



# 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
BAND7	LTE/TM1	5	LCH	RB1#0	22.06	25.06	33	PASS
				RB1#13	22.98	25.98	33	PASS
				RB1#24	22.55	25.55	33	PASS
				RB12#0	22.17	25.17	33	PASS
				RB12#6	22.42	25.42	33	PASS
				RB12#13	22.29	25.29	33	PASS
				RB25#0	22.22	25.22	33	PASS
			MCH	RB1#0	22.93	25.93	33	PASS
				RB1#13	23.69	26.69	33	PASS
				RB1#24	23.07	26.07	33	PASS
				RB12#0	22.83	25.83	33	PASS
				RB12#6	23.05	26.05	33	PASS
				RB12#13	23	26	33	PASS



Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	Test RB	Measured[dBm]	EIRP [dBm]	Limit [dBm]	Verdict
				RB25#0	22.96	25.96	33	PASS
			HCH	RB1#0	22.64	25.64	33	PASS
				RB1#13	23.04	26.04	33	PASS
				RB1#24	22.33	25.33	33	PASS
				RB12#0	22.54	25.54	33	PASS
				RB12#6	22.66	25.66	33	PASS
				RB12#13	22.39	25.39	33	PASS
				RB25#0	22.44	25.44	33	PASS
		10		LCH	RB1#0	22.47	25.47	33
			RB1#25		23.37	26.37	33	PASS
			RB1#49		23.06	26.06	33	PASS
			RB25#0		22.09	25.09	33	PASS
			RB25#13		22.58	25.58	33	PASS
			RB25#25		22.48	25.48	33	PASS
			RB50#0		22.46	25.46	33	PASS
			MCH	RB1#0	23.43	26.43	33	PASS
				RB1#25	23.85	26.85	33	PASS



Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	Test RB	Measured[dBm]	EIRP [dBm]	Limit [dBm]	Verdict	
				RB1#49	23.26	26.26	33	PASS	
				RB25#0	22.79	25.79	33	PASS	
				RB25#13	23.1	26.1	33	PASS	
				RB25#25	22.9	25.9	33	PASS	
				RB50#0	22.88	25.88	33	PASS	
			HCH	RB1#0	23.24	26.24	33	PASS	
				RB1#25	23.44	26.44	33	PASS	
				RB1#49	22.57	25.57	33	PASS	
				RB25#0	22.51	25.51	33	PASS	
				RB25#13	22.73	25.73	33	PASS	
				RB25#25	22.38	25.38	33	PASS	
				RB50#0	22.6	25.6	33	PASS	
			15	LCH	RB1#0	22.25	25.25	33	PASS
					RB1#38	23	26	33	PASS
		RB1#74			22.76	25.76	33	PASS	
		RB36#0			21.99	24.99	33	PASS	
		RB36#18			22.17	25.17	33	PASS	



Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	Test RB	Measured[dBm]	EIRP [dBm]	Limit [dBm]	Verdict		
				RB36#39	22.48	25.48	33	PASS		
				RB75#0	22.54	25.54	33	PASS		
			MCH	RB1#0	23.19	26.19	33	PASS		
				RB1#38	23.44	26.44	33	PASS		
				RB1#74	23.01	26.01	33	PASS		
				RB36#0	22.69	25.69	33	PASS		
				RB36#18	22.74	25.74	33	PASS		
				RB36#39	22.67	25.67	33	PASS		
				RB75#0	22.67	25.67	33	PASS		
				HCH	RB1#0	23.2	26.2	33	PASS	
			RB1#38		23.08	26.08	33	PASS		
			RB1#74		22.41	25.41	33	PASS		
			RB36#0		22.66	25.66	33	PASS		
			RB36#18		22.53	25.53	33	PASS		
			RB36#39		22.31	25.31	33	PASS		
						RB75#0	22.64	25.64	33	PASS
					20	LCH	RB1#0	22.01	25.01	33



Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	Test RB	Measured[dBm]	EIRP [dBm]	Limit [dBm]	Verdict
				RB1#50	22.53	25.53	33	PASS
				RB1#99	22.64	25.64	33	PASS
				RB50#0	21.56	24.56	33	PASS
				RB50#25	21.9	24.9	33	PASS
				RB50#50	22.16	25.16	33	PASS
				RB100#0	22.05	25.05	33	PASS
			MCH	RB1#0	22.71	25.71	33	PASS
				RB1#50	22.71	25.71	33	PASS
				RB1#99	22.64	25.64	33	PASS
				RB50#0	22.35	25.35	33	PASS
				RB50#25	22.25	25.25	33	PASS
				RB50#50	22.27	25.27	33	PASS
				RB100#0	22.23	25.23	33	PASS
			HCH	RB1#0	22.82	25.82	33	PASS
				RB1#50	22.72	25.72	33	PASS
				RB1#99	22.09	25.09	33	PASS
				RB50#0	22.2	25.2	33	PASS



Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	Test RB	Measured[dBm]	EIRP [dBm]	Limit [dBm]	Verdict	
				RB50#25	22.15	25.15	33	PASS	
				RB50#50	22.01	25.01	33	PASS	
				RB100#0	22.27	25.27	33	PASS	
	LTE/TM2	5	LCH	RB1#0	21.69	24.69	33	PASS	
				RB1#13	22.62	25.62	33	PASS	
				RB1#24	22.25	25.25	33	PASS	
				RB12#0	21.17	24.17	33	PASS	
				RB12#6	21.45	24.45	33	PASS	
				RB12#13	21.34	24.34	33	PASS	
				RB25#0	21.27	24.27	33	PASS	
				MCH	RB1#0	22.51	25.51	33	PASS
					RB1#13	23.29	26.29	33	PASS
					RB1#24	22.68	25.68	33	PASS
					RB12#0	21.94	24.94	33	PASS
					RB12#6	22.2	25.2	33	PASS
RB12#13	22.04	25.04	33	PASS					
RB25#0	21.94	24.94	33	PASS					



Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	Test RB	Measured[dBm]	EIRP [dBm]	Limit [dBm]	Verdict
			HCH	RB1#0	22.13	25.13	33	PASS
				RB1#13	22.53	25.53	33	PASS
				RB1#24	21.84	24.84	33	PASS
				RB12#0	21.66	24.66	33	PASS
				RB12#6	21.65	24.65	33	PASS
				RB12#13	21.37	24.37	33	PASS
				RB25#0	21.42	24.42	33	PASS
		10	LCH	RB1#0	22.09	25.09	33	PASS
				RB1#25	22.89	25.89	33	PASS
				RB1#49	22.39	25.39	33	PASS
				RB25#0	21.03	24.03	33	PASS
				RB25#13	21.52	24.52	33	PASS
				RB25#25	21.45	24.45	33	PASS
				RB50#0	21.41	24.41	33	PASS
				MCH	RB1#0	22.84	25.84	33
RB1#25	23.26	26.26	33		PASS			
RB1#49	22.74	25.74	33		PASS			





Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	Test RB	Measured[dBm]	EIRP [dBm]	Limit [dBm]	Verdict	
				RB25#0	21.84	24.84	33	PASS	
				RB25#13	22.04	25.04	33	PASS	
				RB25#25	21.85	24.85	33	PASS	
				RB50#0	22.06	25.06	33	PASS	
			HCH	RB1#0	23.01	26.01	33	PASS	
				RB1#25	23.2	26.2	33	PASS	
				RB1#49	22.34	25.34	33	PASS	
				RB25#0	21.8	24.8	33	PASS	
				RB25#13	21.94	24.94	33	PASS	
				RB25#25	21.62	24.62	33	PASS	
				RB50#0	21.81	24.81	33	PASS	
				15	LCH	RB1#0	22	25	33
			RB1#38			22.76	25.76	33	PASS
			RB1#74			22.6	25.6	33	PASS
		RB36#0	21.14			24.14	33	PASS	
		RB36#18	21.44			24.44	33	PASS	
		RB36#39	21.64			24.64	33	PASS	



Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	Test RB	Measured[dBm]	EIRP [dBm]	Limit [dBm]	Verdict
				RB75#0	21.57	24.57	33	PASS
			MCH	RB1#0	22.92	25.92	33	PASS
				RB1#38	23.11	26.11	33	PASS
				RB1#74	22.72	25.72	33	PASS
				RB36#0	21.83	24.83	33	PASS
				RB36#18	21.87	24.87	33	PASS
				RB36#39	21.78	24.78	33	PASS
				RB75#0	21.76	24.76	33	PASS
				HCH	RB1#0	22.92	25.92	33
			RB1#38		22.86	25.86	33	PASS
			RB1#74		22.11	25.11	33	PASS
			RB36#0		21.68	24.68	33	PASS
			RB36#18		21.71	24.71	33	PASS
			RB36#39		21.53	24.53	33	PASS
			RB75#0		21.81	24.81	33	PASS
		20	LCH	RB1#0	21.6	24.6	33	PASS
				RB1#50	22.16	25.16	33	PASS



Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	Test RB	Measured[dBm]	EIRP [dBm]	Limit [dBm]	Verdict
				RB1#99	22.2	25.2	33	PASS
				RB50#0	20.7	23.7	33	PASS
				RB50#25	20.92	23.92	33	PASS
				RB50#50	21.21	24.21	33	PASS
				RB100#0	21.11	24.11	33	PASS
			MCH	RB1#0	22.63	25.63	33	PASS
			MCH	RB1#50	22.75	25.75	33	PASS
			MCH	RB1#99	22.55	25.55	33	PASS
			MCH	RB50#0	21.34	24.34	33	PASS
			MCH	RB50#25	21.27	24.27	33	PASS
			MCH	RB50#50	21.3	24.3	33	PASS
			MCH	RB100#0	21.28	24.28	33	PASS
			HCH	RB1#0	22.45	25.45	33	PASS
			HCH	RB1#50	22.33	25.33	33	PASS
			HCH	RB1#99	21.76	24.76	33	PASS
			HCH	RB50#0	21.26	24.26	33	PASS
			HCH	RB50#25	21.19	24.19	33	PASS



Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	Test RB	Measured[dBm]	EIRP [dBm]	Limit [dBm]	Verdict
				RB50#50	21.1	24.1	33	PASS
				RB100#0	21.45	24.45	33	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

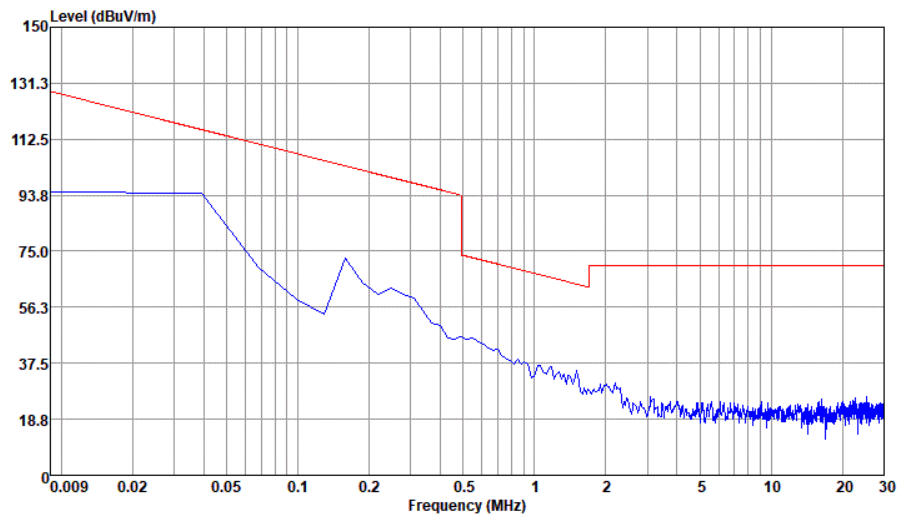
Above 1GHz, RBW = 1 MHz, VBW = 3 MHz. Detector: PK

