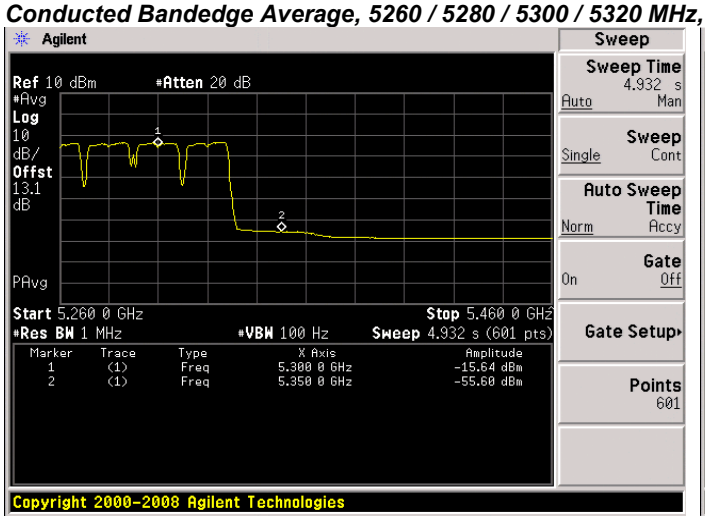
Conducted Band Edge Average Table

Frequency (MHz)	Mode	Tx Paths	Target Power Setting (dBm)	Correlated Antenna Gain (dBi)	Tx 1 Bandedge Level (dBm)	Tx 2 Bandedge Level (dBm)	Tx 3 Bandedge Level (dBm)	Tx 4 Bandedge Level (dBm)	Total Tx Bandedge Level (dBm)	Limit (dBm)	Margin (dB)
5290	Non HT/VHT80, 6 to 54 Mbps	4	5	7	-55.6	-54.44	-53.65	-53.79	-41.28	-41.25	0.03
	HT/VHT80, M0 to M7, M0.1 to M9.1	4	8	7	-54.05	-54.59	-54.99	-55.67	-41.76	-41.25	0.51
	HT/VHT80 Beam Forming, M8 to M15, M0.2 to M9.2	2	12	7	-52.3	-51.66			-41.96	-41.25	0.71
	HT/VHT80 Beam Forming, M16 to M23, M0.3 to M9.3	3	10	7	-53.41	-52.97	-54.68		-41.86	-41.25	0.61
5310	Non HT/VHT40, 6 to 54 Mbps	3	11	7	-52.95	-55.37	-54.87		-42.50	-41.25	1.25
	HT/VHT40, M8 to M15, M0.2 to M9.2	4	11	7	-55.28	-55.63	-54.58	-55.65	-42.24	-41.25	0.99
	HT/VHT40 Beam Forming, M0 to M7, M0.1 to M9.1	2	11	10	-55.1	-55.23			-42.15	-41.25	0.90
	HT/VHT40 Beam Forming, M16 to M23, M0.3 to M9.3	3	13	7	-53.5	-53.58	-53.7		-41.82	-41.25	0.57
5320	Non HT/VHT20, 6 to 54 Mbps	1	16	7	-51.41				-44.41	-41.25	3.16
	Non HT/VHT20 Beam Forming, 6 to 54 Mbps	2	16	10	-56.53	-56.78			-43.64	-41.25	2.39
	HT/VHT20, M8 to M15, M0.2 to M9.2	3	14	7	-53.5	-53.69	-55.19		-42.29	-41.25	1.04
	HT/VHT20, M16 to M23, M0.3 to M9.3	4	13	7	-55.33	-55.01	-55.4	-56.86	-42.57	-41.25	1.32

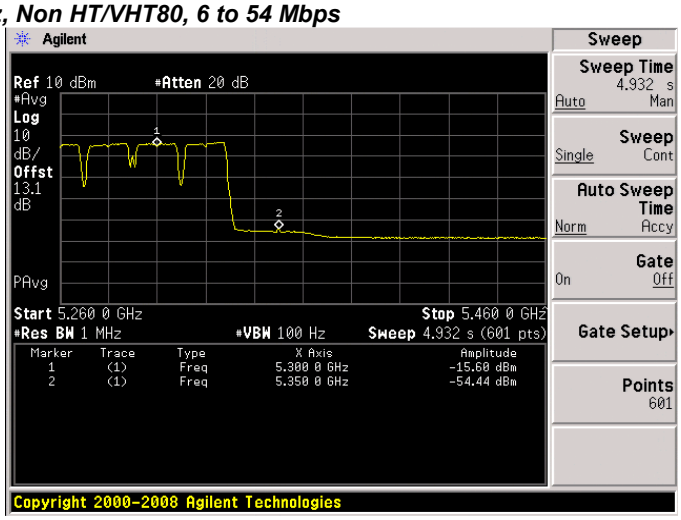
Conducted Band Edge Peak Table

Frequency (MHz)	Mode	Tx Paths	Target Power Setting (dBm)	Correlated Antenna Gain (dBi)	Tx 1 Bandedge Level (dBm)	Tx 2 Bandedge Level (dBm)	Tx 3 Bandedge Level (dBm)	Tx 4 Bandedge Level (dBm)	Total Tx Bandedge Level (dBm)	Limit (dBm)	Margin (dB)
5290	Non HT/VHT80, 6 to 54 Mbps	4	5	7	-38.41	-39.82	-39.73	-36.2	-25.26	-21.25	4.01
	HT/VHT80, M0 to M7, M0.1 to M9.1	4	8	7	-41.55	-37.04	-35.11	-40.04	-24.71	-21.25	3.46
	HT/VHT80 Beam Forming, M8 to M15, M0.2 to M9.2	2	12	7	-33.64	-34.4			-23.99	-21.25	2.74
	HT/VHT80 Beam Forming, M16 to M23, M0.3 to M9.3	3	10	7	-34.6	-38.39	-43.77		-25.73	-21.25	4.48
5310	Non HT/VHT40, 6 to 54 Mbps	3	11	7	-41.38	-42.02	-44.24		-30.61	-21.25	9.36
	HT/VHT40, M8 to M15, M0.2 to M9.2	4	11	7	-42.13	-46.01	-40.67	-46.47	-30.11	-21.25	8.86
	HT/VHT40 Beam Forming, M0 to M7, M0.1 to M9.1	2	11	10	-38.94	-42.87			-27.46	-21.25	6.21
	HT/VHT40 Beam Forming, M16 to M23, M0.3 to M9.3	3	13	7	-39.5	-43.46	-42.53		-29.71	-21.25	8.46
5320	Non HT/VHT20, 6 to 54 Mbps	1	16	7	-45.05				-38.05	-21.25	16.80
	Non HT/VHT20 Beam Forming, 6 to 54 Mbps	2	16	10	-52.19	-51.11			-38.61	-21.25	17.36
	HT/VHT20, M8 to M15, M0.2 to M9.2	3	14	7	-45.65	-44.54	-48.62		-34.18	-21.25	12.93
	HT/VHT20, M16 to M23, M0.3 to M9.3	4	13	7	-41.88	-47.21	-47.52	-49.43	-32.47	-21.25	11.22

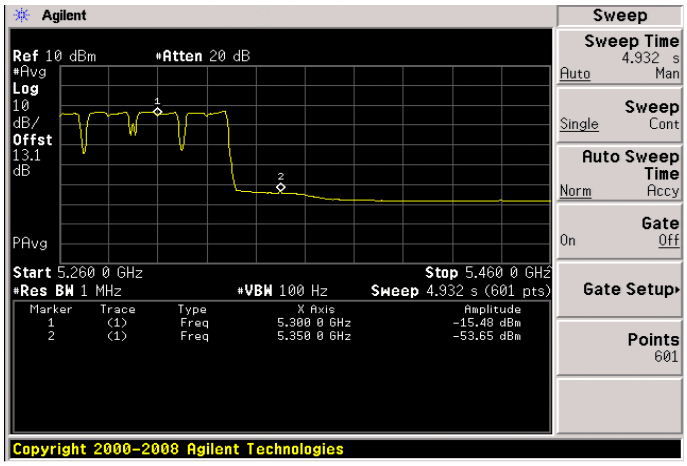
Conducted Bandedge Average, 5260 / 5280 / 5300 / 5320 MHz, Non HT/VHT80, 6 to 54 Mbps



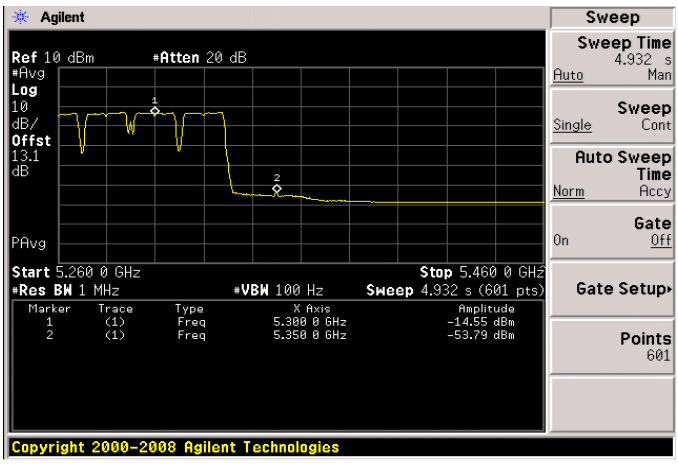
Antenna A



Antenna B

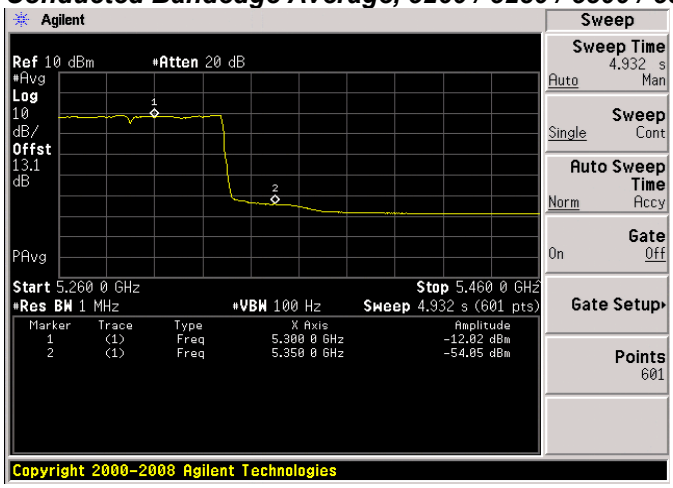


Antenna C

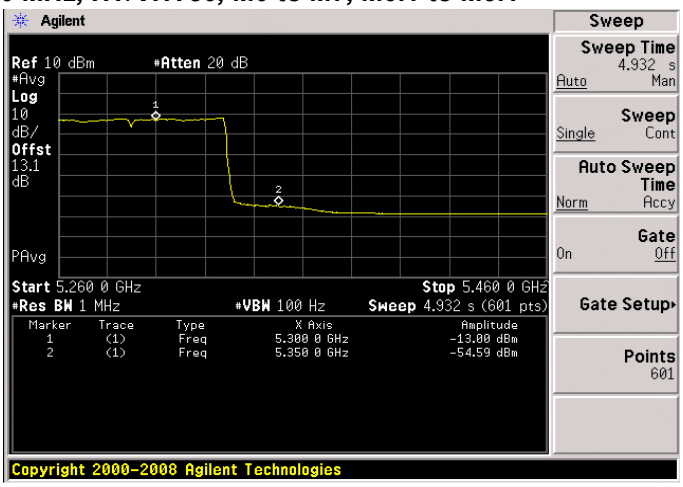


Antenna D

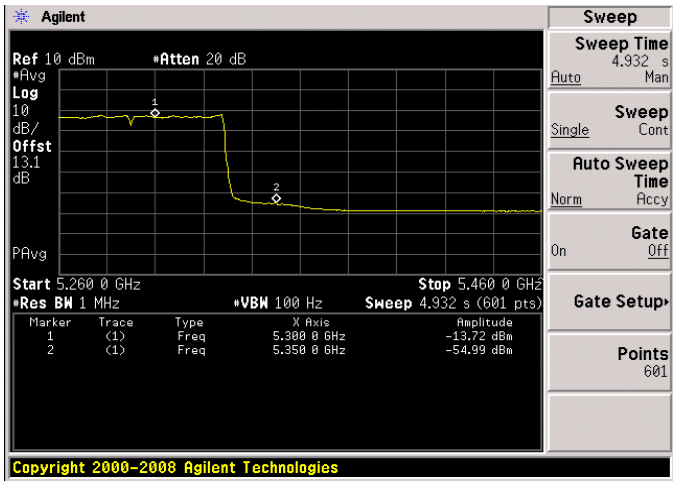
Conducted Bandedge Average, 5260 / 5280 / 5300 / 5320 MHz, HT/VHT80, M0 to M7, M0.1 to M9.1



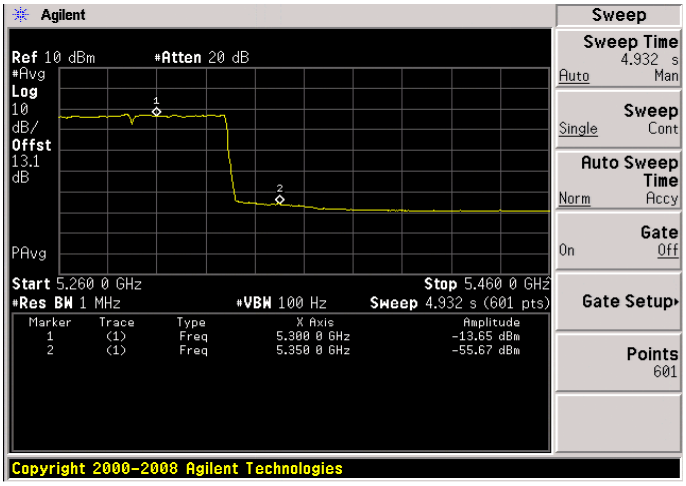
Antenna A



Antenna B

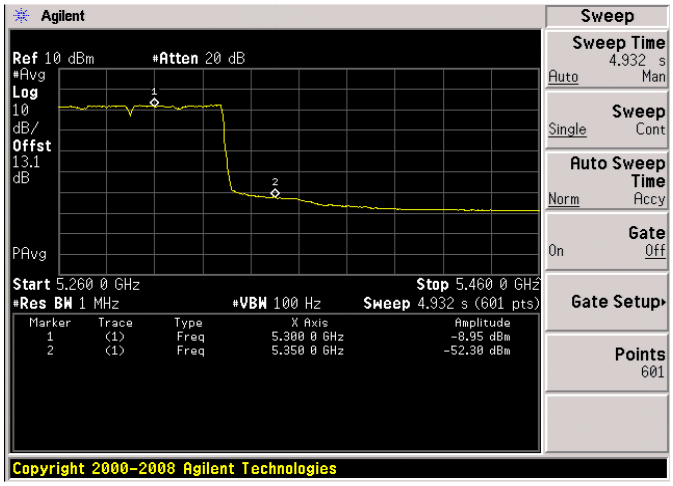


Antenna C

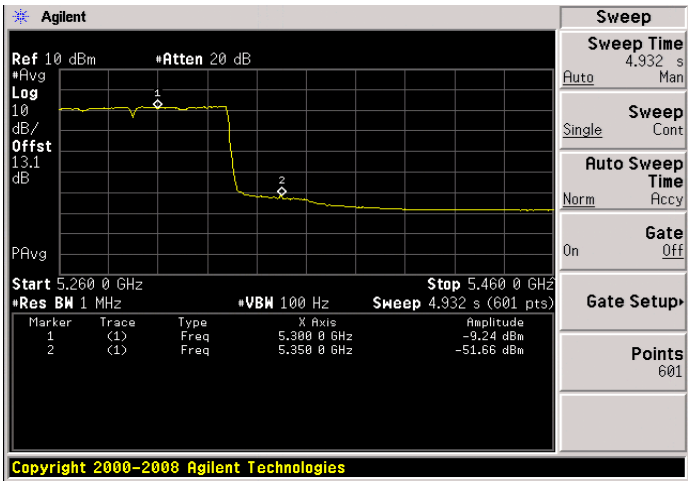


Antenna D

Conducted Bandedge Average, 5260 / 5280 / 5300 / 5320 MHz, HT/VHT80 Beam Forming, M8 to M15, M0.2 to M9.2

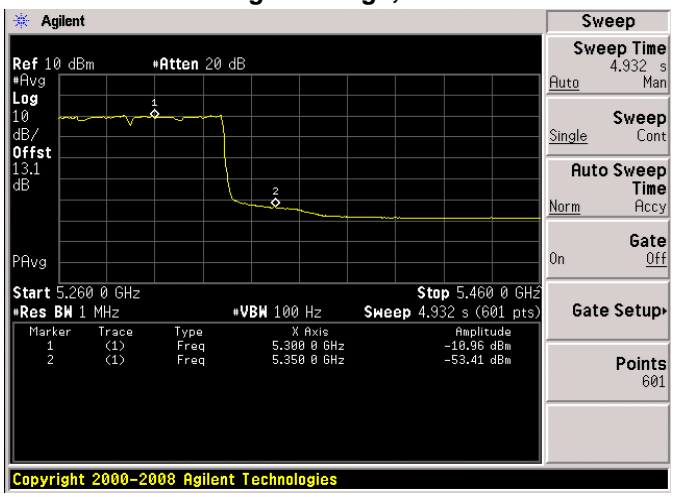


Antenna A

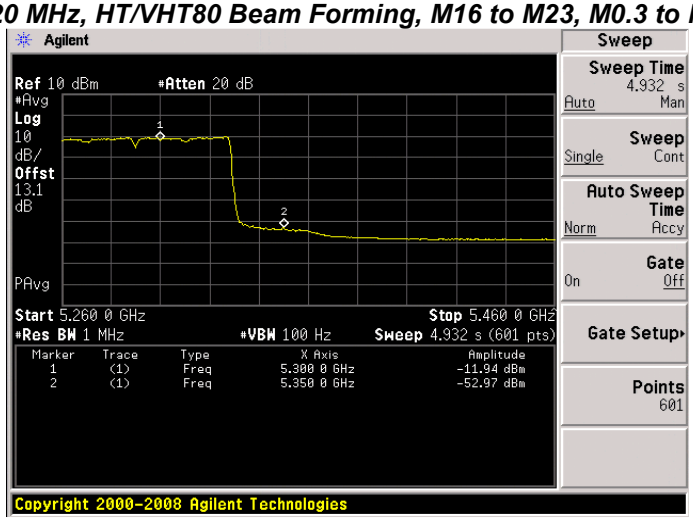


Antenna B

Conducted Bandedge Average, 5260 / 5280 / 5300 / 5320 MHz, HT/VHT80 Beam Forming, M16 to M23, M0.3 to M9.3



Antenna A



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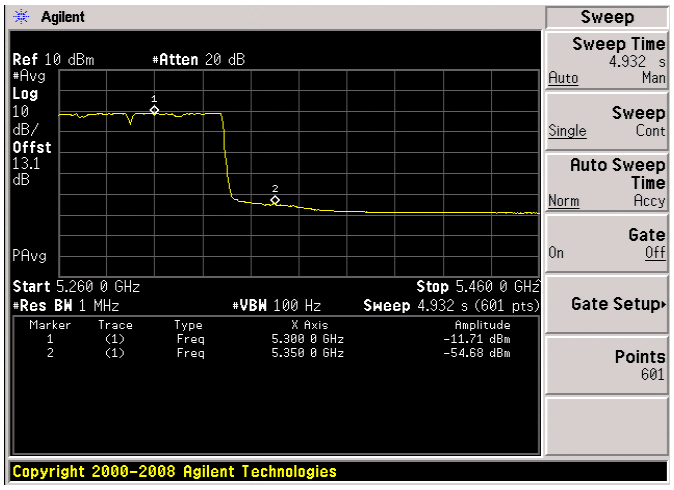
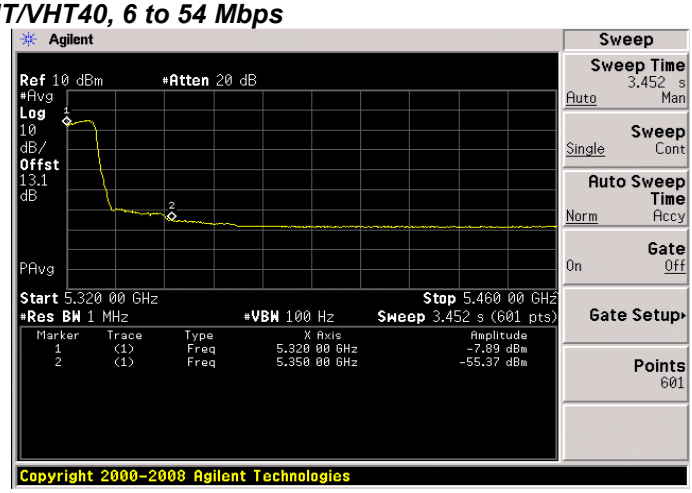


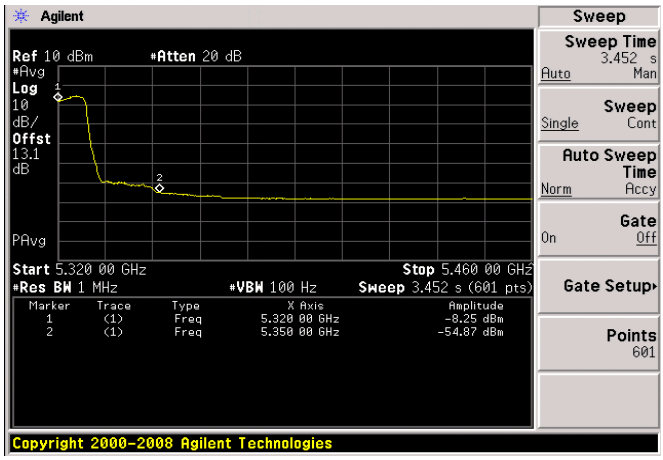
Antenna C

Conducted Bandedge Average, 5300/5320 MHz, Non HT/VHT40, 6 to 54 Mbps

Antenna A

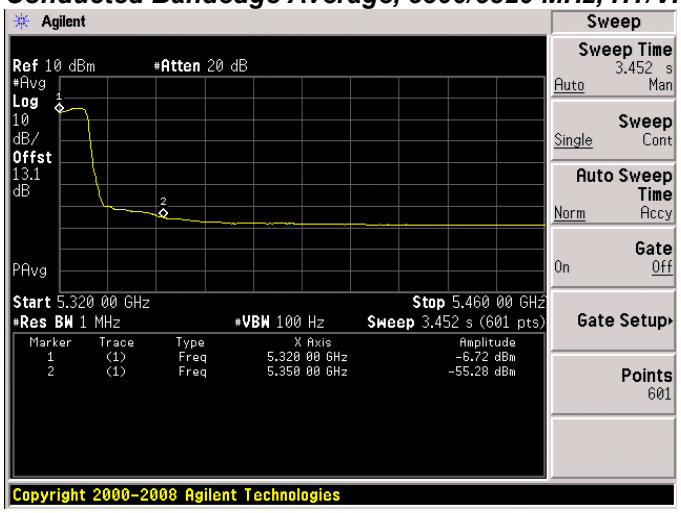


Antenna B

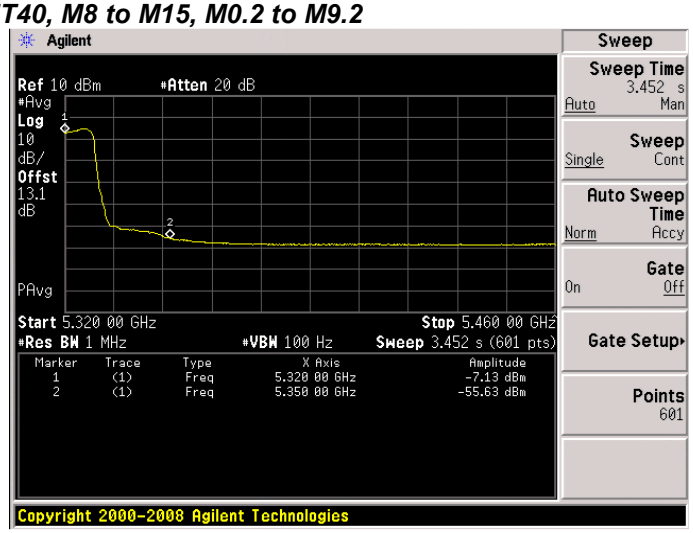


Antenna C

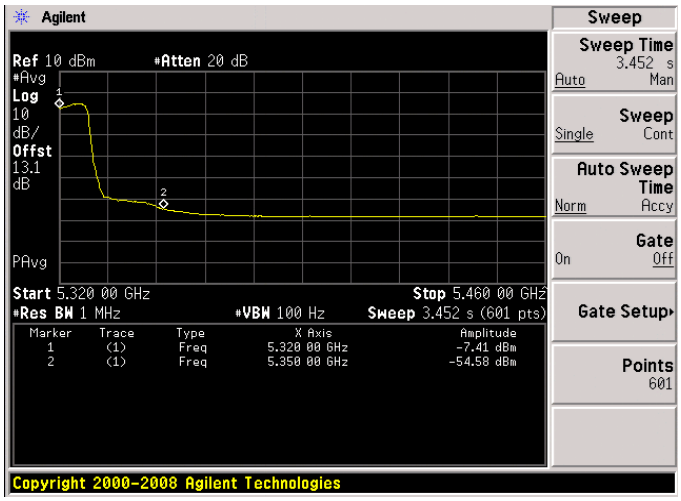
Conducted Bandedge Average, 5300/5320 MHz, HT/VHT40, M8 to M15, M0.2 to M9.2



