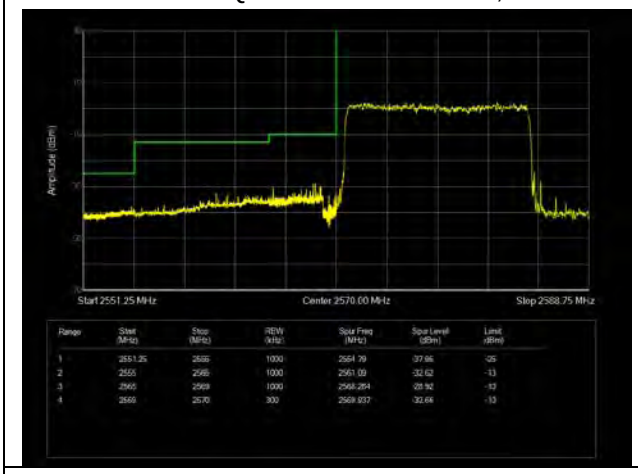
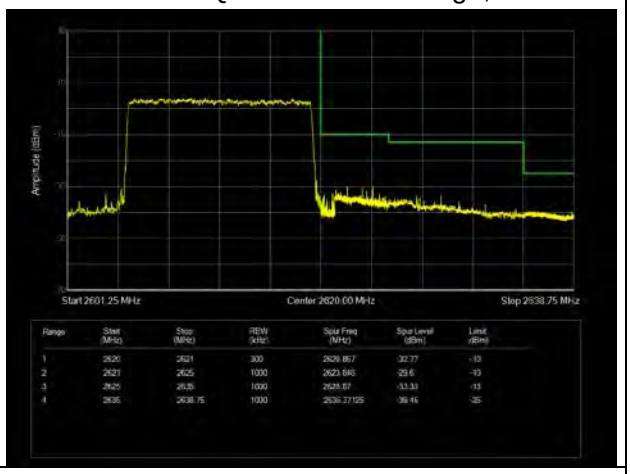
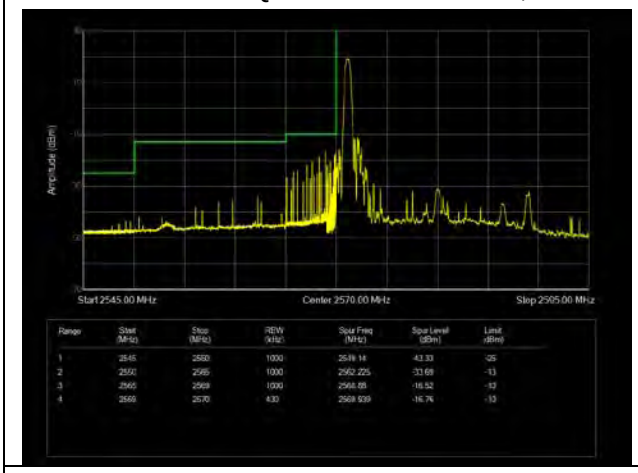
LTE Band 38 64QAM 15MHz CH-Low, 100%RB



