BENSUSSEN DEUTSCH & ASSOCIATES, INC.

Application
For
Certification

FCC ID: YFK-1427441B01DA

PS3 OPP WIRELESS CONTROLLER,
Additional name: PS3 OPP WIRELESS CONTROLLER-BLUE,
Amazon Basics Wireless Controller for PlayStation 3

Model: 1427441-01

Additional Models: 1427441-02, 1500220-01, 1500220-02, B01MCY0680

2.4GHz Transceiver

Report No.: SZHH01086398-006

We hereby certify that the sample of the above item is considered to comply with the requirements of FCC Part 15, Subpart C for Intentional Radiator, mention 47 CFR [10-1-15]

Prepared and Checked by:	Approved by:
Sign on file	Digitally signed by Kidd Yang Location: Intertek Testing Services
Abel Zhou *Senior Engineer*	*Kidd Yang* Senior Project Engineer Date: 27 November 2016

- The test results reported in this test report shall refer only to the sample actually tested and shall not refer or be deemed to refer to bulk from which such a sample may be said to have been obtained.
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- For Terms And Conditions of the services, it can be provided upon request.
- The evaluation data of the report will be kept for 3 years from the date of issuance.

TRF No.: FCC 15C_TX_b

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LIST OF EXHIBITS

MEASUREMENT/TECHNICAL REPORT

BENSUSSEN DEUTSCH & ASSOCIATES, INC.

Model: 1427441-01

FCC ID: YFK-1427441B01DA

This report concerns (check one:) Original Grant X Class II Change _____

Equipment Type: DXX - Part 15 Low Power Communication Device Transmitter

Deferred grant requested per 47 CFR 0.457(d)(1)(ii)? Yes _____ No X

If yes, defer until: _____ date

Company Name agrees to notify the Commission by: _____ date

of the intended date of announcement of the product so that the grant can be issued on that date.

Transition Rules Request per 15.37? Yes _____ No X

If no, assumed Part 15, Subpart C for intentional radiator – the new 47 CFR [10-1-15 Edition] provision.

Report prepared by:

Abel Zhou
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List of attached file

Exhibit type	File Description	Filename
Test Report	Test Report	report.pdf
Test Setup Photo	Radiated Emission	radiated photos.pdf
Test Setup Photo	Conducted Emission	conducted photos.pdf
Test Report	Bandedge Plot	bandedge.pdf
Test Report	20dB BW Plot	bw.pdf
External Photo	External Photo	external photos.pdf
Internal Photo	Internal Photo	internal photos.pdf
Block Diagram	Block Diagram	block.pdf
Schematics	Circuit Diagram	circuit.pdf
Operation Description	Technical Description	descri.pdf
ID Label/Location	Label Artwork and Location	label.pdf
User Manual	User Manual	manual.pdf
Cover Letter	Confidentiality Letter	request.pdf
Cover Letter	Letter of Agency	agency.pdf

EXHIBIT 1

GENERAL DESCRIPTION

1.0 General Description

1.1 Product Description

The Equipment under Test (EUT) is a USB Dongle unit for the PS3 OPP WIRELESS CONTROLLER model: 1427441-01 operating at 2.4GHz band. It is powered by DC 5.0V(PS3 USB port). For more detail information pls. refer to the user manual.

The Models: 1427441-02, 1500220-01, 1500220-02, B01MCY0680 are same as the model: 1427441-01 in hardware and electrical aspect. Their difference in appearance and model number only.

Antenna Type: Integral antenna
Type of modulation: GFSK modulation

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

1.2 Related Submittal(s) Grants

This is an application for certification of a transceiver for the USB Dongle unit, and the corresponding Controller unit (2.4GHz transceiver) is subjected to FCC certification with FCC ID: YFK-1427441A01DA.

1.3 Test Methodology

Both AC mains line-conducted and radiated emission measurements were performed according to the procedures in ANSI C63.10 (2013). Radiated emission measurement was performed in Semi-anechoic chamber and conducted emission measurement was performed in shield room. For radiated emission measurement, preliminary scans were performed in the semi-anechoic chamber only to determine the 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. All other measurements were made in accordance with the procedures in part 2 of CFR 47.

