

Appendix A

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

Product Name: Bluetooth thermometer

Trade Mark: N/A

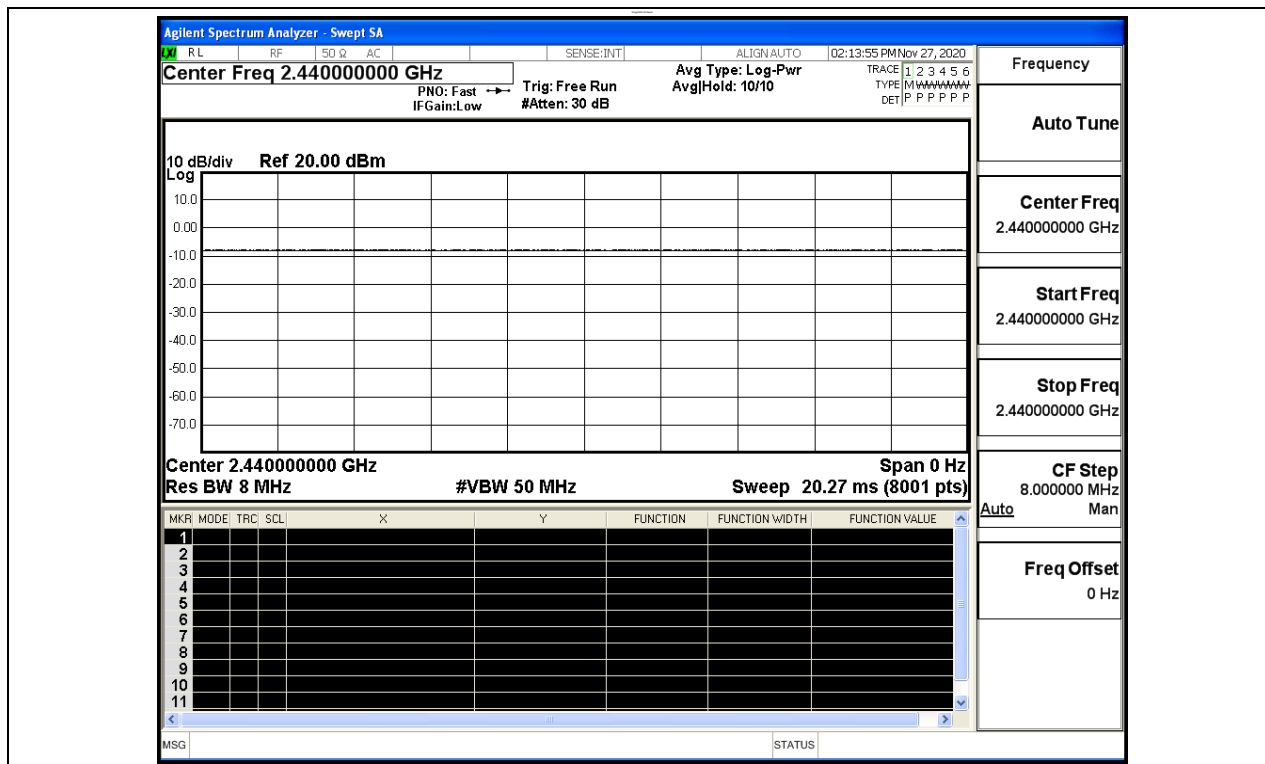
Test Model: TP-25H2

Environmental Conditions

Temperature:	24.6° C
Relative Humidity:	54.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Dancy Chen
Supervised by:	Li Huan

