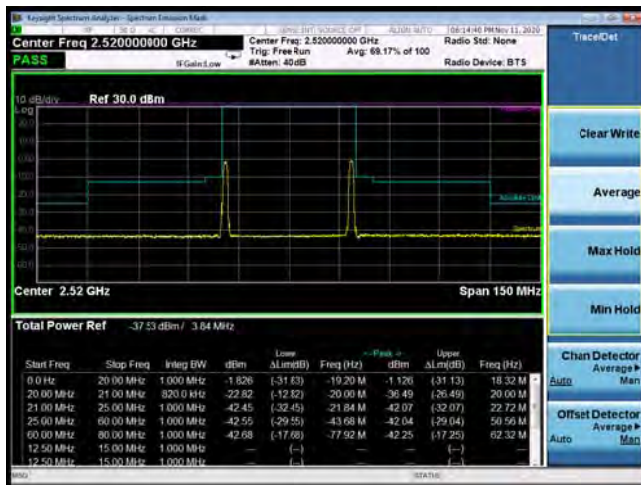
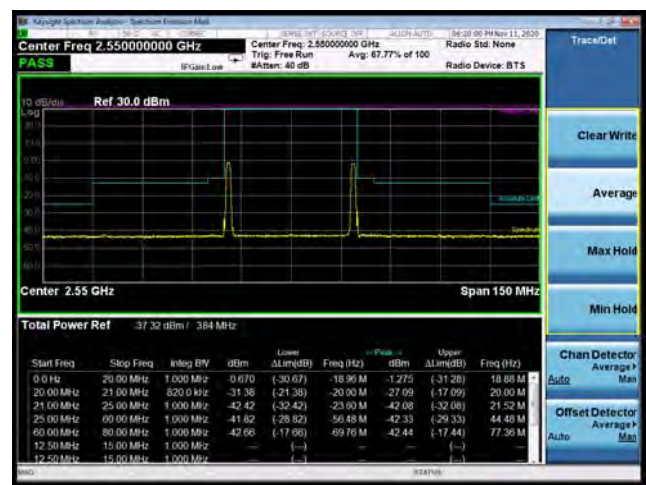
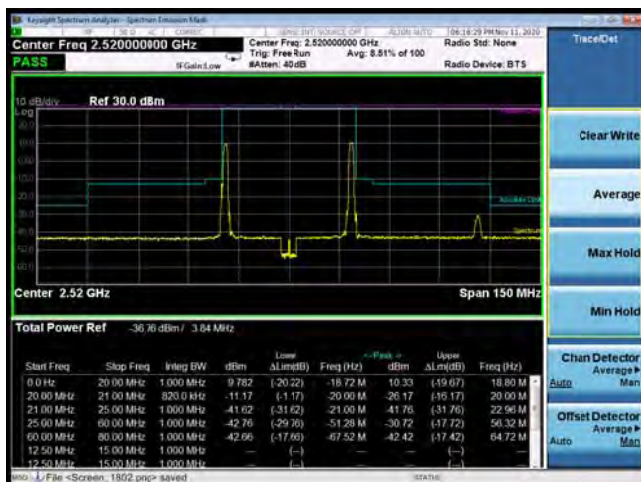
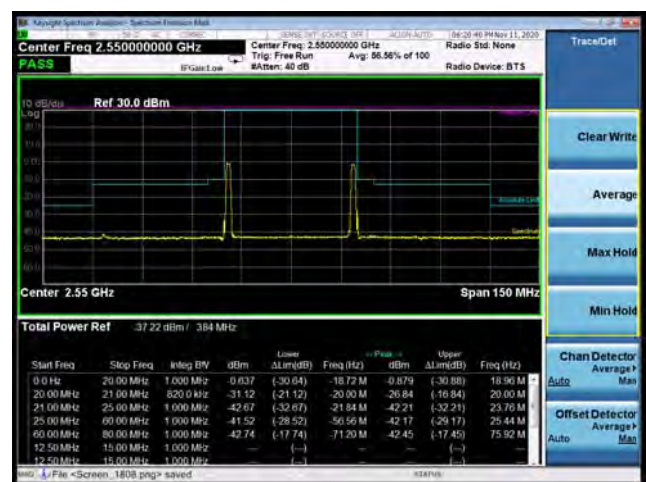
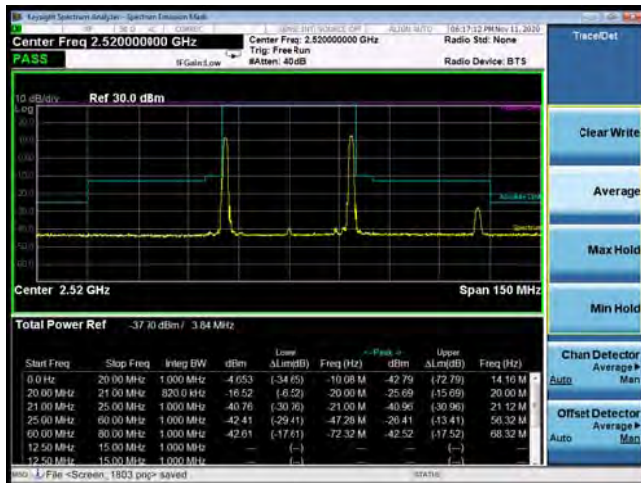
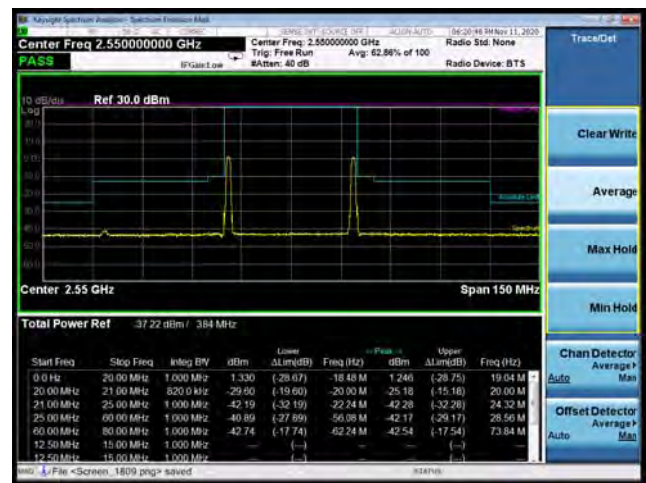
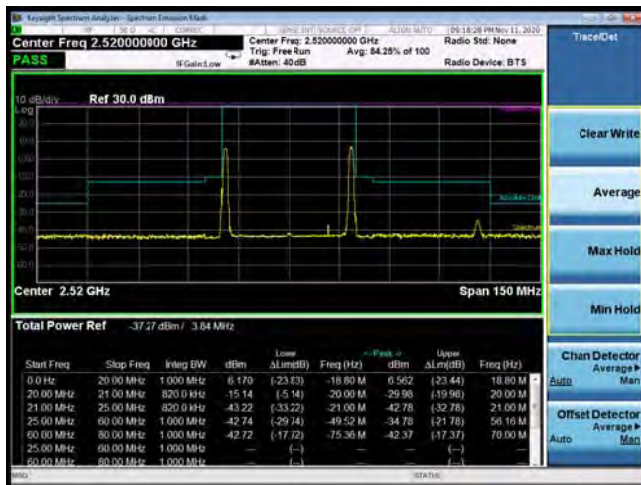
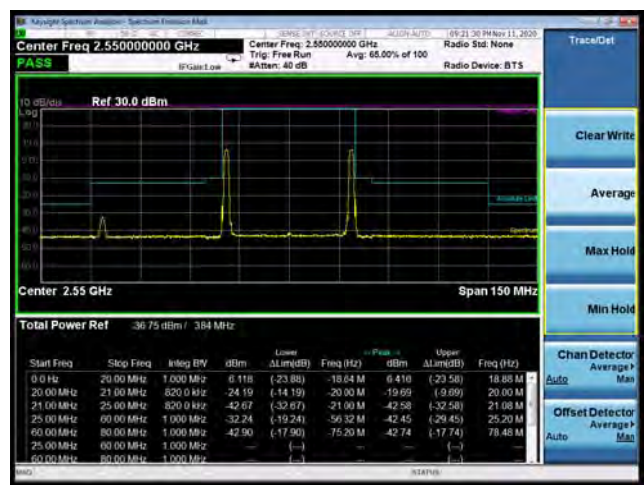
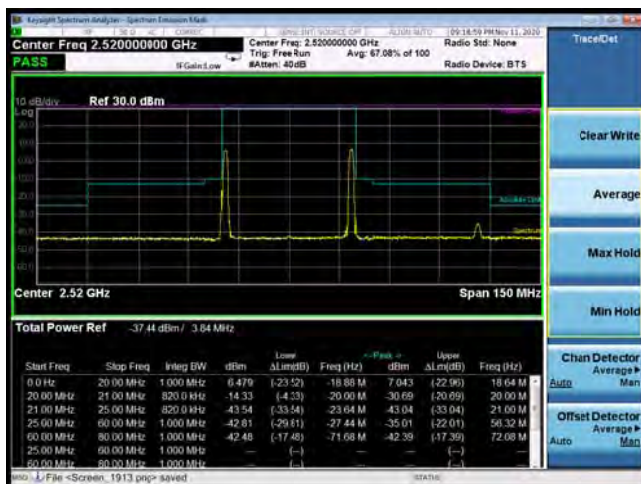
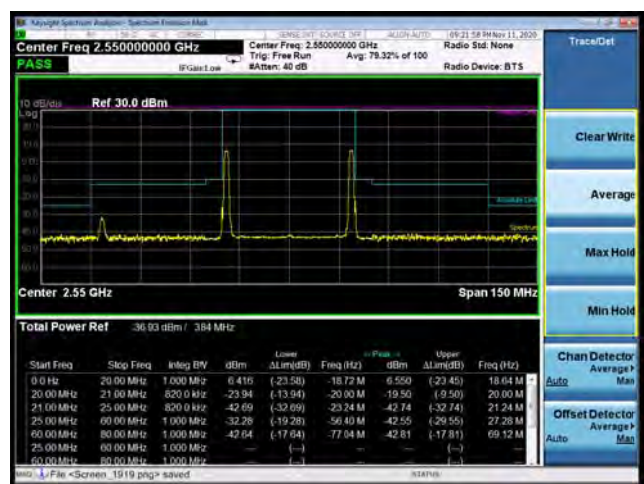
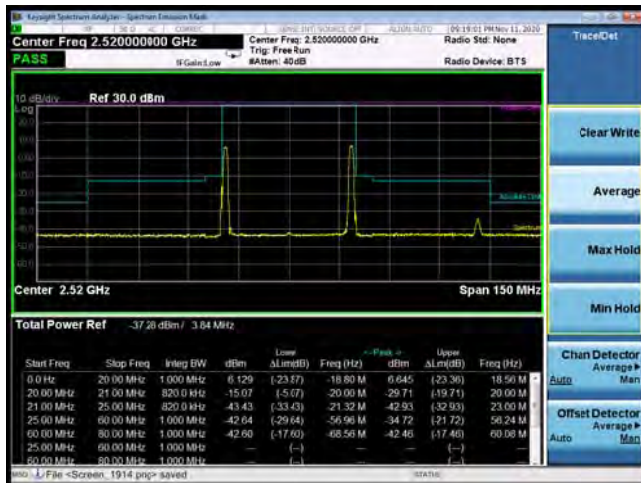
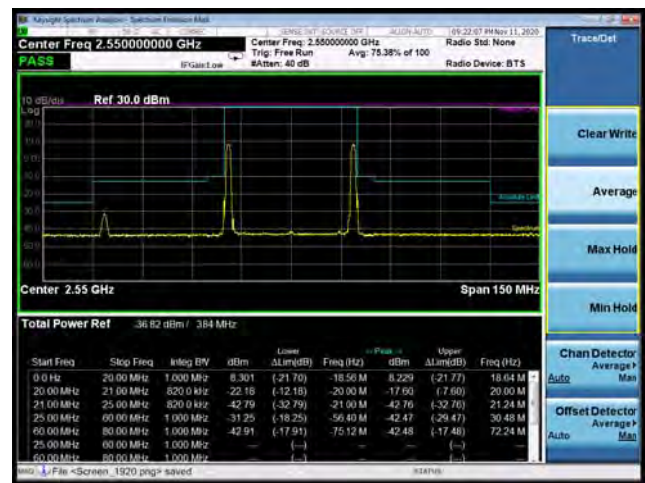
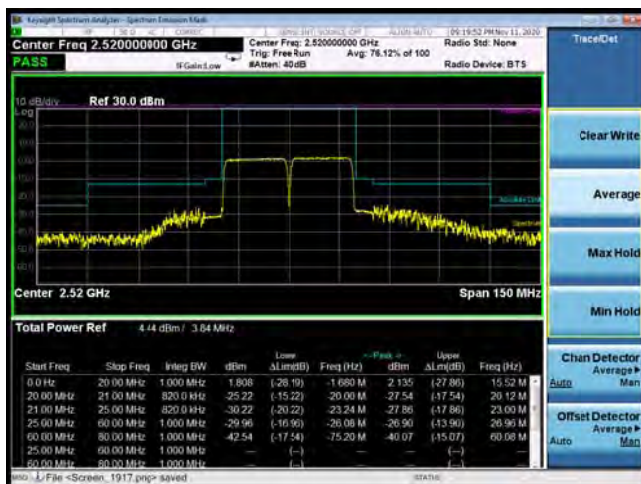
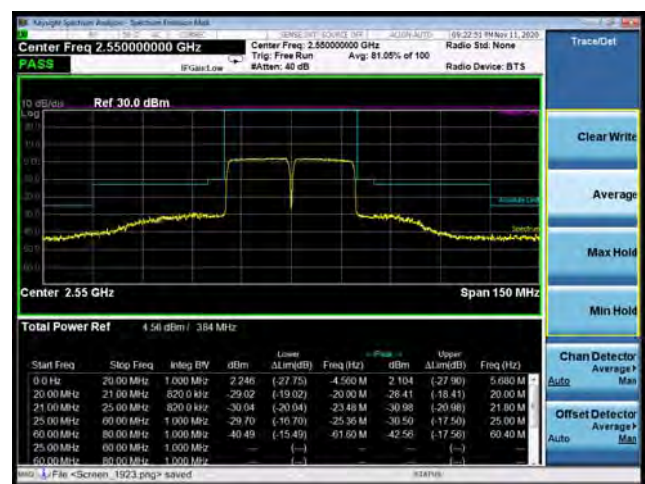
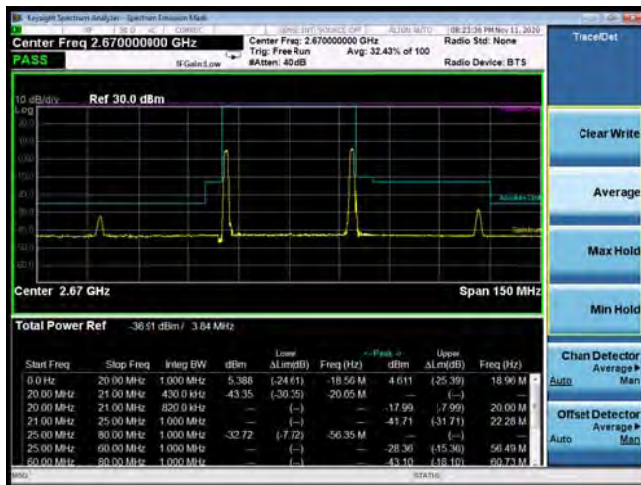
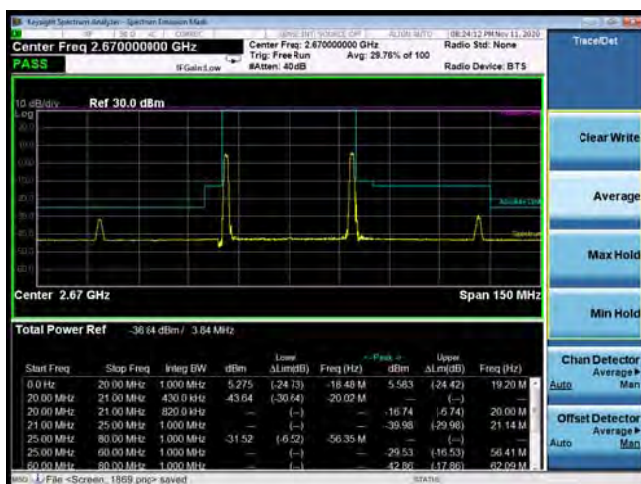


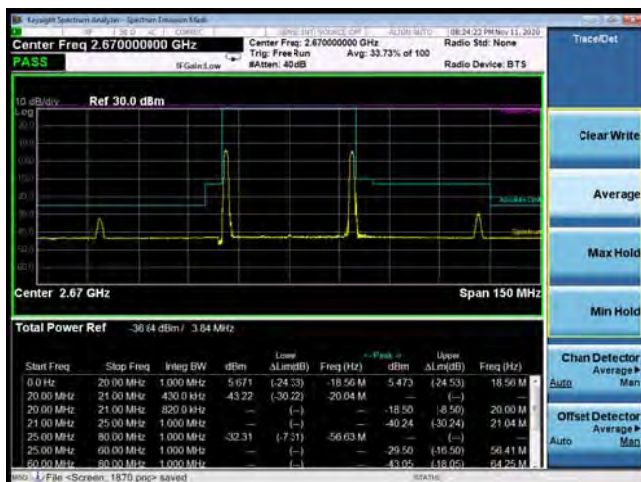
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1 RBCA-7C-4A QPSK 20MHz+20MHz+20MHz
CH-High, 1 RBCA-7C-4A QPSK 20MHz+20MHz+20MHz CH-Low,
100%RBCA-7C-4A QPSK 20MHz+20MHz+20MHz
CH-High, 100%RBCA-7C-4A 16QAM 20MHz+20MHz+20MHz
CH-Low, 1 RBCA-7C-4A 16QAM 20MHz+20MHz+20MHz
CH-High, 1 RB

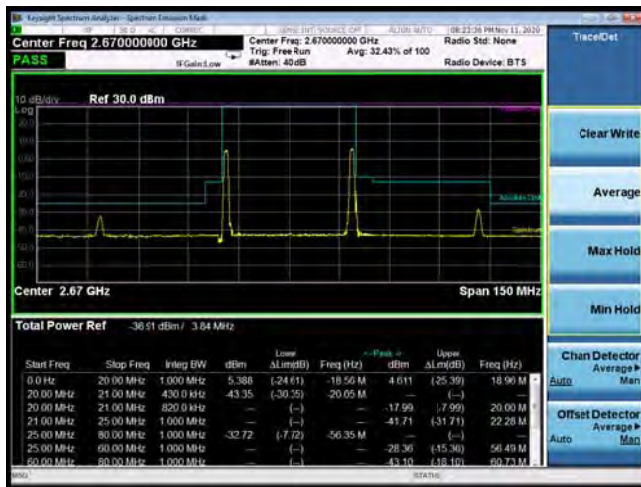
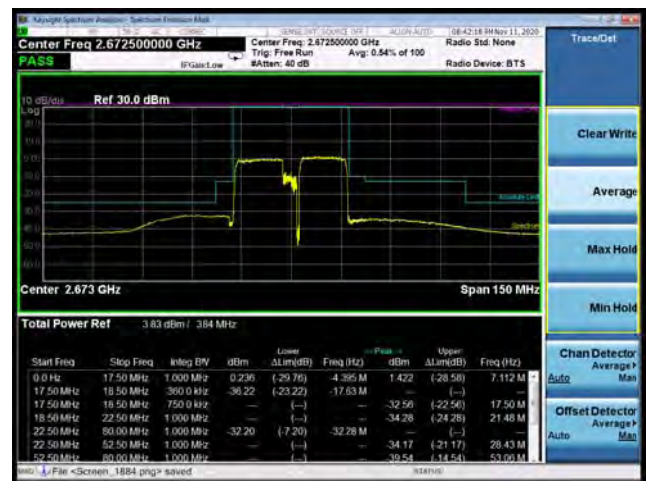
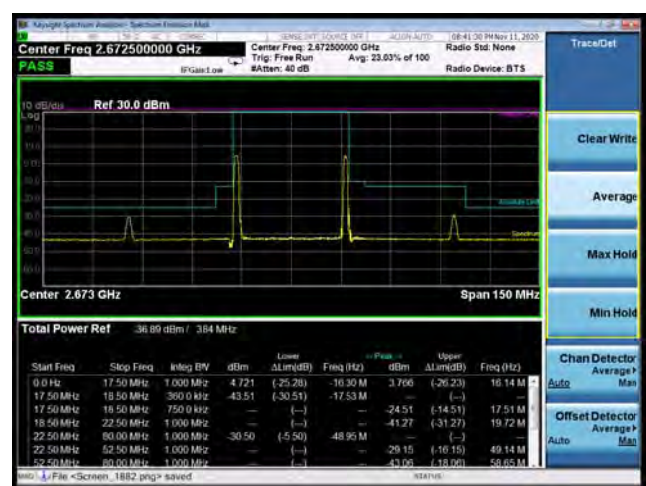
CA-7C-4A 16QAM 20MHz+20MHz+20MHz
CH-Low, 100%RBCA-7C-4A 16QAM 20MHz+20MHz+20MHz
CH-High, 100%RBCA-7C-4A 64QAM 20MHz+20MHz+20MHz
CH-Low, 1 RBCA-7C-4A 64QAM 20MHz+20MHz+20MHz
CH-High, 1 RBCA-7C-4A 64QAM 20MHz+20MHz+20MHz
CH-Low, 100%RBCA-7C-4A 64QAM 20MHz+20MHz+20MHz
CH-High, 100%RB

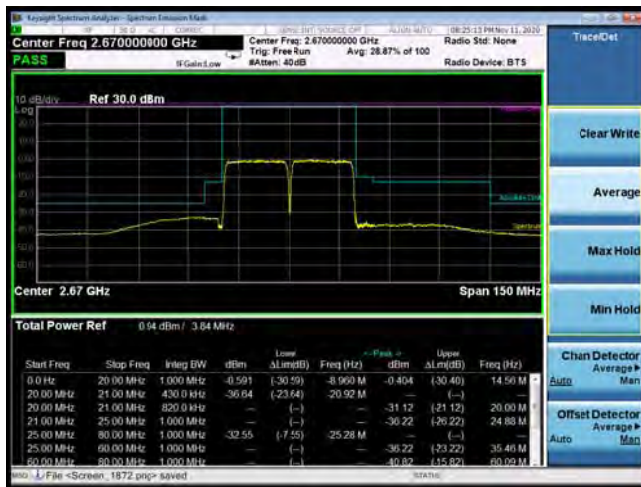
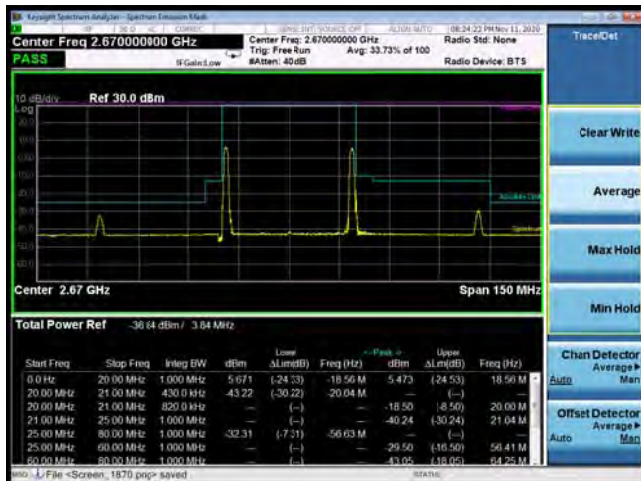
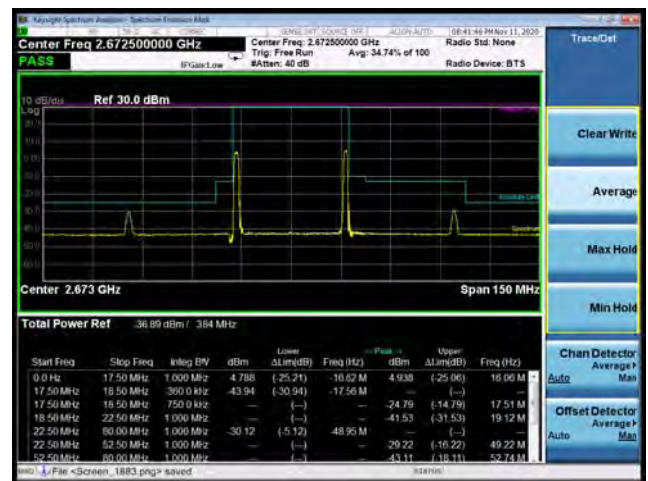
CA-7C-5A QPSK 20MHz+20MHz+20MHz CH-Low,
1 RBCA-7C-5A QPSK 20MHz+20MHz+20MHz
CH-High, 1 RBCA-7C-5A QPSK 20MHz+20MHz+20MHz CH-Low,
100%RBCA-7C-5A QPSK 20MHz+20MHz+20MHz
CH-High, 100%RBCA-7C-5A 16QAM 20MHz+20MHz+20MHz
CH-Low, 1 RBCA-7C-5A 16QAM 20MHz+20MHz+20MHz
CH-High, 1 RB

CA-7C-5A 16QAM 20MHz+20MHz+20MHz
CH-Low, 100%RBCA-7C-5A 16QAM 20MHz+20MHz+20MHz
CH-High, 100%RBCA-7C-5A 64QAM 20MHz+20MHz+20MHz
CH-Low, 1 RBCA-7C-5A 64QAM 20MHz+20MHz+20MHz
CH-High, 1 RBCA-7C-5A 64QAM 20MHz+20MHz+20MHz
CH-Low, 100%RBCA-7C-5A 64QAM 20MHz+20MHz+20MHz
CH-High, 100%RB

CA-41A-41C QPSK 5MHz+20MHz+20MHz
CH-Low, 1 RBCA-41A-41C QPSK 5MHz+20MHz+20MHz
CH-High, 1 RBCA-41A-41C QPSK 5MHz+20MHz+20MHz
CH-Low, 100%RBCA-41A-41C QPSK 5MHz+20MHz+20MHz
CH-High, 100%RBCA-41A-41C 16QAM 5MHz+20MHz+20MHz
CH-Low, 1 RBCA-41A-41C 16QAM 5MHz+20MHz+20MHz
CH-High, 1 RB

CA-41A-41C 16QAM 5MHz+20MHz+20MHz
CH-Low, 100%RBCA-41A-41C 16QAM 5MHz+20MHz+20MHz
CH-High, 100%RBCA-41A-41C 64QAM 5MHz+20MHz+20MHz
CH-Low, 1 RBCA-41A-41C 64QAM 5MHz+20MHz+20MHz
CH-High, 1 RBCA-41A-41C 64QAM 5MHz+20MHz+20MHz
CH-Low, 100%RBCA-41A-41C 64QAM 5MHz+20MHz+20MHz
CH-High, 100%RB

CA-41A-41C QPSK 15MHz+20MHz+20MHz
CH-Low, 1 RBCA-41A-41C QPSK 15MHz+20MHz+20MHz
CH-High, 1 RBCA-41A-41C QPSK 15MHz+20MHz+20MHz
CH-Low, 100%RBCA-41A-41C QPSK 15MHz+20MHz+20MHz
CH-High, 100%RBCA-41A-41C 16QAM 15MHz+20MHz+20MHz
CH-Low, 1 RBCA-41A-41C 16QAM 15MHz+20MHz+20MHz
CH-High, 1 RB

CA-41A-41C 16QAM 15MHz+20MHz+20MHz
CH-Low, 100%RBCA-41A-41C 16QAM 15MHz+20MHz+20MHz
CH-High, 100%RBCA-41A-41C 64QAM 15MHz+20MHz+20MHz
CH-Low, 1 RBCA-41A-41C 64QAM 15MHz+20MHz+20MHz
CH-High, 1 RBCA-41A-41C 64QAM 15MHz+20MHz+20MHz
CH-Low, 100%RBCA-41A-41C 64QAM 15MHz+20MHz+20MHz
CH-High, 100%RB



