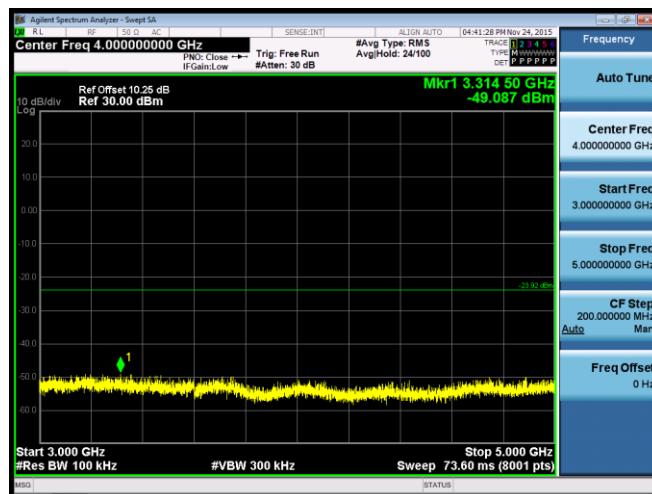
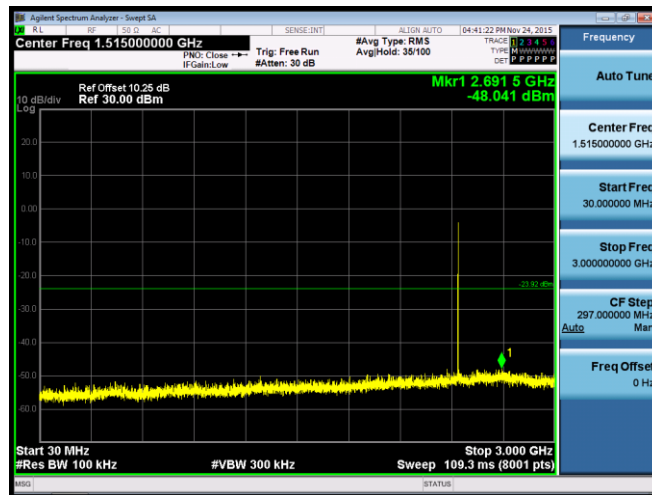
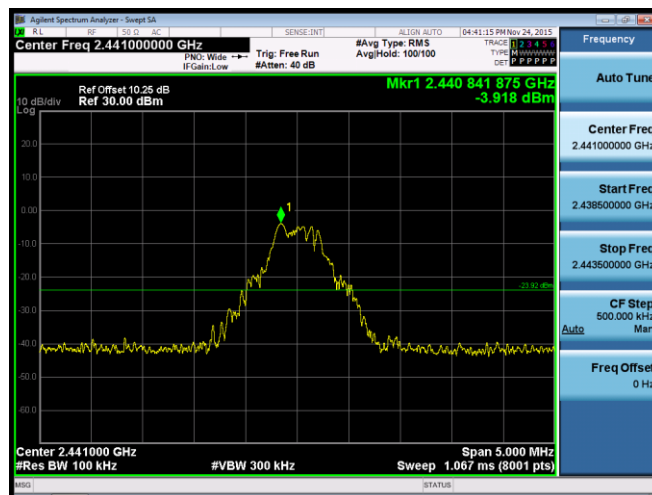
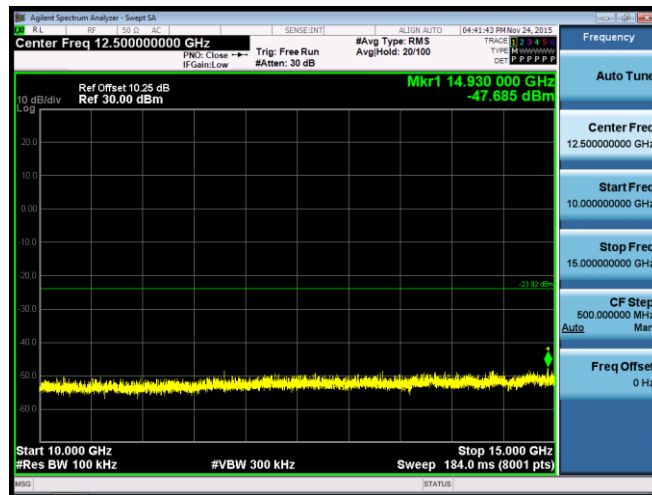
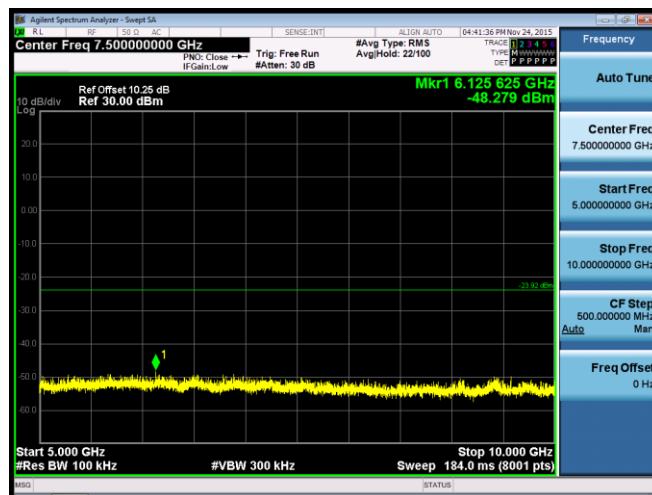




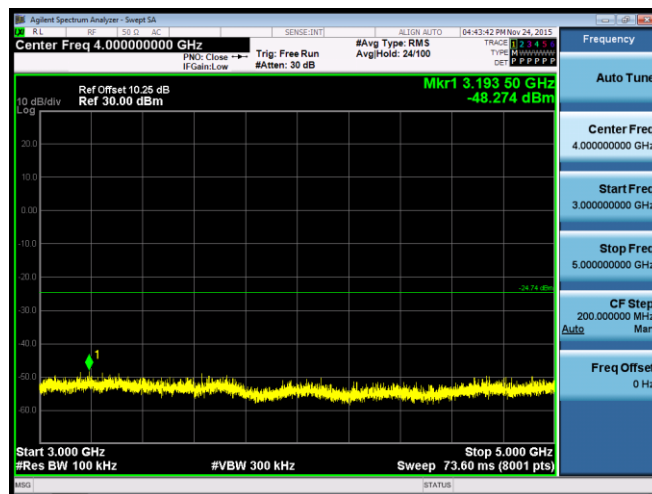
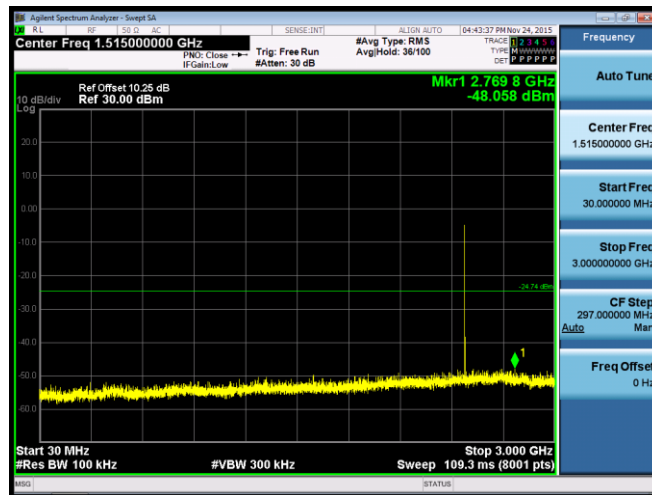
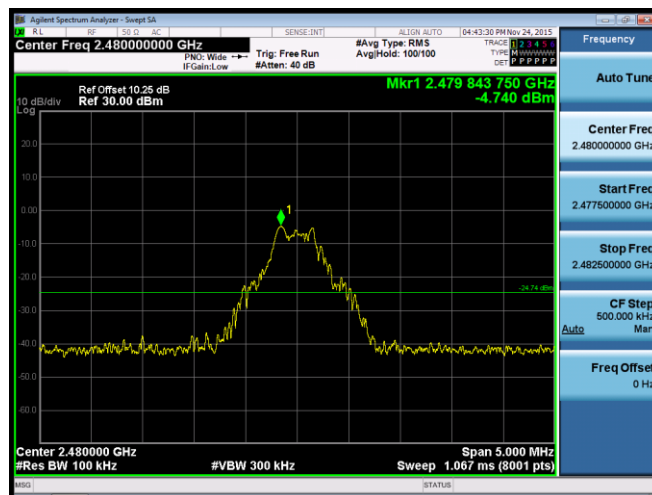
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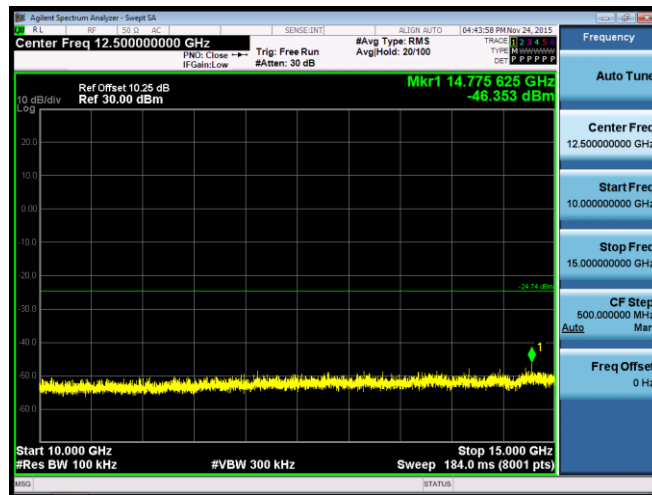
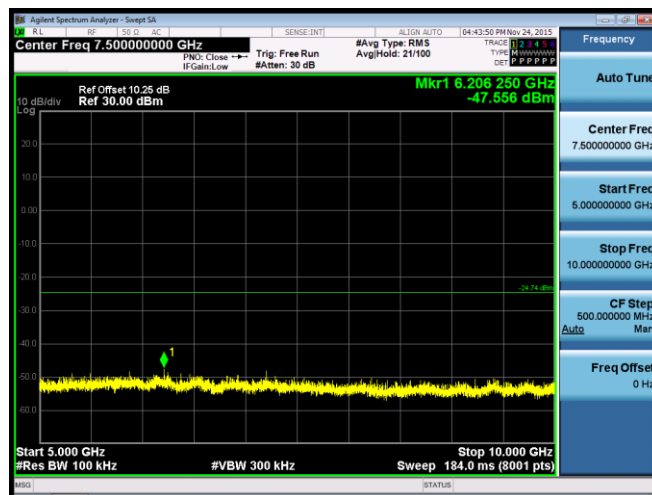






