

#### **TEST REPORT**

Report No.: 16051463HKG-001

**ITI Hong Kong Co Ltd** 

**Application** For Certification (Original Grant) (FCC ID: 2AIGJ1201778)

**Transmitter** 

Prepared and Checked by:	Approved by:
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Signed On File Wong Cheuk Ho, Herbert Lead Engineer

Chan Chi Hung, Terry Senior Supervisor Date: June 06, 2016

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# **GENERAL INFORMATION**

Grantee:	ITI Hong Kong Co Ltd
Grantee Address:	Unit 10B, 13/F, Cable TV Tower,
	9 Hoi Shing Road, Tsuen Wan,
	Hong Kong.
Contact Person:	Raymen Chan
Tel:	(852) 2499-9123
Fax:	(852) 2411-1084
e-mail:	rchan@itihk.com
Manufacturer:	Skytech Electronics (Dongguan) Co, Ltd.
Manufacturer Address:	Qiaotou Industrial District, Qiaoli Cun,
	Changping Town, Dongguang,
	GuangDong, China.
Brand Name:	radioshack
Model:	1201778
Type of EUT:	Transmitter
Description of EUT:	Bluetooth Cassette Adapter
Serial Number:	N/A
FCC ID:	2AIGJ1201778
Date of Sample Submitted:	May 18, 2016
Date of Test:	May 18, 2016 to May 31, 2016
Report No.:	16051463HKG-001
Report Date:	June 06, 2016
Environmental Conditions:	Temperature: +10 to 40°C
	Humidity: 10 to 90%

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Report No.: 16051463HKG-001

#### **SUMMARY OF TEST RESULT**

TEST SPECIFICATION	REFERENCE	RESULTS
Transmitter Power Line Conducted Emissions	15.207	Pass
Radiated Emission Radiated Emission on the Bandedge	15.249, 15.209	Pass
Radiated Emission in Restricted Bands	15.205	Pass

The equipment under test is found to be complying with the following standards: FCC Part 15, October 1, 2014 Edition

Note: 1. The EUT uses a permanently attached antenna which, in accordance to section 15.203, is considered sufficient to comply with the pervisions of this section.

2. Pursuant to FCC part 15 Section 15.215(c), the 20 dB bandwidth of the emission was contained within the frequency band designated (mentioned as above) which the EUT operated. The effects, if any, from frequency sweeping, frequency hopping, other modulation techniques and frequency stability over excepted variations in temperature and supply voltage were considered.

Report No.: 16051463HKG-001 ii

# **Table of Contents**

1.0	General Description	1
1.1	Product Description	1
1.2	Related Submittal(s) Grants	
1.3	Test Methodology	
1.4	Test Facility	
2.0	System Test Configuration	2
2.1		
2.2	EUT Exercising Software	2
2.3	Special Accessories	2
2.4	Measurement Uncertainty	2
2.5	Support Equipment List and Description	2
3.0	Emission Results	3
3.1	Field Strength Calculation	3
3.2	Radiated Emission Configuration Photograph	4
3.3	Radiated Emission Data	4
3.4	Conducted Emission Configuration Photograph	4
3.5	Conducted Emission Data	4
4.0	Equipment Photographs	.10
5.0	Product Labelling	.10
6.0	Technical Specifications	.10
7.0	Instruction Manual	.10
8.0	Miscellaneous Information	
8.1	Radiated Emission on the Bandedge	
8.2	Discussion of Pulse Desensitization	
8.3	Calculation of Average Factor	
8.4	Emissions Test Procedures	. 15
9.0	Equipment List	. 19
10.0	EUT Photos	.20

Report No.: 16051463HKG-001

#### 1.0 **General Description**

#### 1.1 Product Description

The Equipment-Under-Test (EUT) 1201778 is a Bluetooth Cassette Adaptor. The EUT contains a Bluetooth 2.1 radio which can accept wireless audio signal via Bluetooth devices. The analog audio signal is then played back by an built-in magnetic tape head so that the audio signal can be coupled to traditional tape player. It is powered by internal 3.7V rechargeable batteries. The batteries can be charged by USB port (5VDC).

Antenna Type: Internal, Integral

For electronic filing, the brief circuit description is saved with filename: descri.pdf.

#### 1.2 Related Submittal(s) Grants

This is a single application for certification of a transmitter.