CA-41D QPSK 10MHz+15MHz+20MHz CH-Low, 1 RB



CA-41D QPSK 10MHz+15MHz+20MHz CH-High, 1 RB



CA-41D QPSK 10MHz+15MHz+20MHz CH-Low, 100%RB



CA-41D QPSK 10MHz+15MHz+20MHz CH-High, 100%RB

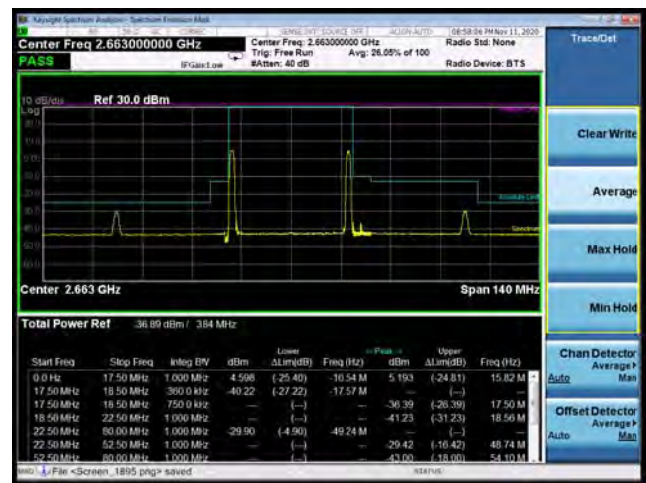


CA-41D 16QAM 10MHz+15MHz+20MHz CH-Low, 1 RB



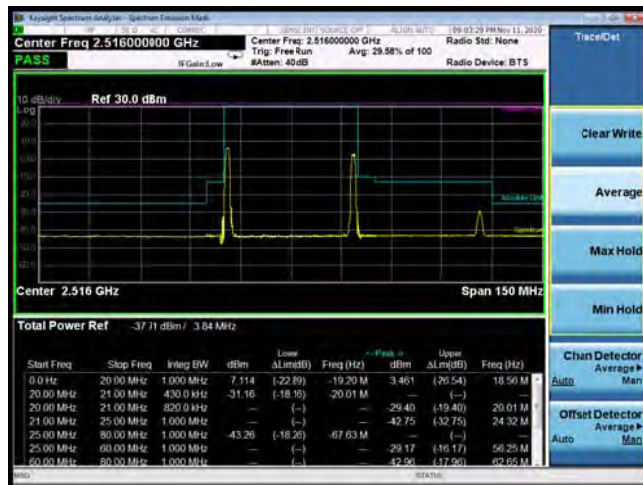
CA-41D 16QAM 10MHz+15MHz+20MHz CH-High, 1 RB



CA-41D 16QAM 10MHz+15MHz+20MHz CH-Low,
100%RBCA-41D 16QAM 10MHz+15MHz+20MHz CH-High,
100%RBCA-41D 64QAM 10MHz+15MHz+20MHz CH-Low,
1 RBCA-41D 64QAM 10MHz+15MHz+20MHz CH-High,
1 RBCA-41D 64QAM 10MHz+15MHz+20MHz CH-Low,
100%RBCA-41D 64QAM 10MHz+15MHz+20MHz CH-High,
100%RB



CA-41D QPSK 20MHz+20MHz+20MHz CH-Low, 1 RB



CA-41D QPSK 20MHz+20MHz+20MHz CH-High, 1 RB



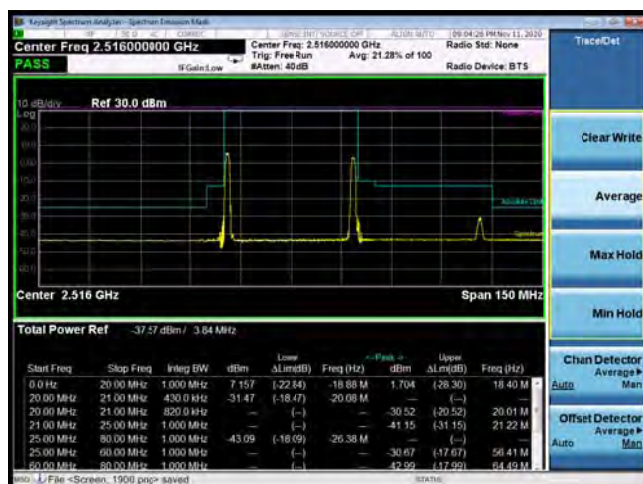
CA-41D QPSK 20MHz+20MHz+20MHz CH-Low, 100%RB



CA-41D QPSK 20MHz+20MHz+20MHz CH-High, 100%RB

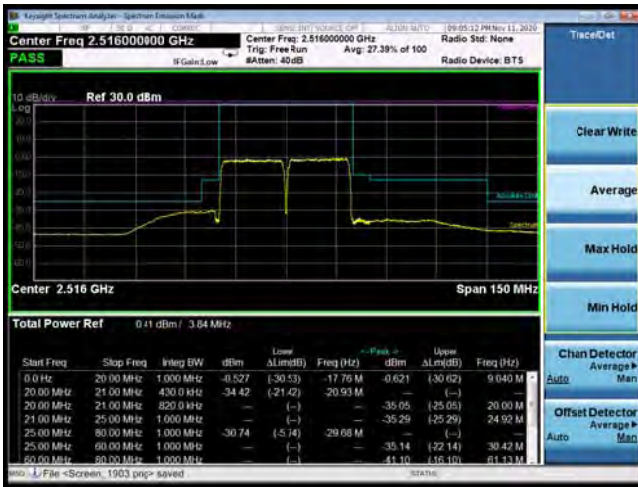


CA-41D 16QAM 20MHz+20MHz+20MHz CH-Low, 1 RB



CA-41D 16QAM 20MHz+20MHz+20MHz CH-High, 1 RB



CA-41D 16QAM 20MHz+20MHz+20MHz CH-Low,
100%RBCA-41D 16QAM 20MHz+20MHz+20MHz CH-High,
100%RBCA-41D 64QAM 20MHz+20MHz+20MHz CH-Low,
1 RBCA-41D 64QAM 20MHz+20MHz+20MHz CH-High,
1 RBCA-41D 64QAM 20MHz+20MHz+20MHz CH-Low,
100%RBCA-41D 64QAM 20MHz+20MHz+20MHz CH-High,
100%RB

5.4 Peak-to-Average Power Ratio (PAPR)

Ambient condition

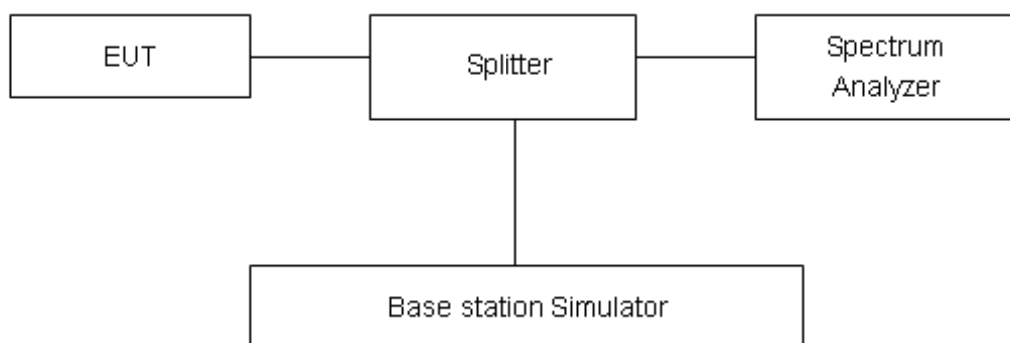
Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

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	25.37	22.56	2.81	≤13	PASS
	1413	1732.6	25.61	22.77	2.84	≤13	PASS
	1513	1752.6	25.62	22.73	2.89	≤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	27.07	22.51	4.56	≤13	PASS
		20175	1732.5	27.06	22.53	4.53	≤13	PASS
		20393	1754.3	27.19	22.45	4.74	≤13	PASS
	3	19965	1711.5	27.09	22.61	4.48	≤13	PASS
		20175	1732.5	27.03	22.56	4.47	≤13	PASS
		20385	1753.5	27.22	22.57	4.65	≤13	PASS
	5	19975	1712.5	27.11	22.57	4.54	≤13	PASS
		20175	1732.5	27.06	22.51	4.55	≤13	PASS
		20375	1752.5	27.26	22.57	4.69	≤13	PASS
	10	20000	1715	27.19	22.56	4.63	≤13	PASS
		20175	1732.5	27.13	22.55	4.58	≤13	PASS
		20350	1750	27.19	22.55	4.64	≤13	PASS
	15	20025	1717.5	27.64	22.75	4.89	≤13	PASS
		20175	1732.5	27.53	22.75	4.78	≤13	PASS
		20325	1747.5	27.49	22.80	4.69	≤13	PASS
	20	20050	1720	27.60	22.72	4.88	≤13	PASS
		20175	1732.5	27.49	22.69	4.80	≤13	PASS
		20300	1745	27.43	22.70	4.73	≤13	PASS
16QAM	1.4	19957	1710.7	26.96	21.47	5.49	≤13	PASS
		20175	1732.5	26.89	21.54	5.35	≤13	PASS
		20393	1754.3	27.13	21.47	5.66	≤13	PASS
	3	19965	1711.5	26.99	21.60	5.39	≤13	PASS
		20175	1732.5	26.91	21.53	5.38	≤13	PASS
		20385	1753.5	27.17	21.65	5.52	≤13	PASS
	5	19975	1712.5	26.96	21.60	5.36	≤13	PASS
		20175	1732.5	26.91	21.56	5.35	≤13	PASS
		20375	1752.5	27.10	21.61	5.49	≤13	PASS
	10	20000	1715	27.05	21.60	5.45	≤13	PASS
		20175	1732.5	27.00	21.59	5.41	≤13	PASS
		20350	1750	27.03	21.55	5.48	≤13	PASS



	15	20025	1717.5	27.40	21.78	5.62	≤13	PASS
		20175	1732.5	27.29	21.77	5.52	≤13	PASS
		20325	1747.5	27.26	21.78	5.48	≤13	PASS
	20	20050	1720	27.46	21.75	5.71	≤13	PASS
		20175	1732.5	27.28	21.74	5.54	≤13	PASS
		20300	1745	27.25	21.74	5.51	≤13	PASS
64QAM	1.4	19957	1710.7	26.43	20.09	6.34	≤13	PASS
		20175	1732.5	26.42	19.84	6.58	≤13	PASS
		20393	1754.3	26.45	19.83	6.62	≤13	PASS
	3	19965	1711.5	26.44	20.04	6.40	≤13	PASS
		20175	1732.5	26.39	19.81	6.58	≤13	PASS
		20385	1753.5	26.49	19.89	6.60	≤13	PASS
	5	19975	1712.5	26.39	20.07	6.32	≤13	PASS
		20175	1732.5	26.37	19.83	6.54	≤13	PASS
		20375	1752.5	26.30	19.92	6.38	≤13	PASS
	10	20000	1715	26.31	20.01	6.30	≤13	PASS
		20175	1732.5	26.32	19.84	6.48	≤13	PASS
		20350	1750	26.34	19.94	6.40	≤13	PASS
	15	20025	1717.5	26.50	20.16	6.34	≤13	PASS
		20175	1732.5	26.47	20.01	6.46	≤13	PASS
		20325	1747.5	26.34	20.00	6.34	≤13	PASS
	20	20050	1720	26.47	20.11	6.36	≤13	PASS
		20175	1732.5	26.49	20.03	6.46	≤13	PASS
		20300	1745	26.44	20.02	6.42	≤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	27.32	22.90	4.42	≤13	PASS
		21100	2535	27.57	22.65	4.92	≤13	PASS
		21425	2567.5	27.72	22.73	4.99	≤13	PASS
	10	20800	2505	27.39	22.84	4.55	≤13	PASS
		21100	2535	27.62	22.67	4.95	≤13	PASS
		21400	2565	27.68	22.65	5.03	≤13	PASS
	15	20825	2507.5	27.85	23.06	4.79	≤13	PASS
		21100	2535	28.00	22.87	5.13	≤13	PASS
		21375	2562.5	27.94	22.86	5.08	≤13	PASS
	20	20850	2510	27.88	23.02	4.86	≤13	PASS



		21100	2535	27.81	22.82	4.99	≤13	PASS
		21350	2560	27.80	22.80	5.00	≤13	PASS
16QAM	5	20775	2502.5	27.19	21.91	5.28	≤13	PASS
		21100	2535	27.44	21.68	5.76	≤13	PASS
		21425	2567.5	27.62	21.79	5.83	≤13	PASS
	10	20800	2505	27.27	21.84	5.43	≤13	PASS
		21100	2535	27.50	21.70	5.80	≤13	PASS
		21400	2565	27.56	21.73	5.83	≤13	PASS
	15	20825	2507.5	27.63	22.07	5.56	≤13	PASS
		21100	2535	27.75	21.84	5.91	≤13	PASS
		21375	2562.5	27.70	21.87	5.83	≤13	PASS
	20	20850	2510	27.68	22.02	5.66	≤13	PASS
		21100	2535	27.71	21.87	5.84	≤13	PASS
		21350	2560	27.65	21.86	5.79	≤13	PASS
64QAM	5	20775	2502.5	25.29	19.35	5.94	≤13	PASS
		21100	2535	26.11	20.05	6.06	≤13	PASS
		21425	2567.5	24.99	19.31	5.68	≤13	PASS
	10	20800	2505	25.16	19.20	5.96	≤13	PASS
		21100	2535	25.96	19.94	6.02	≤13	PASS
		21400	2565	25.11	19.39	5.72	≤13	PASS
	15	20825	2507.5	25.21	19.17	6.04	≤13	PASS
		21100	2535	26.02	19.94	6.08	≤13	PASS
		21375	2562.5	25.46	19.60	5.86	≤13	PASS
	20	20850	2510	25.33	19.29	6.04	≤13	PASS
		21100	2535	26.12	20.00	6.12	≤13	PASS
		21350	2560	25.62	19.60	6.02	≤13	PASS

LTE Band 12								
Modulation	Bandwidth (MHz)	Channel	Frequency (MHz)	Peak (dBm)	Avg (dBm)	PAPR (dB)	Limit (dB)	Conclusion
QPSK	1.4	23017	699.7	26.88	22.21	4.67	≤13	PASS
		23095	707.5	27.33	22.26	5.07	≤13	PASS
		23173	715.3	26.78	22.32	4.46	≤13	PASS
	3	23025	700.5	26.98	22.27	4.71	≤13	PASS
		23095	707.5	27.27	22.34	4.93	≤13	PASS
		23165	714.5	26.94	22.35	4.59	≤13	PASS



	5	23035	701.5	27.19	22.30	4.89	≤13	PASS
		23095	707.5	27.34	22.36	4.98	≤13	PASS
		23155	713.5	27.11	22.37	4.74	≤13	PASS
	10	23060	704	27.32	22.30	5.02	≤13	PASS
		23095	707.5	27.35	22.33	5.02	≤13	PASS
		23130	711	27.30	22.37	4.93	≤13	PASS
16QAM	1.4	23017	699.7	26.70	21.16	5.54	≤13	PASS
		23095	707.5	27.19	21.31	5.88	≤13	PASS
		23173	715.3	26.78	21.37	5.41	≤13	PASS
	3	23025	700.5	26.88	21.32	5.56	≤13	PASS
		23095	707.5	27.19	21.39	5.80	≤13	PASS
		23165	714.5	26.81	21.35	5.46	≤13	PASS
	5	23035	701.5	27.03	21.33	5.70	≤13	PASS
		23095	707.5	27.22	21.40	5.82	≤13	PASS
		23155	713.5	27.00	21.43	5.57	≤13	PASS
	10	23060	704	27.16	21.33	5.83	≤13	PASS
		23095	707.5	27.19	21.34	5.85	≤13	PASS
		23130	711	27.14	21.39	5.75	≤13	PASS
64QAM	1.4	23017	699.7	25.96	19.80	6.16	≤13	PASS
		23095	707.5	26.23	19.91	6.32	≤13	PASS
		23173	715.3	25.56	19.66	5.90	≤13	PASS
	3	23025	700.5	26.03	19.95	6.08	≤13	PASS
		23095	707.5	26.19	19.95	6.24	≤13	PASS
		23165	714.5	25.76	19.80	5.96	≤13	PASS
	5	23035	701.5	26.12	19.88	6.24	≤13	PASS
		23095	707.5	26.41	20.19	6.22	≤13	PASS
		23155	713.5	25.91	19.83	6.08	≤13	PASS
	10	23060	704	26.24	19.88	6.36	≤13	PASS
		23095	707.5	26.22	19.96	6.26	≤13	PASS
		23130	711	26.13	19.93	6.20	≤13	PASS

LTE Band 13								
Modulation	Bandwidth (MHz)	Channel	Frequency (MHz)	Peak (dBm)	Avg (dBm)	PAPR (dB)	Limit (dB)	Conclusion
QPSK	5	23205	779.5	27.74	22.54	5.20	≤13	PASS
		23230	782	27.88	22.47	5.41	≤13	PASS
		23255	784.5	27.89	22.44	5.45	≤13	PASS
	10	23230	782	27.80	22.50	5.30	≤13	PASS
16QAM	5	23205	779.5	27.54	21.54	6.00	≤13	PASS
		23230	782	27.66	21.49	6.17	≤13	PASS



64QAM	10	23255	784.5	27.68	21.47	6.21	≤13	PASS
		23230	782	27.65	21.52	6.13	≤13	PASS
	5	23205	779.5	26.08	19.78	6.30	≤13	PASS
		23230	782	26.42	19.96	6.46	≤13	PASS
		23255	784.5	26.50	19.88	6.62	≤13	PASS
	10	23230	782	26.43	19.95	6.48	≤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	27.23	18.74	8.49	≤13	PASS
		38000	2595	27.45	19.02	8.43	≤13	PASS
		38225	2617.5	27.13	18.58	8.55	≤13	PASS
	10	37800	2575	27.32	18.85	8.47	≤13	PASS
		38000	2595	27.37	19.12	8.25	≤13	PASS
		38200	2615	27.16	18.71	8.45	≤13	PASS
	15	37825	2577.5	27.73	19.59	8.14	≤13	PASS
		38000	2595	27.74	19.44	8.30	≤13	PASS
		38175	2612.5	27.52	18.13	9.39	≤13	PASS
	20	37850	2580	27.60	19.54	8.06	≤13	PASS
		38000	2595	27.62	19.74	7.88	≤13	PASS
		38150	2610	27.52	19.79	7.73	≤13	PASS
16QAM	5	37775	2572.5	27.02	18.61	8.41	≤13	PASS
		38000	2595	27.13	16.97	10.16	≤13	PASS
		38225	2617.5	27.07	18.76	8.31	≤13	PASS
	10	37800	2575	27.09	17.28	9.81	≤13	PASS
		38000	2595	27.25	18.86	8.39	≤13	PASS
		38200	2615	26.97	16.91	10.06	≤13	PASS
	15	37825	2577.5	27.40	17.42	9.98	≤13	PASS
		38000	2595	27.49	18.47	9.02	≤13	PASS
		38175	2612.5	27.30	17.67	9.63	≤13	PASS
	20	37850	2580	27.38	18.08	9.30	≤13	PASS
		38000	2595	27.38	17.94	9.44	≤13	PASS
		38150	2610	27.22	17.28	9.94	≤13	PASS
64QAM	5	37775	2572.5	26.45	16.25	10.20	≤13	PASS
		38000	2595	26.69	16.57	10.12	≤13	PASS



	10	38225	2617.5	26.59	16.41	10.18	≤13	PASS
		37800	2575	26.50	16.28	10.22	≤13	PASS
		38000	2595	26.73	16.59	10.14	≤13	PASS
		38200	2615	26.58	16.30	10.28	≤13	PASS
	15	37825	2577.5	26.56	16.52	10.04	≤13	PASS
		38000	2595	26.86	16.68	10.18	≤13	PASS
		38175	2612.5	26.73	16.65	10.08	≤13	PASS
	20	37850	2580	26.62	16.52	10.10	≤13	PASS
		38000	2595	26.72	16.70	10.02	≤13	PASS
		38150	2610	26.65	16.55	10.10	≤13	PASS

LTE Band 41								
Modulation	Bandwidth ((MHz))	Channel	Frequency (MHz)	Peak (dBm)	Avg (dBm)	PAPR (dB)	Limit (dB)	Conclusion
QPSK	5	39675	2498.5	27.47	19.47	8.00	≤13	PASS
		40620	2593	27.44	19.21	8.23	≤13	PASS
		41565	2687.5	26.61	18.65	7.96	≤13	PASS
	10	39700	2501	27.50	19.18	8.32	≤13	PASS
		40620	2593	27.46	19.54	7.92	≤13	PASS
		41540	2685	26.78	18.64	8.14	≤13	PASS
	15	39725	2503.5	27.79	18.07	9.72	≤13	PASS
		40620	2593	27.81	19.64	8.17	≤13	PASS
		41515	2682.5	27.25	18.95	8.30	≤13	PASS
	20	39750	2506	27.62	17.31	10.31	≤13	PASS
		40620	2593	27.60	18.37	9.23	≤13	PASS
		41490	2680	27.27	19.37	7.90	≤13	PASS
16QAM	5	39675	2498.5	27.22	18.80	8.42	≤13	PASS
		40620	2593	27.30	18.97	8.33	≤13	PASS
		41565	2687.5	26.48	18.05	8.43	≤13	PASS
	10	39700	2501	27.12	15.37	11.75	≤13	PASS
		40620	2593	27.24	17.50	9.74	≤13	PASS
		41540	2685	26.69	18.17	8.52	≤13	PASS
	15	39725	2503.5	27.60	18.24	9.36	≤13	PASS
		40620	2593	27.49	17.78	9.71	≤13	PASS
		41515	2682.5	27.07	18.87	8.20	≤13	PASS



	20	39750	2506	27.40	16.27	11.13	≤13	PASS
		40620	2593	27.37	17.22	10.15	≤13	PASS
		41490	2680	26.99	17.48	9.51	≤13	PASS
64QAM	5	39675	2498.5	25.93	16.09	9.84	≤13	PASS
		40620	2593	26.85	16.69	10.16	≤13	PASS
		41565	2687.5	25.91	15.99	9.92	≤13	PASS
	10	39700	2501	26.06	16.04	10.02	≤13	PASS
		40620	2593	26.82	16.64	10.18	≤13	PASS
		41540	2685	25.98	16.04	9.94	≤13	PASS
	15	39725	2503.5	26.21	16.23	9.98	≤13	PASS
		40620	2593	26.84	16.76	10.08	≤13	PASS
		41515	2682.5	26.15	16.25	9.90	≤13	PASS
	20	39750	2506	26.22	16.20	10.02	≤13	PASS
		40620	2593	26.81	16.69	10.12	≤13	PASS
		41490	2680	26.25	16.35	9.90	≤13	PASS

LTE Band 66								
Modulation	Bandwidth (MHz)	Channel	Frequency (MHz)	Peak (dBm)	Avg (dBm)	PAPR (dB)	Limit (dB)	Conclusion
QPSK	1.4	131979	1710.7	27.07	22.44	4.63	≤13	PASS
		132322	1745	26.83	22.53	4.30	≤13	PASS
		132665	1779.3	26.84	22.43	4.41	≤13	PASS
	3	131987	1711.5	27.02	22.55	4.47	≤13	PASS
		132322	1745	26.80	22.55	4.25	≤13	PASS
		132657	1778.5	26.91	22.54	4.37	≤13	PASS
	5	131997	1712.5	27.05	22.53	4.52	≤13	PASS
		132322	1745	26.84	22.50	4.34	≤13	PASS
		132647	1777.5	27.05	22.61	4.44	≤13	PASS
	10	132022	1715	27.10	22.49	4.61	≤13	PASS
		132322	1745	26.94	22.55	4.39	≤13	PASS
		132622	1775	27.14	22.55	4.59	≤13	PASS
	15	132047	1717.5	27.61	22.75	4.86	≤13	PASS
		132322	1745	27.41	22.81	4.60	≤13	PASS
		132597	1772.5	27.54	22.75	4.79	≤13	PASS
	20	132072	1720	27.54	22.71	4.83	≤13	PASS
		132322	1745	27.37	22.69	4.68	≤13	PASS
		132572	1770	27.54	22.68	4.86	≤13	PASS
16QAM	1.4	131979	1710.7	26.90	21.44	5.46	≤13	PASS



		132322	1745	26.67	21.50	5.17	≤13	PASS
		132665	1779.3	26.78	21.45	5.33	≤13	PASS
	3	131987	1711.5	26.96	21.59	5.37	≤13	PASS
		132322	1745	26.71	21.60	5.11	≤13	PASS
		132657	1778.5	26.82	21.56	5.26	≤13	PASS
	5	131997	1712.5	26.95	21.58	5.37	≤13	PASS
		132322	1745	26.71	21.55	5.16	≤13	PASS
		132647	1777.5	26.88	21.58	5.30	≤13	PASS
	10	132022	1715	26.98	21.53	5.45	≤13	PASS
		132322	1745	26.79	21.56	5.23	≤13	PASS
		132622	1775	26.98	21.57	5.41	≤13	PASS
	15	132047	1717.5	27.34	21.72	5.62	≤13	PASS
		132322	1745	27.12	21.76	5.36	≤13	PASS
		132597	1772.5	27.30	21.76	5.54	≤13	PASS
	20	132072	1720	27.39	21.74	5.65	≤13	PASS
		132322	1745	27.19	21.74	5.45	≤13	PASS
		132572	1770	27.37	21.73	5.64	≤13	PASS
64QAM	1.4	131979	1710.7	26.52	19.88	6.64	≤13	PASS
		132322	1745	26.36	19.78	6.58	≤13	PASS
		132665	1779.3	26.24	19.64	6.60	≤13	PASS
	3	131987	1711.5	26.55	20.05	6.50	≤13	PASS
		132322	1745	26.16	19.82	6.34	≤13	PASS
		132657	1778.5	26.34	19.84	6.50	≤13	PASS
	5	131997	1712.5	26.39	19.91	6.48	≤13	PASS
		132322	1745	26.25	19.79	6.46	≤13	PASS
		132647	1777.5	26.27	19.77	6.50	≤13	PASS
	10	132022	1715	26.38	19.92	6.46	≤13	PASS
		132322	1745	26.23	19.81	6.42	≤13	PASS
		132622	1775	26.32	19.80	6.52	≤13	PASS
	15	132047	1717.5	26.45	19.99	6.46	≤13	PASS
		132322	1745	26.46	19.86	6.60	≤13	PASS
		132597	1772.5	26.52	20.02	6.50	≤13	PASS
	20	132072	1720	26.45	19.95	6.50	≤13	PASS
		132322	1745	26.52	20.00	6.52	≤13	PASS
		132572	1770	26.49	20.01	6.48	≤13	PASS

LTE Band 71								
Modulation	Bandwidth (MHz)	Channel	Frequency (MHz)	Peak (dBm)	Avg (dBm)	PAPR (dB)	Limit (dB)	Conclusion
QPSK	5	133147	665.5	27.43	22.33	5.10	≤13	PASS



		133297	680.5	27.60	22.30	5.30	≤13	PASS
		133447	695.5	27.71	22.30	5.41	≤13	PASS
	10	133172	668	27.47	22.31	5.16	≤13	PASS
		133297	680.5	27.61	22.31	5.30	≤13	PASS
		133422	693	27.63	22.25	5.38	≤13	PASS
	15	133197	670.5	27.69	22.45	5.24	≤13	PASS
		133297	680.5	27.74	22.45	5.29	≤13	PASS
		133397	690.5	27.76	22.41	5.35	≤13	PASS
	20	133222	673	27.60	22.46	5.14	≤13	PASS
		133322	683	27.68	22.43	5.25	≤13	PASS
		133372	688	27.71	22.43	5.28	≤13	PASS
16QAM	5	133147	665.5	27.23	21.40	5.83	≤13	PASS
		133297	680.5	27.42	21.30	6.12	≤13	PASS
		133447	695.5	27.50	21.34	6.16	≤13	PASS
	10	133172	668	27.26	21.30	5.96	≤13	PASS
		133297	680.5	27.41	21.30	6.11	≤13	PASS
		133422	693	27.45	21.27	6.18	≤13	PASS
	15	133197	670.5	27.50	21.50	6.00	≤13	PASS
		133297	680.5	27.52	21.50	6.02	≤13	PASS
		133397	690.5	27.52	21.43	6.09	≤13	PASS
	20	133222	673	27.49	21.49	6.00	≤13	PASS
		133322	683	27.46	21.46	6.00	≤13	PASS
		133372	688	27.52	21.45	6.07	≤13	PASS
64QAM	5	133147	665.5	26.63	20.17	6.46	≤13	PASS
		133297	680.5	27.04	20.36	6.68	≤13	PASS
		133447	695.5	26.78	20.18	6.60	≤13	PASS
	10	133172	668	26.66	20.16	6.50	≤13	PASS
		133297	680.5	26.58	20.10	6.48	≤13	PASS
		133422	693	26.51	20.22	6.29	≤13	PASS
	15	133197	670.5	26.63	20.33	6.30	≤13	PASS
		133297	680.5	26.49	20.16	6.33	≤13	PASS
		133397	690.5	26.69	20.34	6.35	≤13	PASS
	20	133222	673	26.47	20.18	6.29	≤13	PASS
		133322	683	26.54	20.24	6.30	≤13	PASS
		133372	688	26.68	20.30	6.38	≤13	PASS

