

TEST REPORT

Reference No...... : WTS20S06036687W001
FCC ID : ZLZ-PMACS
Applicant..... : Shenzhen Mindray Bio-Medical Electronics Co., Ltd
Address..... : Mindray Building, Keji 12th Road South, High-tech Industrial Park,
Nanshan, Shenzhen of China.
Manufacturer : Shenzhen Mindray Bio-Medical Electronics Co., Ltd
Address..... : Mindray Building, Keji 12th Road South, High-tech Industrial Park,
Nanshan, Shenzhen of China.
Product..... : Wireless module
Model(s) : SX-SDMAC-2832S+
Brand Name..... : Mindray
Standards..... : FCC CFR47 Part 15.247
Date of Receipt sample : 2020-06-13
Date of Test : 2020-06-14 to 2020-06-27
Date of Issue..... : 2021-02-25
Test Result..... : **Pass**

Remarks:

The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.

Prepared By:

Waltek Testing Group Co., Ltd.

Address: No. 77, Houjie Section, Guantai Road, Houjie Town, Dongguan City, Guangdong, China

Tel: +86-769-2267 6998

Fax: +86-769-2267 6828

Compiled by:

Ford Wang

Ford Wang / Project Engineer

Approved by:



Daniel Liu

Daniel Liu / Designated Reviewer

2 Contents

	Page
1 COVER PAGE.....	1
2 CONTENTS	2
3 REVISION HISTORY	3
4 GENERAL INFORMATION.....	4
4.1 GENERAL DESCRIPTION OF E.U.T.	4
4.2 DETAILS OF E.U.T.	4
4.3 CHANNEL LIST.....	5
4.4 TEST MODE	6
4.5 TEST FACILITY.....	6
5 TEST SUMMARY	7
6 EQUIPMENT USED DURING TEST	8
6.1 EQUIPMENTS LIST	8
6.2 DESCRIPTION OF SUPPORT UNITS	8
6.3 MEASUREMENT UNCERTAINTY	8
6.4 TEST EQUIPMENT CALIBRATION	8
7 RADIATED EMISSIONS.....	9
7.1 EUT OPERATION.....	9
7.2 TEST SETUP	10
7.3 SPECTRUM ANALYZER SETUP	11
7.4 TEST PROCEDURE	12
7.5 CORRECTED AMPLITUDE & MARGIN CALCULATION	12
7.6 SUMMARY OF TEST RESULTS	13
8 ANTENNA REQUIREMENT	25
9 RF EXPOSURE.....	26
10 PHOTOGRAPHS OF TEST SETUP AND EUT.....	27

3 Revision History

Test report No.	Date of Receipt sample	Date of Test	Date of Issue	Purpose	Comment	Approved
WTS20S06036 687W001	2020-06-13	2020-06-14 to 2020-06-27	2021-02-25	original	-	Valid

4 General Information

4.1 General Description of E.U.T.

Product:	Wireless module
Model(s):	SX-SDMAC-2832S+
Model Description:	N/A
Wi-Fi Specification:	2.4G-802.11b/g/n HT20/n HT40 5G-802.11a/ n(HT20/40)/ac(HT20/40/80)

4.2 Details of E.U.T.

Operation Frequency:	802.11b/g/n HT20: 2412~2462MHz 802.11n HT40: 2422~2452MHz
Max. RF output power:	26.56dBm
Type of Modulation:	DSSS, OFDM
Change Antenna installation:	ANT1: FPC dipole ANT2: FPC dipole
Change Antenna Gain:	ANT1: 2.6dBi ANT2: 0.88dBi
Original Antenna installation:	ANT1: Dipole ANT2: PCB Dipole ANT3: Dipole ANT4: PCB Dipole ANT5: PCB Dipole
Original Antenna Gain:	ANT1: 1.87dBi ANT2: 2.79dBi ANT3: 1.32dBi ANT4: 2.79dBi ANT5: 1dBi
Ratings:	DC 3.3V from mainboard

4.3 Channel List

WIFI

Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)
1	2412	2	2417	3	2422	4	2427
5	2432	6	2437	7	2442	8	2447
9	2452	10	2457	11	2462	12	-

4.4 Test Mode

Table 1 Tests Carried Out Under FCC part 15.247

Test Items	Mode	Data Rate	Channel	TX/RX
Transmitter Spurious Emissions	802.11b	1 Mbps	1/6/11	TX
	802.11g	6 Mbps	1/6/11	TX
	802.11n HT20	MCS0	1/6/11	TX
	802.11n HT40	MCS0	3/6/9	TX

Note :Parameters set by test software during channel & power tests, the software provided by the customer was used to set the operating channels as well as the output power level. The RF output power set is the power expected by the manufacturer and is going to be fixed on the firmware of the final product .

4.5 Test Facility

The test facility has a test site registered with the following organizations:

ISED CAB identifier: CN0013. Test Firm Registration No.: 7760A.

