

# CERTIFICATE OF COMPLIANCE

Authorized under Declaration of Conformity according to 47 CFR, Part 2 and Part 15 of the FCC Rules. The product listed in follows was (were) tested in the BTL EMC Laboratory to comply with the criteria limits Class B of conducted and radiated emissions of the Technical Standards FCC Part 15, Subpart B, established by the FCC, USA.

**Equipment PHOTON Model Name PHOTONH Brand Name Particle** 

**Applicant** Particle Industries, Inc

**Address** 1475 Folsom Street, Suite 200, San Francisco, CA 94103

Standard(s) FCC Part 15, Subpart B

ANSI C63.4 -2014

Report(s) BTL-FICE-1-1504C213B

The test data, data evaluation, and equipment configuration contained in our test report(s) was (were) obtained utilizing the test procedures, test instruments, test sites that has been accredited by the Authority of TAF according to the ISO-17025 quality assessment standard and technical standard(s). The test data contained in the referenced test report relate only to the EUT sample and item(s) tested.

And Chiu

Authorized Signatory

#### BTL INC.

B1, No. 37, Lane 365, Yang-Guang St., Nei-Hu District, Taipei City 114, Taiwan.

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## **CERTIFICATE OF COMPLIANCE**

This is to certify that the product listed in follows was (were) tested in the BTL EMC Laboratory to comply with the criteria limits Class B of conducted and radiated emissions of the Technical Standards ICES-003, established by by the Innovation, Science and Economic Development Canada.

**Equipment PHOTON Model Name PHOTONH Brand Name Particle** 

**Applicant** Particle Industries, Inc

**Address** 1475 Folsom Street, Suite 200, San Francisco, CA 94103

Standard(s) ICES-003 Issue 6: 2016

ANSI C63.4-2014

Report(s) BTL-FICE-1-1504C213B

The test data, data evaluation, and equipment configuration contained in our test report(s) above was(were) obtained utilizing the test procedures, test instruments, test sites that has been accredited by the Authority of TAF according to the ISO-17025 quality assessment standard and technical standard(s). The test data contained in the referenced test report relate only to the EUT sample and item(s) tested.



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## **FCC&IC Test Report**

Project No. : 1504C213B Equipment : PHOTON Model Name : PHOTONH

**Applicant**: Particle Industries, Inc

Address: 1475 Folsom Street, Suite 200, San Francisco, CA

94103

Date of Receipt: Aug. 29, 2016

**Date of Test** : Aug. 29, 2016 ~ Oct. 31, 2016

Issued Date : Nov. 08, 2016 Tested by : BTL Inc.

Testing Engineer

(Pike Lee)

**Technical Manager** 

(Jeff Yanð)

**Authorized Signatory:** 

(Andy Chiu)

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#### **Declaration**

**BTL** represents to the client that testing is done in accordance with standard procedures as applicable and that test instruments used has been calibrated with standards traceable to international standard(s) and/or national standard(s).

**BTL**'s reports apply only to the specific samples tested under conditions. It is manufacture's responsibility to ensure that additional production units of this model are manufactured with the identical electrical and mechanical components. **BTL** shall have no liability for any declarations, inferences or generalizations drawn by the client or others from **BTL** issued reports.

**BTL**'s report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.

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**BTL**'s laboratory quality assurance procedures are in compliance with the **ISO Guide 17025** requirements, and accredited by the conformity assessment authorities listed in this test report.

#### Limitation

For the use of the authority's logo is limited unless the Test Standard(s)/Scope(s)/Item(s) mentioned in this test report is (are) included in the conformity assessment authorities acceptance respective.

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#### **REPORT ISSUED HISTORY**

Issued No.	Description	Issued Date
BTL-FICE-1-1504C213	Original Report.	May 22, 2015
BTL-FICE-1-1504C213B	Compared with the previous report (BTL-FICE-1-1504C213), 1. The changes of components (a) Replace the USB connection Encapsulation. (b) The model of the power controlling IC U2 changes from RT8008-3V3 to RT8059. (c) Add two 0201 resistances R9 and R10. (d) Add one 0201 capacitance C18. (e) change the resistor R4's encapsulation from 0402 to 0201. 2. Layout changes All test results has been re-evaluated and recorded in the test report.	Nov. 08, 2016

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#### 1. CERIFICATION

Equipment : PHOTON
Brand Name : Particle
Model Name : PHOTONH

Applicant : Particle Industries, Inc

Date of Test : Aug. 29, 2016 ~ Oct. 31, 2016

Test Sample : Engineering Sample Standard(s) : FCC Part 15, Subpart B

ANSI C63.4-2014

ICES-003 Issue 6: 2016

The above equipment has been tested and found compliance with the requirement of the relative standards by BTL Inc.

The test data, data evaluation, and equipment configuration contained in our test report (Ref No. BTL-FICE-1-1504C213B) were obtained utilizing the test procedures, test instruments, test sites that has been accredited by the Authority of TAF according to the ISO-17025 quality assessment standard and technical standard(s).

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#### 2. SUMMARY OF TEST RESULTS

Test procedures according to the technical standard(s):

EMC Emission					
Standard(s)	Test Item	Limit	Judgment	Remark	
FCC Part 15, Subpart B ANSI C63.4-2014 ICES-003 Issue 6: 2016	Conducted Emission	Class B	PASS		
	Radiated emission Below 1 GHz	Class B	PASS		
	Radiated emission Above 1 GHz	Class B	PASS	NOTE(2)	

#### NOTE:

- (1) " N/A" denotes test is not applicable to this device.
- (2) The EUT's max operating frequency is 2.4GHz which exceeds 108 MHz, so the test will be performed.