### Part I - Test Plots

## 7.1 For LTE

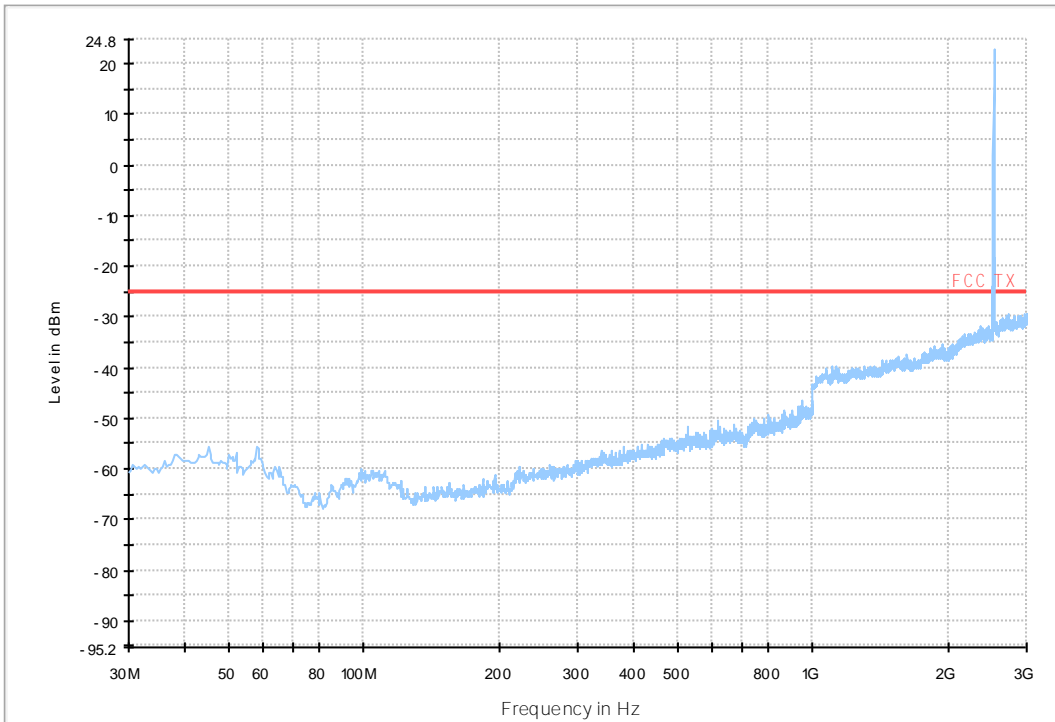
### 7.1.1 Test Band = BAND7\_ External antenna 1dBi