Waltek Testing Group Co., Ltd. Has been registered and fully described in a report filed with the Industry Canada. The acceptance letter from the Industry Canada is maintained in our files.

Registration number 7760A, October 15, 2016.

FCC Designation No.: CN1201. Test Firm Registration No.: 523476.

Waltek Testing Group Co., Ltd. EMC Laboratory `has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration number 523476, September 10, 2019.

5 Test Summary

Test Items	Test Requirement	Result
Radiated Spurious Emissions	15.247(d) 15.205(a) 15.209(a)	PASS
Antenna Requirement	15.203	PASS

Note: All test were performed that the device transmit continue of the 100% duty cycle.

6 Equipment Used during Test

6.1 Equipments List

3m Semi-anechoic Chamber for Radiation Emissions Test site 1#						
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Calibration Date	Calibration Due Date
1	Spectrum Analyzer	R&S	FSP	100091	2020-04-20	2021-04-19
2	Active Loop Antenna	Beijing Dazhi	ZN30900A	-	2020-04-20	2021-04-19
3	Trilog Broadband Antenna	SCHWARZBECK	VULB9163	336	2019-08-11	2020-08-10
4	Coaxial Cable (below 1GHz)	Top	TYPE16(13M)	-	2019-09-17	2020-09-16
5	Broad-band Horn Antenna	SCHWARZBECK	BBHA 9120 D	667	2020-04-19	2021-04-18
6	Broad-band Horn Antenna	SCHWARZBECK	BBHA 9170	335	2020-04-20	2021-04-19
7	Broadband Preamplifier	COMPLIANCE DIRECTION	PAP-1G18	2004	2020-04-20	2021-04-19
8	Coaxial Cable (above 1GHz)	Top	1GHz-25GHz	EW02014-7	2020-04-20	2021-04-19
3m Semi-anechoic Chamber for Radiation Emissions Test site 2#						
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Calibration Date	Calibration Due Date
1	Test Receiver	R&S	ESCI	101296	2020-04-20	2021-04-19
2	Trilog Broadband Antenna	SCHWARZBECK	VULB9160	9160-3325	2020-04-25	2021-04-24
3	Amplifier	Compliance pirection systems inc	PAP-0203	22024	2020-04-20	2021-04-19
4	Cable	HUBER+SUHNER	CBL2	525178	2020-04-20	2021-04-19

6.2 Description of Support Units

Equipment	Manufacturer	Model No.	Series No.
/	/	/	/

6.3 Measurement Uncertainty

Parameter	Uncertainty
Radiated Spurious Emissions	± 5.08 dB (Bilog antenna 30M~1000MHz)
	± 5.47 dB (Horn antenna 1000M~25000MHz)
Confidence interval: 95%. Confidence factor:k=2	

6.4 Test Equipment Calibration

All the test equipments used are valid and calibrated by CEPREI Certification Body that address is No.110 Dongguan Zhuang RD. Guangzhou, P.R.China.

7 Radiated Emissions

Test Requirement: FCC CFR47 Part 15 Section 15.209 & 15.247

Test Method: KDB 558074 D01 15.247 Meas Guidance v05r02 April 2, 2019;
ANSI C63.10:2013

Test Result: PASS

Measurement Distance: 3m

Limit:

Frequency (MHz)	Field Strength		Field Strength Limit at 3m Measurement Dist	
	uV/m	Distance (m)	uV/m	dBuV/m
0.009 ~ 0.490	2400/F(kHz)	300	10000 * 2400/F(kHz)	$20\log^{(2400/F(kHz))} + 80$
0.490 ~ 1.705	24000/F(kHz)	30	100 * 24000/F(kHz)	$20\log^{(24000/F(kHz))} + 40$
1.705 ~ 30	30	30	100 * 30	$20\log^{(30)} + 40$
30 ~ 88	100	3	100	$20\log^{(100)}$
88 ~ 216	150	3	150	$20\log^{(150)}$
216 ~ 960	200	3	200	$20\log^{(200)}$
Above 960	500	3	500	$20\log^{(500)}$

7.1 EUT Operation

Operating Environment :

