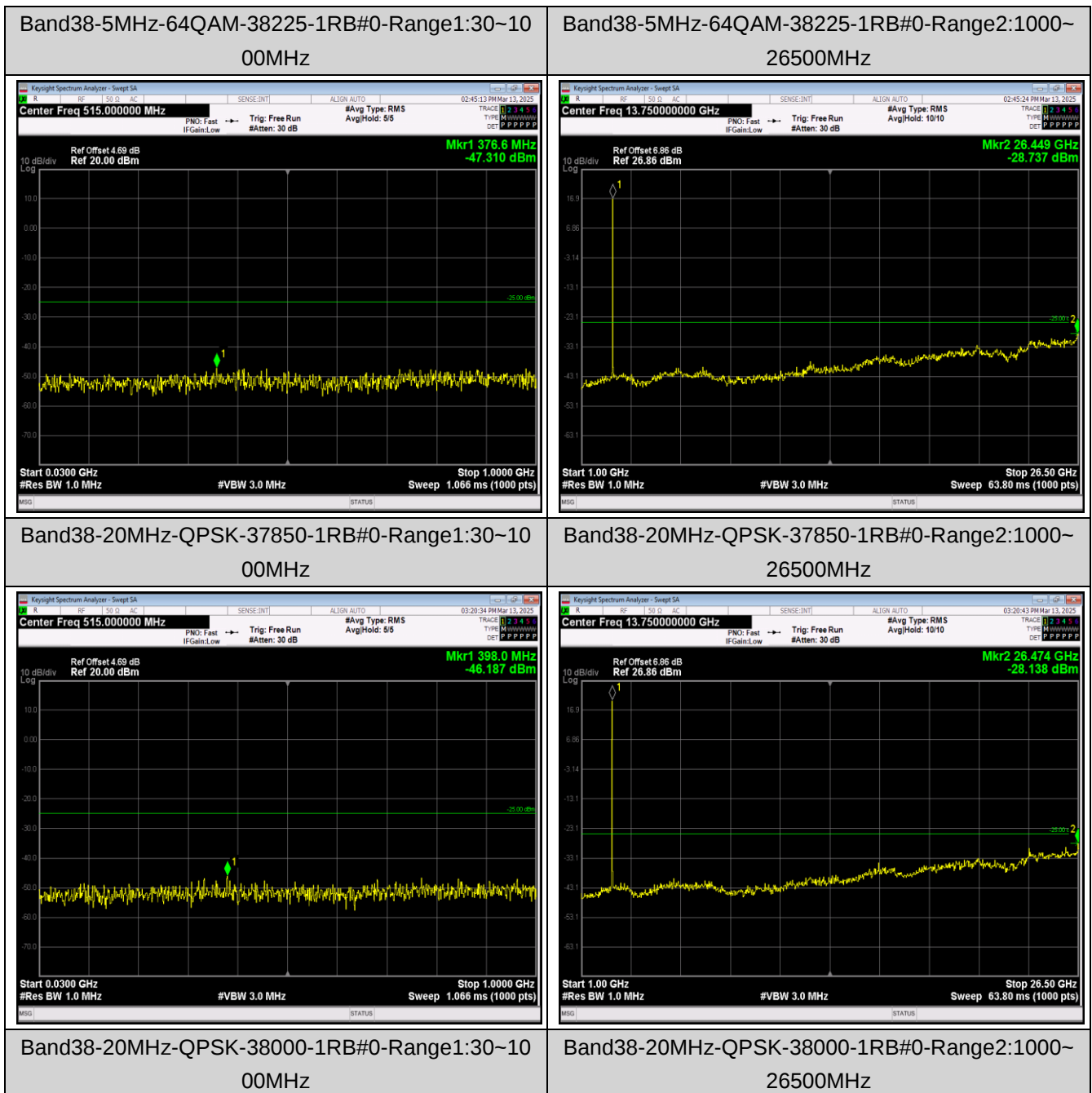
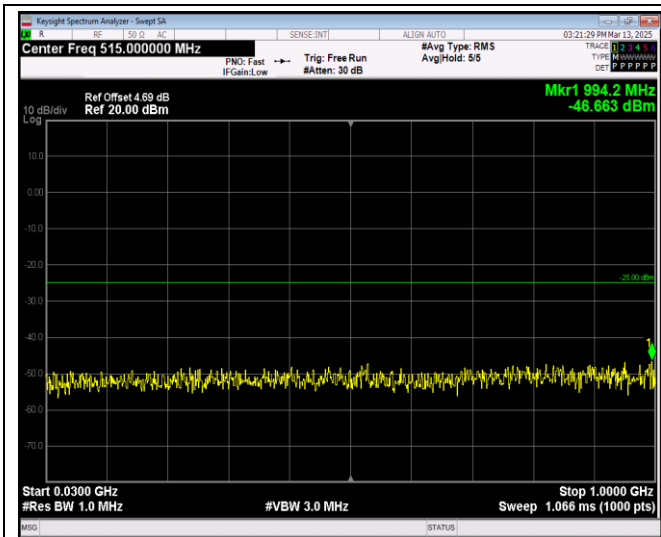


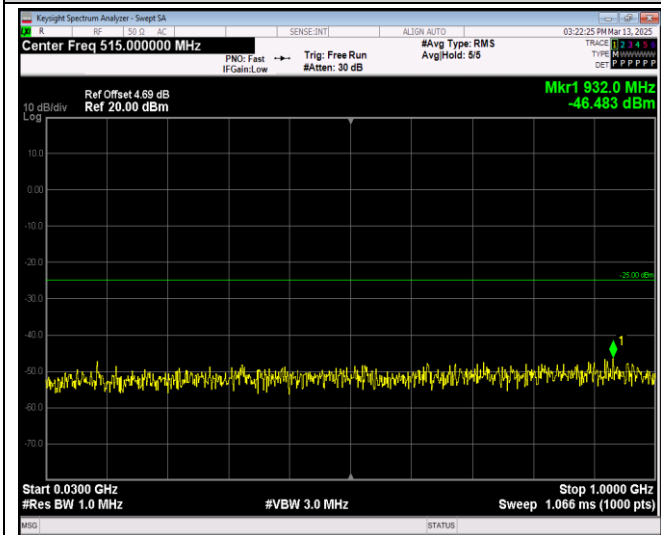




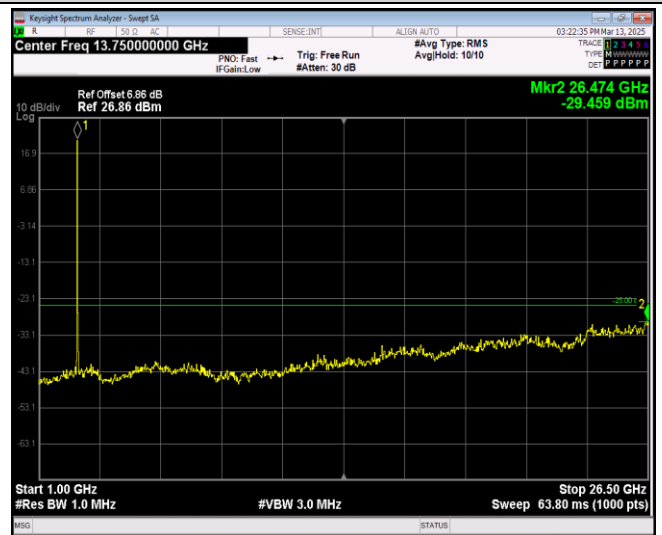
Band38-20MHz-QPSK-38150-1RB#0-Range1:30~1000MHz



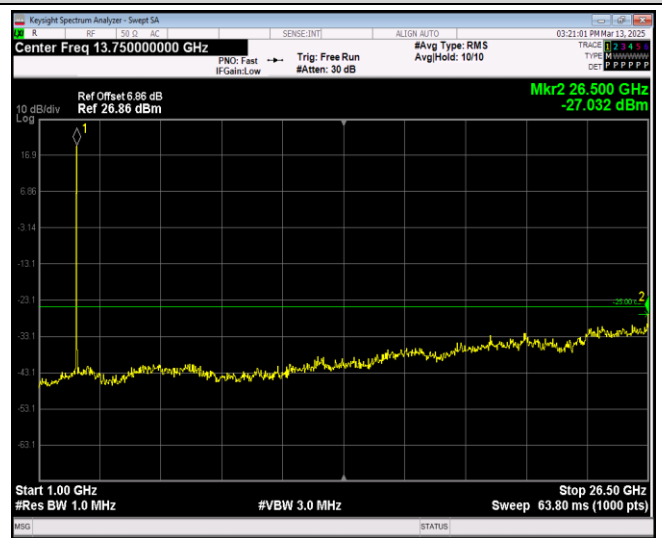
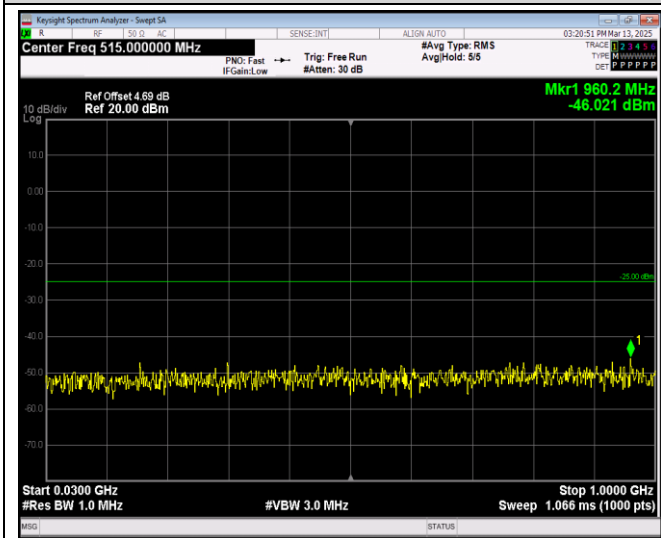
Band38-20MHz-QPSK-38150-1RB#0-Range2:1000~26500MHz

