

A.3 MAXIMUM POWER SPECTRAL DENSITY

Test Date	2024/08/27 ~ 09/12	Temp./Hum.	24°C/47 ~ 53%
Cable Loss	4.47dB	Tested By	Sam Chang
Test Voltage	AC 120V 60Hz (Via AC Adapter)		

A.3.1 Power Spectral Density Result

● OFDM Modulation

Modulation Type	U-NII Band	Centre Frequency (MHz)	Power Spectral Density (dBm/MHz)		Duty Cycle Factor (dB) 10log(1/X)	Directional Gain (dBi) ^{Note3}	Total Power Spectral Density (dBm/1MHz) ^{Note2}	Limit (dBm/MHz)
			AUX	Main				
802.11ax-HE20	5	5955	-8.657	-10.142	N/A	3.45	-2.876	-1
		6175	-9.200	-10.139		3.45	-3.184	
		6415	-9.342	-8.999		3.45	-2.707	
	6	6435	-9.375	-9.363		3.45	-2.909	
		6475	-9.909	-9.808		3.45	-3.398	
		6515	-9.307	-8.893		3.45	-2.635	
	7	6535	-8.935	-9.470		3.45	-2.734	
		6695	-9.229	-9.462		3.45	-2.884	
		6855	-9.741	-8.882		3.45	-2.830	
	8	6875	-9.688	-9.170		3.45	-2.961	
		6995	-10.130	-8.836		3.45	-2.975	
		7115	-18.375	-16.754		3.45	-11.029	
802.11ax-HE40	5	5965	-8.301	-10.683	N/A	3.45	-2.870	
		6165	-8.801	-10.345		3.45	-3.044	
		6405	-8.282	-9.171		3.45	-2.243	
	6	6445	-8.521	-9.119		3.45	-2.349	
		6485	-8.794	-9.477		3.45	-2.662	
		6525	-8.371	-9.304		3.45	-2.352	
	7	6685	-8.482	-8.960		3.45	-2.254	
		6845	-8.684	-8.771		3.45	-2.267	
		6885	-8.698	-9.492		3.45	-2.617	
	8	7005	-8.624	-8.830		3.45	-2.265	
		7085	-8.722	-8.939		3.45	-2.369	

Note: 1. All results have been included cable loss [Please refer to KDB 662911 E 2) c)]

2. According to KDB 662911 D01 E)2)a), Total Power Spectral Density (dBm/1MHz) = Sum to individual PSD (dBm/1MHz) + Duty Cycle Factor (dB) when duty cycle is less than 98%. + Directional Gain.

3. According to KDB 662911 D01 d) ii), transmit signals are completely uncorrelated, then

$$\text{Directional gain} = 10 \log[(10^{G1/10} + 10^{G2/10} + \dots + 10^{GN/10})/N_{\text{ANT}}] \text{ dBi}$$

$$\text{Directional gain} = 10 \log[(10^{3.6/10} + 10^{3.3/10})/2] = 3.45 \text{ dBi}$$

The MIMO is uncorrelated and supported SDM(Spatial Division Multiplexing) mode only. This radio device doesn't support beamforming and Cyclic Delay Diversity (CDD).

Modulation Type	U-NII Band	Centre Frequency (MHz)	Power Spectral Density (dBm/MHz)		Duty Cycle Factor (dB) 10log(1/X)	Directional Gain (dBi) ^{Note3}	Total Power Spectral Density (dBm/1MHz) ^{Note2}	Limit (dBm/MHz)
			AUX	Main				
802.11ax-HE80	5	5985	-8.679	-10.620	N/A	3.45	-3.082	-1
		6145	-9.241	-10.577		3.45	-3.398	
		6385	-9.005	-10.054		3.45	-3.038	
	6	6465	-9.006	-10.131		3.45	-3.072	
		6545	-8.826	-9.893		3.45	-2.867	
		6625	-8.610	-9.847		3.45	-2.724	
	7	6705	-8.811	-9.923		3.45	-2.871	
		6785	-8.952	-10.334		3.45	-3.128	
		6865	-9.319	-10.041		3.45	-3.205	
	8	6945	-9.251	-9.091		3.45	-2.710	
		7025	-9.207	-9.210		3.45	-2.748	
		6025	-9.227	-10.610		N/A	3.45	
5	6185	-9.183	-11.176	3.45	-3.606			
	6345	-9.396	-10.902	3.45	-3.624			
	6505	-9.049	-10.693	3.45	-3.333			
7	6665	-8.708	-10.151	3.45	-2.910			
	6825	-8.717	-10.084	3.45	-2.887			
8	6985	-9.082	-9.964	3.45	-3.040			

