



# Appendix for test report

## 1Appendix\_A: Effective (Isotropic) Radiated Power Output Data

### Part I - Test Results (Worst case: External antenna 3dBi)

Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	Test RB	Measured[dBm]	EIRP [dBm]	Limit [dBm]	Verdict
BAND4	LTE/TM1	1.4	LCH	RB1#0	22.8	25.8	30	PASS
				RB1#3	23.05	26.05	30	PASS
				RB1#5	22.98	25.98	30	PASS
				RB3#0	22.86	25.86	30	PASS
				RB3#2	22.99	25.99	30	PASS
				RB3#3	22.97	25.97	30	PASS
				RB6#0	22.44	25.44	30	PASS
			MCH	RB1#0	22.03	25.03	30	PASS
				RB1#3	22.3	25.3	30	PASS
				RB1#5	22.12	25.12	30	PASS
				RB3#0	22.06	25.06	30	PASS
				RB3#2	22.2	25.2	30	PASS
				RB3#3	22.07	25.07	30	PASS



Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	Test RB	Measured[dBm]	EIRP [dBm]	Limit [dBm]	Verdict
				RB6#0	21.62	24.62	30	PASS
			HCH	RB1#0	23.28	26.28	30	PASS
				RB1#3	23.39	26.39	30	PASS
				RB1#5	23.24	26.24	30	PASS
				RB3#0	23.31	26.31	30	PASS
				RB3#2	23.35	26.35	30	PASS
				RB3#3	23.3	26.3	30	PASS
				RB6#0	22.85	25.85	30	PASS
		3		LCH	RB1#0	22.5	25.5	30
			RB1#7		23.09	26.09	30	PASS
			RB1#14		22.95	25.95	30	PASS
			RB8#0		22.29	25.29	30	PASS
			RB8#4		22.47	25.47	30	PASS
			RB8#7		22.58	25.58	30	PASS
			RB15#0		22.37	25.37	30	PASS
			MCH	RB1#0	21.88	24.88	30	PASS
				RB1#7	22.27	25.27	30	PASS



Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	Test RB	Measured[dBm]	EIRP [dBm]	Limit [dBm]	Verdict
				RB1#14	22	25	30	PASS
				RB8#0	21.53	24.53	30	PASS
				RB8#4	21.61	24.61	30	PASS
				RB8#7	21.56	24.56	30	PASS
				RB15#0	21.53	24.53	30	PASS
			HCH	RB1#0	23.13	26.13	30	PASS
				RB1#7	23.45	26.45	30	PASS
				RB1#14	23.07	26.07	30	PASS
				RB8#0	22.74	25.74	30	PASS
				RB8#4	22.88	25.88	30	PASS
		5	LCH	RB8#7	22.81	25.81	30	PASS
				RB15#0	22.83	25.83	30	PASS
				RB1#0	22.47	25.47	30	PASS
				RB1#13	23.26	26.26	30	PASS
				RB1#24	23.2	26.2	30	PASS
		RB12#0	22.42	25.42	30	PASS		
		RB12#6	22.77	25.77	30	PASS		



Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	Test RB	Measured[dBm]	EIRP [dBm]	Limit [dBm]	Verdict	
				RB12#13	22.82	25.82	30	PASS	
				RB25#0	22.61	25.61	30	PASS	
			MCH	RB1#0	21.95	24.95	30	PASS	
				RB1#13	22.43	25.43	30	PASS	
				RB1#24	21.66	24.66	30	PASS	
				RB12#0	21.7	24.7	30	PASS	
				RB12#6	21.85	24.85	30	PASS	
				RB12#13	21.55	24.55	30	PASS	
				RB25#0	21.68	24.68	30	PASS	
				HCH	RB1#0	23.1	26.1	30	PASS
			RB1#13		23.54	26.54	30	PASS	
			RB1#24		22.82	25.82	30	PASS	
			RB12#0		23.04	26.04	30	PASS	
			RB12#6		23.15	26.15	30	PASS	
			RB12#13		22.9	25.9	30	PASS	
			RB25#0		23.02	26.02	30	PASS	
			10	LCH	RB1#0	23.14	26.14	30	PASS



Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	Test RB	Measured[dBm]	EIRP [dBm]	Limit [dBm]	Verdict
				RB1#25	24.13	27.13	30	PASS
				RB1#49	23.7	26.7	30	PASS
				RB25#0	22.68	25.68	30	PASS
				RB25#13	23.26	26.26	30	PASS
				RB25#25	23.14	26.14	30	PASS
				RB50#0	23.01	26.01	30	PASS
			MCH	RB1#0	23.07	26.07	30	PASS
			MCH	RB1#25	23.05	26.05	30	PASS
			MCH	RB1#49	22.52	25.52	30	PASS
			MCH	RB25#0	22.05	25.05	30	PASS
			MCH	RB25#13	22.19	25.19	30	PASS
			MCH	RB25#25	21.88	24.88	30	PASS
			MCH	RB50#0	22.07	25.07	30	PASS
			HCH	RB1#0	23.43	26.43	30	PASS
			HCH	RB1#25	24.04	27.04	30	PASS
			HCH	RB1#49	23.51	26.51	30	PASS
			HCH	RB25#0	23.21	26.21	30	PASS



Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	Test RB	Measured[dBm]	EIRP [dBm]	Limit [dBm]	Verdict	
				RB25#13	23.43	26.43	30	PASS	
				RB25#25	23.24	26.24	30	PASS	
				RB50#0	23.29	26.29	30	PASS	
		15	LCH	RB1#0	23.1	26.1	30	PASS	
				RB1#38	23.84	26.84	30	PASS	
				RB1#74	23.06	26.06	30	PASS	
				RB38#0	22.8	25.8	30	PASS	
				RB38#19	23.02	26.02	30	PASS	
				RB38#39	22.79	25.79	30	PASS	
				RB75#0	22.84	25.84	30	PASS	
				MCH	RB1#0	23.06	26.06	30	PASS
					RB1#38	22.47	25.47	30	PASS
					RB1#74	22.28	25.28	30	PASS
					RB38#0	21.91	24.91	30	PASS
					RB38#19	21.57	24.57	30	PASS
					RB38#39	21.42	24.42	30	PASS
					RB75#0	21.87	24.87	30	PASS



Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	Test RB	Measured[dBm]	EIRP [dBm]	Limit [dBm]	Verdict
			HCH	RB1#0	22.69	25.69	30	PASS
				RB1#38	23.64	26.64	30	PASS
				RB1#74	23.26	26.26	30	PASS
				RB38#0	22.4	25.4	30	PASS
				RB38#19	23.01	26.01	30	PASS
				RB38#39	23.01	26.01	30	PASS
				RB75#0	22.74	25.74	30	PASS
		20	LCH	RB1#0	23.46	26.46	30	PASS
				RB1#50	23.67	26.67	30	PASS
				RB1#99	23.04	26.04	30	PASS
				RB50#0	23.06	26.06	30	PASS
				RB50#25	22.98	25.98	30	PASS
				RB50#50	22.64	25.64	30	PASS
				RB100#0	22.74	25.74	30	PASS
				MCH	RB1#0	23.64	26.64	30
RB1#50	22.46	25.46	30		PASS			
RB1#99	22.85	25.85	30		PASS			





Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	Test RB	Measured[dBm]	EIRP [dBm]	Limit [dBm]	Verdict
				RB50#0	22.12	25.12	30	PASS
				RB50#25	21.87	24.87	30	PASS
				RB50#50	21.72	24.72	30	PASS
				RB100#0	21.96	24.96	30	PASS
			HCH	RB1#0	22.69	25.69	30	PASS
				RB1#50	23.15	26.15	30	PASS
				RB1#99	23.71	26.71	30	PASS
				RB50#0	21.99	24.99	30	PASS
				RB50#25	22.61	25.61	30	PASS
				RB50#50	23.2	26.2	30	PASS
				RB100#0	22.72	25.72	30	PASS
				LCH	RB1#0	22.31	25.31	30
			RB1#3		22.61	25.61	30	PASS
			RB1#5		22.47	25.47	30	PASS
RB3#0	22.43	25.43	30		PASS			
RB3#2	22.55	25.55	30		PASS			
RB3#3	22.53	25.53	30		PASS			



Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	Test RB	Measured[dBm]	EIRP [dBm]	Limit [dBm]	Verdict
				RB6#0	21.43	24.43	30	PASS
			MCH	RB1#0	21.75	24.75	30	PASS
				RB1#3	22.06	25.06	30	PASS
				RB1#5	21.9	24.9	30	PASS
				RB3#0	21.78	24.78	30	PASS
				RB3#2	21.93	24.93	30	PASS
				RB3#3	21.78	24.78	30	PASS
				RB6#0	20.68	23.68	30	PASS
				HCH	RB1#0	22.78	25.78	30
			RB1#3		22.91	25.91	30	PASS
			RB1#5		22.72	25.72	30	PASS
			RB3#0		22.81	25.81	30	PASS
			RB3#2		22.84	25.84	30	PASS
			RB3#3		22.78	25.78	30	PASS
			RB6#0		21.85	24.85	30	PASS
		3	LCH		RB1#0	21.97	24.97	30
				RB1#7	22.53	25.53	30	PASS



Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	Test RB	Measured[dBm]	EIRP [dBm]	Limit [dBm]	Verdict
				RB1#14	22.41	25.41	30	PASS
				RB8#0	21.32	24.32	30	PASS
				RB8#4	21.48	24.48	30	PASS
				RB8#7	21.6	24.6	30	PASS
				RB15#0	21.37	24.37	30	PASS
			MCH	RB1#0	21.45	24.45	30	PASS
			MCH	RB1#7	21.88	24.88	30	PASS
			MCH	RB1#14	21.56	24.56	30	PASS
			MCH	RB8#0	20.62	23.62	30	PASS
			MCH	RB8#4	20.74	23.74	30	PASS
			MCH	RB8#7	20.69	23.69	30	PASS
			MCH	RB15#0	20.61	23.61	30	PASS
			HCH	RB1#0	22.71	25.71	30	PASS
			HCH	RB1#7	23.05	26.05	30	PASS
			HCH	RB1#14	22.66	25.66	30	PASS
			HCH	RB8#0	21.82	24.82	30	PASS
			HCH	RB8#4	21.98	24.98	30	PASS



Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	Test RB	Measured[dBm]	EIRP [dBm]	Limit [dBm]	Verdict	
				RB8#7	21.92	24.92	30	PASS	
				RB15#0	21.84	24.84	30	PASS	
		5	LCH	RB1#0	22.14	25.14	30	PASS	
				RB1#13	22.97	25.97	30	PASS	
				RB1#24	22.88	25.88	30	PASS	
				RB12#0	21.37	24.37	30	PASS	
				RB12#6	21.72	24.72	30	PASS	
				RB12#13	21.77	24.77	30	PASS	
				RB25#0	21.54	24.54	30	PASS	
				MCH	RB1#0	21.67	24.67	30	PASS
					RB1#13	22.14	25.14	30	PASS
					RB1#24	21.37	24.37	30	PASS
					RB12#0	20.61	23.61	30	PASS
					RB12#6	20.78	23.78	30	PASS
					RB12#13	20.49	23.49	30	PASS
RB25#0	20.57	23.57	30		PASS				
HCH	RB1#0	22.95	25.95	30	PASS				



Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	Test RB	Measured[dBm]	EIRP [dBm]	Limit [dBm]	Verdict	
				RB1#13	23.34	26.34	30	PASS	
				RB1#24	22.67	25.67	30	PASS	
				RB12#0	22.08	25.08	30	PASS	
				RB12#6	22.2	25.2	30	PASS	
				RB12#13	21.93	24.93	30	PASS	
				RB25#0	22.09	25.09	30	PASS	
		10	LCH	RB1#0	22.49	25.49	30	PASS	
				RB1#25	23.78	26.78	30	PASS	
				RB1#49	23.43	26.43	30	PASS	
				RB25#0	21.9	24.9	30	PASS	
				RB25#13	22.42	25.42	30	PASS	
				RB25#25	22.36	25.36	30	PASS	
				RB50#0	22.11	25.11	30	PASS	
				MCH	RB1#0	22.68	25.68	30	PASS
					RB1#25	22.4	25.4	30	PASS
					RB1#49	21.96	24.96	30	PASS
RB25#0	21	24	30		PASS				



Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	Test RB	Measured[dBm]	EIRP [dBm]	Limit [dBm]	Verdict
				RB25#13	21.14	24.14	30	PASS
				RB25#25	20.74	23.74	30	PASS
				RB50#0	21.01	24.01	30	PASS
			HCH	RB1#0	23	26	30	PASS
				RB1#25	23.8	26.8	30	PASS
				RB1#49	22.91	25.91	30	PASS
				RB25#0	22.21	25.21	30	PASS
				RB25#13	22.4	25.4	30	PASS
				RB25#25	22.19	25.19	30	PASS
		RB50#0	22.27	25.27	30	PASS		
		15	LCH	RB1#0	22.44	25.44	30	PASS
				RB1#38	23.19	26.19	30	PASS
				RB1#74	22.44	25.44	30	PASS
				RB38#0	21.61	24.61	30	PASS
				RB38#19	21.83	24.83	30	PASS
RB38#39	21.6			24.6	30	PASS		
				RB75#0	21.64	24.64	30	PASS



Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	Test RB	Measured[dBm]	EIRP [dBm]	Limit [dBm]	Verdict
			MCH	RB1#0	22.67	25.67	30	PASS
				RB1#38	22.02	25.02	30	PASS
				RB1#74	21.68	24.68	30	PASS
				RB38#0	20.59	23.59	30	PASS
				RB38#19	20.57	23.57	30	PASS
				RB38#39	20.65	23.65	30	PASS
				RB75#0	20.54	23.54	30	PASS
			HCH	RB1#0	21.96	24.96	30	PASS
				RB1#38	23.09	26.09	30	PASS
				RB1#74	22.67	25.67	30	PASS
				RB38#0	21.16	24.16	30	PASS
				RB38#19	21.84	24.84	30	PASS
				RB38#39	21.92	24.92	30	PASS
				RB75#0	21.55	24.55	30	PASS
		20	LCH	RB1#0	23.26	26.26	30	PASS
RB1#50	23.41			26.41	30	PASS		
RB1#99	22.85			25.85	30	PASS		



Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	Test RB	Measured[dBm]	EIRP [dBm]	Limit [dBm]	Verdict
				RB50#0	22.06	25.06	30	PASS
				RB50#25	21.98	24.98	30	PASS
				RB50#50	21.64	24.64	30	PASS
				RB100#0	21.74	24.74	30	PASS
			MCH	RB1#0	23.41	26.41	30	PASS
				RB1#50	22.18	25.18	30	PASS
				RB1#99	22.58	25.58	30	PASS
				RB50#0	20.99	23.99	30	PASS
				RB50#25	20.77	23.77	30	PASS
				RB50#50	20.69	23.69	30	PASS
				RB100#0	20.83	23.83	30	PASS
				HCH	RB1#0	22.18	25.18	30
			RB1#50		22.83	25.83	30	PASS
			RB1#99		23.24	26.24	30	PASS
			RB50#0		20.93	23.93	30	PASS
			RB50#25		21.56	24.56	30	PASS
			RB50#50		22.24	25.24	30	PASS





Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	Test RB	Measured[dBm]	EIRP [dBm]	Limit [dBm]	Verdict
				RB100#0	21.71	24.71	30	PASS

Note1:

a, For getting the ERP (Efficient Radiated Power) or EIRP (Efficient Isotropic Radiated Power) in substitution method, the following formula should be taken to calculate it,

$$\text{ERP [dBm]} = \text{SGP [dBm]} - \text{Cable Loss [dB]} + \text{Gain [dBd]}$$

$$\text{EIRP [dBm]} = \text{SGP [dBm]} - \text{Cable Loss [dB]} + \text{Gain [dBi]}$$

b, SGP = Signal Generator Level

Note2:

$$\text{SET Span} = 1.5 * \text{OBW}$$

$$\text{SET RBW} = 1\% \text{ of the OBW, not to exceed 1MHz}$$

$$\text{SET VBW} \geq 3 * \text{RBW}$$

SET Sweep time = auto - couple.

Detector: RMS



## **2Appendix\_B: Peak-to-Average Ratio**

void

## **3Appendix\_C: Modulation Characteristics**

void

## **4Appendix\_D: Bandwidth**

void

## **5Appendix\_E: Band Edges Compliance**

void

## **6Appendix\_F: Spurious Emission at Antenna Terminal**

Void



## 7Appendix\_G: Field Strength of Spurious Radiation

Note: We tested all modes, but the data presented below is the worst case.