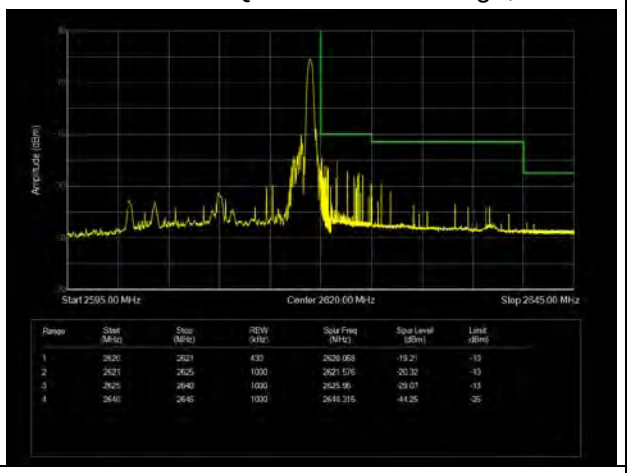
LTE Band 38 64QAM 15MHz CH-High, 100%RB



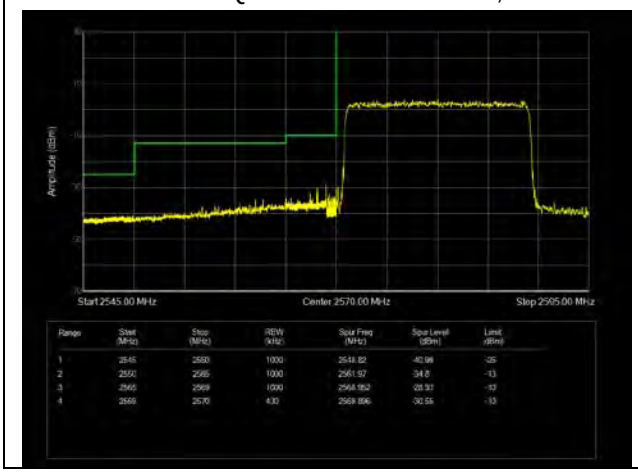
LTE Band 38 64QAM 20MHz CH-Low, 1 RB



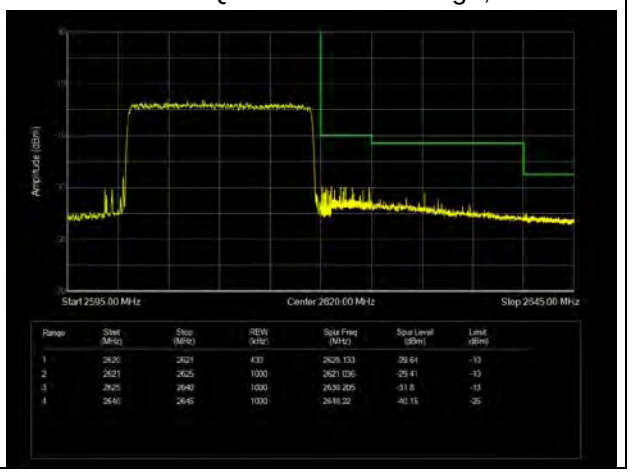
LTE Band 38 64QAM 20MHz CH-High, 1 RB



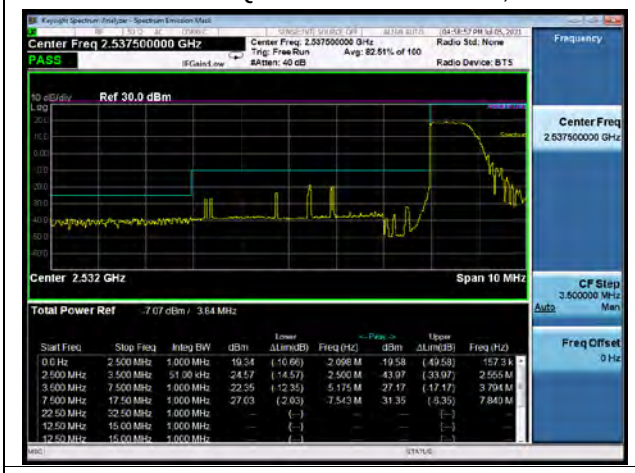
LTE Band 38 64QAM 20MHz CH-Low, 100%RB



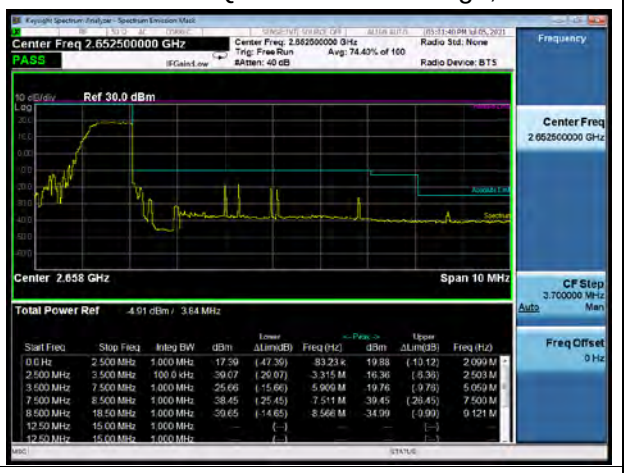
LTE Band 38 64QAM 20MHz CH-High, 100%RB



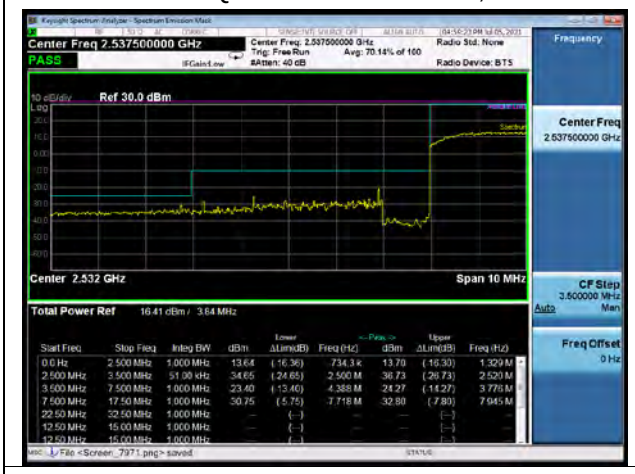
LTE Band 41 QPSK 5MHz CH-Low, 1 RB



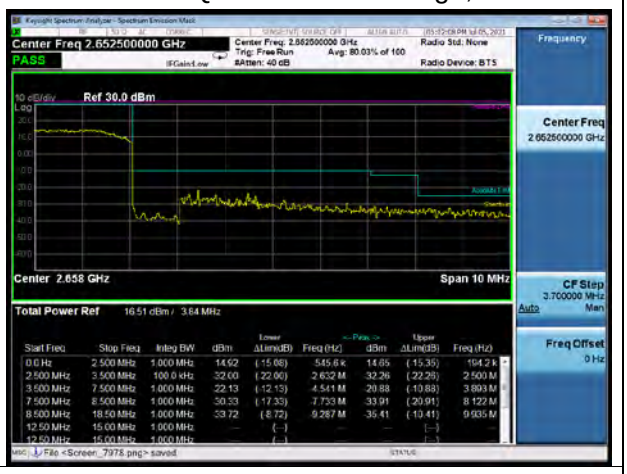
LTE Band 41 QPSK 5MHz CH-High, 1 RB



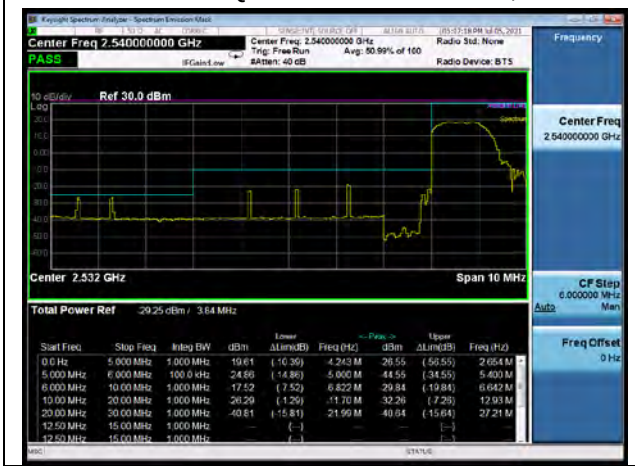
LTE Band 41 QPSK 5MHz CH-Low, 100%RB



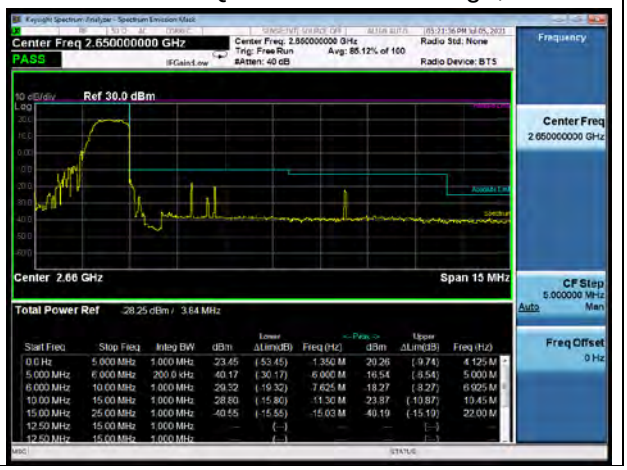
LTE Band 41 QPSK 5MHz CH-High, 100%RB



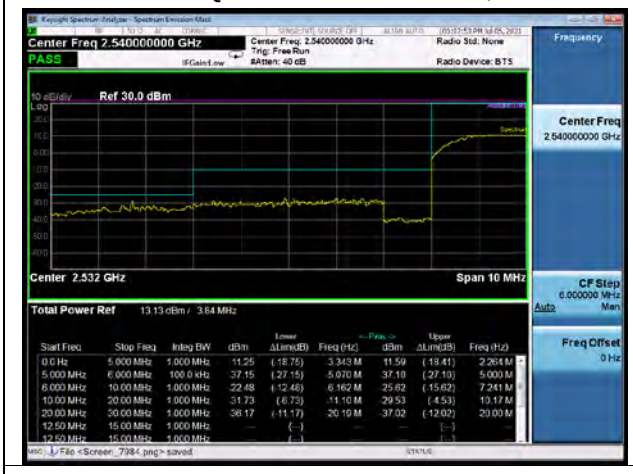
LTE Band 41 QPSK 10MHz CH-Low, 1 RB



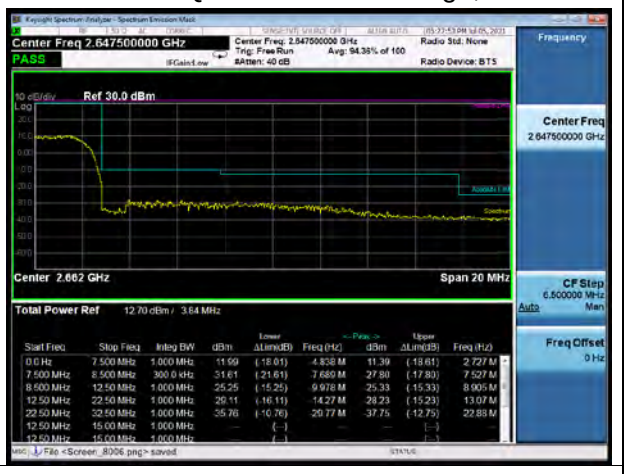
LTE Band 41 QPSK 10MHz CH-High, 1 RB



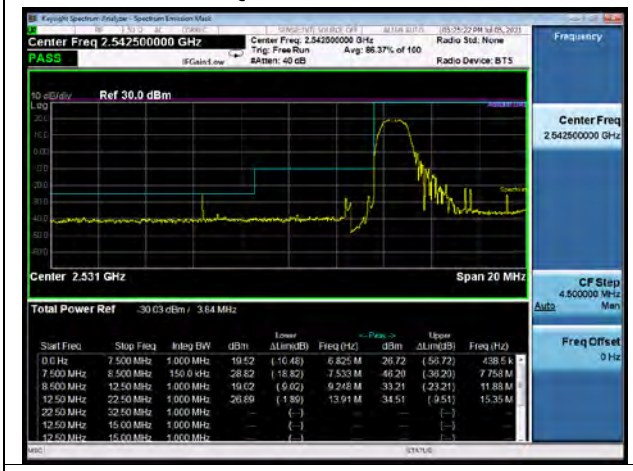
LTE Band 41 QPSK 10MHz CH-Low, 100%RB



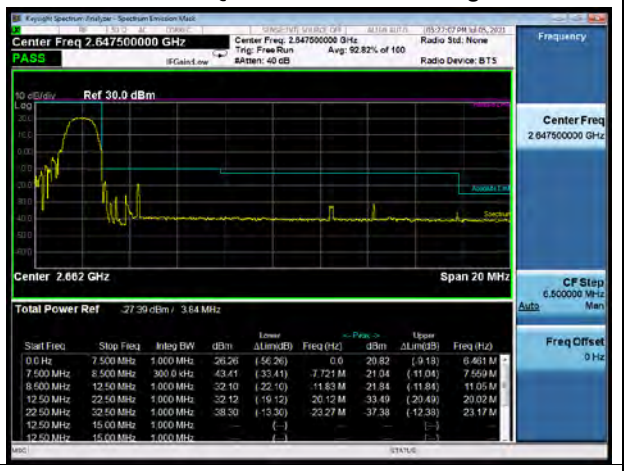
LTE Band 41 QPSK 10MHz CH-High, 100%RB



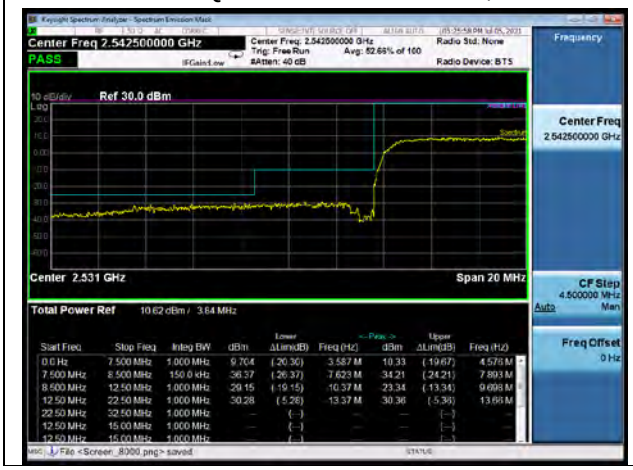
LTE Band 41 QPSK 15MHz CH-Low, 1 RB



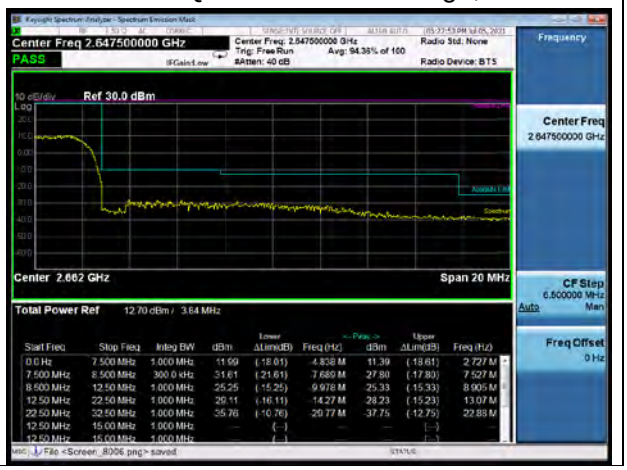
LTE Band 41 QPSK 15MHz CH-High, 1 RB



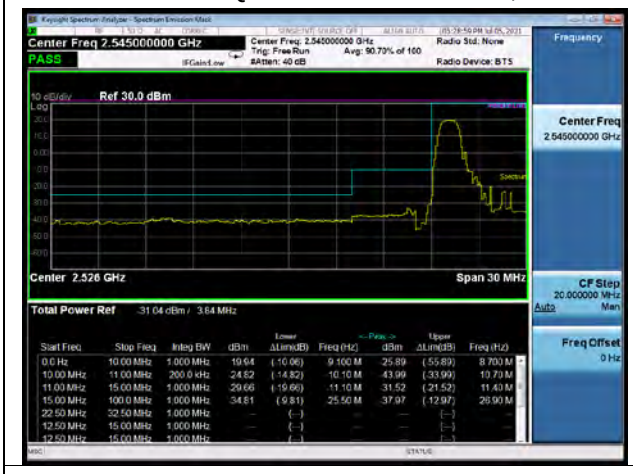
LTE Band 41 QPSK 15MHz CH-Low, 100%RB



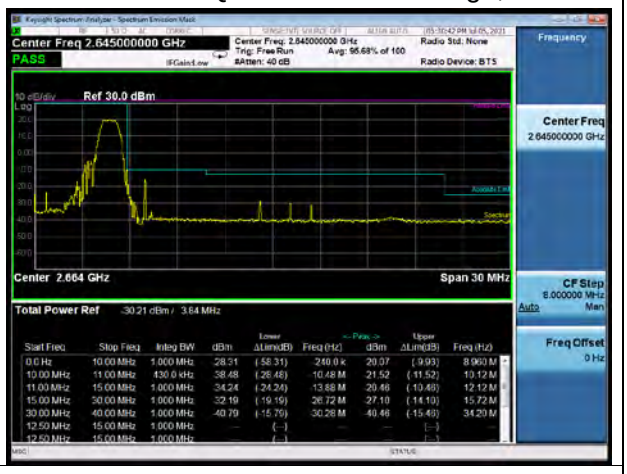
LTE Band 41 QPSK 15MHz CH-High, 100%RB



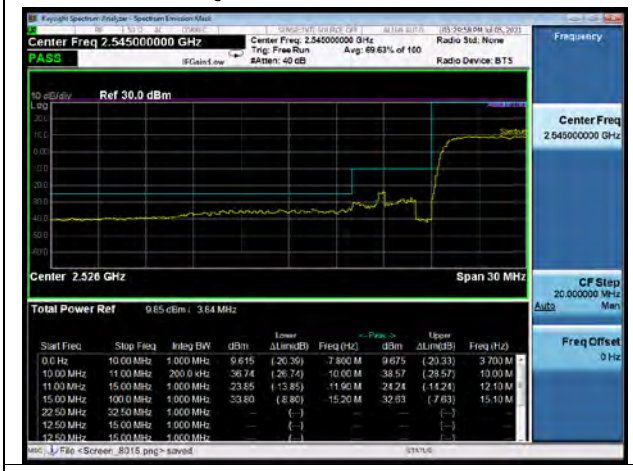
LTE Band 41 QPSK 20MHz CH-Low, 1 RB



LTE Band 41 QPSK 20MHz CH-High, 1 RB



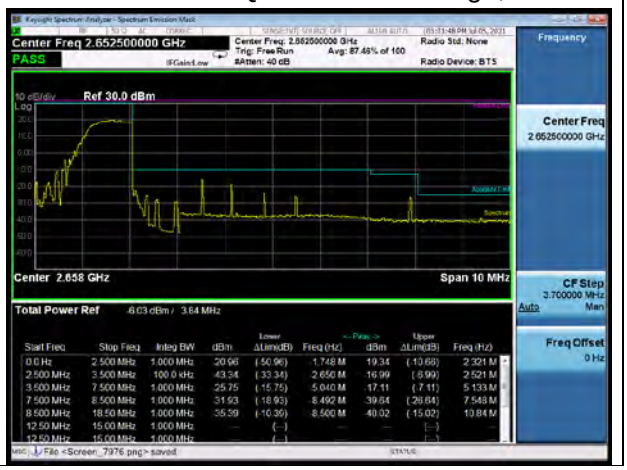
LTE Band 41 QPSK 20MHz CH-Low, 100%RB



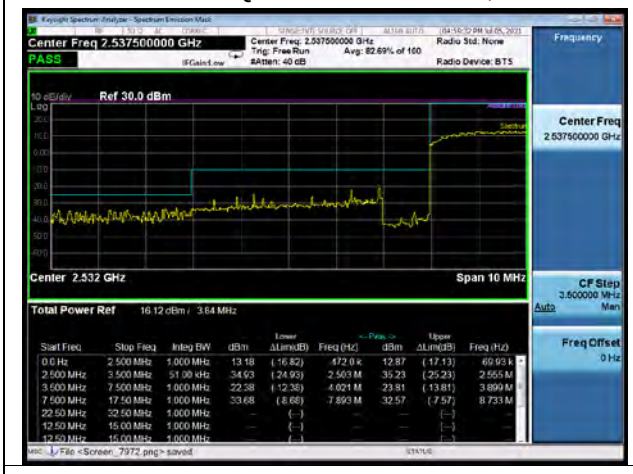
LTE Band 41 QPSK 20MHz CH-High, 100%RB

LTE Band 41 16QAM 5MHz CH-Low, 1 RB

LTE Band 41 16QAM 5MHz CH-High, 1 RB

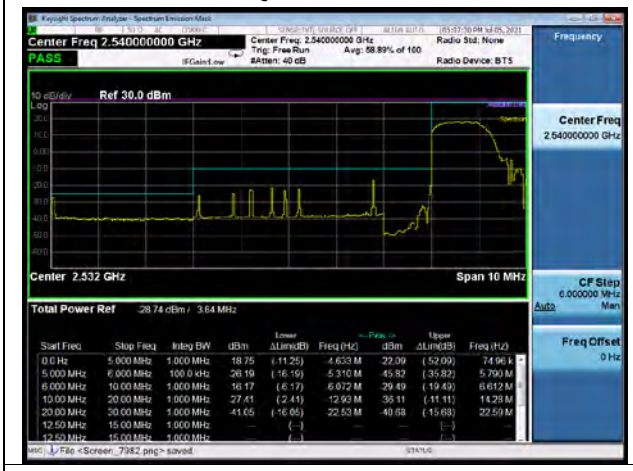


LTE Band 41 16QAM 5MHz CH-Low, 100%RB



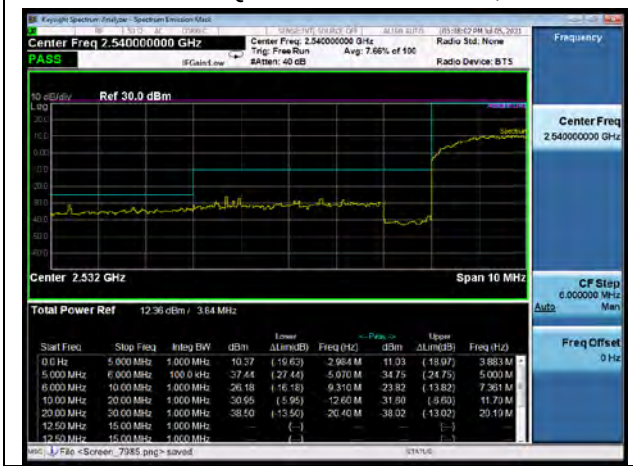
LTE Band 41 16QAM 5MHz CH-High, 100%RB

LTE Band 41 16QAM 10MHz CH-Low, 1 RB

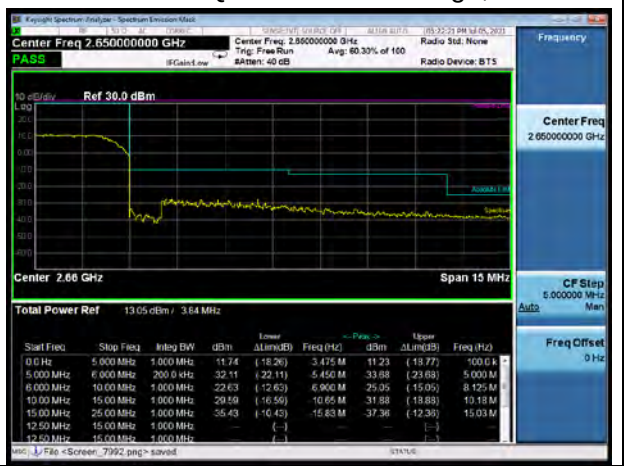


LTE Band 41 16QAM 10MHz CH-High, 1 RB

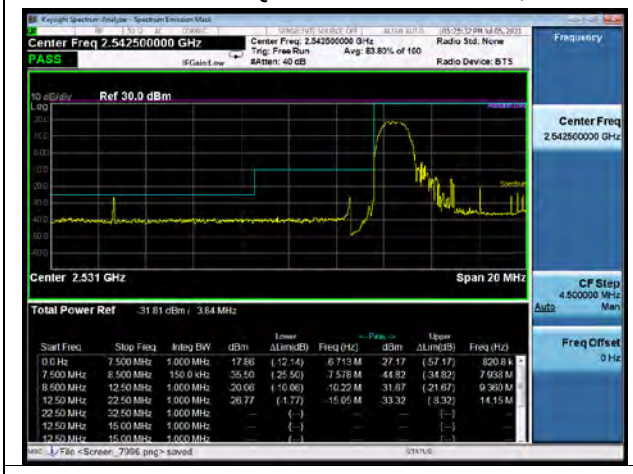
LTE Band 41 16QAM 10MHz CH-Low, 100%RB



LTE Band 41 16QAM 10MHz CH-High, 100%RB

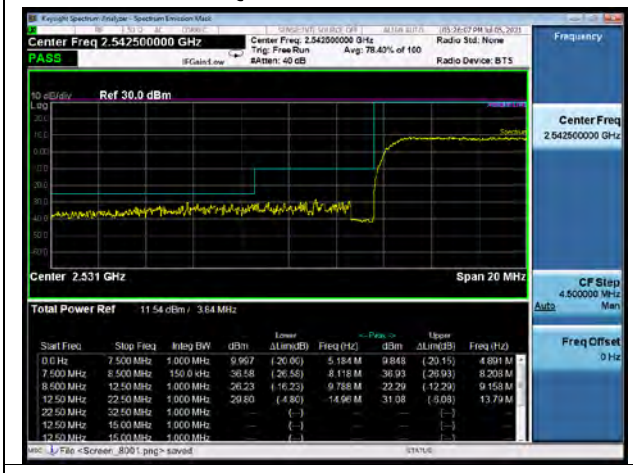


LTE Band 41 16QAM 15MHz CH-Low, 1 RB

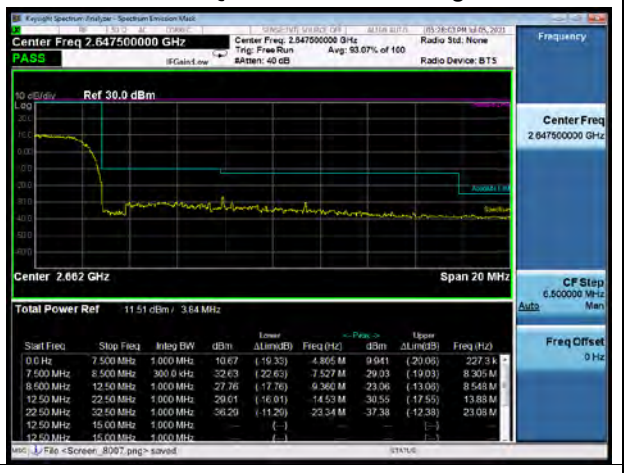


LTE Band 41 16QAM 15MHz CH-High, 1 RB

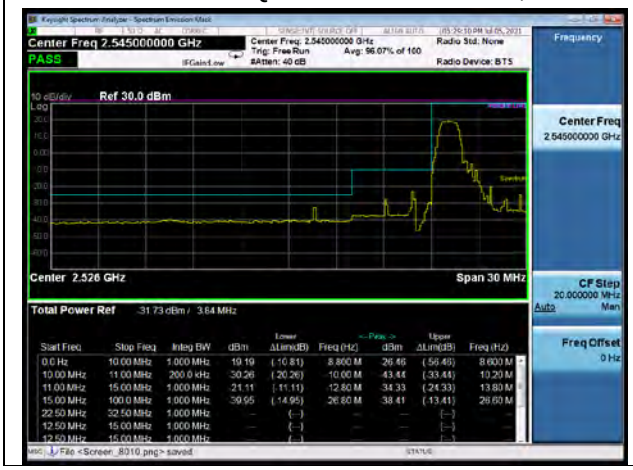
LTE Band 41 16QAM 15MHz CH-Low, 100%RB



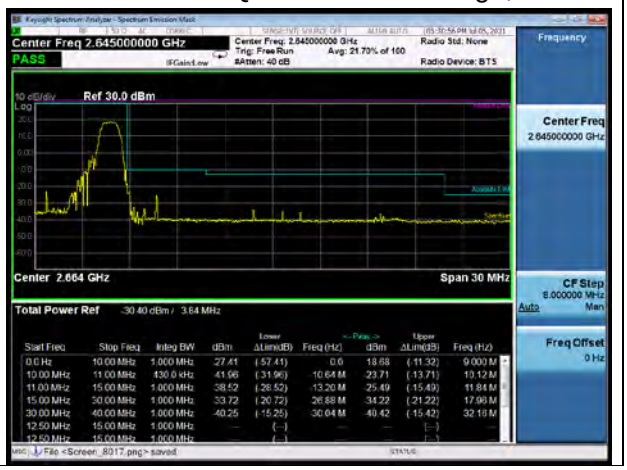
LTE Band 41 16QAM 15MHz CH-High, 100%RB



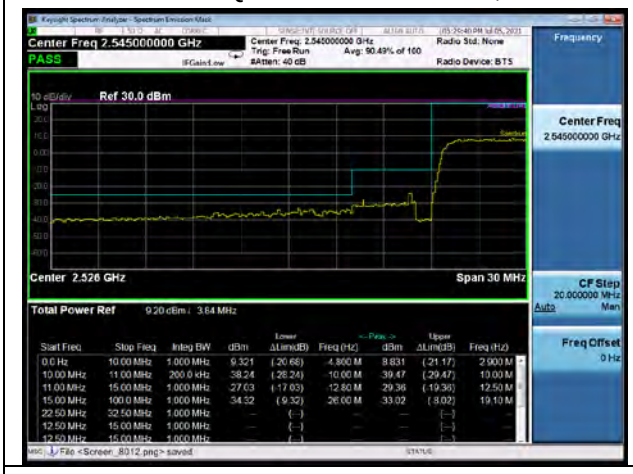
LTE Band 41 16QAM 20MHz CH-Low, RB 1



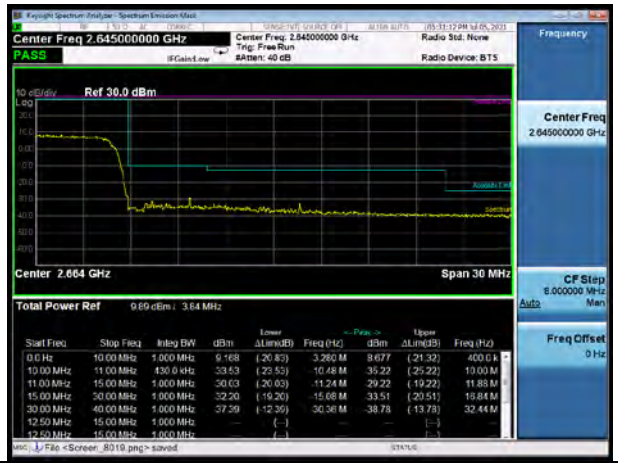
LTE Band 41 16QAM 20MHz CH-High, RB 1



LTE Band 41 16QAM 20MHz CH-Low, 100%RB

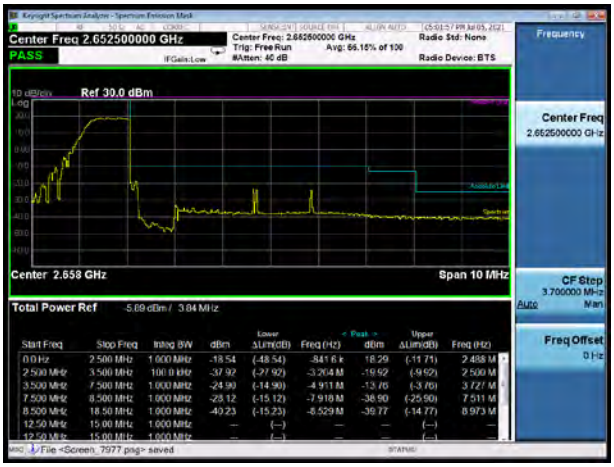


LTE Band 41 16QAM 20MHz CH-High, 100%RB



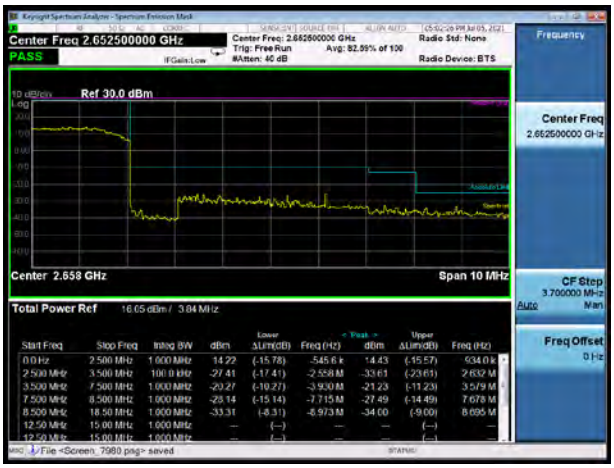
LTE Band 41 64QAM 5MHz CH-Low, 1 RB

LTE Band41 64QAM 5MHz CH-High, 1 RB

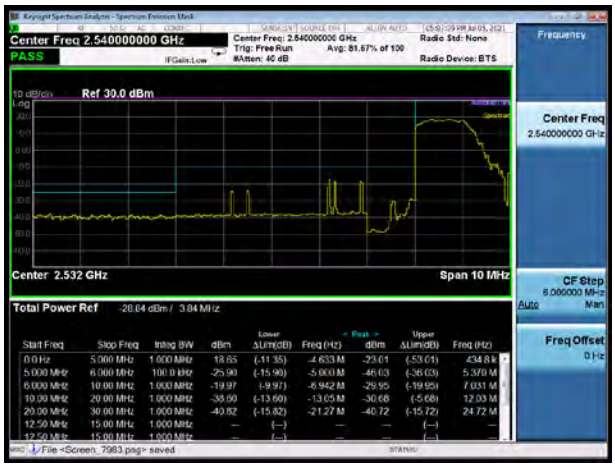


LTE Band 41 64QAM 5MHz CH-Low, 100%RB

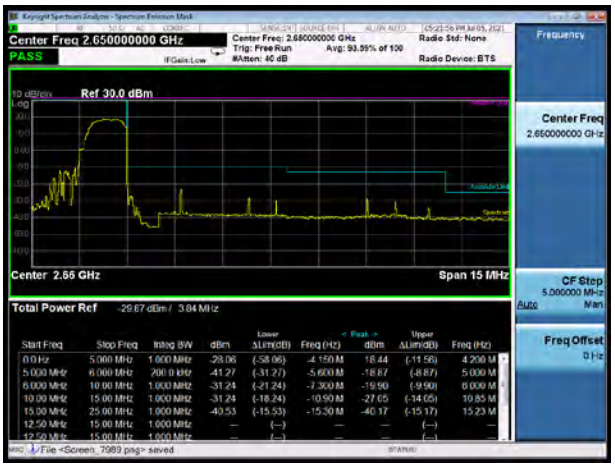
LTE Band 41 64QAM 5MHz CH-High, 100%RB



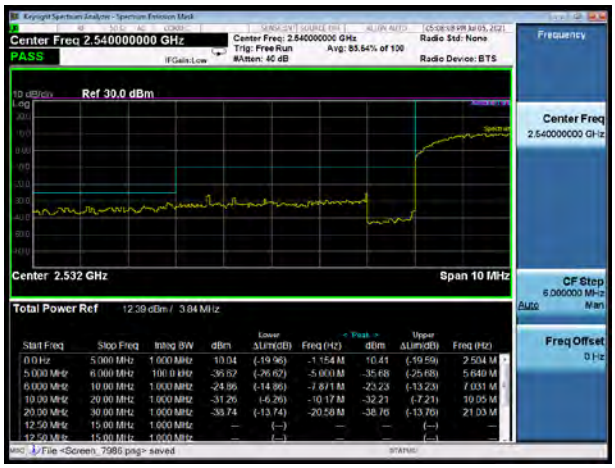
LTE Band 41 64QAM 10MHz CH-Low, 1 RB



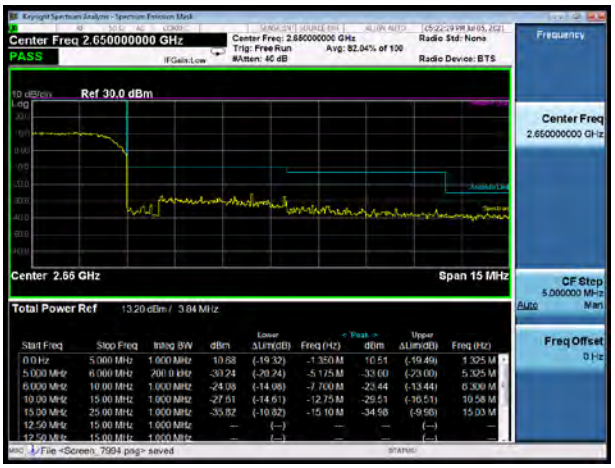
LTE Band 41 64QAM 10MHz CH-High, 1 RB



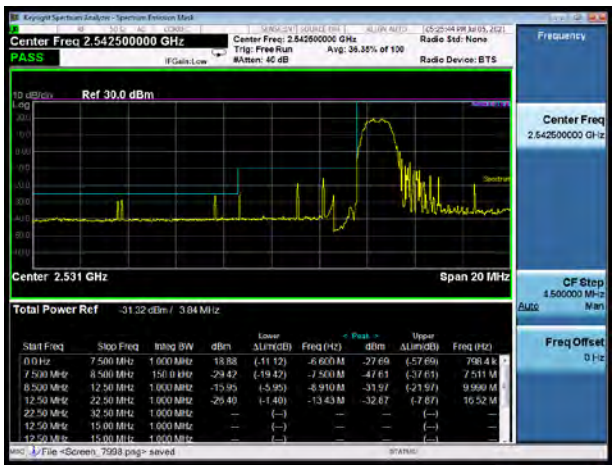
LTE Band 41 64QAM 10MHz CH-Low, 100%RB



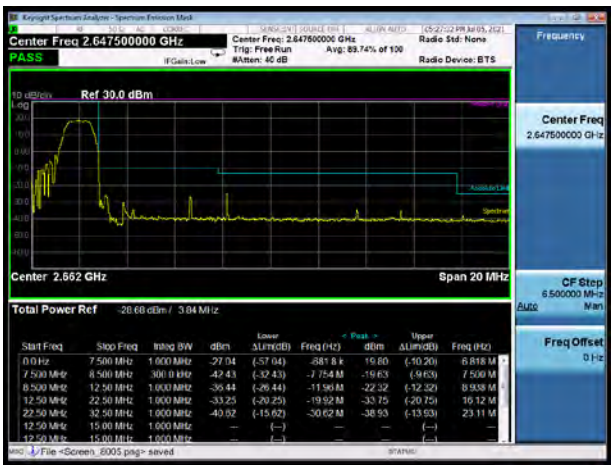
LTE Band 41 64QAM 10MHz CH-High, 100%RB



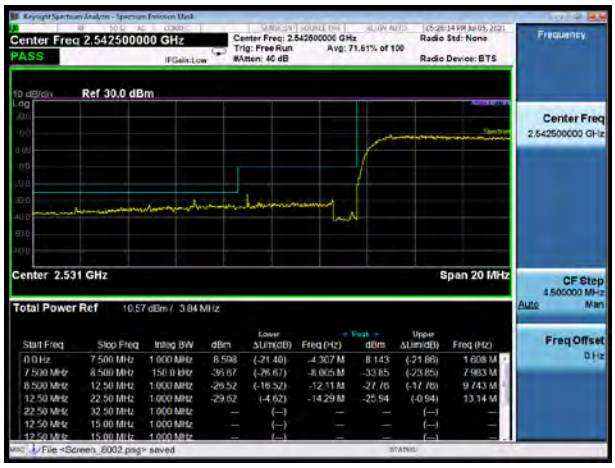
LTE Band 41 64QAM 15MHz CH-Low, 1 RB



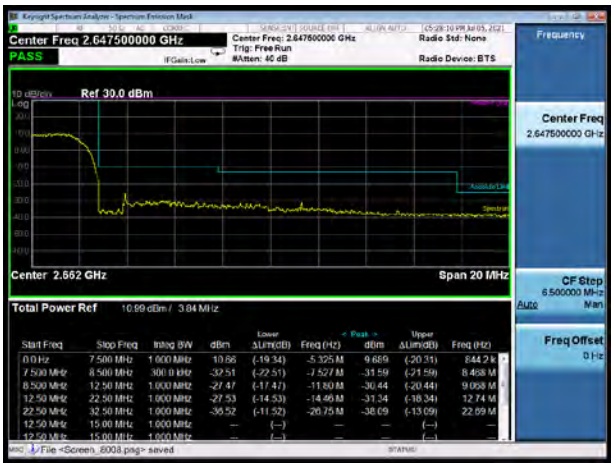
LTE Band 41 64QAM 15MHz CH-High, 1 RB



LTE Band 41 64QAM 15MHz CH-Low, 100%RB

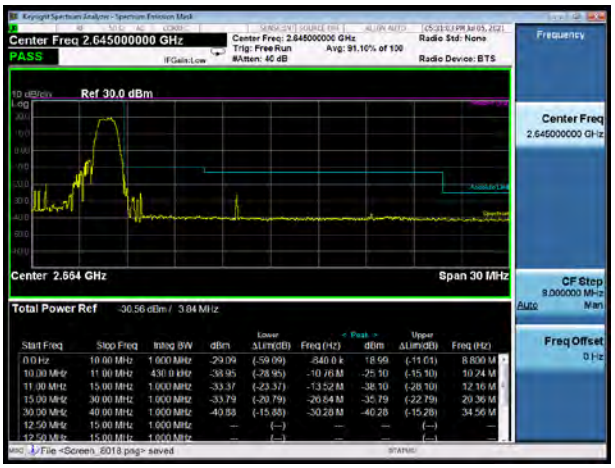


LTE Band 41 64QAM 15MHz CH-High, 100%RB

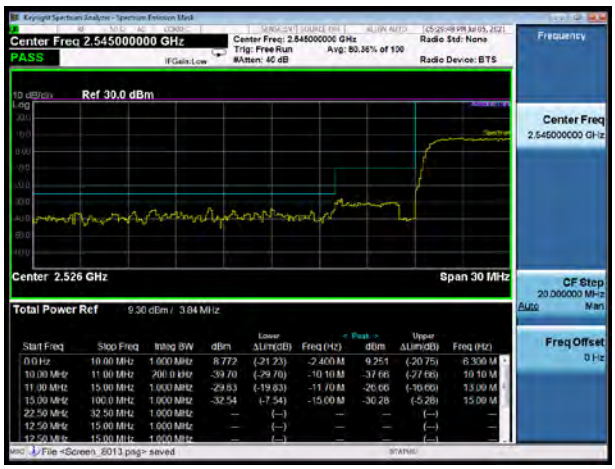


LTE Band 41 64QAM 20MHz CH-Low, 1 RB

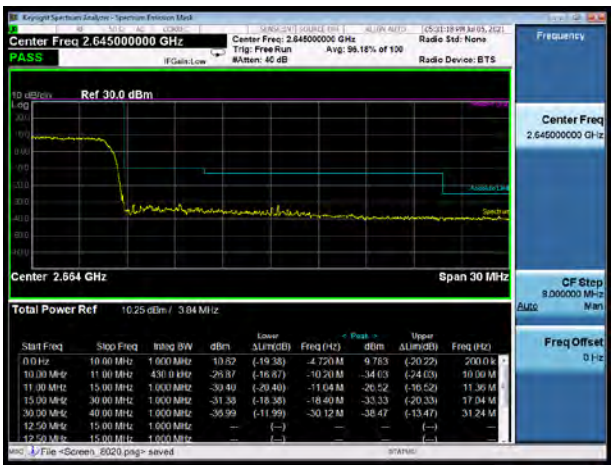
LTE Band 41 64QAM 20MHz CH-High, 1 RB



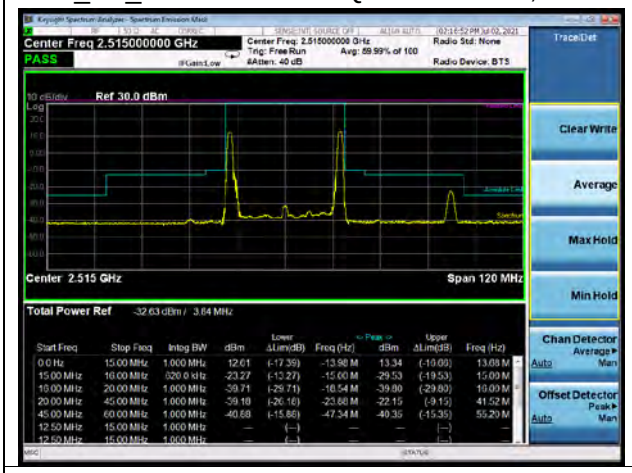
LTE Band 41 64QAM 20MHz CH-Low, 100%RB



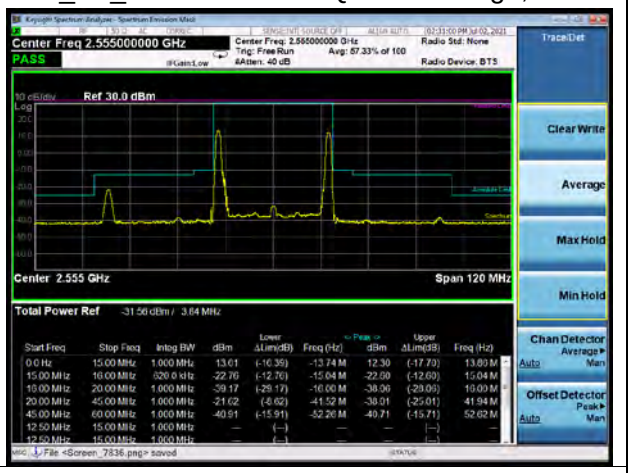
LTE Band 41 64QAM 20MHz CH-High, 100%RB



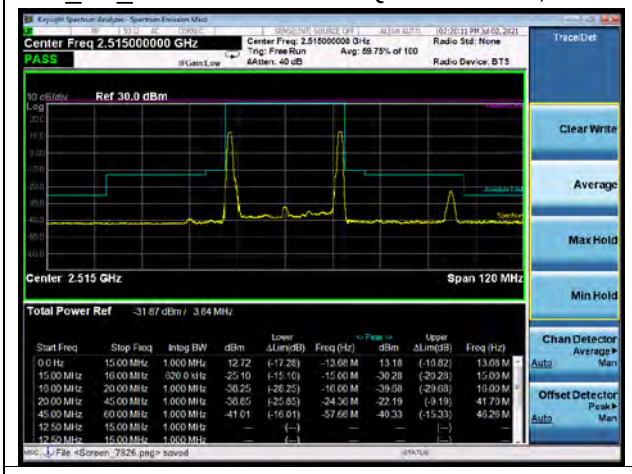
CA_7C_20MHz+10MHz QPSK CH-Low, RB 1



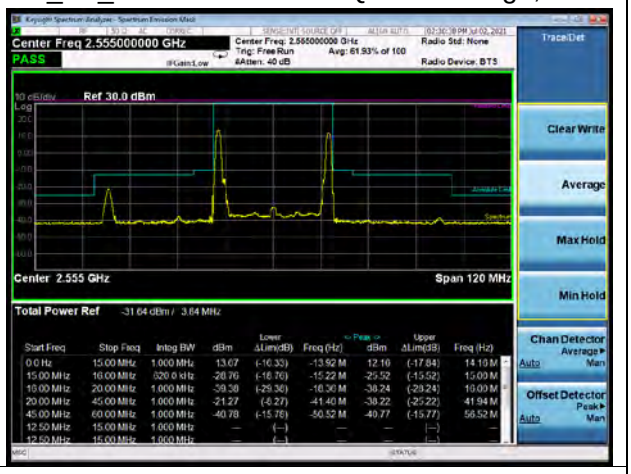
CA_7C_20MHz+10MHz QPSK CH-High, RB 1



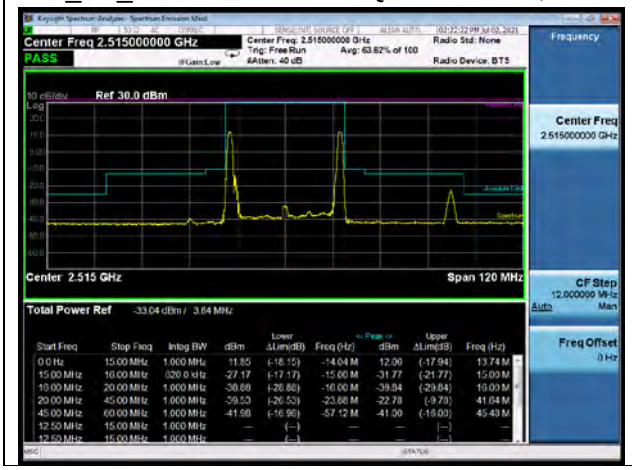
CA_7C_20MHz+10MHz 16QAM CH-Low, RB 1



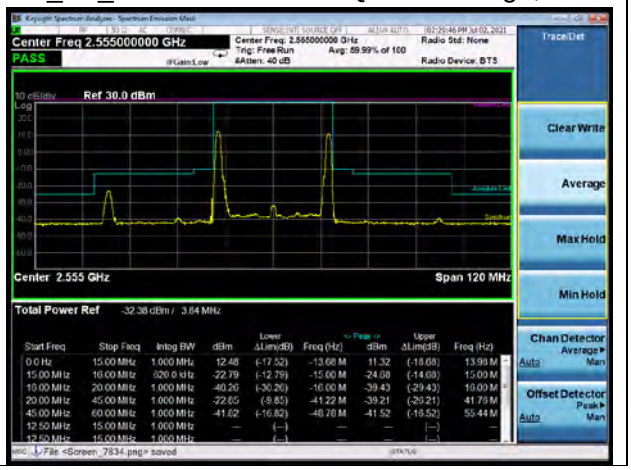
CA_7C_20MHz+10MHz 16QAM CH- High, RB 1



CA_7C_20MHz+10MHz 64QAM CH-Low, RB 1

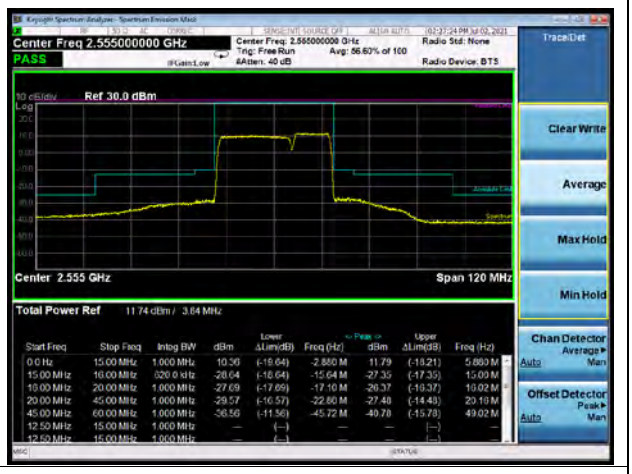


CA_7C_20MHz+10MHz 64QAM CH- High, RB 1



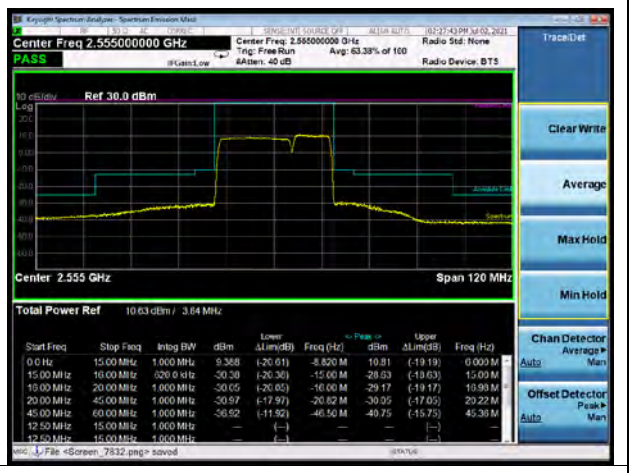
CA_7C_20MHz+10MHz QPSK CH-Low, 100%RB

CA_7C_20MHz+10MHz QPSK CH-High , 100%RB



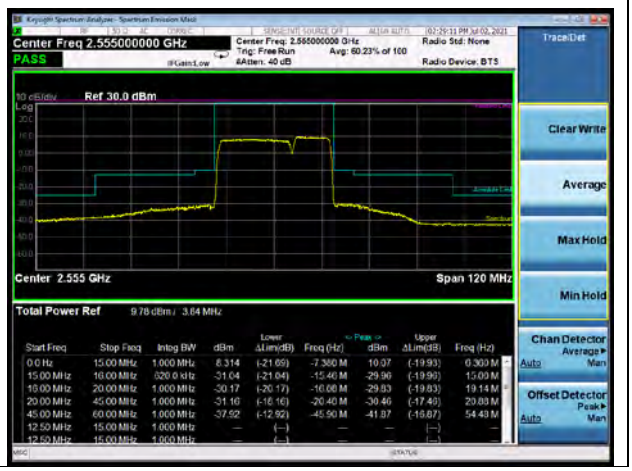
CA_7C_20MHz+10MHz 16QAM CH-Low, 100%RB

CA_7C_20MHz+10MHz 16QAM CH- High, 100%RB

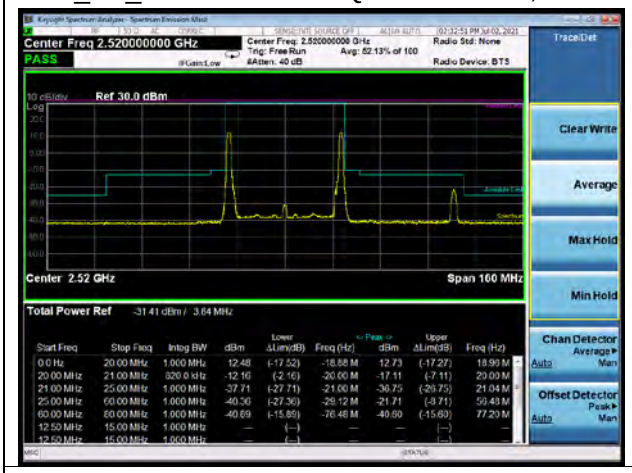


CA_7C_20MHz+10MHz 64QAM CH-Low, 100%RB

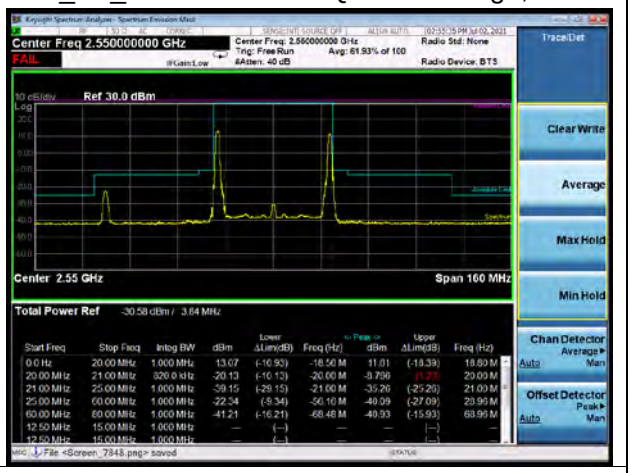
CA_7C_20MHz+10MHz 64QAM CH- High, 100%RB



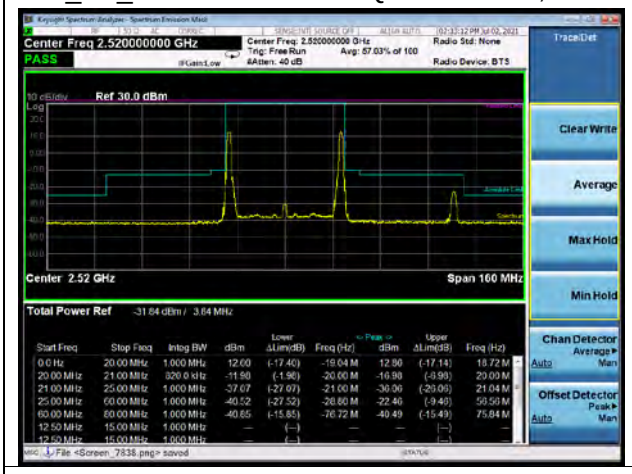
CA_7C_20MHz+20MHz QPSK CH-Low, RB 1



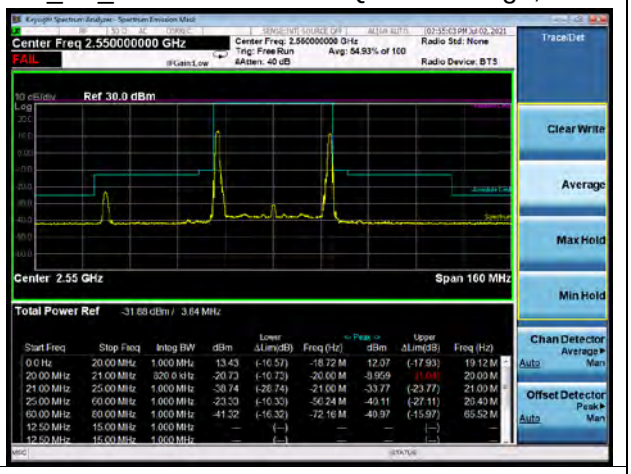
CA_7C_20MHz+20MHz QPSK CH-High, RB 1



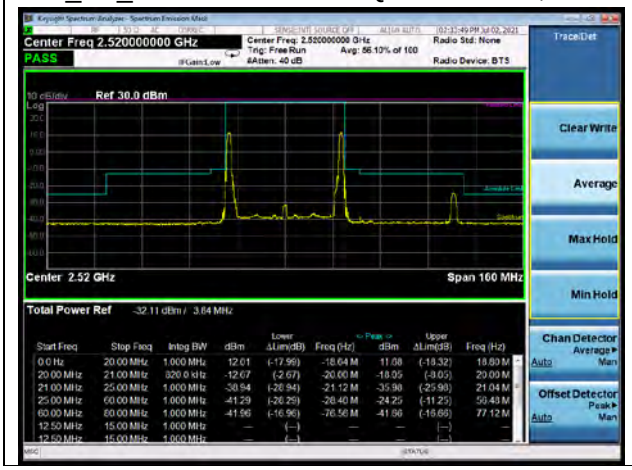
CA_7C_20MHz+20MHz 16QAM CH-Low, RB 1



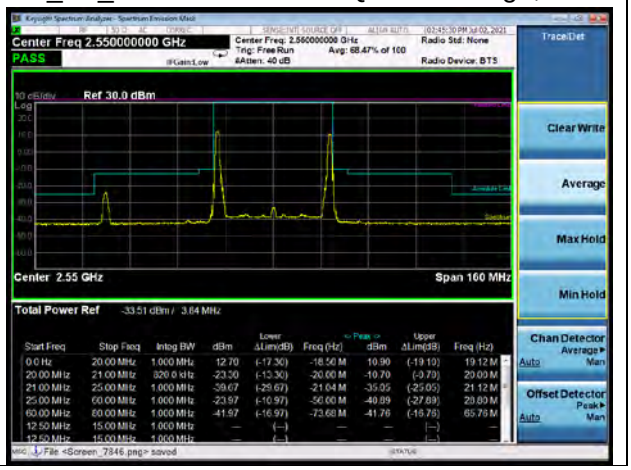
CA_7C_20MHz+20MHz 16QAM CH- High, RB 1



CA_7C_20MHz+20MHz 64QAM CH-Low, RB 1

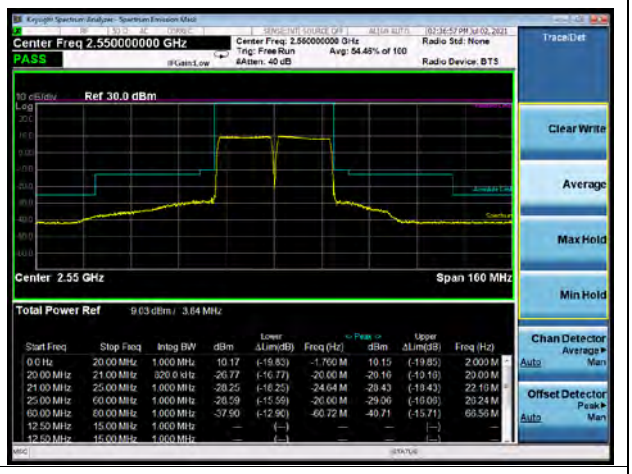


CA_7C_20MHz+20MHz 64QAM CH- High, RB 1



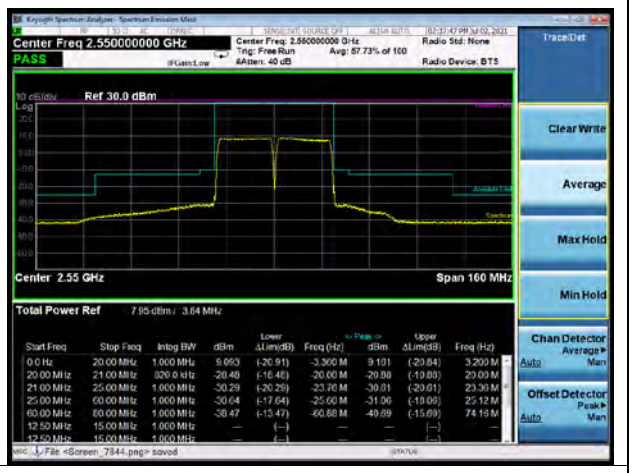
CA_7C_20MHz+20MHz QPSK CH-Low, 100%RB

CA_7C_20MHz+20MHz QPSK CH-High , 100%RB



CA_7C_20MHz+20MHz 16QAM CH-Low, 100%RB

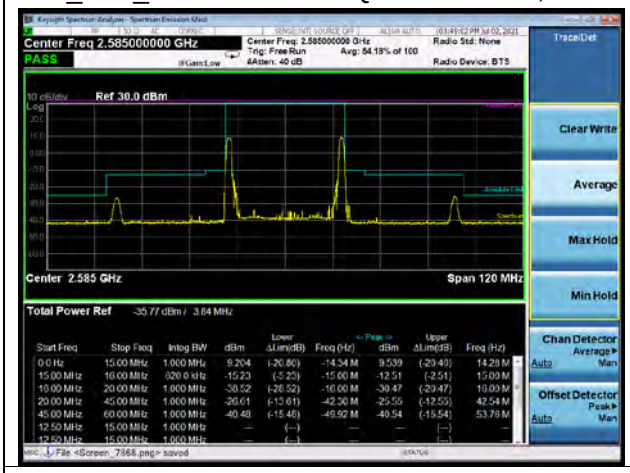
CA_7C_20MHz+20MHz 16QAM CH- High, 100%RB



