

RF Exposure Report

Project Number: 4453608

Proposal Number: 8572

Report Number: 4453608EMC02

Revision Level: 2

Client: Elster Solutions LLC

Equipment Under Test: SynergyNet Network Interface Card

Model: MNIC

FCC ID: QZC-MNIC

Applicable Standards: 47 C.F.R. §§ 2.1091

FCC KDB 447498 D01 General RF Exposure Guidance v06

Exhibit Date: 19 July 2019

Remarks: This report details the results of the testing carried out on one sample, the results contained in this test report do not relate to other samples of the same product. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

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1 General Information

1.1 Client Information

Name: Elster Solutions LLC
Address: 208 S. Rogers Lane
City, State, Zip, Country: Raleigh, NC 27610

1.1 Test Laboratory

Name: SGS North America, Inc.
Address: 620 Old Peachtree Road NW, Suite 100
City, State, Zip, Country: Suwanee, GA 30024, USA

Accrediting Body: A2LA
Type of lab: Testing Laboratory
Certificate Number: 3212.01

1.2 General Information of EUT

Type of Product: Mini Network Interface Card
Model: MNIC
Serial Number: Not Labeled
FCC ID: QZC-MNIC
Frequency Range: 902.4-927.6MHz
Data Modes: Mode 2 (high power with data rate 150kbps)
Antenna: PCB Trace Antenna
Antenna Gain: 1.71dBi

Rated Voltage: 90-276Vac 50/60Hz
Tested Voltage: 120Vac 60Hz

Sample Received Date: 12 December 2018
Dates of testing: 12 April – 15 April 2019

1.3 Operating Modes and Conditions

The client programmed three different transmitter modules to transmit at Low, Mid and High Channels (902.4MHz, 916.5MHz, 927.6MHz).

The modules were installed in the host which was programmed by the client to continuously transmit when powered on.

2 RF Exposure

2.1 Test Result

Test Description	Product Specific Standard	Test Result
RF Exposure	FCC Part 1.1310	Compliant

2.2 Test Method

Using the maximum power (including tune-up tolerances), the power density was calculated. Maximum antenna gain was assumed for this exercise.

2.3 Single transmission RF Exposure Levels (mW/cm²)

Average Power at the antenna:	996 mW
Average Power at the antenna:	29.98 dBm
Antenna gain:	1.71 dBi
Distance of interest:	31 cm
Frequency of operation:	902 MHz

Estimated RF Power Density: 1.2227 W/m²

	Controlled Environment	Uncontrolled Environment
Limit of Maximum Permissible Exposure (MPE)	30.07 W/m ²	6.01 W/m ²
Distance to Compliance From Centre of Antenna	2.46 inches 6.25 cm	5.5 inches 13.98 cm
In Compliance at distance of interest?	Yes	Yes

$$10^{\frac{P_{dBm} + G_{Antenna}}{10}} * \frac{1 W}{1000 mW} * \frac{1}{4\pi r^2} = P_{density} W/m^2$$

3 Revision History

Revision Level	Description of changes	Revision Date
0	Initial release	24 April 2019
1	Correct test data Added Exhibit Date and Revision History Corrected Client and EUT information to match grant.	26 June 2019
2	Updated model number throughout report	19 July 2019