CA_7C

Bandwidth	PCC		SCC1		Modulation	Peak-to-Average Power Ratio (PAPR)		
	Channel	Frequency	Channel	Frequency		Peak	Avg	PAPR



		(MHz)		(MHz)		(dBm)	(dBm)	(dB)
CA_7C_10MHz+20MHz_QPSK	21006	2525.6	21150	2540	QPSK	26.05	19.92	6.13
CA_7C_10MHz+20MHz_16QAM	21006	2525.6	21150	2540	16QAM	25.72	18.86	6.86
CA_7C_10MHz+20MHz_64QAM	21006	2525.6	21150	2540	64QAM	24.87	18.36	6.51
CA_7C_20MHz+10MHz_QPSK	21051	2530.1	21195	2544.5	QPSK	25.95	19.86	6.09
CA_7C_20MHz+10MHz_16QAM	21051	2530.1	21195	2544.5	16QAM	25.57	18.80	6.77
CA_7C_20MHz+10MHz_64QAM	21051	2530.1	21195	2544.5	64QAM	25.03	18.26	6.77
CA_7C_15MHz+10MHz_QPSK	21051	2530.1	21171	2542.1	QPSK	26.68	20.29	6.39
CA_7C_15MHz+10MHz_16QAM	21051	2530.1	21171	2542.1	16QAM	26.09	19.22	6.87
CA_7C_15MHz+10MHz_64QAM	21051	2530.1	21171	2542.1	64QAM	25.55	18.98	6.57
CA_7C_15MHz+15MHz_QPSK	21025	2527.5	21175	2542.5	QPSK	26.07	19.76	6.31
CA_7C_15MHz+15MHz_16QAM	21025	2527.5	21175	2542.5	16QAM	25.59	18.68	6.91
CA_7C_15MHz+15MHz_64QAM	21025	2527.5	21175	2542.5	64QAM	24.70	18.14	6.56
CA_7C_15MHz+20MHz_QPSK	21003	2525.3	21174	2542.4	QPSK	25.64	19.24	6.40
CA_7C_15MHz+20MHz_16QAM	21003	2525.3	21174	2542.4	16QAM	25.33	18.21	7.12
CA_7C_15MHz+20MHz_64QAM	21003	2525.3	21174	2542.4	64QAM	24.90	17.85	7.05
CA_7C_20MHz+15MHz_QPSK	21026	2527.6	21197	2544.7	QPSK	25.51	19.23	6.28
CA_7C_20MHz+15MHz_16QAM	21026	2527.6	21197	2544.7	16QAM	25.17	18.18	6.99
CA_7C_20MHz+15MHz_64QAM	21026	2527.6	21197	2544.7	64QAM	24.78	17.89	6.89
CA_7C_20MHz+20MHz_QPSK	21001	2525.1	21199	2544.9	QPSK	25.30	18.65	6.65
CA_7C_20MHz+20MHz_16QAM	21001	2525.1	21199	2544.9	16QAM	24.83	17.61	7.22
CA_7C_20MHz+20MHz_64QAM	21001	2525.1	21199	2544.9	64QAM	24.36	17.35	7.01

CA_38C								
Bandwidth	PCC		SCC1		Modulation	Peak-to-Average Power Ratio (PAPR)		
	Channel	Frequency (MHz)	Channel	Frequency (MHz)		Peak (dBm)	Avg (dBm)	PAPR (dB)
CA_38C_15MHz+15MHz_QPSK	37925	2587.5	38075	2602.5	QPSK	25.85	16.06	9.79
CA_38C_15MHz+15MHz_16QAM	37925	2587.5	38075	2602.5	16QAM	25.43	15.43	10.00
CA_38C_15MHz+15MHz_64QAM	37925	2587.5	38075	2602.5	64QAM	24.77	14.89	9.88
CA_38C_20MHz+20MHz_QPSK	37901	2585.1	38099	2604.9	QPSK	25.05	15.53	9.52
CA_38C_20MHz+20MHz_16QAM	37901	2585.1	38099	2604.9	16QAM	24.46	13.36	11.10
CA_38C_20MHz+20MHz_64QAM	37901	2585.1	38099	2604.9	64QAM	23.47	13.02	10.45

CA_41C								
Bandwidth	PCC		SCC1		Modulation	Peak-to-Average Power Ratio (PAPR)		
	Channel	Frequency (MHz)	Channel	Frequency (MHz)		Peak (dBm)	Avg (dBm)	PAPR (dB)
CA_41C_5MHz+20MHz_QPSK	40528	2583.8	40645	2595.5	QPSK	26.37	16.78	9.59
CA_41C_5MHz+20MHz_16QAM	40528	2583.8	40645	2595.5	16QAM	25.93	15.47	10.46
CA_41C_5MHz+20MHz_64QAM	40528	2583.8	40645	2595.5	64QAM	24.65	14.65	10.00



CA_41C_20MHz+5MHz_QPSK	40595	2590.5	40712	2602.2	QPSK	26.03	16.86	9.17
CA_41C_20MHz+5MHz_16QAM	40595	2590.5	40712	2602.2	16QAM	25.53	16.09	9.44
CA_41C_20MHz+5MHz_64QAM	40595	2590.5	40712	2602.2	64QAM	25.09	14.89	10.20
CA_41C_10MHz+20MHz_QPSK	40526	2583.6	40670	2598	QPSK	25.22	15.24	9.98
CA_41C_10MHz+20MHz_16QAM	40526	2583.6	40670	2598	16QAM	25.22	13.80	11.42
CA_41C_10MHz+20MHz_64QAM	40526	2583.6	40670	2598	64QAM	23.46	13.23	10.23
CA_41C_20MHz+10MHz_QPSK	40571	2588.1	40715	2602.5	QPSK	25.82	16.25	9.57
CA_41C_20MHz+10MHz_16QAM	40571	2588.1	40715	2602.5	16QAM	25.40	15.43	9.97
CA_41C_20MHz+10MHz_64QAM	40571	2588.1	40715	2602.5	64QAM	24.19	14.75	9.44
CA_41C_15MHz+15MHz_QPSK	40545	2585.5	40695	2600.5	QPSK	25.85	15.93	9.92
CA_41C_15MHz+15MHz_16QAM	40545	2585.5	40695	2600.5	16QAM	25.33	14.53	10.80
CA_41C_15MHz+15MHz_64QAM	40545	2585.5	40695	2600.5	64QAM	24.21	13.87	10.34
CA_41C_15MHz+20MHz_QPSK	40523	2583.3	40694	2600.4	QPSK	25.19	15.51	9.68
CA_41C_15MHz+20MHz_16QAM	40523	2583.3	40694	2600.4	16QAM	24.75	14.00	10.75
CA_41C_15MHz+20MHz_64QAM	40523	2583.3	40694	2600.4	64QAM	23.38	13.25	10.13
CA_41C_20MHz+15MHz_QPSK	40546	2585.6	40717	2602.7	QPSK	25.45	15.72	9.73
CA_41C_20MHz+15MHz_16QAM	40546	2585.6	40717	2602.7	16QAM	25.03	14.26	10.77
CA_41C_20MHz+15MHz_64QAM	40546	2585.6	40717	2602.7	64QAM	23.67	13.46	10.21
CA_41C_20MHz+20MHz_QPSK	40521	2583.1	40719	2602.9	QPSK	24.83	14.56	10.27
CA_41C_20MHz+20MHz_16QAM	40521	2583.1	40719	2602.9	16QAM	24.27	13.49	10.78
CA_41C_20MHz+20MHz_64QAM	40521	2583.1	40719	2602.9	64QAM	23.54	12.66	10.88

CA_66B								
Bandwidth	PCC		SCC1		Modulation	Peak-to-Average Power Ratio (PAPR)		
	Channel	Frequency (MHz)	Channel	Frequency (MHz)		Peak (dBm)	Avg (dBm)	PAPR (dB)
CA_66B_5MHz+5MHz_QPSK	132398	1752.6	132446	1757.4	QPSK	26.52	21.03	5.49
CA_66B_5MHz+5MHz_16QAM	132398	1752.6	132446	1757.4	16QAM	26.27	20.04	6.23
CA_66B_5MHz+5MHz_64QAM	132398	1752.6	132446	1757.4	64QAM	25.11	19.22	5.89
CA_66B_5MHz+10MHz_QPSK	132375	1750.3	132447	1757.5	QPSK	26.55	21.13	5.42
CA_66B_5MHz+10MHz_16QAM	132375	1750.3	132447	1757.5	16QAM	26.19	20.15	6.04
CA_66B_5MHz+10MHz_64QAM	132375	1750.3	132447	1757.5	64QAM	25.23	19.45	5.78
CA_66B_10MHz+5MHz_QPSK	132397	1752.5	132469	1759.7	QPSK	25.89	20.65	5.24
CA_66B_10MHz+5MHz_16QAM	132397	1752.5	132469	1759.7	16QAM	25.69	19.71	5.98
CA_66B_10MHz+5MHz_64QAM	132397	1752.5	132469	1759.7	64QAM	24.65	19.10	5.55
CA_66B_5MHz+15MHz_QPSK	132353	1748.1	132446	1757.4	QPSK	26.42	21.01	5.41
CA_66B_5MHz+15MHz_16QAM	132353	1748.1	132446	1757.4	16QAM	26.10	20.13	5.97
CA_66B_5MHz+15MHz_64QAM	132353	1748.1	132446	1757.4	64QAM	25.11	19.23	5.88
CA_66B_15MHz+5MHz_QPSK	132398	1752.6	132491	1761.9	QPSK	24.88	19.84	5.04
CA_66B_15MHz+5MHz_16QAM	132398	1752.6	132491	1761.9	16QAM	24.83	18.85	5.98
CA_66B_15MHz+5MHz_64QAM	132398	1752.6	132491	1761.9	64QAM	23.55	17.95	5.60
CA_66B_10MHz+10MHz_QPSK	132373	1750.1	132472	1760	QPSK	26.16	20.83	5.33



CA_66B_10MHz+10MHz_16QAM	132373	1750.1	132472	1760	16QAM	25.88	19.85	6.03
CA_66B_10MHz+10MHz_64QAM	132373	1750.1	132472	1760	64QAM	24.77	19.10	5.67

CA_66C								
Bandwidth	PCC		SCC1		Modulation	Peak-to-Average Power Ratio (PAPR)		
	Channel	Frequency (MHz)	Channel	Frequency (MHz)		Peak (dBm)	Avg (dBm)	PAPR (dB)
CA_66C_10MHz+15MHz_QPSK	132351	1747.9	132471	1759.9	QPSK	26.48	21.34	5.14
CA_66C_10MHz+15MHz_16QAM	132351	1747.9	132471	1759.9	16QAM	26.18	20.36	5.82
CA_66C_10MHz+15MHz_64QAM	132351	1747.9	132471	1759.9	64QAM	24.90	19.24	5.66
CA_66C_15MHz+10MHz_QPSK	132373	1750.1	132493	1762.1	QPSK	26.30	21.03	5.27
CA_66C_15MHz+10MHz_16QAM	132373	1750.1	132493	1762.1	16QAM	25.97	20.04	5.93
CA_66C_15MHz+10MHz_64QAM	132373	1750.1	132493	1762.1	64QAM	24.87	19.17	5.70
CA_66C_10MHz+20MHz_QPSK	132328	1745.6	132472	1760	QPSK	26.43	21.31	5.12
CA_66C_10MHz+20MHz_16QAM	132328	1745.6	132472	1760	16QAM	26.10	20.30	5.80
CA_66C_10MHz+20MHz_64QAM	132328	1745.6	132472	1760	64QAM	25.01	19.45	5.56
CA_66C_20MHz+10MHz_QPSK	132373	1750.1	132517	1764.5	QPSK	25.62	20.68	4.94
CA_66C_20MHz+10MHz_16QAM	132373	1750.1	132517	1764.5	16QAM	25.53	19.64	5.89
CA_66C_20MHz+10MHz_64QAM	132373	1750.1	132517	1764.5	64QAM	24.59	18.99	5.60
CA_66C_15MHz+15MHz_QPSK	132347	1747.5	132497	1762.5	QPSK	26.42	21.22	5.20
CA_66C_15MHz+15MHz_16QAM	132347	1747.5	132497	1762.5	16QAM	26.10	20.26	5.84
CA_66C_15MHz+15MHz_64QAM	132347	1747.5	132497	1762.5	64QAM	24.75	19.35	5.40
CA_66C_15MHz+20MHz_QPSK	132325	1745.3	132496	1762.4	QPSK	26.56	21.21	5.35
CA_66C_15MHz+20MHz_16QAM	132325	1745.3	132496	1762.4	16QAM	26.19	20.27	5.92
CA_66C_15MHz+20MHz_64QAM	132325	1745.3	132496	1762.4	64QAM	25.03	19.37	5.66
CA_66C_20MHz+15MHz_QPSK	132348	1747.6	132519	1764.7	QPSK	26.04	20.94	5.10
CA_66C_20MHz+15MHz_16QAM	132348	1747.6	132519	1764.7	16QAM	25.83	20.02	5.81
CA_66C_20MHz+15MHz_64QAM	132348	1747.6	132519	1764.7	64QAM	24.60	19.16	5.44
CA_66C_20MHz+5MHz_QPSK	132397	1752.5	132514	1764.2	QPSK	24.47	19.53	4.94
CA_66C_20MHz+5MHz_16QAM	132397	1752.5	132514	1764.2	16QAM	24.74	18.66	6.08
CA_66C_20MHz+5MHz_64QAM	132397	1752.5	132514	1764.2	64QAM	23.34	17.86	5.48
CA_66C_5MHz+20MHz_QPSK	132330	1745.8	132447	1757.5	QPSK	26.47	21.48	4.99
CA_66C_5MHz+20MHz_16QAM	132330	1745.8	132447	1757.5	16QAM	26.20	20.50	5.70
CA_66C_5MHz+20MHz_64QAM	132330	1745.8	132447	1757.5	64QAM	24.97	19.36	5.61
CA_66C_20MHz+20MHz_QPSK	132323	1745.1	132521	1764.9	QPSK	26.19	21.04	5.15
CA_66C_20MHz+20MHz_16QAM	132323	1745.1	132521	1764.9	16QAM	25.93	20.10	5.83
CA_66C_20MHz+20MHz_64QAM	132323	1745.1	132521	1764.9	64QAM	25.01	19.40	5.61



Bandwidth	PCC		SCC1		SCC2		Modulation	Peak-to-Average Power Ratio (PAPR)		
	Channel	Fre. (MHz)	Channel	Fre. (MHz)	Channel	Fre. (MHz)		Peak (dBm)	Avg (dBm)	PAPR (dB)
CA_41A-41C_5MHz+20MHz+20MHz_QPSK	39750	2506	41373	2668.3	41490	2680	QPSK	22.91	13.44	9.47
CA_41A-41C_5MHz+20MHz+20MHz_16QAM	39750	2506	41373	2668.3	41490	2680	16QAM	22.50	12.47	10.03
CA_41A-41C_5MHz+20MHz+20MHz_64QAM	39750	2506	41373	2668.3	41490	2680	64QAM	22.49	12.45	10.04
CA_41A-41C_10MHz+20MHz+20MHz_QPSK	39750	2506	41346	2665.6	41490	2680	QPSK	22.32	12.12	10.20
CA_41A-41C_10MHz+20MHz+20MHz_16QAM	39750	2506	41346	2665.6	41490	2680	16QAM	22.47	12.16	10.31
CA_41A-41C_10MHz+20MHz+20MHz_64QAM	39750	2506	41346	2665.6	41490	2680	64QAM	22.44	12.13	10.31
CA_41A-41C_15MHz+20MHz+20MHz_QPSK	39750	2506	41319	2662.9	41490	2680	QPSK	22.38	12.55	9.83
CA_41A-41C_15MHz+20MHz+20MHz_16QAM	39750	2506	41319	2662.9	41490	2680	16QAM	22.01	11.52	10.49
CA_41A-41C_15MHz+20MHz+20MHz_64QAM	39750	2506	41319	2662.9	41490	2680	64QAM	22.02	11.52	10.50
CA_41A-41C_20MHz+20MHz+20MHz_QPSK	39750	2506	41292	2660.2	41490	2680	QPSK	21.17	11.92	9.25
CA_41A-41C_20MHz+20MHz+20MHz_16QAM	39750	2506	41292	2660.2	41490	2680	16QAM	21.07	10.85	10.22
CA_41A-41C_20MHz+20MHz+20MHz_64QAM	39750	2506	41292	2660.2	41490	2680	64QAM	21.08	10.86	10.22

Bandwidth	PCC		SCC1		SCC2		Modulation	Peak-to-Average Power Ratio (PAPR)		
	Channel	Fre. (MHz)	Channel	Fre. (MHz)	Channel	Fre. (MHz)		Peak (dBm)	Avg (dBm)	PAPR (dB)
CA_41D_10MHz+15MHz+20MHz_QPSK	40477	2579	40597	2591	40741	2605	QPSK	23.02	13.59	9.43
CA_41D_10MHz+15MHz+20MHz_16QAM	40477	2579	40597	2591	40741	2605	16QAM	22.64	12.59	10.05
CA_41D_10MHz+15MHz+20MHz_64QAM	40477	2579	40597	2591	40741	2605	64QAM	22.80	12.60	10.20
CA_41D_10MHz+15MHz+20MHz_QPSK	40474	2578	40645	2596	40789	2610	QPSK	22.18	12.20	9.98
CA_41D_10MHz+15MHz+20MHz_16QAM	40474	2578	40645	2596	40789	2610	16QAM	21.72	11.18	10.54
CA_41D_10MHz+15MHz+20MHz_64QAM	40474	2578	40645	2596	40789	2610	64QAM	21.72	11.18	10.54
CA_41D_10MHz+20MHz+20MHz_QPSK	40476	2579	40620	2593	40764	2607	QPSK	22.64	13.14	9.50
CA_41D_10MHz+20MHz+20MHz_16QAM	40476	2579	40620	2593	40764	2607	16QAM	22.29	12.14	10.15
CA_41D_10MHz+20MHz+20MHz_64QAM	40476	2579	40620	2593	40764	2607	64QAM	22.32	12.15	10.17
CA_41D_15MHz+15MHz+20MHz_QPSK	40449	2576	40620	2593	40791	2610	QPSK	22.14	12.21	9.93
CA_41D_15MHz+15MHz+20MHz_16QAM	40449	2576	40620	2593	40791	2610	16QAM	21.75	11.22	10.53
CA_41D_15MHz+15MHz+20MHz_64QAM	40449	2576	40620	2593	40791	2610	64QAM	21.71	11.19	10.52
CA_41D_15MHz+20MHz+20MHz_QPSK	40449	2576	40620	2593	40791	2610	QPSK	22.22	12.41	9.81
CA_41D_15MHz+20MHz+20MHz_16QAM	40449	2576	40620	2593	40791	2610	16QAM	21.81	11.41	10.40
CA_41D_15MHz+20MHz+20MHz_64QAM	40449	2576	40620	2593	40791	2610	64QAM	21.79	11.39	10.40
CA_41D_20MHz+20MHz+20MHz_QPSK	40422	2573	40620	2593	40818	2613	QPSK	20.86	11.55	9.31
CA_41D_20MHz+20MHz+20MHz_16QAM	40422	2573	40620	2593	40818	2613	16QAM	20.73	10.48	10.25
CA_41D_20MHz+20MHz+20MHz_64QAM	40422	2573	40620	2593	40818	2613	64QAM	21.25	10.57	10.68



Bandwidth	PCC		SCC1		SCC2		Modulation	Peak-to-Average Power Ratio (PAPR)		
	Channel	Fre. (MHz)	Channel	Fre. (MHz)	Channel	Fre. (MHz)		Peak (dBm)	Avg (dBm)	PAPR (dB)
CA_7C_4A_20MHz+20MHz+20MHz_QPSK	20850	2510	21048	2529.8	20175	1732.5	QPSK	20.58	15.03	5.55
CA_7C_4A_20MHz+20MHz+20MHz_16QAM	20850	2510	21048	2529.8	20175	1732.5	16QAM	20.57	13.99	6.58
CA_7C_4A_20MHz+20MHz+20MHz_64QAM	20850	2510	21048	2529.8	20175	1732.5	64QAM	20.57	13.99	6.58
CA_7C_4A_20MHz+20MHz+20MHz_QPSK	21152	2540.2	21350	2560	20175	1732.5	QPSK	21.00	15.59	5.41
CA_7C_4A_20MHz+20MHz+20MHz_16QAM	21152	2540.2	21350	2560	20175	1732.5	16QAM	21.02	14.57	6.45
CA_7C_4A_20MHz+20MHz+20MHz_64QAM	21152	2540.2	21350	2560	20175	1732.5	64QAM	21.00	14.56	6.44

Bandwidth	PCC		SCC1		SCC2		Modulation	Peak-to-Average Power Ratio (PAPR)		
	Channel	Fre. (MHz)	Channel	Fre. (MHz)	Channel	Fre. (MHz)		Peak (dBm)	Avg (dBm)	PAPR (dB)
CA_7C_5A_20MHz+20MHz+20MHz_QPSK	20850	2510	21048	2529.8	20525	836.5	QPSK	20.51	13.89	6.62
CA_7C_5A_20MHz+20MHz+20MHz_16QAM	20850	2510	21048	2529.8	20525	836.5	16QAM	20.40	13.78	6.62
CA_7C_5A_20MHz+20MHz+20MHz_64QAM	20850	2510	21048	2529.8	20525	836.5	64QAM	21.07	13.87	7.20
CA_7C_5A_20MHz+20MHz+20MHz_QPSK	21152	2540.2	21350	2560	20525	836.5	QPSK	20.96	15.55	5.41
CA_7C_5A_20MHz+20MHz+20MHz_16QAM	21152	2540.2	21350	2560	20525	836.5	16QAM	20.93	14.48	6.45
CA_7C_5A_20MHz+20MHz+20MHz_64QAM	21152	2540.2	21350	2560	20525	836.5	64QAM	21.53	14.55	6.98

Bandwidth	PCC		SCC1		SCC2		Modulation	Peak-to-Average Power Ratio (PAPR)		
	Channel	Fre. (MHz)	Channel	Fre. (MHz)	Channel	Fre. (MHz)		Peak (dBm)	Avg (dBm)	PAPR (dB)
CA_4C_12A_20MHz+20MHz+20MHz_QPSK	20050	1720	20248	1739.8	23095	707.5	QPSK	23.62	18.73	4.89
CA_4C_12A_20MHz+20MHz+20MHz_16QAM	20050	1720	20248	1739.8	23095	707.5	16QAM	23.54	18.65	4.89
CA_4C_12A_20MHz+20MHz+20MHz_64QAM	20050	1720	20248	1739.8	23095	707.5	64QAM	23.56	18.69	4.87
CA_4C_12A_20MHz+20MHz+20MHz_QPSK	20102	1725.2	20300	1745	23095	707.5	QPSK	23.55	18.67	4.88
CA_4C_12A_20MHz+20MHz+20MHz_16QAM	20102	1725.2	20300	1745	23095	707.5	16QAM	23.42	18.56	4.86
CA_4C_12A_20MHz+20MHz+20MHz_64QAM	20102	1725.2	20300	1745	23095	707.5	64QAM	23.50	18.64	4.86

5.5 Frequency Stability

Ambient condition

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

Method of Measurement

Frequency Stability (Temperature Variation)

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

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

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

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

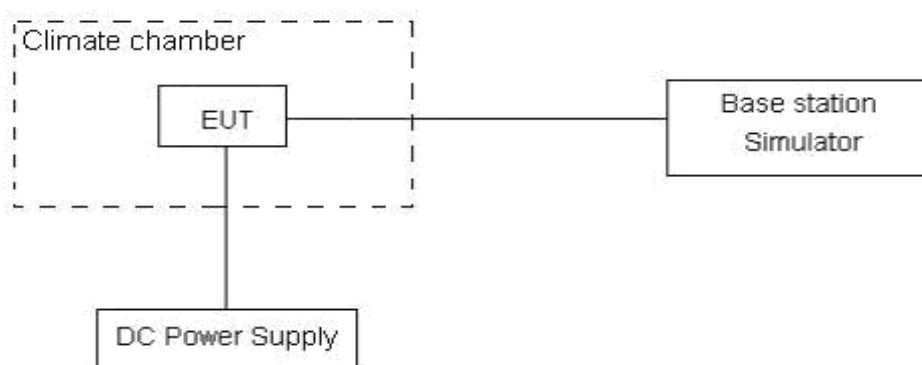
Frequency Stability (Voltage Variation)

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

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

This transceiver is specified to operate with an input voltage of between 3.3 V and 4.3 V, with a nominal voltage of 3.8V.

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 $k = 3, U = 0.01\text{ppm}$.