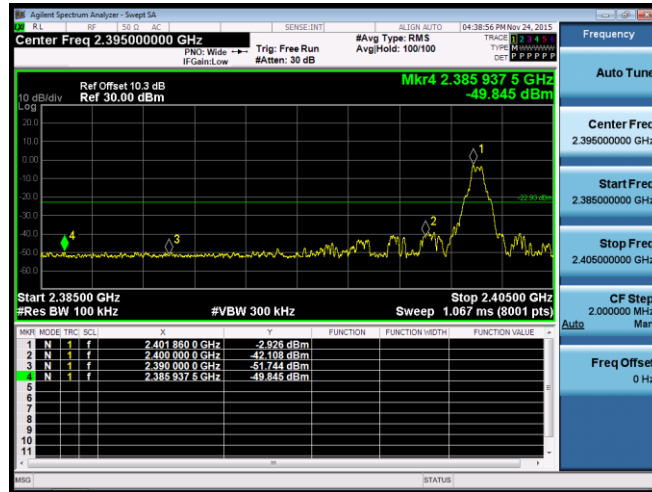
2480



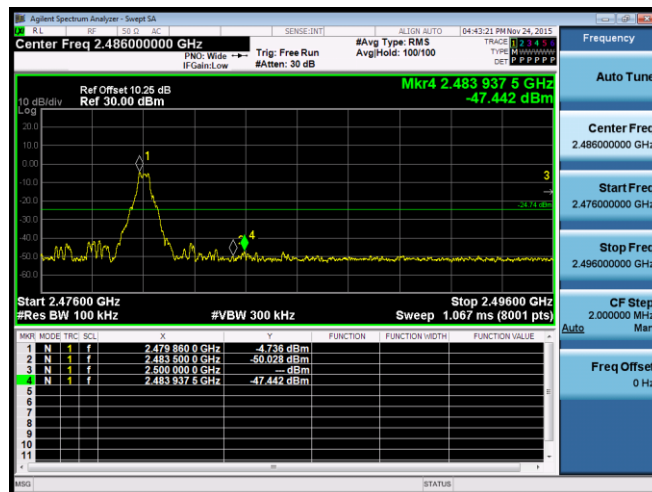




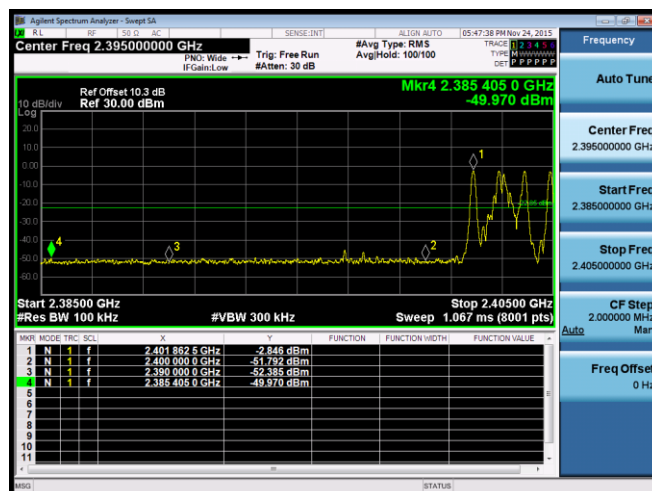
Mode 2/2402



Mode 2/2480

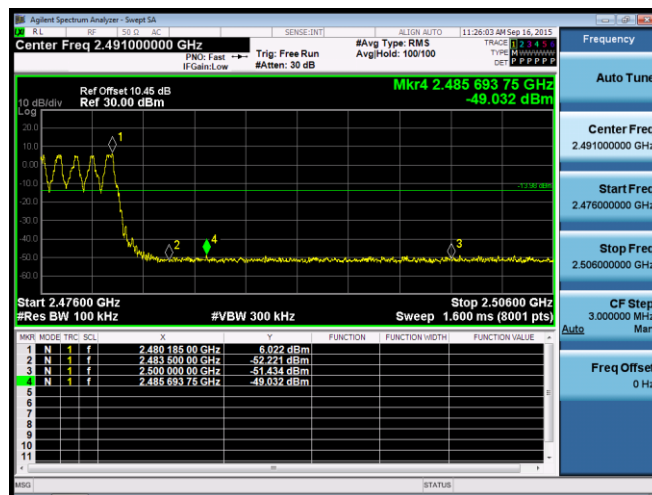


Mode 5/Hopping-2402



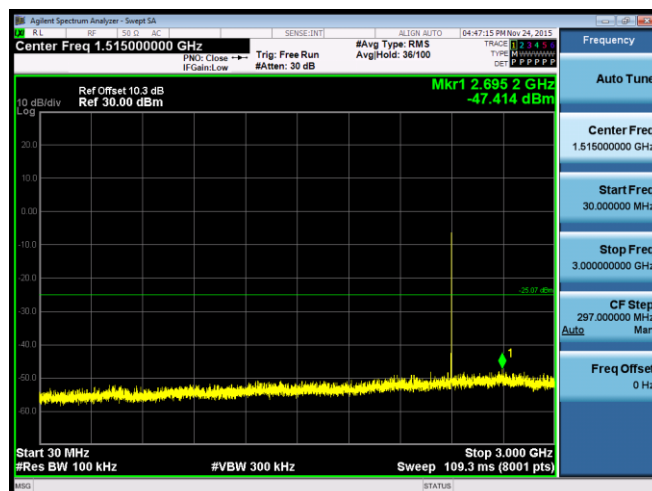


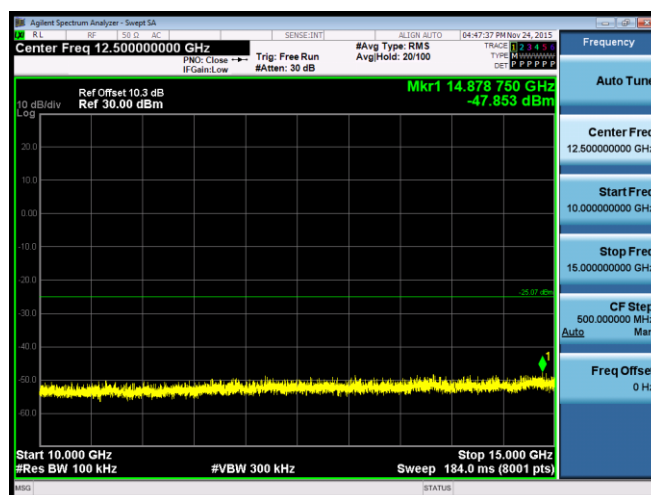
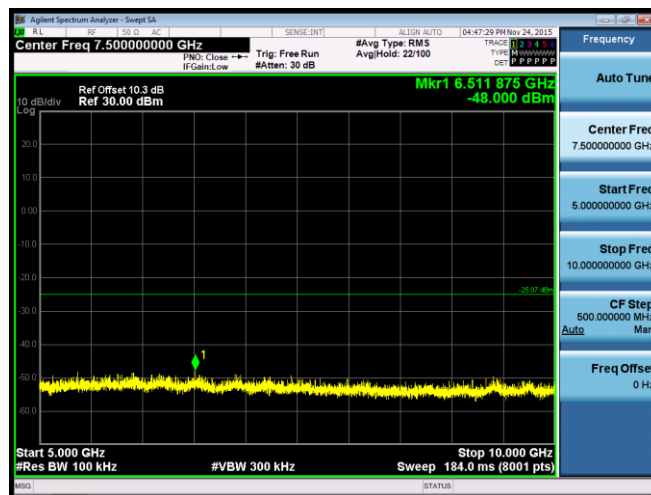
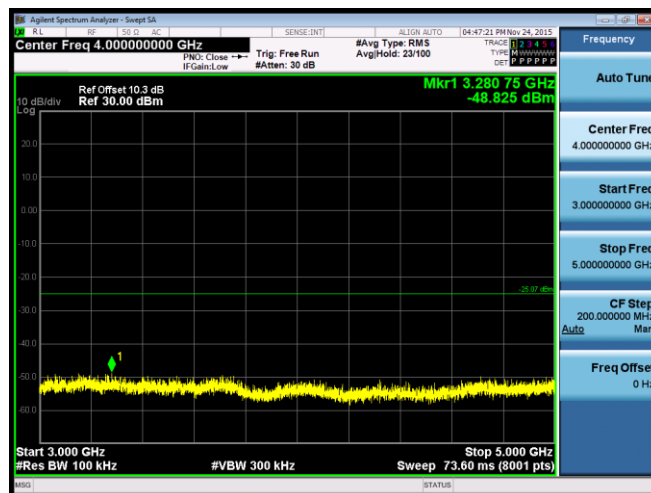
Mode 5/Hopping-2480