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#### 2.1 TEST FACILITY

The test facilities used to collect the test data in this report is at the location of No. 68-1, Ln.

169, Sec.2, Datong Rd., Xizhi Dist., New Taipei City 221, Taiwan

#### 2.2 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2. The BTL measurement uncertainty is less than the CISPR 16-4-2  $U_{\text{cispr}}$  requirement.

The reported uncertainty of measurement  $\mathbf{y} \pm \mathbf{U}$ , where expanded uncertainty  $\mathbf{U}$  is based on a standard uncertainty multiplied by a coverage factor of  $\mathbf{k=2}$ , providing a level of confidence of approximately 95%.

#### A. Conducted Measurement:

Test Site	Method	Measurement Frequency Range	U, (dB)
C05	CISPR	150 kHz~30MHz	2.04

#### B. Radiated Measurement:

Test Site	Method	Measurement Frequency Range	Ant. H / V	U, (dB)
		30 MHz ~ 200 MHz	V	4.76
CB16	CISPR	30 MHz ~ 200 MHz	Η	4.28
(3m)	CISPR	200 MHz ~ 1, 000 MHz	V	5.08
		200 MHz ~ 1, 000 MHz	Η	4.50

Test Site	Method	Measurement Frequency Range	Ant. H / V	U, (dB)
CB16	CISPR	1GHz ~ 6GHz	V	4.48
(3m)	CISER	1GHz ~ 6GHz	Н	4.50

Note: Unless specifically mentioned, the uncertainty of measurement has not been taken into account to declare the compliance or non-compliance to the specification.

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#### 3. GENERAL INFORMATION

#### 3.1 GENERAL DESCRIPTION OF EUT

Equipment	PHOTON	
Brand Name	Particle	
Model Name	PHOTONH	
Model Difference	N/A	
Power Source	Supplied from PC USB port.	
Power Rating	DC 5V	

#### Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.

#### 3.2 DESCRIPTION OF TEST MODES

To investigate the maximum EMI emission characteristics generated from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

Pretest Mode	Description
Mode 1	Operating

For Conducted Test			
Final Test Mode Description			
Mode 1 Operating			

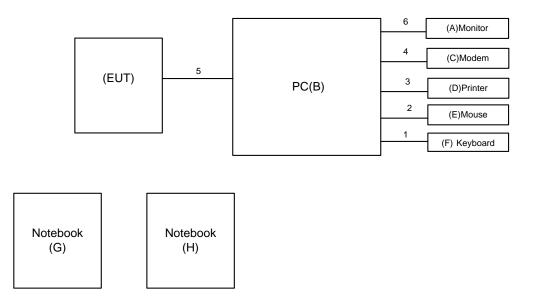
For Radiated Test			
Final Test Mode Description			
Mode 1 Operating			

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#### 3.3 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED



#### 3.4 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Item	Equipment	Mfr/Brand	Model/Type No.	FCC ID	Series No.
Α	24" LCD Monitor	DELL	U2410f	DOC	CN-OJ257M-72872-09J-067L
В	PC	DELL	OptiPlex 790 MT	DOC	64NJVBX
С	Modem	ACEEX	DM-1414V	DOC	8041708
D	Printer	HP	SNPRB-1202-01	DOC	CNS3Q194T6
Е	USB Mouse	DELL	MS111-L	DOC	CN-09RRC7-44751-17J-OH1F
F	USB K/B	DELL	L50U	DOC	CN-0H9F99-65890-17P-06WP-A01
G	Notebook PC	ASUS	F9E	DOC	F92PET5MDD-LCQCCD
Н	Notebook PC	ASUS	X555L	DOC	EAN0CV31122642B

Item	Shielded Type	Ferrite Core	Length	Note
1	YES	NO	1.7m	USB Cable
2	YES	NO	1.7m	USB Cable
3	YES	NO	1.7m	USB Cable
4	YES	NO	1.7m	RS232 Cable
5	YES	NO	0.5m	USB Cable
6	YES	NO	1.7m	D-SUB Cable

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#### 4. EMC EMISSION TEST

#### 4.1 CONDUCTED EMISSION MEASUREMENT

#### 4.1.1 POWER LINE CONDUCTED EMISSION (FREQUENCY RANGE 150KHZ-30MHZ)

FREQUENCY (MHz)	Class A	(dBuV)	Class B (dBuV)		
TIVEQUEINOT (IVII IZ)	Quasi-peak	Average	Quasi-peak	Average	
0.15 -0.5	79.00	66.00	66 - 56 *	56 - 46 *	
0.50 -5.0	73.00	60.00	56.00	46.00	
5.0 -30.0	73.00	60.00	60.00	50.00	

#### Note:

- (1) The tighter limit applies at the band edges.
- (2) The limit of " \* " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.
- (3) The test result calculated as following:

  Measurement Value = Reading Level + Correct Factor

  Correct Factor = Insertion Loss + Cable Loss + Attenuator Factor(if use)

  Margin Level = Measurement Value Limit Value

#### 4.1.2 MEASUREMENT INSTRUMENTS LIST

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	TWO-LINE V-NETWORK	R&S	ENV216	101050	Jan. 25, 2017
2	Test Cable	TIMES	CFD300-NL	C05	Jun. 14, 2017
3	EMI Test Receiver	R&S	ESR7	101433	Dec. 08, 2017
4	4 Measurement Farad		EZ_EMC (Version NB-03A)	N/A	N/A

Remark: "N/A" denotes no model name, serial no. or calibration specified.

