



Appendix A

RF Test Data for BLE (Conducted Measurement)

Product Name: Radiar AF10

Test Model: WCA2CSFN

Environmental Conditions

Temperature:	21.1 ° C
Relative Humidity:	52.2%
ATM Pressure:	100.0 kPa
Test Engineer:	Mark Chen
Supervised by:	Libin



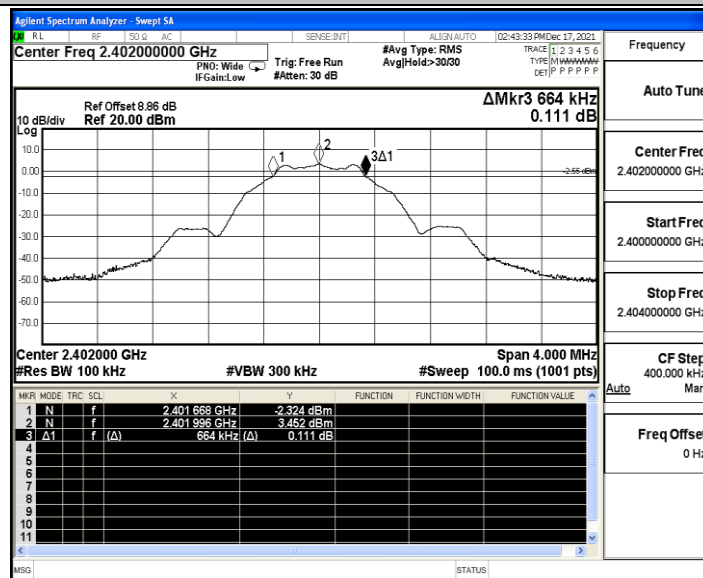
A.1 DTS Bandwidth

Test Result

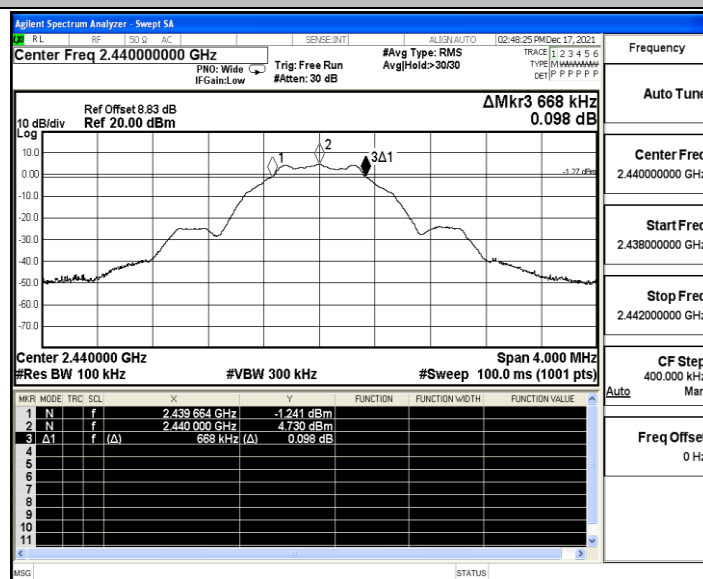
TestMode	Antenna	Frequency[MHz]	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.664	2401.668	2402.332	0.5	PASS
		2440	0.668	2439.664	2440.332	0.5	PASS
		2480	0.668	2479.664	2480.332	0.5	PASS

Test Graphs

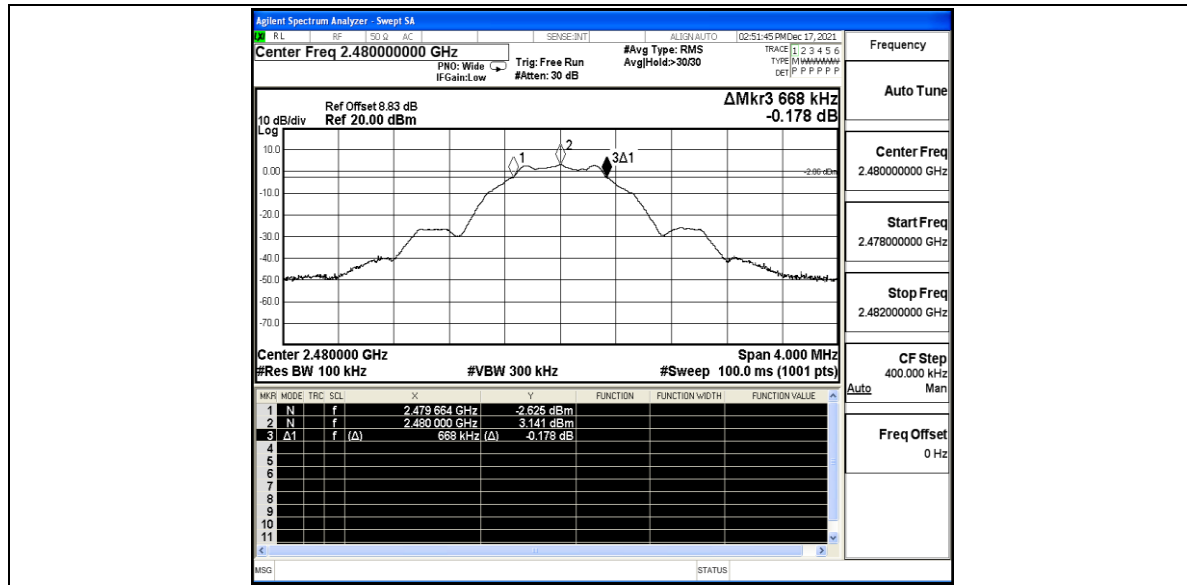
BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480