9kHz~150kHz, RBW = 200Hz, VBW = 600 Hz, Detector: PK

150kHz~30MHz, RBW = 9kHz, VBW = 30k Hz, Detector: PK

30MHz~1GHz, RBW = 100 kHz, VBW = 300 kHz. Detector: PK

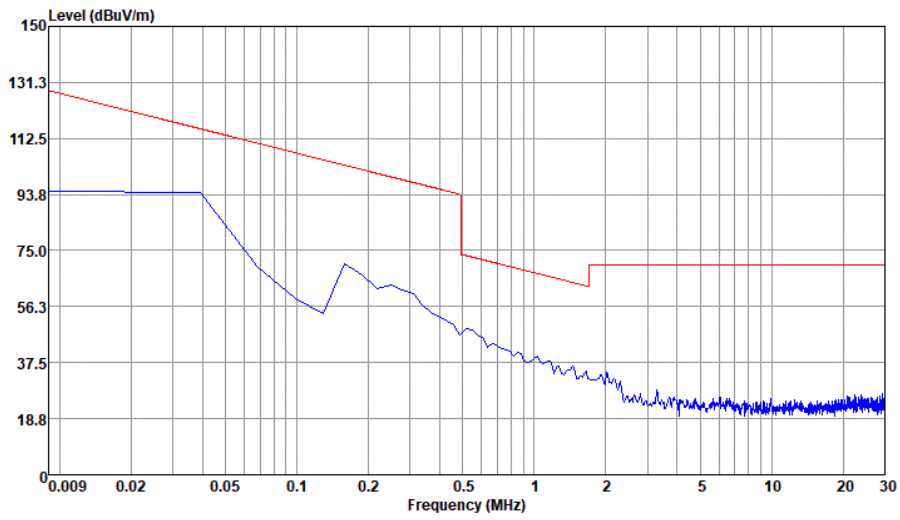
Above 1GHz, RBW = 1 MHz, VBW = 3 MHz. Detector: PK

