# Appendix A

# RF Test Data for BT V5.0 (BLE) (Conducted Measurement)

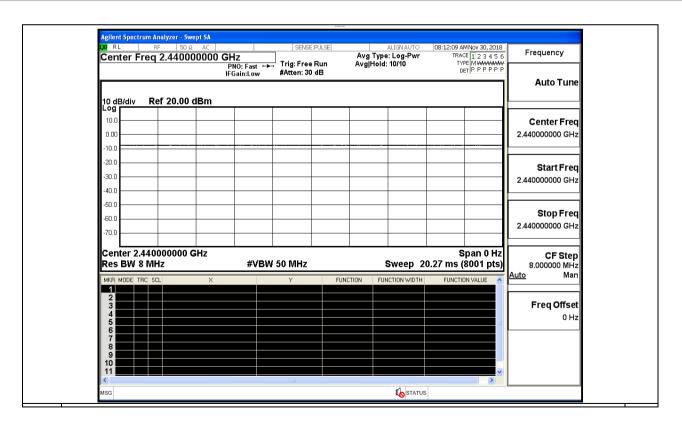
Product Name: Motion Sensor
Trade Mark: RING
Test Model: 5SM1S8

### **Environmental Conditions**

Temperature:	24.5 ° C
Relative Humidity:	53.2%
ATM Pressure:	100.0 kPa
Test Engineer:	Diamond.Lu
Supervised by:	Jayden.Zhuo

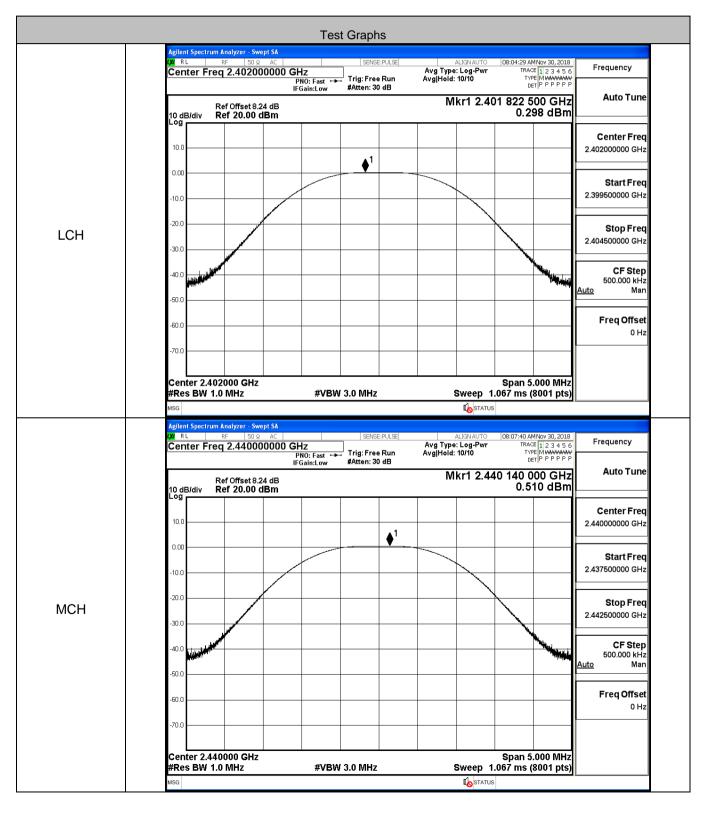
## **A.1 Duty Cycle**

Test Mode	Data Rate	Test Channel	Ant	Duty Cycle[%]	Verdict
BT LE	1M	2440	Ant1	100	PASS