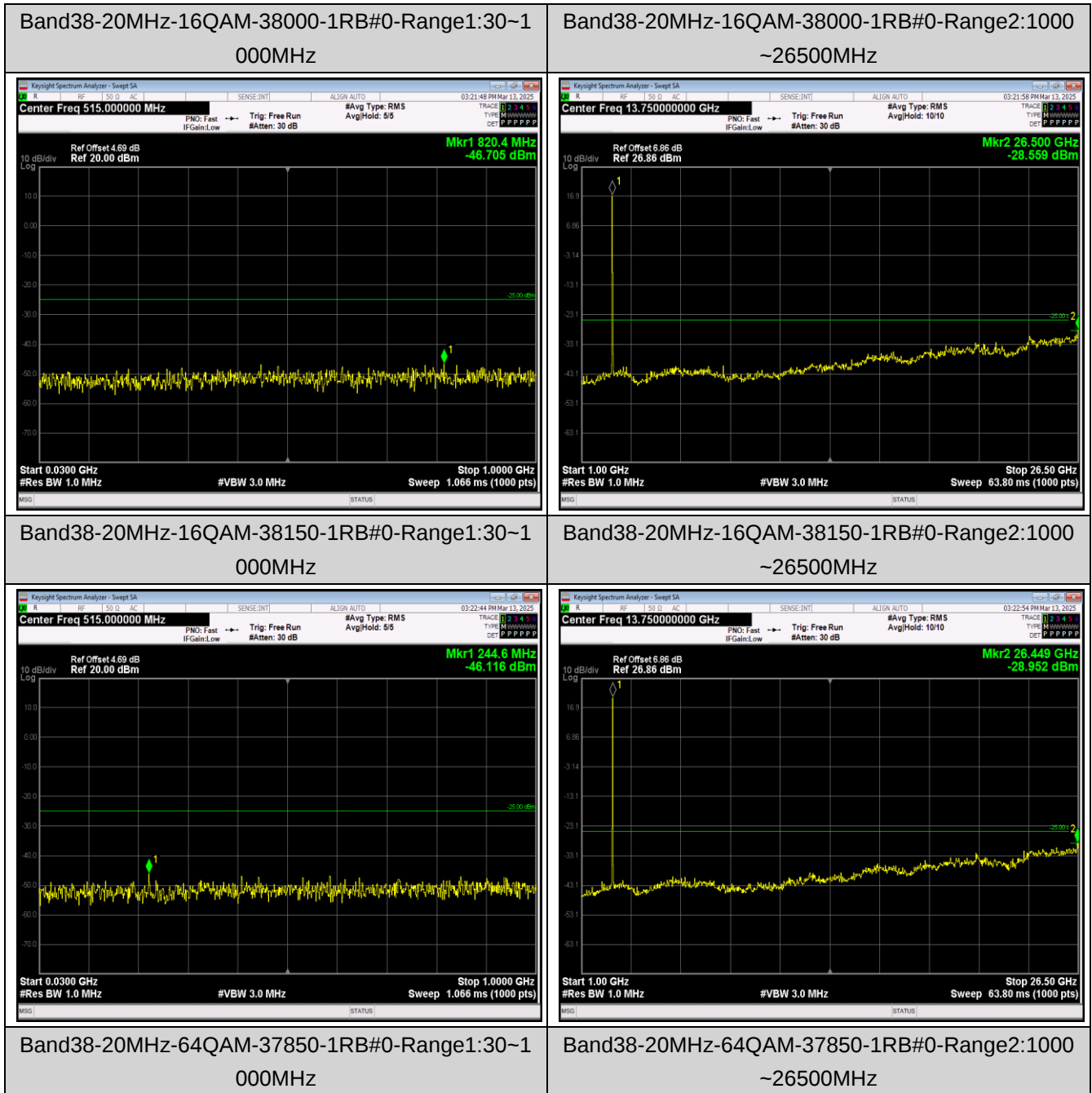


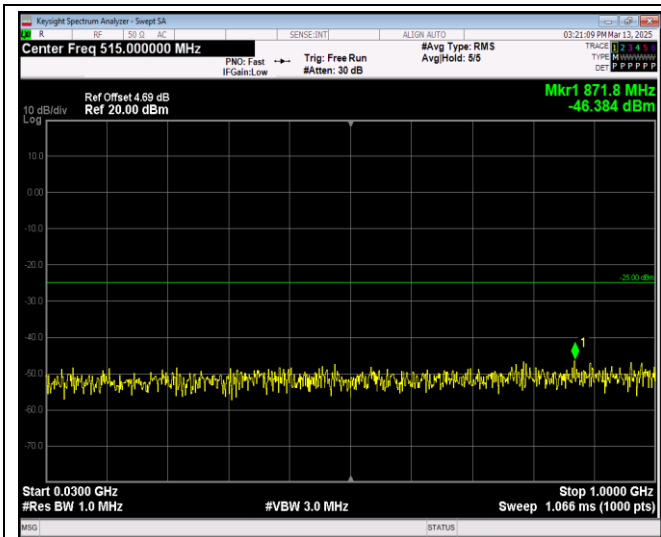
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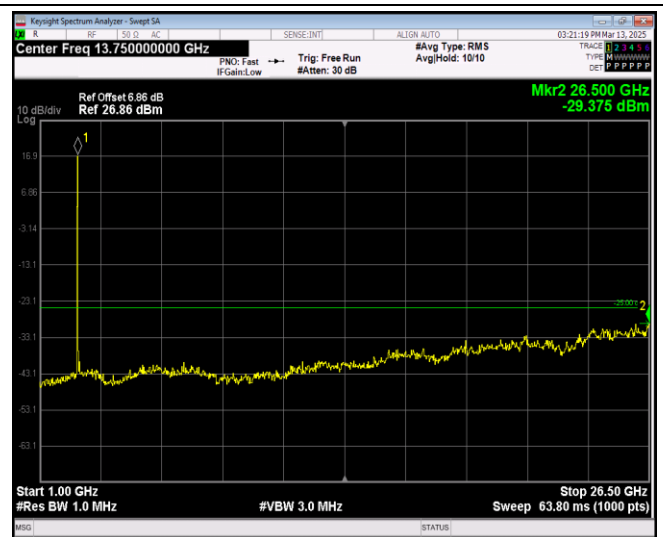
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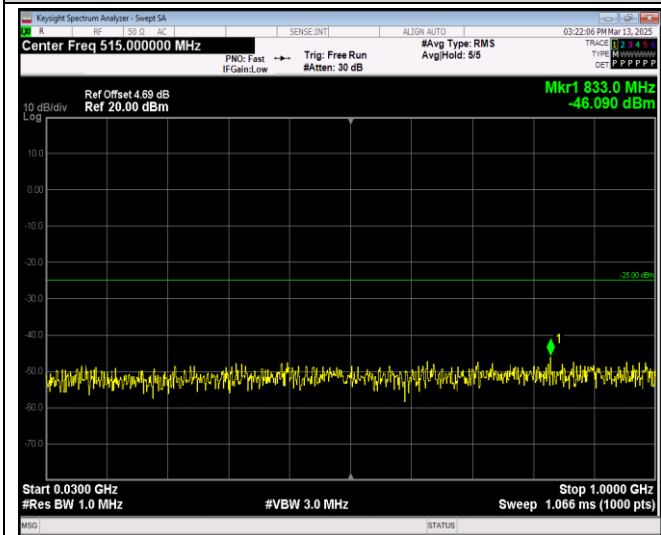




