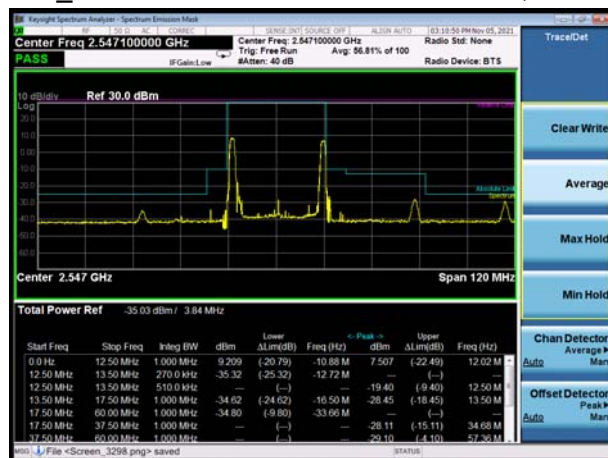
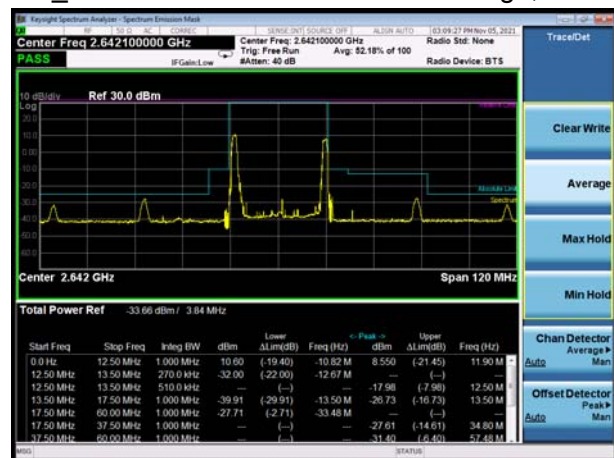


CA_41C 16QAM 20MHz+5MHz CH-Low,
100%RBCA_41C 16QAM 20MHz+5MHz CH- High,
100%RB

CA_41C 64QAM 20MHz+5MHz CH-Low, RB 1

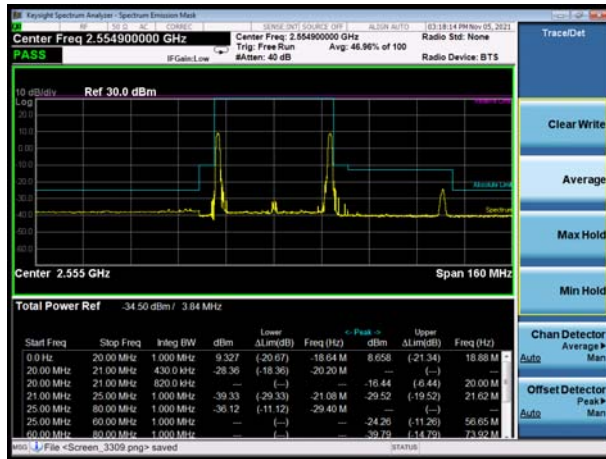


CA_41C 64QAM 20MHz+5MHz CH- High, RB 1

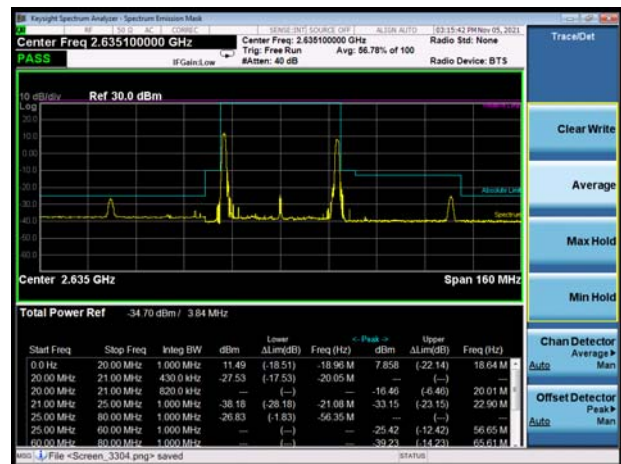
CA_41C 64QAM 20MHz+5MHz CH-Low,
100%RBCA_41C 64QAM 20MHz+5MHz CH- High,
100%RB



CA_41C QPSK 20MHz+20MHz CH-Low, RB 1



CA_41C QPSK 20MHz+20MHz CH- High, RB 1



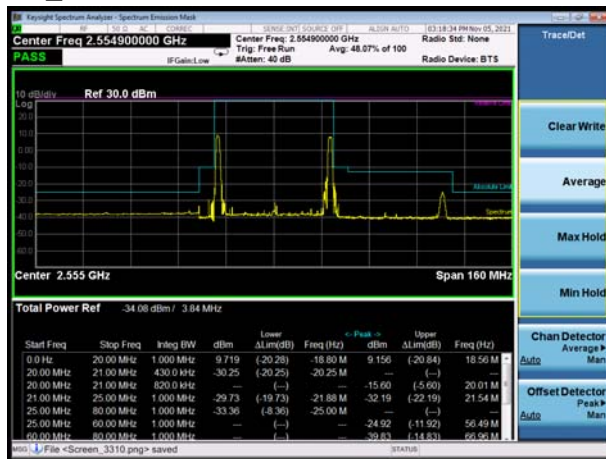
CA_41C QPSK 20MHz+20MHz CH-Low, 100%RB



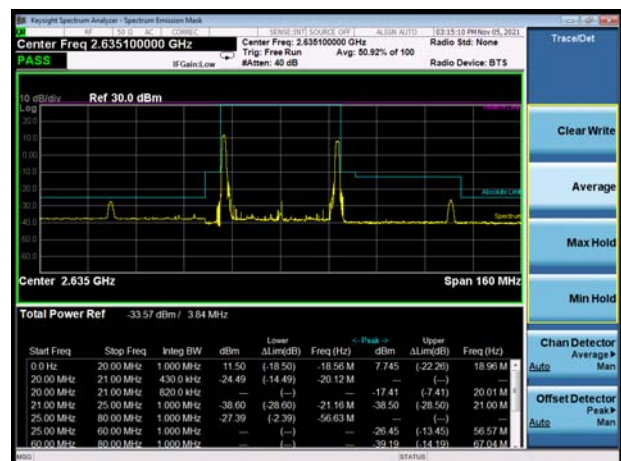
CA_41C QPSK 20MHz+20MHz CH- High, 100%RB



CA_41C 16QAM 20MHz+20MHz CH-Low, RB 1

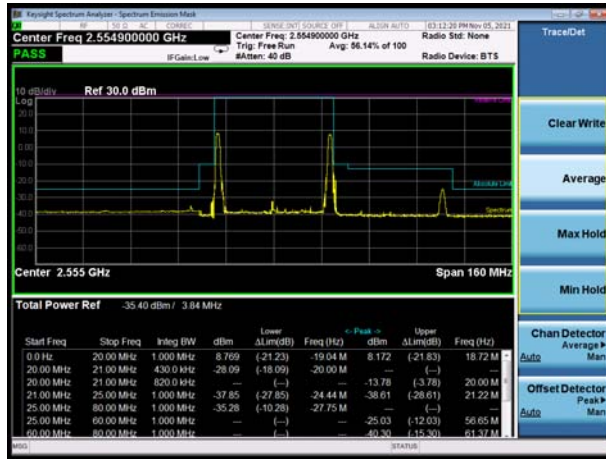


CA_41C 16QAM 20MHz+20MHz CH- High, RB 1

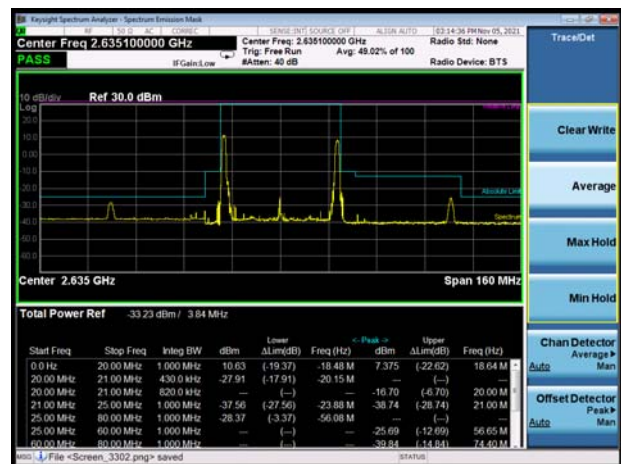


CA_41C 16QAM 20MHz+20MHz CH-Low,
100%RBCA_41C 16QAM 20MHz+20MHz CH- High,
100%RB

CA_41C 64QAM 20MHz+20MHz CH-Low, RB 1



CA_41C 64QAM 20MHz+20MHz CH- High, RB 1

CA_41C 64QAM 20MHz+20MHz CH-Low,
100%RBCA_41C 64QAM 20MHz+20MHz CH- High,
100%RB

5.4 Peak-to-Average Power Ratio (PAPR)

Ambient condition

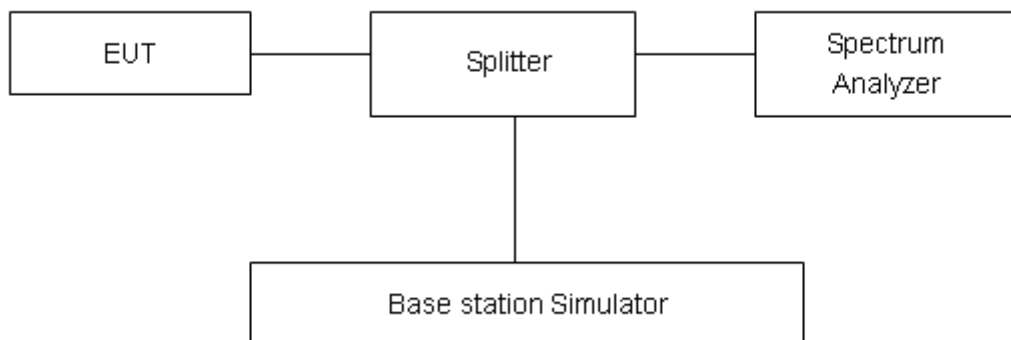
Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

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:

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

Test Setup



Limits

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

Measurement Uncertainty

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



Test Results

WCDMA Band IV	Channel	Frequency (MHz)	Peak (dBm)	Avg (dBm)	PAPR (dB)	Limit (dB)	Conclusion
RMC	1312	1712.4	27.06	24.13	2.93	≤13	PASS
	1413	1732.6	27.03	24.14	2.89	≤13	PASS
	1513	1752.6	27.05	24.12	2.93	≤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	27.50	22.88	4.62	≤13	PASS
		20175	1732.5	27.54	22.85	4.69	≤13	PASS
		20393	1754.3	27.65	22.91	4.74	≤13	PASS
	3	19965	1711.5	27.50	22.76	4.74	≤13	PASS
		20175	1732.5	27.57	22.77	4.80	≤13	PASS
		20385	1753.5	27.65	22.80	4.85	≤13	PASS
	5	19975	1712.5	27.68	22.77	4.91	≤13	PASS
		20175	1732.5	27.71	22.80	4.91	≤13	PASS
		20375	1752.5	27.77	22.84	4.93	≤13	PASS
	10	20000	1715	27.75	22.79	4.96	≤13	PASS
		20175	1732.5	27.79	22.83	4.96	≤13	PASS
		20350	1750	27.75	22.82	4.93	≤13	PASS
	15	20025	1717.5	28.20	22.90	5.30	≤13	PASS
		20175	1732.5	28.14	22.84	5.30	≤13	PASS
		20325	1747.5	28.18	22.93	5.25	≤13	PASS
	20	20050	1720	28.09	22.80	5.29	≤13	PASS
		20175	1732.5	27.98	22.77	5.21	≤13	PASS
		20300	1745	28.03	22.81	5.22	≤13	PASS
16QAM	1.4	19957	1710.7	27.25	21.81	5.44	≤13	PASS
		20175	1732.5	27.36	21.85	5.51	≤13	PASS
		20393	1754.3	27.46	21.93	5.53	≤13	PASS
	3	19965	1711.5	27.31	21.76	5.55	≤13	PASS
		20175	1732.5	27.36	21.70	5.66	≤13	PASS
		20385	1753.5	27.50	21.83	5.67	≤13	PASS
	5	19975	1712.5	27.44	21.78	5.66	≤13	PASS
		20175	1732.5	27.44	21.76	5.68	≤13	PASS
		20375	1752.5	27.50	21.81	5.69	≤13	PASS
	10	20000	1715	27.52	21.76	5.76	≤13	PASS
		20175	1732.5	27.58	21.81	5.77	≤13	PASS
		20350	1750	27.57	21.82	5.75	≤13	PASS



	15	20025	1717.5	27.81	21.86	5.95	≤13	PASS
		20175	1732.5	27.75	21.81	5.94	≤13	PASS
		20325	1747.5	27.73	21.86	5.87	≤13	PASS
	20	20050	1720	27.81	21.81	6.00	≤13	PASS
		20175	1732.5	27.75	21.77	5.98	≤13	PASS
		20300	1745	27.76	21.78	5.98	≤13	PASS
64QAM	1.4	19957	1710.7	26.90	21.42	5.48	≤13	PASS
		20175	1732.5	27.01	21.35	5.66	≤13	PASS
		20393	1754.3	27.16	21.47	5.69	≤13	PASS
	3	19965	1711.5	26.92	21.31	5.61	≤13	PASS
		20175	1732.5	27.05	21.33	5.72	≤13	PASS
		20385	1753.5	27.11	21.38	5.73	≤13	PASS
	5	19975	1712.5	27.04	21.35	5.69	≤13	PASS
		20175	1732.5	27.06	21.33	5.73	≤13	PASS
		20375	1752.5	27.12	21.38	5.74	≤13	PASS
	10	20000	1715	27.18	21.38	5.80	≤13	PASS
		20175	1732.5	27.13	21.34	5.79	≤13	PASS
		20350	1750	27.17	21.38	5.79	≤13	PASS
	15	20025	1717.5	27.41	21.42	5.99	≤13	PASS
		20175	1732.5	27.35	21.38	5.97	≤13	PASS
		20325	1747.5	27.36	21.43	5.93	≤13	PASS
	20	20050	1720	27.45	21.40	6.05	≤13	PASS
		20175	1732.5	27.31	21.33	5.98	≤13	PASS
		20300	1745	27.35	21.37	5.98	≤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	27.36	22.63	4.73	≤13	PASS
		21100	2535	27.25	22.36	4.89	≤13	PASS
		21425	2567.5	26.98	22.31	4.67	≤13	PASS
	10	20800	2505	27.49	22.61	4.88	≤13	PASS
		21100	2535	27.34	22.42	4.92	≤13	PASS
		21400	2565	27.10	22.36	4.74	≤13	PASS
	15	20825	2507.5	27.92	22.71	5.21	≤13	PASS
		21100	2535	27.76	22.51	5.25	≤13	PASS
		21375	2562.5	27.58	22.45	5.13	≤13	PASS
	20	20850	2510	27.80	22.58	5.22	≤13	PASS



		21100	2535	27.65	22.41	5.24	≤13	PASS
		21350	2560	27.45	22.32	5.13	≤13	PASS
16QAM	5	20775	2502.5	27.21	21.64	5.57	≤13	PASS
		21100	2535	27.06	21.35	5.71	≤13	PASS
		21425	2567.5	26.82	21.30	5.52	≤13	PASS
	10	20800	2505	27.30	21.60	5.70	≤13	PASS
		21100	2535	27.19	21.41	5.78	≤13	PASS
		21400	2565	26.95	21.35	5.60	≤13	PASS
	15	20825	2507.5	27.55	21.65	5.90	≤13	PASS
		21100	2535	27.40	21.46	5.94	≤13	PASS
		21375	2562.5	27.23	21.39	5.84	≤13	PASS
	20	20850	2510	27.57	21.59	5.98	≤13	PASS
		21100	2535	27.39	21.42	5.97	≤13	PASS
		21350	2560	27.24	21.33	5.91	≤13	PASS
64QAM	5	20775	2502.5	26.68	21.10	5.58	≤13	PASS
		21100	2535	26.58	20.86	5.72	≤13	PASS
		21425	2567.5	26.42	20.79	5.63	≤13	PASS
	10	20800	2505	26.79	21.09	5.70	≤13	PASS
		21100	2535	26.69	20.89	5.80	≤13	PASS
		21400	2565	26.51	20.82	5.69	≤13	PASS
	15	20825	2507.5	27.04	21.13	5.91	≤13	PASS
		21100	2535	26.87	20.92	5.95	≤13	PASS
		21375	2562.5	26.76	20.87	5.89	≤13	PASS
	20	20850	2510	27.09	21.07	6.02	≤13	PASS
		21100	2535	26.95	20.92	6.03	≤13	PASS
		21350	2560	26.79	20.82	5.97	≤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	28.13	18.39	9.74	≤13	PASS
		38000	2595	27.96	18.32	9.64	≤13	PASS
		38225	2617.5	27.88	18.64	9.24	≤13	PASS
	10	37800	2575	28.16	18.67	9.49	≤13	PASS



		38000	2595	28.18	20.28	7.90	≤13	PASS
		38200	2615	27.96	18.63	9.33	≤13	PASS
	15	37825	2577.5	28.51	19.31	9.20	≤13	PASS
		38000	2595	28.34	18.55	9.79	≤13	PASS
		38175	2612.5	28.34	19.09	9.25	≤13	PASS
	20	37850	2580	28.23	19.75	8.48	≤13	PASS
		38000	2595	28.09	19.01	9.08	≤13	PASS
		38150	2610	28.09	19.10	8.99	≤13	PASS
16QAM	5	37775	2572.5	27.89	17.89	10.00	≤13	PASS
		38000	2595	27.80	18.06	9.74	≤13	PASS
		38225	2617.5	27.67	17.38	10.29	≤13	PASS
	10	37800	2575	27.98	18.15	9.83	≤13	PASS
		38000	2595	27.79	18.07	9.72	≤13	PASS
		38200	2615	27.87	18.66	9.21	≤13	PASS
	15	37825	2577.5	27.98	16.83	11.15	≤13	PASS
		38000	2595	28.03	18.58	9.45	≤13	PASS
		38175	2612.5	27.97	18.47	9.50	≤13	PASS
	20	37850	2580	27.90	17.59	10.31	≤13	PASS
		38000	2595	27.94	18.93	9.01	≤13	PASS
		38150	2610	27.71	17.23	10.48	≤13	PASS
64QAM	5	37775	2572.5	27.37	18.04	9.33	≤13	PASS
		38000	2595	26.94	15.11	11.83	≤13	PASS
		38225	2617.5	27.17	17.76	9.41	≤13	PASS
	10	37800	2575	27.31	16.64	10.67	≤13	PASS
		38000	2595	27.35	18.32	9.03	≤13	PASS
		38200	2615	27.30	17.92	9.38	≤13	PASS
	15	37825	2577.5	27.45	16.60	10.85	≤13	PASS
		38000	2595	27.31	16.75	10.56	≤13	PASS
		38175	2612.5	27.40	17.92	9.48	≤13	PASS
	20	37850	2580	27.43	18.30	9.13	≤13	PASS
		38000	2595	27.21	17.04	10.17	≤13	PASS
		38150	2610	27.17	17.15	10.02	≤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	27.61	19.73	7.88	≤13	PASS
		40640	2595	28.14	19.32	8.82	≤13	PASS
		41215	2652.5	27.78	18.40	9.38	≤13	PASS
	10	40090	2540	27.65	18.94	8.71	≤13	PASS
		40640	2595	27.99	18.22	9.77	≤13	PASS
		41190	2650	27.64	16.98	10.66	≤13	PASS
	15	40115	2542.5	28.13	20.09	8.04	≤13	PASS
		40640	2595	28.32	19.14	9.18	≤13	PASS
		41165	2647.5	28.10	18.55	9.55	≤13	PASS
	20	40140	2545	27.92	19.33	8.59	≤13	PASS
		40640	2595	27.99	18.97	9.02	≤13	PASS
		41140	2645	27.91	19.04	8.87	≤13	PASS
16QAM	5	40065	2537.5	27.28	17.59	9.69	≤13	PASS
		40640	2595	27.74	16.83	10.91	≤13	PASS
		41215	2652.5	27.76	19.45	8.31	≤13	PASS
	10	40090	2540	27.41	17.82	9.59	≤13	PASS
		40640	2595	27.67	16.92	10.75	≤13	PASS
		41190	2650	27.54	17.83	9.71	≤13	PASS
	15	40115	2542.5	27.54	16.58	10.96	≤13	PASS
		40640	2595	27.93	18.24	9.69	≤13	PASS
		41165	2647.5	27.72	18.17	9.55	≤13	PASS
	20	40140	2545	27.68	18.52	9.16	≤13	PASS
		40640	2595	27.51	16.07	11.44	≤13	PASS
		41140	2645	27.64	18.12	9.52	≤13	PASS
64QAM	5	40065	2537.5	26.76	16.86	9.90	≤13	PASS
		40640	2595	27.38	18.25	9.13	≤13	PASS
		41215	2652.5	27.08	17.82	9.26	≤13	PASS
	10	40090	2540	26.90	17.59	9.31	≤13	PASS
		40640	2595	27.08	16.25	10.83	≤13	PASS
		41190	2650	27.07	17.54	9.53	≤13	PASS
	15	40115	2542.5	27.20	17.52	9.68	≤13	PASS
		40640	2595	27.28	16.54	10.74	≤13	PASS



	20	41165	2647.5	27.26	17.69	9.57	≤13	PASS
		40140	2545	27.03	16.77	10.26	≤13	PASS
		40640	2595	27.23	17.36	9.87	≤13	PASS
		41140	2645	27.13	17.54	9.59	≤13	PASS

CA_7C								
Bandwidth	PCC		SCC1		Modulation	Peak-to-Average Power Ratio (PAPR)		
	Channel	Frequency(MHz)	Channel	Frequency(MHz)		Peak(dBm)	Avg(dBm)	PAPR(dB)
10MHz+20MHz_QPSK	21006	2525.6	21150	2540	QPSK	25.60	19.49	6.11
10MHz+20MHz_16QAM	21006	2525.6	21150	2540	16QAM	25.33	18.45	6.88
10MHz+20MHz_64QAM	21006	2525.6	21150	2540	64QAM	24.90	18.01	6.89
20MHz+10MHz_QPSK	21051	2530.1	21195	2544.5	QPSK	25.48	19.35	6.13
20MHz+10MHz_16QAM	21051	2530.1	21195	2544.5	16QAM	25.17	18.30	6.87
20MHz+10MHz_64QAM	21051	2530.1	21195	2544.5	64QAM	24.64	17.78	6.86
15MHz+10MHz_QPSK	21051	2530.1	21171	2542.1	QPSK	27.39	21.94	5.45
15MHz+10MHz_16QAM	21051	2530.1	21171	2542.1	16QAM	27.55	21.87	5.68
15MHz+10MHz_64QAM	21051	2530.1	21171	2542.1	64QAM	27.01	21.33	5.68
15MHz+15MHz_QPSK	21025	2527.5	21175	2542.5	QPSK	25.65	19.45	6.20
15MHz+15MHz_16QAM	21025	2527.5	21175	2542.5	16QAM	25.30	18.38	6.92
5MHz+15MHz_64QAM	21025	2527.5	21175	2542.5	64QAM	24.78	17.83	6.95
15MHz+20MHz_QPSK	21003	2525.3	21174	2542.4	QPSK	25.19	18.78	6.41
15MHz+20MHz_16QAM	21003	2525.3	21174	2542.4	16QAM	24.88	17.74	7.14
15MHz+20MHz_64QAM	21003	2525.3	21174	2542.4	64QAM	24.33	17.19	7.14
20MHz+15MHz_QPSK	21026	2527.6	21197	2544.7	QPSK	25.11	18.65	6.46
20MHz+15MHz_16QAM	21026	2527.6	21197	2544.7	16QAM	24.75	17.62	7.13
20MHz+15MHz_64QAM	21026	2527.6	21197	2544.7	64QAM	24.26	17.12	7.14
20MHz+20MHz_QPSK	21001	2525.1	21199	2544.9	QPSK	24.74	18.02	6.72
20MHz+20MHz_16QAM	21001	2525.1	21199	2544.9	16QAM	24.30	16.99	7.31
20MHz+20MHz_64QAM	21001	2525.1	21199	2544.9	64QAM	23.81	16.51	7.30

CA_38C								
Bandwidth	PCC		SCC1		Modulation	Peak-to-Average Power Ratio (PAPR)		
	Channel	Frequency(MHz)	Channel	Frequency(MHz)		Peak(dBm)	Avg(dBm)	PAPR(dB)
15MHz+15MHz_QPSK	37925	2587.5	38075	2602.5	QPSK	27.36	17.07	10.29
15MHz+15MHz_16QAM	37925	2587.5	38075	2602.5	16QAM	26.98	17.11	9.87
15MHz+15MHz_64QAM	37925	2587.5	38075	2602.5	64QAM	26.44	15.76	10.68
20MHz+20MHz_QPSK	37901	2585.1	38099	2604.9	QPSK	26.41	15.70	10.71
20MHz+20MHz_16QAM	37901	2585.1	38099	2604.9	16QAM	25.86	14.68	11.18
20MHz+20MHz_64QAM	37901	2585.1	38099	2604.9	64QAM	25.34	14.20	11.14



CA_41C								
Bandwidth	PCC		SCC1		Modulation	Peak-to-Average Power Ratio (PAPR)		
	Channel	Frequency(MHz)	Channel	Frequency(MHz)		Peak(dBm)	Avg(dBm)	PAPR(dB)
5MHz+20MHz_QPSK	40549	2585.9	40666	2597.6	QPSK	28.11	17.99	10.12
5MHz+20MHz_16QAM	40549	2585.9	40666	2597.6	16QAM	27.84	17.43	10.41
5MHz+20MHz_64QAM	40549	2585.9	40666	2597.6	64QAM	27.33	17.10	10.23
20MHz+5MHz_QPSK	40615	2592.5	40732	2604.2	QPSK	28.35	18.49	9.86
20MHz+5MHz_16QAM	40615	2592.5	40732	2604.2	16QAM	27.98	17.47	10.51
20MHz+5MHz_64QAM	40615	2592.5	40732	2604.2	64QAM	27.51	17.35	10.16
10MHz+20MHz_QPSK	40546	2585.6	40690	2600	QPSK	28.16	18.60	9.56
10MHz+20MHz_16QAM	40546	2585.6	40690	2600	16QAM	27.83	17.42	10.41
10MHz+20MHz_64QAM	40546	2585.6	40690	2600	64QAM	27.36	17.29	10.07
20MHz+10MHz_QPSK	40591	2590.1	40735	2604.5	QPSK	28.36	18.53	9.83
20MHz+10MHz_16QAM	40591	2590.1	40735	2604.5	16QAM	28.01	17.86	10.15
20MHz+10MHz_64QAM	40591	2590.1	40735	2604.5	64QAM	27.51	17.33	10.18
15MHz+15MHz_QPSK	40565	2587.5	40715	2602.5	QPSK	28.45	18.42	10.03
15MHz+15MHz_16QAM	40565	2587.5	40715	2602.5	16QAM	27.88	16.76	11.12
15MHz+15MHz_64QAM	40565	2587.5	40715	2602.5	64QAM	27.47	17.05	10.42
15MHz+20MHz_QPSK	40543	2585.3	40714	2602.4	QPSK	27.29	17.78	9.51
15MHz+20MHz_16QAM	40543	2585.3	40714	2602.4	16QAM	27.88	17.91	9.97
15MHz+20MHz_64QAM	40543	2585.3	40714	2602.4	64QAM	27.29	16.36	10.93
20MHz+15MHz_QPSK	40566	2587.6	40737	2604.7	QPSK	28.27	18.14	10.13
20MHz+15MHz_16QAM	40566	2587.6	40737	2604.7	16QAM	27.90	17.58	10.32
20MHz+15MHz_64QAM	40566	2587.6	40737	2604.7	64QAM	27.33	16.15	11.18
20MHz+20MHz_QPSK	40541	2585.1	40739	2604.9	QPSK	28.25	18.10	10.15
20MHz+20MHz_16QAM	40541	2585.1	40739	2604.9	16QAM	27.85	17.11	10.74
20MHz+20MHz_64QAM	40541	2585.1	40739	2604.9	64QAM	27.34	16.75	10.59

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 +60°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 +60°. Allow at least 1.5 hours at each temperature, un-powered, before making measurements.

