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TEST REPORT

Product Name	:	Skin Hydration Detector
Brand Mark	:	hwiote
Model No.	:	SkinDr400-Hydro-TB
Report Number	:	BLA-EMC-202404-A1502
FCC ID	:	2BFDL-SKINDR400
Date of Sample Receipt	:	2024/4/10
Date of Test	:	2024/4/10 to 2024/4/19
Date of Issue	:	2024/4/19
Test Standard	:	47 CFR Part 15, Subpart C 15.247
Test Result	:	Pass

Prepared for:

Shenzhen Hanwei IoT Co., Ltd.

Unit 801, University Town Venture Park, No.10 Lishan Road, Taoyuan Street, Nanshan District, Shenzhen, Guangdong Province

Prepared by:

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Report Revise Record

Version No.	Date	Description
00	2024/4/19	Original



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1 **Test summary**

Test item	Test Requirement	Test Method	Class/Severity	Result
Conducted Emissions at AC Power Line (150kHz-30MHz)	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 6.2	47 CFR Part 15, Subpart C 15.207	Pass
Conducted Band Edges Measurement	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 7.8.8 & Section 11.13.3.2	47 CFR Part 15, Subpart C 15.247(d)	Pass
Radiated Spurious Emissions	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 6.4,6.5,6.6	47 CFR Part 15, Subpart C 15.209 & 15.247(d)	Pass
Radiated Emissions which fall in the restricted bands	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 6.10.5	47 CFR Part 15, Subpart C 15.209 & 15.247(d)	Pass
Conducted Spurious Emissions	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 7.8.6 & Section 11.11	47 CFR Part 15, Subpart C 15.247(d)	Pass
Power Spectrum Density	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 11.10.2	47 CFR Part 15, Subpart C 15.247(e)	Pass
Conducted Peak Output Power	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 7.8.5	47 CFR Part 15, Subpart C 15.247(b)(3)	Pass
Minimum 6dB Bandwidth	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 11.8.1	47 CFR Part 15, Subpart C 15.247a(2)	Pass
Antenna Requirement	47 CFR Part 15, Subpart C 15.247	N/A	47 CFR Part 15, Subpart C 15.203 & 15.247(c)	Pass

N/A: Not Applicable

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General information 2

Applicant	Shenzhen Hanwei IoT Co., Ltd.	
Address	Unit 801, University Town Venture Park, No.10 Lishan Road, Taoyuan Street, Nanshan District, Shenzhen, Guangdong Province	
Manufacturer	Shenzhen Hanwei loT Co., Ltd.	
Address	Unit 801, University Town Venture Park, No.10 Lishan Road, Taoyuan Street, Nanshan District, Shenzhen, Guangdong Province	
Factory	Shenzhen Hanwei IoT Co., Ltd.	
Address	Unit 801, University Town Venture Park, No.10 Lishan Road, Taoyuan Street, Nanshan District, Shenzhen, Guangdong Province	
Product Name	Skin Hydration Detector	
Test Model No.	SkinDr400-Hydro-TB	
3 General description of EUT		

General description of EUT 3

Hardware Version	V1.0.0
Software Version	V1.0.0
Operation Frequency:	2402MHz-2480MHz
Modulation Type:	GFSK
Rate data:	1Mbps
Channel Spacing:	2MHz
Number of Channels:	40
Antenna Type:	PCB Antenna
Antenna Gain:	1.5dBi (Provided by the applicant)



4 Operation frequency each of channel

Operation	Operation Frequency each of channel						
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
1	2402MHz	11	2422MHz	21	2442MHz	31	2462MHz
2	2404MHz	12	2424MHz	22	2444MHz	32	2464MHz
9	2418MHz	19	2438MHz	29	2458MHz	39	2478MHz
10	2420MHz	20	2440MHz	30	2460MHz	40	2480MHz

Note:

In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:

Channel	Frequency
The lowest channel	2402MHz
The middle channel	2442MHz
The Highest channel	2480MHz



10

5 Test environment

Environment	Temperature	Voltage
Normal	25°C	3.7Vdc

6 Test mode

TEST MODE	TEST MODE DESCRIPTION	
ТХ	Keep the EUT in continuously transmitting mode with modulation.	