## 1.3 Test Methodology

Both AC mains line-conducted and radiated emission measurements were performed according to the procedures in ANSI C63.10 (2013). All radiated measurements were performed in an 3m Chamber. Preliminary scans were performed in the 3m Chamber only to determine worst case modes. All radiated tests were performed at an antenna to EUT distance of 3 meters, unless stated otherwise in the "Justification Section" of this Application.

#### 1.4 Test Facility

The 3m Chamber and conducted measurement facility used to collect the radiated data is located at Workshop No. 3, G/F., World-Wide Industrial Centre, 43-47 Shan Mei Street, Fo Tan, Sha Tin, N.T., Hong Kong. This test facility and site measurement data have been placed on file with the FCC.

Report No.: 16051463HKG-001 1 of 22

#### 2.0 **System Test Configuration**

#### 2.1 Justification

The system was configured for testing in a typical fashion (as a customer would normally use it), and in the confines as outlined in ANSI C63.10 (2013).

The device was powered by 3.7VDC rechargeable battery and/or USB port (5VDC). Both powering method has been considered. The worse case data (powered by USB port) is presented in this report.

For maximizing emissions, the EUT was rotated through 360°, the antenna height was varied from 1 meter to 4 meters above the ground plane, and the antenna polarization was changed. This step by step procedure for maximizing emissions led to the data reported in Exhibit 3.0.

The rear of unit shall be flushed with the rear of the table.

The equipment under test (EUT) was configured for testing in a typical fashion (as a customer would normally use it). The EUT was mounted to a plastic stand if necessary and placed on the wooden turntable, which enabled the engineer to maximize emissions through its placement in the three orthogonal axes.

#### 2.2 EUT Exercising Software

There was no special software to exercise the device. Once the unit is powered up, it transmits the RF signal continuously.

#### 2.3 Special Accessories

There are no special accessories necessary for compliance of this product.

#### 2.4 Measurement Uncertainty

When determining of the test conclusion, the Measurement Uncertainty of test has been considered.

#### 2.5 Support Equipment List and Description

- 1. HP Notebook Computer
- 2. LAN cable of 2m long
- 3. USB cable of 0.8m long (Provided by Intertek)

Report No.: 16051463HKG-001 2 of 22

#### 3.0 Emission Results

Data is included of the worst case configuration (the configuration which resulted in the highest emission levels). A sample calculation, configuration photographs and data tables of the emissions are included.

#### 3.1 Field Strength Calculation

The field strength is calculated by adding the Antenna Factor and Cable Factor, and subtracting the Amplifier Gain (if any), Average Factor (optional) from the measured reading. The basic equation with a sample calculation is as follows:

FS = RA + AF + CF - AG - AV

where  $FS = Field Strength in dB\mu V/m$ 

RA = Receiver Amplitude (including preamplifier) in dBµV

CF = Cable Attenuation Factor in dB

AF = Antenna Factor in dB AG = Amplifier Gain in dB AV = Average Factor in dB

In the following table(s), the reading shown on the data table reflects the preamplifier gain. An example for the calculations in the following table is as follows:

FS = RR + LF

where  $FS = Field Strength in dB\mu V/m$ 

 $RR = RA - AG - AV \text{ in } dB\mu V$ 

LF = CF + AF in dB

Assume a receiver reading of 52.0 dB $\mu$ V is obtained. The antenna factor of 7.4 dB and cable factor of 1.6 dB are added. The amplifier gain of 29 dB and average factor of 5 dB are subtracted, giving a field strength of 32 dB $\mu$ V/m. This value in dB $\mu$ V/m was converted to its corresponding level in  $\mu$ V/m.

 $RR = 18.0 dB\mu V$ 

 $RA = 52.0 dB\mu V/m$ 

AF = 7.4 dB

CF = 1.6 dB LF = 9.0 dB

 $AG = 29.0 \, dB$ 

AV = 5.0 dB

FS = RR + LF

 $FS = 18 + 9 = 27 dB\mu V/m$ 

Level in  $\mu$ V/m = Common Antilogarithm [(27 dB $\mu$ V/m)/20] = 22.4  $\mu$ V/m

Report No.: 16051463HKG-001 3 of 22

#### 3.2 Radiated Emission Configuration Photograph

The worst case in radiated emission was found at 667.576 MHz

For electronic filing, the worst case radiated emission configuration photographs are saved with filename: radiated photos.pdf.