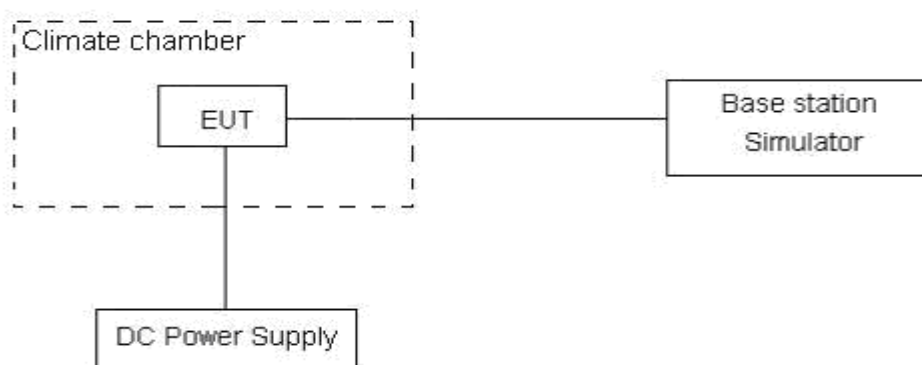
Frequency Stability (Voltage Variation)

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 3.60V and 4.45V, 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 $k = 3$, $U = 0.01$ ppm.



Test Result

WCDMA Band 4	Condition		Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability (ppm)	Frequency Stability (ppm)	Verdict
	Temperature	Voltage	BPSK	QPSK	BPSK	QPSK	
	Normal (25℃)	Normal	12.03	14.38	0.00694	0.00830	PASS
	Extreme (60℃)		12.11	2.78	0.00699	0.00160	PASS
	Extreme (50℃)		4.30	8.16	0.00248	0.00471	PASS
	Extreme (40℃)		3.96	8.18	0.00229	0.00472	PASS
	Extreme (30℃)		7.57	12.22	0.00437	0.00705	PASS
	Extreme (20℃)		2.73	15.53	0.00157	0.00897	PASS
	Extreme (10℃)		4.76	14.17	0.00275	0.00818	PASS
	Extreme (0℃)		4.15	3.45	0.00240	0.00199	PASS
	Extreme (-10℃)		4.50	7.64	0.00260	0.00441	PASS
	Extreme (-20℃)		7.20	2.48	0.00416	0.00143	PASS
	Extreme (-30℃)		9.90	5.06	0.00572	0.00292	PASS
	25℃	LV	11.82	2.88	0.00682	0.00166	PASS
		HV	11.80	1.17	0.00681	0.00067	PASS

LTE Band 4								
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	PASS
Normal (25℃)	Normal	12.41	9.43	5.68	0.00716	0.00544	0.00328	
Extreme (60℃)		2.01	9.53	2.26	0.00116	0.00550	0.00130	
Extreme (50℃)		2.12	17.16	5.90	0.00122	0.00991	0.00340	
Extreme (40℃)		7.42	16.80	13.10	0.00429	0.00970	0.00756	
Extreme (30℃)		1.57	12.86	13.34	0.00091	0.00742	0.00770	
Extreme (20℃)		13.32	12.96	8.53	0.00769	0.00748	0.00492	
Extreme (10℃)		16.32	11.73	1.75	0.00942	0.00677	0.00101	
Extreme (0℃)		14.06	7.60	6.79	0.00812	0.00439	0.00392	
Extreme (-10℃)		10.93	12.81	2.02	0.00631	0.00740	0.00117	
Extreme (-20℃)		3.13	9.69	3.14	0.00181	0.00560	0.00181	
Extreme (-30℃)		2.17	4.48	10.64	0.00125	0.00258	0.00614	
25℃	LV	12.89	2.40	11.89	0.00744	0.00139	0.00686	PASS
	HV	4.05	5.15	7.17	0.00234	0.00297	0.00414	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	PASS



Normal (25℃)	Normal	9.74	15.99	4.57	0.00562	0.00923	0.00264	PASS
Extreme (60℃)		8.21	6.07	6.61	0.00474	0.00351	0.00381	PASS
Extreme (50℃)		10.55	7.19	12.96	0.00609	0.00415	0.00748	PASS
Extreme (40℃)		13.01	13.15	12.39	0.00751	0.00759	0.00715	PASS
Extreme (30℃)		10.13	12.87	8.23	0.00585	0.00743	0.00475	PASS
Extreme (20℃)		4.54	1.13	11.13	0.00262	0.00065	0.00642	PASS
Extreme (10℃)		9.25	14.13	5.60	0.00534	0.00816	0.00323	PASS
Extreme (0℃)		10.43	5.64	5.28	0.00602	0.00326	0.00305	PASS
Extreme (-10℃)		15.47	2.12	15.22	0.00893	0.00122	0.00879	PASS
Extreme (-20℃)		17.36	6.99	4.85	0.01002	0.00403	0.00280	PASS
Extreme (-30℃)		7.47	1.84	2.53	0.00431	0.00106	0.00146	PASS
25℃	LV	5.00	11.60	12.08	0.00288	0.00670	0.00697	PASS
	HV	17.31	10.40	4.71	0.00999	0.00601	0.00272	PASS
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	12.16	15.18	4.92	0.00702	0.00876	0.00284	PASS
Extreme (60℃)		1.26	15.54	15.86	0.00073	0.00897	0.00916	PASS
Extreme (50℃)		11.48	8.03	5.70	0.00662	0.00463	0.00329	PASS
Extreme (40℃)		7.13	16.17	2.27	0.00412	0.00933	0.00131	PASS
Extreme (30℃)		7.03	6.22	13.35	0.00406	0.00359	0.00771	PASS
Extreme (20℃)		9.73	1.43	15.13	0.00562	0.00083	0.00873	PASS
Extreme (10℃)		8.88	6.67	2.51	0.00512	0.00385	0.00145	PASS
Extreme (0℃)		1.38	2.62	1.49	0.00080	0.00151	0.00086	PASS
Extreme (-10℃)		4.70	6.94	3.56	0.00271	0.00401	0.00206	PASS
Extreme (-20℃)		3.17	17.50	15.62	0.00183	0.01010	0.00902	PASS
Extreme (-30℃)		6.77	13.04	6.25	0.00391	0.00753	0.00361	PASS
25℃	LV	2.23	12.52	12.69	0.00129	0.00722	0.00732	PASS
	HV	17.74	8.19	12.33	0.01024	0.00473	0.00711	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	3.02	16.39	10.66	0.00174	0.00946	0.00615	PASS
Extreme (60℃)		4.41	4.85	7.06	0.00255	0.00280	0.00407	PASS
Extreme (50℃)		4.51	1.66	2.75	0.00260	0.00096	0.00159	PASS
Extreme (40℃)		4.31	6.79	12.35	0.00249	0.00392	0.00713	PASS
Extreme (30℃)		13.54	5.75	2.34	0.00781	0.00332	0.00135	PASS
Extreme (20℃)		17.26	2.01	5.06	0.00996	0.00116	0.00292	PASS
Extreme (10℃)		11.86	14.31	17.31	0.00685	0.00826	0.00999	PASS



Extreme (0℃)		12.66	10.94	10.64	0.00731	0.00631	0.00614	PASS
Extreme (-10℃)		6.86	16.17	3.09	0.00396	0.00933	0.00179	PASS
Extreme (-20℃)		9.54	11.05	11.65	0.00551	0.00638	0.00672	PASS
Extreme (-30℃)		15.59	7.43	11.42	0.00900	0.00429	0.00659	PASS
25℃	LV	2.84	5.11	2.29	0.00164	0.00295	0.00132	PASS
	HV	1.83	17.79	1.87	0.00105	0.01027	0.00108	PASS
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	4.61	16.97	17.34	0.00266	0.00980	0.01001	PASS
Extreme (60℃)		3.83	1.77	16.78	0.00221	0.00102	0.00969	PASS
Extreme (50℃)		9.01	4.81	2.75	0.00520	0.00277	0.00159	PASS
Extreme (40℃)		4.90	16.42	1.08	0.00283	0.00948	0.00062	PASS
Extreme (30℃)		1.91	2.89	7.98	0.00110	0.00167	0.00460	PASS
Extreme (20℃)		17.15	2.28	17.13	0.00990	0.00132	0.00989	PASS
Extreme (10℃)		5.54	4.80	13.67	0.00320	0.00277	0.00789	PASS
Extreme (0℃)		7.79	12.40	4.69	0.00450	0.00716	0.00271	PASS
Extreme (-10℃)		2.26	3.41	16.79	0.00131	0.00197	0.00969	PASS
Extreme (-20℃)		5.65	3.56	14.17	0.00326	0.00205	0.00818	PASS
Extreme (-30℃)		13.79	5.14	8.99	0.00796	0.00296	0.00519	PASS
25℃	LV	17.21	5.49	3.64	0.00993	0.00317	0.00210	PASS
	HV	14.66	5.69	12.01	0.00846	0.00329	0.00693	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	9.20	17.69	12.66	0.00531	0.01021	0.00731	PASS
Extreme (60℃)		6.69	3.41	6.30	0.00386	0.00197	0.00364	PASS
Extreme (50℃)		5.23	12.43	9.95	0.00302	0.00717	0.00574	PASS
Extreme (40℃)		2.77	15.58	7.67	0.00160	0.00900	0.00443	PASS
Extreme (30℃)		15.25	3.44	9.41	0.00880	0.00199	0.00543	PASS
Extreme (20℃)		8.39	7.95	13.66	0.00484	0.00459	0.00788	PASS
Extreme (10℃)		2.42	16.65	5.44	0.00140	0.00961	0.00314	PASS
Extreme (0℃)		11.45	10.71	4.26	0.00661	0.00618	0.00246	PASS
Extreme (-10℃)		9.73	11.13	10.67	0.00562	0.00642	0.00616	PASS
Extreme (-20℃)		1.39	15.64	6.70	0.00080	0.00903	0.00387	PASS
Extreme (-30℃)		9.49	12.37	14.22	0.00548	0.00714	0.00821	PASS
25℃	LV	4.69	8.20	7.01	0.00271	0.00473	0.00405	PASS
	HV	14.83	17.67	17.55	0.00856	0.01020	0.01013	PASS



LTE Band 7								
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	14.04	4.48	9.91	0.00554	0.00177	0.00391	PASS
Extreme (60℃)		2.07	11.32	11.15	0.00082	0.00446	0.00440	PASS
Extreme (50℃)		4.16	17.13	9.22	0.00164	0.00676	0.00364	PASS
Extreme (40℃)		4.96	10.50	16.30	0.00196	0.00414	0.00643	PASS
Extreme (30℃)		15.89	10.27	3.71	0.00627	0.00405	0.00146	PASS
Extreme (20℃)		15.52	6.14	17.58	0.00612	0.00242	0.00694	PASS
Extreme (10℃)		12.88	8.94	9.71	0.00508	0.00353	0.00383	PASS
Extreme (0℃)		4.46	16.21	9.67	0.00176	0.00639	0.00381	PASS
Extreme (-10℃)		11.93	11.82	17.58	0.00471	0.00466	0.00693	PASS
Extreme (-20℃)		3.61	8.38	11.63	0.00143	0.00331	0.00459	PASS
Extreme (-30℃)		13.60	2.68	3.02	0.00537	0.00106	0.00119	PASS
25℃	LV	8.93	3.40	3.51	0.00352	0.00134	0.00138	PASS
	HV	15.97	5.71	3.63	0.00630	0.00225	0.00143	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	3.34	17.35	5.06	0.00132	0.00684	0.00199	PASS
Extreme (60℃)		8.54	4.19	7.14	0.00337	0.00165	0.00282	PASS
Extreme (50℃)		16.54	4.30	17.75	0.00653	0.00170	0.00700	PASS
Extreme (40℃)		8.69	14.85	1.36	0.00343	0.00586	0.00054	PASS
Extreme (30℃)		12.91	12.20	11.51	0.00509	0.00481	0.00454	PASS
Extreme (20℃)		16.27	5.20	10.66	0.00642	0.00205	0.00420	PASS
Extreme (10℃)		1.07	11.17	15.87	0.00042	0.00441	0.00626	PASS
Extreme (0℃)		13.15	3.55	3.78	0.00519	0.00140	0.00149	PASS
Extreme (-10℃)		16.15	3.40	13.63	0.00637	0.00134	0.00538	PASS
Extreme (-20℃)		17.21	6.11	9.52	0.00679	0.00241	0.00375	PASS
Extreme (-30℃)		4.23	4.58	16.00	0.00167	0.00181	0.00631	PASS
25℃	LV	16.37	11.00	15.82	0.00646	0.00434	0.00624	PASS
	HV	12.16	5.17	6.37	0.00480	0.00204	0.00251	PASS



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	17.84	4.83	6.16	0.00704	0.00190	0.00243	PASS
Extreme (60℃)		15.10	12.31	17.40	0.00595	0.00485	0.00686	PASS
Extreme (50℃)		14.50	11.71	16.36	0.00572	0.00462	0.00645	PASS
Extreme (40℃)		2.11	2.65	6.15	0.00083	0.00104	0.00242	PASS
Extreme (30℃)		2.91	4.75	11.87	0.00115	0.00187	0.00468	PASS
Extreme (20℃)		6.70	12.20	17.45	0.00264	0.00481	0.00688	PASS
Extreme (10℃)		8.93	17.60	13.64	0.00352	0.00694	0.00538	PASS
Extreme (0℃)		13.52	3.37	16.78	0.00534	0.00133	0.00662	PASS
Extreme (-10℃)		10.08	2.16	6.88	0.00398	0.00085	0.00271	PASS
Extreme (-20℃)		8.47	4.02	13.80	0.00334	0.00159	0.00544	PASS
Extreme (-30℃)		2.25	1.33	9.28	0.00089	0.00052	0.00366	PASS
25℃	LV	9.55	4.68	5.47	0.00377	0.00185	0.00216	PASS
	HV	10.35	3.75	1.47	0.00408	0.00148	0.00058	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	16.65	3.83	5.96	0.00657	0.00151	0.00235	PASS
Extreme (60℃)		4.65	10.29	14.14	0.00184	0.00406	0.00558	PASS
Extreme (50℃)		4.94	14.90	16.00	0.00195	0.00588	0.00631	PASS
Extreme (40℃)		16.86	11.11	11.95	0.00665	0.00438	0.00472	PASS
Extreme (30℃)		10.60	8.07	9.13	0.00418	0.00318	0.00360	PASS
Extreme (20℃)		17.04	1.57	17.47	0.00672	0.00062	0.00689	PASS
Extreme (10℃)		7.66	6.59	2.66	0.00302	0.00260	0.00105	PASS
Extreme (0℃)		17.08	6.83	7.60	0.00674	0.00269	0.00300	PASS
Extreme (-10℃)		11.92	7.75	1.31	0.00470	0.00306	0.00052	PASS
Extreme (-20℃)		2.63	12.51	5.75	0.00104	0.00494	0.00227	PASS
Extreme (-30℃)		9.98	14.26	3.00	0.00394	0.00563	0.00118	PASS
25℃	LV	13.10	16.64	17.46	0.00517	0.00656	0.00689	PASS
	HV	17.73	11.97	8.73	0.00699	0.00472	0.00344	PASS



LTE Band 38								
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	16.93	5.81	2.82	0.00652	0.00224	0.00109	PASS
Extreme (60℃)		12.35	17.40	4.43	0.00476	0.00671	0.00171	PASS
Extreme (50℃)		4.39	15.29	7.00	0.00169	0.00589	0.00270	PASS
Extreme (40℃)		15.91	10.94	11.49	0.00613	0.00422	0.00443	PASS
Extreme (30℃)		2.89	6.06	17.39	0.00111	0.00233	0.00670	PASS
Extreme (20℃)		9.26	6.06	13.75	0.00357	0.00233	0.00530	PASS
Extreme (10℃)		10.52	9.77	6.17	0.00405	0.00377	0.00238	PASS
Extreme (0℃)		2.99	15.85	17.26	0.00115	0.00611	0.00665	PASS
Extreme (-10℃)		12.29	1.35	2.26	0.00474	0.00052	0.00087	PASS
Extreme (-20℃)		9.33	2.37	1.89	0.00360	0.00091	0.00073	PASS
Extreme (-30℃)		8.59	13.48	11.68	0.00331	0.00519	0.00450	PASS
25℃	LV	14.18	2.72	1.29	0.00546	0.00105	0.00050	PASS
	HV	9.11	11.36	16.83	0.00351	0.00438	0.00649	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	4.90	16.71	10.80	0.00189	0.00644	0.00416	PASS
Extreme (60℃)		12.90	3.71	10.80	0.00497	0.00143	0.00416	PASS
Extreme (50℃)		2.74	5.67	17.80	0.00106	0.00218	0.00686	PASS
Extreme (40℃)		15.99	12.42	7.04	0.00616	0.00479	0.00271	PASS
Extreme (30℃)		3.64	10.19	10.90	0.00140	0.00393	0.00420	PASS
Extreme (20℃)		4.48	10.71	14.47	0.00173	0.00413	0.00558	PASS
Extreme (10℃)		2.81	4.08	16.02	0.00108	0.00157	0.00618	PASS
Extreme (0℃)		8.32	1.96	13.31	0.00321	0.00075	0.00513	PASS
Extreme (-10℃)		14.69	3.45	5.99	0.00566	0.00133	0.00231	PASS
Extreme (-20℃)		3.23	6.89	5.59	0.00125	0.00266	0.00215	PASS
Extreme (-30℃)		17.11	4.01	17.08	0.00659	0.00155	0.00658	PASS
25℃	LV	6.09	1.62	16.74	0.00235	0.00063	0.00645	PASS
	HV	12.02	4.72	13.53	0.00463	0.00182	0.00521	PASS



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	6.00	16.00	16.00	0.00231	0.00617	0.00617	PASS
Extreme (60℃)		13.00	13.00	7.00	0.00501	0.00501	0.00270	PASS
Extreme (50℃)		16.00	17.00	14.00	0.00617	0.00655	0.00539	PASS
Extreme (40℃)		1.00	2.00	13.00	0.00039	0.00077	0.00501	PASS
Extreme (30℃)		11.00	13.00	9.00	0.00424	0.00501	0.00347	PASS
Extreme (20℃)		2.00	16.00	1.00	0.00077	0.00617	0.00039	PASS
Extreme (10℃)		4.00	11.00	9.00	0.00154	0.00424	0.00347	PASS
Extreme (0℃)		7.00	4.00	8.00	0.00270	0.00154	0.00308	PASS
Extreme (-10℃)		10.43	15.21	6.85	0.00402	0.00586	0.00264	PASS
Extreme (-20℃)		17.00	16.00	11.00	0.00655	0.00617	0.00424	PASS
Extreme (-30℃)		4.00	5.00	13.00	0.00154	0.00193	0.00501	PASS
25℃	LV	9.00	15.00	7.00	0.00347	0.00578	0.00270	PASS
	HV	10.00	7.00	4.00	0.00385	0.00270	0.00154	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	6.00	8.00	16.00	0.00231	0.00308	0.00617	PASS
Extreme (60℃)		8.00	8.00	13.00	0.00308	0.00308	0.00501	PASS
Extreme (50℃)		17.00	17.00	16.00	0.00655	0.00655	0.00617	PASS
Extreme (40℃)		7.00	6.00	4.00	0.00270	0.00231	0.00154	PASS
Extreme (30℃)		10.00	12.00	5.00	0.00385	0.00462	0.00193	PASS
Extreme (20℃)		11.00	6.00	6.00	0.00424	0.00231	0.00231	PASS
Extreme (10℃)		6.00	5.00	12.00	0.00231	0.00193	0.00462	PASS
Extreme (0℃)		14.00	10.00	1.00	0.00539	0.00385	0.00039	PASS
Extreme (-10℃)		13.00	1.00	2.00	0.00501	0.00039	0.00077	PASS
Extreme (-20℃)		4.00	15.00	3.00	0.00154	0.00578	0.00116	PASS
Extreme (-30℃)		8.00	12.00	11.00	0.00308	0.00462	0.00424	PASS
25℃	LV	1.00	14.00	15.00	0.00039	0.00539	0.00578	PASS
	HV	16.00	15.00	2.00	0.00617	0.00578	0.00077	PASS



LTE Band 41								
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	3.00	17.00	3.00	0.00116	0.00656	0.00116	PASS
Extreme (60℃)		1.00	12.00	7.00	0.00039	0.00463	0.00270	PASS
Extreme (50℃)		7.00	7.00	8.00	0.00270	0.00270	0.00309	PASS
Extreme (40℃)		13.00	10.00	5.00	0.00501	0.00386	0.00193	PASS
Extreme (30℃)		6.00	11.00	2.00	0.00231	0.00424	0.00077	PASS
Extreme (20℃)		17.00	14.00	10.00	0.00656	0.00540	0.00386	PASS
Extreme (10℃)		13.00	2.00	7.00	0.00501	0.00077	0.00270	PASS
Extreme (0℃)		17.00	15.00	14.00	0.00656	0.00578	0.00540	PASS
Extreme (-10℃)		11.00	12.00	1.00	0.00424	0.00463	0.00039	PASS
Extreme (-20℃)		10.00	10.00	12.00	0.00386	0.00386	0.00463	PASS
Extreme (-30℃)		14.00	11.00	1.00	0.00540	0.00424	0.00039	PASS
25℃	LV	3.00	13.00	8.00	0.00116	0.00501	0.00309	PASS
	HV	1.00	11.00	15.00	0.00039	0.00424	0.00578	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	14.00	12.00	1.00	0.00540	0.00463	0.00039	PASS
Extreme (60℃)		16.00	2.00	10.00	0.00617	0.00077	0.00386	PASS
Extreme (50℃)		11.00	15.00	13.00	0.00424	0.00578	0.00501	PASS
Extreme (40℃)		1.00	2.00	9.00	0.00039	0.00077	0.00347	PASS
Extreme (30℃)		9.00	9.00	9.00	0.00347	0.00347	0.00347	PASS
Extreme (20℃)		12.00	15.00	16.00	0.00463	0.00578	0.00617	PASS
Extreme (10℃)		11.00	15.00	2.00	0.00424	0.00578	0.00077	PASS
Extreme (0℃)		13.00	6.00	10.00	0.00501	0.00231	0.00386	PASS
Extreme (-10℃)		1.00	1.00	10.00	0.00039	0.00039	0.00386	PASS
Extreme (-20℃)		12.00	14.00	9.00	0.00463	0.00540	0.00347	PASS
Extreme (-30℃)		2.00	1.00	12.00	0.00077	0.00039	0.00463	PASS
25℃	LV	10.00	12.00	17.00	0.00386	0.00463	0.00656	PASS
	HV	10.00	7.00	13.00	0.00386	0.00270	0.00501	PASS



