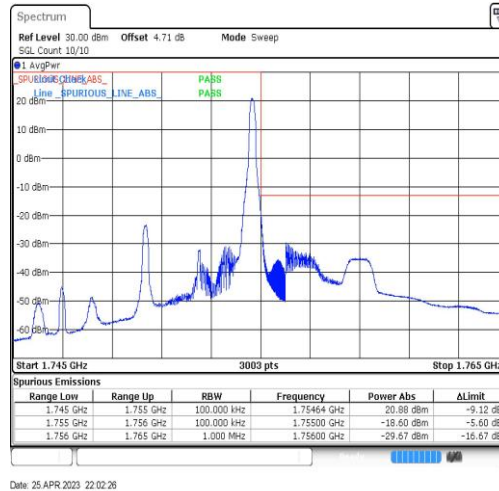
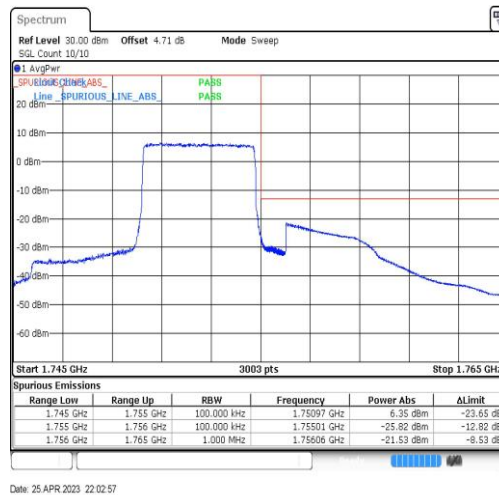


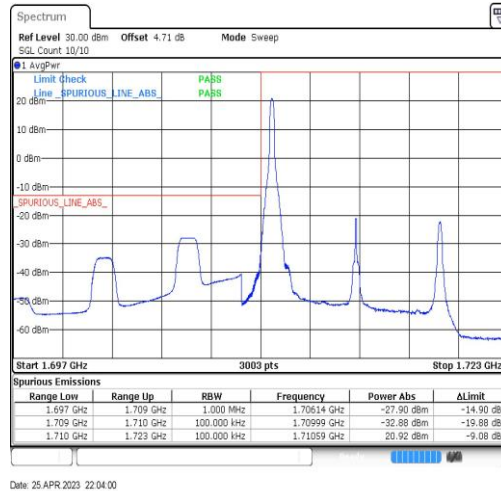


Band4-5MHz-QPSK-20375-1RB#24

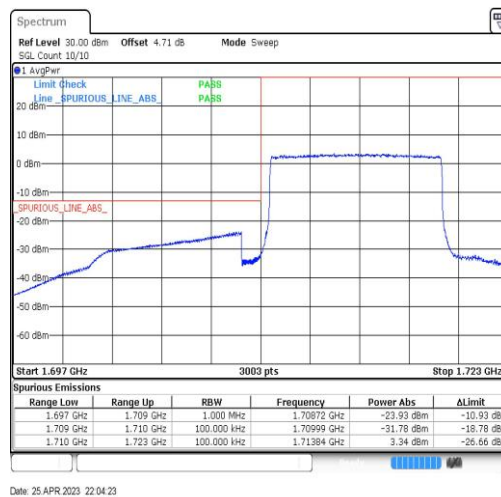


Band4-5MHz-QPSK-20375-25RB#0



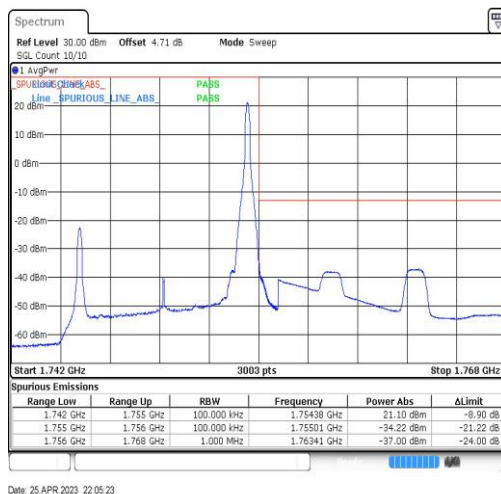


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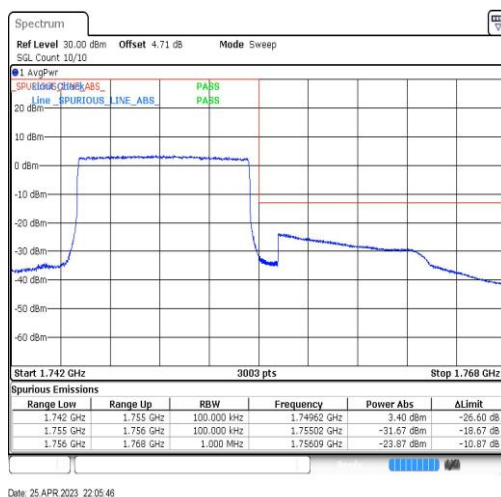


