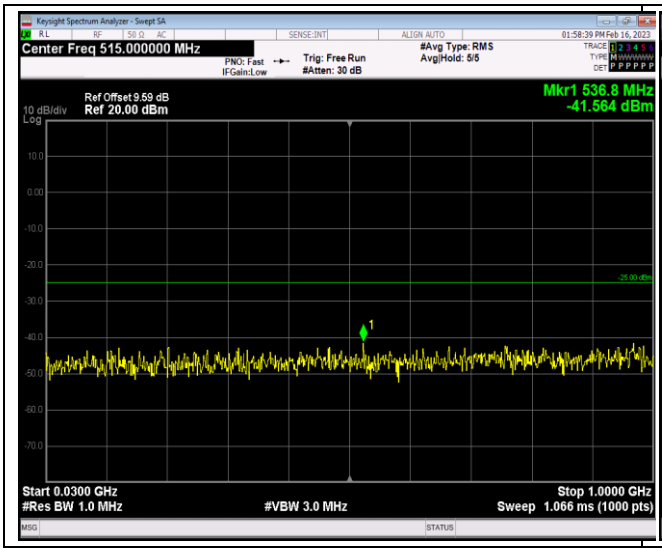
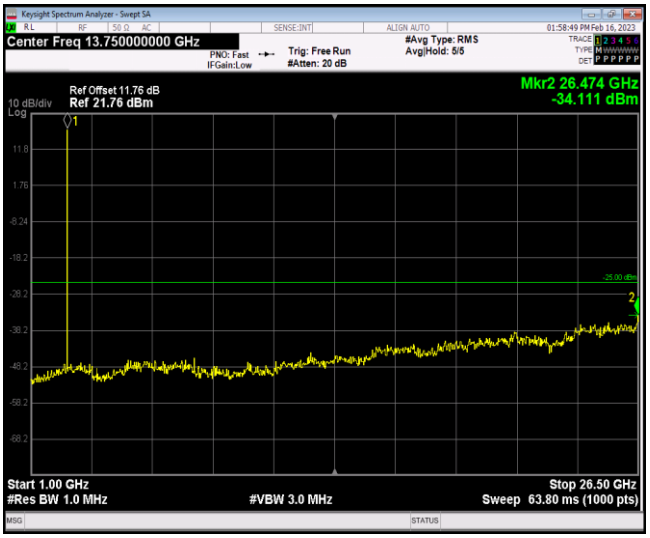
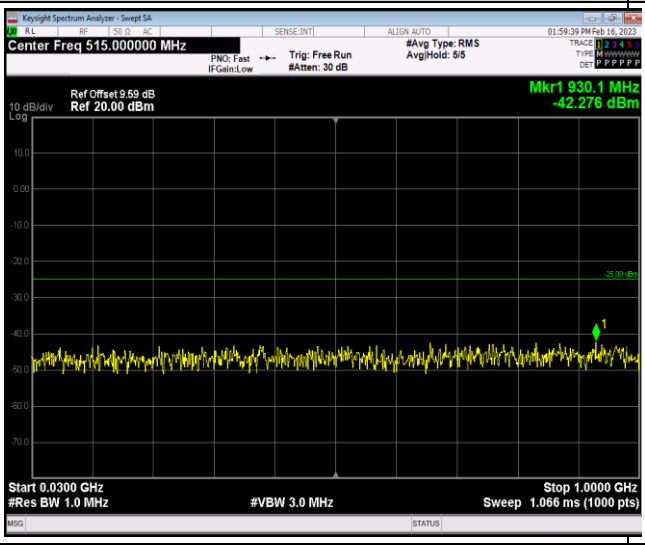
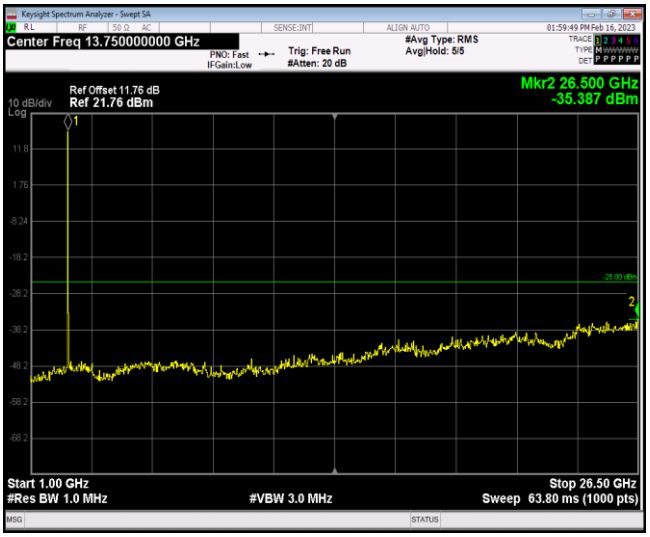


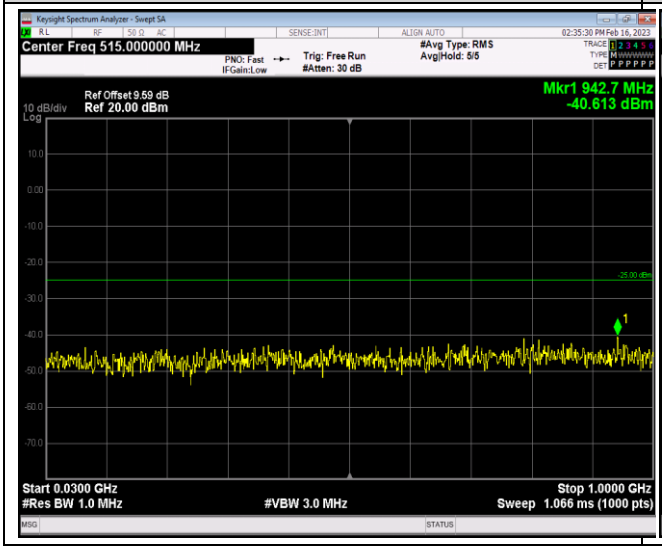


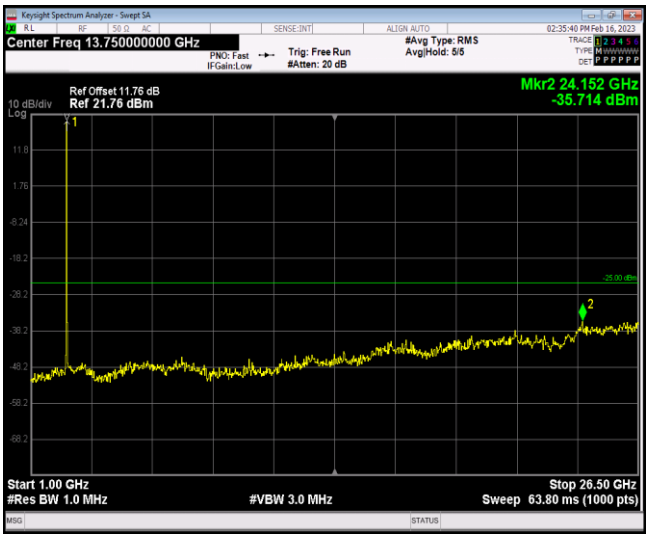
Band7-5MHz-64QAM-21425-1RB#0-Range1:30~1000MHz	Band7-5MHz-64QAM-21425-1RB#0-Range2:1000~26500MHz





Band7-20MHz-QPSK-20850-1RB#0-Range1:30~1000MHz	Band7-20MHz-QPSK-20850-1RB#0-Range2:1000~26500MHz





