

FCC RF EXPOSURE REPORT

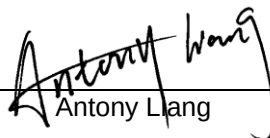
FCC ID: 2A29YPM6264S

Project No. : 2311C096
Equipment : Optical Network Terminal (ONT)
Brand Name : Radisys
Test Model : PM6264S
Series Model : N/A
Applicant : Radisys Corporation
Address : 8900 NE Walker Road, Suite#130, Hillsboro, OR 97006,USA
Manufacturer : Radisys Corporation
Address : 8900 NE Walker Road, Suite#130, Hillsboro, OR 97006,USA
Factory : Sercomm Corporation
Address : 8F, No. 3-1, YuanQu St. (Nankang Software Park) Taipei 115, Taiwan
Date of Receipt : Nov. 27, 2023
Date of Test : Nov. 28, 2023 ~ Dec. 19, 2023
Issued Date : Dec. 25, 2023
Report Version : R00
Test Sample : Engineering Sample No.: DG20231127171
Standard(s) : FCC Guidelines for Human Exposure IEEE C95.1 & FCC Part 2.1091
FCC Title 47 Part 2.1091

The above equipment has been tested and found compliance with the requirement of the relative standards by BTL Inc.

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REPORT ISSUED HISTORY

Report No.	Version	Description	Issued Date	Note
BTL-FCCP-4-2311C096	R00	Original Report	Dec. 25, 2023	Valid

1. TEST FACILITY

The test facilities used to collect the test data in this report is at the location of No. 3 Jinshagang 1st Rd. Shixia, Dalang Town, Dongguan City, Guangdong 523792.
BTL's Registration Number for FCC: 162128
BTL's Designation Number for FCC: CN5042

2. MPE CALCULATION METHOD

Calculation Method of RF Safety Distance:

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

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

Antenna Specification:

For 2.4GHz:

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	HLtronics	N/A	Dipole	N/A	3.1
2	HLtronics	N/A	Dipole	N/A	3.2
3	HLtronics	N/A	Dipole	N/A	3.7
4	HLtronics	N/A	Dipole	N/A	3.1

Note:

- 1) This EUT supports CDD, and all antenna gains are not equal, Directional gain = $G_{ANT} + \text{Array Gain}$,
For Power measurement, Array Gain = 0 dB($N_{ANT} \leq 4$), so Directional gain = $3.7 + 0 = 3.7$.
For Power Spectral Density measurement, $N_{ANT} = 4$, $N_{SS} = 1$,
So Directional gain = $G_{ANT} + \text{Array Gain} = G_{ANT} + 10 \log(N_{ANT}/N_{SS}) = 3.7 + 10 \log(4/1) = 9.72$
So the power spectral density limit is $8 - (9.72 - 6) = 4.28$.
- 2) The beamforming gain is 6dB. So Directional gain = $3.7 + 6 = 9.7 \text{ dBi}$,
So the power limit is $30 - (9.7 - 6) = 26.3$.
- 3) The antenna gain and beamforming gain are provided by the manufacturer.

For 5GHz:

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	HLtronics	N/A	Dipole	N/A	3.4
2	HLtronics	N/A	Dipole	N/A	3.9
3	HLtronics	N/A	Dipole	N/A	4.0
4	HLtronics	N/A	Dipole	N/A	3.4

Note:

- 1) This EUT supports CDD, and all antenna gains are not equal, Directional gain = $G_{ANT} + \text{Array Gain}$,
For Power measurement, Array Gain = 0 dB; so Directional gain = $4.0 + 0 = 4.0$.
For Power Spectral Density measurement, $N_{ANT} = 4$, $N_{SS} = 1$, Array Gain = $10 \log(N_{ANT}/N_{SS})$ dB,
So Directional gain = $G_{ANT} + \text{Array Gain} = G_{ANT} + 10 \log(N_{ANT}/N_{SS}) = 4.0 + 10 \log(4/1) = 10.02$
So the power spectral density limit is UNII-1: $17 - (10.02 - 6) = 12.98$,
UNII-2A & UNII-2C: $11 - (10.02 - 6) = 6.98$, UNII-4: $30 - (10.02 - 6) = 25.98$.
- 2) The beamforming gain is 6dB. So Directional gain = $4.0 + 6 = 10.0 \text{ dBi}$.
So the power limit is UNII-1: $30 - (10 - 6) = 26$, UNII-2A & UNII-2C: $23.98 - (10 - 6) = 19.98$,
UNII-4: $30 - (10 - 6) = 26$
- 3) The antenna gain and beamforming gain are provided by the manufacturer.

