

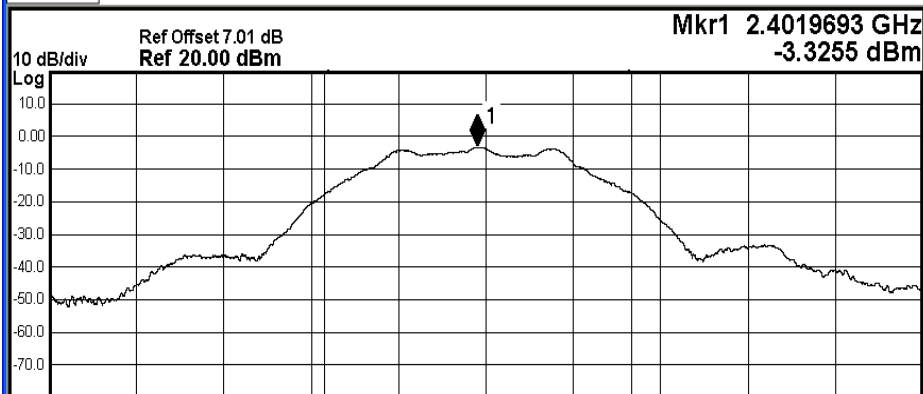
B.1.6dB Bandwidth

Test Mode	Test Channel	Ant	EBW[MHz]	Limit	Verdict
BLE	2402	Ant1	0.7009	0.5	PASS
BLE	2440	Ant1	0.6981	0.5	PASS
BLE	2480	Ant1	0.6898	0.5	PASS

6dB Bandwidth_BLE_2402_Ant1

Agilent Spectrum Analyzer - Occupied BW

☒ R L ☐ RF ☐ 50 Ω ☐ AC ☐ SENSE:PULSE ☐ ALIGN:AUTO 11:25:05 AM Jan 04, 2018
Center Freq 2.402000000 GHz Center Freq: 2.402000000 GHz Radio Std: None
 Trig: Free Run Avg|Hold: 1/1
 #IFGain:Low #Atten: 30 dB Radio Device: BTS



Center 2.402 GHz Span 3 MHz
 #Res BW 100 kHz #VBW 300 kHz Sweep 1.067 ms

Occupied Bandwidth Total Power 3.46 dBm
1.0455 MHz
 Transmit Freq Error -24.290 kHz OBW Power 99.00 %
 x dB Bandwidth 700.9 kHz x dB -6.00 dB

MSG

STATUS

Frequency

Center Freq
 2.402000000 GHz

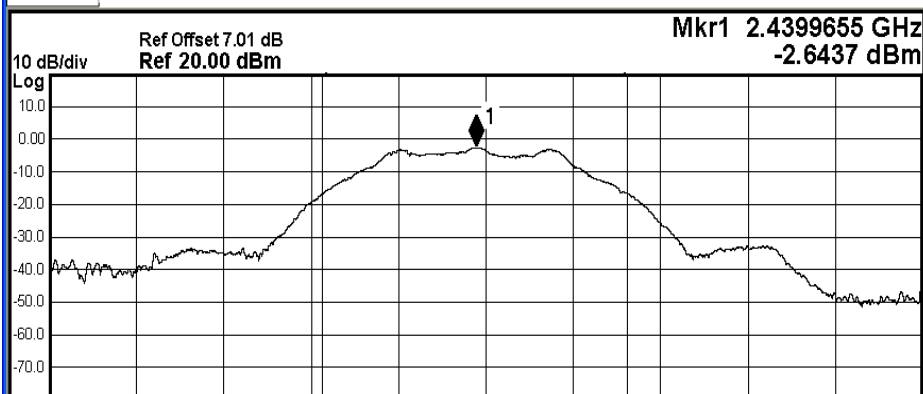
CF Step
 300.000 kHz
 Auto Man

Freq Offset
 0 Hz

6dB Bandwidth_BLE_2440_Ant1

Agilent Spectrum Analyzer - Occupied BW

☒ R L ☐ RF ☐ 50 Ω ☐ AC ☐ SENSE:PULSE ☐ ALIGN:AUTO 11:27:02 AM Jan 04, 2018
Center Freq 2.440000000 GHz Center Freq: 2.440000000 GHz Radio Std: None
 Trig: Free Run Avg|Hold: 1/1
 #IFGain:Low #Atten: 30 dB Radio Device: BTS



Center 2.44 GHz Span 3 MHz
 #Res BW 100 kHz #VBW 300 kHz Sweep 1.067 ms

Occupied Bandwidth Total Power 4.14 dBm
1.0449 MHz
 Transmit Freq Error -35.648 kHz OBW Power 99.00 %
 x dB Bandwidth 698.1 kHz x dB -6.00 dB

