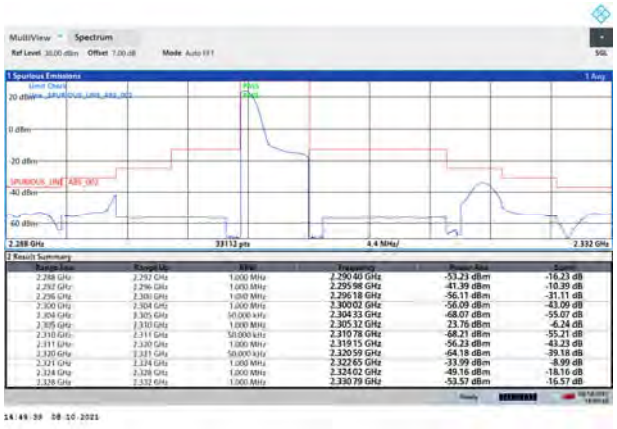
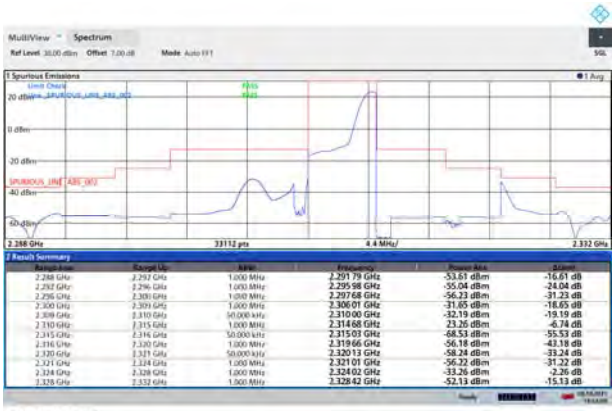
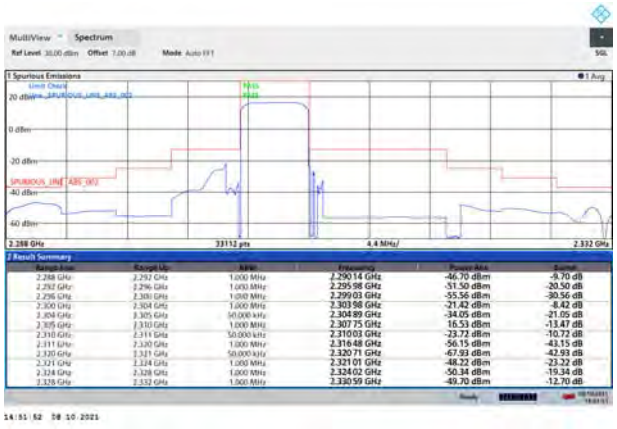
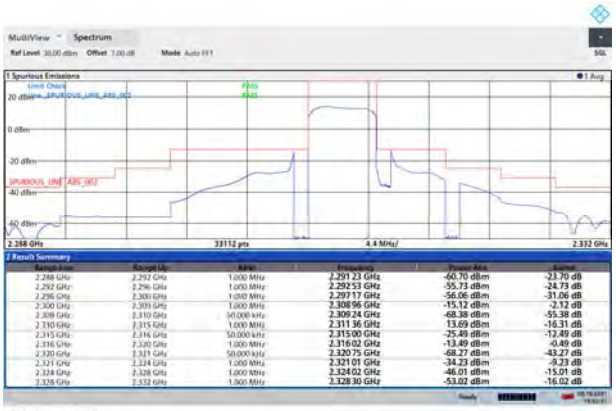
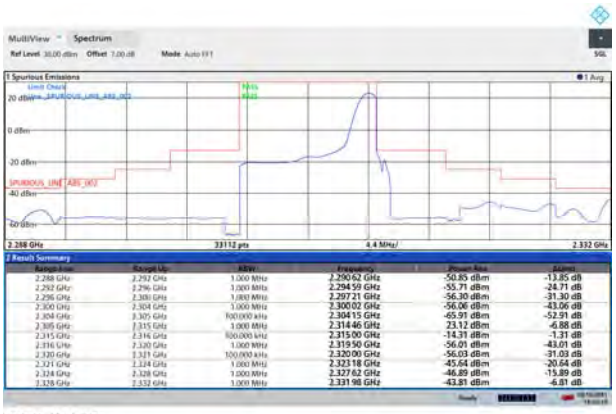
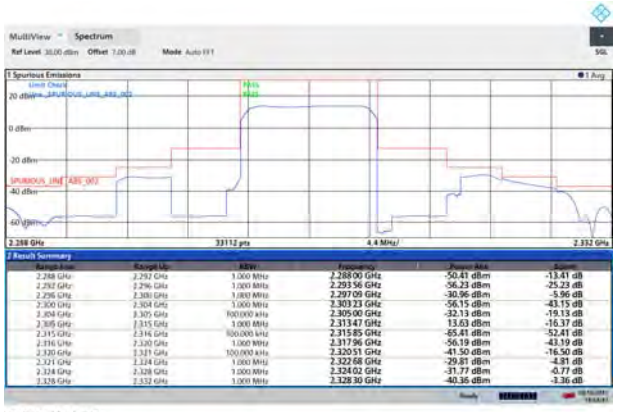
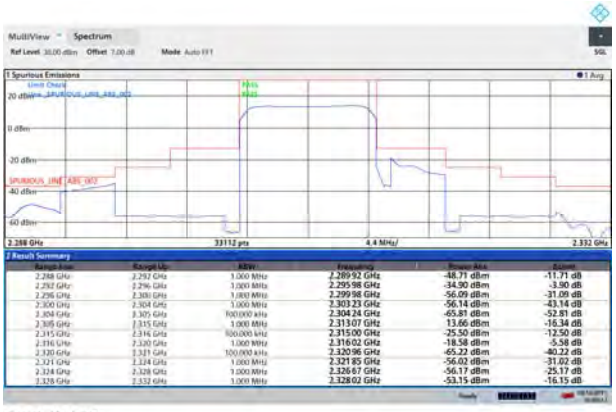
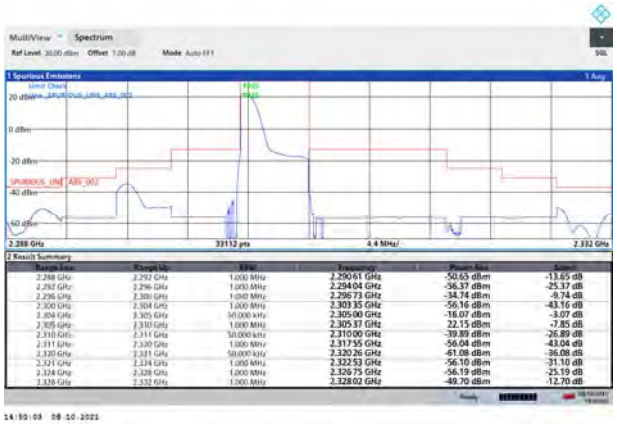
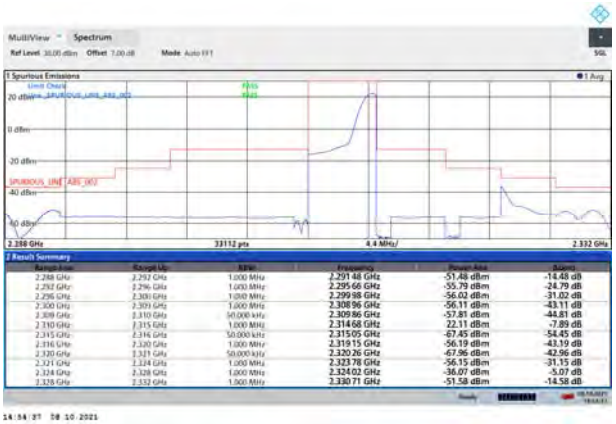
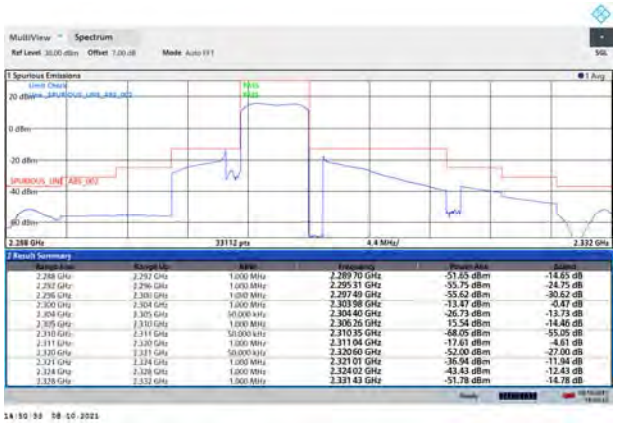
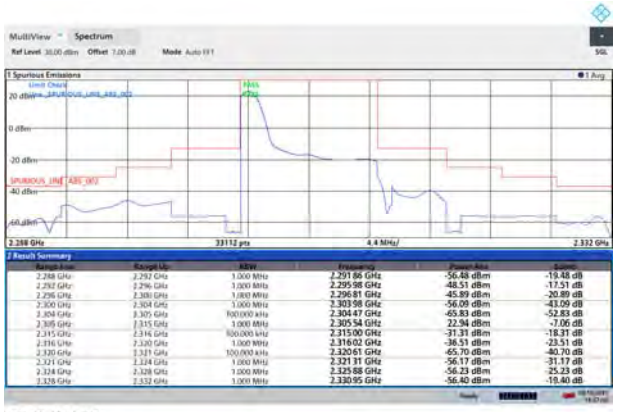
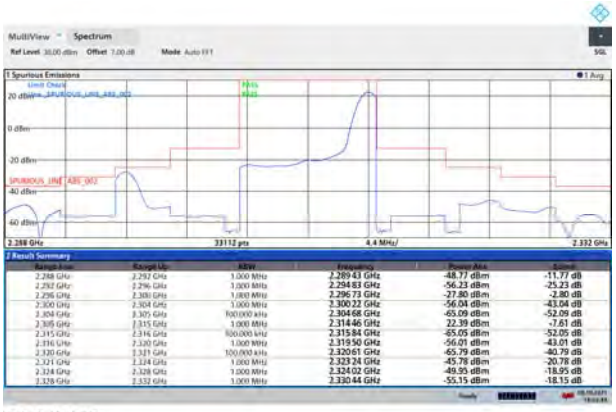
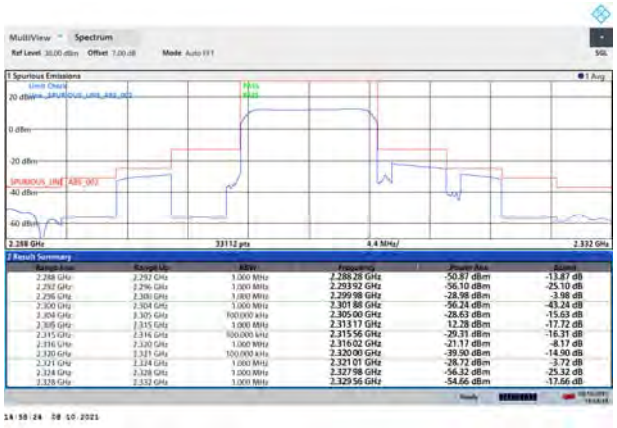
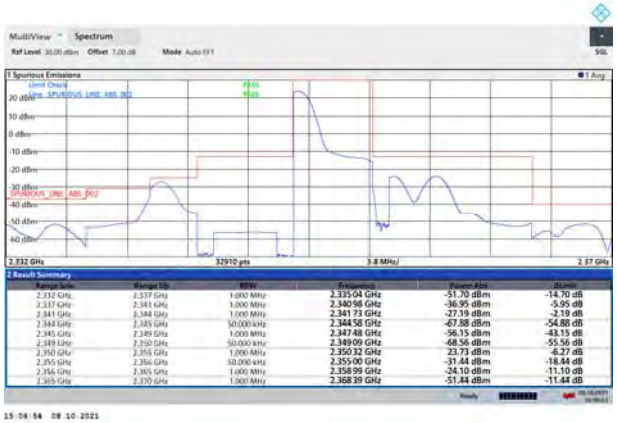
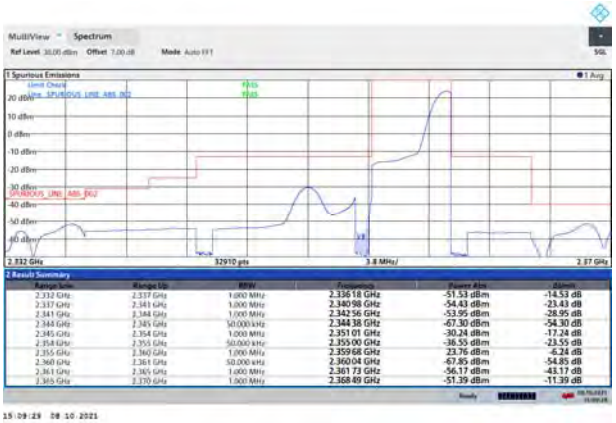
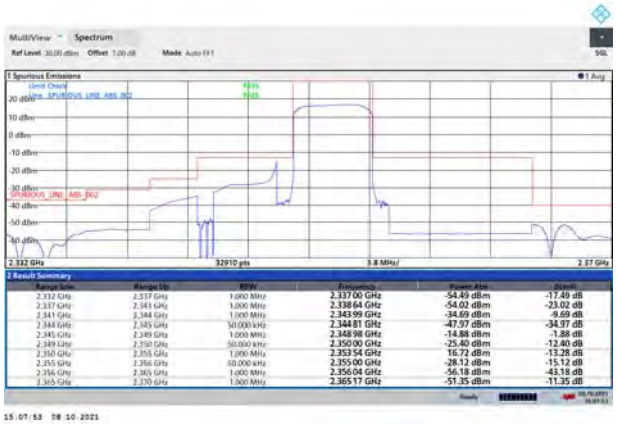
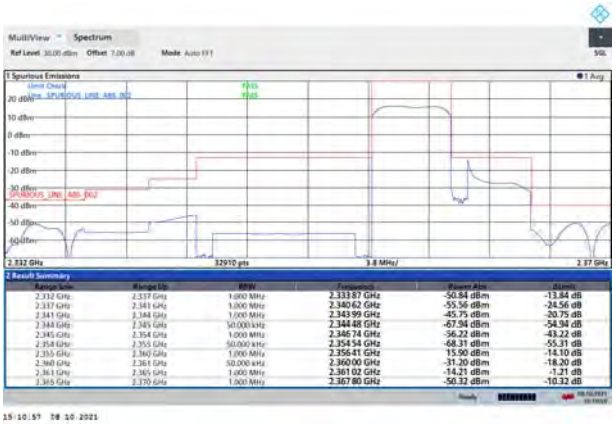
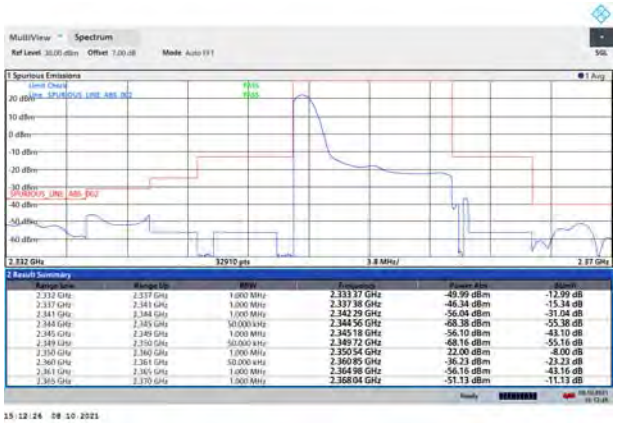
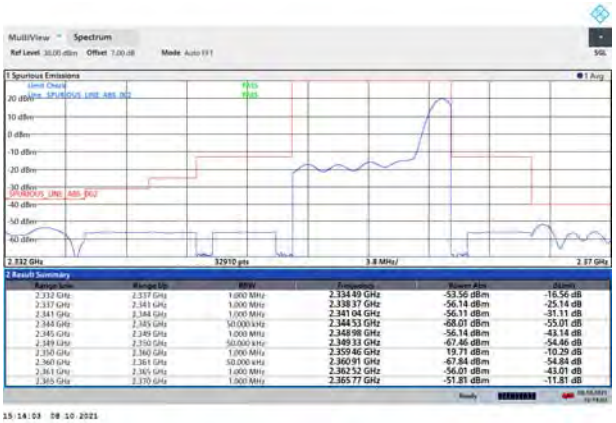
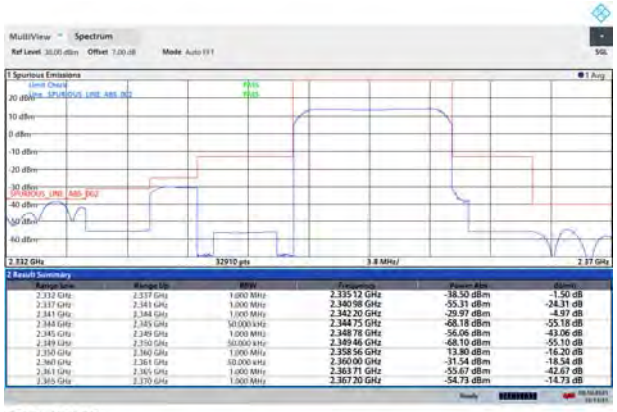
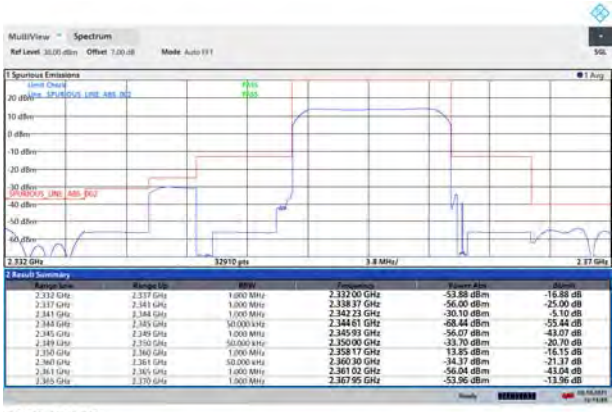
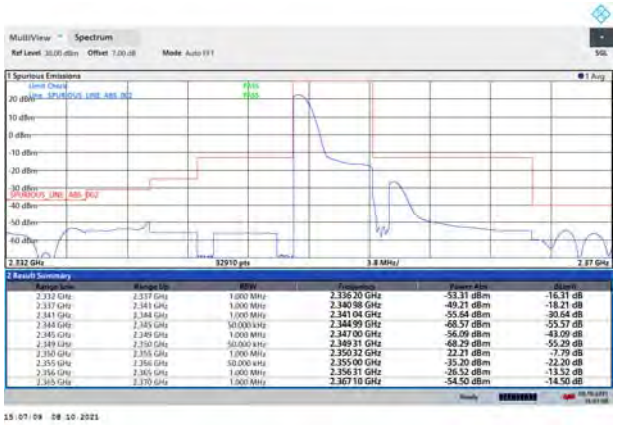
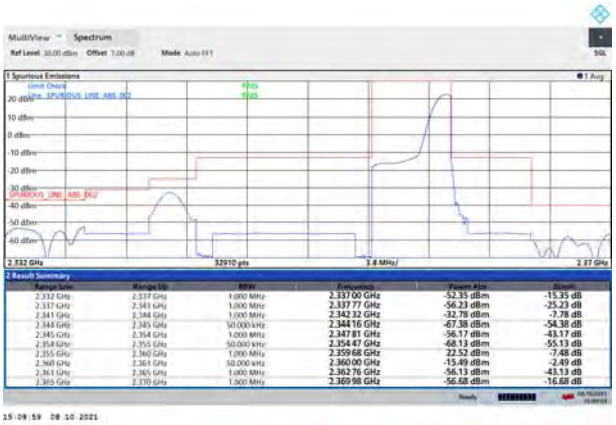
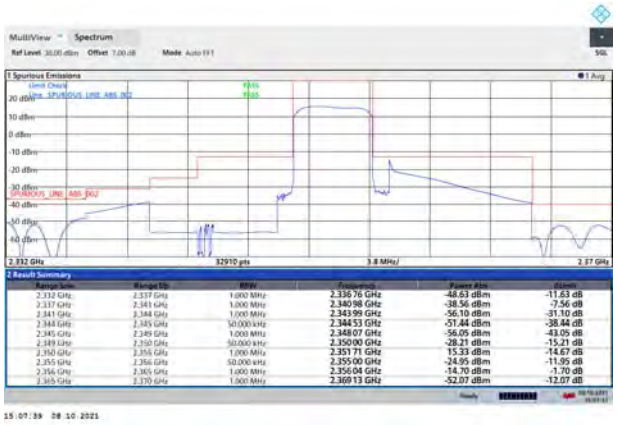
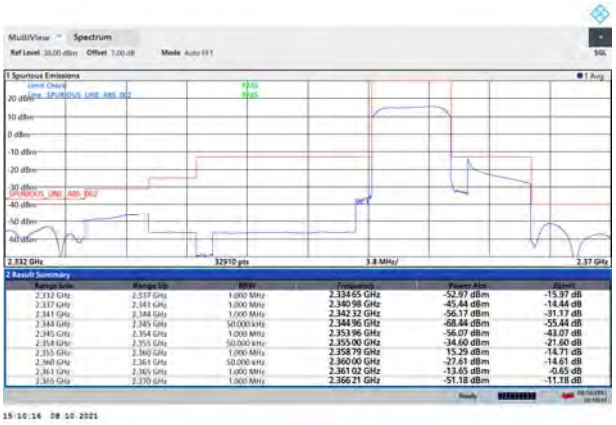
LTE Band 38 16QAM 20MHz CH-Low, 100%RB	LTE Band 38 16QAM 20MHz CH-High, 100%RB
	