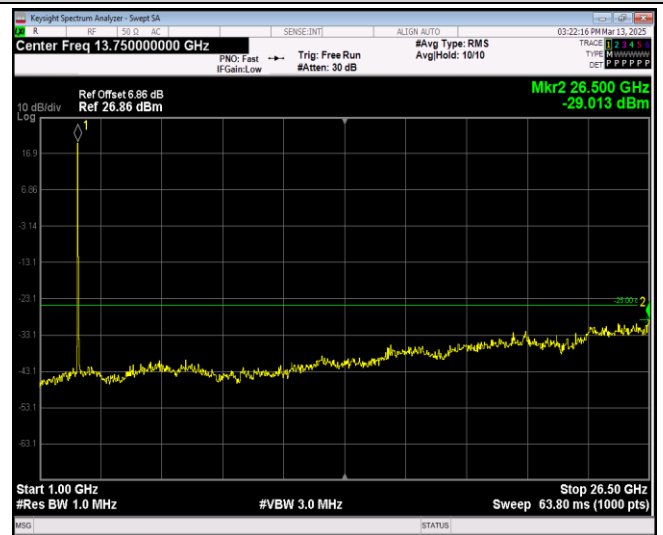
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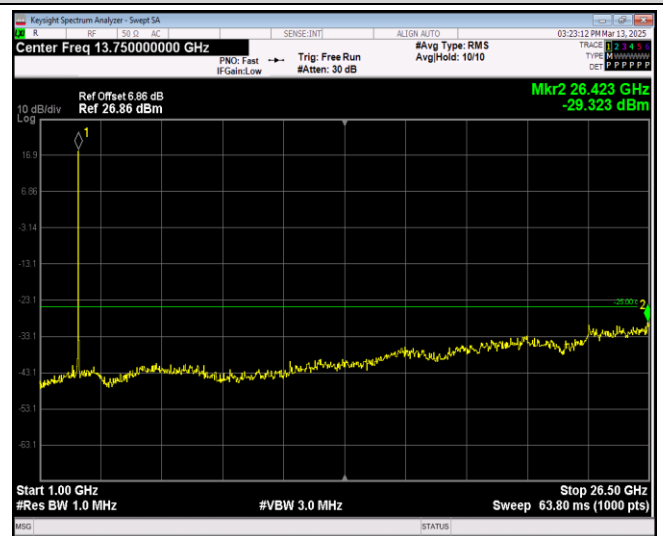
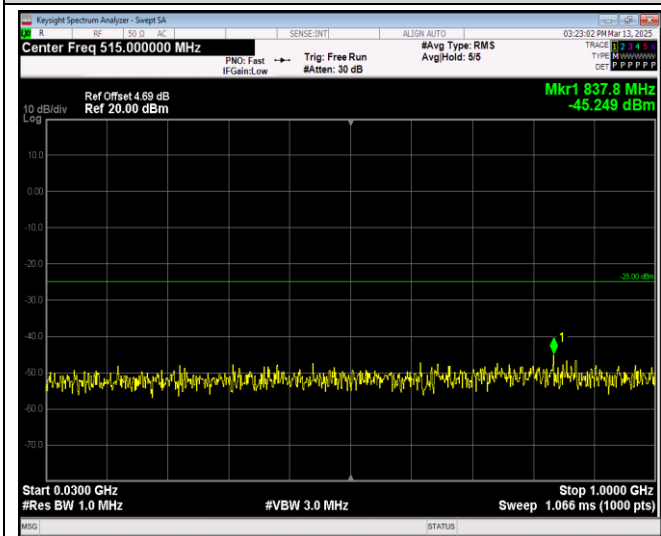
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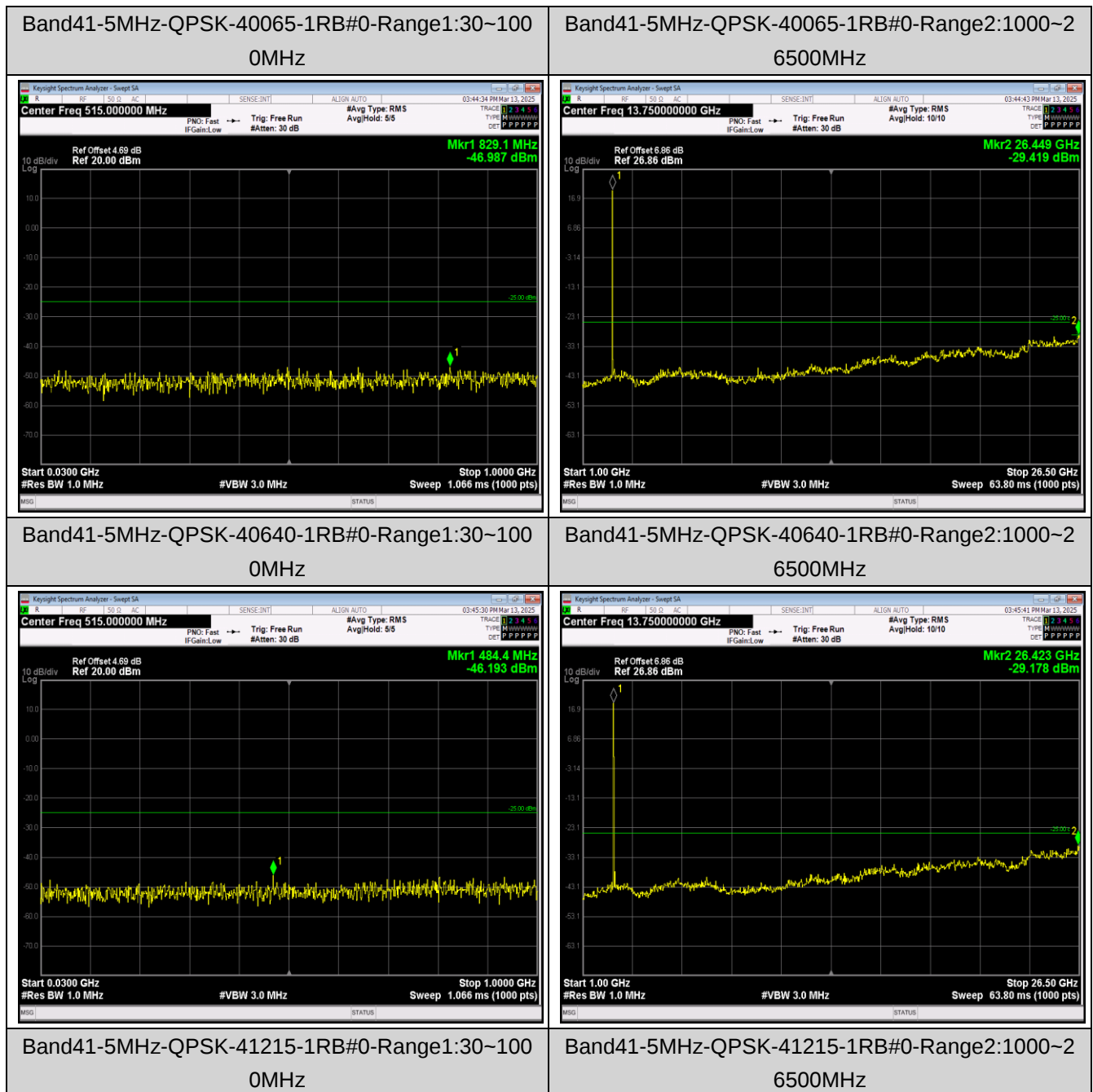


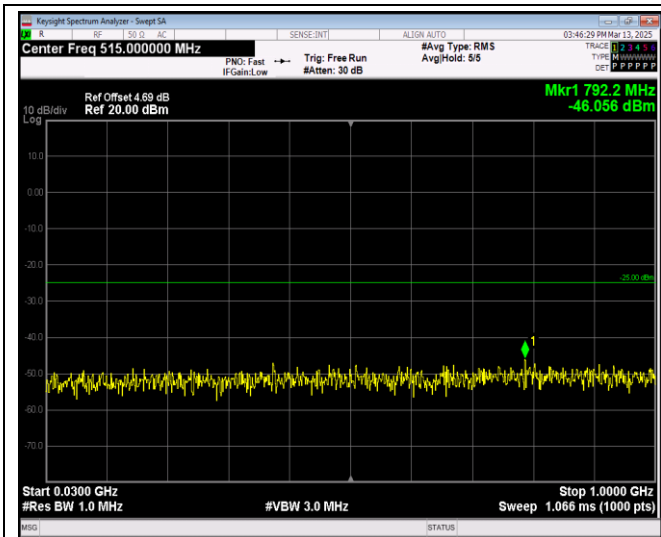
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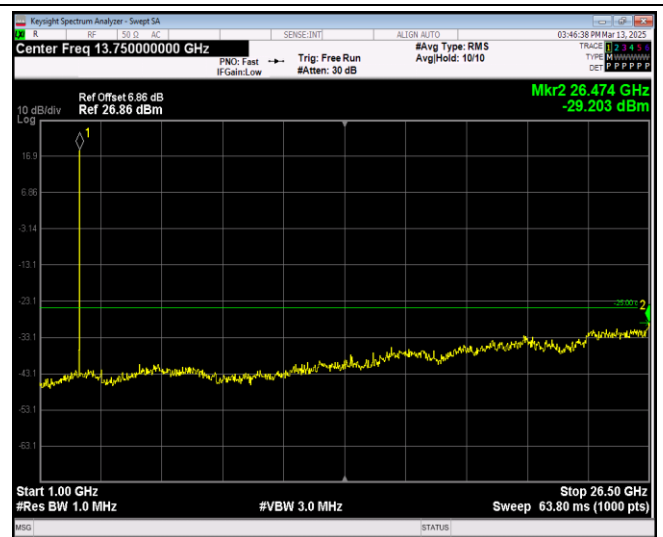
Band38-20MHz-64QAM-38150-1RB#0-Range2:1000~26500MHz