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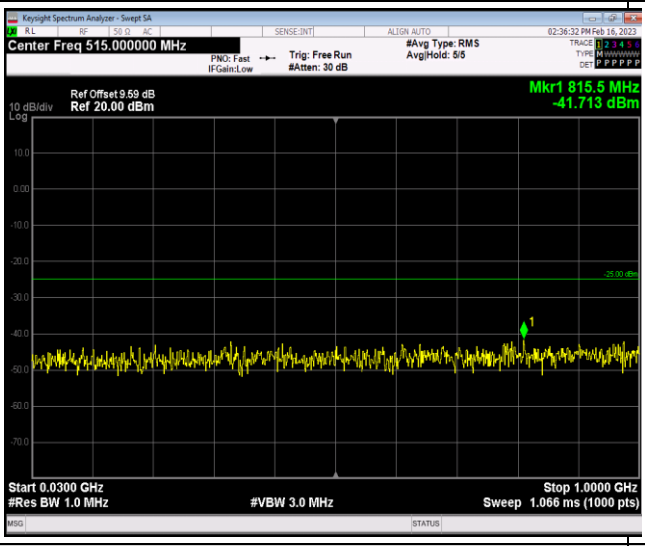	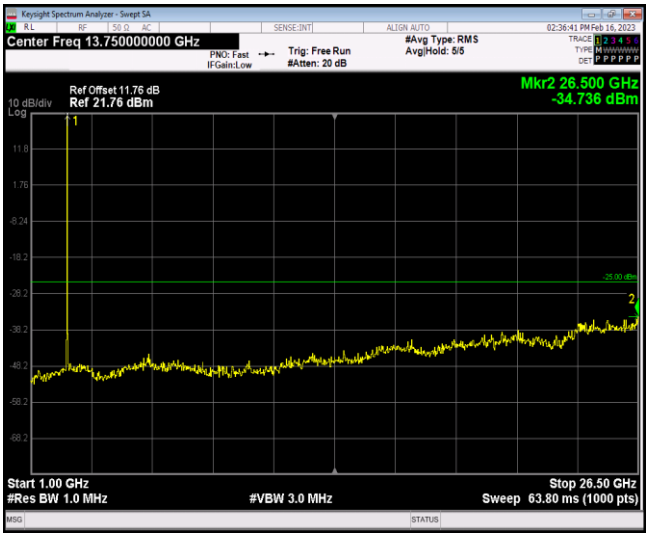
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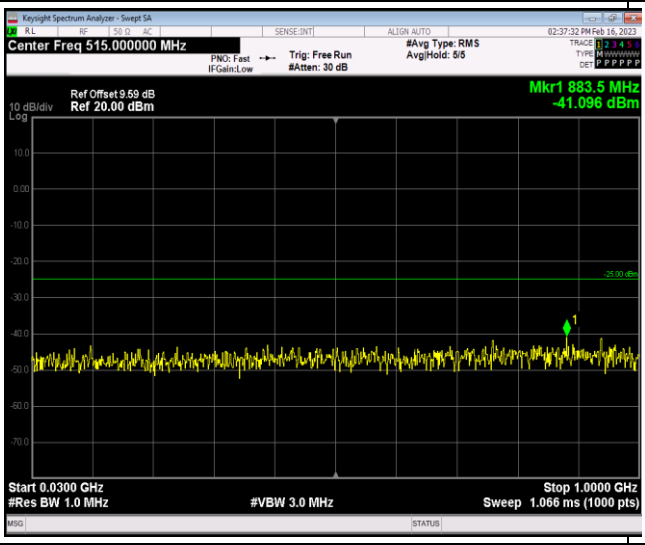	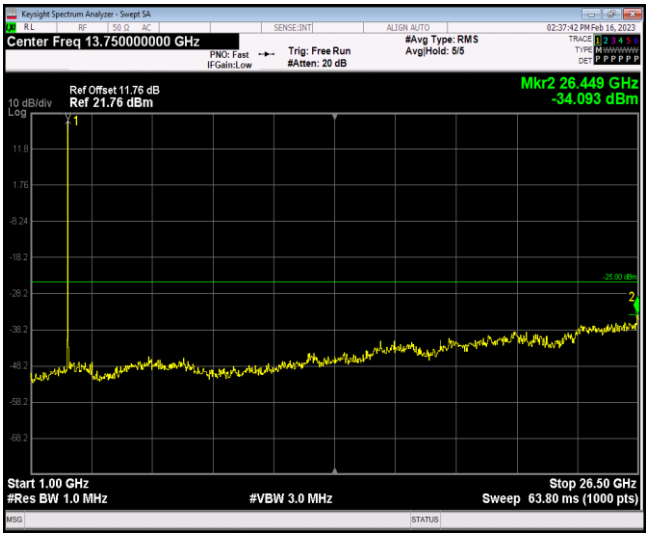
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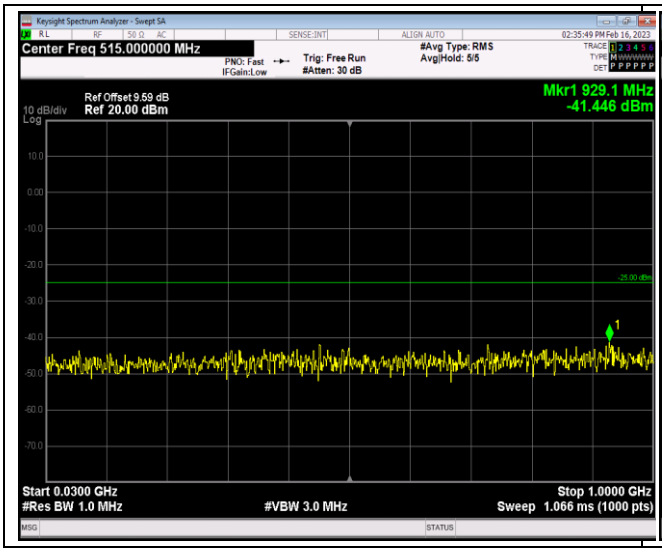
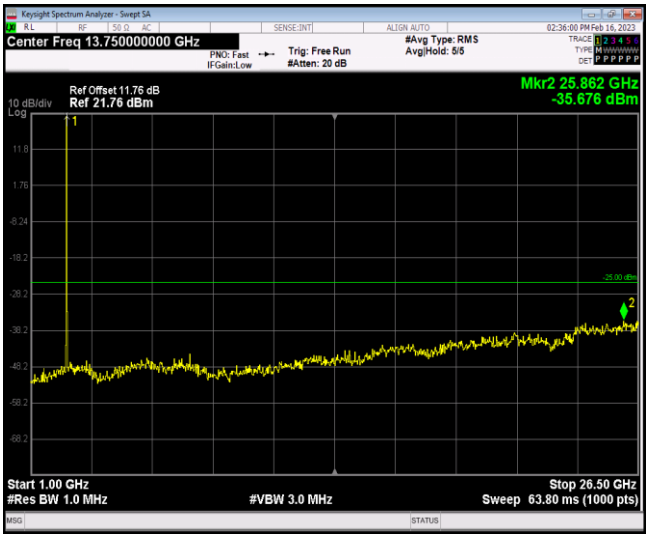
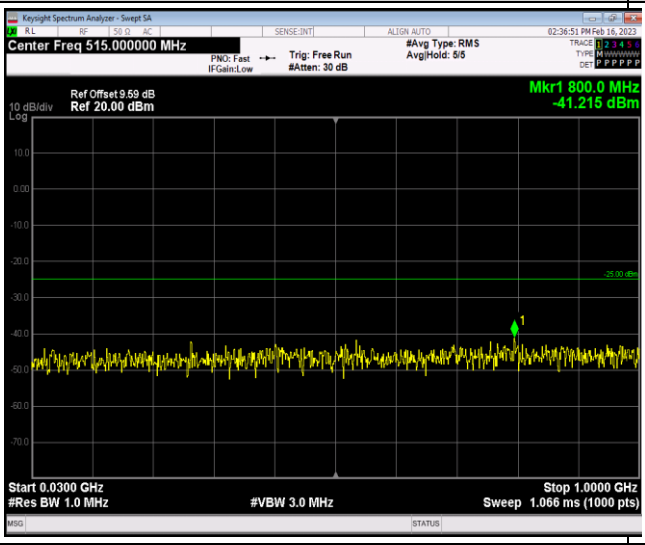
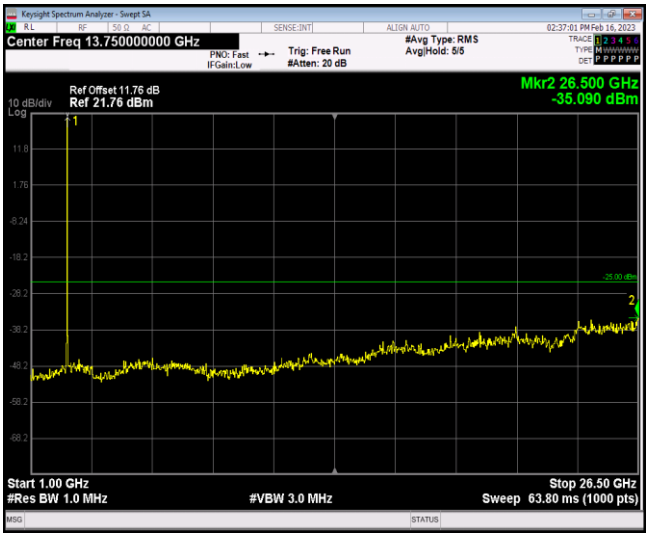


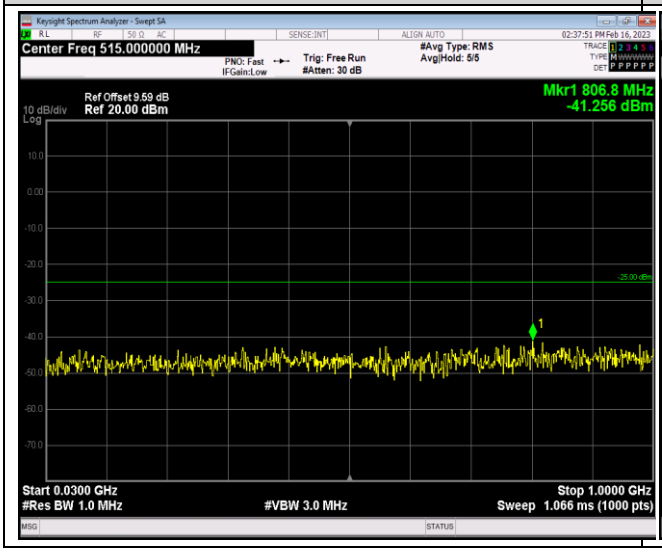


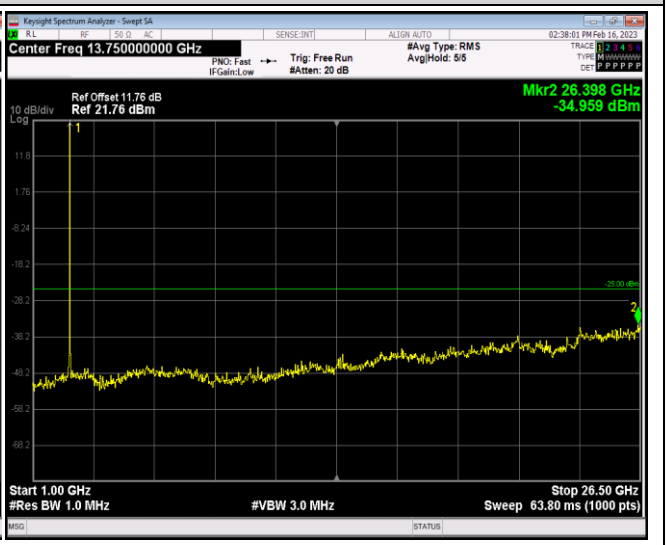
Band7-20MHz-16QAM-21100-1RB#0-Range1:30~1000MHz	Band7-20MHz-16QAM-21100-1RB#0-Range2:1000~26500MHz

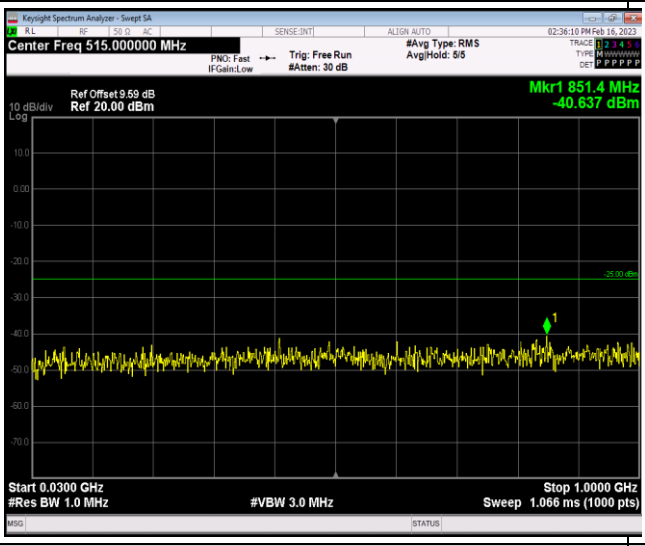
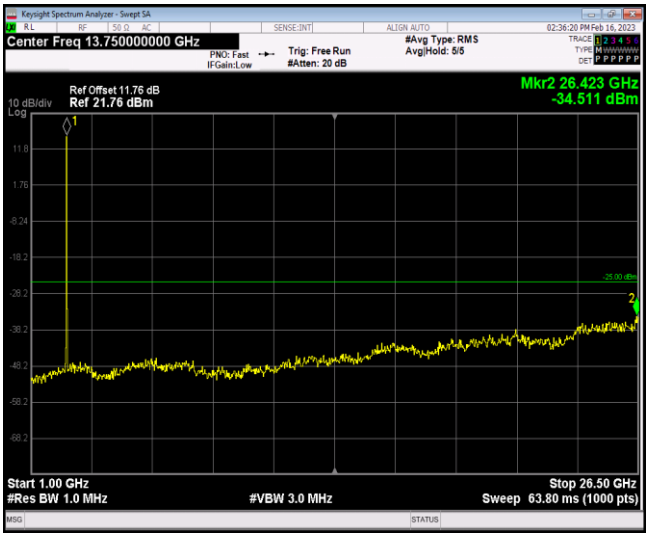




