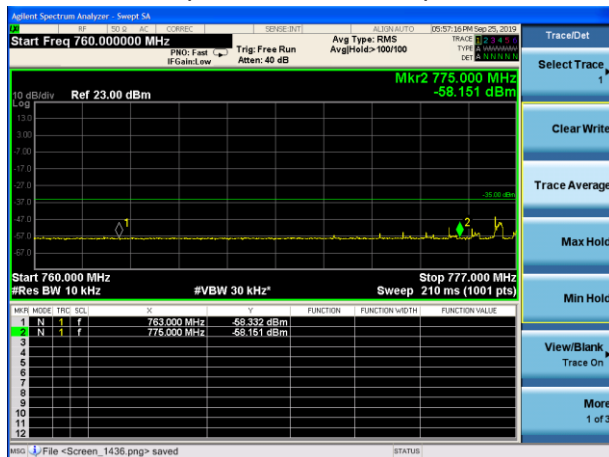
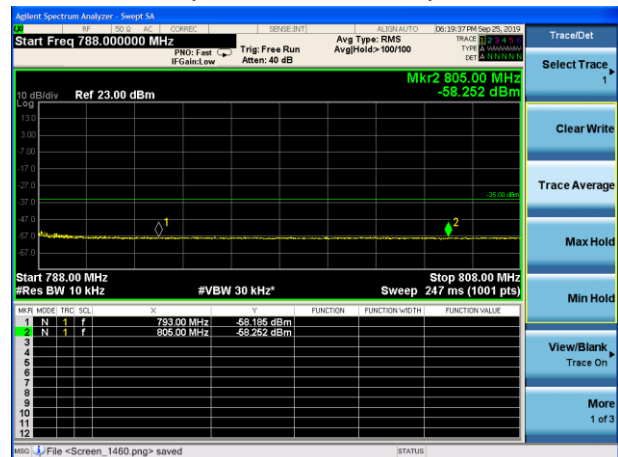
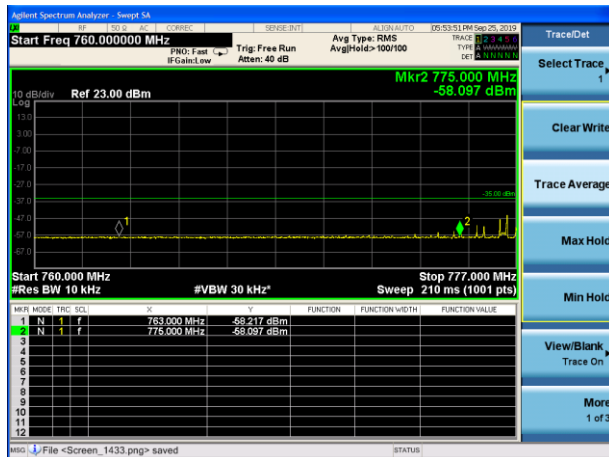
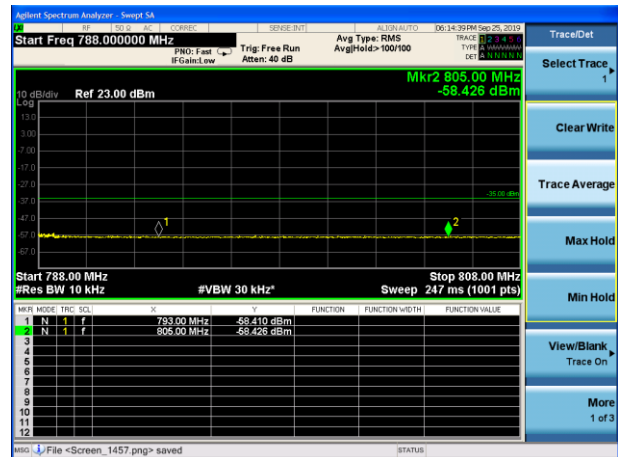
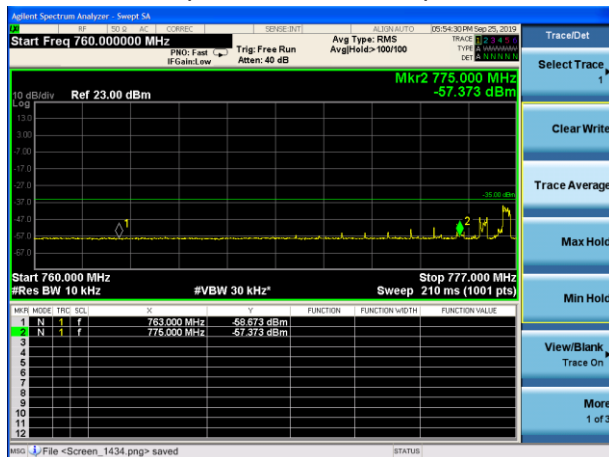
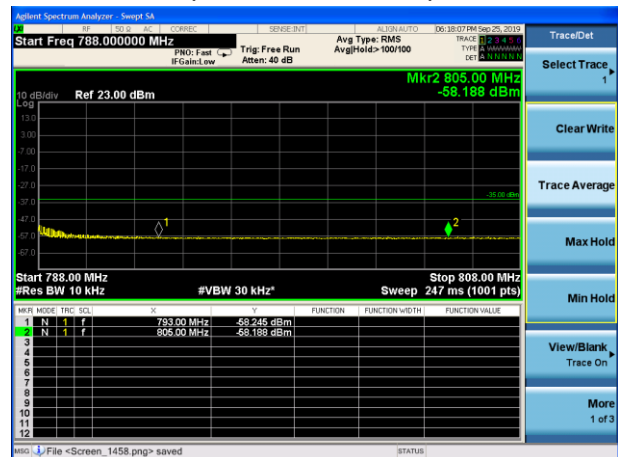
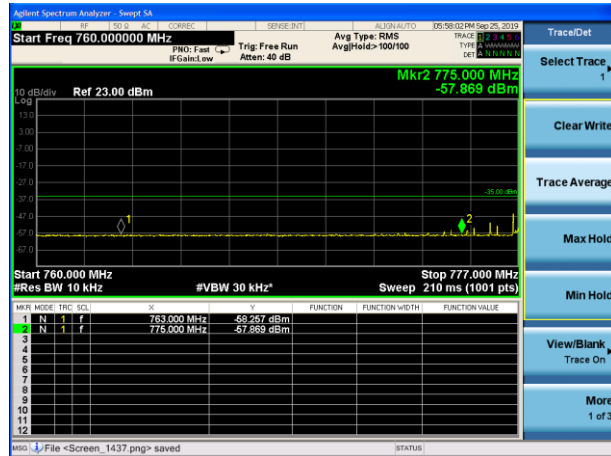
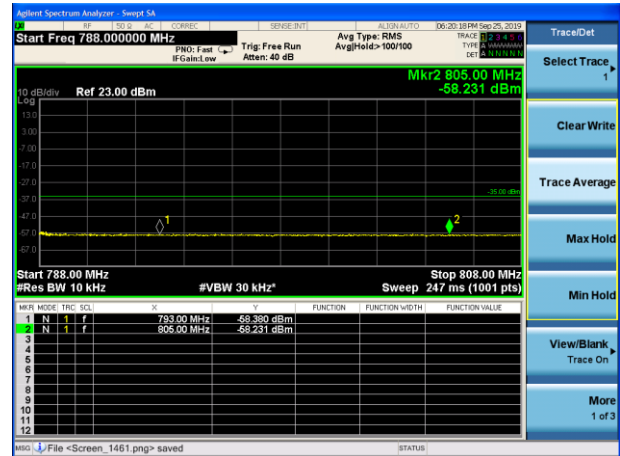
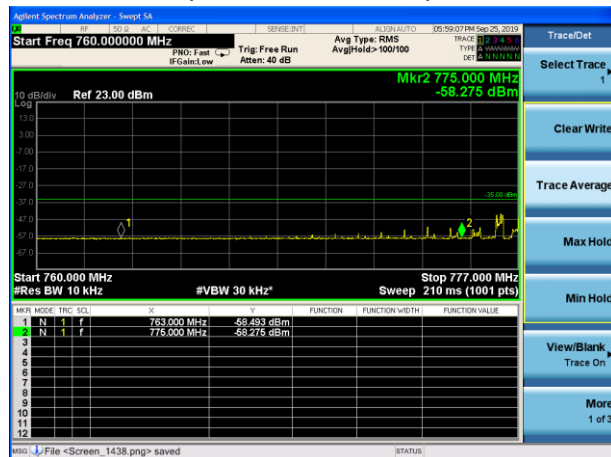
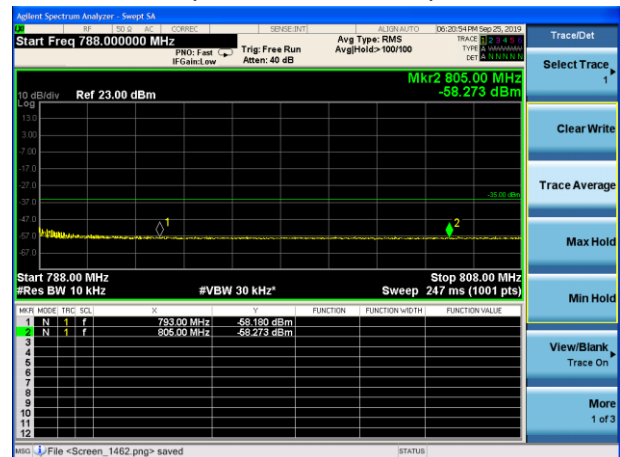
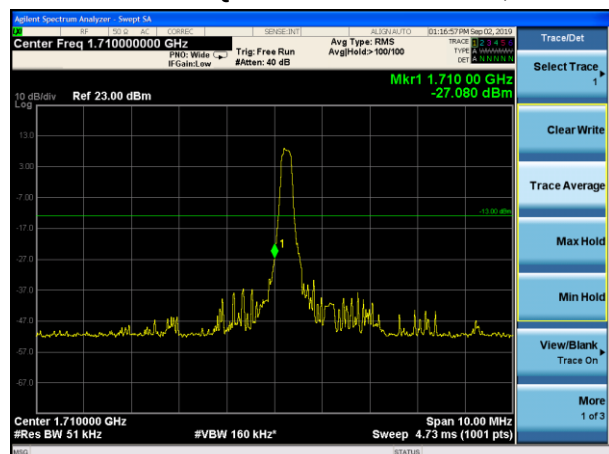