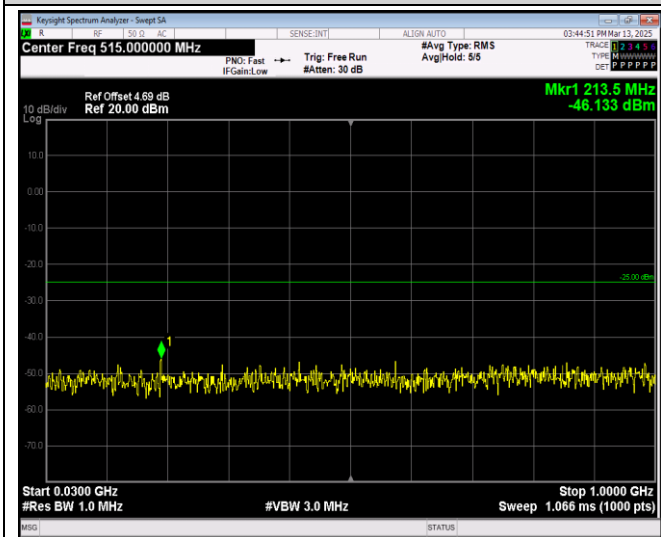




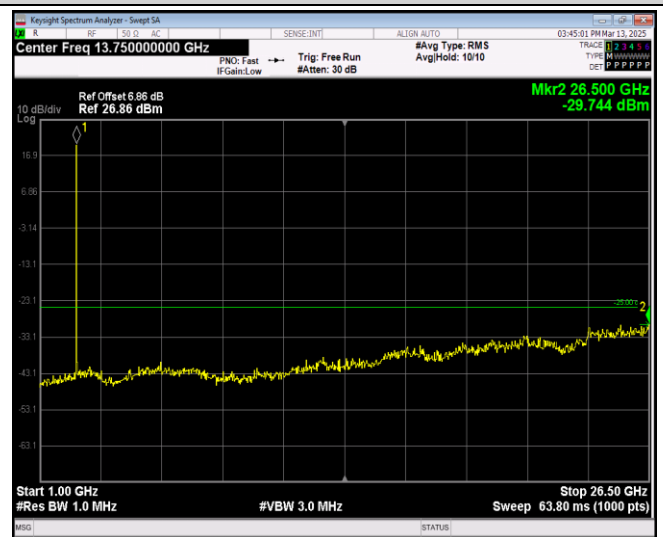
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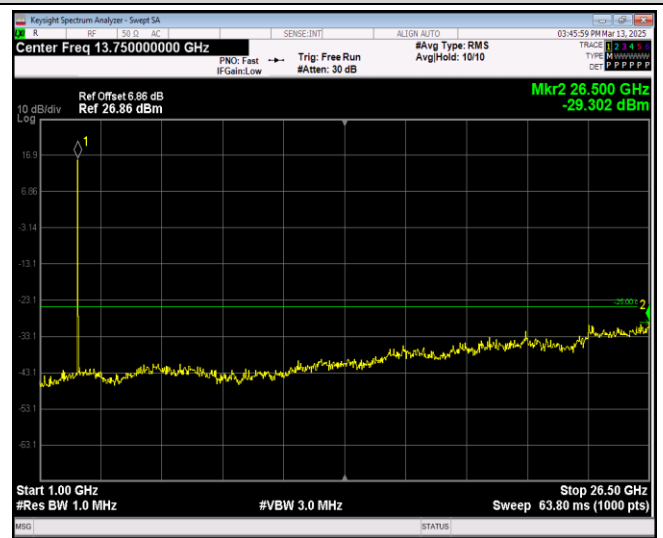
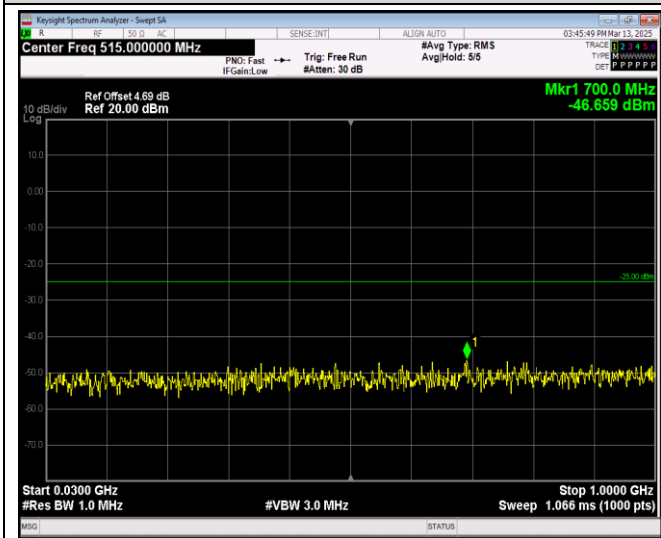
Band41-5MHz-16QAM-40065-1RB#0-Range2:1000~26500MHz



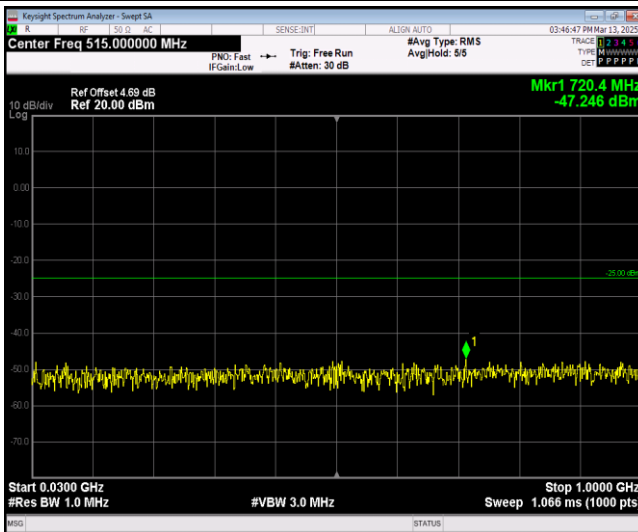
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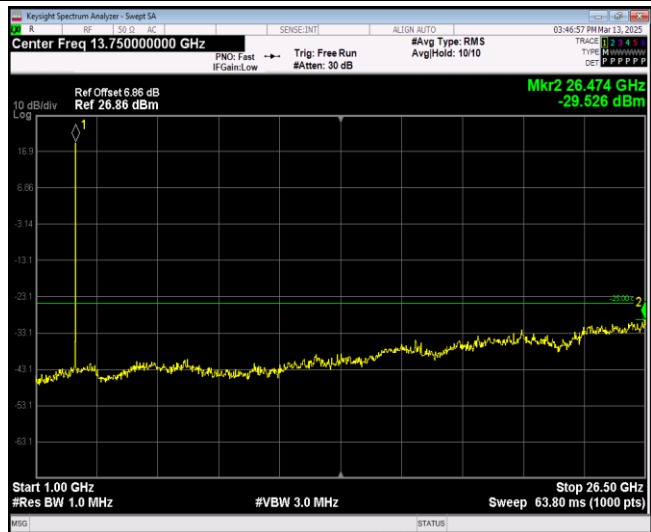
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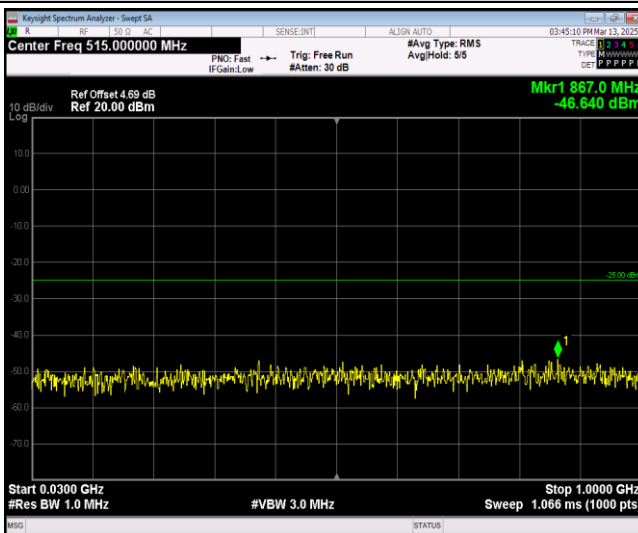
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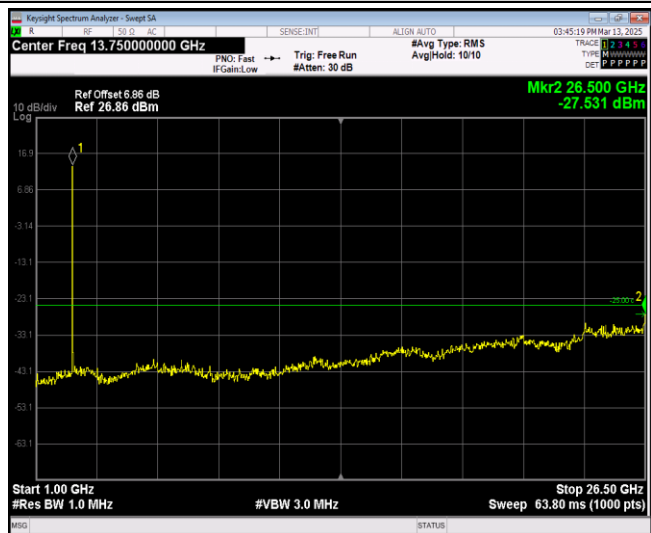
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Band41-5MHz-64QAM-40065-1RB#0-Range1:30~1000MHz