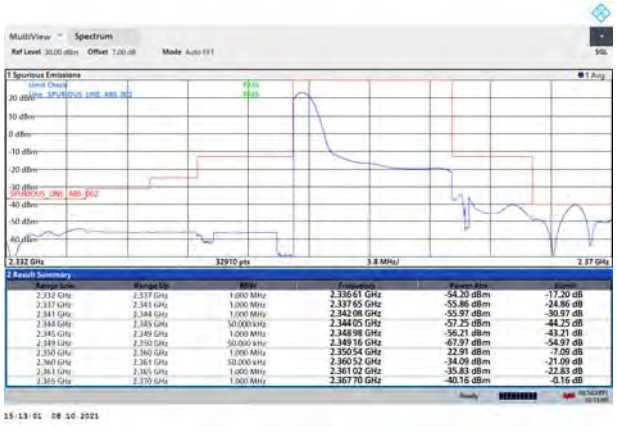
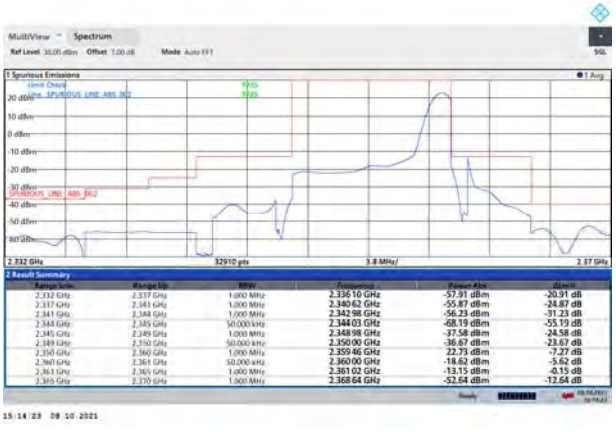
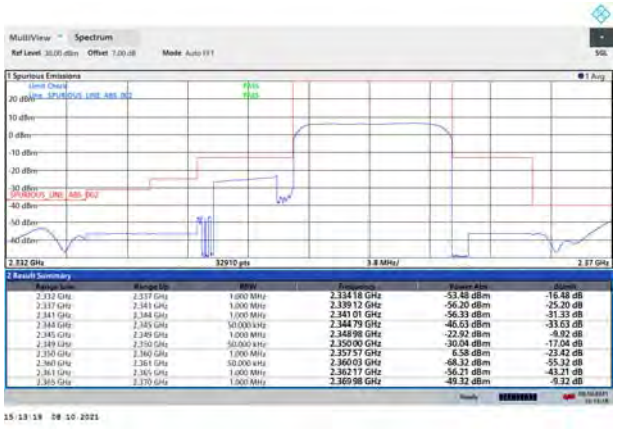
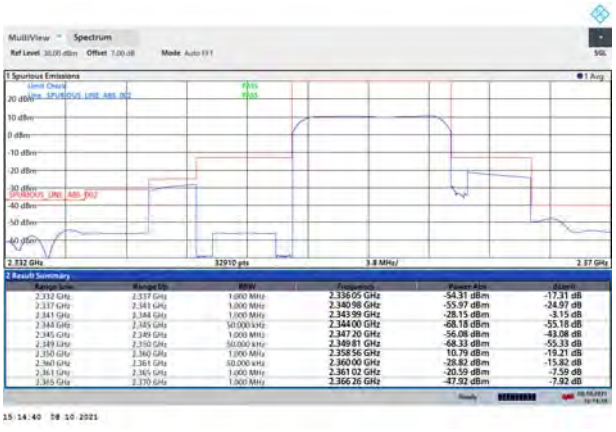
LTE Band 40 Subset 1 QPSK 5MHz CH-Low, 1 RB	LTE Band 40 Subset 1 QPSK 5MHz CH-High, 1 RB
	
LTE Band 40 Subset 1 QPSK 5MHz CH-Low, 100%RB	LTE Band 40 Subset 1 QPSK 5MHz CH-High, 100%RB
	
LTE Band 40 Subset 1 QPSK 10MHz CH-Low, 1 RB	LTE Band 40 Subset 1 QPSK 10MHz CH-High, 1 RB
	

LTE Band 40 Subset 1 QPSK 10MHz CH-Low, 100%RB	LTE Band 40 Subset 1 QPSK 10MHz CH-High, 100%RB
	
LTE Band 40 Subset 1 16QAM 5MHz CH-Low, 1 RB	LTE Band 40 Subset 1 16QAM 5MHz CH-High, 1 RB
	
LTE Band 40 Subset 1 16QAM 5MHz CH-Low, 100%RB	LTE Band 40 Subset 1 16QAM 5MHz CH-High, 100%RB
	

LTE Band 40 Subset 1 16QAM 10MHz CH-Low, 1 RB	LTE Band 40 Subset 1 16QAM 10MHz CH-High, 1 RB
	
LTE Band 40 Subset 1 16QAM 10MHz CH-Low, 100%RB	LTE Band 40 Subset 1 16QAM 10MHz CH-High, 100%RB
	

LTE Band 40 Subset 2 QPSK 5MHz CH-Low, 1 RB	LTE Band 40 Subset 2 QPSK 5MHz CH-High, 1 RB
	
LTE Band 40 Subset 2 QPSK 5MHz CH-Low, 100%RB	LTE Band 40 Subset 2 QPSK 5MHz CH-High, 100%RB
	
LTE Band 40 Subset 2 QPSK 10MHz CH-Low, 1 RB	LTE Band 40 Subset 2 QPSK 10MHz CH-High, 1 RB
	

LTE Band 40 Subset 2 QPSK 10MHz CH-Low, 100%RB	LTE Band 40 Subset 2 QPSK 10MHz CH-High, 100%RB
	
LTE Band 40 Subset 2 16QAM 5MHz CH-Low, 1 RB	LTE Band 40 Subset 2 16QAM 5MHz CH-High, 1 RB
	
LTE Band 40 Subset 2 16QAM 5MHz CH-Low, 100%RB	LTE Band 40 Subset 2 16QAM 5MHz CH-High, 100%RB
	

LTE Band 40 Subset 2 16QAM 10MHz CH-Low, 1 RB	LTE Band 40 Subset 2 16QAM 10MHz CH-High, 1 RB
	
LTE Band 40 Subset 2 16QAM 10MHz CH-Low, 100%RB	LTE Band 40 Subset 2 16QAM 10MHz CH-High, 100%RB
	

LTE Band 66 QPSK 1.4MHz CH-Low, 1 RB

LTE Band 66 QPSK 1.4MHz CH-High, 1 RB

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

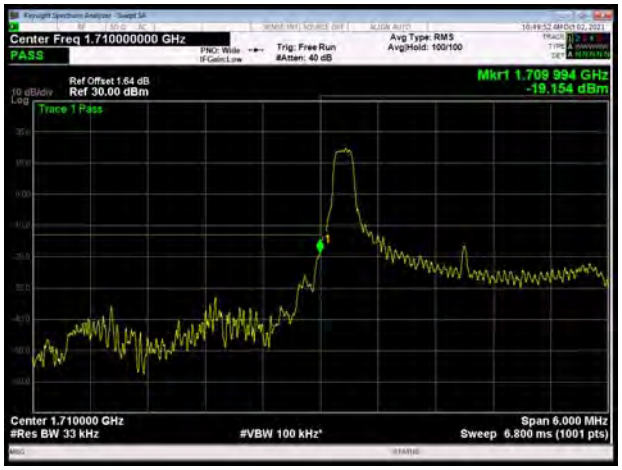
LTE Band 66 16QAM 1.4MHz CH-Low, 1 RB

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

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

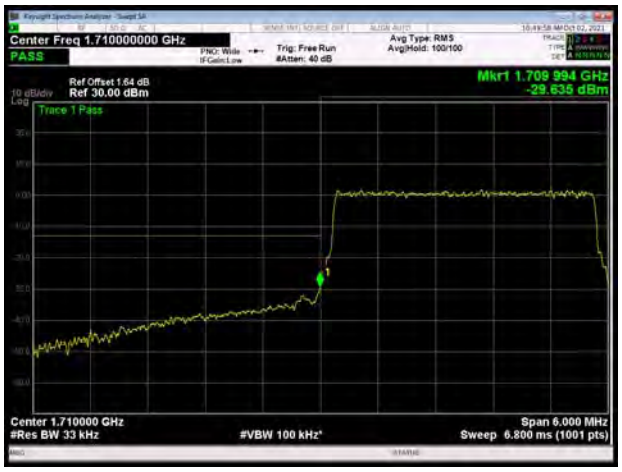
LTE Band 66 16QAM 1.4MHz CH-High, 100%RB

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



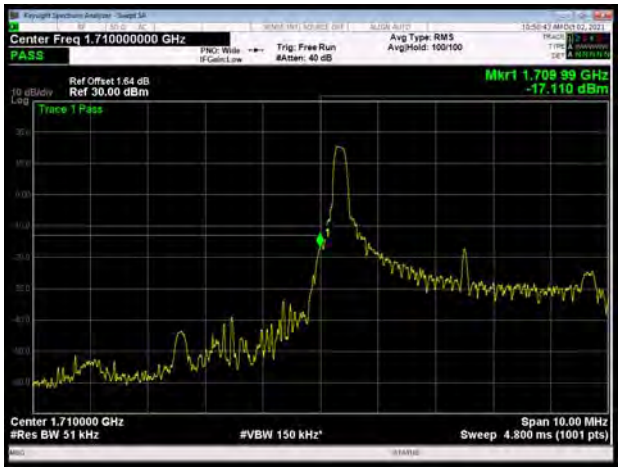
LTE Band 66 16QAM 3MHz CH-High, 1 RB

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



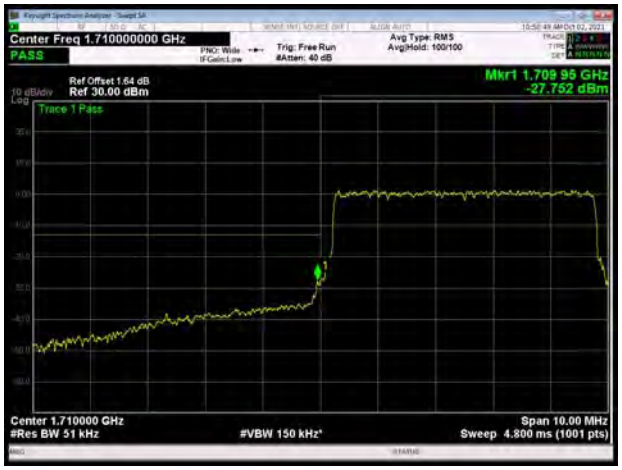
LTE Band 66 16QAM 3MHz CH-High, 100%RB

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



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

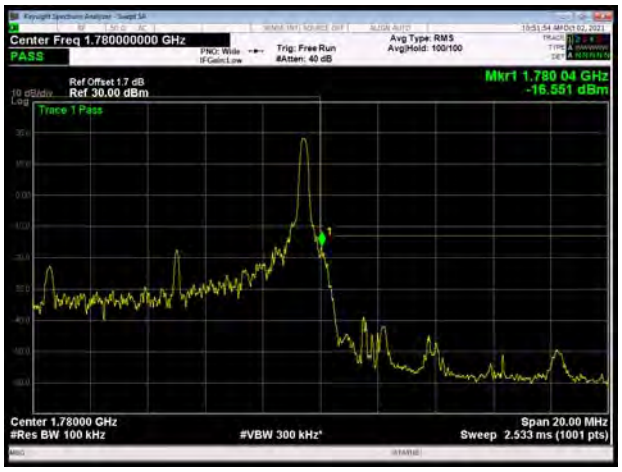
LTE Band 66 16QAM 5MHz CH-Low, 100%RB



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

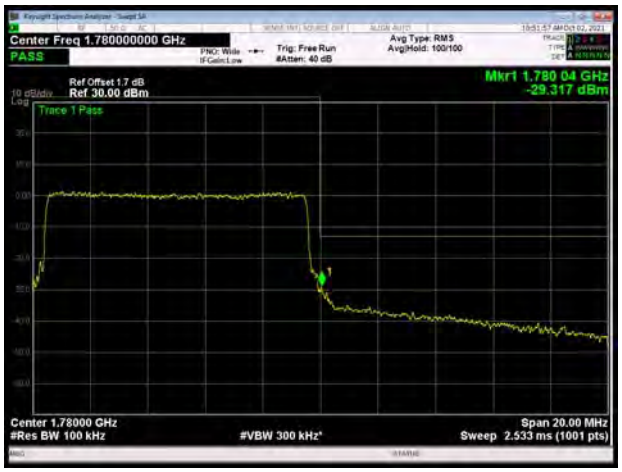
LTE Band 66 16QAM 10MHz CH-Low, 1 RB

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



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

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



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

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

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

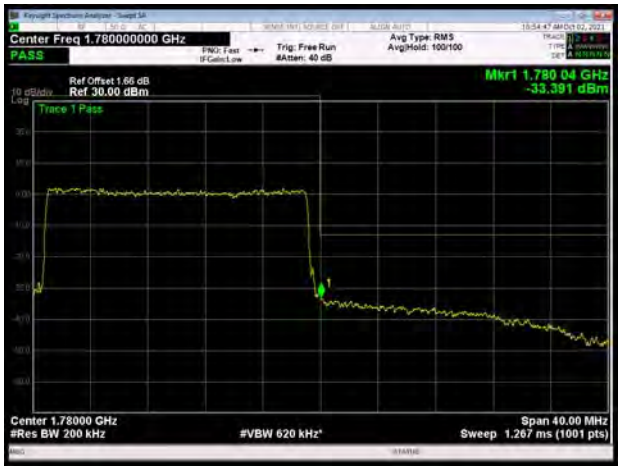
LTE Band 66 16QAM 15MHz CH-High, 100%RB

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

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

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

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



5.4 Peak-to-Average Power Ratio (PAPR)

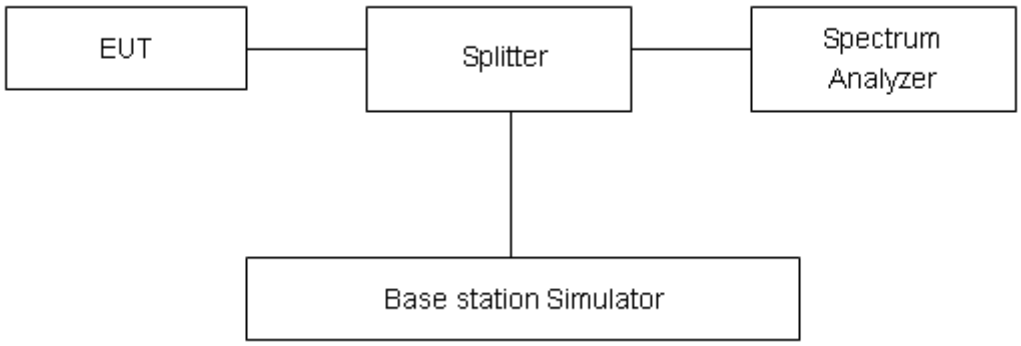
Ambient condition

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	25.42	22.14	3.28	≤13	PASS
	1413	1732.6	25.47	22.18	3.29	≤13	PASS
	1513	1752.6	24.62	21.37	3.25	≤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	26.85	20.98	5.87	≤13	PASS
		20175	1732.5	27.41	21.37	6.04	≤13	PASS
		20393	1754.3	27.11	21.15	5.96	≤13	PASS
	3	19965	1711.5	26.45	20.58	5.87	≤13	PASS
		20175	1732.5	27.01	20.94	6.07	≤13	PASS
		20385	1753.5	26.82	20.76	6.06	≤13	PASS
	5	19975	1712.5	26.49	20.68	5.81	≤13	PASS
		20175	1732.5	27.01	21.06	5.95	≤13	PASS
		20375	1752.5	26.91	20.88	6.03	≤13	PASS
	10	20000	1715	26.50	20.65	5.85	≤13	PASS
		20175	1732.5	27.09	21.10	5.99	≤13	PASS
		20350	1750	27.08	21.00	6.08	≤13	PASS
	15	20025	1717.5	27.20	21.01	6.19	≤13	PASS
		20175	1732.5	27.50	21.18	6.32	≤13	PASS
		20325	1747.5	27.37	21.03	6.34	≤13	PASS
	20	20050	1720	27.08	21.21	5.87	≤13	PASS
		20175	1732.5	27.27	21.24	6.03	≤13	PASS
		20300	1745	27.09	21.00	6.09	≤13	PASS
16QAM	1.4	19957	1710.7	26.50	19.77	6.73	≤13	PASS
		20175	1732.5	26.73	20.15	6.58	≤13	PASS
		20393	1754.3	26.63	19.83	6.80	≤13	PASS
	3	19965	1711.5	26.10	19.40	6.70	≤13	PASS
		20175	1732.5	26.24	19.68	6.56	≤13	PASS
		20385	1753.5	26.11	19.43	6.68	≤13	PASS
	5	19975	1712.5	26.08	19.49	6.59	≤13	PASS
		20175	1732.5	26.29	19.82	6.47	≤13	PASS
		20375	1752.5	26.20	19.52	6.68	≤13	PASS
	10	20000	1715	26.13	19.43	6.70	≤13	PASS
		20175	1732.5	26.31	19.86	6.45	≤13	PASS
		20350	1750	26.30	19.62	6.68	≤13	PASS

	15	20025	1717.5	26.50	19.77	6.73	≤13	PASS
		20175	1732.5	26.55	19.93	6.62	≤13	PASS
		20325	1747.5	26.40	19.66	6.74	≤13	PASS
	20	20050	1720	26.62	19.95	6.67	≤13	PASS
		20175	1732.5	26.54	20.00	6.54	≤13	PASS
		20300	1745	26.34	19.63	6.71	≤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	24.38	18.85	5.53	≤13	PASS
		21100	2535	24.69	18.99	5.70	≤13	PASS
		21425	2567.5	24.30	18.75	5.55	≤13	PASS
	10	20800	2505	24.67	19.17	5.50	≤13	PASS
		21100	2535	24.78	19.06	5.72	≤13	PASS
		21400	2565	24.60	19.07	5.53	≤13	PASS
	15	20825	2507.5	25.11	19.28	5.83	≤13	PASS
		21100	2535	25.21	19.15	6.06	≤13	PASS
		21375	2562.5	25.03	19.08	5.95	≤13	PASS
	20	20850	2510	24.94	19.28	5.66	≤13	PASS
		21100	2535	25.09	19.24	5.85	≤13	PASS
		21350	2560	25.13	19.42	5.71	≤13	PASS
16QAM	5	20775	2502.5	24.79	18.88	5.91	≤13	PASS
		21100	2535	25.07	19.01	6.06	≤13	PASS
		21425	2567.5	24.69	18.75	5.94	≤13	PASS
	10	20800	2505	25.00	19.17	5.83	≤13	PASS
		21100	2535	25.13	19.06	6.07	≤13	PASS
		21400	2565	24.97	19.06	5.91	≤13	PASS
	15	20825	2507.5	25.33	19.28	6.05	≤13	PASS
		21100	2535	25.38	19.15	6.23	≤13	PASS
		21375	2562.5	25.26	19.08	6.18	≤13	PASS
	20	20850	2510	25.38	19.27	6.11	≤13	PASS
		21100	2535	25.48	19.23	6.25	≤13	PASS
		21350	2560	25.53	19.43	6.10	≤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	25.51	20.72	4.79	≤13	PASS
		38000	2595	26.33	19.55	6.78	≤13	PASS
		38225	2617.5	26.48	19.63	6.85	≤13	PASS
	10	37800	2575	25.74	20.88	4.86	≤13	PASS
		38000	2595	26.41	19.28	7.13	≤13	PASS
		38200	2615	26.68	19.95	6.73	≤13	PASS
	15	37825	2577.5	26.33	19.72	6.61	≤13	PASS
		38000	2595	26.84	19.94	6.90	≤13	PASS
		38175	2612.5	27.01	19.63	7.38	≤13	PASS
	20	37850	2580	26.78	20.36	6.42	≤13	PASS
		38000	2595	26.93	19.78	7.15	≤13	PASS
		38150	2610	27.03	19.81	7.22	≤13	PASS
16QAM	5	37775	2572.5	25.34	18.41	6.93	≤13	PASS
		38000	2595	25.58	18.32	7.26	≤13	PASS
		38225	2617.5	25.69	18.66	7.03	≤13	PASS
	10	37800	2575	25.55	18.70	6.85	≤13	PASS
		38000	2595	25.65	18.45	7.20	≤13	PASS
		38200	2615	25.93	19.68	6.25	≤13	PASS
	15	37825	2577.5	26.07	19.50	6.57	≤13	PASS
		38000	2595	25.93	18.40	7.53	≤13	PASS
		38175	2612.5	26.07	18.55	7.52	≤13	PASS
	20	37850	2580	26.34	19.14	7.20	≤13	PASS
		38000	2595	26.10	18.75	7.35	≤13	PASS
		38150	2610	26.21	18.76	7.45	≤13	PASS

