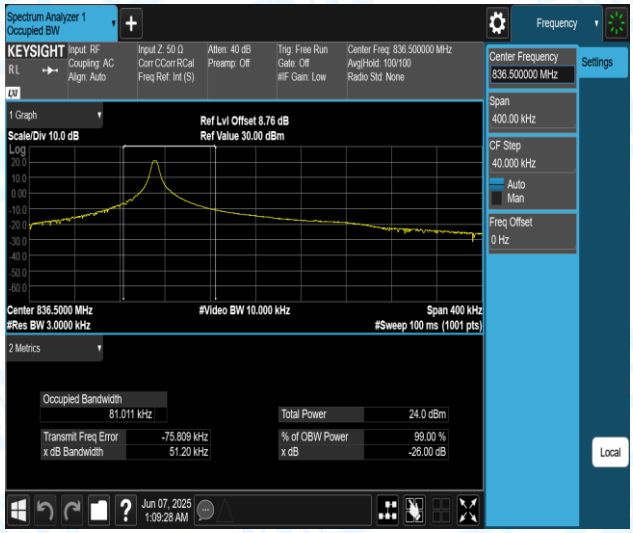

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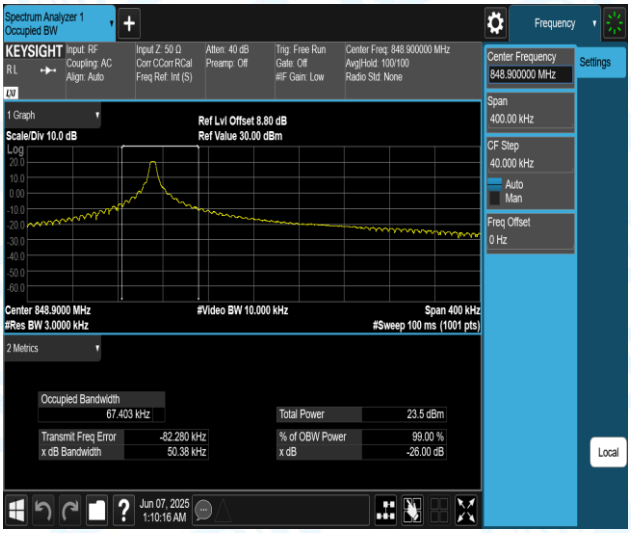
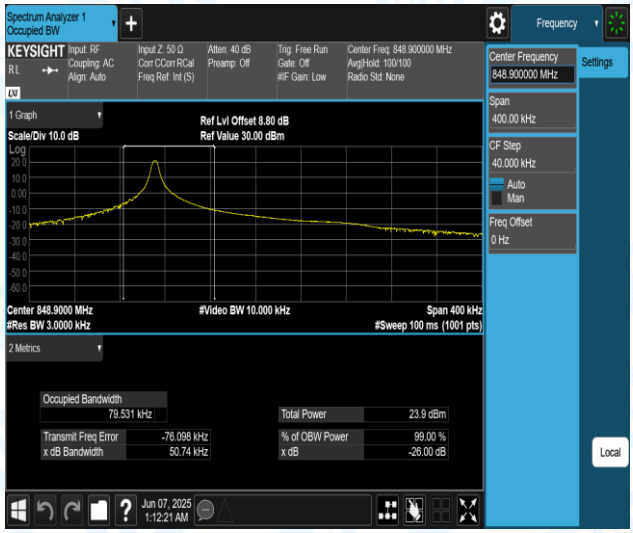
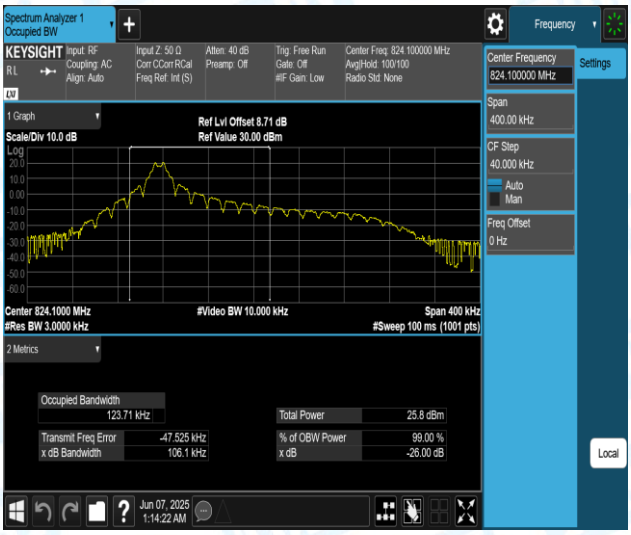


