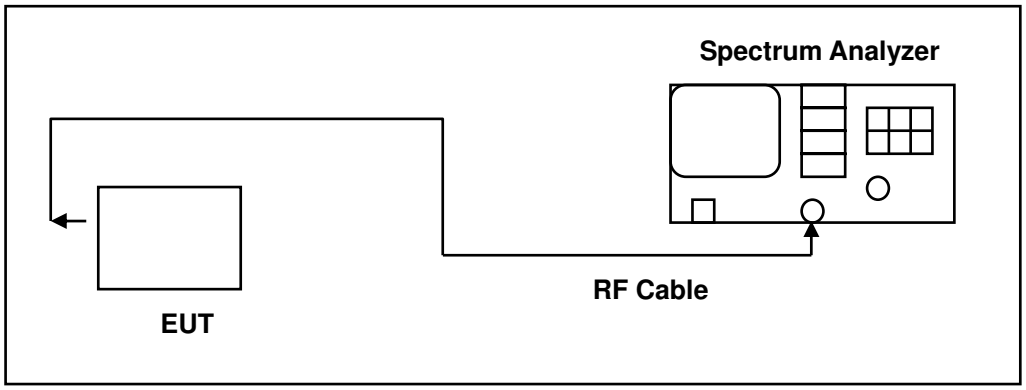
9 Out of Band Conducted Emissions Measurement

9.1. 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 30 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power

9.2. Test Setup



9.3. Test Instruments

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Remark
Spectrum Analyzer	Agilent	E4445A	MY45300744	12/16/2014	(2)
Spectrum Analyzer	Agilent	E4408B	MY45107753	07/24/2014	(1)
Test Site	ATL	TE05	TE05	N.C.R.	-----

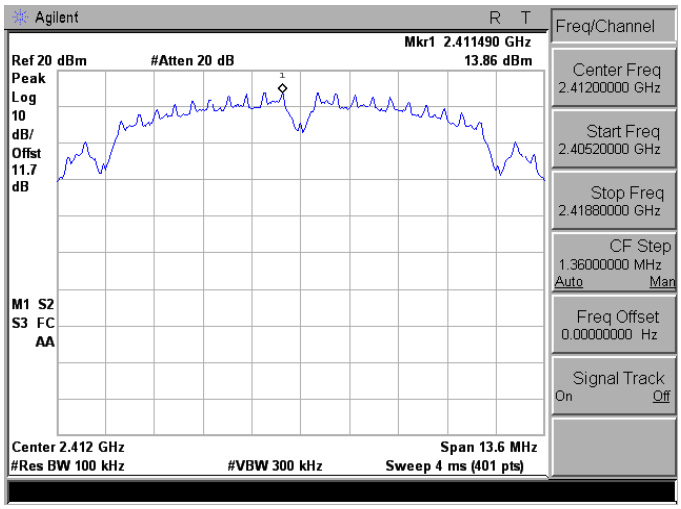
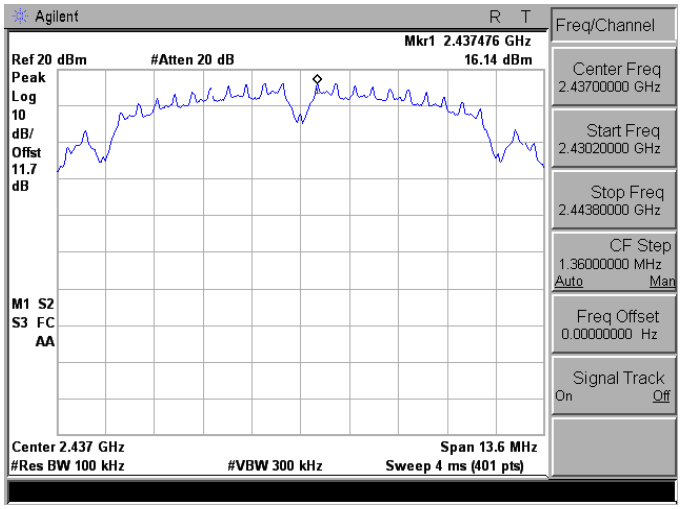
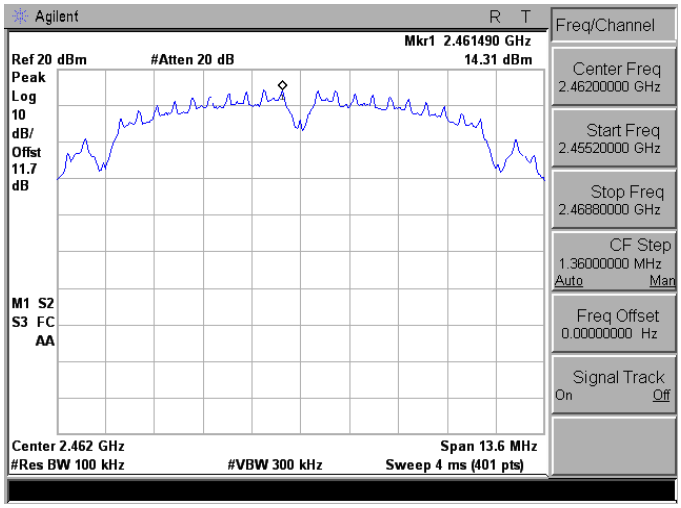
Remark: (1) Calibration period 1 year. (2) Calibration period 2 years. (3) Calibration period 3 years.
Note: N.C.R. = No Calibration Request.

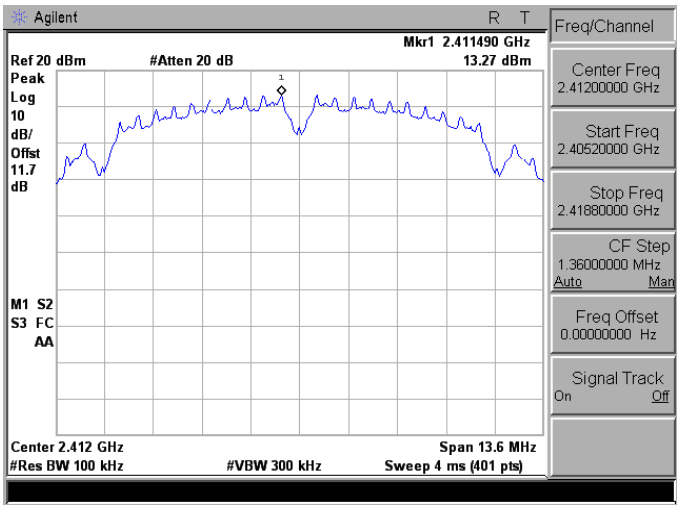
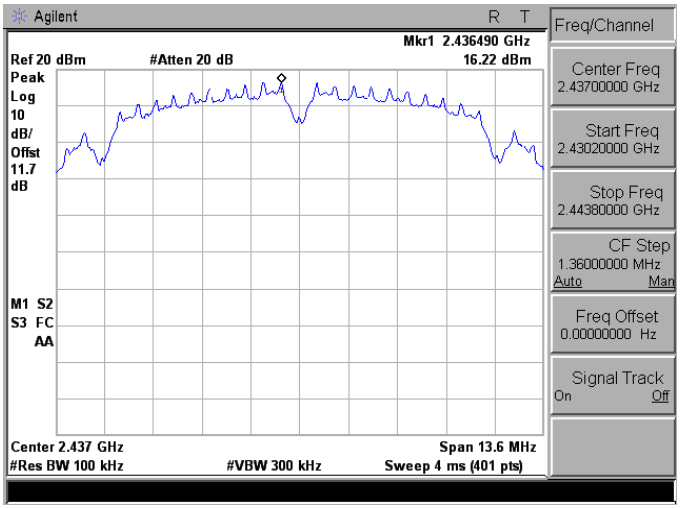
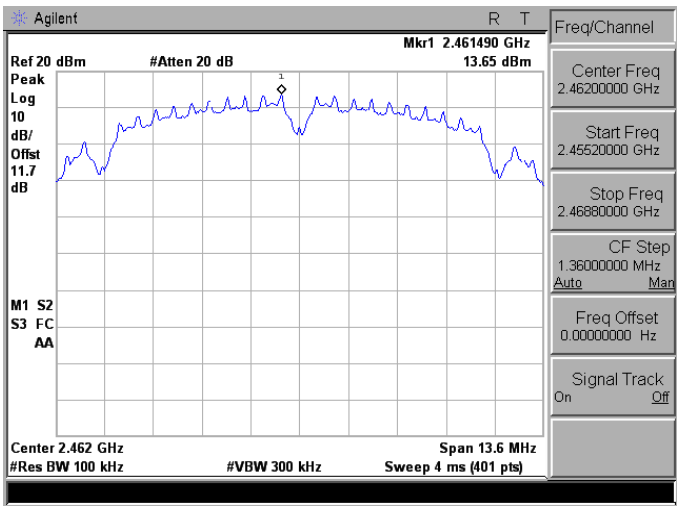
9.4. Test Procedure

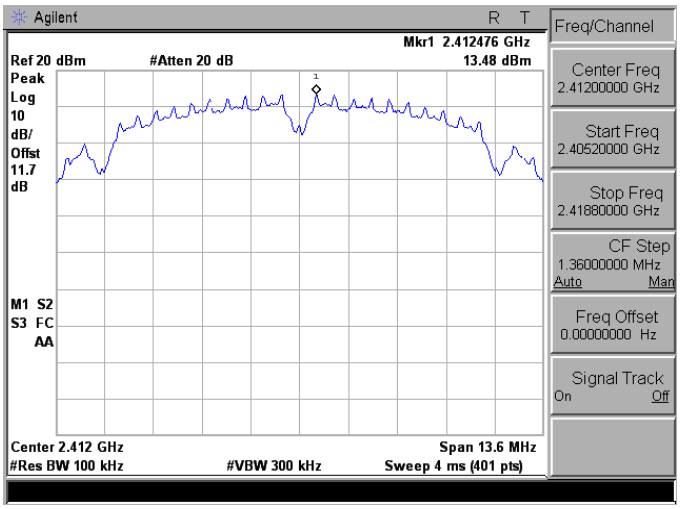
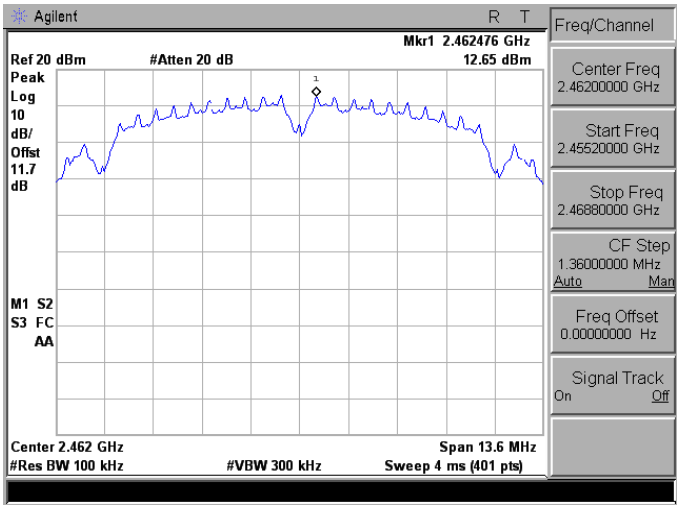
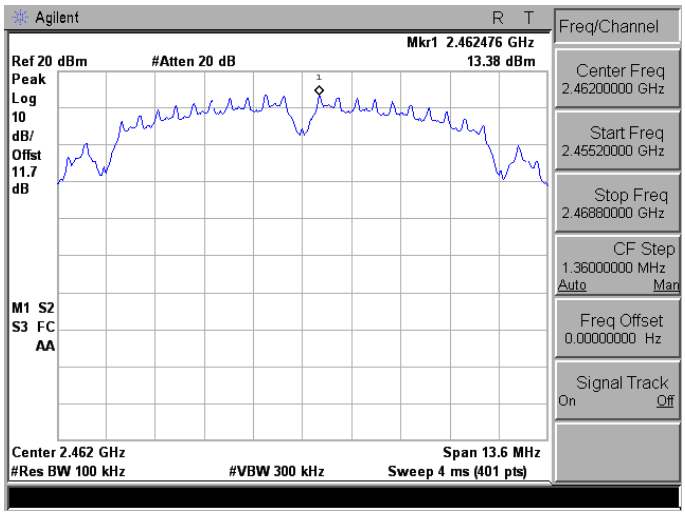
In any 100 kHz bandwidth outside the EUT pass band, the RF power produced by the modulation products of the spreading sequence, the information sequence, and the carrier frequency shall be at least 30 dB below that of the maximum in-band 100 kHz emission, antenna output of the EUT was coupled directly to spectrum analyzer; if an external attenuator and/or cable was used, these losses are compensated for with the analyzer OFFSET function.
All other types of emissions from the EUT shall meet the general limits for radiated frequencies outside the pass band.
The test was performed at 3 channels.

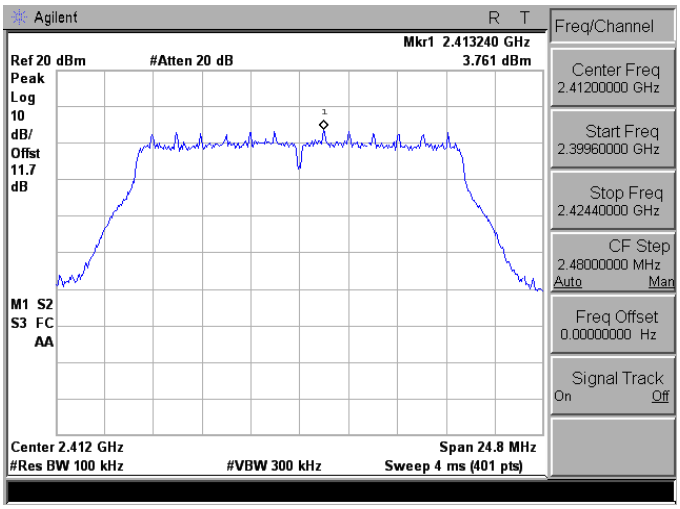
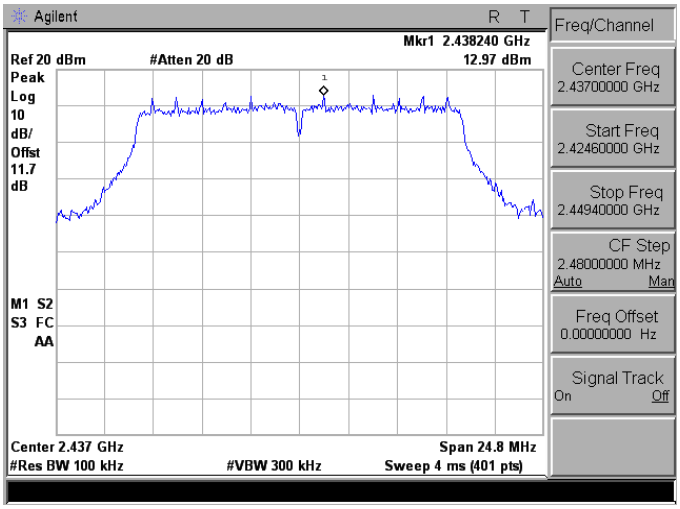
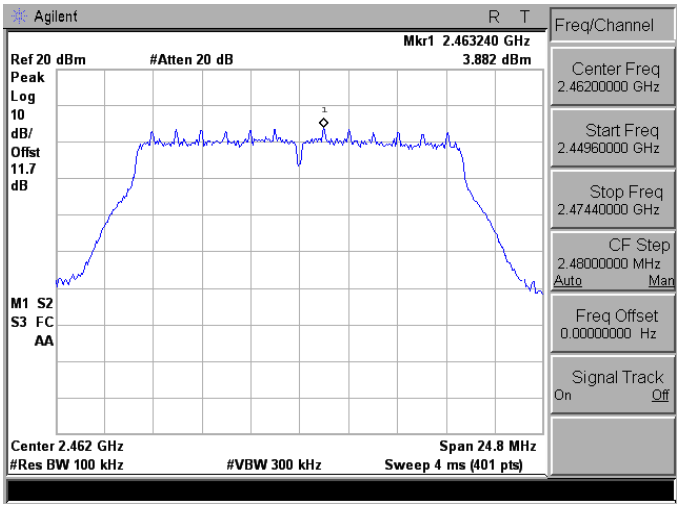
9.5. Test Graphs

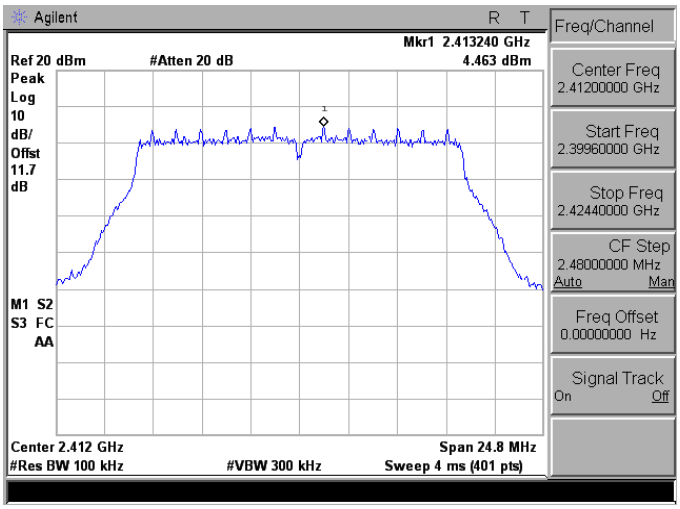
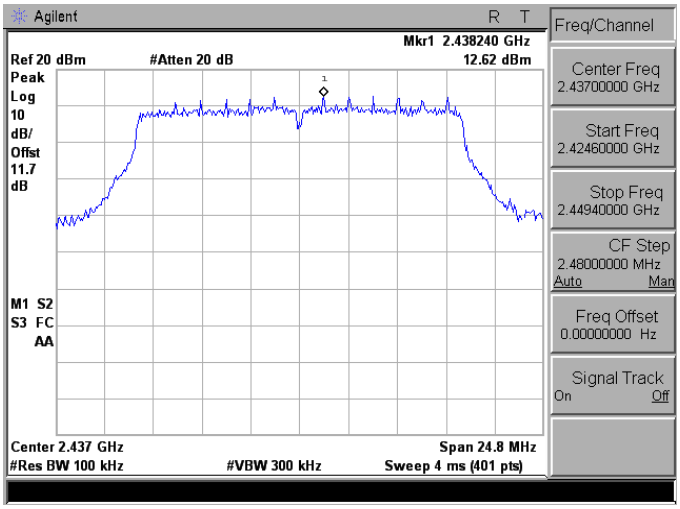
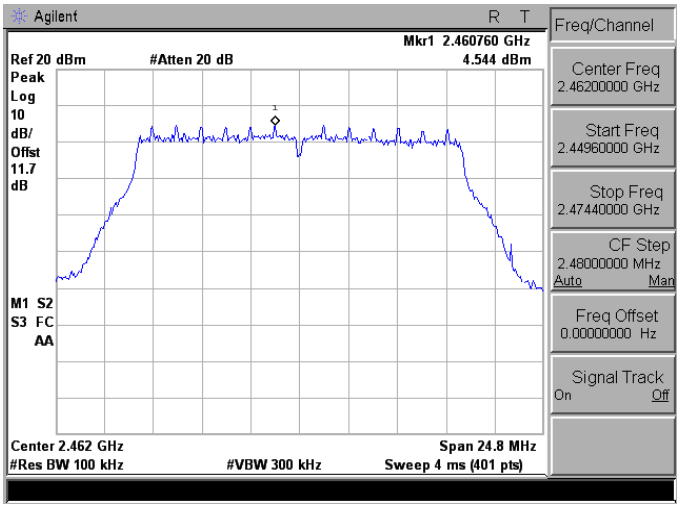
Reference level

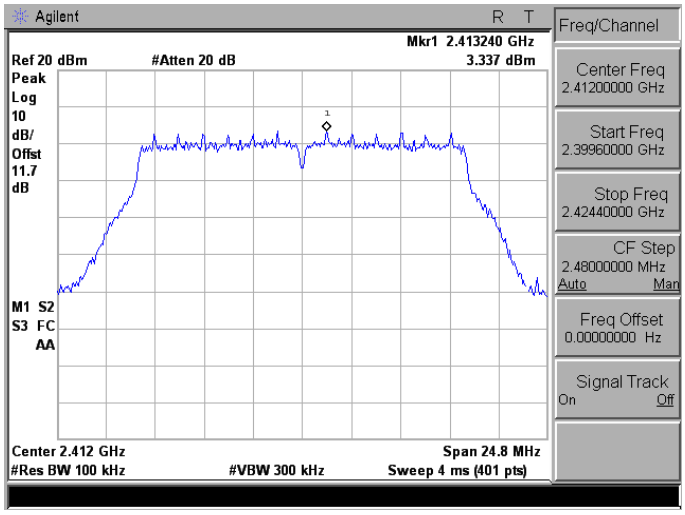
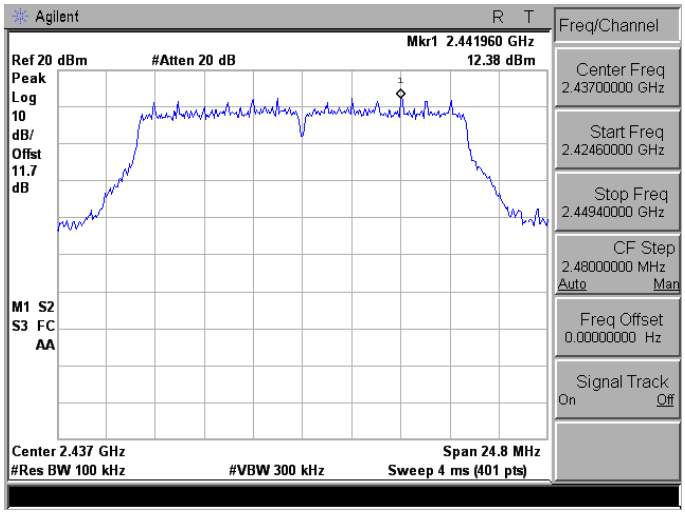
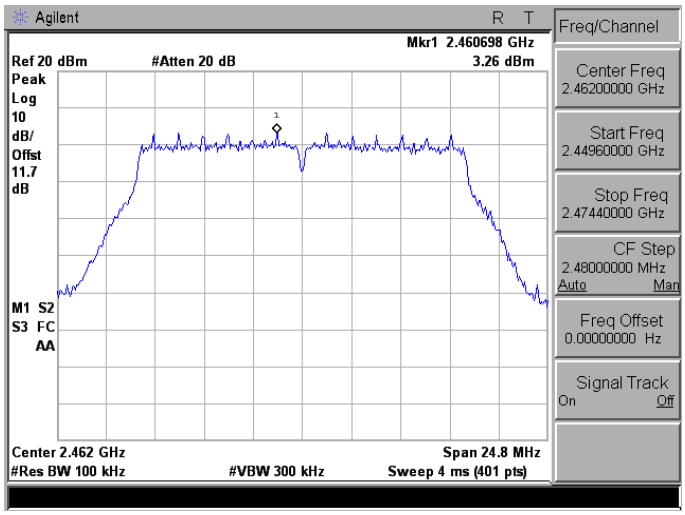
Mode 2: IEEE 802.11b Link Mode_ANT-0	
2412	
2437	
2462	

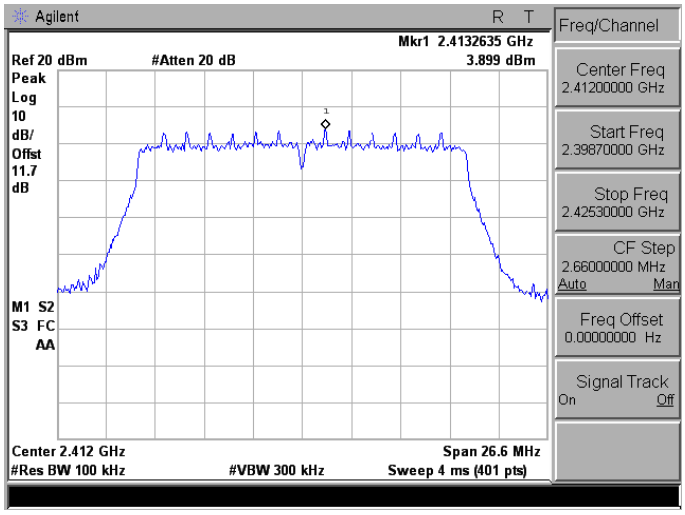
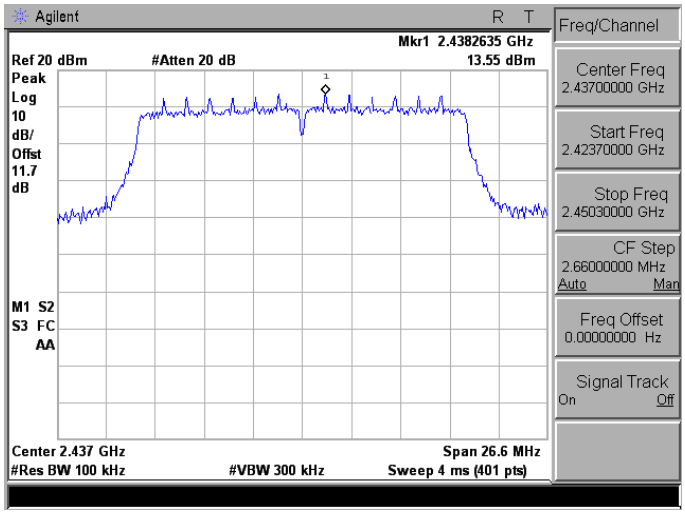
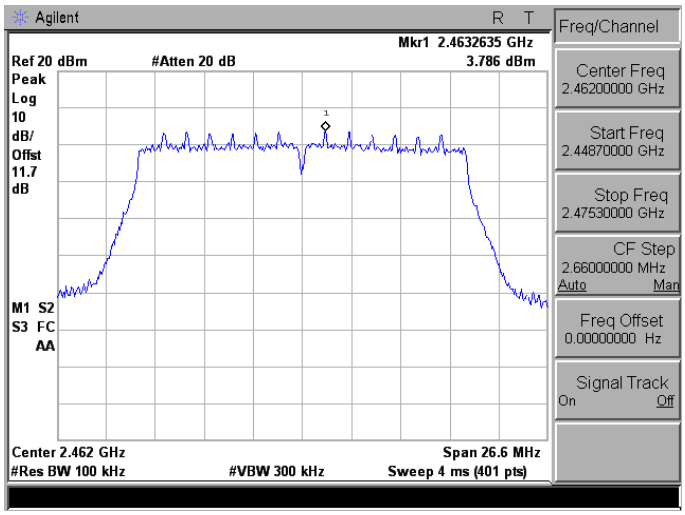
Mode 2: IEEE 802.11b Link Mode_ANT-1	
2412	
2437	
2462	

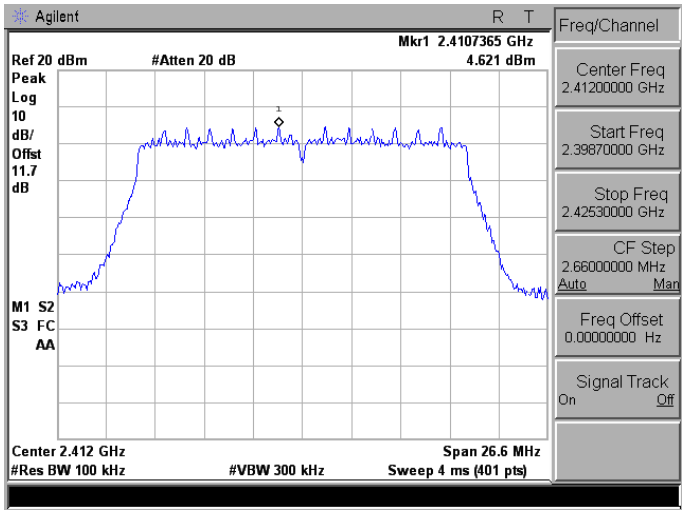
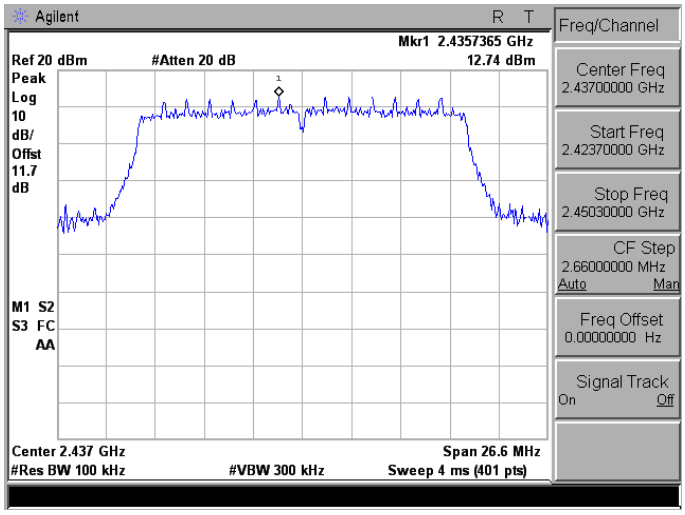
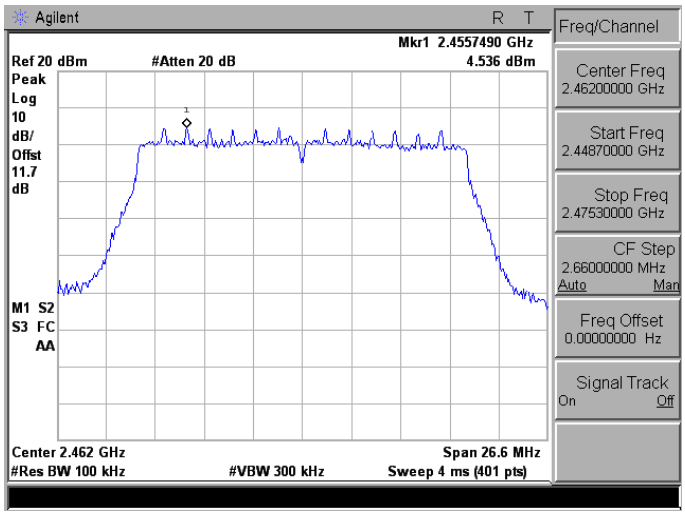
Mode 2: IEEE 802.11b Link Mode_ANT-2	
2412	
2437	
2462	

