



Appendix B

RF Test Data for BT V4.2 (Conducted Measurement)

Product Name: Tablet

Trade Mark: HYUNDAI

Test Model: 7GB1

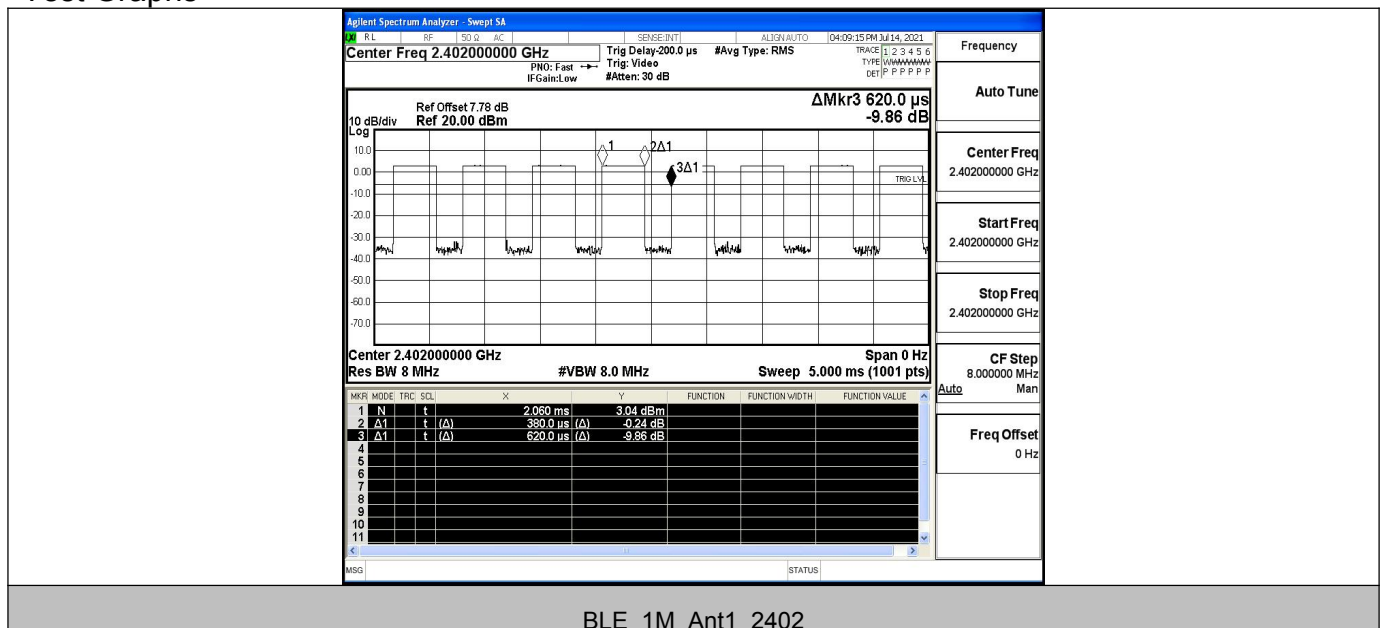
Environmental Conditions

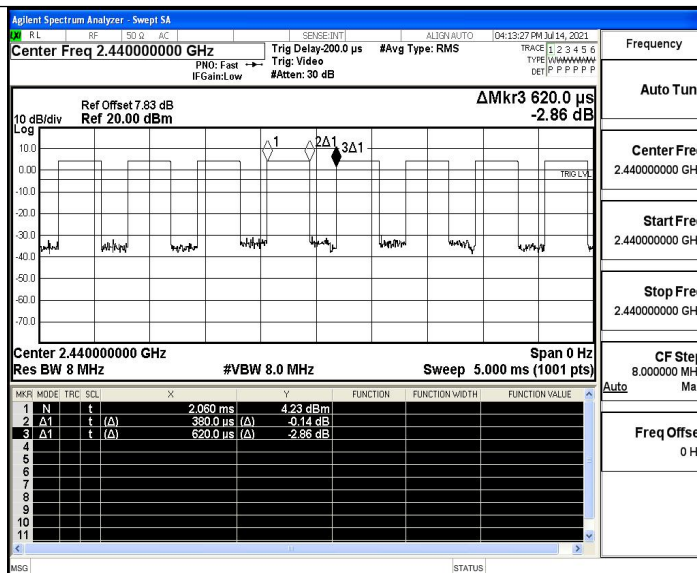
Temperature:	21.5° C
Relative Humidity:	52.8%
ATM Pressure:	100.0 kPa
Test Engineer:	Ken He
Supervised by:	Li Huan