MSG

STATUS

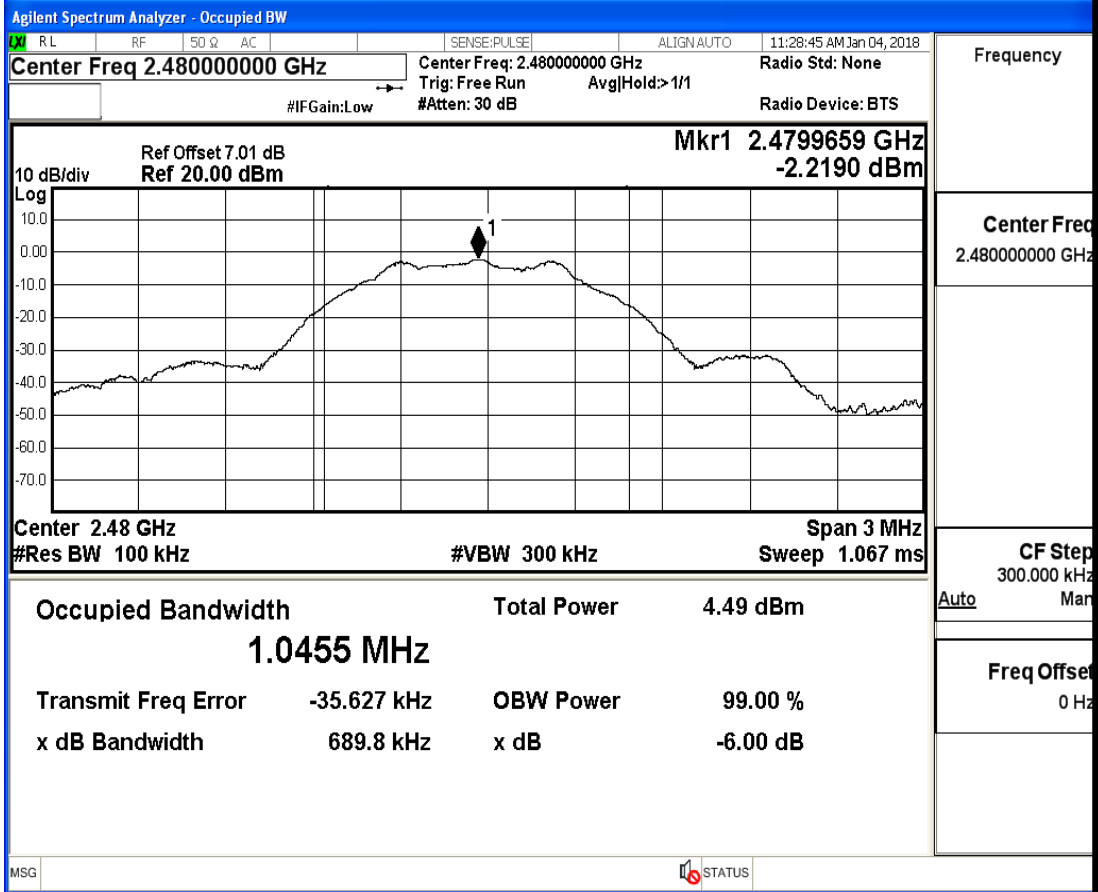
Frequency

Center Freq
 2.440000000 GHz

CF Step
 300.000 kHz
 Auto Man

Freq Offset
 0 Hz

6dB Bandwidth_BLE_2480_Ant1

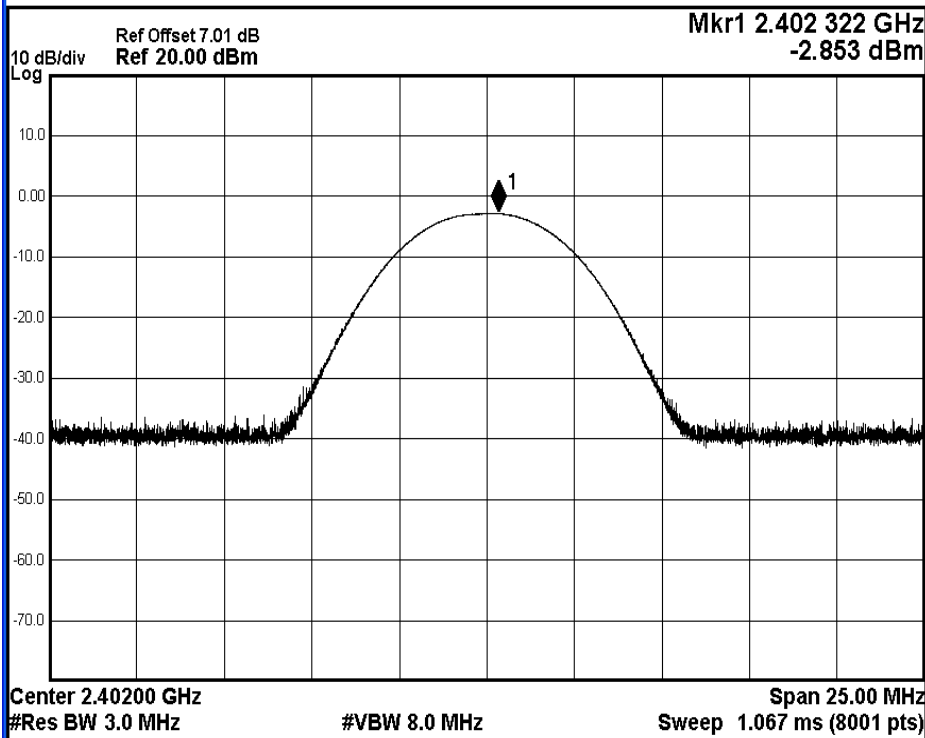


Test Mode	Channel	Frequency (MHz)	Measured Maximum Peak Power(dBm)	Limits (dBm)	Verdict
BLE	0	2402	-2.853	30	PASS
	19	2440	-1.933		
	39	2480	-1.865		

Maximum peak conducted output power_BLE_2402_Ant1

Agilent Spectrum Analyzer - Swept SA

Center Freq 2.402000000 GHz
 PNO: Fast → Trig: Free Run
 IFGain: Low #Atten: 30 dB
 Avg Type: Log-Pwr
 Avg/Hold: 10/10
 TRACE 1 2 3 4 5 6
 TYPE M M M M M M M M
 DET P P P P P P P



MSG STATUS

Frequency

Auto Tune

Center Freq
 2.402000000 GHz

Start Freq
 2.389500000 GHz

Stop Freq
 2.414500000 GHz

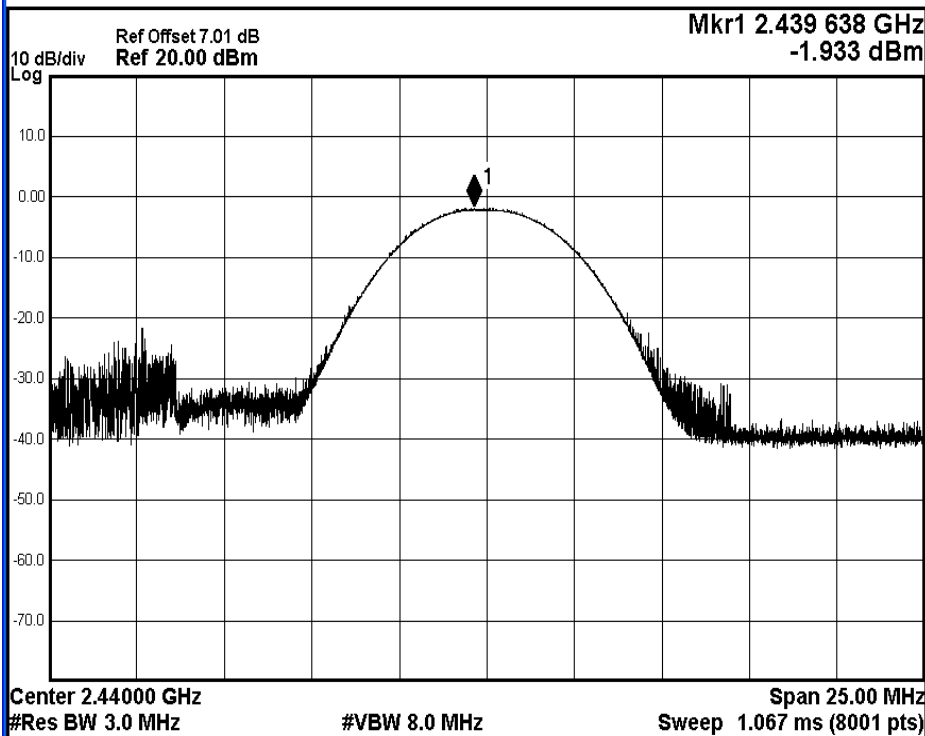
CF Step
 2.500000 MHz
 Auto Man

Freq Offset
 0 Hz

Maximum peak conducted output power_BLE_2440_Ant1

Agilent Spectrum Analyzer - Swept SA

Center Freq 2.440000000 GHz
 PNO: Fast → Trig: Free Run
 IFGain: Low #Atten: 30 dB
 Avg Type: Log-Pwr
 Avg/Hold: 10/10
 TRACE 1 2 3 4 5 6
 TYPE M M M M M M M M
 DET P P P P P P P