#### 7.1.1.1 Test Bandwidth = 5

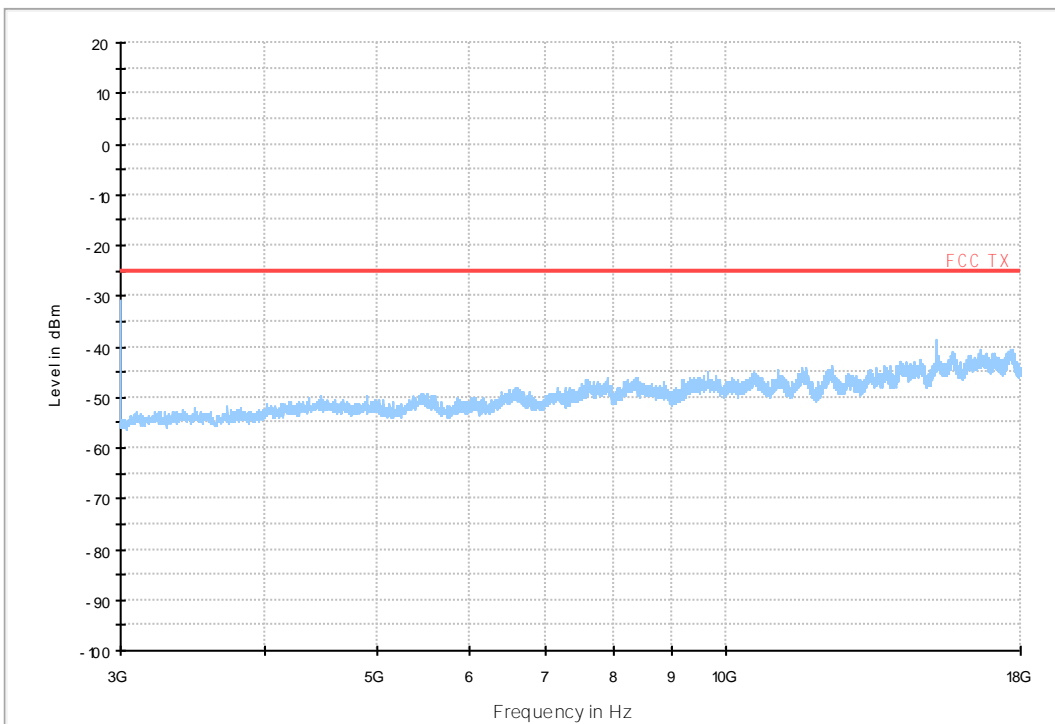




LTE Band 7 RSE-TX-DIRECTOR ABOVE 1.5G\_L -25dBm limit



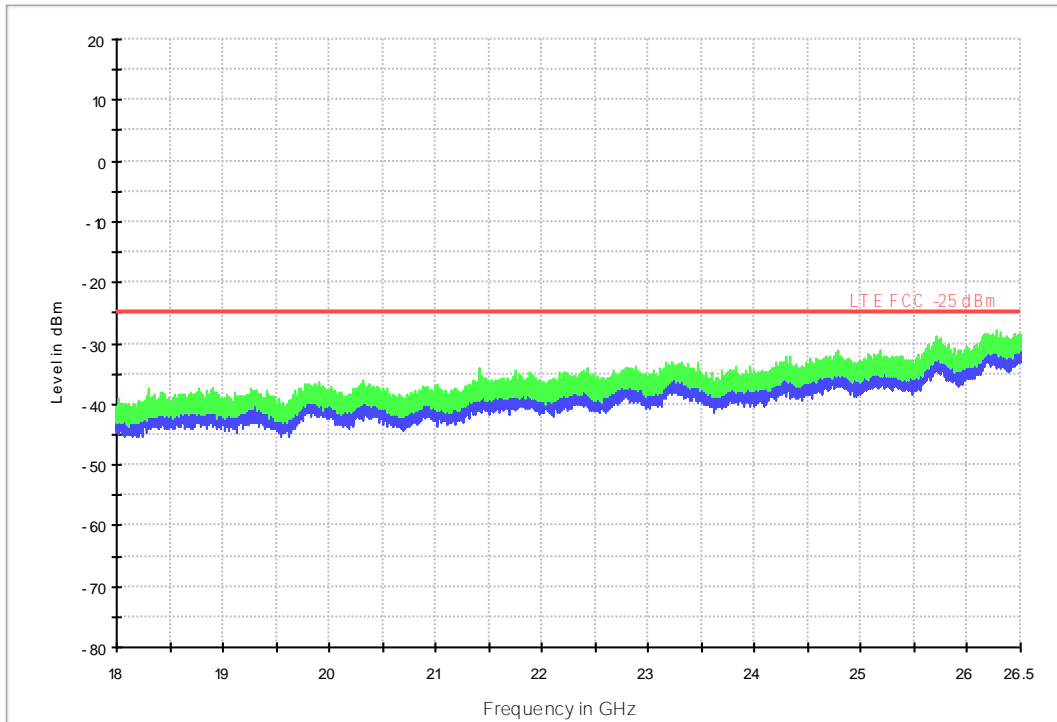
LTE FDD Band 7 RSE-TX-DIRECTOR ABOVE 1.5G\_H -25dBm limit



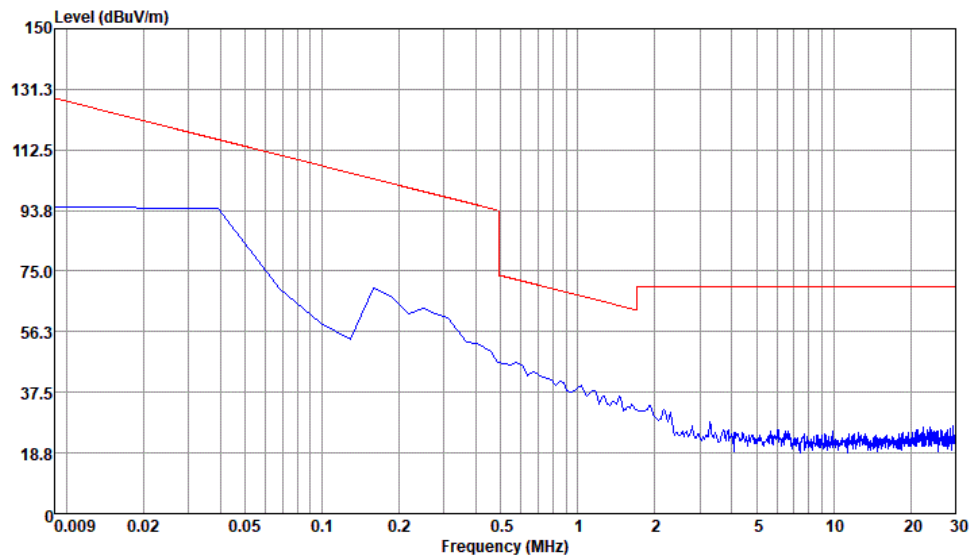




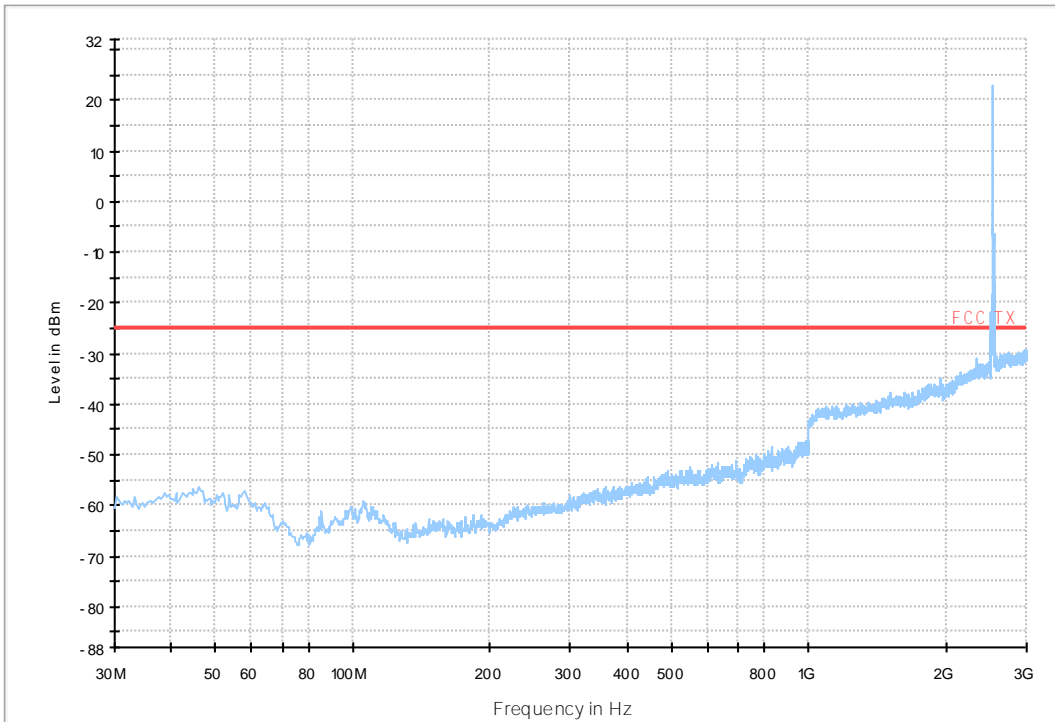
18G-26.5G RSE-TX-DIRECT OR ABOVE 1.5G PK



