

FCC TEST REPORT

Product Name: 10.1" Tablet

Trade Mark: SOutcome

Model No.: P-TAB-XXX-XXX-XX (X equals to $0 \sim 9$, $A \sim Z$)

HVIN: PIRT001

Report Number: 170911001EMC-1

Test Standards: FCC 47 CFR Part 15 Subpart B

ICES-003 Issue 6

FCC ID: 2AI6X-PIRT001

IC ID: 21722-PIRT001

Test Result: PASS

Date of Issue: October 19, 2017

Prepared for:

ContextMedia Health LLC. 330 N. Wabash Ave STE 2500, Chicago, Illinois, United States

Prepared by:

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Tested by: Kevin Liang Senior Engineer Approved by: Billy Li **Technical Director**

Reviewed by:

Senior Supervisor

Date:

Shenzhen UnionTrust Quality and Technology Co., Ltd.



Version

Version No. Date		Description	
V1.0	October 19, 2017	Original	





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1. GENERAL INFORMATION

1.1 CLIENT INFORMATION

Applicant:	icant: ContextMedia Health LLC.	
Address of Applicant: 330 N. Wabash Ave STE 2500, Chicago, Illinois, United States		
Manufacturer:	ContextMedia Health LLC.	
Address of Manufacturer:	330 N. Wabash Ave STE 2500, Chicago, Illinois, United States	

1.2 EUT INFORMATION

1.2.1 General Description of EUT

2.1 General Besonption of Eg 1				
10.1" Tablet				
P-TAB-XXX-XXX-XX (X equals to 0 ~ 9, A ~ Z)				
All the models P-TAB-XXX-XXX-XX (X equals to $0 \sim 9$, $A \sim Z$) are same with each other in hardware and electronics aspects, only difference of model no. for market strategy.				
Outcome				
Identical Prototype				
120V~60Hz and/or 3.7V===7400mAh Rechargeable Li-polymer Battery				
Class B				
1.8 GHz				
OH-IRT101-V7.01B-NOOTA-20170825				
R18-V2.1				
September 12, 2017				
September 12, 2017 to September 22, 2017				

1.2.2 Description of Accessories

Adapter					
Model No.:	NBS18C50250VU				
Input:	100-240 V~50/60 Hz 0.6 A				
Output:	5.0 V == 2.5 A				
AC Cable:	N/A				
DC Cable:	3 Meter, Unshielded without ferrite				

Battery					
Model No.:	PL2969140*2P				
Battery Type: Rechargeable Li-polymer Battery					
Rated Voltage:	3.7 Vdc				
Limited Charge Voltage:	4.2 Vdc				
Rated Capacity:	7400 mAh				

1.3 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested with associated equipment below.

1) Support Equipment

Description	Manufacturer	Model No.	Serial Number	Supplied by
MicroSD	Kingston	N/A	N/A	UnionTrust
2) Support Cable				
Cable No.	Description	Connector	Length	Supplied by



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1.4 TEST LOCATION

Shenzhen UnionTrust Quality and Technology Co., Ltd.

Address: 16/F, Block A, Building 6, Baoneng Science and Technology Park, Qingxiang Road No.1, Longhua New

District, Shenzhen, China 518109 Telephone: +86 (0) 755 2823 0888 Fax: +86 (0) 755 2823 0886

1.5 TEST FACILITY

The test facility is recognized, certified, or accredited by the following organizations:

CNAS-Lab Code: L9069

The measuring equipment utilized to perform the tests documented in this report has been calibrated once a year or in accordance with the manufacturer's recommendations, and is traceable under the ISO/IEC/EN 17025 to international or national standards. Equipment has been calibrated by accredited calibration laboratories.

IC-Registration No.: 21600-1

The 3m Semi-anechoic chamber of Shenzhen UnionTrust Quality and Technology Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 21600-1.

A2LA-Lab Certificate No.: 4312.01

Shenzhen UnionTrust Quality and Technology Co., Ltd. has been accredited by A2LA for technical competence in the field of electrical testing, and proved to be in compliance with ISO/IEC 17025: 2005 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing.

