



Appendix G: Test Data for CatM1 Band 13

Product Name: IoTgo Track-Solar iot

Test Model: iot

Environmental Conditions

Temperature:	23.8°C
Relative Humidity:	52.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Can Kun
Supervised by:	Nick Peng



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G.1 Conducted Output Power Data for M1

Test Result

Band	Bandwidth	Modulation	Channel	RB Size	RB Start	NBIndex	Result(dBm)	Verdict
Band13	5MHz	23205	QPSK	1	0	Low	23.41	PASS
Band13	5MHz	23205	QPSK	1	5	Low	23.40	PASS
Band13	5MHz	23205	QPSK	6	0	Low	22.69	PASS
Band13	5MHz	23230	QPSK	1	0	Low	24.18	PASS
Band13	5MHz	23230	QPSK	1	5	Low	23.89	PASS
Band13	5MHz	23230	QPSK	6	0	Low	23.16	PASS
Band13	5MHz	23255	QPSK	1	0	High	24.24	PASS
Band13	5MHz	23255	QPSK	1	5	High	23.99	PASS
Band13	5MHz	23255	QPSK	6	0	High	22.96	PASS
Band13	5MHz	23205	16QAM	1	0	Low	23.36	PASS
Band13	5MHz	23205	16QAM	1	5	Low	23.34	PASS
Band13	5MHz	23205	16QAM	6	0	Low	22.77	PASS
Band13	5MHz	23230	16QAM	1	0	Low	23.86	PASS
Band13	5MHz	23230	16QAM	1	5	Low	23.80	PASS
Band13	5MHz	23230	16QAM	6	0	Low	23.30	PASS
Band13	5MHz	23255	16QAM	1	0	High	24.08	PASS
Band13	5MHz	23255	16QAM	1	5	High	23.74	PASS
Band13	5MHz	23255	16QAM	6	0	High	23.14	PASS
Band13	10MHz	23230	QPSK	1	0	Low	23.94	PASS
Band13	10MHz	23230	QPSK	1	5	Low	23.84	PASS
Band13	10MHz	23230	QPSK	6	0	Low	22.76	PASS
Band13	10MHz	23230	16QAM	1	0	Low	23.57	PASS
Band13	10MHz	23230	16QAM	1	5	Low	23.57	PASS
Band13	10MHz	23230	16QAM	6	0	Low	22.84	PASS



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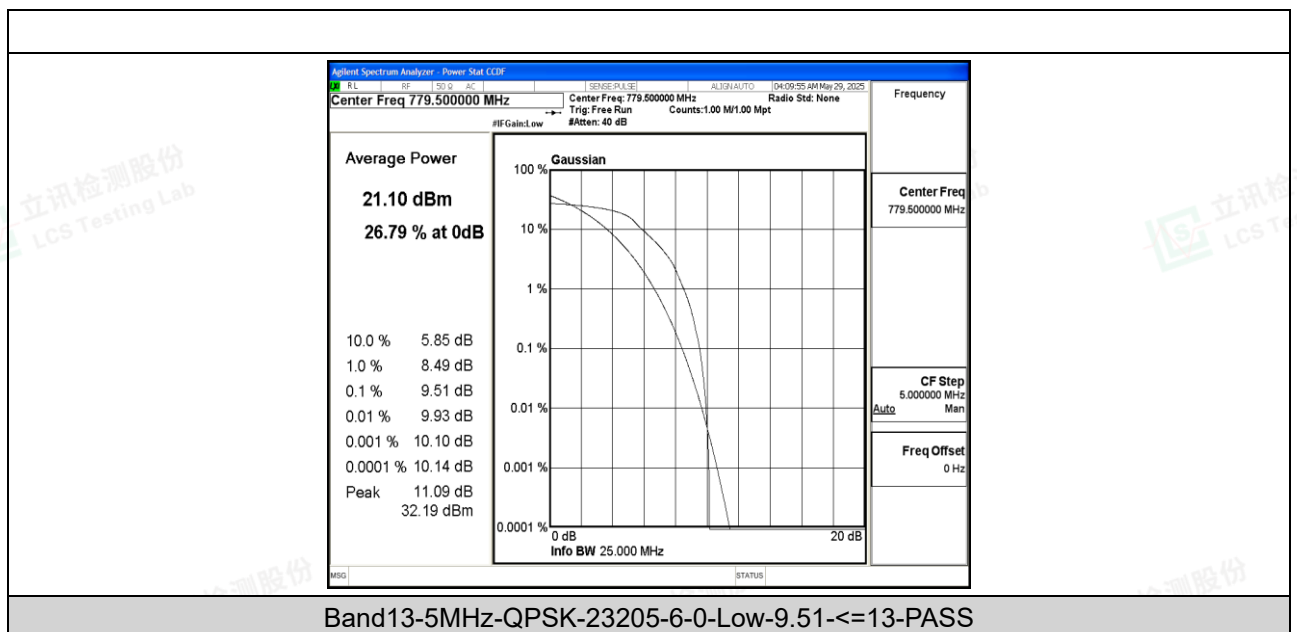


G.2 Peak-to-Average Ratio (CCDF) for M1

Test Result

Band	Bandwidth	Modulation	Channel	RB Size	RB Start	NBIndex	Result(dB)	Limit(dB)	Verdict
Band13	5MHz	23205	QPSK	6	0	Low	9.51	<=13	PASS
Band13	5MHz	23230	QPSK	6	0	Low	9.00	<=13	PASS
Band13	5MHz	23255	QPSK	6	0	High	7.94	<=13	PASS
Band13	5MHz	23205	16QAM	6	0	Low	10.71	<=13	PASS
Band13	5MHz	23230	16QAM	6	0	Low	9.22	<=13	PASS
Band13	5MHz	23255	16QAM	6	0	High	7.76	<=13	PASS
Band13	10MHz	23230	QPSK	6	0	Low	9.59	<=13	PASS
Band13	10MHz	23230	16QAM	6	0	Low	9.19	<=13	PASS

Test Graphs

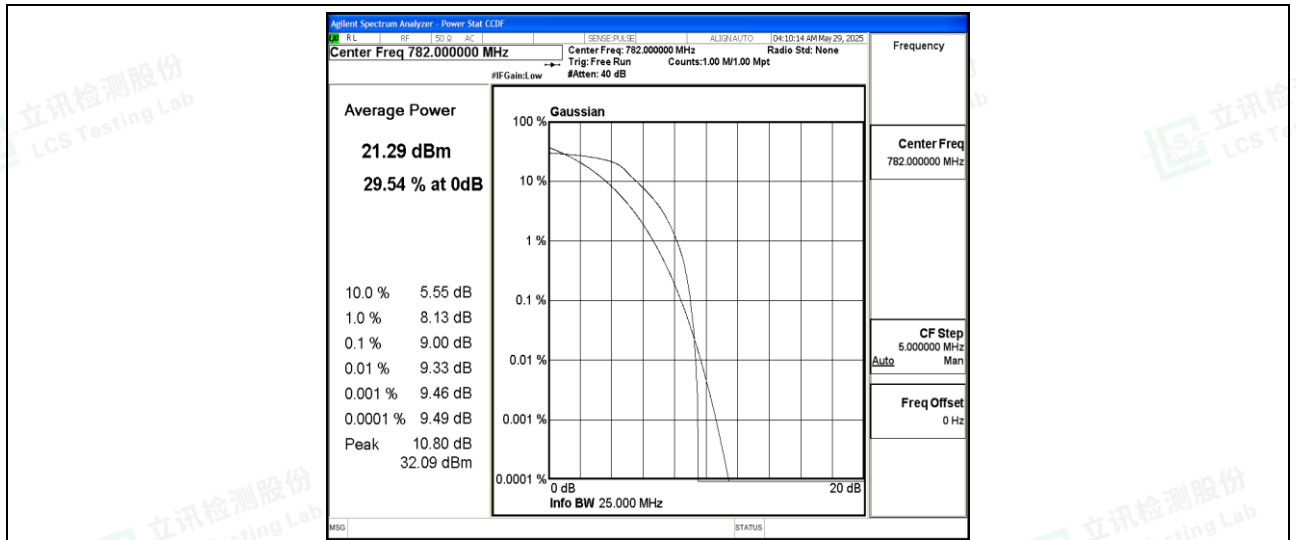


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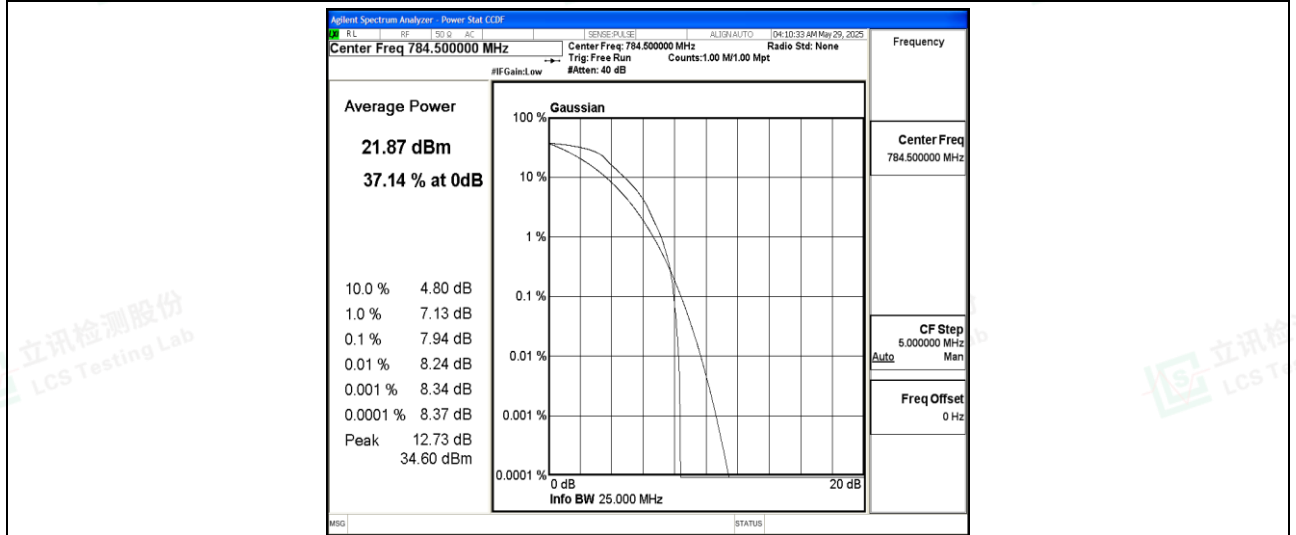
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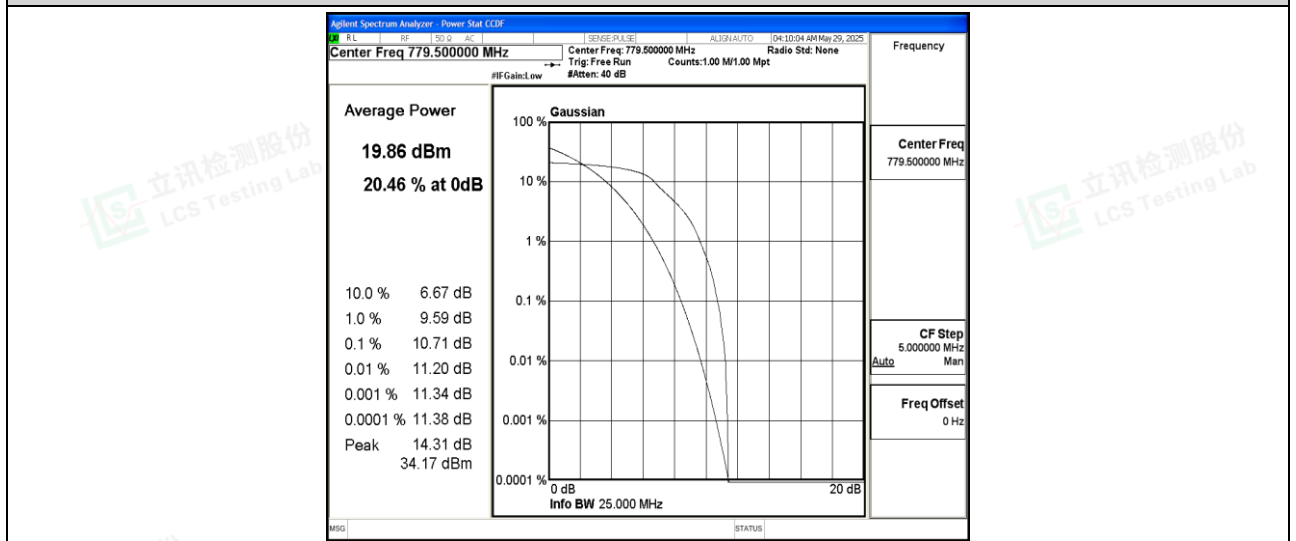
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Band13-5MHz-QPSK-23230-6-0-Low-9.00-<=13-PASS