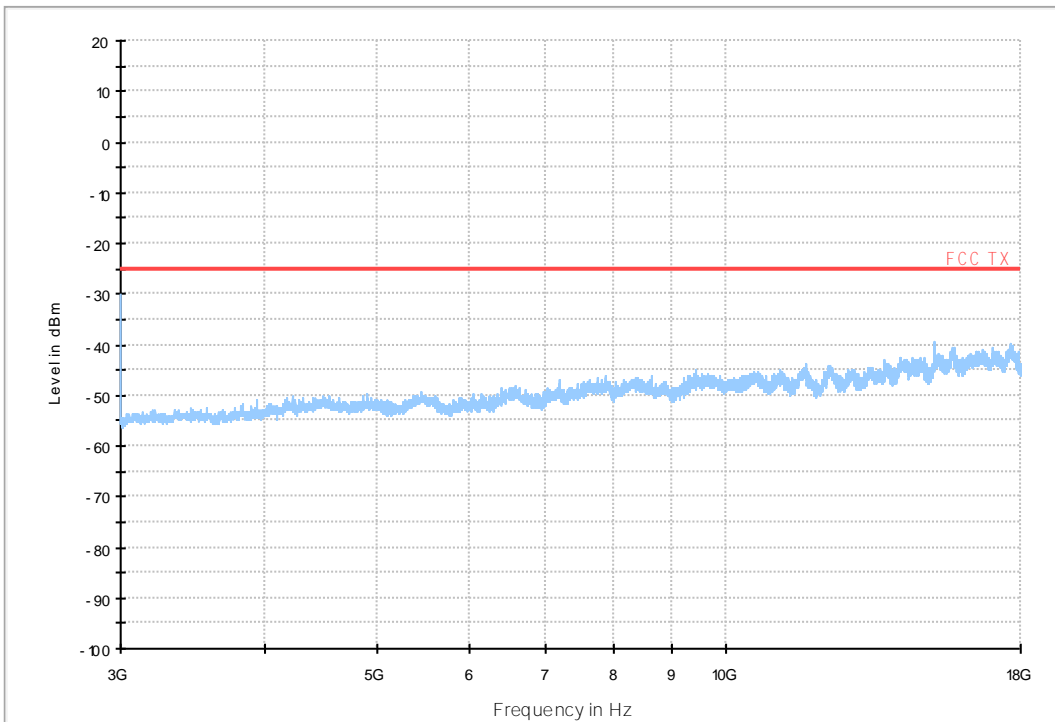
### 7.1.1.2 Test Bandwidth = 20



LTE Band 7 RSE-TX-DIRECTOR ABOVE 1.5G\_L -25dBm limit

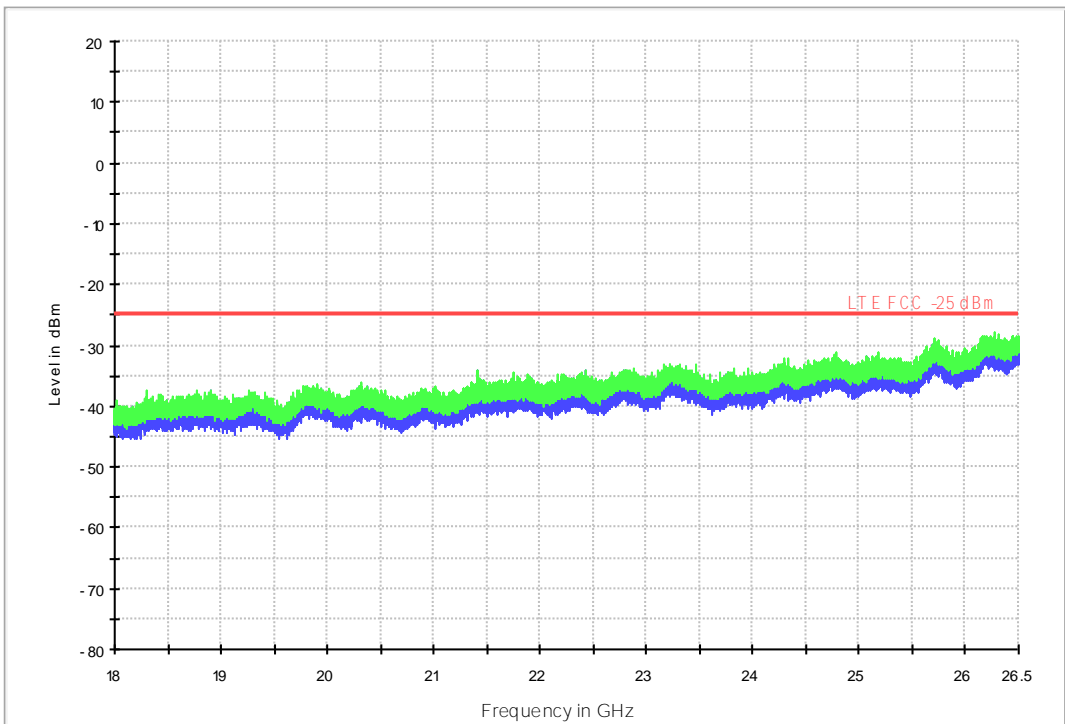


LTE FDD Band 7 RSE-TX-DIRECTOR ABOVE 1.5G\_H -25dBm limit



