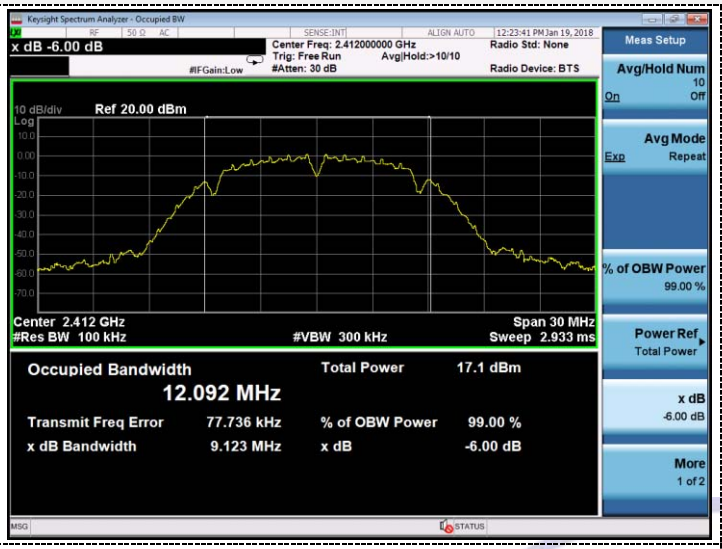
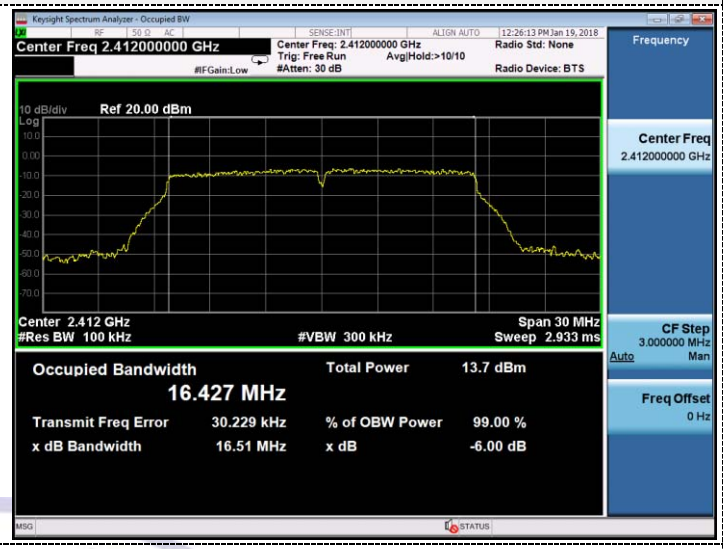
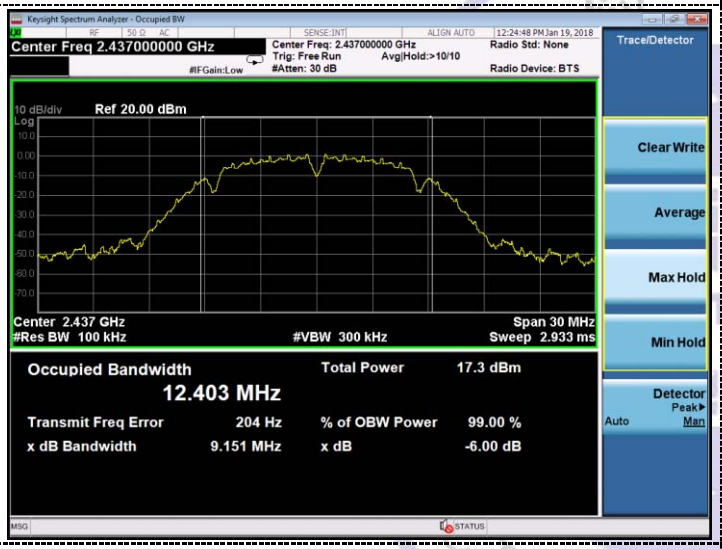
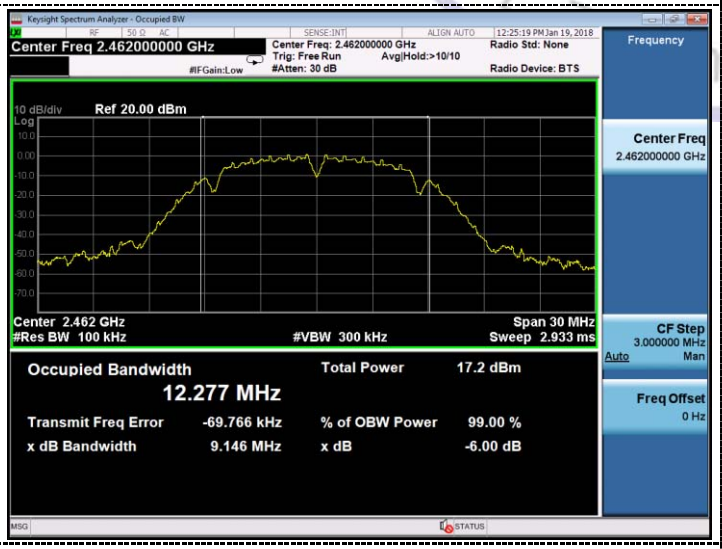
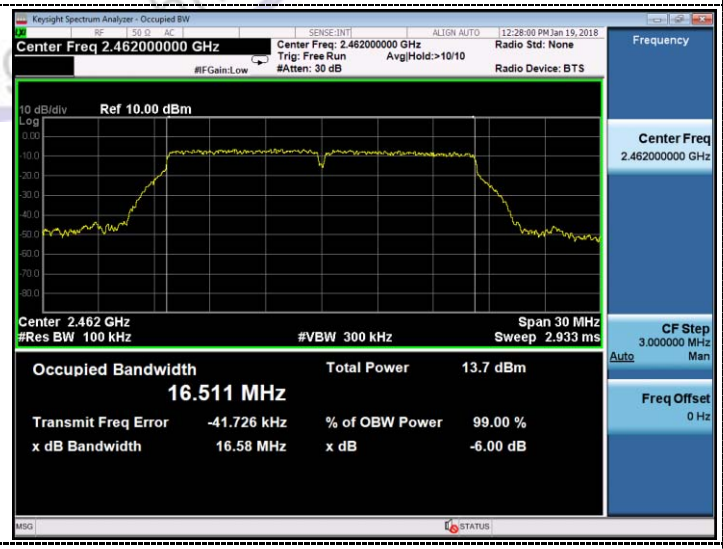
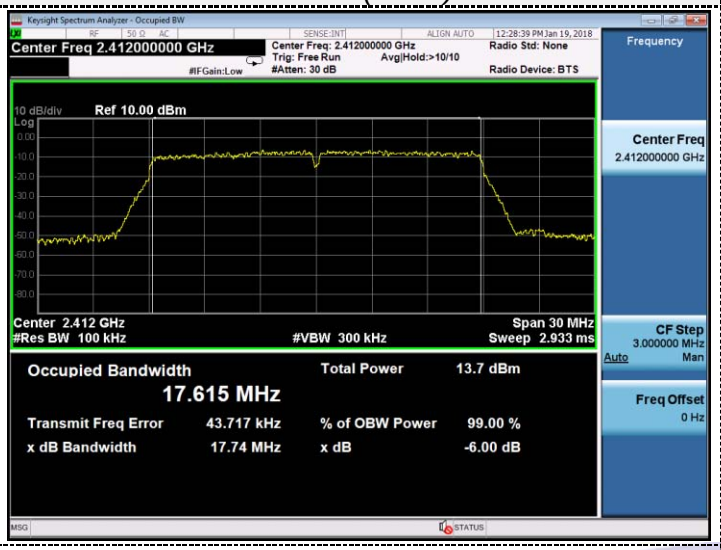
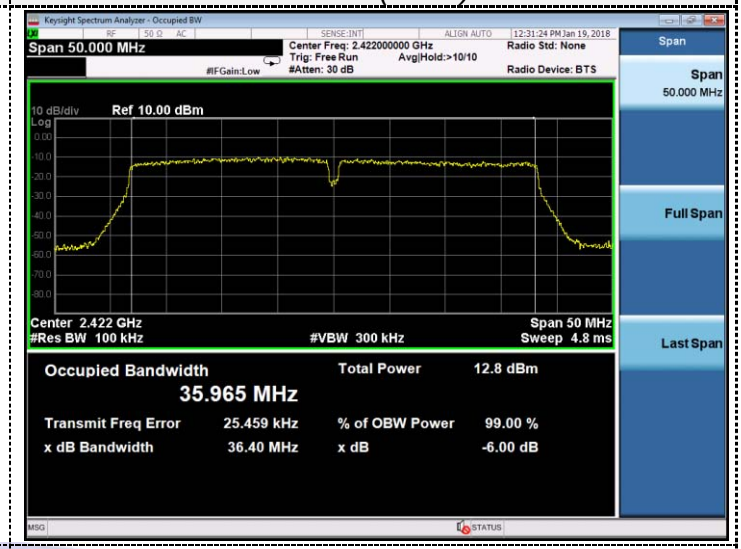
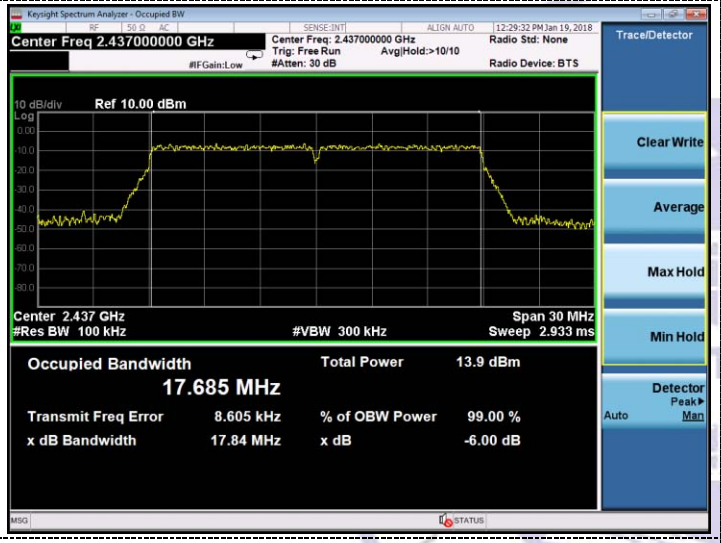
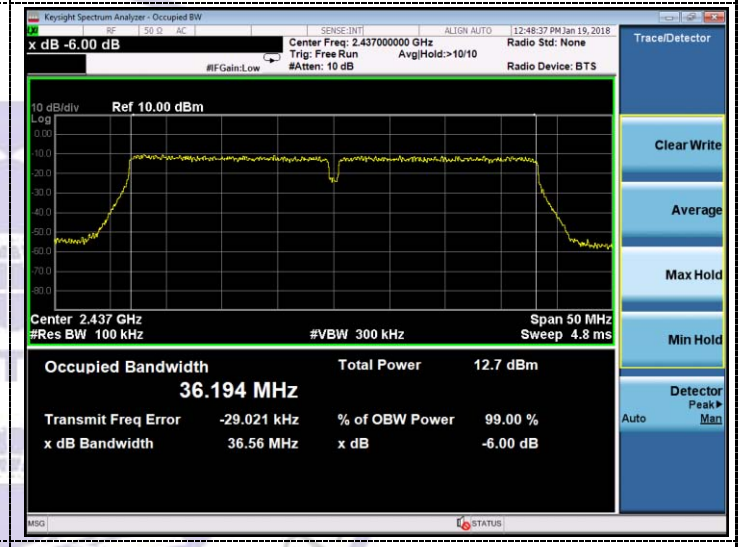
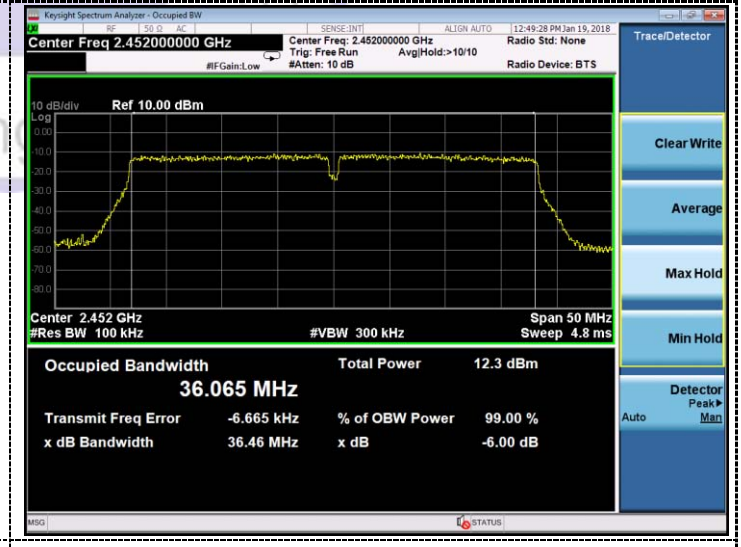
Antenna 2

