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# Appendix B

WCDMA Band II & IV & V



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### 1. Effective (Isotropic) Radiated Power

### 1.1. Test Result

Band	Channel	Conducted Power (dBm)	EIRP (dBm)	Limit(dBm)	Verdict
Band II	9262	23.81	28.81	33.00	PASS
Band II	9400	23.57	28.57	33.00	PASS
Band II	9538	23.66	28.66	33.00	PASS
Band IV	4132	23.59	28.19	30.00	PASS
Band IV	4182	23.54	28.14	30.00	PASS
Band IV	4233	23.74	28.34	30.00	PASS

Band	Channel	Conducted Power (dBm)	ERP (dBm)	Limit(dBm)	Verdict
Band V	4132	23.66	24.41	38.45	PASS
Band V	4182	23.49	24.24	38.45	PASS
Band V	4233	23.72	24.47	38.45	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]



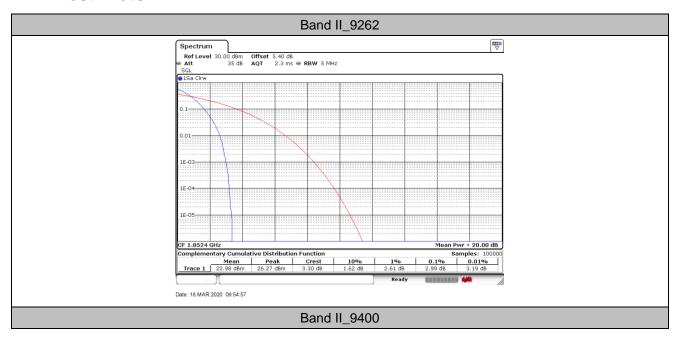
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### 2. Peak-to-Average Ratio (CCDF)

#### 2.1. Test Result

Band	Channel	Peak-to-Average Ratio(dB)	Limit(dB)	Verdict
Band II	9262	2.99	13.00	PASS
Band II	9400	3.07	13.00	PASS
Band II	9538	3.04	13.00	PASS
Band IV	1312	3.07	13.00	PASS
Band IV	1413	3.16	13.00	PASS
Band IV	1513	3.13	13.00	PASS
Band V	4132	3.22	13.00	PASS
Band V	4182	3.22	13.00	PASS
Band V	4233	3.19	13.00	PASS

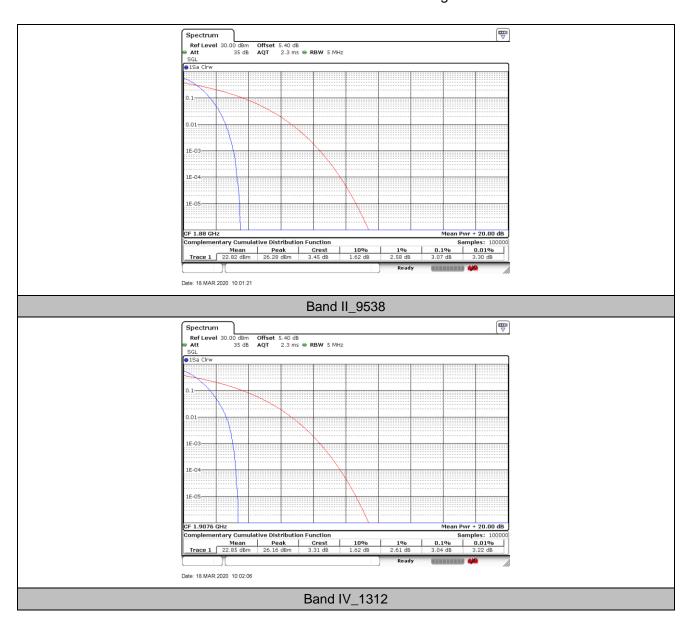
#### 2.2. Test Plots





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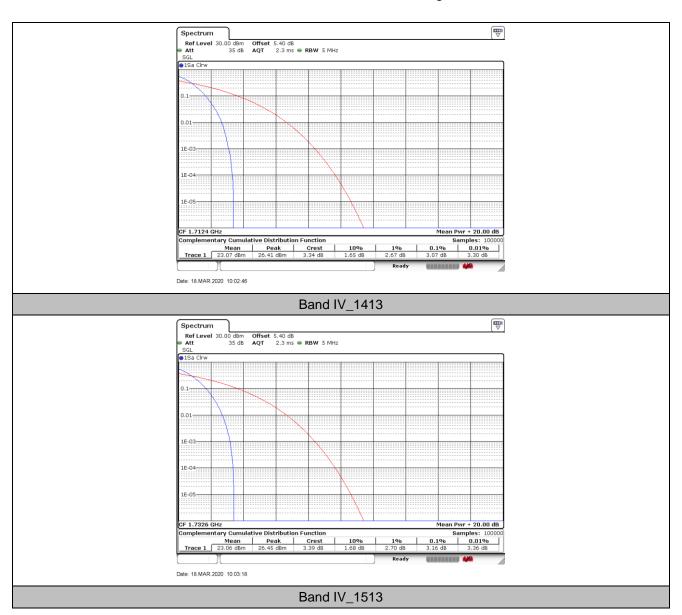
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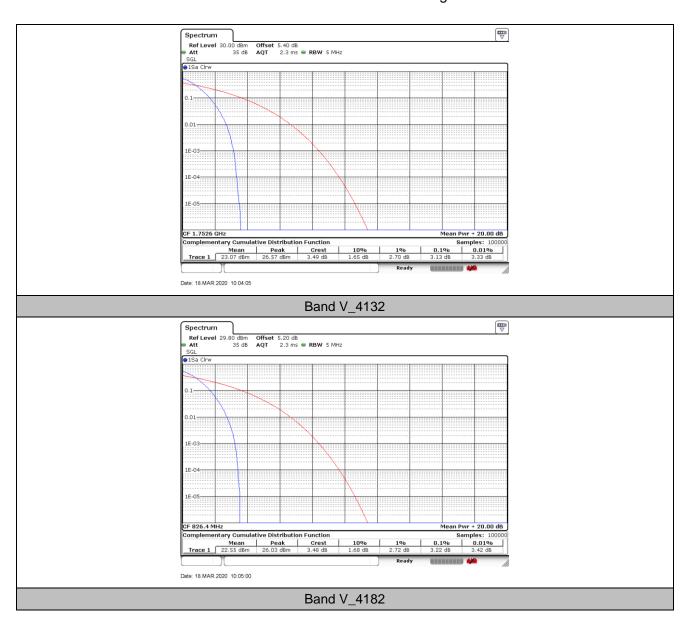
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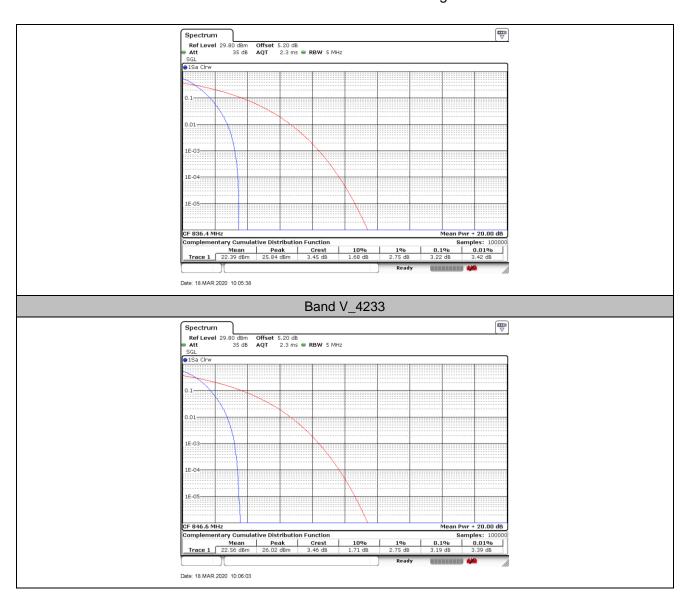
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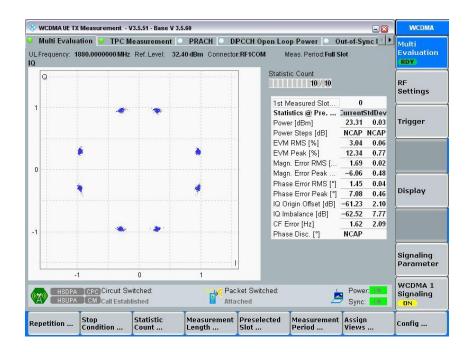
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### 3. Modulation Characteristics

