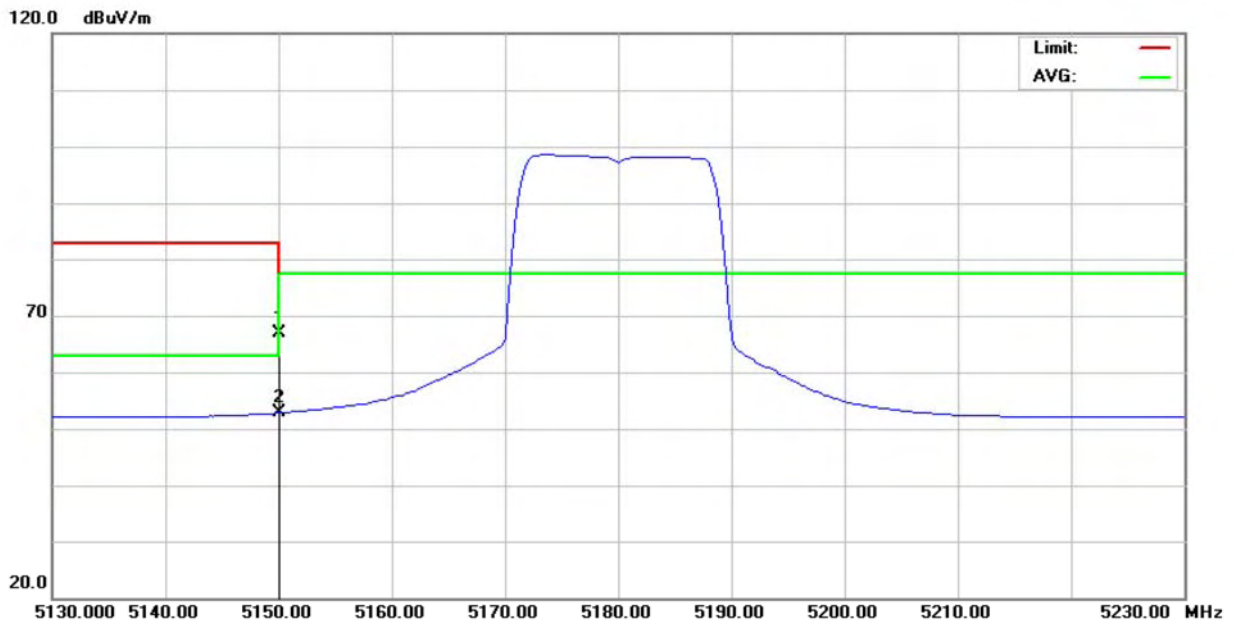




9.10 TEST RESULTS (RESTRICTED BANDS) - 4500 MHZ TO 5150 MHZ

E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	24°C	Relative Humidity	46%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11a/5180 MHz		
NOTE	The transmitter was setup to transmit at the lowest channel and the field strength was measured at 4500-5150 MHz.		

Polarization: Vertical

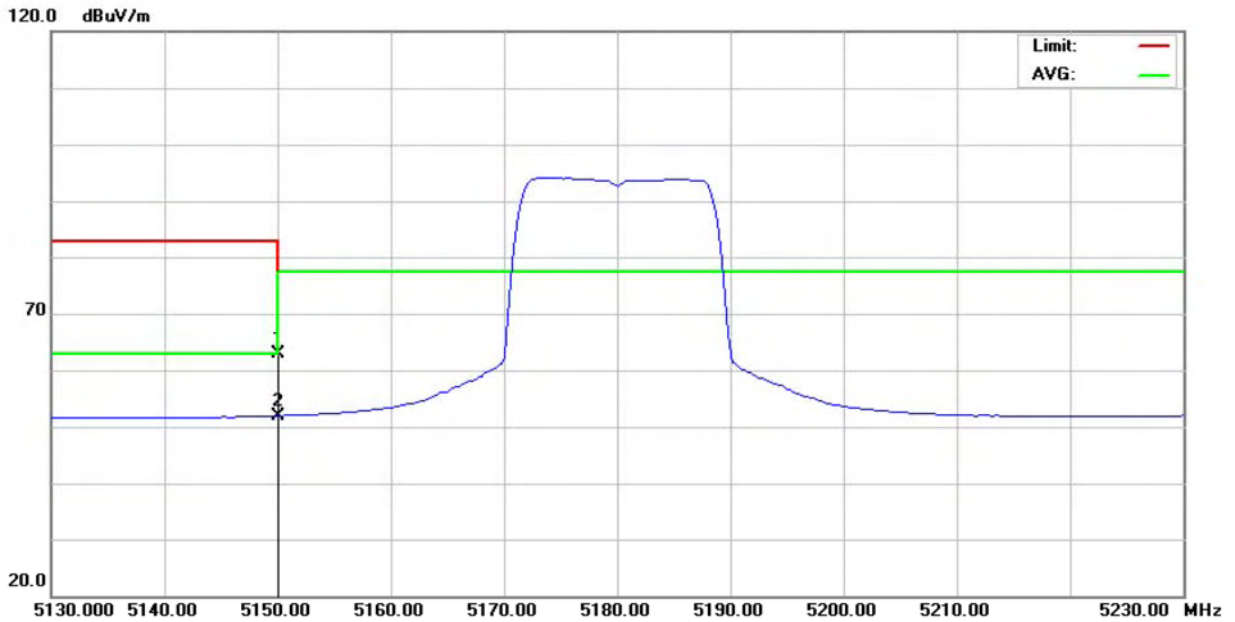


No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measurement dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	5150.000	27.62	39.23	66.85	77.30	-10.45	peak	
2 *	5150.000	13.57	39.23	52.80	63.00	-10.20	AVG	



E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	24°C	Relative Humidity	46%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11a/5180 MHz		
NOTE	The transmitter was setup to transmit at the lowest channel and the field strength was measured at 4500-5150 MHz.		

Polarization: Horizontal

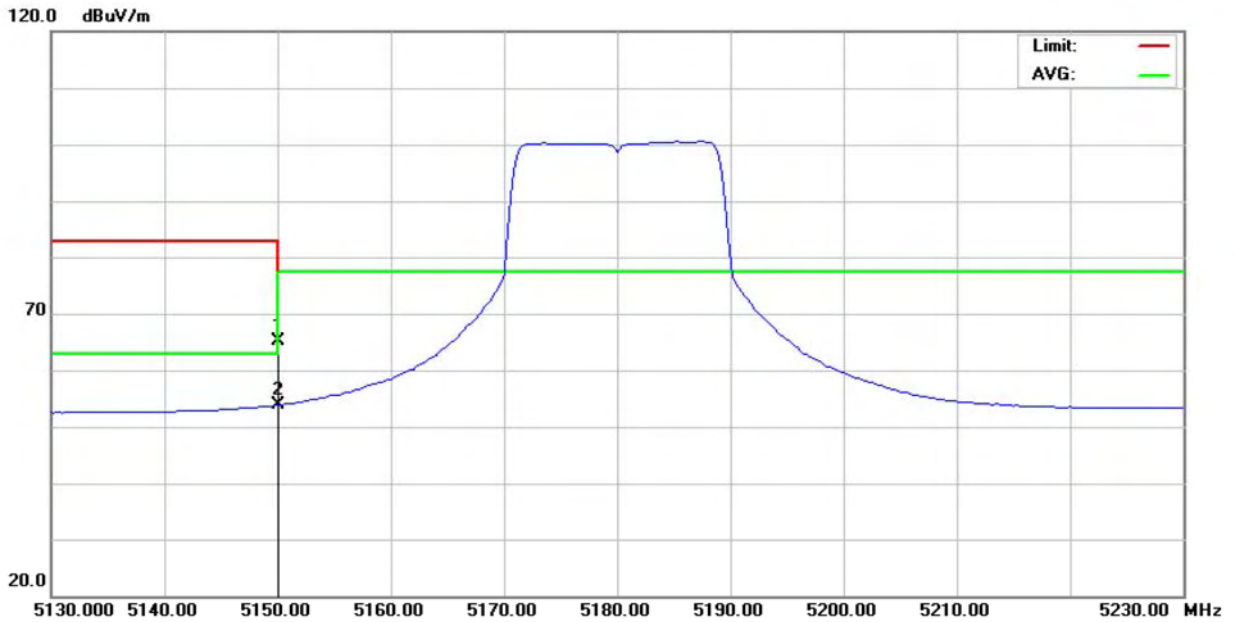


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		5150.000	23.62	39.23	62.85	77.30	-14.45	peak	
2	*	5150.000	12.69	39.23	51.92	63.00	-11.08	AVG	



E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	24°C	Relative Humidity	46%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (20 MHz)/5180 MHz		
NOTE	The transmitter was setup to transmit at the lowest channel and the field strength was measured at 4500-5150 MHz.		

Polarization: Vertical

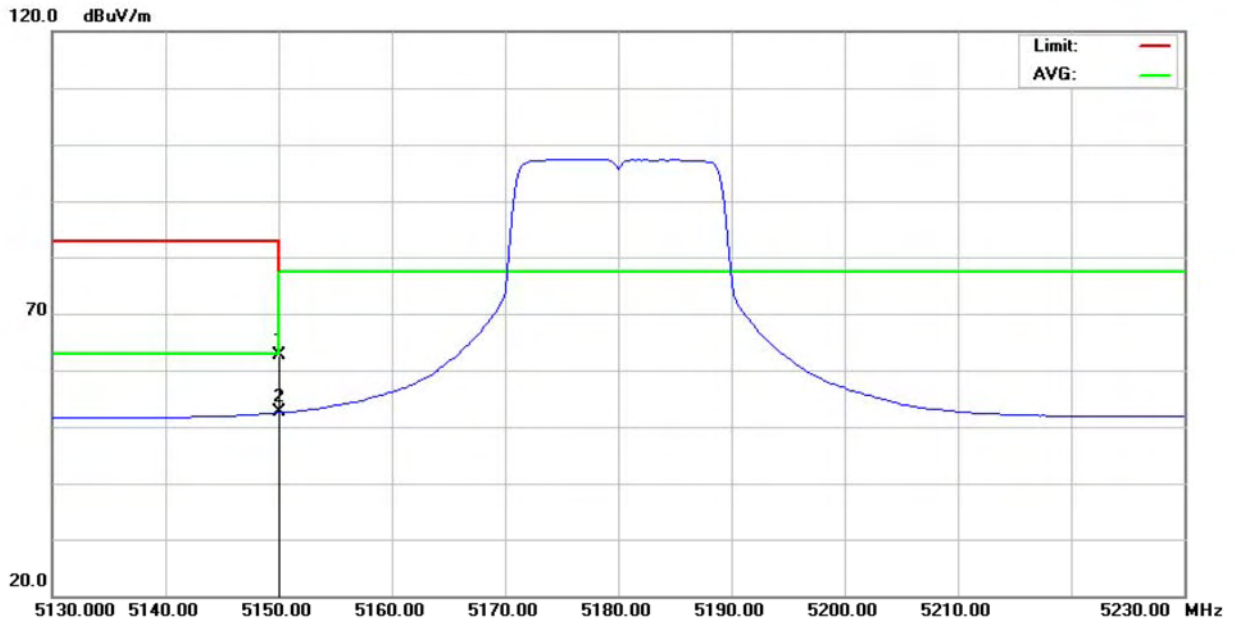


No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measurement dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	5150.000	25.98	39.23	65.21	77.30	-12.09	peak	
2 *	5150.000	14.59	39.23	53.82	63.00	-9.18	AVG	



E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	24°C	Relative Humidity	46%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (20 MHz)/5180 MHz		
NOTE	The transmitter was setup to transmit at the lowest channel and the field strength was measured at 4500-5150 MHz.		

Polarization: Horizontal

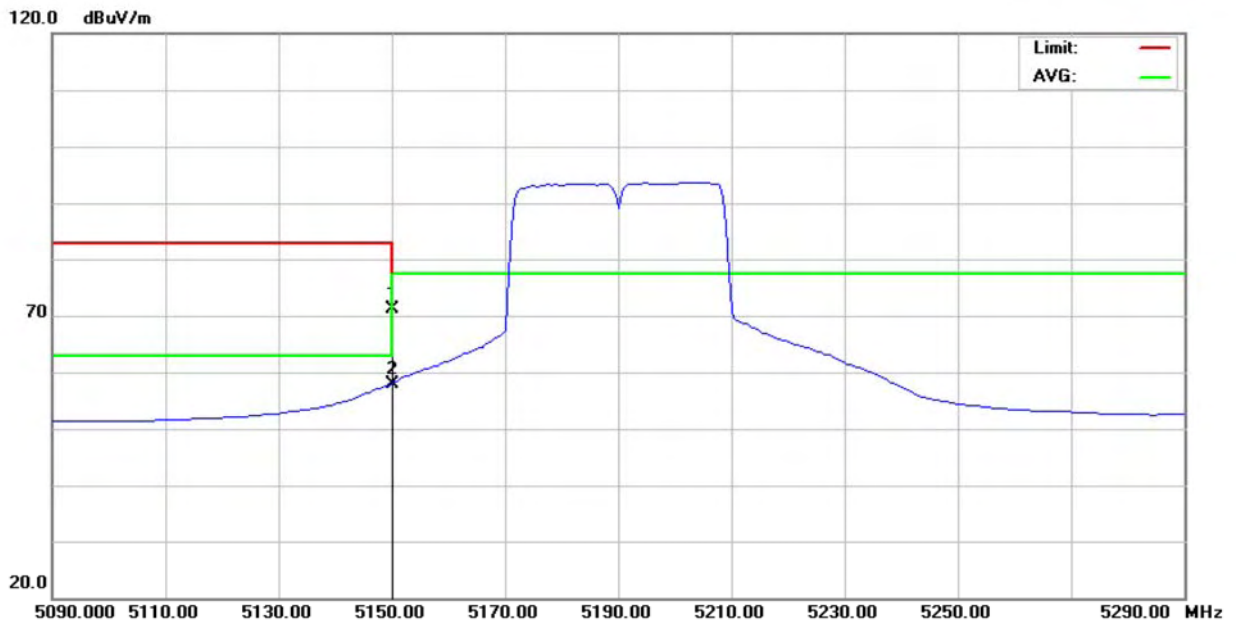


No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measurement dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	5150.000	23.52	39.23	62.75	77.30	-14.55	peak	
2 *	5150.000	13.30	39.23	52.53	63.00	-10.47	AVG	



E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	24°C	Relative Humidity	46%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (40 MHz)/5190 MHz		
NOTE	The transmitter was setup to transmit at the lowest channel and the field strength was measured at 4500-5150 MHz.		

Polarization: Vertical

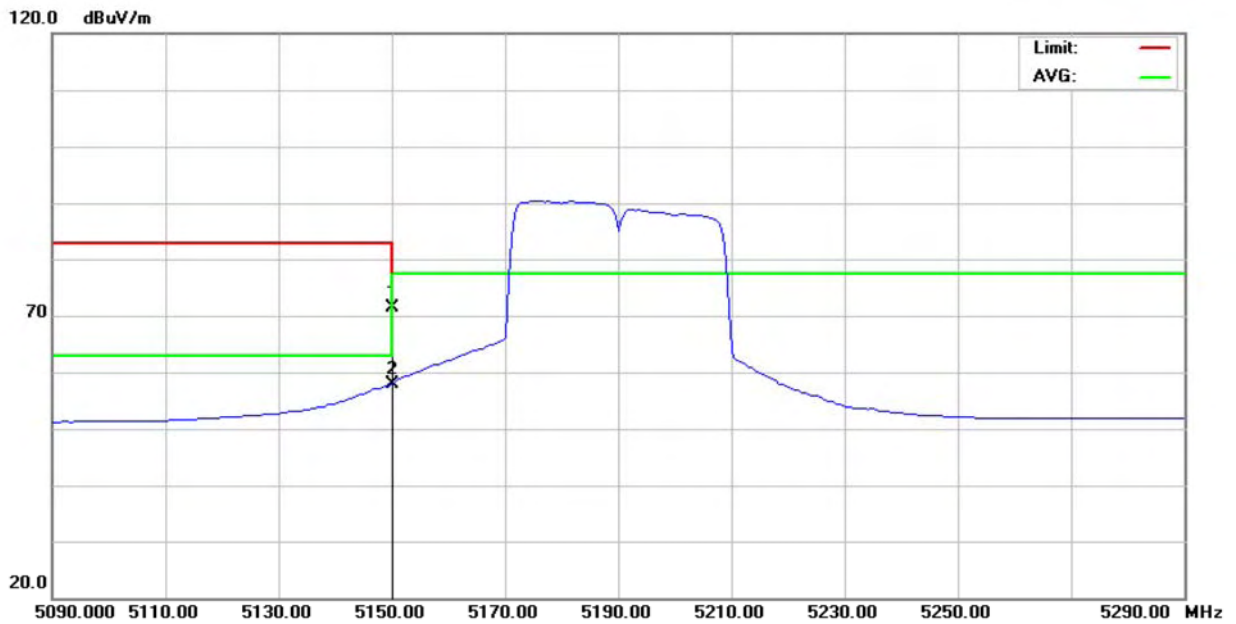


No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measurement dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	5150.000	31.85	39.23	71.08	77.30	-6.22	peak	
2 *	5150.000	18.69	39.23	57.92	63.00	-5.08	AVG	



E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	24°C	Relative Humidity	46%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (40 MHz)/5190 MHz		
NOTE	The transmitter was setup to transmit at the lowest channel and the field strength was measured at 4500-5150 MHz.		

Polarization: Horizontal



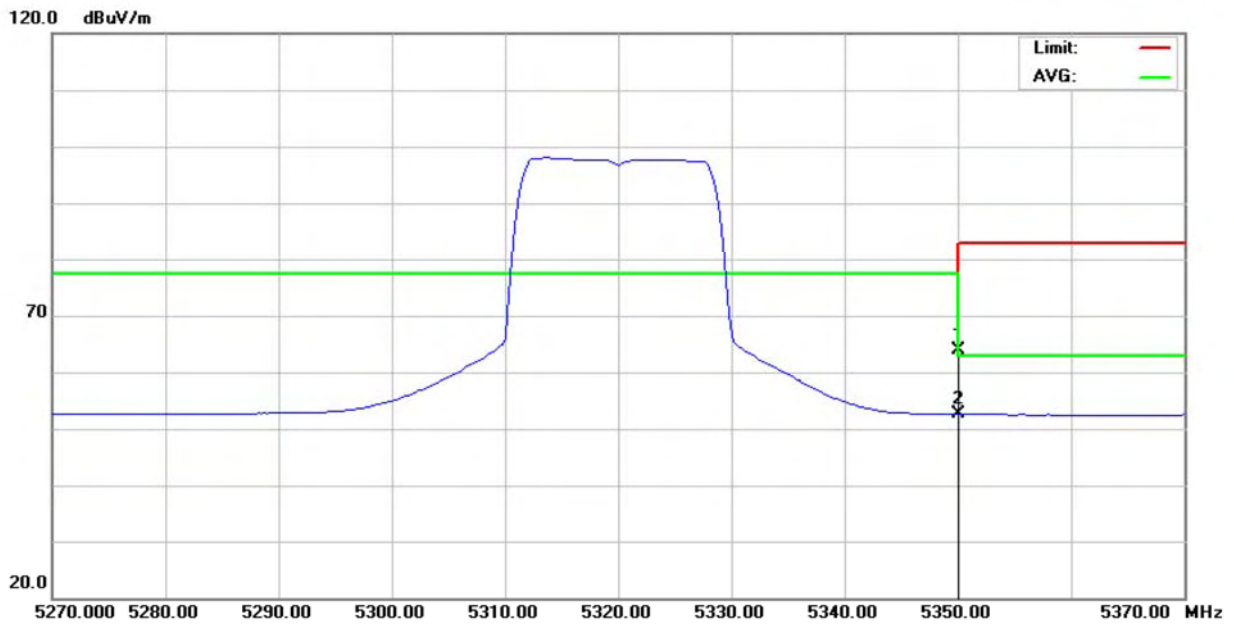
No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measurement dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	5150.000	32.05	39.23	71.28	77.30	-6.02	peak	
2 *	5150.000	18.69	39.23	57.92	63.00	-5.08	AVG	



9.11 TEST RESULTS (RESTRICTED BANDS) - 5350 MHZ TO 5460 MHZ BAND

E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	24°C	Relative Humidity	46%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11a/5320 MHz		
NOTE	The transmitter was setup to transmit at the highest channel and the field strength was measured at 5350-5460 MHz.		

Polarization: Horizontal

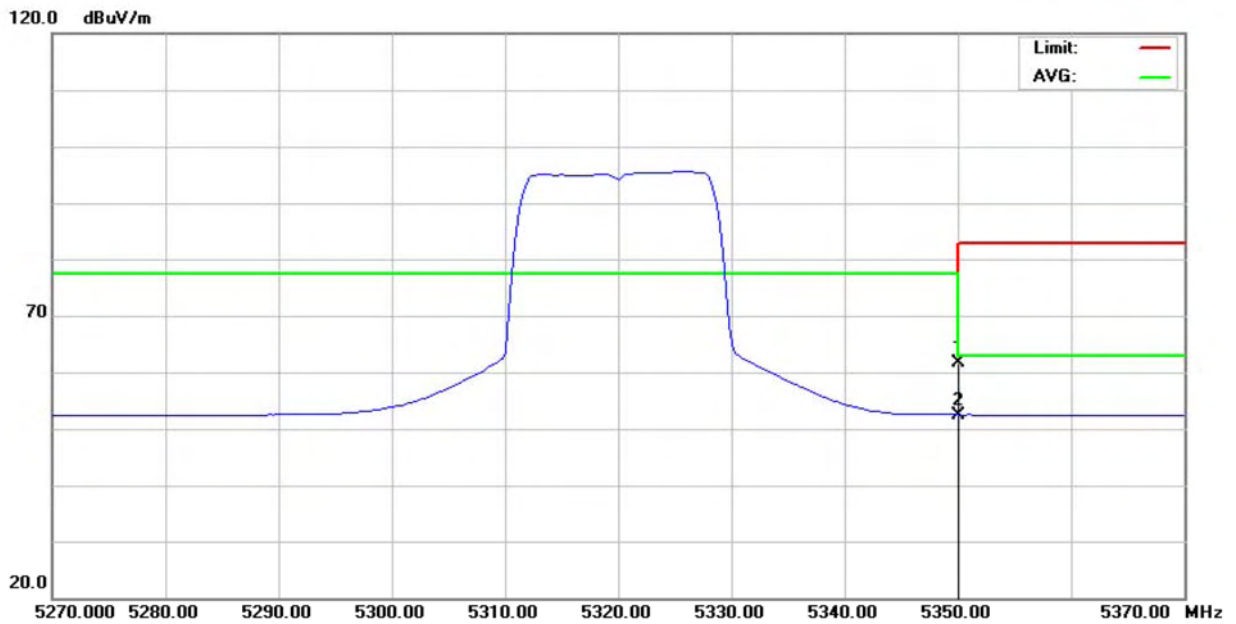


No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measurement dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	5350.000	24.81	39.16	63.97	77.30	-13.33	peak	
2 *	5350.000	13.41	39.16	52.57	63.00	-10.43	AVG	



E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	24°C	Relative Humidity	46%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11a/5320 MHz		
NOTE	The transmitter was setup to transmit at the highest channel and the field strength was measured at 5350-5460 MHz.		

Polarization: Horizontal

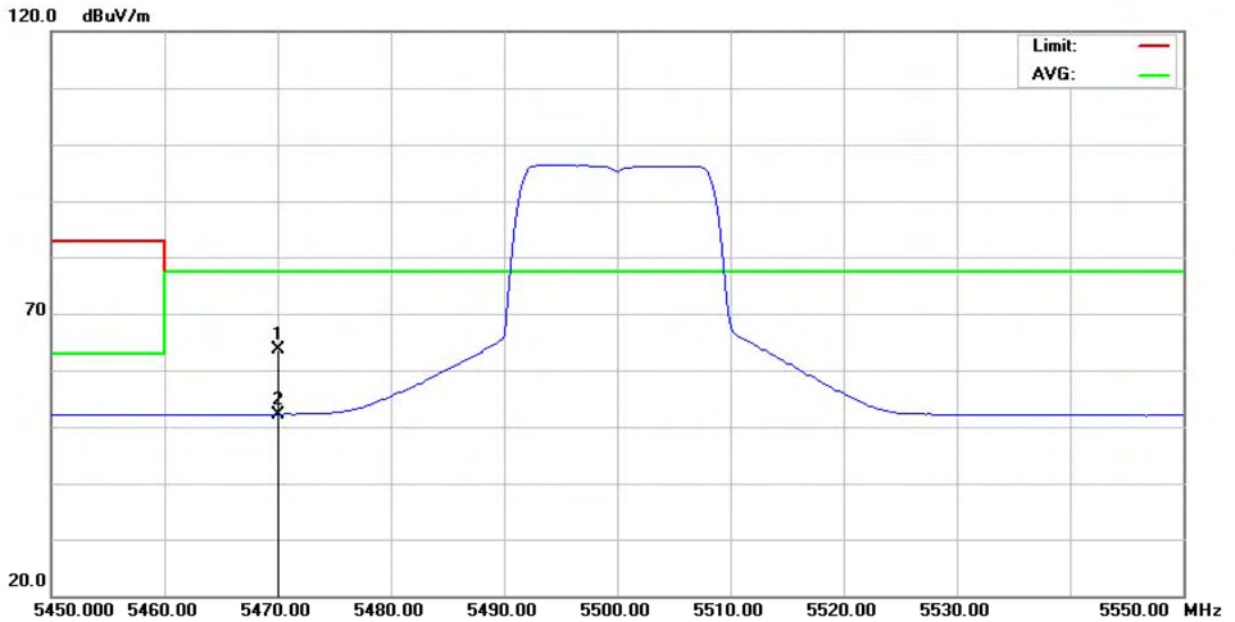


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		5350.000	22.35	39.16	61.51	77.30	-15.79	peak	
2	*	5350.000	13.33	39.16	52.49	63.00	-10.51	AVG	



E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	24°C	Relative Humidity	46%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11a/5500 MHz		
NOTE	The transmitter was setup to transmit at the lowest channel and the field strength was measured at 5350-5460 MHz.		

Polarization: Horizontal

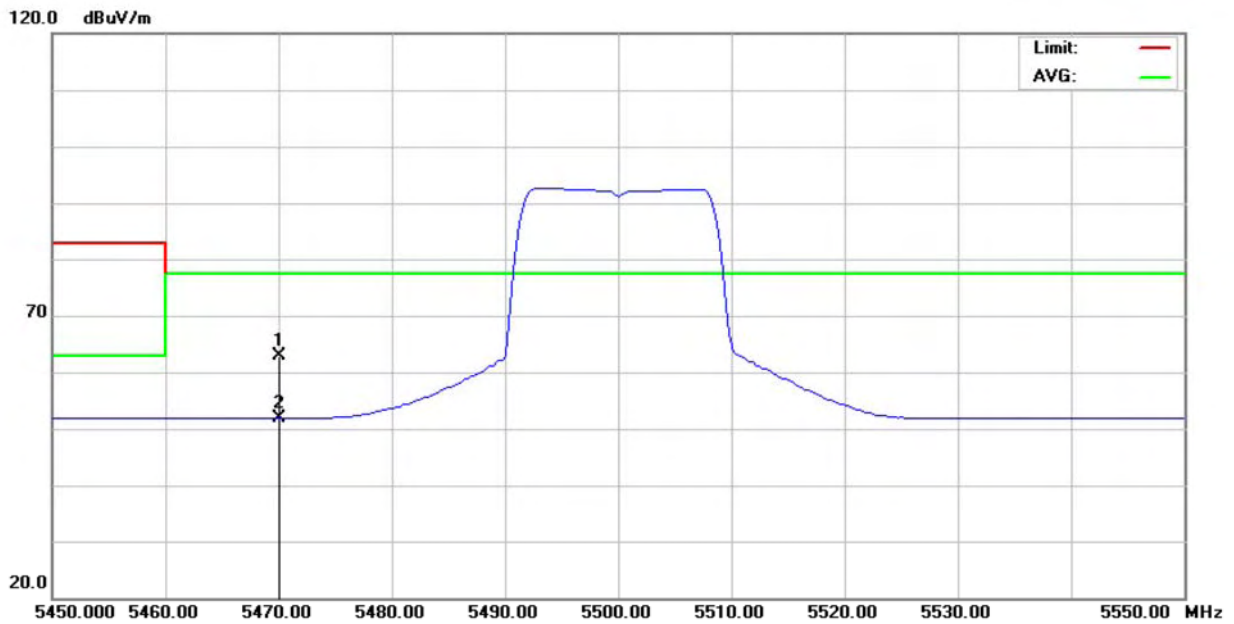


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	*	5470.000	24.41	39.12	63.53	77.30	-13.77	peak	
2		5470.000	13.08	39.12	52.20	77.30	-25.10	AVG	



E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	24°C	Relative Humidity	46%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11a/5500 MHz		
NOTE	The transmitter was setup to transmit at the lowest channel and the field strength was measured at 5350-5460 MHz.		

Polarization: Horizontal

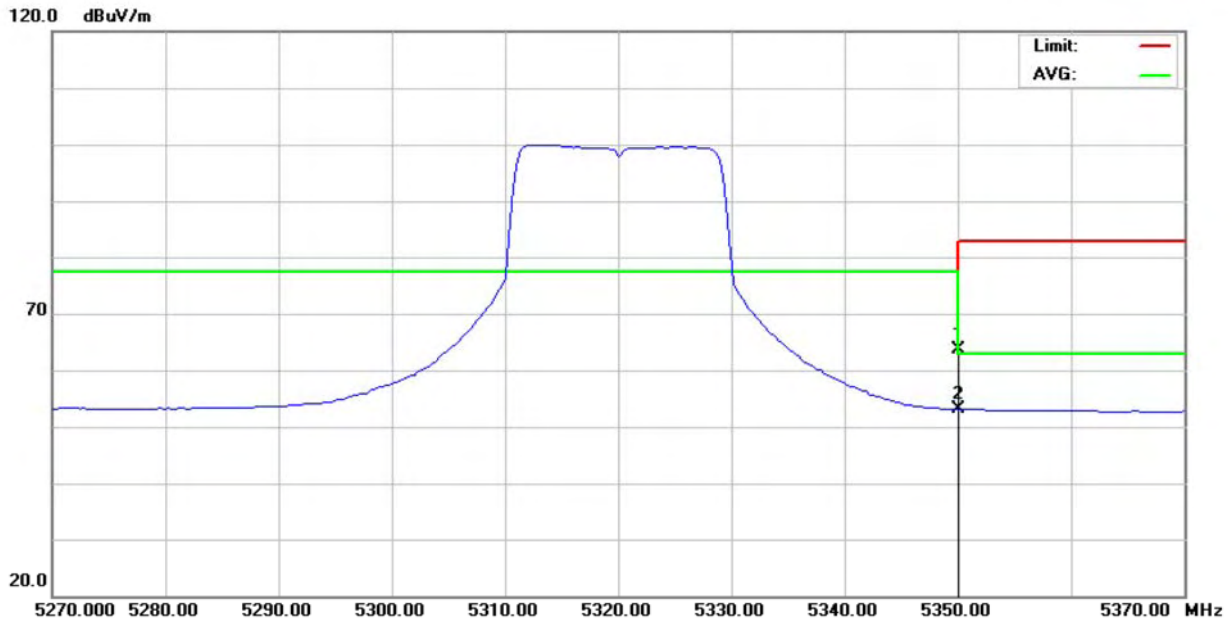


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	*	5470.000	23.77	39.12	62.89	77.30	-14.41	peak	
2		5470.000	12.77	39.12	51.89	77.30	-25.41	AVG	



E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	24°C	Relative Humidity	46%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (20 MHz)/5320 MHz		
NOTE	The transmitter was setup to transmit at the highest channel and the field strength was measured at 5350-5460 MHz.		

Polarization: Horizontal

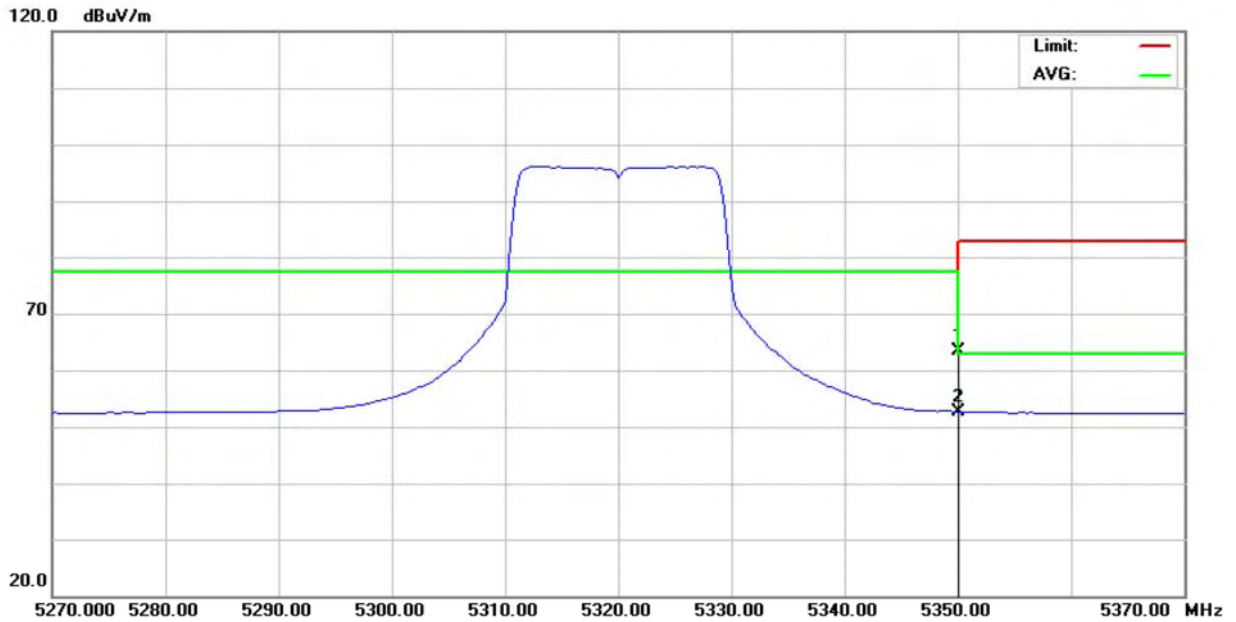


No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1		5350.000	24.47	39.16	63.63	77.30	-13.67	peak	
2	*	5350.000	13.95	39.16	53.11	63.00	-9.89	AVG	



E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	24°C	Relative Humidity	46%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (20 MHz)/5320 MHz		
NOTE	The transmitter was setup to transmit at the highest channel and the field strength was measured at 5350-5460 MHz.		