All calibration period of equipment list is one year.

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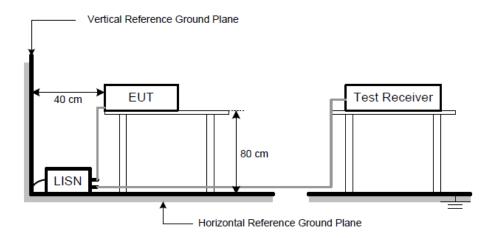
#### 4.1.3 TEST PROCEDURE

- a. The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
- b. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
- c. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
- d. LISN at least 80 cm from nearest part of EUT chassis.
- e. For the actual test configuration, please refer to the related Item -EUT Test Photos.
- f. First the whole spectrum of emission caused by equipment under test(EUT) is recorded with Detector set to peak. Peak value recorded in table if the margin from QP Limit is larger than 2dB,otherwise,QP value is recorded, Measuring frequency range from 150KHz to 30MHz.

#### 4.1.4 DEVIATION FROM TEST STANDARD

No deviation

#### 4.1.5 TEST SETUP



#### 4.1.6 EUT OPERATING CONDITIONS

The EUT exercise program used during radiated and/or conducted emission measurement was designed to exercise the various system components in a manner similar to a typical use.

#### 4.1.7 TEST RESULTS

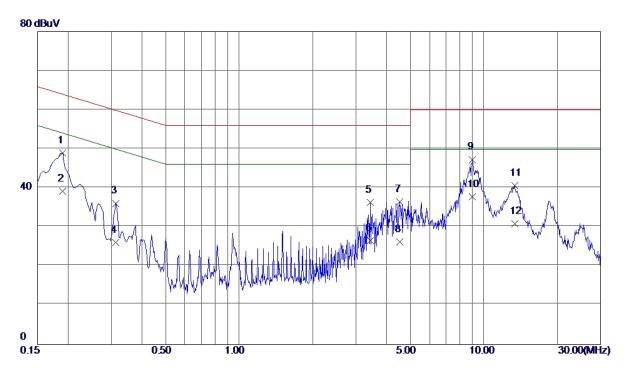
#### Remark

- (1) Reading in which marked as QP means measurements by using are Quasi-Peak Mode with Detector BW=9KHz; SPA setting in RBW=10KHz, VBW =10KHz, Swp. Time = 0.3 sec./MHz ∘ Reading in which marked as AV means measurements by using are Average Mode with instrument setting in RBW=10KHz, VBW=10KHz, Swp. Time =0.3 sec./MHz.
- (2) All readings are QP Mode value unless otherwise stated AVG in column of "Note... If the QP Mode Measured value compliance with the QP Limits and lower than AVG Limits, the EUT shall be deemed to meet both QP & AVG Limits and then only QP Mode was measured, but AVG Mode didn't perform on this case, a " \* " marked in AVG Mode column of Interference Voltage Measured.





EUT	PHOTON	Model Name	PHOTONH
Temperature	25°C	Relative Humidity	53%
Test Voltage	AC 120V/60Hz	Phase	Line
Test Mode	Operating		
Test Engineer	Pike Lee		

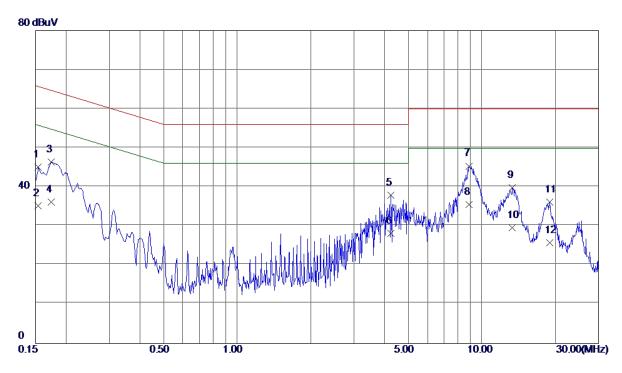


No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin	
	MHz	dBuV	dB	dBuV	dBuV	dB	Detector
1	0. 1900	39. 44	9. 53	48. 97	64. 04	<b>-15.07</b>	QP
2	0. 1900	29. 60	9. 53	39. 13	54. 04	-14. 91	AVG
3	0. 3140	26. 55	9. 53	36. 08	59.86	-23. 78	QP
4	0. 3140	16. 50	9. 53	26. 03	49.86	-23. 83	AVG
5	3. 4340	26. 24	10. 13	36. 37	56. 00	-19. 63	QP
6	3. 4340	16. 40	10. 13	26. 53	46.00	-19. 47	AVG
7	4. 5460	26. 38	10. 08	36. 46	56.00	<b>−19. 54</b>	QP
8	4. 5460	16. 20	10. 08	26. 28	46.00	-19. 72	AVG
9	8. 9900	37. 09	10. 19	47. 28	60.00	-12. 72	QP
10 *	8. 9900	27. 50	10. 19	37. 69	50.00	-12. 31	AVG
11	13. 4020	30. 32	10. 31	40. 63	60.00	-19. 37	QP
12	13. 4020	20. 60	10. 31	30. 91	50.00	-19. 09	AVG





EUT	PHOTON	Model Name	PHOTONH
Temperature	25°C	Relative Humidity	53%
Test Voltage	AC 120V/60Hz	Phase	Neutral
Test Mode	Operating		
Test Engineer	Pike Lee		



