

## RF Exposure Report

**Report No.:** SA150623E09

**FCC ID:** U8G-P1934

**Test Model:** MAX BR1 PRO LTE

**Series Model:** MAX BR1 PRO, MAX BR2, MAX BR4, Pismo 934, Surf SOHO,  
Surf SOHO LTE, MAX BR2 LTE, MAX BR4 LTE

**Received Date:** June 23, 2015

**Test Date:** July 13 to 14, 2015

**Issued Date:** July 24, 2015

**Applicant:** Pismo Labs Technology Limited

**Address:** FLAT/RM A5, 5/F, HK SPINNERS IND BLDG PHASE 6, 481 CASTLE PEAK  
ROAD, CHEUNG SHA WAN, HONG KONG.

**Issued By:** Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch  
Hsin Chu Laboratory

**Lab Address:** No. 81-1, Lu Liao Keng, 9th Ling, Wu Lung Tsuen, Chiung Lin Hsiang, Hsin  
Chu Hsien 307, Taiwan R.O.C.

**Test Location (1):** No. 81-1, Lu Liao Keng, 9th Ling, Wu Lung Tsuen, Chiung Lin Hsiang, Hsin  
Chu Hsien 307, Taiwan R.O.C.

**Test Location (2):** No. 49, Ln. 206, Wende Rd., Shangshan Tsuen, Chiung Lin Hsiang, Hsin  
Chu Hsien 307, Taiwan R.O.C.

This report is for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. This report sets forth our findings solely with respect to the test samples identified herein. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof based upon the information that you provided to us. You have 60 days from date of issuance of this report to notify us of any material error or omission caused by our negligence, provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents. Unless specific mention, the uncertainty of measurement has been explicitly taken into account to declare the compliance or non-compliance to the specification. The report must not be used by the client to claim product certification, approval, or endorsement by any government agencies.



## Table of Contents

<b>Release Control Record</b> .....	<b>3</b>
<b>1 Certificate of Conformity</b> .....	<b>4</b>
<b>2 RF Exposure</b> .....	<b>5</b>
2.1 Limits For Maximum Permissible Exposure (MPE).....	5
2.2 Mpe Calculation Formula .....	5
2.3 Classification .....	5
<b>3 Calculation Result Of Maximum Conducted Power</b> .....	<b>7</b>



A D T

### Release Control Record

Issue No.	Description	Date Issued
SA150623E09	Original release.	July 24, 2015

## 1 Certificate of Conformity

**Product:** Industrial-Grade M2M Cellular Router

**Brand:** Pepwave / Peplink / Pismo

**Test Model:** MAX BR1 PRO LTE

**Series Model:** MAX BR1 PRO, MAX BR2, MAX BR4, Pismo 934, Surf SOHO, Surf SOHO LTE, MAX BR2 LTE, MAX BR4 LTE

**Sample Status:** MASS-PRODUCTION

**Applicant:** Pismo Labs Technology Limited

**Test Date:** July 13 to 14, 2015

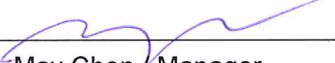
**Standards:** FCC Part 2 (Section 2.1091)

KDB 447498 D03

IEEE C95.1

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

**Prepared by :** , **Date:** July 24, 2015  
Claire Kuan / Specialist

**Approved by :** , **Date:** July 24, 2015  
May Chen / Manager

## 2 RF Exposure

### 2.1 Limits For Maximum Permissible Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm <sup>2</sup> )	Average Time (minutes)
Limits For General Population / Uncontrolled Exposure				
300-1500	...	...	F/1500	30
1500-100,000	...	...	1.0	30

F = Frequency in MHz

### 2.2 MPE Calculation Formula

$$P_d = (P_{out} * G) / (4 * \pi * r^2)$$

where

P<sub>d</sub> = power density in mW/cm<sup>2</sup>

P<sub>out</sub> = output power to antenna in mW

G = gain of antenna in linear scale

π = 3.1416

R = distance between observation point and center of the radiator in cm

### 2.3 Classification

The antenna of this product, under normal use condition, is at least 25cm away from the body of the user.

So, this device is classified as **Mobile Device**.

### 3 Antenna Gain

The antennas provided to the EUT, please refer to the following table:

WLAN Antenna Spec.							
No.	Transmitter Circuit	Brand	Model No.	Antenna Type	Antenna Connector	Gain(dBi) including cable loss	Frequency (GHz to GHz)
1	Chain (0)	SmartAnt	SAA06-220690	Dipole	RP-SMA	3	2.4~2.4835
		SmartAnt	SAA06-220690	Dipole	RP-SMA	4-5.5	5.15~5.25
		SmartAnt	SAA06-220690	Dipole	RP-SMA	5.5-6	5.725~5.85
2	Chain (1)	SmartAnt	SAA06-220690	Dipole	RP-SMA	3	2.4~2.4835
		SmartAnt	SAA06-220690	Dipole	RP-SMA	4-5.5	5.15~5.25
		SmartAnt	SAA06-220690	Dipole	RP-SMA	5.5-6	5.725~5.85
LTE Antenna Spec.							
Set	Transmitter Circuit	Brand	Model No.	Antenna Type	Antenna Connector	Gain(dBi) including cable loss	Frequency (GHz to GHz)
1	Cellular Main	Pulse	SPDA24700/2700	Dipole	SMA Male	2	698-960/ 1710-2170/ 2500-2700
	Cellular Diversity/ Aux	Pulse	SPDA24700/2700	Dipole	SMA Male	2	
GPS Antenna Spec.							
No.	Brand		Model No.	Antenna Type	Antenna Connector	Gain(dBi) including cable loss	Frequency (GHz to GHz)
1	Chang Hong		GPS-01	Magnetic	R-SMA Male	-1	1.57542 (+/- 1.023)

#### 4 Calculation Result of Maximum Conducted Power

##### For WLAN:

Frequency Band (MHz)	Max Power (mW)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
2412-2462	833.681	3.00	25	0.21179	1
5180-5240	146.218	5.50	25	0.06606	1
5745-5825	114.815	6.00	25	0.05820	1

##### For WWAN(2G):

Frequency (MHz)	Max Power (mW)	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
824.2	1959	2.00	25	0.39532	0.5495

Note: The EUT contains WWAN certified module which FCC ID: N7NMC7355 (Model: MC7354).

#### Conclusion:

The formula of calculated the MPE is:

$CPD1 / LPD1 + CPD2 / LPD2 + \dots \text{etc.} < 1$

CPD = Calculation power density

LPD = Limit of power density

$WLAN(2.4GHz) + WWAN(2G) = 0.21179 + (0.39532/0.5495) = 0.931$

$WLAN(5GHz) + WWAN(2G) = 0.06606 + (0.39532/0.5495) = 0.786$

**Therefore the maximum calculations of above situations are less than the “1” limit.**

--- END ---