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	4.00	5.00	4.00	0.00154	0.00193	0.00154	PASS
Extreme (60℃)		13.00	2.00	16.00	0.00501	0.00077	0.00617	PASS
Extreme (50℃)		13.00	6.00	1.00	0.00501	0.00231	0.00039	PASS
Extreme (40℃)		14.00	8.00	17.00	0.00540	0.00309	0.00656	PASS
Extreme (30℃)		7.00	1.00	8.00	0.00270	0.00039	0.00309	PASS
Extreme (20℃)		17.00	11.00	10.00	0.00656	0.00424	0.00386	PASS
Extreme (10℃)		15.00	17.00	11.00	0.00578	0.00656	0.00424	PASS
Extreme (0℃)		2.00	16.00	8.00	0.00077	0.00617	0.00309	PASS
Extreme (-10℃)		3.00	16.00	6.00	0.00116	0.00617	0.00231	PASS
Extreme (-20℃)		9.00	5.00	15.00	0.00347	0.00193	0.00578	PASS
Extreme (-30℃)		16.00	17.00	14.00	0.00617	0.00656	0.00540	PASS
25℃	LV	4.00	7.00	12.00	0.00154	0.00270	0.00463	PASS
	HV	15.00	7.00	4.00	0.00578	0.00270	0.00154	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	17.00	3.00	4.00	0.00656	0.00116	0.00154	PASS
Extreme (60℃)		2.00	15.00	12.00	0.00077	0.00578	0.00463	PASS
Extreme (50℃)		8.00	17.00	16.00	0.00309	0.00656	0.00617	PASS
Extreme (40℃)		3.00	9.00	5.00	0.00116	0.00347	0.00193	PASS
Extreme (30℃)		17.00	8.00	14.00	0.00656	0.00309	0.00540	PASS
Extreme (20℃)		12.00	14.00	14.00	0.00463	0.00540	0.00540	PASS
Extreme (10℃)		4.00	4.00	10.00	0.00154	0.00154	0.00386	PASS
Extreme (0℃)		16.00	4.00	8.00	0.00617	0.00154	0.00309	PASS
Extreme (-10℃)		12.00	3.00	4.00	0.00463	0.00116	0.00154	PASS
Extreme (-20℃)		11.00	8.00	14.00	0.00424	0.00309	0.00540	PASS
Extreme (-30℃)		3.00	2.00	5.00	0.00116	0.00077	0.00193	PASS
25℃	LV	4.00	7.00	14.00	0.00154	0.00270	0.00540	PASS
	HV	7.00	11.00	11.00	0.00270	0.00424	0.00424	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	3.87	0.00206	6.66	0.00354	PASS
Extreme (60℃)		1.22	0.00065	15.05	0.00801	PASS
Extreme (50℃)		15.50	0.00824	3.37	0.00179	PASS
Extreme (40℃)		11.66	0.00620	6.80	0.00362	PASS
Extreme (30℃)		6.87	0.00365	3.67	0.00195	PASS
Extreme (20℃)		10.19	0.00542	10.84	0.00576	PASS
Extreme (10℃)		7.09	0.00377	8.30	0.00442	PASS
Extreme (0℃)		6.45	0.00343	17.18	0.00914	PASS
Extreme (-10℃)		5.62	0.00299	7.08	0.00376	PASS
Extreme (-20℃)		13.09	0.00696	17.55	0.00934	PASS
Extreme (-30℃)		15.98	0.00850	6.74	0.00359	PASS
25℃	LV	12.56	0.00668	8.53	0.00454	PASS
	HV	4.42	0.00235	9.76	0.00519	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	10.68	0.00568	5.50	0.00292	PASS
Extreme (60℃)		13.96	0.00743	11.92	0.00634	PASS
Extreme (50℃)		14.47	0.00770	9.35	0.00497	PASS
Extreme (40℃)		17.98	0.00957	6.10	0.00324	PASS
Extreme (30℃)		5.95	0.00316	3.02	0.00161	PASS
Extreme (20℃)		6.20	0.00330	1.32	0.00070	PASS
Extreme (10℃)		11.14	0.00593	14.09	0.00749	PASS
Extreme (0℃)		7.07	0.00376	11.63	0.00618	PASS
Extreme (-10℃)		5.85	0.00311	5.11	0.00272	PASS
Extreme (-20℃)		8.47	0.00451	2.39	0.00127	PASS
Extreme (-30℃)		3.27	0.00174	9.40	0.00500	PASS
25℃	LV	2.95	0.00157	6.91	0.00368	PASS
	HV	7.30	0.00388	1.36	0.00072	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	7.52	0.00400	14.87	0.00791	PASS
Extreme (60℃)		5.41	0.00288	1.84	0.00098	PASS
Extreme (50℃)		14.46	0.00769	11.49	0.00611	PASS
Extreme (40℃)		6.18	0.00329	4.87	0.00259	PASS



Extreme (30℃)		8.13	0.00432	15.43	0.00821	PASS
Extreme (20℃)		6.87	0.00366	2.21	0.00117	PASS
Extreme (10℃)		14.80	0.00787	6.20	0.00330	PASS
Extreme (0℃)		7.15	0.00380	2.16	0.00115	PASS
Extreme (-10℃)		7.86	0.00418	6.64	0.00353	PASS
Extreme (-20℃)		9.04	0.00481	8.75	0.00466	PASS
Extreme (-30℃)		8.71	0.00463	2.45	0.00130	PASS
25℃	LV	11.37	0.00605	4.10	0.00218	PASS
	HV	13.88	0.00738	14.18	0.00754	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	2.45	0.00130	14.36	0.00764	PASS
Extreme (60℃)		7.49	0.00399	13.86	0.00737	PASS
Extreme (50℃)		13.35	0.00710	6.41	0.00341	PASS
Extreme (40℃)		10.68	0.00568	8.57	0.00456	PASS
Extreme (30℃)		4.61	0.00245	15.52	0.00826	PASS
Extreme (20℃)		4.64	0.00247	2.77	0.00147	PASS
Extreme (10℃)		5.55	0.00295	10.15	0.00540	PASS
Extreme (0℃)		10.66	0.00567	10.42	0.00554	PASS
Extreme (-10℃)		15.05	0.00800	11.84	0.00630	PASS
Extreme (-20℃)		8.61	0.00458	2.62	0.00140	PASS
Extreme (-30℃)		15.44	0.00821	15.97	0.00849	PASS
25℃	LV	15.36	0.00817	2.25	0.00120	PASS
	HV	2.26	0.00120	10.48	0.00558	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	15.53	0.00826	5.58	0.00297	PASS
Extreme (60℃)		16.09	0.00856	8.68	0.00462	PASS
Extreme (50℃)		14.64	0.00779	3.71	0.00197	PASS
Extreme (40℃)		2.48	0.00132	1.33	0.00071	PASS
Extreme (30℃)		14.40	0.00766	14.45	0.00768	PASS
Extreme (20℃)		2.08	0.00111	12.23	0.00651	PASS
Extreme (10℃)		7.51	0.00399	13.14	0.00699	PASS
Extreme (0℃)		17.73	0.00943	9.67	0.00514	PASS
Extreme (-10℃)		16.49	0.00877	16.51	0.00878	PASS
Extreme (-20℃)		17.11	0.00910	9.64	0.00513	PASS
Extreme (-30℃)		2.29	0.00122	17.52	0.00932	PASS
25℃	LV	4.13	0.00220	17.22	0.00916	PASS



	HV	16.86	0.00897	17.77	0.00945	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	10.06	0.00535	13.25	0.00705	PASS
Extreme (60℃)		14.30	0.00761	7.68	0.00408	PASS
Extreme (50℃)		16.32	0.00868	2.28	0.00121	PASS
Extreme (40℃)		12.05	0.00641	4.13	0.00220	PASS
Extreme (30℃)		3.39	0.00180	15.38	0.00818	PASS
Extreme (20℃)		11.92	0.00634	13.06	0.00694	PASS
Extreme (10℃)		11.70	0.00622	17.03	0.00906	PASS
Extreme (0℃)		17.10	0.00910	8.28	0.00441	PASS
Extreme (-10℃)		16.04	0.00853	17.96	0.00955	PASS
Extreme (-20℃)		8.56	0.00455	7.57	0.00403	PASS
Extreme (-30℃)		13.62	0.00724	13.54	0.00720	PASS
25℃	LV	10.57	0.00562	6.67	0.00355	PASS
	HV	2.94	0.00156	7.25	0.00386	PASS

CA_41C_QPSK		20MHz+10MHz (Bandwidth)		20MHz+20MHz (Bandwidth)		Verdict
Condition		Delta (Hz)	Frequency Stability (ppm)	Delta (Hz)	Frequency Stability (ppm)	
Temperature	Voltage					
Extreme (25℃)	Normal	15.05	0.00800	5.27	0.00281	PASS
Extreme (60℃)		2.44	0.00130	12.05	0.00641	PASS
Extreme (50℃)		6.06	0.00322	13.31	0.00708	PASS
Extreme (40℃)		8.30	0.00441	5.68	0.00302	PASS
Extreme (30℃)		8.99	0.00478	2.08	0.00110	PASS
Extreme (20℃)		5.51	0.00293	10.85	0.00577	PASS
Extreme (10℃)		2.70	0.00143	3.80	0.00202	PASS
Extreme (0℃)		12.90	0.00686	14.25	0.00758	PASS
Extreme (-10℃)		11.39	0.00606	2.25	0.00120	PASS
Extreme (-20℃)		3.69	0.00196	5.81	0.00309	PASS
Extreme (-30℃)		9.86	0.00524	15.19	0.00808	PASS
25℃	LV	17.50	0.00931	15.94	0.00848	PASS
	HV	8.29	0.00441	6.31	0.00336	PASS
CA_41C_16QAM		20MHz+10MHz (Bandwidth)		20MHz+20MHz (Bandwidth)		Verdict
Condition		Delta (Hz)	Frequency Stability (ppm)	Delta (Hz)	Frequency Stability (ppm)	
Temperature	Voltage					
Extreme (25℃)	Normal	1.51	0.00081	6.05	0.00322	PASS
Extreme (60℃)		17.61	0.00937	1.25	0.00066	PASS



Extreme (50℃)		12.22	0.00650	16.74	0.00890	PASS
Extreme (40℃)		15.39	0.00818	5.79	0.00308	PASS
Extreme (30℃)		6.00	0.00319	9.29	0.00494	PASS
Extreme (20℃)		16.98	0.00903	8.20	0.00436	PASS
Extreme (10℃)		10.41	0.00554	9.68	0.00515	PASS
Extreme (0℃)		8.41	0.00447	7.02	0.00373	PASS
Extreme (-10℃)		14.93	0.00794	8.49	0.00451	PASS
Extreme (-20℃)		5.17	0.00275	8.85	0.00471	PASS
Extreme (-30℃)		1.81	0.00096	7.93	0.00422	PASS
25℃	LV	13.05	0.00694	8.23	0.00438	PASS
	HV	12.64	0.00672	16.82	0.00894	PASS
CA_41C_64QAM		20MHz+10MHz (Bandwidth)		20MHz+20MHz (Bandwidth)		Verdict
Condition		Delta (Hz)	Frequency Stability (ppm)	Delta (Hz)	Frequency Stability (ppm)	
Temperature	Voltage					
Extreme (25℃)	Normal	2.00	0.00106	6.94	0.00369	PASS
Extreme (60℃)		3.40	0.00181	13.14	0.00699	PASS
Extreme (50℃)		8.73	0.00464	1.06	0.00057	PASS
Extreme (40℃)		11.57	0.00616	12.41	0.00660	PASS
Extreme (30℃)		11.52	0.00613	9.50	0.00505	PASS
Extreme (20℃)		8.87	0.00472	6.11	0.00325	PASS
Extreme (10℃)		15.97	0.00849	1.33	0.00071	PASS
Extreme (0℃)		5.33	0.00284	9.41	0.00501	PASS
Extreme (-10℃)		16.08	0.00855	12.10	0.00644	PASS
Extreme (-20℃)		2.00	0.00107	7.00	0.00372	PASS
Extreme (-30℃)		17.46	0.00929	13.23	0.00704	PASS
25℃	LV	4.38	0.00233	10.56	0.00562	PASS
	HV	15.87	0.00844	16.32	0.00868	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)

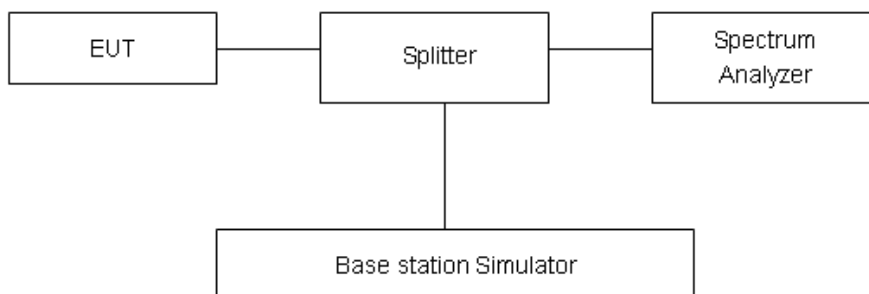
RBW is set to 100 kHz (30MHz~1000 MHz)

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 $43 + 10 \log_{10}(P)$ 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(h) 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 $k = 1.96$.

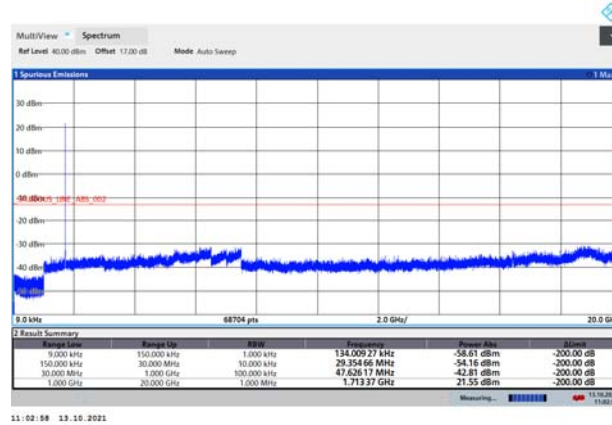
Frequency	Uncertainty
9kHz-1GHz	0.684 dB
1GHz-27GHz	1.407 dB

Test Result

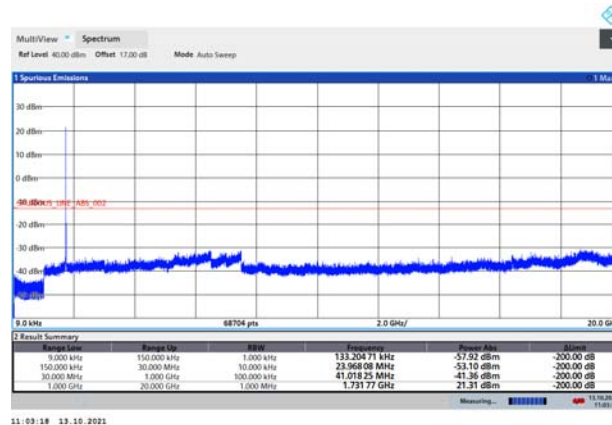
Sweep the whole frequency band through the range from 9kHz to the 10th harmonic of the carrier, the emissions more than 20 dB below the limit are not reported.

The signal beyond the limit is carrier.