#### 3.3 Radiated Emission Data

The data on the following page lists the significant emission frequencies, the limit and the margin of compliance. Numbers with a minus sign are below the limit.

Judgment: Passed by 12.0 dB

#### 3.4 Conducted Emission Configuration Photograph

The worst case in line-conducted emission was found at 0.191 MHz

For electronic filing, the worst case line-conducted configuration photographs are saved with filename: conducted photo.pdf.

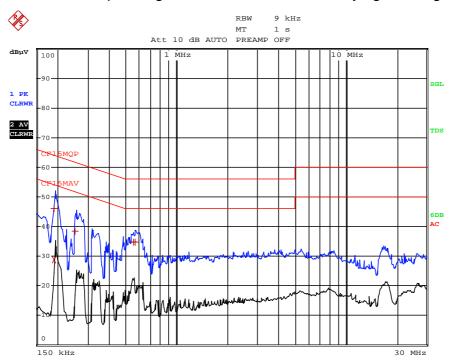
## 3.5 Conducted Emission Data

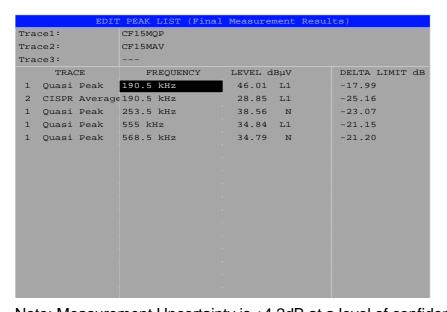
For electronic filing, the graph and data table of conducted emission is saved with filename: conducted.pdf.

Judgment: Pass by 18.0 dB

Report No.: 16051463HKG-001 4 of 22

Worst-Case Operating Mode: Bluetooth Audio Playing + Charging





Note: Measurement Uncertainty is ±4.2dB at a level of confidence of 95%.

Report No.: 16051463HKG-001

Applicant: ITI Hong Kong Co Ltd Date of Test: May 31, 2016

Model: 1201778

Worst-Case Operating Mode: Transmitting (Bluetooth)

# Table 1 Radiated Emissions Pursuant to FCC Part 15 Section 15.249 Requirement

#### **Lowest Channel**

			Pre-Amp	Antenna	Net at	Average	Calculated	Average Limit	
Polari-	Frequency	Reading	Gain	Factor	3m - Peak	Factor	at 3m	at 3m	Margin
zation	(MHz)	(dBµV)	(dB)	(dB)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV/m)	(dB)
Н	2402.000	100.0	33	29.4	96.4	24	72.4	94.0	-21.6
V	4804.000	50.5	33	34.9	52.4	24	28.4	54.0	-25.6
V	7206.000	48.7	33	37.9	53.6	24	29.6	54.0	-24.4
V	9608.000	44.3	33	40.4	51.7	24	27.7	54.0	-26.3
V	12010.000	44.9	33	40.5	52.4	24	28.4	54.0	-25.6
V	14412.000	22.6	33	40.0	53.6	24	29.6	54.0	-24.4

			Pre-Amp	Antenna	Net at	Peak Limit	
Polari-	Frequency	Reading	Gain	Factor	3m - Peak	at 3m	Margin
zation	(MHz)	(dBµV)	(dB)	(dB)	(dBµV/m)	(dBµV/m)	(dB)
Н	2402.000	100.0	33	29.4	96.4	114.0	-17.6
V	4804.000	50.5	33	34.9	52.4	74.0	-21.6
V	7206.000	48.7	33	37.9	53.6	74.0	-20.4
V	9608.000	44.3	33	40.4	51.7	74.0	-22.3
V	12010.000	44.9	33	40.5	52.4	74.0	-21.6
V	14412.000	46.6	33	40.0	53.6	74.0	-20.4

NOTES: 1. Peak Detector Data unless otherwise stated.

- 2. All measurements were made at 3 meters. Harmonic emissions not detected at the 3-meter distances were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other harmonic emissions than those reported were detected at a test distance of 0.3-meter.
- 3. Negative sign in the column shows value below limit.
- 4. Horn antenna is used for the emission over 1000MHz.
- 5. Emission (the row indicated by **bold italic**) within the restricted band meets the requirement of FCC Part 15 Section 15.205 / RSS-210 Section 2.2.