### Part I - Test Plots

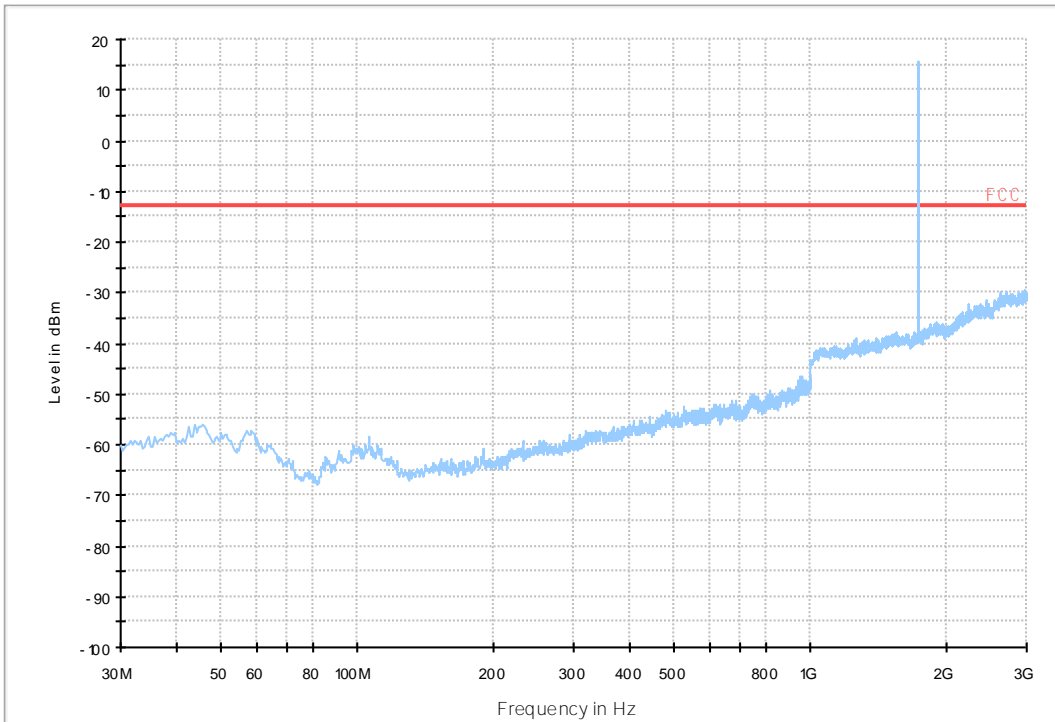
## 7.1 For LTE

### 7.1.1 Test Band = BAND4\_ External antenna 1dBi

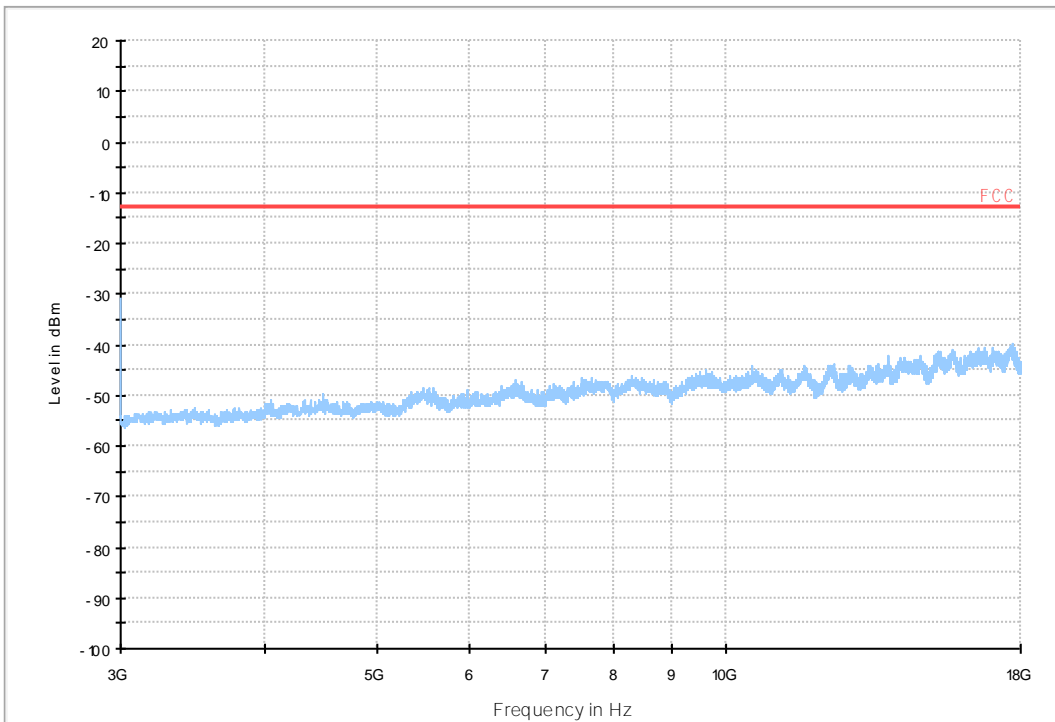
#### 7.1.1.1 Test Bandwidth = 1.4



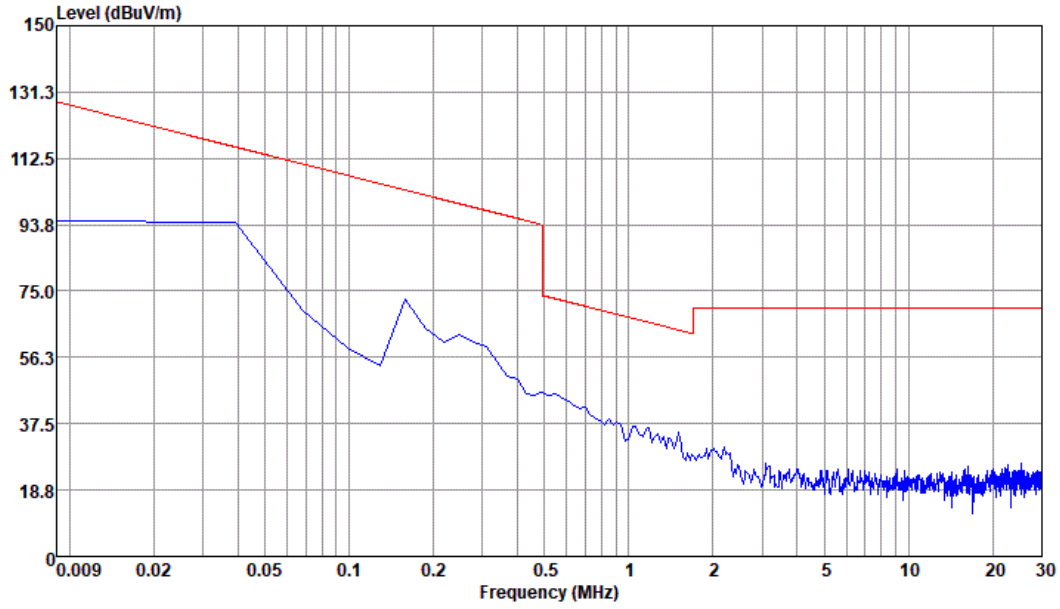
