

■ **Report No.:** DDT-R16Q0329-2E3

■ Issued Date: April 12, 2016

# FCC CERTIFICATION TEST REPORT

### **FOR**

Applicant	:	Emanate Wireless, Inc.	
Address	:	11145 Windsor Road, Ijamsville, MD 21754 USA	
<b>Equipment under Test</b>	:	Emanate PowerPath <sup>TM</sup> Tag	
Model No ONG D		PPT-200, PPT-300	
Trade Mark	••	emanate	
FCC ID	••	2AEWLPPT-200	
Manufacturer	:	Globalscable Technlogies, INC.	
Address	:	5F, No. 2 building Minxing industrial Park Minkang Road, Minzhi Street, Baoan District Shenzhen, Guangdong China	

Issued By: Dongguan Dongdian Testing Service Co., Ltd.

**Add:** No. 17, Zongbu Road 2, Songshan Lake Sci&Tech, Industry Park, Dongguan City, Guangdong Province, China, 523808

**Tel:** +86-0769-22891499 <u>Http://www.dgddt.com</u>



# TABLE OF CONTENTS

	Test report declares	4
1.	Summary of test results	5
2.	General test information	6
2.1.	Description of EUT	6
2.2.	Accessories of EUT	6
2.3.	Assistant equipment used for test	6
2.4.	Block diagram of EUT configuration for test	7
2.5.	Test environment conditions	7
2.6.	Deviations of test standard	7
2.7.	Test laboratory	7
2.8.	Measurement uncertainty	7
3.	Equipment used during test	8
4.	Emissions in restricted frequency bands	9
4.1.	Block diagram of test setup	9
4.2.	Limit	10
4.3.	Test Procedure	11
4.4.	Test result	12
5.	Band Edge Compliance	16
5.1.	Block diagram of test setup	16
5.2.	Limit	16
5.3.	Test Procedure	16
5.4.	Test result	16
6.	Power Line Conducted Emission	29
6.1.	Block diagram of test setup	29
6.2.	Power Line Conducted Emission Limits(Class B)	29
6.3.	Test Procedure	29
6.4.	Test Result	30
7.	Test setup photograph	33
8	Photos of the FLIT	35

### TEST REPORT DECLARE

Report No.: DDT-R16Q0329-2E3

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<b>Equipment under Test</b>	:	Emanate PowerPath <sup>TM</sup> Tag	
Model No	:	PPT-200, PPT-300	
FCC ID	••	2AEWLPPT-200	
Trade Mark	:	emanate	
Manufacturer	••	Globalscable Technlogies, INC.	
Address	•	5F, No. 2 building Minxing industrial Park Minkang Road, Minzhi Street, Baoan District Shenzhen, Guangdong China	

**Test Standard Used:** FCC Rules and Regulations Part 15 Subpart C: 2015

**Test procedure used:** ANSI C63.10:2013, ANSI C63.4:2014, KDB558074 D01 DTS Meas Guidance V03r02.

#### We Declare:

The equipment described above is tested by Dongguan Dongdian Testing Service Co., Ltd and in the configuration tested the equipment complied with the standards specified above. The test results are contained in this test report and Dongguan Dongdian Testing Service Co., Ltd is assumed of full responsibility for the accuracy and completeness of these tests.

After test and evaluation, our opinion is that the equipment provided for test compliance with the requirement of the above FCC standards.

Report No:	DDT-R16Q0329-2E3		
Date of Test:	April 6, 2016~April 12, 2016	Date of Report:	April 12, 2016

Prepared By:

Leo Liu/Engineer

AppROVED

Kevin Eng/EMC Marager

Note: This report applies to above tested sample only. This report shall not be reproduced in parts without written approval of Dongguan Dongdian Testing Service Co., Ltd.

# 1. Summary of test results

The EUT have been tested according to the applicable standards as referenced below.			
Description of Test Item	Standard	Results	
	FCC Part 15: 15.209		
	FCC Part 15: 15.247		
Emissions in restricted frequency bands	ANSI C63.10: 2013	PASS	
	ANSI C63.4:2014		
	KDB558074		
	FCC Part 15: 15.209		
	FCC Part 15: 15.247		
Band Edge Compliance	ANSI C63.10: 2013	PASS	
	ANSI C63.4:2014		
	KDB558074		
	FCC Part 15: 15.207		
Power Line Conducted Emission	ANSI C63.10: 2013	PASS	
	ANSI C63.4:2014		

Report No.: DDT-R16Q0329-2E3

Remark: This report is the revision of the previous test report DDT-R15Q0317-1E3 dated Jan. 12, 2016. The EUT change PCB layout a little and delete some component, specific refer to 'PPT-200 change instruction.pdf'.

Based on engineering judgement, transmitter spurious emission, band edge compliance and power line conducted emission were retested.

# 2. General test information

## 2.1. Description of EUT

EUT* Name	:	Emanate PowerPath <sup>TM</sup> Tag
Model Number	:	PPT-200, PPT-300
Difference of Model	:	PPT-200 and PPT-300 are electrically identical, only PPT-300 added audio input port and AC line is different, so we prepare PPT-300 for test only.
EUT function description	:	Please reference user manual of this device
Power supply	:	AC 120V/60Hz
Radio Technology	:	IEEE802.11b/g/n
FCC Operation frequency	:	IEEE 802.11b: 2412MHz—2462MHz IEEE 802.11g: 2412MHz—2462MHz IEEE 802.11n HT20: 2412MHz—2462MHz
Modulation	:	IEEE 802.11b: DSSS(CCK,DQPSK,DBPSK) IEEE 802.11g: OFDM(64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n HT20: OFDM (64QAM, 16QAM, QPSK,BPSK)
Antenna Type	:	Integrated PCB antenna, maximum PK gain:0dBi
Date of Receipt	:	2016/4/6
Sample Type	:	Series production

Report No.: DDT-R16Q0329-2E3

Note1: EUT is the ab.of equipment under test.

Channle in	nformation						
CH	Frequency	СН	Frequency	CH	Frequency	CH	Frequency
1	2412	5	2432	9	2452	/	/
2	2417	6	2437	10	2457	/	/
3	2422	7	2442	11	2462	/	/
4	2427	8	2447	/	/	/	/

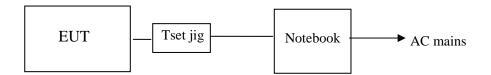
### 2.2. Accessories of EUT

Description of Accessories	Manufacturer	Model number or Type	Output.
/	/	/	/

# 2.3. Assistant equipment used for test

Description of Assistant equipment	Manufacturer	Model number or Type	EMC Compliance	SN
Notebook	DELL	Latitude D610	FCC DOC	00045-534-136-300
Mouse	HP	M-SBF96	FCC DOC	417441-001

### 2.4. Block diagram of EUT configuration for test



The test software was used to control EUT work in Continuous TX mode, and select test channel, wireless mode as blow table:

Report No.: DDT-R16Q0329-2E3

Tested mode, channel, and data rate information					
Mode	data rate (Mpbs)	Channel	Frequency		
	(see Note)		(MHz)		
	11	Low:CH1	2412		
IEEE 802.11b	11	Middle: CH6	2437		
	11	High: CH11	2462		
	6	Low :CH1	2412		
IEEE 802.11g	6	Middle: CH6	2437		
	6	High: CH11	2462		
	MCS 0	Low :CH1	2412		
IEEE 802.11n HT20	MCS 0	Middle: CH6	2437		
	MCS 0	High: CH11	2462		

Note: According exploratory test, EUT will have maximum output power in those data rate, so those data rate were used for all test.

#### 2.5. Test environment conditions

During the measurement the environmental conditions were within the listed ranges:

Temperature range:	21-25℃
Humidity range:	40-75%
Pressure range:	86-106kPa

#### 2.6. Deviations of test standard

No Deviation.

