

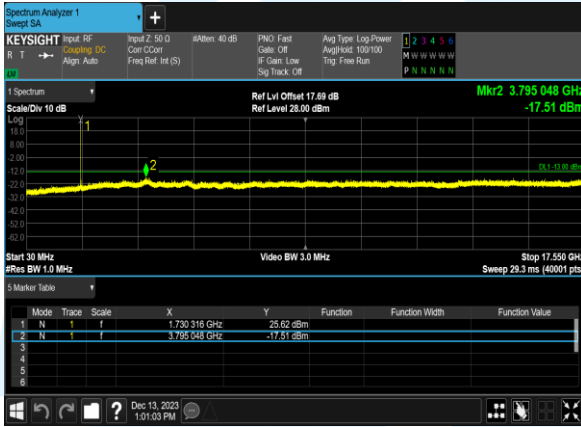
B4\_5M\_QPSK\_1@0\_CH\_19975



B4\_5M\_16QAM\_1@0\_CH\_19975



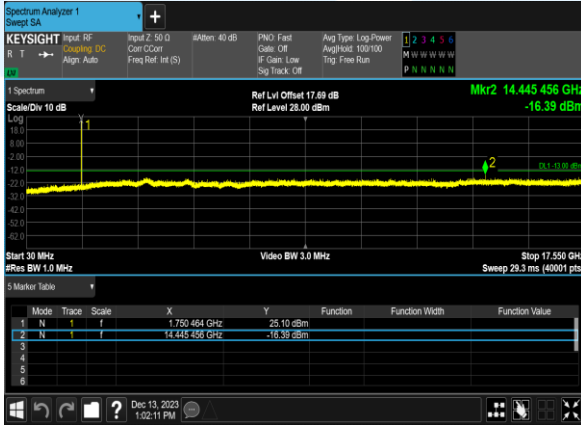
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B4\_5M\_16QAM\_1@0\_CH\_20175



B4\_5M\_QPSK\_1@0\_CH\_20375



B4\_5M\_16QAM\_1@0\_CH\_20375



B4\_3M\_QPSK\_1@0\_CH\_19965



B4\_3M\_16QAM\_1@0\_CH\_19965



**Shenzhen UnionTrust Quality and Technology Co., Ltd.**

Address: Unit D/E of 9/F and 16/F, Block A, Building 6, Baoneng science and technology park, Longhua district, Shenzhen, China

Tel: +86-755-28230888

Fax: +86-755-28230886

E-mail: info@uttlab.com

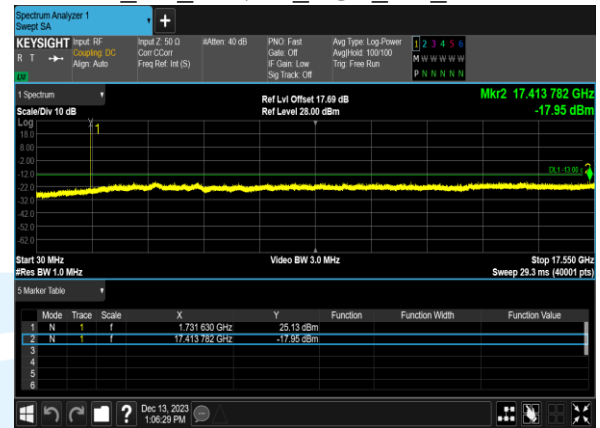
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UTTR-RF-FCC4G-V1.1

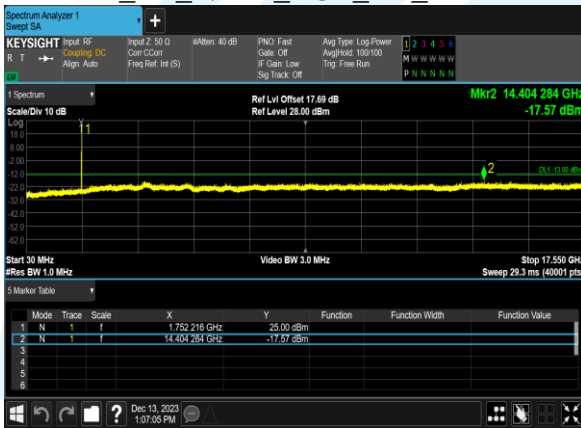
B4\_3M\_QPSK\_1@0\_CH\_20175



B4\_3M\_16QAM\_1@0\_CH\_20175



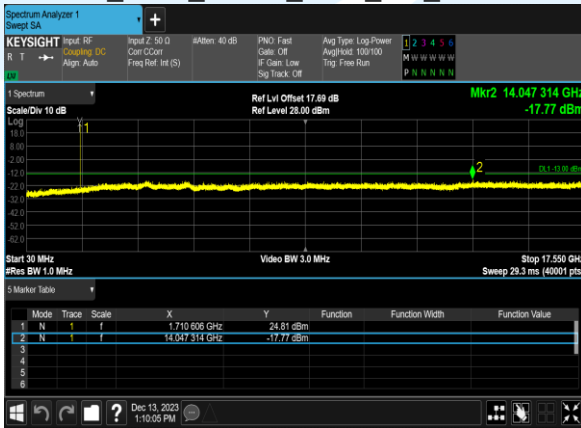
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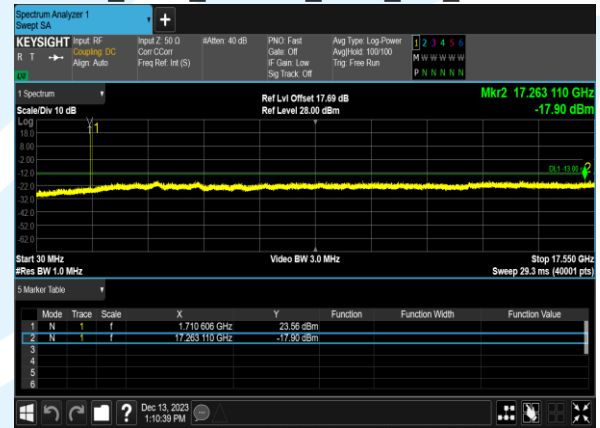
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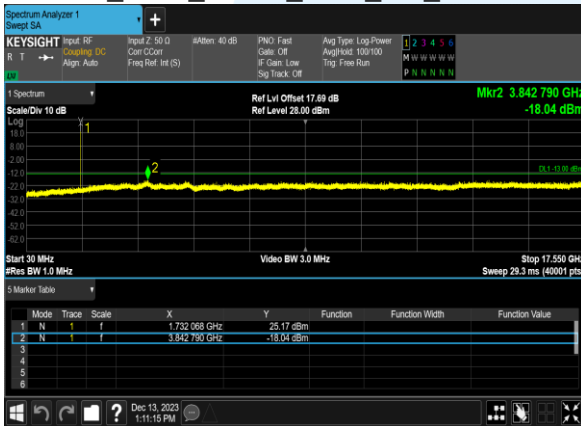
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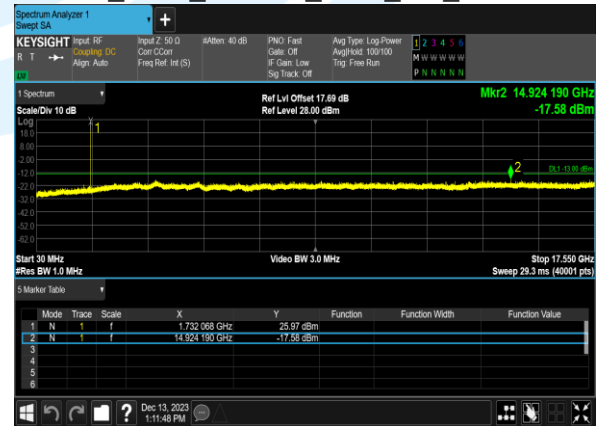
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B4\_1.4M\_QPSK\_1@0\_CH\_20175



