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HKAS HOKLAS 005 TEST

TEST REPORT

Report No.: 14070526HKG-001

Kayle Concepts, LLC

Application
For
Certification
(Original Grant)
(FCC ID: 2ACRBBLUEBEE-PALS14)
(IC: 12156A-BLUEBEE2014)

Transmitter

Prepared and Checked by:

James Yeung
Engineer

Approved by:

Chan Chi Hung, Terry
Supervisor
Date: July 21, 2014

Issuing Laboratory:
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GENERAL INFORMATION

Grantee:	Kayle Concepts, LLC
Grantee Address:	225 West 34th Street 9th Floor, New York, NY10122, United States.
Contact Person:	Laura Jiencke
Tel:	6467323497
Fax:	2125916062
e-mail:	laura.jiencke@kayleconcepts.com
Manufacturer:	Soft Toys Limited
Manufacturer Address:	Industrial Zone, NingDu, GanZhou, Jiangxi, China.
Buyer:	TRU America
Brand Name:	Bluebee Pals
FCC Model:	Ref. report P.ii
FCC Additional Model:	Ref. report P.ii
IC:	Ref. report P.ii
Type of EUT:	Transmitter
Description of EUT:	Bluebee Pals Bluetooth Plush
Serial Number:	N/A
FCC ID / IC:	2ACRBBLUEBEE-PALS14 / 12156A-BLUEBEE2014
Date of Sample Submitted:	July 11, 2014
Date of Test:	July 11, 2014 to July 14, 2014
Report No.:	14070526HKG-001
Report Date:	July 21, 2014
Environmental Conditions:	Temperature: +10 to 40°C Humidity: 10 to 90%

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Tel: (852) 2173 8888 Fax: (852) 2785 5487 Website: www.hk.intertek-etlsemko.com

GENERAL INFORMATION

FCC Model:	10000-13
FCC Additional Model:	11000-13, 11001-13, 11002-13, 11003-13, 20000-13, 20001-13, 20002-13, 20003-13, 20004-13, 20005-13, 20006-13, 20007-13, 30000-13, 30001-13, 30002-13, 30003-13, 40000-15, 40001-15, 40002-15, 40003-15, 50000-15, 50001-15, 50002-15, 50003-15, 50004-15, 50005-15, 50006-15, 50007-15, 60000-15, 60001-15, 60002-15, 60003-15, 70000-15, 70001-15, 70002-15, 70003-15, 70004-15, 70005-15, 70006-15, 70007-15, 80000-15, 80001-15, 80002-15, 80003-15, 80004-15, 80005-15, 80006-15, 80007-15, 81000-15, 81001-15, 81002-15, 81003-15, 81004-15, 81005-15, 81006-15, 81007-15, 90000-15, 90001-15, 90002-15, 90003-15, 90004-15, 90005-15, 90006-15, 90007-15, 91000-13, 91001-13, 91002-13, 91003-13, 92000-13, 92001-13, 92002-13, 92003-13, 92004-13, 92005-13, 92006-13, 92007-13, 93000-13, 93001-13, 93002-13, 93003-13, 94000-13, 94001-13, 94002-13, 94003-13, 95000-13, 95001-15, 95002-15, 95003-15, 95004-15, 95005-15, 95006-15, 95007-15, 96000-15, 96001-15, 95002-15, 96003-15, 97000-15, 97001-15, 97002-15, 97003-15, 97004-15, 97005-15, 97006-15, 97007-15, 98000-15, 98001-15, 98002-15, 98003-15, 98004-15, 98005-15, 98006-15, 98007-15, 99000-15, 99001-15, 99002-15, 99003-15, 98004-15, 98005-15, 98006-15, 99007-15
IC:	21000-13

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HOKLAS 005 TEST

SUMMARY OF TEST RESULT

TEST SPECIFICATION	REFERENCE	RESULTS
Radiated Emission Radiated Emission on the Bandedge	15.249 / RSS-210 A2.9	Pass
Radiated Emission in Restricted Bands	15.205/ RSS-210 2.2	Pass

The equipment under test is found to be complying with the following standards:
FCC Part 15, October 1, 2012 Edition
RSS-210 Issue 8, December 2010
RSS-Gen Issue 3, December 2010

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.

