

# ROIDMI Information Technology Co.,Ltd.

# **TEST REPORT**

#### **SCOPE OF WORK**

FCC TESTING—SDJ01RM, SDJ01RMB, SDJ01RM\* (\* COULD BE 0-9 OR A-Z, INDICATE FOR DIFFERENT COLOR AND ACCESSORIES)

#### **REPORT NUMBER**

210906034SZN-003

ISSUE DATE [REVISED DATE]

01 November 2021 [-----]

#### **PAGES**

63

#### **DOCUMENT CONTROL NUMBER**

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Dropared and Chacked by

101, 201, Building B, No. 308 Wuhe Avenue, Zhangkengjing Community, GuanHu Subdistrict, LongHua District, Shenzhen, P.R. China.

Tel: (86 755) 8601 6288 Fax: (86 755) 8601 6751 www.intertek.com

Intertek Report No.: 210906034SZN-003

#### **ROIDMI Information Technology Co.,Ltd.**

Application For Certification

**FCC ID: 2AR98-SDJ01** 

### **Robot Vacuum and Mop Cleaner**

Model: SDJ01RM, SDJ01RMB, SDJ01RM\* (\* could be 0-9 or A-Z, indicate for different color and accessories)

Brand name: TOIDMI FOID

2.4GHz Wi-Fi Transceiver

Report No.: 210906034SZN-003

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 [10-1-20]

Approved by

Frepared and Checked by.	Approved by.
Ryan Chen	Peter Kang
Engineer	Sr. Technical Supervisor
	Date: 01 November 2021

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#### Intertek Testing Services Shenzhen Ltd. Longhua Branch

101, 201, Building B, No. 308 Wuhe Avenue, Zhangkengjing Community, GuanHu Subdistrict, LongHua District, Shenzhen, P.R. China. Tel: (86 755) 8601 6288 Fax: (86 755) 8601 6751

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## **MEASUREMENT/TECHNICAL REPORT**

This report concerns (check one)	Original Grant X Class II Change
Equipment Type: <u>DTS - Part 15 Digital T</u>	Fransmission Systems (Wi-Fi transmitter portion)
Deferred grant requested per 47 CFR C	D.457(d)(1)(ii)? Yes NoX
Company Name agrees to notify the Co	If yes, defer until: date
Company Name agrees to notify the Co	date
of the intended date of announcement that date.	nt of the product so that the grant can be issued on
Transition Rules Request per 15.37?	Yes NoX
If no, assumed Part 15, Subpart C for 20] Edition] provision.	or intentional radiator - the new 47 CFR [10-01-
Report prepared by:	
	Ryan Chen Intertek Testing Services Shenzhen Ltd. Longhua Branch 101, 201, Building B, No. 308 Wuhe Avenue,

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#### 1.0 Summary of Test results

Applicant: ROIDMI Information Technology Co.,Ltd.

Applicant Address: 4F, C8 BUILDING, NO.1699 HUISHAN ROAD, LIFE SCIENCE AND

TECHNOLOGY PARK, HUISHAN DISTRICT, WUXI, JIANGSU, PRC Manufacturer: Guangdong Joy Intelligent Technology Co., Ltd

Manufacturer Address: Room 1201, No. 58, Second Street, Mawu New Village, Changping

Town, Dongguan, Guangdong, China

Model: SDJ01RM FCC ID: 2AR98-SDJ01

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), 15.209, FCC 15.205	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.

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#### 2.0 General Description

#### 2.1 Product Description

The Equipment Under Test (EUT) is a Robot Vacuum and Mop Cleaner with Wi-Fi function operating at 2412-2462MHz. The EUT is powered by DC 14.4V rechargable battery. For more detailed features description, please refer to the user's manual.

Type of Modulation: BPSK, QPSK, 16QAM, 64QAM for OFDM; CCK, DQPSK, DBPSK for DSSS.

Antenna Type: Integral Antenna

Antenna Gain: 4.3dBi

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

The Model: SDJ01RMB, SDJ01RM\* (\* could be 0-9 or A-Z, indicate for different color and accessories) are the same as the Model: SDJ01RM in hardware aspect. The difference in model number serves as marketing strategy.

#### 2.2 Related Submittal(s) Grants

This is an application for certification of: DTS- Part 15 Digital Transmission Systems (2.4GHz Wi-Fi transmitter portion).

For other functions were reported in the SDOC report: 210906031SZN-001.

#### 2.3 Test Methodology

Both AC mains line-conducted and radiated emission measurements were performed according to the procedures in ANSI C63.10 (2013) and KDB 558074 D01 v05r02. 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.

#### 2.4 Test Facility

The Semi-anechoic chamber and shielded room used to collect the radiated data and conducted data are **Intertek Testing Services Shenzhen Ltd. Longhua Branch** and located at 101, 201, Building B, No. 308 Wuhe Avenue, Zhangkengjing 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.

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#### 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 DC 14.4V rechargable battery and charged by Dust Collector with AC 120V/60Hz input during the test.

On 802.11b/g/n-HT20/n-HT40 mode, only one antenna is used, and all data rate were tested and only the worst case data is shown in the report.

The transmitting equipment under test (EUT) is placed on a wooden table which is four feet in diameter, 12mm in height above the ground plane. 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.

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.

The EUT and transmitting antenna was centered on the turntable.

Radiated emission measurement was 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 radiated and conducted testing was designed to exercise the various system components in a manner similar to a typical use. The worst case configuration is used in all specified testing.

The parameters of test software setting:

During the test, Channel and power controlling software provided by the applicant was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the application and is going to be fixed on the firmware of the end product.

#### 3.3 Special Accessories

N/A.

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#### 3.4 Measurement Uncertainty

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

#### 3.5 Equipment Modification

Any modifications installed previous to testing by ROIDMI Information 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

Description	Manufacturer	Model No.
Dust Collector	ROIDMI	JCZ01RM
(Provided by Applicant)	וואוטוטוא	JCZOTKIVI

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Applicant: ROIDMI Information Technology Co.,Ltd.

Date of Test: 06 September 2021 Model: SDJ01RM

#### 4.0 Measurement Results

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

The antenna power of the EUT was connected to the input of a broadband peak RF power meter. The power meter has a video bandwidth that is greater than DTS bandwidth and utilize a fast-responding diode detector. Power was read directly at the EUT antenna terminals with cable loss added.

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

IEEE 802.11b (Antenna Gain = 4.3dBi) (CCK, 1Mbps)		
Frequency (MHz)	Output in dBm (Peak Reading) Output in mWatt	
Low Channel: 2412	17.1	40.74
Middle Channel: 2437 17.1		39.81
High Channel: 2462	17.0	38.9

IEEE 802.11g (Antenna Gain = 4.3dBi) (16QAM, 6Mbps)			
Frequency (MHz)	Output in dBm (Peak Reading) Output in mWatt		
Low Channel: 2412	21.2	208.93	
Middle Channel: 2437 21.3 213.8			
High Channel: 2462 21.2 208.93		208.93	

IEEE 802.11n-HT20 (Antenna Gain = 4.3dBi) (64QAM, 6Mbps)		
Frequency (MHz)	Output in dBm (Peak Reading) Output in mWat	
Low Channel: 2412	20.7	186.21
Middle Channel: 2437 20.6 181.97		181.97
High Channel: 2462 20.4 173.78		173.78

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IEEE 802.11HT40 (Antenna Gain = 4.3dBi) (64QAM, 13.5Mbps)		
Frequency (MHz)	ency (MHz)  Output in dBm (Peak reading)	
Low Channel: 2422	20.6	182.0
Middle Channel: 2437 20.5		177.8
High Channel: 2452 20.5 177.8		177.8

Cable loss: 1.0 dB External Attenuation: 0 dB

Cable loss, external attenuation has been included in OFFSET function

EUT max. output level = 21.3dBm

EUT max. E.I.R.P = 21.3dBm + 4.3dBi = 25.6dBm = 363.1mW

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

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Applicant: ROIDMI Information Technology Co.,Ltd.

Date of Test: 23 September 2021 Model: SDJ01RM

#### 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 RES BW was set to 100 KHz according to FCC KDB 558074 D01 v05r02. 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.