Table for Antenna Configuration:

For 2.4GHz:

For Non Beamforming:

Operating Mode	TX Mode	4TX
	IEEE 802.11b	V(Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4)
	IEEE 802.11g	V(Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4)
	IEEE 802.11n(HT20)	V(Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4)
	IEEE 802.11n(HT40)	V(Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4)
	IEEE 802.11ax(HE20)	V(Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4)
	IEEE 802.11ax(HE40)	V(Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4)

For Beamforming:

Operating Mode	TX Mode	4TX
	IEEE 802.11n(HT20)	V(Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4)
	IEEE 802.11n(HT40)	V(Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4)
	IEEE 802.11ax(HE20)	V(Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4)
	IEEE 802.11ax(HE40)	V(Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4)

For 5GHz:

For Non Beamforming:

Operating Mode	TX Mode	4TX
	IEEE 802.11a	V (Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4)
	IEEE 802.11n(HT20)	V (Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4)
	IEEE 802.11n(HT40)	V (Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4)
	IEEE 802.11ac(VHT20)	V (Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4)
	IEEE 802.11ac(VHT40)	V (Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4)
	IEEE 802.11ac(VHT80)	V (Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4)
	IEEE 802.11ac(VHT160)	V (Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4)
	IEEE 802.11ax(HE20)	V (Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4)
	IEEE 802.11ax(HE40)	V (Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4)
	IEEE 802.11ax(HE80)	V (Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4)
	IEEE 802.11ax(HE160)	V (Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4)

For Beamforming:

Operating Mode	TX Mode	4TX
	IEEE 802.11n(HT20)	V (Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4)
	IEEE 802.11n(HT40)	V (Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4)
	IEEE 802.11ac(VHT20)	V (Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4)
	IEEE 802.11ac(VHT40)	V (Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4)
	IEEE 802.11ac(VHT80)	V (Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4)
	IEEE 802.11ac(VHT160)	V (Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4)
	IEEE 802.11ax(HE20)	V (Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4)
	IEEE 802.11ax(HE40)	V (Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4)
	IEEE 802.11ax(HE80)	V (Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4)
	IEEE 802.11ax(HE160)	V (Ant. 1 + Ant. 2 + Ant. 3 + Ant. 4)

3. TEST RESULTS

For Non Beamforming:

For 2.4GHz:

Directional Gain (dBi)	Directional Gain (numeric)	Max. Output Power (dBm)	Max. Output Power (mW)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Test Result
3.7	2.34	25.52	356.45	0.11	1	Complies

For 5GHz:

Directional Gain (dBi)	Directional Gain (numeric)	Max. Output Power (dBm)	Max. Output Power (mW)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Test Result
4.0	2.51	28.11	647.14	0.21	1	Complies

For Beamforming:

For 2.4GHz:

Directional Gain (dBi)	Directional Gain (numeric)	Max. Output Power (dBm)	Max. Output Power (mW)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Test Result
9.7	9.33	24.81	302.69	0.36	1	Complies

For 5GHz:

Directional Gain (dBi)	Directional Gain (numeric)	Max. Output Power (dBm)	Max. Output Power (mW)	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Test Result
10.0	10.00	25.99	397.19	0.51	1	Complies

For the max simultaneous transmission MPE:

Ratio		Total	Limit of Ratio	Test Result
2.4GHz	5GHz			
0.36	0.51	0.87	1	Complies

Note: The calculated distance is 25 cm.

End of Test Report