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Table of Contents

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1.0 General Description

1.1 Product Description

The 10000-13 is a 2.4GHz Bluetooth speaker. It can pair with a Bluetooth device as the audio source. It operates at frequency range of 2402MHz-2480MHz (79 channels with 1MHz channel spacing). The EUT is powered by internal 4.3VDC Lithium polymer rechargeable battery which can be charged by 5VDC from USB port (USB port is for charging only). No transmission when charging so that no AC conduct test data.

For FCC, the Model: 11000-13, 11001-13, 11002-13, 11003-13, 20000-13, 20001-13, 20002-13, 20003-13, 20004-13, 20005-13, 20006-13, 20007-13, 30000-13, 30001-13, 30002-13, 30003-13, 40000-15, 40001-15, 40002-15, 40003-15, 50000-15, 50001-15, 50002-15, 50003-15, 50004-15, 50005-15, 50006-15, 50007-15, 60000-15, 60001-15, 60002-15, 60003-15, 70000-15, 70001-15, 70002-15, 70003-15, 70004-15, 70005-15, 70006-15, 70007-15, 80000-15, 80001-15, 80002-15, 80003-15, 80004-15, 80005-15, 80006-15, 80007-15, 81000-15, 81001-15, 81002-15, 81003-15, 81004-15, 81005-15, 81006-15, 81007-15, 90000-15, 90001-15, 90002-15, 90003-15, 90004-15, 90005-15, 90006-15, 90007-15, 91000-13, 91001-13, 91002-13, 91003-13, 92000-13, 92001-13, 92002-13, 92003-13, 92004-13, 92005-13, 92006-13, 92007-13, 93000-13, 93001-13, 93002-13, 93003-13, 94000-13, 94001-13, 94002-13, 94003-13, 95000-13, 95001-15, 95002-15, 95003-15, 95004-15, 95005-15, 95006-15, 95007-15, 96000-15, 96001-15, 95002-15, 96003-15, 97000-15, 97001-15, 97002-15, 97003-15, 97004-15, 97005-15, 97006-15, 97007-15, 98000-15, 98001-15, 98002-15, 98003-15, 98004-15, 98005-15, 98006-15, 98007-15, 99000-15, 99001-15, 99002-15, 99003-15, 98004-15, 98005-15, 98006-15 and 99007-15 are the same as the Model: 10000-13 in hardware aspect. The models are different in outlook and model numbers only.

For IC, the Model: 21000-13 is the same as the Model: 10000-13 in hardware aspect. The model is different in colour and model number only.

Antenna Type: Internal, Integral

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

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1.2 Related Submittal(s) Grants

This is a single application for certification of a transmitter.

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1.3 Test Methodology

Radiated emission measurements were performed according to the procedures in ANSI C63.4 (2009). 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 ShaTin, New Territories, Hong Kong. This test facility and site measurement data have been placed on file with the FCC and IC.

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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 C63.4 (2009).

The device was charged by USB Port (5.0VDC) and Rechargeable battery: 4.3VDC Lithium polymer fully rechargeable battery. The device can't transmit during charging.

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 unit was operated standalone and placed in the center of the turntable.

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

The EUT exercise program (if any) used during radiated testing was designed to exercise the various system components in a manner similar to a typical use.

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

N/A.

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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 dBµV/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 dBµV/m
RR = RA - AG - AV in dBµV
LF = CF + AF in dB

Assume a receiver reading of 52.0 dBµV 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 dBµV/m. This value in dBµV/m was converted to its corresponding level in µV/m.

RA = 52.0 dBµV/m
AF = 7.4 dB
CF = 1.6 dB
AG = 29.0 dB
AV = 5.0 dB
FS = RR + LF
FS = 18 + 9 = 27 dBµV/m

RR = 18.0 dBµV
LF = 9.0 dB

Level in µV/m = Common Antilogarithm [(27 dBµV/m)/20] = 22.4 µV/m

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3.2 Radiated Emission Configuration Photograph

The worst case in radiated emission was found at 229.600 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 7.5 dB

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Applicant: Kayle Concepts, LLC
Model: 10000-13
Worst-Case Operating Mode: Transmitting