LTE Band 40 Subset 1								
Modulation	Bandwidth (MHz)	Channel	Frequency (MHz)	Peak (dBm)	Avg (dBm)	PAPR (dB)	Limit (dB)	Conclusion
QPSK	5	38725	2307.5	25.24	15.69	9.55	≤13	PASS
		38750	2310	24.96	14.37	10.59	≤13	PASS
		38775	2312.5	25.29	15.90	9.39	≤13	PASS
	10	38750	2310	25.10	15.51	9.59	≤13	PASS

16QAM	5	38725	2307.5	25.64	15.26	10.38	≤13	PASS
		38750	2310	25.70	16.13	9.57	≤13	PASS
		38775	2312.5	25.81	16.34	9.47	≤13	PASS
	10	38750	2310	25.66	14.99	10.67	≤13	PASS

LTE Band 40 Subset 2								
Modulation	**Bandwidth (MHz)**	**Channel**	**Frequency (MHz)**	**Peak (dBm)**	**Avg (dBm)**	**PAPR (dB)**	**Limit (dB)**	**Conclusion**
QPSK	5	39175	2352.5	25.32	16.14	9.18	≤13	PASS
		39200	2355	25.47	16.43	9.04	≤13	PASS
		39225	2357.5	25.33	15.73	9.60	≤13	PASS
	10	39200	2355	25.38	14.83	10.55	≤13	PASS
16QAM	5	39175	2352.5	25.84	16.23	9.61	≤13	PASS
		39200	2355	25.97	16.39	9.58	≤13	PASS
		39225	2357.5	25.85	15.80	10.05	≤13	PASS
	10	39200	2355	25.79	13.77	12.02	≤13	PASS

LTE Band 66								
Modulation	**Bandwidth (MHz)**	**Channel**	**Frequency (MHz)**	**Peak (dBm)**	**Avg (dBm)**	**PAPR (dB)**	**Limit (dB)**	**Conclusion**
QPSK	1.4	131979	1710.7	26.86	21.25	5.61	≤13	PASS
		132322	1745	27.15	21.18	5.97	≤13	PASS
		132665	1779.3	27.00	20.91	6.09	≤13	PASS
	3	131987	1711.5	26.68	20.92	5.76	≤13	PASS
		132322	1745	26.66	20.62	6.04	≤13	PASS
		132657	1778.5	26.48	20.26	6.22	≤13	PASS
	5	131997	1712.5	26.45	20.51	5.94	≤13	PASS
		132322	1745	26.85	20.90	5.95	≤13	PASS
		132647	1777.5	26.58	20.43	6.15	≤13	PASS
	10	132022	1715	26.45	20.50	5.95	≤13	PASS
		132322	1745	26.85	20.88	5.97	≤13	PASS
		132622	1775	26.78	20.54	6.24	≤13	PASS
	15	132047	1717.5	27.43	21.43	6.00	≤13	PASS
		132322	1745	27.17	20.90	6.27	≤13	PASS
		132597	1772.5	27.23	20.85	6.38	≤13	PASS
	20	132072	1720	27.44	21.65	5.79	≤13	PASS
		132322	1745	26.90	20.89	6.01	≤13	PASS
		132572	1770	27.21	21.05	6.16	≤13	PASS

16QAM	1.4	131979	1710.7	26.16	19.55	6.61	≤13	PASS
		132322	1745	26.45	19.76	6.69	≤13	PASS
		132665	1779.3	26.34	19.69	6.65	≤13	PASS
	3	131987	1711.5	25.95	19.18	6.77	≤13	PASS
		132322	1745	25.86	19.16	6.70	≤13	PASS
		132657	1778.5	25.97	19.26	6.71	≤13	PASS
	5	131997	1712.5	26.13	19.46	6.67	≤13	PASS
		132322	1745	26.17	19.42	6.75	≤13	PASS
		132647	1777.5	25.94	19.24	6.70	≤13	PASS
	10	132022	1715	26.12	19.38	6.74	≤13	PASS
		132322	1745	26.20	19.41	6.79	≤13	PASS
		132622	1775	25.97	19.31	6.66	≤13	PASS
	15	132047	1717.5	26.52	19.71	6.81	≤13	PASS
		132322	1745	26.22	19.42	6.80	≤13	PASS
		132597	1772.5	26.33	19.63	6.70	≤13	PASS
	20	132072	1720	26.63	19.85	6.78	≤13	PASS
		132322	1745	26.16	19.42	6.74	≤13	PASS
		132572	1770	26.46	19.82	6.64	≤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.

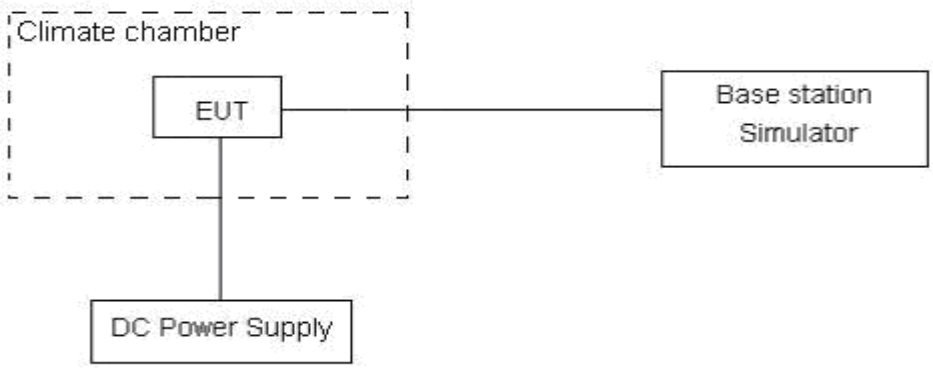
Frequency Stability (Voltage Variation)

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 10.8 V and 13.2 V, with a nominal voltage of 12V.

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

WCDMA Band IV						
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability （ppm）	Frequency Stability （ppm）	Verdict
Temperature	Voltage	QPSK	BPSK	QPSK	BPSK	
Normal（25℃）	Normal	1.45	9.91	0.00084	0.00572	PASS
Extreme（50℃）		9.64	11.61	0.00556	0.00670	PASS
Extreme（40℃）		8.52	5.29	0.00492	0.00305	PASS
Extreme（30℃）		17.25	10.25	0.00996	0.00592	PASS
Extreme（20℃）		8.59	12.44	0.00496	0.00718	PASS
Extreme（10℃）		5.48	16.10	0.00316	0.00929	PASS
Extreme（0℃）		3.94	11.89	0.00228	0.00686	PASS
Extreme（-10℃）		12.38	11.62	0.00714	0.00671	PASS
Extreme（-20℃）		7.51	3.56	0.00433	0.00205	PASS
Extreme（-30℃）		5.99	17.75	0.00346	0.01024	PASS
25℃	LV	11.58	1.74	0.00668	0.00100	PASS
	HV	7.01	7.98	0.00405	0.00461	PASS

LTE Band 4						
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability （ppm）	Frequency Stability （ppm）	Verdict
BANDWIDTH	1.4MHz					
Temperature	Voltage	16QAM	QPSK	16QAM	QPSK	
Normal（25℃）	Normal	7.47	7.54	0.00431	0.00435	PASS
Extreme（50℃）		12.16	12.81	0.00702	0.00739	PASS
Extreme（40℃）		11.78	5.33	0.00680	0.00308	PASS
Extreme（30℃）		14.82	12.87	0.00855	0.00743	PASS
Extreme（20℃）		13.55	13.58	0.00782	0.00784	PASS
Extreme（10℃）		17.48	8.10	0.01009	0.00468	PASS
Extreme（0℃）		12.32	7.58	0.00711	0.00437	PASS
Extreme（-10℃）		11.58	5.98	0.00669	0.00345	PASS
Extreme（-20℃）		14.54	8.60	0.00839	0.00496	PASS
Extreme（-30℃）		1.90	17.03	0.00109	0.00983	PASS
25℃	LV	2.71	12.28	0.00156	0.00709	PASS
	HV	11.57	2.26	0.00668	0.00131	PASS

Condition		Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability （ppm）	Frequency Stability （ppm）	Verdict
BANDWIDTH	3MHz					
Temperature	Voltage	16QAM	QPSK	16QAM	QPSK	
Normal（25℃）	Normal	2.15	1.67	0.00124	0.00097	PASS
Extreme（50℃）		7.40	16.78	0.00427	0.00968	PASS
Extreme（40℃）		12.65	16.02	0.00730	0.00925	PASS
Extreme（30℃）		1.37	14.90	0.00079	0.00860	PASS
Extreme（20℃）		4.30	7.06	0.00248	0.00408	PASS
Extreme（10℃）		15.96	10.76	0.00921	0.00621	PASS
Extreme（0℃）		1.53	6.24	0.00088	0.00360	PASS
Extreme（-10℃）		6.87	10.48	0.00396	0.00605	PASS
Extreme（-20℃）		9.02	16.39	0.00521	0.00946	PASS
Extreme（-30℃）		4.78	2.21	0.00276	0.00127	PASS
25℃	LV	3.26	16.92	0.00188	0.00976	PASS
	HV	12.13	17.16	0.00700	0.00991	PASS
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability （ppm）	Frequency Stability （ppm）	Verdict
BANDWIDTH	5MHz					
Temperature	Voltage	16QAM	QPSK	16QAM	QPSK	
Normal（25℃）	Normal	10.68	17.26	0.00616	0.00996	PASS
Extreme（50℃）		17.58	13.21	0.01015	0.00762	PASS
Extreme（40℃）		13.59	7.33	0.00784	0.00423	PASS
Extreme（30℃）		4.19	6.99	0.00242	0.00403	PASS
Extreme（20℃）		6.92	13.63	0.00399	0.00787	PASS
Extreme（10℃）		13.46	14.94	0.00777	0.00862	PASS
Extreme（0℃）		12.19	12.30	0.00704	0.00710	PASS
Extreme（-10℃）		16.48	6.38	0.00951	0.00368	PASS
Extreme（-20℃）		15.23	14.26	0.00879	0.00823	PASS
Extreme（-30℃）		7.67	12.91	0.00443	0.00745	PASS
25℃	LV	3.20	3.39	0.00184	0.00196	PASS
	HV	5.96	5.41	0.00344	0.00312	PASS
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability （ppm）	Frequency Stability （ppm）	Verdict
BANDWIDTH	10MHz					
Temperature	Voltage	16QAM	QPSK	16QAM	QPSK	
Normal（25℃）	Normal	9.89	16.02	0.00571	0.00925	PASS
Extreme（50℃）		16.42	14.96	0.00948	0.00863	PASS
Extreme（40℃）		5.21	4.82	0.00301	0.00278	PASS
Extreme（30℃）		15.76	12.93	0.00910	0.00746	PASS

Extreme（20℃）		3.54	9.64	0.00205	0.00556	PASS
Extreme（10℃）		6.10	13.81	0.00352	0.00797	PASS
Extreme（0℃）		1.56	10.95	0.00090	0.00632	PASS
Extreme（-10℃）		2.38	4.25	0.00137	0.00245	PASS
Extreme（-20℃）		6.06	16.32	0.00350	0.00942	PASS
Extreme（-30℃）		1.25	4.39	0.00072	0.00254	PASS
25℃	LV	10.63	7.10	0.00614	0.00410	PASS
	HV	5.04	1.60	0.00291	0.00092	PASS
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability（ppm）	Frequency Stability（ppm）	Verdict
BANDWIDTH	15MHz					
Temperature	Voltage	16QAM	QPSK	16QAM	QPSK	
Normal（25℃）	Normal	2.78	5.70	0.00160	0.00329	PASS
Extreme（50℃）		15.27	5.51	0.00882	0.00318	PASS
Extreme（40℃）		10.59	9.44	0.00611	0.00545	PASS
Extreme（30℃）		11.73	15.11	0.00677	0.00872	PASS
Extreme（20℃）		12.35	5.60	0.00713	0.00323	PASS
Extreme（10℃）		10.85	1.31	0.00626	0.00075	PASS
Extreme（0℃）		15.04	7.41	0.00868	0.00428	PASS
Extreme（-10℃）		1.29	2.42	0.00074	0.00140	PASS
Extreme（-20℃）		11.80	15.14	0.00681	0.00874	PASS
Extreme（-30℃）		17.35	6.95	0.01002	0.00401	PASS
25℃	LV	11.60	16.87	0.00669	0.00974	PASS
	HV	14.15	12.12	0.00817	0.00700	PASS
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability（ppm）	Frequency Stability（ppm）	Verdict
BANDWIDTH	20MHz					
Temperature	Voltage	16QAM	QPSK	16QAM	QPSK	
Normal（25℃）	Normal	9.79	3.84	0.00565	0.00222	PASS
Extreme（50℃）		16.10	13.66	0.00929	0.00789	PASS
Extreme（40℃）		8.28	8.81	0.00478	0.00509	PASS
Extreme（30℃）		1.59	4.85	0.00092	0.00280	PASS
Extreme（20℃）		15.38	15.07	0.00888	0.00870	PASS
Extreme（10℃）		2.07	7.05	0.00120	0.00407	PASS
Extreme（0℃）		5.32	4.81	0.00307	0.00278	PASS
Extreme（-10℃）		1.13	15.56	0.00065	0.00898	PASS
Extreme（-20℃）		2.63	4.33	0.00152	0.00250	PASS
Extreme（-30℃）		3.05	2.78	0.00176	0.00160	PASS
25℃	LV	10.94	11.36	0.00632	0.00655	PASS
	HV	13.22	15.38	0.00763	0.00888	PASS

LTE Band 7						
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability （ppm）	Frequency Stability （ppm）	Verdict
BANDWIDTH	5MHz					
Temperature	Voltage	16QAM	QPSK	16QAM	QPSK	
Normal（25℃）	Normal	5.19	7.42	0.00205	0.00293	PASS
Extreme（50℃）		10.02	6.28	0.00395	0.00248	PASS
Extreme（40℃）		4.19	7.37	0.00165	0.00291	PASS
Extreme（30℃）		7.27	2.99	0.00287	0.00118	PASS
Extreme（20℃）		10.83	10.71	0.00427	0.00423	PASS
Extreme（10℃）		13.06	6.08	0.00515	0.00240	PASS
Extreme（0℃）		10.43	10.31	0.00411	0.00407	PASS
Extreme（-10℃）		15.20	5.14	0.00600	0.00203	PASS
Extreme（-20℃）		12.97	13.06	0.00512	0.00515	PASS
Extreme（-30℃）		6.17	11.77	0.00243	0.00464	PASS
25℃	LV	2.13	13.83	0.00084	0.00545	PASS
	HV	4.50	8.02	0.00178	0.00317	PASS
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability （ppm）	Frequency Stability （ppm）	Verdict
BANDWIDTH	10MHz					
Temperature	Voltage	16QAM	QPSK	16QAM	QPSK	
Normal（25℃）	Normal	4.69	16.61	0.00185	0.00655	PASS
Extreme（50℃）		1.55	5.42	0.00061	0.00214	PASS
Extreme（40℃）		1.11	5.83	0.00044	0.00230	PASS
Extreme（30℃）		10.46	9.04	0.00412	0.00357	PASS
Extreme（20℃）		8.44	13.01	0.00333	0.00513	PASS
Extreme（10℃）		14.63	9.22	0.00577	0.00364	PASS
Extreme（0℃）		6.06	11.57	0.00239	0.00456	PASS
Extreme（-10℃）		4.41	11.40	0.00174	0.00450	PASS
Extreme（-20℃）		16.74	1.63	0.00660	0.00064	PASS
Extreme（-30℃）		17.52	12.49	0.00691	0.00493	PASS
25℃	LV	16.94	10.93	0.00668	0.00431	PASS
	HV	6.93	5.83	0.00273	0.00230	PASS
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability （ppm）	Frequency Stability （ppm）	Verdict
BANDWIDTH	15MHz					
Temperature	Voltage	16QAM	QPSK	16QAM	QPSK	
Normal（25℃）	Normal	4.46	10.27	0.00176	0.00405	PASS
Extreme（50℃）		4.78	5.51	0.00188	0.00217	PASS

Extreme（40℃）		10.75	12.40	0.00424	0.00489	PASS
Extreme（30℃）		2.98	8.69	0.00118	0.00343	PASS
Extreme（20℃）		7.70	17.87	0.00304	0.00705	PASS
Extreme（10℃）		11.74	11.50	0.00463	0.00453	PASS
Extreme（0℃）		5.79	15.01	0.00228	0.00592	PASS
Extreme（-10℃）		15.53	5.99	0.00613	0.00236	PASS
Extreme（-20℃）		3.21	6.80	0.00127	0.00268	PASS
Extreme（-30℃）		10.18	13.17	0.00402	0.00520	PASS
25℃	LV	5.10	11.34	0.00201	0.00447	PASS
	HV	16.58	3.39	0.00654	0.00134	PASS
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability（ppm）	Frequency Stability（ppm）	Verdict
BANDWIDTH	20MHz					
Temperature	Voltage	16QAM	QPSK	16QAM	QPSK	
Normal（25℃）	Normal	10.21	1.48	0.00403	0.00058	PASS
Extreme（50℃）		12.40	9.45	0.00489	0.00373	PASS
Extreme（40℃）		7.41	5.65	0.00292	0.00223	PASS
Extreme（30℃）		3.43	3.74	0.00135	0.00147	PASS
Extreme（20℃）		7.32	16.19	0.00289	0.00639	PASS
Extreme（10℃）		1.82	15.30	0.00072	0.00603	PASS
Extreme（0℃）		4.87	13.59	0.00192	0.00536	PASS
Extreme（-10℃）		2.22	10.85	0.00088	0.00428	PASS
Extreme（-20℃）		13.92	13.11	0.00549	0.00517	PASS
Extreme（-30℃）		12.55	8.88	0.00495	0.00350	PASS
25℃	LV	14.82	16.13	0.00584	0.00636	PASS
	HV	7.68	4.05	0.00303	0.00160	PASS

LTE Band 38						
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability（ppm）	Frequency Stability（ppm）	Verdict
BANDWIDTH	5MHz					
Temperature	Voltage	16QAM	QPSK	16QAM	QPSK	
Normal（25℃）	Normal	12.61	13.23	0.00486	0.00510	PASS
Extreme（50℃）		14.00	9.92	0.00539	0.00382	PASS
Extreme（40℃）		17.25	14.74	0.00665	0.00568	PASS
Extreme（30℃）		3.53	6.54	0.00136	0.00252	PASS
Extreme（20℃）		15.11	6.52	0.00582	0.00251	PASS
Extreme（10℃）		10.50	9.32	0.00405	0.00359	PASS
Extreme（0℃）		10.09	4.22	0.00389	0.00163	PASS
Extreme（-10℃）		14.37	2.10	0.00554	0.00081	PASS
Extreme（-20℃）		4.62	16.92	0.00178	0.00652	PASS