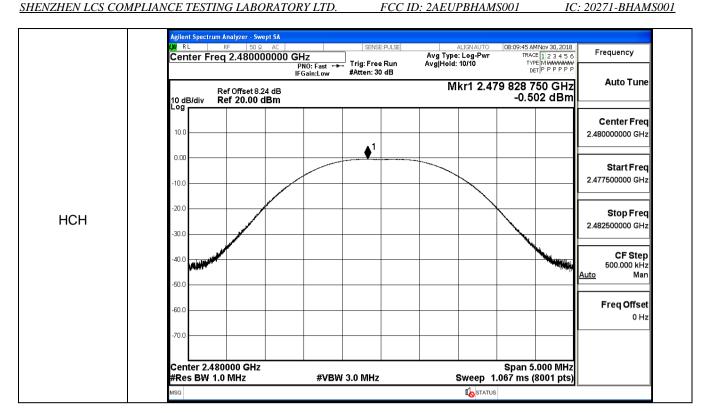


## A.2 Maximum Conducted Peak Output Power

Mode	ode Data Rate Channel Conduct Peak Power[dBm]		Limit [dBm]	Verdict	
BT LE	1M	LCH	0.298	30	PASS
BT LE	1M	MCH	0.510	30	PASS
BT LE	1M	HCH	-0.502	30	PASS

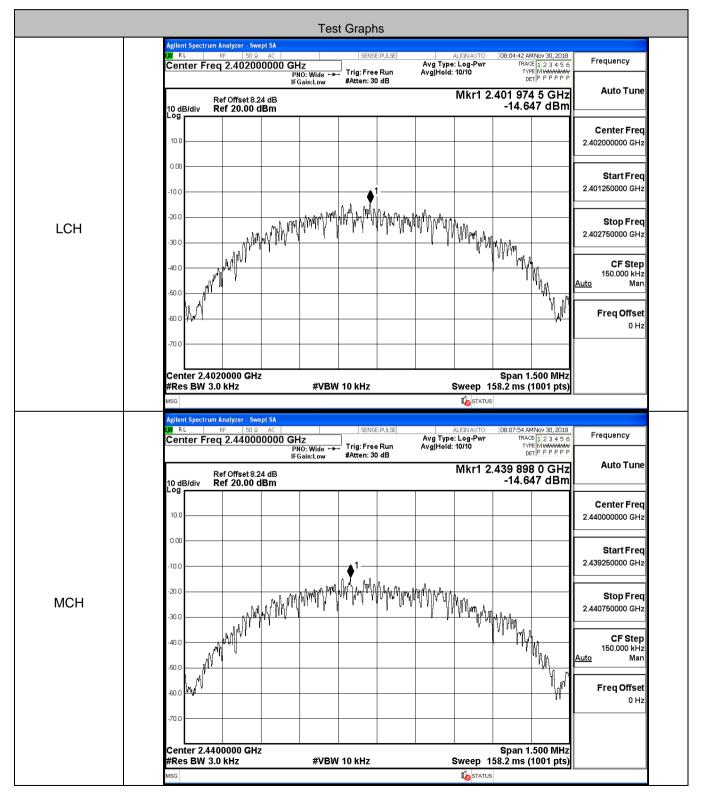


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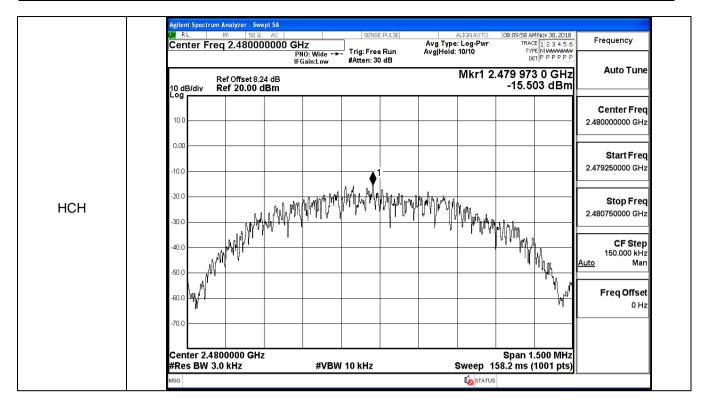