Polarization: Horizontal

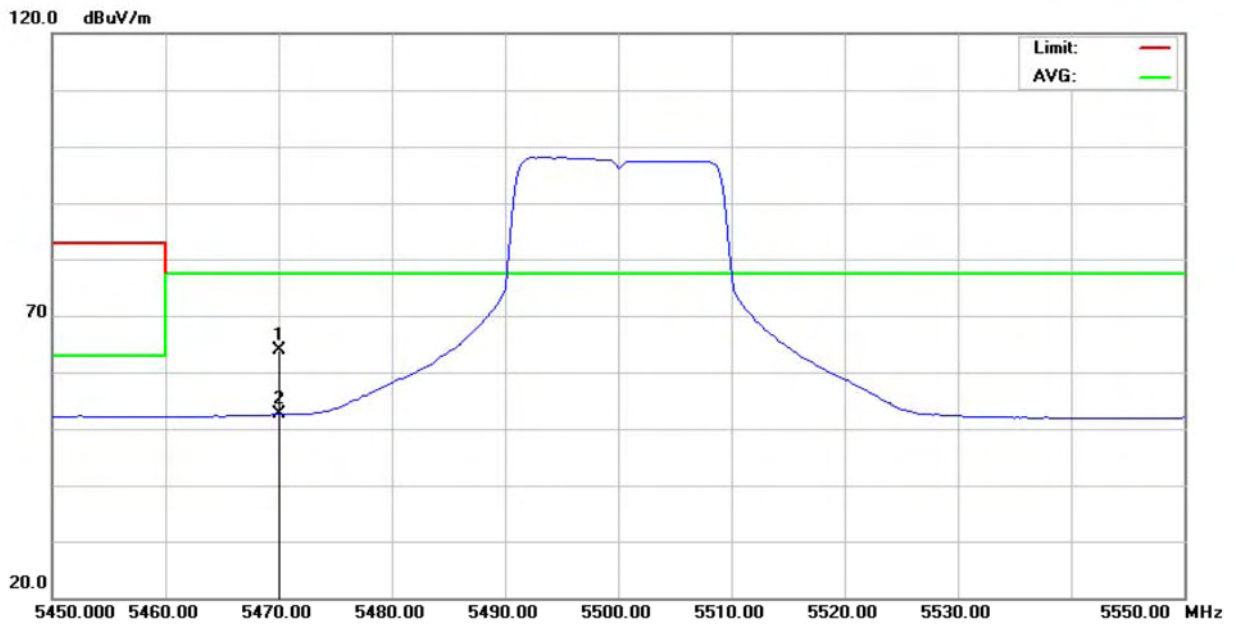


No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measurement dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	5350.000	24.13	39.16	63.29	77.30	-14.01	peak	
2 *	5350.000	13.57	39.16	52.73	63.00	-10.27	AVG	



E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	24°C	Relative Humidity	46%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (20 MHz)/5500 MHz		
NOTE	The transmitter was setup to transmit at the lowest channel and the field strength was measured at 5350-5460 MHz.		

Polarization: Horizontal

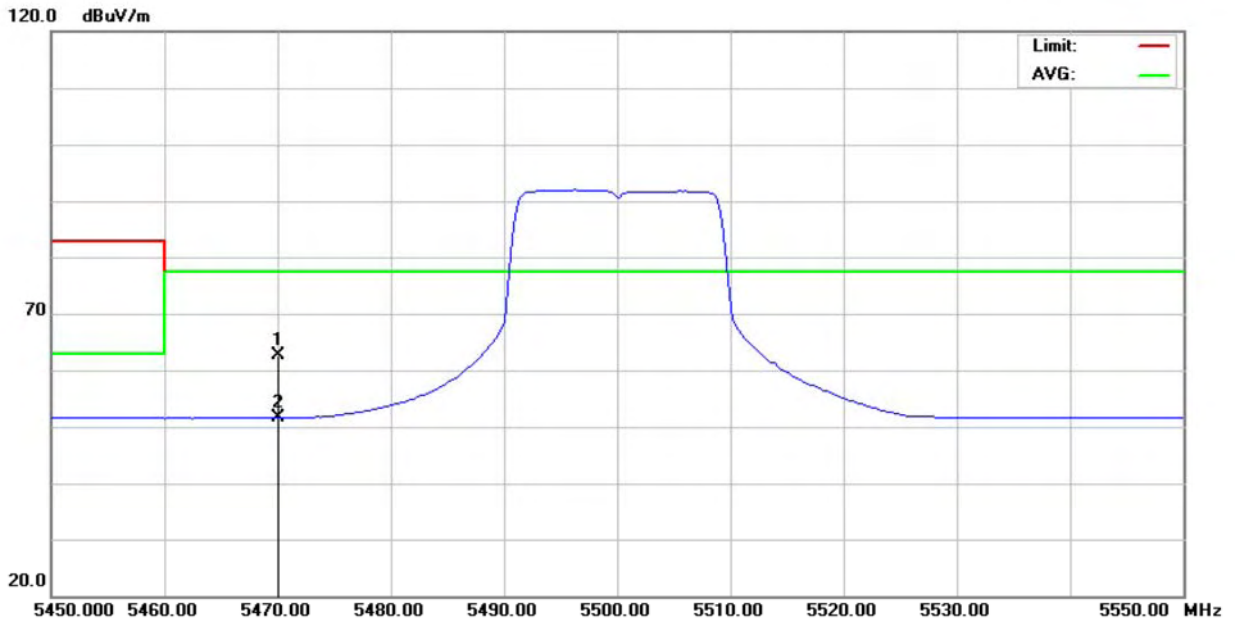


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	*	5470.000	24.74	39.12	63.86	77.30	-13.44	peak	
2		5470.000	13.40	39.12	52.52	77.30	-24.78	AVG	



E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	24°C	Relative Humidity	46%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (20 MHz)/5500 MHz		
NOTE	The transmitter was setup to transmit at the lowest channel and the field strength was measured at 5350-5460 MHz.		

Polarization: Horizontal

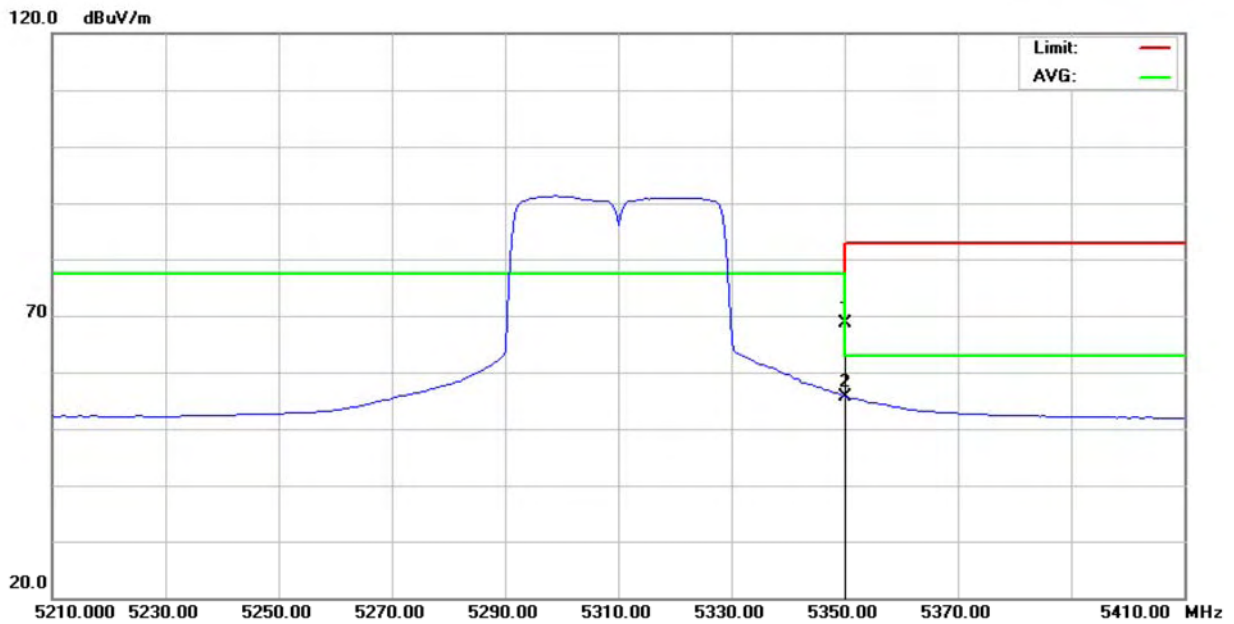


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	*	5470.000	23.40	39.12	62.52	77.30	-14.78	peak	
2		5470.000	12.51	39.12	51.63	77.30	-25.67	AVG	



E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	24°C	Relative Humidity	46%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (40 MHz)/5310 MHz		
NOTE	The transmitter was setup to transmit at the highest channel and the field strength was measured at 5350-5460 MHz.		

Polarization: Horizontal

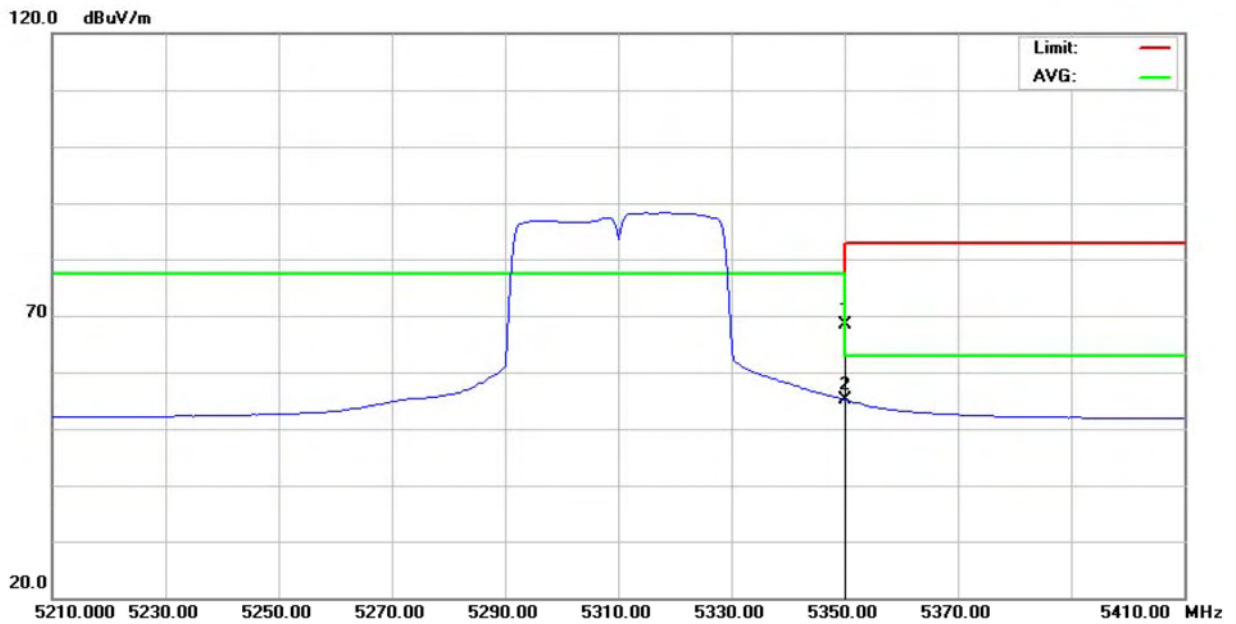


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		5350.000	29.54	39.16	68.70	77.30	-8.60	peak	
2	*	5350.000	16.56	39.16	55.72	63.00	-7.28	AVG	



E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	24°C	Relative Humidity	46%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (40 MHz)/5310 MHz		
NOTE	The transmitter was setup to transmit at the highest channel and the field strength was measured at 5350-5460 MHz.		

Polarization: Horizontal

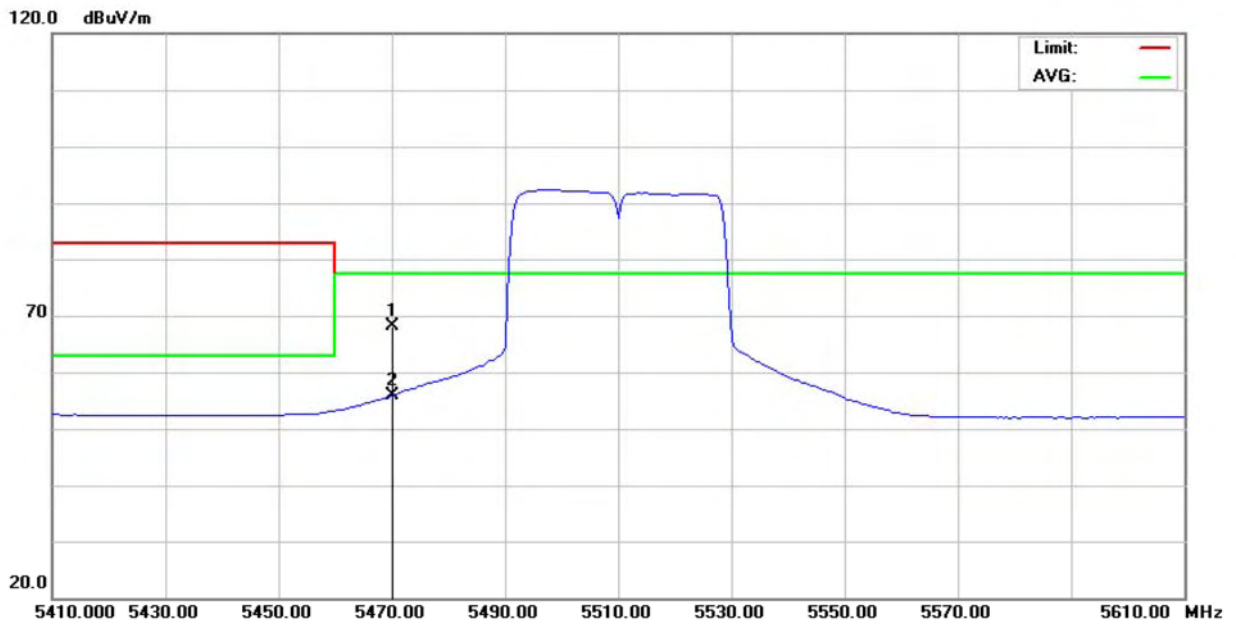


No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1		5350.000	29.11	39.16	68.27	77.30	-9.03	peak	
2	*	5350.000	15.95	39.16	55.11	63.00	-7.89	AVG	



E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	24°C	Relative Humidity	46%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (40 MHz)/5510 MHz		
NOTE	The transmitter was setup to transmit at the lowest channel and the field strength was measured at 5350-5460 MHz.		

Polarization: Horizontal

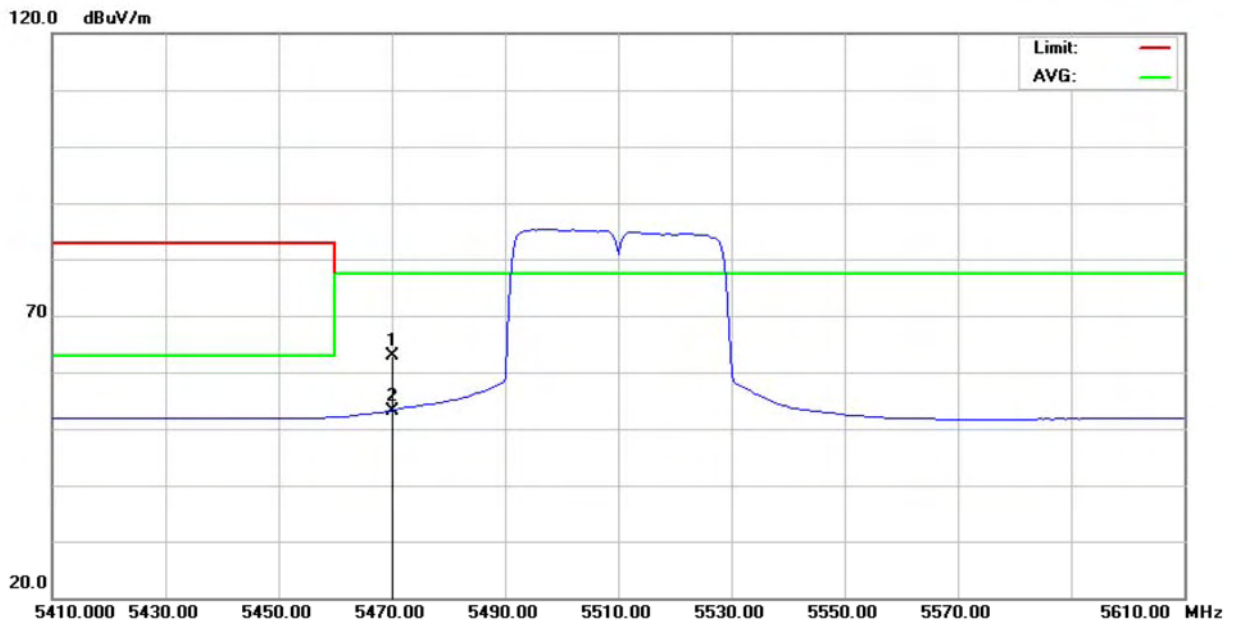


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	*	5470.000	29.06	39.12	68.18	77.30	-9.12	peak	
2		5470.000	16.70	39.12	55.82	77.30	-21.48	AVG	



E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	24°C	Relative Humidity	46%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (40 MHz)/5510 MHz		
NOTE	The transmitter was setup to transmit at the lowest channel and the field strength was measured at 5350-5460 MHz.		

Polarization: Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	*	5470.000	23.74	39.12	62.86	77.30	-14.44	peak	
2		5470.000	14.08	39.12	53.20	77.30	-24.10	AVG	



10 POWER SPECTRAL DENSITY

10.1 LIMIT

Test Item	Frequency Range (MHz)	Limit
Power Spectral Density	5150 - 5250	4 dBm
	5250 - 5350	11 dBm
	5470 - 5725	11 dBm
	5725 - 5825	17 dBm

10.2 MEASUREMENT INSTRUMENTS LIST

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP-40	100129	Oct. 01, 2013

NOTE: **N/A**: denotes No Model Name, No Serial No. or No Calibration specified.

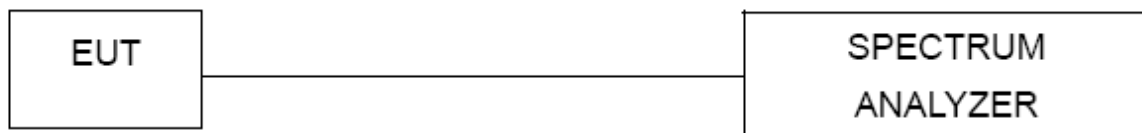
10.3 MEASURING INSTRUMENTS SETTING

Spectrum Analyzer	Parameter Setting
Attenuation	Auto
Span Frequency	Encompass the entire emissions bandwidth (EBW) of the signal
RB	1000 kHz
VB	3000 kHz
Detector	RMS
Trace	Max Hold
Sweep Time	Auto

10.4 TEST PROCEDURES

The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.

10.5 TEST SETUP LAYOUT



10.6 DEVIATION FROM TEST STANDARD

No deviation



Neutron Engineering Inc.

10.7 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of 5.6 Unless otherwise a special operating condition is specified in the follows during the testing.

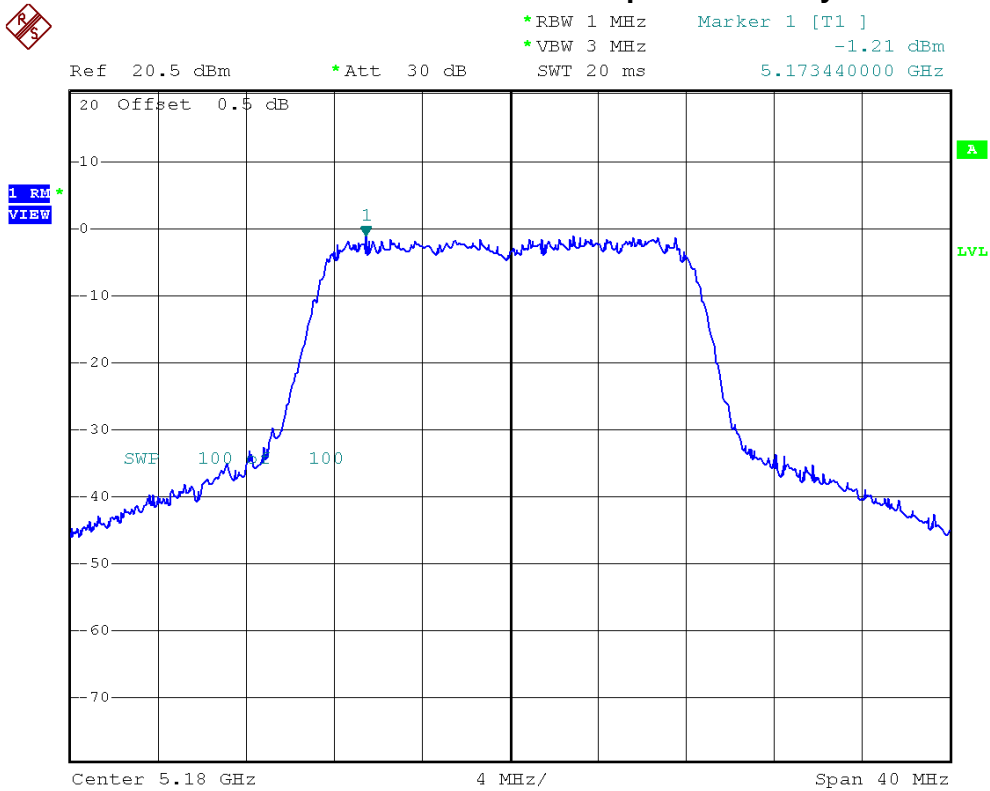


10.8 TEST RESULTS - 5180 MHZ TO 5240 MHZ BAND

E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11a/5180 MHz, 5200 MHz, 5240 MHz		

Frequency	Power Spectral Density (dBm)	Limit (dBm)	Result
5180 MHz	-1.21	4.00	PASS
5200 MHz	-1.64	4.00	PASS
5240 MHz	-1.67	4.00	PASS

IEEE 802.11a/5180 MHz/Power Spectral Density

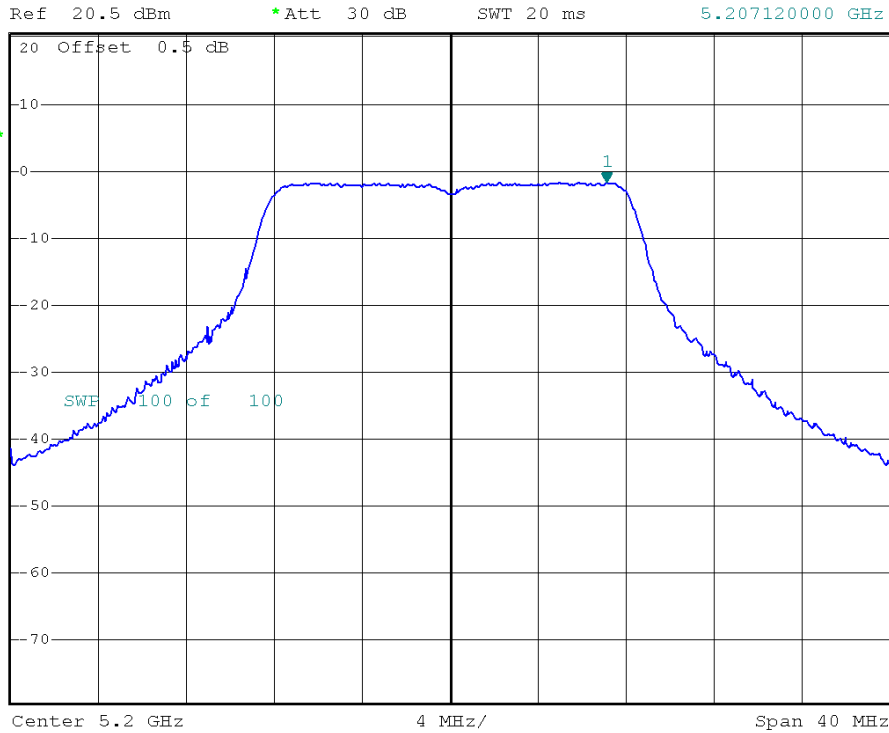




IEEE 802.11a/5200 MHz/Power Spectral Density



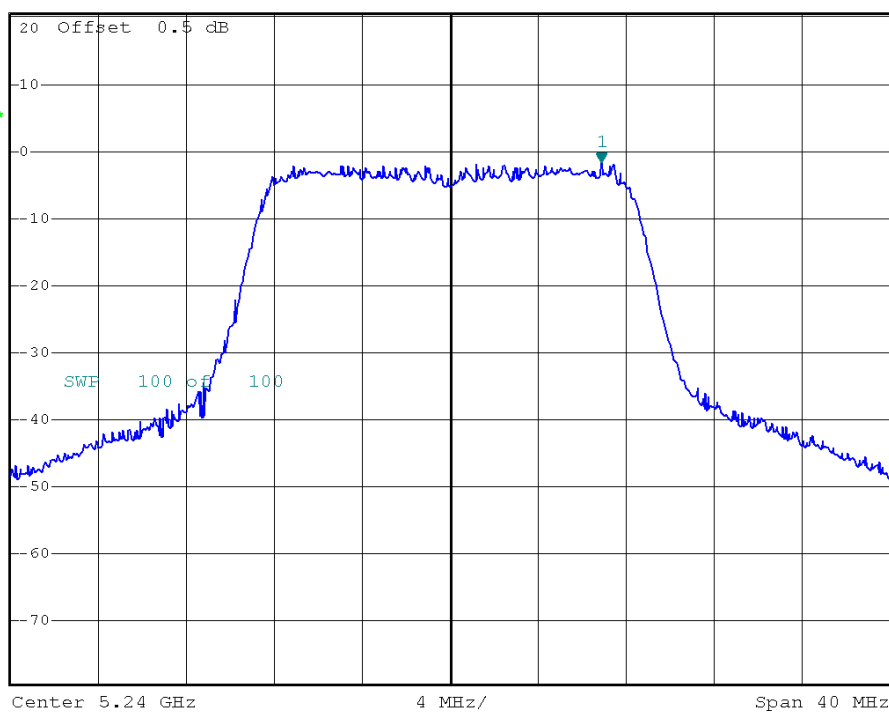
*RBW 1 MHz Marker 1 [T1]
*VBW 3 MHz -1.64 dBm
SWT 20 ms 5.207120000 GHz



IEEE 802.11a/5240 MHz/Power Spectral Density



*RBW 1 MHz Marker 1 [T1]
*VBW 3 MHz -1.67 dBm
SWT 20 ms 5.246880000 GHz

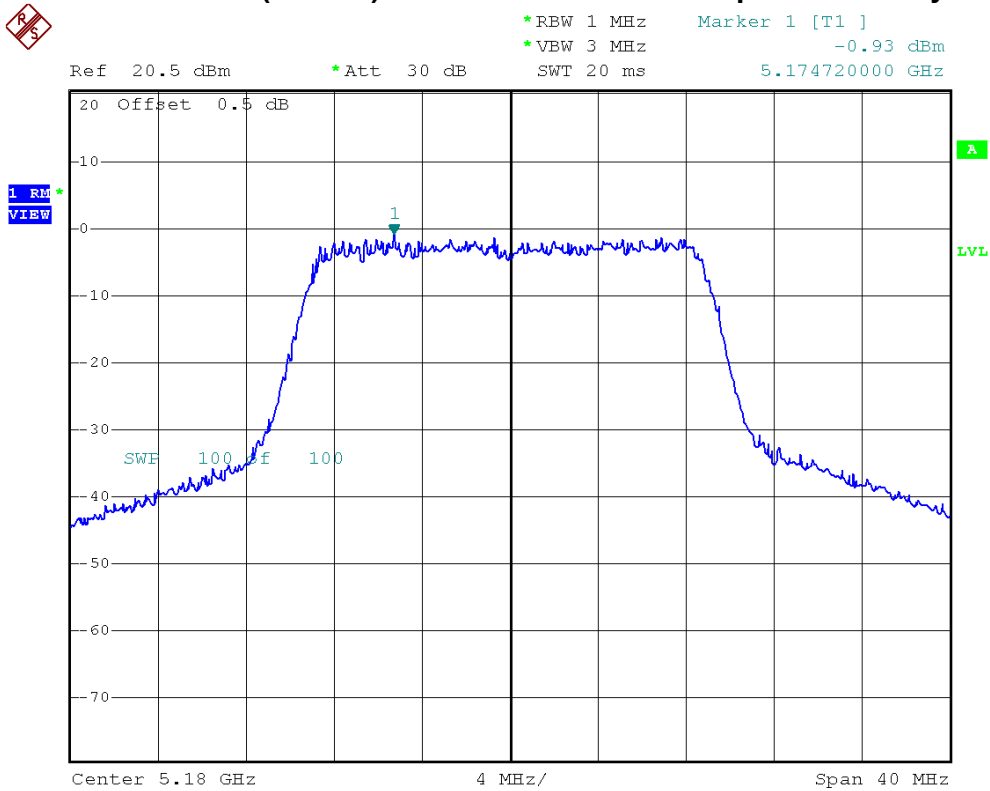




E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (20 MHz)/ANT.0/5180 MHz, 5200 MHz, 5240 MHz		

Frequency	Power Spectral Density (dBm)	Limit (dBm)	Result
5180 MHz	-0.93	4.00	PASS
5200 MHz	0.32	4.00	PASS
5240 MHz	-2.54	4.00	PASS

IEEE 802.11n (20 MHz)/ANT.0/5180 MHz/Power Spectral Density

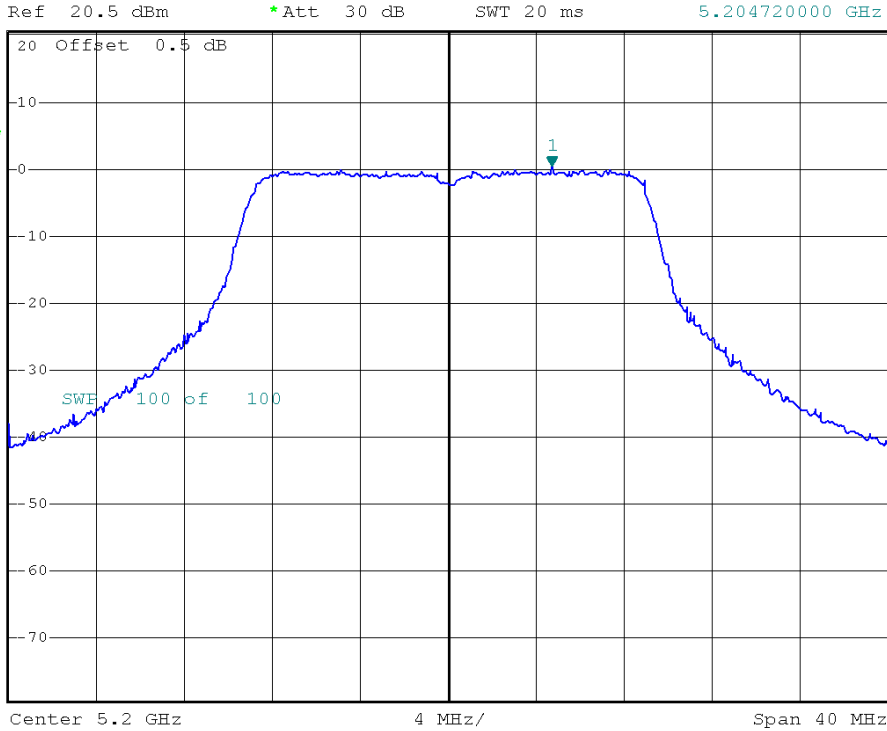




IEEE 802.11n (20 MHz)/ANT.0/5200 MHz/Power Spectral Density



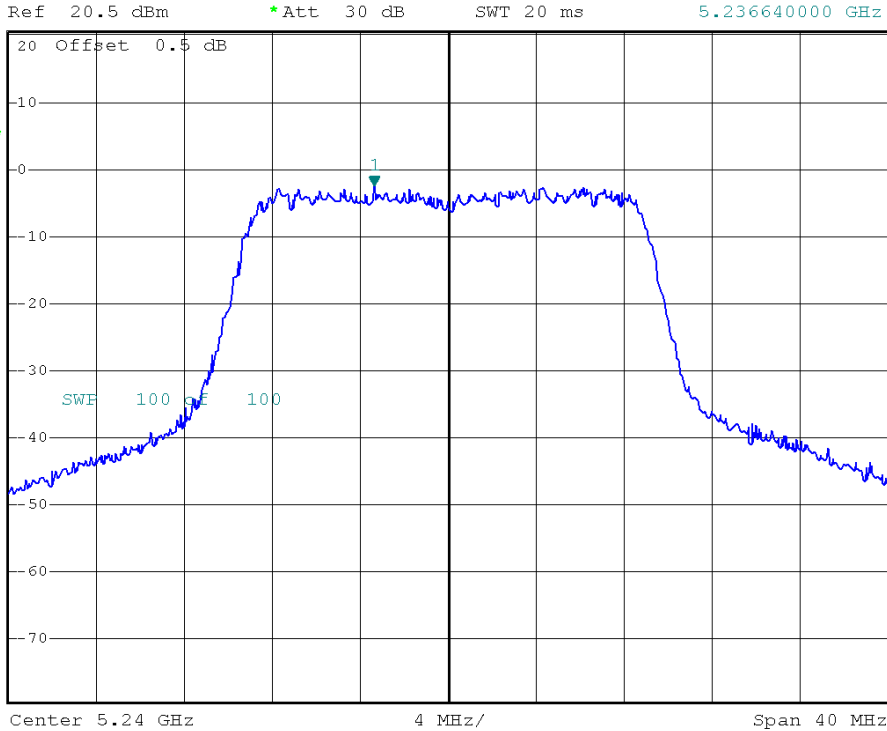
*RBW 1 MHz Marker 1 [T1]
*VBW 3 MHz 0.32 dBm
SWT 20 ms 5.204720000 GHz



IEEE 802.11n (20 MHz)/ANT.0/5240 MHz/Power Spectral Density



*RBW 1 MHz Marker 1 [T1]
*VBW 3 MHz -2.54 dBm
SWT 20 ms 5.236640000 GHz

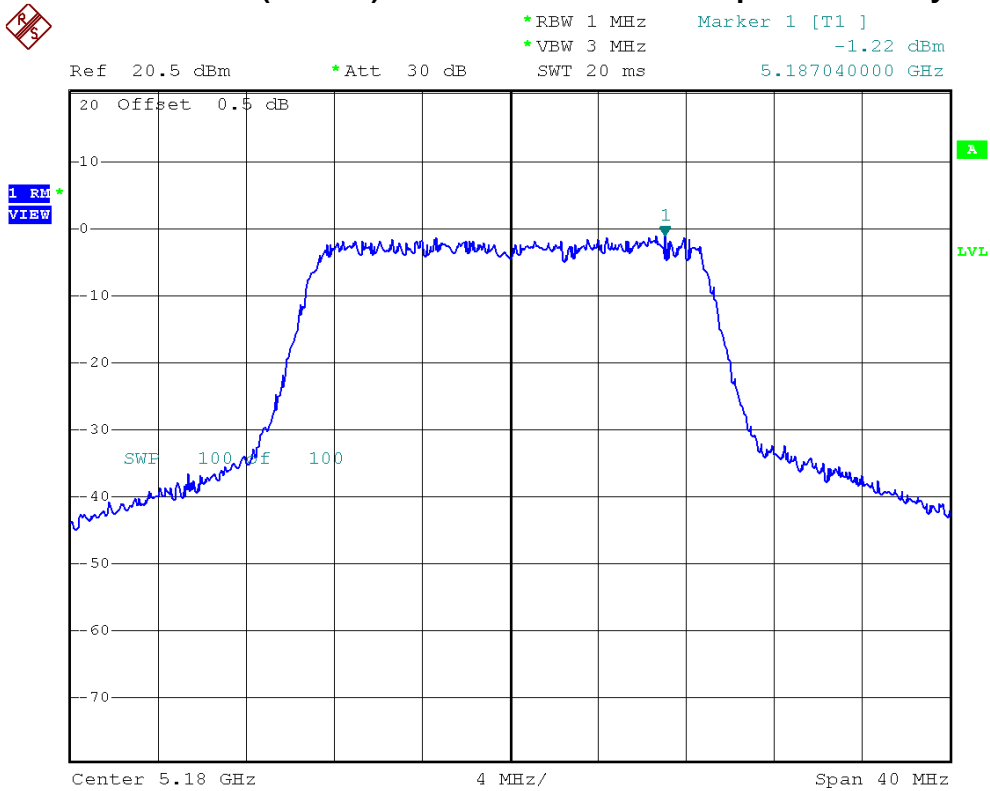




E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (20 MHz)/ANT.1/5180 MHz, 5200 MHz, 5240 MHz		