Test Result

WCDMA Band IV						
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability (ppm)	Frequency Stability (ppm)	Verdict
Temperature	Voltage	BPSK	QPSK	BPSK	QPSK	
Normal (25℃)	Normal	14.77	12.09	0.00786	0.00643	PASS
Extreme (50℃)		14.78	11.71	0.00786	0.00623	PASS
Extreme (40℃)		5.34	1.05	0.00284	0.00056	PASS
Extreme (30℃)		3.62	15.74	0.00193	0.00837	PASS
Extreme (20℃)		4.79	6.19	0.00255	0.00329	PASS
Extreme (10℃)		6.92	17.04	0.00368	0.00906	PASS
Extreme (0℃)		13.79	8.44	0.00733	0.00449	PASS
Extreme (-10℃)		9.74	4.99	0.00518	0.00266	PASS
Extreme (-20℃)		6.05	2.56	0.00322	0.00136	PASS
Extreme (-30℃)		16.79	4.01	0.00893	0.00213	PASS
25℃	LV	3.94	1.42	0.00210	0.00075	PASS
	HV	15.86	10.39	0.00844	0.00553	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	
Normal (25℃)	Normal	16.53	7.72	1.67	0.00879	0.00411	0.00089	PASS
Extreme (50℃)		17.23	2.49	11.20	0.00917	0.00132	0.00596	PASS
Extreme (40℃)		5.57	14.11	13.13	0.00296	0.00751	0.00698	PASS
Extreme (30℃)		13.93	16.49	2.11	0.00741	0.00877	0.00112	PASS
Extreme (20℃)		6.36	17.69	13.98	0.00338	0.00941	0.00744	PASS
Extreme (10℃)		10.73	1.56	8.68	0.00571	0.00083	0.00461	PASS
Extreme (0℃)		7.20	6.80	6.28	0.00383	0.00362	0.00334	PASS
Extreme (-10℃)		13.96	3.31	12.78	0.00743	0.00176	0.00680	PASS
Extreme (-20℃)		17.02	3.11	6.25	0.00905	0.00165	0.00332	PASS
Extreme (-30℃)		13.57	17.53	9.93	0.00722	0.00933	0.00528	PASS
25℃	LV	4.85	12.13	15.12	0.00258	0.00645	0.00804	PASS
	HV	17.22	2.75	1.72	0.00916	0.00147	0.00092	PASS
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability (ppm)	Frequency Stability (ppm)	Frequency Stability (ppm)	Verdict
BANDWIDTH	3MHz							
Temperature	Voltage	64QAM	16QAM	QPSK	64QAM	16QAM	QPSK	



Normal (25℃)	Normal	7.50	10.46	11.75	0.00399	0.00556	0.00625	PASS
Extreme (50℃)		12.44	4.92	11.12	0.00662	0.00262	0.00592	PASS
Extreme (40℃)		7.80	16.78	4.37	0.00415	0.00893	0.00232	PASS
Extreme (30℃)		3.56	14.85	14.36	0.00189	0.00790	0.00764	PASS
Extreme (20℃)		3.99	2.09	1.57	0.00212	0.00111	0.00084	PASS
Extreme (10℃)		11.40	3.14	15.37	0.00606	0.00167	0.00817	PASS
Extreme (0℃)		14.21	17.55	15.75	0.00756	0.00933	0.00838	PASS
Extreme (-10℃)		16.47	12.59	13.91	0.00876	0.00670	0.00740	PASS
Extreme (-20℃)		17.26	12.97	14.46	0.00918	0.00690	0.00769	PASS
Extreme (-30℃)		13.28	9.91	4.91	0.00706	0.00527	0.00261	PASS
25℃	LV	9.64	14.30	15.87	0.00513	0.00761	0.00844	PASS
	HV	11.00	16.29	12.56	0.00585	0.00867	0.00668	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	15.03	4.78	11.08	0.00799	0.00254	0.00589	PASS
Extreme (50℃)		16.49	3.88	11.46	0.00877	0.00206	0.00610	PASS
Extreme (40℃)		6.99	6.95	9.53	0.00372	0.00370	0.00507	PASS
Extreme (30℃)		17.41	3.44	2.41	0.00926	0.00183	0.00128	PASS
Extreme (20℃)		12.38	14.80	11.67	0.00659	0.00787	0.00621	PASS
Extreme (10℃)		7.66	10.42	1.10	0.00407	0.00554	0.00059	PASS
Extreme (0℃)		13.15	6.27	13.12	0.00700	0.00333	0.00698	PASS
Extreme (-10℃)		9.94	17.46	9.05	0.00529	0.00929	0.00481	PASS
Extreme (-20℃)		11.79	10.98	9.50	0.00627	0.00584	0.00506	PASS
Extreme (-30℃)		14.46	17.15	14.81	0.00769	0.00912	0.00788	PASS
25℃	LV	6.91	7.22	12.14	0.00368	0.00384	0.00646	PASS
	HV	9.28	6.08	1.29	0.00493	0.00323	0.00069	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	5.66	2.48	4.55	0.00301	0.00132	0.00242	PASS
Extreme (50℃)		12.30	16.42	1.02	0.00654	0.00874	0.00054	PASS
Extreme (40℃)		6.88	15.86	5.36	0.00366	0.00844	0.00285	PASS
Extreme (30℃)		14.73	8.02	16.98	0.00784	0.00427	0.00903	PASS
Extreme (20℃)		15.43	7.38	14.33	0.00821	0.00392	0.00762	PASS
Extreme (10℃)		12.15	8.39	1.49	0.00646	0.00447	0.00079	PASS
Extreme (0℃)		2.69	16.84	12.41	0.00143	0.00896	0.00660	PASS
Extreme (-10℃)		14.37	12.82	15.33	0.00764	0.00682	0.00816	PASS



Extreme (-20℃)		6.11	8.09	7.92	0.00325	0.00430	0.00421	PASS
Extreme (-30℃)		17.88	16.94	7.71	0.00951	0.00901	0.00410	PASS
25℃	LV	11.81	5.08	13.97	0.00628	0.00270	0.00743	PASS
	HV	3.11	12.70	13.68	0.00165	0.00676	0.00728	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	17.52	4.26	12.38	0.00932	0.00227	0.00658	PASS
Extreme (50℃)		17.39	2.04	6.17	0.00925	0.00109	0.00328	PASS
Extreme (40℃)		8.47	1.52	2.66	0.00451	0.00081	0.00142	PASS
Extreme (30℃)		11.21	9.79	16.33	0.00596	0.00521	0.00868	PASS
Extreme (20℃)		7.80	9.81	17.73	0.00415	0.00522	0.00943	PASS
Extreme (10℃)		17.84	4.12	6.32	0.00949	0.00219	0.00336	PASS
Extreme (0℃)		7.25	1.76	17.14	0.00386	0.00094	0.00912	PASS
Extreme (-10℃)		13.04	16.55	16.42	0.00693	0.00880	0.00873	PASS
Extreme (-20℃)		2.65	2.44	3.22	0.00141	0.00130	0.00171	PASS
Extreme (-30℃)		17.80	7.24	10.45	0.00947	0.00385	0.00556	PASS
25℃	LV	10.19	10.31	9.24	0.00542	0.00549	0.00491	PASS
	HV	17.26	17.32	5.61	0.00918	0.00921	0.00298	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	14.43	2.88	10.88	0.00767	0.00153	0.00579	PASS
Extreme (50℃)		12.26	13.48	13.06	0.00652	0.00717	0.00695	PASS
Extreme (40℃)		3.53	14.14	14.96	0.00188	0.00752	0.00796	PASS
Extreme (30℃)		10.96	7.02	16.22	0.00583	0.00373	0.00863	PASS
Extreme (20℃)		8.31	1.44	11.96	0.00442	0.00077	0.00636	PASS
Extreme (10℃)		7.06	6.20	14.43	0.00376	0.00330	0.00767	PASS
Extreme (0℃)		1.70	17.98	8.48	0.00090	0.00957	0.00451	PASS
Extreme (-10℃)		17.27	5.70	9.53	0.00919	0.00303	0.00507	PASS
Extreme (-20℃)		17.94	2.23	6.04	0.00954	0.00119	0.00321	PASS
Extreme (-30℃)		12.89	4.58	4.34	0.00686	0.00244	0.00231	PASS
25℃	LV	3.31	10.67	14.32	0.00176	0.00568	0.00762	PASS
	HV	16.27	10.24	12.84	0.00865	0.00545	0.00683	PASS

LTE Band 7								
Condition	Freq.Error (Hz)	Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability	Frequency Stability	Frequency Stability	Verdict	



BANDWIDTH	5MHz				(ppm)	(ppm)	(ppm)	
Temperature	Voltage	64QAM	16QAM	QPSK	64QAM	16QAM	QPSK	
Normal (25℃)	Normal	10.06	12.54	10.91	0.00535	0.00667	0.00580	PASS
Extreme (50℃)		5.41	13.94	7.33	0.00288	0.00742	0.00390	PASS
Extreme (40℃)		13.34	12.72	6.40	0.00710	0.00677	0.00340	PASS
Extreme (30℃)		17.59	11.08	5.35	0.00936	0.00589	0.00284	PASS
Extreme (20℃)		6.06	13.42	1.49	0.00322	0.00714	0.00079	PASS
Extreme (10℃)		5.81	7.72	2.35	0.00309	0.00410	0.00125	PASS
Extreme (0℃)		15.53	17.31	4.84	0.00826	0.00921	0.00257	PASS
Extreme (-10℃)		15.45	2.17	13.68	0.00822	0.00116	0.00728	PASS
Extreme (-20℃)		4.68	5.44	8.38	0.00249	0.00290	0.00446	PASS
Extreme (-30℃)		14.36	14.97	4.24	0.00764	0.00796	0.00226	PASS
25℃	LV	17.20	15.61	9.99	0.00915	0.00830	0.00531	PASS
	HV	14.13	13.68	12.70	0.00752	0.00728	0.00675	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	3.17	9.42	14.15	0.00169	0.00501	0.00753	PASS
Extreme (50℃)		5.03	1.37	12.63	0.00267	0.00073	0.00672	PASS
Extreme (40℃)		10.58	8.78	15.18	0.00563	0.00467	0.00807	PASS
Extreme (30℃)		5.17	2.03	16.73	0.00275	0.00108	0.00890	PASS
Extreme (20℃)		4.27	13.67	16.99	0.00227	0.00727	0.00904	PASS
Extreme (10℃)		12.95	10.97	2.91	0.00689	0.00584	0.00155	PASS
Extreme (0℃)		11.00	14.65	16.69	0.00585	0.00779	0.00888	PASS
Extreme (-10℃)		3.60	3.93	9.34	0.00192	0.00209	0.00497	PASS
Extreme (-20℃)		11.27	5.50	17.12	0.00599	0.00292	0.00911	PASS
Extreme (-30℃)		6.89	11.74	4.38	0.00367	0.00624	0.00233	PASS
25℃	LV	4.00	2.00	10.53	0.00213	0.00106	0.00560	PASS
	HV	15.67	4.23	16.14	0.00833	0.00225	0.00858	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	16.66	17.36	11.81	0.00886	0.00924	0.00628	PASS
Extreme (50℃)		8.12	11.14	8.01	0.00432	0.00593	0.00426	PASS
Extreme (40℃)		9.69	10.50	4.02	0.00515	0.00558	0.00214	PASS
Extreme (30℃)		6.45	17.98	13.79	0.00343	0.00956	0.00733	PASS
Extreme (20℃)		6.42	8.24	7.67	0.00342	0.00438	0.00408	PASS



Extreme (10℃)		15.94	6.36	6.19	0.00848	0.00338	0.00329	PASS
Extreme (0℃)		17.95	5.01	14.86	0.00955	0.00267	0.00791	PASS
Extreme (-10℃)		6.19	14.93	11.27	0.00329	0.00794	0.00600	PASS
Extreme (-20℃)		2.39	15.00	13.92	0.00127	0.00798	0.00740	PASS
Extreme (-30℃)		6.26	12.14	3.68	0.00333	0.00645	0.00196	PASS
25℃	LV	12.82	3.14	17.86	0.00682	0.00167	0.00950	PASS
	HV	15.03	4.66	15.05	0.00799	0.00248	0.00801	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	15.24	9.20	6.13	0.00811	0.00489	0.00326	PASS
Extreme (50℃)		6.87	1.95	1.90	0.00365	0.00104	0.00101	PASS
Extreme (40℃)		12.41	6.07	6.38	0.00660	0.00323	0.00339	PASS
Extreme (30℃)		4.21	1.27	10.48	0.00224	0.00067	0.00557	PASS
Extreme (20℃)		5.54	3.65	2.44	0.00294	0.00194	0.00130	PASS
Extreme (10℃)		10.54	10.63	13.49	0.00561	0.00566	0.00717	PASS
Extreme (0℃)		10.65	4.24	3.83	0.00566	0.00225	0.00204	PASS
Extreme (-10℃)		12.86	6.98	5.30	0.00684	0.00371	0.00282	PASS
Extreme (-20℃)		4.19	16.84	5.32	0.00223	0.00896	0.00283	PASS
Extreme (-30℃)		7.65	4.41	14.92	0.00407	0.00235	0.00793	PASS
25℃	LV	4.23	7.80	11.42	0.00225	0.00415	0.00608	PASS
	HV	11.56	13.18	9.33	0.00615	0.00701	0.00496	PASS

LTE Band 12								
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability (ppm)	Frequency Stability (ppm)	Frequency Stability (ppm)	Verdict
BANDWIDTH	1.4MHz							
Temperature	Voltage	64QAM	16QAM	QPSK	64QAM	16QAM	QPSK	
Normal (25℃)	Normal	1.84	3.59	13.34	0.00098	0.00191	0.00710	PASS
Extreme (50℃)		7.27	6.10	2.61	0.00387	0.00324	0.00139	PASS
Extreme (40℃)		8.73	10.85	13.58	0.00464	0.00577	0.00722	PASS
Extreme (30℃)		17.38	15.87	2.10	0.00924	0.00844	0.00112	PASS
Extreme (20℃)		5.26	9.20	15.09	0.00280	0.00489	0.00803	PASS
Extreme (10℃)		2.43	12.79	17.60	0.00129	0.00680	0.00936	PASS
Extreme (0℃)		6.48	3.82	8.68	0.00344	0.00203	0.00462	PASS
Extreme (-10℃)		4.96	2.56	15.74	0.00264	0.00136	0.00837	PASS
Extreme (-20℃)		2.17	10.50	7.07	0.00116	0.00558	0.00376	PASS
Extreme (-30℃)		3.57	16.63	11.79	0.00190	0.00884	0.00627	PASS



25℃	LV	4.34	13.59	1.84	0.00231	0.00723	0.00098	PASS
	HV	11.35	6.62	12.61	0.00604	0.00352	0.00671	PASS
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability (ppm)	Frequency Stability (ppm)	Frequency Stability (ppm)	Verdict
BANDWIDTH	3MHz							
Temperature	Voltage	64QAM	16QAM	QPSK	64QAM	16QAM	QPSK	
Normal (25℃)	Normal	2.64	16.94	15.15	0.00140	0.00901	0.00806	PASS
Extreme (50℃)		12.90	17.63	11.96	0.00686	0.00938	0.00636	PASS
Extreme (40℃)		14.69	13.95	3.68	0.00781	0.00742	0.00196	PASS
Extreme (30℃)		17.37	11.55	4.21	0.00924	0.00614	0.00224	PASS
Extreme (20℃)		8.72	9.69	14.75	0.00464	0.00515	0.00784	PASS
Extreme (10℃)		15.17	14.42	2.69	0.00807	0.00767	0.00143	PASS
Extreme (0℃)		12.11	12.93	4.87	0.00644	0.00688	0.00259	PASS
Extreme (-10℃)		11.01	14.15	14.68	0.00586	0.00753	0.00781	PASS
Extreme (-20℃)		13.19	7.16	11.59	0.00702	0.00381	0.00616	PASS
Extreme (-30℃)		8.93	11.11	1.19	0.00475	0.00591	0.00063	PASS
25℃	LV	11.51	4.11	17.90	0.00612	0.00218	0.00952	PASS
	HV	13.71	15.96	4.59	0.00729	0.00849	0.00244	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	2.48	6.49	17.66	0.00132	0.00345	0.00939	PASS
Extreme (50℃)		5.75	3.31	4.01	0.00306	0.00176	0.00213	PASS
Extreme (40℃)		13.85	12.08	15.66	0.00737	0.00642	0.00833	PASS
Extreme (30℃)		14.59	4.89	9.51	0.00776	0.00260	0.00506	PASS
Extreme (20℃)		2.85	17.83	14.47	0.00152	0.00949	0.00770	PASS
Extreme (10℃)		5.99	8.96	2.67	0.00319	0.00476	0.00142	PASS
Extreme (0℃)		6.86	13.79	17.22	0.00365	0.00734	0.00916	PASS
Extreme (-10℃)		12.32	10.51	6.61	0.00655	0.00559	0.00351	PASS
Extreme (-20℃)		17.27	8.03	9.66	0.00919	0.00427	0.00514	PASS
Extreme (-30℃)		3.43	12.21	16.76	0.00183	0.00649	0.00891	PASS
25℃	LV	9.85	13.75	13.72	0.00524	0.00732	0.00730	PASS
	HV	10.29	5.75	10.08	0.00547	0.00306	0.00536	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	5.13	6.64	9.53	0.00273	0.00353	0.00507	PASS



Extreme (50℃)		16.52	10.41	14.41	0.00879	0.00554	0.00766	PASS
Extreme (40℃)		8.93	11.33	8.75	0.00475	0.00603	0.00465	PASS
Extreme (30℃)		11.44	13.07	17.19	0.00609	0.00695	0.00915	PASS
Extreme (20℃)		12.25	2.74	9.44	0.00652	0.00146	0.00502	PASS
Extreme (10℃)		4.80	7.10	9.77	0.00255	0.00378	0.00519	PASS
Extreme (0℃)		9.39	12.55	12.02	0.00499	0.00668	0.00639	PASS
Extreme (-10℃)		8.91	15.74	8.60	0.00474	0.00837	0.00458	PASS
Extreme (-20℃)		4.90	15.89	3.59	0.00261	0.00845	0.00191	PASS
Extreme (-30℃)		10.09	3.18	9.01	0.00536	0.00169	0.00479	PASS
25℃	LV	3.93	6.26	8.94	0.00209	0.00333	0.00475	PASS
	HV	4.97	16.91	6.98	0.00264	0.00899	0.00371	PASS

LTE Band 13								
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability (ppm)	Frequency Stability (ppm)	Frequency Stability (ppm)	Verdict
BANDWIDTH	5MHz							
Temperature	Voltage	64QAM	16QAM	QPSK	64QAM	16QAM	QPSK	
Normal (25℃)	Normal	15.41	5.55	12.29	0.00820	0.00295	0.00654	PASS
Extreme (50℃)		10.36	15.36	8.08	0.00551	0.00817	0.00430	PASS
Extreme (40℃)		10.62	13.75	8.41	0.00565	0.00731	0.00447	PASS
Extreme (30℃)		7.80	4.94	2.09	0.00415	0.00263	0.00111	PASS
Extreme (20℃)		5.84	12.98	8.22	0.00311	0.00691	0.00437	PASS
Extreme (10℃)		1.09	1.17	5.22	0.00058	0.00062	0.00278	PASS
Extreme (0℃)		15.79	14.28	7.25	0.00840	0.00759	0.00386	PASS
Extreme (-10℃)		2.71	8.72	16.30	0.00144	0.00464	0.00867	PASS
Extreme (-20℃)		14.07	1.60	4.60	0.00749	0.00085	0.00244	PASS
Extreme (-30℃)		13.48	14.03	4.03	0.00717	0.00746	0.00214	PASS
25℃	LV	7.90	2.25	8.92	0.00420	0.00119	0.00474	PASS
	HV	2.68	12.32	17.39	0.00143	0.00655	0.00925	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	10.84	15.49	11.41	0.00577	0.00824	0.00607	PASS
Extreme (50℃)		9.54	12.61	13.61	0.00507	0.00671	0.00724	PASS
Extreme (40℃)		12.62	4.93	11.64	0.00671	0.00262	0.00619	PASS
Extreme (30℃)		5.34	7.17	16.98	0.00284	0.00382	0.00903	PASS
Extreme (20℃)		15.15	17.72	16.37	0.00806	0.00943	0.00871	PASS
Extreme (10℃)		1.90	14.19	8.95	0.00101	0.00755	0.00476	PASS
Extreme (0℃)		5.85	1.62	12.01	0.00311	0.00086	0.00639	PASS



Extreme (-10℃)		4.86	17.38	7.13	0.00259	0.00925	0.00379	PASS
Extreme (-20℃)		7.60	5.62	7.98	0.00404	0.00299	0.00425	PASS
Extreme (-30℃)		16.96	1.59	5.37	0.00902	0.00085	0.00286	PASS
25℃	LV	17.98	4.98	4.15	0.00957	0.00265	0.00221	PASS
	HV	15.59	7.93	13.26	0.00829	0.00422	0.00705	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	13.23	7.72	4.03	0.00704	0.00411	0.00215	PASS
Extreme (50℃)		14.97	17.68	1.80	0.00796	0.00940	0.00096	PASS
Extreme (40℃)		14.65	12.07	3.34	0.00779	0.00642	0.00178	PASS
Extreme (30℃)		17.96	2.56	9.83	0.00955	0.00136	0.00523	PASS
Extreme (20℃)		9.55	5.82	11.93	0.00508	0.00310	0.00634	PASS
Extreme (10℃)		8.93	6.24	7.27	0.00475	0.00332	0.00387	PASS
Extreme (0℃)		7.02	3.51	11.93	0.00373	0.00187	0.00635	PASS
Extreme (-10℃)		13.53	6.59	8.92	0.00719	0.00350	0.00474	PASS
Extreme (-20℃)		4.79	12.44	17.57	0.00255	0.00662	0.00935	PASS
Extreme (-30℃)		11.72	17.75	13.32	0.00623	0.00944	0.00709	PASS
25℃	LV	7.14	5.11	12.47	0.00380	0.00272	0.00664	PASS
	HV	7.16	6.02	15.69	0.00381	0.00320	0.00834	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	14.87	8.04	9.18	0.00791	0.00428	0.00488	PASS
Extreme (50℃)		2.41	1.86	6.35	0.00128	0.00099	0.00338	PASS
Extreme (40℃)		2.39	17.36	8.56	0.00127	0.00923	0.00455	PASS
Extreme (30℃)		1.84	15.90	3.75	0.00098	0.00846	0.00199	PASS
Extreme (20℃)		11.29	7.73	5.29	0.00600	0.00411	0.00281	PASS
Extreme (10℃)		7.02	2.09	17.51	0.00374	0.00111	0.00932	PASS
Extreme (0℃)		12.18	8.13	11.00	0.00648	0.00433	0.00585	PASS
Extreme (-10℃)		9.30	14.56	5.19	0.00495	0.00775	0.00276	PASS
Extreme (-20℃)		4.22	13.92	11.34	0.00224	0.00740	0.00603	PASS
Extreme (-30℃)		13.95	11.86	13.90	0.00742	0.00631	0.00739	PASS
25℃	LV	2.88	6.25	15.42	0.00153	0.00333	0.00820	PASS
	HV	7.36	14.09	14.80	0.00391	0.00749	0.00787	PASS
Condition		Freq.Error	Freq.Error	Freq.Error	Frequency	Frequency	Frequency	Verdict



		(Hz)	(Hz)	(Hz)	Stability (ppm)	Stability (ppm)	Stability (ppm)	
BANDWIDTH	15MHz							
Temperature	Voltage	64QAM	16QAM	QPSK	64QAM	16QAM	QPSK	
Normal (25℃)	Normal	7.33	7.15	16.09	0.00390	0.00380	0.00856	PASS
Extreme (50℃)		8.61	14.95	16.39	0.00458	0.00795	0.00872	PASS
Extreme (40℃)		7.78	8.82	10.19	0.00414	0.00469	0.00542	PASS
Extreme (30℃)		10.44	4.63	16.99	0.00555	0.00246	0.00903	PASS
Extreme (20℃)		16.56	3.59	13.33	0.00881	0.00191	0.00709	PASS
Extreme (10℃)		9.85	16.33	17.52	0.00524	0.00869	0.00932	PASS
Extreme (0℃)		10.36	13.51	17.97	0.00551	0.00719	0.00956	PASS
Extreme (-10℃)		7.80	9.46	13.05	0.00415	0.00503	0.00694	PASS
Extreme (-20℃)		11.85	4.16	12.65	0.00631	0.00221	0.00673	PASS
Extreme (-30℃)		13.25	15.92	13.23	0.00705	0.00847	0.00704	PASS
25℃	LV	4.95	5.06	6.73	0.00263	0.00269	0.00358	PASS
	HV	3.90	10.08	10.65	0.00208	0.00536	0.00567	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	15.96	10.49	5.85	0.00849	0.00558	0.00311	PASS
Extreme (50℃)		3.23	17.17	8.63	0.00172	0.00913	0.00459	PASS
Extreme (40℃)		11.05	8.37	3.62	0.00588	0.00445	0.00193	PASS
Extreme (30℃)		6.00	7.82	16.11	0.00319	0.00416	0.00857	PASS
Extreme (20℃)		4.03	13.54	6.36	0.00215	0.00720	0.00338	PASS
Extreme (10℃)		2.20	13.64	3.89	0.00117	0.00726	0.00207	PASS
Extreme (0℃)		15.76	7.74	14.59	0.00838	0.00412	0.00776	PASS
Extreme (-10℃)		4.52	10.65	4.33	0.00241	0.00566	0.00230	PASS
Extreme (-20℃)		15.84	6.06	6.33	0.00842	0.00322	0.00337	PASS
Extreme (-30℃)		12.85	8.97	9.37	0.00683	0.00477	0.00498	PASS
25℃	LV	8.64	13.15	12.73	0.00460	0.00700	0.00677	PASS
	HV	2.96	16.02	5.50	0.00157	0.00852	0.00292	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	13.00	8.80	9.00	0.00692	0.00468	0.00479	PASS
Extreme (50℃)		10.40	13.46	14.26	0.00553	0.00716	0.00758	PASS



Extreme (40℃)		7.47	10.36	8.46	0.00397	0.00551	0.00450	PASS
Extreme (30℃)		13.92	13.76	12.46	0.00740	0.00732	0.00663	PASS
Extreme (20℃)		8.13	8.92	16.36	0.00433	0.00474	0.00870	PASS
Extreme (10℃)		3.73	13.34	6.74	0.00199	0.00710	0.00358	PASS
Extreme (0℃)		8.36	9.11	2.30	0.00445	0.00484	0.00122	PASS
Extreme (-10℃)		4.69	3.53	8.72	0.00249	0.00188	0.00464	PASS
Extreme (-20℃)		3.45	15.24	5.17	0.00184	0.00811	0.00275	PASS
Extreme (-30℃)		3.50	11.36	3.13	0.00186	0.00605	0.00167	PASS
25℃	LV	4.97	5.09	10.79	0.00264	0.00271	0.00574	PASS
	HV	10.16	13.86	5.41	0.00541	0.00737	0.00288	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	9.88	3.44	7.17	0.00526	0.00183	0.00381	PASS
Extreme (50℃)		9.52	17.36	2.78	0.00506	0.00923	0.00148	PASS
Extreme (40℃)		16.67	2.40	4.99	0.00887	0.00128	0.00266	PASS
Extreme (30℃)		1.11	11.76	11.32	0.00059	0.00626	0.00602	PASS
Extreme (20℃)		13.26	10.91	8.98	0.00705	0.00580	0.00478	PASS
Extreme (10℃)		9.86	6.68	1.48	0.00524	0.00356	0.00079	PASS
Extreme (0℃)		10.72	8.83	3.95	0.00570	0.00470	0.00210	PASS
Extreme (-10℃)		11.67	17.57	6.54	0.00621	0.00934	0.00348	PASS
Extreme (-20℃)		4.30	15.55	7.50	0.00229	0.00827	0.00399	PASS
Extreme (-30℃)		11.30	10.56	6.02	0.00601	0.00562	0.00320	PASS
25℃	LV	7.77	6.69	8.80	0.00413	0.00356	0.00468	PASS
	HV	5.80	13.97	16.01	0.00309	0.00743	0.00851	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	2.38	7.96	4.11	0.00127	0.00423	0.00218	PASS
Extreme (50℃)		7.56	3.71	16.24	0.00402	0.00197	0.00864	PASS
Extreme (40℃)		5.37	11.78	16.35	0.00286	0.00627	0.00869	PASS
Extreme (30℃)		5.84	1.60	3.55	0.00311	0.00085	0.00189	PASS
Extreme (20℃)		4.71	17.99	13.10	0.00251	0.00957	0.00697	PASS
Extreme (10℃)		4.84	14.65	5.55	0.00257	0.00779	0.00295	PASS
Extreme (0℃)		12.11	11.45	15.89	0.00644	0.00609	0.00845	PASS
Extreme (-10℃)		17.77	13.70	2.38	0.00945	0.00729	0.00127	PASS
Extreme (-20℃)		4.35	11.54	4.75	0.00231	0.00614	0.00253	PASS
Extreme (-30℃)		1.40	10.79	9.55	0.00074	0.00574	0.00508	PASS



25℃	LV	8.21	13.56	15.69	0.00437	0.00721	0.00834	PASS
	HV	5.36	8.02	3.16	0.00285	0.00427	0.00168	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	16.62	12.25	5.93	0.00884	0.00652	0.00315	PASS
Extreme (50℃)		9.01	13.84	1.43	0.00479	0.00736	0.00076	PASS
Extreme (40℃)		12.40	6.21	8.87	0.00660	0.00331	0.00472	PASS
Extreme (30℃)		10.83	16.16	13.68	0.00576	0.00859	0.00728	PASS
Extreme (20℃)		6.70	11.14	2.79	0.00357	0.00592	0.00148	PASS
Extreme (10℃)		5.16	9.12	13.70	0.00274	0.00485	0.00729	PASS
Extreme (0℃)		6.24	8.79	12.42	0.00332	0.00468	0.00661	PASS
Extreme (-10℃)		4.92	16.29	11.80	0.00262	0.00866	0.00628	PASS
Extreme (-20℃)		2.34	12.06	2.68	0.00124	0.00641	0.00143	PASS
Extreme (-30℃)		15.28	3.77	17.85	0.00813	0.00200	0.00949	PASS
25℃	LV	4.78	11.91	4.53	0.00254	0.00633	0.00241	PASS
	HV	6.07	14.59	17.38	0.00323	0.00776	0.00924	PASS

LTE Band 66								
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability (ppm)	Frequency Stability (ppm)	Frequency Stability (ppm)	Verdict
BANDWIDTH	1.4MHz							
Temperature	Voltage	64QAM	16QAM	QPSK	64QAM	16QAM	QPSK	
Normal (25℃)	Normal	17.46	10.78	8.68	0.00929	0.00573	0.00462	PASS
Extreme (50℃)		8.76	3.14	16.94	0.00466	0.00167	0.00901	PASS
Extreme (40℃)		11.77	3.30	13.03	0.00626	0.00176	0.00693	PASS
Extreme (30℃)		12.57	17.42	16.80	0.00668	0.00926	0.00894	PASS
Extreme (20℃)		9.82	3.09	16.14	0.00522	0.00164	0.00859	PASS
Extreme (10℃)		9.75	10.24	9.02	0.00518	0.00544	0.00480	PASS
Extreme (0℃)		7.55	12.39	14.23	0.00402	0.00659	0.00757	PASS
Extreme (-10℃)		7.62	7.30	15.16	0.00405	0.00388	0.00807	PASS
Extreme (-20℃)		5.18	4.40	9.75	0.00275	0.00234	0.00518	PASS
Extreme (-30℃)		11.46	15.42	5.09	0.00610	0.00820	0.00270	PASS
25℃	LV	10.90	16.90	12.46	0.00580	0.00899	0.00663	PASS
	HV	1.64	6.39	12.19	0.00087	0.00340	0.00648	PASS
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability (ppm)	Frequency Stability (ppm)	Frequency Stability (ppm)	Verdict
BANDWIDTH	3MHz							



