



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
Band	LTE/TM1	1.4	LCH	RB1#0	22.8	25.8	33	PASS
				RB1#3	23.01	26.01	33	PASS
				RB1#5	22.99	25.99	33	PASS
				RB3#0	22.82	25.82	33	PASS
				RB3#2	23	26	33	PASS
				RB3#3	23	26	33	PASS
				RB6#0	22.41	25.41	33	PASS
			MCH	RB1#0	22.8	25.8	33	PASS
				RB1#3	22.97	25.97	33	PASS
				RB1#5	22.87	25.87	33	PASS
				RB3#0	22.84	25.84	33	PASS
				RB3#2	22.9	25.9	33	PASS
				RB3#3	22.87	25.87	33	PASS



Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	Test RB	Measured[dBm]	EIRP [dBm]	Limit [dBm]	Verdict
			HCH	RB6#0	22.37	25.37	33	PASS
				RB1#0	23.08	26.08	33	PASS
				RB1#3	23.47	26.47	33	PASS
				RB1#5	23.4	26.4	33	PASS
				RB3#0	23.25	26.25	33	PASS
				RB3#2	23.37	26.37	33	PASS
				RB3#3	23.37	26.37	33	PASS
				RB6#0	22.83	25.83	33	PASS
		3	LCH	RB1#0	22.49	25.49	33	PASS
				RB1#7	23.14	26.14	33	PASS
				RB1#14	22.89	25.89	33	PASS
				RB8#0	22.22	25.22	33	PASS
				RB8#4	22.51	25.51	33	PASS
				RB8#7	22.47	25.47	33	PASS
				RB15#0	22.39	25.39	33	PASS
			MCH	RB1#0	22.38	25.38	33	PASS
				RB1#7	22.94	25.94	33	PASS



Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	Test RB	Measured[dBm]	EIRP [dBm]	Limit [dBm]	Verdict
				RB1#14	22.75	25.75	33	PASS
				RB8#0	22.16	25.16	33	PASS
				RB8#4	22.29	25.29	33	PASS
				RB8#7	22.29	25.29	33	PASS
				RB15#0	22.2	25.2	33	PASS
			HCH	RB1#0	22.57	25.57	33	PASS
				RB1#7	23.21	26.21	33	PASS
				RB1#14	23.2	26.2	33	PASS
				RB8#0	22.31	25.31	33	PASS
				RB8#4	22.61	25.61	33	PASS
				RB8#7	22.76	25.76	33	PASS
				RB15#0	22.51	25.51	33	PASS
		5	LCH	RB1#0	22.66	25.66	33	PASS
				RB1#13	23.52	26.52	33	PASS
				RB1#24	22.79	25.79	33	PASS
				RB12#0	22.73	25.73	33	PASS
				RB12#6	22.88	25.88	33	PASS



Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	Test RB	Measured[dBm]	EIRP [dBm]	Limit [dBm]	Verdict
				RB12#13	22.64	25.64	33	PASS
				RB25#0	22.69	25.69	33	PASS
			MCH	RB1#0	22.68	25.68	33	PASS
				RB1#13	23.38	26.38	33	PASS
				RB1#24	22.79	25.79	33	PASS
				RB12#0	22.54	25.54	33	PASS
				RB12#6	22.85	25.85	33	PASS
				RB12#13	22.67	25.67	33	PASS
				RB25#0	22.66	25.66	33	PASS
			HCH	RB1#0	22.8	25.8	33	PASS
				RB1#13	23.56	26.56	33	PASS
				RB1#24	23.28	26.28	33	PASS
				RB12#0	22.74	25.74	33	PASS
				RB12#6	23.04	26.04	33	PASS
				RB12#13	22.99	25.99	33	PASS



Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	Test RB	Measured[dBm]	EIRP [dBm]	Limit [dBm]	Verdict
		10		RB25#0	22.96	25.96	33	PASS
				RB1#0	23.26	26.26	33	PASS
			LCH	RB1#25	23.64	26.64	33	PASS
				RB1#49	23.13	26.13	33	PASS
				RB25#0	22.62	25.62	33	PASS
				RB25#13	22.76	25.76	33	PASS
				RB25#25	22.66	25.66	33	PASS
				RB50#0	22.62	25.62	33	PASS
			MCH	RB1#0	23.16	26.16	33	PASS
				RB1#25	23.59	26.59	33	PASS
				RB1#49	23.66	26.66	33	PASS
				RB25#0	22.53	25.53	33	PASS
				RB25#13	22.76	25.76	33	PASS
				RB25#25	22.71	25.71	33	PASS
				RB50#0	22.65	25.65	33	PASS



Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	Test RB	Measured[dBm]	EIRP [dBm]	Limit [dBm]	Verdict
			HCH	RB1#0	23.17	26.17	33	PASS
				RB1#25	23.63	26.63	33	PASS
				RB1#49	23.63	26.63	33	PASS
				RB25#0	22.36	25.36	33	PASS
				RB25#13	22.78	25.78	33	PASS
				RB25#25	22.88	25.88	33	PASS
				RB50#0	22.73	25.73	33	PASS
		15	LCH	RB1#0	22.87	25.87	33	PASS
				RB1#38	22.86	25.86	33	PASS
				RB1#74	22.6	25.6	33	PASS
				RB38#0	22.34	25.34	33	PASS
				RB38#19	22.4	25.4	33	PASS
				RB38#39	22.28	25.28	33	PASS
				RB75#0	22.42	25.42	33	PASS
			MCH	RB1#0	22.8	25.8	33	PASS

Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	Test RB	Measured[dBm]	EIRP [dBm]	Limit [dBm]	Verdict
				RB1#38	22.91	25.91	33	PASS
				RB1#74	23.25	26.25	33	PASS
				RB38#0	22.21	25.21	33	PASS
				RB38#19	22.3	25.3	33	PASS
				RB38#39	22.72	25.72	33	PASS
				RB75#0	22.43	25.43	33	PASS
			HCH	RB1#0	23.15	26.15	33	PASS
				RB1#38	22.74	25.74	33	PASS
				RB1#74	23.16	26.16	33	PASS
				RB38#0	22.06	25.06	33	PASS
				RB38#19	22.13	25.13	33	PASS
				RB38#39	22.28	25.28	33	PASS
				RB75#0	22.47	25.47	33	PASS
		20	LCH	RB1#0	23.57	26.57	33	PASS
				RB1#50	23.15	26.15	33	PASS

Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	Test RB	Measured[dBm]	EIRP [dBm]	Limit [dBm]	Verdict
				RB1#99	23.45	26.45	33	PASS
				RB50#0	22.7	25.7	33	PASS
				RB50#25	22.52	25.52	33	PASS
				RB50#50	22.71	25.71	33	PASS
				RB100#0	22.68	25.68	33	PASS
			MCH	RB1#0	23.46	26.46	33	PASS
				RB1#50	23.08	26.08	33	PASS
				RB1#99	24.01	27.01	33	PASS
				RB50#0	22.59	25.59	33	PASS
				RB50#25	22.65	25.65	33	PASS
				RB50#50	23.05	26.05	33	PASS
				RB100#0	22.92	25.92	33	PASS
			HCH	RB1#0	24.07	27.07	33	PASS
				RB1#50	23.02	26.02	33	PASS

Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	Test RB	Measured[dBm]	EIRP [dBm]	Limit [dBm]	Verdict
				RB1#99	23.69	26.69	33	PASS
				RB50#0	22.94	25.94	33	PASS
				RB50#25	22.63	25.63	33	PASS
				RB50#50	22.85	25.85	33	PASS
				RB100#0	22.96	25.96	33	PASS
	LTE/TM2	1.4	LCH	RB1#0	22.13	25.13	33	PASS
				RB1#3	22.29	25.29	33	PASS
				RB1#5	22.33	25.33	33	PASS
				RB3#0	22.22	25.22	33	PASS
				RB3#2	22.41	25.41	33	PASS
				RB3#3	22.4	25.4	33	PASS
				RB6#0	21.22	24.22	33	PASS
			MCH	RB1#0	22.22	25.22	33	PASS
				RB1#3	22.45	25.45	33	PASS
				RB1#5	22.44	25.44	33	PASS

Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	Test RB	Measured[dBm]	EIRP [dBm]	Limit [dBm]	Verdict
				RB3#0	22.31	25.31	33	PASS
				RB3#2	22.37	25.37	33	PASS
				RB3#3	22.38	25.38	33	PASS
				RB6#0	21.25	24.25	33	PASS
			HCH	RB1#0	22.59	25.59	33	PASS
				RB1#3	23.02	26.02	33	PASS
				RB1#5	22.96	25.96	33	PASS
				RB3#0	22.78	25.78	33	PASS
				RB3#2	22.89	25.89	33	PASS
				RB3#3	22.89	25.89	33	PASS
				RB6#0	21.79	24.79	33	PASS
		3	LCH	RB1#0	21.94	24.94	33	PASS
				RB1#7	22.56	25.56	33	PASS
				RB1#14	22.31	25.31	33	PASS
				RB8#0	21.08	24.08	33	PASS
				RB8#4	21.38	24.38	33	PASS
				RB8#7	21.35	24.35	33	PASS

Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	Test RB	Measured[dBm]	EIRP [dBm]	Limit [dBm]	Verdict
				RB15#0	21.31	24.31	33	PASS
				RB1#0	21.83	24.83	33	PASS
			MCH	RB1#7	22.35	25.35	33	PASS
				RB1#14	22.16	25.16	33	PASS
				RB8#0	21.07	24.07	33	PASS
				RB8#4	21.21	24.21	33	PASS
				RB8#7	21.21	24.21	33	PASS
				RB15#0	21.11	24.11	33	PASS
			HCH	RB1#0	22.14	25.14	33	PASS
				RB1#7	22.79	25.79	33	PASS
				RB1#14	22.81	25.81	33	PASS
				RB8#0	21.3	24.3	33	PASS
				RB8#4	21.6	24.6	33	PASS
				RB8#7	21.76	24.76	33	PASS
				RB15#0	21.56	24.56	33	PASS
		5	LCH	RB1#0	22.32	25.32	33	PASS
				RB1#13	23.16	26.16	33	PASS

Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	Test RB	Measured[dBm]	EIRP [dBm]	Limit [dBm]	Verdict
				RB1#24	22.48	25.48	33	PASS
				RB12#0	21.69	24.69	33	PASS
				RB12#6	21.87	24.87	33	PASS
				RB12#13	21.62	24.62	33	PASS
				RB25#0	21.61	24.61	33	PASS
			MCH	RB1#0	22.3	25.3	33	PASS
				RB1#13	22.94	25.94	33	PASS
				RB1#24	22.39	25.39	33	PASS
				RB12#0	21.41	24.41	33	PASS
				RB12#6	21.7	24.7	33	PASS
				RB12#13	21.53	24.53	33	PASS
				RB25#0	21.5	24.5	33	PASS
			HCH	RB1#0	22.63	25.63	33	PASS
				RB1#13	23.35	26.35	33	PASS
				RB1#24	23.06	26.06	33	PASS
				RB12#0	21.68	24.68	33	PASS

Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	Test RB	Measured[dBm]	EIRP [dBm]	Limit [dBm]	Verdict
				RB12#6	21.97	24.97	33	PASS
				RB12#13	21.9	24.9	33	PASS
				RB25#0	21.93	24.93	33	PASS
		10	LCH	RB1#0	22.76	25.76	33	PASS
				RB1#25	23.21	26.21	33	PASS
				RB1#49	22.78	25.78	33	PASS
				RB25#0	21.49	24.49	33	PASS
				RB25#13	21.64	24.64	33	PASS
				RB25#25	21.53	24.53	33	PASS
				RB50#0	21.5	24.5	33	PASS
			MCH	RB1#0	22.6	25.6	33	PASS
				RB1#25	22.9	25.9	33	PASS
				RB1#49	23.19	26.19	33	PASS
				RB25#0	21.41	24.41	33	PASS
				RB25#13	21.64	24.64	33	PASS

Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	Test RB	Measured[dBm]	EIRP [dBm]	Limit [dBm]	Verdict
				RB25#25	21.6	24.6	33	PASS
				RB50#0	21.54	24.54	33	PASS
			HCH	RB1#0	22.9	25.9	33	PASS
				RB1#25	23.31	26.31	33	PASS
				RB1#49	23.2	26.2	33	PASS
				RB25#0	21.33	24.33	33	PASS
				RB25#13	21.78	24.78	33	PASS
				RB25#25	21.85	24.85	33	PASS
				RB50#0	21.71	24.71	33	PASS
		15	LCH	RB1#0	22.74	25.74	33	PASS
				RB1#38	22.76	25.76	33	PASS
				RB1#74	22.47	25.47	33	PASS
				RB38#0	21.38	24.38	33	PASS
				RB38#19	21.3	24.3	33	PASS
				RB38#39	21.2	24.2	33	PASS



Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	Test RB	Measured[dBm]	EIRP [dBm]	Limit [dBm]	Verdict
				RB75#0	21.35	24.35	33	PASS
				RB1#0	22.5	25.5	33	PASS
			MCH	RB1#38	22.62	25.62	33	PASS
				RB1#74	22.94	25.94	33	PASS
				RB38#0	21.16	24.16	33	PASS
				RB38#19	21.24	24.24	33	PASS
				RB38#39	21.65	24.65	33	PASS
				RB75#0	21.37	24.37	33	PASS
			HCH	RB1#0	22.86	25.86	33	PASS
				RB1#38	22.48	25.48	33	PASS
				RB1#74	22.94	25.94	33	PASS
				RB38#0	21	24	33	PASS
				RB38#19	21.03	24.03	33	PASS
				RB38#39	21.22	24.22	33	PASS
				RB75#0	21.38	24.38	33	PASS



Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	Test RB	Measured[dBm]	EIRP [dBm]	Limit [dBm]	Verdict
		20	LCH	RB1#0	23.36	26.36	33	PASS
				RB1#50	22.89	25.89	33	PASS
				RB1#99	23.25	26.25	33	PASS
				RB50#0	21.64	24.64	33	PASS
				RB50#25	21.46	24.46	33	PASS
				RB50#50	21.68	24.68	33	PASS
				RB100#0	21.67	24.67	33	PASS
			MCH	RB1#0	23.08	26.08	33	PASS
				RB1#50	22.68	25.68	33	PASS
				RB1#99	23.67	26.67	33	PASS
				RB50#0	21.59	24.59	33	PASS
				RB50#25	21.53	24.53	33	PASS
				RB50#50	21.93	24.93	33	PASS
				RB100#0	21.83	24.83	33	PASS

Test Band(LTE)	Test Mode	Test Bandwidth	Test Channel	Test RB	Measured[dBm]	EIRP [dBm]	Limit [dBm]	Verdict
			HCH	RB1#0	23.72	26.72	33	PASS
				RB1#50	22.66	25.66	33	PASS
				RB1#99	23.35	26.35	33	PASS
				RB50#0	21.83	24.83	33	PASS
				RB50#25	21.52	24.52	33	PASS
				RB50#50	21.76	24.76	33	PASS
				RB100#0	21.85	24.85	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

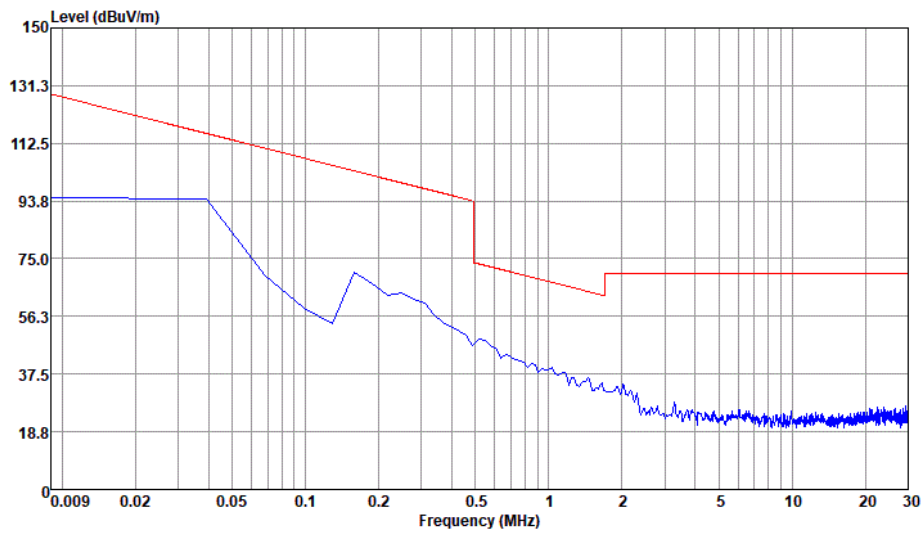
Above 1GHz, RBW = 1 MHz, VBW = 3 MHz. Detector: PK