7 Measurement uncertainty

Parameter	Expanded Uncertainty (Confidence of 95%)
Occupied Channel Bandwidth	±5 %
RF output power, conducted	±1.5 dB
Power Spectral Density, conducted	±3.0 dB
Unwanted Emissions, conducted	±3.0 dB
Temperature	±3 °C
Supply voltages	±3 %
Time	±5 %
Radiated Emission(9kHz-30MHz)	±4.34dB
AC Power Line Conducted Emission(150kHz-30MHz)	±3.45dB
Unwanted Radiated Emission (30MHz ~ 1000MHz)	±4.35 dB
Unwanted Radiated Emission (1GHz ~ 18GHz)	±4.44 dB

8 Description of support unit

Device Type	Manufacturer	Model Name	Serial No.	Remark
AC Adapter	UGREEN	CD112	N/A	N/A

9 Laboratory location

All tests were performed at:

BlueAsia of Technical Services(Shenzhen) Co.,Ltd.

Building C, No. 107, Shihuan Road, Shiyan Sub-District, Baoan District, Shenzhen, Guangdong Province, China

Telephone: TEL: +86-755-28682673 FAX: +86-755-28682673



10 Test instruments list

Test equipment of radiated spurious emissions								
Equipment	Manufacturer	Model	S/N	Cal.Date	Cal.Due			
Chamber 1	SKET	966	966 N/A		2026/11/15			
Chamber 2	SKET	966	N/A	2021/07/20	2024/07/19			
Spectrum	R&S	FSP40	100817	2023/08/30	2024/08/29			
Receiver	R&S	ESR7	101199	2023/08/30	2024/08/29			
Receiver	R&S	ESPI7	101477	2023/07/07	2024/07/06			
broadband Antenna	Schwarzbeck	VULB9168	00836 P:00227	2022/10/12	2025/10/11			
Horn Antenna	Schwarzbeck	BBHA9120D	01892 P:00331	2022/09/13	2025/09/12			
Horn Antenna	Schwarzbeck	BBHA 9170	1106	2022/04/24	2024/04/23			
Amplifier	SKET	LNPA_30M01G-30	SK2021060801	2023/07/07	2024/07/06			
Amplifier	SKET	PA-000318G-45	N/A	2023/08/30	2024/08/29			
Amplifier	SKET	LNPA_18G40G-50	SK2022071301	2023/07/14	2024/07/13			
Filter group	SKET	2.4G/5G Filter group r	N/A	2023/07/07	2024/07/06			
EMI software	EZ	EZ-EMC	EEMC-3A1	N/A	N/A			
Loop antenna	SCHNARZBE CK	FMZB1519B	00102	2022/09/14	2025/09/13			
1kHZ calibration audio source	SKET	MCS-ABT-C35	N/A	2023/09/04	2024/09/03			
Free Field Microphone	SKET	MGS MP 663	0414	2023/09/04	2024/09/03			
Audio shielding box	SKET	SB-ABT-C35	N/A	2023/03/30	2024/03/29			
Controller	SKET	N/A	N/A	N/A	N/A			
Coaxial Cable	BlueAsia	BLA-XC-02	N/A	N/A	N/A			
Coaxial Cable	BlueAsia	BLA-XC-03	N/A	N/A	N/A			
Coaxial Cable	BlueAsia	BLA-XC-01	N/A	N/A	N/A			
Signal Generator DTV	ECREDIX	DSG-1000	N/A	N/A	N/A			