#### 2.7. Test laboratory

Dongguan Dongdian Testing Service Co., Ltd

Add: No. 17, Zongbu Road 2, Songshan Lake Sci&Tech, Industry Park, Dongguan City, Guangdong

Province, China, 523808 Tel: +86-0769-22891499 <a href="http://www.dgddt.com">http://www.dgddt.com</a>

FCC Registration Number: 270092 Industry Canada site registration number: 10288A-1

### 2.8. Measurement uncertainty

Test Item	Uncertainty	
Bandwidth	±1.1%	
Peak Output Power(Conducted)( Spectrum analyzer)	$0.86dB(10 \text{ MHz} \leq f < 3.6GHz);$	

	$1.38dB(3.6GHz \le f < 8GHz)$			
Peak Output Power(Conducted)(Power Sensor)	0.74dB			
Dovver Spectral Density	$0.74$ dB(10 MHz $\leq f < 3.6$ GHz);			
Power Spectral Density	$1.38 dB(3.6GHz \le f < 8GHz)$			
	$0.86$ dB( $10 \text{ MHz} \le f < 3.6$ GHz);			
Conducted spurious emissions	$1.40 dB(3.6 GHz \le f < 8 GHz)$			
	$1.66dB(8GHz \leqslant f < 22GHz)$			
Uncertainty for radio frequency (RBW<20KHz)	3×10-8			
Temperature	±0.4℃			
Humidity	±2%			
Uncertainty for Radiation Emission test	±3.14 dB (Antenna Polarize: V)			
(30MHz-1GHz)	±3.16 dB (Antenna Polarize: H)			
Uncertainty for Radiation Emission test	±4.14dB(1-6GHz)			
(1GHz-18GHz)	±4.46dB (6GHz-18Gz)			
Uncertainty for Power line conduction emission test	2.44dB (150KHz-30MHz)			
NI_tTili				

Report No.: DDT-R16Q0329-2E3

Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

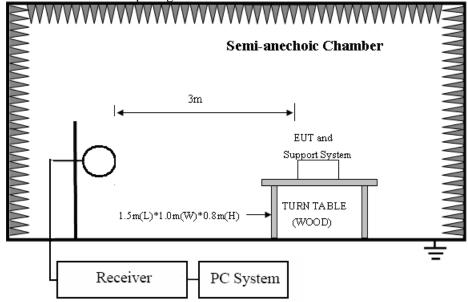
# 3. Equipment used during test

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
RF Connected Test					
Spectrum analyzer	R&S	FSU26	1166.1660.26	2015/10/24	1 Year
Attenuator	Mini-Circuits	BW-S10W2	101109	2015/08/18	1 Year
RF Cable	Micable	C10-01-01-1	100309	2015/08/18	1 Year
<b>Radiated Emission Tes</b>	st		_	_	
EMI Test Receiver	R&S	ESU8	100316	2015/10/24	1Year
Spectrum analyzer	R&S	FSU26	1166.1660.26	2015/10/24	1Year
Trilog Broadband Antenna	Schwarzbeck	VULB9163	9163-462	2015/05/30	1 Year
Active Loop antenna	Schwarzbeck	FMZB-1519	1519-038	2015/10/24	1 Year
Double Ridged Horn Antenna	R&S	HF907	100276	2015/10/31	1 Year
Pre-amplifier	A.H.	PAM-0118	360	2015/08/18	1 Year
RF Cable	HUBSER	CP-X2	W11.03	2015/10/24	1Year
RF Cable	HUBSER	CP-X1	W12.02	2015/10/24	1 Year
MI Cable	HUBSER	C10-01-01-1M	1091629	2015/10/24	1 Year
Test software	Audix	E3	V 6.11111b	/	/
<b>Power Line Conducted</b>	l Emissions Test		_	_	
Test Receiver	R&S	ESU8	100316	2015/10/24	1 Year
LISN 1	R&S	ENV216	101109	2015/10/24	1 Year
LISN 2	R&S	ESH2-Z5	100309	2015/10/24	1 Year
Pulse Limiter	R&S	ESH3-Z2	101242	2015/10/24	1 Year
CE Cable 1	HUBSER	ESU8/RF2	W10.01	2015/10/24	1 Year
Test software	Audix	E3	V 6.11111b	/	/

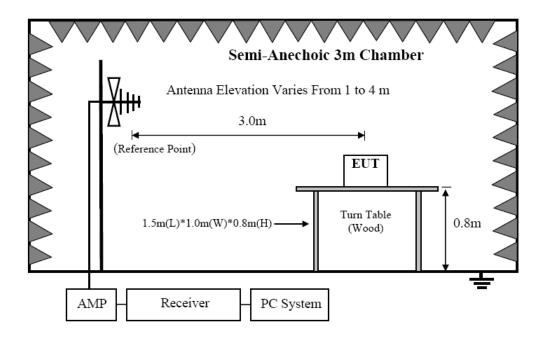
# 4. Emissions in restricted frequency bands

### 4.1. Block diagram of test setup

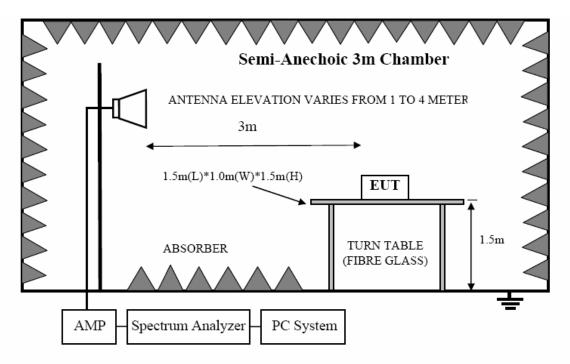
In 3m Anechoic Chamber Test Setup Diagram for 9KHz-30MHz



In 3m Anechoic Chamber Test Setup Diagram for 30MHz-1GHz



In 3m Anechoic Chamber Test Setup Diagram for frequency above 1GHz



Note: For harmonic emissions test a appropriate high pass filter was inserted in the input port of AMP.

### **4.2.** Limit

### 8.2.1 FCC 15.205 Restricted frequency band

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
<sup>1</sup> 0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.52525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2690 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	(2)

### 8.2.2 FCC 15.209 Limit.

FREQUENCY	DISTANCE	FIELD STRENGTHS LIMIT		
MHz	Meters	$\mu V/m$	$dB(\mu V)/m$	
0.009 ~ 0.490	300	2400/F(KHz)	67.6-20log(F)	
0.490 ~ 1.705	30	24000/F(KHz)	87.6-20log(F)	
1.705 ~ 30.0	30	30	29.54	
30 ~ 88	3	100	40.0	
88 ~ 216	3	150	43.5	

216 ~ 960	3	200	46.0
960 ~ 1000	3	500	54.0
Above 1000	3	74.0 dB(μV)/m 54.0 dB(μV)/m	, ,

Report No.: DDT-R16Q0329-2E3

Note: (1)The emission limits shown in the above table are based on measurements employing a CISPR QP detector except for the frequency bands 9-90KHz, 110-490KHz and above 1000MHz.Radiated emissions limits in these three bands are based on measurements employing an average detector.

(2) At frequencies below 30MHz, measurement may be performed at a distance closer then that specified, and the limit at closer measurement distance can be extrapolated by below formula:

$$Limit_{3m}(dBuV/m) = Limit_{30m}(dBuV/m) + 40Log(30m/3m)$$

#### 8.2.3 Limit for this EUT

All the emissions appearing within 15.205 restricted frequency bands shall not exceed the limits shown in 15.209, all the other emissions shall be at least 20dB below the fundamental emissions, or comply with 15.209 limits.

#### 4.3. Test Procedure

- (1) EUT height should be 0.8m for below 1GHz at a semi anechoic chamber while EUT height should be 1.5m for above 1GHz at full chamber or semi anechoic chamber ground with absorbers.
- (2) The antenna used as below table.

Test frequency range	Test antenna used	Measuring distance
9KHz-30MHz	Active Loop antenna	3 m
30MHz-1GHz	Trilog Broadband Antenna	3 m
1GHz-18GHz	Double Ridged Horn Antenna(1GHz-18GHz)	3 m
18GHz-40GHz	Horn Antenna(18GHz-40GHz)	1 m

According ANSI C63.10:2013 clause 6.4.4.2 and 6,5.3, for measurements below 30 MHz, the loop antenna was positioned with its plane vertical from the EUT and rotated about its vertical axis for maximum response at each azimuth position around the EUT. And the loop antenna also be positioned with its plane horizontal at the specified distance from the EUT. The center of the loop is 1 m above the ground. for measurement above 30MHz, the Trilog Broadband Antenna or Horn Antenna was located 3m from EUT, Measurements were made with the antenna positioned in both the horizontal and vertical planes of Polarization, and the measurement antenna was varied from 1 m to 4 m. in height above the reference ground plane to obtain the maximum signal strength.

- (3) Below pre-scan procedure was first performed in order to find prominent frequency spectrum radiated emissions from 9KHz to 25GHz:
- (a) Scanning the peak frequency spectrum with the antenna specified in step (3), and the EUT was rotated 360 degree, the antenna height was varied from 1m to 4m(Except loop antenna, it's fixed 1m above ground.)

- (b) Change work frequency or channel of device if practicable.
- (c) Change modulation type of device if practicable.
- (d) Change power supply range from 85% to 115% of the rated supply voltage
- (e) Rotated EUT though three orthogonal axes to determine the attitude of EUT arrangement produces highest emissions.

Report No.: DDT-R16Q0329-2E3

Spectrum frequency from 9KHz to 25GHz (tenth harmonic of fundamental frequency) was investigated, and no any obvious emission were detected from 18GHz to 25GHz, so below final test was performed with frequency range from 9KHz to 18GHz.