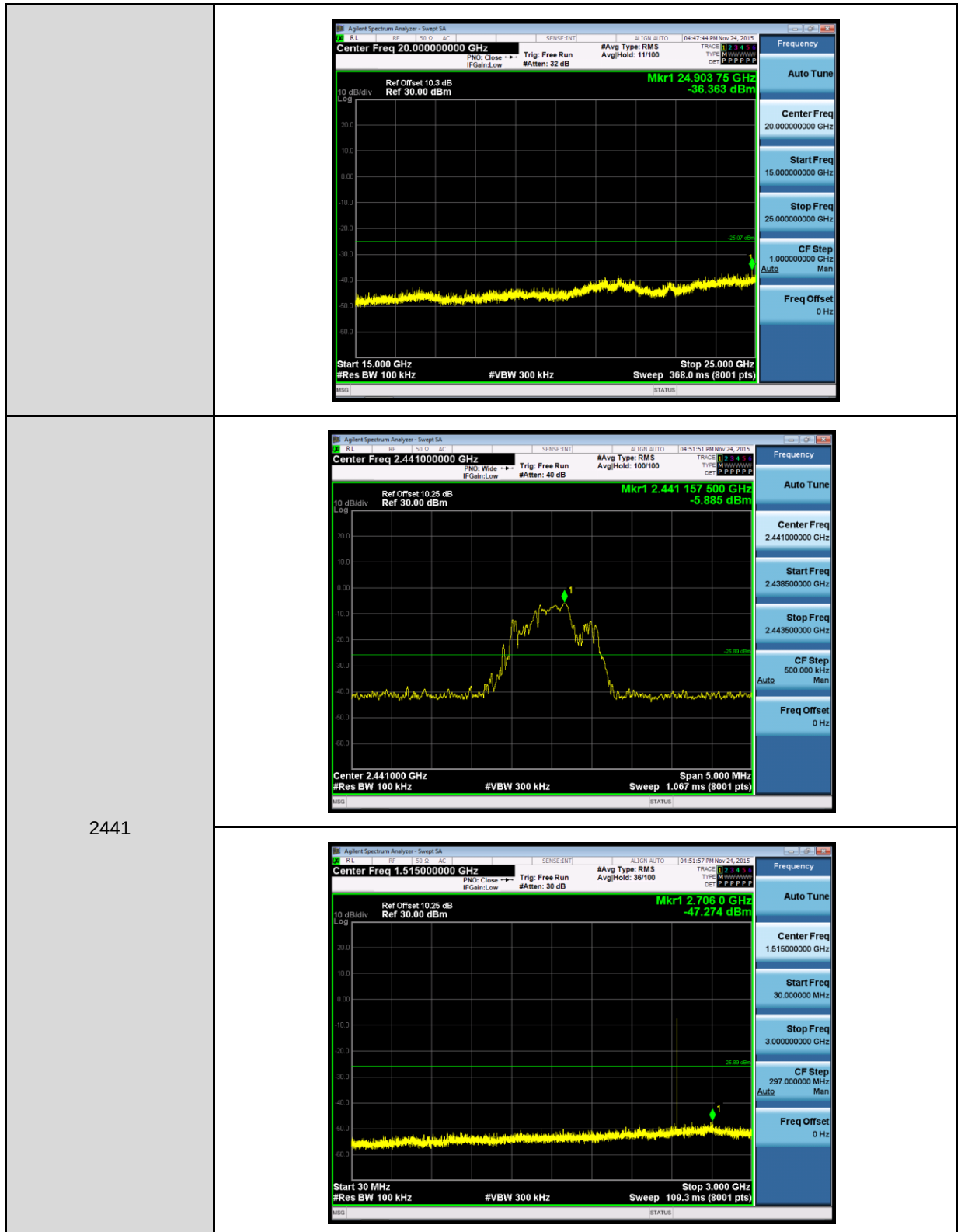


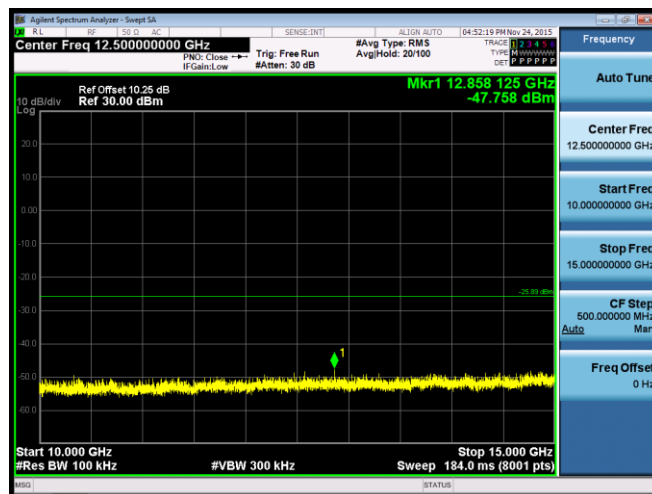
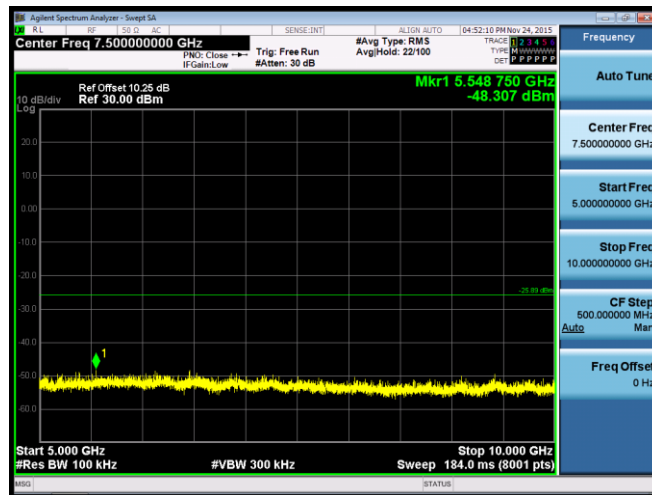
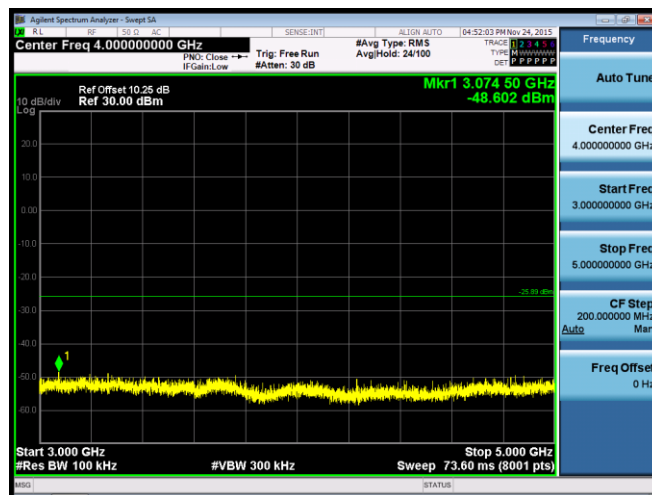
Mode 4