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin	
	MHz	dBuV	dB	dBuV	dBuV	dB	Detector
1	0. 1539	35. 66	9. 50	45. 16	65. 79	-20. 63	QP
2	0. 1539	25. 70	9. 50	35. 20	55. 79	<b>-20. 59</b>	AVG
3	0.1740	36. 95	9. 44	46. 39	64. 77	-18. 38	QP
4	0. 1740	26. 69	9. 44	36. 13	<b>54</b> . 77	-18. 64	AVG
5	4. 2580	27. 97	9. 92	37. 89	56. 00	-18. 11	QP
6	4. 2580	18. 20	9. 92	28. 12	46.00	-17. 88	AVG
7	8.8900	35. 18	10. 18	45. 36	60.00	-14. 64	QP
8 *	8.8900	25. 30	10. 18	35. 48	50.00	-14. 52	AVG
9	13. 3460	29. 45	10. 34	39. 79	60.00	-20. 21	QP
10	13. 3460	19. 20	10. 34	29. 54	50.00	-20. 46	AVG
11	18. 9300	25. 71	10. 47	36. 18	60.00	-23. 82	QP
12	18. 9300	15. 30	10. 47	25. 77	50.00	-24. 23	AVG





#### 4.2 RADIATED EMISSION MEASUREMENT

#### 4.2.1 LIMITS OF RADIATED EMISSION MEASUREMENT

#### Below 1 GHz

**Measurement Method and Applied Limits:** 

ANSI C63.4:

_	Class A	(at 10m)	Class B (at 3m)		
Frequency (MHz)	(uV/m) (dBuV/m) Field strength Field strength		(uV/m) Field strength	(dBuV/m) Field strength	
30 - 88	90	39	100	40	
88 - 216	150	43.5	150	43.5	
216 - 960	210	46.4	200	46	
Above 960	300	49.5	500	54	

#### Above 1 GHz

#### **Measurement Method and Applied Limits:**

#### ANSI C63.4:

Fraguenay		Clas	Class B			
Frequency (MHz)	(dBuV/m) (at 3m)		(dBuV/m)	(at 10m)	(dBuV/m) (at 3m)	
(IVII IZ)	Peak	Average	Peak	Average	Peak	Average
Above 1000	80	60	69.5	49.5	74	54

#### FREQUENCY RANGE OF RADIATED MEASUREMENT (FOR UNINTENTIONAL RADIATORS)

	•
Highest frequency generated or Upper frequency of measurement used in the device or on which the device operates or tunes (MHz)	Range (MHz)
Below 1.705	30
1.705 - 108	1000
108 - 500	2000
500 - 1000	5000
Above 1000	5 <sup>th</sup> harmonic of the highest frequency or 40 GHz, whichever is lower

#### NOTE:

- (1) The limit for radiated test was performed according to as following: FCC Part 15, Subpart B, ICES-003 Issue 6: 2016
- (2) The tighter limit applies at the band edges.
- (3) Emission level (dBuV/m) = 20log Emission level (uV/m). 3m Emission level = 10m Emission level + 20log(10m/3m).
- (4) The test result calculated as following:

  Measurement Value = Reading Level + Correct Factor

  Correct Factor = Antenna Factor + Cable Loss Amplifier Gain(if use)

  Margin Level = Measurement Value Limit Value





#### 4.2.2 MEASUREMENT INSTRUMENTS LIST

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Log-Bicon Antenna	Schwarzbeck	VULB 9168	9168-352	Jul. 24, 2017
2	Pre-Amplifier	Anritsu	MH648A	M92649	Jun. 16, 2017
3	Test Cable	EMCI	EMC104-SM -SM-2500	160413	Apr. 26, 2017
4	Test Cable	EMCI	EMC104-SM -SM-1000	160414	Apr. 26, 2017
5	Test Cable	EMCI	EMC104-SM -SM-8000	106412	Apr. 26, 2017
6	Spectrum Analyzer	Agilent	N9020A	MY51160196	Jul. 27, 2017
7	Measurement Software	Farad	EZ_EMC (Version NB-03A)	N/A	N/A
8	Horn Ant	SCHWARZBECK	BBHA 9120D	D 325	Jul. 12, 2017
9	Pre-Amplifier	EMCI	EMC012645 B	980344	Jun.07.2017
10	Test Cable	EMCI	EMC104-SM -SM-8000	106412	Apr. 26, 2017
11	Test Cable	EMCI	EMC104-SM -SM-2500	160413	Apr. 26, 2017
12	Test Cable	EMCI	EMC104-SM -SM-1000	160414	Apr. 26, 2017
13	Spectrum Analyzer	Agilent	N9020A	MY51160196	Jul. 27, 2017

Remark: "N/A" denotes no model name, serial no. or calibration specified.

All calibration period of equipment list is one year.

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#### 4.2.3 TEST PROCEDURE

- a. The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 0.8 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(below 1GHz)
- b. The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 0.8 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(above 1GHz)
- c. The height of the equipment or of the substitution antenna shall be 0.8 m, the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights find the maximum reading (used Bore sight function).
- e. The receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1GHz.
- f. The initial step in collecting radiated emission data is a receiver peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- g. All readings are Peak unless otherwise stated QP in column of Note. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform. (below 1GHz)
- h. All readings are Peak Mode value unless otherwise stated AVG in column of Note. If the Peak Mode Measured value compliance with the Peak Limits and lower than AVG Limits, the EUT shall be deemed to meet both Peak & AVG Limits and then only Peak Mode was measured, but AVG Mode didn't perform. (above 1GHz)
- i. For the actual test configuration, please refer to the related Item Block Diagram of system tested (please refer to 3.3).

