

RF Exposure TEST REPORT



Report No.: **SL13071801-LHS-002-RF Exposure**

Supersede Report No.: **NONE**

Applicant	:	Legrand Home Systems Division, North America
Product Name	:	TopDog Modular RF Transceiver
Model No.	:	203015
Test Standard	:	FCC 47 CFR §1.1307(b) FCC 47 CFR §1.1310
Test Method	:	ANSI C63.4:2009 FCC Public Notice DA 00-705
FCC ID	:	YV8-203015
IC ID	:	9922A-203015
Dates of test	:	October 14th - November 7th , 2013
Issue Date	:	11/15/2013
Test Result	:	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail
Equipment complied with the specification	[X]	
Equipment did not comply with the specification	[]	

This Test Report is Issued Under the Authority of:

Nima Molaei	David Zhang
Test Engineer	Engineer Reviewer

Issued By:

SIEMIC Laboratories
775 Montague Expressway, Milpitas, 95035 CA



TESTING CERT # 2742-01

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Test result presented in this test report is applicable to the representative sample only.

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Laboratory Introduction

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In addition to testing and certification, SIEMIC provides initial design reviews and compliance management throughout a project. Our extensive experience with China, Asia Pacific, North America, European, and International compliance requirements, assures the fastest, most cost effective way to attain regulatory compliance for the global markets.

Accreditations for Conformity Assessment

Country/Region	Accreditation Body	Scope
USA	FCC, A2LA	EMC , RF/Wireless , Telecom
Canada	IC, A2LA, NIST	EMC, RF/Wireless , Telecom
Taiwan	BSMI , NCC , NIST	EMC, RF, Telecom , Safety
Hong Kong	OFTA , NIST	RF/Wireless , Telecom
Australia	NATA, NIST	EMC, RF, Telecom , Safety
Korea	KCC/RRA, NIST	EMI, EMS, RF , Telecom, Safety
Japan	VCCI, JATE, TELEC, RFT	EMI, RF/Wireless, Telecom
Mexico	NOM, COFETEL, Caniety	Safety, EMC , RF/Wireless, Telecom
Europe	A2LA, NIST	EMC, RF, Telecom , Safety

Accreditations for Product Certifications

Country	Accreditation Body	Scope
USA	FCC TCB, NIST	EMC , RF , Telecom
Canada	IC FCB , NIST	EMC , RF , Telecom
Singapore	iDA, NIST	EMC , RF , Telecom
EU	NB	EMC & R&TTE Directive
Japan	MIC (RCB 208)	RF , Telecom
HongKong	OFTA (US002)	RF , Telecom

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1 Report Revision History

Report No.	Report Version	Description	Issue Date
SL13071801-LHS-002-RF Exposure	Original	-	11/15/2013

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2 Executive Summary

The purpose of this test program was to demonstrate compliance of the Legrand Home Systems Division, North America, TopDog Modular RF Transceiver, and model: 203015 against the current Stipulated Standards. The 203015 has demonstrated compliance with the Stipulated Standard listed on 1st page.

3 Customer information

Applicant Name	:	Legrand Home Systems Division, North America
Applicant Address	:	301 Fulling Mill Rd, Suite G, Middletown, PA 17057 USA
Manufacturer Name	:	Legrand Home Systems Division, North America
Manufacturer Address	:	301 Fulling Mill Rd, Suite G, Middletown, PA 17057 USA

4 Test site information

Lab performing tests	:	SIEMIC Laboratories
Lab Address	:	775 Montague Expressway, Milpitas, CA 95035
FCC Test Site No.	:	881796
IC Test Site No.	:	4842D-2
VCCI Test Site No.	:	A0133

5 Modification

Index	Item	Description	Note
-	-	-	-

6 EUT Information

6.1 EUT Description

Product Name	:	TopDog Modular RF Transceiver
Model No.	:	203015
Trade Name	:	Legrand
Serial No.	:	40J132000083
Input Power	:	5VDC,2A
Power Adapter Manu/Model	:	Powertron Electronics Crop./PA1015-1DU
Power Adapter SN	:	B1001021100500834
Hardware version	:	-
Software version	:	-
Date of EUT received	:	October 14th, 2013
Equipment Class/ Category	:	DTS (this is Hybrid system device)
Clock Frequencies	:	-
Port/Connectors	:	-

6.2 Radio Description

Spec for Radio part -

Radio Type	Description
Operating Frequency	904.86-924.87 MHz
Modulation	FSK
Antenna Type	Ethertronics PN M620710 Chip Antenna
Antenna Gain	2.56 dBi
Channel Separation	N/A
Number of Channels	5

6.3 EUT test modes/configuration Description

Test Item	Operating mode	Tested antenna port	Test frequencies (MHz)
AC Line Conducted Emissions Voltage	Continuous Transmit	-	904.86-924.87
Channel Separation	Continuous Transmit	-	904.86-924.87
Occupied Bandwidth	Continuous Transmit	-	904.86-924.87
20dB Bandwidth	Continuous Transmit	-	904.86-924.87
Peak Power Density	Continuous Transmit	-	904.86-924.87
Radiated Spurious Emissions	Continuous Transmit	-	904.86-924.87
Time of Occupancy	Continuous Transmit	-	904.86-924.87
Output Power	Continuous Transmit	-	904.86-924.87
Receiver Spurious Emissions	RX Mode	-	904.86-924.87
100 KHz Bandwidth of Frequency Band Edge	Continuous Transmit	-	904.86-924.87
Maximum Permissible Exposure	Continuous Transmit	-	904.86-924.87
Hopping Capability	Continuous Transmit	-	904.86-924.87

7 MPE Calculation

RF Exposure Requirements:	47 CFR §1.1307(b)
RF Radiation Exposure Limits:	47 CFR §1.1310
RF Radiation Exposure Guidelines:	FCC OST/OET Bulletin Number 65
EUT Frequency Band:	904.86-924.8 MHz
Limits for General Population/Uncontrolled Exposure in the band of:	300-1500 MHz
Power Density Limit:	0.62 mW/cm ²

Equation: $S = PG / 4\pi R^2$ or $R = \sqrt{PG / 4\pi S}$

Where, S = Power Density
 P = Power Input to Antenna
 G = Antenna Gain
 R = distance to the center of radiated antenna

Prediction distance 20cm

Power = 7.939dBm, Antenna gain= 2.56 dBi, Power density=0.0022 mW/cm²

Maximum MPE is 0.0022 mW/cm², which is less than 0.62 mW/cm²;

The Above Result had shown that Device complied with MPE requirement

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