3.1. Test Band = WCDMA Band II

3.1.1.Test Mode = UMTS/TM1

#### 3.1.1.1. Test Channel = MCH



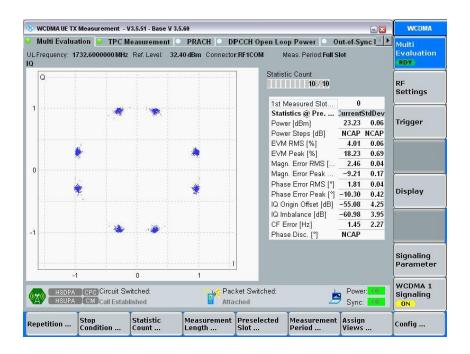


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#### 3.2. Test Band = WCDMA Band IV

#### 3.2.1.Test Mode = UMTS/TM1

#### Test Channel = MCH 3.2.1.1.



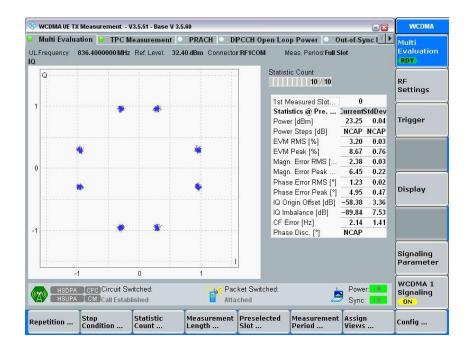


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### 3.3. Test Band = WCDMA Band V

#### 3.3.1.Test Mode = UMTS/TM1

#### Test Channel = MCH 3.3.1.1.





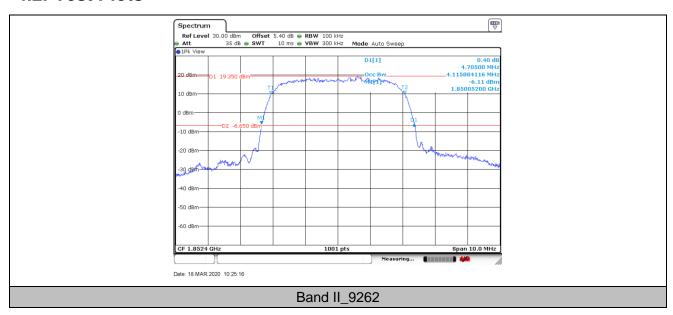
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### 4. 26dB Bandwidth and Occupied Bandwidth

#### 4.1. Test Result

Band	Channel	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Limit(kHz)	Verdict
Band II	9262	4.116	4.705		PASS
Band II	9400	4.116	4.705		PASS
Band II	9538	4.116	4.695		PASS
Band IV	1312	4.116	4.705		PASS
Band IV	1413	4.116	4.695		PASS
Band IV	1513	4.116	4.695		PASS
Band V	4132	4.116	4.705		PASS
Band V	4182	4.116	4.695		PASS
Band V	4233	4.126	4.715		PASS

