Appendix A

RF Test Data for BT LE V5.0 (DTS) (Conducted Measurement)

Product Name: Tracelet

Trade Mark: tracesafe

Test Model: TCCT

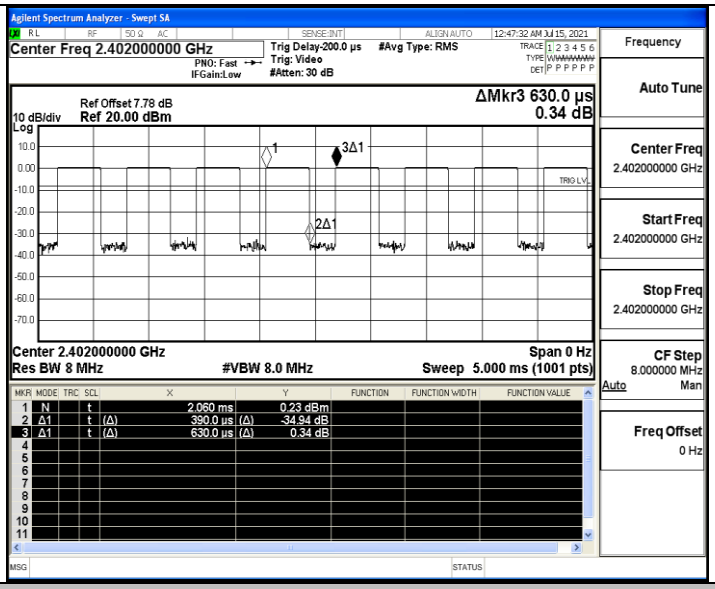
Environmental Conditions

Temperature:	21.6 ° C
Relative Humidity:	52.7%
ATM Pressure:	100.0 kPa
Test Engineer:	Jay Li
Supervised by:	Li Huan

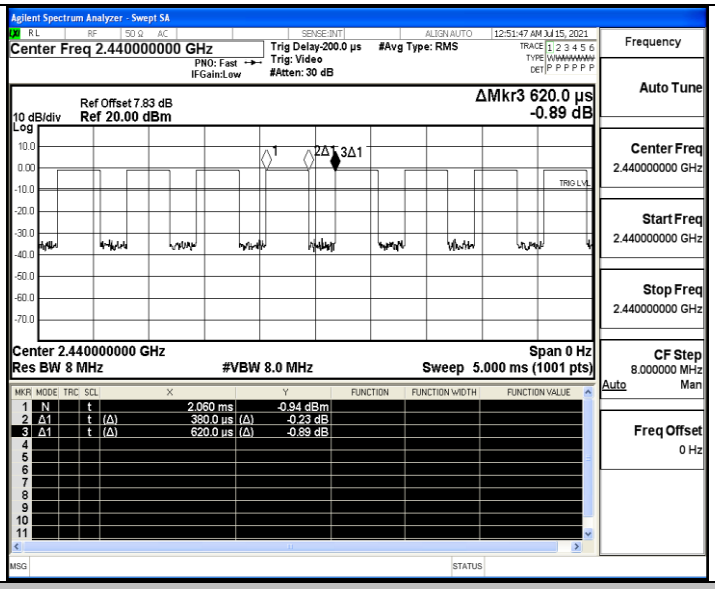
A.1 Duty Cycle

TestMode	Antenna	Channel	ON Time [ms]	Period [ms]	X	DC [%]	xFactor	Limit	Verdict
BLE_1M	Ant1	2402	0.39	0.63	0.6190	61.90	2.08	---	PASS
		2440	0.38	0.62	0.6129	61.29	2.13	---	PASS
		2480	0.38	0.63	0.6032	60.32	2.20	---	PASS