Type	Channel	6dB Bandwidth (MHz)	Limit (KHz)	Result
802.11b	01	9.124	≥500	Pass
	06	9.160		
	11	9.152		
802.11g	01	16.50	≥500	Pass
	06	16.62		
	11	16.58		
802.11n(HT20)	01	17.74	≥500	Pass
	06	17.86		
	11	17.75		
802.11n(HT40)	03	36.40	≥500	Pass
	06	36.53		
	09	36.48		

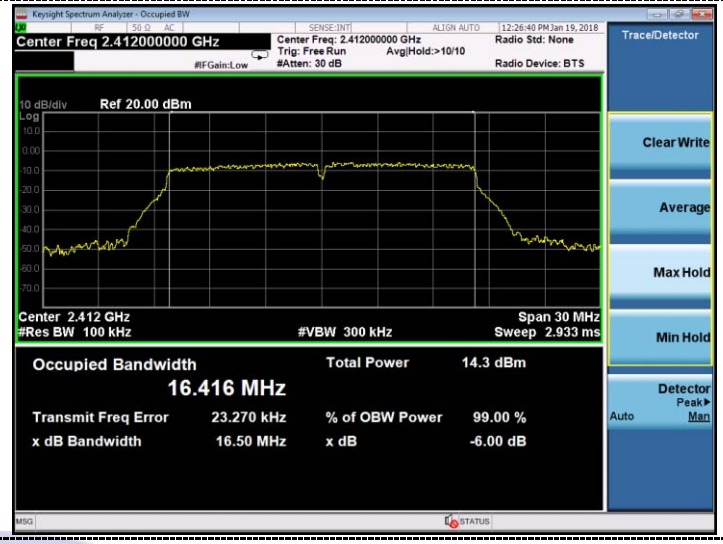
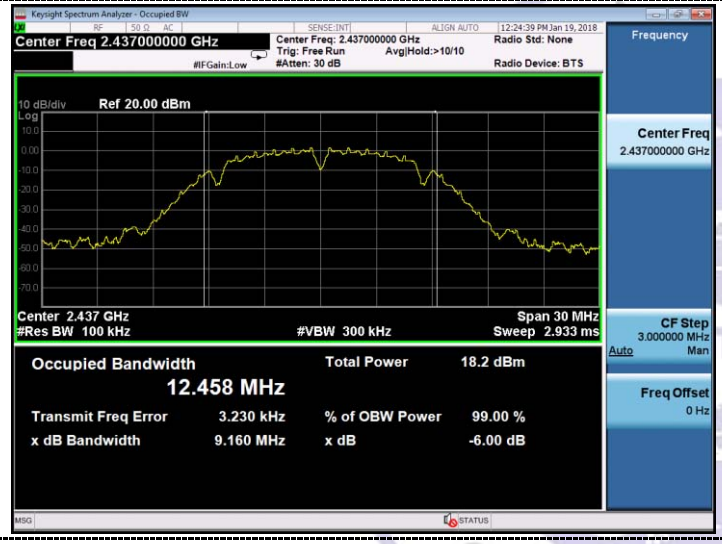
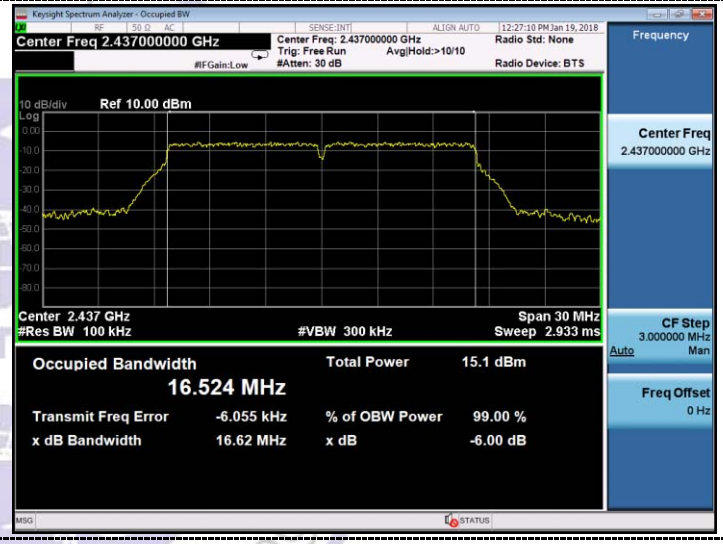
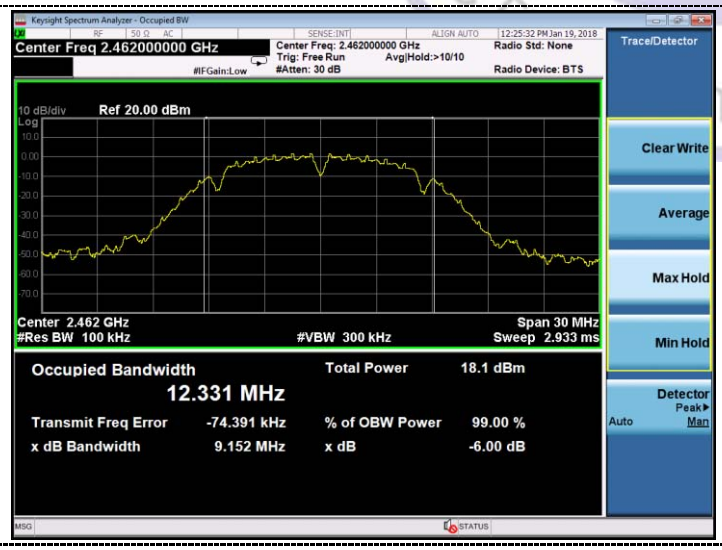
Test plot as follows:

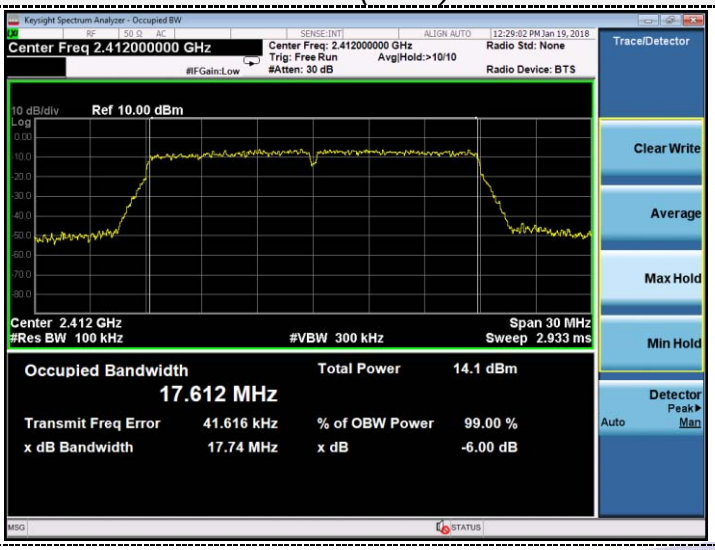
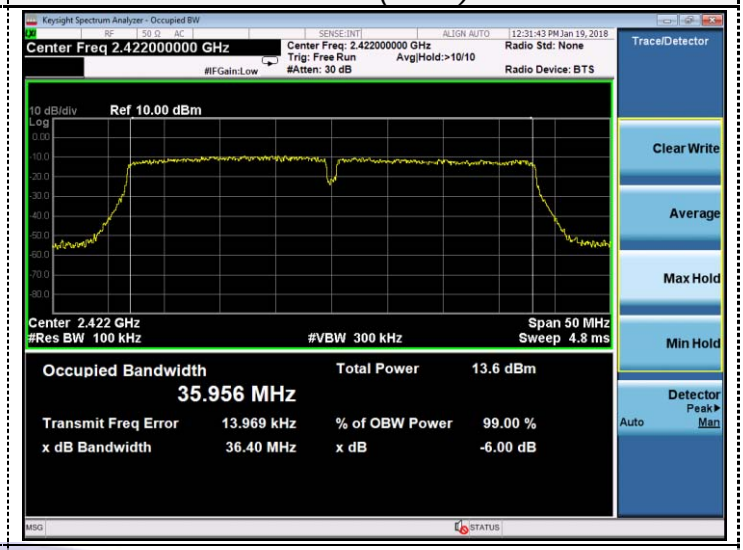
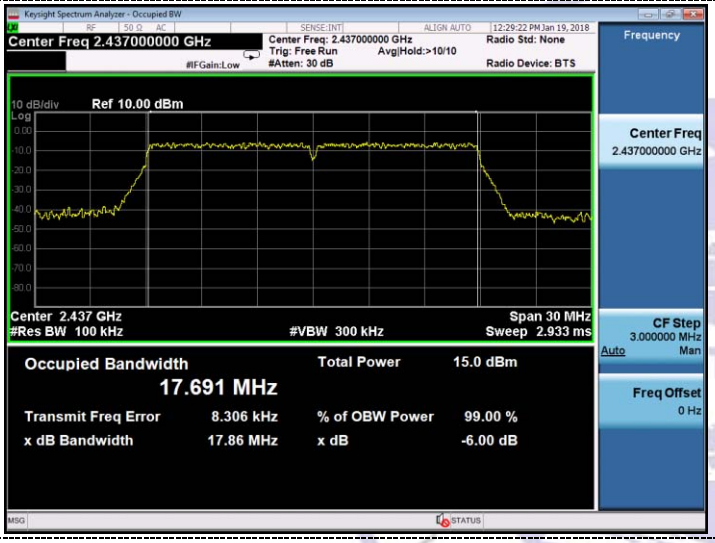
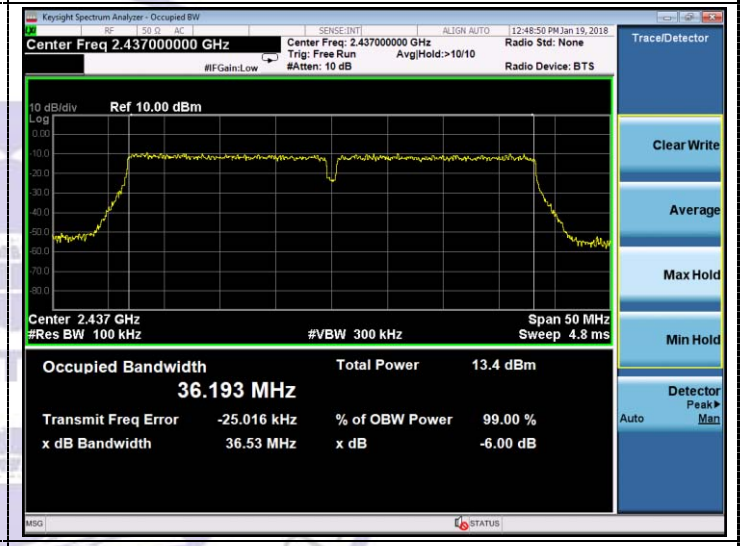
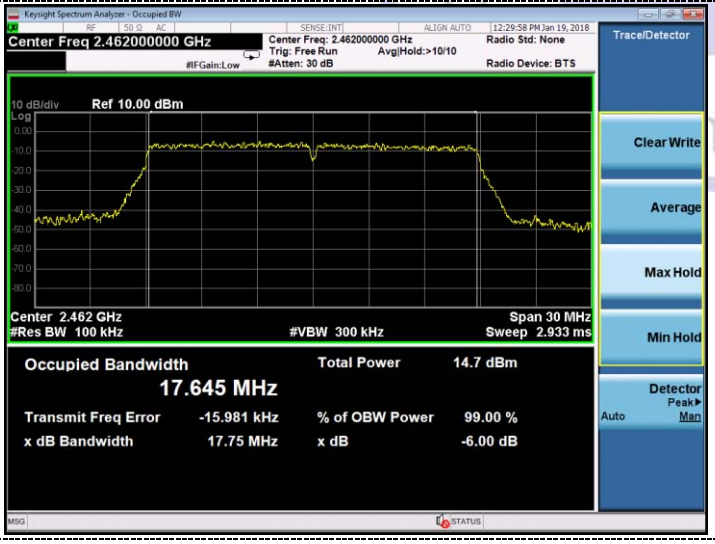
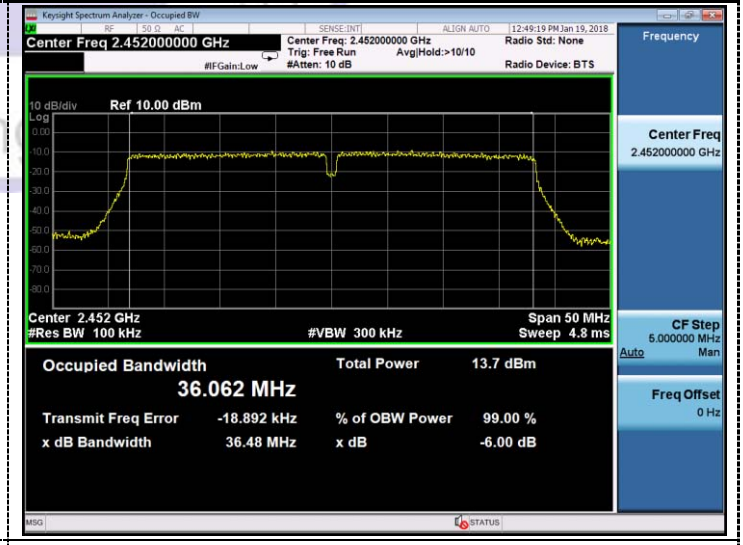
Antenna 1

802.11b	802.11g
	
CH01	CH01
	
CH06	CH06
	
CH11	CH11

802.11n(HT20)	802.11n(HT40)
	
CH01	CH03
	
CH06	CH06
	
CH11	CH09

Antenna 2

802.11b	802.11g
	
CH01	CH01
	
CH06	CH06
	
CH11	CH11

802.11n(HT20)	802.11n(HT40)
	
CH01	CH03
	
CH06	CH06
	
CH11	CH09

3.6. Occupied Bandwidth

Limit

For digital modulation systems, the minimum 6 dB bandwidth shall be at least 500 kHz

Test procedure

The occupied bandwidth is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers are each equal to 0.5% of the total mean power of the given emission. The following procedure shall be used for measuring 99% power bandwidth:

RBW=1% to 5% of the OBW

VBW=approximately 3 X RBW

Detector=Peak

Trace Mode: Max Hold

Use the 99% power bandwidth function of the instrument to measure the Occupied Bandwidth and recorded.