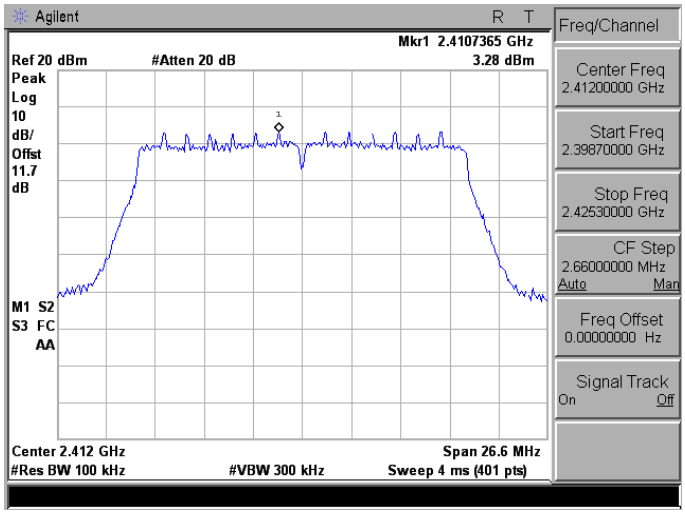
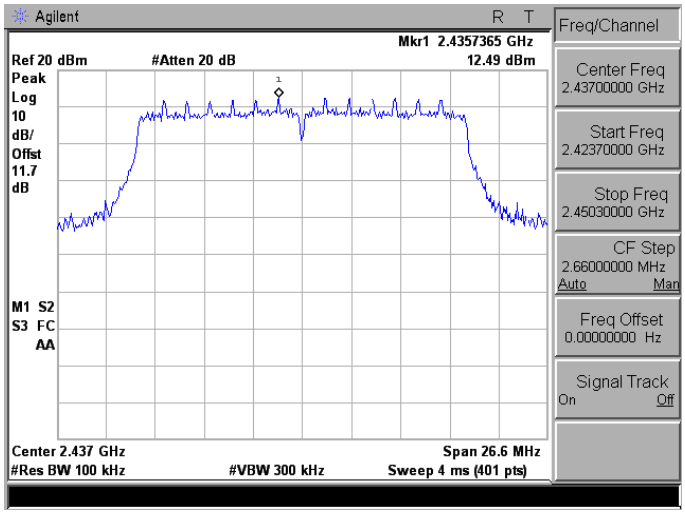
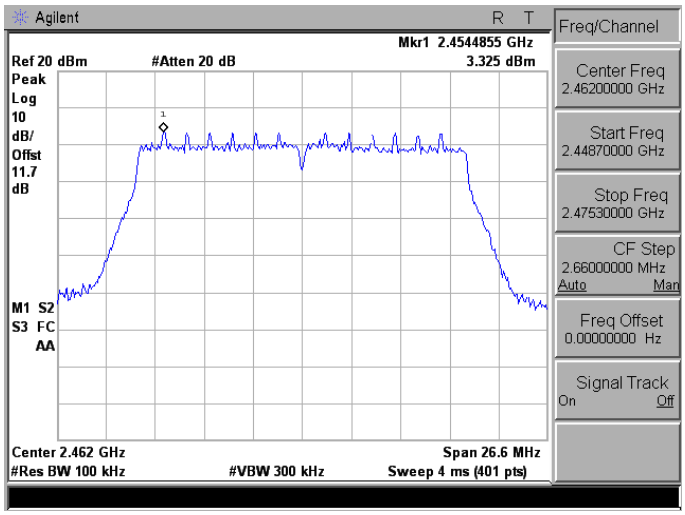
Mode 3: IEEE 802.11g Link Mode_ANT-0	
2412	
2437	
2462	

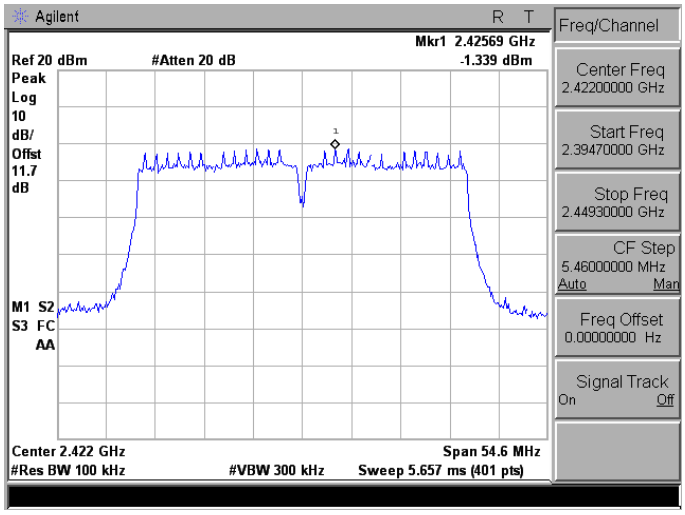
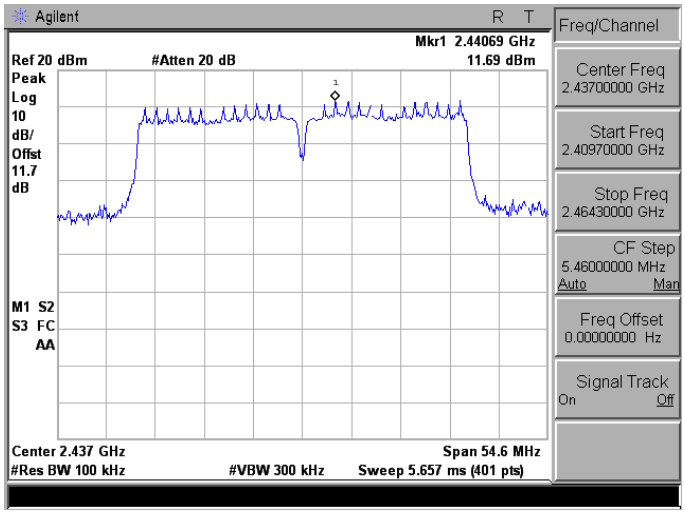
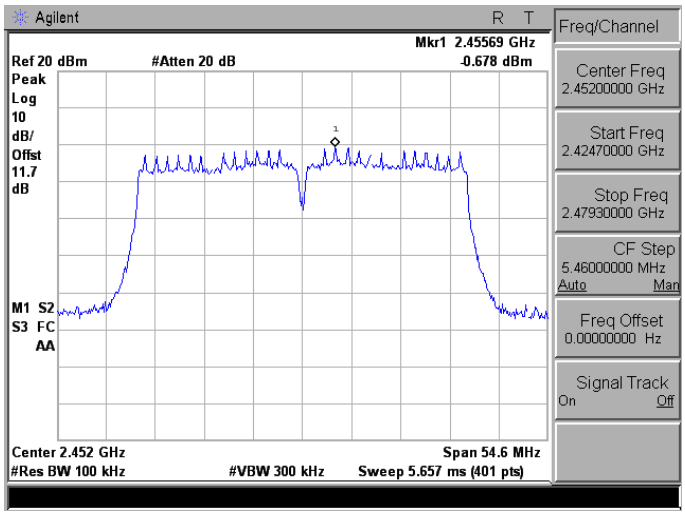
Mode 3: IEEE 802.11g Link Mode_ANT-1	
2412	
2437	
2462	

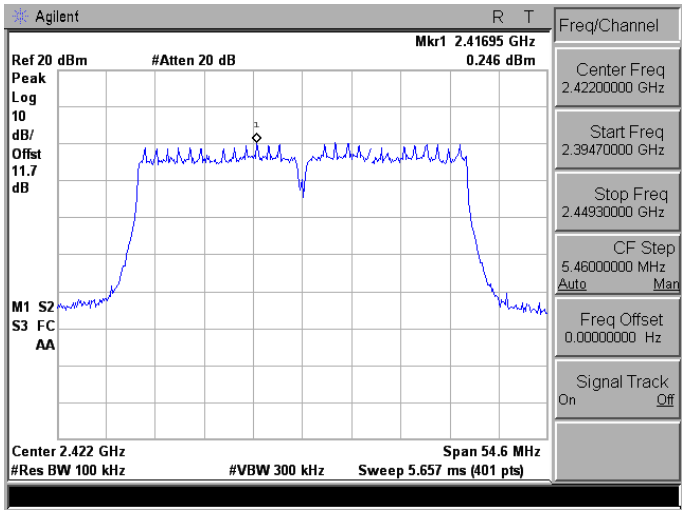
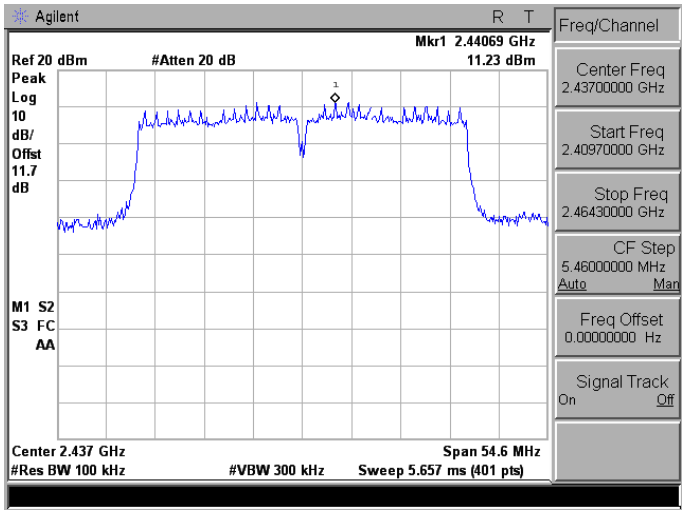
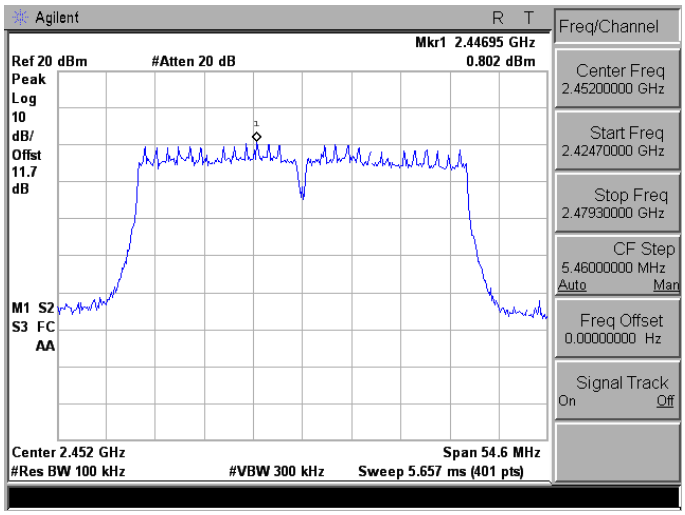
Mode 3: IEEE 802.11g Link Mode_ANT-2	
2412	
2437	
2462	

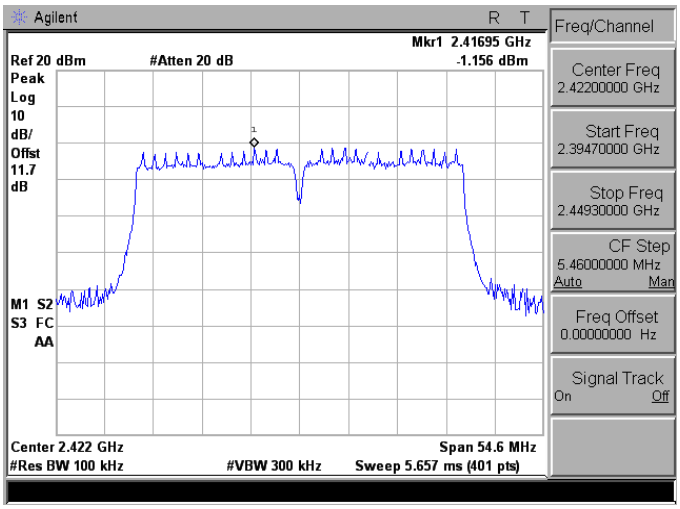
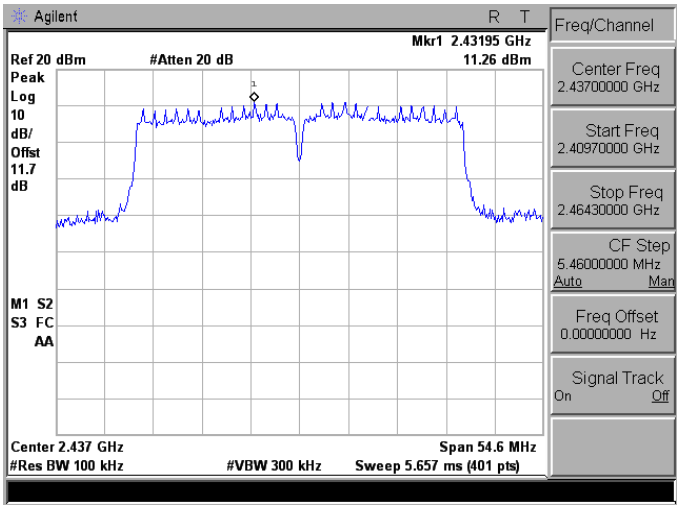
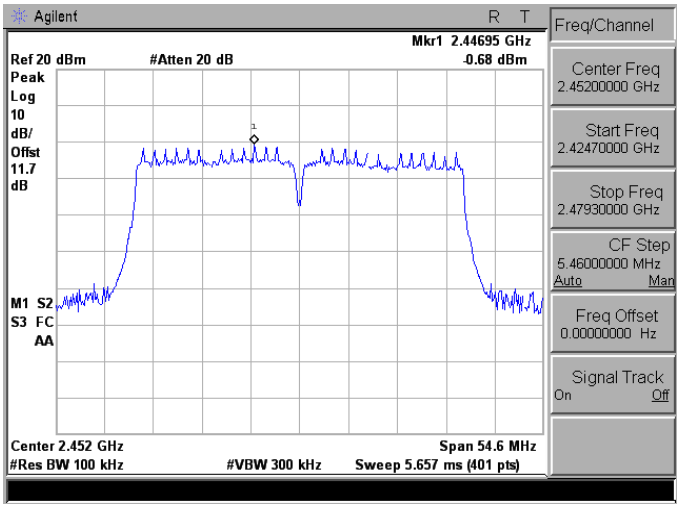
Mode 4: IEEE 802.11n 2.4GHz 20MHz Link Mode _ ANT0	
2412	
2437	
2462	

Mode 4: IEEE 802.11n 2.4GHz 20MHz Link Mode _ ANT1	
2412	
2437	
2462	

Mode 4: IEEE 802.11n 2.4GHz 20MHz Link Mode _ ANT2	
2412	
2437	
2462	

Mode 5: IEEE 802.11n 2.4GHz 40MHz Link Mode _ ANT0	
2422	
2437	
2452	

Mode 5: IEEE 802.11n 2.4GHz 40MHz Link Mode _ ANT1	
2422	
2437	
2452	

Mode 5: IEEE 802.11n 2.4GHz 40MHz Link Mode _ ANT2	
2422	
2437	
2452	

Mode 6: IEEE 802.11a U-NII Band III Link Mode_ANT-0	
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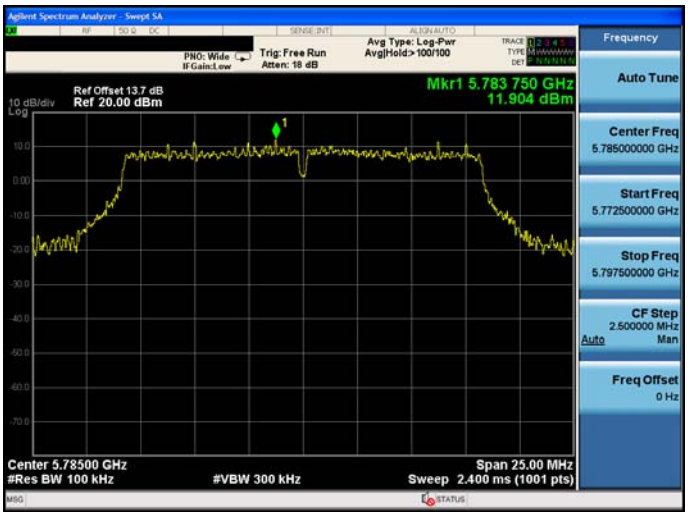
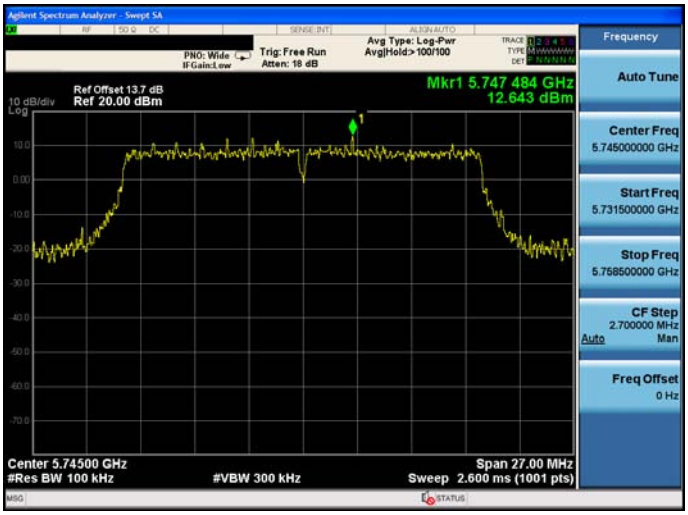
5785	
5825	

Mode 6: IEEE 802.11a U-NII Band III Link Mode_ANT-1	
5745	
5785	
5825	

Mode 6: IEEE 802.11a U-NII Band III Link Mode_ANT-2	
5745	
5785	
5825	

Mode 7: IEEE 802.11ac U-NII Band III 20MHz Link Mode _ ANT0	
5745	
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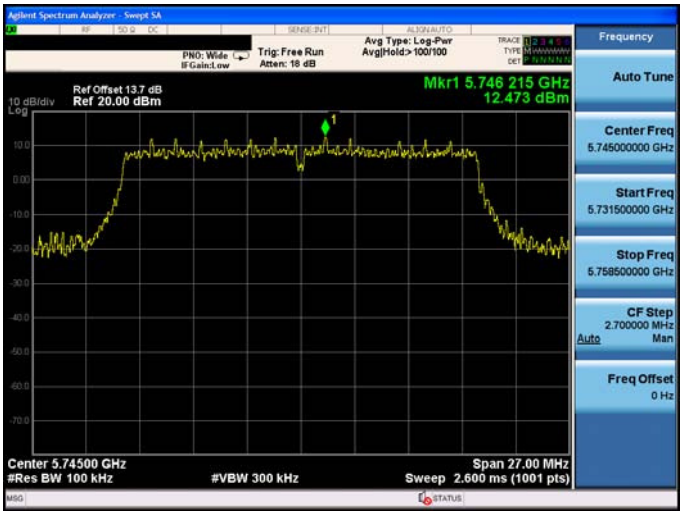
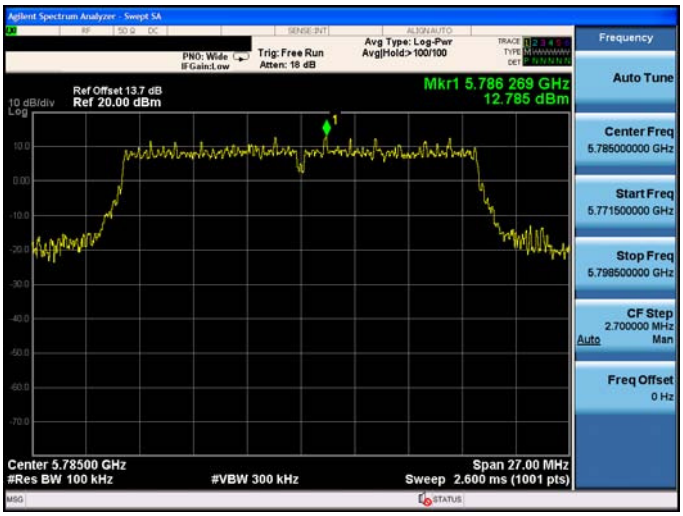
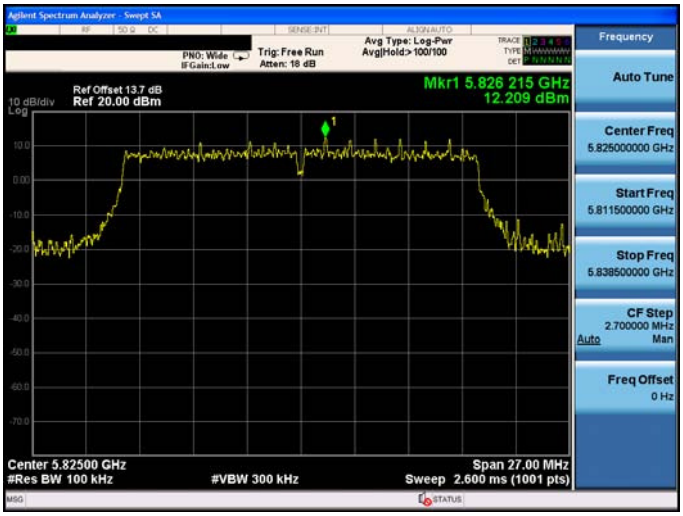
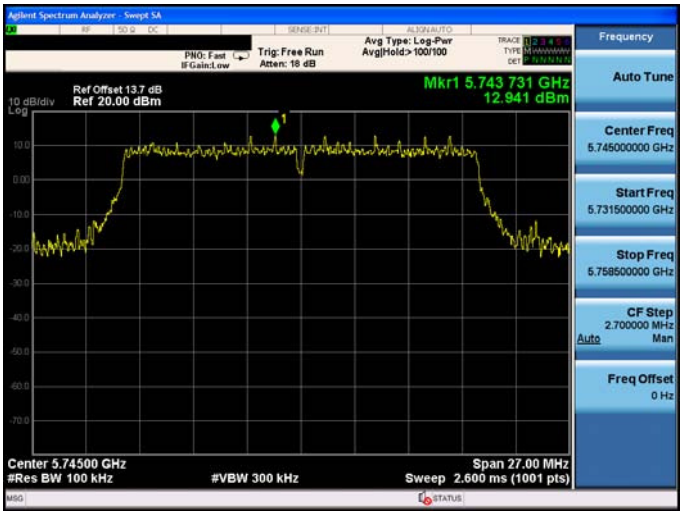
Mode 7: IEEE 802.11ac U-NII Band III 20MHz Link Mode _ ANT1	
5745	
5785	
5825	

Mode 7: IEEE 802.11ac U-NII Band III 20MHz Link Mode _ ANT2	
5745	
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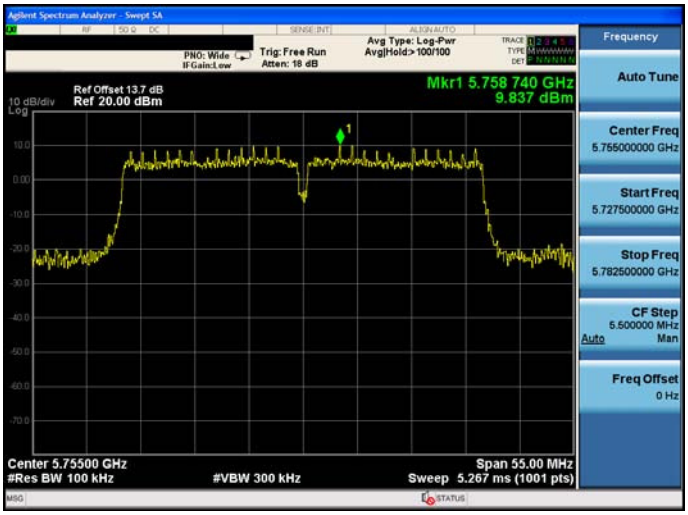
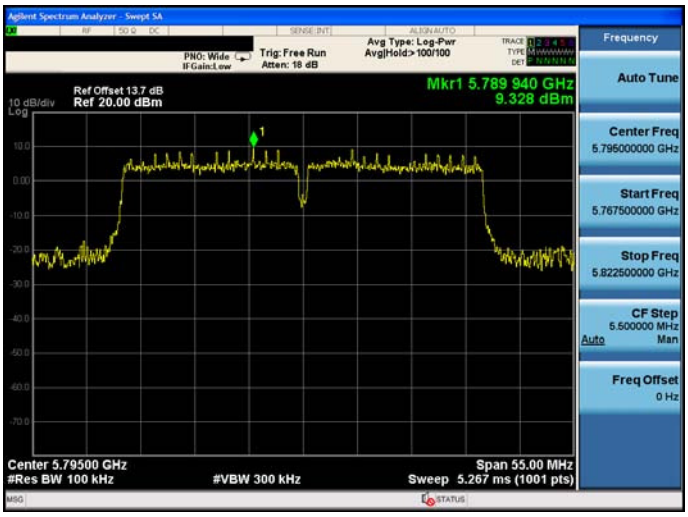
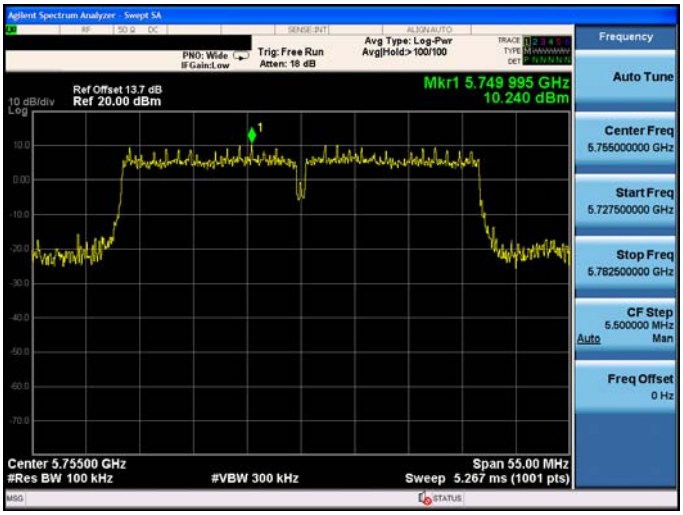
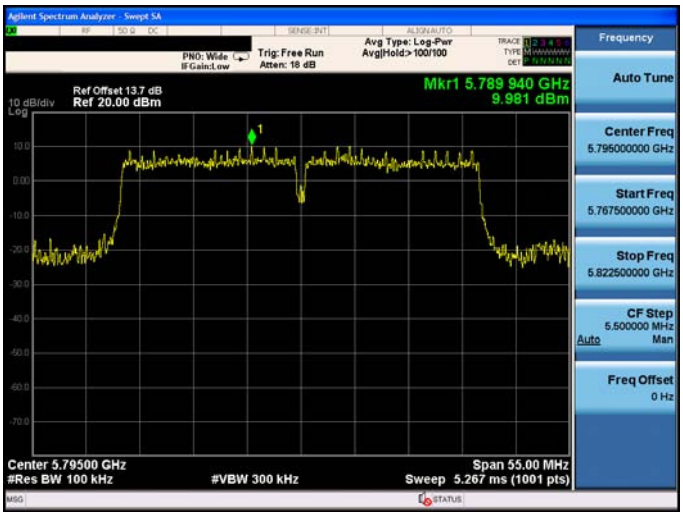
Mode 8: IEEE 802.11ac U-NII Band III 40MHz Link Mode _ ANT0	
5755	
5795	

Mode 8: IEEE 802.11ac U-NII Band III 40MHz Link Mode _ ANT1	
5755	
5795	

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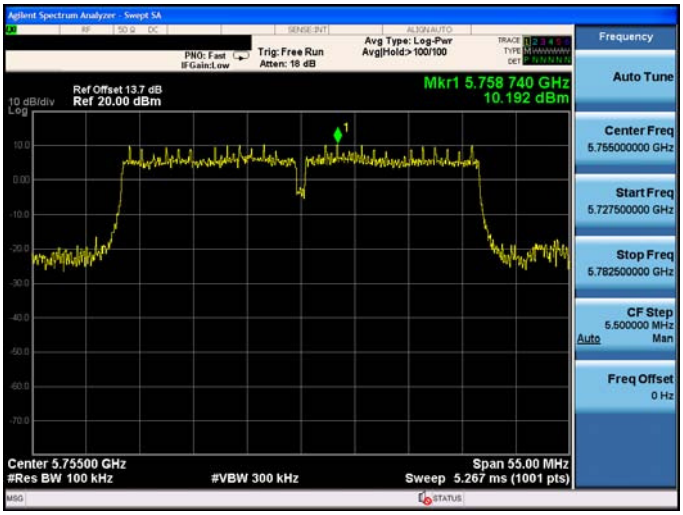
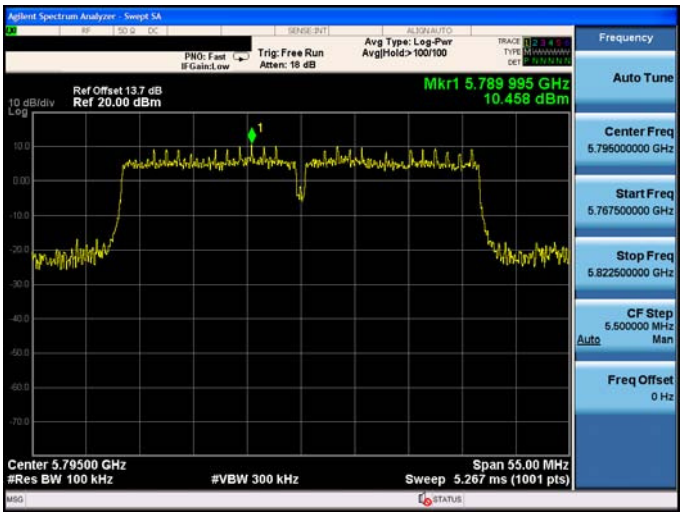
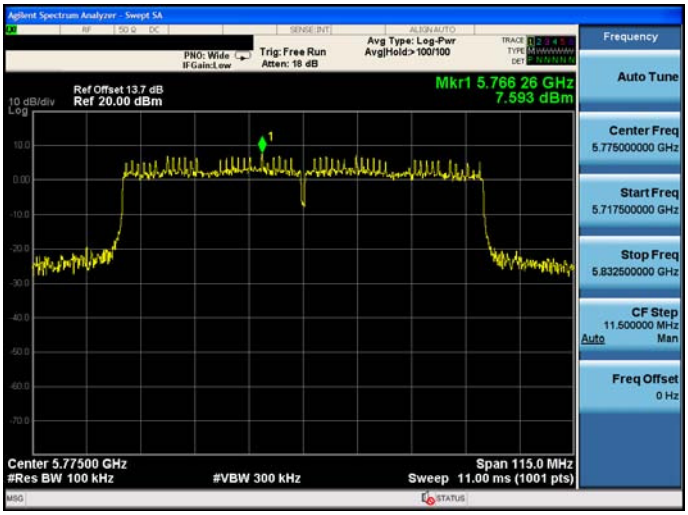
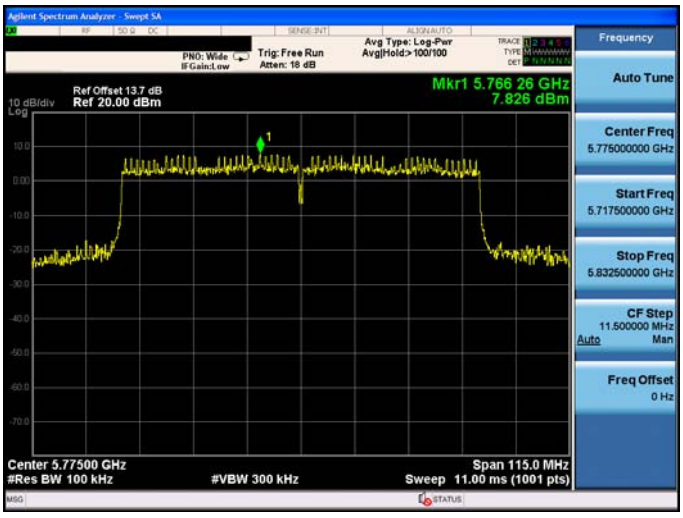
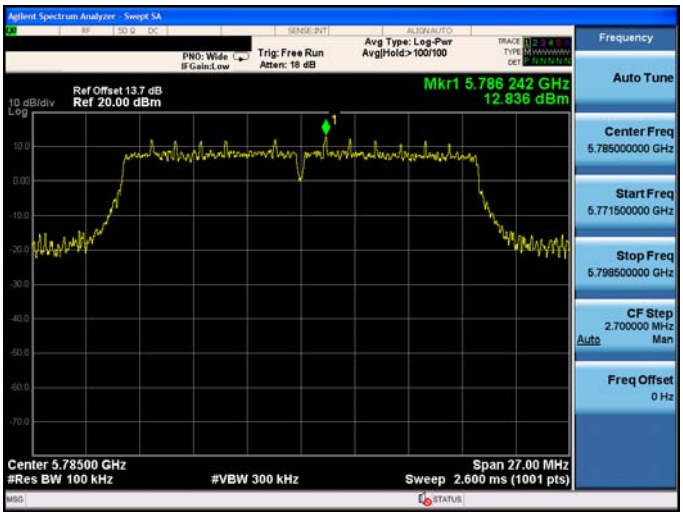
5755	
5795	