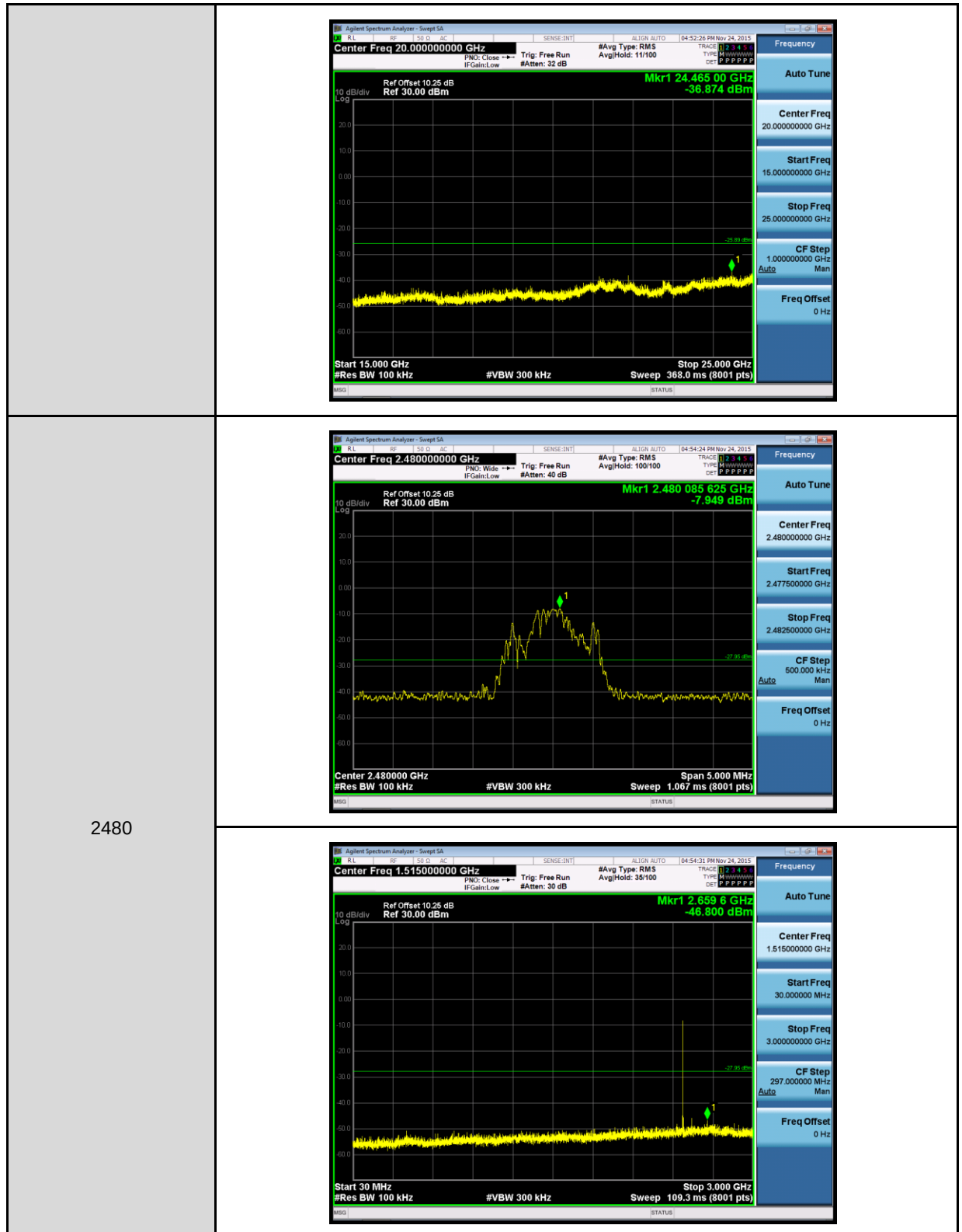
2402

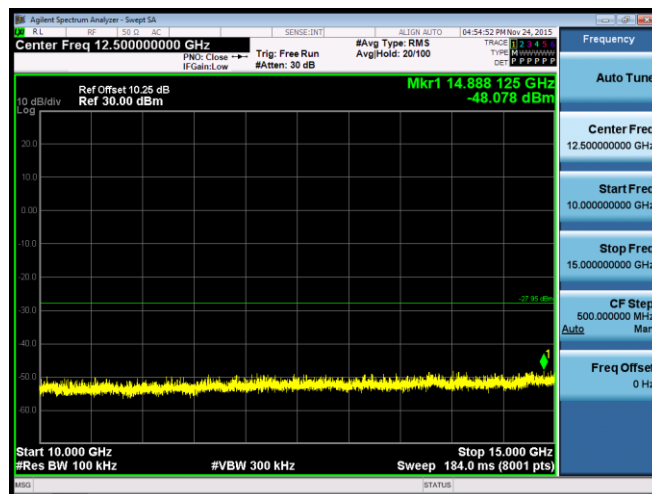
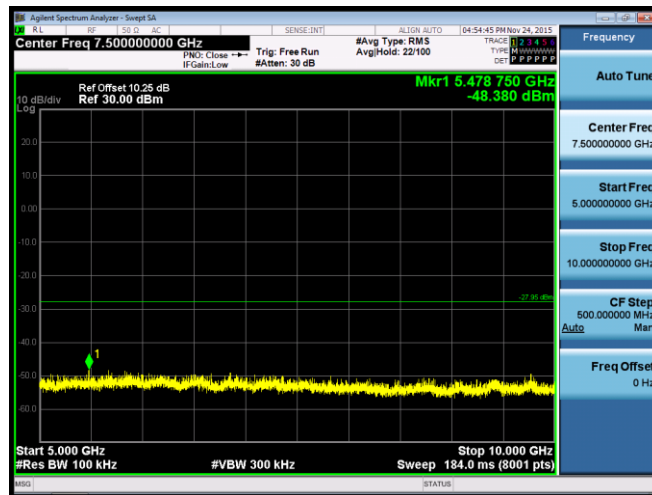
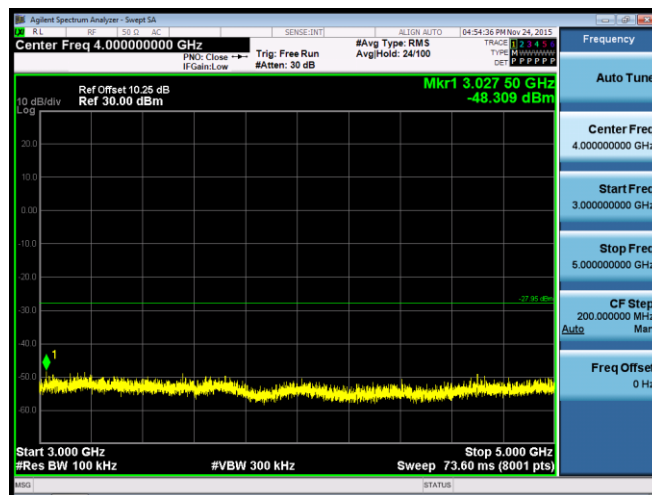