Temperature	Voltage	64QAM	16QAM	QPSK	64QAM	16QAM	QPSK	
Normal (25℃)	Normal	6.96	11.21	10.73	0.00370	0.00596	0.00571	PASS
Extreme (50℃)		17.18	12.54	14.27	0.00914	0.00667	0.00759	PASS
Extreme (40℃)		11.67	5.65	6.57	0.00621	0.00301	0.00350	PASS
Extreme (30℃)		17.04	3.02	14.54	0.00907	0.00161	0.00773	PASS
Extreme (20℃)		17.21	4.79	10.58	0.00915	0.00255	0.00563	PASS
Extreme (10℃)		16.81	15.21	13.60	0.00894	0.00809	0.00723	PASS
Extreme (0℃)		16.99	3.65	9.84	0.00904	0.00194	0.00524	PASS
Extreme (-10℃)		11.33	17.65	4.34	0.00602	0.00939	0.00231	PASS
Extreme (-20℃)		3.23	7.62	14.46	0.00172	0.00406	0.00769	PASS
Extreme (-30℃)		15.43	15.05	2.13	0.00821	0.00801	0.00113	PASS
25℃	LV	7.20	3.13	16.63	0.00383	0.00166	0.00885	PASS
	HV	10.91	10.51	2.44	0.00581	0.00559	0.00130	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	8.89	10.49	16.74	0.00473	0.00558	0.00891	PASS
Extreme (50℃)		12.35	2.70	4.91	0.00657	0.00144	0.00261	PASS
Extreme (40℃)		7.62	9.14	10.49	0.00405	0.00486	0.00558	PASS
Extreme (30℃)		5.30	13.93	4.07	0.00282	0.00741	0.00216	PASS
Extreme (20℃)		5.35	10.64	3.66	0.00285	0.00566	0.00195	PASS
Extreme (10℃)		13.39	5.99	15.62	0.00712	0.00318	0.00831	PASS
Extreme (0℃)		6.01	1.37	14.76	0.00320	0.00073	0.00785	PASS
Extreme (-10℃)		8.47	13.07	8.58	0.00451	0.00695	0.00456	PASS
Extreme (-20℃)		16.60	2.49	1.85	0.00883	0.00132	0.00099	PASS
Extreme (-30℃)		5.74	9.23	13.09	0.00305	0.00491	0.00696	PASS
25℃	LV	12.53	1.56	4.44	0.00666	0.00083	0.00236	PASS
	HV	16.30	11.42	11.70	0.00867	0.00608	0.00622	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	3.04	2.82	16.31	0.00162	0.00150	0.00868	PASS
Extreme (50℃)		12.33	16.31	16.14	0.00656	0.00867	0.00858	PASS
Extreme (40℃)		16.47	15.85	12.93	0.00876	0.00843	0.00688	PASS
Extreme (30℃)		3.13	2.64	15.34	0.00166	0.00141	0.00816	PASS
Extreme (20℃)		16.96	3.96	14.51	0.00902	0.00211	0.00772	PASS
Extreme (10℃)		10.45	1.38	16.97	0.00556	0.00073	0.00903	PASS
Extreme (0℃)		10.84	16.98	11.07	0.00577	0.00903	0.00589	PASS



Extreme (-10℃)		16.47	17.10	12.96	0.00876	0.00910	0.00689	PASS
Extreme (-20℃)		2.42	3.99	8.16	0.00129	0.00212	0.00434	PASS
Extreme (-30℃)		13.08	5.70	1.97	0.00696	0.00303	0.00105	PASS
25℃	LV	11.96	13.86	5.23	0.00636	0.00737	0.00278	PASS
	HV	1.89	8.82	10.72	0.00100	0.00469	0.00570	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	10.86	3.23	9.81	0.00578	0.00172	0.00522	PASS
Extreme (50℃)		11.69	8.23	13.68	0.00622	0.00438	0.00728	PASS
Extreme (40℃)		16.09	17.03	11.62	0.00856	0.00906	0.00618	PASS
Extreme (30℃)		3.31	6.16	6.84	0.00176	0.00328	0.00364	PASS
Extreme (20℃)		11.69	3.34	16.11	0.00622	0.00178	0.00857	PASS
Extreme (10℃)		8.42	12.62	6.64	0.00448	0.00671	0.00353	PASS
Extreme (0℃)		7.23	17.54	5.70	0.00384	0.00933	0.00303	PASS
Extreme (-10℃)		7.21	8.07	11.30	0.00383	0.00430	0.00601	PASS
Extreme (-20℃)		3.86	8.72	12.47	0.00205	0.00464	0.00664	PASS
Extreme (-30℃)		6.10	13.73	5.81	0.00325	0.00730	0.00309	PASS
25℃	LV	4.64	5.87	14.09	0.00247	0.00312	0.00749	PASS
	HV	1.26	6.70	3.70	0.00067	0.00356	0.00197	PASS
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability (ppm)	Frequency Stability (ppm)	Frequency Stability (ppm)	Verdict
BANDWIDTH	20MHz							
Temperature	Voltage	64QAM	16QAM	QPSK	64QAM	16QAM	QPSK	
Normal (25℃)	Normal	11.51	9.57	8.42	0.00612	0.00509	0.00448	PASS
Extreme (50℃)		5.39	16.24	1.81	0.00287	0.00864	0.00096	PASS
Extreme (40℃)		1.20	11.42	1.46	0.00064	0.00607	0.00078	PASS
Extreme (30℃)		4.30	7.74	10.59	0.00229	0.00411	0.00563	PASS
Extreme (20℃)		8.26	2.21	13.36	0.00439	0.00117	0.00711	PASS
Extreme (10℃)		5.30	7.48	15.63	0.00282	0.00398	0.00831	PASS
Extreme (0℃)		7.52	4.02	10.72	0.00400	0.00214	0.00570	PASS
Extreme (-10℃)		17.18	4.70	1.29	0.00914	0.00250	0.00069	PASS
Extreme (-20℃)		13.02	7.53	13.57	0.00692	0.00400	0.00722	PASS
Extreme (-30℃)		10.87	6.55	1.28	0.00578	0.00348	0.00068	PASS
25℃	LV	16.27	5.63	12.49	0.00865	0.00300	0.00664	PASS
	HV	4.55	5.88	1.30	0.00242	0.00313	0.00069	PASS

LTE Band 71								
Condition	Freq.Error	Freq.Error	Freq.Error	Frequency	Frequency	Frequency	Verdict	



		(Hz)	(Hz)	(Hz)	Stability (ppm)	Stability (ppm)	Stability (ppm)	
BANDWIDTH	5MHz							
Temperature	Voltage	64QAM	16QAM	QPSK	64QAM	16QAM	QPSK	
Normal (25℃)	Normal	1.78	15.86	15.86	0.00095	0.00844	0.00843	PASS
Extreme (50℃)		4.34	14.69	1.70	0.00231	0.00781	0.00090	PASS
Extreme (40℃)		4.63	11.17	5.70	0.00246	0.00594	0.00303	PASS
Extreme (30℃)		6.94	13.68	16.15	0.00369	0.00727	0.00859	PASS
Extreme (20℃)		10.80	4.59	8.11	0.00575	0.00244	0.00431	PASS
Extreme (10℃)		3.39	6.11	13.09	0.00180	0.00325	0.00696	PASS
Extreme (0℃)		6.32	1.82	2.63	0.00336	0.00097	0.00140	PASS
Extreme (-10℃)		1.98	7.96	16.55	0.00105	0.00423	0.00880	PASS
Extreme (-20℃)		7.65	10.94	3.68	0.00407	0.00582	0.00196	PASS
Extreme (-30℃)		7.42	11.68	11.20	0.00395	0.00621	0.00596	PASS
25℃	LV	5.70	10.15	7.48	0.00303	0.00540	0.00398	PASS
	HV	5.38	16.56	9.11	0.00286	0.00881	0.00485	PASS
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability (ppm)	Frequency Stability (ppm)	Frequency Stability (ppm)	Verdict
BANDWIDTH	10MHz							
Temperature	Voltage	64QAM	16QAM	QPSK	64QAM	16QAM	QPSK	
Normal (25℃)	Normal	8.42	9.83	17.79	0.00448	0.00523	0.00946	PASS
Extreme (50℃)		15.87	11.03	9.04	0.00844	0.00587	0.00481	PASS
Extreme (40℃)		7.72	17.25	4.16	0.00411	0.00917	0.00221	PASS
Extreme (30℃)		4.05	11.60	17.93	0.00216	0.00617	0.00954	PASS
Extreme (20℃)		7.22	15.25	14.27	0.00384	0.00811	0.00759	PASS
Extreme (10℃)		7.98	14.88	8.94	0.00425	0.00791	0.00476	PASS
Extreme (0℃)		13.48	11.84	12.18	0.00717	0.00630	0.00648	PASS
Extreme (-10℃)		8.39	16.73	1.07	0.00446	0.00890	0.00057	PASS
Extreme (-20℃)		9.79	7.71	13.00	0.00521	0.00410	0.00691	PASS
Extreme (-30℃)		2.53	7.59	6.19	0.00135	0.00404	0.00329	PASS
25℃	LV	1.71	15.65	8.32	0.00091	0.00833	0.00443	PASS
	HV	12.22	14.46	17.97	0.00650	0.00769	0.00956	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	16.75	4.55	14.98	0.00891	0.00242	0.00797	PASS
Extreme (50℃)		15.13	1.33	7.04	0.00805	0.00071	0.00374	PASS
Extreme (40℃)		11.71	4.69	16.52	0.00623	0.00249	0.00879	PASS
Extreme (30℃)		11.62	1.46	14.09	0.00618	0.00078	0.00749	PASS



Extreme (20℃)		13.82	3.86	10.94	0.00735	0.00206	0.00582	PASS
Extreme (10℃)		12.35	11.54	5.06	0.00657	0.00614	0.00269	PASS
Extreme (0℃)		2.14	15.50	9.52	0.00114	0.00824	0.00506	PASS
Extreme (-10℃)		9.07	10.52	7.44	0.00483	0.00560	0.00396	PASS
Extreme (-20℃)		2.97	9.46	2.28	0.00158	0.00503	0.00121	PASS
Extreme (-30℃)		6.83	6.52	4.08	0.00364	0.00347	0.00217	PASS
25℃	LV	15.25	13.80	3.16	0.00811	0.00734	0.00168	PASS
	HV	15.61	13.87	8.89	0.00830	0.00738	0.00473	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	4.07	7.66	1.84	0.00217	0.00407	0.00098	PASS
Extreme (50℃)		6.25	12.67	10.98	0.00332	0.00674	0.00584	PASS
Extreme (40℃)		3.07	9.16	2.47	0.00163	0.00487	0.00131	PASS
Extreme (30℃)		7.97	11.22	16.82	0.00424	0.00597	0.00895	PASS
Extreme (20℃)		7.56	14.43	4.40	0.00402	0.00768	0.00234	PASS
Extreme (10℃)		7.39	5.46	11.85	0.00393	0.00291	0.00631	PASS
Extreme (0℃)		3.38	14.45	17.56	0.00180	0.00769	0.00934	PASS
Extreme (-10℃)		17.49	14.09	1.42	0.00930	0.00750	0.00076	PASS
Extreme (-20℃)		6.93	12.78	15.68	0.00369	0.00680	0.00834	PASS
Extreme (-30℃)		17.24	14.70	10.19	0.00917	0.00782	0.00542	PASS
25℃	LV	5.72	11.84	1.78	0.00304	0.00630	0.00095	PASS
	HV	6.34	8.63	6.72	0.00337	0.00459	0.00357	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	9.34	0.00497	2.08	0.00111	PASS
Extreme (50℃)		9.92	0.00528	7.04	0.00374	PASS
Extreme (40℃)		7.69	0.00409	5.81	0.00309	PASS
Extreme (30℃)		1.58	0.00084	5.95	0.00316	PASS
Extreme (20℃)		2.20	0.00117	9.25	0.00492	PASS
Extreme (10℃)		8.44	0.00449	5.59	0.00297	PASS
Extreme (0℃)		12.21	0.00650	3.95	0.00210	PASS
Extreme (-10℃)		3.47	0.00184	4.24	0.00226	PASS
Extreme (-20℃)		12.71	0.00676	2.27	0.00121	PASS



Test Report			Report No.: 123456789			
Extreme (-30℃)		15.92	0.00847	13.99	0.00744	PASS
25℃	LV	6.36	0.00338	10.40	0.00553	PASS
	HV	14.47	0.00769	11.20	0.00596	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	9.11	0.00484	3.65	0.00194	PASS
Extreme (50℃)		3.91	0.00208	13.29	0.00707	PASS
Extreme (40℃)		1.39	0.00074	14.65	0.00779	PASS
Extreme (30℃)		16.67	0.00887	17.69	0.00941	PASS
Extreme (20℃)		7.38	0.00393	16.30	0.00867	PASS
Extreme (10℃)		16.03	0.00853	3.90	0.00207	PASS
Extreme (0℃)		12.36	0.00658	9.96	0.00530	PASS
Extreme (-10℃)		14.12	0.00751	17.13	0.00911	PASS
Extreme (-20℃)		15.59	0.00829	16.29	0.00867	PASS
Extreme (-30℃)		2.77	0.00147	15.24	0.00810	PASS
25℃	LV	14.52	0.00773	9.26	0.00493	PASS
	HV	11.08	0.00589	4.52	0.00240	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	11.32	0.00602	3.69	0.00196	PASS
Extreme (50℃)		12.21	0.00650	3.12	0.00166	PASS
Extreme (40℃)		6.76	0.00360	11.85	0.00631	PASS
Extreme (30℃)		5.60	0.00298	2.20	0.00117	PASS
Extreme (20℃)		4.30	0.00229	13.94	0.00741	PASS
Extreme (10℃)		2.50	0.00133	10.60	0.00564	PASS
Extreme (0℃)		16.76	0.00891	11.39	0.00606	PASS
Extreme (-10℃)		10.07	0.00536	1.39	0.00074	PASS
Extreme (-20℃)		6.37	0.00339	17.36	0.00923	PASS
Extreme (-30℃)		17.51	0.00931	7.91	0.00421	PASS
25℃	LV	6.69	0.00356	14.64	0.00779	PASS
	HV	5.54	0.00295	7.07	0.00376	PASS

CA_38C_QPSK		15MHz+15MHz (Bandwidth)		20MHz+20MHz (Bandwidth)		Verdict
Condition		Delta	Frequency	Delta	Frequency	
Temperature	Voltage	(Hz)	Stability	(Hz)	Stability	



Test Report		Report No.: R000000000				
			(ppm)		(ppm)	
Normal (25℃)	Normal	16.01	0.00852	13.95	0.00742	PASS
Extreme (50℃)		10.46	0.00556	2.77	0.00147	PASS
Extreme (40℃)		15.75	0.00838	13.61	0.00724	PASS
Extreme (30℃)		13.86	0.00737	10.48	0.00557	PASS
Extreme (20℃)		5.23	0.00278	15.60	0.00830	PASS
Extreme (10℃)		7.91	0.00421	8.47	0.00451	PASS
Extreme (0℃)		5.34	0.00284	16.97	0.00903	PASS
Extreme (-10℃)		14.17	0.00754	12.62	0.00671	PASS
Extreme (-20℃)		12.30	0.00654	3.67	0.00195	PASS
Extreme (-30℃)		17.76	0.00944	10.66	0.00567	PASS
25℃	LV	2.30	0.00122	2.30	0.00123	PASS
	HV	1.65	0.00088	7.30	0.00388	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	15.70	0.00835	9.77	0.00519	PASS
Extreme (50℃)		14.43	0.00767	17.48	0.00930	PASS
Extreme (40℃)		8.43	0.00448	5.36	0.00285	PASS
Extreme (30℃)		12.38	0.00659	12.45	0.00662	PASS
Extreme (20℃)		5.44	0.00289	3.77	0.00200	PASS
Extreme (10℃)		13.67	0.00727	8.58	0.00456	PASS
Extreme (0℃)		6.35	0.00338	2.99	0.00159	PASS
Extreme (-10℃)		10.41	0.00554	3.99	0.00212	PASS
Extreme (-20℃)		5.45	0.00290	8.13	0.00432	PASS
Extreme (-30℃)		13.97	0.00743	9.36	0.00498	PASS
25℃	LV	15.17	0.00807	1.91	0.00101	PASS
	HV	4.88	0.00260	2.62	0.00139	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	3.43	0.00182	6.03	0.00321	PASS
Extreme (50℃)		15.36	0.00817	10.47	0.00557	PASS
Extreme (40℃)		1.88	0.00100	10.49	0.00558	PASS
Extreme (30℃)		1.47	0.00078	10.30	0.00548	PASS
Extreme (20℃)		10.39	0.00553	6.46	0.00344	PASS
Extreme (10℃)		15.07	0.00802	12.53	0.00667	PASS
Extreme (0℃)		2.07	0.00110	6.56	0.00349	PASS
Extreme (-10℃)		17.69	0.00941	13.69	0.00728	PASS



Extreme (-20℃)		2.34	0.00124	9.58	0.00509	PASS
Extreme (-30℃)		16.48	0.00877	14.30	0.00760	PASS
25℃	LV	2.36	0.00126	6.41	0.00341	PASS
	HV	15.68	0.00834	7.29	0.00388	PASS

CA_41C_QPSK		20MHz+10MHz (Bandwidth)		20MHz+20MHz (Bandwidth)		Verdict
Condition		Delta (Hz)	Frequency Stability (ppm)	Delta (Hz)	Frequency Stability (ppm)	
Temperature	Voltage					
Normal (25℃)	Normal	9.48	0.00504	4.39	0.00234	PASS
Extreme (50℃)		13.98	0.00744	5.92	0.00315	PASS
Extreme (40℃)		5.12	0.00273	4.01	0.00213	PASS
Extreme (30℃)		4.74	0.00252	2.21	0.00118	PASS
Extreme (20℃)		4.04	0.00215	10.43	0.00555	PASS
Extreme (10℃)		3.18	0.00169	11.26	0.00599	PASS
Extreme (0℃)		7.90	0.00420	11.42	0.00608	PASS
Extreme (-10℃)		12.83	0.00683	5.94	0.00316	PASS
Extreme (-20℃)		7.24	0.00385	3.25	0.00173	PASS
Extreme (-30℃)		11.65	0.00620	12.17	0.00647	PASS
25℃	LV	17.55	0.00933	9.25	0.00492	PASS
	HV	7.36	0.00392	11.14	0.00592	PASS
CA_41C_16QAM		20MHz+10MHz (Bandwidth)		20MHz+20MHz (Bandwidth)		Verdict
Condition		Delta (Hz)	Frequency Stability (ppm)	Delta (Hz)	Frequency Stability (ppm)	
Temperature	Voltage					
Normal (25℃)	Normal	2.40	0.00128	16.12	0.00857	PASS
Extreme (50℃)		10.89	0.00579	16.20	0.00862	PASS
Extreme (40℃)		1.48	0.00079	14.41	0.00767	PASS
Extreme (30℃)		7.50	0.00399	11.58	0.00616	PASS
Extreme (20℃)		16.18	0.00861	13.13	0.00698	PASS
Extreme (10℃)		8.66	0.00461	2.50	0.00133	PASS
Extreme (0℃)		12.60	0.00670	11.15	0.00593	PASS
Extreme (-10℃)		4.57	0.00243	3.12	0.00166	PASS
Extreme (-20℃)		9.93	0.00528	7.69	0.00409	PASS
Extreme (-30℃)		7.45	0.00396	6.50	0.00346	PASS
25℃	LV	15.71	0.00836	9.74	0.00518	PASS
	HV	15.47	0.00823	14.30	0.00761	PASS
CA_41C 64QAM		20MHz+10MHz (Bandwidth)		20MHz+20MHz (Bandwidth)		Verdict
Condition		Delta	Frequency	Delta	Frequency	



Temperature	Voltage	(Hz)	Stability (ppm)	(Hz)	Stability (ppm)	
Normal (25℃)	Normal	5.24	0.00279	13.56	0.00721	PASS
Extreme (50℃)		6.07	0.00323	6.49	0.00345	PASS
Extreme (40℃)		3.99	0.00212	10.59	0.00563	PASS
Extreme (30℃)		15.59	0.00829	8.64	0.00459	PASS
Extreme (20℃)		17.92	0.00953	17.19	0.00914	PASS
Extreme (10℃)		3.40	0.00181	14.83	0.00789	PASS
Extreme (0℃)		9.10	0.00484	6.37	0.00339	PASS
Extreme (-10℃)		16.22	0.00863	7.42	0.00395	PASS
Extreme (-20℃)		17.81	0.00947	17.55	0.00934	PASS
Extreme (-30℃)		7.69	0.00409	17.72	0.00943	PASS
25℃	LV	8.92	0.00474	9.26	0.00493	PASS
	HV	13.32	0.00709	6.32	0.00336	PASS

CA-66B QPSK		5MHz+5MHz (Bandwidth)		10MHz+10MHz (Bandwidth)		Verdict
Condition		Delta (Hz)	Frequency Stability (ppm)	Delta (Hz)	Frequency Stability (ppm)	
Temperature	Voltage					
Normal (25℃)	Normal	16.00	0.00851	2.50	0.00133	PASS
Extreme (50℃)		2.24	0.00119	8.89	0.00473	PASS
Extreme (40℃)		2.62	0.00139	12.27	0.00653	PASS
Extreme (30℃)		16.87	0.00897	5.94	0.00316	PASS
Extreme (20℃)		4.75	0.00253	7.89	0.00420	PASS
Extreme (10℃)		12.71	0.00676	8.30	0.00441	PASS
Extreme (0℃)		11.34	0.00603	3.27	0.00174	PASS
Extreme (-10℃)		7.95	0.00423	15.43	0.00821	PASS
Extreme (-20℃)		7.12	0.00379	8.65	0.00460	PASS
Extreme (-30℃)		12.98	0.00691	1.54	0.00082	PASS
25℃	LV	4.30	0.00229	4.01	0.00213	PASS
	HV	16.18	0.00861	16.00	0.00851	PASS
CA-66B 16QAM		5MHz+5MHz (Bandwidth)		10MHz+10MHz (Bandwidth)		Verdict
Condition		Delta (Hz)	Frequency Stability (ppm)	Delta (Hz)	Frequency Stability (ppm)	
Temperature	Voltage					
Normal (25℃)	Normal	3.28	0.00174	2.07	0.00110	PASS
Extreme (50℃)		10.34	0.00550	6.23	0.00331	PASS
Extreme (40℃)		1.66	0.00088	8.47	0.00451	PASS
Extreme (30℃)		13.88	0.00738	15.28	0.00813	PASS
Extreme (20℃)		9.68	0.00515	16.10	0.00856	PASS
Extreme (10℃)		4.80	0.00255	17.78	0.00946	PASS



Test Report		Report Ver.: 0000000000				
Extreme (0℃)		8.26	0.00439	2.47	0.00132	PASS
Extreme (-10℃)		13.81	0.00734	6.13	0.00326	PASS
Extreme (-20℃)		4.01	0.00214	3.88	0.00207	PASS
Extreme (-30℃)		8.72	0.00464	5.11	0.00272	PASS
25℃	LV	6.90	0.00367	3.85	0.00205	PASS
	HV	9.02	0.00480	5.74	0.00305	PASS
CA-66B 64QAM		5MHz+5MHz (Bandwidth)		10MHz+10MHz (Bandwidth)		Verdict
Condition		Delta (Hz)	Frequency Stability (ppm)	Delta (Hz)	Frequency Stability (ppm)	
Temperature	Voltage					
Normal (25℃)	Normal	6.23	0.00332	2.29	0.00122	PASS
Extreme (50℃)		13.58	0.00722	5.88	0.00313	PASS
Extreme (40℃)		9.14	0.00486	14.05	0.00748	PASS
Extreme (30℃)		9.31	0.00495	16.83	0.00895	PASS
Extreme (20℃)		9.36	0.00498	10.56	0.00562	PASS
Extreme (10℃)		12.79	0.00681	5.04	0.00268	PASS
Extreme (0℃)		1.71	0.00091	16.48	0.00876	PASS
Extreme (-10℃)		2.37	0.00126	9.88	0.00525	PASS
Extreme (-20℃)		6.90	0.00367	17.65	0.00939	PASS
Extreme (-30℃)		13.10	0.00697	15.28	0.00813	PASS
25℃	LV	17.33	0.00922	5.36	0.00285	PASS
	HV	17.90	0.00952	7.35	0.00391	PASS

CA-66C QPSK		20MHz+5MHz (Bandwidth)		20MHz+20MHz (Bandwidth)		Verdict
Condition		Delta (Hz)	Frequency Stability (ppm)	Delta (Hz)	Frequency Stability (ppm)	
Temperature	Voltage					
Normal (25℃)	Normal	9.69	0.00516	17.54	0.00933	PASS
Extreme (50℃)		17.38	0.00924	17.35	0.00923	PASS
Extreme (40℃)		16.44	0.00875	3.93	0.00209	PASS
Extreme (30℃)		4.54	0.00241	17.00	0.00905	PASS
Extreme (20℃)		12.47	0.00663	12.80	0.00681	PASS
Extreme (10℃)		7.78	0.00414	14.77	0.00786	PASS
Extreme (0℃)		15.61	0.00830	2.54	0.00135	PASS
Extreme (-10℃)		8.83	0.00469	16.42	0.00873	PASS
Extreme (-20℃)		11.00	0.00585	3.69	0.00196	PASS
Extreme (-30℃)		8.82	0.00469	9.57	0.00509	PASS
25℃	LV	17.33	0.00922	9.42	0.00501	PASS
	HV	17.32	0.00921	5.31	0.00282	PASS
CA-66C 16QAM		20MHz+5MHz		20MHz+20MHz		Verdict



		(Bandwidth)		(Bandwidth)		
Condition		Delta (Hz)	Frequency Stability (ppm)	Delta (Hz)	Frequency Stability (ppm)	
Temperature	Voltage					
Normal (25℃)	Normal	3.88	0.00206	4.99	0.00265	PASS
Extreme (50℃)		10.45	0.00556	17.19	0.00914	PASS
Extreme (40℃)		10.70	0.00569	2.03	0.00108	PASS
Extreme (30℃)		5.65	0.00301	14.73	0.00784	PASS
Extreme (20℃)		9.09	0.00483	4.17	0.00222	PASS
Extreme (10℃)		10.20	0.00543	16.48	0.00877	PASS
Extreme (0℃)		14.11	0.00751	4.62	0.00246	PASS
Extreme (-10℃)		17.62	0.00937	4.22	0.00225	PASS
Extreme (-20℃)		6.46	0.00344	15.85	0.00843	PASS
Extreme (-30℃)		2.13	0.00113	12.41	0.00660	PASS
25℃	LV	8.93	0.00475	15.84	0.00843	PASS
	HV	3.15	0.00167	1.70	0.00090	PASS
CA-66C 64QAM		20MHz+5MHz (Bandwidth)		20MHz+20MHz (Bandwidth)		Verdict
Condition		Delta (Hz)	Frequency Stability (ppm)	Delta (Hz)	Frequency Stability (ppm)	
Temperature	Voltage					
Normal (25℃)	Normal	14.68	0.00781	3.68	0.00196	PASS
Extreme (50℃)		2.25	0.00120	4.13	0.00220	PASS
Extreme (40℃)		16.60	0.00883	10.50	0.00558	PASS
Extreme (30℃)		5.21	0.00277	2.61	0.00139	PASS
Extreme (20℃)		11.69	0.00622	4.21	0.00224	PASS
Extreme (10℃)		6.44	0.00343	9.84	0.00523	PASS
Extreme (0℃)		11.69	0.00622	13.12	0.00698	PASS
Extreme (-10℃)		13.91	0.00740	6.21	0.00330	PASS
Extreme (-20℃)		10.70	0.00569	17.20	0.00915	PASS
Extreme (-30℃)		3.00	0.00160	9.88	0.00525	PASS
25℃	LV	10.32	0.00549	5.04	0.00268	PASS
	HV	7.95	0.00423	8.09	0.00430	PASS

CA-41A-41C QPSK		5MHz+20MHz +20MHz(Bandwidth)		20MHz+20MHz +20MHz(Bandwidth)		Verdict
Condition		Delta (Hz)	Frequency Stability (ppm)	Delta (Hz)	Frequency Stability (ppm)	
Temperature	Voltage					
Normal（25℃）	Normal	8.37	0.00445	7.37	0.00392	PASS
Extreme（50℃）		12.25	0.00651	5.06	0.00269	PASS
Extreme（40℃）		17.85	0.00949	9.62	0.00512	PASS