Test equipment of conducted emissions at AC power line (150kHz-30MHz)								
Equipment	Manufacturer	Model	S/N	Cal.Date	Cal.Due			
Shield room	SKET	833	N/A	2023/11/16	2025/11/15			
Receiver	R&S	ESPI3	101082	2023/08/30	2024/08/29			
LISN	R&S	ENV216	3560.6550.15	2023/08/30	2024/08/29			
LISN	AT	AT166-2	AKK1806000003	2023/08/30	2024/08/29			
ISN	TESEQ	ISNT8-cat6	53580	2023/08/30	2024/08/29			
Single-channel vehicle artificial power network	Schwarzbeck	NNBM 8124	01045	2023/07/07	2024/07/06			
Single-channel vehicle artificial power network	Schwarzbeck	NNBM 8124	01075	2023/07/07	2024/07/06			
EMI software	EZ	EZ-EMC	EEMC-3A1	N/A	N/A			

Test equipment of RF conducted test								
Equipment	Manufacturer	Model	S/N	Cal.Date	Cal.Due			
Spectrum	R&S	FSP40	100817	2023/08/30	2024/08/29			
Spectrum	Agilent	N9020A	MY49100060	2023/08/30	2024/08/29			
Spectrum	Agilent	N9020A	MY54420161	2023/08/30	2024/08/29			
Signal Generator	Agilent	N5182A	MY47420955	2023/08/30	2024/08/29			
Signal Generator	Agilent	N5181A	MY46240904	2023/07/07	2024/07/06			
Signal Generator	R&S	CMW500	132429	2023/08/30	2024/08/29			
BluetoothTester	Anritsu	MT8852B	06262047872	2023/08/30	2024/08/29			
Power probe	DARE	RPR3006W	14100889SN042	2023/09/01	2024/08/31			
Power detection box	CDKMV	MW100-PSB	MW201020JYT	2023/07/07	2024/07/06			
DCPowersupply	zhaoxin	KXN-305D	20K305D1221363	2023/08/30	2024/08/29			
DCPowersupply	zhaoxin	RXN-1505D	19R1505D050168	2023/08/30	2024/08/29			
2.4GHz/5GHz RF Test software	MTS	MTS 8310	Version 2.0.0.0	N/A	N/A			
Audio Analyzer	Audio Precision	ATS-1	ATS141094	2023/07/07	2024/07/06			



11 Conducted emissions at AC power line (150kHz-30MHz)

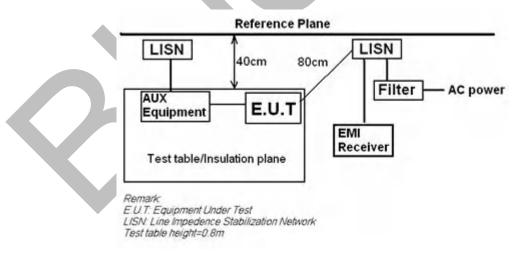
Test Standard	47 CFR Part 15, Subpart C 15.247					
Test Method	ANSI C63.10 (2013) Section 6.2					
Test Mode (Pre-Scan)	ТХ					
Test Mode (Final Test)	ТХ					
Tester	Jozu					
Temperature	25°C					
Humidity	60%					

11.1 Limits

Frequency of	Conducted limit(dBµV)					
emission(MHz)	Quasi-peak	Average				
0.15-0.5	66 to 56*	56 to 46*				
0.5-5	56	46				
5-30	60	50				

*Decreases with the logarithm of the frequency.

11.2 Test setup



11.3 Procedure

1) The mains terminal disturbance voltage test was conducted in a shielded room.

2) The EUT was connected to AC power source through a LISN 1 (Line Impedance Stabilization Network) which provides a 50ohm/50H + 5ohm linear impedance. The power cables of all other units of the EUT were connected to a second LISN 2, which was bonded to the ground reference plane in the same way as the LISN 1 for the unit being measured. A multiple socket outlet strip was used to connect multiple power cables to a single LISN provided the rating of the LISN was not exceeded.