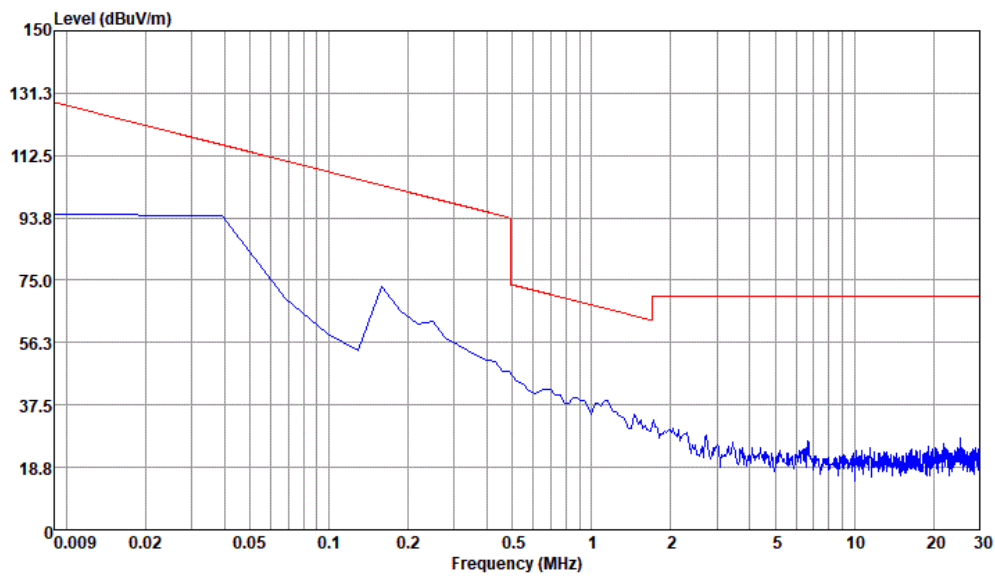


18G-26.5G RSE-TX-DIRECT OR ABOVE 1.5G PK

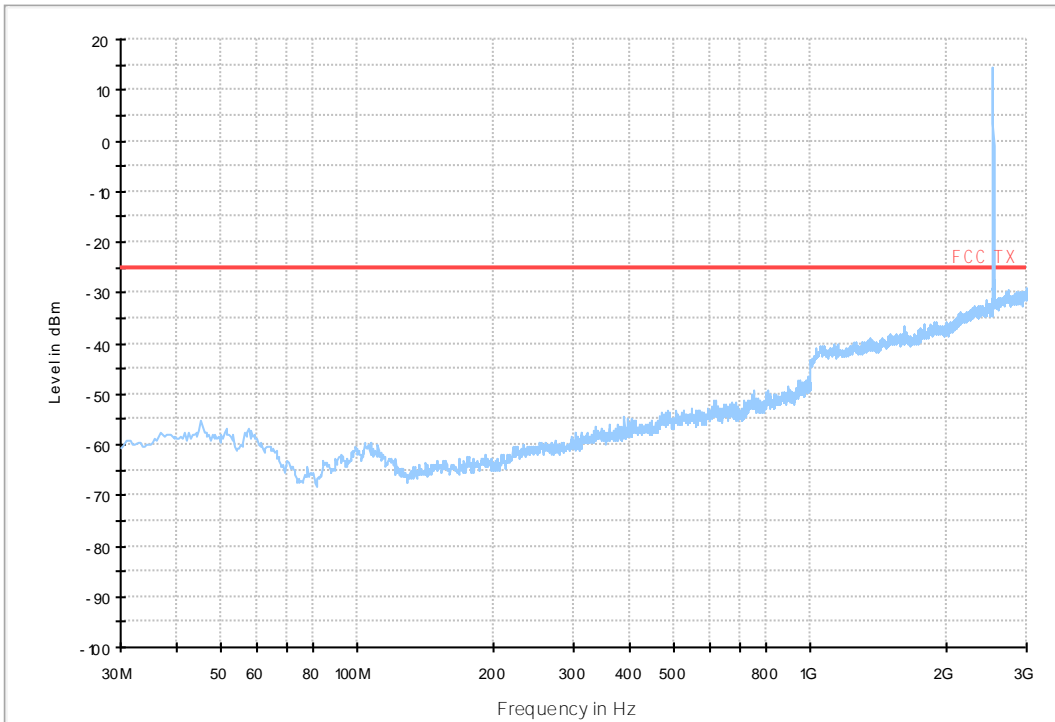


## 7.1.2 Test Band = BAND7\_ External antenna 3dBi

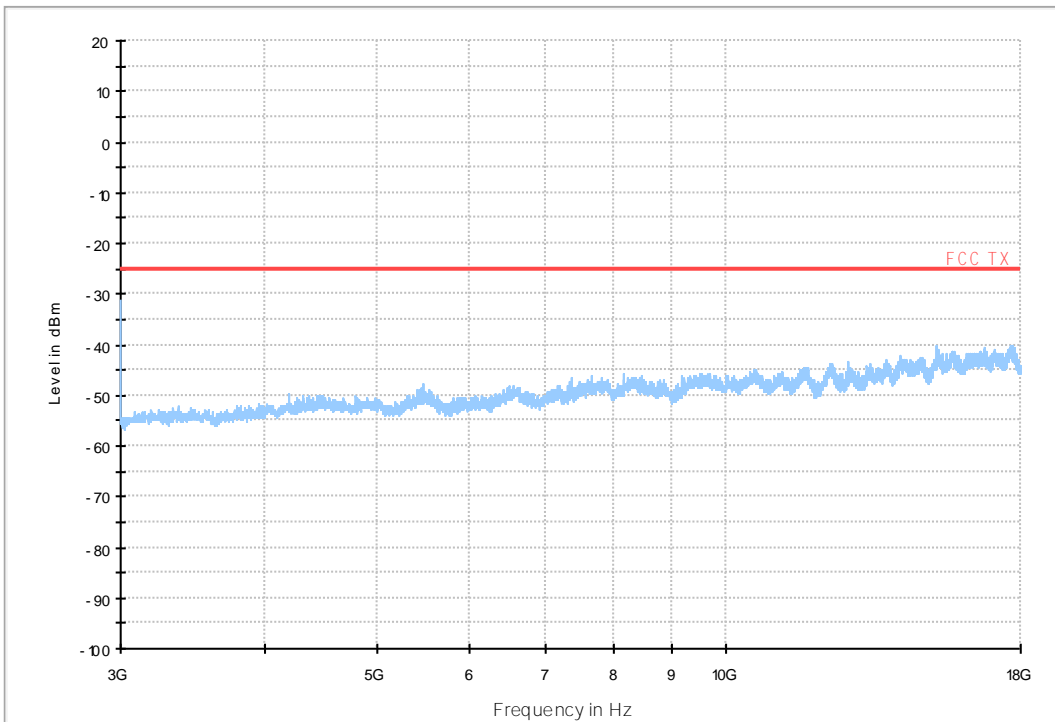