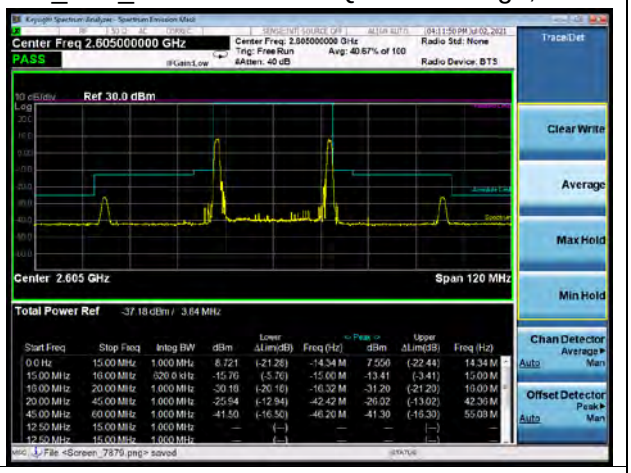
CA_7C_20MHz+20MHz 64QAM CH-Low, 100%RB

CA_7C_20MHz+20MHz 64QAM CH- High, 100%RB

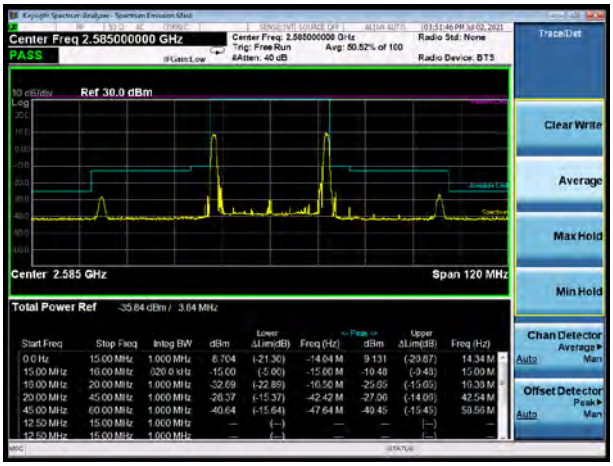
CA_38C_15MHz+15MHz QPSK CH-Low, RB 1



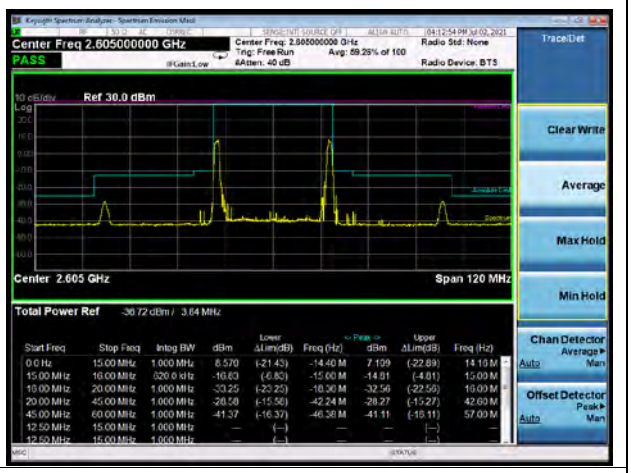
CA_38C_15MHz+15MHz QPSK CH-High, RB 1



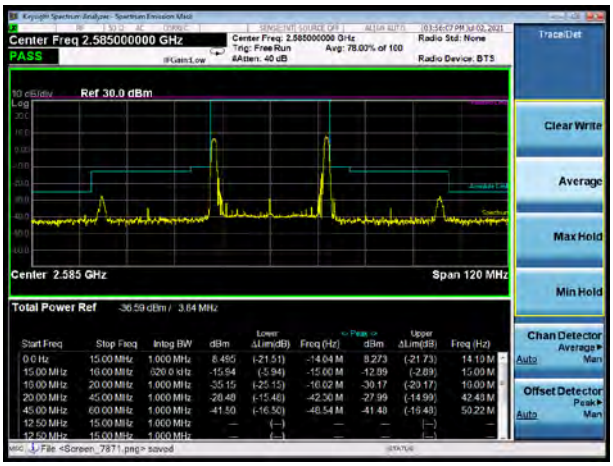
CA_38C_15MHz+15MHz 16QAM CH-Low, RB 1



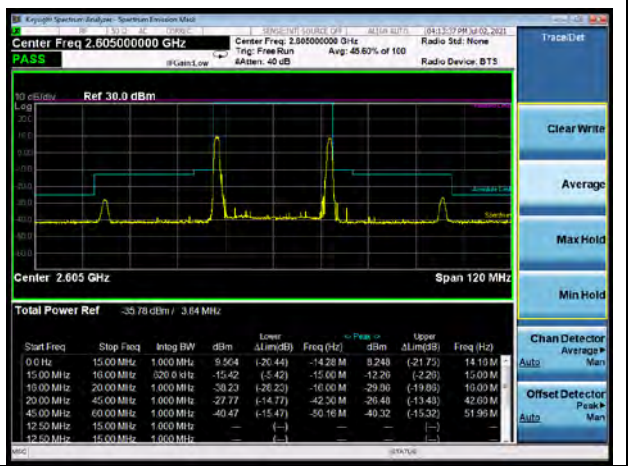
CA_38C_15MHz+15MHz 16QAM CH- High, RB 1



CA_38C_15MHz+15MHz 64QAM CH-Low, RB 1



CA_38C_15MHz+15MHz 64QAM CH- High, RB 1



CA_38C_15MHz+15MHz QPSK CH-Low, 100%RB

CA_38C_15MHz+15MHz QPSK CH-High , 100%RB

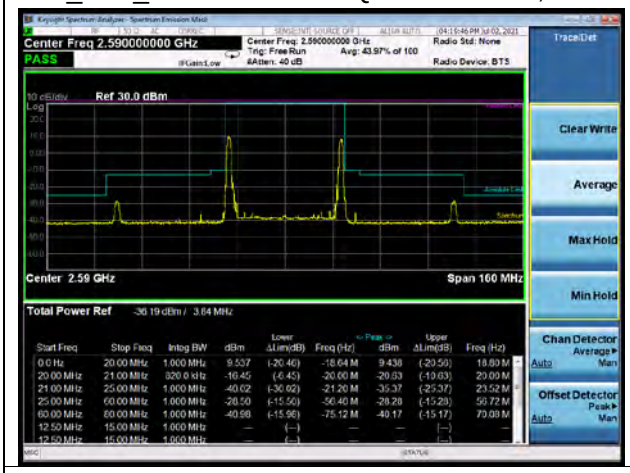
CA_38C_15MHz+15MHz 16QAM CH-Low, 100%RB

CA_38C_15MHz+15MHz 16QAM CH- High, 100%RB

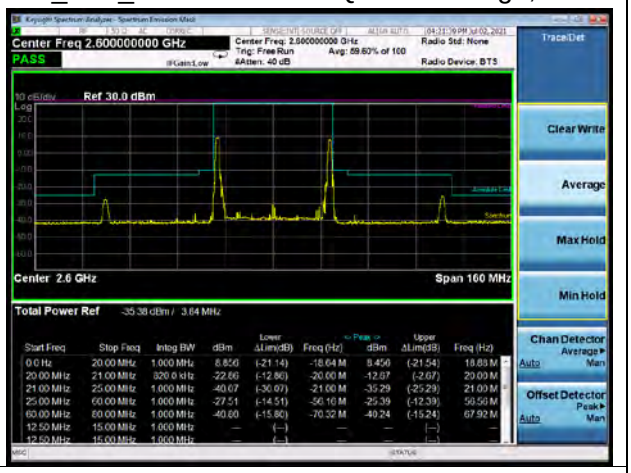
CA_38C_15MHz+15MHz 64QAM CH-Low, 100%RB

CA_38C_15MHz+15MHz 64QAM CH- High, 100%RB

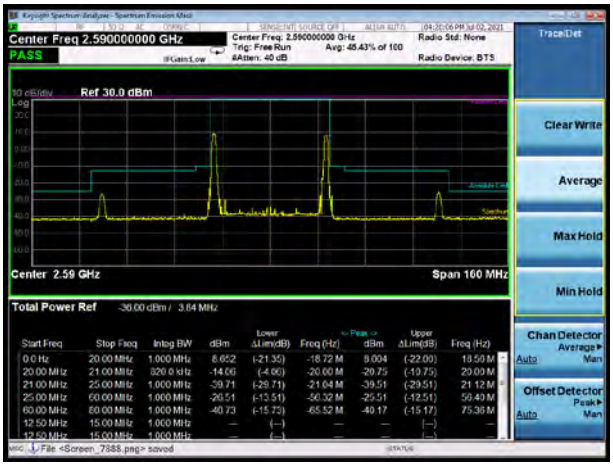
CA_38C_20MHz+20MHz QPSK CH-Low, RB 1



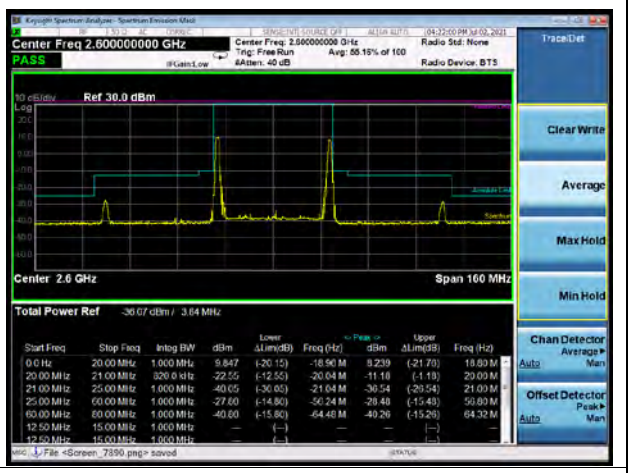
CA_38C_20MHz+20MHz QPSK CH-High, RB 1



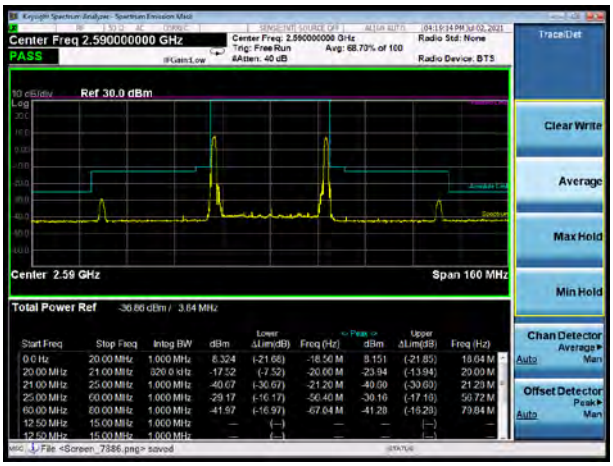
CA_38C_20MHz+20MHz 16QAM CH-Low, RB 1



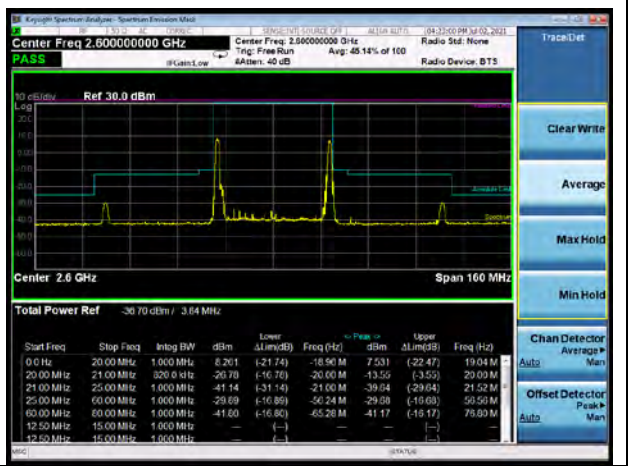
CA_38C_20MHz+20MHz 16QAM CH- High, RB 1



CA_38C_20MHz+20MHz 64QAM CH-Low, RB 1



CA_38C_20MHz+20MHz 64QAM CH- High, RB 1

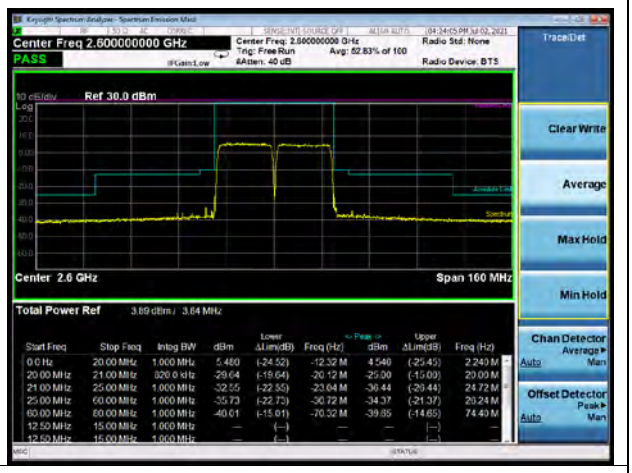


CA_38C_20MHz+20MHz QPSK CH-Low, 100%RB

CA_38C_20MHz+20MHz QPSK CH-High , 100%RB

CA_38C_20MHz+20MHz 16QAM CH-Low, 100%RB

CA_38C_20MHz+20MHz 16QAM CH- High, 100%RB



CA_38C_20MHz+20MHz 64QAM CH-Low, 100%RB

CA_38C_20MHz+20MHz 64QAM CH- High, 100%RB

5.4 Peak-to-Average Power Ratio (PAPR)

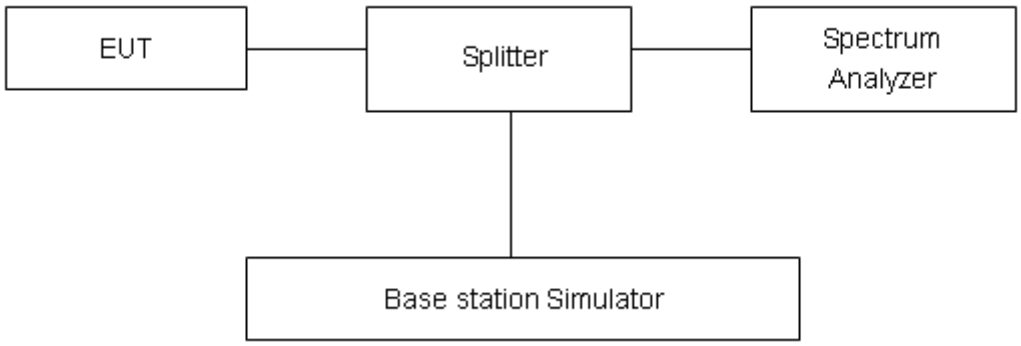
Ambient condition

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:
PAPR (dB) = PPk (dBm) - 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 thenormal distribution is with the coverage factor k = 2, U= 0.4 dB.

Test Results

WCDMA Band IV	Channel	Frequency (MHz)	Peak (dBm)	Avg (dBm)	PAPR (dB)	Limit (dB)	Conclusion
RMC	1312	1712.4	25.82	23.04	2.78	≤13	PASS
	1413	1732.6	26.57	23.68	2.89	≤13	PASS
	1513	1752.6	26.84	23.82	3.02	≤13	PASS

LTE Band 4								
Modulation	Bandwidth (MHz)	Channel	Frequency (MHz)	Peak (dBm)	Avg (dBm)	PAPR (dB)	Limit (dB)	Conclusion
QPSK	1.4	19957	1710.7	27.17	23.44	3.73	≤13	PASS
		20175	1732.5	26.66	22.30	4.36	≤13	PASS
		20393	1754.3	28.02	23.24	4.78	≤13	PASS
	3	19965	1711.5	27.25	23.29	3.96	≤13	PASS
		20175	1732.5	27.60	23.21	4.39	≤13	PASS
		20385	1753.5	28.06	23.21	4.85	≤13	PASS
	5	19975	1712.5	27.43	23.27	4.16	≤13	PASS
		20175	1732.5	27.74	23.21	4.53	≤13	PASS
		20375	1752.5	28.12	23.22	4.90	≤13	PASS
	10	20000	1715	27.79	23.33	4.46	≤13	PASS
		20175	1732.5	27.81	23.20	4.61	≤13	PASS
		20350	1750	28.09	23.29	4.80	≤13	PASS
	15	20025	1717.5	28.43	23.42	5.01	≤13	PASS
		20175	1732.5	28.29	23.32	4.97	≤13	PASS
		20325	1747.5	28.39	23.33	5.06	≤13	PASS
	20	20050	1720	28.42	23.32	5.10	≤13	PASS
		20175	1732.5	28.13	23.13	5.00	≤13	PASS
		20300	1745	28.27	23.23	5.04	≤13	PASS
16QAM	1.4	19957	1710.7	26.97	22.27	4.70	≤13	PASS
		20175	1732.5	27.42	22.21	5.21	≤13	PASS
		20393	1754.3	27.86	22.26	5.60	≤13	PASS
	3	19965	1711.5	27.10	22.24	4.86	≤13	PASS
		20175	1732.5	27.46	22.16	5.30	≤13	PASS
		20385	1753.5	27.89	22.23	5.66	≤13	PASS
	5	19975	1712.5	27.25	22.25	5.00	≤13	PASS
		20175	1732.5	27.59	22.23	5.36	≤13	PASS
		20375	1752.5	27.94	22.25	5.69	≤13	PASS
	10	20000	1715	27.61	22.33	5.28	≤13	PASS
		20175	1732.5	27.67	22.23	5.44	≤13	PASS
		20350	1750	27.91	22.29	5.62	≤13	PASS
	15	20025	1717.5	28.07	22.37	5.70	≤13	PASS
		20175	1732.5	27.90	22.25	5.65	≤13	PASS

		20325	1747.5	28.02	22.29	5.73	≤13	PASS
	20	20050	1720	28.19	22.33	5.86	≤13	PASS
		20175	1732.5	27.87	22.12	5.75	≤13	PASS
		20300	1745	28.01	22.22	5.79	≤13	PASS
64QAM	1.4	19957	1710.7	26.39	21.66	4.73	≤13	PASS
		20175	1732.5	26.83	21.67	5.16	≤13	PASS
		20393	1754.3	27.33	21.61	5.72	≤13	PASS
	3	19965	1711.5	26.56	21.63	4.93	≤13	PASS
		20175	1732.5	26.91	21.56	5.35	≤13	PASS
		20385	1753.5	27.34	21.56	5.78	≤13	PASS
	5	19975	1712.5	26.69	21.63	5.06	≤13	PASS
		20175	1732.5	26.97	21.59	5.38	≤13	PASS
		20375	1752.5	27.31	21.60	5.71	≤13	PASS
	10	20000	1715	27.06	21.67	5.39	≤13	PASS
		20175	1732.5	27.08	21.62	5.46	≤13	PASS
		20350	1750	27.34	21.66	5.68	≤13	PASS
	15	20025	1717.5	27.48	21.74	5.74	≤13	PASS
		20175	1732.5	27.31	21.61	5.70	≤13	PASS
		20325	1747.5	27.43	21.64	5.79	≤13	PASS
	20	20050	1720	27.59	21.71	5.88	≤13	PASS
		20175	1732.5	27.33	21.53	5.80	≤13	PASS
		20300	1745	27.42	21.62	5.80	≤13	PASS

LTE Band 7								
Modulation	**Bandwidth (MHz)**	**Channel**	**Frequency (MHz)**	**Peak (dBm)**	**Avg (dBm)**	**PAPR (dB)**	**Limit (dB)**	**Conclusion**
QPSK	5	20775	2502.5	28.17	23.48	4.69	≤13	PASS
		21100	2535	28.28	23.41	4.87	≤13	PASS
		21425	2567.5	27.79	23.42	4.37	≤13	PASS
	10	20800	2505	28.31	23.54	4.77	≤13	PASS
		21100	2535	28.34	23.48	4.86	≤13	PASS
		21400	2565	27.96	23.46	4.50	≤13	PASS
	15	20825	2507.5	28.70	23.59	5.11	≤13	PASS
		21100	2535	28.74	23.55	5.19	≤13	PASS
		21375	2562.5	28.40	23.59	4.81	≤13	PASS
	20	20850	2510	28.58	23.48	5.10	≤13	PASS
		21100	2535	28.67	23.50	5.17	≤13	PASS
		21350	2560	28.36	23.47	4.89	≤13	PASS

16QAM	5	20775	2502.5	28.01	22.49	5.52	≤13	PASS
		21100	2535	28.06	22.40	5.66	≤13	PASS
		21425	2567.5	27.69	22.48	5.21	≤13	PASS
	10	20800	2505	28.11	22.50	5.61	≤13	PASS
		21100	2535	28.18	22.47	5.71	≤13	PASS
		21400	2565	27.86	22.53	5.33	≤13	PASS
	15	20825	2507.5	28.36	22.56	5.80	≤13	PASS
		21100	2535	28.36	22.50	5.86	≤13	PASS
		21375	2562.5	28.08	22.55	5.53	≤13	PASS
	20	20850	2510	28.33	22.50	5.83	≤13	PASS
		21100	2535	28.37	22.48	5.89	≤13	PASS
		21350	2560	28.14	22.49	5.65	≤13	PASS
64QAM	5	20775	2502.5	27.39	21.89	5.50	≤13	PASS
		21100	2535	27.48	21.81	5.67	≤13	PASS
		21425	2567.5	27.09	21.85	5.24	≤13	PASS
	10	20800	2505	27.60	21.93	5.67	≤13	PASS
		21100	2535	27.63	21.87	5.76	≤13	PASS
		21400	2565	27.29	21.92	5.37	≤13	PASS
	15	20825	2507.5	27.80	21.96	5.84	≤13	PASS
		21100	2535	27.83	21.91	5.92	≤13	PASS
		21375	2562.5	27.53	21.96	5.57	≤13	PASS
	20	20850	2510	27.78	21.92	5.86	≤13	PASS
		21100	2535	27.81	21.88	5.93	≤13	PASS
		21350	2560	27.57	21.87	5.70	≤13	PASS

LTE Band 38								
Modulation	**Bandwidth (MHz)**	**Channel**	**Frequency (MHz)**	**Peak (dBm)**	**Avg (dBm)**	**PAPR (dB)**	**Limit (dB)**	**Conclusion**
QPSK	5	37775	2572.5	28.23	19.18	9.05	≤13	PASS
		38000	2595	28.20	18.61	9.59	≤13	PASS
		38225	2617.5	28.34	18.98	9.36	≤13	PASS
	10	37800	2575	28.27	19.72	8.55	≤13	PASS
		38000	2595	28.40	20.31	8.09	≤13	PASS

		38200	2615	28.43	19.90	8.53	≤13	PASS
	15	37825	2577.5	28.57	19.05	9.52	≤13	PASS
		38000	2595	28.63	18.98	9.65	≤13	PASS
		38175	2612.5	28.75	19.44	9.31	≤13	PASS
	20	37850	2580	28.30	19.34	8.96	≤13	PASS
		38000	2595	28.33	18.88	9.45	≤13	PASS
		38150	2610	28.26	17.48	10.78	≤13	PASS
16QAM	5	37775	2572.5	27.94	18.33	9.61	≤13	PASS
		38000	2595	27.98	18.20	9.78	≤13	PASS
		38225	2617.5	28.13	18.47	9.66	≤13	PASS
	10	37800	2575	28.09	19.04	9.05	≤13	PASS
		38000	2595	28.09	18.76	9.33	≤13	PASS
		38200	2615	28.13	18.13	10.00	≤13	PASS
	15	37825	2577.5	28.21	18.79	9.42	≤13	PASS
		38000	2595	28.20	17.81	10.39	≤13	PASS
		38175	2612.5	28.37	18.86	9.51	≤13	PASS
	20	37850	2580	27.97	17.75	10.22	≤13	PASS
		38000	2595	27.92	16.83	11.09	≤13	PASS
		38150	2610	28.21	17.62	10.59	≤13	PASS
64QAM	5	37775	2572.5	27.33	17.34	9.99	≤13	PASS
		38000	2595	27.45	18.02	9.43	≤13	PASS
		38225	2617.5	27.47	16.96	10.51	≤13	PASS
	10	37800	2575	27.50	17.95	9.55	≤13	PASS
		38000	2595	27.61	18.80	8.81	≤13	PASS
		38200	2615	27.67	18.46	9.21	≤13	PASS
	15M	37825	2577.5	27.62	17.41	10.21	≤13	PASS
		38000	2595	27.75	18.41	9.34	≤13	PASS
		38175	2612.5	27.70	17.14	10.56	≤13	PASS
	20	37850	2580	27.44	17.48	9.96	≤13	PASS
		38000	2595	27.49	17.55	9.94	≤13	PASS
		38150	2610	27.68	18.69	8.99	≤13	PASS

LTE Band 41								
Modulation	Bandwidth (MHz)	Channel	Frequency (MHz)	Peak (dBm)	Avg (dBm)	PAPR (dB)	Limit (dB)	Conclusion
QPSK	5	40065	2537.5	26.57	17.54	9.03	≤13	PASS
		40640	2595	28.66	19.56	9.10	≤13	PASS
		41215	2652.5	27.27	18.38	8.89	≤13	PASS
	10	40090	2540	26.40	17.12	9.28	≤13	PASS
		40640	2595	28.66	19.85	8.81	≤13	PASS
		41190	2650	27.40	18.64	8.76	≤13	PASS
	15	40115	2542.5	26.72	17.34	9.38	≤13	PASS
		40640	2595	28.94	19.67	9.27	≤13	PASS
		41165	2647.5	27.83	18.45	9.38	≤13	PASS
	20	40140	2545	26.30	17.15	9.15	≤13	PASS
		40640	2595	28.48	19.45	9.03	≤13	PASS
		41140	2645	27.50	18.47	9.03	≤13	PASS
16QAM	5	40065	2537.5	26.16	16.26	9.90	≤13	PASS
		40640	2595	28.25	18.36	9.89	≤13	PASS
		41215	2652.5	26.92	17.16	9.76	≤13	PASS
	10	40090	2540	26.11	16.31	9.80	≤13	PASS
		40640	2595	28.26	18.47	9.79	≤13	PASS
		41190	2650	27.09	17.51	9.58	≤13	PASS
	15	40115	2542.5	26.25	16.44	9.81	≤13	PASS
		40640	2595	28.54	18.93	9.61	≤13	PASS
		41165	2647.5	27.51	18.08	9.43	≤13	PASS
	20	40140	2545	26.04	16.64	9.40	≤13	PASS
		40640	2595	28.23	18.96	9.27	≤13	PASS
		41140	2645	27.25	18.01	9.24	≤13	PASS
64QAM	5	40065	2537.5	26.22	16.89	9.33	≤13	PASS
		40640	2595	28.30	18.50	9.80	≤13	PASS
		41215	2652.5	26.92	16.93	9.99	≤13	PASS
	10	40090	2540	26.09	16.11	9.98	≤13	PASS
		40640	2595	28.29	18.63	9.66	≤13	PASS
		41190	2650	27.07	17.44	9.63	≤13	PASS
	15	40115	2542.5	26.25	16.20	10.05	≤13	PASS

		40640	2595	28.48	18.79	9.69	≤13	PASS
		41165	2647.5	27.34	17.42	9.92	≤13	PASS
	20	40140	2545	25.95	15.77	10.18	≤13	PASS
		40640	2595	28.15	18.34	9.81	≤13	PASS
		41140	2645	27.11	16.89	10.22	≤13	PASS

5.5 Frequency Stability

Ambient condition

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

Method of Measurement

Frequency Stability (Temperature Variation)

The temperature inside the climate chamber is varied from -30°C to +50°C in 10°C step size.

(1)With all power removed, the temperature was decreased to -10°C and permitted to stabilize for three hours.

(2)Measure the carrier frequency with the test equipment in a “call mode”. These measurements should be made within 1 minute of powering up the mobile station, to prevent significant self warming.

(3) Repeat the above measurements at 10°C increments from -30°C to +50°C. Allow at least 1.5 hours at each temperature, un-powered, before making measurements.

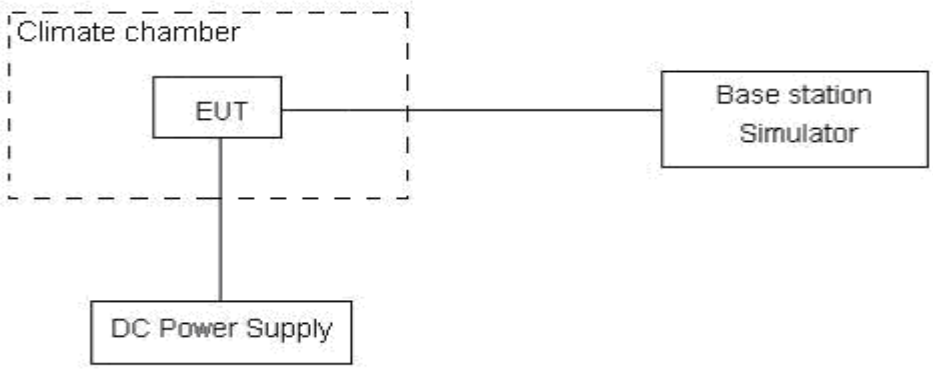
Frequency Stability (Voltage Variation)

The frequency stability shall be measured with variation of primary supply voltage as follows:

Primary Supply Voltage: The primary supply voltage is varied from 85% to 115% of the nominal value for non hand-carried battery and AC powered equipment. For hand-carried, battery-powered equipment, primary supply voltage is reduced to the battery operating end point which shall be specified by the manufacturer.

This transceiver is specified to operate with an input voltage of between 3.6 V and 4.45 V, with a nominal voltage of 3.87V.

Test setup



Limits

The frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.

Measurement Uncertainty

The assessed measurement uncertainty to ensure 99.75％ confidence level for the normal distribution is with the coverage factor k = 3,U=0.01ppm.

