



Excellence in Compliance Testing

Certification Exhibit

FCC ID: P2SCMIU-VZW-1

FCC Rule Part: 47 CFR Part 2.1091

ACS Project Number: 15-3049

Manufacturer: Neptune Technology Group
Model: CMIU

RF Exposure

General Information:

Applicant: Neptune Technology Group
Device Category: Mobile
Environment: General Population/Uncontrolled Exposure

The CMIU is collocated and transmits simultaneously with the Telit LTE radio.

Technical Information:**Table 1: Technical Information**

	Telit Communications, S.p.A. LTE modem Model LE910-SVG FCC ID: RI7LE910SV	Neptune Group Bluetooth LE Radio FCC ID: P2SCMIU-VZW-1
Frequency Bands (MHz)	Band 13: 777 to 787 MHz Band 4: 1710 to 1755 MHz	2402 to 2480
Antenna Type(s)	Ethertronics 1003076 (Diversity) Ethertronics 1003079 (Main)	Loaded Monopole
Antenna Gain (dBi)	Band 13: 1.28 Band 4: 1.9	-1.5
Conducted Power (dBm)	25	0

MPE Calculation:

The Power Density (mW/cm²) is calculated as follows:

$$S = \frac{PG}{4\pi R^2}$$

Where:

S = power density (in appropriate units, e.g. mW/cm²)

P = power input to the antenna (in appropriate units, e.g., mW)

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 (appropriate units, e.g., cm)

Table 2: MPE Calculation (Including Collocated Devices)

Transmit Frequency (MHz)	Radio Power (dBm)	Power Density Limit (mW/cm ²)	Radio Power (mW)	Antenna Gain (dBi)	Antenna Gain (mW eq.)	Distance (cm)	Power Density (mW/cm ²)	Radio
779.5	25	0.52	316.23	1.28	1.343	20	0.084	A
1712.5	25	1.00	316.23	1.9	1.549	20	0.097	B
2402	0	1.00	1.00	-1.5	0.708	20	0.00	C

Summation of MPE ratios – Simultaneous Transmissions

This device contains multiple transmitters which can operate simultaneously; therefore the maximum RF exposure is determined by the summation of MPE ratios. The limit is such that the summation of MPE ratios is ≤ 1.0 .

Table 3: Summation of MPE Ratios

	Scenario 1	Scenario 2
Radio A (Telit Band 13)	x	
Radio B (Telit Band 4)		x
Radio C (CMIU BTLE)	x	x
Radio A MPE Ratio	0.163	
Radio B MPE Ratio		0.0974
Radio C MPE Ratio	0.000	0.000
MPE Ratio Summation:	0.163	0.0974