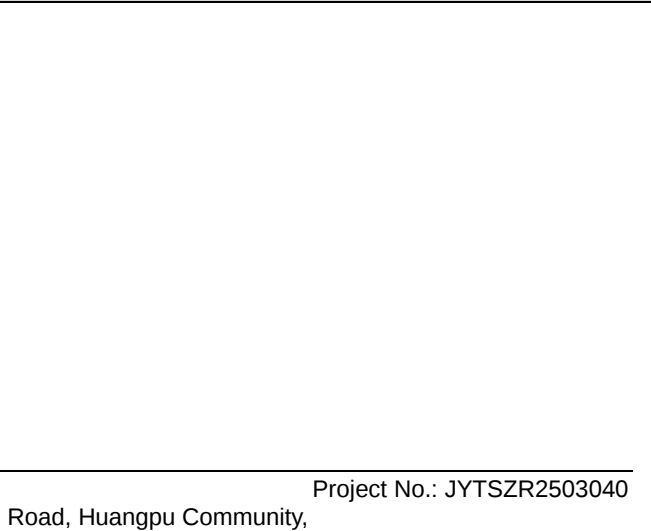
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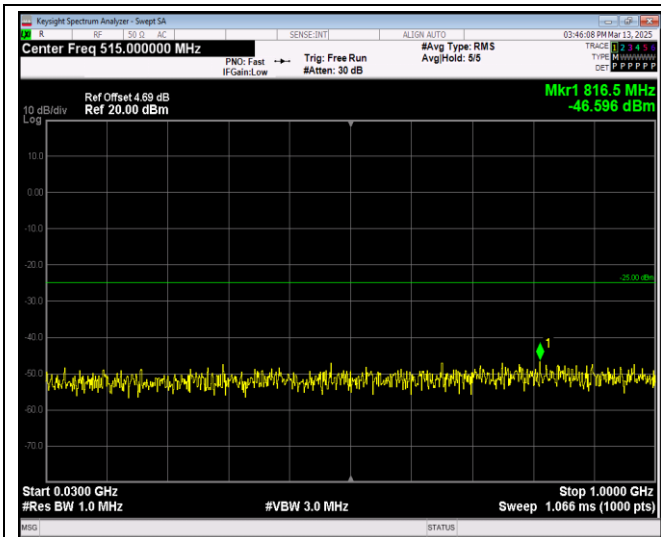


Band41-5MHz-64QAM-40640-1RB#0-Range1:30~1000MHz

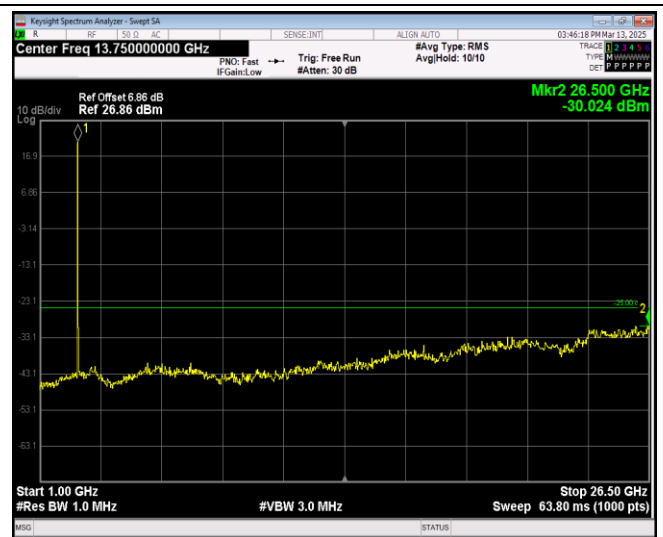


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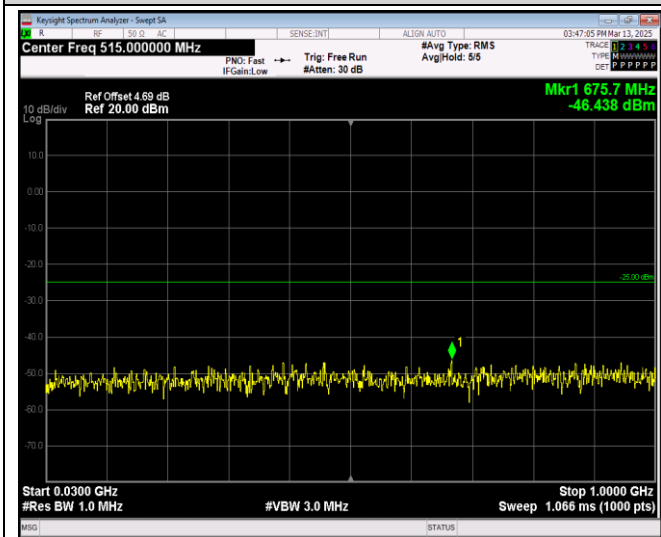




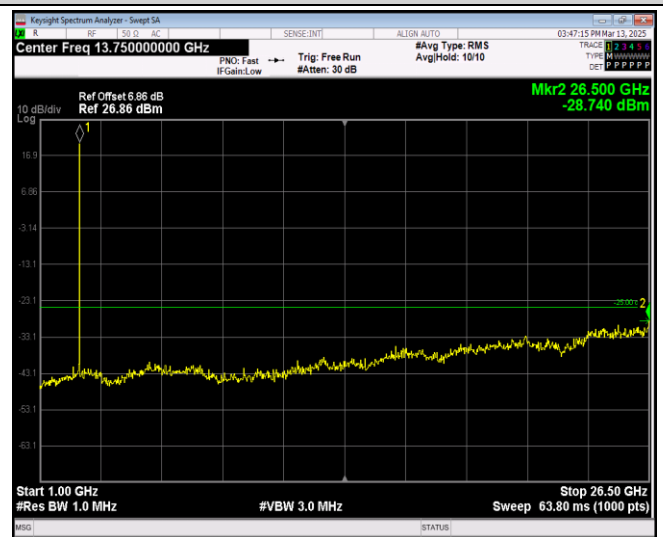
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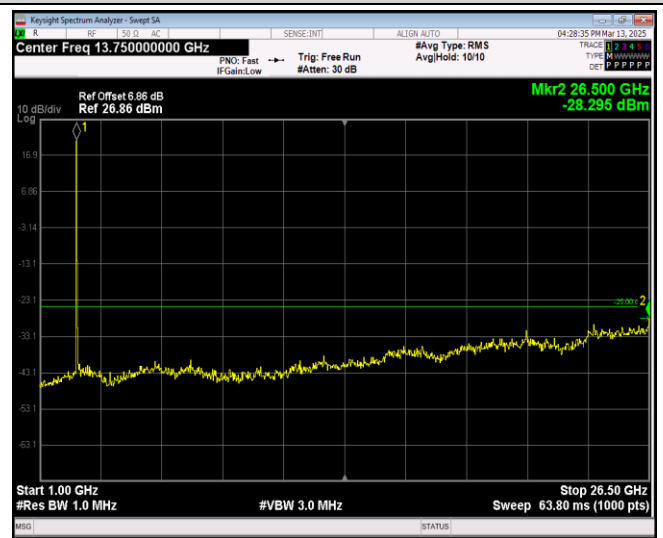
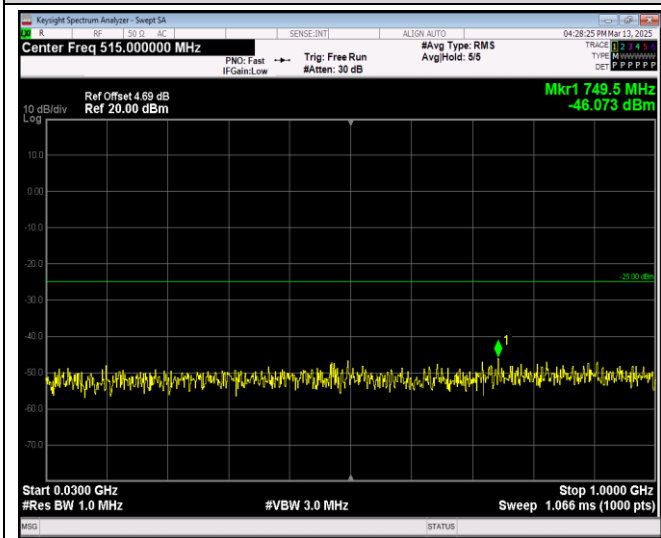
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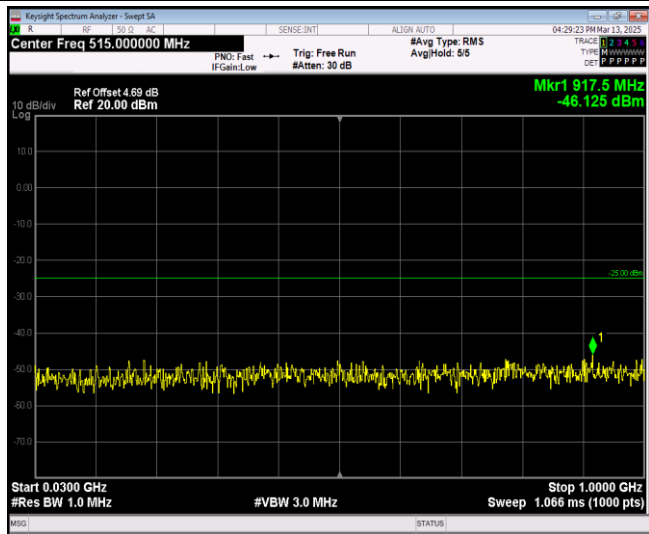
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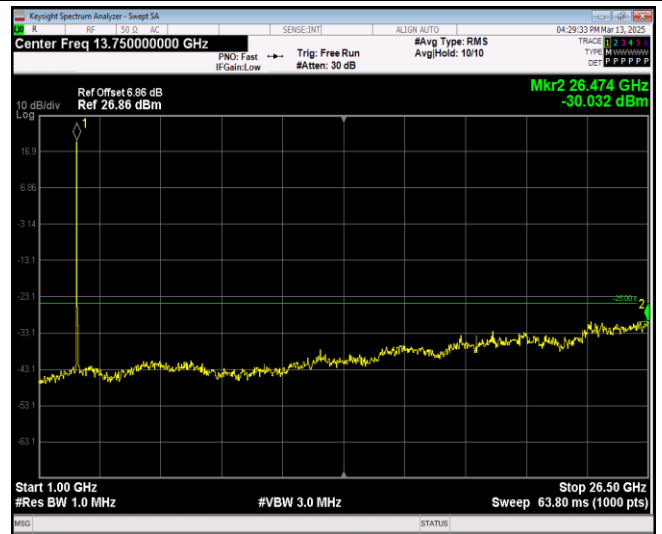
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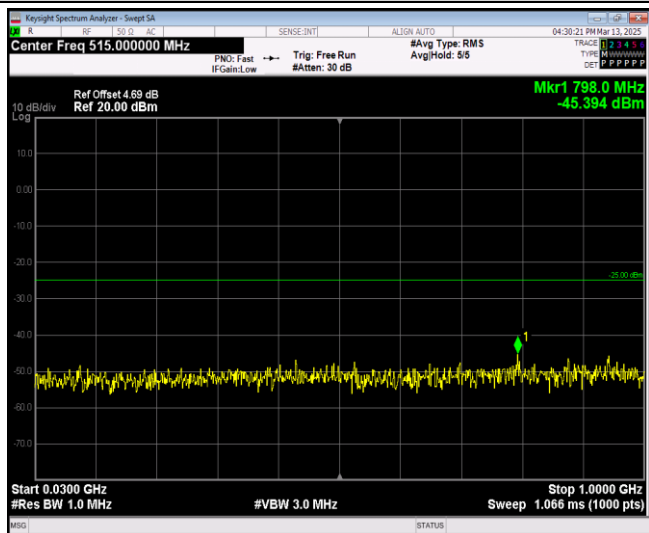
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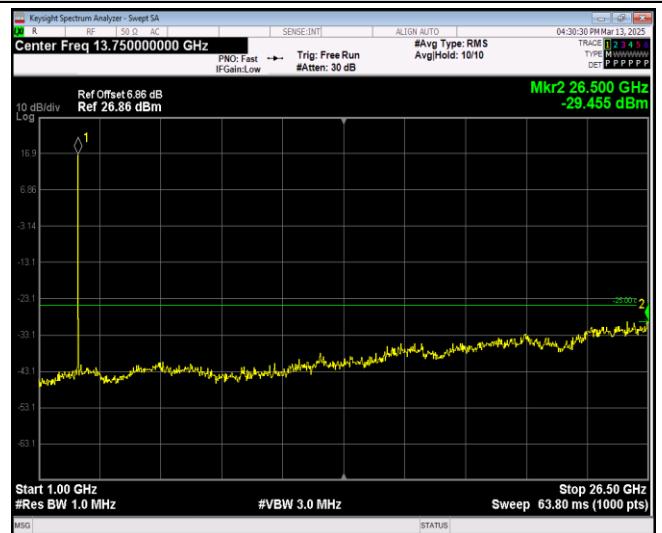
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Band41-20MHz-QPSK-41140-1RB#0-Range1:30~1000MHz