Date of Test: July 11, 2014

Table 1

Radiated Emissions
Pursuant to FCC Part 15 Section 15.249 Requirement

Lowest Channel

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Average Factor (dB)	Calculated at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
V	2402.000	88.8	33	29.4	24	61.2	94.0	-32.8
V	***4804.000***	***50.4***	***33***	***34.9***	***24***	***28.3***	***54.0***	***-25.7***
V	7206.000	47.1	33	37.9	24	28.0	54.0	-26.0
V	9608.000	47.4	33	40.4	24	30.8	54.0	-23.2
V	***12010.000***	***51.3***	***33***	***40.5***	***24***	***34.8***	***54.0***	***-19.2***
V	14412.000	52.6	33	40.0	24	35.6	54.0	-18.4

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Peak (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
V	2402.000	88.8	33	29.4	85.2	114.0	-28.8
V	***4804.000***	***50.4***	***33***	***34.9***	***52.3***	***74.0***	***-21.7***
V	7206.000	47.1	33	37.9	52.0	74.0	-22.0
V	9608.000	47.4	33	40.4	54.8	74.0	-19.2
V	***12010.000***	***51.3***	***33***	***40.5***	***58.8***	***74.0***	***-15.2***
V	14412.000	52.6	33	40.0	59.6	74.0	-14.4

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.

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Applicant: Kayle Concepts, LLC
Model: 10000-13
Worst-Case Operating Mode: Transmitting

Date of Test: July 11, 2014

Table 2

Radiated Emissions
Pursuant to FCC Part 15 Section 15.249 Requirement

Middle Channel

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Average Factor (dB)	Calculated at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
V	2441.000	89.1	33	29.4	24	61.5	94.0	-32.5
V	***4882.000***	***50.2***	***33***	***34.9***	***24***	***28.1***	***54.0***	***-25.9***
V	***7323.000***	***47.4***	***33***	***37.9***	***24***	***28.3***	***54.0***	***-25.7***
V	9764.000	47.5	33	40.4	24	30.9	54.0	-23.1
V	***12205.000***	***50.9***	***33***	***40.5***	***24***	***34.4***	***54.0***	***-19.6***
V	14646.000	53.7	33	38.4	24	35.1	54.0	-18.9

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Peak (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
V	2441.000	89.1	33	29.4	85.5	114.0	-28.5
V	***4882.000***	***50.2***	***33***	***34.9***	***52.1***	***74.0***	***-21.9***
V	***7323.000***	***47.4***	***33***	***37.9***	***52.3***	***74.0***	***-21.7***
V	9764.000	47.5	33	40.4	54.9	74.0	-19.1
V	***12205.000***	***50.9***	***33***	***40.5***	***58.4***	***74.0***	***-15.6***
V	14646.000	53.7	33	38.4	59.1	74.0	-14.9

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.

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Applicant: Kayle Concepts, LLC
Model: 10000-13
Worst-Case Operating Mode: Transmitting

Date of Test: July 11, 2014

Table 3

Radiated Emissions
Pursuant to FCC Part 15 Section 15.249 Requirement

Highest Channel

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Average Factor (dB)	Calculated at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
V	2480.000	89.3	33	29.4	24	61.7	94.0	-32.3
V	***4960.000***	***50.7***	***33***	***34.9***	***24***	***28.6***	***54.0***	***-25.4***
V	***7440.000***	***47.7***	***33***	***37.9***	***24***	***28.6***	***54.0***	***-25.4***
V	9920.000	47.1	33	40.4	24	30.5	54.0	-23.5
V	***12400.000***	***51.1***	***33***	***40.5***	***24***	***34.6***	***54.0***	***-19.4***
V	14880.000	54.4	33	38.4	24	35.8	54.0	-18.2

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Peak (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
V	2480.000	89.3	33	29.4	85.7	114.0	-28.3
V	***4960.000***	***50.7***	***33***	***34.9***	***52.6***	***74.0***	***-21.4***
V	***7440.000***	***47.7***	***33***	***37.9***	***52.6***	***74.0***	***-21.4***
V	9920.000	47.1	33	40.4	54.5	74.0	-19.5
V	***12400.000***	***51.1***	***33***	***40.5***	***58.6***	***74.0***	***-15.4***
V	14880.000	54.4	33	38.4	59.8	74.0	-14.2

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.