IEEE 802.11b (CCK, 1Mbps)		
Frequency (MHz)	6 dB Bandwidth (MHz)	
2412	10.080	
2437	10.080	
2462	10.080	

IEEE 802.11g (16QAM, 6Mbps)		
Frequency (MHz) 6 dB Bandwidth (MHz)		
2412	16.410	
2437	16.410	
2462	16.410	

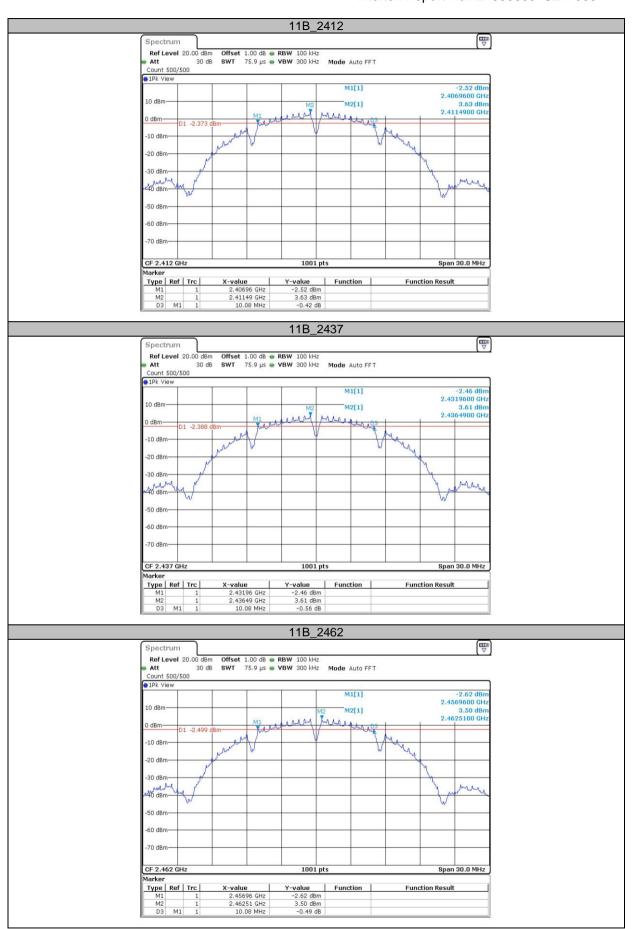
IEEE 802.11n-HT20 (64QAM, 6Mbps)		
Frequency (MHz) 6 dB Bandwidth (MHz)		
2412	17.760	
2437	17.670	
2462	17.670	

IEEE 802.11n-HT40 (64QAM, 6Mbps)		
Frequency (MHz)	6 dB Bandwidth (MHz)	
2422	35.820	
2437	35.220	
2452	35.280	

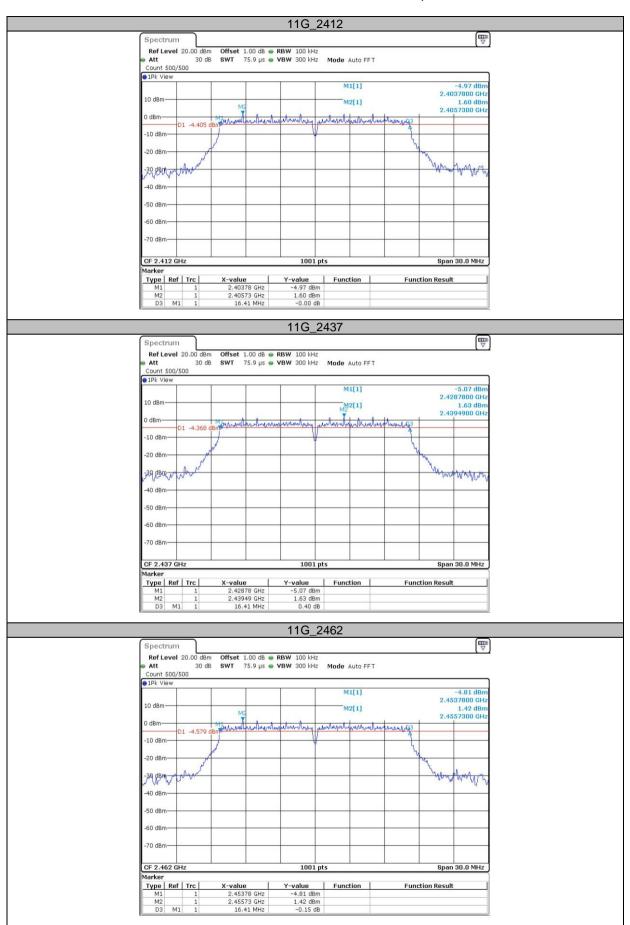
The test plots are attached as below.

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**TEST REPORT** Intertek Report No.: 210906034SZN-003 11N20 2412 Spectrum Ref Level 20.00 dBm Att Count 500/500 1Pk View M1[1] -6.19 dB 2.4030900 GHz -0.18 dBm 2.4169800 GHz 10 dBm-I manufactoristo manufacture partherinament requirement and D1 -6.181 -10 dBm--20 dBm Longraphin -50 dBm -70 dBm-CF 2.412 GHz 1001 pts Span 30.0 MHz Type | Ref | Trc | X-value 2.40309 GHz 2.41698 GHz 17.76 MHz Y-value -6.19 dBm -0.18 dBm -0.27 dB Function **Function Result** M2 D3 11N20 \_2437 Spectrum Count 500/500 1Pk View M1[1] 6.44 dBr 2.4281500 GHz 0.95 dBm 2.4419800 GHz 10 dBm M2[1] and marken hand water than D1 -5.046 demandant manual manual -10 dBm--20 dBm -40/de/n--50 dBm -70 dBm CF 2.437 GHz 1001 pts Span 30.0 MHz Y-value -6.44 dBm 0.95 dBm 0.38 dB Type | Ref | Trc | Function Function Result X-value 2,42815 GHz 2,44198 GHz 17,67 MHz М1 11N20\_2462 Spectrum att. Count 500/500 • 1Pk View M1[1] 6.65 dBn 2.4531500 GHz 0.00 dBm 2.4569600 GHz M2[1] The comment of many and an order of the comment of D1 -5.999 -10 dBm--20 dBm 40 GEMINA whenhy -50 dBm -70 dBm-CF 2.462 GHz 1001 pts Span 30.0 MHz

Y-value -6.65 dBm 0.00 dBm 0.53 dB

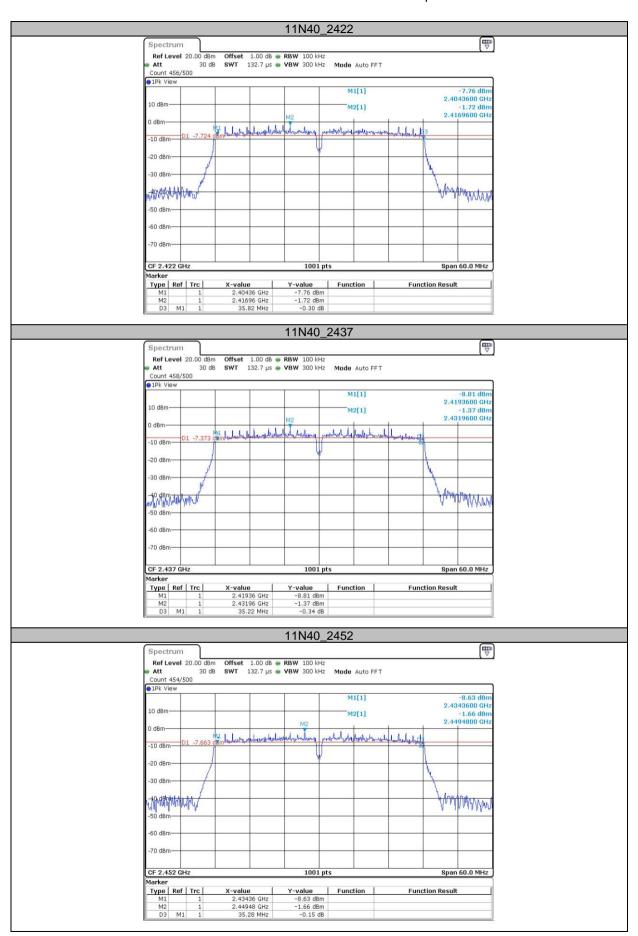
X-value 2.45315 GHz 2.45696 GHz 17.67 MHz Function

**Function Result** 

Type | Ref | Trc |

M1 M2 D3 M1







Applicant: ROIDMI Information Technology Co.,Ltd.

Date of Test: 23 September 2021 Model: SDJ01RM

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

The Measurement Procedure PKPSD was set according to the FCC KDB 558074 D01 v05r02.

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.

IEEE 802.11b (CCK, 1Mbps)		
Frequency (MHz)	Power Density with RBW 3KHz	
2412	-12.39	
2437	-12.39	
2462	-12.51	

IEEE 802.11g (16QAM, 6Mbps)		
Frequency (MHz)	Power Density with RBW 3KHz	
2412	-13.45	
2437	-13.05	
2462	-13.25	

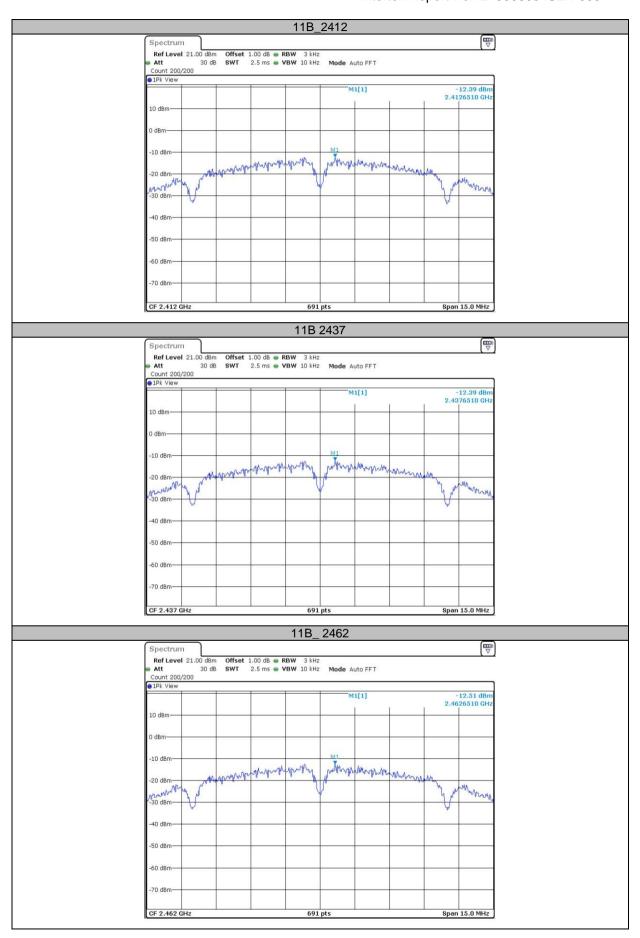
IEEE 802.11n-HT20 (64QAM, 6Mbps)		
Frequency (MHz)	Power Density with RBW 3KHz	
2412	-13.72	
2437	-12.91	
2462	-13.63	