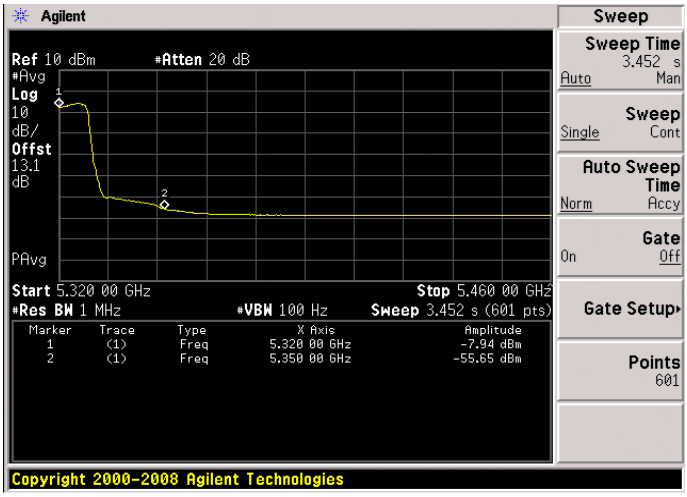
Antenna A



Antenna B

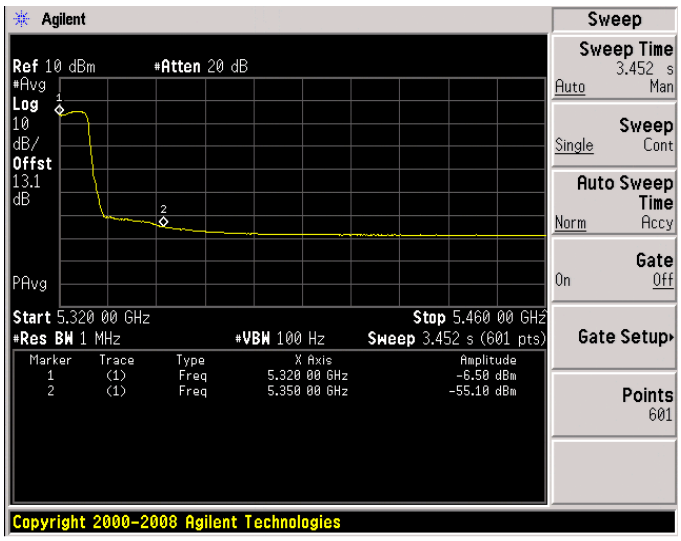


Antenna C

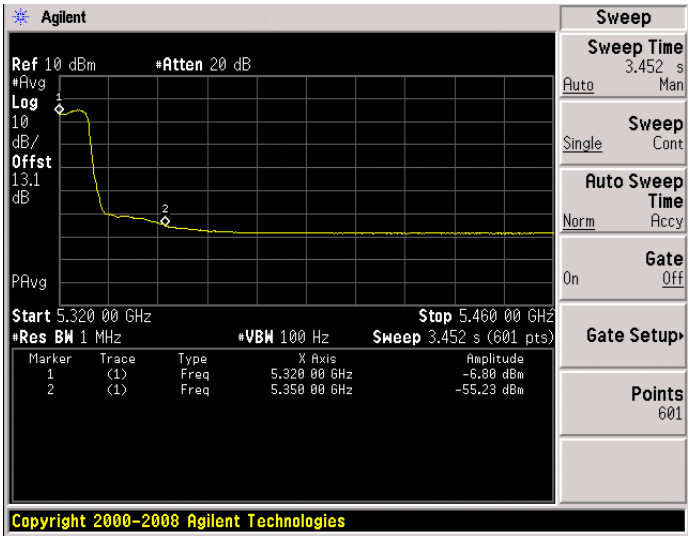


Antenna D

Conducted Bandedge Average, 5300/5320 MHz, HT/VHT40 Beam Forming, M0 to M7, M0.1 to M9.1

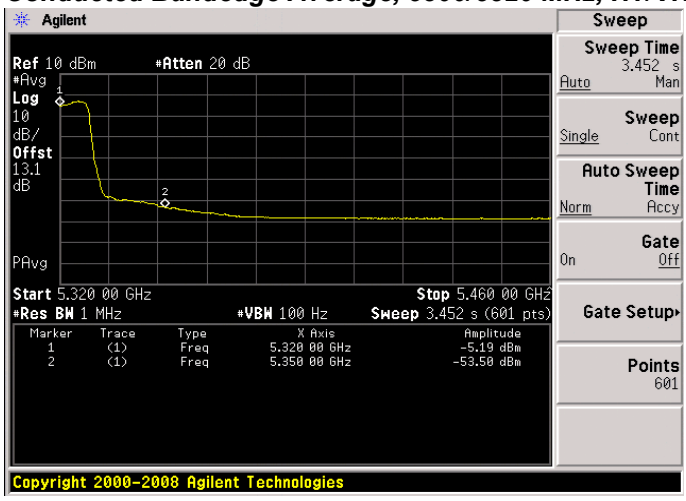


Antenna A

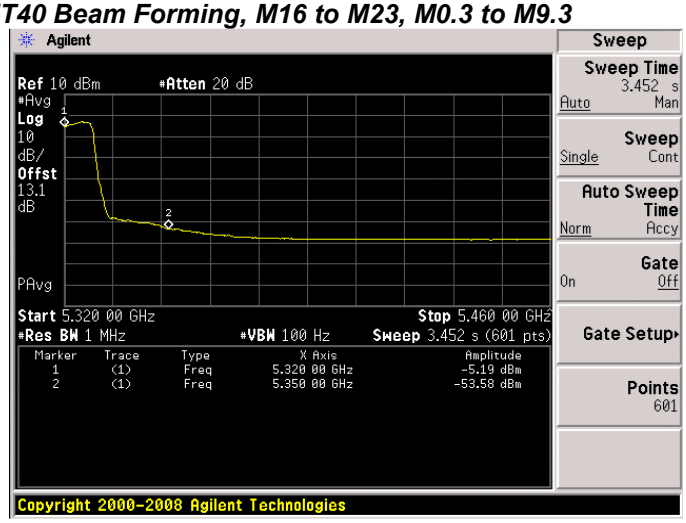


Antenna B

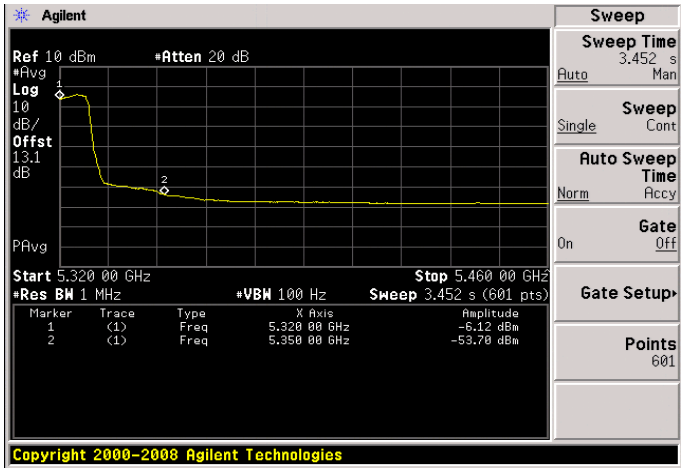
Conducted Bandedge Average, 5300/5320 MHz, HT/VHT40 Beam Forming, M16 to M23, M0.3 to M9.3



Antenna A

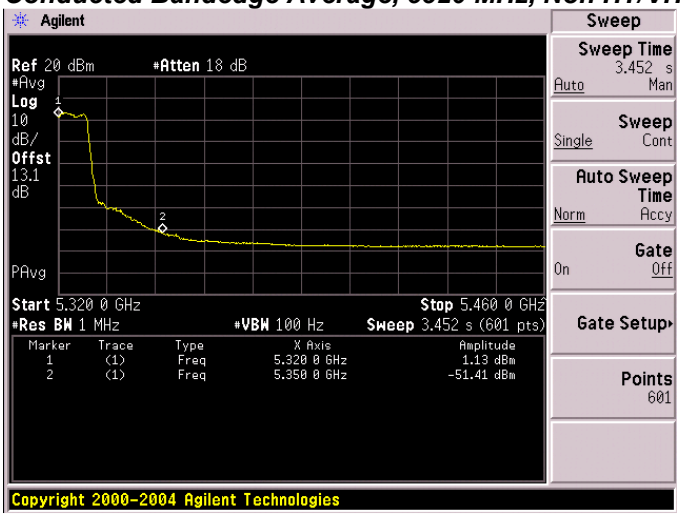


Antenna B



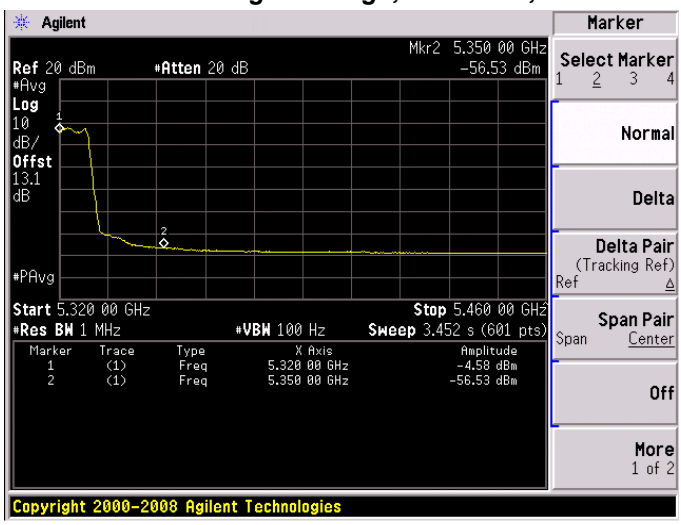
Antenna C

Conducted Bandedge Average, 5320 MHz, Non HT/VHT20, 6 to 54 Mbps

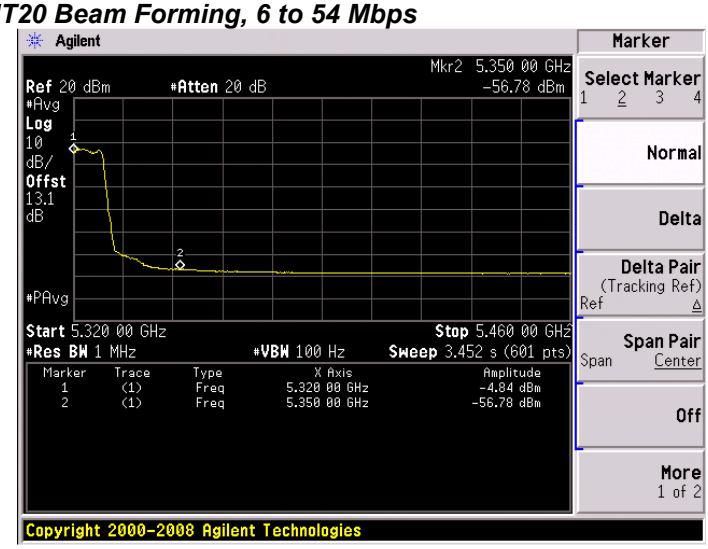


Antenna A

Conducted Bandedge Average, 5320 MHz, Non HT/VHT20 Beam Forming, 6 to 54 Mbps

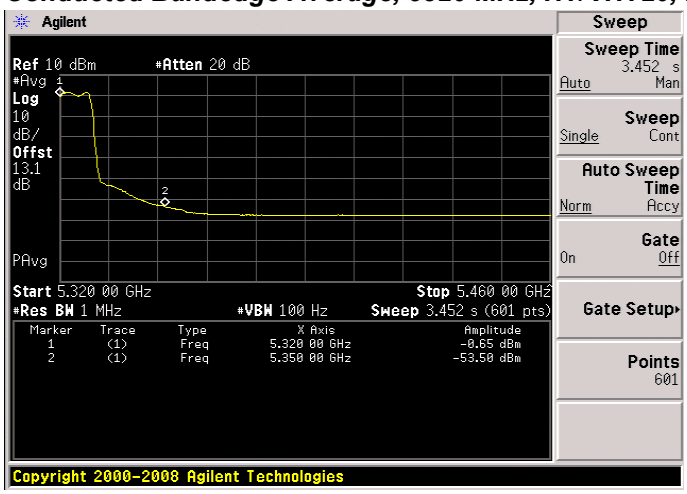


Antenna A

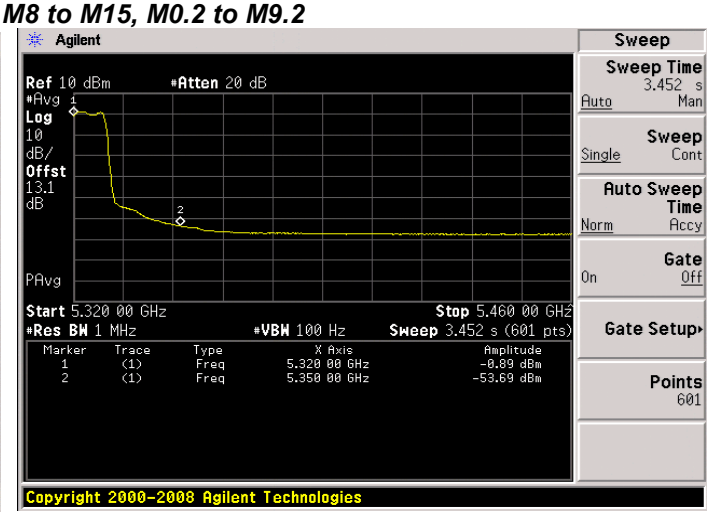


Antenna B

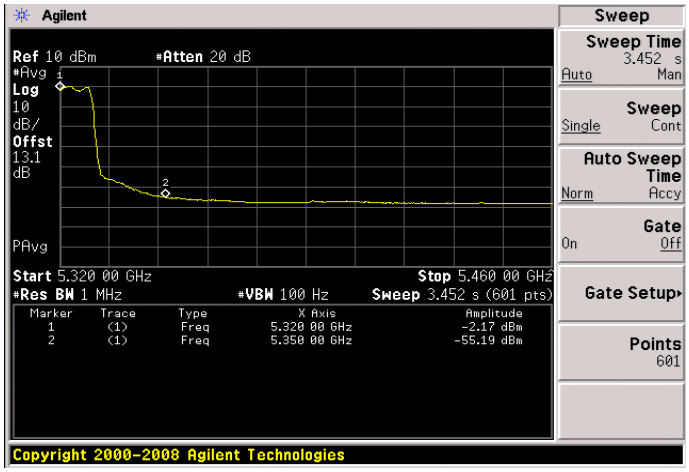
Conducted Bandedge Average, 5320 MHz, HT/VHT20, M8 to M15, M0.2 to M9.2



Antenna A

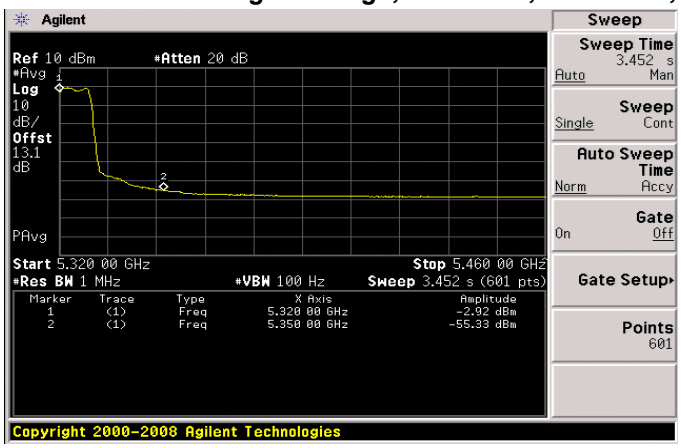


Antenna B

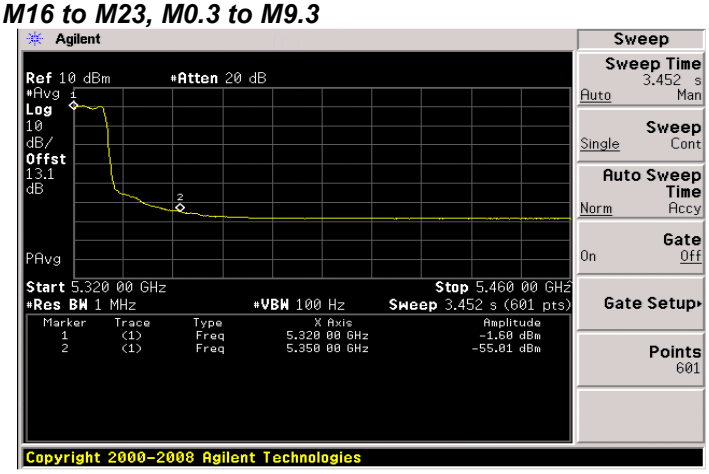


Antenna C

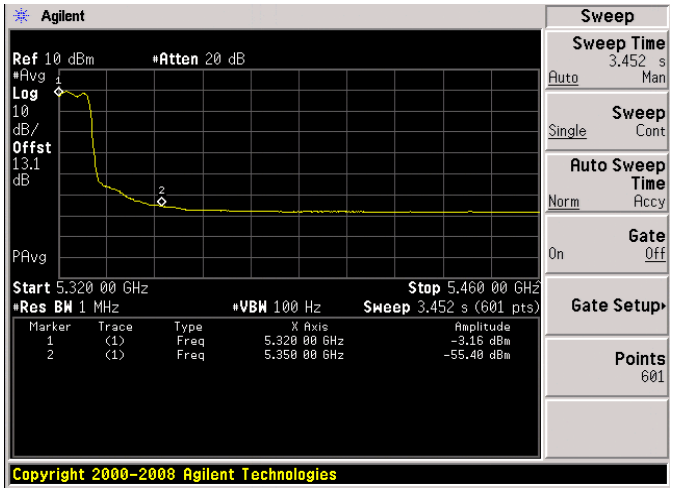
Conducted Bandedge Average, 5320 MHz, HT/VHT20, M16 to M23, M0.3 to M9.3



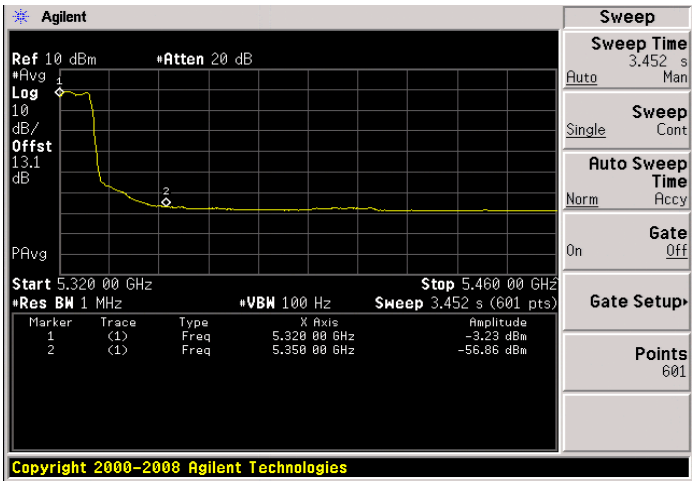
Antenna A



Antenna B

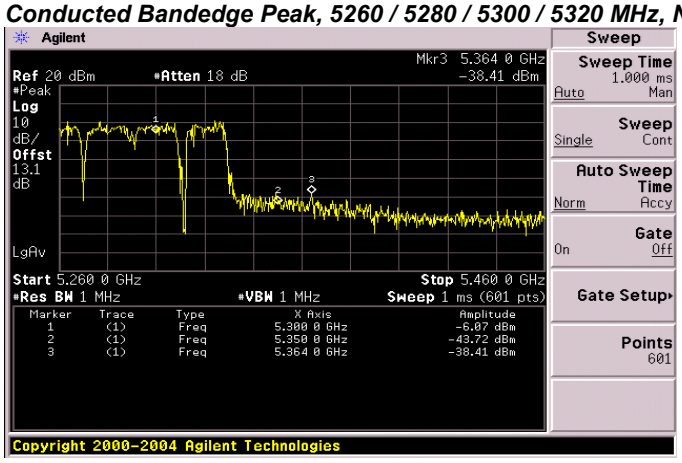


Antenna C

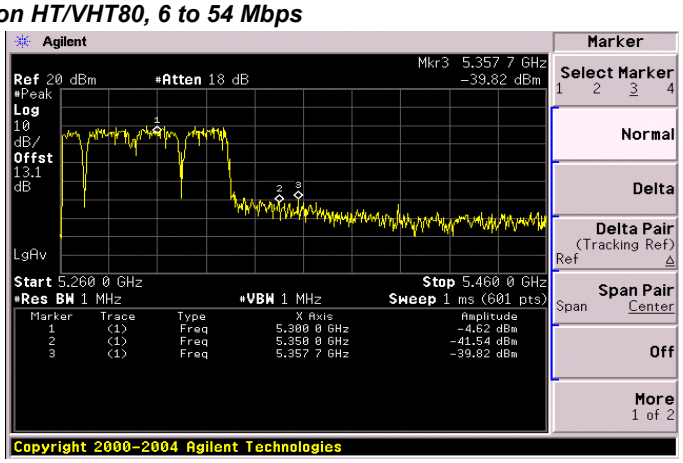


Antenna D

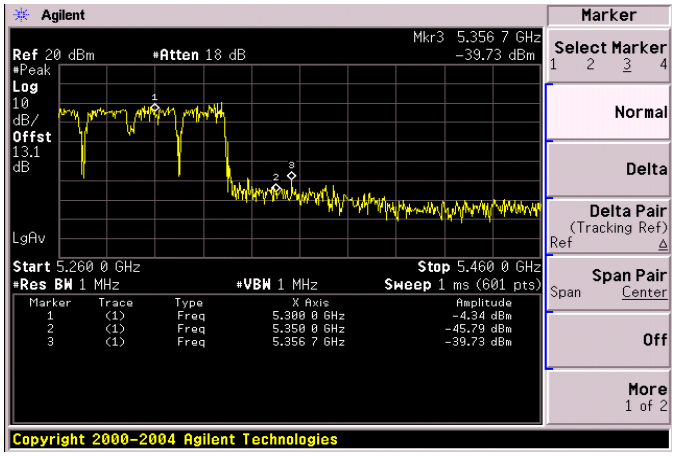
Conducted Bandedge Peak, 5260 / 5280 / 5300 / 5320 MHz, Non HT/VHT80, 6 to 54 Mbps



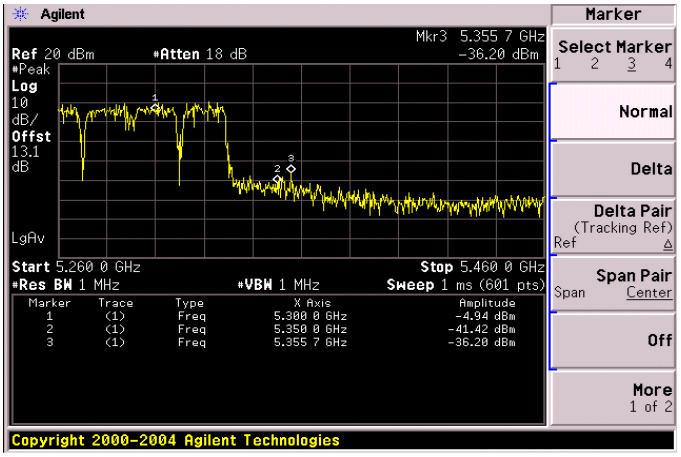
Antenna A



Antenna B

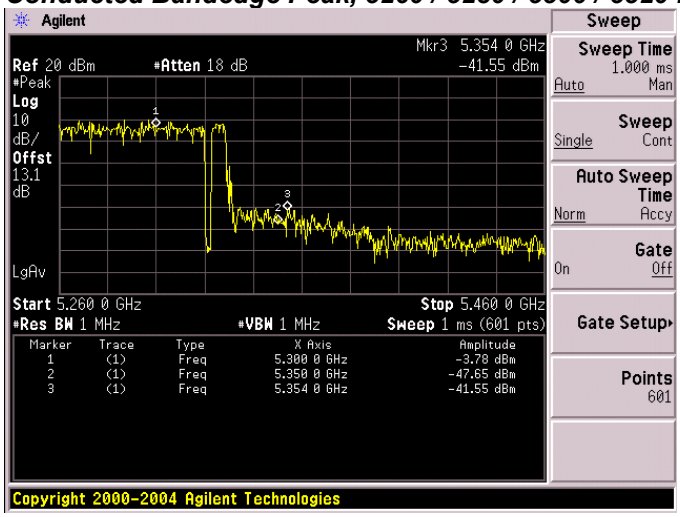


Antenna C

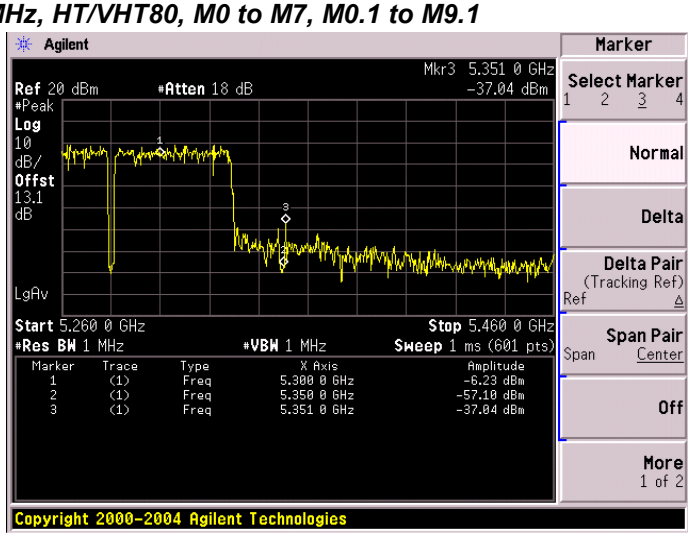


Antenna D

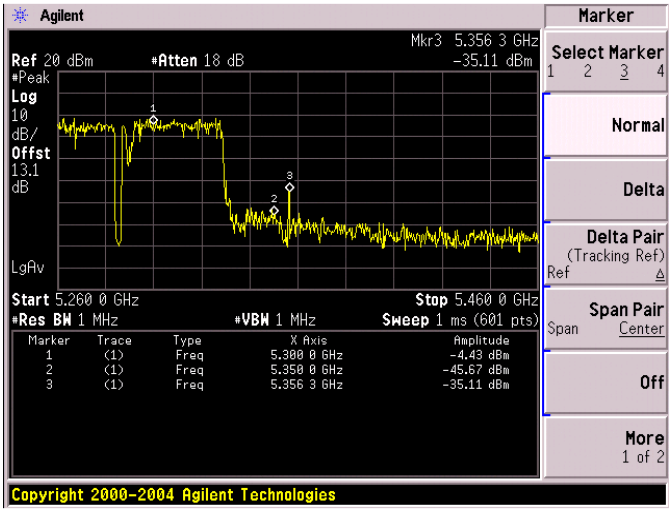
Conducted Bandedge Peak, 5260 / 5280 / 5300 / 5320 MHz, HT/VHT80, M0 to M7, M0.1 to M9.1