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Applicant: Kayle Concepts, LLC
Model: 10000-13
Worst-Case Operating Mode: Sound playing

Date of Test: July 11, 2014

Table 4

Radiated Emissions
Pursuant to FCC Part 15 Section 15.209 Requirement

Polarization	Frequency (MHz)	Reading (dBµV)	Pre-amp (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Limit at 3m (dBµV/m)	Margin (dB)
V	139.140	30.8	16	14.0	28.8	43.5	-14.7
V	145.600	30.5	16	14.0	28.5	43.5	-15.0
H	189.800	30.0	16	16.0	30.0	43.5	-13.5
H	229.600	36.5	16	18.0	38.5	46.0	-7.5
H	***269.600***	***32.4***	***16***	***22.0***	***38.4***	***46.0***	***-7.6***
H	288.800	29.6	16	22.0	35.6	46.0	-10.4
H	424.000	27.4	16	25.0	36.4	46.0	-9.6

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. 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.

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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 Technical Specifications

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 and Canada.

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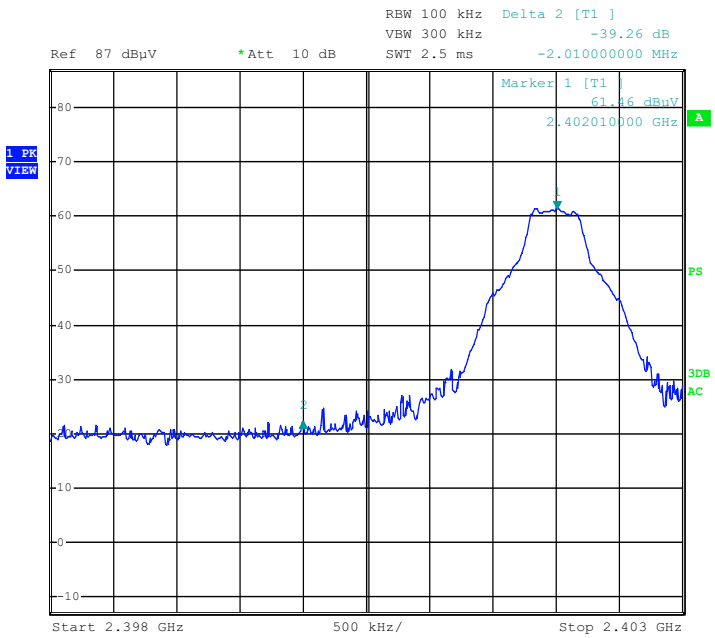
8.0 Miscellaneous Information

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 C63.4 (2009) 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).