1.4 Test Facility

The Semi-anechoic chamber and shielding room used to collect the radiated data and conducted data are **Intertek Testing Services Shenzhen Ltd. Kejiyuan Branch** and located at 6F, D Block, Huahan Building, Langshan Road, Nanshan District, Shenzhen, P. R. China. This test facility and site measurement data have been fully placed on file with the FCC (Registration Number: 242492).

EXHIBIT 2

SYSTEM TEST CONFIGURATION

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 EUT was powered by DC5.0V from PS3 USB port and the PS3 was powered by AC120V/60Hz during the test.

For maximizing emissions below 30 MHz, the EUT was rotated through 360°, the centre of the loop antenna was placed 1 meter above the ground, and the antenna polarization was changed. For maximizing emission at and above 30 MHz, 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 report in Exhibit 3.0.

The rear of unit was flushed with the rear 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 styrene turntable, which enabled the Senior Engineer to maximize emissions through its placement in the three orthogonal axes.

2.2 EUT Exercising Software

The EUT exercise program (provided by client) used during testing was designed to exercise the various system components in a manner similar to a typical use.

2.3 Special Accessories

No special accessories used.

2.4 Equipment Modification

Any modifications installed previous to testing by BENSUSSEN DEUTSCH & ASSOCIATES, INC. will be incorporated in each production model sold / leased in the United States.

No modifications were installed by Intertek Testing Services Shenzhen Ltd Kejiyuan Branch.

2.5 Measurement Uncertainty

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

2.6 Support Equipment List and Description

Description	Manufacturer	Model No.
PLAYSTATION3	SONY	CECH-2512A
TV	SONY	KDL-24EX520
HDMI Cable	N/A	Unshielded, 150cm
PS3 Control Unit	BD&A	1427441-01

EXHIBIT 3

EMISSION RESULTS

3.0 Emission Results

Data is included worst-case configuration (the configuration which resulted in the highest emission levels).

3.1 Radiated Test Results

A sample calculation, configuration photographs and data tables of the emissions are included.

3.1.1 Field Strength Calculation

The field strength is calculated by adding the reading on the Spectrum Analyzer to the factors associated with preamplifiers (if any), antennas, cables, pulse desensitization and average factors (when specified limit is in average and measurements are made with peak detectors). A sample calculation is included below.

FS = RA + AF + CF - AG

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

In the radiated emission table which follows, the reading shown on the data table may reflect the preamplifier gain. An example of the calculations, where the reading does not reflect the preamplifier gain, follows:

FS = RA + AF + CF - AG

Assume a receiver reading of 62.0 dBµV is obtained. The antenna factor of 7.4 dB and cable factor of 1.6 dB is added. The amplifier gain of 29 dB is subtracted. The net field strength for comparison to the appropriate emission limit is 42 dBµV/m. This value in dBµV/m was converted to its corresponding level in µV/m.

RA = 62.0 dBµV
AF = 7.4 dB
CF = 1.6 dB
AG = 29.0 dB

FS = 62 + 7.4 + 1.6 - 29 = 42 dBµV/m

Level in µV/m = Common Antilogarithm [(42 dBµV/m)/20] = 125.9 µV/m

3.1.2 Radiated Emission Configuration Photograph

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

3.1.3 Radiated Emissions

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.

Worst Case Radiated Emission
at
688.145 MHz

Judgement: Passed by 6.5 dB

TEST PERSONNEL:

Sign on file

Abel Zhou, Senior Engineer
Typed/Printed Name

November 20, 2016
Date

Applicant: BENSUSSEN DEUTSCH & ASSOCIATES, INC.
Date of Test: November 20, 2016
Model: 1427441-01
Sample: 1/1
Worst Case Operating Mode: Transmitting(2412MHz)

Table 1

Radiated Emissions

Polarization	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Limit at 3m (dBµV/m)	Margin (dB)
Horizontal	79.470	30.9	20.0	19.5	30.4	40.0	-9.6
Horizontal	293.840	35.6	20.0	20.5	36.1	46.0	-9.9
Horizontal	688.145	31.4	20.0	28.1	39.5	46.0	-6.5
Vertical	43.580	31.3	20.0	20.2	31.5	40.0	-8.5
Vertical	146.885	30.3	20.0	20.5	30.8	43.5	-12.7
Vertical	734.220	35.5	20.0	22.8	38.3	46.0	-7.7

NOTES: 1. Quasi-Peak detector is used except for others 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 value in the margin column shows emission below limit.