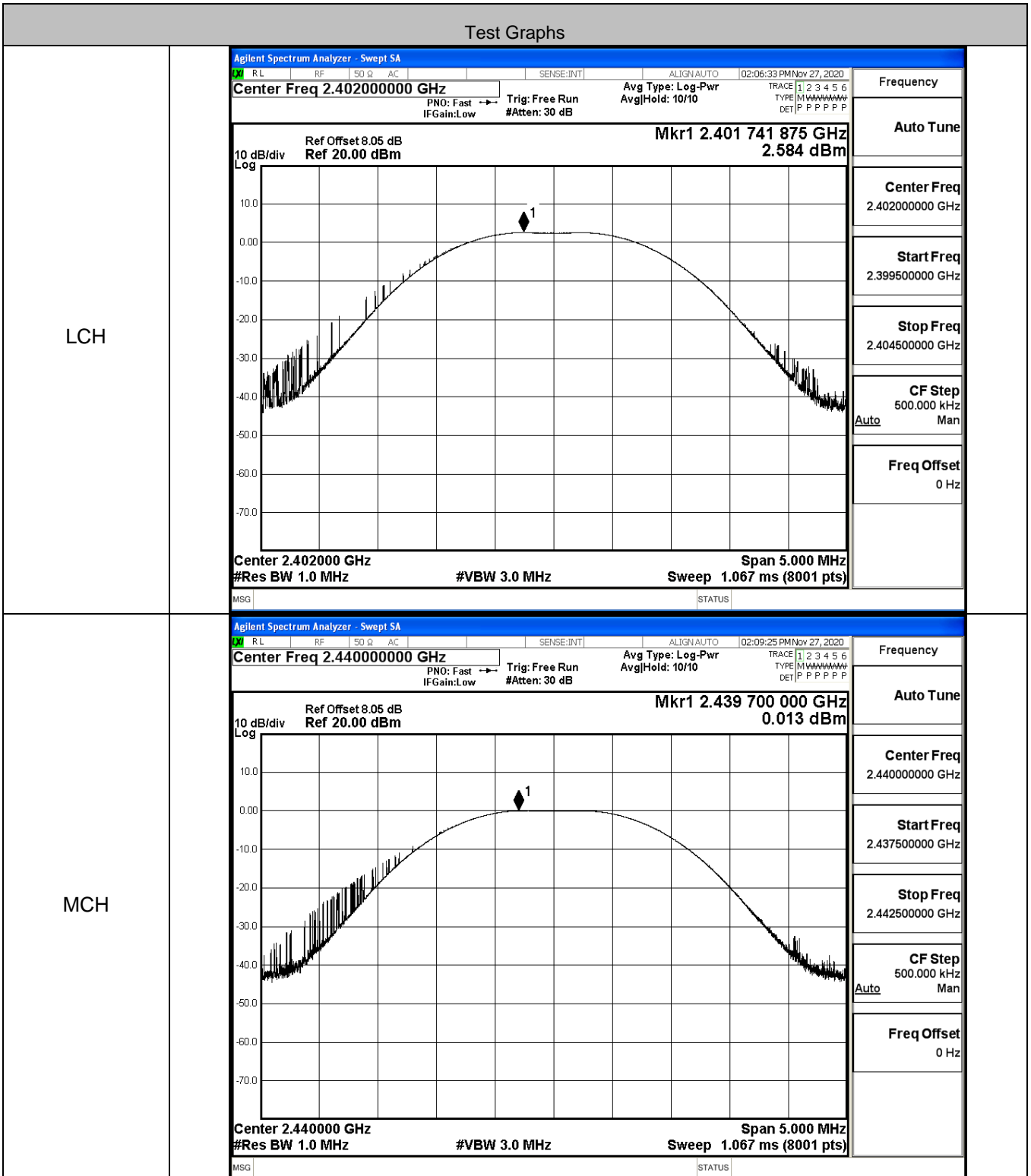
A.1 Duty Cycle

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



A.2 Maximum Conducted Peak Output Power

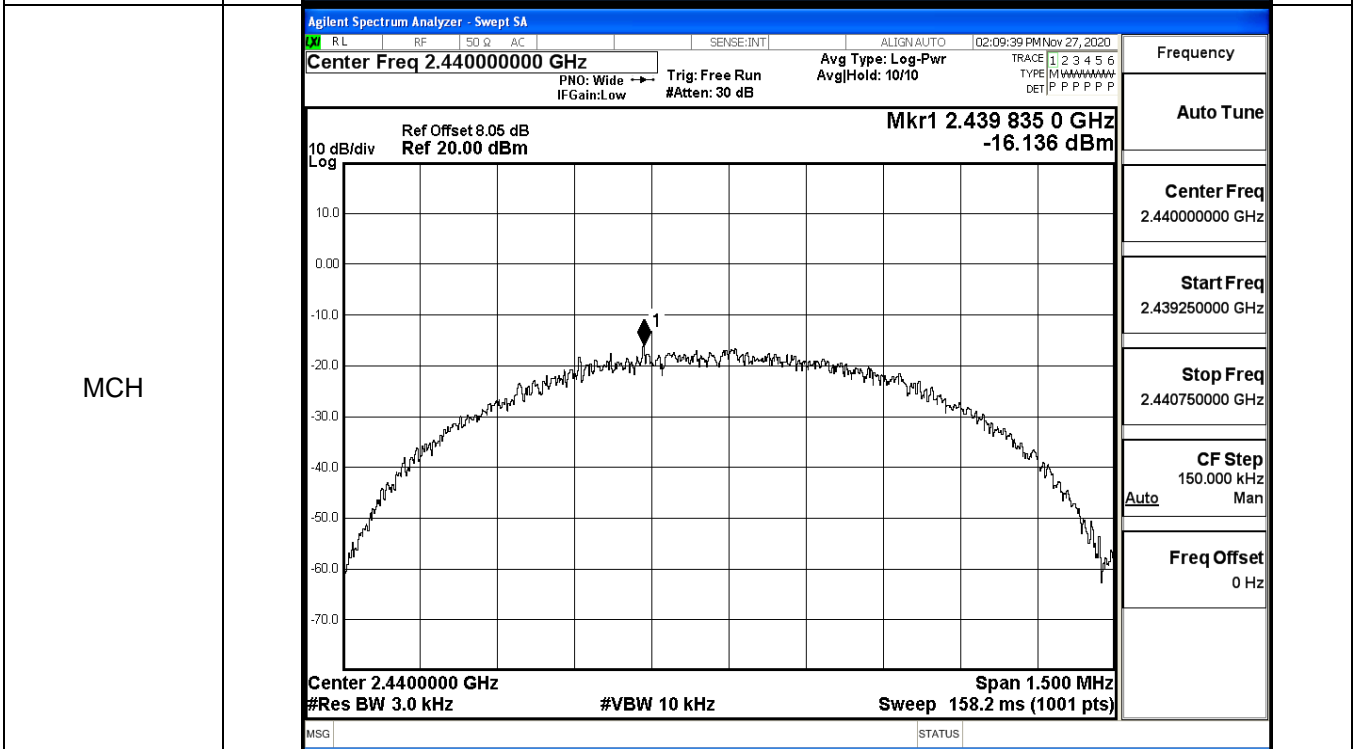
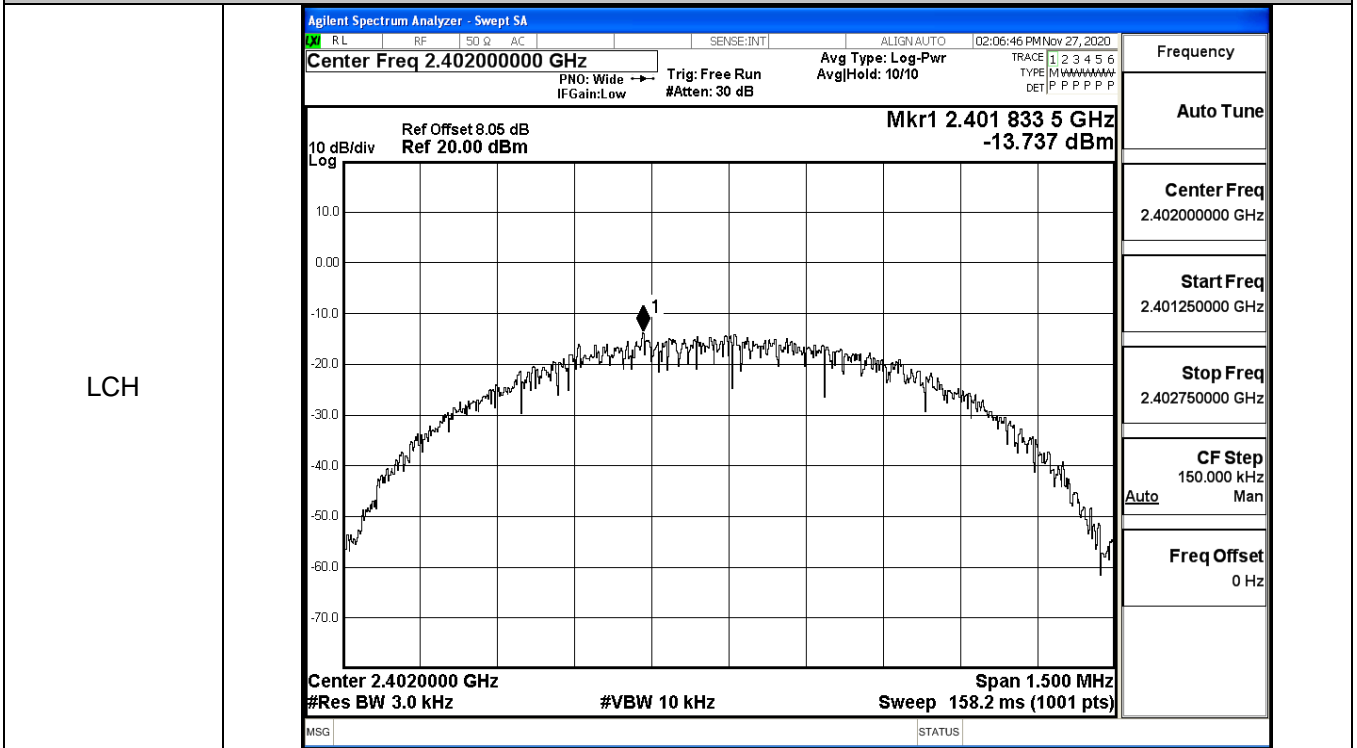
Mode	Channel	Conduct Peak Power[dBm]	Limit [dBm]	Verdict
BT LE	LCH	2.584	30	PASS
BT LE	MCH	0.013	30	PASS
BT LE	HCH	-0.492	30	PASS



