APPENDIX A – TEST DATA OF CONDUCTED EMISSION

Duty Cycle

Test Mode	Antenna	Frequency (MHz)	Duty Cycle (%)	Correction Factor(dB)	Plot
802.11a	Chain0	5180	99.97%	0	Fig.1
802.11a	Chain1	5180	99.97%	0	Fig.2
802.11n HT20	Chain0	5180	99.97%	0	Fig.3
802.11n HT20	Chain1	5180	99.98%	0	Fig.4
802.11ac VHT20	Chain0	5180	99.98%	0	Fig.5
802.11ac VHT20	Chain1	5180	99.98%	0	Fig.6
802.11n HT40	Chain0	5190	99.94%	0	Fig.7
802.11n HT40	Chain1	5190	99.94%	0	Fig.8
802.11ac VHT40	Chain0	5190	99.95%	0	Fig.9
802.11ac VHT40	Chain1	5190	99.93%	0	Fig.10
802.11ac VHT80	Chain0	5210	99.90%	0	Fig.11
802.11ac VHT80	Chain1	5210	99.89%	0	Fig.12

Note: Correction Factor=10*log (1/Duty Cycle)

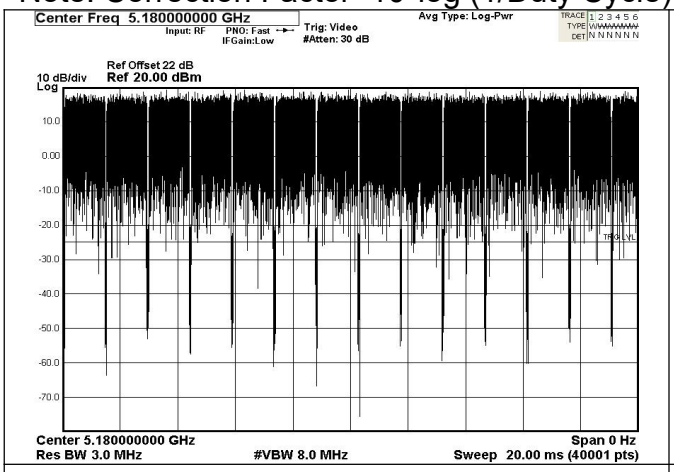


Fig.1

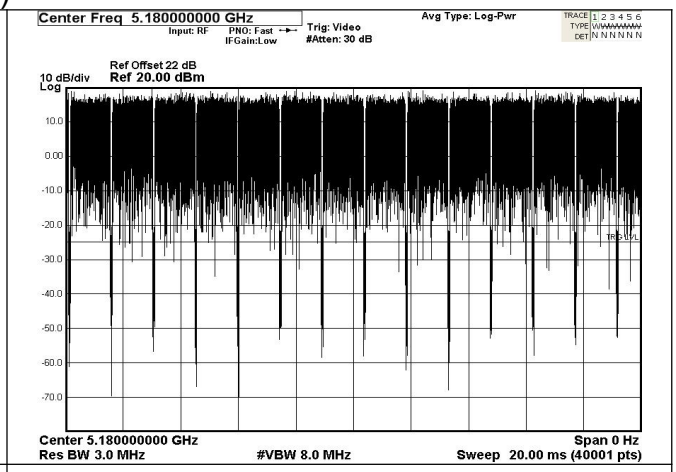


Fig.2

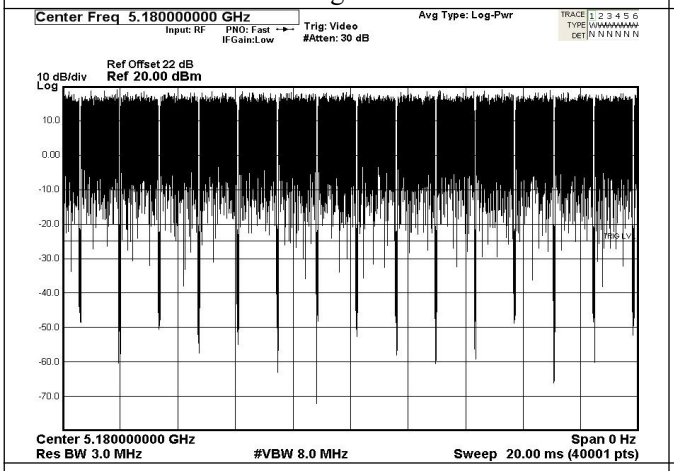


Fig.3

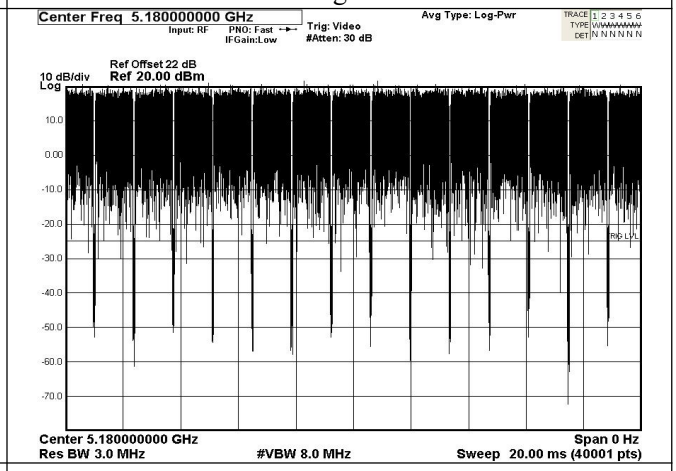


Fig.4

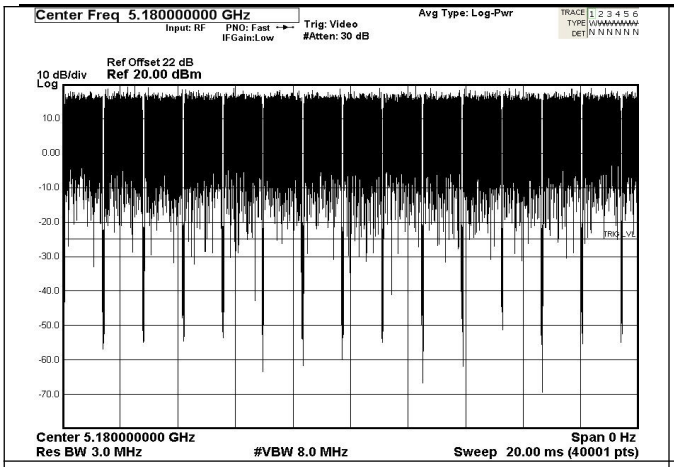


Fig.5