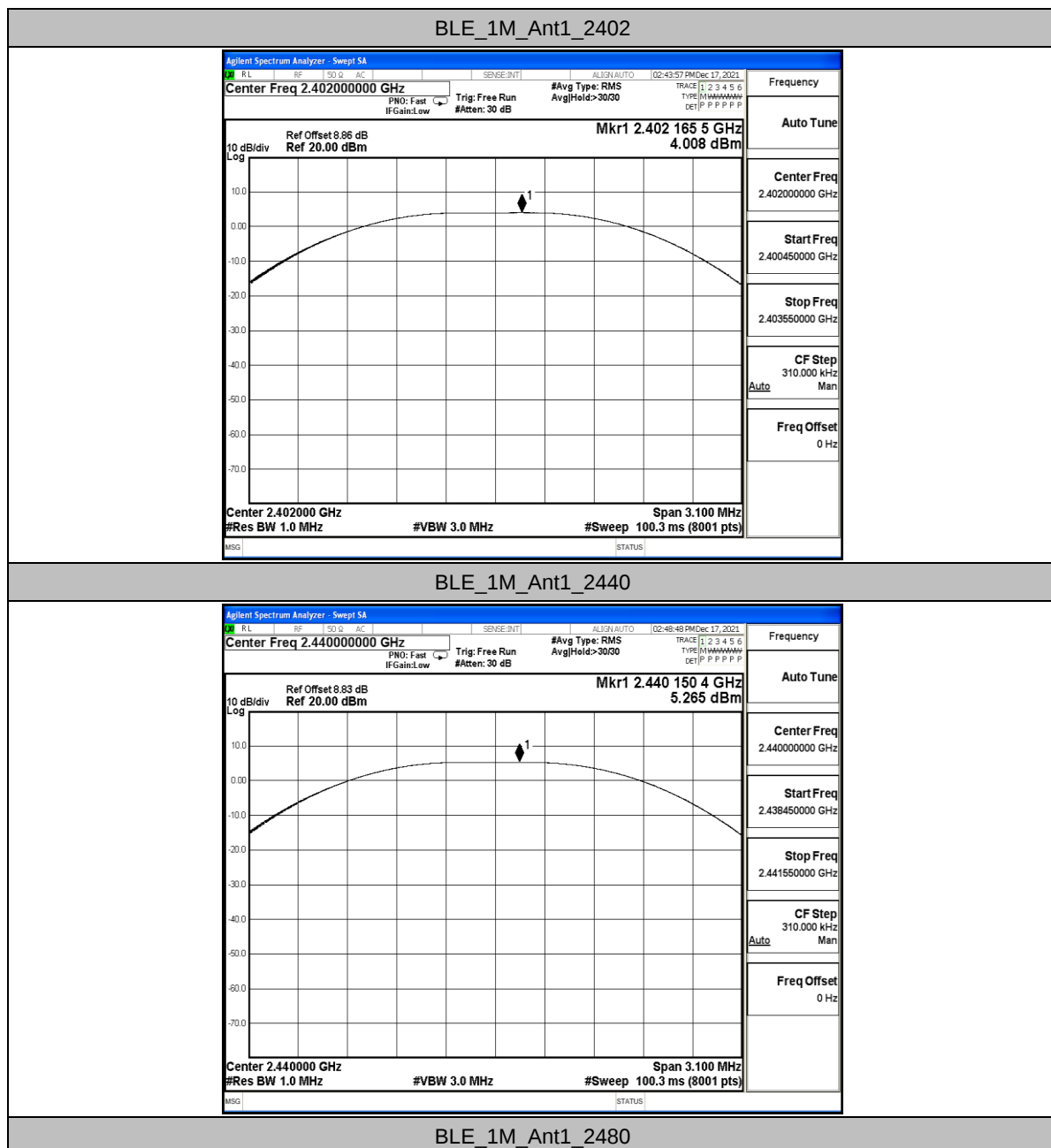


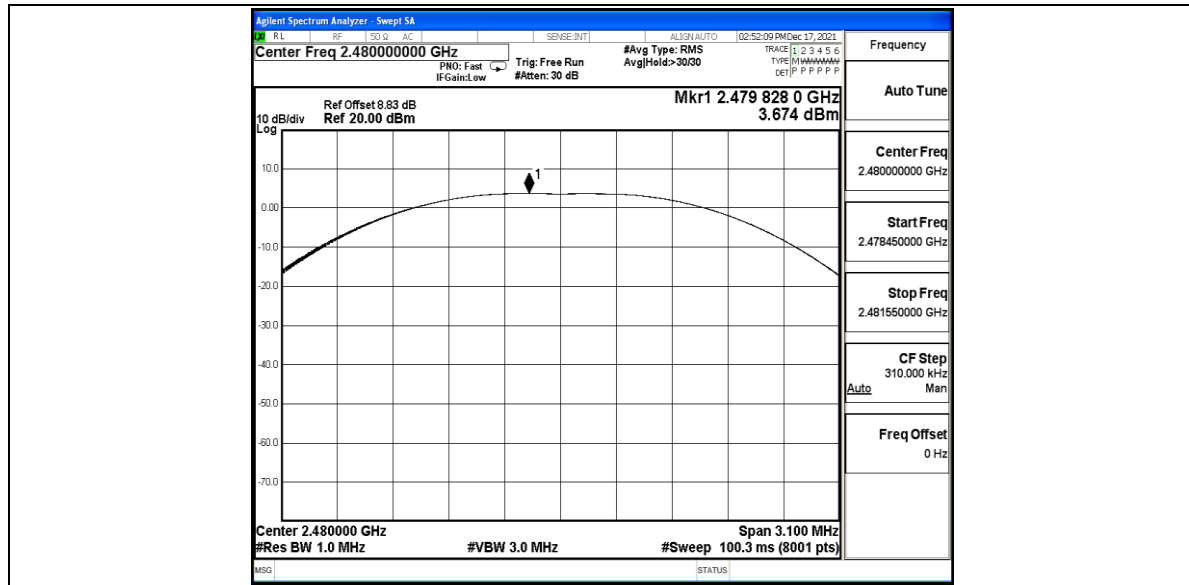
A.2 Maximum conducted output power

Test Result Peak

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	4.01	≤30	PASS
		2440	5.27	≤30	PASS
		2480	3.67	≤30	PASS