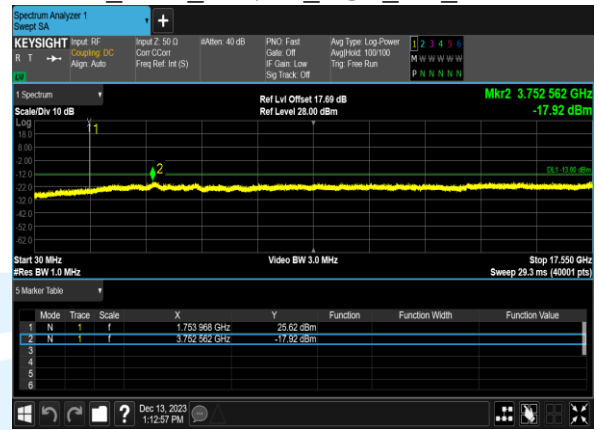
B4\_1.4M\_16QAM\_1@0\_CH\_20175



B4\_1.4M\_QPSK\_1@0\_CH\_20393



B4\_1.4M\_16QAM\_1@0\_CH\_20393



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Fax: +86-755-28230886

E-mail: info@uttlab.com

<http://www.uttlab.com>

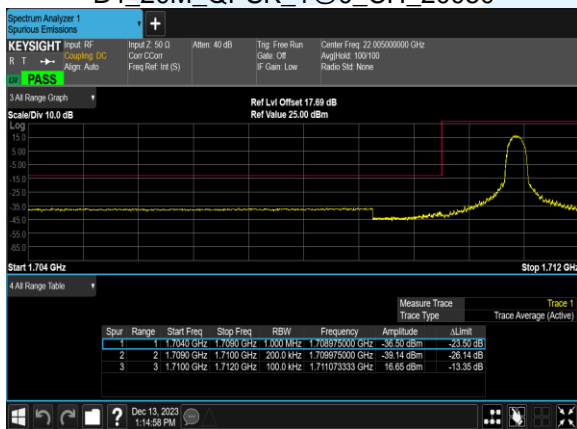
UTTR-RF-FCC4G-V1.1

## Conducted Band Edge

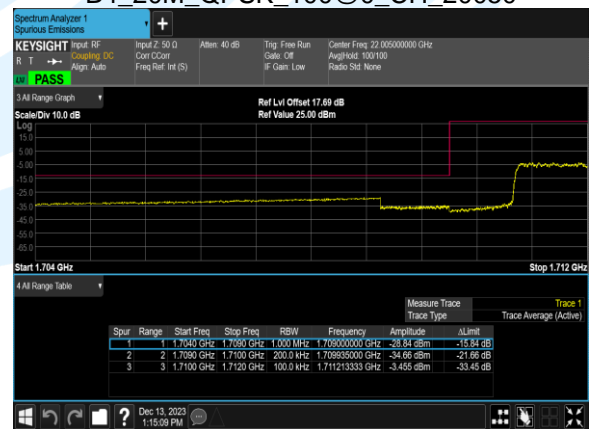
Band	Bandwidth (MHz)	Channel	Freq (MHz)	Modulation	RB	Result	Verdict
4	20.0	20050	1720.0	QPSK	1@0	see graph	PASS
4	20.0	20050	1720.0	QPSK	100@0	see graph	PASS
4	20.0	20050	1720.0	16QAM	1@0	see graph	PASS
4	20.0	20050	1720.0	16QAM	100@0	see graph	PASS
4	20.0	20300	1745.0	QPSK	1@99	see graph	PASS
4	20.0	20300	1745.0	QPSK	100@0	see graph	PASS
4	20.0	20300	1745.0	16QAM	1@99	see graph	PASS
4	20.0	20300	1745.0	16QAM	100@0	see graph	PASS
4	15.0	20025	1717.5	QPSK	1@0	see graph	PASS
4	15.0	20025	1717.5	QPSK	75@0	see graph	PASS
4	15.0	20025	1717.5	16QAM	1@0	see graph	PASS
4	15.0	20025	1717.5	16QAM	75@0	see graph	PASS
4	15.0	20325	1747.5	QPSK	1@74	see graph	PASS
4	15.0	20325	1747.5	QPSK	75@0	see graph	PASS
4	15.0	20325	1747.5	16QAM	1@74	see graph	PASS
4	15.0	20325	1747.5	16QAM	75@0	see graph	PASS
4	10.0	20000	1715.0	QPSK	1@0	see graph	PASS
4	10.0	20000	1715.0	QPSK	50@0	see graph	PASS
4	10.0	20000	1715.0	16QAM	1@0	see graph	PASS
4	10.0	20000	1715.0	16QAM	50@0	see graph	PASS
4	10.0	20350	1750.0	QPSK	1@49	see graph	PASS
4	10.0	20350	1750.0	QPSK	50@0	see graph	PASS
4	10.0	20350	1750.0	16QAM	1@49	see graph	PASS
4	10.0	20350	1750.0	16QAM	50@0	see graph	PASS
4	5.0	19975	1712.5	QPSK	1@0	see graph	PASS
4	5.0	19975	1712.5	QPSK	25@0	see graph	PASS
4	5.0	19975	1712.5	16QAM	1@0	see graph	PASS
4	5.0	19975	1712.5	16QAM	25@0	see graph	PASS
4	5.0	20375	1752.5	QPSK	1@24	see graph	PASS
4	5.0	20375	1752.5	QPSK	25@0	see graph	PASS
4	5.0	20375	1752.5	16QAM	1@24	see graph	PASS
4	5.0	20375	1752.5	16QAM	25@0	see graph	PASS
4	3.0	19965	1711.5	QPSK	1@0	see graph	PASS
4	3.0	19965	1711.5	QPSK	15@0	see graph	PASS
4	3.0	19965	1711.5	16QAM	1@0	see graph	PASS
4	3.0	19965	1711.5	16QAM	15@0	see graph	PASS
4	3.0	20385	1753.5	QPSK	1@14	see graph	PASS
4	3.0	20385	1753.5	QPSK	15@0	see graph	PASS
4	3.0	20385	1753.5	16QAM	1@14	see graph	PASS
4	3.0	20385	1753.5	16QAM	15@0	see graph	PASS
4	1.4	19957	1710.7	QPSK	1@0	see graph	PASS
4	1.4	19957	1710.7	QPSK	6@0	see graph	PASS
4	1.4	19957	1710.7	16QAM	1@0	see graph	PASS
4	1.4	19957	1710.7	16QAM	6@0	see graph	PASS
4	1.4	20393	1754.3	QPSK	1@5	see graph	PASS
4	1.4	20393	1754.3	QPSK	6@0	see graph	PASS
4	1.4	20393	1754.3	16QAM	1@5	see graph	PASS
4	1.4	20393	1754.3	16QAM	6@0	see graph	PASS

## Test Graphs

B4\_20M\_QPSK\_1@0\_CH\_20050



B4\_20M\_QPSK\_100@0\_CH\_20050



## Shenzhen UnionTrust Quality and Technology Co., Ltd.

Address: Unit D/E of 9/F and 16/F, Block A, Building 6, Baoneng science and technology park, Longhua district, Shenzhen, China