Test Result

	Condition		Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability （ppm）	Frequency Stability （ppm）	Verdict
	Temperature	Voltage	BPSK	QPSK	BPSK	QPSK	
WCDMA B4	Normal（25℃）	Normal	6.99	10.53	0.00403	0.00608	PASS
	Extreme（50℃）		2.53	1.92	0.00146	0.00111	PASS
	Extreme（40℃）		4.82	12.96	0.00278	0.00748	PASS
	Extreme（30℃）		15.72	11.90	0.00907	0.00687	PASS
	Extreme（20℃）		13.51	12.30	0.00780	0.00710	PASS
	Extreme（10℃）		3.68	2.67	0.00212	0.00154	PASS
	Extreme（0℃）		1.34	14.67	0.00078	0.00847	PASS
	Extreme（-10℃）		7.08	9.26	0.00409	0.00535	PASS
	Extreme（-20℃）		1.08	15.44	0.00063	0.00891	PASS
	Extreme（-30℃）		15.33	8.10	0.00885	0.00467	PASS
	25℃	LV	7.97	12.44	0.00460	0.00718	PASS
		HV	11.10	10.31	0.00641	0.00595	PASS

LTE Band 4 (1732.5MHz)								
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability （ppm）	Frequency Stability （ppm）	Frequency Stability （ppm）	Verdict
BANDWIDTH	1.4MHz							
Temperature	Voltage	64QAM	16QAM	QPSK	64QAM	16QAM	QPSK	
Normal（25℃）	Normal	3.05	5.81	6.47	0.00176	0.00335	0.00373	PASS
Extreme（50℃）		8.12	7.94	17.18	0.00469	0.00458	0.00991	PASS
Extreme（40℃）		6.83	5.53	2.35	0.00394	0.00319	0.00135	PASS
Extreme（30℃）		3.94	16.99	3.13	0.00227	0.00981	0.00181	PASS
Extreme（20℃）		7.02	3.48	2.28	0.00405	0.00201	0.00132	PASS
Extreme（10℃）		17.48	8.47	10.70	0.01009	0.00489	0.00618	PASS
Extreme（0℃）		5.47	5.09	4.79	0.00316	0.00294	0.00277	PASS
Extreme（-10℃）		16.77	13.78	5.49	0.00968	0.00795	0.00317	PASS
Extreme（-20℃）		17.55	16.96	10.62	0.01013	0.00979	0.00613	PASS
Extreme（-30℃）		2.40	14.61	7.32	0.00138	0.00843	0.00422	PASS
25℃	LV	10.19	15.29	14.36	0.00588	0.00883	0.00829	PASS
	HV	15.75	17.47	15.35	0.00909	0.01009	0.00886	PASS
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability （ppm）	Frequency Stability （ppm）	Frequency Stability （ppm）	Verdict
BANDWIDTH	3MHz							
Temperature	Voltage	64QAM	16QAM	QPSK	64QAM	16QAM	QPSK	
Normal（25℃）	Normal	13.11	9.33	16.91	0.00757	0.00539	0.00976	PASS
Extreme（50℃）		1.31	13.55	1.33	0.00076	0.00782	0.00077	PASS
Extreme（40℃）		10.10	2.07	9.49	0.00583	0.00119	0.00548	PASS
Extreme（30℃）		12.05	4.87	5.30	0.00695	0.00281	0.00306	PASS
Extreme（20℃）		11.41	2.68	15.71	0.00659	0.00155	0.00907	PASS
Extreme（10℃）		8.91	9.24	4.81	0.00514	0.00534	0.00278	PASS
Extreme（0℃）		14.50	17.78	7.30	0.00837	0.01026	0.00421	PASS
Extreme（-10℃）		12.61	16.79	12.74	0.00728	0.00969	0.00735	PASS
Extreme（-20℃）		5.51	7.71	17.77	0.00318	0.00445	0.01025	PASS
Extreme（-30℃）		10.21	4.21	6.46	0.00589	0.00243	0.00373	PASS
25℃	LV	2.27	3.10	4.11	0.00131	0.00179	0.00237	PASS
	HV	9.31	5.51	7.62	0.00538	0.00318	0.00440	PASS

LTE Band 4 (1732.5MHz)								
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability （ppm）	Frequency Stability （ppm）	Frequency Stability （ppm）	Verdict
BANDWIDTH	5MHz							
Temperature	Voltage	64QAM	16QAM	QPSK	64QAM	16QAM	QPSK	
Normal（25℃）	Normal	15.47	12.28	11.09	0.00893	0.00709	0.00640	PASS
Extreme（50℃）		3.86	2.22	1.07	0.00223	0.00128	0.00062	PASS
Extreme（40℃）		8.42	1.14	6.92	0.00486	0.00066	0.00399	PASS
Extreme（30℃）		6.62	2.74	6.41	0.00382	0.00158	0.00370	PASS
Extreme（20℃）		2.46	16.60	17.01	0.00142	0.00958	0.00982	PASS
Extreme（10℃）		4.26	5.79	16.80	0.00246	0.00334	0.00970	PASS
Extreme（0℃）		15.11	5.26	1.29	0.00872	0.00304	0.00074	PASS
Extreme（-10℃）		7.82	15.06	11.17	0.00451	0.00869	0.00645	PASS
Extreme（-20℃）		1.01	10.11	15.24	0.00059	0.00583	0.00880	PASS
Extreme（-30℃）		12.19	15.47	3.19	0.00703	0.00893	0.00184	PASS
25℃	LV	6.49	10.97	15.14	0.00374	0.00633	0.00874	PASS
	HV	3.78	10.61	4.86	0.00218	0.00613	0.00280	PASS
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability （ppm）	Frequency Stability （ppm）	Frequency Stability （ppm）	Verdict
BANDWIDTH	10MHz							
Temperature	Voltage	64QAM	16QAM	QPSK	64QAM	16QAM	QPSK	
Normal（25℃）	Normal	6.91	16.03	10.58	0.00399	0.00925	0.00611	PASS
Extreme（50℃）		5.27	16.66	7.29	0.00304	0.00962	0.00421	PASS
Extreme（40℃）		14.97	9.93	2.98	0.00864	0.00573	0.00172	PASS
Extreme（30℃）		8.37	15.63	7.59	0.00483	0.00902	0.00438	PASS
Extreme（20℃）		1.59	1.24	1.67	0.00092	0.00071	0.00096	PASS
Extreme（10℃）		13.76	1.32	8.34	0.00794	0.00076	0.00481	PASS
Extreme（0℃）		4.52	3.16	2.85	0.00261	0.00183	0.00164	PASS
Extreme（-10℃）		9.78	6.99	3.83	0.00565	0.00403	0.00221	PASS
Extreme（-20℃）		10.24	12.55	15.05	0.00591	0.00724	0.00868	PASS
Extreme（-30℃）		2.92	14.37	14.82	0.00169	0.00829	0.00855	PASS
25℃	LV	4.58	4.14	10.88	0.00264	0.00239	0.00628	PASS
	HV	13.20	1.84	6.71	0.00762	0.00106	0.00387	PASS

LTE Band 4 (1732.5MHz)								
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability （ppm）	Frequency Stability （ppm）	Frequency Stability （ppm）	Verdict
BANDWIDTH	15MHz							
Temperature	Voltage	64QAM	16QAM	QPSK	64QAM	16QAM	QPSK	
Normal（25℃）	Normal	9.54	9.65	3.08	0.00550	0.00557	0.00178	PASS
Extreme（50℃）		8.33	12.37	6.28	0.00481	0.00714	0.00363	PASS
Extreme（40℃）		5.81	6.84	8.23	0.00335	0.00395	0.00475	PASS
Extreme（30℃）		17.23	8.59	15.30	0.00995	0.00496	0.00883	PASS
Extreme（20℃）		2.08	15.11	16.54	0.00120	0.00872	0.00955	PASS
Extreme（10℃）		1.35	14.07	10.12	0.00078	0.00812	0.00584	PASS
Extreme（0℃）		11.29	7.28	11.36	0.00652	0.00420	0.00656	PASS
Extreme（-10℃）		4.12	16.06	5.51	0.00238	0.00927	0.00318	PASS
Extreme（-20℃）		8.76	13.51	15.67	0.00506	0.00780	0.00905	PASS
Extreme（-30℃）		6.02	4.08	5.47	0.00347	0.00236	0.00316	PASS
25℃	LV	14.63	9.28	10.67	0.00845	0.00536	0.00616	PASS
	HV	14.03	8.95	5.19	0.00810	0.00516	0.00300	PASS
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability （ppm）	Frequency Stability （ppm）	Frequency Stability （ppm）	Verdict
BANDWIDTH	20MHz							
Temperature	Voltage	64QAM	16QAM	QPSK	64QAM	16QAM	QPSK	
Normal（25℃）	Normal	17.59	3.40	16.66	0.01015	0.00196	0.00962	PASS
Extreme（50℃）		7.39	10.64	7.08	0.00427	0.00614	0.00409	PASS
Extreme（40℃）		6.79	11.05	13.44	0.00392	0.00638	0.00776	PASS
Extreme（30℃）		13.49	14.36	7.14	0.00778	0.00829	0.00412	PASS
Extreme（20℃）		3.86	13.56	2.85	0.00223	0.00783	0.00165	PASS
Extreme（10℃）		13.43	11.84	8.12	0.00775	0.00684	0.00469	PASS
Extreme（0℃）		16.14	13.59	6.55	0.00932	0.00784	0.00378	PASS
Extreme（-10℃）		17.72	17.25	8.04	0.01023	0.00996	0.00464	PASS
Extreme（-20℃）		16.45	14.05	13.48	0.00950	0.00811	0.00778	PASS
Extreme（-30℃）		3.62	12.15	15.07	0.00209	0.00702	0.00870	PASS
25℃	LV	6.67	11.08	9.78	0.00385	0.00640	0.00565	PASS
	HV	6.33	1.52	7.84	0.00365	0.00088	0.00452	PASS

LTE Band 7 (2535MHz)								
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability （ppm）	Frequency Stability （ppm）	Frequency Stability （ppm）	Verdict
BANDWIDTH	5MHz							
Temperature	Voltage	64QAM	16QAM	QPSK	64QAM	16QAM	QPSK	
Normal（25℃）	Normal	17.58	12.46	15.58	0.00693	0.00491	0.00615	PASS
Extreme（50℃）		7.03	17.24	9.63	0.00277	0.00680	0.00380	PASS
Extreme（40℃）		15.60	14.36	8.43	0.00615	0.00567	0.00332	PASS
Extreme（30℃）		12.47	1.37	15.67	0.00492	0.00054	0.00618	PASS
Extreme（20℃）		1.01	17.70	4.68	0.00040	0.00698	0.00185	PASS
Extreme（10℃）		12.05	6.63	14.92	0.00475	0.00262	0.00589	PASS
Extreme（0℃）		9.89	1.26	8.50	0.00390	0.00050	0.00335	PASS
Extreme（-10℃）		6.83	1.73	9.86	0.00269	0.00068	0.00389	PASS
Extreme（-20℃）		16.17	4.49	15.14	0.00638	0.00177	0.00597	PASS
Extreme（-30℃）		8.65	3.31	11.14	0.00341	0.00131	0.00439	PASS
25℃	LV	1.36	7.31	17.94	0.00053	0.00288	0.00708	PASS
	HV	9.45	10.69	1.49	0.00373	0.00422	0.00059	PASS
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability （ppm）	Frequency Stability （ppm）	Frequency Stability （ppm）	Verdict
BANDWIDTH	10MHz							
Temperature	Voltage	64QAM	16QAM	QPSK	64QAM	16QAM	QPSK	
Normal（25℃）	Normal	8.11	8.06	16.43	0.00320	0.00318	0.00648	PASS
Extreme（50℃）		3.61	11.94	5.66	0.00142	0.00471	0.00223	PASS
Extreme（40℃）		1.99	8.87	4.56	0.00078	0.00350	0.00180	PASS
Extreme（30℃）		6.06	8.89	3.52	0.00239	0.00351	0.00139	PASS
Extreme（20℃）		14.13	4.70	12.65	0.00557	0.00186	0.00499	PASS
Extreme（10℃）		2.84	14.84	17.96	0.00112	0.00585	0.00709	PASS
Extreme（0℃）		10.26	11.52	1.40	0.00405	0.00454	0.00055	PASS
Extreme（-10℃）		9.29	14.52	12.49	0.00367	0.00573	0.00493	PASS
Extreme（-20℃）		7.63	10.15	4.47	0.00301	0.00400	0.00176	PASS
Extreme（-30℃）		14.26	8.00	12.75	0.00563	0.00316	0.00503	PASS
25℃	LV	1.44	17.98	15.22	0.00057	0.00709	0.00600	PASS
	HV	11.86	1.16	10.09	0.00468	0.00046	0.00398	PASS

LTE Band 7 (2535MHz)								
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability （ppm）	Frequency Stability （ppm）	Frequency Stability （ppm）	Verdict
BANDWIDTH	15MHz							
Temperature	Voltage	64QAM	16QAM	QPSK	64QAM	16QAM	QPSK	
Normal（25℃）	Normal	1.20	14.39	5.82	0.00047	0.00568	0.00230	PASS
Extreme（50℃）		10.09	10.08	9.50	0.00398	0.00398	0.00375	PASS
Extreme（40℃）		15.87	11.06	11.30	0.00626	0.00436	0.00446	PASS
Extreme（30℃）		2.98	3.08	7.33	0.00118	0.00122	0.00289	PASS
Extreme（20℃）		8.86	12.53	15.92	0.00349	0.00494	0.00628	PASS
Extreme（10℃）		16.03	2.62	16.81	0.00632	0.00103	0.00663	PASS
Extreme（0℃）		7.75	9.96	10.68	0.00306	0.00393	0.00421	PASS
Extreme（-10℃）		8.35	3.35	12.10	0.00330	0.00132	0.00477	PASS
Extreme（-20℃）		11.47	8.67	1.42	0.00452	0.00342	0.00056	PASS
Extreme（-30℃）		14.37	10.41	4.74	0.00567	0.00411	0.00187	PASS
25℃	LV	1.34	17.63	8.99	0.00053	0.00696	0.00355	PASS
	HV	11.45	2.14	9.75	0.00452	0.00085	0.00384	PASS
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability （ppm）	Frequency Stability （ppm）	Frequency Stability （ppm）	Verdict
BANDWIDTH	20MHz							
Temperature	Voltage	64QAM	16QAM	QPSK	64QAM	16QAM	QPSK	
Normal（25℃）	Normal	11.93	15.13	16.31	0.00471	0.00597	0.00643	PASS
Extreme（50℃）		3.75	1.76	5.05	0.00148	0.00070	0.00199	PASS
Extreme（40℃）		13.17	9.97	10.94	0.00520	0.00393	0.00432	PASS
Extreme（30℃）		3.24	6.05	3.09	0.00128	0.00239	0.00122	PASS
Extreme（20℃）		15.30	13.66	14.83	0.00604	0.00539	0.00585	PASS
Extreme（10℃）		6.52	4.36	8.17	0.00257	0.00172	0.00322	PASS
Extreme（0℃）		15.90	17.57	1.49	0.00627	0.00693	0.00059	PASS
Extreme（-10℃）		8.73	7.29	10.36	0.00345	0.00288	0.00409	PASS
Extreme（-20℃）		12.36	4.16	6.58	0.00487	0.00164	0.00260	PASS
Extreme（-30℃）		16.27	14.51	1.20	0.00642	0.00572	0.00047	PASS
25℃	LV	12.65	6.29	8.86	0.00499	0.00248	0.00349	PASS
	HV	15.92	17.05	10.53	0.00628	0.00673	0.00415	PASS

LTE Band 38 (2595MHz)								
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability （ppm）	Frequency Stability （ppm）	Frequency Stability （ppm）	Verdict
BANDWIDTH	5MHz							
Temperature	Voltage	64QAM	16QAM	QPSK	64QAM	16QAM	QPSK	
Normal（25℃）	Normal	5.32	12.83	16.97	0.00205	0.00495	0.00654	PASS
Extreme（50℃）		16.01	8.07	9.70	0.00617	0.00311	0.00374	PASS
Extreme（40℃）		8.43	5.31	15.40	0.00325	0.00204	0.00593	PASS
Extreme（30℃）		14.10	10.28	7.00	0.00543	0.00396	0.00270	PASS
Extreme（20℃）		11.01	5.45	11.98	0.00424	0.00210	0.00462	PASS
Extreme（10℃）		8.28	7.92	7.34	0.00319	0.00305	0.00283	PASS
Extreme（0℃）		7.81	10.67	12.62	0.00301	0.00411	0.00486	PASS
Extreme（-10℃）		16.03	10.09	8.57	0.00618	0.00389	0.00330	PASS
Extreme（-20℃）		17.07	11.14	13.05	0.00658	0.00429	0.00503	PASS
Extreme（-30℃）		14.86	2.39	4.62	0.00573	0.00092	0.00178	PASS
25℃	LV	17.54	7.46	9.97	0.00676	0.00288	0.00384	PASS
	HV	7.88	1.54	17.56	0.00304	0.00059	0.00677	PASS
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability （ppm）	Frequency Stability （ppm）	Frequency Stability （ppm）	Verdict
BANDWIDTH	10MHz							
Temperature	Voltage	64QAM	16QAM	QPSK	64QAM	16QAM	QPSK	
Normal（25℃）	Normal	13.47	7.64	11.38	0.00519	0.00294	0.00439	PASS
Extreme（50℃）		1.25	6.82	4.86	0.00048	0.00263	0.00187	PASS
Extreme（40℃）		6.89	8.89	6.97	0.00265	0.00343	0.00269	PASS
Extreme（30℃）		11.07	2.34	10.71	0.00426	0.00090	0.00413	PASS
Extreme（20℃）		1.85	15.77	2.35	0.00071	0.00608	0.00091	PASS
Extreme（10℃）		4.24	4.67	17.86	0.00163	0.00180	0.00688	PASS
Extreme（0℃）		3.94	11.92	3.83	0.00152	0.00459	0.00148	PASS
Extreme（-10℃）		7.08	2.44	8.68	0.00273	0.00094	0.00334	PASS
Extreme（-20℃）		16.52	14.18	17.64	0.00637	0.00546	0.00680	PASS
Extreme（-30℃）		14.20	16.98	4.21	0.00547	0.00654	0.00162	PASS
25℃	LV	11.94	17.79	15.98	0.00460	0.00686	0.00616	PASS
	HV	16.66	12.52	9.76	0.00642	0.00483	0.00376	PASS

LTE Band 38 (2595MHz)								
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability （ppm）	Frequency Stability （ppm）	Frequency Stability （ppm）	Verdict
BANDWIDTH	15MHz							
Temperature	Voltage	64QAM	16QAM	QPSK	64QAM	16QAM	QPSK	
Normal（25℃）	Normal	4.28	2.77	10.54	0.00165	0.00107	0.00406	PASS
Extreme（50℃）		14.57	12.26	5.13	0.00562	0.00473	0.00198	PASS
Extreme（40℃）		9.70	1.19	9.61	0.00374	0.00046	0.00370	PASS
Extreme（30℃）		3.57	15.38	5.80	0.00138	0.00593	0.00224	PASS
Extreme（20℃）		11.19	17.43	5.06	0.00431	0.00672	0.00195	PASS
Extreme（10℃）		16.59	15.45	14.72	0.00639	0.00596	0.00567	PASS
Extreme（0℃）		11.30	9.56	8.03	0.00435	0.00368	0.00309	PASS
Extreme（-10℃）		12.86	7.58	16.83	0.00495	0.00292	0.00649	PASS
Extreme（-20℃）		1.67	2.18	6.20	0.00064	0.00084	0.00239	PASS
Extreme（-30℃）		3.02	17.90	17.58	0.00116	0.00690	0.00678	PASS
25℃	LV	7.66	13.91	17.23	0.00295	0.00536	0.00664	PASS
	HV	4.95	14.03	7.26	0.00191	0.00541	0.00280	PASS
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability （ppm）	Frequency Stability （ppm）	Frequency Stability （ppm）	Verdict
BANDWIDTH	20MHz							
Temperature	Voltage	64QAM	16QAM	QPSK	64QAM	16QAM	QPSK	
Normal（25℃）	Normal	16.36	4.75	8.95	0.00630	0.00183	0.00345	PASS
Extreme（50℃）		9.04	3.91	8.76	0.00348	0.00151	0.00337	PASS
Extreme（40℃）		10.86	10.24	14.82	0.00418	0.00395	0.00571	PASS
Extreme（30℃）		16.96	4.97	3.01	0.00654	0.00191	0.00116	PASS
Extreme（20℃）		10.93	17.47	17.14	0.00421	0.00673	0.00661	PASS
Extreme（10℃）		13.93	11.58	11.78	0.00537	0.00446	0.00454	PASS
Extreme（0℃）		10.87	13.72	12.50	0.00419	0.00529	0.00482	PASS
Extreme（-10℃）		10.27	14.57	8.08	0.00396	0.00562	0.00311	PASS
Extreme（-20℃）		7.95	14.81	15.46	0.00306	0.00571	0.00596	PASS
Extreme（-30℃）		3.33	8.89	12.85	0.00128	0.00342	0.00495	PASS
25℃	LV	17.00	16.38	9.84	0.00655	0.00631	0.00379	PASS
	HV	15.73	5.81	4.68	0.00606	0.00224	0.00180	PASS

LTE Band 41 (2595MHz)								
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability （ppm）	Frequency Stability （ppm）	Frequency Stability （ppm）	Verdict
BANDWIDTH	5MHz							
Temperature	Voltage	64QAM	16QAM	QPSK	64QAM	16QAM	QPSK	
Normal（25℃）	Normal	2.79	4.86	13.73	0.00108	0.00187	0.00529	PASS
Extreme（50℃）		17.45	9.84	6.05	0.00673	0.00379	0.00233	PASS
Extreme（40℃）		14.42	16.27	15.50	0.00556	0.00627	0.00597	PASS
Extreme（30℃）		5.69	7.30	7.00	0.00219	0.00281	0.00270	PASS
Extreme（20℃）		12.75	12.23	16.54	0.00491	0.00471	0.00637	PASS
Extreme（10℃）		17.16	3.92	7.38	0.00661	0.00151	0.00284	PASS
Extreme（0℃）		16.13	1.57	4.79	0.00621	0.00061	0.00185	PASS
Extreme（-10℃）		13.67	1.21	13.94	0.00527	0.00047	0.00537	PASS
Extreme（-20℃）		3.64	8.97	4.71	0.00140	0.00345	0.00182	PASS
Extreme（-30℃）		11.67	15.22	6.44	0.00450	0.00586	0.00248	PASS
25℃	LV	11.92	11.40	1.35	0.00459	0.00439	0.00052	PASS
	HV	11.88	1.24	16.73	0.00458	0.00048	0.00645	PASS
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability （ppm）	Frequency Stability （ppm）	Frequency Stability （ppm）	Verdict
BANDWIDTH	10MHz							
Temperature	Voltage	64QAM	16QAM	QPSK	64QAM	16QAM	QPSK	
Normal（25℃）	Normal	12.35	16.52	9.49	0.00476	0.00637	0.00366	PASS
Extreme（50℃）		7.26	1.01	17.07	0.00280	0.00039	0.00658	PASS
Extreme（40℃）		11.96	17.62	4.50	0.00461	0.00679	0.00173	PASS
Extreme（30℃）		16.95	7.67	14.08	0.00653	0.00295	0.00543	PASS
Extreme（20℃）		4.28	9.63	8.06	0.00165	0.00371	0.00310	PASS
Extreme（10℃）		16.72	6.87	10.73	0.00644	0.00265	0.00414	PASS
Extreme（0℃）		9.07	6.59	10.96	0.00349	0.00254	0.00422	PASS
Extreme（-10℃）		2.68	13.62	1.12	0.00103	0.00525	0.00043	PASS
Extreme（-20℃）		5.43	17.20	7.28	0.00209	0.00663	0.00281	PASS
Extreme（-30℃）		3.10	10.24	11.82	0.00120	0.00395	0.00456	PASS
25℃	LV	1.55	8.69	16.10	0.00060	0.00335	0.00621	PASS
	HV	6.16	13.31	16.18	0.00237	0.00513	0.00624	PASS

LTE Band 41 (2595MHz)								
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability （ppm）	Frequency Stability （ppm）	Frequency Stability （ppm）	Verdict
BANDWIDTH	15MHz							
Temperature	Voltage	64QAM	16QAM	QPSK	64QAM	16QAM	QPSK	
Normal（25℃）	Normal	8.81	4.39	4.03	0.00340	0.00169	0.00155	PASS
Extreme（50℃）		11.37	16.46	8.80	0.00438	0.00634	0.00339	PASS
Extreme（40℃）		10.87	1.56	16.89	0.00419	0.00060	0.00651	PASS
Extreme（30℃）		3.87	14.50	8.10	0.00149	0.00559	0.00312	PASS
Extreme（20℃）		8.06	8.60	3.20	0.00311	0.00331	0.00123	PASS
Extreme（10℃）		16.43	5.24	10.29	0.00633	0.00202	0.00396	PASS
Extreme（0℃）		11.76	15.57	15.63	0.00453	0.00600	0.00602	PASS
Extreme（-10℃）		4.05	13.10	5.27	0.00156	0.00505	0.00203	PASS
Extreme（-20℃）		14.79	17.58	13.52	0.00570	0.00677	0.00521	PASS
Extreme（-30℃）		7.41	10.62	17.41	0.00286	0.00409	0.00671	PASS
25℃	LV	17.04	9.25	10.57	0.00657	0.00356	0.00407	PASS
	HV	1.54	12.88	15.87	0.00059	0.00496	0.00612	PASS
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability （ppm）	Frequency Stability （ppm）	Frequency Stability （ppm）	Verdict
BANDWIDTH	20MHz							
Temperature	Voltage	64QAM	16QAM	QPSK	64QAM	16QAM	QPSK	
Normal（25℃）	Normal	16.36	11.00	7.44	0.00631	0.00424	0.00287	PASS
Extreme（50℃）		1.31	16.91	3.49	0.00051	0.00652	0.00134	PASS
Extreme（40℃）		8.82	9.23	5.14	0.00340	0.00356	0.00198	PASS
Extreme（30℃）		12.80	13.91	14.91	0.00493	0.00536	0.00575	PASS
Extreme（20℃）		6.66	5.68	17.93	0.00257	0.00219	0.00691	PASS
Extreme（10℃）		6.73	15.63	16.71	0.00259	0.00602	0.00644	PASS
Extreme（0℃）		8.31	1.12	1.92	0.00320	0.00043	0.00074	PASS
Extreme（-10℃）		13.52	14.58	16.07	0.00521	0.00562	0.00619	PASS
Extreme（-20℃）		1.89	1.46	17.11	0.00073	0.00056	0.00659	PASS
Extreme（-30℃）		15.74	14.05	6.48	0.00606	0.00541	0.00250	PASS
25℃	LV	18.00	5.81	15.49	0.00693	0.00224	0.00597	PASS
	HV	8.50	14.16	3.30	0.00328	0.00546	0.00127	PASS

CA_7C_QPSK		20MHz+10MHz (Bandwidth)		20MHz+20MHz (Bandwidth)		Verdict
Condition		Delta (Hz)	Frequency Stability (ppm)	Delta (Hz)	Frequency Stability (ppm)	
Temperature	Voltage					
Normal（25℃）	Normal	2.00	0.00075	16.45	0.00620	PASS
Extreme（50℃）		15.76	0.00593	10.63	0.00400	PASS
Extreme（40℃）		1.19	0.00045	15.77	0.00594	PASS
Extreme（30℃）		6.99	0.00263	4.08	0.00154	PASS
Extreme（20℃）		1.80	0.00068	13.40	0.00505	PASS
Extreme（10℃）		6.69	0.00252	9.38	0.00353	PASS
Extreme（0℃）		6.87	0.00258	1.62	0.00061	PASS
Extreme（-10℃）		5.75	0.00216	13.60	0.00512	PASS
Extreme（-20℃）		13.61	0.00512	17.04	0.00642	PASS
Extreme（-30℃）		4.71	0.00177	1.76	0.00066	PASS
25℃	LV	13.93	0.00524	10.84	0.00408	PASS
	HV	16.53	0.00622	11.20	0.00422	PASS

CA_7C_16QAM		20MHz+10MHz (Bandwidth)		20MHz+20MHz (Bandwidth)		Verdict
Condition		Delta (Hz)	Frequency Stability (ppm)	Delta (Hz)	Frequency Stability (ppm)	
Temperature	Voltage					
Normal（25℃）	Normal	16.47	0.00620	4.27	0.00161	PASS
Extreme（50℃）		10.99	0.00413	13.72	0.00517	PASS
Extreme（40℃）		3.37	0.00127	16.72	0.00630	PASS
Extreme（30℃）		12.66	0.00476	17.03	0.00641	PASS
Extreme（20℃）		13.88	0.00522	4.87	0.00183	PASS
Extreme（10℃）		3.86	0.00145	7.25	0.00273	PASS
Extreme（0℃）		10.13	0.00381	6.89	0.00260	PASS
Extreme（-10℃）		17.36	0.00653	5.18	0.00195	PASS
Extreme（-20℃）		6.98	0.00263	2.78	0.00105	PASS
Extreme（-30℃）		5.09	0.00192	4.55	0.00171	PASS
25℃	LV	8.73	0.00329	15.98	0.00602	PASS
	HV	10.95	0.00412	5.40	0.00203	PASS

CA_7C_64QAM		20MHz+10MHz (Bandwidth)		20MHz+20MHz (Bandwidth)		Verdict
Condition		Delta (Hz)	Frequency Stability (ppm)	Delta (Hz)	Frequency Stability (ppm)	
Temperature	Voltage					
Normal（25℃）	Normal	1.45	0.00055	11.26	0.00424	PASS
Extreme（50℃）		10.90	0.00410	9.08	0.00342	PASS
Extreme（40℃）		8.45	0.00318	2.28	0.00086	PASS
Extreme（30℃）		12.01	0.00452	4.08	0.00154	PASS
Extreme（20℃）		7.20	0.00271	13.99	0.00527	PASS
Extreme（10℃）		13.55	0.00510	15.86	0.00598	PASS
Extreme（0℃）		7.76	0.00292	15.02	0.00566	PASS
Extreme（-10℃）		10.33	0.00389	6.07	0.00229	PASS
Extreme（-20℃）		6.22	0.00234	10.19	0.00384	PASS
Extreme（-30℃）		8.49	0.00320	12.59	0.00474	PASS
25℃	LV	17.61	0.00663	16.96	0.00639	PASS
	HV	10.76	0.00405	6.58	0.00248	PASS

CA_38C_QPSK		15MHz+15MHz (Bandwidth)		20MHz+20MHz (Bandwidth)		Verdict
Condition		Delta (Hz)	Frequency Stability (ppm)	Delta (Hz)	Frequency Stability (ppm)	
Temperature	Voltage					
Normal（25℃）	Normal	8.88	0.00342	7.88	0.00304	PASS
Extreme（50℃）		3.72	0.00143	7.87	0.00303	PASS
Extreme（40℃）		2.56	0.00099	15.34	0.00591	PASS
Extreme（30℃）		11.69	0.00450	5.81	0.00224	PASS
Extreme（20℃）		4.10	0.00158	12.04	0.00464	PASS
Extreme（10℃）		3.11	0.00120	16.12	0.00621	PASS
Extreme（0℃）		4.92	0.00189	7.02	0.00270	PASS
Extreme（-10℃）		16.59	0.00639	14.65	0.00565	PASS
Extreme（-20℃）		3.61	0.00139	10.80	0.00416	PASS
Extreme（-30℃）		17.13	0.00660	7.01	0.00270	PASS
25℃	LV	3.82	0.00147	12.29	0.00473	PASS
	HV	7.47	0.00288	4.54	0.00175	PASS

CA_38C_16QAM		15MHz+15MHz (Bandwidth)		20MHz+20MHz (Bandwidth)		Verdict
Condition		Delta (Hz)	Frequency Stability (ppm)	Delta (Hz)	Frequency Stability (ppm)	
Temperature	Voltage					
Normal（25℃）	Normal	13.50	0.00520	15.35	0.00591	PASS
Extreme（50℃）		10.26	0.00395	4.94	0.00190	PASS
Extreme（40℃）		5.18	0.00200	12.58	0.00485	PASS
Extreme（30℃）		17.11	0.00659	8.18	0.00315	PASS
Extreme（20℃）		6.45	0.00248	11.32	0.00436	PASS
Extreme（10℃）		9.24	0.00356	15.05	0.00580	PASS
Extreme（0℃）		5.17	0.00199	9.40	0.00362	PASS
Extreme（-10℃）		15.07	0.00581	5.86	0.00226	PASS
Extreme（-20℃）		6.97	0.00269	7.54	0.00291	PASS
Extreme（-30℃）		12.44	0.00479	13.38	0.00516	PASS
25℃	LV	13.62	0.00525	3.14	0.00121	PASS
	HV	15.71	0.00606	9.43	0.00363	PASS

CA_38C_64QAM		15MHz+15MHz (Bandwidth)		20MHz+20MHz (Bandwidth)		Verdict
Condition		Delta (Hz)	Frequency Stability (ppm)	Delta (Hz)	Frequency Stability (ppm)	
Temperature	Voltage					
Normal（25℃）	Normal	8.56	0.00330	6.26	0.00241	PASS
Extreme（50℃）		3.88	0.00150	13.31	0.00513	PASS
Extreme（40℃）		7.37	0.00284	9.45	0.00364	PASS
Extreme（30℃）		4.65	0.00179	2.05	0.00079	PASS
Extreme（20℃）		8.56	0.00330	1.30	0.00050	PASS
Extreme（10℃）		13.56	0.00523	10.70	0.00412	PASS
Extreme（0℃）		12.00	0.00463	5.17	0.00199	PASS
Extreme（-10℃）		1.24	0.00048	8.29	0.00320	PASS
Extreme（-20℃）		5.42	0.00209	8.32	0.00321	PASS
Extreme（-30℃）		8.96	0.00345	13.69	0.00528	PASS
25℃	LV	8.94	0.00344	17.87	0.00689	PASS
	HV	4.46	0.00172	9.00	0.00347	PASS

5.6 Spurious Emissions at Antenna Terminals

Ambient condition

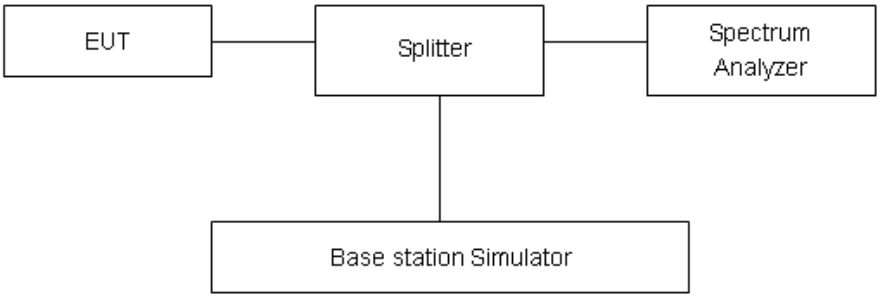
Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Method of Measurement

The EUT was connected to Spectrum Analyzer and Base Station Simulator via power Splitter. The measurement is carried out using a spectrum analyzer. The spectrum analyzer scans from 9kHz to the 10th harmonic of the carrier. The peak detector is used.
RBW is set to 100kHz, VBW is set to 300kHz for 30MHz~1GHz
RBW is set to 1MHz, VBW is set to 3MHz for above 1GHz, Sweep is set to ATUO.
RBW is set to 1 kHz (0.009MHz~ 0.15 MHz),
RBW is set to 10 kHz (0.15 MHz~ 30 MHz)
RBW is set to 100 kHz (30MHz~1000 MHz)
RBW is set to 1000 kHz (above 1000MHz)

Of those disturbances below (limit – 20 dB), the mark is not required for the EUT.
The modulation mode and RB allocation refer to section 5.1, using the maximum output power configuration.