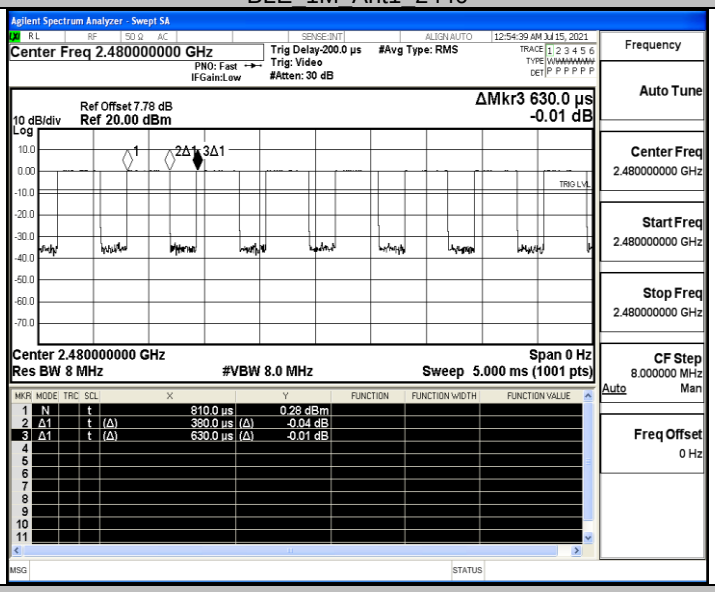
Test Graphs



BLE_1M_Ant1_2402



BLE_1M_Ant1_2440

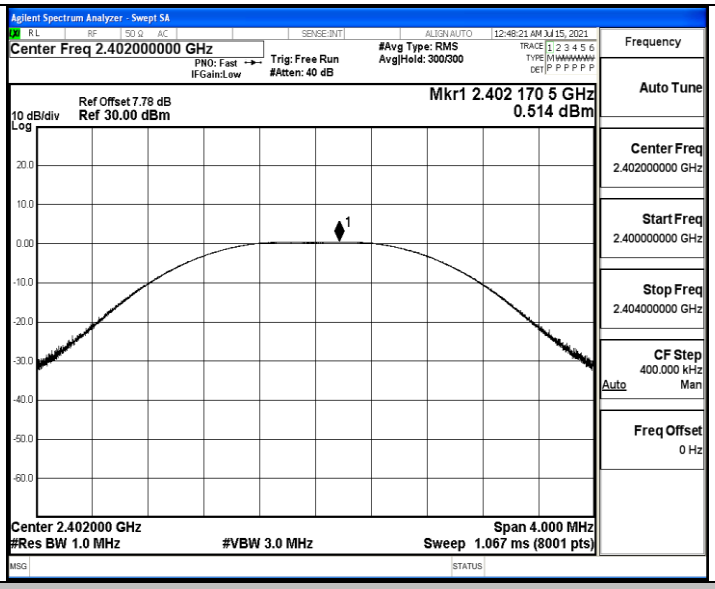


BLE_1M_Ant1_2480

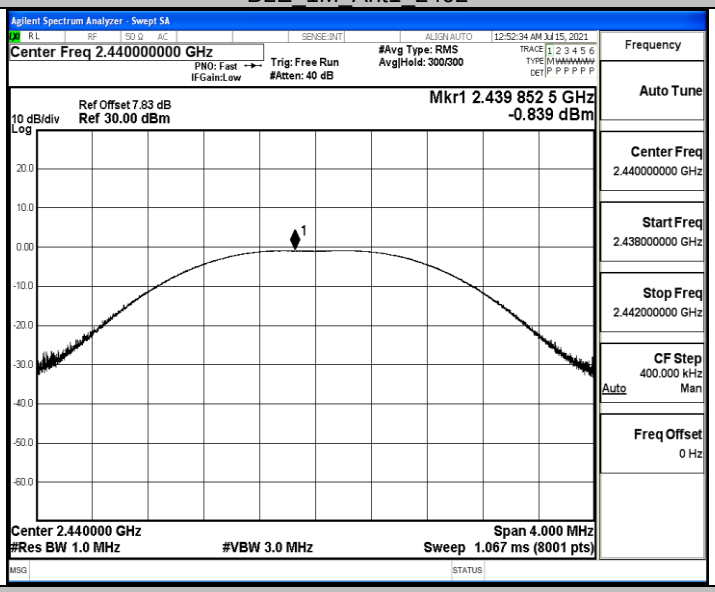
A.2 Maximum Conducted Peak Output Power

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	0.51	≤30	PASS
		2440	-0.84	≤30	PASS
		2480	0.3	≤30	PASS