LTE FDD RSE-TX-DIRECTOR ABOVE 1.5G\_L



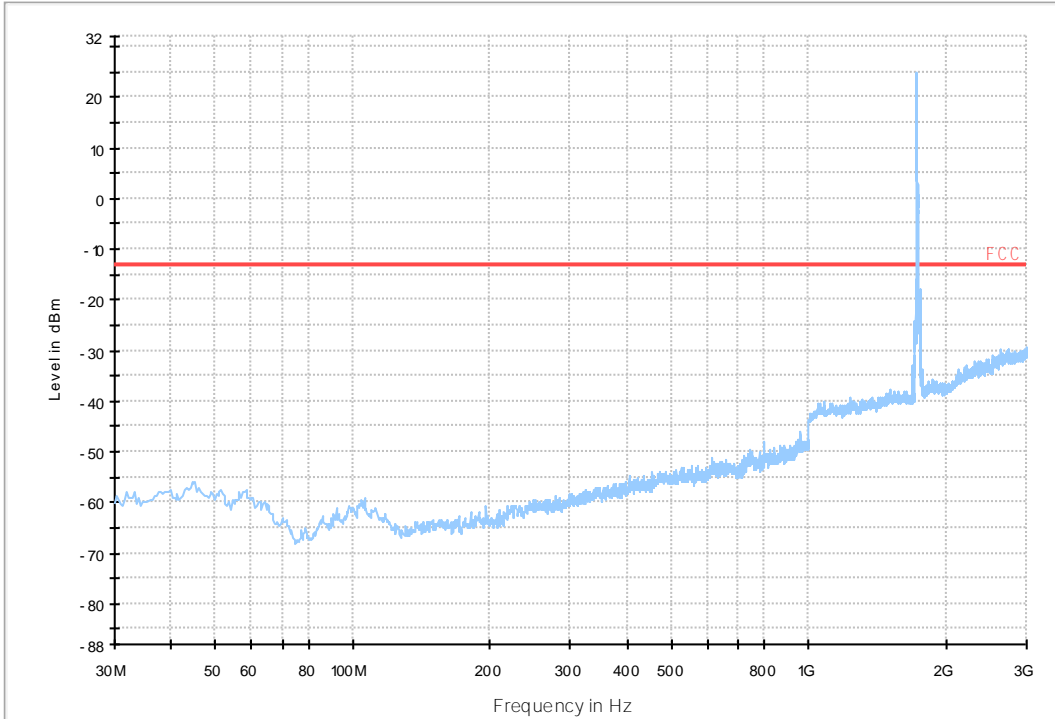
LTE FDD RSE-TX-DIRECTOR ABOVE 1.5G\_H



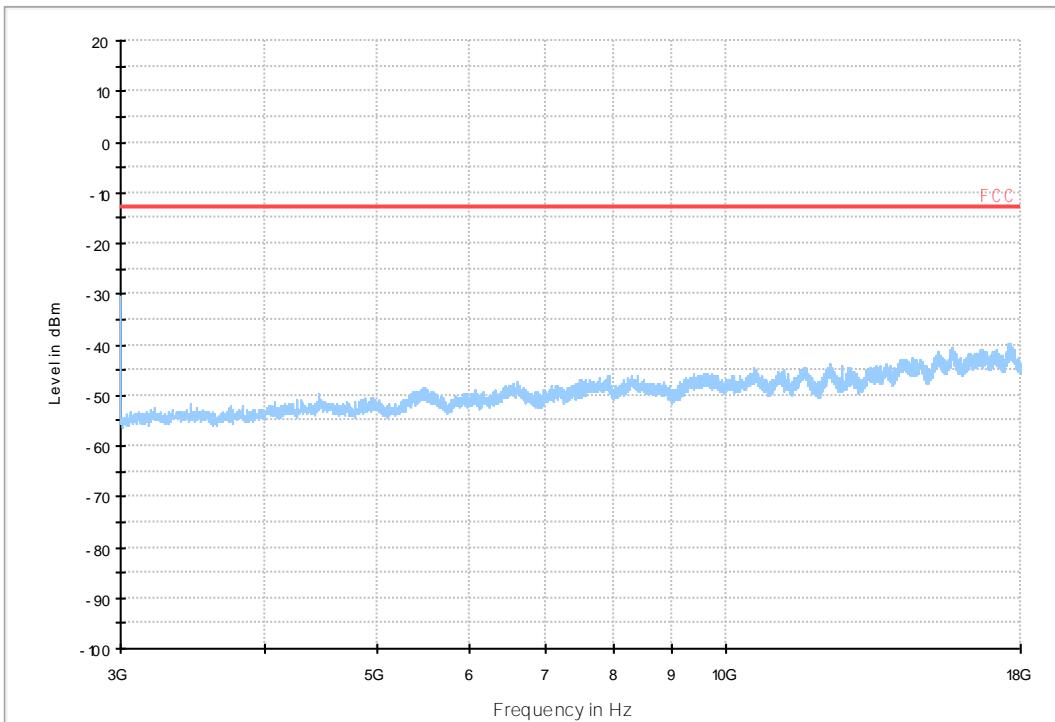