Test Configuration

Test Results

Antenna 1

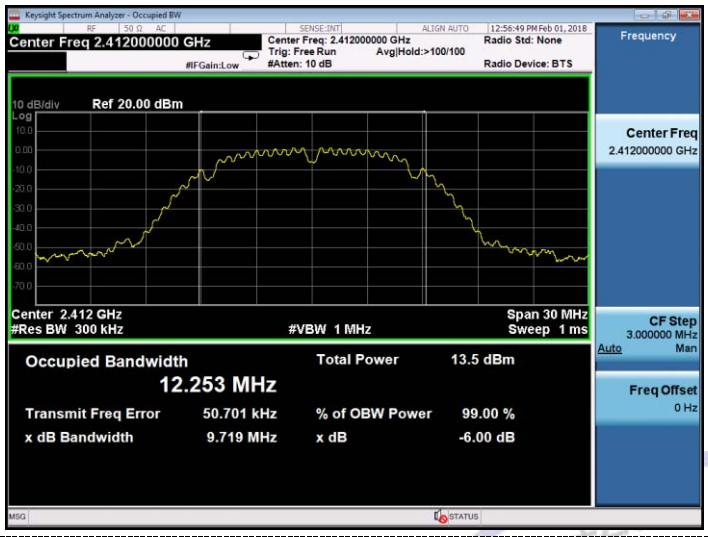
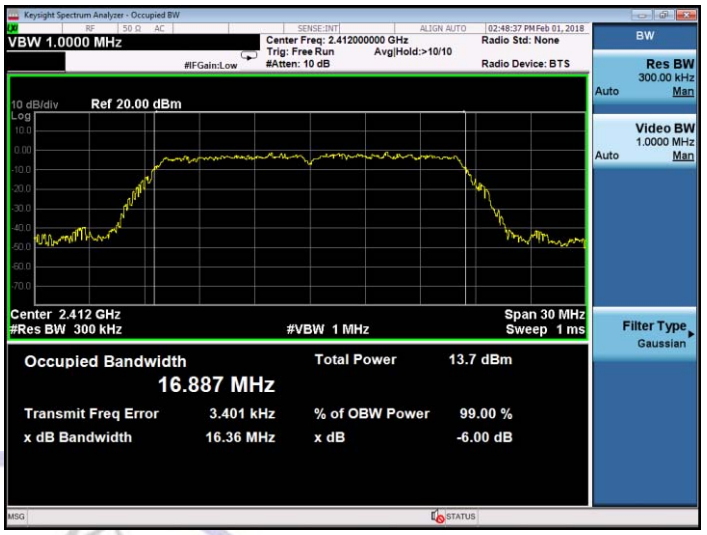
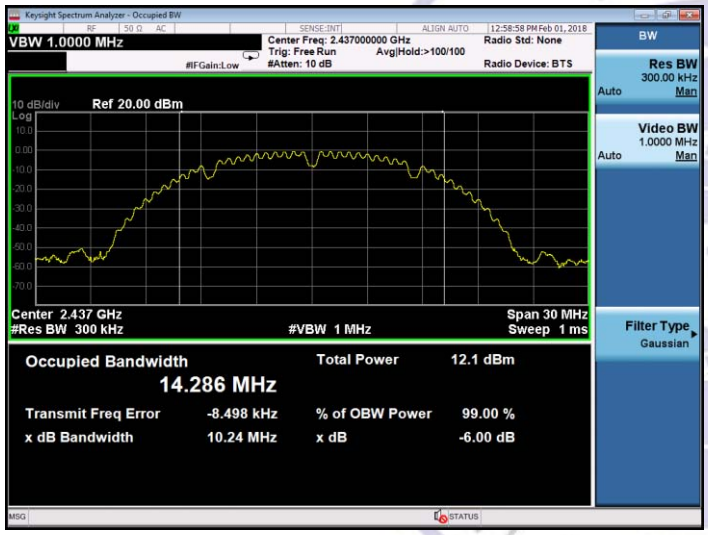
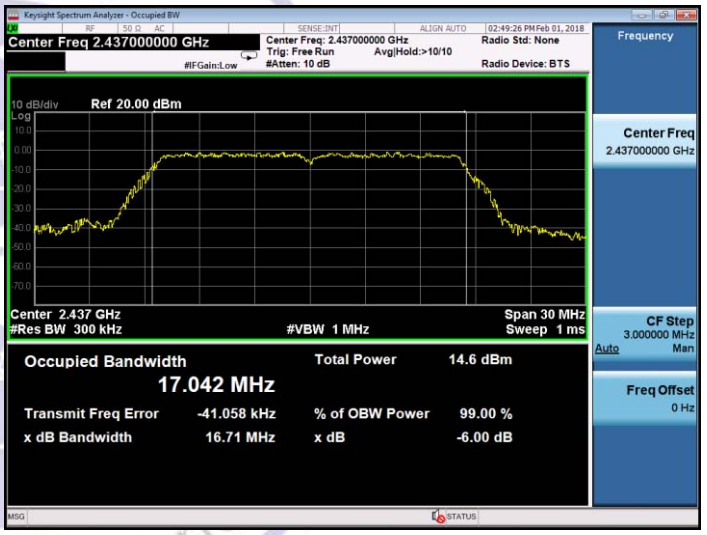
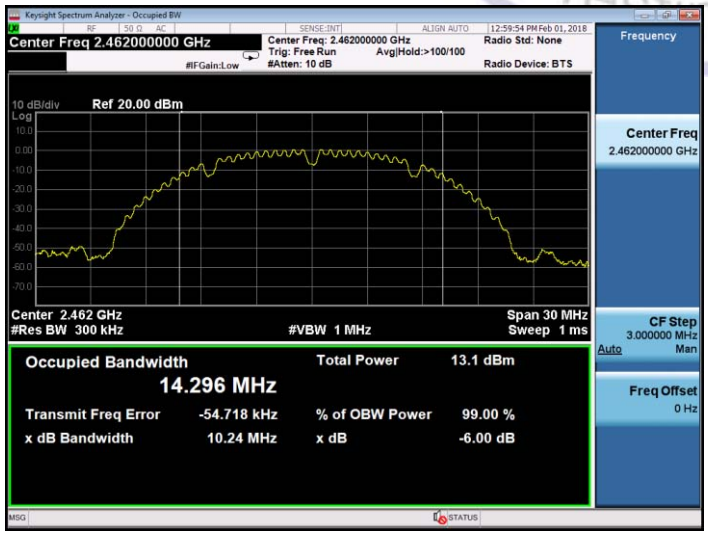
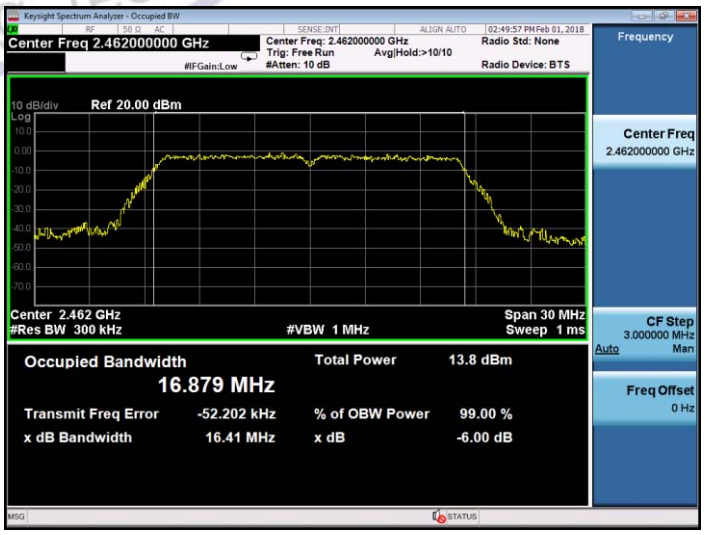
Type	Channel	99% Bandwidth (MHz)	Limit (KHz)	Result
802.11b	01	12.253	≥500	Pass
	06	14.286		
	11	14.296		
802.11g	01	16.887	≥500	Pass
	06	17.042		
	11	16.879		
802.11n(HT20)	01	17.726	≥500	Pass
	06	17.815		
	11	17.774		
802.11n(HT40)	03	36.377	≥500	Pass
	06	36.553		
	09	36.439		