LTE Band 13 QPSK 10MHz CH-Low, 100%RB
(763MHz ~775MHz)LTE Band 13 QPSK 10MHz CH-Low, 100%RB
(793MHz ~805MHz)LTE Band 13 16QAM 5MHz CH-Low, 1 RB
(763MHz ~775MHz)LTE Band 13 16QAM 5MHz CH-Low, 1 RB
(793MHz ~805MHz)LTE Band 13 16QAM 5MHz CH-Low, 100%RB
(763MHz ~775MHz)LTE Band 13 16QAM 5MHz CH-Low, 100%RB
(793MHz ~805MHz)

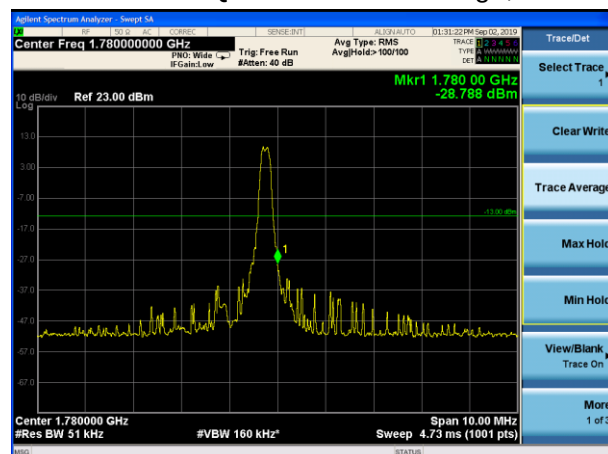
LTE Band 13 16QAM 10MHz CH-Low, 1 RB
(763MHz ~775MHz)LTE Band 13 16QAM 10MHz CH-Low, 1 RB
(793MHz ~805MHz)LTE Band 13 16QAM 10MHz CH-Low, 100%RB
(763MHz ~775MHz)LTE Band 13 16QAM 10MHz CH-Low, 100%RB
(793MHz ~805MHz)



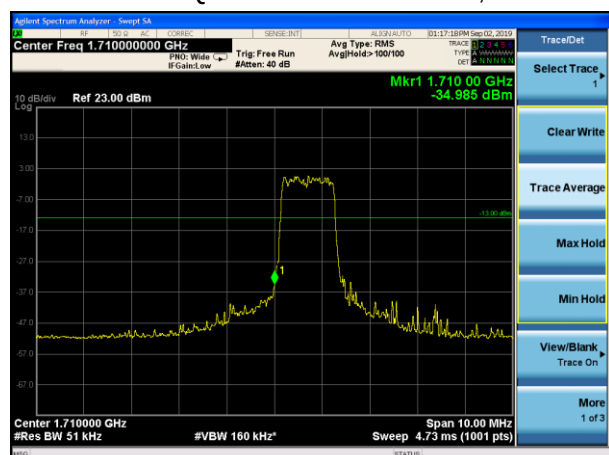
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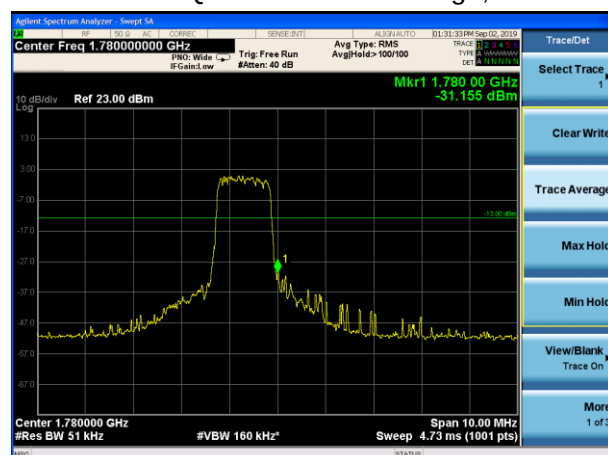
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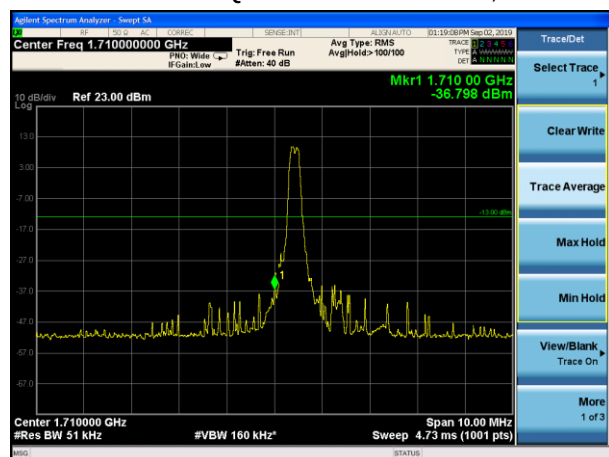
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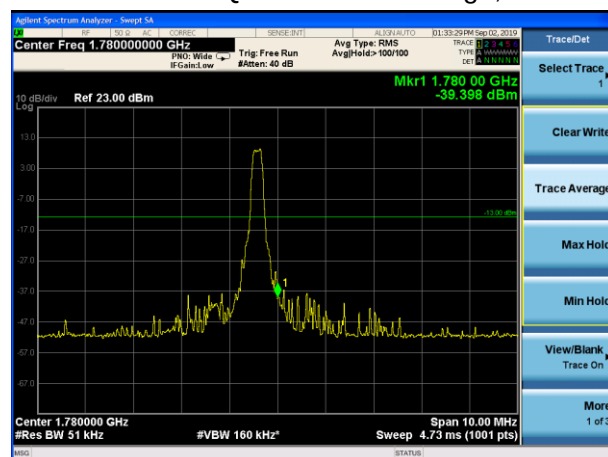
LTE Band 66 QPSK 1.4MHz CH-High, 100%RB