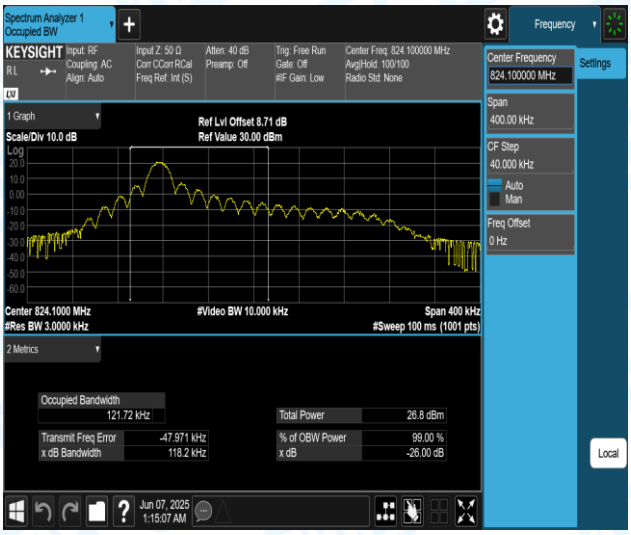
B a n d 5 - 0 . 1 8 - B P S K - 2 0 6 4 9 - P A S S



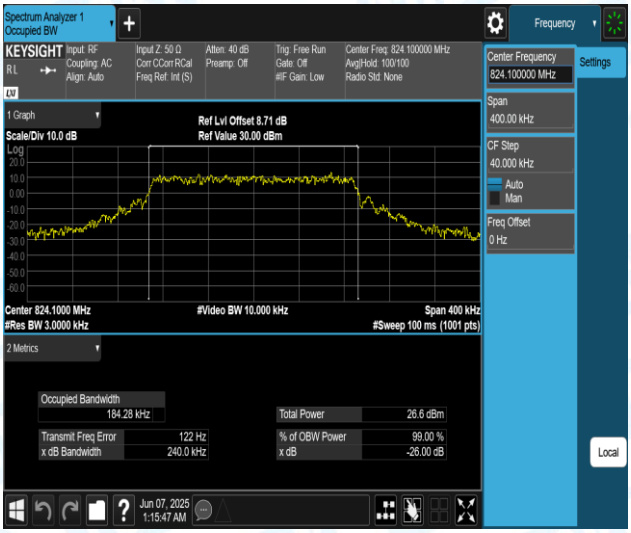
B a n d 5 - 0 . 1 8 - Q P S K - 2 0 6 4 9 - P A S S