Test Graphs Peak





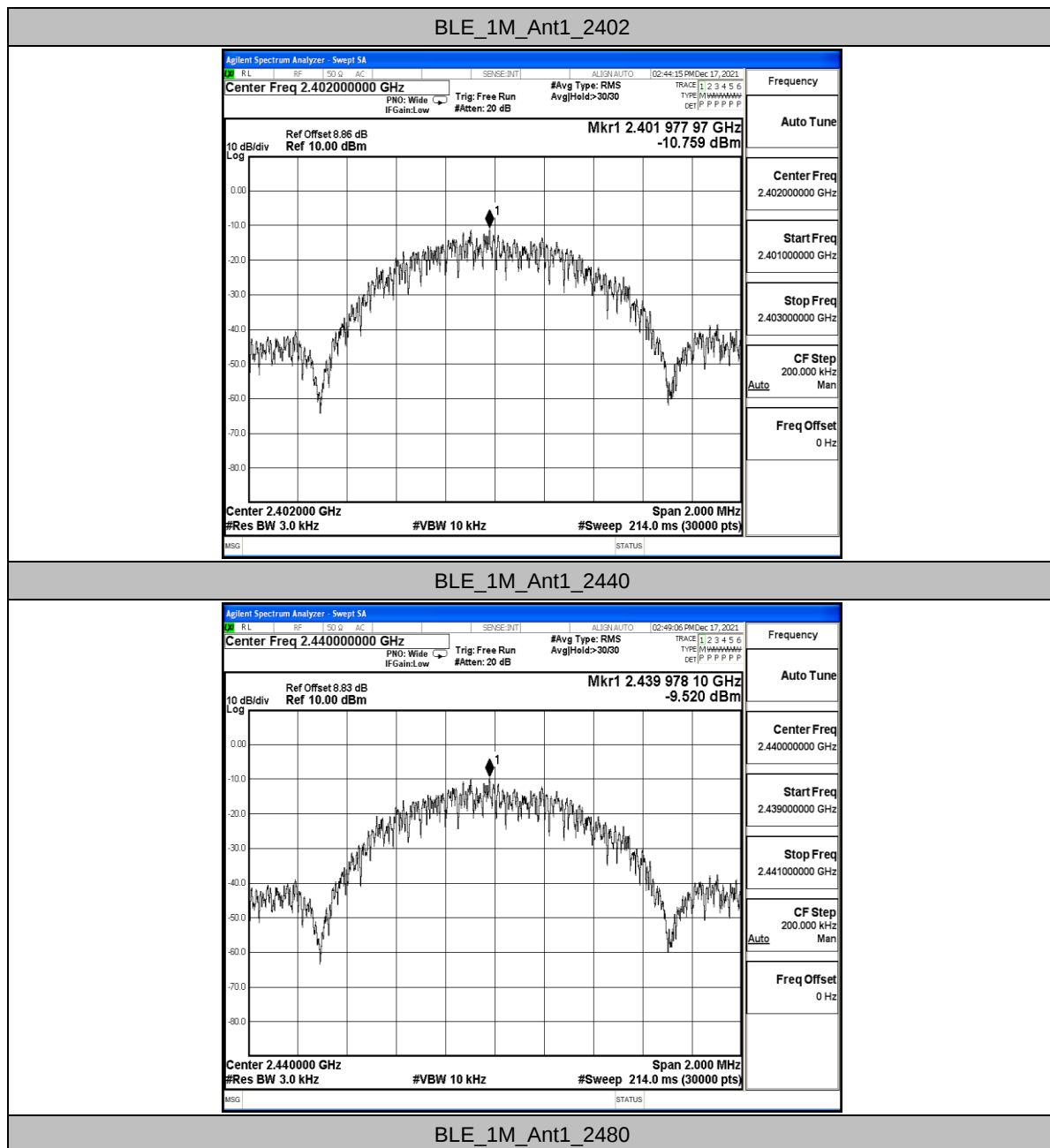


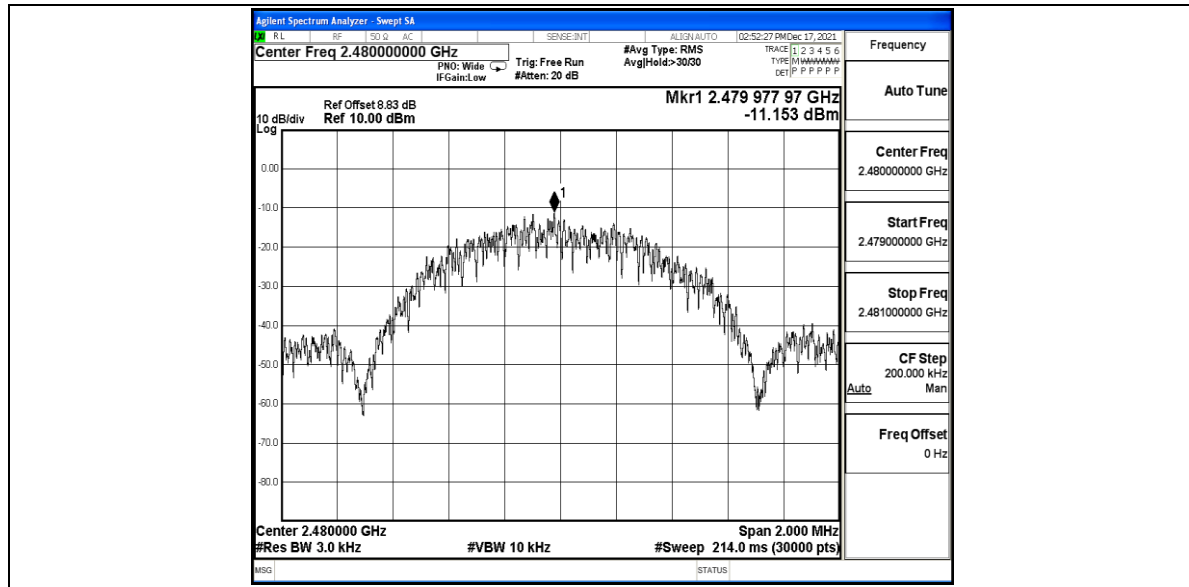
A.3 Maximum power spectral density

Test Result

TestMode	Antenna	Frequency[MHz]	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-10.76	≤8.00	PASS
		2440	-9.52	≤8.00	PASS
		2480	-11.15	≤8.00	PASS