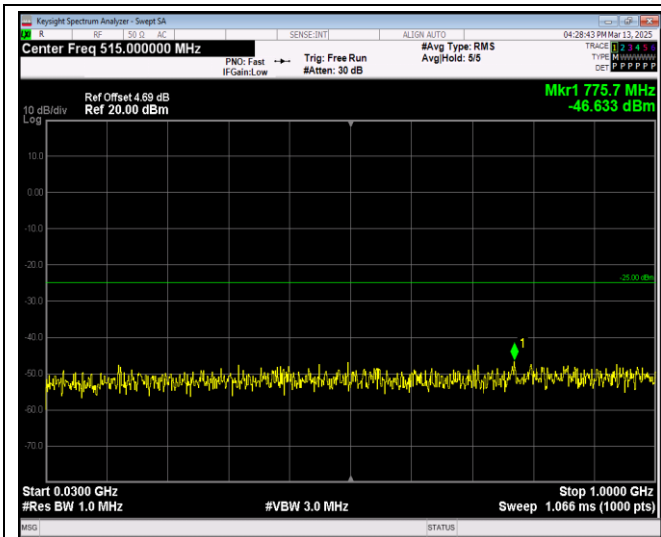


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Band41-20MHz-16QAM-40140-1RB#0-Range1:30~1000MHz

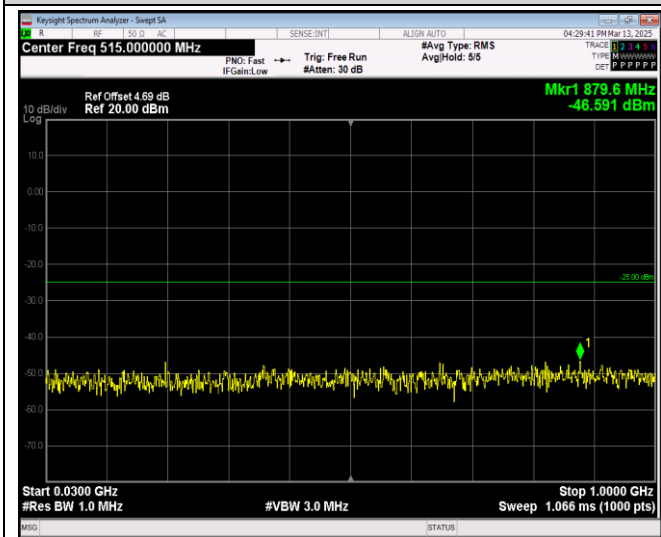
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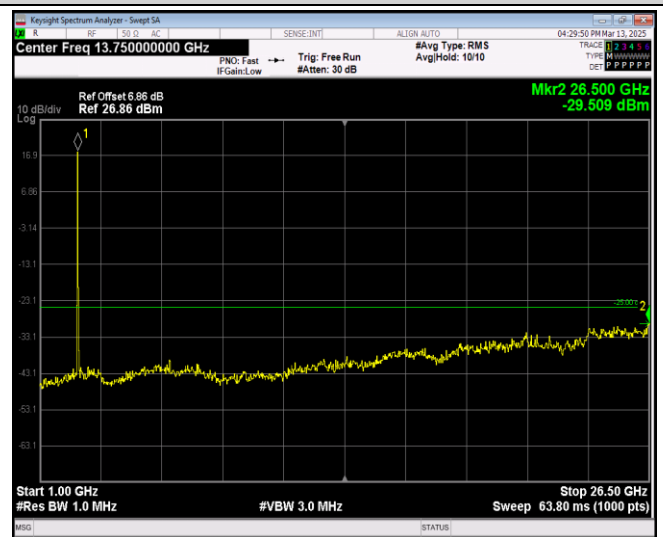
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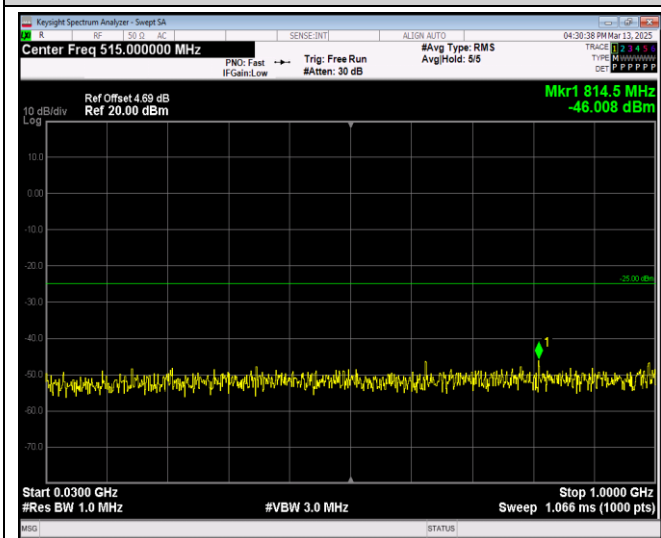
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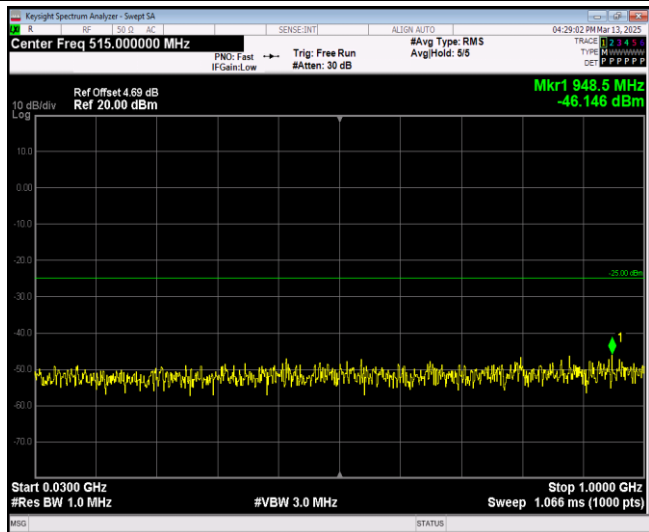
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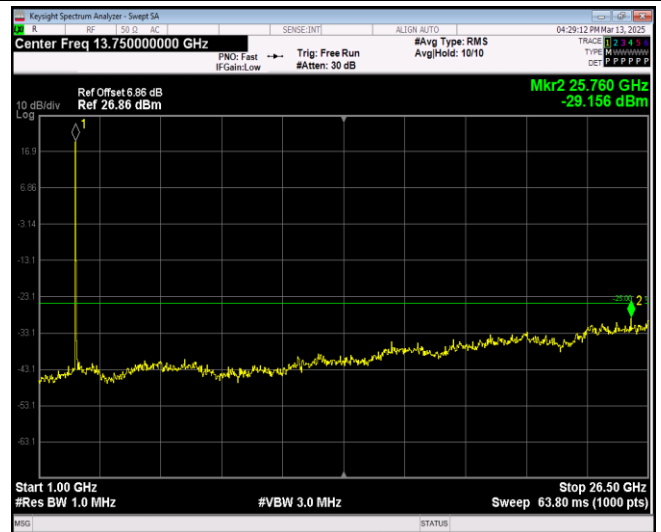
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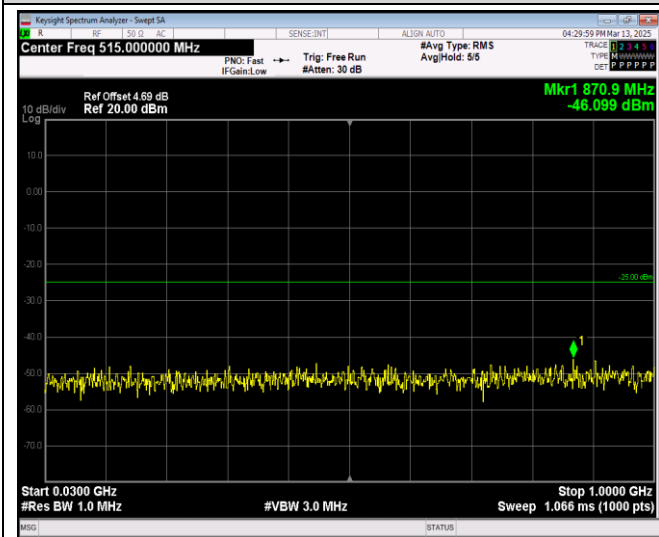
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000MHz