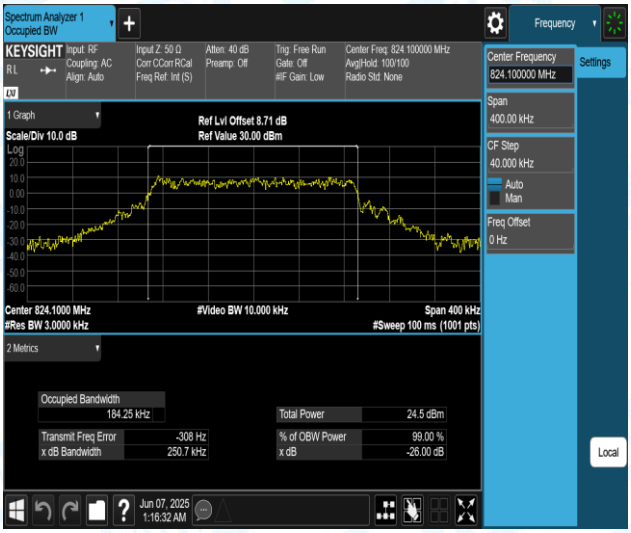
Band5-0.18-BPSK-20401-PASS



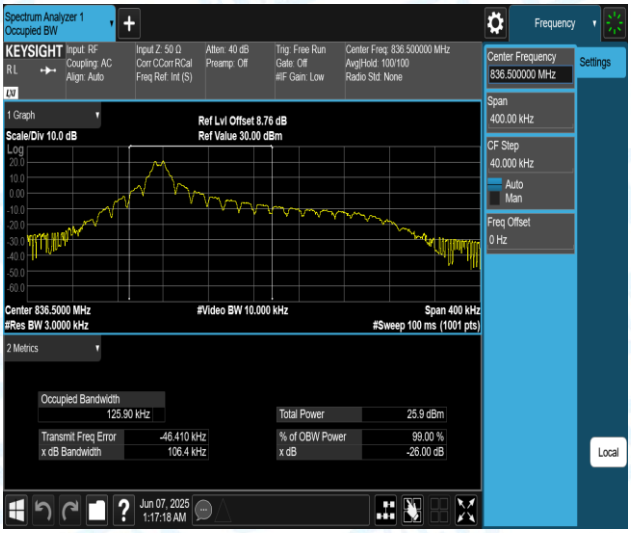
Band5-0.18-QPSK-20401-PASS



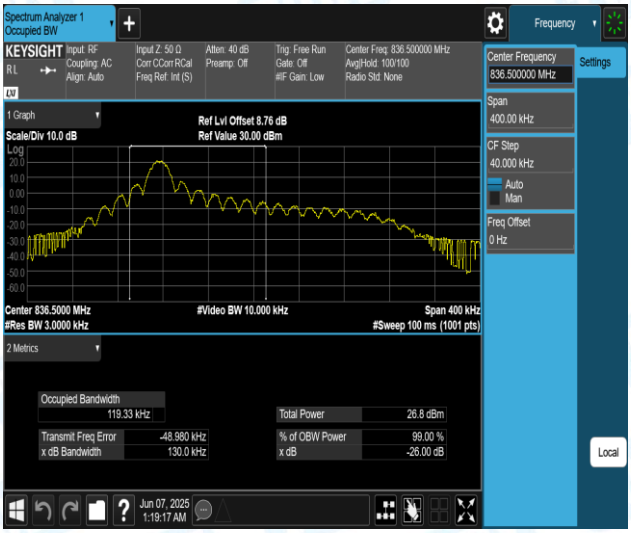
Band5-0.18-BPSK-20401-PASS



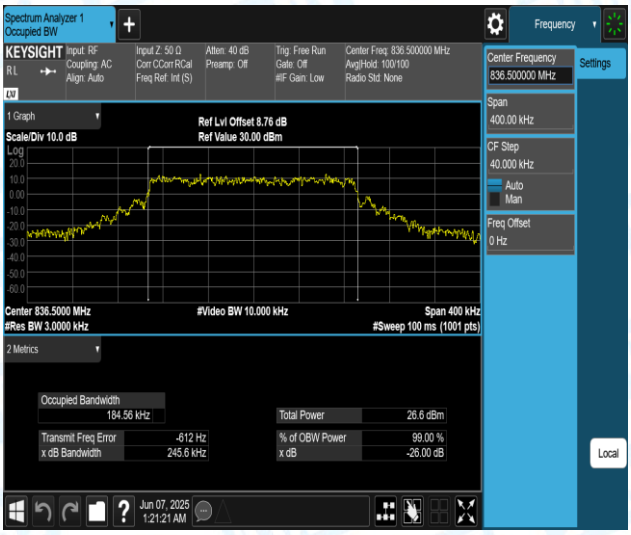
Band5-0.18-QPSK-20401-PASS



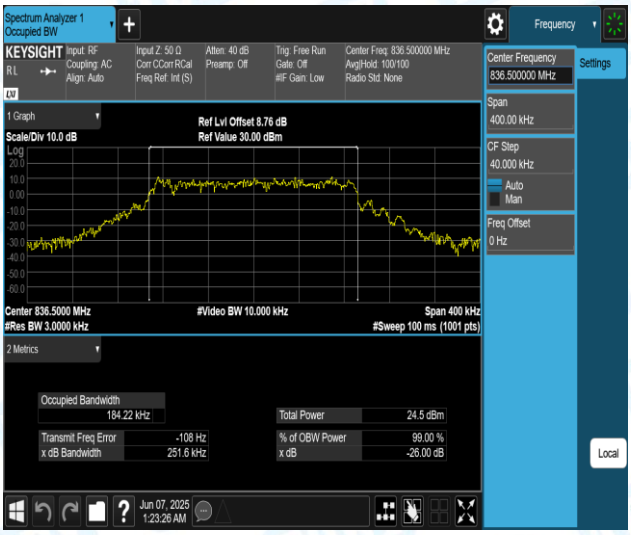
Band5-0.18-BPSK-20525-PASS



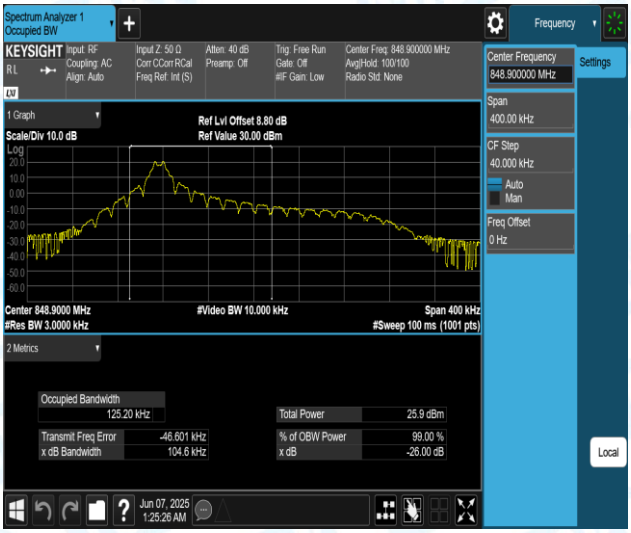
Band5-0.18-QPSK-20525-PASS



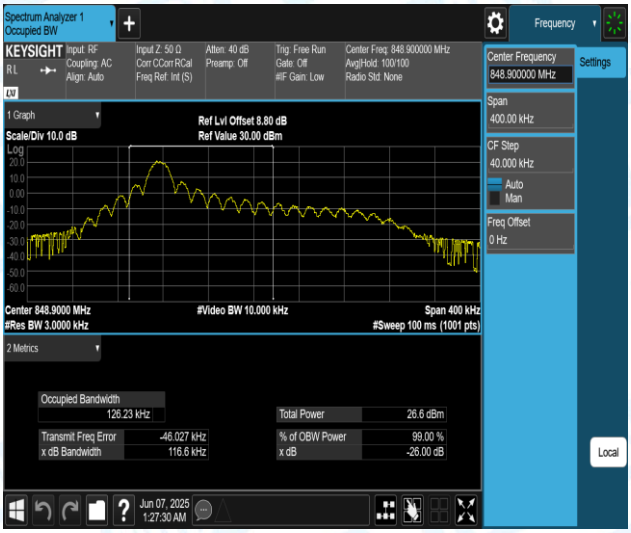
Band5-0.18-BPSK-20525-PASS