Mode 9: IEEE 802.11ac U-NII Band III 80MHz Link Mode _ ANT0	
5775	

Mode 9: IEEE 802.11ac U-NII Band III 80MHz Link Mode _ ANT1	
5775	

Mode 9: IEEE 802.11ac U-NII Band III 80MHz Link Mode _ ANT2	
5775	

Beamforming on

Mode 7: IEEE 802.11ac U-NII Band III 20MHz Link Mode _ ANT0	
5745	
5785	
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Mode 7: IEEE 802.11ac U-NII Band III 20MHz Link Mode _ ANT1	
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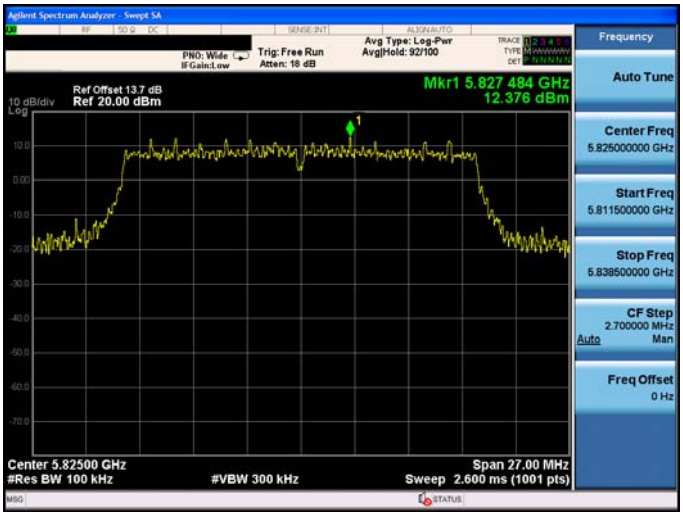
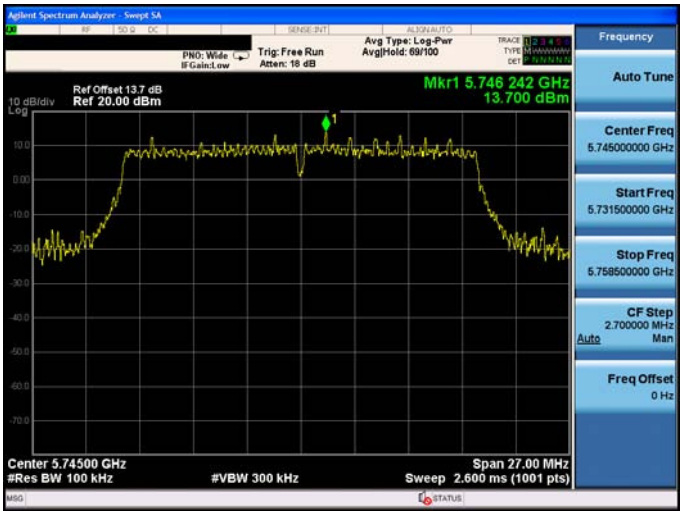
5825	

Mode 7: IEEE 802.11ac U-NII Band III 20MHz Link Mode _ ANT2	
5745	
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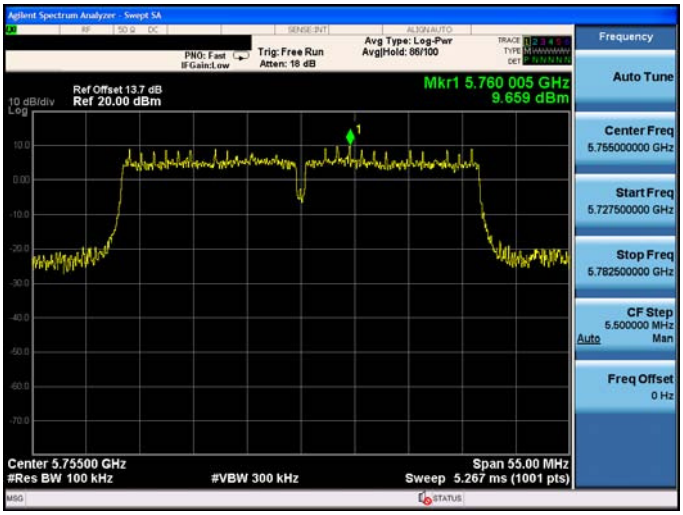
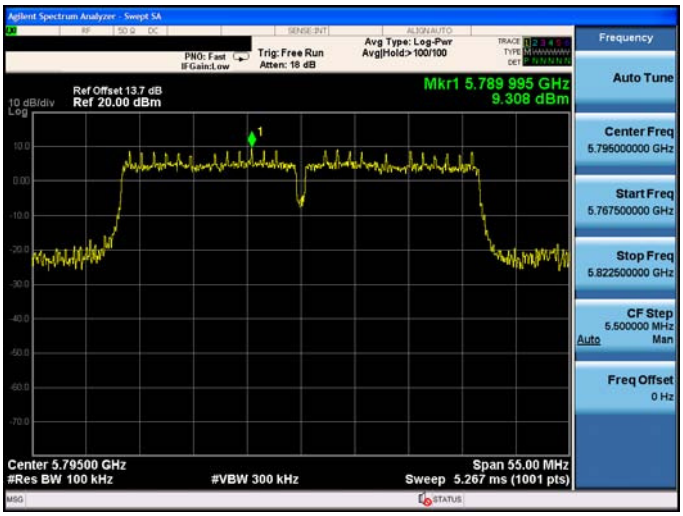
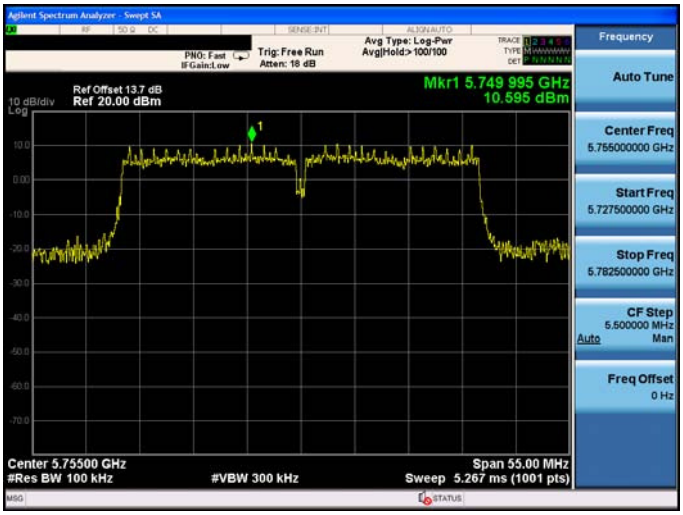
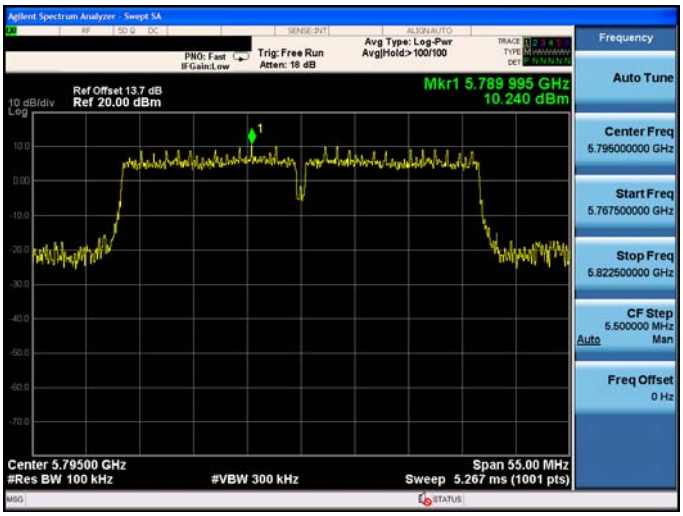
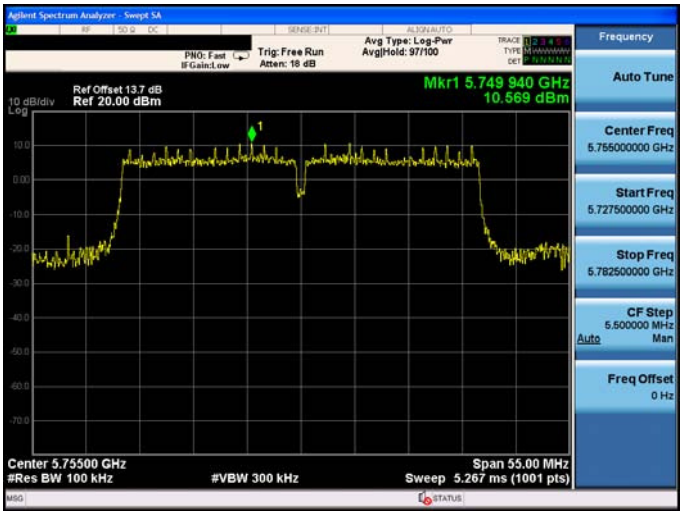
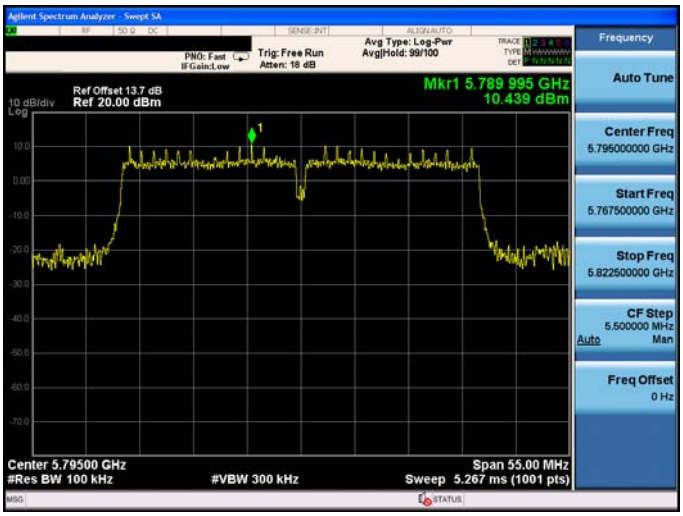
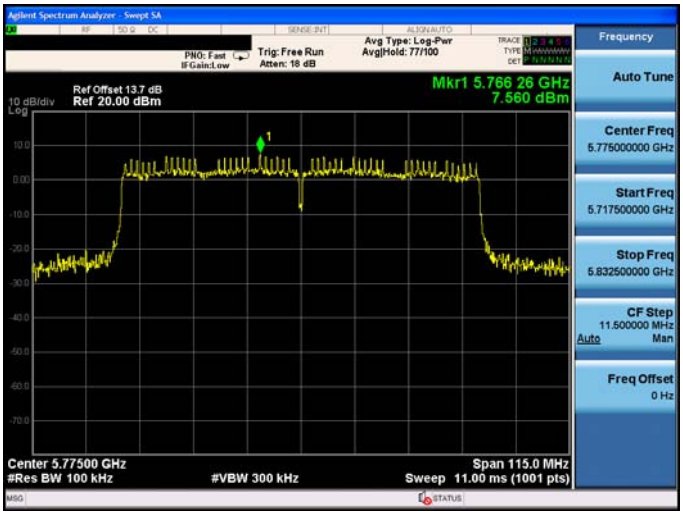
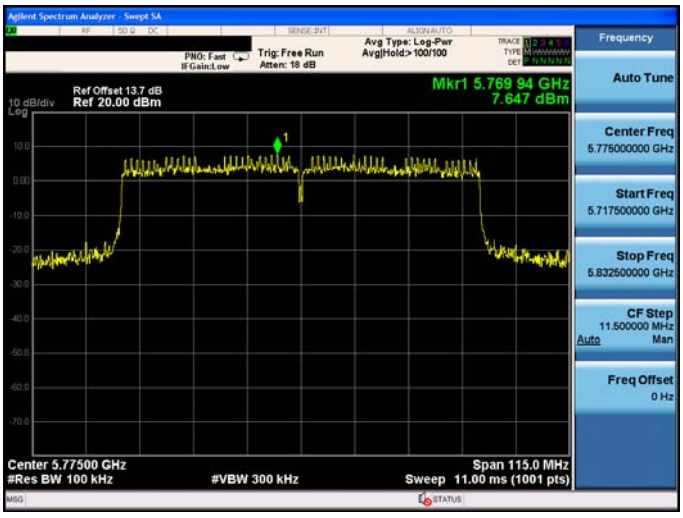
5825	

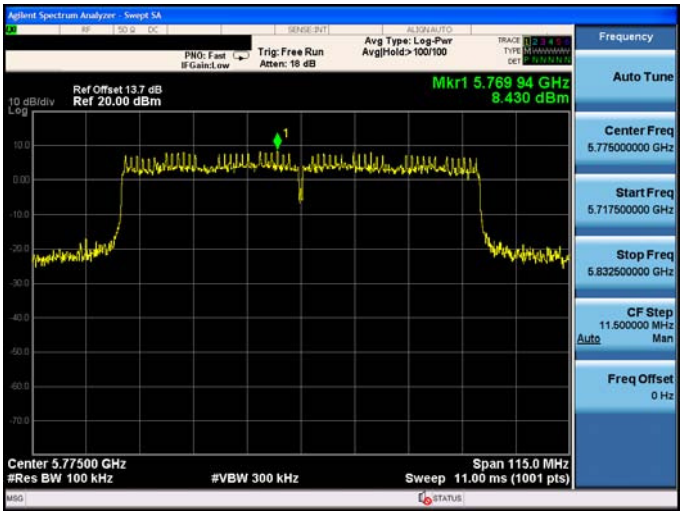
Mode 8: IEEE 802.11ac U-NII Band III 40MHz Link Mode _ ANT0	
5755	
5795	

Mode 8: IEEE 802.11ac U-NII Band III 40MHz Link Mode _ ANT1	
5755	
5795	

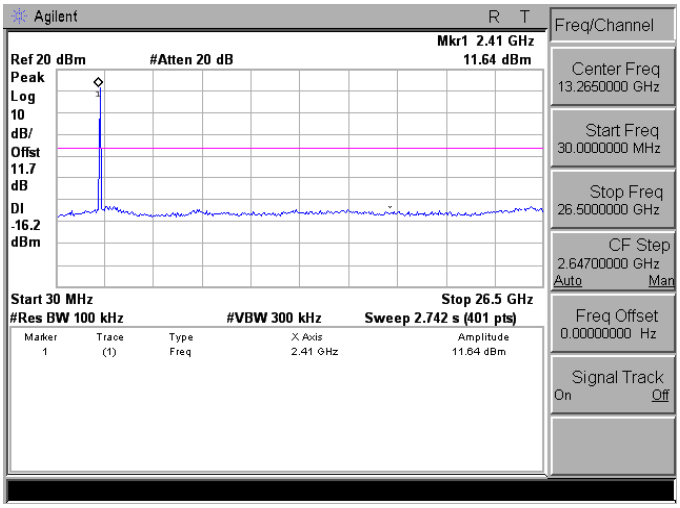
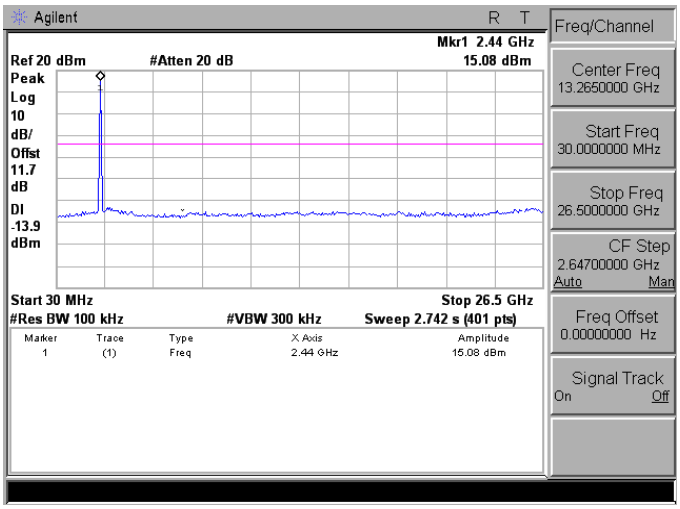
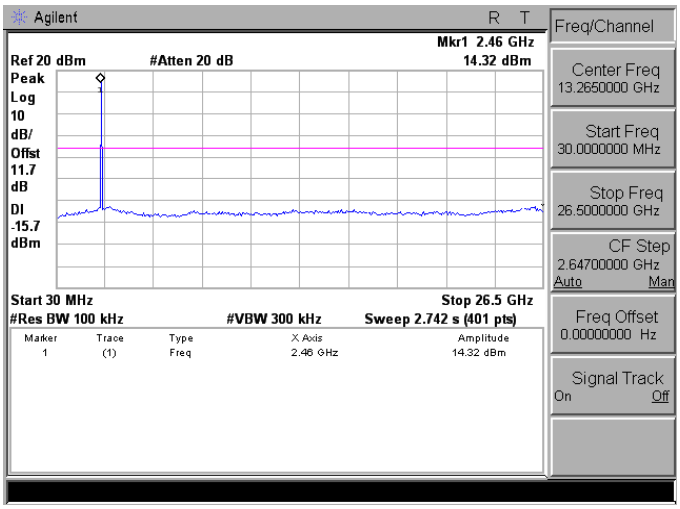
Mode 8: IEEE 802.11ac U-NII Band III 40MHz Link Mode _ ANT2	
5755	
5795	

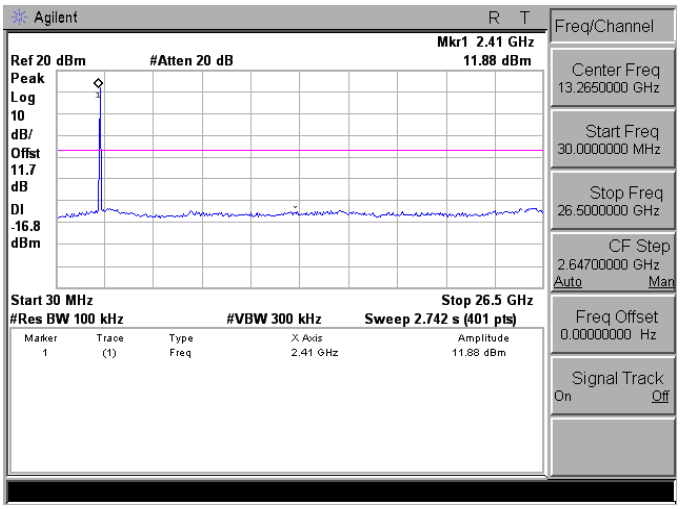
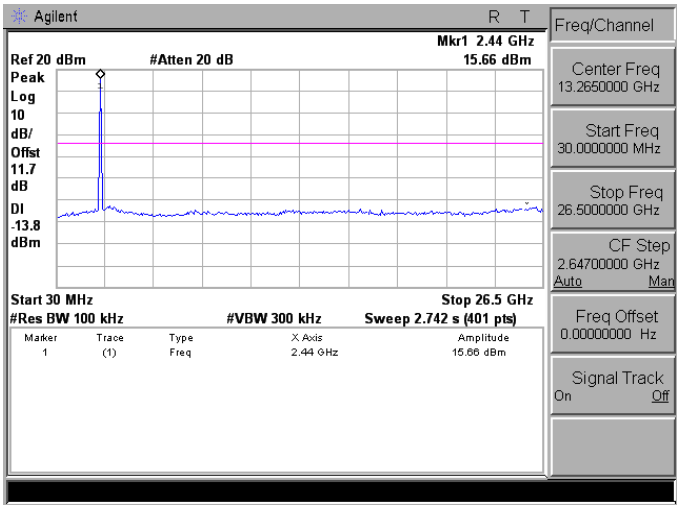
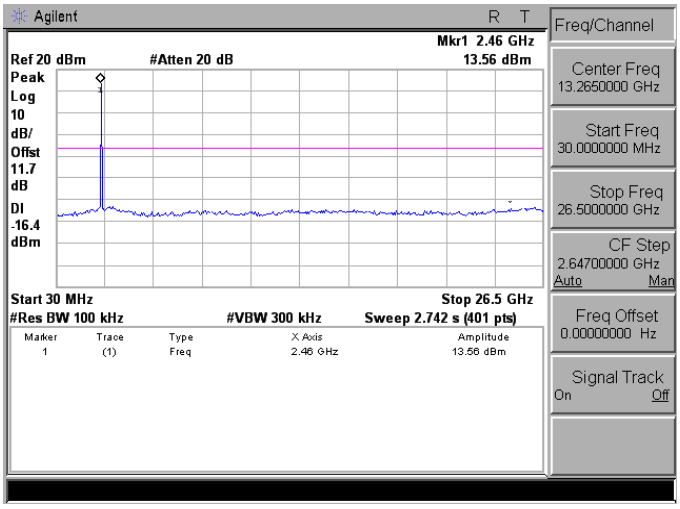
Mode 9: IEEE 802.11ac U-NII Band III 80MHz Link Mode _ ANT0	
5775	

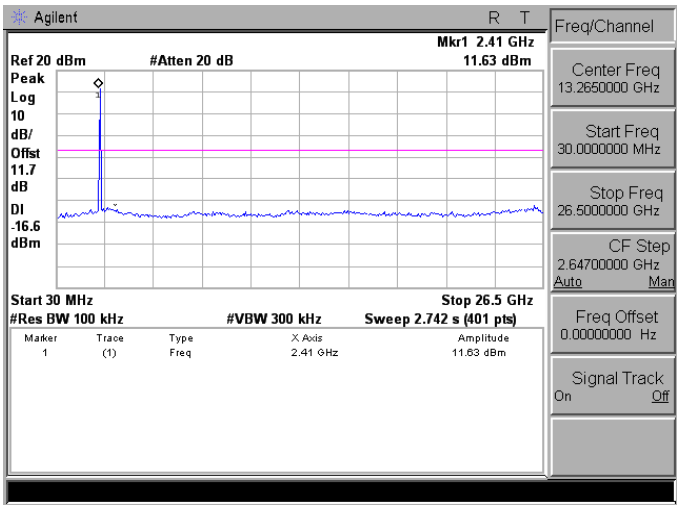
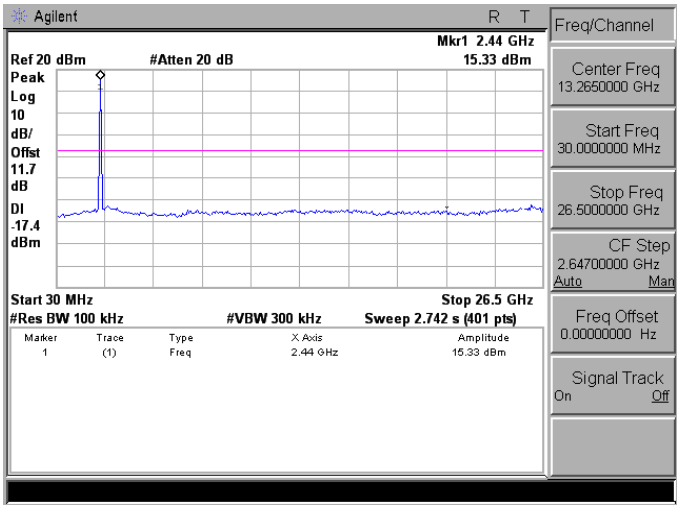
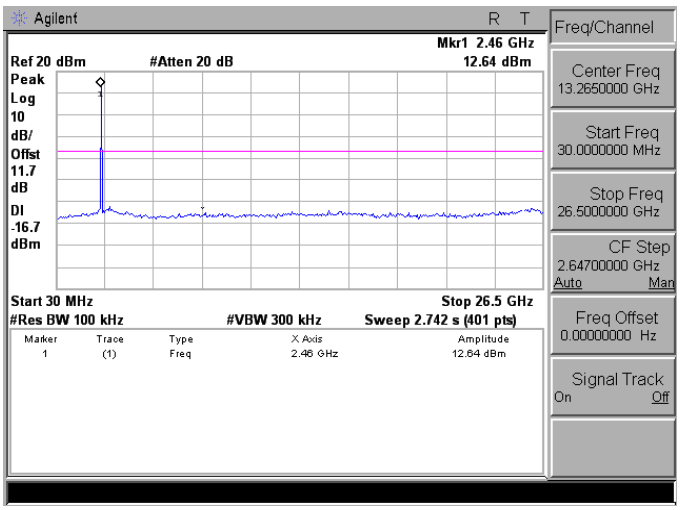
Mode 9: IEEE 802.11ac U-NII Band III 80MHz Link Mode _ ANT1	
5775	

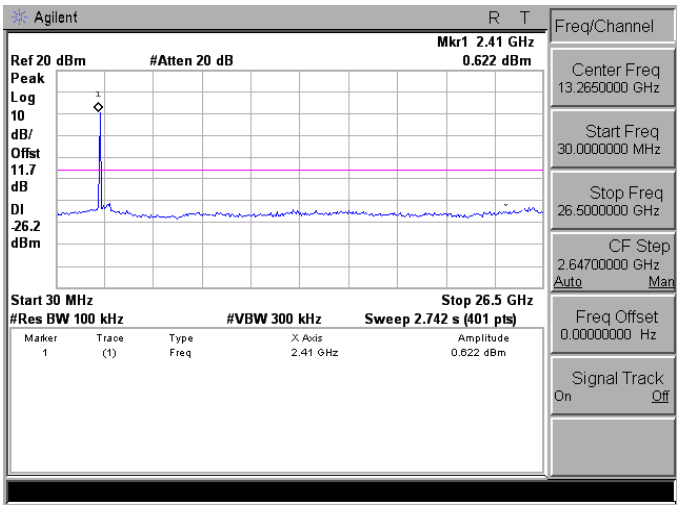
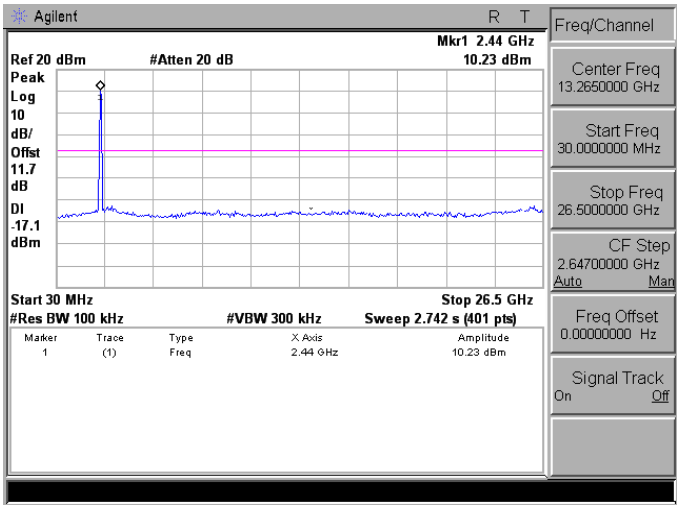
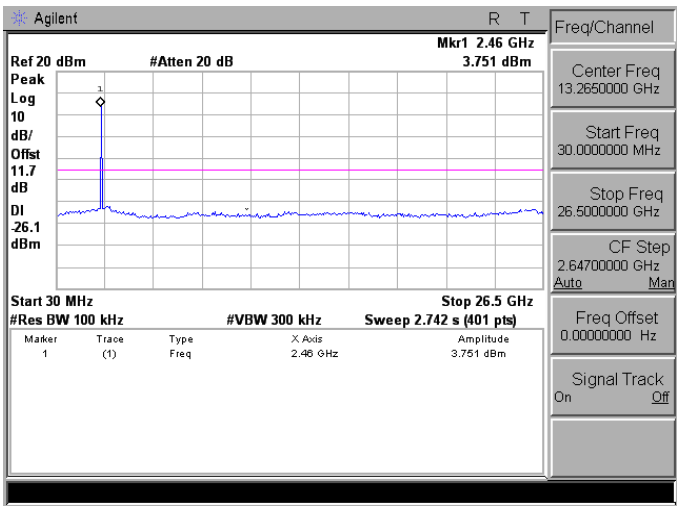
Mode 9: IEEE 802.11ac U-NII Band III 80MHz Link Mode _ ANT2	
5775	