B.1 Duty Cycle

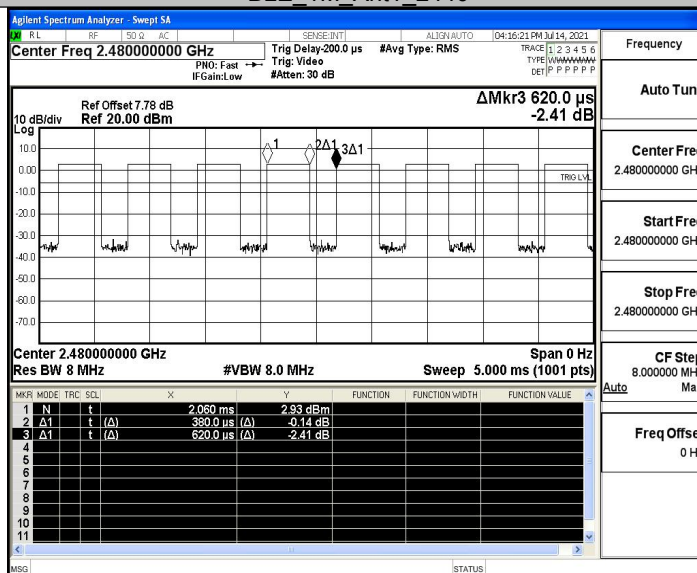
TestMode	Antenna	Channel	ON Time [ms]	Period [ms]	X	DC [%]	xFactor	Limit	Verdict
BLE_1M	Ant1	2402	0.38	0.62	0.6129	61.29	2.13	---	PASS
		2440	0.38	0.62	0.6129	61.29	2.13	---	PASS
		2480	0.38	0.62	0.6129	61.29	2.13	---	PASS

Test Graphs





BLE_1M_Ant1_2440



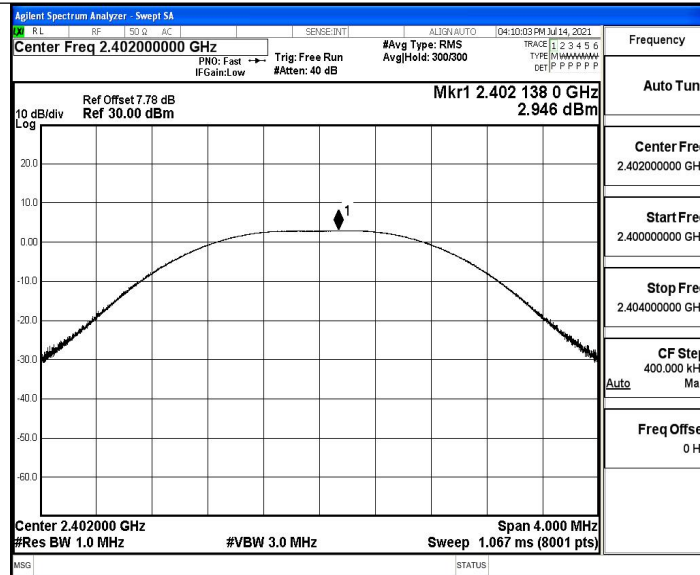
BLE_1M_Ant1_2480



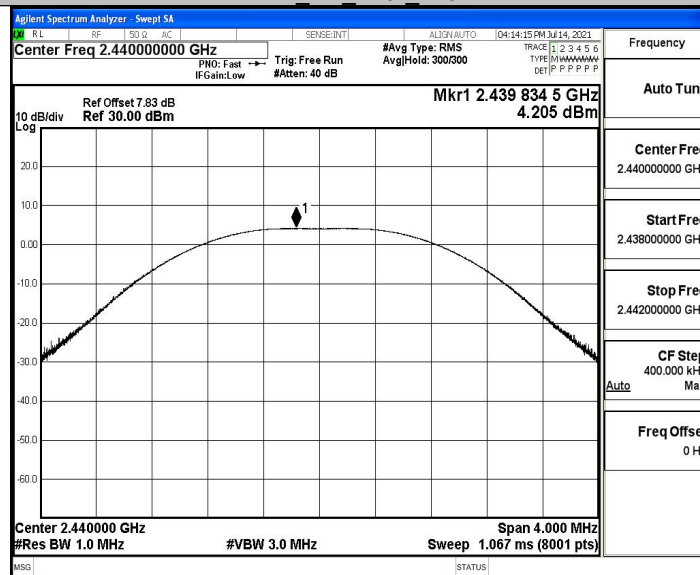
B.2 Maximum Conducted Peak Output Power

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	2.95	≤30	PASS
		2440	4.21	≤30	PASS
		2480	2.89	≤30	PASS

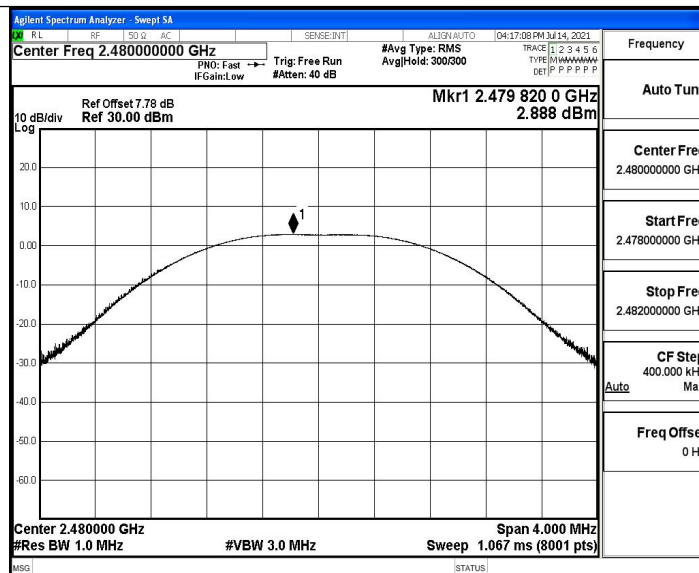
Test Graphs



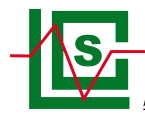
BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