LTE Band 66 QPSK 3MHz CH-Low, 1 RB

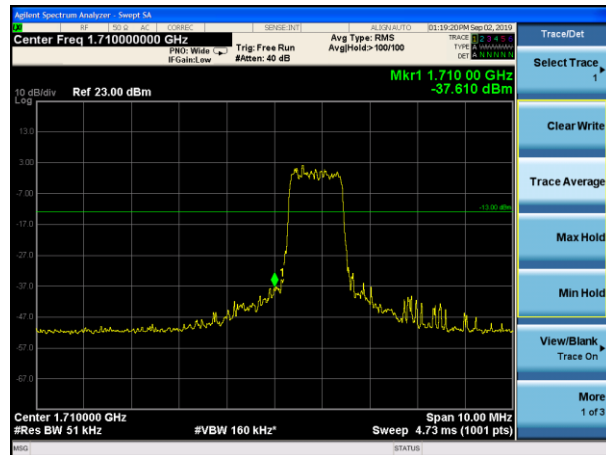


LTE Band 66 QPSK 3MHz CH-High, 1 RB

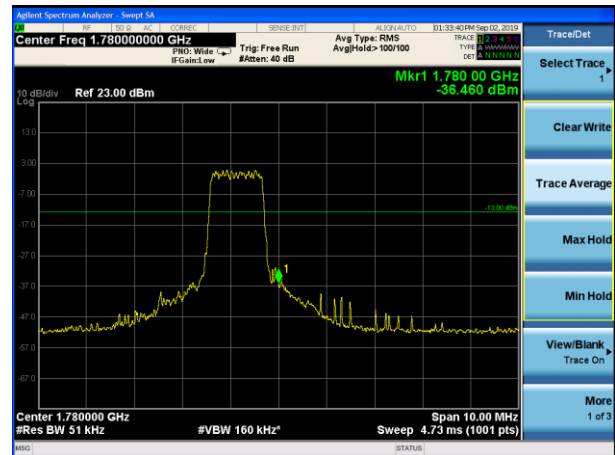




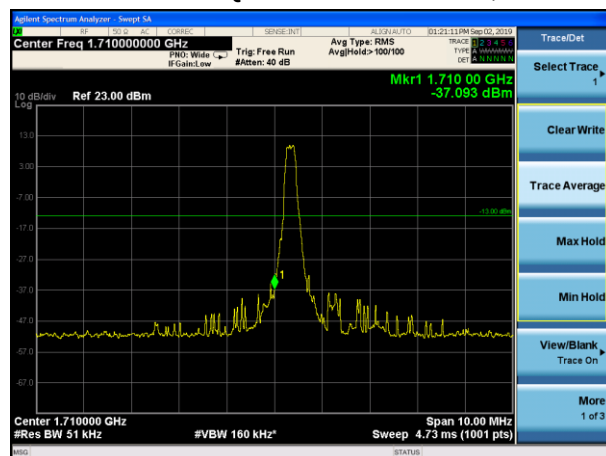
LTE Band 66 QPSK 3MHz CH-Low, 100%RB



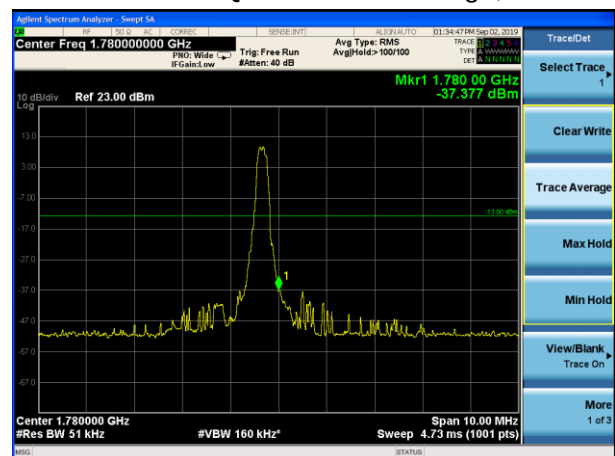
LTE Band 66 QPSK 3MHz CH-High, 100%RB



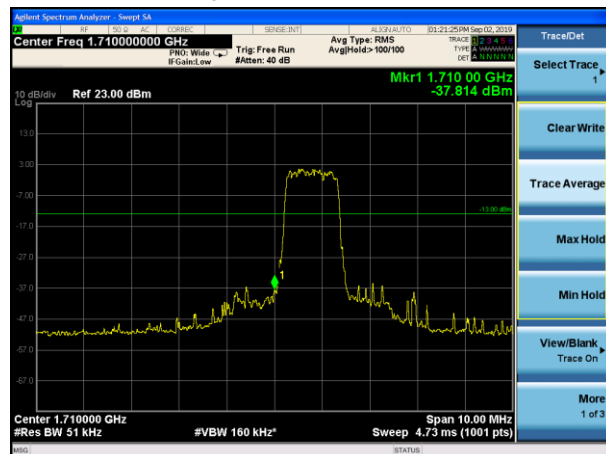
LTE Band 66 QPSK 5MHz CH-Low, 1 RB



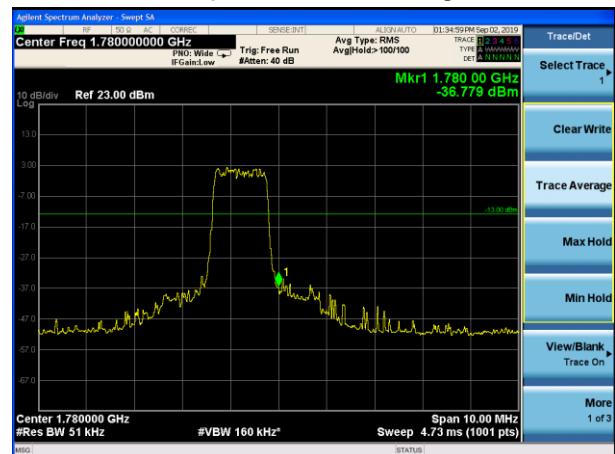
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LTE Band 66 QPSK 5MHz CH-Low, 100%RB

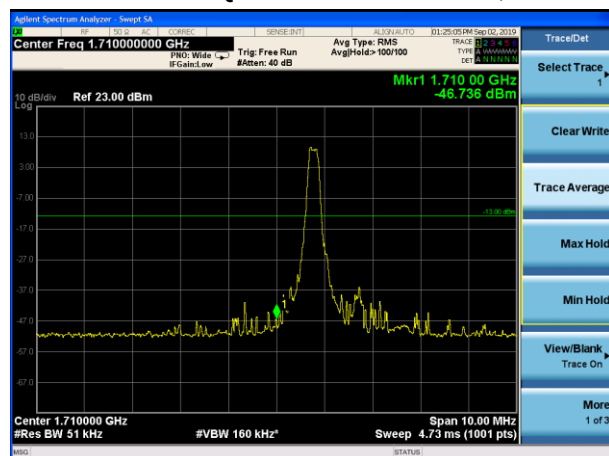


LTE Band 66 QPSK 5MHz CH-High, 100%RB

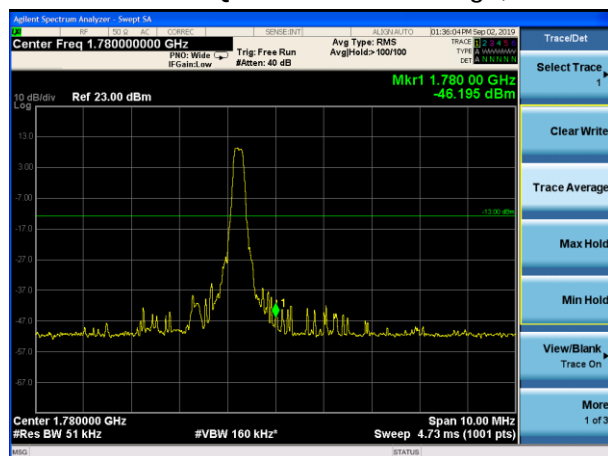




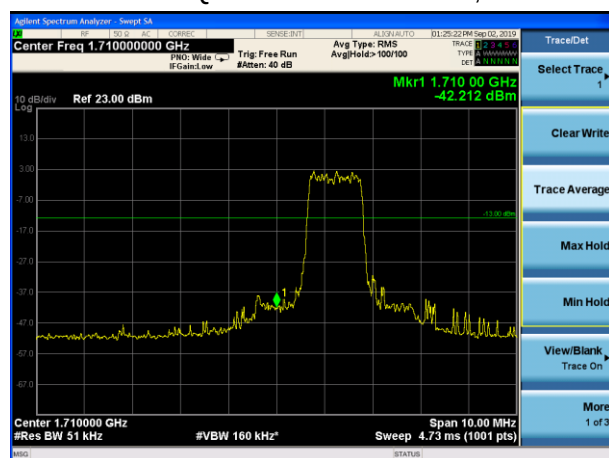
LTE Band 66 QPSK 10MHz CH-Low, 1 RB



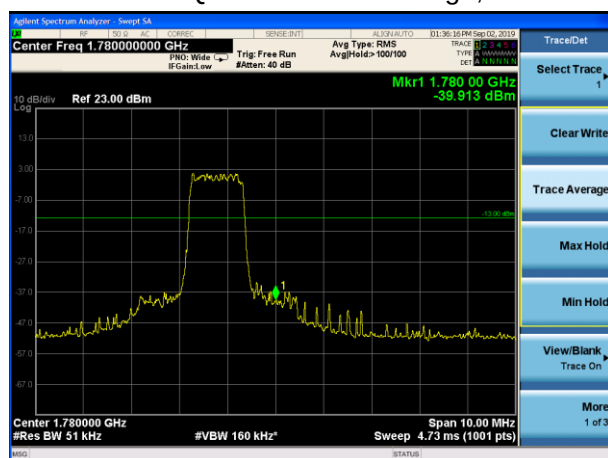
LTE Band 66 QPSK 10MHz CH-High, 1 RB



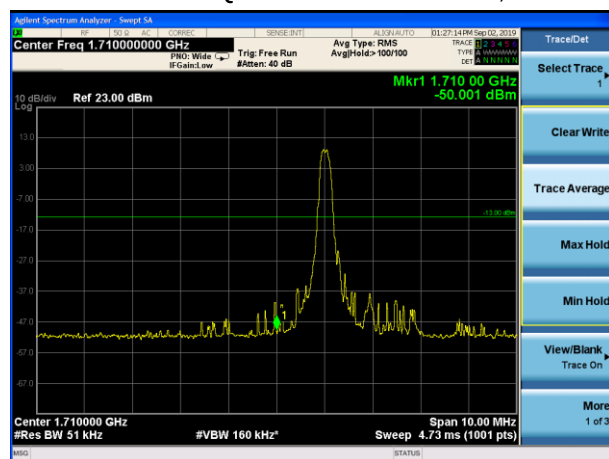
LTE Band 66 QPSK 10MHz CH-Low, 100%RB



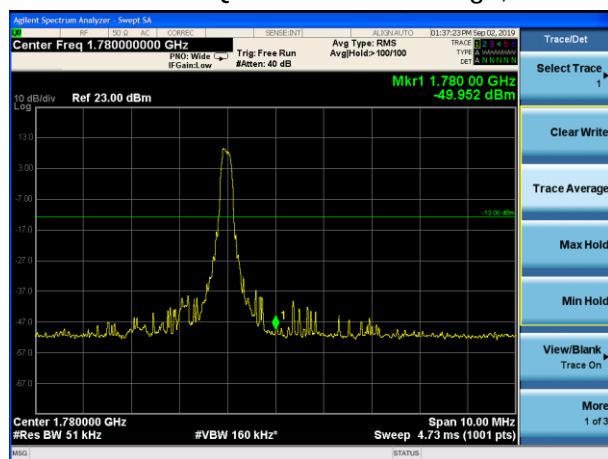
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LTE Band 66 QPSK 15MHz CH-Low, 1 RB

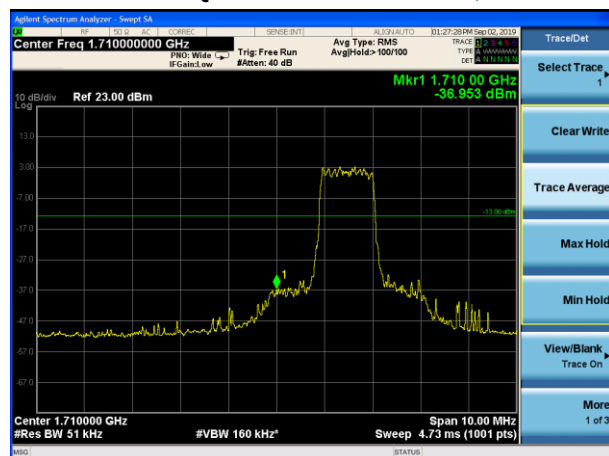


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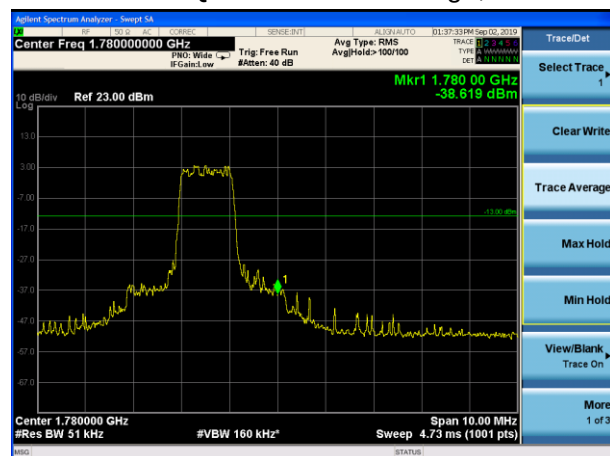