### 7.1.1.2 Test Bandwidth = 20



LTE FDD RSE-TX-DIRECTOR ABOVE 1.5G\_L

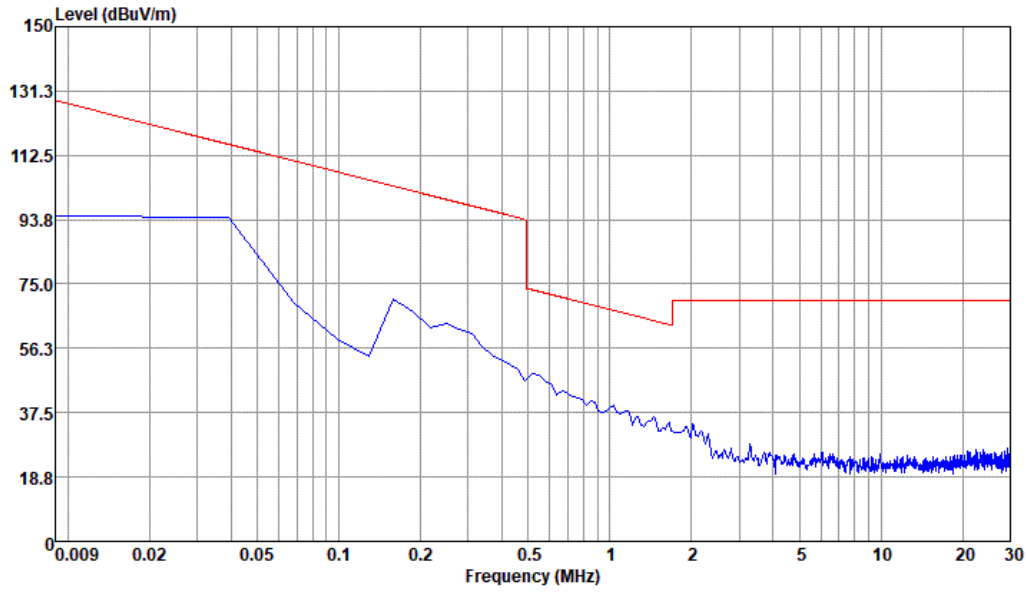


LTE FDD RSE-TX-DIRECTOR ABOVE 1.5G\_H



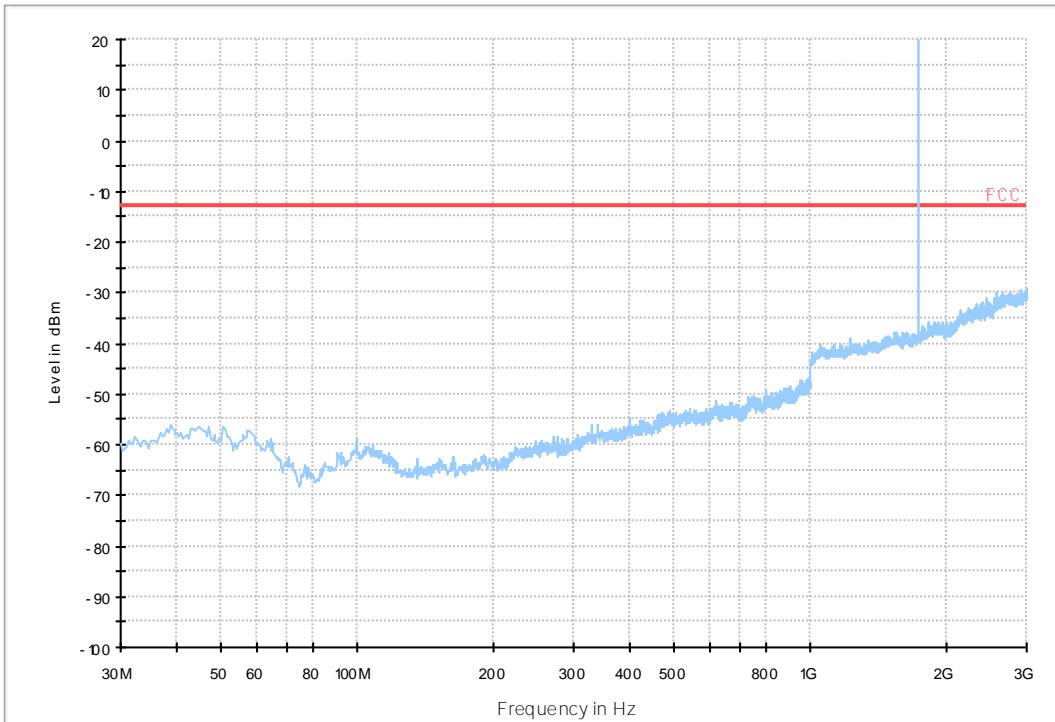
7.1.1 Test Band = BAND4\_ External antenna 3dBi