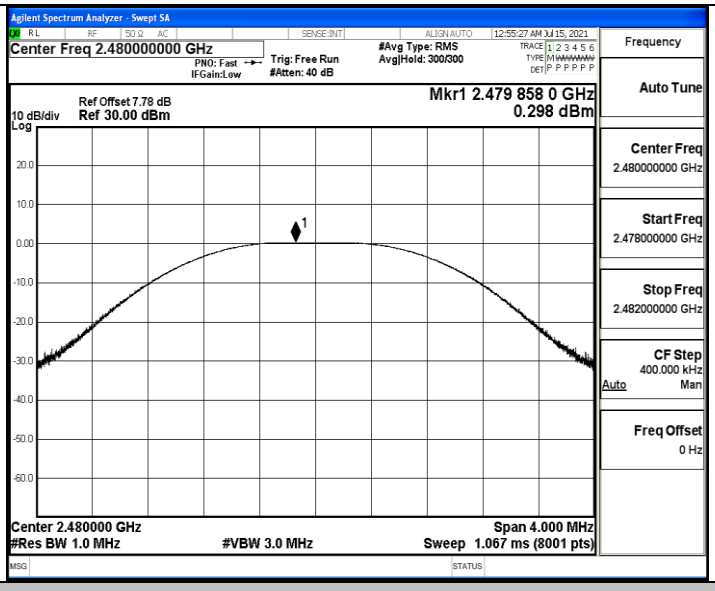
Test Graphs



BLE_1M_Ant1_2402



BLE_1M_Ant1_2440

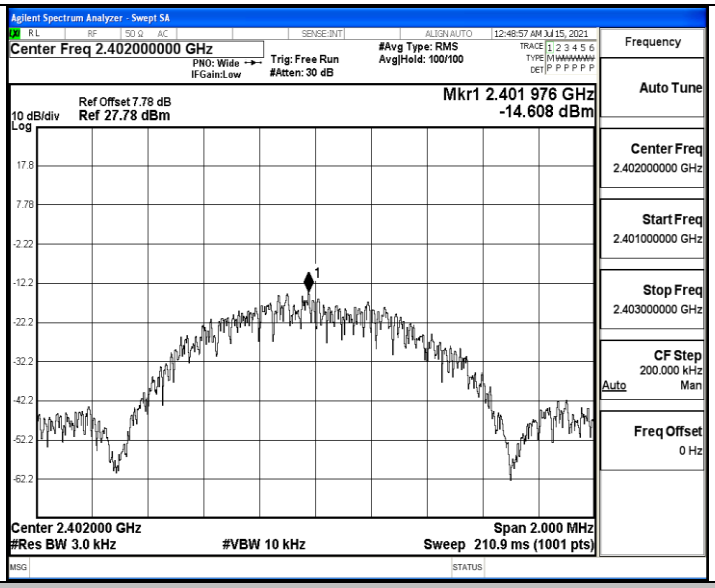


BLE_1M_Ant1_2480

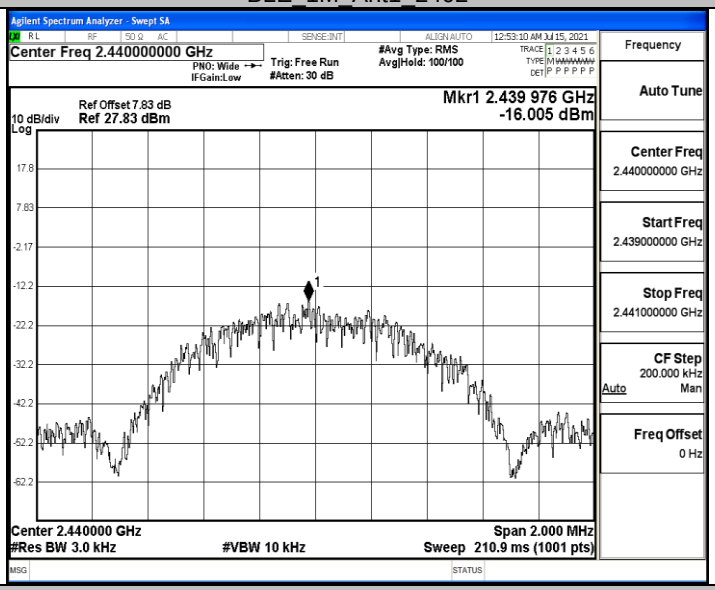
A.3 Maximum Power Spectral Density

TestMode	Antenna	Channel	Result[dBm/3-100kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-14.61	≤8	PASS
		2440	-16.01	≤8	PASS
		2480	-14.7	≤8	PASS

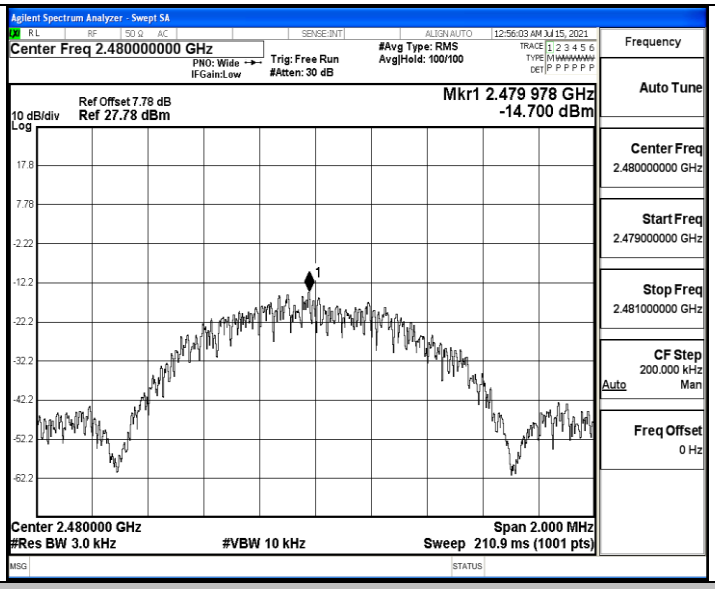
Test Graphs



BLE_1M_Ant1_2402



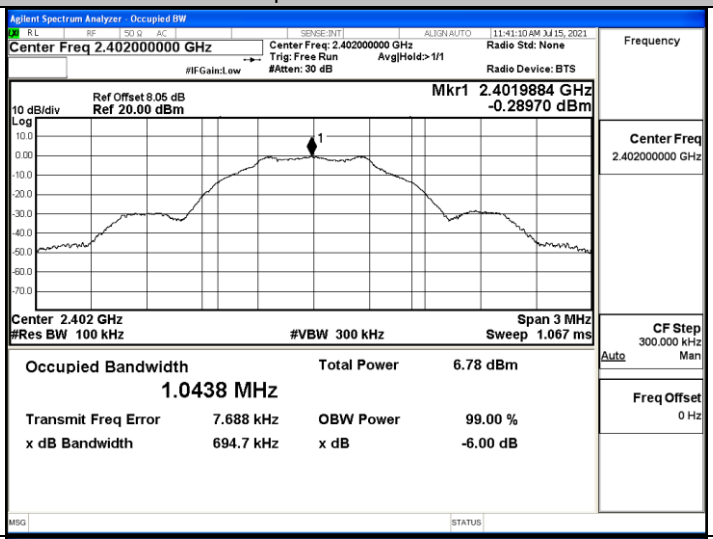
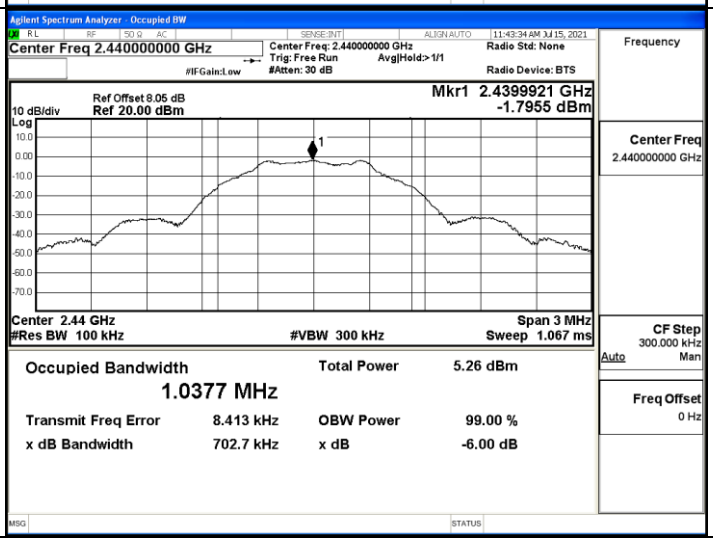
BLE_1M_Ant1_2440