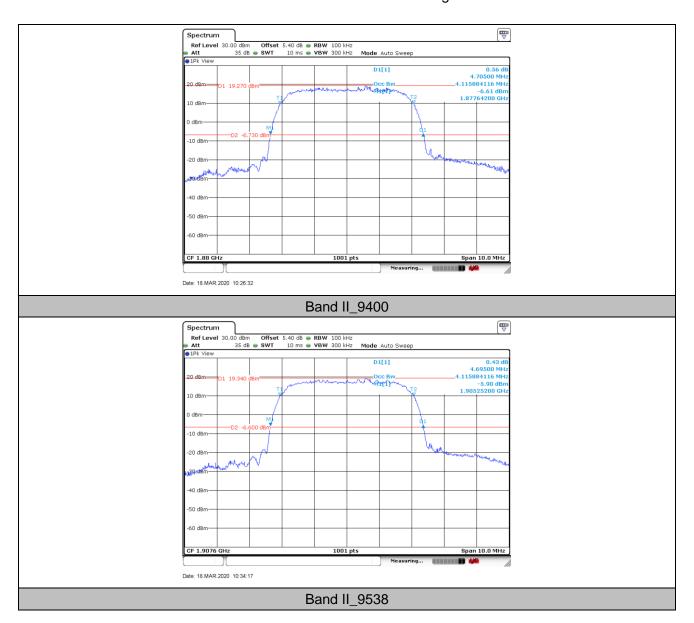
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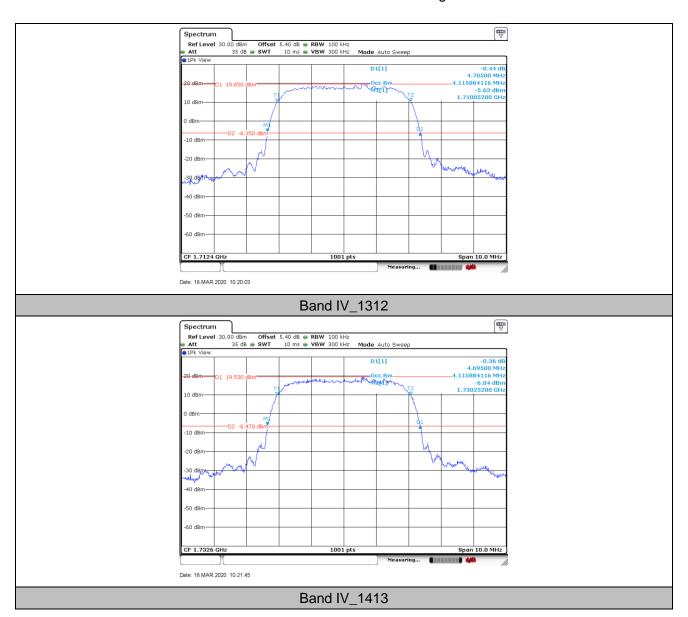
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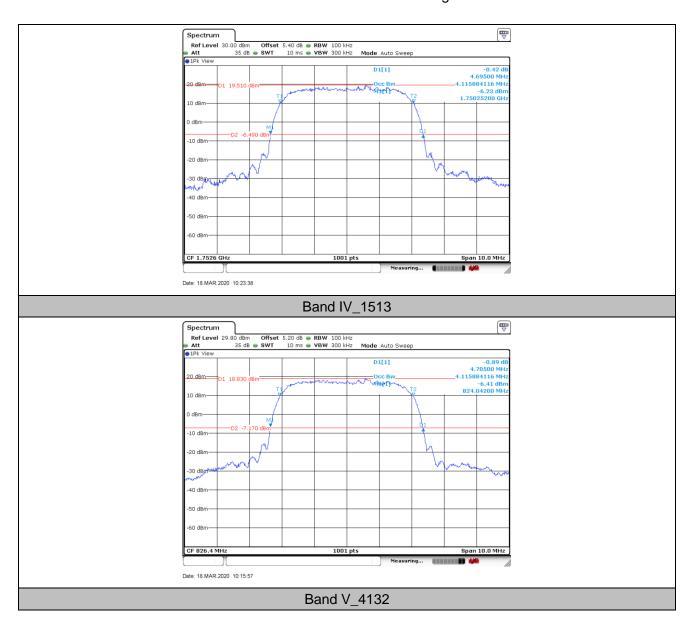
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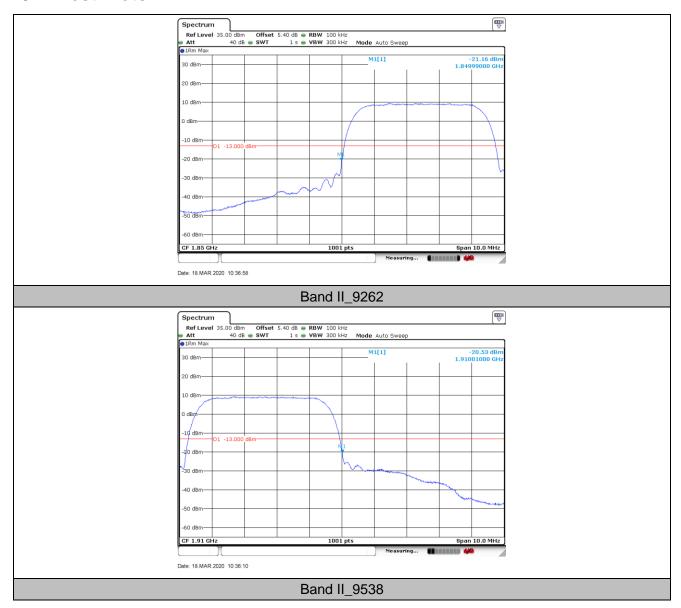
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### 5. Band Edge Compliance

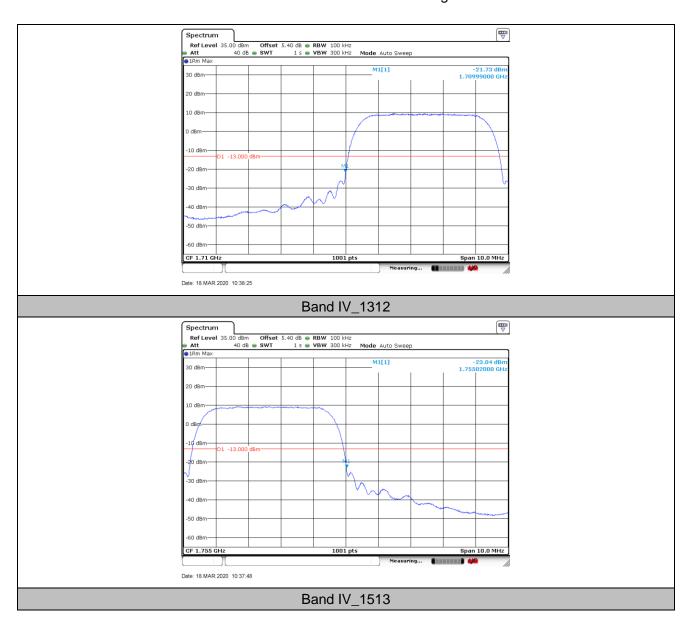
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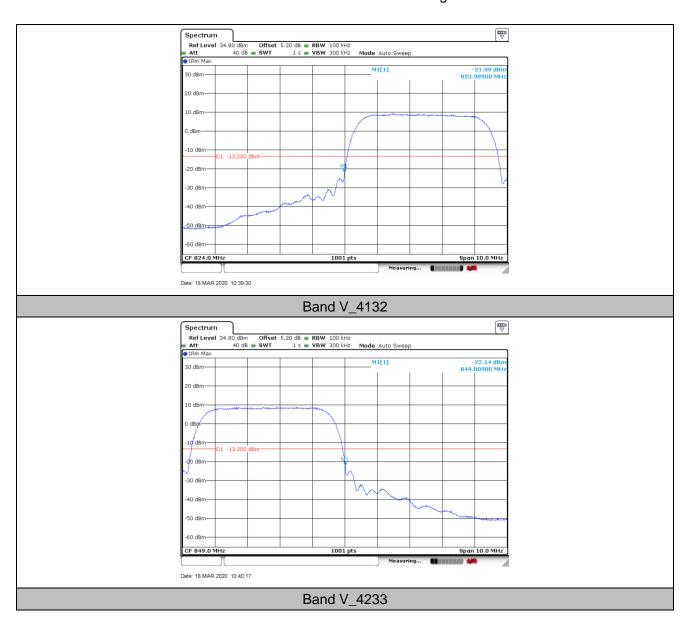
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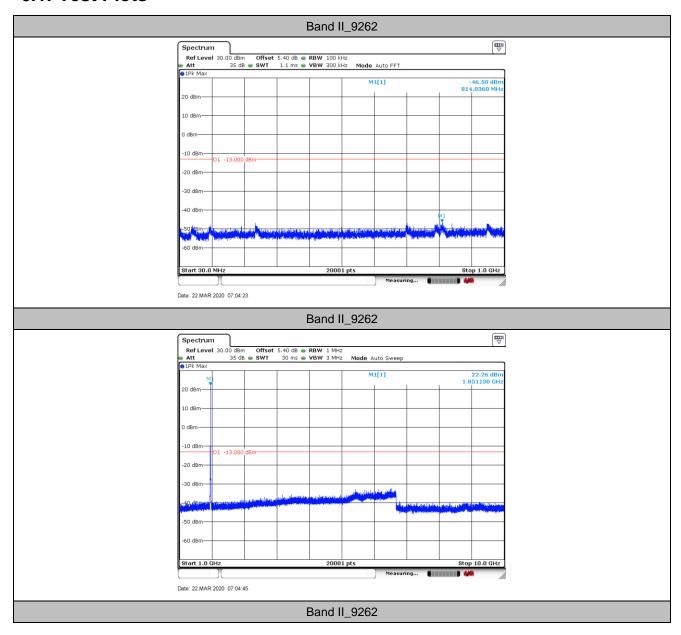