3) The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane,

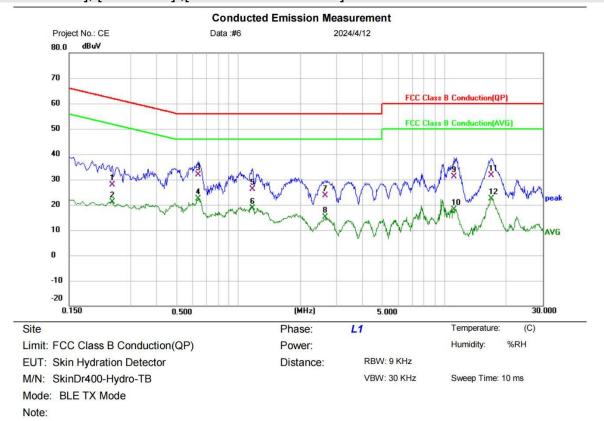
4) The test was performed with a vertical ground reference plane. The rear of the EUT shall be 0.4 m from the vertical ground reference plane. The vertical ground reference plane was bonded to the horizontal ground reference plane. The LISN 1 was placed 0.8 m from the boundary of the unit under test and bonded to a ground reference plane for LISNs mounted on top of the ground reference plane. This distance was between the closest points of the LISN 1 and the EUT. All other units of the EUT and associated equipment was at least 0.8 m from the LISN 2.

5) In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10 on conducted measurement.

Remark: LISN=Read Level+ Cable Loss+ LISN Factor



11.4 Test data



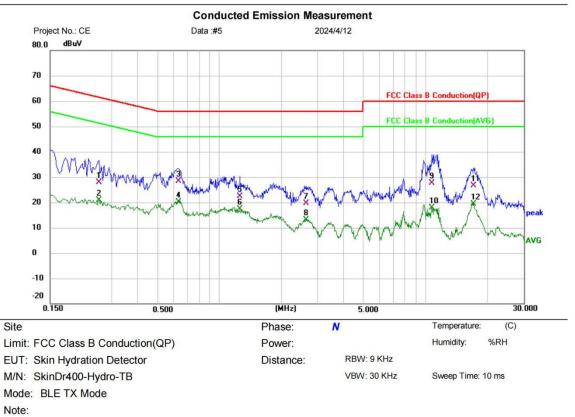
[TestMode: Tx]; [Line: Line] ;[Power:AC120V/60Hz]

No. Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		Antenna Height	Table Degree	
	MHz	dBuV	dB	dBuV	dBuV	dB	Detector	cm	degree	Comment
1	0.2419	17.39	10.51	27.90	62.03	-34.13	QP			
2	0.2419	10.62	10.51	21.13	52.03	-30.90	AVG			
3	0.6340	21.95	9.95	31.90	56.00	-24.10	QP			
4 *	0.6340	12.35	9.95	22.30	46.00	-23.70	AVG			
5	1.1659	16.17	9.85	26.02	56.00	-29.98	QP			
6	1.1659	8.79	9.85	18.64	46.00	-27.36	AVG			
7	2.6419	13.59	10.10	23.69	56.00	-32.31	QP			
8	2.6419	4.94	10.10	15.04	46.00	-30.96	AVG			
9	11.0980	30.25	0.77	31.02	60.00	-28.98	QP			
10	11.0980	17.44	0.77	18.21	50.00	-31.79	AVG			
11	16.8500	17.94	13.73	31.67	60.00	-28.33	QP			
12	16.8500	8.56	13.73	22.29	50.00	-27.71	AVG			
*:Maximu	ım data	x:Over lim	it !:over	margin						(Reference Only
Receiver:	ESPI	_1			Spectrum	Analyzer:	ES	PI		
L.I.S.N:					Engineer	Signature				

Test Result: Pass



[TestMode: Tx]; [Line: Neutral] ;[Power:AC120V/60Hz]