6. Measurement Uncertainty is ±5.3dB at a level of confidence of 95%.

Report No.: 16051463HKG-001 6 of 22

Applicant: ITI Hong Kong Co Ltd Date of Test: May 31, 2016

Model: 1201778

Worst-Case Operating Mode: Transmitting (Bluetooth)

# Table 2 Radiated Emissions Pursuant to FCC Part 15 Section 15.249 Requirement

#### Middle Channel

			Pre-Amp	Antenna	Net at	Average	Calculated	Average Limit	
Polari-	Frequency	Reading	Gain	Factor	3m - Peak	Factor	at 3m	at 3m	Margin
zation	(MHz)	(dBµV)	(dB)	(dB)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV/m)	(dB)
Н	2442.000	100.2	33	29.4	96.6	24	72.6	94.0	-21.4
V	4884.000	50.5	33	34.9	52.4	24	28.4	54.0	-25.6
V	7326.000	48.6	33	37.9	53.5	24	29.5	54.0	-24.5
V	9768.000	44.2	33	40.4	51.6	24	27.6	54.0	-26.4
V	12210.000	45.2	33	40.5	52.7	24	28.7	54.0	-25.3
V	14652.000	48.4	33	38.4	53.8	24	29.8	54.0	-24.2

			Pre-Amp	Antenna	Net at	Peak Limit	
Polari-	Frequency	Reading	Gain	Factor	3m - Peak	at 3m	Margin
zation	(MHz)	(dBµV)	(dB)	(dB)	(dBµV/m)	(dBµV/m)	(dB)
Н	2442.000	100.2	33	29.4	96.6	114.0	-17.4
V	4884.000	50.5	33	34.9	52.4	74.0	-21.6
V	7326.000	48.6	33	37.9	53.5	74.0	-20.5
V	9768.000	44.2	33	40.4	51.6	74.0	-22.4
V	12210.000	45.2	33	40.5	52.7	74.0	-21.3
V	14652.000	48.4	33	38.4	53.8	74.0	-20.2

NOTES: 1. Peak Detector Data unless otherwise stated.

- 2. All measurements were made at 3 meters. Harmonic emissions not detected at the 3-meter distances were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other harmonic emissions than those reported were detected at a test distance of 0.3-meter.
- 3. Negative sign in the column shows value below limit.
- 4. Horn antenna is used for the emission over 1000MHz.
- 5. Emission (the row indicated by **bold italic**) within the restricted band meets the requirement of FCC Part 15 Section 15.205 / RSS-210 Section 2.2.

6. Measurement Uncertainty is ±5.3dB at a level of confidence of 95%.

Report No.: 16051463HKG-001 7 of 22

Applicant: ITI Hong Kong Co Ltd Date of Test: May 31, 2016

Model: 1201778

Worst-Case Operating Mode: Transmitting (Bluetooth)

# Table 3 Radiated Emissions Pursuant to FCC Part 15 Section 15.249 Requirement

#### **Highest Channel**

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			Pre-Amp	Antenna	Net at	Average	Calculated	Average Limit	
Polari-	Frequency	Reading	Gain	Factor	3m - Peak	Factor	at 3m	at 3m	Margin
zation	(MHz)	(dBµV)	(dB)	(dB)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV/m)	(dB)
Н	2480.000	100.4	33	29.4	96.8	24	72.8	94.0	-21.2
V	4960.000	51.0	33	34.9	52.9	24	28.9	54.0	-25.1
V	7440.000	48.8	33	37.9	53.7	24	29.7	54.0	-24.3
V	9920.000	44.1	33	40.4	51.5	24	27.5	54.0	-26.5
V	12400.000	45.2	33	40.5	52.7	24	28.7	54.0	-25.3
V	14880.000	24.4	33	38.4	53.8	24	29.8	54.0	-24.2

			Pre-Amp	Antenna	Net at	Peak Limit	
Polari-	Frequency	Reading	Gain	Factor	3m - Peak	at 3m	Margin
zation	(MHz)	(dBµV)	(dB)	(dB)	(dBµV/m)	(dBµV/m)	(dB)
Н	2480.000	100.4	33	29.4	96.8	114.0	-17.2
V	4960.000	51.0	33	34.9	52.9	74.0	-21.1
V	7440.000	48.8	33	37.9	53.7	74.0	-20.3
V	9920.000	44.1	33	40.4	51.5	74.0	-22.5
V	12400.000	45.2	33	40.5	52.7	74.0	-21.3
V	14880.000	48.4	33	38.4	53.8	74.0	-20.2

NOTES: 1. Peak Detector Data unless otherwise stated.