- (4) For final emissions measurements at each frequency of interest, the EUT was rotated and the antenna height was varied between 1m and 4m in order to maximize the emission. Measurements in both horizontal and vertical polarities were made and the data was recorded. In order to find the maximum emission, the relative positions of equipments and all of the interface cables were changed according to ANSI C63.10 2013 on Radiated Emission test.
- (5) The emissions from 9KHz to 1GHz were measured based on CISPR QP detector except for the frequency bands 9-90KHz, 110-490KHz, for emissions from 9KHz-90KHz,110KHz-490KHz and above 1GHz were measured based on average detector, for emissions above 1GHz, peak emissions also be measured and need comply with Peak limit.
- (6) The emissions from 9KHz to 1GHz, QP or average values were measured with EMI receiver with below RBW

Frequency band	RBW
9KHz-150KHz	200Hz
150KHz-30MHz	9KHz
30MHz-1GHz	120KHz

(7) For emissions above 1GHz, both Peak and Average level were measured with Spectrum Analyzer, and the RBW is set at 1MHz, VBW is set at 3MHz for Peak measure; RMS detector RBW 1MHz VBW 3MHz for Average measure(according ANSI C63.10:2013 clause 4.2.3.2.3 procedure for average measure).

#### 4.4. Test result

### PASS. (See below detailed test result)

All the emissions except fundamental emission from 9KHz to 25GHz were comply with 15.209 limit.

Note1: According exploratory test no any obvious emission were detected from 9KHz to 30MHz and 18GHz to 25GHz, so the final test was performed with frequency range from 30MHz to 18GHz and recorded in below.

Note2: For emissions below 1GHz, according exploratory explorer test, when change Tx mode and channel, have no distinct influence on emissions level, so for emissions below 1GHz, the final test was only performed with EUT working in 11b, Tx CH6 mode.

#### **Radiated Emission test (below 1GHz)**

# TR-4-E-009 Radiated Emission Test Result

Report No.: DDT-R16Q0329-2E3

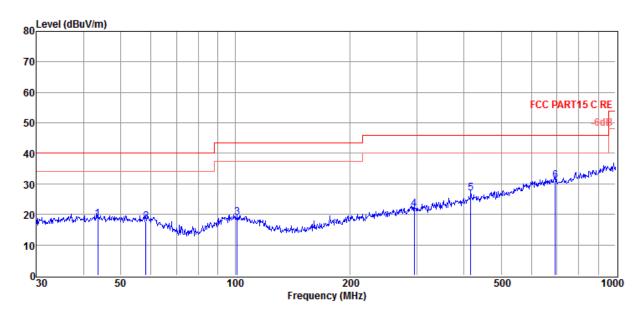
Test Site : DDT 3m Chamber E:\2016 Report Data\16Q0329-2\RE.EM6

EUT : Emanate PowerPath<sup>TM</sup> Tag Model Number : PPT-300

**Power Supply** : AC 120V/60Hz **Test Mode** : wifi TX Mode

Memo :

Data: 5



Item	Freq	Read	Antenna	Cable	Result	Limit	Over	Detector	Polarization
		Level	Factor	Loss	Level	Line	Limit		
(Mark)	(MHz)	(dBµV)	(dB/m)	dB	$(dB\mu V/m)$	$(dB\mu V/m)$	(dB)		
1	43.51	2.26	12.42	3.82	18.50	40.00	-21.50	QP	VERTICAL
2	58.20	2.04	11.70	3.96	17.70	40.00	-22.30	QP	VERTICAL
3	101.29	2.79	11.90	4.31	19.00	43.50	-24.50	QP	VERTICAL
4	295.15	2.83	13.40	5.36	21.59	46.00	-24.41	QP	VERTICAL
5	416.18	4.93	16.15	5.86	26.94	46.00	-19.06	QP	VERTICAL
6	694.42	4.29	19.84	6.81	30.94	46.00	-15.06	QP	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss.

2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.

Report No.: DDT-R16Q0329-2E3

**Test Site** : DDT 3m Chamber E:\2016 Report Data\16Q0329-2\RE.EM6

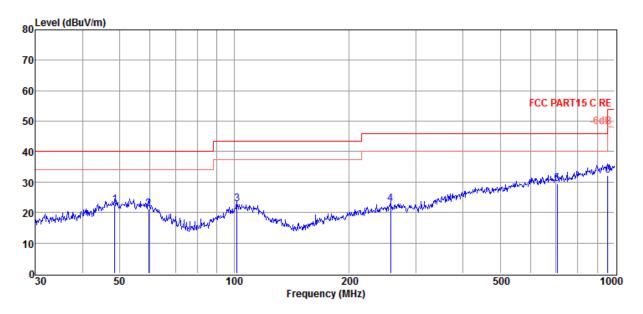
EUT : Emanate PowerPath<sup>TM</sup> Tag Model Number : PPT-300

**Power Supply** : AC 120V/60Hz **Test Mode** : wifi TX Mode

Condition : Temp:24.5'C,Humi:55%, Press:100.1kPa : Antenna/Distance : 2015 VULB9163/3m/HORIZONTAL

Memo :

Data: 6



Item	Freq	Read	Antenna	Cable	Result	Limit	Over	Detector	Polarization
		Level	Factor	Loss	Level	Line	Limit		
(Mark)	(MHz)	(dBµV)	(dB/m)	dB	$(dB\mu V/m)$	$(dB\mu V/m)$	(dB)		
1	48.50	6.35	12.22	3.87	22.44	40.00	-17.56	QP	HORIZONTAL
2	59.65	5.59	11.70	3.98	21.27	40.00	-18.73	QP	HORIZONTAL
3	101.64	6.52	11.87	4.31	22.70	43.50	-20.80	QP	HORIZONTAL
4	257.42	5.20	12.35	5.17	22.72	46.00	-23.28	QP	HORIZONTAL
5	706.70	2.80	19.77	6.85	29.42	46.00	-16.58	QP	HORIZONTAL
6	958.79	1.42	23.06	7.57	32.05	46.00	-13.95	QP	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss.

2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.

<b>Radiated</b>	Emission	n test (al	ove 1G	Hz)						
Freq (MHz)	Read level	Antenna Factor	PRM Factor	Cable Loss	Result Level	Limit (dBµ	Margin (dB)	Detector type	Polarization	
(WITIZ)	(dBµV)	(dB/m)	(dB)	(dB)	(dBµV/m)	V/m)	(db)	турс		
11b CH1										
4824.00	33.27	35.42	29.13	8.09	47.65	74.00	-26.35	Peak	HORIZONTAL	
7906.00	34.72	37.48	31.03	10.33	51.50	74.00	-22.50	Peak	HORIZONTAL	
16390.00	33.58	43.56	36.60	13.74	54.28	74.00	-19.72	Peak	HORIZONTAL	
16390.00	20.37	43.56	36.60	13.74	41.07	54.00	-12.93	Average	HORIZONTAL	
4490.00	35.96	34.85	29.39	7.82	49.24	74.00	-24.76	Peak	VERTICAL	
4824.00	33.04	35.42	29.13	8.09	47.42	74.00	-26.58	Peak	VERTICAL	
14836.00	34.75	41.97	35.92	13.39	54.19	74.00	-19.81	Peak	VERTICAL	
14836.00	20.58	41.97	35.92	13.39	40.02	54.00	-13.98	Average	VERTICAL	
11b CH6										
4874.00	32.98	35.51	29.08	8.14	47.55	74.00	-26.45	Peak	HORIZONTAL	
7318.00	34.91	37.30	29.88	9.99	52.32	74.00	-21.68	Peak	HORIZONTAL	
16922.00	33.82	43.61	36.95	13.87	54.35	74.00	-19.65	Peak	HORIZONTAL	
16922.00	21.01	43.61	36.95	13.87	41.54	54.00	-12.46	Average	HORIZONTAL	
4874.00	33.26	35.51	29.08	8.14	47.83	74.00	-26.17	Peak	VERTICAL	
7318.00	36.99	37.30	29.88	9.99	54.40	74.00	-19.60	Peak	VERTICAL	
7318.00	23.66	37.30	29.88	9.99	41.07	54.00	-12.93	Average	VERTICAL	
16992.00	33.66	43.60	37.03	13.90	54.13	74.00	-19.87	Peak	VERTICAL	
16992.00	20.68	43.60	37.03	13.90	41.15	54.00	-12.85	Average	VERTICAL	
11b CH11										
4934.00	34.26	35.59	29.06	8.16	48.95	74.00	-25.05	Peak	HORIZONTAL	
7304.00	33.04	37.29	29.81	9.97	50.49	74.00	-23.51	Peak	HORIZONTAL	
16362.00	33.56	43.54	36.60	13.74	54.24	74.00	-19.76	Peak	HORIZONTAL	
16362.00	21.04	43.54	36.60	13.74	41.72	54.00	-12.28	Average	HORIZONTAL	
4924.00	33.59	35.59	29.06	8.16	48.28	74.00	-25.72	Peak	VERTICAL	
7318.00	35.22	37.30	29.88	9.99	52.63	74.00	-21.37	Peak	VERTICAL	
16852.00	33.31	43.63	36.88	13.85	53.91	74.00	-20.09	Peak	VERTICAL	
16852.00	20.86	43.63	36.88	13.85	41.46	54.00	-12.54	Average	VERTICAL	
Result: Pa	.SS									
Test Date	: 2016/04/	11					Tes	t Engineer	: Toby Ren	