4. All emissions are below the QP limit.

3.1.4 Transmitter Spurious Emissions (Radiated)

Worst Case Radiated Emission
at
4880.00 MHz

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

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.

Judgement: Passed by 9.6 dB

TEST PERSONNEL:

Sign on file

Abel Zhou, Senior Engineer
Typed/Printed Name

November 20, 2016
Date

Applicant: BENSUSSEN DEUTSCH & ASSOCIATES, INC.
Date of Test: November 20, 2016
Model: 1427441-01
Sample: 1/1
Worst Case Operating Mode: Transmitting

Table 2

Radiated Emissions

(2412MHz)

Polarization	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
Horizontal	2412.000	85.1	36.7	28.1	76.5	114.0	-37.5
Horizontal	4824.000	64.9	36.7	35.5	63.7	74.0	-10.3
Horizontal	7236.000	63.8	36.1	36.5	64.2	74.0	-9.8
Horizontal	9648.000	63.2	36.2	37.0	64.0	74.0	-10.0

Polarization	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Average Factor (-dB)	Net at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
Horizontal	2412.000	85.1	36.7	28.1	31.2	45.3	94.0	-48.7
Horizontal	4824.000	64.9	36.7	35.5	31.2	32.5	54.0	-21.5
Horizontal	7236.000	63.8	36.1	36.5	31.2	33.0	54.0	-21.0
Horizontal	9648.000	63.2	36.2	37.0	31.2	32.8	54.0	-21.2

Notes: 1. Peak Detector Data unless otherwise stated.

2. All measurements were made at 3 meter. Harmonic emissions not detected at the 3-meter distance 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 value in the margin column shows emission below limit.

4. Horn antenna is used for the emission over 1000MHz.

Test Engineer: Abel Zhou

Applicant: BENSUSSEN DEUTSCH & ASSOCIATES, INC.
Date of Test: November 20, 2016
Model: 1427441-01
Sample: 1/1
Worst Case Operating Mode: Transmitting

Table 3

Radiated Emissions

(2444MHz)

Polarization	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
Horizontal	2444.000	84.9	36.7	28.1	76.3	114.0	-37.7
Horizontal	4888.000	65.6	36.7	35.5	64.4	74.0	-9.6
Horizontal	7332.000	62.5	36.1	37.2	63.6	74.0	-10.4
Horizontal	9776.000	62.5	36.2	37.0	63.3	74.0	-10.7

Polarization	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Average Factor (-dB)	Net at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
Horizontal	2444.000	84.9	36.7	28.1	31.2	45.1	94.0	-48.9
Horizontal	4888.000	65.6	36.7	35.5	31.2	33.2	54.0	-20.8
Horizontal	7332.000	62.5	36.1	37.2	31.2	32.4	54.0	-21.6
Horizontal	9776.000	62.5	36.2	37.0	31.2	32.1	54.0	-21.9

Notes: 1. Peak Detector Data unless otherwise stated.

2. All measurements were made at 3 meter. Harmonic emissions not detected at the 3-meter distance 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 value in the margin column shows emission below limit.

4. Horn antenna is used for the emission over 1000MHz.

Test Engineer: Abel Zhou

Applicant: BENSUSSEN DEUTSCH & ASSOCIATES, INC.
Date of Test: November 20, 2016
Model: 1427441-01
Sample: 1/1
Worst Case Operating Mode: Transmitting

Table 4

Radiated Emissions

(2475MHz)

Polarization	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
Horizontal	2475.000	81.5	36.7	28.1	72.9	114.0	-41.1
Horizontal	4950.000	65.0	36.7	35.5	63.8	74.0	-10.2
Horizontal	7425.000	60.6	36.1	37.2	61.7	74.0	-12.3
Horizontal	9900.000	60.7	36.3	38.9	63.3	74.0	-10.7

Polarization	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Average Factor (-dB)	Net at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
Horizontal	2475.000	81.5	36.7	28.1	31.2	41.7	94.0	-52.3
Horizontal	4950.000	65.0	36.7	35.5	31.2	32.6	54.0	-21.4
Horizontal	7425.000	60.6	36.1	37.2	31.2	30.5	54.0	-23.5
Horizontal	9900.000	60.7	36.3	38.9	31.2	32.1	54.0	-21.9

Notes: 1. Peak Detector Data unless otherwise stated.