Test Graphs





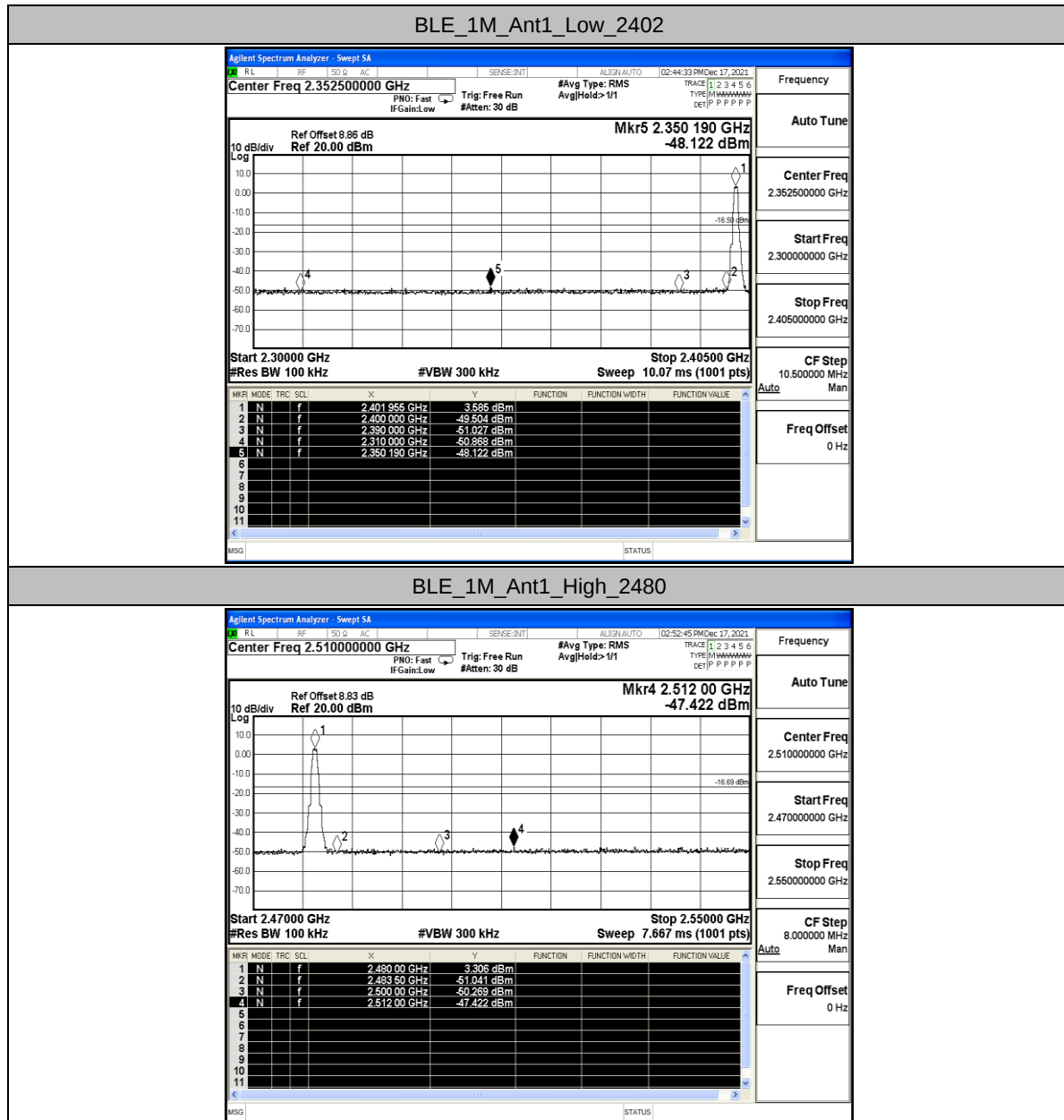


A.4 Band edge measurements

Test Result

TestMode	Antenna	ChName	Frequency[MHz]	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	3.51	-48.12	≤-16.5	PASS
		High	2480	3.31	-47.42	≤-16.69	PASS