### 7.1.2.1 Test Bandwidth = 5



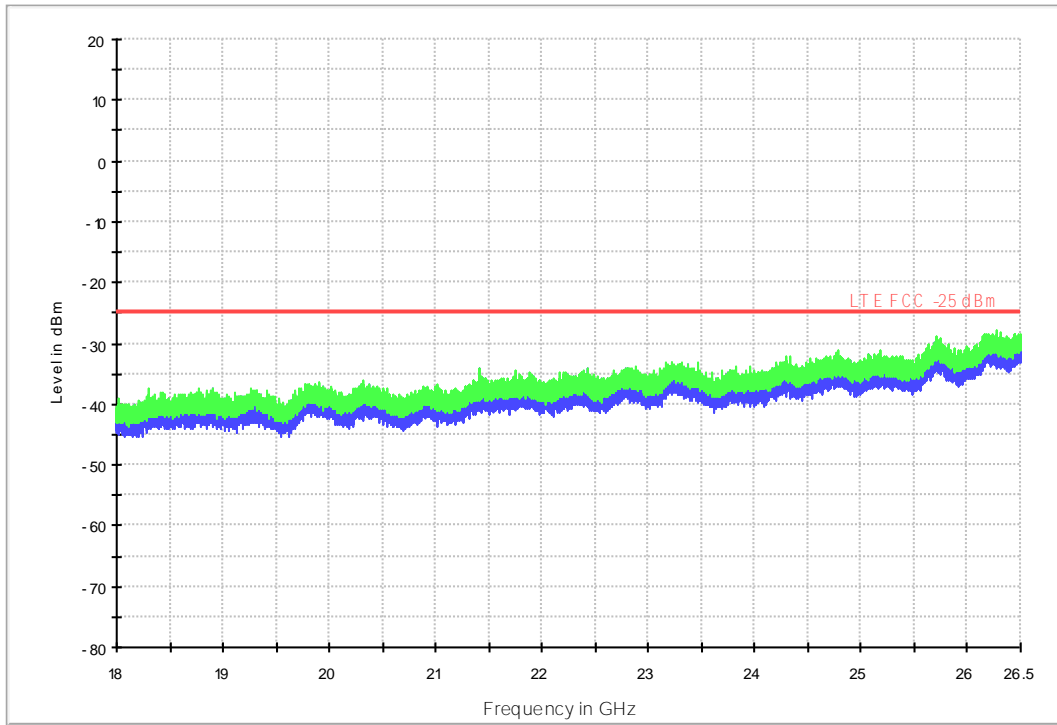
LTE Band 7 RSE-TX-DIRECTOR ABOVE 1.5G\_L -25dBm limit



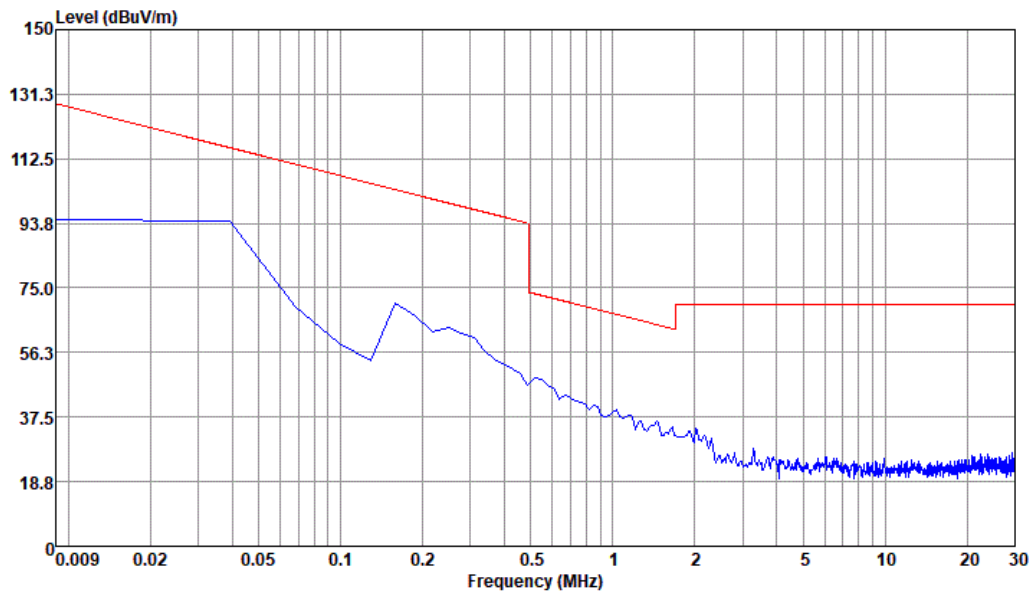
LTE FDD Band 7 RSE-TX-DIRECTOR ABOVE 1.5G\_H -25dBm limit



