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} + Array Gain,
   For Power measurement, Array Gain = 0 dB($N_{ANT} \leqslant 4$), so Directional gain=3.7+0=3.7.
   For Power Spectral Density measurement, N_{ANT} =4, N_{SS} =1,
   So Directional gain= G_{ANT} + 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=9.7dBi,
   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} + 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} + 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=10.0dBi.
   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