Temperature: 23.5 °C

Humidity: 52.2 % RH

Atmospheric Pressure: 101.3kPa

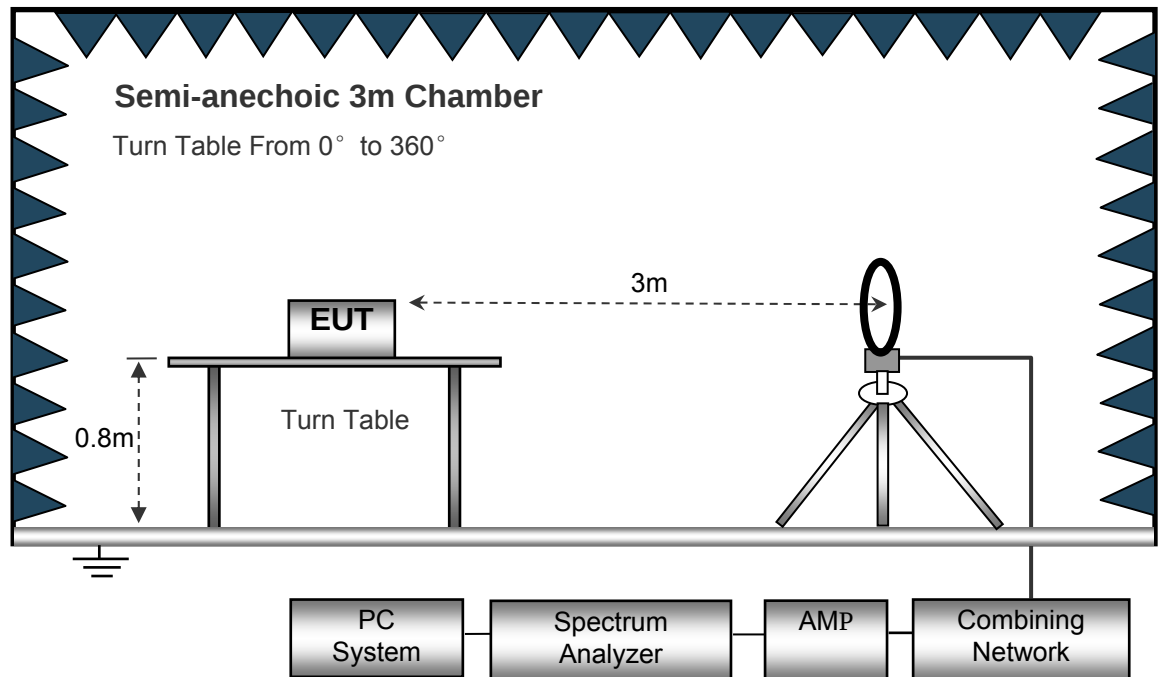
EUT Operation :

The test was performed in TX transmitting mode, the test data were shown in the report.

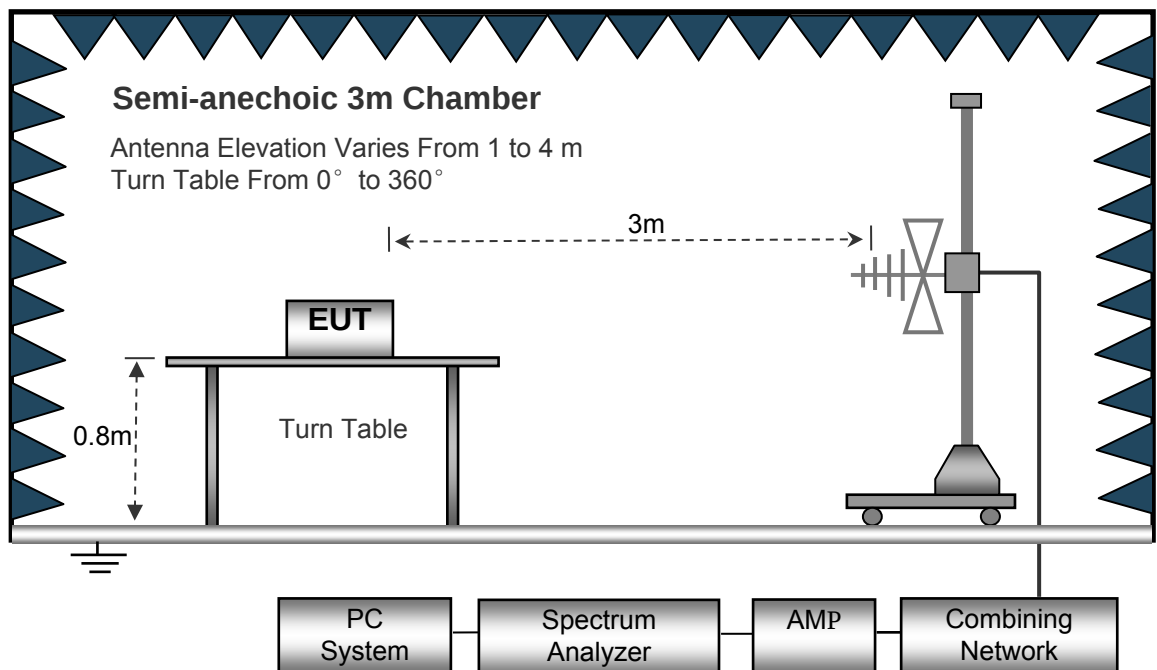
7.2 Test Setup

The radiated emission tests were performed in the 3m Semi- Anechoic Chamber test site, using the setup accordance with the ANSI C63.10.