## A.3 Maximum Power Spectral Density

Mode	Data Rate	Channel	PSD [dBm/3KHz]	Limit [dBm/3KHz]	Verdict
BT LE	1M	LCH	-14.647	8	PASS
BT LE	1M	MCH	-14.647	8	PASS
BT LE	1M	НСН	-15.503	8	PASS

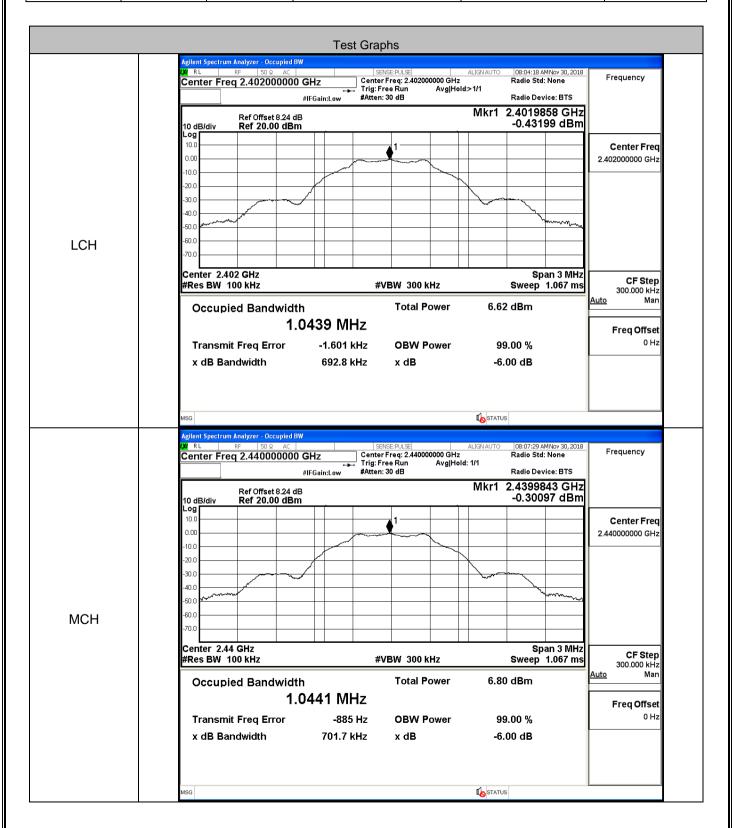


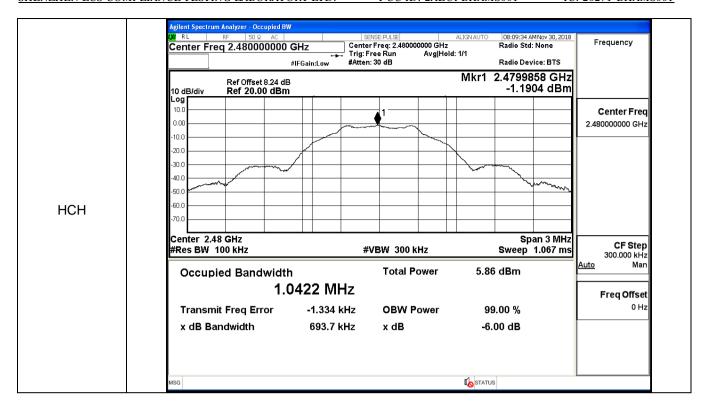
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### A.4 6dB Bandwidth