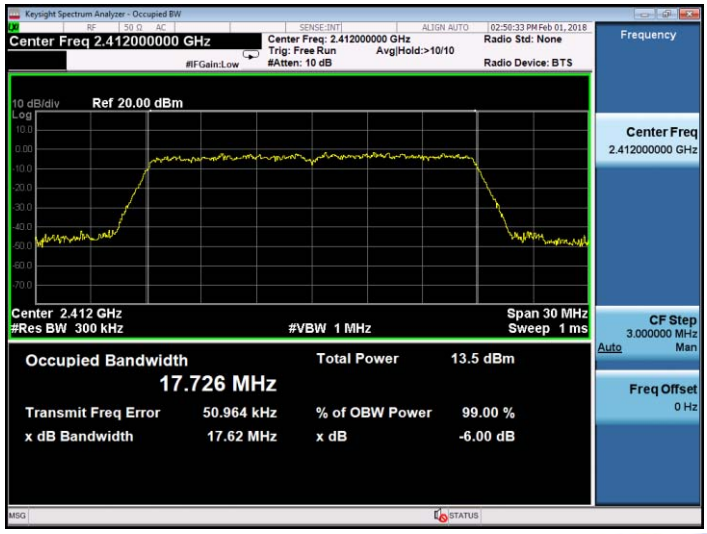
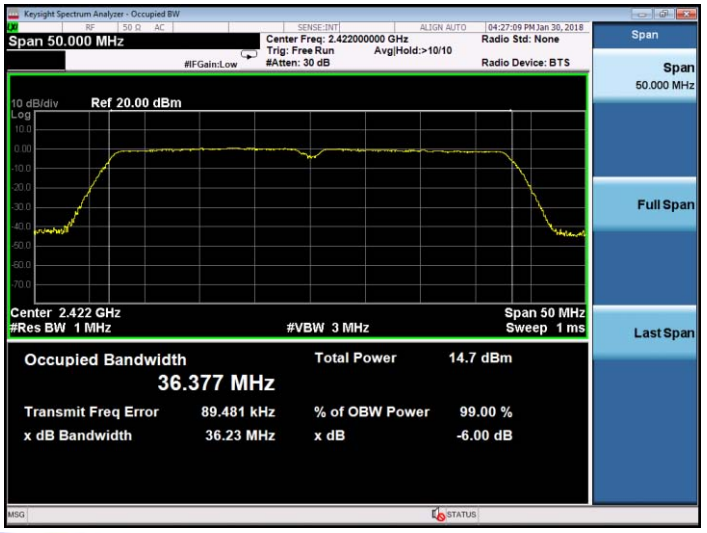
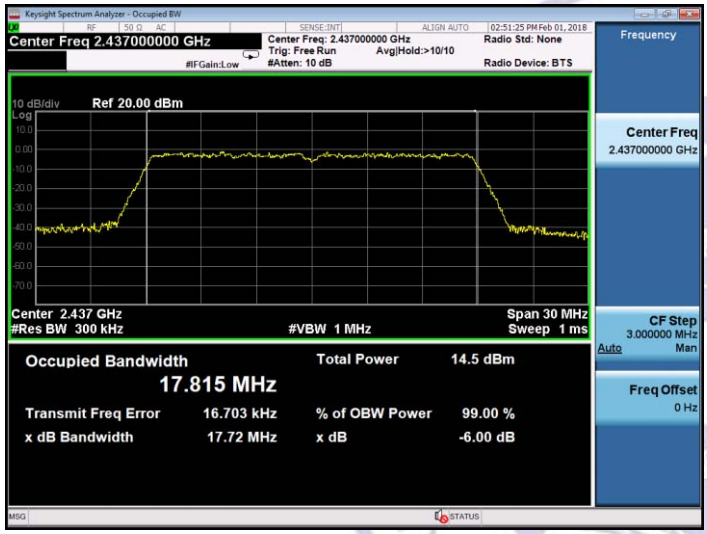
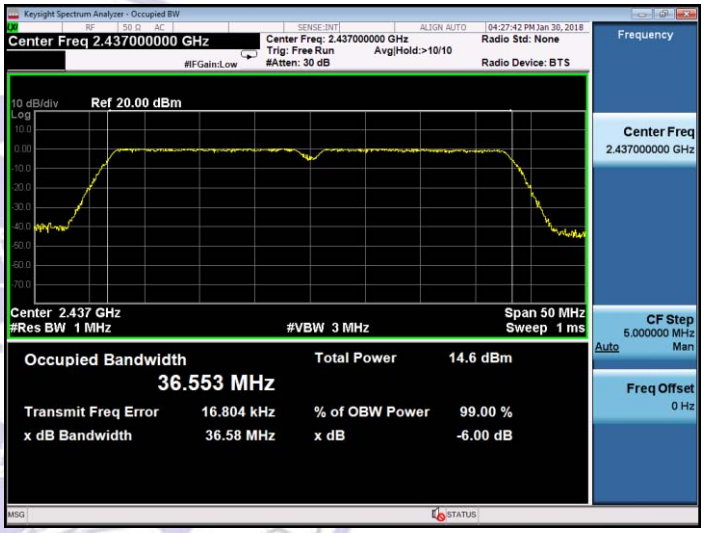
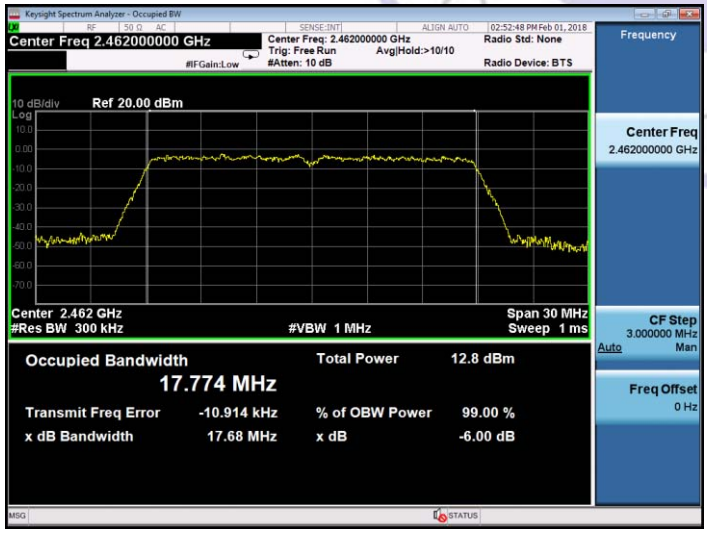
Antenna 2

Type	Channel	99% Bandwidth (MHz)	Limit (KHz)	Result
802.11b	01	12.208	≥500	Pass
	06	12.413		
	11	12.350		
802.11g	01	16.850	≥500	Pass
	06	17.013		
	11	16.869		
802.11n(HT20)	01	17.737	≥500	Pass
	06	17.847		
	11	17.796		
802.11n(HT40)	03	36.308	≥500	Pass
	06	36.583		
	09	36.410		

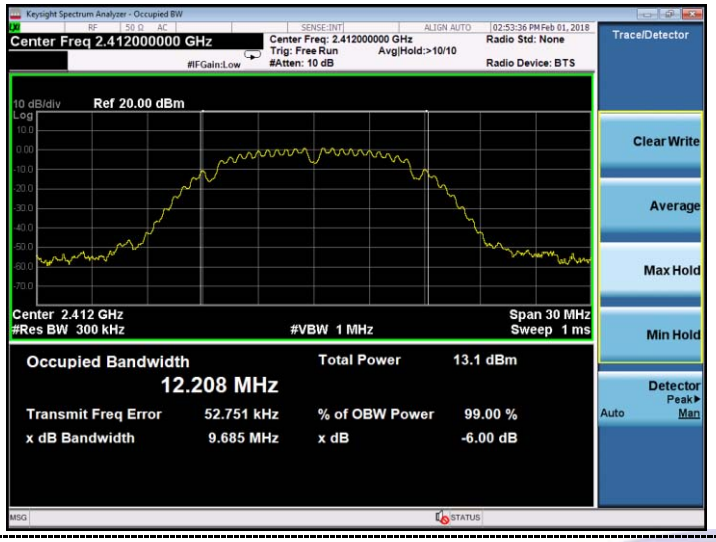
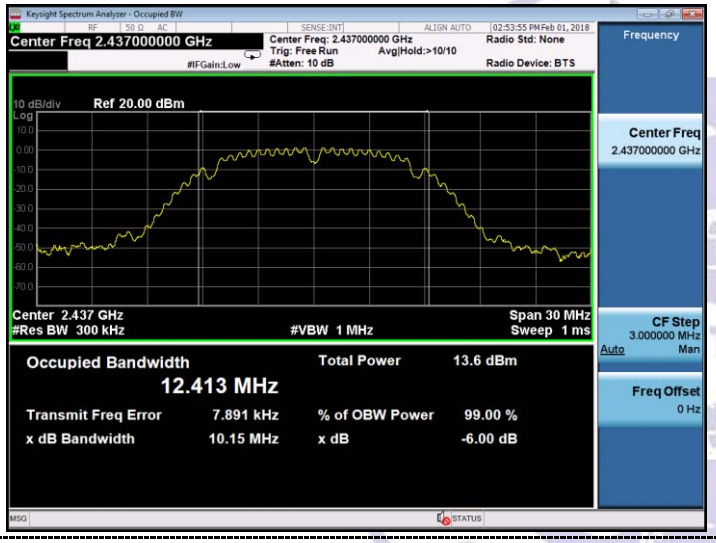
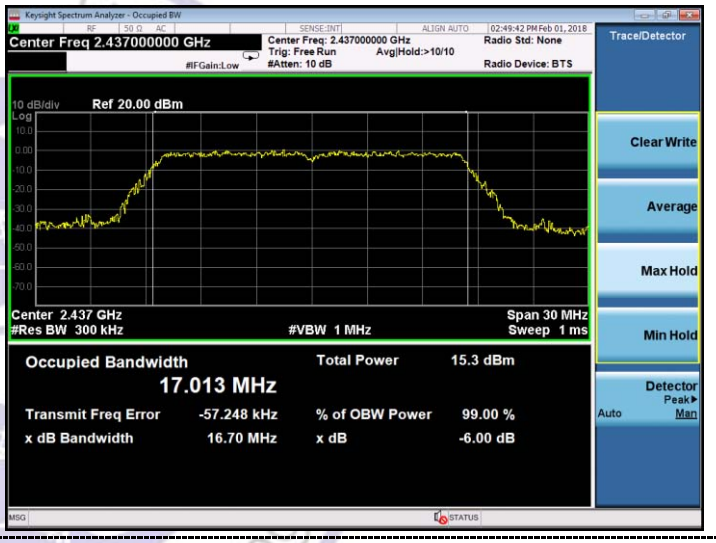
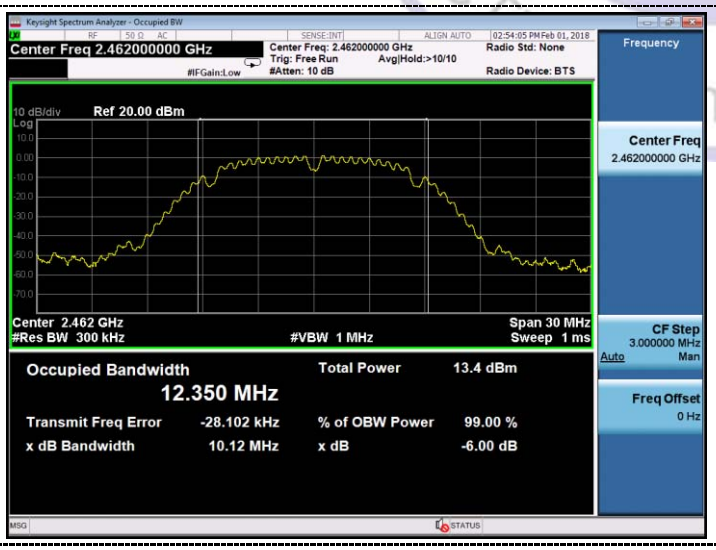
Test plot as follows:

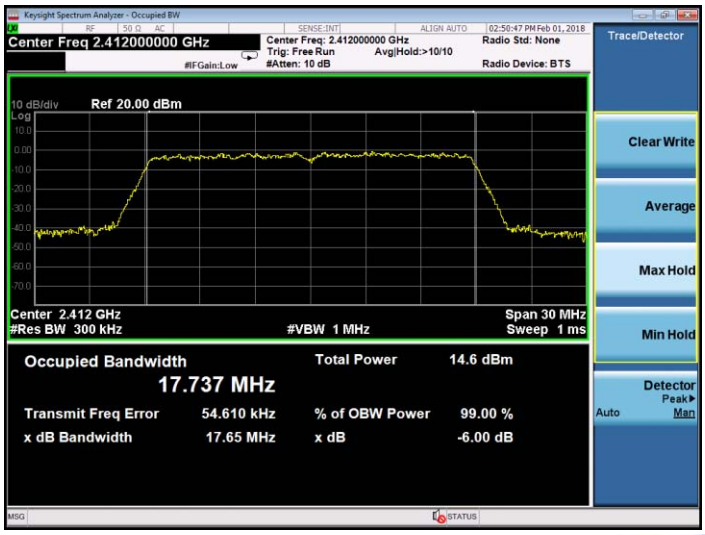
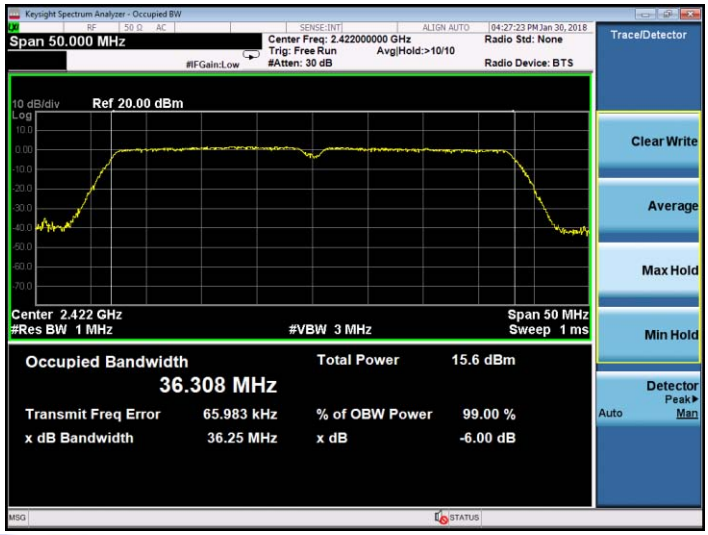
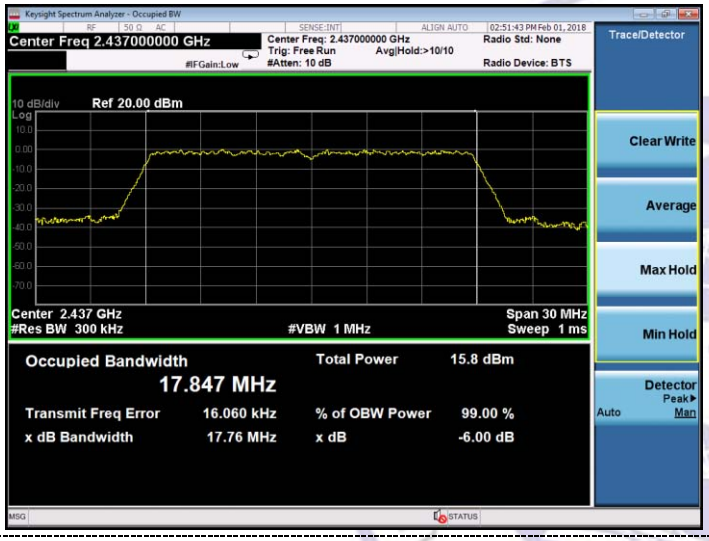
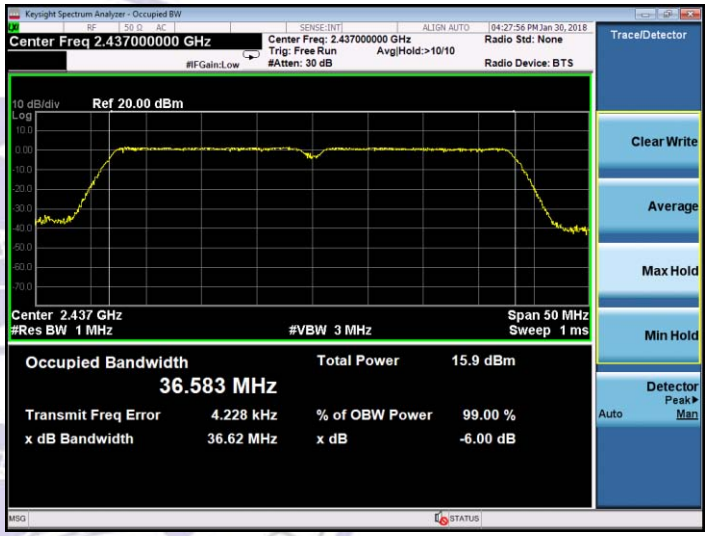
Antenna 1

802.11b	802.11g
	
CH01	CH01
	
CH06	CH06
	
CH11	CH11

802.11n(HT20)	802.11n(HT40)
	
CH01	CH03
	
CH06	CH06
	
CH11	CH09

Antenna 2

802.11b	802.11g
	
CH01	CH01
	
CH06	CH06
	
CH11	CH11

802.11n(HT20)	802.11n(HT40)
	
CH01	CH03
	
CH06	CH06
	
CH11	CH09

3.7. Out-of-band Emissions

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, based on either an RF con-ducted or a radiated measurement, pro-vided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter com-plies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required.

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated device is operating, the RF power that is produced 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, based on either an RF conducted or a radiated measurement, provided that the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of root-mean-square averaging over a time interval, as permitted under section 5.4(d), the attenuation required shall be 30 dB instead of 20 dB. Attenuation below the general field strength limits specified in RSS-Gen is not required

Test Procedure

Connect the transmitter output to spectrum analyzer using a low loss RF cable, and set the spectrum analyzer to RBW=100 kHz, VBW= 300 kHz, peak detector, and max hold. Measurements utilizing these setting are made of the in-band reference level, bandedge and out-of-band emissions.