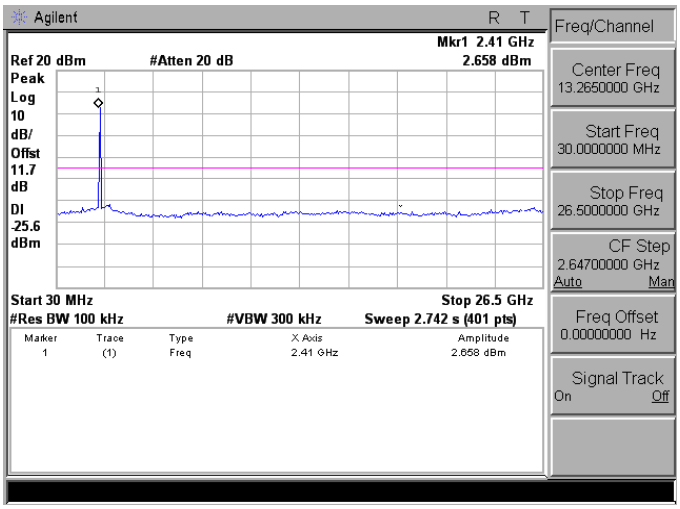
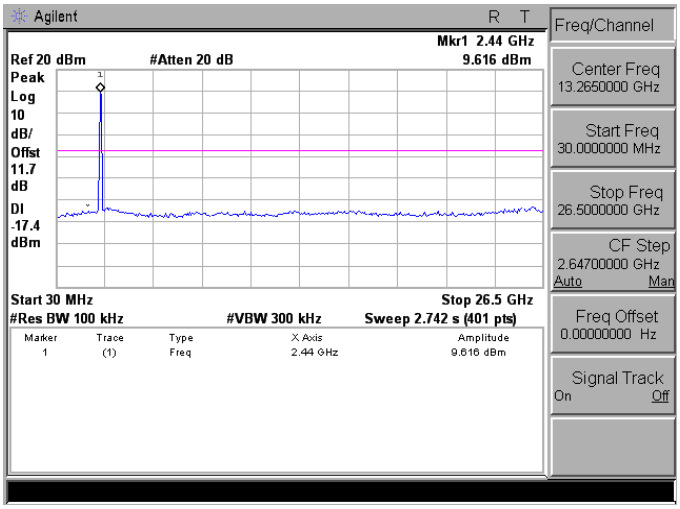
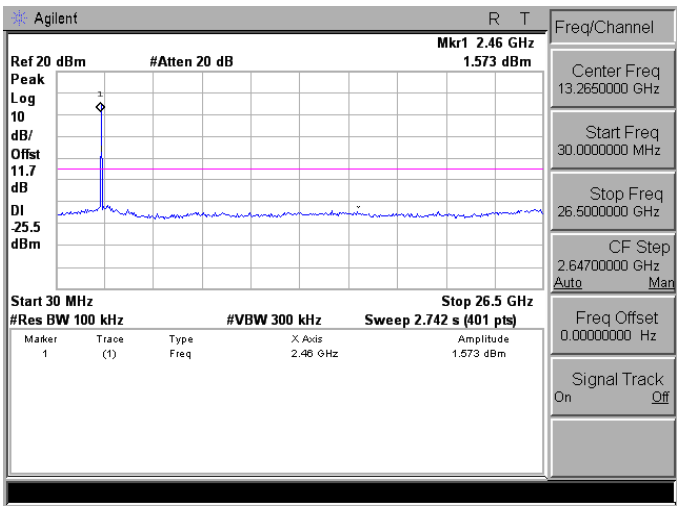
Out of Band Conducted Emissions

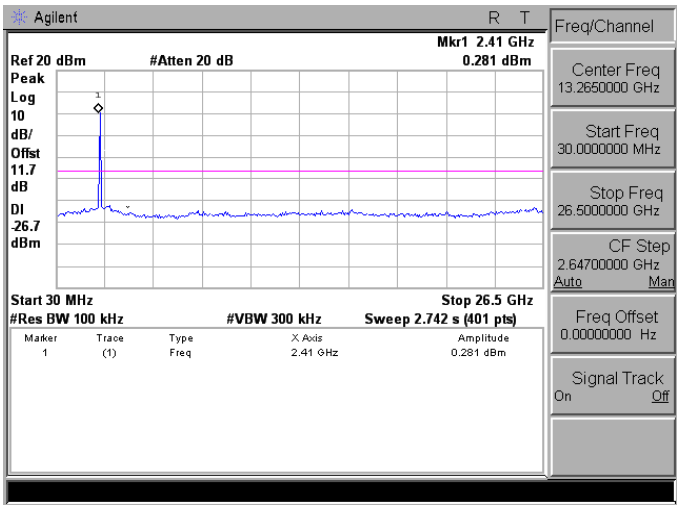
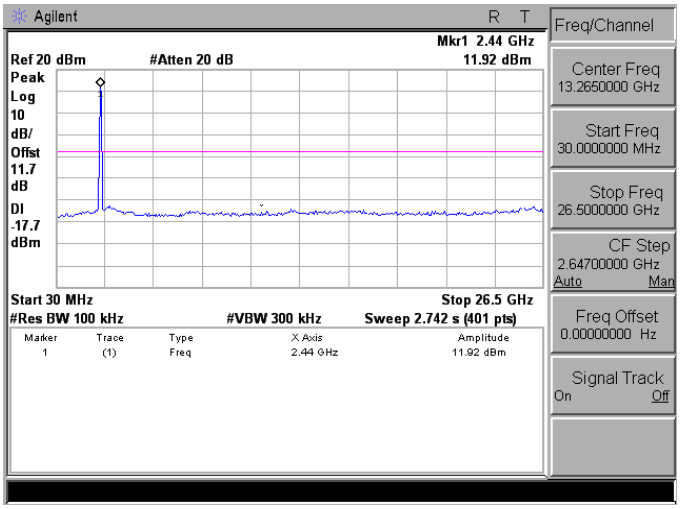
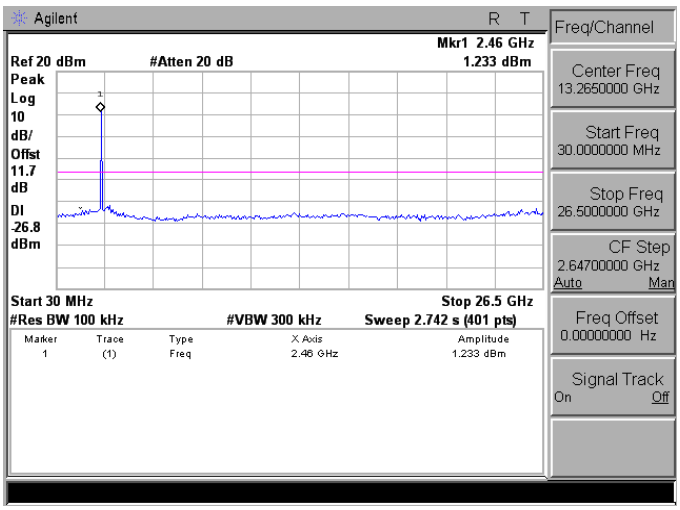
Mode 2: IEEE 802.11b Link Mode_ANT-0	
2412	
2437	
2462	

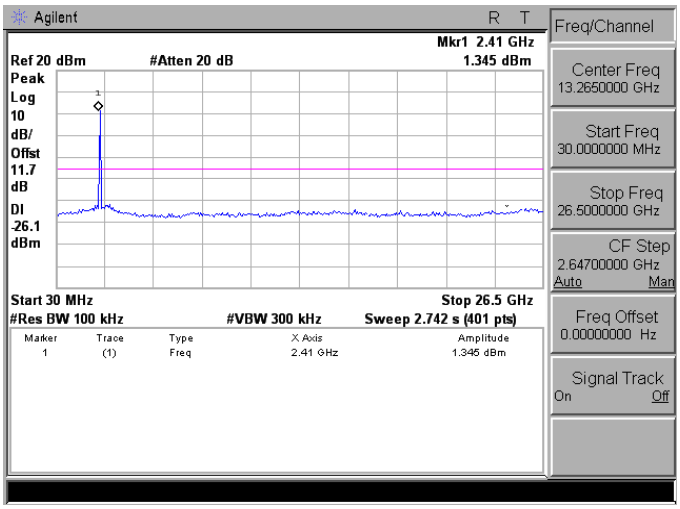
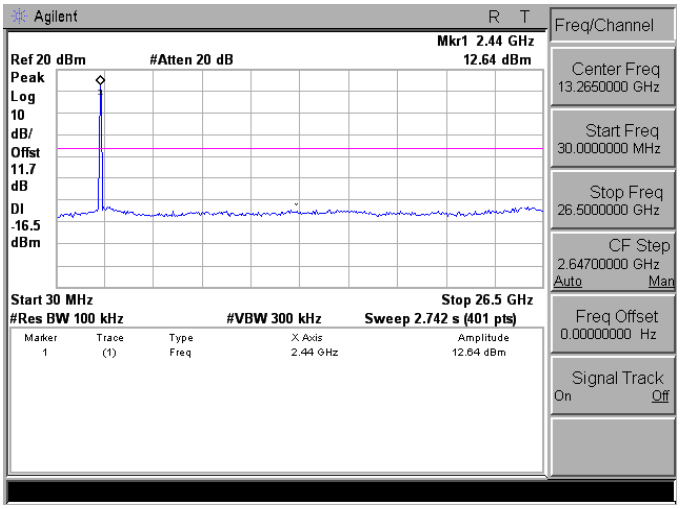
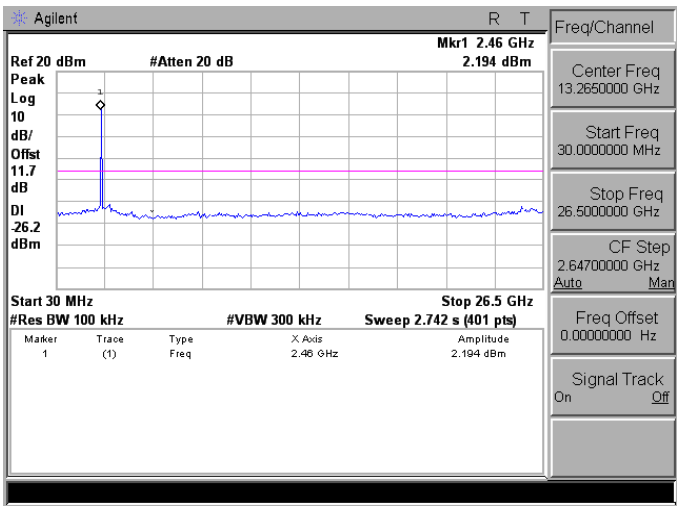
Mode 2: IEEE 802.11b Link Mode_ANT-1	
2412	
2437	
2462	

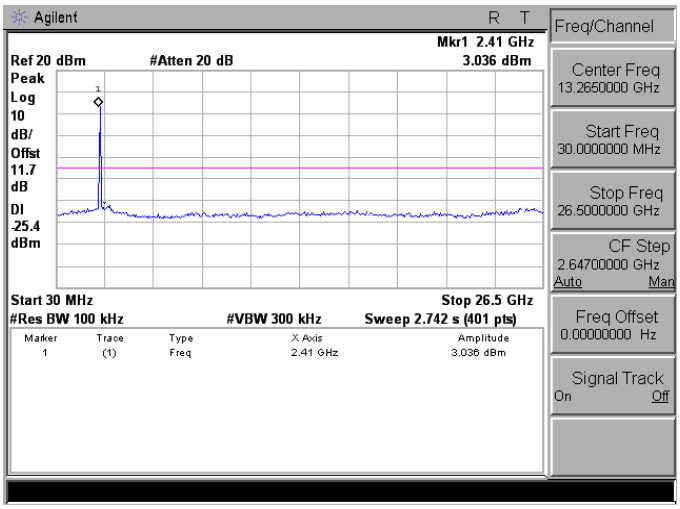
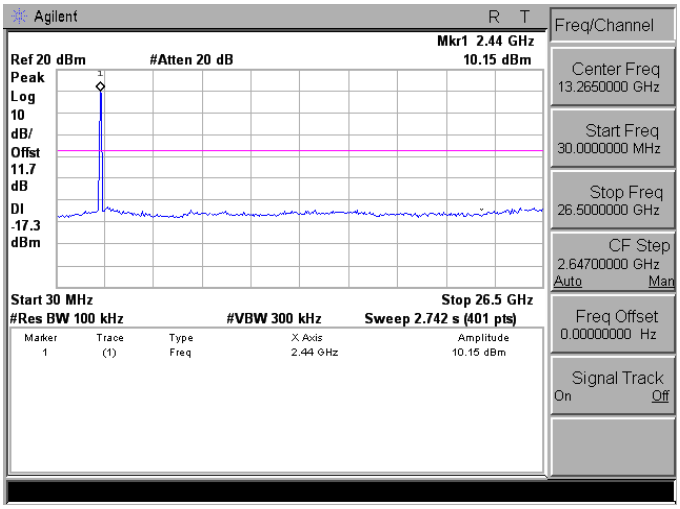
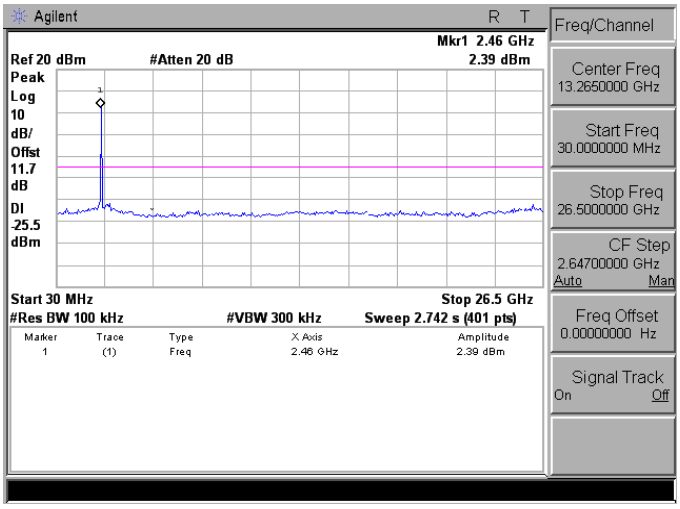
Mode 2: IEEE 802.11b Link Mode_ANT-2	
2412	
2437	
2462	

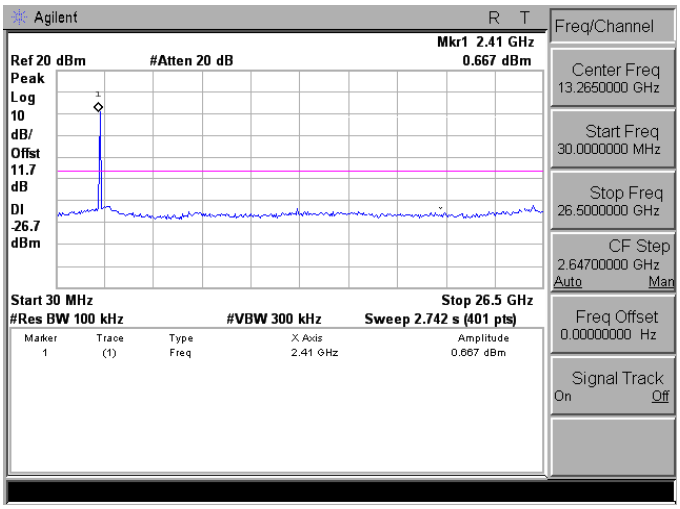
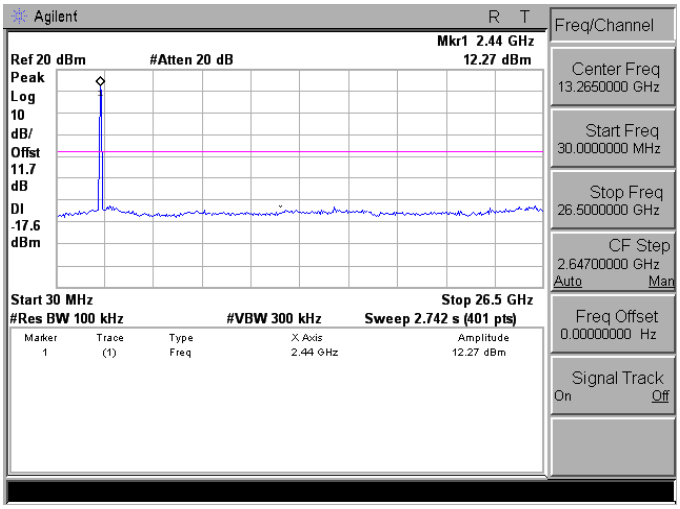
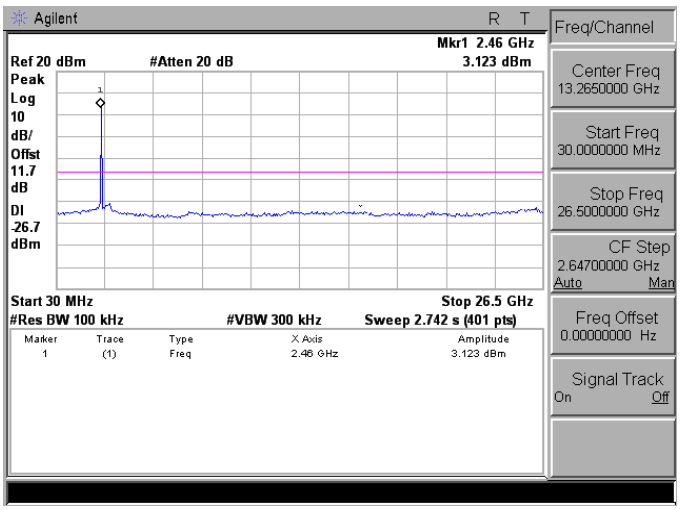
Mode 3: IEEE 802.11g Link Mode_ANT-0	
2412	
2437	
2462	

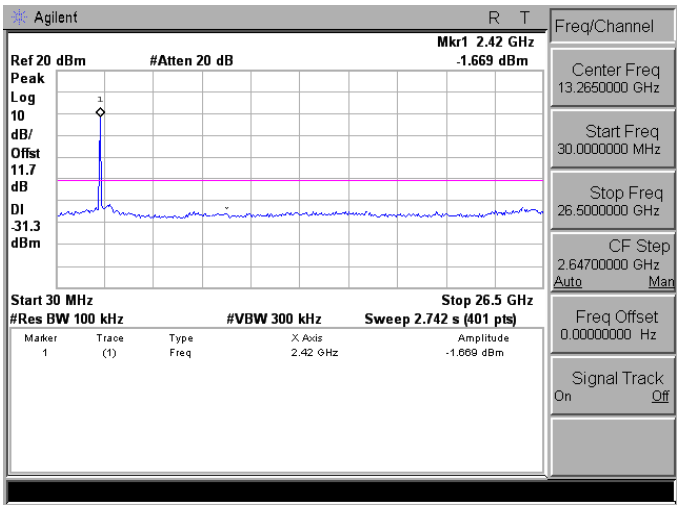
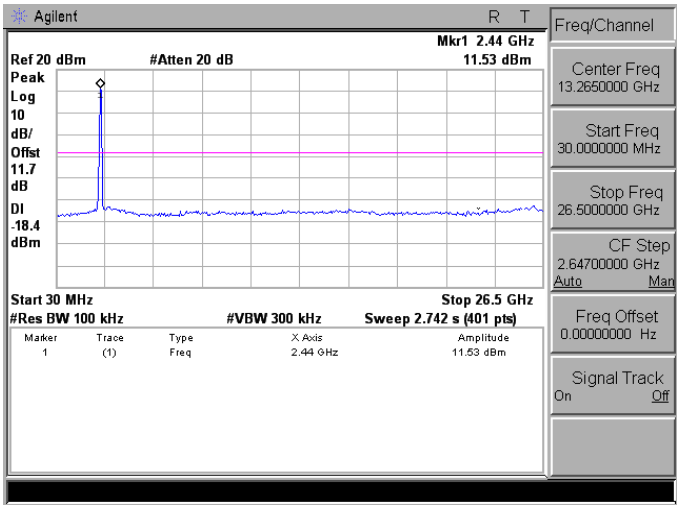
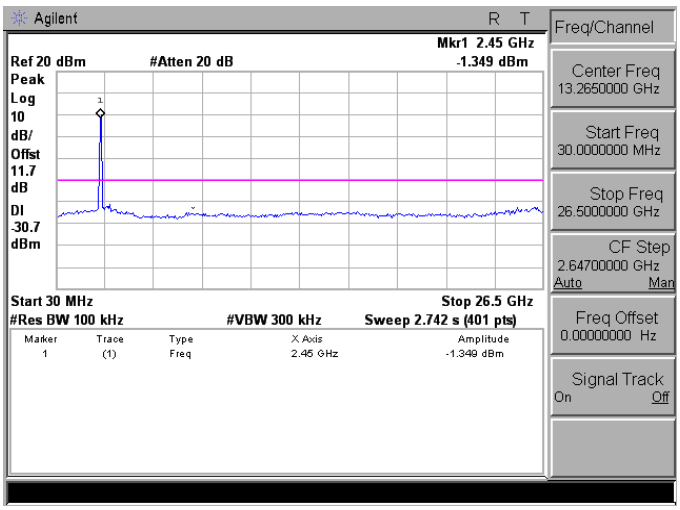
Mode 3: IEEE 802.11g Link Mode_ANT-1	
2412	
2437	
2462	

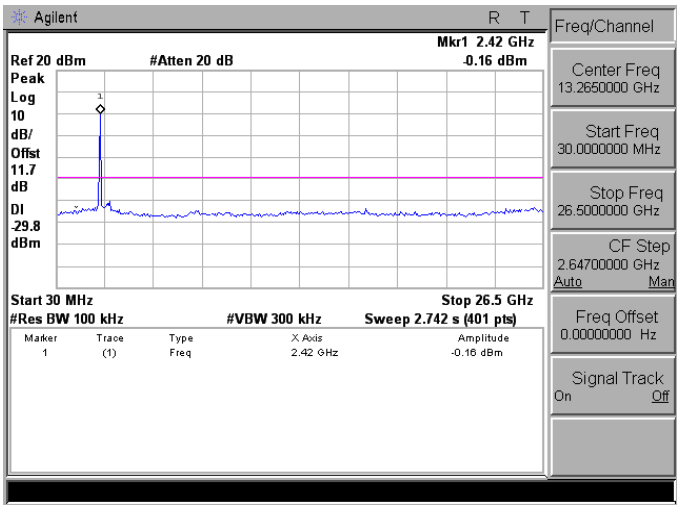
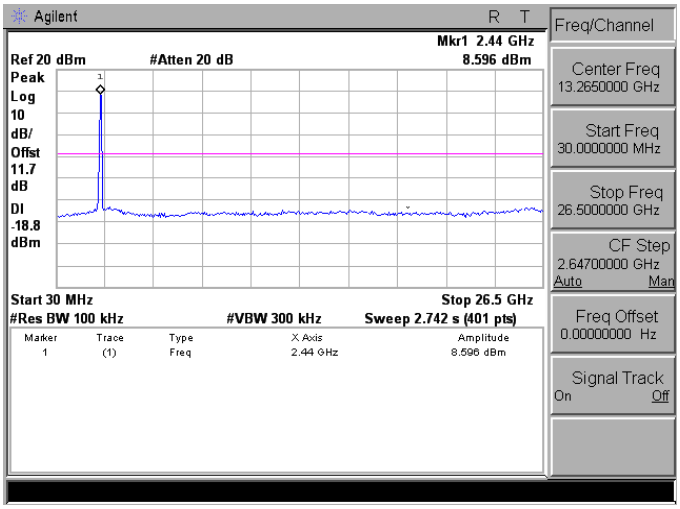
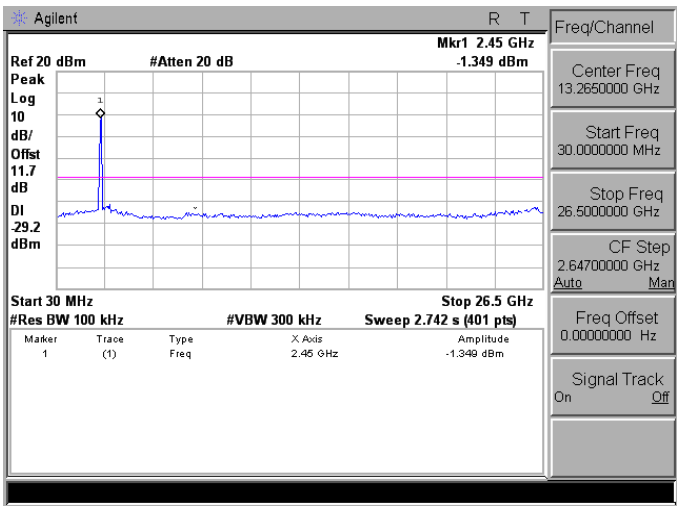
Mode 3: IEEE 802.11g Link Mode_ANT-2	
2412	
2437	
2462	

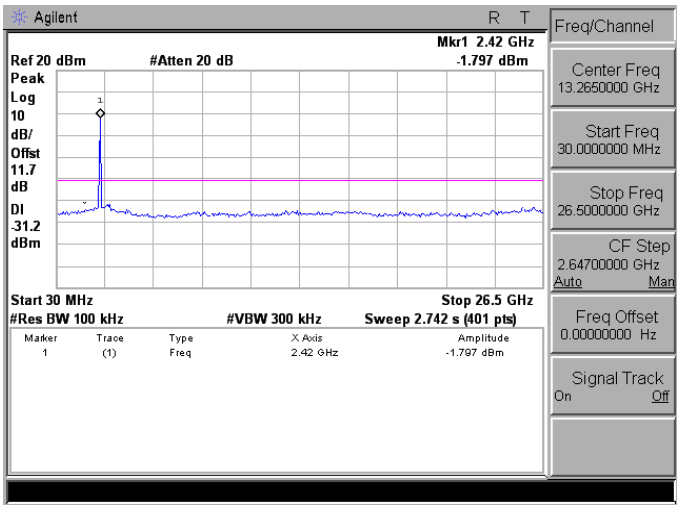
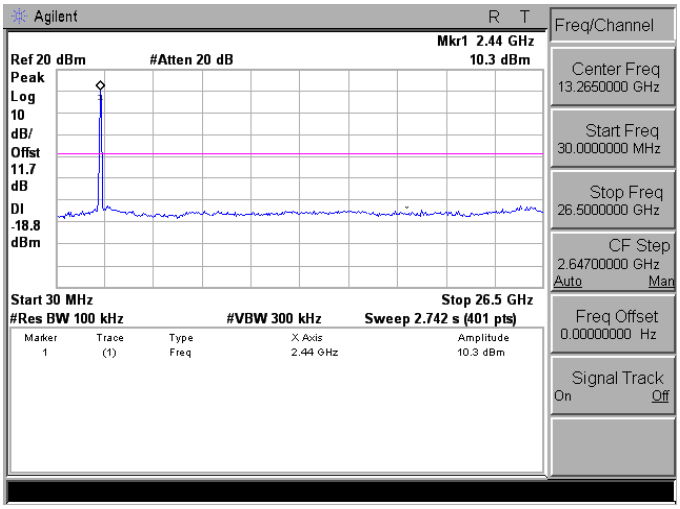
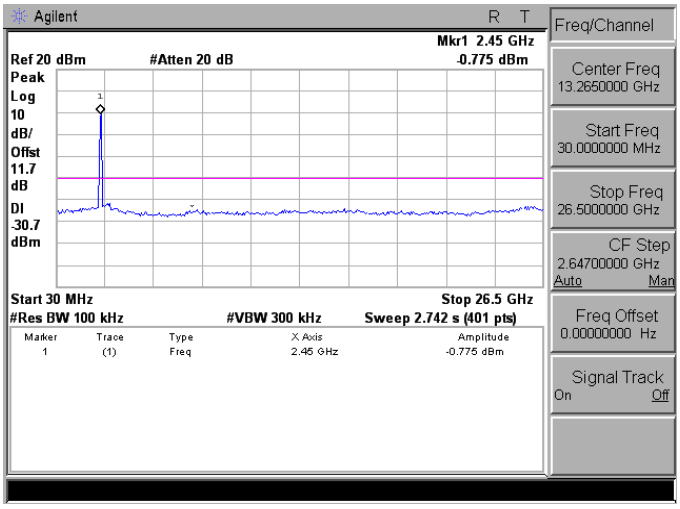
Mode 4: IEEE 802.11n 2.4GHz 20MHz Link Mode _ ANT0	
2412	
2437	
2462	

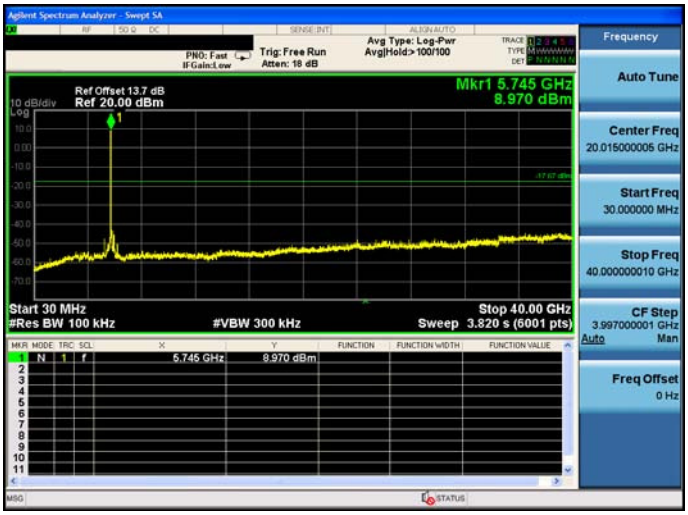
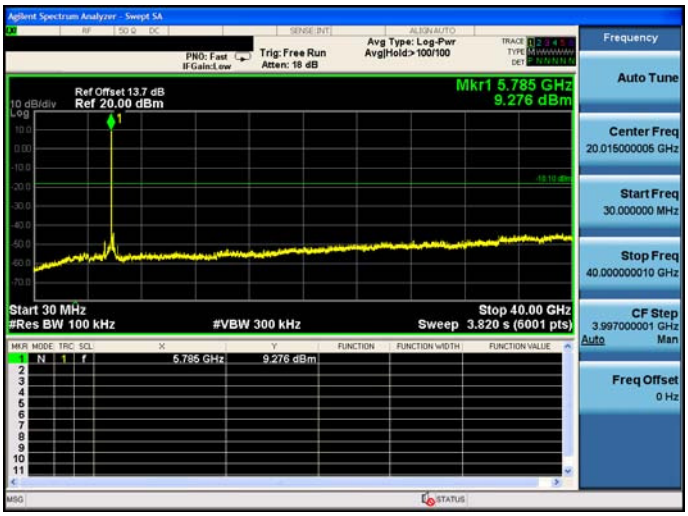
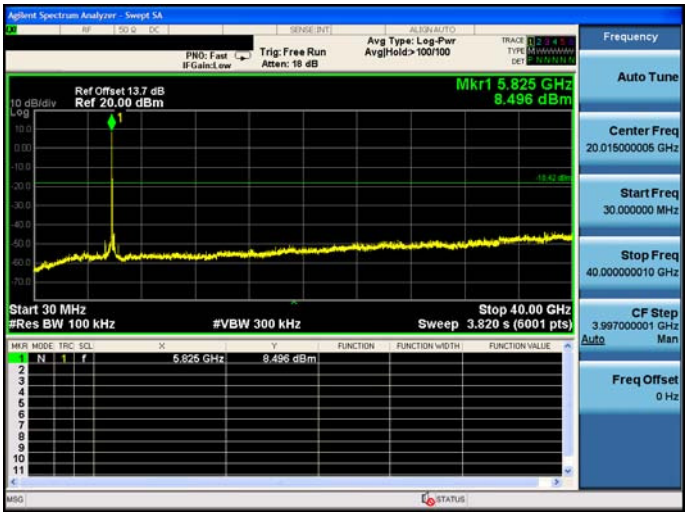
Mode 4: IEEE 802.11n 2.4GHz 20MHz Link Mode _ ANT1	
2412	
2437	
2462	