IEEE 802.11n-HT40 (64QAM, 6Mbps)		
Frequency (MHz)	Power Density with RBW 3KHz	
2422	-17.42	
2437	-16.66	
2452	-16.75	

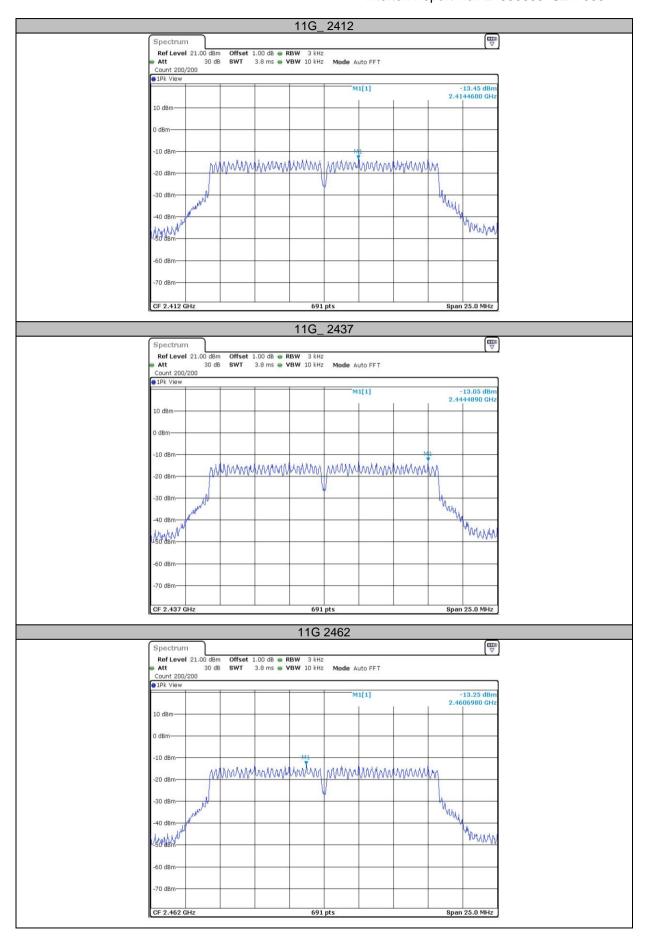
The test plots are attached as below.

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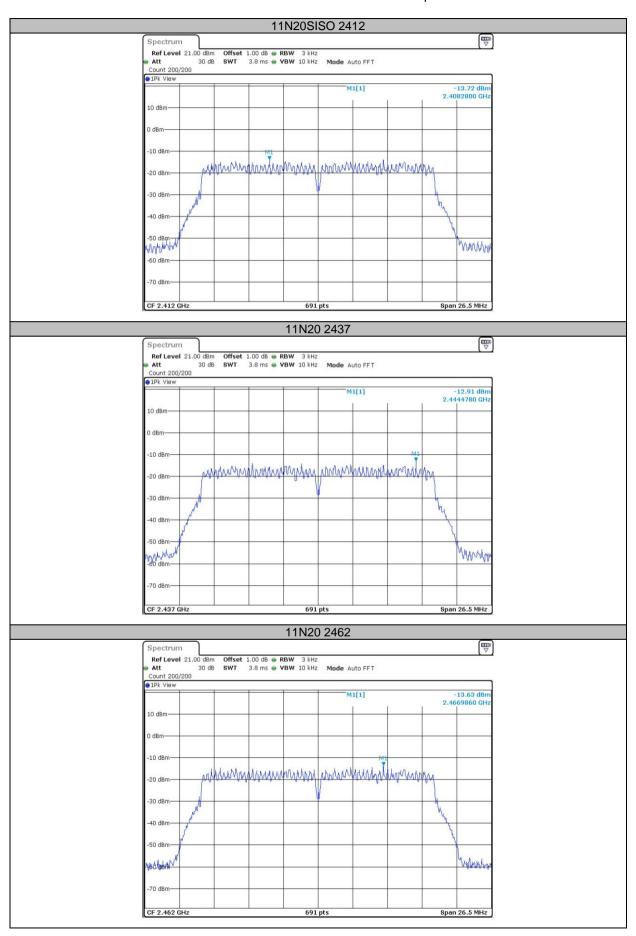




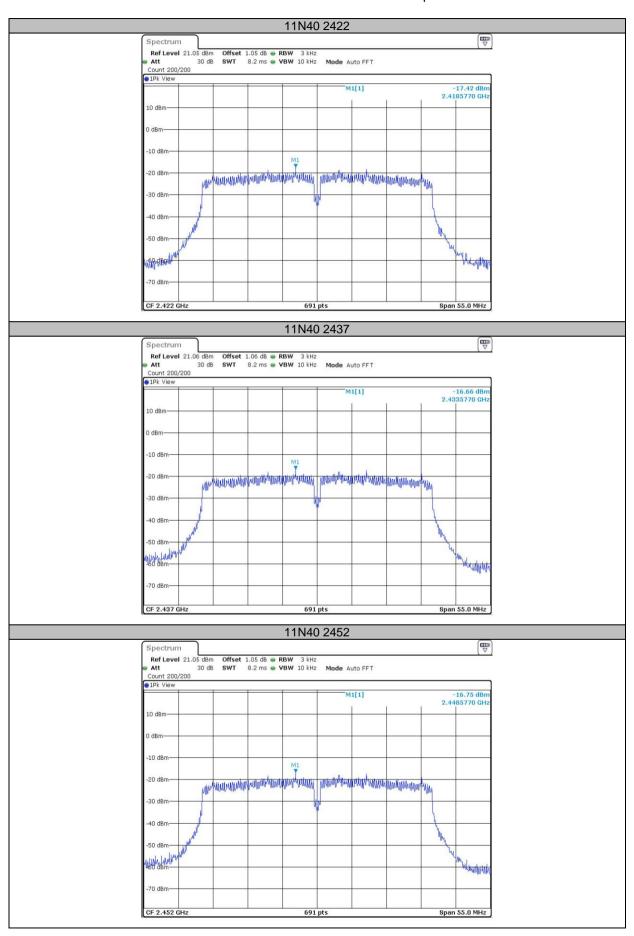














Applicant: ROIDMI Information Technology Co.,Ltd.

Date of Test: 23 September 2021 Model: SDJ01RM

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

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. The Measurement Procedure was set according to the FCC KDB 558074 D01 v05r02.

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

Refer to the attached test plots for out of band conducted emissions data with rate of 1Mbps for 802.11b and 6Mbps for 802.11g and 6Mbps for 802.11n-HT20 and 13.5Mbps for 802.11n-HT40.

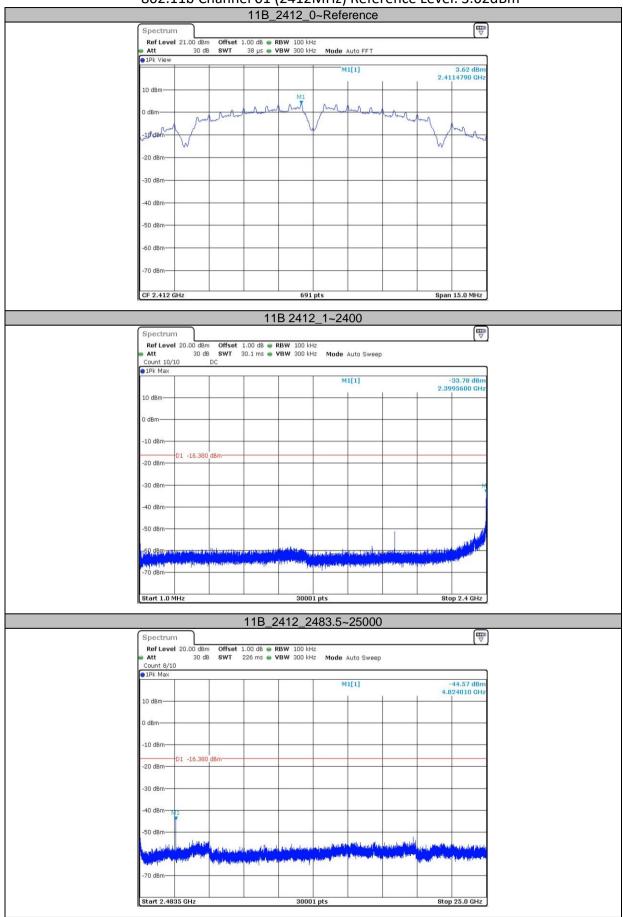
The test plots showed all spurious emission up to the tenth harmonic were measured and they were found to be at least 20 dB below the highest level of the desired power in the passband.

The test plots are attached as below.