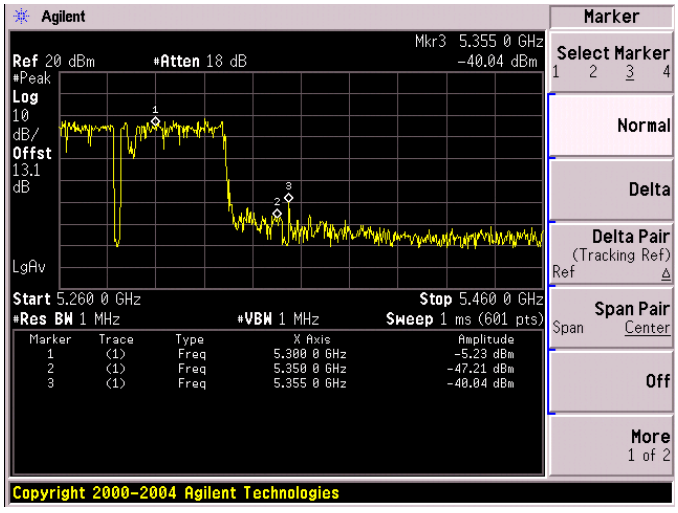
Antenna A



Antenna B

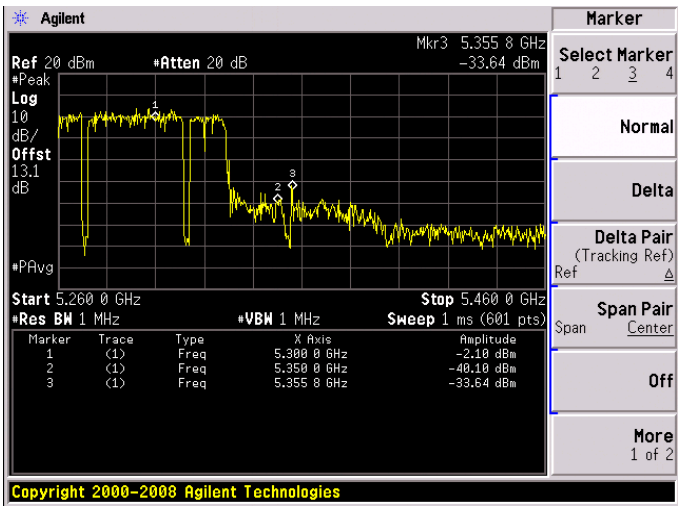


Antenna C

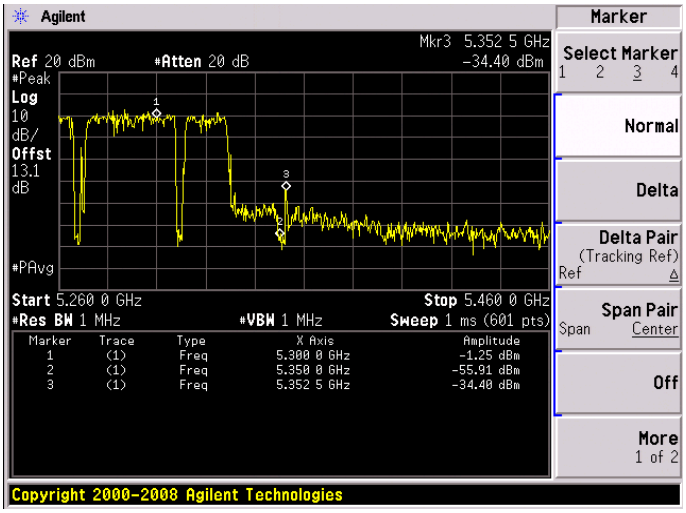


Antenna D

Conducted Bandedge Peak, 5260 / 5280 / 5300 / 5320 MHz, HT/VHT80 Beam Forming, M8 to M15, M0.2 to M9.2

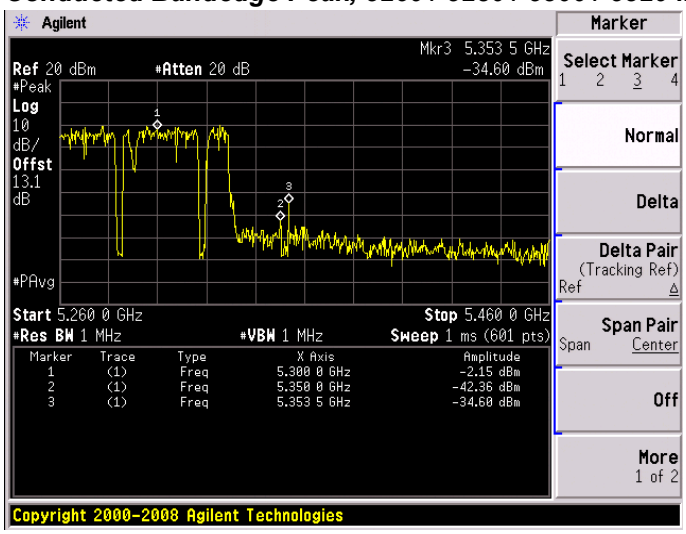


Antenna A

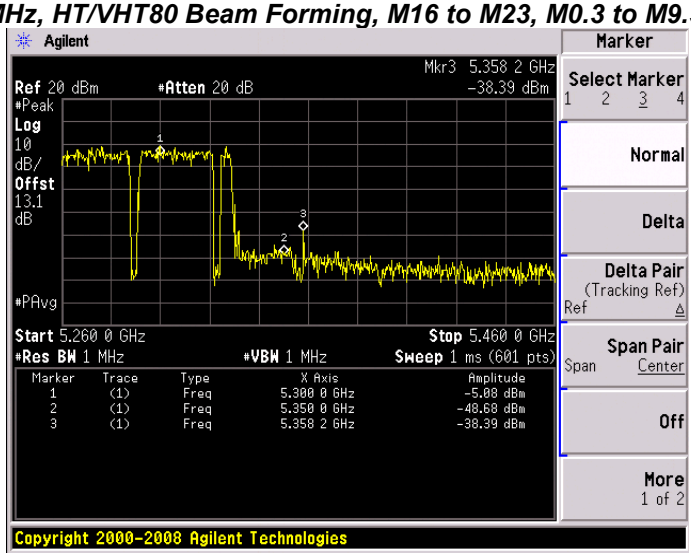


Antenna B

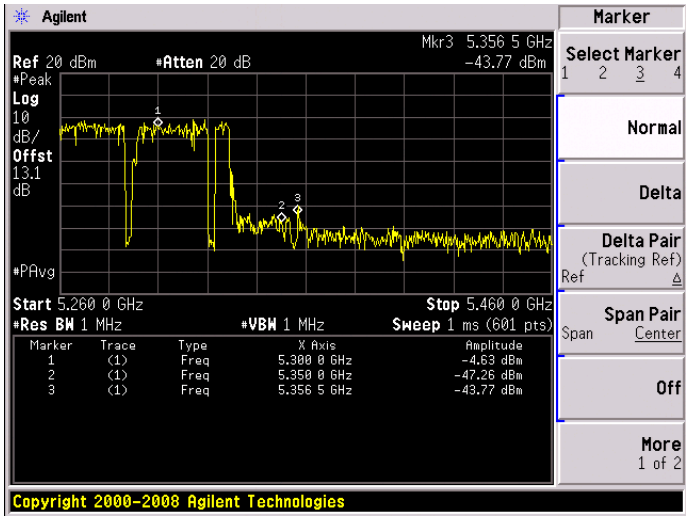
Conducted Bandedge Peak, 5260 / 5280 / 5300 / 5320 MHz, HT/VHT80 Beam Forming, M16 to M23, M0.3 to M9.3



Antenna A

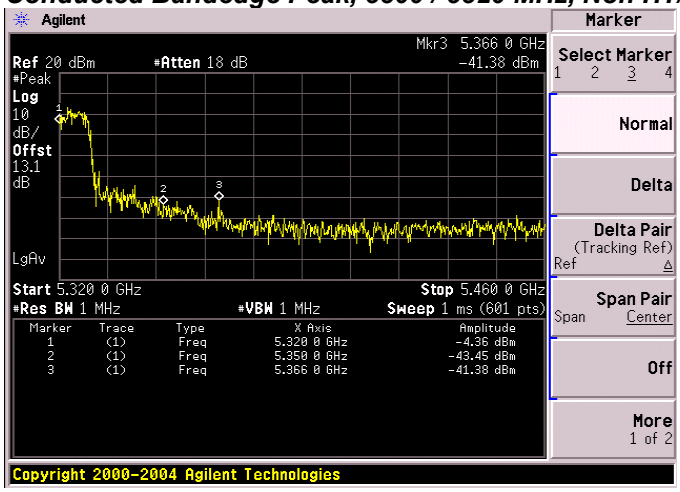


Antenna B

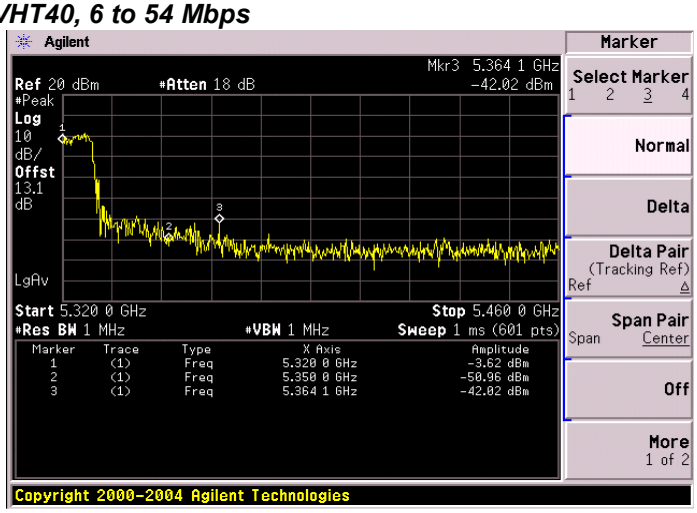


Antenna C

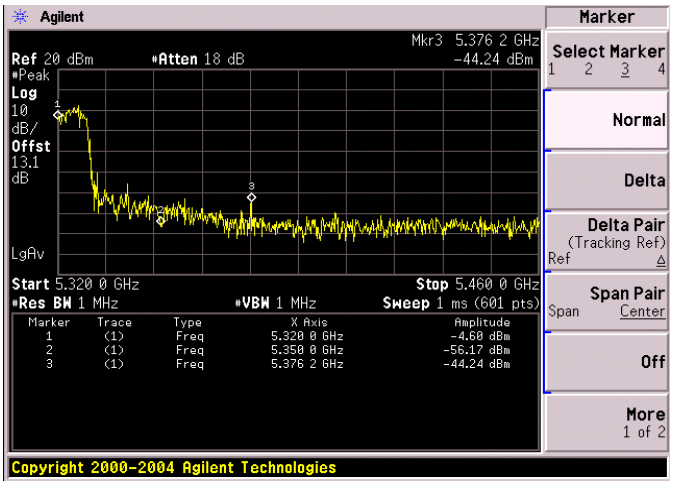
Conducted Bandedge Peak, 5300 / 5320 MHz, Non HT/VHT40, 6 to 54 Mbps



Antenna A

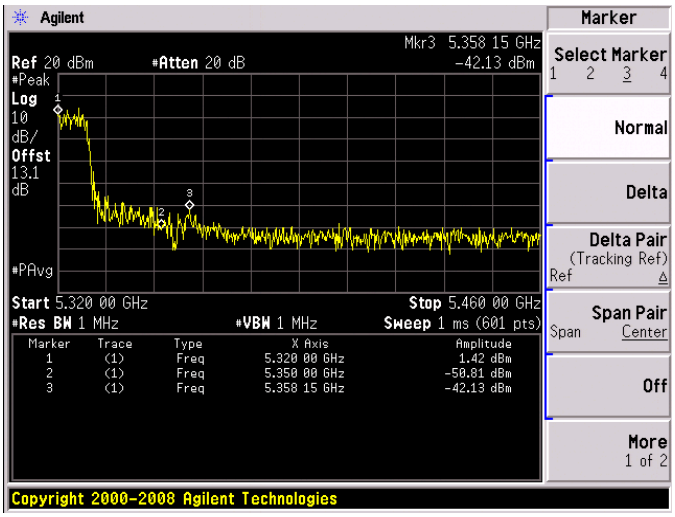


Antenna B

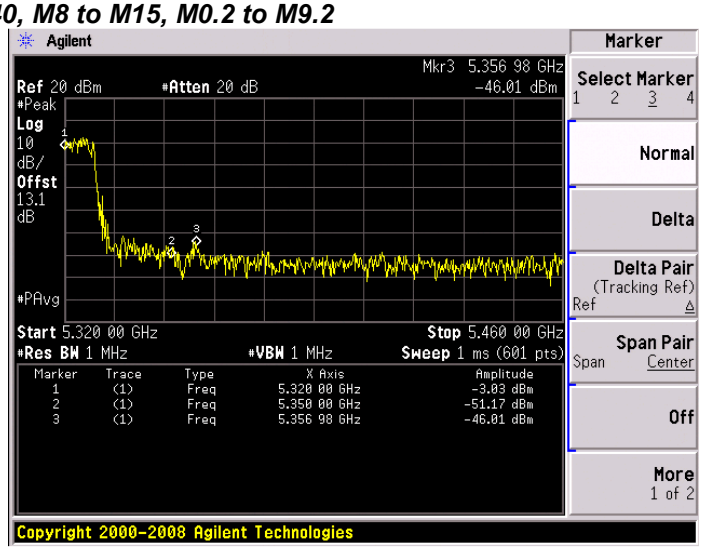


Antenna C

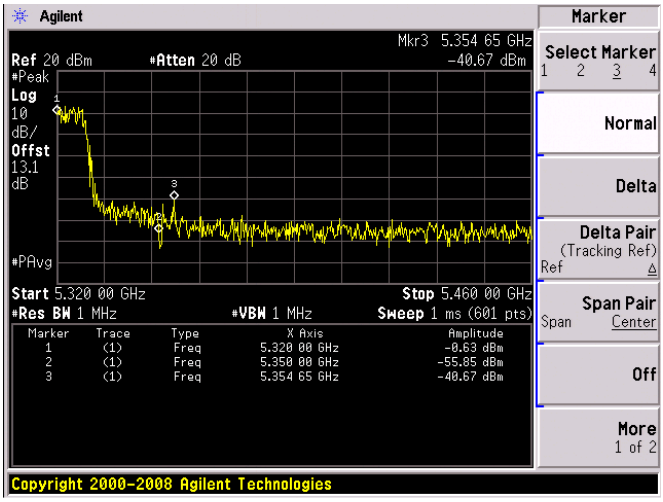
Conducted Bandedge Peak, 5300 / 5320 MHz, HT/VHT40, M8 to M15, M0.2 to M9.2



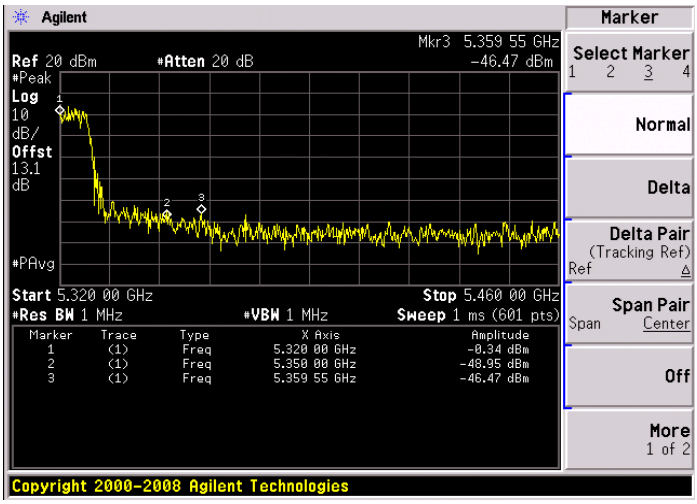
Antenna A



Antenna B

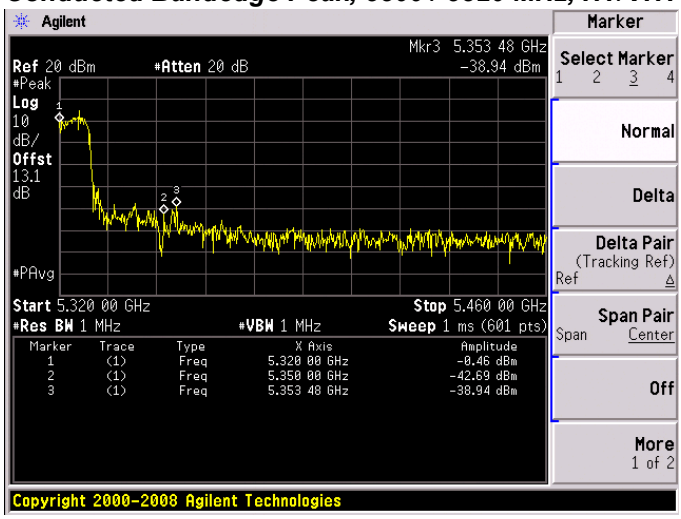


Antenna C

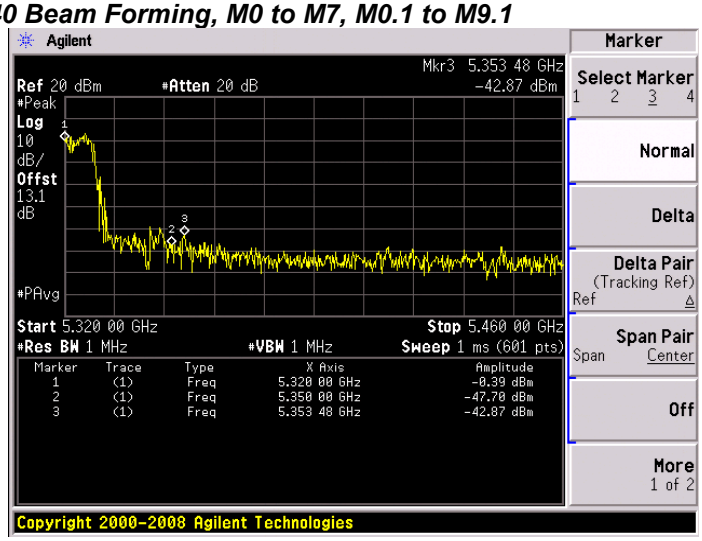


Antenna D

Conducted Bandedge Peak, 5300 / 5320 MHz, HT/VHT40 Beam Forming, M0 to M7, M0.1 to M9.1

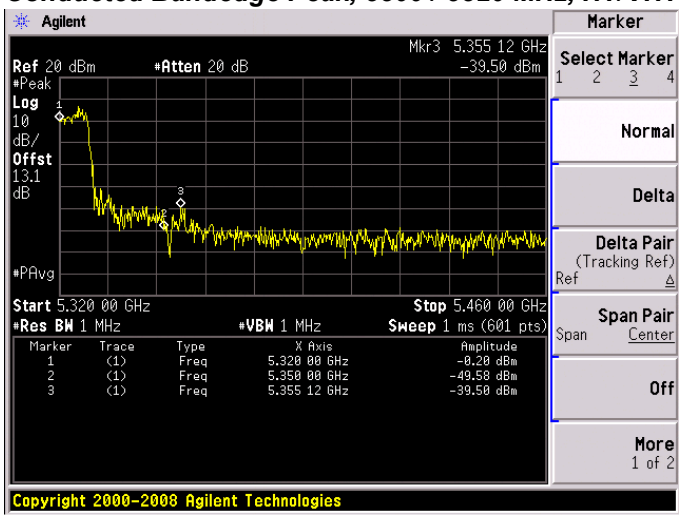


Antenna A

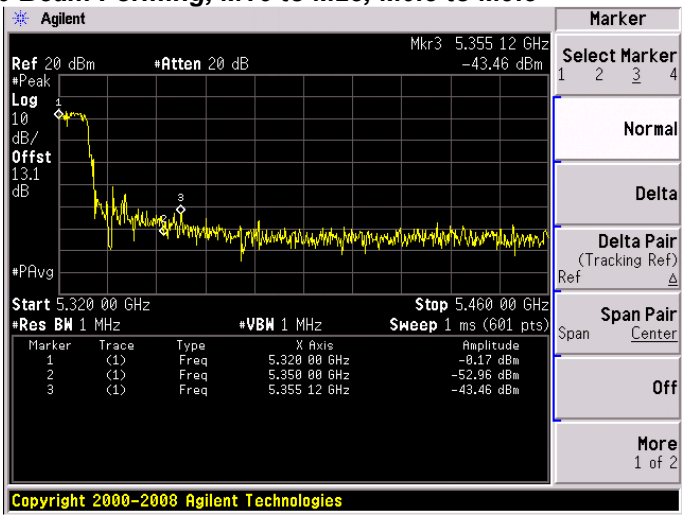


Antenna B

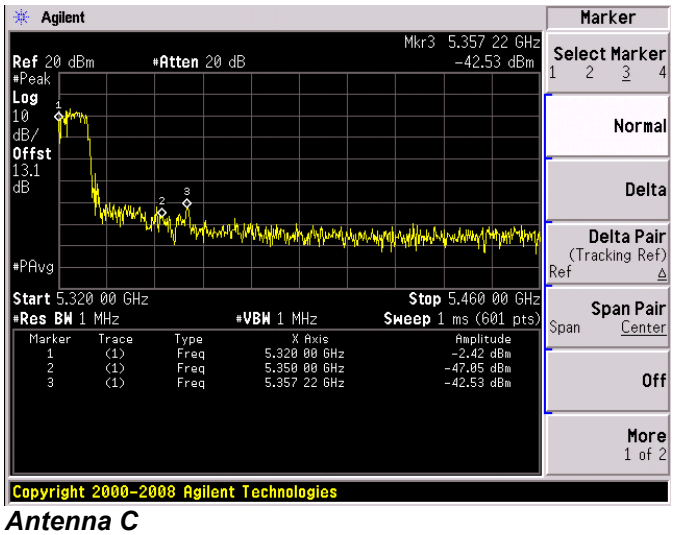
Conducted Bandedge Peak, 5300 / 5320 MHz, HT/VHT40 Beam Forming, M16 to M23, M0.3 to M9.3