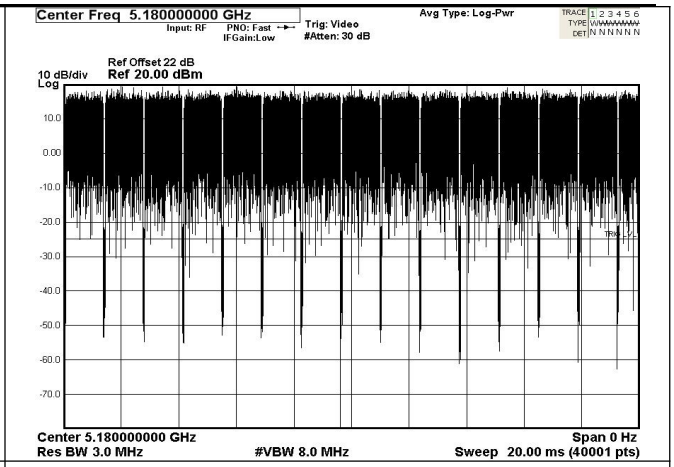


Fig.6

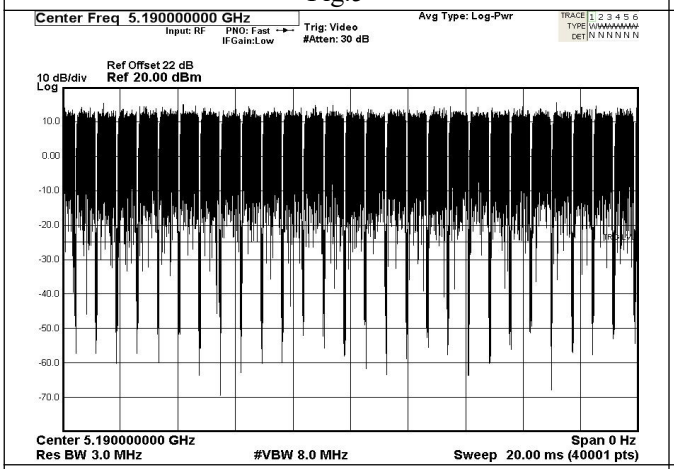


Fig.7

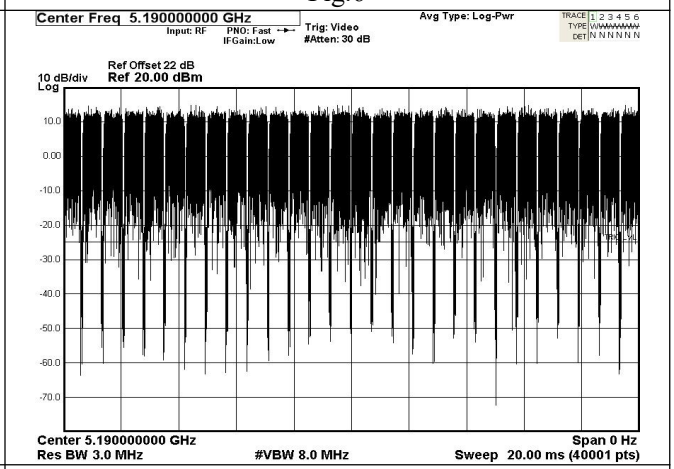


Fig.8

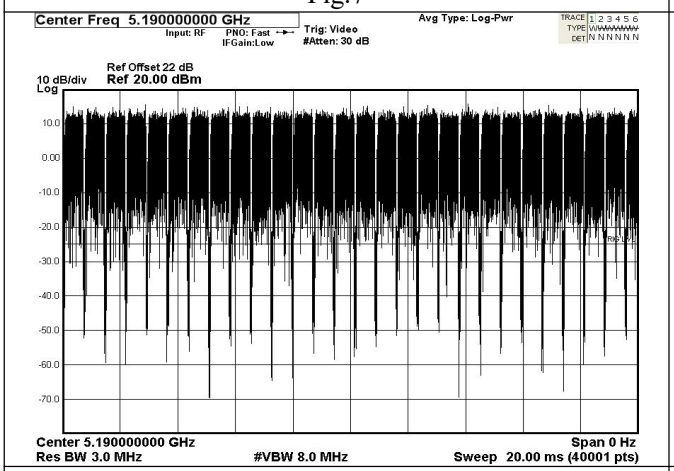


Fig.9

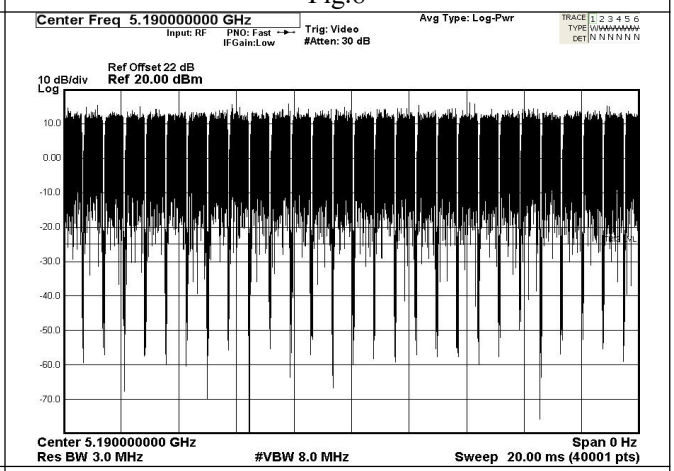


Fig.10

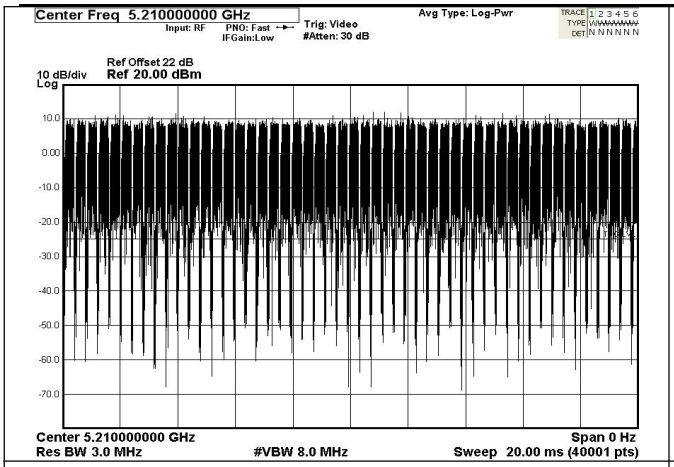

Center Freq 5.210000000 GHz
Input: RF
PNO: Fast
IFGain:Low
Trig: Video
#Atten: 30 dB
Avg Type: Log-Pwr
Ref Offset 22 dB
10 dB/div
Ref 20.00 dBm
Log
10.0
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
Center 5.210000000 GHz
Span 0 Hz
Res BW 3.0 MHz
#VBW 8.0 MHz
Sweep 20.00 ms (40001 pts)

Fig.11

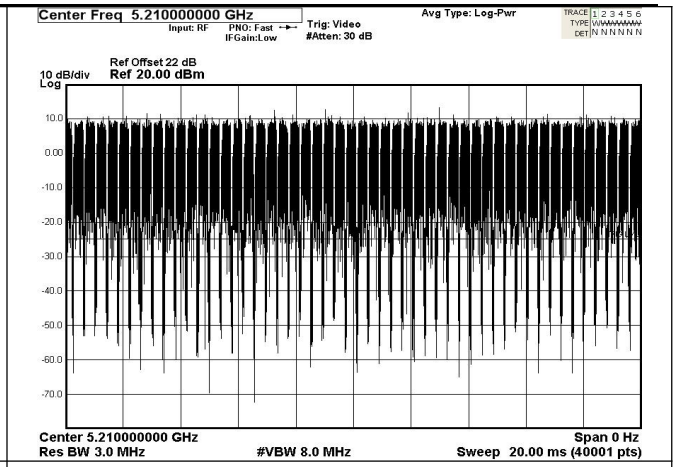

Center Freq 5.210000000 GHz
Input: RF
PNO: Fast
IFGain:Low
Trig: Video
#Atten: 30 dB
Avg Type: Log-Pwr
Ref Offset 22 dB
10 dB/div
Ref 20.00 dBm
Log
10.0
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
Center 5.210000000 GHz
Span 0 Hz
Res BW 3.0 MHz
#VBW 8.0 MHz
Sweep 20.00 ms (40001 pts)