MSG STATUS

Frequency

Auto Tune

Center Freq
 2.440000000 GHz

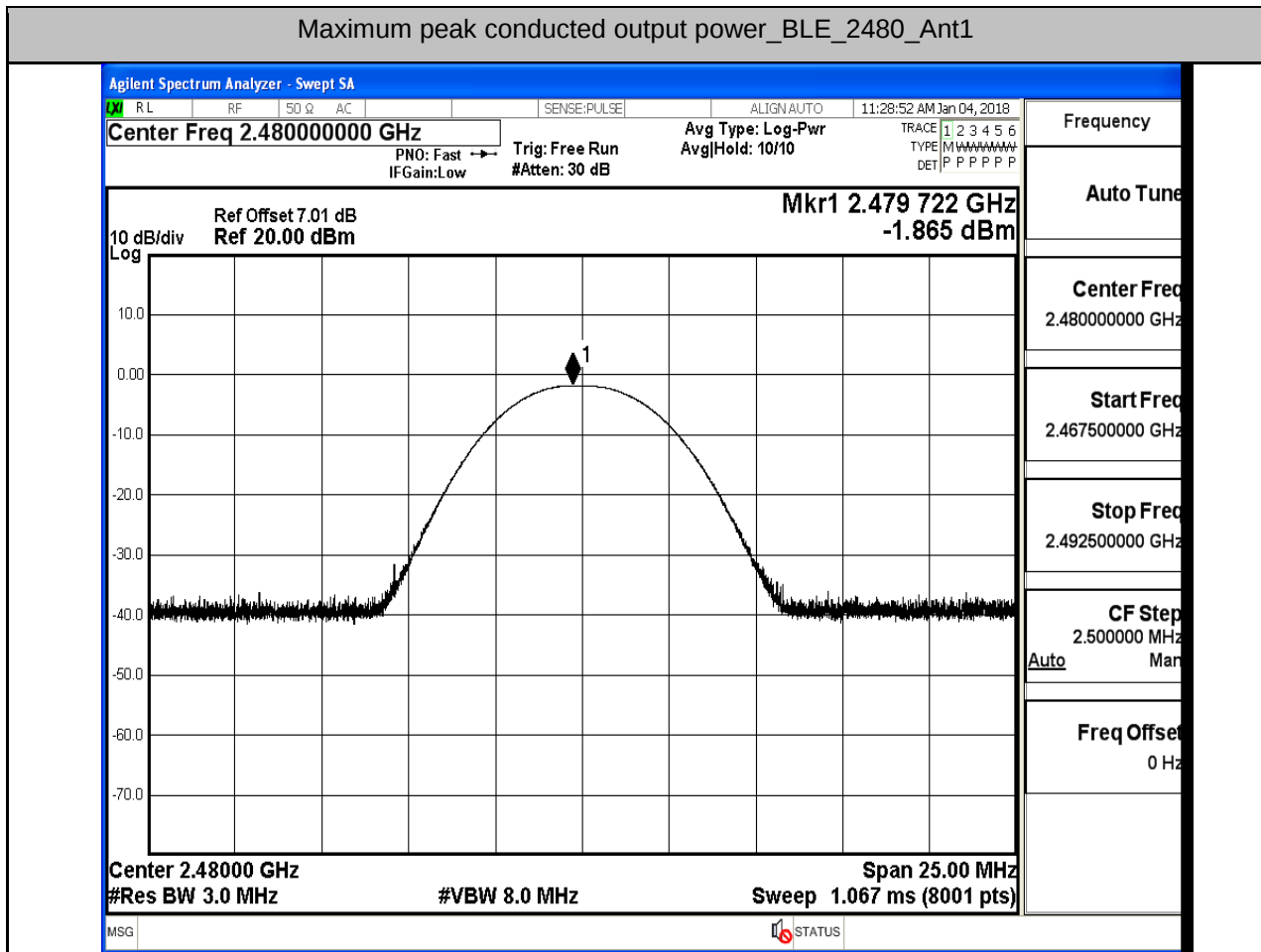
Start Freq
 2.427500000 GHz

Stop Freq
 2.452500000 GHz

CF Step
 2.500000 MHz
 Auto Man

Freq Offset
 0 Hz

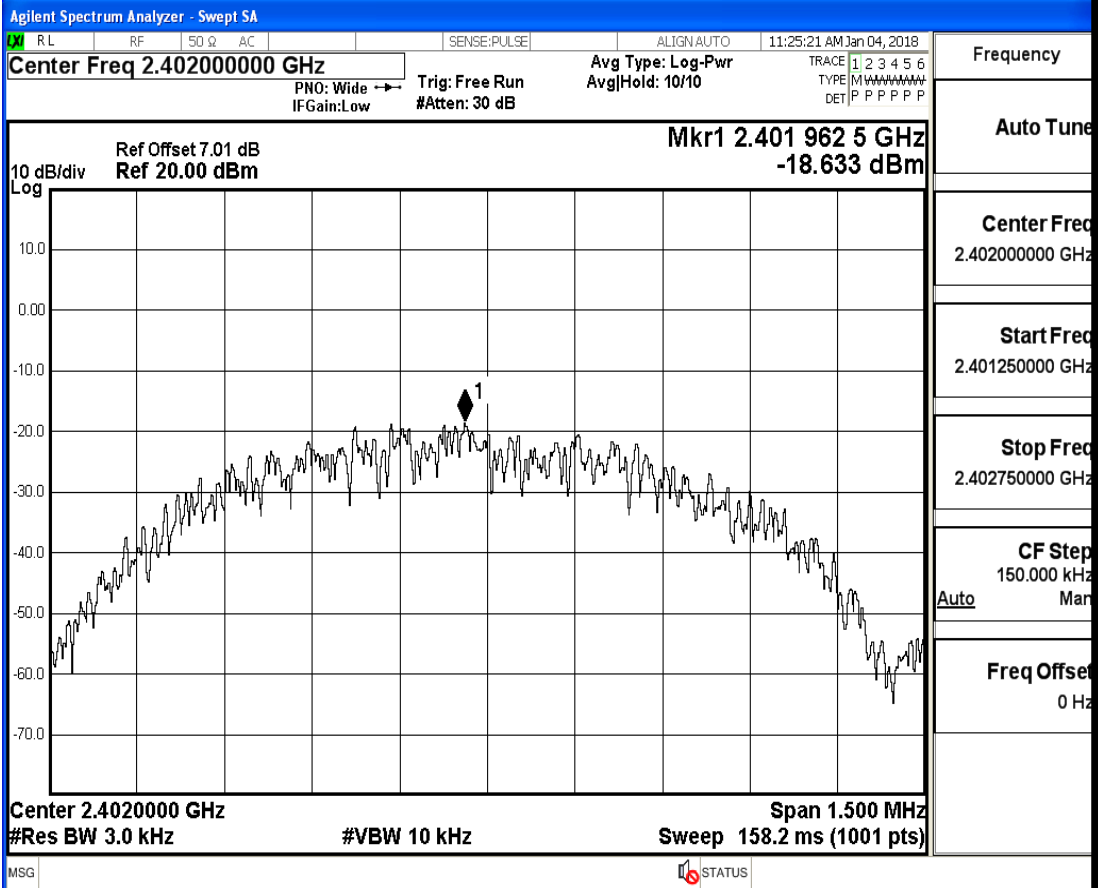
Maximum peak conducted output power_BLE_2480_Ant1



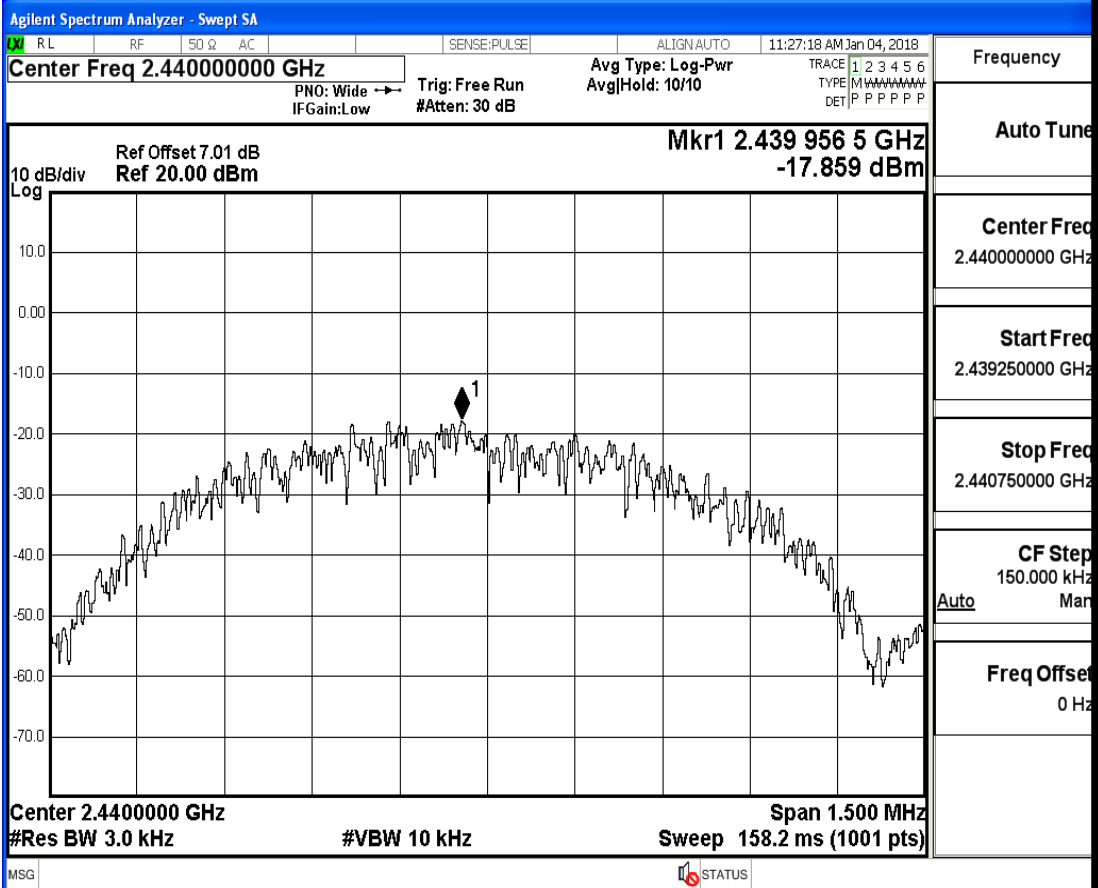
B.3.Maximum Peak power spectral density

Test Mode	Test Channel	Ant	PSD[dBm/MHz]	Limit[dBm/MHz]	Verdict
BLE	2402	Ant1	-18.633	8.00	PASS
BLE	2440	Ant1	-17.859	8.00	PASS
BLE	2480	Ant1	-17.359	8.00	PASS

