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Appendix B

WCDMA Band II & V



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1. Effective (Isotropic) Radiated Power

1.1. Test Result

Band	Modulation	Channel	Conducted Power (dBm)	EIRP (dBm)	Limit(dBm)	Verdict
Band II	QPSK	9262	22.91	21.81	33.00	PASS
Band II	QPSK	9400	23.42	22.32	33.00	PASS
Band II	QPSK	9538	23.35	22.25	33.00	PASS
Band V	QPSK	4132	22.58	18.56	30.00	PASS
Band V	QPSK	4182	22.61	18.59	30.00	PASS
Band V	QPSK	4233	22.63	18.61	30.00	PASS
Band II	16QAM	9262	19.85	18.75	33.00	PASS
Band II	16QAM	9400	20.14	19.04	33.00	PASS
Band II	16QAM	9538	20.41	19.31	33.00	PASS
Band V	16QAM	4132	19.20	15.18	30.00	PASS
Band V	16QAM	4182	19.15	15.13	30.00	PASS
Band V	16QAM	4233	19.03	15.01	30.00	PASS

Remark:

a: For getting the EIRP (Efficient Isotropic Radiated Power), the following formula should be taken to calculate it,

ERP [dBm] = Conducted Power [dBm] + Gain [dBd]

EIRP [dBm] = Conducted Power [dBm] + Gain [dBi]



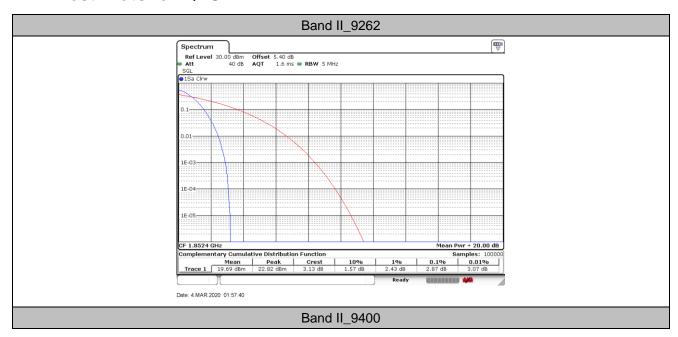
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2. Peak-to-Average Ratio(CCDF)

2.1. Test Result

Band	Modulation	Channel	Peak-to-Average Ratio(dB)	Limit(dB)	Verdict
Band II	QPSK	9262	2.87	13.00	PASS
Band II	QPSK	9400	2.78	13.00	PASS
Band II	QPSK	9538	2.75	13.00	PASS
Band V	QPSK	4132	2.84	13.00	PASS
Band V	QPSK	4182	3.16	13.00	PASS
Band V	QPSK	4233	2.84	13.00	PASS
Band II	16QAM	9262	3.28	13.00	PASS
Band II	16QAM	9400	3.86	13.00	PASS
Band II	16QAM	9538	3.28	13.00	PASS
Band V	16QAM	4132	4.03	13.00	PASS
Band V	16QAM	4182	3.57	13.00	PASS
Band V	16QAM	4233	3.10	13.00	PASS

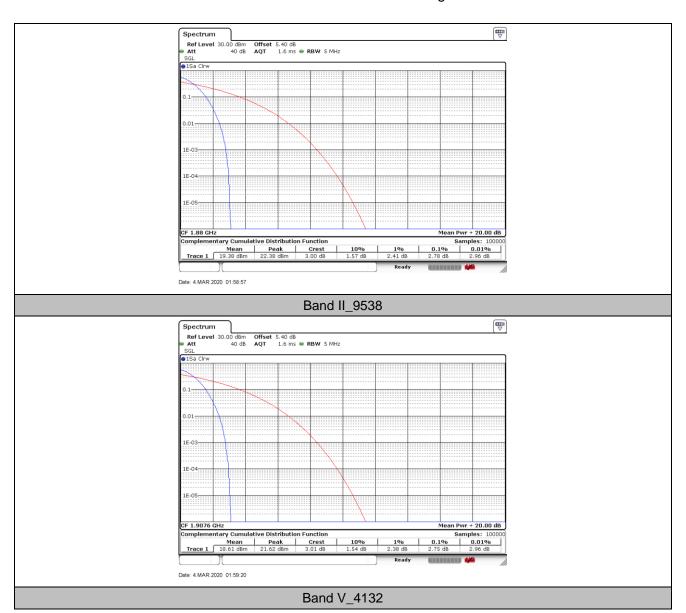
2.2. Test Plots for QPSK





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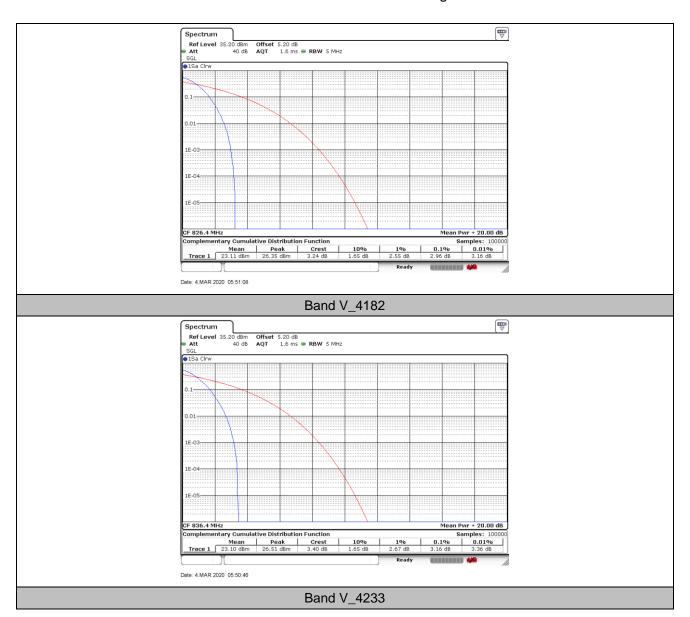
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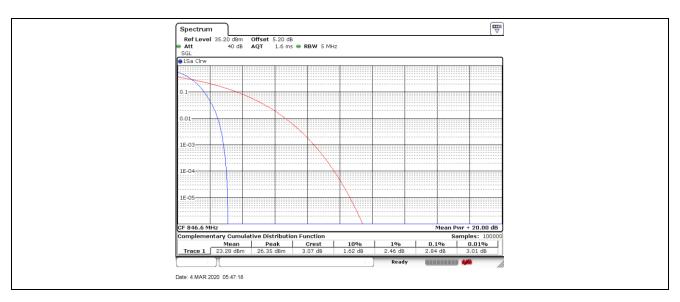
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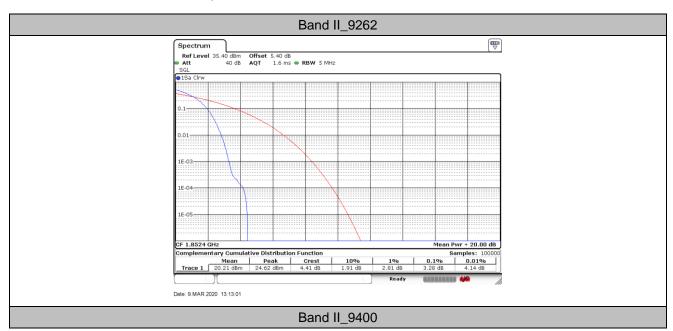
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2.3. Test Plots for 16QAM