Note: 1. All results have been included cable loss [Please refer to KDB 662911 E 2) c)]
 2. According to KDB 662911 D01 E)2)a), Total Power Spectral Density (dBm/1MHz) = Sum to individual PSD (dBm/1MHz) + Duty Cycle Factor (dB) when duty cycle is less than 98%. + Directional Gain.
 3. According to KDB 662911 D01 d) ii), transmit signals are completely uncorrelated, then
 Directional gain = $10 \log[(10^{G1/10} + 10^{G2/10} + \dots + 10^{GN/10})/N_{ANT}]$ dBi
 Directional gain = $10 \log[(10^{3.6/10} + 10^{3.3/10})/2] = 3.45$ dBi
 The MIMO is uncorrelated and supported SDM(Spatial Division Multiplexing) mode only. This radio device doesn't support beamforming and Cyclic Delay Diversity (CDD).

Modulation Type	U-NII Band	Centre Frequency (MHz)	Power Spectral Density (dBm/MHz)		Duty Cycle Factor (dB) 10log(1/X)	Directional Gain (dBi) ^{Note3}	Total Power Spectral Density (dBm/1MHz) ^{Note2}	Limit (dBm/MHz)
			AUX	Main				
802.11be-EHT20	5	5955	-8.407	-9.747	N/A	3.45	-2.565	-1
		6175	-9.522	-9.812		3.45	-3.204	
		6415	-9.399	-8.683		3.45	-2.566	
	6	6435	-9.252	-9.171		3.45	-2.751	
		6475	-9.981	-9.620		3.45	-3.336	
		6515	-9.199	-8.609		3.45	-2.434	
	7	6535	-9.078	-9.314		3.45	-2.734	
		6695	-9.360	-9.412		3.45	-2.926	
		6855	-9.840	-8.798		3.45	-2.828	
	8	6875	-9.729	-9.350		3.45	-3.075	
		6995	-10.105	-8.852		3.45	-2.973	
		7115	-17.150	-16.931		3.45	-10.579	
802.11be-EHT40	5	5965	-8.545	-10.426	N/A	3.45	-2.924	-1
		6165	-9.211	-10.397		3.45	-3.303	
		6405	-8.641	-9.183		3.45	-2.443	
	6	6445	-8.840	-9.624		3.45	-2.754	
		6485	-8.835	-9.621		3.45	-2.750	
	7	6525	-8.600	-9.379		3.45	-2.512	
		6685	-8.606	-9.353		3.45	-2.503	
		6845	-8.774	-9.295		3.45	-2.566	
	8	6885	-8.806	-9.550		3.45	-2.702	
		7005	-8.836	-9.129		3.45	-2.520	
		7085	-8.658	-9.016		3.45	-2.373	

Note: 1. All results have been included cable loss [Please refer to KDB 662911 E 2) c)]

2. According to KDB 662911 D01 E)2)a), Total Power Spectral Density (dBm/1MHz) = Sum to individual PSD (dBm/1MHz) + Duty Cycle Factor (dB) when duty cycle is less than 98%. + Directional Gain.

3. According to KDB 662911 D01 d) ii), transmit signals are completely uncorrelated, then

$$\text{Directional gain} = 10 \log[(10^{G1/10} + 10^{G2/10} + \dots + 10^{GN/10})/N_{\text{ANT}}] \text{ dBi}$$

$$\text{Directional gain} = 10 \log[(10^{3.6/10} + 10^{3.3/10})/2] = 3.45 \text{ dBi}$$

The MIMO is uncorrelated and supported SDM(Spatial Division Multiplexing) mode only. This radio device doesn't support beamforming and Cyclic Delay Diversity (CDD).

