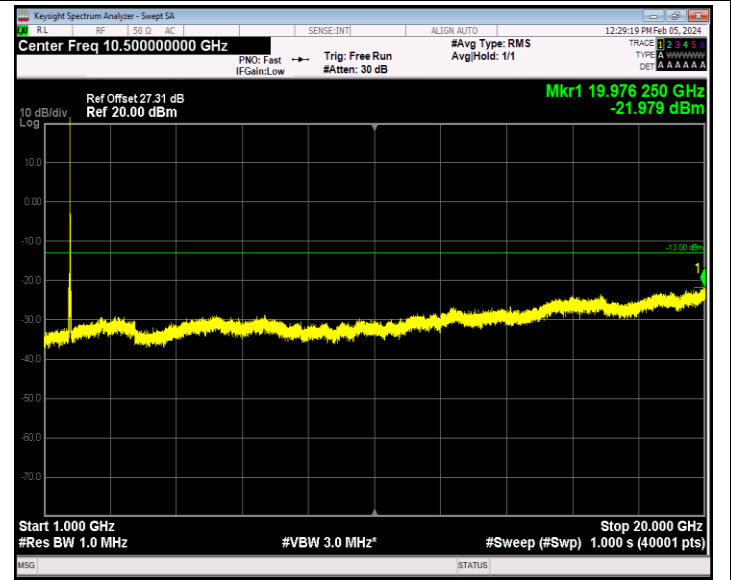
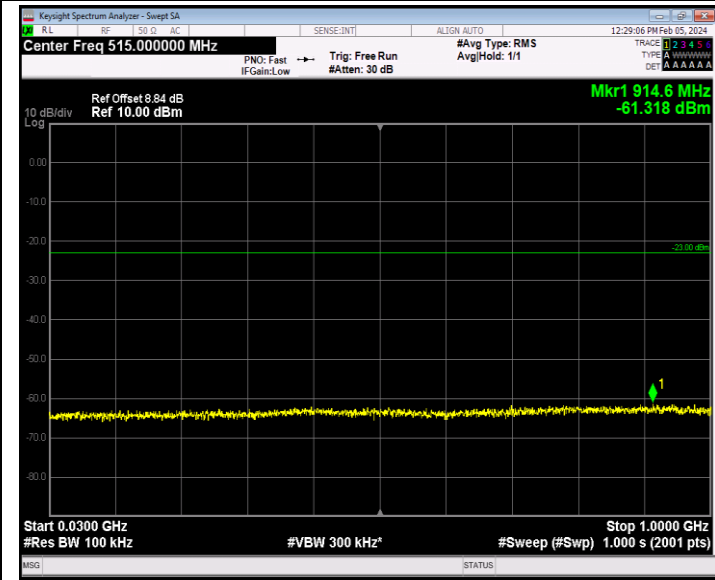


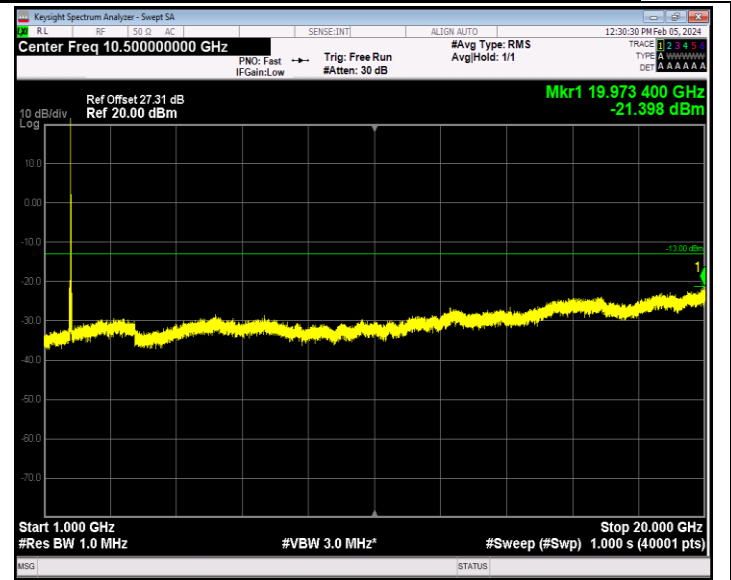
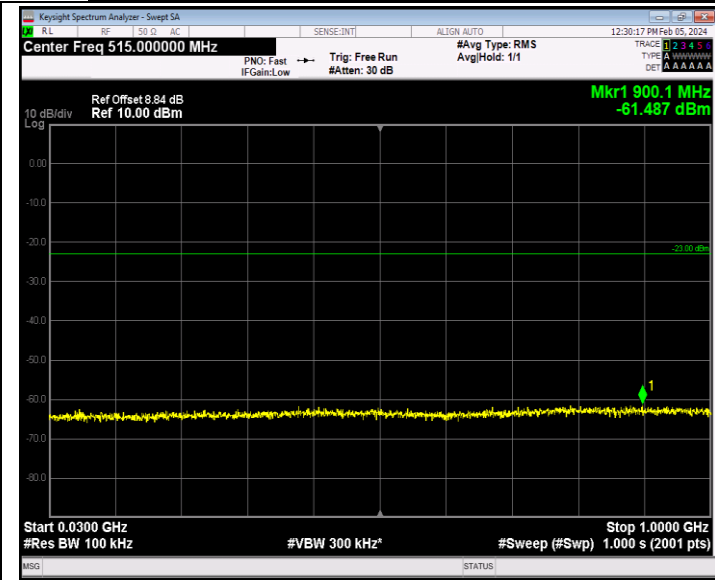
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Band66\_20MHz\_16QAM\_132072\_1RB#0\_1000~20000\_1000~20000



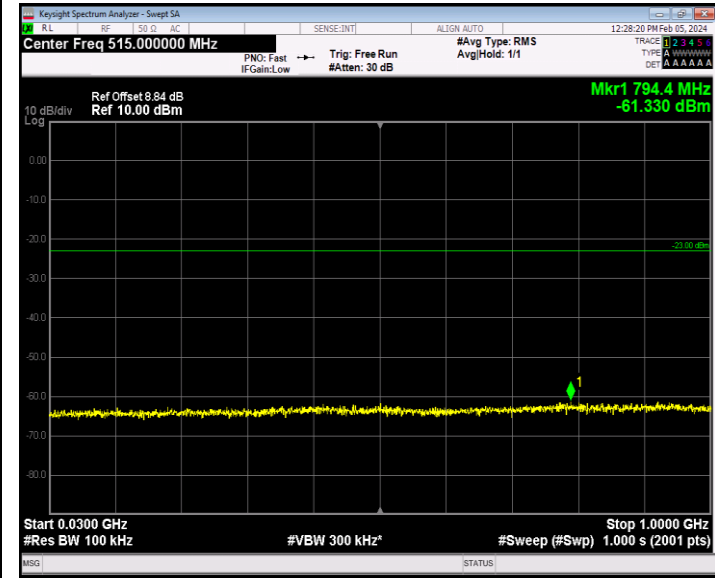
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Band66\_20MHz\_16QAM\_132322\_1RB#0\_1000~20000\_1000~20000