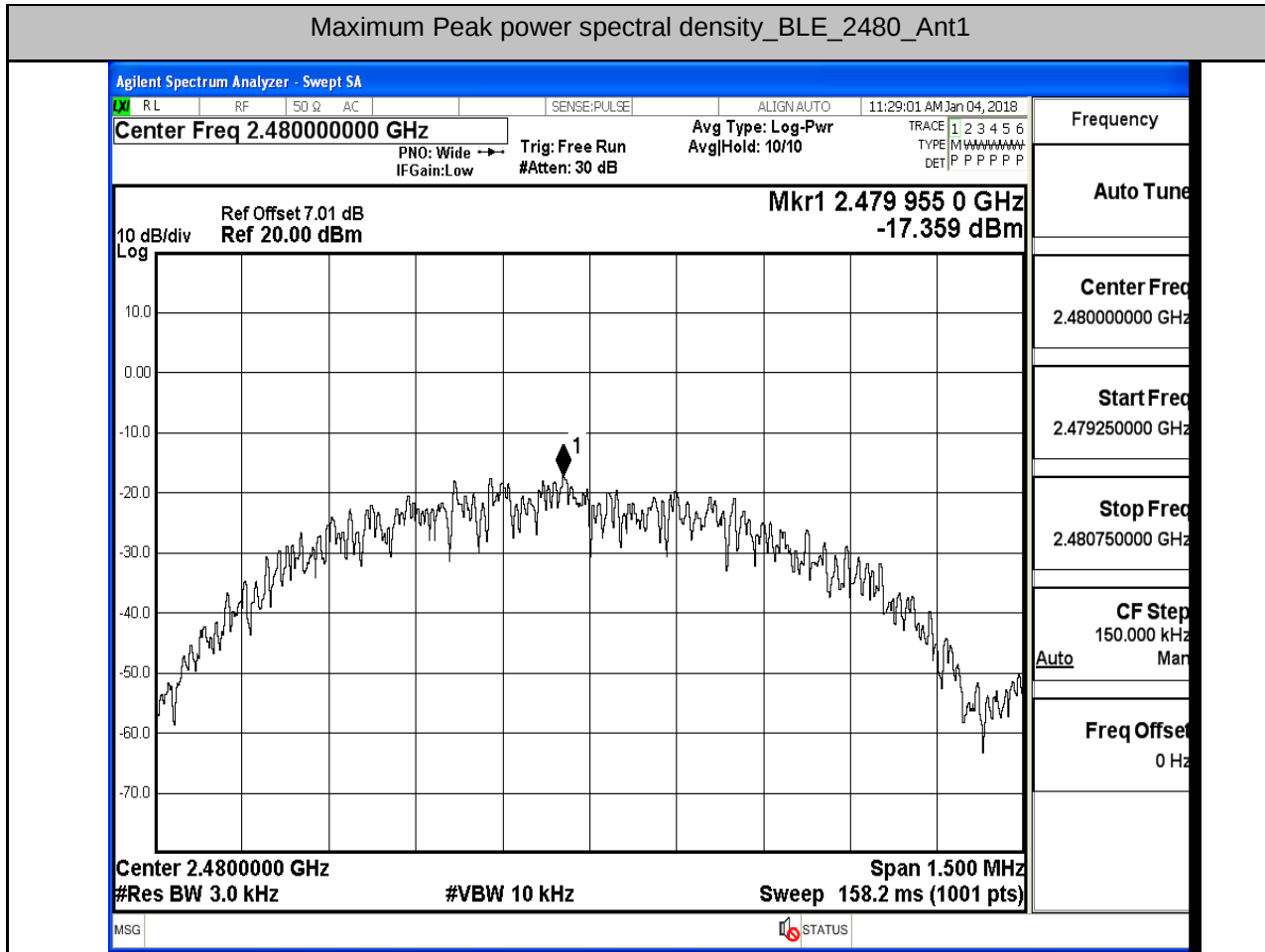
Maximum Peak power spectral density_BLE_2402_Ant1



Maximum Peak power spectral density_BLE_2440_Ant1



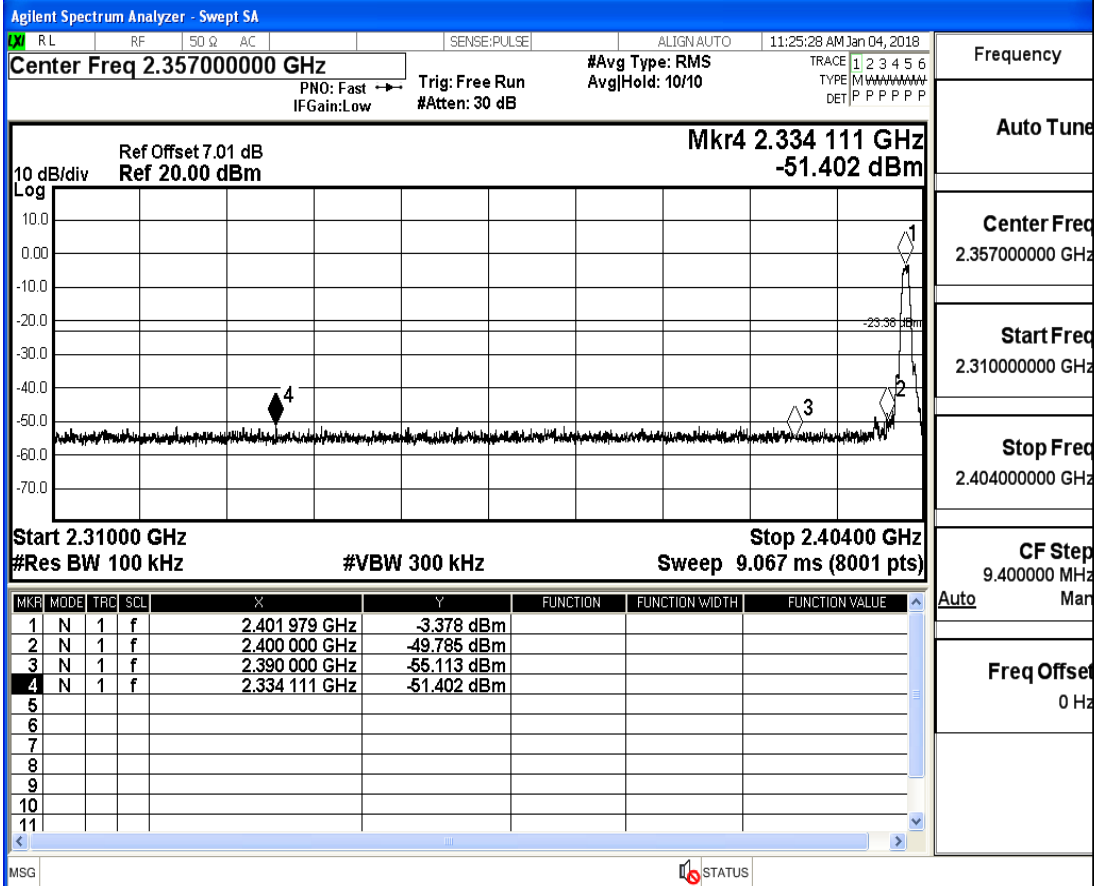
Maximum Peak power spectral density_BLE_2480_Ant1



B.4.Band-edge for RF Conducted Emissions

Test Mode	Test Channel	Ant	Carrier Power[dBm]	Max. Spurious Level [dBm]	Limit [dBm]	Verdict
BLE	2402	Ant1	-3.378	-51.402	-23.38	PASS
BLE	2480	Ant1	-2.133	-51.364	-22.13	PASS