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### 6. Spurious Emission at Antenna Terminal

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 between 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





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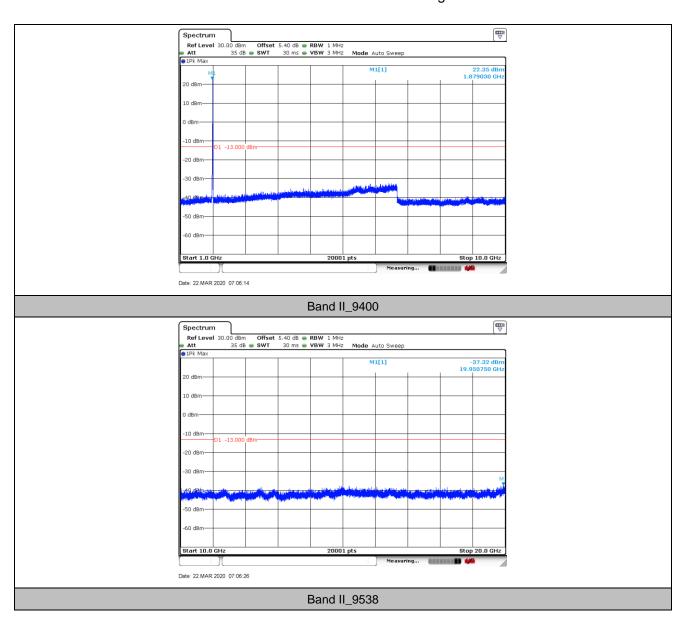
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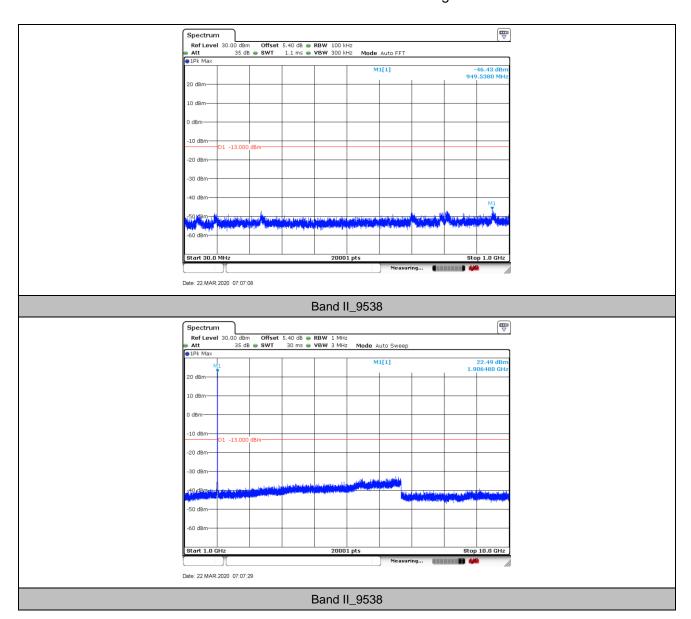
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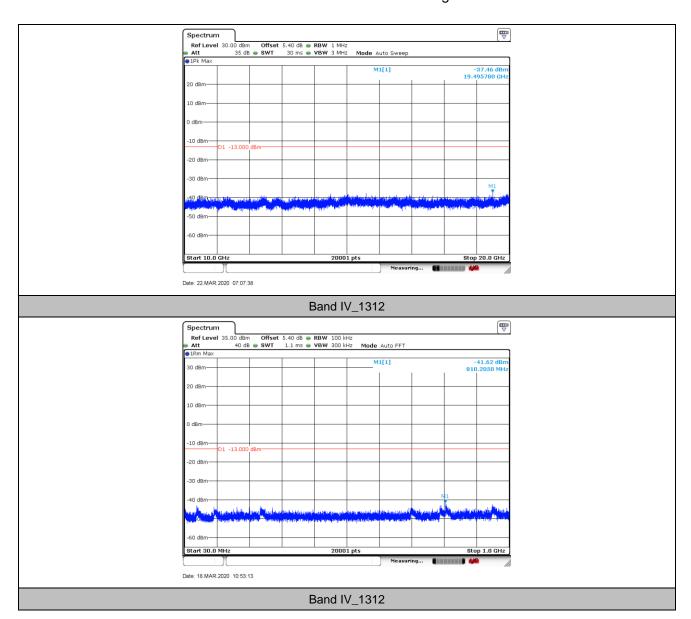