Test Report			Report Ref: R000000000			
Extreme (30℃)		6.95	0.00370	9.03	0.00480	PASS
Extreme (20℃)		6.99	0.00372	17.56	0.00934	PASS
Extreme (10℃)		17.32	0.00921	16.06	0.00854	PASS
Extreme (0℃)		3.40	0.00181	3.94	0.00209	PASS
Extreme (-10℃)		2.13	0.00113	12.57	0.00669	PASS
Extreme (-20℃)		10.63	0.00566	9.44	0.00502	PASS
Extreme (-30℃)		9.86	0.00525	15.72	0.00836	PASS
25℃	LV	13.66	0.00727	17.71	0.00942	PASS
	HV	8.81	0.00469	14.26	0.00758	PASS
CA-41A-41C 16QAM		5MHz+20MHz +20MHz(Bandwidth)		20MHz+20MHz +20MHz(Bandwidth)		Verdict
Condition		Delta (Hz)	Frequency Stability (ppm)	Delta (Hz)	Frequency Stability (ppm)	
Temperature	Voltage					
Normal (25℃)	Normal	15.25	0.00811	8.88	0.00473	PASS
Extreme (50℃)		1.93	0.00103	16.60	0.00883	PASS
Extreme (40℃)		14.79	0.00787	1.98	0.00105	PASS
Extreme (30℃)		3.08	0.00164	3.49	0.00185	PASS
Extreme (20℃)		13.56	0.00721	3.88	0.00207	PASS
Extreme (10℃)		17.35	0.00923	13.13	0.00699	PASS
Extreme (0℃)		14.91	0.00793	8.89	0.00473	PASS
Extreme (-10℃)		10.32	0.00549	14.19	0.00755	PASS
Extreme (-20℃)		15.43	0.00821	8.32	0.00442	PASS
Extreme (-30℃)		11.95	0.00636	10.20	0.00543	PASS
25℃	LV	6.12	0.00325	4.06	0.00216	PASS
	HV	16.07	0.00855	17.46	0.00929	PASS
CA-41A-41C 64QAM		5MHz+20MHz +20MHz(Bandwidth)		20MHz+20MHz +20MHz(Bandwidth)		Verdict
Condition		Delta (Hz)	Frequency Stability (ppm)	Delta (Hz)	Frequency Stability (ppm)	
Temperature	Voltage					
Normal (25℃)	Normal	16.30	0.00867	14.63	0.00778	PASS
Extreme (50℃)		11.65	0.00620	10.42	0.00554	PASS
Extreme (40℃)		4.12	0.00219	16.55	0.00880	PASS
Extreme (30℃)		1.09	0.00058	4.24	0.00226	PASS
Extreme (20℃)		16.93	0.00900	2.34	0.00124	PASS
Extreme (10℃)		5.94	0.00316	9.60	0.00510	PASS
Extreme (0℃)		9.99	0.00531	12.77	0.00679	PASS
Extreme (-10℃)		6.02	0.00320	17.45	0.00928	PASS
Extreme (-20℃)		2.40	0.00128	1.92	0.00102	PASS



Extreme (-30℃)		10.05	0.00534	2.59	0.00138	PASS
25℃	LV	5.73	0.00305	2.82	0.00150	PASS
	HV	13.63	0.00725	16.14	0.00858	PASS

CA_41D QPSK		10MHz+15MHz+20MHz (Bandwidth)		20MHz+20MHz +20MHz(Bandwidth)		Verdict
Condition		Delta (Hz)	Frequency Stability (ppm)	Delta (Hz)	Frequency Stability (ppm)	
Temperature	Voltage					
Normal (25℃)	Normal	8.37	0.00445	7.37	0.00392	PASS
Extreme (55℃)		6.61	0.00351	4.98	0.00265	PASS
Extreme (50℃)		12.25	0.00651	5.06	0.00269	PASS
Extreme (40℃)		17.85	0.00949	9.62	0.00512	PASS
Extreme (30℃)		6.95	0.00370	9.03	0.00480	PASS
Extreme (20℃)		6.99	0.00372	17.56	0.00934	PASS
Extreme (10℃)		17.32	0.00921	16.06	0.00854	PASS
Extreme (0℃)		3.40	0.00181	3.94	0.00209	PASS
Extreme (-10℃)		2.13	0.00113	12.57	0.00669	PASS
Extreme (-20℃)		10.63	0.00566	9.44	0.00502	PASS
Extreme (-30℃)		9.86	0.00525	15.72	0.00836	PASS
25℃	LV	13.66	0.00727	17.71	0.00942	PASS
	HV	8.81	0.00469	14.26	0.00758	PASS
CA_41D 16QAM		10MHz+15MHz+20MHz (Bandwidth)		20MHz+20MHz +20MHz(Bandwidth)		Verdict
Condition		Delta (Hz)	Frequency Stability (ppm)	Delta (Hz)	Frequency Stability (ppm)	
Temperature	Voltage					
Normal (25℃)	Normal	15.25	0.00811	8.88	0.00473	PASS
Extreme (55℃)		3.47	0.00184	16.24	0.00864	PASS
Extreme (50℃)		1.93	0.00103	16.60	0.00883	PASS
Extreme (40℃)		14.79	0.00787	1.98	0.00105	PASS
Extreme (30℃)		3.08	0.00164	3.49	0.00185	PASS
Extreme (20℃)		13.56	0.00721	3.88	0.00207	PASS
Extreme (10℃)		17.35	0.00923	13.13	0.00699	PASS
Extreme (0℃)		14.91	0.00793	8.89	0.00473	PASS
Extreme (-10℃)		10.32	0.00549	14.19	0.00755	PASS
Extreme (-20℃)		15.43	0.00821	8.32	0.00442	PASS
Extreme (-30℃)		11.95	0.00636	10.20	0.00543	PASS
25℃	LV	6.12	0.00325	4.06	0.00216	PASS
	HV	16.07	0.00855	17.46	0.00929	PASS
CA_41D 64QAM		10MHz+15MHz+20MHz		20MHz+20MHz		Verdict



RF Test Report

Report No.: R2008A0573-R41

		(Bandwidth)		+20MHz(Bandwidth)		
Condition		Delta (Hz)	Frequency Stability (ppm)	Delta (Hz)	Frequency Stability (ppm)	
Temperature	Voltage					
Normal (25℃)	Normal	16.30	0.00867	14.63	0.00778	PASS
Extreme (55℃)		16.49	0.00877	2.01	0.00107	PASS
Extreme (50℃)		11.65	0.00620	10.42	0.00554	PASS
Extreme (40℃)		4.12	0.00219	16.55	0.00880	PASS
Extreme (30℃)		1.09	0.00058	4.24	0.00226	PASS
Extreme (20℃)		16.93	0.00900	2.34	0.00124	PASS
Extreme (10℃)		5.94	0.00316	9.60	0.00510	PASS
Extreme (0℃)		9.99	0.00531	12.77	0.00679	PASS
Extreme (-10℃)		6.02	0.00320	17.45	0.00928	PASS
Extreme (-20℃)		2.40	0.00128	1.92	0.00102	PASS
Extreme (-30℃)		10.05	0.00534	2.59	0.00138	PASS
25℃	LV	5.73	0.00305	2.82	0.00150	PASS
	HV	13.63	0.00725	16.14	0.00858	PASS

CA-7C-4A QPSK		20MHz+10MHz+20MHz (Bandwidth)		20MHz+20MHz +20MHz(Bandwidth)		Verdict
Condition		Delta (Hz)	Frequency Stability (ppm)	Delta (Hz)	Frequency Stability (ppm)	
Temperature	Voltage					
Normal (25℃)	Normal	17.05	0.00907	14.87	0.00791	PASS
Extreme (50℃)		11.52	0.00613	14.81	0.00788	PASS
Extreme (40℃)		1.82	0.00097	2.23	0.00119	PASS
Extreme (30℃)		16.63	0.00885	17.60	0.00936	PASS
Extreme (20℃)		11.21	0.00597	16.16	0.00859	PASS
Extreme (10℃)		10.98	0.00584	12.72	0.00677	PASS
Extreme (0℃)		16.91	0.00899	15.75	0.00838	PASS
Extreme (-10℃)		4.28	0.00228	11.31	0.00602	PASS
Extreme (-20℃)		17.49	0.00930	10.75	0.00572	PASS
Extreme (-30℃)		5.78	0.00307	1.87	0.00099	PASS
25℃	LV	14.01	0.00745	10.05	0.00535	PASS
	HV	6.35	0.00338	10.80	0.00574	PASS
CA-7C-4A 16QAM		20MHz+10MHz+20MHz (Bandwidth)		20MHz+20MHz +20MHz(Bandwidth)		Verdict
Condition		Delta (Hz)	Frequency Stability (ppm)	Delta (Hz)	Frequency Stability (ppm)	
Temperature	Voltage					
Normal (25℃)	Normal	2.22	0.00118	13.05	0.00694	PASS
Extreme (50℃)		5.87	0.00312	12.21	0.00650	PASS



RF Test Report			Report No.: R2009A0573-R4			
Extreme (40℃)		16.51	0.00878	4.79	0.00255	PASS
Extreme (30℃)		6.03	0.00321	5.73	0.00305	PASS
Extreme (20℃)		17.57	0.00934	17.88	0.00951	PASS
Extreme (10℃)		6.32	0.00336	3.74	0.00199	PASS
Extreme (0℃)		17.31	0.00921	10.01	0.00533	PASS
Extreme (-10℃)		10.95	0.00583	6.83	0.00363	PASS
Extreme (-20℃)		6.04	0.00321	6.98	0.00372	PASS
Extreme (-30℃)		13.97	0.00743	11.69	0.00622	PASS
25℃	LV	8.21	0.00437	15.61	0.00830	PASS
	HV	6.43	0.00342	13.89	0.00739	PASS
CA-7C-4A 64QAM		20MHz+10MHz+20MHz (Bandwidth)		20MHz+20MHz +20MHz (Bandwidth)		Verdict
Condition		Delta (Hz)	Frequency Stability (ppm)	Delta (Hz)	Frequency Stability (ppm)	
Temperature	Voltage					
Normal (25℃)	Normal	17.78	0.00946	14.11	0.00750	PASS
Extreme (50℃)		4.13	0.00220	1.95	0.00104	PASS
Extreme (40℃)		6.69	0.00356	6.56	0.00349	PASS
Extreme (30℃)		11.24	0.00598	4.29	0.00228	PASS
Extreme (20℃)		13.66	0.00727	1.11	0.00059	PASS
Extreme (10℃)		17.79	0.00946	3.54	0.00188	PASS
Extreme (0℃)		3.62	0.00192	12.44	0.00662	PASS
Extreme (-10℃)		15.44	0.00821	6.37	0.00339	PASS
Extreme (-20℃)		11.34	0.00603	5.96	0.00317	PASS
Extreme (-30℃)		6.55	0.00348	3.98	0.00212	PASS
25℃	LV	9.42	0.00501	9.48	0.00504	PASS
	HV	11.30	0.00601	14.31	0.00761	PASS

CA-7C-5A QPSK		20MHz+10MHz+10MHz (Bandwidth)		20MHz+20MHz +20MHz(Bandwidth)		Verdict
Condition		Delta (Hz)	Frequency Stability (ppm)	Delta (Hz)	Frequency Stability (ppm)	
Temperature	Voltage					
Normal (25℃)	Normal	4.23	0.00225	17.66	0.00940	PASS
Extreme (50℃)		2.76	0.00147	15.02	0.00799	PASS
Extreme (40℃)		6.55	0.00348	10.55	0.00561	PASS
Extreme (30℃)		16.83	0.00895	17.40	0.00925	PASS
Extreme (20℃)		8.36	0.00444	7.25	0.00386	PASS
Extreme (10℃)		7.59	0.00404	16.79	0.00893	PASS
Extreme (0℃)		14.58	0.00776	14.59	0.00776	PASS
Extreme (-10℃)		7.82	0.00416	15.62	0.00831	PASS
Extreme (-20℃)		12.20	0.00649	1.39	0.00074	PASS



RF Test Report			Report No.: RZ000A0519-R4			
Extreme (-30℃)		17.24	0.00917	14.27	0.00759	PASS
25℃	LV	2.84	0.00151	16.01	0.00852	PASS
	HV	13.32	0.00709	14.20	0.00756	PASS
CA-7C-5A 16QAM		20MHz+10MHz+10MHz (Bandwidth)		20MHz+20MHz +20MHz(Bandwidth)		Verdict
Condition		Delta (Hz)	Frequency Stability (ppm)	Delta (Hz)	Frequency Stability (ppm)	
Temperature	Voltage					
Normal (25℃)	Normal	16.39	0.00872	8.42	0.00448	PASS
Extreme (50℃)		10.50	0.00559	6.27	0.00333	PASS
Extreme (40℃)		4.46	0.00237	17.33	0.00922	PASS
Extreme (30℃)		3.84	0.00204	8.09	0.00431	PASS
Extreme (20℃)		3.92	0.00208	2.98	0.00159	PASS
Extreme (10℃)		1.19	0.00063	12.85	0.00683	PASS
Extreme (0℃)		16.88	0.00898	16.69	0.00888	PASS
Extreme (-10℃)		8.88	0.00472	14.91	0.00793	PASS
Extreme (-20℃)		2.90	0.00154	9.75	0.00518	PASS
Extreme (-30℃)		10.99	0.00584	1.38	0.00073	PASS
25℃	LV	4.86	0.00258	12.38	0.00658	PASS
	HV	17.36	0.00923	3.97	0.00211	PASS
CA-7C-5A 64QAM		20MHz+10MHz+10MHz (Bandwidth)		20MHz+20MHz +20MHz(Bandwidth)		Verdict
Condition		Delta (Hz)	Frequency Stability (ppm)	Delta (Hz)	Frequency Stability (ppm)	
Temperature	Voltage					
Normal (25℃)	Normal	16.36	0.00870	17.11	0.00910	PASS
Extreme (50℃)		3.00	0.00160	17.48	0.00930	PASS
Extreme (40℃)		7.95	0.00423	11.79	0.00627	PASS
Extreme (30℃)		17.59	0.00936	8.36	0.00445	PASS
Extreme (20℃)		13.63	0.00725	13.94	0.00741	PASS
Extreme (10℃)		11.89	0.00632	1.63	0.00087	PASS
Extreme (0℃)		7.11	0.00378	15.94	0.00848	PASS
Extreme (-10℃)		7.39	0.00393	8.64	0.00460	PASS
Extreme (-20℃)		8.21	0.00437	13.40	0.00713	PASS
Extreme (-30℃)		2.55	0.00136	1.14	0.00061	PASS
25℃	LV	15.49	0.00824	11.06	0.00588	PASS
	HV	7.56	0.00402	10.03	0.00533	PASS

CA-4C-12A QPSK		10MHz+20MHz+10MHz (Bandwidth)		20MHz+20MHz +20MHz(Bandwidth)		Verdict
Condition		Delta (Hz)	Frequency Stability (ppm)	Delta (Hz)	Frequency Stability (ppm)	
Temperature	Voltage					



RF Test Report				Report No.: R2009A0573-R4		
Normal (25℃)	Normal	15.04	0.00800	11.05	0.00588	PASS
Extreme (50℃)		9.47	0.00503	3.66	0.00195	PASS
Extreme (40℃)		2.28	0.00122	10.19	0.00542	PASS
Extreme (30℃)		6.32	0.00336	10.20	0.00542	PASS
Extreme (20℃)		13.21	0.00703	13.25	0.00705	PASS
Extreme (10℃)		13.78	0.00733	4.12	0.00219	PASS
Extreme (0℃)		3.05	0.00162	1.12	0.00059	PASS
Extreme (-10℃)		9.20	0.00489	7.01	0.00373	PASS
Extreme (-20℃)		13.42	0.00714	10.17	0.00541	PASS
Extreme (-30℃)		2.85	0.00152	13.58	0.00722	PASS
25℃	LV	6.29	0.00335	2.99	0.00159	PASS
	HV	3.35	0.00178	17.33	0.00922	PASS
CA-4C-12A 16QAM		10MHz+20MHz+10MHz (Bandwidth)		20MHz+20MHz +20MHz (Bandwidth)		Verdict
Condition		Delta (Hz)	Frequency Stability (ppm)	Delta (Hz)	Frequency Stability (ppm)	
Temperature	Voltage					
Normal (25℃)	Normal	3.61	0.00192	4.38	0.00233	PASS
Extreme (50℃)		17.74	0.00944	9.03	0.00480	PASS
Extreme (40℃)		12.15	0.00646	14.78	0.00786	PASS
Extreme (30℃)		6.99	0.00372	4.29	0.00228	PASS
Extreme (20℃)		2.14	0.00114	4.89	0.00260	PASS
Extreme (10℃)		2.87	0.00153	13.33	0.00709	PASS
Extreme (0℃)		8.68	0.00462	9.17	0.00488	PASS
Extreme (-10℃)		14.66	0.00780	4.46	0.00237	PASS
Extreme (-20℃)		17.00	0.00904	2.54	0.00135	PASS
Extreme (-30℃)		2.81	0.00150	8.53	0.00454	PASS
25℃	LV	14.29	0.00760	8.40	0.00447	PASS
	HV	2.58	0.00137	1.15	0.00061	PASS
CA-4C-12A 64QAM		10MHz+20MHz+10MHz (Bandwidth)		20MHz+20MHz +20MHz (Bandwidth)		Verdict
Condition		Delta (Hz)	Frequency Stability (ppm)	Delta (Hz)	Frequency Stability (ppm)	
Temperature	Voltage					
Normal (25℃)	Normal	2.81	0.00149	6.00	0.00319	PASS
Extreme (50℃)		11.42	0.00607	8.07	0.00429	PASS
Extreme (40℃)		16.80	0.00894	13.44	0.00715	PASS
Extreme (30℃)		6.45	0.00343	5.39	0.00287	PASS
Extreme (20℃)		17.05	0.00907	8.11	0.00432	PASS
Extreme (10℃)		1.99	0.00106	15.02	0.00799	PASS
Extreme (0℃)		16.05	0.00854	3.16	0.00168	PASS

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Extreme (-10℃)		6.86	0.00365	15.15	0.00806	PASS
Extreme (-20℃)		4.30	0.00229	12.44	0.00662	PASS
Extreme (-30℃)		7.03	0.00374	16.47	0.00876	PASS
25℃	LV	3.61	0.00192	3.41	0.00181	PASS
	HV	9.45	0.00503	13.77	0.00732	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 1 kHz (0.009MHz~ 0.15 MHz),

RBW is set to 10 kHz (0.15 MHz~ 30 MHz)

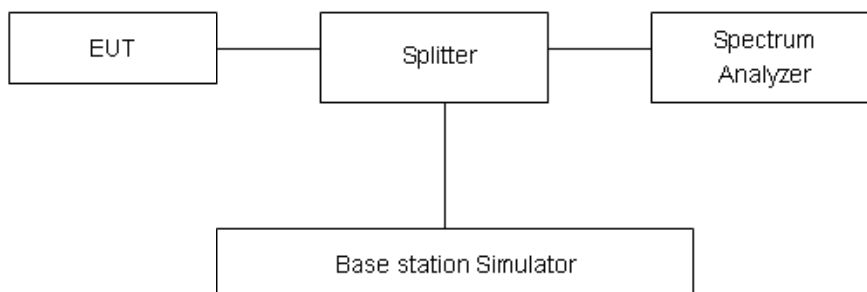
RBW is set to 100 kHz (30MHz~1000 MHz)

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 (g) For operations in the 600 MHz band and the 698-746 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least $43 + 10 \log (P)$ dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

Rule Part 27.53(f) For operations in the 746-758 MHz, 775-788 MHz, and 805-806 MHz bands, emissions in the band 1559-1610 MHz shall be limited to -70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and -80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth. For the purpose of equipment authorization, a transmitter shall be tested with an antenna that is representative of the type that will be used with the equipment in normal operation.

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 (c) For operations in the 746-758 MHz band and the 776-788 MHz band, the power of any emission outside the licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, in accordance with the following:

- (1) On any frequency outside the 746-758 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least $43 + 10 \log (P)$ dB;
- (2) On any frequency outside the 776-788 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least $43 + 10 \log (P)$ dB;
- (3) On all frequencies between 763-775 MHz and 793-805 MHz, by a factor not less than $76 + 10 \log (P)$ dB in a 6.25 kHz band segment, for base and fixed stations;
- (4) On all frequencies between 763-775 MHz and 793-805 MHz, by a factor not less than $65 + 10 \log (P)$ dB in a 6.25 kHz band segment, for mobile and portable stations;
- (5) Compliance with the provisions of paragraphs (c)(1) and (c)(2) of this section is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater. However, in the 100 kHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of at least 30 kHz may be employed;

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

Measurement Uncertainty

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

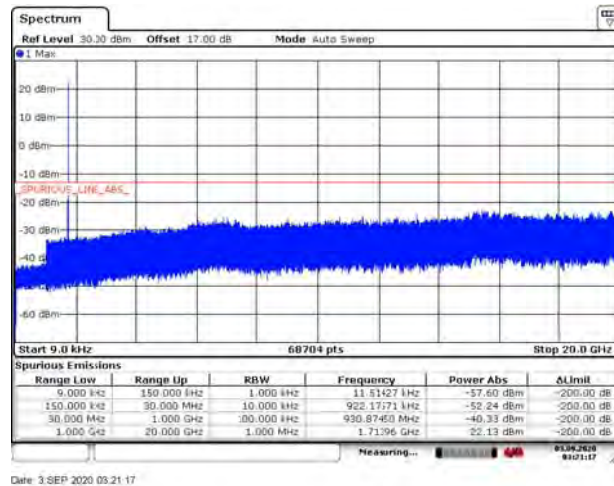
Frequency	Uncertainty
9kHz-1GHz	0.684 dB
1GHz-27GHz	1.407 dB

Test Result

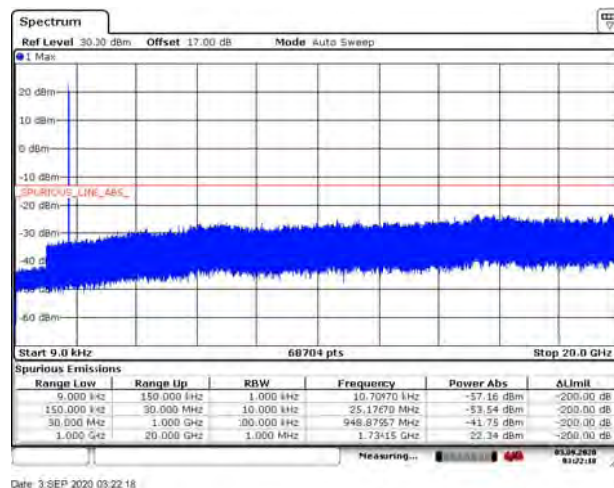
Sweep the whole frequency band through the range from 9kHz to the 10th harmonic of the carrier, the emissions more than 20 dB below the limit are not reported.

The signal beyond the limit is carrier.