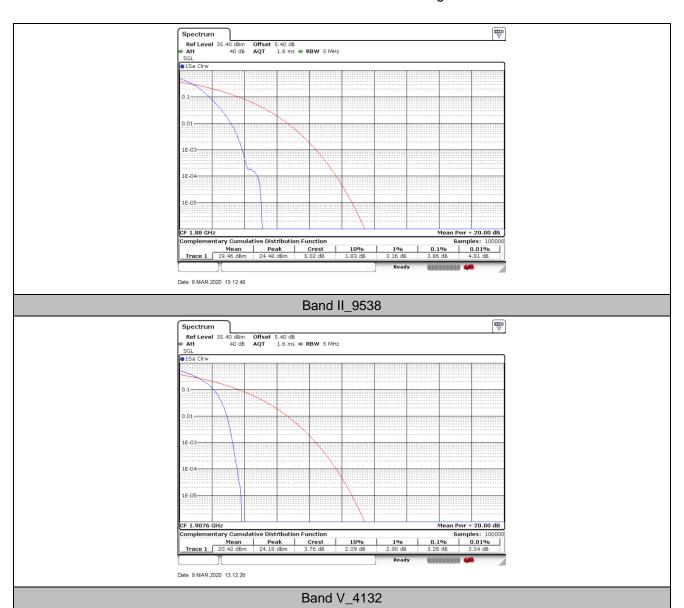


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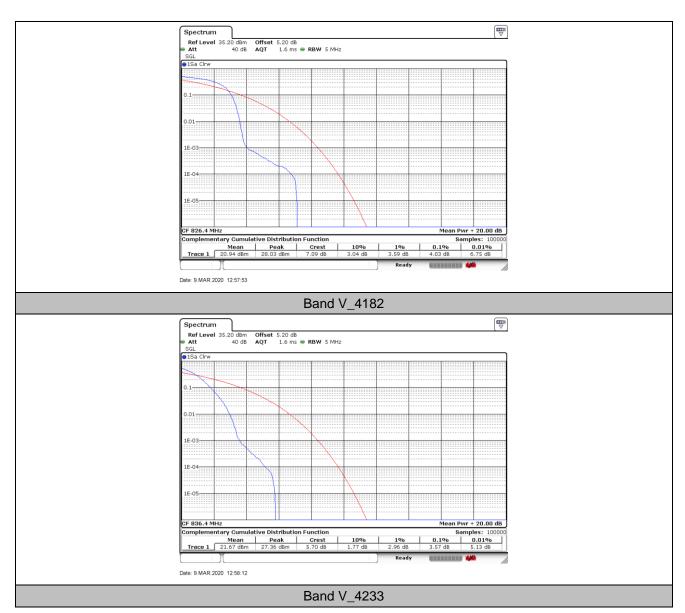
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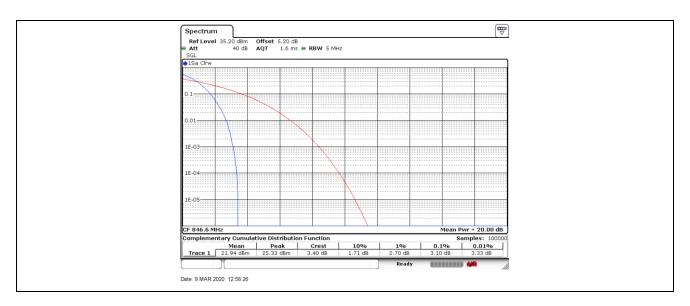
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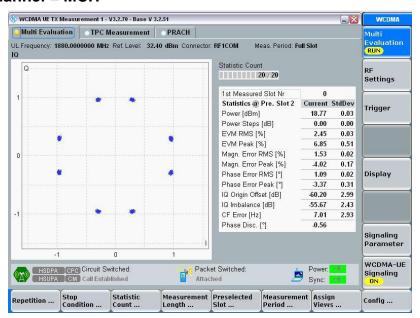
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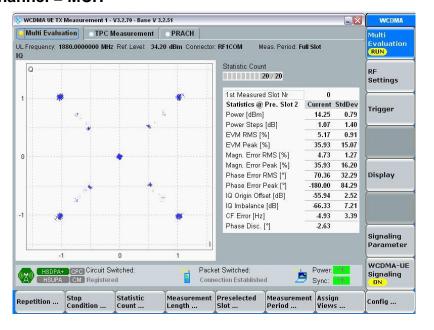
3. Modulation Characteristics

- 3.1. Test Band = WCDMA Band II
- 3.1.1. Test Mode = UMTS/TM1
- 3.1.1.1. Test Channel = MCH



3.1.2. Test Mode = UMTS /TM2

3.1.2.1. Test Channel = MCH





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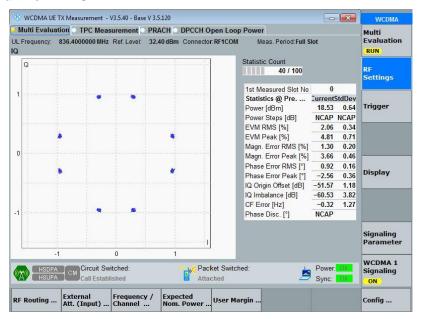
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3.2. Test Band = WCDMA Band V

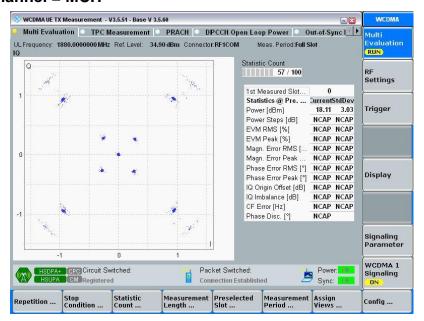
3.2.1. Test Mode = UMTS /TM1

3.2.1.1. Test Channel = MCH



3.2.2. Test Mode = UMTS /TM2

3.2.2.1. Test Channel = MCH





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4. 26dB Bandwidth and Occupied Bandwidth

4.1. Test Result

Band	Modulation	Channel	Occupied Bandwidth	26dB Bandwidth	Limit	Verdict
Danu	Woddiation	Chamilei	(MHz)	(MHz)	(MHz)	Verdict
Band II	QPSK	9262	4.167	4.732		PASS
Band II	QPSK	9400	4.168	4.732		PASS
Band II	QPSK	9538	4.168	4.732		PASS
Band V	QPSK	4132	4.168	4.703		PASS
Band V	QPSK	4182	4.168	4.718		PASS
Band V	QPSK	4233	4.168	4.718		PASS
Band II	16QAM	9262	4.197	4.805		PASS
Band II	16QAM	9400	4.197	4.703		PASS
Band II	16QAM	9538	4.168	4.689		PASS
Band V	16QAM	4132	4.197	4.761		PASS
Band V	16QAM	4182	4.226	4.718		PASS
Band V	16QAM	4233	4.197	4.776		PASS