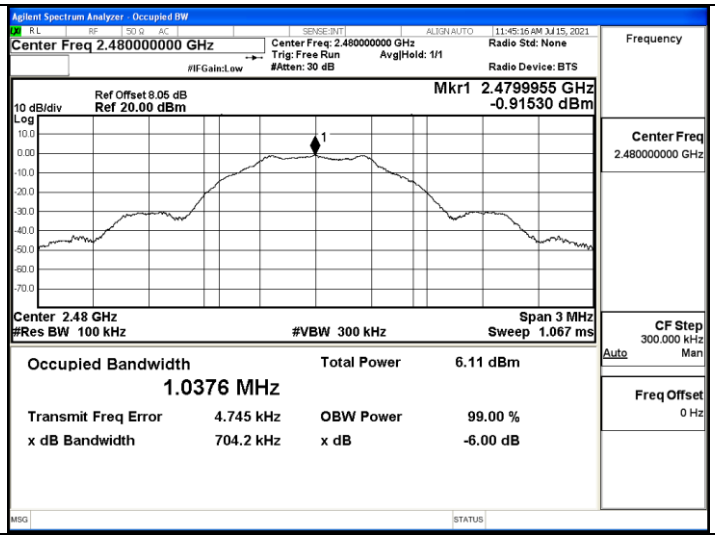


BLE_1M_Ant1_2480

A.4 6dB Bandwidth

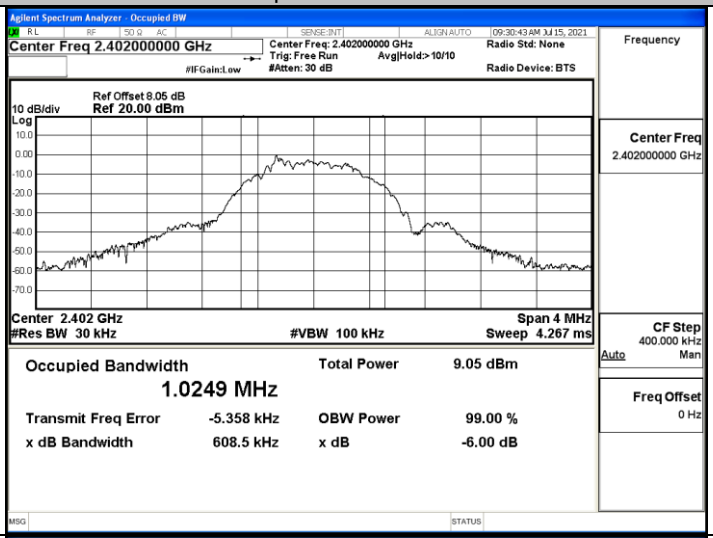
Mode	Channel	6dB Bandwidth [MHz]	Limit [MHz]	Verdict
BT LE	LCH	0.6947	⩾0.5	PASS
BT LE	MCH	0.7027	⩾0.5	PASS
BT LE	HCH	0.7042	⩾0.5	PASS

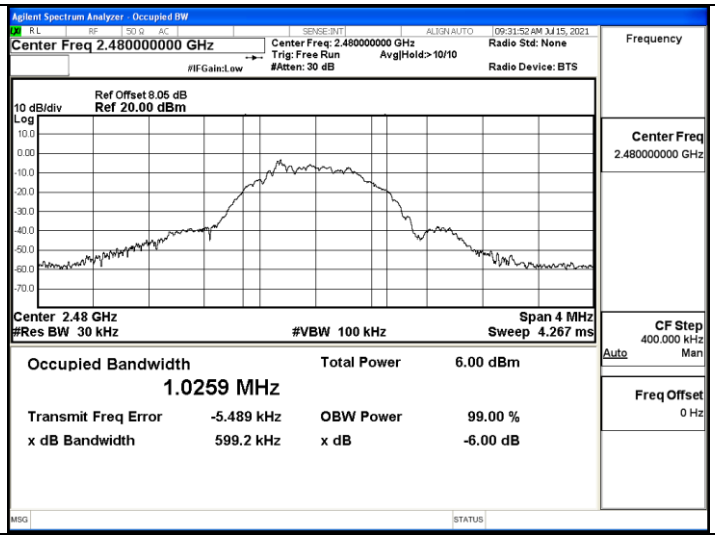
Test Graphs		
LCH		
MCH		

HCH		 Agilent Spectrum Analyzer - Occupied BW Center Freq 2.480000000 GHz Center Freq: 2.480000000 GHz Trig: Free Run Avg|Hold: 1/1 #Atten: 30 dB #IFGain:Low Radio Std: None Radio Device: BTS 11:45:16 AM Jul 15, 2021 Frequency Ref Offset 8.05 dB 10 dB/div Ref 20.00 dBm Log Mkr1 2.4799955 GHz -0.91530 dBm Center Freq 2.480000000 GHz Center 2.48 GHz #Res BW 100 kHz #VBW 300 kHz Span 3 MHz Sweep 1.067 ms CF Step 300.000 kHz Auto Man Occupied Bandwidth 1.0376 MHz Total Power 6.11 dBm Transmit Freq Error 4.745 kHz OBW Power 99.00 % x dB Bandwidth 704.2 kHz x dB -6.00 dB Freq Offset 0 Hz MSG STATUS	

B.5 Occupied Bandwidth

Mode	Channel	Occupied Bandwidth [MHz]	Verdict
BT LE	LCH	1.0249	PASS
BT LE	MCH	1.0228	PASS
BT LE	HCH	1.0259	PASS