- 2. All measurements were made at 3 meters. Harmonic emissions not detected at the 3-meter distances were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other harmonic emissions than those reported were detected at a test distance of 0.3-meter.
- 3. Negative sign in the column shows value below limit.
- 4. Horn antenna is used for the emission over 1000MHz.
- 5. Emission (the row indicated by **bold italic**) within the restricted band meets the requirement of FCC Part 15 Section 15.205 / RSS-210 Section 2.2.

6. Measurement Uncertainty is ±5.3dB at a level of confidence of 95%.

Report No.: 16051463HKG-001 8 of 22

Applicant: ITI Hong Kong Co Ltd Date of Test: May 31, 2016

Model: 1201778

Worst-Case Operating Mode: Bluetooth Playing with Charging

Table 4
Radiated Emissions
Pursuant to FCC Part 15 Section 15.209 Requirement

			Pre-	Antenna	Net	Limit	
	Frequency	Reading	amp	Factor	at 3m	at 3m	Margin
Polarization	(MHz)	(dBµV)	(dB)	(dB)	(dBµV/m)	(dBµV/m)	(dB)
V	30.345	27.5	16	10.0	21.5	40.0	-18.5
V	132.347	24.6	16	14.0	22.6	43.5	-20.9
V	470.467	22.7	16	26.0	32.7	46.0	-13.3
V	509.569	21.8	16	27.0	32.8	46.0	-13.2
Н	548.409	19.9	16	28.0	31.9	46.0	-14.1
Н	667.576	21.0	16	29.0	34.0	46.0	-12.0
Н	706.235	19.7	16	30.0	33.7	46.0	-12.3

NOTES: 1. Peak Detector Data unless otherwise stated.

- 2. All measurements were made at 3 meters. Harmonic emissions not detected at the 3-meter distances were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other harmonic emissions than those reported were detected at a test distance of 0.3-meter.
- 3. Negative sign in the column shows value below limit.
- 4. Horn antenna is used for the emission over 1000MHz.
- 5. Emission (the row indicated by **bold italic**) within the restricted band meets the requirement of FCC Part 15 Section 15.205.
- 6. Measurement Uncertainty is ±5.3dB at a level of confidence of 95%.

Report No.: 16051463HKG-001 9 of 22

## 4.0 **Equipment Photographs**

For electronic filing, the photographs are saved with filename: external photos.pdf and internal photos.pdf.

#### 5.0 **Product Labelling**

For electronics filing, the FCC ID label artwork and the label location are saved with filename: label.pdf.

## 6.0 <u>Technical Specifications</u>

For electronic filing, the block diagram and schematic of the tested EUT are saved with filename: block.pdf and circuit.pdf respectively.

## 7.0 **Instruction Manual**

For electronic filing, a preliminary copy of the Instruction Manual is saved with filename: manual.pdf.

This manual will be provided to the end-user with each unit sold/leased in the United States.

Report No.: 16051463HKG-001 10 of 22

#### 8.0 **Miscellaneous Information**

The miscellaneous information includes details of the test procedure and measured bandwidth / calculation of factor such as pulse desensitization and averaging factor (calculation and timing diagram).

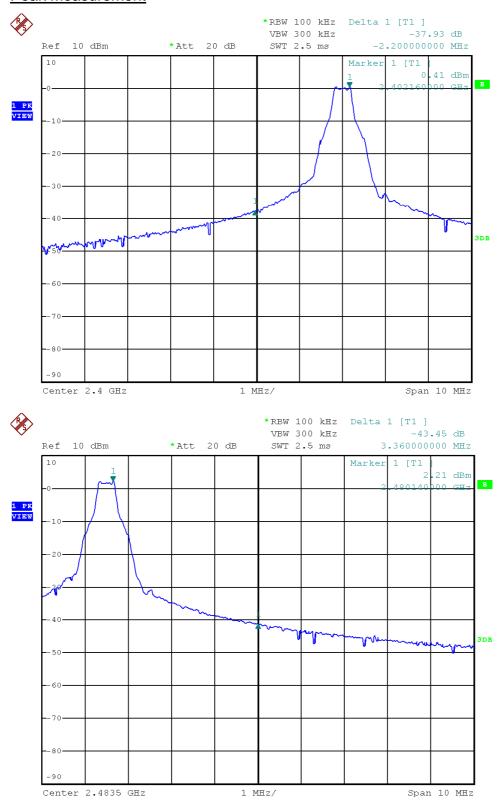
#### 8.1 Radiated Emission on the Bandedge