Modulation Type	U-NII Band	Centre Frequency (MHz)	Power Spectral Density (dBm/MHz)		Duty Cycle Factor (dB) 10log(1/X)	Directional Gain (dBi) ^{Note3}	Total Power Spectral Density (dBm/1MHz) ^{Note2}	Limit (dBm/MHz)
			AUX	Main				
802.11be-EHT80	5	5985	-8.419	-10.041	N/A	3.45	-2.694	-1
		6145	-8.840	-10.581		3.45	-3.164	
		6385	-8.619	-10.060		3.45	-2.820	
	6	6465	-9.157	-9.544		3.45	-2.886	
		6545	-8.665	-9.815		3.45	-2.742	
		6625	-8.383	-9.866		3.45	-2.601	
	7	6705	-8.654	-10.075		3.45	-2.846	
		6785	-8.812	-9.946		3.45	-2.882	
		6865	-9.091	-10.029		3.45	-3.074	
	8	6945	-8.893	-9.495		3.45	-2.723	
		7025	-8.952	-9.181		3.45	-2.605	
		6025	-9.400	-10.723		N/A	3.45	
5	6185	-9.141	-11.081	3.45	-3.543			
	6345	-9.312	-10.646	3.45	-3.468			
	6505	-8.850	-10.406	3.45	-3.098			
6	6665	-8.580	-10.050	3.45	-2.793			
	6825	-9.215	-10.095	3.45	-3.172			
7	6985	-9.071	-9.782	3.45	-2.952			
	6105	-8.903	-10.357	N/A	3.45		-3.109	
5	6265	-8.899	-10.317		3.45		-3.090	
	6425	-8.989	-10.277		3.45		-3.125	
	6585	-8.223	-9.731		3.45		-2.452	
6	6745	-8.560	-9.787		3.45		-2.670	
	6905	-9.790	-10.622		3.45	-3.726		

Note: 1. All results have been included cable loss [Please refer to KDB 662911 E 2) c)]

2. According to KDB 662911 D01 E)2)a), Total Power Spectral Density (dBm/1MHz) = Sum to individual PSD (dBm/1MHz) + Duty Cycle Factor (dB) when duty cycle is less than 98%. + Directional Gain.

3. According to KDB 662911 D01 d) ii), transmit signals are completely uncorrelated, then

$$\text{Directional gain} = 10 \log[(10^{G1/10} + 10^{G2/10} + \dots + 10^{GN/10})/N_{\text{ANT}}] \text{ dBi}$$

$$\text{Directional gain} = 10 \log[(10^{3.6/10} + 10^{3.3/10})/2] = 3.45 \text{ dBi}$$

The MIMO is uncorrelated and supported SDM(Spatial Division Multiplexing) mode only. This radio device doesn't support beamforming and Cyclic Delay Diversity (CDD).

● OFDMA Modulation

Tones	RU Index	Modulation Type	U-NII Band	Centre Frequency (MHz)	Power Spectral Density (dBm/MHz)		Duty Cycle Factor (dB) 10log(1/X)	Directional Gain (dBi) Note3	Total Power Spectral Density (dBm/1MHz) Note2	Limit (dBm/MHz)
					AUX	Main				
26T	18	802.11ax-HE80	7	6625	-7.941	-8.403	N/A	3.45	-1.706	-1
52T	37	802.11ax-HE40	7	6685	-7.974	-9.031	N/A	3.45	-2.010	
106T	53	802.11ax-HE40	7	6685	-8.198	-8.763	N/A	3.45	-2.011	
242T	62	802.11ax-HE160	7	6665	-7.685	-8.702	N/A	3.45	-1.703	
484T	66	802.11ax-HE80	7	6625	-7.785	-8.861	N/A	3.45	-1.829	
996T	67	802.11ax-HE160	7	6665	-8.305	-9.817	N/A	3.45	-2.535	