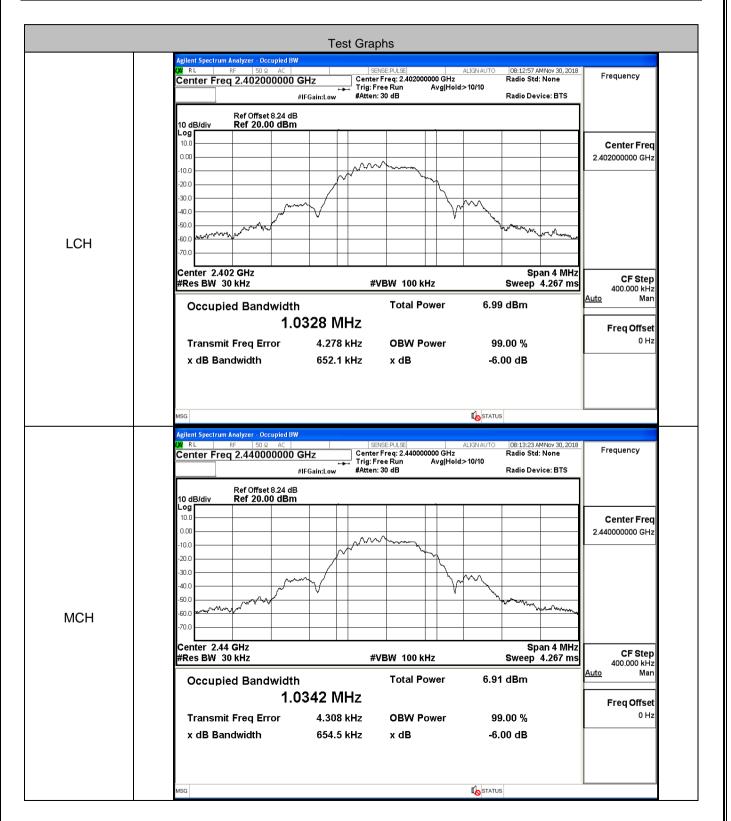
Mode	Data Rate	Data Rate Channel 6dB Bandwidth [MHz] Limit [MHz		Limit [MHz]	Verdict
BT LE	1M	LCH	0.6928	≥0.5	PASS
BT LE	1M	MCH	0.7017	≥0.5	PASS
BT LE	1M	HCH	0.6937	≥0.5	PASS





## A.5 Occupied Bandwidth

Mode	Data Rate	Channel	Occupied Bandwidth [MHz]	Limit [MHz]	Verdict
BT LE	1M	LCH	1.0328	No Limit	PASS
BT LE	1M	MCH	1.0342	No Limit	PASS
BT LE	1M	HCH	1.0342	No Limit	PASS