Frequency	Power Spectral Density (dBm)	Limit (dBm)	Result
5180 MHz	-1.22	4.00	PASS
5200 MHz	-0.29	4.00	PASS
5240 MHz	-2.45	4.00	PASS

IEEE 802.11n (20 MHz)/ANT.1/5180 MHz/Power Spectral Density

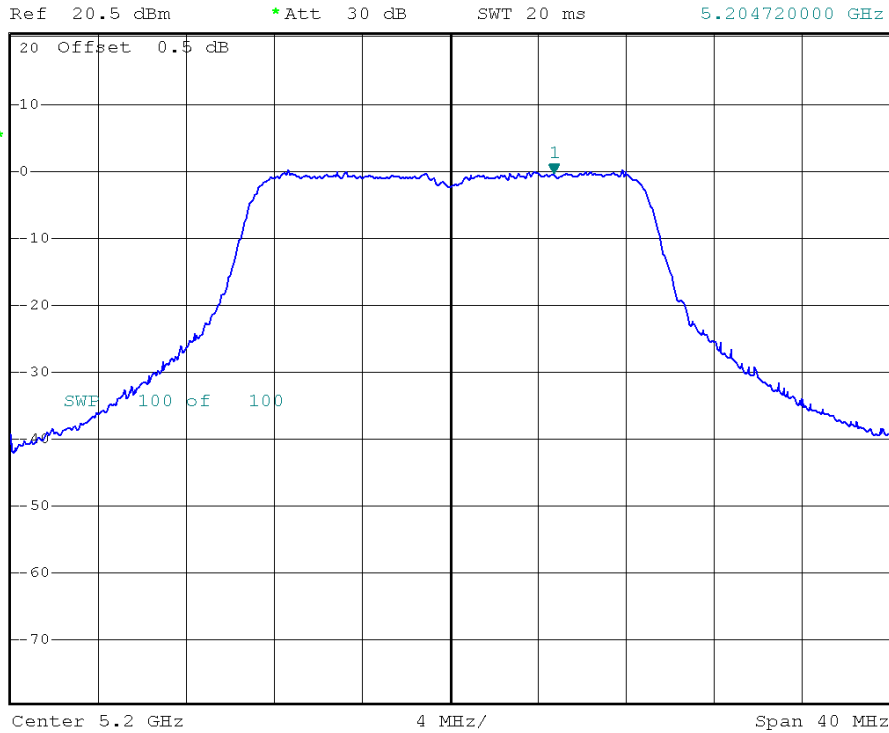




IEEE 802.11n (20 MHz)/ANT.1/5200 MHz/Power Spectral Density



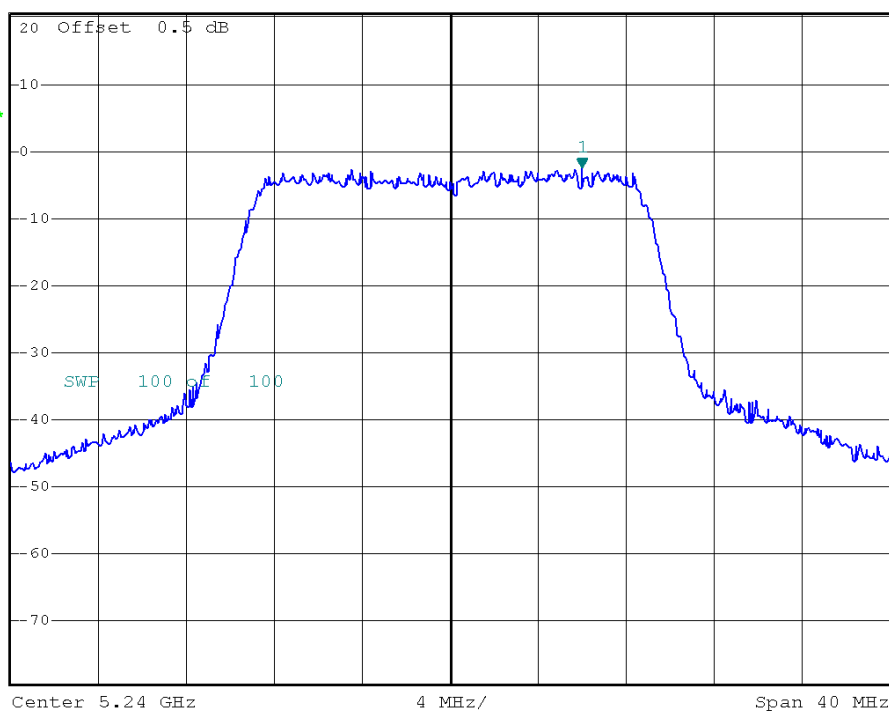
*RBW 1 MHz Marker 1 [T1]
*VBW 3 MHz -0.29 dBm
SWT 20 ms 5.204720000 GHz



IEEE 802.11n (20 MHz)/ANT.1/5240 MHz/Power Spectral Density



*RBW 1 MHz Marker 1 [T1]
*VBW 3 MHz -2.45 dBm
SWT 20 ms 5.246000000 GHz





E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (20 MHz)/ANT.Total/5180 MHz, 5200 MHz, 5240 MHz		

Frequency	Power Spectral Density		Limit (dBm)	Result
	(dBm)	(mW)		
5180 MHz	1.94	1.56	4.00	PASS
5200 MHz	3.04	2.01	4.00	PASS
5240 MHz	0.52	1.13	4.00	PASS

NOTE:

- The MIMO test requirement, RF conducted output power shall measure each transmitter chain by using channel power method.
 And after obtain each individual transmitter chain power, then sum the output power by using the following formula:

$$((\text{dBm}/\text{Chain 1})/10^{\wedge}\text{Log}) + ((\text{dBm}/\text{Chain 2})/10^{\wedge}\text{log}) + ((\text{dBm}/\text{ChainN})/10^{\wedge}\text{log}) = \text{Combined peak output power in mW.}$$



Neutron Engineering Inc.

E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (40 MHz)/ANT.0/5190 MHz, 5230 MHz		

Frequency	Power Spectral Density (dBm)	Limit (dBm)	Result
5190 MHz	-4.95	4.00	PASS
5230 MHz	-5.31	4.00	PASS



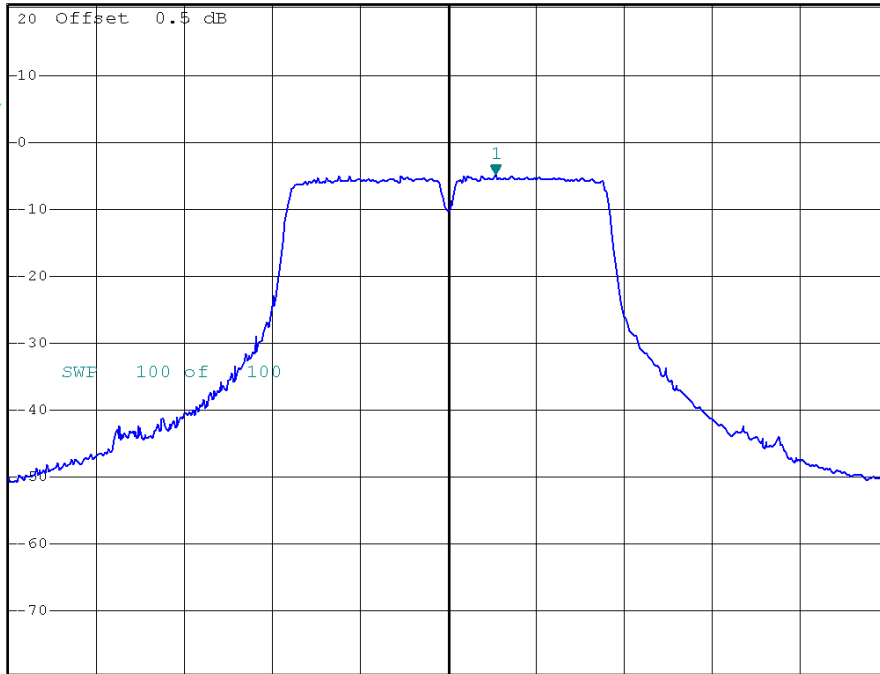
IEEE 802.11n (40 MHz)/ANT.0/5190 MHz/Power Spectral Density



*RBW 1 MHz Marker 1 [T1]
*VBW 3 MHz -4.95 dBm
SWT 20 ms 5.195400000 GHz

Ref 20.5 dBm *Att 30 dB

1 RM
VIEW



Center 5.19 GHz 10 MHz/ Span 100 MHz

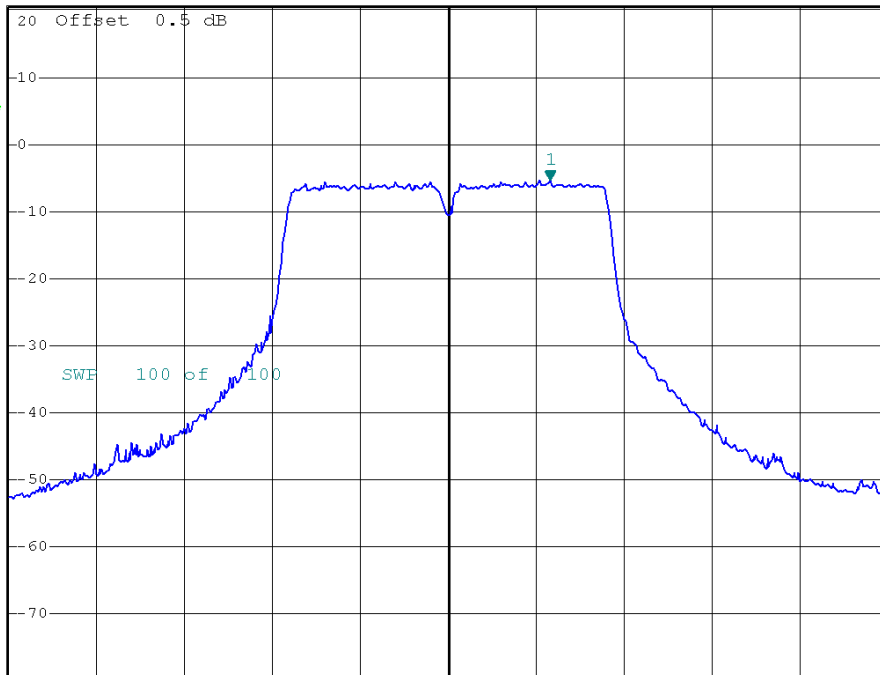
IEEE 802.11n (40 MHz)/ANT.0/5230 MHz/Power Spectral Density



*RBW 1 MHz Marker 1 [T1]
*VBW 3 MHz -5.31 dBm
SWT 20 ms 5.241600000 GHz

Ref 20.5 dBm *Att 30 dB

1 RM
VIEW



Center 5.23 GHz 10 MHz/ Span 100 MHz



Neutron Engineering Inc.

E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (40 MHz)/ANT.1/5190 MHz, 5230 MHz		

Frequency	Power Spectral Density (dBm)	Limit (dBm)	Result
5190 MHz	-4.60	4.00	PASS
5230 MHz	-5.83	4.00	PASS



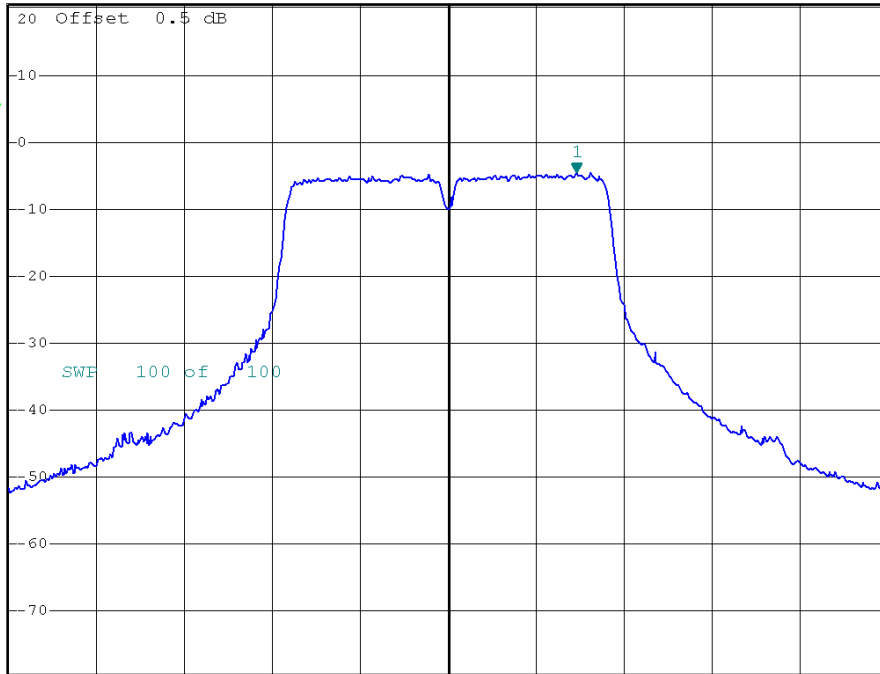
IEEE 802.11n (40 MHz)/ANT.1/5190 MHz/Power Spectral Density



*RBW 1 MHz Marker 1 [T1]
*VBW 3 MHz -4.60 dBm
SWT 20 ms 5.204600000 GHz

Ref 20.5 dBm *Att 30 dB

1 RM*
VIEW



Center 5.19 GHz 10 MHz/ Span 100 MHz

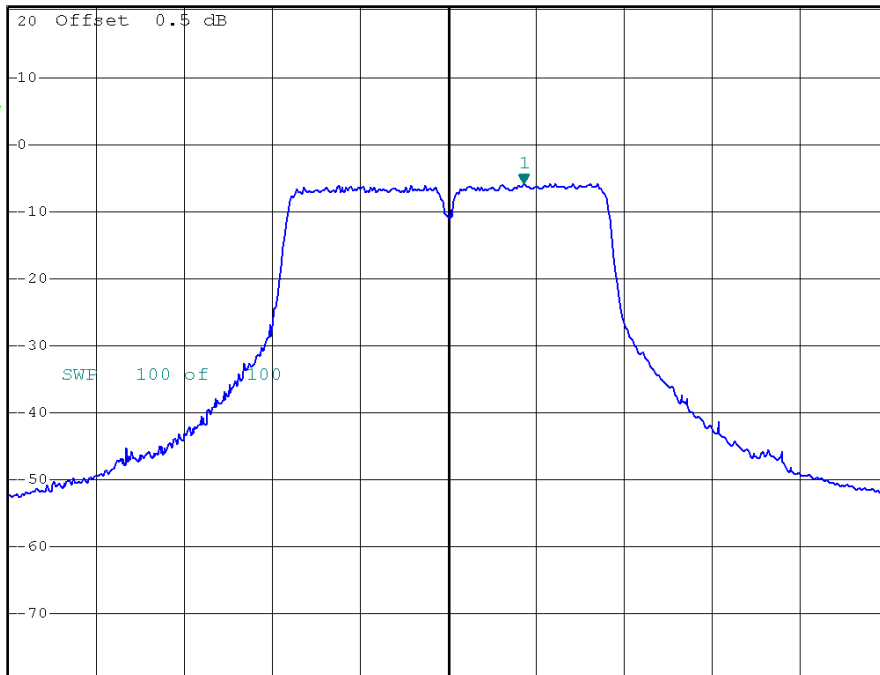
IEEE 802.11n (40 MHz)/ANT.1/5230 MHz/Power Spectral Density



*RBW 1 MHz Marker 1 [T1]
*VBW 3 MHz -5.83 dBm
SWT 20 ms 5.238600000 GHz

Ref 20.5 dBm *Att 30 dB

1 RM*
VIEW



Center 5.23 GHz 10 MHz/ Span 100 MHz



E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (40 MHz)/ANT.Total/5190 MHz, 5230 MHz		

Frequency	Power Spectral Density		Limit (dBm)	Result
	(dBm)	(mW)		
5190 MHz	-1.76	0.6666	4.00	PASS
5230 MHz	-2.55	0.5557	4.00	PASS

NOTE:

- The MIMO test requirement, RF conducted output power shall measure each transmitter chain by using channel power method.
 And after obtain each individual transmitter chain power, then sum the output power by using the following formula:

$$((\text{dBm}/\text{Chain 1})/10^{\wedge}\text{Log}) + ((\text{dBm}/\text{Chain 2})/10^{\wedge}\text{log}) + ((\text{dBm}/\text{ChainN})/10^{\wedge}\text{log}) = \text{Combined peak output power in mW.}$$

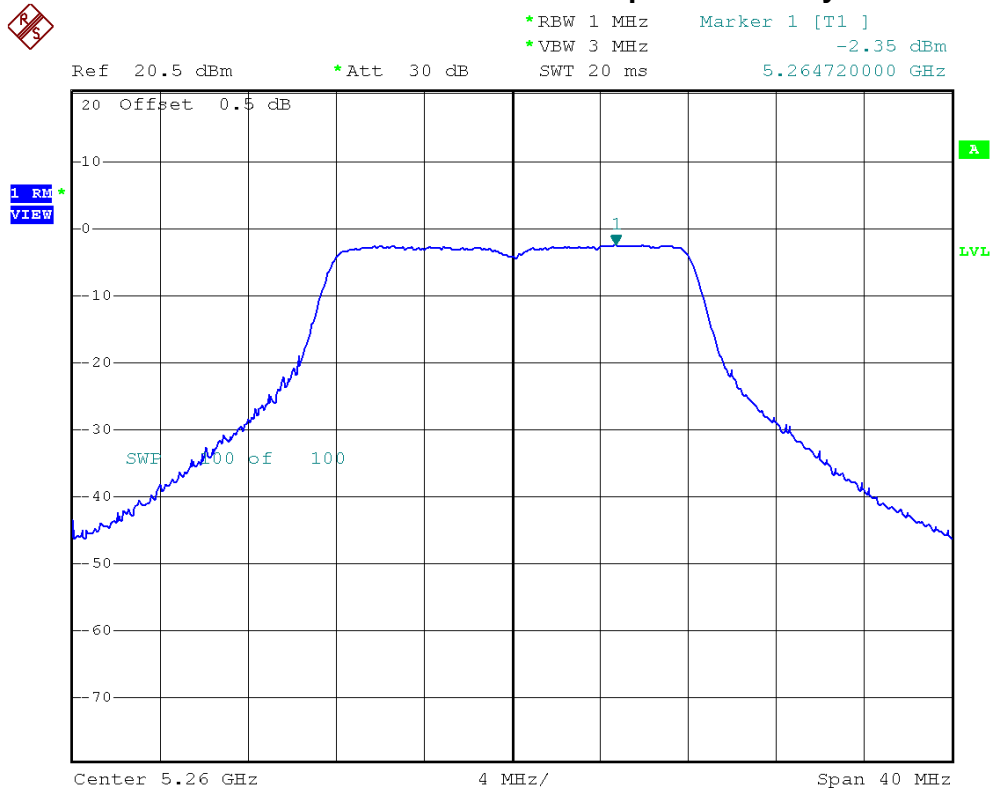


10.9 TEST RESULTS - 5260 MHZ TO 5320 MHZ BAND

E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11a/5260 MHz, 5300 MHz, 5320 MHz		

Frequency	Power Spectral Density (dBm)	Limit (dBm)	Result
5260 MHz	-2.35	11.00	PASS
5300 MHz	-1.23	11.00	PASS
5320 MHz	-0.17	11.00	PASS

IEEE 802.11a/5260 MHz/Power Spectral Density

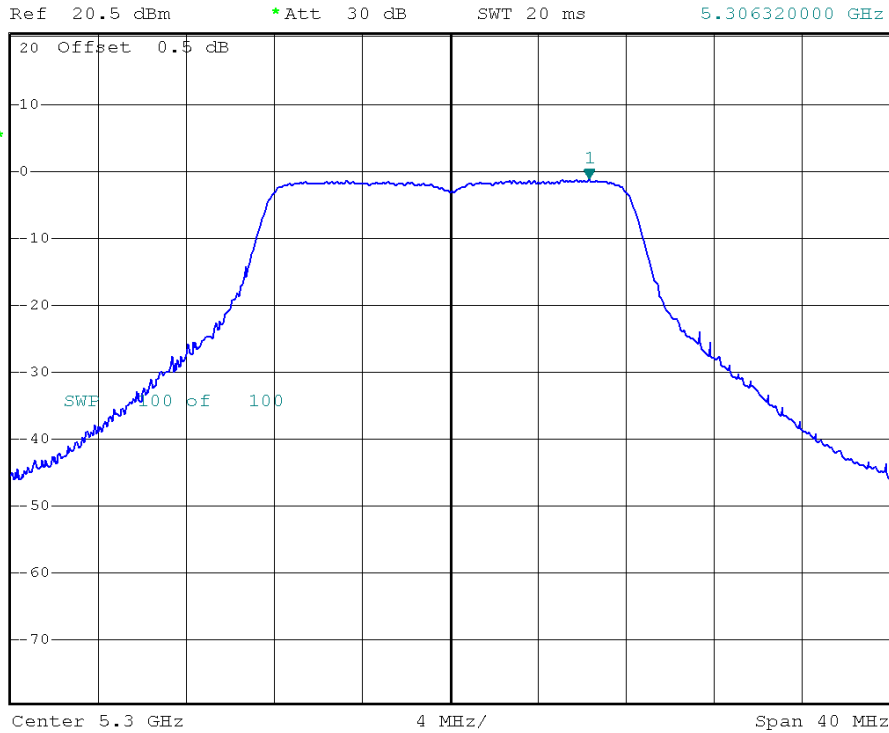




IEEE 802.11a/5300 MHz/Power Spectral Density



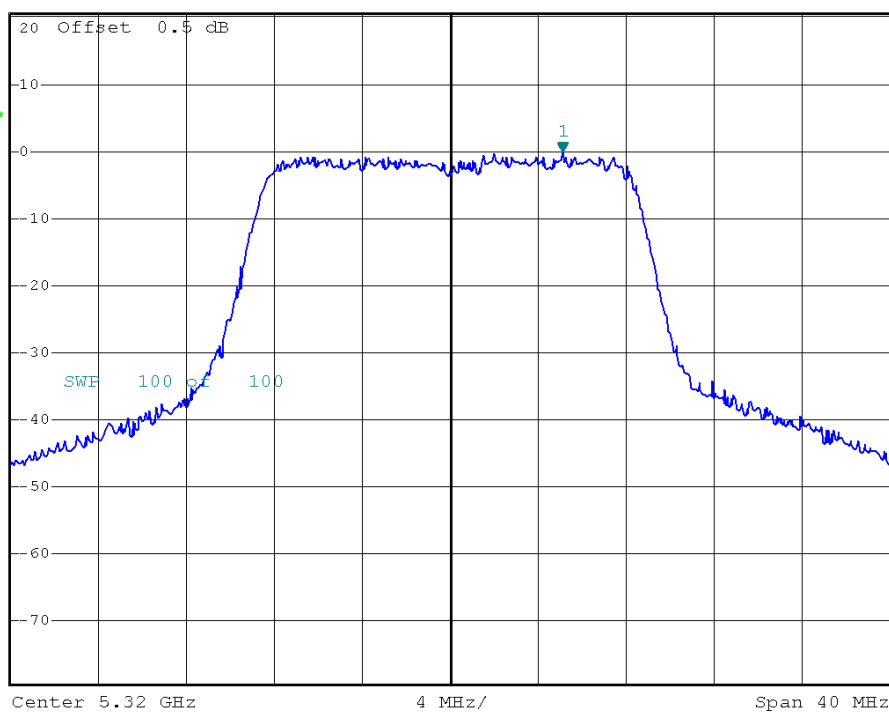
*RBW 1 MHz Marker 1 [T1]
*VBW 3 MHz -1.23 dBm
SWT 20 ms 5.306320000 GHz



IEEE 802.11a/5320 MHz/Power Spectral Density



*RBW 1 MHz Marker 1 [T1]
*VBW 3 MHz -0.17 dBm
SWT 20 ms 5.325120000 GHz

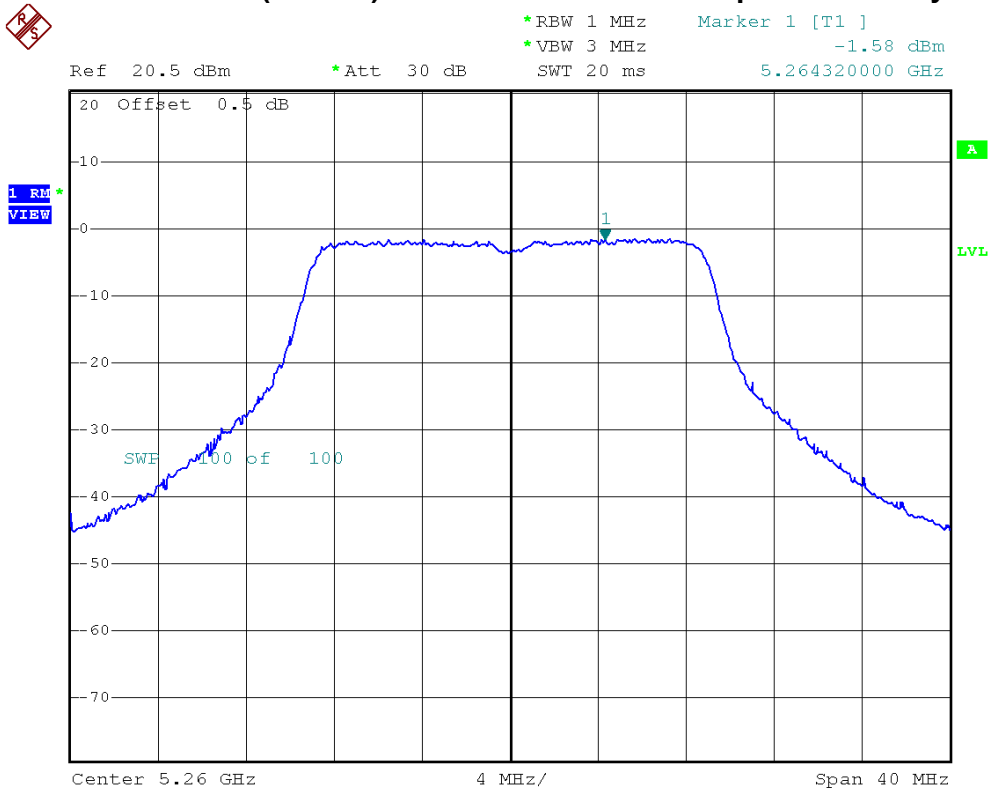




E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (20 MHz)/ANT.0/5260 MHz, 5300 MHz, 5320 MHz		

Frequency	Power Spectral Density (dBm)	Limit (dBm)	Result
5260 MHz	-1.58	11.00	PASS
5300 MHz	0.36	11.00	PASS
5320 MHz	-0.78	11.00	PASS

IEEE 802.11n (20 MHz)/ANT.0/5260 MHz/Power Spectral Density

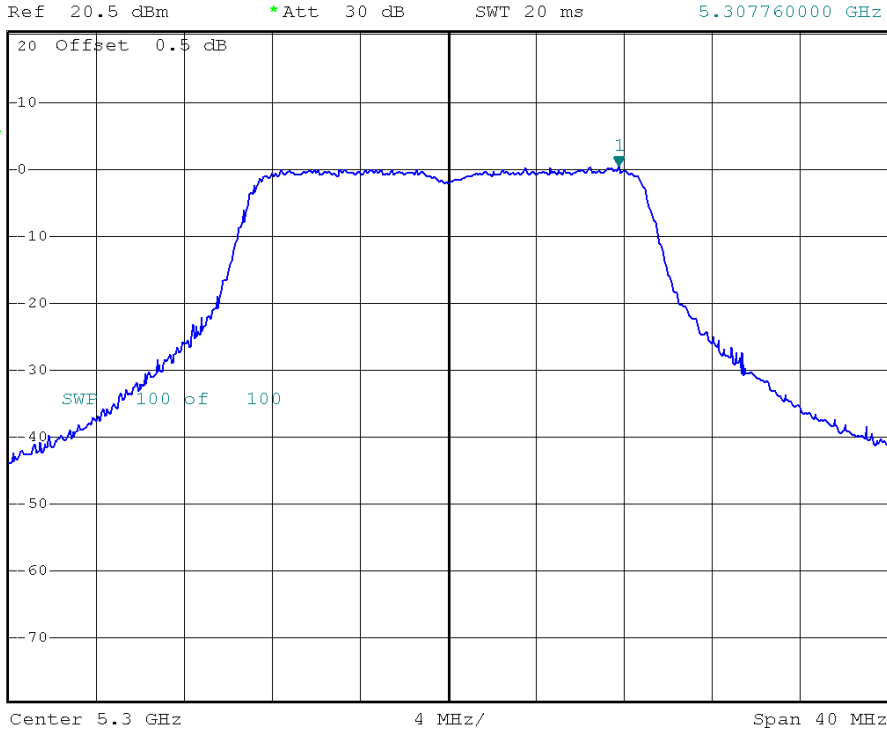




IEEE 802.11n (20 MHz)/ANT.0/5300 MHz/Power Spectral Density



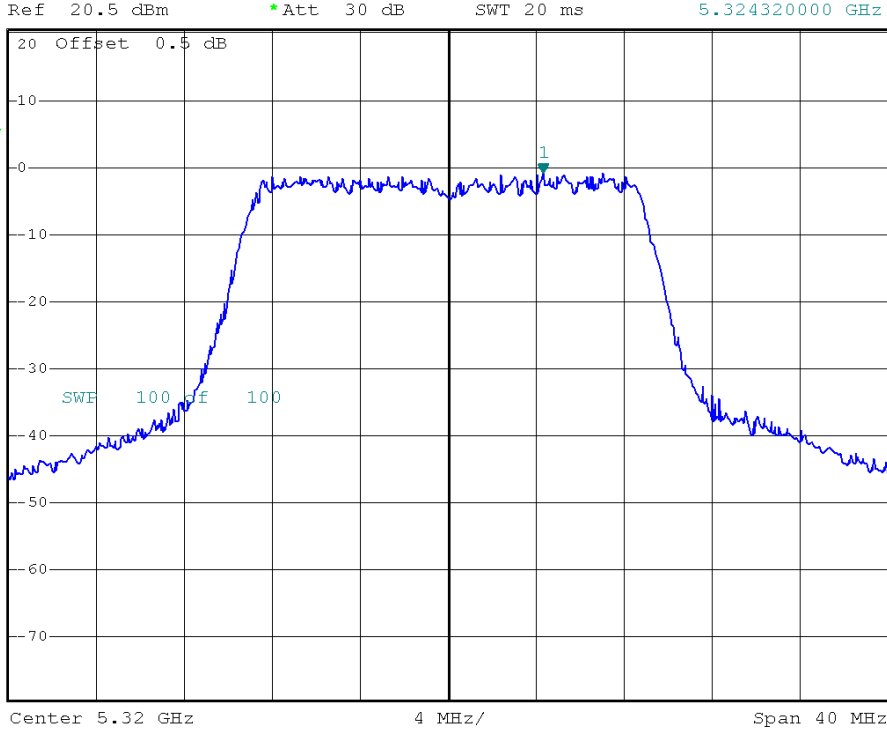
*RBW 1 MHz Marker 1 [T1]
*VBW 3 MHz 0.36 dBm
SWT 20 ms 5.307760000 GHz



IEEE 802.11n (20 MHz)/ANT.0/5320 MHz/Power Spectral Density



*RBW 1 MHz Marker 1 [T1]
*VBW 3 MHz -0.78 dBm
SWT 20 ms 5.324320000 GHz

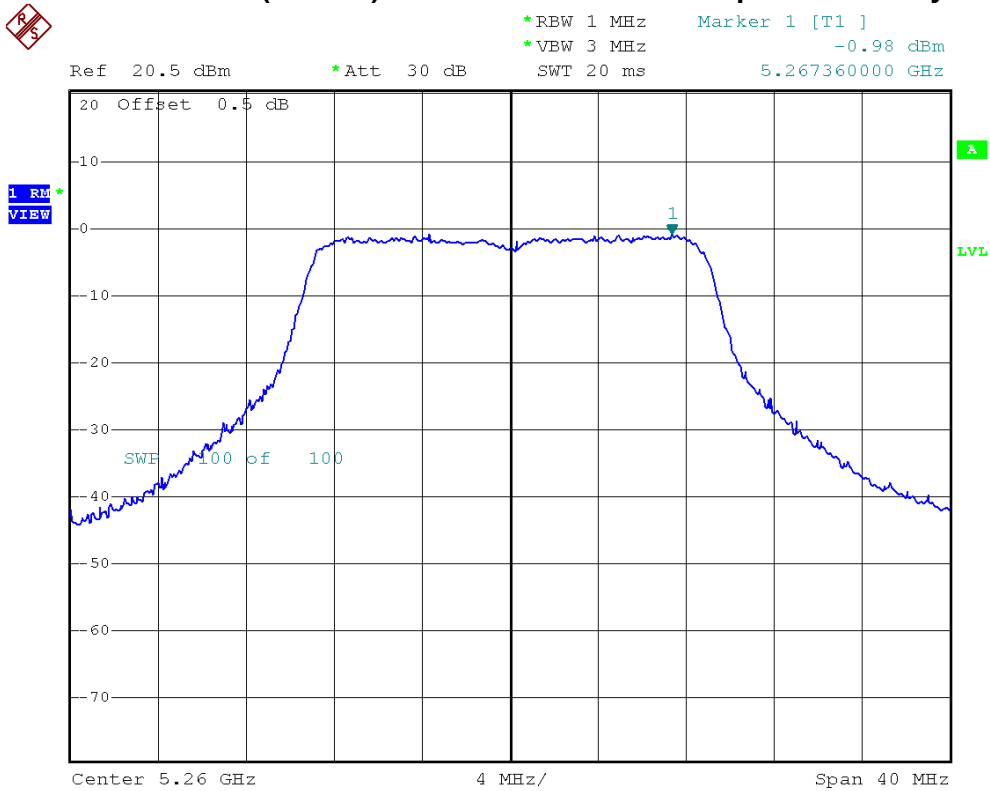




E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (20 MHz)/ANT.1/5260 MHz, 5300 MHz, 5320 MHz		

Frequency	Power Spectral Density (dBm)	Limit (dBm)	Result
5260 MHz	-0.98	11.00	PASS
5300 MHz	-0.15	11.00	PASS
5320 MHz	-1.68	11.00	PASS