FCC Accredited Lab.

Designation Number: CN1194

Test Firm Registration Number: 259480

1.6 DEVIATION FROM STANDARDS

None.

1.7 ABNORMALITIES FROM STANDARD CONDITIONS

None.

1.8 OTHER INFORMATION REQUESTED BY THE CUSTOMER

None.



1.9 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the Product as specified in CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

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No.	Item	Measurement Uncertainty					
1	Conducted emission 9KHz-150KHz	±3.8 dB					
2	Conducted emission 150KHz-30MHz	±3.4 dB					
3	Radiated emission 9KHz-30MHz	±4.9 dB					
4	Radiated emission 30MHz-1GHz	±4.7 dB					
5	Radiated emission 1GHz-18GHz	±5.1 dB					





2. TEST SUMMARY

FCC 47 CFR Part 15 Subpart B Test Cases					
Test Item Test Requirement Test Method Result					
Conducted Emission	FCC 47 CFR Part 15.107 ICES-003 Issue 6 Section 6.1	ANSI C63.4-2014	PASS		
Radiated Emission	FCC 47 CFR Part 15.109 ICES-003 Issue 6 Section 6.2	ANSI C63.4-2014	PASS		





3. EQUIPMENT LIST

	Radiated Emission Test Equipment List							
Used	Equipment	Manufacturer	Model No.	Serial Number	Cal. date (mm dd, yyyy)	Cal. Due date (mm dd, yyyy)		
>	3M Chamber & Accessory Equipment	ETS-LINDGREN	3M	N/A	Dec. 20, 2015	Dec. 19, 2018		
~	Receiver	R&S	ESIB26	100114	Dec. 22, 2016	Dec. 22, 2017		
>	Broadband Antenna	ETS-LINDGREN	3142E	00201566	Jul. 24, 2015	Jul. 23, 2018		
~	Preamplifier	HP	8447F	2805A02960	Dec. 22, 2016	Dec. 22, 2017		
>	Horn Antenna (Pre-amplifier)	ETS-LINDGREN	3117-PA	00201874	Dec. 30, 2016	Dec. 30, 2017		
>	Multi device Controller	ETS-LINDGREN	7006-001	00160105	N/A	N/A		
>	Test Software	Audix	e3	Software Version: 9.160323		0323		

	Conducted Emission Test Equipment List							
Used	Equipment	Manufacturer	Model No.	Serial Number	Cal. date (mm dd, yyyy)	Cal. Due date (mm dd, yyyy)		
>	Receiver	R&S	ESR7	1316.3003K07 -101181-K3	Dec. 22, 2016	Dec. 22, 2017		
<	Pulse Limiter	R&S	ESH3-Z2	0357.8810.54	Dec. 22, 2016	Dec. 22, 2017		
<	LISN	R&S	ESH2-Z5	860014/024	Dec. 22, 2016	Dec. 22, 2017		
>	LISN	ETS-Lindgren	3816/2SH	00201088	Aug. 24, 2016	Aug. 23, 2018		
>	Test Software	Audix	e3	Sof	tware Version: 9.16	0323		



4. TEST CONFIGURATION

4.1 ENVIRONMENTAL CONDITIONS FOR TESTING

4.1.1 Normal or Extreme Test Conditions

Environment Parameter	Selected Values During Tests			
To ad O and didiana	Ambient			
Test Condition	Temperature (°C) Voltage (V) Relative Humidity (%)			
NT/NV	+15 to +35	AC120V~60Hz and/or 3.7 Vdc	20 to 75	
Remark: 1) NV: Normal Voltage; NT: Normal Temperature				