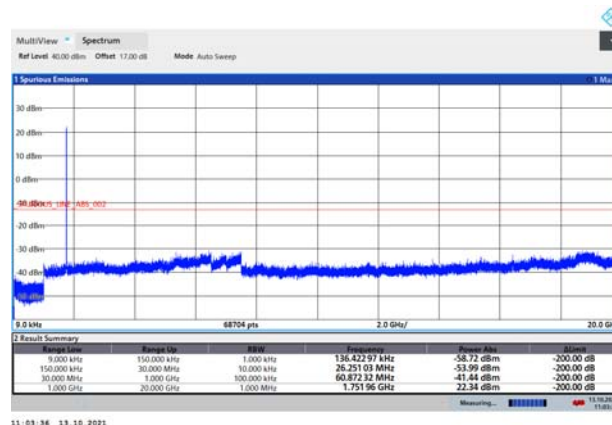
WCDMA Band IV CH-Low 9kHz~20GHz



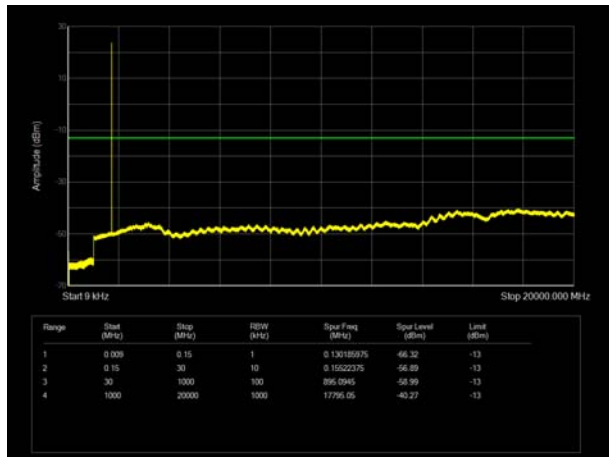
WCDMA Band IV CH-Middle 9kHz~20GHz



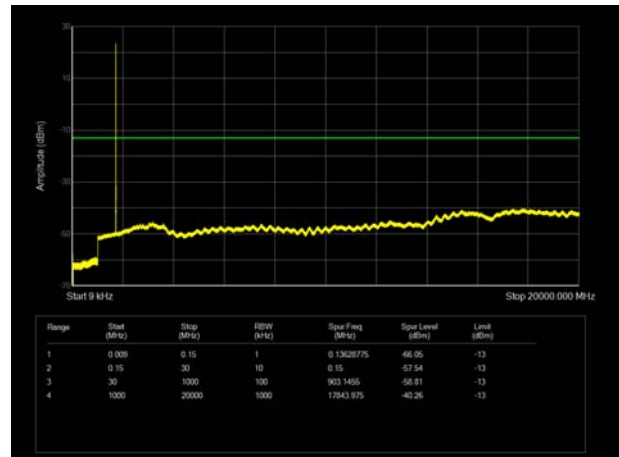
WCDMA Band IV CH-High 9kHz~20GHz



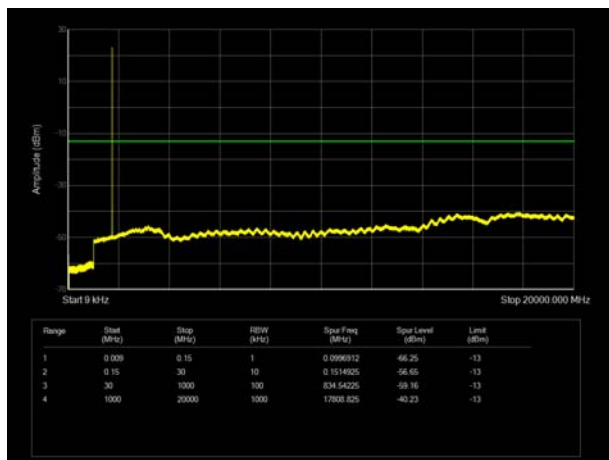
LTE Band 4 1.4MHz CH-Low 9kHz~20GHz



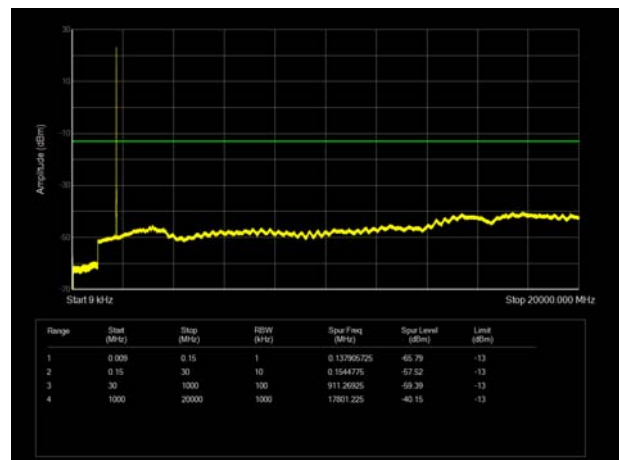
LTE Band 4 3MHz CH- Low 9kHz~20GHz



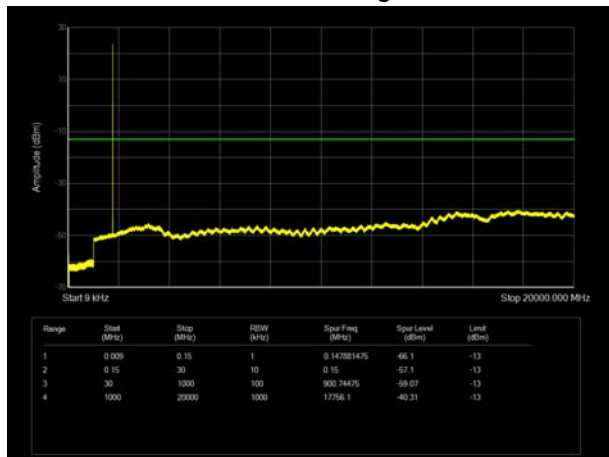
LTE Band 4 1.4MHz CH- Middle 9kHz~20GHz



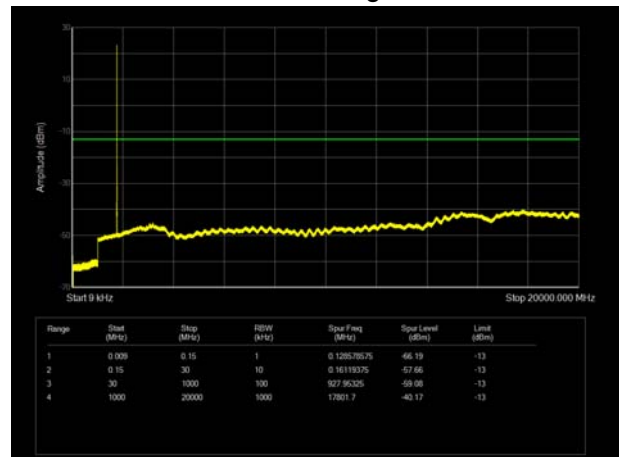
LTE Band 4 3MHz CH- Middle 9kHz~20GHz



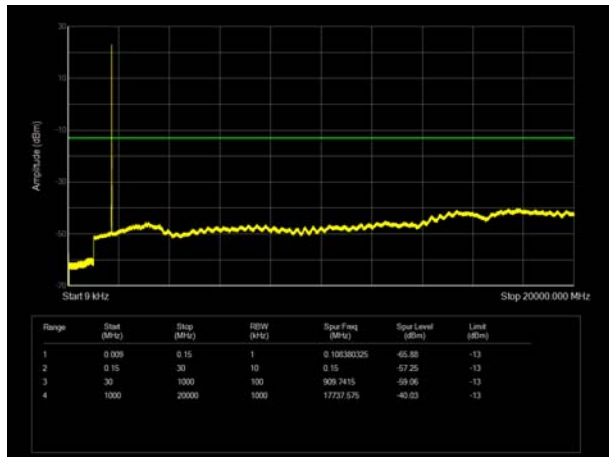
LTE Band 4 1.4MHz CH- High 9kHz~20GHz



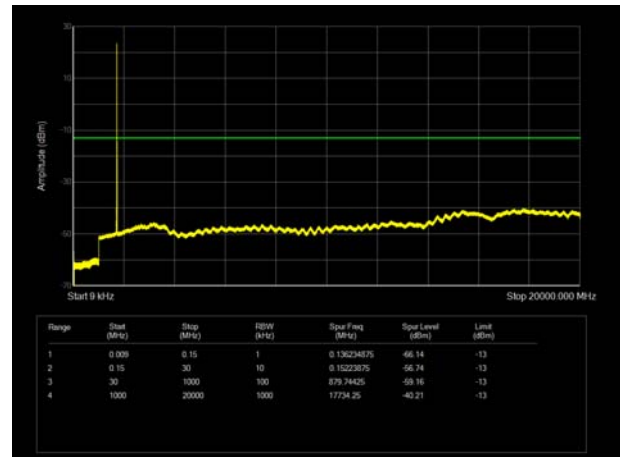
LTE Band 4 3MHz CH-High 9kHz~20GHz



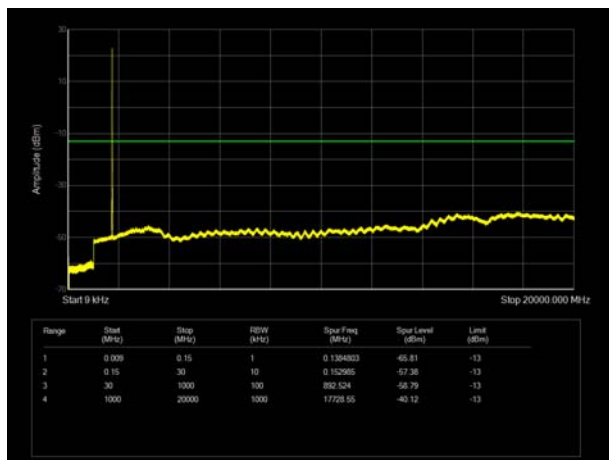
LTE Band 4 5MHz CH- Low 9kHz~20GHz



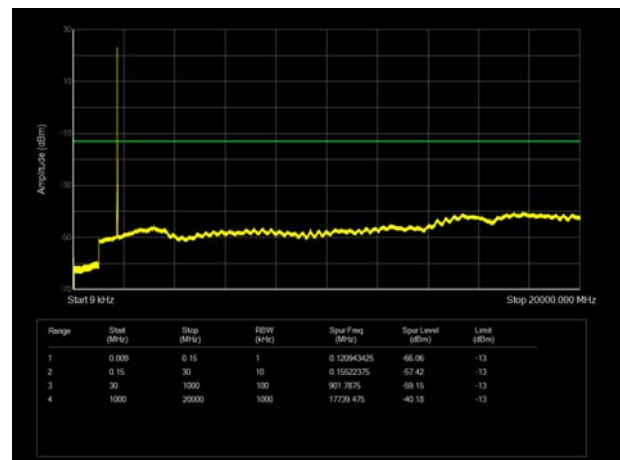
LTE Band 4 10MHz CH-Low 9kHz~20GHz



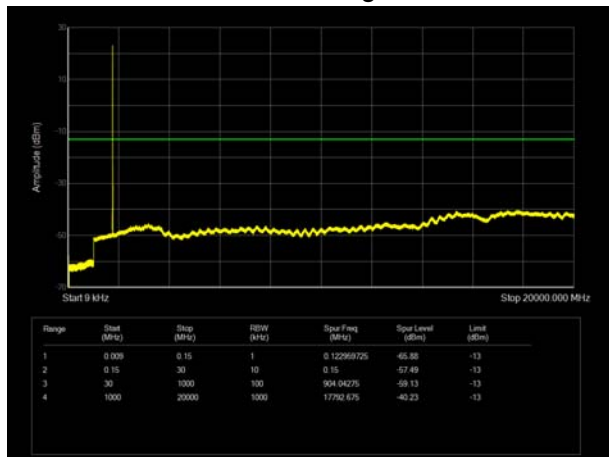
LTE Band 4 5MHz CH- Middle 9kHz~20GHz



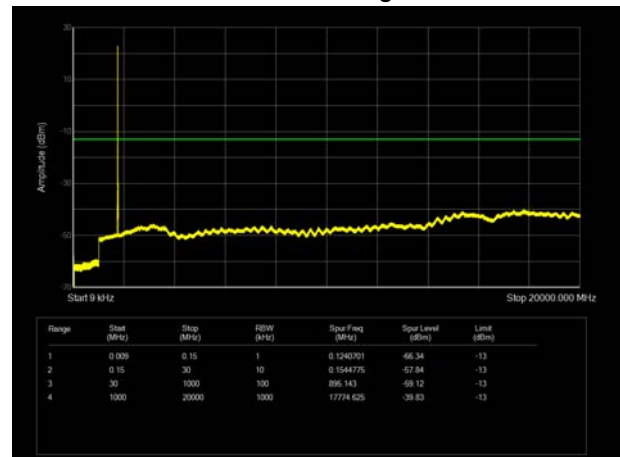
LTE Band 4 10MHz CH- Middle 9kHz~20GHz



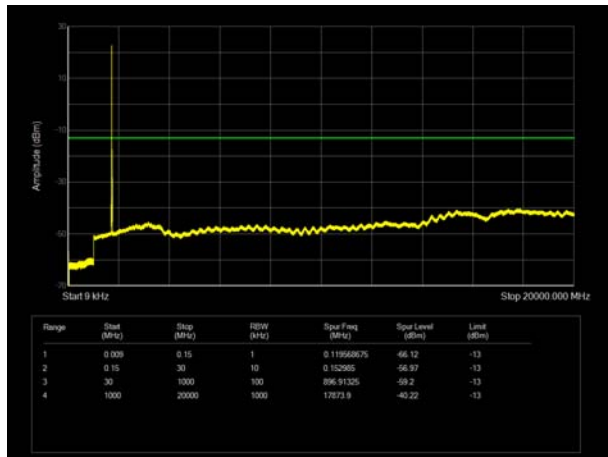
LTE Band 4 5MHz CH-High 9kHz~20GHz



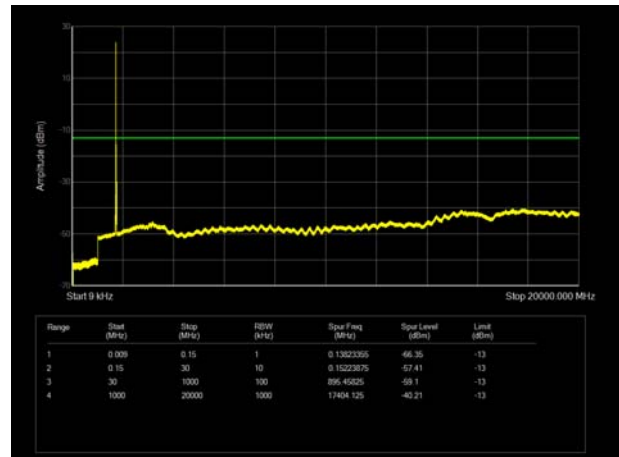
LTE Band 4 10MHz CH- High 9kHz~20GHz



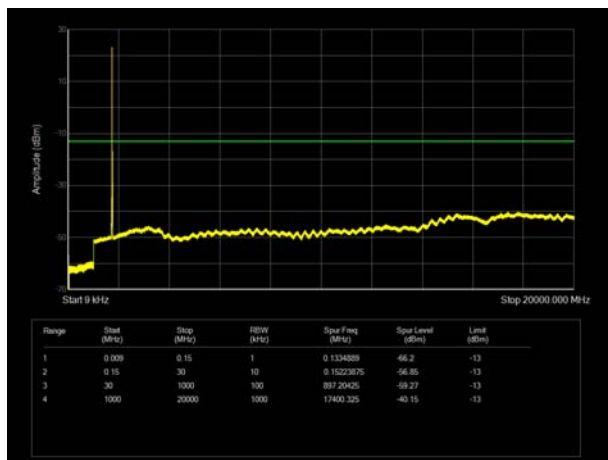
LTE Band 4 15MHz CH- Low 9kHz~20GHz



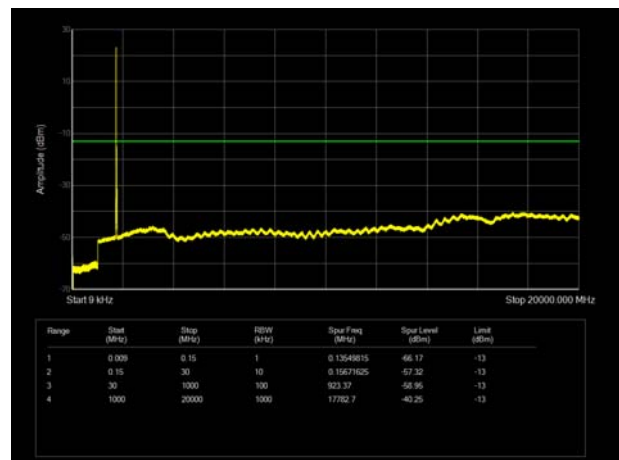
LTE Band 4 20MHz CH-Low 9kHz~20GHz



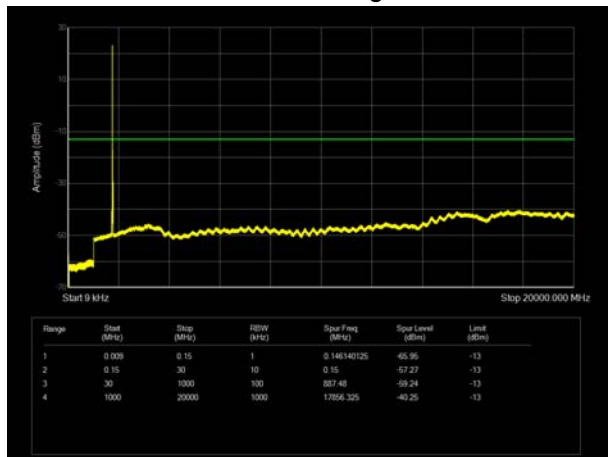
LTE Band 4 15MHz CH- Middle 9kHz~20GHz



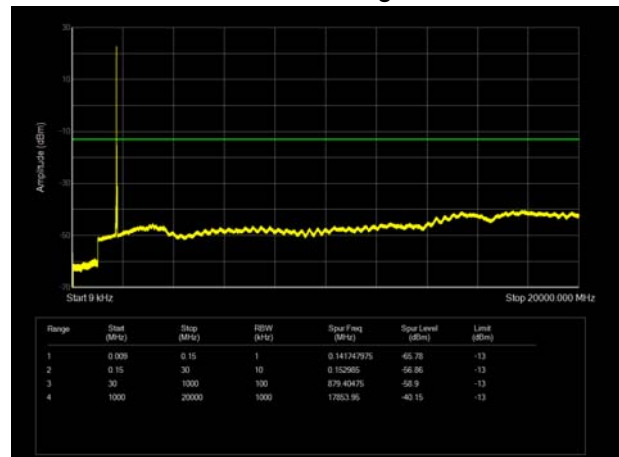
LTE Band 4 20MHz CH- Middle 9kHz~20GHz



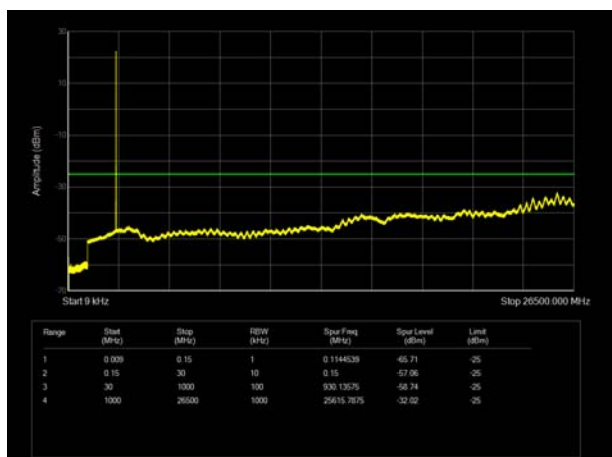
LTE Band 4 15MHz CH-High 9kHz~20GHz



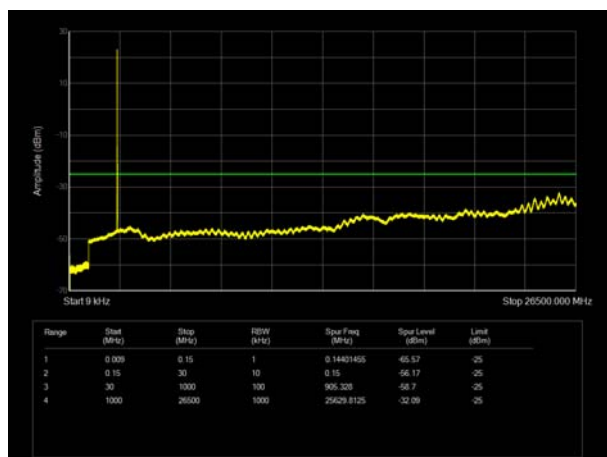
LTE Band 4 20MHz CH- High 9kHz~20GHz



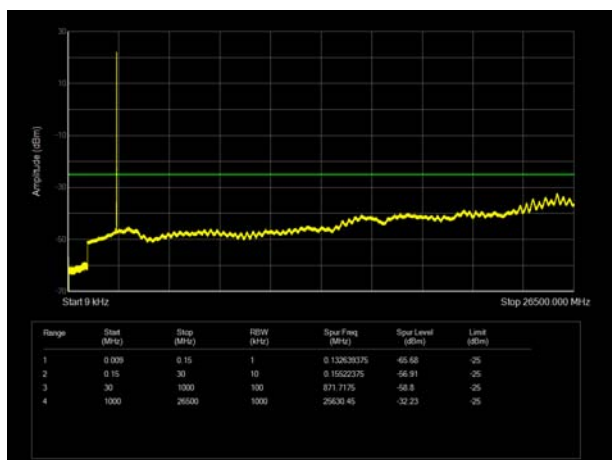
LTE Band 7 5MHz CH- Low 9kHz~26.5GHz



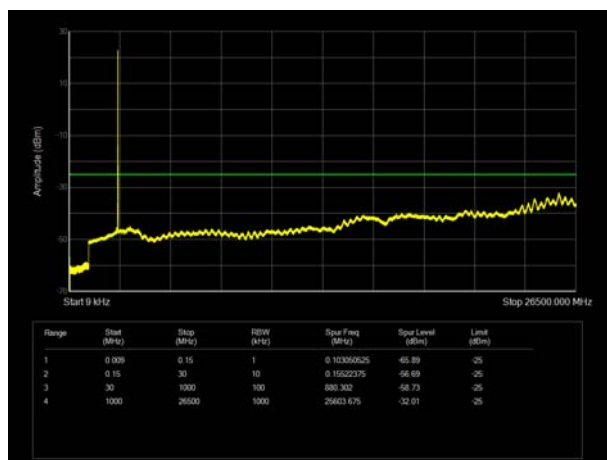
LTE Band 7 10MHz CH-Low 9kHz~26.5GHz



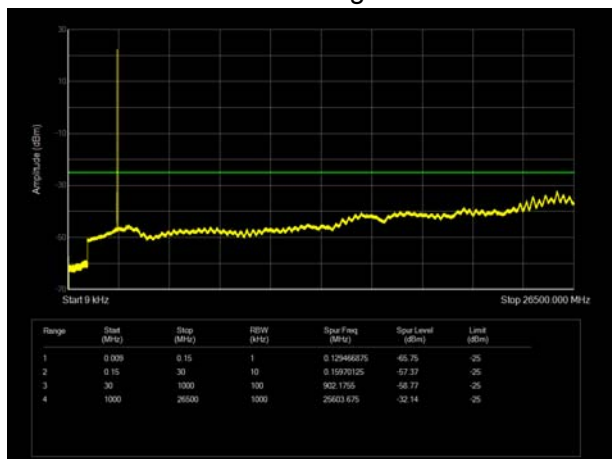
LTE Band 7 5MHz CH- Middle 9kHz~26.5GHz



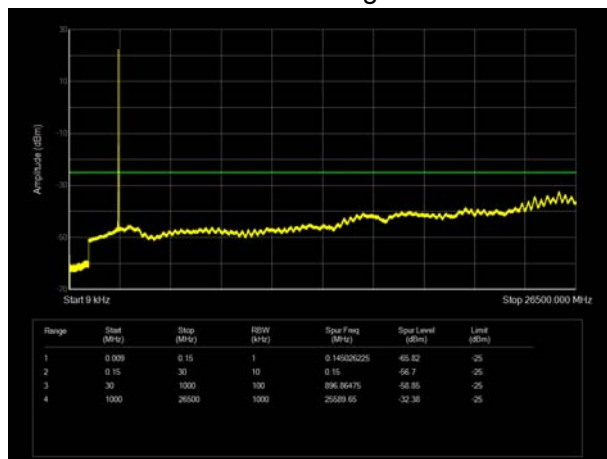
LTE Band 7 10MHz CH- Middle 9kHz~26.5GHz



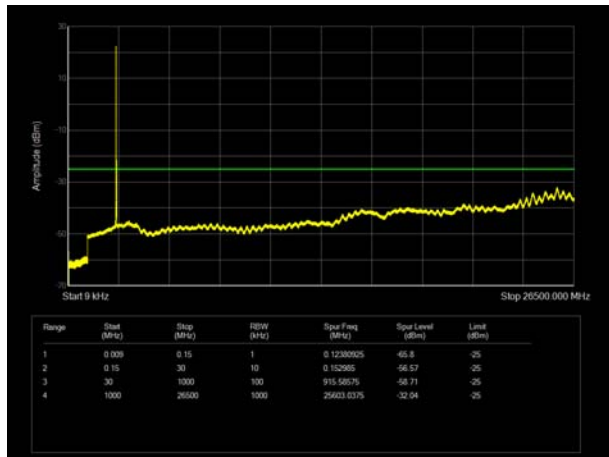
LTE Band 7 5MHz CH-High 9kHz~26.5GHz



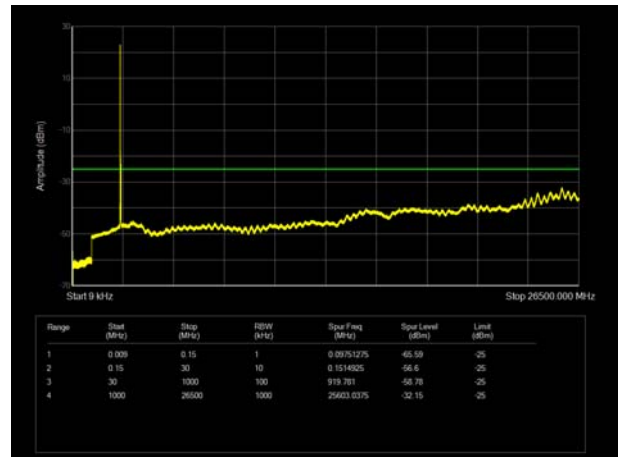
LTE Band 7 10MHz CH- High 9kHz~26.5GHz



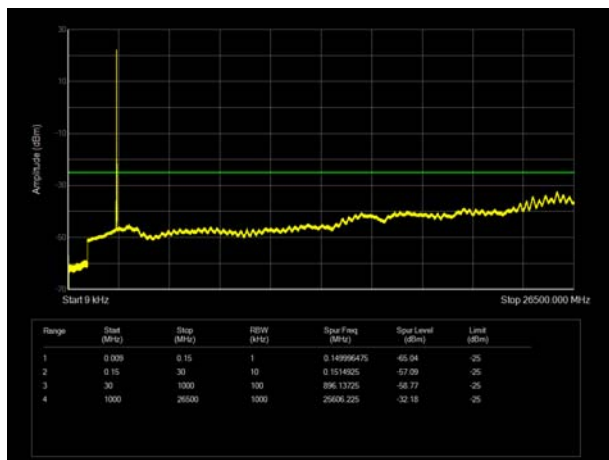
LTE Band 7 15MHz CH- Low 9kHz~26.5GHz



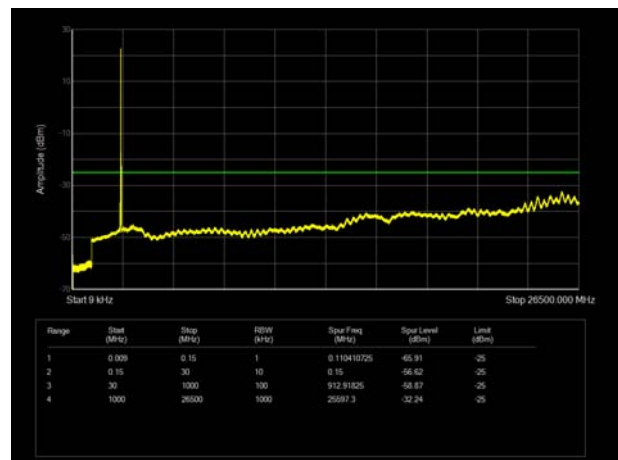
LTE Band 7 20MHz CH-Low 9kHz~26.5GHz



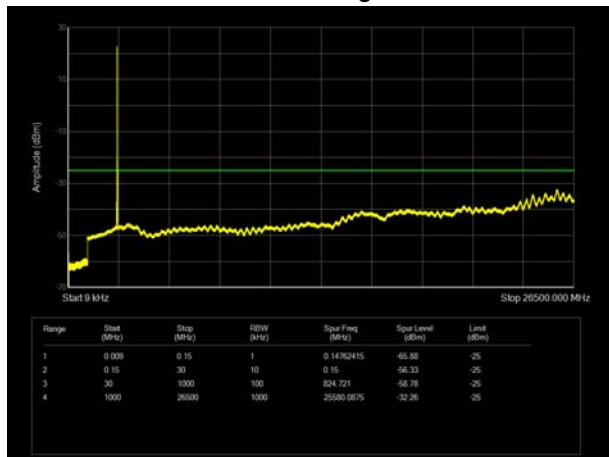
LTE Band 7 15MHz CH- Middle 9kHz~26.5GHz



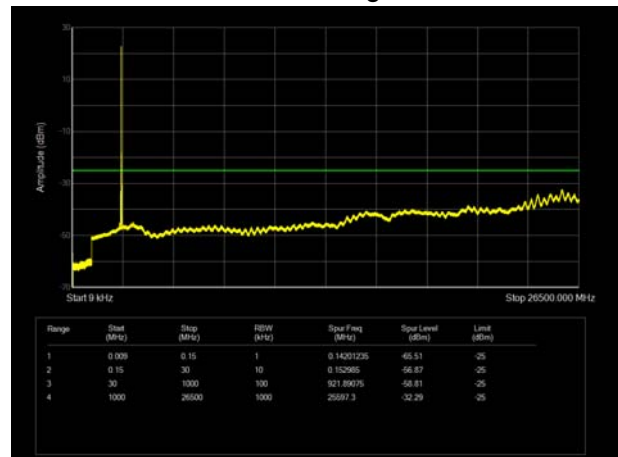
LTE Band 7 20MHz CH- Middle 9kHz~26.5GHz



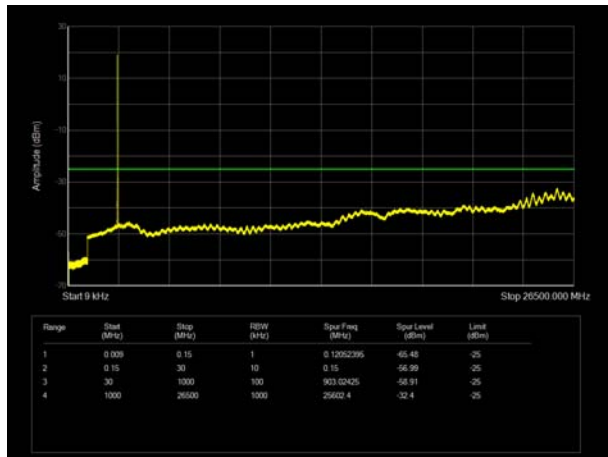
LTE Band 7 15MHz CH-High 9kHz~26.5GHz



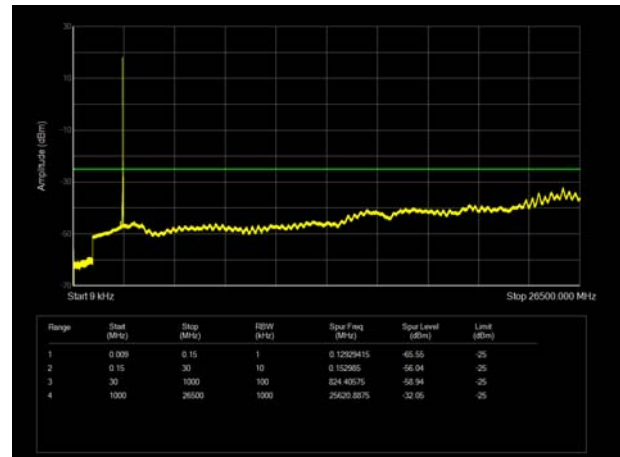
LTE Band 7 20MHz CH- High 9kHz~26.5GHz



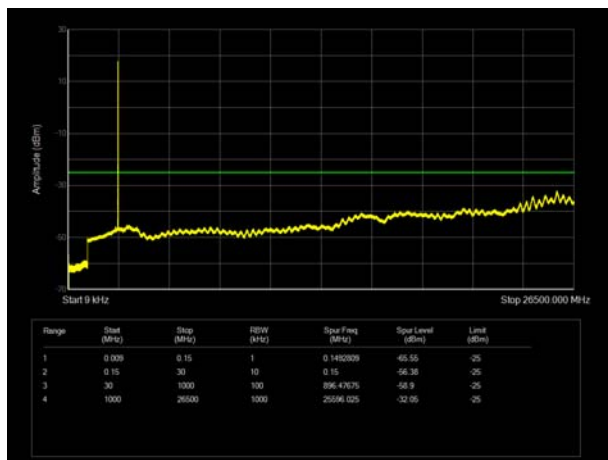
LTE Band 38 5MHz CH-Low 9kHz~26.5GHz



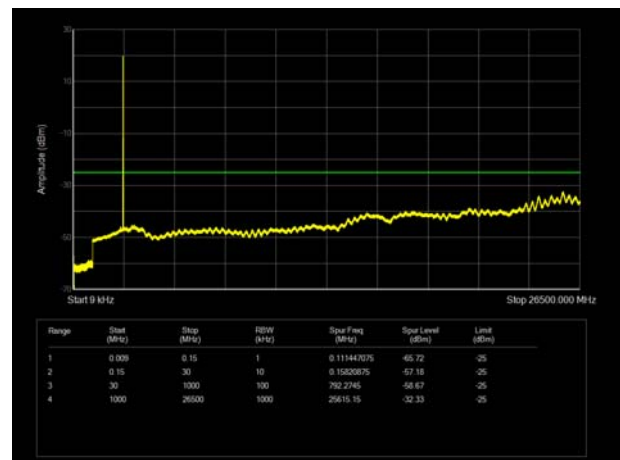
LTE Band 38 10MHz CH- Low 9kHz~26.5GHz



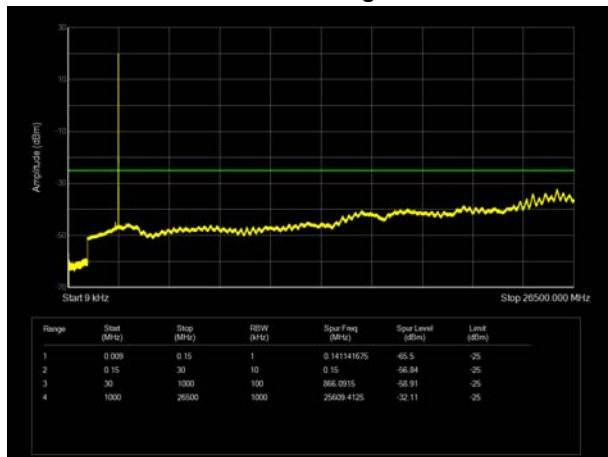
LTE Band 38 5MHz CH- Middle 9kHz~26.5GHz



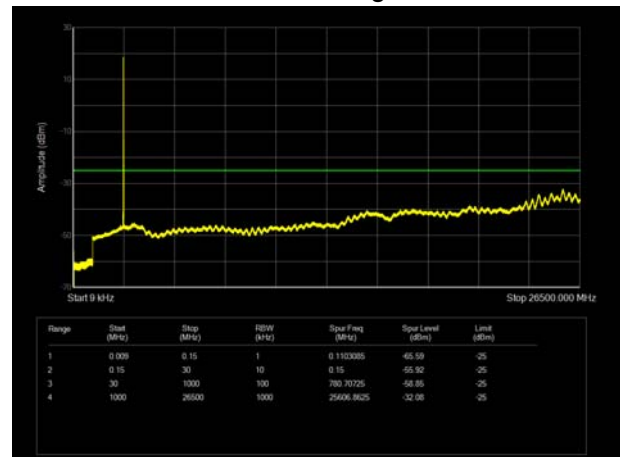
LTE Band 38 10MHz CH- Middle 9kHz~26.5GHz