IEEE 802.11n (20 MHz)/ANT.1/5260 MHz/Power Spectral Density





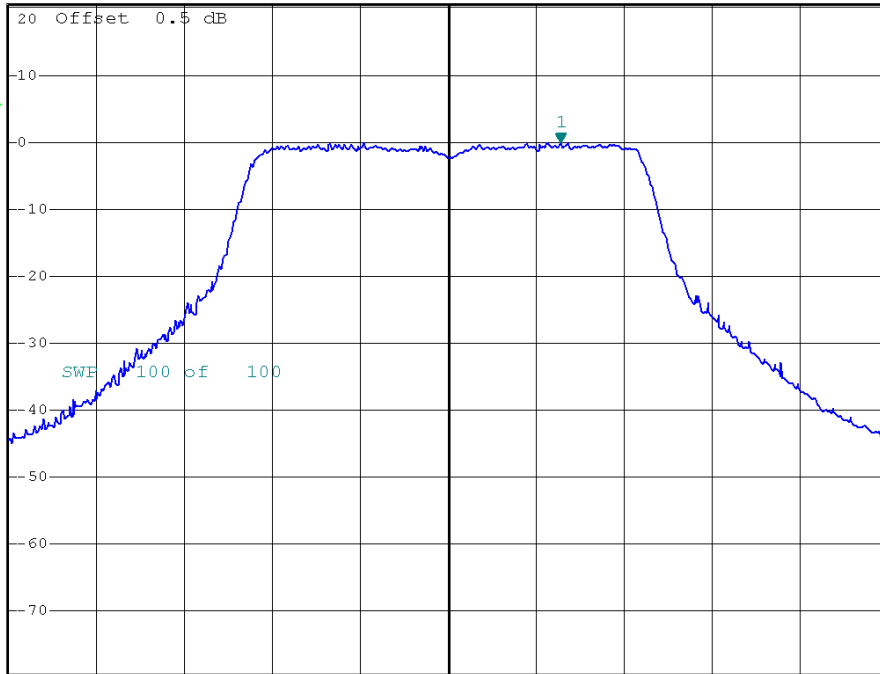
IEEE 802.11n (20 MHz)/ANT.1/5300 MHz/Power Spectral Density



*RBW 1 MHz Marker 1 [T1]
*VBW 3 MHz -0.15 dBm
SWT 20 ms 5.305120000 GHz

Ref 20.5 dBm *Att 30 dB

1 RM
VIEW



Center 5.3 GHz 4 MHz/ Span 40 MHz

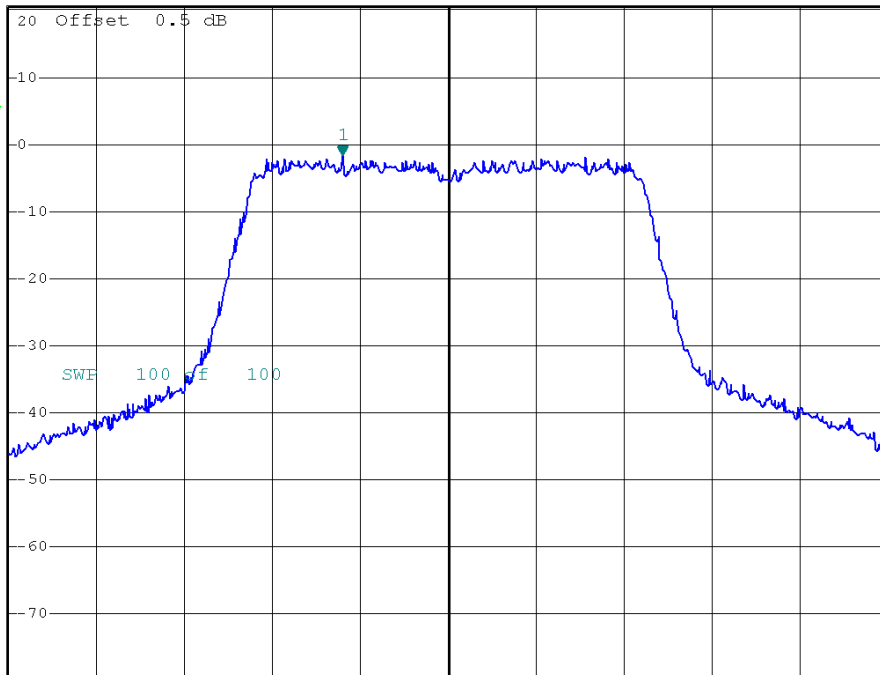
IEEE 802.11n (20 MHz)/ANT.1/5320 MHz/Power Spectral Density



*RBW 1 MHz Marker 1 [T1]
*VBW 3 MHz -1.68 dBm
SWT 20 ms 5.315200000 GHz

Ref 20.5 dBm *Att 30 dB

1 RM
VIEW



Center 5.32 GHz 4 MHz/ Span 40 MHz



E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (20 MHz)/ANT.Total/5260 MHz, 5300 MHz, 5320 MHz		

Frequency	Power Spectral Density		Limit (dBm)	Result
	(dBm)	(mW)		
5260 MHz	1.74	1.49	11.00	PASS
5300 MHz	3.12	2.05	11.00	PASS
5320 MHz	1.80	1.51	11.00	PASS

NOTE:

- The MIMO test requirement, RF conducted output power shall measure each transmitter chain by using channel power method.
 And after obtain each individual transmitter chain power, then sum the output power by using the following formula:
 $((\text{dBm}/\text{Chain 1})/10^{\wedge}\text{Log}) + ((\text{dBm}/\text{Chain 2})/10^{\wedge}\text{log}) + ((\text{dBm}/\text{ChainN})/10^{\wedge}\text{log}) = \text{Combined peak output power in mW.}$

**Neutron Engineering Inc.**

E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (40 MHz)/ANT.0/5270 MHz, 5310 MHz		

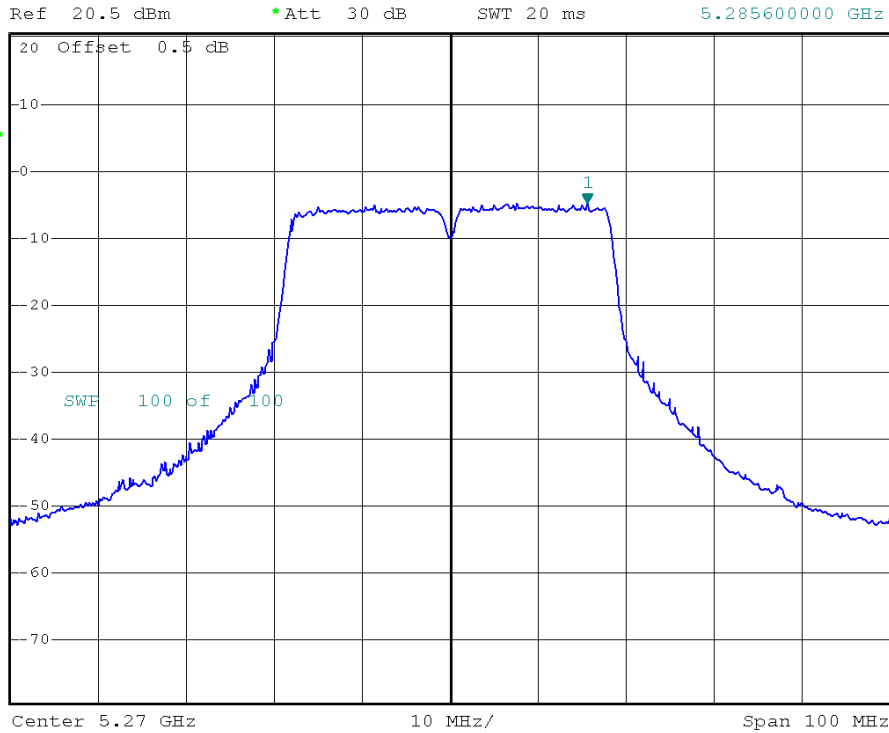
Frequency	Power Spectral Density (dBm)	Limit (dBm)	Result
5270 MHz	-4.82	11.00	PASS
5310 MHz	-4.24	11.00	PASS



IEEE 802.11n (40 MHz)/ANT.0/5270 MHz/Power Spectral Density



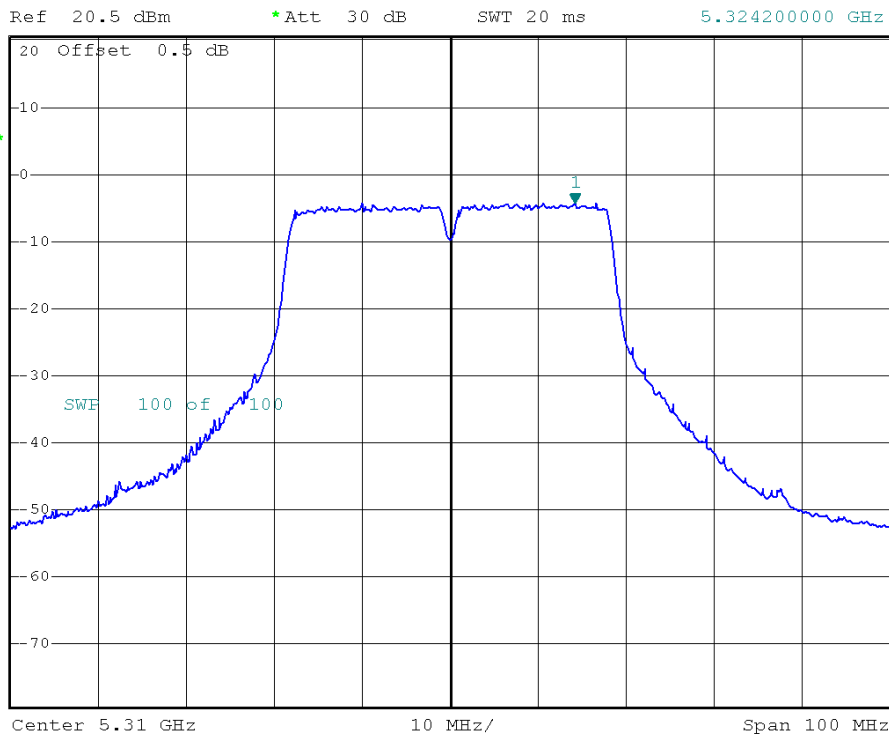
*RBW 1 MHz Marker 1 [T1]
*VBW 3 MHz -4.82 dBm
SWT 20 ms 5.285600000 GHz



IEEE 802.11n (40 MHz)/ANT.0/5310 MHz/Power Spectral Density



*RBW 1 MHz Marker 1 [T1]
*VBW 3 MHz -4.24 dBm
SWT 20 ms 5.324200000 GHz





Neutron Engineering Inc.

E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (40 MHz)/ANT.1/5270 MHz, 5310 MHz		

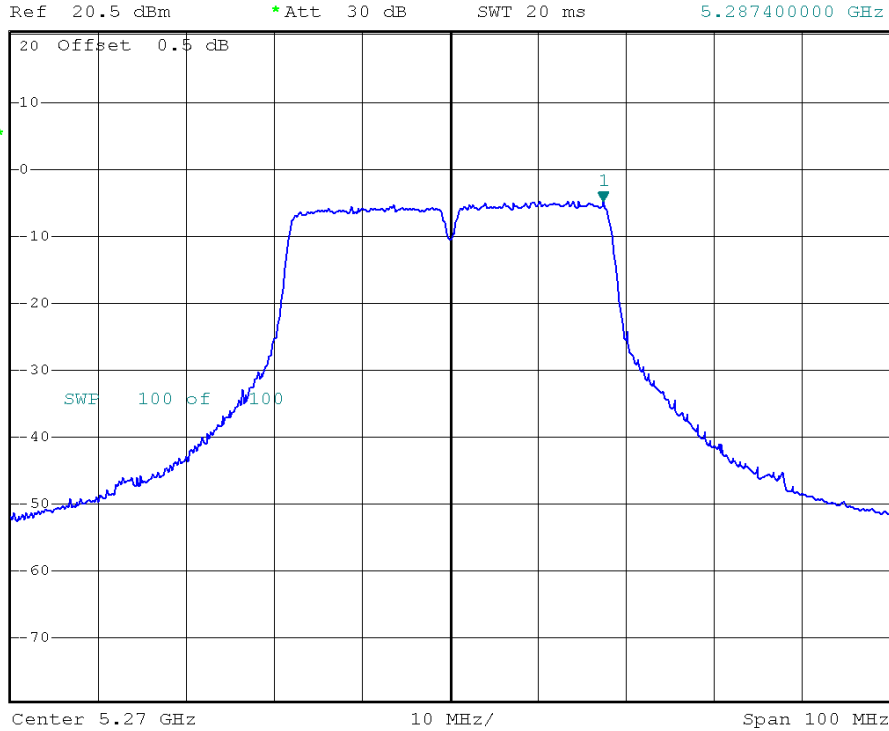
Frequency	Power Spectral Density (dBm)	Limit (dBm)	Result
5270 MHz	-4.74	11.00	PASS
5310 MHz	-4.12	11.00	PASS



IEEE 802.11n (40 MHz)/ANT.1/5270 MHz/Power Spectral Density



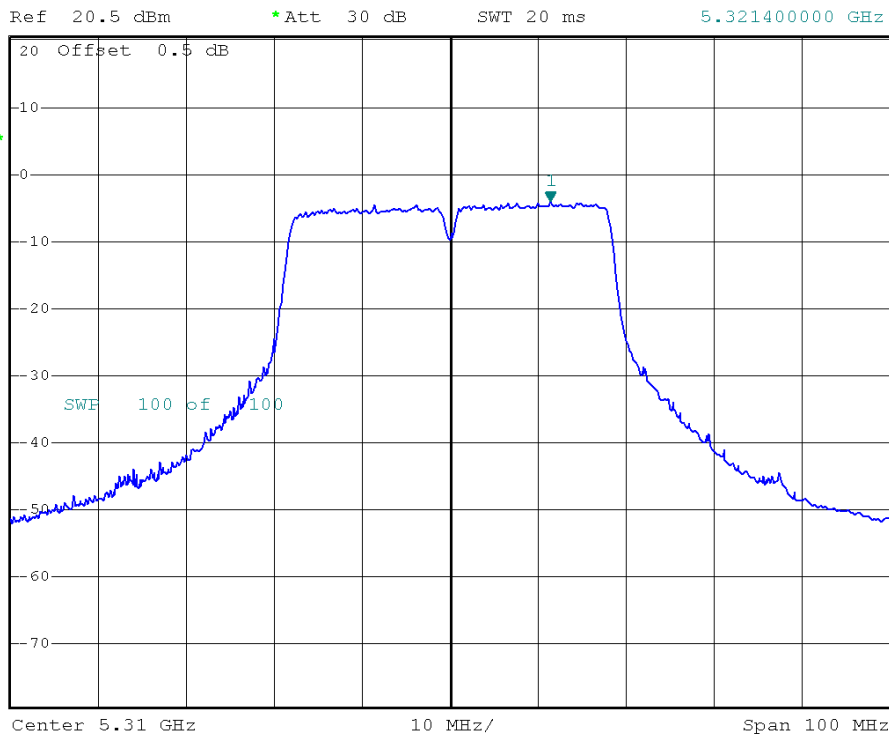
*RBW 1 MHz Marker 1 [T1]
*VBW 3 MHz -4.74 dBm
SWT 20 ms 5.287400000 GHz



IEEE 802.11n (40 MHz)/ANT.1/5310 MHz/Power Spectral Density



*RBW 1 MHz Marker 1 [T1]
*VBW 3 MHz -4.12 dBm
SWT 20 ms 5.321400000 GHz





E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (40 MHz)/ANT.Total/5270 MHz, 5310 MHz		

Frequency	Power Spectral Density		Limit (dBm)	Result
	(dBm)	(mW)		
5270 MHz	-1.77	0.6653	11.00	PASS
5310 MHz	-1.17	0.7640	11.00	PASS

NOTE:

- The MIMO test requirement, RF conducted output power shall measure each transmitter chain by using channel power method.
 And after obtain each individual transmitter chain power, then sum the output power by using the following formula:

$$((\text{dBm}/\text{Chain 1})/10^{\wedge}\text{Log}) + ((\text{dBm}/\text{Chain 2})/10^{\wedge}\text{log}) + ((\text{dBm}/\text{ChainN})/10^{\wedge}\text{log}) = \text{Combined peak output power in mW.}$$

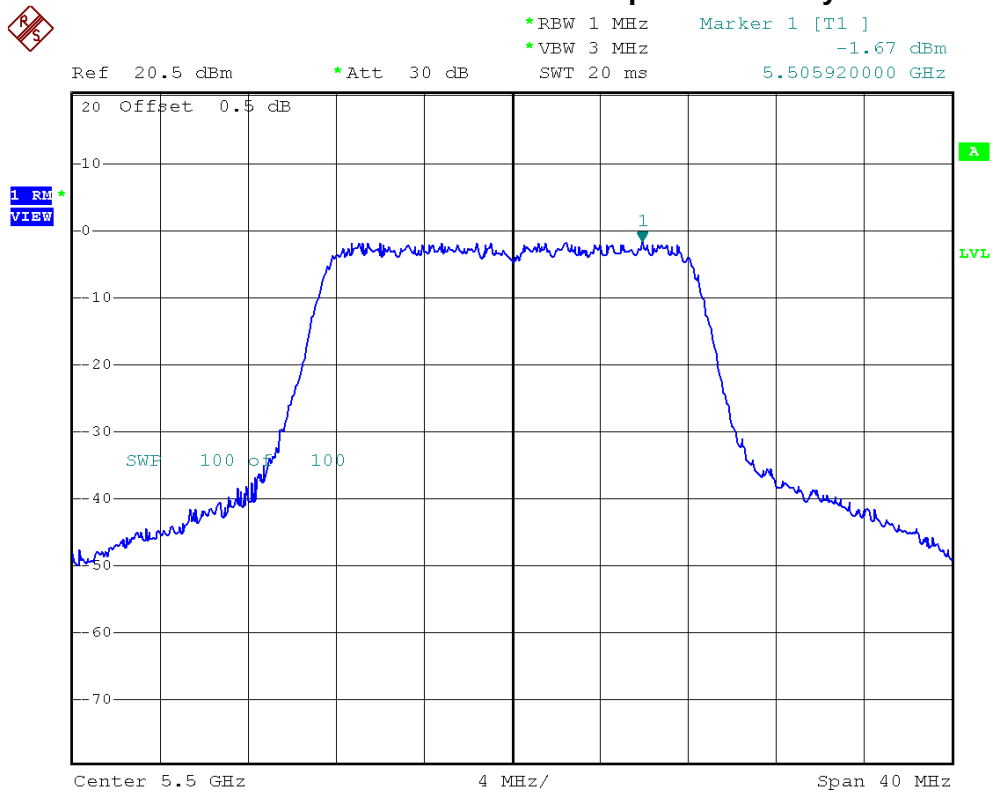


10.10 TEST RESULTS - 5500 MHZ TO 5700 MHZ BAND

E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11a/5500 MHz, 5580 MHz, 5700 MHz		

Frequency	Power Spectral Density (dBm)	Limit (dBm)	Result
5500 MHz	-1.67	11.00	PASS
5580 MHz	-1.64	11.00	PASS
5700 MHz	-1.21	11.00	PASS

IEEE 802.11a/5500 MHz/Power Spectral Density





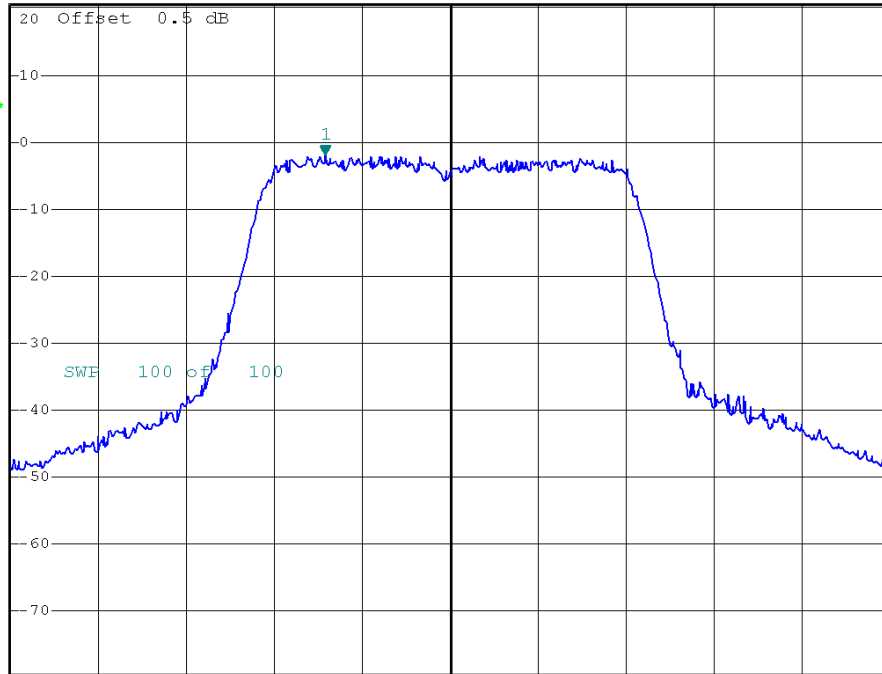
IEEE 802.11a/5580 MHz/Power Spectral Density



*RBW 1 MHz Marker 1 [T1]
*VBW 3 MHz -1.98 dBm
SWT 20 ms 5.574320000 GHz

Ref 20.5 dBm *Att 30 dB

1 RM
VIEW



Center 5.58 GHz 4 MHz/ Span 40 MHz

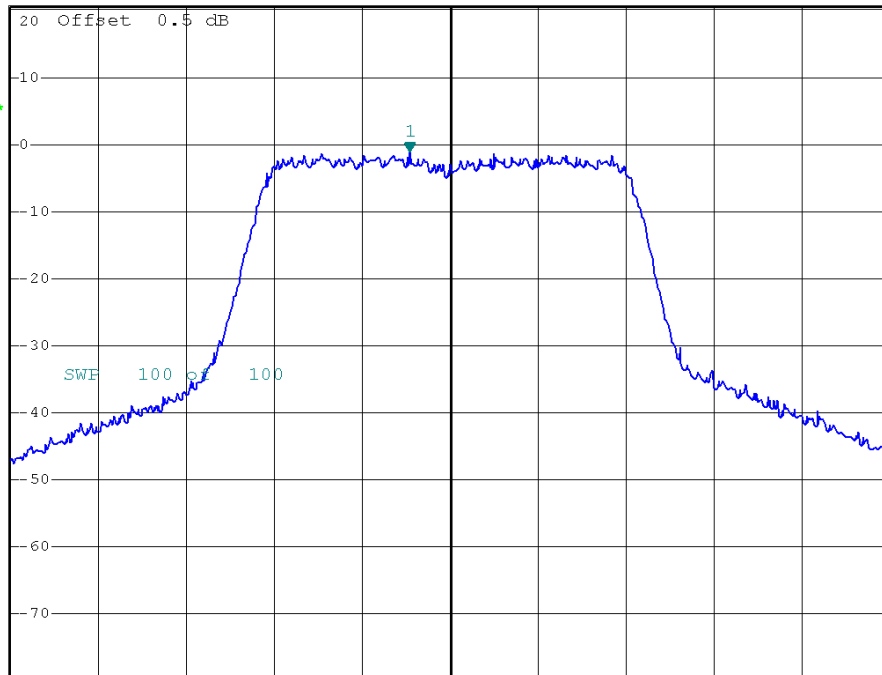
IEEE 802.11a/5700 MHz/Power Spectral Density



*RBW 1 MHz Marker 1 [T1]
*VBW 3 MHz -1.08 dBm
SWT 20 ms 5.698160000 GHz

Ref 20.5 dBm *Att 30 dB

1 RM
VIEW



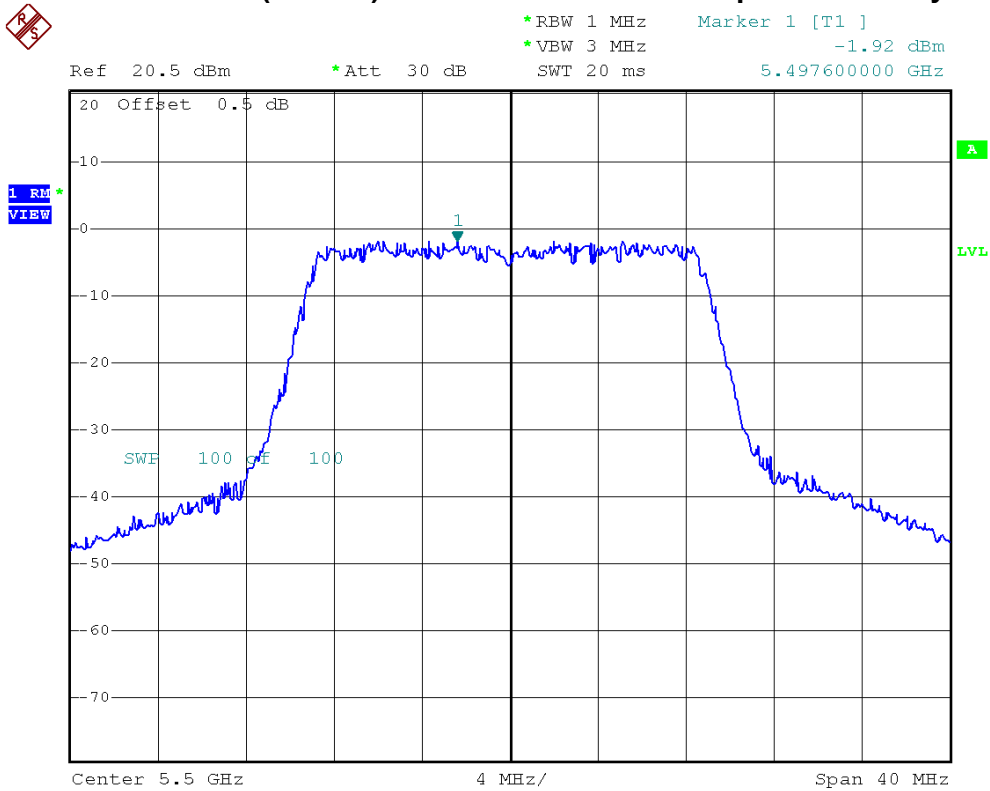
Center 5.7 GHz 4 MHz/ Span 40 MHz



E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (20 MHz)/ANT.0/5500 MHz, 5580 MHz, 5700 MHz		

Frequency	Power Spectral Density (dBm)	Limit (dBm)	Result
5500 MHz	-1.92	11.00	PASS
5580 MHz	-2.31	11.00	PASS
5700 MHz	-0.92	11.00	PASS

IEEE 802.11n (20 MHz)/ANT.0/5500 MHz/Power Spectral Density





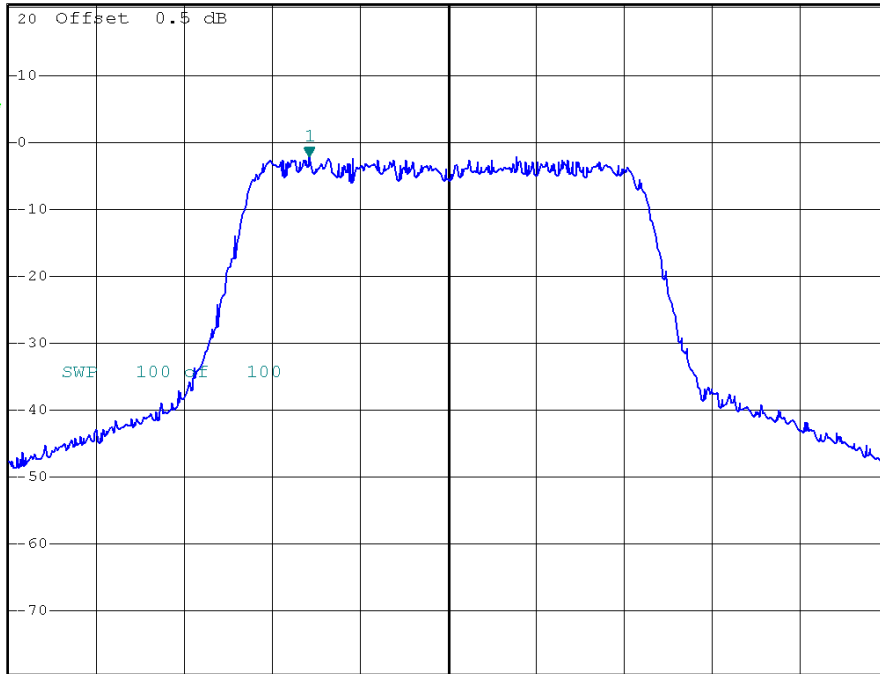
IEEE 802.11n (20 MHz)/ANT.0/5580 MHz/Power Spectral Density



*RBW 1 MHz Marker 1 [T1]
*VBW 3 MHz -2.31 dBm
SWT 20 ms 5.573680000 GHz

Ref 20.5 dBm *Att 30 dB

1 RM*
VIEW



Center 5.58 GHz 4 MHz/ Span 40 MHz

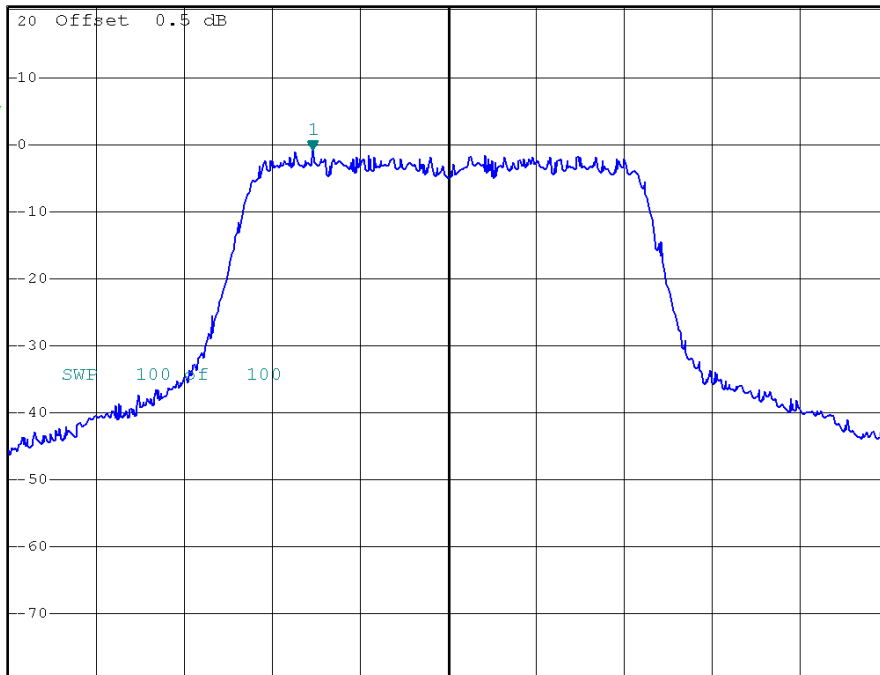
IEEE 802.11n (20 MHz)/ANT.0/5700 MHz/Power Spectral Density



*RBW 1 MHz Marker 1 [T1]
*VBW 3 MHz -0.92 dBm
SWT 20 ms 5.693840000 GHz

Ref 20.5 dBm *Att 30 dB

1 RM*
VIEW



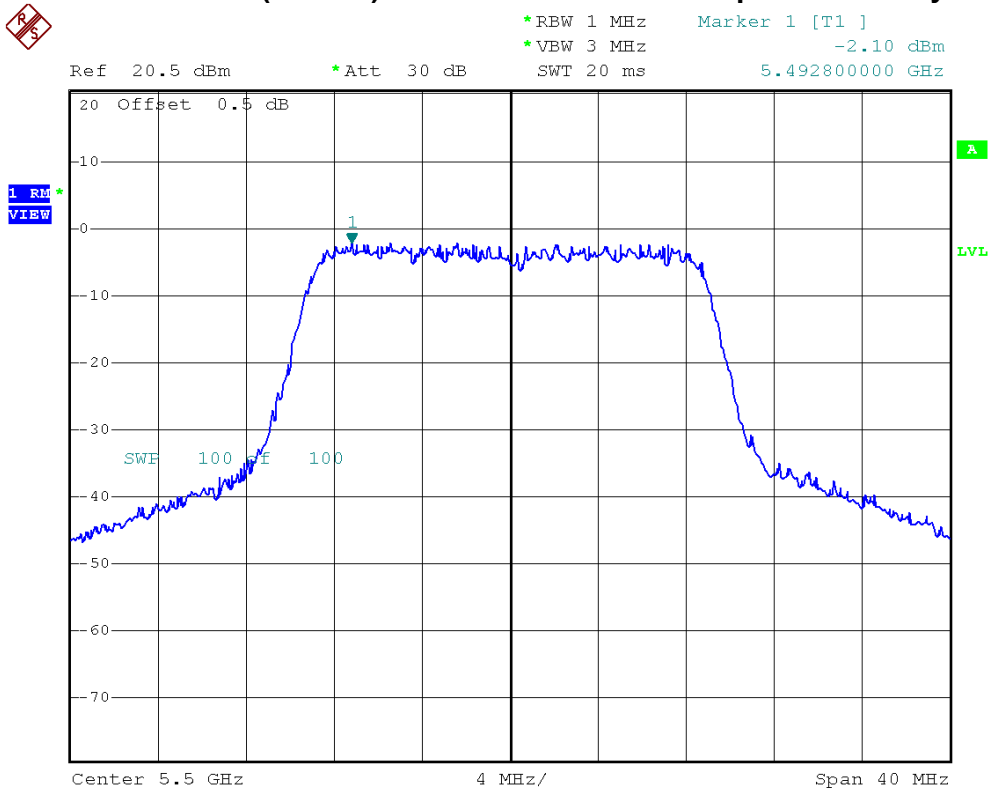
Center 5.7 GHz 4 MHz/ Span 40 MHz



E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (20 MHz)/ANT.1/5500 MHz, 5580 MHz, 5700 MHz		

Frequency	Power Spectral Density (dBm)	Limit (dBm)	Result
5500 MHz	-2.10	11.00	PASS
5580 MHz	-1.87	11.00	PASS
5700 MHz	-1.64	11.00	PASS

IEEE 802.11n (20 MHz)/ANT.1/5500 MHz/Power Spectral Density

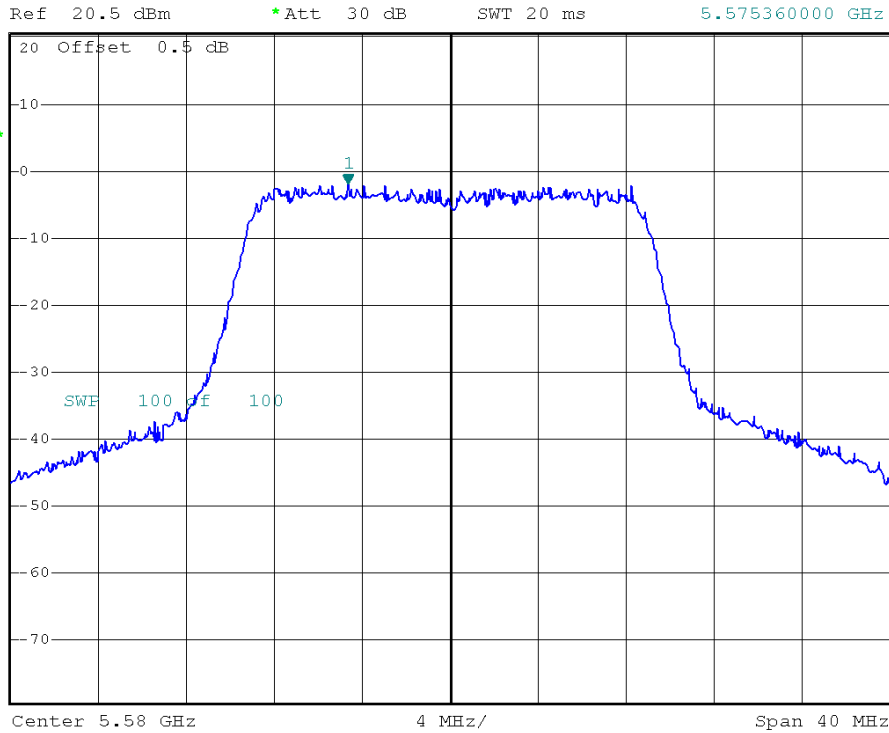




IEEE 802.11n (20 MHz)/ANT.1/5580 MHz/Power Spectral Density



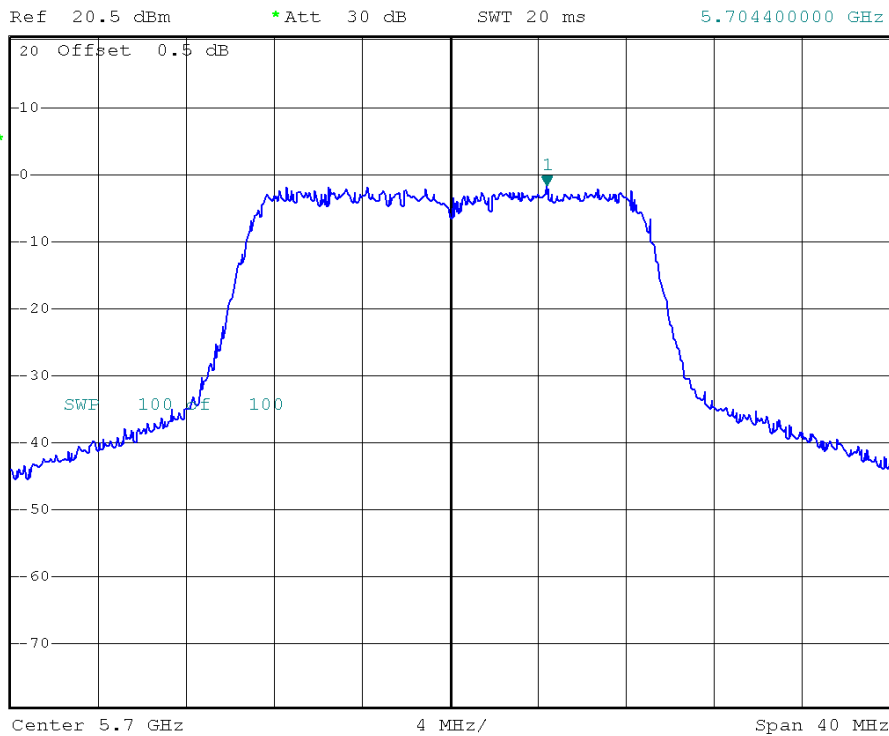
*RBW 1 MHz Marker 1 [T1]
*VBW 3 MHz -1.87 dBm
SWT 20 ms 5.575360000 GHz



IEEE 802.11n (20 MHz)/ANT.1/5700 MHz/Power Spectral Density



*RBW 1 MHz Marker 1 [T1]
*VBW 3 MHz -1.64 dBm
SWT 20 ms 5.704400000 GHz





Neutron Engineering Inc.