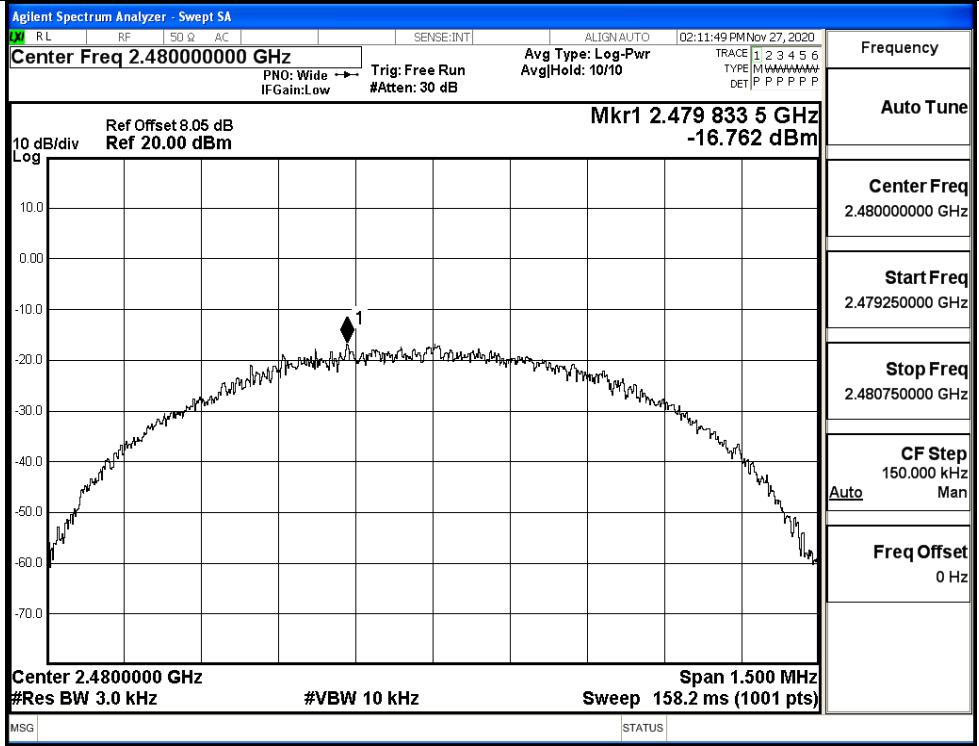
A.3 Maximum Power Spectral Density

Mode	Channel	PSD [dBm/3KHz]	Limit [dBm/3KHz]	Verdict
BT LE	LCH	-13.737	8	PASS
BT LE	MCH	-16.136	8	PASS
BT LE	HCH	-16.762	8	PASS