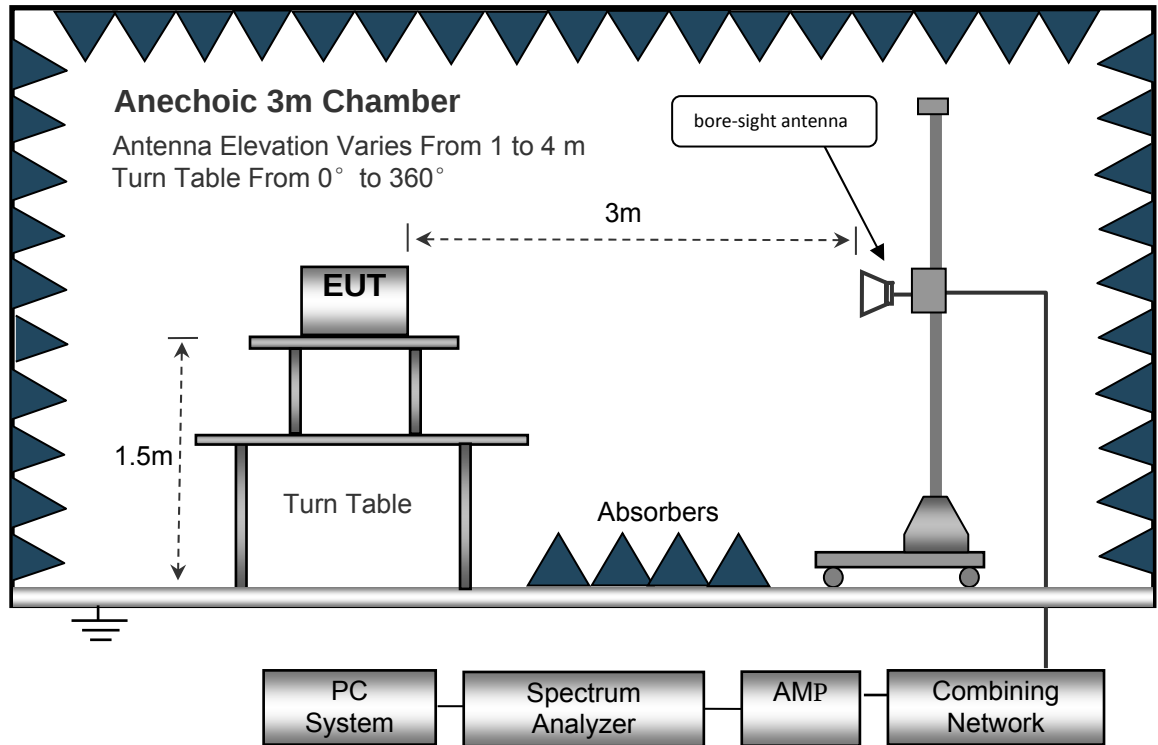
The test setup for emission measurement below 30MHz.



The test setup for emission measurement from 30 MHz to 1 GHz.



The test setup for emission measurement above 1 GHz.



7.3 Spectrum Analyzer Setup

Below 30MHz

Sweep Speed Auto
 IF Bandwidth.....10kHz
 Video Bandwidth.....10kHz
 Resolution Bandwidth.....10kHz

30MHz ~ 1GHz

Sweep Speed Auto
 DetectorPK
 Resolution Bandwidth.....100kHz
 Video Bandwidth.....300kHz

Above 1GHz

Sweep Speed Auto
 DetectorPK
 Resolution Bandwidth.....1MHz
 Video Bandwidth.....3MHz
 DetectorAve.
 Resolution Bandwidth.....1MHz
 Video Bandwidth.....10Hz

7.4 Test Procedure

1. The EUT is placed on a turntable, which is 0.8m above ground plane for below 1GHz and 1.5m for above 1GHz.
2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
3. EUT is set 3m away from the receiving antenna, which is moved from 1m to 4m to find out the maximum emissions.
4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
5. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
6. Repeat above procedures until the measurements for all frequencies are complete.
7. The radiation measurements are performed in X,Y and Z axis positioning(X denotes lying on the table, Y denotes side stand and Z denotes vertical stand),the worst condition was tested putting the eut in Z axis,so the worst data were shown as follow.
8. A 2.4GHz high –pass filter is used during radiated emissions above 1GHz measurement.

7.5 Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Factor and Cable Factor, and subtracting the Amplifier Gain from the Amplitude reading. The basic equation is as follows:

$$\text{Corr. Ampl.} = \text{Indicated Reading} + \text{Antenna Factor} + \text{Cable Factor} - \text{Amplifier Gain}$$

The “Margin” column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of -7dB means the emission is 7dB below the maximum limit for Class B. The equation for margin calculation is as follows:

$$\text{Margin} = \text{Corr. Ampl.} - \text{Limit}$$

7.6 Summary of Test Results

Wifi:

Test Frequency: 9KHz~30MHz

The measurements were more than 20 dB below the limit and not reported.