Fig.12

Output Power

Mode	Tones/ RU Index	Frequency (MHz)	Antenna	Conducted average power output(dBm)	EIRP (dBm)
802.11a	NA	5180	Chain0	16.04	16.54
802.11a	NA	5180	Chain1	15.66	16.11
802.11a	NA	5220	Chain0	16.15	16.65
802.11a	NA	5220	Chain1	15.50	15.95
802.11a	NA	5240	Chain0	16.22	16.72
802.11a	NA	5240	Chain1	15.63	16.08
802.11n HT20	NA	5180	Chain0	16.13	16.63
802.11n HT20	NA	5180	Chain1	17.69	18.14
802.11n HT20	NA	5180	MIMO	19.99	20.47
802.11n HT20	NA	5220	Chain0	15.63	16.13
802.11n HT20	NA	5220	Chain1	15.83	16.28
802.11n HT20	NA	5220	MIMO	18.74	19.22
802.11n HT20	NA	5240	Chain0	15.74	16.24
802.11n HT20	NA	5240	Chain1	15.80	16.25
802.11n HT20	NA	5240	MIMO	18.78	19.26
802.11ac VHT20	NA	5180	Chain0	15.94	16.44
802.11ac VHT20	NA	5180	Chain1	15.85	16.30
802.11ac VHT20	NA	5180	MIMO	18.91	19.39
802.11ac VHT20	NA	5220	Chain0	15.72	16.22
802.11ac VHT20	NA	5220	Chain1	15.84	16.29
802.11ac VHT20	NA	5220	MIMO	18.79	19.27
802.11ac VHT20	NA	5240	Chain0	15.71	16.21
802.11ac VHT20	NA	5240	Chain1	15.95	16.40
802.11ac VHT20	NA	5240	MIMO	18.84	19.32
802.11n HT40	NA	5190	Chain0	14.73	15.23
802.11n HT40	NA	5190	Chain1	14.83	15.28
802.11n HT40	NA	5190	MIMO	17.79	18.27
802.11n HT40	NA	5230	Chain0	14.58	15.08
802.11n HT40	NA	5230	Chain1	14.79	15.24
802.11n HT40	NA	5230	MIMO	17.70	18.18
802.11ac VHT40	NA	5190	Chain0	15.20	15.70
802.11ac VHT40	NA	5190	Chain1	14.82	15.27
802.11ac VHT40	NA	5190	MIMO	18.02	18.50
802.11ac VHT40	NA	5230	Chain0	15.11	15.61
802.11ac VHT40	NA	5230	Chain1	14.86	15.31
802.11ac VHT40	NA	5230	MIMO	18.00	18.48
802.11ac VHT80	NA	5210	Chain0	13.62	14.12
802.11ac VHT80	NA	5210	Chain1	13.86	14.31
802.11ac VHT80	NA	5210	MIMO	16.75	17.23

Emission Bandwidth

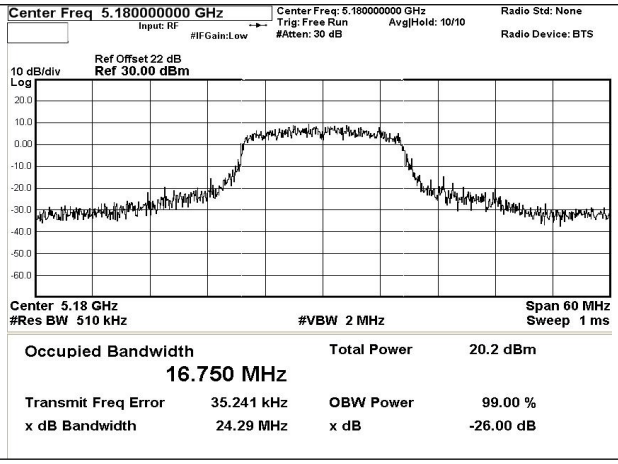
Offset 22dB = Attenuator + Temporary antenna connector loss + Cable loss

Test Mode	Antenna	26dB Bandwidth (MHz)		
		5180MHz	5220MHz	5240MHz
802.11a	Chain0	24.29	25.94	25.21
802.11a	Chain1	20.37	20.32	20.04
802.11n HT20	Chain0	22.51	20.15	21.26
802.11n HT20	Chain1	20.12	20.58	20.57
802.11ac VHT20	Chain0	22.29	20.73	23.43
802.11ac VHT20	Chain1	20.81	20.66	20.06

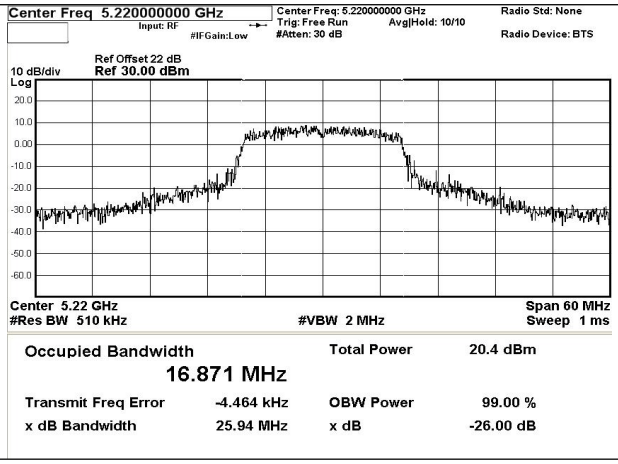
Test Mode	Antenna	26dB Bandwidth (MHz)		
		5190MHz	---	5230MHz
802.11n HT40	Chain0	40.55	---	40.11
802.11n HT40	Chain1	40.77	---	39.75
802.11ac VHT40	Chain0	40.37	---	40.29
802.11ac VHT40	Chain1	40.74	---	40.56

Test Mode	Antenna	26dB Bandwidth (MHz)		
		5210MHz	---	---
802.11ac VHT80	Chain0	80.92	---	---
802.11ac VHT80	Chain1	80.87	---	---

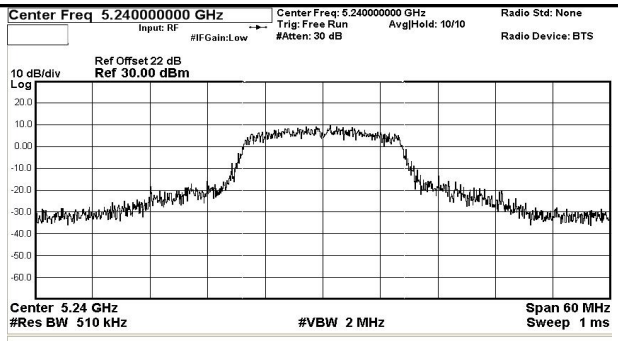
Test Mode: 802.11a



Mode:802.11a Frequency:5180MHz Ant:Chain0

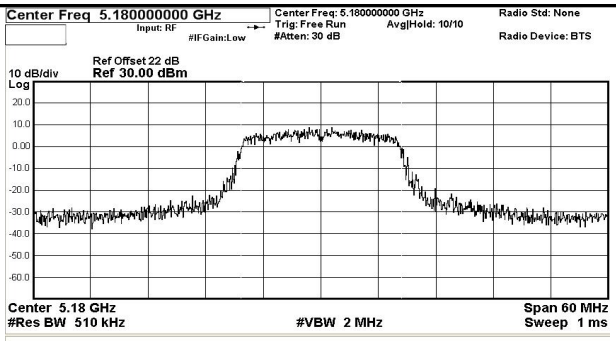


Mode:802.11a Frequency:5220MHz Ant:Chain0



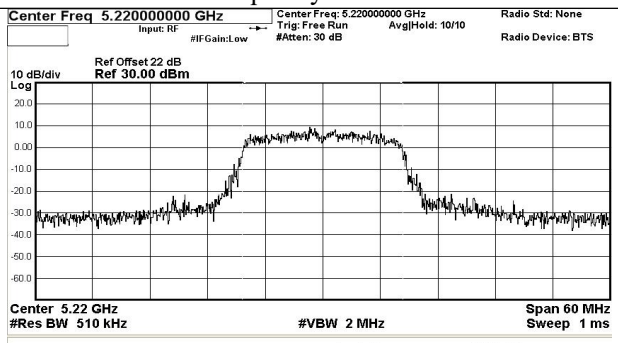
Occupied Bandwidth		Total Power	20.7 dBm
16.835 MHz			
Transmit Freq Error	48.592 kHz	OBW Power	99.00 %
x dB Bandwidth	25.21 MHz	x dB	-26.00 dB

Mode:802.11a Frequency:5240MHz Ant:Chain0



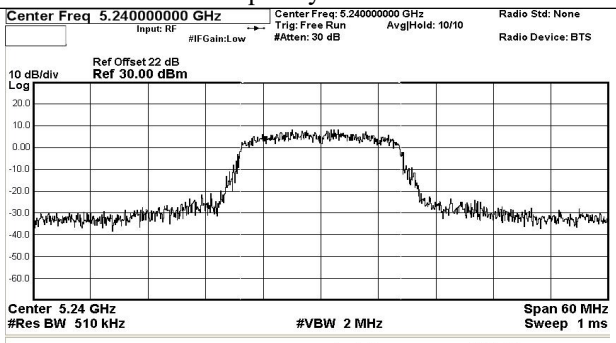
Occupied Bandwidth		Total Power	19.8 dBm
16.732 MHz			
Transmit Freq Error	64.950 kHz	OBW Power	99.00 %
x dB Bandwidth	20.37 MHz	x dB	-26.00 dB