4.1.2 Record of Normal Environment

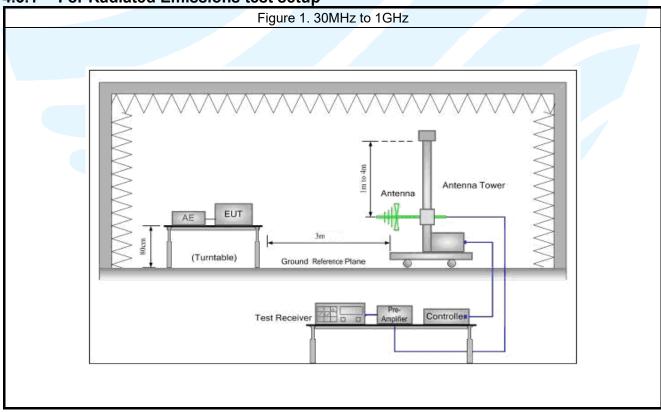
Test Item	Temperature (°C)	Relative Humidity (%)	Pressure (Kpa)	Tested by
Conducted Emission	25.5	60	99.41	Terence Chen
Radiated Emission	25.1	56	99.36	Bessy Xu

4.2 TEST MODES

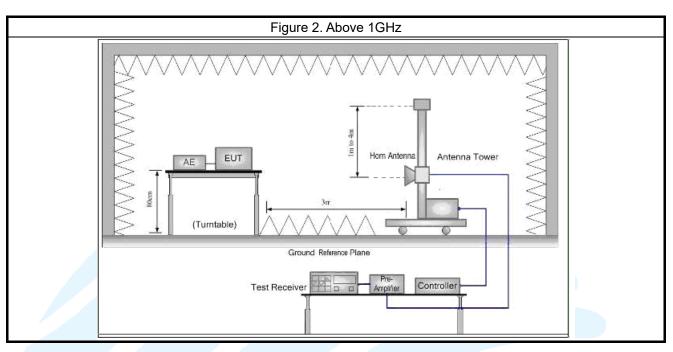
Test Item	EMI Test Modes
Radiated Emission	Test Mode 1: Charging with AC/DC Adapter + MP4 (Display a pattern of a full screen of scrolling letter-H characters)+ MicroSD Card Test Mode 2: Discharging + MP4 (Display a pattern of a full screen of scrolling letter-H characters)+ MicroSD Card
Conducted Emission	Test Mode 1: Charging with AC/DC Adapter + MP4 (Display a pattern of a full screen of scrolling letter-H characters)+ MicroSD Card

4.3 TEST SETUP

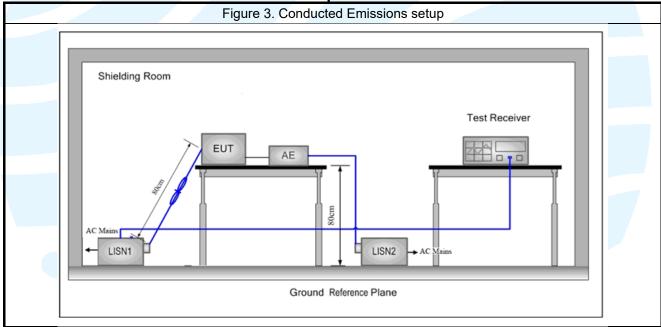
4.3.1 For Radiated Emissions test setup







4.3.2 For Conducted Emissions test setup



4.4 SYSTEM TEST CONFIGURATION

All readings are extrapolated back to the equivalent three meter reading using inverse scaling with distance. Analyzer resolution is 100 kHz or greater for frequencies below 1000MHz. The resolution is 1 MHz or greater for frequencies above 1000MHz. The spurious emissions more than 20 dB below the permissible value are not reported.

Radiated emission measurement were performed from the lowest radio frequency signal generated in the device which is greater than 9 kHz to the fifth harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower.