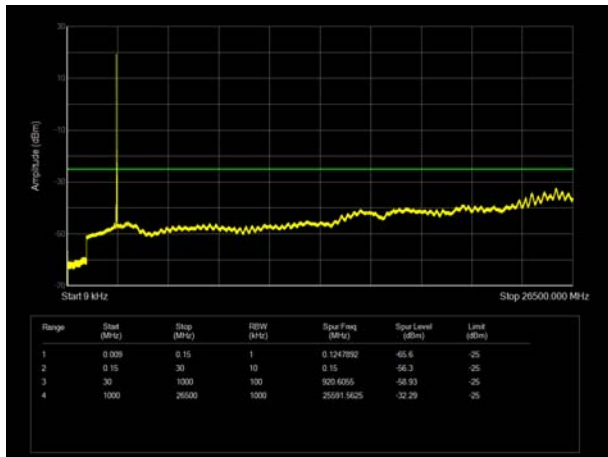
LTE Band 38 5MHz CH- High 9kHz~26.5GHz



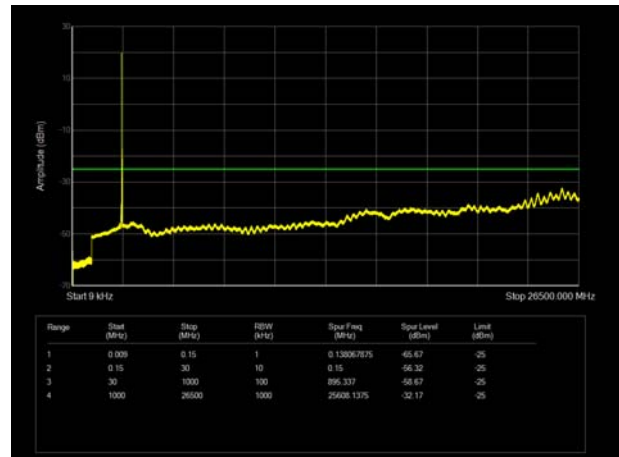
LTE Band 38 10MHz CH-High 9kHz~26.5GHz



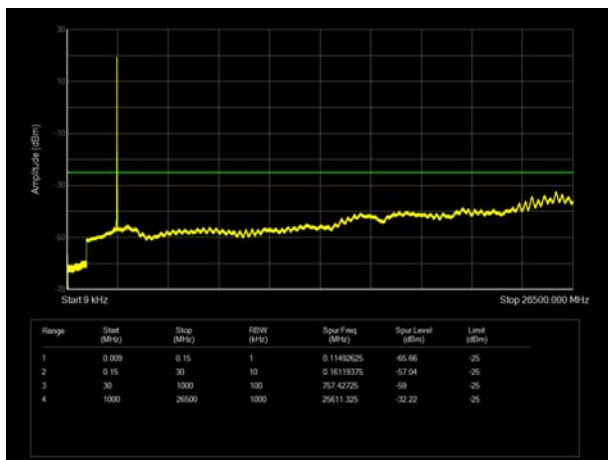
LTE Band 38 15MHz CH- Low 9kHz~26.5GHz



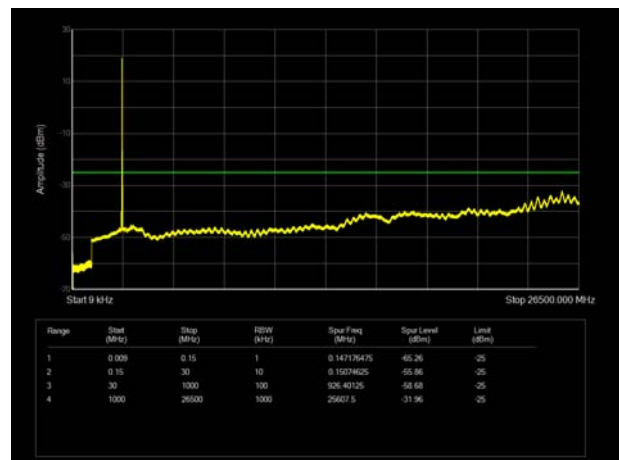
LTE Band 38 20MHz CH-Low 9kHz~26.5GHz



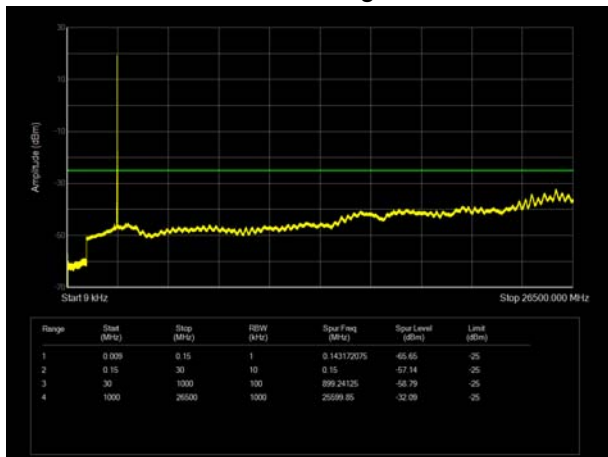
LTE Band 38 15MHz CH- Middle 9kHz~26.5GHz



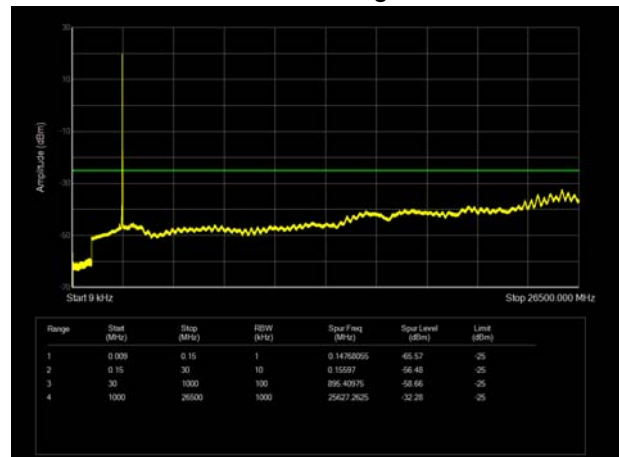
LTE Band 38 20MHz CH- Middle 9kHz~26.5GHz



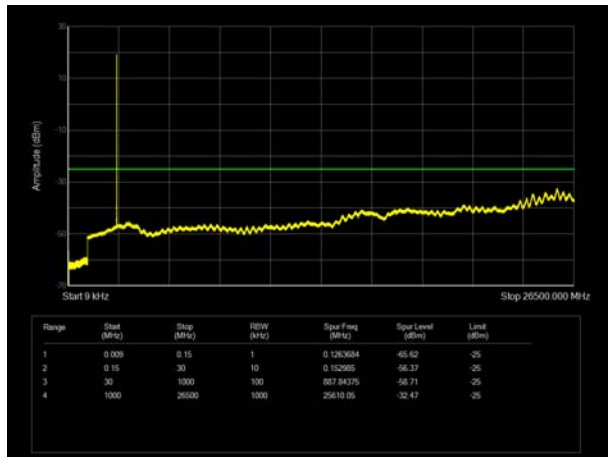
LTE Band 38 15MHz CH-High 9kHz~26.5GHz



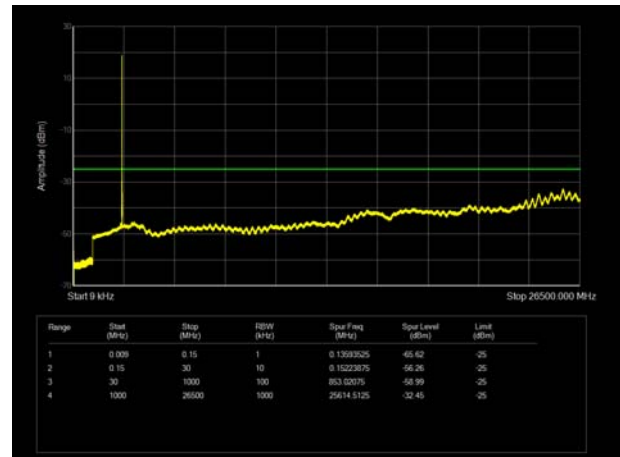
LTE Band 38 20MHz CH- High 9kHz~26.5GHz



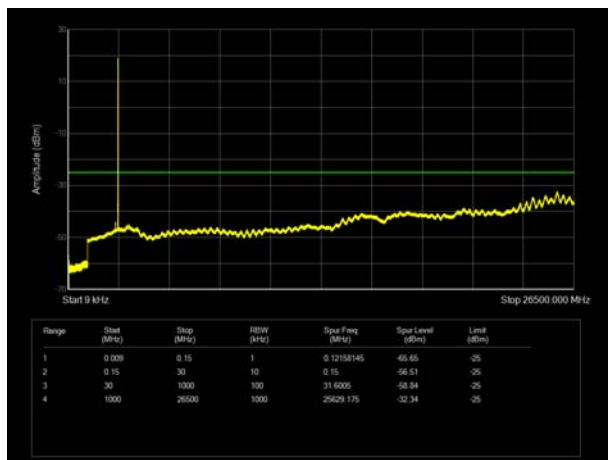
LTE Band 41 5MHz CH- Low 9kHz~26.5GHz



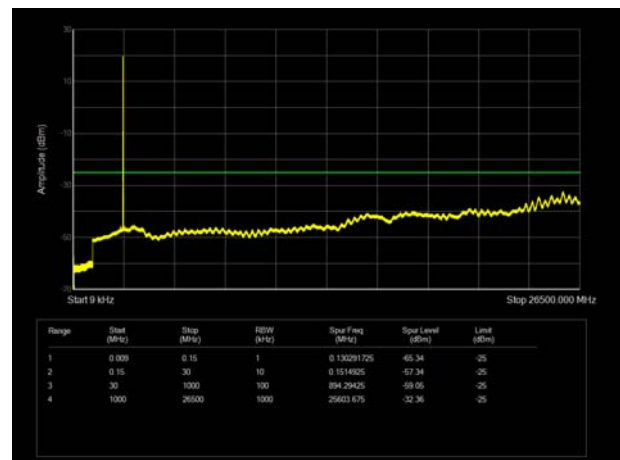
LTE Band 41 10MHz CH-Low 9kHz~26.5GHz



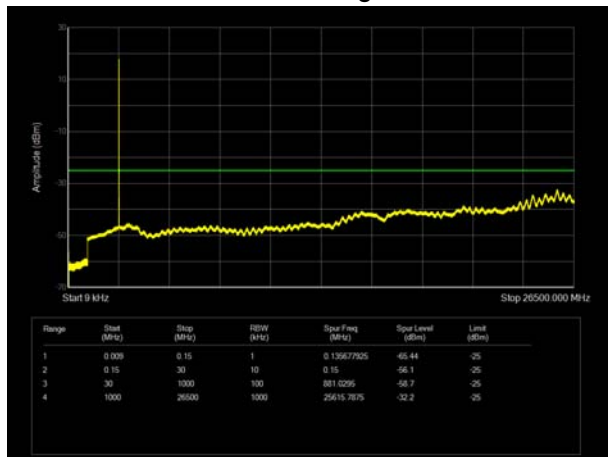
LTE Band 41 5MHz CH- Middle 9kHz~26.5GHz



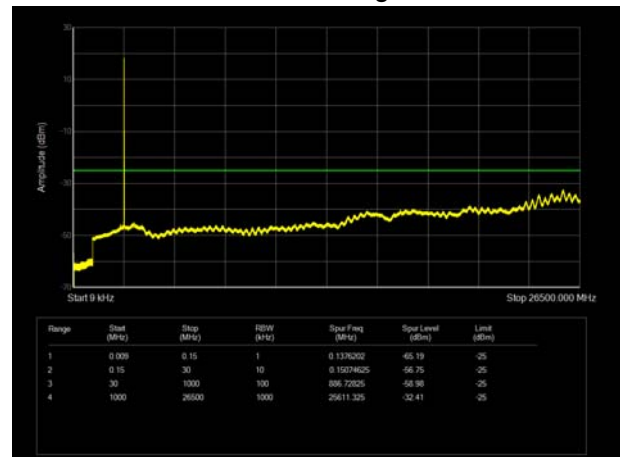
LTE Band 41 10MHz CH- Middle 9kHz~26.5GHz



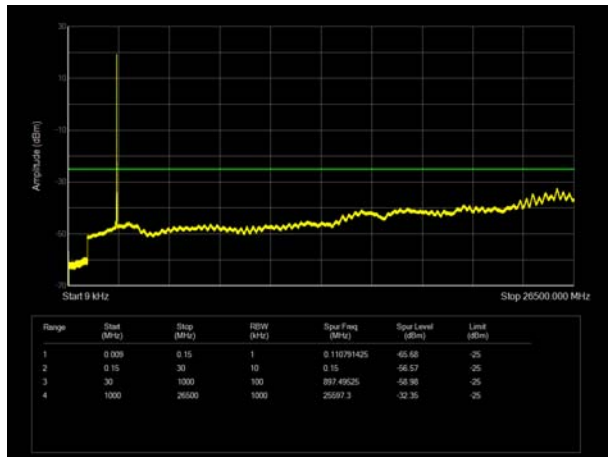
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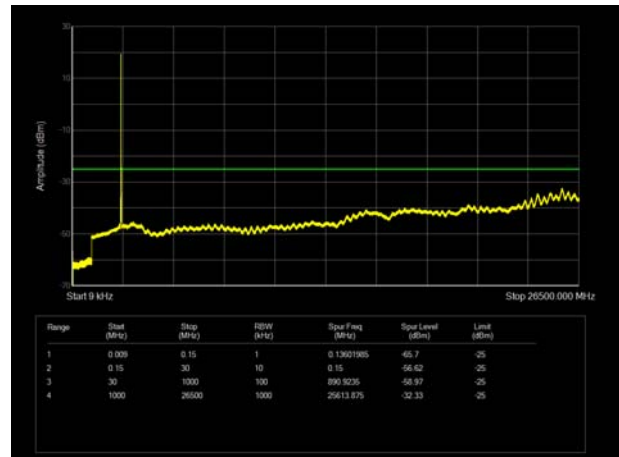
LTE Band 41 10MHz CH- High 9kHz~26.5GHz



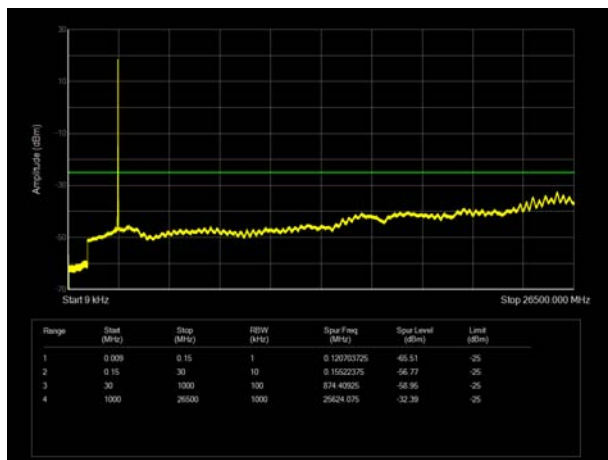
LTE Band 41 15MHz CH- Low 9kHz~26.5GHz



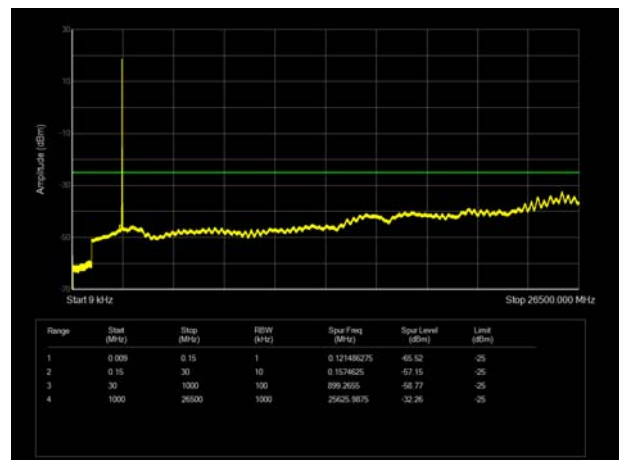
LTE Band 41 20MHz CH-Low 9kHz~26.5GHz



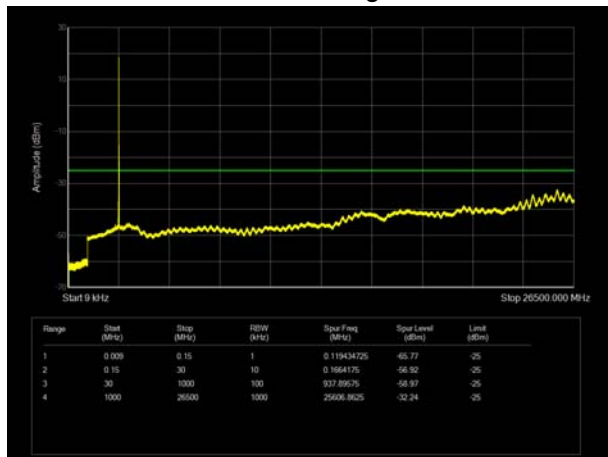
LTE Band 41 15MHz CH- Middle 9kHz~26.5GHz



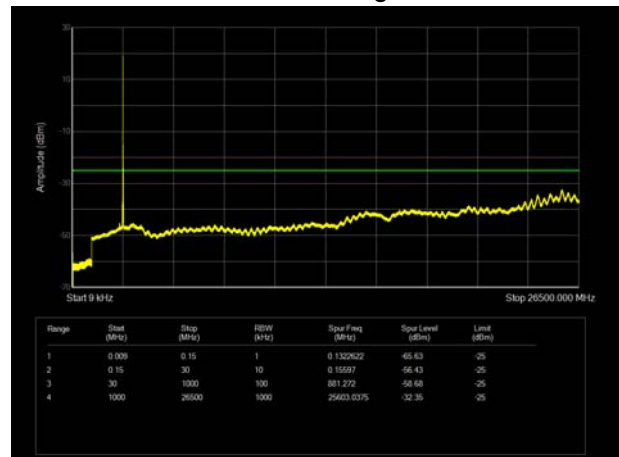
LTE Band 41 20MHz CH- Middle 9kHz~26.5GHz