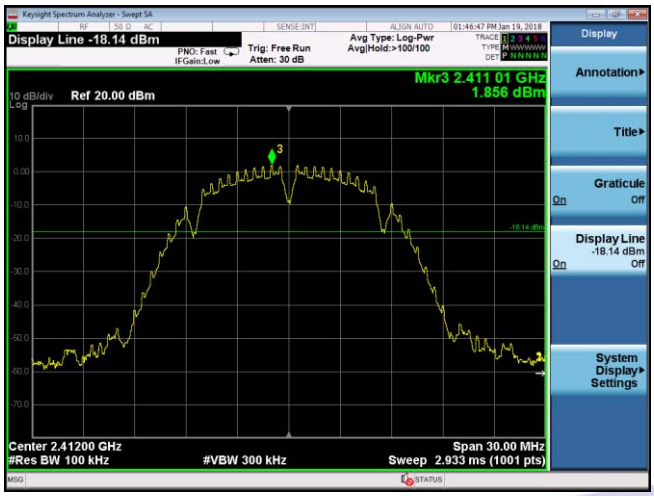
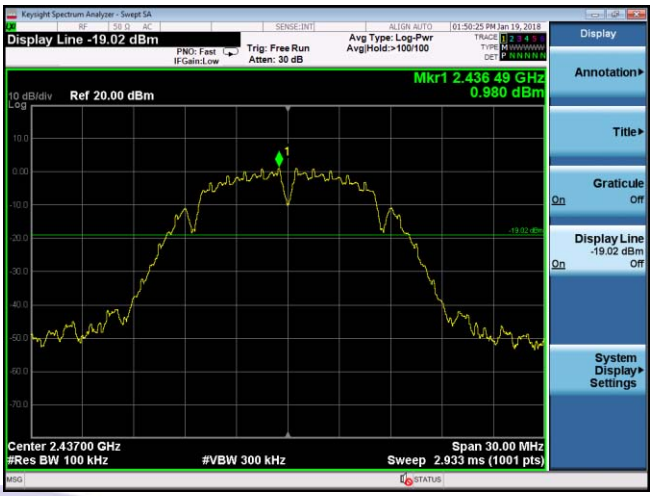
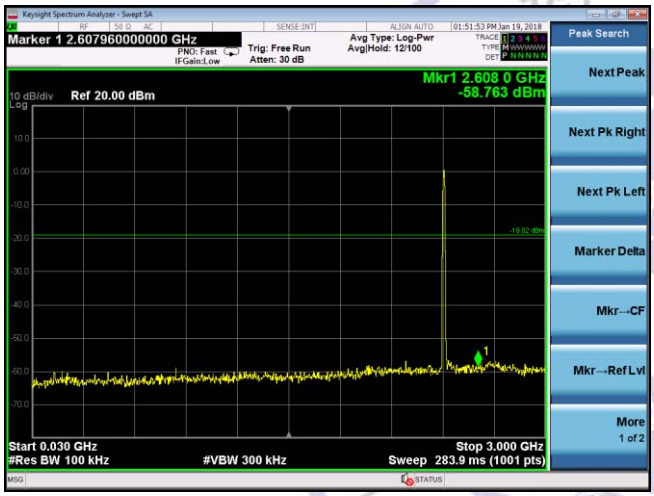
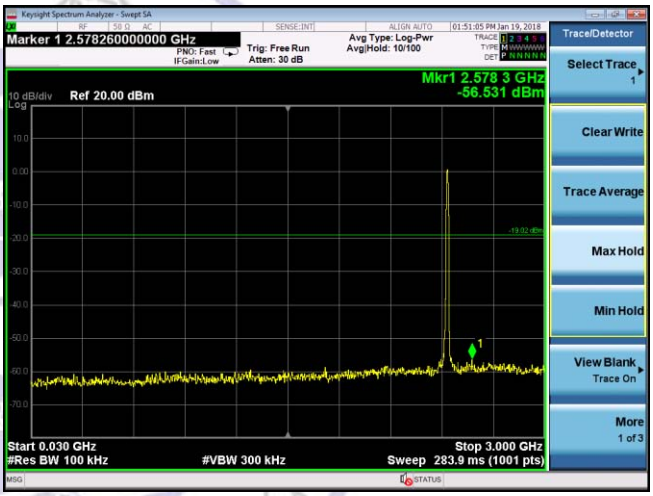
Test Configuration

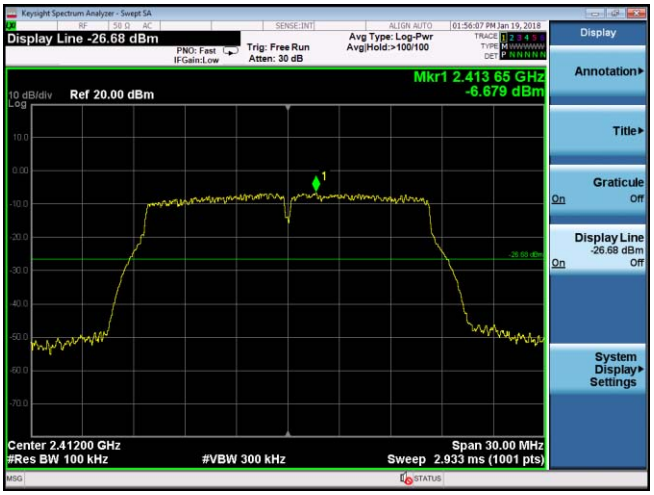
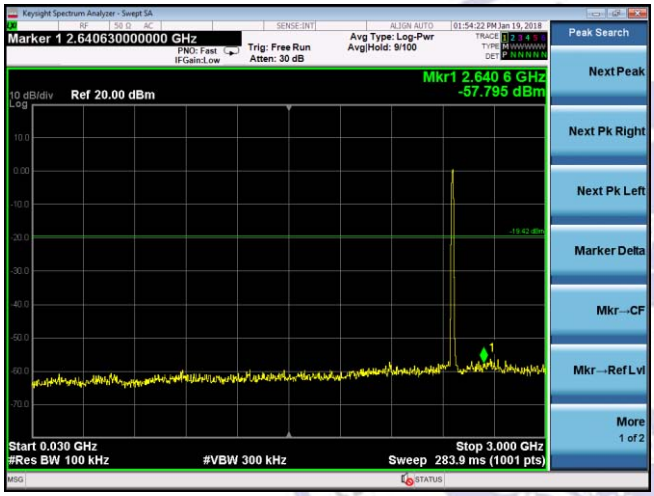
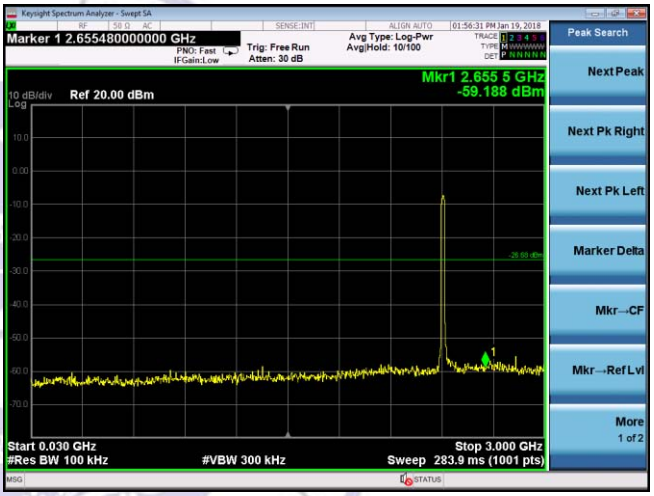
Test Results

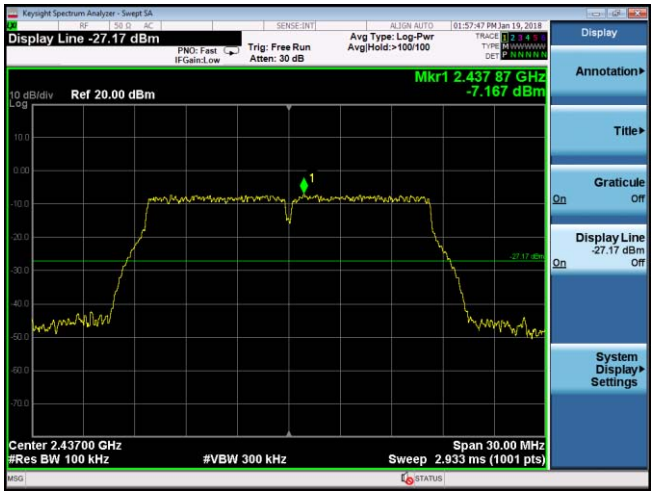
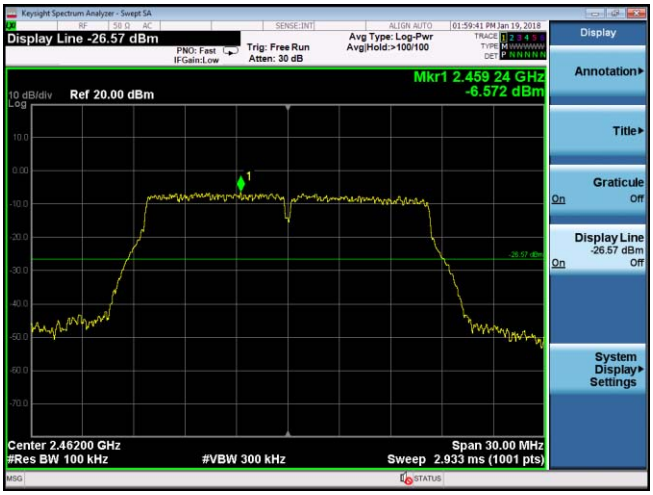
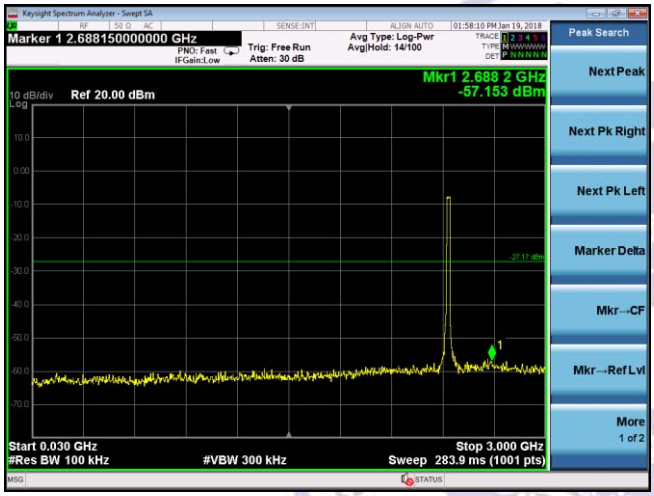
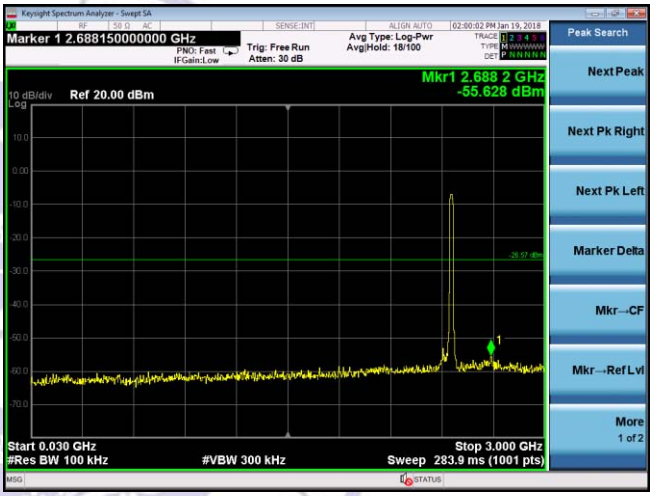
Remark: The measurement frequency range is from 30MHz to the 10th harmonic of the fundamental frequency. The lowest, middle and highest channels are tested to verify the spurious emissions and bandage measurement data.