Extreme（-30℃）		12.52	9.77	0.00483	0.00376	PASS
25℃	LV	17.72	3.16	0.00683	0.00122	PASS
	HV	17.67	5.48	0.00681	0.00211	PASS
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability（ppm）	Frequency Stability（ppm）	Verdict
BANDWIDTH	10MHz					
Temperature	Voltage	16QAM	QPSK	16QAM	QPSK	
Normal（25℃）	Normal	10.30	2.41	0.00397	0.00093	PASS
Extreme（50℃）		4.77	15.74	0.00184	0.00607	PASS
Extreme（40℃）		11.81	5.65	0.00455	0.00218	PASS
Extreme（30℃）		17.96	17.89	0.00692	0.00690	PASS
Extreme（20℃）		3.09	12.80	0.00119	0.00493	PASS
Extreme（10℃）		2.12	10.69	0.00082	0.00412	PASS
Extreme（0℃）		15.53	15.13	0.00598	0.00583	PASS
Extreme（-10℃）		6.06	3.44	0.00234	0.00132	PASS
Extreme（-20℃）		1.59	1.25	0.00061	0.00048	PASS
Extreme（-30℃）		13.64	8.99	0.00525	0.00347	PASS
25℃	LV	12.19	9.47	0.00470	0.00365	PASS
	HV	1.56	5.70	0.00060	0.00220	PASS
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability（ppm）	Frequency Stability（ppm）	Verdict
BANDWIDTH	15MHz					
Temperature	Voltage	16QAM	QPSK	16QAM	QPSK	
Normal（25℃）	Normal	13.40	2.59	0.00516	0.00100	PASS
Extreme（50℃）		14.87	15.23	0.00573	0.00587	PASS
Extreme（40℃）		11.99	10.44	0.00462	0.00402	PASS
Extreme（30℃）		17.91	8.21	0.00690	0.00316	PASS
Extreme（20℃）		6.06	2.75	0.00234	0.00106	PASS
Extreme（10℃）		9.32	6.51	0.00359	0.00251	PASS
Extreme（0℃）		11.97	16.78	0.00461	0.00647	PASS
Extreme（-10℃）		12.57	4.68	0.00484	0.00180	PASS
Extreme（-20℃）		7.83	16.71	0.00302	0.00644	PASS
Extreme（-30℃）		6.80	6.87	0.00262	0.00265	PASS
25℃	LV	3.04	3.79	0.00117	0.00146	PASS
	HV	14.89	6.40	0.00574	0.00247	PASS
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability（ppm）	Frequency Stability（ppm）	Verdict
BANDWIDTH	20MHz					
Temperature	Voltage	16QAM	QPSK	16QAM	QPSK	
Normal（25℃）	Normal	16.00	4.49	0.00617	0.00173	PASS

Extreme（50℃）		2.00	6.91	0.00077	0.00266	PASS
Extreme（40℃）		9.00	9.35	0.00347	0.00360	PASS
Extreme（30℃）		7.00	11.43	0.00270	0.00441	PASS
Extreme（20℃）		15.00	17.40	0.00578	0.00671	PASS
Extreme（10℃）		8.00	1.80	0.00308	0.00069	PASS
Extreme（0℃）		9.00	16.37	0.00347	0.00631	PASS
Extreme（-10℃）		10.00	3.13	0.00385	0.00121	PASS
Extreme（-20℃）		16.00	3.23	0.00617	0.00124	PASS
Extreme（-30℃）		15.00	10.23	0.00578	0.00394	PASS
25℃	LV	12.00	11.97	0.00462	0.00461	PASS
	HV	17.00	16.47	0.00655	0.00635	PASS

LTE Band 40 Subset 1						
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability （ppm）	Frequency Stability （ppm）	Verdict
BANDWIDTH	5MHz					
Temperature	Voltage	16QAM	QPSK	16QAM	QPSK	
Normal（25℃）	Normal	8.46	5.00	0.00366	0.00216	PASS
Extreme（50℃）		14.21	14.00	0.00615	0.00606	PASS
Extreme（40℃）		1.97	11.00	0.00085	0.00476	PASS
Extreme（30℃）		2.21	12.00	0.00096	0.00519	PASS
Extreme（20℃）		14.73	1.00	0.00638	0.00043	PASS
Extreme（10℃）		12.86	12.00	0.00557	0.00519	PASS
Extreme（0℃）		9.05	7.00	0.00392	0.00303	PASS
Extreme（-10℃）		16.47	7.00	0.00713	0.00303	PASS
Extreme（-20℃）		9.36	1.00	0.00405	0.00043	PASS
Extreme（-30℃）		7.50	3.00	0.00325	0.00130	PASS
25℃	LV	14.88	9.00	0.00644	0.00390	PASS
	HV	13.18	10.00	0.00571	0.00433	PASS
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability （ppm）	Frequency Stability （ppm）	Verdict
BANDWIDTH	10MHz					
Temperature	Voltage	16QAM	QPSK	16QAM	QPSK	
Normal（25℃）	Normal	11.02	1.00	0.00477	0.00043	PASS
Extreme（50℃）		4.60	14.00	0.00199	0.00606	PASS
Extreme（40℃）		5.84	6.00	0.00253	0.00260	PASS
Extreme（30℃）		7.08	5.00	0.00306	0.00216	PASS
Extreme（20℃）		2.20	16.00	0.00095	0.00693	PASS
Extreme（10℃）		11.77	11.00	0.00510	0.00476	PASS
Extreme（0℃）		11.19	6.00	0.00484	0.00260	PASS
Extreme（-10℃）		4.63	13.00	0.00200	0.00563	PASS

Extreme（-20℃）		17.06	3.00	0.00739	0.00130	PASS
Extreme（-30℃）		17.27	16.00	0.00748	0.00693	PASS
25℃	LV	14.39	7.00	0.00623	0.00303	PASS
	HV	3.68	10.00	0.00159	0.00433	PASS

LTE Band 40 Subset 2						
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability（ppm）	Frequency Stability（ppm）	Verdict
BANDWIDTH	5MHz					
Temperature	Voltage	16QAM	QPSK	16QAM	QPSK	
Normal（25℃）	Normal	5.54	9.00	0.00235	0.00382	PASS
Extreme（50℃）		2.32	6.00	0.00099	0.00255	PASS
Extreme（40℃）		9.11	14.00	0.00387	0.00594	PASS
Extreme（30℃）		12.45	1.00	0.00529	0.00042	PASS
Extreme（20℃）		14.55	14.00	0.00618	0.00594	PASS
Extreme（10℃）		5.40	8.00	0.00230	0.00340	PASS
Extreme（0℃）		6.23	11.00	0.00264	0.00467	PASS
Extreme（-10℃）		3.65	16.00	0.00155	0.00679	PASS
Extreme（-20℃）		6.68	9.00	0.00284	0.00382	PASS
Extreme（-30℃）		3.44	8.00	0.00146	0.00340	PASS
25℃	LV	12.26	17.00	0.00521	0.00722	PASS
	HV	3.89	4.00	0.00165	0.00170	PASS
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability（ppm）	Frequency Stability（ppm）	Verdict
BANDWIDTH	10MHz					
Temperature	Voltage	16QAM	QPSK	16QAM	QPSK	
Normal（25℃）	Normal	11.25	15.00	0.00478	0.00637	PASS
Extreme（50℃）		13.75	17.00	0.00584	0.00722	PASS
Extreme（40℃）		16.17	10.00	0.00686	0.00425	PASS
Extreme（30℃）		8.47	13.00	0.00360	0.00552	PASS
Extreme（20℃）		17.65	7.00	0.00750	0.00297	PASS
Extreme（10℃）		1.33	13.00	0.00056	0.00552	PASS
Extreme（0℃）		4.32	5.00	0.00184	0.00212	PASS
Extreme（-10℃）		10.34	17.00	0.00439	0.00722	PASS
Extreme（-20℃）		8.81	8.00	0.00374	0.00340	PASS
Extreme（-30℃）		9.05	4.00	0.00384	0.00170	PASS
25℃	LV	1.49	15.00	0.00063	0.00637	PASS
	HV	12.39	14.00	0.00526	0.00594	PASS

LTE Band 66						
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability （ppm）	Frequency Stability （ppm）	Verdict
BANDWIDTH	1.4MHz					
Temperature	Voltage	16QAM	QPSK	16QAM	QPSK	
Normal（25℃）	Normal	12.62	7.60	0.00723	0.00436	PASS
Extreme（50℃）		3.77	16.76	0.00216	0.00960	PASS
Extreme（40℃）		14.21	7.40	0.00814	0.00424	PASS
Extreme（30℃）		13.19	16.67	0.00756	0.00955	PASS
Extreme（20℃）		13.62	3.83	0.00780	0.00219	PASS
Extreme（10℃）		4.06	8.37	0.00233	0.00479	PASS
Extreme（0℃）		16.07	11.95	0.00921	0.00685	PASS
Extreme（-10℃）		15.23	4.13	0.00873	0.00237	PASS
Extreme（-20℃）		6.82	3.76	0.00391	0.00216	PASS
Extreme（-30℃）		3.59	2.65	0.00206	0.00152	PASS
25℃	LV	11.31	10.92	0.00648	0.00626	PASS
	HV	1.30	15.22	0.00074	0.00872	PASS
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability （ppm）	Frequency Stability （ppm）	Verdict
BANDWIDTH	3MHz					
Temperature	Voltage	16QAM	QPSK	16QAM	QPSK	
Normal（25℃）	Normal	15.73	6.43	0.00901	0.00369	PASS
Extreme（50℃）		17.52	5.23	0.01004	0.00300	PASS
Extreme（40℃）		5.17	13.85	0.00297	0.00794	PASS
Extreme（30℃）		15.68	6.27	0.00898	0.00359	PASS
Extreme（20℃）		3.30	4.64	0.00189	0.00266	PASS
Extreme（10℃）		13.86	10.45	0.00794	0.00599	PASS
Extreme（0℃）		17.16	14.71	0.00983	0.00843	PASS
Extreme（-10℃）		4.09	11.44	0.00234	0.00656	PASS
Extreme（-20℃）		3.16	8.49	0.00181	0.00486	PASS
Extreme（-30℃）		10.81	10.86	0.00620	0.00623	PASS
25℃	LV	5.31	6.53	0.00304	0.00374	PASS
	HV	7.71	17.37	0.00442	0.00995	PASS
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability （ppm）	Frequency Stability （ppm）	Verdict
BANDWIDTH	5MHz					
Temperature	Voltage	16QAM	QPSK	16QAM	QPSK	
Normal（25℃）	Normal	4.32	8.25	0.00248	0.00473	PASS
Extreme（50℃）		10.51	14.55	0.00602	0.00834	PASS

Extreme（40℃）		11.82	2.32	0.00677	0.00133	PASS
Extreme（30℃）		11.22	5.93	0.00643	0.00340	PASS
Extreme（20℃）		14.10	15.33	0.00808	0.00878	PASS
Extreme（10℃）		1.37	10.73	0.00078	0.00615	PASS
Extreme（0℃）		4.35	4.68	0.00249	0.00268	PASS
Extreme（-10℃）		3.63	9.93	0.00208	0.00569	PASS
Extreme（-20℃）		12.57	14.34	0.00721	0.00822	PASS
Extreme（-30℃）		3.73	3.57	0.00214	0.00205	PASS
25℃	LV	6.26	3.94	0.00359	0.00226	PASS
	HV	7.79	15.30	0.00446	0.00877	PASS
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability（ppm）	Frequency Stability（ppm）	Verdict
BANDWIDTH	10MHz					
Temperature	Voltage	16QAM	QPSK	16QAM	QPSK	
Normal（25℃）	Normal	6.32	13.98	0.00362	0.00801	PASS
Extreme（50℃）		8.62	4.68	0.00494	0.00268	PASS
Extreme（40℃）		10.56	11.95	0.00605	0.00685	PASS
Extreme（30℃）		7.86	13.12	0.00451	0.00752	PASS
Extreme（20℃）		9.74	17.64	0.00558	0.01011	PASS
Extreme（10℃）		7.60	11.37	0.00436	0.00652	PASS
Extreme（0℃）		14.60	8.19	0.00837	0.00469	PASS
Extreme（-10℃）		14.62	1.52	0.00838	0.00087	PASS
Extreme（-20℃）		11.52	16.56	0.00660	0.00949	PASS
Extreme（-30℃）		8.01	17.03	0.00459	0.00976	PASS
25℃	LV	7.37	16.25	0.00422	0.00931	PASS
	HV	14.53	9.28	0.00833	0.00532	PASS
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability（ppm）	Frequency Stability（ppm）	Verdict
BANDWIDTH	15MHz					
Temperature	Voltage	16QAM	QPSK	16QAM	QPSK	
Normal（25℃）	Normal	16.23	11.85	0.00930	0.00679	PASS
Extreme（50℃）		1.08	15.19	0.00062	0.00870	PASS
Extreme（40℃）		14.41	10.89	0.00826	0.00624	PASS
Extreme（30℃）		3.76	1.64	0.00216	0.00094	PASS
Extreme（20℃）		4.13	2.24	0.00236	0.00128	PASS
Extreme（10℃）		8.88	8.87	0.00509	0.00509	PASS
Extreme（0℃）		13.92	1.32	0.00798	0.00075	PASS
Extreme（-10℃）		11.23	6.70	0.00643	0.00384	PASS
Extreme（-20℃）		12.54	6.62	0.00719	0.00379	PASS
Extreme（-30℃）		9.13	11.88	0.00523	0.00681	PASS
25℃	LV	17.34	16.01	0.00994	0.00917	PASS

	HV	12.16	5.12	0.00697	0.00293	PASS
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability （ppm）	Frequency Stability （ppm）	Verdict
BANDWIDTH	20MHz					
Temperature	Voltage	16QAM	QPSK	16QAM	QPSK	
Normal（25℃）	Normal	6.00	17.74	0.00344	0.01017	PASS
Extreme（50℃）		9.00	13.49	0.00516	0.00773	PASS
Extreme（40℃）		1.00	6.07	0.00057	0.00348	PASS
Extreme（30℃）		14.00	1.02	0.00802	0.00059	PASS
Extreme（20℃）		6.00	2.14	0.00344	0.00123	PASS
Extreme（10℃）		6.00	8.53	0.00344	0.00489	PASS
Extreme（0℃）		12.00	14.27	0.00688	0.00818	PASS
Extreme（-10℃）		12.00	14.72	0.00688	0.00844	PASS
Extreme（-20℃）		8.00	3.66	0.00458	0.00210	PASS
Extreme（-30℃）		11.00	10.51	0.00630	0.00602	PASS
25℃	LV	14.00	14.42	0.00802	0.00826	PASS
	HV	3.00	7.64	0.00172	0.00438	PASS

5.6 Spurious Emissions at Antenna Terminals

Ambient condition

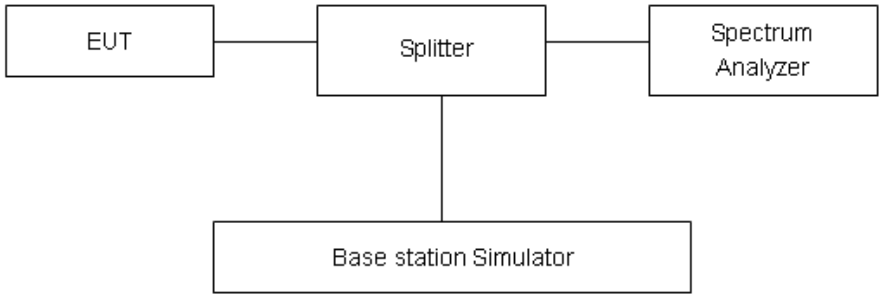
Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

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

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..”
Rule Part 27.53 (g) For operations in the 600 MHz band and the 698-746 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least 43 + 10 log (P) dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least

30 kHz may be employed.

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.

Part 27.53(a)/(h)/(g) Limit	-13 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.

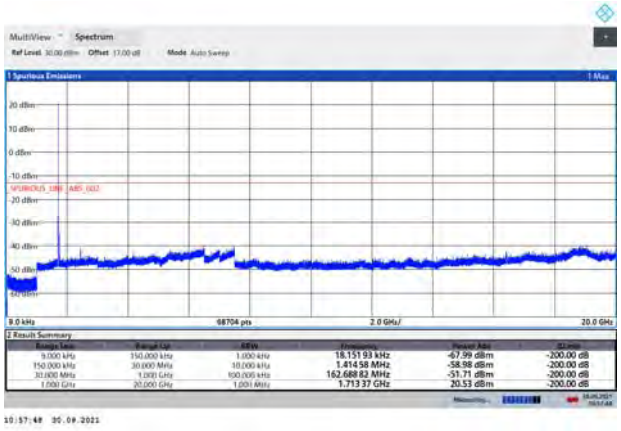
Frequency	Uncertainty
9kHz-1GHz	0.684 dB
1GHz-27GHz	1.407 dB

Test Result

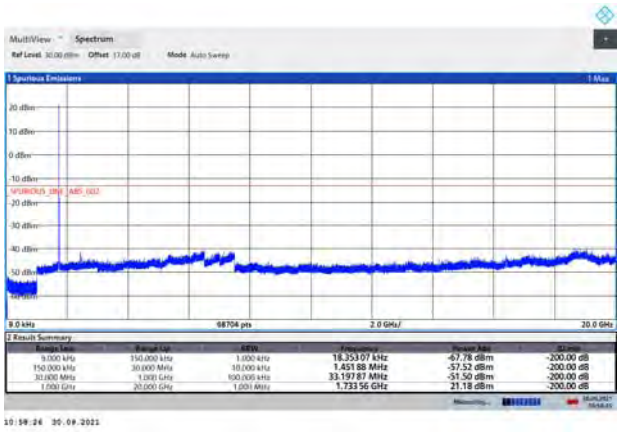
Sweep the whole frequency band through the range from 9kHz to the 10th harmonic of the carrier, the emissions more than 20 dB below the limit are not reported.

The signal beyond the limit is carrier.