Band13-5MHz-QPSK-23255-6-0-High-7.94-<=13-PASS



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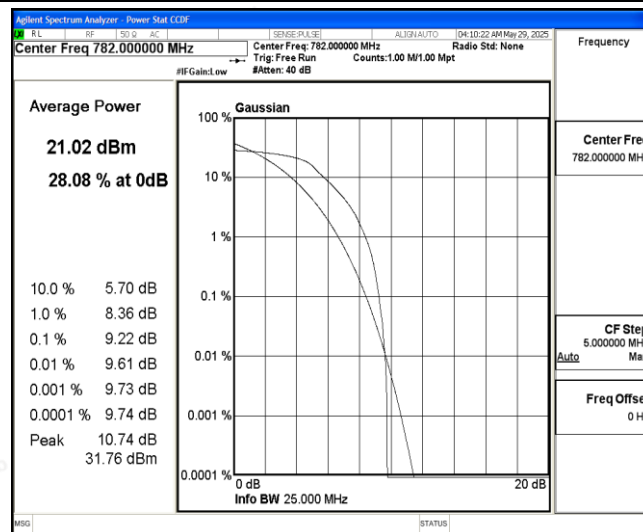
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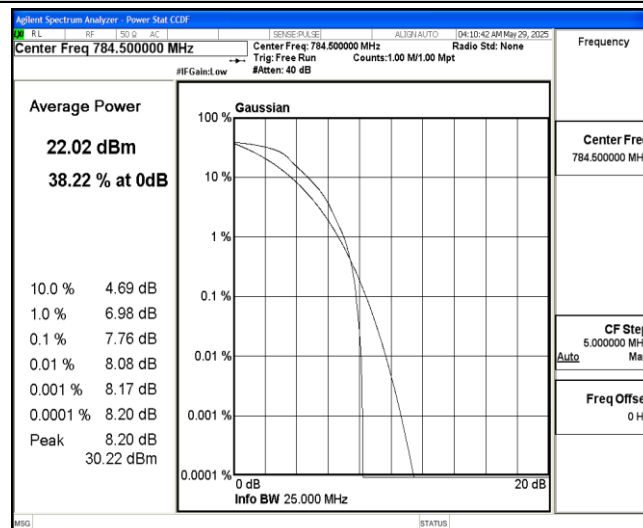
Scan code to check authenticity



Band13-5MHz-16QAM-23205-6-0-Low-10.71-<=13-PASS



Band13-5MHz-16QAM-23230-6-0-Low-9.22-<=13-PASS



Band13-5MHz-16QAM-23255-6-0-High-7.76-<=13-PASS

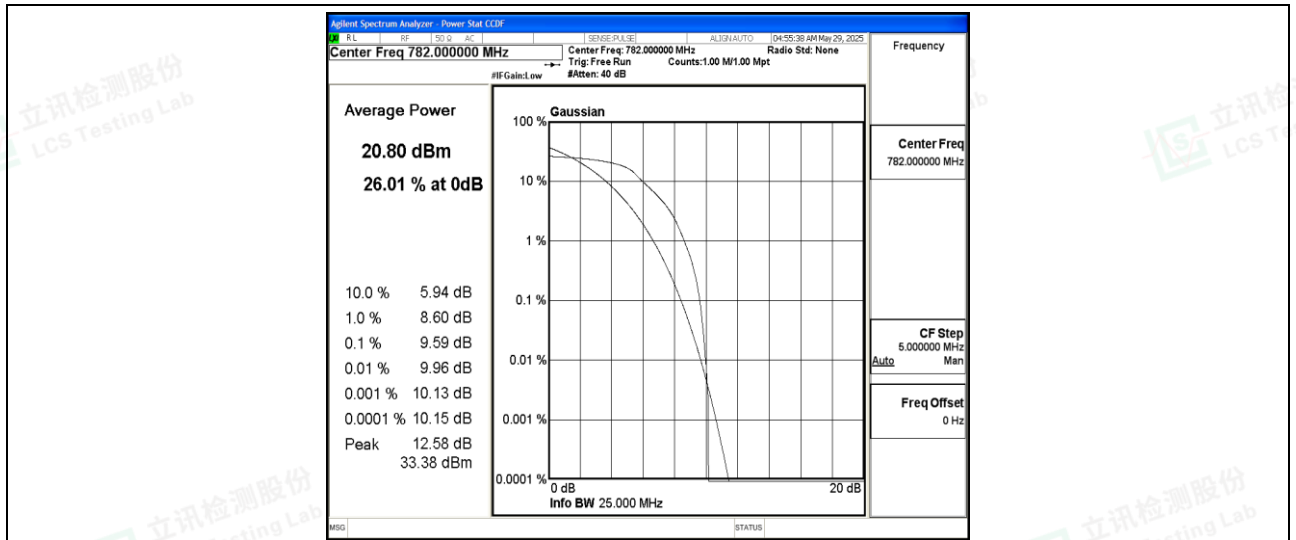


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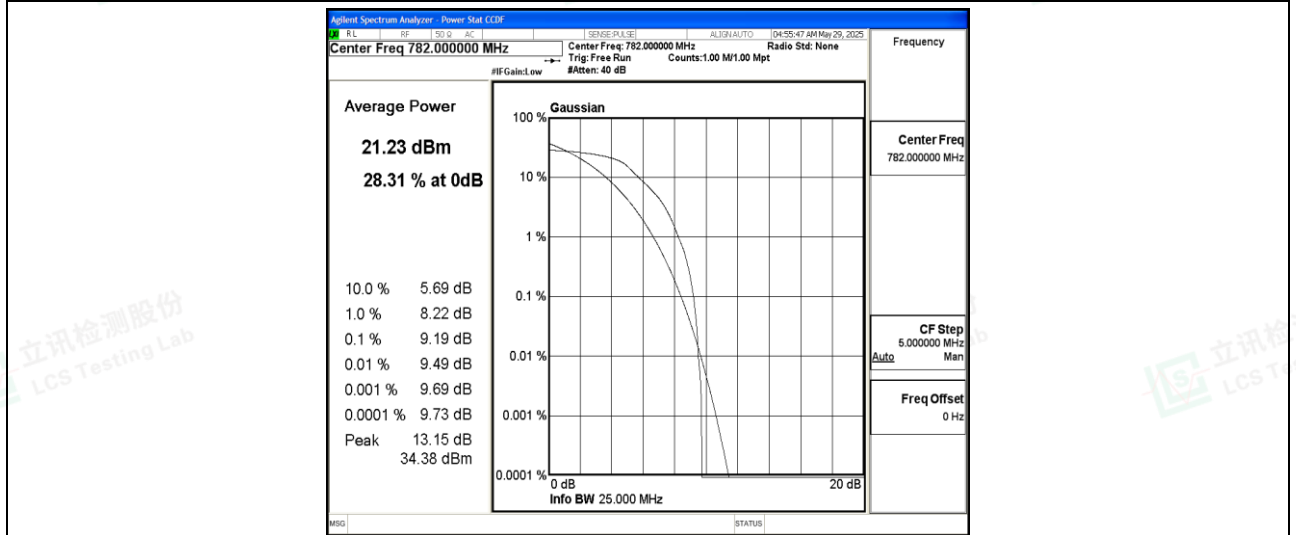
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Band13-10MHz-QPSK-23230-6-0-Low-9.59-13-PASS



Band13-10MHz-16QAM-23230-6-0-Low-9.19-13-PASS



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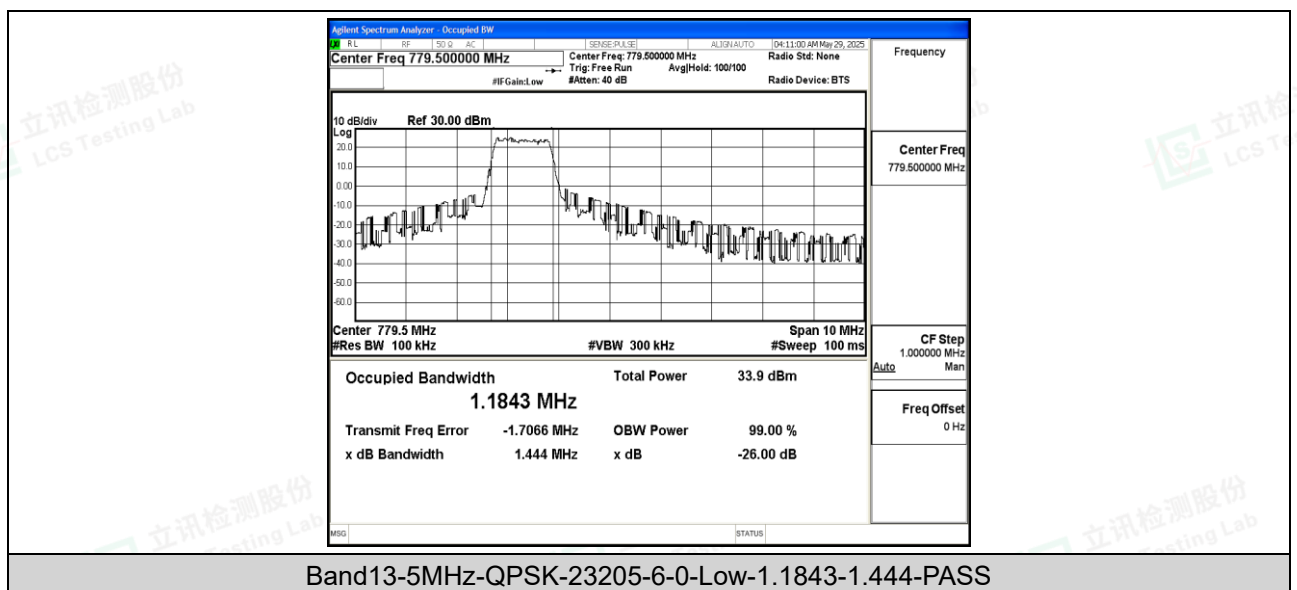


