Certification Exhibit

FCC ID: QZC-REXU
IC: 4557A-REXU

FCC Rule Part: 15.247
IC Radio Standards Specification: RSS-210

ACS Project Number: 12-0259

Manufacturer: Elster Solutions, LLC
Model: REXU

RF Exposure

General Information:
Applicant: Elster Solutions, LLC
ACS Project: 12-0259
Device Category: Mobile
Environment: General Population/Uncontrolled Exposure

Technical Information 900 MHz LAN Radio
Antenna Type: Embedded Slot Antenna
Antenna Gain Max: 4.07dBi
Transmitter Conducted Power: 29.94dBm, 986.28mW
Maximum System EIRP: 34.01dBm, 2517.68mW

Technical Information 802.15.4 Zigbee Radio
Antenna Type: Embedded Printed Inverted F Antenna
Antenna Gain Max: 3.82dBi
Transmitter Conducted Power: 20.27dBm, 106.41mW
Maximum System EIRP: 24.09dBm, 256.45mW

MPE Calculation
The Power Density (mW/cm^2) 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)

MPE Calculator for Mobile Equipment Limits for General Population/Uncontrolled Exposure							
Transmit Frequency (MHz)	Maximum Radio Power (dBm)	Power Density Limit (mW/Cm2)	Radio Power (mW)	Maximum Antenna Gain (dBi)	Maximum Antenna Gain (mW eq.)	Distance (cm)	Power Density (mW/cm^2)
902 - 928	29.97	0.62	993.12	4.07	2.553	20	0.504
2400 - 2483.5	20.27	1.00	106.41	3.82	2.410	20	0.051

Summation of Power Densities – Simultaneous Transmissions
This device contains multiple transmitters which can operate simultaneously and therefore the maximum RF exposure is determined by the summation of power densities. The 900 MHz LAN and 2.4GHz Zigbee radio can operate simultaneously there it is appropriate to include both of those power density values in the summation of power densities.

The maximum power density is calculated by a summation of power densities for each simultaneous transmission combination as follows:

      900MHz LAN: 0.504 (mW/cm^2)
      2.4GHz Zigbee: 0.051 (mW/cm^2)
      TOTAL: **0.555 (mW/cm^2)**