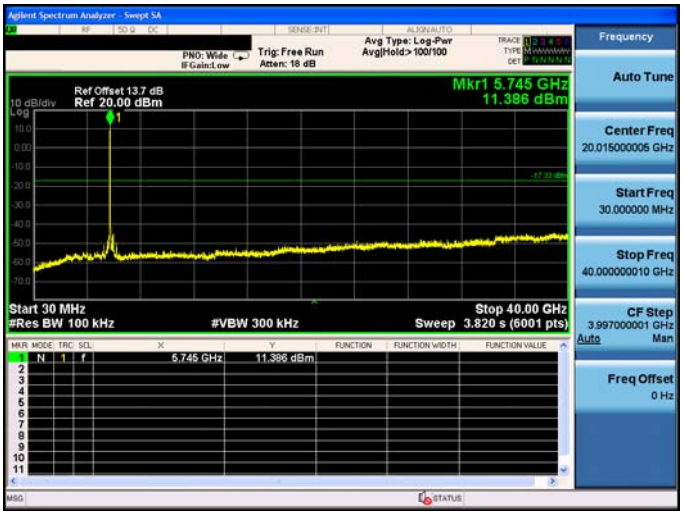
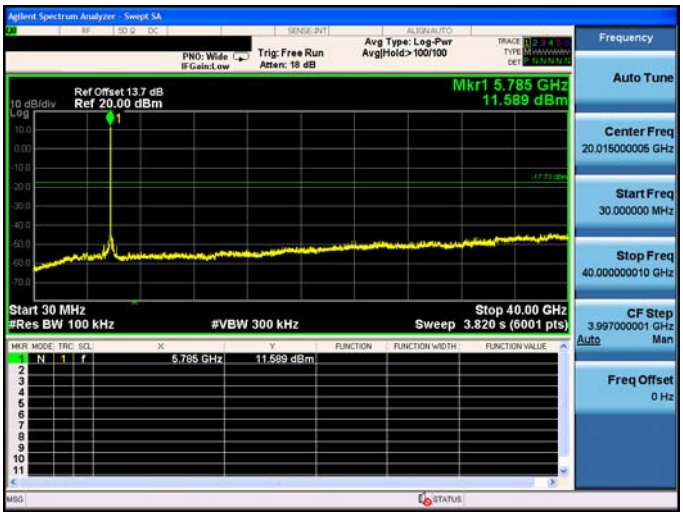
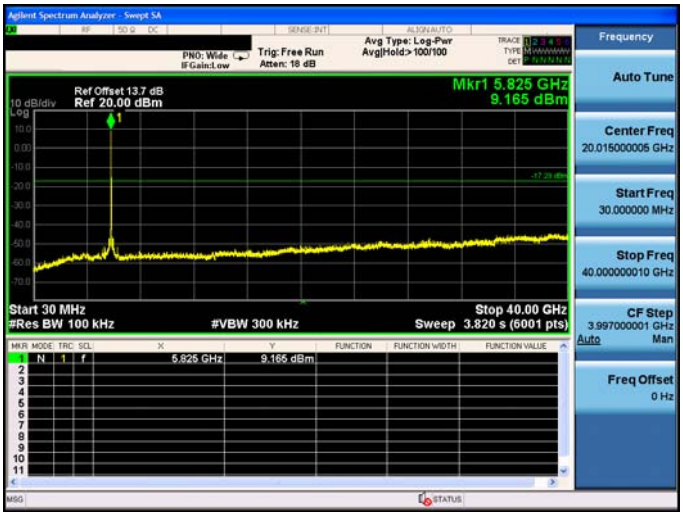
Mode 4: IEEE 802.11n 2.4GHz 20MHz Link Mode _ ANT2	
2412	
2437	
2462	

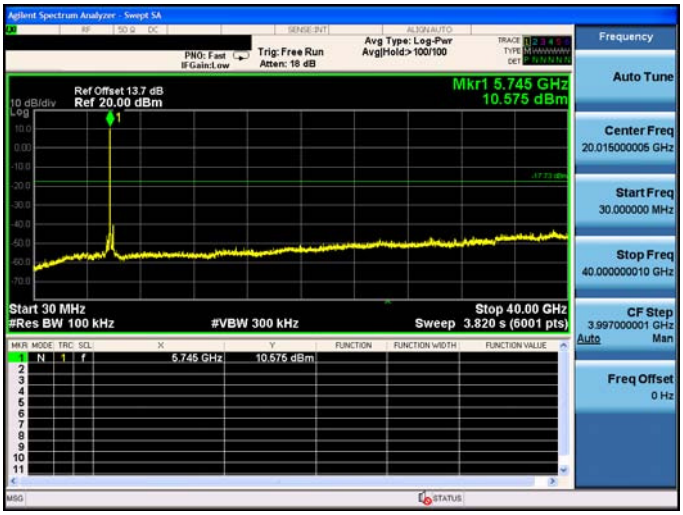
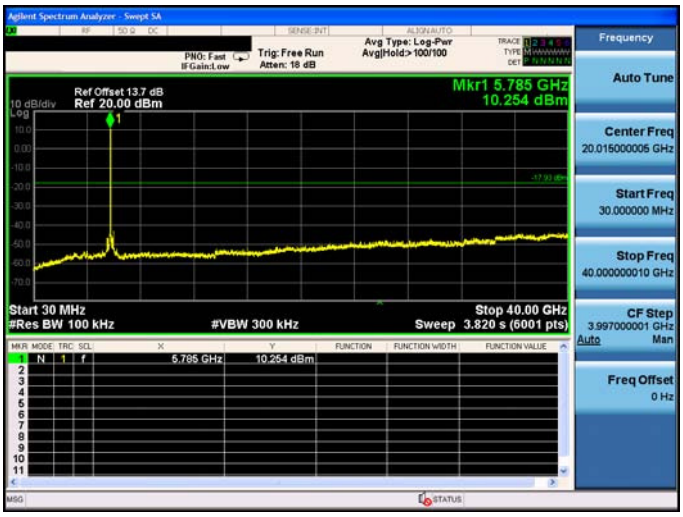
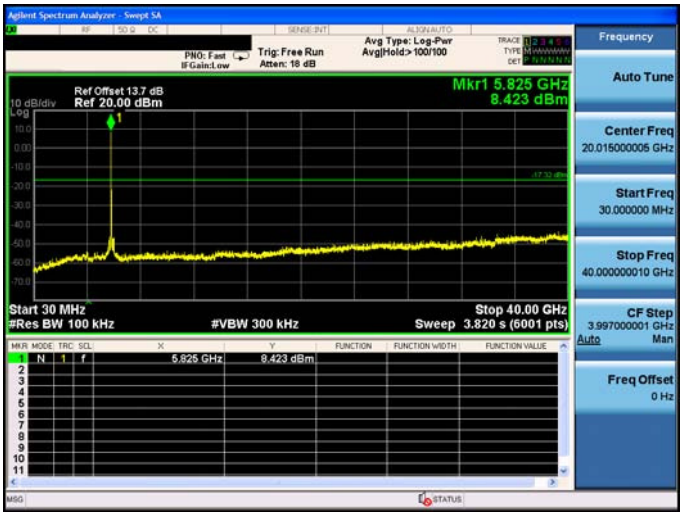
Mode 5: IEEE 802.11n 2.4GHz 40MHz Link Mode _ ANT0	
2422	
2437	
2452	

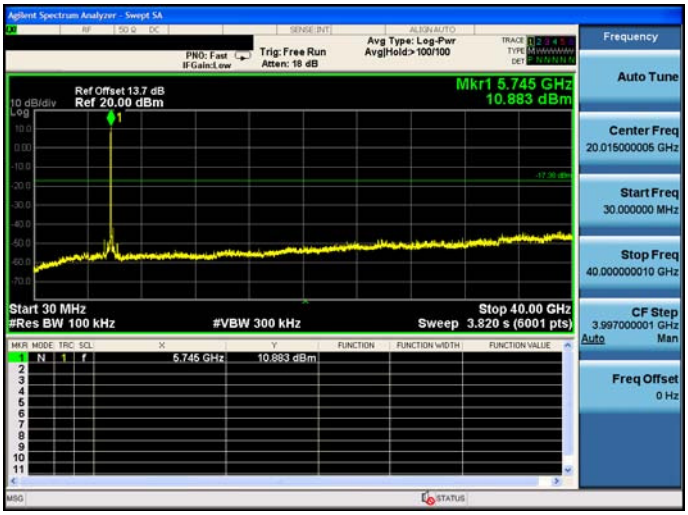
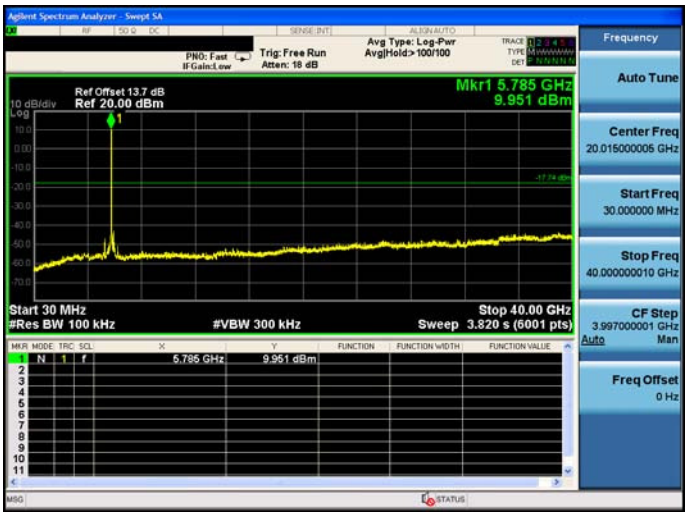
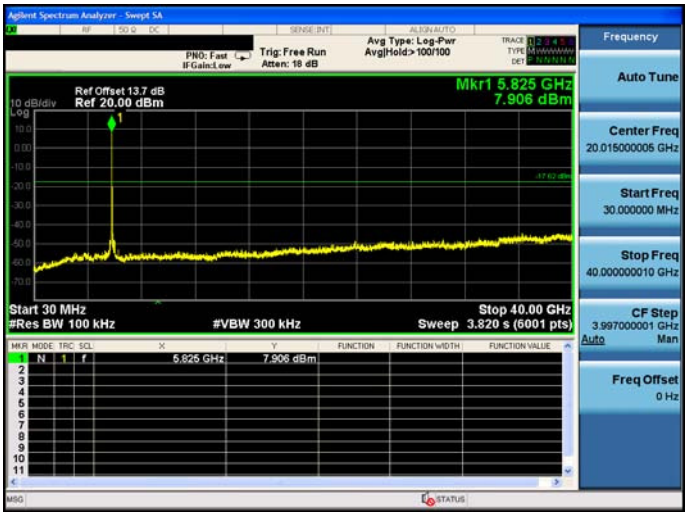
Mode 5: IEEE 802.11n 2.4GHz 40MHz Link Mode _ ANT1	
2422	
2437	
2452	

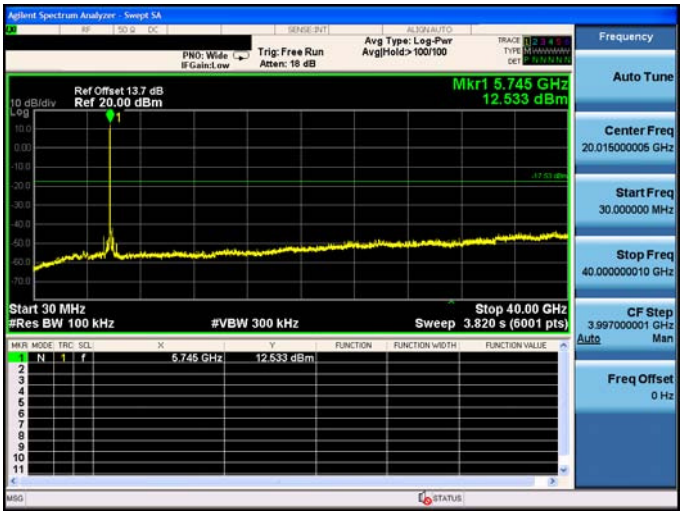
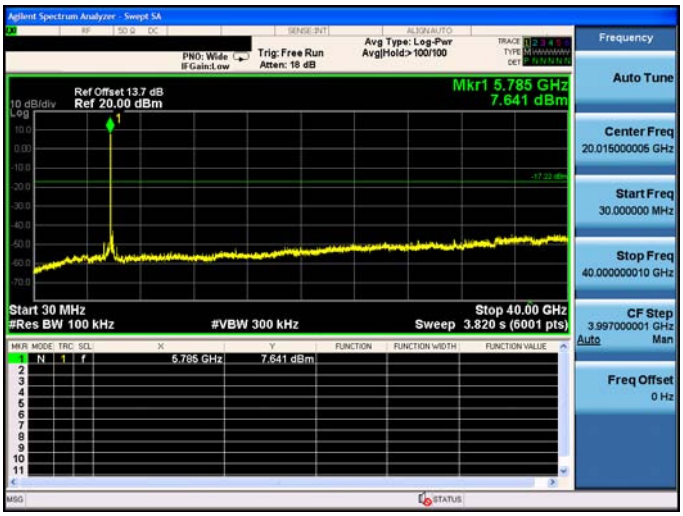
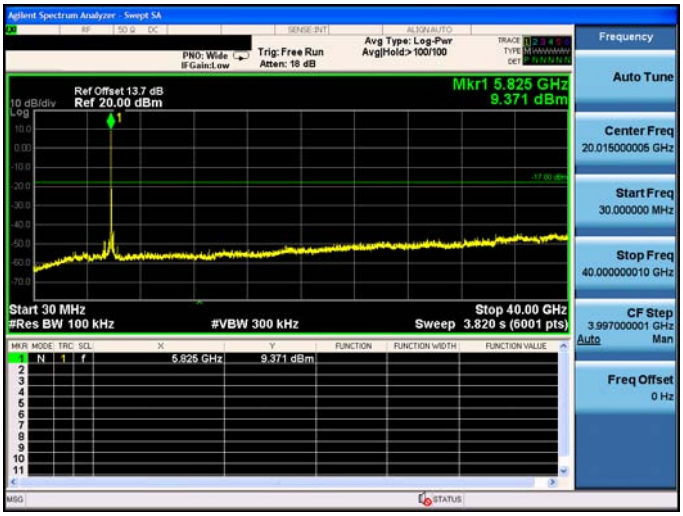
Mode 5: IEEE 802.11n 2.4GHz 40MHz Link Mode _ ANT2	
2422	
2437	
2452	

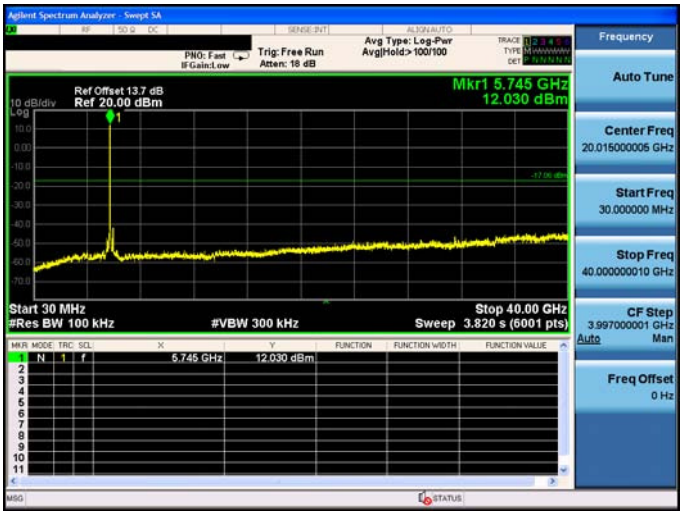
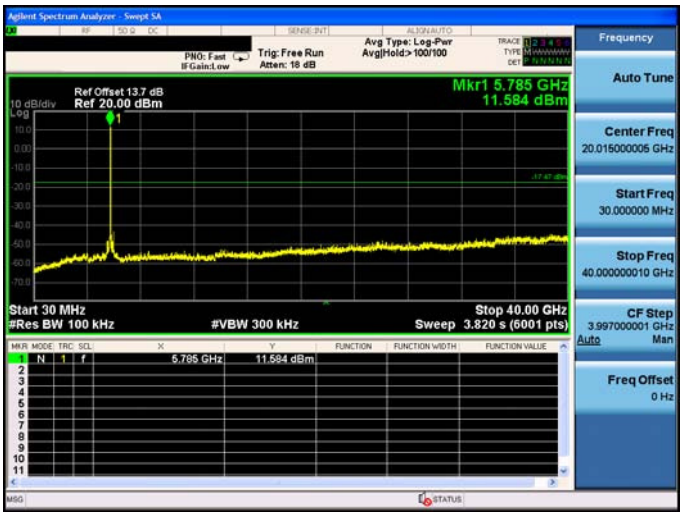
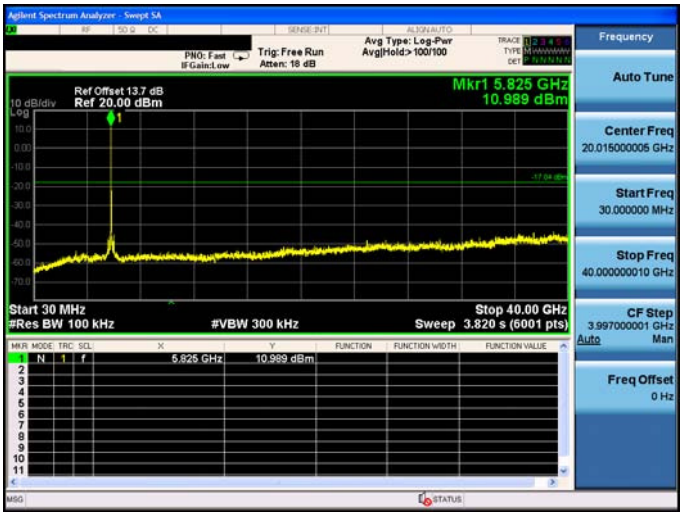
Mode 6: IEEE 802.11a U-NII Band III Link Mode_ANT-0	
5745	
5785	
5825	

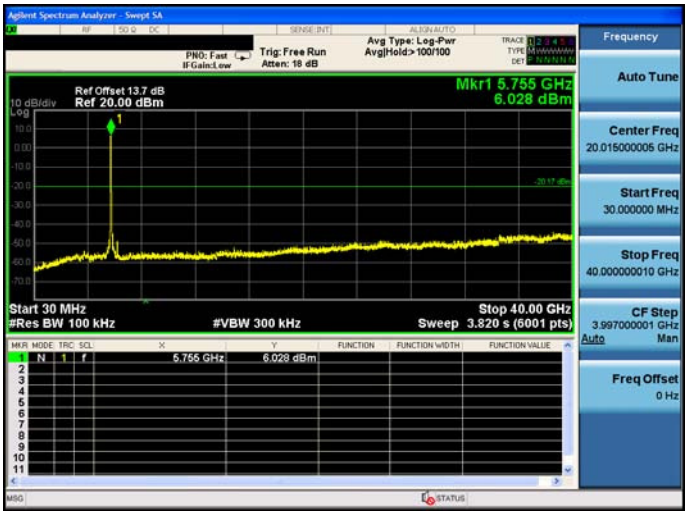
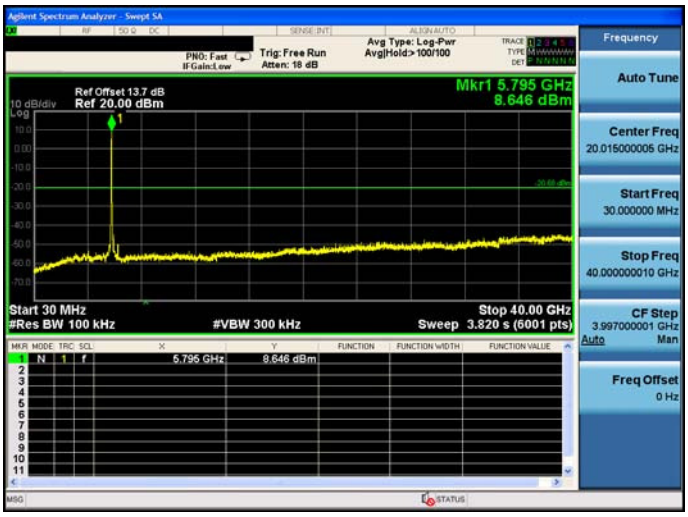
Mode 6: IEEE 802.11a U-NII Band III Link Mode_ANT-1	
5745	
5785	
5825	

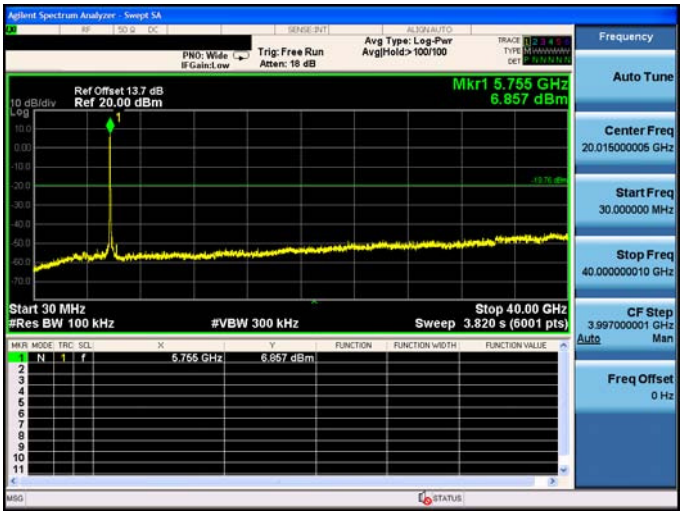
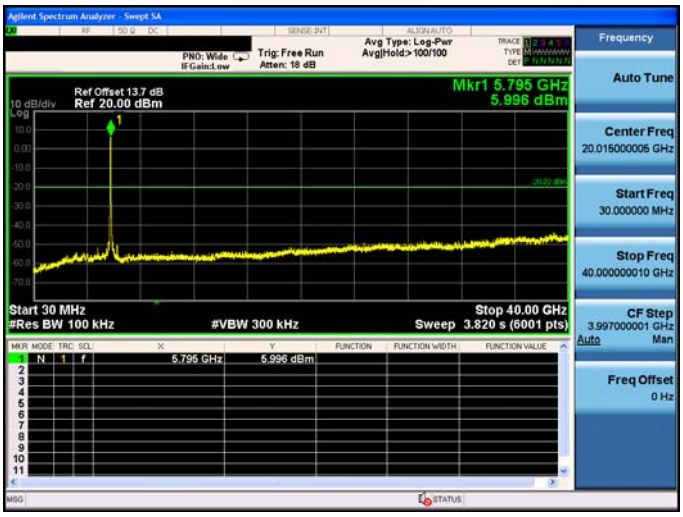
Mode 6: IEEE 802.11a U-NII Band III Link Mode_ANT-2	
5745	
5785	
5825	

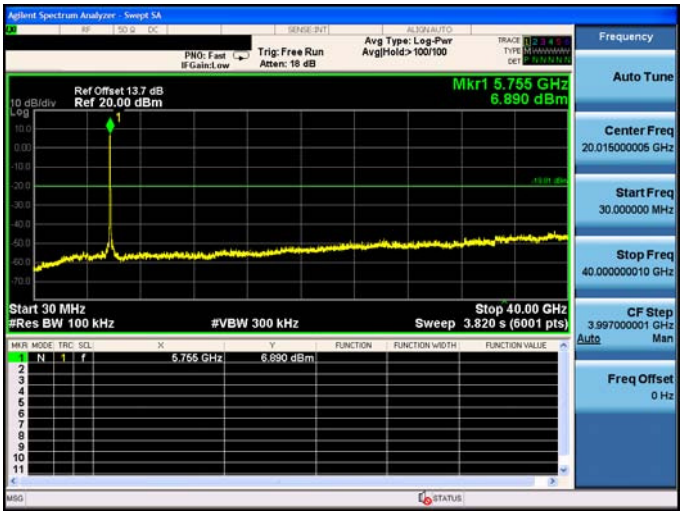
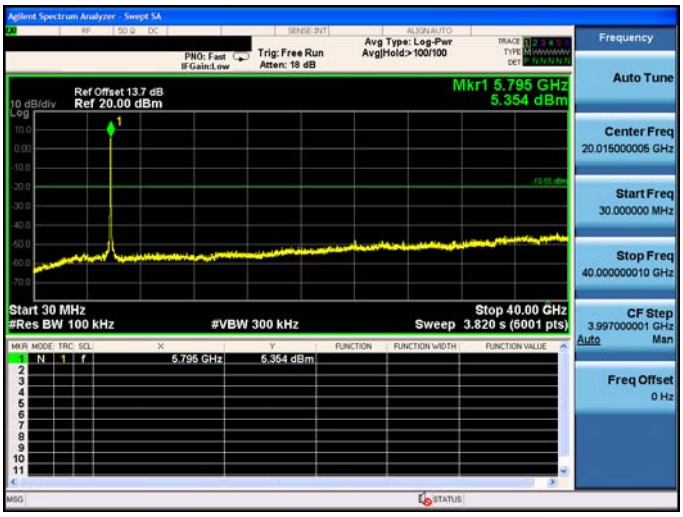
Mode 7: IEEE 802.11ac U-NII Band III 20MHz Link Mode _ ANT0	
5745	
5785	
5825	

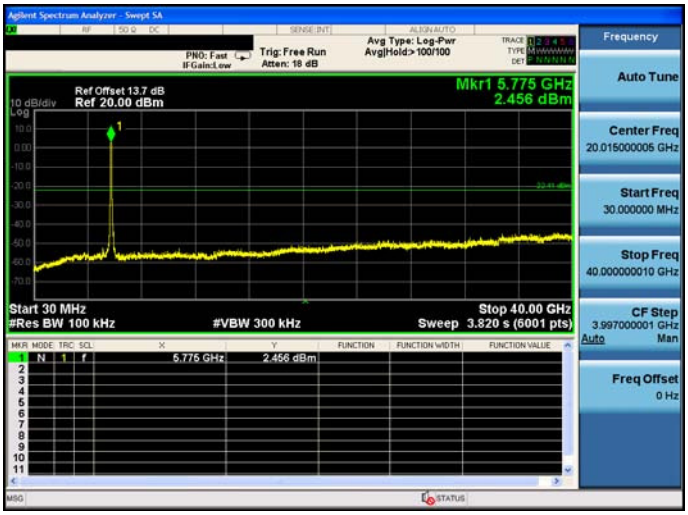
Mode 7: IEEE 802.11ac U-NII Band III 20MHz Link Mode _ ANT1	
5745	
5785	
5825	

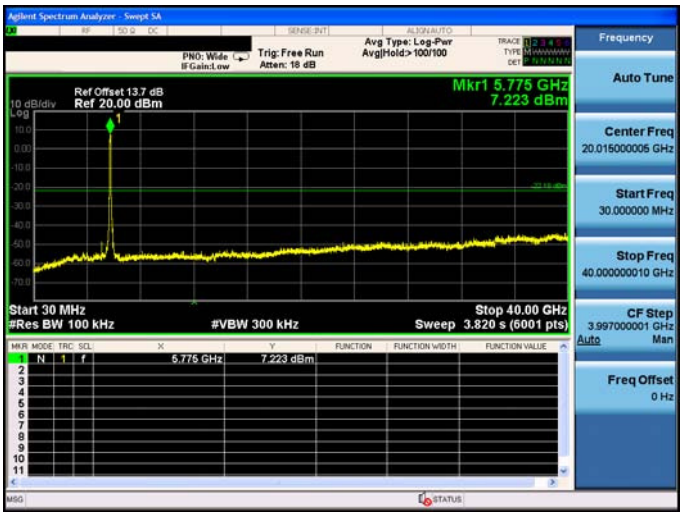
Mode 7: IEEE 802.11ac U-NII Band III 20MHz Link Mode _ ANT2	
5745	
5785	
5825	

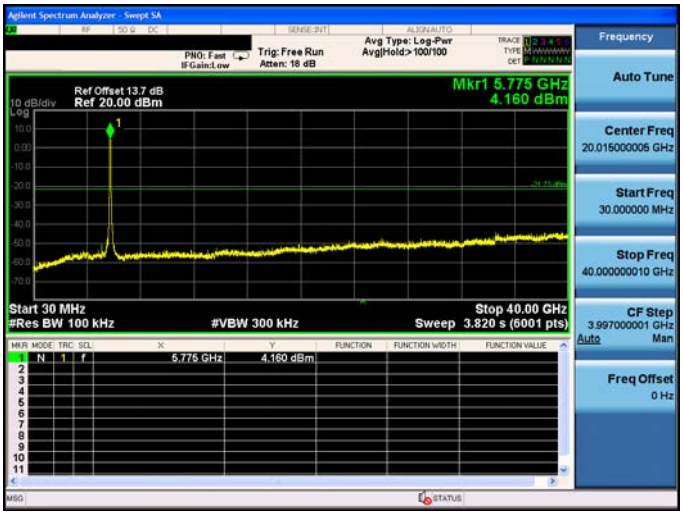
Mode 8: IEEE 802.11ac U-NII Band III 40MHz Link Mode _ ANT0	
5755	
5795	