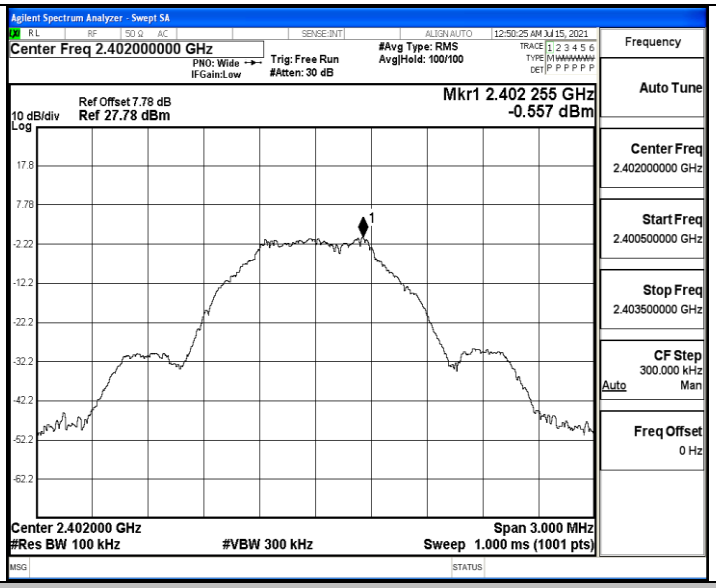
Test Graphs			
LCH			
MCH			

HCH		 Agilent Spectrum Analyzer - Occupied BW Center Freq 2.480000000 GHz Center Freq: 2.480000000 GHz Trig: Free Run Avg|Hold:>10/10 #Atten: 30 dB Radio Std: None Radio Device: BTS Frequency Ref Offset 8.05 dB 10 dB/div Ref 20.00 dBm Log Center Freq 2.480000000 GHz Center 2.48 GHz #Res BW 30 kHz #VBW 100 kHz Span 4 MHz Sweep 4.267 ms CF Step 400.000 kHz Auto Man Occupied Bandwidth 1.0259 MHz Total Power 6.00 dBm Transmit Freq Error -5.489 kHz OBW Power 99.00 % x dB Bandwidth 599.2 kHz x dB -6.00 dB Freq Offset 0 Hz	

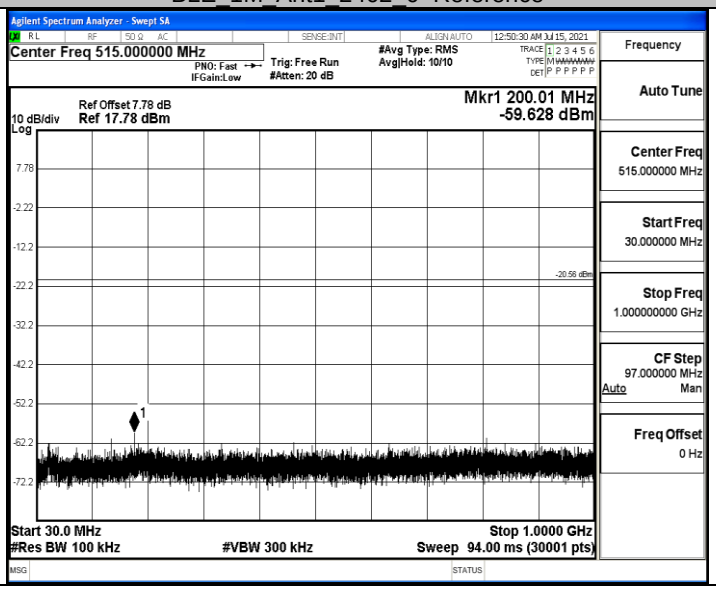
A.6 RF Conducted Spurious Emissions

TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	Reference	-0.56	-0.56	---	PASS
			30~1000	-0.56	-59.63	≤-20.56	PASS
			1000~26500	-0.56	-47.23	≤-20.56	PASS
		2440	Reference	-1.79	-1.79	---	PASS
			30~1000	-1.79	-59.07	≤-21.79	PASS
			1000~26500	-1.79	-47.85	≤-21.79	PASS
		2480	Reference	-0.58	-0.58	---	PASS
			30~1000	-0.58	-59.34	≤-20.58	PASS
			1000~26500	-0.58	-47.49	≤-20.58	PASS