G.3 26dB Bandwidth and Occupied Bandwidth for M1

Test Result

Band	Bandwidth	Modulation	Channel	RB Size	RB Start	NB Index	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
Band13	5MHz	23205	QPSK	6	0	Low	1.1843	1.444	PASS
Band13	5MHz	23230	QPSK	6	0	Low	1.1730	1.546	PASS
Band13	5MHz	23255	QPSK	6	0	High	1.1638	1.449	PASS
Band13	5MHz	23205	16QAM	6	0	Low	1.1823	1.559	PASS
Band13	5MHz	23230	16QAM	6	0	Low	1.1692	1.589	PASS
Band13	5MHz	23255	16QAM	6	0	High	1.1904	1.429	PASS
Band13	10MHz	23230	QPSK	6	0	Low	1.3371	2.136	PASS
Band13	10MHz	23230	16QAM	6	0	Low	1.3465	2.057	PASS

Test Graphs

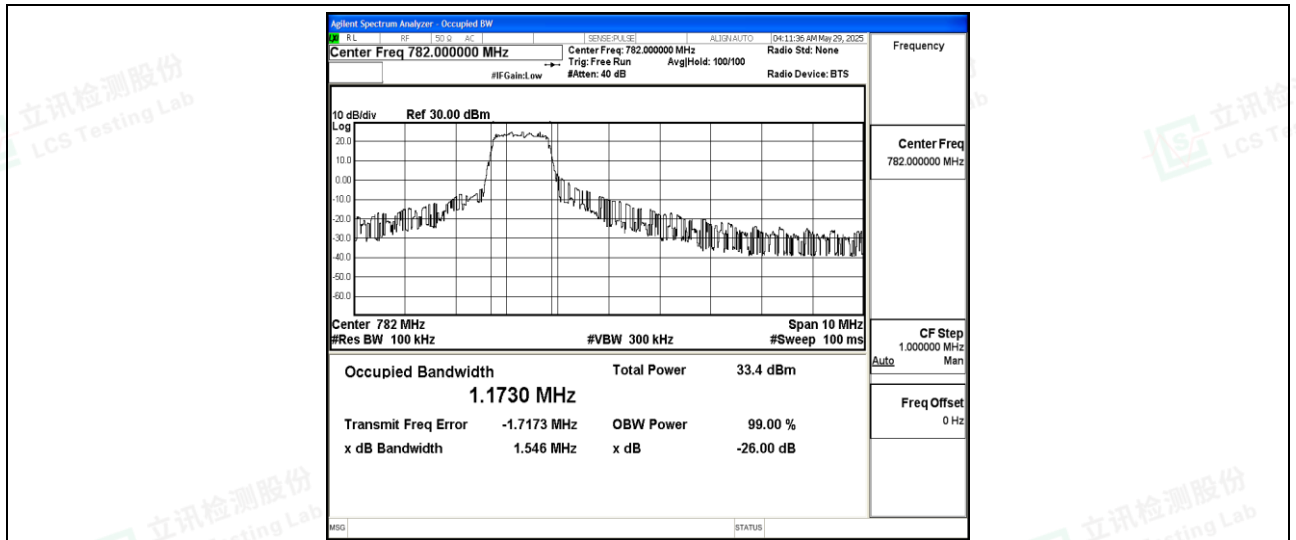


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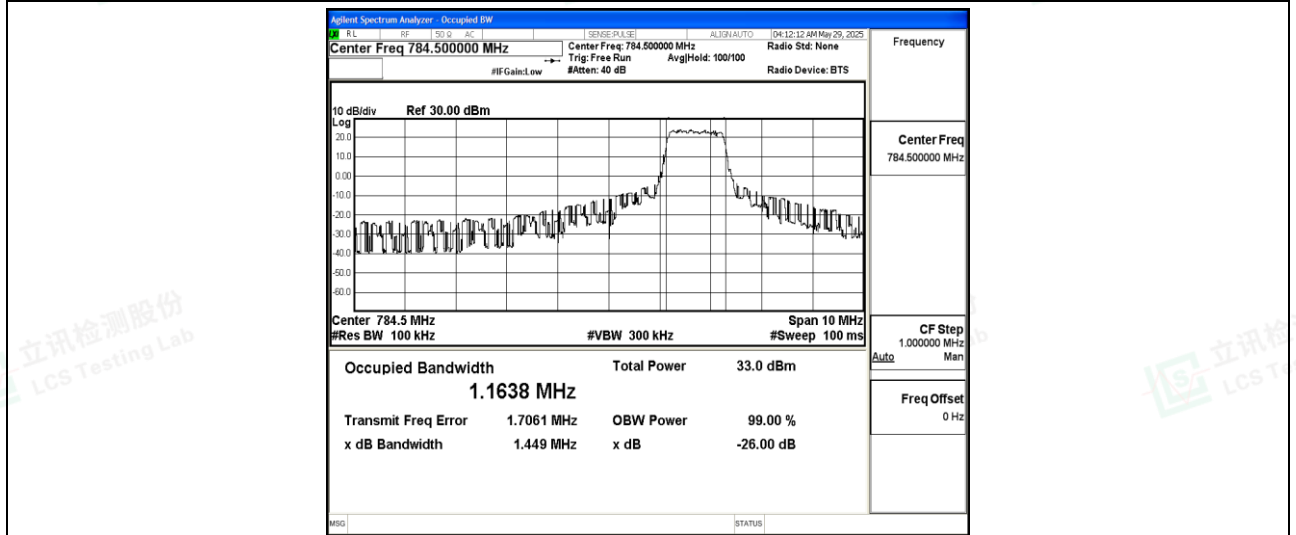
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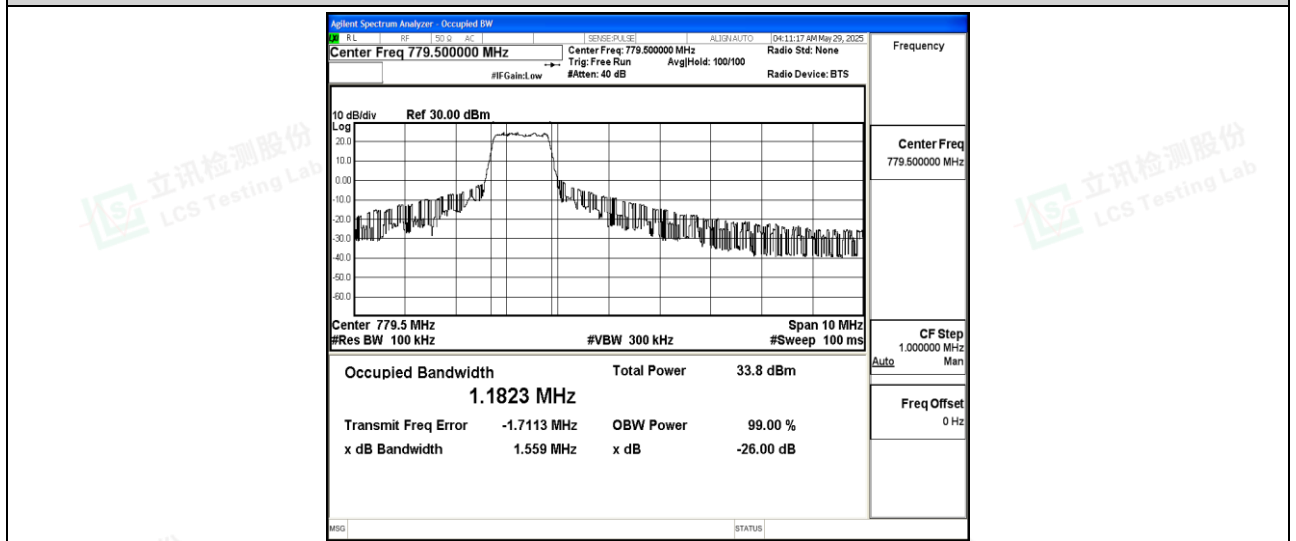
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Band13-5MHz-QPSK-23230-6-0-Low-1.1730-1.546-PASS



Band13-5MHz-QPSK-23255-6-0-High-1.1638-1.449-PASS



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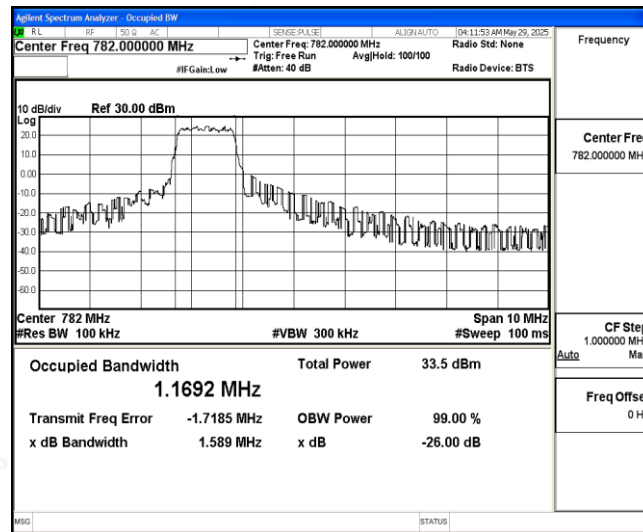
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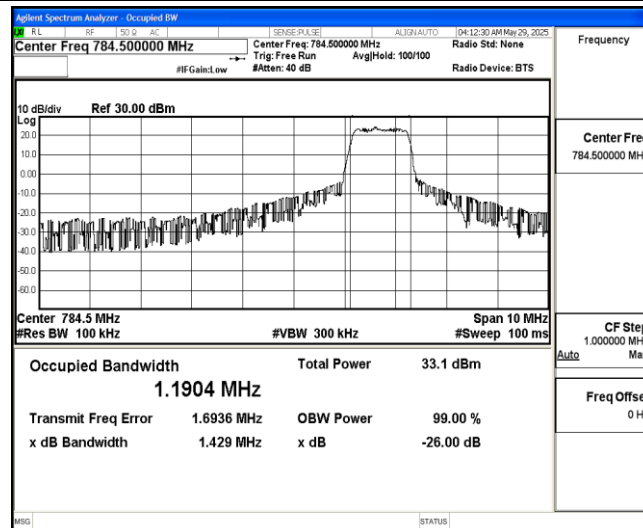
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Band13-5MHz-16QAM-23205-6-0-Low-1.1823-1.559-PASS