E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (20 MHz)/ANT.Total/5500 MHz, 5580 MHz, 5700 MHz		

Frequency	Power Spectral Density		Limit (dBm)	Result
	(dBm)	(mW)		
5500 MHz	1.00	1.26	11.00	PASS
5580 MHz	0.93	1.24	11.00	PASS
5700 MHz	1.75	1.49	11.00	PASS

NOTE:

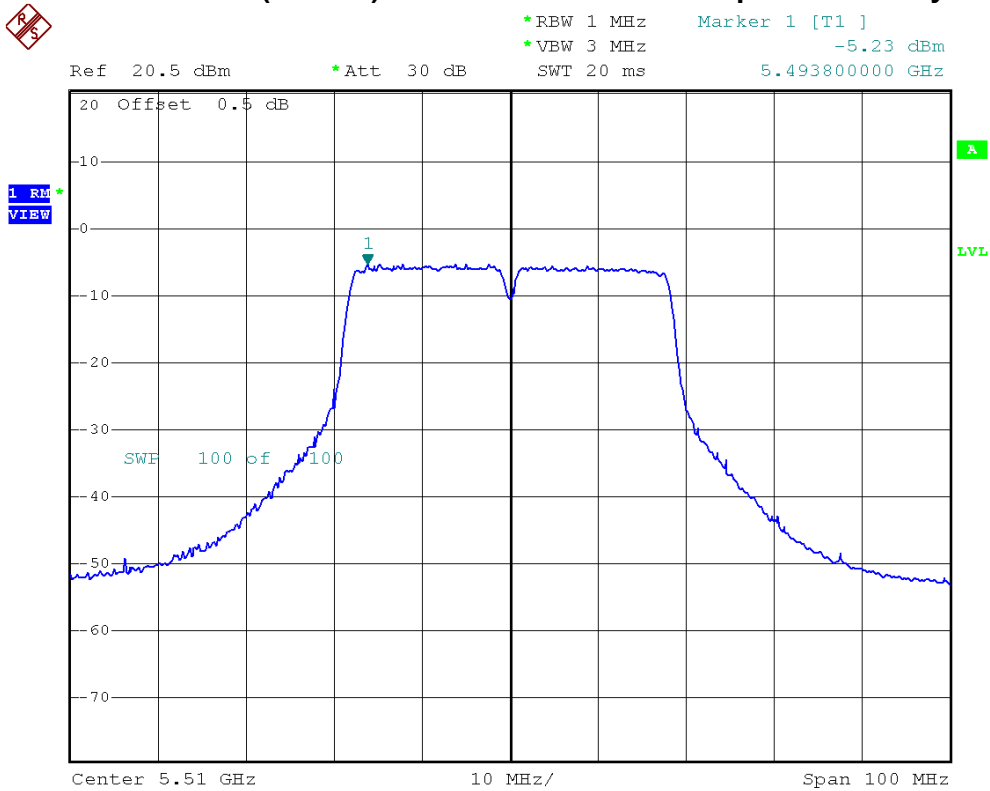
- The MIMO test requirement, RF conducted output power shall measure each transmitter chain by using channel power method.
 And after obtain each individual transmitter chain power, then sum the output power by using the following formula:
 $((\text{dBm}/\text{Chain 1})/10^{\wedge}\text{Log}) + ((\text{dBm}/\text{Chain 2})/10^{\wedge}\text{log}) + ((\text{dBm}/\text{ChainN})/10^{\wedge}\text{log}) = \text{Combined peak output power in mW.}$



E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (40 MHz)/ANT.0/5510 MHz, 5550 MHz, 5670 MHz		

Frequency	Power Spectral Density (dBm)	Limit (dBm)	Result
5510 MHz	-5.23	11.00	PASS
5550 MHz	-4.59	11.00	PASS
5670 MHz	-5.11	11.00	PASS

IEEE 802.11n (40 MHz)/ANT.0/5510 MHz/Power Spectral Density





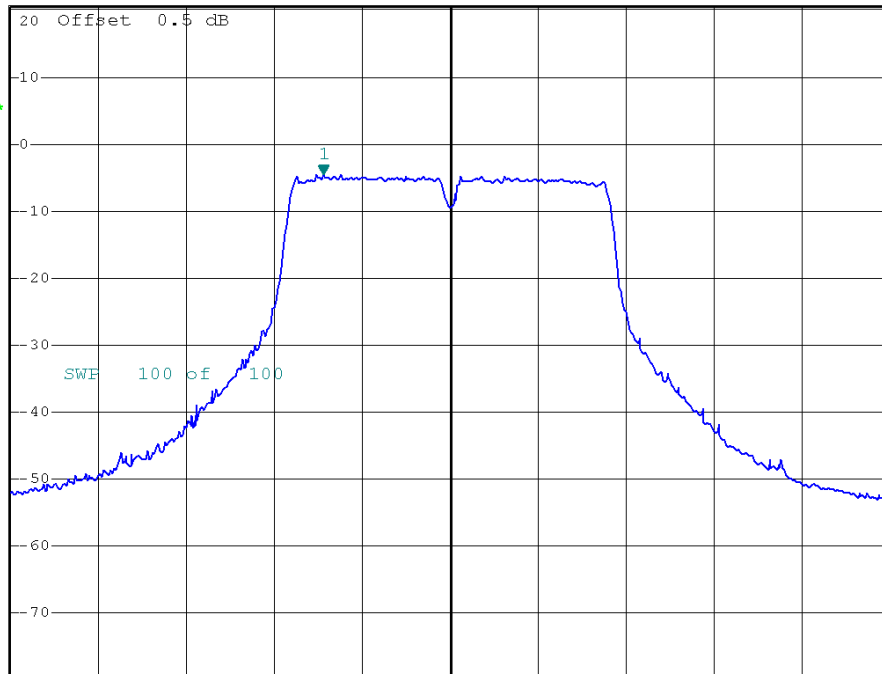
IEEE 802.11n (40 MHz)/ANT.0/5550 MHz/Power Spectral Density



*RBW 1 MHz Marker 1 [T1]
*VBW 3 MHz -4.59 dBm
SWT 20 ms 5.535600000 GHz

Ref 20.5 dBm *Att 30 dB

1 RM
VIEW



Center 5.55 GHz 10 MHz/ Span 100 MHz

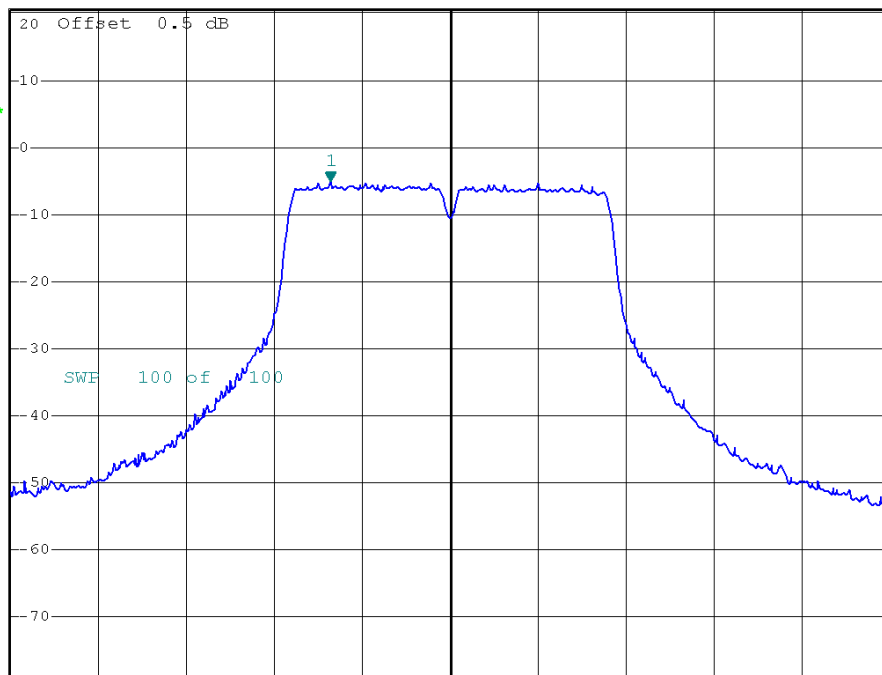
IEEE 802.11n (40 MHz)/ANT.0/5670 MHz/Power Spectral Density



*RBW 1 MHz Marker 1 [T1]
*VBW 3 MHz -5.11 dBm
SWT 20 ms 5.656400000 GHz

Ref 20.5 dBm *Att 30 dB

1 RM
VIEW



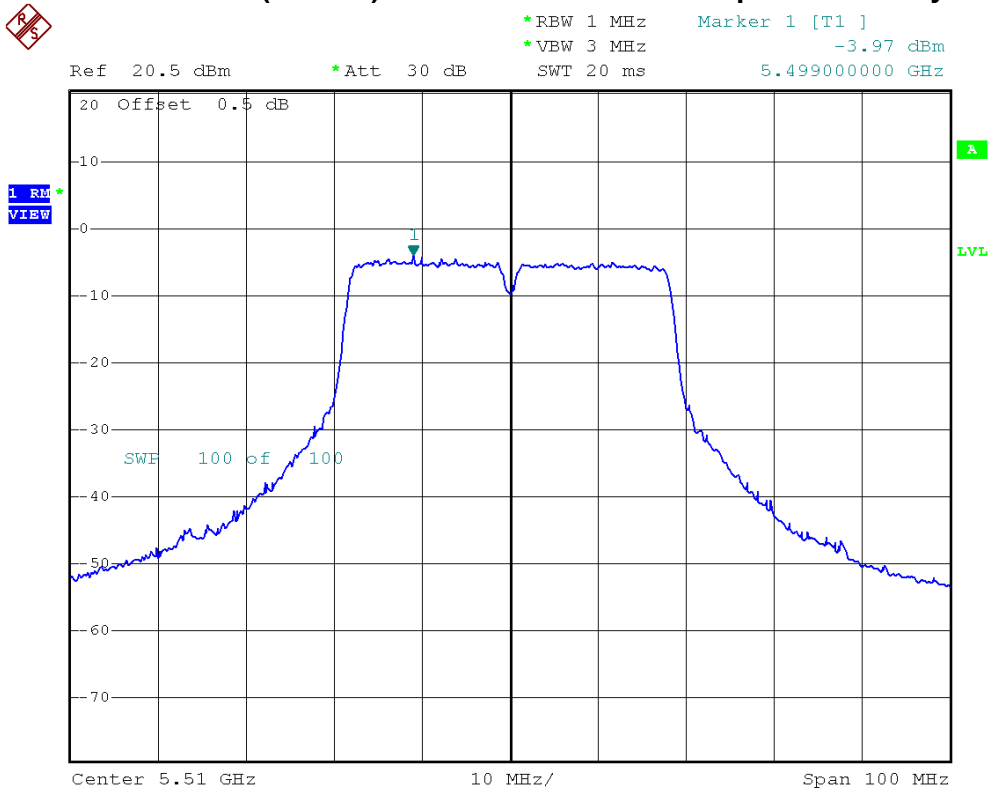
Center 5.67 GHz 10 MHz/ Span 100 MHz



E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (40 MHz)/ANT.1/5510 MHz, 5550 MHz, 5670 MHz		

Frequency	Power Spectral Density (dBm)	Limit (dBm)	Result
5510 MHz	-3.97	11.00	PASS
5550 MHz	-4.54	11.00	PASS
5670 MHz	-5.20	11.00	PASS

IEEE 802.11n (40 MHz)/ANT.1/5510 MHz/Power Spectral Density





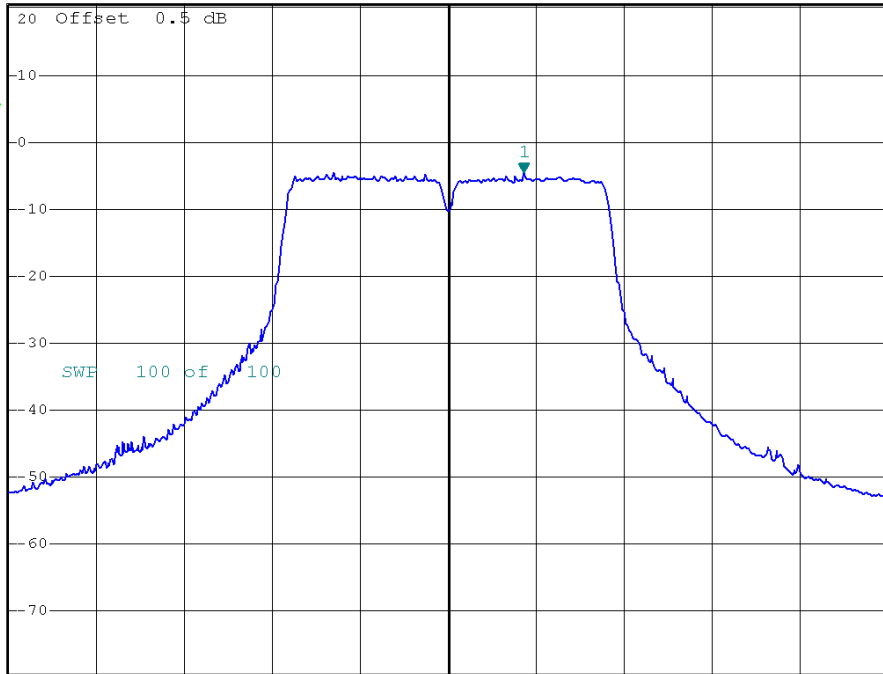
IEEE 802.11n (40 MHz)/ANT.1/5550 MHz/Power Spectral Density



*RBW 1 MHz Marker 1 [T1]
*VBW 3 MHz -4.54 dBm
SWT 20 ms 5.558600000 GHz

Ref 20.5 dBm *Att 30 dB

1 RM
VIEW



Center 5.55 GHz 10 MHz/ Span 100 MHz

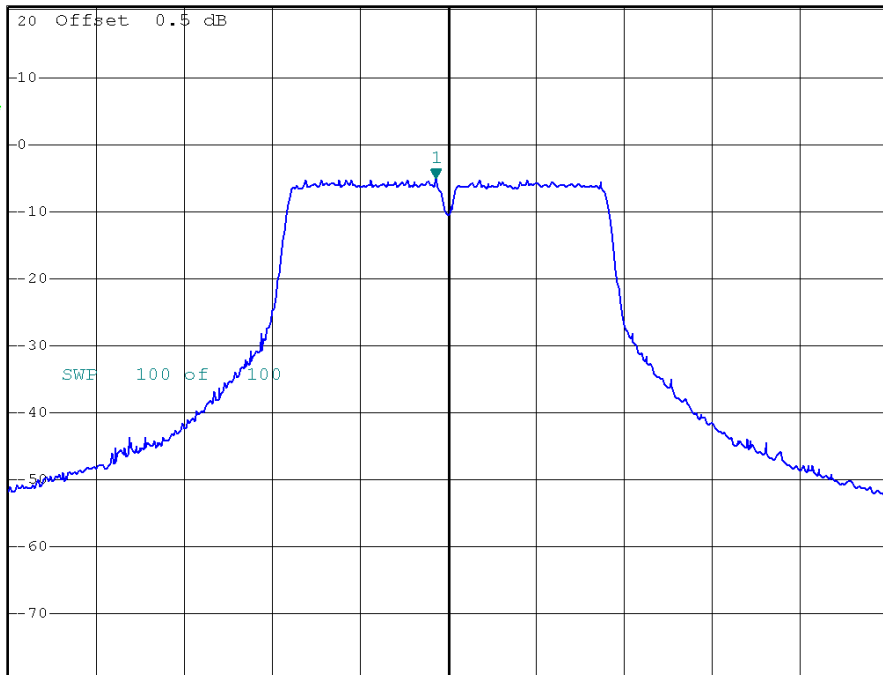
IEEE 802.11n (40 MHz)/ANT.1/5670 MHz/Power Spectral Density



*RBW 1 MHz Marker 1 [T1]
*VBW 3 MHz -5.20 dBm
SWT 20 ms 5.668600000 GHz

Ref 20.5 dBm *Att 30 dB

1 RM
VIEW



Center 5.67 GHz 10 MHz/ Span 100 MHz



E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (40 MHz)/ANT.Total/5510 MHz, 5550 MHz, 5670 MHz		

Frequency	Power Spectral Density		Limit (dBm)	Result
	(dBm)	(mW)		
5510 MHz	-1.54	0.7008	11.00	PASS
5550 MHz	-1.55	0.6991	11.00	PASS
5670 MHz	-2.14	0.6103	11.00	PASS

NOTE:

- The MIMO test requirement, RF conducted output power shall measure each transmitter chain by using channel power method.
 And after obtain each individual transmitter chain power, then sum the output power by using the following formula:
 $((\text{dBm}/\text{Chain 1})/10^{\wedge}\text{Log}) + ((\text{dBm}/\text{Chain 2})/10^{\wedge}\text{log}) + ((\text{dBm}/\text{ChainN})/10^{\wedge}\text{log}) = \text{Combined peak output power in mW.}$



11 PEAK EXCURSION

11.1 LIMIT

Test Item	Frequency Range (MHz)	Limit
Peak Excursion	5150 - 5250	13 dB
	5250 - 5350	
	5470 - 5725	
	5725 - 5825	

11.2 MEASUREMENT INSTRUMENTS LIST

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP-40	100129	Oct. 01, 2013

NOTE: **N/A**: denotes No Model Name, No Serial No. or No Calibration specified.

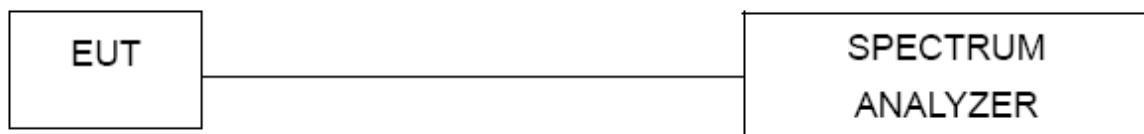
11.3 MEASURING INSTRUMENTS SETTING

Spectrum Analyzer	Parameter Setting
Attenuation	Auto
Span Frequency	Encompass the entire emissions bandwidth (EBW) of the signal
RB	1000 kHz (Peak Trace) / 1000 kHz (Average Trace)
VB	3000 kHz (Peak Trace) / 3000 kHz (Average Trace)
Detector	Peak (Peak Trace) / RMS (Average Trace)
Trace	Max Hold
Sweep Time	AUTO

11.4 TEST PROCEDURES

- a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.
- b. Peak Trace: Set RBW = 1 MHz, VBW ≥ 3 MHz with peak detector and maxhold settings.
- c. Average Trace: set RBW=1MHz,VBW=3MHz with RMS detector and trace average across 100 traces in power averaging mode.

11.5 TEST SETUP LAYOUT





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11.6 DEVIATION FROM TEST STANDARD

No deviation

11.7 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of 5.6 Unless otherwise a special operating condition is specified in the follows during the testing.

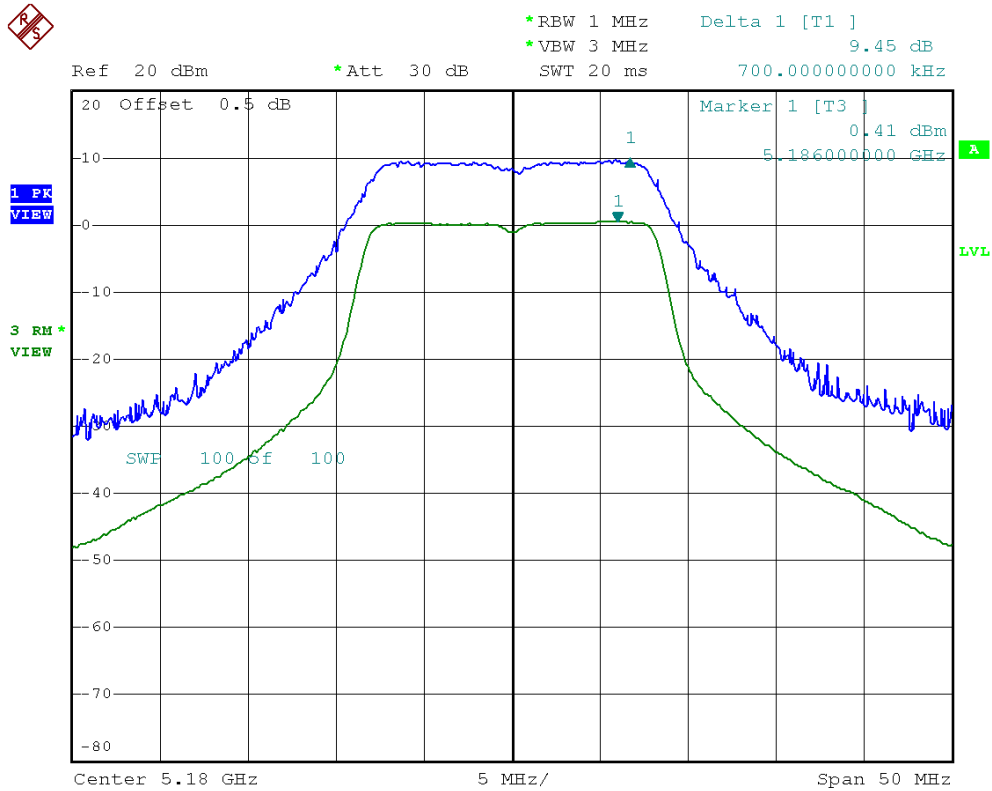


11.8 TEST RESULTS - 5180 MHZ TO 5240 MHZ BAND

E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11a/5180 MHz, 5200 MHz, 5240 MHz		

Frequency	Peak Excursion (dB)	Limit (dB)	Result
5180 MHz	9.45	13	PASS
5200 MHz	9.40	13	PASS
5240 MHz	9.66	13	PASS

IEEE 802.11a/5180 MHz/Peak Excursion

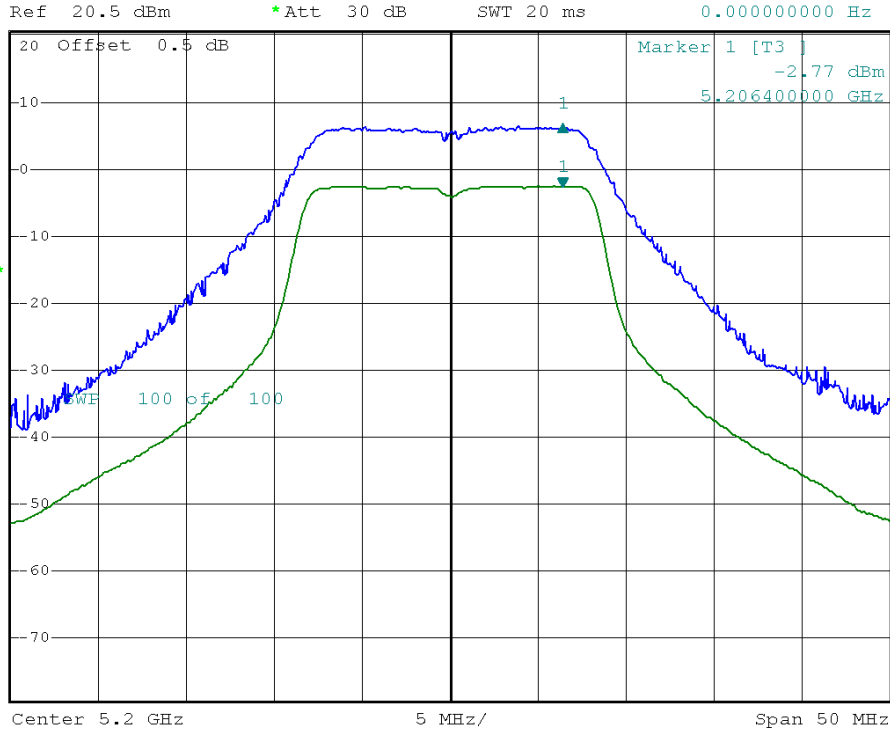




IEEE 802.11a/5200 MHz/Peak Excursion



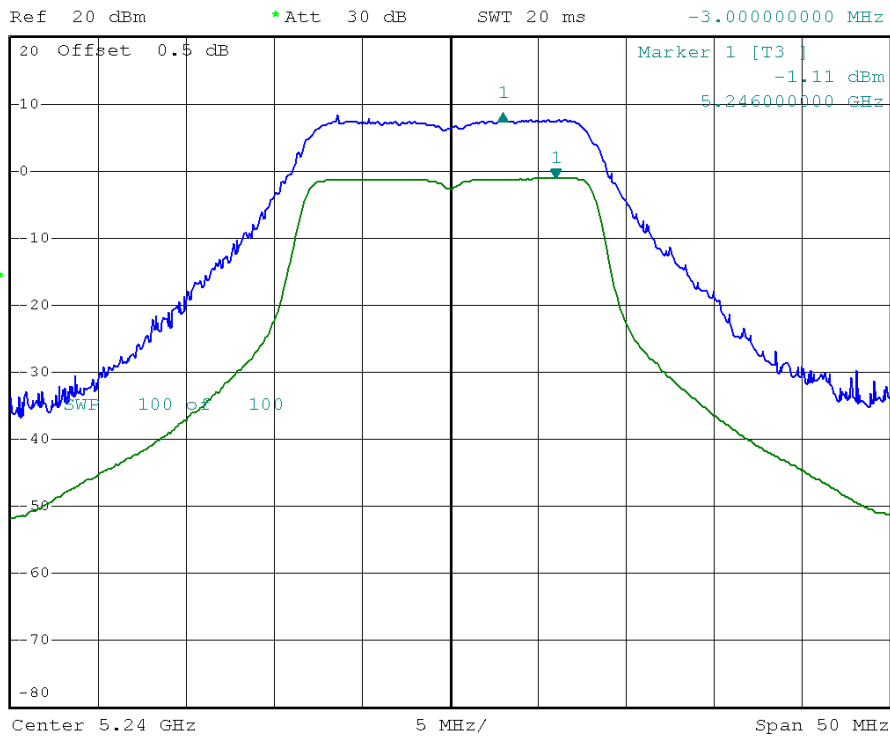
*RBW 1 MHz Delta 1 [T1]
 *VBW 3 MHz 9.40 dB
 SWT 20 ms 0.000000000 Hz



IEEE 802.11a/5240 MHz/Peak Excursion



*RBW 1 MHz Delta 1 [T1]
 *VBW 3 MHz 9.66 dB
 SWT 20 ms -3.000000000 MHz

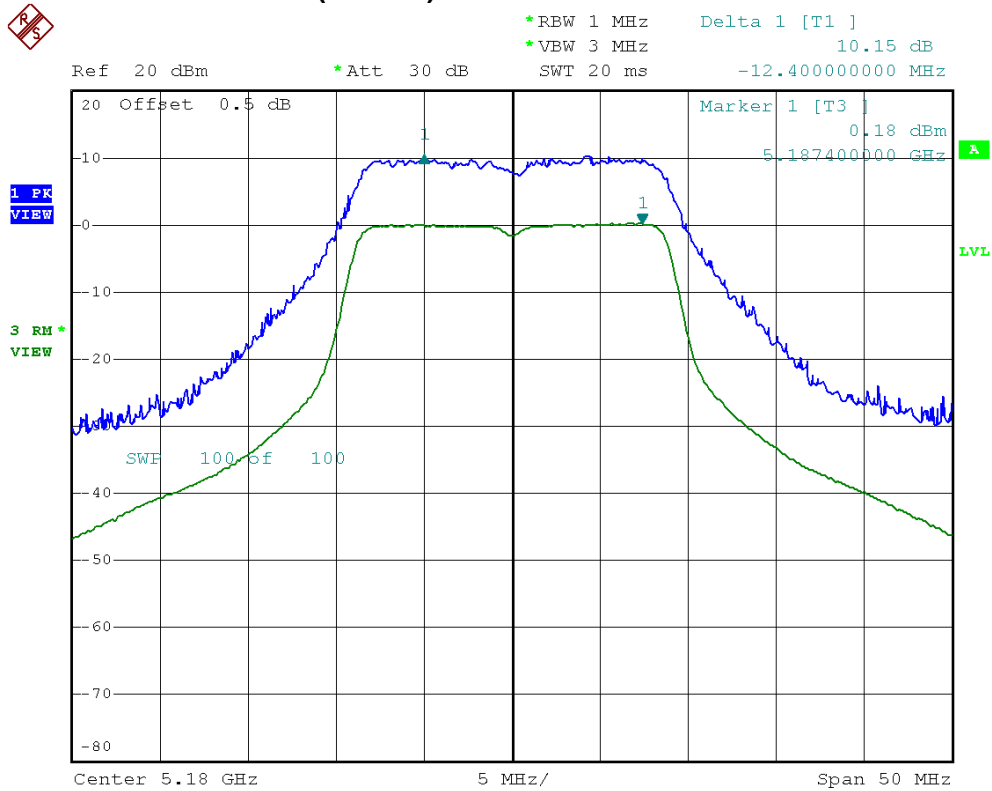




E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (20 MHz)/ANT.0/5180 MHz, 5200 MHz, 5240 MHz		

Frequency	Peak Excursion (dB)	Limit (dB)	Result
5180 MHz	10.15	13	PASS
5200 MHz	10.80	13	PASS
5240 MHz	10.18	13	PASS

IEEE 802.11n (20 MHz)/ANT.0/5180 MHz/Peak Excursion



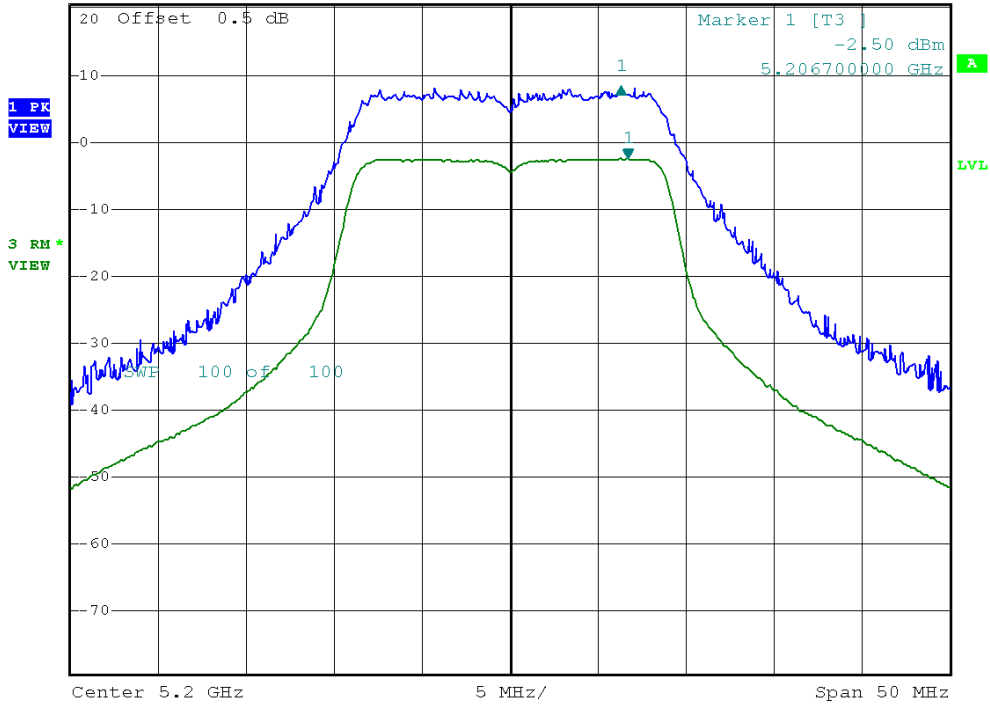


IEEE 802.11n (20 MHz)/ANT.0/5200 MHz/Peak Excursion



*RBW 1 MHz Delta 1 [T1]
 *VBW 3 MHz 10.80 dB
 SWT 20 ms -400.000000000 kHz

Ref 20.5 dBm *Att 30 dB

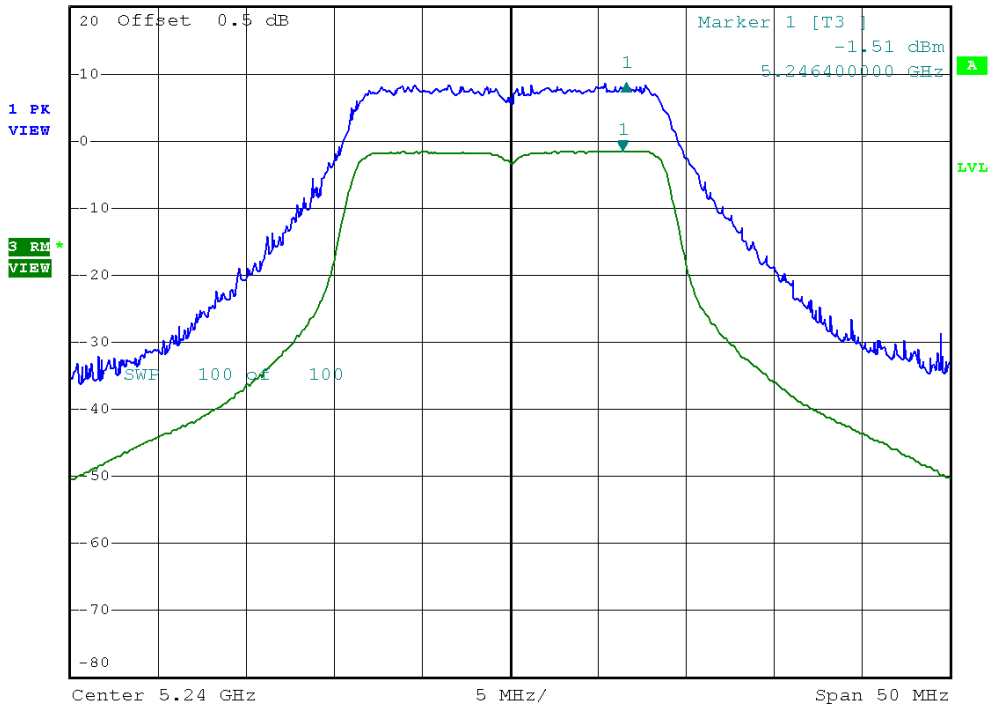


IEEE 802.11n (20 MHz)/ANT.0/5240 MHz/Peak Excursion



*RBW 1 MHz Delta 1 [T1]
 *VBW 3 MHz 10.18 dB
 SWT 20 ms 200.000000000 kHz

Ref 20 dBm *Att 30 dB

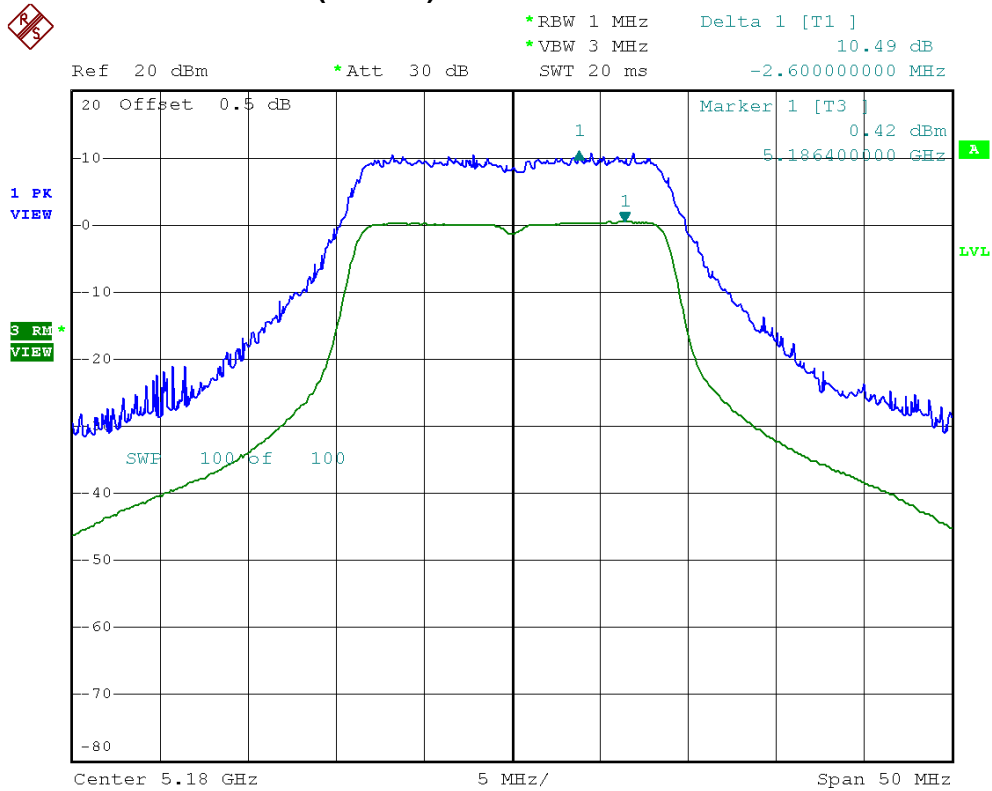




E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (20 MHz)/ANT.1/5180 MHz, 5200 MHz, 5240 MHz		

