

FCC RF EXPOSURE REPORT

FCC ID: 2AFG6-SI01

Project No. : 1611C116
Equipment : WiFi Module
Model : SI01
Applicant : Guangzhou Shirui Electronics Co.,Ltd
Address : 192Kexu Road, ScienteckPark, Guangzhou
Economic & Technology Development District,
Guangzhou, Guangdong, 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

For BT/LE/5GWIFI:

Ant.	Brand	Model Name	Antenna Type	Connector	Gain(dBi) BT/LE	Gain(dBi) 5G
1	seewo	N/A	Dipole	N/A	3	4.3

For 2.4GWIFI:

Ant.	Brand	Model Name	Antenna Type	Connector	Gain(dBi) BT/LE
1	seewo	N/A	Dipole	N/A	3

TEST RESULTS

BT:

EUT :	WiFi Module	Model Name :	SI01
Temperature :	25 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	TX Mode _1Mbps		

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	1.9953	2.77	1.8923	0.00075	1	Complies
3	1.9953	2.71	1.8664	0.00074	1	Complies
3	1.9953	2.25	1.6788	0.00067	1	Complies

EUT :	WiFi Module	Model Name :	SI01
Temperature :	25 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	TX Mode _3Mbps		

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	1.9953	2.53	1.7906	0.00071	1	Complies
3	1.9953	2.53	1.7906	0.00071	1	Complies
3	1.9953	2.15	1.6406	0.00065	1	Complies

LE:

EUT :	WiFi Module	Model Name :	SI01
Temperature:	25 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	CH00, CH19 , CH39 - 1Mbps		

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	1.9953	0.85	1.2162	0.00048	1	Complies
3	1.9953	0.86	1.2190	0.00048	1	Complies
3	1.9953	0.28	1.0666	0.00042	1	Complies

WIFI 2.4G:

EUT :	WiFi Module	Model Name :	SI01
Temperature:	25 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	TX B Mode_CH01/06/11		

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	1.9953	18.48	70.4693	0.02799	1	Complies
3	1.9953	18.42	69.5024	0.02760	1	Complies
3	1.9953	18.41	69.3426	0.02754	1	Complies

EUT :	WiFi Module	Model Name :	SI01
Temperature:	25 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	TX G Mode_CH01/06/11		

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	1.9953	23.22	209.8940	0.08336	1	Complies
3	1.9953	22.94	196.7886	0.07815	1	Complies
3	1.9953	23.17	207.4914	0.08240	1	Complies

EUT :	WiFi Module	Model Name :	SI01
Temperature:	25 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	TX N20 Mode_CH01/06/11		

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	1.9953	21.91	155.2387	0.06165	1	Complies
3	1.9953	22	158.4893	0.06294	1	Complies
3	1.9953	21.71	148.2518	0.05888	1	Complies

EUT :	WiFi Module	Model Name :	SI01
Temperature:	25 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	TX N40 Mode_CH03/06/09		

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	1.9953	21.75	149.6236	0.05942	1	Complies
3	1.9953	21.94	156.3148	0.06208	1	Complies
3	1.9953	21.69	147.5707	0.05861	1	Complies

WIFI 5G:
UNII-1:

EUT :	WiFi Module	Model Name :	SI01
Temperature:	25 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	UNII-1/TX A Mode		

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
4.3	2.6915	10.88	12.2462	0.00656	1	Complies
4.3	2.6915	10.91	12.3310	0.00661	1	Complies
4.3	2.6915	10.82	12.0781	0.00647	1	Complies

EUT :	WiFi Module	Model Name :	SI01
Temperature:	25 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	UNII-1/TX N20 Mode		

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
4.3	2.6915	9.84	9.6383	0.00516	1	Complies
4.3	2.6915	9.85	9.6605	0.00518	1	Complies
4.3	2.6915	9.87	9.7051	0.00520	1	Complies

EUT :	WiFi Module	Model Name :	SI01
Temperature:	25 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	UNII-1/TX N40 Mode		

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
4.3	2.6915	9.74	9.4189	0.00505	1	Complies
4.3	2.6915	9.69	9.3111	0.00499	1	Complies

EUT :	WiFi Module	Model Name :	SI01
Temperature:	25 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	TX AC20 Mode		

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
4.3	2.6915	8.68	7.3790	0.00395	1	Complies
4.3	2.6915	8.89	7.7446	0.00415	1	Complies
4.3	2.6915	8.86	7.6913	0.00412	1	Complies

EUT :	WiFi Module	Model Name :	SI01
Temperature:	25 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	UNII-1/TX AC40 Mode		

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
4.3	2.6915	7.81	6.0395	0.00324	1	Complies
4.3	2.6915	7.92	6.1944	0.00332	1	Complies

EUT :	WiFi Module	Model Name :	SI01
Temperature:	25 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	UNII-1/TX AC80 Mode		

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
4.3	2.6915	7.88	6.1376	0.00329	1	Complies

UNII-3:

EUT :	WiFi Module	Model Name :	SI01
Temperature:	25 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	UNII-3/ TX A Mode		

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
4.3	2.6915	10.84	12.1339	0.00650	1	Complies
4.3	2.6915	10.91	12.3310	0.00661	1	Complies
4.3	2.6915	10.85	12.1619	0.00652	1	Complies

EUT :	WiFi Module	Model Name :	SI01
Temperature:	25 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	UNII-3/TX N20 Mode		

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
4.3	2.6915	9.78	9.5060	0.00509	1	Complies
4.3	2.6915	9.86	9.6828	0.00519	1	Complies
4.3	2.6915	9.82	9.5940	0.00514	1	Complies

EUT :	WiFi Module	Model Name :	SI01
Temperature:	25 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	UNII-3/ TX N40 Mode		

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
4.3	2.6915	9.88	9.7275	0.00521	1	Complies
4.3	2.6915	9.94	9.8628	0.00528	1	Complies

EUT :	WiFi Module	Model Name :	SI01
Temperature:	25 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	UNII-3/ TX AC20 Mode		

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
4.3	2.6915	8.67	7.3621	0.00394	1	Complies
4.3	2.6915	8.78	7.5509	0.00405	1	Complies
4.3	2.6915	8.54	7.1450	0.00383	1	Complies

EUT :	WiFi Module	Model Name :	SI01
Temperature:	25 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	UNII-3/ TX AC40 Mode		

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
4.3	2.6915	7.83	6.0674	0.00325	1	Complies
4.3	2.6915	7.55	5.6885	0.00305	1	Complies

EUT :	WiFi Module	Model Name :	SI01
Temperature:	25 °C	Relative Humidity:	55 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	UNII-3/ TX N40 Mode		

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
4.3	2.6915	7.82	6.0534	0.00324	1	Complies

Note: the calculated distance is 20 cm.