Test setup



Limits

LTE -4Rule Part 27.53(h) specifies that “for operations in the 1695-1710 MHz, 1710-1755 MHz, 1755-1780 MHz, 1915-1920 MHz, 1995-2000 MHz, 2000-2020 MHz, 2110-2155 MHz, 2155-2180 MHz, and 2180-2200 bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least 43 + 10 log10 (P) dB..”
LTE -7/38/41 Rule Part 27.53(m) 55 + 10 log (P) dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(4) of this section.
(1) On any frequency outside the 746-758 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least 43 + 10 log (P) dB;
(2) On any frequency outside the 776-788 MHz band, the power of any emission shall be attenuated

outside the band below the transmitter power (P) by at least 43 + 10 log (P) dB;
(3) On all frequencies between 763-775 MHz and 793-805 MHz, by a factor not less than 76 + 10 log (P) dB in a 6.25 kHz band segment, for base and fixed stations;
(4) On all frequencies between 763-775 MHz and 793-805 MHz, by a factor not less than 65 + 10 log (P) dB in a 6.25 kHz band segment, for mobile and portable stations;
(5) Compliance with the provisions of paragraphs (c)(1) and (c)(2) of this section is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater. However, in the 100 kHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of at least 30 kHz may be employed;

Part 27.53(a)/(h)/(g) Limit		-13 dBm
Part 27.53(f) Limit	Limit out of the band 1559-1610 MHz	-13 dBm
	Limit in the band 1559-1610 MHz	-40 dBm
Part 27.53(m) Limit		-25 dBm

Measurement Uncertainty

The assessed measurement uncertainty to ensure 99.75％ confidence level for the normal distribution is with the coverage factor *k* = 1.96.

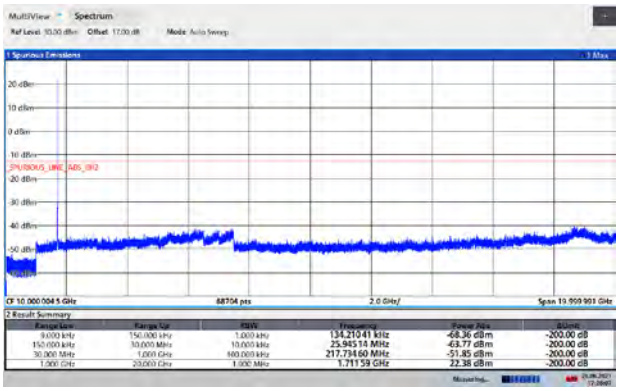
Frequency	Uncertainty
9kHz-1GHz	0.684 dB
1GHz-27GHz	1.407 dB

Test Result

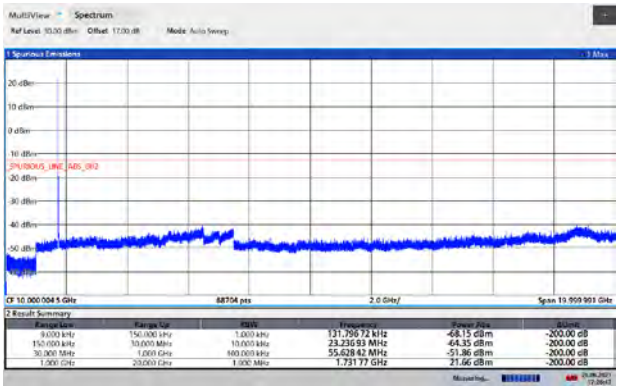
Sweep the whole frequency band through the range from 9kHz to the 10th harmonic of the carrier, the emissions more than 20 dB below the limit are not reported.

The signal beyond the limit is carrier.