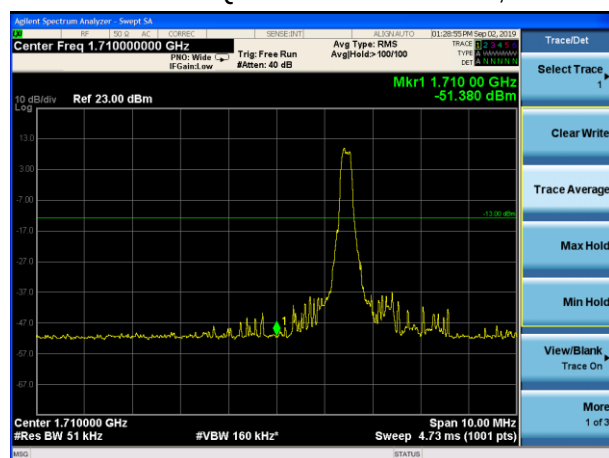
LTE Band 66 QPSK 15MHz CH-Low, 100%RB



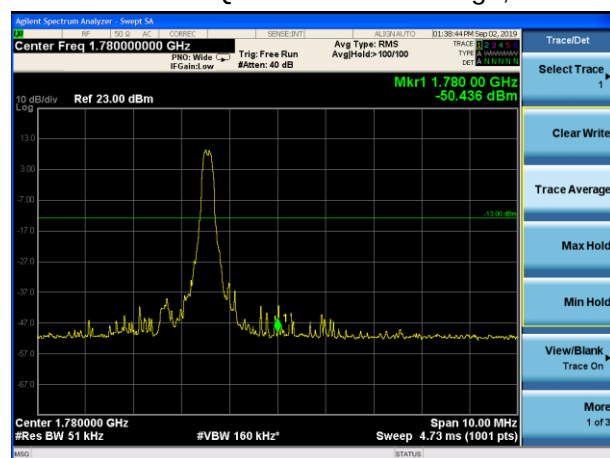
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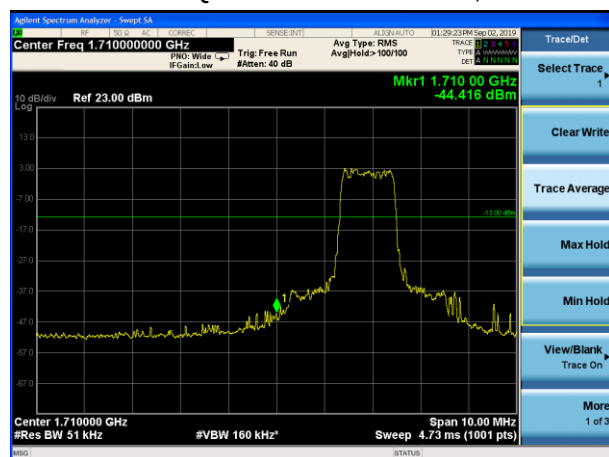
LTE Band 66 QPSK 20MHz CH-Low, 1 RB



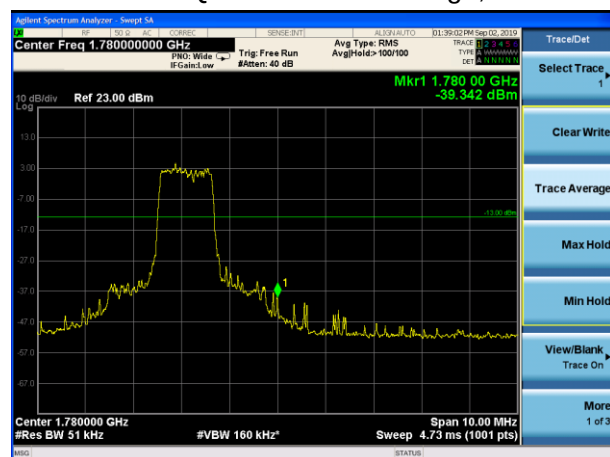
LTE Band 66 QPSK 20MHz CH-High, 1 RB



LTE Band 66 QPSK 20MHz CH-Low, 100%RB

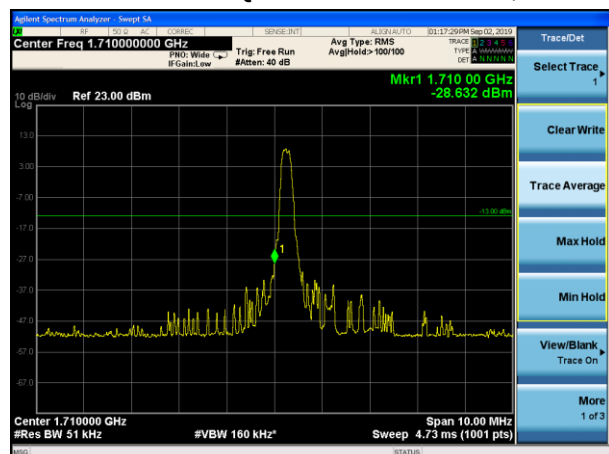


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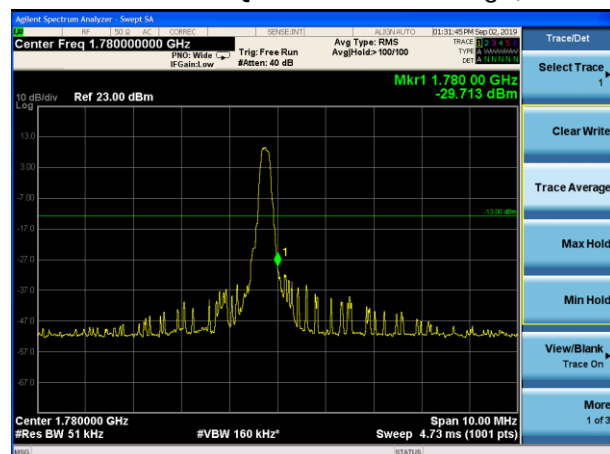