#### 4.2.4 DEVIATION FROM TEST STANDARD

No deviation

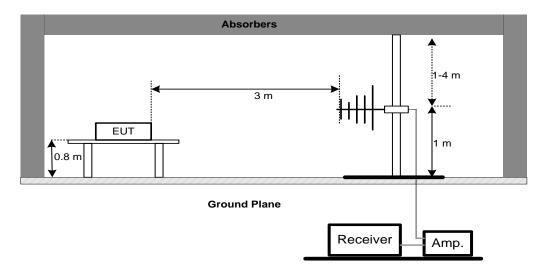
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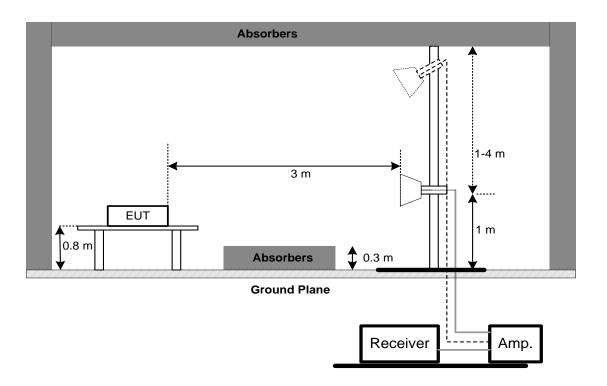


#### 4.2.5 TEST SETUP

(A) Radiated Emission Test Set-Up Frequency Below 1 GHz



(B) Radiated Emission Test Set-Up Frequency 1 GHz



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#### 4.2.6 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of **4.1.6** unless otherwise a special operating condition is specified in the follows during the testing.

#### 4.2.7 TEST RESULTS-BELOW 1GHZ

#### Remark:

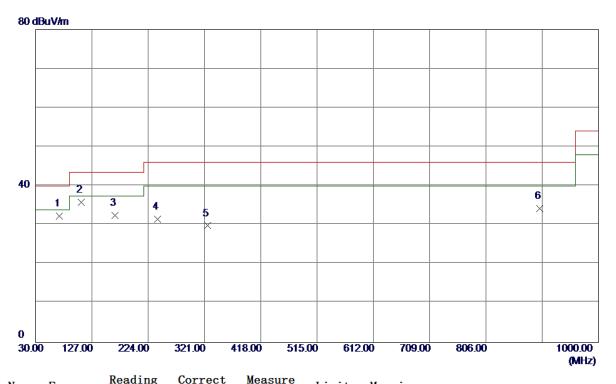
- (1) All readings are Peak unless otherwise stated QP in column of  $\lceil$  Note $_{
  m I}$ . Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform  $_{
  m O}$
- (2) Measuring frequency range from 30MHz to 1000MHz •
- (3) If the peak scan value lower limit more than 20dB, then this signal data does not show in table  $\circ$

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EUT	PHOTON	Model Name	PHOTONH
Temperature	24°C	Relative Humidity	52%
Test Voltage	AC120V/60Hz	Polarization	Vertical
Test Mode	Operating		
Test Engineer	Pike Lee		



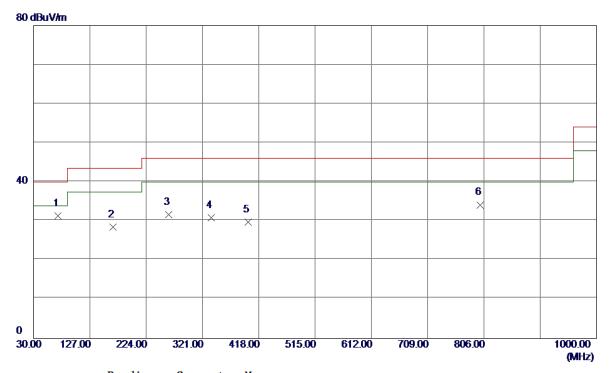
No.	Freq.	Level	Factor	measure	Limit	Margin	
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector
1 *	71. 2250	43. 41	-11. 02	32. 39	40.00	-7. 61	QP
2	109. 0550	46. 87	−11 <b>. 0</b> 8	35. 79	43. 50	-7. 71	QP
3	166. 7700	40.65	-8. 19	32. 46	43. 50	<b>−11. 04</b>	QP
4	240. 0050	40. 41	-8. 85	31. 56	46.00	-14. 44	QP
5	326. 3350	35. 64	-5. 80	29. 84	46.00	-16. 16	QP
6	898. 6350	33. 36	0. 90	34. 26	46.00	-11. 74	QP

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EUT	PHOTON	Model Name	PHOTONH
Temperature	24°C	Relative Humidity	52%
Test Voltage	AC120V/60Hz	Polarization	Horizontal
Test Mode	Operating		
Test Engineer	Pike Lee		



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin	
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector
1 *	72. 1950	42. 53	-11. 19	31. 34	40.00	-8. 66	QP
2	166. 7700	36. 65	-8. 19	28. 46	43. 50	<b>-15.04</b>	QP
3	262. 3150	39. 50	-7. 89	31. 61	46.00	-14. 39	QP
4	336. 0350	36. 46	-5. 59	30. 87	46.00	-15. 13	QP
5	399. 5700	34. 48	-4. 71	29. 77	46. 00	-16. 23	QP
6	799. 6950	32. 14	2. 02	34. 16	46. 00	-11. 84	QP

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#### 4.2.8 TEST RESULTS-ABOVE 1GHZ

