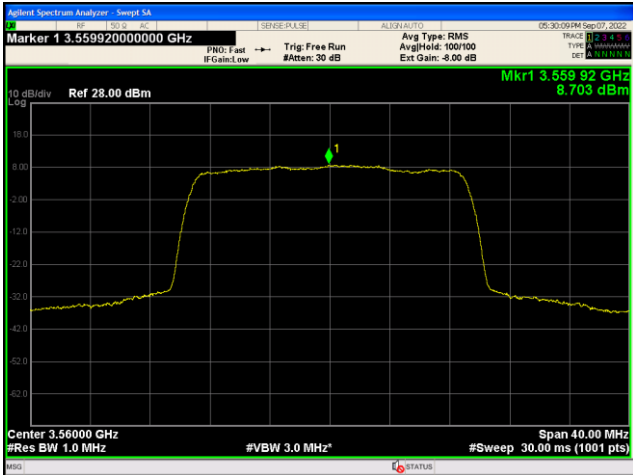


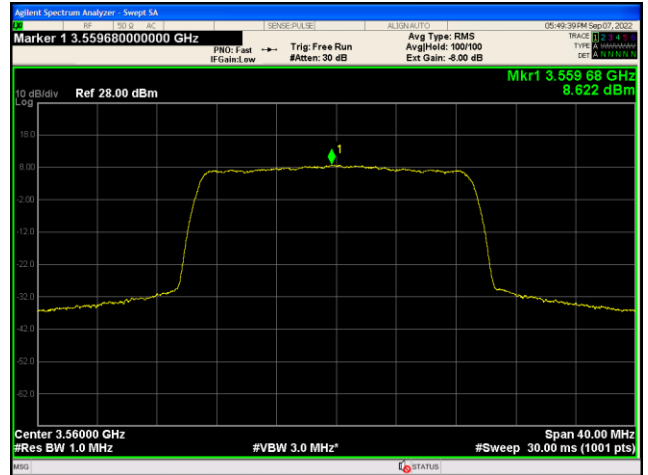
Bandwidth=20MHz – QPSK

ANT 1

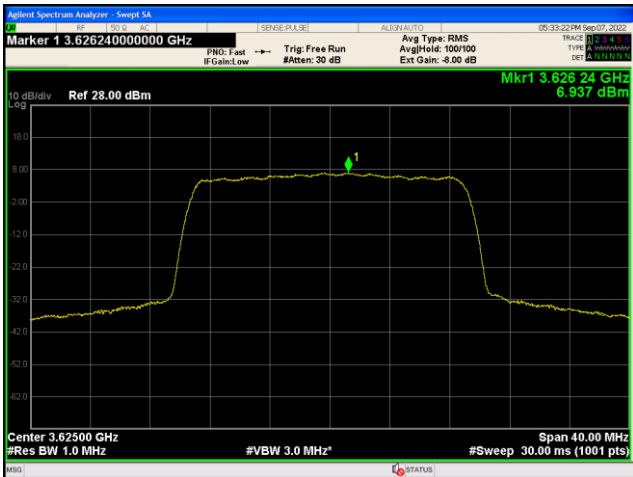
ANT 3



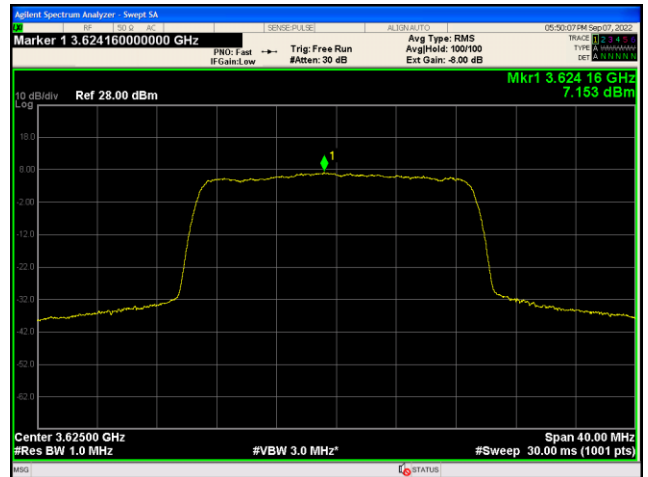
Lowest channel



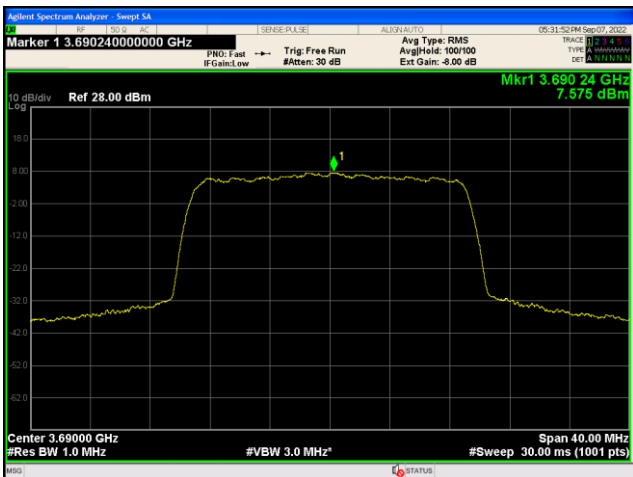
Lowest channel



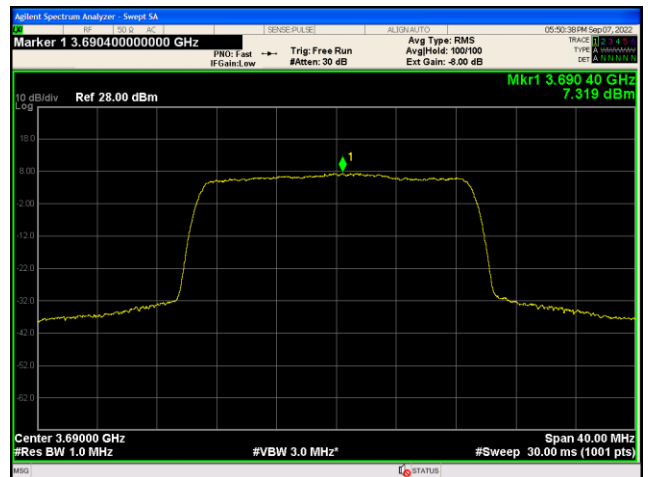
Middle channel



Middle channel



Highest channel

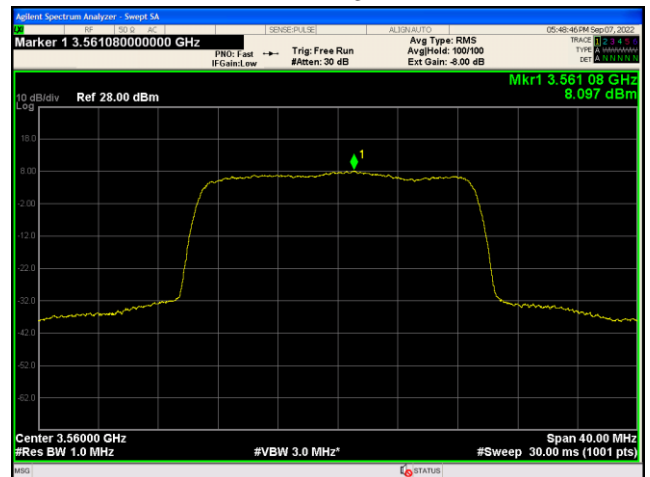
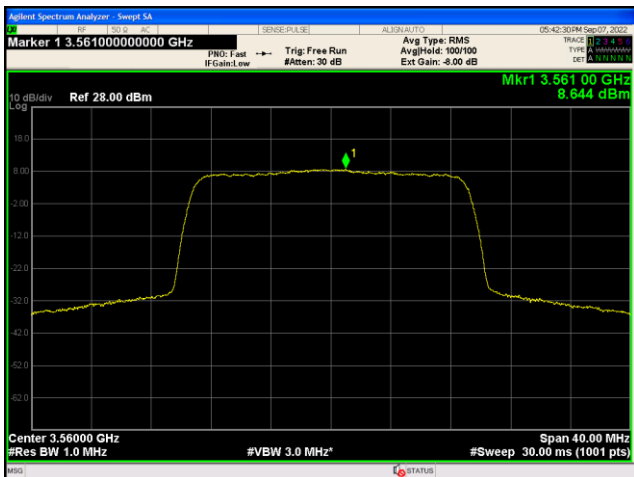