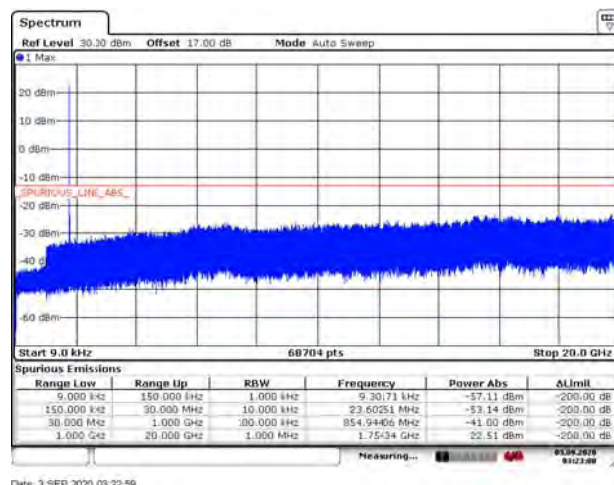
WCDMA Band IV CH-Low 9kHz~20GHz



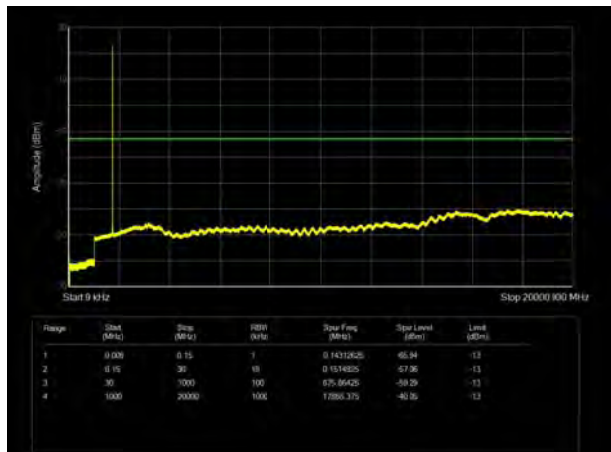
WCDMA Band IV CH-Middle 9kHz~20GHz



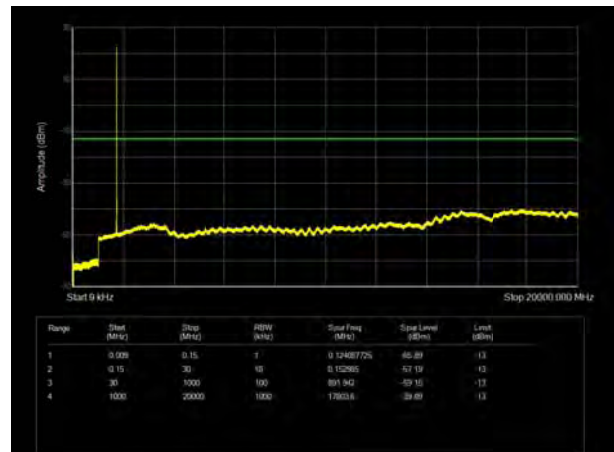
WCDMA Band IV CH-High 9kHz~20GHz



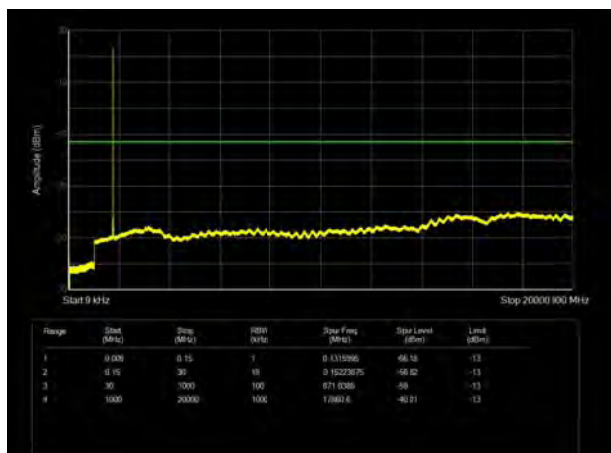
LTE Band 4 1.4MHz CH-Low 9kHz~20GHz



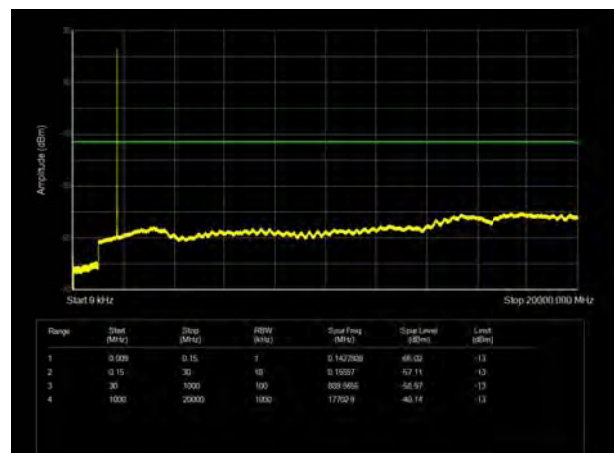
LTE Band 4 3MHz CH- Low 9kHz~20GHz



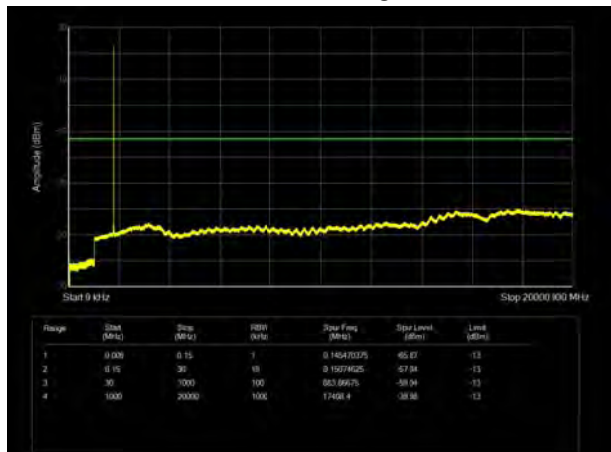
LTE Band 4 1.4MHz CH- Middle 9kHz~20GHz



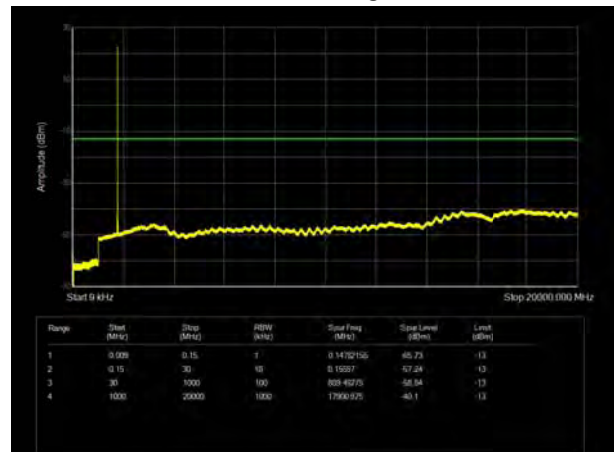
LTE Band 4 3MHz CH- Middle 9kHz~20GHz



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

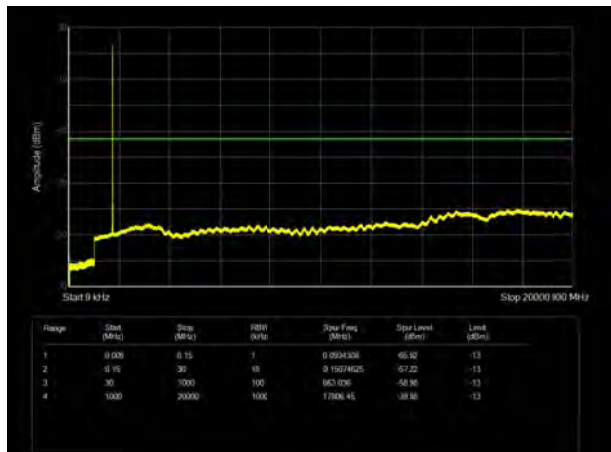


LTE Band 4 3MHz CH-High 9kHz~20GHz

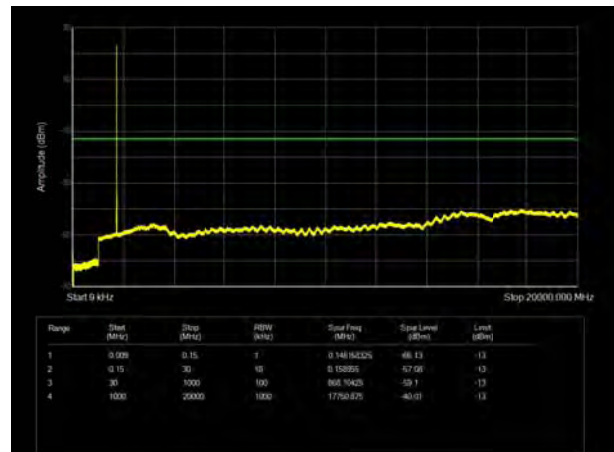




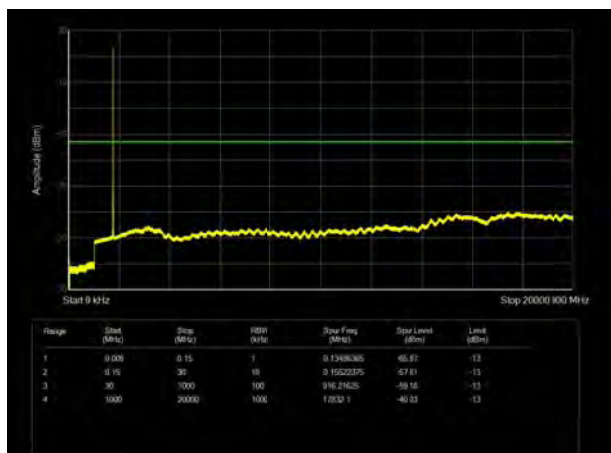
LTE Band 4 5MHz CH- Low 9kHz~20GHz



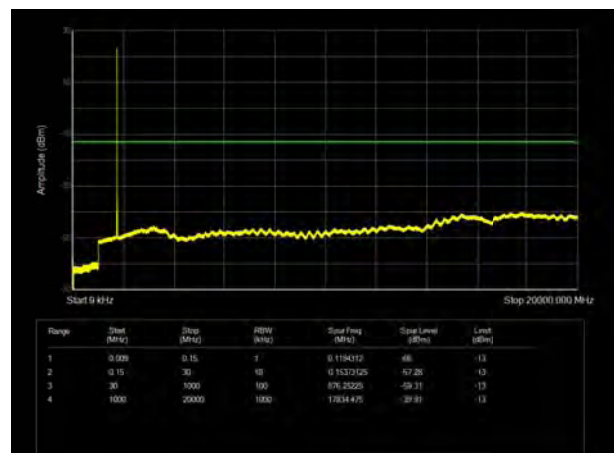
LTE Band 4 10MHz CH-Low 9kHz~20GHz



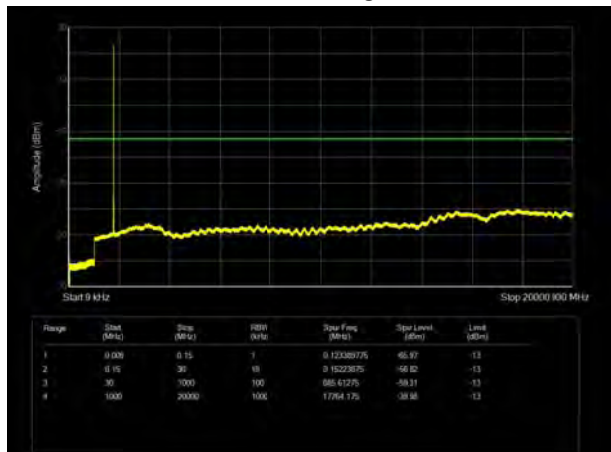
LTE Band 4 5MHz CH- Middle 9kHz~20GHz



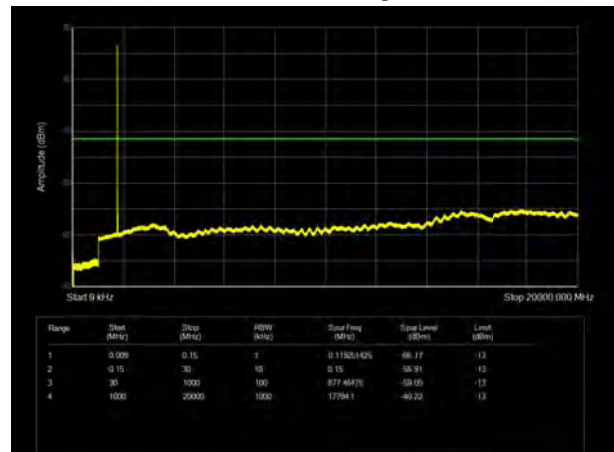
LTE Band 4 10MHz CH- Middle 9kHz~20GHz



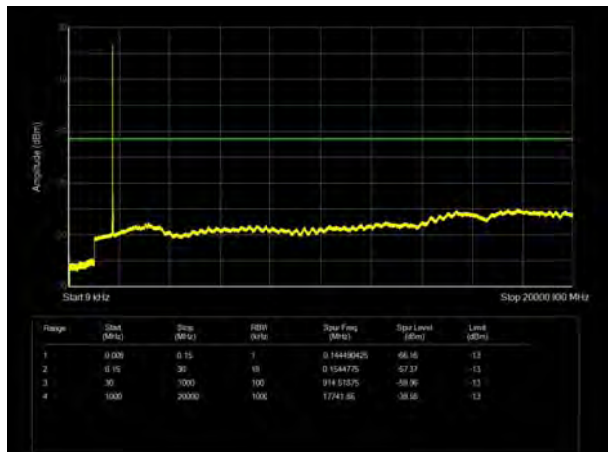
LTE Band 4 5MHz CH-High 9kHz~20GHz



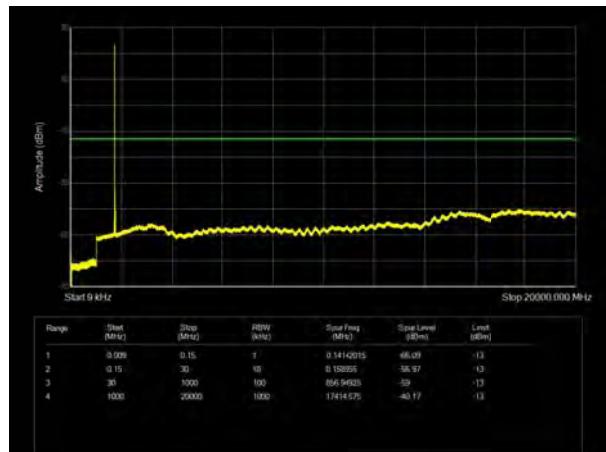
LTE Band 4 10MHz CH- High 9kHz~20GHz



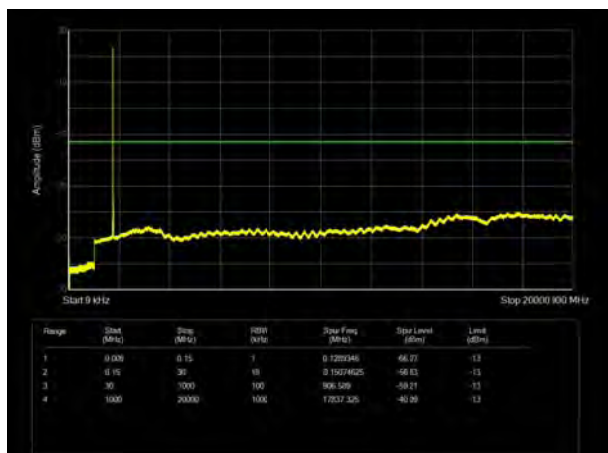
LTE Band 4 15MHz CH- Low 9kHz~20GHz



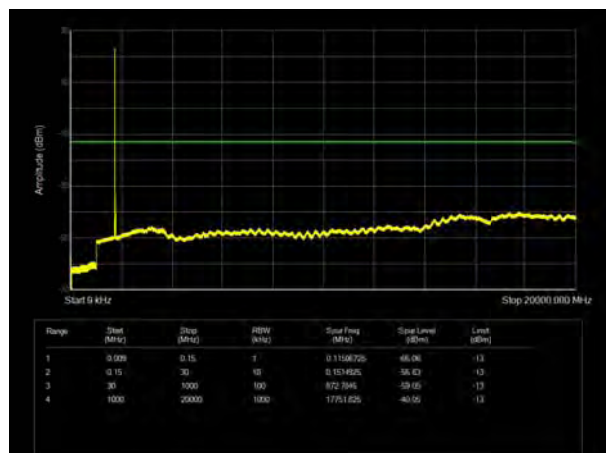
LTE Band 4 20MHz CH-Low 9kHz~20GHz



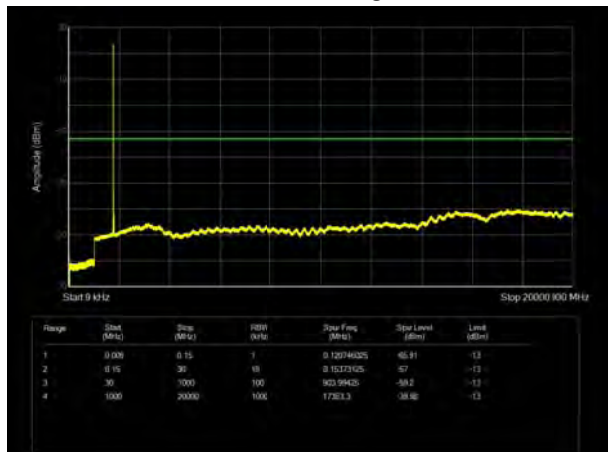
LTE Band 4 15MHz CH- Middle 9kHz~20GHz



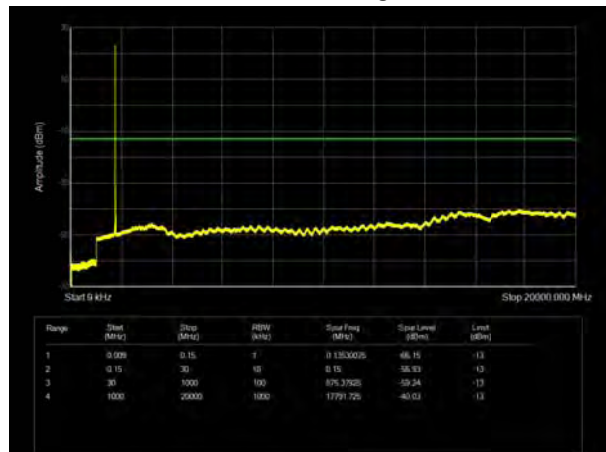
LTE Band 4 20MHz CH- Middle 9kHz~20GHz



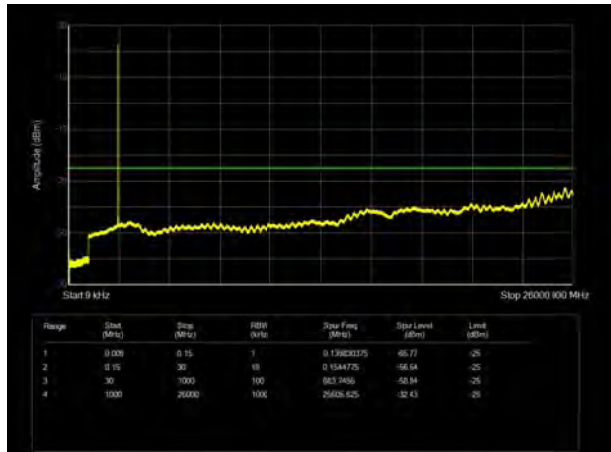
LTE Band 4 15MHz CH-High 9kHz~20GHz



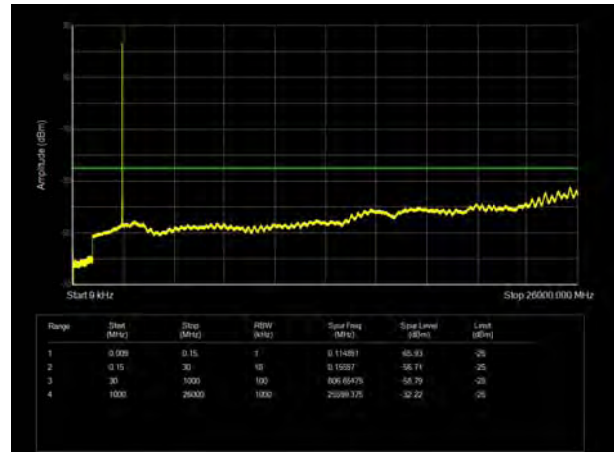
LTE Band 4 20MHz CH- High 9kHz~20GHz



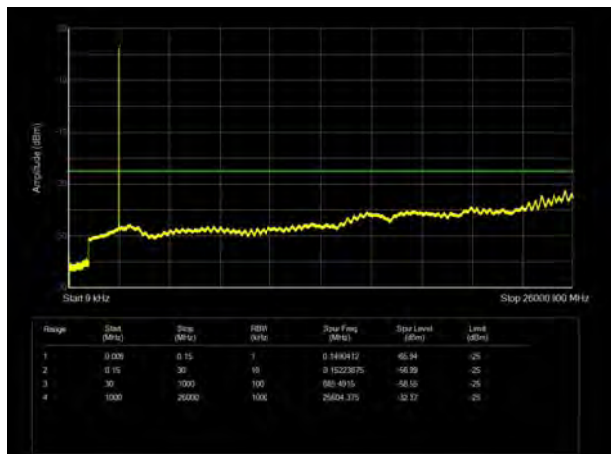
LTE Band 7 5MHz CH- Low 9kHz~26GHz



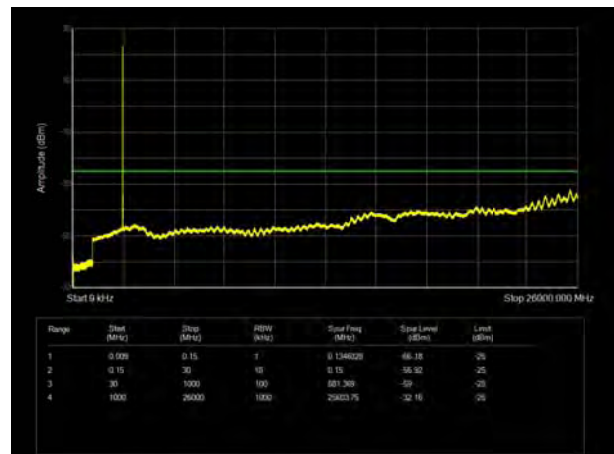
LTE Band 7 10MHz CH- Low 9kHz~26GHz



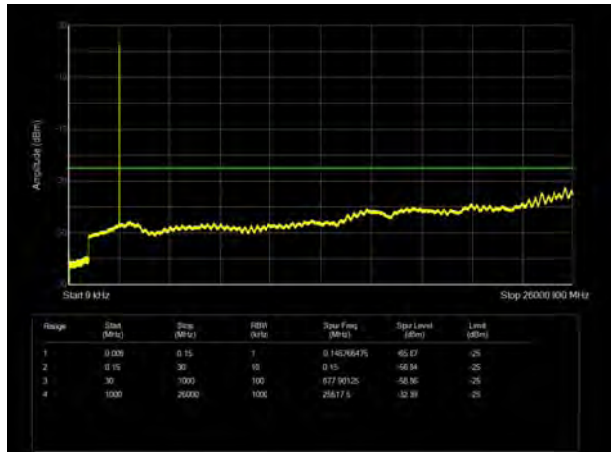
LTE Band 7 5MHz CH- Middle 9kHz~26GHz



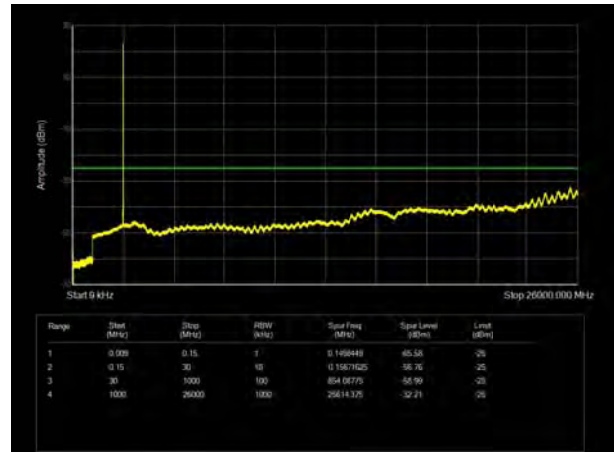
LTE Band 7 10MHz CH- Middle 9kHz~26GHz



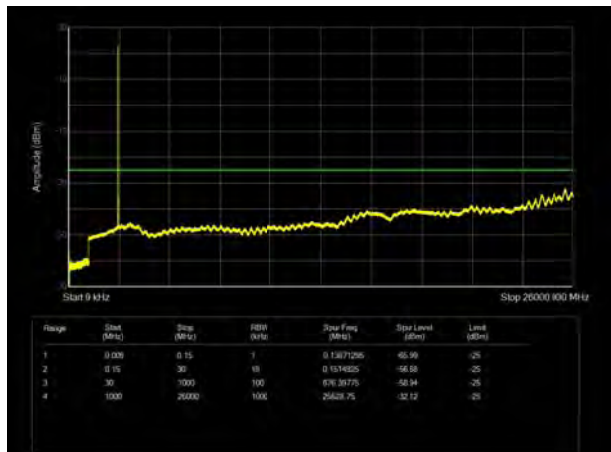
LTE Band 7 5MHz CH-High 9kHz~26GHz



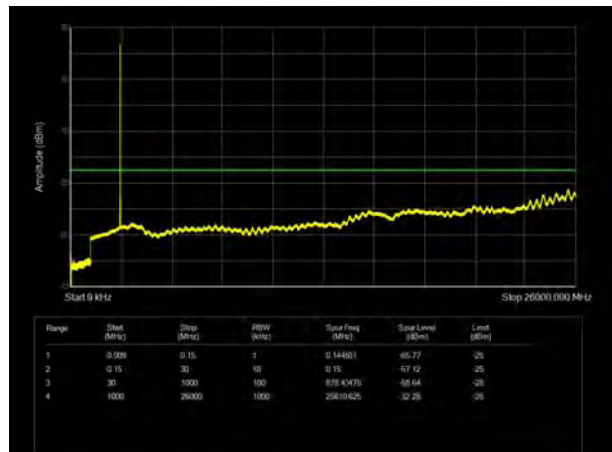
LTE Band 7 10MHz CH-High 9kHz~26GHz



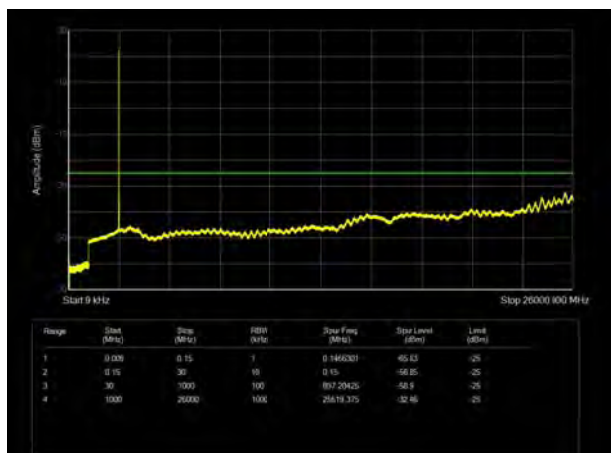
LTE Band 7 15MHz CH- Low 9kHz~26GHz



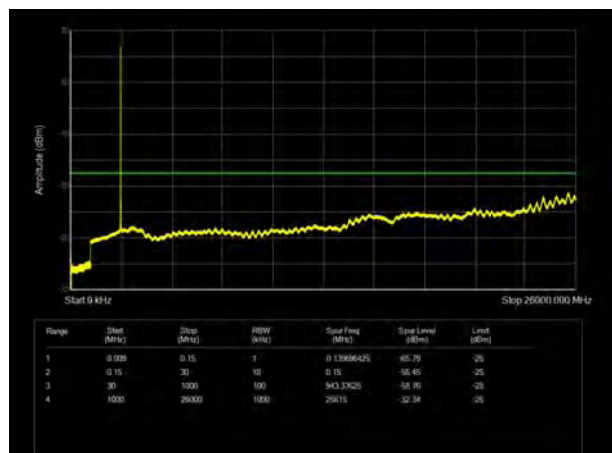
LTE Band 7 20MHz CH-Low 9kHz~26GHz



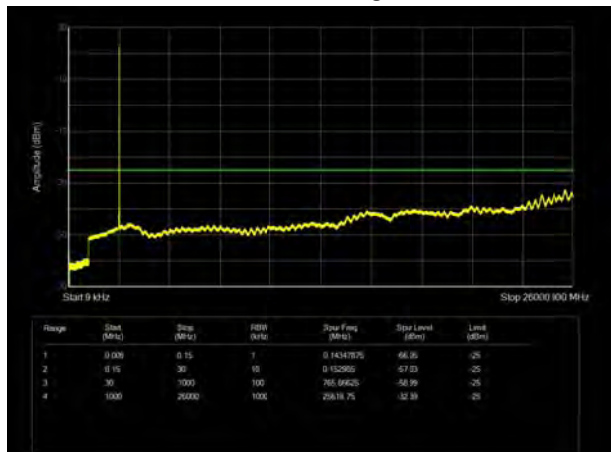
LTE Band 7 15MHz CH- Middle 9kHz~26GHz



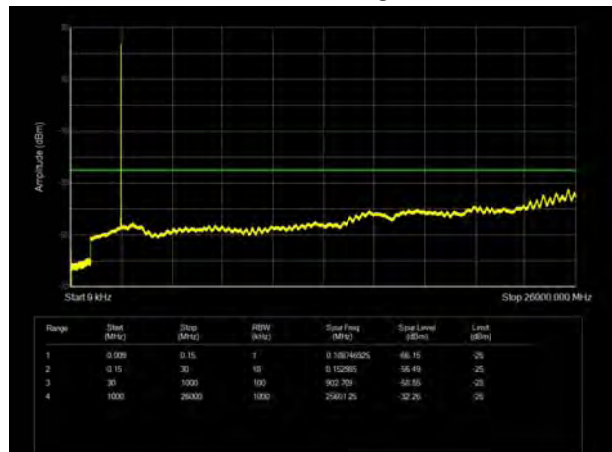
LTE Band 7 20MHz CH- Middle 9kHz~26GHz



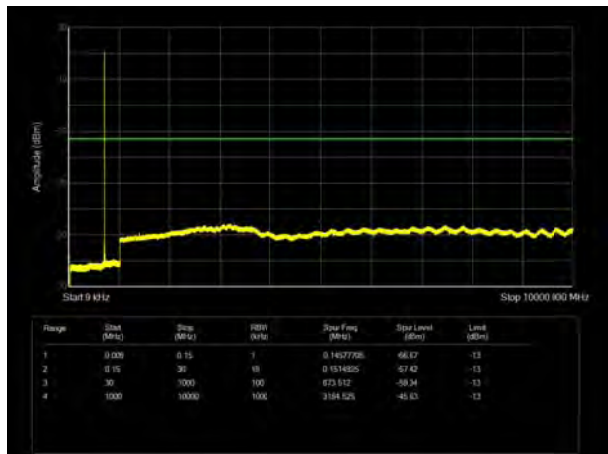
LTE Band 7 15MHz CH-High 9kHz~26GHz



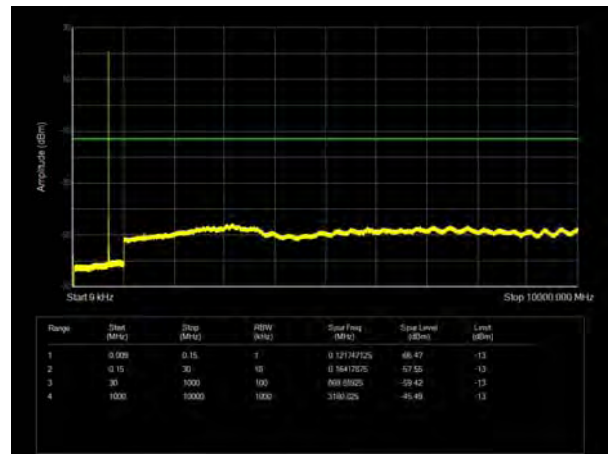
LTE Band 7 20MHz CH- High 9kHz~26GHz



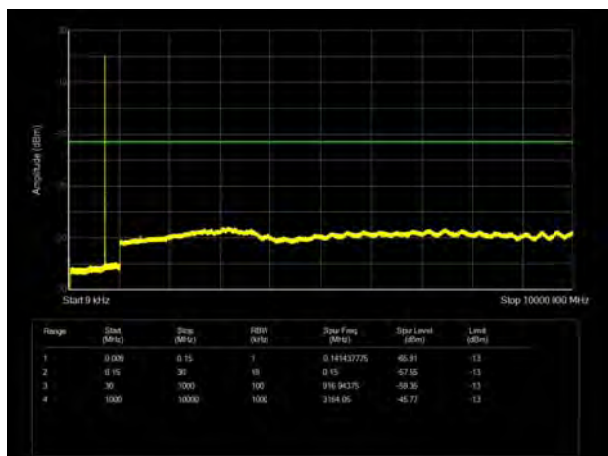
LTE Band 12 1.4MHz CH-Low 9kHz~10GHz



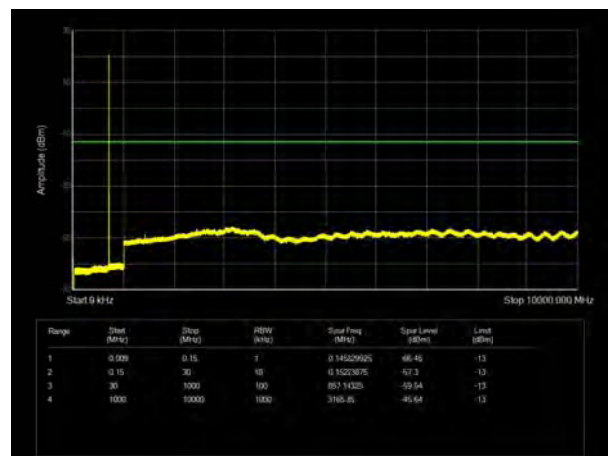
LTE Band 12 3MHz CH- Low 9kHz~10GHz



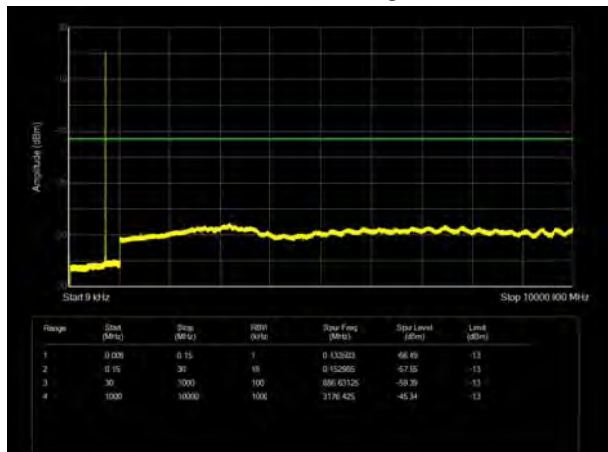
LTE Band 12 1.4MHz CH- Middle 9kHz~10GHz