Band7-20MHz-16QAM-21350-1RB#0-Range1:30~1000MHz	Band7-20MHz-16QAM-21350-1RB#0-Range2:1000~26500MHz





Band7-20MHz-64QAM-20850-1RB#0-Range1:30~1000MHz	Band7-20MHz-64QAM-20850-1RB#0-Range2:1000~26500MHz
	
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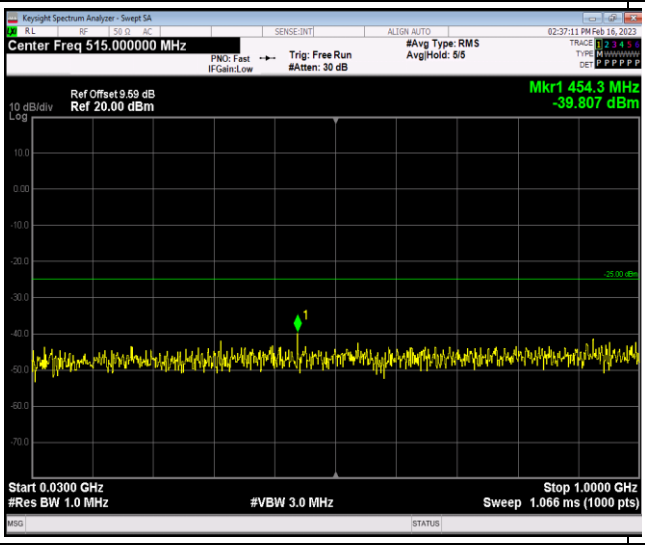
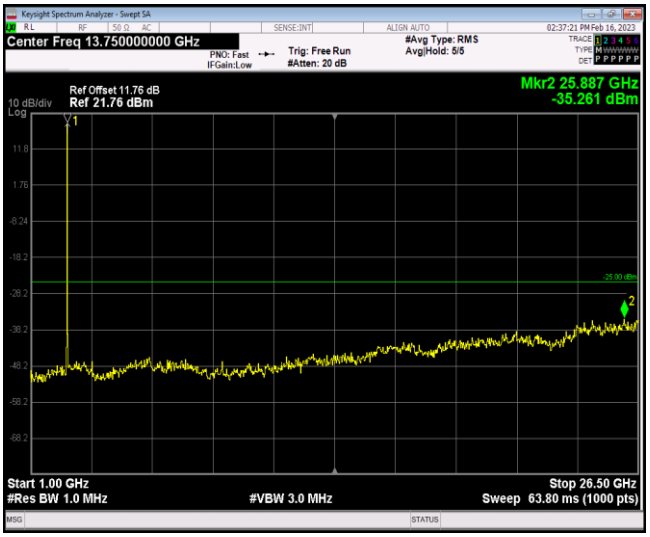
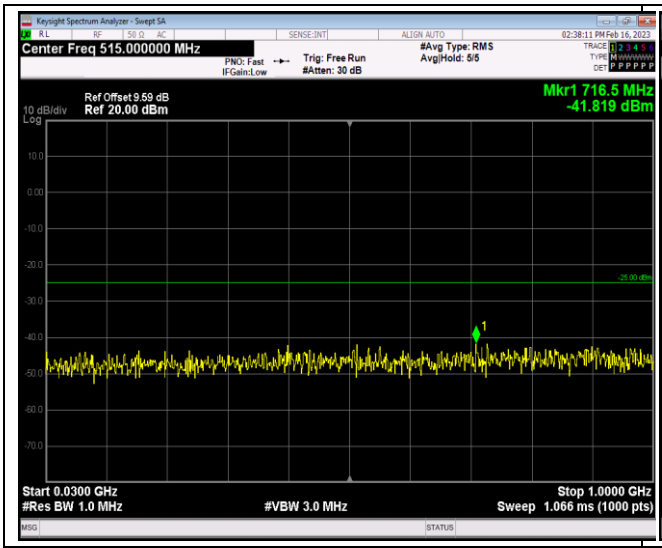
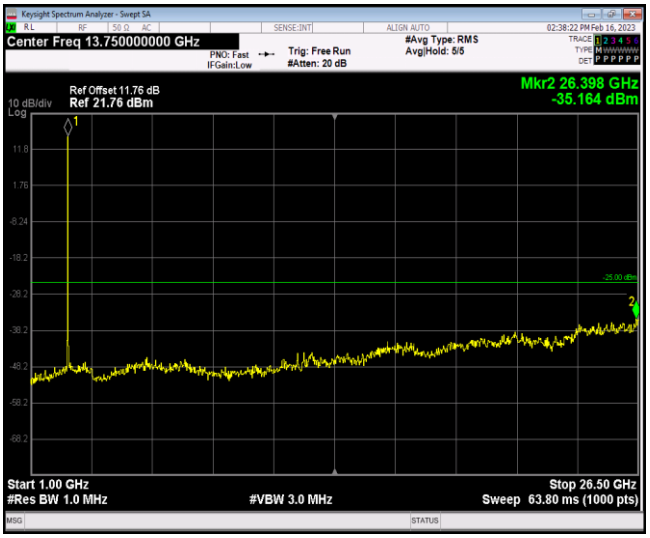
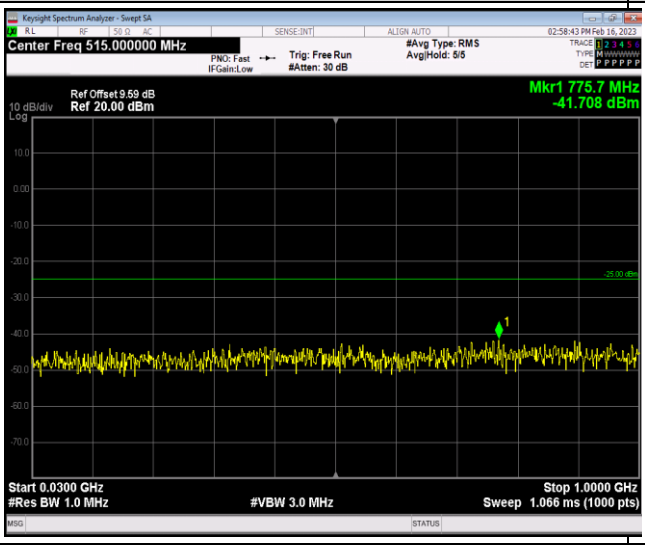
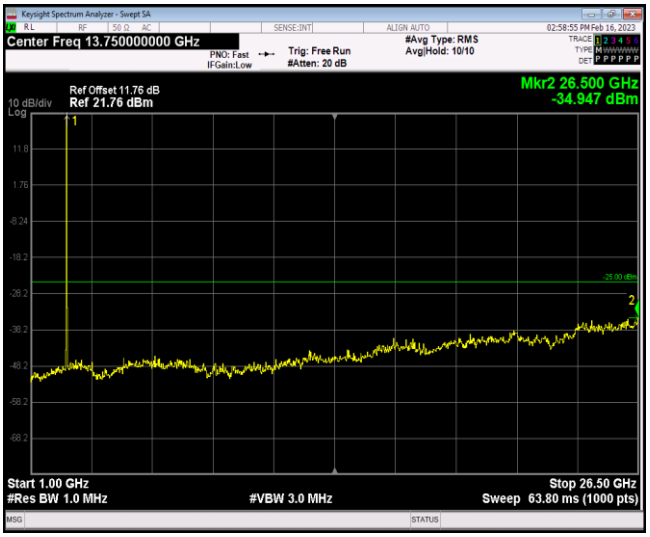
	
Band7-20MHz-64QAM-21350-1RB#0-Range1:30~1000MHz	Band7-20MHz-64QAM-21350-1RB#0-Range2:1000~26500MHz



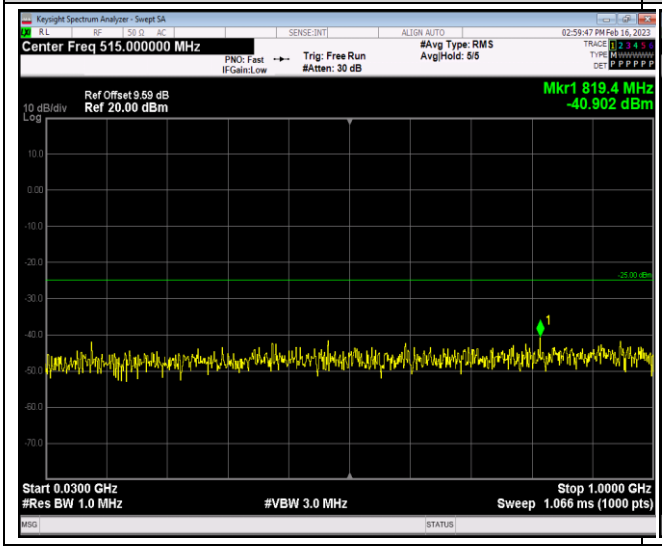


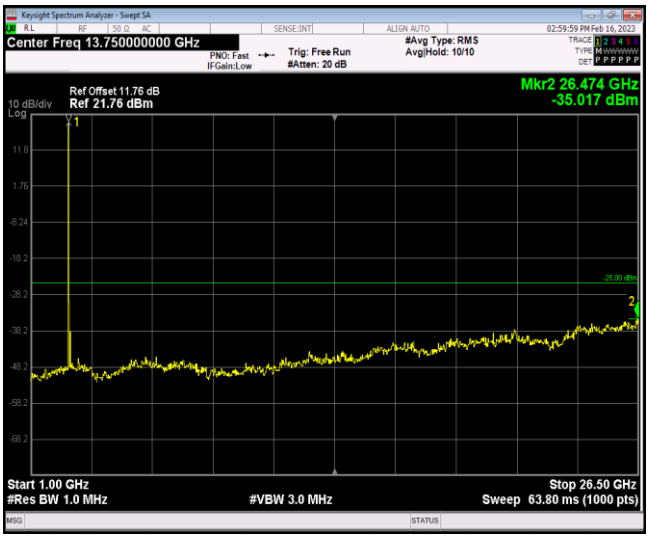
Band41-5MHz-QPSK-39675-1RB#0-Range1:30~1000MHz	Band41-5MHz-QPSK-39675-1RB#0-Range2:1000~26500MHz





