

Shenzhen DO Intelligent Technology Co., Ltd

TEST REPORT

SCOPE OF WORK

FCC TESTING-ID101HR, ID101U HR, ID126HR, ID101, ID101U

REPORT NUMBER

171026008SZN-001

ISSUE DATE

22 November 2017

[REVISED DATE]

[-----]

PAGES

53

DOCUMENT CONTROL NUMBER

FCC ID 247_b

© 2017 INTERTEK



Shenzhen DO Intelligent Technology Co., Ltd

Application
For
Certification

FCC ID: 2AHFTID521

Smart Bracelet

Model: ID101HR, ID101U HR, ID126HR, ID101, ID101U

Brand name: N/A

2.4GHz Transceiver

Report No.: 171026008SZN-001

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 [10-1-16]

Prepared and Checked by:

Approved by:

Sign on File
Damon Wang
Engineer

Kidd Yang
Senior Project Engineer
Date: 22 November 2017

This report is for the exclusive use of Intertek's Client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this report. Only the Client is authorized to permit copying or distribution of this report and then only in its entirety. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek. The observations and test results in this report are relevant only to the sample tested. This report by itself does not imply that the material, product, or service is or has ever been under an Intertek certification program.

Intertek Testing Service Shenzhen Ltd. Longhua Branch

1F/2F, Building B, QiaoAn Scientific Technology Park, Shangkeng Community, Guanhu Subdistrict, Longhua District, Shenzhen, P.R. China.
Tel: (86 755) 8601 6288 Fax: (86 755) 8601 6751

LIST OF EXHIBITS

INTRODUCTION

<i>EXHIBIT 1:</i>	Summary of Tests
<i>EXHIBIT 2:</i>	General Description
<i>EXHIBIT 3:</i>	System Test Configuration
<i>EXHIBIT 4:</i>	Measurement Results
<i>EXHIBIT 5:</i>	Equipment Photographs
<i>EXHIBIT 6:</i>	Product Labeling
<i>EXHIBIT 7:</i>	Technical Specifications
<i>EXHIBIT 8:</i>	Instruction Manual
<i>EXHIBIT 9:</i>	Miscellaneous Information
<i>EXHIBIT 10:</i>	Test Equipment List

MEASUREMENT/TECHNICAL REPORT

Smart Bracelet

Model: ID101HR

FCC ID: 2AHFTID521

This report concerns (check one) Original Grant ☒ Class II Change ☐

Equipment Type: DTS - Part 15 Digital Transmission Systems (Bluetooth LE portion)

Deferred grant requested per 47 CFR 0.457(d)(1)(ii)? Yes ☐ No ☒

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 ☒

If no, assumed Part 15, Subpart C for intentional radiator - the new 47 CFR [10-01-16] Edition] provision.

Report prepared by:

Damon Wang
Intertek Testing Services Shenzhen Ltd.
Longhua Branch
1F/2F, Building B, QiaoAn Scientific Technology
Park, Shangheng Community, Guanhu Subdistrict,
Longhua District, Shenzhen, P.R. China
Tel: (86 755) 8601 0661 Fax: (86 755) 8601 6751

Table of Contents

1.0	Summary of Test results	7
2.0	<u>General Description</u>	9
2.1	Product Description	9
2.2	Related Submittal(s) Grants	9
2.3	Test Methodology.....	9
2.4	Test Facility	10
3.0	<u>System Test Configuration</u>.....	12
3.1	Justification	12
3.2	EUT Exercising Software	12
3.3	Special Accessories	12
3.4	Measurement Uncertainty	13
3.5	Equipment Modification	13
3.6	Support Equipment List and Description	13
4.0	<u>Measurement Results</u>	15
4.1	Maximum Conducted Output Power at Antenna Terminals.....	15
4.2	Minimum 6 dB RF Bandwidth	16
4.3	Maximum Power Density Reading	19
4.4	Out of Band Conducted Emissions.....	22
4.5	Out of Band Radiated Emissions.....	29
4.6	Transmitter Radiated Emissions in Restricted Bands	30
4.7	Field Strength Calculation	31
4.7.1	Radiated Emission Configuration Photograph	32
4.7.2	Radiated Emission	32
4.7.3	Transmitter Spurious Emissions (Radiated)	34
4.8	Radiated Emissions from Digital Section of Transceiver.....	38
4.9	Transmitter Duty Cycle Calculation and Measurements	39
5.0	<u>Equipment Photographs</u>	41
6.0	<u>Product Labelling</u>.....	43
7.0	<u>Technical Specifications</u>	45
8.0	<u>Instruction Manual</u>	47
9.0	<u>Confidentiality Request</u>	49
10.0	<u>Discussion of Pulse Desensitization</u>	51
11.0	<u>Test Equipment List</u>.....	53

List of attached file

Exhibit Type	File Description	Filename
Cover Letter	Letter of Agency	agency.pdf
Test Report	Test Report	report.pdf
Test Setup Photo	Radiated Emission	radiated photos.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

EXHIBIT 1

SUMMARY OF TEST RESULTS

1.0 Summary of Test results

Smart Bracelet

Model: ID101HR

FCC ID: 2AHFTID521

TEST ITEM	REFERENCE	RESULTS
Max. Output power	15.247(b)(3)	Pass
6 dB Bandwidth	15.247(a)(2)	Pass
Max. Power Density	15.247(e)	Pass
Out of Band Antenna Conducted Emission	15.247(d)	Pass
Radiated Emission in Restricted Bands	15.247(d)	Pass
AC Conducted Emission	15.207	Pass
Antenna Requirement	15.203	Pass (See Notes)

Notes: The EUT uses an Integral Antenna which in accordance to Section 15.203 is considered sufficient to comply with the provisions of this section.

EXHIBIT 2

GENERAL DESCRIPTION

2.0 General Description

2.1 Product Description

The Equipment Under Test (EUT) is a Smart Bracelet with Bluetooth technology operating in 2402-2480MHz. The EUT is powered by Rechargeable battery (DC 3.7V, 60mAh) which can be charged by USB port (DC 5V). The USB port is only use for charging purpose. The EUT can't be operated while charging. For more detailed features description, please refer to the user's manual.

Bluetooth Version: 4.0 BLE

Antenna Type: Integral antenna

Antenna Gain: -5.18 dBi

Modulation Type: GFSK

The Models:ID101U HR, ID126HR, ID101, ID101U are the same as the Model: ID101HR in hardware aspect except cardio meter. The difference in model number and appearance serves as marketing strategy. Details see below.

Production name	Model no.	Description
Smart Bracelet	ID101HR	with cardio meter
	ID101	without cardio meter
	ID101U HR	with cardio meter and strap is different
	ID101U	without cardio meter and strap is different
	ID126HR	with cardio meter and strap/ motor is different

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

2.2 Related Submittal(s) Grants

This is an application for certification of transceiver for the Smart Bracelet which has Bluetooth function.

