

Environment: 22.5°C/54%RH/101.0kPa  
 Tested By: Huang Tianmei

Voltage: AC120V/60Hz  
 Date: 2023-05-18

Beamforming

TestMode	Antenna	Frequency [MHz]	PSD (dBm/3kHz)	Duty Factor	Total PSD with Duty Factor (dBm/3kHz)	Limit[dBm/3kHz]	Verdict
802.11n HT20 MIMO	Ant1	2412	-8.44	2.48	-5.96	≤7.10	PASS
	Ant2	2412	-6.56	2.48	-4.08	≤7.10	PASS
	total	2412	-4.39	2.48	-1.91	≤7.10	PASS
	Ant1	2437	-8.01	2.48	-5.53	≤7.10	PASS
	Ant2	2437	-6.91	2.48	-4.43	≤7.10	PASS
	total	2437	-4.41	2.48	-1.93	≤7.10	PASS
	Ant1	2462	-8.11	2.48	-5.63	≤7.10	PASS
	Ant2	2462	-6.96	2.48	-4.48	≤7.10	PASS
	total	2462	-4.49	2.48	-2.01	≤7.10	PASS
802.11n HT40 MIMO	Ant1	2422	-11.85	2.81	-9.04	≤7.10	PASS
	Ant2	2422	-10.9	2.81	-8.09	≤7.10	PASS
	total	2422	-8.34	2.81	-5.53	≤7.10	PASS
	Ant1	2437	-12.4	2.81	-9.59	≤7.10	PASS
	Ant2	2437	-11.91	2.81	-9.10	≤7.10	PASS
	total	2437	-9.14	2.81	-6.33	≤7.10	PASS
	Ant1	2452	-12.61	2.81	-9.8	≤7.10	PASS
	Ant2	2452	-11.8	2.81	-8.99	≤7.10	PASS
	total	2452	-9.18	2.81	-6.37	≤7.10	PASS
VHT20 MIMO	Ant1	2412	-6.71	0.79	-5.92	≤7.10	PASS
	Ant2	2412	-6.55	0.79	-5.76	≤7.10	PASS
	total	2412	-3.62	0.79	-2.83	≤7.10	PASS
	Ant1	2437	-5.58	0.79	-4.79	≤7.10	PASS
	Ant2	2437	-6.41	0.79	-5.62	≤7.10	PASS
	total	2437	-2.96	0.79	-2.17	≤7.10	PASS
	Ant1	2462	-6.21	0.79	-5.42	≤7.10	PASS
	Ant2	2462	-6.82	0.79	-6.03	≤7.10	PASS
	total	2462	-3.49	0.79	-2.70	≤7.10	PASS
VHT40 MIMO	Ant1	2422	-11.74	0.90	-10.84	≤7.10	PASS
	Ant2	2422	-12.20	0.90	-11.30	≤7.10	PASS
	total	2422	-8.95	0.90	-8.05	≤7.10	PASS
	Ant1	2437	-11.65	0.90	-10.75	≤7.10	PASS
	Ant2	2437	-12.21	0.90	-11.31	≤7.10	PASS
	total	2437	-8.91	0.90	-8.01	≤7.10	PASS
	Ant1	2452	-12.33	0.90	-11.43	≤7.10	PASS
	Ant2	2452	-12.63	0.90	-11.73	≤7.10	PASS

