

FCC RF EXPOSURE REPORT

FCC ID: QISAP5130DN

Project No. : 1507C117
Equipment : Wireless LAN Access Point
Model : AP5130DN
Applicant : Huawei Technologies Co.,Ltd.
**Address : Administration Building, Headquarters of Huawei
Technologies Co., Ltd., Bantian, Longgang District
Shenzhen China**
According: : FCC Guidelines for Human Exposure IEEE C95.1

B T L I N C .

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MPE CALCULATION METHOD:

Calculation Method of RF Safety Distance:

$$S = \frac{PG}{4\pi^2} = \frac{EIRP}{4\pi^2}$$

where:

S = power density

P = power input to the antenna

G = power gain of the antenna in the direction of interest relative to an isotropic radiator

R = distance to the center of radiation of the antenna

Table for Filed Antenna

Ant.	Manufacturer	Model Name	Antenna Type	Connector	Gain (dBi)	Note
A	GUANGDONG SHENGLU TELECOMMUNICATION TECH. CO.,LTD.	SL10301A	External Antenna	RP-SMA-J	3.87	2.4G
B	GUANGDONG SHENGLU TELECOMMUNICATION TECH. CO.,LTD.	SL10301A	External Antenna	RP-SMA-J	3.87	2.4G
C	GUANGDONG SHENGLU TELECOMMUNICATION TECH. CO.,LTD.	SL10301A	External Antenna	RP-SMA-J	3.87	2.4G
A	GUANGDONG SHENGLU TELECOMMUNICATION TECH. CO.,LTD.	SL10301A	External Antenna	RP-SMA-J	5.7	5G
B	GUANGDONG SHENGLU TELECOMMUNICATION TECH. CO.,LTD.	SL10301A	External Antenna	RP-SMA-J	5.7	5G
C	GUANGDONG SHENGLU TELECOMMUNICATION TECH. CO.,LTD.	SL10301A	External Antenna	RP-SMA-J	5.7	5G

TEST RESULTS

2.4G

EUT :	Wireless LAN Access Point	Model Name :	AP5130DN
Temperature :	27 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	TX B MODE /CH01, CH06, CH11-Ant A+Ant B		

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)	Test Result
3.87	2.4378	16.02	39.9945	0.01940664	1	Complies
3.87	2.4378	16.99	50.0035	0.02426333	1	Complies
3.87	2.4378	16.02	39.9945	0.01940664	1	Complies

EUT :	Wireless LAN Access Point	Model Name :	AP5130DN
Temperature :	27 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	TX G MODE /CH01, CH06, CH11-Ant A+Ant B		

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)	Test Result
3.87	2.4378	20.00	100.0000	0.04852330	1	Complies
3.87	2.4378	23.22	209.8940	0.10184750	1	Complies
3.87	2.4378	21.46	139.9587	0.06791260	1	Complies

EUT :	Wireless LAN Access Point	Model Name :	AP5130DN
Temperature:	27 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	TX N-20M MODE /CH01, CH06, CH11-Ant A+Ant B		

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)	Test Result
3.87	2.4378	20.79	119.9499	0.05820367	1	Complies
3.87	2.4378	23.22	209.8940	0.10184750	1	Complies
3.87	2.4378	21.14	130.0170	0.06308852	1	Complies

EUT :	Wireless LAN Access Point	Model Name :	AP5130DN
Temperature:	27 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	TX N-40M MODE /CH03, CH06, CH09-Ant A+Ant B		

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)	Test Result
3.87	2.4378	21.14	130.0170	0.06308852	1	Complies
3.87	2.4378	23.80	239.8833	0.11639930	1	Complies
3.87	2.4378	20.79	119.9499	0.05820367	1	Complies

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EUT :	Wireless LAN Access Point	Model Name :	AP5130DN
Temperature:	27 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	TX A MODE_Total / CH36, CH40, CH48		

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)	Test Result
5.7	3.7154	12.78	18.9671	0.01402653	1	Complies
5.7	3.7154	15.25	33.4965	0.02477139	1	Complies
5.7	3.7154	15.19	33.0370	0.02443151	1	Complies

EUT :	Wireless LAN Access Point	Model Name :	AP5130DN
Temperature:	27 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	TX N-20M MODE_Total / CH36, CH40, CH48		