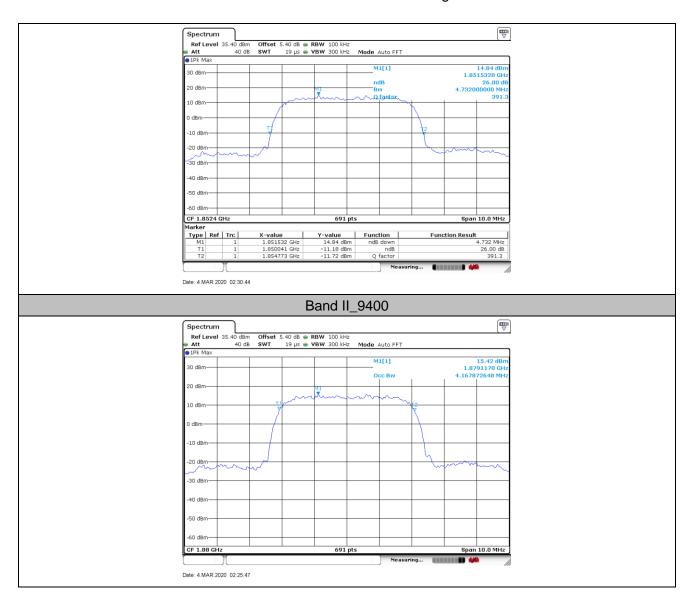
4.2. Test Plots for QPSK





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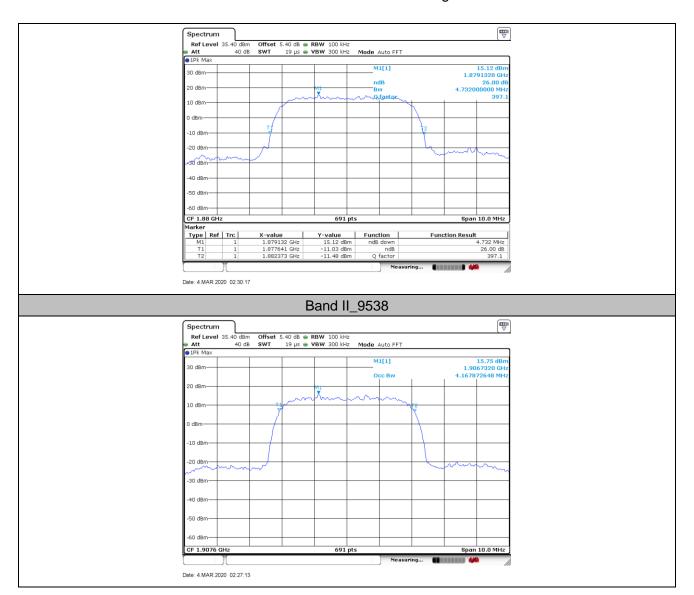
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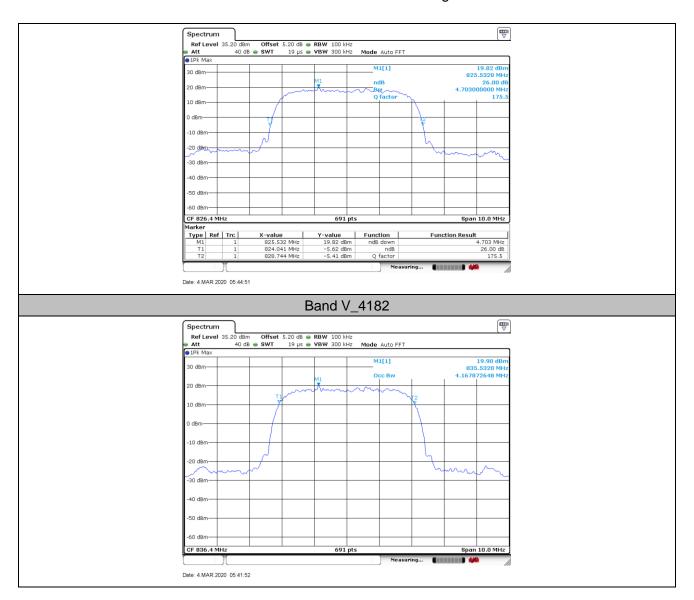


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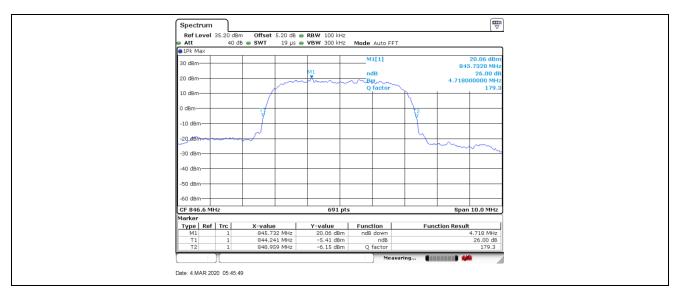


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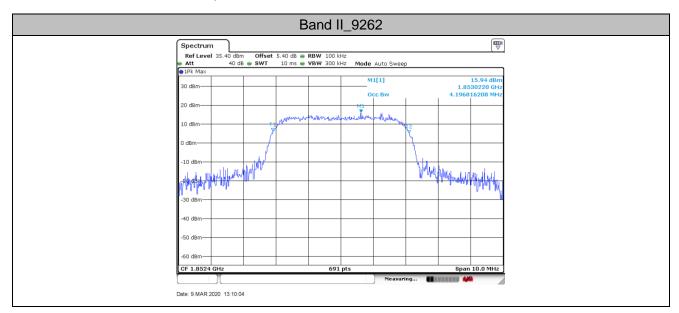
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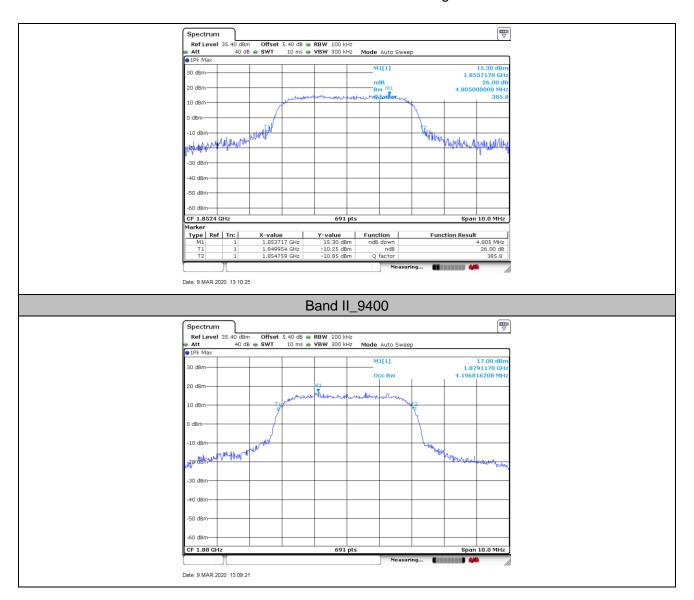
4.3. Test Plots for 16QAM