Frequency	Peak Excursion (dB)	Limit (dB)	Result
5180 MHz	10.49	13	PASS
5200 MHz	10.54	13	PASS
5240 MHz	10.82	13	PASS

IEEE 802.11n (20 MHz)/ANT.1/5180 MHz/Peak Excursion



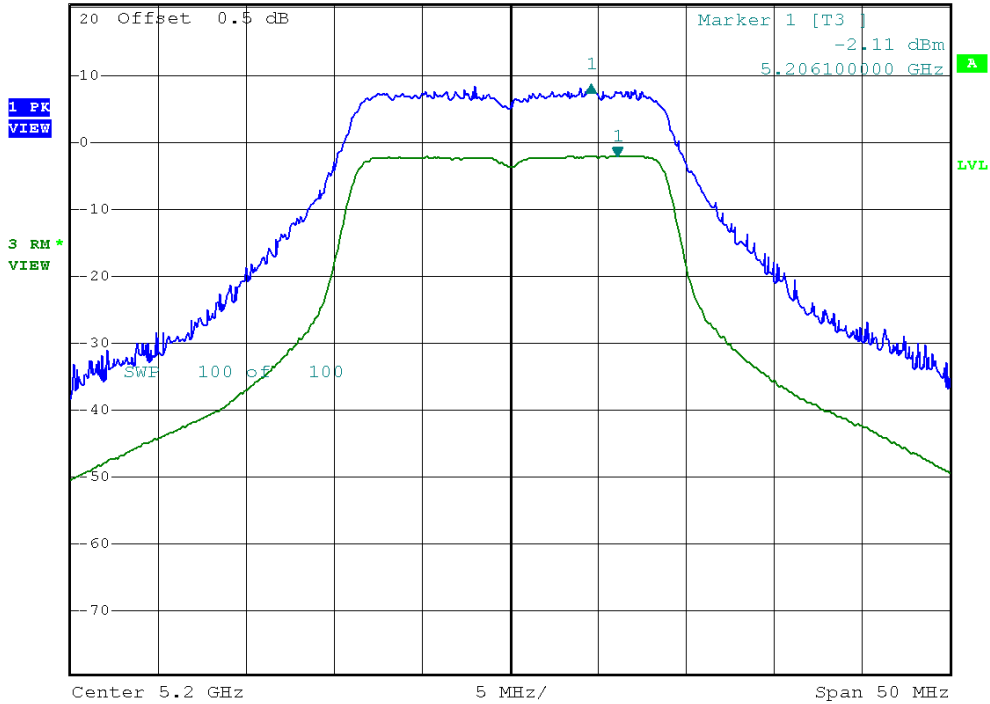


IEEE 802.11n (20 MHz)/ANT.1/5200 MHz/Peak Excursion



*RBW 1 MHz Delta 1 [T1] 10.54 dB
 *VBW 3 MHz
 SWT 20 ms -1.500000000 MHz

Ref 20.5 dBm *Att 30 dB

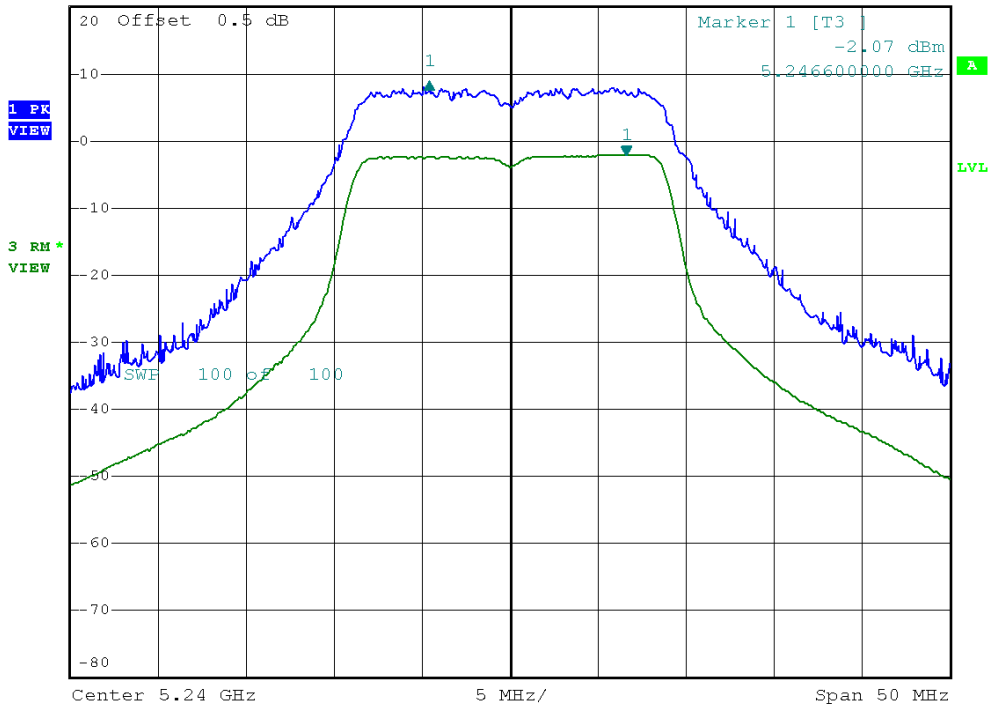


IEEE 802.11n (20 MHz)/ANT.1/5240 MHz/Peak Excursion



*RBW 1 MHz Delta 1 [T1] 10.82 dB
 *VBW 3 MHz
 SWT 20 ms -11.200000000 MHz

Ref 20 dBm *Att 30 dB



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E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (40 MHz)/ANT.0/5190 MHz, 5230 MHz		

Frequency	Peak Excursion (dB)	Limit (dB)	Result
5190 MHz	10.34	13	PASS
5230 MHz	10.90	13	PASS

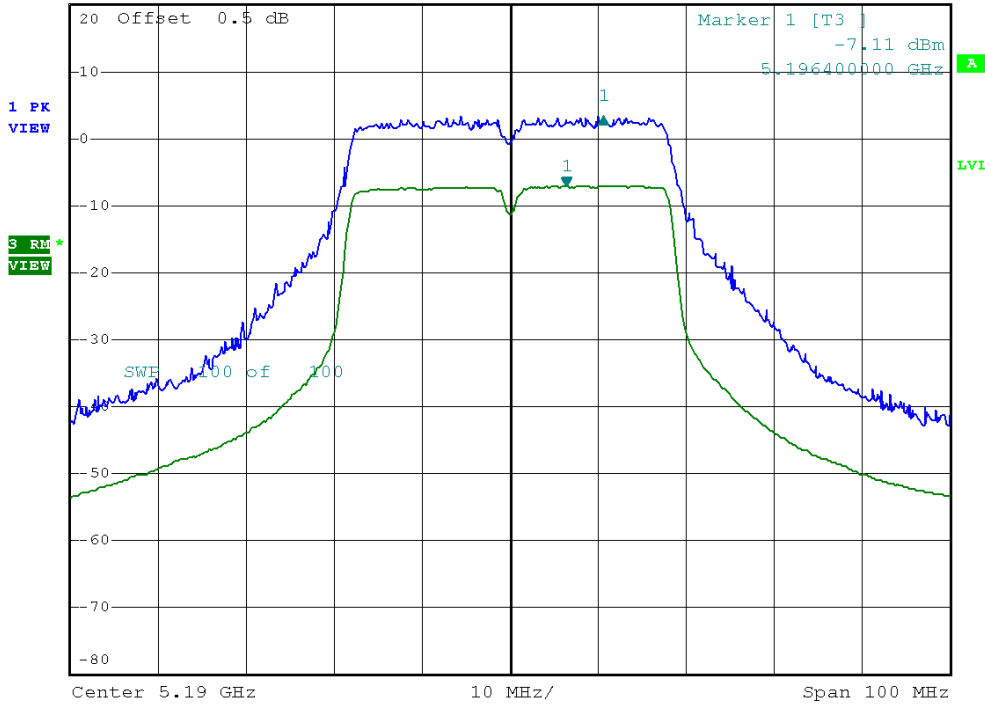


IEEE 802.11n (40 MHz)/ANT.0/5190 MHz/Peak Excursion



*RBW 1 MHz Delta 1 [T1]
 *VBW 3 MHz 10.34 dB
 SWT 20 ms 4.200000000 MHz

Ref 20 dBm *Att 30 dB

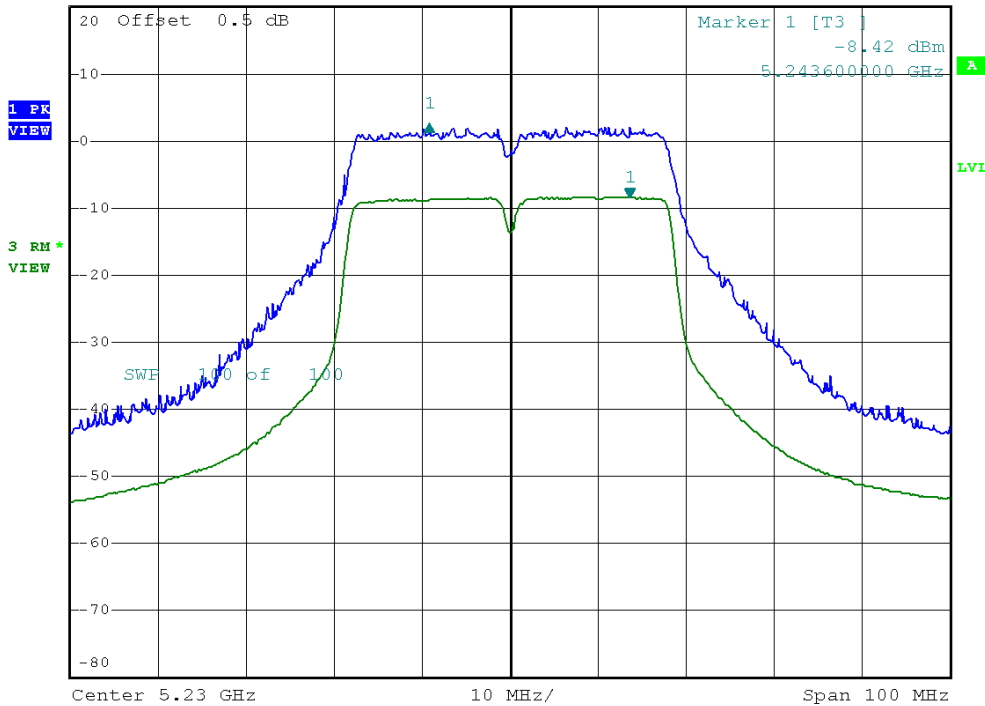


IEEE 802.11n (40 MHz)/ANT.0/5230 MHz/Peak Excursion



*RBW 1 MHz Delta 1 [T1]
 *VBW 3 MHz 10.90 dB
 SWT 20 ms -22.800000000 MHz

Ref 20 dBm *Att 30 dB



**Neutron Engineering Inc.**

E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (40 MHz)/ANT.1/5190 MHz, 5230 MHz		

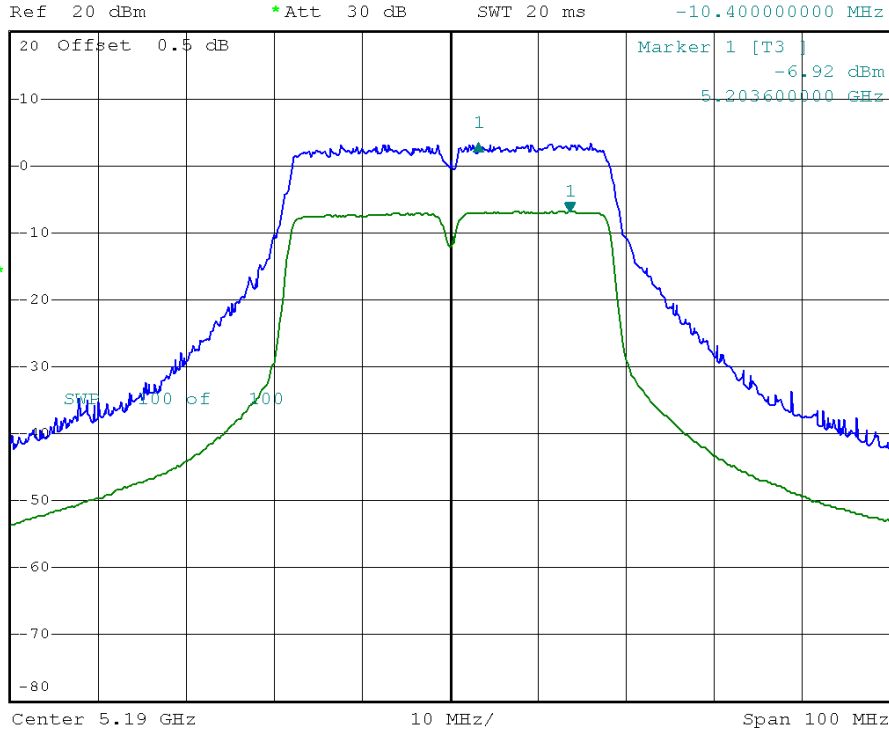
Frequency	Peak Excursion (dB)	Limit (dB)	Result
5190 MHz	10.25	13	PASS
5230 MHz	10.38	13	PASS



IEEE 802.11n (40 MHz)/ANT.1/5190 MHz/Peak Excursion



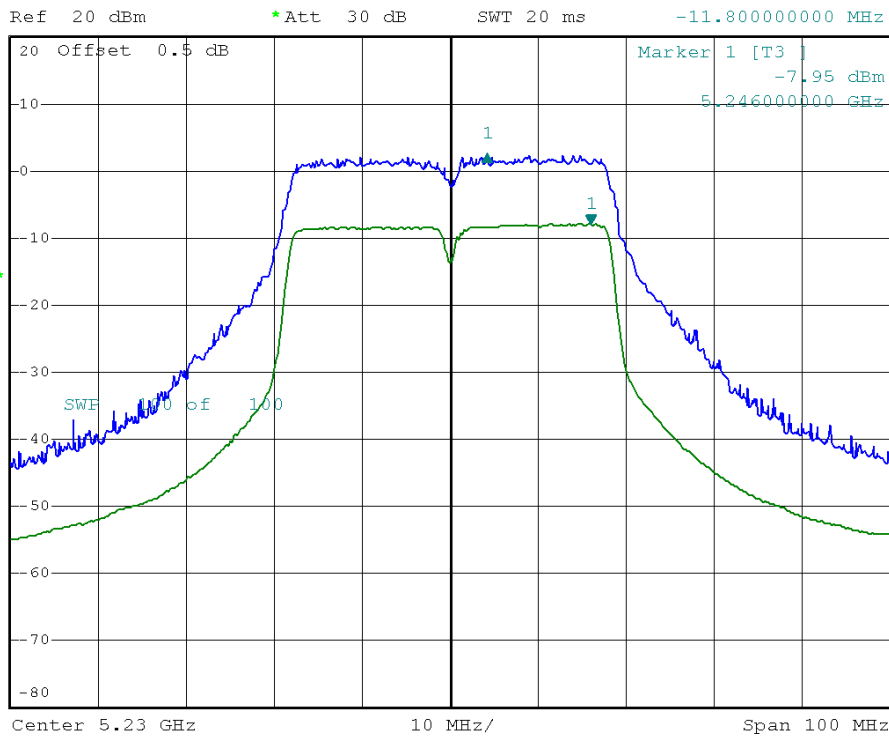
*RBW 1 MHz Delta 1 [T1]
 *VBW 3 MHz 10.25 dB
 SWT 20 ms -10.400000000 MHz



IEEE 802.11n (40 MHz)/ANT.1/5230 MHz/Peak Excursion



*RBW 1 MHz Delta 1 [T1]
 *VBW 3 MHz 10.38 dB
 SWT 20 ms -11.800000000 MHz



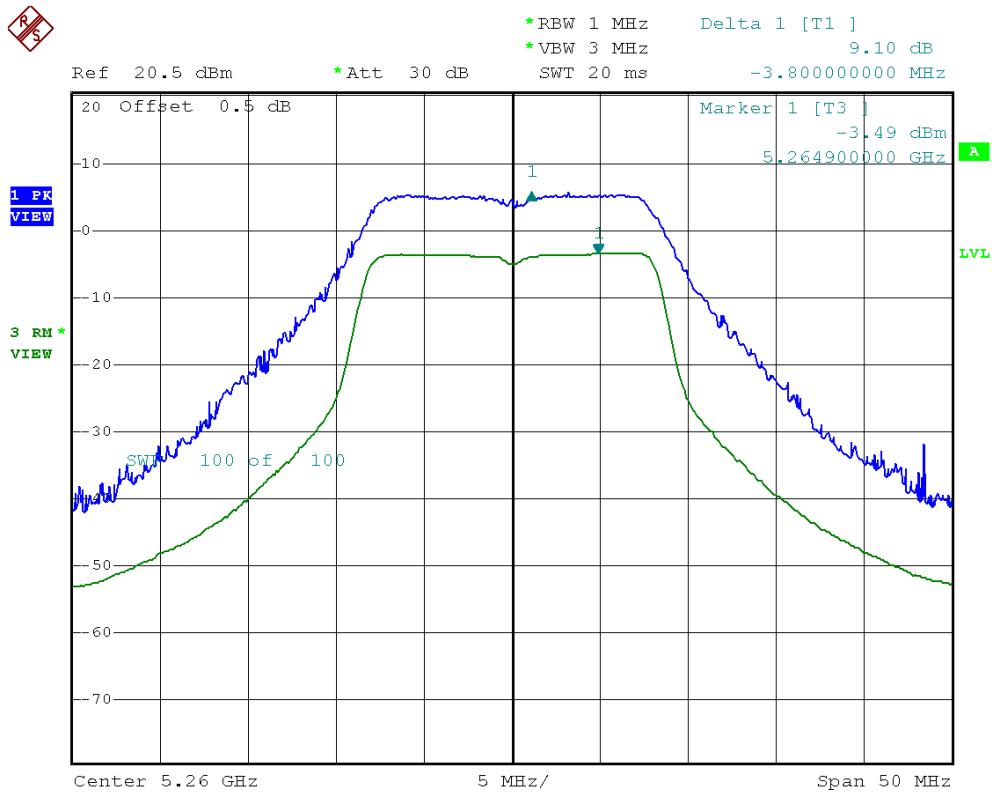


11.9 TEST RESULTS - 5260 MHZ TO 5320 MHZ BAND

E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11a/5260 MHz, 5300 MHz, 5320 MHz		

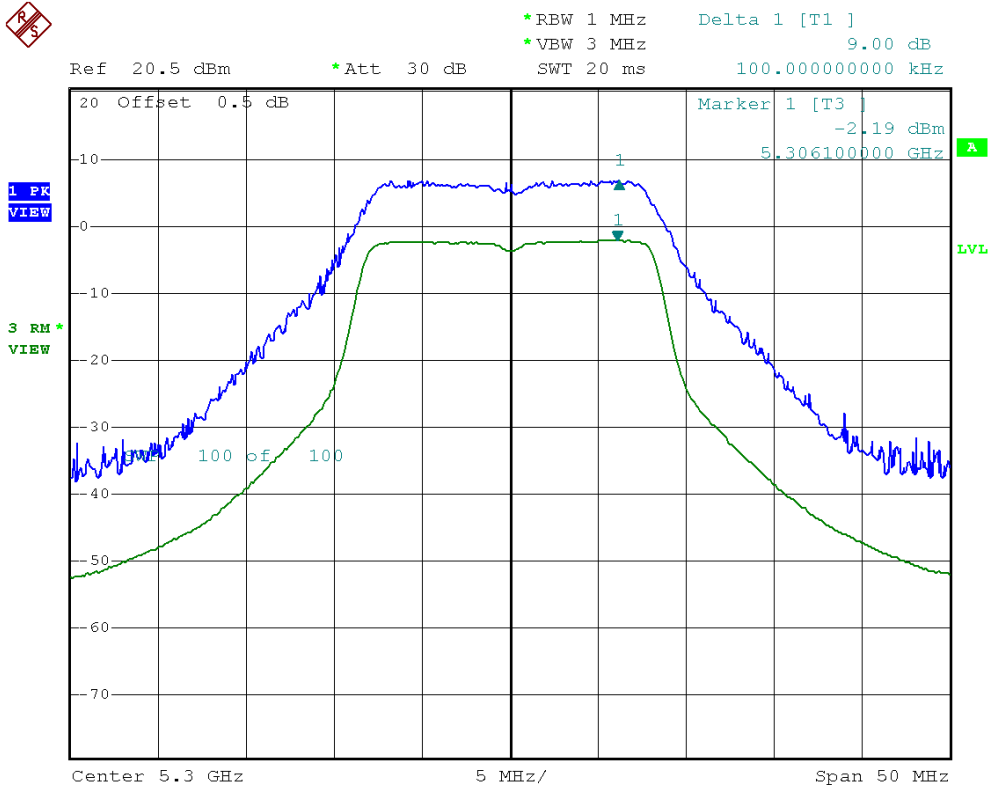
Frequency	Peak Excursion (dB)	Limit (dB)	Result
5260 MHz	9.10	13	PASS
5300 MHz	9.00	13	PASS
5320 MHz	9.31	13	PASS

IEEE 802.11a/5260 MHz/Peak Excursion

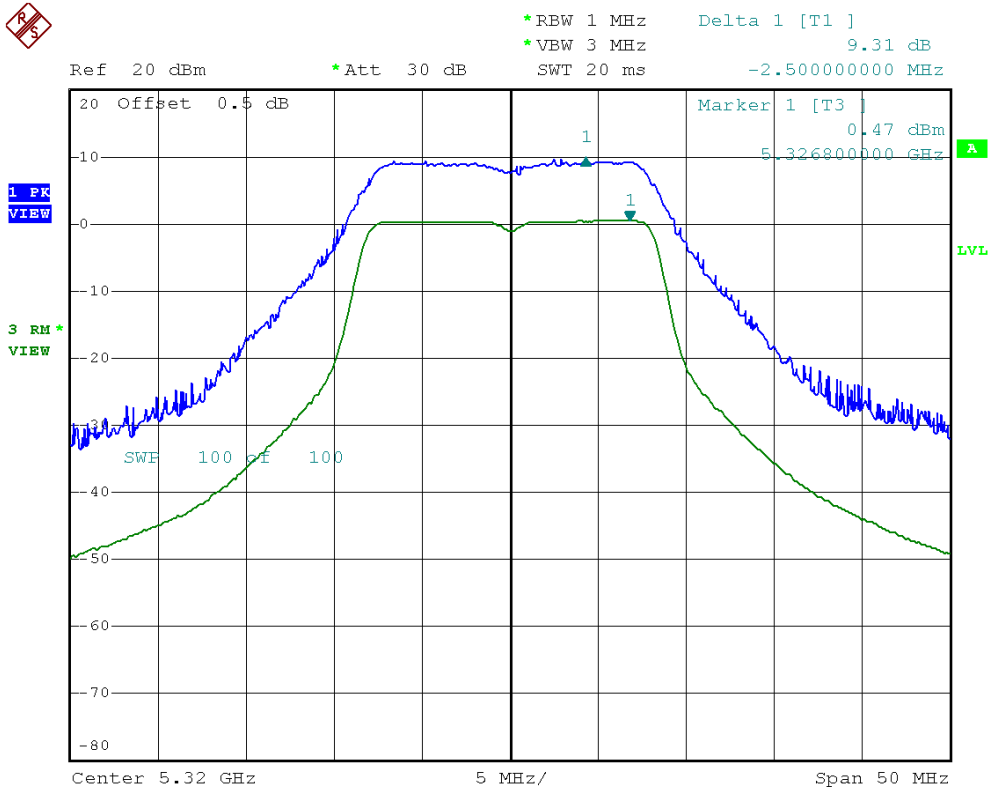




IEEE 802.11a/5300 MHz/Peak Excursion



IEEE 802.11a/5320 MHz/Peak Excursion

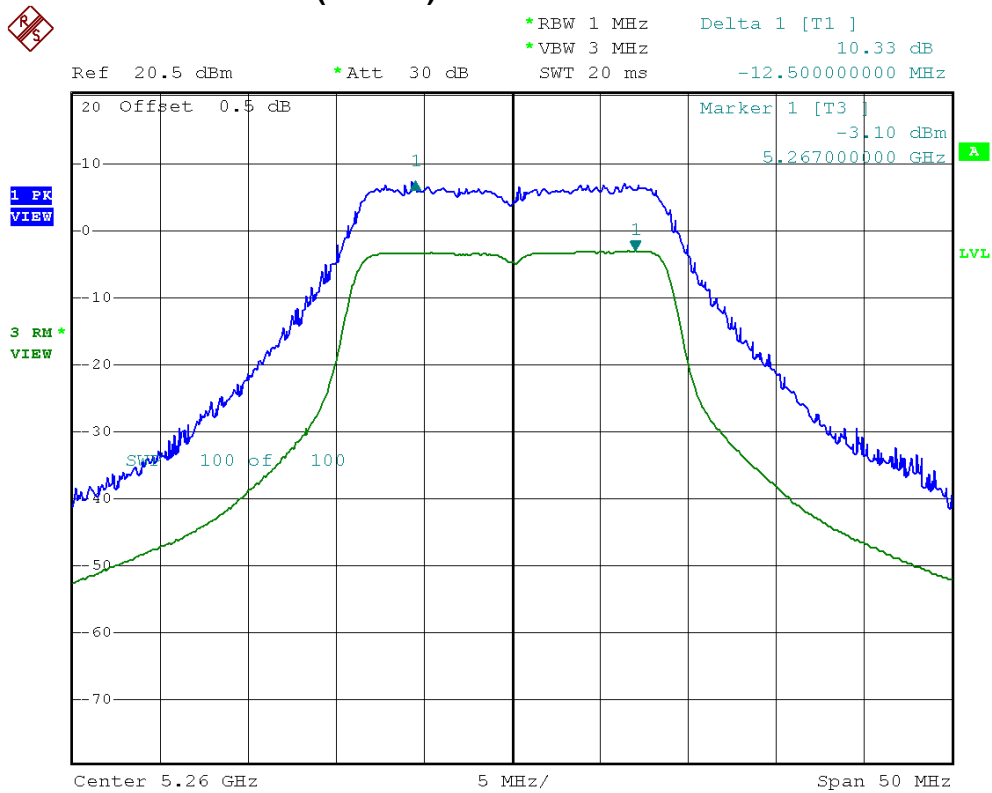




E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (20 MHz)/ANT.0/5260 MHz, 5300 MHz, 5320 MHz		

Frequency	Peak Excursion (dB)	Limit (dB)	Result
5260 MHz	10.33	13	PASS
5300 MHz	10.12	13	PASS
5320 MHz	10.33	13	PASS

IEEE 802.11n (20 MHz)/ANT.0/5260 MHz/Peak Excursion

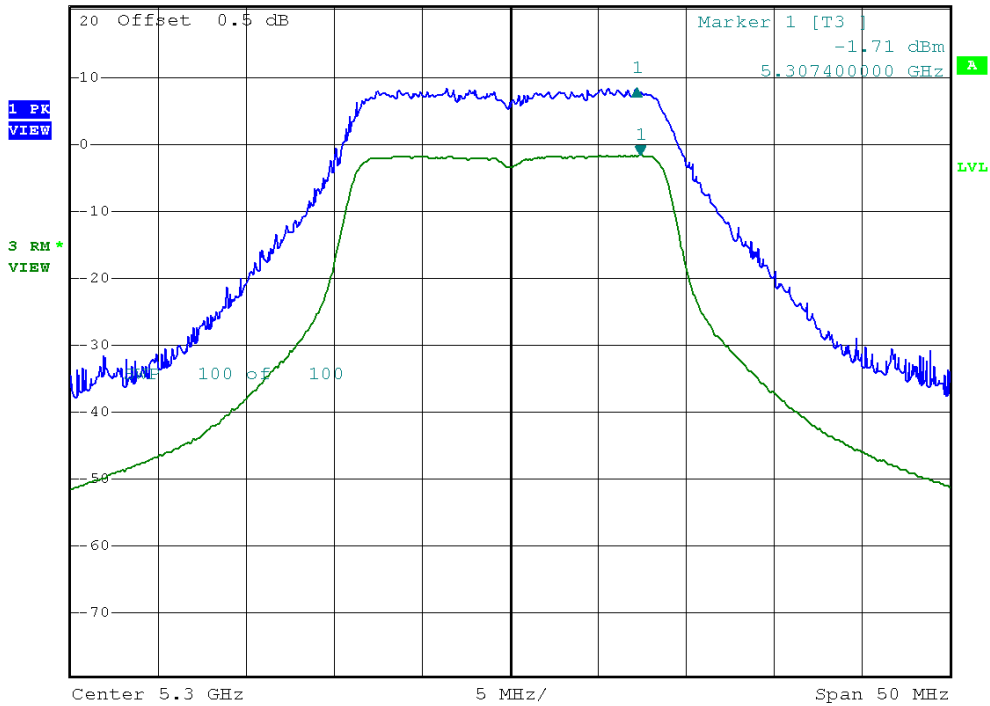




IEEE 802.11n (20 MHz)/ANT.0/5300 MHz/Peak Excursion



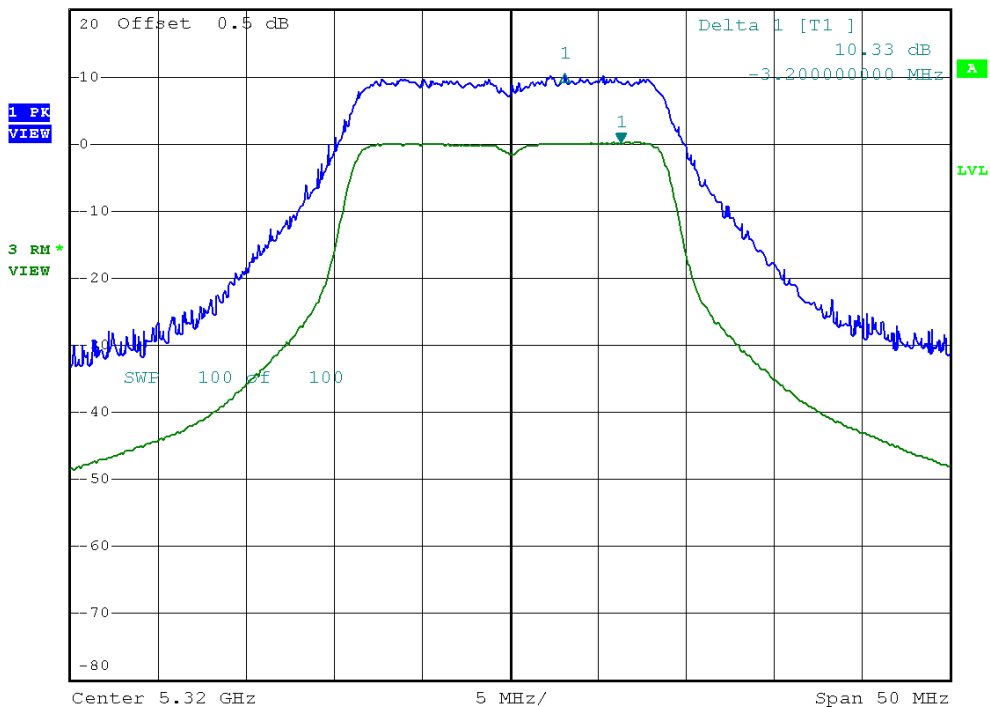
Ref 20.5 dBm *Att 30 dB *RBW 1 MHz Delta 1 [T1] 10.12 dB
 *VBW 3 MHz SWT 20 ms -200.00000000 kHz



IEEE 802.11n (20 MHz)/ANT.0/5320 MHz/Peak Excursion



Ref 20 dBm *Att 30 dB *RBW 1 MHz Marker 1 [T3] 0.18 dBm
 *VBW 3 MHz SWT 20 ms 5.326300000 GHz