Band13-5MHz-16QAM-23230-6-0-Low-1.1692-1.589-PASS



Band13-5MHz-16QAM-23255-6-0-High-1.1904-1.429-PASS

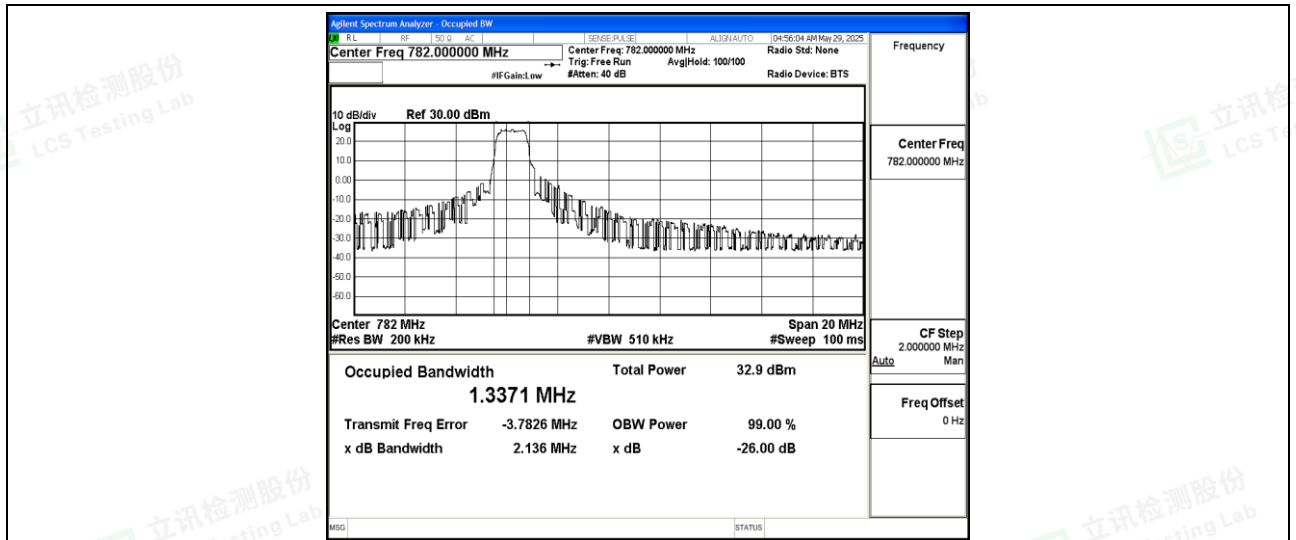


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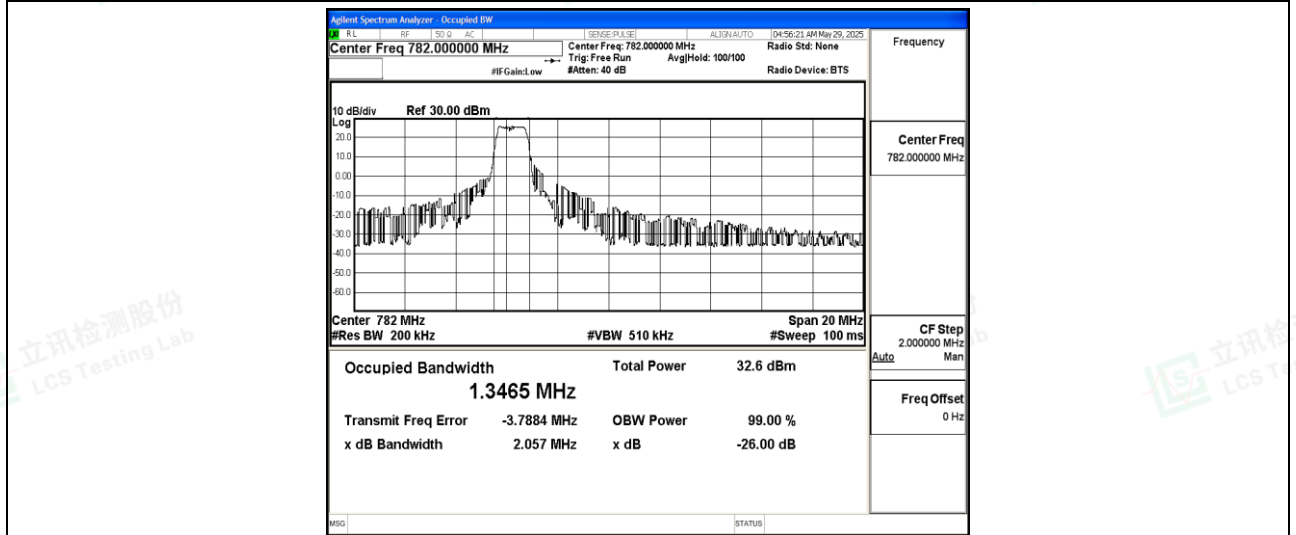
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Band13-10MHz-QPSK-23230-6-0-Low-1.3371-2.136-PASS



Band13-10MHz-16QAM-23230-6-0-Low-1.3465-2.057-PASS



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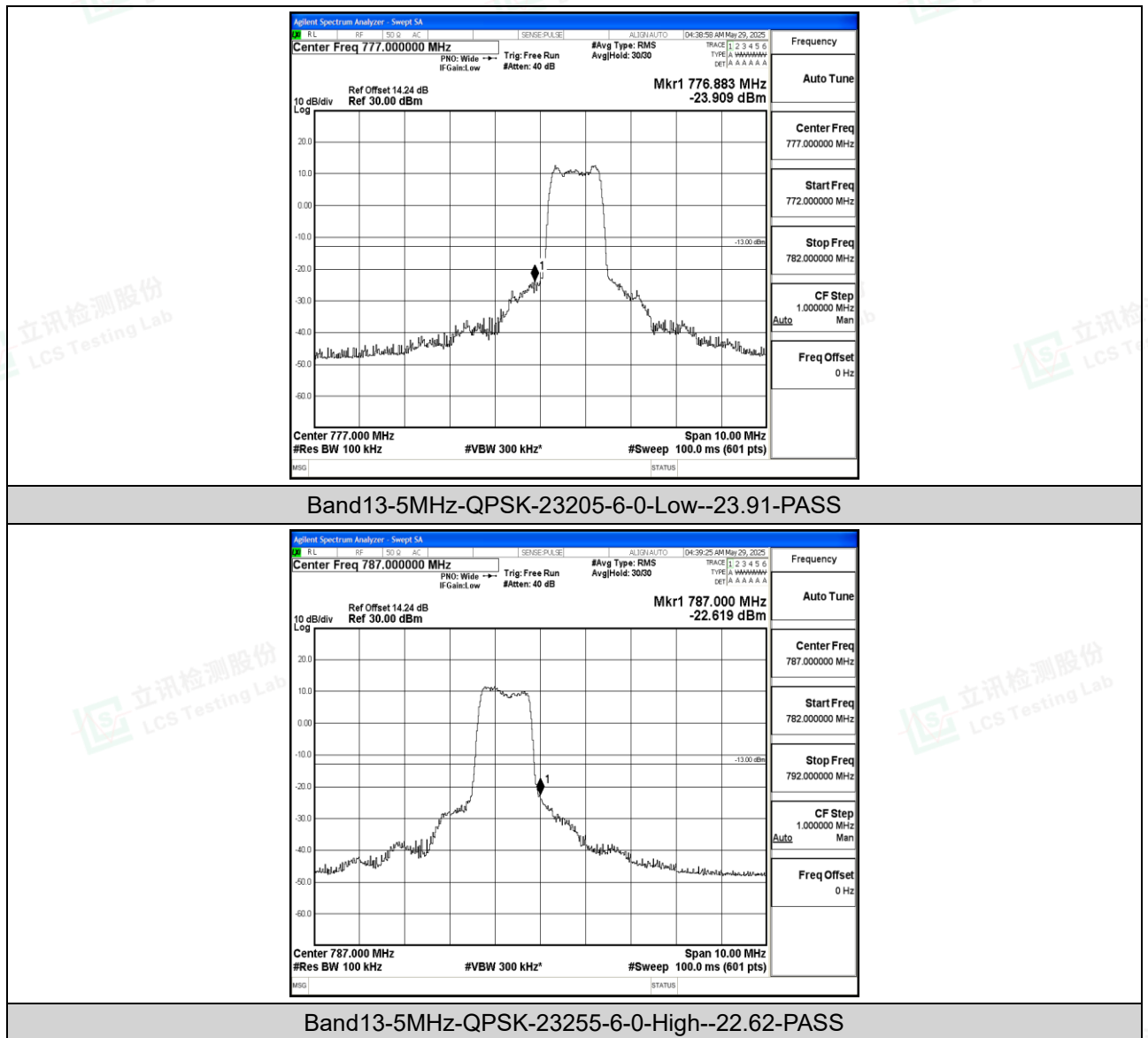


G.4 Band Edge for M1

Test Result

Band	Bandwidth	Modulation	Channel	RB Size	RB Start	NB Index	Result(dBm)	Verdict
Band13	5MHz	23205	QPSK	6	0	Low	-23.91	PASS
Band13	5MHz	23255	QPSK	6	0	High	-22.62	PASS
Band13	5MHz	23205	16QAM	6	0	Low	-22.63	PASS
Band13	5MHz	23255	16QAM	6	0	High	-23.65	PASS

Test Graphs

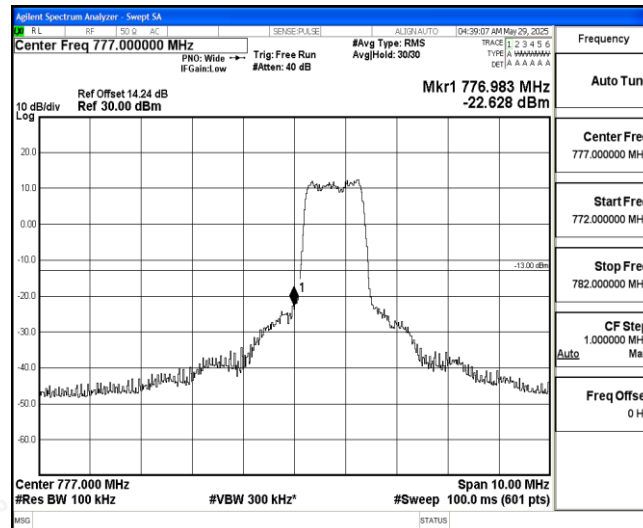


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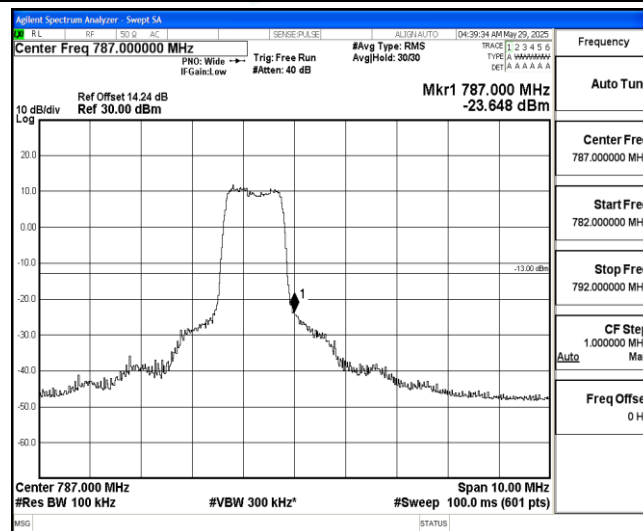
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Band13-5MHz-16QAM-23205-6-0-Low--22.63-PASS



Band13-5MHz-16QAM-23255-6-0-High--23.65-PASS



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G.5 Conducted Spurious Emission for M1

Test Result

Band	Bandwidth	Modulation	Channel	RB Size	RB Start	NB Index	Start Freq	Stop Freq	Result (dBm)	Verdict
Band13	5MHz	23205	QPSK	1	0	Low	30	1000	-30.49	PASS
Band13	5MHz	23205	QPSK	1	0	Low	1000	5000	-36.37	PASS
Band13	5MHz	23205	QPSK	1	0	Low	5000	12000	-52.05	PASS
Band13	5MHz	23205	QPSK	1	0	Low	12000	26500	-37.03	PASS
Band13	5MHz	23230	QPSK	1	0	Low	30	1000	-30.28	PASS
Band13	5MHz	23230	QPSK	1	0	Low	1000	5000	-36.26	PASS
Band13	5MHz	23230	QPSK	1	0	Low	5000	12000	-51.97	PASS
Band13	5MHz	23230	QPSK	1	0	Low	12000	26500	-36.96	PASS
Band13	5MHz	23255	QPSK	1	0	High	30	1000	-30.4	PASS
Band13	5MHz	23255	QPSK	1	0	High	1000	5000	-36.33	PASS
Band13	5MHz	23255	QPSK	1	0	High	5000	12000	-51.9	PASS
Band13	5MHz	23255	QPSK	1	0	High	12000	26500	-37.12	PASS
Band13	5MHz	23205	16QAM	1	0	Low	30	1000	-30.39	PASS
Band13	5MHz	23205	16QAM	1	0	Low	1000	5000	-33.52	PASS
Band13	5MHz	23205	16QAM	1	0	Low	5000	12000	-52.11	PASS
Band13	5MHz	23205	16QAM	1	0	Low	12000	26500	-37.09	PASS
Band13	5MHz	23230	16QAM	1	0	Low	30	1000	-29.99	PASS
Band13	5MHz	23230	16QAM	1	0	Low	1000	5000	-36.32	PASS
Band13	5MHz	23230	16QAM	1	0	Low	5000	12000	-51.92	PASS
Band13	5MHz	23230	16QAM	1	0	Low	12000	26500	-36.86	PASS
Band13	5MHz	23255	16QAM	1	0	High	30	1000	-29.86	PASS
Band13	5MHz	23255	16QAM	1	0	High	1000	5000	-35.11	PASS
Band13	5MHz	23255	16QAM	1	0	High	5000	12000	-52.03	PASS
Band13	5MHz	23255	16QAM	1	0	High	12000	26500	-37.13	PASS