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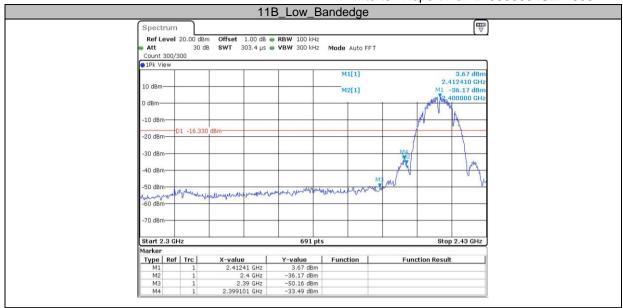


802.11b Channel 01 (2412MHz) Reference Level: 3.62dBm



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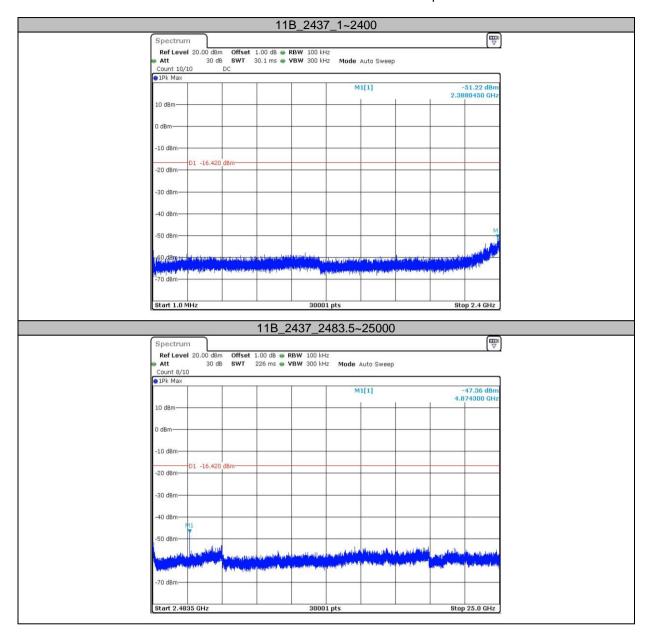


#### Channel 06 (2437MHz) Reference Level: 3.58dBm



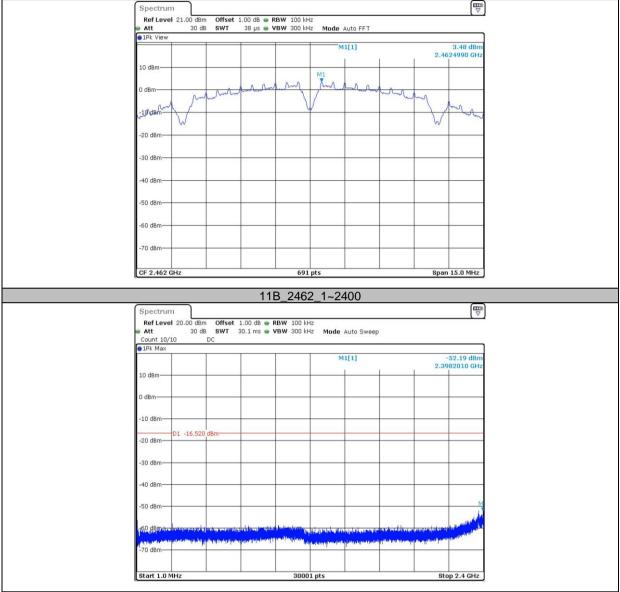
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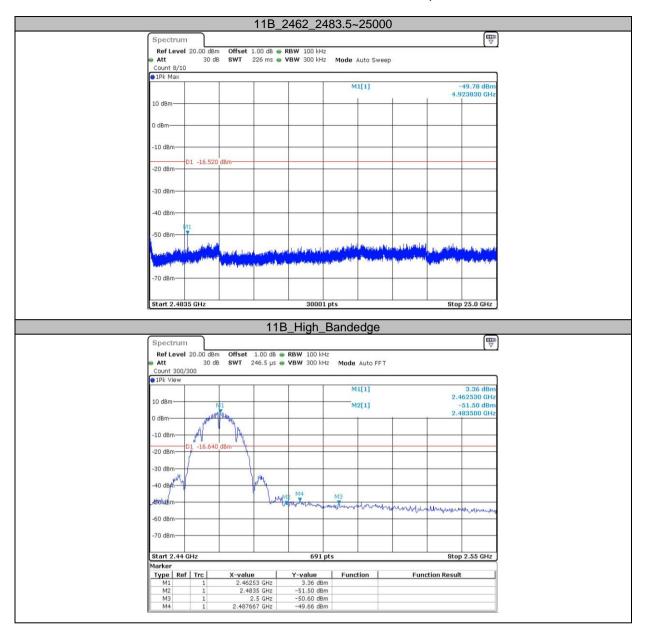


Channel 11 (2462MHz) Reference Level: 3.48dBm 11B 2462 0~Reference Spectrum Ref Level 21,00 dBm Offset
Att 30 dB SWT 



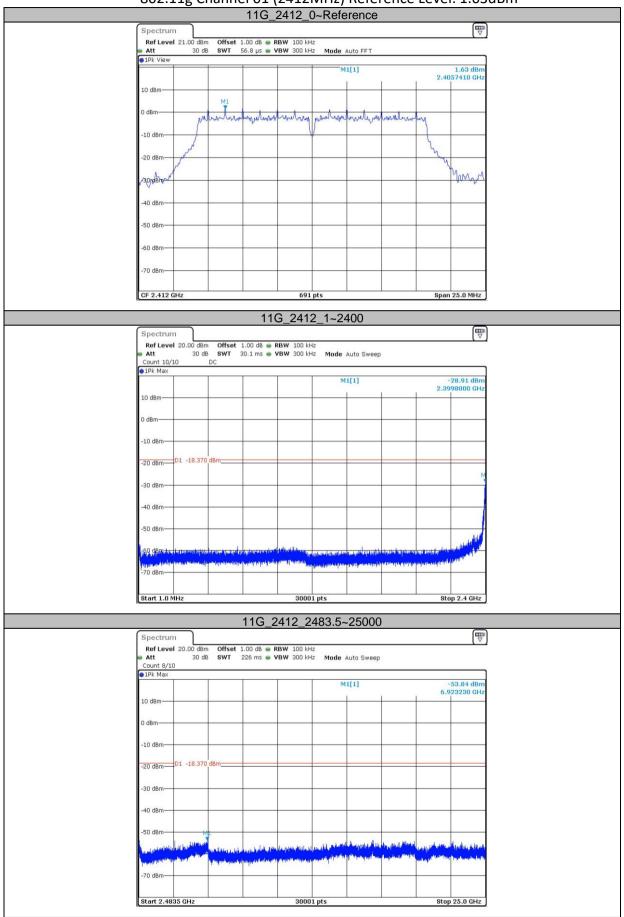
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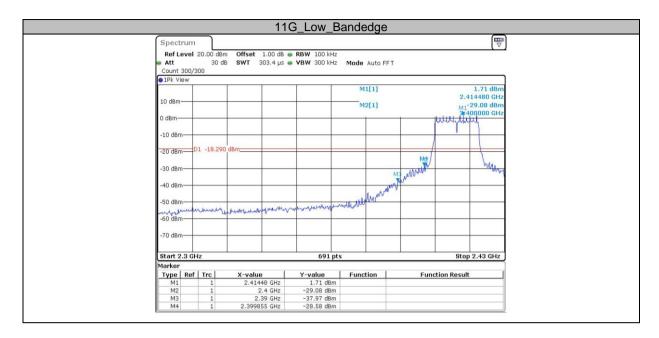


802.11g Channel 01 (2412MHz) Reference Level: 1.63dBm

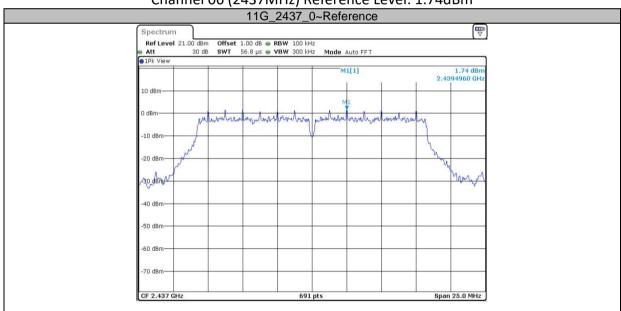


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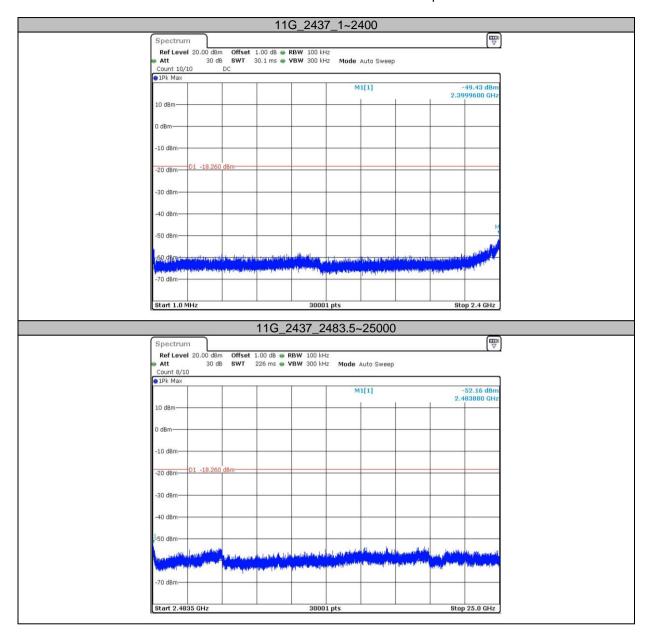