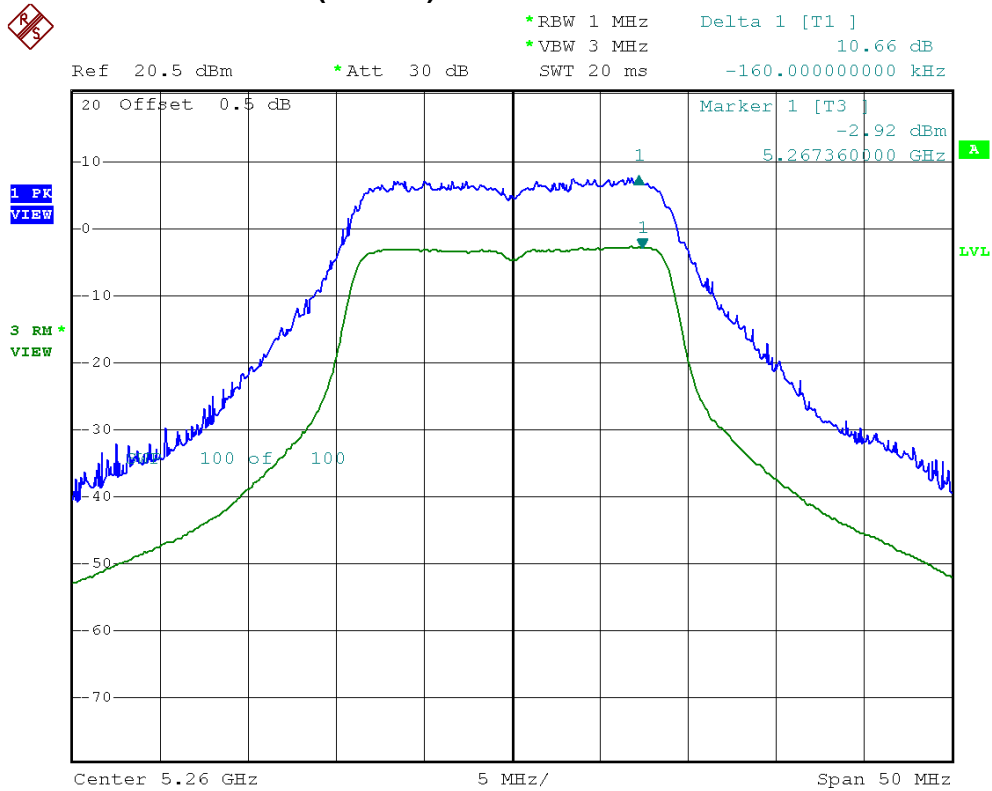




E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (20 MHz)/ANT.1/5260 MHz, 5300 MHz, 5320 MHz		

Frequency	Peak Excursion (dB)	Limit (dB)	Result
5260 MHz	10.66	13	PASS
5300 MHz	10.50	13	PASS
5320 MHz	10.59	13	PASS

IEEE 802.11n (20 MHz)/ANT.1/5260 MHz/Peak Excursion



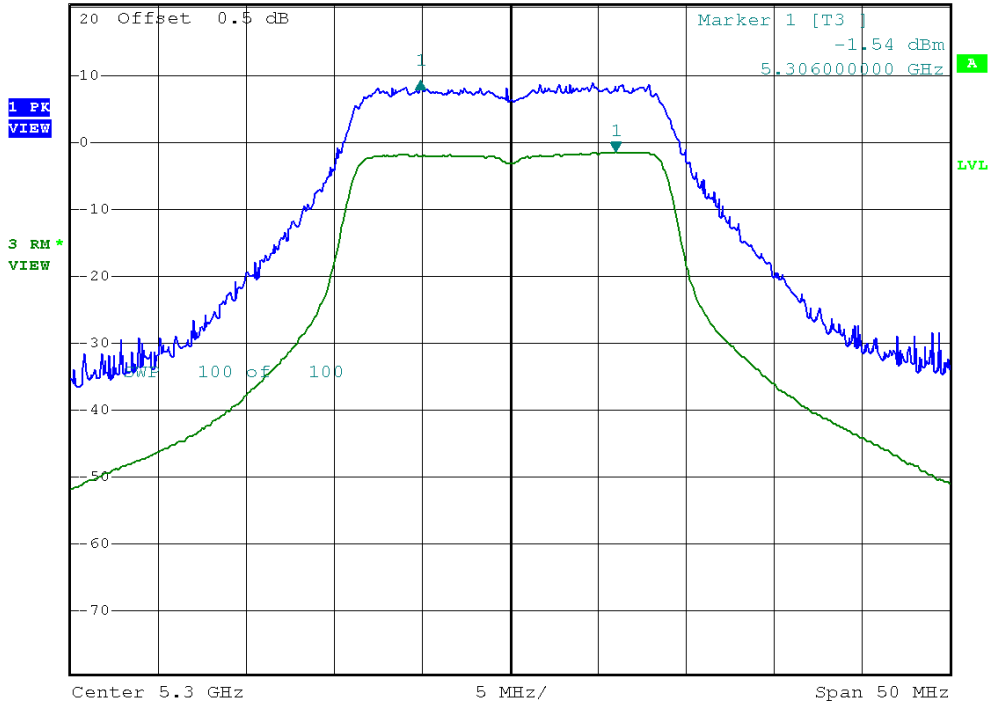


IEEE 802.11n (20 MHz)/ANT.1/5300 MHz/Peak Excursion



*RBW 1 MHz Delta 1 [T1]
 *VBW 3 MHz 10.50 dB
 SWT 20 ms -11.100000000 MHz

Ref 20.5 dBm *Att 30 dB

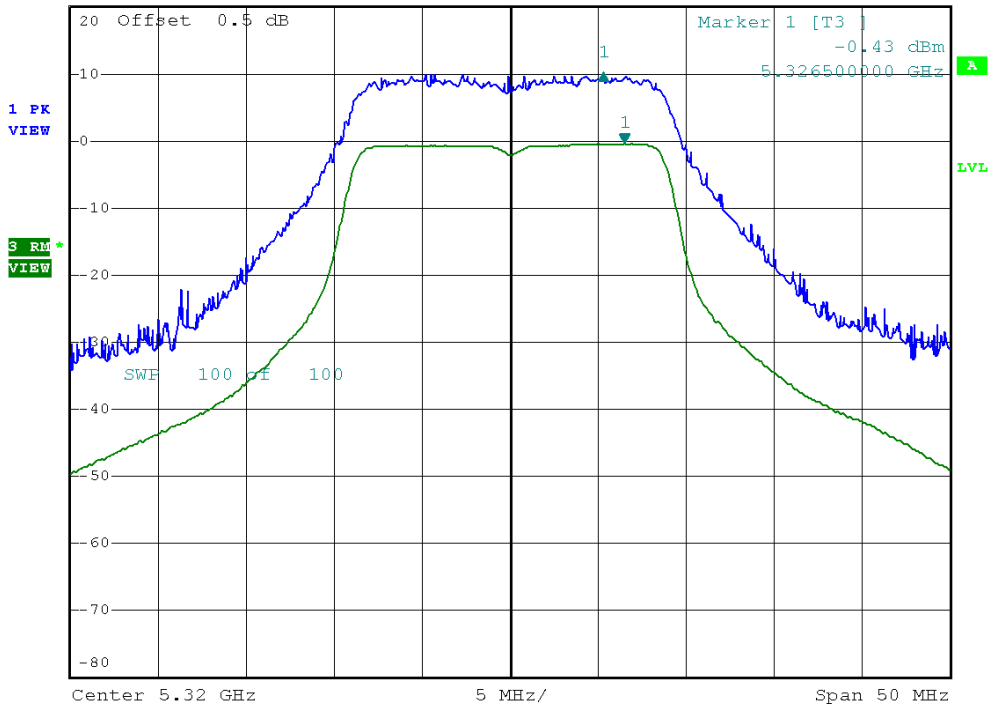


IEEE 802.11n (20 MHz)/ANT.1/5320 MHz/Peak Excursion



*RBW 1 MHz Delta 1 [T1]
 *VBW 3 MHz 10.59 dB
 SWT 20 ms -1.200000000 MHz

Ref 20 dBm *Att 30 dB



**Neutron Engineering Inc.**

E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (40 MHz)/ANT.0/5270 MHz, 5310 MHz		

Frequency	Peak Excursion (dB)	Limit (dB)	Result
5270 MHz	10.39	13	PASS
5310 MHz	10.80	13	PASS

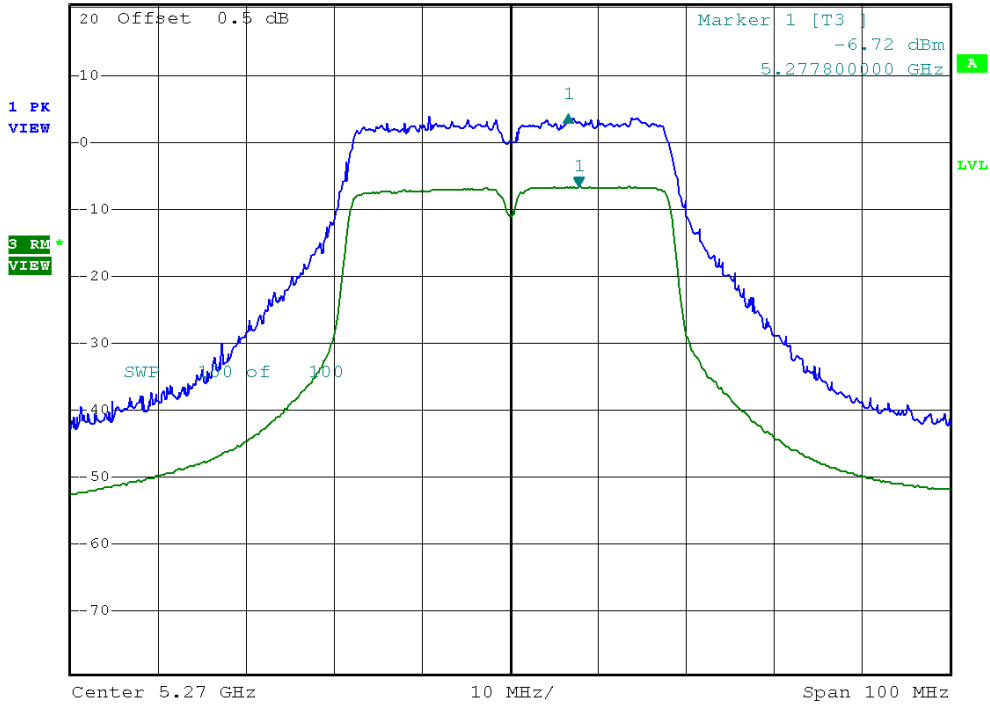


IEEE 802.11n (40 MHz)/ANT.0/5270 MHz/Peak Excursion



*RBW 1 MHz Delta 1 [T1]
 *VBW 3 MHz 10.88 dB
 SWT 20 ms -1.200000000 MHz

Ref 20.5 dBm *Att 30 dB

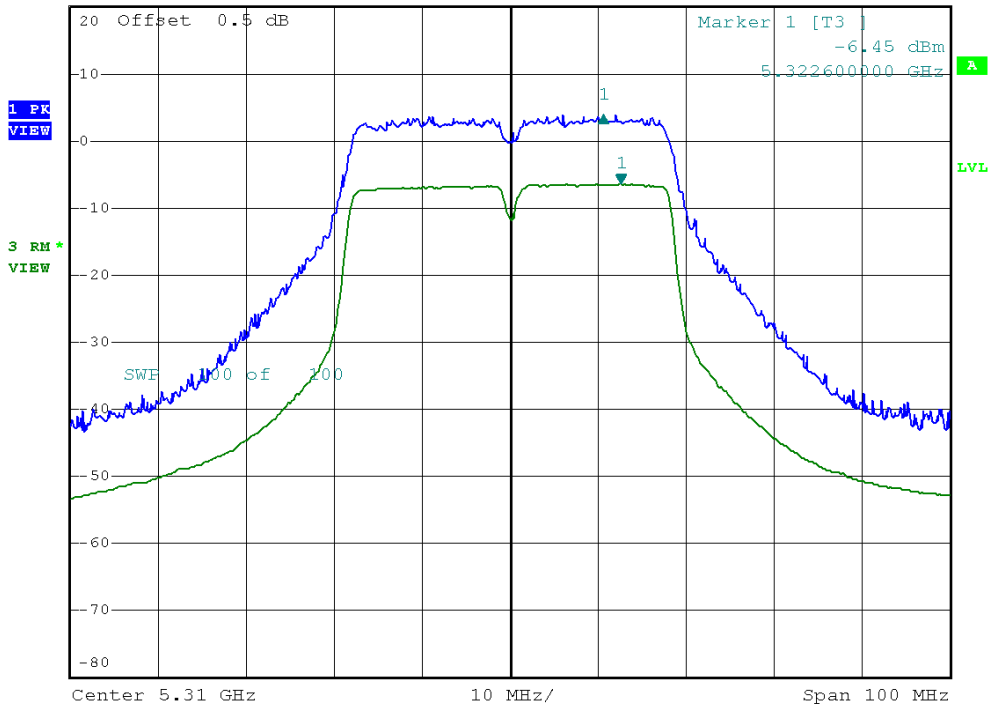


IEEE 802.11n (40 MHz)/ANT.0/5310 MHz/Peak Excursion



*RBW 1 MHz Delta 1 [T1]
 *VBW 3 MHz 10.39 dB
 SWT 20 ms -2.000000000 MHz

Ref 20 dBm *Att 30 dB



**Neutron Engineering Inc.**

E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (40 MHz)/ANT.1/5270 MHz, 5310 MHz		

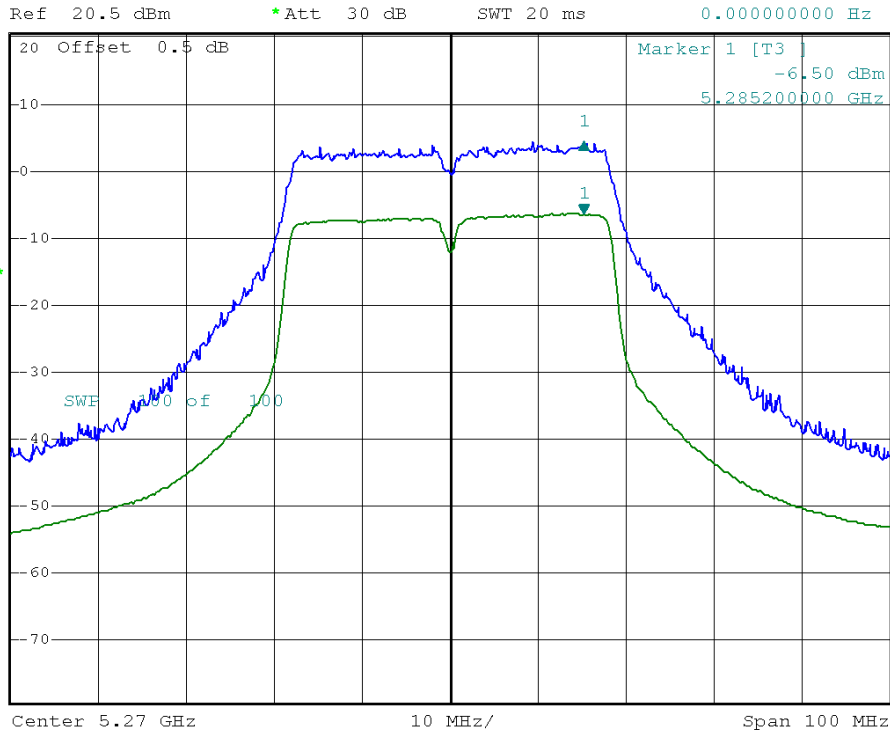
Frequency	Peak Excursion (dB)	Limit (dB)	Result
5270 MHz	10.97	13	PASS
5310 MHz	11.25	13	PASS



IEEE 802.11n (40 MHz)/ANT.1/5270 MHz/Peak Excursion



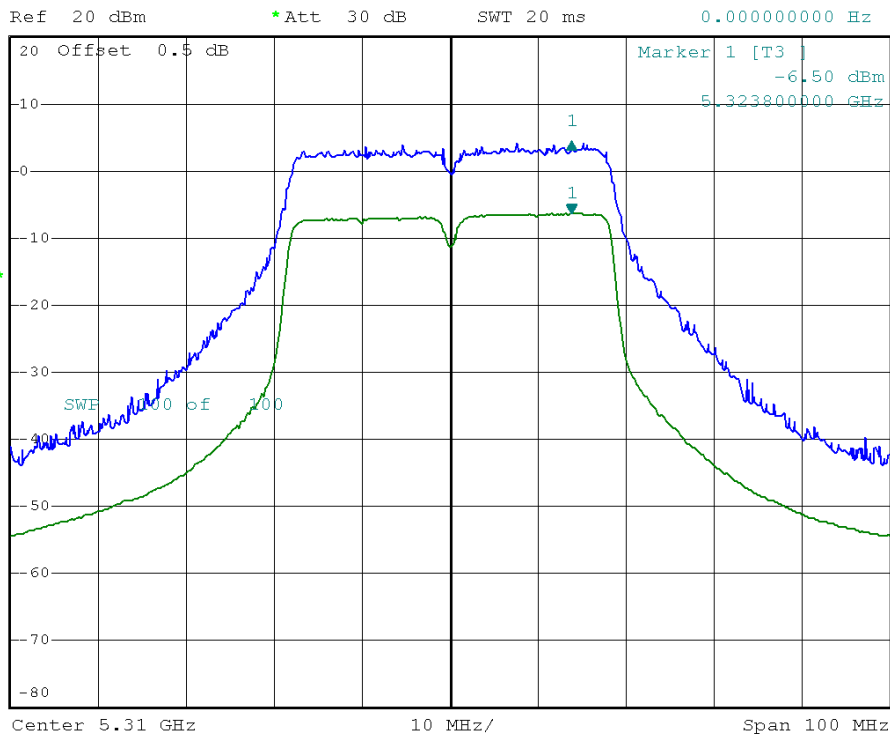
*RBW 1 MHz Delta 1 [T1]
 *VBW 3 MHz 10.88 dB
 SWT 20 ms 0.000000000 Hz



IEEE 802.11n (40 MHz)/ANT.1/5310 MHz/Peak Excursion



*RBW 1 MHz Delta 1 [T1]
 *VBW 3 MHz 10.97 dB
 SWT 20 ms 0.000000000 Hz



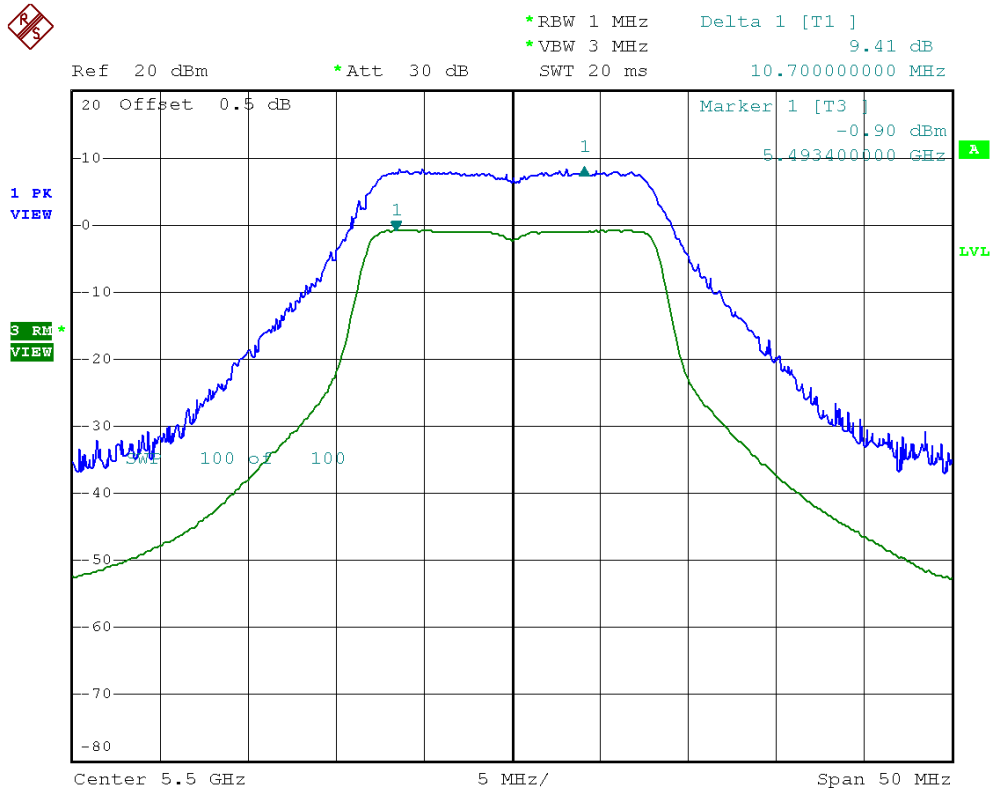


11.10 TEST RESULTS - 5500 MHZ TO 5700 MHZ BAND

E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11a/5500 MHz, 5580 MHz, 5700 MHz		

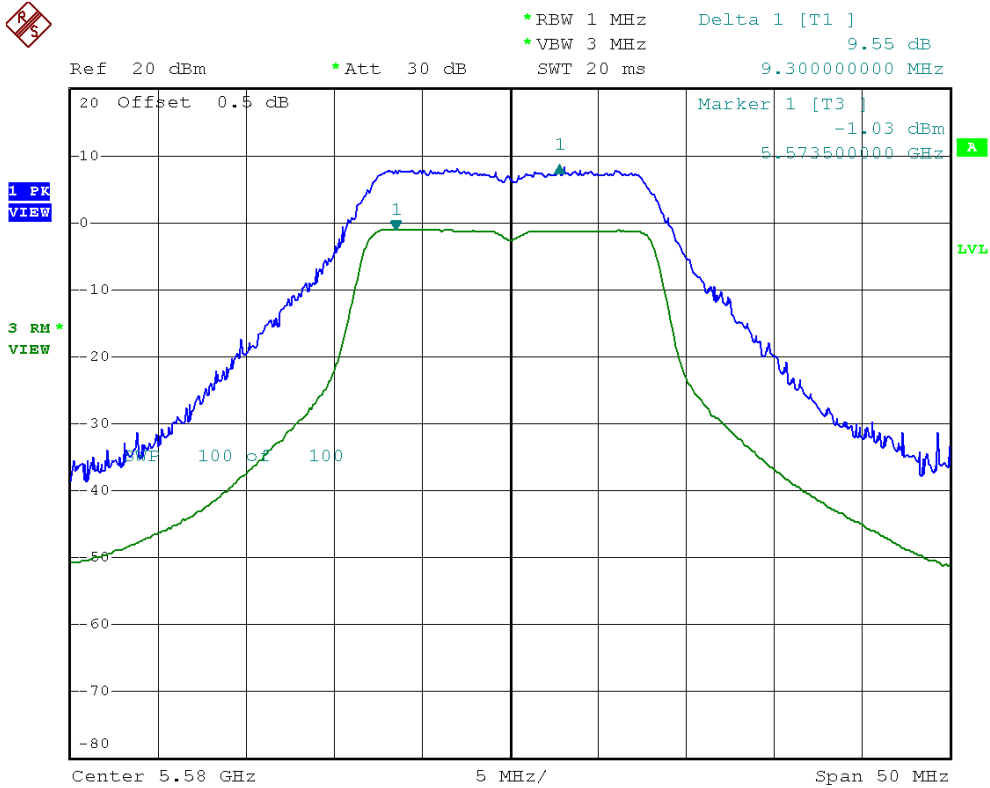
Frequency	Peak Excursion (dB)	Limit (dB)	Result
5500 MHz	9.41	13	PASS
5580 MHz	9.55	13	PASS
5700 MHz	9.80	13	PASS

IEEE 802.11a/5500 MHz/Peak Excursion

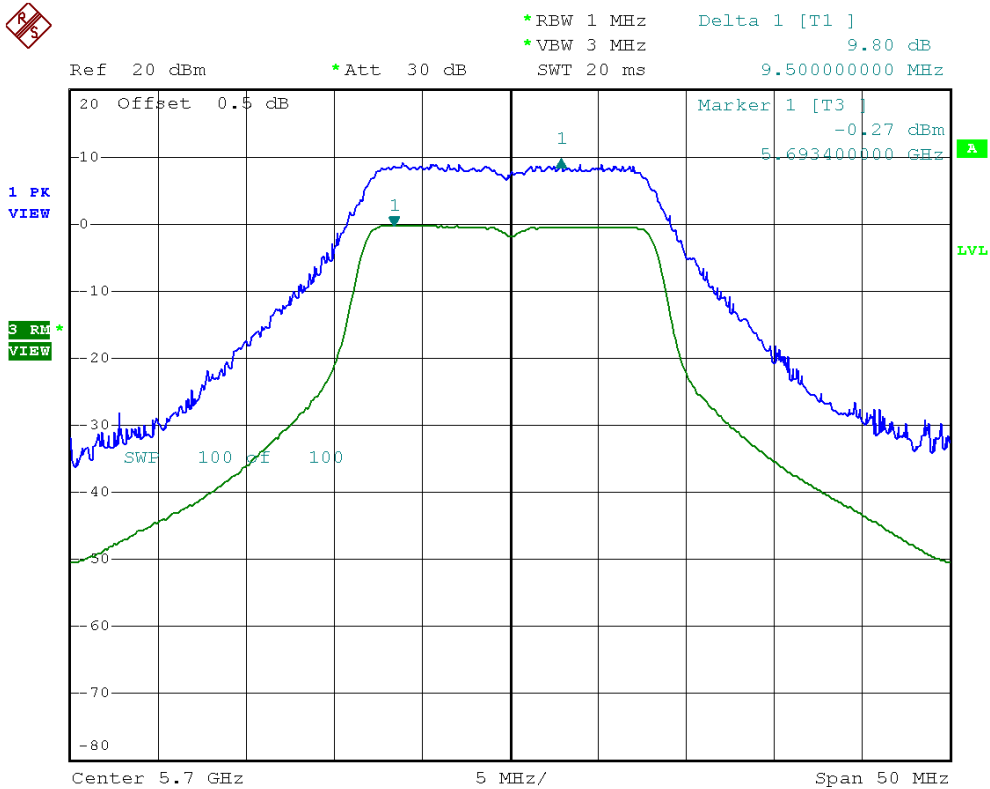




IEEE 802.11a/5580 MHz/Peak Excursion



IEEE 802.11a/5700 MHz/Peak Excursion

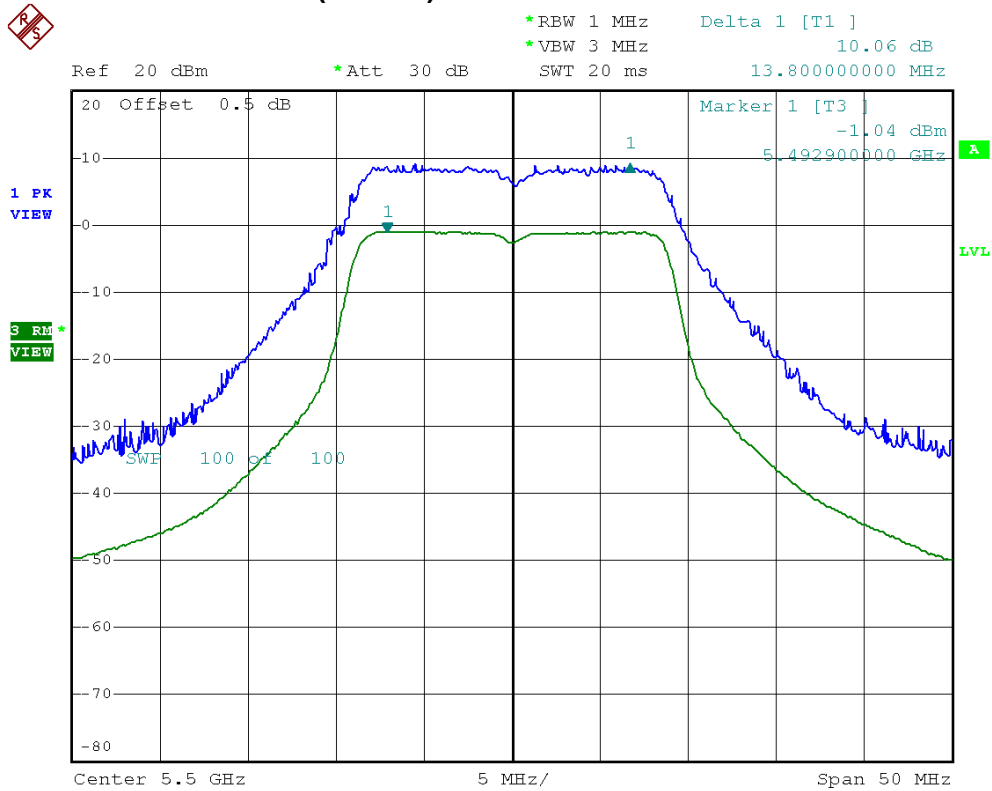




E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (20 MHz)/ANT.0/5500 MHz, 5580 MHz, 5700 MHz		

Frequency	Peak Excursion (dB)	Limit (dB)	Result
5500 MHz	10.06	13	PASS
5580 MHz	10.16	13	PASS
5700 MHz	10.19	13	PASS

IEEE 802.11n (20 MHz)/ANT.0/5500 MHz/Peak Excursion



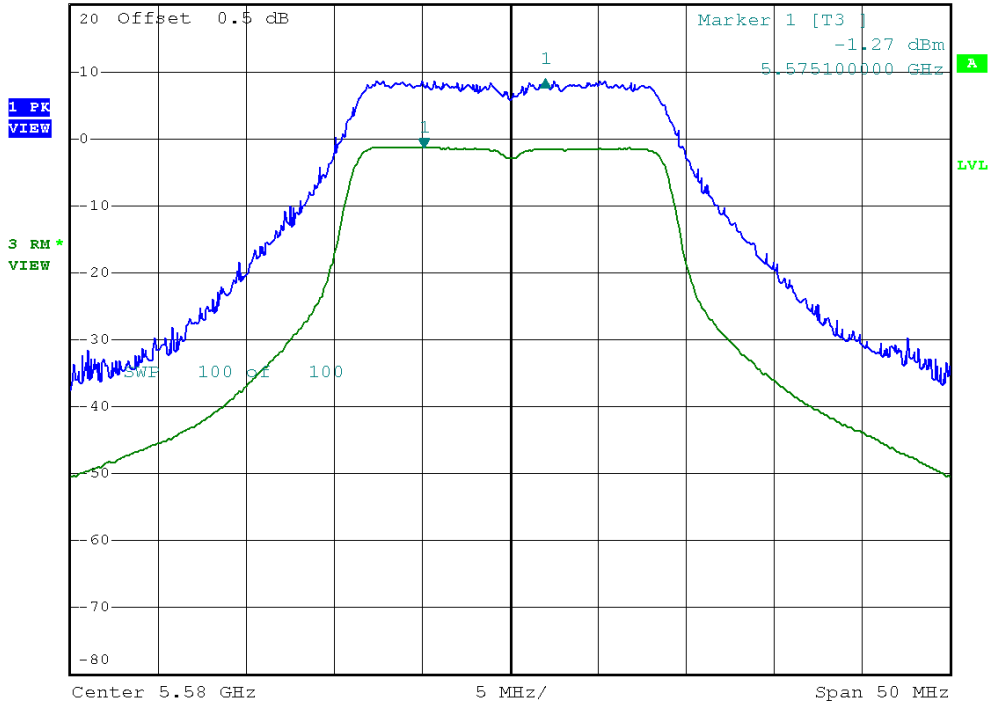


IEEE 802.11n (20 MHz)/ANT.0/5580 MHz/Peak Excursion



*RBW 1 MHz Delta 1 [T1]
 *VBW 3 MHz 10.16 dB
 SWT 20 ms 6.900000000 MHz

Ref 20 dBm *Att 30 dB

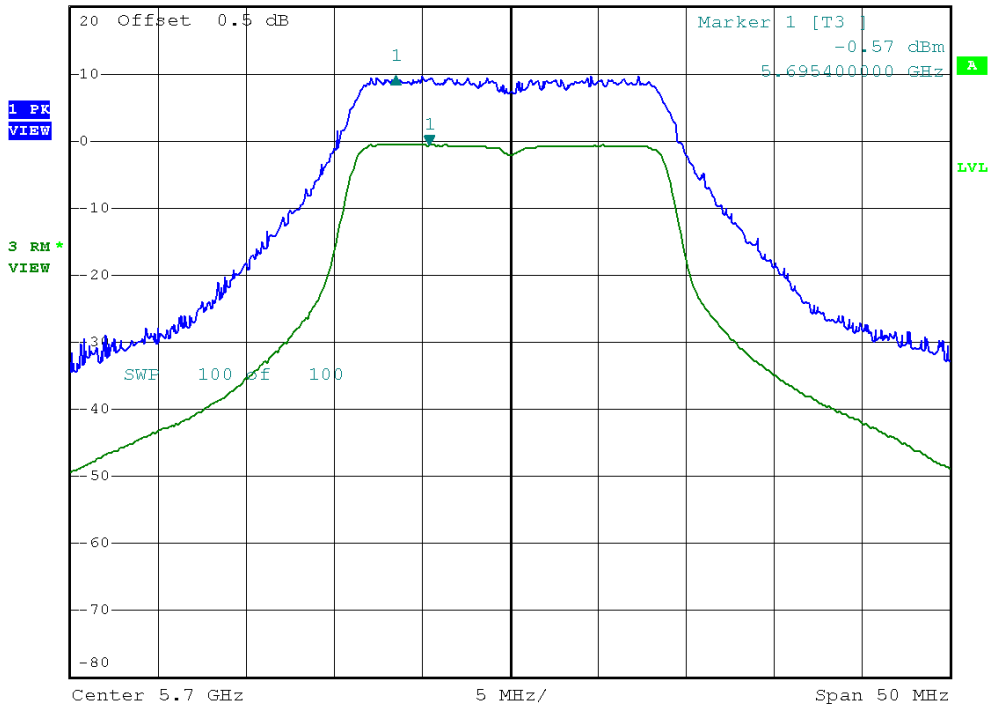


IEEE 802.11n (20 MHz)/ANT.0/5700 MHz/Peak Excursion



*RBW 1 MHz Delta 1 [T1]
 *VBW 3 MHz 10.19 dB
 SWT 20 ms -1.900000000 MHz

Ref 20 dBm *Att 30 dB

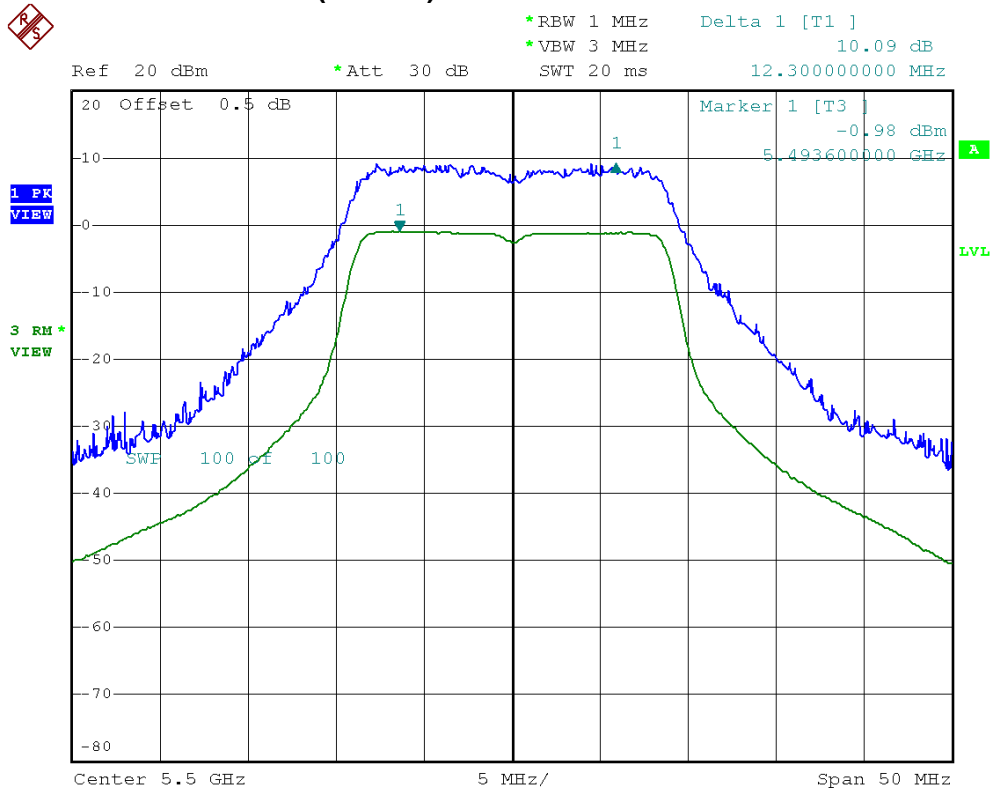




E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (20 MHz)/ANT.1/5500 MHz, 5580 MHz, 5700 MHz		