Test Frequency : 30MHz ~ 8GHz

Frequency	Receiver Reading	Detector	Turn table Angle	RX Antenna		Corrected Factor	Corrected Amplitude	FCC Part 15.247/209/205	
				Height	Polar			Limit	Margin
(MHz)	(dBμV)	(PK/QP/Ave)	Degree	(m)	(H/V)	(dB)	(dBμV/m)	(dBμV/m)	(dB)
11b: Low Channel 2412MHz									
268.67	40.38	QP	315	1.5	H	-11.62	28.76	46.00	-17.24
268.67	36.91	QP	45	1.4	V	-11.62	25.29	46.00	-20.71
4824.00	47.99	PK	195	1.6	V	-1.06	46.93	74.00	-27.07
4824.00	42.09	Ave	195	1.6	V	-1.06	41.03	54.00	-12.97
7236.00	48.02	PK	45	1.1	H	1.33	49.35	74.00	-24.65
7236.00	41.33	Ave	45	1.1	H	1.33	42.66	54.00	-11.34
2339.40	45.86	PK	32	1.3	V	-13.19	32.67	74.00	-41.33
2339.40	39.92	Ave	32	1.3	V	-13.19	26.73	54.00	-27.27
2384.05	44.22	PK	11	1.7	H	-13.14	31.08	74.00	-42.92
2384.05	38.41	Ave	11	1.7	H	-13.14	25.27	54.00	-28.73
2488.42	43.42	PK	35	1.4	V	-13.08	30.34	74.00	-43.66
2488.42	36.84	Ave	35	1.4	V	-13.08	23.76	54.00	-30.24

Frequency	Receiver Reading	Detector	Turn table Angle	RX Antenna		Corrected Factor	Corrected Amplitude	FCC Part 15.247/209/205	
				Height	Polar			Limit	Margin
(MHz)	(dBμV)	(PK/QP/Ave)	Degree	(m)	(H/V)	(dB)	(dBμV/m)	(dBμV/m)	(dB)
11b: Middle Channel 2437MHz									
268.67	41.49	QP	279	1.8	H	-11.62	29.87	46.00	-16.13
268.67	36.17	QP	124	1.7	V	-11.62	24.55	46.00	-21.45
4874.00	46.93	PK	167	1.1	V	-0.62	46.31	74.00	-27.69
4874.00	42.47	Ave	167	1.1	V	-0.62	41.85	54.00	-12.15
7311.00	47.46	PK	59	1.1	H	2.21	49.67	74.00	-24.33
7311.00	40.24	Ave	59	1.1	H	2.21	42.45	54.00	-11.55
2330.83	45.80	PK	37	1.1	V	-13.19	32.61	74.00	-41.39
2330.83	37.73	Ave	37	1.1	V	-13.19	24.54	54.00	-29.46
2351.30	44.21	PK	203	1.5	H	-13.14	31.07	74.00	-42.93
2351.30	36.32	Ave	203	1.5	H	-13.14	23.18	54.00	-30.82
2486.63	43.91	PK	237	1.1	V	-13.08	30.83	74.00	-43.17
2486.63	37.57	Ave	237	1.1	V	-13.08	24.49	54.00	-29.51

Frequency	Receiver Reading	Detector	Turn table Angle	RX Antenna		Corrected Factor	Corrected Amplitude	FCC Part 15.247/209/205	
				Height	Polar			Limit	Margin
(MHz)	(dBμV)	(PK/QP/Ave)	Degree	(m)	(H/V)	(dB)	(dBμV/m)	(dBμV/m)	(dB)
11b: High Channel 2462MHz									
268.67	41.95	QP	301	1.3	H	-11.62	30.33	46.00	-15.67
268.67	35.79	QP	148	1.5	V	-11.62	24.17	46.00	-21.83
4924.00	47.23	PK	187	1.1	V	-0.24	46.99	74.00	-27.01
4924.00	41.14	Ave	187	1.1	V	-0.24	40.90	54.00	-13.10
7386.00	47.12	PK	155	1.9	H	2.84	49.96	74.00	-24.04
7386.00	40.17	Ave	155	1.9	H	2.84	43.01	54.00	-10.99
2310.36	45.82	PK	300	1.7	V	-13.19	32.63	74.00	-41.37
2310.36	37.89	Ave	300	1.7	V	-13.19	24.70	54.00	-29.30
2359.15	42.34	PK	58	1.3	H	-13.14	29.20	74.00	-44.80
2359.15	38.64	Ave	58	1.3	H	-13.14	25.50	54.00	-28.50
2495.18	43.38	PK	170	1.3	V	-13.08	30.30	74.00	-43.70
2495.18	38.06	Ave	170	1.3	V	-13.08	24.98	54.00	-29.02