Test Graphs



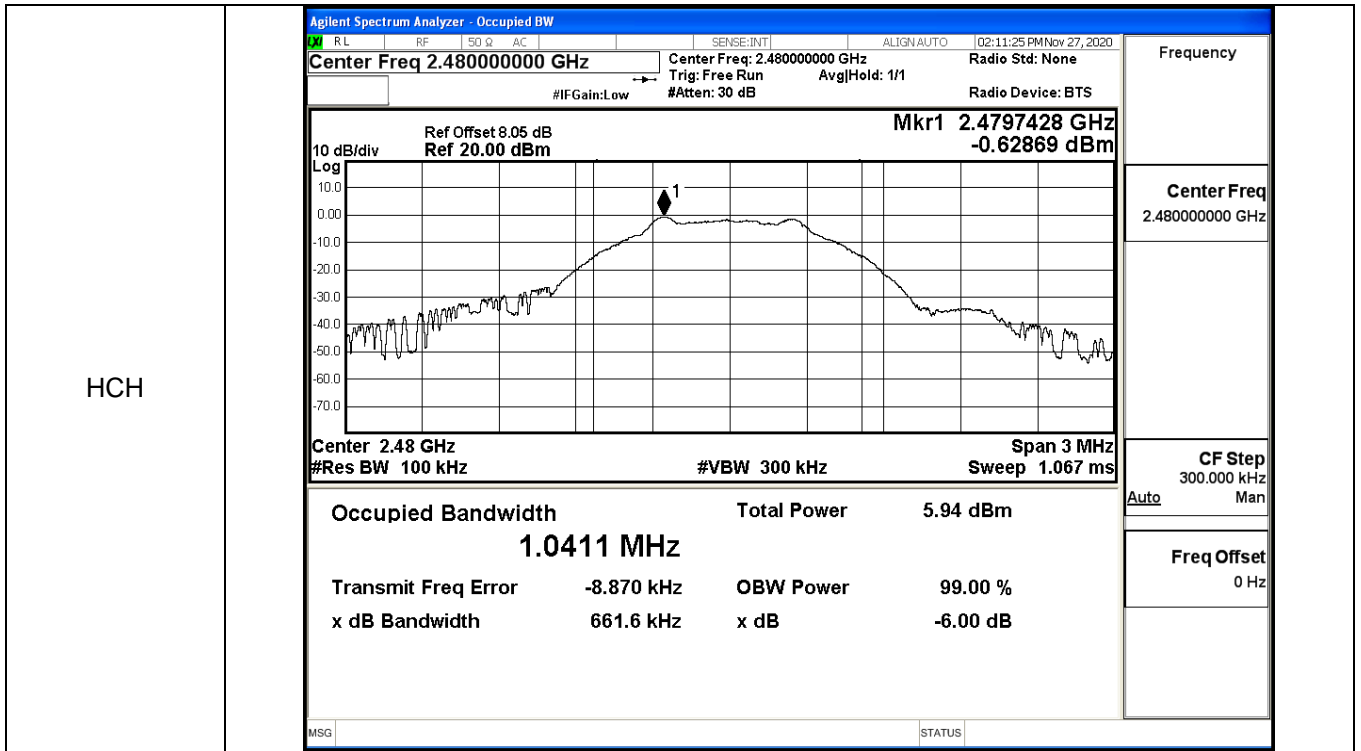
HCH



A.4 6dB Bandwidth

Mode	Channel	6dB Bandwidth [MHz]	Limit [MHz]	Verdict
BT LE	LCH	0.6621	≥0.5	PASS
BT LE	MCH	0.6600	≥0.5	PASS
BT LE	HCH	0.6616	≥0.5	PASS

Test Graphs	
LCH	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq 2.40200000 GHz Center Freq: 2.402000000 GHz Radio Std: None Trig: Free Run AvgHold: >1/1 #IFGain: Low #Atten: 30 dB Radio Device: BTS</p> <p>Center 2.402 GHz Span 3 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 1.067 ms</p> <p>Occupied Bandwidth Total Power 8.98 dBm 1.0401 MHz</p> <p>Transmit Freq Error -10.270 kHz OBW Power 99.00 % x dB Bandwidth 662.1 kHz x dB -6.00 dB</p>
	<p>Frequency</p> <p>Center Freq 2.402000000 GHz</p> <p>CF Step 300.000 kHz Auto Man</p> <p>Freq Offset 0 Hz</p>
MCH	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq 2.44000000 GHz Center Freq: 2.440000000 GHz Radio Std: None Trig: Free Run AvgHold: 1/1 #IFGain: Low #Atten: 30 dB Radio Device: BTS</p> <p>Center 2.44 GHz Span 3 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 1.067 ms</p> <p>Occupied Bandwidth Total Power 6.44 dBm 1.0435 MHz</p> <p>Transmit Freq Error -9.490 kHz OBW Power 99.00 % x dB Bandwidth 660.0 kHz x dB -6.00 dB</p>
	<p>Frequency</p> <p>Center Freq 2.440000000 GHz</p> <p>CF Step 300.000 kHz Auto Man</p> <p>Freq Offset 0 Hz</p>



A.5 RF Conducted Spurious Emissions

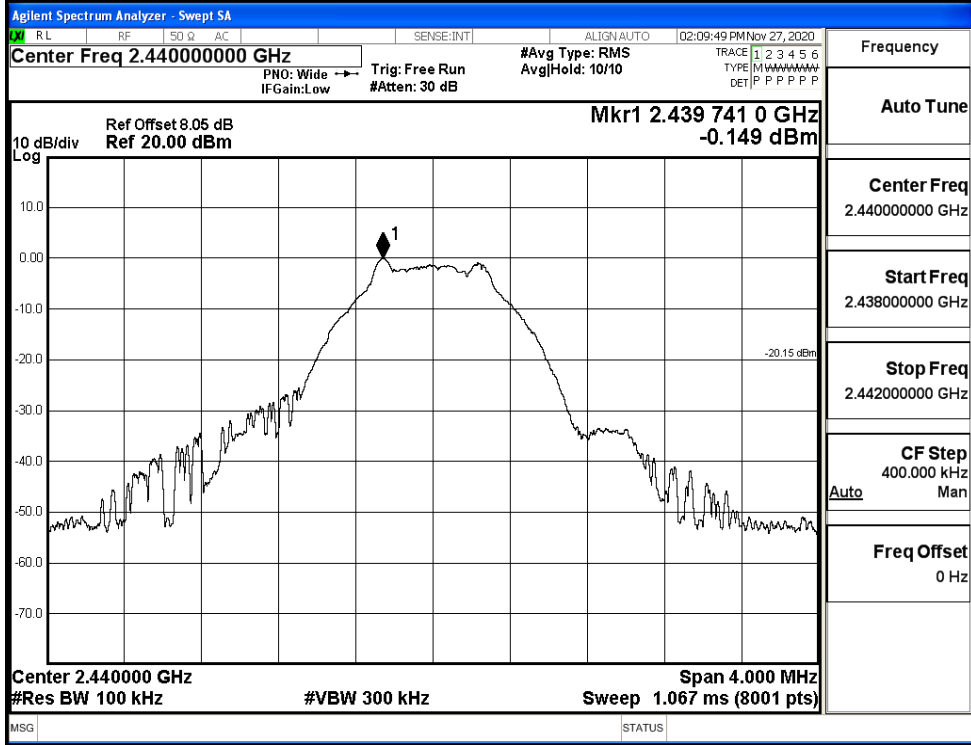
Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
BT LE	LCH	2.42	-37.376	-17.580	PASS
BT LE	MCH	-0.149	-37.354	-20.149	PASS
BT LE	HCH	-0.74	-36.866	-20.740	PASS