#### Channel 06 (2437MHz) Reference Level: 1.74dBm

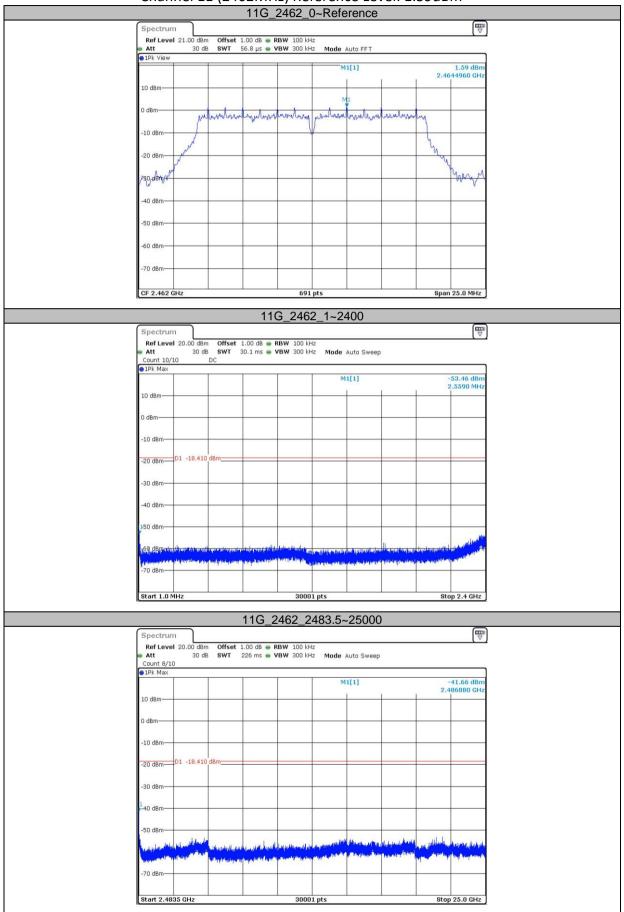






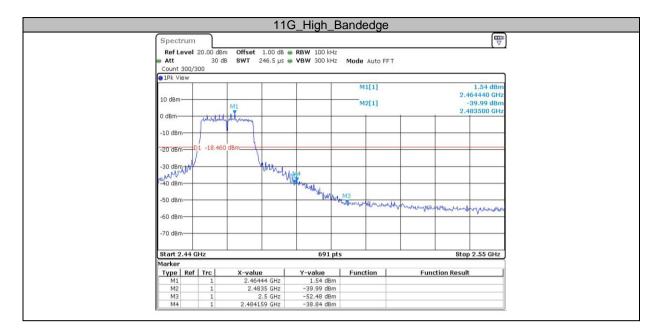


Channel 11 (2462MHz) Reference Level: 1.59dBm

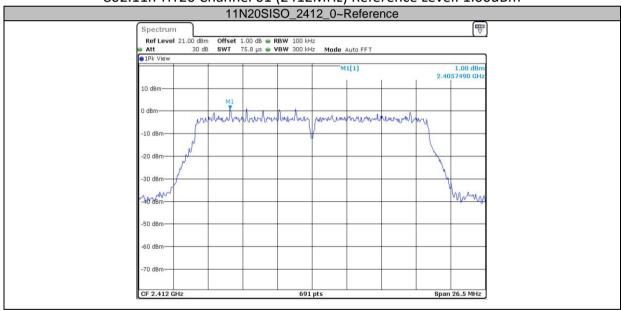


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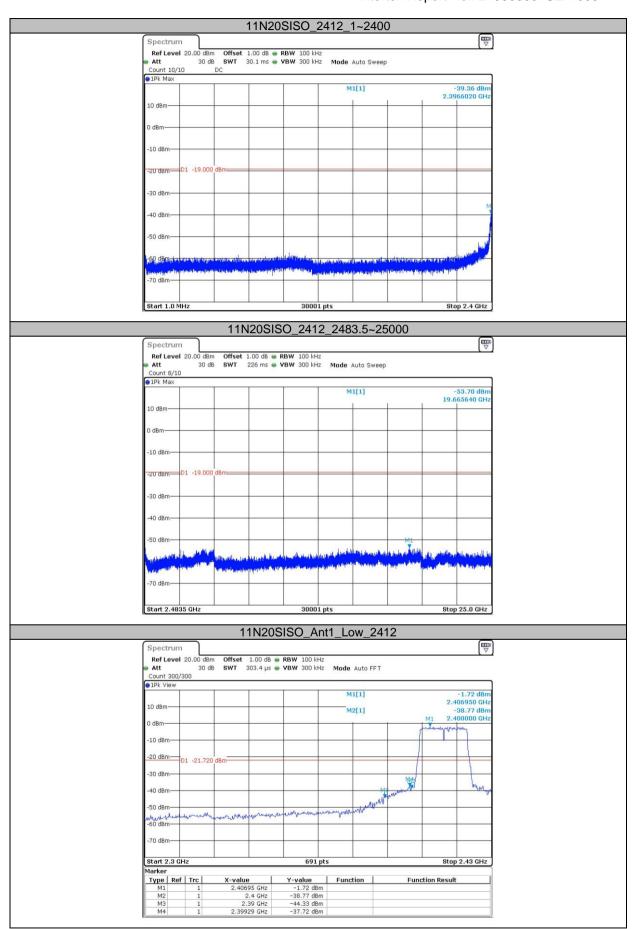


#### 802.11n-HT20 Channel 01 (2412MHz) Reference Level: 1.00dBm



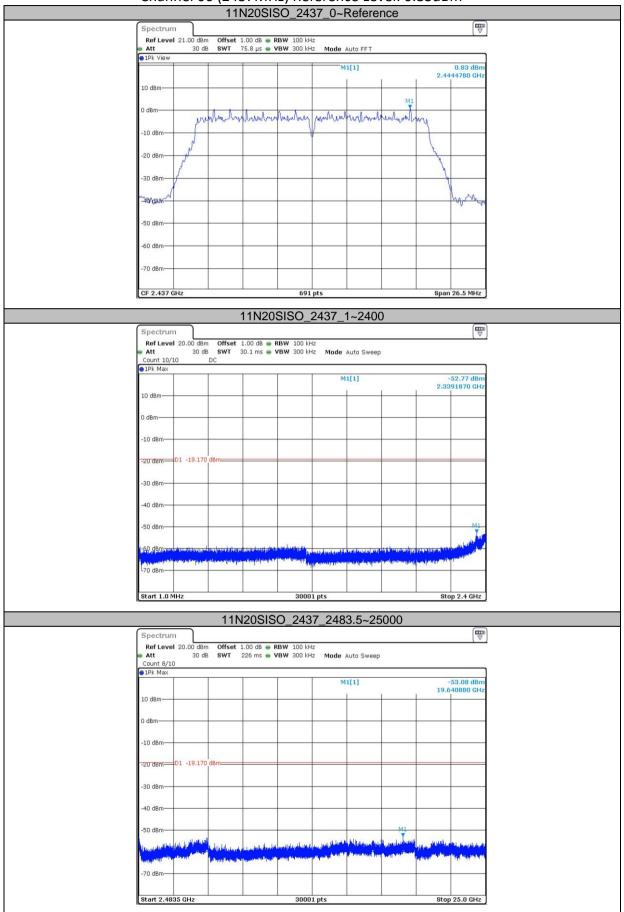
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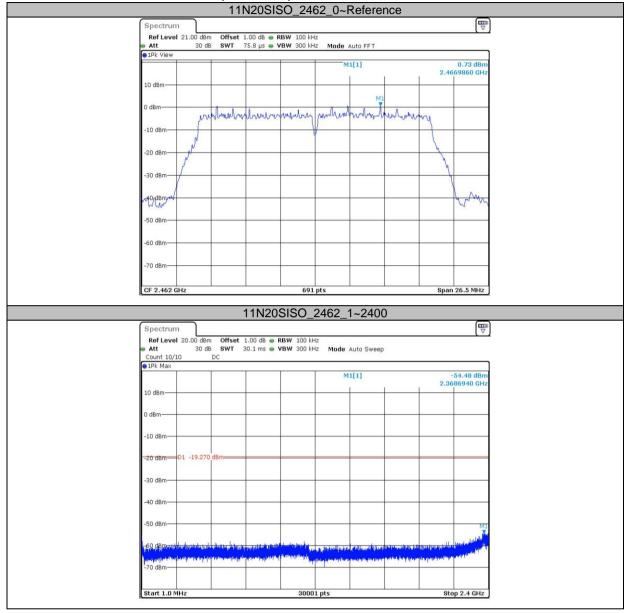
Channel 06 (2437MHz) Reference Level: 0.83dBm