Test Graphs



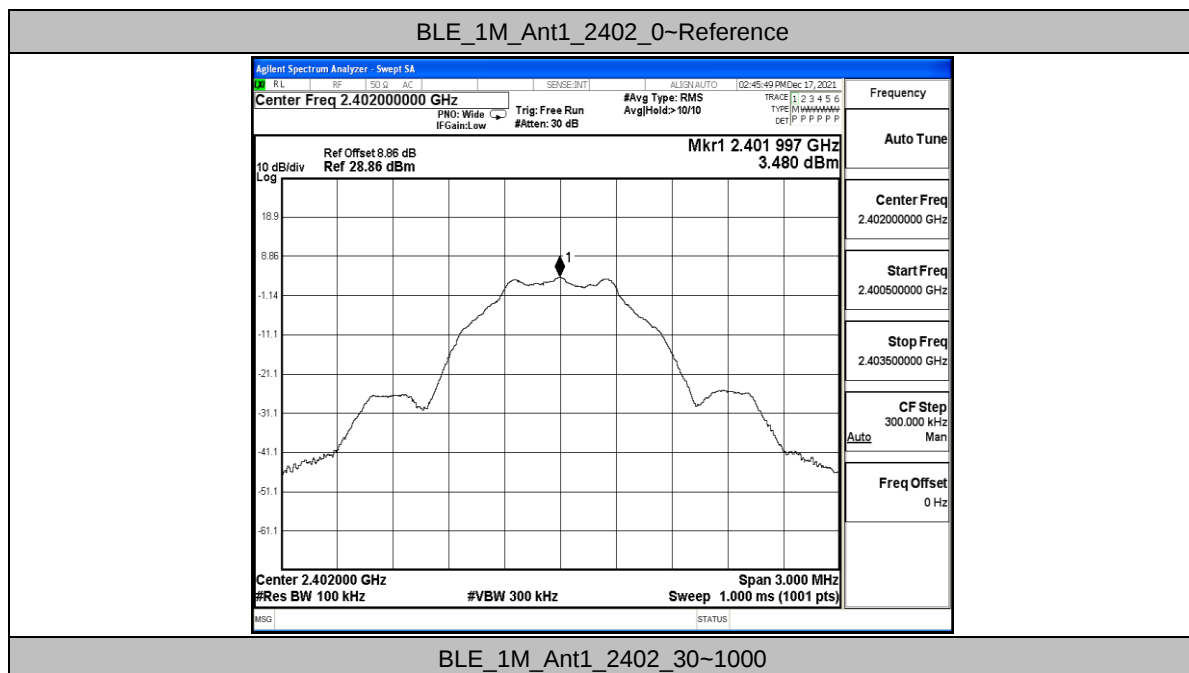


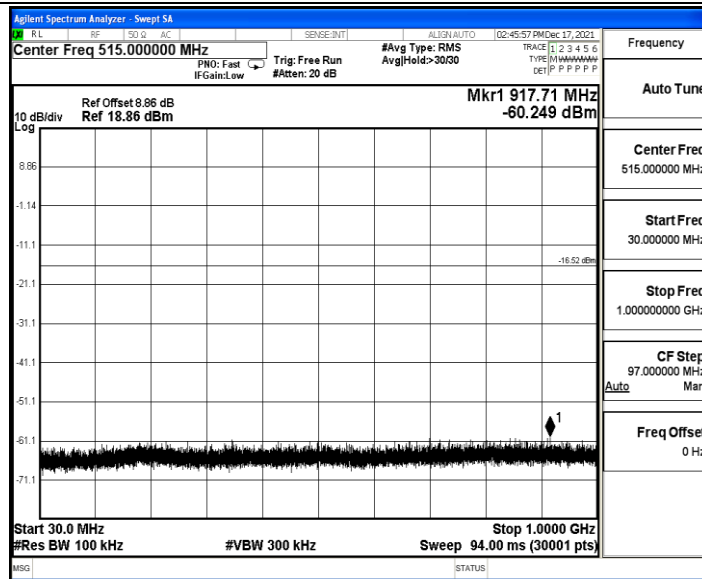
A.5 Conducted Spurious Emission

Test Result

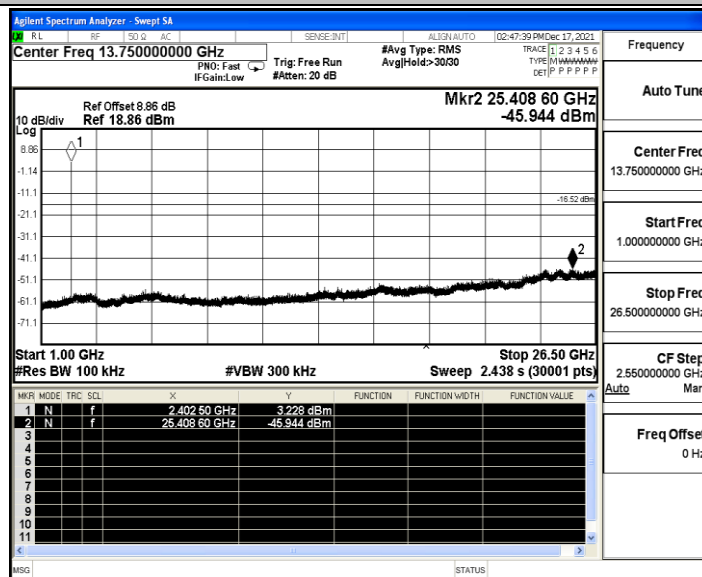
TestMode	Antenna	Frequency[MHz]	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	Reference	3.48	3.48	---	PASS
			30~1000	3.48	-60.25	≤-16.52	PASS
			1000~26500	3.48	-45.94	≤-16.52	PASS
		2440	Reference	4.74	4.74	---	PASS
			30~1000	4.74	-60.03	≤-15.26	PASS
			1000~26500	4.74	-45.27	≤-15.26	PASS
		2480	Reference	3.01	3.01	---	PASS
			30~1000	3.01	-44	≤-16.99	PASS
			1000~26500	3.01	-45.67	≤-16.99	PASS