Mode:802.11a Frequency:5180MHz Ant:Chain1



Occupied Bandwidth		Total Power	19.6 dBm
16.590 MHz			
Transmit Freq Error	22.867 kHz	OBW Power	99.00 %
x dB Bandwidth	20.32 MHz	x dB	-26.00 dB

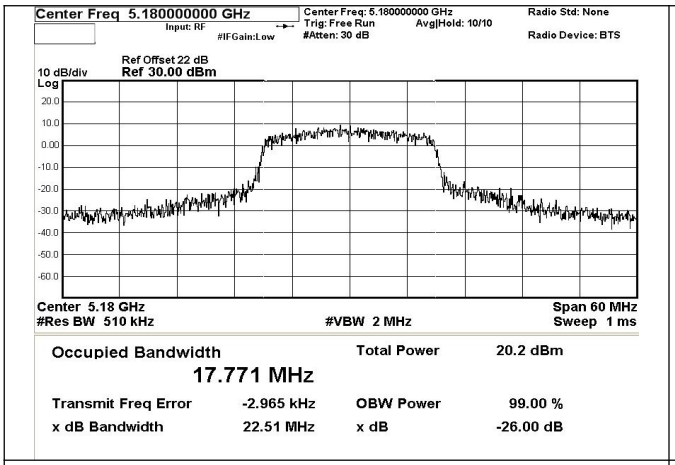
Mode:802.11a Frequency:5220MHz Ant:Chain1



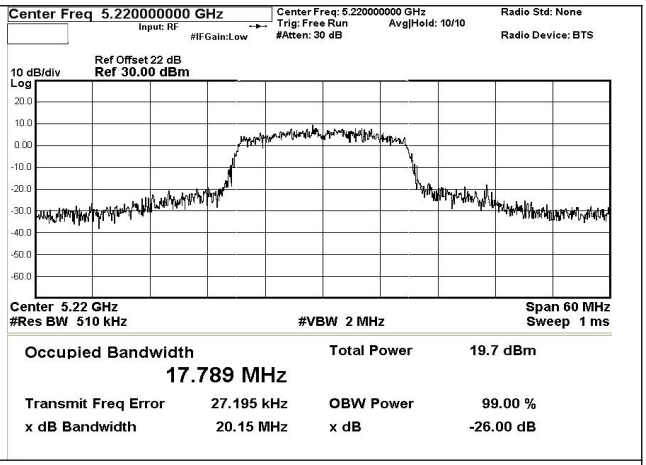
Occupied Bandwidth		Total Power	19.5 dBm
16.680 MHz			
Transmit Freq Error	13.867 kHz	OBW Power	99.00 %
x dB Bandwidth	20.04 MHz	x dB	-26.00 dB

Mode:802.11a Frequency:5240MHz Ant:Chain1

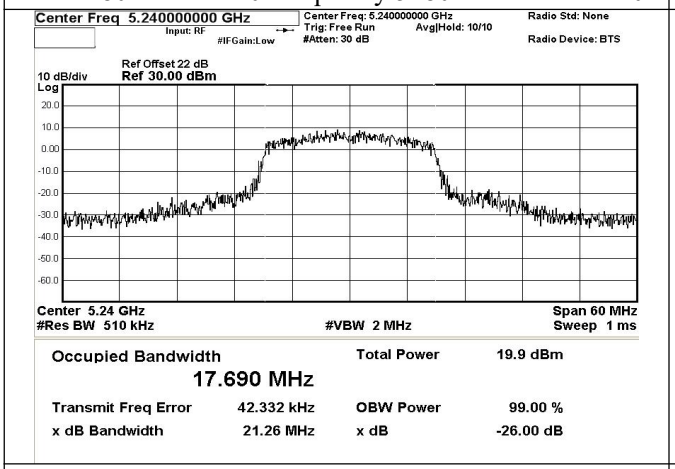
Test Mode: 802.11n HT20



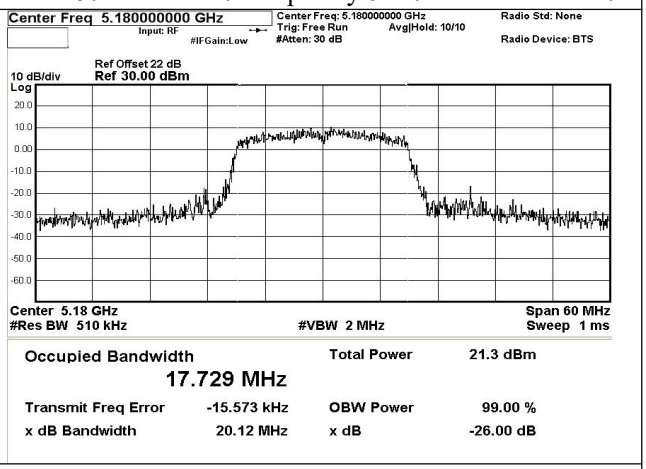
Mode:802.11n HT20 Frequency:5180MHz Ant:Chain0



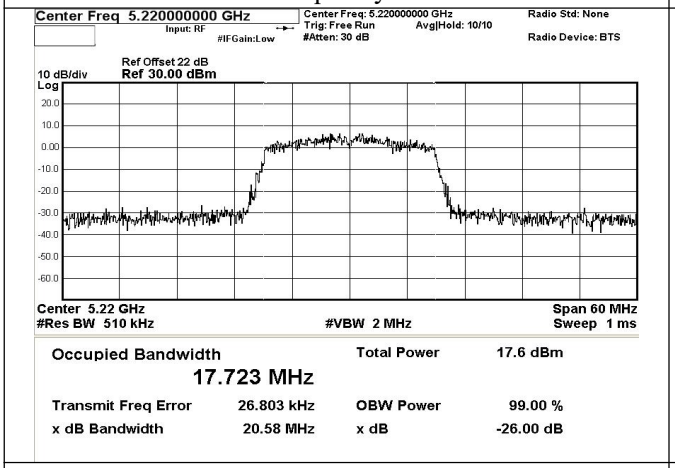
Mode:802.11n HT20 Frequency:5220MHz Ant:Chain0



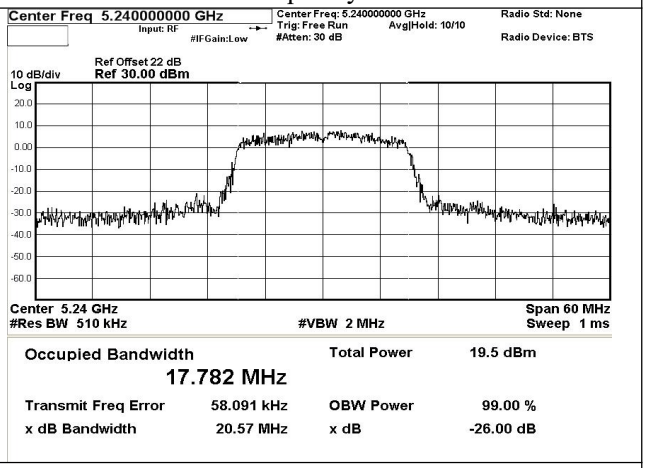
Mode:802.11n HT20 Frequency:5240MHz Ant:Chain0