Mode 8: IEEE 802.11ac U-NII Band III 40MHz Link Mode _ ANT1	
5755	
5795	

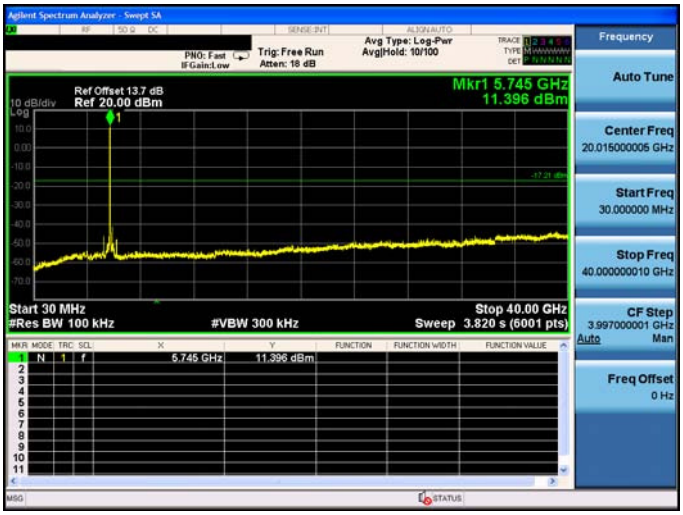
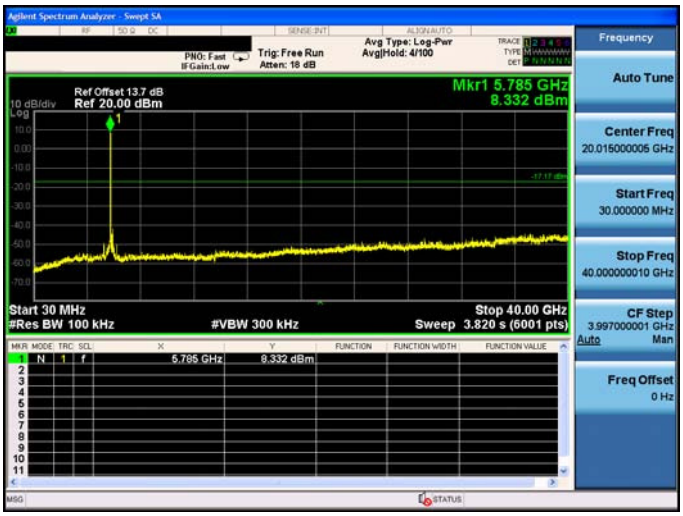
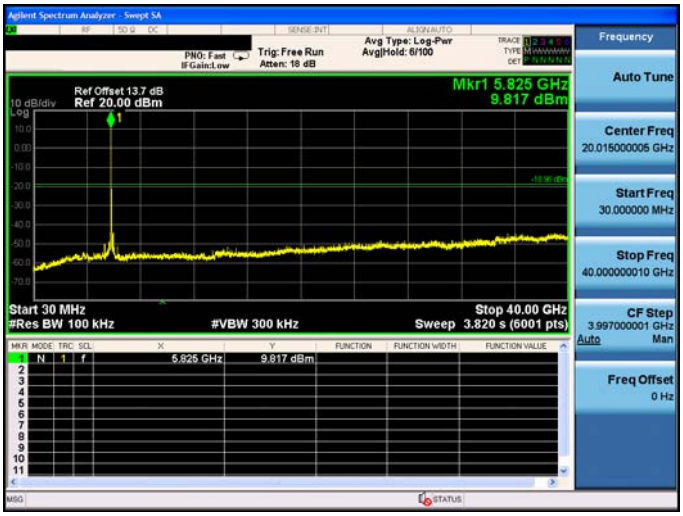
Mode 8: IEEE 802.11ac U-NII Band III 40MHz Link Mode _ ANT2	
5755	
5795	

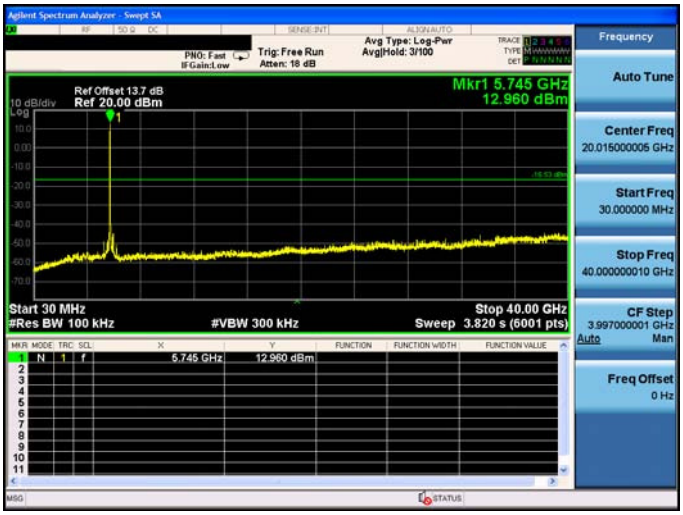
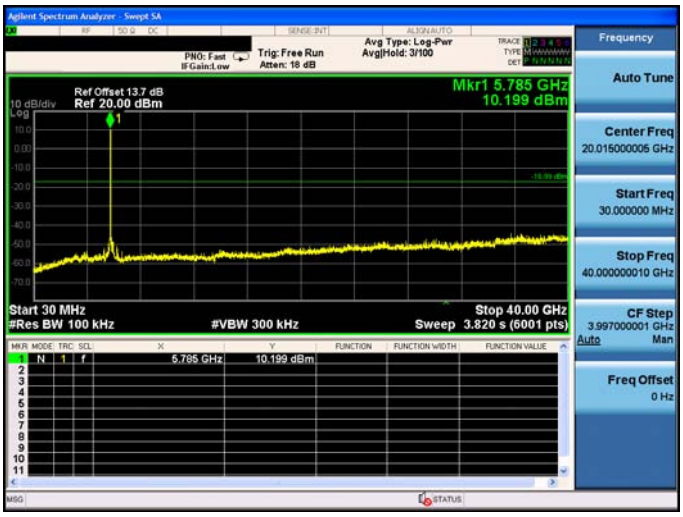
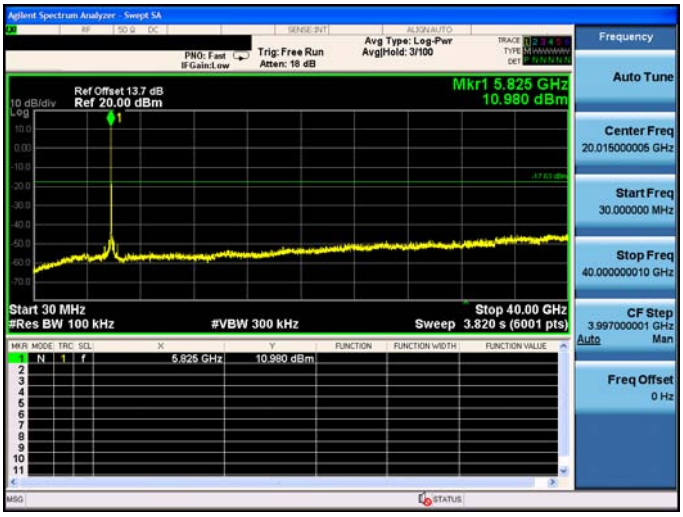
Mode 9: IEEE 802.11ac U-NII Band III 80MHz Link Mode _ ANT0	
5775	

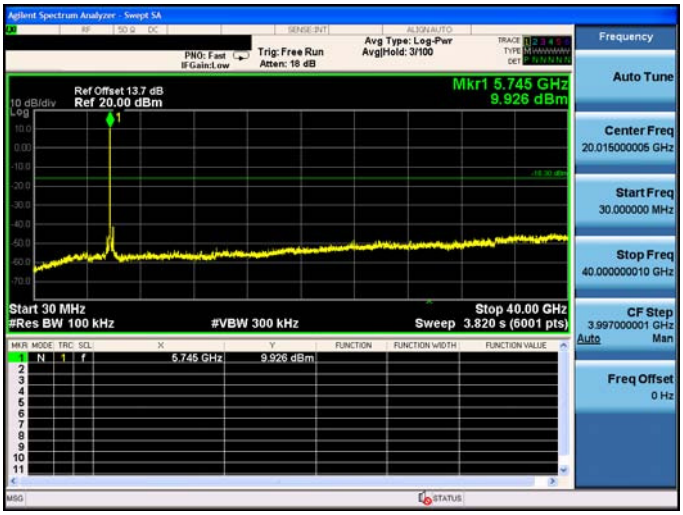
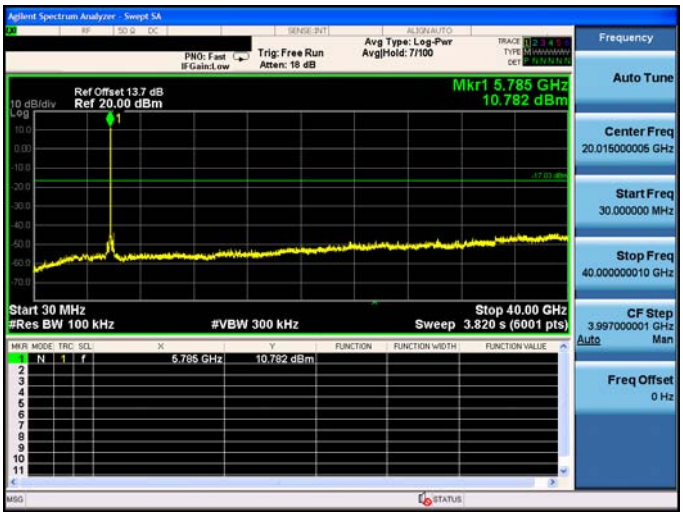
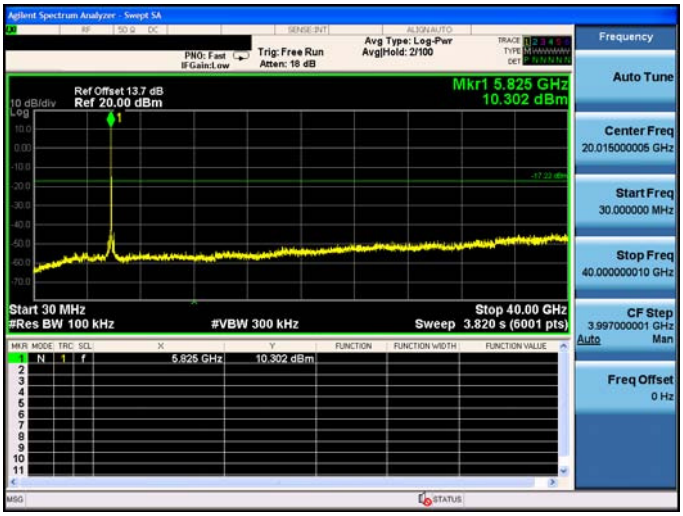
Mode 9: IEEE 802.11ac U-NII Band III 80MHz Link Mode _ ANT1	
5775	

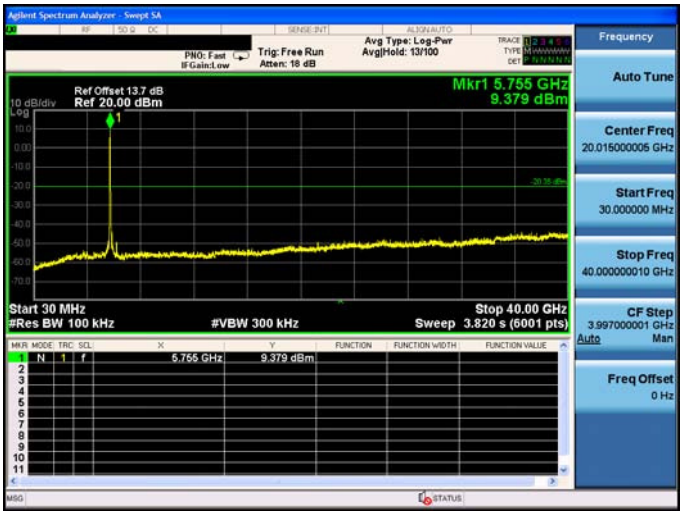
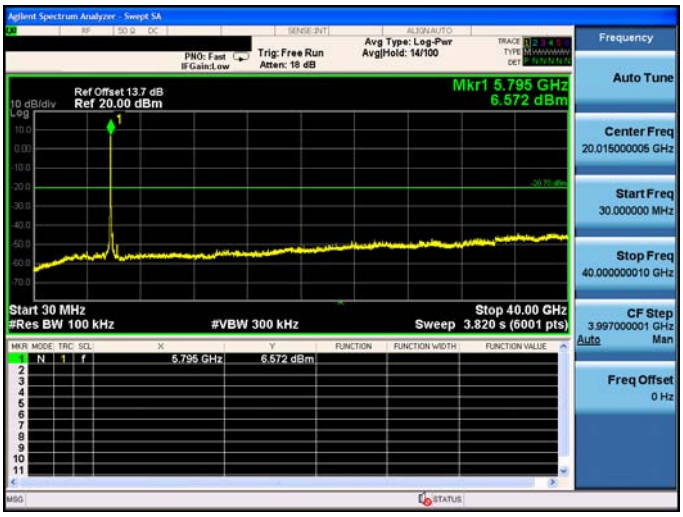
Mode 9: IEEE 802.11ac U-NII Band III 80MHz Link Mode _ ANT2	
5775	

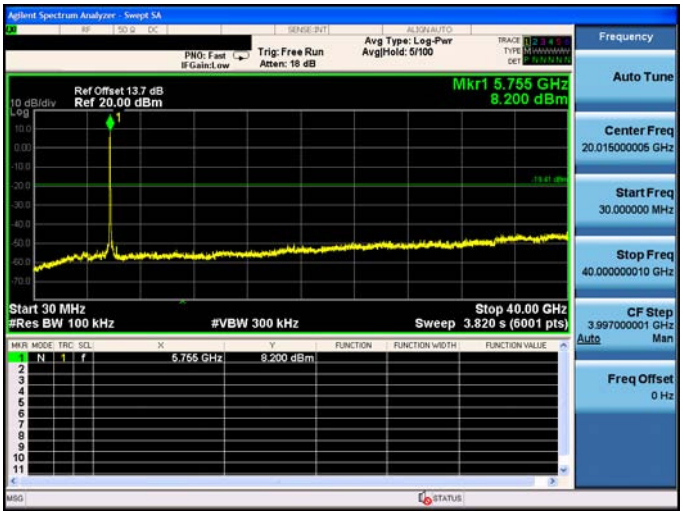
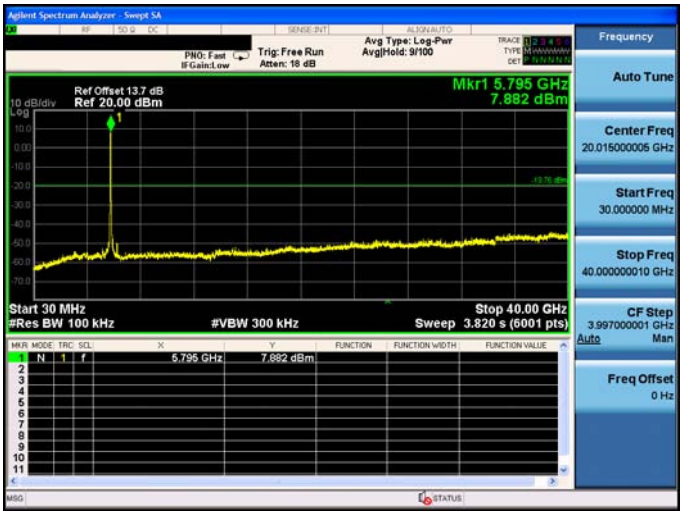
Beamforming on

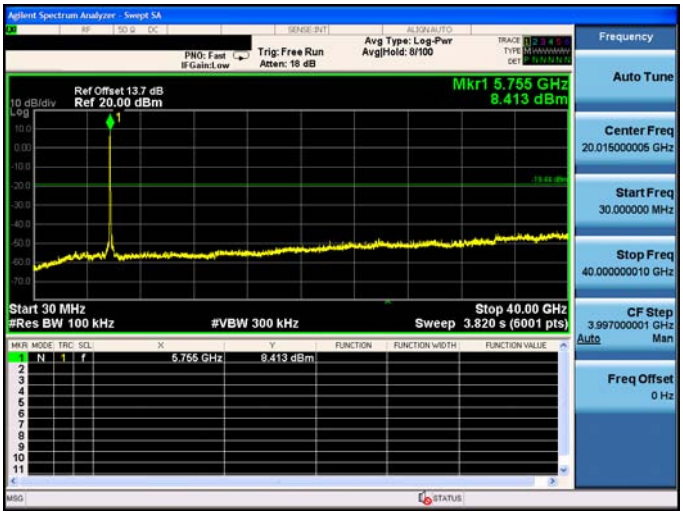
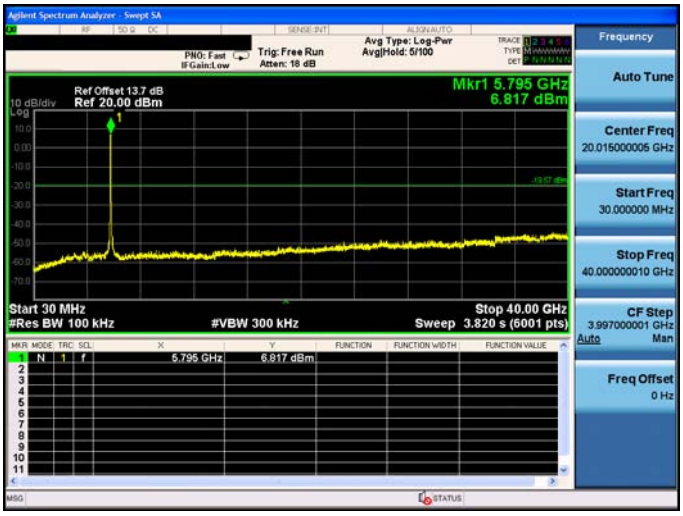
Mode 7: IEEE 802.11ac U-NII Band III 20MHz Link Mode _ ANT0	
5745	
5785	
5825	

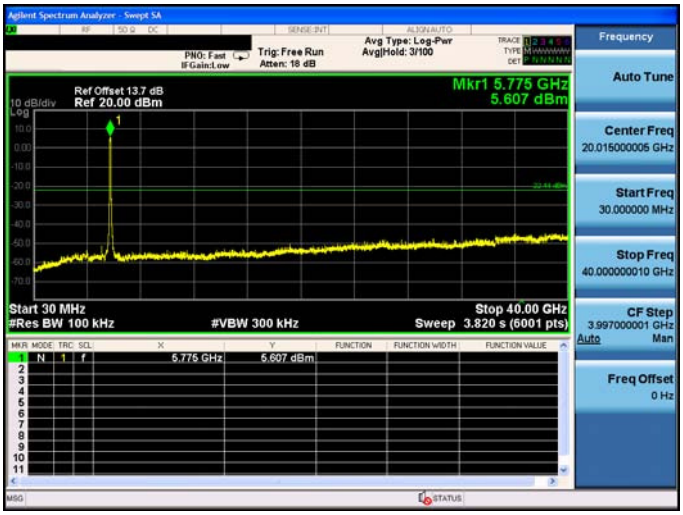
Mode 7: IEEE 802.11ac U-NII Band III 20MHz Link Mode _ ANT1	
5745	
5785	
5825	

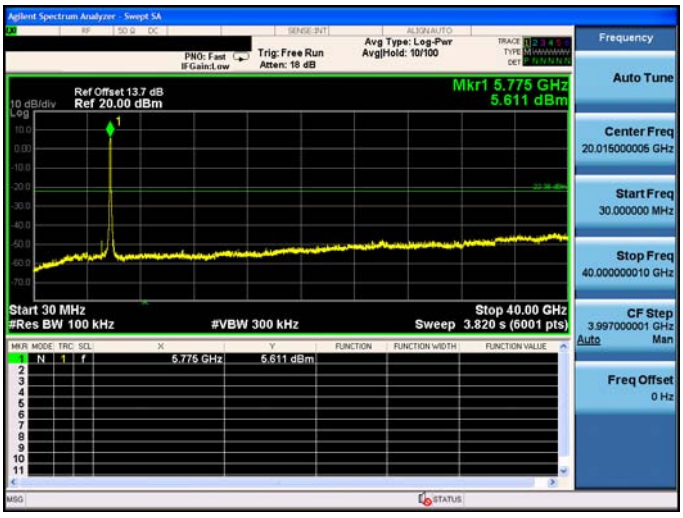
Mode 7: IEEE 802.11ac U-NII Band III 20MHz Link Mode _ ANT2	
5745	
5785	
5825	

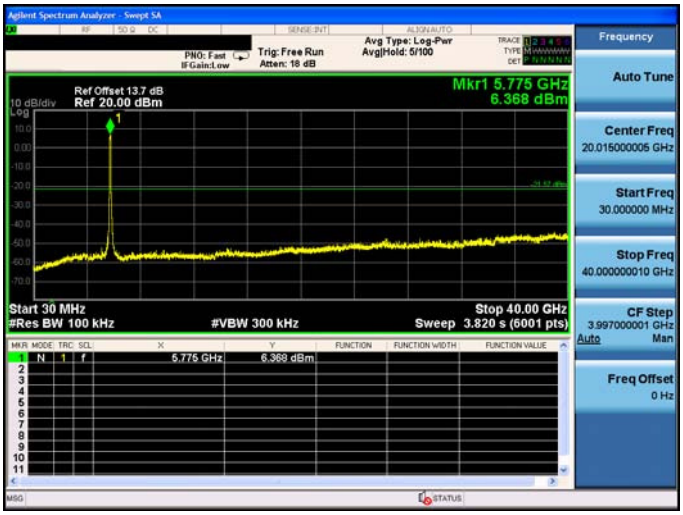
Mode 8: IEEE 802.11ac U-NII Band III 40MHz Link Mode _ ANT0	
5755	
5795	

Mode 8: IEEE 802.11ac U-NII Band III 40MHz Link Mode _ ANT1	
5755	
5795	

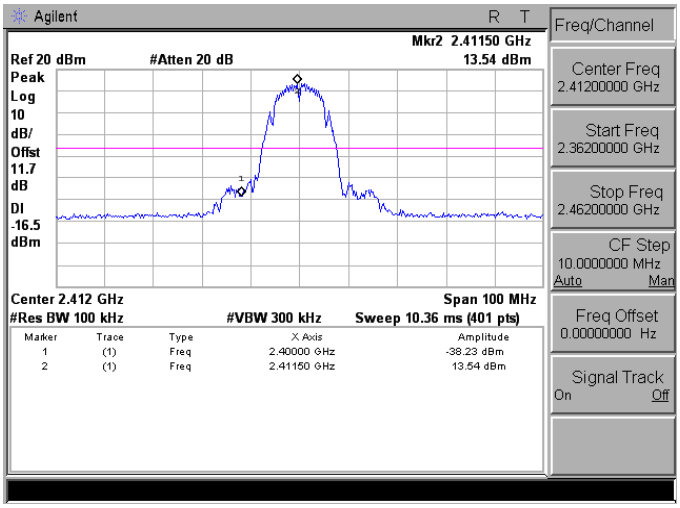
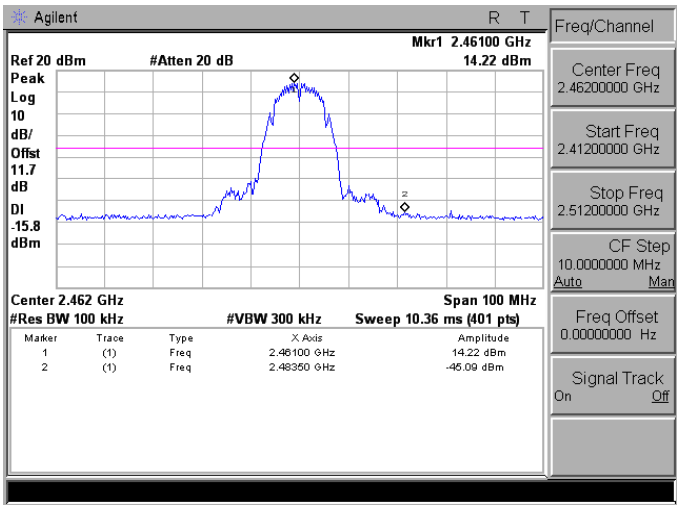
Mode 8: IEEE 802.11ac U-NII Band III 40MHz Link Mode _ ANT2	
5755	
5795	

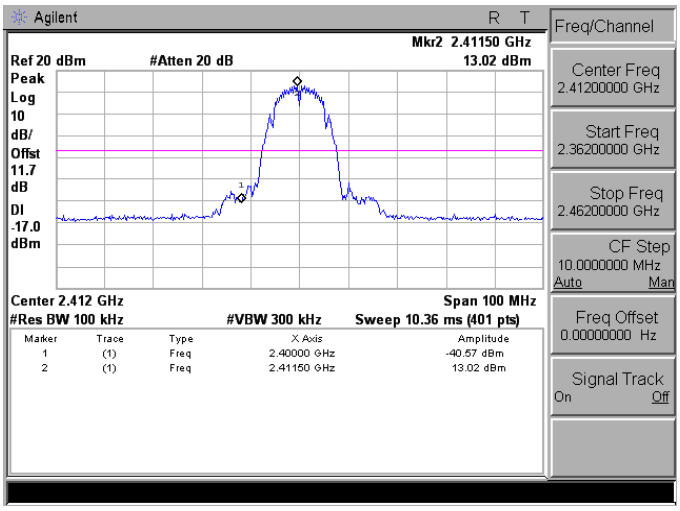
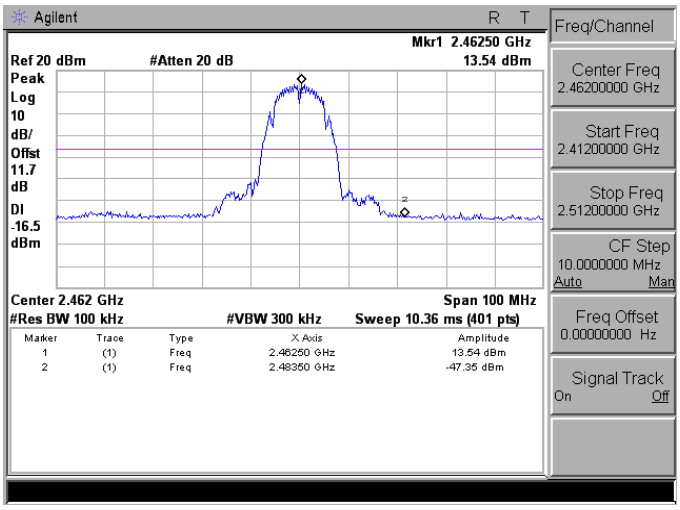
Mode 9: IEEE 802.11ac U-NII Band III 80MHz Link Mode _ ANT0	
5775	

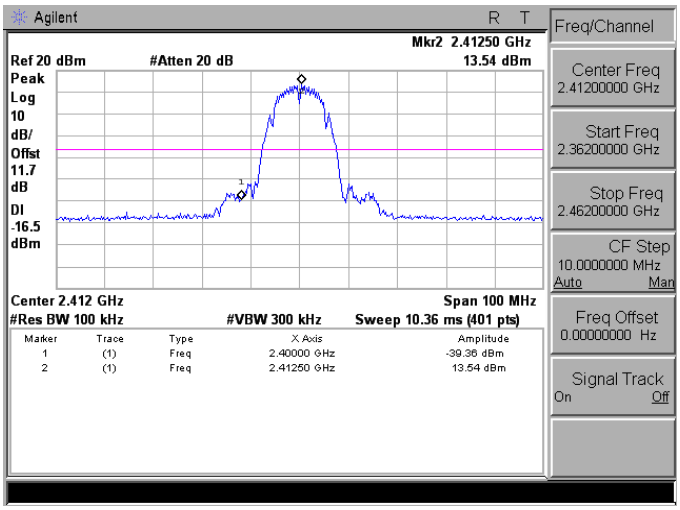
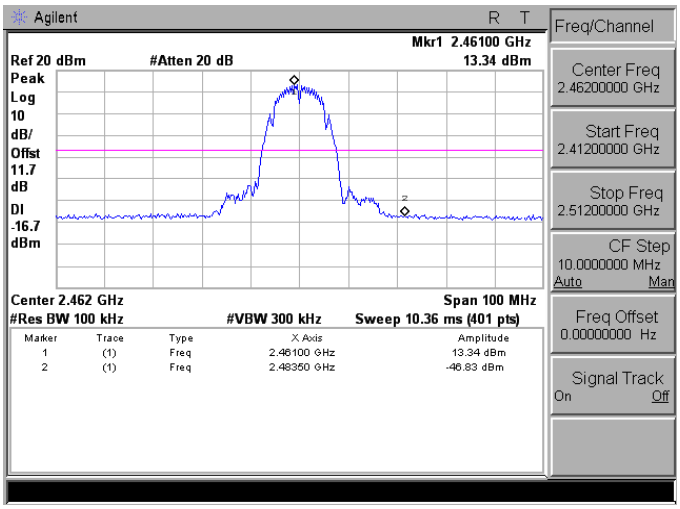
Mode 9: IEEE 802.11ac U-NII Band III 80MHz Link Mode _ ANT1	
5775	

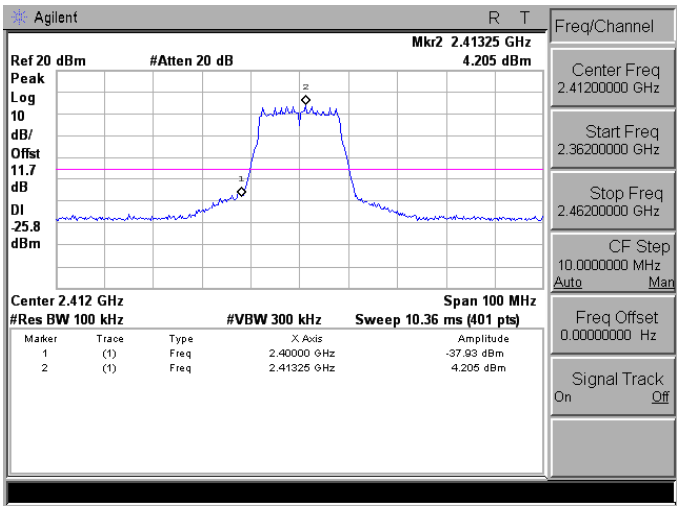
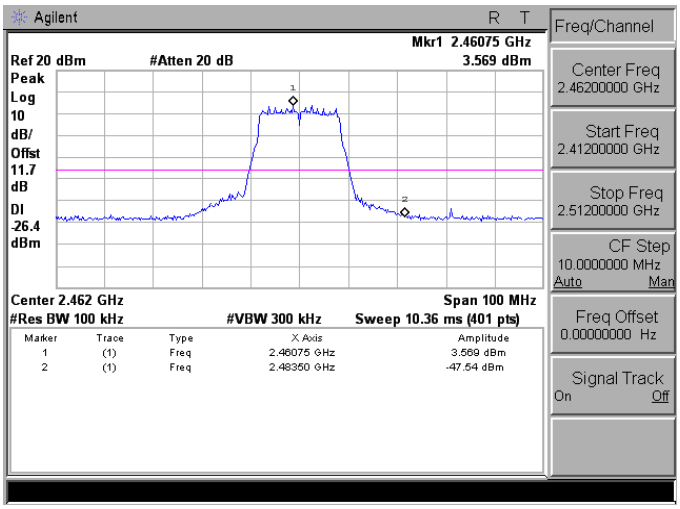
Mode 9: IEEE 802.11ac U-NII Band III 80MHz Link Mode _ ANT2	
5775	