2.3 Test Methodology

Radiated emission measurement was performed according to the procedures in ANSI C63.10 (2013) and KDB 558074 D01 v04. Radiated emission measurement was performed in semi-anechoic chamber. 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

2.4 Test Facility

The Semi-anechoic chamber used to collect the radiated data is **Intertek Testing Services Shenzhen Ltd. Longhua Branch** and located at 1F/2F, Building B, QiaoAn Scientific Technology Park, Shangheng Community, Guanhu Subdistrict, Longhua District, Shenzhen, P.R. China. This test facility and site measurement data have been fully placed on file with File Number: CN1188.

EXHIBIT 3

SYSTEM TEST CONFIGURATION

3.0 System Test Configuration

3.1 Justification

For emissions testing, the equipment under test (EUT) setup to transmit continuously to simplify the measurement methodology. Care was taken to ensure proper power supply voltages during testing. During testing, all cables were manipulated to produce worst case emissions. The EUT was powered by a fully Rechargeable battery (DC 3.7V, 60mAh) during the test.

The models:ID101HR, ID101 and ID126HR were selected for testing and only the worst data was reported in this report.

For maximizing emissions, the EUT was rotated through 360°, the EUT was placed on the styrene turntable with 0.8m up to 1GHz and 1.5 m above 1GHz. The antenna height and polarization are varied during the search for maximum signal level. The antenna height is varied from 1 to 4 meters. Radiated emissions are taken at three meters unless the signal level is too low for measurement at that distance. If necessary, a pre-amplifier is used and/or the test is conducted at a closer distance.

The unit was operated standalone and placed in the centre of the turntable.

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

Radiated emission measurement were performed 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 to 40 GHz, whichever is lower.

3.2 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.

3.3 Special Accessories

No special accessory attached.

3.4 Measurement Uncertainty

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

Uncertainty and Compliance – Unless the standard specifically states that measured values are to be extended by the measurement uncertainty in determining compliance, all compliance determinations are based on the actual measured value.

3.5 Equipment Modification

Any modifications installed previous to testing by Shenzhen DO Intelligent Technology Co., Ltd will be incorporated in each production model sold / leased in the United States.

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

3.6 Support Equipment List and Description

This product was tested in the following configuration:

Refer List:

Description	Manufacturer	Model No.
iPod (Provided by Intertek)	Apple	A1367

EXHIBIT 4

MEASUREMENT RESULTS

Applicant: Shenzhen DO Intelligent Technology Co., Ltd

Date of Test: November 09, 2017

Worst case Model: ID101HR

4.0 Measurement Results

4.1 Maximum Conducted Output Power at Antenna Terminals, FCC Rules 15.247(b)(3):

[x] The antenna power of the EUT was connected to the input of a broadband peak RF power meter. Power was read directly and cable loss correction was added to the reading to obtain power at the EUT antenna terminals.

For antennas with gains of 6 dBi or less, maximum allowed Transmitter output is 1 watt (+30 dBm).

Frequency (MHz)	Output in dBm	Output in mWatt
Low Channel: 2402	-3.87	0.41
Middle Channel: 2440	-5.38	0.29
High Channel: 2480	-5.52	0.28

Cable loss: 1.0 dB External Attenuation: 0 dB

Cable loss, external attenuation has been included in OFFSET function

EUT max. output power = -3.87dBm

EUT max E.I.R.P = -3.87dBm + (-5.18dBi) = -9.05dBm = 0.12mW

For RF Exposure, the information is saved with filename: analysis report.pdf.

Applicant: Shenzhen DO Intelligent Technology Co., Ltd

Date of Test: November 09, 2017

Worst case Model: ID101HR

4.2 Minimum 6 dB RF Bandwidth, FCC Rule 15.247(a) (2):

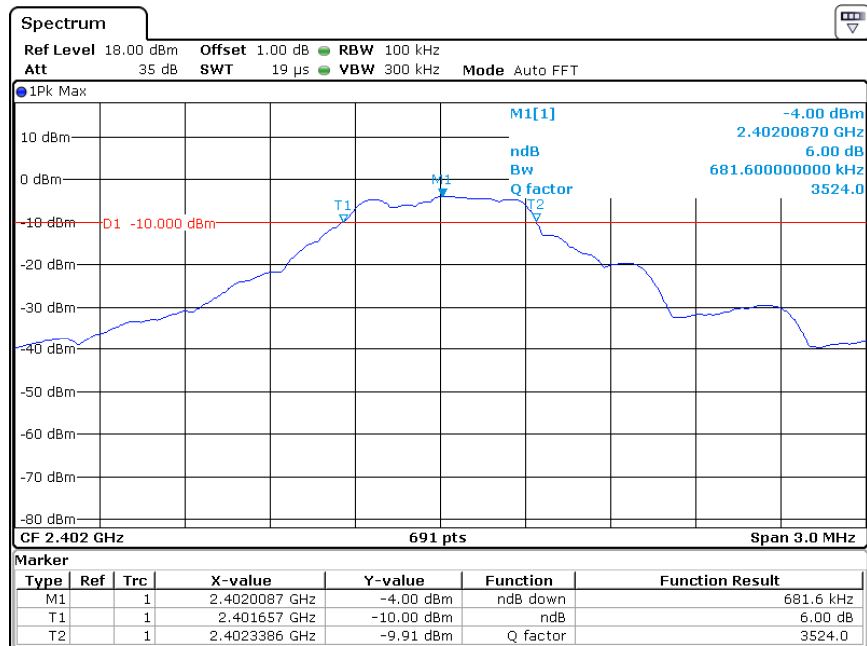
The antenna port of the EUT was connected to the input of a spectrum analyzer. Analyzer RBW was set to 100 KHz according to FCC KDB 558074 D01 v04. For each RF output channel investigated, the spectrum analyzer center frequency was set to the channel carrier. A PEAK output reading was taken, a DISPLAY line was drawn 6 dB lower than PEAK level. The 6dB bandwidth was determined from where the channel output spectrum intersected the display line.

Limit: The 6 dB Bandwidth is at least 500 kHz.