Antenna A

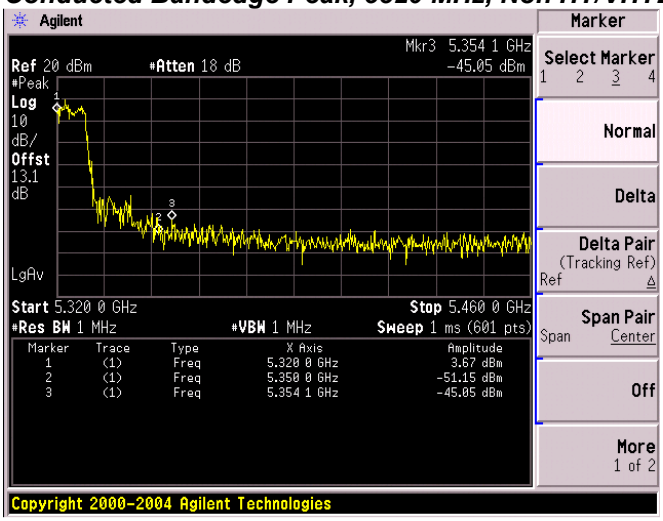


Antenna B



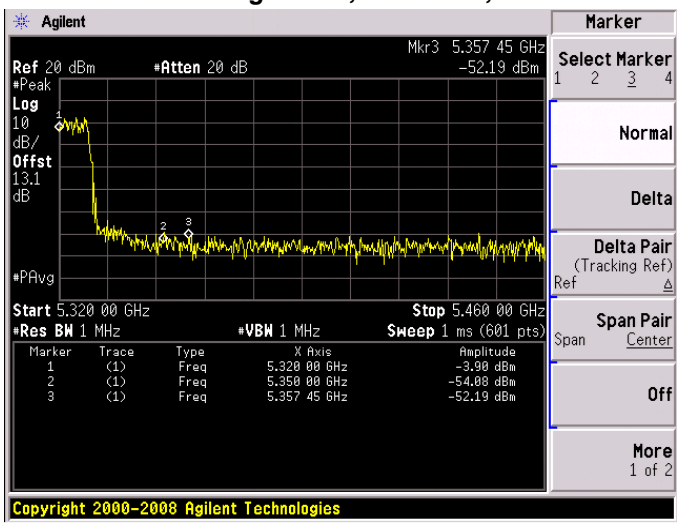
Antenna C

Conducted Bandedge Peak, 5320 MHz, Non HT/VHT20, 6 to 54 Mbps

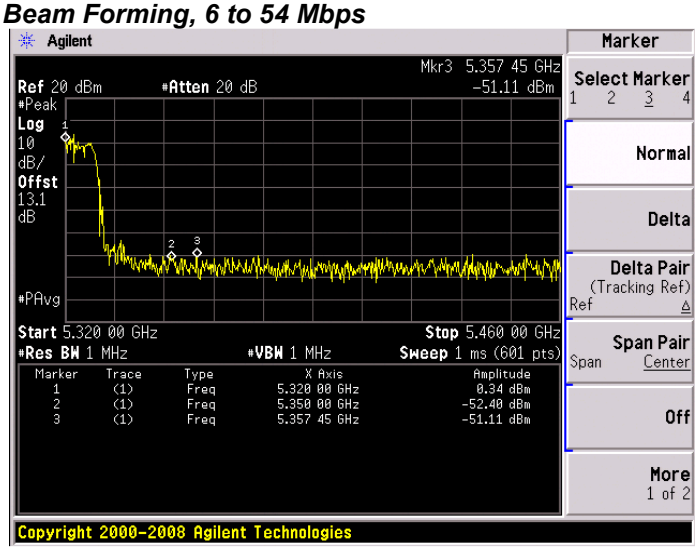


Antenna A

Conducted Bandedge Peak, 5320 MHz, Non HT/VHT20 Beam Forming, 6 to 54 Mbps

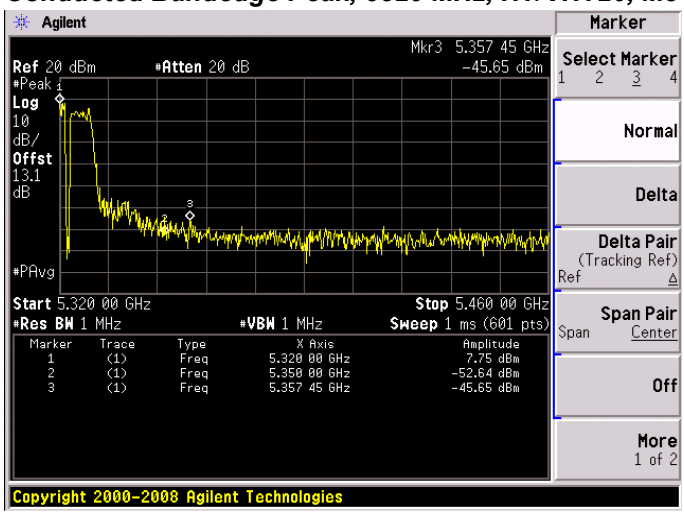


Antenna A

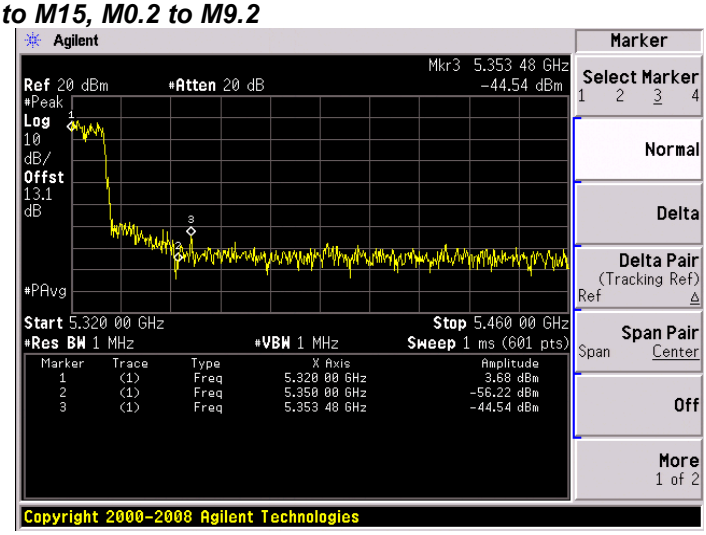


Antenna B

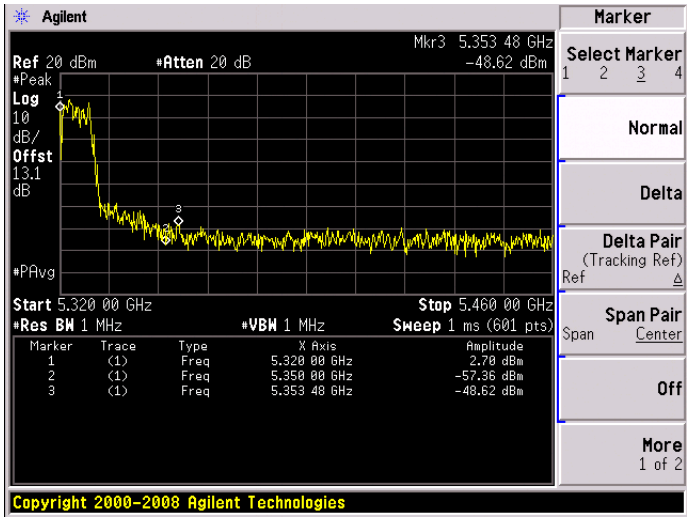
Conducted Bandedge Peak, 5320 MHz, HT/VHT20, M8 to M15, M0.2 to M9.2



Antenna A

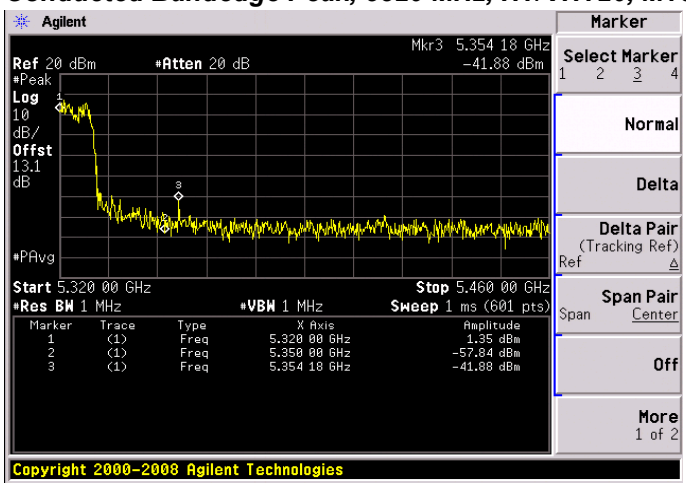


Antenna B

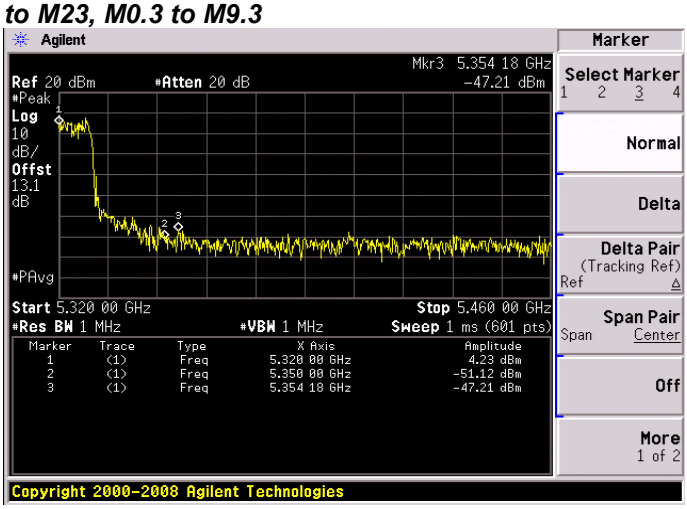


Antenna C

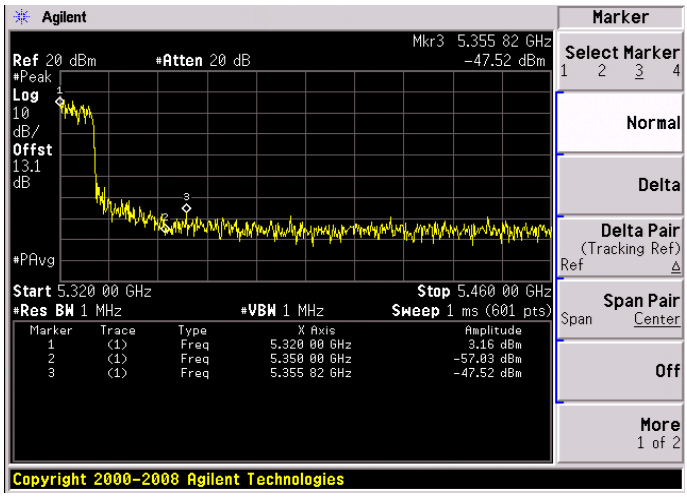
Conducted Bandedge Peak, 5320 MHz, HT/VHT20, M16 to M23, M0.3 to M9.3



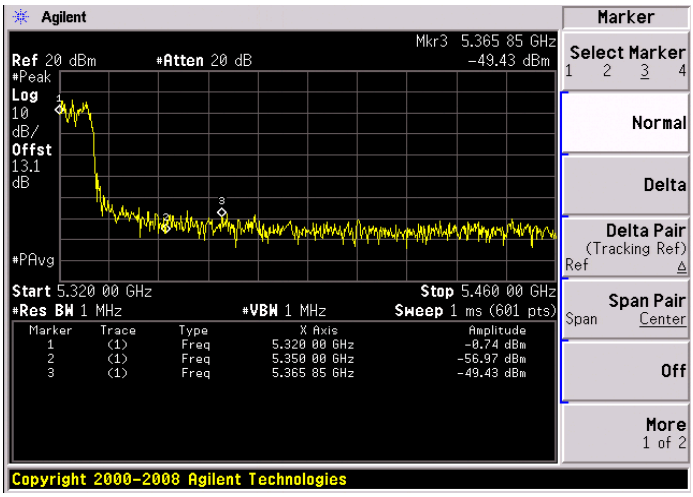
Antenna A



Antenna B



Antenna C



Antenna D

Peak Excursion

15.407: The ratio of the peak excursion of the modulation envelope (measured using a peak hold function) to the maximum conducted output power (measured as specified above) shall not exceed 13 dB across any 1 MHz bandwidth or the emission bandwidth whichever is less.

Set the spectrum analyzer span to view the entire emission bandwidth. The largest difference between the following two traces must be <= 13 dB for all frequencies across the emission bandwidth.

Set the spectrum analyzer span to view the entire emission bandwidth. The largest difference between the following two traces must be <= 13 dB for all frequencies across the emission bandwidth.

1st Trace: (Peak)

- Set Span to encompass the entire emission bandwidth of the signal.
- RBW = 1 MHz, VBW = 3 MHz
- Detector = Peak
- Sweep = 10 s
- Trace 1 = Max-hold
- Ref Level Offset = correct for attenuator and cable loss
- Ref Level = 20dBm
- Atten = 10dBm

2nd Trace: (Average)

- Trace 2 = clear right
- Detector = Sample
- Avg/VBW type = Pwr(RMS)
- Average = 100
- Sweep = single

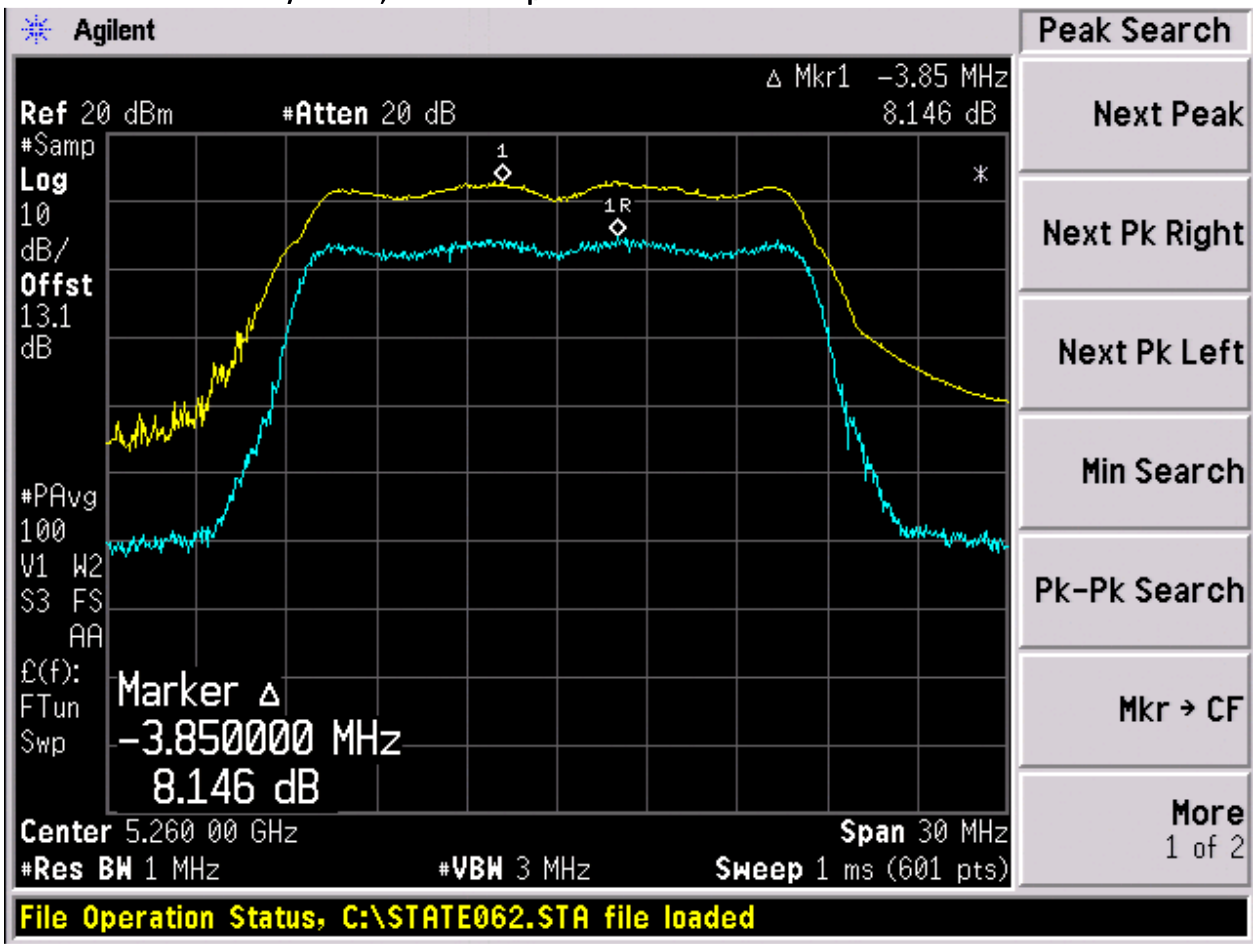
Set marker Deltas

- Trace 1 & Peak search
- Marker Delta
- Trace 2 & Peak search

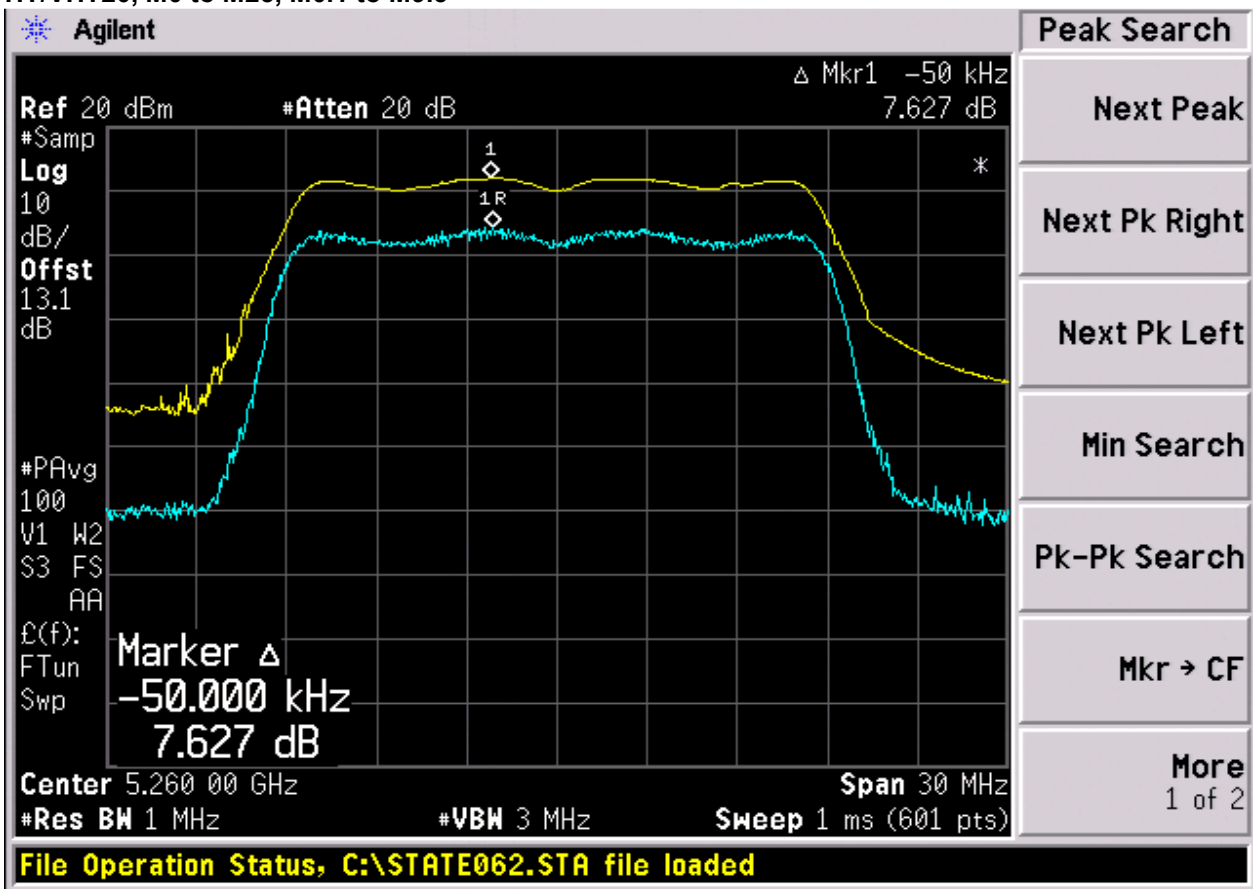
Record the difference between the Peak and Average Markers

Frequency (MHz)	Mode	Peak Excursion (dB)	Limit (dBm)	Margin (dB)
5260	**Non HT/VHT20, 6 to 54 Mbps**	8.146	13	4.85
5260	**HT/VHT20, M0 to M7, M0.1 to M9.1**	7.627	13	5.37
5270	**Non HT/VHT40, 6 to 54 Mbps**	8.093	13	4.91
5270	**HT/VHT40, M0 to M7**	7.519	13	5.48
5290	**Non HT/VHT80, 6 to 54 Mbps**	7.593	13	5.41
5290	**HT/VHT80, M0 to M7, M0.1 to M9.1**	8.512	13	4.49
5310	**Non HT/VHT40, 6 to 54 Mbps**	8.166	13	4.83
5310	**HT/VHT40, M0 to M7, M0.1 to M9.1**	7.651	13	5.35
5320	**Non HT/VHT20, 6 to 54 Mbps**	8.151	13	4.85
5320	**HT/VHT20, M0 to M7, M0.1 to M9.1**	7.958	13	5.04

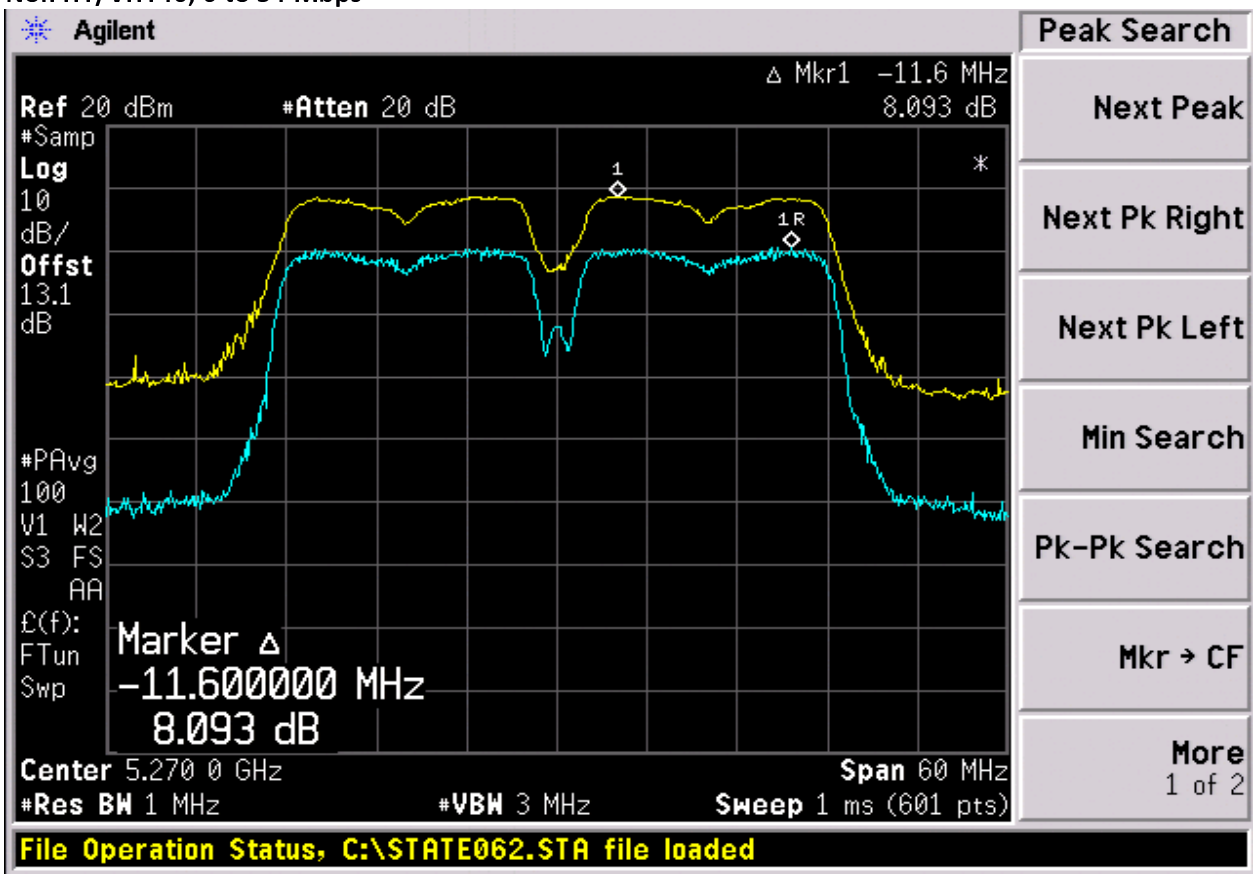
Peak Excursion Non HT/VHT20, 6 to 54 Mbps