18G-26.5G RSE-TX-DIRECT OR ABOVE 1.5G PK



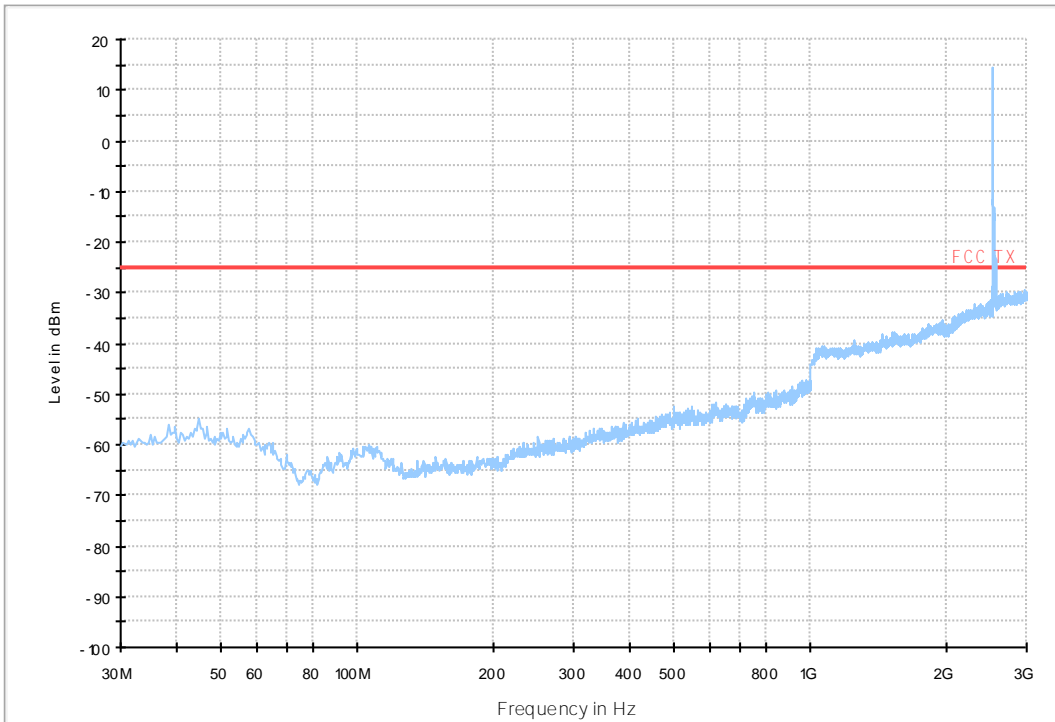
### 7.1.2.2 Test Bandwidth = 20



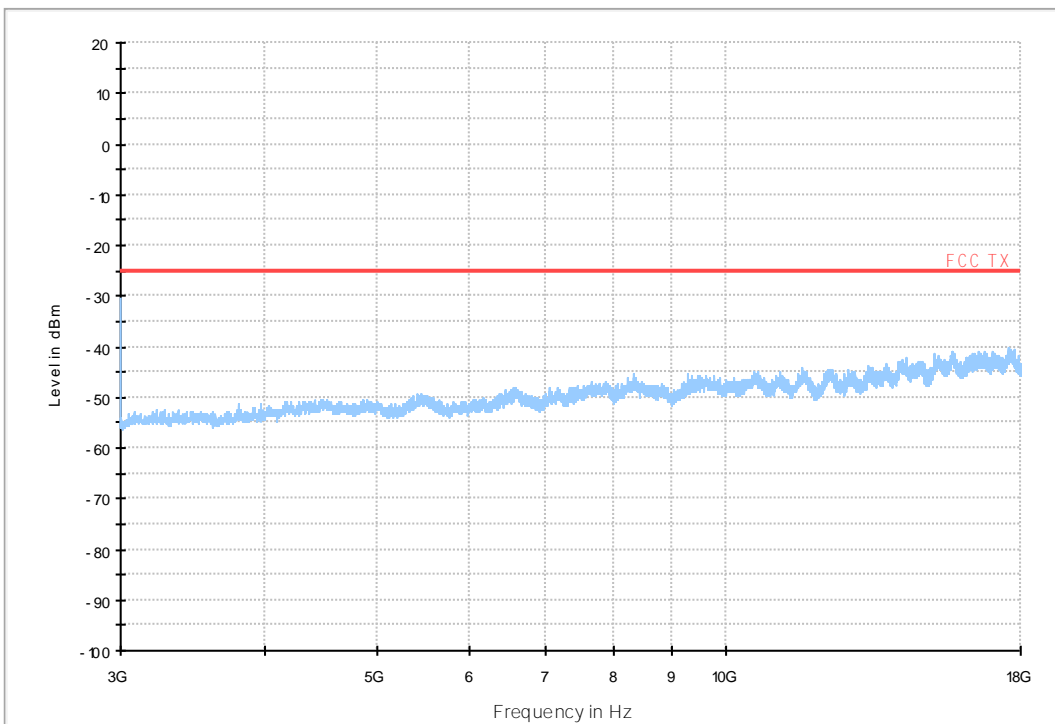




LTE Band 7 RSE-TX-DIRECTOR ABOVE 1.5G\_L -25dBm limit

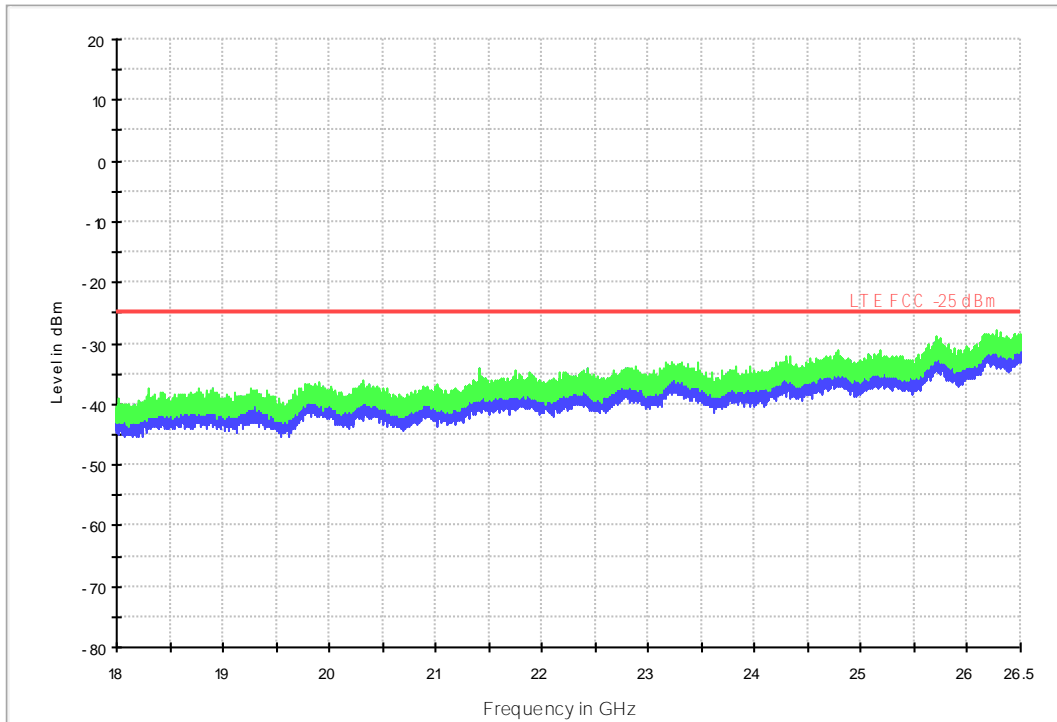


LTE FDD Band 7 RSE-TX-DIRECTOR ABOVE 1.5G\_H -25dBm limit





18G-26.5G RSE-TX-DIRECT OR ABOVE 1.5G PK





## 8Appendix\_H: Frequency Stability

Void

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END