

Appendix for Bluetooth BLE Mode

Product Name: Stack Sensor

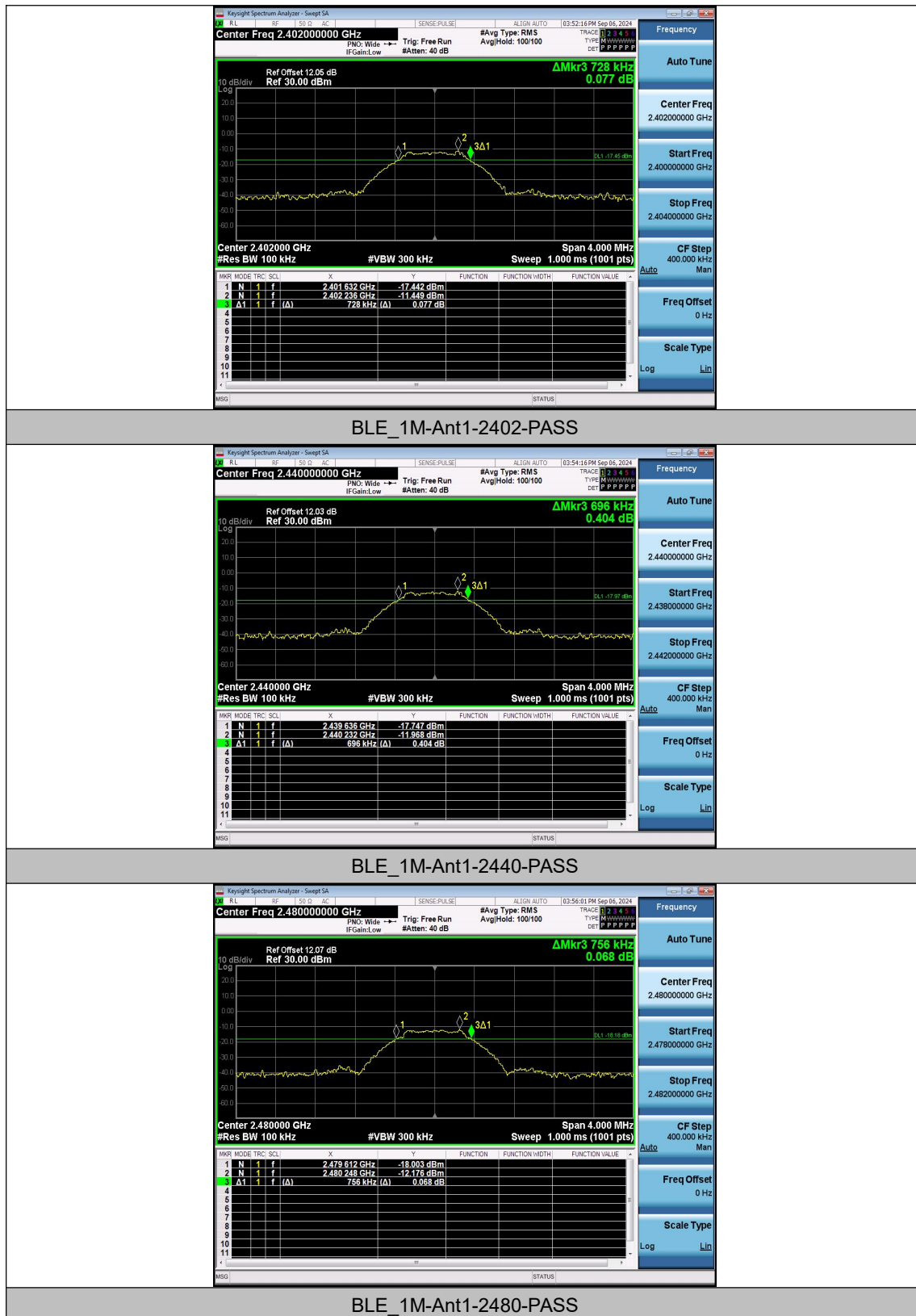
Model No: stacksensor24

Appendix A: DTS Bandwidth

Test Result

TestMode	Antenna	Frequency[MHz]	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.728	2401.632	2402.360	0.5	PASS
BLE_1M	Ant1	2440	0.696	2439.636	2440.332	0.5	PASS
BLE_1M	Ant1	2480	0.756	2479.612	2480.368	0.5	PASS