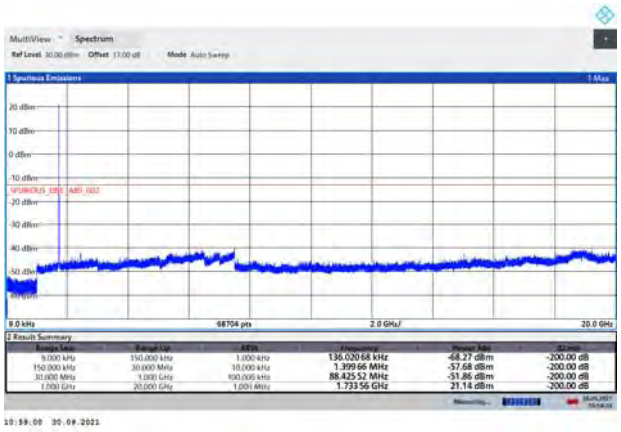
WCDMA Band IV CH-Low 9kHz~20GHz



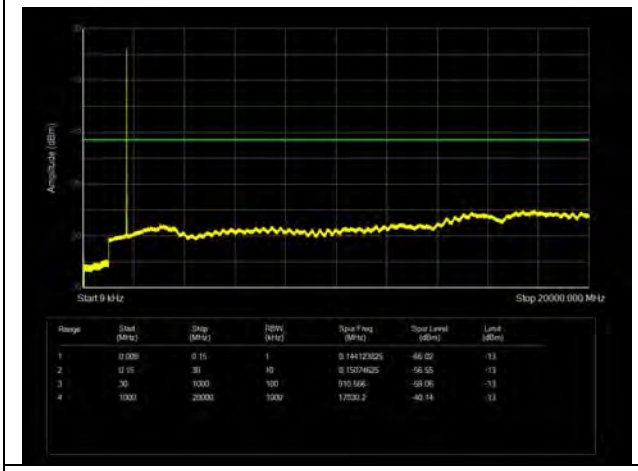
WCDMA Band IV CH-Middle 9kHz~20GHz



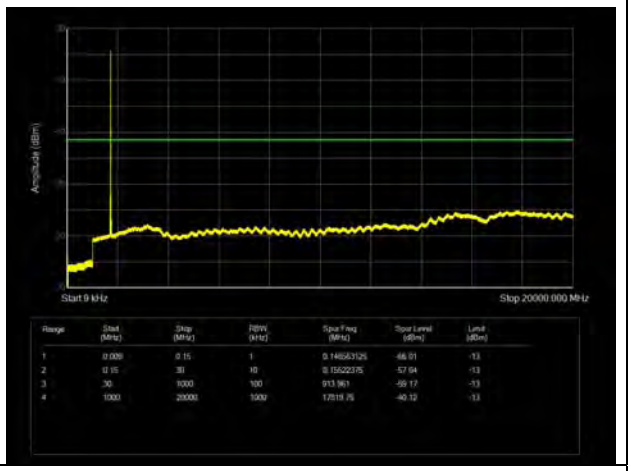
WCDMA Band IV CH-High 9kHz~20GHz



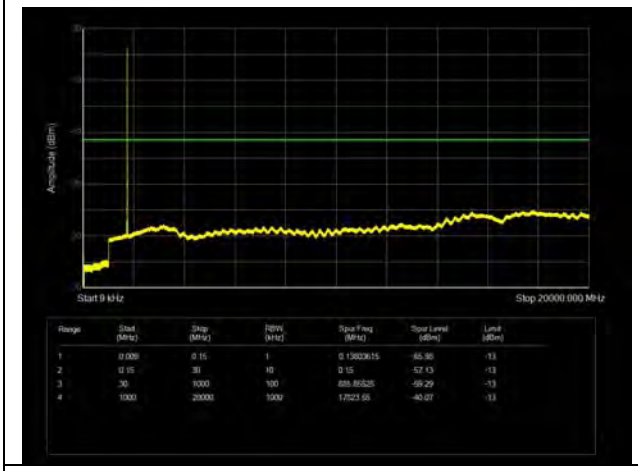
LTE Band 4 1.4MHz CH-Low 9kHz~20GHz



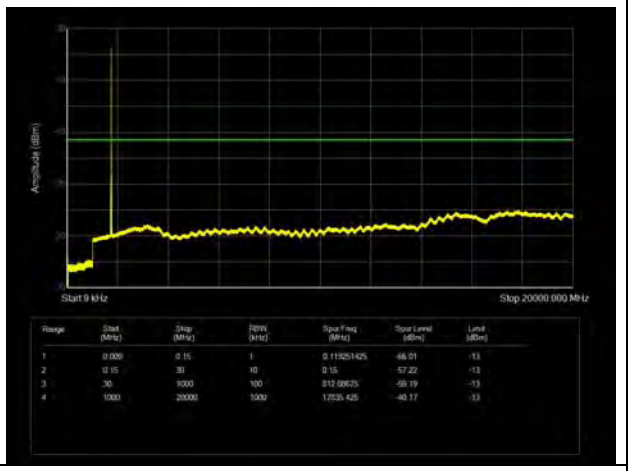
LTE Band 4 3MHz CH- Low 9kHz~20GHz



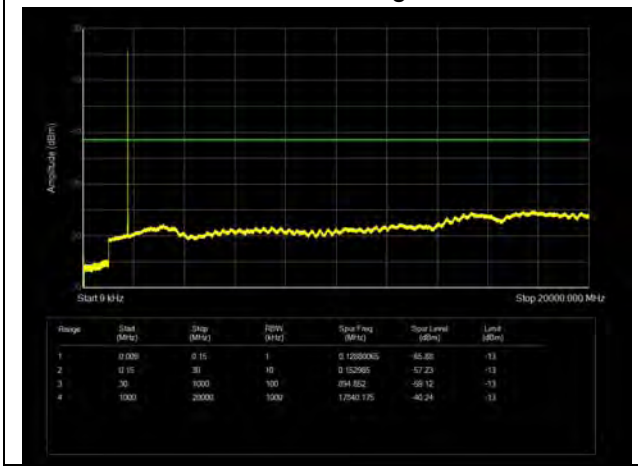
LTE Band 4 1.4MHz CH- Middle 9kHz~20GHz



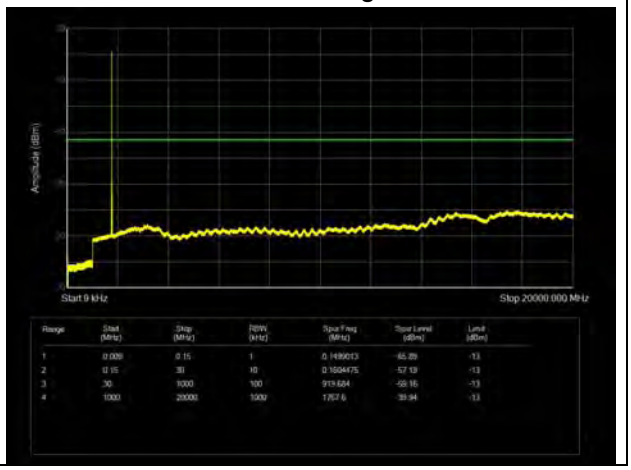
LTE Band 4 3MHz CH- Middle 9kHz~20GHz



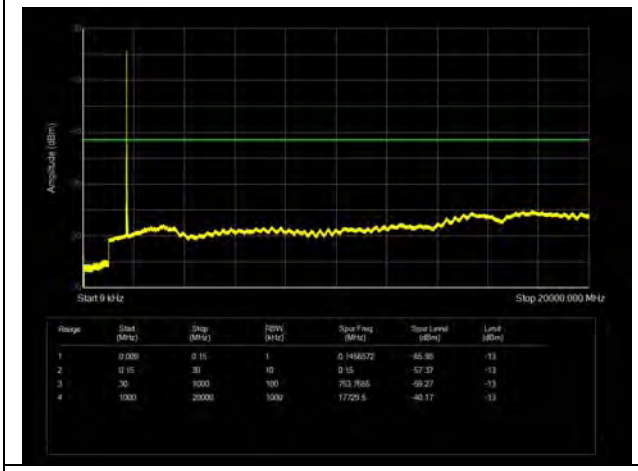
LTE Band 4 1.4MHz CH- High 9kHz~20GHz



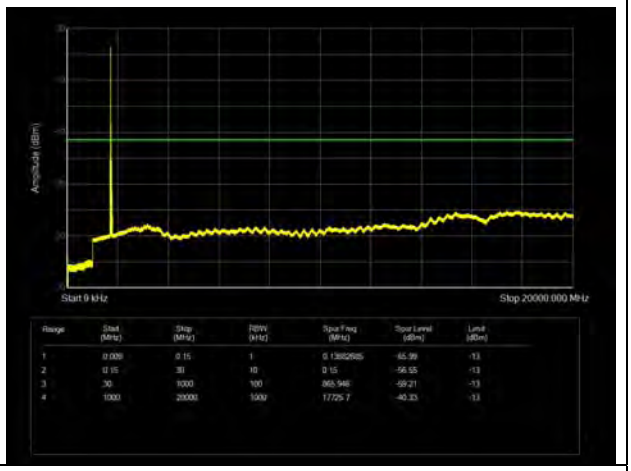
LTE Band 4 3MHz CH-High 9kHz~20GHz



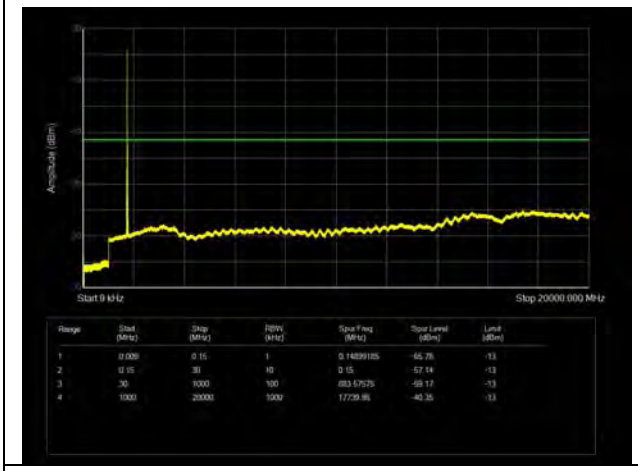
LTE Band 4 5MHz CH- Low 9kHz~20GHz



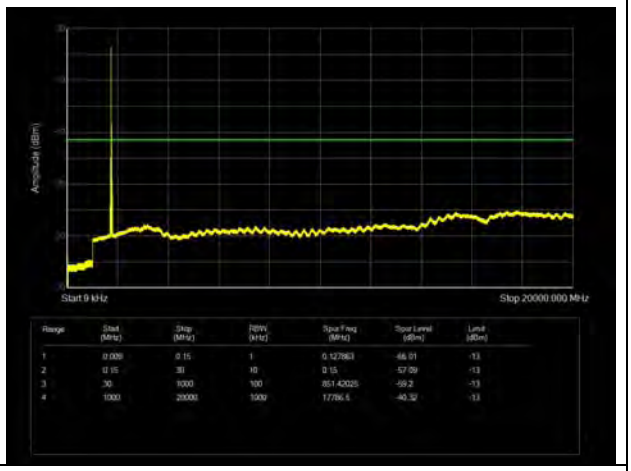
LTE Band 4 10MHz CH-Low 9kHz~20GHz



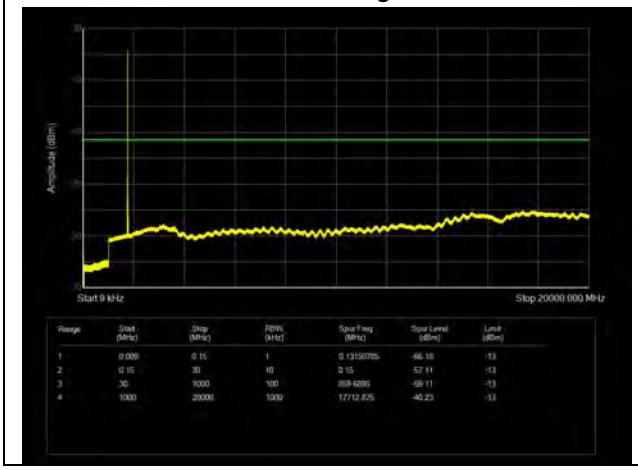
LTE Band 4 5MHz CH- Middle 9kHz~20GHz



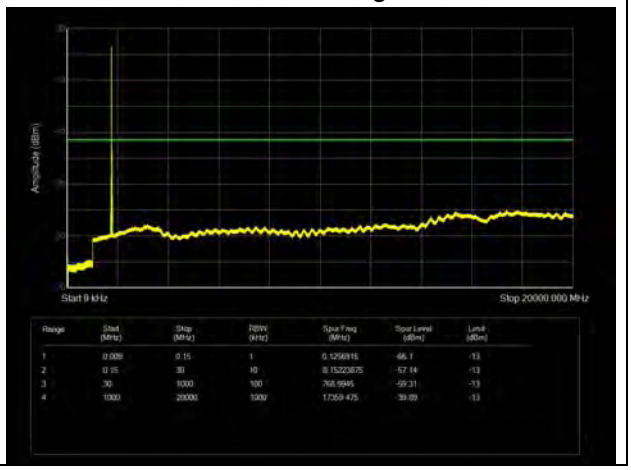
LTE Band 4 10MHz CH- Middle 9kHz~20GHz



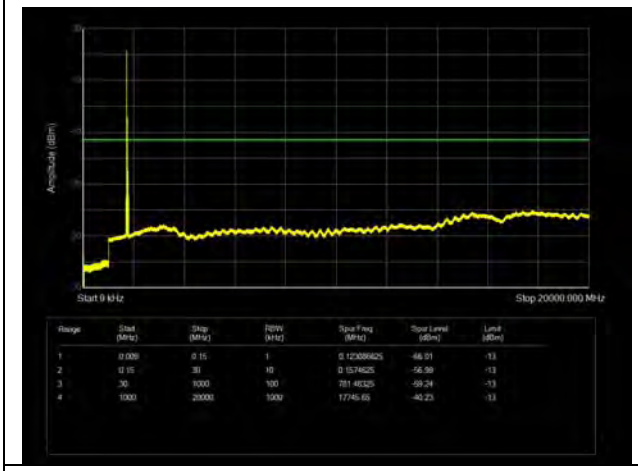
LTE Band 4 5MHz CH-High 9kHz~20GHz



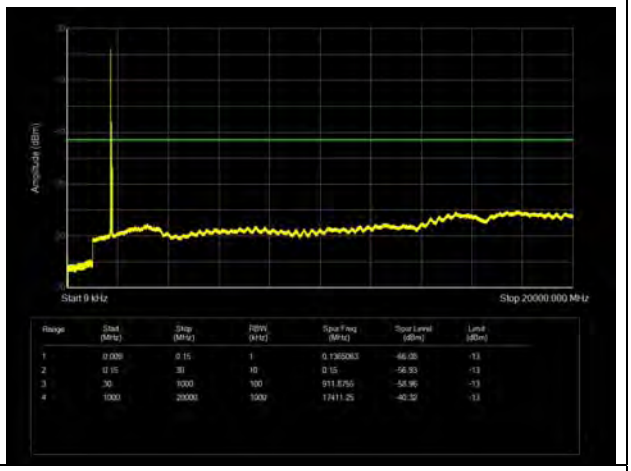
LTE Band 4 10MHz CH- High 9kHz~20GHz



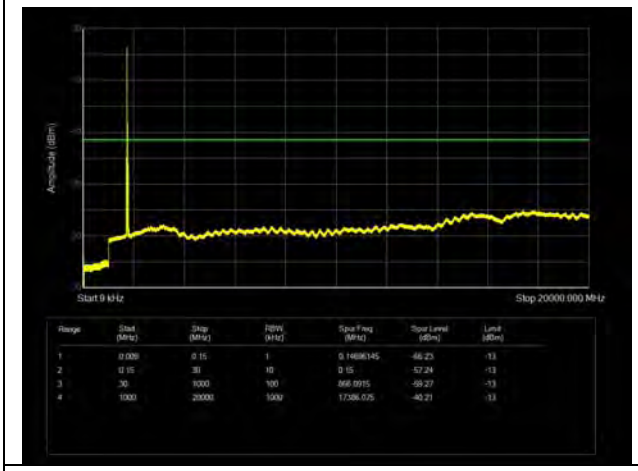
LTE Band 4 15MHz CH- Low 9kHz~20GHz



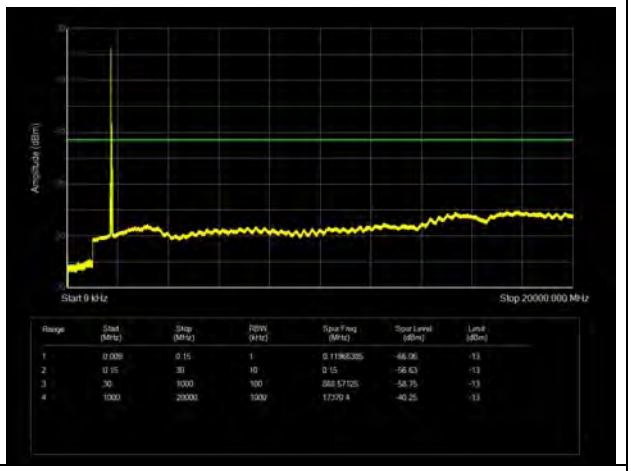
LTE Band 4 20MHz CH-Low 9kHz~20GHz



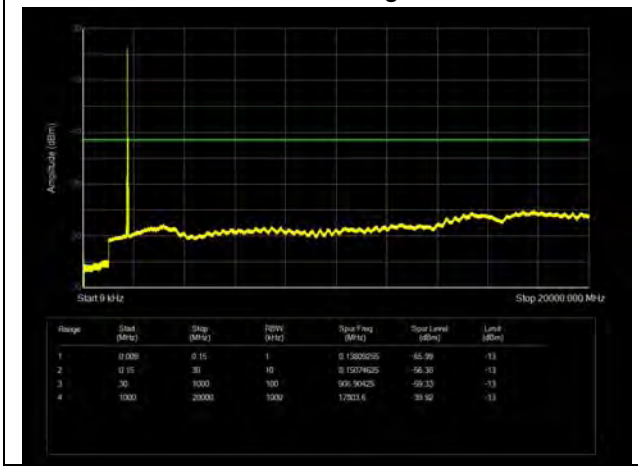
LTE Band 4 15MHz CH- Middle 9kHz~20GHz



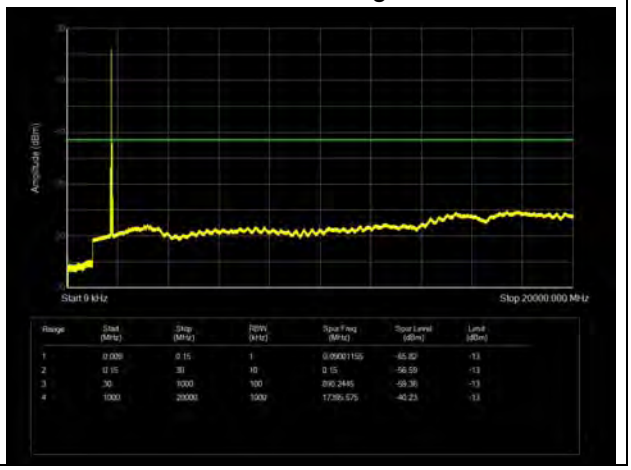
LTE Band 4 20MHz CH- Middle 9kHz~20GHz



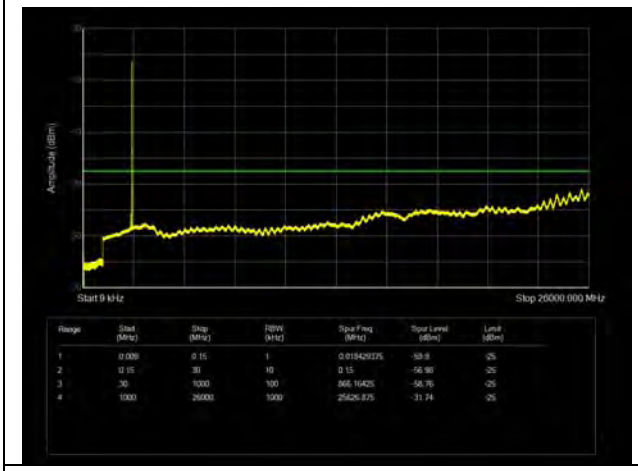
LTE Band 4 15MHz CH-High 9kHz~20GHz



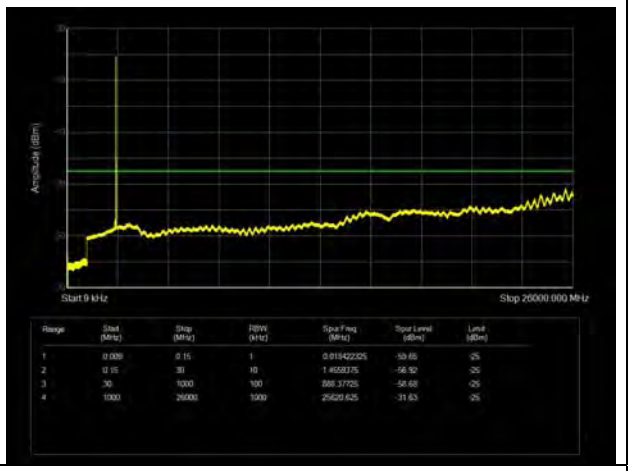
LTE Band 4 20MHz CH- High 9kHz~20GHz



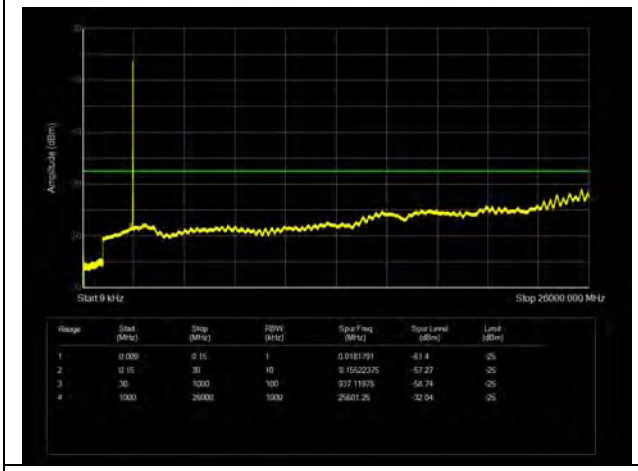
LTE Band 7 5MHz CH- Low 9kHz~26GHz



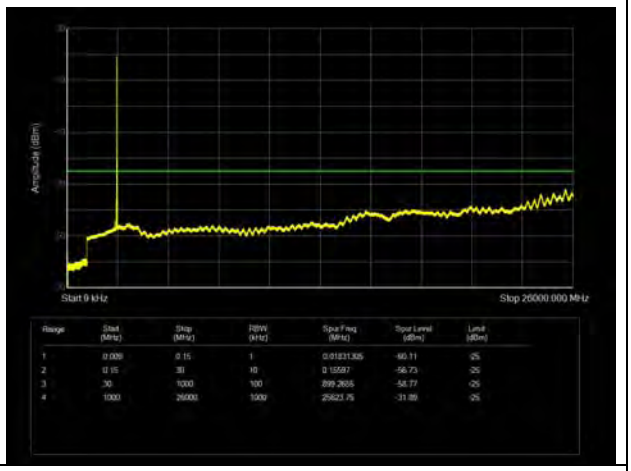
LTE Band 7 10MHz CH-Low 9kHz~26GHz



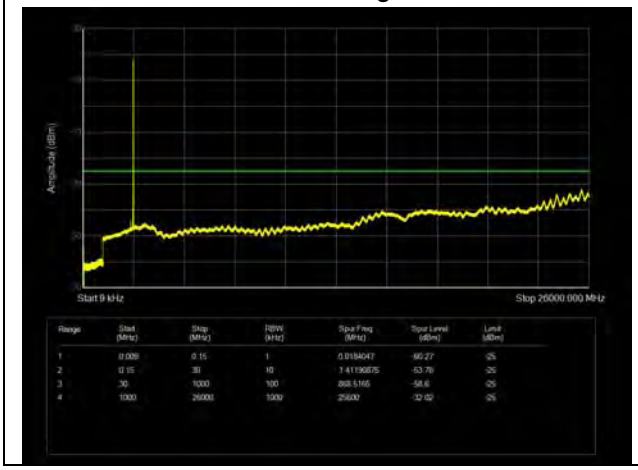