Band4-10MHz-QPSK-20000-50RB#0





Band4-10MHz-QPSK-20350-1RB#49



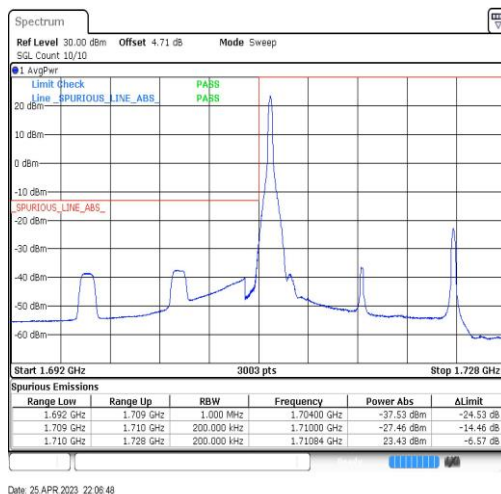
Band4-10MHz-QPSK-20350-50RB#0



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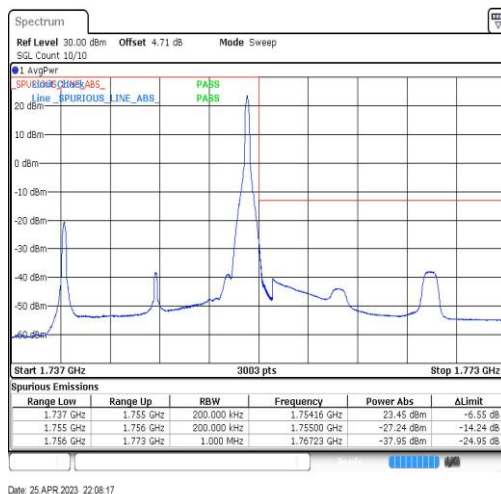
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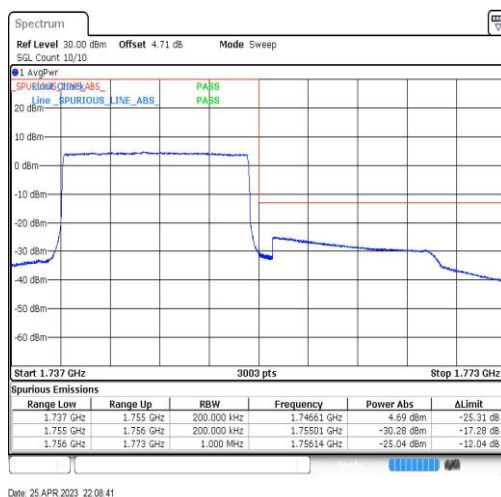
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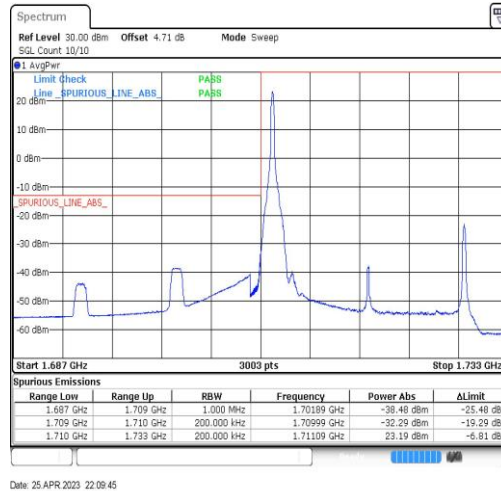
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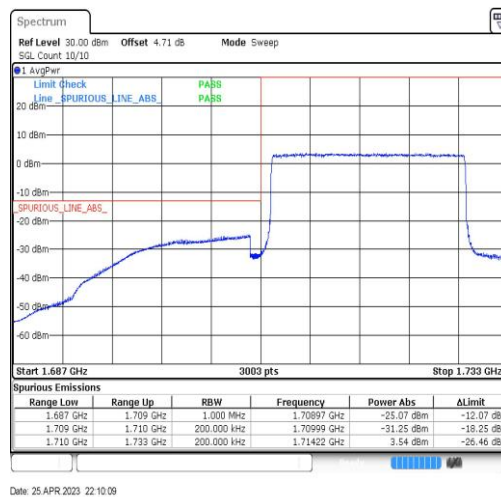
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Band4-15MHz-QPSK-20325-75RB#0