Test Graphs

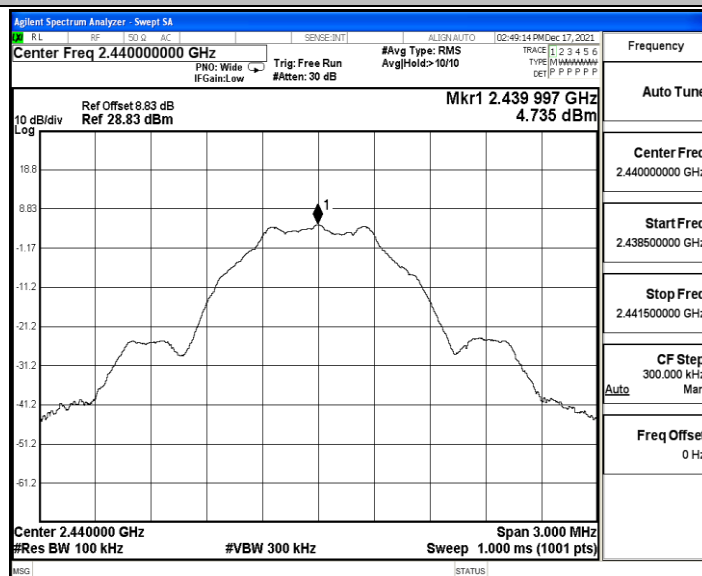




BLE_1M_Ant1_2402_1000~26500

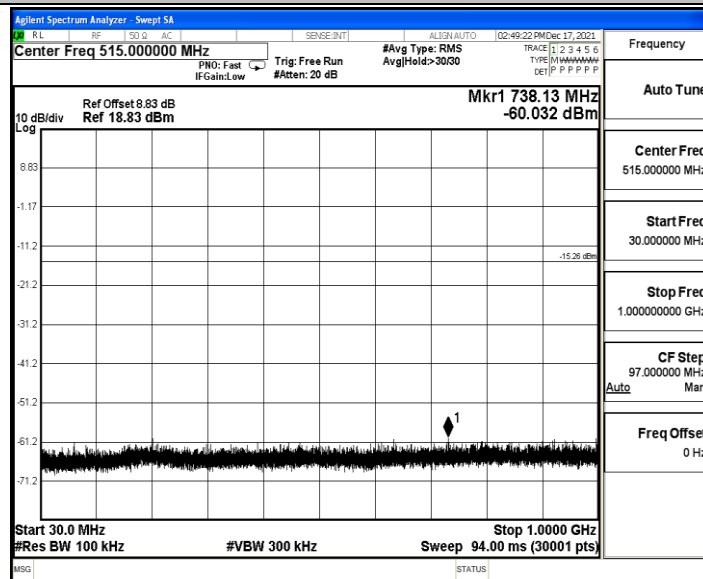


BLE_1M_Ant1_2440_0~Reference

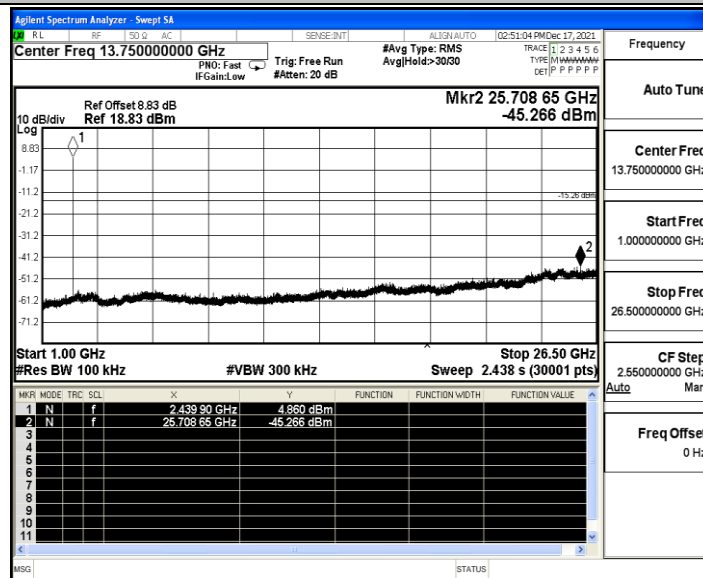




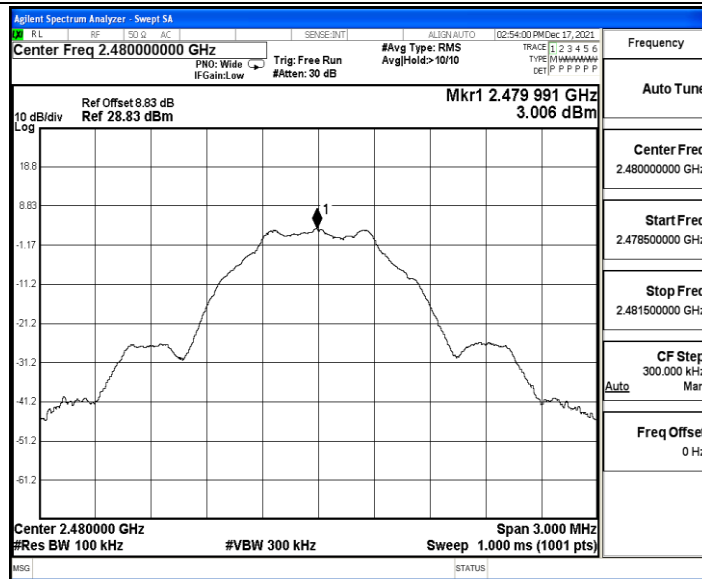
BLE_1M_Ant1_2440_30~1000



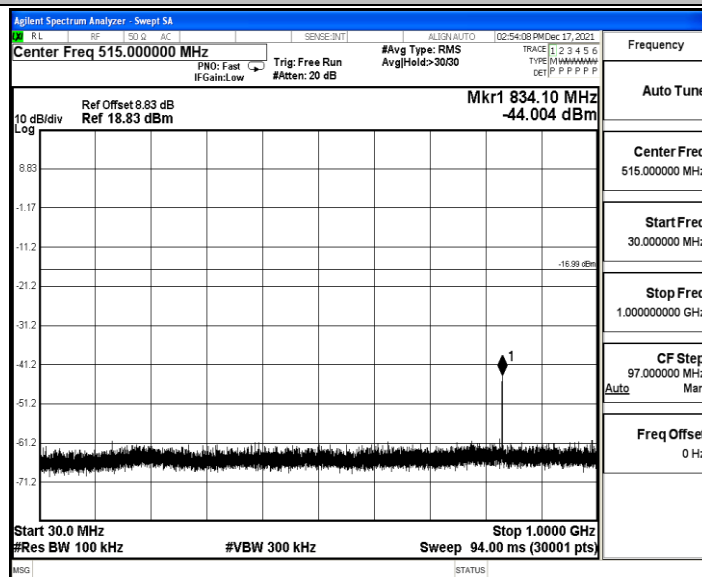
BLE_1M_Ant1_2440_1000~26500



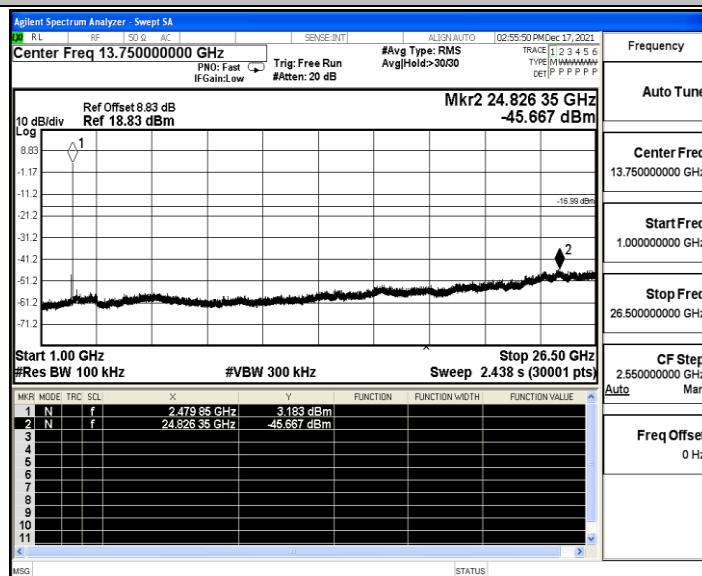