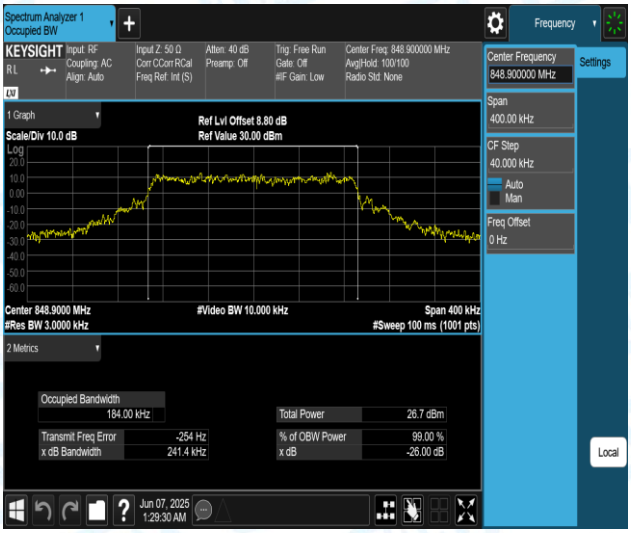
Band5-0.18-QPSK-20525-PASS



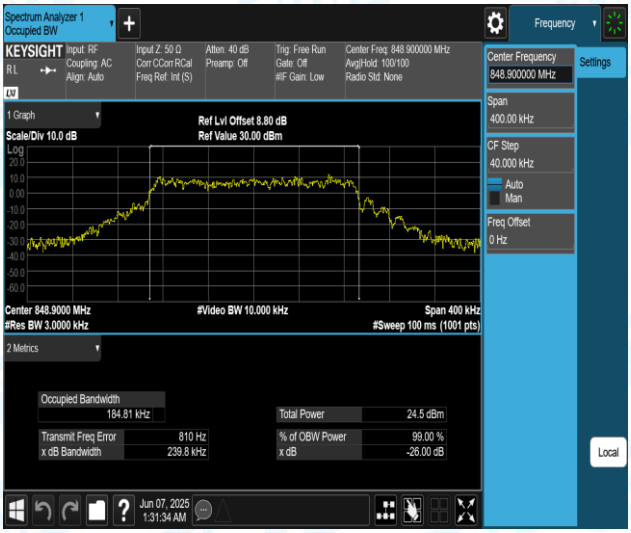
Band5-0.18-BPSK-20649-PASS



Band5-0.18-QPSK-20649-PASS



Band5-0.18-BPSK-20649-PASS



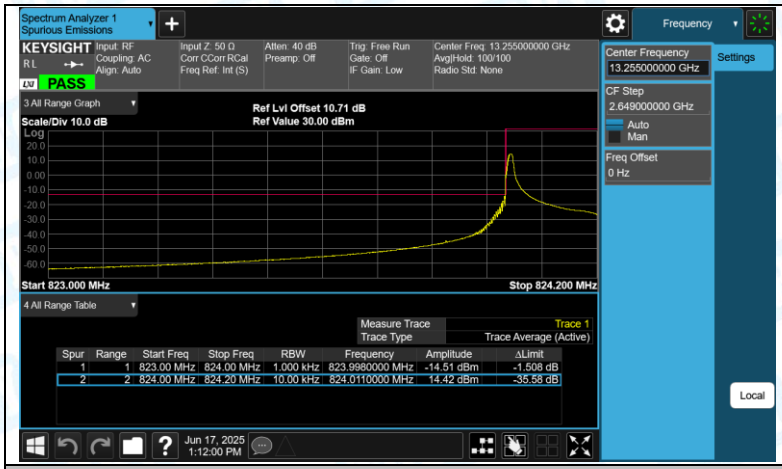
Band5-0.18-QPSK-20649-PASS

4: Band Edge for NB1

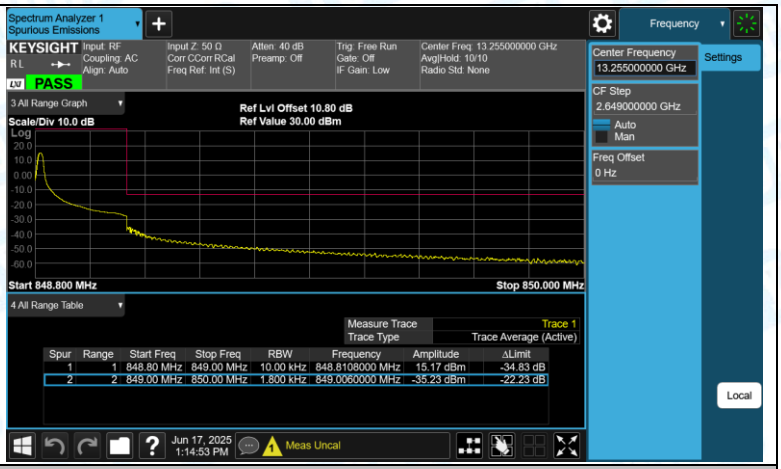
Test Result

Band	OpMode	SCS	BW	Modu	Channel	Tones	Level (dBm)	Margin (dB)	Verdict
Band5	Stand-Alone	3.75kHz	0.18	BPSK	20401	1@0	-14.51	1.508	PASS