Mode:802.11n HT20 Frequency:5180MHz Ant:Chain1

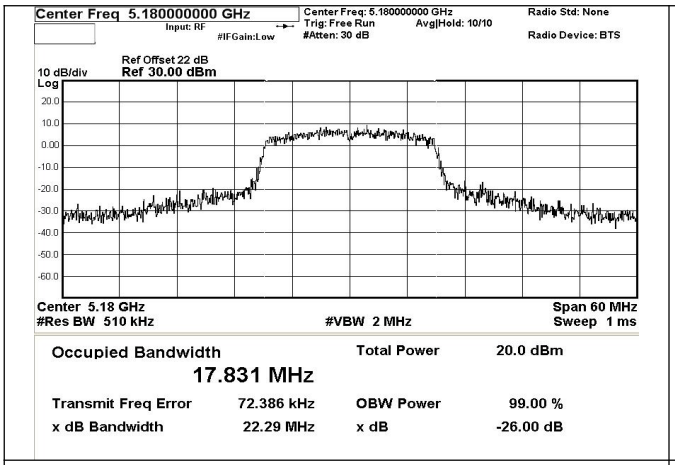


Mode:802.11n HT20 Frequency:5220MHz Ant:Chain1

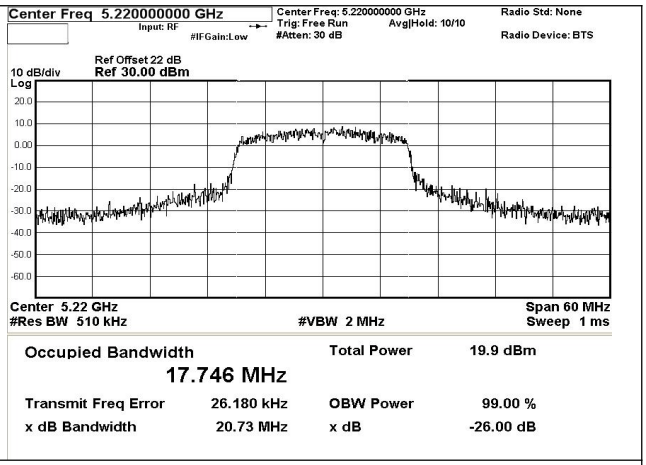


Mode:802.11n HT20 Frequency:5240MHz Ant:Chain1

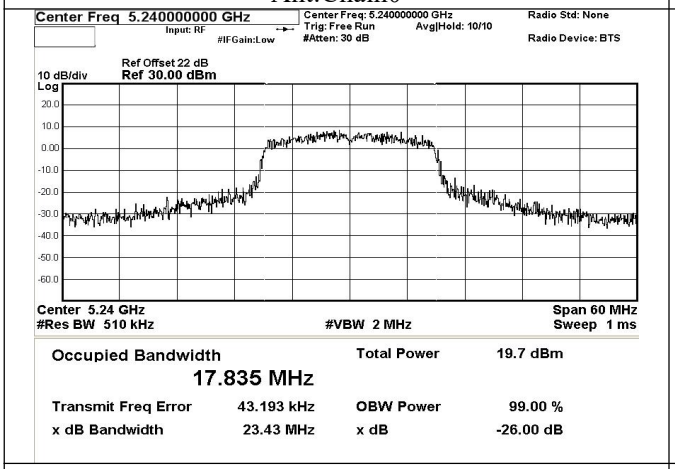
Test Mode: 802.11ac VHT20



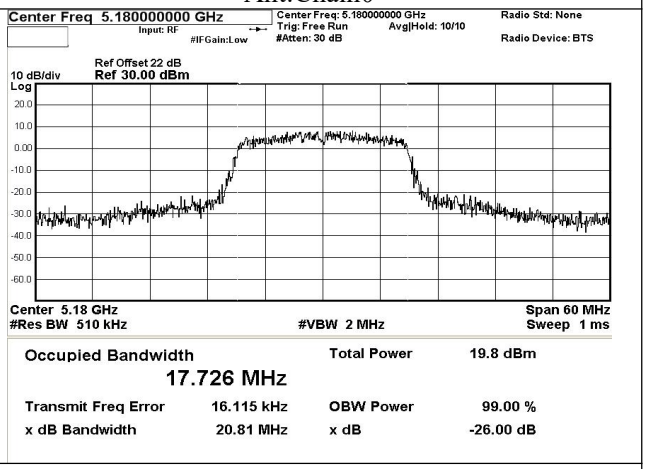
Mode:802.11ac VHT20 Frequency:5180MHz
Ant:Chain0



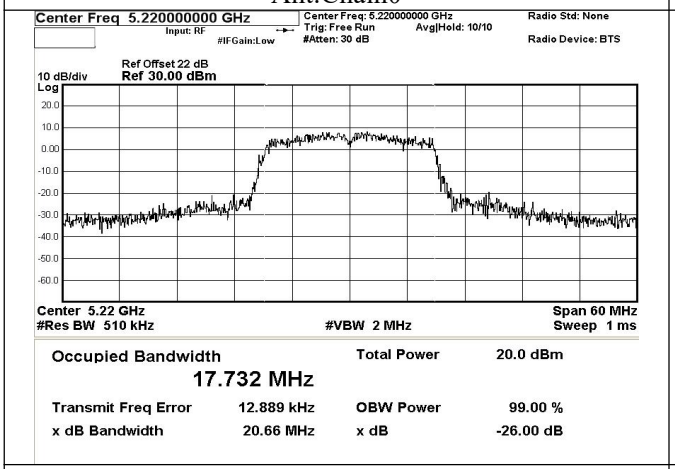
Mode:802.11ac VHT20 Frequency:5220MHz
Ant:Chain0



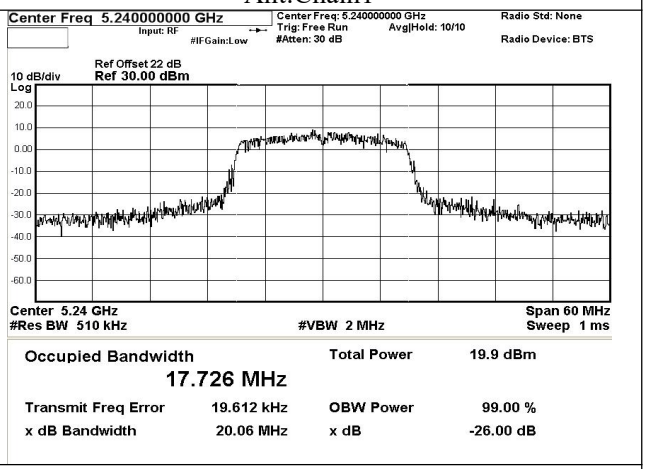
Mode:802.11ac VHT20 Frequency:5240MHz
Ant:Chain0