#### Remark:

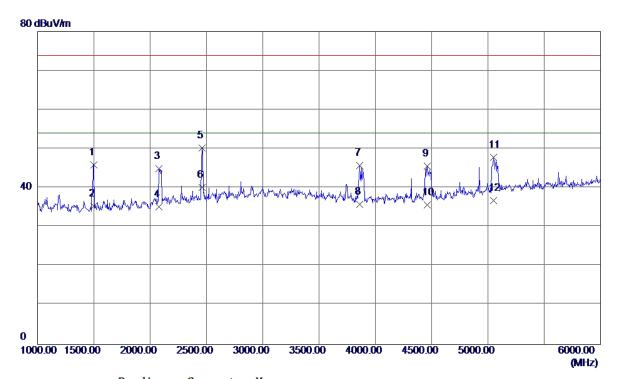
- (1) All readings are Peak unless otherwise stated QP in column of Note. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform.
- (2) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission.
- (3) Data of measurement within this frequency range shown "\*" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (4) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

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EUT	PHOTON	Model Name	PHOTONH				
Temperature	24°C	Relative Humidity	52%				
Test Voltage	AC 120V/60Hz	Polarization	Vertical				
Test Mode	Operating						
Test Engineer	Pike Lee						

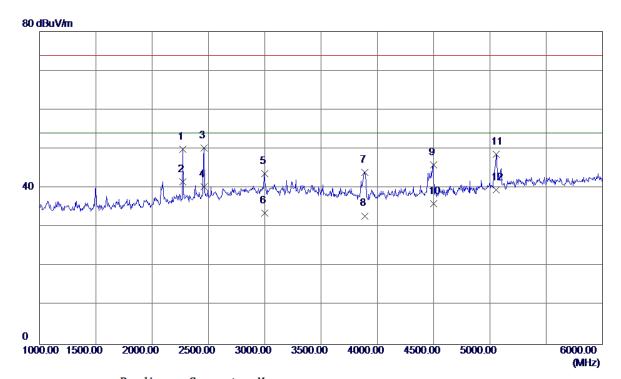


No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin	
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector
1	1497. 5000	49. 38	-3. 46	<b>45. 92</b>	74.00	-28 <b>. 0</b> 8	Peak
2	1497. 5000	38. 88	-3. 46	35. 42	54.00	-18. 58	AVG
3	2077. 5000	47. 07	-2. 14	44. 93	74.00	-29. 07	Peak
4	2077. 5000	37. 27	-2. 14	35. 13	54.00	-18. 87	AVG
5	2462. 5000	51. 15	-0. 86	50. 29	74.00	-23. 71	Peak
6 *	2462. 5000	41. 09	-0. 86	40. 23	54.00	-13. 77	AVG
7	3862. 5000	43. 51	2. 27	<b>45.</b> 78	74.00	-28. 22	Peak
8	3862. 5000	33. 50	2. 27	35. 77	54.00	-18. 23	AVG
9	4462. 5000	41. 38	4. 29	45. 67	74.00	-28. 33	Peak
10	4462. 5000	31. 45	4. 29	35. 74	54.00	-18. 26	AVG
11	5052. 5000	42. 30	5. 49	47. 79	74.00	-26. 21	Peak
12	5052. 5000	31. 26	5. 49	36. 75	54.00	-17. 25	AVG





EUT	PHOTON	Model Name	PHOTONH			
Temperature	24°C	Relative Humidity	52%			
Test Voltage	AC 120V/60Hz	Polarization	Horizontal			
Test Mode	Operating					
Test Engineer	Pike Lee					

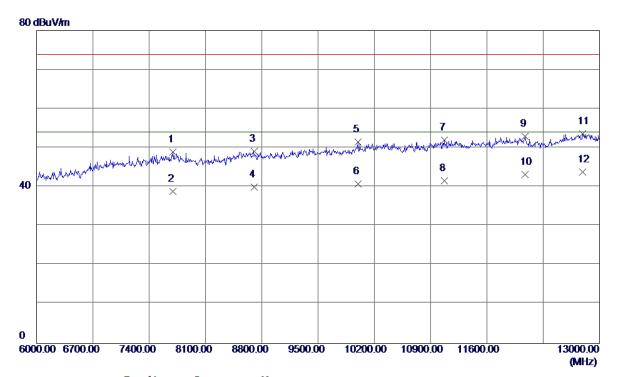


No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin	
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector
1	2270.0000	51. 41	-1. 50	49. 91	74.00	-24. 09	Peak
2 *	2270.0000	43. 04	-1. 50	41. 54	54.00	<b>−12. 46</b>	AVG
3	2460.0000	51. 07	-0.87	50. 20	74.00	-23. 80	Peak
4	2460.0000	41. 19	-0. 87	40. 32	54.00	-13. 68	AVG
5	2997. 5000	42. 68	1. 08	43. 76	74.00	-30. 24	Peak
6	2997. 5000	32. 55	1. 08	33. 63	54.00	-20. 37	AVG
7	3890. 0000	41.71	2. 31	44. 02	74.00	-29. 98	Peak
8	3890. 0000	30. 57	2. 31	32. 88	54.00	-21. 12	AVG
9	4497. 5000	41. 48	4. 43	45. 91	74.00	-28. 09	Peak
10	4497. 5000	31. 61	4. 43	36. 04	54.00	-17. 96	AVG
11	5057. 5000	43. 11	5. 50	48. 61	74.00	-25. 39	Peak
12	5057. 5000	33. 95	5. 50	39. 45	54.00	<b>-14.</b> 55	AVG





EUT	PHOTON	Model Name	PHOTONH				
Temperature	24°C	Relative Humidity	52%				
Test Voltage	AC 120V/60Hz	Polarization	Vertical				
Test Mode	Operating						
Test Engineer	Pike Lee						