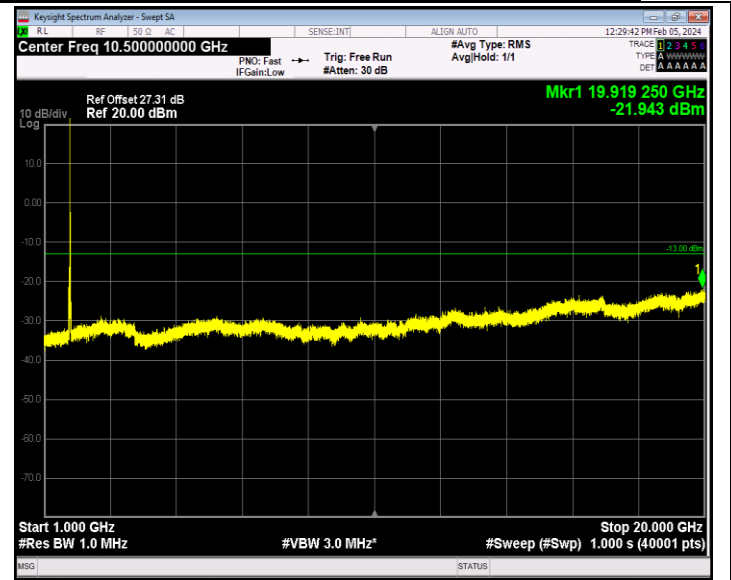
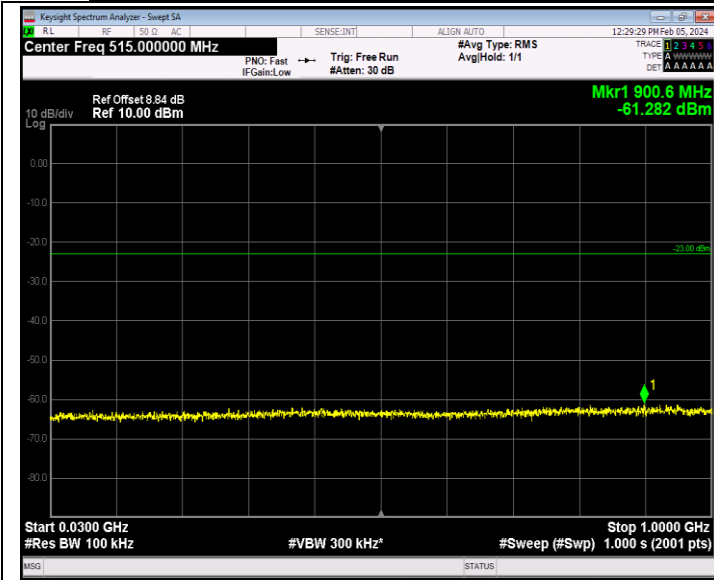
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Band66\_20MHz\_16QAM\_132572\_1RB#0\_1000~20000\_1000~20000



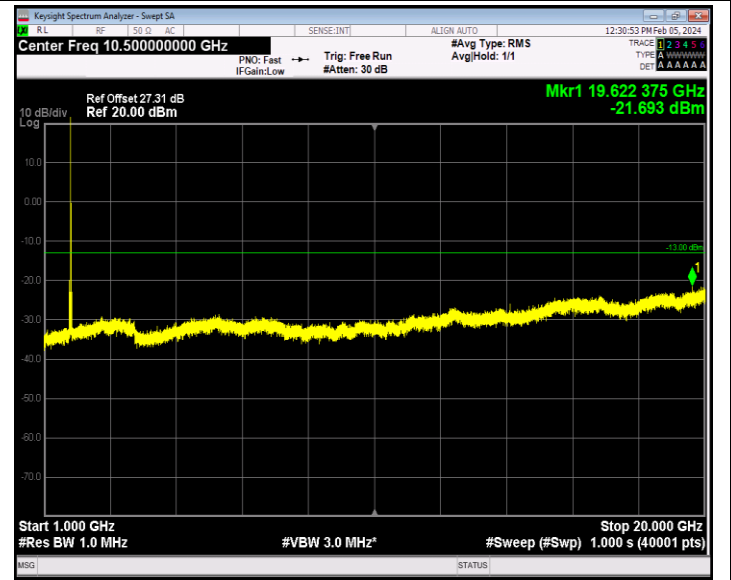
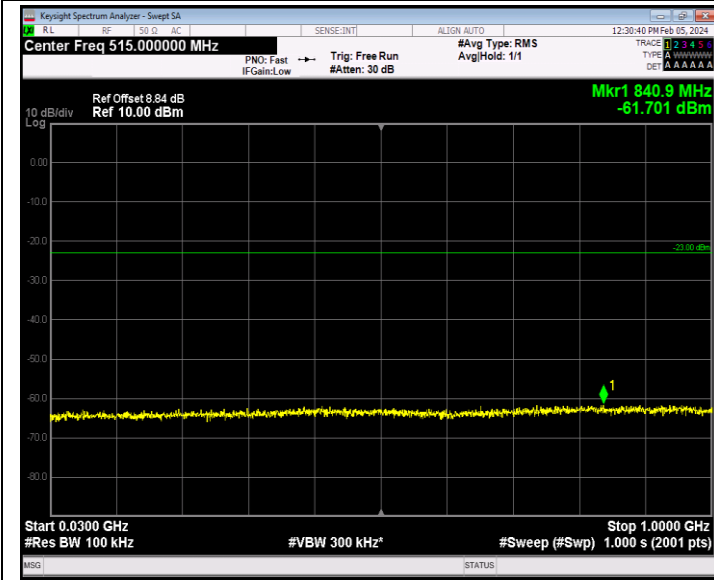
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Band66\_20MHz\_64QAM\_132072\_1RB#0\_1000~20000\_1000~20000



Band66\_20MHz\_64QAM\_132322\_1RB#0\_30~1000\_30~1000

Band66\_20MHz\_64QAM\_132322\_1RB#0\_1000~20000\_1000~20000



Band66\_20MHz\_64QAM\_132572\_1RB#0\_30~1000\_30~1000

Band66\_20MHz\_64QAM\_132572\_1RB#0\_1000~20000\_1000~20000

## 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		
<b>QPSK</b>					
3.85	-30	-11.12	-0.005915	Within authorized band for Band 2	Pass
	-20	-16.14	-0.008585		
	-10	-28.62	-0.015223		
	0	-40.98	-0.021798		
	10	-39.34	-0.020926		
	20	-48.79	-0.025952		
	30	-5.22	-0.002777		
	40	-4.89	-0.002601		
	50	-15.34	-0.008160		
<b>16QAM</b>					
3.85	-30	-8.70	-0.004628	Within authorized band for Band 2	Pass
	-20	11.52	0.006128		
	-10	35.12	0.018681		
	0	46.22	0.024585		
	10	-2.63	-0.001399		
	20	-6.18	-0.003287		
	30	15.61	0.008303		
	40	26.84	0.014277		
	50	34.69	0.018452		
<b>64QAM</b>					
3.85	-30	52.99	0.028186	Within authorized band for Band 2	Pass
	-20	19.27	0.010250		
	-10	42.50	0.022606		
	0	9.27	0.004931		
	10	23.22	0.012351		
	20	34.53	0.018367		
	30	48.62	0.025862		
	40	7.60	0.004043		
	50	16.89	0.008984		

Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.00	30.06	0.015989	Within authorized band for Band 2	Pass
	3.85	28.45	0.015133		
	4.40	16.54	0.008798		
16QAM					
25	3.00	-17.09	-0.009090	Within authorized band for Band 2	Pass
	3.85	24.05	0.012793		
	4.40	45.19	0.024037		
64QAM					
25	3.00	42.46	0.022585	Within authorized band for Band 2	Pass
	3.85	6.52	0.003468		
	4.40	26.65	0.014176		
<i>Remark: All bandwidth and all modulation had been tested, but only the worst case data displayed in this report.</i>					

LTE Band 7 part:

Reference Frequency: LTE Band 7(10MHz) Middle channel=21100 Frequency=2535.0MHz					
Temperature					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
<b>QPSK</b>					
3.85	-30	-36.51	-0.014402	Within authorized band for Band 7	Pass
	-20	-45.53	-0.017961		
	-10	24.00	0.009467		
	0	10.16	0.004008		
	10	-13.78	-0.005436		
	20	-11.66	-0.004600		
	30	-13.50	-0.005325		
	40	-15.74	-0.006209		
	50	-22.77	-0.008982		
<b>16QAM</b>					
3.85	-30	33.73	0.013306	Within authorized band for Band 7	Pass
	-20	46.52	0.018351		
	-10	-11.24	-0.004434		
	0	-5.34	-0.002107		
	10	20.50	0.008087		
	20	23.36	0.009215		
	30	30.53	0.012043		
	40	37.57	0.014821		
	50	41.37	0.016320		
<b>64QAM</b>					
3.85	-30	46.66	0.018406	Within authorized band for Band 7	Pass
	-20	44.98	0.017744		
	-10	46.52	0.018351		
	0	47.94	0.018911		
	10	47.22	0.018627		
	20	13.93	0.005495		
	30	16.65	0.006568		
	40	6.81	0.002686		
	50	21.06	0.008308		

Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.00	17.95	0.007081	Within authorized band for Band 7	Pass
	3.85	-14.43	-0.005692		
	4.40	-24.36	-0.009609		
16QAM					
25	3.00	-25.84	-0.010193	Within authorized band for Band 7	Pass
	3.85	9.31	0.003673		
	4.40	25.49	0.010055		
64QAM					
25	3.00	46.06	0.018170	Within authorized band for Band 7	Pass
	3.85	36.33	0.014331		
	4.40	36.42	0.014367		
Remark: All bandwidth and all modulation had been tested, but only the worst case data displayed in this report.					

LTE Band 12 part:

Reference Frequency: LTE Band 12(10MHz) Middle channel=23095 Frequency=707.5MHz					
Temperature					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
<b>QPSK</b>					
3.85	-30	-32.83	-0.046403	Within authorized band for Band 12	Pass
	-20	-44.25	-0.062544		
	-10	-44.40	-0.062756		
	0	-40.47	-0.057201		
	10	-2.72	-0.003845		
	20	-5.38	-0.007604		
	30	-8.67	-0.012254		
	40	-8.00	-0.011307		
	50	-8.44	-0.011929		
<b>16QAM</b>					
3.85	-30	32.14	0.045428	Within authorized band for Band 12	Pass
	-20	46.83	0.066191		
	-10	14.62	0.020664		
	0	27.62	0.039039		
	10	44.19	0.062459		
	20	46.79	0.066134		
	30	45.56	0.064396		
	40	46.95	0.066360		
	50	3.08	0.004353		
<b>64QAM</b>					
3.85	-30	6.71	0.009484	Within authorized band for Band 12	Pass
	-20	19.33	0.027322		
	-10	23.10	0.032650		
	0	27.59	0.038996		
	10	39.30	0.055548		
	20	5.22	0.007378		
	30	11.34	0.016028		
	40	18.57	0.026247		
	50	23.40	0.033074		



Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
<b>QPSK</b>					
25	3.00	1.47	0.002078	Within authorized band for Band 12	Pass
	3.85	-13.12	-0.018544		
	4.40	-25.96	-0.036693		
<b>16QAM</b>					
25	3.00	-13.29	-0.018784	Within authorized band for Band 12	Pass
	3.85	-4.39	-0.006205		
	4.40	10.16	0.014360		
<b>64QAM</b>					
25	3.00	16.84	0.023802	Within authorized band for Band 12	Pass
	3.85	34.26	0.048424		
	4.40	44.78	0.063293		
<i>Remark: All bandwidth and all modulation had been tested, but only the worst case data displayed in this report.</i>					

## LTE Band 26 part: (814-824 MHz)

Reference Frequency: LTE Band 26(10MHz) Middle channel=26740 Frequency=819.0MHz					
Temperature					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
<b>QPSK</b>					
3.85	-30	4.06	0.004957	Within authorized band for Band 26	Pass
	-20	-17.57	-0.021453		
	-10	-38.28	-0.046740		
	0	2.90	0.003541		
	10	-10.07	-0.012295		
	20	-5.05	-0.006166		
	30	-12.92	-0.015775		
	40	-16.61	-0.020281		
	50	-23.88	-0.029158		
<b>16QAM</b>					
3.85	-30	33.35	0.040720	Within authorized band for Band 26	Pass
	-20	44.53	0.054371		
	-10	5.11	0.006239		
	0	5.82	0.007106		
	10	22.82	0.027863		
	20	31.07	0.037937		
	30	34.39	0.041990		
	40	38.05	0.046459		
	50	42.13	0.051441		
<b>64QAM</b>					
3.85	-30	12.19	0.014884	Within authorized band for Band 26	Pass
	-20	23.36	0.028523		
	-10	40.38	0.049304		
	0	8.90	0.010867		
	10	23.50	0.028694		
	20	33.33	0.040696		
	30	43.23	0.052784		
	40	6.64	0.008107		
	50	19.33	0.023602		

Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.00	9.43	0.011514	Within authorized band for Band 26	Pass
	3.85	-11.56	-0.014115		
	4.40	-35.00	-0.042735		
16QAM					
25	3.00	-29.98	-0.036606	Within authorized band for Band 26	Pass
	3.85	-10.53	-0.012857		
	4.40	19.05	0.023260		
64QAM					
25	3.00	43.27	0.052833	Within authorized band for Band 26	Pass
	3.85	13.59	0.016593		
	4.40	36.58	0.044664		
Remark: All bandwidth and all modulation had been tested, but only the worst case data displayed in this report.					