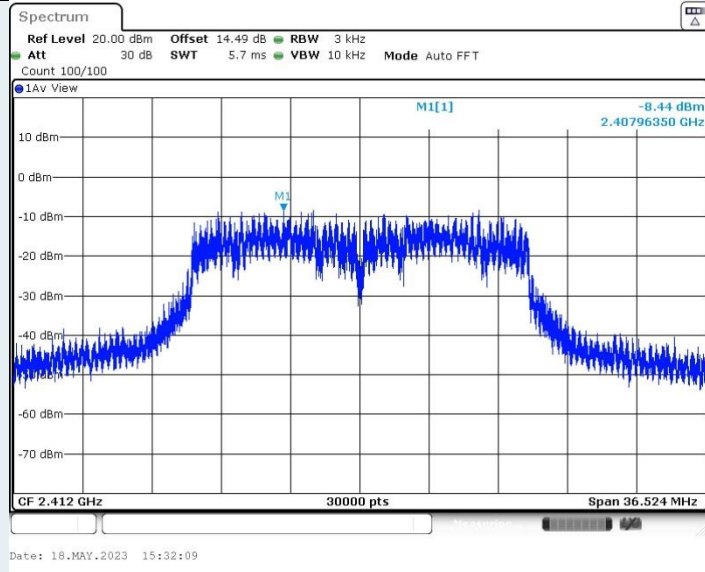
	total	2452	-9.47	0.90	-8.57	≤7.10	PASS
802.11ax HE20 MIMO	Ant1	2412	-9.22	0.39	-8.83	≤7.10	PASS
	Ant2	2412	-10.5	0.39	-10.11	≤7.10	PASS
	total	2412	-6.80	0.39	-6.41	≤7.10	PASS
	Ant1	2437	-9.15	0.39	-8.76	≤7.10	PASS
	Ant2	2437	-10.66	0.39	-10.27	≤7.10	PASS
	total	2437	-6.83	0.39	-6.44	≤7.10	PASS
	Ant1	2462	-9.31	0.39	-8.92	≤7.10	PASS
	Ant2	2462	-10.76	0.39	-10.37	≤7.10	PASS
	total	2462	-6.96	0.39	-6.57	≤7.10	PASS
802.11ax HE40 MIMO	Ant1	2422	-15.61	0.54	-15.07	≤7.10	PASS
	Ant2	2422	-15.33	0.54	-14.79	≤7.10	PASS
	total	2422	-12.46	0.54	-11.92	≤7.10	PASS
	Ant1	2437	-16.02	0.54	-15.48	≤7.10	PASS
	Ant2	2437	-14.96	0.54	-14.42	≤7.10	PASS
	total	2437	-12.45	0.54	-11.91	≤7.10	PASS
	Ant1	2452	-16.00	0.54	-15.46	≤7.10	PASS
	Ant2	2452	-15.47	0.54	-14.93	≤7.10	PASS
	total	2452	-12.72	0.54	-12.18	≤7.10	PASS

Note

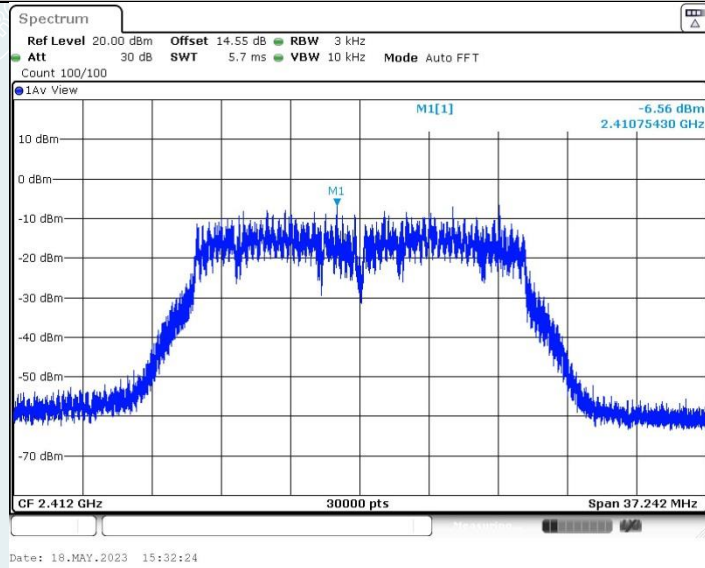
1. The measured results were corrected by duty cycle factor (section 2.8)
2. This EUT supports MIMO 2X2, any transmit signals are correlated with each other, for Power Spectral Density measurements on IEEE 802.11 devices. So Directional gain =  $10\log[(10^{3.97/20} + 10^{3.85/20})^2/2]$  dBi, that is Directional gain (dBi) = 6.9, Antenna gain is greater than 6, Limit =  $8 - (6.9 - 6) = 7.10$  dBm/3kHz.