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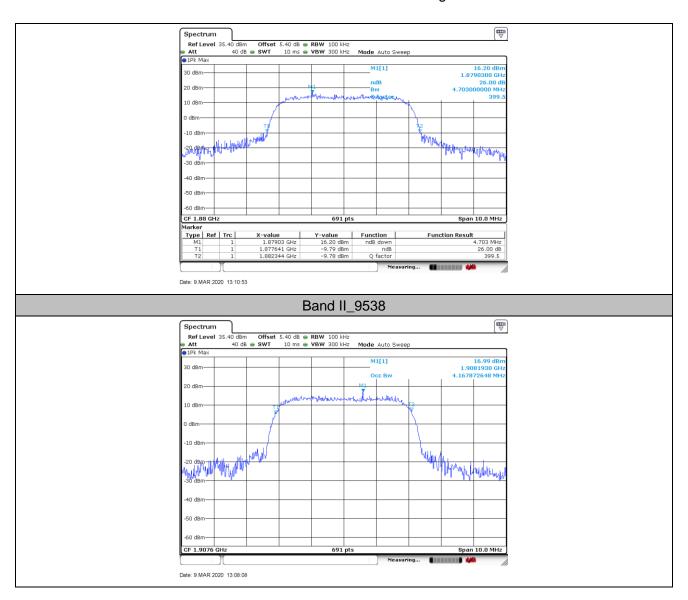
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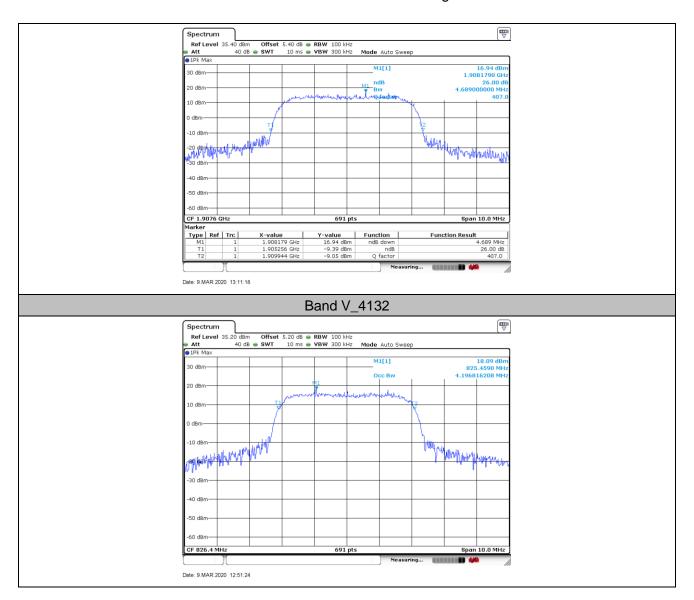
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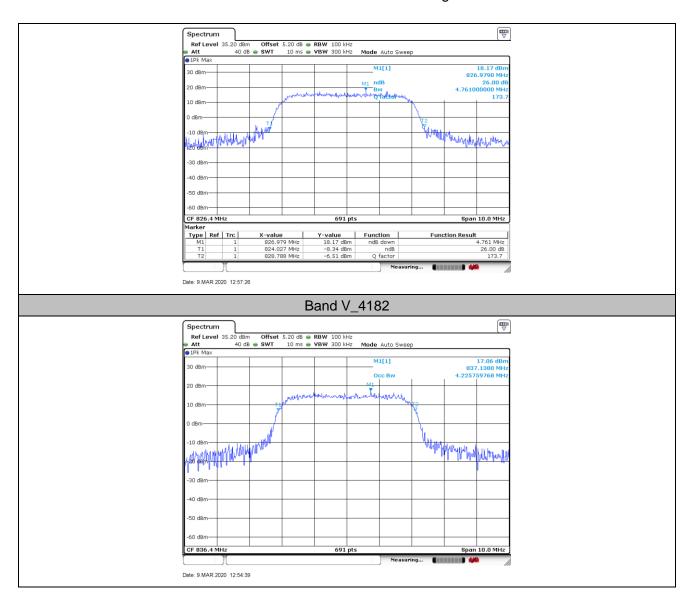
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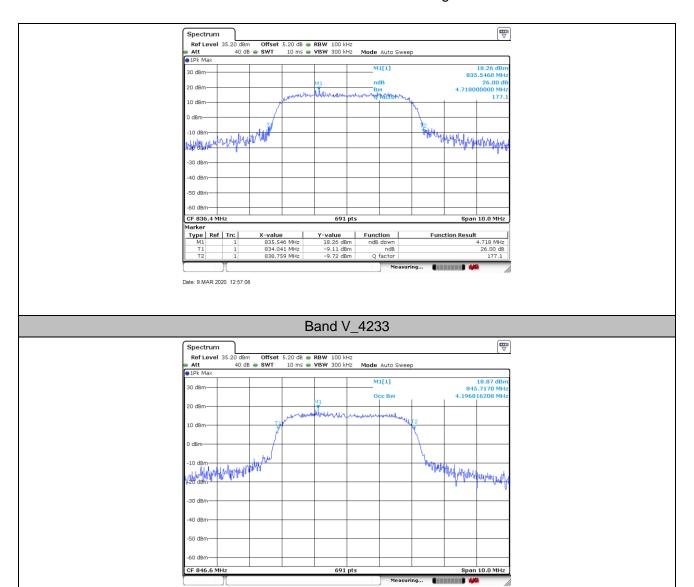
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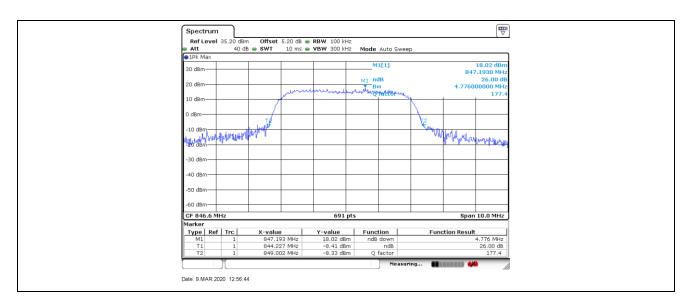
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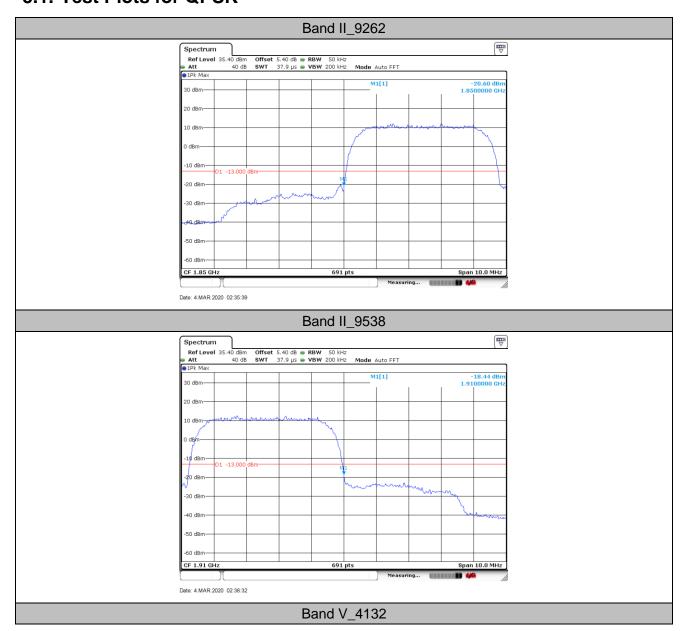
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5. Band Edge Compliance

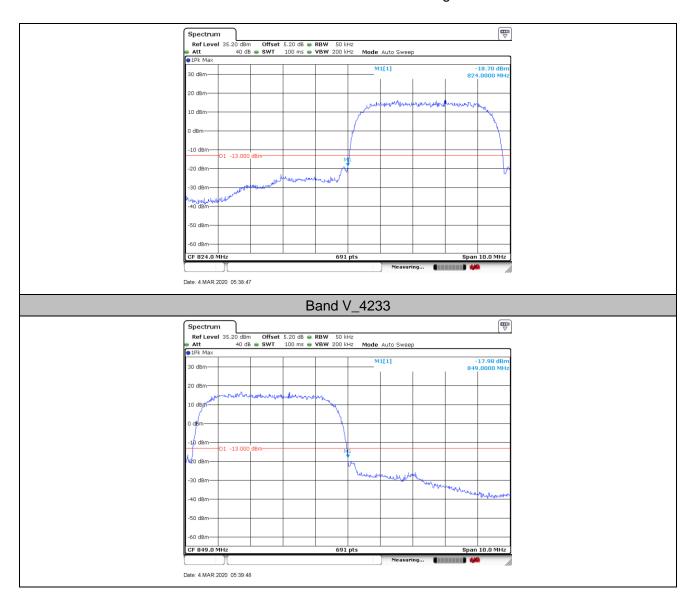
5.1. Test Plots for QPSK





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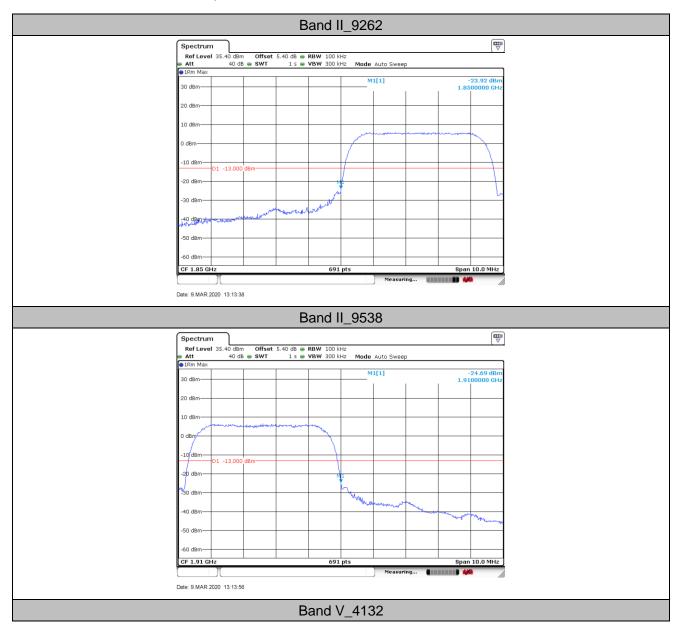
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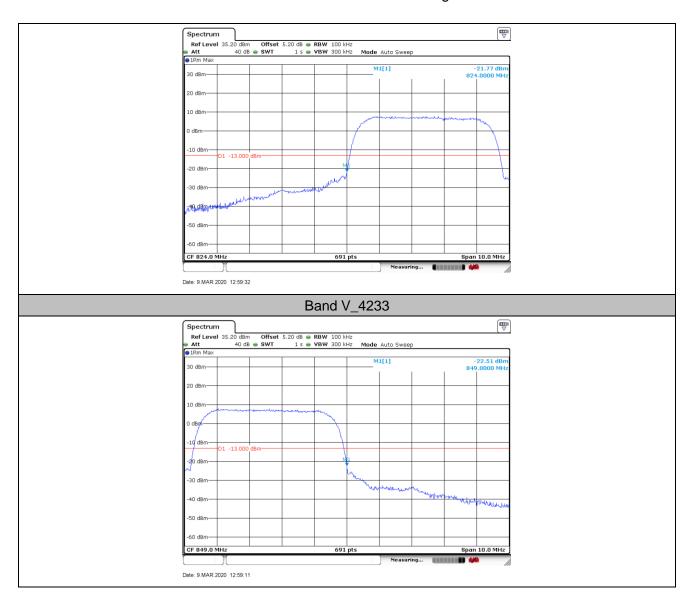
5.2. Test Plots for 16QAM