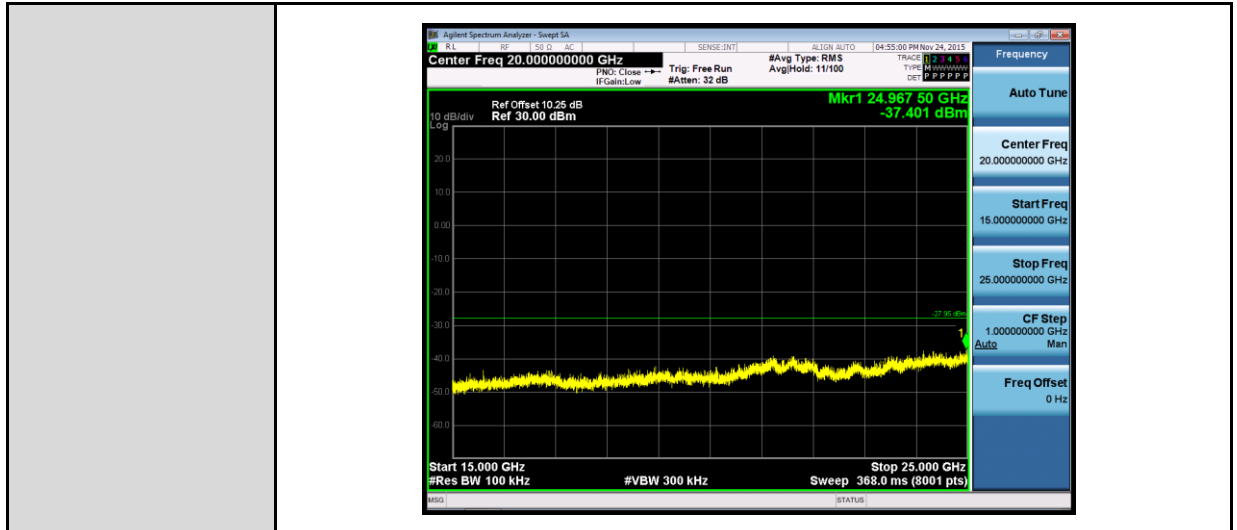




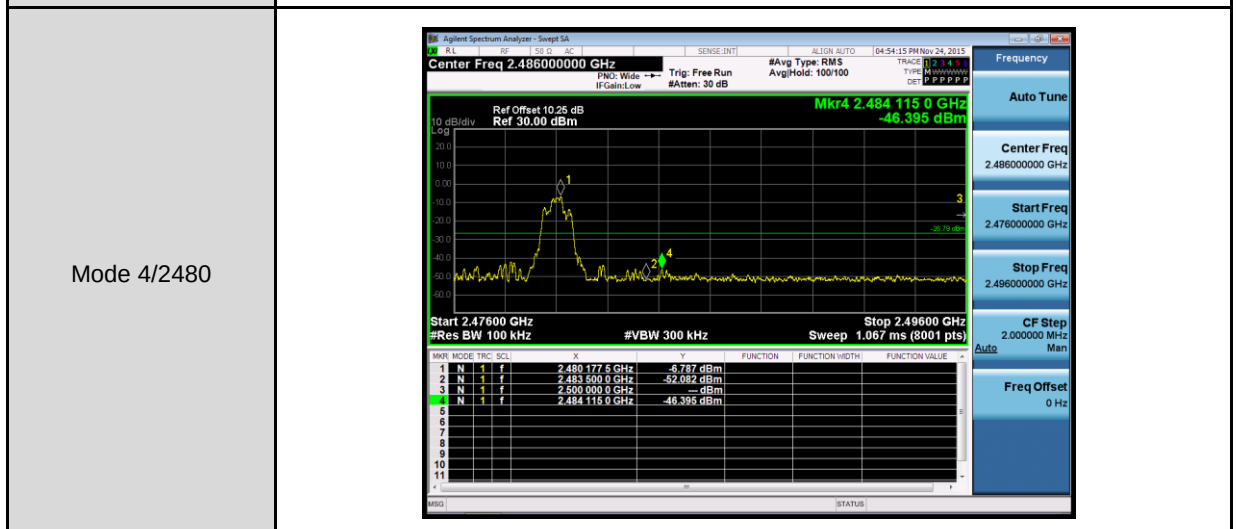
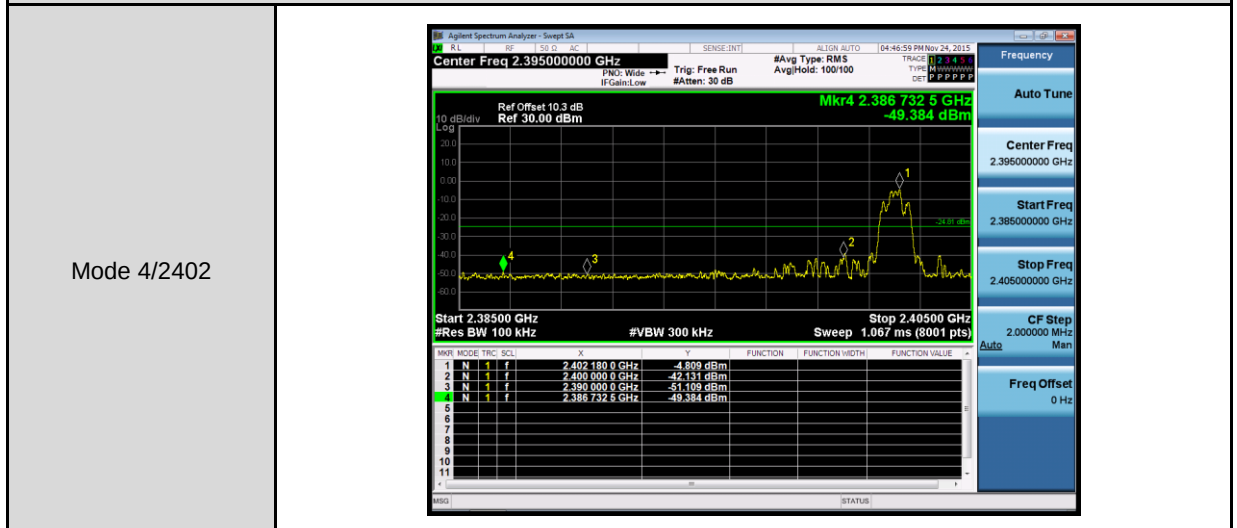






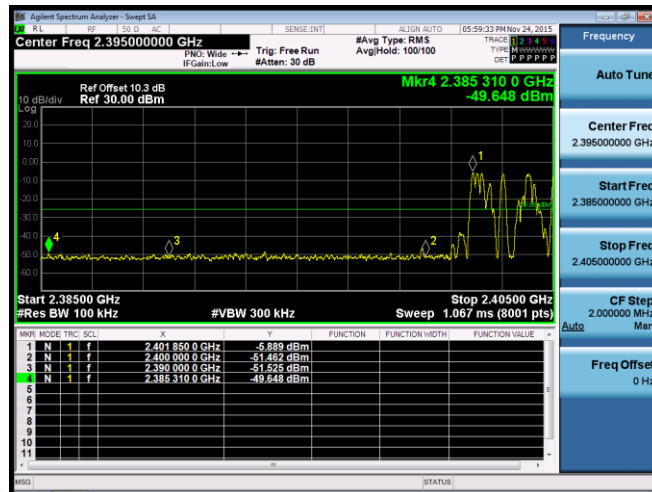


8DPSK Mode (Bandedge)

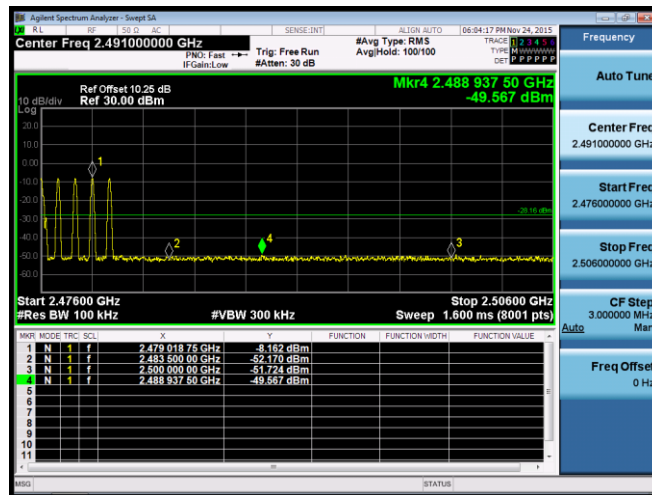




Mode 7/Hopping-2402



Mode 7/Hopping-2480

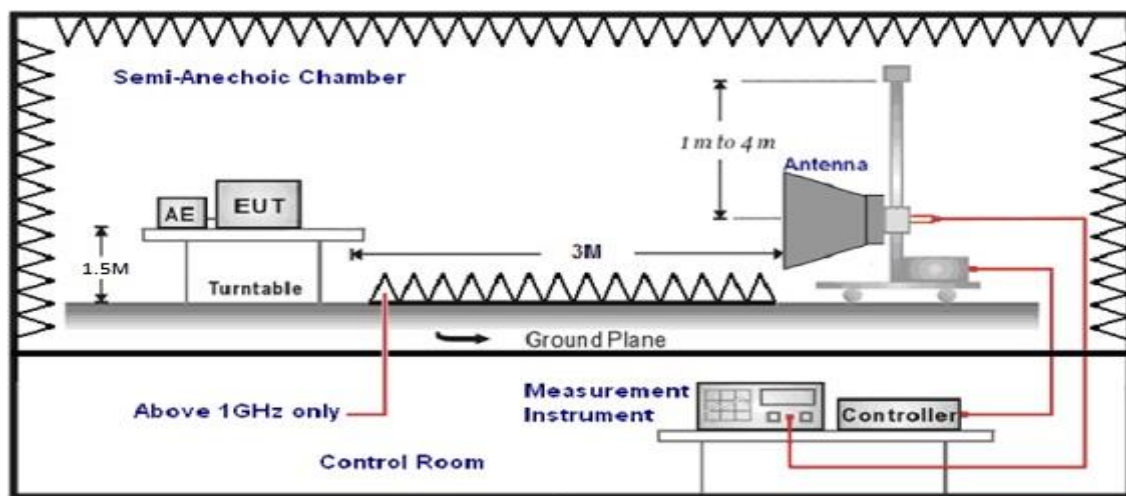


12 Band Edges Measurement

12.1. Limit

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power

12.2. Test Setup



12.3. Test Instruments

3 Meter Chamber					
Model No.	Equipment	Manufacturer	Serial Number	Cal. Date	Remark
9X6X6	3m Semi-anechoic chamber	Albatross Projects	SB3450/01	Oct.12, 2015	1Year
HF907	Horn Antenna	Rohde & Schwarz	100309	May.15,2015	1 Year
SCU26	Pre Amplifier	Rohde & Schwarz	10020	May.15.2015	1Year
SCU40	Pre Amplifier	Rohde & Schwarz	10015	May.15.2015	1Year
ESU40	Test Receiver	Rohde & Schwarz	100263	May.15.2015	1Year
---	RF cable	WOKEN	S02-1404-09-065	May.11.2015	1 year
---	RF cable	WOKEN	S02-1404-09-047	May.11.2015	1 year
---	RF cable	WOKEN	S02-1404-09-052	May.11.2015	1 year

Remark: (1) Calibration period 1 year. (2) Calibration period 2 years.

NOTE: N.C.R. = No Calibration Request. All the RF cables apply to 9 KHz to 40GHz.



12.4. Test Procedure

Testing must be done according to this procedure. This is the only method recognized by the FCC. The emissions on the harmonics frequencies, the limits, and the margin of compliance are presented. These tests were made when the transmitter was in full radiated power. The additional test was performed to show compliance with the requirement at the band-edge frequency 2483.5 MHz and up to 2500 MHz and at 2390.0 MHz.

The transmitter was configured with the worst case antenna and setup to transmit at the highest channel. Then the field strength was measured at 2483.5 MHz.

The transmitter was then configured with the worst case antenna and setup to transmit at the lowest channel. Then the field strength was measured at 2390.0 MHz.

