

IEEE C95.1

KDB 447498 D03

47 C.F.R. Part 1, Subpart I, Section 1.1310

47 C.F.R. Part 2, Subpart J, Section 2.1091

RF EXPOSURE REPORT

For

300Mbps Wireless N VDSL2+ Modem Router

Model: DL4323U

Trade Name: netis

Issued for

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Issued Date: October 28, 2015



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Revision History

Rev.	Issue Date	Revisions	Effect Page	Revised By
00	10/28/2015	Initial Issue	All Page	Gloria Chang



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1. Limit

According to §15.247(i), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess of the Commission's guidelines. See § 1.1307(b)(1) of this chapter.

2. EUT Specification

Product Name	300Mbps Wireless N VDSL2+ Modem Router
Model Number	DL4323U
Identify Number	T150925D02
Received Date	September 25, 2015
Frequency band (Operating)	<input checked="" type="checkbox"/> 802.11b/g/gn HT20: 2412MHz ~ 2462MHz 802.11gn HT40: 2422MHz ~ 2452MHz <input type="checkbox"/> Others
Device category	<input type="checkbox"/> Portable (<20cm separation) <input checked="" type="checkbox"/> Mobile (>20cm separation) <input type="checkbox"/> Others
Exposure classification	<input type="checkbox"/> Occupational/Controlled exposure ($S = 5\text{mW}/\text{cm}^2$) <input checked="" type="checkbox"/> General Population/Uncontrolled exposure ($S=1\text{mW}/\text{cm}^2$)
Antenna Specification	Dipole Antenna x 2(Fixed) : Antenna 1 Gain : 5.26 dBi (Numeric gain: 3.36) Antenna 2 Gain : 5.26 dBi (Numeric gain: 3.36) Dipole Antenna x 2(Detachable) : Antenna 1 Gain : 5.19 dBi (Numeric gain: 3.30) Antenna 2 Gain : 5.19 dBi (Numeric gain: 3.30)
Maximum Peak output power	IEEE 802.11b Mode: 19.59 dBm (90.991 mW) IEEE 802.11g Mode: 25.66 dBm (368.129 mW) IEEE 802.11gn HT 20 Mode: 26.83 dBm (481.948 mW) IEEE 802.11gn HT 40 Mode: 25.06 dBm (320.627 mW)
Evaluation applied	<input checked="" type="checkbox"/> MPE Evaluation* <input type="checkbox"/> SAR Evaluation <input type="checkbox"/> N/A

3. Test Results

No non-compliance noted.

Calculation

$$\text{Given } E = \frac{\sqrt{30 \times P \times G}}{d} \quad \& \quad S = \frac{E^2}{377}$$

Where $E = \text{Field strength in Volts / meter}$

$P = \text{Power in Watts}$

$G = \text{Numeric antenna gain}$

$d = \text{Distance in meters}$

$S = \text{Power density in watts / meter}$

Combining equations and re-arranging the terms to express the distance as a function of the remaining variables yields:

$$S = \frac{30 \times P \times G}{377 d^2}$$

Changing to units of mW and cm, using:

$$P \text{ (mW)} = P \text{ (W)} / 1000 \text{ and}$$

$$d \text{ (cm)} = d \text{ (m)} / 100$$

Yields

$$S = \frac{30 \times (P/1000) \times G}{377 \times (d/100)^2} = 0.0796 \times \frac{P \times G}{d^2} \quad \text{Equation 1}$$

Where $d = \text{Distance in cm}$

$P = \text{Power in mW}$

$G = \text{Numeric antenna gain}$

$S = \text{Power density in mW / cm}^2$

4. Maximum Permissible Exposure

Substituting the MPE safe distance using $d = 20$ cm into Equation 1:

$$S = 0.000199 \times P \times G$$

Where

$P =$ Power in mW

$G =$ Numeric antenna gain

$S =$ Power density in mW / cm²

IEEE 802.11b mode:

Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm ²	Limit (mW/cm ²)
2462	90.991	3.36	20	0.0608	1

IEEE 802.11g mode:

Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm ²	Limit (mW/cm ²)
2437	368.129	3.36	20	0.2461	1

IEEE 802.11gn HT20 mode:

Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm ²	Limit (mW/cm ²)
2412	481.948	3.36	20	0.3222	1

IEEE 802.11gn HT40 mode:

Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm ²	Limit (mW/cm ²)
2422	320.627	3.36	20	0.2144	1