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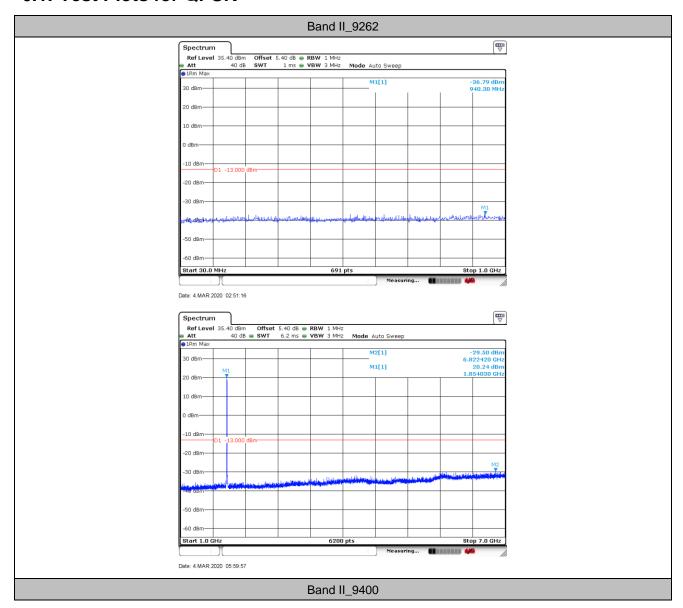
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6. Spurious Emission at Antenna Terminal

Remark1: For the averaged unwanted emissions measurements, the measurement points in each sweep is greater than twice the Span/RBW in order to ensure bin-to-bin spacing of < RBW/2 so that narrowband signals are not lost between frequency bins. As to the present test item, the "Measurement Points = k * (Span / RBW)" with k = 4 and 5, which results in an acceptable level error of less than 0.5 dB.

Remark2: only the worst case data displayed in this report.

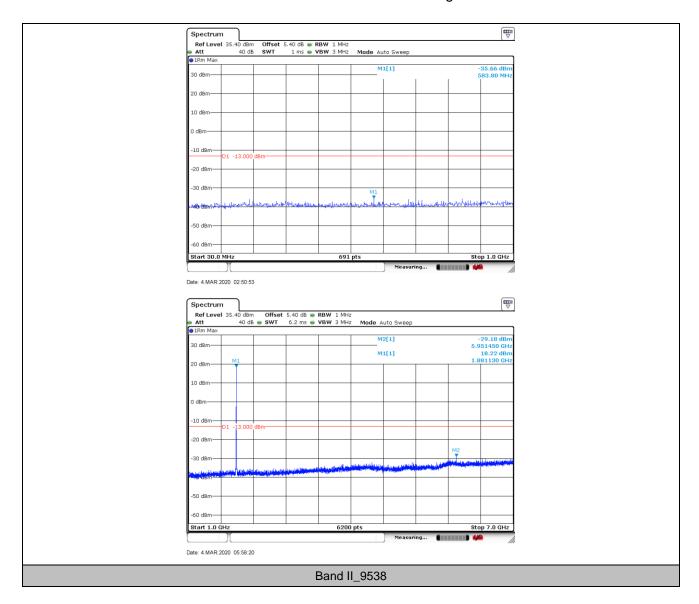
6.1. Test Plots for QPSK





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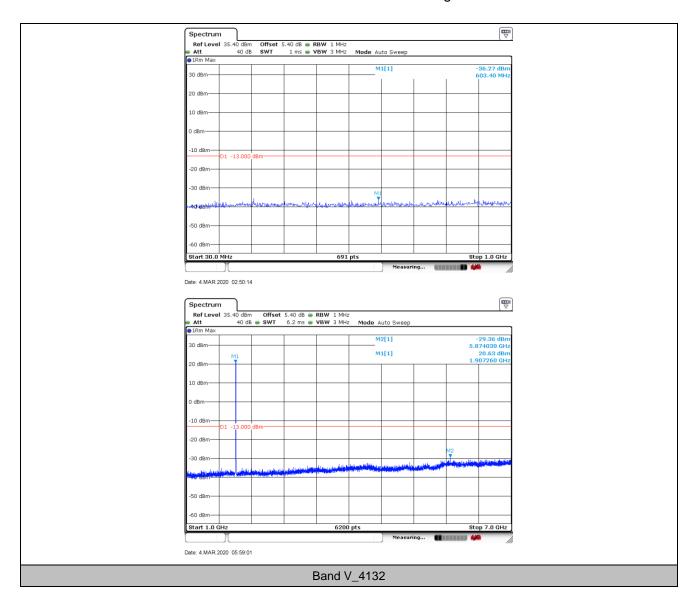
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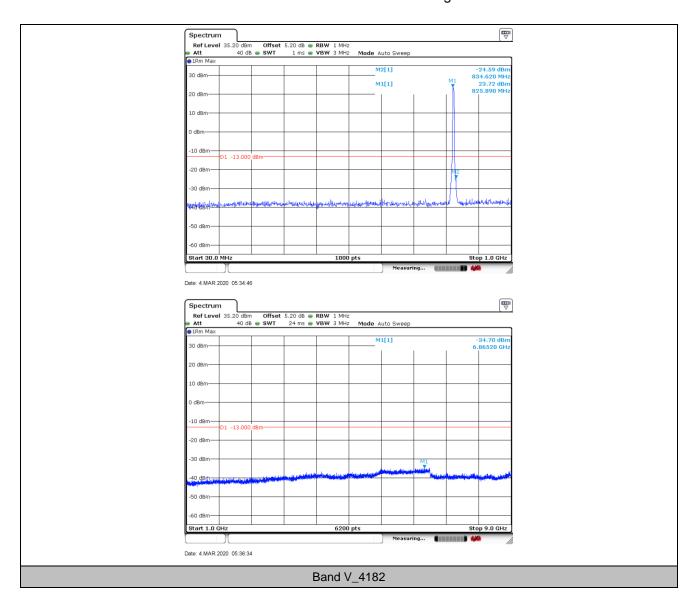
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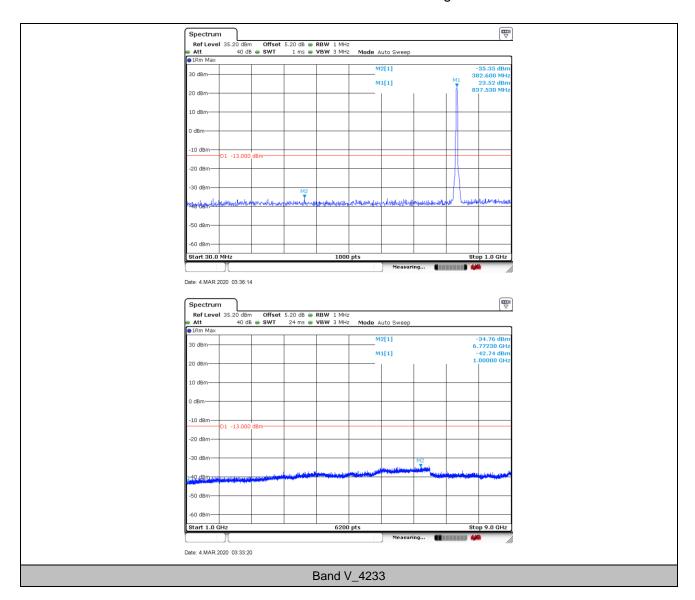
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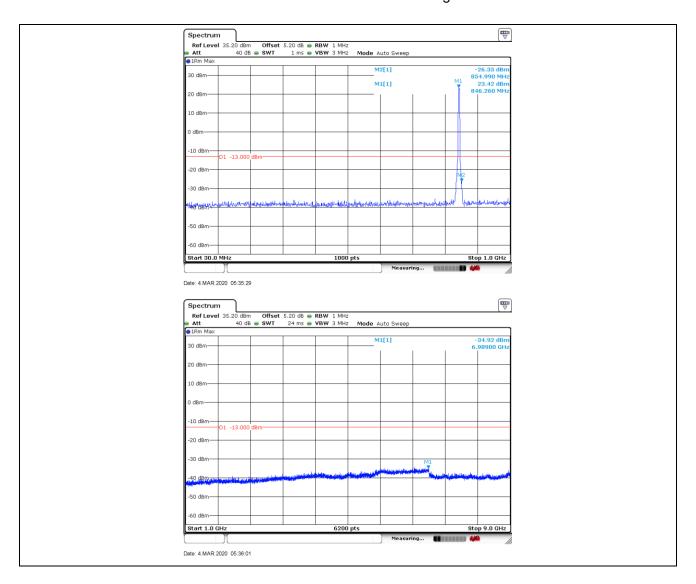
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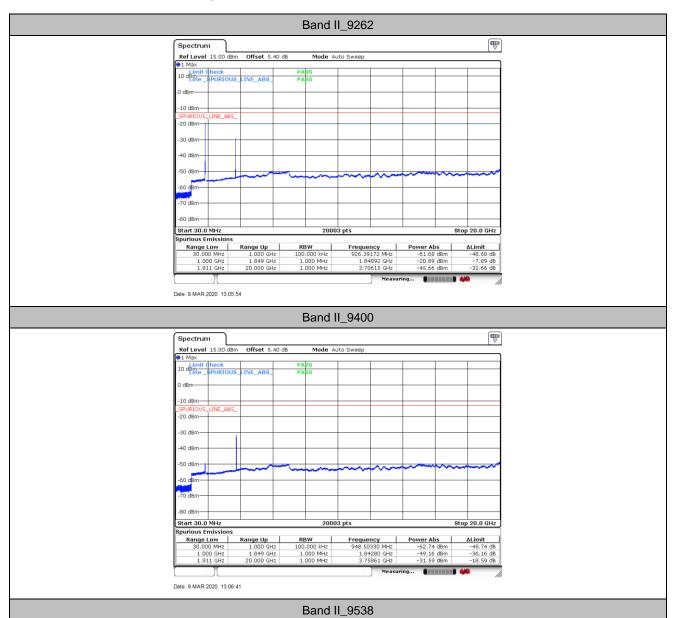
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6.2. Test Plots for 16QAM