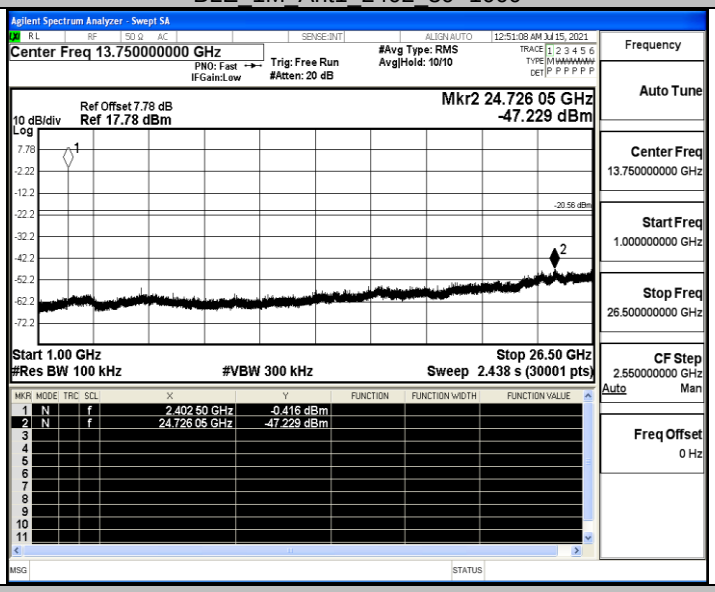
Test Graphs



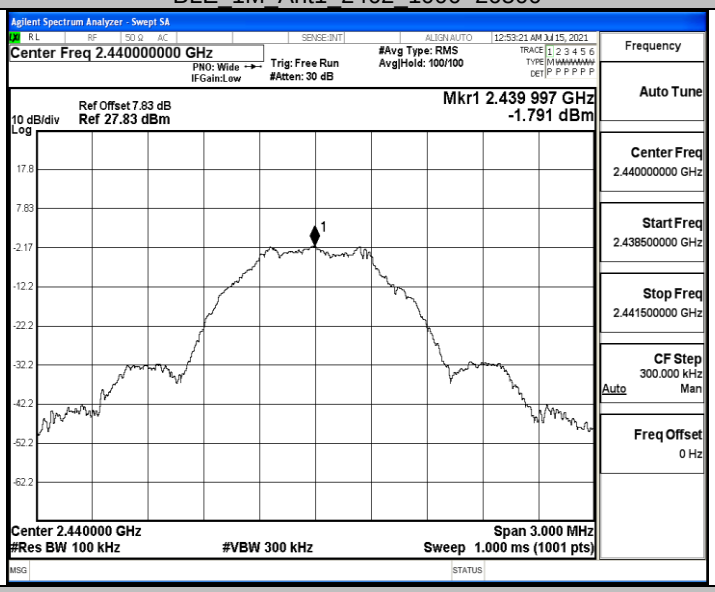
BLE_1M_Ant1_2402_0~Reference



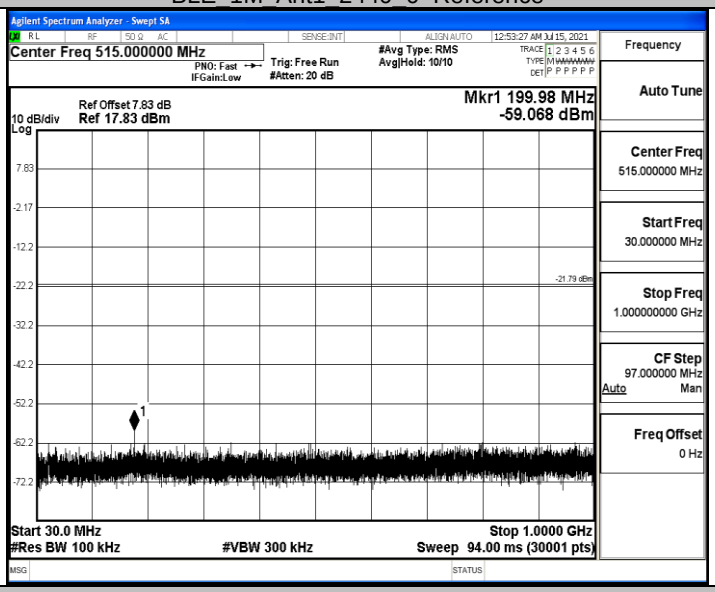
BLE_1M_Ant1_2402_30~1000



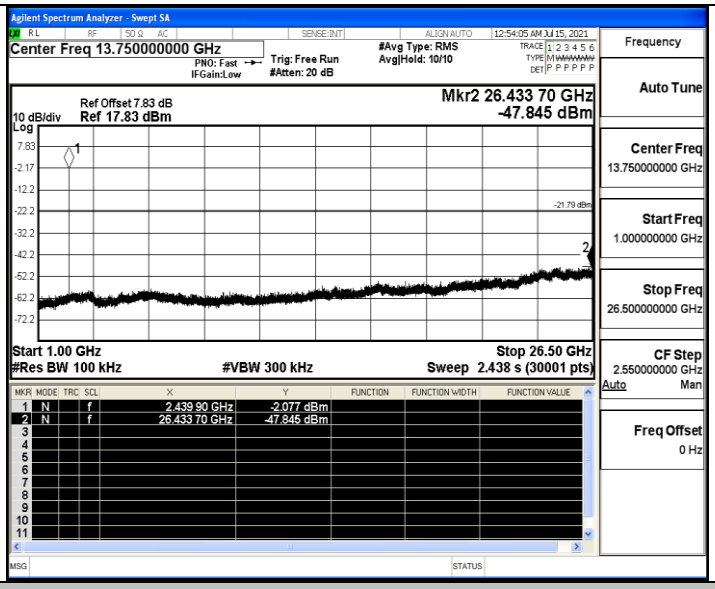
BLE_1M_Ant1_2402_1000~26500



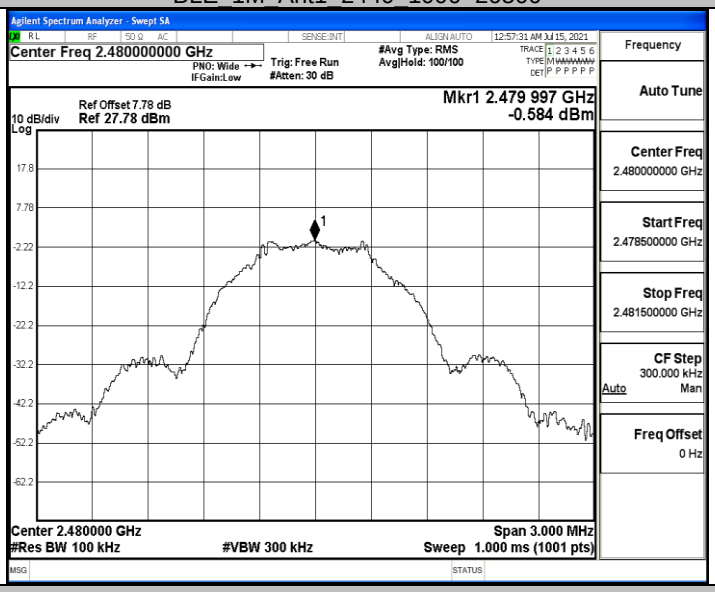
BLE_1M_Ant1_2440_0~Reference



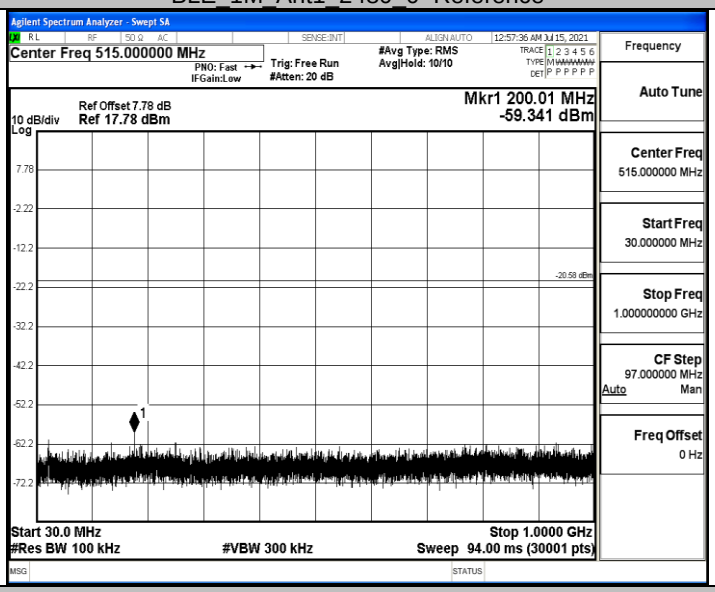
BLE_1M_Ant1_2440_30~1000