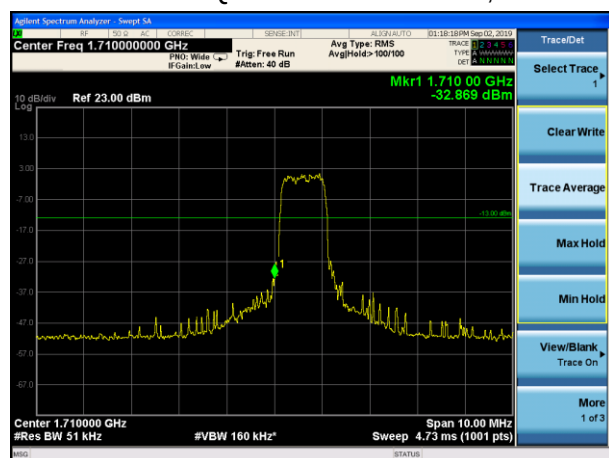
LTE Band 66 16QAM 1.4MHz CH-Low, 1 RB



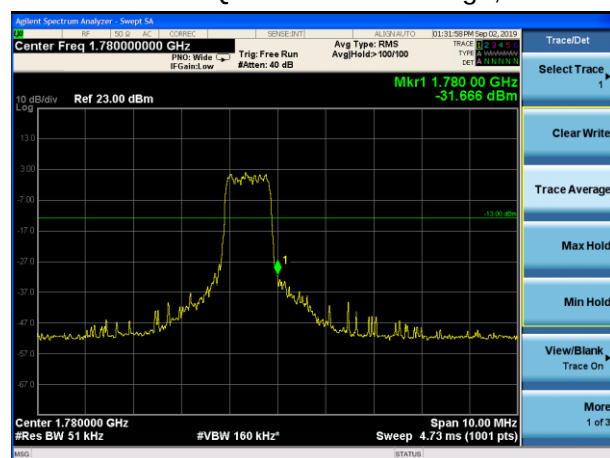
LTE Band 66 16QAM 1.4MHz CH-High, 1 RB



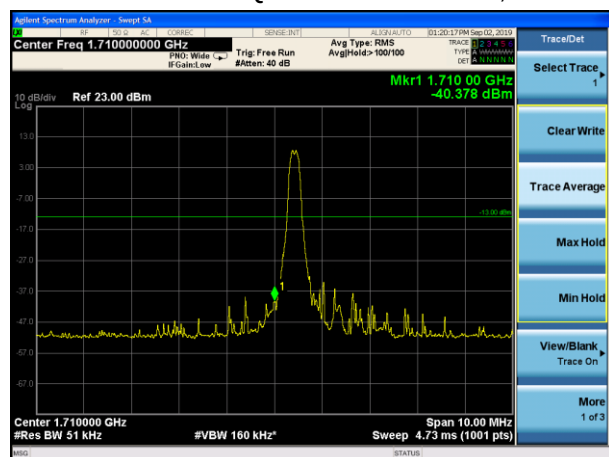
LTE Band 66 16QAM 1.4MHz CH-Low, 100%RB



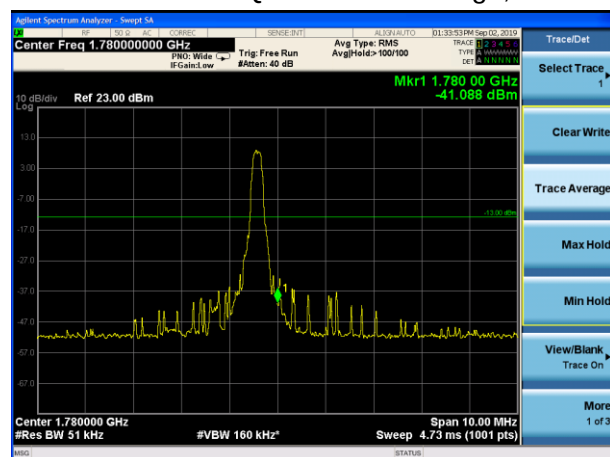
LTE Band 66 16QAM 1.4MHz CH-High, 100%



LTE Band 66 16QAM 3MHz CH-Low, 1 RB

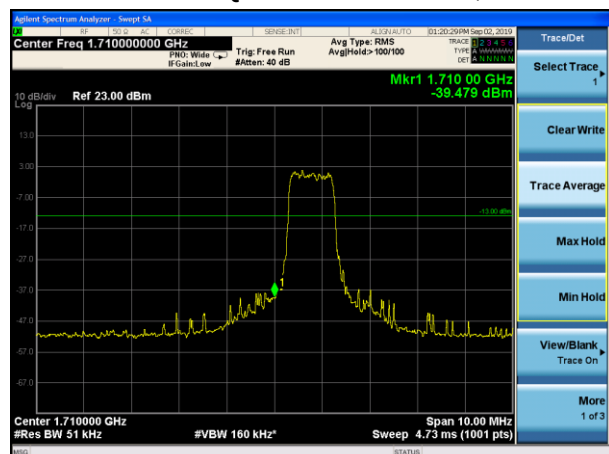


LTE Band 66 16QAM 3MHz CH-High, 1 RB

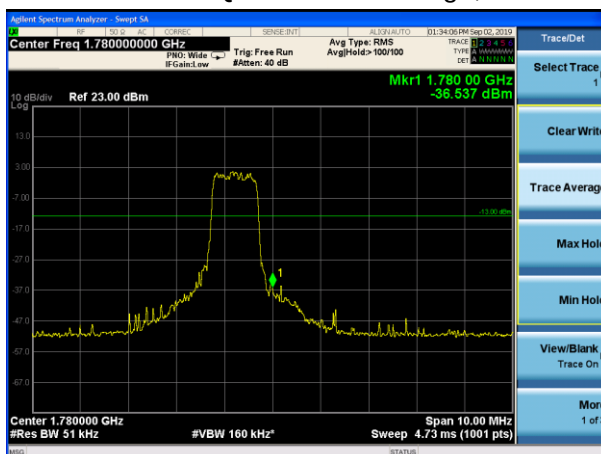




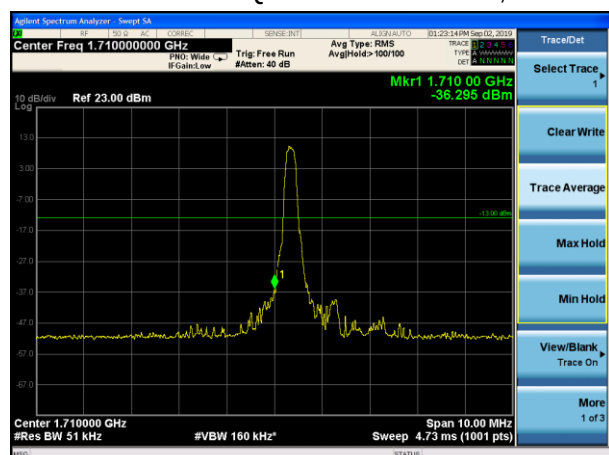
LTE Band 66 16QAM 3MHz CH-Low, 100%RB



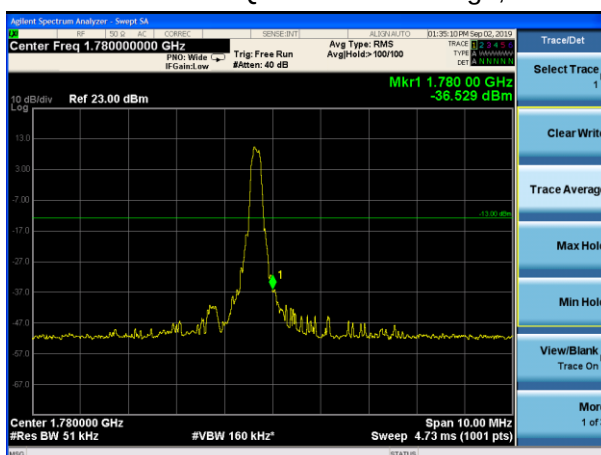
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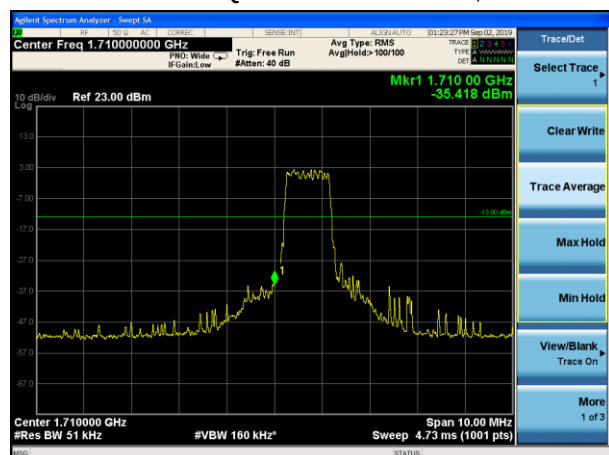
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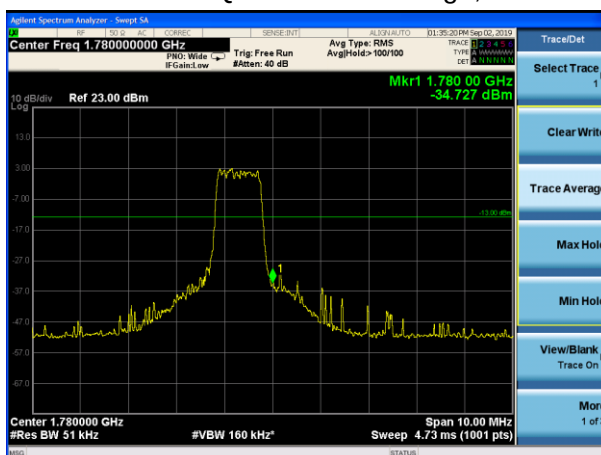
LTE Band 66 16QAM 5MHz CH-High, 1 RB