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)	Test Result
5.7	3.7154	12.46	17.6198	0.01303018	1	Complies
5.7	3.7154	15.16	32.8095	0.02426333	1	Complies
5.7	3.7154	15.06	32.0627	0.02371103	1	Complies

EUT :	Wireless LAN Access Point	Model Name :	AP5130DN
Temperature:	27 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	TX N-40M MODE_Total / CH38, CH46		

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)	Test Result
5.7	3.7154	13.04	20.1372	0.01489191	1	Complies
5.7	3.7154	15.28	33.7287	0.02494310	1	Complies

EUT :	Wireless LAN Access Point	Model Name :	AP5130DN
Temperature:	27 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	TX AC-20M MODE_Total / CH36, CH40, CH48		

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)	Test Result
5.7	3.7154	12.43	17.4985	0.01294048	1	Complies
5.7	3.7154	13.85	24.2661	0.01794529	1	Complies
5.7	3.7154	14.09	25.6448	0.01896489	1	Complies

EUT :	Wireless LAN Access Point	Model Name :	AP5130DN
Temperature:	27 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	TX AC-40M MODE_Total / CH38, CH46		

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)	Test Result
5.7	3.7154	13.00	19.9526	0.01475538	1	Complies
5.7	3.7154	15.37	34.4350	0.02546539	1	Complies

EUT :	Wireless LAN Access Point	Model Name :	AP5130DN
Temperature:	27 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	TX AC-80M MODE_Total /CH42		

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)	Test Result
5.7	3.7154	13.30	21.3796	0.01581067	1	Complies

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EUT :	Wireless LAN Access Point	Model Name :	AP5130DN
Temperature:	27 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	TX A MODE_Total / CH52, CH60, CH64		

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)	Test Result
5.7	3.7154	17.88	61.3762	0.04538897	1	Complies
5.7	3.7154	17.96	62.5173	0.04623282	1	Complies
5.7	3.7154	15.47	35.2371	0.02605856	1	Complies

EUT :	Wireless LAN Access Point	Model Name :	AP5130DN
Temperature:	27 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	TX N-20M MODE_Total / CH52, CH60, CH64		

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)	Test Result
5.7	3.7154	17.60	57.5440	0.04255498	1	Complies
5.7	3.7154	17.78	59.9791	0.04435580	1	Complies
5.7	3.7154	15.46	35.1560	0.02599862	1	Complies

EUT :	Wireless LAN Access Point	Model Name :	AP5130DN
Temperature:	27 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	TX N-40M MODE_Total / CH54, CH62		

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)	Test Result
5.7	3.7154	17.89	61.5177	0.04549361	1	Complies
5.7	3.7154	15.61	36.3915	0.02691227	1	Complies

EUT :	Wireless LAN Access Point	Model Name :	AP5130DN
Temperature:	27 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	TX AC-20M MODE_Total / CH52, CH60, CH64		

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)	Test Result
5.7	3.7154	17.63	57.9429	0.04284995	1	Complies
5.7	3.7154	17.70	58.8844	0.04354621	1	Complies
5.7	3.7154	15.36	34.3558	0.02540682	1	Complies

EUT :	Wireless LAN Access Point	Model Name :	AP5130DN
Temperature:	27 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	TX AC-40M MODE_Total / CH54, CH62		

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)	Test Result
5.7	3.7154	17.88	61.3762	0.04538897	1	Complies
5.7	3.7154	15.61	36.3915	0.02691227	1	Complies

EUT :	Wireless LAN Access Point	Model Name :	AP5130DN
Temperature:	27 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	TX AC-80M MODE_Total / CH58		

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)	Test Result
5.7	3.7154	15.81	38.1066	0.02818061	1	Complies

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EUT :	Wireless LAN Access Point	Model Name :	AP5130DN
Temperature:	27 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	TX A MODE_Total / CH100, CH116, CH140		

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)	Test Result
5.7	3.7154	15.51	35.5631	0.02629967	1	Complies
5.7	3.7154	17.88	61.3762	0.04538897	1	Complies
5.7	3.7154	15.50	35.4813	0.02623919	1	Complies