BT LE LCH Graphs

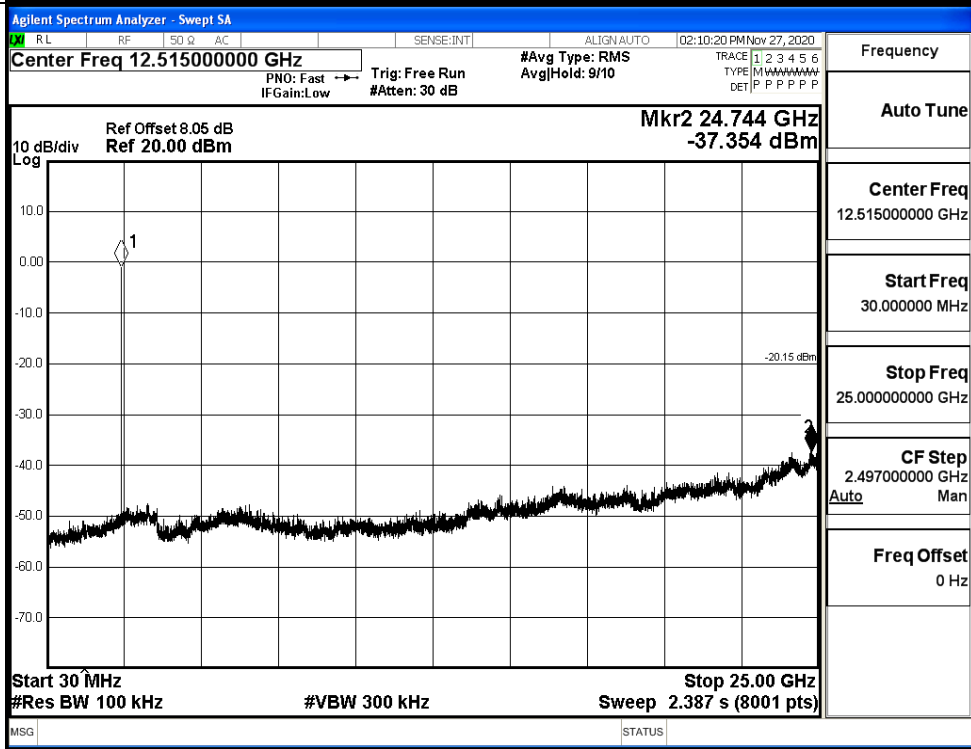
Pref/BT LE/LCH		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Frequency</td></tr> <tr><td>Auto Tune</td></tr> <tr><td>Center Freq 2.402000000 GHz</td></tr> <tr><td>Start Freq 2.400000000 GHz</td></tr> <tr><td>Stop Freq 2.404000000 GHz</td></tr> <tr><td>CF Step 400.000 kHz Auto Man</td></tr> <tr><td>Freq Offset 0 Hz</td></tr> </table>	Frequency	Auto Tune	Center Freq 2.402000000 GHz	Start Freq 2.400000000 GHz	Stop Freq 2.404000000 GHz	CF Step 400.000 kHz Auto Man	Freq Offset 0 Hz
Frequency									
Auto Tune									
Center Freq 2.402000000 GHz									
Start Freq 2.400000000 GHz									
Stop Freq 2.404000000 GHz									
CF Step 400.000 kHz Auto Man									
Freq Offset 0 Hz									
Puw/BT LE/LCH		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Frequency</td></tr> <tr><td>Auto Tune</td></tr> <tr><td>Center Freq 12.515000000 GHz</td></tr> <tr><td>Start Freq 30.0000000 MHz</td></tr> <tr><td>Stop Freq 25.000000000 GHz</td></tr> <tr><td>CF Step 2.497000000 GHz Auto Man</td></tr> <tr><td>Freq Offset 0 Hz</td></tr> </table>	Frequency	Auto Tune	Center Freq 12.515000000 GHz	Start Freq 30.0000000 MHz	Stop Freq 25.000000000 GHz	CF Step 2.497000000 GHz Auto Man	Freq Offset 0 Hz
Frequency									
Auto Tune									
Center Freq 12.515000000 GHz									
Start Freq 30.0000000 MHz									
Stop Freq 25.000000000 GHz									
CF Step 2.497000000 GHz Auto Man									
Freq Offset 0 Hz									