LTE Band 66 16QAM 5MHz CH-Low, 100%RB

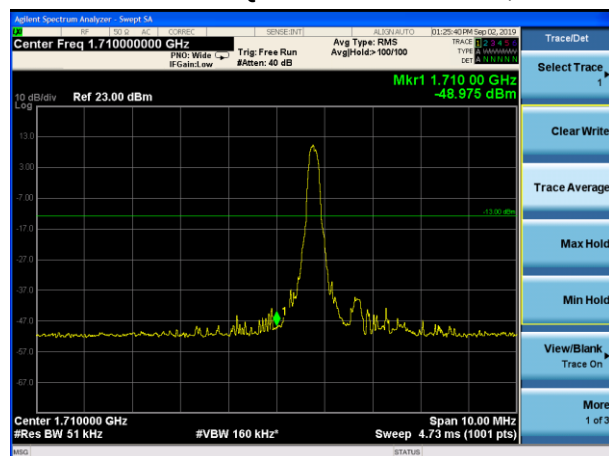


LTE Band 66 16QAM 5MHz CH-High, 100%RB

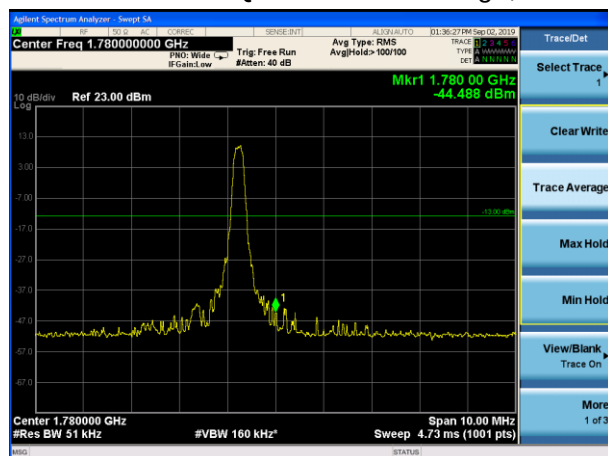




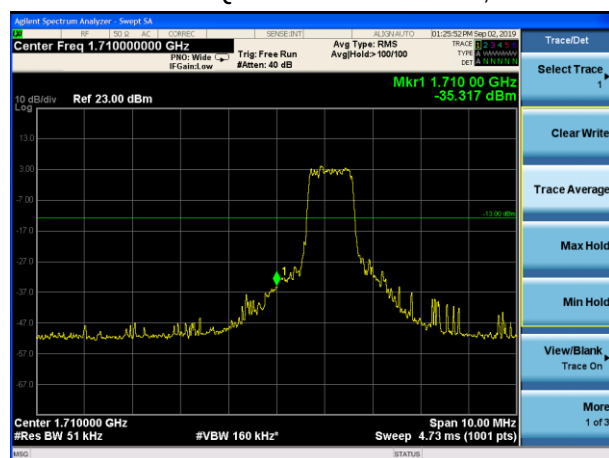
LTE Band 66 16QAM 10MHz CH-Low, 1 RB



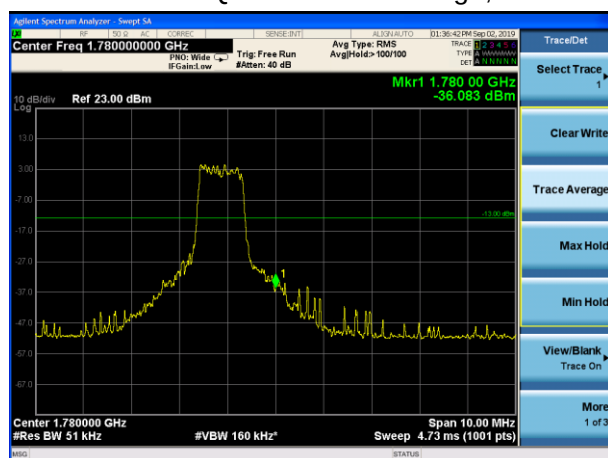
LTE Band 66 16QAM 10MHz CH-High, 1 RB



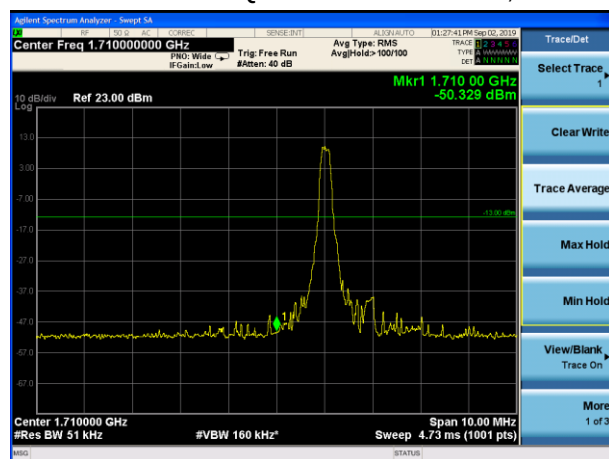
LTE Band 66 16QAM 10MHz CH-Low, 100%RB



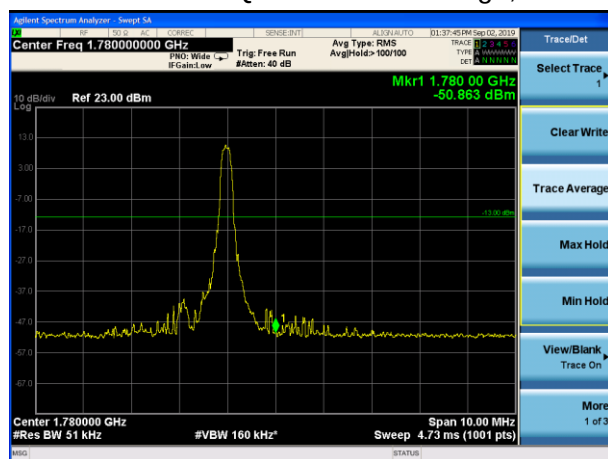
LTE Band 66 16QAM 10MHz CH-High, 100%RB



LTE Band 66 16QAM 15MHz CH-Low, 1 RB

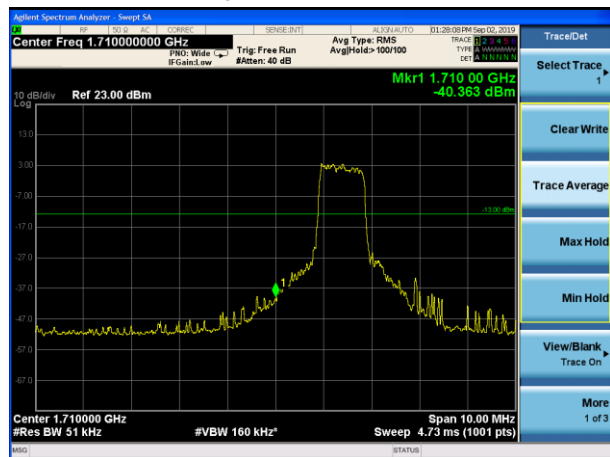


LTE Band 66 16QAM 15MHz CH-High, 1 RB

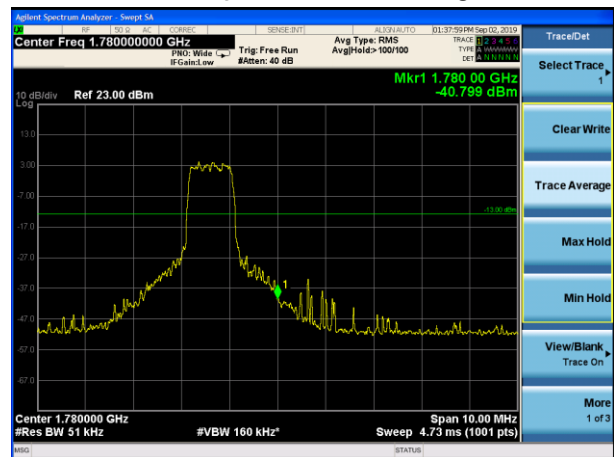




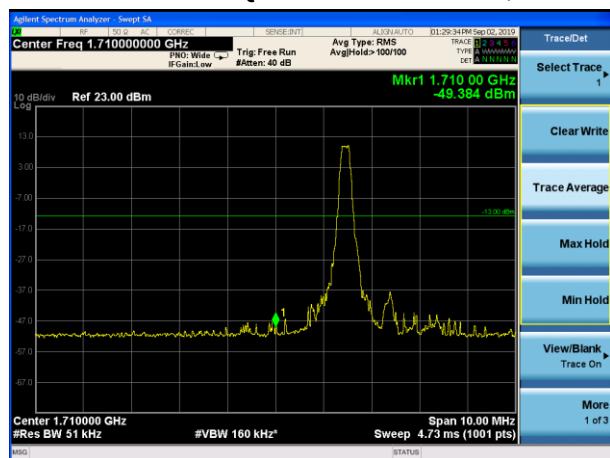
LTE Band 66 16QAM 15MHz CH-Low, 100%RB