Frequency	Receiver Reading	Detector	Turn table Angle	RX Antenna		Corrected Factor	Corrected Amplitude	FCC Part 15.247/209/205	
				Height	Polar			Limit	Margin
(MHz)	(dBμV)	(PK/QP/Ave)	Degree	(m)	(H/V)	(dB)	(dBμV/m)	(dBμV/m)	(dB)
11g: Low Channel 2412MHz									
268.67	43.42	QP	255	1.6	H	-11.62	31.80	46.00	-14.20
268.67	35.14	QP	272	1.5	V	-11.62	23.52	46.00	-22.48
4824.00	48.63	PK	294	1.5	V	-1.06	47.57	74.00	-26.43
4824.00	41.48	Ave	294	1.5	V	-1.06	40.42	54.00	-13.58
7236.00	47.63	PK	13	1.6	H	1.33	48.96	74.00	-25.04
7236.00	39.65	Ave	13	1.6	H	1.33	40.98	54.00	-13.02
2346.58	46.06	PK	274	1.5	V	-13.19	32.87	74.00	-41.13
2346.58	37.80	Ave	274	1.5	V	-13.19	24.61	54.00	-29.39
2379.07	43.28	PK	115	1.9	H	-13.14	30.14	74.00	-43.86
2379.07	36.99	Ave	115	1.9	H	-13.14	23.85	54.00	-30.15
2489.92	42.75	PK	39	1.0	V	-13.08	29.67	74.00	-44.33
2489.92	36.54	Ave	39	1.0	V	-13.08	23.46	54.00	-30.54

Frequency	Receiver Reading	Detector	Turn table Angle	RX Antenna		Corrected Factor	Corrected Amplitude	FCC Part 15.247/209/205	
				Height	Polar			Limit	Margin
(MHz)	(dBμV)	(PK/QP/Ave)	Degree	(m)	(H/V)	(dB)	(dBμV/m)	(dBμV/m)	(dB)
11g: Middle Channel 2437MHz									
268.67	43.33	QP	169	1.8	H	-11.62	31.71	46.00	-14.29
268.67	36.57	QP	150	1.2	V	-11.62	24.95	46.00	-21.05
4874.00	47.21	PK	232	1.9	V	-0.62	46.59	74.00	-27.41
4874.00	41.47	Ave	232	1.9	V	-0.62	40.85	54.00	-13.15
7311.00	46.49	PK	52	2.0	H	2.21	48.70	74.00	-25.30
7311.00	39.28	Ave	52	2.0	H	2.21	41.49	54.00	-12.51
2345.37	46.85	PK	123	1.7	V	-13.19	33.66	74.00	-40.34
2345.37	38.70	Ave	123	1.7	V	-13.19	25.51	54.00	-28.49
2386.37	42.77	PK	293	1.3	H	-13.14	29.63	74.00	-44.37
2386.37	38.83	Ave	293	1.3	H	-13.14	25.69	54.00	-28.31
2494.55	42.79	PK	17	1.7	V	-13.08	29.71	74.00	-44.29
2494.55	37.74	Ave	17	1.7	V	-13.08	24.66	54.00	-29.34

Frequency	Receiver Reading	Detector	Turn table Angle	RX Antenna		Corrected Factor	Corrected Amplitude	FCC Part 15.247/209/205	
				Height	Polar			Limit	Margin
(MHz)	(dBμV)	(PK/QP/Ave)	Degree	(m)	(H/V)	(dB)	(dBμV/m)	(dBμV/m)	(dB)
11g: High Channel 2462MHz									
268.67	44.19	QP	298	1.6	H	-11.62	32.57	46.00	-13.43
268.67	37.08	QP	100	1.1	V	-11.62	25.46	46.00	-20.54
4924.00	48.19	PK	346	1.5	V	-0.24	47.95	74.00	-26.05
4924.00	41.78	Ave	346	1.5	V	-0.24	41.54	54.00	-12.46
7386.00	47.80	PK	194	1.1	H	2.84	50.64	74.00	-23.36
7386.00	39.09	Ave	194	1.1	H	2.84	41.93	54.00	-12.07
2336.50	46.36	PK	203	1.3	V	-13.19	33.17	74.00	-40.83
2336.50	38.27	Ave	203	1.3	V	-13.19	25.08	54.00	-28.92
2382.98	42.68	PK	186	1.2	H	-13.14	29.54	74.00	-44.46
2382.98	38.17	Ave	186	1.2	H	-13.14	25.03	54.00	-28.97
2493.83	42.37	PK	267	1.4	V	-13.08	29.29	74.00	-44.71
2493.83	36.91	Ave	267	1.4	V	-13.08	23.83	54.00	-30.17