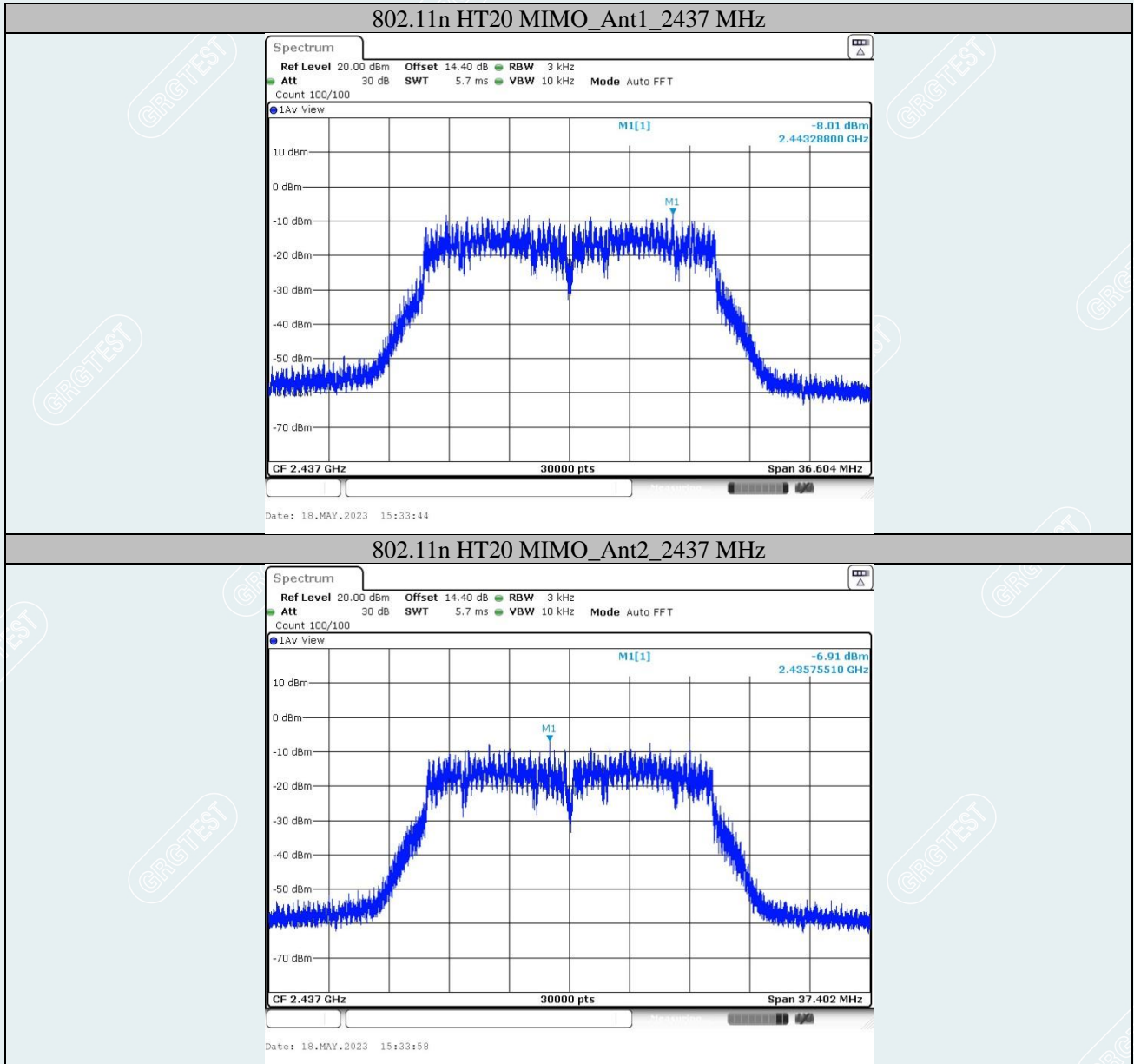
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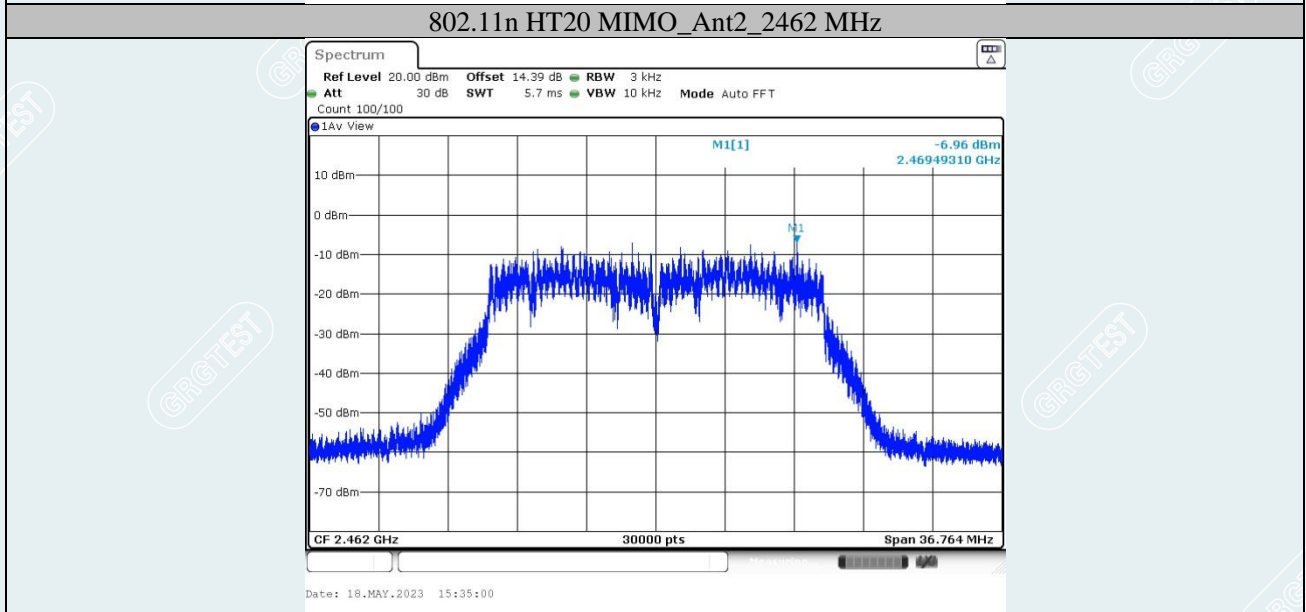
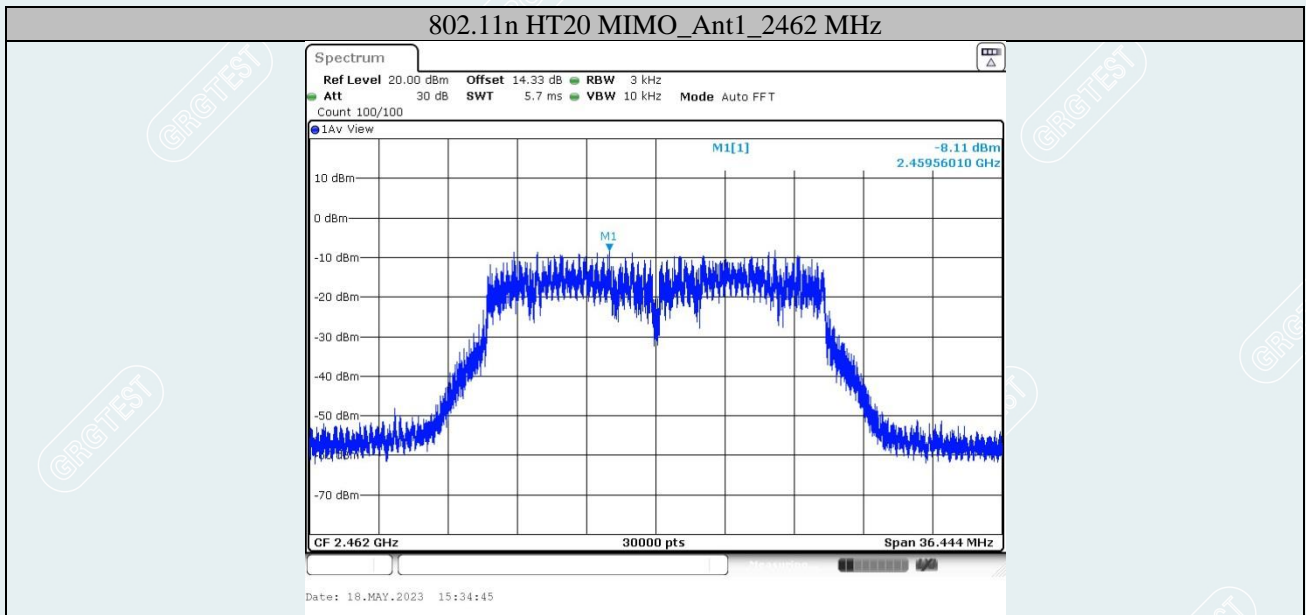
### 802.11n HT20 MIMO\_Ant1\_2412 MHz