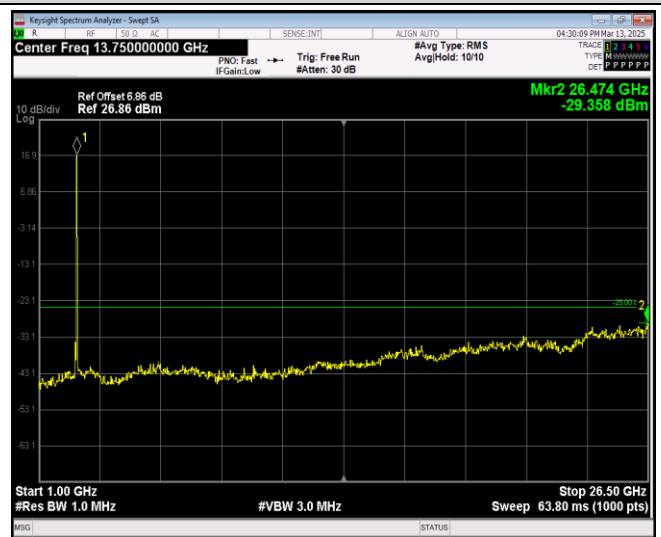
Band41-20MHz-64QAM-40140-1RB#0-Range2:1000
~26500MHz

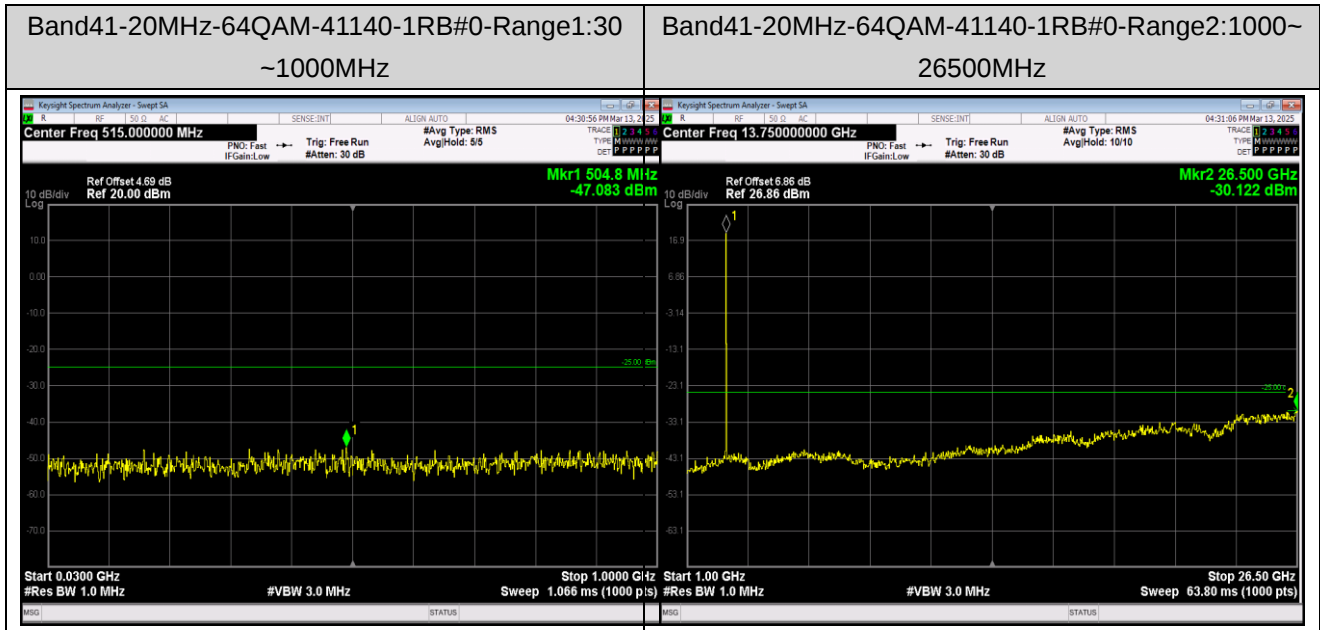


Band41-20MHz-64QAM-40640-1RB#0-Range1:30~1
000MHz



Band41-20MHz-64QAM-40640-1RB#0-Range2:1000
~26500MHz





Appendix F: Frequency Stability

Test Result

LTE Band 2 part:

Reference Frequency: LTE Band 2 (10MHz) Middle channel=18900 Frequency=1880.0MHz					
Temperature					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.91	-30	-84.60	-0.045000	Within authorized band for Band 2	Pass
	-20	-24.46	-0.013011		
	-10	-65.95	-0.035080		
	0	36.52	0.019426		
	10	18.73	0.009963		
	20	27.48	0.014617		
	30	-11.54	-0.006138		
	40	-17.04	-0.009064		
	50	-41.81	-0.022239		
16QAM					
3.91	-30	-19.14	-0.010181	Within authorized band for Band 2	Pass
	-20	39.12	0.020809		
	-10	63.29	0.033665		
	0	65.86	0.035032		
	10	67.29	0.035793		
	20	62.24	0.033106		
	30	64.90	0.034521		
	40	81.41	0.043303		
	50	60.83	0.032356		
64QAM					
3.91	-30	63.49	0.033771	Within authorized band for Band 2	Pass
	-20	26.42	0.014053		
	-10	69.75	0.037101		
	0	41.33	0.021984		
	10	31.03	0.016505		
	20	38.45	0.020452		
	30	51.58	0.027436		
	40	40.83	0.021718		
	50	-21.37	-0.011367		

Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.45	-23.47	-0.012484	Within authorized band for Band 2	Pass
	3.91	46.76	0.024872		
	4.51	-63.14	-0.033585		
16QAM					
25	3.45	-45.85	-0.024388	Within authorized band for Band 2	Pass
	3.91	-74.57	-0.039665		
	4.51	43.82	0.023309		
64QAM					
25	3.45	39.53	0.021027	Within authorized band for Band 2	Pass
	3.91	48.41	0.025750		
	4.51	72.50	0.038564		
Remark: All bandwidth and all modulation had been tested, but only the worst case data displayed in this report.					

LTE Band 4 part:

Reference Frequency: LTE Band 4(10MHz) Middle channel=20175 Frequency=1732.5MHz					
Temperature					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.91	-30	30.54	0.017628	Within authorized band for Band 4	Pass
	-20	22.39	0.012924		
	-10	-49.02	-0.028294		
	0	-22.13	-0.012773		
	10	-23.22	-0.013403		
	20	-36.39	-0.021004		
	30	-12.43	-0.007175		
	40	-30.38	-0.017535		
	50	-15.45	-0.008918		
16QAM					
3.91	-30	-37.11	-0.021420	Within authorized band for Band 4	Pass
	-20	-20.11	-0.011608		
	-10	43.66	0.025201		
	0	40.78	0.023538		
	10	51.93	0.029974		
	20	24.62	0.014211		
	30	41.61	0.024017		
	40	39.37	0.022724		
	50	36.74	0.021206		
64QAM					
3.91	-30	-20.36	-0.011752	Within authorized band for Band 4	Pass
	-20	39.34	0.022707		
	-10	27.17	0.015683		
	0	48.14	0.027786		
	10	39.53	0.022817		
	20	60.04	0.034655		
	30	29.44	0.016993		
	40	16.92	0.009766		
	50	15.49	0.008941		

Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.45	-37.67	-0.021743	Within authorized band for Band 4	Pass
	3.91	35.62	0.020560		
	4.51	-45.15	-0.026061		
16QAM					
25	3.45	-41.61	-0.024017	Within authorized band for Band 4	Pass
	3.91	-50.70	-0.029264		
	4.51	-40.66	-0.023469		
64QAM					
25	3.45	15.78	0.009108	Within authorized band for Band 4	Pass
	3.91	17.52	0.010113		
	4.51	23.06	0.013310		
Remark: All bandwidth and all modulation had been tested, but only the worst case data displayed in this report.					