Band41-5MHz-QPSK-40620-1RB#0-Range1:30~1000MHz	Band41-5MHz-QPSK-40620-1RB#0-Range2:1000~26500MHz





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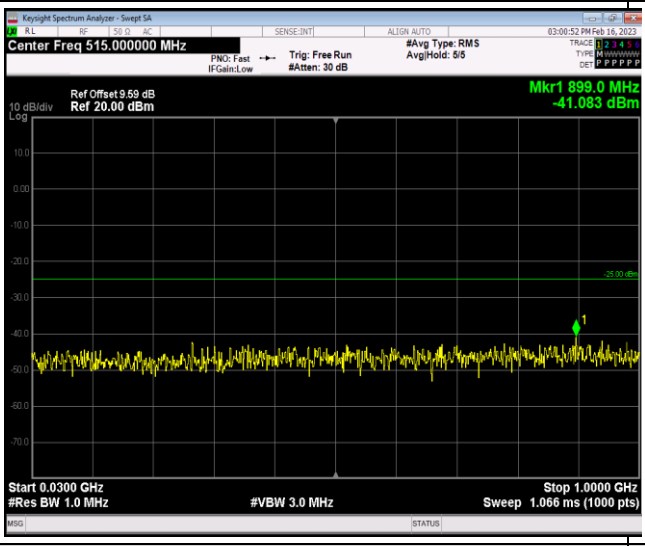	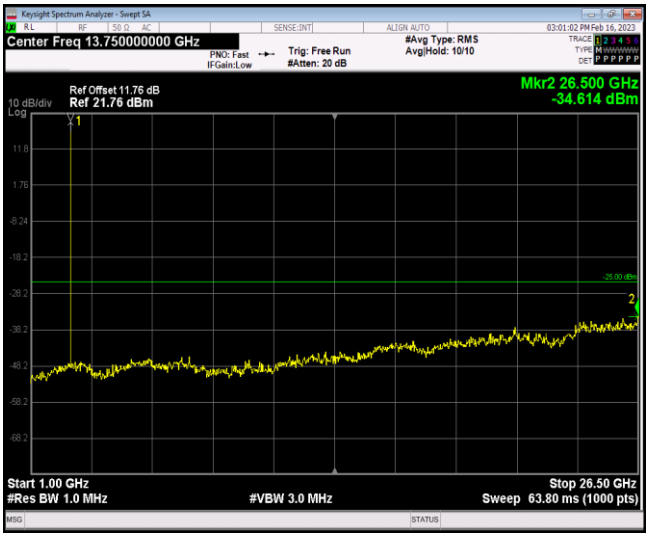
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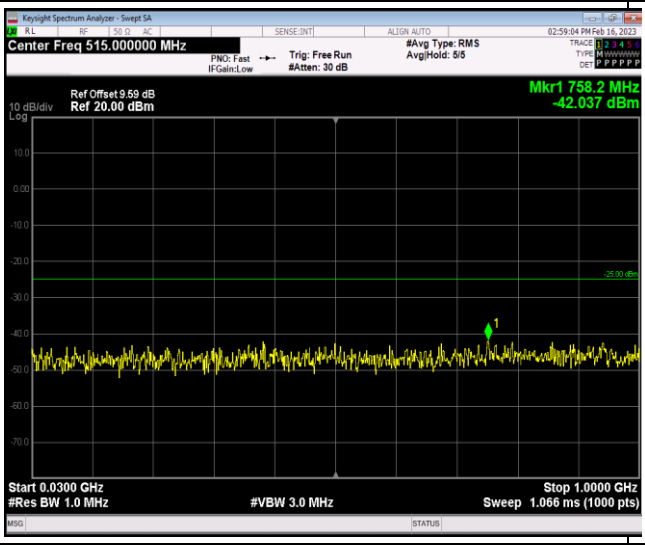	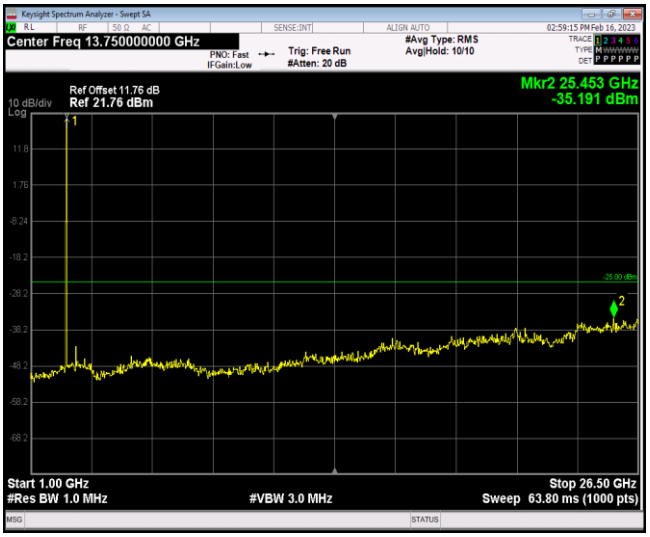
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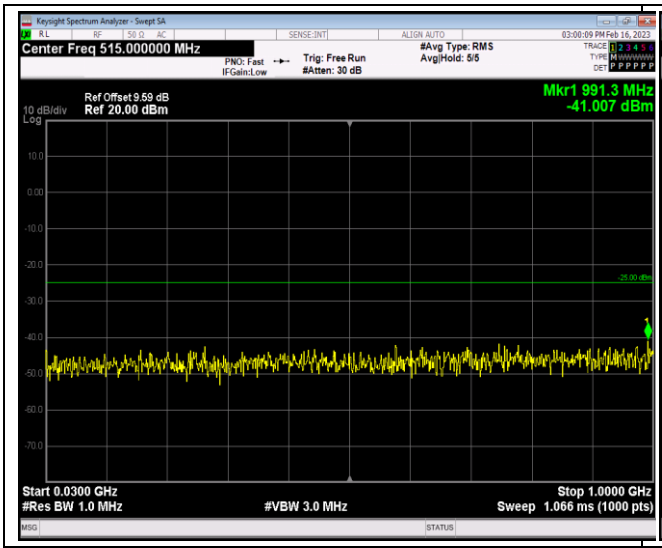
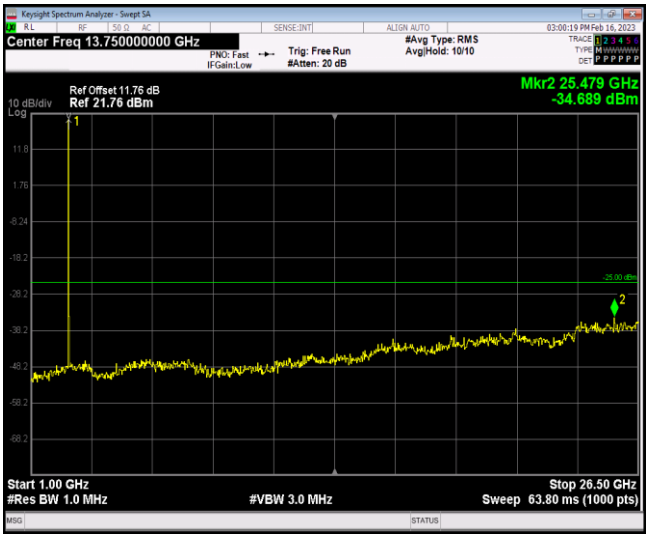
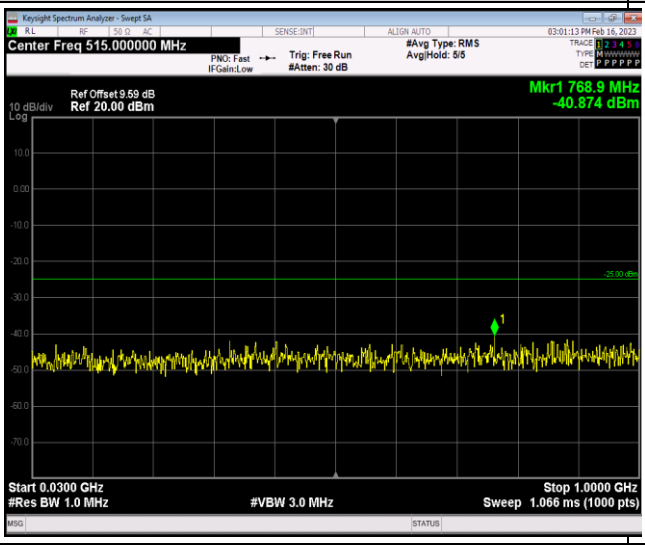
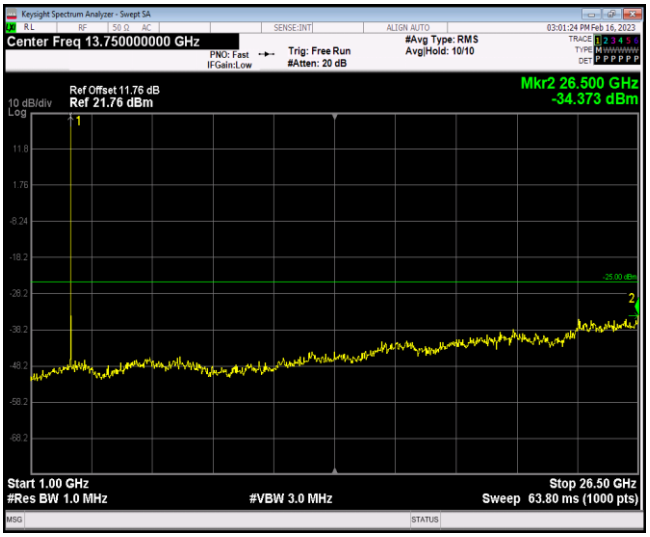