For measurements the resolution bandwidth is set to 1 MHz, and then the video bandwidth is set to 1 MHz for peak measurements and 10 Hz for average measurements.

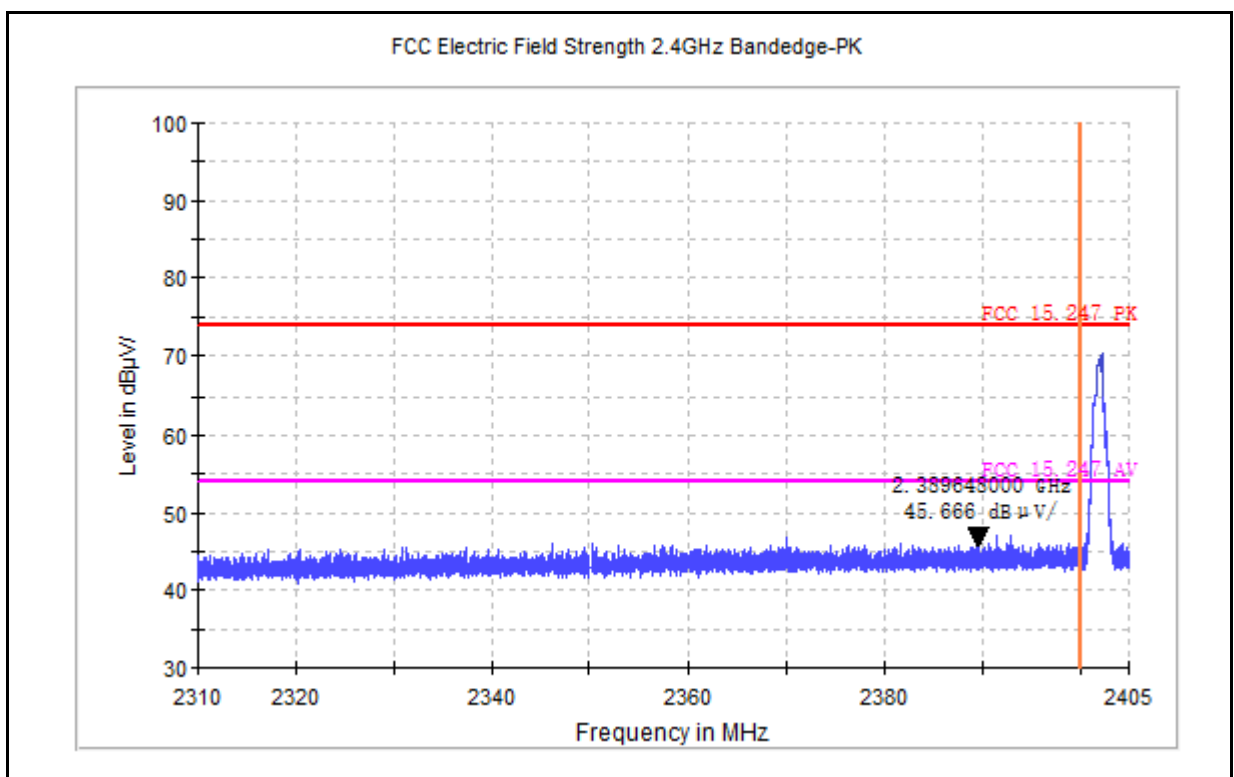
Note: We tests were performed in different modulation to find the worst case. And show the worst-case here.



12.5. Test Result

Note: We have test both un-hopping and hopping mode for the radiated bandedge test, and the un-hopping mode is worse case.

Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	DC 3.8V
Model Number:	ZeSplash ²	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 2	Date:	2015/11/24
Frequency:	2402 MHz		
Ant.Polar.:	Horizontal		

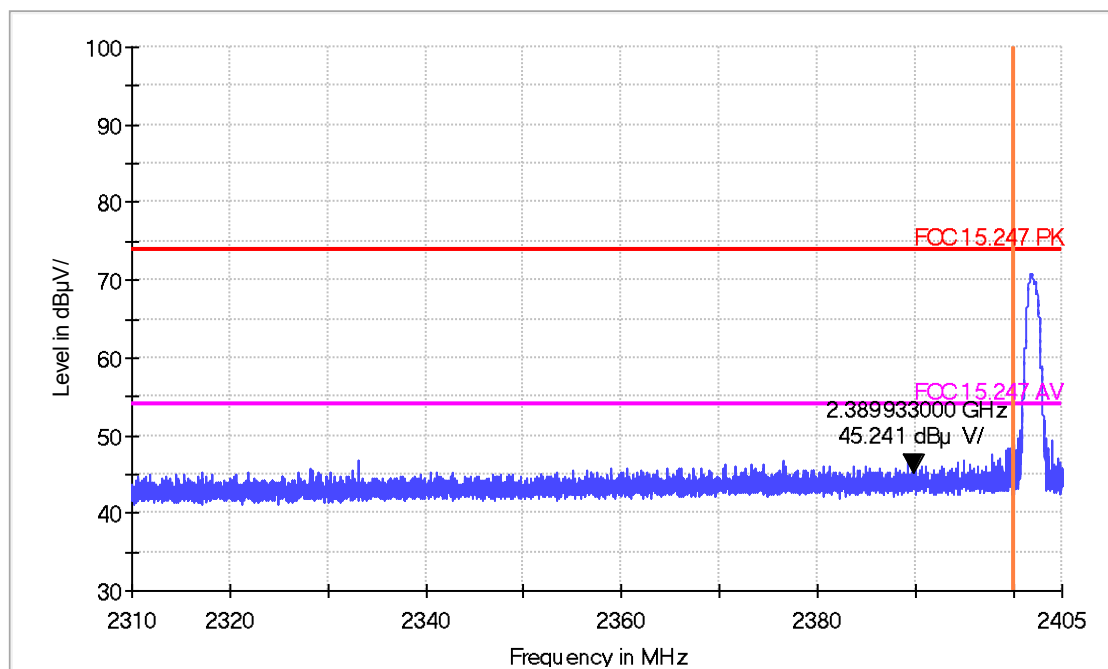


No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2389.648	45.32	0.35	45.67	74.00	28.33	peak



Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	DC 3.8V
Model Number:	ZeSplash ²	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 2	Date:	2015/11/24
Frequency:	2402 MHz		
Ant.Polar.:	Vertical		

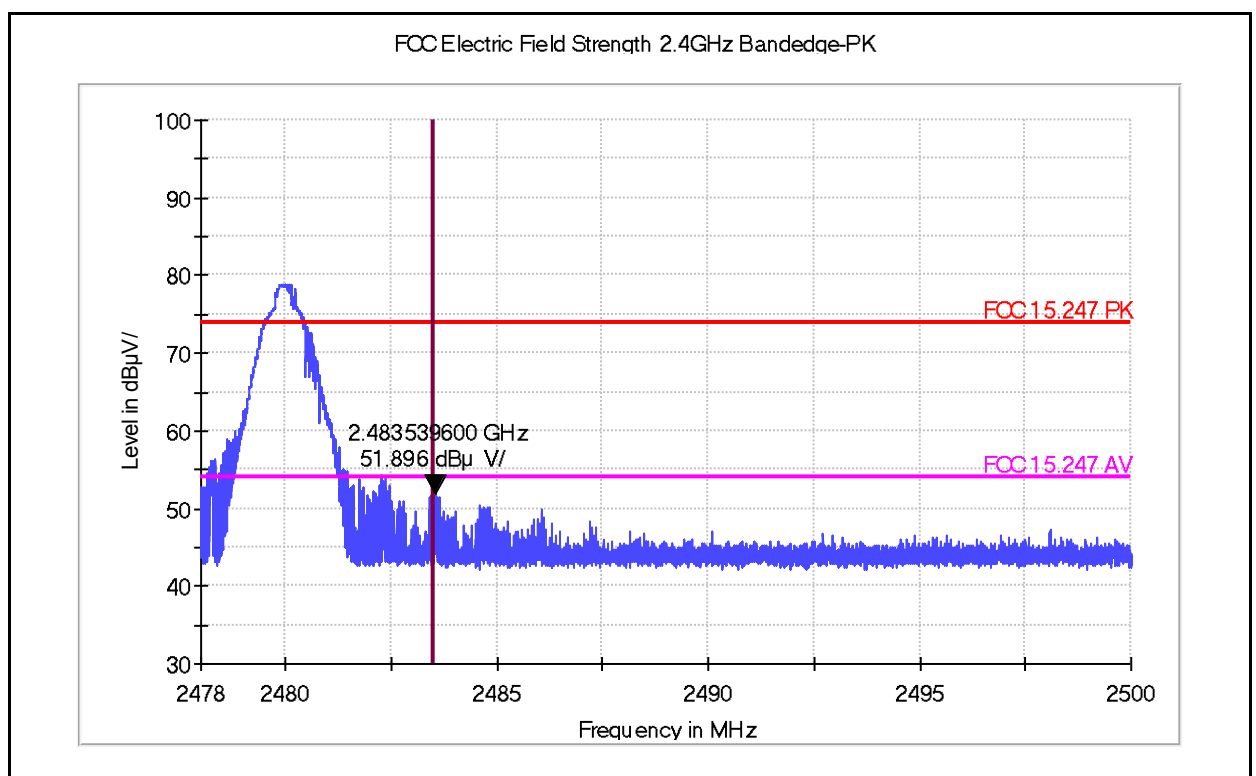
FCC Electric Field Strength 2.4GHz Bandedge-PK