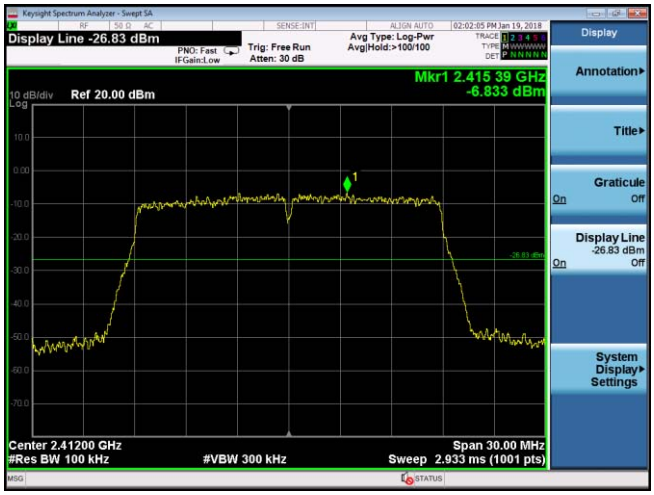
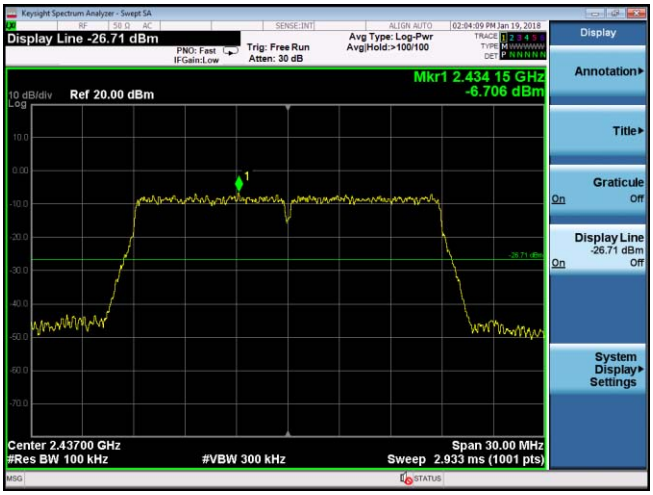
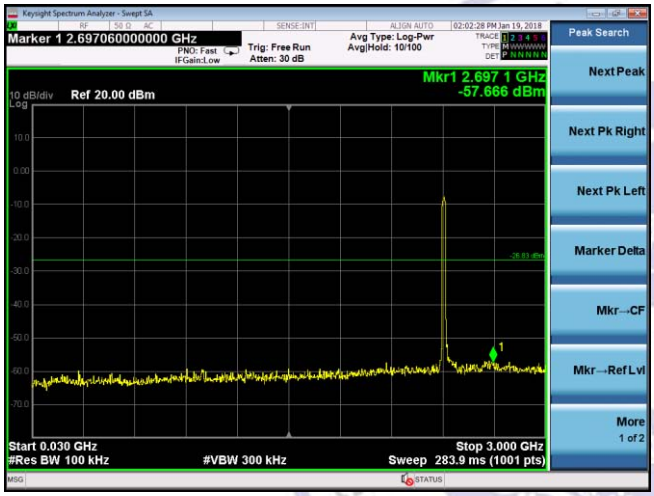
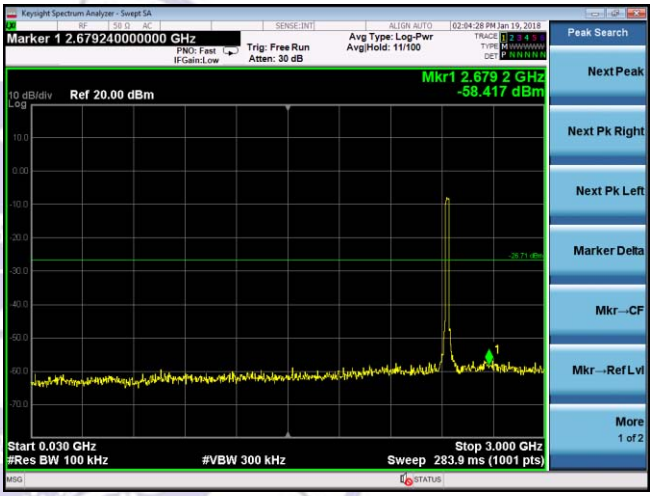
Test plot as follows:

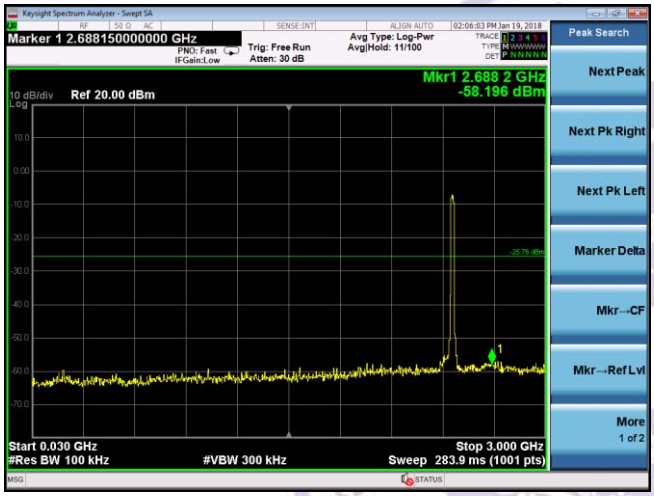
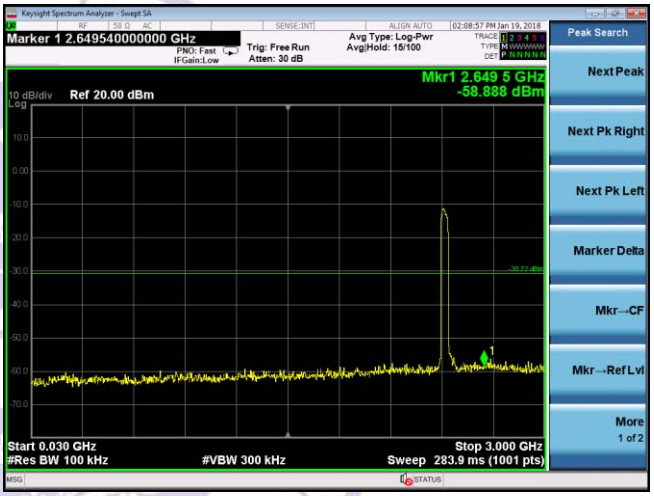
Antenna 1

802.11b CH01	*802.11b CH06*
	
Reference	
	
30MHz-3GHz	30MHz-3GHz
	
3GHz-25GHz	3GHz-25GHz

802.11b CH11	*802.11g CH01*
	
Reference	Reference
	
30MHz-3GHz	30MHz-3GHz
	
3GHz-25GHz	3GHz-25GHz

802.11g CH06	*802.11g CH11*
	
Reference	Reference
	
30MHz-3GHz	30MHz-3GHz
	
3GHz-25GHz	3GHz-25GHz

802.11n(HT20) CH01	*802.11n(HT20) CH06*
	
Reference	
	
30MHz-3GHz	30MHz-3GHz
	
3GHz-25GHz	3GHz-25GHz

802.11n(HT20) CH11	*802.11n(HT40) CH03*
	
Reference	Reference
	
30MHz-3GHz	30MHz-3GHz
	
3GHz-25GHz	3GHz-25GHz