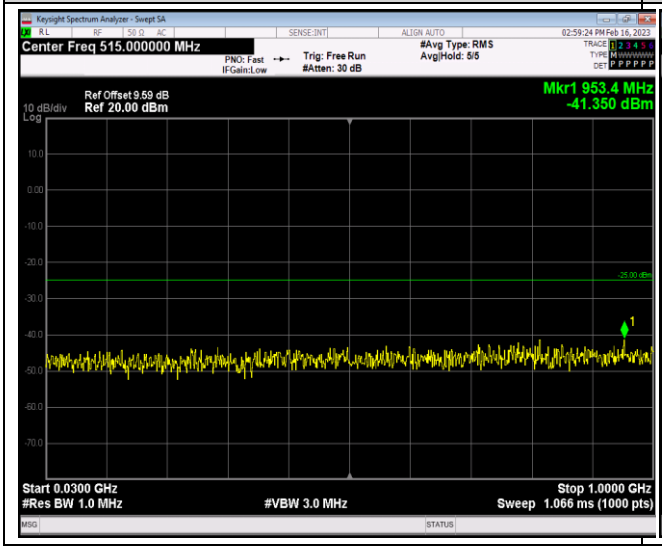


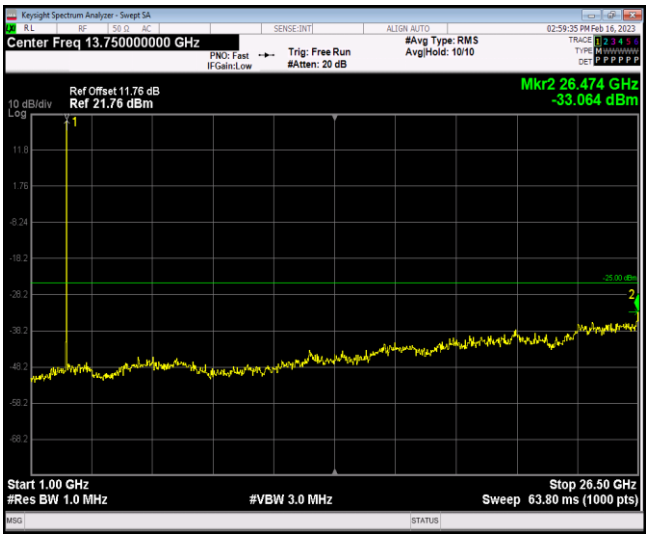
Band41-5MHz-16QAM-41565-1RB#0-Range1:30~1000MHz	Band41-5MHz-16QAM-41565-1RB#0-Range2:1000~26500MHz

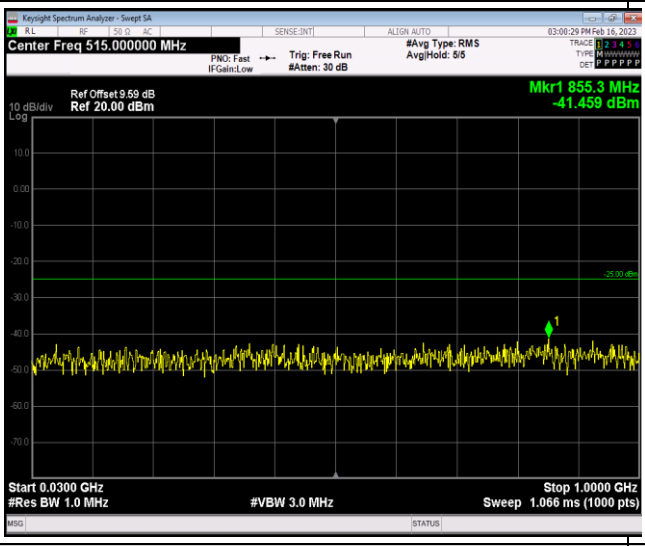
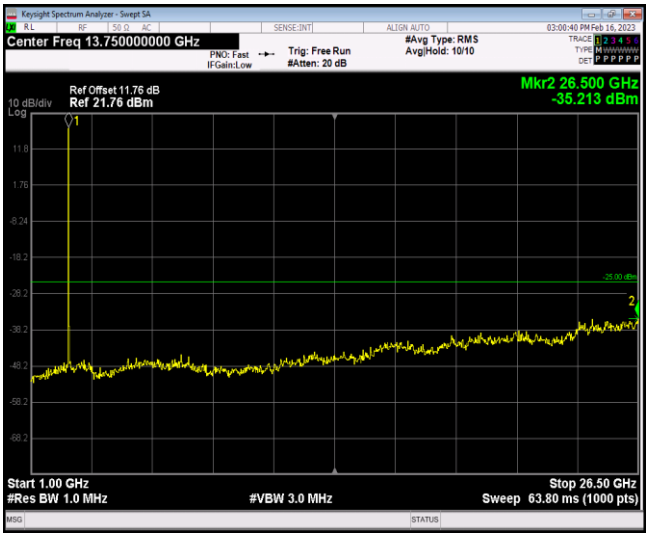




Band41-5MHz-64QAM-39675-1RB#0-Range1:30~1000MHz	Band41-5MHz-64QAM-39675-1RB#0-Range2:1000~26500MHz





Band41-5MHz-64QAM-40620-1RB#0-Range1:30~1000MHz	Band41-5MHz-64QAM-40620-1RB#0-Range2:1000~26500MHz
	
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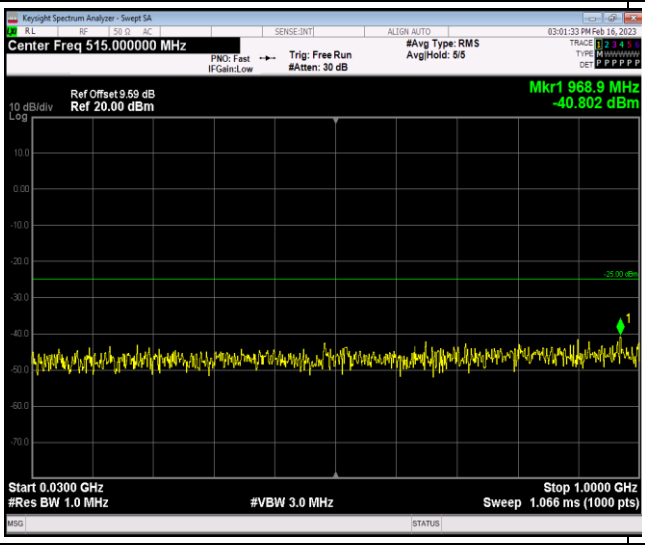
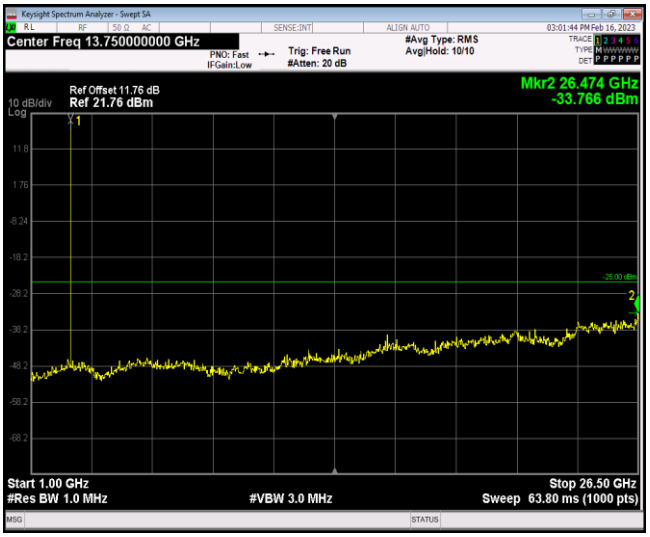
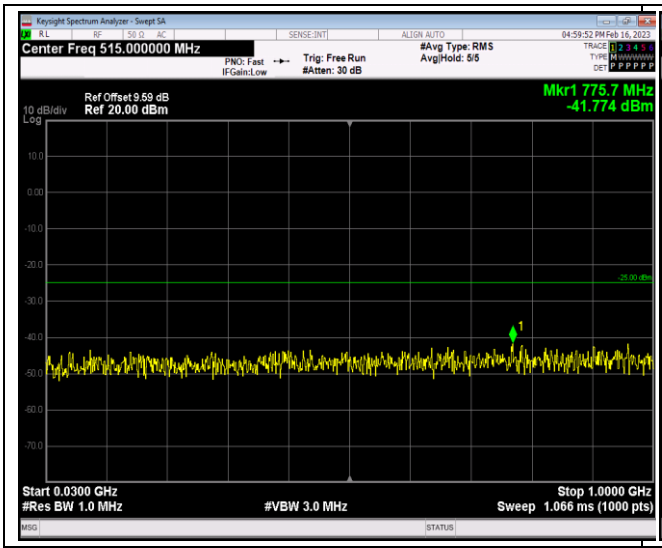
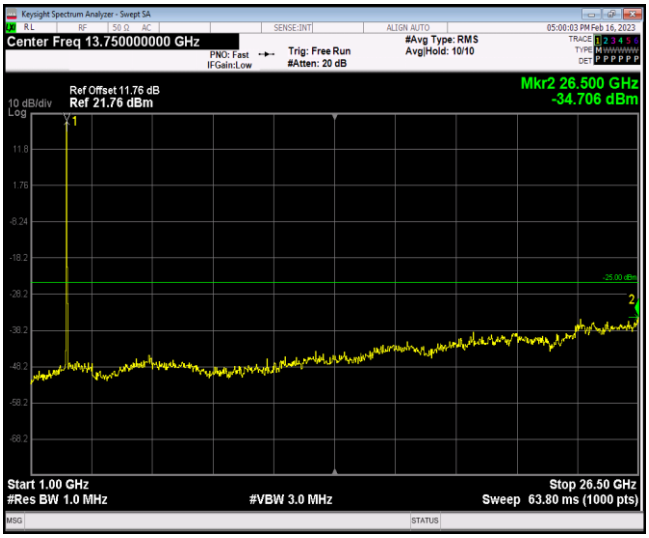
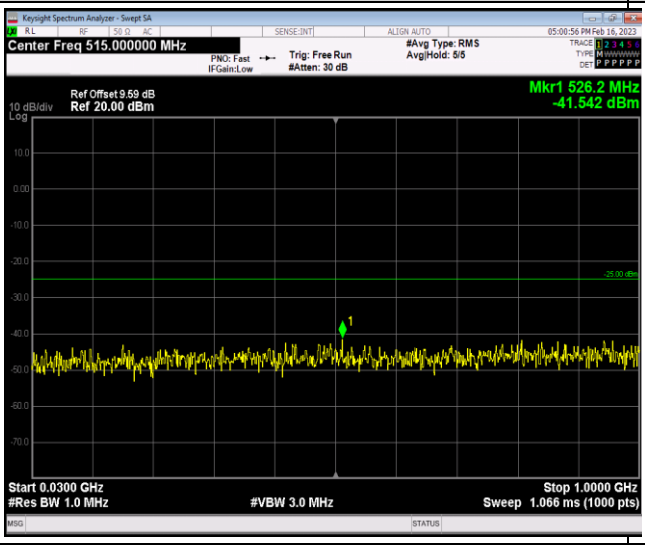
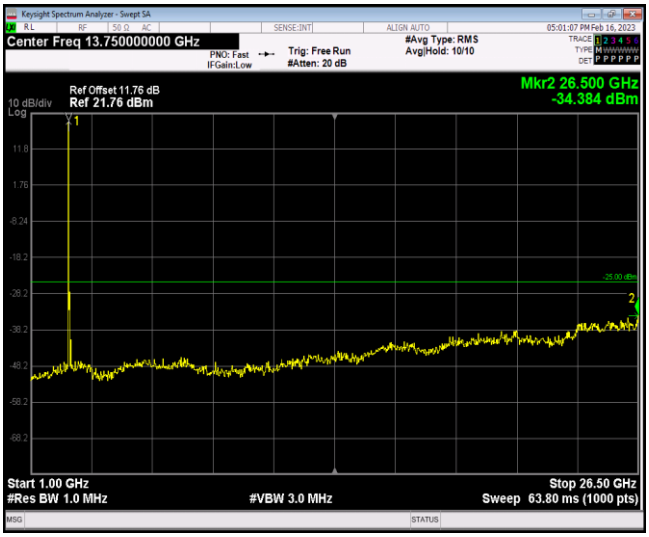
	