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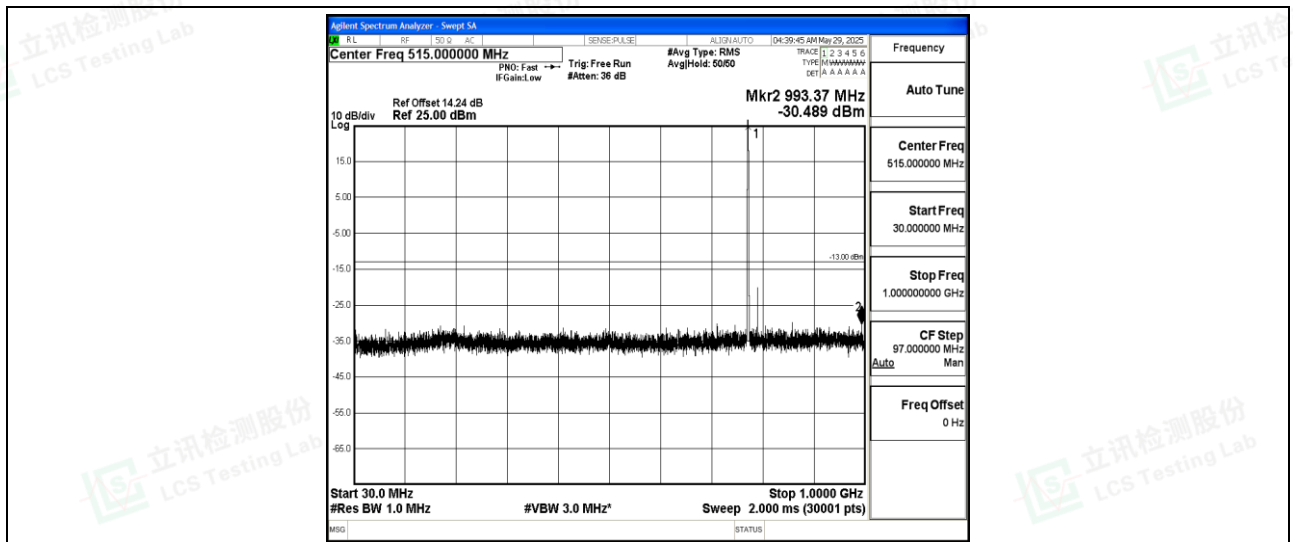
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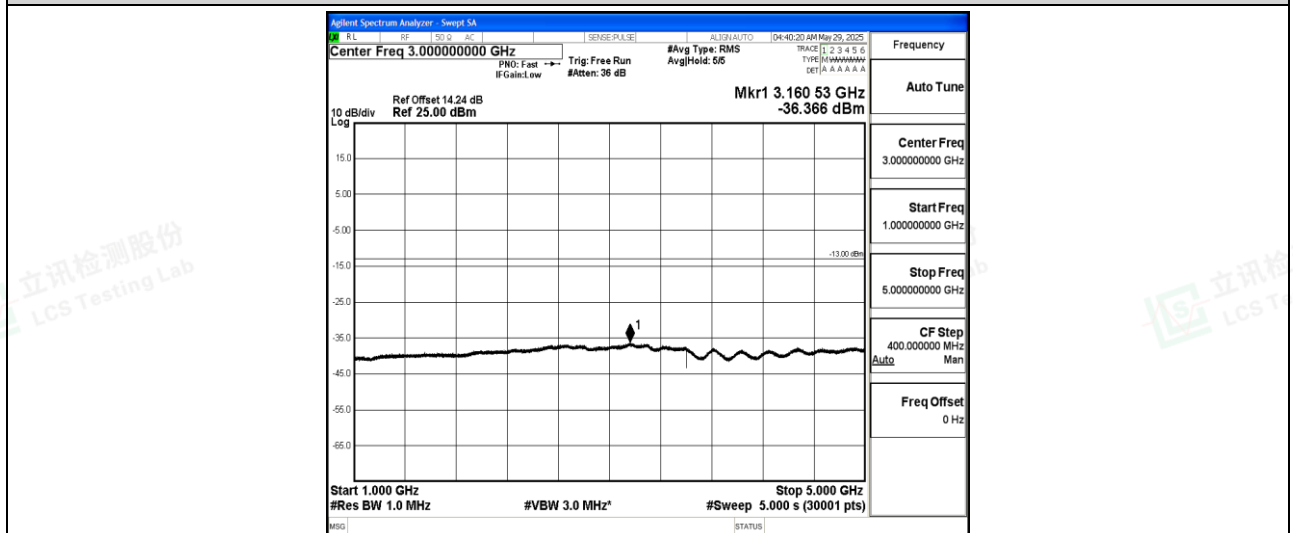
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Test Graphs



Band13-5MHz-QPSK-23205-1-0-Low-30-1000--30.49-PASS



Band13-5MHz-QPSK-23205-1-0-Low-1000-5000--36.37-PASS

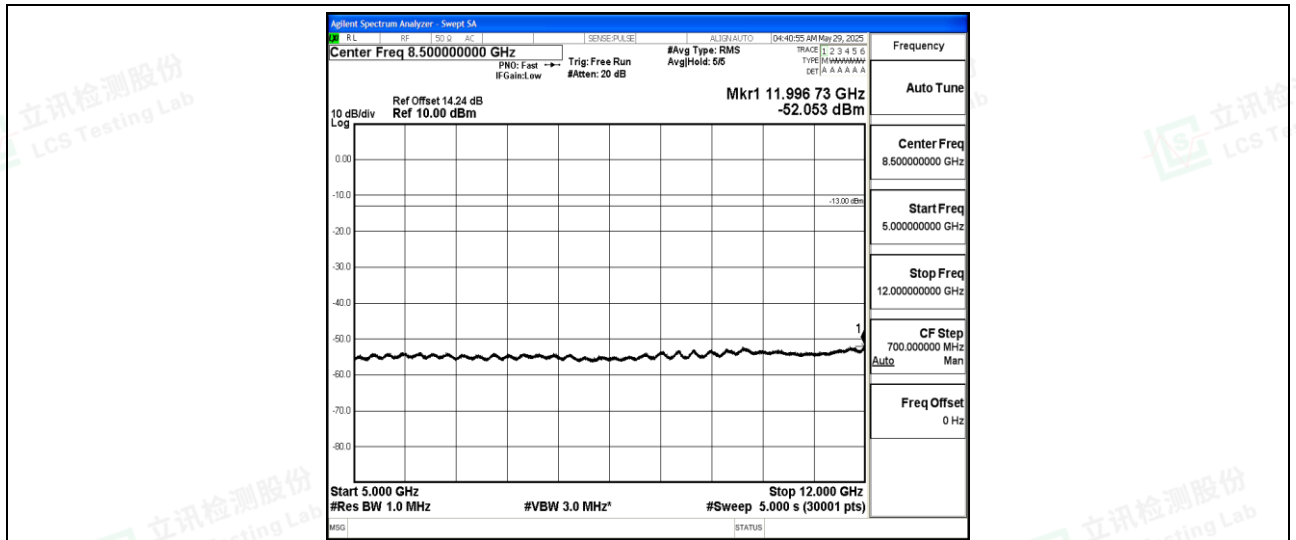


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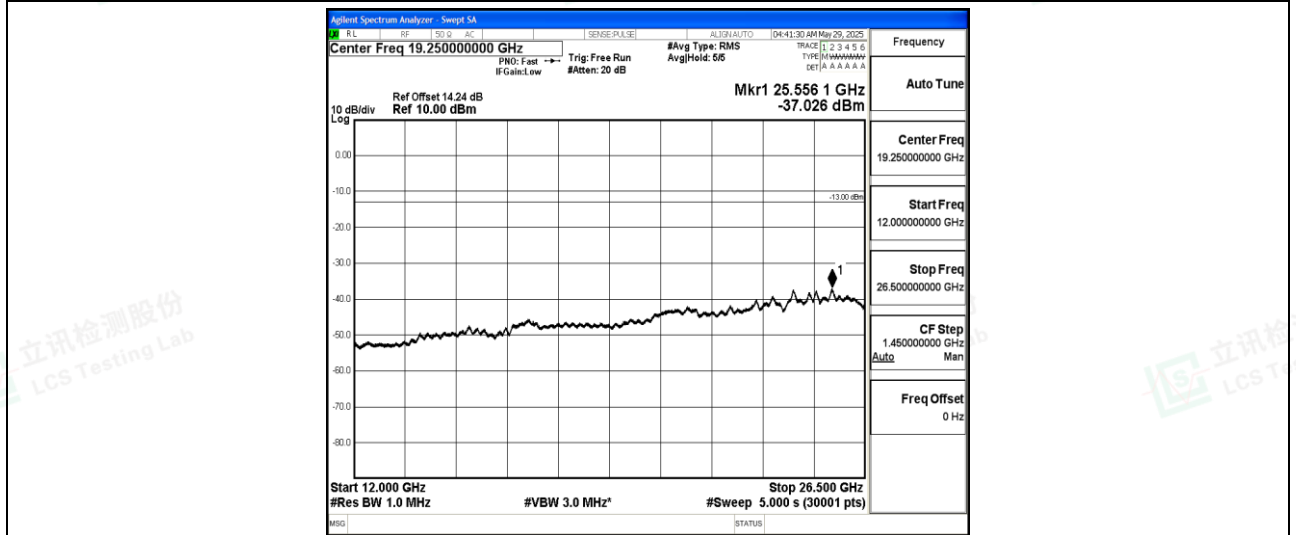
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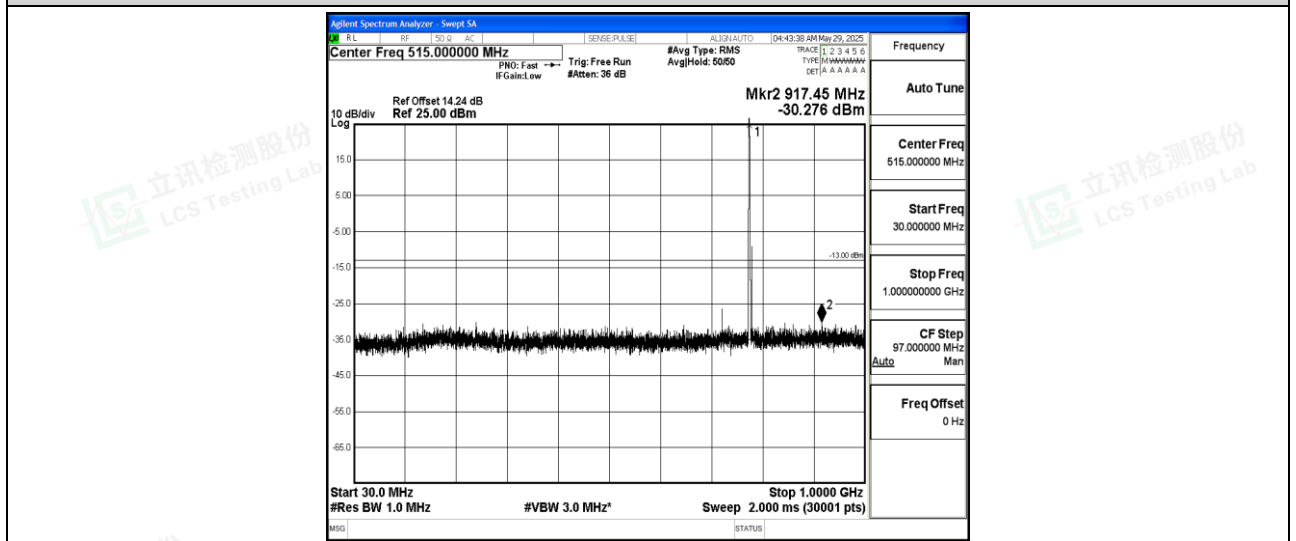
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Band13-5MHz-QPSK-23205-1-0-Low-5000-12000--52.05-PASS