## LTE Band 26 part: (824-849 MHz)

Reference Frequency: LTE Band 26(15MHz) Middle channel=26915 Frequency=836.5MHz					
Temperature					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
<b>QPSK</b>					
3.85	-30	-9.71	-0.011608	Within authorized band for Band 26	Pass
	-20	-32.23	-0.038530		
	-10	-45.02	-0.053819		
	0	-17.57	-0.021004		
	10	-27.57	-0.032959		
	20	-38.39	-0.045894		
	30	-41.87	-0.050054		
	40	-41.97	-0.050173		
	50	-45.38	-0.054250		
<b>16QAM</b>					
3.85	-30	28.92	0.034573	Within authorized band for Band 26	Pass
	-20	32.64	0.039020		
	-10	22.67	0.027101		
	0	33.46	0.040000		
	10	45.32	0.054178		
	20	-3.08	-0.003682		
	30	3.99	0.004770		
	40	8.98	0.010735		
	50	22.17	0.026503		
<b>64QAM</b>					
3.85	-30	40.21	0.048069	Within authorized band for Band 26	Pass
	-20	9.28	0.011094		
	-10	25.09	0.029994		
	0	36.44	0.043562		
	10	48.17	0.057585		
	20	3.16	0.003778		
	30	5.91	0.007065		
	40	13.42	0.016043		
	50	30.10	0.035983		

Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
<b>QPSK</b>					
25	3.00	12.06	0.014417	Within authorized band for Band 26	Pass
	3.85	-8.80	-0.010520		
	4.40	-37.75	-0.045129		
<b>16QAM</b>					
25	3.00	3.75	0.004483	Within authorized band for Band 26	Pass
	3.85	10.43	0.012469		
	4.40	19.41	0.023204		
<b>64QAM</b>					
25	3.00	35.31	0.042212	Within authorized band for Band 26	Pass
	3.85	46.72	0.055852		
	4.40	20.48	0.024483		
<i>Remark: All bandwidth and all modulation had been tested, but only the worst case data displayed in this report.</i>					

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		
<b>QPSK</b>					
3.85	-30	-24.73	-0.009530	Within authorized band for Band 41	Pass
	-20	-26.29	-0.010131		
	-10	-31.09	-0.011981		
	0	-40.14	-0.015468		
	10	-14.76	-0.005688		
	20	-29.04	-0.011191		
	30	-30.97	-0.011934		
	40	-52.50	-0.020231		
	50	-35.73	-0.013769		
<b>16QAM</b>					
3.85	-30	42.89	0.016528	Within authorized band for Band 41	Pass
	-20	30.11	0.011603		
	-10	-18.63	-0.007179		
	0	31.31	0.012066		
	10	32.44	0.012501		
	20	37.95	0.014624		
	30	15.92	0.006135		
	40	28.32	0.010913		
	50	-15.44	-0.005950		
<b>64QAM</b>					
3.85	-30	-12.59	-0.004852	Within authorized band for Band 41	Pass
	-20	48.35	0.018632		
	-10	26.46	0.010197		
	0	64.26	0.024763		
	10	-7.94	-0.003060		
	20	38.01	0.014647		
	30	57.25	0.022062		
	40	38.24	0.014736		
	50	68.22	0.026289		

Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
<b>QPSK</b>					
25	3.00	6.14	0.002366	Within authorized band for Band 41	Pass
	3.85	-39.24	-0.015121		
	4.40	-31.84	-0.012270		
<b>16QAM</b>					
25	3.00	38.67	0.014902	Within authorized band for Band41	Pass
	3.85	45.38	0.017487		
	4.40	15.96	0.006150		
<b>64QAM</b>					
25	3.00	23.92	0.009218	Within authorized band for Band41	Pass
	3.85	15.99	0.006162		
	4.40	55.15	0.021252		
<i>Remark: All bandwidth and all modulation had been tested, but only the worst case data displayed in this report.</i>					

LTE Band 66 part:

Reference Frequency: LTE Band 66 (10MHz) Middle channel=132322 Frequency=1745.0MHz					
Temperature					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
<b>QPSK</b>					
3.85	-30	-35.02	-0.020069	Within authorized band for Band 66	Pass
	-20	-10.77	-0.006172		
	-10	-35.36	-0.020264		
	0	-4.23	-0.002424		
	10	-22.10	-0.012665		
	20	-28.97	-0.016602		
	30	4.41	0.002527		
	40	-14.72	-0.008436		
	50	6.01	0.003444		
<b>16QAM</b>					
3.85	-30	12.73	0.007295	Within authorized band for Band 66	Pass
	-20	-10.06	-0.005765		
	-10	20.34	0.011656		
	0	28.91	0.016567		
	10	36.42	0.020871		
	20	39.55	0.022665		
	30	9.67	0.005542		
	40	27.64	0.015840		
	50	7.90	0.004527		
<b>64QAM</b>					
3.85	-30	5.41	0.003100	Within authorized band for Band 66	Pass
	-20	35.38	0.020275		
	-10	30.07	0.017232		
	0	27.91	0.015994		
	10	44.35	0.025415		
	20	29.88	0.017123		
	30	19.08	0.010934		
	40	28.71	0.016453		
	50	22.65	0.012980		