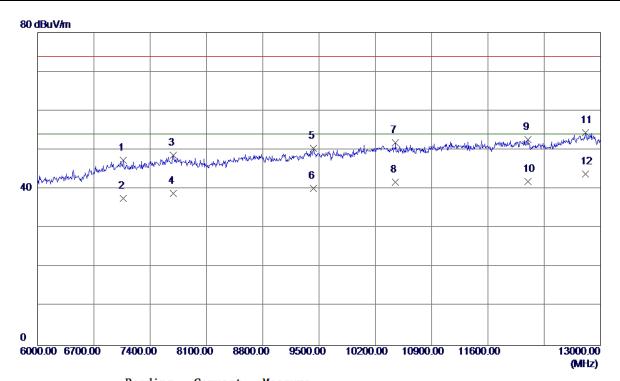


No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin	
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector
1	7694. 0000	36. 93	11. 96	48. 89	74.00	-25. 11	Peak
2	7694. 0000	26. 97	11. 96	38. 93	54.00	<b>-15.07</b>	AVG
3	8705. 5000	36. 61	12. 57	49. 18	74.00	-24. 82	Peak
4	8705. 5000	27. 46	12. 57	40. 03	54.00	-13. 97	AVG
5	10000. 5000	36. 96	14. 49	51. 45	74.00	-22. 55	Peak
6	10000. 5000	26. 24	14. 49	40. 73	54.00	-13. 27	AVG
7	11068. 0000	34. 51	17. 55	52. 06	74.00	-21. 94	Peak
8	11068. 0000	24. 07	17. 55	41. 62	54.00	-12. 38	AVG
9	12076. 0000	36. 45	16. 51	52. 96	74.00	-21. 04	Peak
10	12076. 0000	26. 76	16. 51	43. 27	54.00	-10. 73	AVG
11	12793. 5000	35. 27	18. 40	53. 67	74. 00	-20. 33	Peak
12 *	12793. 5000	25. 45	18. 40	43. 85	54. 00	-10. 15	AVG





EUT	PHOTON	Model Name	PHOTONH			
Temperature	24°C	Relative Humidity	52%			
Test Voltage	AC 120V/60Hz	Polarization	Horizontal			
Test Mode	Operating					
Test Engineer	Pike Lee					



No.	Freq.	Reading Level	Correct Factor	Measure ment	Limit	Margin	
	MHz	dBuV/m	dB	dBuV/m	dBuV/m	dB	Detector
1	7064. 0000	36. 81	10. 56	47. 37	74.00	-26. 63	Peak
2	7064. 0000	27. 00	10. 56	37. 56	54.00	-16. 44	AVG
3	7687. 0000	36. 72	11. 95	48. 67	74.00	-25. 33	Peak
4	7687. 0000	26. 95	11. 95	38. 90	54.00	-15. 10	AVG
5	9433. 5000	36. 74	13. 65	50. 39	74.00	-23. 61	Peak
6	9433. 5000	26. 52	13. 65	40. 17	54.00	-13.83	AVG
7	10452. 0000	35. 65	16. 17	51. 82	74.00	-22. 18	Peak
8	10452. 0000	25. 57	16. 17	41. 74	54.00	-12. 26	AVG
9	12097. 0000	36. 03	16. 55	52. 58	74.00	-21. 42	Peak
10	12097. 0000	25. 41	16. 55	41. 96	54.00	-12. 04	AVG
11	12811. 0000	35. 91	18. 46	54. 37	74. 00	-19. 63	Peak
12 *	12811. 0000	25. 45	18. 46	43. 91	54. 00	-10. 09	AVG

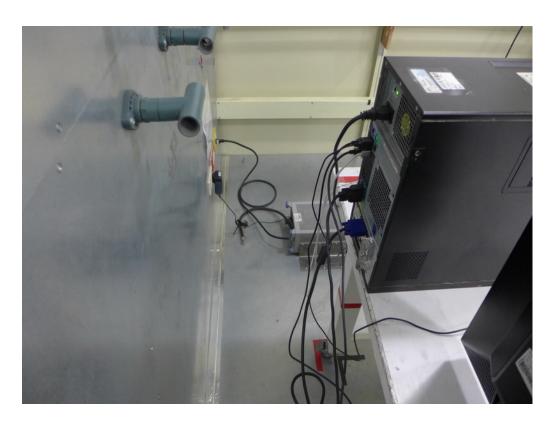




#### **5. EUT TEST PHOTO**

#### **Conducted Measurement Photos**





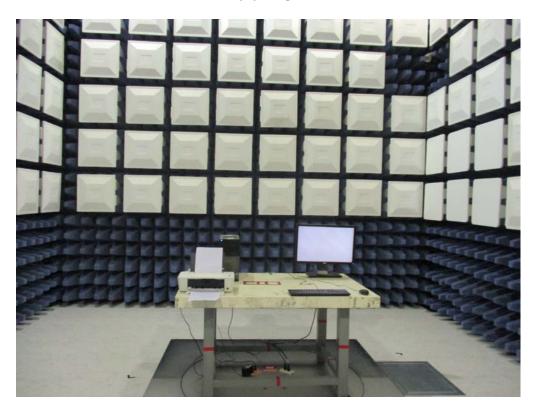
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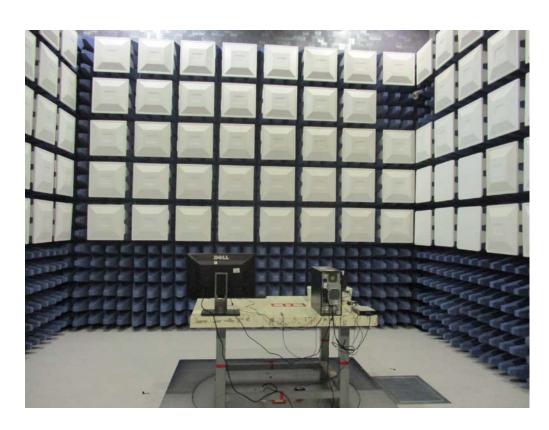