Highest channel

Bandwidth=20MHz – 64QAM

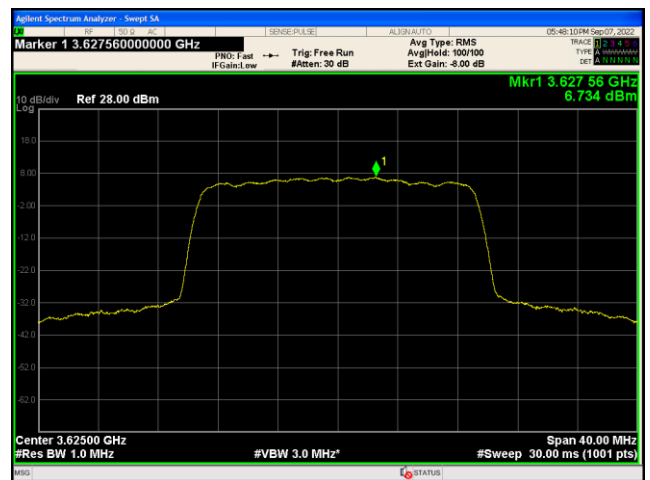
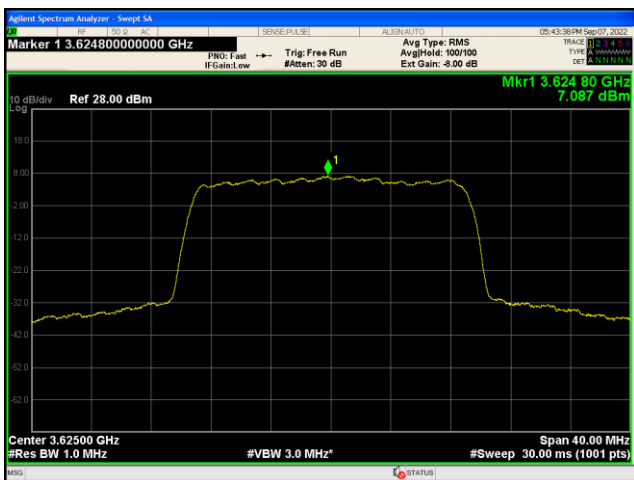
ANT 1

ANT 3



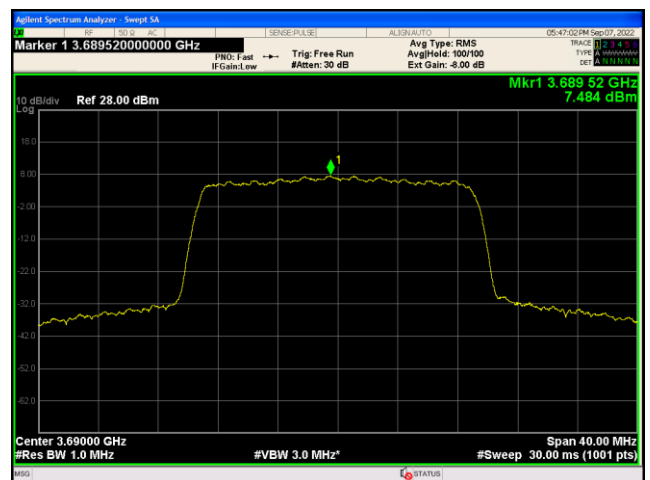
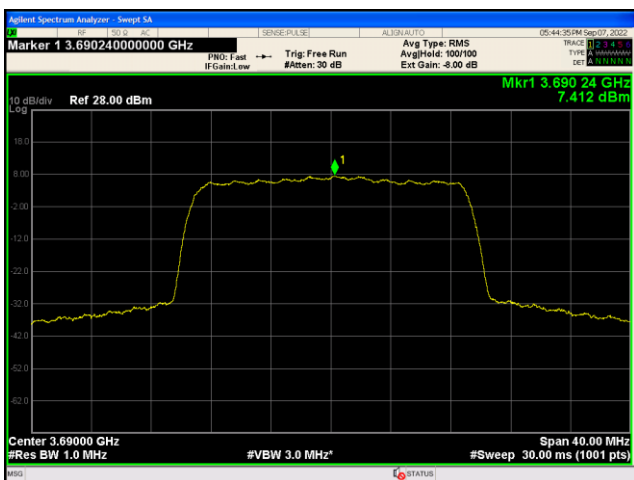
Lowest channel

Lowest channel



Middle channel

Middle channel



Highest channel

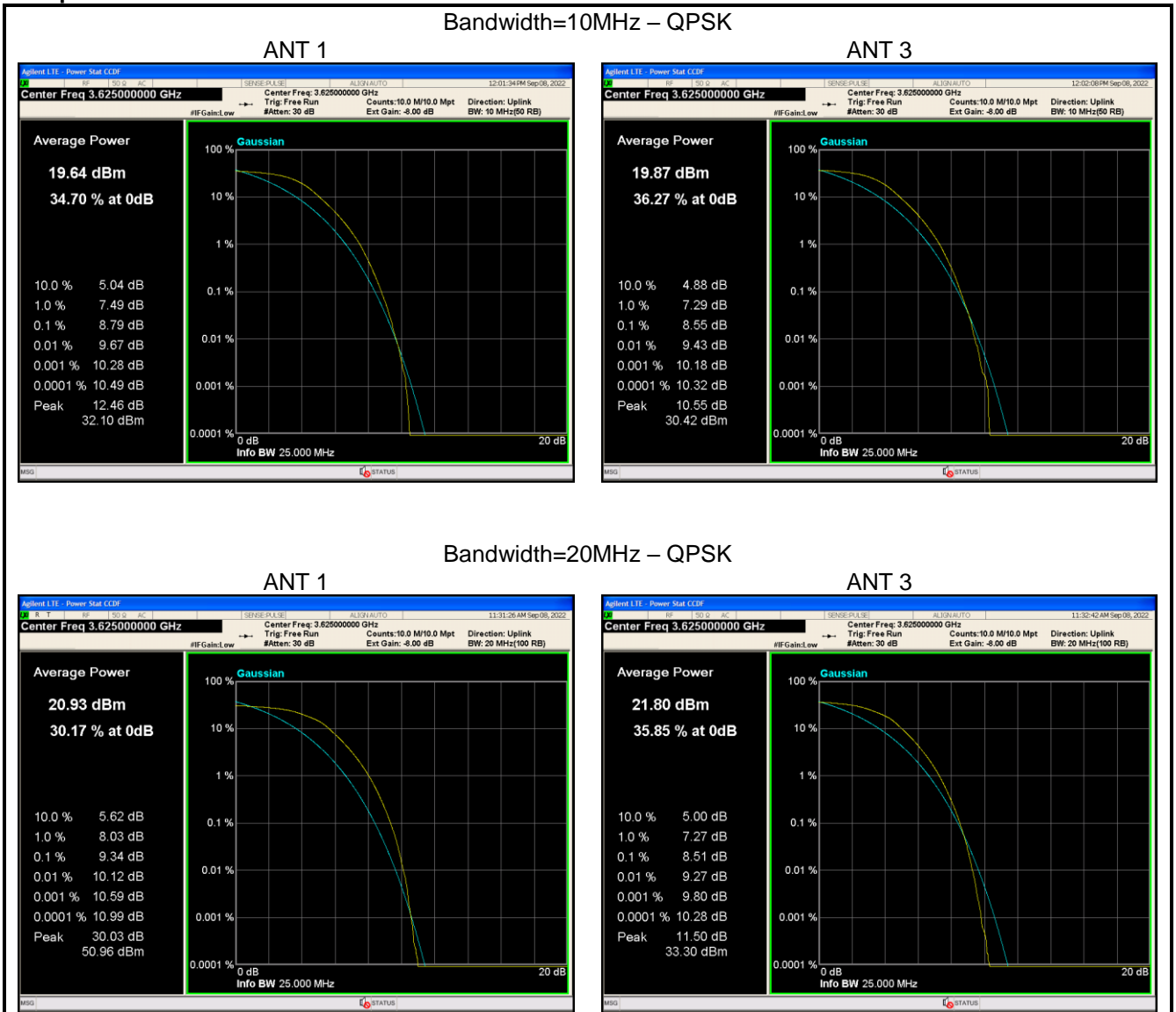
Highest channel

Peak-to-average power ratio (PAPR)

Measurement Data:

Modulation	Frequency (MHz)	ANT. Port	PAPR(dB)	Limit(dB)	Result
10MHz – QPSK	3625.00	ANT 1	8.79	13.00	PASS
	3625.00	ANT 3	8.55		PASS
20MHz – QPSK	3625.00	ANT 1	9.34		PASS
	3625.00	ANT 3	8.51		PASS

Test plot as follows:



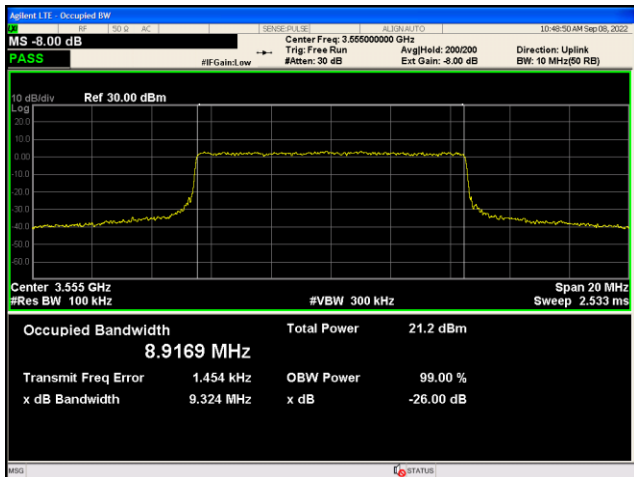
Occupied Bandwidth

Test Channel	Bandwidth (MHz)	Modulation	Ant. Port	26dB Occupy bandwidth (MHz)	99% Occupy bandwidth (MHz)
Lowest	10	QPSK	ANT 1	9.324	8.917
			ANT 3	9.489	8.921
		64QAM	ANT 1	9.303	8.924
			ANT 3	9.299	8.911
Middle	10	QPSK	ANT 1	9.301	8.920
			ANT 3	9.346	8.914
		64QAM	ANT 1	9.291	8.897
			ANT 3	9.339	8.911
Highest	10	QPSK	ANT 1	9.286	8.918
			ANT 3	9.299	8.915
		64QAM	ANT 1	9.317	8.910
			ANT 3	9.340	8.911
Lowest	20	QPSK	ANT 1	18.500	17.834
			ANT 3	18.530	17.810
		64QAM	ANT 1	18.570	17.841
			ANT 3	18.500	17.817
Middle	20	QPSK	ANT 1	18.530	17.814
			ANT 3	18.490	17.845
		64QAM	ANT 1	18.520	17.814
			ANT 3	18.500	17.854
Highest	20	QPSK	ANT 1	18.510	17.806
			ANT 3	18.530	17.790
		64QAM	ANT 1	18.500	17.807
			ANT 3	18.540	17.819

Test plot as follows:

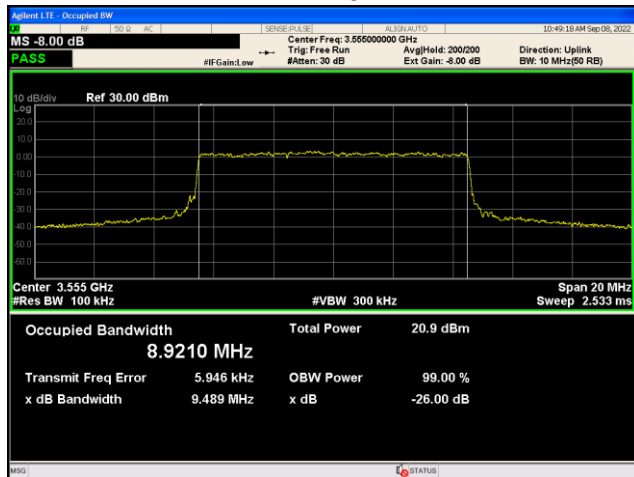
LTE Band 48
BW: 10MHz, QPSK

ANT 1

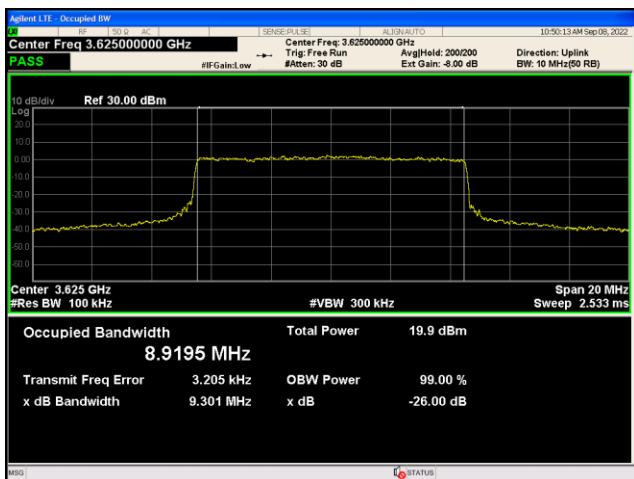


Lowest channel

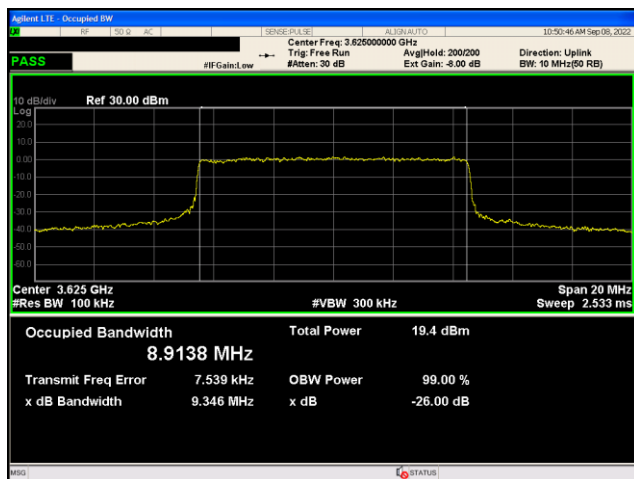
ANT 3



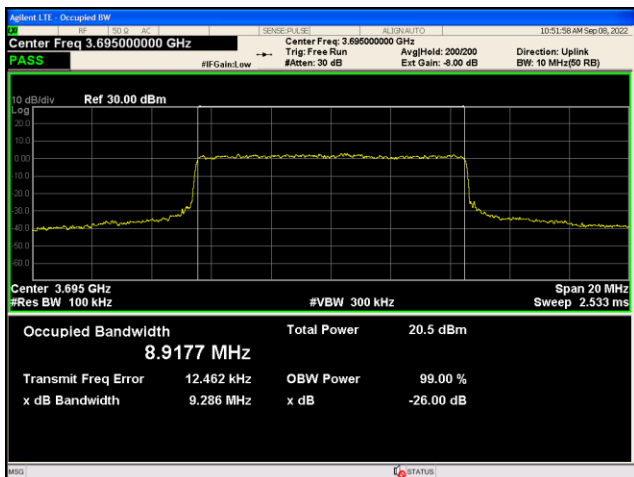
Lowest channel



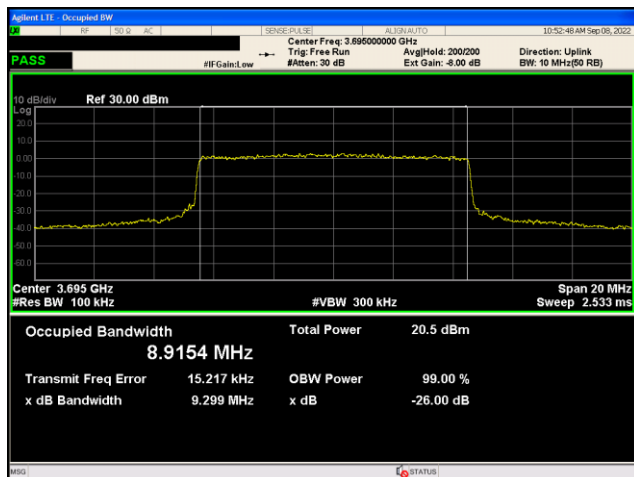
Middle channel



Middle channel



Highest channel

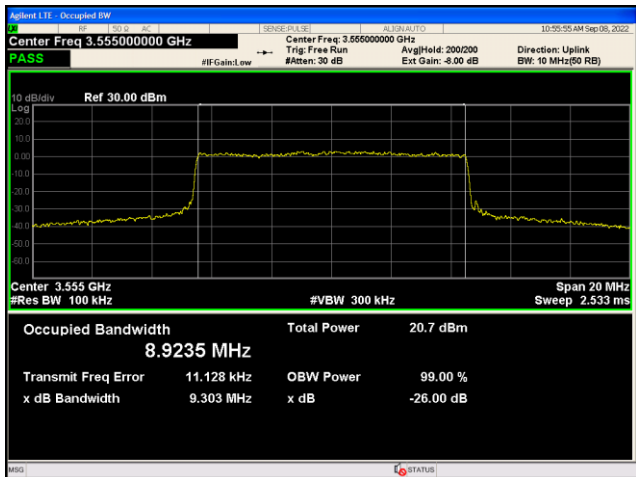


Highest channel

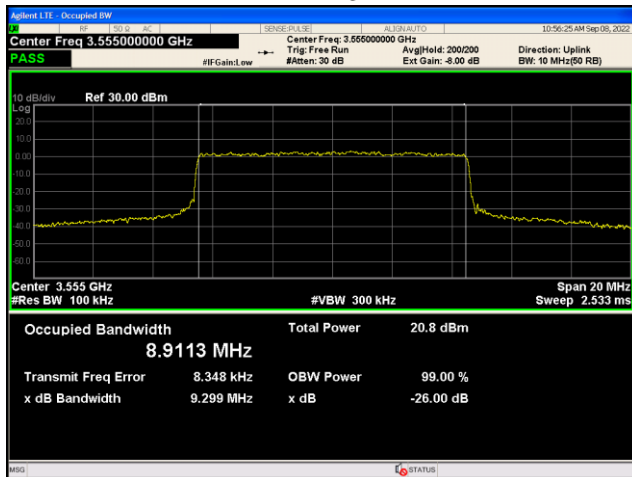
LTE Band 48
BW: 10MHz, 64QAM

ANT 1

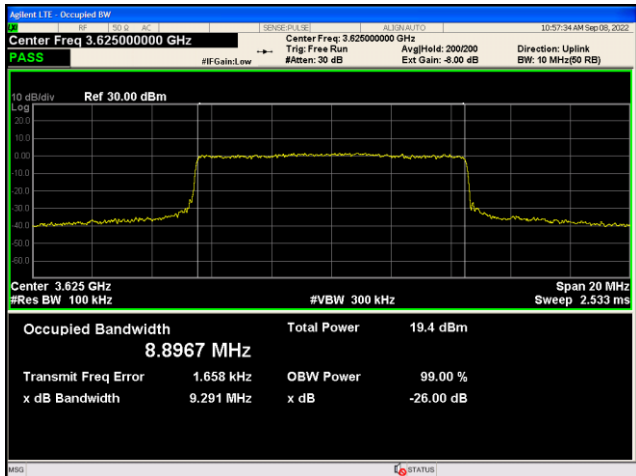
ANT 3