LTE Band 7 5MHz CH- Middle 9kHz~26GHz



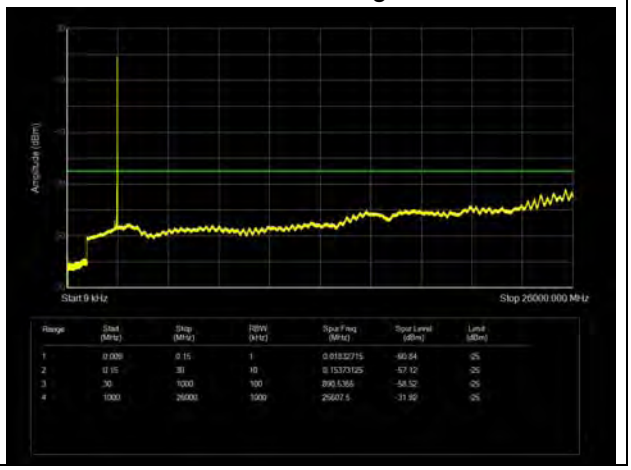
LTE Band 7 10MHz CH- Middle 9kHz~26GHz



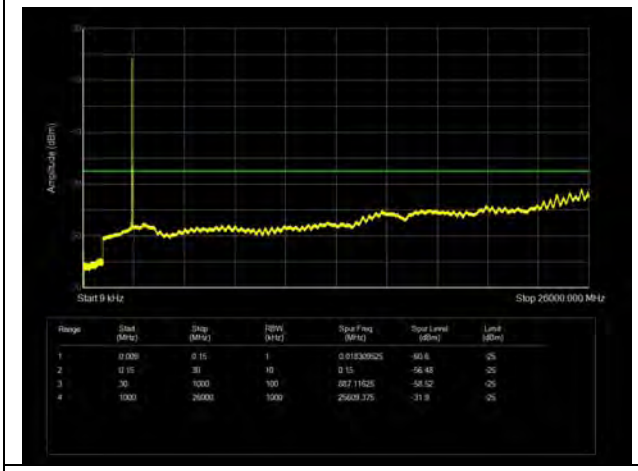
LTE Band 7 5MHz CH-High 9kHz~26GHz



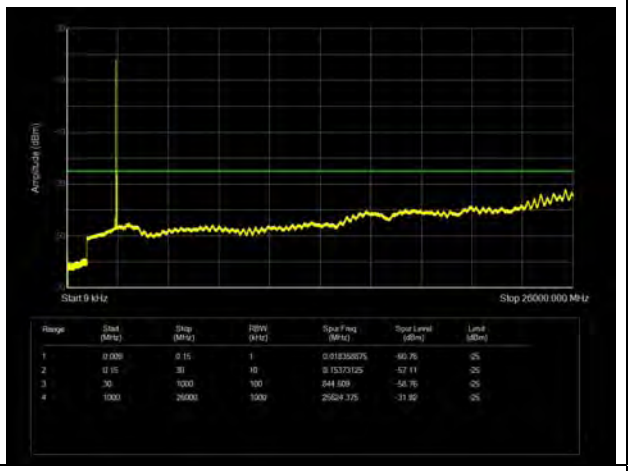
LTE Band 7 10MHz CH- High 9kHz~26GHz



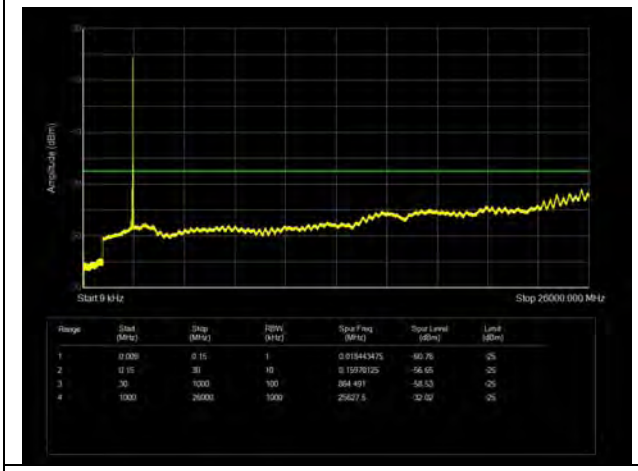
LTE Band 7 15MHz CH- Low 9kHz~26GHz



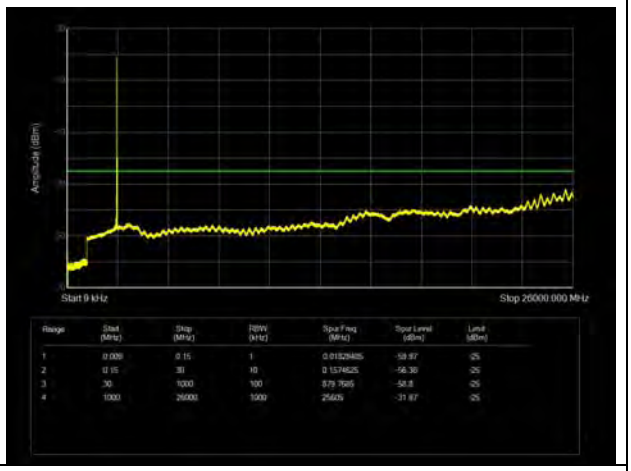
LTE Band 7 20MHz CH-Low 9kHz~26GHz



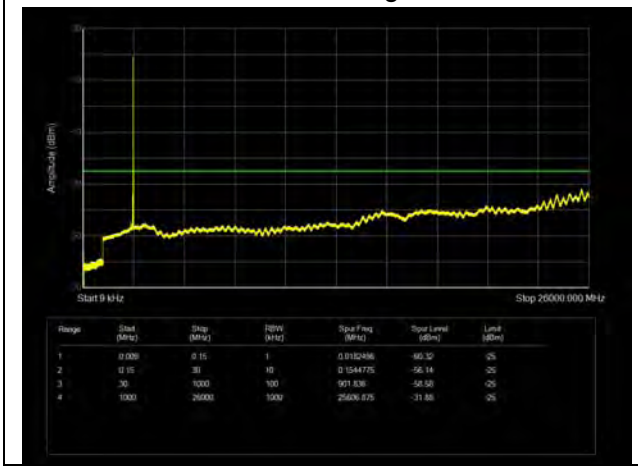
LTE Band 7 15MHz CH- Middle 9kHz~26GHz



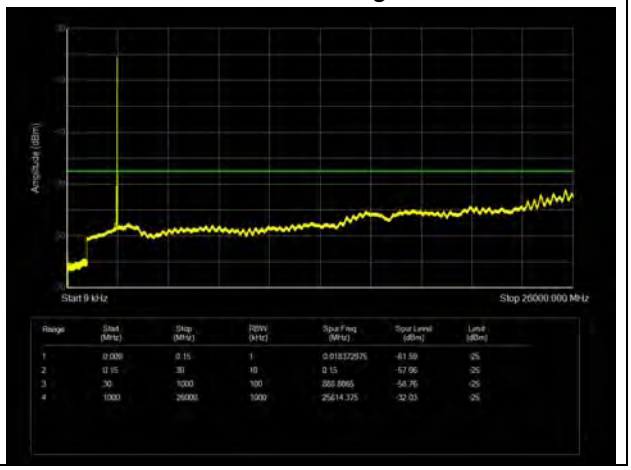
LTE Band 7 20MHz CH- Middle 9kHz~26GHz



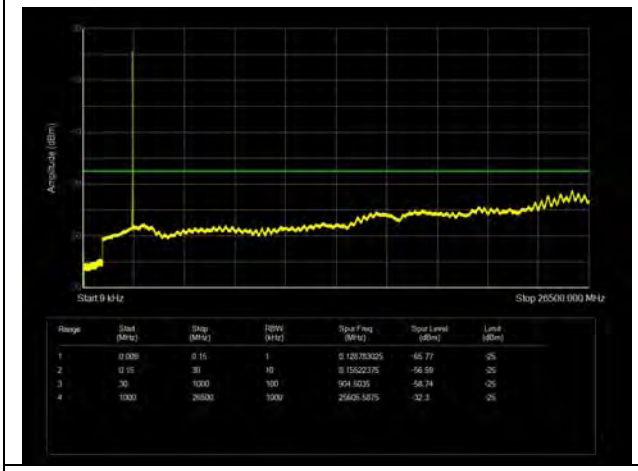
LTE Band 7 15MHz CH-High 9kHz~26GHz



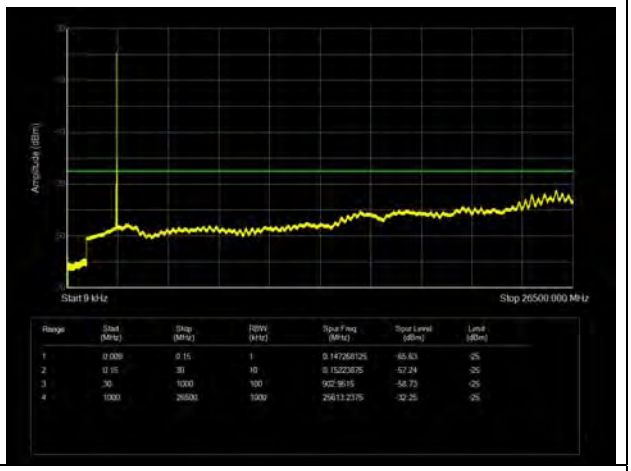
LTE Band 7 20MHz CH- High 9kHz~26GHz



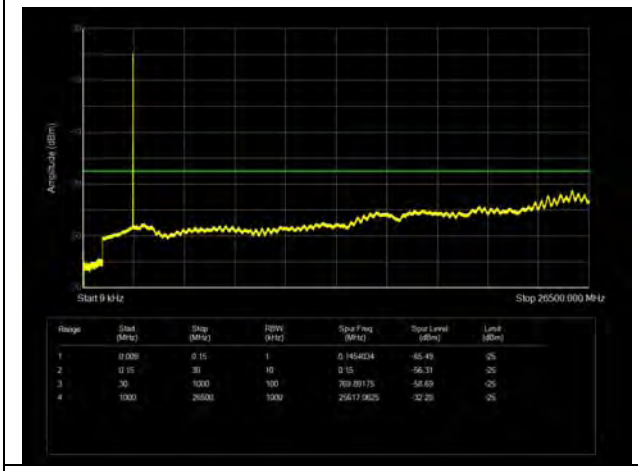
LTE Band 38 5MHz CH- Low 9kHz~26.5GHz



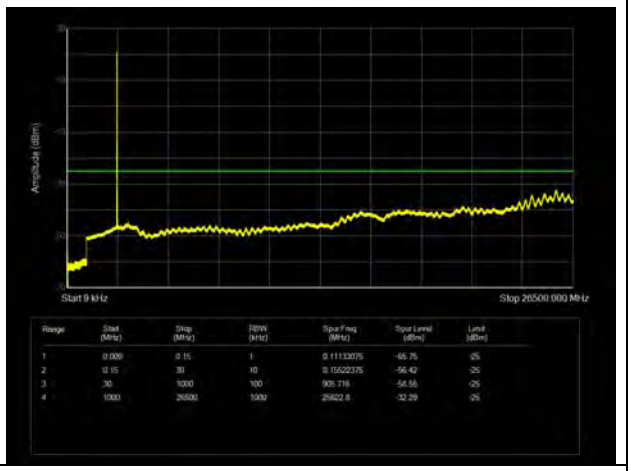
LTE Band 38 10MHz CH-Low 9kHz~26.5GHz



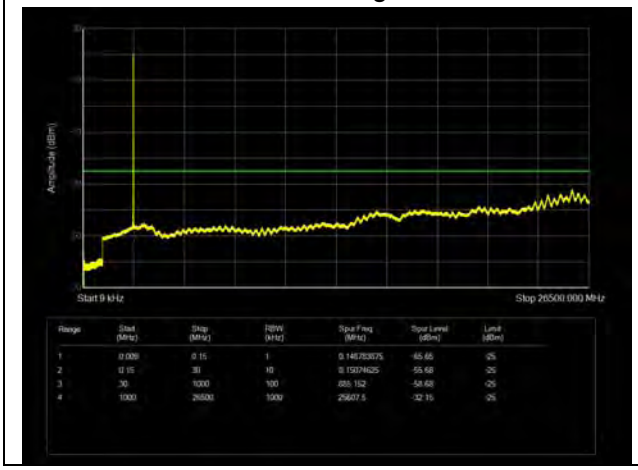
LTE Band 38 5MHz CH- Middle 9kHz~26.5GHz



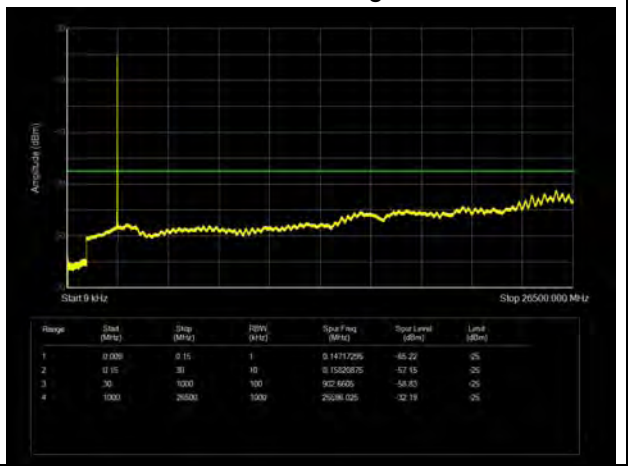
LTE Band 38 10MHz CH- Middle 9kHz~26.5GHz



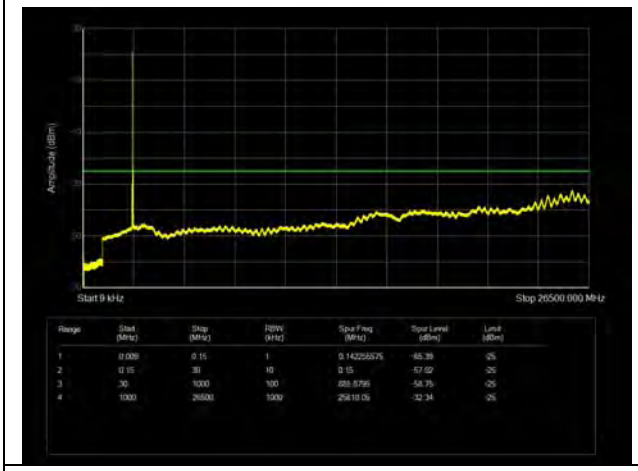
LTE Band 38 5MHz CH-High 9kHz~26.5GHz



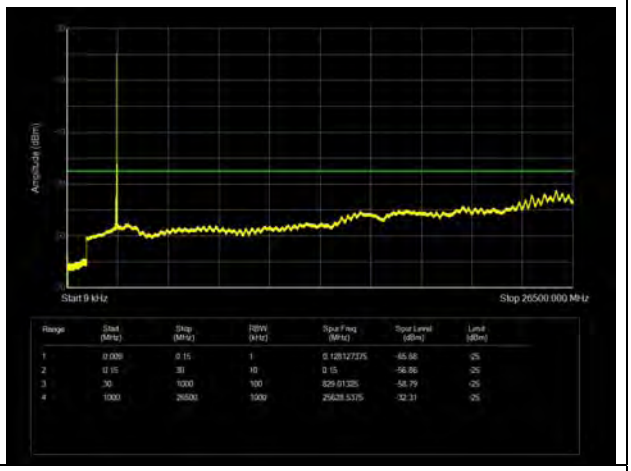
LTE Band 38 10MHz CH- High 9kHz~26.5GHz



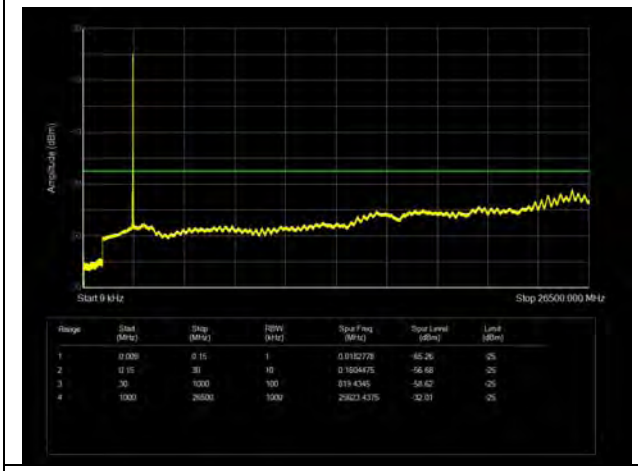
LTE Band 38 15MHz CH- Low 9kHz~26.5GHz



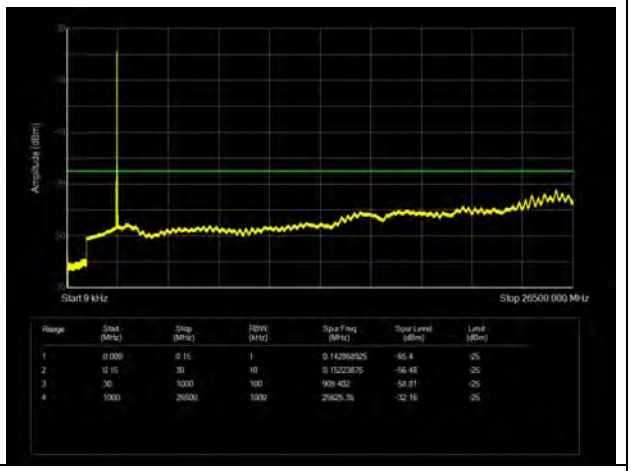
LTE Band 38 20MHz CH-Low 9kHz~26.5GHz



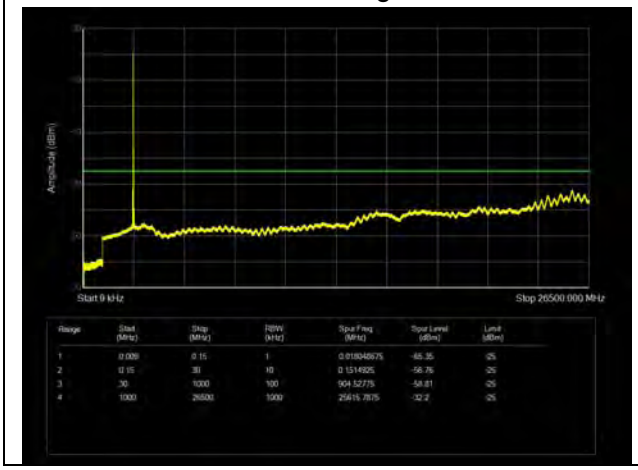
LTE Band 38 15MHz CH- Middle 9kHz~26.5GHz



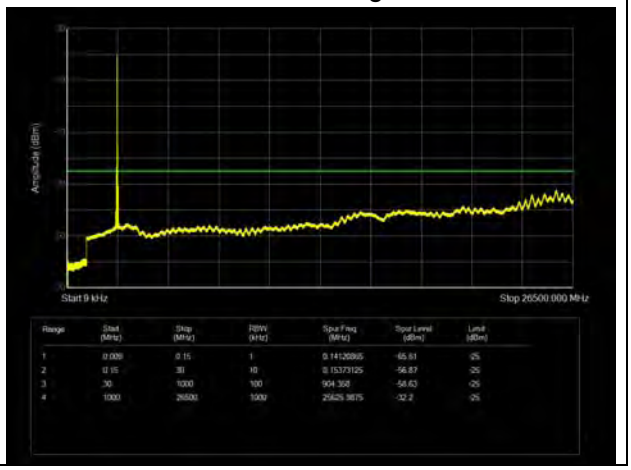
LTE Band 38 20MHz CH- Middle 9kHz~26.5GHz



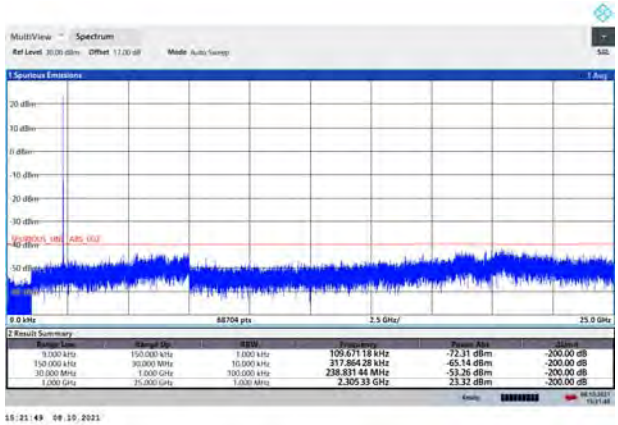
LTE Band 3815MHz CH-High 9kHz~26.5GHz



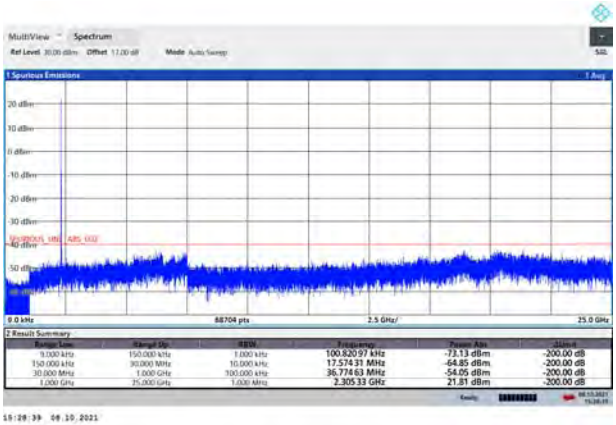
LTE Band 38 20MHz CH- High 9kHz~26.5GHz



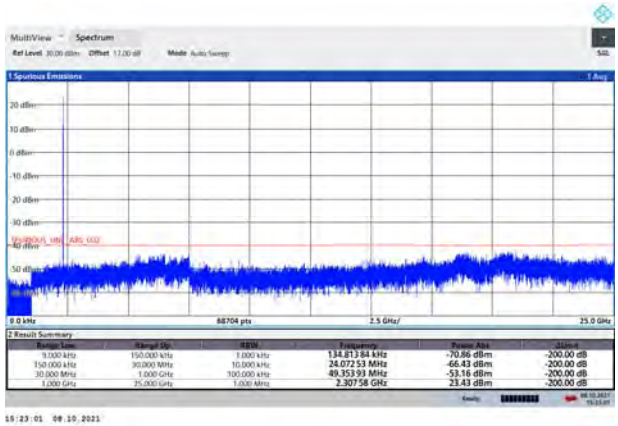
LTE Band 40 Subset 1 5MHz CH- Low
9kHz~25GHz