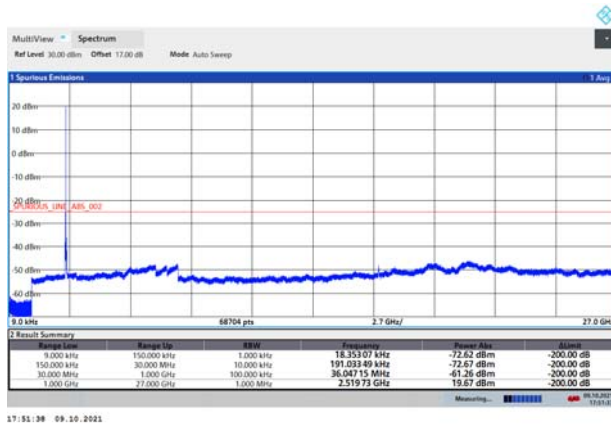


LTE Band 41 15MHz CH-High 9kHz~26.5GHz

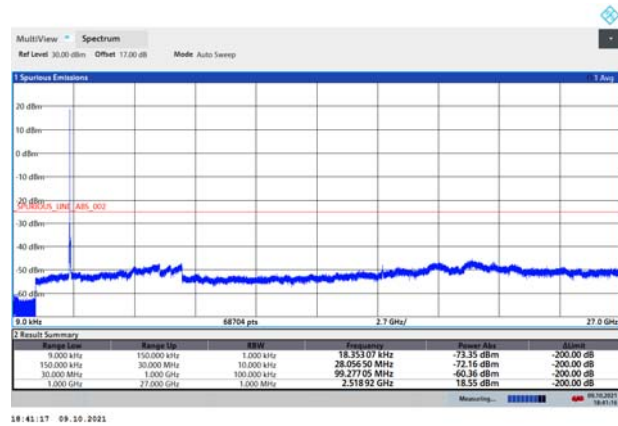


LTE Band 41 20MHz CH- High 9kHz~26.5GHz

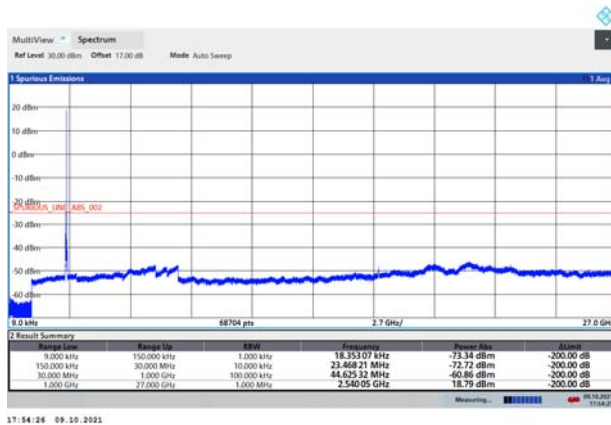


CA_7C QPSK 20MHz+10MHz CH- Low
9kHz~27GHz

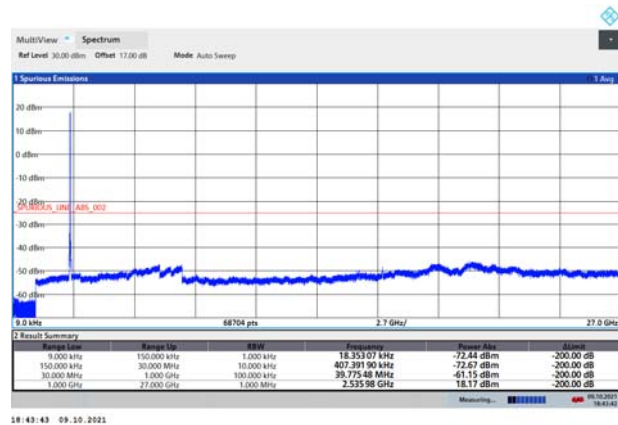
17:55:39 09.10.2021

CA_7C QPSK 20MHz+20MHz CH- Low
9kHz~27GHz

18:41:17 09.10.2021

CA_7C QPSK 20MHz+10MHz CH- Middle
9kHz~27GHz

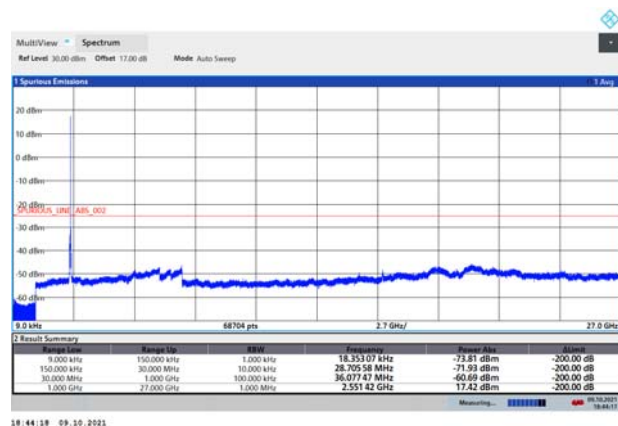
17:54:26 09.10.2021

CA_7C QPSK 20MHz+20MHz CH- Middle
9kHz~27GHz

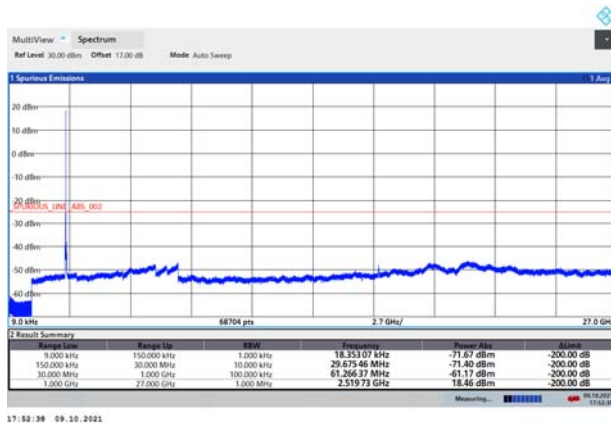
18:43:43 09.10.2021

CA_7C QPSK 20MHz+10MHz CH- High
9kHz~27GHz

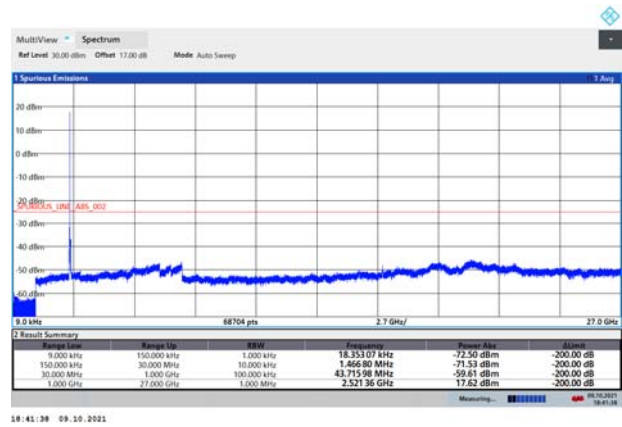
17:55:46 09.10.2021

CA_7C QPSK 20MHz+20MHz CH- High
9kHz~27GHz

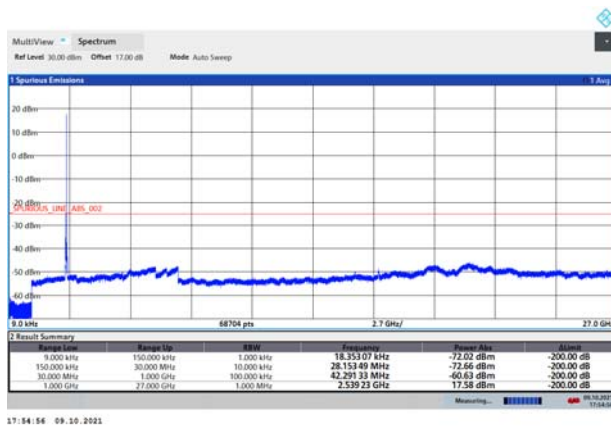
18:44:18 09.10.2021

CA_7C 16QAM 20MHz+10MHz CH- Low
9kHz~27GHz

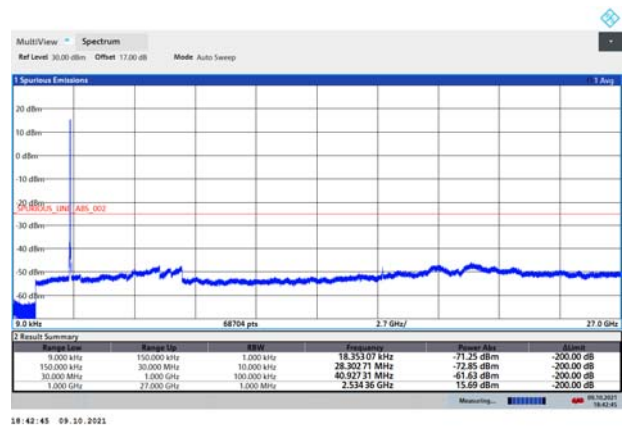
17:52:38 09.10.2021

CA_7C 16QAM 20MHz+20MHz CH- Low
9kHz~27GHz

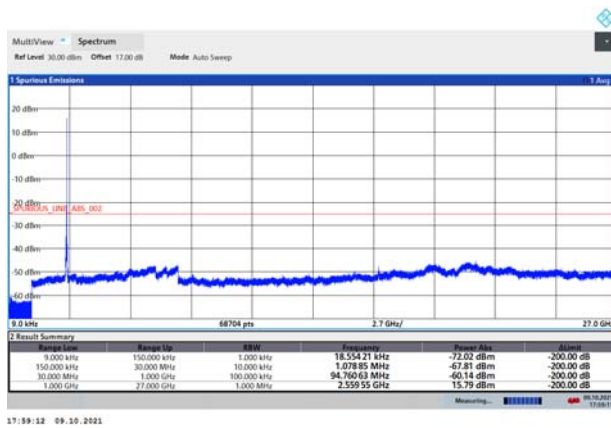
18:41:39 09.10.2021

CA_7C 16QAM 20MHz+10MHz CH- Middle
9kHz~27GHz

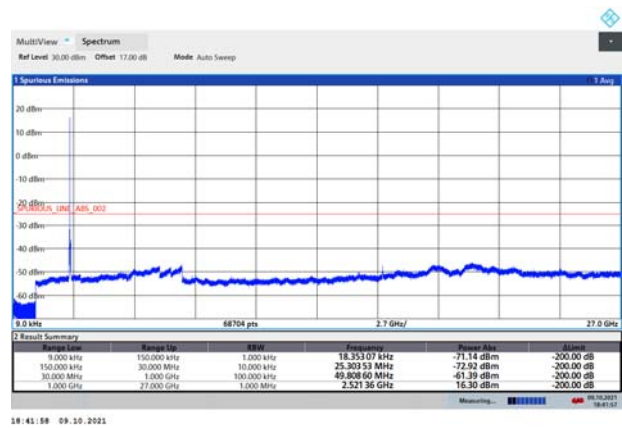
17:54:56 09.10.2021

CA_7C 16QAM 20MHz+20MHz CH- Middle
9kHz~27GHz

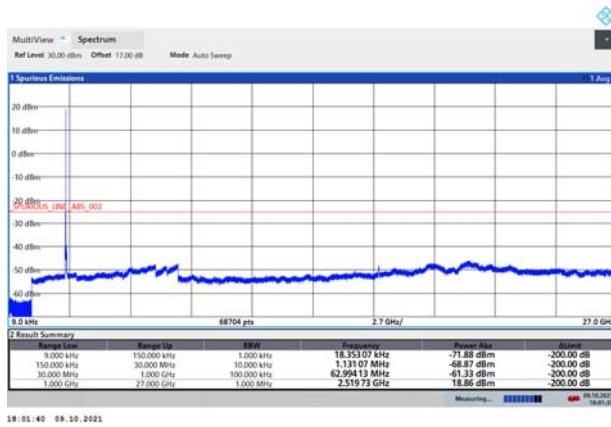
18:42:45 09.10.2021

CA_7C 16QAM 20MHz+10MHz CH- High
9kHz~27GHz

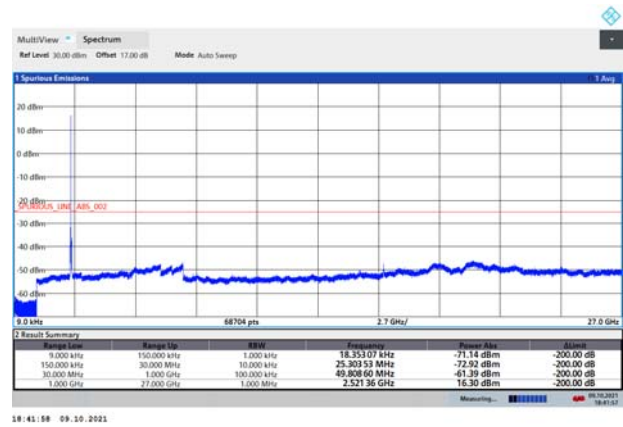
17:59:52 09.10.2021

CA_7C 16QAM 20MHz+20MHz CH- High
9kHz~27GHz

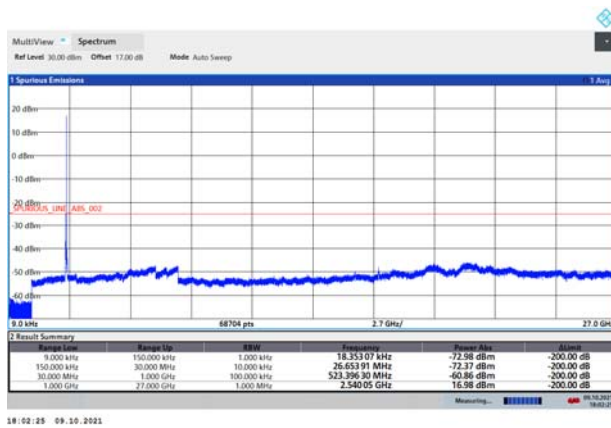
18:41:58 09.10.2021

CA_7C 64QAM 20MHz+10MHz CH- Low
9kHz~27GHz

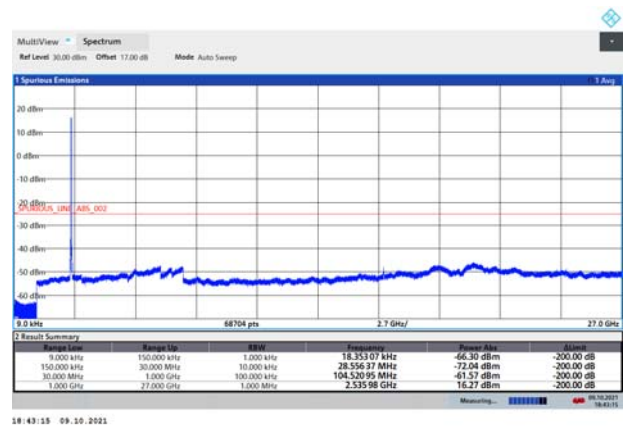
18:01:40 09.10.2021

CA_7C 64QAM 20MHz+20MHz CH- Low
9kHz~27GHz

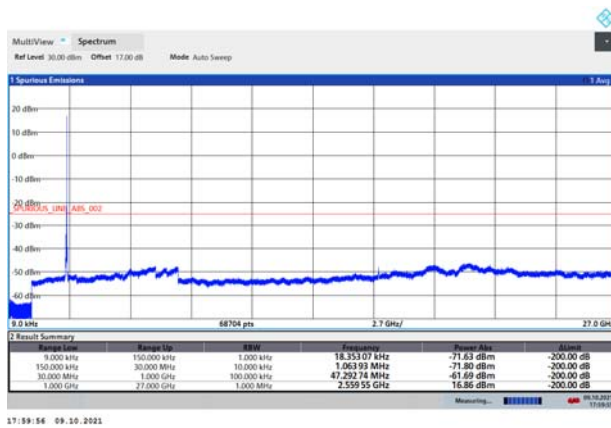
18:41:58 09.10.2021

CA_7C 64QAM 20MHz+10MHz CH- Middle
9kHz~27GHz

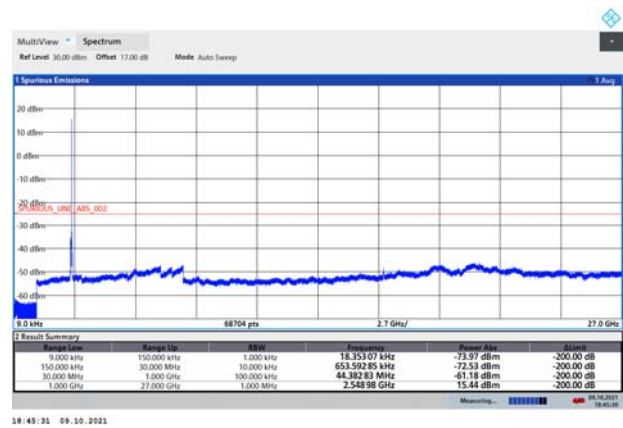
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CA_7C 64QAM 20MHz+20MHz CH- Middle
9kHz~27GHz

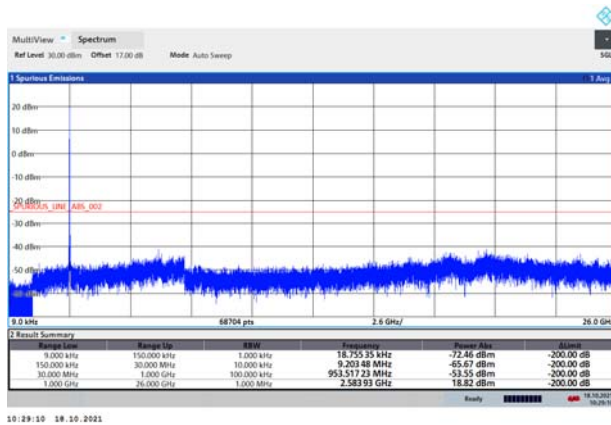
18:43:15 09.10.2021

CA_7C 64QAM 20MHz+10MHz CH- High
9kHz~27GHz

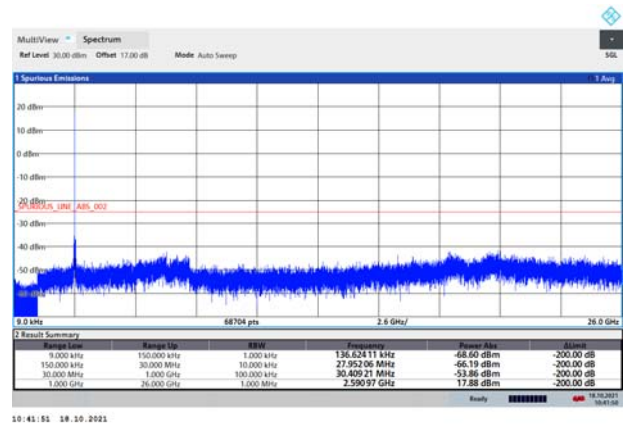
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CA_7C 64QAM 20MHz+20MHz CH- High
9kHz~27GHz

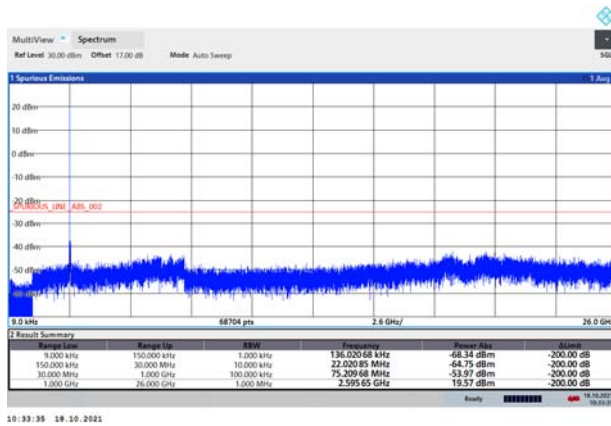
18:45:31 09.10.2021

CA_38C QPSK 15MHz+15MHz CH- Low
9kHz~26GHz

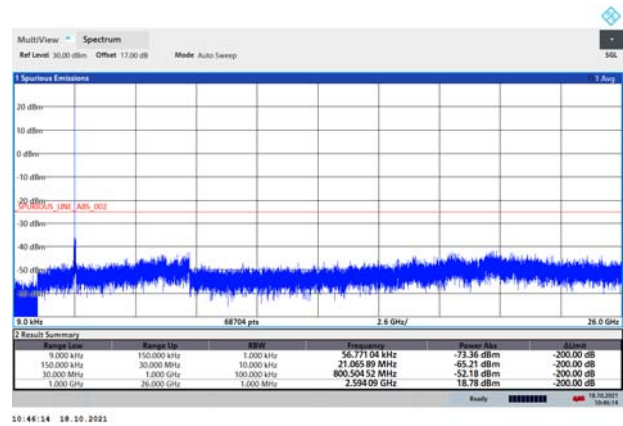
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CA_38C QPSK 20MHz+20MHz CH- Low
9kHz~26GHz

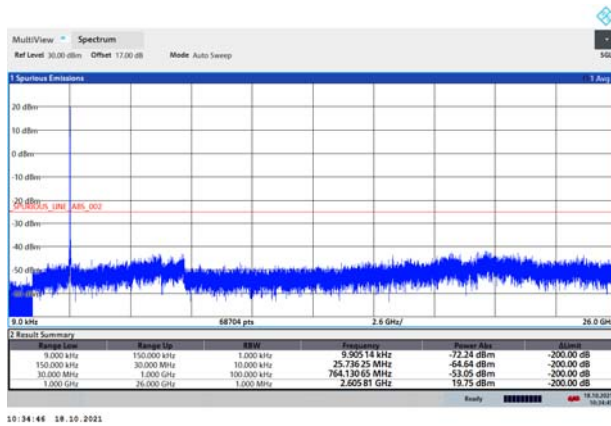
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CA_38C QPSK 15MHz+15MHz CH- Middle
9kHz~26GHz

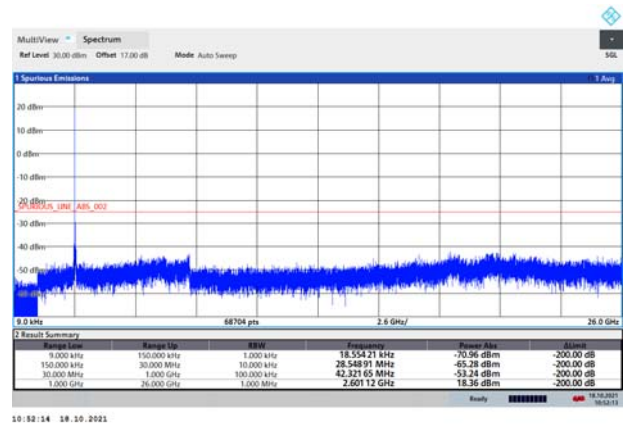
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CA_38C QPSK 20MHz+20MHz CH- Middle
9kHz~26GHz

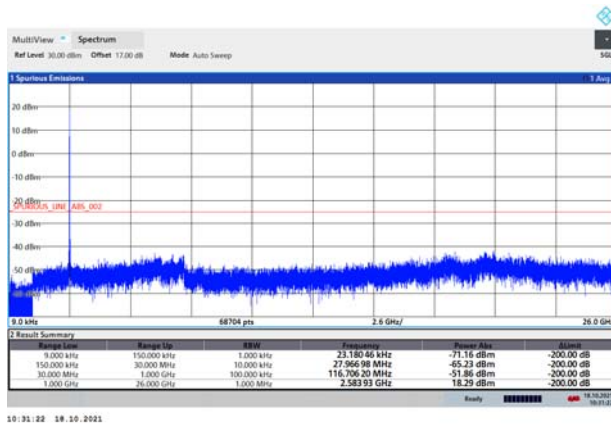
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CA_38C QPSK 15MHz+15MHz CH- High
9kHz~26GHz

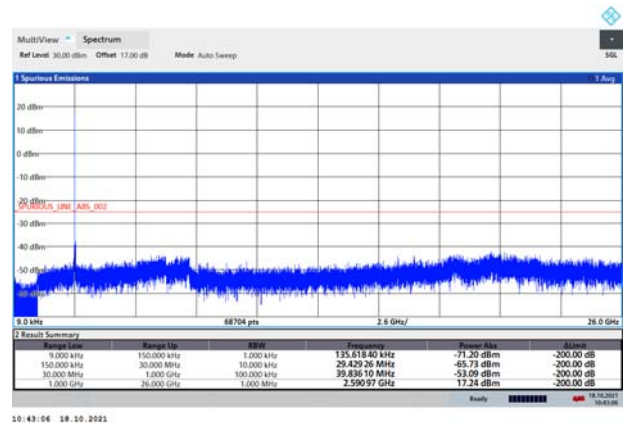
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CA_38C QPSK 20MHz+20MHz CH- High
9kHz~26GHz

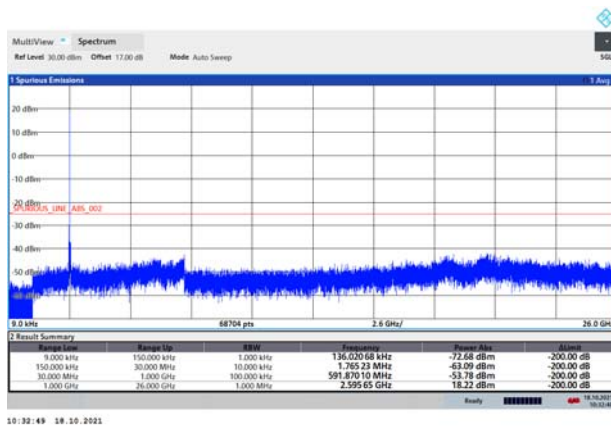
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CA_38C 16QAM 15MHz+15MHz CH- Low
9kHz~26GHz

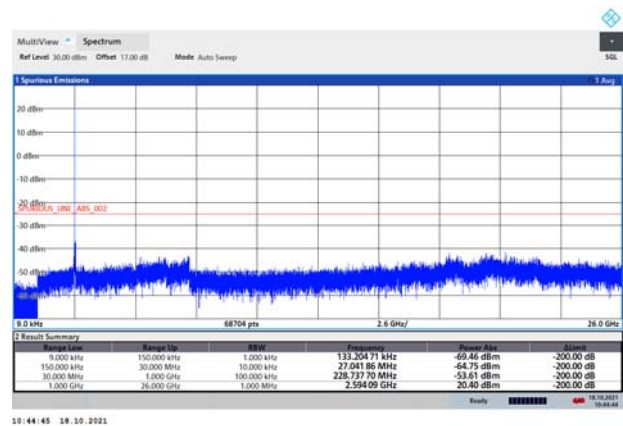
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CA_38C 16QAM 20MHz+20MHz CH- Low
9kHz~26GHz

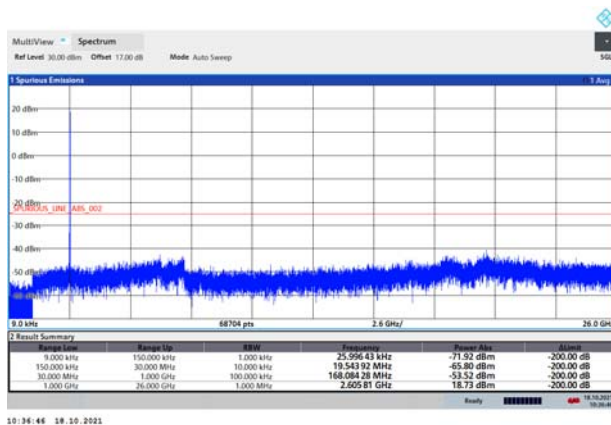
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CA_38C 16QAM 15MHz+15MHz CH- Middle
9kHz~26GHz

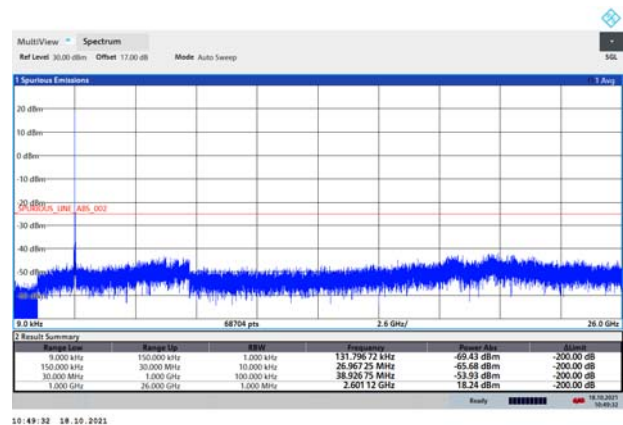
10:32:49 18.10.2021

CA_38C 16QAM 20MHz+20MHz CH- Middle
9kHz~26GHz

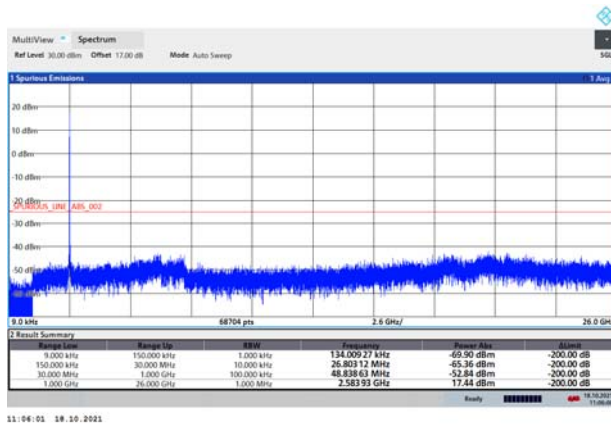
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CA_38C 16QAM 15MHz+15MHz CH- High
9kHz~26GHz

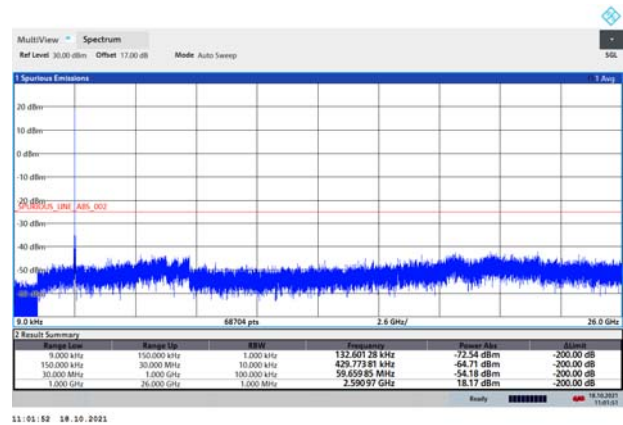
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CA_38C 16QAM 20MHz+20MHz CH- High
9kHz~26GHz

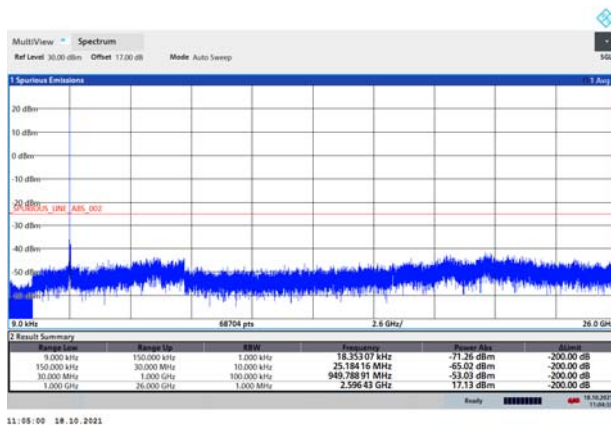
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CA_38C 64QAM 15MHz+15MHz CH- Low
9kHz~26GHz

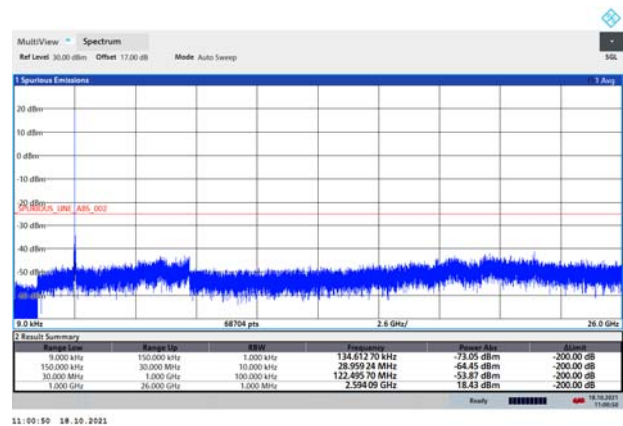
11:04:01 18.10.2021

CA_38C 64QAM 20MHz+20MHz CH- Low
9kHz~26GHz

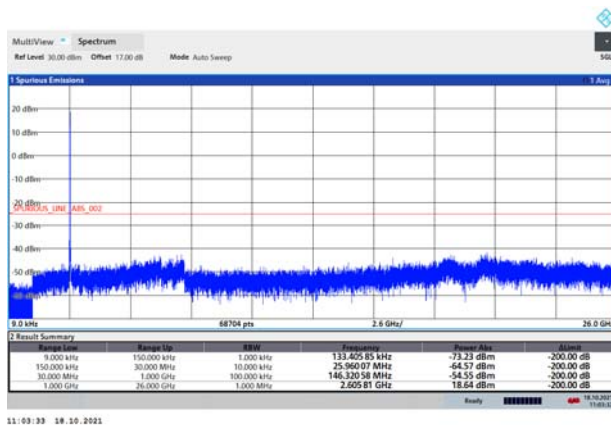
11:01:52 18.10.2021

CA_38C 64QAM 15MHz+15MHz CH- Middle
9kHz~26GHz

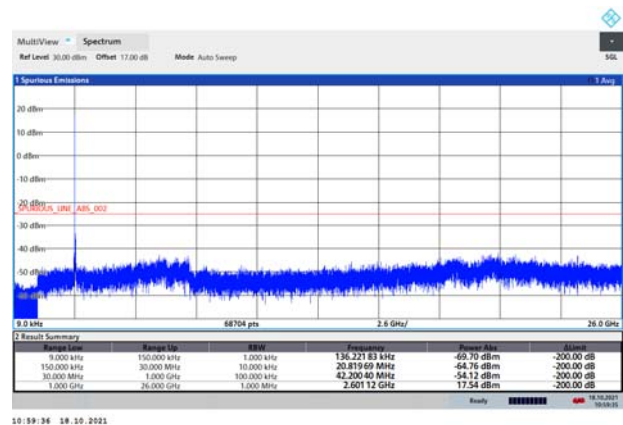
11:05:00 18.10.2021

CA_38C 64QAM 20MHz+20MHz CH- Middle
9kHz~26GHz

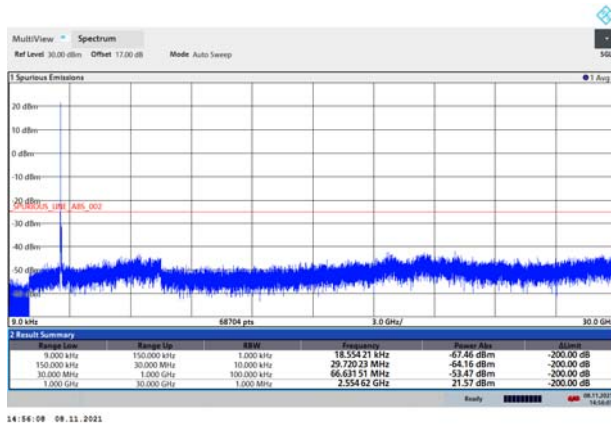
11:09:50 18.10.2021

CA_38C 64QAM 15MHz+15MHz CH- High
9kHz~26GHz

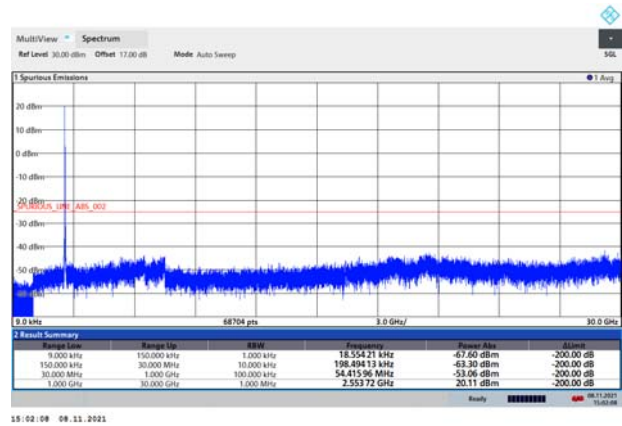
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CA_38C 64QAM 20MHz+20MHz CH- High
9kHz~26GHz