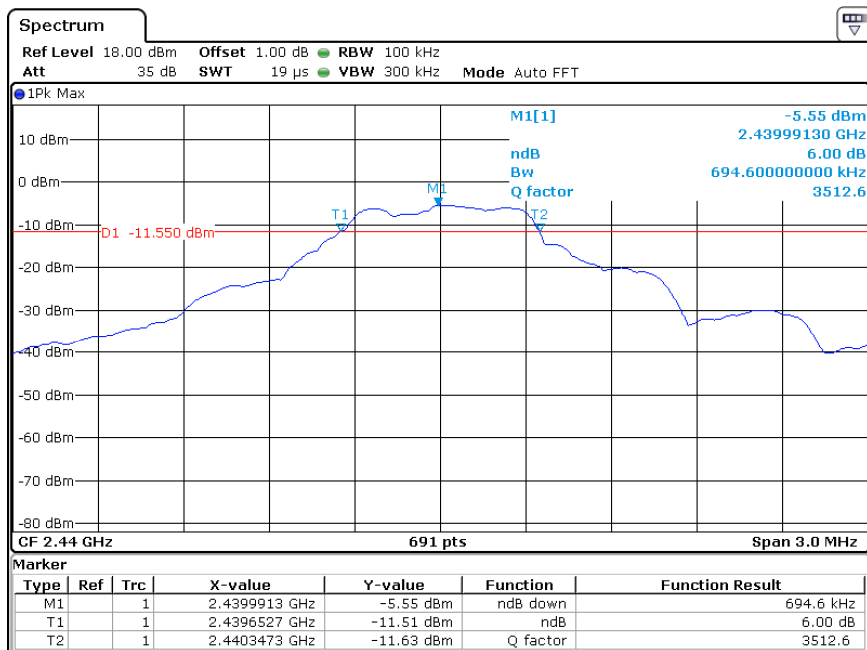
Frequency (MHz)	6 dB Bandwidth (KHz)
2402	681.6
2440	694.6
2480	703.3

The test plots are attached as below.

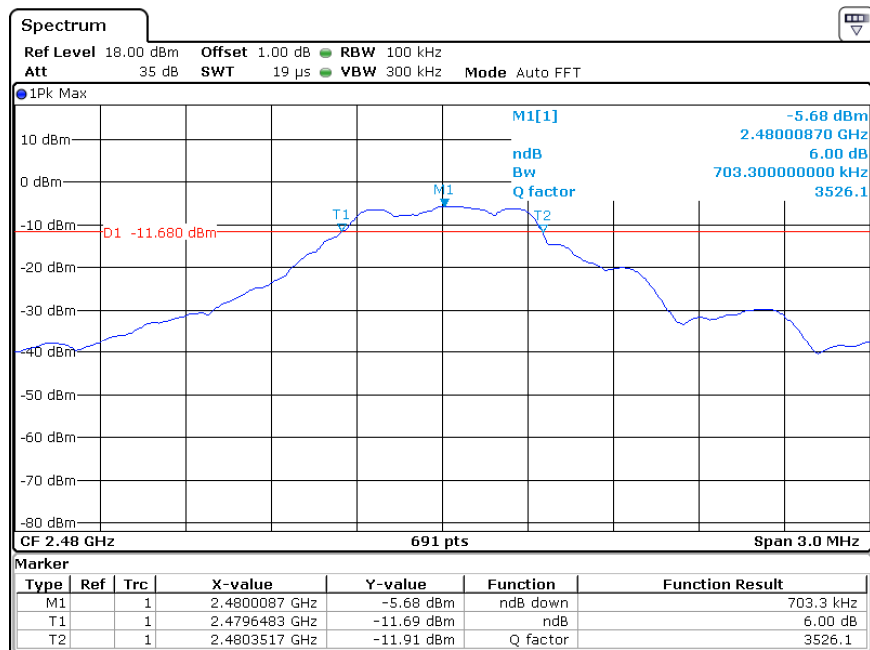
Low Channel



Middle Channel



High Channel



Applicant: Shenzhen DO Intelligent Technology Co., Ltd

Date of Test: November 09, 2017

Worst case Model: ID101HR

4.3 Maximum Power Density Reading, FCC Rule 15.247(e):

The Measurement Procedure PKPSD was set according to the FCC KDB 558074 D01 v04.

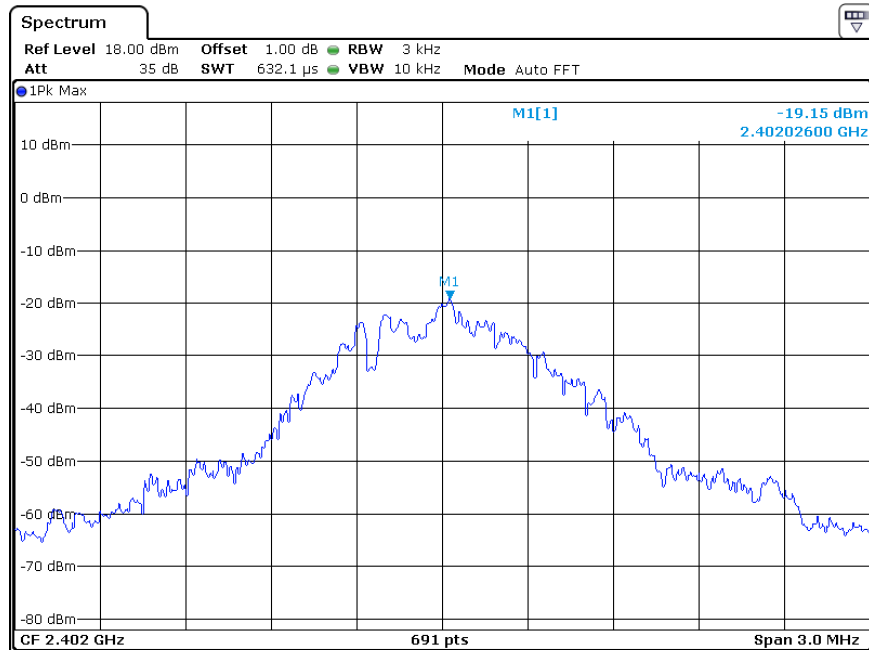
Antenna output of the EUT was coupled directly to spectrum analyzer; if an external attenuator and/or cable was used, these losses are compensated for with the analyzer OFFSET function.

Limit: The Power Density does not exceed 8dBm/3 kHz.