Band-edge for RF Conducted Emissions_BLE_2402_Ant1



Frequency

Auto Tune

Center Freq
2.35700000 GHz

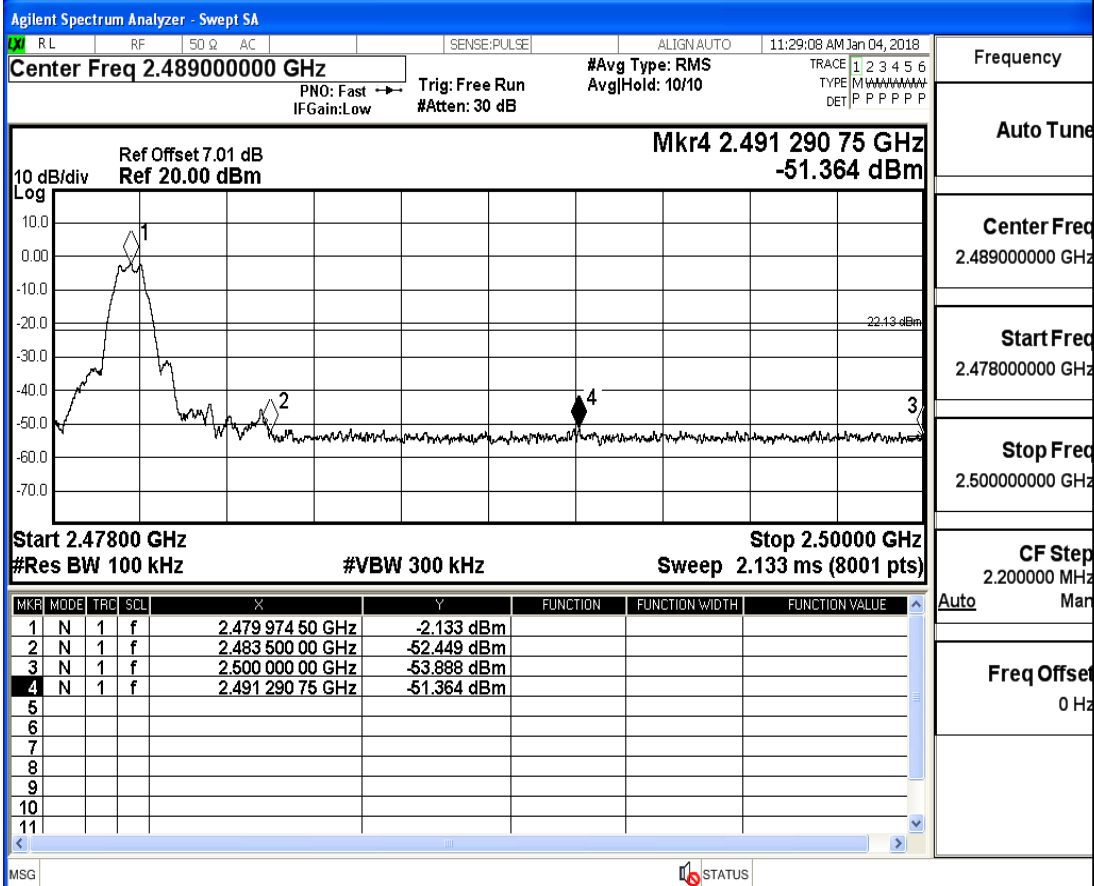
Start Freq
2.31000000 GHz

Stop Freq
2.40400000 GHz

CF Step
9.400000 MHz

Freq Offset
0 Hz

Band-edge for RF Conducted Emissions_BLE_2480_Ant1



Frequency

Auto Tune

Center Freq
2.48900000 GHz

Start Freq
2.47800000 GHz

Stop Freq
2.50000000 GHz

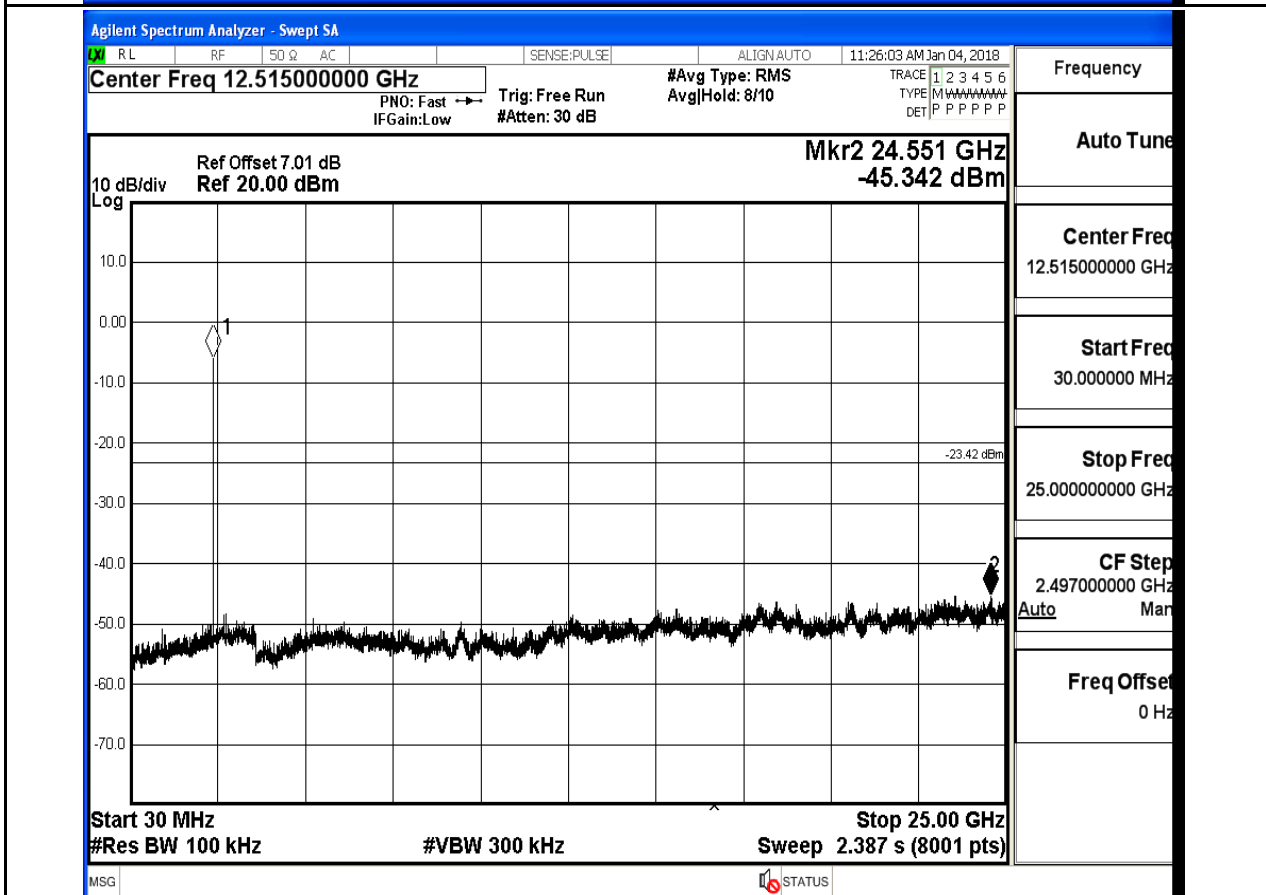
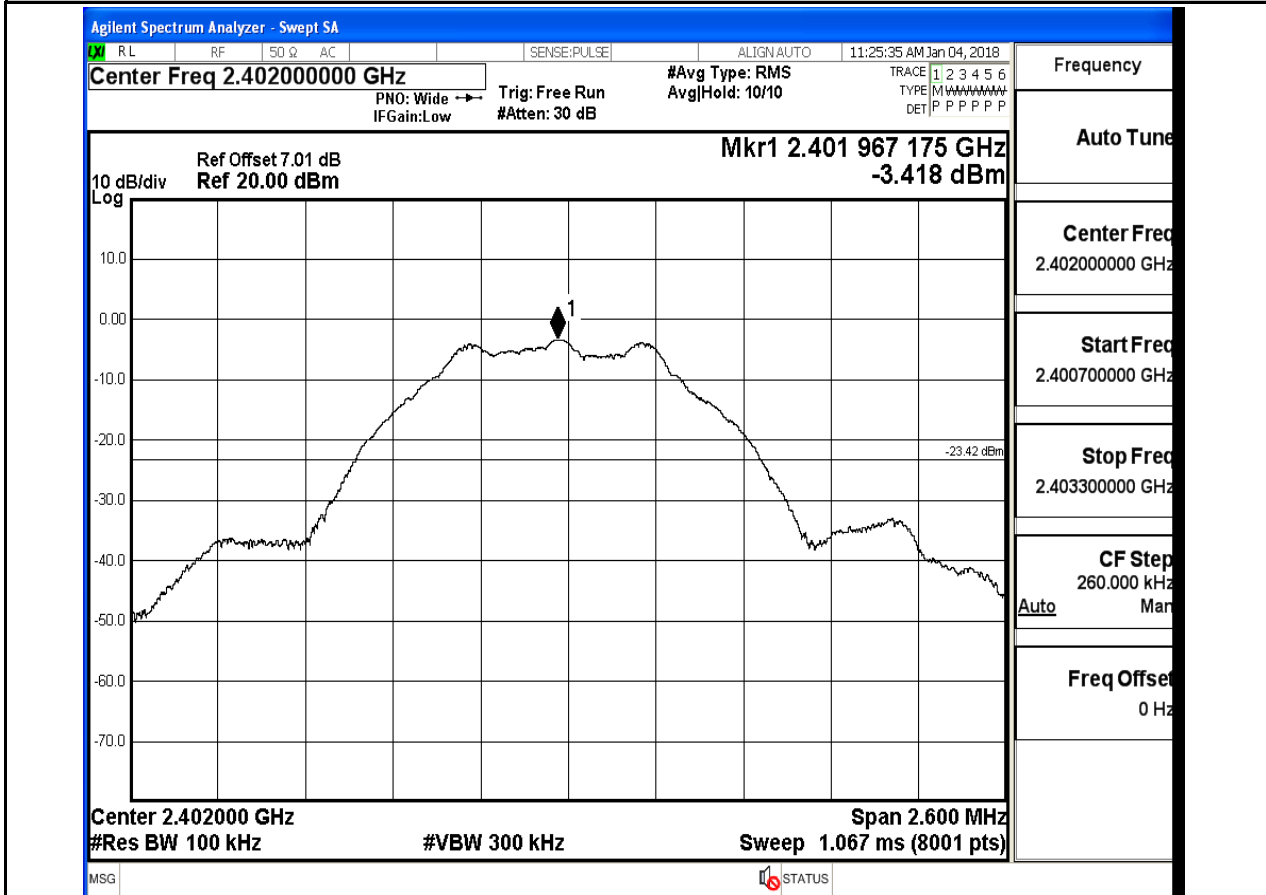
CF Step
2.200000 MHz