Part I - Test Plots

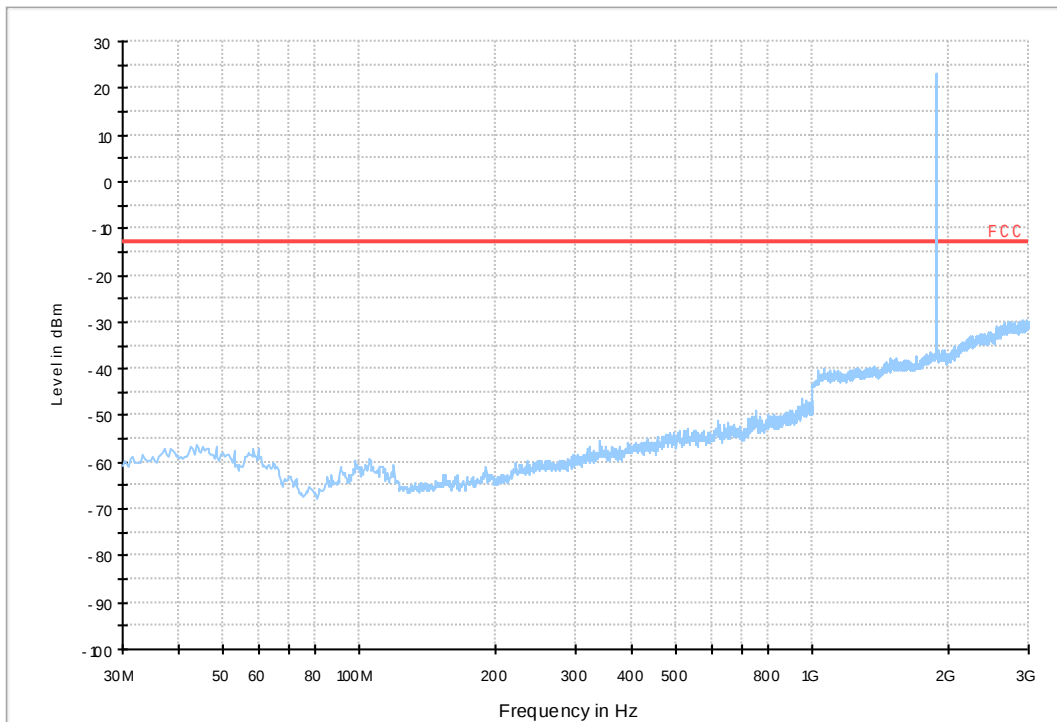
7.1 For LTE

7.1.1 Test Band = BAND2_ External antenna 1dBi

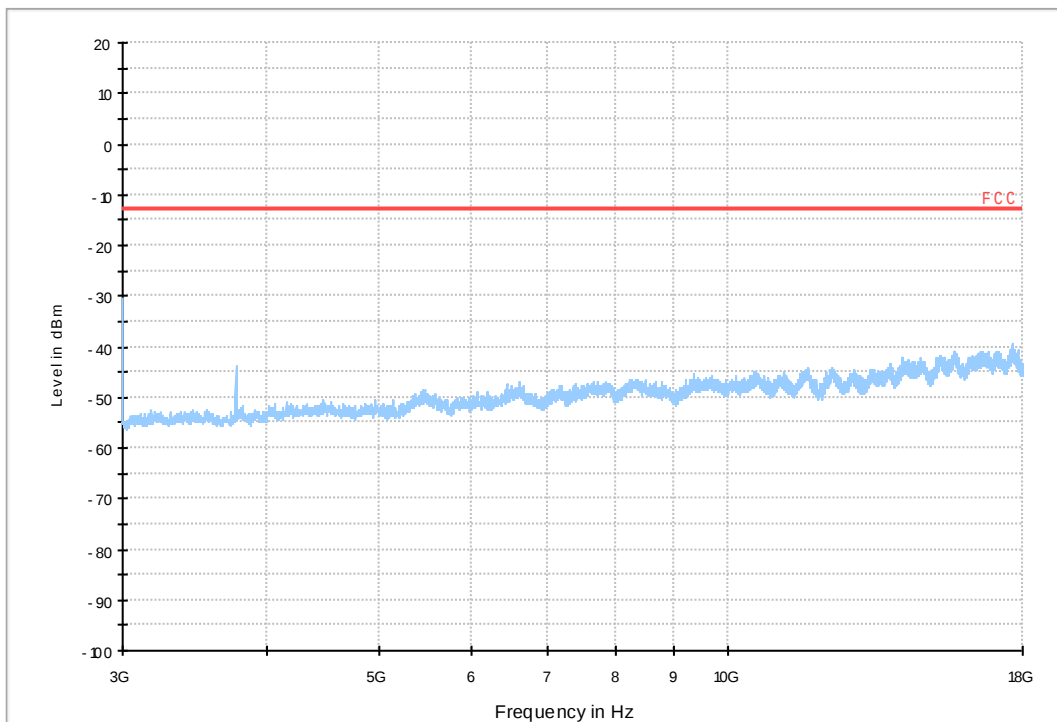
7.1.1.1 Test Bandwidth = 1.4



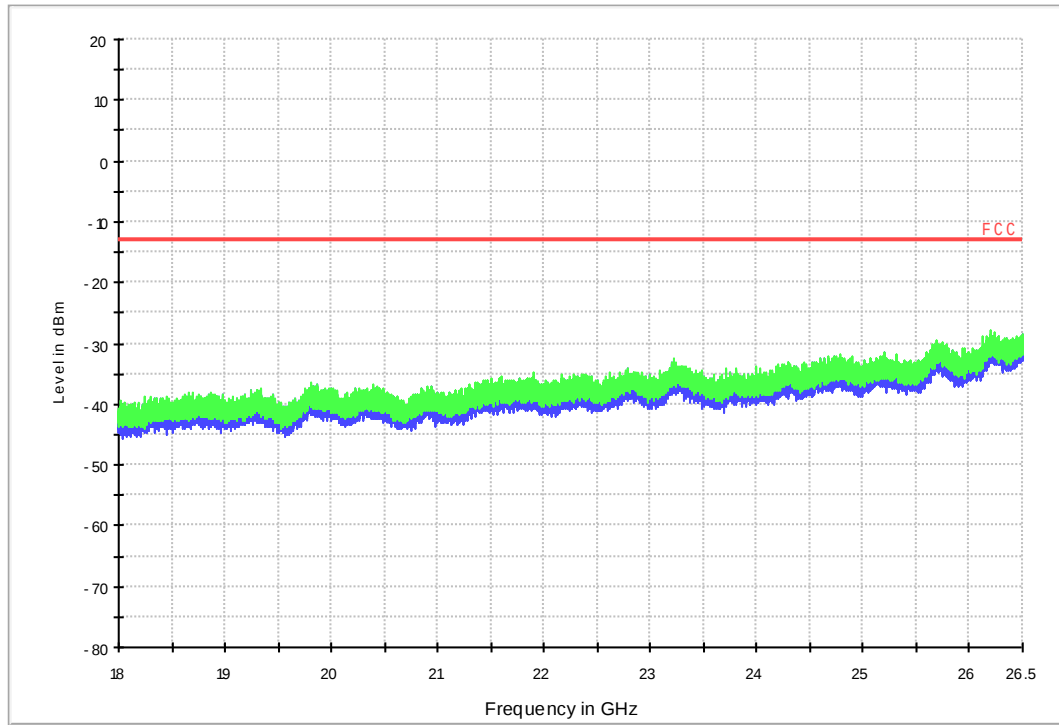
LTE FDD RSE-TX-DIRECTOR ABOVE 1.5G_L