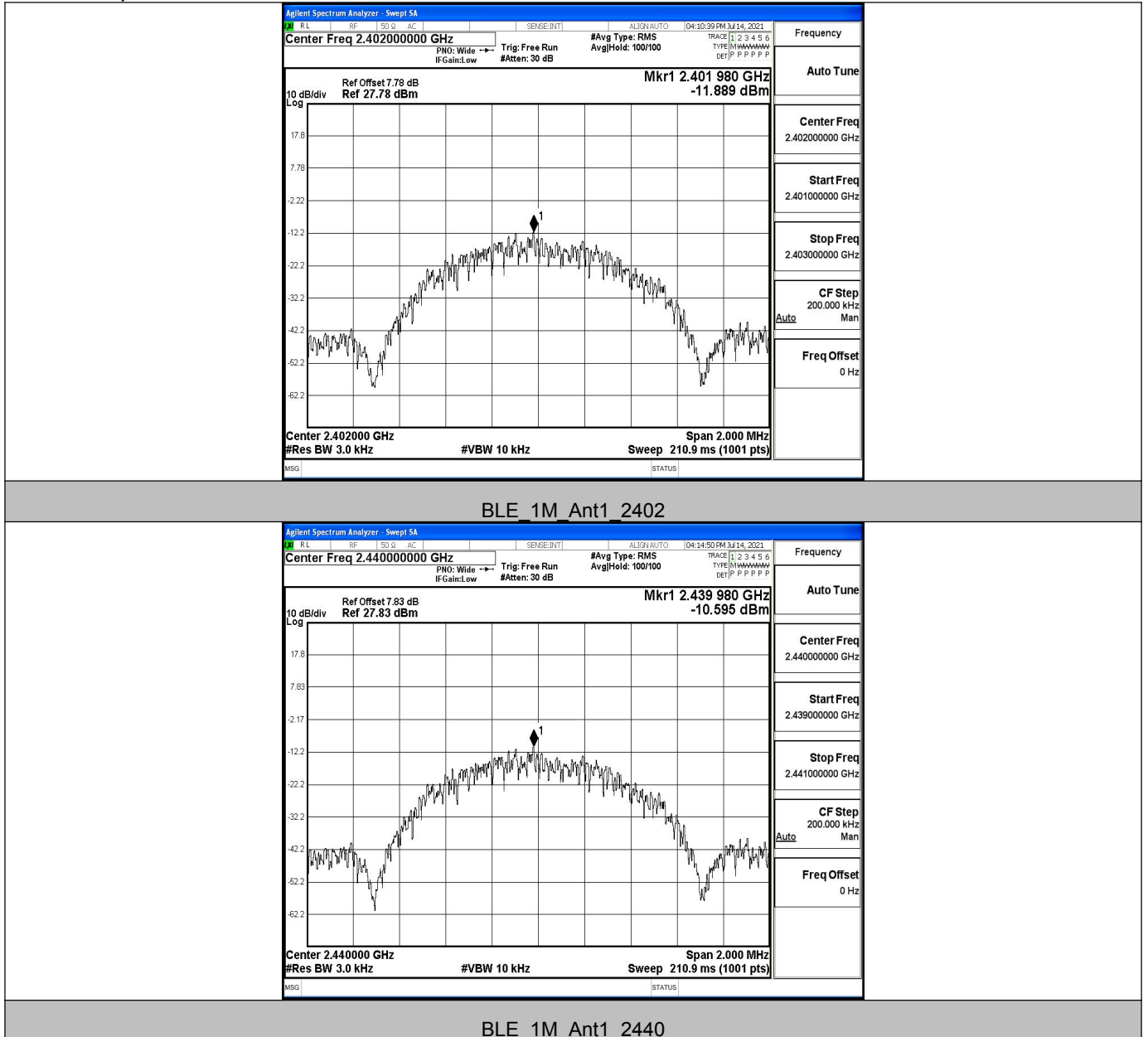
BLE_1M_Ant1_2480

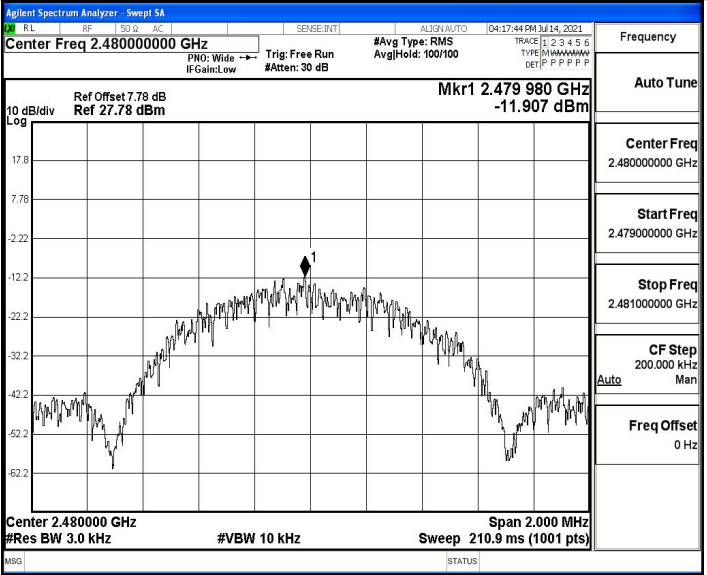


B.3 Maximum Power Spectral Density

TestMode	Antenna	Channel	Result[dBm/3-100kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-11.89	≤8	PASS
		2440	-10.6	≤8	PASS
		2480	-11.91	≤8	PASS