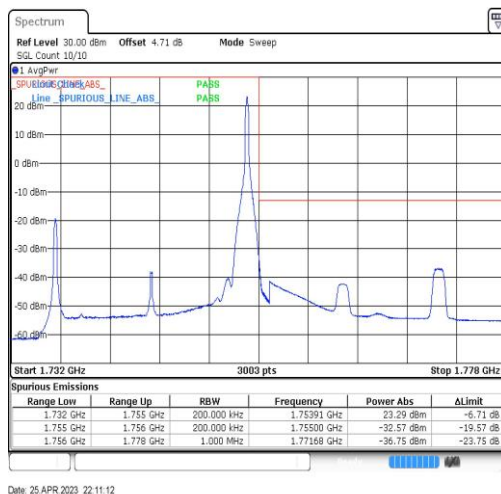


Band4-20MHz-QPSK-20050-1RB#0

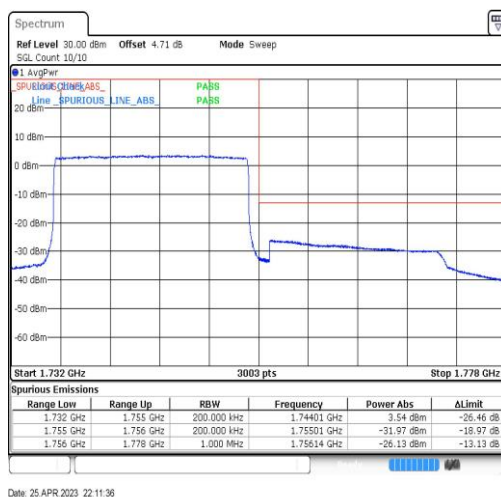


Band4-20MHz-QPSK-20050-100RB#0





Band4-20MHz-QPSK-20300-1RB#99

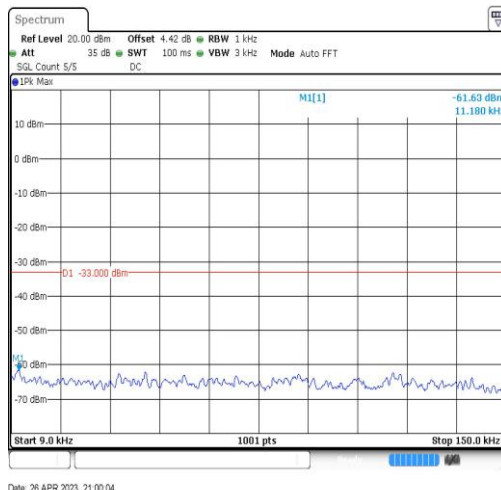


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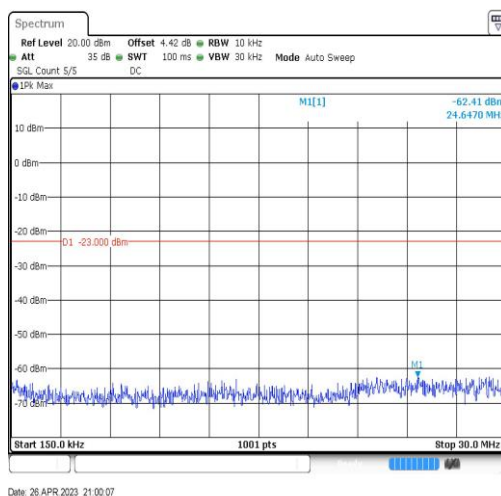


Conducted Spurious Emission

Test Graphs



Band4-20MHz-QPSK-20050-1RB#0-Range1:0.009~0.15MHz



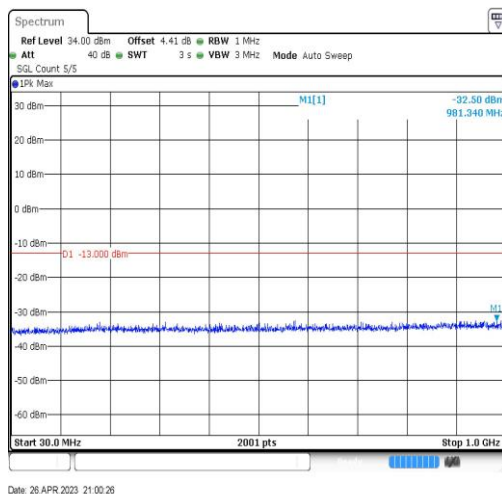
Band4-20MHz-QPSK-20050-1RB#0-Range2:0.15~30MHz