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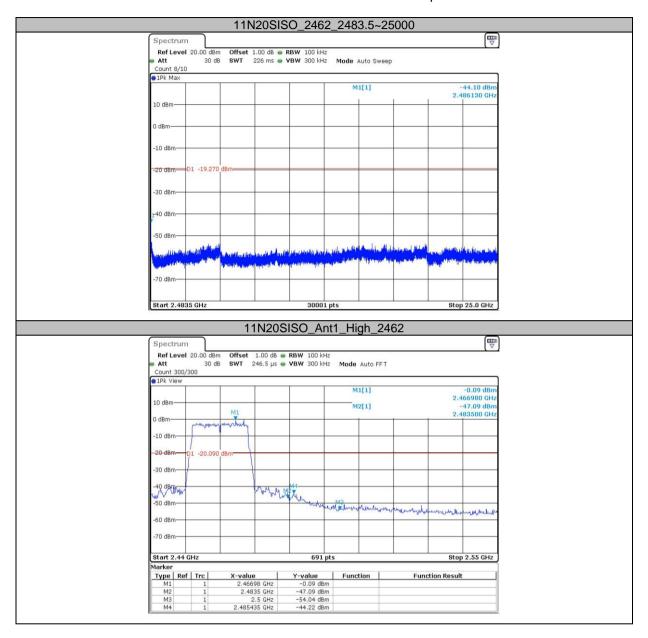


Channel 11 (2462MHz) Reference Level: 0.73dBm



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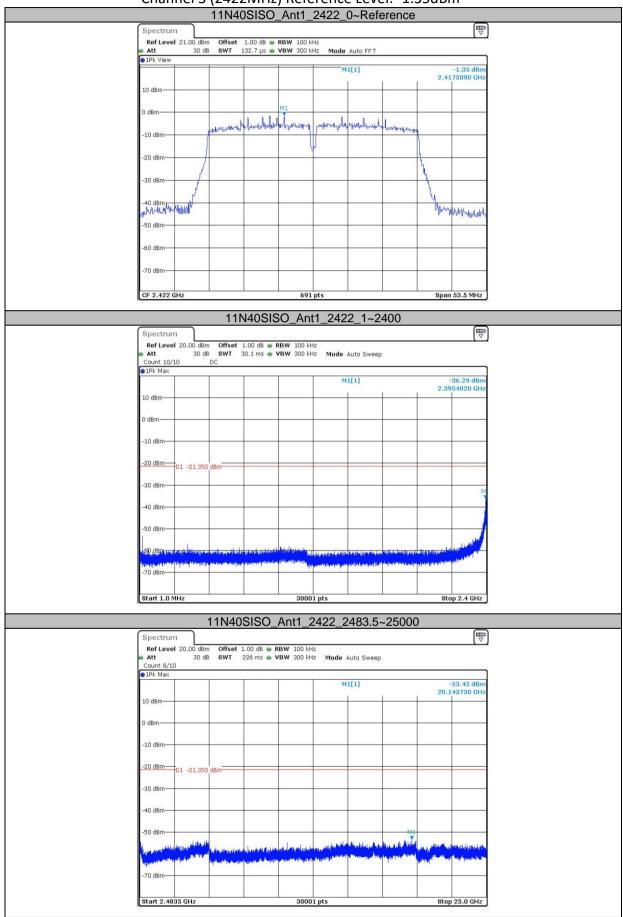




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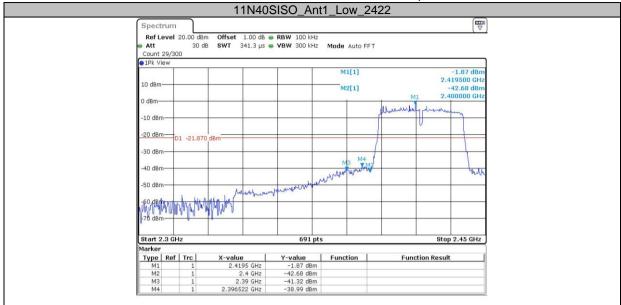


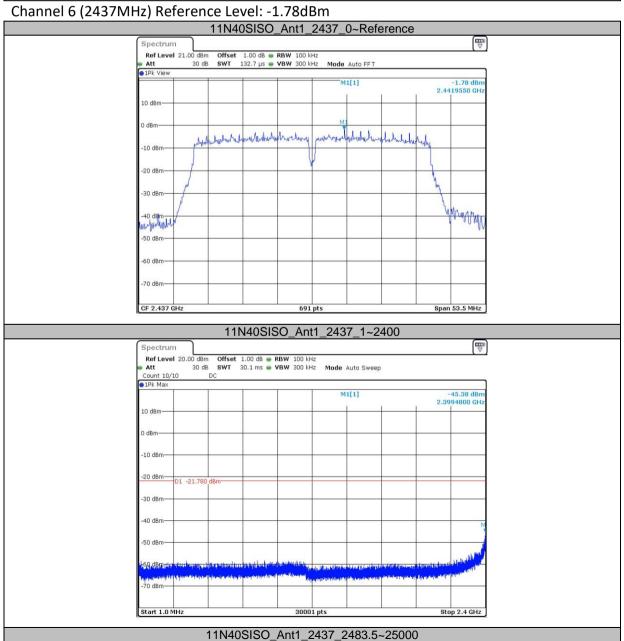
Channel 3 (2422MHz) Reference Level: -1.35dBm



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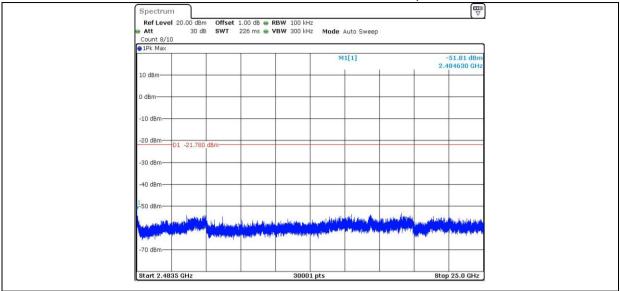


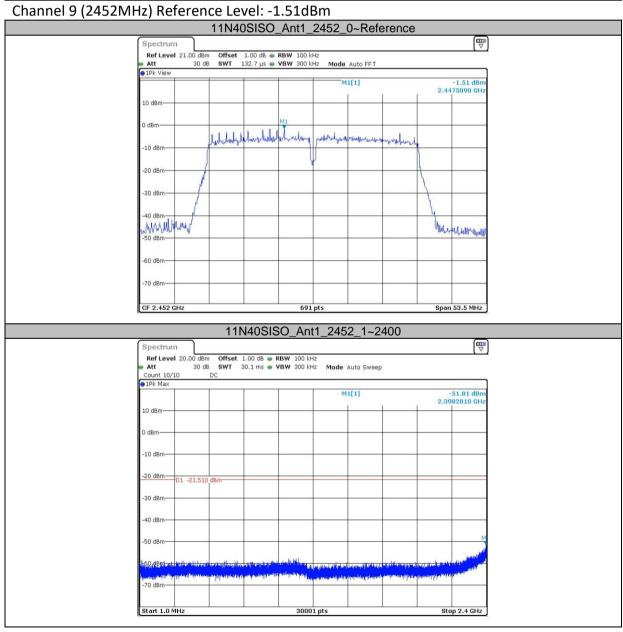




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**TEST REPORT** Intertek Report No.: 210906034SZN-003 11N40SISO\_Ant1\_2452\_2483.5~25000 Spectrum Count 8/10 -40.46 dBn 2.485380 GH M1[1] 10 dBm 0 dBm -20 dBm-D1 -21.510 dB -30 dBm -40 dBm -50 dBm-Start 2.4835 GHz Stop 25.0 GHz 11N40SISO\_Ant1\_High\_2452 Spectrum Count 31/300 1Pk View M1[1] -3.12 dBn -3.12 dBm 2.463180 GHz -44.58 dBm 2.483500 GHz 10 dBm M2[1] on monthly 0 dBm -10 dBm--20 dBm-D1 -23.120 -30 dBm Wary Hally Comment -40 dBm-M3 Tribbahua the world was bound was an -70 dBm 691 pts Stop 2.55 GHz Start 2.42 GHz

> Y-value -3.12 dBm -44.58 dBm -51.27 dBm -39.19 dBm

Function

**Function Result** 

X-value 2.46318 GHz 2.4835 GHz 2.5 GHz 2.485377 GHz

Type | Ref | Trc |

M1 M2 M3 M4

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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.

 $[\times]$  Not required, since all emissions are more than 20dB below fundamental  $[\ ]$  See attached data sheet

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Date of Test: 23 September 2021 Model: SDJ01RM

## 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.

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Date of Test: 23 September 2021 Model: SDJ01RM

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

RA = Receiver Amplitude (including preamplifier) in dBμV

CF = Cable Attenuation Factor in dB

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

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 dB $\mu$ V 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 dB $\mu$ V/m. This value in dB $\mu$ V/m was converted to its corresponding level in  $\mu$ V/m.

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

PD = 0 dB

 $FS = 62 + 7.4 + 1.6 - 29 + 0 = 42 \, dB\mu V/m$ 

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

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## 4.8 Radiated Spurious Emission

Worst Case Radiated Spurious Emission at 7311.0MHz is passed by 6.8dB margin.