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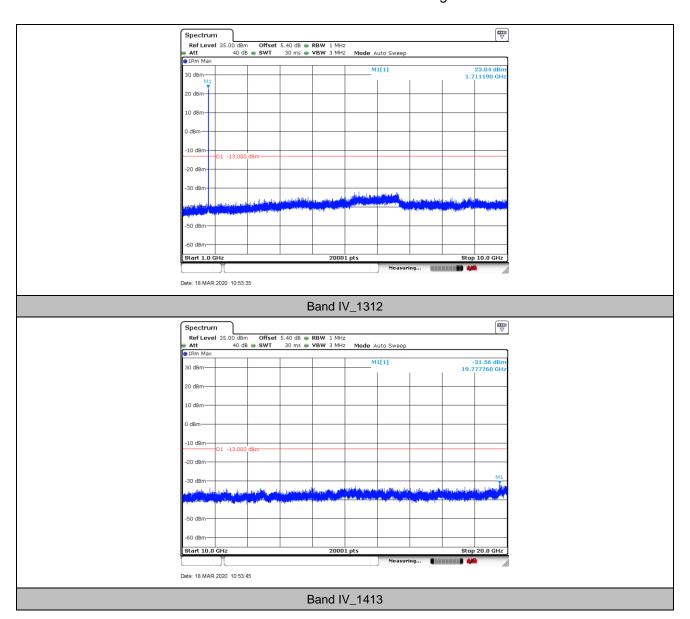
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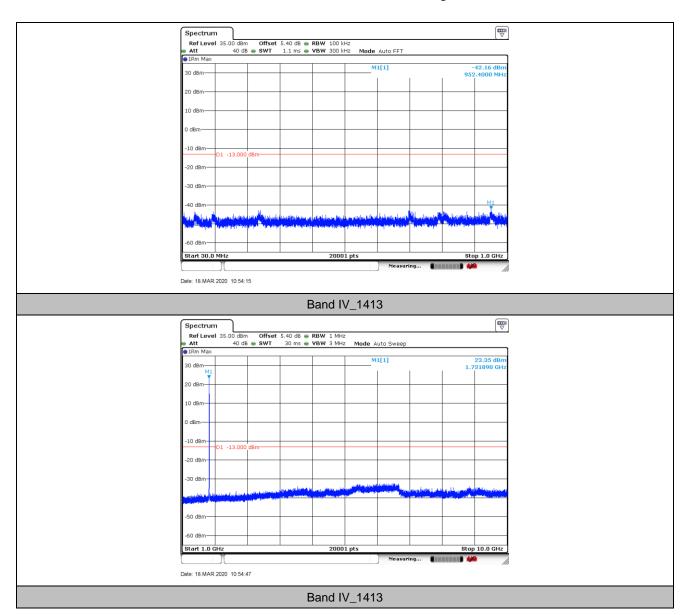
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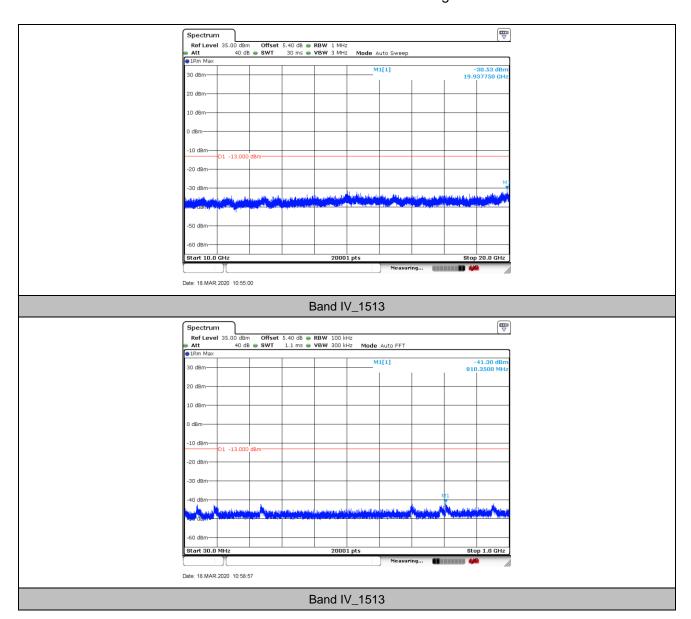
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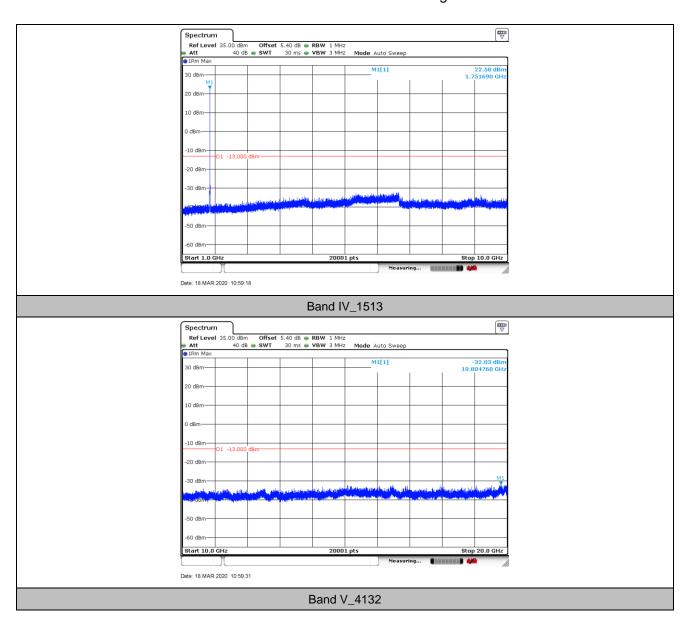
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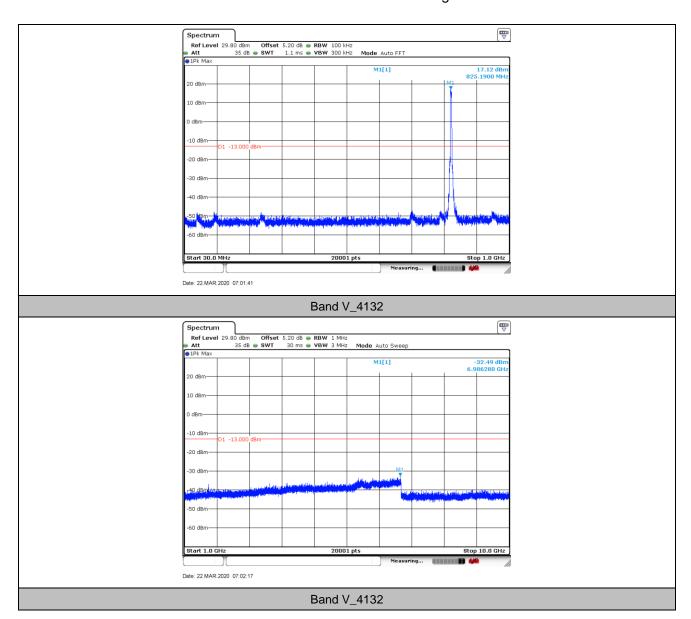
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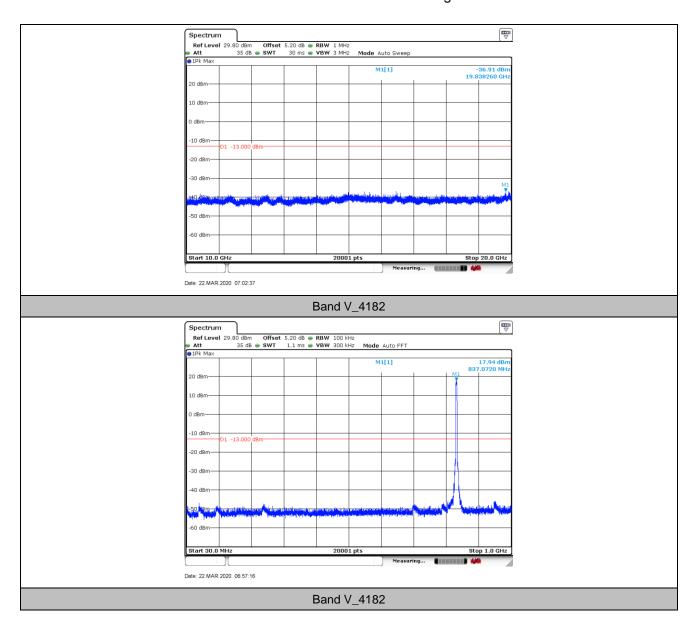