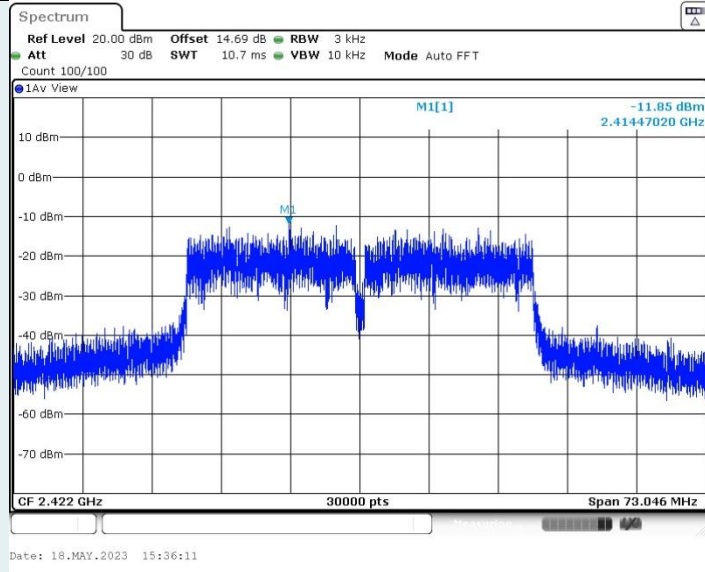
### 802.11n HT20 MIMO\_Ant2\_2412 MHz







### 802.11n HT40 MIMO\_Ant1\_2422 MHz



### 802.11n HT40 MIMO\_Ant2\_2422 MHz