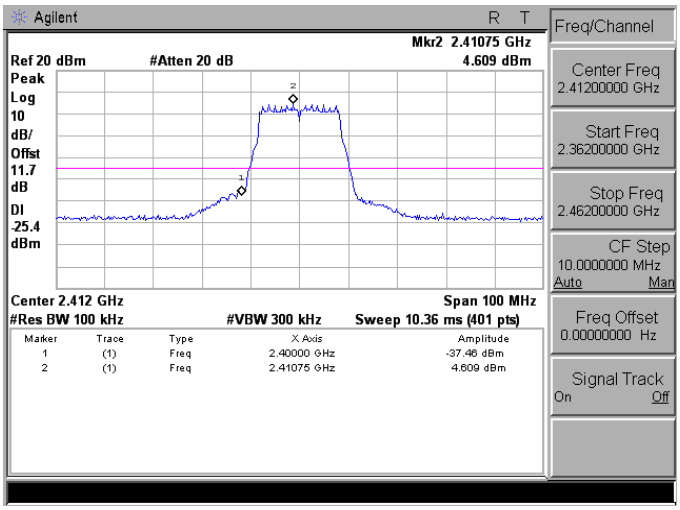
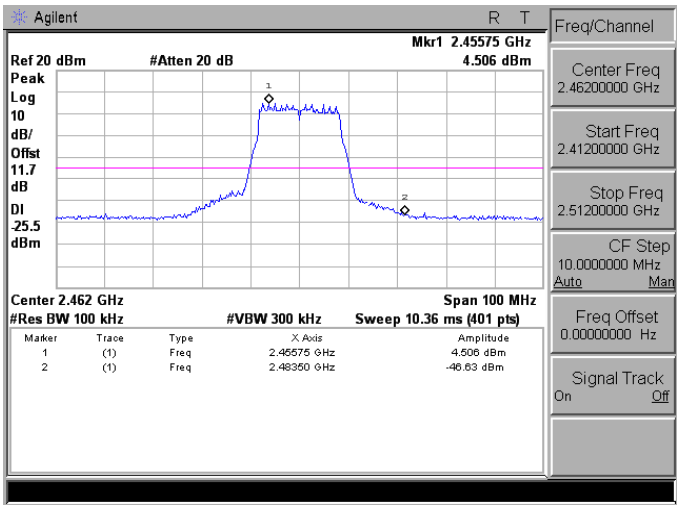
Conducted Band Edge

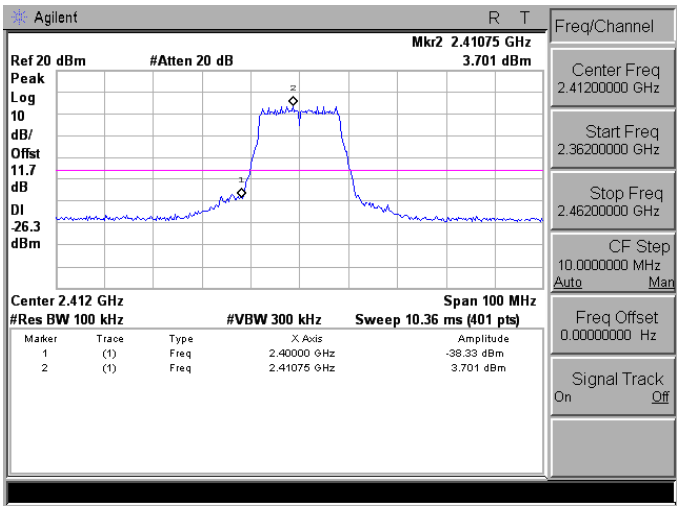
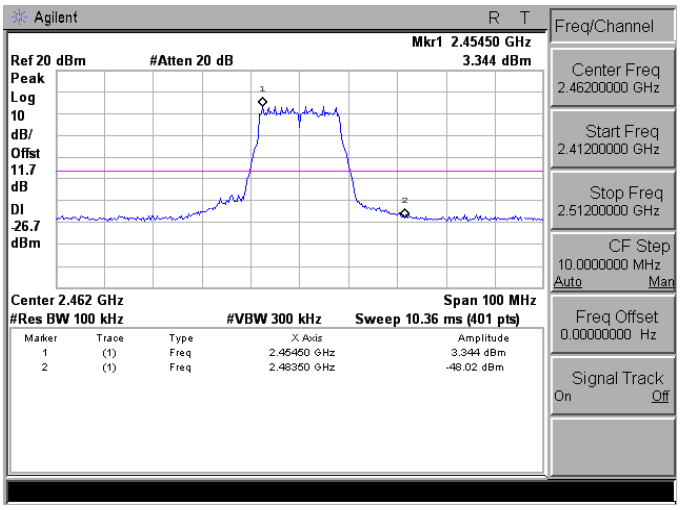
Mode 2: IEEE 802.11b Link Mode_ANT-0	
2412	
2462	

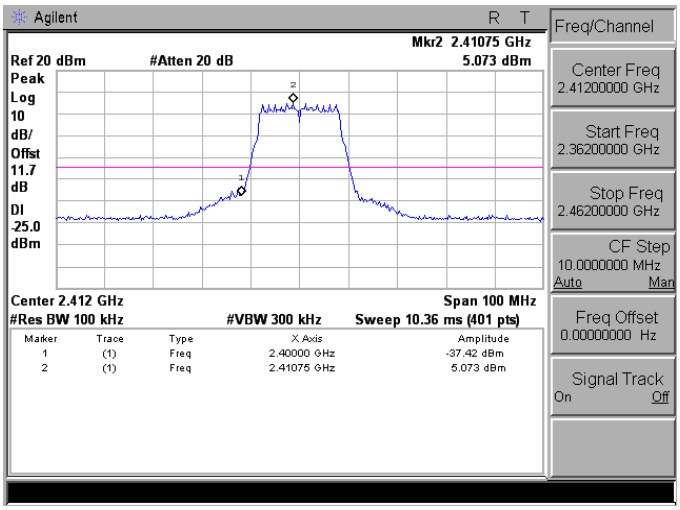
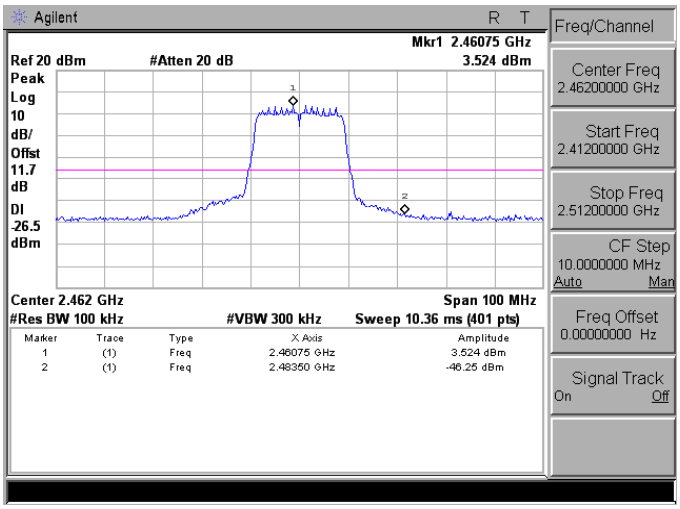
Mode 2: IEEE 802.11b Link Mode_ANT-1	
2412	
2462	

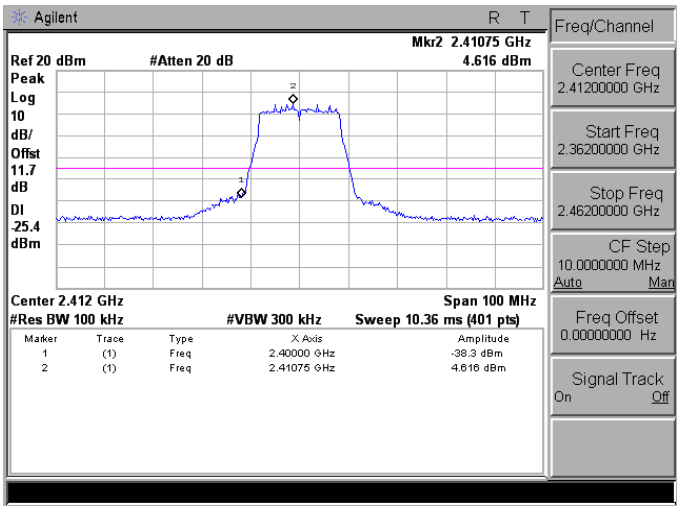
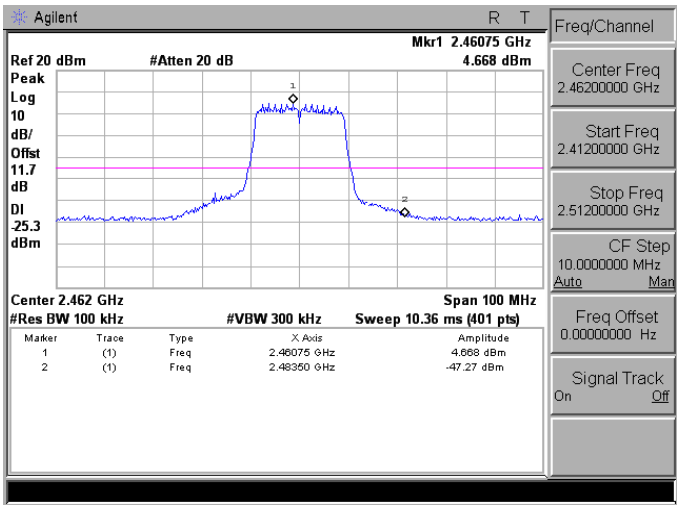
Mode 2: IEEE 802.11b Link Mode_ANT-2	
2412	
2462	

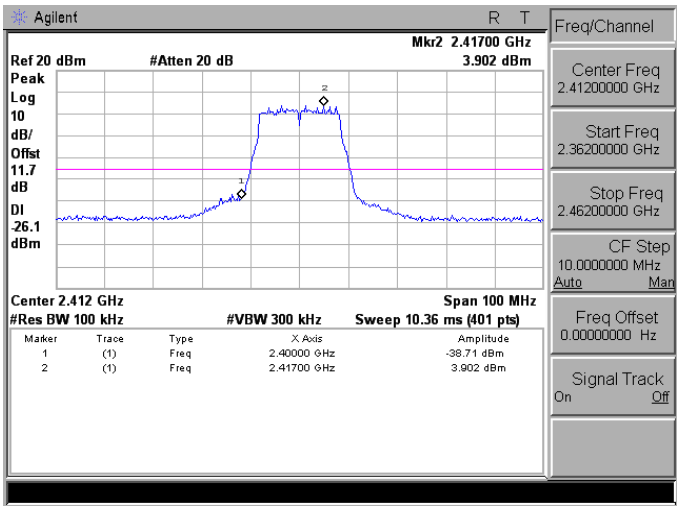
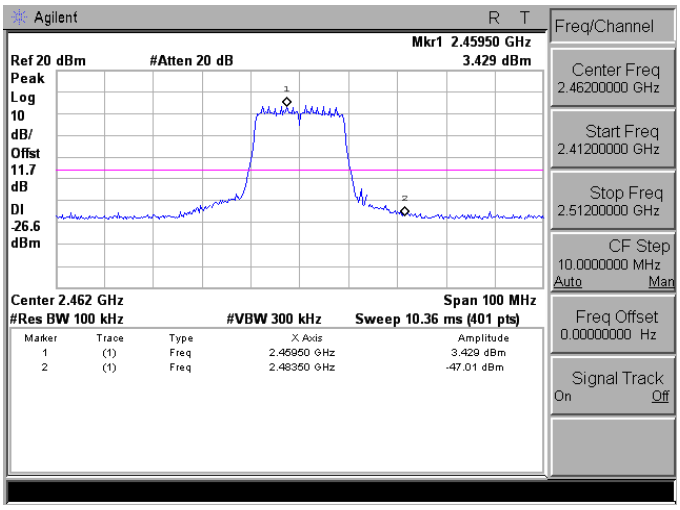
Mode 3: IEEE 802.11g Link Mode_ANT-0	
2412	
2462	

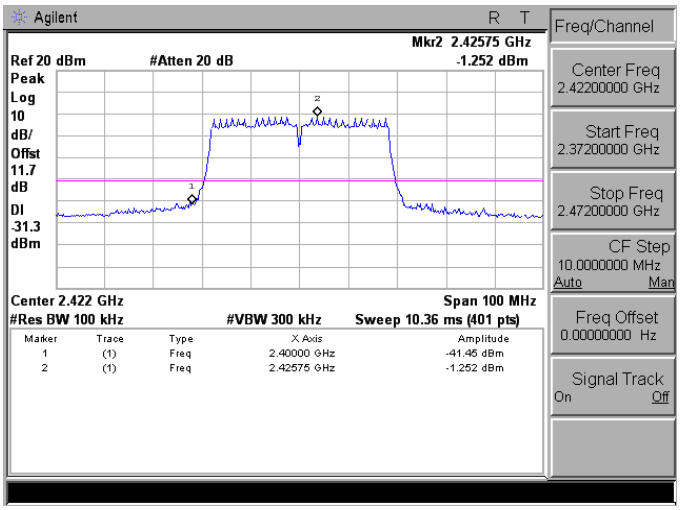
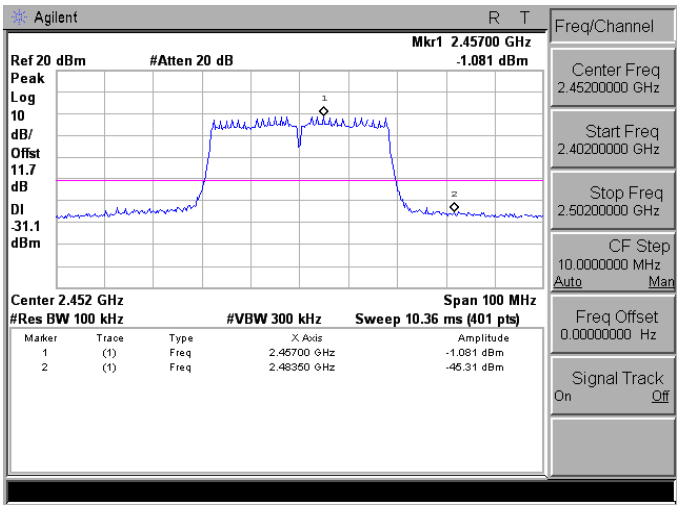
Mode 3: IEEE 802.11g Link Mode_ANT-1	
2412	
2462	

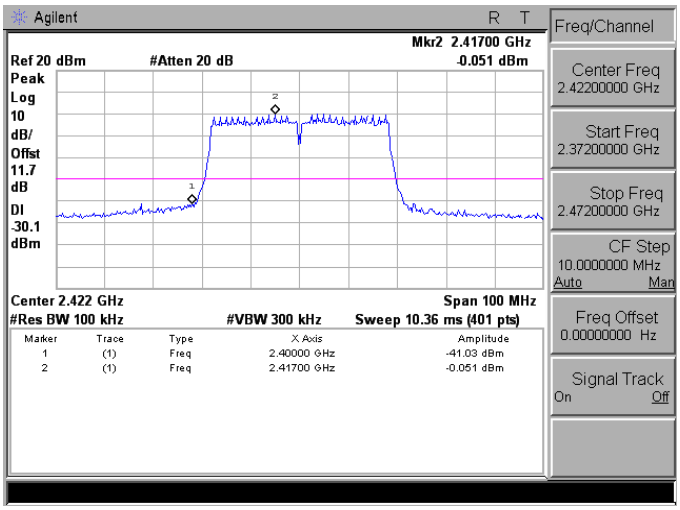
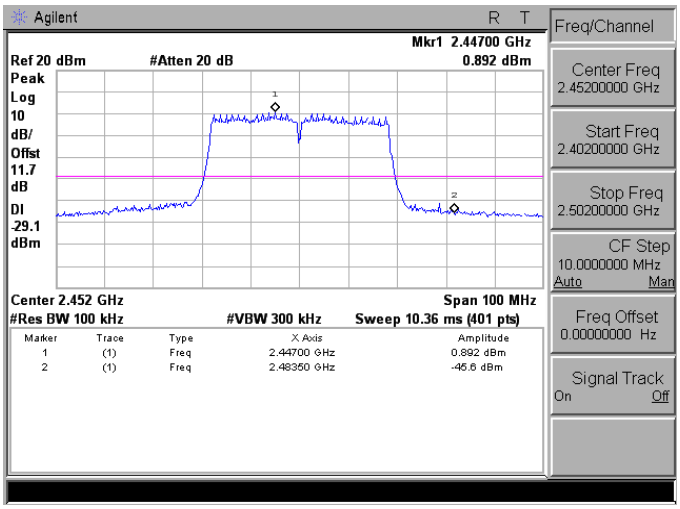
Mode 3: IEEE 802.11g Link Mode_ANT-2	
2412	
2462	

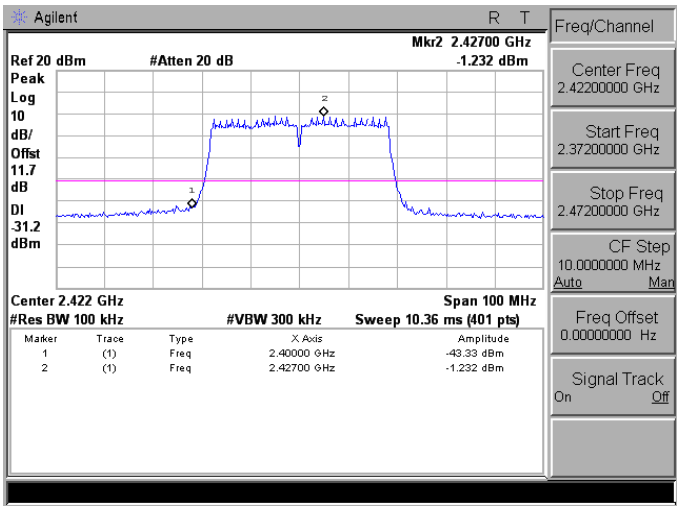
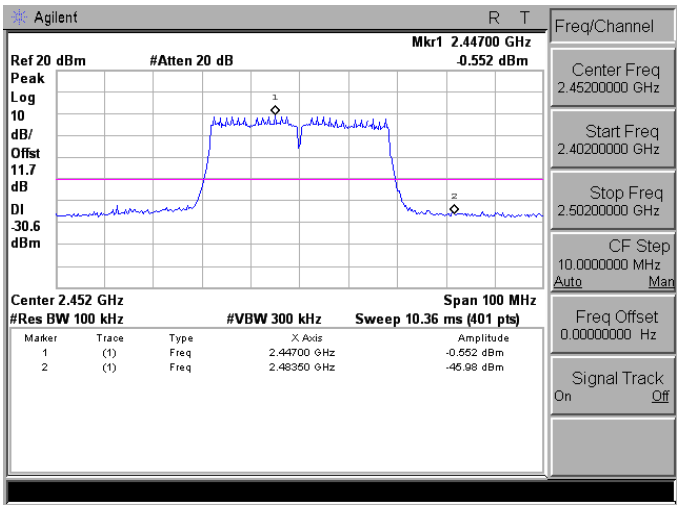
Mode 4: IEEE 802.11n 2.4GHz 20MHz Link Mode _ ANT0	
2412	
2462	

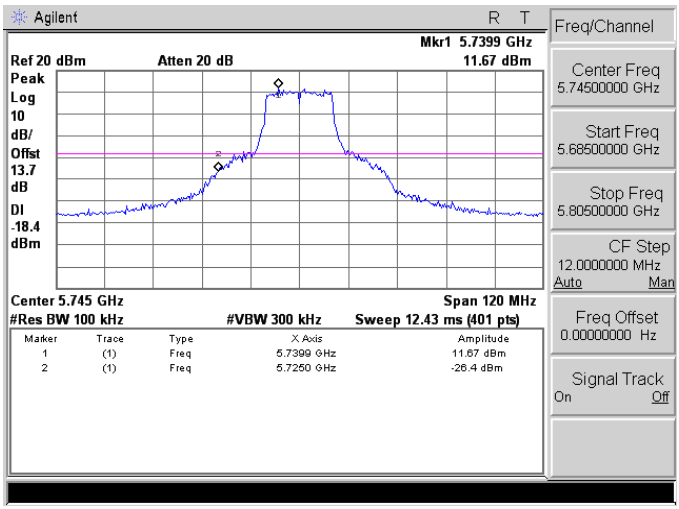
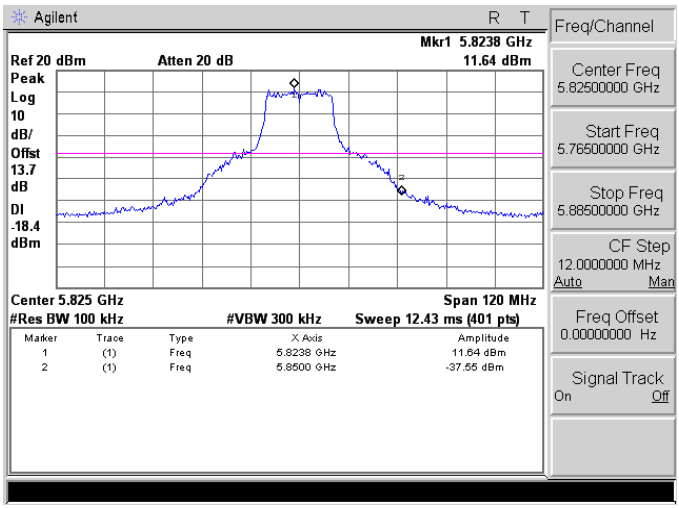
Mode 4: IEEE 802.11n 2.4GHz 20MHz Link Mode _ ANT1	
2412	
2462	

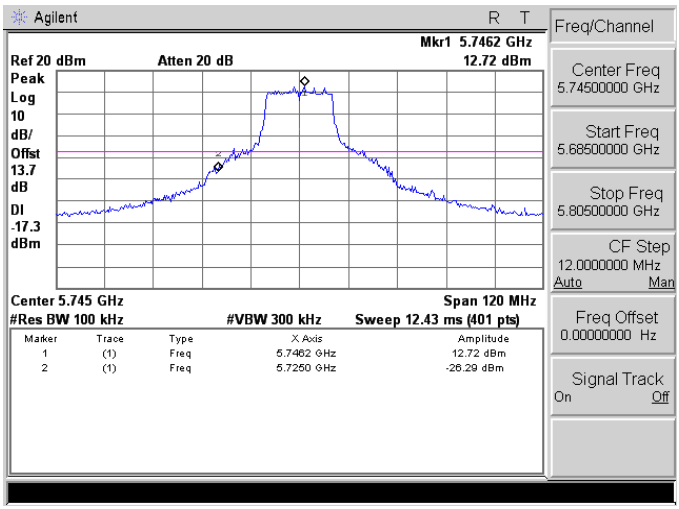
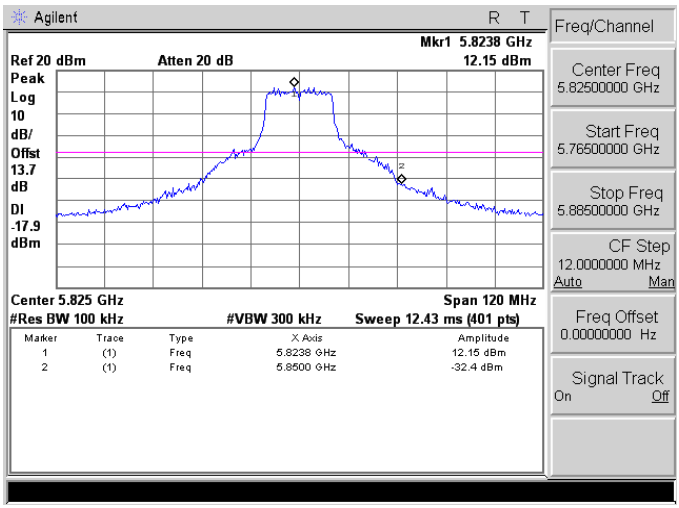
Mode 4: IEEE 802.11n 2.4GHz 20MHz Link Mode _ ANT2	
2412	
2462	

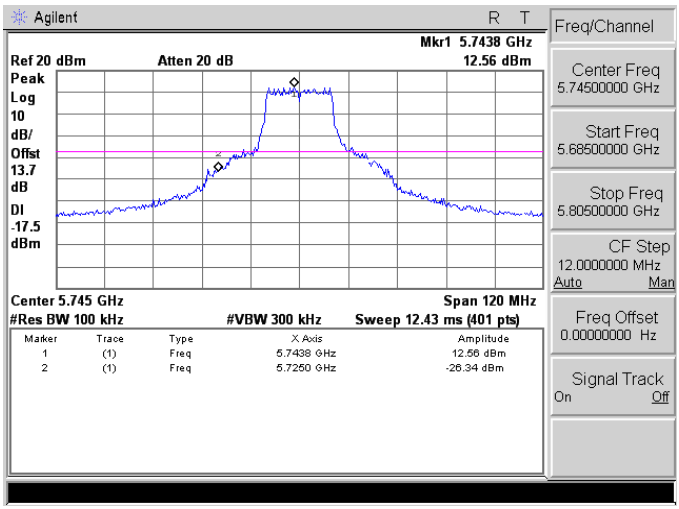
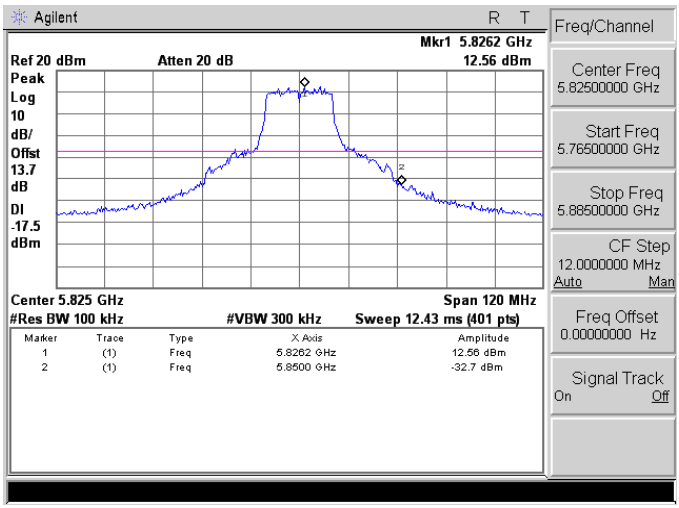
Mode 5: IEEE 802.11n 2.4GHz 40MHz Link Mode _ ANT0	
2422	
2452	

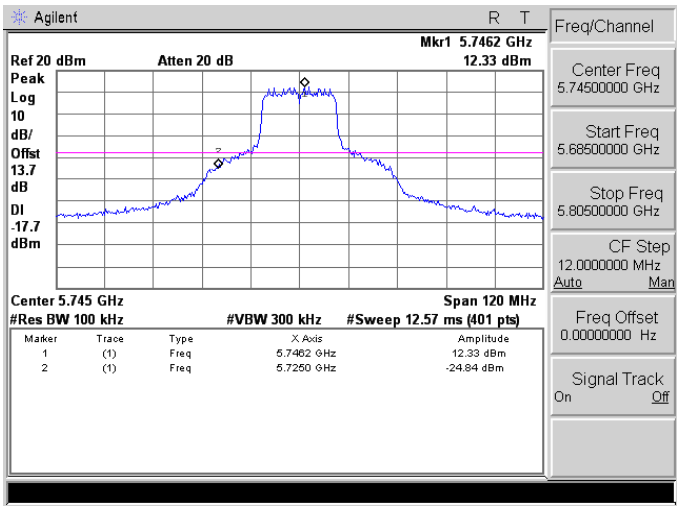
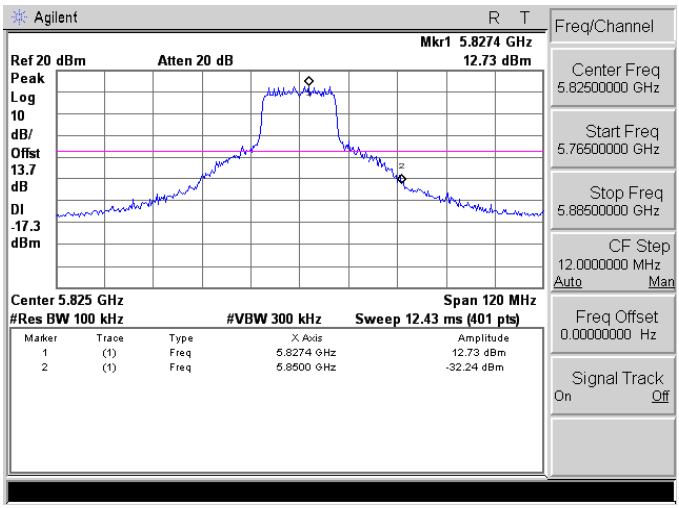
Mode 5: IEEE 802.11n 2.4GHz 40MHz Link Mode _ ANT1	
2422	
2452	

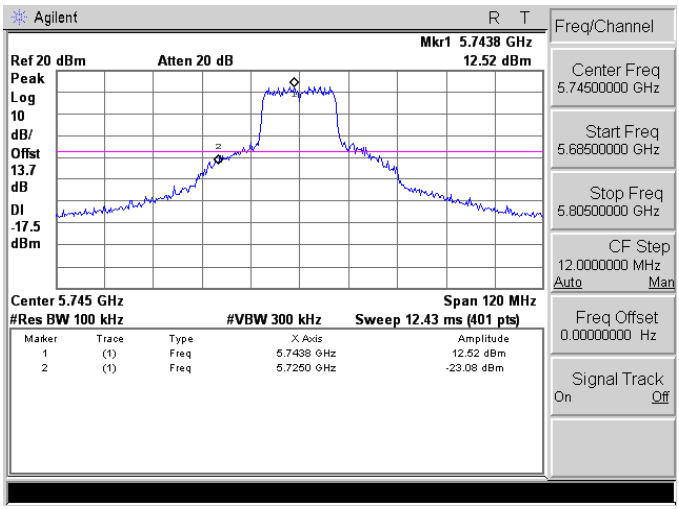
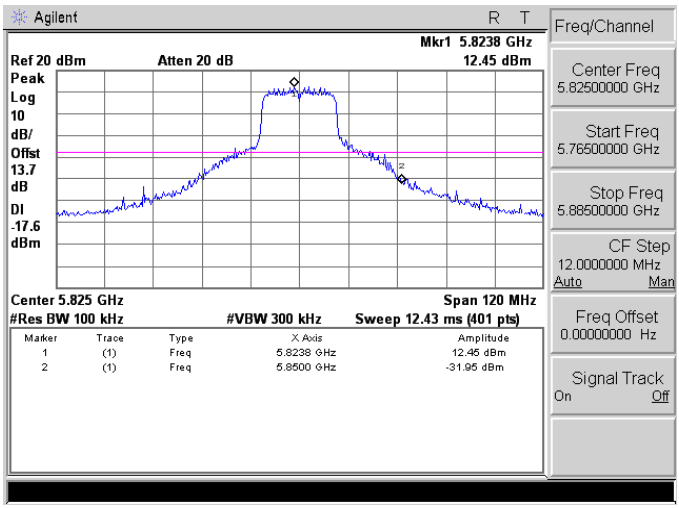
Mode 5: IEEE 802.11n 2.4GHz 40MHz Link Mode _ ANT2	
2422	
2452	