2. All measurements were made at 3 meter. Harmonic emissions not detected at the 3-meter distance 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 value in the margin column shows emission below limit.

4. Horn antenna is used for the emission over 1000MHz.

Test Engineer: Abel Zhou

3.2 Conducted Emission at Mains Terminal

3.2.1 Conducted Emissions Configuration Photograph

For electronic filing, the worst case conducted emission configuration photograph is saved with filename: conducted photos.pdf.

3.2.2 Conducted Emissions

Worst Case Live-Conducted Configuration
At

4.581 MHz

Judgement: Passed by 6.3 dB margin

TEST PERSONNEL:

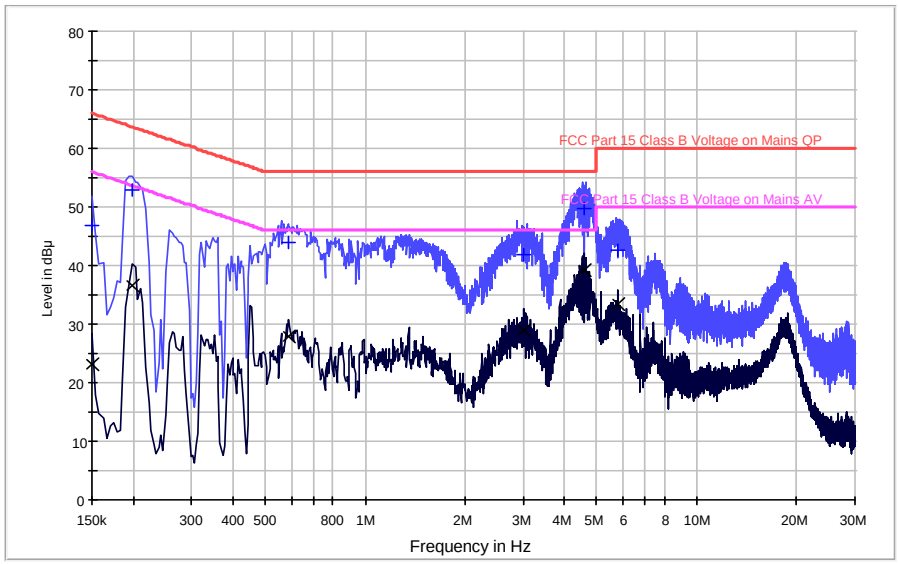
Sign on file

Abel Zhou, Senior Engineer
Typed/Printed Name

November 20, 2016
Date

Applicant: BENSUSSEN DEUTSCH & ASSOCIATES, INC.
Date of Test: November 20, 2016
Model: 1427441-01
Sample: 1/1
Worst Case Operating Mode: Transmit
Phase: Live

Conducted Emission Test – FCC



Limit and Margin QP

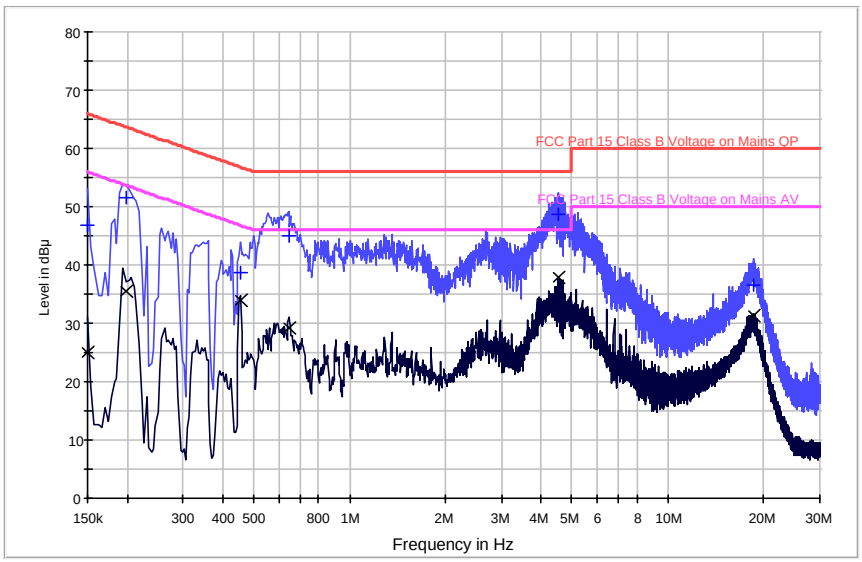
Frequency (MHz)	QuasiPeak (dBµV)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	46.9	L1	9.8	19.1	66.0
0.198000	52.9	L1	9.8	10.8	63.7
0.586000	44.1	L1	10.0	11.9	56.0
3.010000	41.9	L1	10.0	14.1	56.0
4.581000	49.7	L1	10.0	6.3	56.0
5.802000	42.6	L1	10.0	17.4	60.0

