

RF Exposure Report

Project Number: 3811993

Report Number: 3811993EMC03 **Revision Level:** 0

Client: Continental Automotive Systems, Inc.

Equipment Under Test: Wireless Modem Module

Model Name: TVN

Applicable Standards: Part 2, Part 22(H), Part 24(E)

RSS-102, Issue 5

RSS-130, Issue 1

RSS-132, Issue 3

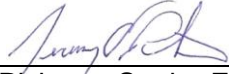
RSS-133, Issue 6

RSS-139, Issue 3

Report issued on: 23 September 2015

Test Result: Compliant

Tested by:



Jeremy O. Pickens, Senior EMC Engineer

Reviewed by:



David Schramm, EMC/RF/SAR/HAC Manager

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.

This report may only be reproduced and distributed in full. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards. Any mention of SGS International Electrical Approvals or Testing done by SGS International Electrical Approvals in connection with distribution or use of the product described in this report must be approved by SGS international Electrical Approvals in writing.

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1 Summary of Test Results

Basic Standards	Test Result
Emissions Testing	
Radiated Power: ERP	Reported

1.1 *Modifications Required to Compliance*

None

2 General Information

2.1 *Client Information*

Name: Continental Automotive System, Inc..
 Address: 21440 West Lake Cook Road
 City, State, Zip, Country: Deer Park, IL 60010, USA

2.2 *Test Laboratory*

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

2.3 *General Information of EUT*

Type of Product: Wireless Modem Module
 Model Number: TVN
 FCC ID: LHJ-TVN
 IC ID: 2807E-TVN
 IMEI Number: 352584070000267

Rated Voltage: 10.2 - 13.8 Vdc,
 Test Voltage: 12 Vdc

Tx Frequency Range: 826.4– 846.6 MHz (WCDMA Band V)
 1852.4– 1907.6 MHz (WCDMA Band II)
 1850 - 1910 MHz (LTE Band 2)
 1710 – 1755 MHz (LTE Band 4)
 824 – 849 MHz (LTE Band 5)
 777 – 787 MHz (LTE Band 13)

FCC Classification: PCS Licensed Transmitter PCB
 Type: Pre Production

Sample Received Date: 28 July 2015
 Dates of testing: 17 Aug - 22 Sept 2015

2.4 *Operating Modes and Conditions*

For this assessment, the EUT's maximum power including the maximum tolerance was considered.

3 RF Exposure

3.1 Test Result

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

3.2 Test Method

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

3.3 Test Site

SGS EMC Laboratory, Suwanee, GA

3.4 Test Equipment

None

3.5 Test Data

Band of Operation			Maximum + Tolerance Conducted Power, dBm	
Type	Band	Range, MHz	dBm	mW
WCDMA	Band 5	824-849	26.0	398
WCDMA	Band 2	1850-1910	26.0	398
LTE	Band 2	1850-1910	25.0	316
LTE	Band 4	1710-1755	25.0	316
LTE	Band 5	824-849	25.0	316
LTE	Band 13	777-787	25.0	316

Antenna Gain	Cable Loss
6.0	1.0
6.0	1.0
6.0	1.0
6.0	1.0
6.0	1.0
6.0	1.0

Band of Operation			Radiated Power, dBm		Average EIRP mW	Distance (R) cm	Power Density $EIRP_{Avg}/(4\pi R^2)$ mW	FCC Limit mW/cm ²	IC Limit mW/cm ²
Type	Band	Range, MHz	dBm	mW					
WCDMA	Band 5	824-849	31.0	1259	1259	20	0.250	0.55	0.26
WCDMA	Band 2	1850-1910	31.0	1259	1259	20	0.250	1.00	0.45
LTE	Band 2	1850-1910	30.0	1000	1000	20	0.199	1.00	0.45
LTE	Band 4	1710-1755	30.0	1000	1000	20	0.199	1.00	0.42
LTE	Band 5	824-849	30.0	1000	1000	20	0.199	0.55	0.26
LTE	Band 13	777-787	30.0	1000	1000	20	0.199	0.47	0.25

Simultaneous WCDMA and LTE transmissions are not possible with the TVN module.

4 Revision History

Revision Level	Description of changes	Revision Date
0	Initial release	23 September 2015