Tel: +86-755-28230888

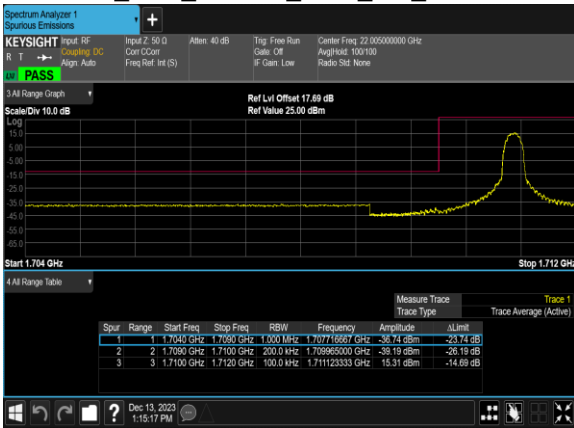
Fax: +86-755-28230886

E-mail: info@uttlab.com

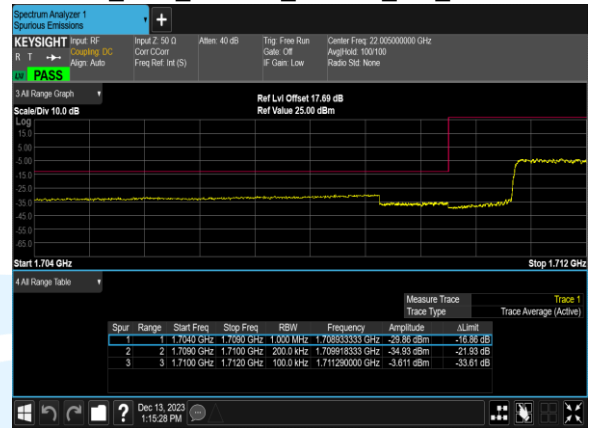
<http://www.uttlab.com>

UTTR-RF-FCC4G-V1.1

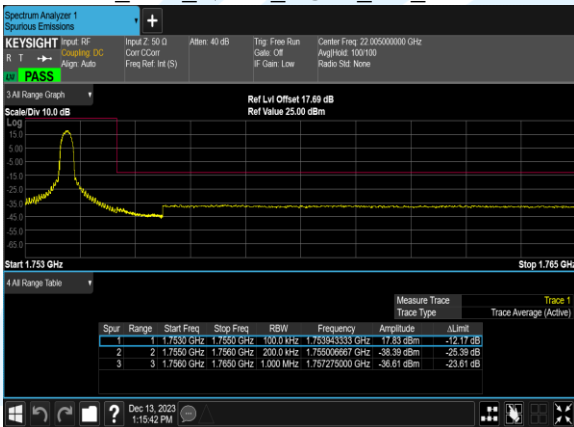
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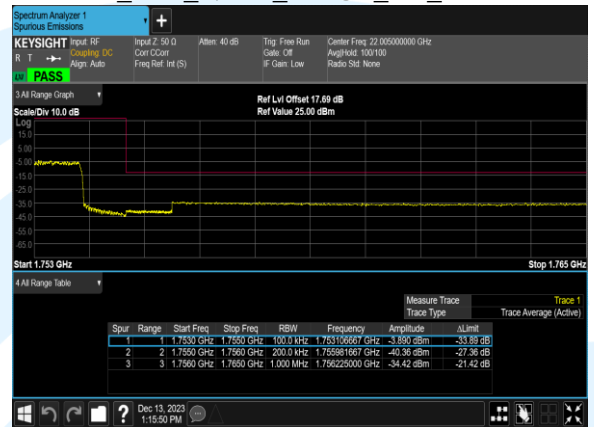
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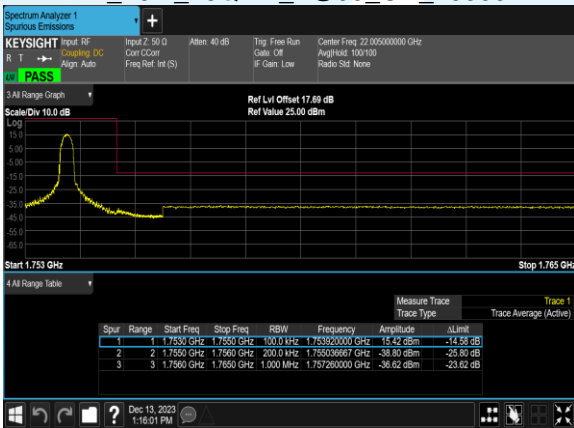
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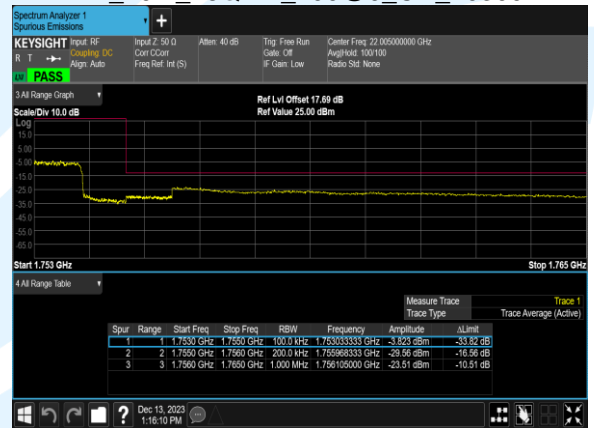
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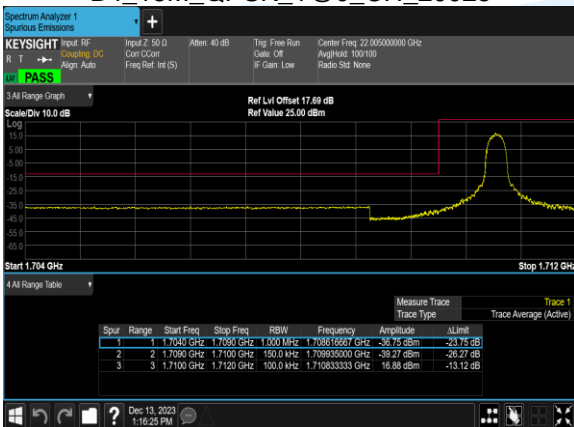
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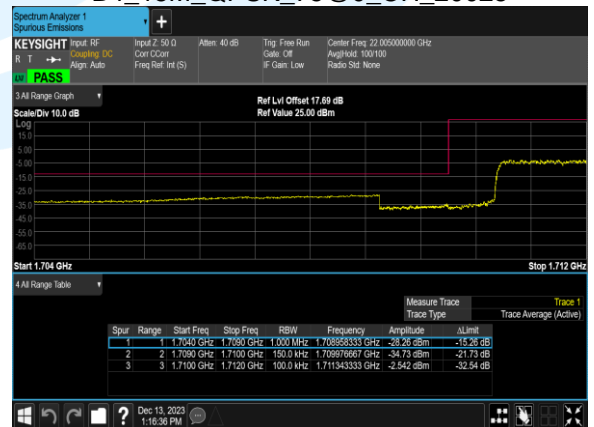
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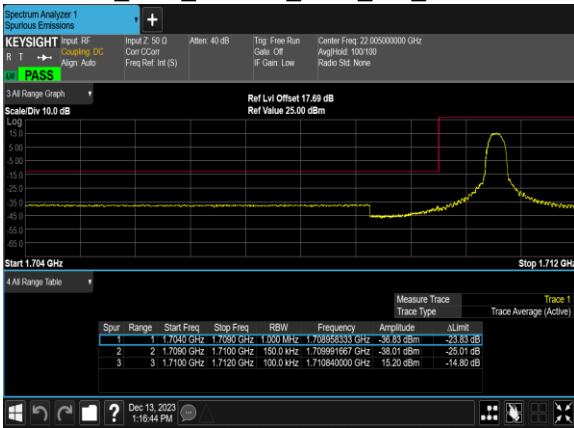
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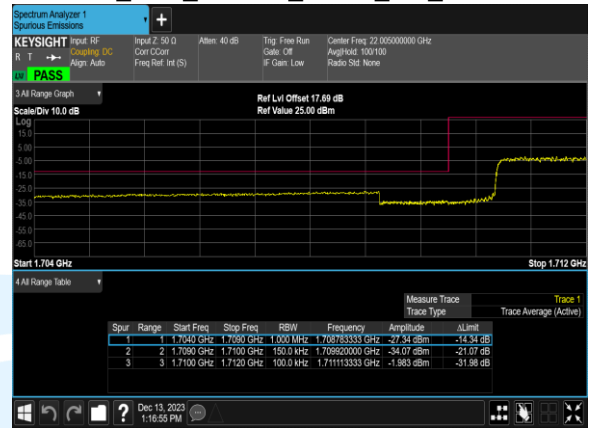
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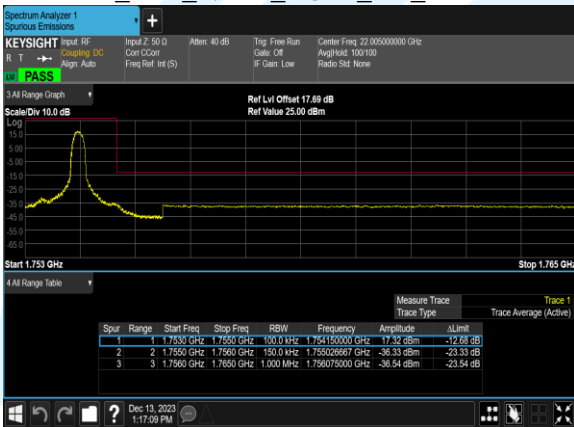
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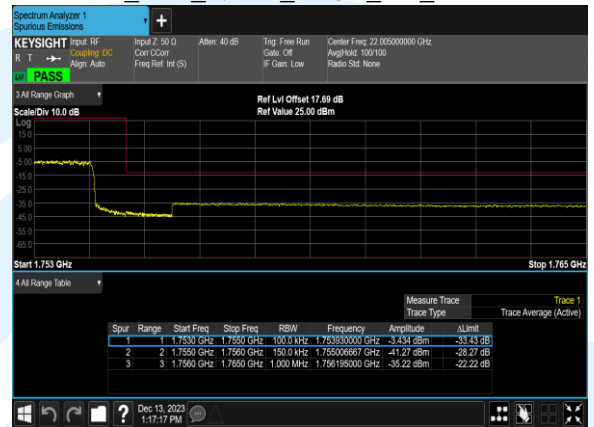
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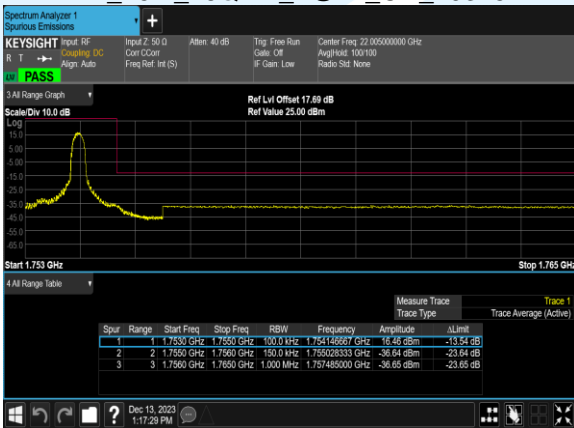
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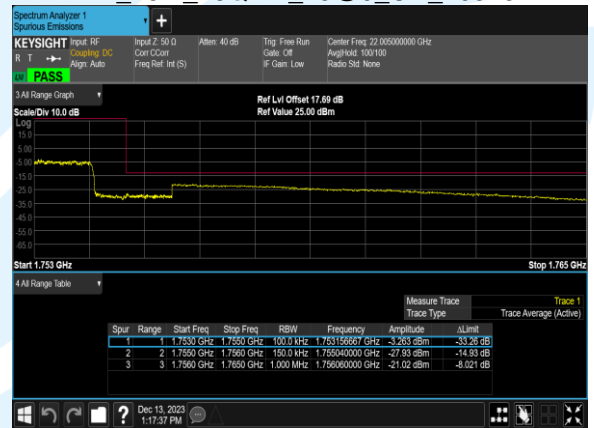
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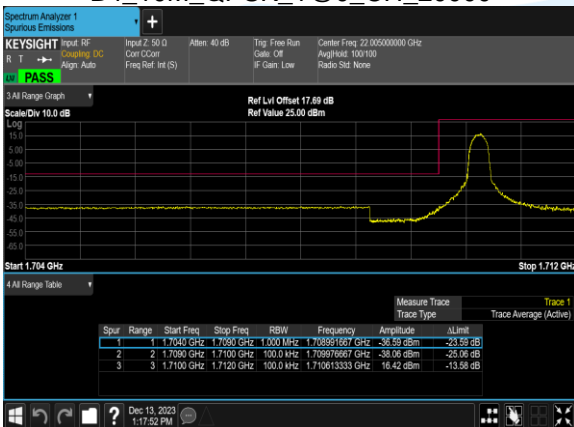
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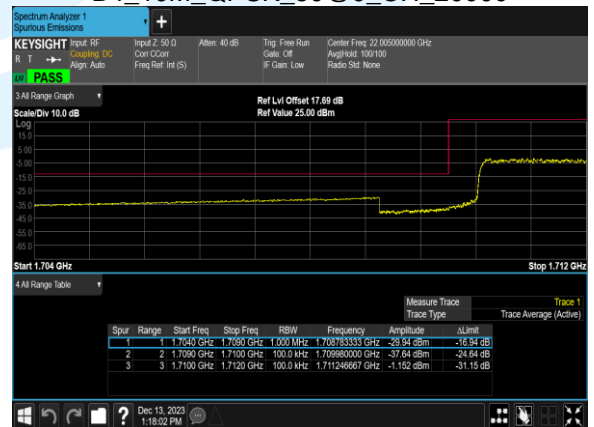
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B4\_10M\_QPSK\_1@0\_CH\_20000