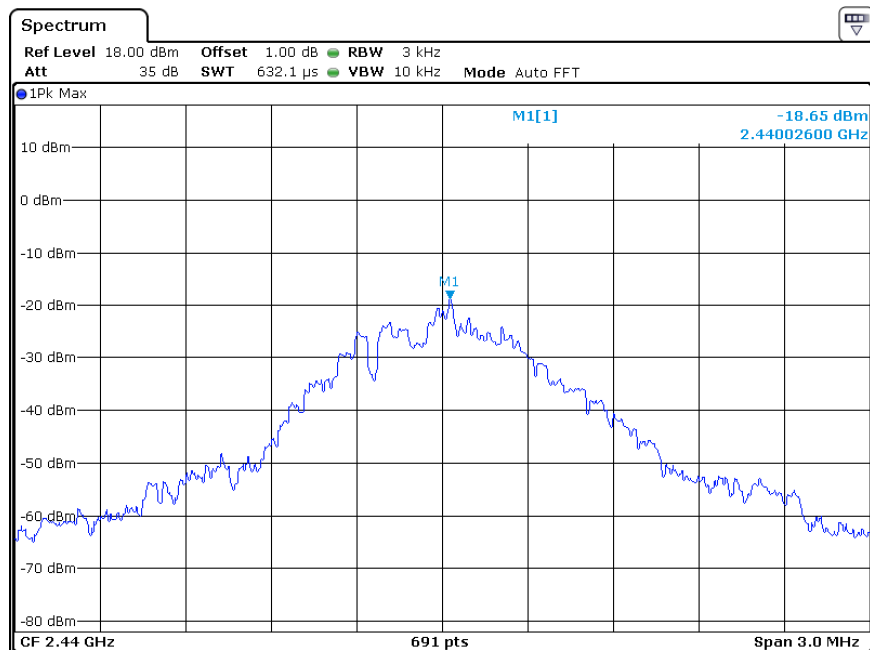
Frequency (MHz)	Power Density with RBW 3KHz
2402	-19.15
2440	-18.65
2480	-19.20

The test plots are attached as below.

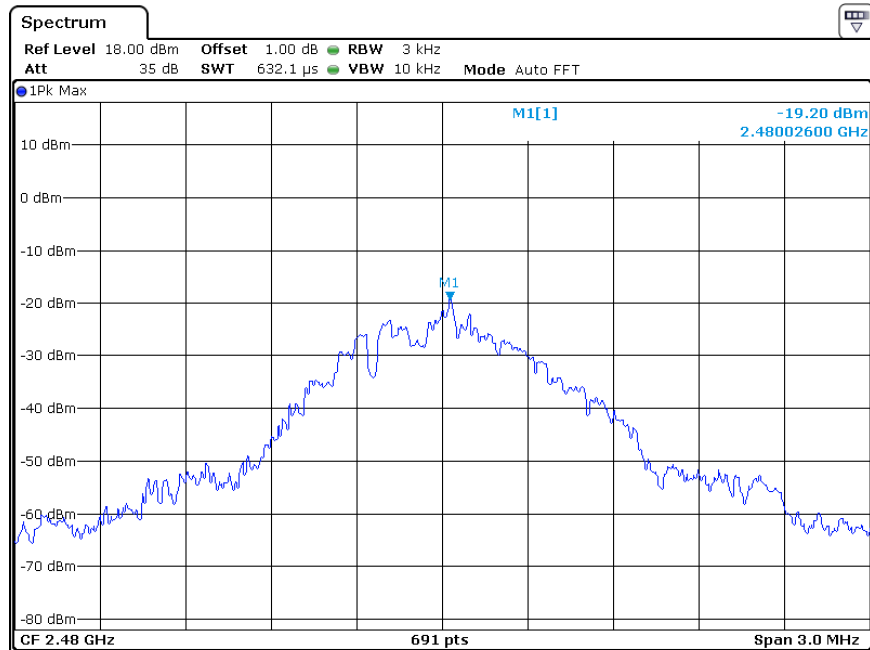
Low Channel



Middle Channel



High Channel



Applicant: Shenzhen DO Intelligent Technology Co., Ltd

Date of Test: November 09, 2017

Worst case Model: ID101HR

4.4 Out of Band Conducted Emissions, FCC Rule 15.247(d)

In any 100 kHz bandwidth outside the EUT passband, the RF power produced by the modulation products of the spreading sequence, the information sequence, and the carrier frequency shall be at least 20dB below that of the maximum in-band 100 kHz emission, or else shall meet the general limits for radiated emissions at frequencies outside the passband, whichever results in lower attenuation. The Measurement Procedure was set according to the FCC KDB 558074 D01 v04.

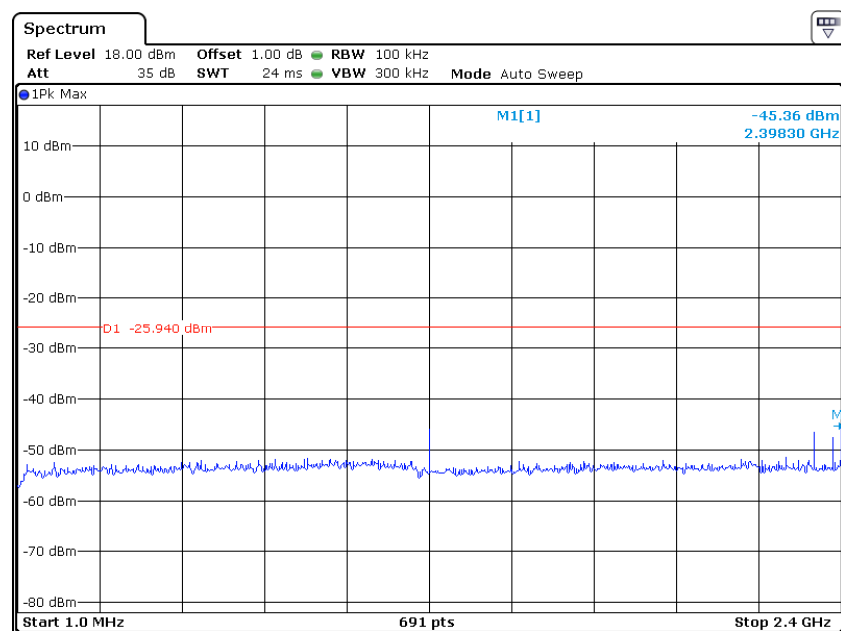
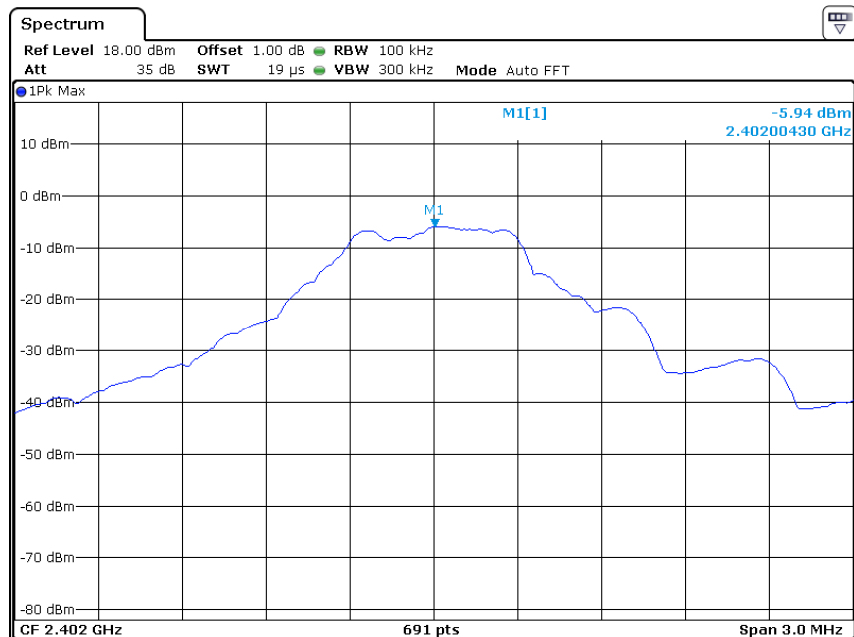
All other types of emissions from the EUT shall meet the general limits for radiated frequencies outside the passband.