Limit and Margin AV

Frequency (MHz)	Average (dBµV)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	23.3	L1	9.8	32.7	56.0
0.198000	36.7	L1	9.8	17.0	53.7
0.586000	27.9	L1	10.0	18.1	46.0
3.010000	29.0	L1	10.0	17.0	46.0
4.581000	39.1	L1	10.0	6.9	46.0
5.802000	33.4	L1	10.0	16.6	50.0

Applicant: BENSUSSEN DEUTSCH & ASSOCIATES, INC.
Date of Test: November 20, 2016
Model: 1427441-01
Sample: 1/1
Worst Case Operating Mode: Transmit
Phase: Neutral

Conducted Emission Test – FCC



Limit and Margin QP

Frequency (MHz)	QuasiPeak (dBµV)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	46.8	N	10.2	19.2	66.0
0.198000	51.5	N	10.1	12.2	63.7
0.454000	38.8	N	10.2	18.0	56.8
0.642000	45.0	N	10.3	11.0	56.0
4.514000	48.7	N	10.3	7.3	56.0
18.618000	36.6	N	10.4	23.4	60.0

Limit and Margin AV

Frequency (MHz)	Average (dBµV)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	24.9	N	10.2	31.1	56.0
0.198000	35.5	N	10.1	18.2	53.7
0.454000	33.8	N	10.2	13.0	46.8
0.642000	29.2	N	10.3	16.8	46.0
4.514000	37.9	N	10.3	8.1	46.0
18.618000	31.3	N	10.4	18.7	50.0

EXHIBIT 4

EQUIPMENT PHOTOGRAPHS

4.0 Equipment Photographs

For electronic filing, the photographs of the tested EUT are saved with filename: external photos.pdf & internal photos.pdf.

EXHIBIT 5

PRODUCT LABELLING

5.0 Product Labelling

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

EXHIBIT 6

TECHNICAL SPECIFICATIONS

6.0 Technical Specifications

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

EXHIBIT 7

INSTRUCTION MANUAL

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.

EXHIBIT 8

MISCELLANEOUS INFORMATION

8.0 Miscellaneous Information

This miscellaneous information includes details of the measured bandedge and the test procedure.

8.1 Bandedge Plot

For electronic filing, the plot shows the fundamental emission when modulated is saved with filename: bandedge.pdf. From the plot, the field strength of any emissions outside of the specified frequency band are attenuated to the general radiated emission limits in section 15.209. It fulfils the requirement of 15.249(d).

Peak and Average Measurement

Bandedge compliance is determined by applying radiated measurements method, i.e (Bandedge Plot).

(i) Lower channel 2412.000MHz:

Polarization	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
Vertical	2400.000	51.7	36.7	28.5	43.5	74.0	-30.5

Polarization	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
Vertical	2400.000	36.7	36.7	28.5	28.5	54.0	-25.5

(ii) Upper channel 2475.000MHz:

Polarization	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
Vertical	2483.500	51.9	36.7	29.0	44.2	74.0	-29.8

Polarization	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
Vertical	2483.500	36.2	36.7	29.0	28.5	54.0	-25.5

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

8.1 Bandedge Plot (cont'd)

Pursuant to FCC part 15 Section 15.215(c), the 20dB 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.

Figure 8.1 Bandwidth

8.2 Discussion of Pulse Desensitization

Pulse desensitivity is not applicable for this device. The effective period (T_{eff}) is approximately 434.8μs for a digital "1" bit, as shown in the plots of Exhibit 8.3. With a resolution bandwidth (3 dB) of 100 kHz, the pulse desensitivity factor was 0 dB.

8.3 Calculation of Average Factor

Averaging factor in dB = 20 log (duty cycle)

The specification for output field strengths in accordance with the FCC rules specify measurements with an average detector. During testing, a spectrum analyzer incorporating a peak detector was used. Therefore, a reduction factor can be applied to the resultant peak signal level and compared to the limit for measurement instrumentation incorporating an average detector.