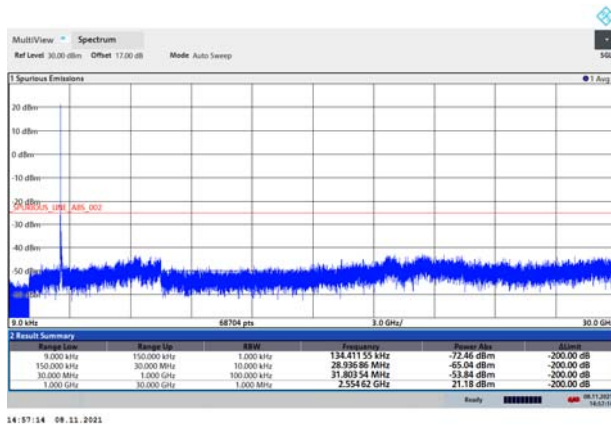
10:59:36 18.10.2021

CA_41C QPSK 20MHz+5MHz CH- Low
9kHz~27GHz

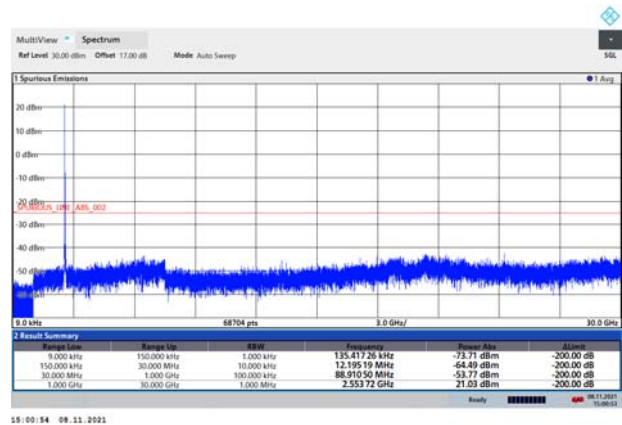
14:54:09 09.11.2021

CA_41C QPSK 20MHz+20MHz CH- Low
9kHz~27GHz

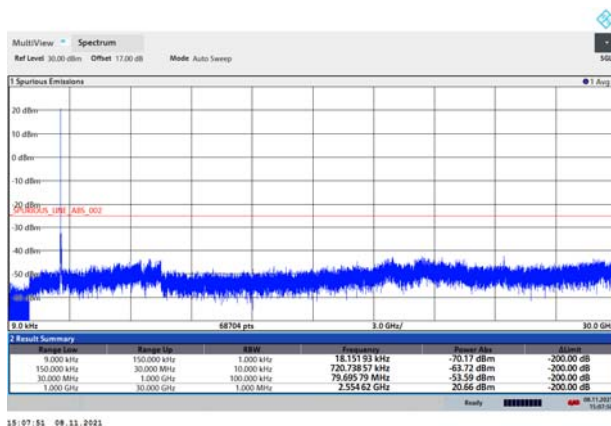
15:02:08 09.11.2021

CA_41C 16QAM 20MHz+5MHz CH- Low
9kHz~27GHz

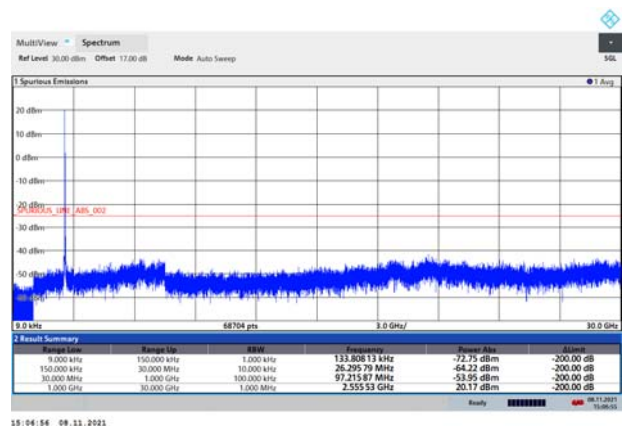
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CA_41C 16QAM 20MHz+20MHz CH- Low
9kHz~27GHz

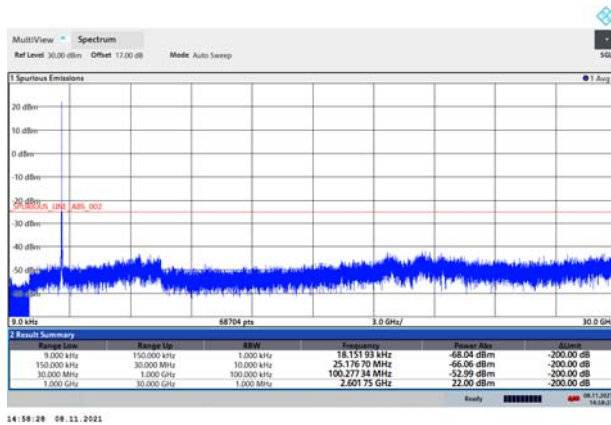
15:00:54 09.11.2021

CA_41C 64QAM 20MHz+5MHz CH- Low
9kHz~27GHz

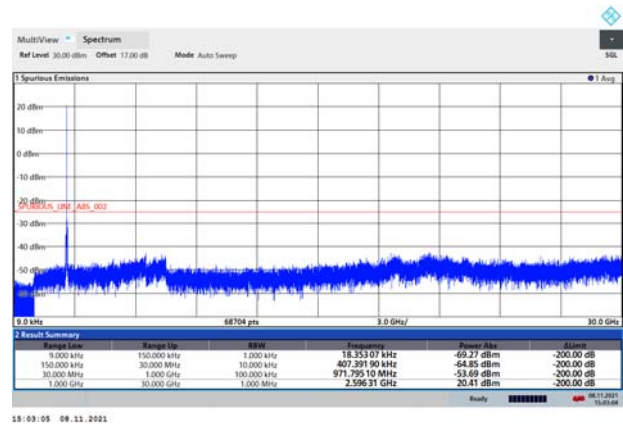
15:07:55 09.11.2021

CA_41C 64QAM 20MHz+20MHz CH- Low
9kHz~27GHz

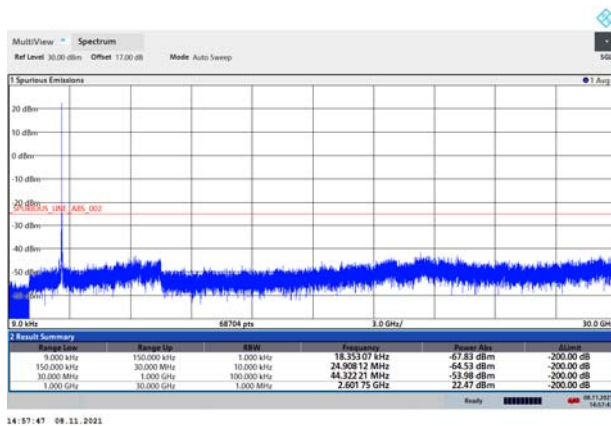
15:04:56 09.11.2021

CA_41C QPSK 20MHz+5MHz CH- Middle
9kHz~27GHz

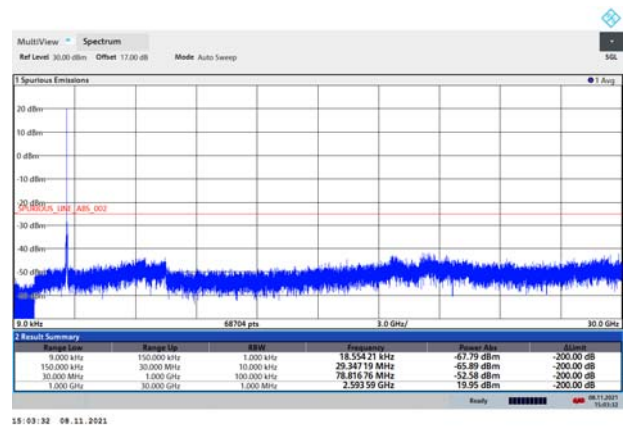
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CA_41C QPSK 20MHz+20MHz CH- Middle
9kHz~27GHz

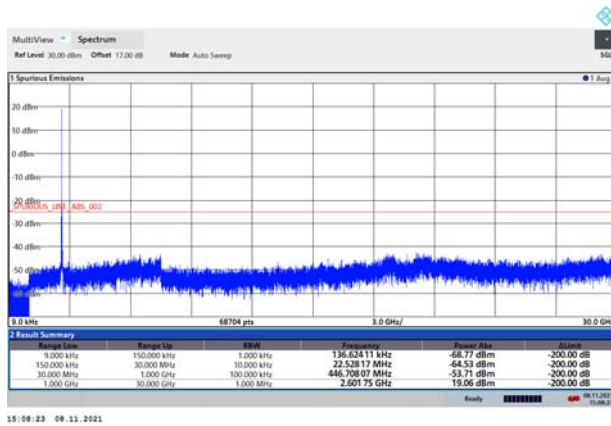
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CA_41C 16QAM 20MHz+5MHz CH- Middle
9kHz~27GHz

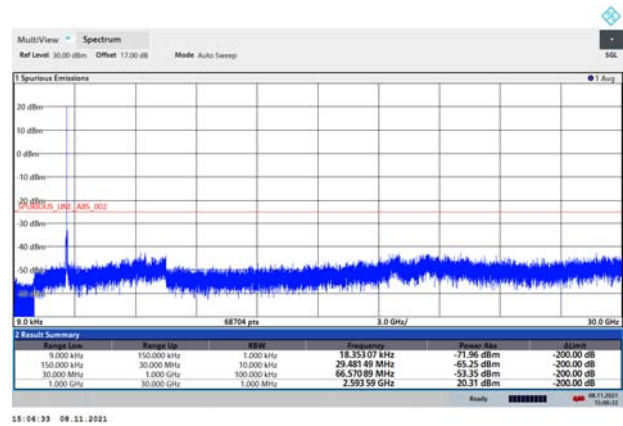
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CA_41C 16QAM 20MHz+20MHz CH- Middle
9kHz~27GHz

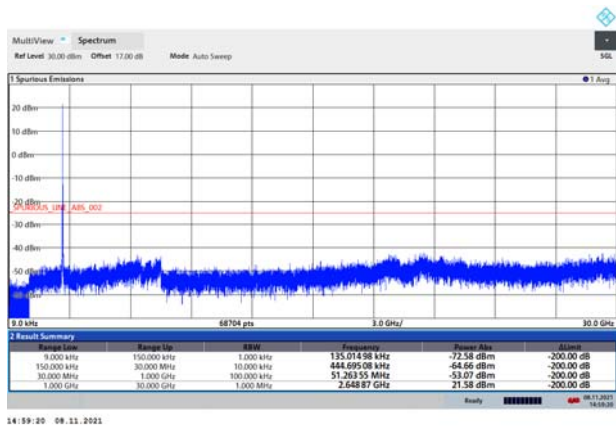
15:03:32 09.11.2021

CA_41C 64QAM 20MHz+5MHz CH- Middle
9kHz~27GHz

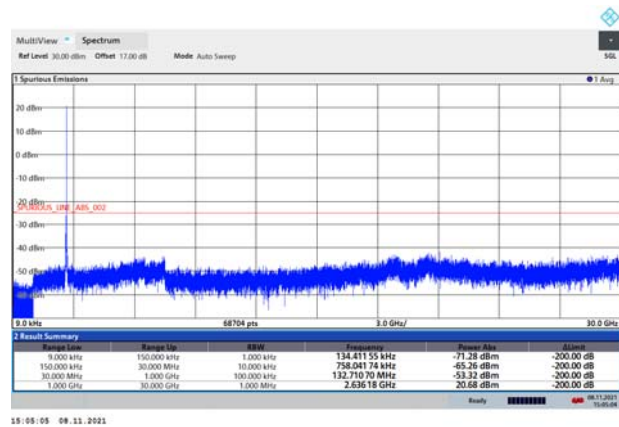
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CA_41C 64QAM 20MHz+20MHz CH- Middle
9kHz~27GHz

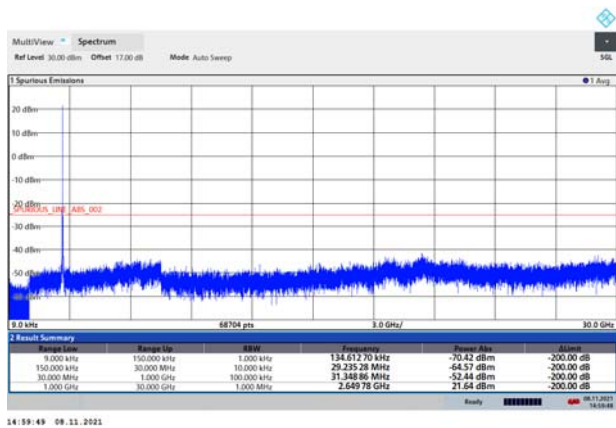
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CA_41C QPSK 20MHz+5MHz CH- High
9kHz~27GHz

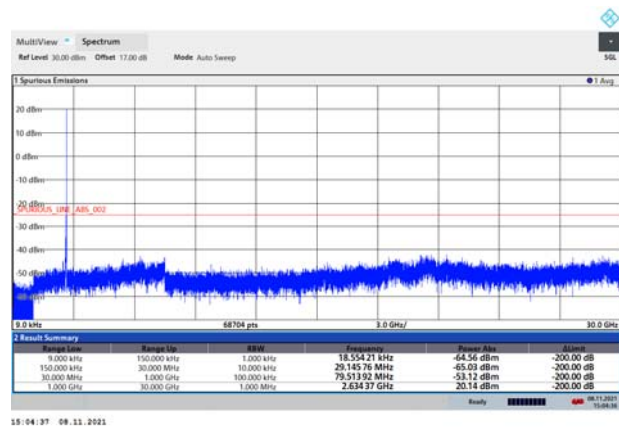
14:59:20 09.11.2021

CA_41C QPSK 20MHz+20MHz CH- High
9kHz~27GHz

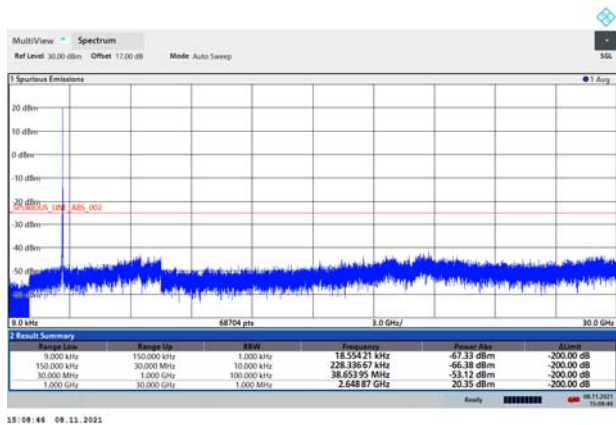
15:05:05 09.11.2021

CA_41C 16QAM 20MHz+5MHz CH- High
9kHz~27GHz

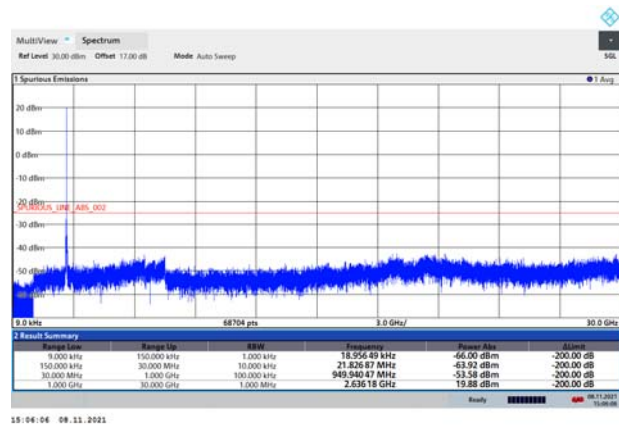
14:59:49 09.11.2021

CA_41C 16QAM 20MHz+20MHz CH- High
9kHz~27GHz

15:04:37 09.11.2021

CA_41C 64QAM 20MHz+5MHz CH- High
9kHz~27GHz

15:04:44 09.11.2021

CA_41C 64QAM 20MHz+20MHz CH- High
9kHz~27GHz

15:04:06 09.11.2021

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:

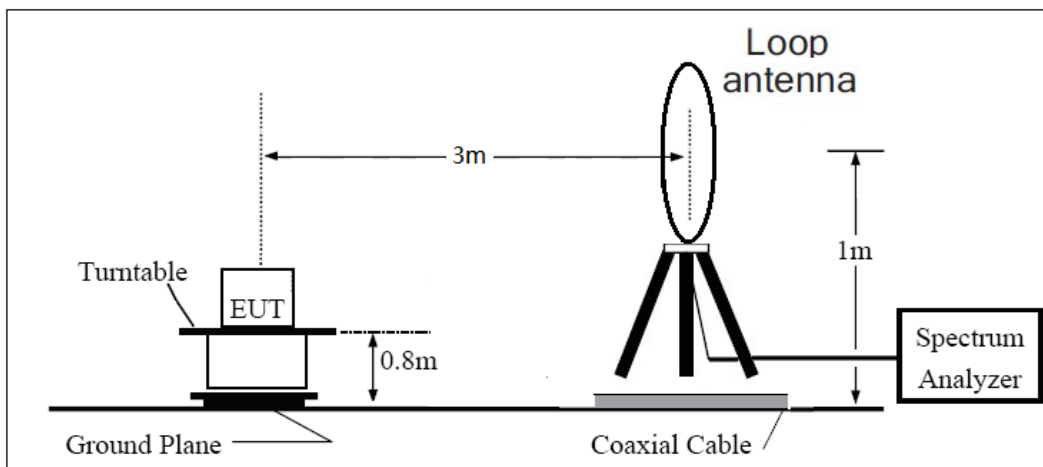
$$\text{Power(EIRP)} = \text{PMea} - \text{PAG} - \text{Pcl} + \text{Ga}$$
The measurement results are amend as described below:

$$\text{Power(EIRP)} = \text{PMea} - \text{Pcl} + \text{Ga}$$
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, $\text{ERP} = \text{EIRP} - 2.15\text{dB}$.

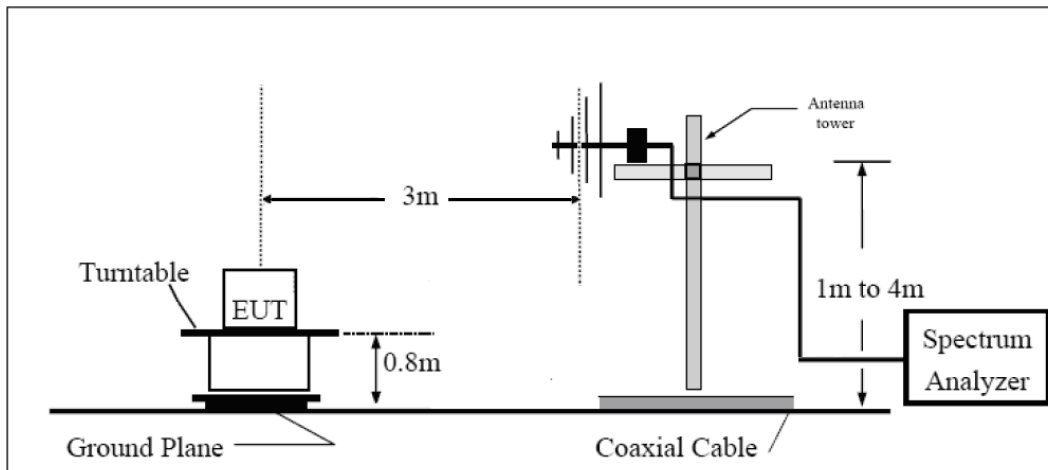
The modulation mode and RB allocation refer to section 5.1, using the maximum output power configuration.

Test setup

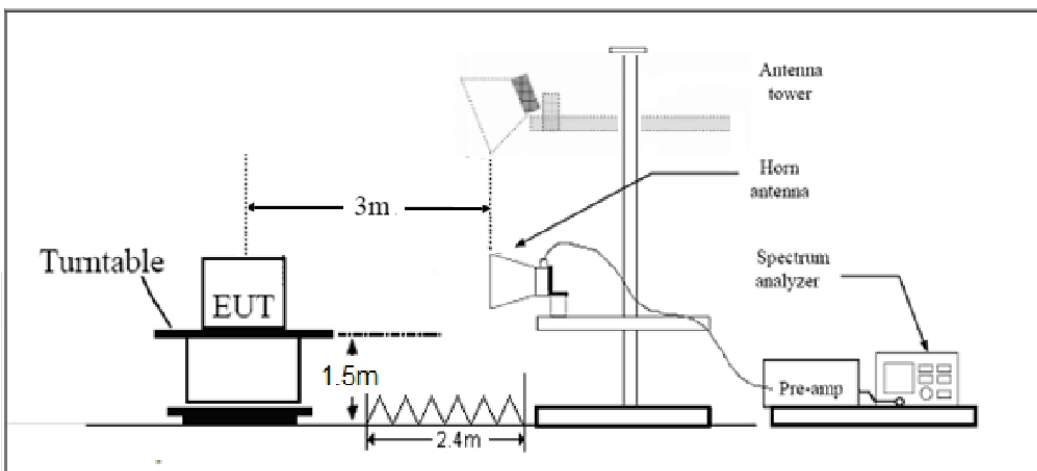
9KHz ~ 30MHz



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 $43 + 10 \log_{10} (P)$ 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(h) 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 $k = \pm 1.96$, $U = \pm 3.55$ 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.

Low 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	3465.20	-62.03	2.70	12.70	Horizontal	-52.03	-13.00	39.03	135
3	5197.80	-56.75	3.20	12.50	Horizontal	-47.45	-13.00	34.45	45
4	6930.40	-57.33	4.20	11.80	Horizontal	-49.73	-13.00	36.73	225
5	8663.00	-56.53	4.40	12.50	Horizontal	-48.43	-13.00	35.43	0
6	10395.60	-52.04	4.70	11.30	Horizontal	-45.44	-13.00	32.44	45
7	12128.20	-53.53	5.20	13.80	Horizontal	-44.93	-13.00	31.93	90
8	13860.80	-49.48	5.70	11.30	Horizontal	-43.88	-13.00	30.88	270
9	15593.40	-56.99	6.10	16.80	Horizontal	-46.29	-13.00	33.29	135
10	17326.00	-50.45	6.10	14.20	Horizontal	-42.35	-13.00	29.35	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 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	-63.36	2.70	12.70	Vertical	-53.36	-13.00	40.36	90
3	5197.50	-60.66	3.20	12.50	Vertical	-51.36	-13.00	38.36	45
4	6930.00	-58.42	4.20	11.80	Vertical	-50.82	-13.00	37.82	180
5	8662.50	-58.63	4.40	12.50	Vertical	-50.53	-13.00	37.53	180
6	10395.00	-54.00	4.70	11.30	Vertical	-47.40	-13.00	34.40	135
7	12127.50	-54.79	5.20	13.80	Vertical	-46.19	-13.00	33.19	135
8	13860.00	-48.01	5.70	11.30	Vertical	-42.41	-13.00	29.41	0
9	15592.50	-58.51	6.10	16.80	Vertical	-47.81	-13.00	34.81	135
10	17325.00	-51.27	6.10	14.20	Vertical	-43.17	-13.00	30.17	135

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 Vertical 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	-62.34	2.70	12.70	Vertical	-52.34	-13.00	39.34	45
3	5191.50	-59.48	3.20	12.50	Vertical	-50.18	-13.00	37.18	135
4	6930.00	-60.44	4.20	11.80	Vertical	-52.84	-13.00	39.84	45
5	8662.50	-57.30	4.40	12.50	Vertical	-49.20	-13.00	36.20	45
6	10395.00	-54.04	4.70	11.30	Vertical	-47.44	-13.00	34.44	0
7	12127.50	-55.52	5.20	13.80	Vertical	-46.92	-13.00	33.92	0
8	13860.00	-47.62	5.70	11.30	Vertical	-42.02	-13.00	29.02	90
9	15592.50	-55.91	6.10	16.80	Vertical	-45.21	-13.00	32.21	90
10	17325.00	-50.16	6.10	14.20	Vertical	-42.06	-13.00	29.06	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 Vertical 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	-64.86	2.70	12.70	Vertical	-54.86	-13.00	41.86	135
3	5170.88	-57.49	3.20	12.50	Vertical	-48.19	-13.00	35.19	90
4	6930.00	-59.42	4.20	11.80	Vertical	-51.82	-13.00	38.82	0
5	8662.50	-56.72	4.40	12.50	Vertical	-48.62	-13.00	35.62	135
6	10395.00	-52.30	4.70	11.30	Vertical	-45.70	-13.00	32.70	180
7	12127.50	-53.91	5.20	13.80	Vertical	-45.31	-13.00	32.31	0
8	13860.00	-47.10	5.70	11.30	Vertical	-41.50	-13.00	28.50	135
9	15592.50	-55.59	6.10	16.80	Vertical	-44.89	-13.00	31.89	45
10	17325.00	-49.90	6.10	14.20	Vertical	-41.80	-13.00	28.80	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 Vertical 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	-63.13	3.40	12.50	Vertical	-54.03	-25.00	29.03	135
3	7598.60	-57.32	4.40	12.20	Vertical	-49.52	-25.00	24.52	45
4	10130.63	-52.93	4.70	11.30	Vertical	-46.33	-25.00	21.33	45
5	12675.00	-54.60	5.40	13.20	Vertical	-46.80	-25.00	21.80	90
6	15210.00	-51.91	6.10	13.10	Vertical	-44.91	-25.00	19.91	225
7	17745.00	-51.40	6.10	14.20	Vertical	-43.30	-25.00	18.30	135
8	--	--	--	--	--	--	--	--	--
9	--	--	--	--	--	--	--	--	--
10	--	--	--	--	--	--	--	--	--
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 Vertical 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	5052.20	-63.63	3.40	12.50	Vertical	-54.53	-25.00	29.53	180
3	7578.30	-57.07	4.40	12.20	Vertical	-49.27	-25.00	24.27	225
4	10104.40	-54.21	4.70	11.30	Vertical	-47.61	-25.00	22.61	135
5	12630.50	-54.47	5.40	13.20	Vertical	-46.67	-25.00	21.67	0
6	15156.60	-52.80	6.10	13.10	Vertical	-45.80	-25.00	20.80	225
7	17745.00	-52.57	6.10	14.20	Vertical	-44.47	-25.00	19.47	135
8	--	--	--	--	--	--	--	--	--
9	--	--	--	--	--	--	--	--	--
10	--	--	--	--	--	--	--	--	--
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 Vertical 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	-66.87	3.20	12.50	Vertical	-57.57	-13.00	44.57	180
3	7777.50	-63.98	4.40	12.30	Vertical	-56.08	-13.00	43.08	90
4	10370.00	-59.95	4.70	11.80	Vertical	-52.85	-13.00	39.85	135
5	12962.50	-58.74	5.40	14.00	Vertical	-50.14	-13.00	37.14	90
6	15555.00	-57.77	6.10	16.80	Vertical	-47.07	-13.00	34.07	225
7	--	--	--	--	--	--	--	--	--
8	--	--	--	--	--	--	--	--	--
9	--	--	--	--	--	--	--	--	--
10	--	--	--	--	--	--	--	--	--

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 Vertical 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	-66.45	3.20	12.50	Vertical	-57.15	-13.00	44.15	180
3	7755.00	-63.40	4.40	12.30	Vertical	-55.50	-13.00	42.50	0
4	10340.00	-59.32	4.70	11.80	Vertical	-52.22	-13.00	39.22	45
5	12925.00	-58.51	5.40	14.00	Vertical	-49.91	-13.00	36.91	0
6	15510.00	-57.70	6.10	16.80	Vertical	-47.00	-13.00	34.00	225
7	--	--	--	--	--	--	--	--	--
8	--	--	--	--	--	--	--	--	--
9	--	--	--	--	--	--	--	--	--
10	--	--	--	--	--	--	--	--	--

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 Vertical 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	-64.31	3.20	12.50	Vertical	-55.01	-25.00	30.01	135
3	7779.00	-56.90	4.40	12.30	Vertical	-49.00	-25.00	24.00	180
4	10372.00	-54.66	4.70	11.80	Vertical	-47.56	-25.00	22.56	135
5	12965.00	-55.00	5.40	14.00	Vertical	-46.40	-25.00	21.40	0
6	15558.00	-57.81	6.10	16.80	Vertical	-47.11	-25.00	22.11	0
7	--	--	--	--	--	--	--	--	--
8	--	--	--	--	--	--	--	--	--
9	--	--	--	--	--	--	--	--	--
10	--	--	--	--	--	--	--	--	--
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 Vertical 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	-64.08	3.20	12.50	Vertical	-54.78	-25.00	29.78	225
3	7779.00	-57.01	4.40	12.30	Vertical	-49.11	-25.00	24.11	90
4	10372.00	-55.22	4.70	11.80	Vertical	-48.12	-25.00	23.12	0
5	12965.00	-53.98	5.40	14.00	Vertical	-45.38	-25.00	20.38	180
6	15558.00	-57.18	6.10	16.80	Vertical	-46.48	-25.00	21.48	180
7	--	--	--	--	--	--	--	--	--
8	--	--	--	--	--	--	--	--	--
9	--	--	--	--	--	--	--	--	--
10	--	--	--	--	--	--	--	--	--
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 Vertical position.									