Band5	Stand-Alone	3.75kHz	0.18	QPSK	20401	1@0	-13.73	0.734	PASS
Band5	Stand-Alone	3.75kHz	0.18	BPSK	20401	1@47	-34.43	24.13	PASS
Band5	Stand-Alone	3.75kHz	0.18	QPSK	20401	1@47	-33.04	20.04	PASS
Band5	Stand-Alone	3.75kHz	0.18	BPSK	20649	1@0	-35.23	22.23	PASS
Band5	Stand-Alone	3.75kHz	0.18	QPSK	20649	1@0	-13.50	0.501	PASS
Band5	Stand-Alone	3.75kHz	0.18	BPSK	20649	1@47	-34.41	21.41	PASS
Band5	Stand-Alone	3.75kHz	0.18	QPSK	20649	1@47	-14.14	1.140	PASS
Band5	Stand-Alone	15kHz	0.18	BPSK	20401	1@0	-13.31	0.308	PASS
Band5	Stand-Alone	15kHz	0.18	QPSK	20401	1@0	-32.81	19.81	PASS
Band5	Stand-Alone	15kHz	0.18	BPSK	20401	1@11	-14.72	1.723	PASS
Band5	Stand-Alone	15kHz	0.18	QPSK	20401	1@11	-32.30	19.30	PASS
Band5	Stand-Alone	15kHz	0.18	BPSK	20649	1@0	-27.95	14.95	PASS
Band5	Stand-Alone	15kHz	0.18	QPSK	20649	1@0	-14.38	1.377	PASS
Band5	Stand-Alone	15kHz	0.18	BPSK	20649	1@11	-28.12	15.12	PASS
Band5	Stand-Alone	15kHz	0.18	QPSK	20649	1@11	-13.58	0.575	PASS