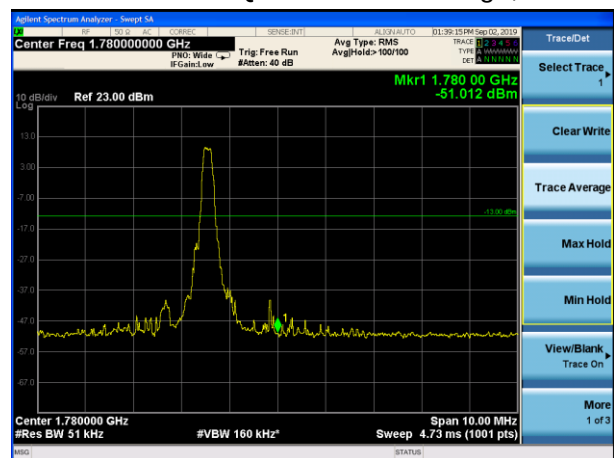
LTE Band 66 16QAM 15MHz CH-High, 100%RB



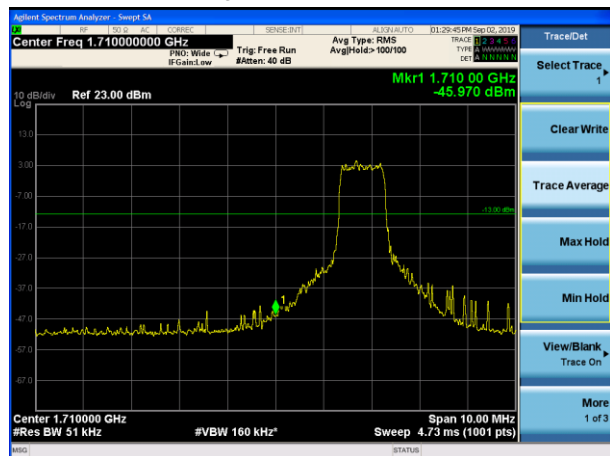
LTE Band 66 16QAM 20MHz CH-Low, 1 RB



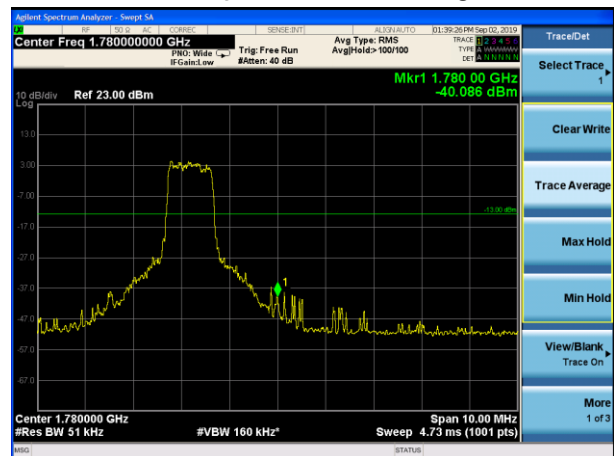
LTE Band 66 16QAM 20MHz CH-High, 1 RB



LTE Band 66 16QAM 20MHz CH-Low, 100%RB

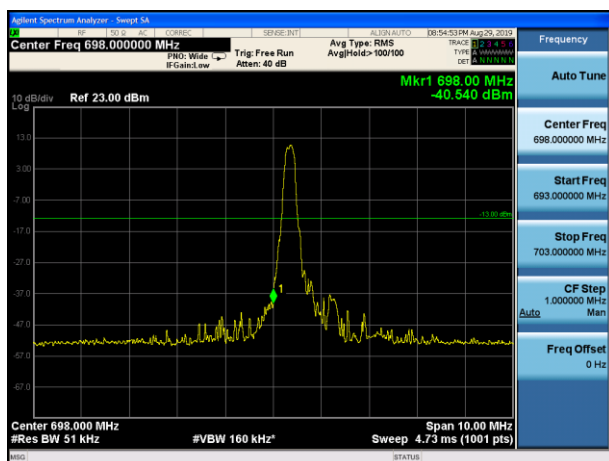


LTE Band 66 16QAM 20MHz CH-High, 100%RB

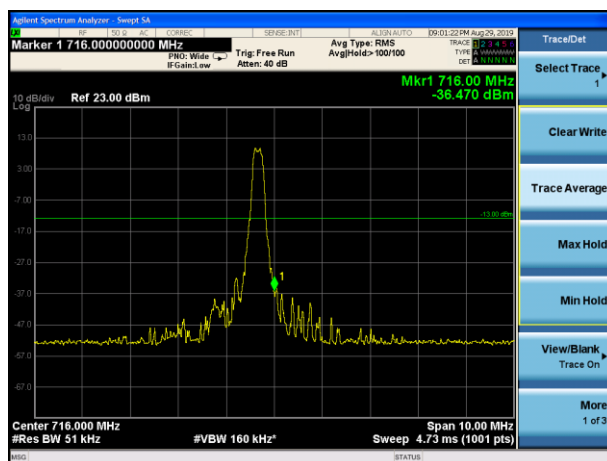




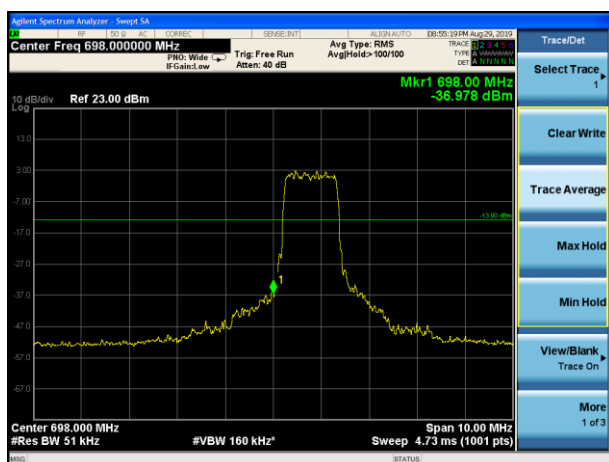
LTE Band 85 QPSK 5MHz CH-Low, 1 RB



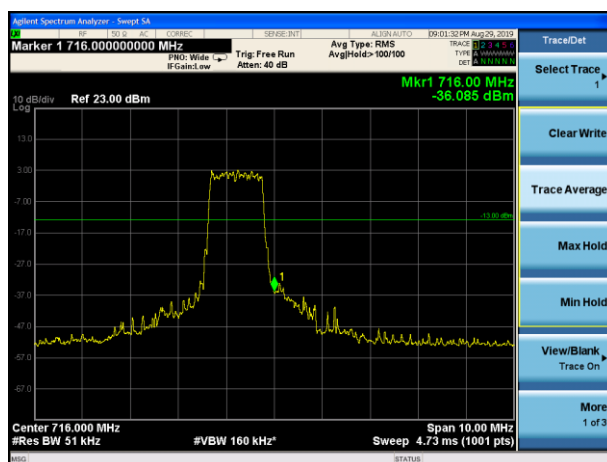
LTE Band 85 QPSK 5MHz CH-High, 1 RB



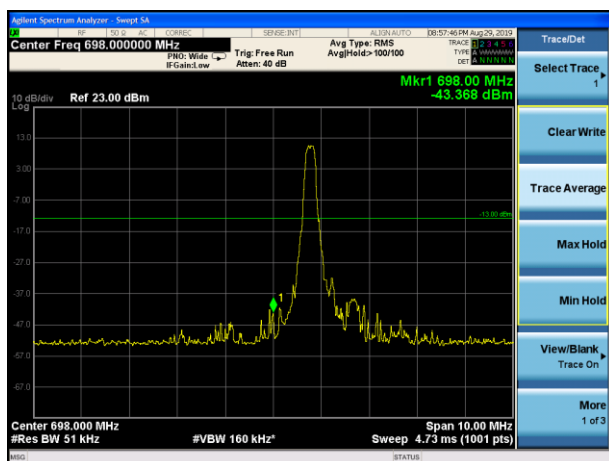
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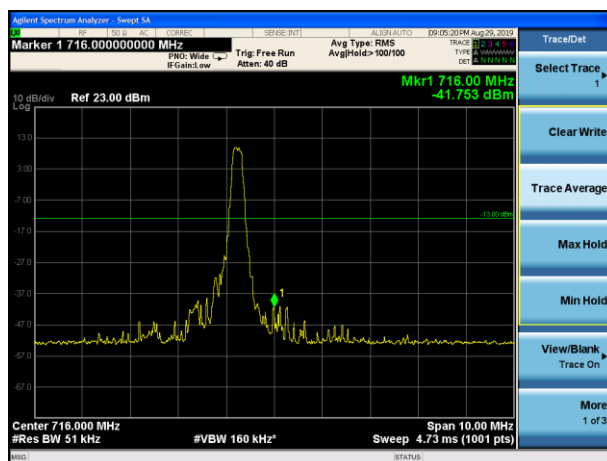
LTE Band 85 QPSK 5MHz CH-High, 100%RB