BT LE_MCH_Graphs

Pref/BT LE/MCH

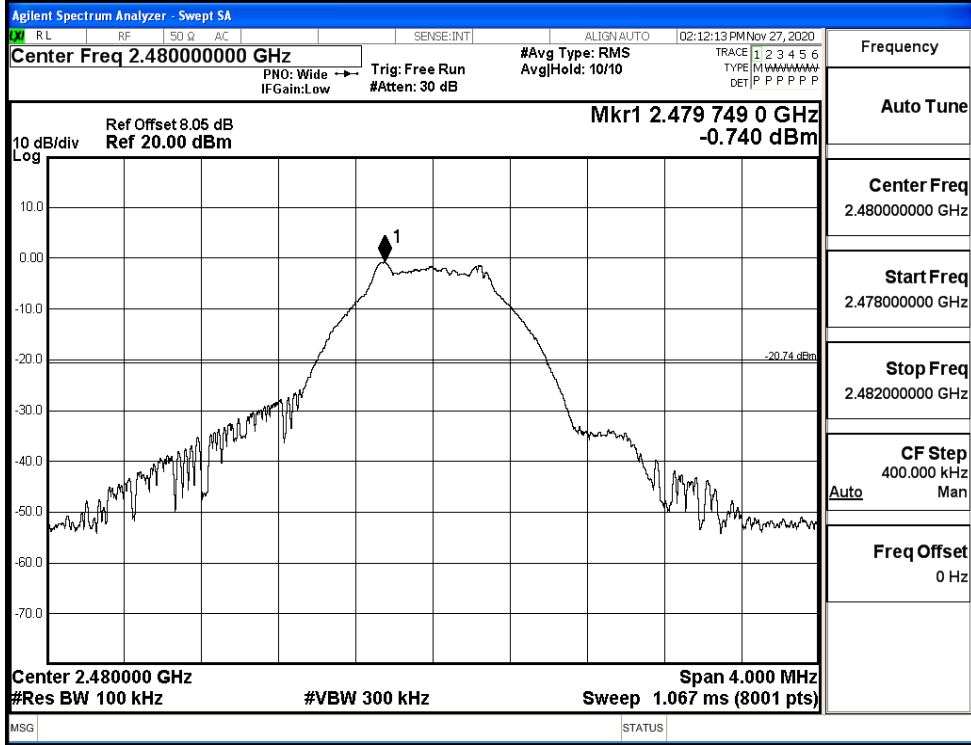


Puw/BT LE/MCH

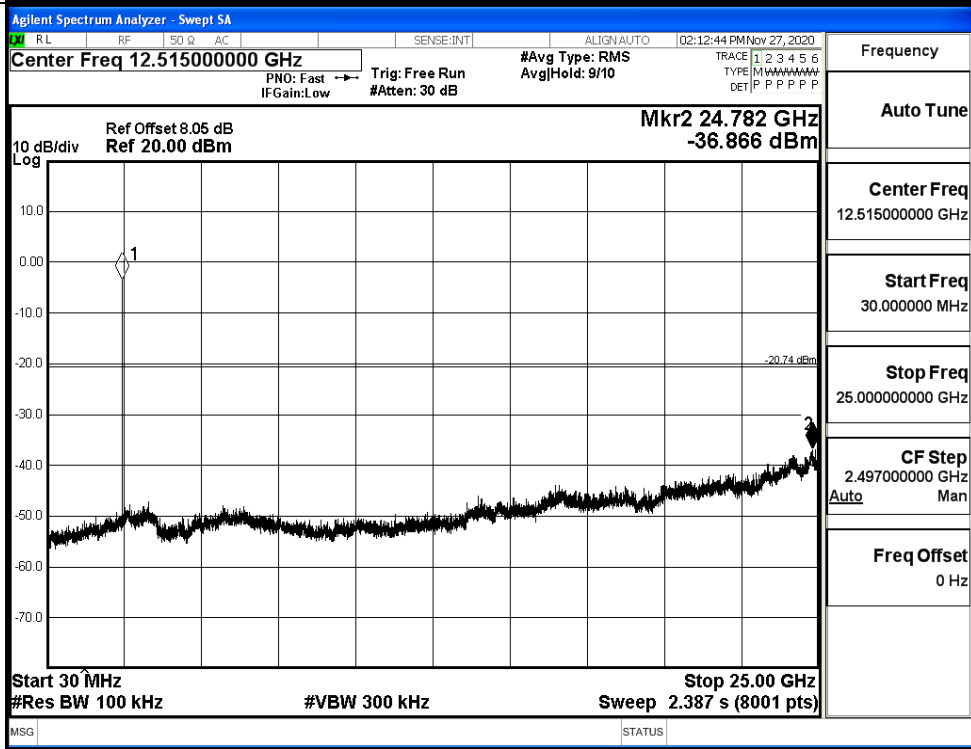


BT LE_HCH_Graphs

Pref/BT LE/HCH



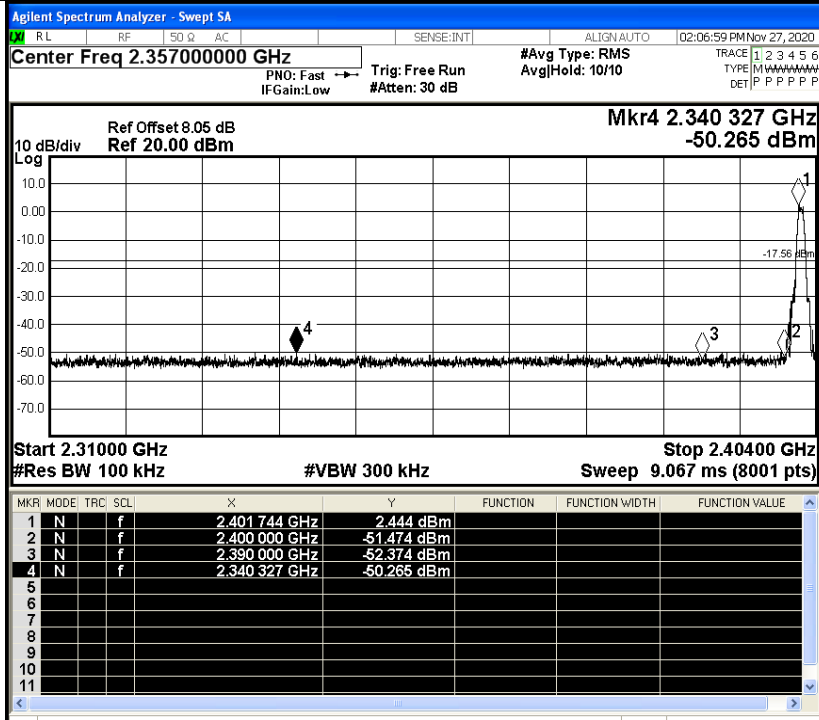
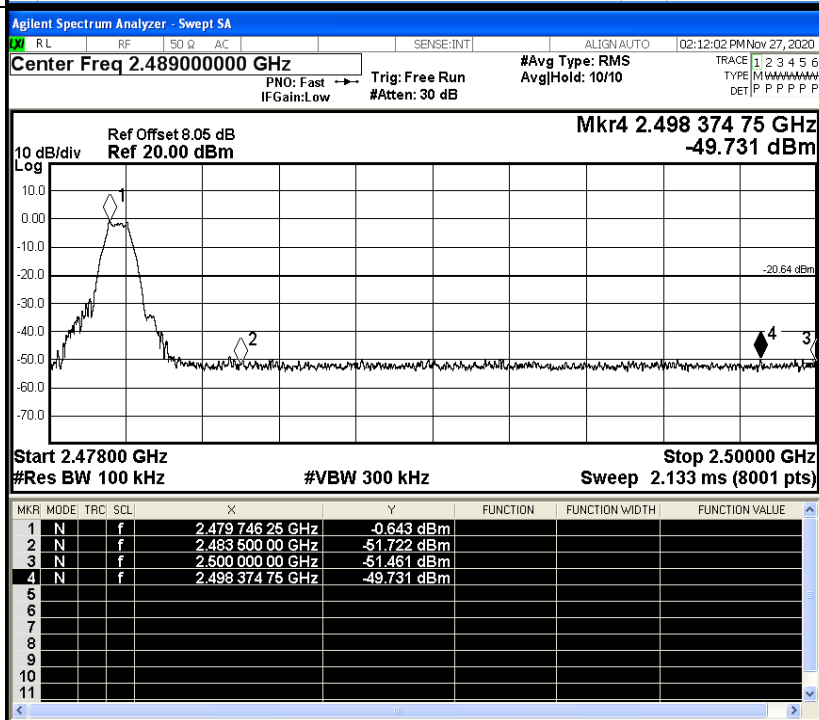
Puw/BT LE/HCH



A.6 Band-edge for RF Conducted Emissions

Mode	Channel	Carrier Power[dBm]	Max.Spurious Level [dBm]	Limit [dBm]	Verdict
BT LE	LCH	2.444	-50.265	-17.56	PASS
BT LE	HCH	-0.643	-49.731	-20.64	PASS

