


# RF Exposure Report

**Project Number:** 4694815**Proposal:** 11548r2**Report Number:** 4694815EMC09**Revision Level:** 0**Client:** BlueCats US, LLC**Equipment Under Test:** BC2611**Model:** BC2611**FCC ID:** 2AHXCBC2611**Applicable Standards:** 47 CFR §§ 2.1093;**FCC KDB 447498 D01 General RF Exposure Guidance v06****Report issued on:** 12 January 2021**Result:** Exempt

Evaluated by:

  
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*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: BlueCats US, LLC  
Address: 6767 Old Madison Pike Suite 300  
City, State, Zip, Country: Huntsville, AL 35806

## 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

Accrediting Body: A2LA  
Type of lab: Testing Laboratory  
Certificate Number: 3212.01

## 1.3 General Information of EUT

Product Marketing Name (PMN): BC2611  
Model Number (HVIN): BC2611

Serial Number: D42CC7015D2 (UWB), D42CC701523 (BLE)

Rated Voltage: 5 Vdc (Input)  
Test Voltage: 3.6 Vdc (Battery)

## 1.4 Transmitter Specification - BLE

Modulation Techniques: GFSK,  $\pi/4$  DQPSK, 8DPSK  
Data Rates: S2, S8 PHY, 1M, 2M  
Frequency Range: 2402-2480 MHz

Antenna Gain: 0.71 dBi (2400-2500 MHz)  
Antenna Type PCB Trace  
Antenna Frequency Range: 2400 - 2500 MHz

## 1.5 Transmitter Specification - UWB

Modulation Techniques: UWB  
Data Rates: HRP (850Kbps and 6.8Mbps)  
Frequency Range: 6000-8500 MHz (Channel 5 and 9)

Antenna Gain: 0.0 dBi  
Antenna Type Integrated PCB Trace  
Antenna Frequency Range: 6000-9000 MHz

## 1.6 Operating Modes and Conditions

Maximum Conducted Power levels were utilized for all calculations. Simultaneous transmission is possible.

## 2 SAR Exclusion Calculations

### 2.1 Bluetooth Low Energy

447498 D01 General RF Exposure Guidance v06

SAR test exclusion calculations

Section 4.3: General SAR test exclusion guidance / Section 4.3.1: Standalone SAR test exclusion considerations

	Input	Select Units
Max Power:	3.75	dBm
Antenna Gain:	0.71	dBi
Duty Cycle:	100.0%	<== Source based time average duty cycle
Min separation distance:	5	mm
Frequency, f:	2480	MHz

Value reference Number	Values used for Calculation	Reference number definition
v1	2.79	mW [max. power of channel, including tune-up tolerance, mW] 'Rounded to nearest mW'
v2	5	mm [min. test separation distance, mm] 'Rounded to nearest mm'
v3	1.575	[ $\sqrt{f}$ (GHz)]

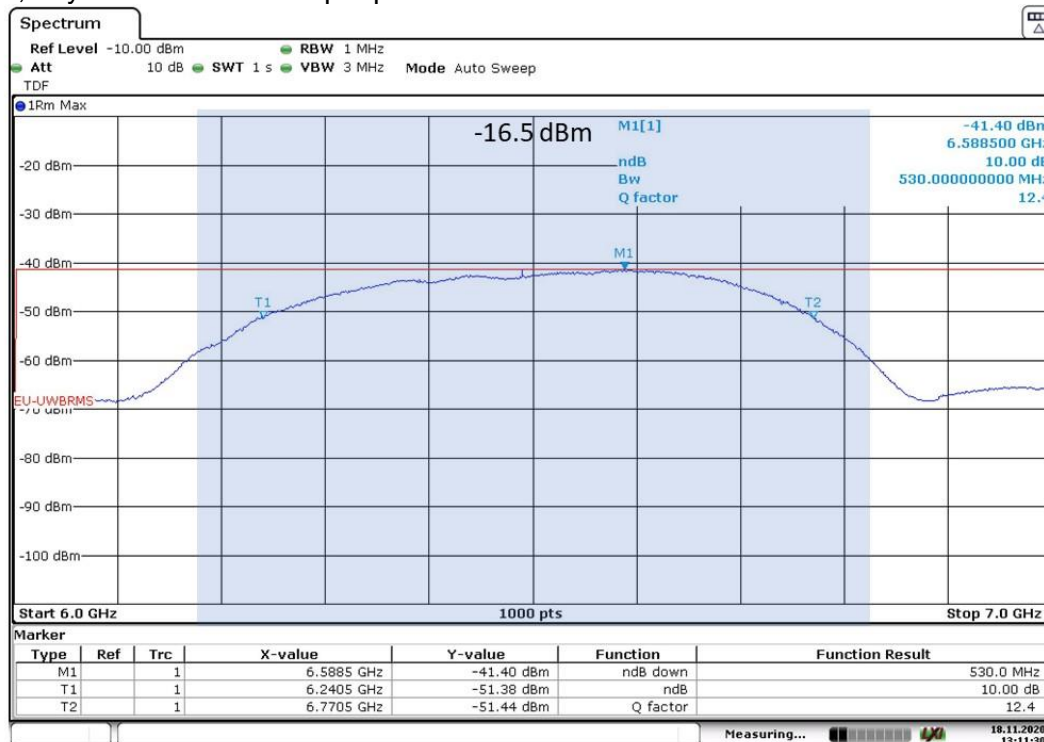
- a) For 100 MHz to 6 GHz and test separation distances  $\leq 50$  mm, the 1-g and 10-g SAR test exclusion thresholds are determined by the following:  
 $[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f}(\text{GHz})] \leq 3.0$  for 1-g SAR, and  $\leq 7.5$  for 10-g extremity SAR,

Exclusion Calculation(1g):	0.9	number	<== [v2 / v3] must be less than 3
Exclusion Calculation(10g):	2.2	number	<== [v2 / v3] must be less than 7.5

Conclusions (Body):	The EUT max power is BELOW the threshold. SAR Testing is NOT required for Body applications
Conclusions (Extremity):	The EUT max power is BELOW the threshold. SAR Testing is NOT required for Extremity applications

### 2.2 UWB

Above 6GHz, any device with an output power of less than 1mW is excluded from further evaluation.



Integrated RMS Power = -16.5dBm = 0.022mW

### 2.3 ***Simultaneous Transmissions***

The Bluetooth radio operates at 30% of the Body Application exclusion limit and the UWB operates at 2.2% of the 1mW exclusion limit. The sum of these is 32.2% compared to a limit of 100%.

### 3 Revision History

Revision Level	Description of changes	Revision Date
0	Initial release	12 January 2021