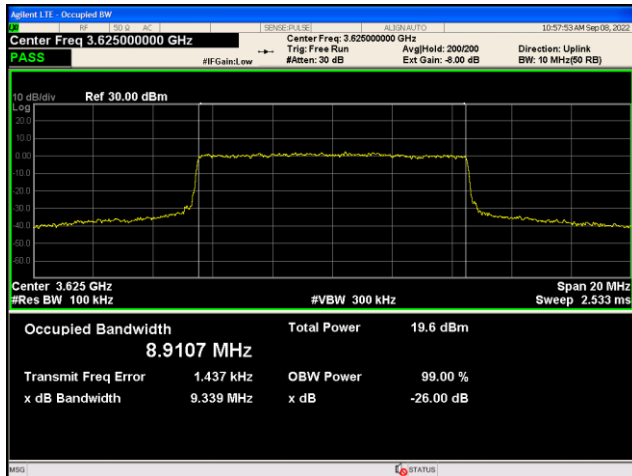
Lowest channel



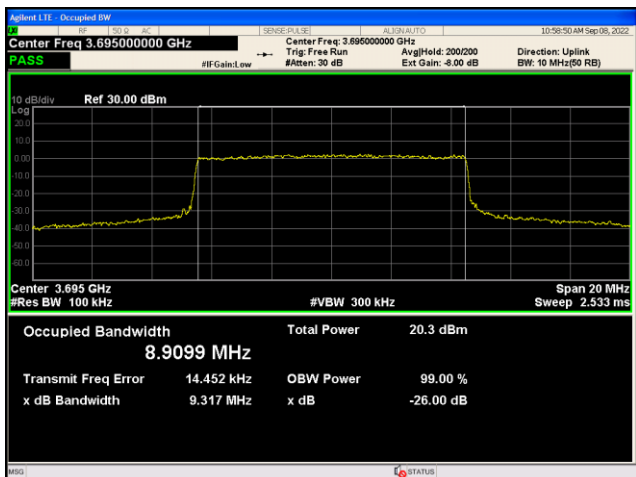
Lowest channel



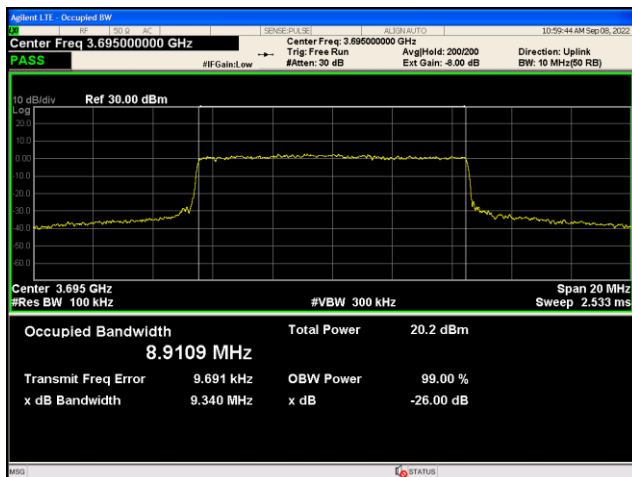
Middle channel



Middle channel



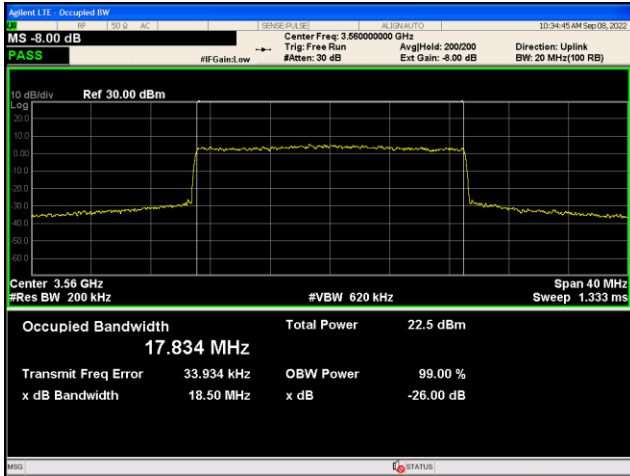
Highest channel



Highest channel

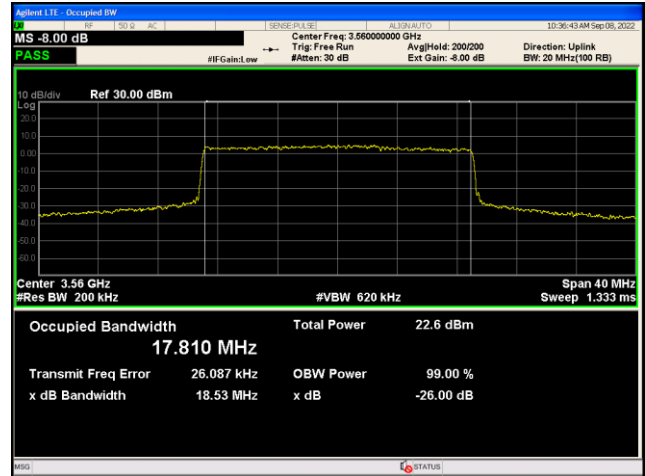
LTE Band 48:
BW: 20MHz QPSK

ANT 1

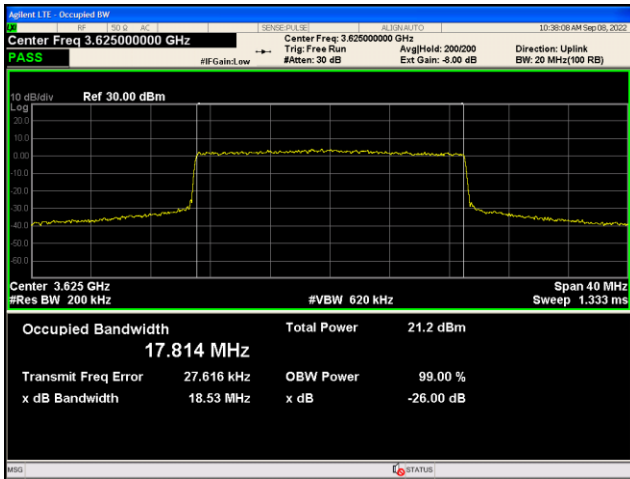


Lowest channel

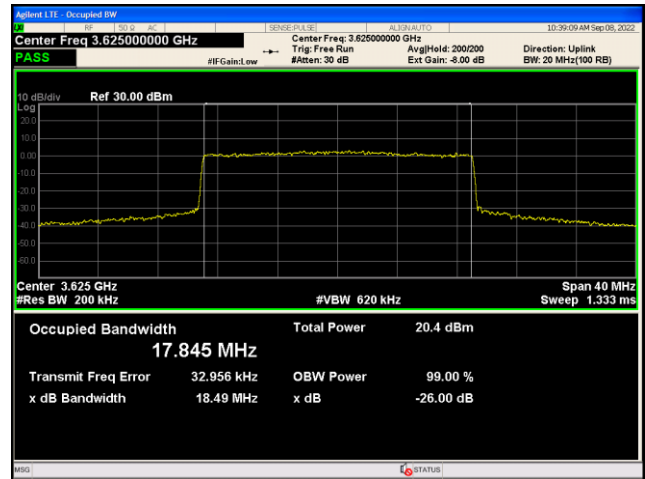
ANT 3



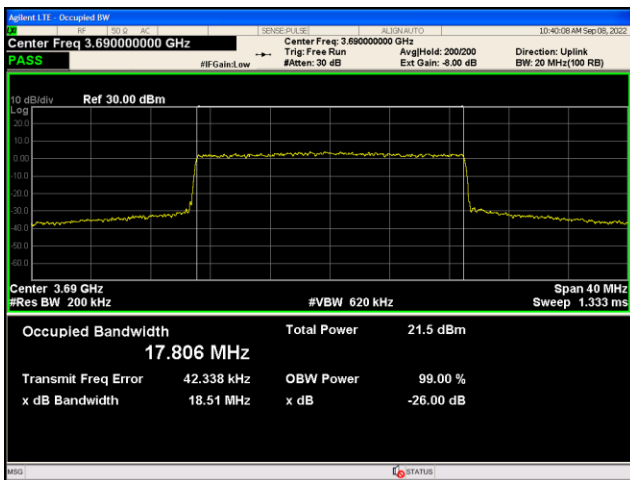
Lowest channel



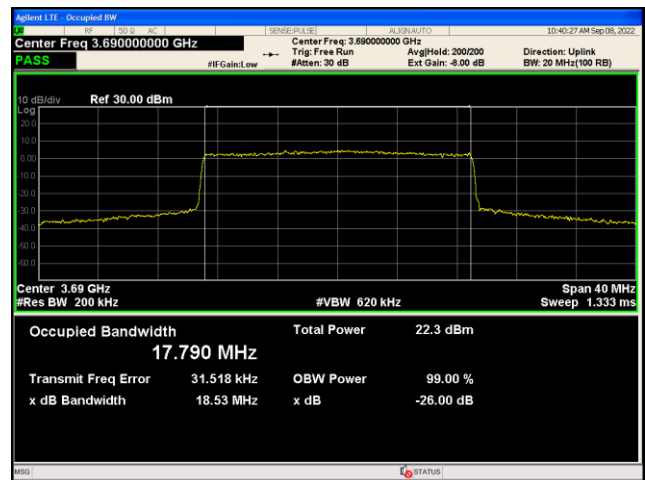