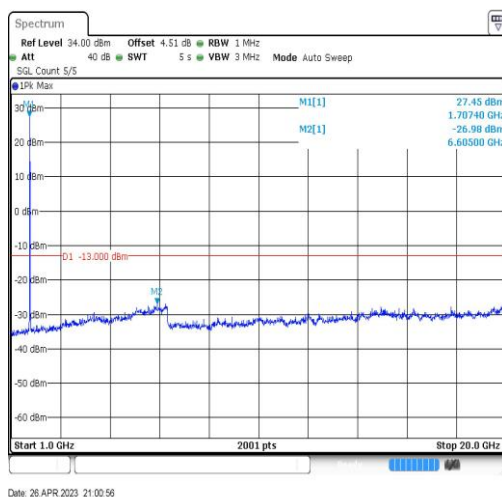
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Band4-20MHz-QPSK-20050-1RB#0-Range3:30~1000MHz



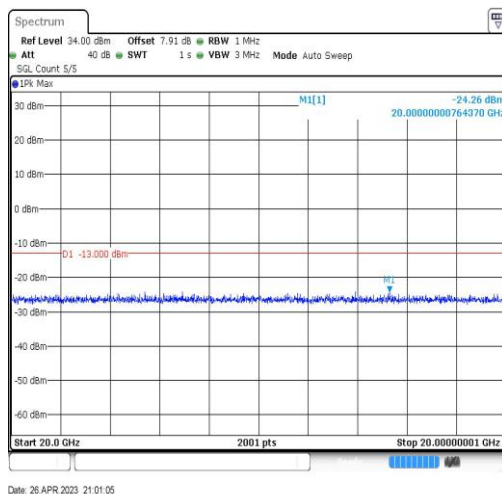
Band4-20MHz-QPSK-20050-1RB#0-Range4:1000~20000MHz



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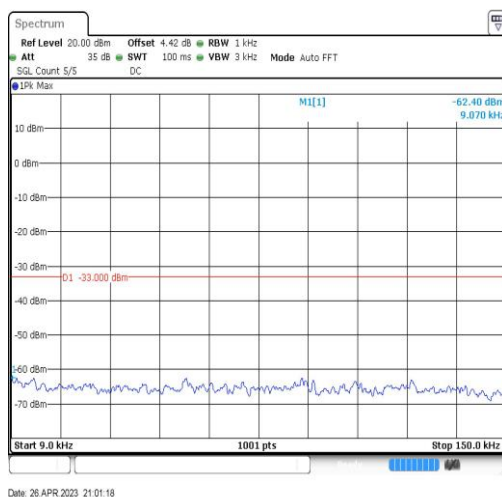
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Date: 26 APR 2023 21:01:05

Band4-20MHz-QPSK-20050-1RB#0-Range5:20000~40000MHz



Date: 26 APR 2023 21:01:18

Band4-20MHz-QPSK-20175-1RB#0-Range1:0.009~0.15MHz

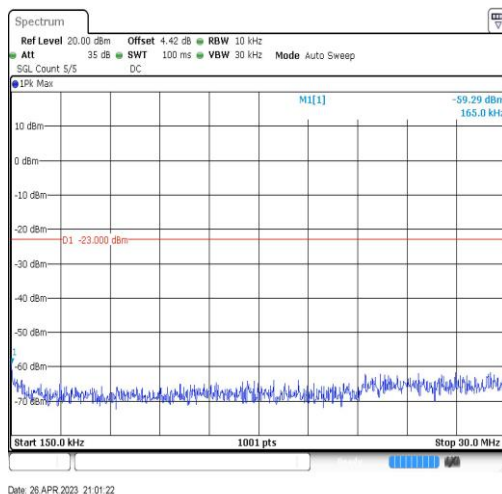


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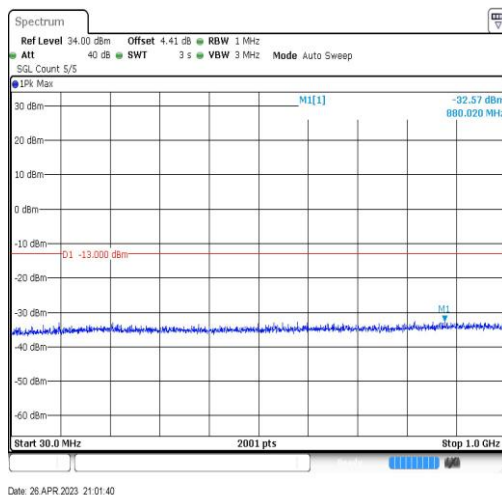
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Band4-20MHz-QPSK-20175-1RB#0-Range2:0.15~30MHz



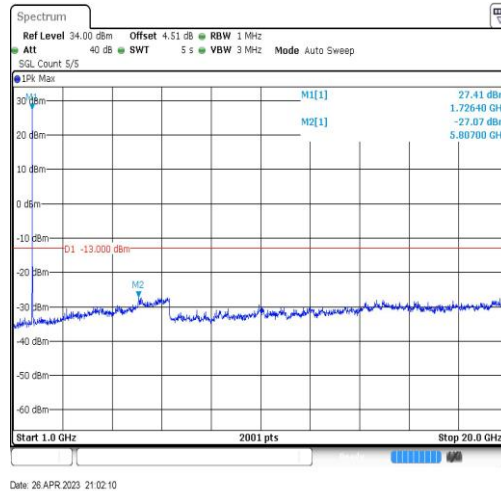
Band4-20MHz-QPSK-20175-1RB#0-Range3:30~1000MHz