BLE_1M_Ant1_2480_0~Reference



BLE_1M_Ant1_2480_30~1000



BLE_1M_Ant1_2480_1000~26500





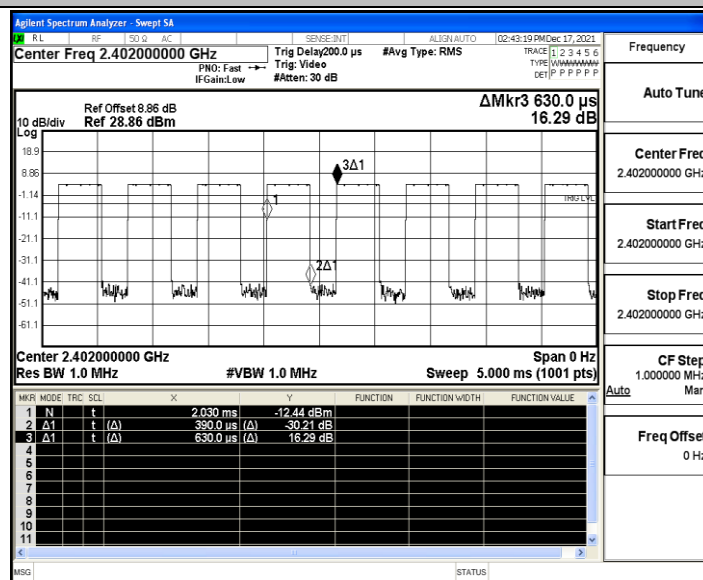
A.6 Duty Cycle

Test Result

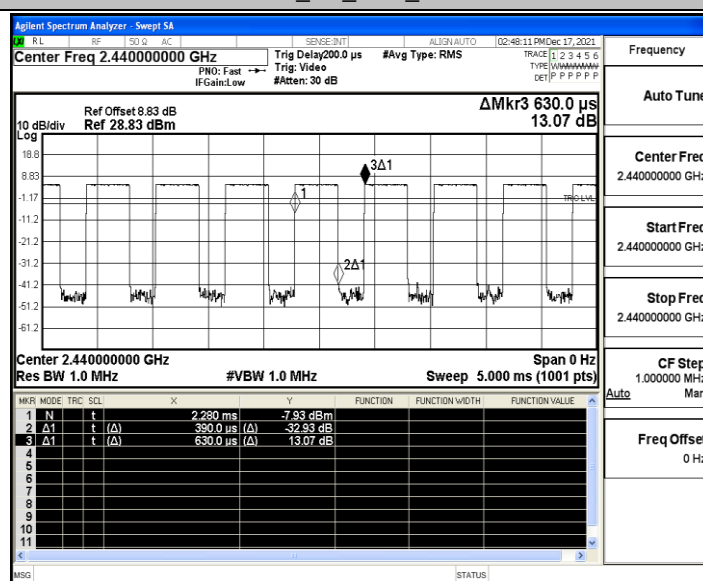
TestMode	Antenna	Frequency[MHz]	ON Time [ms]	Period [ms]	Duty Cycle [%]	Duty Cycle Factor[dB]
BLE_1M	Ant1	2402	0.39	0.63	61.90	2.08
		2440	0.39	0.63	61.90	2.08
		2480	0.39	0.63	61.90	2.08