Note: 1.30MHz~18GHz: (Scan with 11b, 11g and 11n HT20, the worst case is 11b Mode)

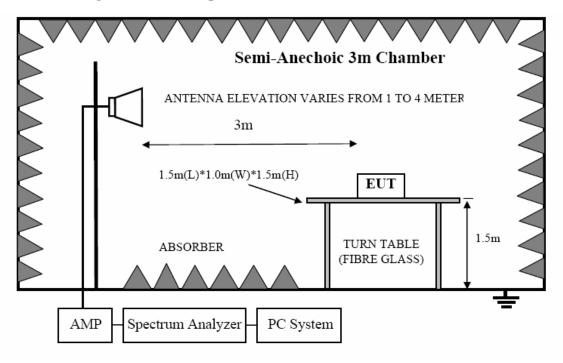
2. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

Report No.: DDT-R16Q0329-2E3

## 5. Band Edge Compliance

### 5.1. Block diagram of test setup



#### 5.2. Limit

All restricted frequency bands shall not exceed the limits shown in 15.209, all the other emissions outside operation frequency band 2400MHz to 2483.5MHz shall be at least 20dB below the fundamental emissions, or comply with RSS-Gen Issue 3 clause 7.2.5 (Same as FCC 15.209) limits.

#### 5.3. Test Procedure

Same with clause 4.3 except change investigated frequency range from 2100MHz to 2450MHz and 2450MHz to 2500MHz.

Remark: All restriction band have been tested, and only the worse case is shown in report.

#### 5.4. Test result

PASS. (See below detailed test result)

Report No.: DDT-R16Q0329-2E3

Test Site : DDT 3m Chamber E:\2016 Report Data\16Q0329-2\RF.EM6

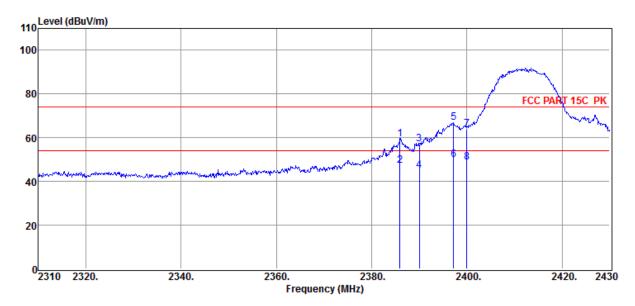
EUT : Emanate PowerPath<sup>TM</sup> Tag Model Number : PPT-300

Power Supply : AC 120V/60Hz Test Mode : 11b CH1

 $\begin{array}{lll} \textbf{Condition} & : \frac{\text{Temp:}24.5\text{'C,Humi:}55\%,}{\text{Press:}100.1\text{kPa}} & \textbf{Antenna/Distance} & : 2014 \ \text{HF907/3m/VERTICAL} \\ \end{array}$ 

Memo :

Data: 27



Item	Freq	Read	Antenna	PRM	Cable	Result	Limit	Over	Detector	Polarization
		Level	Factor	Factor	Loss	Level	Line	Limit		
(Mark)	(MHz)	(dBµV)	(dB/m)	dB	dB	$(dB\mu V/m)$	$(dB\mu V/m)$	(dB)		
1	2385.96	54.27	29.99	30.21	5.17	59.22	74.00	-14.78	Peak	VERTICAL
2	2385.96	42.16	29.99	30.21	5.17	47.11	54.00	-6.89	Average	VERTICAL
3	2390.00	51.99	29.99	30.21	5.17	56.94	74.00	-17.06	Peak	VERTICAL
4	2390.00	40.13	29.99	30.21	5.17	45.08	54.00	-8.92	Average	VERTICAL
5	2397.24	61.96	29.99	30.21	5.17	66.91	74.00	-7.09	Peak	VERTICAL
6	2397.24	44.98	29.99	30.21	5.17	49.93	54.00	-4.07	Average	VERTICAL
7	2400.00	58.88	29.99	30.21	5.17	63.83	74.00	-10.17	Peak	VERTICAL
8	2400.00	43.66	29.99	30.21	5.17	48.61	54.00	-5.39	Average	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

Report No.: DDT-R16Q0329-2E3

Test Site : DDT 3m Chamber E:\2016 Report Data\16Q0329-2\RF.EM6

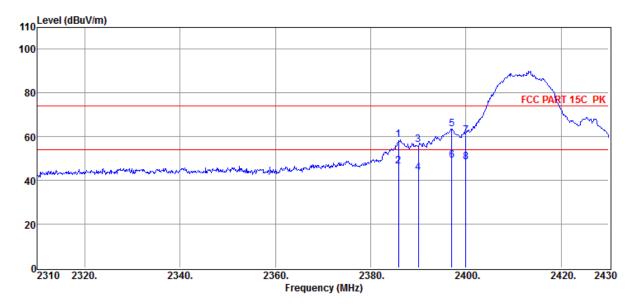
EUT : Emanate PowerPath<sup>TM</sup> Tag Model Number : PPT-300

**Power Supply**: AC 120V/60Hz **Test Mode**: 11b CH1

 $\begin{array}{lll} \textbf{Condition} & : & \frac{\text{Temp:}24.5\text{'C,Humi:}55\%,}{\text{Press:}100.1\text{kPa}} & \textbf{Antenna/Distance} & : & 2014 \ \text{HF907/3m/HORIZONTAL} \\ \end{array}$ 

Memo :

Data: 28



Item	Freq	Read	Antenna	PRM	Cable	Result	Limit	Over	Detector	Polarization
		Level	Factor	Factor	Loss	Level	Line	Limit		
(Mark)	(MHz)	(dBµV)	(dB/m)	dB	dB	$(dB\mu V/m)$	$(dB\mu V/m)$	(dB)		
1	2385.87	53.66	29.99	30.21	5.17	58.61	74.00	-15.39	Peak	HORIZONTAL
2	2385.87	41.66	29.99	30.21	5.17	46.61	54.00	-7.39	Average	HORIZONTAL
3	2390.00	51.42	29.99	30.21	5.17	56.37	74.00	-17.63	Peak	HORIZONTAL
4	2390.00	38.57	29.99	30.21	5.17	43.52	54.00	-10.48	Average	HORIZONTAL
5	2397.01	58.45	29.99	30.21	5.17	63.40	74.00	-10.60	Peak	HORIZONTAL
6	2397.01	44.27	29.99	30.21	5.17	49.22	54.00	-4.78	Average	HORIZONTAL
7	2400.00	55.69	29.99	30.21	5.17	60.64	74.00	-13.36	Peak	HORIZONTAL
8	2400.00	43.27	29.99	30.21	5.17	48.22	54.00	-5.78	Average	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

Report No.: DDT-R16Q0329-2E3

Test Site : DDT 3m Chamber E:\2016 Report Data\16Q0329-2\RF.EM6

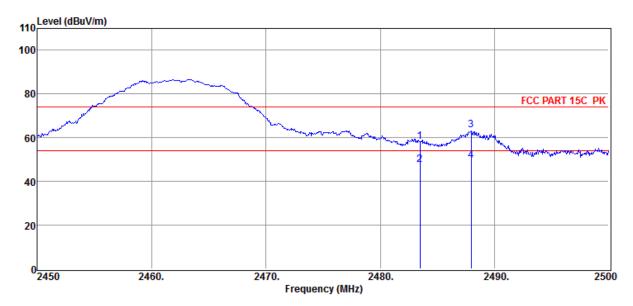
EUT : Emanate PowerPath<sup>TM</sup> Tag Model Number : PPT-300

**Power Supply**: AC 120V/60Hz **Test Mode**: 11b CH11

 $\begin{array}{lll} \textbf{Condition} & : & \frac{\text{Temp:}24.5\text{'C,Humi:}55\%,}{\text{Press:}100.1\text{kPa}} & \textbf{Antenna/Distance} & : & 2014 \ \text{HF907/3m/HORIZONTAL} \\ \end{array}$ 

Memo :

Data: 29



Item	Freq	Read	Antenna	PRM	Cable	Result	Limit	Over	Detector	Polarization
		Level	Factor	Factor	Loss	Level	Line	Limit		
(Mark)	(MHz)	$(dB\mu V)$	(dB/m)	dB	dB	$(dB\mu V/m)$	$(dB\mu V/m)$	(dB)		
1	2483.50	52.96	30.25	30.25	5.31	58.27	74.00	-15.73	Peak	HORIZONTAL
2	2483.50	42.15	30.25	30.25	5.31	47.46	54.00	-6.54	Average	HORIZONTAL
3	2487.95	58.26	30.30	30.25	5.31	63.62	74.00	-10.38	Peak	HORIZONTAL
4	2487.95	44.15	30.30	30.25	5.31	49.51	54.00	-4.49	Average	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

