



# CTC Laboratories, Inc.

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## Maximum Permissible Exposure Evaluation

FCC ID: WNA-GN630V

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) Radiation as specified in §1.1307(b)

### EUT Specification

Product Name:	GPON ONU, GPON ONT
Trade Mark:	SKYWORTH
Model/Type reference:	GN630V
Listed Model(s):	GN630VH, GN630, GN630E, GN630VE, SK-G6210, SK-G6215, SK-G6225, WN37A
Frequency band (Operating)	WLAN: 2412MHz ~ 2462MHz RLAN: 5150MHz ~ 5350MHz RLAN: 5470MHz ~ 5725MHz RLAN: 5725MHz ~ 5850MHz
Device category	<input type="checkbox"/> Portable (<5mm separation) <input checked="" type="checkbox"/> Mobile (>20cm separation) <input type="checkbox"/> Fixed (>20cm separation) <input type="checkbox"/> Others ____
Exposure classification	<input type="checkbox"/> Occupational/Controlled exposure (S=5mW/cm2) <input checked="" type="checkbox"/> General Population/Uncontrolled exposure (S=1mW/cm2)
Antenna diversity	<input type="checkbox"/> Single antenna <input checked="" type="checkbox"/> Multiple antennas <input type="checkbox"/> Tx diversity <input type="checkbox"/> Rx diversity <input type="checkbox"/> Tx/Rx diversity
Antenna gain (Max)	WLAN: ANT0: 5.62dBi, ANT1: 5dBi RLAN: ANT0: 4.53dBi, ANT1: 5.91dBi
Evaluation applied	<input checked="" type="checkbox"/> MPE Evaluation <input type="checkbox"/> SAR Evaluation

### Limits for Maximum Permissible Exposure (MPE)

Frequency Range(MHz)	Electric Field Strength(V/m)	Magnetic Field Strength(A/m)	Power Density(mW/cm <sup>2</sup> )	Average Time
(A) Limits for Occupational/Control Exposures				
300-1500	--	--	F/300	6
1500-100000	--	--	5	6
(B) Limits for General Population/Uncontrol Exposures				
300-1500	--	--	F/1500	30
1500-100000	--	--	1	30

Friis transmission formula:  $P_d = (P_{out} * G) / (4 * \pi * R^2)$

Where

$P_d$  = Power density in mW/cm<sup>2</sup>

$P_{out}$  = output power to antenna in mW

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G= gain of antenna in linear scale

Pi= 3.1416

R= distance between observation point and center of the radiator in cm

Pd the limit of MPE 1mW/cm<sup>2</sup>. If we know the maximum gain of the antenna and total power input to the antenna, through the calculation, We will know the distance where the MPE limit is reached.

Measurement Result

Band	Frequency (MHz)	Directional Antenna Gain (dBi)	Maximum Power (dBm)	Average Power (dBm)	Tune up tolerance (dBm)	Max. Tune up Power (dBm)	Power Density at 20cm (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
WLAN 802.11ax(HE20)	2437	5.62	/	14.07	14±1	15	0.02295	1.000
RLAN U-NII-1 802.11a(ANT1)	5180	4.53	/	18.02	18±1	19	0.04485	1.000
RLAN U-NII-2A 802.11ax(HE40)	5310	5.91	/	18.07	18±1	19	0.06162	1.000
RLAN U-NII-2C 802.11ax(HE40)	5550	5.91	/	18.37	18±1	19	0.06162	1.000
RLAN U-NII-3 802.11ac(VHT80)	5775	5.91	/	17.99	17±1	18	0.04895	1.000

Worst case					
Type	Frequency (MHz)	Antenna Gain (dBi)	Power density at 20cm (mW/cm <sup>2</sup> )	WLAN+RLAN Power density at 20cm (mW/cm <sup>2</sup> )	Power density Limits (mW/cm <sup>2</sup> )
WLAN 802.11ax(HE20)	2437	5.62	0.02295	0.08457	1
RLAN U-NII-2C 802.11ax(HE40)	5550	5.91	0.06162		

Note:

1. For a more detailed features description, Please refer to the RF Test Report.

\*\*\*\*\*THE END\*\*\*\*\*