Band13-5MHz-QPSK-23205-1-0-Low-12000-26500--37.03-PASS



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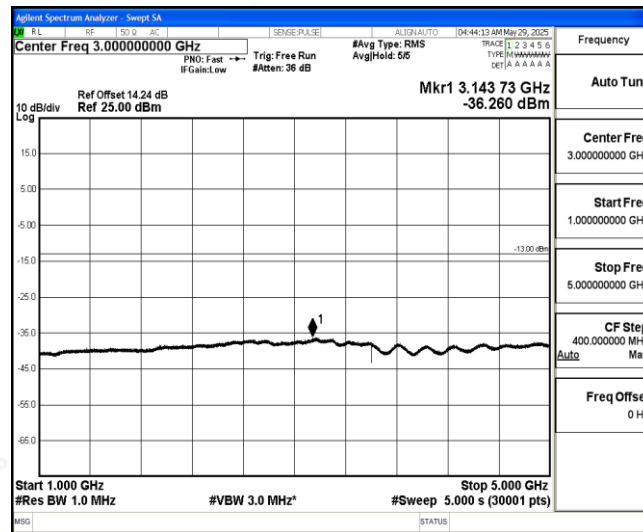
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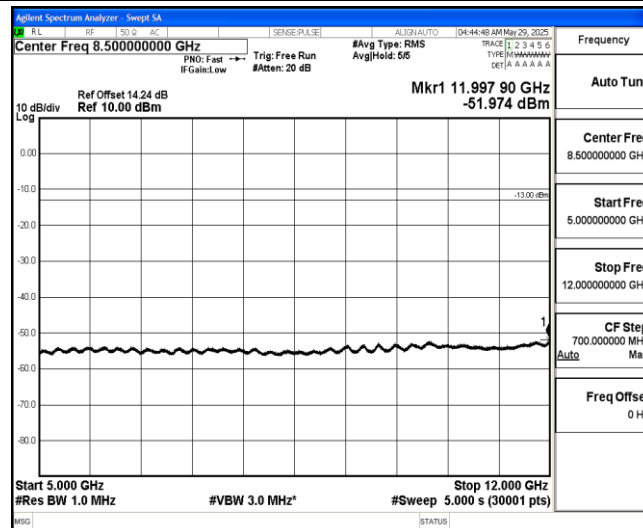
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Band13-5MHz-QPSK-23230-1-0-Low-30-1000--30.28-PASS



Band13-5MHz-QPSK-23230-1-0-Low-1000-5000--36.26-PASS



Band13-5MHz-QPSK-23230-1-0-Low-5000-12000--51.97-PASS

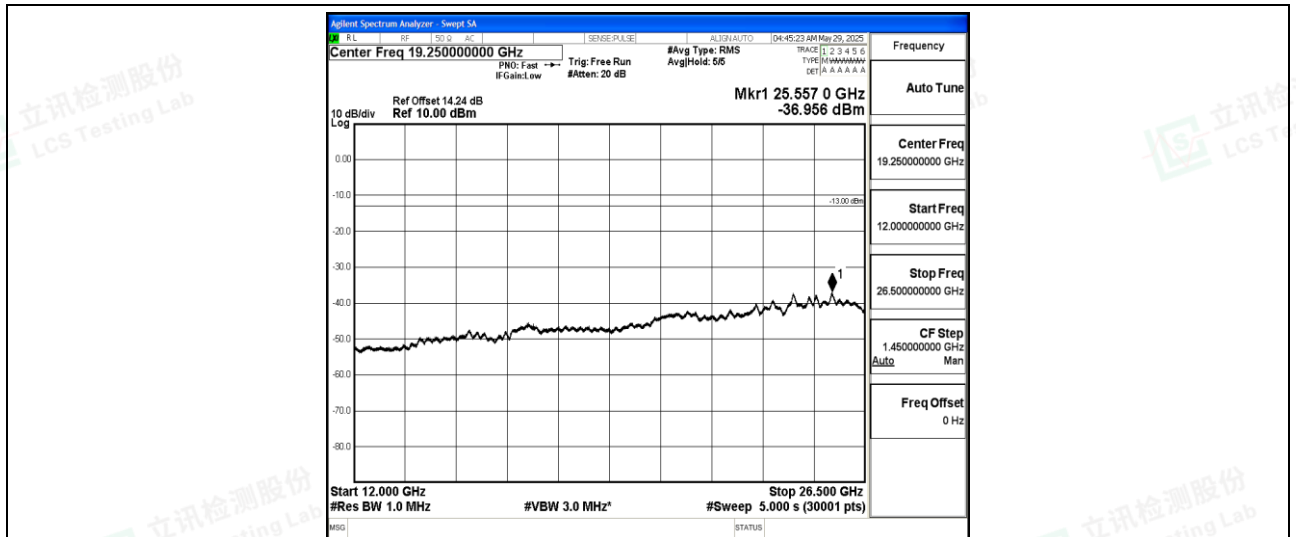


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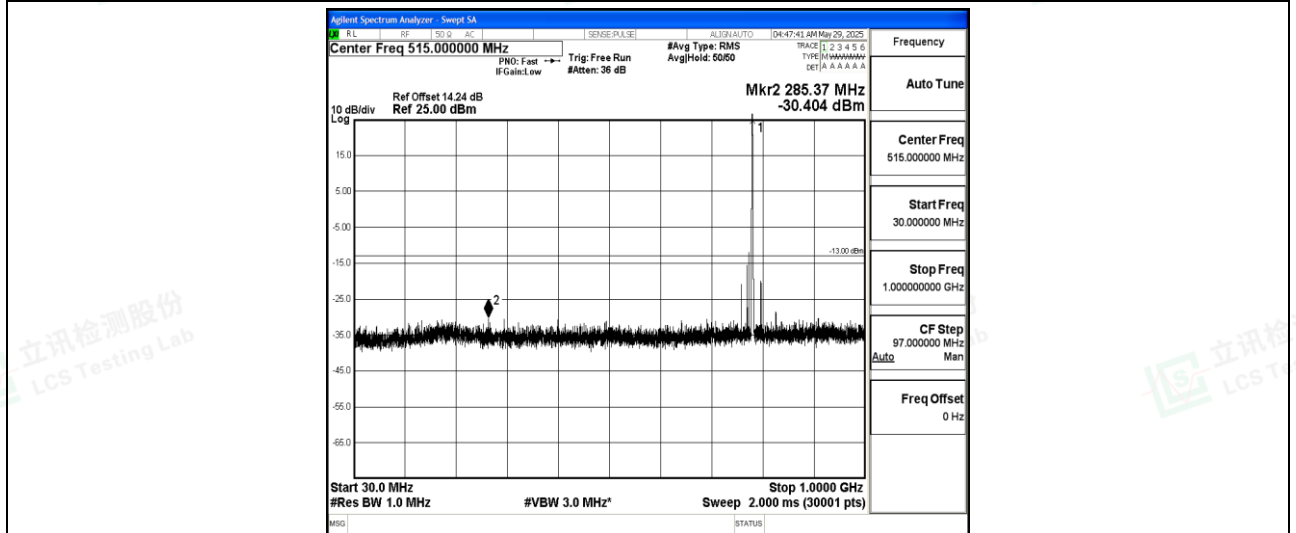
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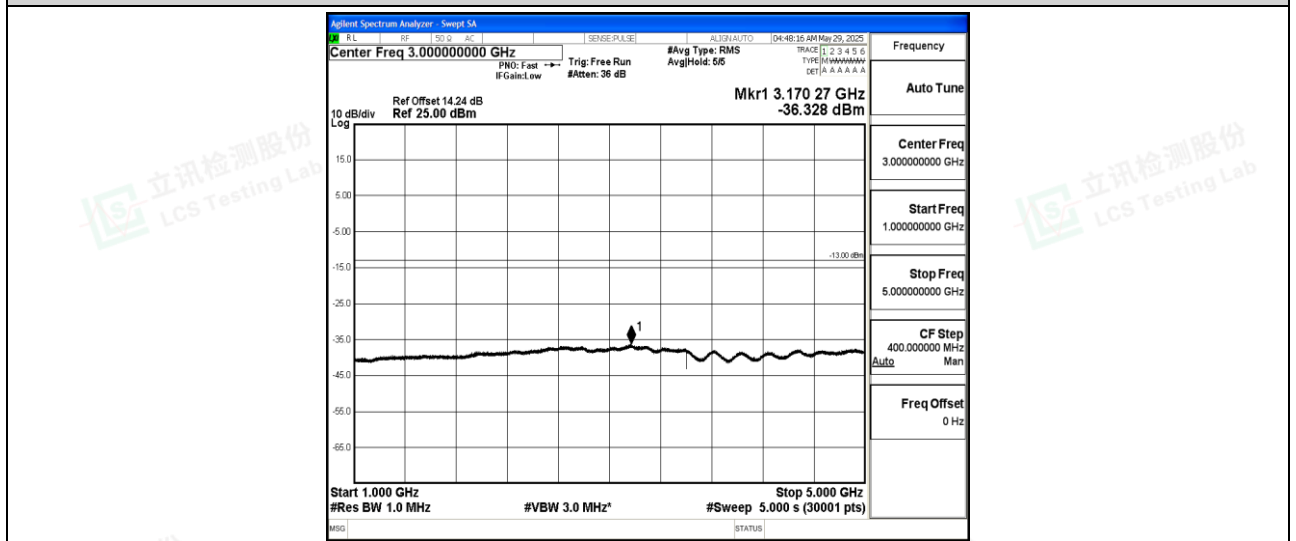
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Band13-5MHz-QPSK-23230-1-0-Low-12000-26500--36.96-PASS



