

RF Exposure Report

Project Number: 4022869

Report Number: 4022869EMC04

Revision Level: 0

Client: Continental Automotive Systems, Inc.

Equipment Under Test: Wireless Modem Module

Model Name: BL28NA-001

Applicable Standards: 47 C.F.R. §§ 2.1091 and 2.1093; FCC KDB 447498
FCC OET Bulletin 65 Supplement

Report issued on: 20 October 2016

Test Result: Compliant

Tested by:



Fabian Nica, Senior Engineering Technician

Reviewed by:



Jeremy Pickens, Senior EMC Engineer

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

1.2 Test Laboratory

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

1.3 General Information of EUT

Type of Product: Wireless Modem Module
Model Number: BL28NA-001
Serial Number: Not Labeled
IMEI Number: 004401810126637

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

Tx Frequency Range: 1850 - 1910 MHz (LTE/WCDMA Band 2 / GSM1900)
1710 – 1755 MHz (LTE/WCDMA Band 4)
824 – 849 MHz (LTE/WCDMA Band 5 / GSM850)
2500 – 2570 (LTE Band 7)
699 – 716 (LTE Band 12)
777 – 787 MHz (LTE Band 13)
704 – 716 (LTE Band 17)

FCC Classification: PCS Licensed Transmitter PCB
Type: Pre Production

Sample Received Date: 05 August 2016

1.4 Operating Modes and Conditions

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

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. Since the device is not provided with antennas, the maximum antenna gain was calculated that still complied with the limits at a 20cm distance.

2.3 Single transmission RF Exposure Levels

Band of Operation		Conducted Power w/tolerance	Antenna Gain	Cable Loss	Average EIRP		Distance (R)	Power Density EIRP _{Avg} /(4πR ²)	FCC	% of Limit	Verdict
Type	MHz	dBm			dBm	mW	cm	mW	mW/cm ²		
LTE Band 2	1850-1910	24.3	5.0	1.0	28.3	676	20	0.135	1.00	13%	Pass
LTE Band 4	1710-1755	24.3	5.0	1.0	28.3	676	20	0.135	1.00	13%	Pass
LTE Band 5	824-849	24.0	5.0	1.0	28.0	631	20	0.126	0.55	23%	Pass
LTE Band 7	2500-2570	24.2	5.0	1.0	28.2	661	20	0.131	1.00	13%	Pass
LTE Band 12	699-716	24.0	5.0	1.0	28.0	631	20	0.126	0.47	27%	Pass
LTE Band 13	777-787	23.7	5.0	1.0	27.7	589	20	0.117	0.52	23%	Pass
LTE Band 17	704-716	23.9	5.0	1.0	27.9	617	20	0.123	0.47	26%	Pass
WCDMA Band II	1850-1910	23.3	5.0	1.0	27.3	537	20	0.107	1.00	11%	Pass
WCDMA Band IV	1710-1755	24.7	5.0	1.0	28.7	741	20	0.147	1.00	15%	Pass
WCDMA Band V	824-849	23.8	5.0	1.0	27.8	603	20	0.120	0.55	22%	Pass
GSM 850	824-849	26.7	5.0	1.0	30.7	1175	20	0.234	0.55	43%	Pass
GSM 1900	1850-1910	24.7	5.0	1.0	28.7	741	20	0.147	1.00	15%	Pass

Simultaneous transmissions are not possible with the BL28NA-001 module.

3 Revision History

Revision Level	Description of changes	Revision Date
0	Initial release	20 October 2015