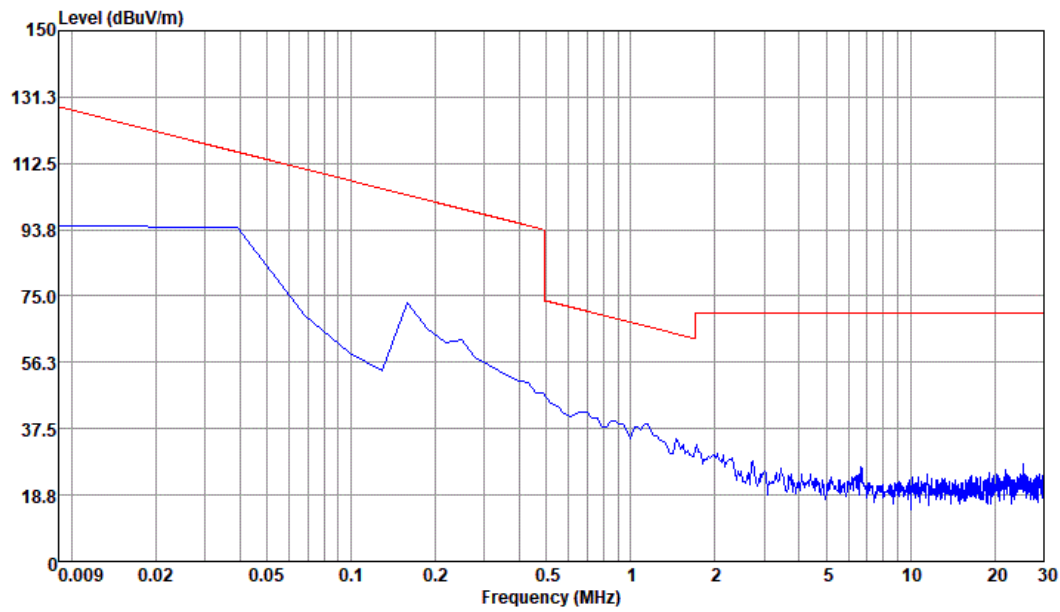
LTE FDD RSE-TX-DIRECTOR ABOVE 1.5G_H



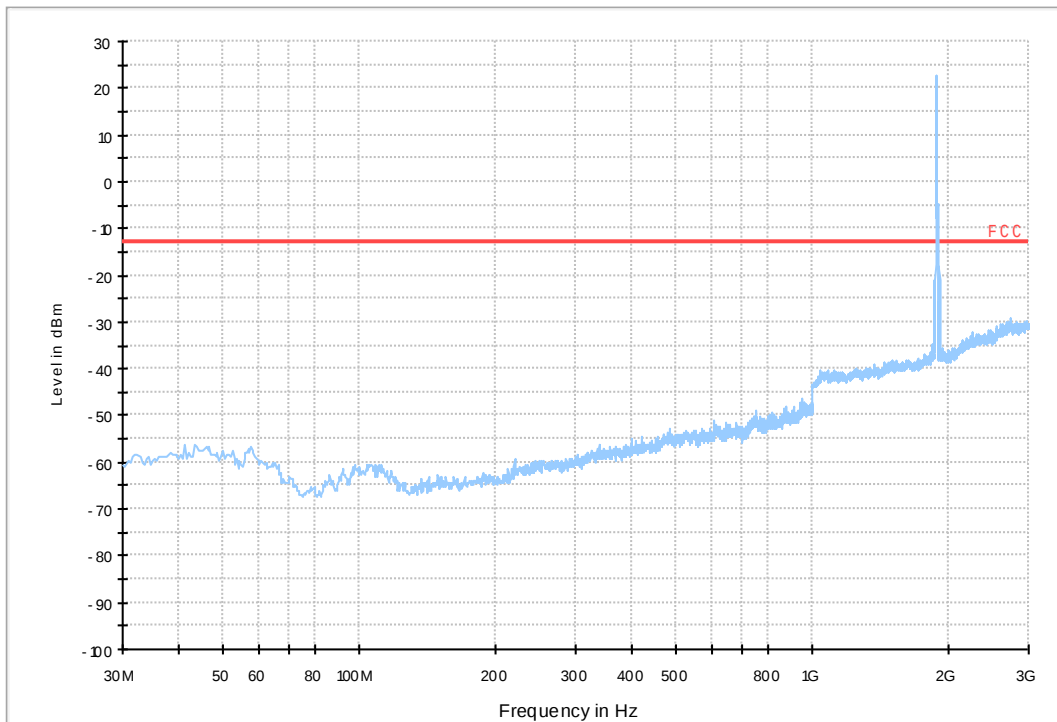
18G~26.5G RSE-TX-DIRECTOR ABOVE 1.5G PK



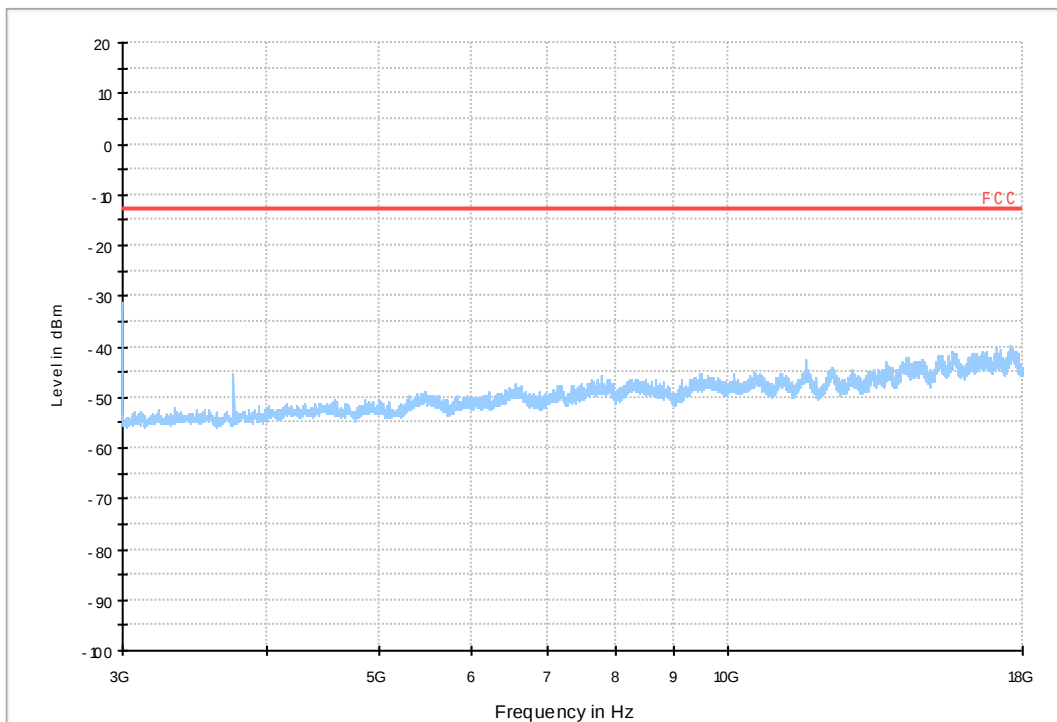
7.1.1.2 Test Bandwidth = 20



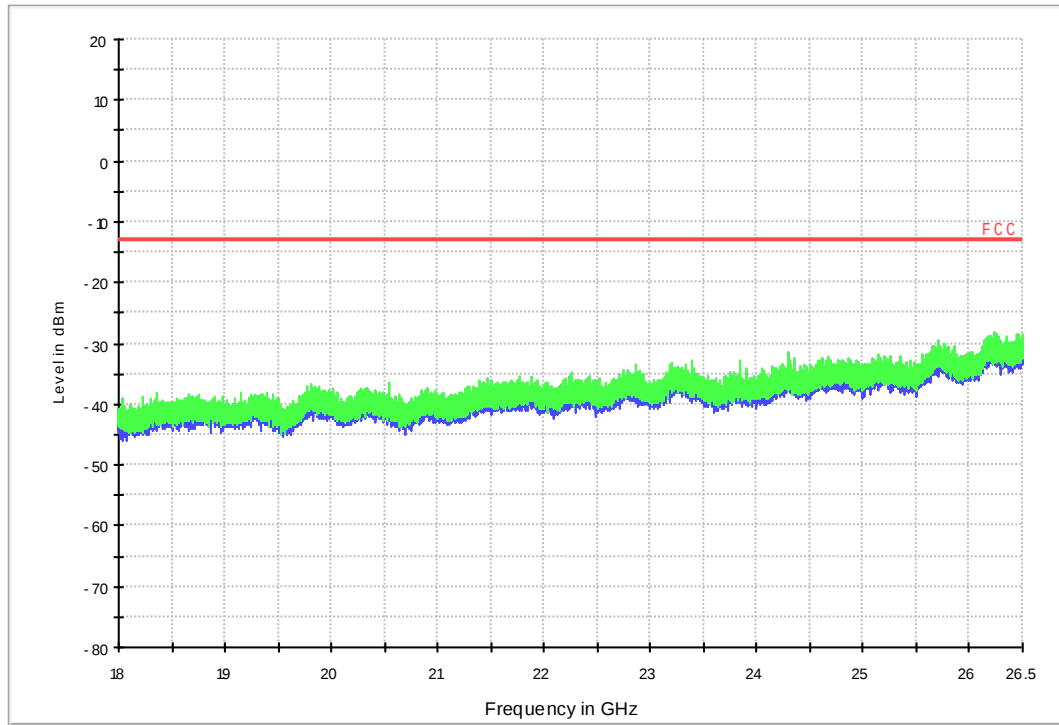