Freq Offset
0 Hz

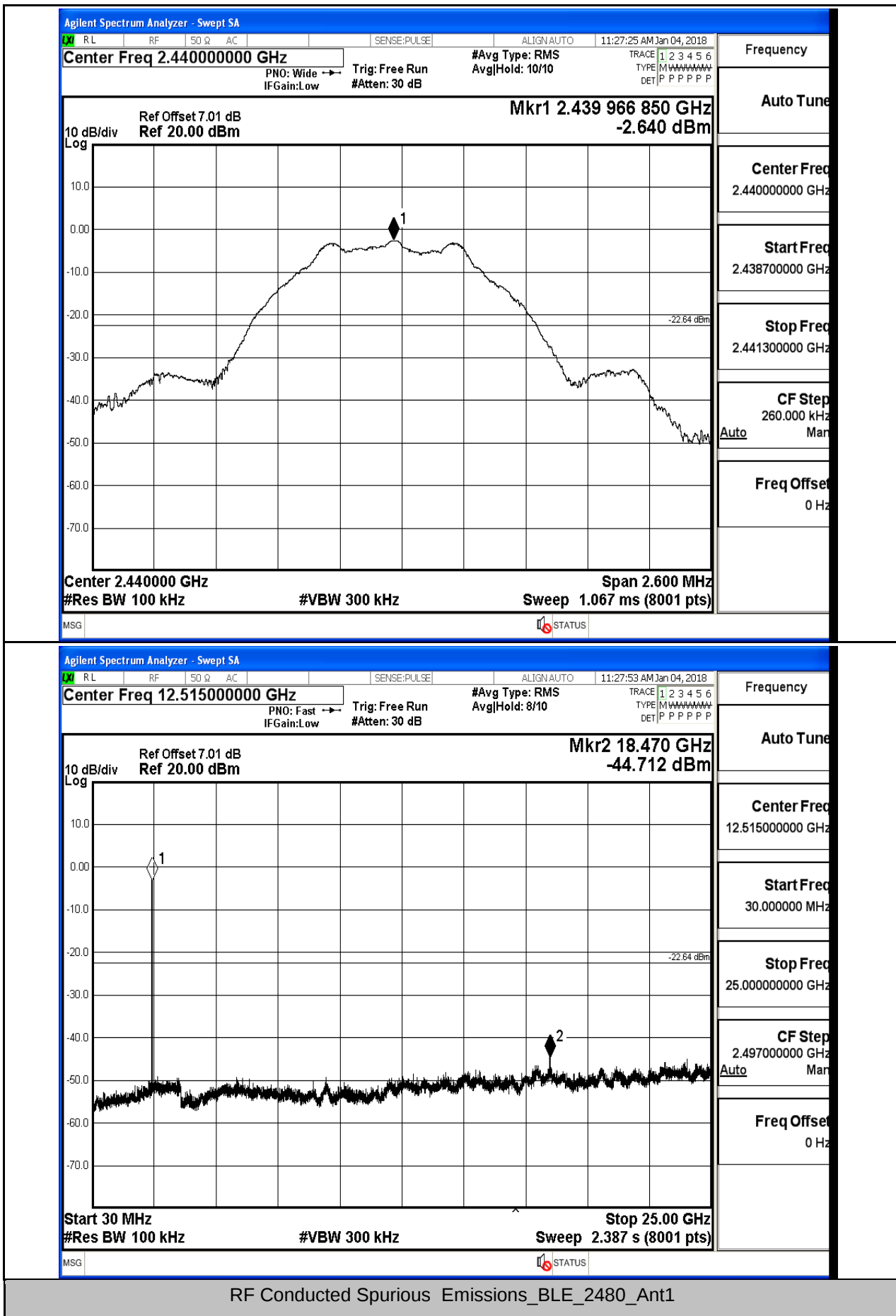
B.5.RF Conducted Spurious Emissions

Test Mode	Test Channel	Ant	StartFre [MHz]	StopFre [MHz]	RBW [kHz]	VBW [kHz]	Pref[dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
BLE	2402	Ant1	30	25000	100	300	-3.418	-45.342	<-23.418	PASS
BLE	2440	Ant1	30	25000	100	300	-2.64	-44.712	<-22.64	PASS
BLE	2480	Ant1	30	25000	100	300	-2.218	-45.522	<-22.218	PASS