Test Graphs



Appendix B: Maximum conducted output power

Test Result Peak

TestMode	Antenna	Frequency[MHz]	Conducted Peak Power[dBm]	Conducted Limit[dBm]	Verdict
BLE_1M	Ant1	2402	-9.41	≤30	PASS
BLE_1M	Ant1	2440	-9.79	≤30	PASS
BLE_1M	Ant1	2480	-9.53	≤30	PASS

The figure displays three screenshots of a Keysight Spectrum Analyzer (Sweep SA) showing the frequency response of a BLE 1M-Ant1 at different frequencies: 2402 MHz, 2440 MHz, and 2480 MHz. Each screenshot includes a main plot area and a right sidebar with configuration parameters.

Top Screenshot: BLE_1M-Ant1-2402-PASS

- Center Freq:** 2.402000000 GHz
- Ref Offset:** 12.05 dB
- Ref:** 30.00 dBm
- Mkr1:** 2.402 156 00 GHz, -9.412 dBm
- Center:** 2.402000 GHz
- #Res BW:** 2.0 MHz
- #VBW:** 6.0 MHz
- Sweep:** 1.067 ms (8001 pts)
- Span:** 6.000 MHz

Right Sidebar Parameters:

- Frequency:** Auto Tune
- Center Freq:** 2.402000000 GHz
- Start Freq:** 2.399000000 GHz
- Stop Freq:** 2.405000000 GHz
- CF Step:** 600.000 KHz, Man
- Freq Offset:** 0 Hz
- Scale Type:** Log, Lin

Middle Screenshot: BLE_1M-Ant1-2440-PASS

- Center Freq:** 2.440000000 GHz
- Ref Offset:** 12.03 dB
- Ref:** 30.00 dBm
- Mkr1:** 2.439 656 50 GHz, -9.792 dBm
- Center:** 2.440000 GHz
- #Res BW:** 2.0 MHz
- #VBW:** 6.0 MHz
- Sweep:** 1.067 ms (8001 pts)
- Span:** 6.000 MHz

Right Sidebar Parameters:

- Frequency:** Auto Tune
- Center Freq:** 2.440000000 GHz
- Start Freq:** 2.437000000 GHz
- Stop Freq:** 2.443000000 GHz
- CF Step:** 600.000 KHz, Man
- Freq Offset:** 0 Hz
- Scale Type:** Log, Lin

Bottom Screenshot: BLE_1M-Ant1-2480-PASS

- Center Freq:** 2.480000000 GHz
- Ref Offset:** 12.07 dB
- Ref:** 30.00 dBm
- Mkr1:** 2.480 135 75 GHz, -9.530 dBm
- Center:** 2.480000 GHz
- #Res BW:** 2.0 MHz
- #VBW:** 6.0 MHz
- Sweep:** 1.067 ms (8001 pts)
- Span:** 6.000 MHz

Right Sidebar Parameters:

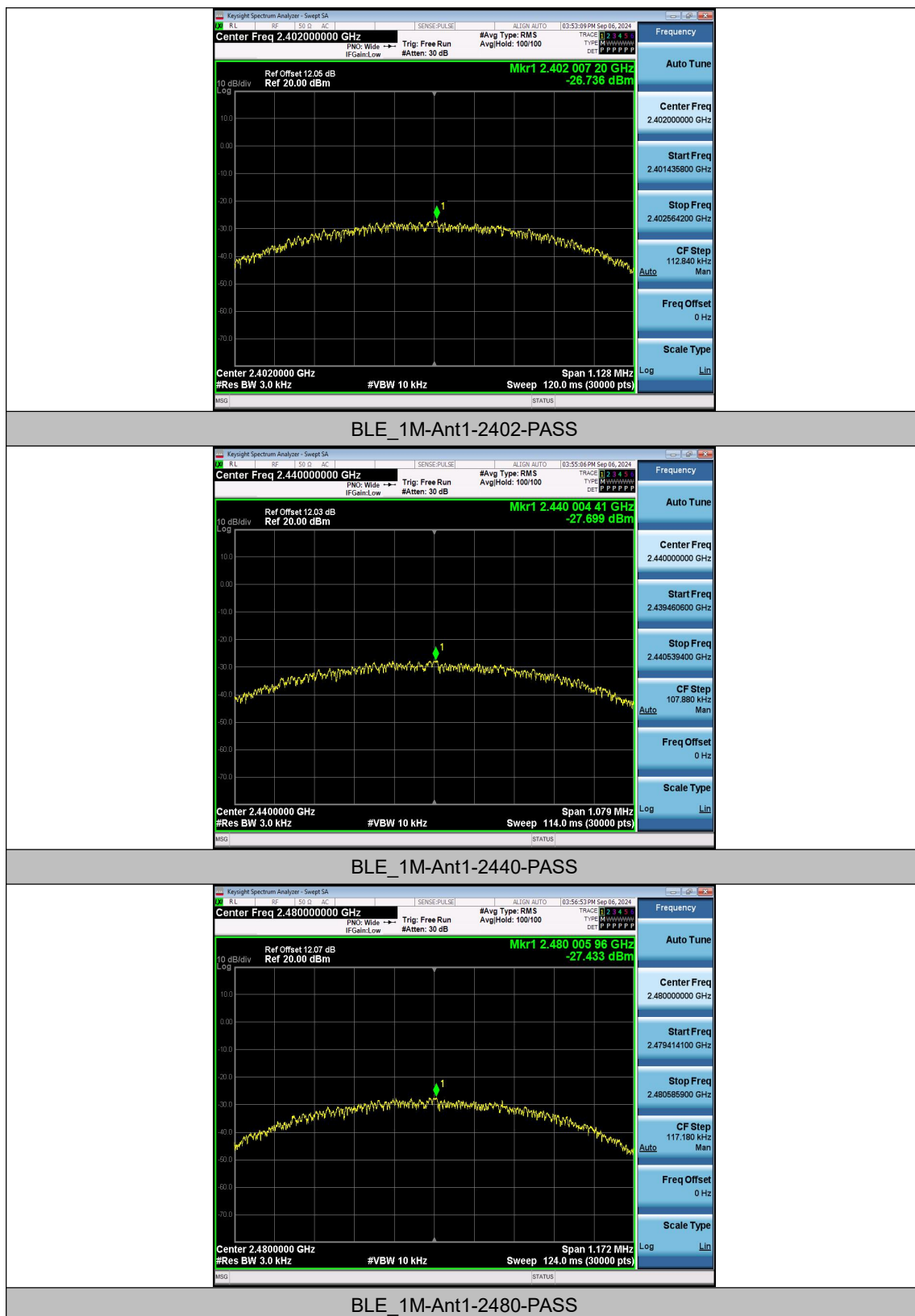
- Frequency:** Auto Tune
- Center Freq:** 2.480000000 GHz
- Start Freq:** 2.477000000 GHz
- Stop Freq:** 2.483000000 GHz
- CF Step:** 600.000 KHz, Man
- Freq Offset:** 0 Hz
- Scale Type:** Log, Lin

Appendix C: Maximum power spectral density

Test Result

TestMode	Antenna	Frequency[MHz]	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-26.74	≤8.00	PASS
BLE_1M	Ant1	2440	-27.70	≤8.00	PASS
BLE_1M	Ant1	2480	-27.43	≤8.00	PASS

Test Graphs



Appendix D: Reference level measurement

Test Result

TestMode	Antenna	Freq(MHz)	Max.Point[MHz]	Result[dBm]
BLE_1M	Ant1	2402	2402.23	-11.49
BLE_1M	Ant1	2440	2440.23	-12.03
BLE_1M	Ant1	2480	2480.23	-11.90