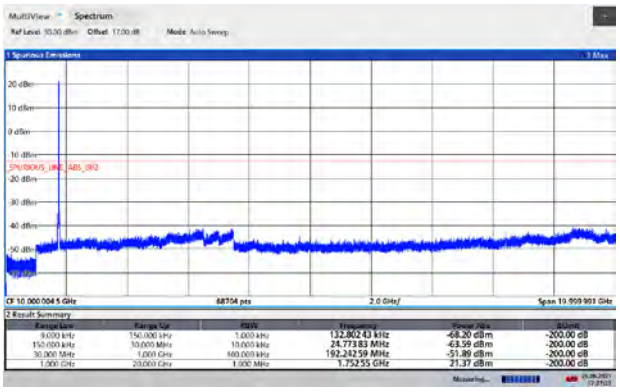
WCDMA Band IV CH-Low 9kHz~20GHz



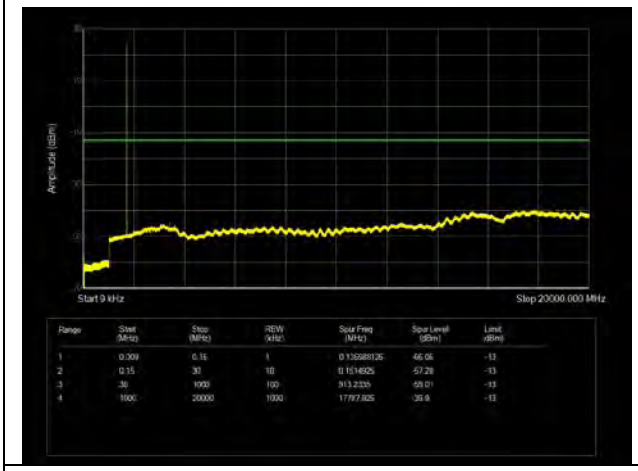
WCDMA Band IV CH-Middle 9kHz~20GHz



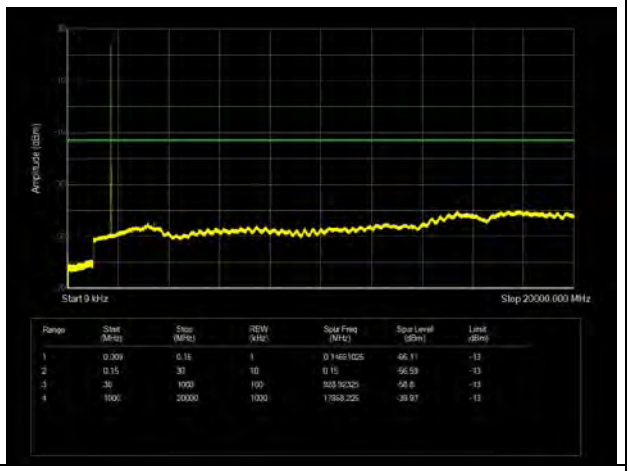
WCDMA Band IV CH-High 9kHz~20GHz



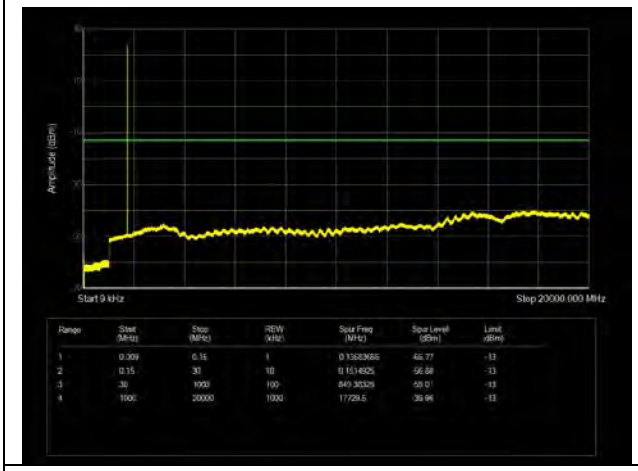
LTE Band 4 1.4MHz CH-Low 9kHz~20GHz



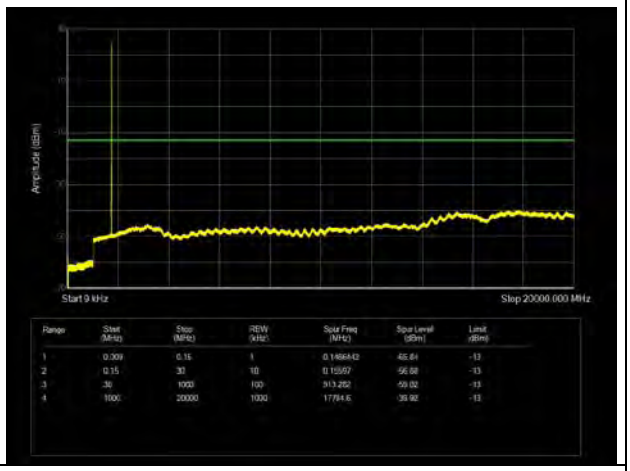
LTE Band 4 3MHz CH- Low 9kHz~20GHz



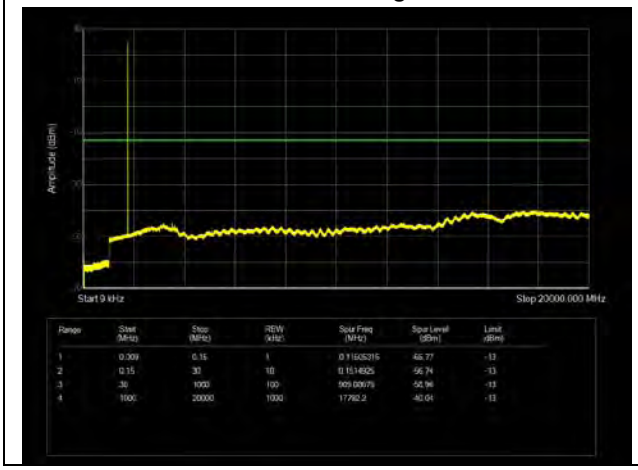
LTE Band 4 1.4MHz CH- Middle 9kHz~20GHz



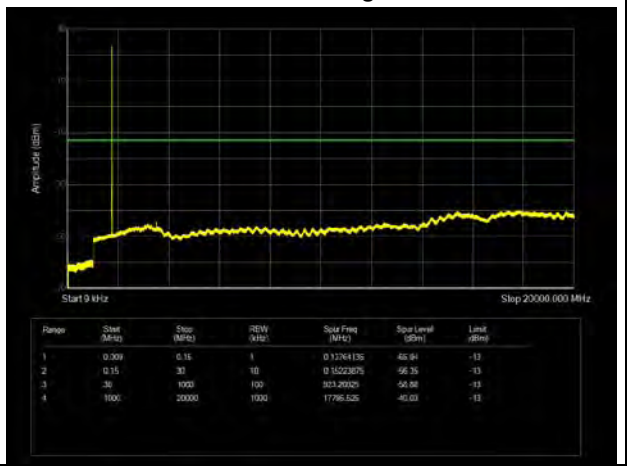
LTE Band 4 3MHz CH- Middle 9kHz~20GHz



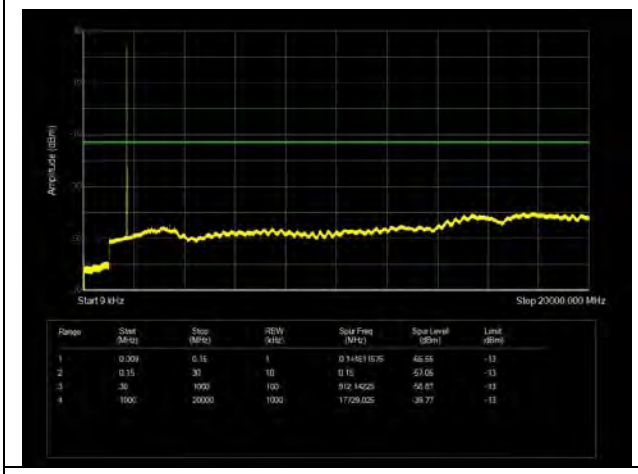
LTE Band 4 1.4MHz CH- High 9kHz~20GHz



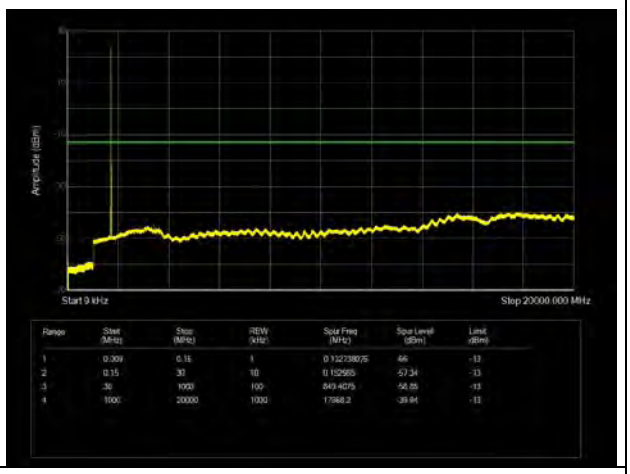
LTE Band 4 3MHz CH-High 9kHz~20GHz



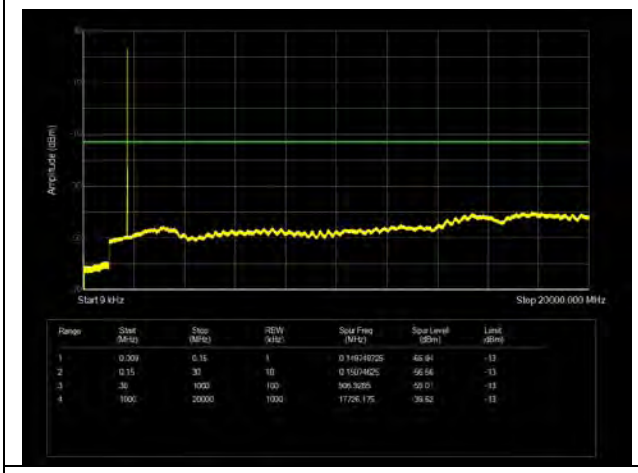
LTE Band 4 5MHz CH- Low 9kHz~20GHz



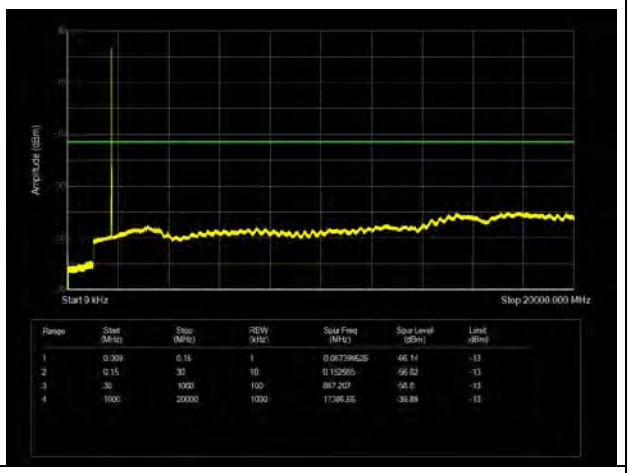
LTE Band 4 10MHz CH- Low 9kHz~20GHz



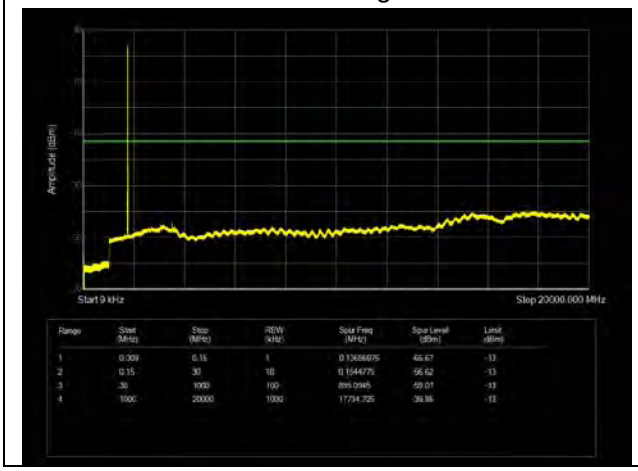
LTE Band 4 5MHz CH- Middle 9kHz~20GHz



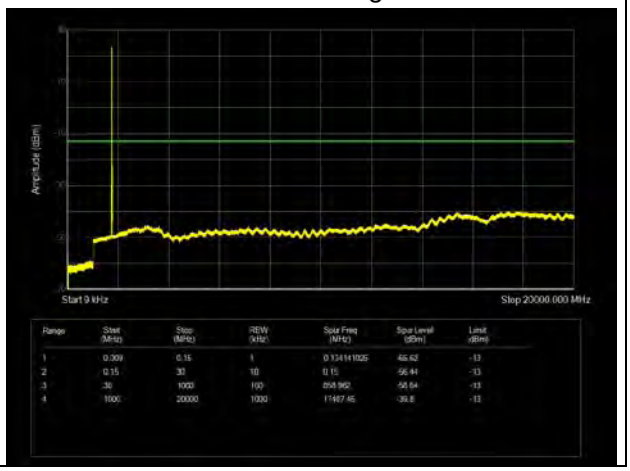
LTE Band 4 10MHz CH- Middle 9kHz~20GHz



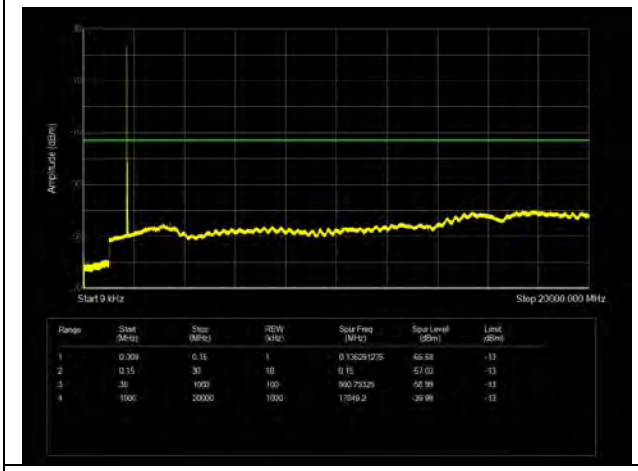
LTE Band 4 5MHz CH-High 9kHz~20GHz



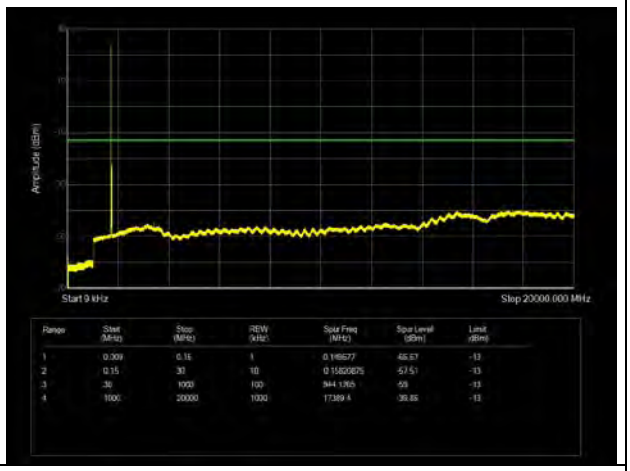
LTE Band 4 10MHz CH-High 9kHz~20GHz



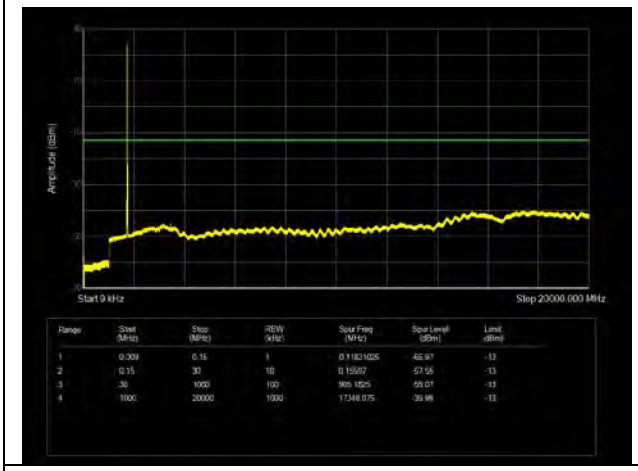
LTE Band 4 15MHz CH- Low 9kHz~20GHz



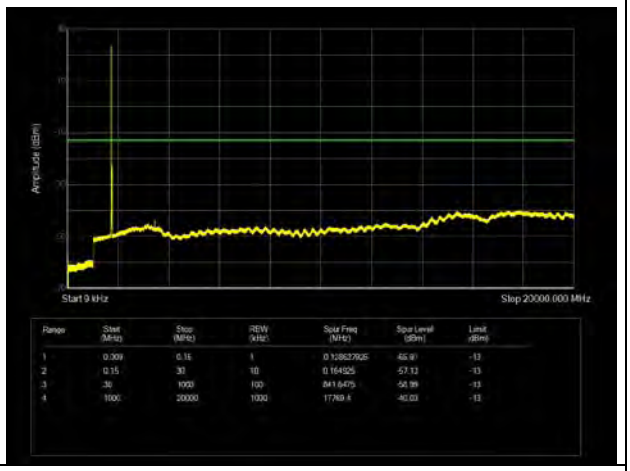
LTE Band 4 20MHz CH-Low 9kHz~20GHz



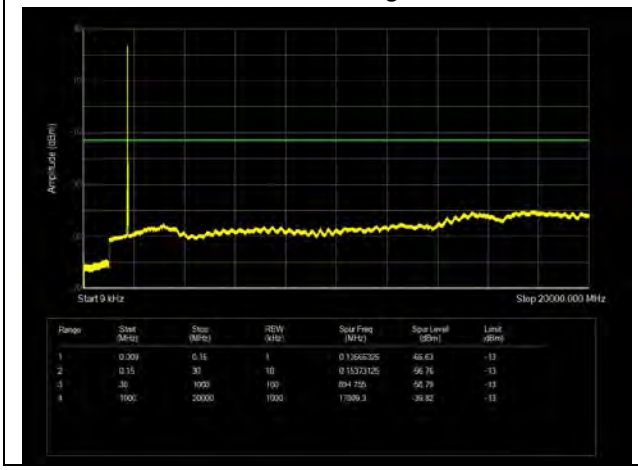
LTE Band 4 15MHz CH- Middle 9kHz~20GHz



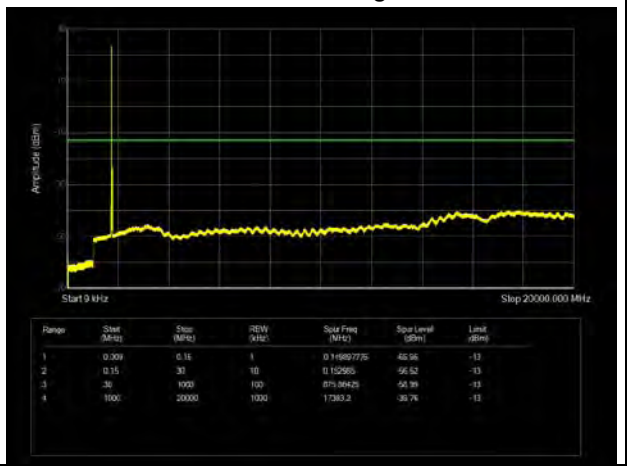
LTE Band 4 20MHz CH- Middle 9kHz~20GHz



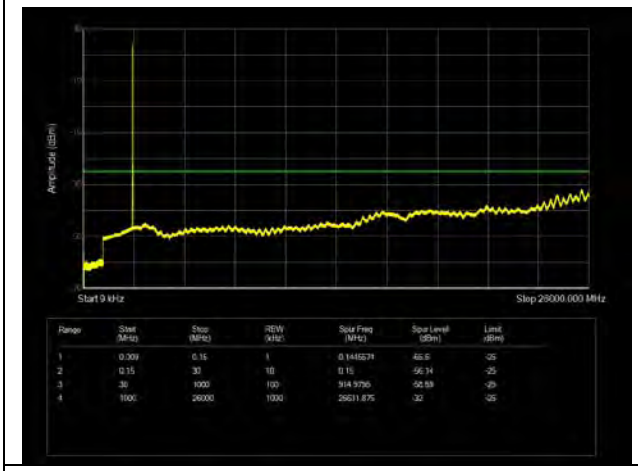
LTE Band 4 15MHz CH-High 9kHz~20GHz



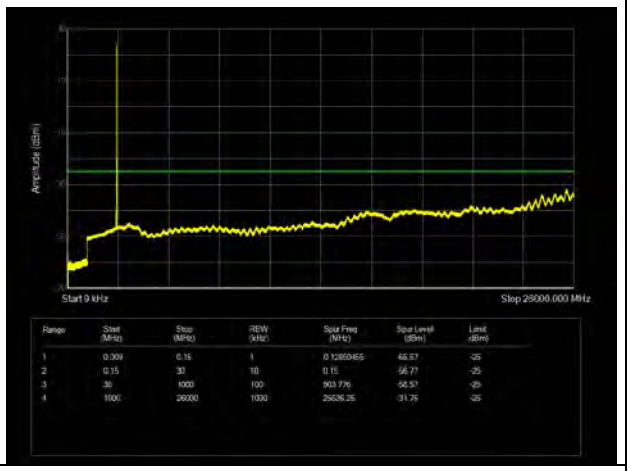
LTE Band 4 20MHz CH- High 9kHz~20GHz



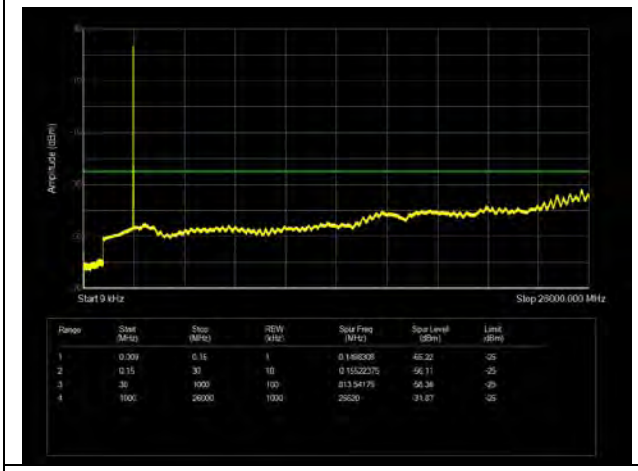
LTE Band 7 5MHz CH- Low 9kHz~26GHz



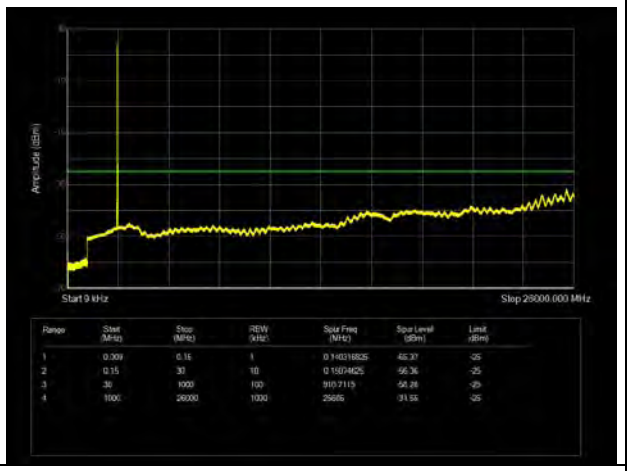
LTE Band 7 10MHz CH-Low 9kHz~26GHz



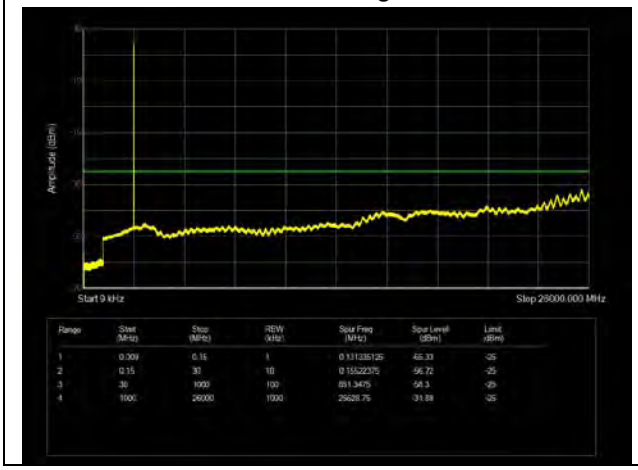
LTE Band 7 5MHz CH- Middle 9kHz~26GHz



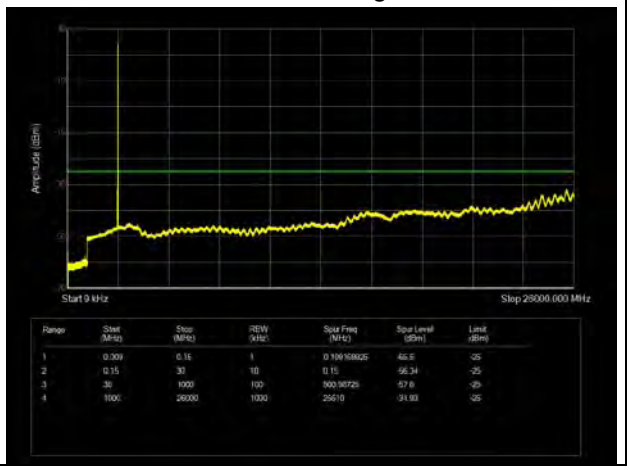
LTE Band 7 10MHz CH- Middle 9kHz~26GHz



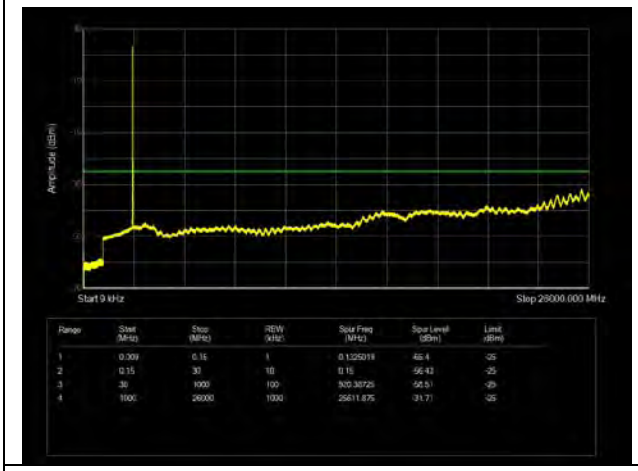
LTE Band 7 5MHz CH-High 9kHz~26GHz



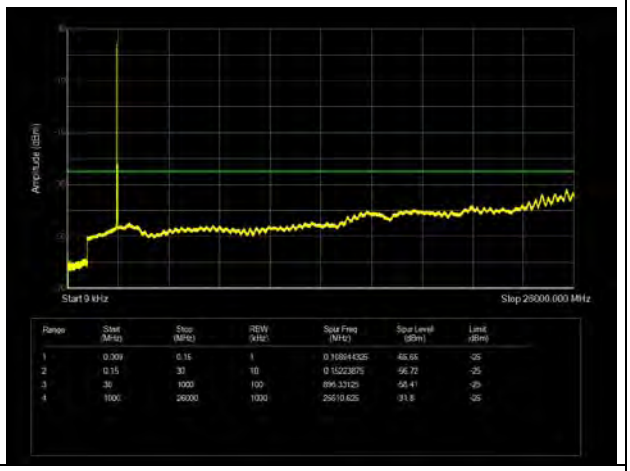
LTE Band 7 10MHz CH- High 9kHz~26GHz



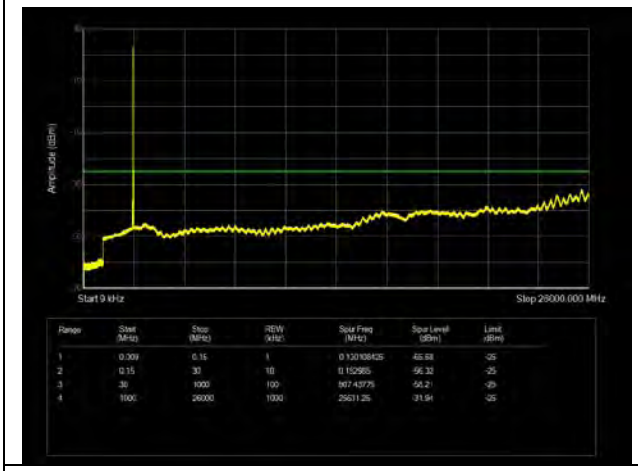
LTE Band 7 15MHz CH- Low 9kHz~26GHz



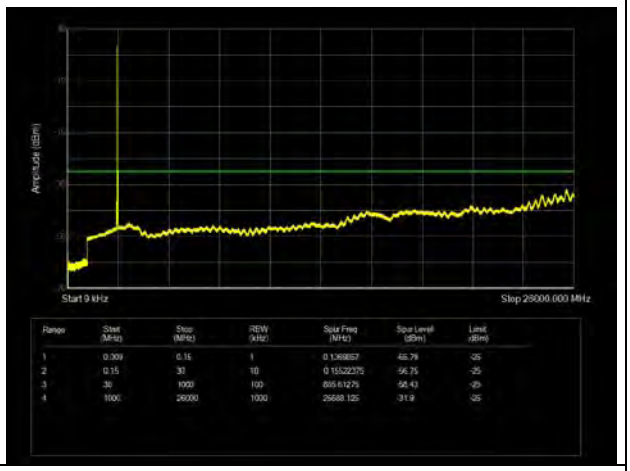
LTE Band 7 20MHz CH-Low 9kHz~26GHz



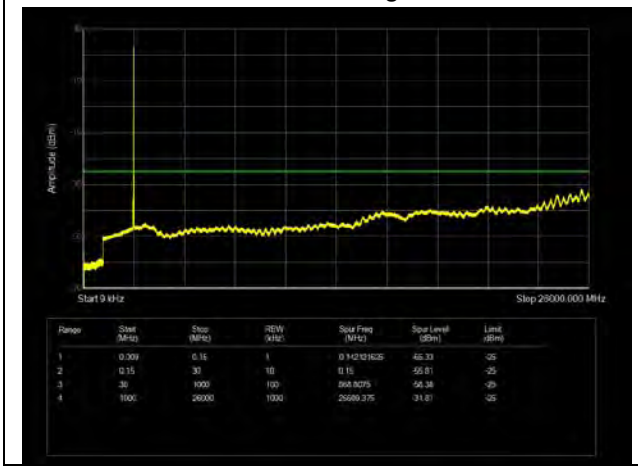
LTE Band 7 15MHz CH- Middle 9kHz~26GHz



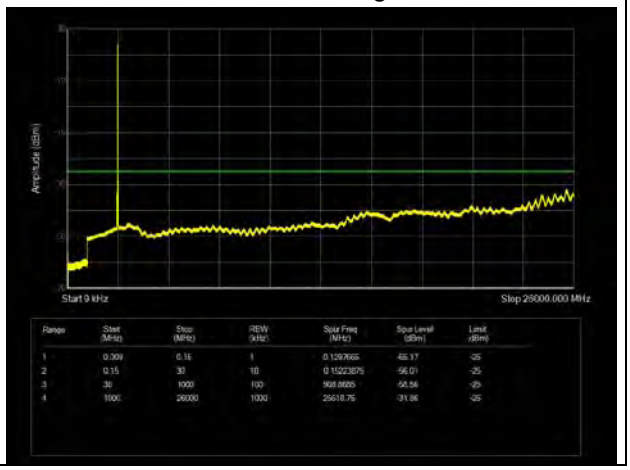
LTE Band 7 20MHz CH- Middle 9kHz~26GHz



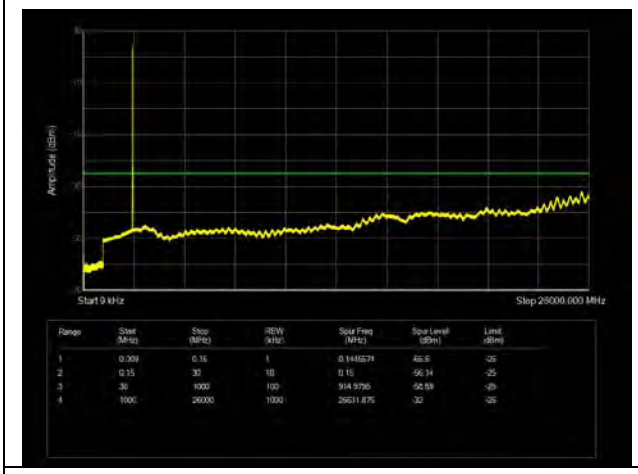
LTE Band 7 15MHz CH-High 9kHz~26GHz



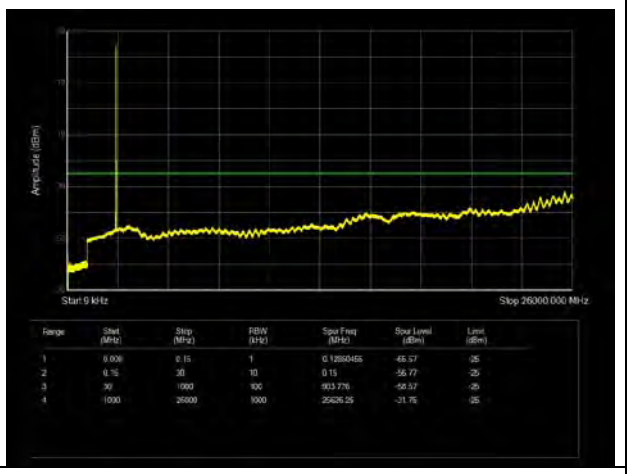
LTE Band 7 20MHz CH- High 9kHz~26GHz



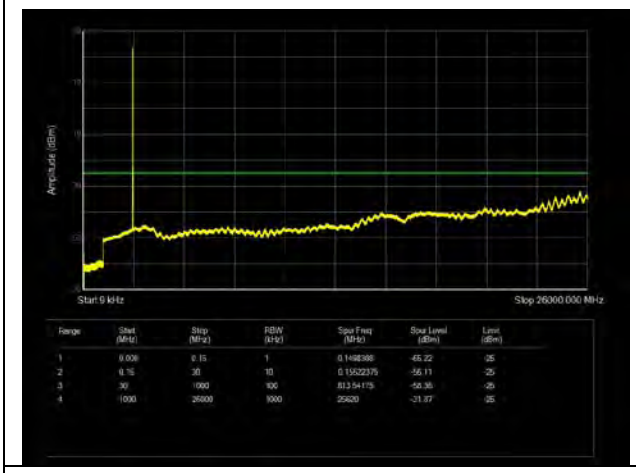
LTE Band 38 5MHz CH- Low 9kHz~26GHz



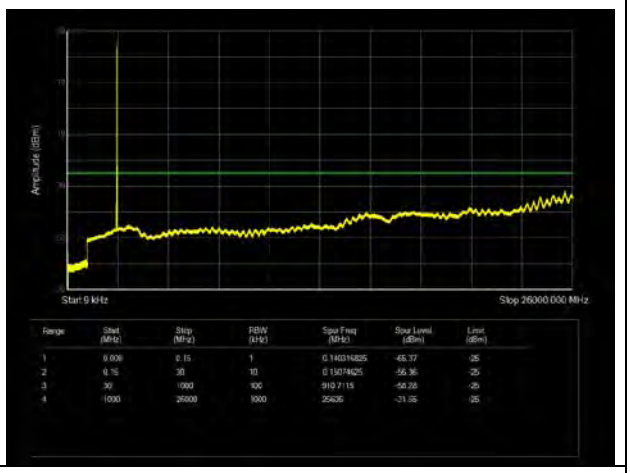
LTE Band 38 10MHz CH-Low 9kHz~26GHz



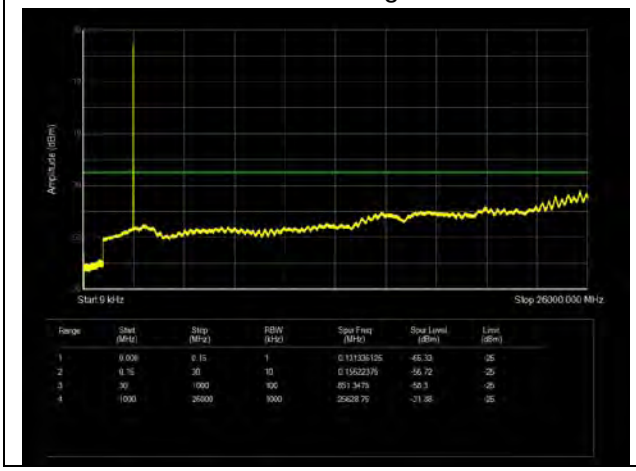
LTE Band 38 5MHz CH- Middle 9kHz~26GHz



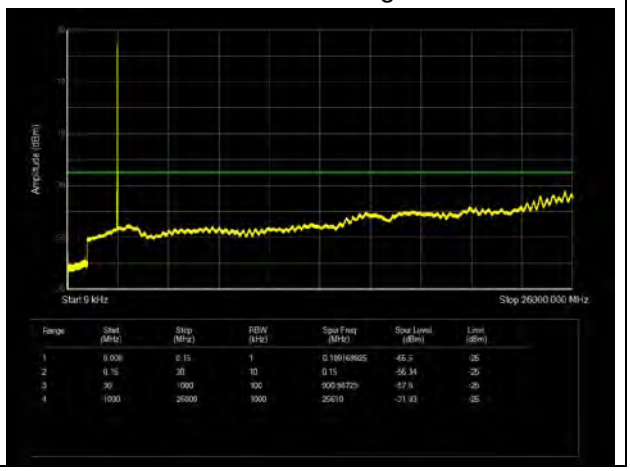
LTE Band 38 10MHz CH- Middle 9kHz~26GHz



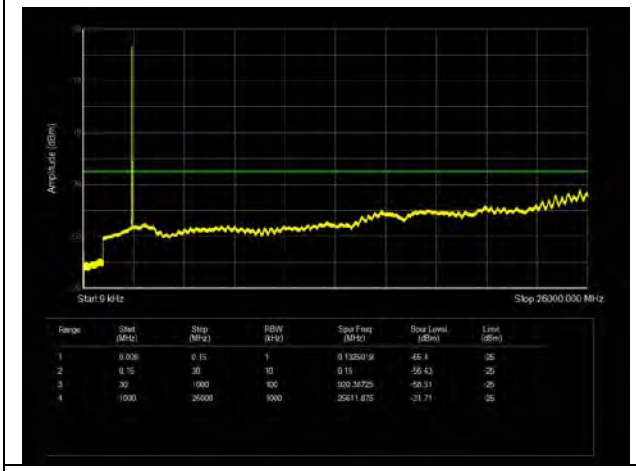
LTE Band 38 5MHz CH-High 9kHz~26GHz



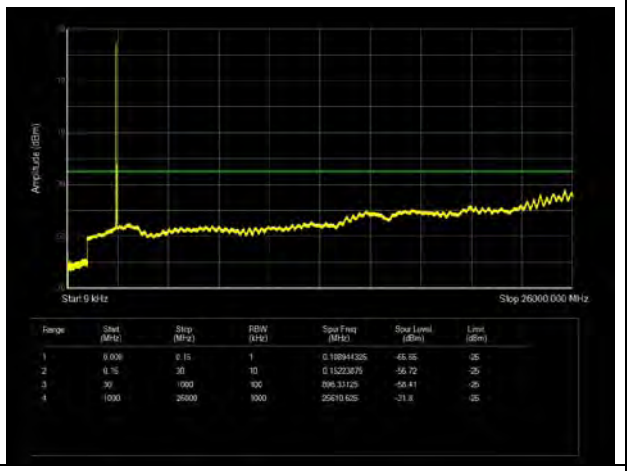
LTE Band 38 10MHz CH- High 9kHz~26GHz



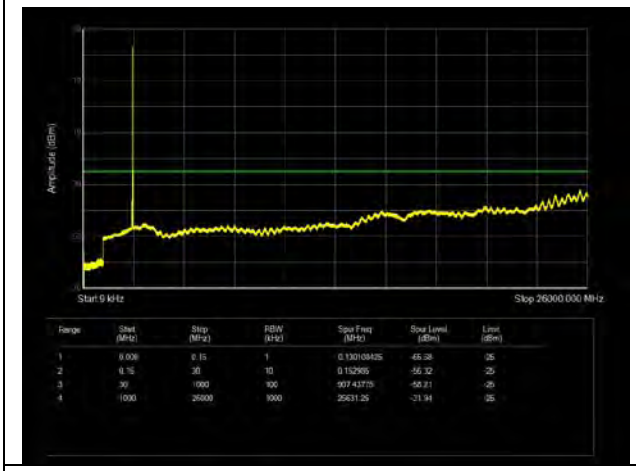
LTE Band 38 15MHz CH- Low 9kHz~26GHz



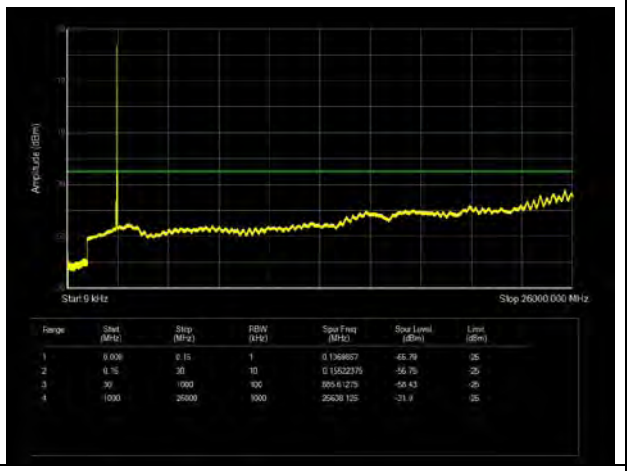
LTE Band 38 20MHz CH-Low 9kHz~26GHz



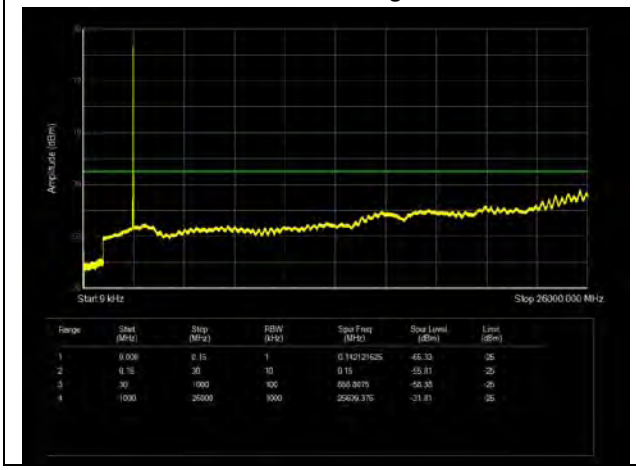
LTE Band 38 15MHz CH- Middle 9kHz~26GHz



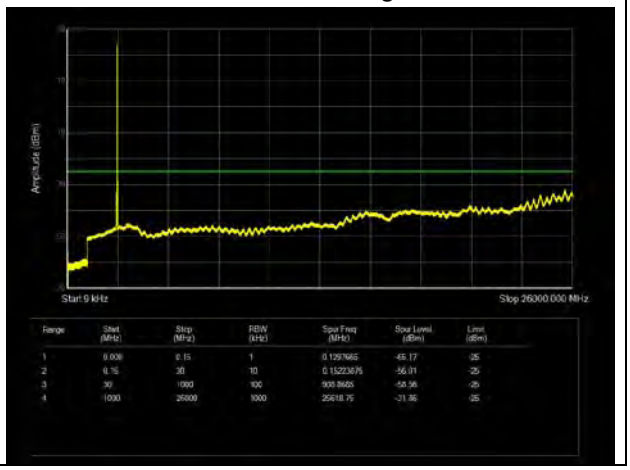
LTE Band 38 20MHz CH- Middle 9kHz~26GHz



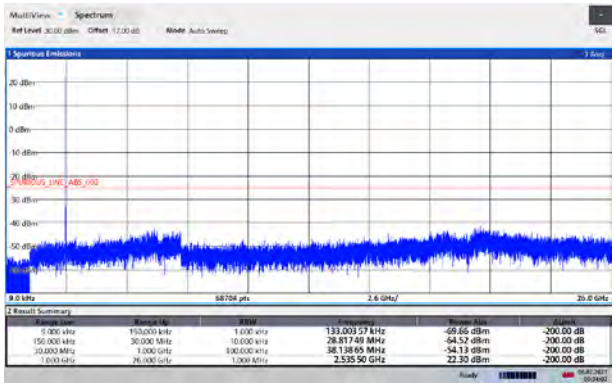
LTE Band 3815MHz CH-High 9kHz~26GHz



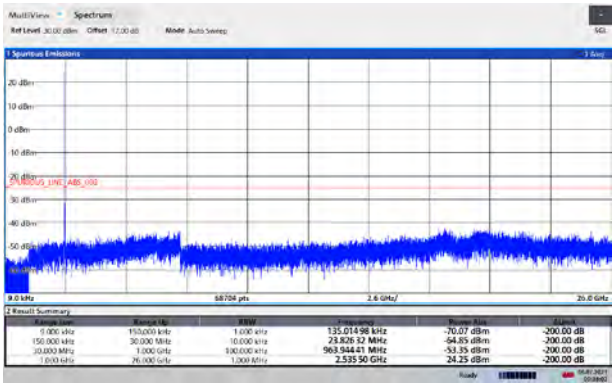
LTE Band 38 20MHz CH- High 9kHz~26GHz



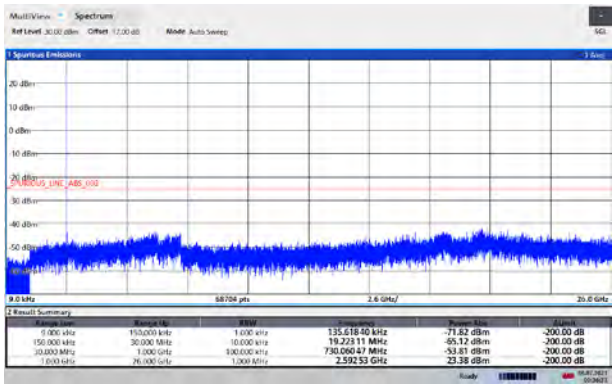
LTE Band 41 5MHz CH- Low 9kHz~26GHz



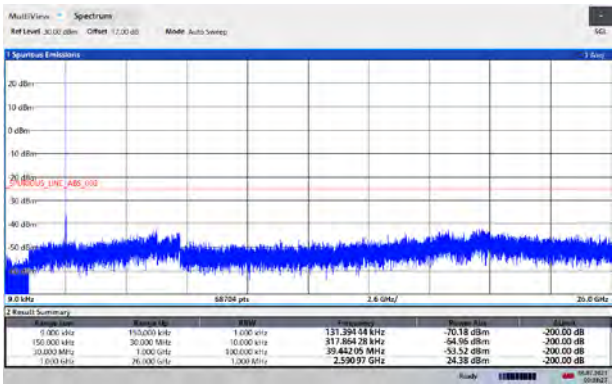
LTE Band 41 10MHz CH-Low 9kHz~26GHz



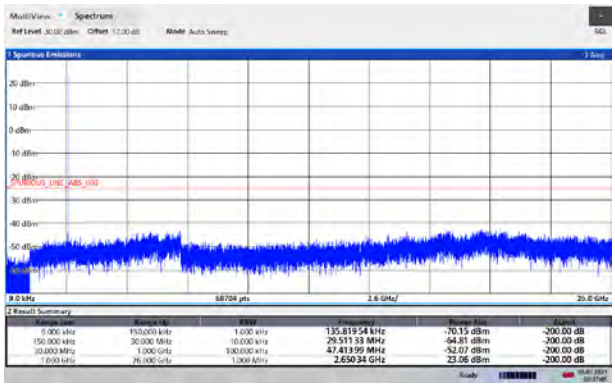
LTE Band 41 5MHz CH- Middle 9kHz~26GHz



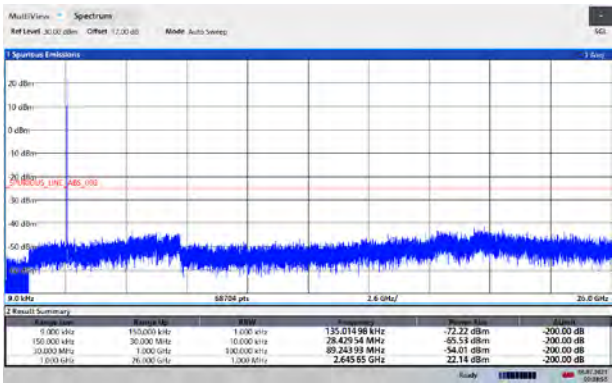
LTE Band 41 10MHz CH- Middle 9kHz~26GHz



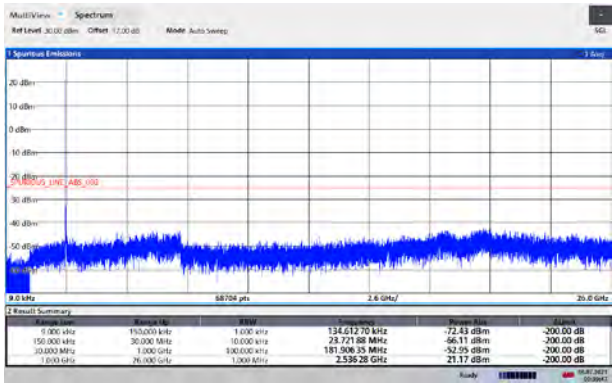
LTE Band 41 5MHz CH-High 9kHz~26GHz



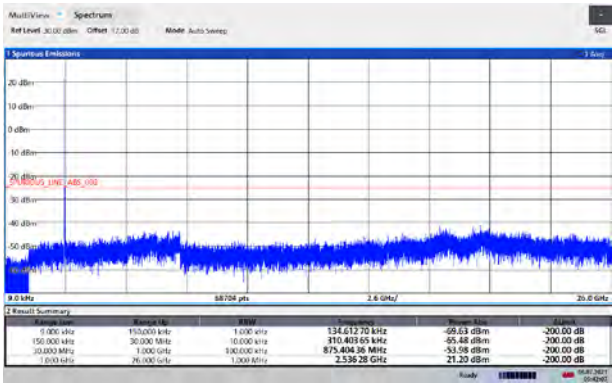
LTE Band 41 10MHz CH- High 9kHz~26GHz



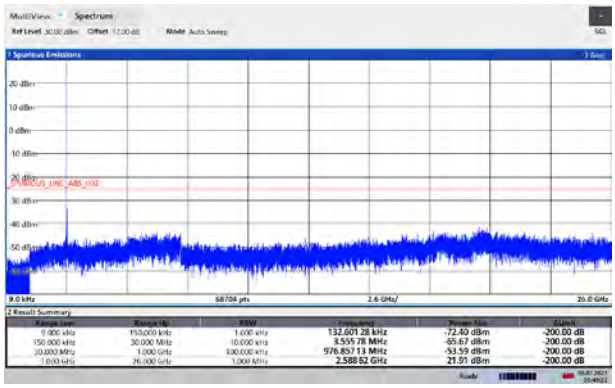
LTE Band 41 15MHz CH- Low 9kHz~26GHz



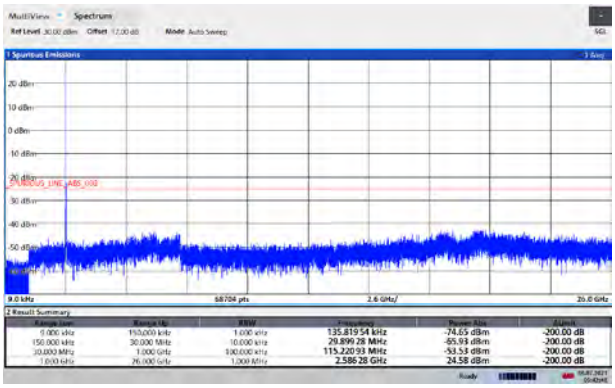
LTE Band 41 20MHz CH-Low 9kHz~26GHz



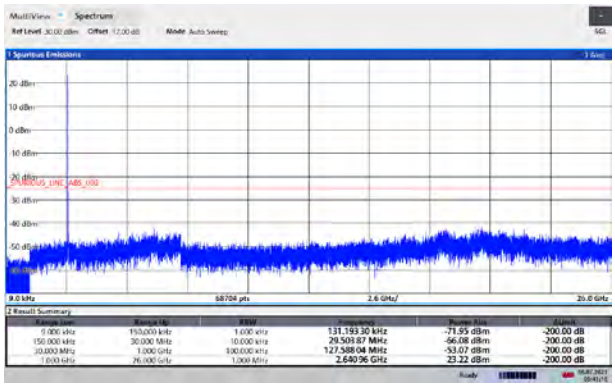
LTE Band 41 15MHz CH- Middle 9kHz~26GHz



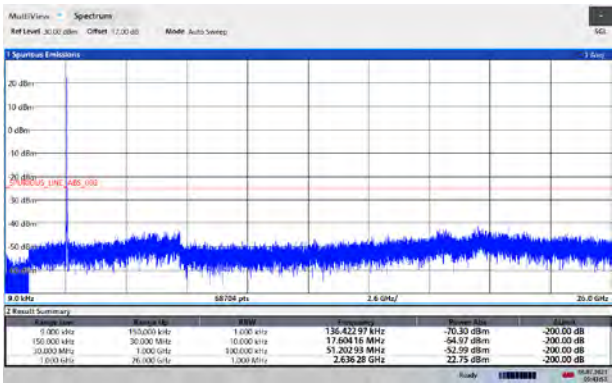
LTE Band 41 20MHz CH- Middle 9kHz~26GHz



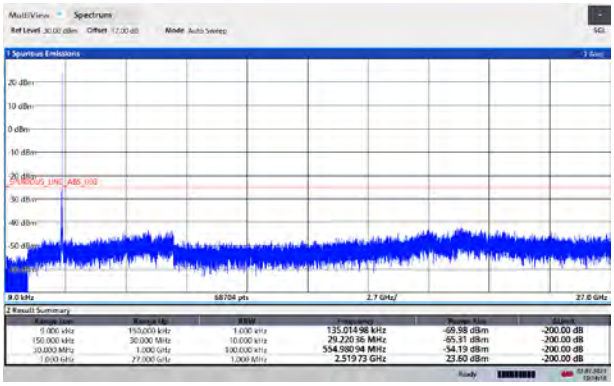
LTE Band 41 15MHz CH-High 9kHz~26GHz



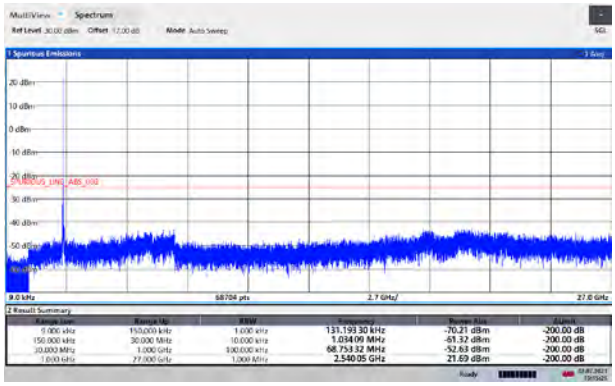
LTE Band 41 20MHz CH- High 9kHz~26GHz



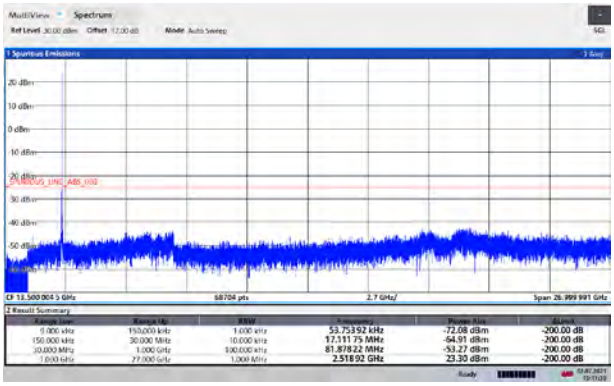
CA_7C_20MHz+10MHz_QPSK CH-Low
9kHz~27GHz



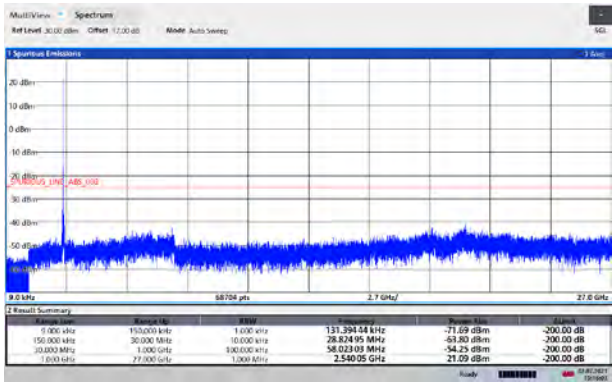
CA_7C_20MHz+10MHz_QPSK CH-Middle
9kHz~27GHz