RF Conducted Spurious Emissions_BLE_2402_Ant1



RF Conducted Spurious Emissions_BLE_2440_Ant1



Agilent Spectrum Analyzer - Swept SA

RL

RF

50 Ω

AC

SENSE:PULSE

ALIGN:AUTO

11:27:53 AM Jan 04, 2018

Center Freq 12.51500000 GHz

PNO: Fast

Trig: Free Run

#Avg Type: RMS

IFGain:Low

#Atten: 30 dB

AvgHold: 8/10

TRACE 1 2 3 4 5 6

TYPE M W W W W W W W

DET P P P P P P

10 dB/div

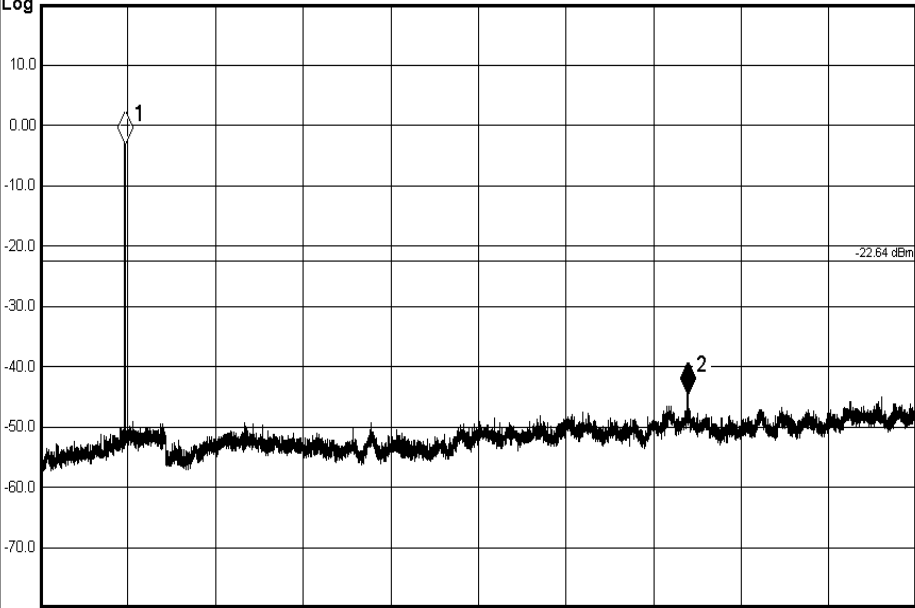
Log

Ref Offset 7.01 dB

Ref 20.00 dBm

Mkr2 18.470 GHz

-44.712 dBm



Start 30 MHz

#Res BW 100 kHz

#VBW 300 kHz

Stop 25.00 GHz

Sweep 2.387 s (8001 pts)

MSG

STATUS

Frequency

Auto Tune

Center Freq 12.51500000 GHz

Start Freq 30.000000 MHz

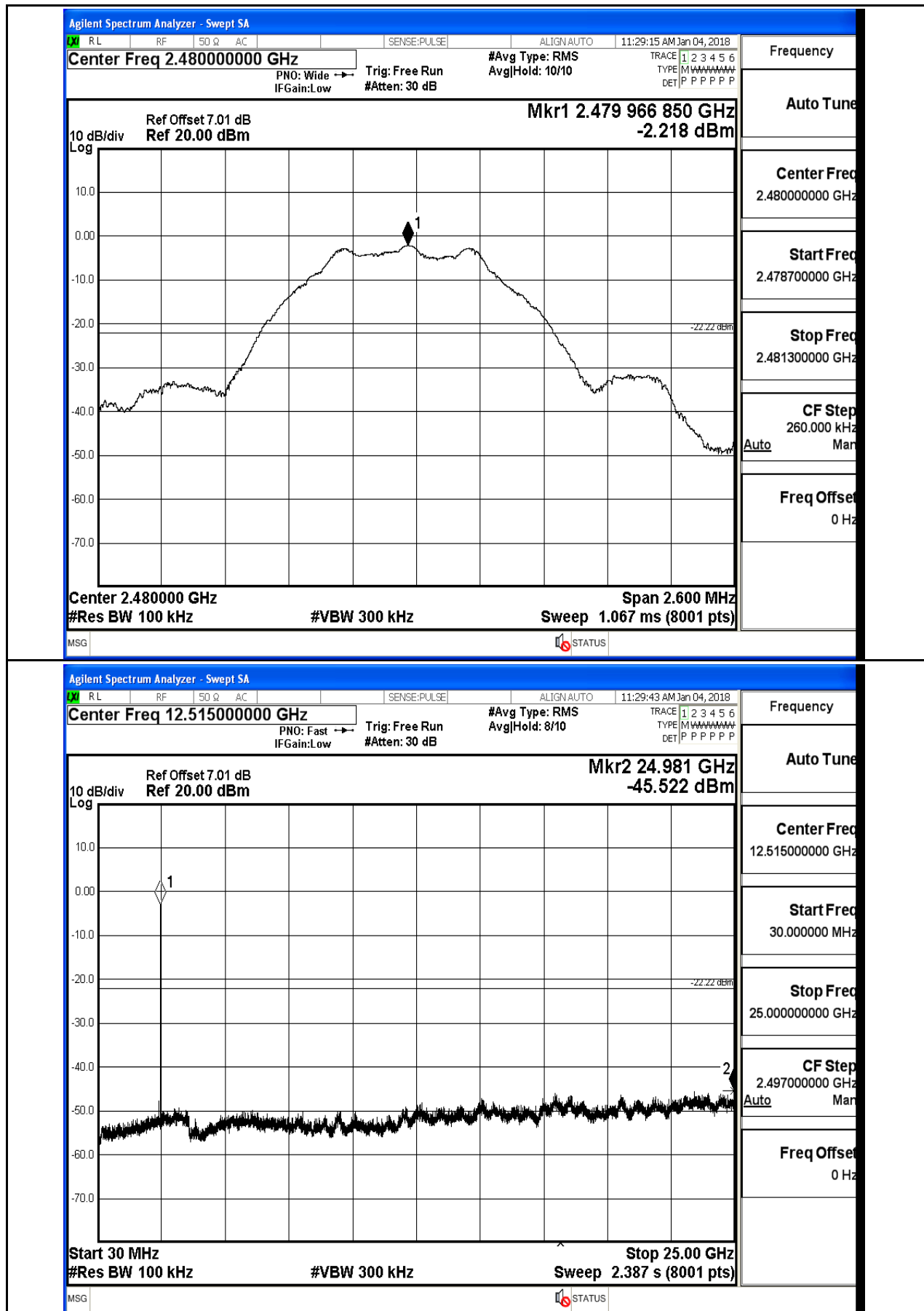
Stop Freq 25.000000000 GHz

CF Step 2.497000000 GHz

Auto

Freq Offset 0 Hz

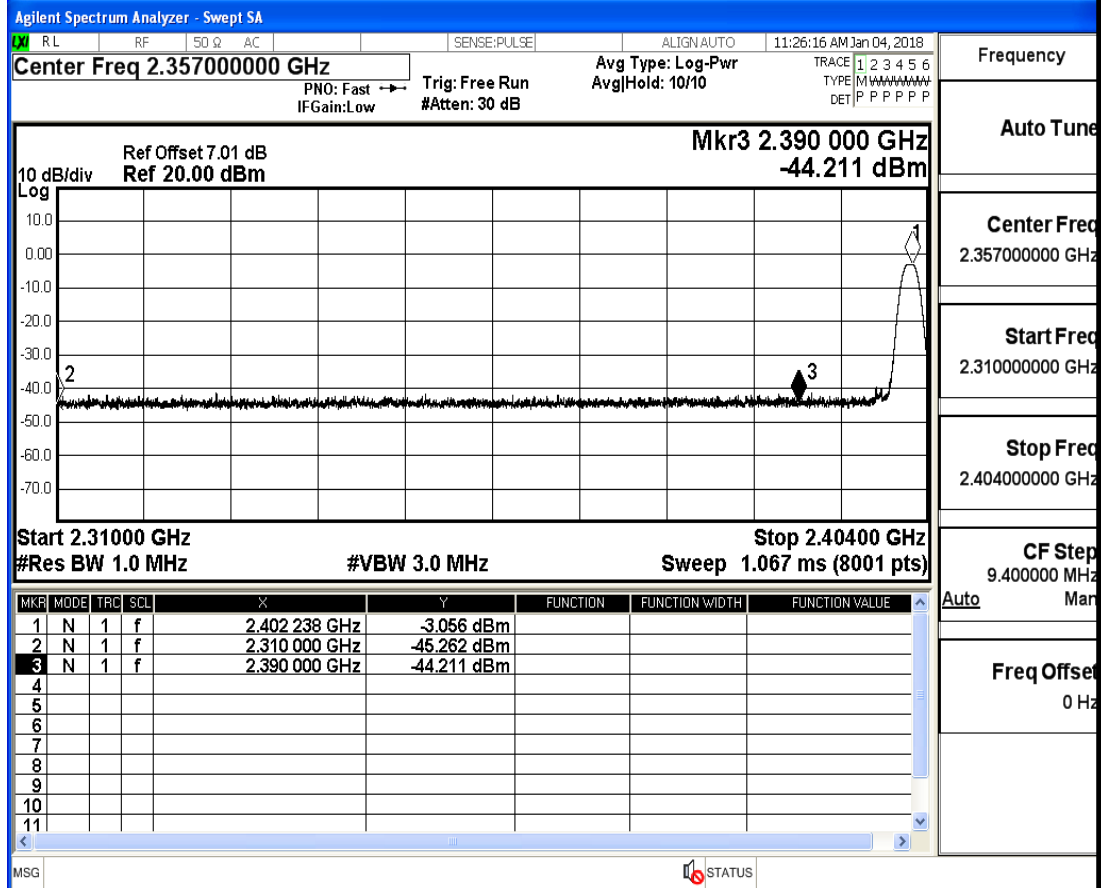
RF Conducted Spurious Emissions_BLE_2480_Ant1