Note: 1. All results have been included cable loss [Please refer to KDB 662911 E 2) c)]
 2. According to KDB 662911 D01 E)2)a), Total Power Spectral Density (dBm/1MHz) = Sum to individual PSD (dBm/1MHz) + Duty Cycle Factor (dB) when duty cycle is less than 98%. + Directional Gain.
 3. According to KDB 662911 D01 d) ii), transmit signals are completely uncorrelated, then
 Directional gain = $10 \log[(10^{G1/10} + 10^{G2/10} + \dots + 10^{GN/10})/N_{ANT}]$ dBi
 Directional gain:
 Directional gain = $10 \log[(10^{3.6/10} + 10^{3.3/10})/2] = 3.45$ dBi
 The MIMO is uncorrelated and supported SDM(Spatial Division Multiplexing) mode only. This radio device doesn't support beamforming and Cyclic Delay Diversity (CDD).

Tones	RU Index	Modulation Type	U-NII Band	Centre Frequency (MHz)	Power Spectral Density (dBm/MHz)		Duty Cycle Factor (dB) 10log(1/X)	Directional Gain (dBi) Note3	Total Power Spectral Density (dBm/1MHz) Note2	Limit (dBm/MHz)
					AUX	Main				
26	S0	802.11be-EHT320	7	6745	-8.242	-9.530	N/A	3.45	-2.378	-1
52	T52	802.11be-EHT320	6	6585	-7.993	-9.071	N/A	3.45	-2.038	
106	T60	802.11be-EHT320	6	6585	-8.011	-9.341	N/A	3.45	-2.165	
242	64	802.11be-EHT320	7	6745	-7.759	-9.400	N/A	3.45	-2.042	
484	66	802.11be-EHT80	7	6625	-7.901	-9.301	N/A	3.45	-2.085	
996	67	802.11be-EHT160	7	6665	-8.239	-9.216	N/A	3.45	-2.240	
996x2	W68	802.11be-EHT320	6	6585	-8.763	-9.964	N/A	3.45	-2.862	
26+52	70	802.11be-EHT20	7	6695	-8.089	-8.605	N/A	3.45	-1.879	
26+52	70	802.11be-EHT40	7	6685	-8.110	-9.245	N/A	3.45	-2.180	
26+106	82	802.11be-EHT20	7	6695	-8.404	-8.344	N/A	3.45	-1.914	
26+106	82	802.11be-EH40	7	6685	-8.246	-8.856	N/A	3.45	-2.080	
484+242	90	802.11be-EHT80	7	6625	-7.860	-9.045	N/A	3.45	-1.952	
996+484	94	802.11be-EHT160	7	6665	-8.337	-9.823	N/A	3.45	-2.556	
996+484+242	S99	802.11be-EHT160	8	6985	-8.701	-8.755	N/A	3.45	-2.268	
996x2+484	W103	802.11be-EHT320	6	6585	-7.903	-8.999	N/A	3.45	-1.956	
996x3	W104	802.11be-EHT320	5	6105	-8.317	-10.104	N/A	3.45	-2.659	
996x3+484	W106	802.11be-EHT320	5	6265	-8.497	-10.499	N/A	3.45	-2.923	

Note: 1. All results have been included cable loss [Please refer to KDB 662911 E 2) c)]
 2. According to KDB 662911 D01 E)2)a), Total Power Spectral Density (dBm/1MHz) = Sum to individual PSD (dBm/1MHz) + Duty Cycle Factor (dB) when duty cycle is less than 98%. + Directional Gain.
 3. According to KDB 662911 D01 d) ii), transmit signals are completely uncorrelated, then
 Directional gain = $10 \log[(10^{G1/10} + 10^{G2/10} + \dots + 10^{GN/10})/N_{ANT}]$ dBi
 Directional gain:
 Directional gain = $10 \log[(10^{3.6/10} + 10^{3.3/10})/2] = 3.45$ dBi
 The MIMO is uncorrelated and supported SDM(Spatial Division Multiplexing) mode only. This radio device doesn't support beamforming and Cyclic Delay Diversity (CDD).

A.3.2 Measurement Plots

- OFDM Modulation