Report No.: DDT-R16Q0329-2E3

Test Site : DDT 3m Chamber E:\2016 Report Data\16Q0329-2\RF.EM6

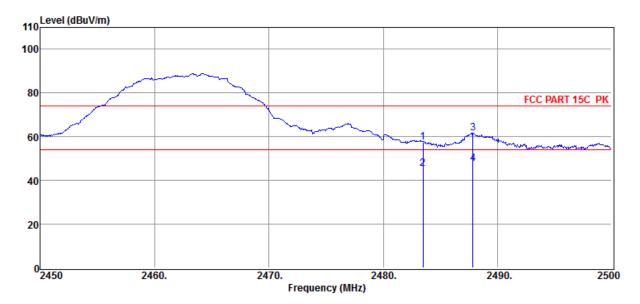
EUT : Emanate PowerPath<sup>TM</sup> Tag Model Number : PPT-300

**Power Supply**: AC 120V/60Hz **Test Mode**: 11b CH11

 $\begin{array}{lll} \textbf{Condition} & : \frac{\text{Temp:}24.5\text{'C,Humi:}55\%,}{\text{Press:}100.1\text{kPa}} & \textbf{Antenna/Distance} & : 2014 \ \text{HF907/3m/VERTICAL} \\ \end{array}$ 

Memo :

Data: 30



Item	Freq	Read	Antenna	PRM	Cable	Result	Limit	Over	Detector	Polarization
		Level	Factor	Factor	Loss	Level	Line	Limit		
(Mark)	(MHz)	(dBµV)	(dB/m)	dB	dB	$(dB\mu V/m)$	$(dB\mu V/m)$	(dB)		
1	2483.50	52.12	30.25	30.25	5.31	57.43	74.00	-16.57	Peak	VERTICAL
2	2483.50	40.15	30.25	30.25	5.31	45.46	54.00	-8.54	Average	VERTICAL
3	2487.85	56.21	30.30	30.25	5.31	61.57	74.00	-12.43	Peak	VERTICAL
4	2487.85	42.15	30.30	30.25	5.31	47.51	54.00	-6.49	Average	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

Report No.: DDT-R16Q0329-2E3

Test Site : DDT 3m Chamber E:\2016 Report Data\16Q0329-2\RF.EM6

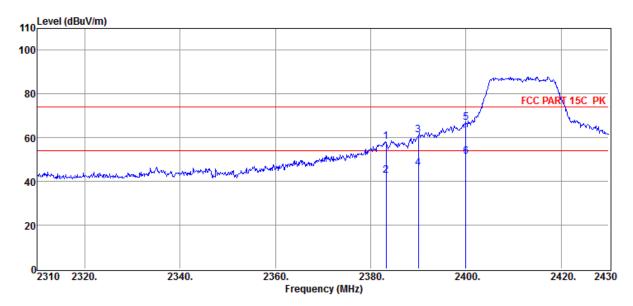
EUT : Emanate PowerPath<sup>TM</sup> Tag Model Number : PPT-300

**Power Supply**: AC 120V/60Hz **Test Mode**: 11g CH1

 $\begin{array}{lll} \textbf{Condition} & : & \frac{\text{Temp:}24.5\text{'C,Humi:}55\%,}{\text{Press:}100.1\text{kPa}} & \textbf{Antenna/Distance} & : & 2014 \ \text{HF907/3m/HORIZONTAL} \\ \end{array}$ 

Memo :

Data: 31



Item	Freq	Read	Antenna	PRM	Cable	Result	Limit	Over	Detector	Polarization
		Level	Factor	Factor	Loss	Level	Line	Limit		
(Mark)	(MHz)	(dBµV)	(dB/m)	dB	dB	$(dB\mu V/m)$	$(dB\mu V/m)$	(dB)		
1	2383.25	53.20	29.94	30.21	5.17	58.10	74.00	-15.90	Peak	HORIZONTAL
2	2383.25	37.98	29.94	30.21	5.17	42.88	54.00	-11.12	Average	HORIZONTAL
3	2390.00	56.27	29.99	30.21	5.17	61.22	74.00	-12.78	Peak	HORIZONTAL
4	2390.00	41.27	29.99	30.21	5.17	46.22	54.00	-7.78	Average	HORIZONTAL
5	2400.00	62.03	29.99	30.21	5.17	66.98	74.00	-7.02	Peak	HORIZONTAL
6	2400.00	46.59	29.99	30.21	5.17	51.54	54.00	-2.46	Average	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

Report No.: DDT-R16Q0329-2E3

Test Site : DDT 3m Chamber E:\2016 Report Data\16Q0329-2\RF.EM6

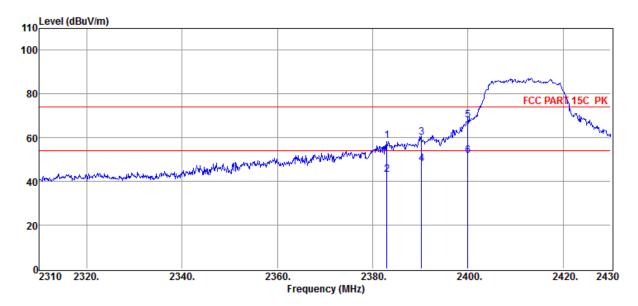
EUT : Emanate PowerPath<sup>TM</sup> Tag Model Number : PPT-300

**Power Supply**: AC 120V/60Hz **Test Mode**: 11g CH1

 $\begin{array}{lll} \textbf{Condition} & : \frac{\text{Temp:}24.5\text{'C,Humi:}55\%,}{\text{Press:}100.1\text{kPa}} & \textbf{Antenna/Distance} & : 2014 \ \text{HF907/3m/VERTICAL} \\ \end{array}$ 

Memo :

Data: 32



Item	Freq	Read	Antenna	PRM	Cable	Result	Limit	Over	Detector	Polarization
(Mark)	(MHz)	Level	Factor (dB/m)	Factor dB	Loss dB	Level (dBµV/m)	Line	Limit (dB)		
1	2383.01	(dBµV) 53.66	29.94	30.21	5.17	58.56	(dBμV/m) 74.00	-15.44	Peak	VERTICAL
2	2383.01	38.10	29.94	30.21	5.17	43.00	54.00	-11.00	Average	VERTICAL
3	2390.26	55.22	29.99	30.21	5.17	60.17	74.00	-13.83	Peak	VERTICAL
4	2390.26	42.98	29.99	30.21	5.17	47.93	54.00	-6.07	Average	VERTICAL
5	2400.00	63.27	29.99	30.21	5.17	68.22	74.00	-5.78	Peak	VERTICAL
6	2400.00	47.02	29.99	30.21	5.17	51.97	54.00	-2.03	Average	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

Report No.: DDT-R16Q0329-2E3

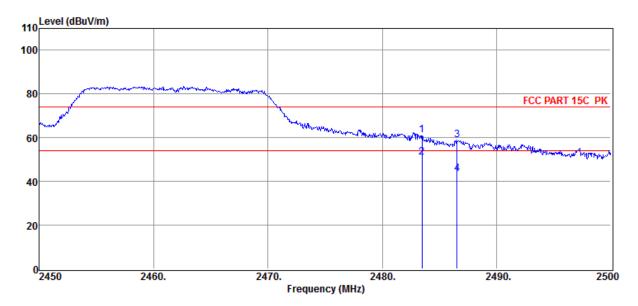
Test Site : DDT 3m Chamber E:\2016 Report Data\16Q0329-2\RF.EM6

EUT : Emanate PowerPath<sup>TM</sup> Tag Model Number : PPT-300

 $\begin{array}{lll} \textbf{Condition} & : \frac{\text{Temp:}24.5\text{'C,Humi:}55\%,}{\text{Press:}100.1\text{kPa}} & \textbf{Antenna/Distance} & : 2014 \ \text{HF907/3m/VERTICAL} \\ \end{array}$ 

Data: 33

Memo



Item	Freq	Read	Antenna	PRM	Cable	Result	Limit	Over	Detector	Polarization
		Level	Factor	Factor	Loss	Level	Line	Limit		
(Mark)	(MHz)	$(dB\mu V)$	(dB/m)	dB	dB	$(dB\muV/m)$	$(dB\mu V/m)$	(dB)		
1	2483.50	56.02	30.25	30.25	5.31	61.33	74.00	-12.67	Peak	VERTICAL
2	2483.50	45.66	30.25	30.25	5.31	50.97	54.00	-3.03	Average	VERTICAL
3	2486.55	53.70	30.25	30.25	5.31	59.01	74.00	-14.99	Peak	VERTICAL
4	2486.55	38.02	30.25	30.25	5.31	43.33	54.00	-10.67	Average	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