Mode:802.11ac VHT20 Frequency:5180MHz
Ant:Chain1

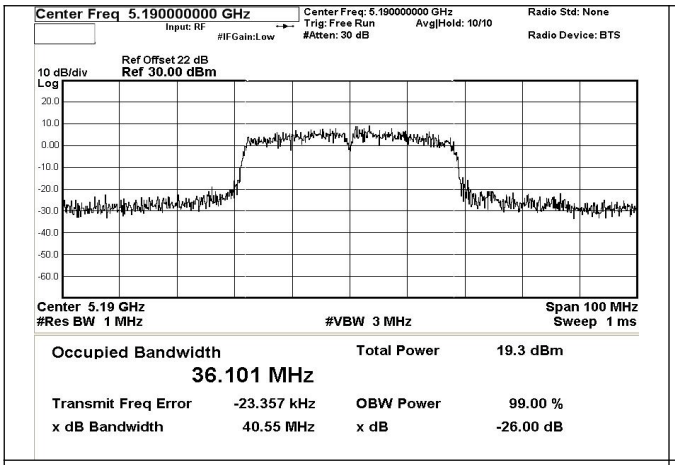


Mode:802.11ac VHT20 Frequency:5220MHz
Ant:Chain1

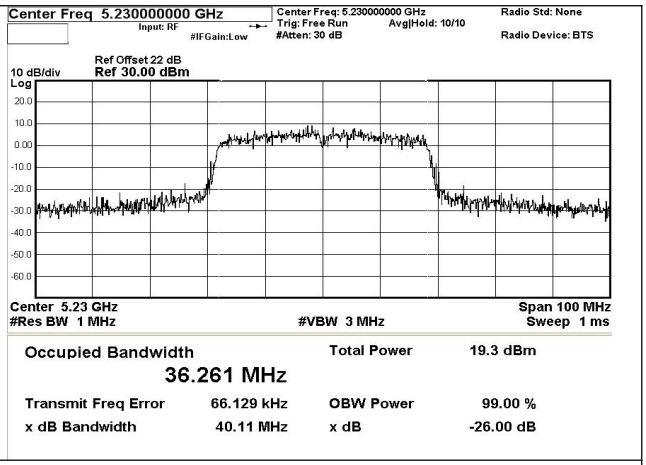


Mode:802.11ac VHT20 Frequency:5240MHz
Ant:Chain1

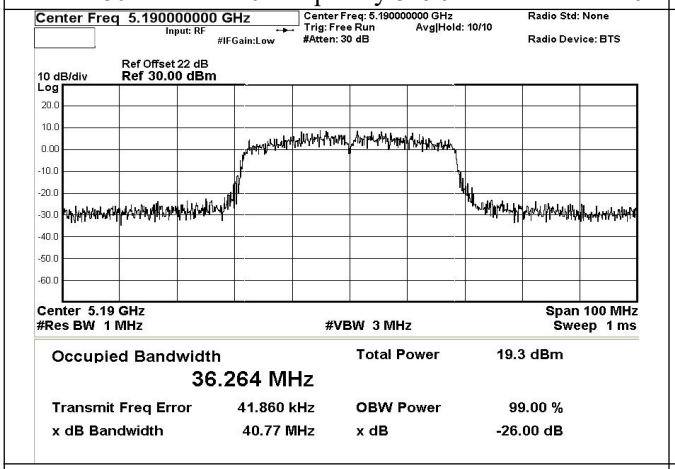
Test Mode: 802.11n HT40



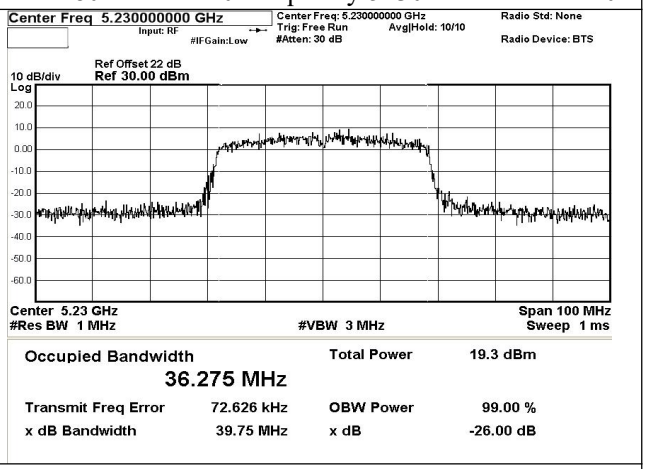
Mode:802.11n HT40 Frequency:5190MHz Ant:Chain0



Mode:802.11n HT40 Frequency:5230MHz Ant:Chain0

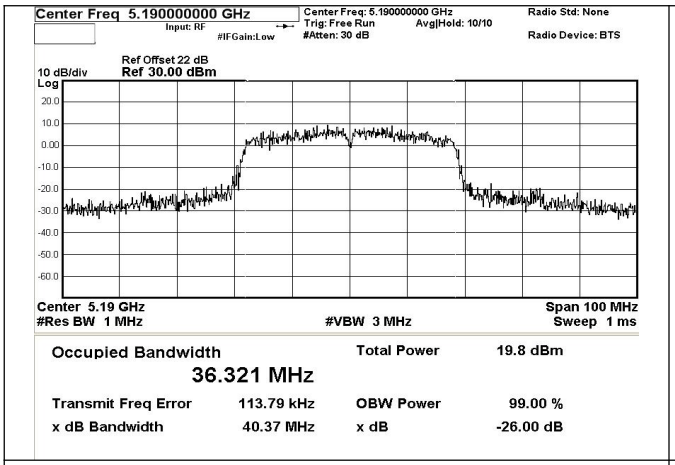


Mode:802.11n HT40 Frequency:5190MHz Ant:Chain1

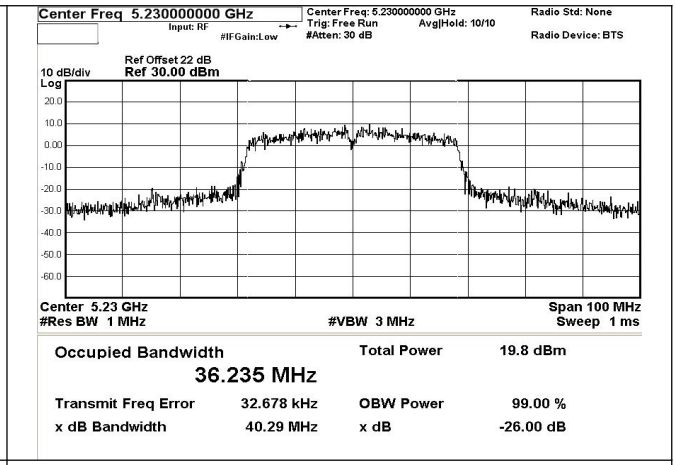


Mode:802.11n HT40 Frequency:5230MHz Ant:Chain1

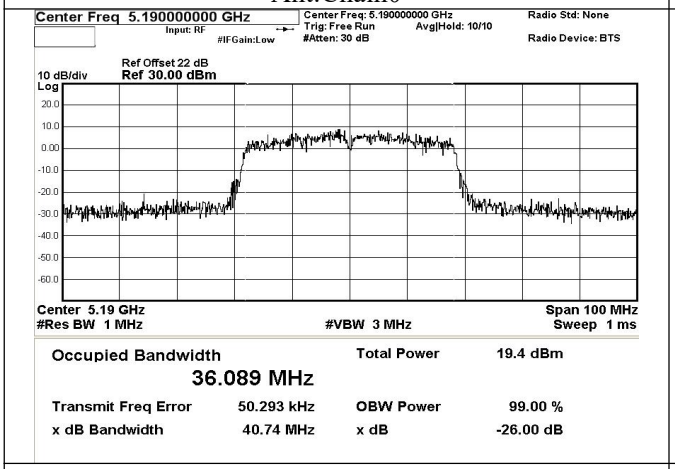
Test Mode: 802.11ac VHT40



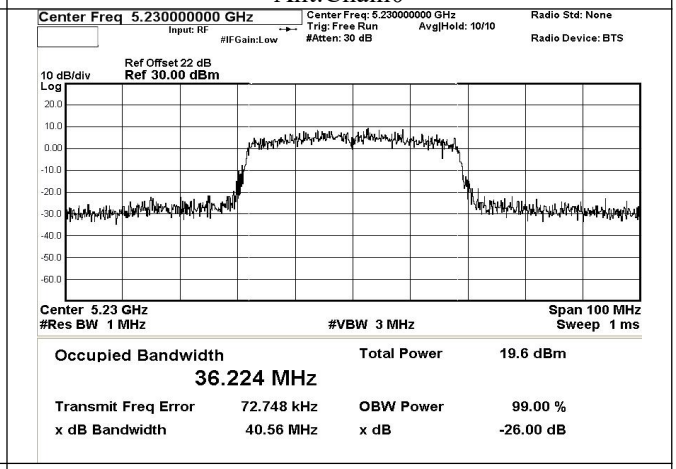
Mode:802.11ac VHT40 Frequency:5190MHz
Ant:Chain0