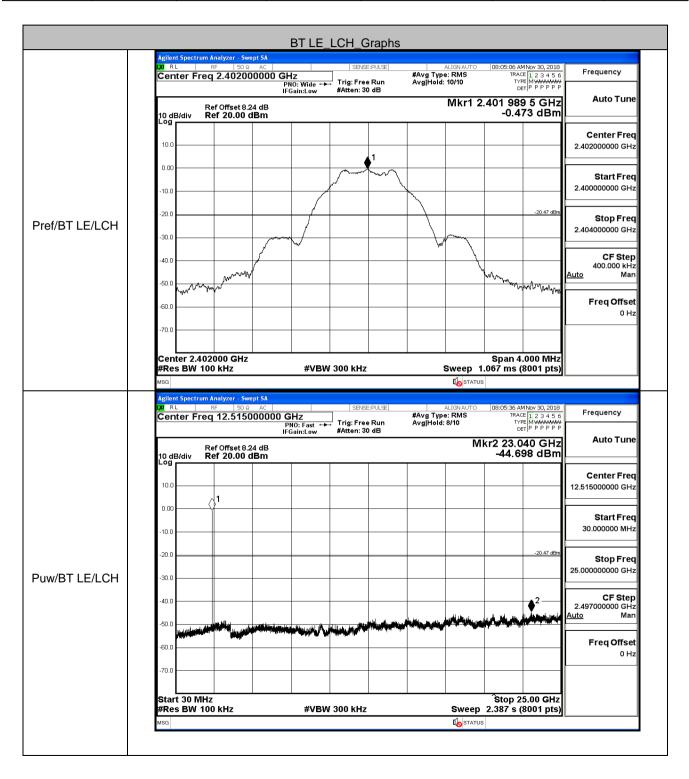


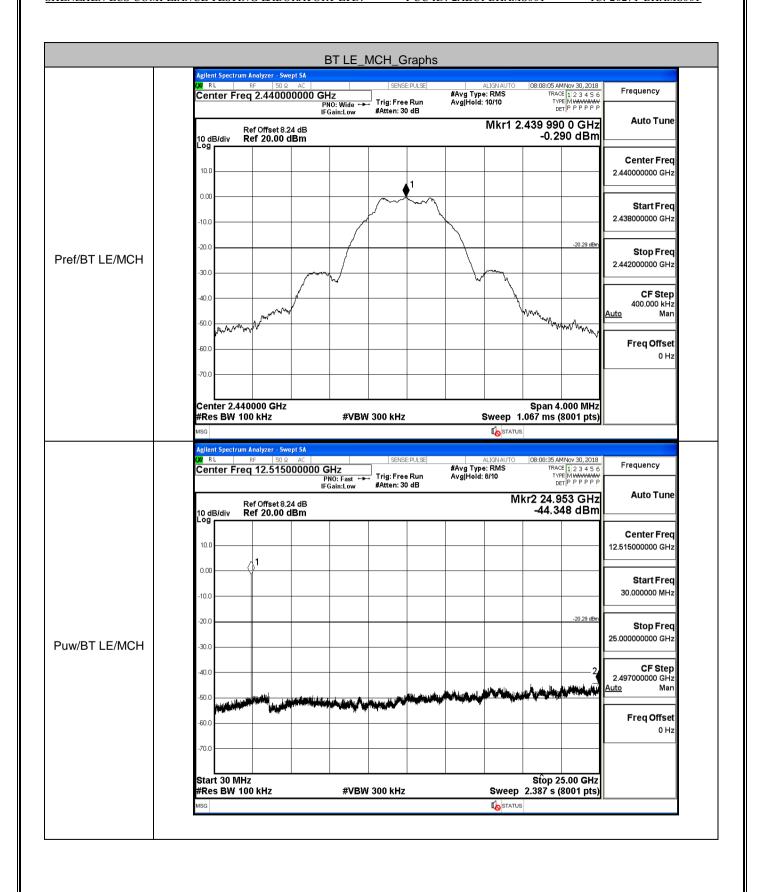
HCH

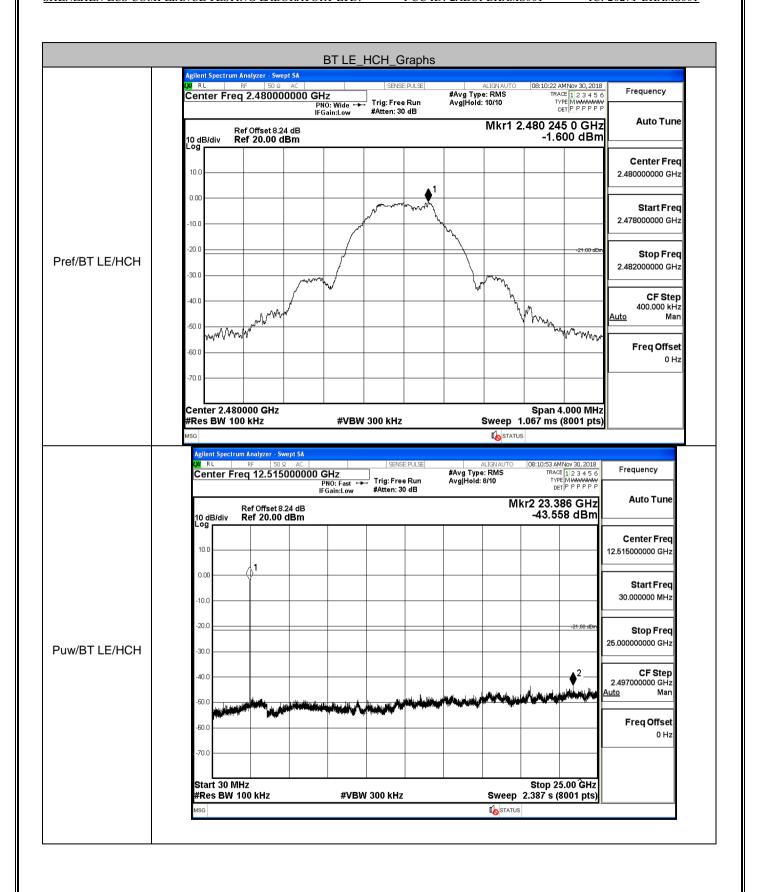
m-----10 O 20.0 30.0 40.0 -60.0 Center 2.48 GHz #Res BW 30 kHz Span 4 MHz Sweep 4.267 ms CF Step 400.000 kHz Man **#VBW 100 kHz Total Power** 5.89 dBm Occupied Bandwidth 1.0342 MHz Freq Offset 3.326 kHz 0 Hz **Transmit Freq Error OBW Power** 99.00 % x dB Bandwidth 660.5 kHz x dB -6.00 dB STATUS