Test Graphs





BLE_1M_Ant1_2480



TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.672	2401.668	2402.340	≥0.5	PASS
		2440	0.668	2439.668	2440.336	≥0.5	PASS
		2480	0.680	2479.664	2480.344	≥0.5	PASS

Agilent Spectrum Analyzer - Sweep SA

Center Freq 2.402000000 GHz

Ref Offset 7.78 dB
Ref 30.00 dBm

Span 4.000 MHz
Sweep 1.000 ms (1001 pts)

Auto Tune

Center Freq 2.402000000 GHz

Start Freq 2.400000000 GHz

Stop Freq 2.404000000 GHz

CF Step 400.000 kHz

Freq Offset 0 Hz

MKR	MODE	TRC	SOL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	f		2.401668 GHz	-3.770 dBm			
2	N	f		2.402004 GHz	2.352 dBm			
3	Δ1	f	(Δ)	672 kHz (Δ)	0.062 dB			

Agilent Spectrum Analyzer - Sweep SA

Center Freq 2.440000000 GHz

Ref Offset 7.83 dB
Ref 30.00 dBm

Span 4.000 MHz
Sweep 1.000 ms (1001 pts)

Auto Tune

Center Freq 2.440000000 GHz

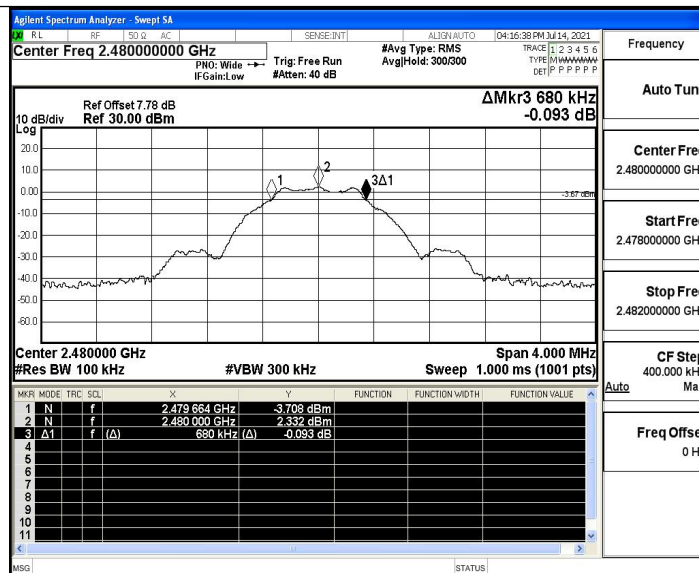
Start Freq 2.438000000 GHz

Stop Freq 2.442000000 GHz

CF Step 400.000 kHz

Freq Offset 0 Hz

MKR	MODE	TRC	SOL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	f		2.439668 GHz	-2.467 dBm			
2	N	f		2.440008 GHz	3.566 dBm			
3	Δ1	f	(Δ)	668 kHz (Δ)	-0.061 dB			