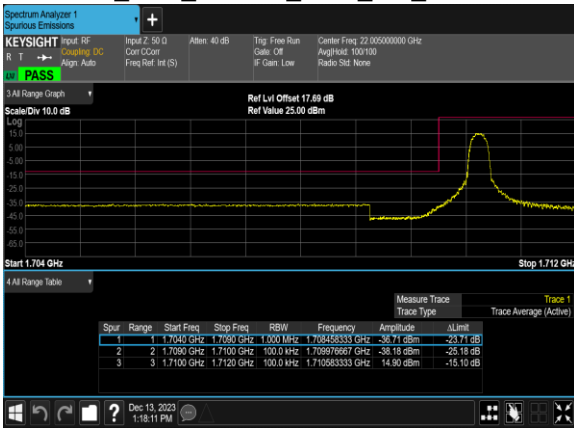


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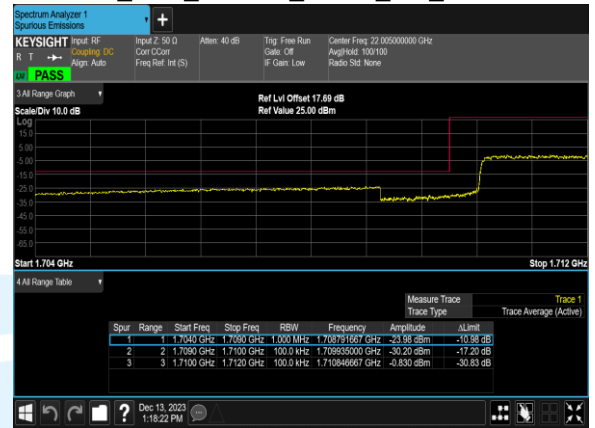