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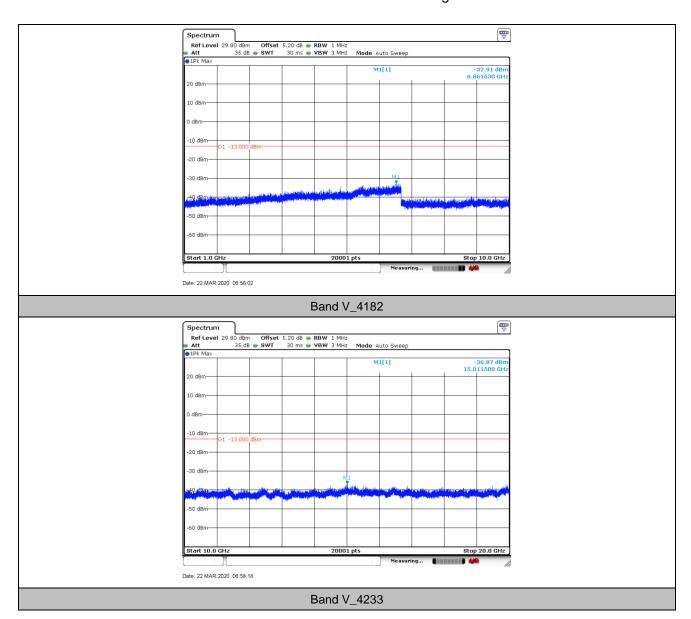
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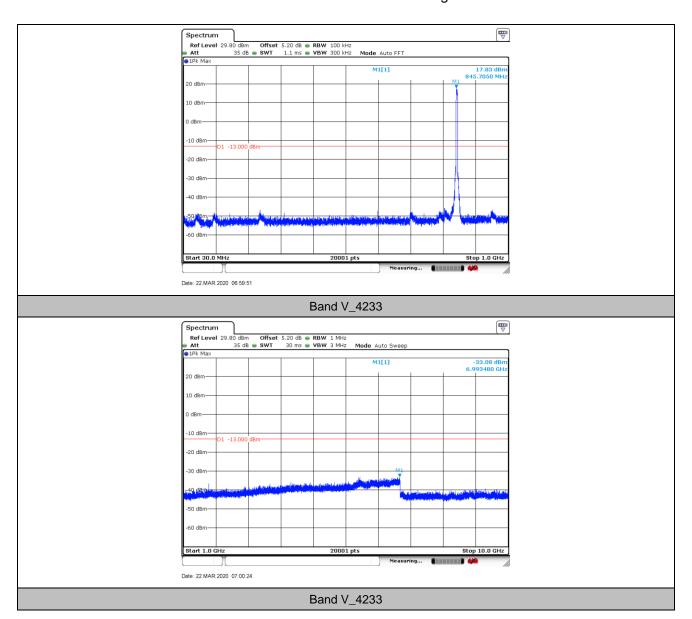
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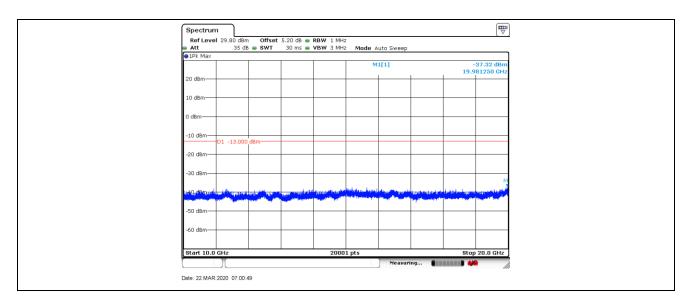






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### 7. Field Strength of Spurious Radiation

#### 7.1. Test Band = WCDMA Band V

#### 7.1.1.Test Mode = WCDMA/TM1

### 7.1.1.1. Test Channel = LCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
114.5397	-63.80	-13.00	50.80	Vertical
557.7549	-65.50	-13.00	52.50	Vertical
1745.7492	-62.13	-13.00	49.13	Vertical
2475.4951	-54.63	-13.00	41.63	Vertical
14480.8827	-47.81	-13.00	34.81	Vertical
17991.9997	-40.38	-13.00	27.38	Vertical
41.9801	-64.76	-13.00	51.76	Horizontal
229.1025	-68.07	-13.00	55.07	Horizontal
1743.3487	-52.54	-13.00	39.54	Horizontal
2478.6957	-52.38	-13.00	39.38	Horizontal
16395.4465	-44.07	-13.00	31.07	Horizontal
17999.5000	-45.30	-13.00	32.30	Horizontal

### 7.1.1.2. Test Channel = MCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
108.1374	-64.88	-13.00	51.88	Vertical
544.5622	-65.67	-13.00	52.67	Vertical
1746.1492	-61.05	-13.00	48.05	Vertical
2596.7193	-53.47	-13.00	40.47	Vertical
14485.3828	-48.05	-13.00	35.05	Vertical
17995.4999	-41.02	-13.00	28.02	Vertical
42.8531	-64.09	-13.00	51.09	Horizontal
238.0269	-67.45	-13.00	54.45	Horizontal
1671.3343	-58.36	-13.00	45.36	Horizontal
2511.9024	-53.36	-13.00	40.36	Horizontal
16397.4466	-44.46	-13.00	31.46	Horizontal
17997.4999	-45.29	-13.00	32.29	Horizontal



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#### 7.1.1.3. Test Channel = HCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
108.1374	-64.06	-13.00	51.06	Vertical
634.4372	-64.15	-13.00	51.15	Vertical
1691.3383	-62.42	-13.00	49.42	Vertical
2542.3085	-56.27	-13.00	43.27	Vertical
14470.8824	-47.95	-13.00	34.95	Vertical
17999.0000	-40.92	-13.00	27.92	Vertical
43.3867	-64.31	-13.00	51.31	Horizontal
237.7844	-68.08	-13.00	55.08	Horizontal
1694.5389	-57.24	-13.00	44.24	Horizontal
2542.7085	-51.81	-13.00	38.81	Horizontal
16381.9461	-44.46	-13.00	31.46	Horizontal
17997.4999	-45.60	-13.00	32.60	Horizontal

