

RF Exposure Report

Project Number: 3807621

Report Number: 3807621EMC03 **Revision Level:** 2

Client: Continental Automotive Systems, Inc.

Equipment Under Test: Wireless Modem Module

Model Name: FAN

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: 25 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.

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1 Summary of Test Results

Basic Standards		Test Result
Radiated Power: ERP	FCC Part 1.1310 RSS-102	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: FAN
 FCC ID: LHJ-FAN
 IC ID: 2807E-FAN
 S/N: CJ0825157000345
 IMEI Number: 352598070013450

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)
 704 – 716 MHz (LTE Band 17)

FCC Classification: PCS Licensed Transmitter PCB
 Type: Pre Production

Sample Received Date: 28 July 2015
 Dates of testing: 17 Aug - 31 Aug 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 RSS-102	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 17	704-716	25.0	316

Antenna Gain	Cable Loss
6.0	1.0
6.0	1.0
6.0	1.0
5.0	1.0
6.0	1.0
6.0	1.0

Band of Operation			Radiated Power, dBm		Average EIRP	Distance (R)	Power Density $EIRP_{avg}/(4\pi R^2)$	FCC Limit	IC Limit
Type	Band	Range, MHz	dBm	mW	mW	cm	mW	mW/cm ²	mW/cm ²
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	29.0	794	794	20	0.158	1.00	0.42
LTE	Band 5	824-849	30.0	1000	1000	20	0.199	0.55	0.26
LTE	Band 17	704-716	30.0	1000	1000	20	0.199	0.47	0.25

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

4 Revision History

Revision Level	Description of changes	Revision Date
0	Initial release	8 September 2015
1	- Added IC ID on page 3	17 September 2015
2	- Added RSS-102 references to cover, page 3, and page 4 - Corrected IC exposure limits on page 4 - Removed simultaneous transmission calculations on page 4	25 September 2015