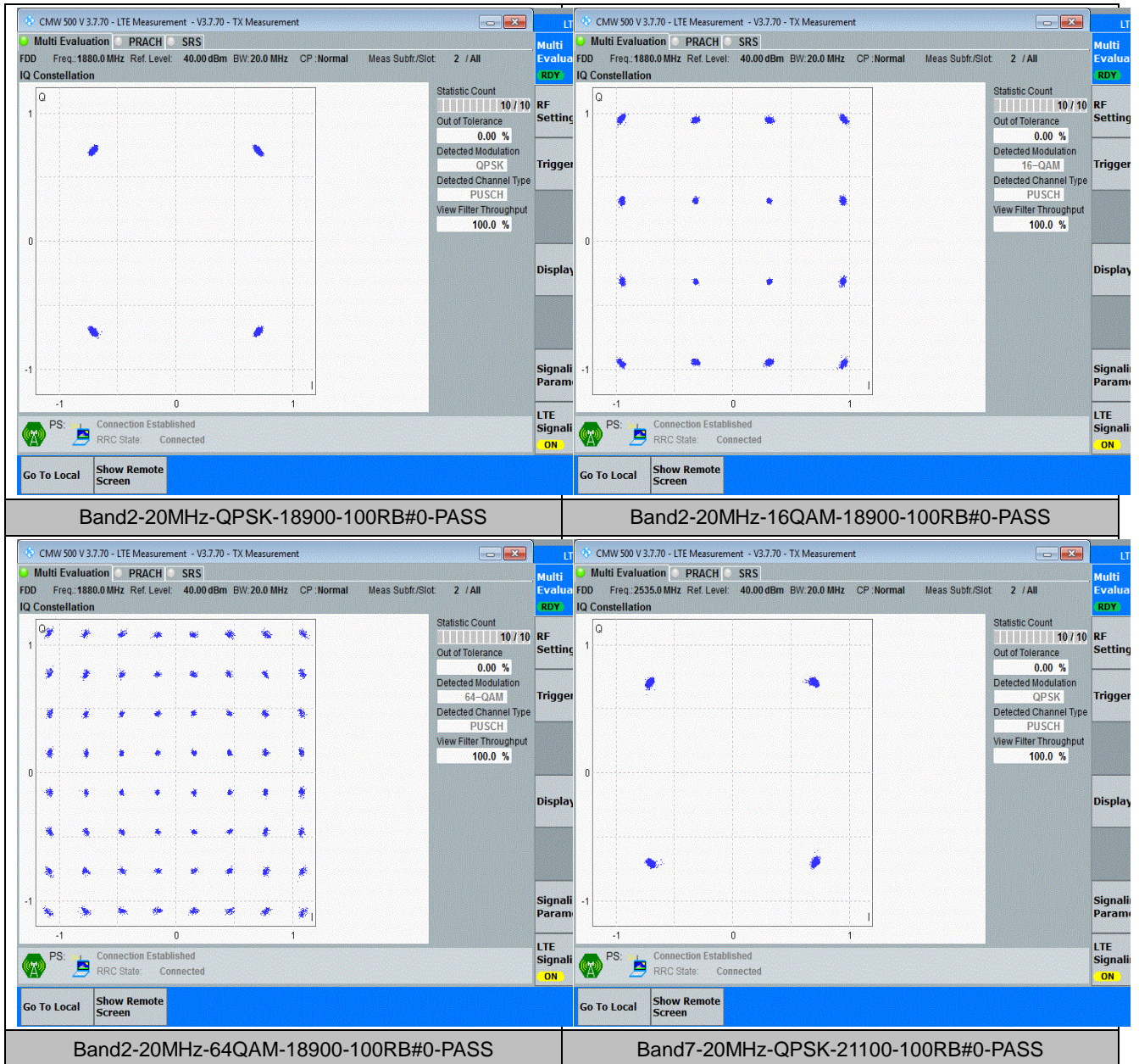
Voltage					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
<b>QPSK</b>					
25	3.00	36.38	0.020848	Within authorized band for Band 66	Pass
	3.85	-24.26	-0.013903		
	4.40	-12.46	-0.007140		
<b>16QAM</b>					
25	3.00	-6.14	-0.003519	Within authorized band for Band 66	Pass
	3.85	44.47	0.025484		
	4.40	21.72	0.012447		
<b>64QAM</b>					
25	3.00	15.03	0.008613	Within authorized band for Band 66	Pass
	3.85	10.99	0.006298		
	4.40	21.63	0.012395		
<i>Remark: All bandwidth and all modulation had been tested, but only the worst case data displayed in this report.</i>					

## Appendix G: Modulation Characteristics

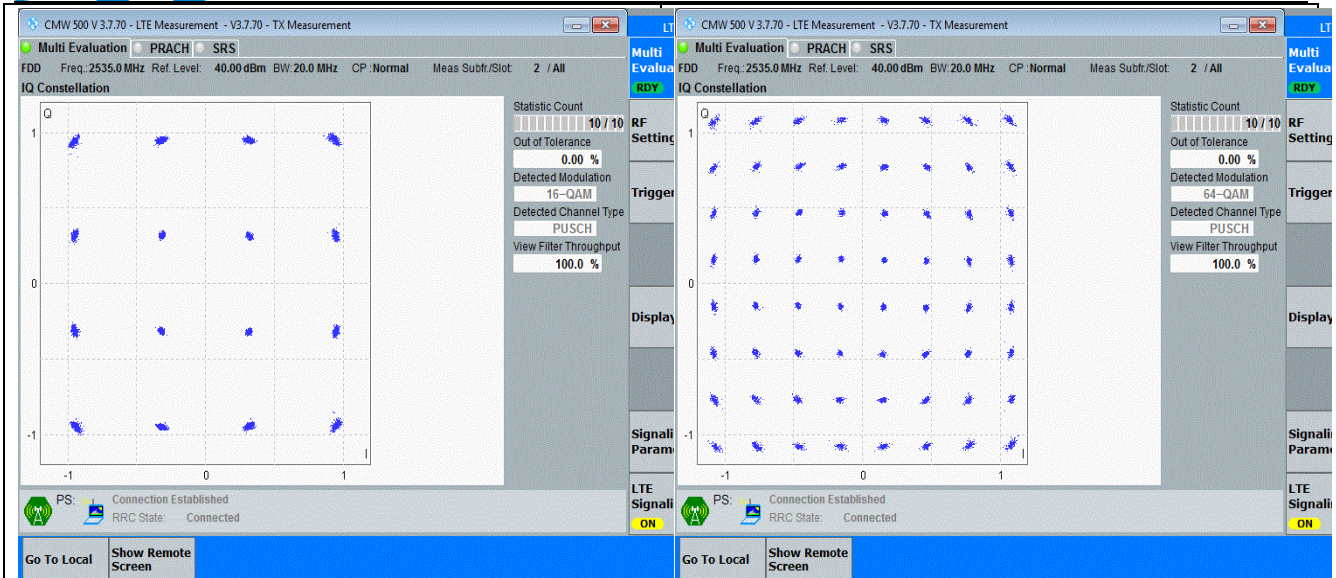
### Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Verdict
Band2	20MHz	QPSK	18900	100RB#0	PASS
Band2	20MHz	16QAM	18900	100RB#0	PASS
Band2	20MHz	64QAM	18900	100RB#0	PASS
Band7	20MHz	QPSK	21100	100RB#0	PASS
Band7	20MHz	16QAM	21100	100RB#0	PASS
Band7	20MHz	64QAM	21100	100RB#0	PASS
Band12	10MHz	QPSK	23095	50RB#0	PASS
Band12	10MHz	16QAM	23095	50RB#0	PASS
Band12	10MHz	64QAM	23095	50RB#0	PASS
26(814-824)	10MHz	QPSK	26740	50RB#0	PASS
26(814-824)	10MHz	16QAM	26740	50RB#0	PASS
26(814-824)	10MHz	64QAM	26740	50RB#0	PASS
26(824-849)	15MHz	QPSK	26915	75RB#0	PASS
26(824-849)	15MHz	16QAM	26915	75RB#0	PASS
26(824-849)	15MHz	64QAM	26915	75RB#0	PASS
41(2535-2655)	20MHz	QPSK	40640	100RB#0	PASS
41(2535-2655)	20MHz	16QAM	40640	100RB#0	PASS
41(2535-2655)	20MHz	64QAM	40640	100RB#0	PASS
Band66	20MHz	QPSK	132322	100RB#0	PASS
Band66	20MHz	16QAM	132322	100RB#0	PASS
Band66	20MHz	64QAM	132322	100RB#0	PASS