EUT :	Wireless LAN Access Point	Model Name :	AP5130DN
Temperature:	27 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	TX N-20M MODE_Total / CH100, CH116, CH140		

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)	Test Result
5.7	3.7154	15.46	35.1560	0.02599862	1	Complies
5.7	3.7154	17.70	58.8844	0.04354621	1	Complies
5.7	3.7154	15.45	35.0752	0.02593883	1	Complies

EUT :	Wireless LAN Access Point	Model Name :	AP5130DN
Temperature:	27 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	TX N-40M MODE_Total / CH102, CH110, CH134		

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)	Test Result
5.7	3.7154	17.84	60.8135	0.04497285	1	Complies
5.7	3.7154	17.71	59.0201	0.04364660	1	Complies
5.7	3.7154	17.89	61.5177	0.04549361	1	Complies

EUT :	Wireless LAN Access Point	Model Name :	AP5130DN
Temperature:	27 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	TX AC-20M MODE_Total / CH100, CH116, CH140		

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)	Test Result
5.7	3.7154	15.36	34.3558	0.02540682	1	Complies
5.7	3.7154	17.81	60.3949	0.04466325	1	Complies
5.7	3.7154	15.44	34.9945	0.02587917	1	Complies

EUT :	Wireless LAN Access Point	Model Name :	AP5130DN
Temperature:	27 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	TX AC-40M MODE_Total / CH102, CH110, CH134		

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)	Test Result
5.7	3.7154	17.92	61.9441	0.04580895	1	Complies
5.7	3.7154	17.86	61.0942	0.04518043	1	Complies
5.7	3.7154	17.91	61.8016	0.04570360	1	Complies

EUT :	Wireless LAN Access Point	Model Name :	AP5130DN
Temperature:	27 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	TX AC-80M MODE_Total / CH106, CH122		

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)	Test Result
5.7	3.7154	15.91	38.9942	0.02883702	1	Complies
5.7	3.7154	15.99	39.7192	0.02937314	1	Complies

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EUT :	Wireless LAN Access Point	Model Name :	AP5130DN
Temperature:	27 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	TX A MODE_Total / CH149, CH157, CH165		

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)	Test Result
5.7	3.7154	17.79	60.1174	0.04445805	1	Complies
5.7	3.7154	17.88	61.3762	0.04538897	1	Complies
5.7	3.7154	17.81	60.3949	0.04466325	1	Complies

EUT :	Wireless LAN Access Point	Model Name :	AP5130DN
Temperature:	27 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	TX N-20M MODE_Total / CH149, CH157, CH165		

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)	Test Result
5.7	3.7154	17.73	59.2925	0.04384806	1	Complies
5.7	3.7154	17.60	57.5440	0.04255498	1	Complies
5.7	3.7154	17.64	58.0764	0.04294873	1	Complies

EUT :	Wireless LAN Access Point	Model Name :	AP5130DN
Temperature:	27 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	TX N-40M MODE_Total / CH151, CH159		

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)	Test Result
5.7	3.7154	17.87	61.2350	0.04528458	1	Complies
5.7	3.7154	17.82	60.5341	0.04476621	1	Complies

EUT :	Wireless LAN Access Point	Model Name :	AP5130DN
Temperature:	27 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	TX AC-20M MODE_Total / CH149, CH157, CH165		

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)	Test Result
5.7	3.7154	17.73	59.2925	0.04384806	1	Complies
5.7	3.7154	17.74	59.4292	0.04394914	1	Complies
5.7	3.7154	17.69	58.7489	0.04344606	1	Complies

EUT :	Wireless LAN Access Point	Model Name :	AP5130DN
Temperature:	27 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	TX AC-40M MODE_Total / CH151, CH159		

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)	Test Result
5.7	3.7154	17.89	61.5177	0.04549361	1	Complies
5.7	3.7154	17.82	60.5341	0.04476621	1	Complies

EUT :	Wireless LAN Access Point	Model Name :	AP5130DN
Temperature:	27 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	TX AC-80M MODE_Total / CH155		

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)	Test Result
5.7	3.7154	15.94	39.2645	0.02903691	1	Complies

For 2.4G+5G simultaneous transmission MPE:

$$0.1164/1+0.0462/1=0.1626<1$$

Note: the calculated distance is 20 cm.