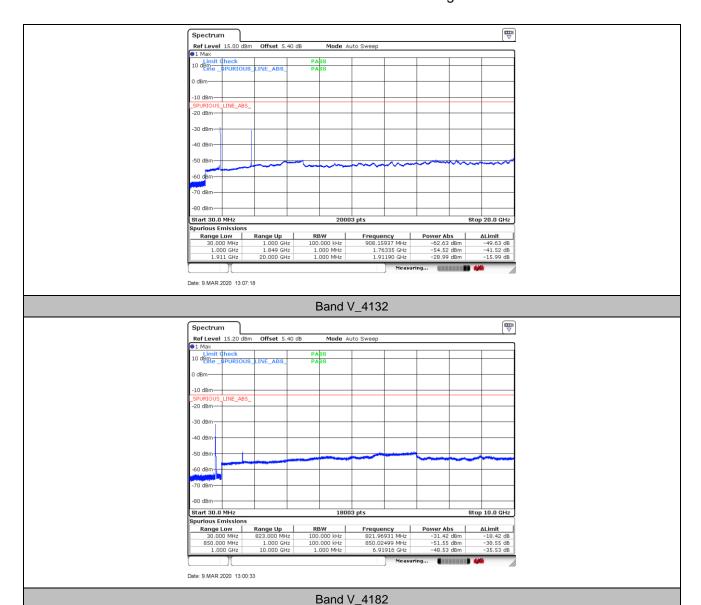
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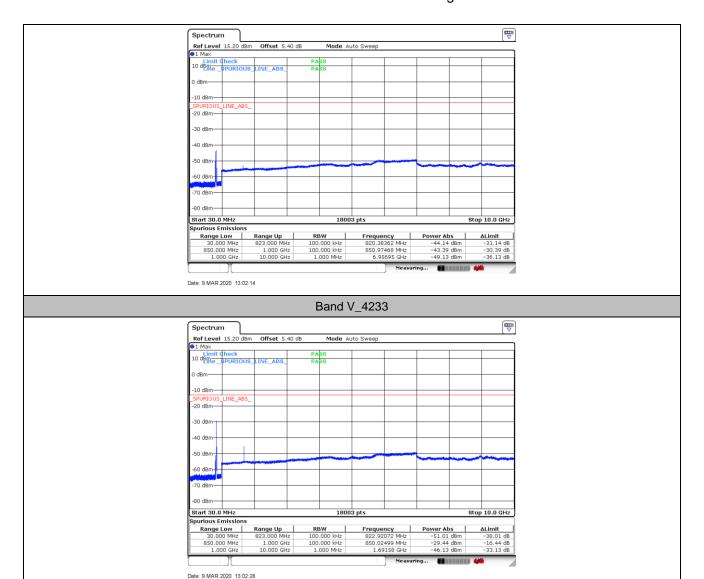
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7. Field Strength of Spurious Radiation

7.1. Test Band = WCDMA Band II

7.1.1.Test Mode =LTE/TM1

7.1.1.1. Test Channel = LCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
114.9762	-64.34	-13.00	51.34	Vertical
527.4894	-66.32	-13.00	53.32	Vertical
2694.3389	-36.37	-13.00	23.37	Vertical
3706.5236	-51.67	-13.00	38.67	Vertical
7406.6469	-55.12	-13.00	42.12	Vertical
17993.9998	-40.64	-13.00	27.64	Vertical
44.5992	-64.14	-13.00	51.14	Horizontal
248.3579	-67.41	-13.00	54.41	Horizontal
2699.9400	-35.33	-13.00	22.33	Horizontal
3707.0236	-50.01	-13.00	37.01	Horizontal
9326.7109	-52.62	-13.00	39.62	Horizontal
16401.9467	-44.34	-13.00	31.34	Horizontal

7.1.1.2. Test Channel = MCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
Trequency (IIII12)	Level (aBill)	Emili Eme (dBin)	margin (ab)	1 Glarization
72.1001	-66.76	-13.00	53.76	Vertical
112.5026	-64.39	-13.00	51.39	Vertical
391.4401	-67.17	-13.00	54.17	Vertical
3758.0253	-49.75	-13.00	36.75	Vertical
9401.2134	-49.82	-13.00	36.82	Vertical
14483.8828	-48.40	-13.00	35.40	Vertical
43.9687	-63.47	-13.00	50.47	Horizontal
227.9384	-67.33	-13.00	54.33	Horizontal
2700.3401	-35.45	-13.00	22.45	Horizontal
3758.5253	-49.09	-13.00	36.09	Horizontal
10008.7336	-52.89	-13.00	39.89	Horizontal
16378.4459	-44.76	-13.00	31.76	Horizontal



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7.1.1.3. Test Channel = HCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
110.3685	-64.65	-13.00	51.65	Vertical
337.9419	-66.78	-13.00	53.78	Vertical
2693.9388	-36.65	-13.00	23.65	Vertical
3813.0271	-49.58	-13.00	36.58	Vertical
7627.1542	-51.60	-13.00	38.60	Vertical
9542.2181	-46.85	-13.00	33.85	Vertical
41.3011	-64.44	-13.00	51.44	Horizontal
237.0084	-67.34	-13.00	54.34	Horizontal
2705.1410	-35.31	-13.00	22.31	Horizontal
3813.5271	-47.13	-13.00	34.13	Horizontal
5725.5909	-54.27	-13.00	41.27	Horizontal
9533.7178	-51.19	-13.00	38.19	Horizontal