Band13-5MHz-QPSK-23255-1-0-High-30-1000--30.4-PASS



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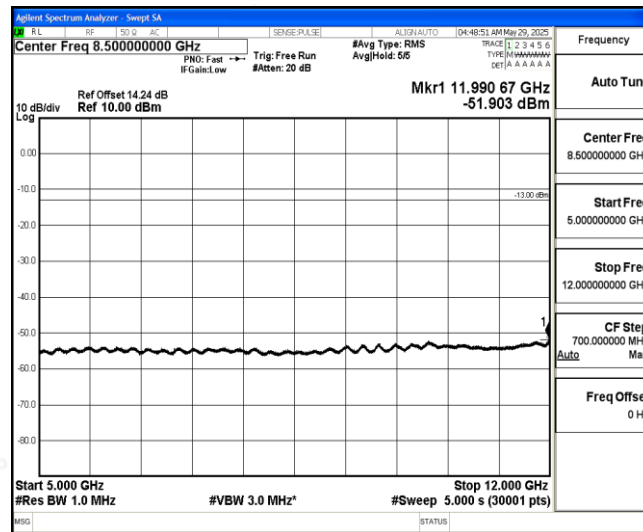
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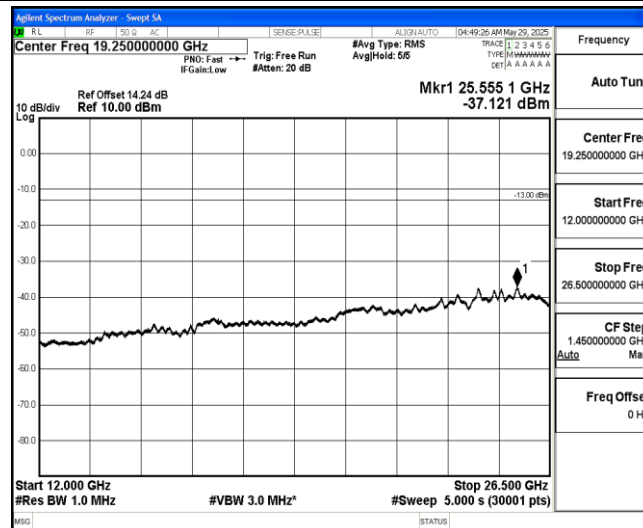
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Band13-5MHz-QPSK-23255-1-0-High-1000-5000--36.33-PASS



Band13-5MHz-QPSK-23255-1-0-High-5000-12000--51.9-PASS



Band13-5MHz-QPSK-23255-1-0-High-12000-26500--37.12-PASS

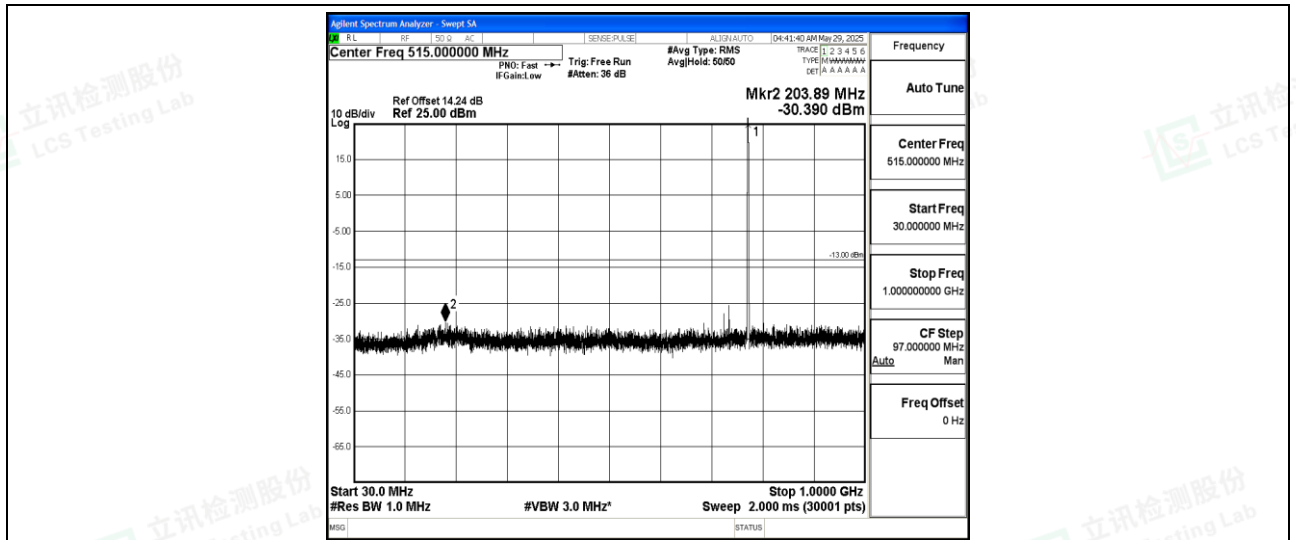


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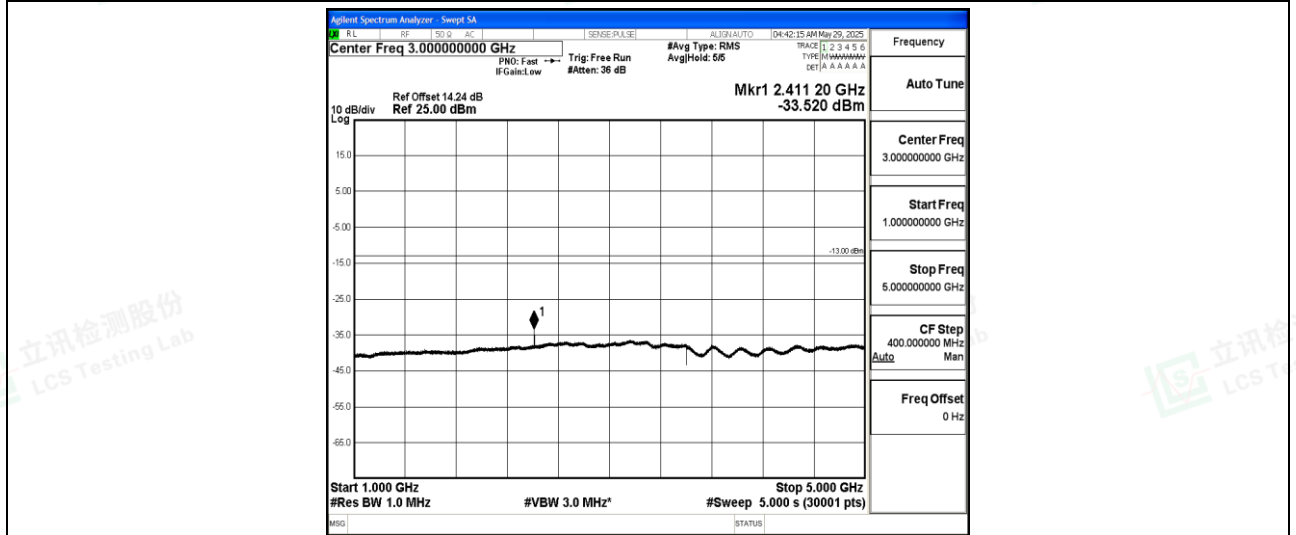
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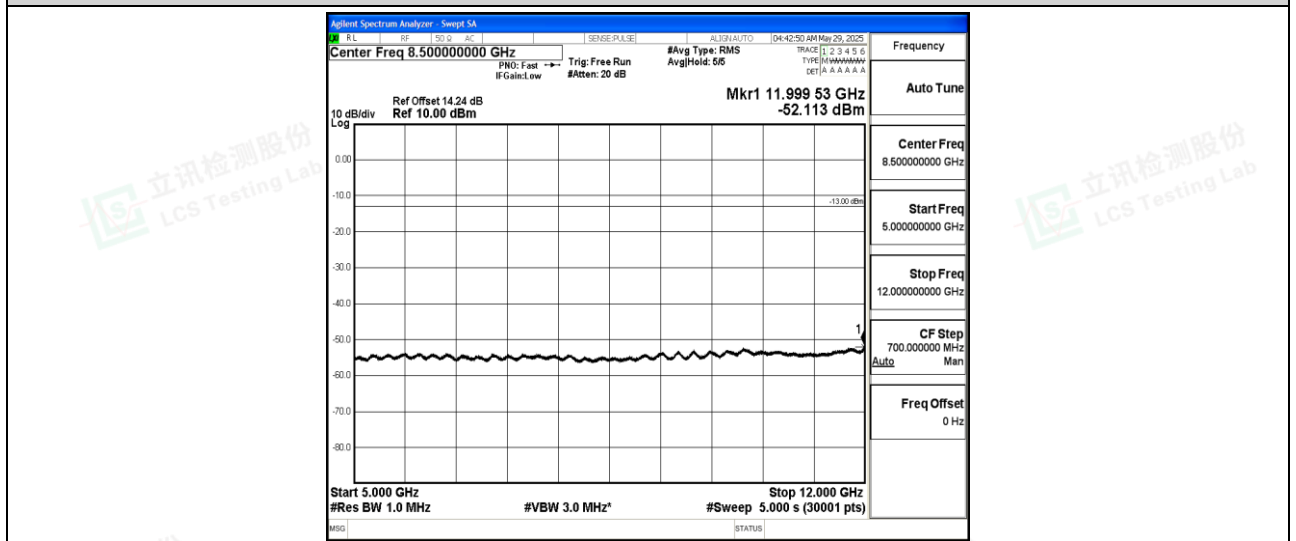
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Band13-5MHz-16QAM-23205-1-0-Low-30-1000--30.39-PASS



Band13-5MHz-16QAM-23205-1-0-Low-1000-5000--33.52-PASS



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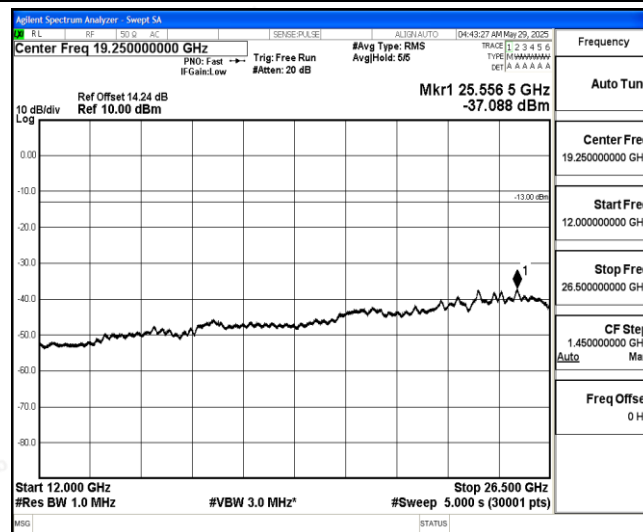
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

Tel: +(86) 0755-82591330 | E-mail: webmaster@lcs-cert.com | Web: www.lcs-cert.com