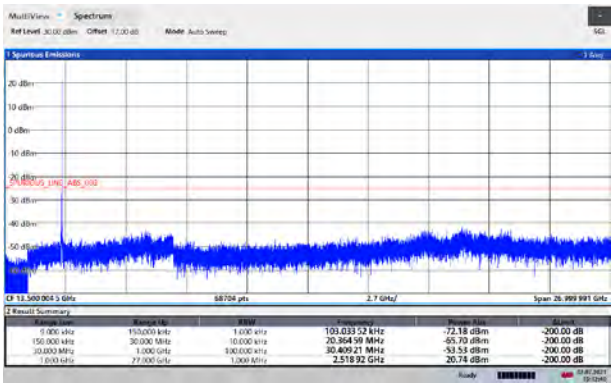
CA_7C_20MHz+10MHz_16QAM CH-Low
9kHz~27GHz



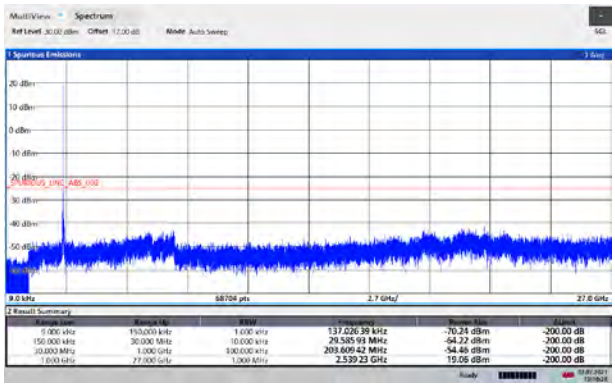
CA_7C_20MHz+10MHz_16QAM CH-Middle
9kHz~27GHz



CA_7C_20MHz+10MHz_64QAM CH-Low
9kHz~27GHz



CA_7C_20MHz+10MHz_64QAM CH-Middle
9kHz~27GHz



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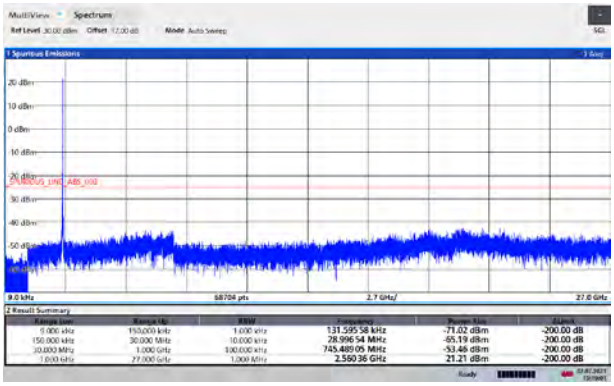	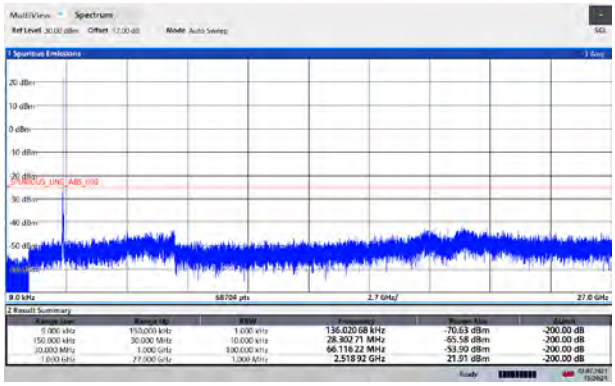
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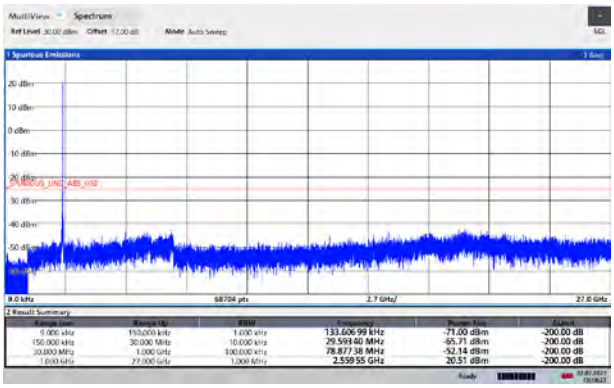	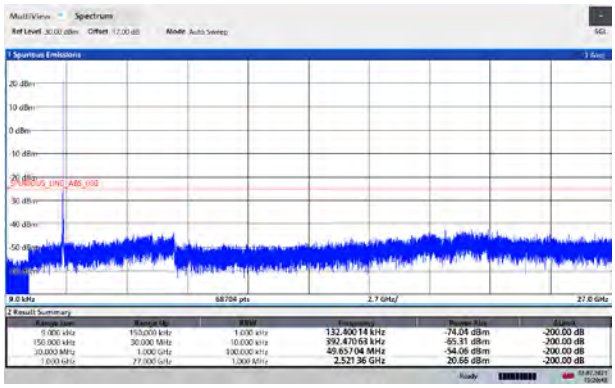
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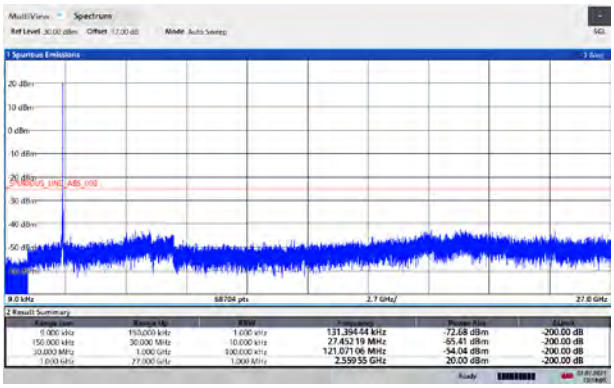	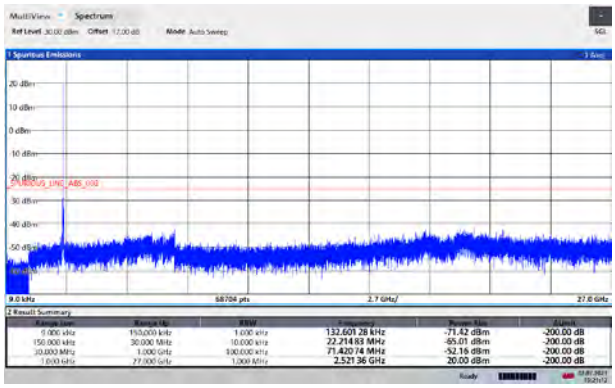

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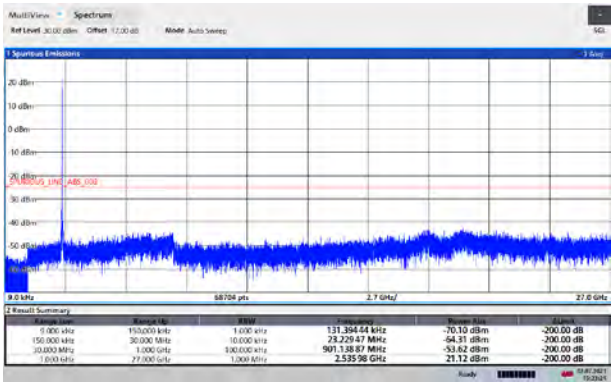	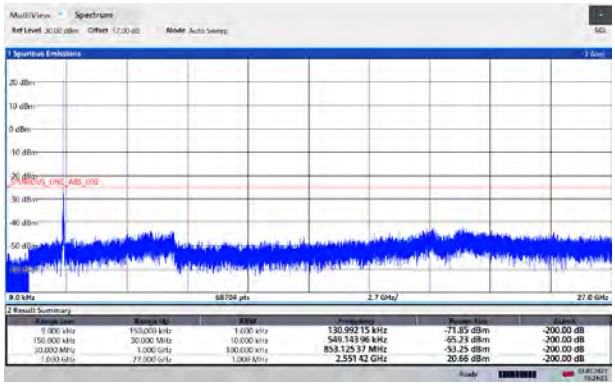
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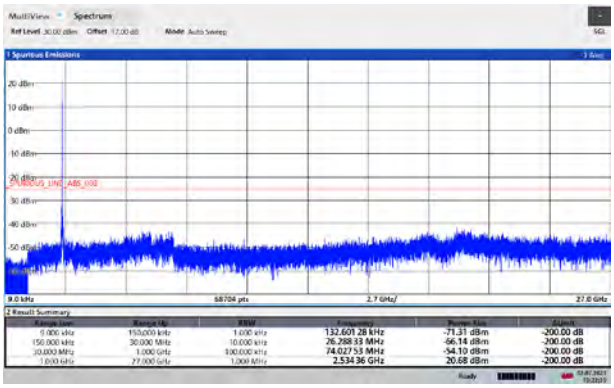
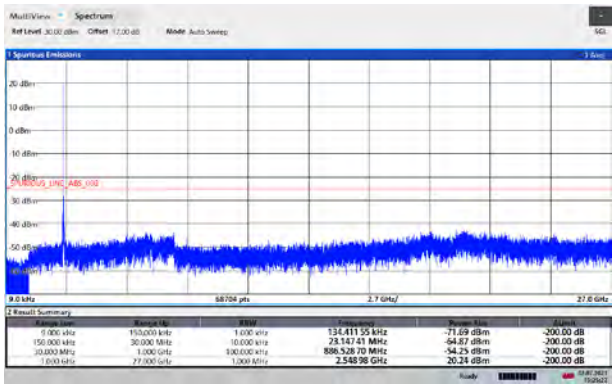
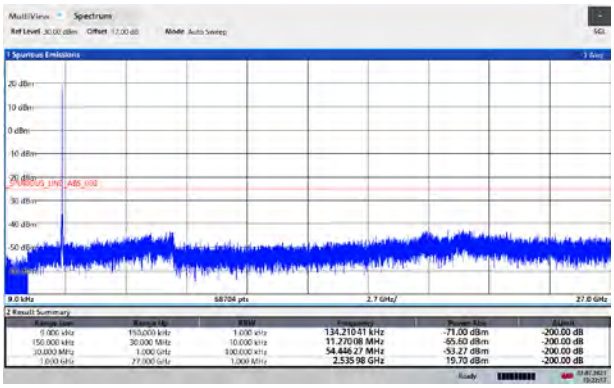
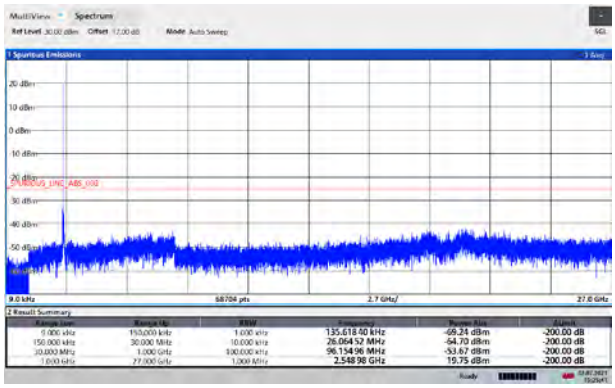
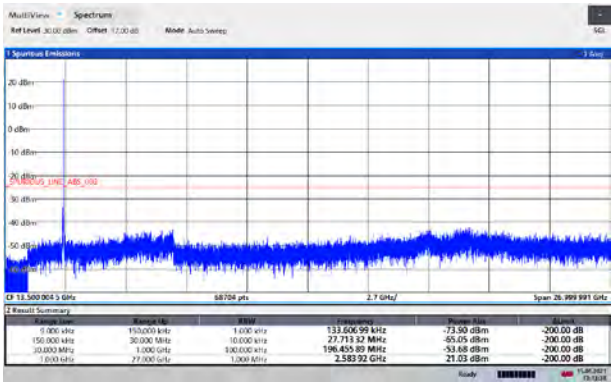
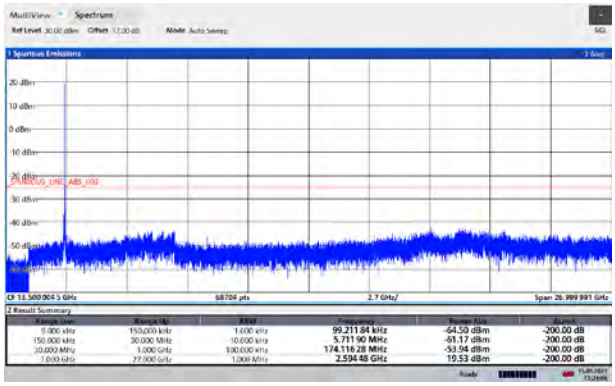
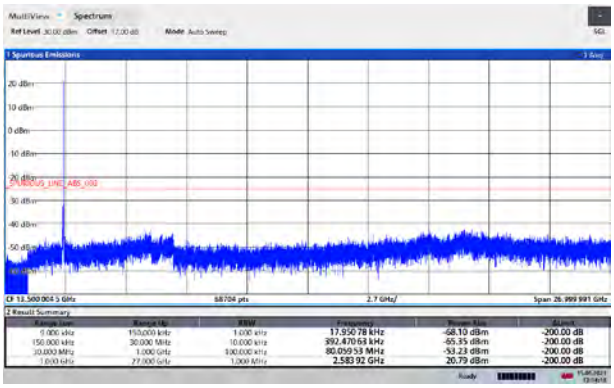
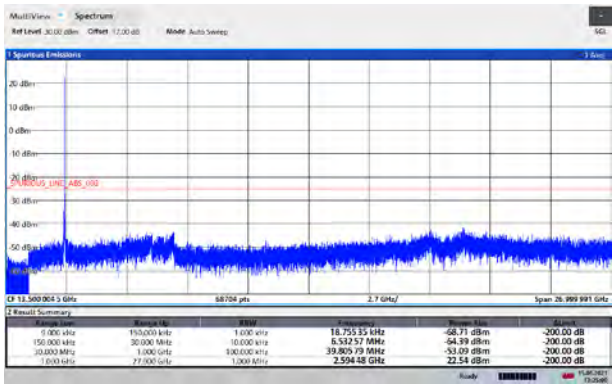
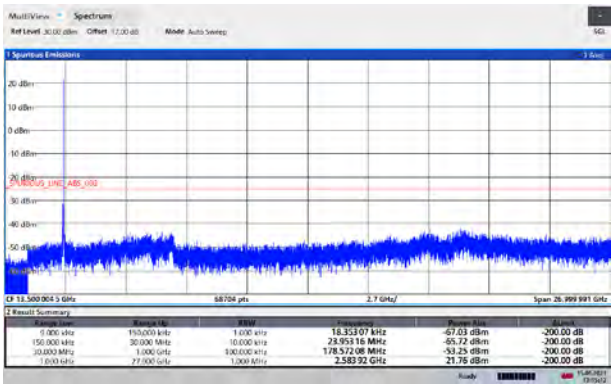
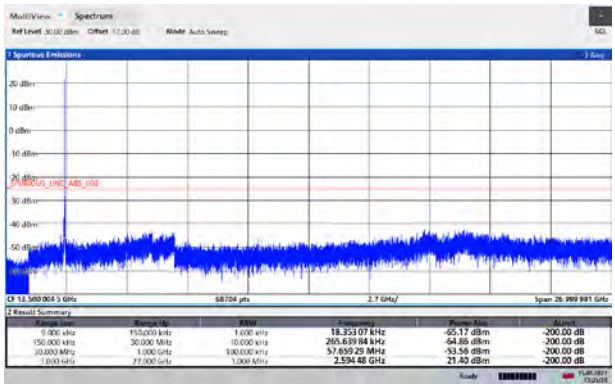
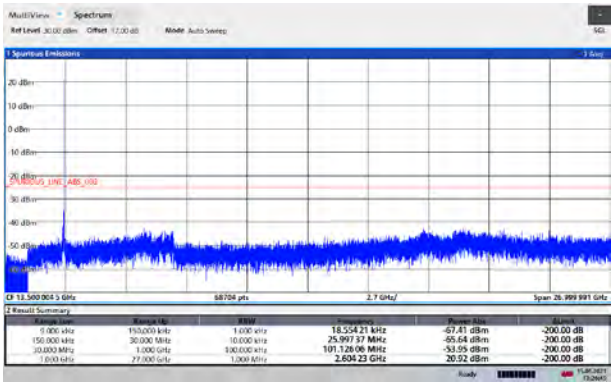
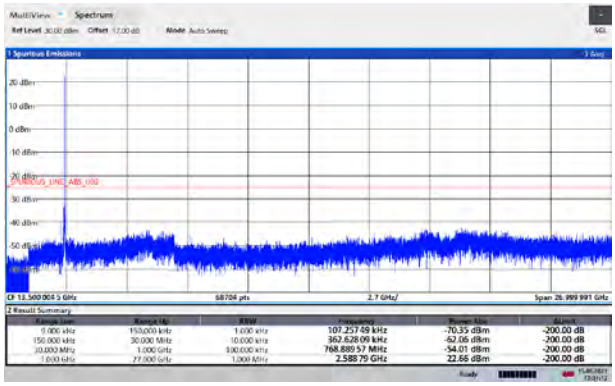
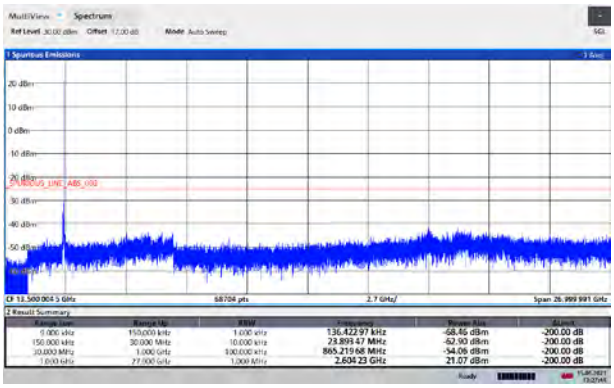
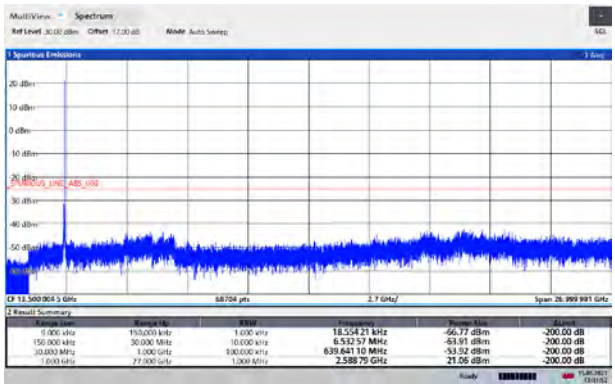
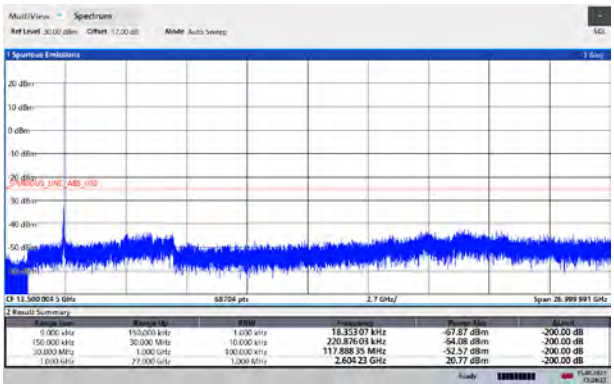
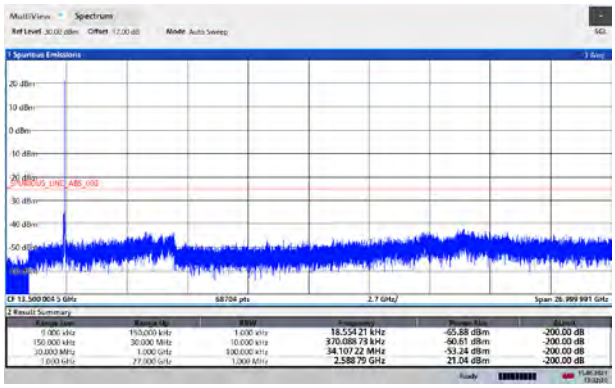
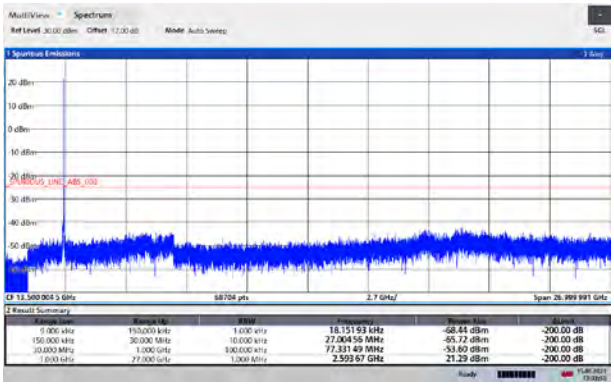
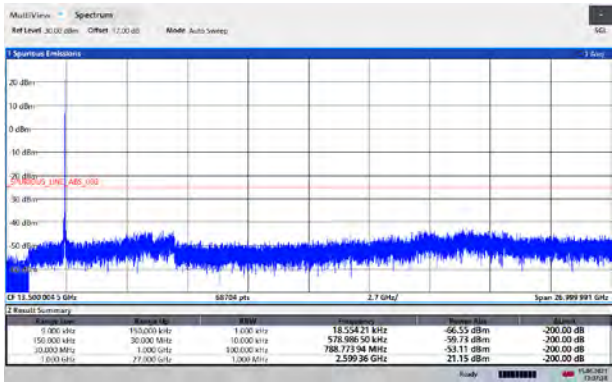
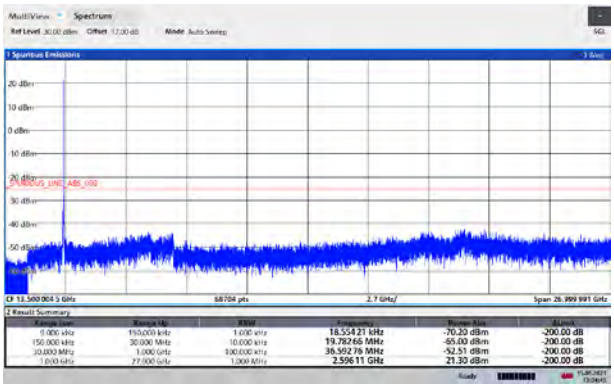
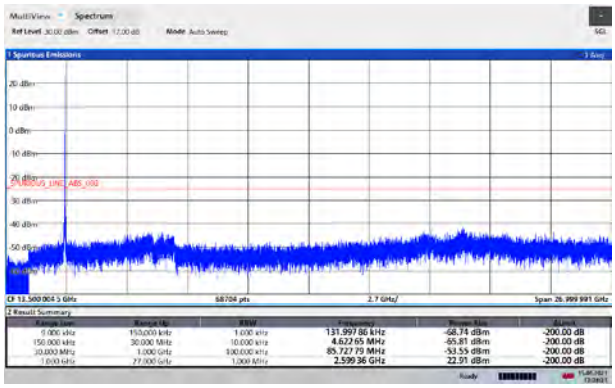
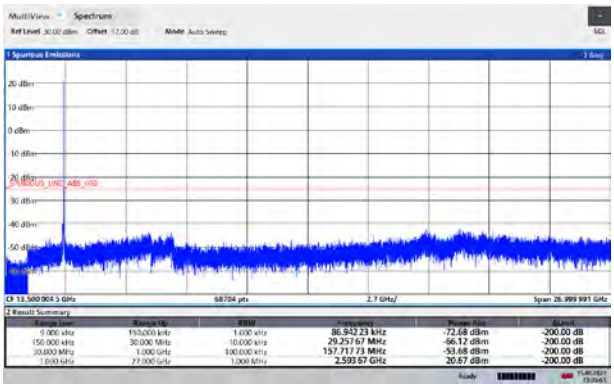
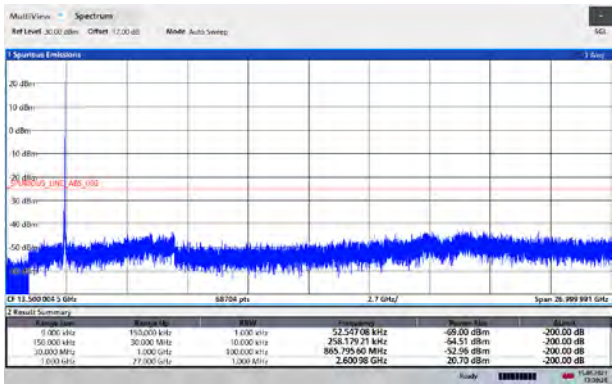
	
CA_7C_20MHz+20MHz_64QAM CH-Middle 9kHz~27GHz	CA_7C_20MHz+20MHz_64QAM CH-High 9kHz~27GHz
	

CA_38C_15MHz+15MHz_QPSK CH-Low 9kHz~27GHz	CA_38C _15MHz+15MHz_QPSK CH-Middle 9kHz~27GHz
	
CA_38C _15MHz+15MHz_16QAM CH-Low 9kHz~27GHz	CA_38C _15MHz+15MHz_16QAM CH-Middle 9kHz~27GHz
	
CA_38C _15MHz+15MHz_64QAM CH-Low 9kHz~27GHz	CA_38C _15MHz+15MHz_64QAM CH-Middle 9kHz~27GHz
	

CA_38C _15MHz+15MHz_QPSK CH-High 9kHz~27GHz	CA_38C _20MHz+20MHz_QPSK CH-Low 9kHz~27GHz
	
CA_38C _15MHz+15MHz_16QAM CH-High 9kHz~27GHz	CA_38C _20MHz+20MHz_16QAM CH-Low 9kHz~27GHz
	
CA_38C _15MHz+15MHz_64QAM CH-High 9kHz~27GHz	CA_38C _20MHz+20MHz_64QAM CH-Low 9kHz~27GHz
	

CA_38C _20MHz+20MHz_QPSK CH-Middle 9kHz~27GHz	CA_38C _20MHz+20MHz_QPSK CH-High 9kHz~27GHz
	
CA_38C _20MHz+20MHz_16QAM CH-Middle 9kHz~27GHz	CA_38C _20MHz+20MHz_16QAM CH-High 9kHz~27GHz
	
CA_38C _20MHz+20MHz_64QAM CH-Middle 9kHz~27GHz	CA_38C _20MHz+20MHz_64QAM CH-High 9kHz~27GHz
	

5.7 Radiates Spurious Emission

Ambient condition

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

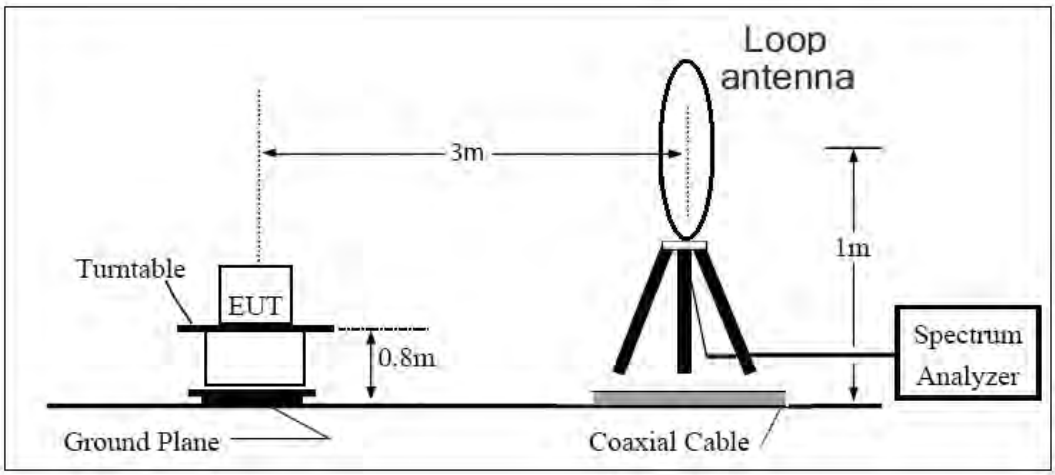
Method of Measurement

1. The testing follows FCC KDB 971168 D01 v03r01 Section 5.8 and ANSI C63.26 (2015).
2. Below 1GHz: The EUT is placed on a turntable 0.8 meters above the ground in the chamber, 3 meter away from the antenna. The maximal emission value is acquired by adjusting the antenna height, polarisation and turntable azimuth. Normally, the height range of antenna is 1 m to 4 m, the azimuth range of turntable is 0° to 360°, and the receive antenna has two polarizations Vertical (V) and Horizontal (H). Above 1GHz: (Note: the FCC's permission to use 1.5m as an alternative per TCBC Conf call of Dec. 2, 2014.) The EUT is placed on a turntable 1.5 meters above the ground in the chamber, 3 meter away from the antenna. The maximal emission value is acquired by adjusting the antenna height, polarisation and turntable azimuth. Normally, the height range of antenna is 1 m to 4 m, the azimuth range of turntable is 0° to 360°, and the receive antenna has two polarizations Vertical (V) and Horizontal (H).
3. A loop antenna, A log-periodic antenna or horn antenna shall be substituted in place of the EUT. The log-periodic antenna will be driven by a signal generator and the level will be adjusted till the same power value on the spectrum analyzer or receiver. The level of the spurious emissions can be calculated through the level of the signal generator, cable loss, the gain of the substitution antenna and the reading of the spectrum analyzer or receiver.
4. The EUT is then put into continuously transmitting mode at its maximum power level during the test. Set Test Receiver or Spectrum RBW=100kHz, VBW=300kHz for 30MHz to 1GHz and RBW=1MHz, VBW=3MHz for above 1GHz, and the maximum value of the receiver should be recorded as (Pr).
5. The EUT shall be replaced by a substitution antenna. In the chamber, an substitution antenna for the frequency band of interest is placed at the reference point of the chamber. An RF Signal source for the frequency band of interest is connected to the substitution antenna with a cable that has been constructed to not interfere with the radiation pattern of the antenna. A power (PMea) is applied to the input of the substitution antenna, and adjust the level of the signal generator output until the value of the receiver reach the previously recorded (Pr). The power of signal source (PMea) is recorded. The test should be performed by rotating the test item and adjusting the receiving antenna polarization.
6. A amplifier should be connected to the Signal Source output port. And the cable should be connect between the Amplifier and the Substitution Antenna. The cable loss (Pcl) ,the Substitution Antenna Gain (Ga) and the Amplifier Gain (PAg) should be recorded after test.
7. The measurement results are obtained as described below:
Power(EIRP)=PMea- PAg - Pcl + Ga
The measurement results are amend as described below:
Power(EIRP)=PMea- Pcl + Ga
8. This value is EIRP since the measurement is calibrated using an antenna of known gain (2.15 dBi) and known input power. ERP can be calculated from EIRP by subtracting the gain of the dipole, ERP = EIRP-2.15dBi.

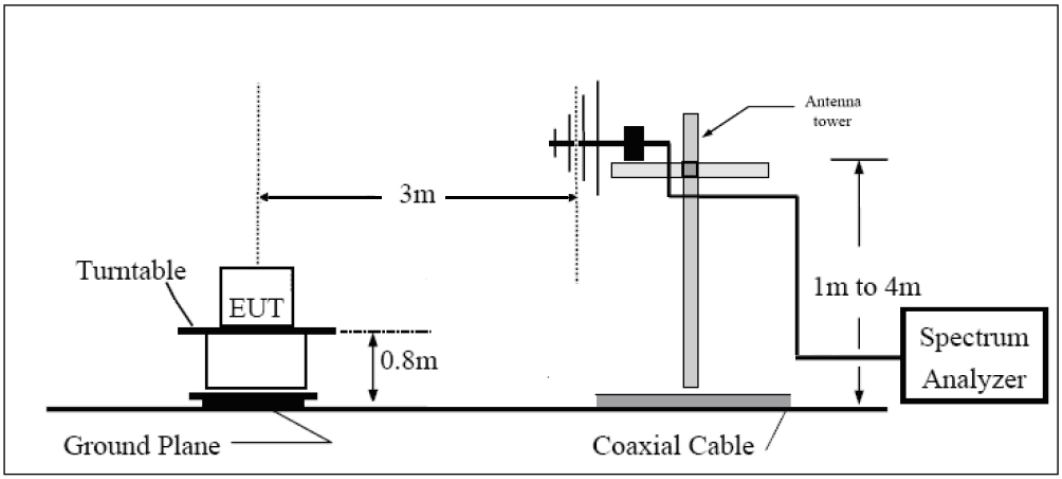
The modulation mode and RB allocation refer to section 5.1, using the maximum output power configuration.

