

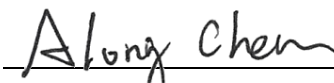
FCC RF Exposure Report

FCC ID : HDC-17600070F1
Equipment : WiFi 6 2.5G Router
(Refer to item 1.1.1 for more details)
Model No. : SDG-8612
(Refer to item 1.1.1 for more details)
Brand Name : Adtran
Applicant : Adtran
Address : 901 Explorer Boulevard, Huntsville, Alabama,
United States, 35806-2807
Standard : 47 CFR FCC Part 2.1091
Received Date : Apr. 18, 2023
Tested Date : Apr. 19 ~ May 17, 2023

We, International Certification Corporation, would like to declare that the tested sample has been evaluated and in compliance with the requirement of the above standards. The test results contained in this report refer exclusively to the product. It shall not be reproduced except in full without the written approval of our laboratory.

Reviewed by:

Approved by:



Along Chen / Assistant Manager



Gary Chang / Manager

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Release Record

Report No.	Version	Description	Issued Date
FA341804	Rev. 01	Initial issue	Jun. 02, 2023

1 General Description

1.1 Information

1.1.1 Product Details

The following models are provided to this EUT.

Brand Name	Model Name	Product Name	Description
Adtran	SDG-8612	WiFi 6 2.5G Router	2.5G RJ45 WAN port
	SDG-8614	WiFi 6 SFP Router	2.5G SFP WAN port

2 MPE EVALUATION OF MOBILE DEVICES

2.1 LIMITS FOR GENERAL POPULATION/UNCONTROLLED EXPOSURE

Frequency Range (MHz)	Power Density (mW /cm ²)	Averaging Time (minutes)
300~1500	F/1500	30
1500~100000	1.0	30

2.2 MPE EVALUATION FORMULA

$$Pd = \frac{Pt}{4 * Pi * R^2}$$

Where

Pd= Power density in mW/cm²

Pt= EIRP in mW

Pi= 3.1416

R= Measurement distance

2.3 REFERENCE GUIDANCE

447498 D01 General RF Exposure Guidance v06

2.4 DEVIATION FROM TEST STANDARD AND MEASUREMENT PROCEDURE

None

2.5 MEASUREMENT UNCERTAINTY

The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2)).

Parameters	Uncertainty
Conducted power	±0.808 dB

Declaration of Conformity:
The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.
Comments and Explanations:
The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

2.6 MPE EVALUATION RESULTS

Non-beamforming mode

Frequency Range (MHz)	Maximum Conducted Power (dBm)	Maximum Tune Up limit (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)	*Ratio	Pass / Fail
2412-2462	28.61	29.0	4.661	31	0.192	1	0.192	Pass
5180-5240	27.50	28.0	4.053	31	0.133	1	0.133	Pass
5260-5320	21.63	22.0	4.053	31	0.033	1	0.033	Pass
5500-5720	23.69	24.0	4.12	31	0.054	1	0.054	Pass
5745-5825	29.53	30.0	4.789	31	0.249	1	0.249	Pass

*Ratio = Power density / Limit.

Beamforming mode

Frequency Range (MHz)	Maximum Conducted Power (dBm)	Maximum Tune Up limit (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)	*Ratio	Pass / Fail
2412-2462	25.87	26.0	10.056	31	0.334	1	0.334	Pass
5180-5240	26.37	26.5	9.561	31	0.334	1	0.334	Pass
5260-5320	19.91	20.0	9.949	31	0.082	1	0.082	Pass
5500-5720	20.26	20.5	9.625	31	0.085	1	0.085	Pass
5745-5825	25.98	26.0	9.850	31	0.318	1	0.318	Pass

*Ratio = Power density / Limit.

Remarks:

For 2412~2462MHz:

Directional gain = $10 \times \log((10^{3.698/20} + 10^{4.22/20} + 10^{3.516/20} + 10^{4.661/20})^2/4) = 10.056$ dBi

For 5180~5240MHz:

Directional gain = $10 \times \log((10^{3.664/20} + 10^{2.81/20} + 10^{3.587/20} + 10^{4.053/20})^2/4) = 9.561$ dBi

For 5260~5320MHz:

Directional gain = $10 \times \log((10^{3.749/20} + 10^{3.951/20} + 10^{3.956/20} + 10^{4.053/20})^2/4) = 9.949$ dBi

For 5500~5700MHz:

Directional gain = $10 \times \log((10^{2.763/20} + 10^{3.35/20} + 10^{4.111/20} + 10^{4.12/20})^2/4) = 9.625$ dBi

For 5745~5825MHz:

Directional gain = $10 \times \log((10^{2.649/20} + 10^{3.759/20} + 10^{3.986/20} + 10^{4.789/20})^2/4) = 9.850$ dBi

The device contains one certified BT module, FCC ID: Y82-DA14531MOD.

Frequency Range (MHz)	Maximum Tune Up limit (dBm)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm ²)	Limit (mW/cm ²)	*Ratio	Pass / Fail
2402-2480	2.2	-0.5	31	0.0001	1	0.0001	Pass

Note: Above output power value is from module's test report.

2.7 MPE EVALUATION OF SIMULTANEOUS TRANSMISSION

Non-beamforming mode

Mode	Max Ratio of Each Mode
WLAN 2.4GHz	0.192
WLAN 5GHz	0.249
BT	0.0001
Sum	0.4411
Limit	1
Pass / Fail	Pass

Beamforming mode

Mode	Max Ratio of Each Mode
Beamforming-WLAN 2.4GHz	0.334
Beamforming-WLAN 5GHz	0.334
Non-beamforming-BT	0.0001
Sum	0.6681
Limit	1
Pass / Fail	Pass

3 Test laboratory information

Established in 2012, ICC provides foremost EMC & RF Testing and advisory consultation services by our skilled engineers and technicians. Our services employ a wide variety of advanced edge test equipment and one of the widest certification extents in the business.

International Certification Corporation (EMC and Wireless Communication Laboratory), it is our definitive objective is to institute long term, trust-based associations with our clients. The expectation we set up with our clients is based on outstanding service, practical expertise and devotion to a certified value structure. Our passion is to grant our clients with best EMC / RF services by oriented knowledgeable and accommodating staff.

Our Test sites are located at Linkou District and Kwei Shan District. Location map can be found on our website <http://www.icertifi.com.tw>.

Linkou

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Kwei Shan

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St., Kwei Shan Dist., Tao Yuan
City 33381, Taiwan (R.O.C.)

Kwei Shan Site II

Tel: 886-3-271-8640

No.14-1, Lane 19, Wen San 3rd
St., Kwei Shan Dist., Tao Yuan
City 333, Taiwan (R.O.C.)

If you have any suggestion, please feel free to contact us as below information.

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