Test Graphs

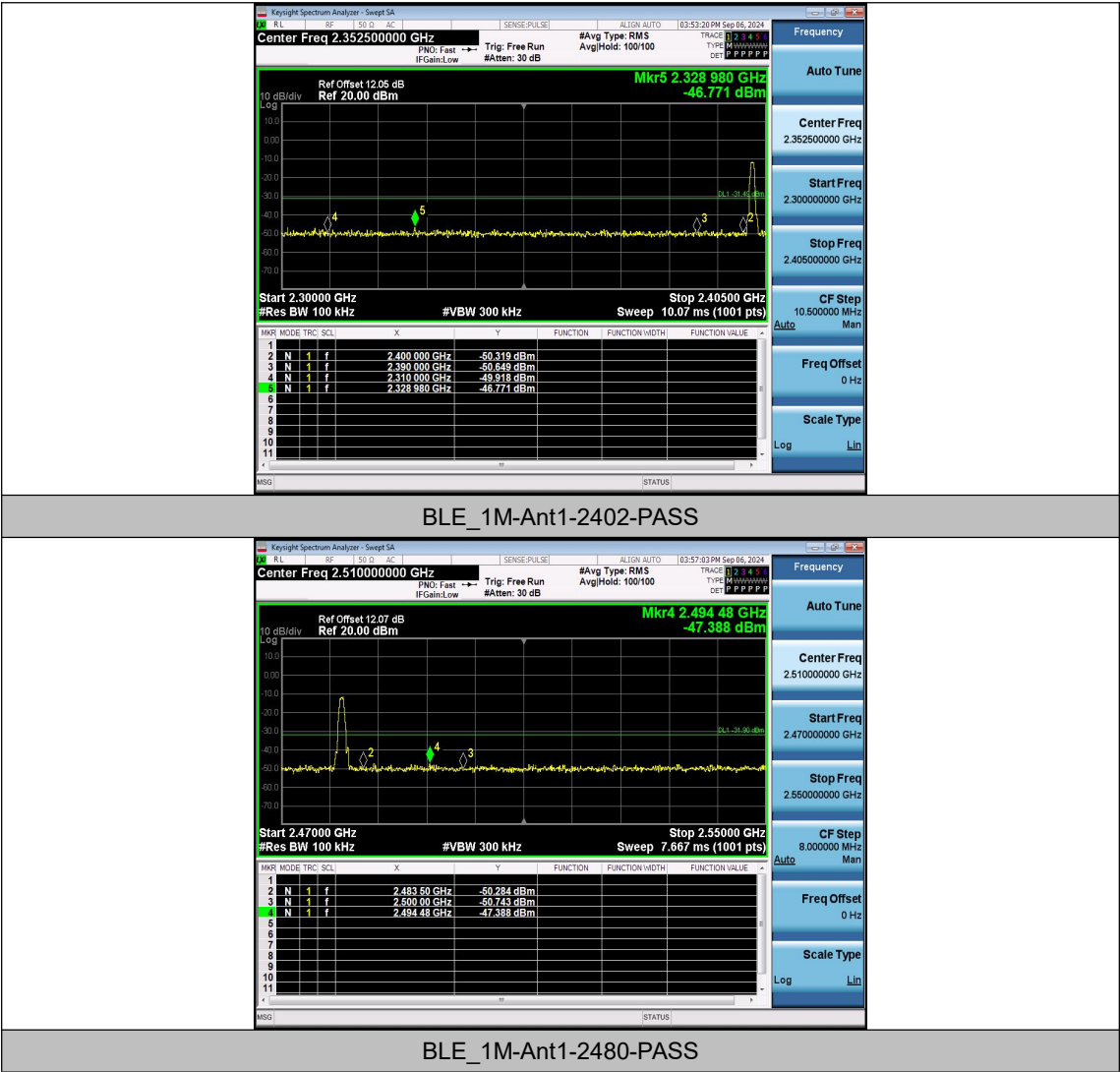


Appendix E: Band edge measurements

Test Result

TestMode	Antenna	ChName	Frequency [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
BLE_1M	Ant1	Low	2402	-11.49	-46.77	≤-31.49	PASS
BLE_1M	Ant1	High	2480	-11.90	-47.39	≤-31.9	PASS

Test Graphs



Appendix F: Conducted Spurious Emission

Test Result

TestMode	Antenna	Frequency [MHz]	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
BLE_1M	Ant1	2402	30~1000	-11.49	-58.94	≤-31.49	PASS
BLE_1M	Ant1	2402	1000~26500	-11.49	-43.49	≤-31.49	PASS
BLE_1M	Ant1	2440	30~1000	-12.03	-58.75	≤-32.03	PASS
BLE_1M	Ant1	2440	1000~26500	-12.03	-44.13	≤-32.03	PASS
BLE_1M	Ant1	2480	30~1000	-11.90	-59.09	≤-31.9	PASS
BLE_1M	Ant1	2480	1000~26500	-11.90	-43.56	≤-31.9	PASS

Test Graphs