Band41-20MHz-QPSK-39750-1RB#0-Range1:30~1000MHz	Band41-20MHz-QPSK-39750-1RB#0-Range2:1000~26500MHz





Band41-20MHz-QPSK-40620-1RB#0-Range1:30~1000MHz	Band41-20MHz-QPSK-40620-1RB#0-Range2:1000~26500MHz





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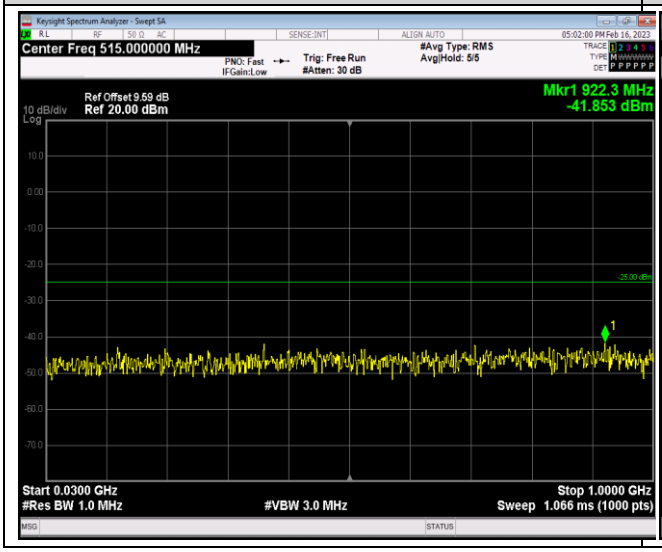
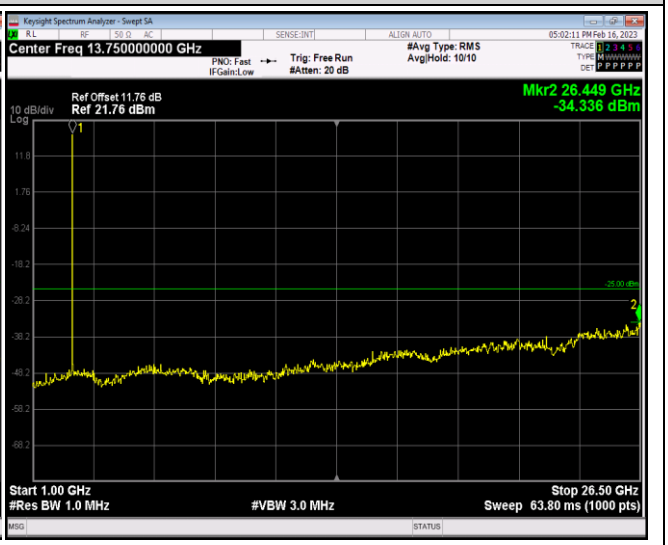
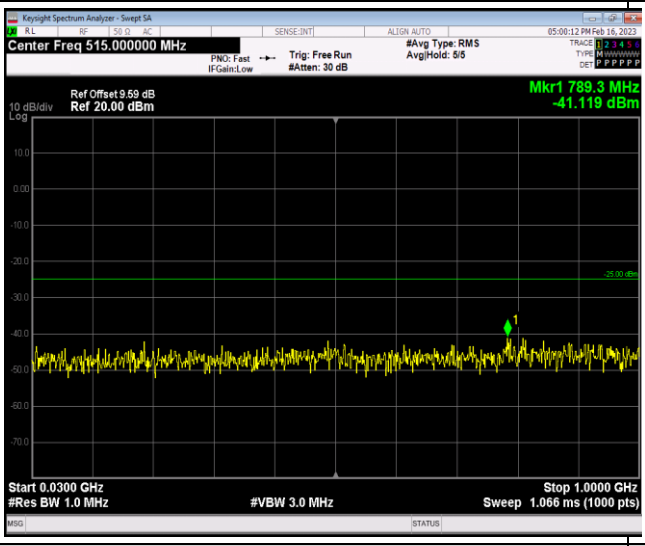
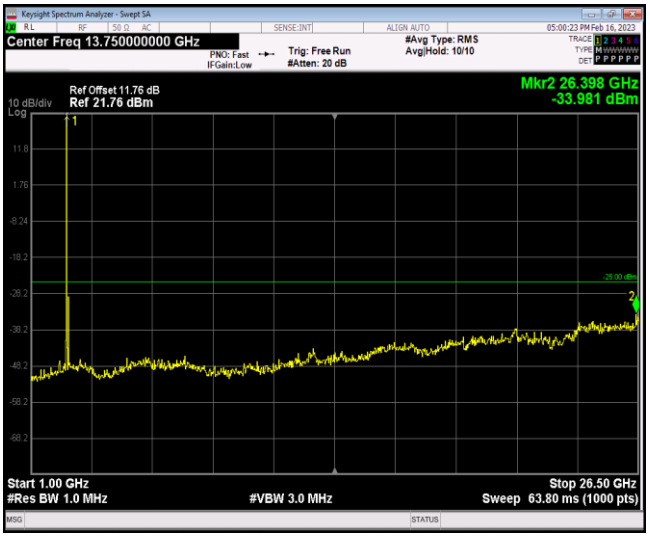
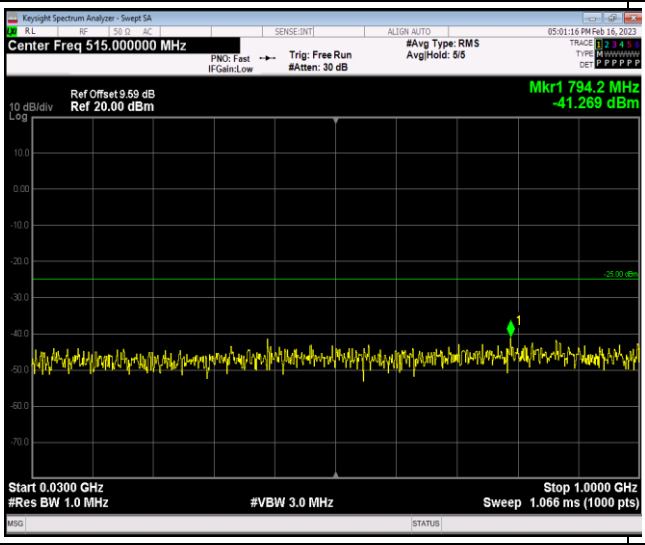
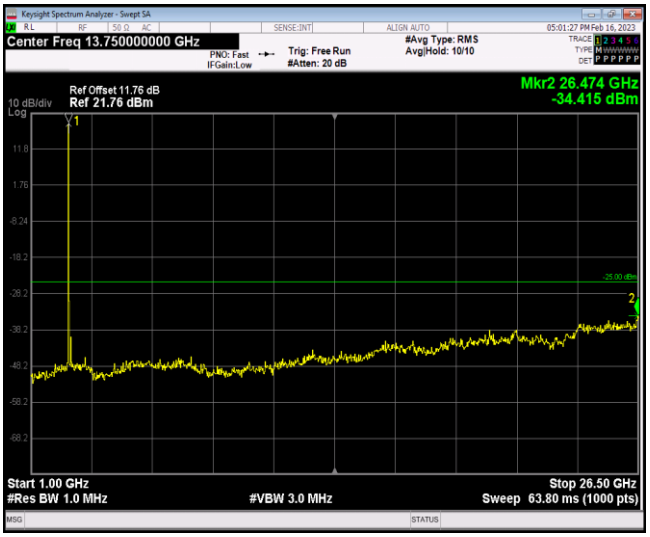
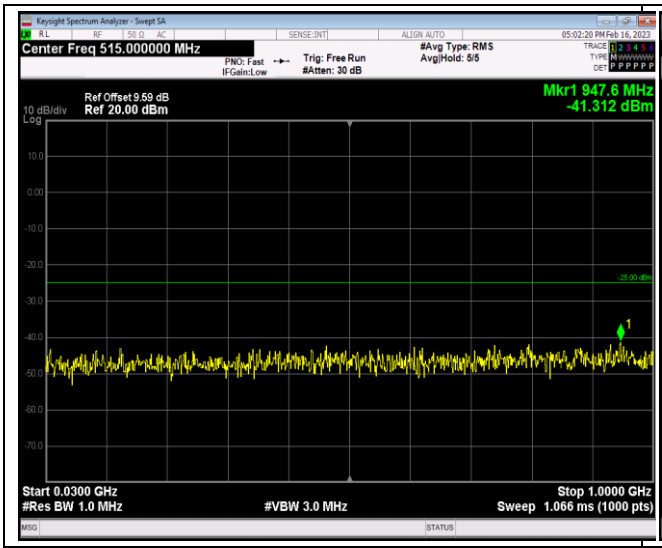
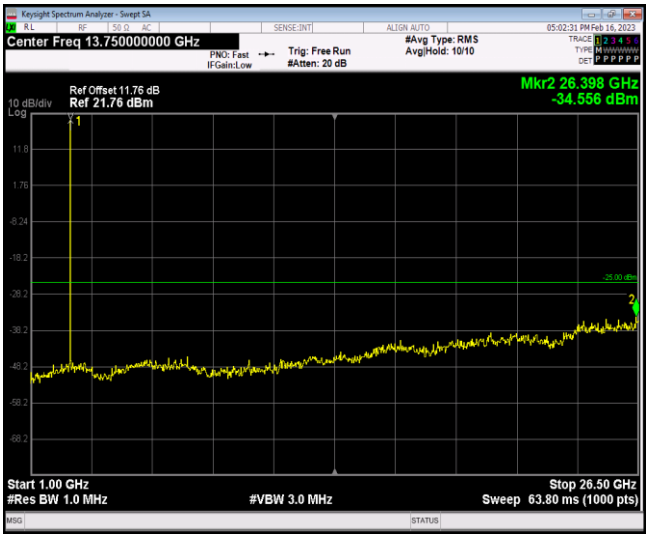