#### 7.2. Test Band = WCDMA Band IV

#### 7.2.1.Test Mode = WCDMA/TM1

#### 7.2.1.1. Test Channel = LCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
45.3268	-61.99	-13.00	48.99	Vertical
241.6646	-65.00	-13.00	52.00	Vertical
2704.7409	-30.89	-13.00	17.89	Vertical
3466.5156	-51.51	-13.00	38.51	Vertical
16391.4464	-35.79	-13.00	22.79	Vertical
17994.9998	-38.90	-13.00	25.90	Vertical
109.5925	-65.19	-13.00	52.19	Horizontal
679.8840	-63.92	-13.00	50.92	Horizontal
2113.4227	-33.14	-13.00	20.14	Horizontal
3423.5141	-60.26	-13.00	47.26	Horizontal
14486.8829	-47.94	-13.00	34.94	Horizontal
17997.9999	-40.74	-13.00	27.74	Horizontal



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#### 7.2.1.2. Test Channel = MCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
41.6406	-62.58	-13.00	49.58	Vertical
237.4449	-65.29	-13.00	52.29	Vertical
2696.7393	-30.85	-13.00	17.85	Vertical
3507.0169	-46.90	-13.00	33.90	Vertical
16395.9465	-35.49	-13.00	22.49	Vertical
17984.9995	-38.64	-13.00	25.64	Vertical
107.0219	-63.25	-13.00	50.25	Horizontal
614.0662	-61.19	-13.00	48.19	Horizontal
2133.0266	-32.32	-13.00	19.32	Horizontal
7353.6451	-53.80	-13.00	40.80	Horizontal
15137.4046	-42.24	-13.00	29.24	Horizontal
17997.4999	-33.76	-13.00	20.76	Horizontal

#### 7.2.1.3. Test Channel = HCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
41.9801	-64.76	-13.00	51.76	Vertical
229.1025	-68.07	-13.00	55.07	Vertical
1743.3487	-52.54	-13.00	39.54	Vertical
2478.6957	-52.38	-13.00	39.38	Vertical
16395.4465	-44.07	-13.00	31.07	Vertical
17999.5000	-45.30	-13.00	32.30	Vertical
112.6481	-63.09	-13.00	50.09	Horizontal
600.5340	-61.15	-13.00	48.15	Horizontal
2700.7401	-32.13	-13.00	19.13	Horizontal
3507.0169	-58.61	-13.00	45.61	Horizontal
14610.3870	-42.53	-13.00	29.53	Horizontal
17999.0000	-34.24	-13.00	21.24	Horizontal



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#### 7.3. Test Band = WCDMA Band II

#### 7.3.1.Test Mode = WCDMA/TM1

#### 7.3.1.1. Test Channel = LCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
108.8649	-64.85	-13.00	51.85	Vertical
624.5912	-63.62	-13.00	50.62	Vertical
2706.3413	-36.69	-13.00	23.69	Vertical
7362.1454	-55.46	-13.00	42.46	Vertical
14496.3832	-47.80	-13.00	34.80	Vertical
17983.9995	-41.51	-13.00	28.51	Vertical
40.2825	-64.47	-13.00	51.47	Horizontal
232.0611	-67.52	-13.00	54.52	Horizontal
2700.7401	-35.45	-13.00	22.45	Horizontal
7456.1485	-56.36	-13.00	43.36	Horizontal
16381.9461	-44.22	-13.00	31.22	Horizontal
17994.9998	-45.19	-13.00	32.19	Horizontal

### 7.3.1.2. Test Channel = MCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
109.4955	-65.02	-13.00	52.02	Vertical
609.5555	-63.75	-13.00	50.75	Vertical
2699.9400	-36.60	-13.00	23.60	Vertical
7231.6411	-57.47	-13.00	44.47	Vertical
14474.3825	-47.88	-13.00	34.88	Vertical
17995.9999	-40.71	-13.00	27.71	Vertical
40.6705	-63.51	-13.00	50.51	Horizontal
233.6617	-67.97	-13.00	54.97	Horizontal
2699.1398	-35.30	-13.00	22.30	Horizontal
7370.6457	-56.27	-13.00	43.27	Horizontal
16369.9457	-43.95	-13.00	30.95	Horizontal
17999.5000	-44.95	-13.00	31.95	Horizontal



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#### 7.3.1.3. Test Channel = HCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
44.5022	-64.29	-13.00	51.29	Vertical
232.5946	-68.21	-13.00	55.21	Vertical
2112.2224	-35.70	-13.00	22.70	Vertical
3426.5142	-50.13	-13.00	37.13	Vertical
16387.9463	-44.32	-13.00	31.32	Vertical
17999.5000	-45.50	-13.00	32.50	Vertical
41.3496	-64.31	-13.00	51.31	Horizontal
247.5819	-67.41	-13.00	54.41	Horizontal
2700.3401	-35.55	-13.00	22.55	Horizontal
7448.6483	-56.62	-13.00	43.62	Horizontal
16380.9460	-44.13	-13.00	31.13	Horizontal
17995.4999	-45.30	-13.00	32.30	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	Channel	Voltage (Vdc)	Temperature $(^{\circ}\mathbb{C})$	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
Band II	9262	VL	TN	11.69	0.006309	±2.5	PASS
Band II	9262	VN	TN	11.31	0.006105	±2.5	PASS
Band II	9262	VH	TN	11.49	0.006205	±2.5	PASS
Band II	9400	VL	TN	12.16	0.006468	±2.5	PASS
Band II	9400	VN	TN	12.67	0.006742	±2.5	PASS
Band II	9400	VH	TN	11.86	0.006308	±2.5	PASS
Band II	9538	VL	TN	8.13	0.004259	±2.5	PASS
Band II	9538	VN	TN	8.95	0.004691	±2.5	PASS
Band II	9538	VH	TN	9.39	0.004923	±2.5	PASS
Band IV	1312	VL	TN	3.06	0.001788	±2.5	PASS
Band IV	1312	VN	TN	6.27	0.003659	±2.5	PASS
Band IV	1312	VH	TN	3.88	0.002264	±2.5	PASS
Band IV	1413	VL	TN	5.61	0.003241	±2.5	PASS
Band IV	1413	VN	TN	5.38	0.003104	±2.5	PASS
Band IV	1413	VH	TN	6.33	0.003653	±2.5	PASS
Band IV	1513	VL	TN	1.75	0.001000	±2.5	PASS
Band IV	1513	VN	TN	2.61	0.001490	±2.5	PASS
Band IV	1513	VH	TN	2.22	0.001265	±2.5	PASS
Band V	4132	VL	TN	-0.69	-0.000831	±2.5	PASS
Band V	4132	VN	TN	-1.58	-0.001913	±2.5	PASS
Band V	4132	VH	TN	-0.21	-0.000260	±2.5	PASS
Band V	4182	VL	TN	-0.11	-0.000128	±2.5	PASS
Band V	4182	VN	TN	-0.34	-0.000402	±2.5	PASS
Band V	4182	VH	TN	-0.21	-0.000248	±2.5	PASS
Band V	4233	VL	TN	-0.36	-0.000431	±2.5	PASS
Band V	4233	VN	TN	0.05	0.000059	±2.5	PASS
Band V	4233	VH	TN	-1.04	-0.001233	±2.5	PASS