LTE Band 5 part:

Reference Frequency: LTE Band 5(10MHz) Middle channel=20525 Frequency=836.5MHz					
Temperature					
Power supplied (Vdc)	Temperature (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.91	-30	51.16	0.061160	±2.5	Pass
	-20	51.67	0.061769		
	-10	14.02	0.016760		
	0	20.99	0.025093		
	10	15.16	0.018123		
	20	-13.38	-0.015995		
	30	-21.74	-0.025989		
	40	-36.03	-0.043072		
	50	-33.57	-0.040132		
16QAM					
3.91	-30	22.77	0.027221	±2.5	Pass
	-20	36.33	0.043431		
	-10	44.27	0.052923		
	0	44.47	0.053162		
	10	47.29	0.056533		
	20	55.10	0.065870		
	30	7.85	0.009384		
	40	31.40	0.037537		
	50	31.74	0.037944		
64QAM					
3.91	-30	-13.22	-0.015804	±2.5	Pass
	-20	-18.34	-0.021925		
	-10	-26.52	-0.031704		
	0	-29.41	-0.035158		
	10	-40.87	-0.048858		
	20	8.96	0.010711		
	30	-10.74	-0.012839		
	40	-13.60	-0.016258		
	50	12.12	0.014489		

Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.45	33.53	0.040084	±2.5	Pass
	3.91	60.22	0.071990		
	4.51	46.92	0.056091		
16QAM					
25	3.45	-15.44	-0.018458	±2.5	Pass
	3.91	-26.97	-0.032241		
	4.51	17.91	0.021411		
64QAM					
25	3.45	-7.20	-0.008607	±2.5	Pass
	3.91	59.60	0.071249		
	4.51	11.62	0.013891		
Remark: All bandwidth and all modulation had been tested, but only the worst case data displayed in this report.					

LTE Band 7 part:

Reference Frequency: LTE Band 7(10MHz) Middle channel=21100 Frequency=2535.0MHz					
Temperature					
Power supplied (Vdc)	Temperature (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.91	-30	18.21	0.007183	Within authorized band for Band 7	Pass
	-20	-50.78	-0.020032		
	-10	-36.09	-0.014237		
	0	31.57	0.012454		
	10	-62.84	-0.024789		
	20	-49.75	-0.019625		
	30	-47.64	-0.018793		
	40	-43.92	-0.017325		
	50	-48.05	-0.018955		
16QAM					
3.91	-30	59.08	0.023306	Within authorized band for Band 7	Pass
	-20	39.84	0.015716		
	-10	30.36	0.011976		
	0	78.51	0.030970		
	10	-43.86	-0.017302		
	20	57.02	0.022493		
	30	63.69	0.025124		
	40	-35.25	-0.013905		
	50	-36.16	-0.014264		
64QAM					
3.91	-30	52.46	0.020694	Within authorized band for Band 7	Pass
	-20	-27.35	-0.010789		
	-10	21.19	0.008359		
	0	23.32	0.009199		
	10	34.45	0.013590		
	20	30.54	0.012047		
	30	36.91	0.014560		
	40	46.55	0.018363		
	50	-22.67	-0.008943		

Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.45	-65.07	-0.025669	Within authorized band for Band 7	Pass
	3.91	78.11	0.030813		
	4.51	-42.60	-0.016805		
16QAM					
25	3.45	27.75	0.010947	Within authorized band for Band 7	Pass
	3.91	-49.05	-0.019349		
	4.51	-48.02	-0.018943		
64QAM					
25	3.45	21.77	0.008588	Within authorized band for Band 7	Pass
	3.91	-34.80	-0.013728		
	4.51	37.09	0.014631		
Remark: All bandwidth and all modulation had been tested, but only the worst case data displayed in this report.					

LTE Band 38 part:

Reference Frequency: LTE Band 38(10MHz) Middle channel=38000 Frequency=2595.0MHz					
Temperature					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.91	-30	-54.09	-0.020844	Within authorized band for Band 38	Pass
	-20	-38.75	-0.014933		
	-10	-75.53	-0.029106		
	0	-42.50	-0.016378		
	10	-87.12	-0.033572		
	20	-38.77	-0.014940		
	30	-35.22	-0.013572		
	40	-39.10	-0.015067		
	50	-50.57	-0.019487		
16QAM					
3.91	-30	46.91	0.018077	Within authorized band for Band 38	Pass
	-20	-47.74	-0.018397		
	-10	58.44	0.022520		
	0	40.67	0.015672		
	10	-67.53	-0.026023		
	20	43.85	0.016898		
	30	-42.33	-0.016312		
	40	-73.39	-0.028281		
	50	-31.56	-0.012162		
64QAM					
3.91	-30	49.10	0.018921	Within authorized band for Band 38	Pass
	-20	65.03	0.025060		
	-10	47.61	0.018347		
	0	68.38	0.026351		
	10	21.14	0.008146		
	20	-34.26	-0.013202		
	30	21.94	0.008455		
	40	41.24	0.015892		
	50	-26.25	-0.010116		

Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.45	30.98	0.011938	Within authorized band for Band 38	Pass
	3.91	54.19	0.020882		
	4.51	-29.67	-0.011434		
16QAM					
25	3.45	-45.93	-0.017699	Within authorized band for Band 38	Pass
	3.91	-70.08	-0.027006		
	4.51	32.47	0.012513		
64QAM					
25	3.45	30.78	0.011861	Within authorized band for Band 38	Pass
	3.91	35.53	0.013692		
	4.51	49.31	0.019002		
Remark: All bandwidth and all modulation had been tested, but only the worst case data displayed in this report.					

LTE Band 41 part:

Reference Frequency: LTE Band 41 (10MHz) Middle channel=40640 Frequency=2595.0MHz					
Temperature					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.91	-30	-63.30	-0.024393	Within authorized band for Band 41	Pass
	-20	22.29	0.008590		
	-10	-42.94	-0.016547		
	0	-41.79	-0.016104		
	10	27.08	0.010435		
	20	-67.18	-0.025888		
	30	-81.71	-0.031487		
	40	-34.17	-0.013168		
	50	-42.49	-0.016374		
16QAM					
3.91	-30	33.55	0.012929	Within authorized band for Band 41	Pass
	-20	44.80	0.017264		
	-10	89.09	0.034331		
	0	-73.54	-0.028339		
	10	62.97	0.024266		
	20	57.01	0.021969		
	30	63.41	0.024435		
	40	98.15	0.037823		
	50	32.66	0.012586		
64QAM					
3.91	-30	32.72	0.012609	Within authorized band for Band 41	Pass
	-20	64.40	0.024817		
	-10	-26.74	-0.010304		
	0	34.68	0.013364		
	10	45.50	0.017534		
	20	52.44	0.020208		
	30	24.66	0.009503		
	40	67.53	0.026023		
	50	-30.84	-0.011884		

Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.45	47.99	0.018493	Within authorized band for Band 41	Pass
	3.91	62.16	0.023954		
	4.51	-56.62	-0.021819		
16QAM					
25	3.45	-15.98	-0.006158	Within authorized band for Band41	Pass
	3.91	-69.89	-0.026933		
	4.51	66.53	0.025638		
64QAM					
25	3.45	79.67	0.030701	Within authorized band for Band41	Pass
	3.91	31.71	0.012220		
	4.51	24.75	0.009538		
Remark: All bandwidth and all modulation had been tested, but only the worst case data displayed in this report.					

Appendix G: Modulation Characteristics

Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Result	Verdict
Band2	20MHz	QPSK	18900	100RB#0	PASS	PASS
Band2	20MHz	16QAM	18900	100RB#0	PASS	PASS
Band2	20MHz	64QAM	18900	100RB#0	PASS	PASS
Band4	20MHz	QPSK	20175	100RB#0	PASS	PASS
Band4	20MHz	16QAM	20175	100RB#0	PASS	PASS
Band4	20MHz	64QAM	20175	100RB#0	PASS	PASS
Band5	10MHz	QPSK	20525	50RB#0	PASS	PASS
Band5	10MHz	16QAM	20525	50RB#0	PASS	PASS
Band5	10MHz	64QAM	20525	50RB#0	PASS	PASS
Band7	20MHz	QPSK	21100	100RB#0	PASS	PASS
Band7	20MHz	16QAM	21100	100RB#0	PASS	PASS
Band7	20MHz	64QAM	21100	100RB#0	PASS	PASS
Band38	20MHz	QPSK	38000	100RB#0	PASS	PASS
Band38	20MHz	16QAM	38000	100RB#0	PASS	PASS
Band38	20MHz	64QAM	38000	100RB#0	PASS	PASS
Band41	20MHz	QPSK	40640	100RB#0	PASS	PASS
Band41	20MHz	16QAM	40640	100RB#0	PASS	PASS
Band41	20MHz	64QAM	40640	100RB#0	PASS	PASS

Remark: All bandwidth and all modulation had been tested, but only the worst case data displayed in this report.