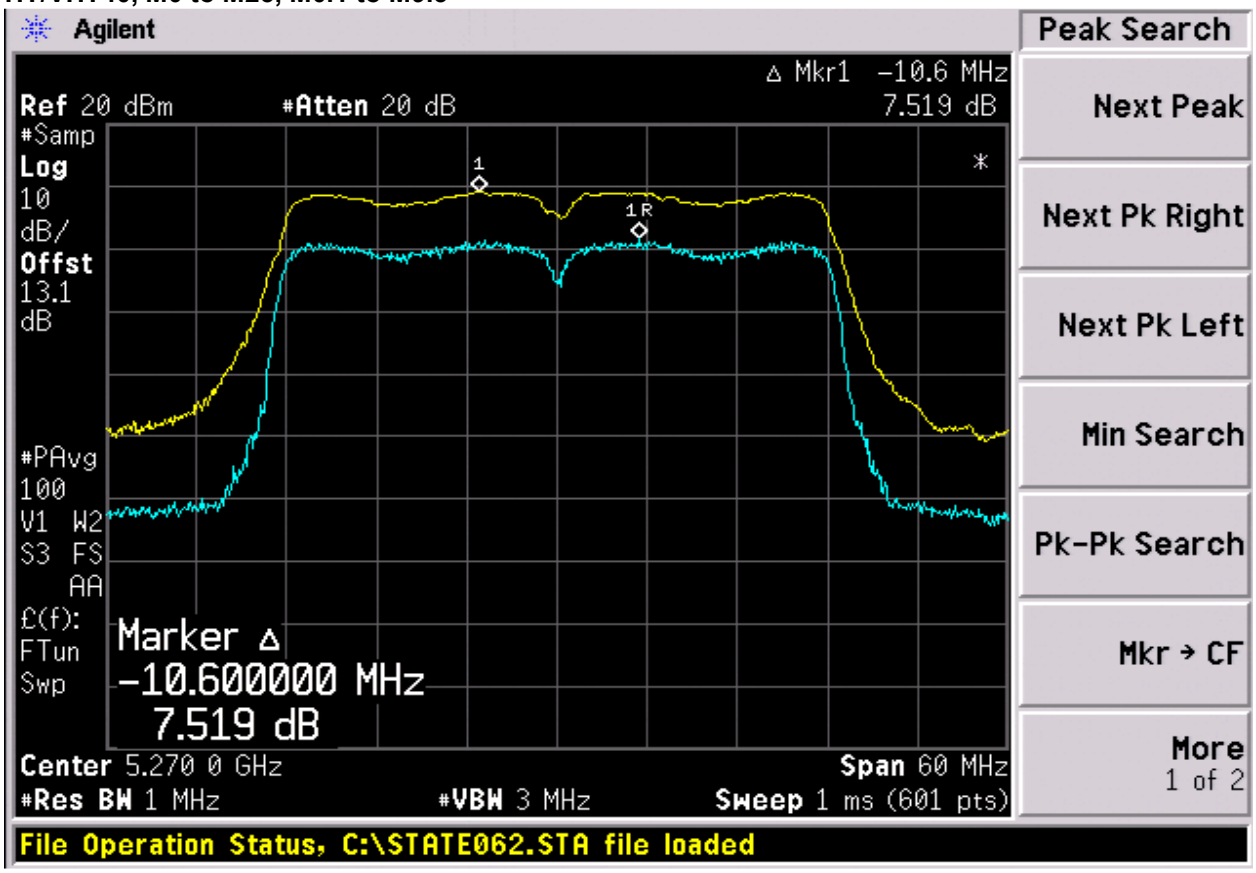
HT/VHT20, M0 to M23, M0.1 to M9.3



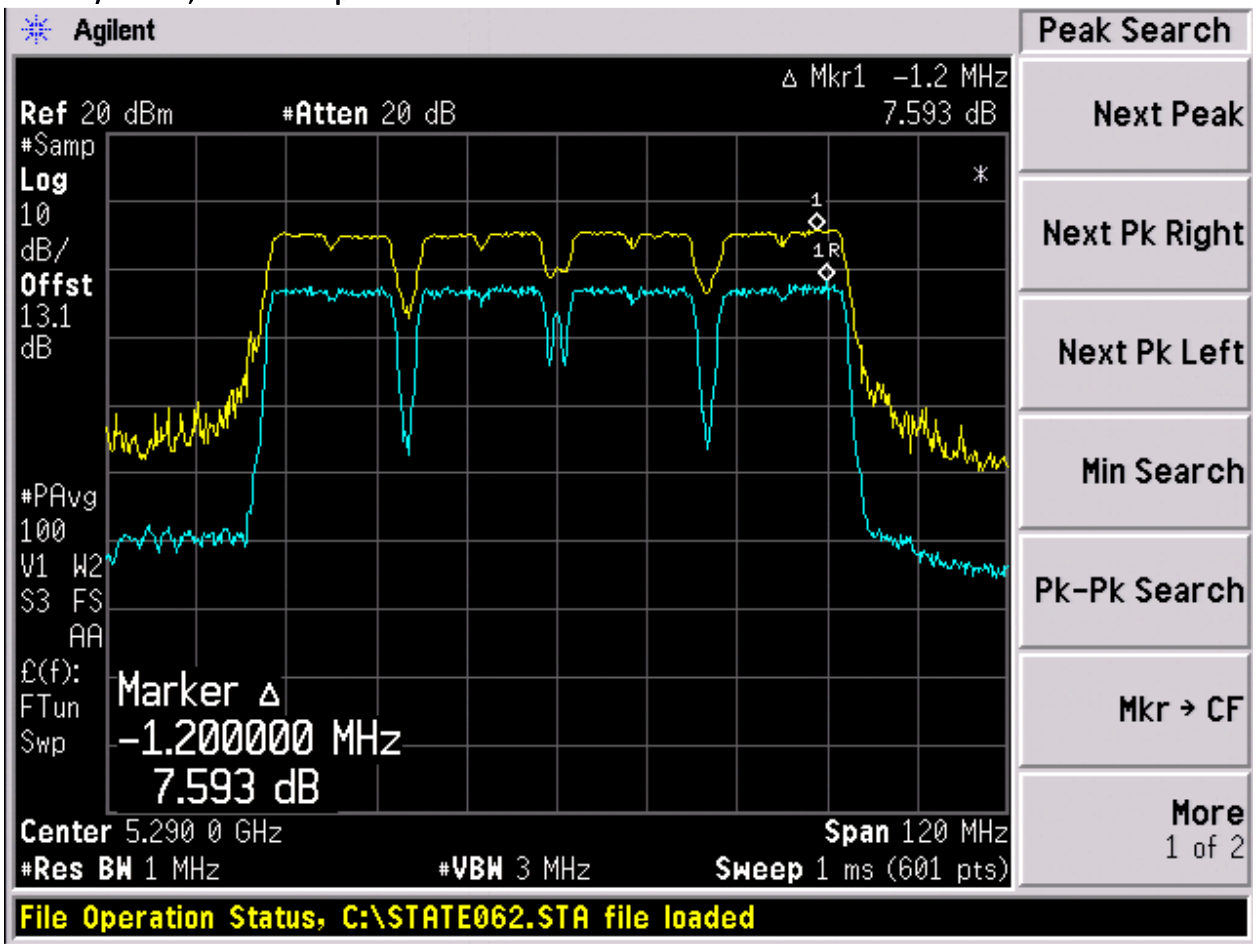
Non HT/VHT40, 6 to 54 Mbps



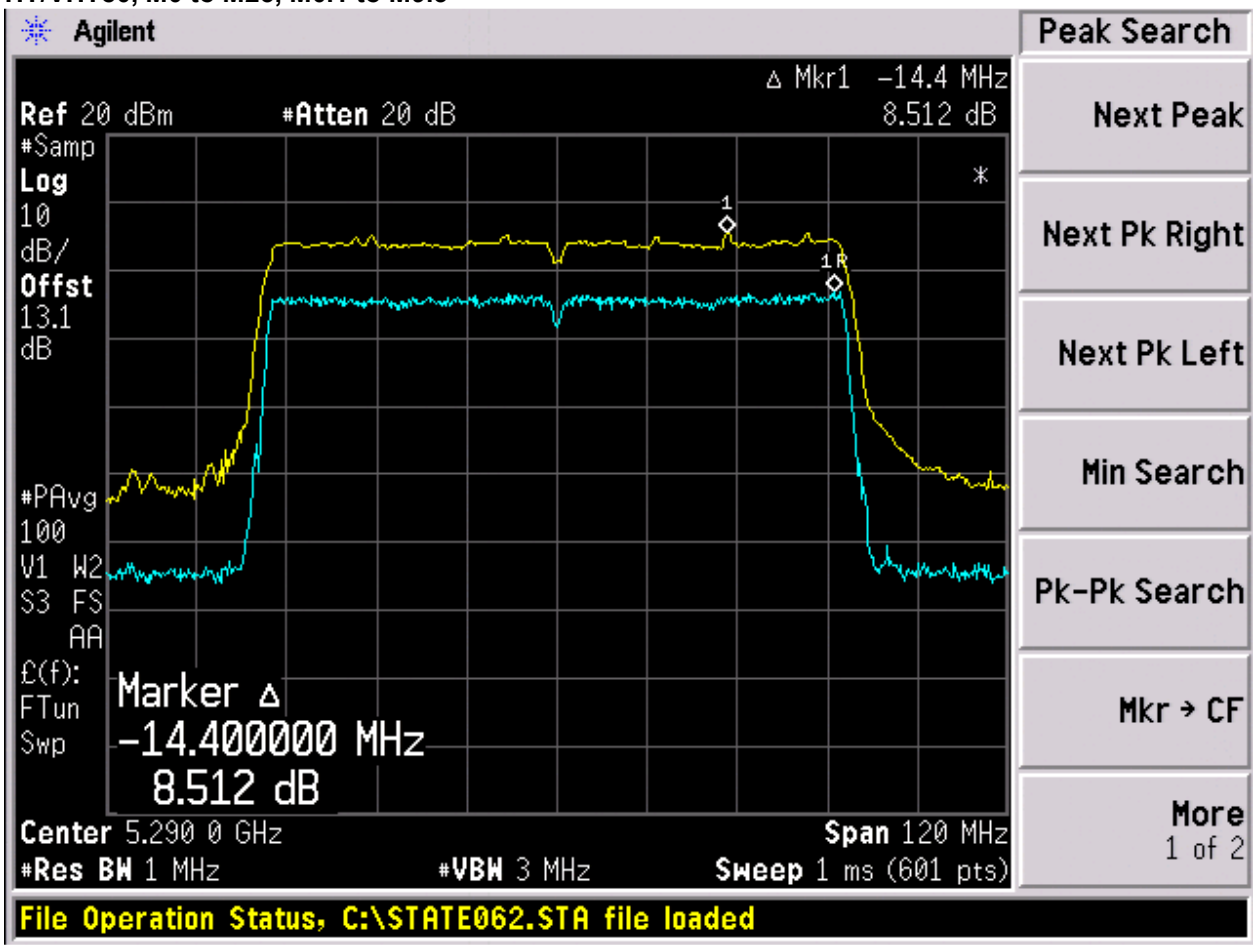
HT/VHT40, M0 to M23, M0.1 to M9.3



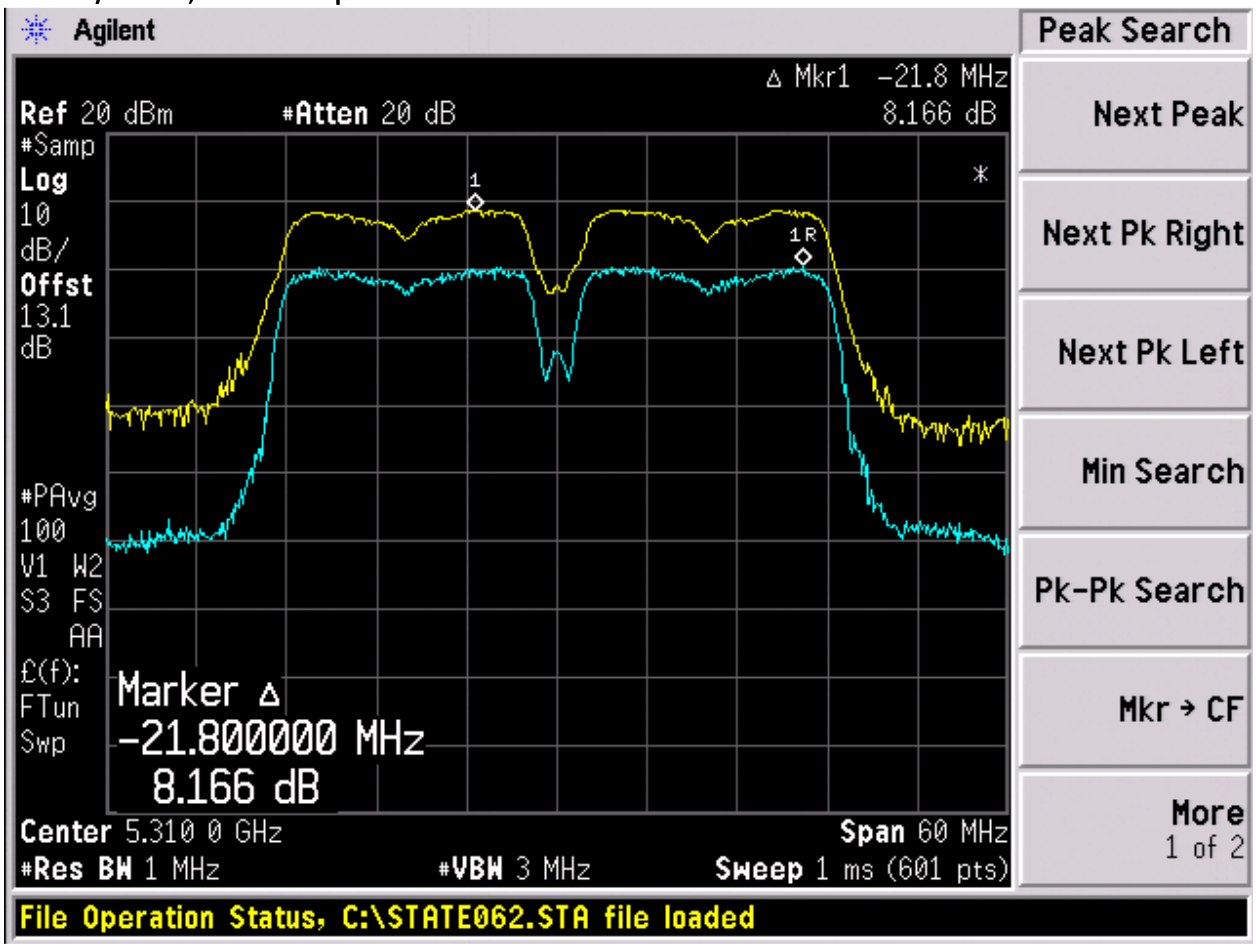
Non HT/VHT80, 6 to 54 Mbps



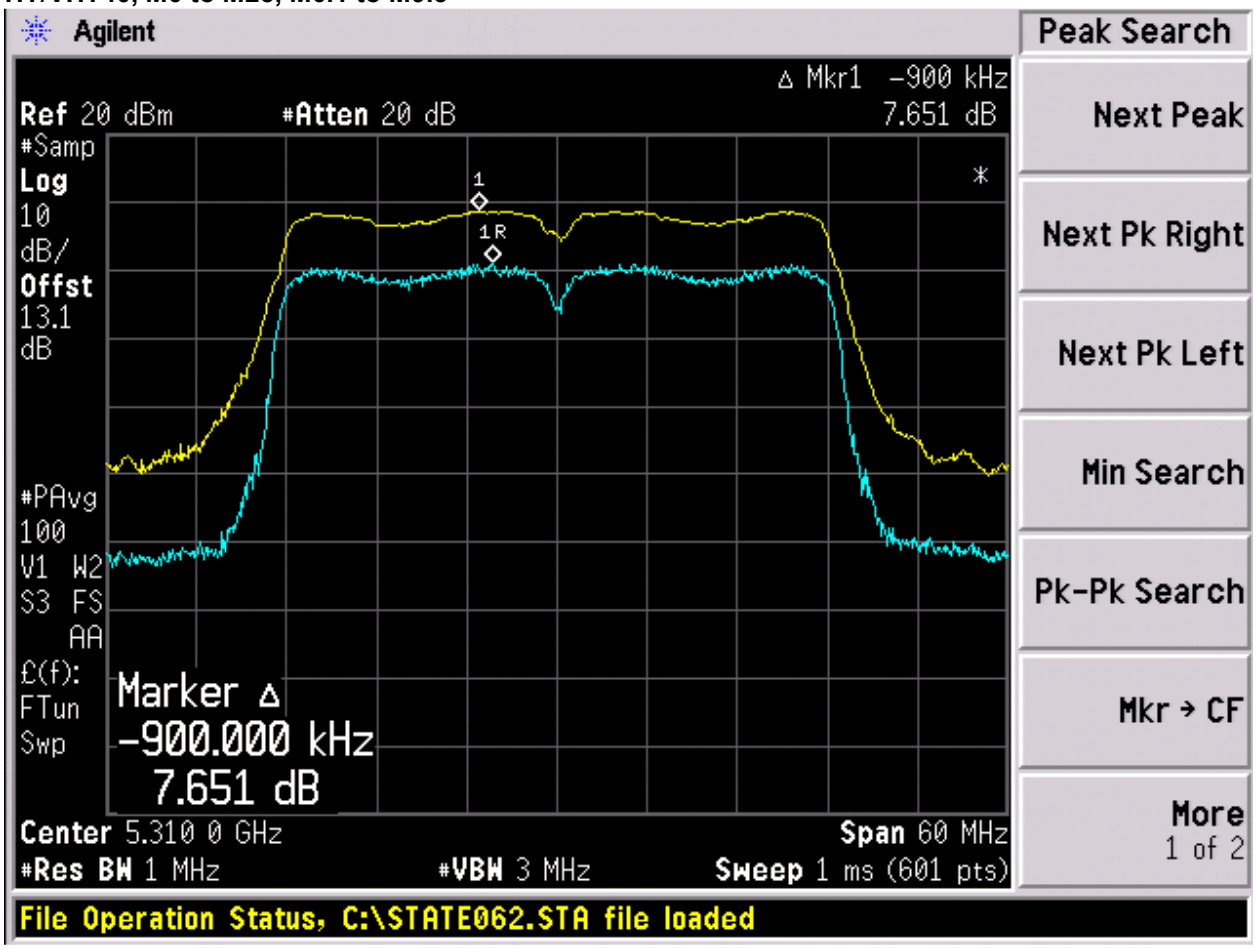
HT/VHT80, M0 to M23, M0.1 to M9.3



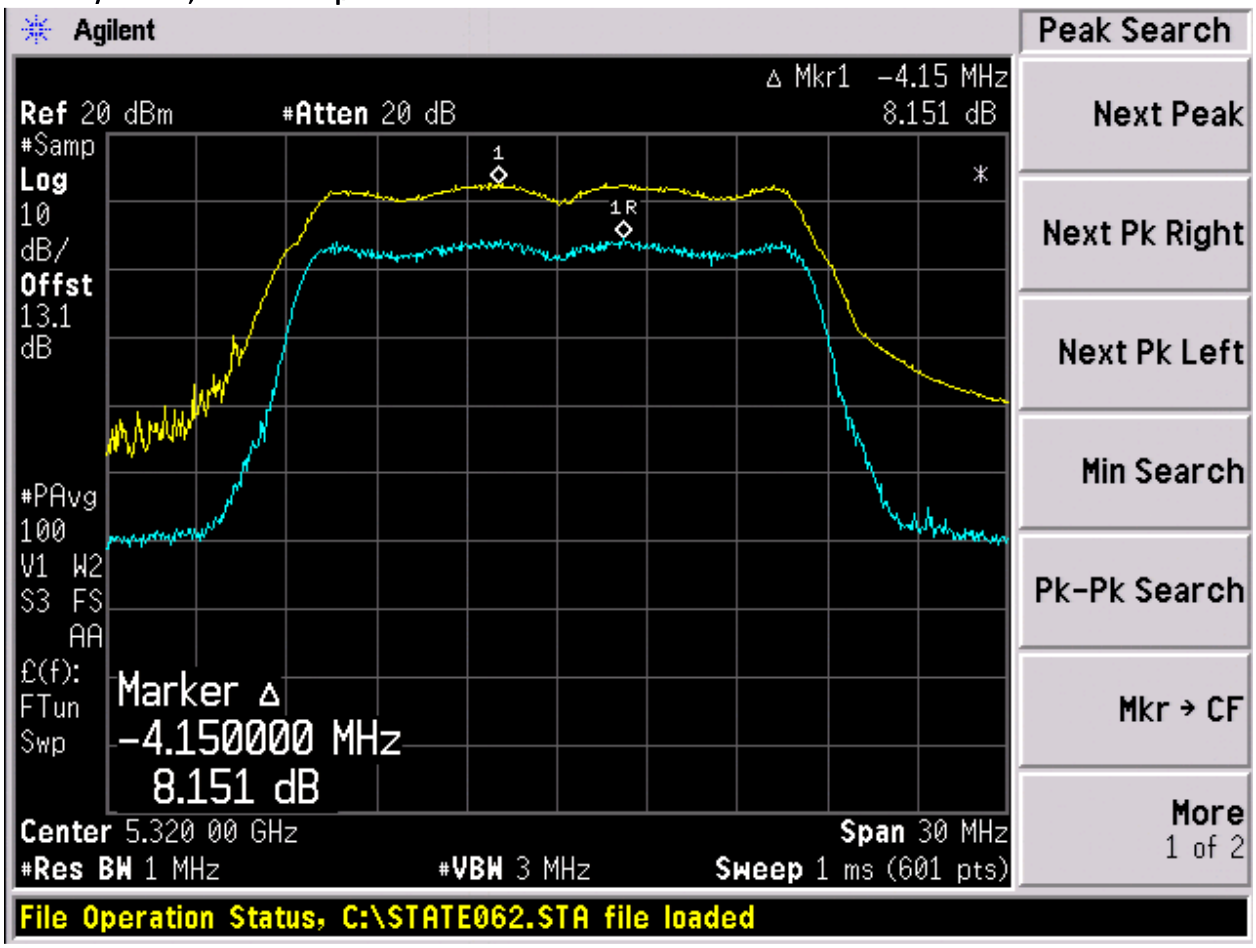
Non HT/VHT40, 6 to 54 Mbps



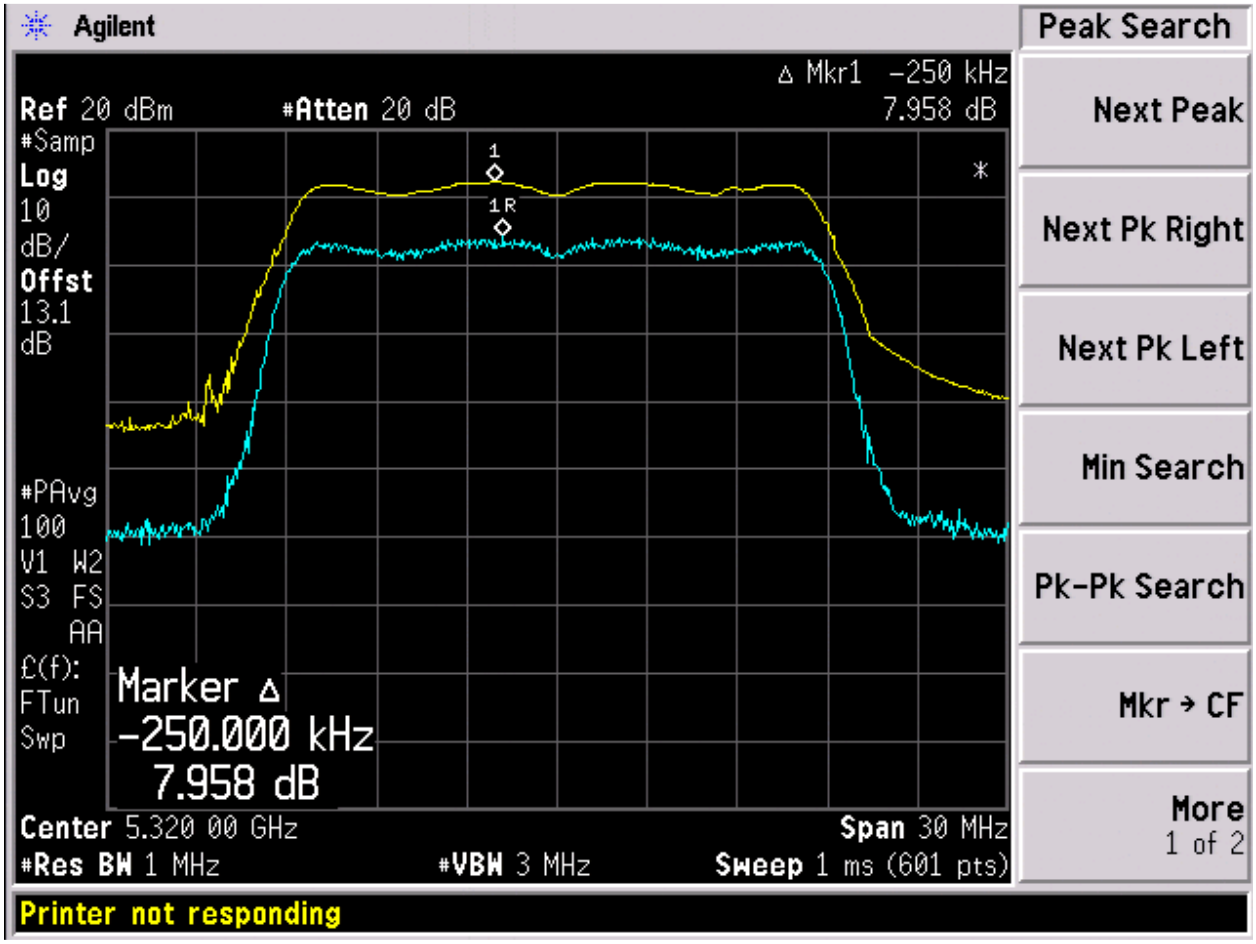
HT/VHT40, M0 to M23, M0.1 to M9.3



Non HT/VHT20, 6 to 54 Mbps



HT/VHT20, M0 to M23, M0.1 to M9.3



Radiated Spurious Emissions

Radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

Using Vasona, configure the spectrum analyzer as shown below (be sure to enter all losses between the transmitter output and the spectrum analyzer). Place the radio in continuous transmit mode.