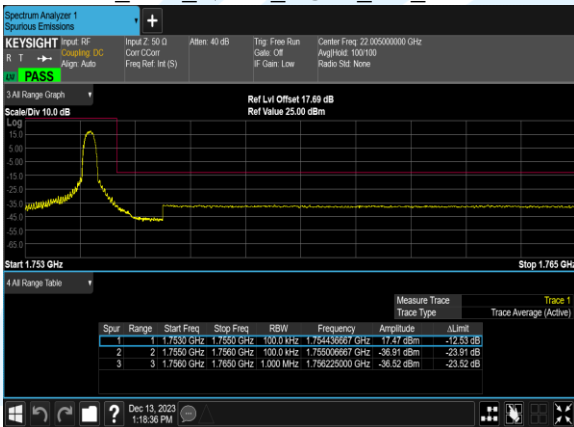
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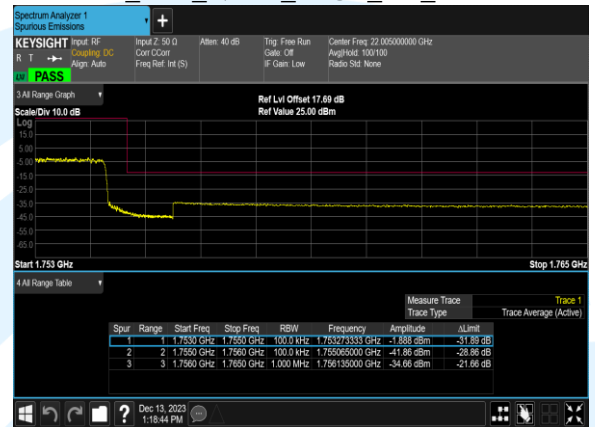
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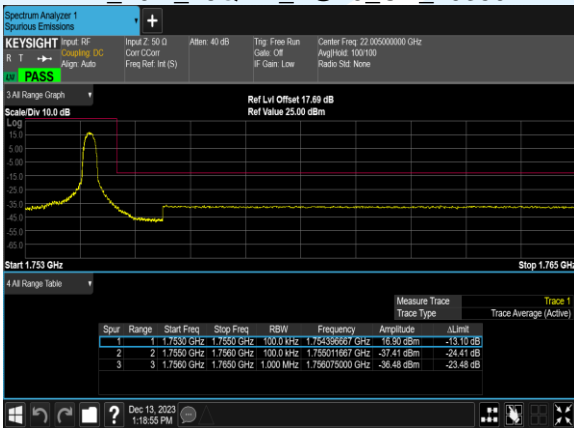
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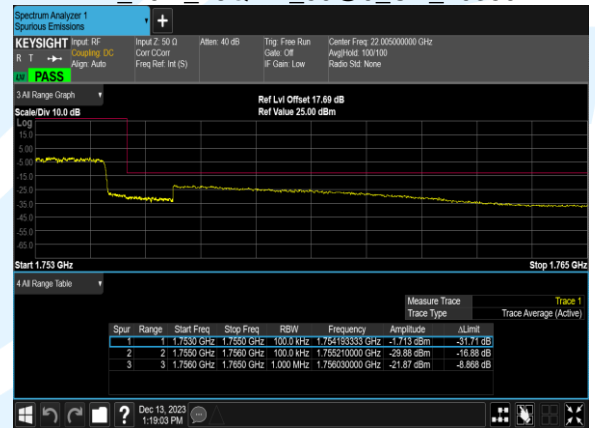
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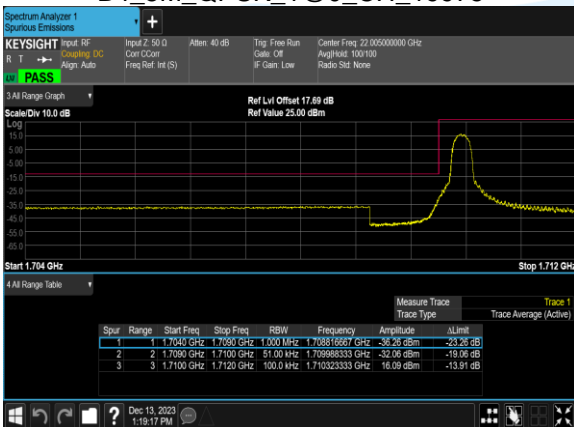
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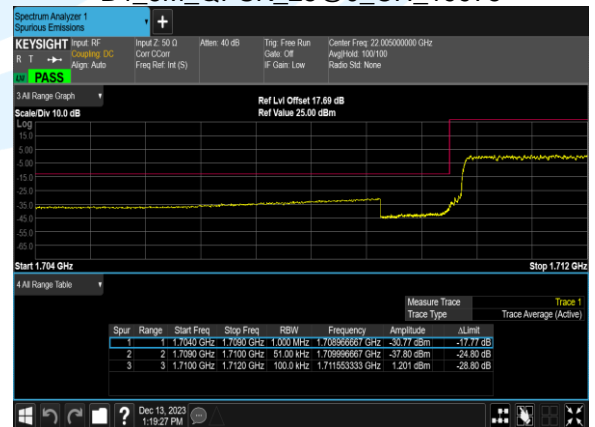
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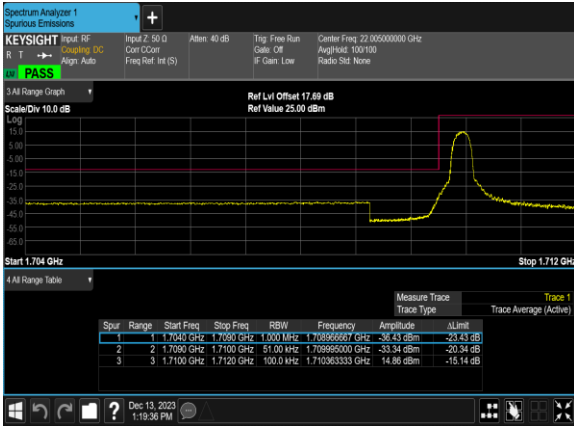
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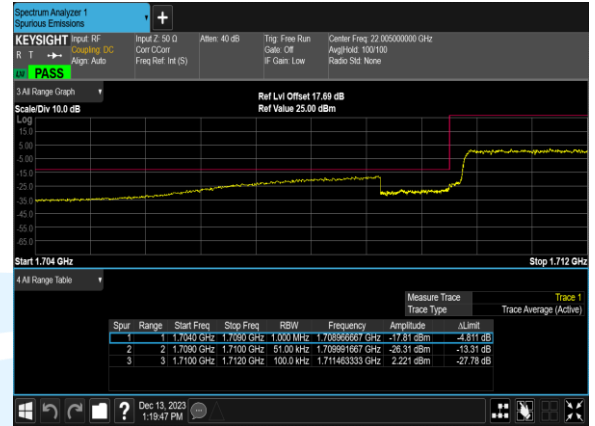
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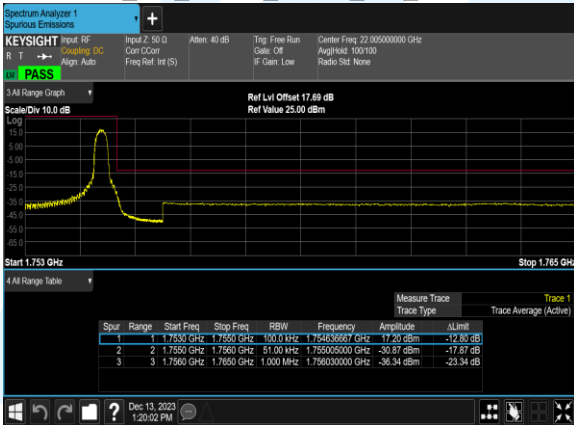
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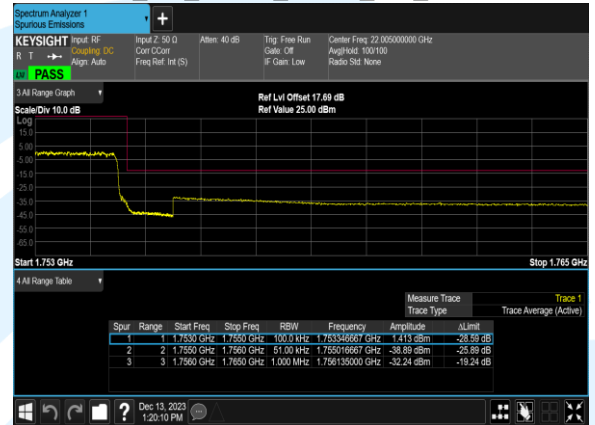
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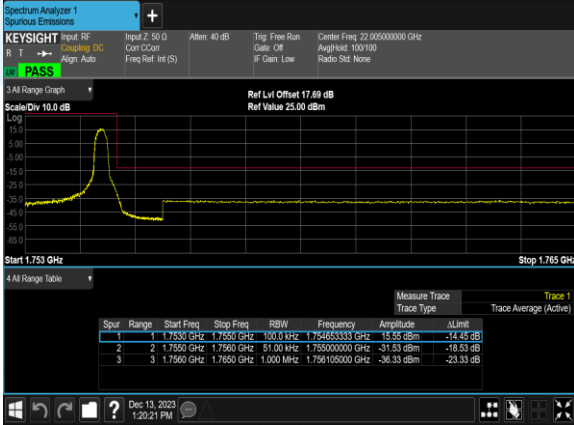
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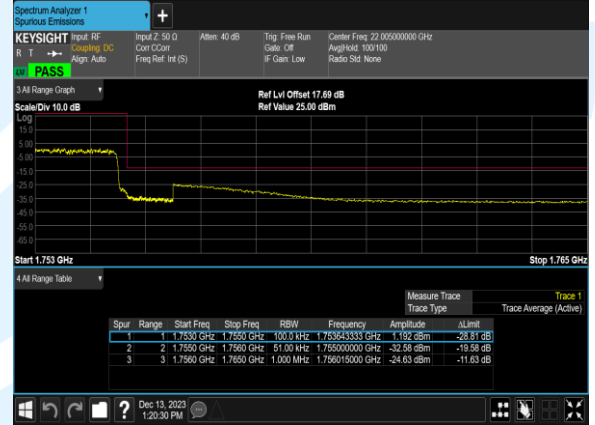
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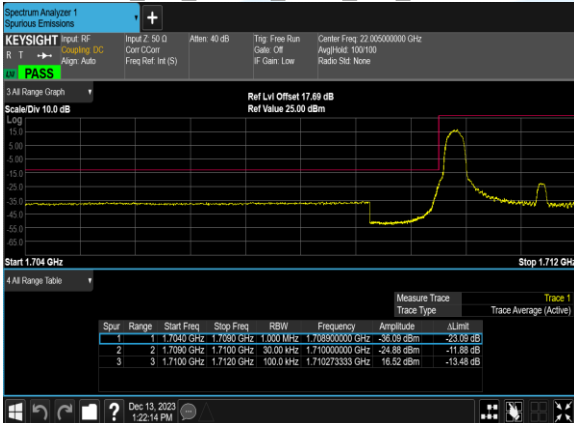
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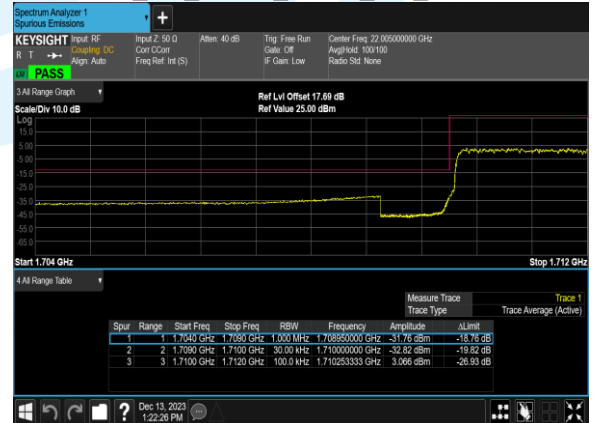
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B4\_3M\_QPSK\_1@0\_CH\_19965