Report No.: DDT-R16Q0329-2E3

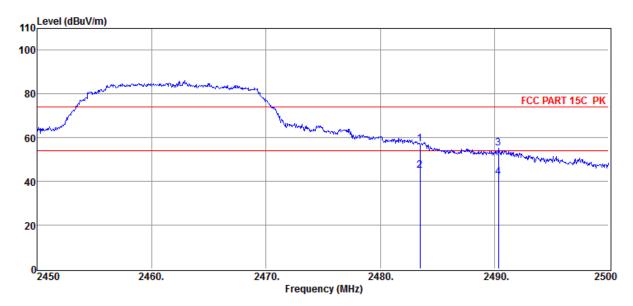
Test Site : DDT 3m Chamber E:\2016 Report Data\16Q0329-2\RF.EM6

EUT : Emanate PowerPath<sup>TM</sup> Tag Model Number : PPT-300

 $\begin{array}{lll} \textbf{Condition} & : \frac{\text{Temp:}24.5\text{'C,Humi:}55\%,}{\text{Press:}100.1\text{kPa}} & \textbf{Antenna/Distance} & : 2014 \ \text{HF907/3m/HORIZONTAL} \\ \end{array}$ 

Memo :

Data: 34



Item	Freq	Read	Antenna	PRM	Cable	Result	Limit	Over	Detector	Polarization
		Level	Factor	Factor	Loss	Level	Line	Limit		
(Mark)	(MHz)	(dBµV)	(dB/m)	dB	dB	$(dB\mu V/m)$	$(dB\mu V/m)$	(dB)		
1	2483.50	51.66	30.25	30.25	5.31	56.97	74.00	-17.03	Peak	HORIZONTAL
2	2483.50	39.54	30.25	30.25	5.31	44.85	54.00	-9.15	Average	HORIZONTAL
3	2490.35	49.73	30.30	30.25	5.31	55.09	74.00	-18.91	Peak	HORIZONTAL
4	2490.35	36.65	30.30	30.25	5.31	42.01	54.00	-11.99	Average	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

Report No.: DDT-R16Q0329-2E3

Test Site : DDT 3m Chamber E:\2016 Report Data\16Q0329-2\RF.EM6

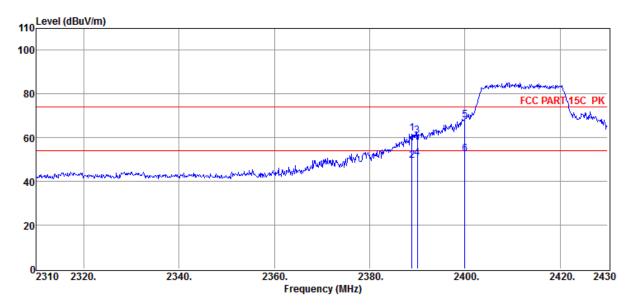
EUT : Emanate PowerPath<sup>TM</sup> Tag Model Number : PPT-300

**Power Supply**: AC 120V/60Hz Test Mode : 11n HT20 CH1

 $\begin{array}{lll} \textbf{Condition} & : & \frac{\text{Temp:}24.5\text{'C,Humi:}55\%,}{\text{Press:}100.1\text{kPa}} & \textbf{Antenna/Distance} & : & 2014 \ \text{HF907/3m/HORIZONTAL} \\ \end{array}$ 

Memo :

Data: 35



Item	Freq	Read	Antenna	PRM	Cable	Result	Limit	Over	Detector	Polarization
		Level	Factor	Factor	Loss	Level	Line	Limit		
(Mark)	(MHz)	(dBµV)	(dB/m)	dB	dB	$(dB\mu V/m)$	$(dB\mu V/m)$	(dB)		
1	2388.87	56.99	29.99	30.21	5.17	61.94	74.00	-12.06	Peak	HORIZONTAL
2	2388.87	44.69	29.99	30.21	5.17	49.64	54.00	-4.36	Average	HORIZONTAL
3	2390.00	55.99	29.99	30.21	5.17	60.94	74.00	-13.06	Peak	HORIZONTAL
4	2390.00	45.70	29.99	30.21	5.17	50.65	54.00	-3.35	Average	HORIZONTAL
5	2400.00	63.27	29.99	30.21	5.17	68.22	74.00	-5.78	Peak	HORIZONTAL
6	2400.00	47.55	29.99	30.21	5.17	52.50	54.00	-1.50	Average	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

Report No.: DDT-R16Q0329-2E3

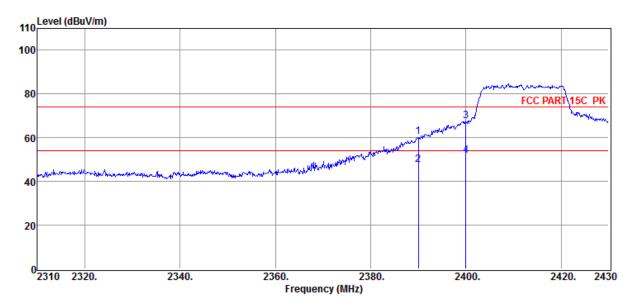
Test Site : DDT 3m Chamber E:\2016 Report Data\16Q0329-2\RF.EM6

EUT : Emanate PowerPath<sup>TM</sup> Tag Model Number : PPT-300

 $\begin{array}{lll} \textbf{Condition} & : \frac{\text{Temp:}24.5\text{'C,Humi:}55\%,}{\text{Press:}100.1\text{kPa}} & \textbf{Antenna/Distance} & : 2014 \ \text{HF907/3m/VERTICAL} \\ \end{array}$ 

Memo :

Data: 36



Item	Freq	Read	Antenna	PRM	Cable	Result	Limit	Over	Detector	Polarization
		Level	Factor	Factor	Loss	Level	Line	Limit		
(Mark)	(MHz)	$(dB\mu V)$	(dB/m)	dB	dB	$(dB\mu V/m)$	$(dB\mu V/m)$	(dB)		
1	2390.00	55.46	29.99	30.21	5.17	60.41	74.00	-13.59	Peak	VERTICAL
2	2390.00	42.66	29.99	30.21	5.17	47.61	54.00	-6.39	Average	VERTICAL
3	2400.00	62.69	29.99	30.21	5.17	67.64	74.00	-6.36	Peak	VERTICAL
4	2400.00	46.86	29.99	30.21	5.17	51.81	54.00	-2.19	Average	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

Report No.: DDT-R16Q0329-2E3

Test Site : DDT 3m Chamber E:\2016 Report Data\16Q0329-2\RF.EM6

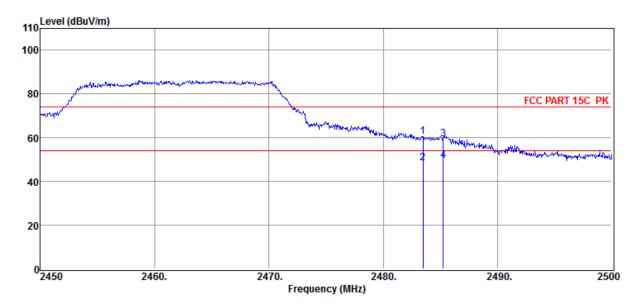
EUT : Emanate PowerPath<sup>TM</sup> Tag Model Number : PPT-300

**Power Supply**: AC 120V/60Hz **Test Mode**: 11n HT20 CH11

 $\begin{array}{lll} \textbf{Condition} & : \frac{\text{Temp:}24.5\text{'C,Humi:}55\%,}{\text{Press:}100.1\text{kPa}} & \textbf{Antenna/Distance} & : 2014 \ \text{HF907/3m/VERTICAL} \\ \end{array}$ 

Memo :

Data: 37



Item	Freq	Read	Antenna	PRM	Cable	Result	Limit	Over	Detector	Polarization
		Level	Factor	Factor	Loss	Level	Line	Limit		
(Mark)	(MHz)	$(dB\mu V)$	(dB/m)	dB	dB	$(dB\muV/m)$	$(dB\mu V/m)$	(dB)		
1	2483.50	55.02	30.25	30.25	5.31	60.33	74.00	-13.67	Peak	VERTICAL
2	2483.50	43.25	30.25	30.25	5.31	48.56	54.00	-5.44	Average	VERTICAL
3	2485.25	54.15	30.25	30.25	5.31	59.46	74.00	-14.54	Peak	VERTICAL
4	2485.25	44.15	30.25	30.25	5.31	49.46	54.00	-4.54	Average	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

Report No.: DDT-R16Q0329-2E3

Test Site : DDT 3m Chamber E:\2016 Report Data\16Q0329-2\RF.EM6

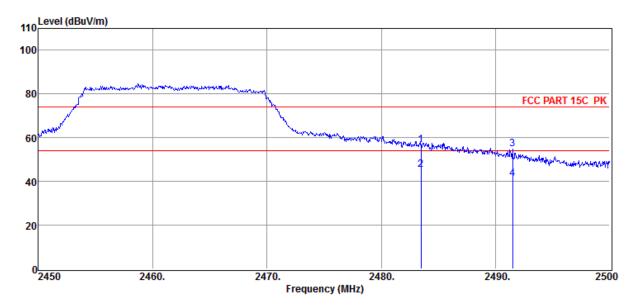
EUT : Emanate PowerPath<sup>TM</sup> Tag Model Number : PPT-300