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

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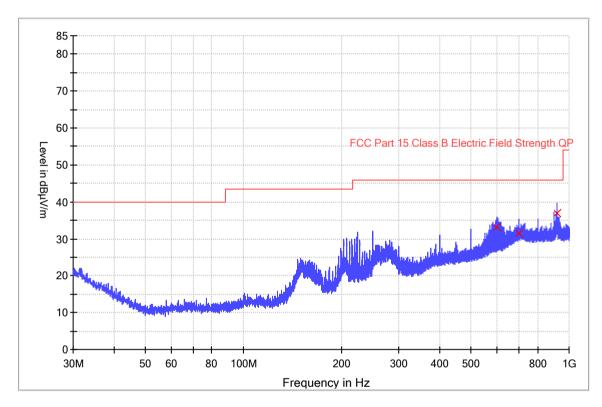
Applicant: ROIDMI Information Technology Co.,Ltd.

Date of Test: 23 September 2021 Model: SDJ01RM

Worst Case Operating Mode: Transmitting (802.11b-Channel 01)

**ANT Polarity: Horizontal** 

FCC Part 15



Frequency (MHz)	QuasiPeak (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Polarization	Corr. (dB)	Margin - QPK (dB)	Limit - QPK (dBuV/m)
598.452333	33.2	1000.0	120.000	Н	28.5	12.8	46.0
700.916667	31.4	1000.0	120.000	Н	32.0	14.6	46.0
919.490000	37.0	1000.0	120.000	Н	32.0	9.0	46.0

#### Remark:

- 1. Corr. = Antenna Factor (dB/m) + Cable Loss (dB)
- 2. QuasiPeak (dBμV/m)= Corr. (dB/m)+ Read Level (dBμV)
- 3. Margin (dB) = Limit Line(dB $\mu$ V/m) Level (dB $\mu$ V/m)

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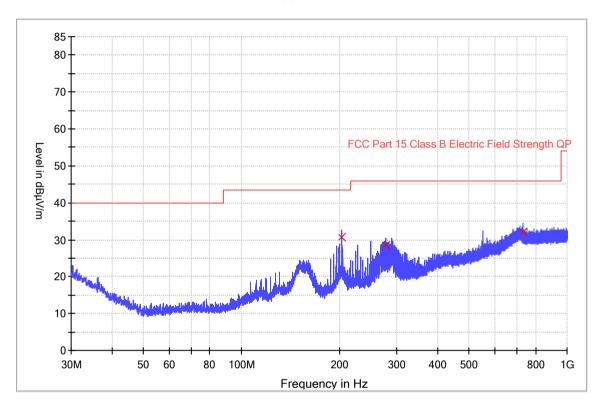
Applicant: ROIDMI Information Technology Co.,Ltd.

Date of Test: 23 September 2021 Model: SDJ01RM

Worst Case Operating Mode: Transmitting (802.11b-Channel 01)

**ANT Polarity: Vertical** 

FCC Part 15



Frequency (MHz)	QuasiPeak (dBuV/m)	Meas. Time (ms)	Bandwidth (kHz)	Polarization	Corr. (dB)	Margin - QPK (dB)	Limit - QPK (dBuV/m)
203.662333	30.7	1000.0	120.000	V	19.6	12.8	43.5
277.641000	28.7	1000.0	120.000	V	20.1	17.4	46.0
729.919667	32.2	1000.0	120.000	V	32.0	13.8	46.0

#### Remark:

- 1. Corr. = Antenna Factor (dB/m) + Cable Loss (dB)
- 2. QuasiPeak ( $dB\mu V/m$ )= Corr. (dB/m)+ Read Level ( $dB\mu V$ )
- 3. Margin (dB) = Limit Line(dB $\mu$ V/m) Level (dB $\mu$ V/m)

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Applicant: ROIDMI Information Technology Co.,Ltd.

Date of Test: 23 September 2021 Model: SDJ01RM

Worst Case Operating Mode: Transmitting (802.11b-Channel 01)

## Radiated Emissions (above 1GHz)

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	*4824.000	50.5	36.8	33.5	47.2	74.0	-26.8
Horizontal	*2390.000	52.1	36.4	29.1	44.8	74.0	-29.2

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	*4824.000	42.6	36.8	33.5	39.3	54.0	-14.7
Horizontal	*2390.000	43.7	36.4	29.1	36.4	54.0	-17.6

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.

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Applicant: ROIDMI Information Technology Co.,Ltd.

Date of Test: 23 September 2021 Model: SDJ01RM

Worst Case Operating Mode: Transmitting (802.11b-Channel 06)

## Radiated Emissions (above 1GHz)

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	*4874.000	50.6	36.7	33.4	47.3	74.0	-26.7
Horizontal	*7311.000	51.8	36.6	35.8	51.0	74.0	-23.0

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	*4874.000	47.6	36.7	33.4	44.3	54.0	-9.7
Horizontal	*7311.000	42.5	36.6	35.8	41.7	54.0	-12.3

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.

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Applicant: ROIDMI Information Technology Co.,Ltd.

Date of Test: 23 September 2021 Model: SDJ01RM

Worst Case Operating Mode: Transmitting (802.11b-Channel 11)

## Radiated Emissions (above 1GHz)

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	*4924.000	53.8	36.8	33.3	50.3	74.0	-23.7
Horizontal	*7386.000	61.9	36.5	29.3	54.7	74.0	-19.3

Polarization	Frequency (MHz)	Reading (dBµV)	Pre- Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Average Limit at 3m (dBuV/m)	Margin (dB)
Horizontal	*4924.000	46.7	36.8	33.3	43.2	54.0	-10.8
Horizontal	*7386.000	53.9	36.5	29.3	46.7	54.0	-7.3

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.

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Applicant: ROIDMI Information Technology Co.,Ltd.

Date of Test: 23 September 2021 Model: SDJ01RM

Worst Case Operating Mode: Transmitting (802.11g-Channel 01)

## Radiated Emissions (above 1GHz)

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	*4824.000	56.6	36.8	33.5	53.3	74.0	-20.7
Horizontal	*2390.000	52.0	36.4	29.1	44.7	74.0	-29.3

Polarization	Frequency (MHz)	Reading (dВµV)	Pre- Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBμV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
Horizontal	*4824.000	47.6	36.8	33.5	44.3	54.0	-9.7
Horizontal	*2390.000	47.5	36.4	29.1	40.2	54.0	-13.8

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.

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Applicant: ROIDMI Information Technology Co.,Ltd.

Date of Test: 23 September 2021 Model: SDJ01RM

Worst Case Operating Mode: Transmitting (802.11g-Channel 06)

## Radiated Emissions (above 1GHz)

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	*4874.000	53.6	36.7	33.4	50.3	74.0	-23.7
Horizontal	*7311.000	52.9	36.6	35.8	52.1	74.0	-21.9

Polarization	Frequency (MHz)	Reading (dВµV)	Pre- Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBμV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
Horizontal	*4874.000	48.6	36.7	33.4	45.3	54.0	-8.7
Horizontal	*7311.000	47.9	36.6	35.8	47.1	54.0	-6.9

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.

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Applicant: ROIDMI Information Technology Co.,Ltd.

Date of Test: 23 September 2021 Model: SDJ01RM

Worst Case Operating Mode: Transmitting (802.11g-Channel 11)

## Radiated Emissions (above 1GHz)

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	*4924.000	54.1	36.8	33.3	50.6	74.0	-23.4
Horizontal	*7386.000	60.8	36.5	29.3	53.6	74.0	-20.4

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	*4924.000	46.9	36.8	33.3	43.4	54.0	-10.6
Horizontal	*7386.000	52.3	36.5	29.3	45.1	54.0	-8.9

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.

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Applicant: ROIDMI Information Technology Co.,Ltd.

Date of Test: 23 September 2021 Model: SDJ01RM

Worst Case Operating Mode: Transmitting (802.11n20-Channel 01)

## Radiated Emissions (above 1GHz)

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	*4824.000	51.6	36.8	33.5	48.3	74.0	-25.7
Horizontal	*2390.000	51.6	36.4	29.1	44.3	74.0	-29.7

Polarization	Frequency (MHz)	Reading (dВµV)	Pre- Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBμV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
Horizontal	*4824.000	46.7	36.8	33.5	43.4	54.0	-10.6
Horizontal	*2390.000	49.6	36.4	29.1	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.

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Applicant: ROIDMI Information Technology Co.,Ltd.

Date of Test: 23 September 2021 Model: SDJ01RM

Worst Case Operating Mode: Transmitting (802.11n20-Channel 06)

## Radiated Emissions (above 1GHz)

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	*4874.000	50.9	36.7	33.4	47.6	74.0	-26.4
Horizontal	*7311.000	50.3	36.6	35.8	49.5	74.0	-24.5

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)
Horizontal	*4874.000	45.4	36.7	33.4	42.1	54.0	-11.9
Horizontal	*7311.000	46.1	36.6	35.8	45.3	54.0	-8.7

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.

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Applicant: ROIDMI Information Technology Co.,Ltd.

Date of Test: 23 September 2021 Model: SDJ01RM

Worst Case Operating Mode: Transmitting (802.11n20-Channel 11)

## Radiated Emissions (above 1GHz)

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	*4924.000	53.0	36.8	33.3	49.5	74.0	-24.5
Horizontal	*7386.000	59.3	36.5	29.3	52.1	74.0	-21.9

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	*4924.000	48.0	36.8	33.3	44.5	54.0	-9.5
Horizontal	*7386.000	54.3	36.5	29.3	47.1	54.0	-6.9

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.

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Applicant: ROIDMI Information Technology Co.,Ltd.