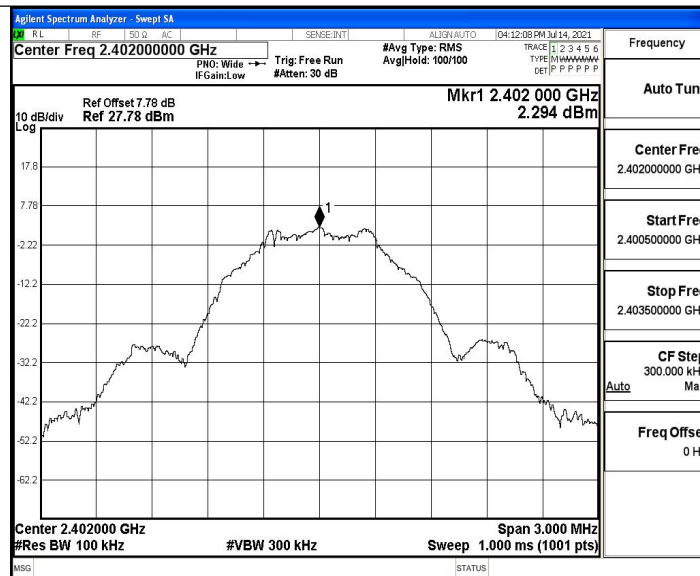
BLE_1M_Ant1_2480



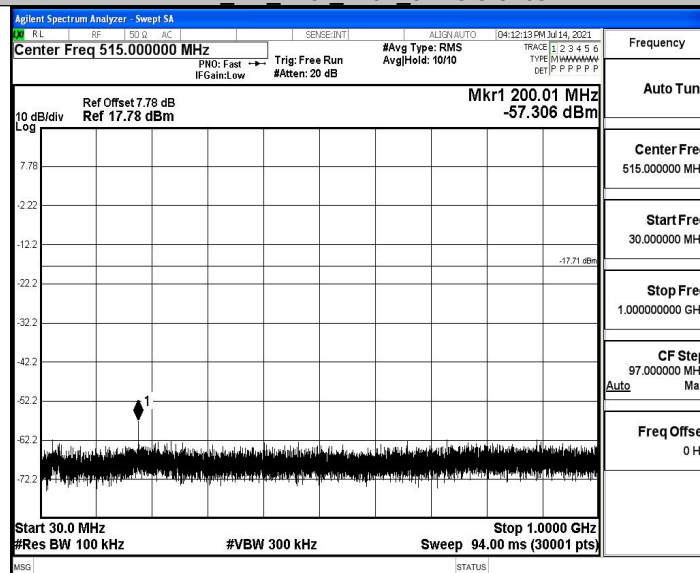
B.5 RF Conducted Spurious Emissions

TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	Reference	2.29	2.29	---	PASS
			30~1000	2.29	-57.31	≤-17.71	PASS
			1000~26500	2.29	-47.44	≤-17.71	PASS
		2440	Reference	3.61	3.61	---	PASS
			30~1000	3.61	-57.06	≤-16.39	PASS
			1000~26500	3.61	-46.81	≤-16.39	PASS
		2480	Reference	1.81	1.81	---	PASS
			30~1000	1.81	-56.73	≤-18.2	PASS
			1000~26500	1.81	-47.69	≤-18.2	PASS