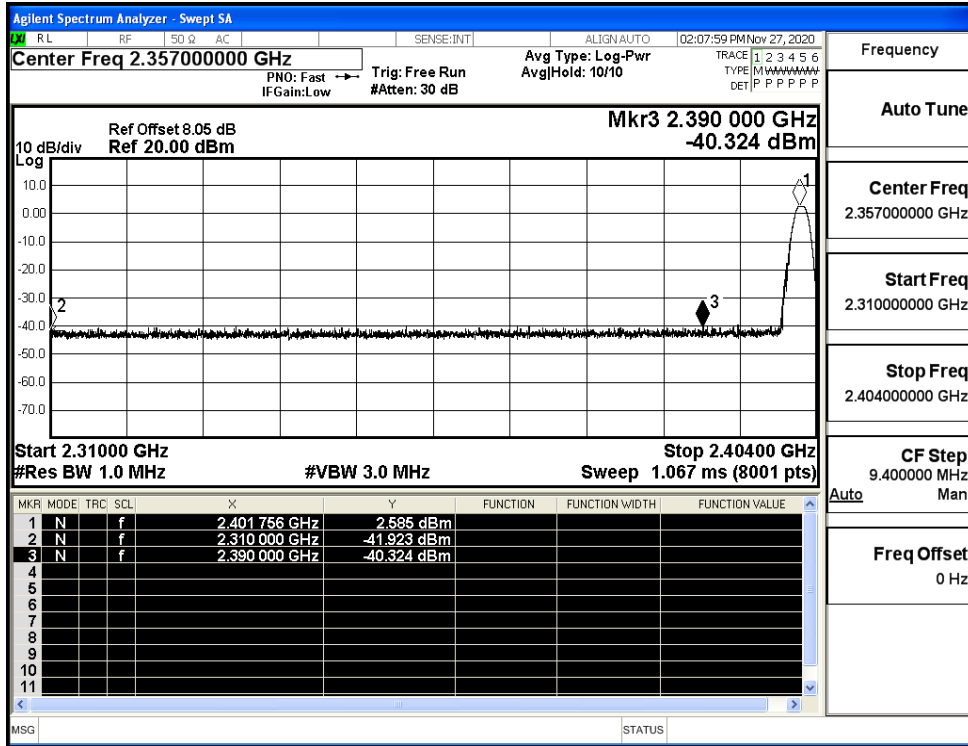
Test Graphs

LCH		<p>Frequency</p> <p>Auto Tune</p> <p>Center Freq 2.35700000 GHz</p> <p>Start Freq 2.31000000 GHz</p> <p>Stop Freq 2.40400000 GHz</p> <p>CF Step 9.400000 MHz</p> <p>Freq Offset 0 Hz</p>
HCH		<p>Frequency</p> <p>Auto Tune</p> <p>Center Freq 2.48900000 GHz</p> <p>Start Freq 2.47800000 GHz</p> <p>Stop Freq 2.50000000 GHz</p> <p>CF Step 2.200000 MHz</p> <p>Freq Offset 0 Hz</p>