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5. REFERENCE DOCUMENTS FOR TESTING

No.	Identity	Document Title
1	FCC 47 CFR Part15 Subpart B	Unintentional Radiators
2	ICES-003 Issue 6	Information Technology Equipment (Including Digital Apparatus) —Limits and Methods of Measurement
3	ANSI C63.4-2014	American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz

6. EMC REQUIREMENTS SPECIFICATION 6.1 RADIATED EMISSION

Test Requirement: FCC 47 CFR Part 15.109 ICES-003 Issue 6 Clause 6.2

Test Method: ANSI C63.4-2014

Receiver Setup:

Frequency: (f)	Detector type	Measurement receiver bandwidth	
(MHz)	Detector type	RBW	VBW
30 ≤ f ≤ 1 000	Quasi Peak	120 kHz	300 kHz
f≥1000	Peak	1 MHz	3 MHz
1 2 1000	Average	1 MHz	10 Hz

Measured frequency range

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

Limits:

Limits for Class B devices

Fraguerov (MHz)	limits at 3m (dBµV/m)			
Frequency (MHz)	QP Detector	PK Detector	AV Detector	
30-88	40.0	-	-	
88-216	43.5			
216-960	46.0	-		
960 to 1000	54.0	-		
Above 1000		74.0	54.0	

Remark:

- 1. The lower limit shall apply at the transition frequencies.
- 2. Emission level (dB μ V/m) = 20 log Emission level (μ V/m).
- 3. For frequencies above 1000 MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20 dB under any condition of modulation.

Test Setup: Refer to section 4.3.1 for details.

Test Procedures:

- 1. From 30 MHz to 1GHz test procedure as below:
- 1) The Product was placed on the non-conductive turntable 0.8 m above the ground at a chamber.
- 2) Set the spectrum analyzer/receiver in Peak detector, Max Hold mode, and 120 kHz RBW. Record the



maximum field strength of all the pre-scan process in the full band when the antenna is varied between 1~4 m in both horizontal and vertical, and the turntable is rotated from 0 to 360 degrees.

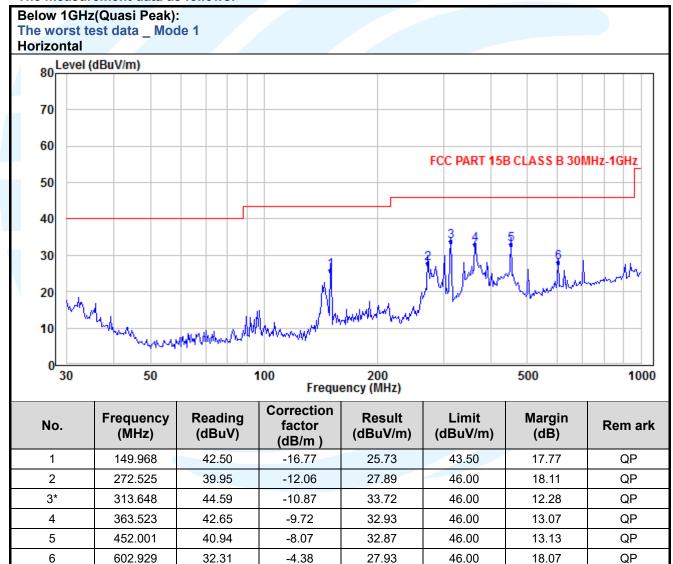
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- 3) For each frequency whose maximum record was higher or close to limit, measure its QP value: vary the antenna's height and rotate the turntable from 0 to 360 degrees to find the height and degree where Product radiated the maximum emission, then set the test frequency analyzer/receiver to QP Detector and specified bandwidth with Maximum Hold Mode, and record the maximum value.
- 2. Above 1GHz test procedure as below:
- 1) The Product was placed on the non-conductive turntable 0.8 m above the ground at a chamber.
- 2) Set the spectrum analyzer/receiver in Peak detector, Max Hold mode, and 1MHz RBW. Record the maximum field strength of all the pre-scan process in the full band when the antenna is varied in both horizontal and vertical, and the turntable is rotated from 0 to 360 degrees.
- 3) For each frequency whose maximum record was higher or close to limit, measure its AV value: rotate the turntable from 0 to 360 degrees to find the degree where Product radiated the maximum emission, then set the test frequency analyzer/receiver to AV value and specified bandwidth with Maximum Hold Mode, and record the maximum value.