Frequency	Peak Excursion (dB)	Limit (dB)	Result
5500 MHz	10.09	13	PASS
5580 MHz	10.44	13	PASS
5700 MHz	10.80	13	PASS

IEEE 802.11n (20 MHz)/ANT.1/5500 MHz/Peak Excursion





IEEE 802.11n (20 MHz)/ANT.1/5580 MHz/Peak Excursion

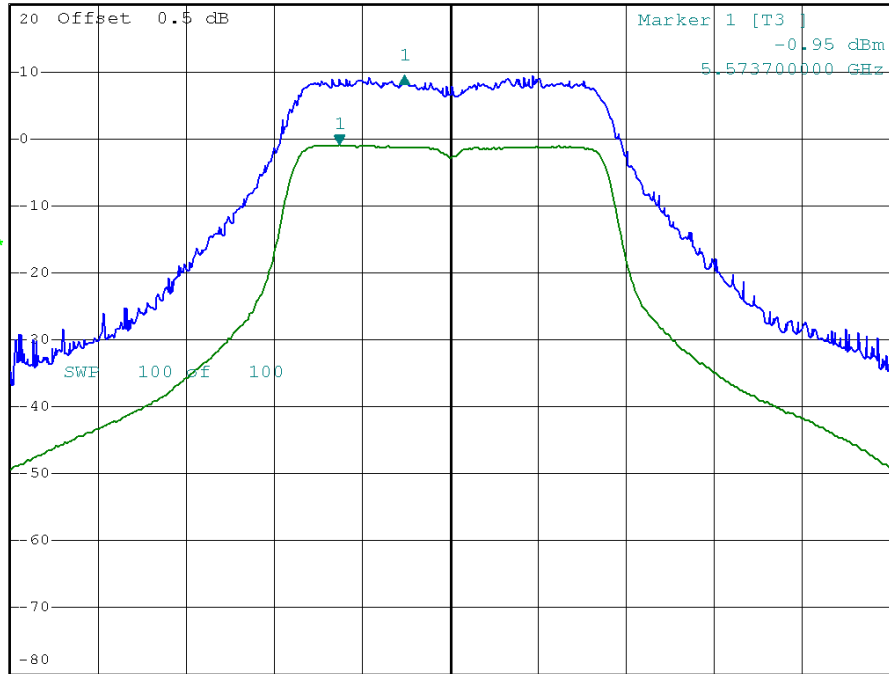


*RBW 1 MHz Delta 1 [T1] 10.44 dB
 *VBW 3 MHz
 SWT 20 ms 3.700000000 MHz

Ref 20 dBm *Att 30 dB

1 PK VIEW

3 RM VIEW



Center 5.58 GHz 5 MHz/ Span 50 MHz

IEEE 802.11n (20 MHz)/ANT.1/5700 MHz/Peak Excursion

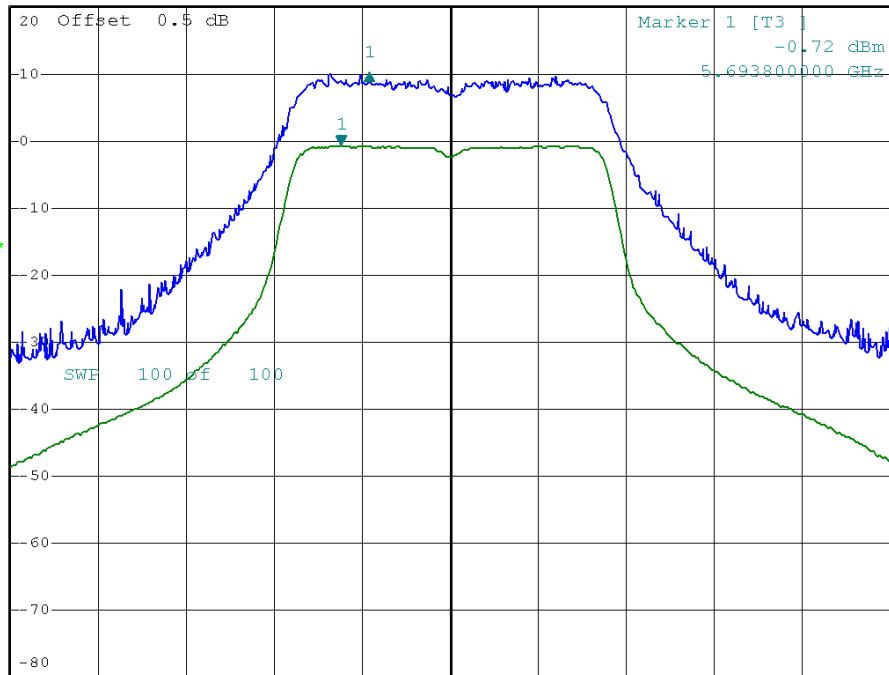


*RBW 1 MHz Delta 1 [T1] 10.80 dB
 *VBW 3 MHz
 SWT 20 ms 1.600000000 MHz

Ref 20 dBm *Att 30 dB

1 PK VIEW

3 RM VIEW



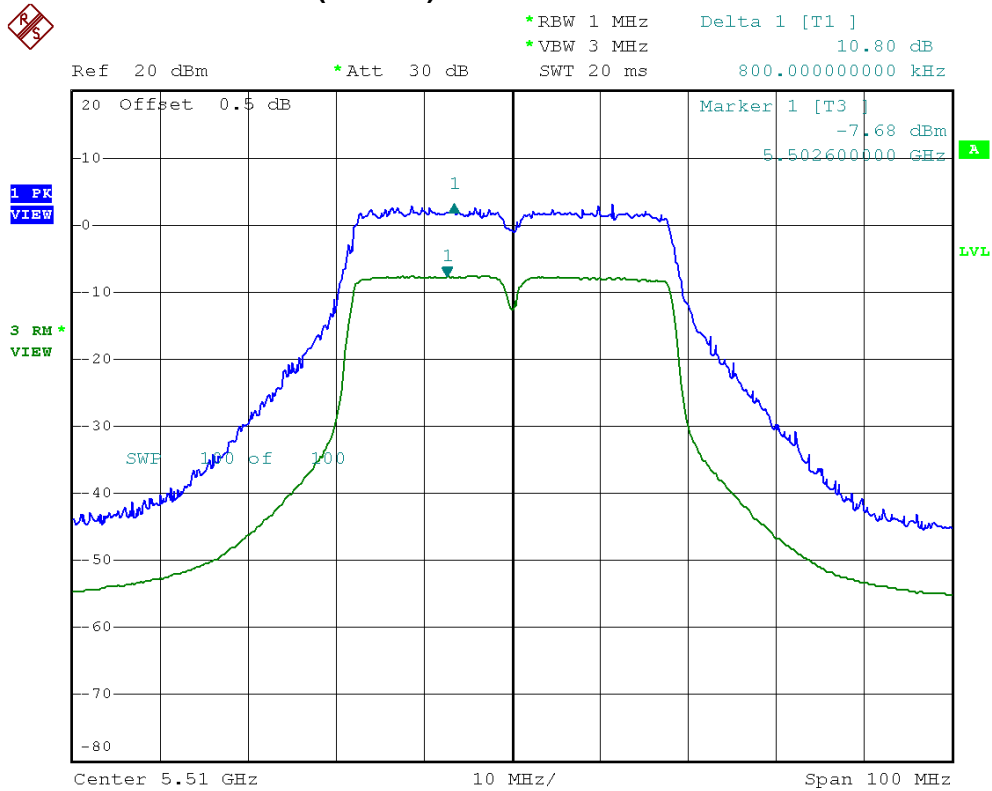
Center 5.7 GHz 5 MHz/ Span 50 MHz



E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (40 MHz)/ANT.0/5510 MHz, 5550 MHz, 5670 MHz		

Frequency	Peak Excursion (dB)	Limit (dB)	Result
5510 MHz	10.80	13	PASS
5550 MHz	10.63	13	PASS
5670 MHz	11.03	13	PASS

IEEE 802.11n (40 MHz)/ANT.0/5510 MHz/Peak Excursion





IEEE 802.11n (40 MHz)/ANT.0/5550 MHz/Peak Excursion



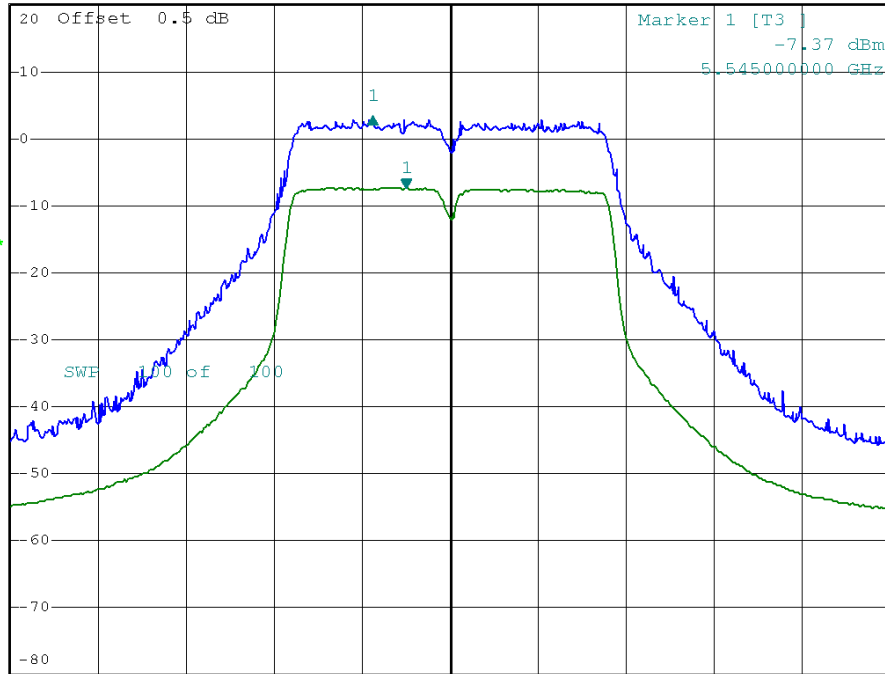
*RBW 1 MHz Delta 1 [T1]
*VBW 3 MHz 10.63 dB
SWT 20 ms -3.800000000 MHz

Ref 20 dBm

*Att 30 dB

1 PK VIEW

3 RM * VIEW



Center 5.55 GHz

10 MHz/

Span 100 MHz

IEEE 802.11n (40 MHz)/ANT.0/5670 MHz/Peak Excursion



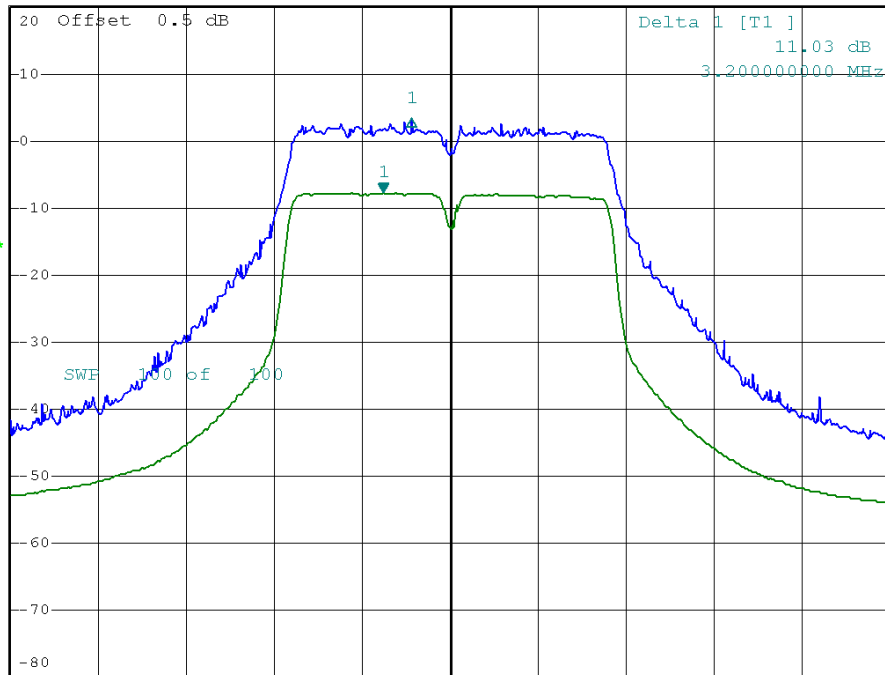
*RBW 1 MHz Marker 1 [T3]
*VBW 3 MHz -7.75 dBm
SWT 20 ms 5.662400000 GHz

Ref 20 dBm

*Att 30 dB

1 PK VIEW

3 RM * VIEW



Center 5.67 GHz

10 MHz/

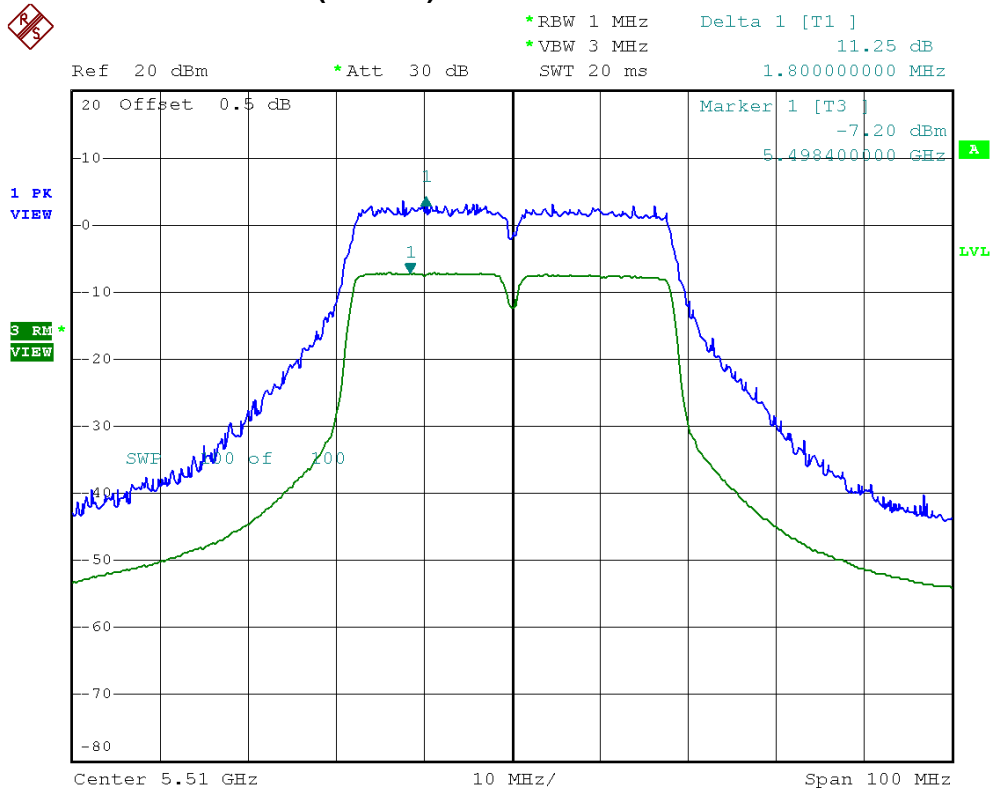
Span 100 MHz



E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (40 MHz)/ANT.1/5510 MHz, 5550 MHz, 5670 MHz		

Frequency	Peak Excursion (dB)	Limit (dB)	Result
5510 MHz	11.25	13	PASS
5550 MHz	10.49	13	PASS
5670 MHz	10.92	13	PASS

IEEE 802.11n (40 MHz)/ANT.1/5510 MHz/Peak Excursion





IEEE 802.11n (40 MHz)/ANT.1/5550 MHz/Peak Excursion



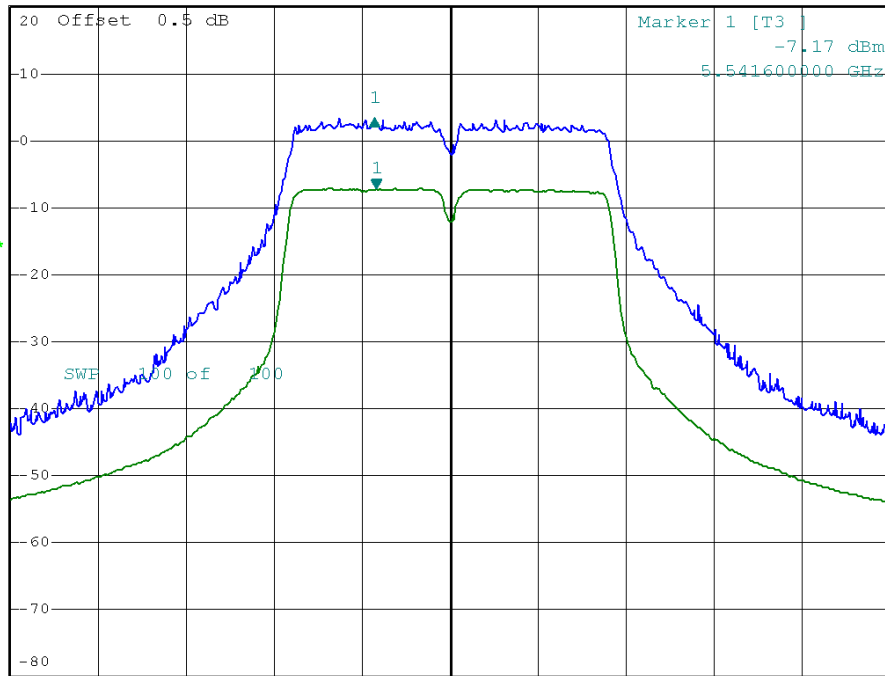
*RBW 1 MHz Delta 1 [T1] 10.49 dB
 *VBW 3 MHz
 SWT 20 ms -200.00000000 kHz

Ref 20 dBm

*Att 30 dB

1 PK VIEW

3 RM VIEW



Center 5.55 GHz

10 MHz/

Span 100 MHz

IEEE 802.11n (40 MHz)/ANT.1/5670 MHz/Peak Excursion



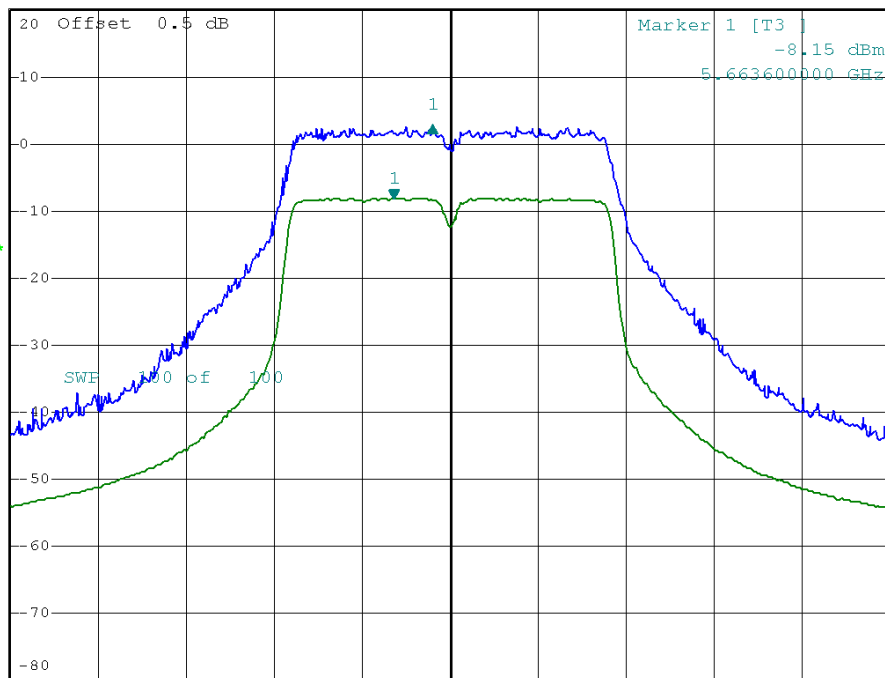
*RBW 1 MHz Delta 1 [T1] 10.92 dB
 *VBW 3 MHz
 SWT 20 ms 4.400000000 MHz

Ref 20 dBm

*Att 30 dB

1 PK VIEW

3 RM VIEW



Center 5.67 GHz

10 MHz/

Span 100 MHz



12 FREQUENCY STABILITY

12.1 LIMIT

Test Item	Frequency Range (MHz)	Limit
Frequency Stability	5150 - 5250	specified in the user's manual or ± 20 ppm (IEEE 802.11a specification)
	5250 - 5350	
	5470 - 5725	
	5725 - 5825	

12.2 MEASUREMENT INSTRUMENTS LIST

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP-40	100129	Oct. 01, 2013

NOTE: **N/A**: denotes No Model Name, No Serial No. or No Calibration specified.

12.3 MEASURING INSTRUMENTS SETTING

Spectrum Analyzer	Parameter Setting
Attenuation	Auto
Span Frequency	Entire absence of modulation emissions bandwidth
RB	10 kHz
VB	10 kHz
Sweep Time	Auto

12.4 TEST PROCEDURES

- a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.
- b. The test extreme voltage is to change the primary supply voltage from 85 to 115 percent of the nominal value.
- c. Extreme temperature rule is -30°C~50°C.

12.5 TEST SETUP LAYOUT



12.6 DEVIATION FROM TEST STANDARD

No deviation



Neutron Engineering Inc.

12.7 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of 5.6 Unless otherwise a special operating condition is specified in the follows during the testing.



Neutron Engineering Inc.

12.8 TEST RESULTS

E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11a/5200 MHz		

Voltage vs. Frequency Stability		
Voltage	Measurement Frequency (MHz)	
(V)	5320	-
126.5	5320.008200	
110	5320.009900	
93.5	5320.008500	
Max. Deviation (MHz)	0.009900	
Max. Deviation (ppm)	1.86	

Temperature vs. Frequency Stability		
Temperature	Measurement Frequency (MHz)	
(°C)	5320	-
-20	5319.989400	
-10	5319.974400	
0	5319.981500	
10	5319.993400	
20	5320.000720	
30	5320.011900	
40	5320.018600	
50	5320.021600	
Max. Deviation (MHz)	0.025600	
Max. Deviation (ppm)	4.81	



13 RF EXPOSURE COMPLIANCE

13.1 LIMIT

Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess limit for maximum permissible exposure. In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as a mobile device whereby a distance of 0.2 m normally can be maintained between the user and the device.

(A) Limits for Occupational / Controlled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842 / f	4.89 / f	(900 / f)*	6
30-300	61.4	0.163	1.0	6
300-1500			F/300	6
1500-100,000			5	6

(B) Limits for General Population / Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f)*	30
30-300	27.5	0.073	0.2	30
300-1500			F/1500	30
1500-100,000			1.0	30

NOTE: f = frequency in MHz; *Plane-wave equivalent power density.

13.2 MEASUREMENT INSTRUMENTS LIST

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Power Meter	Anritsu	ML2495A	1128008	Jul. 22, 2013
2	Power Meter Sensor	Anritsu	MA2411B	1126001	Jul. 22, 2013

NOTE: **N/A**: denotes No Model Name, No Serial No. or No Calibration specified.

13.3 MPE CALCULATION METHOD

$$E \text{ (V/m)} = \frac{\sqrt{30 \times P \times G}}{d} \qquad \text{Power Density: } Pd \text{ (W/m}^2\text{)} = \frac{E^2}{377}$$

- E** = Electric field (V/m)
- P** = Peak RF output power (W)
- G** = EUT Antenna numeric gain (numeric)
- d** = Separation distance between radiator and human body (m)

The formula can be changed to

$$Pd = \frac{30 \times P \times G}{377 \times d^2}$$

From the peak EUT RF output power, the minimum mobile separation distance, d=0.2m, as well as the gain of the used antenna, the RF power density can be obtained



13.4 TEST SETUP LAYOUT



13.5 DEVIATION FROM TEST STANDARD

No deviation

13.6 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of 5.6 Unless otherwise a special operating condition is specified in the follows during the testing.

**Neutron Engineering Inc.****13.7 TEST RESULTS - 5180 MHZ TO 5240 MHZ BAND**

E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11a/5180 MHz, 5200 MHz, 5240 MHz		

Frequency	Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Result
5180 MHz	4.95	3.1261	12.2000	16.5959	0.010326	1	PASS
5200 MHz	4.95	3.1261	11.3100	13.5207	0.008413	1	PASS
5240 MHz	4.95	3.1261	10.2700	10.6414	0.006621	1	PASS

NOTE: The MIMO test requirement, MPE shall measure by using the total sum power of each transmitter chain.



Neutron Engineering Inc.

E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (20 MHz)/ANT.0/5180 MHz, 5200 MHz, 5240 MHz		

Frequency	Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Result
5180 MHz	4.29	2.6853	12.4400	17.5388	0.009375	1	PASS
5200 MHz	4.29	2.6853	12.0800	16.1436	0.008629	1	PASS
5240 MHz	4.29	2.6853	10.7200	11.8032	0.006309	1	PASS

NOTE: The MIMO test requirement, MPE shall measure by using the total sum power of each transmitter chain.



Neutron Engineering Inc.

E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (20 MHz)/ANT.1/5180 MHz, 5200 MHz, 5240 MHz		

Frequency	Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Result
5180 MHz	4.95	3.1261	12.5500	17.9887	0.011193	1	PASS
5200 MHz	4.95	3.1261	11.9900	15.8125	0.009839	1	PASS
5240 MHz	4.95	3.1261	11.1700	13.0918	0.008146	1	PASS

NOTE: The MIMO test requirement, MPE shall measure by using the total sum power of each transmitter chain.



Neutron Engineering Inc.

E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (20 MHz)/ANT.Total/5180 MHz, 5200 MHz, 5240 MHz		

Frequency	Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Result
5180 MHz	9.24	8.3946	15.5056	35.5275	0.059363	1	PASS
5200 MHz	9.24	8.3946	15.0455	31.9561	0.053395	1	PASS
5240 MHz	9.24	8.3946	13.9611	24.8950	0.041597	1	PASS

NOTE: The MIMO test requirement, MPE shall measure by using the total sum power of each transmitter chain.



Neutron Engineering Inc.

E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (40 MHz)/ANT.0/5190 MHz, 5230 MHz		

Frequency	Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Result
5190 MHz	4.29	2.6853	9.6400	9.2045	0.004920	1	PASS
5230 MHz	4.29	2.6853	8.3000	6.7608	0.003614	1	PASS

NOTE: The MIMO test requirement, MPE shall measure by using the total sum power of each transmitter chain.



Neutron Engineering Inc.

E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (40 MHz)/ANT.1/5190 MHz, 5230 MHz		

Frequency	Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Result
5190 MHz	4.95	3.1261	9.6000	9.1201	0.005675	1	PASS
5230 MHz	4.95	3.1261	8.6400	7.3114	0.004549	1	PASS

NOTE: The MIMO test requirement, MPE shall measure by using the total sum power of each transmitter chain.



Neutron Engineering Inc.

E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (40 MHz)/ANT.Total/5190 MHz, 5230 MHz		

Frequency	Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Result
5190 MHz	9.24	8.3946	12.6303	18.3246	0.030619	1	PASS
5230 MHz	9.24	8.3946	11.4836	14.0722	0.023513	1	PASS

NOTE: The MIMO test requirement, MPE shall measure by using the total sum power of each transmitter chain.



Neutron Engineering Inc.

13.8 TEST RESULTS - 5260 MHZ TO 5320 MHZ BAND

E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11a/5260 MHz, 5300 MHz, 5320 MHz		

Frequency	Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Result
5260 MHz	4.95	3.1261	10.8200	12.0781	0.007515	1	PASS
5300 MHz	4.95	3.1261	12.0200	15.9221	0.009907	1	PASS
5320 MHz	4.95	3.1261	12.0000	15.8489	0.009862	1	PASS

NOTE: The MIMO test requirement, MPE shall measure by using the total sum power of each transmitter chain.



Neutron Engineering Inc.

E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (20 MHz)/ANT.0/5260 MHz, 5300 MHz, 5320 MHz		

Frequency	Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Result
5260 MHz	4.29	2.6853	11.4000	13.8038	0.007378	1	PASS
5300 MHz	4.29	2.6853	11.7400	14.9279	0.007979	1	PASS
5320 MHz	4.29	2.6853	11.9500	15.6675	0.008374	1	PASS

NOTE: The MIMO test requirement, MPE shall measure by using the total sum power of each transmitter chain.



Neutron Engineering Inc.

E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (20 MHz)/ANT.1/5260 MHz, 5300 MHz, 5320 MHz		

Frequency	Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Result
5260 MHz	4.95	3.1261	11.6100	14.4877	0.009015	1	PASS
5300 MHz	4.95	3.1261	11.5800	14.3880	0.008953	1	PASS
5320 MHz	4.95	3.1261	12.2100	16.6341	0.010350	1	PASS

NOTE: The MIMO test requirement, MPE shall measure by using the total sum power of each transmitter chain.



Neutron Engineering Inc.

E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (20 MHz)/ANT.Total/5260 MHz, 5300 MHz, 5320 MHz		

Frequency	Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Result
5260 MHz	9.24	8.3946	14.5166	28.2916	0.047272	1	PASS
5300 MHz	9.24	8.3946	14.6710	29.3159	0.048984	1	PASS
5320 MHz	9.24	8.3946	15.0922	32.3016	0.053973	1	PASS

NOTE: The MIMO test requirement, MPE shall measure by using the total sum power of each transmitter chain.



Neutron Engineering Inc.

E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (40 MHz)/ANT.0/5270 MHz, 5310 MHz		

Frequency	Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Result
5270 MHz	4.29	2.6853	9.2200	8.3560	0.004466	1	PASS
5310 MHz	4.29	2.6853	9.6300	9.1833	0.004909	1	PASS

NOTE: The MIMO test requirement, MPE shall measure by using the total sum power of each transmitter chain.



Neutron Engineering Inc.

E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (40 MHz)/ANT.1/5270 MHz, 5310 MHz		

Frequency	Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Result
5270 MHz	4.95	3.1261	9.7100	9.3541	0.005820	1	PASS
5310 MHz	4.95	3.1261	9.6100	9.1411	0.005688	1	PASS

NOTE: The MIMO test requirement, MPE shall measure by using the total sum power of each transmitter chain.



Neutron Engineering Inc.

E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (40 MHz)/ANT.Total/5270 MHz, 5310 MHz		

Frequency	Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Result
5270 MHz	9.24	8.3946	12.4822	17.7101	0.029592	1	PASS
5310 MHz	9.24	8.3946	12.6303	18.3245	0.030618	1	PASS

NOTE: The MIMO test requirement, MPE shall measure by using the total sum power of each transmitter chain.



Neutron Engineering Inc.

13.9 TEST RESULTS - 5500 MHZ TO 5700 MHZ BAND

E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11a/5500 MHz, 5580 MHz, 5700 MHz		

Frequency	Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Result
5500 MHz	4.95	3.1261	11.1100	12.9122	0.008034	1	PASS
5580 MHz	4.95	3.1261	11.0900	12.8529	0.007997	1	PASS
5700 MHz	4.95	3.1261	11.5900	14.4212	0.008973	1	PASS

NOTE: The MIMO test requirement, MPE shall measure by using the total sum power of each transmitter chain.



Neutron Engineering Inc.

E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (20 MHz)/ANT.0/5500 MHz, 5580 MHz, 5700 MHz		

Frequency	Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Result
5500 MHz	4.29	2.6853	11.1200	12.9420	0.006918	1	PASS
5580 MHz	4.29	2.6853	10.7900	11.9950	0.006411	1	PASS
5700 MHz	4.29	2.6853	11.7900	15.1008	0.008071	1	PASS

NOTE: The MIMO test requirement, MPE shall measure by using the total sum power of each transmitter chain.



Neutron Engineering Inc.

E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (20 MHz)/ANT.1/5500 MHz, 5580 MHz, 5700 MHz		

Frequency	Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Result
5500 MHz	4.95	3.1261	11.4500	13.9637	0.008689	1	PASS
5580 MHz	4.95	3.1261	10.8100	12.0504	0.007498	1	PASS
5700 MHz	4.95	3.1261	11.5000	14.1254	0.008789	1	PASS

NOTE: The MIMO test requirement, MPE shall measure by using the total sum power of each transmitter chain.



Neutron Engineering Inc.

E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (20 MHz)/ANT.Total/5500 MHz, 5580 MHz, 5700 MHz		

Frequency	Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Result
5500 MHz	9.24	8.3946	14.2984	26.9056	0.044957	1	PASS
5580 MHz	9.24	8.3946	13.8103	24.0454	0.040177	1	PASS
5700 MHz	9.24	8.3946	14.6577	29.2262	0.048834	1	PASS

NOTE: The MIMO test requirement, MPE shall measure by using the total sum power of each transmitter chain.



Neutron Engineering Inc.

E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (40 MHz)/ANT.0/5510 MHz, 5550 MHz, 5670 MHz		

Frequency	Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Result
5510 MHz	4.29	2.6853	8.9100	7.7804	0.004159	1	PASS
5550 MHz	4.29	2.6853	8.9600	7.8705	0.004207	1	PASS
5670 MHz	4.29	2.6853	8.1700	6.5615	0.003507	1	PASS

NOTE: The MIMO test requirement, MPE shall measure by using the total sum power of each transmitter chain.



Neutron Engineering Inc.

E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (40 MHz)/ANT.1/5510 MHz, 5550 MHz, 5670 MHz		

Frequency	Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Result
5510 MHz	4.95	3.1261	8.6400	7.3114	0.004549	1	PASS
5550 MHz	4.95	3.1261	8.9400	7.8343	0.004875	1	PASS
5670 MHz	4.95	3.1261	8.1800	6.5766	0.004092	1	PASS

NOTE: The MIMO test requirement, MPE shall measure by using the total sum power of each transmitter chain.



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E.U.T	IEEE 802.11a/b/g/n 2x2 Wireless LAN USB Client	Model Name	AP-3001g
Temperature	26°C	Relative Humidity	60%
Test Voltage	AC 120V/60Hz (System)		
Test Mode	IEEE 802.11n (40 MHz)/ANT.Total/5510 MHz, 5550 MHz, 5670 MHz		

Frequency	Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Result
5510 MHz	9.24	8.3946	11.7874	15.0918	0.025217	1	PASS
5550 MHz	9.24	8.3946	11.9603	15.7048	0.026241	1	PASS
5670 MHz	9.24	8.3946	11.1853	13.1380	0.021952	1	PASS

NOTE: The MIMO test requirement, MPE shall measure by using the total sum power of each transmitter chain.