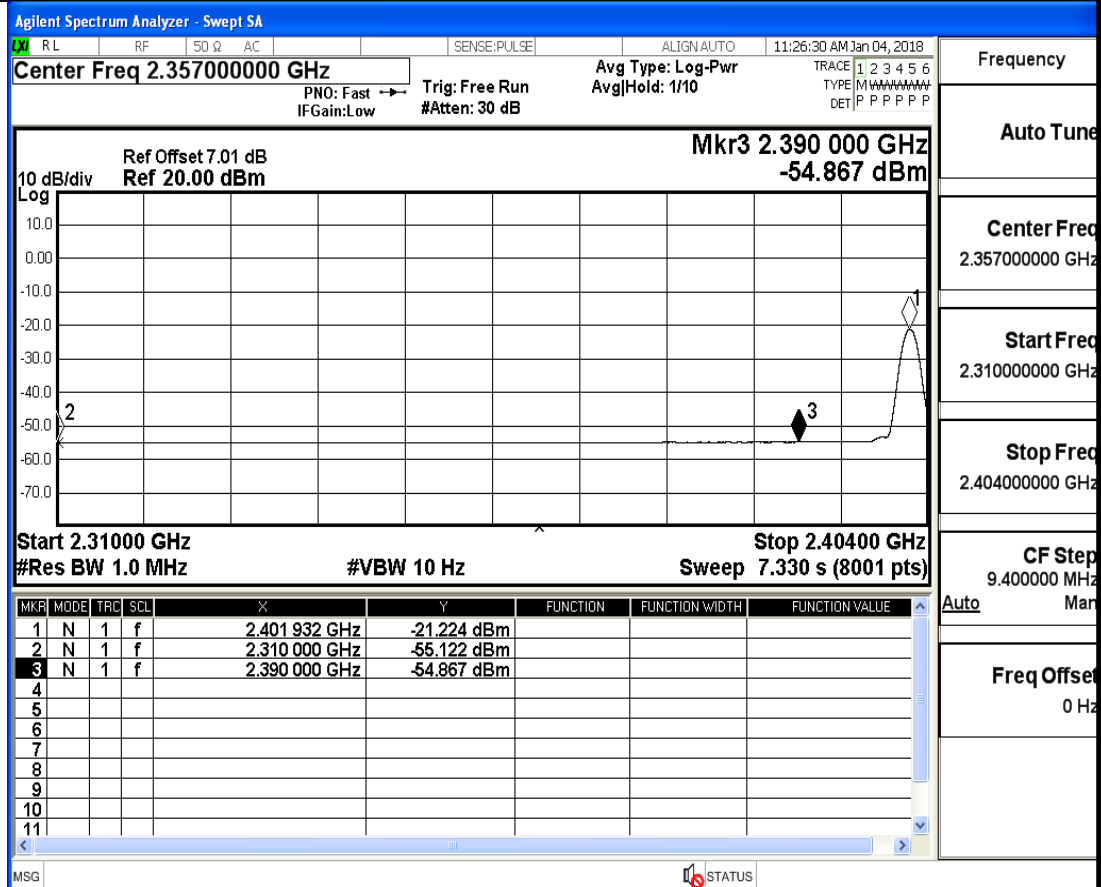
B.6.Restrict-band band-edge measurements

Test Mode	Test Channel	Ant	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
BLE	2402	Ant1	2310.0	-45.26	2	0	52.00	PEAK	74	PASS
BLE	2402	Ant1	2310.0	-55.12	2	0	42.14	AV	54	PASS
BLE	2402	Ant1	2390.0	-44.21	2	0	53.05	PEAK	74	PASS
BLE	2402	Ant1	2390.0	-54.87	2	0	42.39	AV	54	PASS
BLE	2480	Ant1	2483.5	-39.56	2	0	57.70	PEAK	74	PASS
BLE	2480	Ant1	2483.5	-53.12	2	0	44.14	AV	54	PASS
BLE	2480	Ant1	2500.0	-43.98	2	0	53.28	PEAK	74	PASS
BLE	2480	Ant1	2500.0	-54.48	2	0	42.78	AV	54	PASS

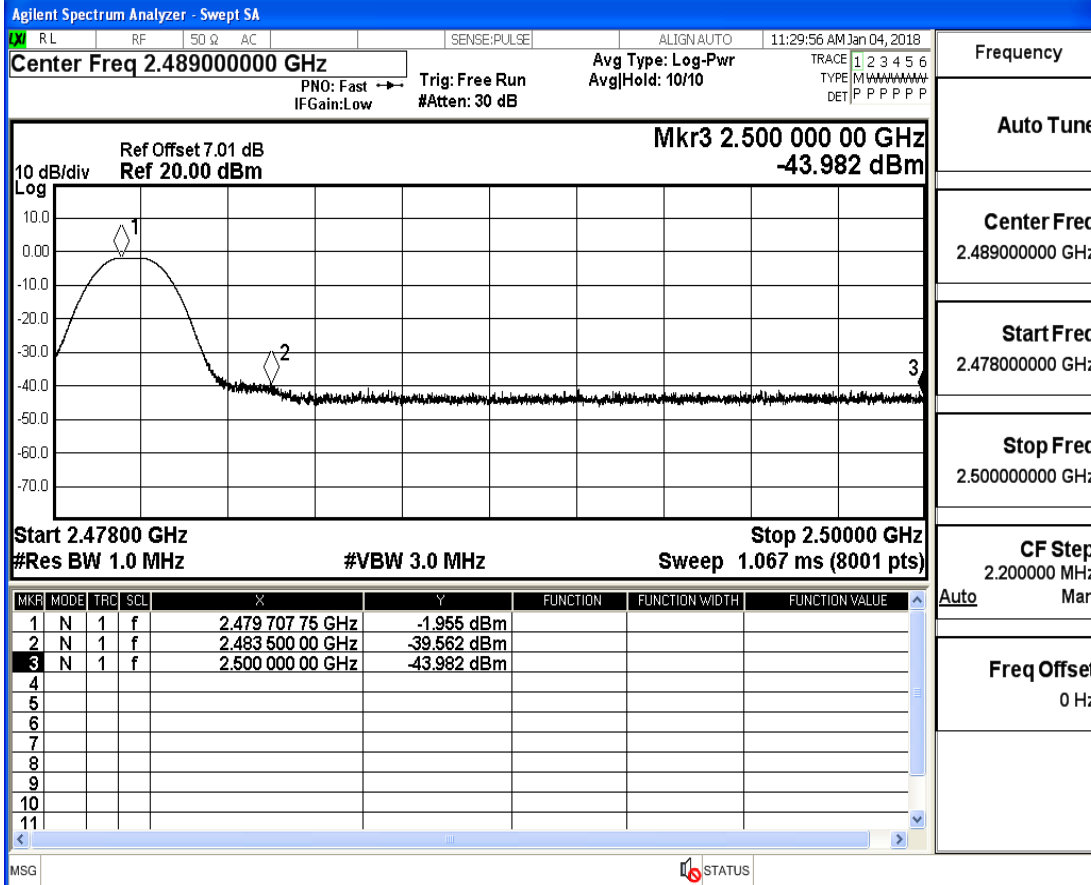
Restrict-band band-edge measurements_BLE_2402_Ant1_PEAK



Restrict-band band-edge measurements_BLE_2402_Ant1_AV



Restrict-band band-edge measurements_BLE_2480_Ant1_PEAK



Restrict-band band-edge measurements_BLE_2480_Ant1_AV