Mode:802.11ac VHT40 Frequency:5230MHz
Ant:Chain0

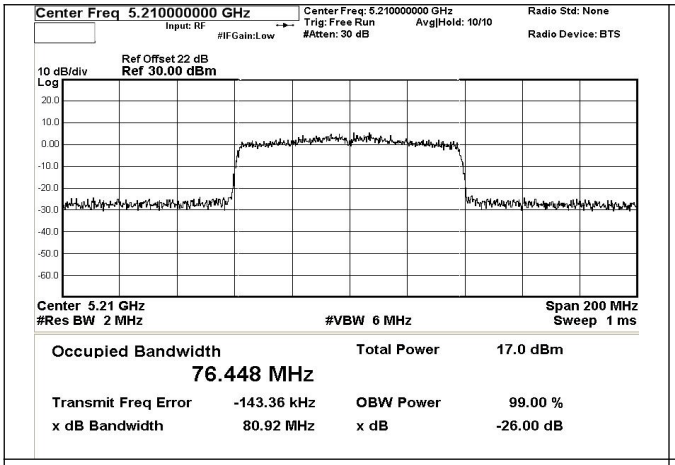


Mode:802.11ac VHT40 Frequency:5190MHz
Ant:Chain1

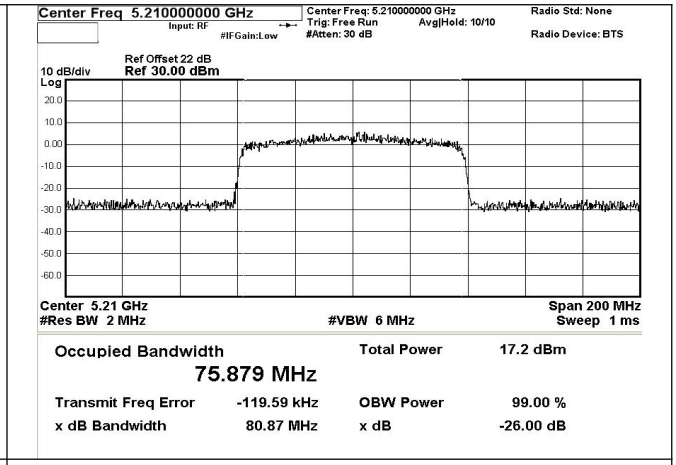


Mode:802.11ac VHT40 Frequency:5230MHz
Ant:Chain1

Test Mode: 802.11ac VHT80



Mode:802.11ac VHT80 Frequency:5210MHz
Ant:Chain0



Mode:802.11ac VHT80 Frequency:5210MHz
Ant:Chain1

Occupied Bandwidth

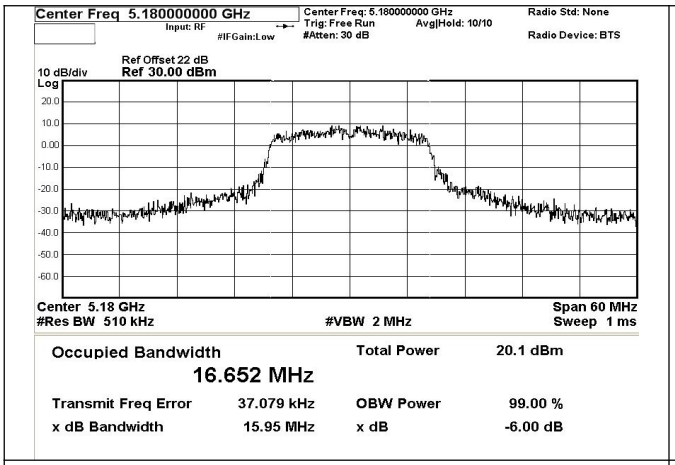
Offset 22dB = Attenuator + Temporary antenna connector loss + Cable loss

Test Mode	Antenna	Occupied Bandwidth (MHz)		
		5180MHz	5220MHz	5240MHz
802.11a	Chain0	16.652	16.789	16.719
802.11a	Chain1	16.584	16.707	16.593
802.11n HT20	Chain0	17.822	17.750	17.782
802.11n HT20	Chain1	17.793	17.736	17.768
802.11ac VHT20	Chain0	17.831	17.755	17.702
802.11ac VHT20	Chain1	17.743	17.723	17.705

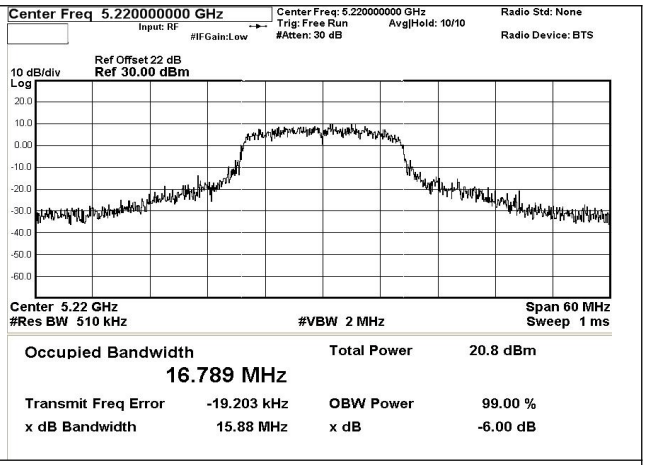
Test Mode	Antenna	Occupied Bandwidth (MHz)		
		5190MHz	---	5230MHz
802.11n HT40	Chain0	36.261	---	36.209
802.11n HT40	Chain1	36.201	---	36.173
802.11ac VHT40	Chain0	36.282	---	36.195
802.11ac VHT40	Chain1	36.205	---	36.307

Test Mode	Antenna	Occupied Bandwidth (MHz)		
		5210MHz	---	---
802.11ac VHT80	Chain0	76.354	---	---
802.11ac VHT80	Chain1	76.147	---	---

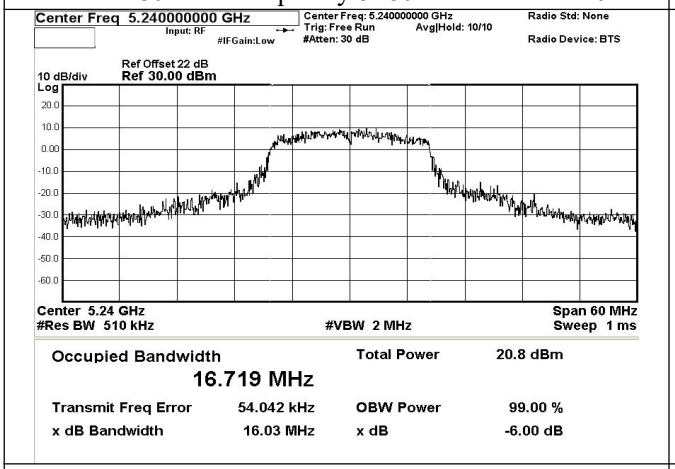
Test Mode: 802.11a



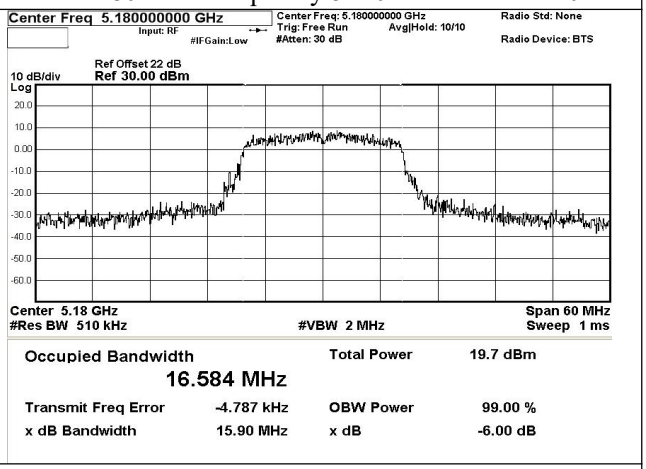
Mode:802.11a Frequency:5180MHz Ant:Chain0



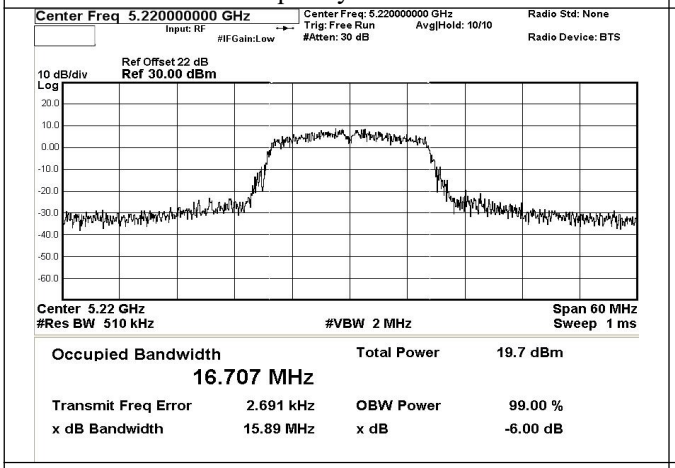
Mode:802.11a Frequency:5220MHz Ant:Chain0