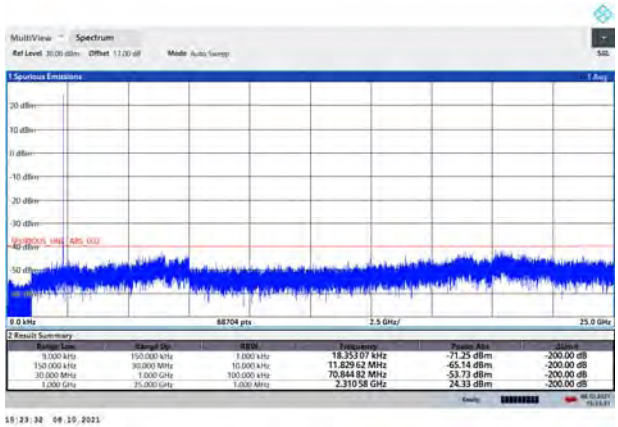
LTE Band 40 Subset 1 10MHz
9kHz~25GHz



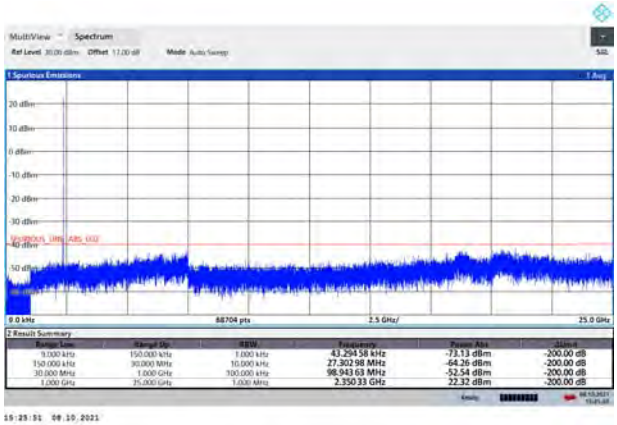
LTE Band 40 Subset 1 5MHz CH- Middle
9kHz~25GHz



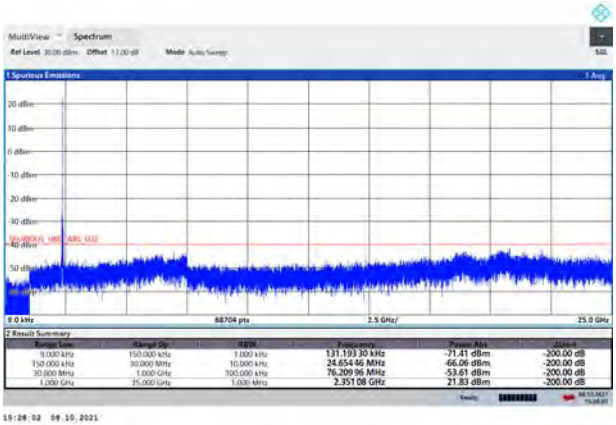
LTE Band 40 Subset 1 5MHz CH-High
9kHz~25GHz



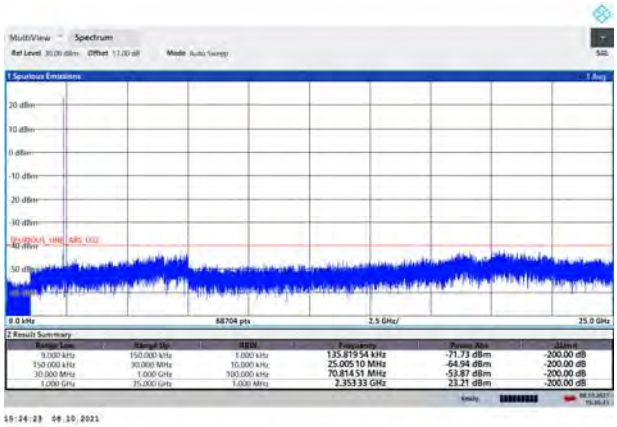
LTE Band 40 Subset 2 5MHz CH- Low
9kHz~25GHz



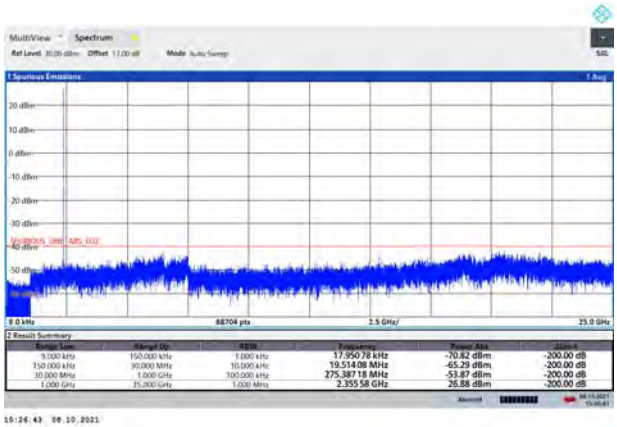
LTE Band 40 Subset 2 10MHz
9kHz~25GHz



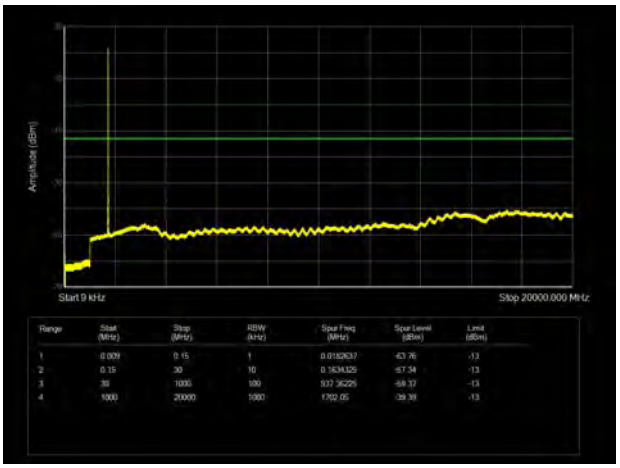
LTE Band 40 Subset 2 5MHz CH- Middle
9kHz~25GHz



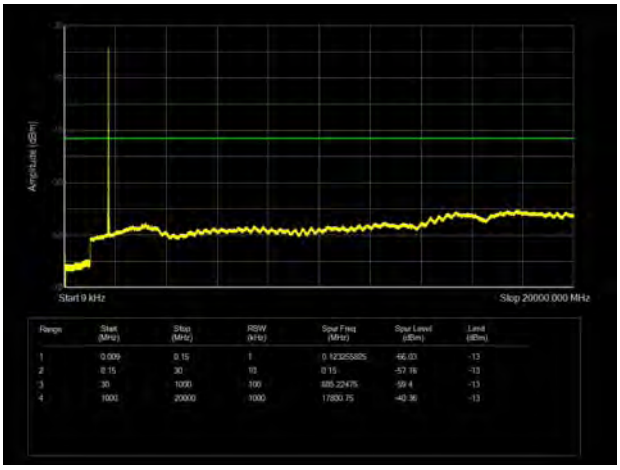
LTE Band 40 Subset 2 5MHz CH-High
9kHz~25GHz



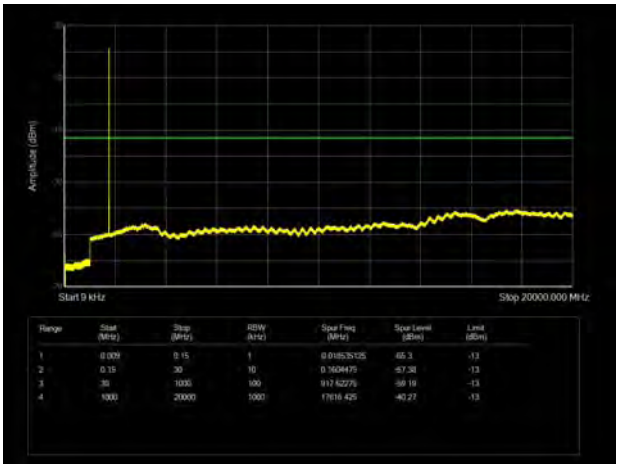
LTE Band 66 1.4MHz CH-Low 9kHz ~20GHz



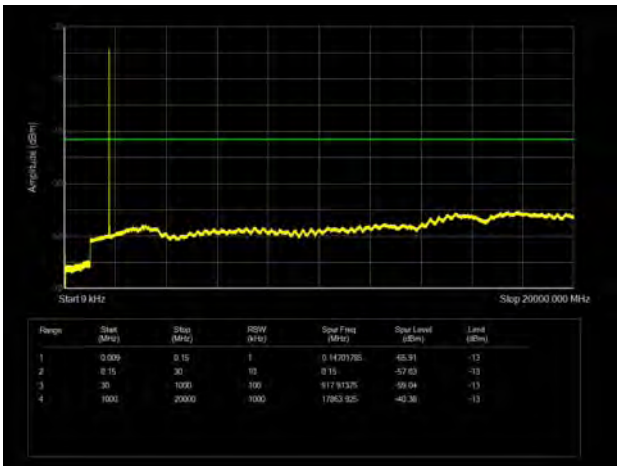
LTE Band 66 3MHz CH-Low 9kHz ~20GHz



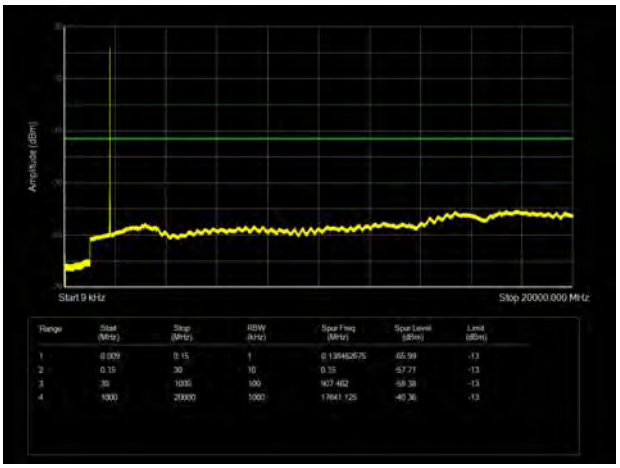
LTE Band 66 1.4MHz CH-Middle 9kHz ~20GHz