### 8.2. Frequency Vs Temperature

Band	Channel	Voltage (Vdc)	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
Band II	9262	VN	-30	9.78	0.005282	±2.5	PASS
Band II	9262	VN	-20	11.94	0.006444	±2.5	PASS
Band II	9262	VN	-10	11.77	0.006356	±2.5	PASS
Band II	9262	VN	0	12.59	0.006796	±2.5	PASS
Band II	9262	VN	10	9.27	0.005004	±2.5	PASS
Band II	9262	VN	20	11.71	0.006321	±2.5	PASS
Band II	9262	VN	30	11.30	0.006101	±2.5	PASS



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Band II	9262	VN	40	11.22	0.006058	±2.5	PASS
Band II	9262	VN	50	11.42	0.006166	±2.5	PASS
Band II	9400	VN	-30	11.54	0.006141	±2.5	PASS
Band II	9400	VN	-20	12.84	0.006829	±2.5	PASS
Band II	9400	VN	-10	11.89	0.006327	±2.5	PASS
Band II	9400	VN	0	11.17	0.005943	±2.5	PASS
Band II	9400	VN	10	11.06	0.005882	±2.5	PASS
Band II	9400	VN	20	13.04	0.006936	±2.5	PASS
Band II	9400	VN	30	12.39	0.006589	±2.5	PASS
Band II	9400	VN	40	11.82	0.006289	±2.5	PASS
Band II	9400	VN	50	11.87	0.006316	±2.5	PASS
Band II	9538	VN	-30	9.93	0.005208	±2.5	PASS
Band II	9538	VN	-20	8.03	0.004207	±2.5	PASS
Band II	9538	VN	-10	10.59	0.005553	±2.5	PASS
Band II	9538	VN	0	9.58	0.005021	±2.5	PASS
Band II	9538	VN	10	9.51	0.004987	±2.5	PASS
Band II	9538	VN	20	10.01	0.005246	±2.5	PASS
Band II	9538	VN	30	9.03	0.004732	±2.5	PASS
Band II	9538	VN	40	9.52	0.004991	±2.5	PASS
Band II	9538	VN	50	9.58	0.005021	±2.5	PASS
Band IV	1312	VN	-30	2.77	0.001616	±2.5	PASS
Band IV	1312	VN	-20	6.12	0.003571	±2.5	PASS
Band IV	1312	VN	-10	5.29	0.003091	±2.5	PASS
Band IV	1312	VN	0	5.49	0.003204	±2.5	PASS
Band IV	1312	VN	10	7.41	0.004327	±2.5	PASS
Band IV	1312	VN	20	4.49	0.002623	±2.5	PASS
Band IV	1312	VN	30	6.08	0.003550	±2.5	PASS
Band IV	1312	VN	40	4.29	0.002506	±2.5	PASS
Band IV	1312	VN	50	5.16	0.003012	±2.5	PASS
Band IV	1413	VN	-30	5.02	0.002898	±2.5	PASS
Band IV	1413	VN	-20	5.87	0.003389	±2.5	PASS
Band IV	1413	VN	-10	6.26	0.003612	±2.5	PASS
Band IV	1413	VN	0	5.14	0.002968	±2.5	PASS
Band IV	1413	VN	10	5.14	0.002964	±2.5	PASS
Band IV	1413	VN	20	6.32	0.003645	±2.5	PASS
Band IV	1413	VN	30	6.59	0.003806	±2.5	PASS
Band IV	1413	VN	40	5.74	0.003315	±2.5	PASS
Band IV	1413	VN	50	6.07	0.003501	±2.5	PASS
Band IV	1513	VN	-30	1.30	0.000743	±2.5	PASS
Band IV	1513	VN	-20	1.55	0.000886	±2.5	PASS
Band IV	1513	VN	-10	1.42	0.000808	±2.5	PASS
Band IV	1513	VN	0	1.34	0.000767	±2.5	PASS
Band IV	1513	VN	10	2.17	0.000707	±2.5	PASS
Band IV	1513	VN	20	1.83	0.001241	±2.5	PASS
Band IV	1513	VN	30	1.26	0.001043	±2.5 ±2.5	PASS
Band IV	1513	VN	40	0.89	0.000718	±2.5	PASS
Band IV	1513	VN	50	1.75	0.000916	±2.5	PASS
Danuiv	1010	VIN	30	1.75	0.000330	14.0	1 700



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Band V	4132	VN	-30	-0.06	-0.000078	±2.5	PASS
Band V	4132	VN	-20	-0.63	-0.000762	±2.5	PASS
Band V	4132	VN	-10	0.01	0.000009	±2.5	PASS
Band V	4132	VN	0	-0.21	-0.000251	±2.5	PASS
Band V	4132	VN	10	-1.04	-0.001255	±2.5	PASS
Band V	4132	VN	20	-0.71	-0.000857	±2.5	PASS
Band V	4132	VN	30	0.06	0.000069	±2.5	PASS
Band V	4132	VN	40	-0.19	-0.000234	±2.5	PASS
Band V	4132	VN	50	-0.11	-0.000138	±2.5	PASS
Band V	4182	VN	-30	0.84	0.001001	±2.5	PASS
Band V	4182	VN	-20	0.65	0.000778	±2.5	PASS
Band V	4182	VN	-10	-0.17	-0.000205	±2.5	PASS
Band V	4182	VN	0	0.45	0.000539	±2.5	PASS
Band V	4182	VN	10	-0.64	-0.000761	±2.5	PASS
Band V	4182	VN	20	-0.04	-0.000051	±2.5	PASS
Band V	4182	VN	30	-0.26	-0.000308	±2.5	PASS
Band V	4182	VN	40	-0.25	-0.000299	±2.5	PASS
Band V	4182	VN	50	0.27	0.000325	±2.5	PASS
Band V	4233	VN	-30	-0.73	-0.000862	±2.5	PASS
Band V	4233	VN	-20	-0.92	-0.001090	±2.5	PASS
Band V	4233	VN	-10	-1.09	-0.001284	±2.5	PASS
Band V	4233	VN	0	-0.53	-0.000625	±2.5	PASS
Band V	4233	VN	10	-0.73	-0.000862	±2.5	PASS
Band V	4233	VN	20	-0.74	-0.000870	±2.5	PASS
Band V	4233	VN	30	-0.33	-0.000389	±2.5	PASS
Band V	4233	VN	40	-0.74	-0.000879	±2.5	PASS
Band V	4233	VN	50	-1.04	-0.001225	±2.5	PASS

The End