From the following plots, they show that the fundamental emissions are confined in the specified band (2400MHz to 2483.5MHz). In case of the fundamental emissions are within two standard bandwidths from the bandedge, the delta measurement technique is used for determining bandedge compliance. Standard bandwidth is the bandwidth specified by ANSI C63.10 (2013) for frequency being measured.

Emissions radiated outside of the specified frequency bands, except harmonics, are attenuated by 50dB below the level of the fundamental or to the general radiated emissions limits in Section 15.209, whichever is the lesser attenuation, which meet the requirement of part 15.249(d).

Report No.: 16051463HKG-001 11 of 22

## Peak Measurement



Report No.: 16051463HKG-001 12 of 22

#### **Peak Measurement**

Bandedge compliance is determined by applying marker-delta method, i.e. (Bandedge Plot).

Lower bandedge

Peak Resultant field strength = Fundamental emissions (peak value) - delta from the plot

```
=96.4 dB\mu V/m - 37.9 dB
=58.5 dB\mu V/m
```

Average Resultant field strength = Fundamental emissions (average value) – delta from the plot

```
=72.4 dB\muV/m - 37.9 dB
=34.5 dB\muV/m
```

Upper bandedge

Peak Resultant field strength = Fundamental emissions (peak value) - delta from the plot

```
=96.8 dB\mu V/m - 43.5 dB
=53.3 dB\mu V/m
```

Average Resultant field strength = Fundamental emissions (average value) – delta from the plot

```
=72.8 dB\muV/m - 43.5 dB
=29.3 dB\muV/m
```

The resultant field strength meets the general radiated emission limit in Section 15.209, which does not exceed 74 dB $\mu$ V/m (Peak Limit) and 54 dB $\mu$ V/m (Average Limit).

Report No.: 16051463HKG-001 13 of 22

#### 8.2 Discussion of Pulse Desensitization

Pulse desensitivity is not applicable for this device. The effective period (Teff) is approximately  $625\,\mu s$  for a digital "1" bit which illustrated on technical specification, with a resolution bandwidth (3dB) of 1MHz, so the pulse desensitivity factor is 0dB.

#### 8.3 Calculation of Average Factor

Based on the Bluetooth Specification Version 2.0 / 2.1 + EDR, the transmitter ON time for each timeslot of Bluetooth is  $625\mu s$ . DH5 has the maximum duty cycle, which consists of 5 continuous Tx slots and 1 Rx slot. Therefore one hopset take  $(5+1) \times 625\mu s = 3.75ms$ . For one period for a pseudo-random hopping through at least 20 RF channels in adaptive mode (worse case), it take:  $20 \times 3.75ms = 75ms$ .

The dwell time for DH5 is  $5 \times 625 \mu s = 3.125 ms$ .

For the worst case calculation, there are two transmissions might occur in 100ms. Therefore,

Duty Cycle (DC) = Maximum On time in 100ms/100ms = 3.125ms x 2/100ms = 0.0625

Average Factor (AF) of Bluetooth in dB =  $20 \log_{10} (0.0625)$ = -24 dB

Report No.: 16051463HKG-001 14 of 22

#### 8.4 Emissions Test Procedures

The following is a description of the test procedure used by Intertek Testing Services Hong Kong Ltd. in the measurements of transmitter operating under the Part 15, Subpart C rules.

The transmitting equipment under test (EUT) is placed on a wooden turntable which is four feet in diameter and approximately 0.8m in height above the ground plane for emission measurement at or below 1GHz and 1.5m in height above the ground plane for emission measurement above 1GHz. During the radiated emissions test, the turntable is rotated and any cables leaving the EUT are manipulated to find the configuration resulting in maximum emissions. The EUT is adjusted through all three orthogonal axis to obtain maximum emission levels. The antenna height and polarization are also varied during the testing to search for maximum signal levels. The height of the antenna is varied from one to four meters.