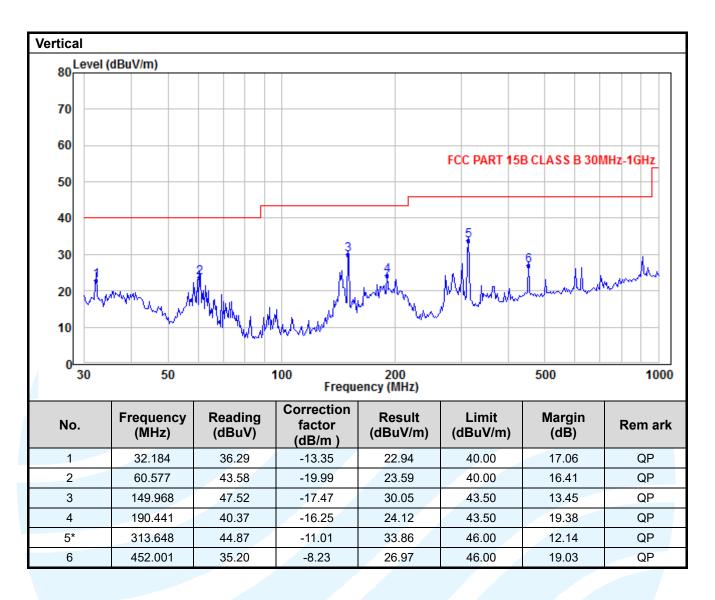
Equipment Used: Refer to section 3 for details.

Test Result: Pass

The measurement data as follows:



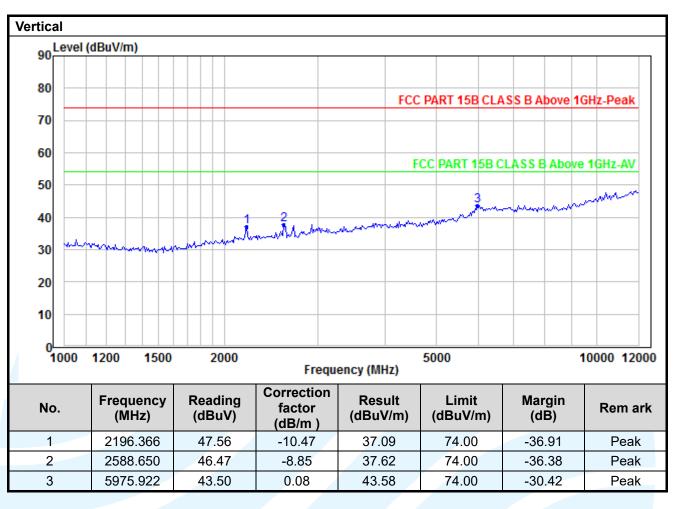






Above 1GHz(Peak & Average) The worst test data _ Mode 1 Horizontal 90 Level (dBuV/m) 80 FCC PART 15B CLASS B Above 1GHz-Peak 70 60 FCC PART 15B CLASS B Above 1GHz-AV 50 40 30 20 10 1000 1200 1500 2000 5000 10000 12000 Frequency (MHz) Correction **Frequency** Reading Result Limit Margin No. Rem ark factor (MHz) (dBuV) (dBuV/m) (dBuV/m) (dB) (dB/m)-10.22 74.00 -40.46 1891.577 43.76 33.54 Peak 1 2 4824.023 42.54 -3.44 39.10 74.00 -34.90 Peak 3 9125.012 42.47 2.40 44.87 74.00 -29.13Peak





Remark:

- 1. As shown in this section, for frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. So, only the peak measurements were shown in the report.
- 2. All possible modes of operation were investigated, only the worst case emissions reported.



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6.2 CONDUCTED EMISSION

Test Requirement: FCC 47 CFR Part 15.107 ICES-003 Issue 6 Section 6.2

Test Method: ANSI C63.4-2014

Limits:

Limits for Class B devices

Frequency range	Limits (dB(μV)		
(MHz)	Quasi-peak	Average	
0,15 to 0,50	66 to 56	56 to 46	
0,50 to 5	56	46	
5 to 30	60	50	

Remark:

1. The lower limit shall apply at the transition frequencies.

2. The limit decreases linearly with the logarithm of the frequency in the range 0.15 to 0.50 MHz.

Test Setup: Refer to section 4.3.2 for details.