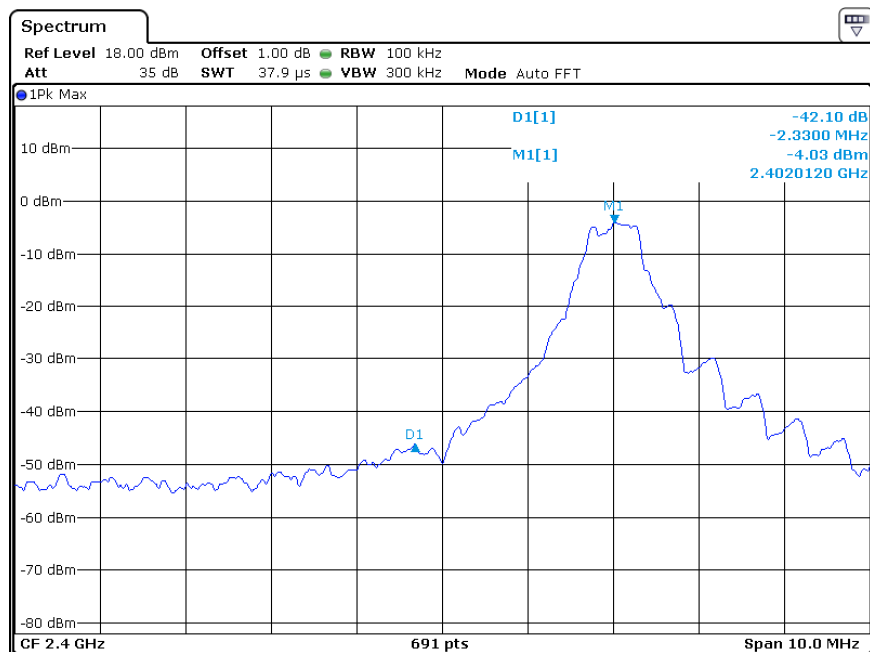
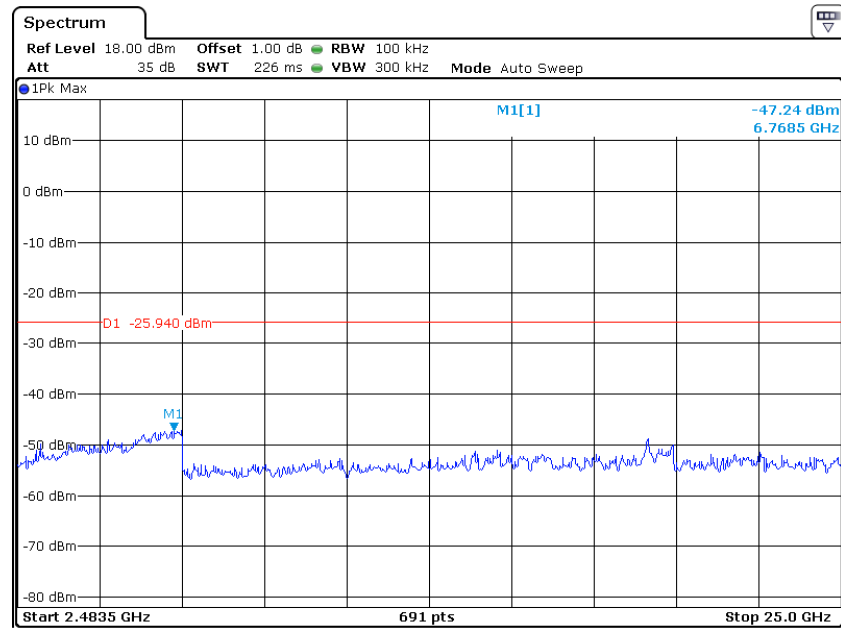
Refer to the attached test plot for out of band conducted emissions data.

The test plots showed all spurious emission and up to the tenth harmonic were measured and they were found to be at least 20 dB below the highest level of the desired power in the passband.

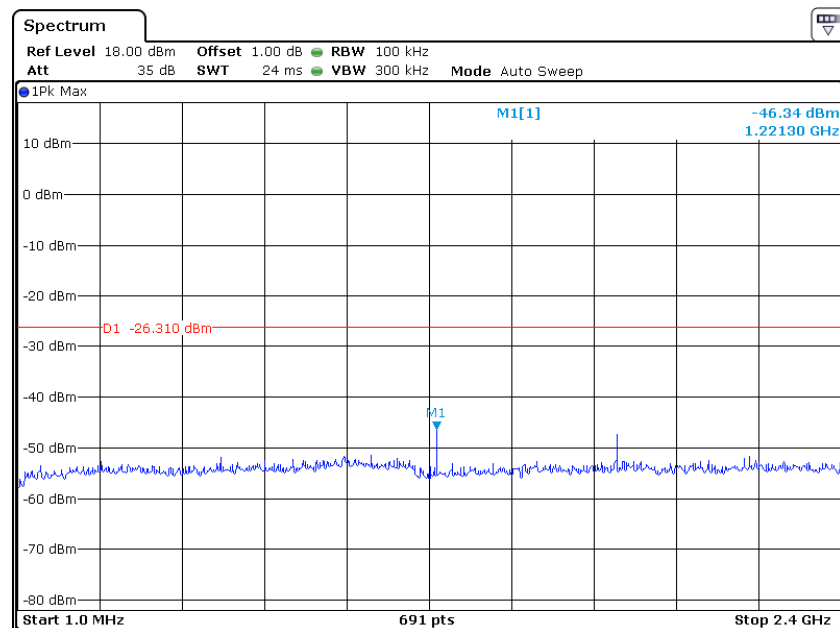
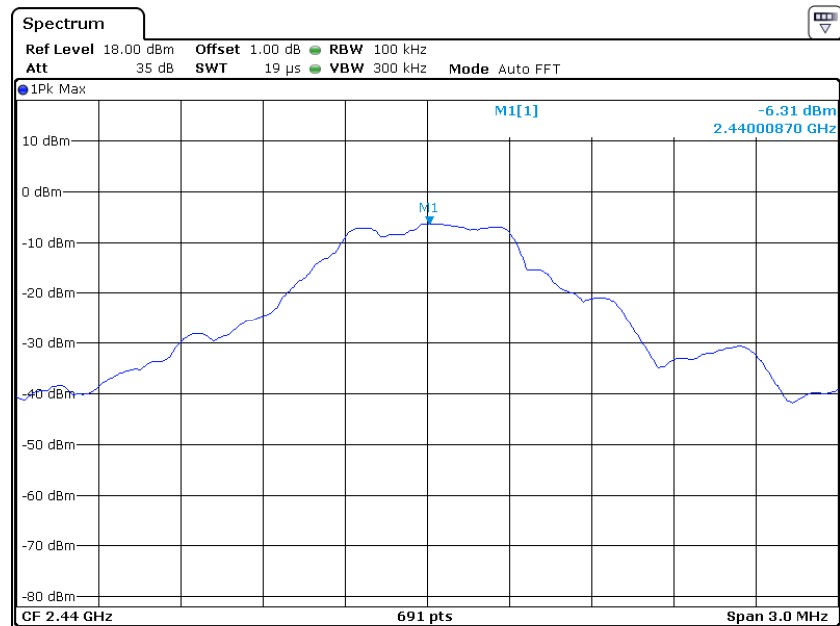
The test plots are attached as below.