Power Supply : AC 120V/60Hz Test Mode : 11n HT20 CH11

 $\begin{array}{lll} \textbf{Condition} & : & \frac{\text{Temp:}24.5\text{'C,Humi:}55\%,}{\text{Press:}100.1\text{kPa}} & \textbf{Antenna/Distance} & : & 2014 \ \text{HF907/3m/HORIZONTAL} \\ \end{array}$ 

Memo :

Data: 38



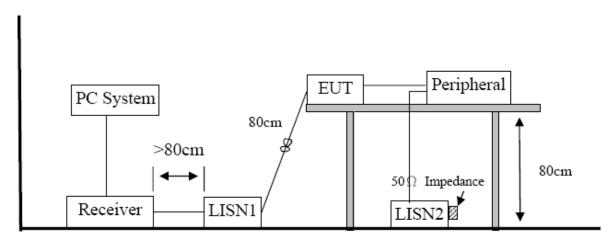
Item	Freq	Read	Antenna	PRM	Cable	Result	Limit	Over	Detector	Polarization
		Level	Factor	Factor	Loss	Level	Line	Limit		
(Mark)	(MHz)	(dBµV)	(dB/m)	dB	dB	$(dB\mu V/m)$	$(dB\mu V/m)$	(dB)		
1	2483.50	51.46	30.25	30.25	5.31	56.77	74.00	-17.23	Peak	HORIZONTAL
2	2483.50	40.14	30.25	30.25	5.31	45.45	54.00	-8.55	Average	HORIZONTAL
3	2491.50	49.39	30.30	30.25	5.31	54.75	74.00	-19.25	Peak	HORIZONTAL
4	2491.50	35.66	30.30	30.25	5.31	41.02	54.00	-12.98	Average	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

#### 6. Power Line Conducted Emission

### 6.1. Block diagram of test setup



#### **6.2.** Power Line Conducted Emission Limits(Class B)

Frequency	Quasi-Peak Level dB(μV)	Average Level dB(μV)
150kHz ~ 500kHz	66 ~ 56*	56 ~ 46*
500kHz ~ 5MHz	56	46
5MHz ~ 30MHz	60	50

Note 1: \* Decreasing linearly with logarithm of frequency.

Note 2: The lower limit shall apply at the transition frequencies.

#### 6.3. Test Procedure

The EUT and Support equipment, if needed, were put placed on a non-metallic table, 80cm above the ground plane.

Configuration EUT to simulate typical usage as described in clause 2.4 and test equipment as described in clause 10.2 of this report.

All I/O cables were positioned to simulate typical actual usage as per ANSI C63.4.

All support equipment power received from a second LISN.

Emissions were measured on each current carrying line of the EUT using an EMI Test Receiver connected to the LISN powering the EUT.

The Receiver scanned from 150 kHz to 30MHz for emissions in each of the test modes.

During the above scans, the emissions were maximized by cable manipulation.

The test mode(s) described in clause 2.4 were scanned during the preliminary test.

After the preliminary scan, we found the test mode producing the highest emission level.

The EUT configuration and worse cable configuration of the above highest emission levels were recorded for reference of the final test.

Report No.: DDT-R16Q0329-2E3

EUT and support equipment were set up on the test bench as per the configuration with highest emission level in the preliminary test.

A scan was taken on both power lines, Neutral and Line, recording at least the six highest emissions.

Emission frequency and amplitude were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit.

The test data of the worst-case condition(s) was recorded.

The bandwidth of test receiver is set at 9 KHz.

#### 6.4. Test Result

#### PASS. (See below detailed test result)

Note1: All emissions not reported below are too low against the prescribed limits.

Note2: "----" means peak detection; "----" mans average detection

## TR-4-E-010 Conducted Emission Test Result

Report No.: DDT-R16Q0329-2E3

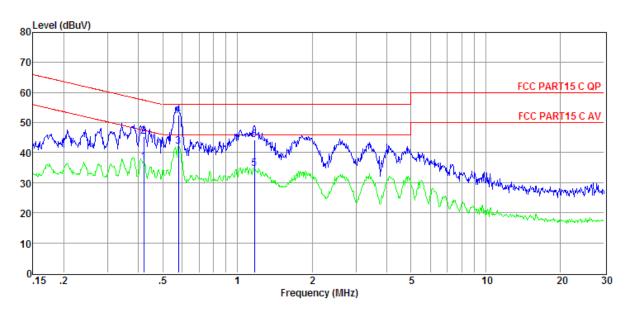
Test Site : DDT 1# Shield Room E:\2016 report data\16Q0329-2\RE.EM6

Power Supply : AC 120V/60Hz Test Mode : wifi TX Mode

 $\begin{array}{lll} \textbf{Condition} & : \frac{\text{Temp:24.5'C,Humi:55\%,}}{\text{Press:}100.1\text{kPa}} & \textbf{LISN} & : 2015 \text{ ENV216/LINE} \\ \end{array}$ 

Memo :

Data: 6



Item	Freq	Read	LISN	Cable	Pulse	Result	Limit	Over	Detector	Phase
		Level	Factor	Loss	Limiter	Level	Line	Limit		
					Factor					
(Mark)	(MHz)	$(dB\mu V)$	(dB)	(dB)	(dB)	$(dB\mu V)$	$(dB\mu V)$	(dB)		
1	0.42	17.22	9.61	0.02	9.86	36.71	47.46	-10.75	Average	LINE
2	0.42	25.75	9.61	0.02	9.86	45.24	57.46	-12.22	QP	LINE
3	0.58	22.69	9.61	0.03	9.86	42.19	46.00	-3.81	Average	LINE
4	0.58	33.00	9.61	0.03	9.86	52.50	56.00	-3.50	QP	LINE
5	1.17	15.08	9.62	0.03	9.86	34.59	46.00	-11.41	Average	LINE
6	1.17	24.65	9.62	0.03	9.86	44.16	56.00	-11.84	QP	LINE

Note: 1. Result Level = Read Level +LISN Factor + Pulse Limiter Factor + Cable loss.

- 2. If QP Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Test setup: RBW: 200 Hz (9 kHz—150 kHz), 9 kHz (150 kHz—30 MHz).
- 4. Step size: 80Hz (0.009MHz-0.15MHz), 4 kHz (0.15MHz-30MHz), Scan time: auto.

# TR-4-E-010 Conducted Emission Test Result

Report No.: DDT-R16Q0329-2E3

Test Site : DDT 1# Shield Room E:\2016 report data\16Q0329-2\RE.EM6

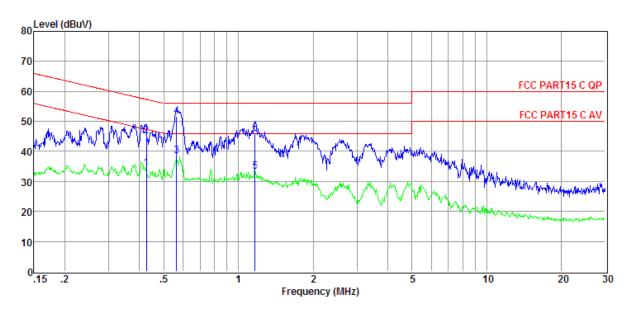
Test Date: 2016-04-06Tested By: TobyEUT: Emanate PowerPathtmTagModel Number: PPT-300

**Power Supply** : AC 120V/60Hz **Test Mode** : wifi TX Mode

Condition : Temp:24.5'C,Humi:55%, Press:100.1kPa : 2015 ENV216/NEUTRAL

Memo :

Data: 8

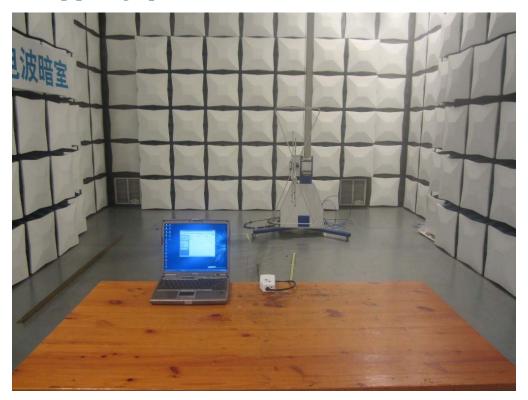


Item	Freq	Read Level	LISN Factor	Cable Loss	Pulse Limiter	Result Level	Limit Line	Over Limit	Detector	Phase
		Level	1 4000	2033	Factor	Level	Diffe	Ziiiit		
(Mark)	(MHz)	(dBµV)	(dB)	(dB)	(dB)	(dBµV)	(dBµV)	(dB)		
1	0.43	14.78	9.61	0.02	9.86	34.27	47.33	-13.06	Average	NEUTRAL
2	0.43	25.61	9.61	0.02	9.86	45.10	57.33	-12.23	QP	NEUTRAL
3	0.56	18.98	9.61	0.03	9.86	38.48	46.00	-7.52	Average	NEUTRAL
4	0.56	32.05	9.61	0.03	9.86	51.55	56.00	-4.45	QP	NEUTRAL
5	1.17	13.86	9.61	0.03	9.86	33.36	46.00	-12.64	Average	NEUTRAL
6	1.17	26.55	9.61	0.03	9.86	46.05	56.00	-9.95	QP	NEUTRAL

Note: 1. Result Level = Read Level +LISN Factor + Pulse Limiter Factor + Cable loss.