LTE FDD R SE-TX-DIRECTOR ABOVE 1.5G_L



LTE FDD R SE-TX-DIRECTOR ABOVE 1.5G_H

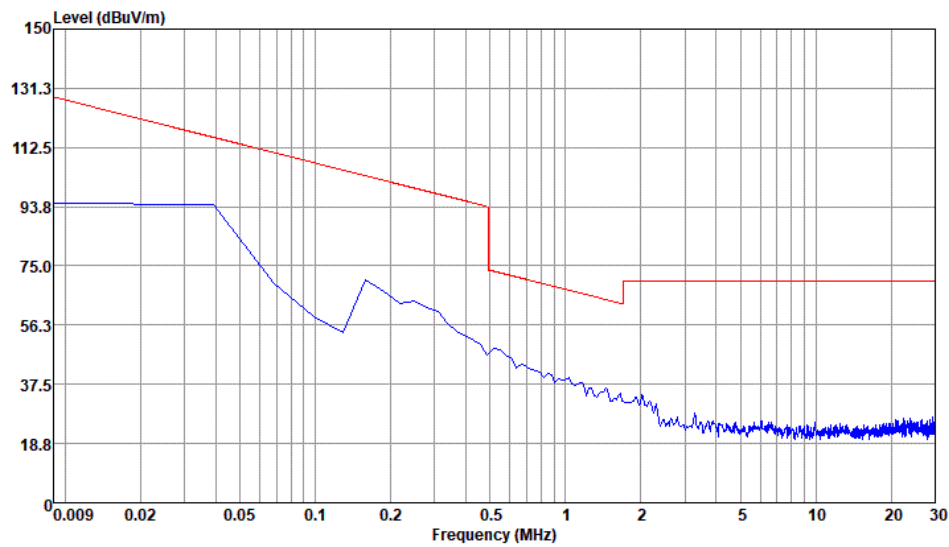


18G~26.5G RSE-TX-DIRECTOR ABOVE 1.5G PK

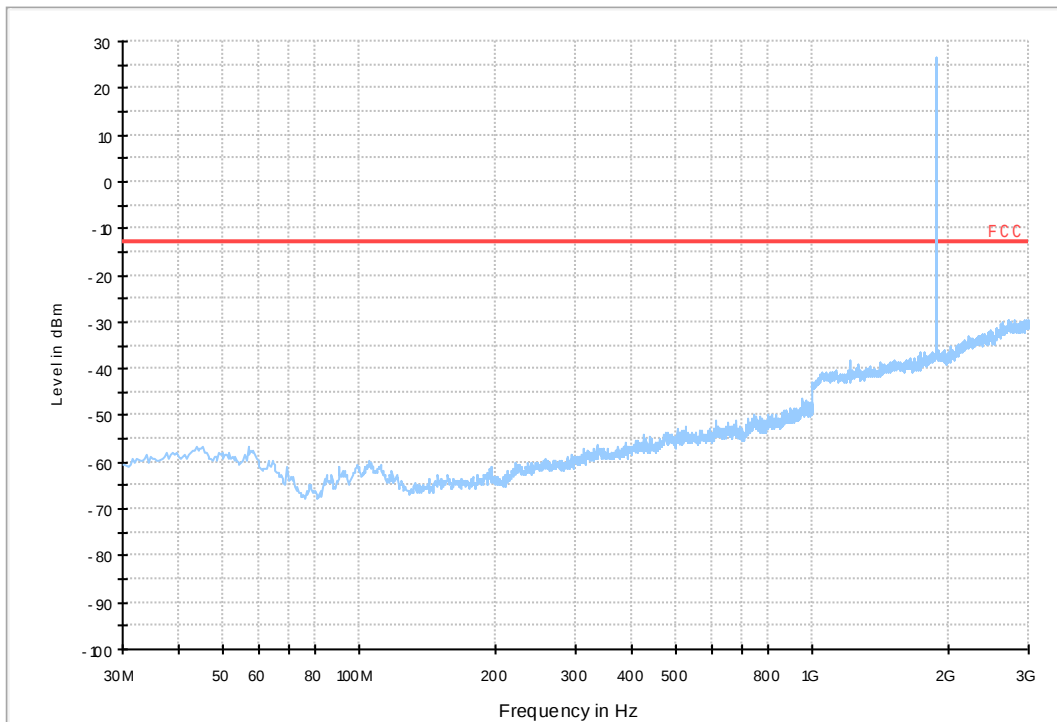


7.1.2 Test Band = BAND2_ External antenna 3dBi

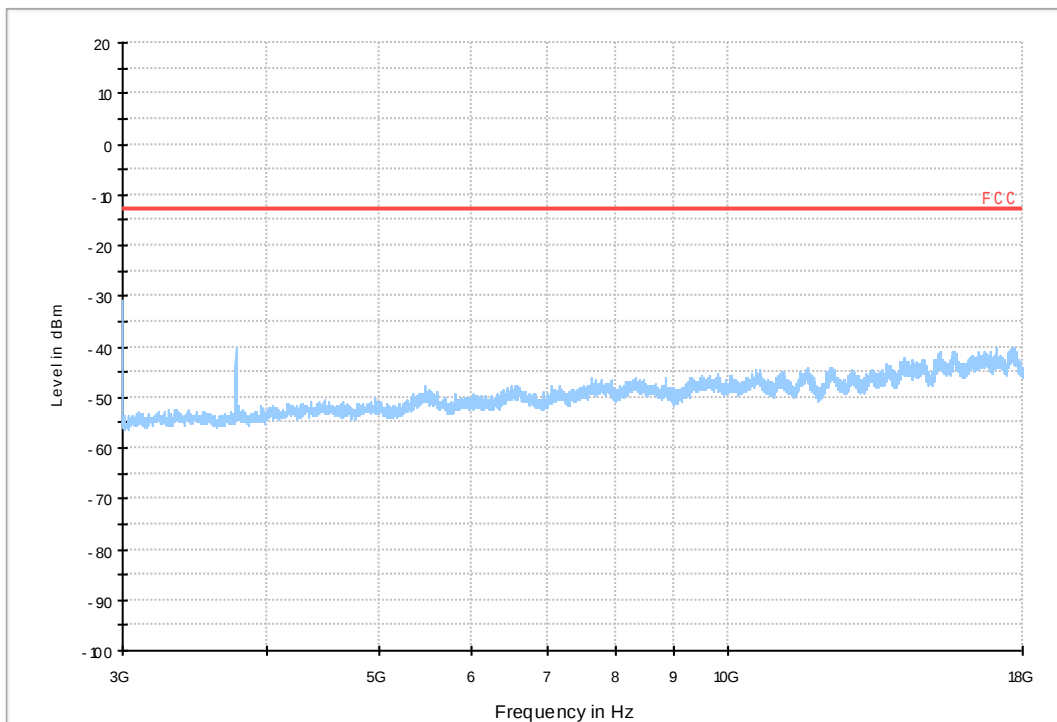