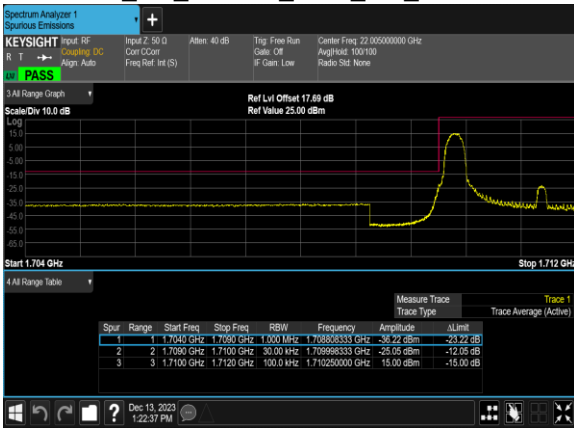


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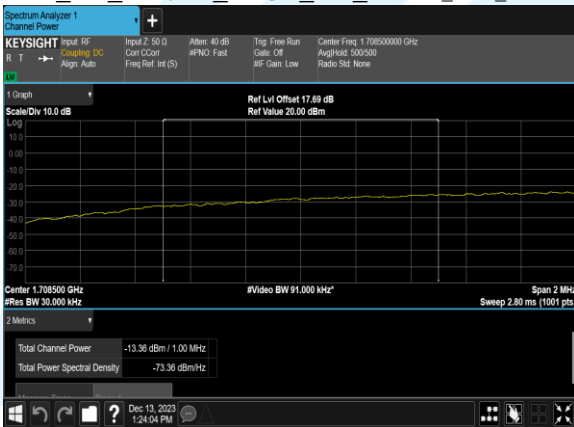
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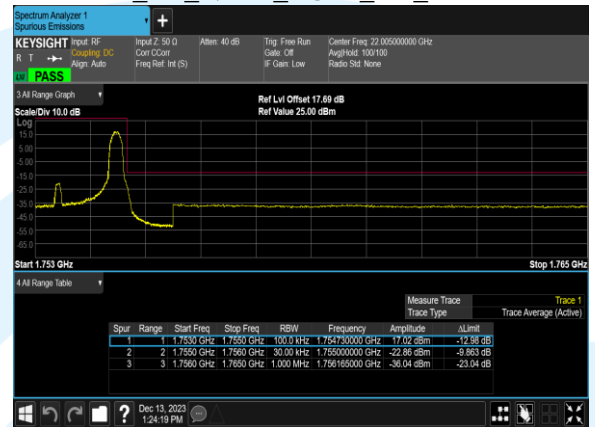
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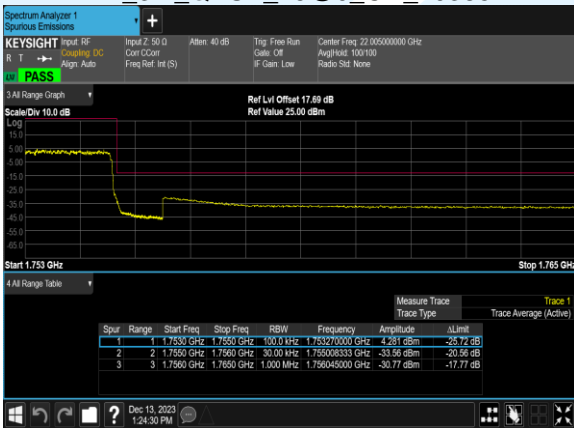
B4\_3M\_16QAM\_15@0\_CH\_19965\_CHP\_PASS



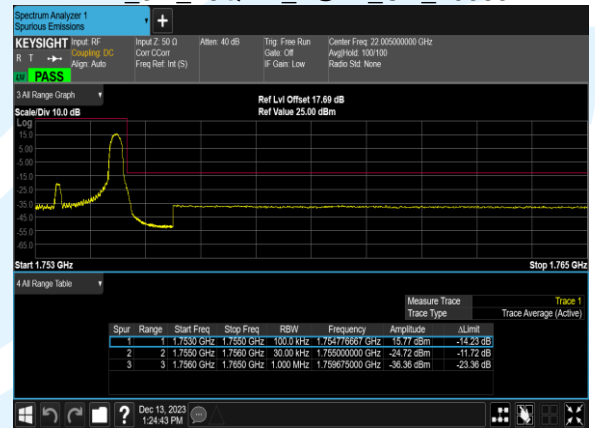
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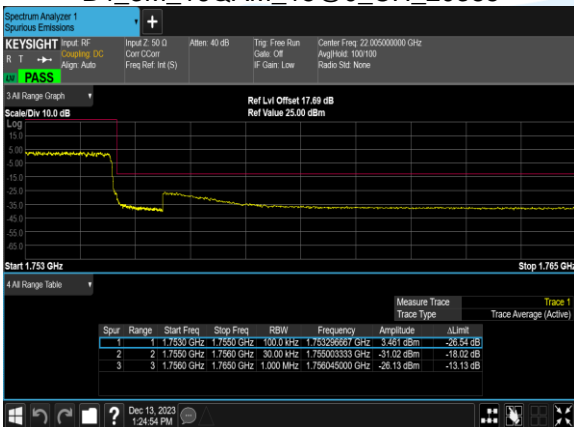
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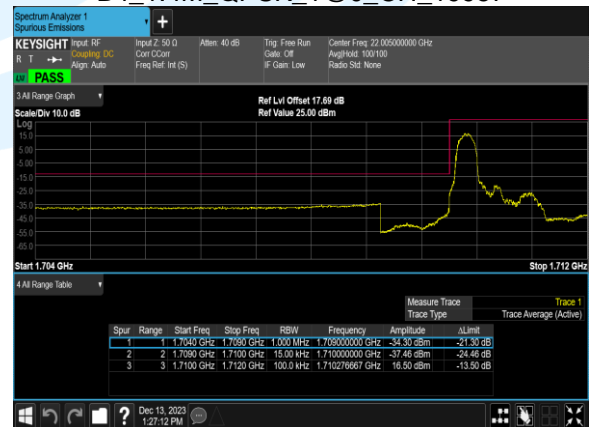
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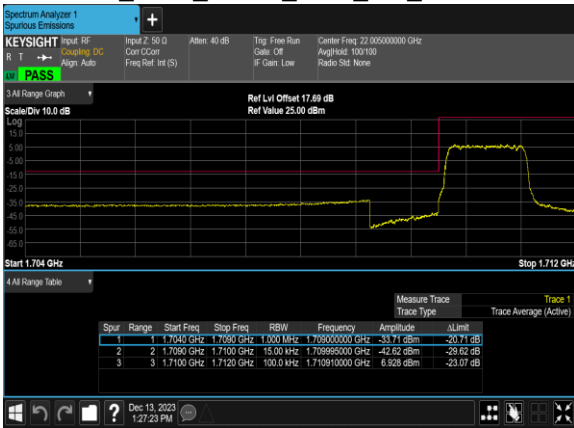
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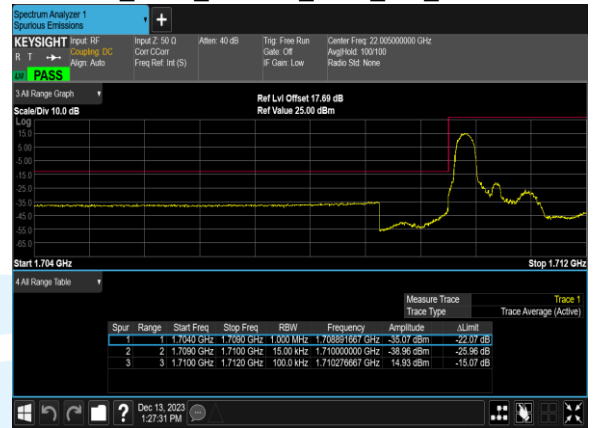
B4\_1.4M\_QPSK\_1@0\_CH\_19957



B4\_1.4M\_QPSK\_6@0\_CH\_19957



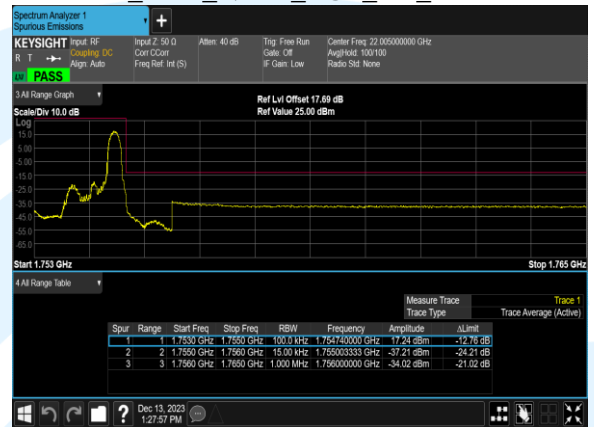
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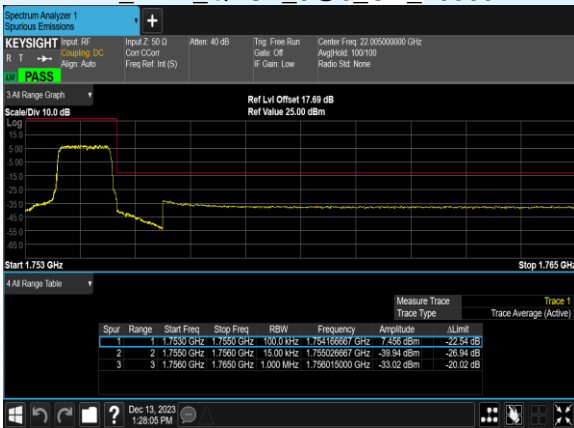
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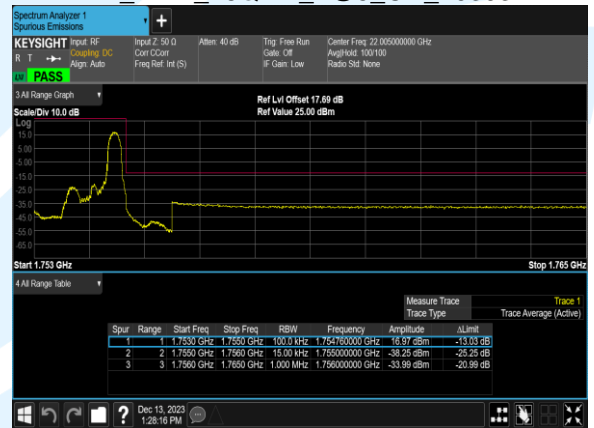
B4\_1.4M\_QPSK\_1@5\_CH\_20393