#### **Radiated Measurement Photos**

#### **Below 1GHz**





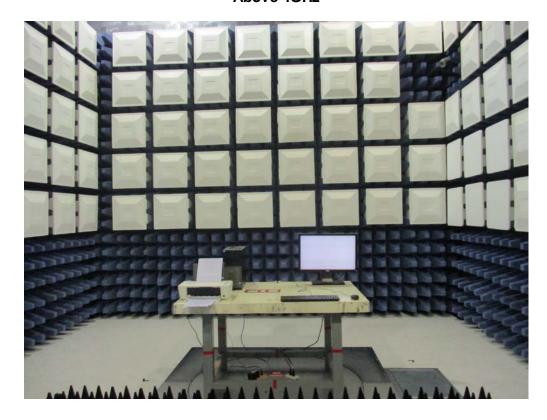
Report No.: BTL-FICE-1-1504C213B

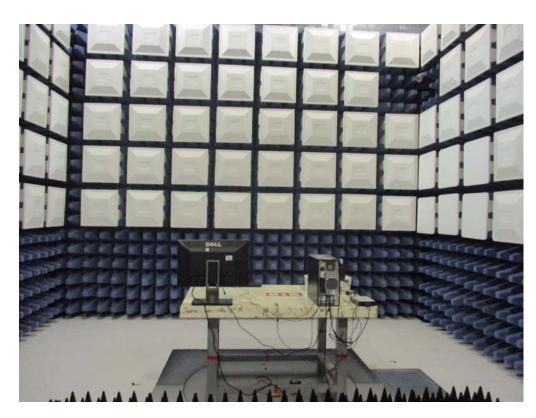




#### **Radiated Measurement Photos**

#### Above 1GHz





Report No.: BTL-FICE-1-1504C213B





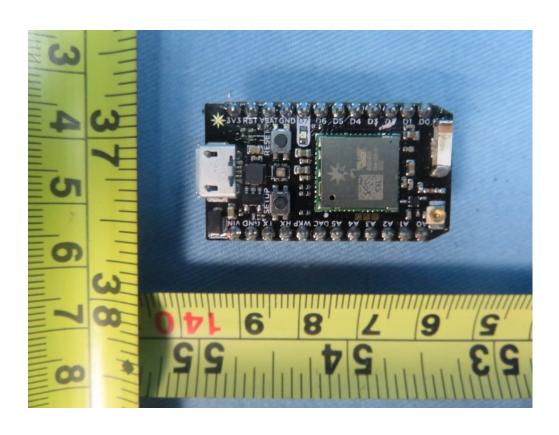
### **ATTACHMENT**

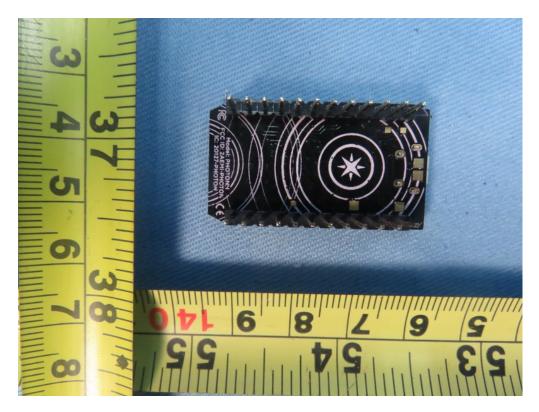
## **PHOTOGRAPHS OF EUT**

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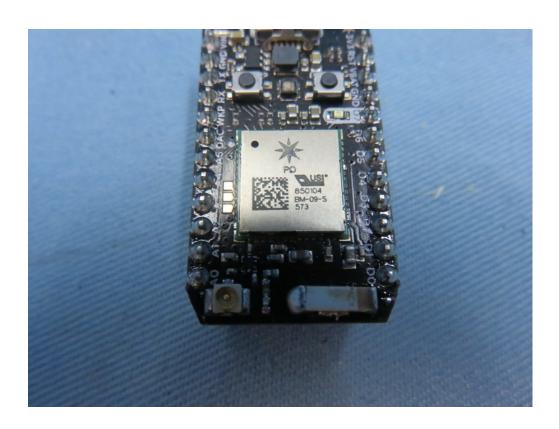


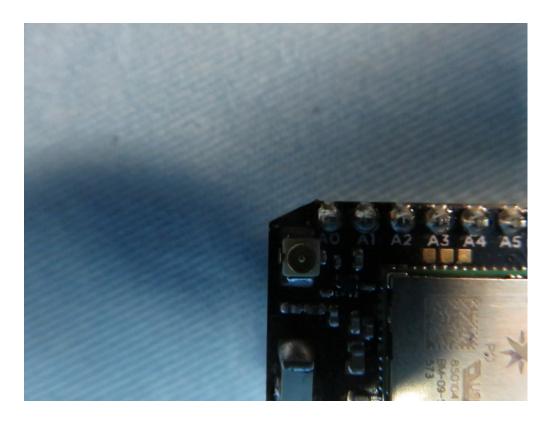


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