7.2. Test Band = WCDMA Band V

7.2.1.Test Mode =LTE/TM1

7.2.1.1. Test Channel = LCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
108.6224	-64.32	-13.00	51.32	Vertical
1654.1308	-60.68	-13.00	47.68	Vertical
2459.4919	-48.62	-13.00	35.62	Vertical
4127.0376	-54.81	-13.00	41.81	Vertical
9329.7110	-52.86	-13.00	39.86	Vertical
17998.5000	-40.71	-13.00	27.71	Vertical
42.3196	-63.88	-13.00	50.88	Horizontal
238.3179	-68.06	-13.00	55.06	Horizontal
1651.3303	-56.08	-13.00	43.08	Horizontal
2460.6921	-46.15	-13.00	33.15	Horizontal
4136.0379	-58.89	-13.00	45.89	Horizontal
16360.9454	-44.45	-13.00	31.45	Horizontal



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7.2.1.2. Test Channel = MCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
108.4284	-65.01	-13.00	52.01	Vertical
323.0032	-68.52	-13.00	55.52	Vertical
2460.2921	-47.92	-13.00	34.92	Vertical
4187.5396	-55.40	-13.00	42.40	Vertical
9289.7097	-53.19	-13.00	40.19	Vertical
17999.0000	-40.63	-13.00	27.63	Vertical
44.8417	-64.14	-13.00	51.14	Horizontal
237.6874	-68.09	-13.00	55.09	Horizontal
1670.9342	-53.30	-13.00	40.30	Horizontal
2460.6921	-46.30	-13.00	33.30	Horizontal
4187.0396	-59.54	-13.00	46.54	Horizontal
16399.4466	-44.32	-13.00	31.32	Horizontal

7.2.1.3. Test Channel = HCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
73.1672	-67.77	-13.00	54.77	Vertical
109.3500	-64.39	-13.00	51.39	Vertical
317.3769	-68.70	-13.00	55.70	Vertical
3000.0000	-55.54	-13.00	42.54	Vertical
4227.5409	-55.43	-13.00	42.43	Vertical
14497.3832	-48.45	-13.00	35.45	Vertical
45.6178	-63.94	-13.00	50.94	Horizontal
247.8244	-67.74	-13.00	54.74	Horizontal
1690.9382	-53.74	-13.00	40.74	Horizontal
4228.5410	-57.34	-13.00	44.34	Horizontal
9305.2102	-52.71	-13.00	39.71	Horizontal
16373.9458	-44.73	-13.00	31.73	Horizontal

Remark:

- According to 971168 D01 Power Meas License Digital Systems, The amplitudes of unwanted emissions that are attenuated more than 20 dB below the applicable limit are not required to be reported.
- 2 The disturbance below 30MHz was very low, and the above harmonics were the highest point could be found when testing, so only the worst case data had been displayed.



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8. Frequency Stability

8.1. Frequency Vs Voltage

Band	Modulation	Channel	Voltage (Vdc)	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
Band II	QPSK	9262	VL	TN	11.69	0.006309	±2.5	PASS
Band II	QPSK	9262	VN	TN	11.31	0.006105	±2.5	PASS
Band II	QPSK	9262	VH	TN	11.49	0.006205	±2.5	PASS
Band II	QPSK	9400	VL	TN	12.16	0.006468	±2.5	PASS
Band II	QPSK	9400	VN	TN	12.67	0.006742	±2.5	PASS
Band II	QPSK	9400	VH	TN	11.86	0.006308	±2.5	PASS
Band II	QPSK	9538	VL	TN	8.13	0.004259	±2.5	PASS
Band II	QPSK	9538	VN	TN	8.95	0.004691	±2.5	PASS
Band II	QPSK	9538	VH	TN	9.39	0.004923	±2.5	PASS
Band II	16QAM	9262	VL	TN	12.15	0.006560	±2.5	PASS
Band II	16QAM	9262	VN	TN	12.69	0.006850	±2.5	PASS
Band II	16QAM	9262	VH	TN	13.34	0.007201	±2.5	PASS
Band II	16QAM	9400	VL	TN	12.27	0.006525	±2.5	PASS
Band II	16QAM	9400	VN	TN	13.73	0.007305	±2.5	PASS
Band II	16QAM	9400	VH	TN	13.98	0.007438	±2.5	PASS
Band II	16QAM	9538	VL	TN	8.77	0.004597	±2.5	PASS
Band II	16QAM	9538	VN	TN	7.95	0.004166	±2.5	PASS
Band II	16QAM	9538	VH	TN	7.97	0.004177	±2.5	PASS
Band V	QPSK	4132	VL	TN	-0.69	-0.000831	±2.5	PASS
Band V	QPSK	4132	VN	TN	-1.58	-0.001913	±2.5	PASS
Band V	QPSK	4132	VH	TN	-0.21	-0.000260	±2.5	PASS
Band V	QPSK	4182	VL	TN	-0.11	-0.000128	±2.5	PASS
Band V	QPSK	4182	VN	TN	-0.34	-0.000402	±2.5	PASS
Band V	QPSK	4182	VH	TN	-0.21	-0.000248	±2.5	PASS
Band V	QPSK	4233	VL	TN	-0.36	-0.000431	±2.5	PASS
Band V	QPSK	4233	VN	TN	0.05	0.000059	±2.5	PASS
Band V	QPSK	4233	VH	TN	-1.04	-0.001233	±2.5	PASS
Band V	16QAM	4132	VL	TN	-2.05	-0.002475	±2.5	PASS
Band V	16QAM	4132	VN	TN	-2.99	-0.003618	±2.5	PASS
Band V	16QAM	4132	VH	TN	-2.43	-0.002943	±2.5	PASS
Band V	16QAM	4182	VL	TN	-0.73	-0.000872	±2.5	PASS
Band V	16QAM	4182	VN	TN	-1.82	-0.002181	±2.5	PASS
Band V	16QAM	4182	VH	TN	-1.65	-0.001975	±2.5	PASS
Band V	16QAM	4233	VL	TN	-1.72	-0.002028	±2.5	PASS
Band V	16QAM	4233	VN	TN	-1.82	-0.002154	±2.5	PASS
Band V	16QAM	4233	VH	TN	-2.12	-0.002501	±2.5	PASS



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8.2. Frequency Vs Temperature