Span:	1GHz – 15 GHz
Reference Level:	80 dBuV
Attenuation:	10 dB
Sweep Time:	Coupled
Resolution Bandwidth:	1MHz
Video Bandwidth:	1 MHz for peak, 10 Hz for average
Detector:	Peak

Maximize Turntable (find worst case table angle), Maximize Antenna (find worst case height)

Save 2 plots: 1) Average Plot (Vertical and Horizontal), Limit= 54dBuV @3m
2) Peak plot (Vertical and Horizontal), Limit = 74dBuV @3m

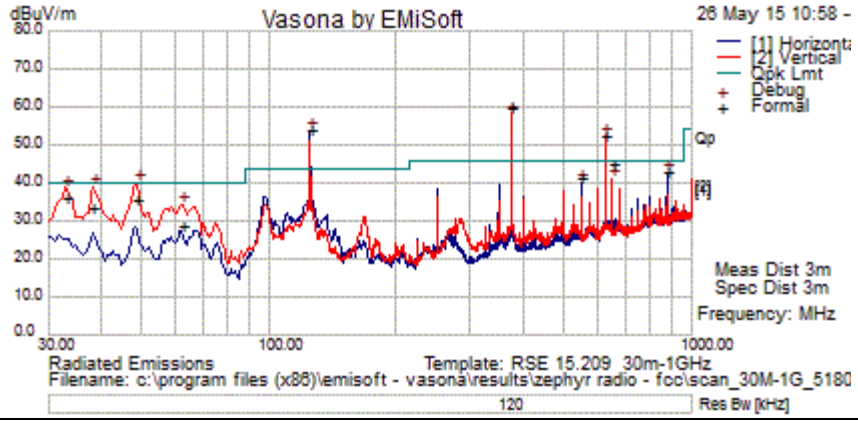
Place a marker at the end of the restricted band closest to the transmit frequency to show compliance.
Also measure any emissions in the restricted bands.

This report represents the worst case data for all supported operating modes and antennas.

Please note that scans were performed to verify that duty cycle did not have a significant impact on the test results. Also, scans with reduced RBW and VBW settings were performed to verify that no significant emissions were present under the noise floor.

Graphical Test Results: 30MHz – 1000MHz (Transmitter on)
Note that the data displayed on the plots detailed in this appendix were measured using a 'Peak Detector'. Please refer to the results table for the detectors used during formal measurements

Please note that the high emissions at 375MHz, 125MHz, and 625MHz are digital emissions. These will be covered in the EMC test report. A comparison measurement was made with the radio transmitter turned off. The emissions were still observed when the radio was off, so it can be concluded that the emissions are not caused by the radio.



Title: 30MHz - 1000MHz Test Results

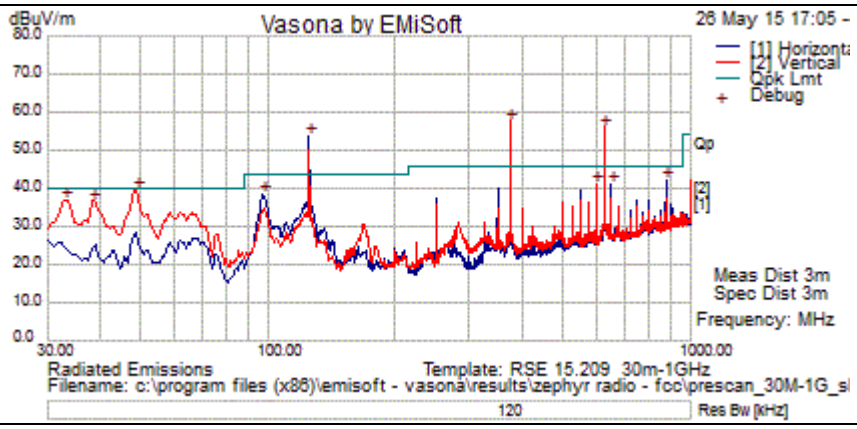
Test Results Table

Formal Data

No	Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail	Comments
1	375.007	43.0	1.8	15.1	60.0	Quasi Max	V	141	195	46.0	14.0	Fail	
2	125.006	39.3	1.1	14.0	54.4	Quasi Max	H	199	192	43.5	10.9	Fail	
3	625.010	30.9	2.4	19.4	52.7	Quasi Max	V	104	294	46.0	6.7	Fail	
4	48.369	26.4	.6	8.6	35.6	Quasi Max	V	138	78	40.0	-4.4	Pass	wideband
5	38.187	18.2	.5	15.0	33.8	Quasi Max	V	114	334	40.0	-6.2	Pass	wideband
6	33.179	17.1	.5	18.7	36.3	Quasi Max	V	127	86	40.0	-3.7	Pass	wideband
7	875.024	18.3	2.8	22.1	43.2	Quasi Max	H	107	315	46.0	-2.8	Pass	
8	650.007	22.9	2.4	19.9	45.2	Quasi Max	H	140	313	46.0	-.8	Pass	
9	62.131	20.6	.7	7.7	29.0	Quasi Max	V	120	71	40.0	-11.0	Pass	wide band
10	550.006	21.2	2.2	18.3	41.7	Quasi Max	H	177	125	46.0	-4.3	Pass	

Graphical Test Results: 30MHz – 1000MHz (Transmitter Off – EMC emission for comparison)
Note that the data displayed on the plots detailed in this appendix were measured using a 'Peak Detector'. Please refer to the results table for the detectors used during formal measurements

Please note that the high emissions at 375MHz, 125MHz, and 625MHz are digital emissions. These will be covered in the EMC test report. A comparison measurement was made with the radio transmitter turned off. The emissions were still observed when the radio was off, so it can be concluded that the emissions are not caused by the radio.



Title: 30MHz - 1000MHz Test Results

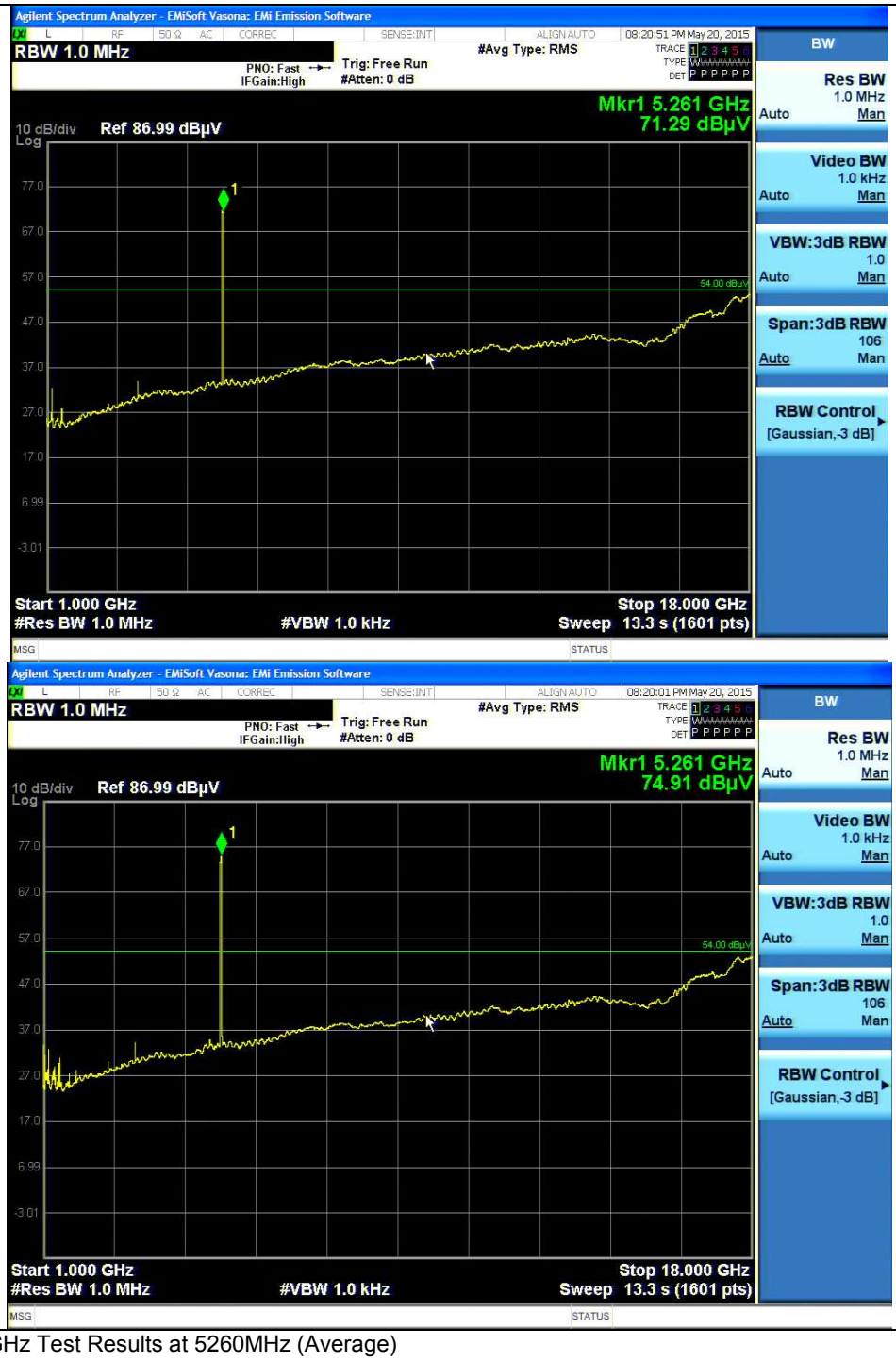
Test Results Table

Formal Data

No	Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail	Comments
1	374.956	40.8	1.8	15.1	57.7	Peak [Scan]	V	100	0	46.0	11.7	Fail	
2	125.181	38.6	1.1	14.0	53.6	Peak [Scan]	H	200	0	43.5	10.1	Fail	
3	624.731	34.4	2.4	19.4	56.1	Peak [Scan]	V	100	0	46.0	10.1	Fail	
4	48.794	30.9	.6	8.4	39.8	Peak [Scan]	V	100	0	40.0	-.2	Pass	
5	33.031	17.4	.5	18.9	36.8	Peak [Scan]	V	100	0	40.0	-3.2	Pass	
6	38.488	21.2	.5	14.8	36.5	Peak [Scan]	V	100	0	40.0	-3.5	Pass	
7	875.113	17.1	2.8	22.1	42.0	Peak [Scan]	H	200	0	46.0	-4.0	Pass	
8	650.194	18.9	2.4	19.9	41.2	Peak [Scan]	H	300	0	46.0	-4.8	Pass	
9	599.875	20.4	2.3	18.4	41.2	Peak [Scan]	V	100	0	46.0	-4.8	Pass	
10	97.294	28.0	.9	9.6	38.5	Peak [Scan]	H	200	0	43.5	-5.0	Pass	

Graphical Test Results 802.11a: 1 – 18GHz (5260MHz – Average)

Note that the data displayed on the plots detailed in this appendix were measured using a 'Peak Detector'. Please refer to the results table for the detectors used during formal measurements



Title: 1 - 18GHz Test Results at 5260MHz (Average)

Graphical Test Results 802.11a: 1 – 18GHz (5260MHz – Peak)

Note that the data displayed on the plots detailed in this appendix were measured using a 'Peak Detector'. Please refer to the results table for the detectors used during formal measurements

Title: 1 - 18GHz Test Results at 5260MHz (Peak)

Graphical Test Results 802.11n 40MHz: 1 – 18GHz (5270MHz – Average)

Note that the data displayed on the plots detailed in this appendix were measured using a 'Peak Detector'. Please refer to the results table for the detectors used during formal measurements

Title: 1 - 18GHz Test Results at 5270MHz (Average)

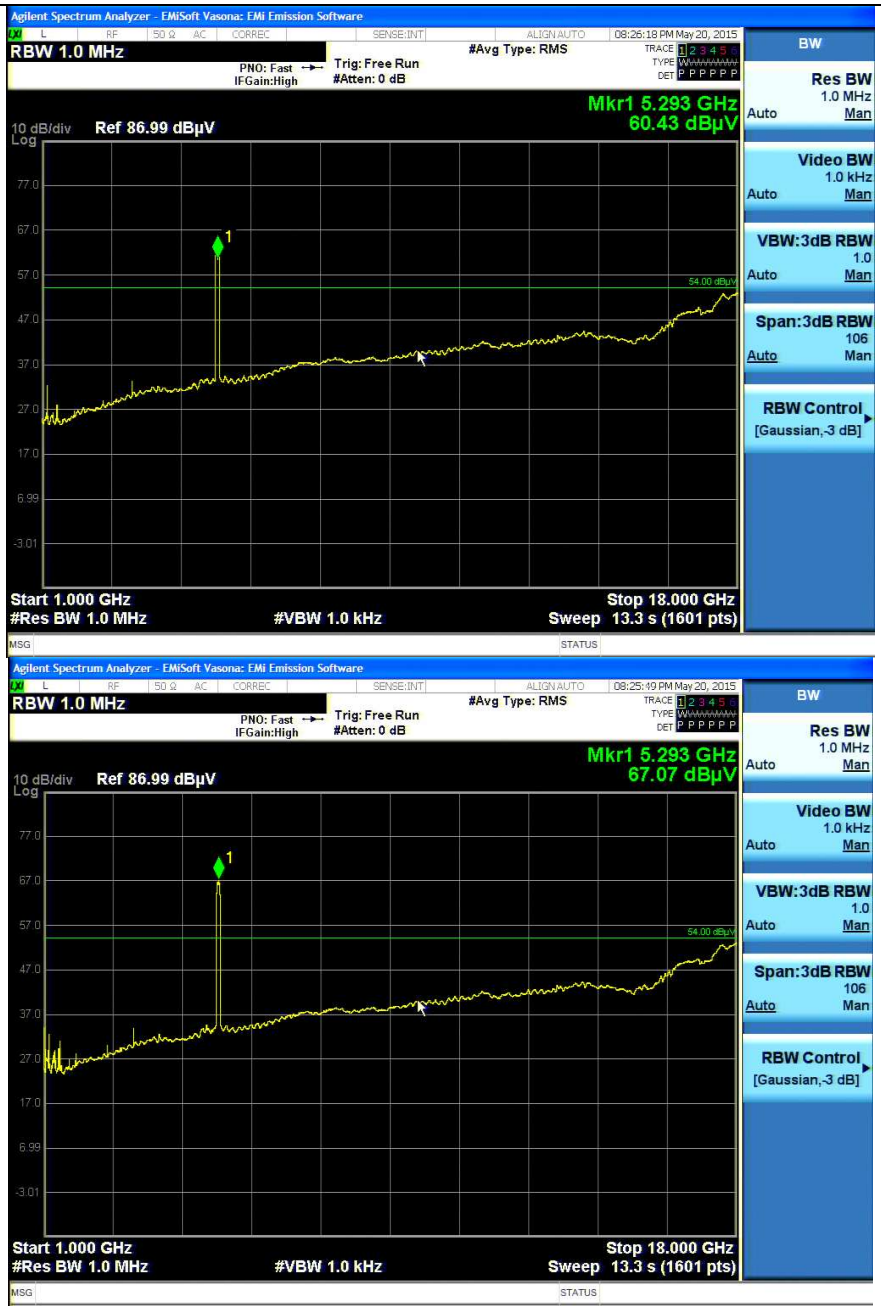
Graphical Test Results 802.11n 40MHz: 1 – 18GHz (5270MHz – Peak)

Note that the data displayed on the plots detailed in this appendix were measured using a 'Peak Detector'. Please refer to the results table for the detectors used during formal measurements

Title: 1 - 18GHz Test Results at 5270MHz (Peak)

Graphical Test Results 802.11ac 80MHz: 1 – 18GHz (5290MHz – Average)

Note that the data displayed on the plots detailed in this appendix were measured using a 'Peak Detector'. Please refer to the results table for the detectors used during formal measurements



Title: 1 - 18GHz Test Results at 5290MHz (Average)

Graphical Test Results 802.11ac 80MHz: 1 – 18GHz (5290MHz – Peak)

Note that the data displayed on the plots detailed in this appendix were measured using a 'Peak Detector'. Please refer to the results table for the detectors used during formal measurements

Title: 1 - 18GHz Test Results at 5290MHz (Peak)

Graphical Test Results 802.11a 20MHz: 1 – 18GHz (5280MHz – Average)

Note that the data displayed on the plots detailed in this appendix were measured using a 'Peak Detector'. Please refer to the results table for the detectors used during formal measurements

Title: 1 - 18GHz Test Results at 5280MHz (Average)

Graphical Test Results 802.11a 20MHz: 1 – 18GHz (5280MHz – Peak)

Note that the data displayed on the plots detailed in this appendix were measured using a 'Peak Detector'. Please refer to the results table for the detectors used during formal measurements

Title: 1 - 18GHz Test Results at 5280MHz (Peak)

Graphical Test Results 802.11a 20MHz: 1 – 18GHz (5320MHz – Average)

Note that the data displayed on the plots detailed in this appendix were measured using a 'Peak Detector'. Please refer to the results table for the detectors used during formal measurements

Title: 1 - 18GHz Test Results at 5320MHz (Average)

Graphical Test Results 802.11a 20MHz: 1 – 18GHz (5320MHz – Peak)

Note that the data displayed on the plots detailed in this appendix were measured using a 'Peak Detector'. Please refer to the results table for the detectors used during formal measurements

Title: 1 - 18GHz Test Results at 5320MHz (Peak)

Graphical Test Results 802.11n 40MHz: 1 – 18GHz (5310MHz – Average)

Note that the data displayed on the plots detailed in this appendix were measured using a 'Peak Detector'. Please refer to the results table for the detectors used during formal measurements

Title: 1 - 18GHz Test Results at 5310MHz (Average)

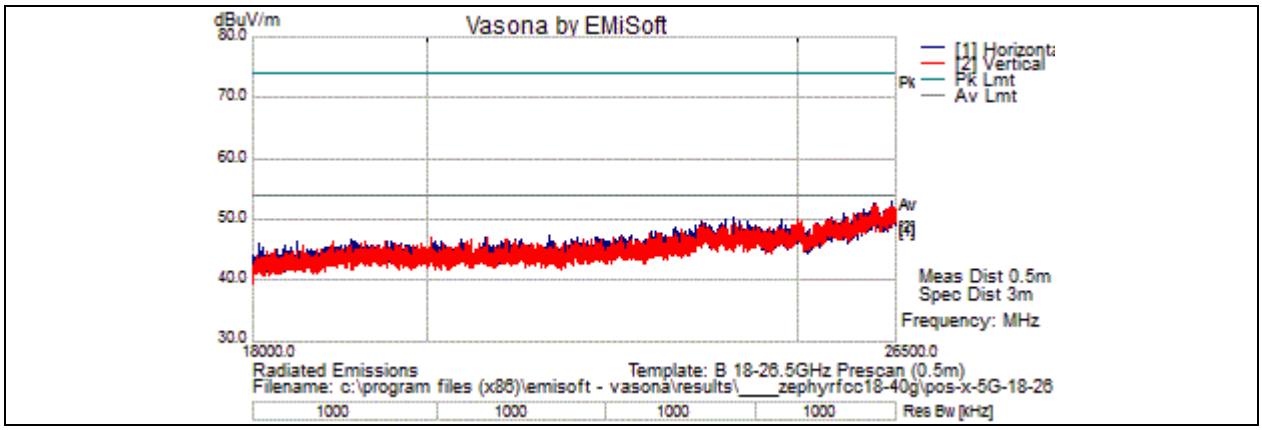
Graphical Test Results 802.11n 40MHz: 1 – 18GHz (5310MHz – Peak)

Note that the data displayed on the plots detailed in this appendix were measured using a 'Peak Detector'. Please refer to the results table for the detectors used during formal measurements

Title: 1 - 18GHz Test Results at 5310MHz (Peak)

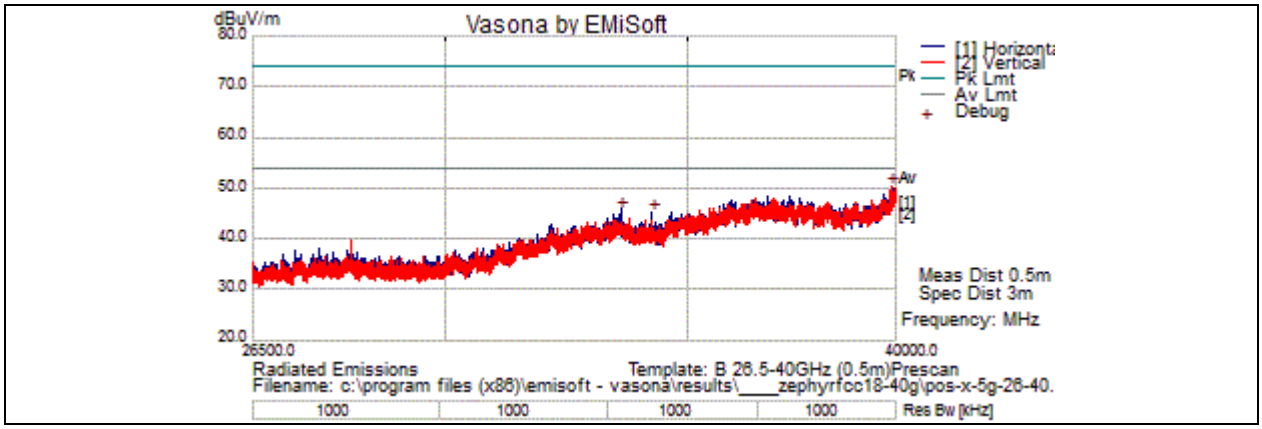
Graphical Test Results: 18 – 26GHz

Note that the data displayed on the plots detailed in this appendix were measured using a 'Peak Detector'. Please refer to the results table for the detectors used during formal measurements



Graphical Test Results: 26 – 40GHz

Note that the data displayed on the plots detailed in this appendix were measured using a 'Peak Detector'. Please refer to the results table for the detectors used during formal measurements



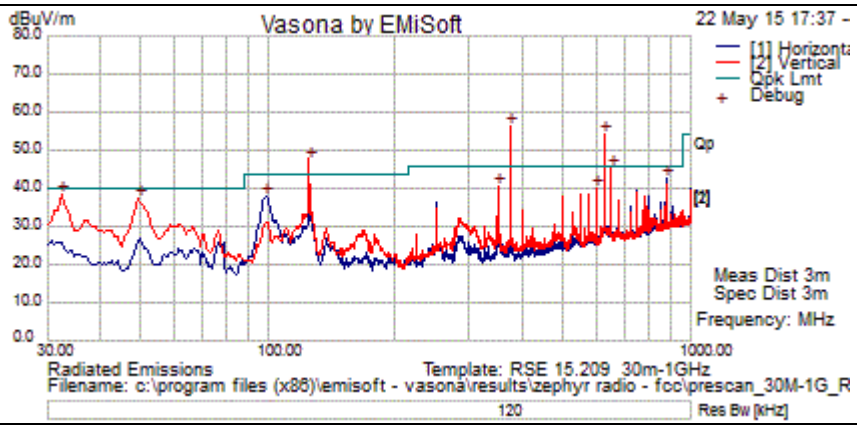
Radiated Receiver Spurious Measurements

Please note that scans were performed to verify that duty cycle did not have a significant impact on the test results. Also, scans with reduced RBW and VBW settings were performed to verify that no significant emissions were present under the noise floor.

Graphical Test Results

Note that the data displayed on the plots detailed in this appendix were measured using a 'Peak Detector'. Please refer to the results table for the detectors used during formal measurements

Please note that the high emissions at 375MHz, 125MHz, and 625MHz are digital emissions. These will be covered in the EMC test report.