Test Graphs

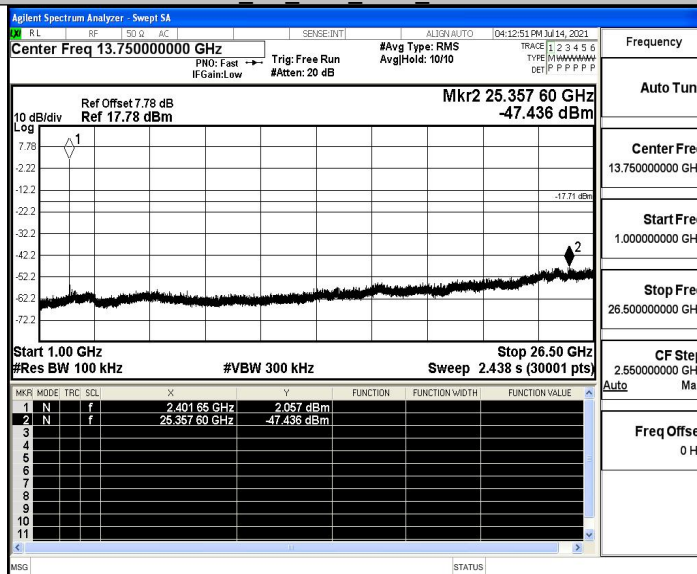


BLE_1M Ant1 2402_0~Reference

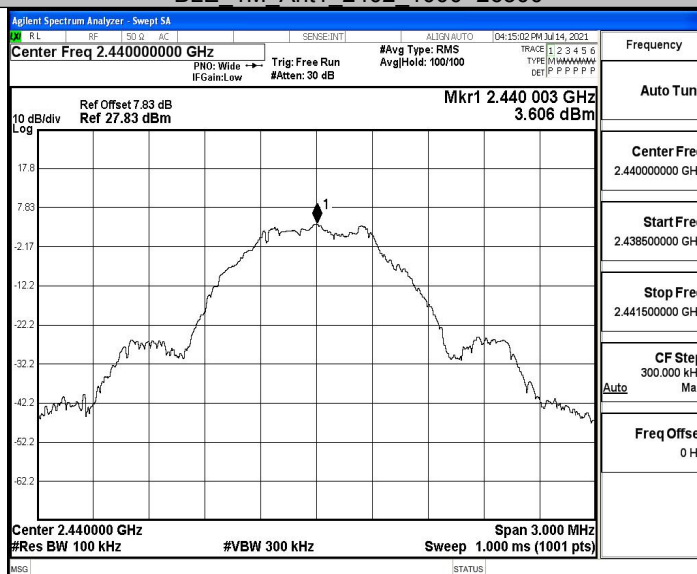




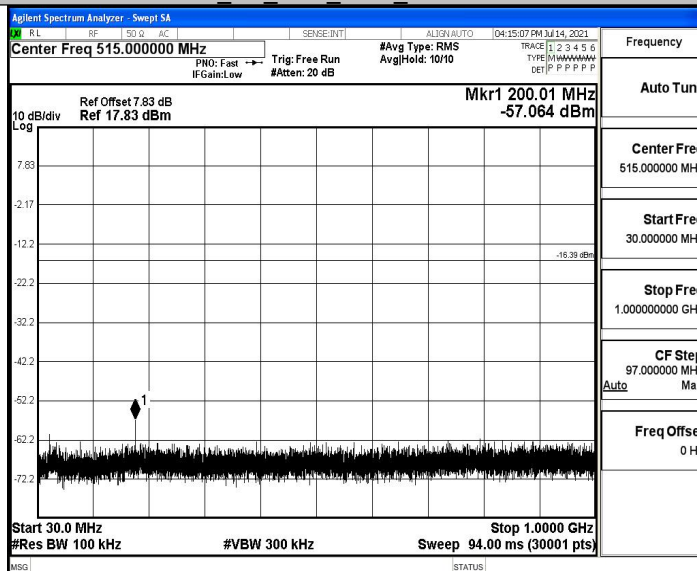
BLE_1M_Ant1_2402_30~1000



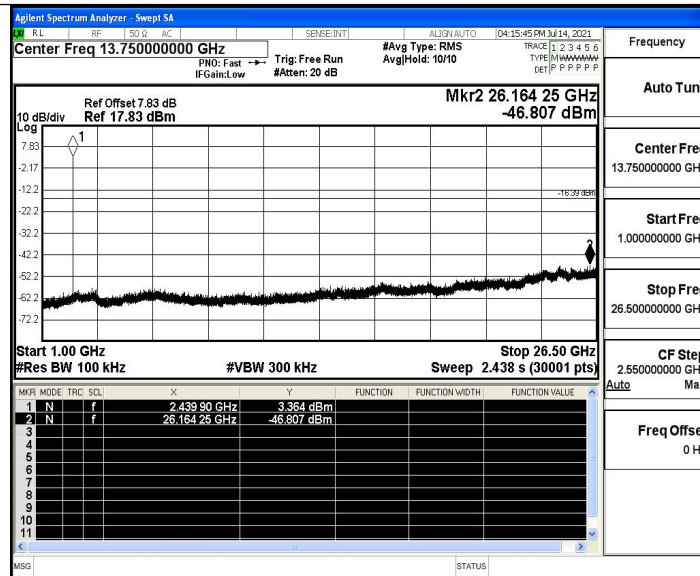
BLE_1M_Ant1_2402_1000~26500



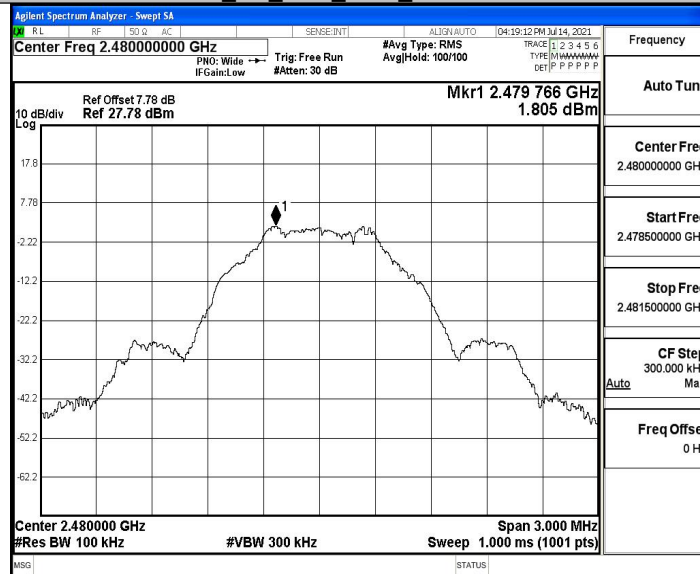
BLE_1M_Ant1_2440_0~Reference



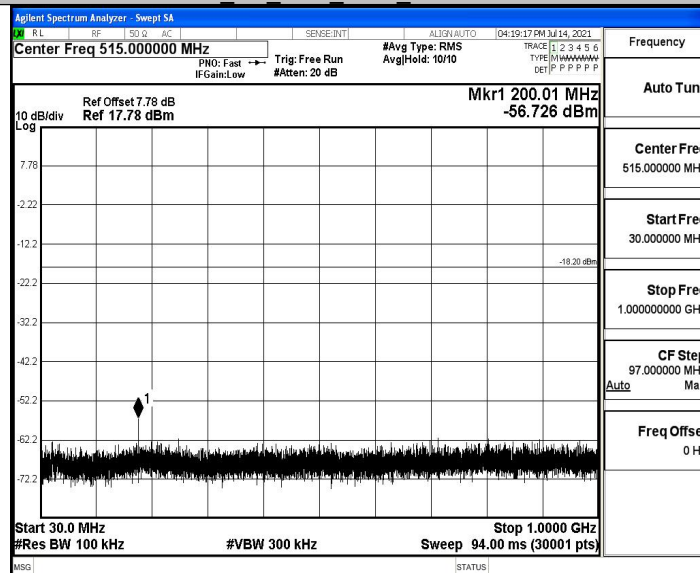
BLE_1M_Ant1_2440_30~1000



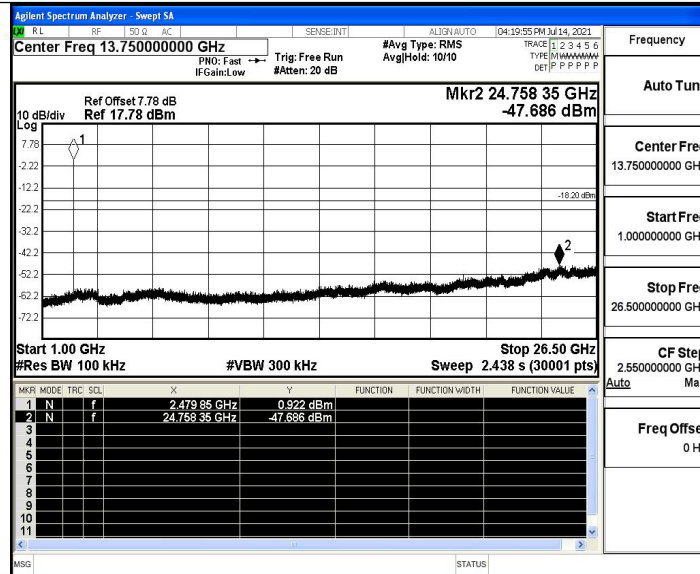
BLE_1M_Ant1_2440_1000~26500



BLE_1M_Ant1_2480_0~Reference



BLE_1M_Ant1_2480_30~1000



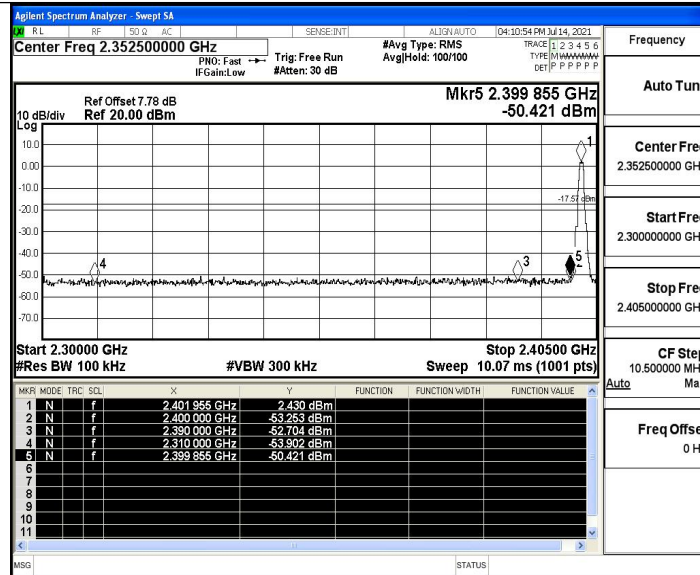
BLE_1M_Ant1_2480_1000~26500



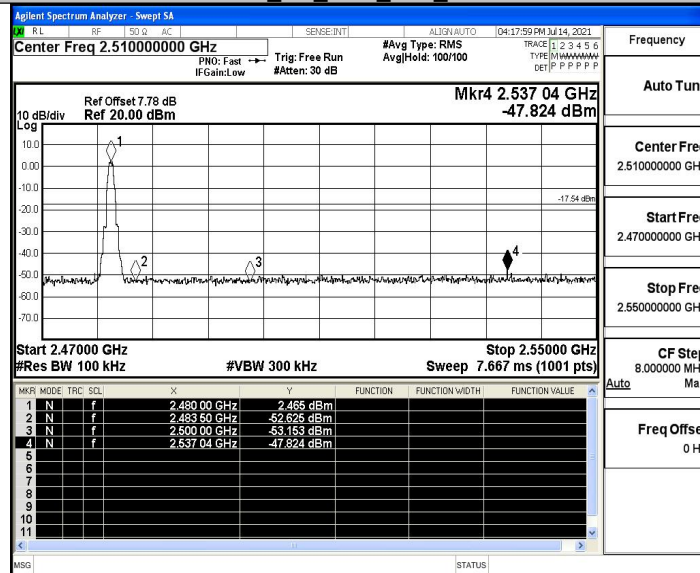
B.6 Band-edge for RF Conducted Emissions

TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	2.43	-50.42	≤ -17.57	PASS
		High	2480	2.47	-47.82	≤ -17.54	PASS

Test Graphs