Test Graphs

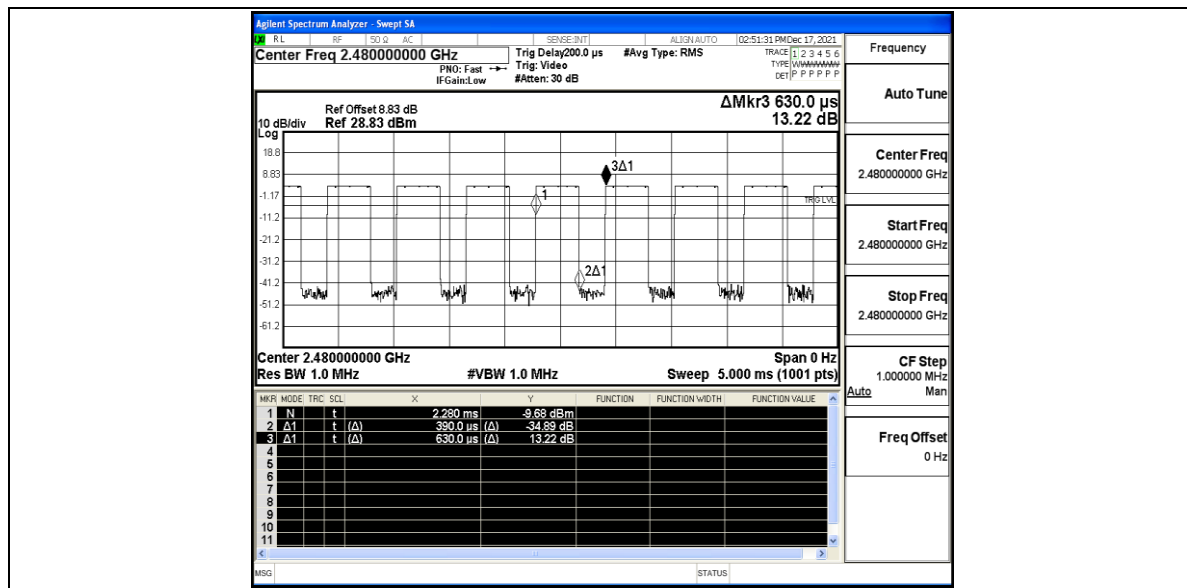
BLE_1M_Ant1_2402



BLE_1M_Ant1_2440



BLE_1M_Ant1_2480





A.7 Emissions in Restricted Bands

Test Result

TestMode	Antenna	ChName	Frequenc y[MHz]	Detector	Freq [MHz]	Result [dBm]	Limit [dBm]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
BLE_1M	Ant1	Low	2402	AV	2310.000	-47.14	≤-41.20	48.06	≤54	PASS
				AV	2383.055	-46.38	≤-41.20	48.82	≤54	PASS
				AV	2390.000	-46.55	≤-41.20	48.65	≤54	PASS
				Peak	2310.000	-38.5	≤-21.20	56.70	≤74	PASS
				Peak	2358.170	-35.82	≤-21.20	59.38	≤74	PASS
				Peak	2390.000	-38.47	≤-21.20	56.73	≤74	PASS
		High	2480	AV	2483.500	-45.65	≤-41.20	49.55	≤54	PASS
				AV	2483.520	-45.65	≤-41.20	49.55	≤54	PASS
				AV	2500.000	-45.95	≤-41.20	49.25	≤54	PASS
				Peak	2483.500	-37.71	≤-21.20	57.49	≤74	PASS
				Peak	2494.800	-35.71	≤-21.20	59.49	≤74	PASS
				Peak	2500.000	-37.8	≤-21.20	57.40	≤74	PASS

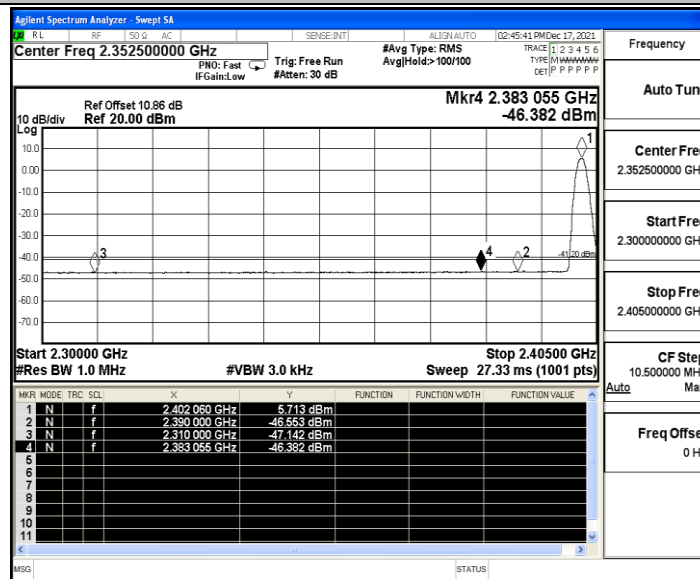
Note:

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.

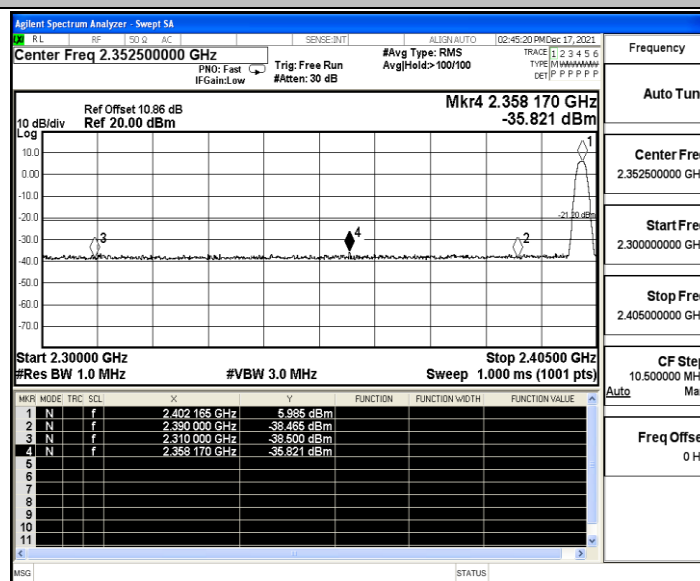


Test Graphs

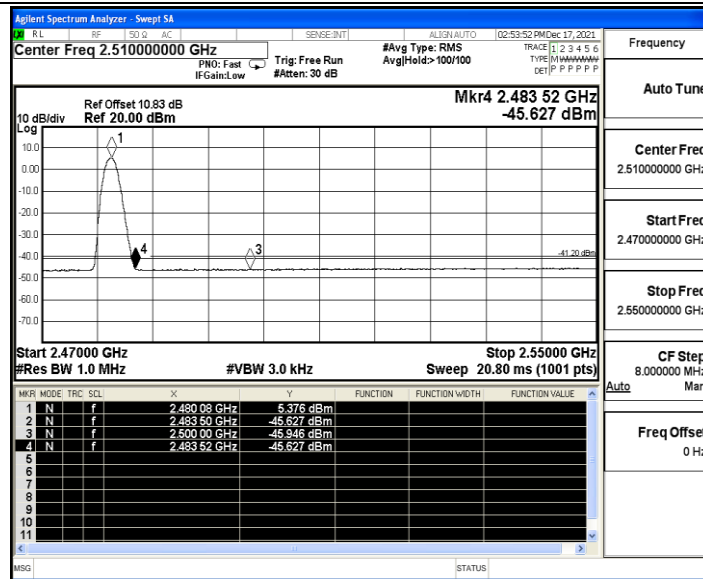
BLE_1M_Ant1_Low_2402_AV



BLE_1M_Ant1_Low_2402_Peak



BLE_1M_Ant1_High_2480_AV



BLE_1M_Ant1_High_2480_Peak