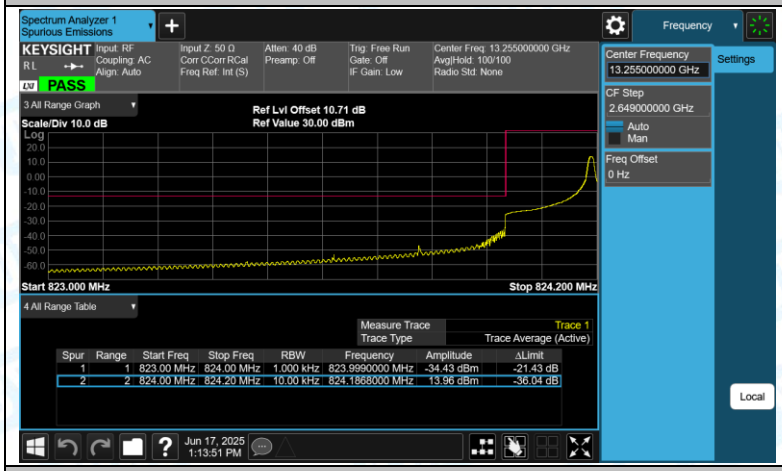
Test Graphs



Band5_Stand-Alone_0.18_BPSK_20401_1@0_3.75kHz

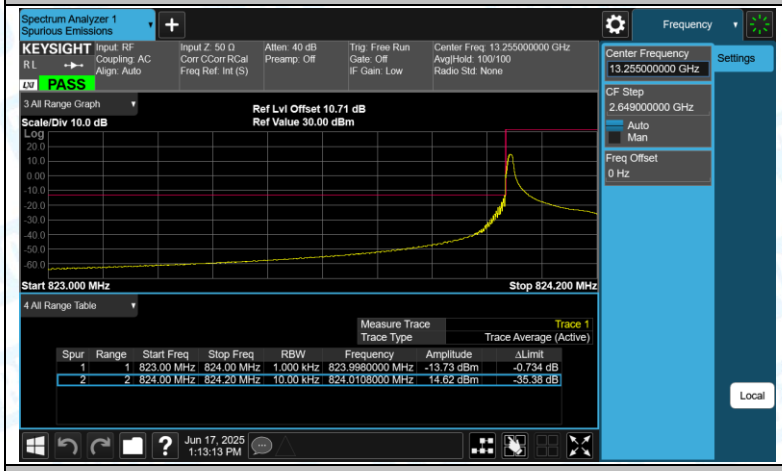


Band5_Stand-Alone_0.18_BPSK_20649_1@0_3.75kHz



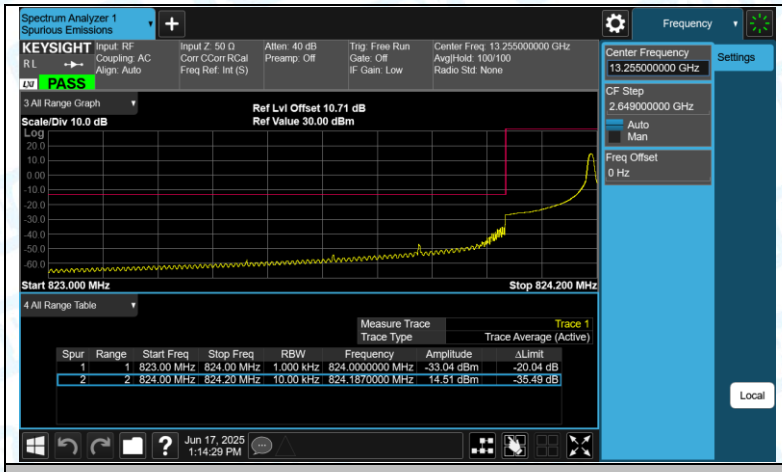
Band5_Stand-Alone_0.18_BPSK_20401_1@47_3.75kHz

Band5_Stand-Alone_0.18_BPSK_20649_1@47_3.75kHz

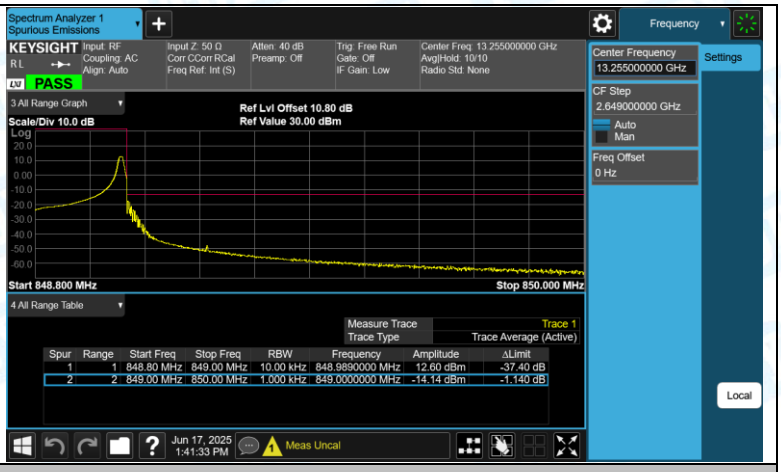


Band5_Stand-Alone_0.18_QPSK_20401_1@0_3.75kHz

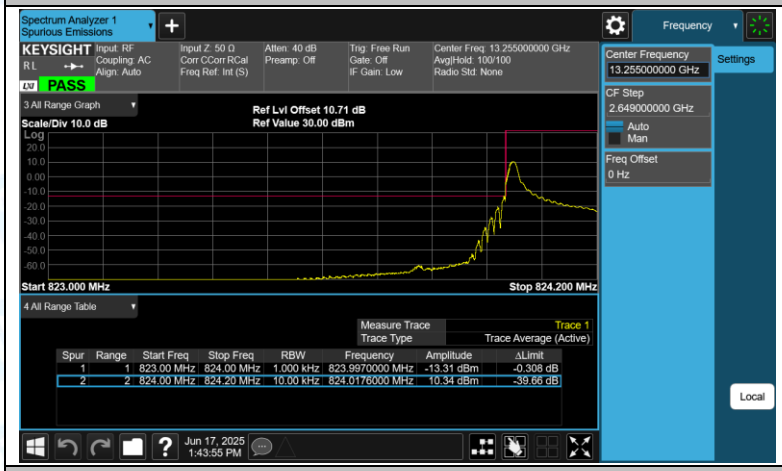
Band5_Stand-Alone_0.18_QPSK_20649_1@0_3.75kHz