### Test Graphs

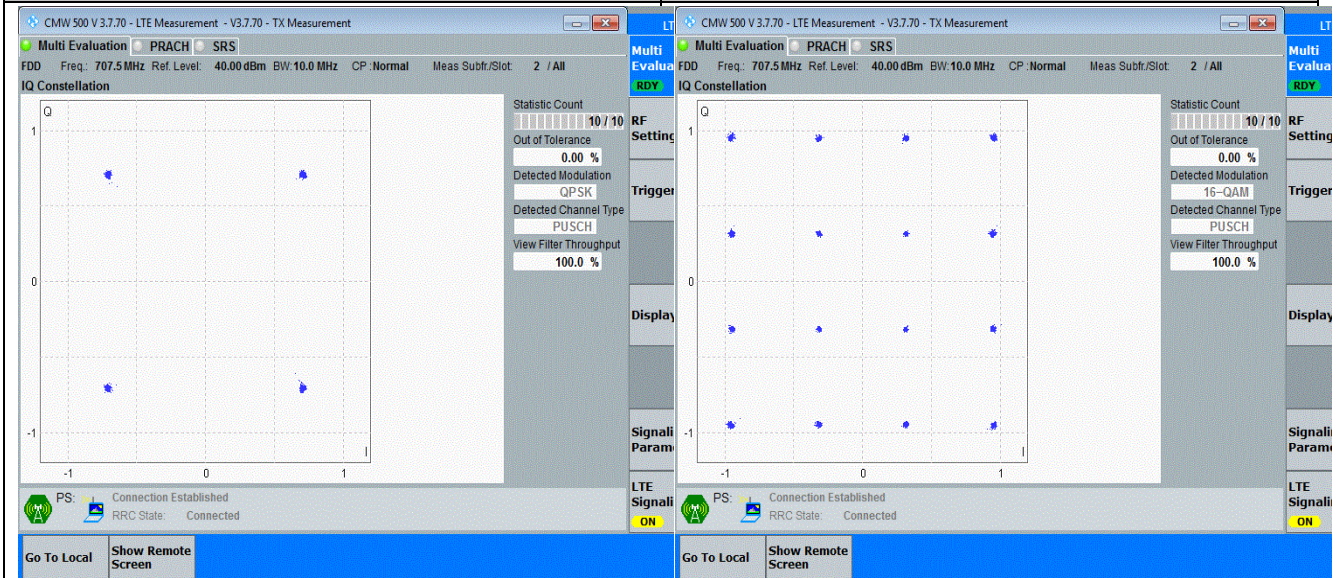






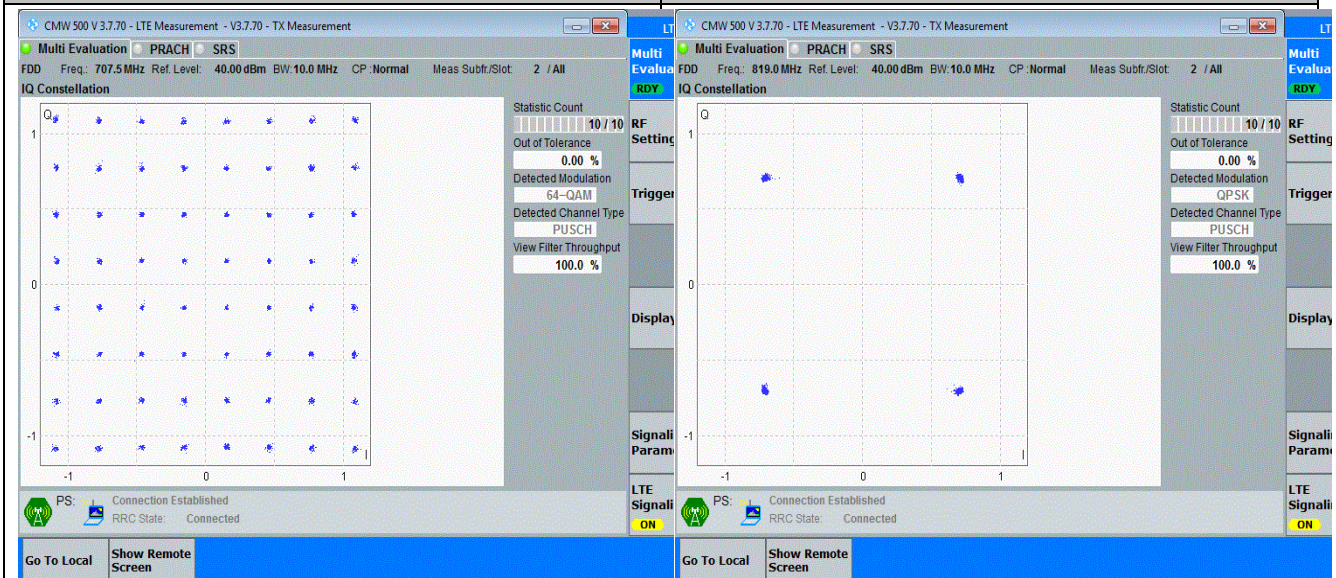
Band7-20MHz-16QAM-21100-100RB#0-PASS

Band7-20MHz-64QAM-21100-100RB#0-PASS



Band12-10MHz-QPSK-23095-50RB#0-PASS

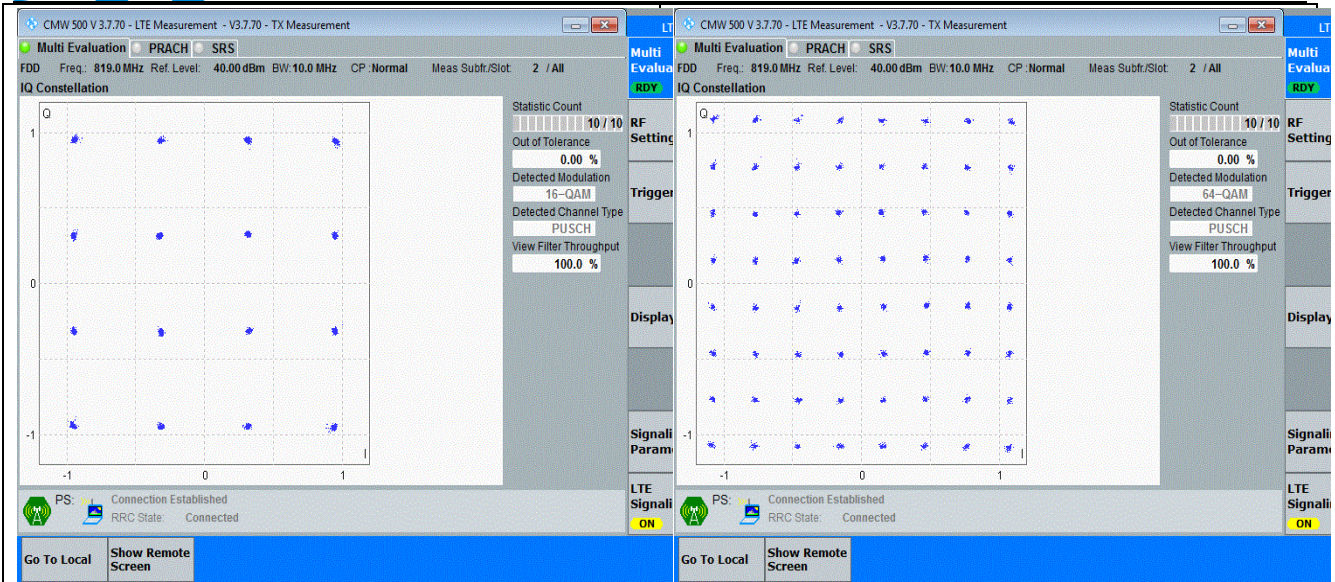