Frequency	Receiver Reading	Detector	Turn table Angle	RX Antenna		Corrected Factor	Corrected Amplitude	FCC Part 15.247/209/205	
				Height	Polar			Limit	Margin
(MHz)	(dBμV)	(PK/QP/Ave)	Degree	(m)	(H/V)	(dB)	(dBμV/m)	(dBμV/m)	(dB)
11n20: Low Channel 2412MHz									
268.67	42.75	QP	159	1.4	H	-11.62	31.13	46.00	-14.87
268.67	37.16	QP	14	1.8	V	-11.62	25.54	46.00	-20.46
4824.00	48.28	PK	256	1.0	V	-1.06	47.22	74.00	-26.78
4824.00	42.28	Ave	256	1.0	V	-1.06	41.22	54.00	-12.78
7236.00	49.09	PK	117	1.3	H	1.33	50.42	74.00	-23.58
7236.00	37.70	Ave	117	1.3	H	1.33	39.03	54.00	-14.97
2335.29	46.43	PK	67	2.0	V	-13.19	33.24	74.00	-40.76
2335.29	38.52	Ave	67	2.0	V	-13.19	25.33	54.00	-28.67
2351.60	42.58	PK	41	1.1	H	-13.14	29.44	74.00	-44.56
2351.60	38.20	Ave	41	1.1	H	-13.14	25.06	54.00	-28.94
2488.62	42.12	PK	354	2.0	V	-13.08	29.04	74.00	-44.96
2488.62	36.57	Ave	354	2.0	V	-13.08	23.49	54.00	-30.51

Frequency	Receiver Reading	Detector	Turn table Angle	RX Antenna		Corrected Factor	Corrected Amplitude	FCC Part 15.247/209/205	
				Height	Polar			Limit	Margin
(MHz)	(dBμV)	(PK/QP/Ave)	Degree	(m)	(H/V)	(dB)	(dBμV/m)	(dBμV/m)	(dB)
11n20: Middle Channel 2437MHz									
268.67	43.44	QP	136	1.1	H	-11.62	31.82	46.00	-14.18
268.67	38.31	QP	113	1.5	V	-11.62	26.69	46.00	-19.31
4874.00	49.04	PK	94	1.0	V	-0.62	48.42	74.00	-25.58
4874.00	43.51	Ave	94	1.0	V	-0.62	42.89	54.00	-11.11
7311.00	50.39	PK	84	1.7	H	2.21	52.60	74.00	-21.40
7311.00	37.25	Ave	84	1.7	H	2.21	39.46	54.00	-14.54
2329.18	46.93	PK	67	1.2	V	-13.19	33.74	74.00	-40.26
2329.18	37.64	Ave	67	1.2	V	-13.19	24.45	54.00	-29.55
2355.80	43.90	PK	102	1.7	H	-13.14	30.76	74.00	-43.24
2355.80	38.27	Ave	102	1.7	H	-13.14	25.13	54.00	-28.87
2485.94	44.30	PK	48	1.2	V	-13.08	31.22	74.00	-42.78
2485.94	38.85	Ave	48	1.2	V	-13.08	25.77	54.00	-28.23

Frequency	Receiver Reading	Detector	Turn table Angle	RX Antenna		Corrected Factor	Corrected Amplitude	FCC Part 15.247/209/205	
				Height	Polar			Limit	Margin
(MHz)	(dBμV)	(PK/QP/Ave)	Degree	(m)	(H/V)	(dB)	(dBμV/m)	(dBμV/m)	(dB)
11n20: High Channel 2462MHz									
268.67	42.37	QP	100	1.9	H	-11.62	30.75	46.00	-15.25
268.67	37.55	QP	155	1.3	V	-11.62	25.93	46.00	-20.07
4924.00	48.89	PK	340	1.8	V	-0.24	48.65	74.00	-25.35
4924.00	43.10	Ave	340	1.8	V	-0.24	42.86	54.00	-11.14
7386.00	51.04	PK	348	1.1	H	2.84	53.88	74.00	-20.12
7386.00	37.51	Ave	348	1.1	H	2.84	40.35	54.00	-13.65
2345.37	45.94	PK	54	1.7	V	-13.19	32.75	74.00	-41.25
2345.37	39.74	Ave	54	1.7	V	-13.19	26.55	54.00	-27.45
2367.69	44.55	PK	161	1.1	H	-13.14	31.41	74.00	-42.59
2367.69	37.90	Ave	161	1.1	H	-13.14	24.76	54.00	-29.24
2496.51	44.13	PK	180	1.5	V	-13.08	31.05	74.00	-42.95
2496.51	38.98	Ave	180	1.5	V	-13.08	25.90	54.00	-28.10

