

# RF Exposure Report

**Project Number:** 3878032

**Report Number:** 3878032EMC07

**Revision Level:** 0

**Client:** ADTRAN, Inc.

**Equipment Under Test:** 802.11ac 5G Radio Module

**Model Name:** PCE4551AH-BS

**FCC ID:** HDCWLAN203XF1

**IC ID:** 2250A-WLAN203XF1

**Applicable Standards:** FCC Part 2

FCC Part 15 Subpart C, § 15.247

FCC Part 15 Subpart C, § 15.407

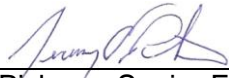
RSS-102, Issue 5

RSS-247, Issue 1, May 2015

**Report issued on:** 11 January 2016

**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.

## TABLE OF CONTENTS

<b>1</b>	<b>SUMMARY OF TEST RESULTS</b> .....	<b>3</b>
1.1	MODIFICATIONS REQUIRED TO COMPLIANCE .....	3
<b>2</b>	<b>GENERAL INFORMATION</b> .....	<b>3</b>
2.1	CLIENT INFORMATION .....	3
2.2	TEST LABORATORY .....	3
2.3	GENERAL INFORMATION OF EUT .....	3
2.4	OPERATING MODES AND CONDITIONS .....	3
<b>3</b>	<b>RF EXPOSURE</b> .....	<b>4</b>
3.1	TEST RESULT .....	4
3.2	TEST METHOD .....	4
3.3	TEST SITE .....	4
3.4	TEST EQUIPMENT .....	4
3.5	TEST DATA .....	4
<b>4</b>	<b>REVISION HISTORY</b> .....	<b>5</b>

## 1 Summary of Test Results

Basic Standards	Test Result
<b>Emissions Testing</b>	
Radiated Power: ERP	Reported

### 1.1 *Modifications Required to Compliance*

None

## 2 General Information

### 2.1 *Client Information*

Name: ADTRAN, Inc.  
 Address: 901 Explorer Blvd.  
 City, State, Zip, Country: Huntsville, AL 35806

### 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: 802.11ac 5G Radio Module  
 Model: PCE4551AH-BS  
 Serial Number: Not Labeled

Frequency Range: 5150 to 5250 MHz and 5725 to 5825MHz  
 Data Modes: 802.11a, 802.11n (HT20), 802.11n (HT40), 802.11ac (VHT20), 802.11ac (VHT40), 802.11ac (VHT80)  
 Antenna: TerraWave, 2.4/5 GHz, 13/7 dBi High Density MIMO Patch Array (P/N: M6013070P30006I)

Rated Voltage: 48Vdc (PoE) Delivered to Host Device

Sample Received Date: 16 September 2015  
 Dates of testing: 05 – 27 October 2015

### 2.4 *Operating Modes and Conditions*

For this assessment, the EUT's maximum measured conducted power for each band was considered. The information was pulled from the original filing.

### 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 recorded in the original filing, the power density was calculated for each antenna. If necessary, the minimum separation distance was adjusted to achieve compliance.

#### 3.3 Test Site

SGS EMC Laboratory, Suwanee, GA

#### 3.4 Test Equipment

None

#### 3.5 Test Data

Band of Operation			Maximum Conducted Power, dBm	
Type	Band	Range, MHz	dBm	mW
802.11b/g/n	2.4GHz	2412-2462	23.8	241
802.11a/n	5GHz	5180-5240	16.4	44
802.11a/n	5GHz	5745-5825	29.8	962

Antenna Gain	Cable Loss
13.0	0.0
7.0	0.0
7.0	0.0

Band of Operation			Radiated Power, dBm		Average EIRP mW	Distance (R) cm	Power Density $EIRP_{avg}/(4\pi R^2)$ mW/cm <sup>2</sup>	FCC Limit mW/cm <sup>2</sup>	IC Limit mW/cm <sup>2</sup>
Type	Band	Range, MHz	dBm	mW					
802.11b/g/n	2.4GHz	2412-2462	36.8	4809	4809	35	0.312	1.00	0.53
802.11a/n	5GHz	5180-5240	23.4	221	221	35	0.014	1.00	0.90
802.11a/n	5GHz	5745-5825	36.8	4821	4821	35	0.313	1.00	0.97

Simultaneous Operation			Radiated Power, dBm		Average EIRP mW	Distance (R) cm	Normalized Power Density % of Limit	Normalized FCC Limit %	Normalized IC Limit %
Type	Band	Freq MHz	dBm	mW					
2412+5180	2.4G + 5G	2412	37.0	5029	5029	35	0.605	1.00	1.00
2412+5825	2.4G + 5G	2412	39.8	9630	9630	35	0.912	1.00	1.00

2.4GHz conducted power obtained from HDCWLAN193XF1 filing  
5GHz conducted power obtained from HDCWLAN203XF1 filing

## 4 Revision History

Revision Level	Description of changes	Revision Date
0	Initial release	11 January 2016