Date of Test: 23 September 2021 Model: SDJ01RM

Worst Case Operating Mode: Transmitting (802.11n40-Channel 03)

## Radiated Emissions (above 1GHz)

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	*4844.000	52.7	36.8	33.5	49.4	74.0	-24.6
Horizontal	*2390.000	48.5	36.4	29.1	41.2	74.0	-32.8

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)
Horizontal	*4844.000	47.6	36.8	33.5	44.3	54.0	-9.7
Horizontal	*2390.000	46.0	36.4	29.1	38.7	54.0	-15.3

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.

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Applicant: ROIDMI Information Technology Co.,Ltd.

Date of Test: 23 September 2021 Model: SDJ01RM

Worst Case Operating Mode: Transmitting (802.11n20-Channel 06)

## Radiated Emissions (above 1GHz)

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	*4874.000	49.7	36.7	33.4	46.4	74.0	-27.6
Horizontal	*7311.000	52.9	36.6	35.8	52.1	74.0	-21.9

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	*4874.000	46.5	36.7	33.4	43.2	54.0	-10.8
Horizontal	*7311.000	48.0	36.6	35.8	47.2	54.0	-6.8

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.

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Applicant: ROIDMI Information Technology Co.,Ltd.

Date of Test: 23 September 2021 Model: SDJ01RM

Worst Case Operating Mode: Transmitting (802.11n40-Channel 9)

## Radiated Emissions (above 1GHz)

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	*4904.000	50.6	36.8	33.3	47.1	74.0	-26.9
Horizontal	*7356.000	57.5	36.5	29.3	50.3	74.0	-23.7

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	*4904.000	45.8	36.8	33.3	42.3	54.0	-11.7
Horizontal	*7356.000	51.8	36.5	29.3	44.6	54.0	-9.4

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.

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Applicant: ROIDMI Information Technology Co.,Ltd.

Date of Test: 21 September 2021

Model: SDJ01RM

## 4.9 Conducted Emission

Worst Case Conducted Emission at 0.306000MHz is passed by 10.8dB margin.

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

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Applicant: ROIDMI Information Technology Co.,Ltd.

Date of Test: 21 September 2021

Model: SDJ01RM

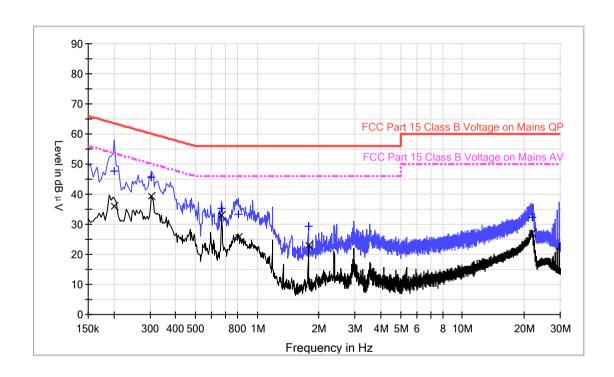
Worst Case Operating Mode: Transmitting (802.11b-Channel 01)

Phase: Live

Worst-case testing voltage: 120V/60Hz

## **Graphic / Data Table**

# Conducted Emissions Pursuant to FCC 15.207: Emissions Requirement



## **Limit and Margin QP**

	_					
Frequency	QuasiPeak	Bandwidth	Line	Corr.	Margin	Limit
(MHz)	(dBuV)	(kHz)		(dB)	(dB)	(dBuV)
0.202000	47.7	9.000	L1	9.6	15.8	63.5
0.306000	45.6	9.000	L1	9.6	14.5	60.1
0.670000	35.2	9.000	L1	9.6	20.8	56.0
0.810000	33.4	9.000	L1	9.6	22.6	56.0
1.778000	29.3	9.000	L1	9.6	26.7	56.0
21.810000	32.3	9.000	L1	10.7	27.7	60.0

## **Limit and Margin AV**

Frequency	Average	Bandwidth	Line	Corr.	Margin	Limit
(MHz)	(dBuV)	(kHz)		(dB)	(dB)	(dBuV)
0.202000	35.9	9.000	L1	9.6	17.6	53.5
0.306000	39.2	9.000	L1	9.6	10.9	50.1
0.670000	32.9	9.000	L1	9.6	13.1	46.0
0.810000	25.6	9.000	L1	9.6	20.4	46.0
1.778000	22.9	9.000	L1	9.6	23.1	46.0
21.810000	27.0	9.000	L1	10.7	23.0	50.0

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Applicant: ROIDMI Information Technology Co.,Ltd.

Date of Test: 21 September 2021

Model: SDJ01RM

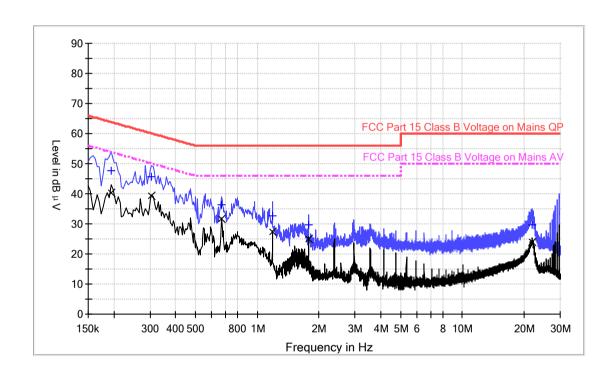
Worst Case Operating Mode: Transmitting (802.11b-Channel 01)

Phase: Neutral

Worst-case testing voltage: 120V/60Hz

# **Graphic / Data Table**

# Conducted Emissions Pursuant to FCC 15.207: Emissions Requirement



# **Limit and Margin QP**

Frequency	QuasiPeak	Bandwidth	Line	Corr.	Margin	Limit
(MHz)	(dBuV)	(kHz)		(dB)	(dB)	(dBuV)
0.194000	47.6	9.000	N	9.5	16.3	63.9
0.306000	45.6	9.000	N	9.5	14.5	60.1
0.670000	36.2	9.000	N	9.5	19.8	56.0
1.186000	32.5	9.000	N	9.5	23.5	56.0
1.778000	29.5	9.000	N	9.5	26.5	56.0
21.874000	29.6	9.000	N	10.6	30.4	60.0

## **Limit and Margin AV**

Frequency	Average	Bandwidth	Line	Corr.	Margin	Limit
(MHz)	(dBuV)	(kHz)		(dB)	(dB)	(dBuV)
0.194000	40.3	9.000	N	9.5	13.6	53.9
0.306000	39.3	9.000	N	9.5	10.8	50.1
0.670000	31.6	9.000	N	9.5	14.4	46.0
1.186000	27.3	9.000	N	9.5	18.7	46.0
1.778000	25.1	9.000	N	9.5	20.9	46.0
21.874000	24.1	9.000	N	10.6	25.9	50.0

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Date	Applicant: ROIDMI Information Technology Co.,Ltd. Date of Test: 23 September 2021 Model: SDJ01RM						
4.10	Radiated Emissions from Digital Section of Transceiver, FCC Ref: 15.109						
[ ]	Not required - No digital part						
[ ]	Test results are attached						
[x]	Included in the separated report.						

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Applicant: ROIDMI Information Technology Co.,Ltd.

Date of Test: 23 September 2021

Model: SDJ01RM

## 4.11 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
Х	Not applicable, duty cycle was not used.

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## 5.0 Equipment Photographs

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

## 6.0 Product Labeling

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

## 7.0 Technical Specifications

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

#### 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.

#### 9.0 Confidentiality Request

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

## 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.

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## 11.0 Test Equipment List

Equipment No.	Equipment	Manufacturer	Model No.	Serial No.	Cal. Date	Due Date
SZ182-02	RF Power Meter	Anritsu	ML2496A	1302005	2021-05-10	2022-05-10
SZ182-02-01	Power Sensor	Anritsu	MA2411B	1207429	2021-05-10	2022-05-10
SZ061-03	BiConiLog Antenna	ETS	3142C	00078828	2021-07-07	2024-07-07
SZ185-01	EMI Receiver	R&S	ESCI	100547	2020-12-22	2021-12-22
SZ061-08	Horn Antenna	ETS	3115	00092346	2021-09-05	2024-09-05
SZ061-06	Active Loop Antenna	Electro- Metrics	EM-6876	217	2021-05-18	2023-05-18
SZ056-03	Spectrum Analyzer	R&S	FSP 30	101148	2021-05-10	2022-05-10
SZ056-07	Signal Analyzer	R&S	FSV40	101214	2020-10-27	2021-10-27
SZ181-04	Preamplifier	Agilent	8449B	3008A02474	2021-05-10	2022-05-10
SZ188-01	Anechoic Chamber	ETS	RFD-F/A- 100	4102	2018-12-15	2021-12-15
SZ062-02	RF Cable	RADIALL	RG 213U		2021-06-01	2021-12-01
SZ062-05	RF Cable	RADIALL	0.04- 26.5GHz		2021-06-01	2021-12-01
SZ062-12	RF Cable	RADIALL	0.04- 26.5GHz	-	2021-06-01	2021-12-01
SZ067-04	Notch Filter	Micro-Tronics	BRM50702- 02	-	2021-05-11	2022-05-11
SZ185-02	EMI Test Receiver	R&S	ESCI	100692	2021-07-12	2022-07-12
SZ187-01	Two-Line V- Network	R&S	ENV216	100072	2020-10-27	2021-10-27
SZ188-03	Shielding Room	ETS	RFD-100	4100	2020-01-07	2023-01-07

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