



RF EXPOSURE REPORT

REPORT NO.: SA991013C15A

MODEL NO.: CTR35

FCC ID: UXX-CTR35

ACCORDING: FCC Guidelines for Human Exposure
IEEE C95.1

APPLICANT: Cradlepoint, Inc.

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ISSUED BY: Bureau Veritas Consumer Products Services
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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
Original release	N/A	Apr. 06, 2011

1. RF EXPOSURE LIMIT

LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

FREQUENCY RANGE (MHz)	ELECTRIC FIELD STRENGTH (V/m)	MAGNETIC FIELD STRENGTH (A/m)	POWER DENSITY (mW/cm ²)	AVERAGE TIME (minutes)
LIMITS FOR GENERAL POPULATION / UNCONTROLLED EXPOSURE				
300-1500	F/1500	30
1500-100,000	1.0	30

F = Frequency in MHz

2. MPE CALCULATION FORMULA

$$P_d = (P_{out} * G) / (4 * \pi * r^2)$$

where

P_d = power density in mW/cm²

P_{out} = output power to antenna in mW

G = gain of antenna in linear scale

π = 3.1416

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

3. CLASSIFICATION

The antenna of this product, under normal use condition, is at least 20cm away from the body of the user. So, this device is classified as **Mobile Device**.

4. CALCULATION RESULT OF MAXIMUM CONDUCTED POWER

For FCC ID: UXX-CTR35

FREQUENCY BAND (MHz)	MAX POWER (dBm)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm ²)	LIMIT (mW/cm ²)
2412-2462	20.300	1	20	0.027	1.000

For FCC ID: XCNPXU1900 (4G dongle)

FREQUENCY BAND (MHz)	MAX POWER (dBm)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm ²)	LIMIT (mW/cm ²)
2496~2690	23.340	3	20	0.086	1.000

For FCC ID: N7N-MC5725U (3G dongle)

FREQUENCY BAND (MHz)	MAX POWER (dBm)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm ²)	LIMIT (mW/cm ²)
824~849	24.850	2.4	20	0.106	0.549
1850~1910	24.940	1.8	20	0.094	1.000

CONCLUSION:

The product can connect external USB dongle to support 3G/4G function. WLAN and 3G/4G function can work simultaneously.

The formula of calculated the MPE is:

$$CPD1 / LPD1 + CPD2 / LPD2 + \dots \text{etc.} < 1$$

CPD = Calculation power density

LPD = Limit of power density

1. WLAN+3G = $0.027 / 1 + 0.106 / 0.549 = 0.219$
2. WLAN+4G = $0.027 / 1 + 0.086 / 1 = 0.113$

Therefore, the maximum calculation of this situation is 0.219, which is less than the "1" limit.