Detector function for radiated emissions is in peak mode. Average readings, when required, are taken by measuring the duty cycle of the equipment under test and subtracting the corresponding amount in dB from the measured peak readings. A detailed description for the calculation of the average factor can be found in Exhibit 8.3.

The frequency range scanned is from the lowest radio frequency signal generated in the device which is greater than 9 kHz to the tenth harmonic of the highest fundamental frequency or 40 GHz, whichever is lower. For line conducted emissions, the range scanned is 150 kHz to 30 MHz.

Report No.: 16051463HKG-001 15 of 22

#### 8.4 Emissions Test Procedures (cont'd)

The EUT is warmed up for 15 minutes prior to the test.

AC power to the unit is varied from 85% to 115% nominal and variation in the fundamental emission field strength is recorded. If battery powered, a new, fully charged battery is used.

Conducted measurements were made as described in ANSI C63.10 (2013).

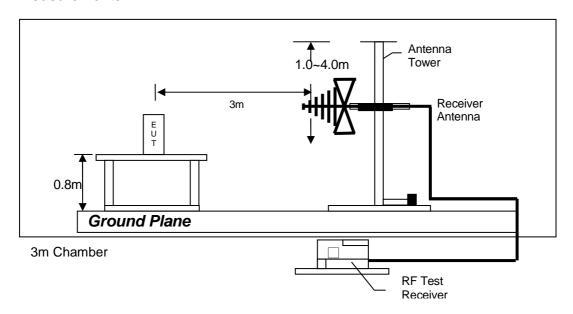
The IF bandwidth used for measurement of radiated signal strength was 100 kHz or greater when frequency is below 1000 MHz. Where pulsed transmissions of short enough pulse duration warrant, a greater bandwidth is selected according to the recommendations of Hewlett Packard Application Note 150-2. A discussion of whether pulse desensitivity is applicable to this unit is included in this report (See Exhibit 8.1). Above 1000 MHz, a resolution bandwidth of 1 MHz is used.

Transmitter measurements are normally conducted at a measurement distance of three meters. However, to assure low enough noise floor in the forbidden bands and above 1 GHz, signals are acquired at a distance of one meter or less. All measurements are extrapolated to three meters using inverse scaling, unless otherwise reported. Measurements taken at a closer distance are so marked.

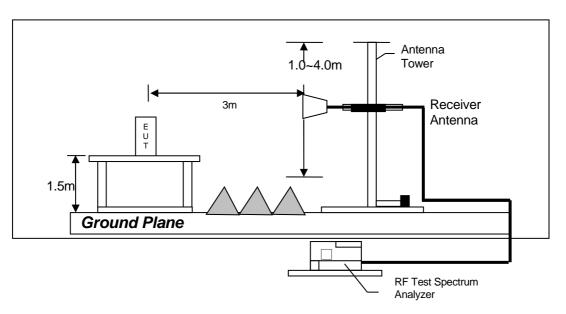
Report No.: 16051463HKG-001 16 of 22

## 8.4.1 Radiated Emission Test Setup

The figure below shows the test setup, which is utilized to make these measurements.



Test setup of radiated emissions up to 1GHz



Test setup of radiated emissions above 1GHz

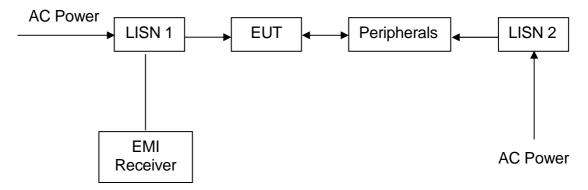
Report No.: 16051463HKG-001 17 of 22

#### 8.4.2 Conducted Emission Test Procedures

For tabletop equipment, the EUT along with its peripherals were placed on a 1.0m(W)×1.5m(L) and 0.8m in height wooden table. For floor-standing equipment, the EUT and all cables were insulated, if required, from the ground plane by up to 12 mm of insulating material. The EUT was adjusted to maintain a 0.4 meter space from a vertical reference plane. The EUT was connected to power mains through a line impedance stabilization network (LISN), which provided 50 ohm coupling impedance for measuring instrument and the chassis ground was bounded to the horizontal ground plane of shielded room. The excess power cable between the EUT and the LISN was bundled.

All connecting cables of EUT and peripherals were moved to find the maximum emission.