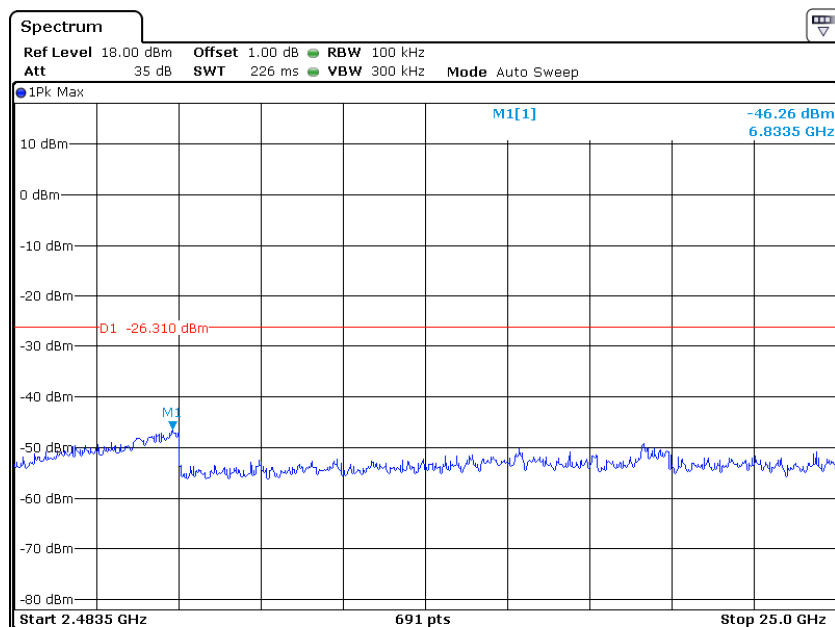
Low Channel Reference Level: -5.94dBm



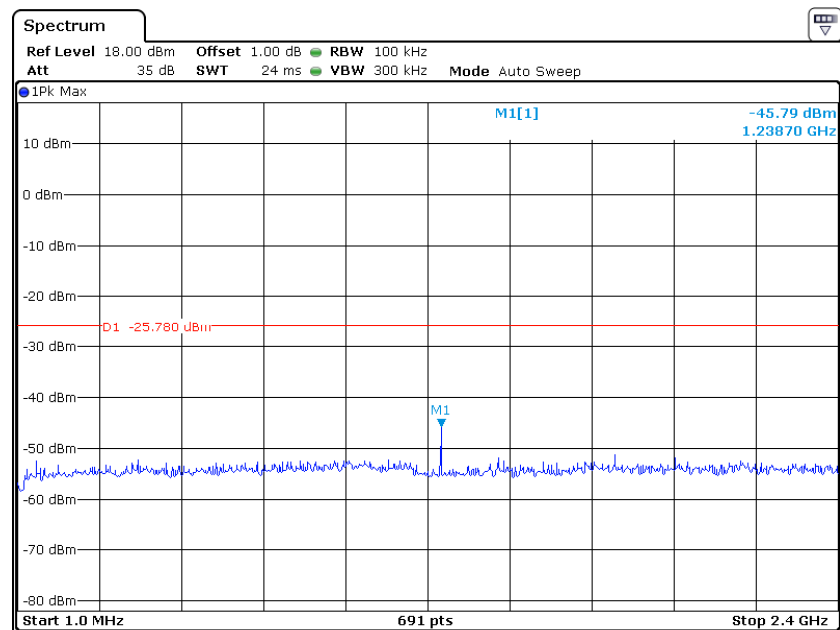
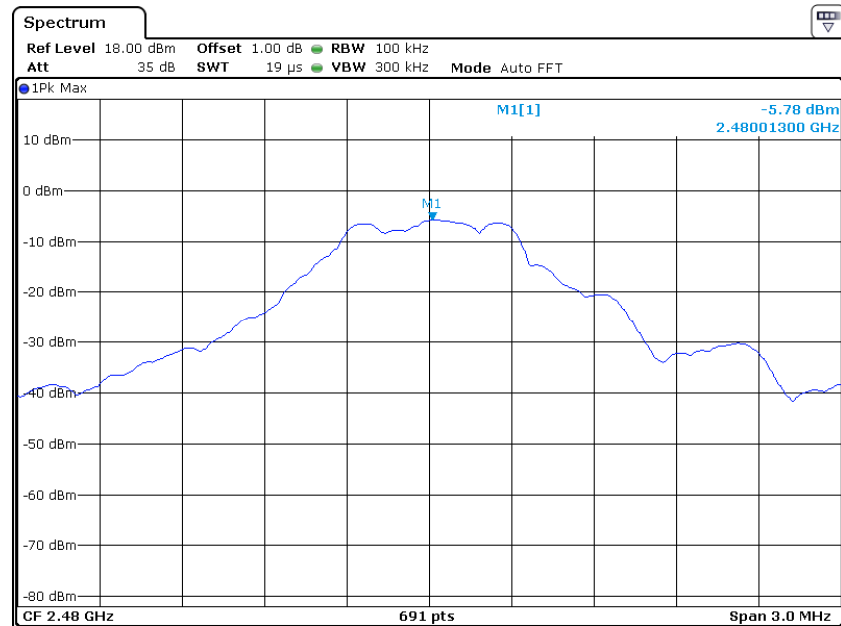