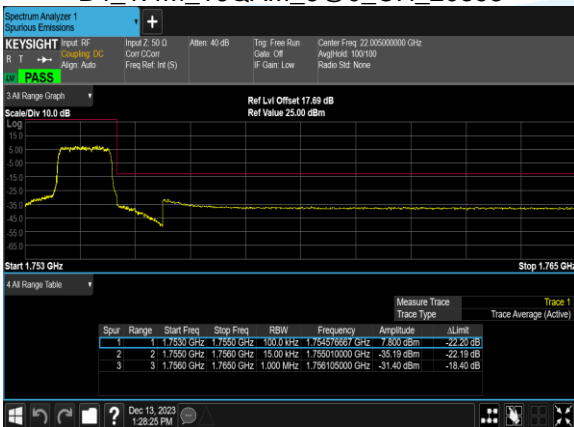
B4\_1.4M\_QPSK\_6@0\_CH\_20393



B4\_1.4M\_16QAM\_1@5\_CH\_20393



B4\_1.4M\_16QAM\_6@0\_CH\_20393



### A.3 LTE BAND 5

#### Peak to Average Ratio

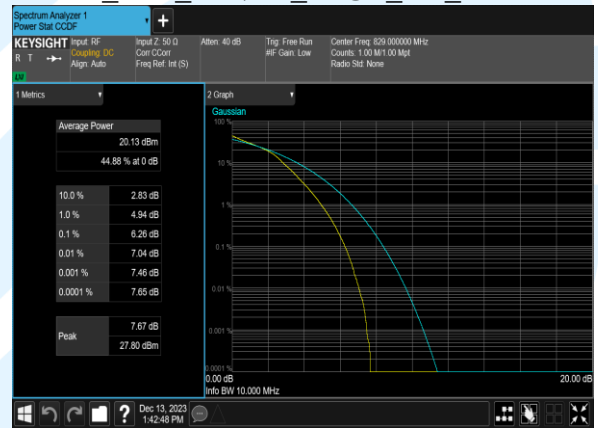
Band	Bandwidth (MHz)	Channel	Freq (MHz)	Modulation	RB	Result (dB)	Limit (dB)	Verdict
5	10.0	20450	829.0	QPSK	50@0	5.53	13	PASS
5	10.0	20450	829.0	16QAM	50@0	6.26	13	PASS
5	10.0	20525	836.5	QPSK	50@0	5.74	13	PASS
5	10.0	20525	836.5	16QAM	50@0	6.47	13	PASS
5	10.0	20600	844.0	QPSK	50@0	5.58	13	PASS
5	10.0	20600	844.0	16QAM	50@0	6.28	13	PASS
5	5.0	20425	826.5	QPSK	25@0	5.33	13	PASS
5	5.0	20425	826.5	16QAM	25@0	5.90	13	PASS
5	5.0	20525	836.5	QPSK	25@0	5.73	13	PASS
5	5.0	20525	836.5	16QAM	25@0	6.39	13	PASS
5	5.0	20625	846.5	QPSK	25@0	5.50	13	PASS
5	5.0	20625	846.5	16QAM	25@0	6.18	13	PASS
5	3.0	20415	825.5	QPSK	15@0	5.38	13	PASS
5	3.0	20415	825.5	16QAM	15@0	6.00	13	PASS
5	3.0	20525	836.5	QPSK	15@0	5.77	13	PASS
5	3.0	20525	836.5	16QAM	15@0	6.47	13	PASS
5	3.0	20635	847.5	QPSK	15@0	5.50	13	PASS
5	3.0	20635	847.5	16QAM	15@0	6.26	13	PASS
5	1.4	20407	824.7	QPSK	6@0	5.37	13	PASS
5	1.4	20407	824.7	16QAM	6@0	6.02	13	PASS
5	1.4	20525	836.5	QPSK	6@0	5.70	13	PASS
5	1.4	20525	836.5	16QAM	6@0	6.48	13	PASS
5	1.4	20643	848.3	QPSK	6@0	5.56	13	PASS
5	1.4	20643	848.3	16QAM	6@0	6.26	13	PASS

#### Test Graphs

B5\_10M\_QPSK\_50@0\_CH\_20450



B5\_10M\_16QAM\_50@0\_CH\_20450



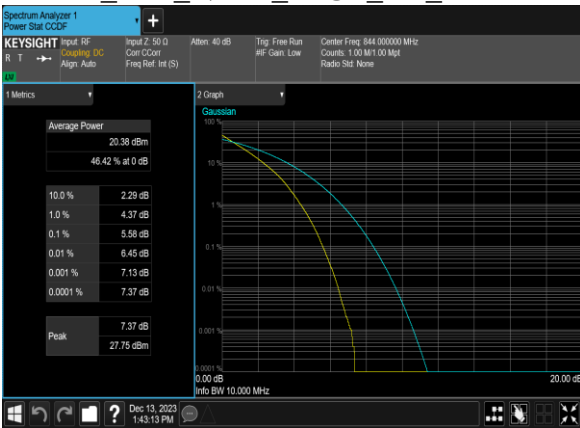
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B5\_10M\_16QAM\_50@0\_CH\_20525



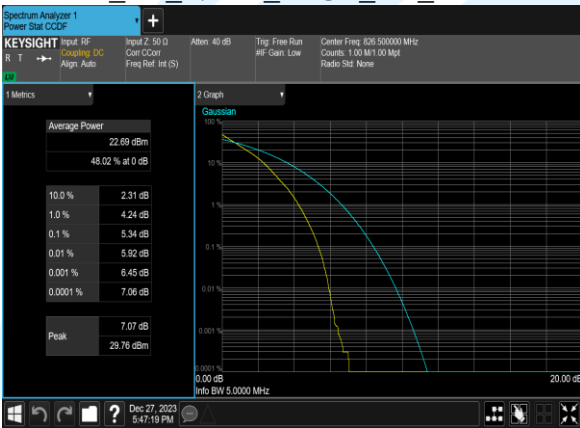
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B5\_10M\_16QAM\_50@0\_CH\_20600



B5\_5M\_QPSK\_25@0\_CH\_20425



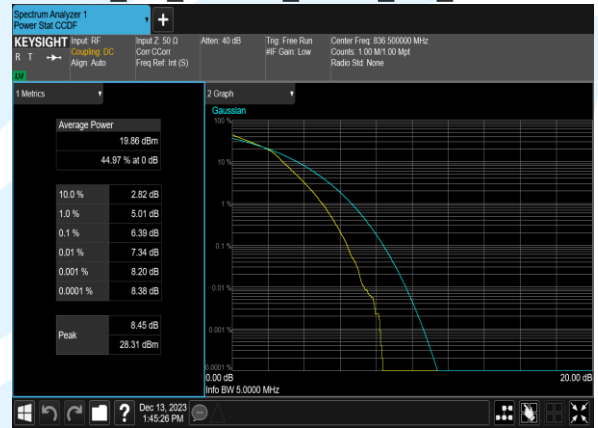
B5\_5M\_16QAM\_25@0\_CH\_20425



B5\_5M\_QPSK\_25@0\_CH\_20525



B5\_5M\_16QAM\_25@0\_CH\_20525



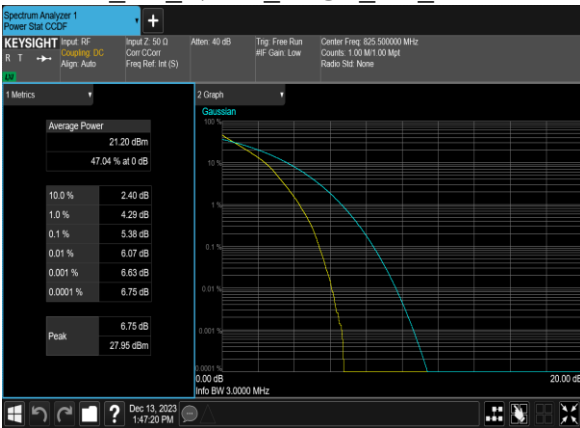
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B5\_5M\_16QAM\_25@0\_CH\_20625