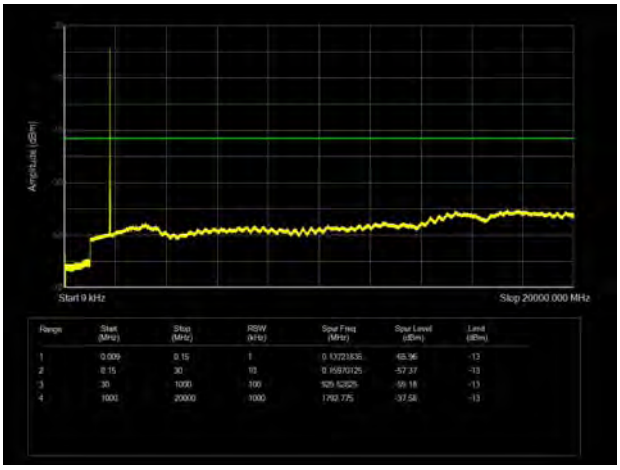
LTE Band 66 3MHz CH-Middle 9kHz ~20GHz



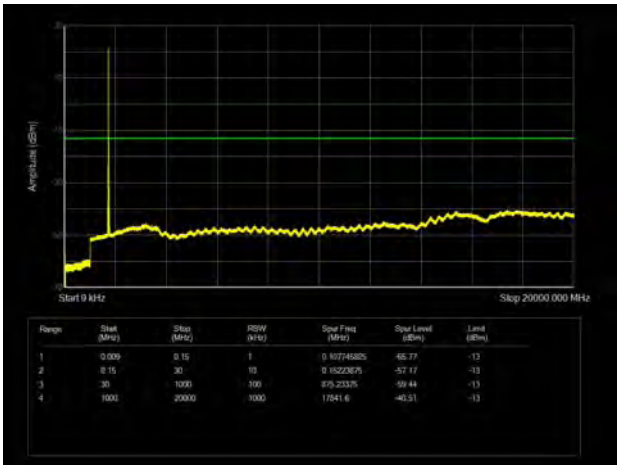
LTE Band 66 1.4MHz CH-High 9kHz ~20GHz



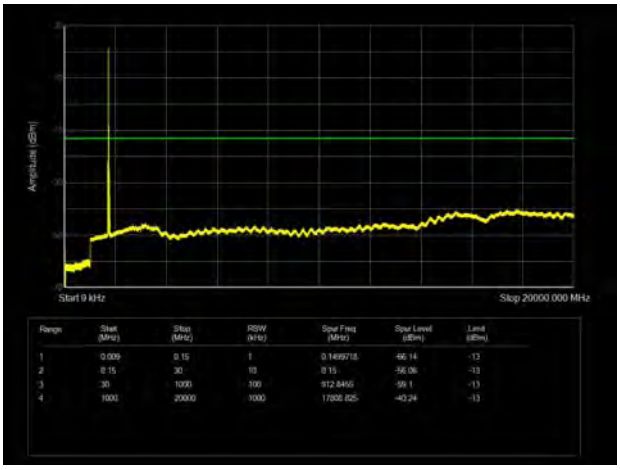
LTE Band 66 3MHz CH-High 9kHz ~20GHz



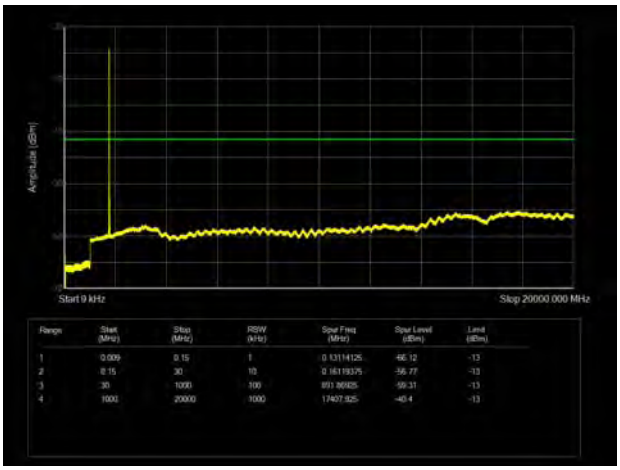
LTE Band 66 5MHz CH-Low 9kHz ~20GHz



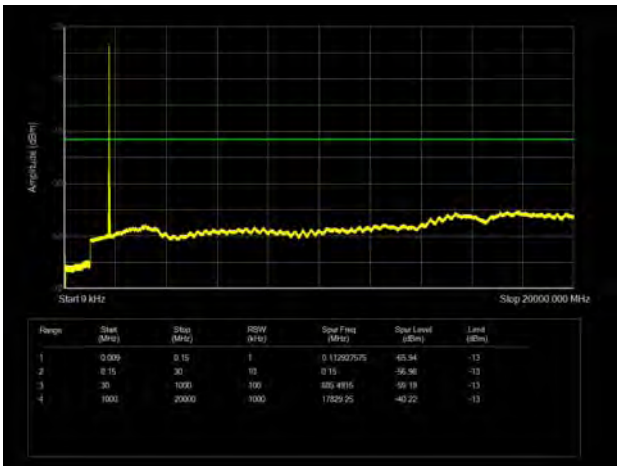
LTE Band 66 10MHz CH-Low 9kHz ~20GHz



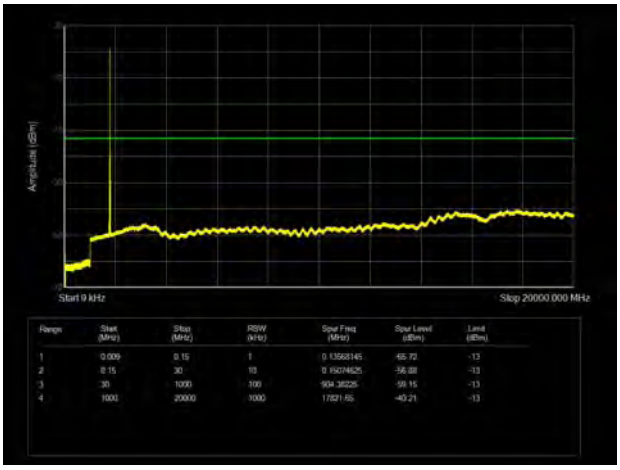
LTE Band 66 5MHz CH-Middle 9kHz ~20GHz



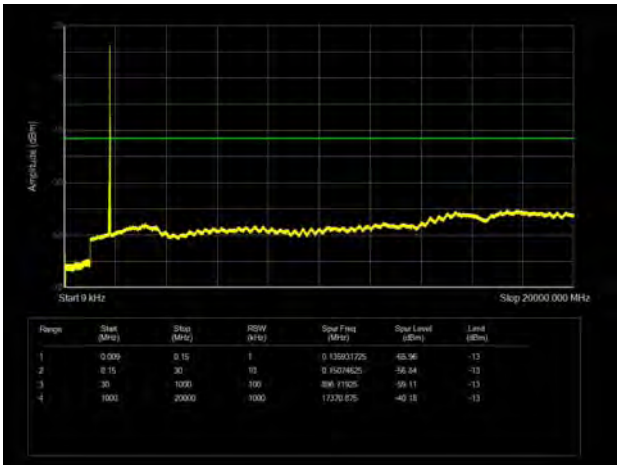
LTE Band 66 10MHz CH-Middle 9kHz ~20GHz



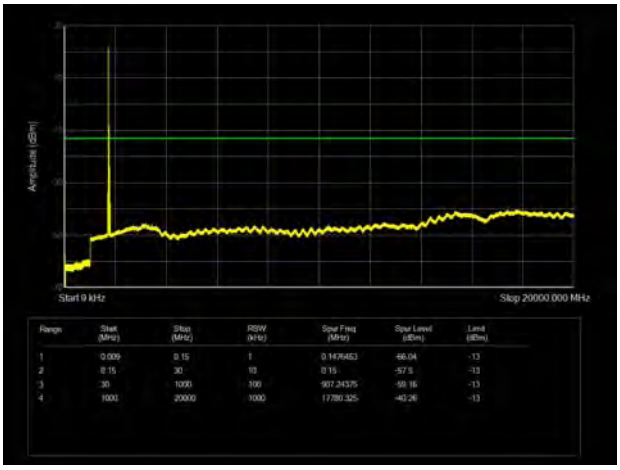
LTE Band 66 5MHz CH-High 9kHz ~20GHz



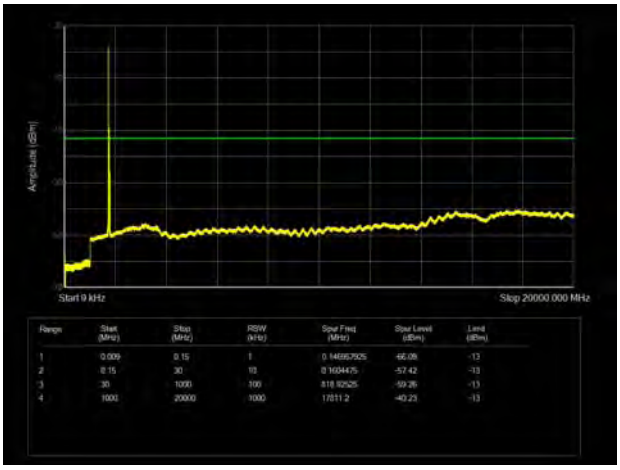
LTE Band 66 10MHz CH-High 9kHz ~20GHz



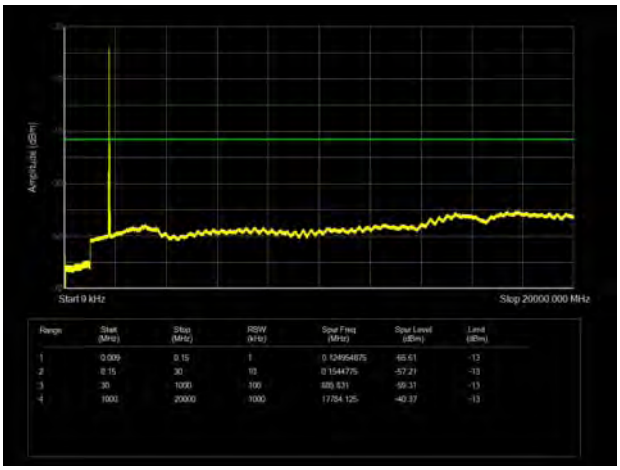
LTE Band 66 15MHz CH-Low 9kHz ~20GHz



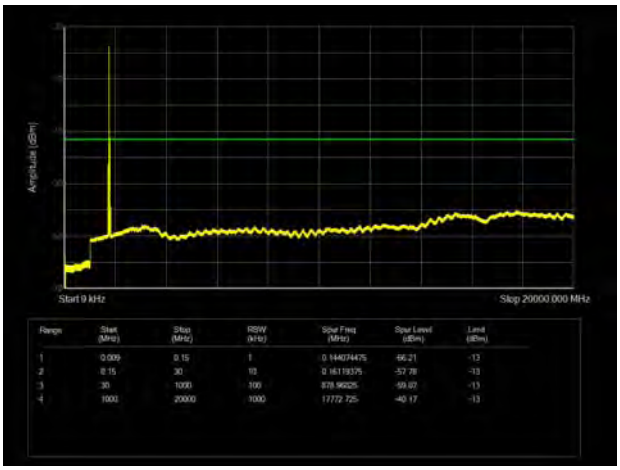
LTE Band 66 20MHz CH-Low 9kHz ~20GHz



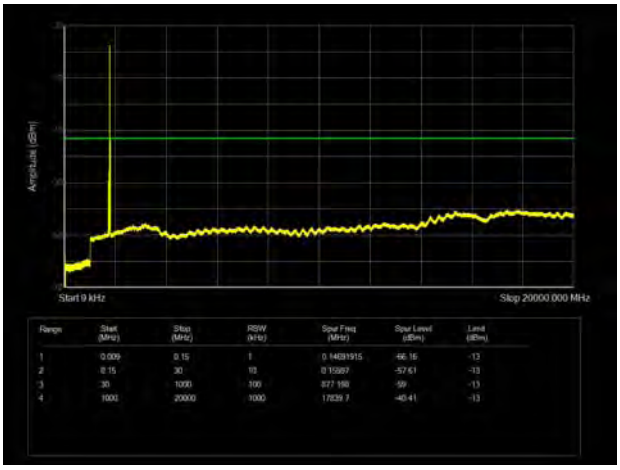
LTE Band 66 15MHz CH-Middle 9kHz ~20GHz



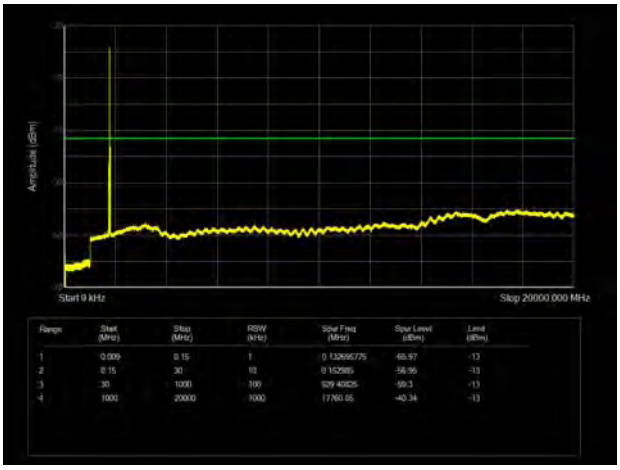
LTE Band 66 20MHz CH-Middle 9kHz ~20GHz



LTE Band 66 15MHz CH-High 9kHz ~20GHz



LTE Band 66 20MHz CH-High 9kHz ~20GHz



5.7 Radiates Spurious Emission

Ambient condition

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

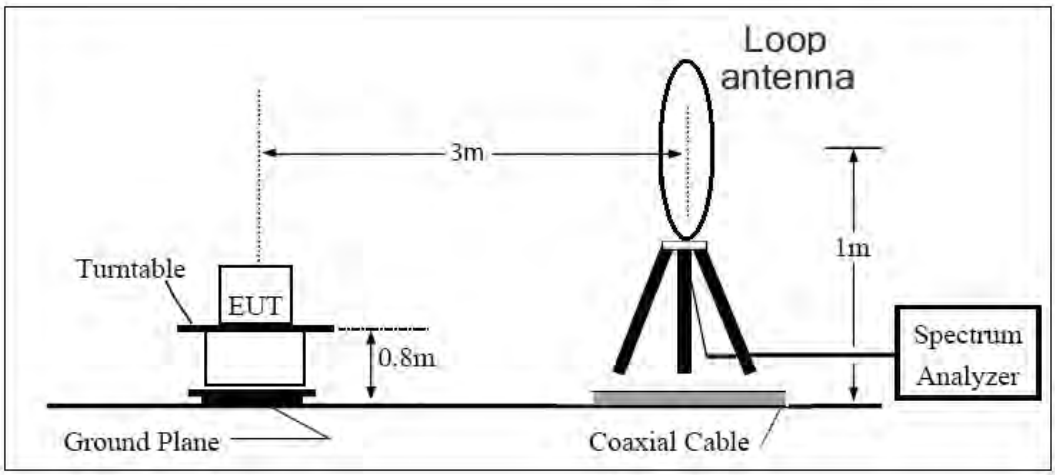
Method of Measurement

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 dB) and known input power. ERP can be calculated from EIRP by subtracting the gain of the dipole, ERP = EIRP-2.15dB.

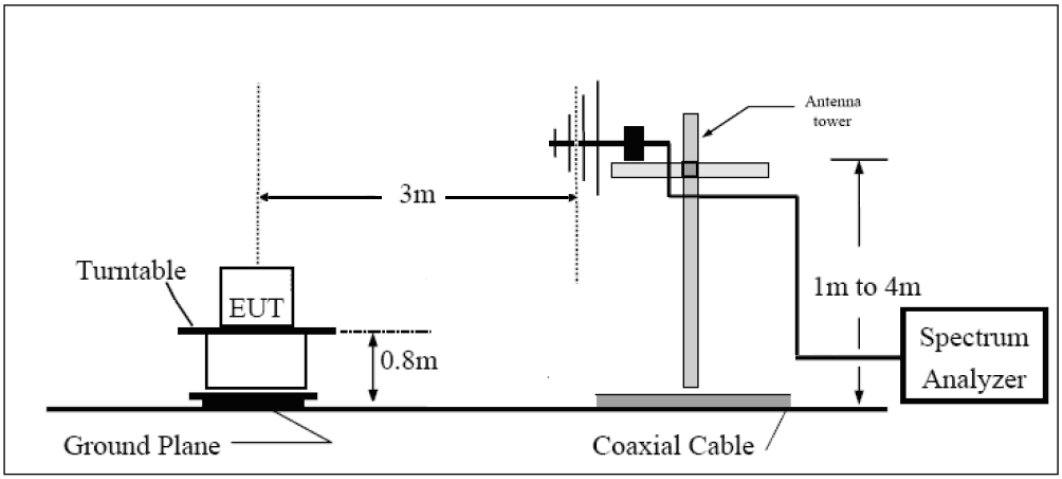
The modulation mode and RB allocation refer to section 5.1, using the maximum output power configuration.

Test setup

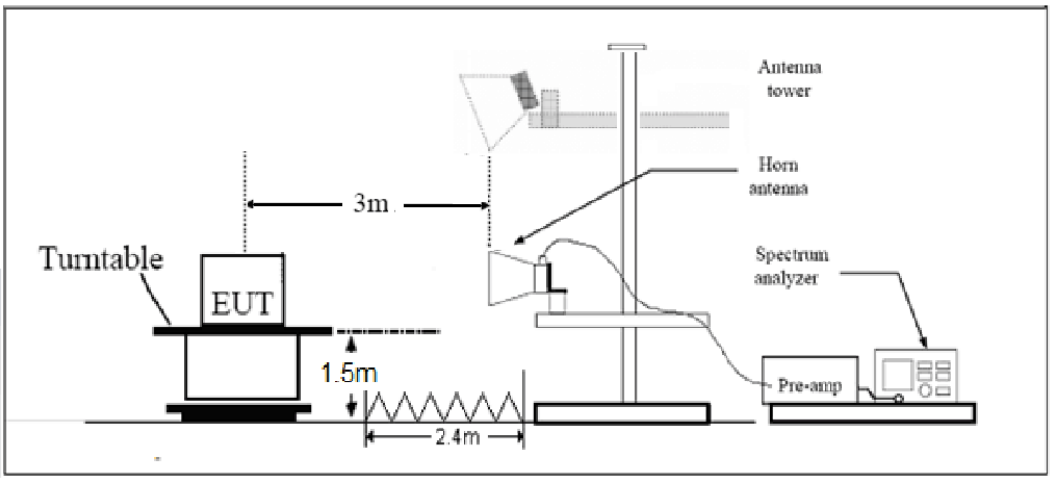
9KHz ~ 30MHz



30MHz ~ 1GHz



Above 1GHz



Note: Area side:2.4mX3.6m

Limits

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.”
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.

Part 27.53(a)/(h)/(g) Limit	-13 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.

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	3465.20	-65.96	2.70	12.70	Horizontal	-55.96	-13.00	42.96	0
3	5197.80	-60.74	3.20	12.50	Horizontal	-51.44	-13.00	38.44	180
4	6930.40	-60.94	4.20	11.80	Horizontal	-53.34	-13.00	40.34	135
5	8663.00	-55.74	4.40	12.50	Horizontal	-47.64	-13.00	34.64	45
6	10395.60	-49.06	4.70	11.30	Horizontal	-42.46	-13.00	29.46	270
7	12128.20	-50.79	5.20	13.80	Horizontal	-42.19	-13.00	29.19	90
8	13860.80	-47.77	5.70	11.30	Horizontal	-42.17	-13.00	29.17	45
9	15593.40	-51.58	6.10	16.80	Horizontal	-40.88	-13.00	27.88	315
10	17326.00	-48.79	6.10	14.20	Horizontal	-40.69	-13.00	27.69	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	3464.3	-63.04	2.70	12.70	Horizontal	-53.04	-13.0	40.04	225
3	5197.5	-61.30	3.20	12.50	Horizontal	-52.00	-13.0	39.00	90
4	6930.0	-59.43	4.20	11.80	Horizontal	-51.83	-13.0	38.83	45
5	8662.5	-51.12	4.40	12.50	Horizontal	-43.02	-13.0	30.02	90
6	10395.0	-40.80	4.70	11.30	Horizontal	-34.20	-13.0	21.20	0
7	12127.5	-51.40	5.20	13.80	Horizontal	-42.80	-13.0	29.80	225
8	13860.0	-48.54	5.70	11.30	Horizontal	-42.94	-13.0	29.94	45
9	15592.5	-51.96	6.10	16.80	Horizontal	-41.26	-13.0	28.26	90
10	17325.0	-47.62	6.10	14.20	Horizontal	-39.52	-13.0	26.52	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 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	3460.5	-63.74	2.70	12.70	Horizontal	-53.74	-13.0	40.74	270
3	5191.5	-61.16	3.20	12.50	Horizontal	-51.86	-13.0	38.86	90
4	6930.0	-59.92	4.20	11.80	Horizontal	-52.32	-13.0	39.32	45
5	8662.5	-52.16	4.40	12.50	Horizontal	-44.06	-13.0	31.06	90
6	10395.0	-41.20	4.70	11.30	Horizontal	-34.60	-13.0	21.60	0
7	12127.5	-50.76	5.20	13.80	Horizontal	-42.16	-13.0	29.16	45
8	13860.0	-47.86	5.70	11.30	Horizontal	-42.26	-13.0	29.26	135
9	15592.5	-51.33	6.10	16.80	Horizontal	-40.63	-13.0	27.63	180
10	17325.0	-47.53	6.10	14.20	Horizontal	-39.43	-13.0	26.43	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 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	3465.0	-63.49	2.70	12.70	Horizontal	-53.49	-13.0	40.49	90
3	5170.9	-62.56	3.20	12.50	Horizontal	-53.26	-13.0	40.26	90
4	6930.0	-60.81	4.20	11.80	Horizontal	-53.21	-13.0	40.21	90
5	8662.5	-52.82	4.40	12.50	Horizontal	-44.72	-13.0	31.72	0
6	10395.0	-41.09	4.70	11.30	Horizontal	-34.49	-13.0	21.49	225
7	12127.5	-50.77	5.20	13.80	Horizontal	-42.17	-13.0	29.17	45
8	13860.0	-48.82	5.70	11.30	Horizontal	-43.22	-13.0	30.22	90
9	15592.5	-52.05	6.10	16.80	Horizontal	-41.35	-13.0	28.35	45
10	17325.0	-48.02	6.10	14.20	Horizontal	-39.92	-13.0	26.92	270
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	-55.60	3.40	12.50	Horizontal	-46.50	-25.00	21.50	225
3	7598.60	-49.19	4.40	12.20	Horizontal	-41.39	-25.00	16.39	45
4	10130.63	-36.60	4.70	11.30	Horizontal	-30.00	-25.00	5.00	135
5	12675.00	-48.07	5.40	13.20	Horizontal	-40.27	-25.00	15.27	90
6	15210.00	-45.27	6.10	13.10	Horizontal	-38.27	-25.00	13.27	90
7	17745.00	-47.36	6.10	14.20	Horizontal	-39.26	-25.00	14.26	225
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	-54.57	3.40	12.50	Horizontal	-45.47	-25.00	20.47	45
3	7605.00	-55.86	4.40	12.20	Horizontal	-48.06	-25.00	23.06	135
4	10104.00	-39.82	4.70	11.30	Horizontal	-33.22	-25.00	8.22	90
5	12675.00	-49.15	5.40	13.20	Horizontal	-41.35	-25.00	16.35	45
6	15210.00	-46.06	6.10	13.10	Horizontal	-39.06	-25.00	14.06	90
7	17745.00	-47.34	6.10	14.20	Horizontal	-39.24	-25.00	14.24	225
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	5185.00	-59.45	3.20	12.50	Horizontal	-50.15	-25.00	25.15	45
3	7777.50	-45.22	4.40	12.30	Horizontal	-37.32	-25.00	12.32	135
4	10370.00	-32.93	4.70	11.80	Horizontal	-25.83	-25.00	0.83	180
5	12962.50	-46.69	5.40	14.00	Horizontal	-38.09	-25.00	13.09	225
6	15555.00	-52.32	6.10	16.80	Horizontal	-41.62	-25.00	16.62	45
7	18147.50	--	--	--	--	--	--	--	--
8	20740.00	--	--	--	--	--	--	--	--
9	23332.50	--	--	--	--	--	--	--	--
10	25925.00	--	--	--	--	--	--	--	--
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	5170.00	-58.72	3.20	12.50	Horizontal	-49.42	-25.00	24.42	45
3	7755.00	-47.94	4.40	12.30	Horizontal	-40.04	-25.00	15.04	135
4	10340.00	-34.74	4.70	11.80	Horizontal	-27.64	-25.00	2.64	225
5	12925.00	-49.85	5.40	14.00	Horizontal	-41.25	-25.00	16.25	90
6	15510.00	-51.84	6.10	16.80	Horizontal	-41.14	-25.00	16.14	45
7	18095.00	--	--	--	--	--	--	--	--
8	20680.00	--	--	--	--	--	--	--	--
9	23265.00	--	--	--	--	--	--	--	--
10	25850.00	--	--	--	--	--	--	--	--
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 40 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	4695.00	-48.41	3.20	12.50	Horizontal	-39.11	-25.00	14.11	45
3	7042.50	-48.16	4.40	12.30	Horizontal	-40.26	-25.00	15.26	225
4	9390.00	-43.37	4.70	11.80	Horizontal	-36.27	-25.00	11.27	45
5	11737.50	-51.57	5.40	14.00	Horizontal	-42.97	-25.00	17.97	135
6	14085.00	-52.48	6.10	16.80	Horizontal	-41.78	-25.00	16.78	180
7	16432.50	-49.04	5.70	14.15	Horizontal	-40.59	-25.00	15.59	225
8	18780.00	--	--	--	--	--	--	--	--
9	21127.50	--	--	--	--	--	--	--	--
10	23475.00	--	--	--	--	--	--	--	--
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 40 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	4680.00	-48.98	3.20	12.50	Horizontal	-39.68	-25.00	14.68	45
3	7020.00	-54.83	4.40	12.30	Horizontal	-46.93	-25.00	21.93	135
4	9360.00	-43.14	4.70	11.80	Horizontal	-36.04	-25.00	11.04	90
5	11700.00	-52.11	5.40	14.00	Horizontal	-43.51	-25.00	18.51	45
6	14040.00	-53.33	6.10	16.80	Horizontal	-42.63	-25.00	17.63	90
7	16380.00	--	--	--	--	--	--	--	--
8	18720.00	--	--	--	--	--	--	--	--
9	21060.00	--	--	--	--	--	--	--	--
10	23400.00	--	--	--	--	--	--	--	--
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 66 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	3464.30	-62.02	2.70	12.70	Horizontal	-52.02	-13.00	39.02	135
3	5197.50	-62.32	3.20	12.50	Horizontal	-53.02	-13.00	40.02	45
4	6930.00	-58.81	4.20	11.80	Horizontal	-51.21	-13.00	38.21	90
5	8662.50	-55.72	4.40	12.50	Horizontal	-47.62	-13.00	34.62	225
6	10467.00	-42.08	4.70	11.80	Horizontal	-34.98	-13.00	21.98	225
7	12127.50	-50.48	5.20	13.80	Horizontal	-41.88	-13.00	28.88	135
8	13860.00	-51.16	5.70	13.20	Horizontal	-43.66	-13.00	30.66	45
9	15592.50	-52.60	6.10	16.80	Horizontal	-41.90	-13.00	28.90	135
10	17325.00	-48.41	6.10	14.20	Horizontal	-40.31	-13.00	27.31	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 66 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	-65.24	2.70	12.70	Horizontal	-55.24	-13.00	42.24	225
3	5191.50	-61.51	3.20	12.50	Horizontal	-52.21	-13.00	39.21	45
4	6930.00	-59.74	4.20	11.80	Horizontal	-52.14	-13.00	39.14	225
5	8662.50	-55.36	4.40	12.50	Horizontal	-47.26	-13.00	34.26	90
6	10457.00	-40.90	4.70	11.80	Horizontal	-33.80	-13.00	20.80	135
7	12127.50	-50.61	5.20	13.80	Horizontal	-42.01	-13.00	29.01	45
8	13860.00	-49.71	5.70	13.20	Horizontal	-42.21	-13.00	29.21	0
9	15592.50	-51.91	6.10	16.80	Horizontal	-41.21	-13.00	28.21	0
10	17325.00	-47.95	6.10	14.20	Horizontal	-39.85	-13.00	26.85	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 66 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	3447.00	-63.81	2.70	12.70	Horizontal	-53.81	-13.00	40.81	225
3	5170.50	-61.75	3.20	12.50	Horizontal	-52.45	-13.00	39.45	45
4	6930.00	-60.81	4.20	11.80	Horizontal	-53.21	-13.00	40.21	180
5	8662.50	-53.04	4.40	12.50	Horizontal	-44.94	-13.00	31.94	45
6	10416.00	-42.17	4.70	11.80	Horizontal	-35.07	-13.00	22.07	135
7	12127.50	-49.85	5.20	13.80	Horizontal	-41.25	-13.00	28.25	90
8	13860.00	-50.26	5.70	13.20	Horizontal	-42.76	-13.00	29.76	45
9	15592.50	-51.73	6.10	16.80	Horizontal	-41.03	-13.00	28.03	135
10	17325.00	-47.12	6.10	14.20	Horizontal	-39.02	-13.00	26.02	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.									

6 Main Test Instruments

Name	Manufacturer	Type	Serial Number	Calibration Date	Expiration Date
Base Station Simulator	R&S	CMW500	150415	2021-05-15	2022-05-14
Climate Chamber	Weiss	VT4002	582261194500 10	2021-05-15	2022-05-14
Universal Radio Communication Tester	Agilent	E5515C	GB44400275	2021-05-15	2022-05-14
Signal Analyzer	R&S	FSV3030	101411	2020-12-13	2021-12-12
				2021-12-12	2022-12-11
Spectrum Analyzer	R&S	FSV30	104028	2021-05-15	2022-05-14
Horn Antenna	Schwarzbeck	BBHA 9120D	1594	2020-12-17	2021-12-16
Horn Antenna	ETS-Lindgren	3160-09	00102643	2021-10-10	2024-10-09
Software	R&S	EMC32	10.35.10	/	/

********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.