LTE Band 85 QPSK 10MHz CH-Low, 1 RB

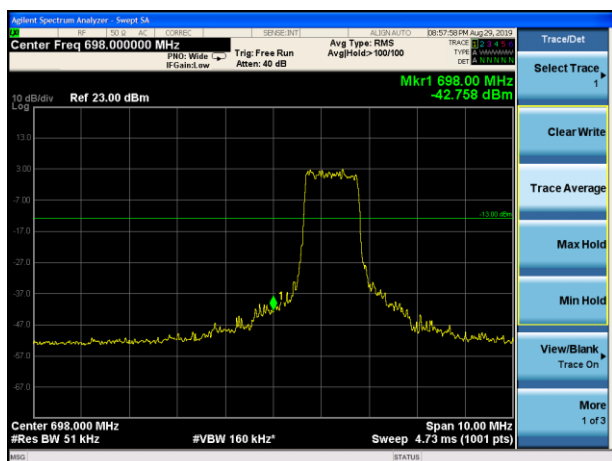


LTE Band 85 QPSK 10MHz CH-High, 1 RB

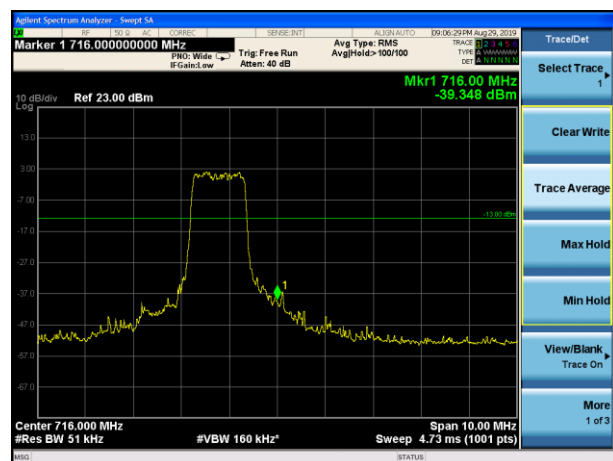




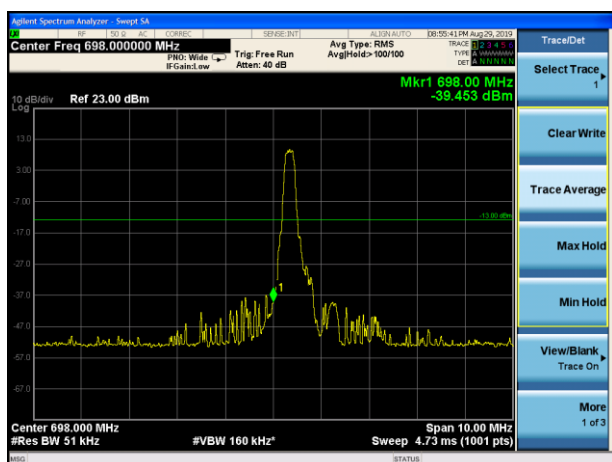
LTE Band 85 QPSK 10MHz CH-Low, 100%RB



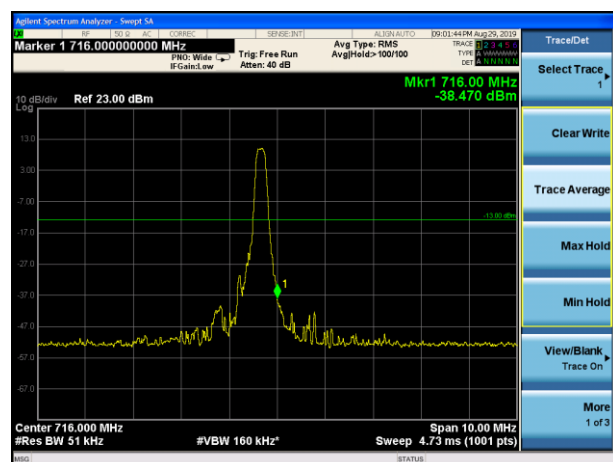
LTE Band 85 QPSK 10MHz CH-High, 100%RB



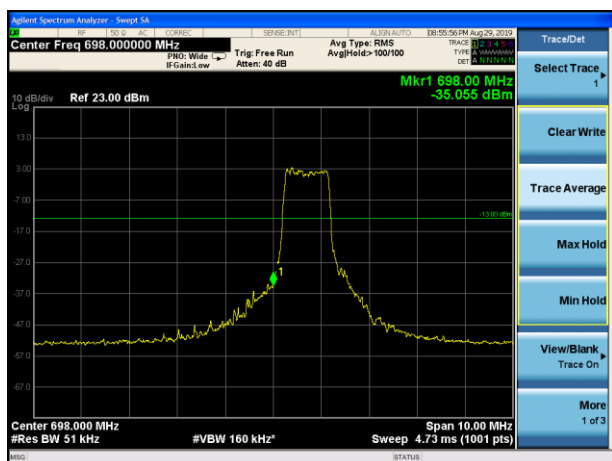
LTE Band 85 16QAM 5MHz CH-Low, 1 RB



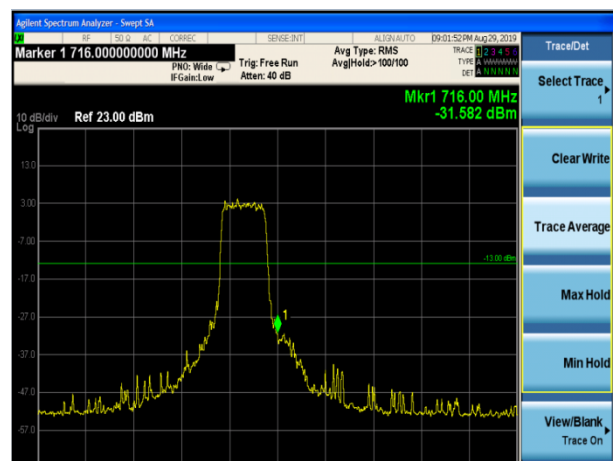
LTE Band 85 16QAM 5MHz CH-High, 1 RB



LTE Band 85 16QAM 5MHz CH-Low, 100%RB

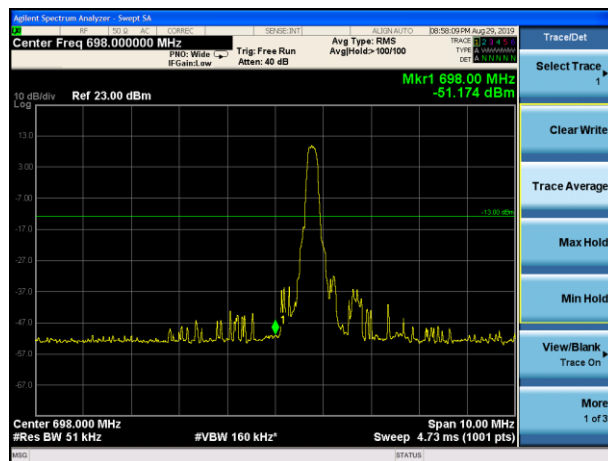


LTE Band 85 16QAM 5MHz CH-High, 100%RB

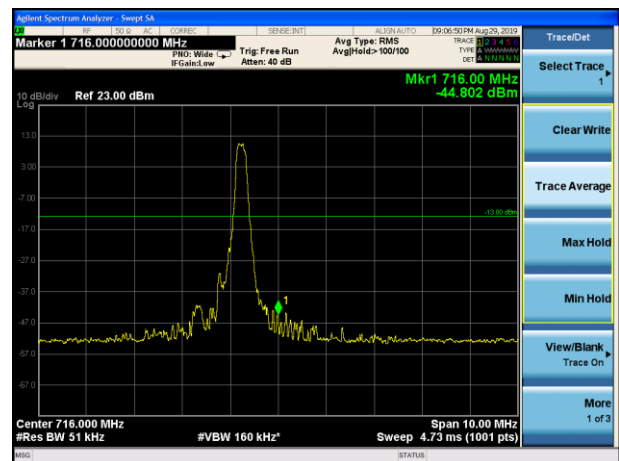




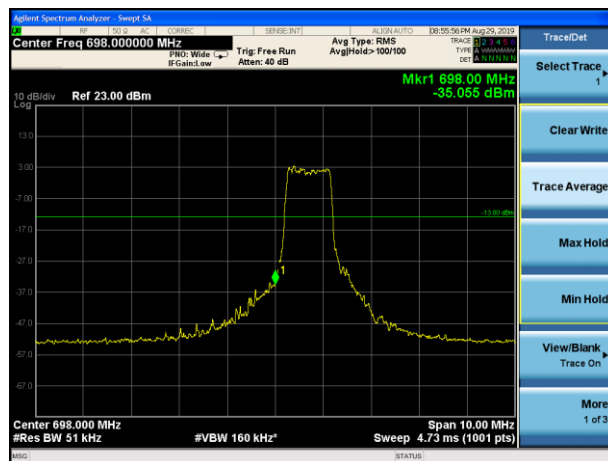
LTE Band 85 16QAM 10MHz CH-Low, 1 RB



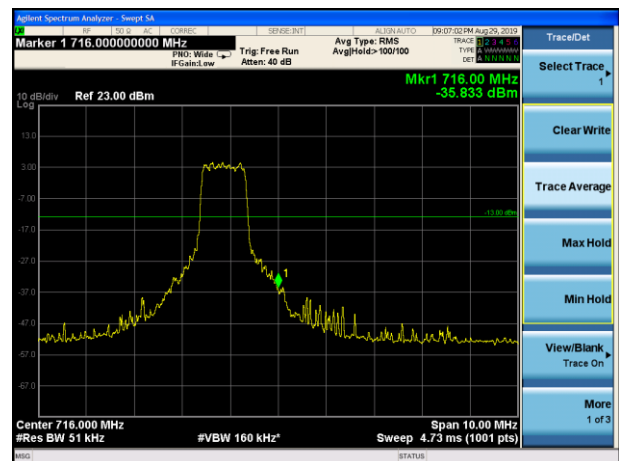
LTE Band 85 16QAM 10MHz CH-High, 1 RB



LTE Band 85 16QAM 10MHz CH-Low, 100%RB



LTE Band 85 16QAM 10MHz CH-High, 100%RB



5.5 Peak-to-Average Power Ratio (PAPR)

Ambient condition

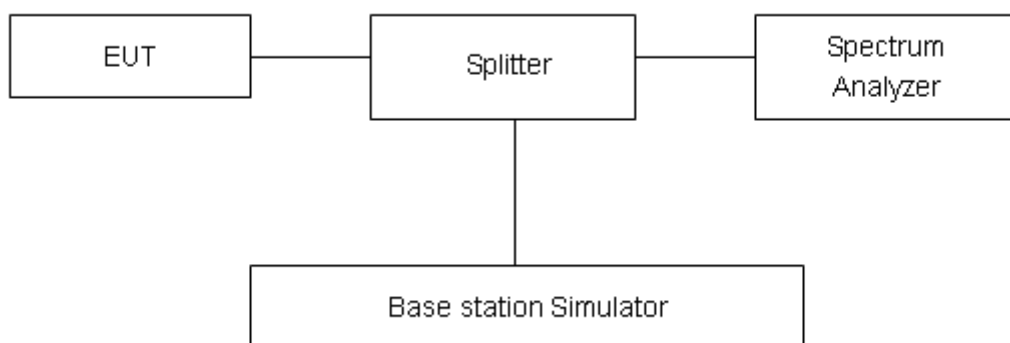
Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Methods of Measurement

Measure the total peak power and record as PPK. And measure the total average power and record as PAvg. Both the peak and average power levels must be expressed in the same logarithmic units (e.g., dBm). Determine the PAPR from:

$$\text{PAPR (dB)} = \text{PPk (dBm)} - \text{PAvg (dBm)}.$$

Test Setup



Limits

Rule Part 27.50(d)(5) Equipment employed must be authorized in accordance with the provisions of 24.51. Power measurements for transmissions by stations authorized under this section may be made either in accordance with a Commission-approved average power technique or in compliance with paragraph (d)(6) of this section. In measuring transmissions in this band using an average power technique, the peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k = 2$, $U = 0.4$ dB.

Test Results

Mode	Bandwidth	Modulation	Channel/ Frequency(MHz)	Peak-to-Average Power Ratio (PAPR)		
				Peak(dBm)	Avg(dBm)	PAPR(dB)
LTE Band4	1.4MHz	QPSK	20175/1732.5	23.22	13.32	9.90
		16QAM	20175/1732.5	23.47	12.67	10.80
	3MHz	QPSK	20175/1732.5	22.80	12.53	10.27
		16QAM	20175/1732.5	23.43	13.07	10.36
	5MHz	QPSK	20175/1732.5	23.48	14.13	9.35
		16QAM	20175/1732.5	24.03	13.91	10.12
	10MHz	QPSK	20175/1732.5	23.46	13.97	9.49
		16QAM	20175/1732.5	24.56	15.80	8.76
	15MHz	QPSK	20175/1732.5	24.22	14.44	9.78
		16QAM	20175/1732.5	24.68	14.70	9.98
	20MHz	QPSK	20175/1732.5	24.24	15.38	8.86
		16QAM	20175/1732.5	24.66	14.76	9.90

Mode	Bandwidth	Modulation	Channel/ Frequency(MHz)	Peak-to-Average Power Ratio (PAPR)		
				Peak(dBm)	Avg(dBm)	PAPR(dB)
LTE Band12	1.4MHz	QPSK	23095/707.5	25.21	15.65	9.56
		16QAM	23095/707.5	25.62	15.96	9.66
	3MHz	QPSK	23095/707.5	24.77	13.41	11.36
		16QAM	23095/707.5	25.52	13.97	11.55
	5MHz	QPSK	23095/707.5	25.71	17.64	8.07
		16QAM	23095/707.5	26.02	17.84	8.18
	10MHz	QPSK	23095/707.5	25.56	16.28	9.28
		16QAM	23095/707.5	26.07	17.73	8.34

Mode	Bandwidth	Modulation	Channel/ Frequency(MHz)	Peak-to-Average Power Ratio (PAPR)		
				Peak(dBm)	Avg(dBm)	PAPR(dB)
LTE Band13	5MHz	QPSK	23230/782	24.95	15.84	9.11
		16QAM	23230/782	25.48	16.28	9.20
	10MHz	QPSK	23230/782	24.68	15.70	8.98
		16QAM	23230/782	25.47	15.90	9.57

Mode	Bandwidth	Modulation	Channel/ Frequency(MHz)	Peak-to-Average Power Ratio (PAPR)		
				Peak(dBm)	Avg(dBm)	PAPR(dB)
LTE Ban66	1.4MHz	QPSK	132322/1745	23.17	13.49	9.68
		16QAM	132322/1745	23.69	12.90	10.79
	3MHz	QPSK	132322/1745	22.91	12.01	10.90
		16QAM	132322/1745	23.79	12.34	11.45
	5MHz	QPSK	132322/1745	23.79	14.45	9.34
		16QAM	132322/1745	24.31	14.55	9.76
	10MHz	QPSK	132322/1745	23.68	13.97	9.71
		16QAM	132322/1745	24.74	15.53	9.21
	15MHz	QPSK	132322/1745	24.31	15.20	9.11
		16QAM	132322/1745	24.76	15.00	9.76
	20MHz	QPSK	132322/1745	24.29	15.57	8.72
		16QAM	132322/1745	24.69	14.92	9.77

Mode	Bandwidth	Modulation	Channel/ Frequency(MHz)	Peak-to-Average Power Ratio (PAPR)		
				Peak(dBm)	Avg(dBm)	PAPR(dB)
LTE Band85	5MHz	QPSK	134092/707	24.06	14.07	9.99
		16QAM	134092/707	24.68	14.89	9.79
	10MHz	QPSK	134092/707	24.02	14.72	9.30
		16QAM	134092/707	25.11	15.61	9.50