Band12-10MHz-16QAM-23095-50RB#0-PASS



Band12-10MHz-64QAM-23095-50RB#0-PASS

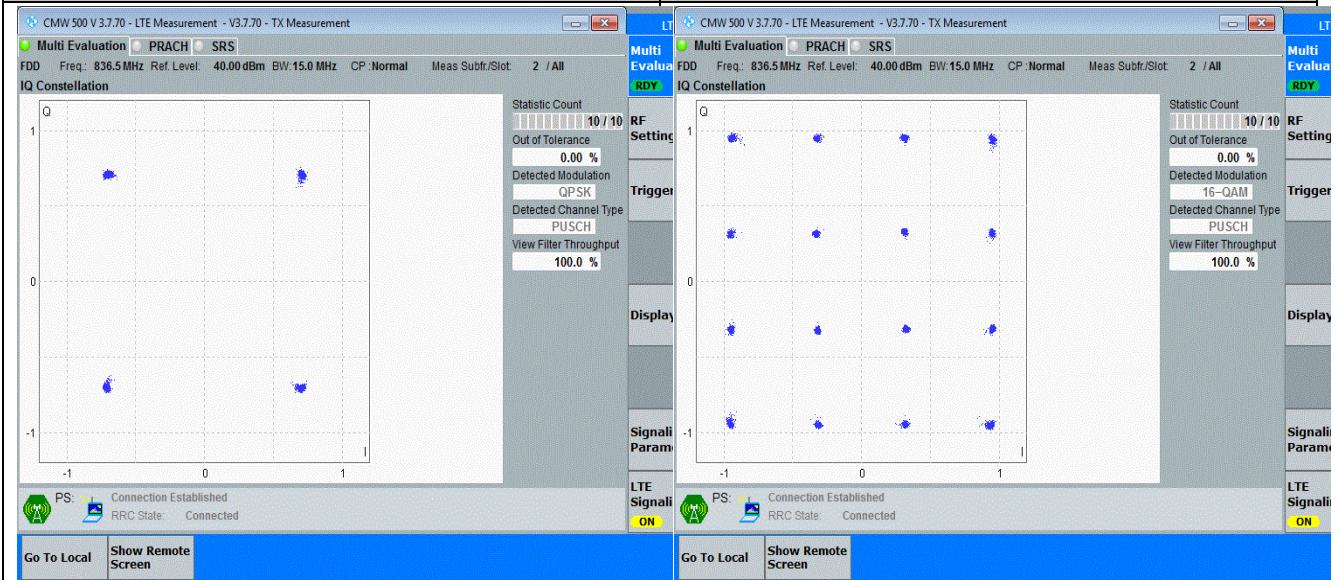
26(814-824)-10MHz-QPSK-26740-50RB#0-PASS





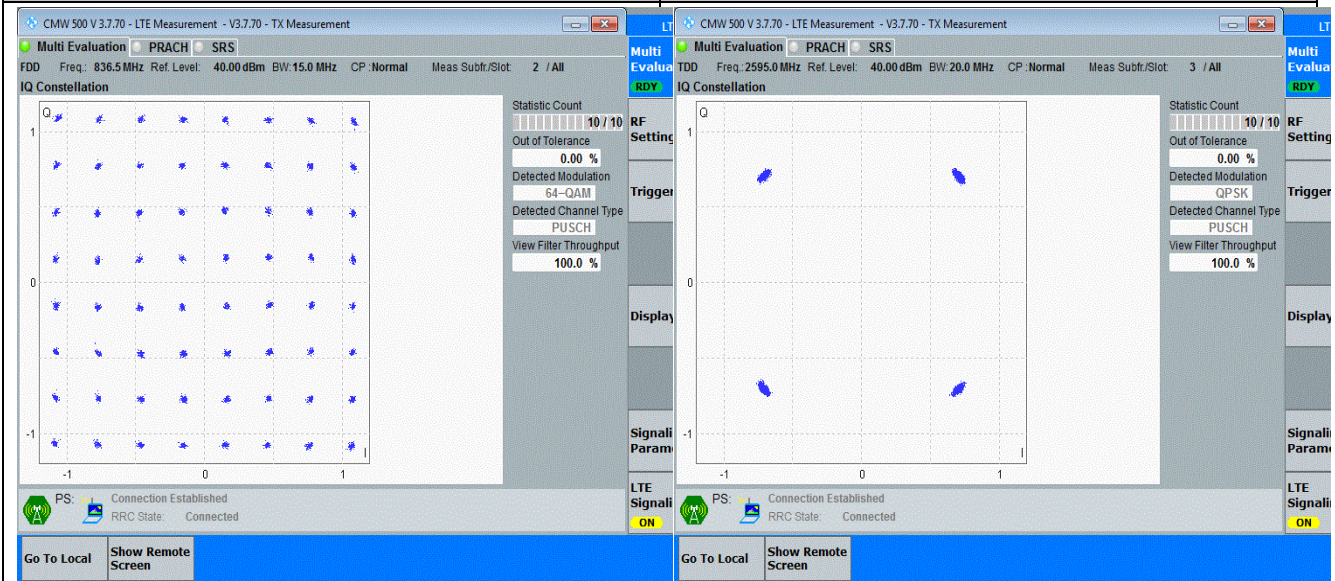
26(814-824)-10MHz-16QAM-26740-50RB#0-PASS