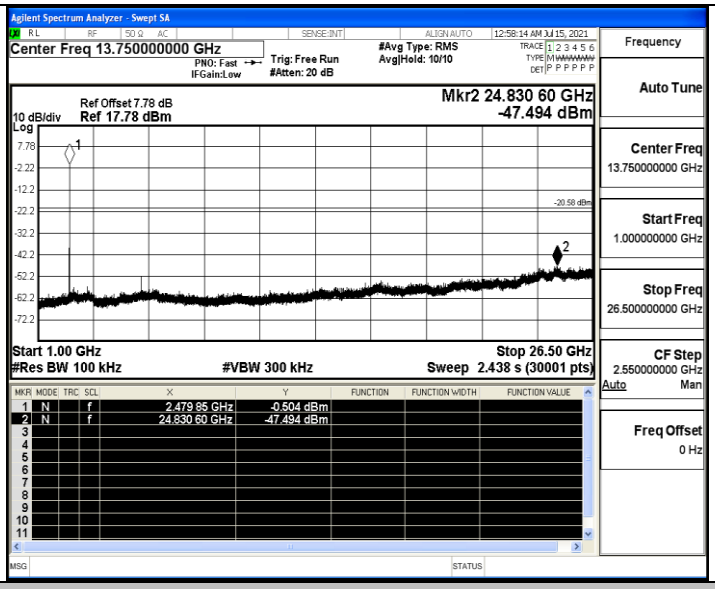
BLE_1M_Ant1_2440_1000~26500



BLE_1M_Ant1_2480_0~Reference



BLE_1M_Ant1_2480_30~1000

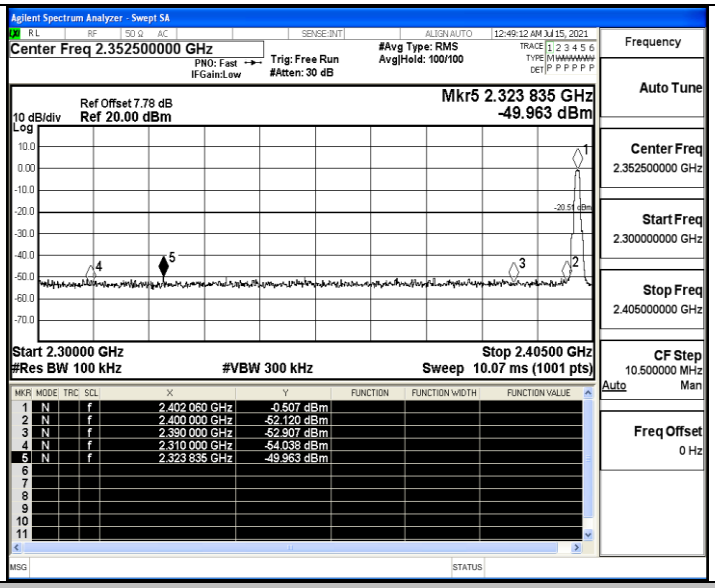


BLE_1M_Ant1_2480_1000~26500

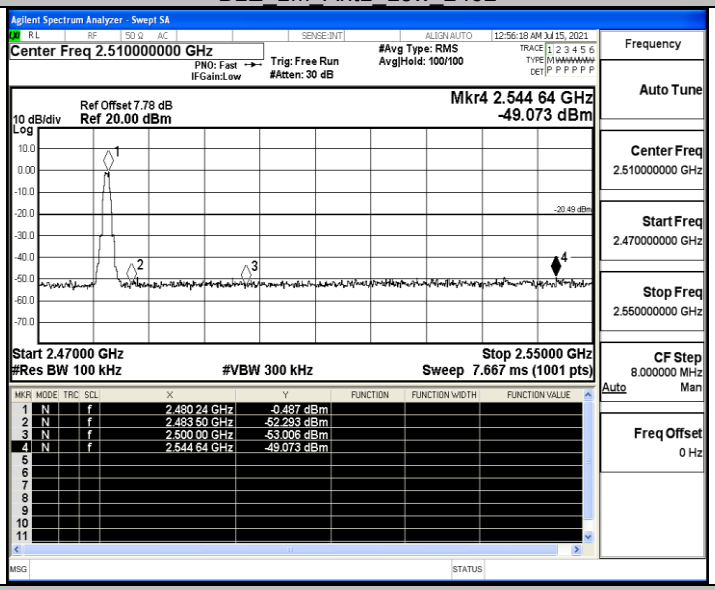
A.7 Band-edge for RF Conducted Emissions

TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	-0.51	-49.96	≤-20.51	PASS
		High	2480	-0.49	-49.07	≤-20.49	PASS