Middle channel



Middle channel



Highest channel

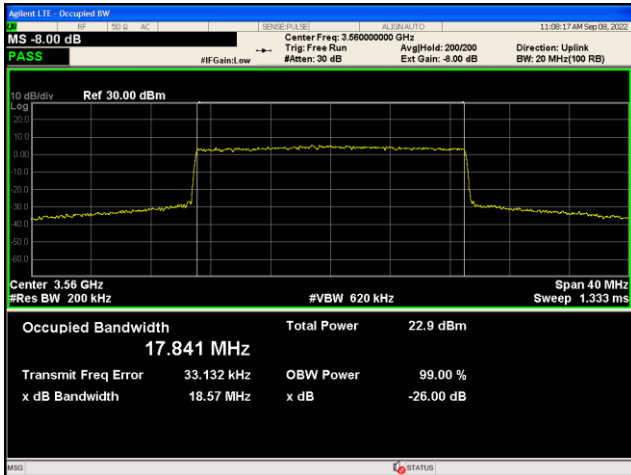


Highest channel

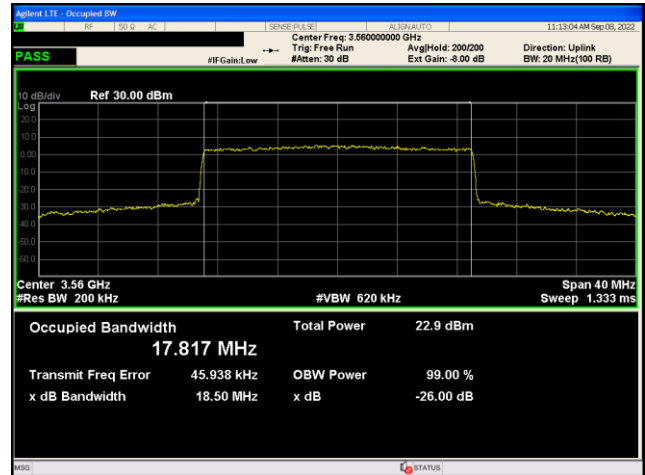
LTE Band 48
BW: 20MHz, 64QAM

ANT 1

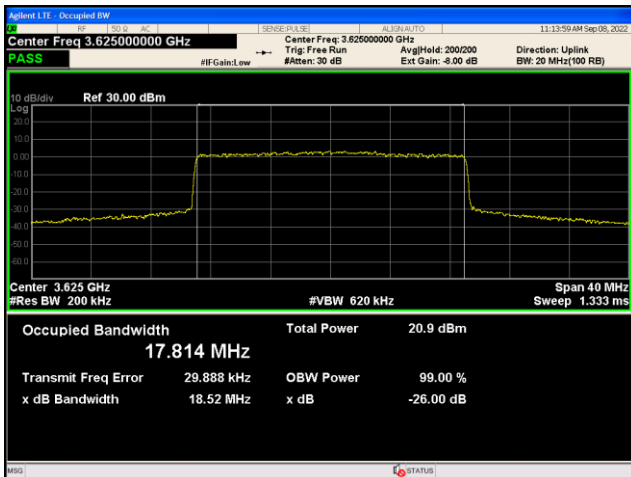
ANT 3



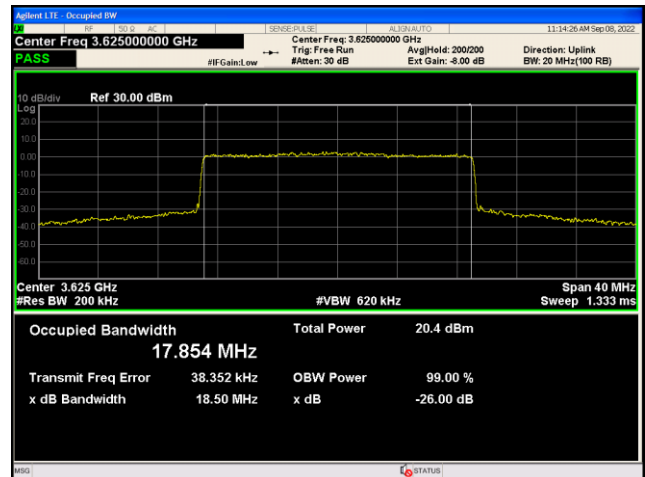
Lowest channel



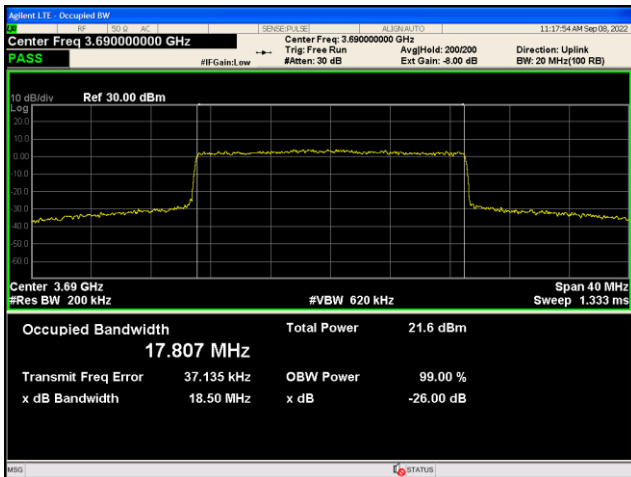
Lowest channel



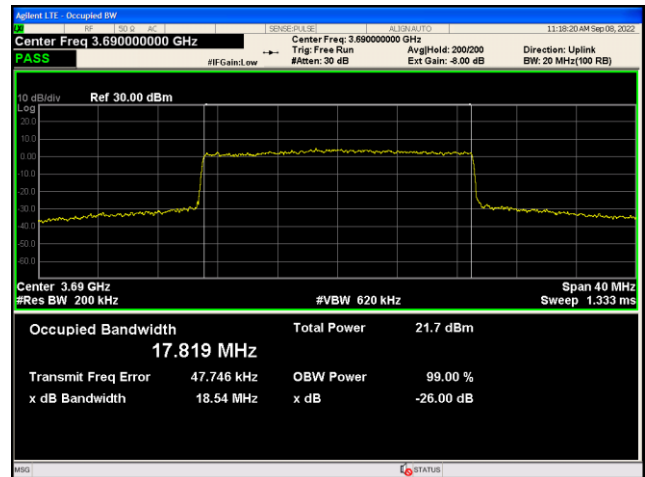
Middle channel



Middle channel



Highest channel



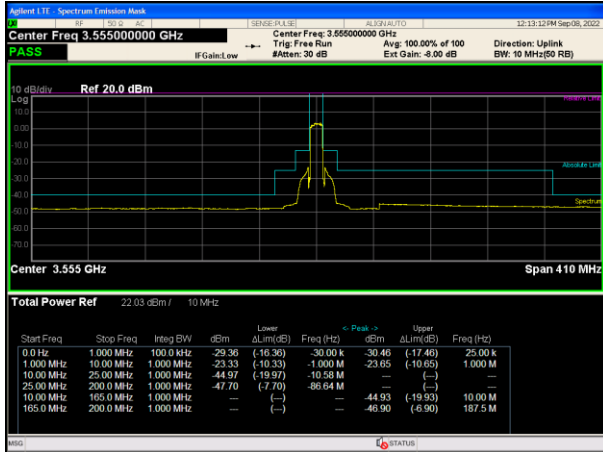
Highest channel

Emission Mask

Test plots as below:

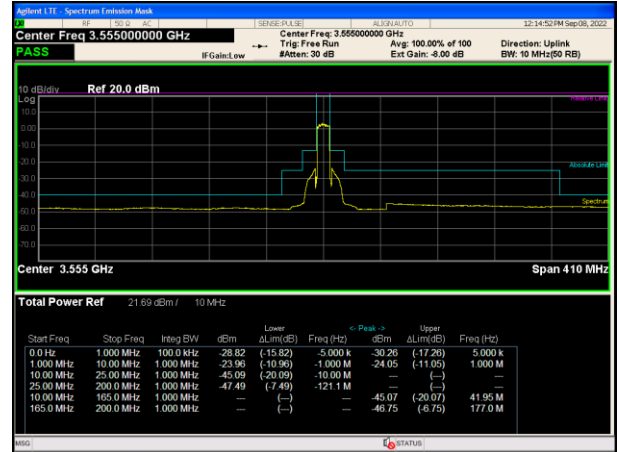
LTE Band 48 10MHz bandwidth, QPSK

ANT 1

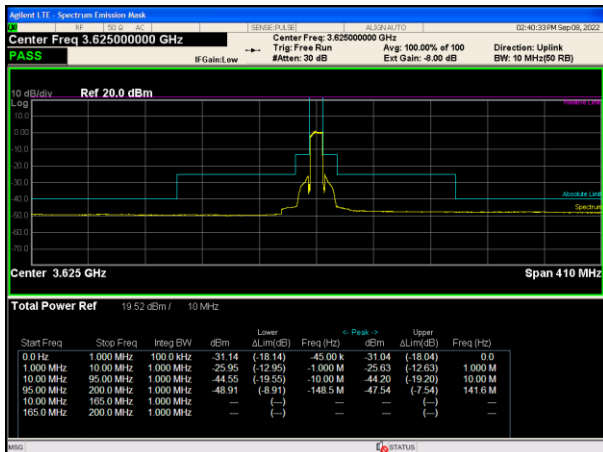


Lowest channel

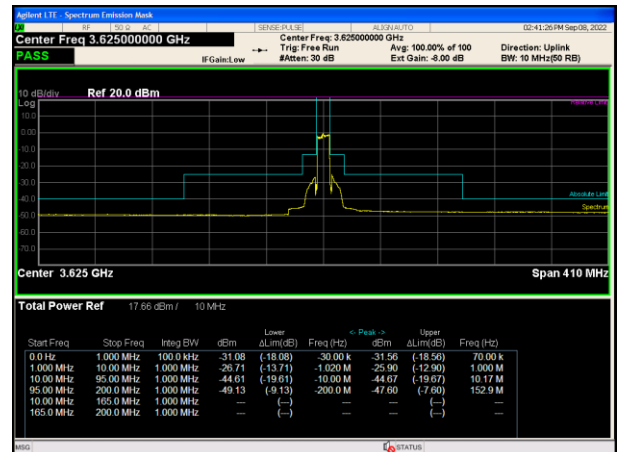
ANT 3



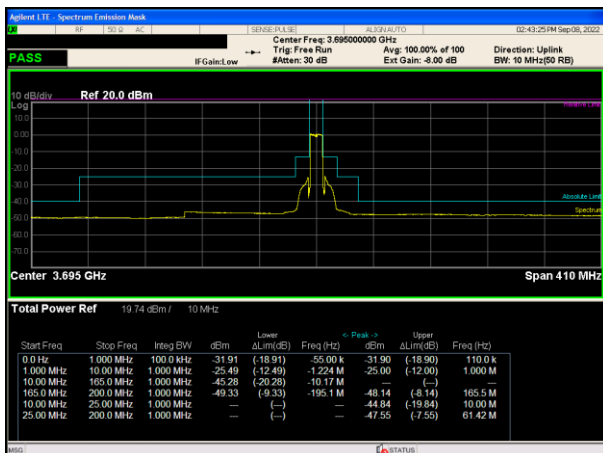
Lowest channel



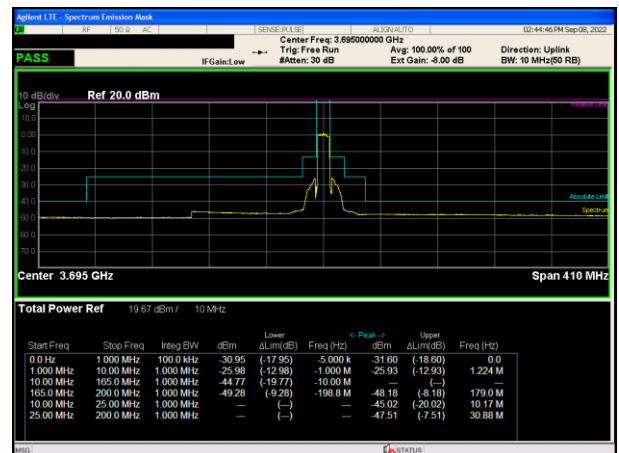
Middle channel



Middle channel



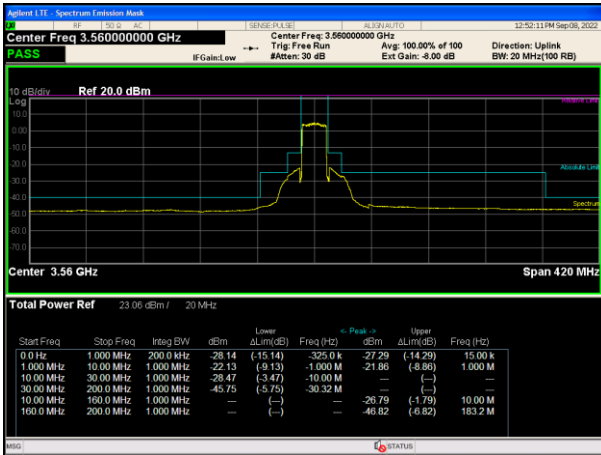
Highest channel



Highest channel

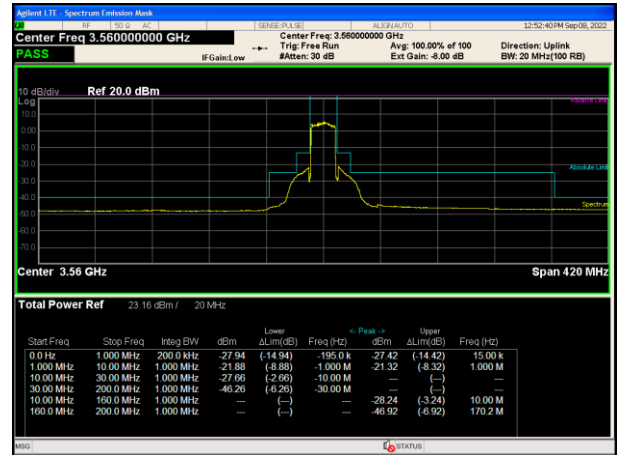
LTE Band 48
20MHz bandwidth, QPSK

ANT 1

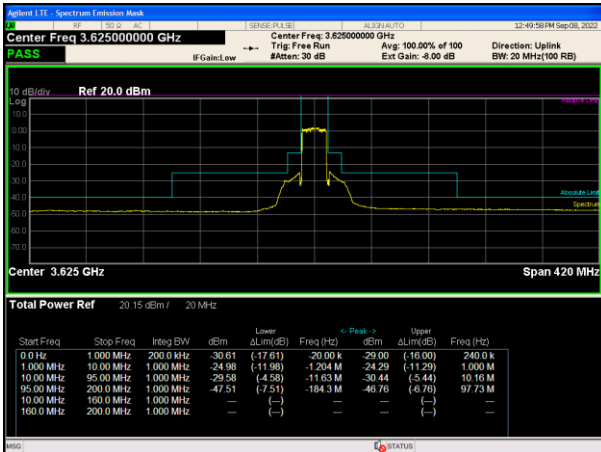


Lowest channel

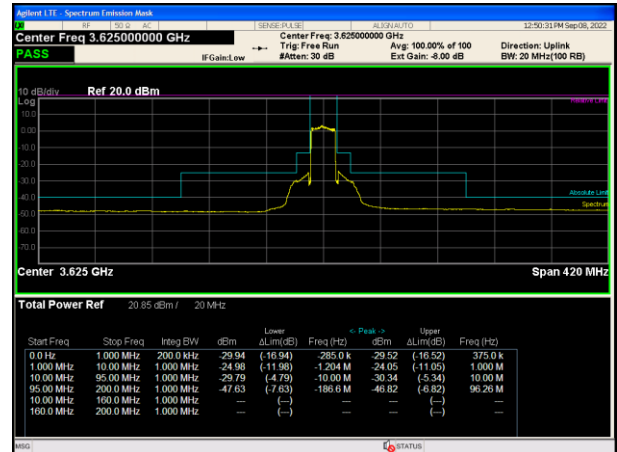
ANT 3



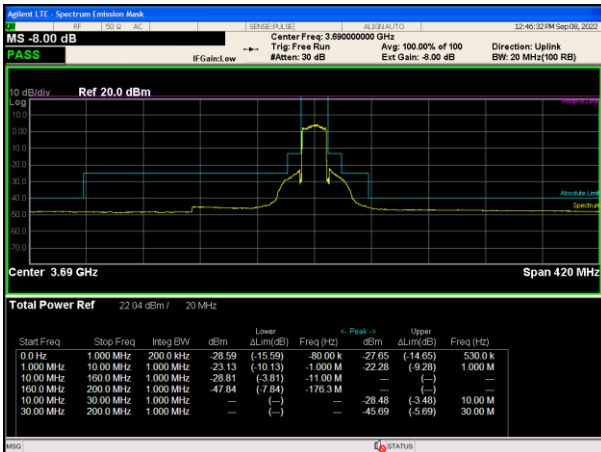
Lowest channel



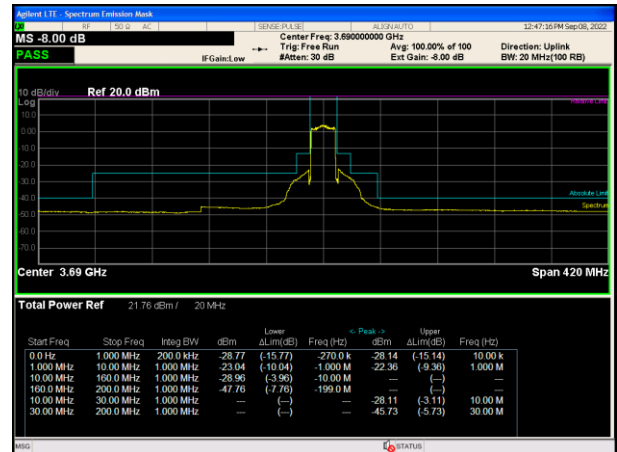
Middle channel



Middle channel



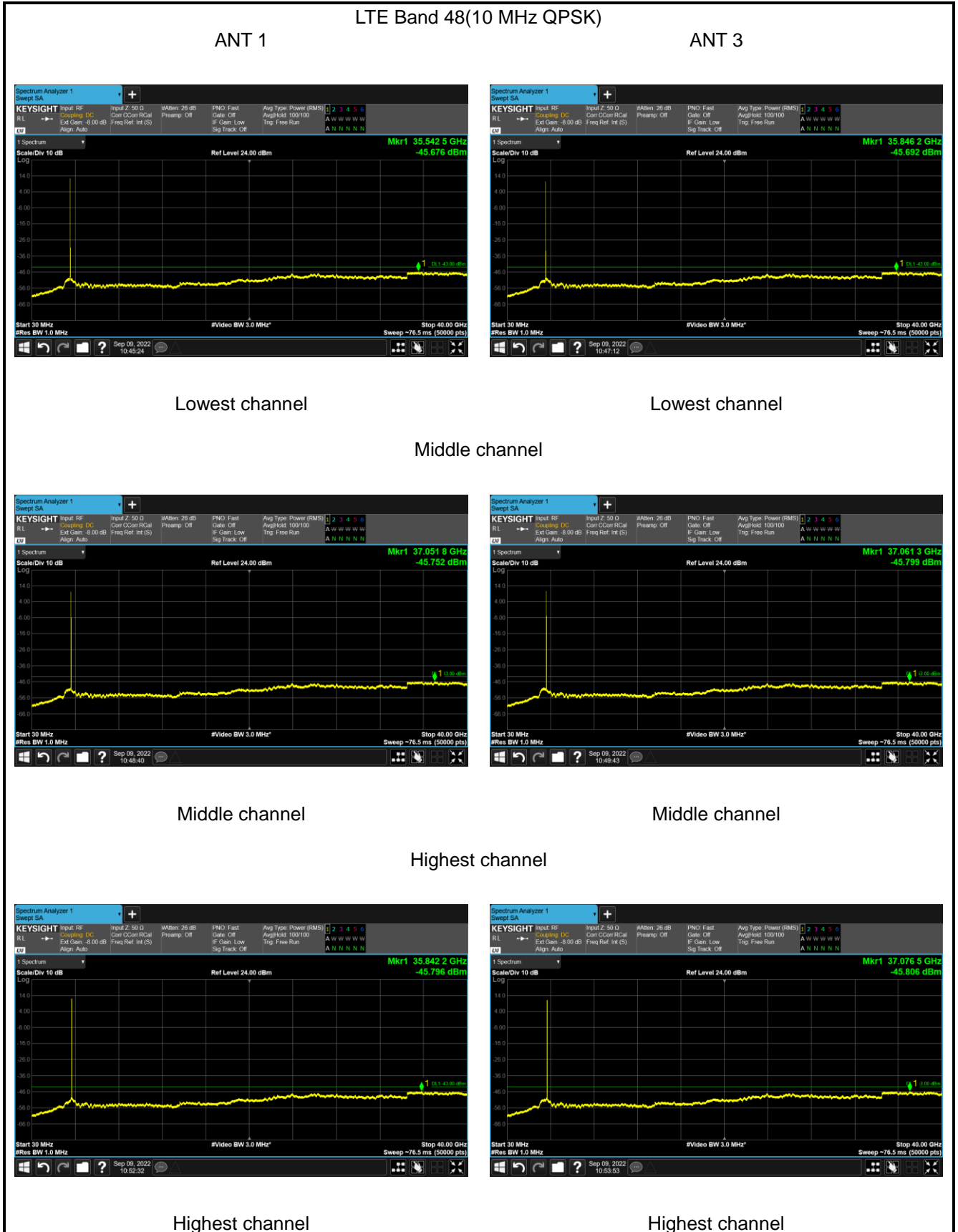
Highest channel



Highest channel

Spurious Emissions at Antenna Terminal

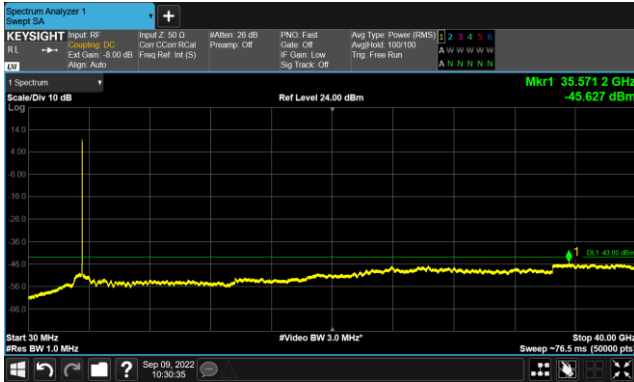
Test plots as below:



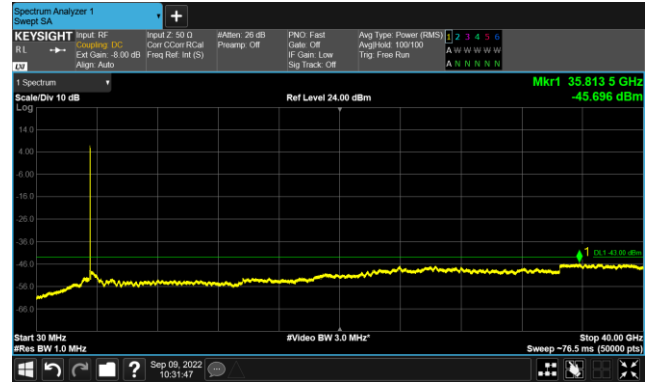
LTE Band 48(20 MHz QPSK)

ANT 1

ANT 3

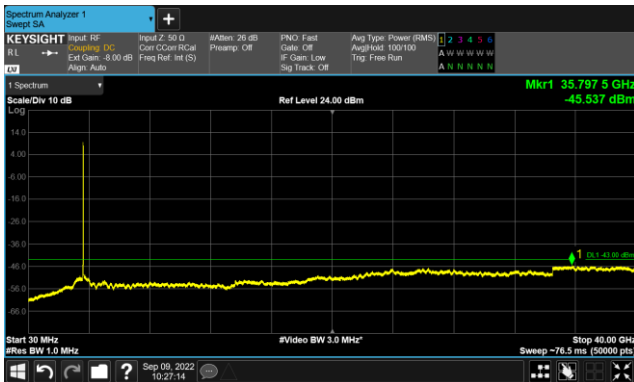


Lowest channel

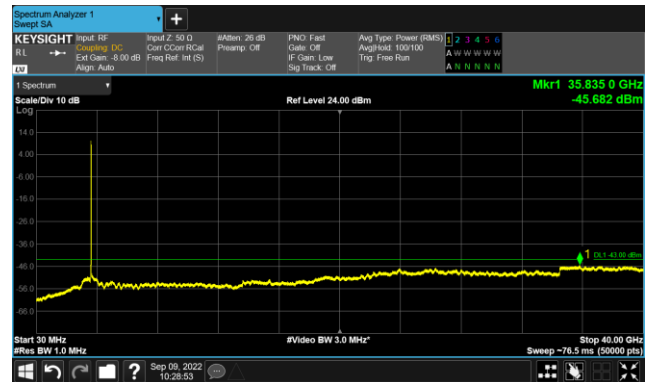


Lowest channel

Middle channel

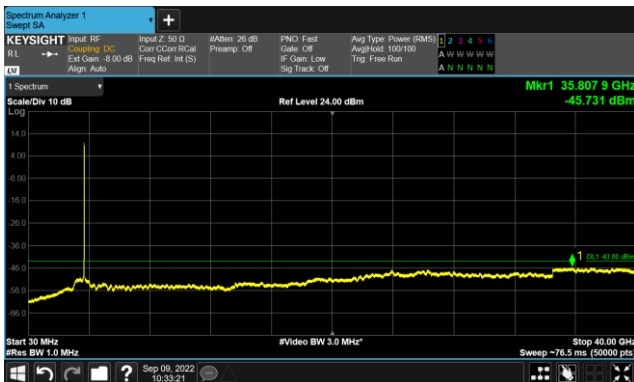


Middle channel

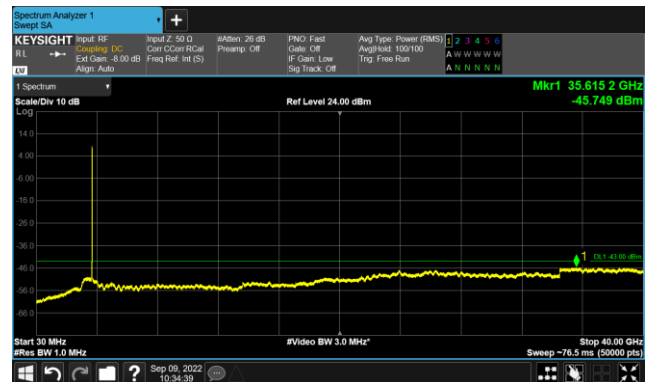


Middle channel

Highest channel



Highest channel



Highest channel

Frequency Stability

Reference Frequency: LTE Band 48 (10MHz) Middle channel Frequency=3625.0MHz – ANT 1					
Temperature					
Power supplied (Vac)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
120	-10	40.51	0.011175	Within authorized band for Band 48	Pass
	0	-15.71	-0.004334		
	10	19.13	0.005277		
	20	-20.22	-0.005578		
	30	13.19	0.003639		
	40	-5.88	-0.001622		
	45	-6.79	-0.001873		