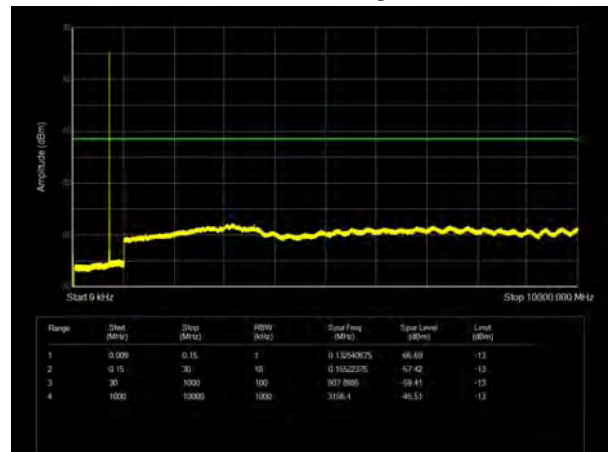
LTE Band 12 3MHz CH- Middle 9kHz~10GHz



LTE Band 12 1.4MHz CH- High 9kHz~10GHz

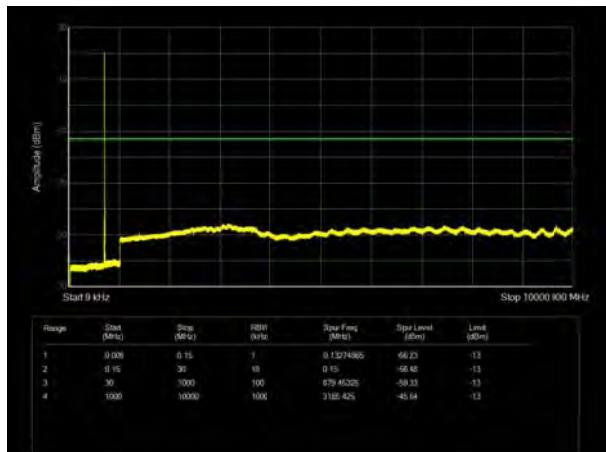


LTE Band 12 3MHz CH-High 9kHz~10GHz

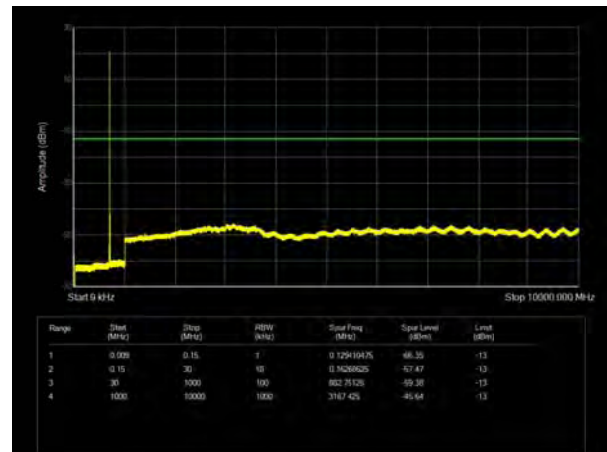




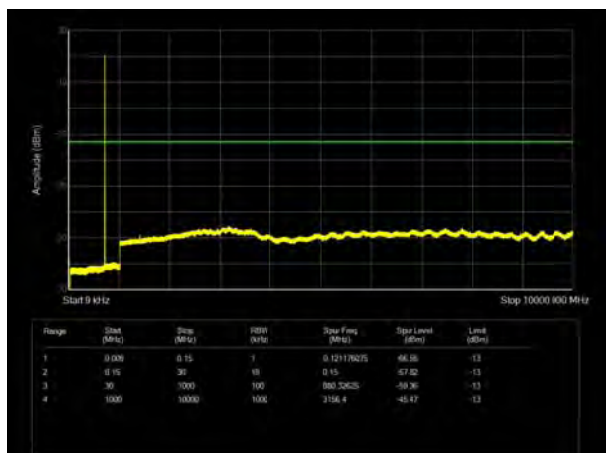
LTE Band 12 5MHz CH- Low 9kHz~10GHz



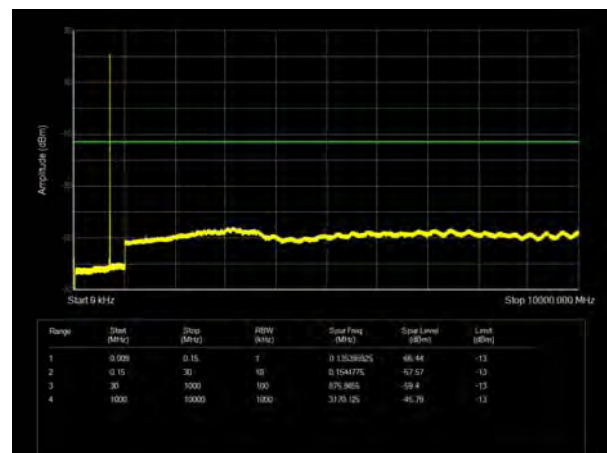
LTE Band 12 10MHz CH-Low 9kHz~10GHz



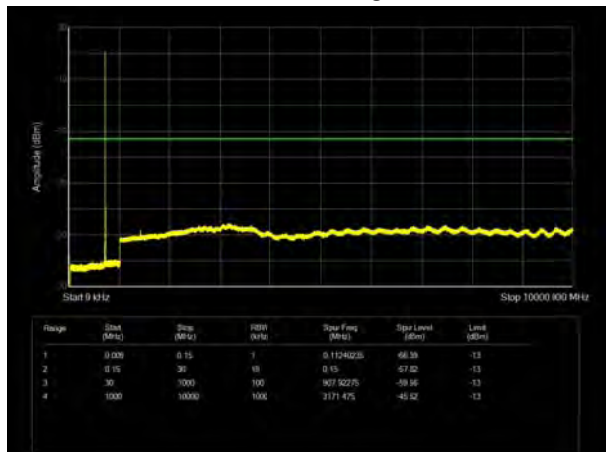
LTE Band 12 5MHz CH- Middle 9kHz~10GHz



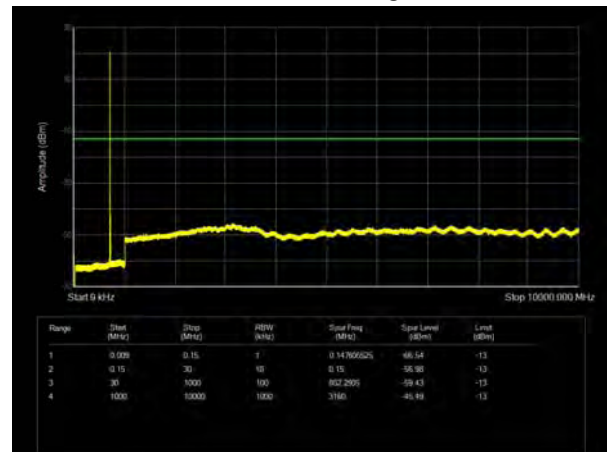
LTE Band 12 10MHz CH- Middle 9kHz~10GHz



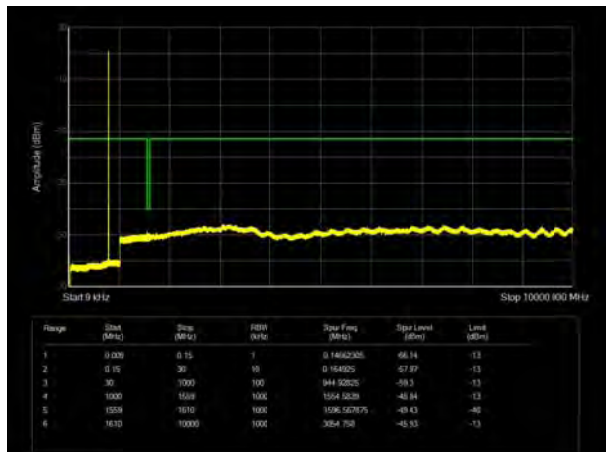
LTE Band 12 5MHz CH-High 9kHz~10GHz



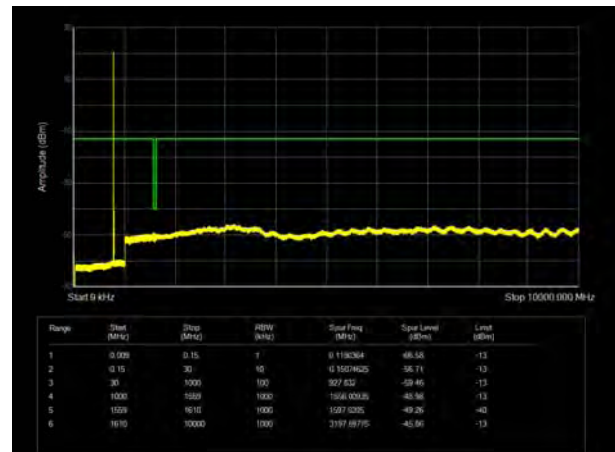
LTE Band 12 10MHz CH- High 9kHz~10GHz



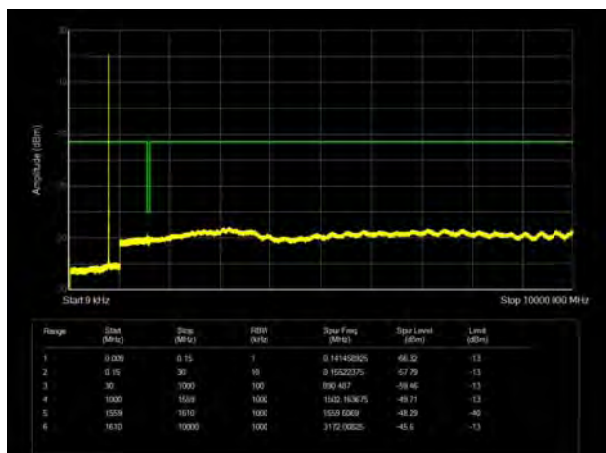
LTE Band 13 5MHz CH- Low 9kHz~10GHz



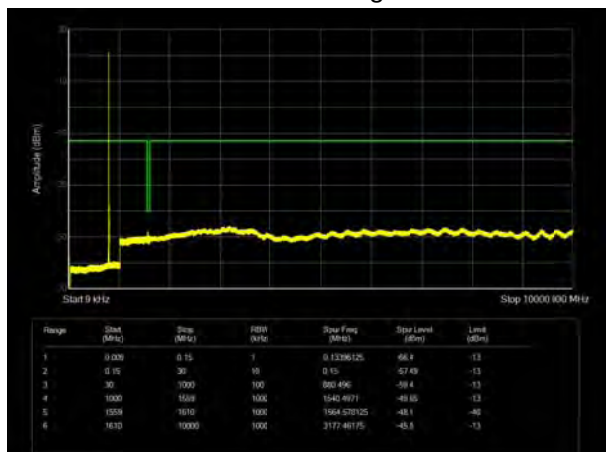
LTE Band 13 10MHz CH-Low 9kHz~10GHz



LTE Band 13 5MHz CH- Middle 9kHz~10GHz

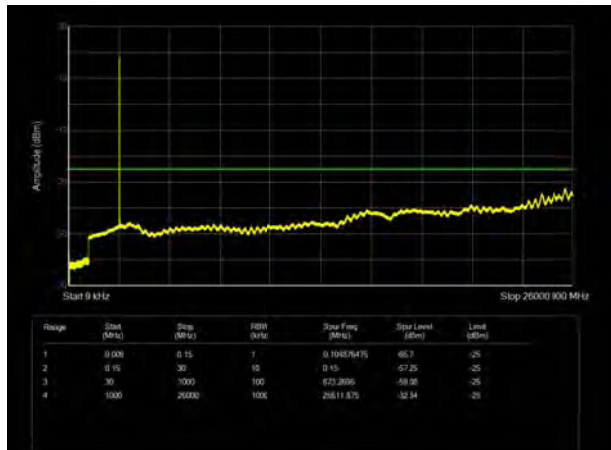


LTE Band 13 5MHz CH-High 9kHz~10GHz

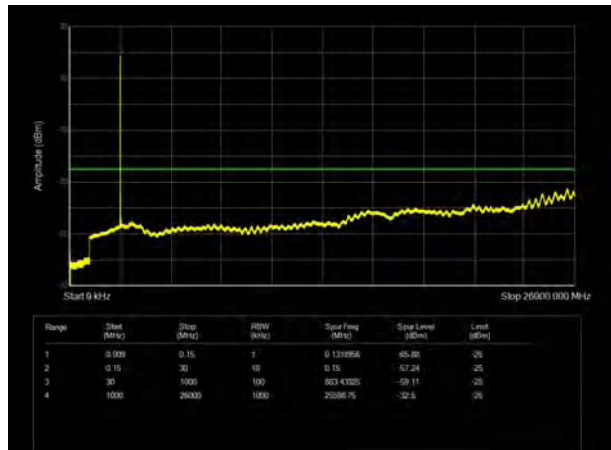




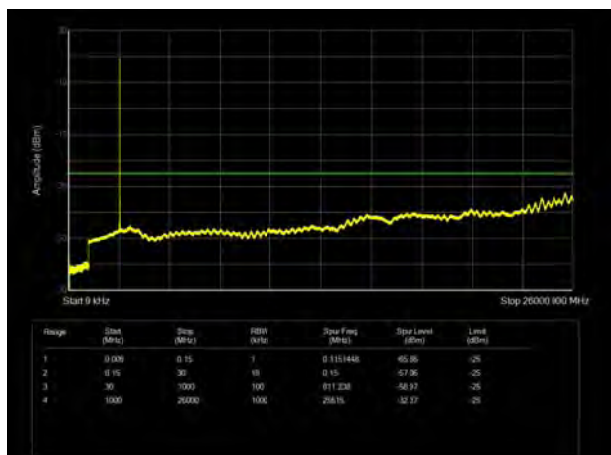
LTE Band 38 5MHz CH- Low 9kHz~26GHz



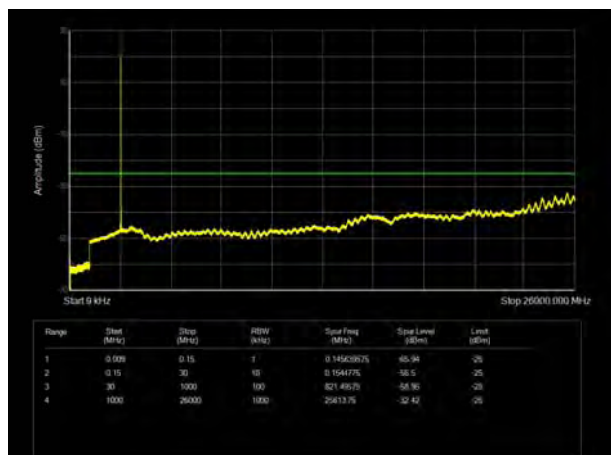
LTE Band 38 10MHz CH- Low 9kHz~26GHz



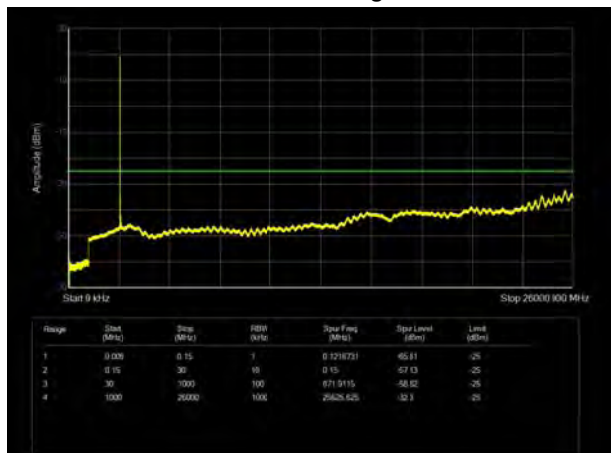
LTE Band 38 5MHz CH- Middle 9kHz~26GHz



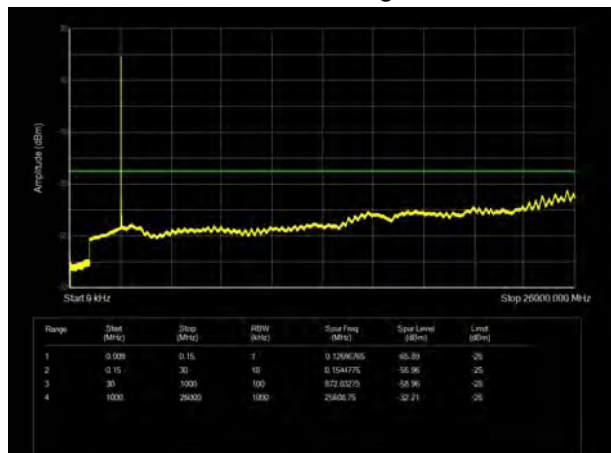
LTE Band 38 10MHz CH- Middle 9kHz~26GHz



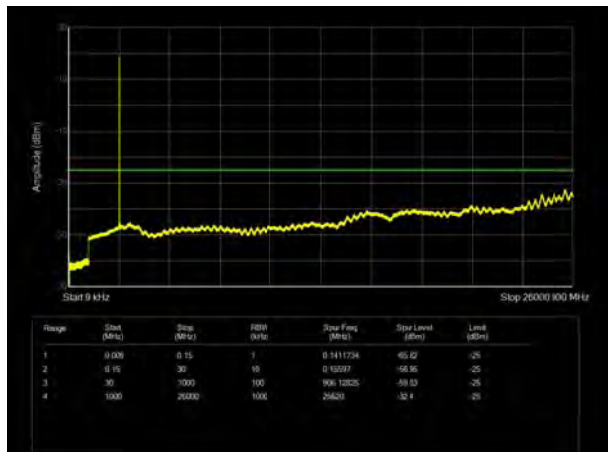
LTE Band 38 5MHz CH-High 9kHz~26GHz



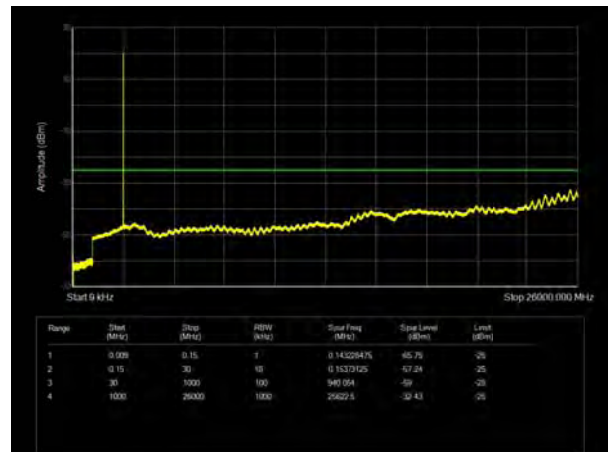
LTE Band 38 10MHz CH-High 9kHz~26GHz



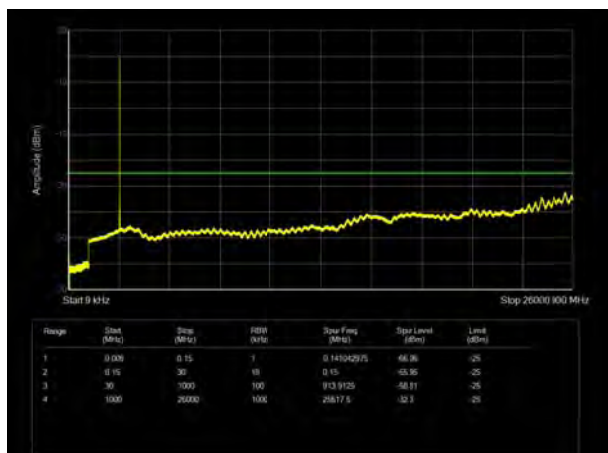
LTE Band 38 15MHz CH- Low 9kHz~26GHz



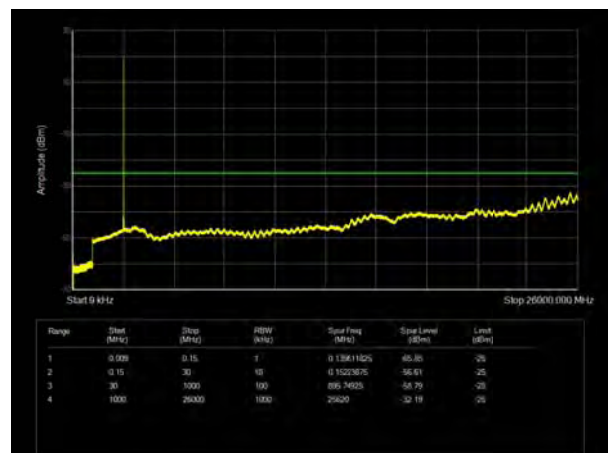
LTE Band 38 20MHz CH-Low 9kHz~26GHz



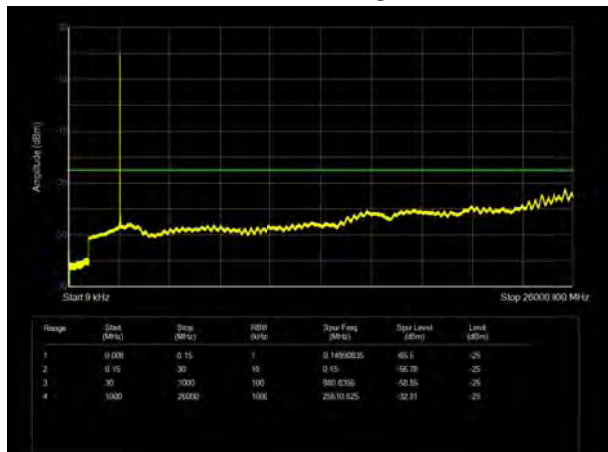
LTE Band 38 15MHz CH- Middle 9kHz~26GHz



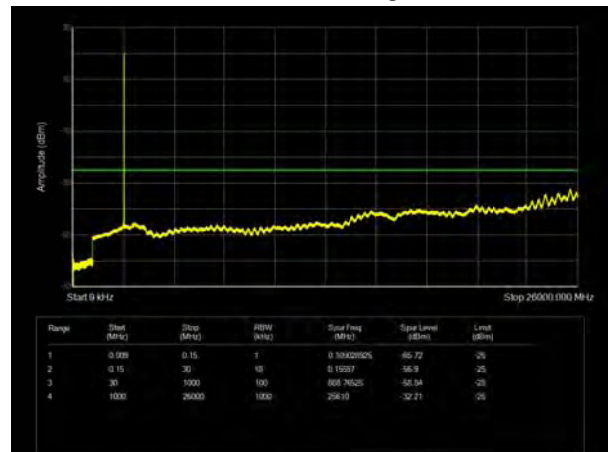
LTE Band 38 20MHz CH- Middle 9kHz~26GHz



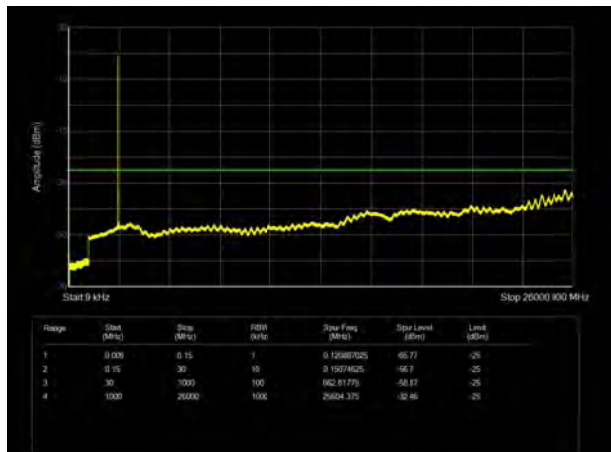
LTE Band 38 15MHz CH-High 9kHz~26GHz



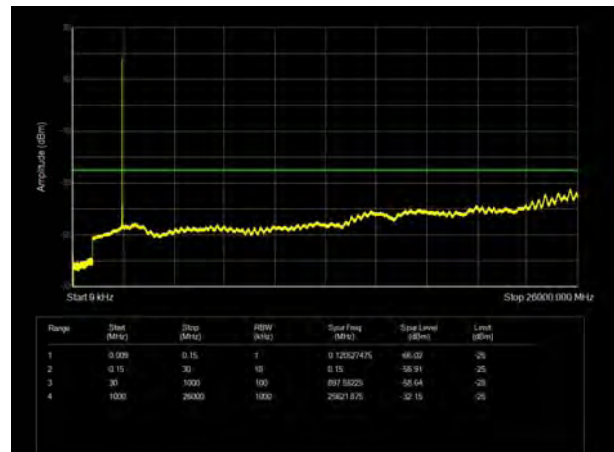
LTE Band 38 20MHz CH- High 9kHz~26GHz



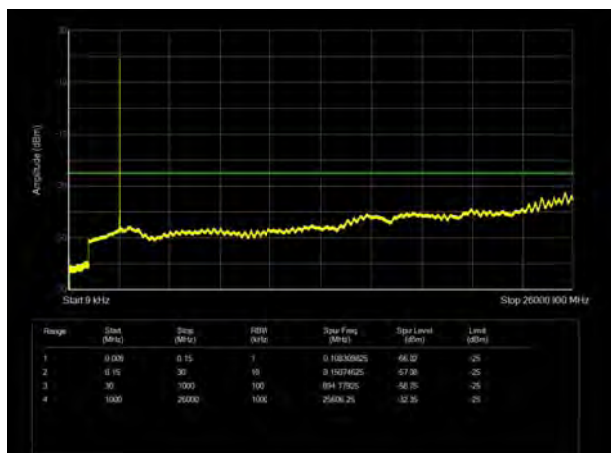
LTE Band 41 5MHz CH- Low 9kHz~26GHz



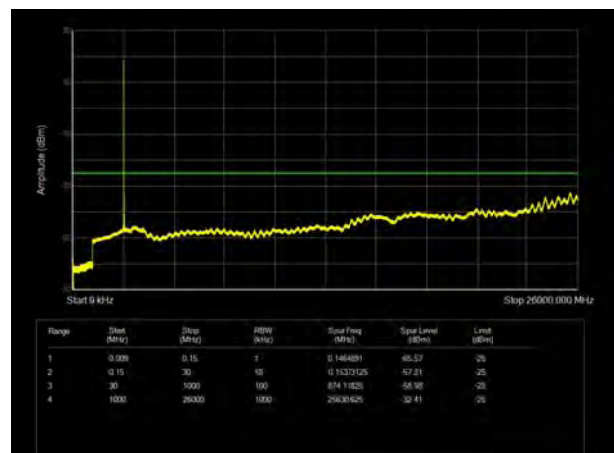
LTE Band 41 10MHz CH- Low 9kHz~26GHz



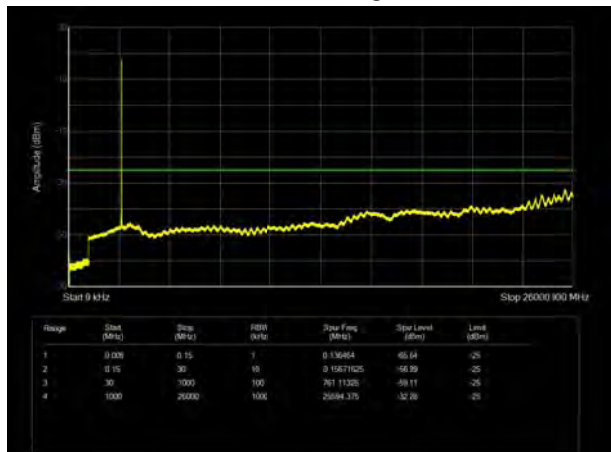
LTE Band 41 5MHz CH- Middle 9kHz~26GHz



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



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



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