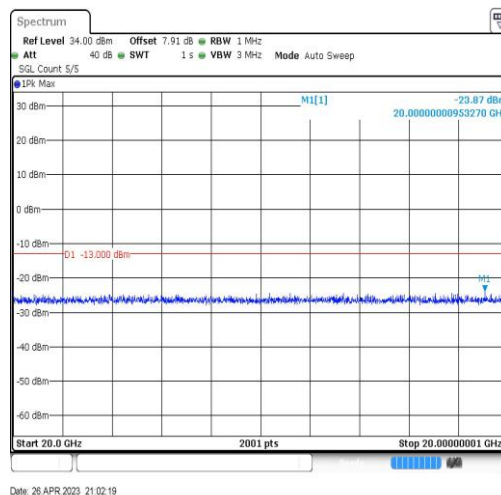
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Band4-20MHz-QPSK-20175-1RB#0-Range4:1000~20000MHz

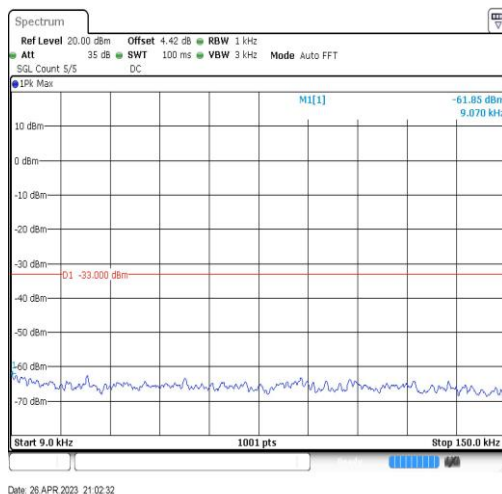


Band4-20MHz-QPSK-20175-1RB#0-Range5:20000~40000MHz

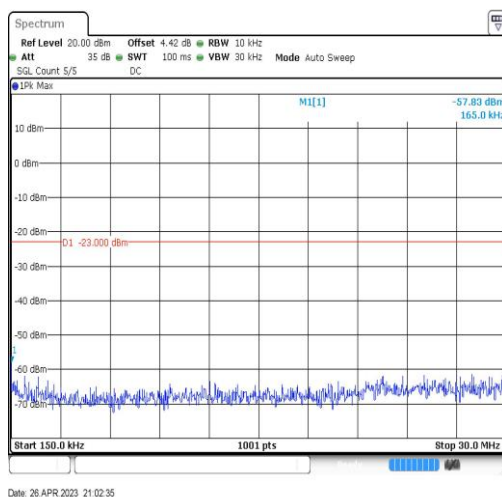


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Band4-20MHz-QPSK-20300-1RB#0-Range1:0.009~0.15MHz



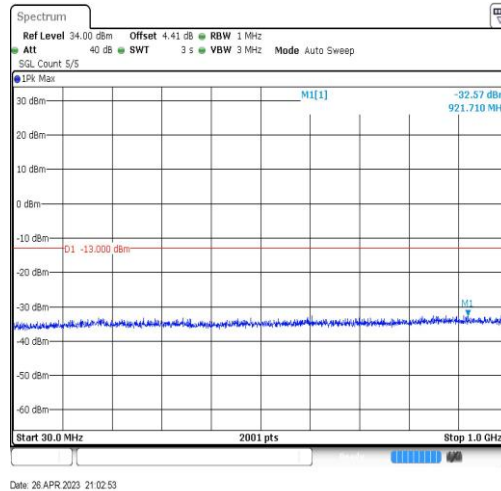
Band4-20MHz-QPSK-20300-1RB#0-Range2:0.15~30MHz