CA_7C 15MHz+15MHz 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	-64.05	3.40	12.50	Vertical	-54.95	-25.00	29.95	45
3	7562.40	-50.99	4.20	12.20	Vertical	-42.99	-25.00	17.99	90
4	10113.20	-53.24	4.70	11.30	Vertical	-46.64	-25.00	21.64	225
5	12641.50	-53.47	5.40	13.20	Vertical	-45.67	-25.00	20.67	45
6	15169.80	-52.77	6.10	13.10	Vertical	-45.77	-25.00	20.77	315
7	17698.10	-53.01	6.10	14.20	Vertical	-44.91	-25.00	19.91	90
8	--	--	--	--	--	--	--	--	--
9	--	--	--	--	--	--	--	--	--
10	--	--	--	--	--	--	--	--	--

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 Vertical position.

CA_7C 10MHz+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	5052.24	-62.98	3.40	12.50	Vertical	-53.88	-25.00	28.88	45
3	7578.36	-52.24	4.20	12.20	Vertical	-44.24	-25.00	19.24	270
4	10104.48	-53.32	4.70	11.30	Vertical	-46.72	-25.00	21.72	90
5	12630.60	-54.28	5.40	13.20	Vertical	-46.48	-25.00	21.48	45
6	15156.72	-53.23	6.10	13.10	Vertical	-46.23	-25.00	21.23	315
7	17682.84	-52.31	6.10	14.20	Vertical	-44.21	-25.00	19.21	90
8	--	--	--	--	--	--	--	--	--
9	--	--	--	--	--	--	--	--	--
10	--	--	--	--	--	--	--	--	--

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 Vertical position.



CA_7C 20MHz+10MHz 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	-64.16	3.40	12.50	Vertical	-55.06	-25.00	30.06	0
3	7591.86	-52.59	4.20	12.20	Vertical	-44.59	-25.00	19.59	0
4	10122.48	-52.70	4.70	11.30	Vertical	-46.10	-25.00	21.10	90
5	12653.10	-54.11	5.40	13.20	Vertical	-46.31	-25.00	21.31	45
6	15183.72	-52.90	6.10	13.10	Vertical	-45.90	-25.00	20.90	135
7	17714.34	-52.59	6.10	14.20	Vertical	-44.49	-25.00	19.49	270
8	--	--	--	--	--	--	--	--	--
9	--	--	--	--	--	--	--	--	--
10	--	--	--	--	--	--	--	--	--

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 Vertical position.

CA_7C 20MHz+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	5052.14	-63.77	3.40	12.50	Vertical	-54.67	-25.00	29.67	0
3	7578.21	-53.94	4.20	12.20	Vertical	-45.94	-25.00	20.94	45
4	10104.28	-54.19	4.70	11.30	Vertical	-47.59	-25.00	22.59	315
5	12630.35	-53.72	5.40	13.20	Vertical	-45.92	-25.00	20.92	90
6	15156.42	-53.69	6.10	13.10	Vertical	-46.69	-25.00	21.69	45
7	17682.49	-52.54	6.10	14.20	Vertical	-44.44	-25.00	19.44	180
8	--	--	--	--	--	--	--	--	--
9	--	--	--	--	--	--	--	--	--
10	--	--	--	--	--	--	--	--	--

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 Vertical position.



CA_38C 15MHz+10MHz 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	-64.46	3.20	12.50	Vertical	-55.16	-25.00	30.16	270
3	7742.94	-56.08	4.40	12.20	Vertical	-48.28	-25.00	23.28	90
4	10323.92	-53.71	4.70	11.30	Vertical	-47.11	-25.00	22.11	45
5	12904.90	-53.05	5.40	14.00	Vertical	-44.45	-25.00	19.45	315
6	15485.88	-57.35	6.10	16.80	Vertical	-46.65	-25.00	21.65	90
7	--	--	--	--	--	--	--	--	--
8	--	--	--	--	--	--	--	--	--
9	--	--	--	--	--	--	--	--	--
10	--	--	--	--	--	--	--	--	--

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 Vertical position.

CA_38C 20MHz+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	5152.40	-64.82	3.20	12.50	Vertical	-55.52	-25.00	30.52	0
3	7728.60	-57.56	4.40	12.20	Vertical	-49.76	-25.00	24.76	45
4	10304.80	-53.69	4.70	11.30	Vertical	-47.09	-25.00	22.09	315
5	12881.00	-53.20	5.40	14.00	Vertical	-44.60	-25.00	19.60	270
6	15457.20	-56.56	6.10	16.80	Vertical	-45.86	-25.00	20.86	90
7	--	--	--	--	--	--	--	--	--
8	--	--	--	--	--	--	--	--	--
9	--	--	--	--	--	--	--	--	--
10	--	--	--	--	--	--	--	--	--

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 Vertical position.



CA_41C QPSK 5MHz+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	5162.60	-58.26	3.20	12.50	Horizontal	-51.11	-25.00	26.11	180
3	7743.90	-55.33	4.40	12.20	Horizontal	-49.68	-25.00	24.68	135
4	10325.20	-45.85	4.70	11.30	Horizontal	-41.40	-25.00	16.40	135
5	12906.50	-48.78	5.40	14.00	Horizontal	-42.33	-25.00	17.33	315
6	15487.80	-49.34	6.10	16.80	Horizontal	-40.79	-25.00	15.79	90
7	--	--	--	--	--	--	--	--	--
8	--	--	--	--	--	--	--	--	--
9	--	--	--	--	--	--	--	--	--
10	--	--	--	--	--	--	--	--	--
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_41C QPSK 20MHz+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	5161.00	-58.30	3.20	12.50	Horizontal	-51.15	-25.00	26.15	225
3	7741.50	-55.45	4.40	12.20	Horizontal	-49.80	-25.00	24.80	45
4	10322.00	-46.46	4.70	11.30	Horizontal	-42.01	-25.00	17.01	225
5	12902.50	-48.84	5.40	14.00	Horizontal	-42.39	-25.00	17.39	270
6	15483.00	-49.91	6.10	16.80	Horizontal	-41.36	-25.00	16.36	0
7	--	--	--	--	--	--	--	--	--
8	--	--	--	--	--	--	--	--	--
9	--	--	--	--	--	--	--	--	--
10	--	--	--	--	--	--	--	--	--
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_41C QPSK 15MHz+15MHz 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	5156.00	-58.16	3.20	12.50	Horizontal	-51.01	-25.00	26.01	135
3	7734.00	-55.53	4.40	12.20	Horizontal	-49.88	-25.00	24.88	270
4	10312.00	-46.83	4.70	11.30	Horizontal	-42.38	-25.00	17.38	270
5	12890.00	-48.25	5.40	14.00	Horizontal	-41.80	-25.00	16.80	90
6	15468.00	-49.71	6.10	16.80	Horizontal	-41.16	-25.00	16.16	180
7	--	--	--	--	--	--	--	--	--
8	--	--	--	--	--	--	--	--	--
9	--	--	--	--	--	--	--	--	--
10	--	--	--	--	--	--	--	--	--

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_41C QPSK 20MHz+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	5146.20	-57.86	3.20	12.50	Horizontal	-50.71	-25.00	25.71	135
3	7719.30	-55.24	4.40	12.20	Horizontal	-49.59	-25.00	24.59	315
4	10292.40	-45.88	4.70	11.30	Horizontal	-41.43	-25.00	16.43	270
5	12865.50	-47.84	5.40	14.00	Horizontal	-41.39	-25.00	16.39	90
6	15438.60	-48.11	6.10	16.80	Horizontal	-39.56	-25.00	14.56	135
7	--	--	--	--	--	--	--	--	--
8	--	--	--	--	--	--	--	--	--
9	--	--	--	--	--	--	--	--	--
10	--	--	--	--	--	--	--	--	--

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.

Upper 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	3465.20	-67.94	2.70	12.70	Horizontal	-57.94	-13.00	44.94	135
3	5197.80	-63.91	3.20	12.50	Horizontal	-54.61	-13.00	41.61	45
4	6930.40	-60.02	4.20	11.80	Horizontal	-52.42	-13.00	39.42	225
5	8663.00	-55.71	4.40	12.50	Horizontal	-47.61	-13.00	34.61	0
6	10395.60	-51.49	4.70	11.30	Horizontal	-44.89	-13.00	31.89	45
7	12128.20	-54.21	5.20	13.80	Horizontal	-45.61	-13.00	32.61	90
8	13860.80	-49.95	5.70	11.30	Horizontal	-44.35	-13.00	31.35	270
9	15593.40	-60.66	6.10	16.80	Horizontal	-49.96	-13.00	36.96	135
10	17326.00	-55.71	6.10	14.20	Horizontal	-47.61	-13.00	34.61	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 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	-58.77	2.70	12.70	Horizontal	-48.77	-13.00	35.77	135
3	5197.50	-61.94	3.20	12.50	Horizontal	-52.64	-13.00	39.64	225
4	6930.00	-57.52	4.20	11.80	Horizontal	-49.92	-13.00	36.92	90
5	8662.50	-56.93	4.40	12.50	Horizontal	-48.83	-13.00	35.83	180
6	10395.00	-51.83	4.70	11.30	Horizontal	-45.23	-13.00	32.23	45
7	12127.50	-54.37	5.20	13.80	Horizontal	-45.77	-13.00	32.77	0
8	13860.00	-49.16	5.70	11.30	Horizontal	-43.56	-13.00	30.56	315
9	15592.50	-57.25	6.10	16.80	Horizontal	-46.55	-13.00	33.55	180
10	17325.00	-50.77	6.10	14.20	Horizontal	-42.67	-13.00	29.67	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	-59.93	2.70	12.70	Horizontal	-49.93	-13.00	36.93	180
3	5191.50	-60.37	3.20	12.50	Horizontal	-51.07	-13.00	38.07	90
4	6930.00	-60.61	4.20	11.80	Horizontal	-53.01	-13.00	40.01	225
5	8662.50	-57.53	4.40	12.50	Horizontal	-49.43	-13.00	36.43	270
6	10395.00	-53.47	4.70	11.30	Horizontal	-46.87	-13.00	33.87	135
7	12127.50	-54.20	5.20	13.80	Horizontal	-45.60	-13.00	32.60	0
8	13860.00	-50.18	5.70	11.30	Horizontal	-44.58	-13.00	31.58	90
9	15592.50	-57.47	6.10	16.80	Horizontal	-46.77	-13.00	33.77	180
10	17325.00	-50.92	6.10	14.20	Horizontal	-42.82	-13.00	29.82	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	-67.28	2.70	12.70	Horizontal	-57.28	-13.00	44.28	0
3	5170.88	-62.18	3.20	12.50	Horizontal	-52.88	-13.00	39.88	225
4	6930.00	-60.41	4.20	11.80	Horizontal	-52.81	-13.00	39.81	0
5	8662.50	-57.96	4.40	12.50	Horizontal	-49.86	-13.00	36.86	45
6	10395.00	-53.80	4.70	11.30	Horizontal	-47.20	-13.00	34.20	315
7	12127.50	-55.25	5.20	13.80	Horizontal	-46.65	-13.00	33.65	0
8	13860.00	-49.01	5.70	11.30	Horizontal	-43.41	-13.00	30.41	180
9	15592.50	-58.34	6.10	16.80	Horizontal	-47.64	-13.00	34.64	225
10	17325.00	-53.31	6.10	14.20	Horizontal	-45.21	-13.00	32.21	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 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	-65.88	3.40	12.50	Horizontal	-56.78	-25.00	31.78	180
3	7598.60	-58.58	4.40	12.20	Horizontal	-50.78	-25.00	25.78	225
4	10130.63	-52.18	4.70	11.30	Horizontal	-45.58	-25.00	20.58	315
5	12675.00	-54.37	5.40	13.20	Horizontal	-46.57	-25.00	21.57	0
6	15210.00	-54.29	6.10	13.10	Horizontal	-47.29	-25.00	22.29	45
7	17745.00	-59.41	6.10	14.20	Horizontal	-51.31	-25.00	26.31	315
8	--	--	--	--	--	--	--	--	--
9	--	--	--	--	--	--	--	--	--
10	--	--	--	--	--	--	--	--	--

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	5052.20	-64.50	3.40	12.50	Horizontal	-55.40	-25.00	30.40	315
3	7578.30	-57.27	4.40	12.20	Horizontal	-49.47	-25.00	24.47	0
4	10104.40	-52.01	4.70	11.30	Horizontal	-45.41	-25.00	20.41	45
5	12630.50	-52.46	5.40	13.20	Horizontal	-44.66	-25.00	19.66	225
6	15156.60	-52.19	6.10	13.10	Horizontal	-45.19	-25.00	20.19	135
7	17745.00	-53.16	6.10	14.20	Horizontal	-45.06	-25.00	20.06	270
8	--	--	--	--	--	--	--	--	--
9	--	--	--	--	--	--	--	--	--
10	--	--	--	--	--	--	--	--	--

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	-66.54	3.20	12.50	Horizontal	-57.24	-13.00	44.24	0
3	7777.50	-64.01	4.40	12.30	Horizontal	-56.11	-13.00	43.11	225
4	10370.00	-59.45	4.70	11.80	Horizontal	-52.35	-13.00	39.35	45
5	12962.50	-57.46	5.40	14.00	Horizontal	-48.86	-13.00	35.86	180
6	15555.00	-57.27	6.10	16.80	Horizontal	-46.57	-13.00	33.57	315
7	--	--	--	--	--	--	--	--	--
8	--	--	--	--	--	--	--	--	--
9	--	--	--	--	--	--	--	--	--
10	--	--	--	--	--	--	--	--	--

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	-69.93	3.20	12.50	Horizontal	-57.43	-13.00	44.43	225
3	7755.00	-68.66	4.40	12.30	Horizontal	-56.36	-13.00	43.36	0
4	10340.00	-64.69	4.70	11.80	Horizontal	-52.89	-13.00	39.89	180
5	12925.00	-64.05	5.40	14.00	Horizontal	-50.05	-13.00	37.05	90
6	15510.00	-63.76	6.10	16.80	Horizontal	-46.96	-13.00	33.96	225
7	--	--	--	--	--	--	--	--	--
8	--	--	--	--	--	--	--	--	--
9	--	--	--	--	--	--	--	--	--
10	--	--	--	--	--	--	--	--	--

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	-63.95	3.20	12.50	Horizontal	-54.65	-25.00	29.65	90
3	7779.00	-56.49	4.40	12.30	Horizontal	-48.59	-25.00	23.59	180
4	10372.00	-51.56	4.70	11.80	Horizontal	-44.46	-25.00	19.46	180
5	12965.00	-52.56	5.40	14.00	Horizontal	-43.96	-25.00	18.96	180
6	15558.00	-58.38	6.10	16.80	Horizontal	-47.68	-25.00	22.68	180
7	--	--	--	--	--	--	--	--	--
8	--	--	--	--	--	--	--	--	--
9	--	--	--	--	--	--	--	--	--
10	--	--	--	--	--	--	--	--	--
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	-66.20	3.20	12.50	Horizontal	-56.90	-25.00	31.90	180
3	7779.00	-57.14	4.40	12.30	Horizontal	-49.24	-25.00	24.24	180
4	10372.00	-52.72	4.70	11.80	Horizontal	-45.62	-25.00	20.62	90
5	12965.00	-56.52	5.40	14.00	Horizontal	-47.92	-25.00	22.92	180
6	15558.00	-62.46	6.10	16.80	Horizontal	-51.76	-25.00	26.76	180
7	--	--	--	--	--	--	--	--	--
8	--	--	--	--	--	--	--	--	--
9	--	--	--	--	--	--	--	--	--
10	--	--	--	--	--	--	--	--	--
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 15MHz+15MHz 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	-63.80	3.40	12.50	Horizontal	-54.70	-25.00	29.70	225
3	7563.00	-58.11	4.20	12.20	Horizontal	-50.11	-25.00	25.11	315
4	10113.20	-53.74	4.70	11.30	Horizontal	-47.14	-25.00	22.14	180
5	12641.50	-54.48	5.40	13.20	Horizontal	-46.68	-25.00	21.68	0
6	15169.80	-52.24	6.10	13.10	Horizontal	-45.24	-25.00	20.24	225
7	17698.10	-53.33	6.10	14.20	Horizontal	-45.23	-25.00	20.23	135
8	--	--	--	--	--	--	--	--	--
9	--	--	--	--	--	--	--	--	--
10	--	--	--	--	--	--	--	--	--

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 10MHz+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	5052.24	-64.03	3.40	12.50	Horizontal	-54.93	-25.00	29.93	135
3	7578.36	-58.15	4.20	12.20	Horizontal	-50.15	-25.00	25.15	225
4	10104.48	-53.03	4.70	11.30	Horizontal	-46.43	-25.00	21.43	90
5	12630.60	-54.08	5.40	13.20	Horizontal	-46.28	-25.00	21.28	270
6	15156.72	-54.13	6.10	13.10	Horizontal	-47.13	-25.00	22.13	135
7	17682.84	-52.98	6.10	14.20	Horizontal	-44.88	-25.00	19.88	180
8	--	--	--	--	--	--	--	--	--
9	--	--	--	--	--	--	--	--	--
10	--	--	--	--	--	--	--	--	--

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 20MHz+10MHz 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	-63.26	3.40	12.50	Horizontal	-54.16	-25.00	29.16	0
3	7591.86	-57.16	4.20	12.20	Horizontal	-49.16	-25.00	24.16	270
4	10122.48	-53.04	4.70	11.30	Horizontal	-46.44	-25.00	21.44	45
5	12653.10	-54.18	5.40	13.20	Horizontal	-46.38	-25.00	21.38	45
6	15183.72	-52.63	6.10	13.10	Horizontal	-45.63	-25.00	20.63	90
7	17714.34	-51.97	6.10	14.20	Horizontal	-43.87	-25.00	18.87	180
8	--	--	--	--	--	--	--	--	--
9	--	--	--	--	--	--	--	--	--
10	--	--	--	--	--	--	--	--	--

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 20MHz+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	5052.14	-63.43	3.40	12.50	Horizontal	-54.33	-25.00	29.33	180
3	7578.21	-58.32	4.20	12.20	Horizontal	-50.32	-25.00	25.32	135
4	10104.28	-54.72	4.70	11.30	Horizontal	-48.12	-25.00	23.12	225
5	12630.35	-54.61	5.40	13.20	Horizontal	-46.81	-25.00	21.81	45
6	15156.42	-52.54	6.10	13.10	Horizontal	-45.54	-25.00	20.54	90
7	17682.49	-53.16	6.10	14.20	Horizontal	-45.06	-25.00	20.06	225
8	--	--	--	--	--	--	--	--	--
9	--	--	--	--	--	--	--	--	--
10	--	--	--	--	--	--	--	--	--

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 15MHz+10MHz 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	-64.11	3.20	12.50	Horizontal	-54.81	-25.00	29.81	270
3	7742.94	-56.88	4.40	12.20	Horizontal	-49.08	-25.00	24.08	225
4	10323.92	-53.71	4.70	11.30	Horizontal	-47.11	-25.00	22.11	225
5	12904.90	-53.72	5.40	14.00	Horizontal	-45.12	-25.00	20.12	45
6	15485.88	-57.70	6.10	16.80	Horizontal	-47.00	-25.00	22.00	315
7	--	--	--	--	--	--	--	--	--
8	--	--	--	--	--	--	--	--	--
9	--	--	--	--	--	--	--	--	--
10	--	--	--	--	--	--	--	--	--

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 20MHz+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	5152.40	-64.24	3.20	12.50	Horizontal	-54.94	-25.00	29.94	135
3	7728.60	-57.50	4.40	12.20	Horizontal	-49.70	-25.00	24.70	135
4	10304.80	-53.69	4.70	11.30	Horizontal	-47.09	-25.00	22.09	90
5	12881.00	-52.28	5.40	14.00	Horizontal	-43.68	-25.00	18.68	45
6	15457.20	-56.71	6.10	16.80	Horizontal	-46.01	-25.00	21.01	0
7	--	--	--	--	--	--	--	--	--
8	--	--	--	--	--	--	--	--	--
9	--	--	--	--	--	--	--	--	--
10	--	--	--	--	--	--	--	--	--

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_41C QPSK 5MHz+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	5162.60	-58.19	3.20	12.50	Horizontal	-51.04	-25.00	26.04	0
3	7743.90	-55.64	4.40	12.20	Horizontal	-49.99	-25.00	24.99	90
4	10325.20	-47.09	4.70	11.30	Horizontal	-42.64	-25.00	17.64	180
5	12906.50	-49.29	5.40	14.00	Horizontal	-42.84	-25.00	17.84	45
6	15487.80	-50.12	6.10	16.80	Horizontal	-41.57	-25.00	16.57	315
7	--	--	--	--	--	--	--	--	--
8	--	--	--	--	--	--	--	--	--
9	--	--	--	--	--	--	--	--	--
10	--	--	--	--	--	--	--	--	--
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_41C QPSK 20MHz+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	5161.00	-58.84	3.20	12.50	Horizontal	-51.69	-25.00	26.69	0
3	7741.50	-55.69	4.40	12.20	Horizontal	-50.04	-25.00	25.04	135
4	10322.00	-46.82	4.70	11.30	Horizontal	-42.37	-25.00	17.37	0
5	12902.50	-47.60	5.40	14.00	Horizontal	-41.15	-25.00	16.15	45
6	15483.00	-50.88	6.10	16.80	Horizontal	-42.33	-25.00	17.33	315
7	--	--	--	--	--	--	--	--	--
8	--	--	--	--	--	--	--	--	--
9	--	--	--	--	--	--	--	--	--
10	--	--	--	--	--	--	--	--	--
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_41C QPSK 15MHz+15MHz 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	5156.00	-57.75	3.20	12.50	Horizontal	-50.60	-25.00	25.60	180
3	7734.00	-55.50	4.40	12.20	Horizontal	-49.85	-25.00	24.85	135
4	10312.00	-46.47	4.70	11.30	Horizontal	-42.02	-25.00	17.02	0
5	12890.00	-47.51	5.40	14.00	Horizontal	-41.06	-25.00	16.06	90
6	15468.00	-51.21	6.10	16.80	Horizontal	-42.66	-25.00	17.66	225
7	--	--	--	--	--	--	--	--	--
8	--	--	--	--	--	--	--	--	--
9	--	--	--	--	--	--	--	--	--
10	--	--	--	--	--	--	--	--	--

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_41C QPSK 20MHz+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	5146.20	-58.96	3.20	12.50	Horizontal	-51.81	-25.00	26.81	270
3	7719.30	-55.04	4.40	12.20	Horizontal	-49.39	-25.00	24.39	0
4	10292.40	-47.24	4.70	11.30	Horizontal	-42.79	-25.00	17.79	90
5	12865.50	-47.71	5.40	14.00	Horizontal	-41.26	-25.00	16.26	180
6	15438.60	-49.88	6.10	16.80	Horizontal	-41.33	-25.00	16.33	135
7	--	--	--	--	--	--	--	--	--
8	--	--	--	--	--	--	--	--	--
9	--	--	--	--	--	--	--	--	--
10	--	--	--	--	--	--	--	--	--

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
Climate Chamber	Weiss	VT4002	582261194500 10	2021-05-15	2022-05-14
Spectrum Analyzer	Key sight	N9020	MY52330084	2021-05-15	2022-05-14
Signal Analyzer	R&S	FSV3030	101411	2020-12-13	2021-12-12
Signal Analyzer	R&S	FSV30	100815	2020-12-13	2021-12-12
TRILOG Broadband Antenna	Schwarzbeck	VULB 9163	01111	2019-9-12	2022-09-11
Horn Antenna	Schwarzbeck	BBHA 9120D	1594	2020-12-17	2021-12-16

*****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.