Test setup

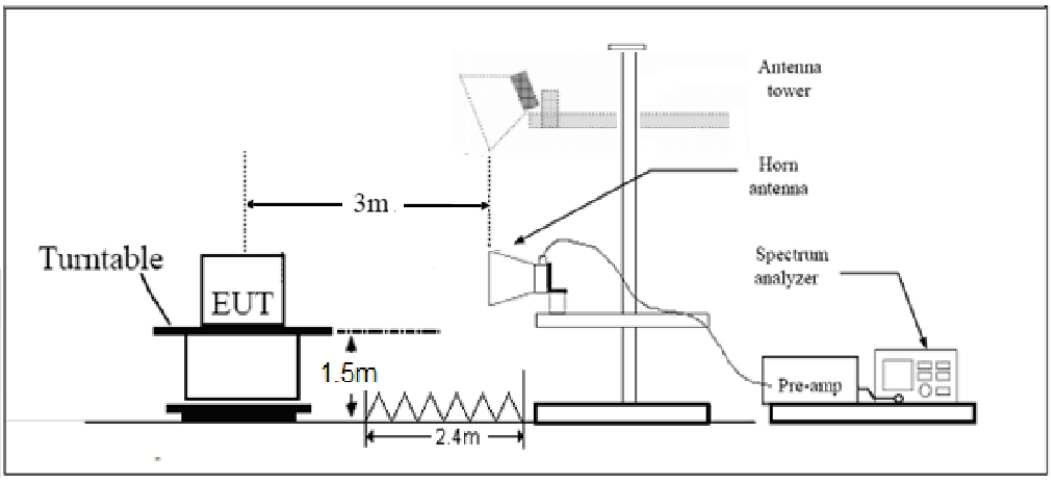
9KHz ~ 30MHz



30MHz ~ 1GHz



Above 1GHz



Note: Area side:2.4mX3.6m

Limits

LTE -4 Rule Part 27.53(h) specifies that “for operations in the 1695-1710 MHz, 1710-1755 MHz, 1755-1780 MHz, 1915-1920 MHz, 1995-2000 MHz, 2000-2020 MHz, 2110-2155 MHz, 2155-2180 MHz, and 2180-2200 bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least 43 + 10 log10 (P) dB.”

LTE -7/38/41 Rule Part 27.53(m) 55 + 10 log (P) dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(4) of this section.

(1) On any frequency outside the 746-758 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least 43 + 10 log (P) dB;

(2) On any frequency outside the 776-788 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least 43 + 10 log (P) dB;

(3) On all frequencies between 763-775 MHz and 793-805 MHz, by a factor not less than 76 + 10 log (P) dB in a 6.25 kHz band segment, for base and fixed stations;

(4) On all frequencies between 763-775 MHz and 793-805 MHz, by a factor not less than 65 + 10 log (P) dB in a 6.25 kHz band segment, for mobile and portable stations;

(5) Compliance with the provisions of paragraphs (c)(1) and (c)(2) of this section is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater. However, in the 100 kHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of at least 30 kHz may be employed;

Part 27.53(a)/(h)/(g) Limit		-13 dBm
Part 27.53(f) Limit	Limit out of the band 1559-1610 MHz	-13 dBm
	Limit in the band 1559-1610 MHz	-40 dBm
Part 27.53(m) Limit		-25 dBm

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95％ confidence level for the normal distribution is with the coverage factor k = ±1.96, U= ±3.55 dB.

Test Result

Sweep the whole frequency band through the range from 9kHz to the 10th harmonic of the carrier, the emissions below the noise floor will not be recorded in the report.

Main Antenna

WCDMA Band IV CH-Middle

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1673.20	-67.66	2.70	12.70	Horizontal	-61.65	-13.00	48.65	45
3	2509.80	-62.20	3.20	12.50	Horizontal	-57.95	-13.00	44.95	270
4	3346.40	-58.31	4.20	11.80	Horizontal	-57.53	-13.00	44.53	90
5	4183.00	-57.15	4.40	12.50	Horizontal	-55.25	-13.00	42.25	45
6	5019.60	-53.03	4.70	11.30	Horizontal	-51.61	-13.00	38.61	270
7	5856.20	-52.92	5.20	13.80	Horizontal	-51.48	-13.00	38.48	315
8	6692.80	-48.45	5.70	11.30	Horizontal	-53.29	-13.00	40.29	90
9	7529.40	-57.32	6.10	16.80	Horizontal	-48.63	-13.00	35.63	45
10	8366.00	-51.64	6.10	14.20	Horizontal	-47.59	-13.00	34.59	180
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

LTE Band 4 QPSK 1.4MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3464.25	-54.60	2.70	12.70	Horizontal	-44.60	-13.00	31.60	135
3	5197.50	-36.33	3.20	12.50	Horizontal	-27.03	-13.00	14.03	45
4	6930.00	-59.05	4.20	11.80	Horizontal	-51.45	-13.00	38.45	225
5	8662.50	-48.47	4.40	12.50	Horizontal	-40.37	-13.00	27.37	0
6	10395.00	-44.87	4.70	11.30	Horizontal	-38.27	-13.00	25.27	135
7	12127.50	-49.33	5.20	13.80	Horizontal	-40.73	-13.00	27.73	45
8	13860.00	-45.71	5.70	11.30	Horizontal	-40.11	-13.00	27.11	0
9	15592.50	-49.21	6.10	16.80	Horizontal	-38.51	-13.00	25.51	135
10	17325.00	-45.65	6.10	14.20	Horizontal	-37.55	-13.00	24.55	0
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

LTE Band 4 QPSK 5MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3460.50	-54.17	2.70	12.70	Horizontal	-44.17	-13.00	31.17	135
3	5191.50	-36.30	3.20	12.50	Horizontal	-27.00	-13.00	14.00	45
4	6930.00	-58.87	4.20	11.80	Horizontal	-51.27	-13.00	38.27	135
5	8662.50	-53.82	4.40	12.50	Horizontal	-45.72	-13.00	32.72	90
6	10395.00	-45.87	4.70	11.30	Horizontal	-39.27	-13.00	26.27	135
7	12127.50	-48.71	5.20	13.80	Horizontal	-40.11	-13.00	27.11	225
8	13860.00	-46.80	5.70	11.30	Horizontal	-41.20	-13.00	28.20	270
9	15592.50	-49.09	6.10	16.80	Horizontal	-38.39	-13.00	25.39	270
10	17325.00	-46.56	6.10	14.20	Horizontal	-38.46	-13.00	25.46	0
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

LTE Band 4 QPSK 20MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3465.00	-50.95	2.70	12.70	Horizontal	-40.95	-13.00	27.95	135
3	5170.88	-35.23	3.20	12.50	Horizontal	-25.93	-13.00	12.93	0
4	6930.00	-59.14	4.20	11.80	Horizontal	-51.54	-13.00	38.54	45
5	8662.50	-53.55	4.40	12.50	Horizontal	-45.45	-13.00	32.45	135
6	10395.00	-46.49	4.70	11.30	Horizontal	-39.89	-13.00	26.89	45
7	12127.50	-48.11	5.20	13.80	Horizontal	-39.51	-13.00	26.51	90
8	13860.00	-46.44	5.70	11.30	Horizontal	-40.84	-13.00	27.84	90
9	15592.50	-48.57	6.10	16.80	Horizontal	-37.87	-13.00	24.87	45
10	17325.00	-46.68	6.10	14.20	Horizontal	-38.58	-13.00	25.58	0
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

LTE Band 7 QPSK 5MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	5065.80	-56.57	3.40	12.50	Horizontal	-47.47	-25.00	22.47	90
3	7598.60	-48.28	4.40	12.20	Horizontal	-40.48	-25.00	15.48	225
4	10130.63	-46.69	4.70	11.30	Horizontal	-40.09	-25.00	15.09	135
5	12675.00	-45.94	5.40	13.20	Horizontal	-38.14	-25.00	13.14	225
6	15210.00	-43.86	6.10	13.10	Horizontal	-36.86	-25.00	11.86	45
7	17745.00	-42.57	6.10	14.20	Horizontal	-34.47	-25.00	9.47	1
8	20280.00	/	/	/	/	/	/	/	/
9	22815.00	/	/	/	/	/	/	/	/
10	25350.00	/	/	/	/	/	/	/	/
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

LTE Band 7 QPSK 20MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	5052.38	-57.24	3.40	12.50	Horizontal	-48.14	-25.00	23.14	45
3	7578.00	-46.25	4.40	12.20	Horizontal	-38.45	-25.00	13.45	225
4	10140.00	-47.28	4.70	11.30	Horizontal	-40.68	-25.00	15.68	0
5	12675.00	-46.49	5.40	13.20	Horizontal	-38.69	-25.00	13.69	45
6	15210.00	-43.72	6.10	13.10	Horizontal	-36.72	-25.00	11.72	90
7	17745.00	-43.72	6.10	14.20	Horizontal	-35.62	-25.00	10.62	225
8	20280.00	/	/	/	/	/	-25.00	/	/
9	22815.00	/	/	/	/	/	-25.00	/	/
10	25350.00	/	/	/	/	/	-25.00	/	/
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

LTE Band 38 QPSK 5MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	5185.00	-61.98	3.20	12.50	Horizontal	-52.68	-25.00	27.68	135
3	7778.00	-57.10	4.40	12.30	Horizontal	-49.20	-25.00	24.20	45
4	10370.00	-50.33	4.70	11.80	Horizontal	-43.23	-25.00	18.23	90
5	12964.00	-51.29	5.40	14.00	Horizontal	-42.69	-25.00	17.69	45
6	15570.00	-45.10	6.10	16.80	Horizontal	-34.40	-25.00	9.40	135
7	18165.00	/	/	/	/	/	/	/	/
8	20760.00	/	/	/	/	/	/	/	/
9	23355.00	/	/	/	/	/	/	/	/
10	25950.00	/	/	/	/	/	/	/	/
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

LTE Band 38 QPSK 20MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	5190.00	-62.45	3.20	12.50	Horizontal	-53.15	-25.00	28.15	45
3	7757.00	-57.14	4.40	12.30	Horizontal	-49.24	-25.00	24.24	225
4	10380.00	-50.12	4.70	11.80	Horizontal	-43.02	-25.00	18.02	135
5	12975.00	-51.59	5.40	14.00	Horizontal	-42.99	-25.00	17.99	225
6	15510.00	-53.15	6.10	16.80	Horizontal	-42.45	-25.00	17.45	0
7	18165.00	/	/	/	/	/	/	/	/
8	20760.00	/	/	/	/	/	/	/	/
9	23355.00	/	/	/	/	/	/	/	/
10	25950.00	/	/	/	/	/	/	/	/
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

LTE Band 41 QPSK 5MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	5186.00	-61.76	3.20	12.50	Horizontal	-52.46	-25.00	27.46	225
3	7779.00	-56.06	4.40	12.30	Horizontal	-48.16	-25.00	23.16	45
4	10372.00	-50.28	4.70	11.80	Horizontal	-43.18	-25.00	18.18	135
5	12965.00	-50.35	5.40	14.00	Horizontal	-41.75	-25.00	16.75	45
6	15545.00	-46.60	6.10	16.80	Horizontal	-35.90	-25.00	10.90	0
7	18151.00	/	/	/	/	/	-25.00	/	/
8	20744.00	/	/	/	/	/	-25.00	/	/
9	23337.00	/	/	/	/	/	-25.00	/	/
10	25930.00	/	/	/	/	/	-25.00	/	/
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

LTE Band 41 QPSK 20MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	5168.00	-61.76	3.20	12.50	Horizontal	-52.46	-25.00	27.46	225
3	7752.00	-57.35	4.40	12.30	Horizontal	-49.45	-25.00	24.45	45
4	10336.00	-49.96	4.70	11.80	Horizontal	-42.86	-25.00	17.86	0
5	12920.00	-51.53	5.40	14.00	Horizontal	-42.93	-25.00	17.93	135
6	15504.00	-46.71	6.10	16.80	Horizontal	-36.01	-25.00	11.01	45
7	18151.00	/	/	/	/	/	/	/	/
8	20744.00	/	/	/	/	/	/	/	/
9	23337.00	/	/	/	/	/	/	/	/
10	25930.00	/	/	/	/	/	/	/	/

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.
2. The worst emission was found in the antenna is Horizontal position.

CA_7C QPSK 15M+15M CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	5056.60	-57.12	3.40	12.50	Horizontal	-48.02	-25.00	23.02	225
3	7584.90	-53.77	4.40	12.20	Horizontal	-45.97	-25.00	20.97	0
4	10113.20	-48.17	4.70	11.30	Horizontal	-41.57	-25.00	16.57	90
5	12641.50	-46.10	5.40	13.20	Horizontal	-38.30	-25.00	13.30	45
6	15169.80	-42.72	6.10	13.10	Horizontal	-35.72	-25.00	10.72	270
7	17698.10	-45.16	6.10	14.20	Horizontal	-37.06	-25.00	12.06	90
8	20226.40	/	/	/	/	/	/	/	/
9	22754.70	/	/	/	/	/	/	/	/
10	25283.00	/	/	/	/	/	/	/	/
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

CA_7C QPSK 10M+20M CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	5052.24	-56.93	3.40	12.50	Horizontal	-47.83	-25.00	22.83	0
3	7578.36	-49.88	4.40	12.20	Horizontal	-42.08	-25.00	17.08	45
4	10104.48	-47.54	4.70	11.30	Horizontal	-40.94	-25.00	15.94	90
5	12630.60	-49.84	5.40	13.20	Horizontal	-42.04	-25.00	17.04	45
6	15156.72	-43.09	6.10	13.10	Horizontal	-36.09	-25.00	11.09	270
7	17682.84	-45.67	6.10	14.20	Horizontal	-37.57	-25.00	12.57	90
8	20208.96	/	/	/	/	/	/	/	/
9	22735.08	/	/	/	/	/	/	/	/
10	25261.20	/	/	/	/	/	/	/	/
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

CA_7C QPSK 20M+10M CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	5061.24	-57.86	3.40	12.50	Horizontal	-48.76	-25.00	23.76	45
3	7591.86	-53.97	4.40	12.20	Horizontal	-46.17	-25.00	21.17	315
4	10122.48	-46.34	4.70	11.30	Horizontal	-39.74	-25.00	14.74	225
5	12653.10	-47.26	5.40	13.20	Horizontal	-39.46	-25.00	14.46	90
6	15183.72	-43.27	6.10	13.10	Horizontal	-36.27	-25.00	11.27	45
7	17714.34	-45.47	6.10	14.20	Horizontal	-37.37	-25.00	12.37	90
8	20244.96	/	/	/	/	/	/	/	/
9	22775.58	/	/	/	/	/	/	/	/
10	25306.20	/	/	/	/	/	/	/	/
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

CA_7C QPSK 20M+20M CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	5052.14	-57.18	3.40	12.50	Horizontal	-48.08	-25.00	23.08	135
3	7578.21	-53.14	4.40	12.20	Horizontal	-45.34	-25.00	20.34	45
4	10104.28	-47.21	4.70	11.30	Horizontal	-40.61	-25.00	15.61	315
5	12630.35	-45.33	5.40	13.20	Horizontal	-37.53	-25.00	12.53	90
6	15156.42	-42.97	6.10	13.10	Horizontal	-35.97	-25.00	10.97	45
7	17682.49	-45.09	6.10	14.20	Horizontal	-36.99	-25.00	11.99	270
8	20208.56	/	/	/	/	/	/	/	/
9	22734.63	/	/	/	/	/	/	/	/
10	25260.70	/	/	/	/	/	/	/	/
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

CA_38C QPSK 15M+15M CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	5161.96	-55.97	3.20	12.50	Horizontal	-46.67	-25.00	21.67	45
3	7742.94	-53.58	4.40	12.30	Horizontal	-45.68	-25.00	20.68	180
4	10323.92	-46.06	4.70	11.80	Horizontal	-38.96	-25.00	13.96	90
5	12904.90	-47.24	5.40	14.00	Horizontal	-38.64	-25.00	13.64	45
6	15485.88	-49.14	6.10	16.80	Horizontal	-38.44	-25.00	13.44	270
7	18066.86	/	/	/	/	/	-25.00	/	/
8	20647.84	/	/	/	/	/	-25.00	/	/
9	23228.82	/	/	/	/	/	-25.00	/	/
10	25809.80	/	/	/	/	/	-25.00	/	/
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

CA_38C QPSK 20M+20M CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	5152.40	-56.94	3.20	12.50	Horizontal	-47.64	-25.00	22.64	315
3	7728.60	-53.77	4.40	12.30	Horizontal	-45.87	-25.00	20.87	90
4	10304.80	-46.07	4.70	11.80	Horizontal	-38.97	-25.00	13.97	45
5	12881.00	-46.71	5.40	14.00	Horizontal	-38.11	-25.00	13.11	225
6	15457.20	-48.40	6.10	16.80	Horizontal	-37.70	-25.00	12.70	180
7	18033.40	/	/	/	/	/	/	/	/
8	20609.60	/	/	/	/	/	/	/	/
9	23185.80	/	/	/	/	/	/	/	/
10	25762.00	/	/	/	/	/	/	/	/
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

Second Antenna

WCDMA Band IV CH-Middle

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3422.70	-59.11	2.70	12.70	Horizontal	-49.11	-13.00	36.11	0
3	5133.80	-50.89	3.20	12.50	Horizontal	-41.59	-13.00	28.59	0
4	6930.40	-63.19	4.20	11.80	Horizontal	-55.59	-13.00	42.59	135
5	8663.00	-55.92	4.40	12.50	Horizontal	-47.82	-13.00	34.82	45
6	10395.60	-49.61	4.70	11.30	Horizontal	-43.01	-13.00	30.01	225
7	12128.20	-50.91	5.20	13.80	Horizontal	-42.31	-13.00	29.31	45
8	13860.80	-50.02	5.70	11.30	Horizontal	-44.42	-13.00	31.42	135
9	15593.40	-53.30	6.10	16.80	Horizontal	-42.60	-13.00	29.60	0
10	17326.00	-49.63	6.10	14.20	Horizontal	-41.53	-13.00	28.53	90
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

LTE Band 4 QPSK 1.4MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3464.25	-61.38	2.70	12.70	Horizontal	-51.38	-13.00	38.38	1
3	5197.50	-41.07	3.20	12.50	Horizontal	-31.77	-13.00	18.77	45
4	6930.00	-63.40	4.20	11.80	Horizontal	-55.80	-13.00	42.80	0
5	8662.50	-56.69	4.40	12.50	Horizontal	-48.59	-13.00	35.59	135
6	10395.00	-51.38	4.70	11.30	Horizontal	-44.78	-13.00	31.78	45
7	12127.50	-53.20	5.20	13.80	Horizontal	-44.60	-13.00	31.60	135
8	13860.00	-49.75	5.70	11.30	Horizontal	-44.15	-13.00	31.15	135
9	15592.50	-52.76	6.10	16.80	Horizontal	-42.06	-13.00	29.06	0
10	17325.00	-49.94	6.10	14.20	Horizontal	-41.84	-13.00	28.84	225
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

LTE Band 4 QPSK 5MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3460.50	-59.78	2.70	12.70	Horizontal	-49.78	-13.00	36.78	135
3	5191.50	-45.47	3.20	12.50	Horizontal	-36.17	-13.00	23.17	0
4	6930.00	-62.15	4.20	11.80	Horizontal	-54.55	-13.00	41.55	225
5	8662.50	-56.42	4.40	12.50	Horizontal	-48.32	-13.00	35.32	45
6	10395.00	-51.27	4.70	11.30	Horizontal	-44.67	-13.00	31.67	135
7	12127.50	-53.03	5.20	13.80	Horizontal	-44.43	-13.00	31.43	90
8	13860.00	-49.57	5.70	11.30	Horizontal	-43.97	-13.00	30.97	225
9	15592.50	-53.57	6.10	16.80	Horizontal	-42.87	-13.00	29.87	135
10	17325.00	-50.99	6.10	14.20	Horizontal	-42.89	-13.00	29.89	45
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

LTE Band 4 QPSK 20MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3465.00	-58.15	2.70	12.70	Horizontal	-48.15	-13.00	35.15	135
3	5170.88	-38.79	3.20	12.50	Horizontal	-29.49	-13.00	16.49	225
4	6930.00	-61.86	4.20	11.80	Horizontal	-54.26	-13.00	41.26	0
5	8662.50	-56.82	4.40	12.50	Horizontal	-48.72	-13.00	35.72	135
6	10395.00	-51.51	4.70	11.30	Horizontal	-44.91	-13.00	31.91	225
7	12127.50	-51.39	5.20	13.80	Horizontal	-42.79	-13.00	29.79	90
8	13860.00	-50.20	5.70	11.30	Horizontal	-44.60	-13.00	31.60	90
9	15592.50	-53.83	6.10	16.80	Horizontal	-43.13	-13.00	30.13	0
10	17325.00	-49.26	6.10	14.20	Horizontal	-41.16	-13.00	28.16	0
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

LTE Band 7 QPSK 5MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	5065.80	-57.67	3.40	12.50	Horizontal	-48.57	-25.00	23.57	45
3	7598.60	-52.80	4.40	12.20	Horizontal	-45.00	-25.00	20.00	225
4	10130.63	-47.23	4.70	11.30	Horizontal	-40.63	-25.00	15.63	45
5	12675.00	-45.78	5.40	13.20	Horizontal	-37.98	-25.00	12.98	315
6	15210.00	-42.75	6.10	13.10	Horizontal	-35.75	-25.00	10.75	90
7	17745.00	-44.27	6.10	14.20	Horizontal	-36.17	-25.00	11.17	45
8	20280.00	/	/	/	/	/	/	/	/
9	22815.00	/	/	/	/	/	/	/	/
10	25350.00	/	/	/	/	/	/	/	/
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

LTE Band 7 QPSK 20MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	5052.38	-57.14	3.40	12.50	Horizontal	-48.04	-25.00	23.04	45
3	7605.00	-53.45	4.40	12.20	Horizontal	-45.65	-25.00	20.65	270
4	10140.00	-47.28	4.70	11.30	Horizontal	-40.68	-25.00	15.68	90
5	12675.00	-45.32	5.40	13.20	Horizontal	-37.52	-25.00	12.52	45
6	15210.00	-43.94	6.10	13.10	Horizontal	-36.94	-25.00	11.94	315
7	17745.00	-43.71	6.10	14.20	Horizontal	-35.61	-25.00	10.61	90
8	20280.00	/	/	/	/	/	/	/	/
9	22815.00	/	/	/	/	/	/	/	/
10	25350.00	/	/	/	/	/	/	/	/
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

LTE Band 38 QPSK 5MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	5190.00	-57.34	3.20	12.50	Horizontal	-48.04	-25.00	23.04	45
3	7785.00	-54.55	4.40	12.30	Horizontal	-46.65	-25.00	21.65	90
4	10380.00	-46.20	4.70	11.80	Horizontal	-39.10	-25.00	14.10	45
5	12975.00	-47.20	5.40	14.00	Horizontal	-38.60	-25.00	13.60	315
6	15570.00	-49.70	6.10	16.80	Horizontal	-39.00	-25.00	14.00	270
7	18165.00	/	/	/	/	/	/	/	/
8	20760.00	/	/	/	/	/	/	/	/
9	23355.00	/	/	/	/	/	/	/	/
10	25950.00	/	/	/	/	/	/	/	/
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

LTE Band 38 QPSK 20MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	5190.00	-58.59	3.20	12.50	Horizontal	-49.29	-25.00	24.29	45
3	7785.00	-54.18	4.40	12.30	Horizontal	-46.28	-25.00	21.28	270
4	10380.00	-46.14	4.70	11.80	Horizontal	-39.04	-25.00	14.04	90
5	12975.00	-47.47	5.40	14.00	Horizontal	-38.87	-25.00	13.87	45
6	15570.00	-49.32	6.10	16.80	Horizontal	-38.62	-25.00	13.62	315
7	18165.00	/	/	/	/	/	/	/	/
8	20760.00	/	/	/	/	/	/	/	/
9	23355.00	/	/	/	/	/	/	/	/
10	25950.00	/	/	/	/	/	/	/	/
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

LTE Band 41 QPSK 5MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	5186.00	-58.10	3.20	12.50	Horizontal	-48.80	-25.00	23.80	225
3	7779.00	-53.70	4.40	12.30	Horizontal	-45.80	-25.00	20.80	90
4	10372.00	-47.16	4.70	11.80	Horizontal	-40.06	-25.00	15.06	45
5	12965.00	-47.40	5.40	14.00	Horizontal	-38.80	-25.00	13.80	135
6	15558.00	-48.84	6.10	16.80	Horizontal	-38.14	-25.00	13.14	270
7	18151.00	/	/	/	/	/	/	/	/
8	20744.00	/	/	/	/	/	/	/	/
9	23337.00	/	/	/	/	/	/	/	/
10	25930.00	/	/	/	/	/	/	/	/
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

LTE Band 41 QPSK 20MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	5186.00	-57.67	3.20	12.50	Horizontal	-48.37	-25.00	23.37	180
3	7779.00	-54.48	4.40	12.30	Horizontal	-46.58	-25.00	21.58	315
4	10372.00	-44.17	4.70	11.80	Horizontal	-37.07	-25.00	12.07	90
5	12965.00	-46.62	5.40	14.00	Horizontal	-38.02	-25.00	13.02	45
6	15558.00	-48.64	6.10	16.80	Horizontal	-37.94	-25.00	12.94	225
7	18151.00	/	/	/	/	/	/	/	/
8	20744.00	/	/	/	/	/	/	/	/
9	23337.00	/	/	/	/	/	/	/	/
10	25930.00	/	/	/	/	/	/	/	/
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

CA_7C QPSK 15M+15M CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	5056.60	-56.96	3.40	12.50	Horizontal	-47.86	-25.00	22.86	225
3	7584.90	-52.57	4.40	12.20	Horizontal	-44.77	-25.00	19.77	225
4	10113.20	-46.61	4.70	11.30	Horizontal	-40.01	-25.00	15.01	90
5	12641.50	-44.46	5.40	13.20	Horizontal	-36.66	-25.00	11.66	45
6	15169.80	-42.80	6.10	13.10	Horizontal	-35.80	-25.00	10.80	315
7	17698.10	-46.19	6.10	14.20	Horizontal	-38.09	-25.00	13.09	90
8	20226.40	/	/	/	/	/	/	/	/
9	22754.70	/	/	/	/	/	/	/	/
10	25283.00	/	/	/	/	/	/	/	/
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

CA_7C QPSK 10M+20M CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	5052.24	-56.56	3.40	12.50	Horizontal	-47.46	-25.00	22.46	45
3	7578.36	-52.80	4.40	12.20	Horizontal	-45.00	-25.00	20.00	225
4	10104.48	-46.96	4.70	11.30	Horizontal	-40.36	-25.00	15.36	90
5	12630.60	-44.82	5.40	13.20	Horizontal	-37.02	-25.00	12.02	45
6	15156.72	-42.71	6.10	13.10	Horizontal	-35.71	-25.00	10.71	315
7	17682.84	-45.03	6.10	14.20	Horizontal	-36.93	-25.00	11.93	90
8	20208.96	/	/	/	/	/	/	/	/
9	22735.08	/	/	/	/	/	/	/	/
10	25261.20	/	/	/	/	/	/	/	/
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

CA_7C QPSK 20M+10M CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	5061.24	-56.74	3.40	12.50	Horizontal	-47.64	-25.00	22.64	270
3	7591.86	-52.76	4.40	12.20	Horizontal	-44.96	-25.00	19.96	90
4	10122.48	-46.38	4.70	11.30	Horizontal	-39.78	-25.00	14.78	45
5	12653.10	-44.92	5.40	13.20	Horizontal	-37.12	-25.00	12.12	315
6	15183.72	-43.51	6.10	13.10	Horizontal	-36.51	-25.00	11.51	90
7	17714.34	-43.21	6.10	14.20	Horizontal	-35.11	-25.00	10.11	225
8	20244.96	/	/	/	/	/	/	/	/
9	22775.58	/	/	/	/	/	/	/	/
10	25306.20	/	/	/	/	/	/	/	/
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

CA_7C QPSK 20M+20M CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	5052.14	-56.03	3.40	12.50	Horizontal	-46.93	-25.00	21.93	0
3	7578.21	-53.70	4.40	12.20	Horizontal	-45.90	-25.00	20.90	45
4	10104.28	-47.67	4.70	11.30	Horizontal	-41.07	-25.00	16.07	315
5	12630.35	-46.47	5.40	13.20	Horizontal	-38.67	-25.00	13.67	90
6	15156.42	-44.13	6.10	13.10	Horizontal	-37.13	-25.00	12.13	45
7	17682.49	-44.41	6.10	14.20	Horizontal	-36.31	-25.00	11.31	225
8	20208.56	/	/	/	/	/	/	/	/
9	22734.63	/	/	/	/	/	/	/	/
10	25260.70	/	/	/	/	/	/	/	/
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

CA_38C QPSK 15M+15M CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	5161.96	-57.15	3.20	12.50	Horizontal	-47.85	-25.00	22.85	90
3	7742.94	-54.30	4.40	12.30	Horizontal	-46.40	-25.00	21.40	45
4	10323.92	-46.19	4.70	11.80	Horizontal	-39.09	-25.00	14.09	135
5	12904.90	-46.54	5.40	14.00	Horizontal	-37.94	-25.00	12.94	270
6	15485.88	-48.34	6.10	16.80	Horizontal	-37.64	-25.00	12.64	180
7	18066.86	/	/	/	/	/	/	/	/
8	20647.84	/	/	/	/	/	/	/	/
9	23228.82	/	/	/	/	/	/	/	/
10	25809.80	/	/	/	/	/	/	/	/
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

CA_38C QPSK 20M+20M CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	5152.40	-57.40	3.20	12.50	Horizontal	-48.10	-25.00	23.10	315
3	7728.60	-54.62	4.40	12.30	Horizontal	-46.72	-25.00	21.72	270
4	10304.80	-47.60	4.70	11.80	Horizontal	-40.50	-25.00	15.50	90
5	12881.00	-46.57	5.40	14.00	Horizontal	-37.97	-25.00	12.97	45
6	15457.20	-47.21	6.10	16.80	Horizontal	-36.51	-25.00	11.51	180
7	18033.40	/	/	/	/	/	/	/	/
8	20609.60	/	/	/	/	/	/	/	/
9	23185.80	/	/	/	/	/	/	/	/
10	25762.00	/	/	/	/	/	/	/	/
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Horizontal position.									

6 Main Test Instruments

Name	Manufacturer	Type	Serial Number	Calibration Date	Expiration Date
Base Station Simulator	R&S	CMW500	113824	2021-05-15	2022-05-14
Power Splitter	Hua Xiang	SHX-GF2-2-13	10120101	/	/
Spectrum Analyzer	Key sight	N9010A	MY50210259	2021-05-15	2022-05-14
Signal Analyzer	R&S	FSV3030	101411	2020-12-13	2021-12-12
Loop Antenna	SCHWARZBECK	FMZB1519	1519-047	2020-04-02	2023-04-01
TRILOG Broadband Antenna	SCHWARZBECK	VULB 9163	391	2019-12-16	2022-12-15
Horn Antenna	R&S	HF907	102723	2018-08-11	2021-08-10
Horn Antenna	ETS-Lindgren	3160-09	00102644	2018-06-20	2023-06-19
Horn Antenna	STEATITE	QSH-SL-26-40-K-15	16779	2019-12-24	2022-12-23
Signal generator	R&S	SMB 100A	102594	2021-05-15	2022-05-14
Climatic Chamber	ESPEC	SU-242	93000506	2020-12-13	2021-12-12
Preampflier	R&S	SCU18	102327	2021-05-15	2022-05-14
MOB COMMS DC SUPPLY	Keysight	66319D	MY43004105	2021-06-09	2021-12-08
RF Cable	Agilent	SMA 15cm	0001	2021-06-09	2021-12-08
Software	R&S	EMC32	9.26.0	/	/

********END OF REPORT ********

ANNEX A: The EUT Appearance

The EUT Appearance are submitted separately.

ANNEX B: Test Setup Photos

The Test Setup Photos are submitted separately.