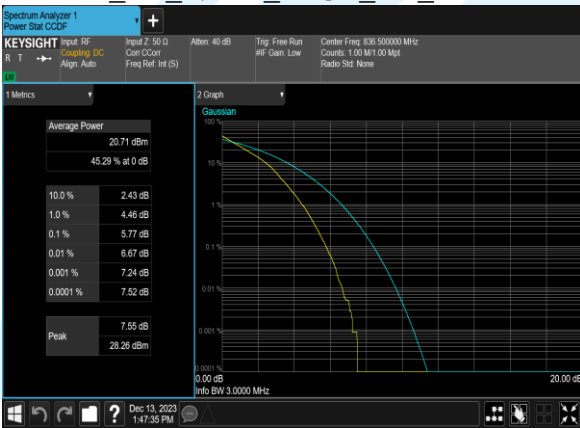
B5\_3M\_QPSK\_15@0\_CH\_20415



B5\_3M\_16QAM\_15@0\_CH\_20415



B5\_3M\_QPSK\_15@0\_CH\_20525



B5\_3M\_16QAM\_15@0\_CH\_20525



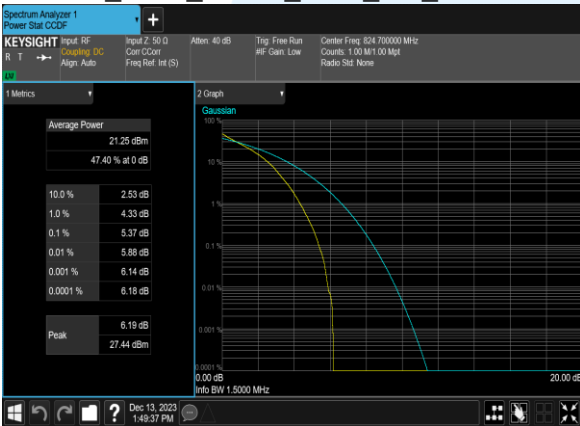
B5\_3M\_QPSK\_15@0\_CH\_20635



B5\_3M\_16QAM\_15@0\_CH\_20635



B5\_1.4M\_QPSK\_6@0\_CH\_20407

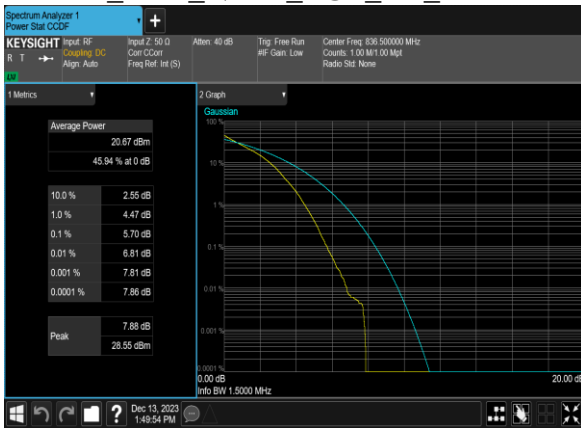


B5\_1.4M\_16QAM\_6@0\_CH\_20407





B5\_1.4M\_QPSK\_6@0\_CH\_20525



B5\_1.4M\_16QAM\_6@0\_CH\_20525



B5\_1.4M\_QPSK\_6@0\_CH\_20643



B5\_1.4M\_16QAM\_6@0\_CH\_20643

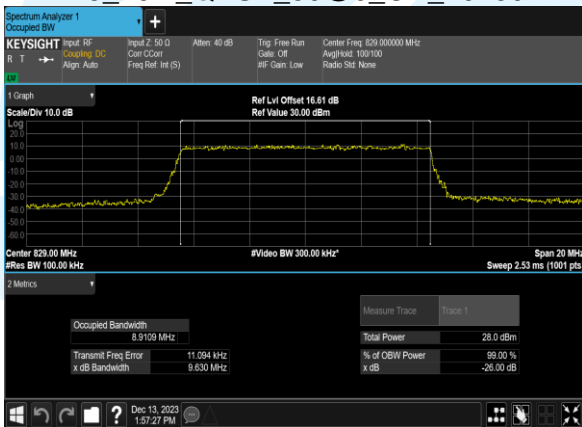


## Occupied Bandwidth

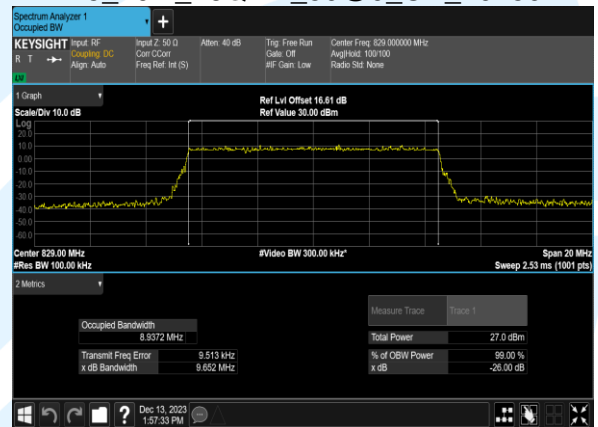
Band	Bandwidth (MHz)	Channel	Freq (MHz)	Modulation	RB	OBW (MHz)	26dB BW (MHz)
5	10.0	20450	829.0	QPSK	50@0	8.9109	9.630
5	10.0	20450	829.0	16QAM	50@0	8.9372	9.652
5	10.0	20525	836.5	QPSK	50@0	8.9537	9.595
5	10.0	20525	836.5	16QAM	50@0	8.9441	9.583
5	10.0	20600	844.0	QPSK	50@0	8.9298	9.666
5	10.0	20600	844.0	16QAM	50@0	8.9207	9.633
5	5.0	20425	826.5	QPSK	25@0	4.4660	4.896
5	5.0	20425	826.5	16QAM	25@0	4.4548	4.798
5	5.0	20525	836.5	QPSK	25@0	4.4542	4.877
5	5.0	20525	836.5	16QAM	25@0	4.4613	4.883
5	5.0	20625	846.5	QPSK	25@0	4.4510	4.851
5	5.0	20625	846.5	16QAM	25@0	4.4586	4.890
5	3.0	20415	825.5	QPSK	15@0	2.6852	2.943
5	3.0	20415	825.5	16QAM	15@0	2.6859	2.984
5	3.0	20525	836.5	QPSK	15@0	2.6928	2.945
5	3.0	20525	836.5	16QAM	15@0	2.6736	2.965
5	3.0	20635	847.5	QPSK	15@0	2.6907	2.981
5	3.0	20635	847.5	16QAM	15@0	2.6860	2.949
5	1.4	20407	824.7	QPSK	6@0	1.0806	1.214
5	1.4	20407	824.7	16QAM	6@0	1.0809	1.226
5	1.4	20525	836.5	QPSK	6@0	1.0810	1.221
5	1.4	20525	836.5	16QAM	6@0	1.0770	1.213
5	1.4	20643	848.3	QPSK	6@0	1.0783	1.214
5	1.4	20643	848.3	16QAM	6@0	1.0760	1.213

## Test Graphs

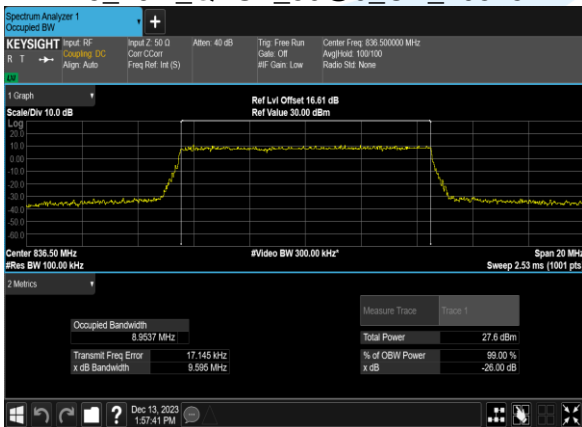
B5\_10M\_QPSK\_50@0\_CH\_20450



B5\_10M\_16QAM\_50@0\_CH\_20450



B5\_10M\_QPSK\_50@0\_CH\_20525



B5\_10M\_16QAM\_50@0\_CH\_20525