7.1.2.1 Test Bandwidth = 1.4



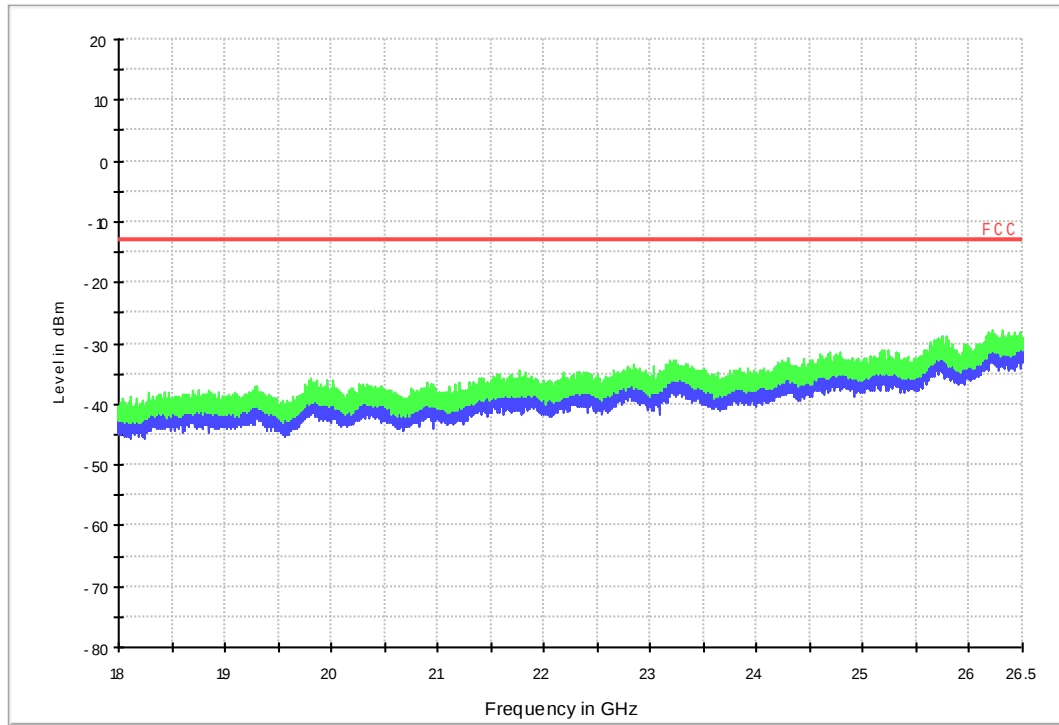
LTE FDD R SE-TX-DIRECTOR ABOVE 1.5G_L



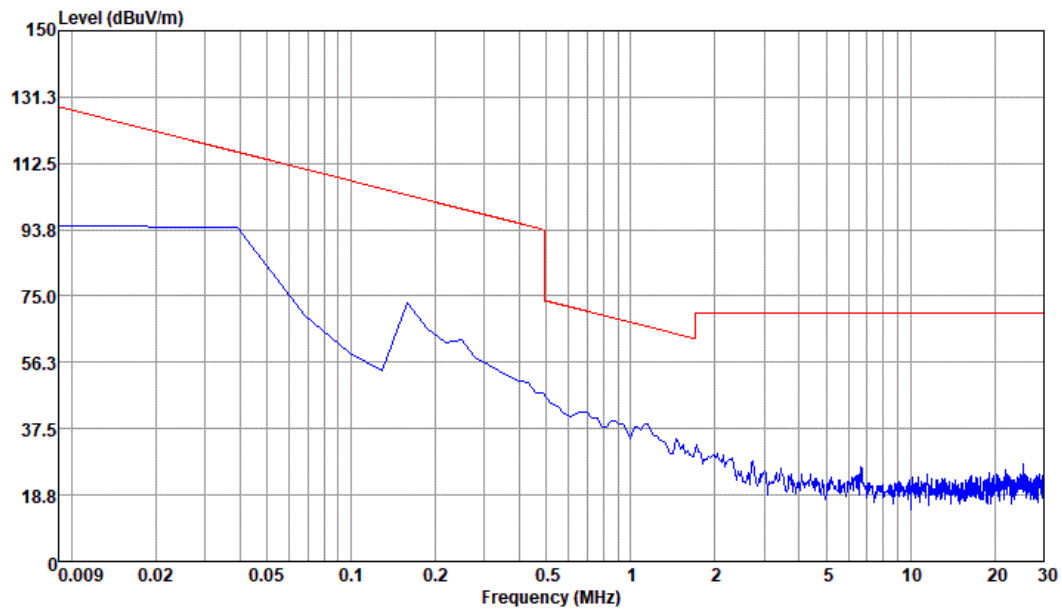
LTE FDD R SE-TX-DIRECTOR ABOVE 1.5G_H



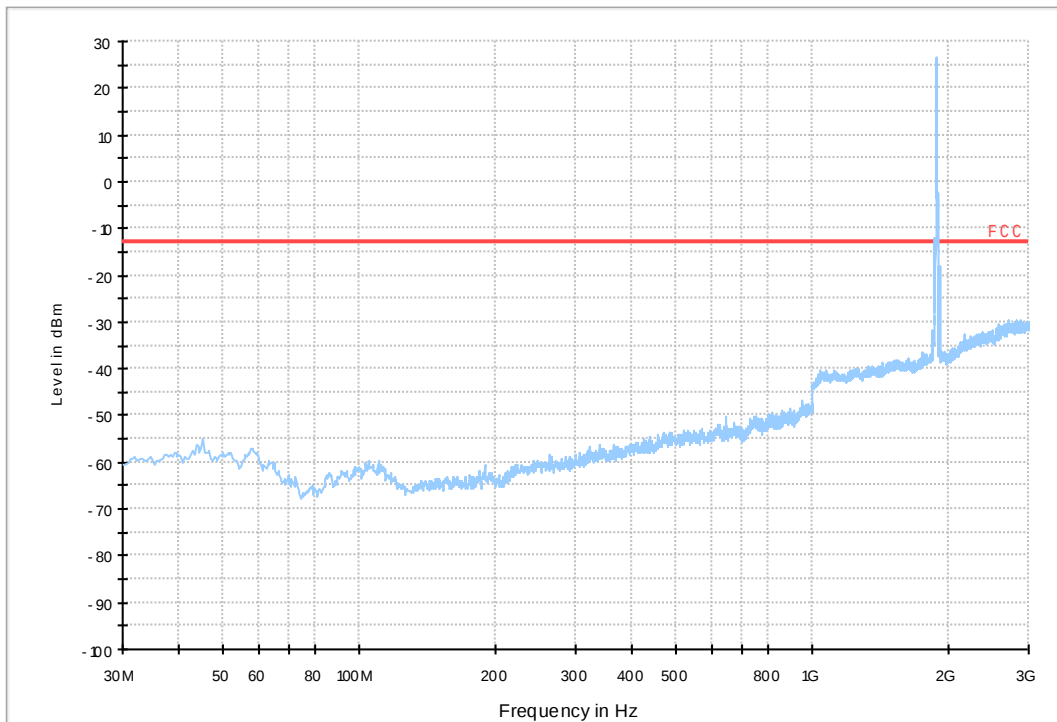
18G~26.5G RSE-TX-DIRECTOR ABOVE 1.5G PK