Test Procedures:

1) The Product was placed on a nonconductive table 0.8 m above the horizontal ground reference plane, and 0.4 m from the vertical ground reference plane, and connected to the main through Line Impedance Stability Network (L.I.S.N).

2) The RBW of the receiver was set at 9 kHz in 150 kHz ~ 30MHz with Peak and AVG detector in Max Hold mode. Run the receiver's pre-scan to record the maximum disturbance generated from Product in all power lines in the full band.

 For each frequency whose maximum record was higher or close to limit, measure its QP and AVG values and record.

Equipment Used: Refer to section 3 for details.

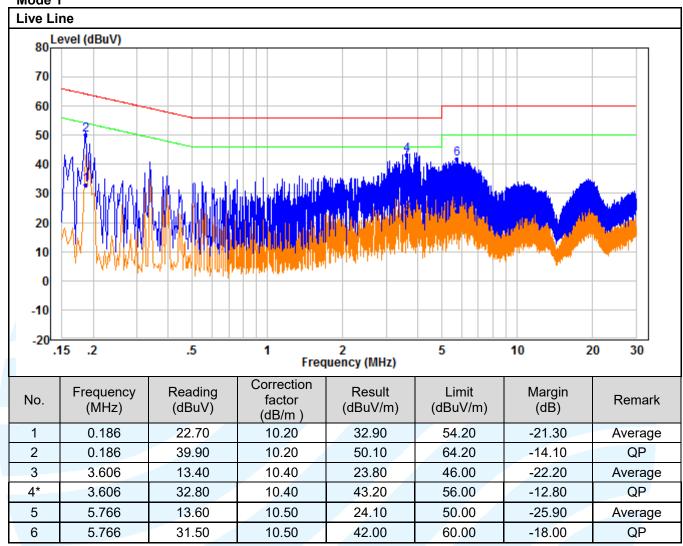
Test Result: Pass



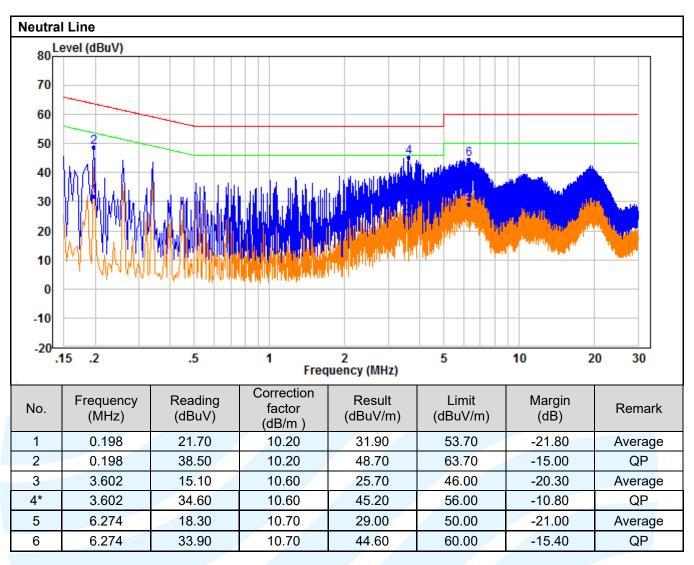
The measurement data as follows:

Quasi Peak and Average:

Mode 1







Remark:

^{1.} An initial pre-scan was performed on the Phase and neutral lines with peak detector. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission were detected.



APPENDIX 1 PHOTOS OF TEST SETUP

See test photos attached in Appendix 1 for the actual connections between Product and support equipment.

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APPENDIX 2 PHOTOS OF EUT CONSTRUCTIONAL DETAILS

Refer to Appendix 2 for EUT external and internal photos.

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