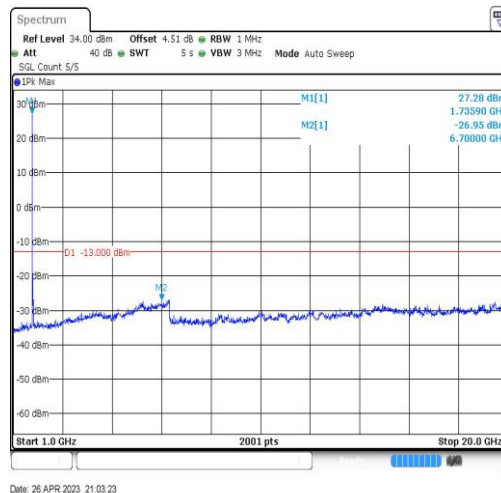
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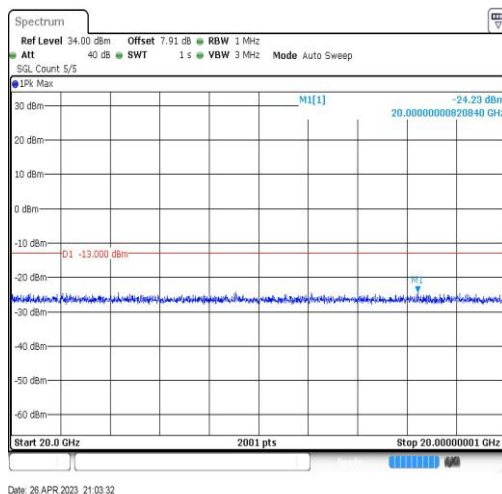


Band4-20MHz-QPSK-20300-1RB#0-Range3:30~1000MHz



Band4-20MHz-QPSK-20300-1RB#0-Range4:1000~20000MHz





Date: 26 APR 2023 21:03:32

Band4-20MHz-QPSK-20300-1RB#0-Range5:20000~40000MHz



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Field Strength of Spurious Radiation

Test Band = LTE_4 ANT 13 _20MHz _TM1

Test Channel = LCH

Final Data List										
NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB]	AF [dB/m]	Level [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	3422.2711	54.08	-45.33	28.73	-57.78	-13.00	44.78	274	195	Horizontal
2	4910.3455	51.48	-42.86	30.92	-55.72	-13.00	42.72	266	231	Horizontal
3	7689.9845	50.60	-37.69	36.76	-45.59	-13.00	32.59	289	291	Horizontal
4	9464.5732	51.87	-35.79	37.59	-41.59	-13.00	28.59	111	235	Horizontal
5	11050.1525	51.08	-37.29	40.15	-41.32	-13.00	28.32	264	66	Horizontal
6	15206.8603	54.89	-35.35	39.71	-36.01	-13.00	23.01	226	34	Horizontal

Final Data List										
NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB]	AF [dB/m]	Level [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	3869.2935	51.19	-44.42	29.70	-58.79	-13.00	45.79	343	58	Vertical
2	5679.134	51.96	-41.20	32.50	-52.00	-13.00	39.00	166	178	Vertical
3	7450.7225	50.66	-38.29	36.80	-46.09	-13.00	33.09	187	58	Vertical
4	9509.5755	52.13	-35.97	37.80	-41.30	-13.00	28.30	142	18	Vertical
5	11033.6517	51.13	-37.19	40.13	-41.19	-13.00	28.19	166	158	Vertical
6	15208.3604	54.47	-35.37	39.72	-36.44	-13.00	23.44	384	250	Vertical



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Test Band = LTE_4 ANT 13 _20MHz _TM1

Test Channel = MCH

Final Data List										
NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB]	AF [dB/m]	Level [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	3611.2806	51.75	-44.37	28.99	-58.89	-13.00	45.89	340	226	Horizontal
2	5702.3851	52.19	-41.15	32.50	-51.72	-13.00	38.72	156	70	Horizontal
3	7865.4933	50.44	-37.62	36.71	-45.73	-13.00	32.73	160	210	Horizontal
4	9450.3225	51.99	-35.70	37.50	-41.47	-13.00	28.47	323	270	Horizontal
5	11090.6545	51.54	-37.53	40.19	-41.06	-13.00	28.06	308	242	Horizontal
6	15211.3606	54.67	-35.39	39.72	-36.26	-13.00	23.26	294	326	Horizontal

Final Data List										
NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB]	AF [dB/m]	Level [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	4450.5725	51.58	-43.18	30.09	-56.77	-13.00	43.77	266	339	Vertical
2	5704.6352	51.90	-41.15	32.50	-52.01	-13.00	39.01	169	158	Vertical
3	7846.7423	50.53	-37.70	36.79	-45.64	-13.00	32.64	364	307	Vertical
4	9478.0739	51.84	-35.87	37.67	-41.62	-13.00	28.62	163	218	Vertical
5	11005.1503	51.07	-37.01	40.11	-41.09	-13.00	28.09	341	218	Vertical
6	15192.6096	54.79	-35.58	39.74	-36.31	-13.00	23.31	159	98	Vertical



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Test Band = LTE_4 ANT 13 _20MHz _TM1