BLE 1M Ant1 Low 2402



BLE 1M Ant1 High 2480



B.7 Restrict-band band-edge measurements

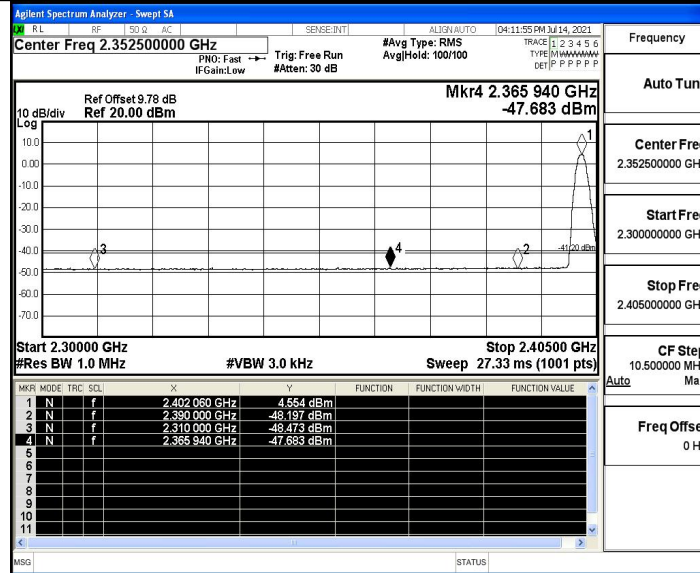
TestMode	Antenna	ChName	Channel	Detector	Freq. [MHz]	Result [dBm]	Limit [dBm]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
BLE_1M	Ant1	Low	2402	AV	2310.000	-48.47	≤-41.20	48.76	≤54	PASS
				AV	2365.940	-47.68	≤-41.20	49.55	≤54	PASS
				AV	2390.000	-48.2	≤-41.20	49.03	≤54	PASS
				Peak	2310.000	-42.02	≤-21.20	55.21	≤74	PASS
				Peak	2318.060	-39.04	≤-21.20	58.19	≤74	PASS
				Peak	2390.000	-41.86	≤-21.20	55.37	≤74	PASS
		High	2480	AV	2483.500	-46.89	≤-41.20	50.34	≤54	PASS
				AV	2483.520	-46.89	≤-41.20	50.34	≤54	PASS
				AV	2500.000	-47.41	≤-41.20	49.82	≤54	PASS
				Peak	2483.500	-39.57	≤-21.20	57.66	≤74	PASS
				Peak	2489.920	-37.53	≤-21.20	59.70	≤74	PASS
				Peak	2500.000	-40.77	≤-21.20	56.46	≤74	PASS