Frequency	Receiver Reading	Detector	Turn table Angle	RX Antenna		Corrected Factor	Corrected Amplitude	FCC Part 15.247/209/205	
				Height	Polar			Limit	Margin
(MHz)	(dBμV)	(PK/QP/Ave)	Degree	(m)	(H/V)	(dB)	(dBμV/m)	(dBμV/m)	(dB)
11n40: Low Channel 2422MHz									
268.67	43.23	QP	35	1.3	H	-11.62	31.61	46.00	-14.39
268.67	37.43	QP	311	1.6	V	-11.62	25.81	46.00	-20.19
4844.00	47.22	PK	178	1.6	V	-1.06	46.16	74.00	-27.84
4844.00	41.44	Ave	178	1.6	V	-1.06	40.38	54.00	-13.62
7266.00	48.16	PK	165	1.4	H	1.33	49.49	74.00	-24.51
7266.00	35.55	Ave	165	1.4	H	1.33	36.88	54.00	-17.12
2328.07	45.77	PK	286	1.2	V	-13.19	32.58	74.00	-41.42
2328.07	38.21	Ave	286	1.2	V	-13.19	25.02	54.00	-28.98
2380.44	44.30	PK	249	1.1	H	-13.14	31.16	74.00	-42.84
2380.44	38.00	Ave	249	1.1	H	-13.14	24.86	54.00	-29.14
2499.74	44.20	PK	326	1.0	V	-13.08	31.12	74.00	-42.88
2499.74	36.99	Ave	326	1.0	V	-13.08	23.91	54.00	-30.09

Frequency	Receiver Reading	Detector	Turn table Angle	RX Antenna		Corrected Factor	Corrected Amplitude	FCC Part 15.247/209/205	
				Height	Polar			Limit	Margin
(MHz)	(dBμV)	(PK/QP/Ave)	Degree	(m)	(H/V)	(dB)	(dBμV/m)	(dBμV/m)	(dB)
11n40: Middle Channel 2437MHz									
268.67	42.69	QP	108	1.1	H	-11.62	31.07	46.00	-14.93
268.67	38.04	QP	345	1.8	V	-11.62	26.42	46.00	-19.58
4874.00	47.14	PK	261	1.1	V	-0.62	46.52	74.00	-27.48
4874.00	41.39	Ave	261	1.1	V	-0.62	40.77	54.00	-13.23
7311.00	48.42	PK	66	1.6	H	2.21	50.63	74.00	-23.37
7311.00	35.32	Ave	66	1.6	H	2.21	37.53	54.00	-16.47
2311.80	46.34	PK	289	1.2	V	-13.19	33.15	74.00	-40.85
2311.80	37.31	Ave	289	1.2	V	-13.19	24.12	54.00	-29.88
2365.22	42.61	PK	45	1.9	H	-13.14	29.47	74.00	-44.53
2365.22	36.99	Ave	45	1.9	H	-13.14	23.85	54.00	-30.15
2499.77	43.84	PK	275	1.9	V	-13.08	30.76	74.00	-43.24
2499.77	36.60	Ave	275	1.9	V	-13.08	23.52	54.00	-30.48

Frequency	Receiver Reading	Detector	Turn table Angle	RX Antenna		Corrected Factor	Corrected Amplitude	FCC Part 15.247/209/205	
				Height	Polar			Limit	Margin
(MHz)	(dBμV)	(PK/QP/Ave)	Degree	(m)	(H/V)	(dB)	(dBμV/m)	(dBμV/m)	(dB)
11n40: High Channel 2452MHz									
268.67	42.57	QP	160	1.1	H	-11.62	30.95	46.00	-15.05
268.67	38.12	QP	131	1.6	V	-11.62	26.50	46.00	-19.50
4904.00	47.77	PK	162	1.2	V	-0.24	47.53	74.00	-26.47
4904.00	40.76	Ave	162	1.2	V	-0.24	40.52	54.00	-13.48
7356.00	47.97	PK	104	1.9	H	2.84	50.81	74.00	-23.19
7356.00	34.84	Ave	104	1.9	H	2.84	37.68	54.00	-16.32
2339.51	46.40	PK	15	1.9	V	-13.19	33.21	74.00	-40.79
2339.51	37.06	Ave	15	1.9	V	-13.19	23.87	54.00	-30.13
2369.17	42.00	PK	47	1.0	H	-13.14	28.86	74.00	-45.14
2369.17	36.60	Ave	47	1.0	H	-13.14	23.46	54.00	-30.54
2491.48	43.44	PK	128	1.9	V	-13.08	30.36	74.00	-43.64
2491.48	38.75	Ave	128	1.9	V	-13.08	25.67	54.00	-28.33

Test Frequency: 8GHz~25GHz

The measurements were more than 20 dB below the limit and not reported.

8 Antenna Requirement

According to the FCC Part 15 Paragraph 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. This product have a FPC dipole antenna(ANT1) and a FPC PIFA(ANT2) fulfill the requirement of this section.

9 RF Exposure

Remark: refer to MPE test report: WTS20S06036687W003.

10 Photographs of test setup and EUT.

Note: Please refer to appendix: Appendix-SX-SDMAC-2832S+_Photo.

=====End of Report=====