Test Channel = HCH

Final Data List										
NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB]	AF [dB/m]	Level [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	3904.5452	51.16	-44.20	29.72	-58.58	-13.00	45.58	246	194	Horizontal
2	6062.4031	51.40	-40.81	33.48	-51.19	-13.00	38.19	226	166	Horizontal
3	7846.7423	50.53	-37.70	36.79	-45.64	-13.00	32.64	216	286	Horizontal
4	9447.3224	51.91	-35.68	37.49	-41.54	-13.00	28.54	249	178	Horizontal
5	11083.9042	51.33	-37.49	40.18	-41.24	-13.00	28.24	268	102	Horizontal
6	16598.1799	54.55	-35.35	39.50	-36.56	-13.00	23.56	223	158	Horizontal

Final Data List										
NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB]	AF [dB/m]	Level [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	3604.5302	51.74	-44.36	28.94	-58.94	-13.00	45.94	295	150	Vertical
2	5693.3847	52.52	-41.16	32.50	-51.40	-13.00	38.40	226	343	Vertical
3	7473.9737	50.86	-38.29	36.85	-45.84	-13.00	32.84	136	174	Vertical
4	9459.323	51.81	-35.75	37.56	-41.64	-13.00	28.64	198	178	Vertical
5	11002.1501	51.20	-36.99	40.10	-40.95	-13.00	27.95	168	82	Vertical
6	15202.3601	54.40	-35.31	39.70	-36.47	-13.00	23.47	223	327	Vertical



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Test Band = LTE_4 ANT 31 _20MHz _TM1

Test Channel = LCH

Final Data List										
NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB]	AF [dB/m]	Level [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	3422.2711	52.37	-45.33	28.73	-59.49	-13.00	46.49	194	196	Horizontal
2	5715.8858	51.61	-41.19	32.50	-52.34	-13.00	39.34	165	236	Horizontal
3	7694.4847	49.82	-37.63	36.78	-46.29	-13.00	33.29	221	311	Horizontal
4	9465.3233	51.76	-35.79	37.59	-41.70	-13.00	28.70	231	260	Horizontal
5	11029.1515	50.62	-37.16	40.13	-41.67	-13.00	28.67	214	236	Horizontal
6	15214.3607	53.91	-35.42	39.73	-37.04	-13.00	24.04	213	271	Horizontal

Final Data List										
NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB]	AF [dB/m]	Level [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	3952.5476	50.42	-44.18	29.89	-59.13	-13.00	46.13	195	80	Vertical
2	5712.8856	51.50	-41.18	32.50	-52.44	-13.00	39.44	155	234	Vertical
3	7484.4742	50.42	-38.29	36.87	-46.26	-13.00	33.26	264	199	Vertical
4	9444.3222	51.89	-35.66	37.48	-41.55	-13.00	28.55	185	108	Vertical
5	11017.1509	50.61	-37.08	40.12	-41.61	-13.00	28.61	236	286	Vertical
6	15208.3604	54.08	-35.37	39.72	-36.83	-13.00	23.83	156	211	Vertical



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Test Band = LTE_4 ANT 31_20MHz_TM1

Test Channel = MCH

Final Data List										
NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB]	AF [dB/m]	Level [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	3447.0224	51.66	-45.26	28.88	-59.98	-13.00	46.98	215	187	Horizontal
2	5647.6324	51.74	-41.30	32.50	-52.32	-13.00	39.32	223	334	Horizontal
3	7855.7428	50.28	-37.67	36.77	-45.88	-13.00	32.88	215	18	Horizontal
4	9524.5762	51.71	-35.92	37.80	-41.67	-13.00	28.67	266	25	Horizontal
5	10977.3989	50.65	-37.08	40.12	-41.57	-13.00	28.57	221	346	Horizontal
6	15209.1105	53.82	-35.37	39.72	-37.09	-13.00	24.09	264	235	Horizontal

Final Data List										
NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB]	AF [dB/m]	Level [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	3732.7866	51.32	-44.65	29.50	-59.09	-13.00	46.09	216	227	Vertical
2	5691.1346	51.63	-41.17	32.50	-52.30	-13.00	39.30	231	164	Vertical
3	7491.2246	50.21	-38.29	36.88	-46.46	-13.00	33.46	241	40	Vertical
4	9450.3225	51.92	-35.70	37.50	-41.54	-13.00	28.54	264	56	Vertical
5	11014.1507	50.50	-37.07	40.11	-41.72	-13.00	28.72	216	28	Vertical
6	15203.1102	54.02	-35.32	39.71	-36.85	-13.00	23.85	215	128	Vertical



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Test Band = LTE_4 ANT 31_20MHz_TM1