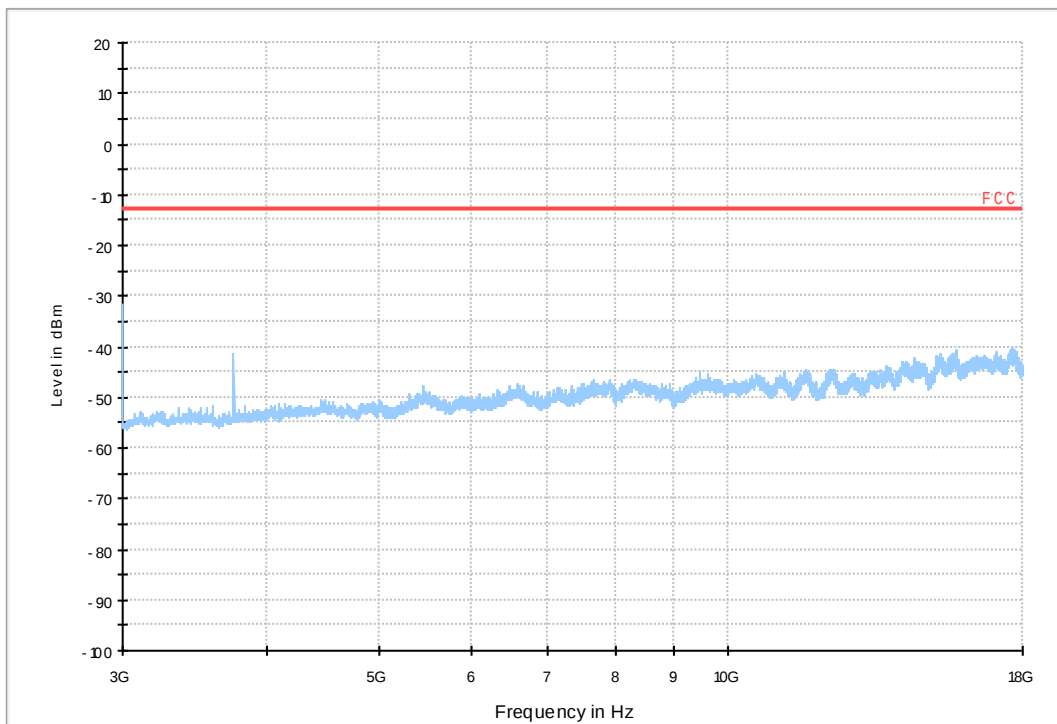
7.1.2.2 Test Bandwidth = 20



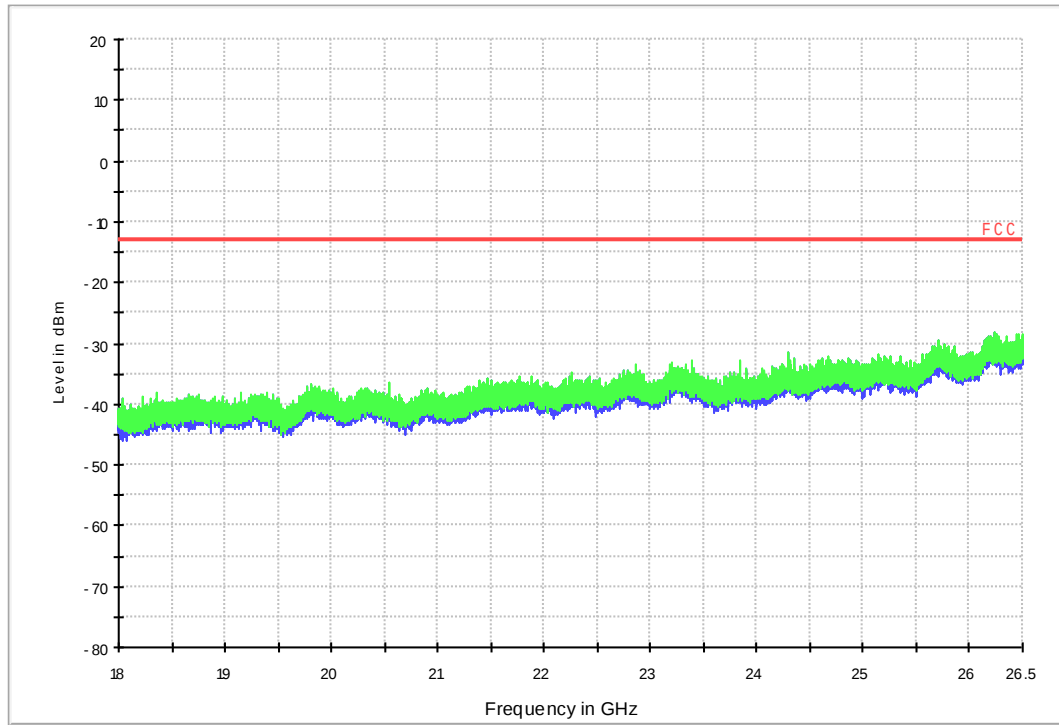
LTE FDD R SE-TX-DIRECTOR ABOVE 1.5G_L



LTE FDD R SE-TX-DIRECTOR ABOVE 1.5G_H



18G~26.5G RSE-TX-DIRECTOR ABOVE 1.5G PK





7Appendix_G Frequency Stability

void

END