64QAM					
120	-10	20.46	0.005644	Within authorized band for Band 48	Pass
	0	-8.46	-0.002334		
	10	-13.18	-0.003636		
	20	-17.10	-0.004717		
	30	23.57	0.006502		
	40	17.12	0.004723		
	45	-3.1	-0.000855		
Voltage					
Temperature (°C)	Power supplied (Vac)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	102	-22.18	-0.006119	Within authorized band for Band 48	Pass
	120	-13.02	-0.003592		
	138	-9.78	-0.002698		
64QAM					
25	102	-10.14	-0.002797	Within authorized band for Band48	Pass
	120	-8.13	-0.002243		
	138	-24.76	-0.006830		
Remark: All bandwidth and all modulation had been tested, but only the worst case data displayed in this report.					

Reference Frequency: LTE Band 48 (10MHz) Middle channel Frequency=3625.0MHz – ANT 3					
Temperature					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
120	-10	25.13	0.006932	Within authorized band for Band 48	Pass
	0	16.47	0.004543		
	10	11.16	0.003079		
	20	-14.58	-0.004022		
	30	30.15	0.008317		
	40	20.14	0.005556		
	45	-6.1	-0.001683		
64QAM					
120	-10	-18.73	-0.005167	Within authorized band for Band 48	Pass
	0	30.14	0.008314		
	10	19.12	0.005274		
	20	-15.73	-0.004339		
	30	-8.08	-0.002229		
	40	-20.15	-0.005559		
	45	29.13	0.008036		
Voltage					
Temperature (°C)	Power supplied (Vac)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	102	-15.46	-0.004265	Within authorized band for Band 48	Pass
	120	-10.13	-0.002794		
	138	-26.15	-0.007214		
64QAM					
25	102	-9.98	-0.002753	Within authorized band for Band48	Pass
	120	-20.17	-0.005564		
	138	-14.02	-0.003868		
Remark: All bandwidth and all modulation had been tested, but only the worst case data displayed in this report.					

-----End-----