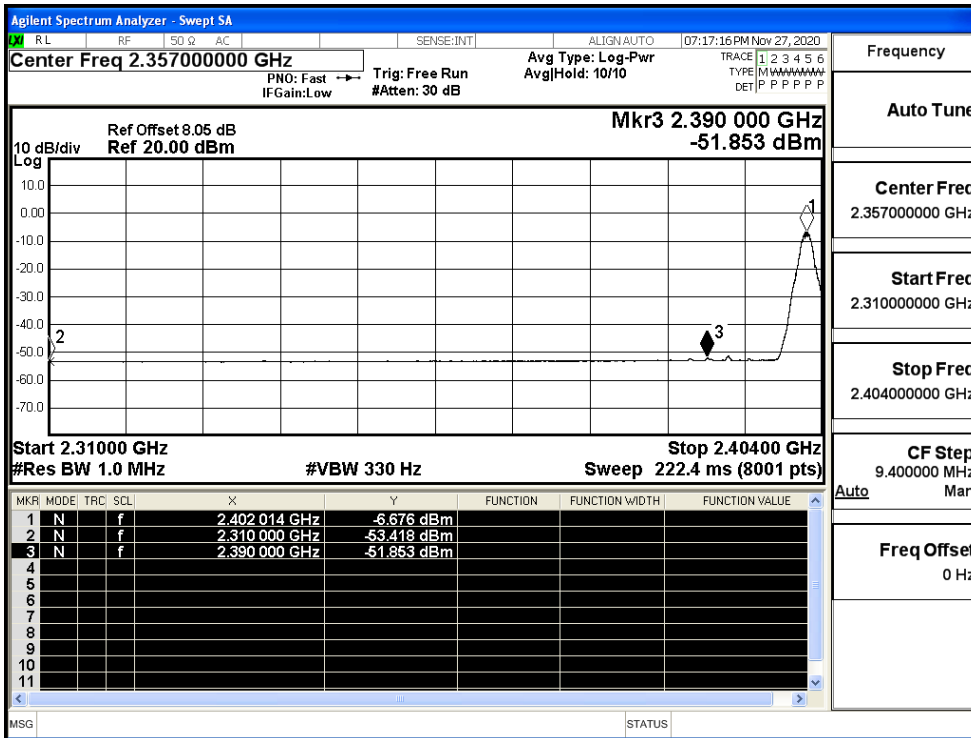
A.7 Restrict-band band-edge measurements

Test Mode	Test Channel	Ant	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdi
BT LE	2402	Ant1	2310.0	-41.92	2.0	0	53.33	PEAK	74	PASS
		Ant1	2310.0	-53.42	2.0	0	41.84	AV	54	PASS
		Ant1	2390.0	-40.32	2.0	0	54.93	PEAK	74	PASS
		Ant1	2390.0	-51.85	2.0	0	43.40	AV	54	PASS
	2480	Ant1	2483.5	-42.80	2.0	0	52.46	PEAK	74	PASS
		Ant1	2483.5	-52.43	2.0	0	42.83	AV	54	PASS
		Ant1	2500.0	-40.81	2.0	0	54.45	PEAK	74	PASS
		Ant1	2500.0	-52.24	2.0	0	43.01	AV	54	PASS

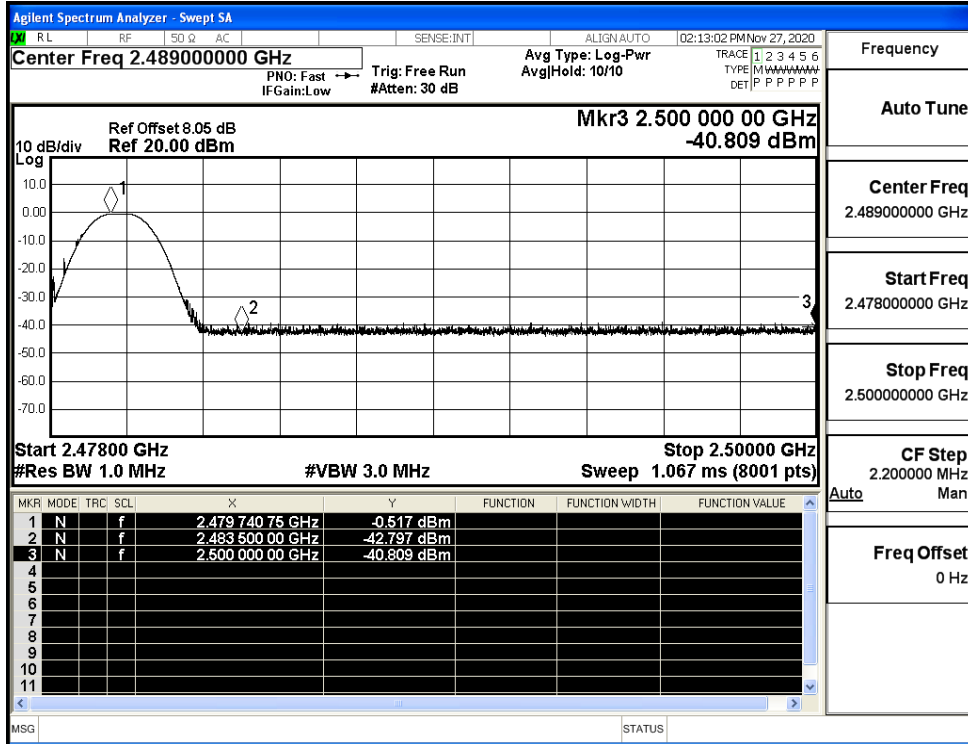
Restrict-band band-edge measurements_BT LE_2402_Ant1_PEAK



Restrict-band band-edge measurements_BT LE_2402_Ant1_AV



Restrict-band band-edge measurements_BT LE_2480_Ant1_PEAK



Restrict-band band-edge measurements_BT LE_2480_Ant1_AV