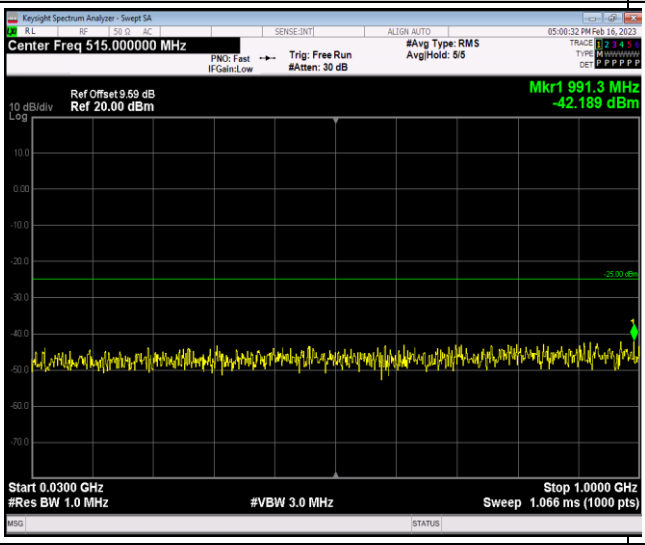


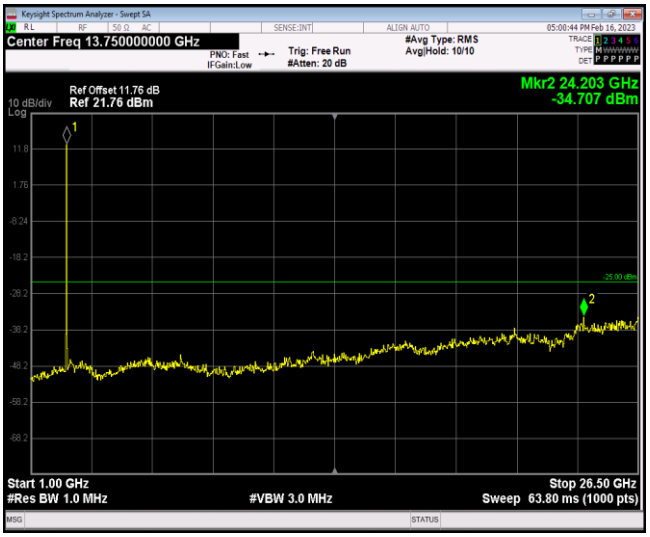
Band41-20MHz-16QAM-39750-1RB#0-Range1:30~1000MHz	Band41-20MHz-16QAM-39750-1RB#0-Range2:1000~26500MHz
	
Band41-20MHz-16QAM-40620-1RB#0-Range1:30~1000MHz	Band41-20MHz-16QAM-40620-1RB#0-Range2:1000~26500MHz
	
Band41-20MHz-16QAM-41490-1RB#0-Range1:30~1000MHz	Band41-20MHz-16QAM-41490-1RB#0-Range2:1000~26500MHz



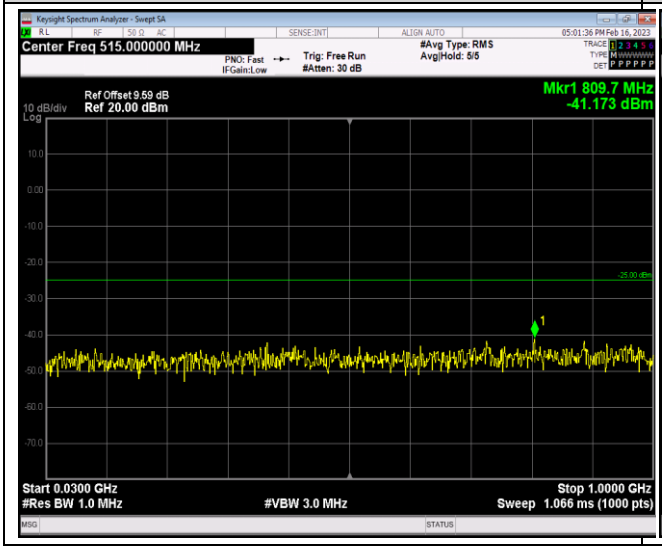


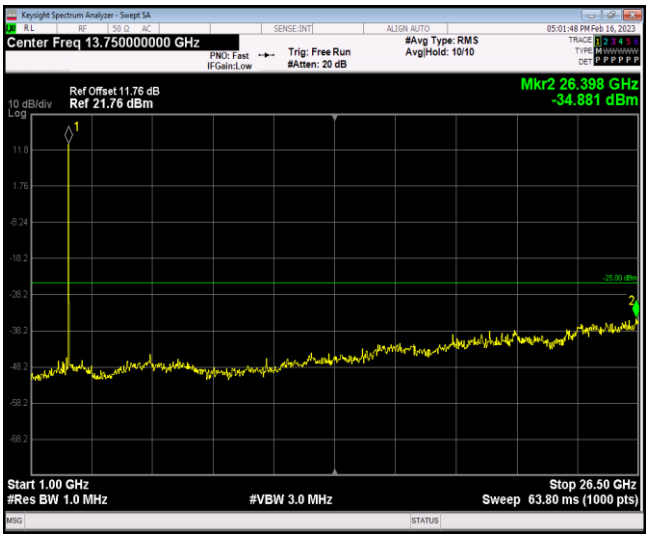
Band41-20MHz-64QAM-39750-1RB#0-Range1:30~1000MHz	Band41-20MHz-64QAM-39750-1RB#0-Range2:1000~26500MHz

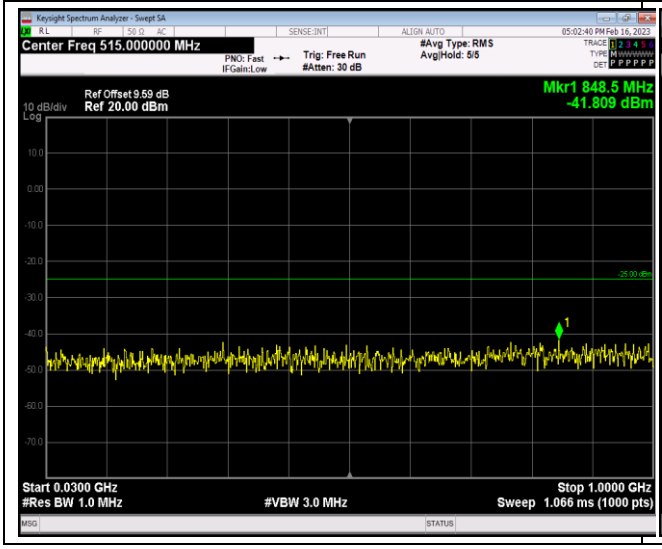
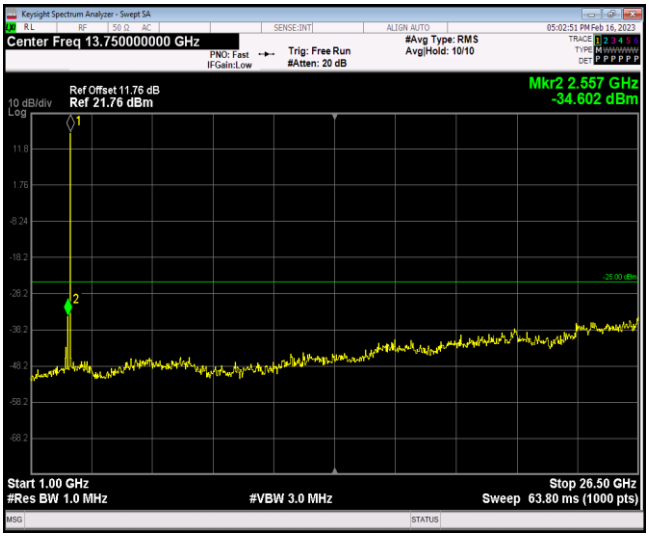




Band41-20MHz-64QAM-40620-1RB#0-Range1:30~1000MHz	Band41-20MHz-64QAM-40620-1RB#0-Range2:1000~26500MHz





Band41-20MHz-64QAM-41490-1RB#0-Range1:30~1000MHz	Band41-20MHz-64QAM-41490-1RB#0-Range2:1000~26500MHz
	

Appendix F: Frequency Stability

Test Result

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					
3.89	-30	-5.11	-0.002016	Within authorized band for Band 7	Pass
	-20	-4.26	-0.001680		
	-10	-3.53	-0.001393		
	0	-3.98	-0.001570		
	10	-8.05	-0.003176		
	20	-5.41	-0.002134		
	30	-3.96	-0.001562		
	40	10.74	0.004237		
	50	2.80	0.001105		
16QAM					
3.89	-30	-7.14	-0.002817	Within authorized band for Band 7	Pass
	-20	8.20	0.003235		
	-10	-10.53	-0.004154		
	0	-6.72	-0.002651		
	10	-1.96	-0.000773		
	20	-11.99	-0.004730		
	30	-3.33	-0.001314		
	40	-12.40	-0.004892		
	50	9.11	0.003594		
64QAM					
3.89	-30	-11.44	-0.004513	Within authorized band for Band 41	Pass
	-20	-11.03	-0.004351		
	-10	-10.50	-0.004142		
	0	2.98	0.001176		
	10	7.05	0.002781		
	20	-13.49	-0.005321		
	30	-7.02	-0.002769		
	40	-8.90	-0.003511		
	50	1.97	0.000777		

Voltage					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.45	-12.62	-0.004978	Within authorized band for	Pass
	3.89	-13.15	-0.005187		
	4.48	-14.26	-0.005625		
16QAM					
25	3.45	-10.54	-0.004158	Within authorized band for	Pass
	3.89	-10.97	-0.004327		
	4.48	-13.92	-0.005491		
64QAM					
25	3.45	11.59	0.004572	Within authorized band for	Pass
	3.89	2.13	0.000840		
	4.48	2.50	0.000986		
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=40620 Frequency=2593.0MHz					
Temperature					
Power supplied (Vdc)	Temperature (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.89	-30	4.68	0.001805	Within authorized band for Band 41	Pass
	-20	-2.35	-0.000906		
	-10	-5.56	-0.002144		
	0	-2.93	-0.001130		
	10	-1.87	-0.000721		
	20	4.31	0.001662		
	30	2.78	0.001072		
	40	-1.52	-0.000586		
	50	7.60	0.002931		
16QAM					
3.89	-30	-6.14	-0.002368	Within authorized band for Band 41	Pass
	-20	1.52	0.000586		
	-10	6.91	0.002665		
	0	9.26	0.003571		
	10	6.39	0.002464		
	20	5.78	0.002229		
	30	6.77	0.002611		
	40	-3.08	-0.001188		
	50	5.26	0.002029		
64QAM					
3.89	-30	10.24	0.003949	Within authorized band for Band 41	Pass
	-20	8.47	0.003266		
	-10	-3.89	-0.001500		
	0	1.47	0.000567		
	10	4.06	0.001566		
	20	-4.45	-0.001716		
	30	7.25	0.002796		
	40	3.69	0.001423		
	50	5.88	0.002268		

Voltage					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	3.45	5.78	0.002229	Within authorized band for Band 41	Pass
	3.89	5.26	0.002029		
	4.48	4.35	0.001678		
16QAM					
25	3.45	4.88	0.001882	Within authorized band for Band41	Pass
	3.89	11.82	0.004558		
	4.48	-5.44	-0.002098		
64QAM					
25	3.45	6.21	0.002395	Within authorized band for Band41	Pass
	3.89	2.92	0.001126		
	4.48	6.18	0.002383		
Remark: All bandwidth and all modulation had been tested, but only the worst case data displayed in this report.					