## A.6 RF Conducted Spurious Emissions

Mode	Data Rate	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
BT LE	1M	LCH	-0.473	-44.698	-20.473	PASS
BT LE	1M	MCH	-0.290	-44.348	-20.290	PASS
BT LE	1M	HCH	-1.600	-43.558	-21.600	PASS

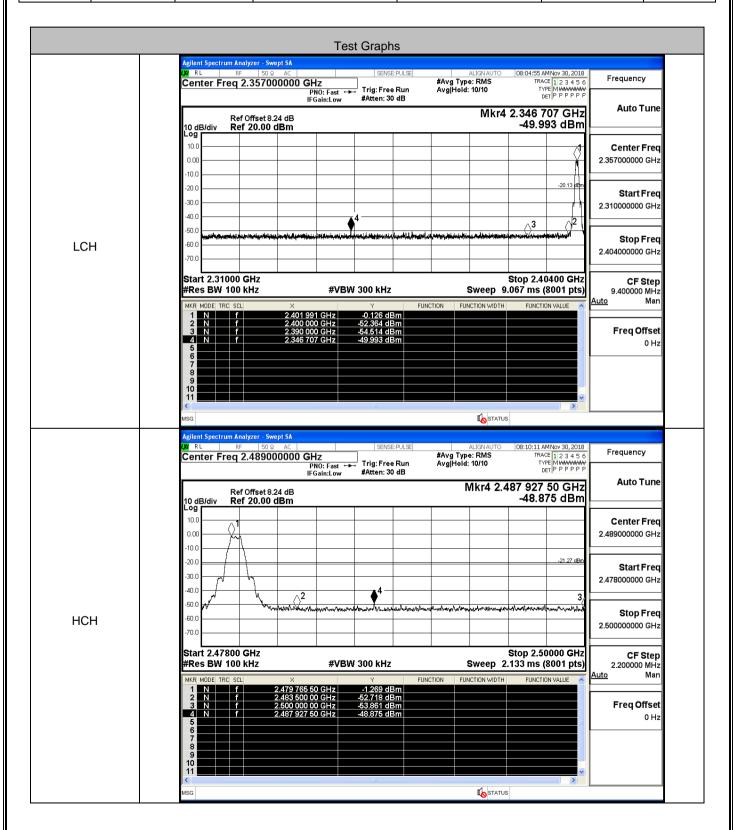






## A.7 Band-edge for RF Conducted Emissions

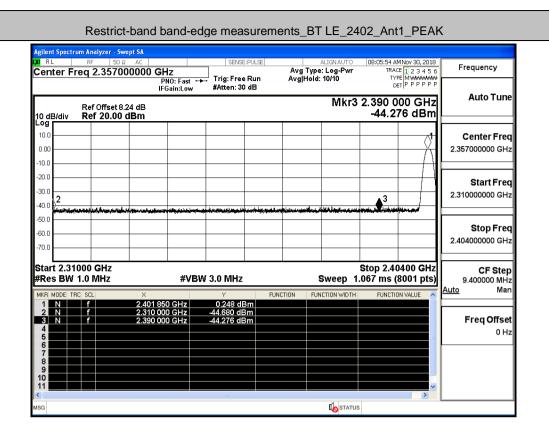
Mode	Data Rate	Channel	Carrier Power[dBm]	Max.Spurious Level [dBm]	Limit [dBm]	Verdict
BT LE	1M	LCH	-0.126	-49.993	-20.13	PASS
BT LE	1M	HCH	-1.269	-48.875	-21.27	PASS



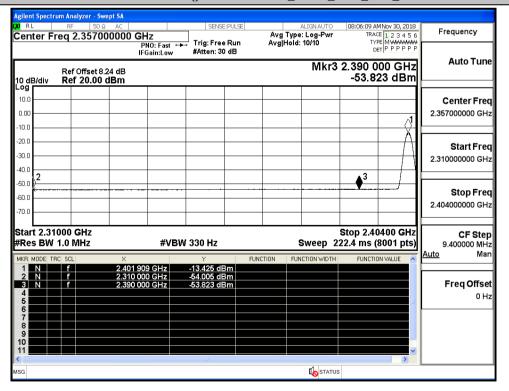
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# A.8 Restrict-band band-edge measurements

Test Mode	Data Rate	Test Channel	Ant	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/ m]	Verdict
			Ant1	2310.0	-44.68	2.0	0	50.58	PEAK	74	PASS
			Ant1	2310.0	-54.01	2.0	0	41.25	AV	54	PASS
	BT LE 1M	2402	Ant1	2390.0	-44.28	2.0	0	50.98	PEAK	74	PASS
			Ant1	2390.0	-53.82	2.0	0	41.43	AV	54	PASS
BT LE			Ant1	2483.5	-43.10	2.0	0	52.16	PEAK	74	PASS
			Ant1	2483.5	-53.18	2.0	0	42.08	AV	54	PASS
	2480	Ant1	2500.0	-43.66	2.0	0	51.60	PEAK	74	PASS	
			Ant1	2500.0	-53.08	2.0	0	42.18	AV	54	PASS



#### Restrict-band band-edge measurements\_BT LE\_2402\_Ant1\_AV



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#### Restrict-band band-edge measurements\_BT LE\_2480\_Ant1\_PEAK OTO 08:11:10 AMNov 30, 2018 TRACE 1 2 3 4 5 6 TYPE MWWWWW DET P P P P P P Frequency Avg Type: Log-Pwr Avg|Hold: 10/10 Center Freq 2.489000000 GHz PNO: Fast +-- Trig: Free Run IFGain:Low #Atten: 30 dB Auto Tune Mkr3 2.500 000 00 GHz Ref Offset 8.24 dB Ref 20.00 dBm -43.658 dBm 10 dB/div Log 10.0 Center Freq 0.00 2.489000000 GHz .1n ( -20.0 Start Freq -30.0 2.478000000 GHz -40.0 -50 f Stop Freq -60.0 2.500000000 GHz -70.0 Stop 2.50000 GHz Start 2.47800 GHz CF Step Sweep 1.067 ms (8001 pts) #Res BW 1.0 MHz **#VBW 3.0 MHz** 2.200000 MHz Mar <u>Auto</u> FUNCTION FUNCTION WIDTH FUNCTION VALUE -0.574 dBm -43.099 dBm -43.658 dBm Freq Offset 0 Hz

#### Restrict-band band-edge measurements\_BT LE\_2480\_Ant1\_AV

**STATUS** 