26(814-824)-10MHz-64QAM-26740-50RB#0-PASS



26(824-849)-15MHz-QPSK-26915-75RB#0-PASS

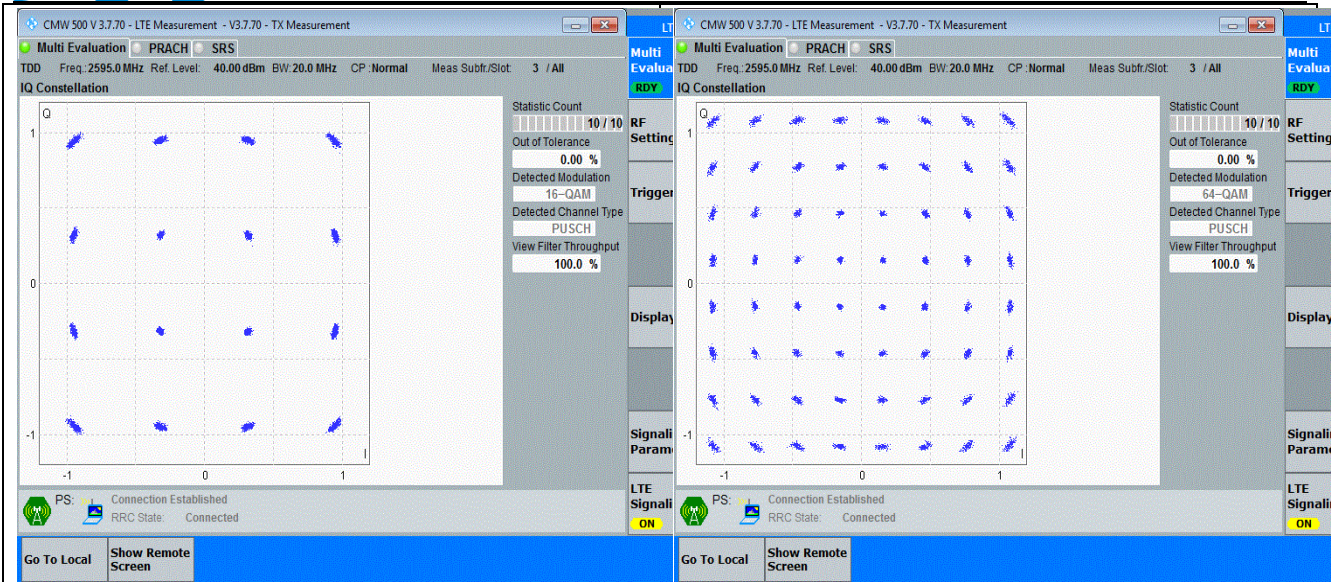
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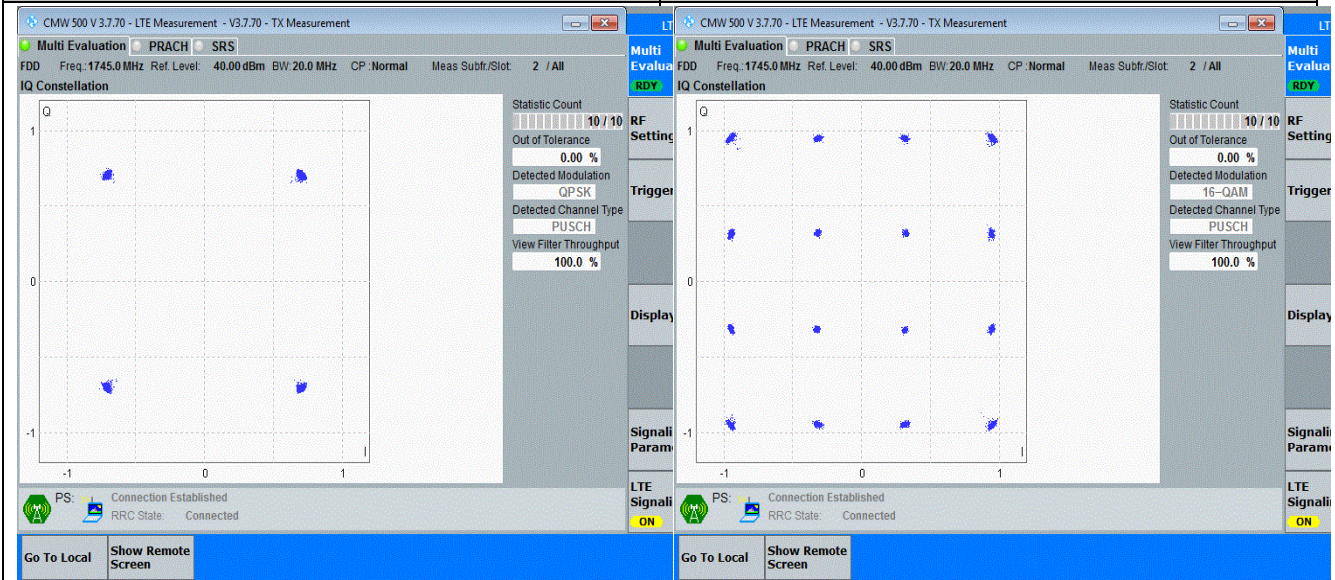
41(2535-2655)-20MHz-QPSK-40640-100RB#0-PASS





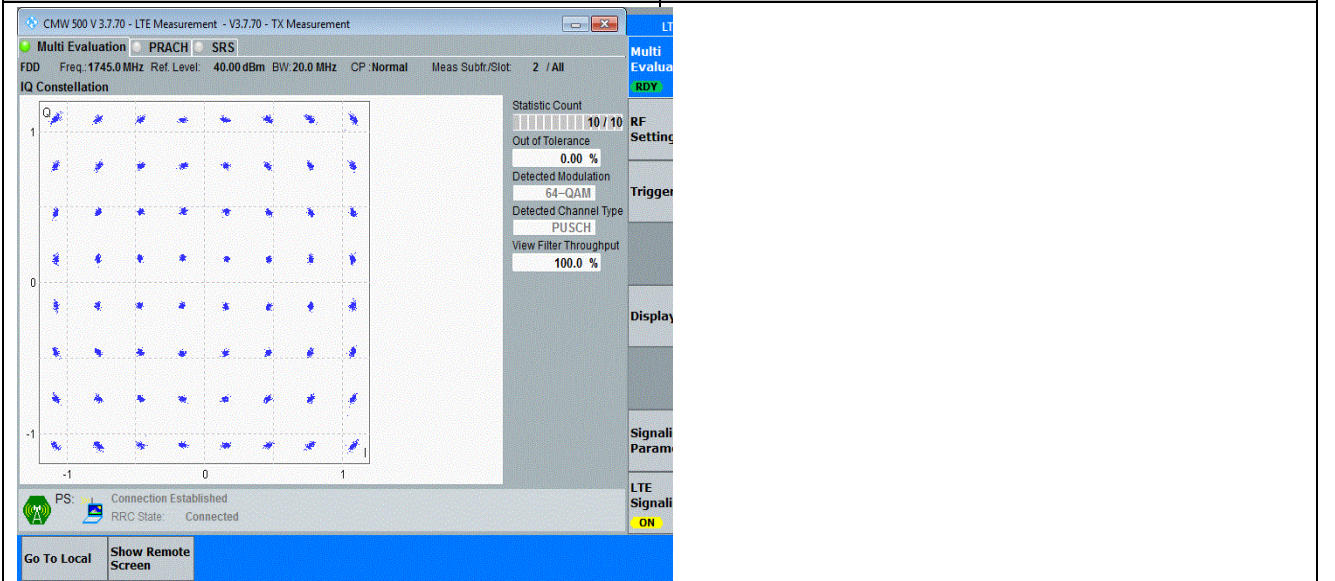
41(2535-2655)-20MHz-16QAM-40640-100RB#0-PASS

41(2535-2655)-20MHz-64QAM-40640-100RB#0-PASS



Band66-20MHz-QPSK-132322-100RB#0-PASS

Band66-20MHz-16QAM-132322-100RB#0-PASS



Band66-20MHz-64QAM-132322-100RB#0-PASS