Title: Receiver Spurious 30 – 1000MHz

Test Results Table

Prescan Data

No	Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail	Comments
1	374.956	39.6	1.8	15.1	56.5	Peak [Scan]	V	100	0	46.0	10.5	Fail	
2	624.731	32.4	2.4	19.4	54.2	Peak [Scan]	H	200	0	46.0	8.2	Fail	
3	125.181	32.7	1.1	14.0	47.8	Peak [Scan]	V	100	0	43.5	4.3	Fail	
4	650.194	23.3	2.4	19.9	45.6	Peak [Scan]	V	100	0	46.0	-.4	Pass	
5	32.425	18.6	.5	19.3	38.4	Peak [Scan]	V	100	0	40.0	-1.6	Pass	
6	49.400	28.7	.6	8.1	37.3	Peak [Scan]	V	100	0	40.0	-2.7	Pass	
7	875.113	17.7	2.8	22.1	42.6	Peak [Scan]	H	100	0	46.0	-3.4	Pass	
8	350.100	24.3	1.8	14.4	40.5	Peak [Scan]	V	200	0	46.0	-5.5	Pass	
9	99.113	27.0	.9	10.1	38.0	Peak [Scan]	H	200	0	43.5	-5.5	Pass	
10	599.875	19.4	2.3	18.4	40.2	Peak [Scan]	V	100	0	46.0	-5.8	Pass	

Graphical Test Results

Note that the data displayed on the plots detailed in this appendix were measured using a 'Peak Detector'. Please refer to the results table for the detectors used during formal measurements

Title: Receiver Spurious 1 – 18GHz (Average)

Graphical Test Results

Note that the data displayed on the plots detailed in this appendix were measured using a 'Peak Detector'. Please refer to the results table for the detectors used during formal measurements

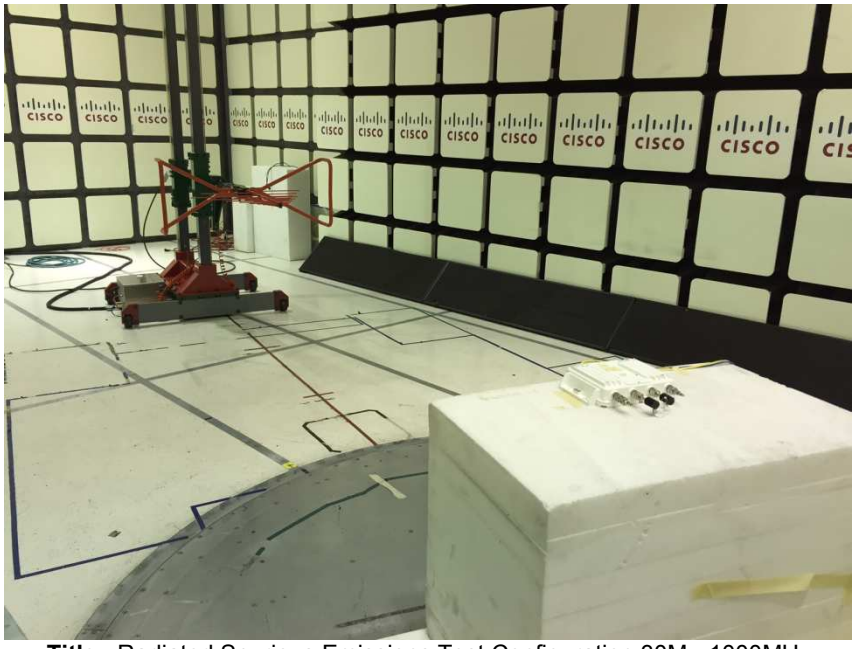
Title: Receiver Spurious 1 – 18GHz (Peak)

Appendix A: EUT Photos

EUT

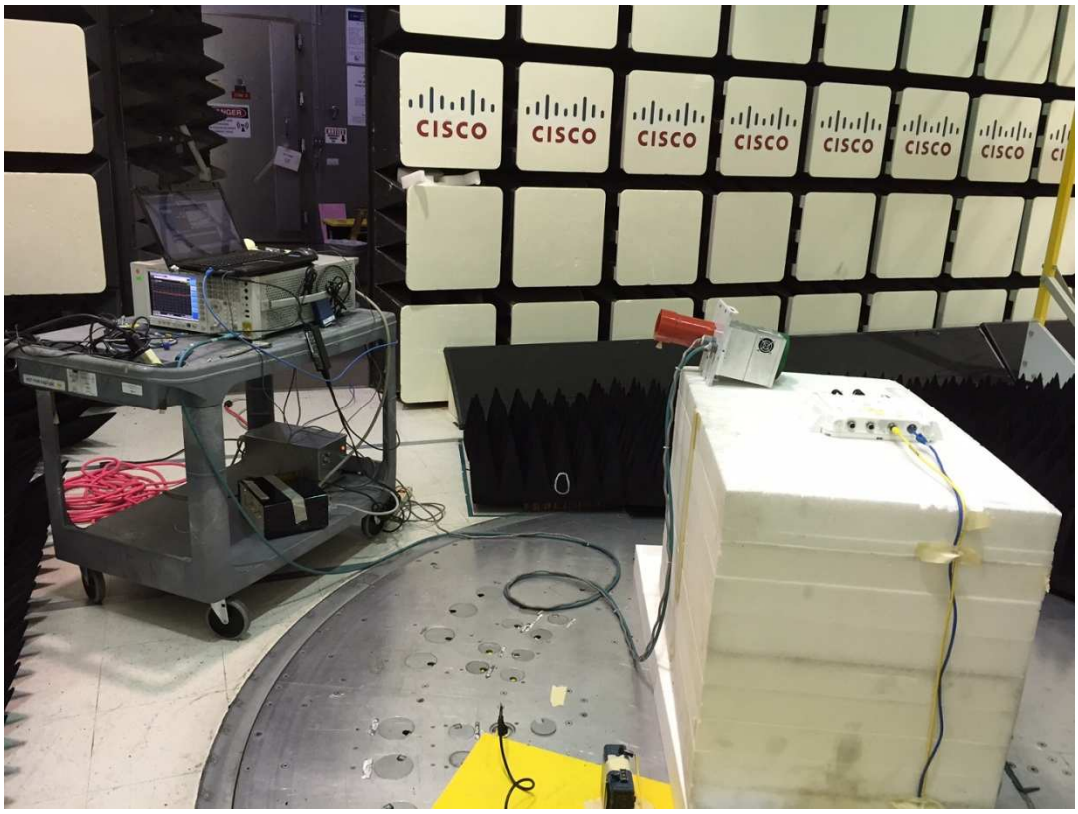
Power Supply

Appendix B: Physical Test Arrangement Photos:



Title: Radiated Spurious Emissions Test Configuration 30M - 1000MHz

Title: Radiated Spurious Emissions Test Configuration 1G - 18GHz



Title: Radiated Spurious Emissions Test Configuration 18 – 40GHz

Title: Conducted Test Setup

Appendix C: Test Equipment and Software Used to Perform Testing

Equip#	Manufacturer/ Model	Description	Last Cal	Next Due
25658	MICRO-COAX/ UFB311A-1-0840-504504	Coaxial Cable, 84.0 in. to 18GHz	13-Feb-15	13-Feb-16
21117	MICRO-COAX/ UFB311A-0-2484-520520	Coaxial Cable-18Ghz	25-Aug-14	25-Aug-15
49563	HUBER + SUHNER/ Sucoflex 106A	Coaxial Cable, 8m	25-Aug-14	25-Aug-15
5691	MITEQ/ NSP1800-25-S1	PREAMPLIFIER	29-Jan-15	29-Jan-16
4882	EMCO/ 3115	HORN ANTENNA	30-Jul-14	24-Jul-15
40597	CISCO/ Above 1GHz Site Cal	1GHz Cispr Site Verification	28-May-14	28-May-15
47300	Keysight (Agilent/HP) / N9038A	EMI Receiver	13-Jan-15	13-Jan-16
47285	HUBER + SUHNER / Sucoflex 102E	40GHz Cable K Connector	06 Jun 2014	06 Jun 2015
4883	EMCO/ 3115	HORN ANTENNA	Cal Not Required	Cal Not Required
34075	SCHAFFNER / RSG 2000	Reference Spectrum Generator, 1-18GHz	Cal Not Required	Cal Not Required
8166	Keysight (Agilent/HP) / 8491B Opt 010	ATTENUATOR	02 Feb 2015	02 Feb 2016
47294	FAIRVIEW MICROWAVE / ST6S-10	SMA Termination 6GHz	12-Aug-14	12-Aug-15
47293	FAIRVIEW MICROWAVE / ST6S-10	SMA Termination 6GHz	12-Aug-14	12-Aug-15
49504	JFW / 50T-039 SMA-F	SMA Female 50 Ohm Termination	27-Mar-15	27-Mar-16
49503	JFW / 50T-039 SMA-F	SMA Female 50 Ohm Termination	27-Mar-15	27-Mar-16
20490	Keysight (Agilent/HP) / 8710-1765	PRESET TORQUE WRENCH 3.5 mm 12 in/lbs	4-Feb-15	4-Feb-16
54230	Newport / iBTHP-5-DB9	5 inch Temp/RH/Press Sensor w/20ft cable	1-Feb-15	1-Feb-16
40503	Keysight (Agilent/HP) / E4440A	Spectrum Analyzer	6-Jun-14	6-Jun-15
54014	HUBER + SUHNER / Sucoflex 102E	40GHz Cable K Connector	27-Mar-15	27-Mar-16
49527	Keysight (Agilent/HP) / N8990K-A38	2x4 Switch Matrix	27-Mar-15	27-Mar-16

54017	HUBER + SUHNER / Sucoflex 102	RF Cable 2.4mm - N Type 18GHz	27-Mar-15	27-Mar-16
54018	HUBER + SUHNER / Sucoflex 102	RF Cable 2.4mm - N Type 18GHz	27-Mar-15	27-Mar-16
54016	HUBER + SUHNER / Sucoflex 102	RF Cable 2.4mm - N Type 18GHz	27-Mar-15	27-Mar-16
54015	HUBER + SUHNER / Sucoflex 102	RF Cable 2.4mm - N Type 18GHz	27-Mar-15	27-Mar-16
33988	Keysight (Agilent/HP) / E4446A	SPECTRUM ANALYZER, 44Ghz	9-Dec-14	9-Dec-15
30654	Sunol Sciences / JB1	Combination Antenna, 30MHz-2GHz	12-Dec-14	12-Dec-15
8448	CISCO/ NSA 5m Chamber	NSA 5m Chamber	7-Oct-14	7-Oct-15
27233	York / CNE V	COMPARISON NOISE EMITTER	Cal Not Required	Cal Not Required
41979	Cisco / 1840	18-40GHz EMI Test Head/Verification Fixture	9-Jul-14	9-Jul-15
38392	Keysight (Agilent/HP) / E8257D	PSG ANALOG SIGNAL GENERATOR	19-Aug-14	19-Aug-15
49516	Keysight (Agilent/HP) / N9030A	PXA Signal Analyzer	12-Nov-14	12-Nov-15
54237	Pasternack / PE5011-1	PRESET TORQUE WRENCH, 8 IN/LBS	04 Feb 2015	04 Feb 2016
37236	JFW / 50CB-015	Control Box, GPIB	Cal Not Required	Cal Not Required

Software Used to Perform Testing:

EMIsoft Vasona, version 6.024

Appendix D: Test Procedures

Measurements were made in accordance with

- KDB Publication No. 789033 D01 General UNII Test Procedures Old Rules v01r04
- Measurement method of spurious emission tolerance to the International Telecommunication Union (ITU) Recommendation SM329.
- ANSI C63.4 2009
- ANSI C63.10 2009

Test procedures are summarized below

FCC Test Procedures 5GHz	EDCS # - 1445048

Appendix E: Test Assessment Plan

Compliance Test Plan (Excel) EDCS# 1237091
Target Power Tables EDCS# 1501962

Appendix F: Worst Case Justification

IW3702 is based upon the AIR-CAP3702P-A-K9. Test results for AIR-CAP3702P-A-K9 were reviewed. Worst case modes were selected by lowest margins. A representative sample of modulation types, bit-rates, and bandwidths were selected. The AIR-CAP3702P-A-K9 report can be found here EDCS# 1278285.

Appendix G: Scope of Accreditation

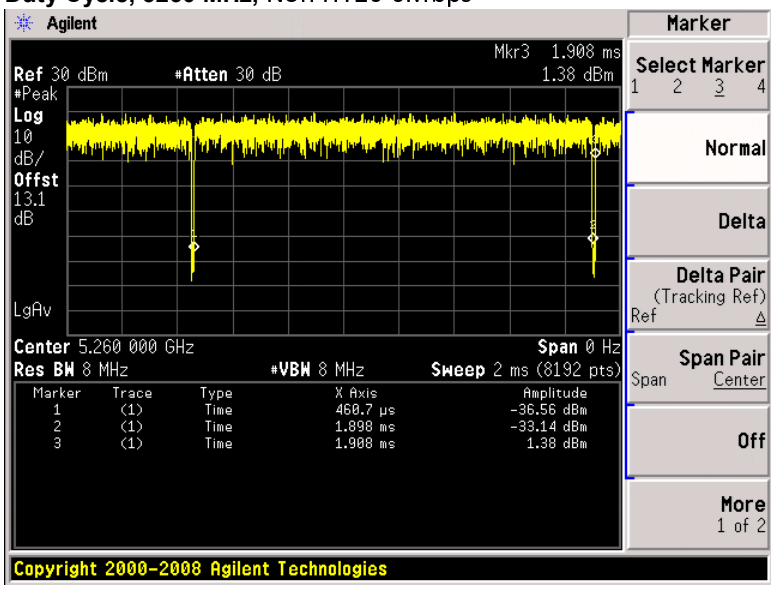
The scope of accreditation of Cisco Systems, Inc. can be found on the A2LA web page at:
http://www.a2la.org/scopepdf/1178-01.pdf

Appendix H: Duty Cycle

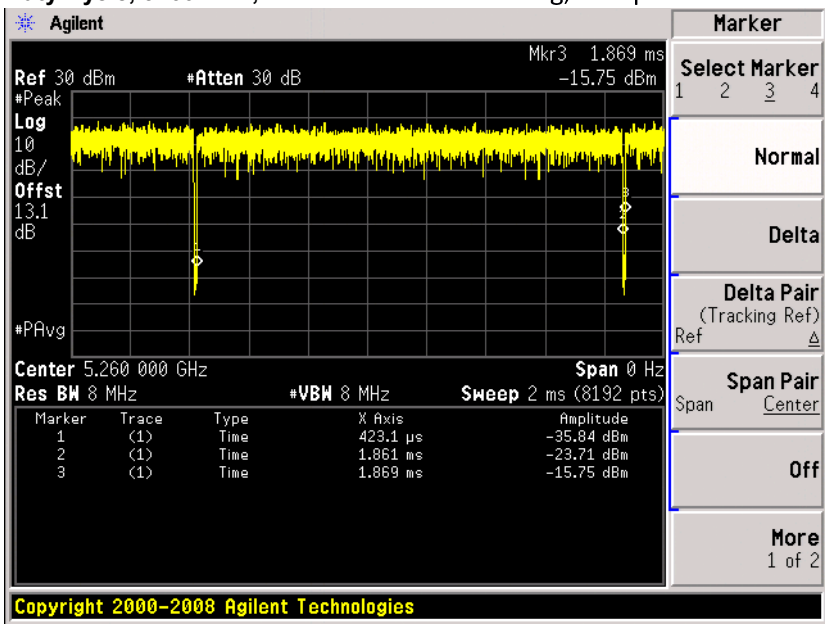
Duty Cycle information is shown below:

Mode	Data Rate	On-time (ms)	Total Time (ms)	Duty Cycle (%)	Correction Factor (dB)
NonHT20	6 Mbps	1.4373	1.447	99.3	0.03
NonHT20 BF	6Mbps	1.438	1.446	99.4	0.03
HT20	M16	0.4852	0.494	98.2	0.08
HT20 BF	M0	1.346	1.355	99.3	0.03
HT20 BF Quad	M0	1.346	1.354	99.4	0.03
NonHT40 Dual	6Mbps	1.438	1.448	99.3	0.03
HT40 Triple	M8	0.358	0.368	97.3	0.12
HT40 Quad	M8	0.358	0.367	97.5	0.11
HT40 BF Triple	M16	0.261	0.271	96.3	0.16
HT40 BF Quad	M16	0.261	0.271	96.3	0.16
NonHT80 Quad	6Mbps	1.438	1.448	99.3	0.03
VHT80 Quad	m0x1	0.334	0.35	95.4	0.20
VHT80 Quad	m0x2	0.193	0.208	92.8	0.32
VHT80 BF Quad	m0x3	0.153	0.169	90.5	0.43
NonHT40 Triple	6Mbps	1.438	1.447	99.4	0.03
HT40 Quad	M8	0.357	0.367	97.3	0.12
HT40 BF Triple	M16	0.261	0.272	95.9	0.18
HT40 BF Quad	M16	0.261	0.271	96.3	0.16
NonHT20 Dual	6Mbps	1.438	1.447	99.4	0.03
NonHT20 BF Dual	6Mbps	1.437	1.447	99.3	0.03
HT20 Quad	M16	0.486	0.496	97.9	0.09
HT20 BF	M16	0.486	0.496	97.9	0.09

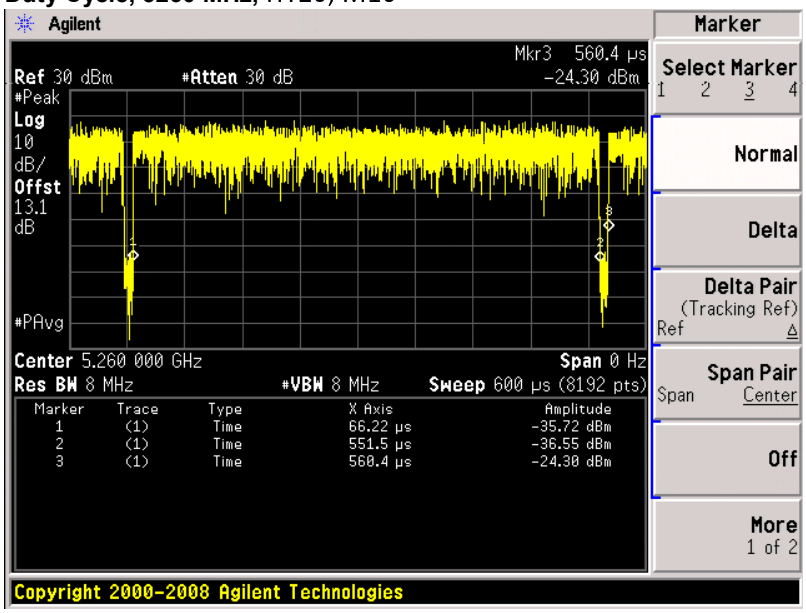
Duty Cycle, 5260 MHz, Non HT20 6Mbps



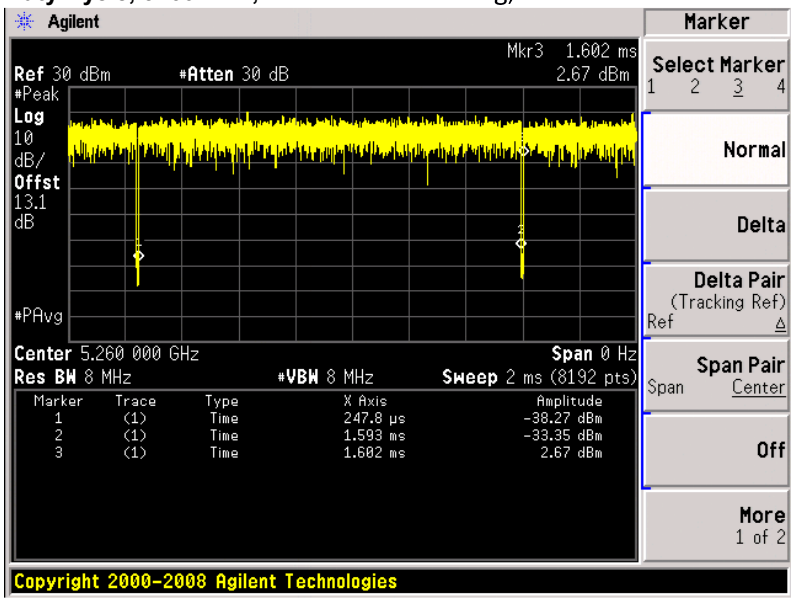
Duty Cycle, 5260 MHz, Non HT20 Beam Forming, 6Mbps



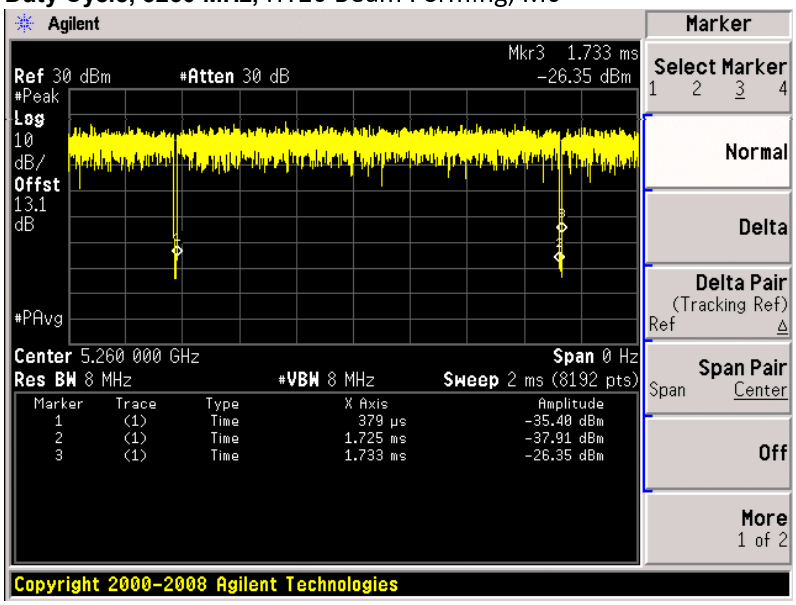
Duty Cycle, 5260 MHz, HT20, M16



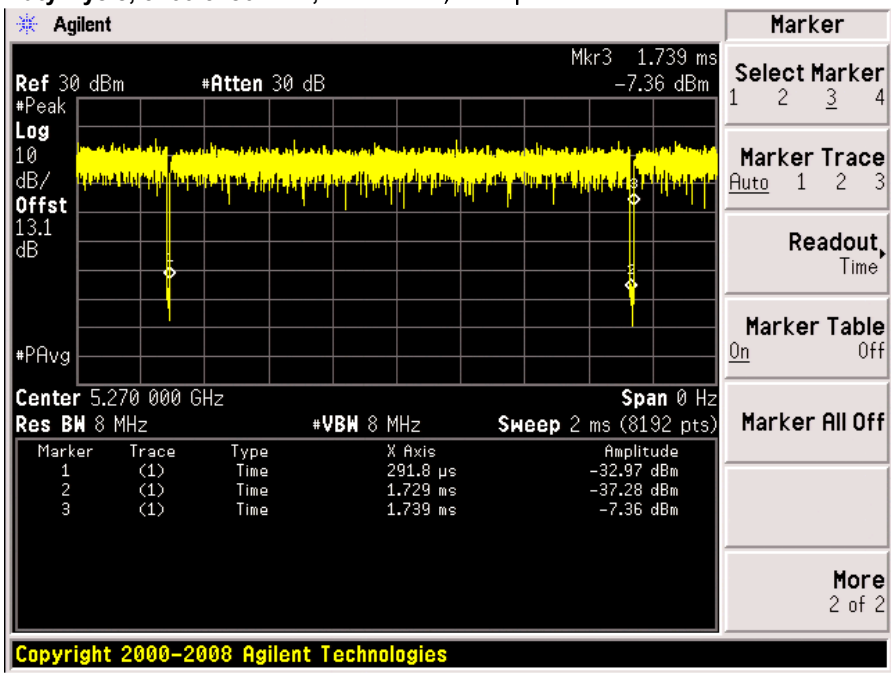
Duty Cycle, 5260 MHz, HT20 Beam Forming, M0



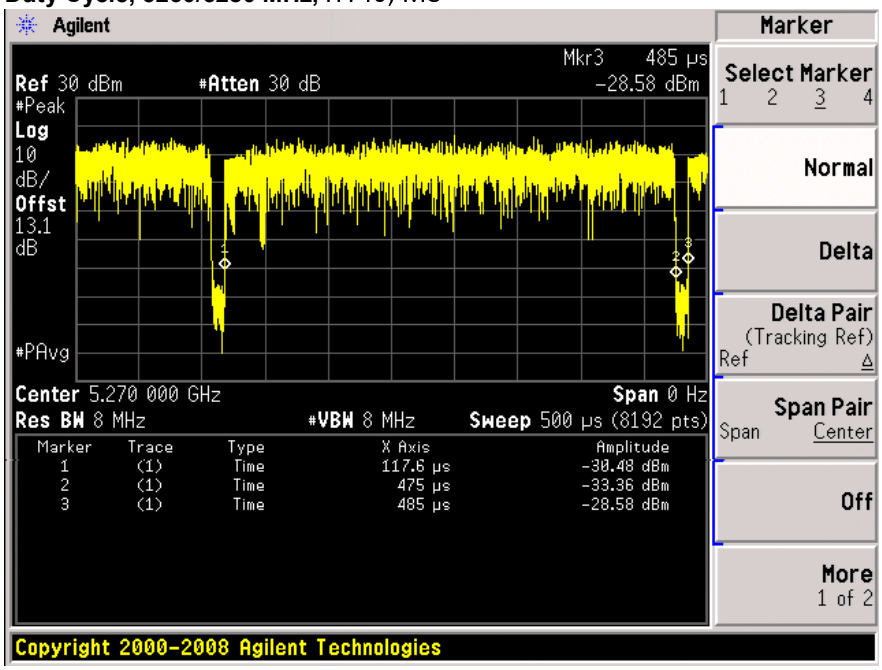
Duty Cycle, 5260 MHz, HT20 Beam Forming, M0