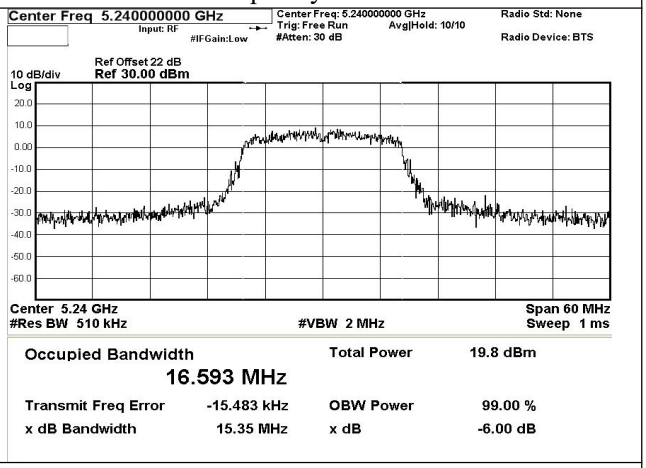
Mode:802.11a Frequency:5240MHz Ant:Chain0



Mode:802.11a Frequency:5180MHz Ant:Chain1

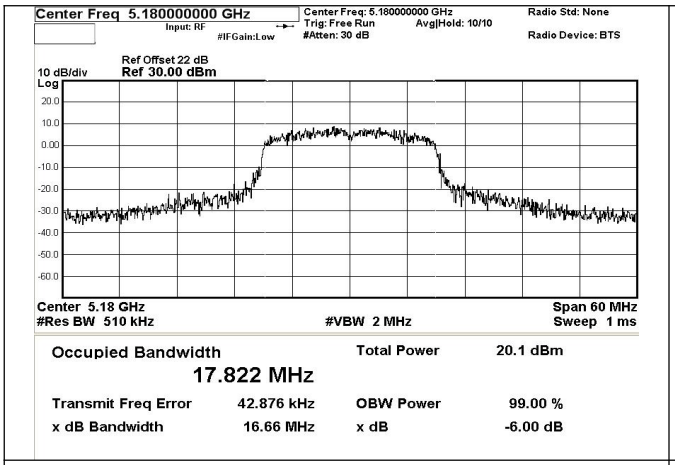


Mode:802.11a Frequency:5220MHz Ant:Chain1

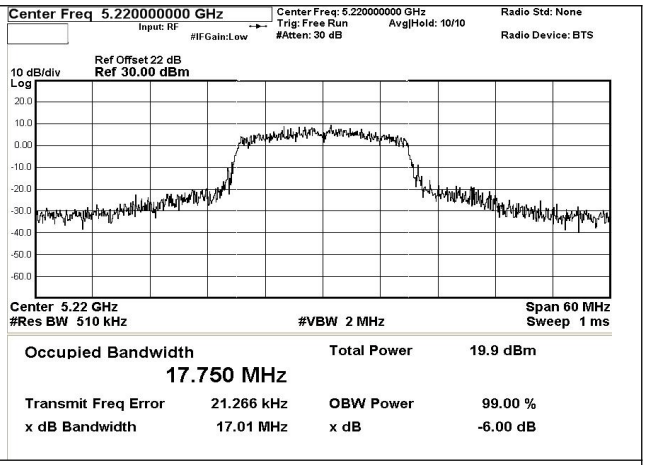


Mode:802.11a Frequency:5240MHz Ant:Chain1

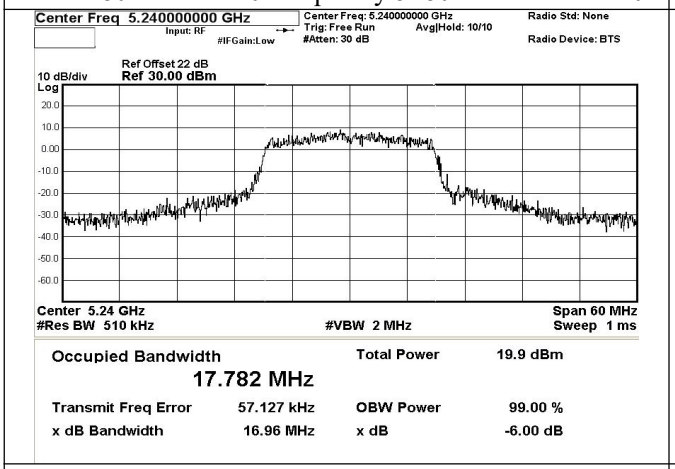
Test Mode: 802.11n HT20



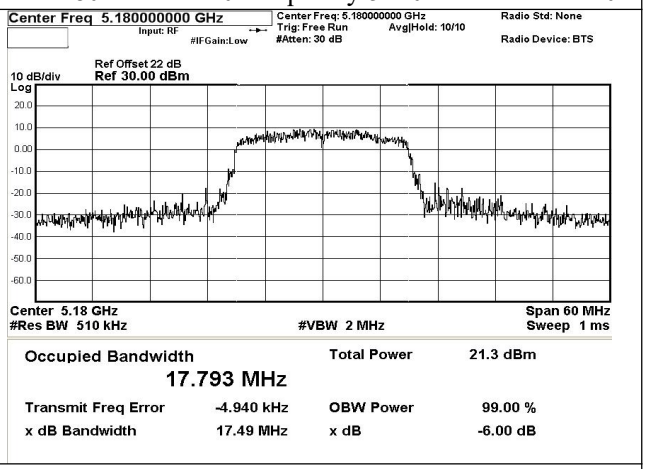
Mode:802.11n HT20 Frequency:5180MHz Ant:Chain0



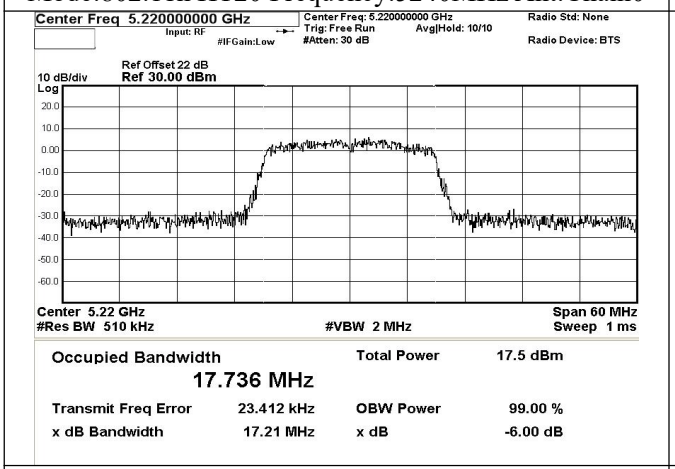
Mode:802.11n HT20 Frequency:5220MHz Ant:Chain0



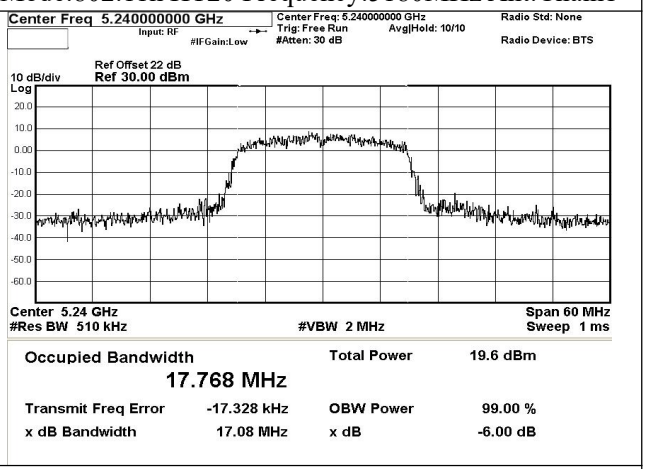
Mode:802.11n HT20 Frequency:5240MHz Ant:Chain0



Mode:802.11n HT20 Frequency:5180MHz Ant:Chain1



Mode:802.11n HT20 Frequency:5220MHz Ant:Chain1



Mode:802.11n HT20 Frequency:5240MHz Ant:Chain1