Test Channel = HCH

Final Data List										
NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB]	AF [dB/m]	Level [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	3974.2987	50.48	-44.18	29.85	-59.11	-13.00	46.11	216	188	Horizontal
2	5635.6318	51.74	-41.33	32.53	-52.32	-13.00	39.32	223	160	Horizontal
3	7923.9962	50.19	-37.43	36.45	-46.05	-13.00	33.05	216	219	Horizontal
4	9536.5768	51.76	-35.87	37.80	-41.57	-13.00	28.57	261	38	Horizontal
5	11090.6545	51.02	-37.53	40.19	-41.58	-13.00	28.58	164	10	Horizontal
6	15198.6099	54.01	-35.34	39.71	-36.88	-13.00	23.88	269	279	Horizontal

Final Data List										
NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB]	AF [dB/m]	Level [dBm]	Limit [dBm]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	3888.0444	50.84	-44.29	29.70	-59.01	-13.00	46.01	226	266	Vertical
2	5663.3832	51.75	-41.25	32.50	-52.26	-13.00	39.26	315	183	Vertical
3	7421.4711	50.44	-38.28	36.74	-46.36	-13.00	33.36	224	215	Vertical
4	9441.3221	51.84	-35.64	37.47	-41.59	-13.00	28.59	213	125	Vertical
5	11043.4022	50.73	-37.24	40.14	-41.63	-13.00	28.63	219	285	Vertical
6	15209.8605	53.95	-35.38	39.72	-36.97	-13.00	23.97	233	297	Vertical



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Test on the worst case:

Test Band = _LTE Band 4 ANT13 _20MHz _TM1

Test Channel = MCH

Final Data List								
NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB]	AF[dB/m]	Level [dBm]	Limit [dBm]	Margin [dB]	Polarity
1	1235.5294	45.96	-19.73	25.67	-43.36	-13.00	40.36	Horizontal
2	3447.0224	64.85	-50.11	29.61	-50.91	-13.00	47.91	Horizontal
3	9471.3236	59.29	-41.41	39.09	-38.29	-13.00	35.29	Horizontal
4	13364.7682	56.80	-39.28	40.30	-37.44	-13.00	34.44	Horizontal
5	15035.1018	57.10	-39.03	39.86	-37.33	-13.00	34.33	Horizontal
6	17994.7497	58.73	-44.06	42.77	-37.82	-13.00	34.82	Horizontal

Final Data List								
NO.	Freq. [MHz]	Reading [dBμV]	Factor [dB]	AF[dB/m]	Level [dBm]	Limit [dBm]	Margin [dB]	Polarity
1	1356.5446	46.08	-19.38	25.89	-42.67	-13.00	39.67	Vertical
2	3616.5308	63.65	-49.47	30.27	-50.81	-13.00	47.81	Vertical
3	7108.7054	59.68	-43.84	36.93	-42.49	-13.00	39.49	Vertical
4	9254.5627	57.20	-41.24	39.07	-40.23	-13.00	37.23	Vertical
5	12357.4679	56.00	-38.56	39.64	-38.18	-13.00	35.18	Vertical
6	15217.3609	57.43	-39.76	39.53	-38.06	-13.00	35.06	Vertical
7	17915.9958	58.42	-42.98	42.30	-37.52	-13.00	34.52	Vertical

Remark:

1) The field strength is calculated by adding the Antenna Factor, Cable Factor & AMP. The basic equation with a sample calculation is as follows:

AF = Antenna Factor(dB/m)

Factor = Cable Factor(dB) - Preamplifier (dB)

Level = Reading Level + AF + Factor -95.26

Margin = Limit – Level



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Frequency Stability

Test Result

Voltage									
Band	Bandwidth	Modulation	Channel	RB Configure	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Verdict
Band4	20MHz	QPSK	20175	100RB#0	VN	NT	1.10	0.000635	PASS
Band4	20MHz	QPSK	20175	100RB#0	VL	NT	2.20	0.001270	PASS
Band4	20MHz	QPSK	20175	100RB#0	VH	NT	1.80	0.001039	PASS

Temperature									
Band	Bandwidth	Modulation	Channel	RB Configure	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Verdict
Band4	20MHz	QPSK	20175	100RB#0	NV	-30	2.10	0.001212	PASS
Band4	20MHz	QPSK	20175	100RB#0	NV	-20	2.10	0.001212	PASS
Band4	20MHz	QPSK	20175	100RB#0	NV	-10	1.70	0.000981	PASS
Band4	20MHz	QPSK	20175	100RB#0	NV	0	0.80	0.000462	PASS
Band4	20MHz	QPSK	20175	100RB#0	NV	10	1.40	0.000808	PASS
Band4	20MHz	QPSK	20175	100RB#0	NV	20	0.30	0.000173	PASS
Band4	20MHz	QPSK	20175	100RB#0	NV	30	-0.40	-0.000231	PASS
Band4	20MHz	QPSK	20175	100RB#0	NV	40	-0.90	-0.000519	PASS
Band4	20MHz	QPSK	20175	100RB#0	NV	50	-1.00	-0.000577	PASS

---End of Attachment---



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