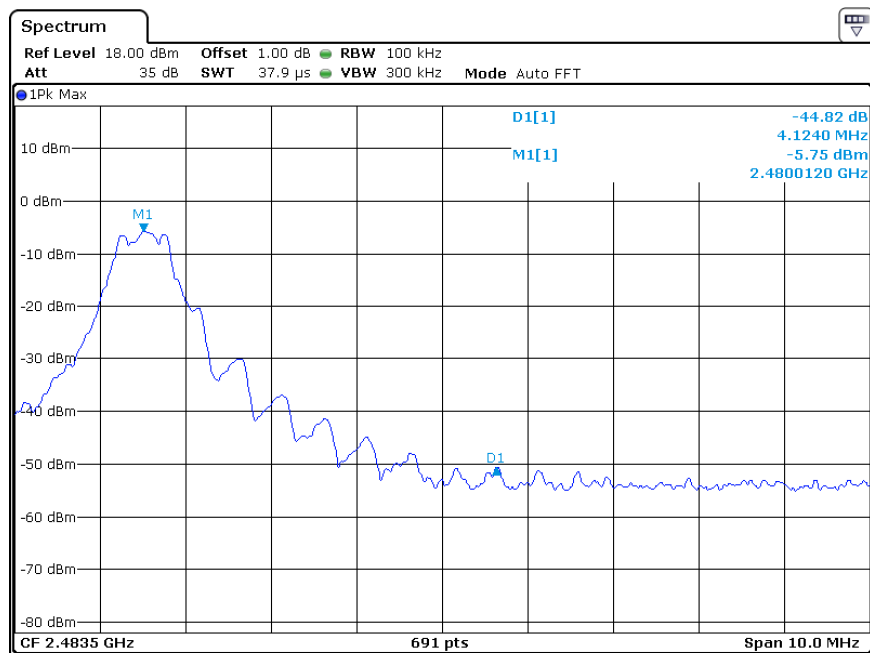
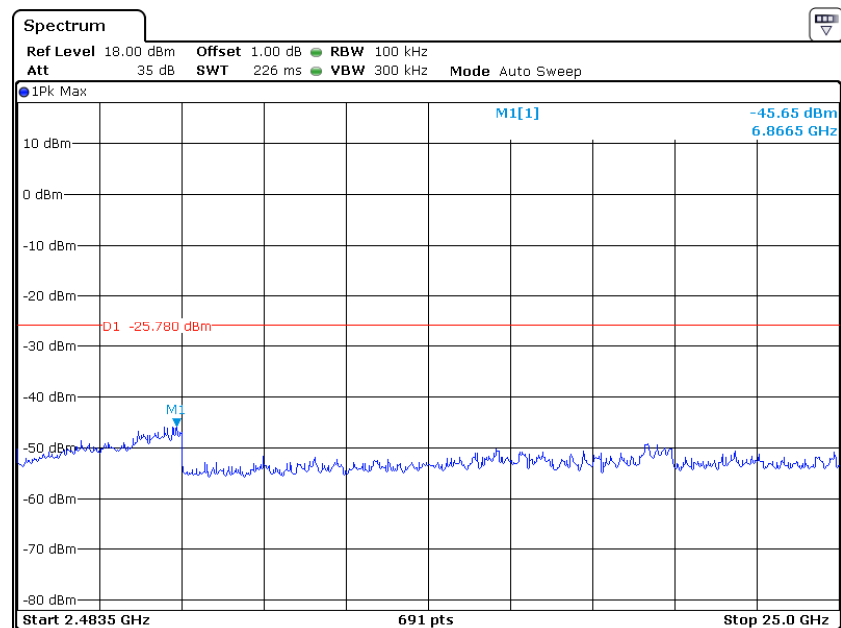
Middle Channel Reference Level: -6.31dBm





High Channel Reference Level: -5.78dBm





Applicant: Shenzhen DO Intelligent Technology Co., Ltd

Date of Test: November 08, 2017

Worst case Model: ID101HR

4.5 Out of Band Radiated Emissions (for emissions in 4.4 above that are less than 20dB below carrier), FCC Rule 15.247(d):

For out of band emissions that are close to or that exceed the 20dB attenuation requirement described in the specification, radiated measurements were performed at a 3m separation distance to determine whether these emissions complied with the general radiated emission requirement.

☒ Not required, since all emissions are more than 20dB below fundamental

☐ See attached data sheet

Applicant: Shenzhen DO Intelligent Technology Co., Ltd

Date of Test: November 08, 2017

Worst case Model: ID101HR

4.6 Transmitter Radiated Emissions in Restricted Bands, FCC Rule 15.35(b) (c):

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. All measurements were performed with peak detection unless otherwise specified.

The data on the following pages list the significant emission frequencies, the limit and the margin of compliance.

Applicant: Shenzhen DO Intelligent Technology Co., Ltd

Date of Test: November 08, 2017

Worst case Model: ID101HR

4.7 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.

$$FS = RA + AF + CF - AG + PD$$

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
- PD = Pulse Desensitization 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:

$$FS = RA + AF + CF - AG + PD$$

Example

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 pulse desensitization factor of the spectrum analyzer was 0 dB. 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.

$$\begin{aligned} RA &= 62.0 \text{ dB}\mu\text{V} \\ AF &= 7.4 \text{ dB} \\ CF &= 1.6 \text{ dB} \\ AG &= 29.0 \text{ dB} \\ PD &= 0 \text{ dB} \\ FS &= 62 + 7.4 + 1.6 - 29 + 0 = 42 \text{ dB}\mu\text{V/m} \end{aligned}$$

$$\text{Level in mV/m} = \text{Common Antilogarithm} [(42 \text{ dB}\mu\text{V/m})/20] = 125.9 \mu\text{V/m}$$

4.7.1 Radiated Emission Configuration Photograph

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

4.7.2 Radiated Emissions- FCC section 15.209

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
807.455 MHz

Judgement: Passed by 15.7 dB

TEST PERSONNEL:

Sign on file

Damon Wang, Engineer
Typed/Printed Name

November 08, 2017
Date

Applicant: Shenzhen DO Intelligent Technology Co., Ltd

Date of Test: November 08, 2017

Worst case Model: ID101HR

Worst Case Operating Mode: BT Link

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	31.455	24.0	20.0	17.4	21.4	40.0	-18.6
Horizontal	61.525	24.9	20.0	7.4	12.3	40.0	-27.7
Horizontal	807.455	26.9	20.0	23.4	30.3	46.0	-15.7
Vertical	50.855	30.5	20.0	8.2	18.7	40.0	-21.3
Vertical	160.950	24.8	20.0	10.2	15.0	43.5	-28.5
Vertical	714.335	26.5	20.0	22.8	29.3	46.0	-16.7

- NOTES:
1. Quasi-Peak detector is used for frequency below 1GHz.
 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.