The time period over which the duty cycle is measured is 100 milliseconds, or the repetition cycle, whichever is a shorter time frame. The worst case (highest percentage on) duty cycle is used for the calculation. The duty cycle is measured by placing the spectrum analyzer in zero scan (receiver mode) and linear mode at maximum bandwidth (3 MHz at 3 dB down) and viewing the resulting time domain signal output from the analyzer on a Tektronix oscilloscope. The oscilloscope is used because of its superior time base and triggering facilities.

A plot of the worst-case duty cycle as detected in this manner are saved with filename: af.pdf

The duty cycle is simply the on-time divided by the period:

The duration of one cycle = 15.9130ms
Effective period of the cycle = 434.8μs = 0.4348ms

DC = 0.4348ms / 15.9130ms = 0.02732 or 2.732%

Therefore, the averaging factor is found by 20 $\log_{10}$ 0.02732 = -31.2dB

8.4 Emissions Test Procedures

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

The test set-up and procedures described below are designed to meet the requirements of ANSI C63.10 - 2013.

The transmitting equipment under test (EUT) is placed on a styrene turntable which is four feet in diameter, up to 1GHz 0.8m and above 1GHz 1.5m 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 adjust through all three orthogonal axes to obtain maximum emission levels. The antenna height and polarization are varied during the testing to search for maximum signal levels.

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.

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.

Detector function for conducted emissions is in QP & AV mode and IFBW setting is 9 kHz from the frequency band 150 kHz to 30MHz.

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 are made as described in ANSI C63.10 - 2013.

The IF bandwidth used for measurement of radiated signal strength was 10 kHz for emission below 30 MHz and 120 kHz for emission from 30 MHz to 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. Above 1000 MHz, a resolution bandwidth of 1 MHz is used (RBW 3MHz used for fundamental emission).

Transmitter measurements are normally conducted at a measurement distance of three meters. However, to assure low enough noise floor in the restricted 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, but those measurements taken at a closer distance are so marked.

EXHIBIT 9

CONFIDENTIALITY REQUEST

9.0 **Confidentiality Request**

For electronic filing, the confidentiality request of the tested EUT is saved with filename: request.pdf.

EXHIBIT 10

TEST EQUIPMENT LIST

10.0 Test Equipment List

Equipment No.	Equipment	Manufacturer	Model No.	Serial No.	Cal. Date	Due Date
SZ061-12	BiConiLog Antenna	ETS	3142E	00166158	15-Sep-16	15-Sep-17
SZ185-01	EMI Receiver	R&S	ESCI	100547	23-Jan-16	23-Jan-17
SZ061-08	Horn Antenna	ETS	3115	00092346	17-Oct-16	17-Oct-17
SZ061-06	Active Loop Antenna	Electro-Metrics	EM-6876	217	29-Apr-16	29-Apr-17
SZ056-03	Spectrum Analyzer	R&S	FSP 30	101148	6-Jun-16	6-Jun-17
SZ056-06	Signal Analyzer	R&S	FSV 40	101101	08-Jul-16	08-Jul-17
SZ181-04	Preamplifier	Agilent	8449B	3008A02474	23-Jan-16	23-Jan-17
SZ188-01	Anechoic Chamber	ETS	RFD-F/A-100	4102	16-Apr-16	16-Apr-18
SZ062-02	RF Cable	RADIALL	RG 213U	--	23-Jan-16	23-Jan-17
SZ062-05	RF Cable	RADIALL	0.04-26.5GHz	--	23-Jan-16	23-Jan-17
SZ062-12	RF Cable	RADIALL	0.04-26.5GHz	--	1-Oct-16	1-Apr-17
SZ067-04	Notch Filter	Micro-Tronics	BRM50702-02	--	20-May-16	20-May-17
SZ185-02	EMI Test Receiver	R&S	ESCI	100692	23-Jan-16	23-Jan-17
SZ187-01	Two-Line V-Network	R&S	ENV216	100072	23-Jan-16	23-Jan-17
SZ187-02	Two-Line V-Network	R&S	ENV216	100073	24-Jun-16	24-Jun-17
SZ188-03	Shielding Room	ETS	RFD-100	4100	23-Aug-16	23-Aug-18