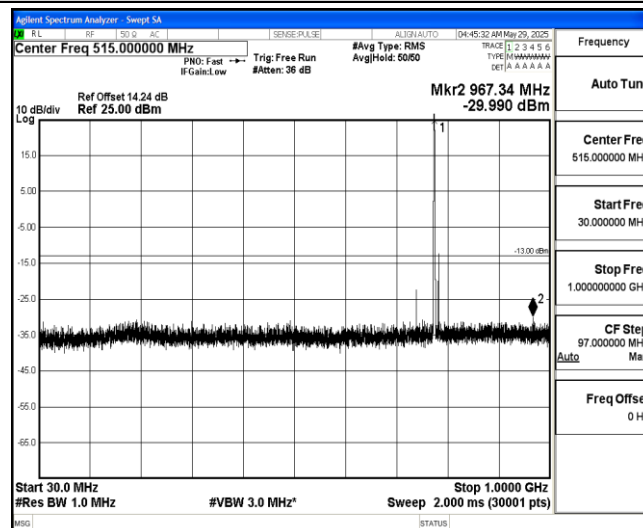
Scan code to check authenticity



Band13-5MHz-16QAM-23205-1-0-Low-5000-12000--52.11-PASS



Band13-5MHz-16QAM-23205-1-0-Low-12000-26500--37.09-PASS



Band13-5MHz-16QAM-23230-1-0-Low-30-1000--29.99-PASS

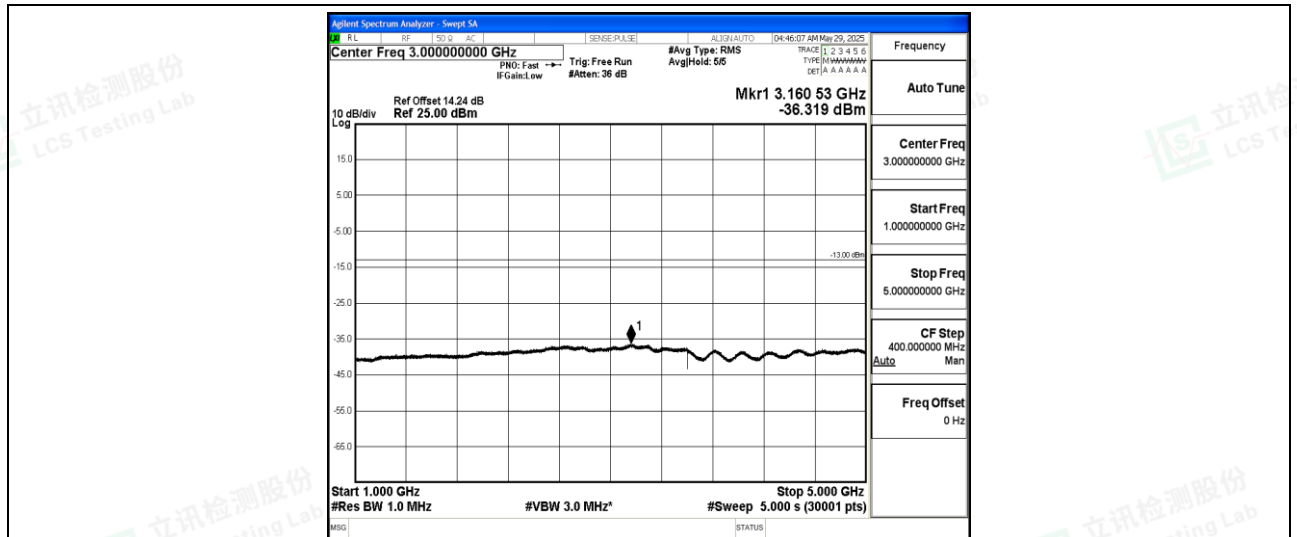


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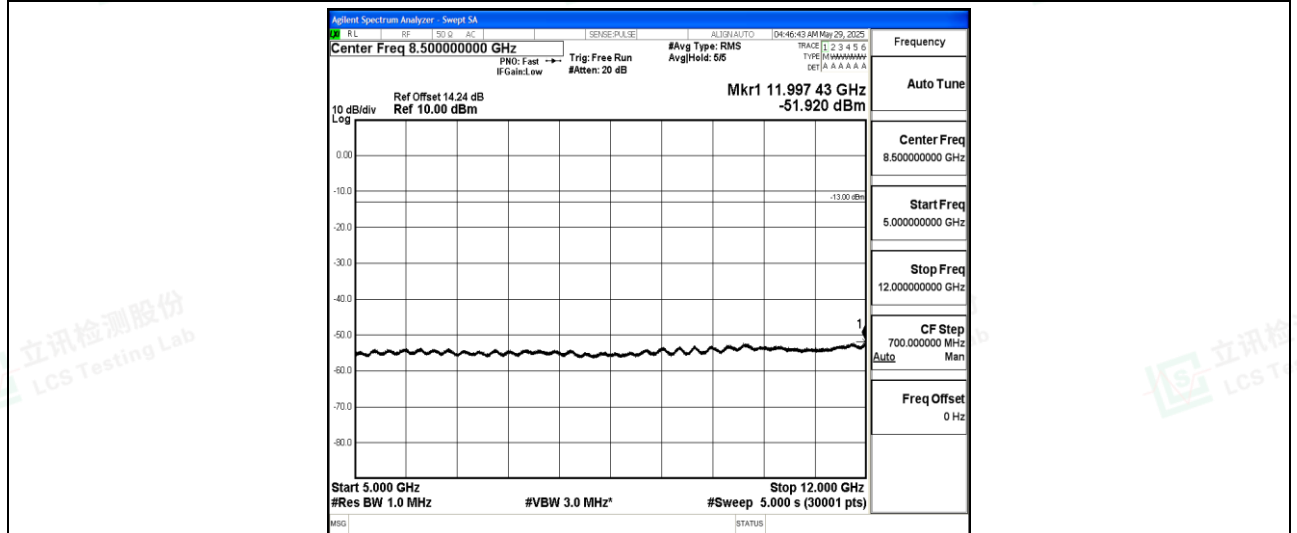
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

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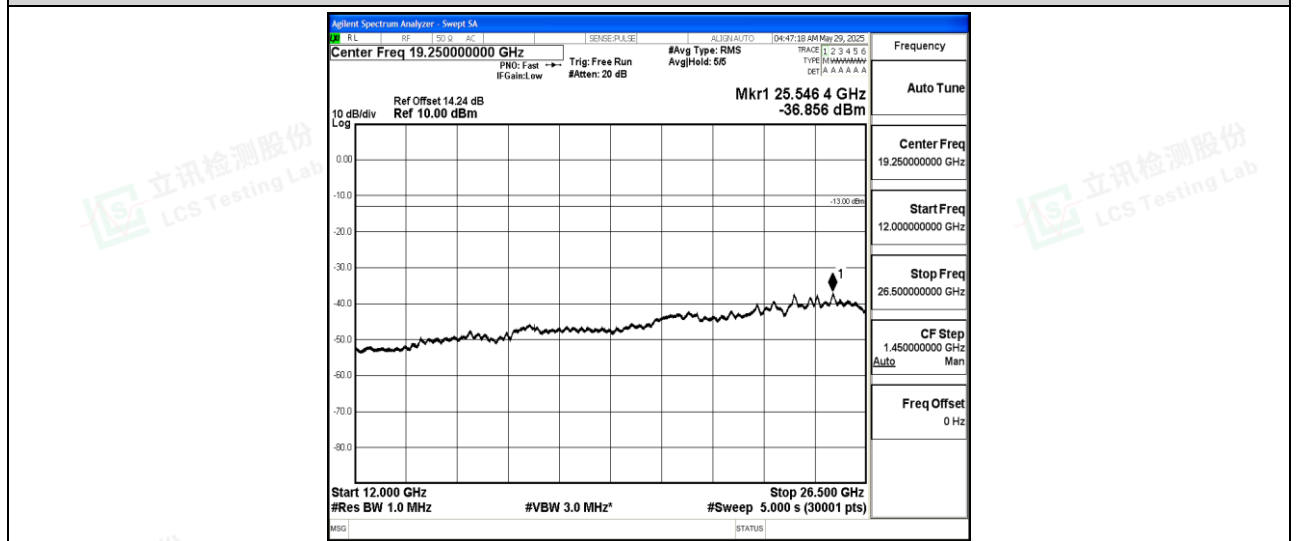
Scan code to check authenticity



Band13-5MHz-16QAM-23230-1-0-Low-1000-5000--36.32-PASS



Band13-5MHz-16QAM-23230-1-0-Low-5000-12000--51.92-PASS



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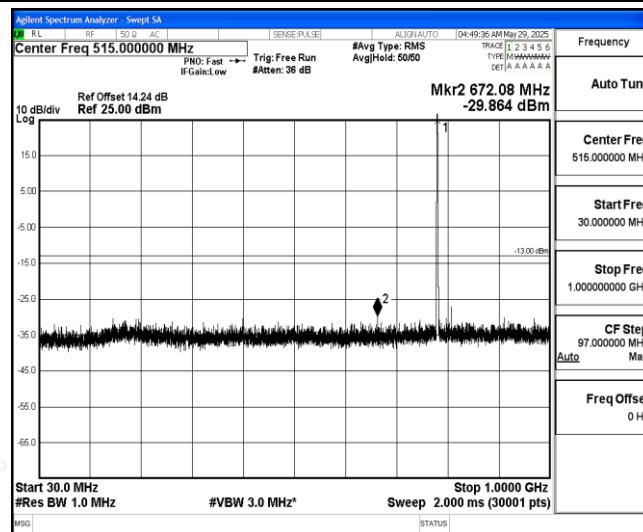
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

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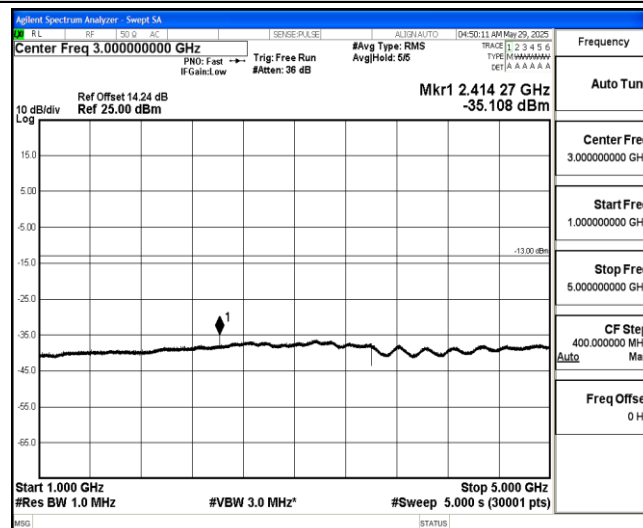
Scan code to check authenticity



Band13-5MHz-16QAM-23230-1-0-Low-12000-26500--36.86-PASS



Band13-5MHz-16QAM-23255-1-0-High-30-1000--29.86-PASS



Band13-5MHz-16QAM-23255-1-0-High-1000-5000--35.11-PASS

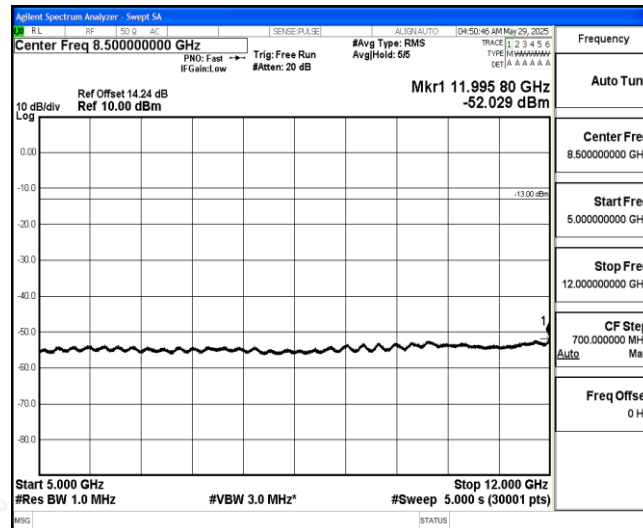


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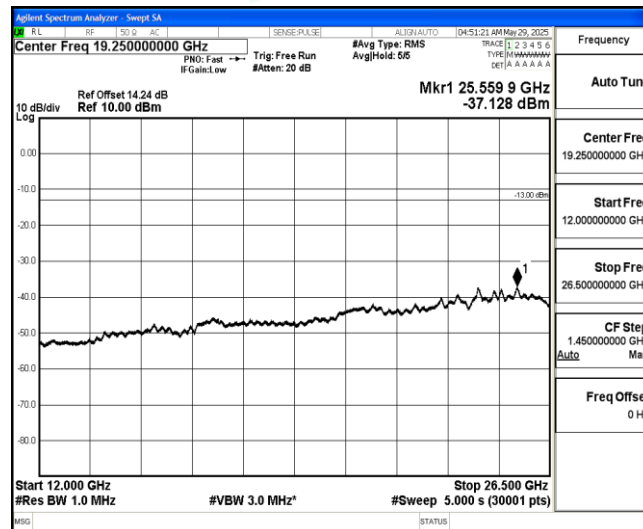
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Band13-5MHz-16QAM-23255-1-0-High-5000-12000--52.03-PASS



Band13-5MHz-16QAM-23255-1-0-High-12000-26500--37.13-PASS



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