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2389.933	44.89	0.35	45.24	74.00	28.76	peak



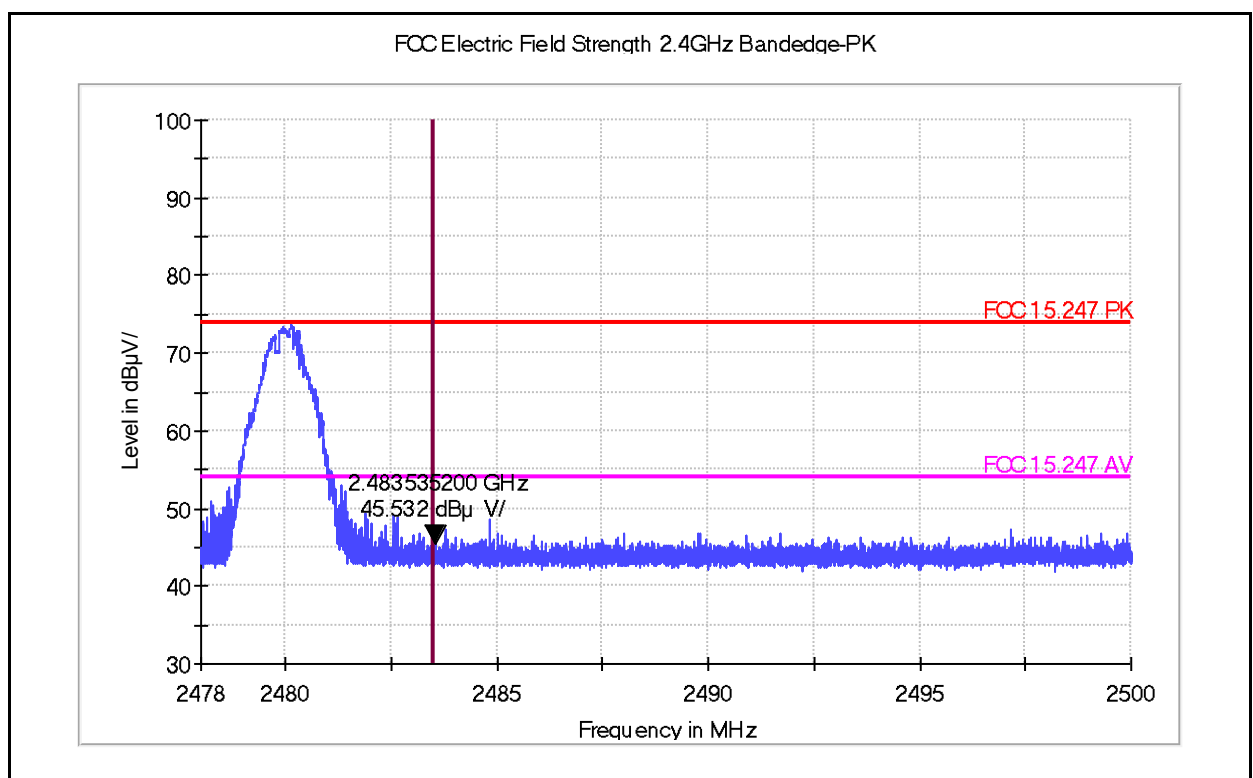
Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	DC 3.8V
Model Number:	ZeSplash ²	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 2	Date:	2015/11/24
Frequency:	2480 MHz		
Ant.Polar.:	Horizontal		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.540	51.44	0.46	51.90	74.00	22.10	peak



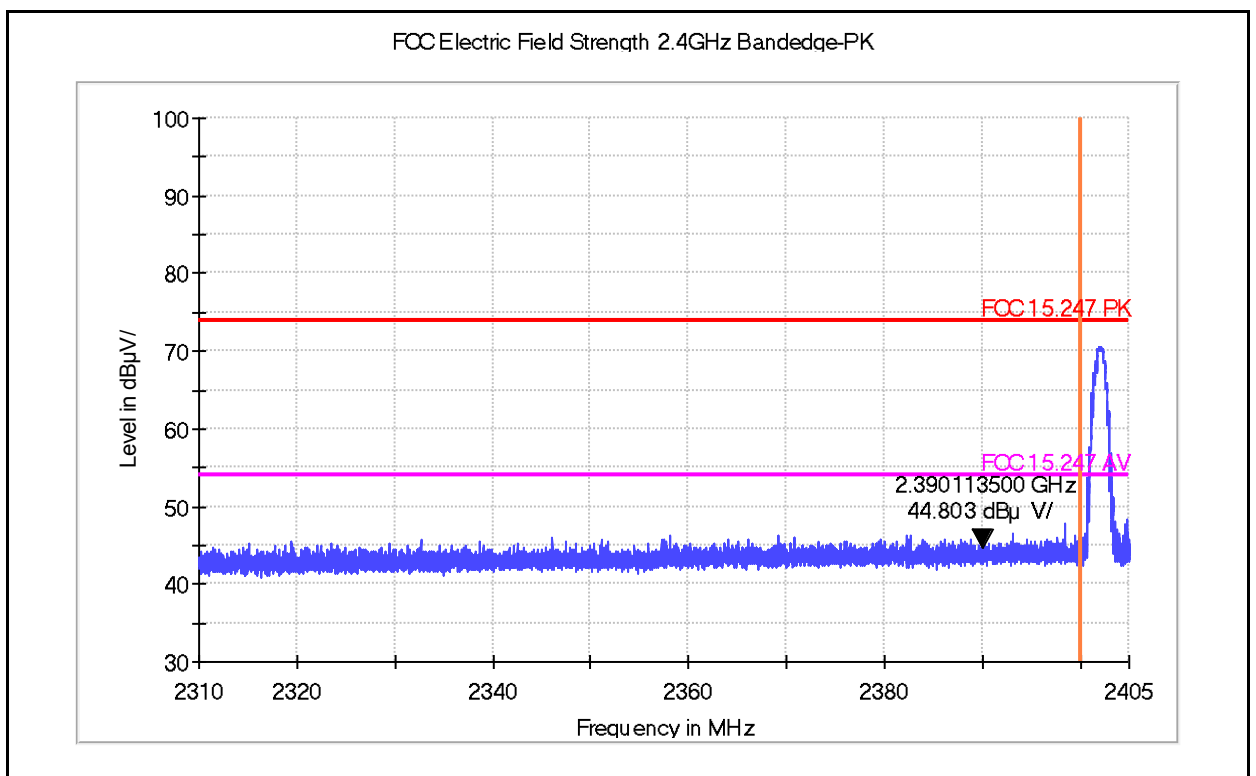
Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	DC 3.8V
Model Number:	ZeSplash ²	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 2	Date:	2015/11/24
Frequency:	2480 MHz		
Ant.Polar.:	Vertical		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.535	45.07	0.46	45.53	74.00	28.47	peak



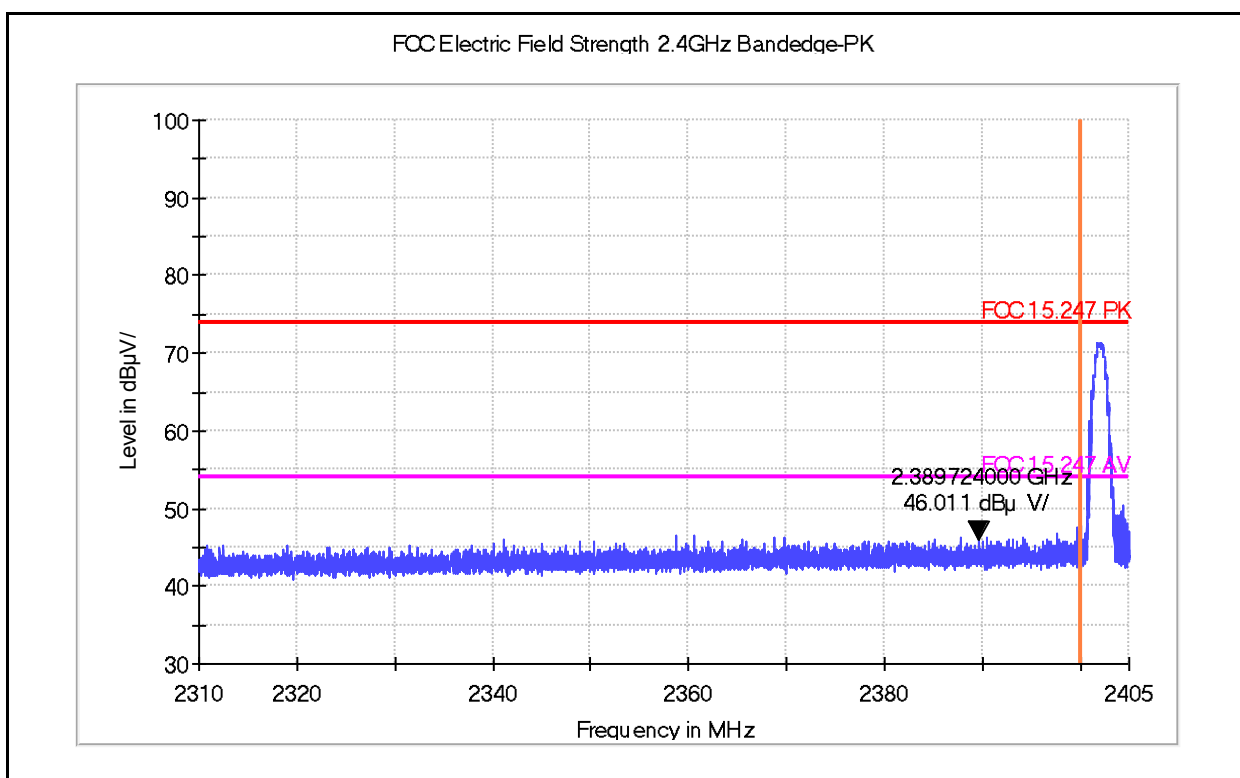
Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	DC 3.8V
Model Number:	ZeSplash ²	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 4	Date:	2015/11/24
Frequency:	2402 MHz		
Ant.Polar.:	Horizontal		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2390.114	44.45	0.35	44.80	74.00	29.20	peak



