

Triton Network Systems, Inc

RF Safety Evaluation

**Models: TNS29-SNP12-100-XX
TNS29-SNP12-200-XX (Verification Only)**

FCC ID:OQT29SNP-12-02

Triton Network Systems, Inc.

47 CFR 101 Test Plan

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1. Summary

This report contains the RF safety evaluation for the 29 GHz OC-12 Wireless Consecutive Point to Point Millimeter Wave Transmitter System Models:
TNS29-SNP12-100-XX
TNS29-SNP12-200-XX

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2. RF Safety evaluation

The wireless consecutive point millimeter-wave transceiver models TNS29-SNP12-100-XX, TNS29-SNP12-200-XX are stationary fixed-mounted units with a maximum EIRP of 794 watts effective radiated power in the main lobe of the antenna. This is less than the 1,640 watts EIRP established by the FCC for RF safety evaluation, therefore the transmitter is categorically excluded from environmental assessment.

The radio equipment has the following physical characteristics:

Conducted Antenna Power	23 dBm
Antenna Gain	3981.1
Maximum Antenna Dimension	34.29 cm
Minimum Operating Frequency	29.1 GHz

The applicable theoretical calculation per FCC OET Bulletin-65 is shown below based on physical characteristics described above.

			FCC OET Bulletin-65 (Ed. 97-01) Equation Reference
Near Field Distance from Antenna Surface (m) $R_{nf} =$	2.85		Pg 31 - (12)
Distance to Beginning of Far Field from Antenna (m) $R_{ff} =$	6.84		Pg 33 - (16)
Distance to Reach $1\text{mW} / \text{cm}^2$ from antenna surface (m)	N/A		Pg 33 - (17,18)
		% of MPE $5\text{mW} / \text{cm}^2$	
Max Power Density at Antenna Surface (mW/cm^2) $S_s =$	0.86	17.28%	Pg 31 - (11)
Max Mainbeam Near-Field Power Density (mW/cm^2) $S_{nf} =$	0.32	6.30%	Pg 32 - (13)
Max Mainbeam Transition-Region Power Density (mW/cm^2) $S_t =$	0.32	6.30%	Pg 33 - (17)
Max Mainbeam Far-Field Power Density (mW/cm^2) $S_{ff} =$	0.13	2.70%	Pg 33 - (18)

From the above the following conclusions can be reached:

The TNS29 series transceivers comply with the $5\text{mW}/\text{cm}^2$ and $1\text{mW}/\text{cm}^2$ RF safety limits for the occupational RF workers and the general public, respectively.

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