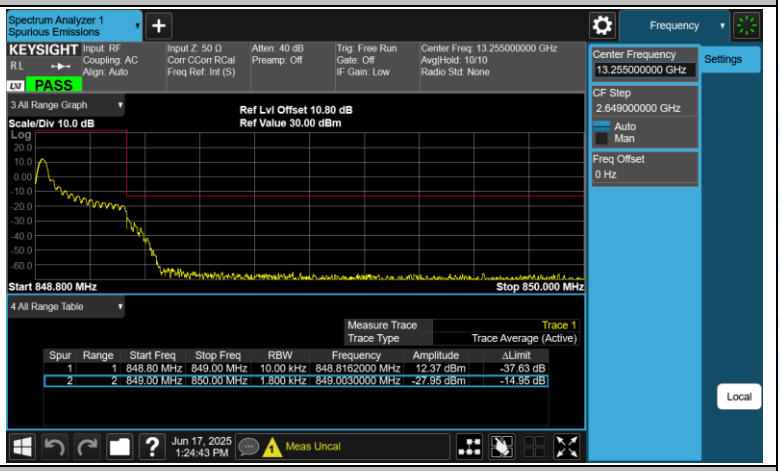
Band5_Stand-Alone_0.18_QPSK_20401_1@47_3.75kHz



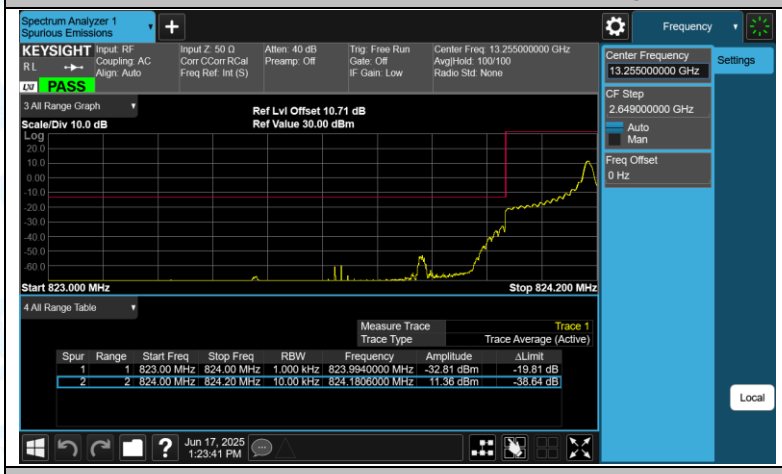
Band5_Stand-Alone_0.18_QPSK_20649_1@47_3.75kHz



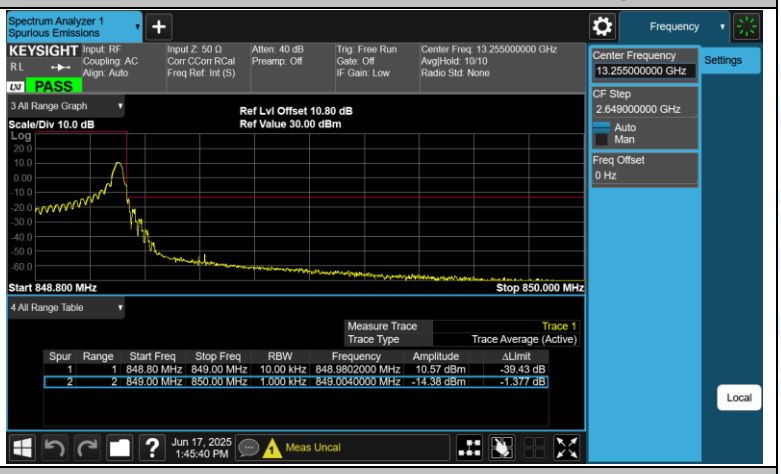
Band5_Stand-Alone_0.18_BPSK_20401_1@0_15kHz



Band5_Stand-Alone_0.18_BPSK_20649_1@0_15kHz



Band5_Stand-Alone_0.18_BPSK_20401_1@11_15kHz



Band5_Stand-Alone_0.18_BPSK_20649_1@11_15kHz