7.1.2.1 Test Bandwidth = 1.4

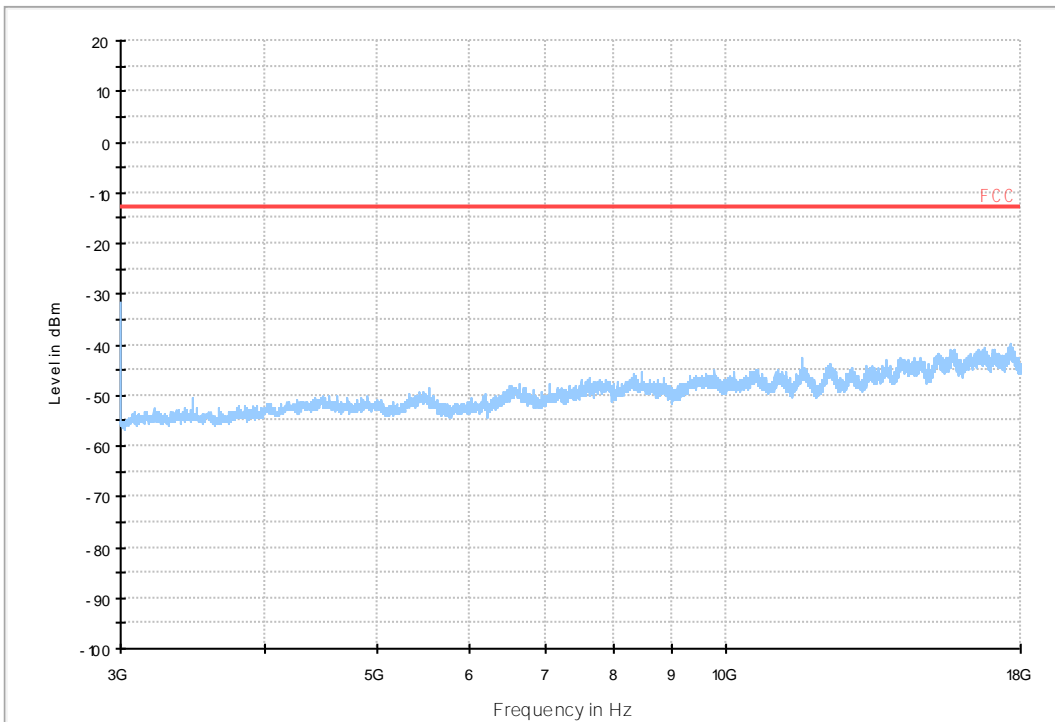




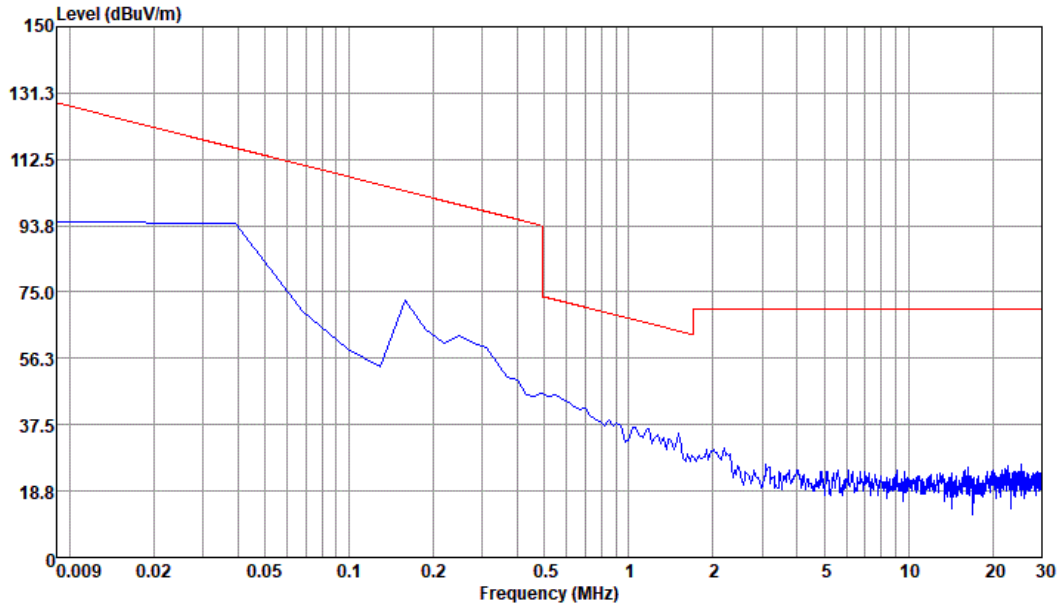
LTE FDD RSE-TX-DIRECTOR ABOVE 1.5G\_L



LTE FDD RSE-TX-DIRECTOR ABOVE 1.5G\_H

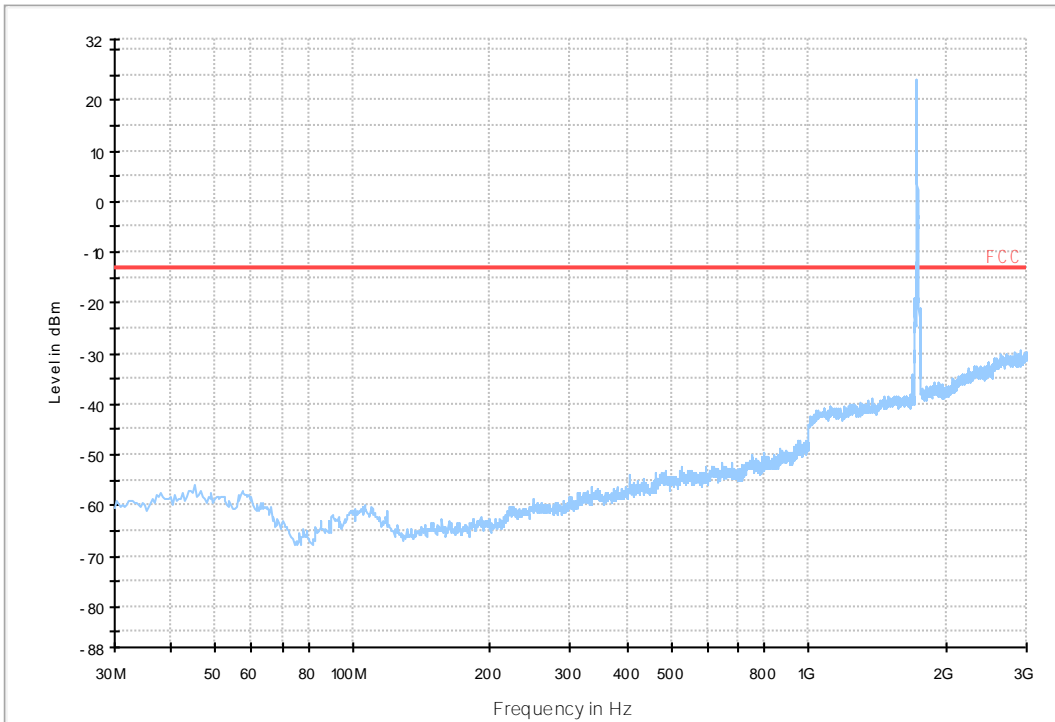


### 7.1.2.2 Test Bandwidth = 20

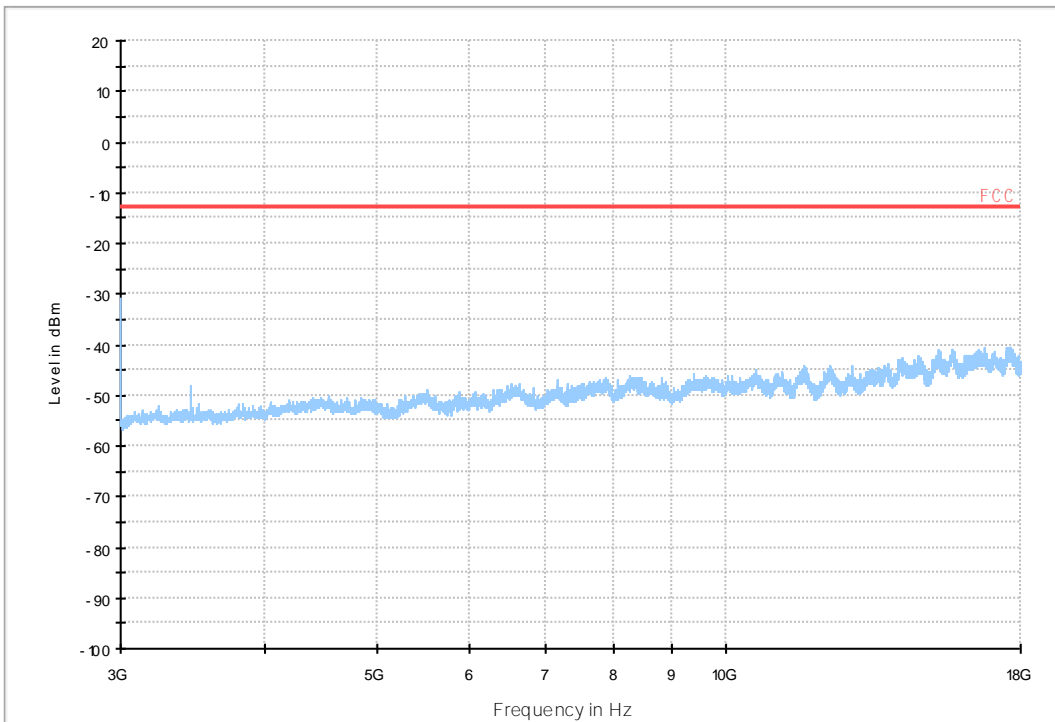




LTE FDD RSE-TX-DIRECTOR ABOVE 1.5G\_L



LTE FDD RSE-TX-DIRECTOR ABOVE 1.5G\_H





## 8 Appendix\_G Frequency Stability

void

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END