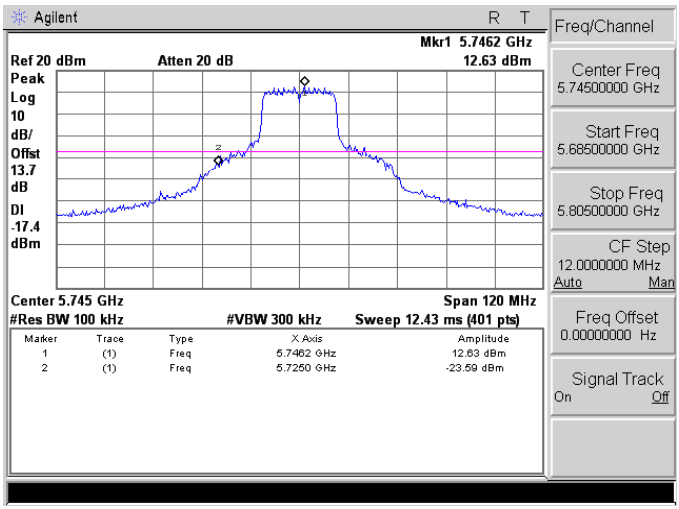
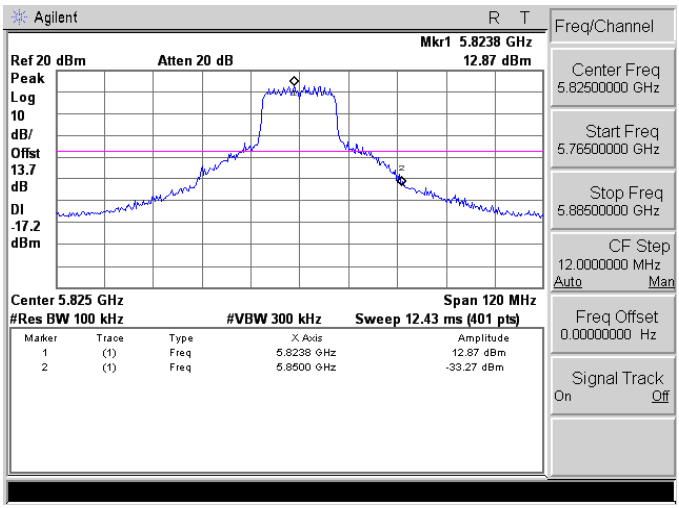
Mode 6: IEEE 802.11a U-NII Band III Link Mode_ANT-0	
5745	
5825	

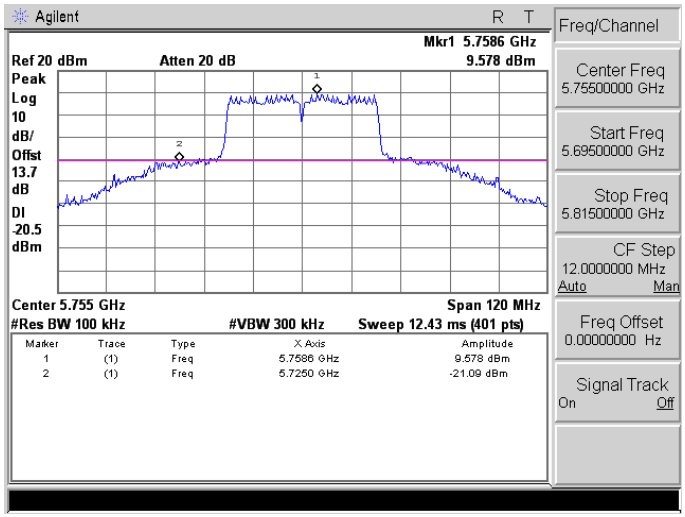
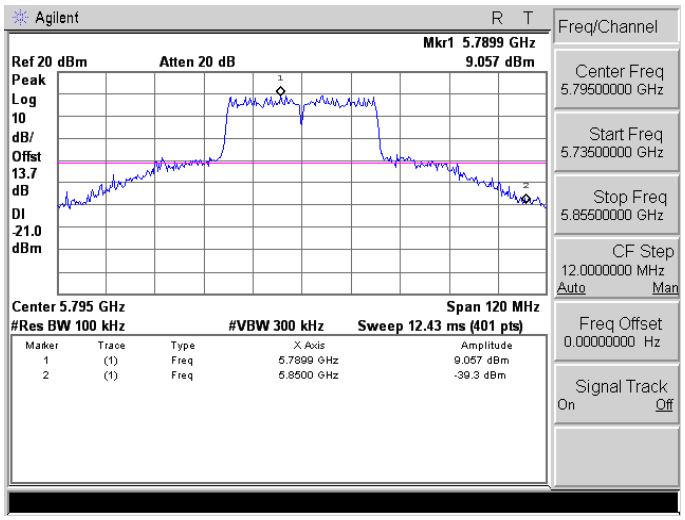
Mode 6: IEEE 802.11a U-NII Band III Link Mode_ANT-1	
5745	
5825	

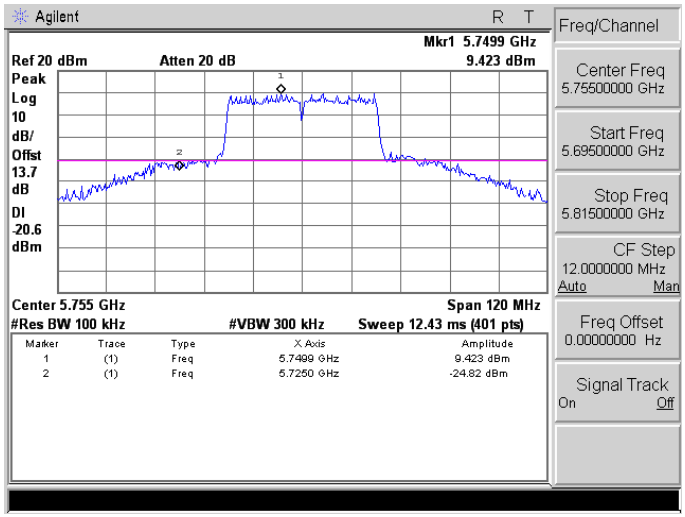
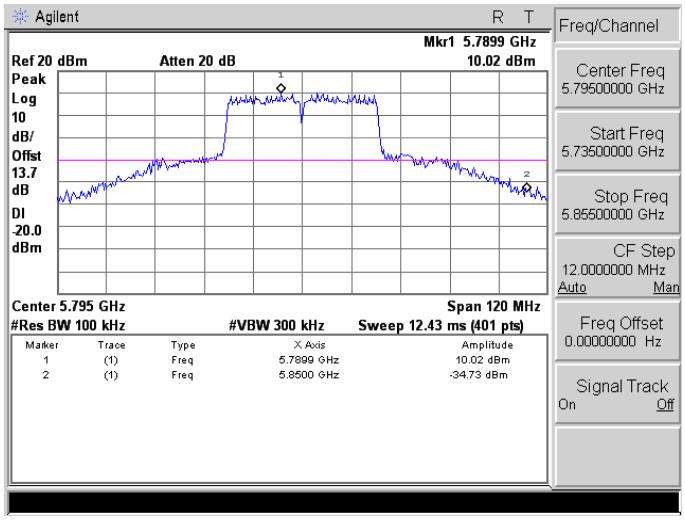
Mode 6: IEEE 802.11a U-NII Band III Link Mode_ANT-2	
5745	
5825	

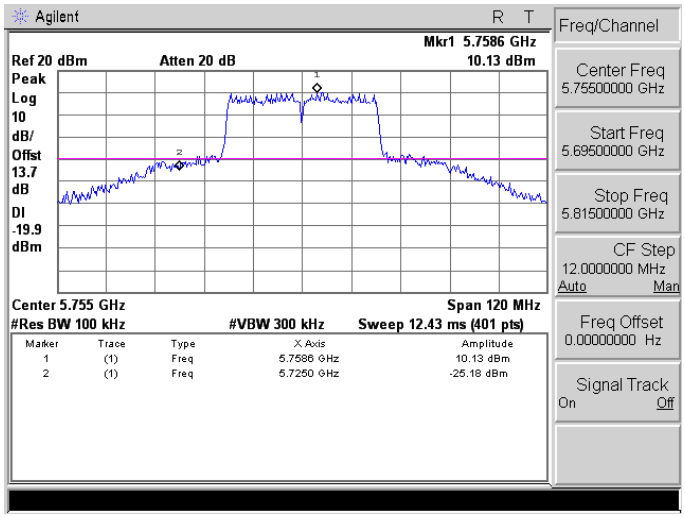
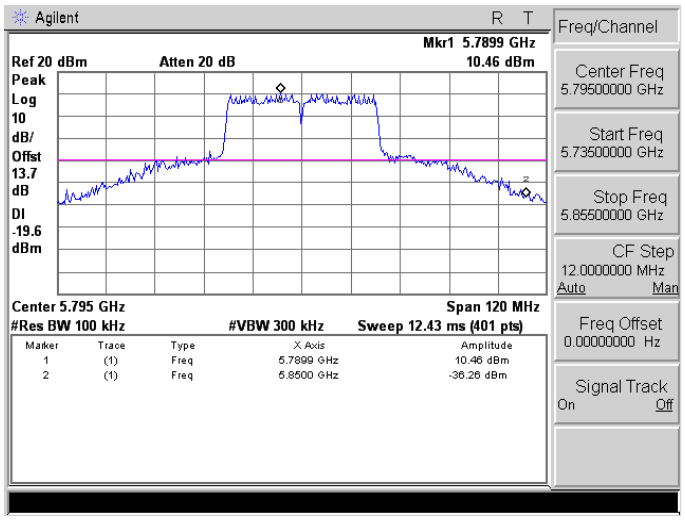
Mode 7: IEEE 802.11ac U-NII Band III 20MHz Link Mode _ ANT0	
5745	
5825	

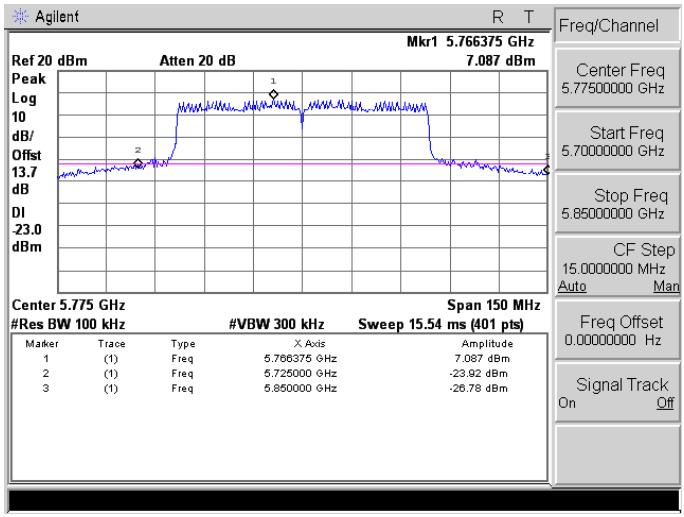
Mode 7: IEEE 802.11ac U-NII Band III 20MHz Link Mode _ ANT1	
5745	
5825	

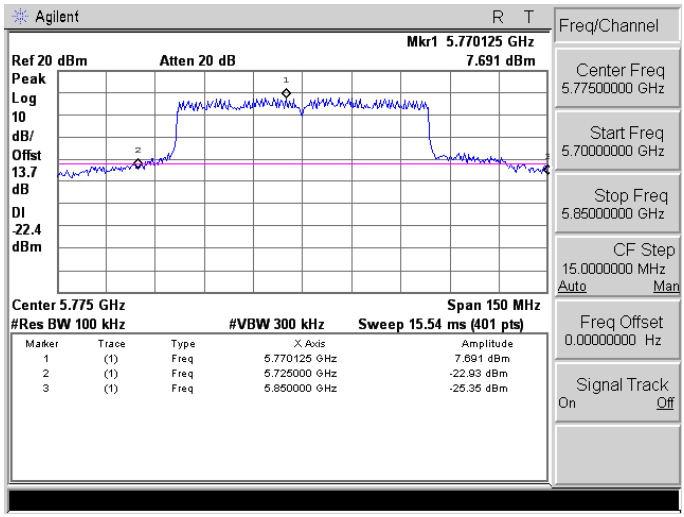
Mode 7: IEEE 802.11ac U-NII Band III 20MHz Link Mode _ ANT2	
5745	
5825	

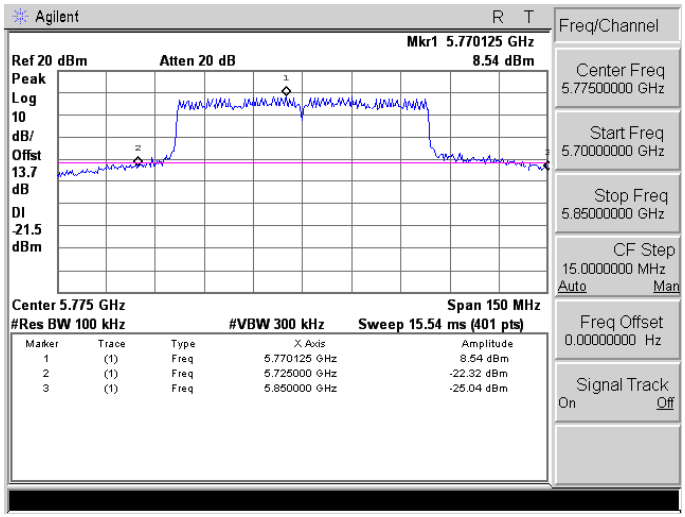
Mode 8: IEEE 802.11ac U-NII Band III 40MHz Link Mode _ ANT0	
5755	
5795	

Mode 8: IEEE 802.11ac U-NII Band III 40MHz Link Mode _ ANT1	
5755	
5795	

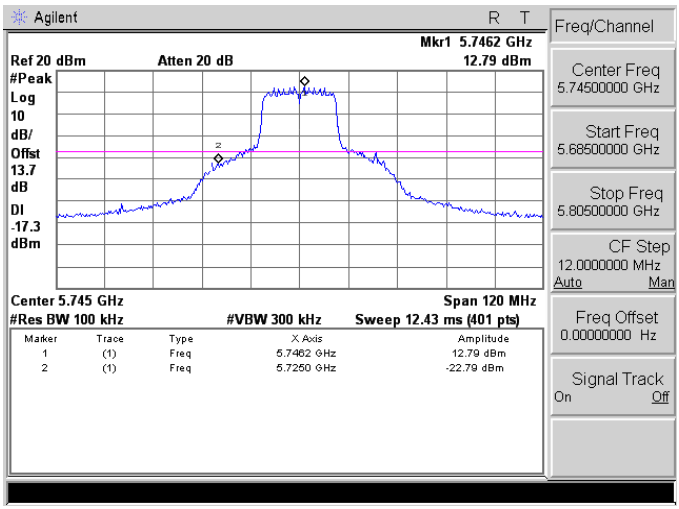
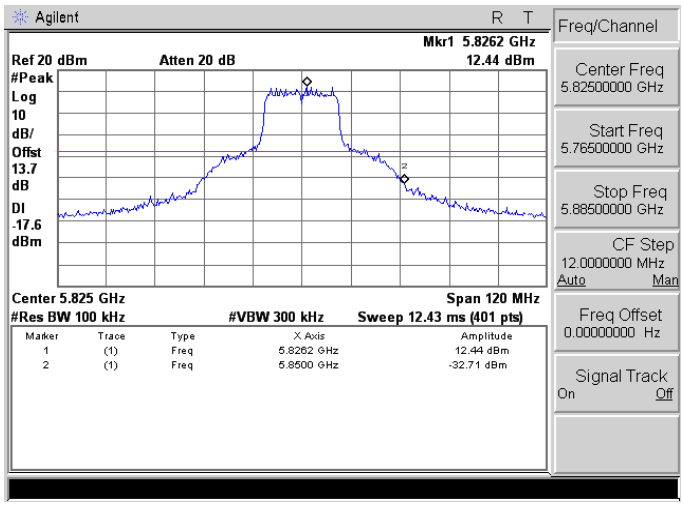
Mode 8: IEEE 802.11ac U-NII Band III 40MHz Link Mode _ ANT2	
5755	
5795	

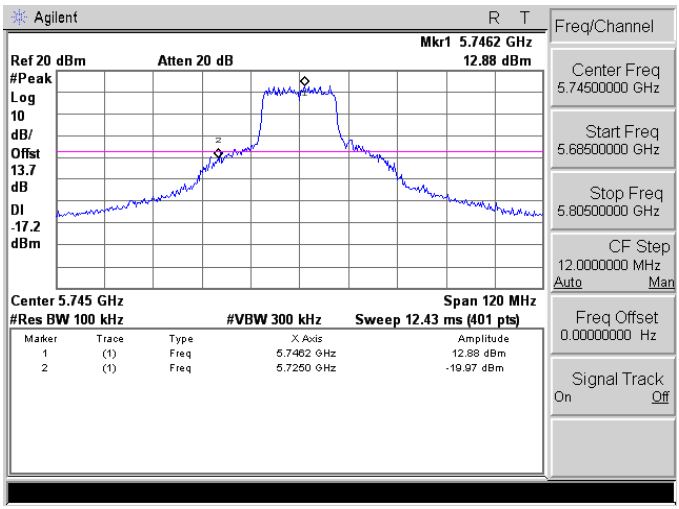
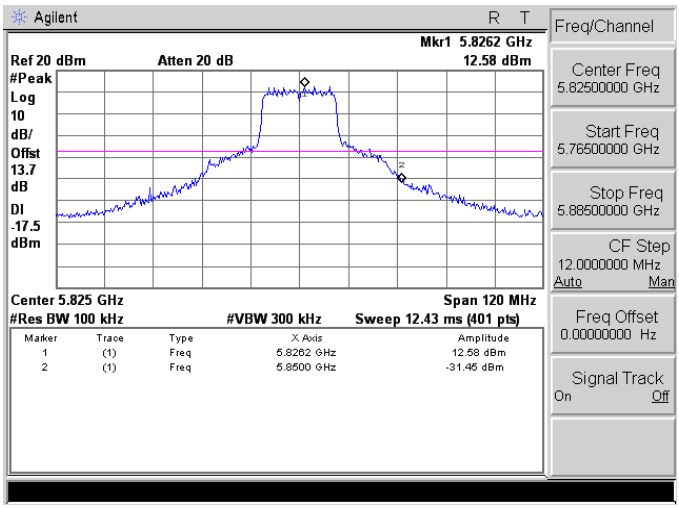
Mode 9: IEEE 802.11ac U-NII Band III 80MHz Link Mode _ ANT0	
5775	

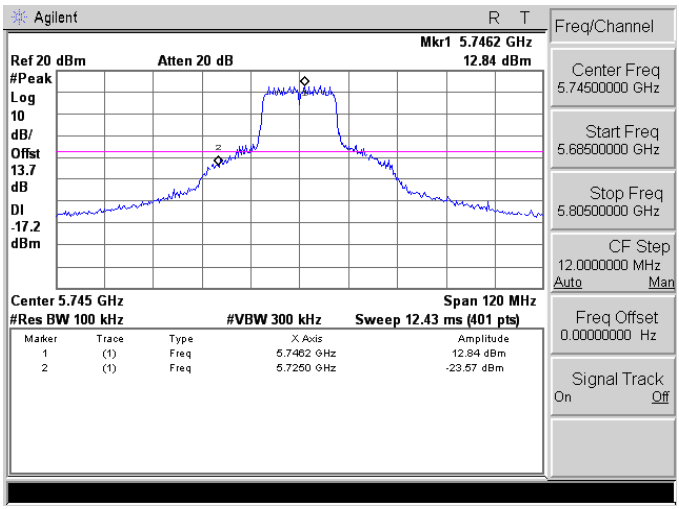
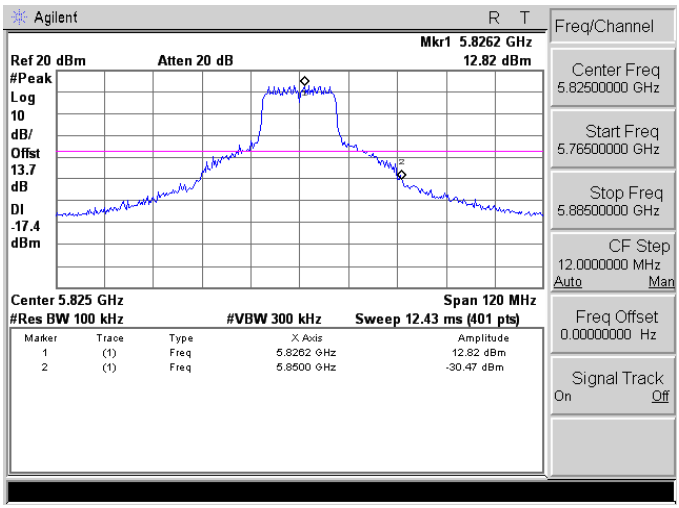
Mode 9: IEEE 802.11ac U-NII Band III 80MHz Link Mode _ ANT1	
5775	

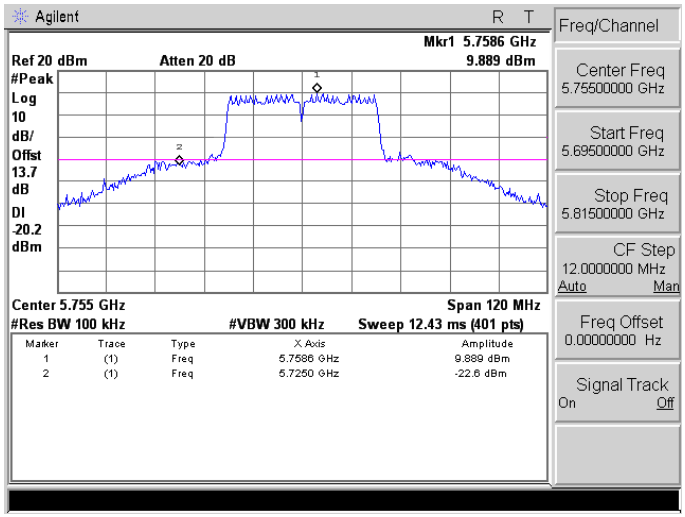
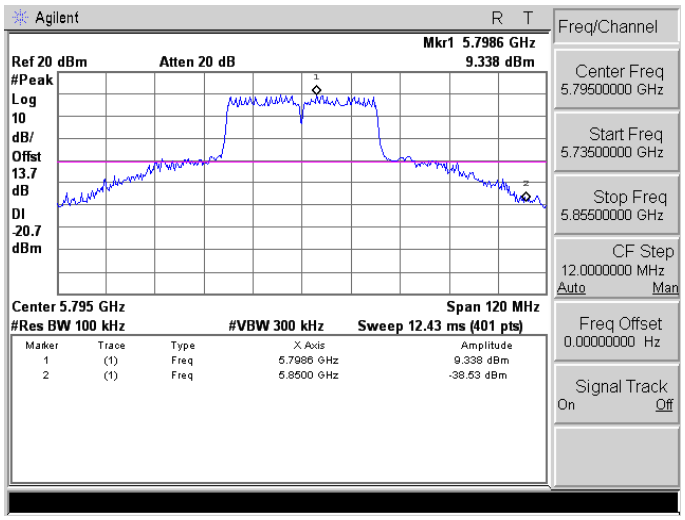
Mode 9: IEEE 802.11ac U-NII Band III 80MHz Link Mode _ ANT2	
5775	

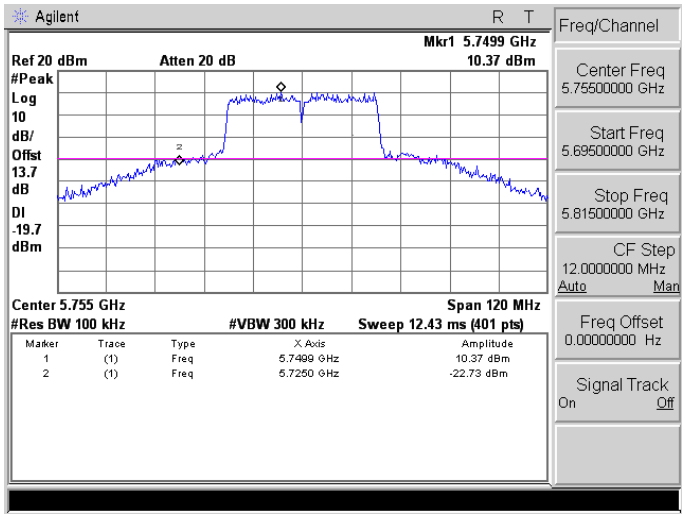
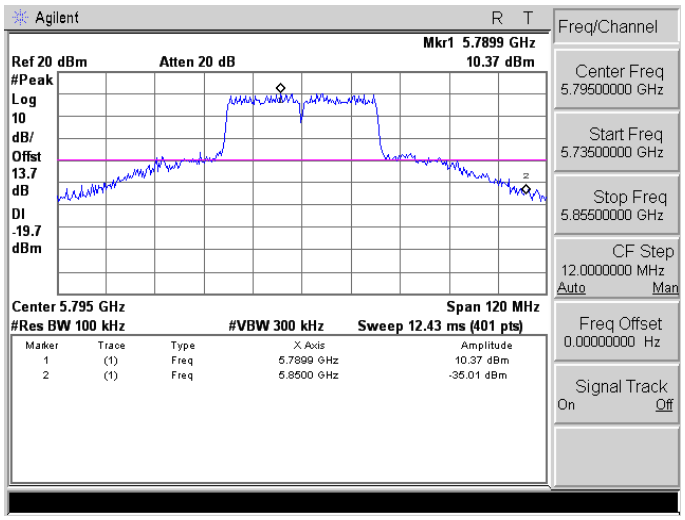
Beamforming on

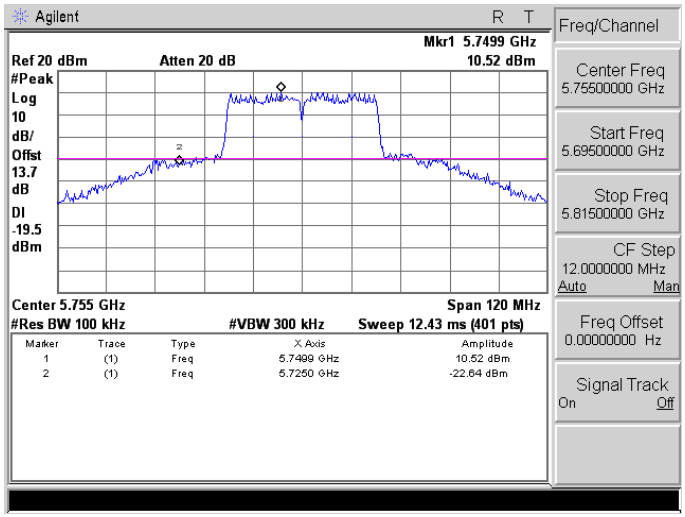
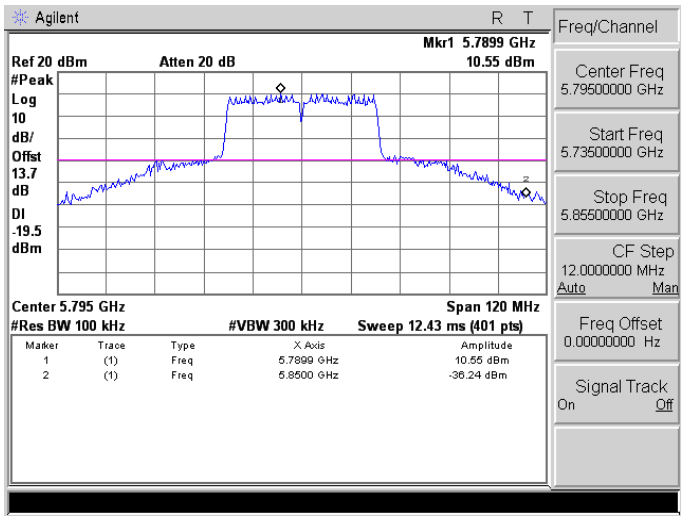
Mode 7: IEEE 802.11ac U-NII Band III 20MHz Link Mode _ ANT0	
5745	
5825	

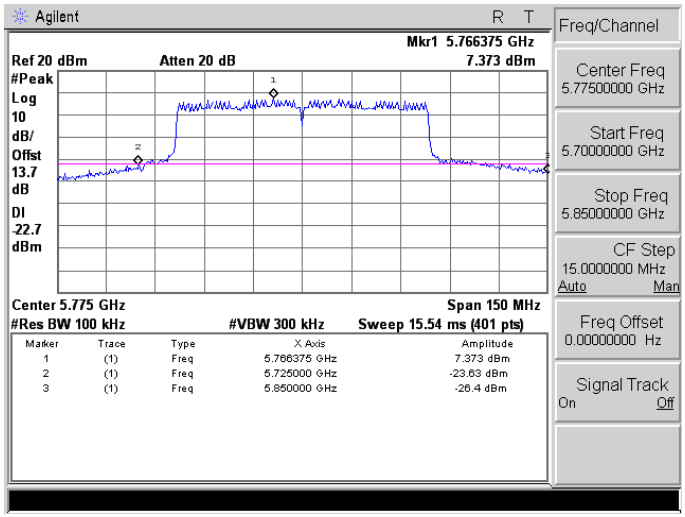
Mode 7: IEEE 802.11ac U-NII Band III 20MHz Link Mode _ ANT1	
5745	
5825	

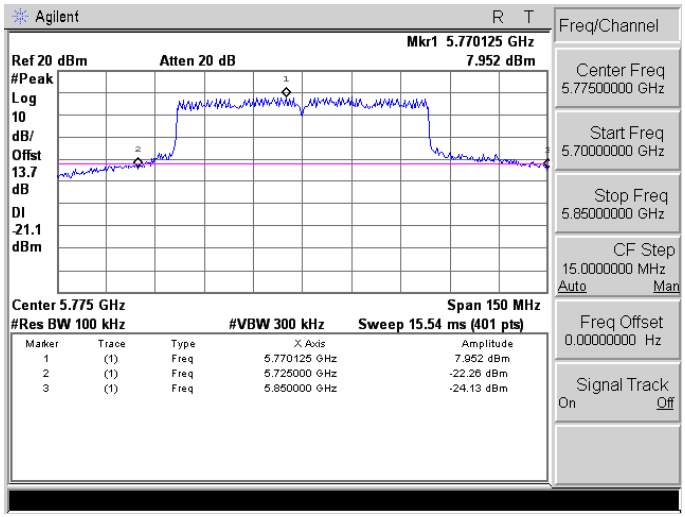
Mode 7: IEEE 802.11ac U-NII Band III 20MHz Link Mode _ ANT2	
5745	
5825	

Mode 8: IEEE 802.11ac U-NII Band III 40MHz Link Mode _ ANT0	
5755	
5795	

Mode 8: IEEE 802.11ac U-NII Band III 40MHz Link Mode _ ANT1	
5755	
5795	

Mode 8: IEEE 802.11ac U-NII Band III 40MHz Link Mode _ ANT2	
5755	
5795	

Mode 9: IEEE 802.11ac U-NII Band III 80MHz Link Mode _ ANT0	
5775	

Mode 9: IEEE 802.11ac U-NII Band III 80MHz Link Mode _ ANT1	
5775	

Mode 9: IEEE 802.11ac U-NII Band III 80MHz Link Mode _ ANT2	
5775