#### 8.4.3 Conducted Emission Test Setup



Report No.: 16051463HKG-001 18 of 22

# 9.0 **Equipment List**

#### 1) Radiated Emissions Test

Equipment	EMI Test Receiver	Spectrum Analyzer	Biconical Antenna
Registration No.	EW-3156	EW-2253	EW-2512
Manufacturer	R&S	R&S	EMCO
Model No.	ESR26	FSP40	3104C
Calibration Date	Nov. 03, 2015	May 27, 2015	Jan 22, 2015
Calibration Due Date	Nov. 03, 2016	May 27, 2016	Jul 22, 2016

Equipment	Log Periodic	Pyramidal Horn	Double Ridged
	Antenna	Antenna	Guide Antenna
Registration No.	EW-1042	EW-0905	EW-1133
Manufacturer	EMCO	EMCO	EMCO
Model No.	3148	3160-09	3115
Calibration Date	May 21, 2015	Feb. 12, 2016	Nov. 05, 2015
Calibration Due Date	Nov 21, 2016	Aug. 12, 2017	May 05, 2017

## 2) Conducted Emissions Test

Equipment	EMI Test Receiver	LISN
Registration No.	EW-2500	EW-2501
Manufacturer	R&S	R&S
Model No.	ESCI	ENV-216
Calibration Date	Jan. 28, 2016	Jan. 28, 2016
Calibration Due Date	Jan. 28, 2017	Jan. 28, 2017

## 3) Bandedge Measurement

Equipment	Spectrum Analyzer	
Registration No.	EW-2249	
Manufacturer	R&S	
Model No.	FSP30	
Calibration Date	Nov. 27, 2015	
Calibration Due Date	Nov. 27, 2016	

Report No.: 16051463HKG-001 19 of 22

# 10.0 **EUT Photos**

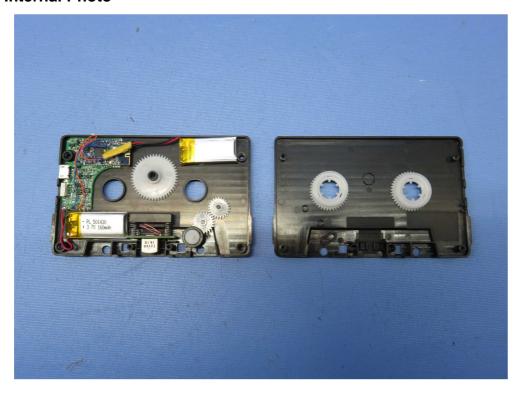
## **External Photo**





Report No.: 16051463HKG-001 FCC ID: 2AIGJ1201778 20 of 22

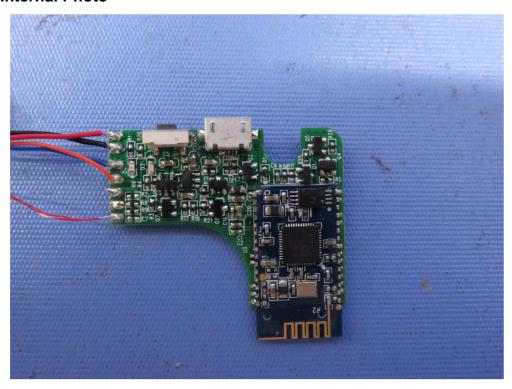
# **Internal Photo**

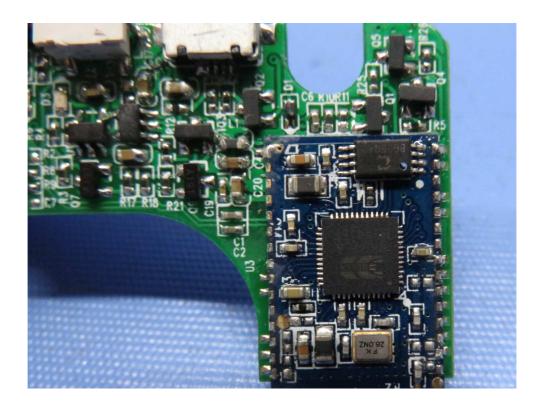




Report No.: 16051463HKG-001 FCC ID: 2AIGJ1201778 21 of 22

# **Internal Photo**





**END OF TEST REPORT** 

Report No.: 16051463HKG-001 FCC ID: 2AIGJ1201778 22 of 22