- 2. If QP Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Test setup: RBW: 200 Hz (9 kHz—150 kHz), 9 kHz (150 kHz—30 MHz).
- 4. Step size: 80Hz (0.009MHz-0.15MHz), 4 kHz (0.15MHz-30MHz), Scan time: auto.

# 7. Test setup photograph



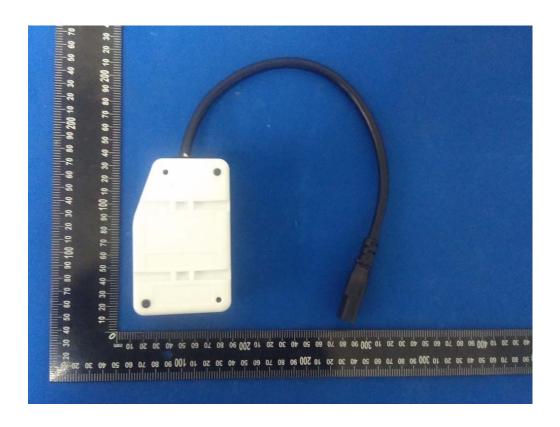




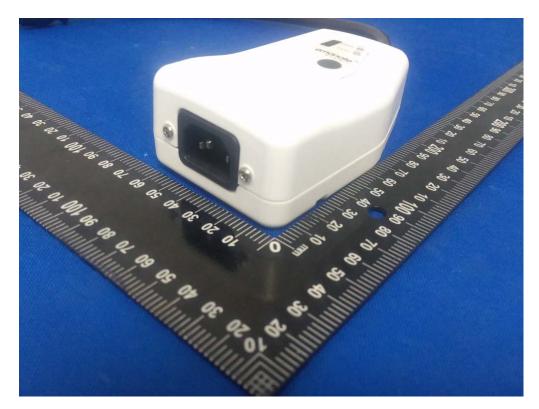
## 8. Photos of the EUT

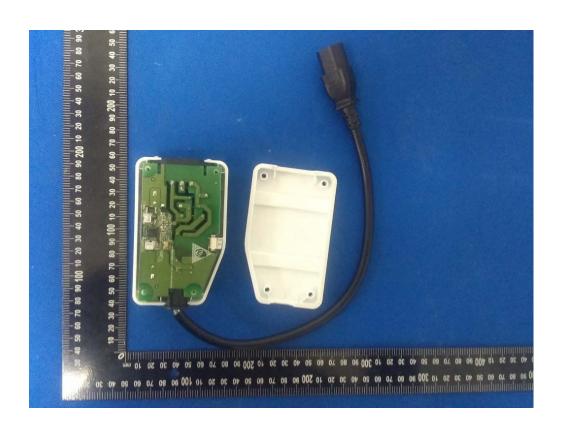


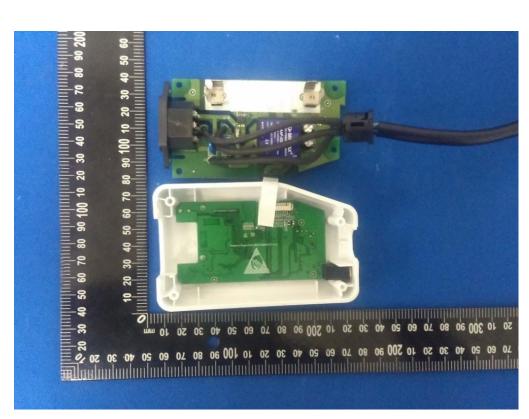


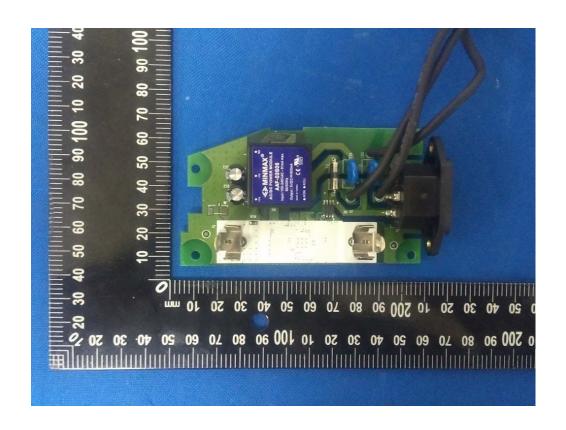


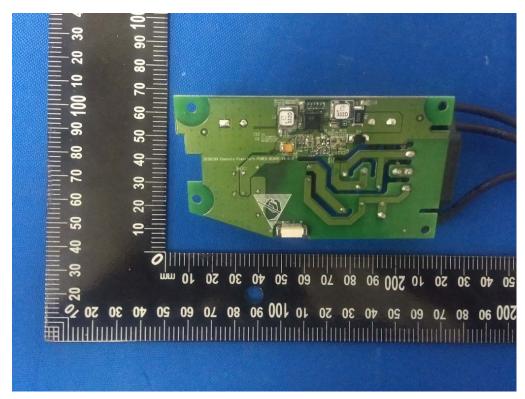


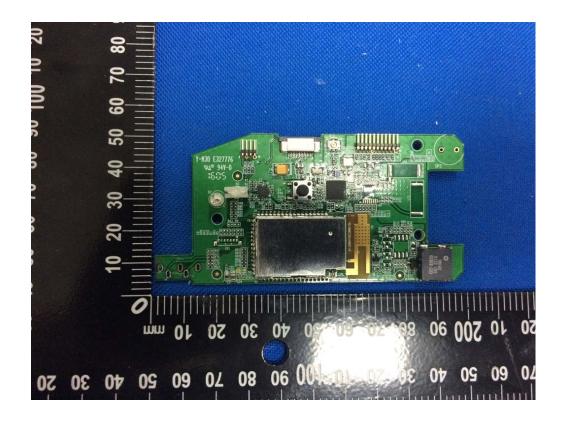


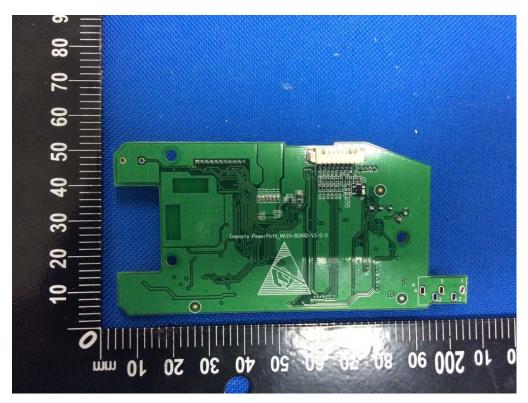






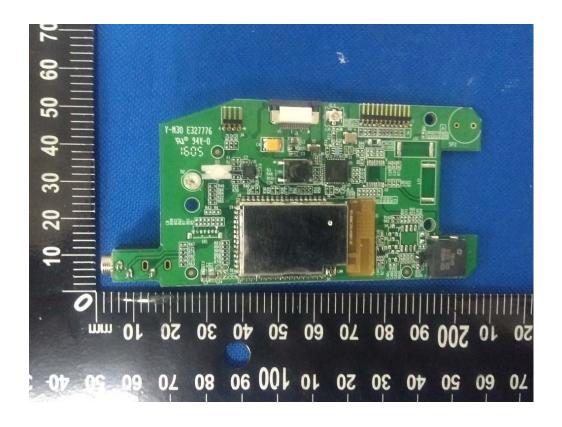


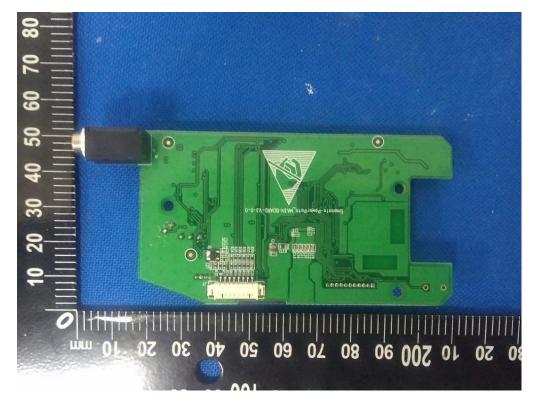












**END OF REPORT**