Appendix G: Modulation Characteristics

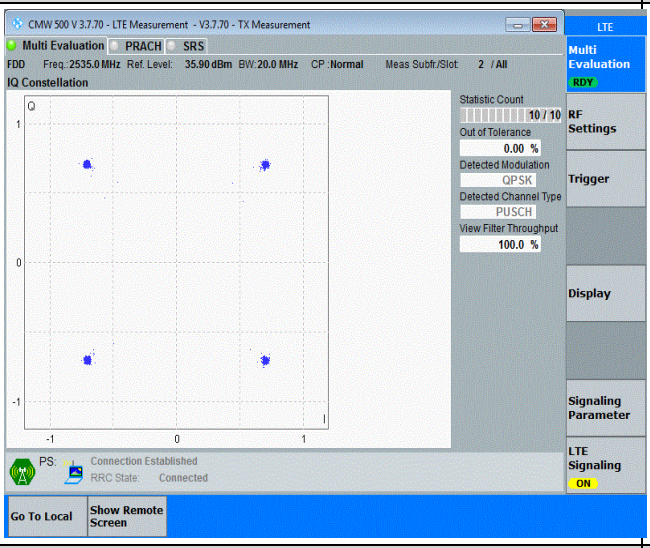
Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Result	Verdict
Band7	20MHz	QPSK	21100	100RB#0	PASS	PASS
Band7	20MHz	16QAM	21100	100RB#0	PASS	PASS
Band7	20MHz	64QAM	21100	100RB#0	PASS	PASS
Band41	20MHz	QPSK	40620	100RB#0	PASS	PASS
Band41	20MHz	16QAM	40620	100RB#0	PASS	PASS
Band41	20MHz	64QAM	40620	100RB#0	PASS	PASS

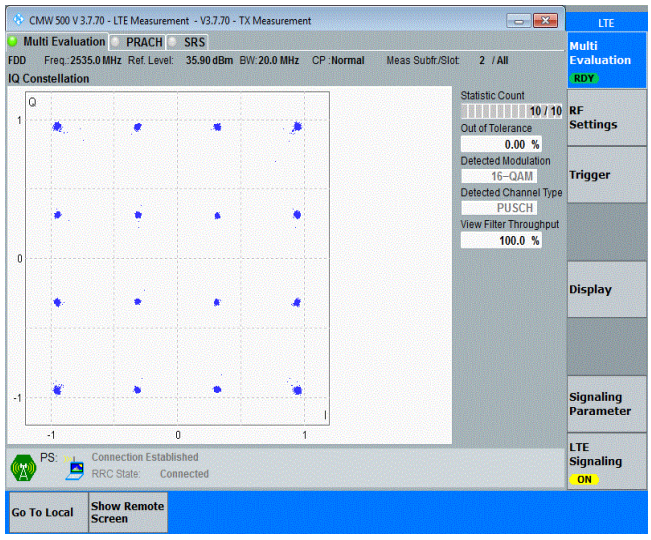
Remark: All bandwidth and all modulation had been tested, but only the worst case data displayed in this report.

Test Graphs

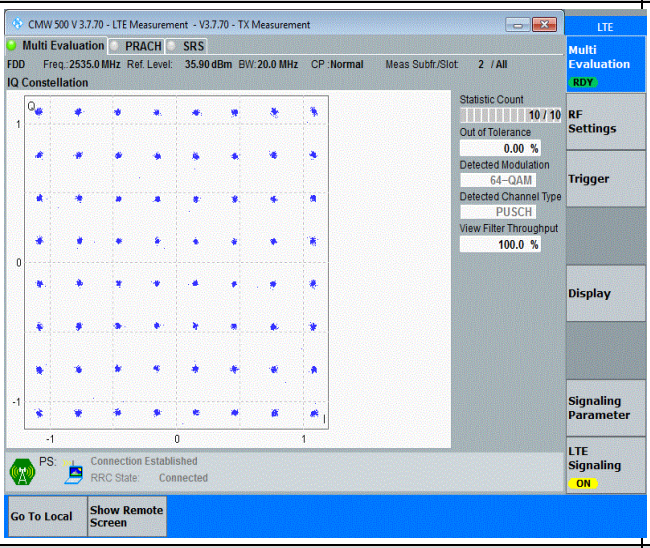
Band7-20MHz-QPSK-21100-100RB#0



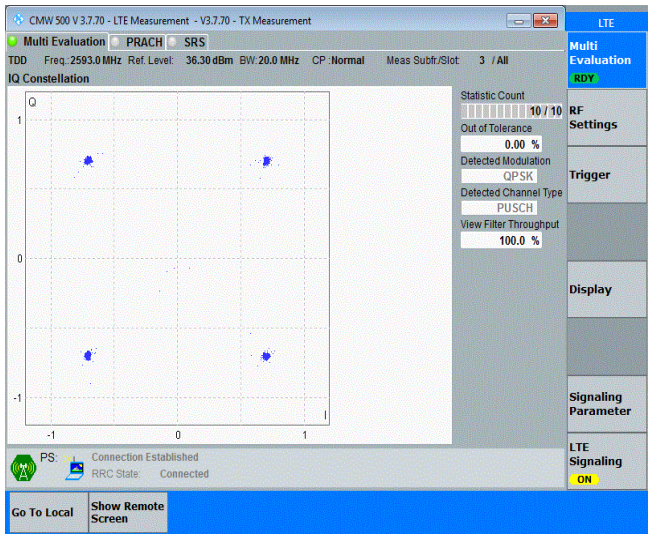
Band7-20MHz-16QAM-21100-100RB#0



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

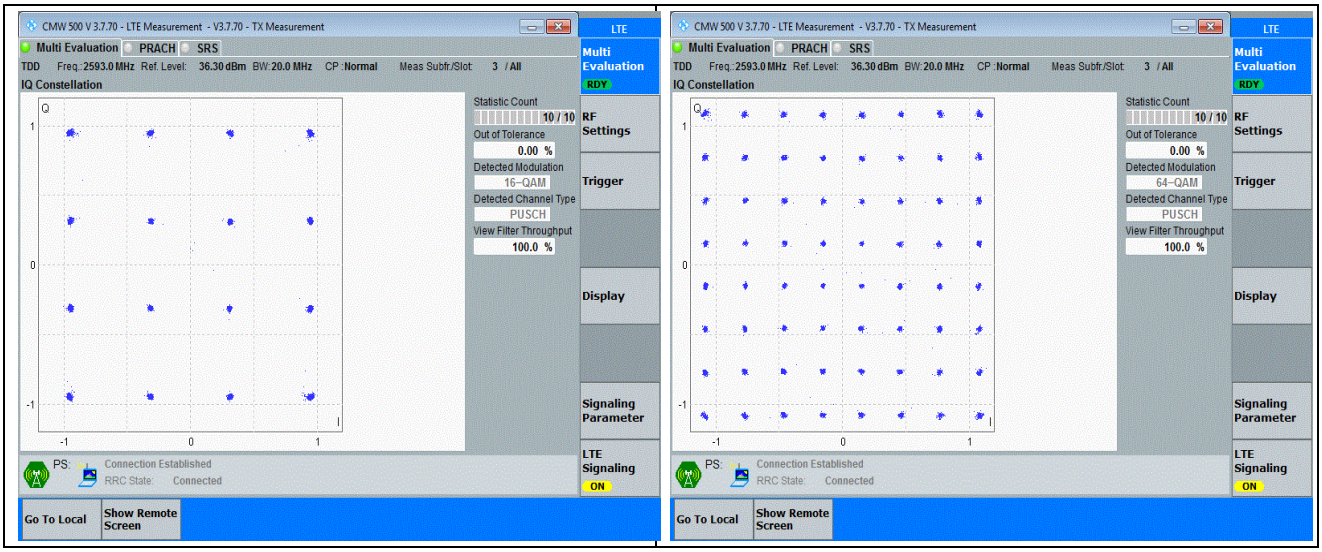


Band41-20MHz-QPSK-40620-100RB#0



Band41-20MHz-16QAM-40620-100RB#0

Band41-20MHz-64QAM-40620-100RB#0


CMW 500 V 3.7.70 - LTE Measurement - V3.7.70 - TX Measurement
Multi Evaluation
PRACH
SRS
TDD Freq.:2593.0 MHz Ref. Level: 36.30 dBm BW:20.0 MHz CP :Normal Meas Subfr./Slot: 3 / All
IQ Constellation
Statistic Count
10 / 10
Out of Tolerance
0.00 %
Detected Modulation
16-QAM
Detected Channel Type
PUSCH
View Filter Throughput
100.0 %
LTE
Multi Evaluation
RDY
RF Settings
Trigger
Display
Signaling Parameter
LTE Signaling
ON
PS:
Connection Established
RRC State: Connected
Go To Local
Show Remote Screen
CMW 500 V 3.7.70 - LTE Measurement - V3.7.70 - TX Measurement
Multi Evaluation
PRACH
SRS
TDD Freq.:2593.0 MHz Ref. Level: 36.30 dBm BW:20.0 MHz CP :Normal Meas Subfr./Slot: 3 / All
IQ Constellation
Statistic Count
10 / 10
Out of Tolerance
0.00 %
Detected Modulation
64-QAM
Detected Channel Type
PUSCH
View Filter Throughput
100.0 %
LTE
Multi Evaluation
RDY
RF Settings
Trigger
Display
Signaling Parameter
LTE Signaling
ON
PS:
Connection Established
RRC State: Connected
Go To Local
Show Remote Screen