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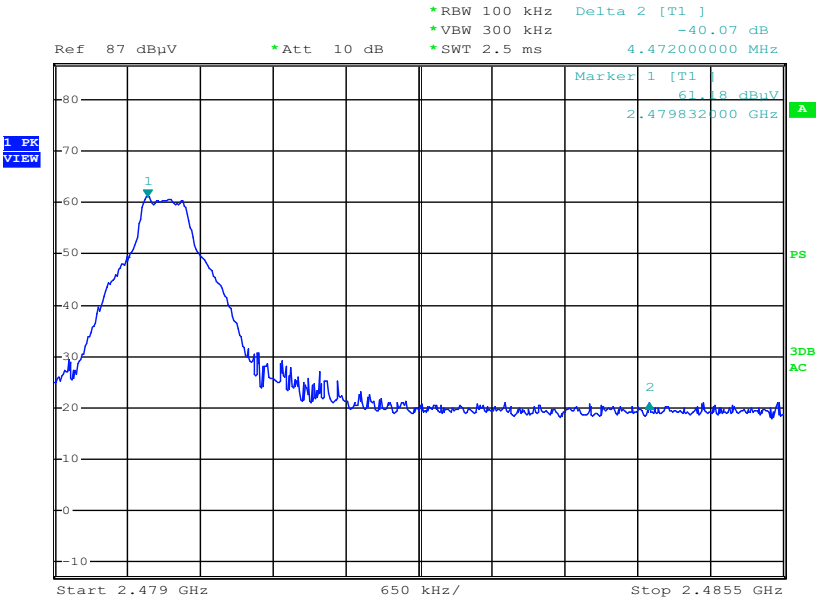
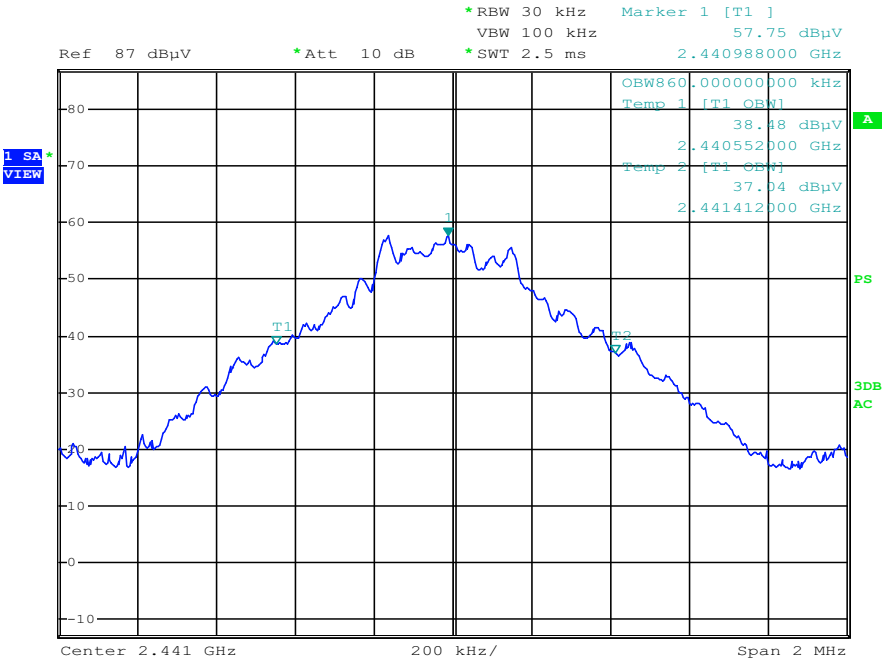


Plot of Occupied Bandwidth



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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

=85.2 dBµV/m – 39.26 dB
=45.94 dBµV/m

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

=61.2 dBµV/m – 39.26 dB
=21.94 dBµV/m

Upper bandedge

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

=85.7 dBµV/m – 40.07 dB
=45.63 dBµV/m

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

=61.7 dBµV/m – 40.07 dB
=21.63 dBµV/m

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

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8.2 Discussion of Pulse Desensitization

Pulse desensitivity is not applicable for this device. The effective period (Teff) is approximately 0.625ms 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 3.0 + EDR, the transmitter ON time for each timeslot of Bluetooth is 625μs. DH5 has the maximum duty cycle, which consists of 5 continuous Tx slots and 1 Rx slot. Therefore one hopset take (5+1) x 625μs = 3.75ms. For one period for a pseudo-random hopping through at least 20 RF channels in adaptive mode (worse case), it take: 20 x 3.75ms = 75ms.

The dwell time for DH5 is 5 x 625μs = 3.125ms.

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

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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 one meter in height above the ground plane. 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.

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8.4 Emissions Test Procedures (cont'd)

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

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.

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9.0 **Equipment List**

1) Radiated Emissions Test

Equipment	EMI Test Receiver	Double Ridged Guide Antenna	Log Periodic Antenna
Registration No.	EW-2666	EW-1015	EW-0572
Manufacturer	R&S	EMCO	EMCO
Model No.	ESCI7	3115	3146
Calibration Date	Jun. 20, 2013	Mar. 05, 2013	Jun. 26, 2013
Calibration Due Date	Sep. 20, 2014	Sep. 05, 2014	Dec. 26, 2014

Equipment	Biconical Antenna	Spectrum Analyzer	Broad Band Horn Antenna (14G – 40GHz)
Registration No.	EW-0571	EW-2466	EW-1679
Manufacturer	EMCO	R&S	R&S
Model No.	3104C	FSP30	FSP30
Calibration Date	Nov. 01, 2013	Aug. 04, 2013	Jun. 05, 2014
Calibration Due Date	May 01, 2015	Aug. 04, 2014	Jun. 05, 2015

2) Bandedge Measurement

Equipment	Spectrum Analyzer
Registration No.	EW-2249
Manufacturer	R&S
Model No.	FSP30
Calibration Date	Oct. 28, 2013
Calibration Due Date	Oct. 28, 2014

END OF TEST REPORT

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