Test Graphs



BLE_1M_Ant1_Low_2402

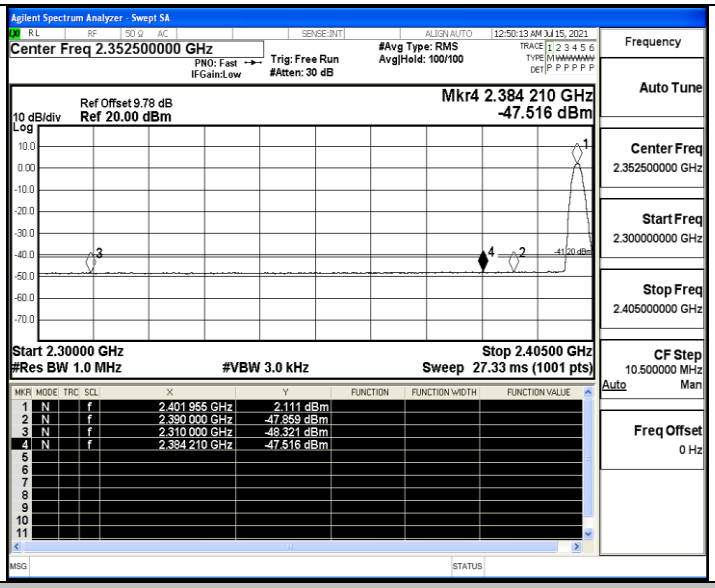


BLE_1M_Ant1_High_2480

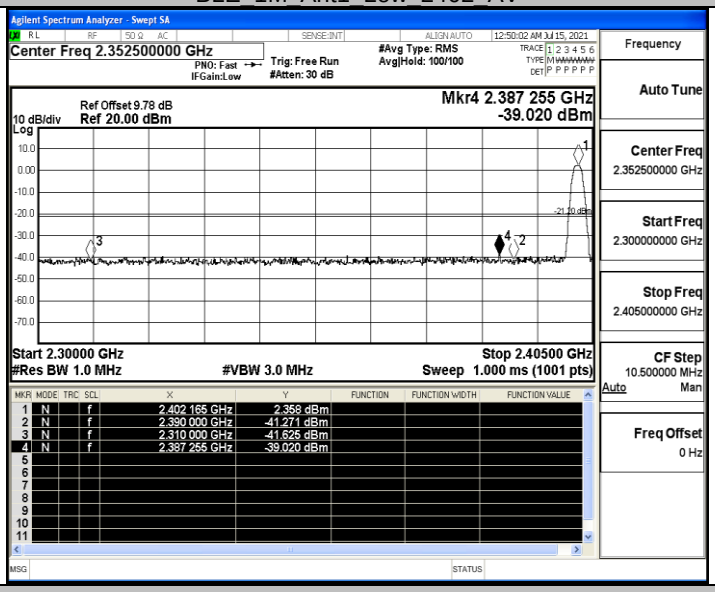
A.8 Restrict-band band-edge measurements

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	-48.32	≤-41.20	46.88	≤54	PASS
				AV	2384.210	-47.52	≤-41.20	47.68	≤54	PASS
				AV	2390.000	-47.86	≤-41.20	47.34	≤54	PASS
				Peak	2310.000	-41.63	≤-21.20	53.57	≤74	PASS
				Peak	2387.255	-39.02	≤-21.20	56.18	≤74	PASS
				Peak	2390.000	-41.27	≤-21.20	53.93	≤74	PASS
		High	2480	AV	2483.500	-47.19	≤-41.20	48.01	≤54	PASS
				AV	2494.560	-46.9	≤-41.20	48.30	≤54	PASS
				AV	2500.000	-47.58	≤-41.20	47.62	≤54	PASS
				Peak	2483.500	-40.89	≤-21.20	54.31	≤74	PASS
				Peak	2485.120	-38.67	≤-21.20	56.53	≤74	PASS
				Peak	2500.000	-41.62	≤-21.20	53.58	≤74	PASS

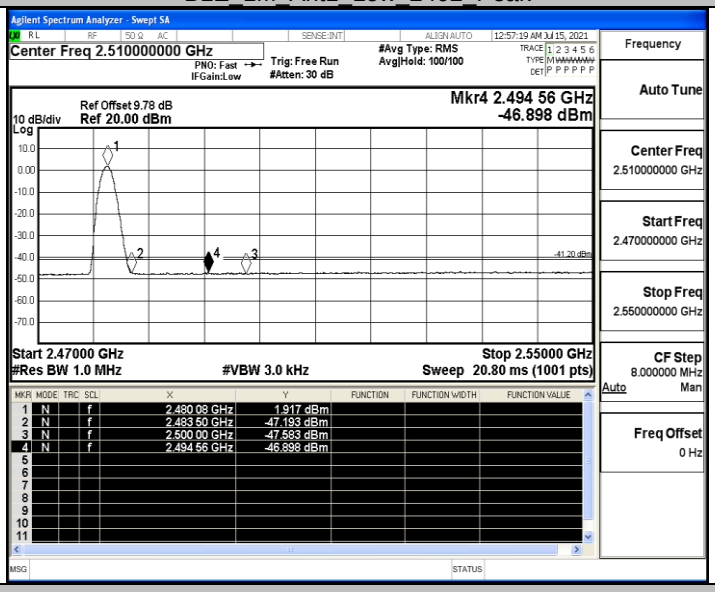
Test Graphs



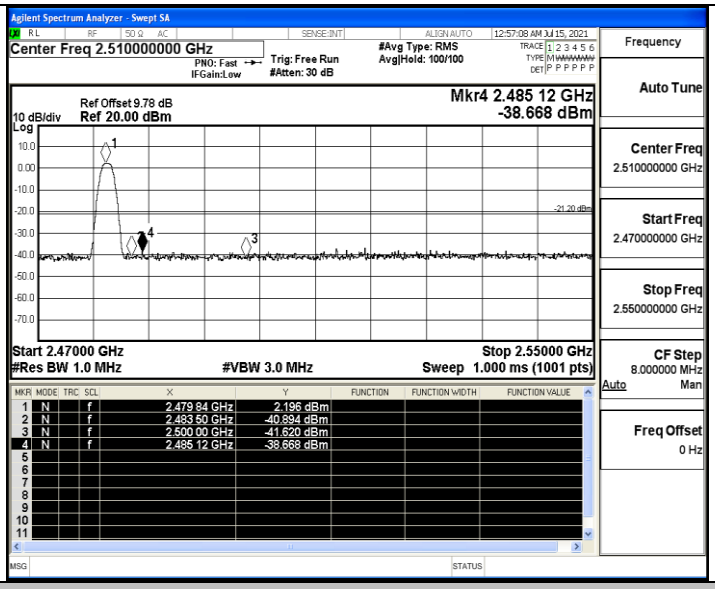
BLE_1M_Ant1_Low_2402_AV



BLE_1M_Ant1_Low_2402_Peak



BLE_1M_Ant1_High_2480_AV



BLE_1M_Ant1_High_2480_Peak