4.7.3 Transmitter Spurious Emissions (Radiated) - FCC section 15.209

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 7320.000 MHz

Judgement: Passed by 11.7 dB

TEST PERSONNEL:

Sign on file

Damon Wang, Engineer
Typed/Printed Name

November 08, 2017
Date

Applicant: Shenzhen DO Intelligent Technology Co., Ltd

Date of Test: November 08, 2017

Worst case Model: ID101HR

Worst Case Operating Mode: TX-Channel 2402MHz

Radiated Emissions

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	*4804.000	56.4	36.1	34.2	54.5	74.0	-19.5
Horizontal	*2388.300	67.6	36.7	28.4	59.3	74.0	-14.7

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)
Horizontal	*4804.000	42.1	36.1	34.2	40.2	54.0	-13.8
Horizontal	*2388.300	48.0	36.7	28.4	39.7	54.0	-14.3

- NOTES: 1. Peak detector is used, RBW=1MHz/VBW=3MHz for peak value and RBW=1MHz/VBW=10Hz for average value.
2. All measurements were made at 3 meters. Radiated 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 radiated 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 used for the emission over 1000MHz.
- * Emission within the restricted band meets the requirement of section 15.205. The corresponding limit as per 15.209 is based on Quasi peak limit for frequencies below 1000 MHz and average limit for frequencies over 1000 MHz. The radio frequency emissions above 1GHz also meet corresponding 20dB permitted peak limit with a peak detector function.

Applicant: Shenzhen DO Intelligent Technology Co., Ltd

Date of Test: November 08, 2017

Worst case Model: ID101HR

Worst Case Operating Mode: TX-Channel 2440MHz

Radiated Emissions

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	*4880.000	56.7	36.7	34.6	54.6	74.0	-19.4
Horizontal	*7320.000	57.2	36.6	37.1	57.7	74.0	-16.3

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)
Horizontal	*4880.000	42.3	36.7	34.6	40.2	54.0	-13.8
Horizontal	*7320.000	41.8	36.6	37.1	42.3	54.0	-11.7

- NOTES: 1. Peak detector is used, RBW=1MHz/VBW=3MHz for peak value and RBW=1MHz / VBW=10Hz for average value.
2. All measurements were made at 3 meters. Radiated 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 radiated 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 used for the emission over 1000MHz.
- * Emission within the restricted band meets the requirement of section 15.205. The corresponding limit as per 15.209 is based on Quasi peak limit for frequencies below 1000 MHz and average limit for frequencies over 1000 MHz. The radio frequency emissions above 1GHz also meet corresponding 20dB permitted peak limit with a peak detector function.

Applicant: Shenzhen DO Intelligent Technology Co., Ltd

Date of Test: November 08, 2017

Worst case Model: ID101HR

Worst Case Operating Mode: TX-Channel 2480MHz

Radiated Emissions

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	*4960.000	56.5	36.8	34.6	54.3	74.0	-19.7
Horizontal	*7440.000	56.9	36.5	37.2	57.6	74.0	-16.4

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)
Horizontal	*4960.000	42.3	36.8	34.6	40.1	54.0	-13.9
Horizontal	*7440.000	41.6	36.5	37.2	42.3	54.0	-11.7

- NOTES: 1. Peak detector is used, RBW=1MHz/VBW=3MHz for peak value and RBW=1MHz / VBW=10Hz for average value.
2. All measurements were made at 3 meters. Radiated 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 radiated 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 used for the emission over 1000MHz.
- * Emission within the restricted band meets the requirement of section 15.205. The corresponding limit as per 15.209 is based on Quasi peak limit for frequencies below 1000 MHz and average limit for frequencies over 1000 MHz. The radio frequency emissions above 1GHz also meet corresponding 20dB permitted peak limit with a peak detector function.

Applicant: Shenzhen DO Intelligent Technology Co., Ltd

Date of Test: November 08, 2017

Model: ID101HR

4.8 Radiated Emissions from Digital Section of Transceiver, FCC Ref: 15.109

☐ Not required - No digital part

☐ Test results are attached

☒ Included in the separated report.

Applicant: Shenzhen DO Intelligent Technology Co., Ltd

Date of Test: November 08, 2017

Worst case Model: ID101HR

4.9 Transmitter Duty Cycle Calculation and Measurements, FCC Rule 15.35(b), (c)

The EUT antenna output port was connected to the input of the spectrum analyzer. The analyzer center frequency was set to EUT RF channel carrier. The SWEP function on the analyzer was set to ZERO SPAN. The Transmitter ON time was determined from the resultant time-amplitude display:

	See attached spectrum analyzer chart (s) for Transmitter timing
	See Transmitter timing diagram provided by manufacturer
x	Not applicable, duty cycle was not used.

EXHIBIT 5

EQUIPMENT PHOTOGRAPHS

5.0 Equipment Photographs

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

EXHIBIT 6

PRODUCT LABELLING

6.0 Product Labeling

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

EXHIBIT 7

TECHNICAL SPECIFICATIONS

7.0 Technical Specifications

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

EXHIBIT 8

INSTRUCTION MANUAL

8.0 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 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

MISCELLANEOUS INFORMATION

10.0 Discussion of Pulse Desensitization

The determination of pulse desensitivity was made in accordance with Hewlett Packard Application Note 150-2, *Spectrum Analysis ... Pulsed RF*.

Pulse desensitivity is not applicable for this device since the transmitter transmits the RF signal continuously.

EXHIBIT 11

TEST EQUIPMENT LIST

11.0 Test Equipment List

Equipment No.	Equipment	Manufacturer	Model No.	Serial No.	Cal. Date	Due Date
SZ061-12	BiConiLog Antenna	ETS	3142E	00166158	20-Sep-2017	20-Sep-2018
SZ185-01	EMI Receiver	R&S	ESCI	100547	09-Feb-2017	09-Feb-2018
SZ061-08	Horn Antenna	ETS	3115	00092346	20-Sep-2017	20-Sep-2018
SZ061-06	Active Loop Antenna	Electro-Metrics	EM-6876	217	26-May-2017	26-May-2018
SZ056-03	Spectrum Analyzer	R&S	FSP 30	101148	01-Jun-2017	01-Jun-2018
SZ056-06	Signal Analyzer	R&S	FSV 40	101101	07-Jul-2017	07-Jul-2018
SZ181-04	Preamplifier	Agilent	8449B	3008A02474	09-Feb-2017	09-Feb-2018
SZ188-01	Anechoic Chamber	ETS	RFD-F/A-100	4102	16-Jan-2017	16-Jan-2019
SZ062-02	RF Cable	RADIAL	RG 213U	--	16-Jun-2017	16-Jun-2018
SZ062-05	RF Cable	RADIAL	0.04-26.5GHz	--	16-Jun-2017	16-Jun-2018
SZ062-12	RF Cable	RADIAL	0.04-26.5GHz	--	16-Jun-2017	16-Jun-2018
SZ067-04	Notch Filter	Micro-Tronics	BRM50702-02	--	14-Jun-2017	14-Jun-2018