Band	Modulation	Channel	Voltage (Vdc)	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
Band II	QPSK	9262	VN	-30	9.78	0.005282	±2.5	PASS
Band II	QPSK	9262	VN	-20	11.94	0.006444	±2.5	PASS
Band II	QPSK	9262	VN	-10	11.77	0.006356	±2.5	PASS
Band II	QPSK	9262	VN	0	12.59	0.006796	±2.5	PASS
Band II	QPSK	9262	VN	10	9.27	0.005004	±2.5	PASS
Band II	QPSK	9262	VN	20	11.71	0.006321	±2.5	PASS
Band II	QPSK	9262	VN	30	11.30	0.006101	±2.5	PASS
Band II	QPSK	9262	VN	40	11.22	0.006058	±2.5	PASS
Band II	QPSK	9262	VN	50	11.42	0.006166	±2.5	PASS
Band II	QPSK	9400	VN	-30	11.54	0.006141	±2.5	PASS
Band II	QPSK	9400	VN	-20	12.84	0.006829	±2.5	PASS
Band II	QPSK	9400	VN	-10	11.89	0.006327	±2.5	PASS
Band II	QPSK	9400	VN	0	11.17	0.005943	±2.5	PASS
Band II	QPSK	9400	VN	10	11.06	0.005882	±2.5	PASS
Band II	QPSK	9400	VN	20	13.04	0.006936	±2.5	PASS
Band II	QPSK	9400	VN	30	12.39	0.006589	±2.5	PASS
Band II	QPSK	9400	VN	40	11.82	0.006289	±2.5	PASS
Band II	QPSK	9400	VN	50	11.87	0.006316	±2.5	PASS
Band II	QPSK	9538	VN	-30	9.93	0.005208	±2.5	PASS
Band II	QPSK	9538	VN	-20	8.03	0.004207	±2.5	PASS
Band II	QPSK	9538	VN	-10	10.59	0.005553	±2.5	PASS
Band II	QPSK	9538	VN	0	9.58	0.005021	±2.5	PASS
Band II	QPSK	9538	VN	10	9.51	0.004987	±2.5	PASS
Band II	QPSK	9538	VN	20	10.01	0.005246	±2.5	PASS
Band II	QPSK	9538	VN	30	9.03	0.004732	±2.5	PASS
Band II	QPSK	9538	VN	40	9.52	0.004991	±2.5	PASS
Band II	QPSK	9538	VN	50	9.58	0.005021	±2.5	PASS
Band II	16QAM	9262	VN	-30	13.64	0.007363	±2.5	PASS
Band II	16QAM	9262	VN	-20	13.88	0.007495	±2.5	PASS
Band II	16QAM	9262	VN	-10	12.83	0.006927	±2.5	PASS
Band II	16QAM	9262	VN	0	13.57	0.007325	±2.5	PASS
Band II	16QAM	9262	VN	10	12.95	0.006989	±2.5	PASS
Band II	16QAM	9262	VN	20	13.44	0.007255	±2.5	PASS
Band II	16QAM	9262	VN	30	13.73	0.007410	±2.5	PASS
Band II	16QAM	9262	VN	40	13.73	0.007414	±2.5	PASS
Band II	16QAM	9262	VN	50	12.02	0.006491	±2.5	PASS
Band II	16QAM	9400	VN	-30	13.20	0.007019	±2.5	PASS
Band II	16QAM	9400	VN	-20	12.86	0.006841	±2.5	PASS
Band II	16QAM	9400	VN	-10	13.44	0.007149	±2.5	PASS
Band II	16QAM	9400	VN	0	13.28	0.007061	±2.5	PASS
Band II	16QAM	9400	VN	10	13.58	0.007225	±2.5	PASS
Band II	16QAM	9400	VN	20	13.38	0.007115	±2.5	PASS



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Band II	16QAM	9400	VN	30	12.73	0.006772	±2.5	PASS
Band II	16QAM	9400	VN	40	13.46	0.007160	±2.5	PASS
Band II	16QAM	9400	VN	50	13.15	0.006997	±2.5	PASS
Band II	16QAM	9538	VN	-30	8.15	0.004274	±2.5	PASS
Band II	16QAM	9538	VN	-20	7.45	0.003907	±2.5	PASS
Band II	16QAM	9538	VN	-10	7.34	0.003847	±2.5	PASS
Band II	16QAM	9538	VN	0	8.80	0.004612	±2.5	PASS
Band II	16QAM	9538	VN	10	8.45	0.004432	±2.5	PASS
Band II	16QAM	9538	VN	20	7.93	0.004158	±2.5	PASS
Band II	16QAM	9538	VN	30	7.94	0.004162	±2.5	PASS
Band II	16QAM	9538	VN	40	8.30	0.004353	±2.5	PASS
Band II	16QAM	9538	VN	50	7.63	0.004001	±2.5	PASS
Band V	QPSK	4132	VN	-30	-0.06	-0.000078	±2.5	PASS
Band V	QPSK	4132	VN	-20	-0.63	-0.000762	±2.5	PASS
Band V	QPSK	4132	VN	-10	0.01	0.000009	±2.5	PASS
Band V	QPSK	4132	VN	0	-0.21	-0.000251	±2.5	PASS
Band V	QPSK	4132	VN	10	-1.04	-0.001255	±2.5	PASS
Band V	QPSK	4132	VN	20	-0.71	-0.000857	±2.5	PASS
Band V	QPSK	4132	VN	30	0.06	0.000069	±2.5	PASS
Band V	QPSK	4132	VN	40	-0.19	-0.000234	±2.5	PASS
Band V	QPSK	4132	VN	50	-0.11	-0.000138	±2.5	PASS
Band V	QPSK	4182	VN	-30	0.84	0.001001	±2.5	PASS
Band V	QPSK	4182	VN	-20	0.65	0.000778	±2.5	PASS
Band V	QPSK	4182	VN	-10	-0.17	-0.000205	±2.5	PASS
Band V	QPSK	4182	VN	0	0.45	0.000539	±2.5	PASS
Band V	QPSK	4182	VN	10	-0.64	-0.000761	±2.5	PASS
Band V	QPSK	4182	VN	20	-0.04	-0.000051	±2.5	PASS
Band V	QPSK	4182	VN	30	-0.26	-0.000308	±2.5	PASS
Band V	QPSK	4182	VN	40	-0.25	-0.000299	±2.5	PASS
Band V	QPSK	4182	VN	50	0.27	0.000325	±2.5	PASS
Band V	QPSK	4233	VN	-30	-0.73	-0.000862	±2.5	PASS
Band V	QPSK	4233	VN	-20	-0.92	-0.001090	±2.5	PASS
Band V	QPSK	4233	VN	-10	-1.09	-0.001284	±2.5	PASS
Band V	QPSK	4233	VN	0	-0.53	-0.000625	±2.5	PASS
Band V	QPSK	4233	VN	10	-0.73	-0.000862	±2.5	PASS
Band V	QPSK	4233	VN	20	-0.74	-0.000870	±2.5	PASS
Band V	QPSK	4233	VN	30	-0.33	-0.000389	±2.5	PASS
Band V	QPSK	4233	VN	40	-0.74	-0.000879	±2.5	PASS
Band V	QPSK	4233	VN	50	-1.04	-0.001225	±2.5	PASS
Band V	16QAM	4132	VN	-30	-2.43	-0.002943	±2.5	PASS
Band V	16QAM	4132	VN	-20	-3.13	-0.003782	±2.5	PASS
Band V	16QAM	4132	VN	-10	-2.42	-0.002934	±2.5	PASS
Band V	16QAM	4132	VN	0	-3.44	-0.004163	±2.5	PASS
Band V	16QAM	4132	VN	10	-1.77	-0.002146	±2.5	PASS
Band V	16QAM	4132	VN	20	-1.90	-0.002302	±2.5	PASS
Band V	16QAM	4132	VN	30	-1.96	-0.002371	±2.5	PASS
Band V	16QAM	4132	VN	40	-2.47	-0.002986	±2.5	PASS



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Band V	16QAM	4132	VN	50	-2.29	-0.002770	±2.5	PASS
Band V	16QAM	4182	VN	-30	-0.06	-0.000068	±2.5	PASS
Band V	16QAM	4182	VN	-20	-1.07	-0.001283	±2.5	PASS
Band V	16QAM	4182	VN	-10	-0.89	-0.001060	±2.5	PASS
Band V	16QAM	4182	VN	0	-0.66	-0.000787	±2.5	PASS
Band V	16QAM	4182	VN	10	-0.97	-0.001163	±2.5	PASS
Band V	16QAM	4182	VN	20	-0.70	-0.000838	±2.5	PASS
Band V	16QAM	4182	VN	30	-1.33	-0.001591	±2.5	PASS
Band V	16QAM	4182	VN	40	-1.08	-0.001291	±2.5	PASS
Band V	16QAM	4182	VN	50	-1.85	-0.002215	±2.5	PASS
Band V	16QAM	4233	VN	-30	-2.02	-0.002391	±2.5	PASS
Band V	16QAM	4233	VN	-20	-1.71	-0.002019	±2.5	PASS
Band V	16QAM	4233	VN	-10	-2.05	-0.002425	±2.5	PASS
Band V	16QAM	4233	VN	0	-2.15	-0.002535	±2.5	PASS
Band V	16QAM	4233	VN	10	-1.84	-0.002171	±2.5	PASS
Band V	16QAM	4233	VN	20	-1.44	-0.001698	±2.5	PASS
Band V	16QAM	4233	VN	30	-1.95	-0.002306	±2.5	PASS
Band V	16QAM	4233	VN	40	-1.87	-0.002205	±2.5	PASS
Band V	16QAM	4233	VN	50	-1.97	-0.002332	±2.5	PASS

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