Note:

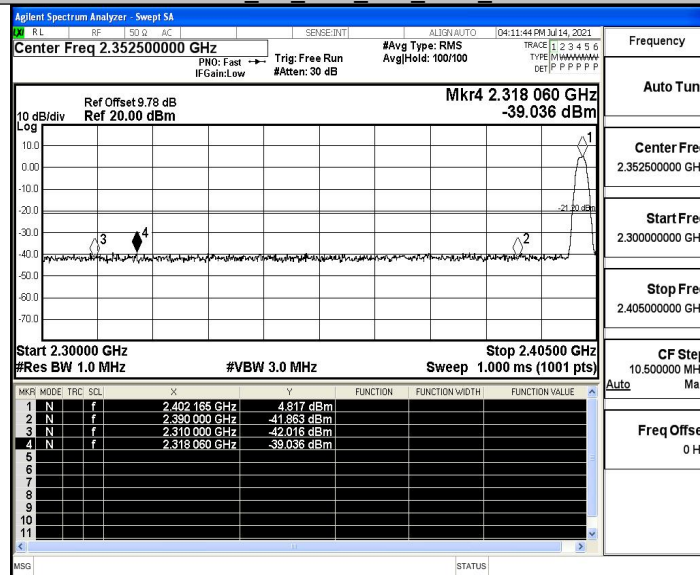
1. The Antenna Gain is compensated in the graph.
2. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.



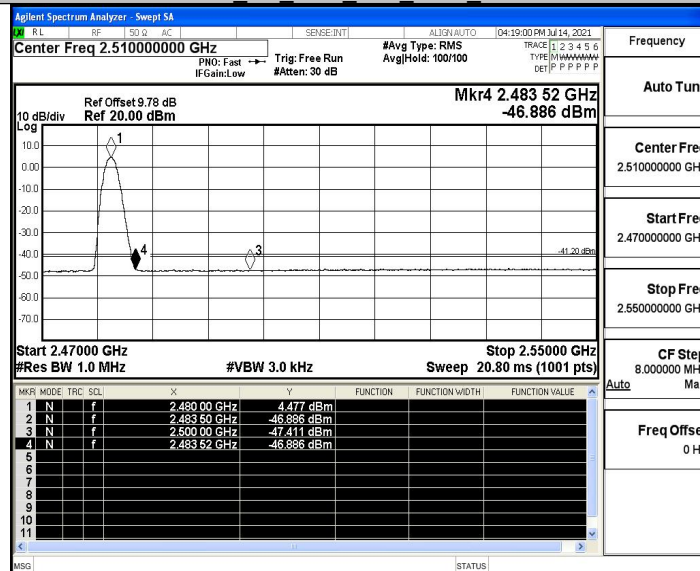
Test Graphs



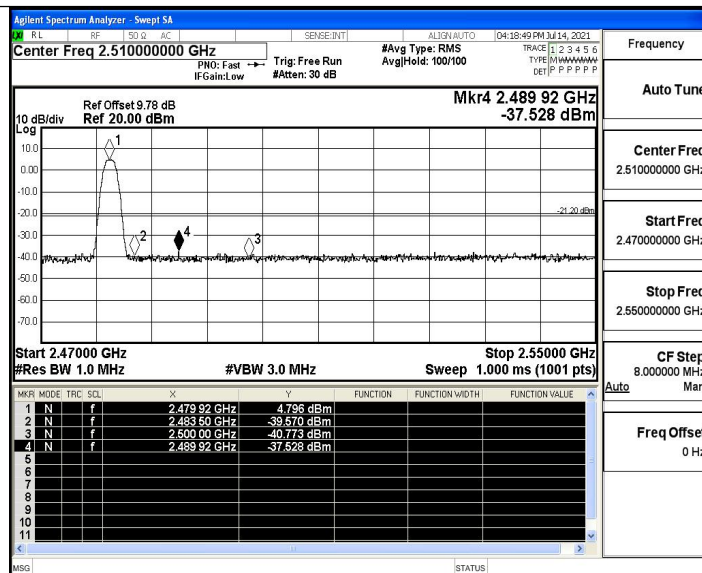
BLE_1M_Ant1_Low_2402_AV



BLE_1M_Ant1_Low_2402_Peak



BLE_1M_Ant1_High_2480_AV



BLE_1M_Ant1_High_2480_Peak