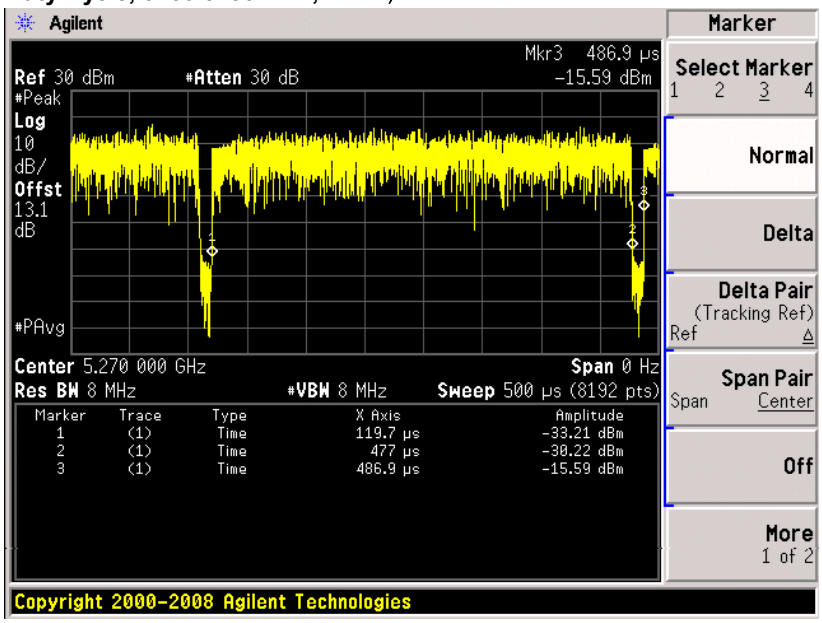
Duty Cycle, 5260/5280 MHz, Non HT40, 6Mbps



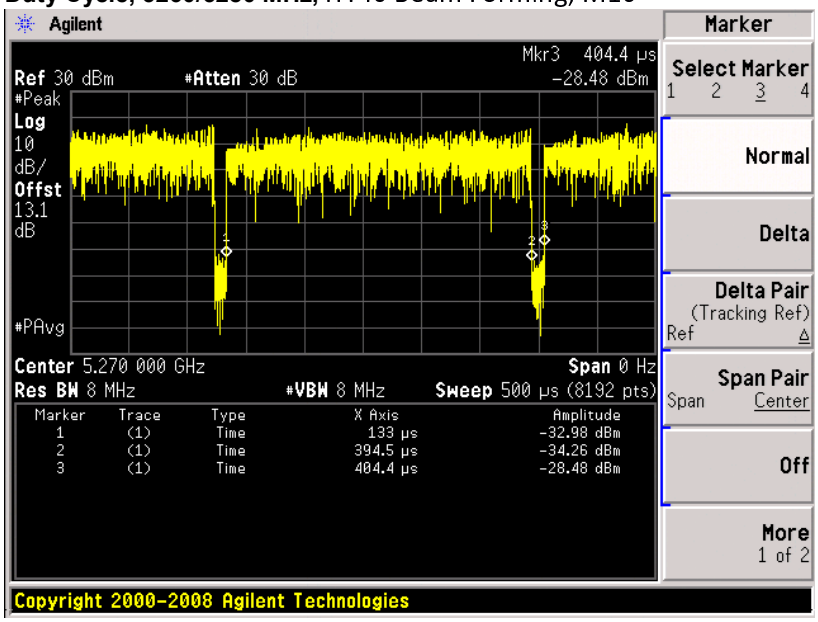
Duty Cycle, 5260/5280 MHz, HT40, M8



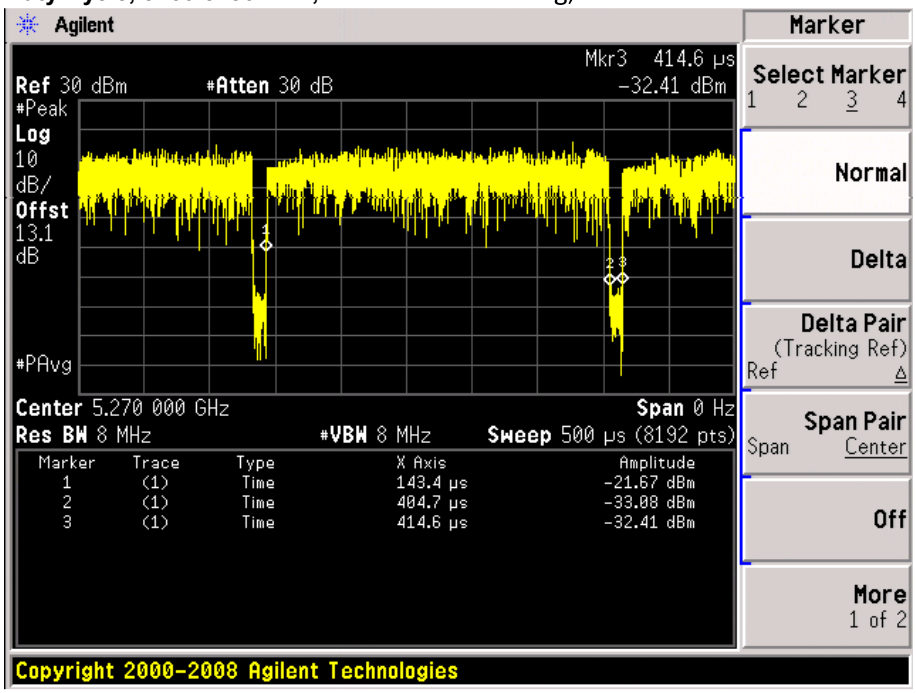
Duty Cycle, 5260/5280 MHz, HT40, M8



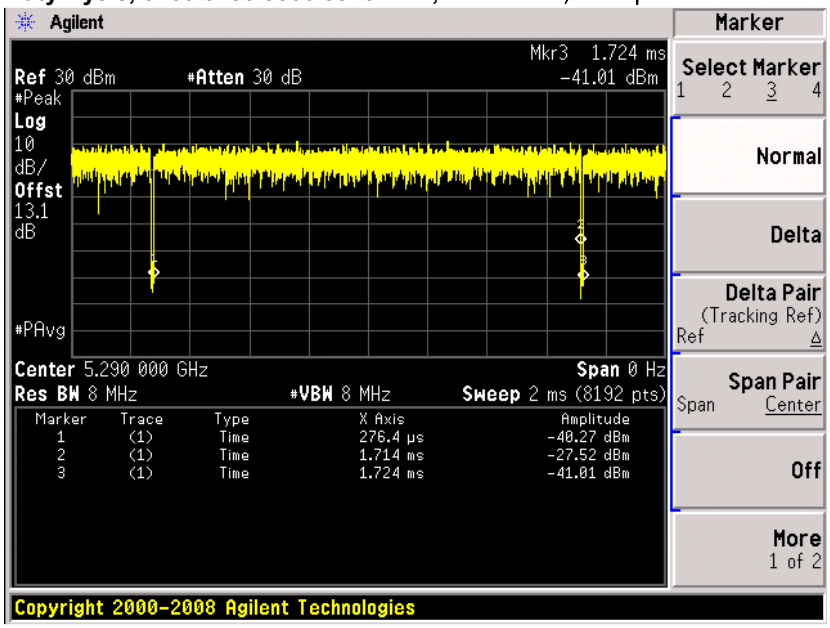
Duty Cycle, 5260/5280 MHz, HT40 Beam Forming, M16



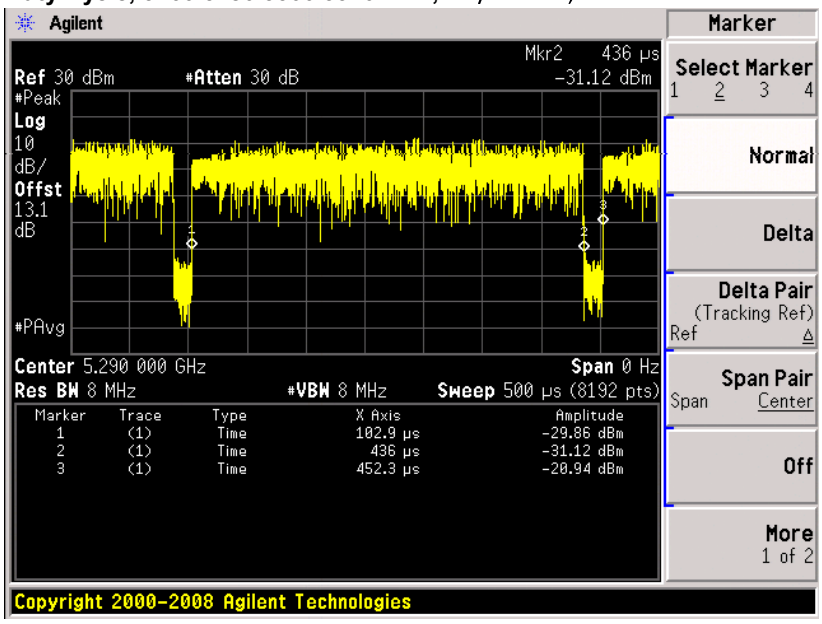
Duty Cycle, 5260/5280 MHz, HT40 Beam Forming, M16



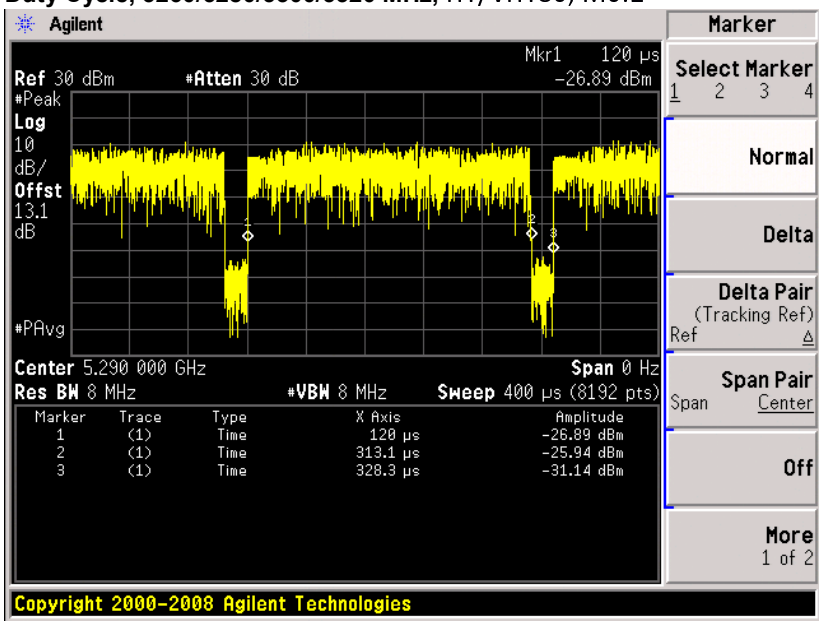
Duty Cycle, 5260/5280/5300/5320 MHz, Non HT80, 6Mbps



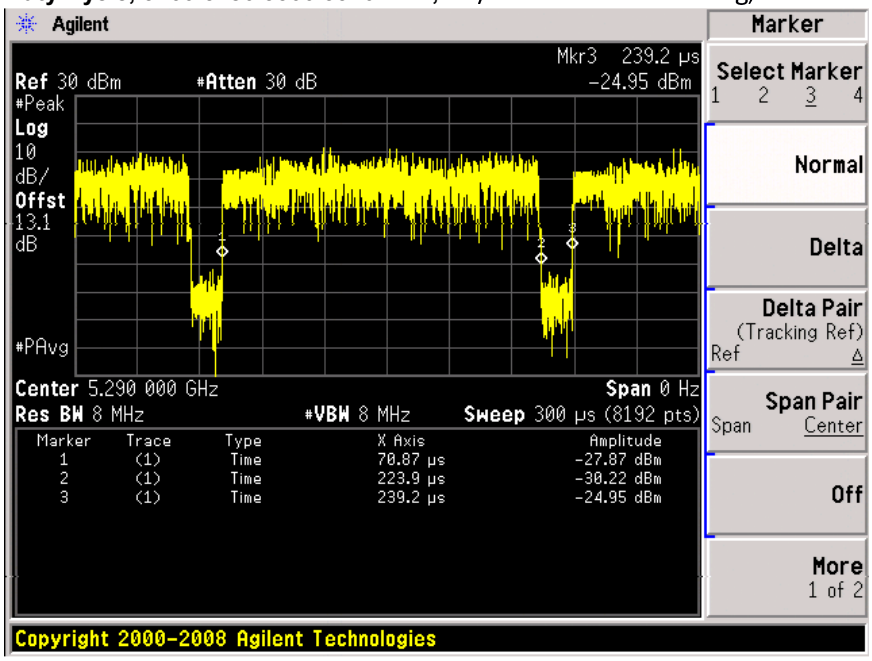
Duty Cycle, 5260/5280/5300/5320 MHz, HT/VHT80, M0.1



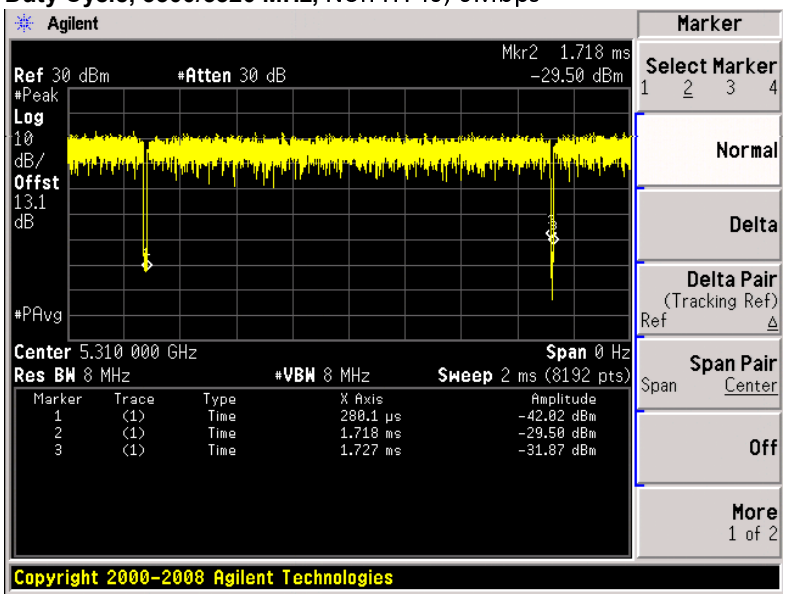
Duty Cycle, 5260/5280/5300/5320 MHz, HT/VHT80, M0.2



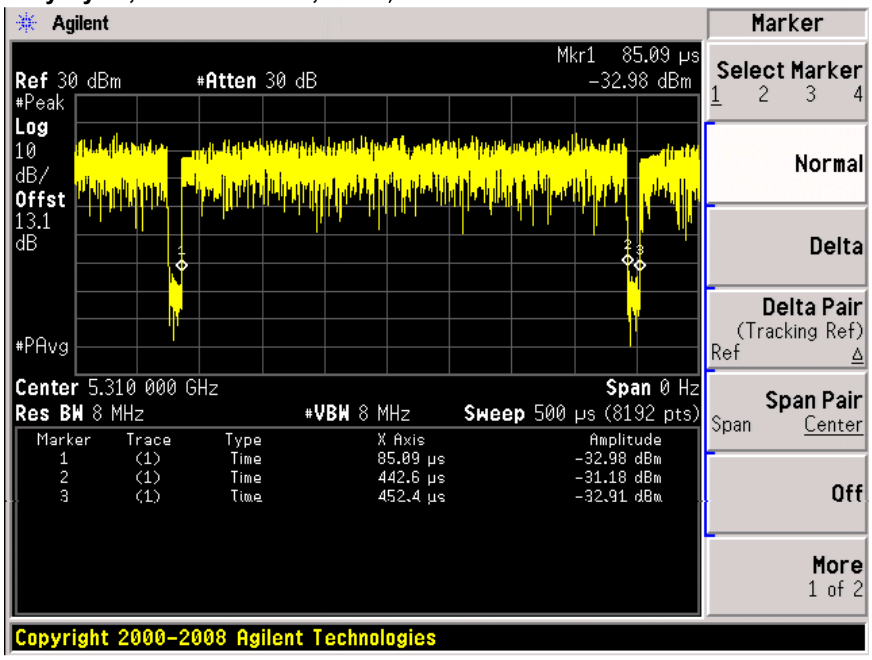
Duty Cycle, 5260/5280/5300/5320 MHz, HT/VHT80 Beam Forming, M0.3



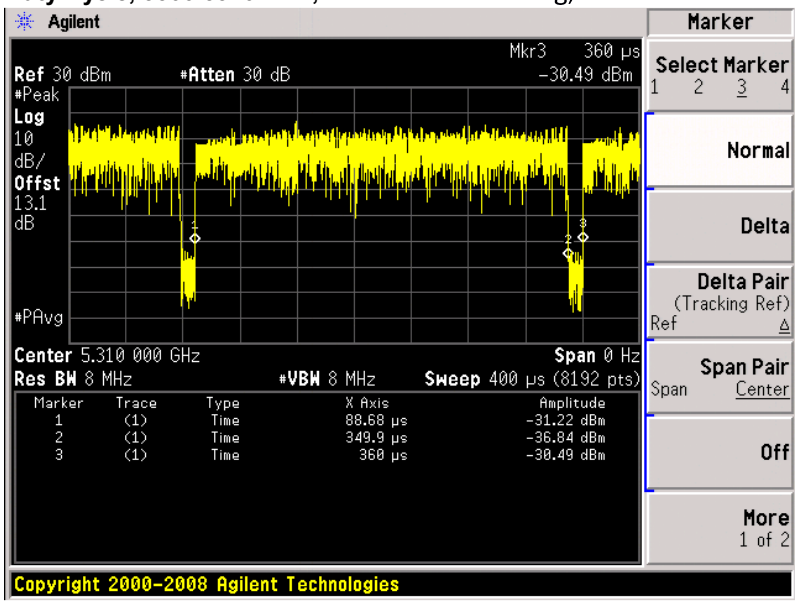
Duty Cycle, 5300/5320 MHz, Non HT40, 6Mbps



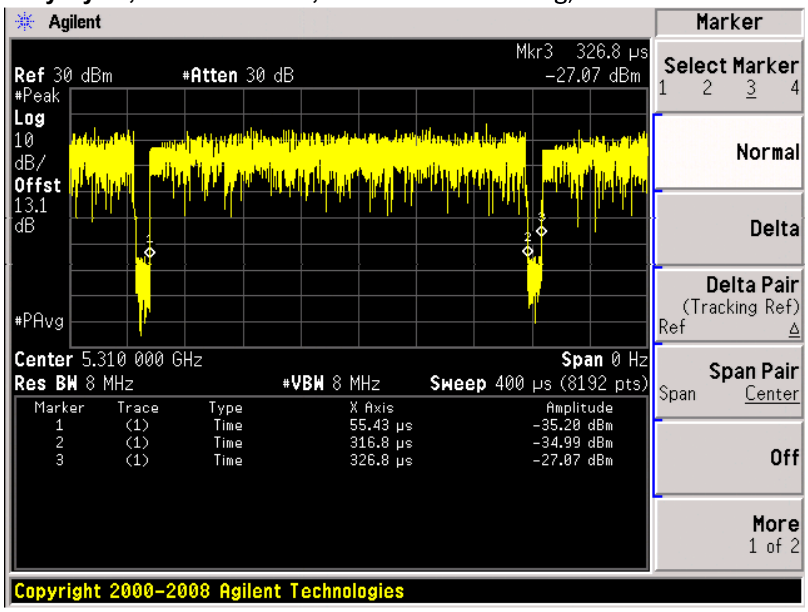
Duty Cycle, 5300/5320 MHz, HT40, M8



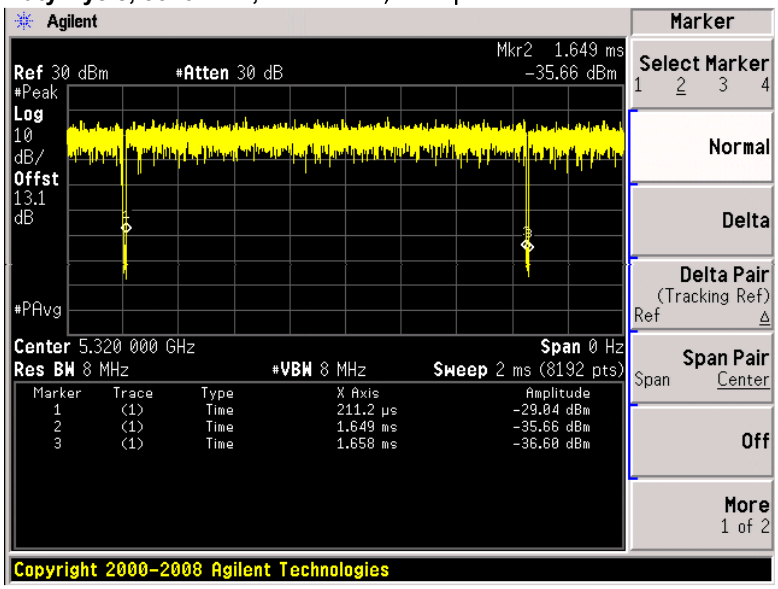
Duty Cycle, 5300/5320 MHz, HT40 Beam Forming, M16



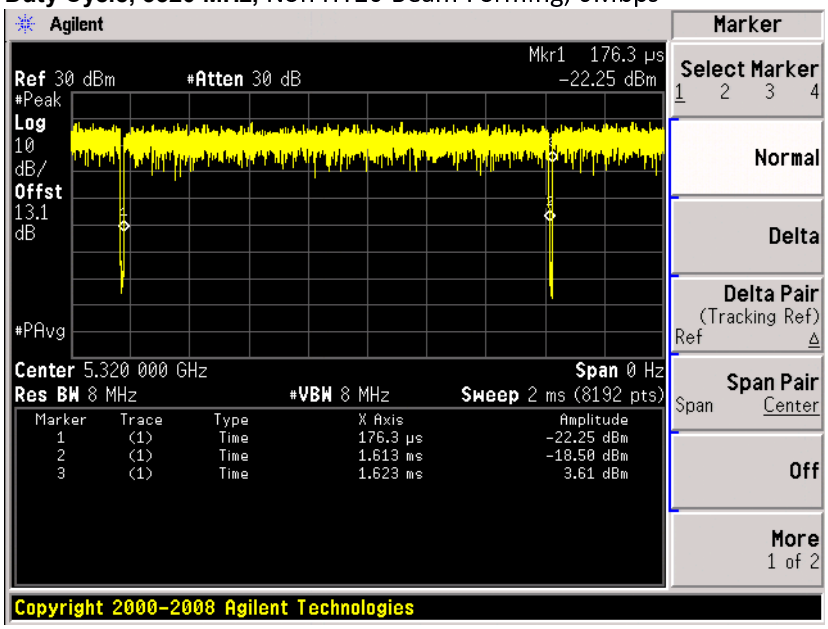
Duty Cycle, 5300/5320 MHz, HT40 Beam Forming, M16



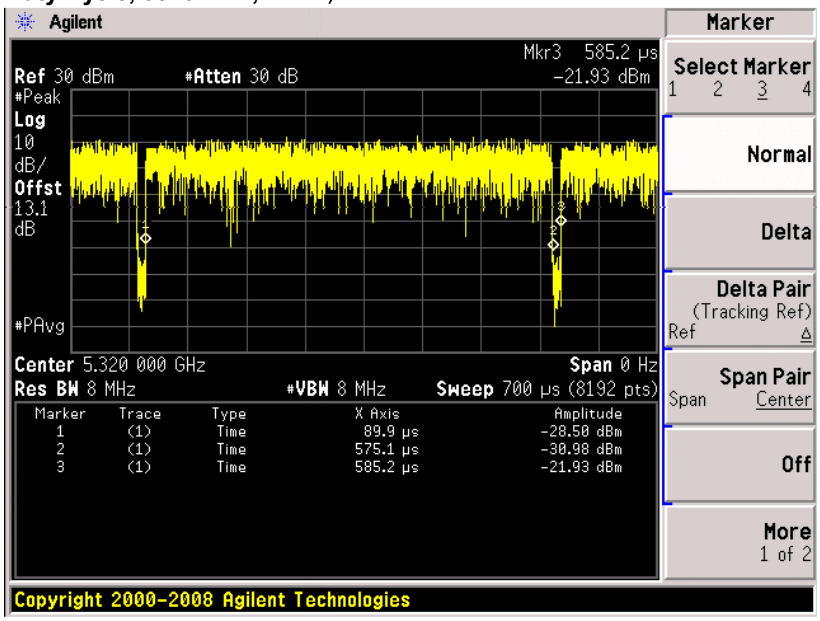
Duty Cycle, 5320 MHz, Non HT20, 6Mbps



Duty Cycle, 5320 MHz, Non HT20 Beam Forming, 6Mbps



Duty Cycle, 5320 MHz, HT20, M16



Duty Cycle, 5320 MHz, HT20 Beam Forming, M16