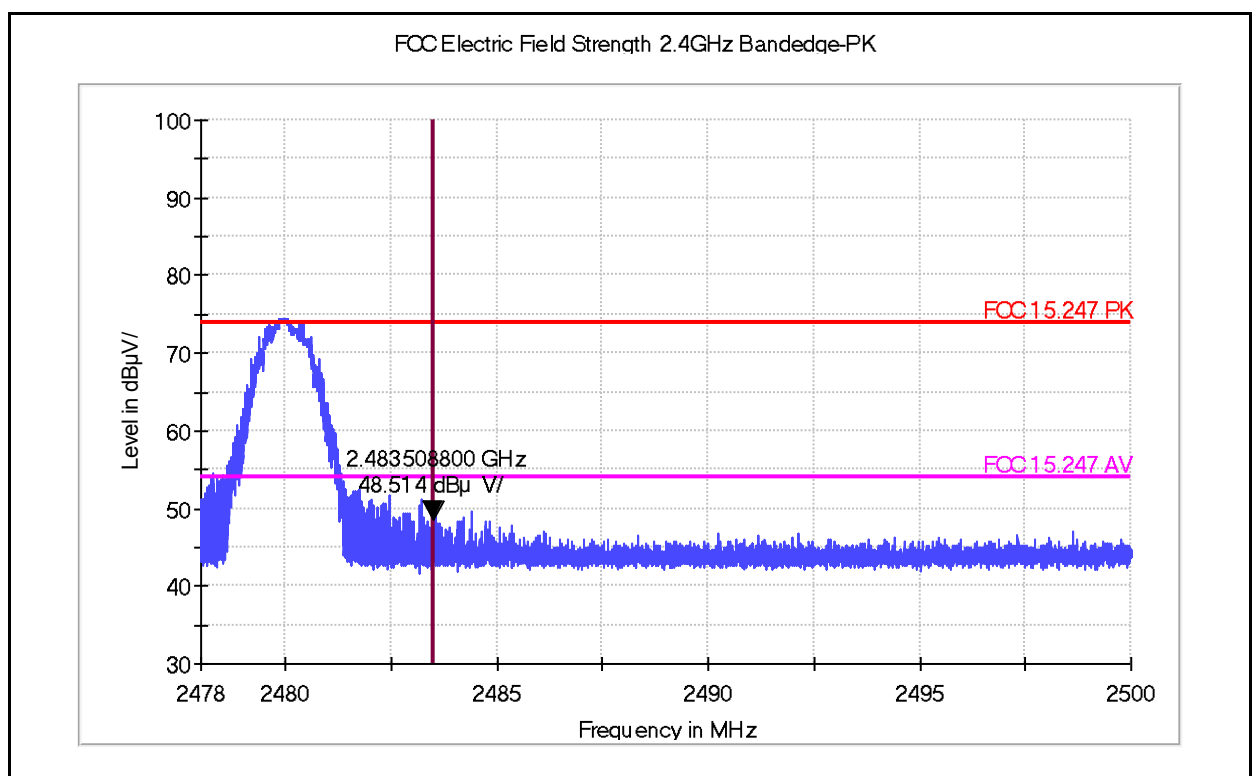
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Test item:	Radiated Emission	Power:	DC 3.8V
Model Number:	ZeSplash ²	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 4	Date:	2015/11/24
Frequency:	2402 MHz		
Ant.Polar.:	Vertical		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2389.724	45.66	0.35	46.01	74.00	27.99	peak



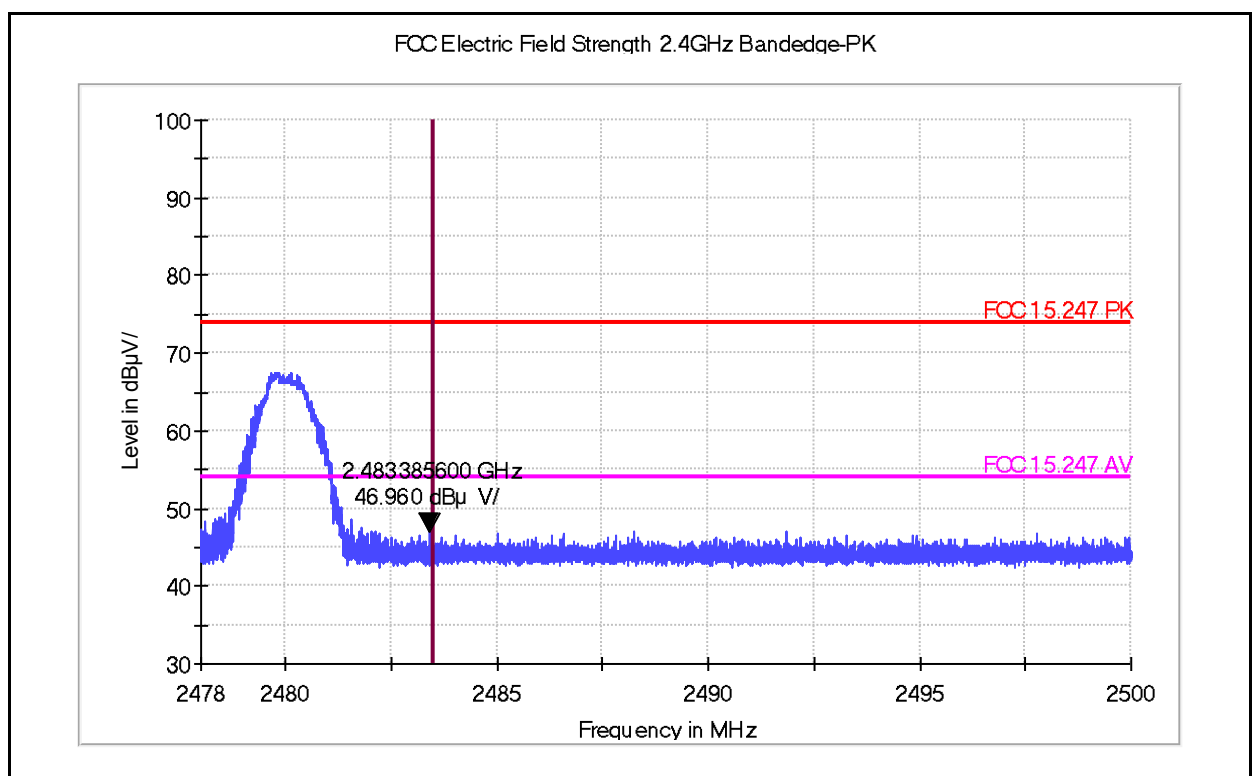
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Test item:	Radiated Emission	Power:	DC 3.8V
Model Number:	ZeSplash ²	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 4	Date:	2015/11/24
Frequency:	2480 MHz		
Ant.Polar.:	Horizontal		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.509	48.05	0.46	48.51	74.00	25.49	peak



Standard:	FCC Part 15C	Test Distance:	3m
Test item:	Radiated Emission	Power:	DC 3.8V
Model Number:	ZeSplash ²	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 4	Date:	2015/11/24
Frequency:	2480 MHz		
Ant.Polar.:	Vertical		



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2483.500	46.50	0.46	46.96	74.00	27.04	Peak

Note: 1. Result (dBuV) = Correction factor (dB) + Reading(dBuV).

2. Correction factor (dB/m) = Antenna Factor (dB/m) + Cable loss (dB) – Pre-Amplifier gain (dB).



13 Antenna Measurement

13.1. Limit

For intentional device, according to 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

And According to 15.247 (b), if transmitting antennas of directional gain greater than 6 dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

13.2. Antenna Connector Construction

The antenna used in this product is VLG Antenna. And the maximum Gain of this antenna is as below:

Bluetooth: 2.0 dBi

Antenna Type	VLG Antenna
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--END OF REPORT--