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	cm	degree	Comment
1		0.2580	17.42	10.40	27.82	61.50	-33.68	QP			
2		0.2580	10.40	10.40	20.80	51.50	-30.70	AVG			
3		0.6300	18.51	9.89	28.40	56.00	-27.60	QP			
4	*	0.6300	10.28	9.89	20.17	46.00	-25.83	AVG			
5		1.2579	12.59	9.90	22.49	56.00	-33.51	QP			
6		1.2579	7.47	9.90	17.37	46.00	-28.63	AVG			
7		2.6380	9.61	10.04	19.65	56.00	-36.35	QP			
8		2.6380	3.04	10.04	13.08	46.00	-32.92	AVG			
9		10.7420	26.74	0.97	27.71	60.00	-32.29	QP			
10		10.7420	16.90	0.97	17.87	50.00	-32.13	AVG			
11		17.1220	12.91	13.73	26.64	60.00	-33.36	QP			
12		17.1220	5.58	13.73	19.31	50.00	-30.69	AVG			
:Ma	ximu	m data	x:Over lim	it !:ove	margin						(Reference Only

	aximum data	X.OVCI IIIIII	ver margin			Incluic only
Rece	eiver: ES	PI_1		Spectrum Analyzer:	ESPI	
L.I.S	.N:			Engineer Signature		

Test Result: Pass



Notes:

1. An initial pre-scan was performed on the line and neutral lines with peak detector.

2. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.

3. Final Level =Receiver Read level + LISN Factor + Cable Loss.



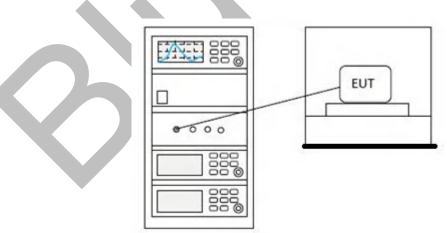
Test Standard	47 CFR Part 15, Subpart C 15.247					
Test Method	ANSI C63.10 (2013) Section 7.8.8 & Section 11.13.3.2					
Test Mode (Pre-Scan)	ТХ					
Test Mode (Final Test)	ТХ					
Tester	Jozu					
Temperature	25°C					
Humidity	60%					

12 Conducted band edges measurement

12.1 Limits

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 L either an RF conducted or a radiated measurement, provided the transmitter i. demonstrates compliance with the peak conducted power limits. If the transmitter m complies with the conducted power limits based on the use of RMS averaging over a it time interval, as permitted under paragraph (b)(3) of this section, the attenuation 2 required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

12.2 Test setup



12.3 Test data

Pass: Please Refer To Appendix: Appendix1 For Details



13 Radiated spurious emissions

Test Standard	47 CFR Part 15, Subpart C 15.247					
Test Method	ANSI C63.10 (2013) Section 6.4,6.5,6.6					
Test Mode (Pre-Scan)	ТХ					
Test Mode (Final Test)	ТХ					
Tester	Jozu					
Temperature	25°C					
Humidity	60%					

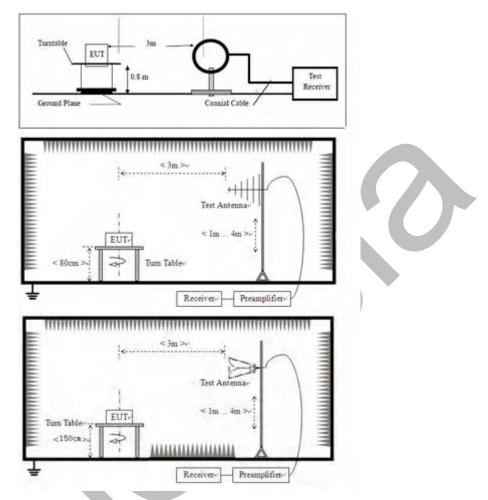
13.1 Limits

Frequency(MHz)	Field strength(microvolts/meter)	Measurement distance(meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

Remark: The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90kHz, 110-490kHz and above 1000MHz. Radiated emission limits in these three bands are based on measurements employing an average detector, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.



13.2 Test setup



13.3 Procedure

a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.

b. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.

c. The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

d. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

e. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

f. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

g. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.



h. Test the EUT in the lowest channel, the middle channel, the highest channel.

i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.

j. Repeat above procedures until all frequencies measured was complete.

Remark:

1) For emission below 1GHz, through pre-scan found the worst case is the lowest channel. Only the worst case is recorded in the report.

2) The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

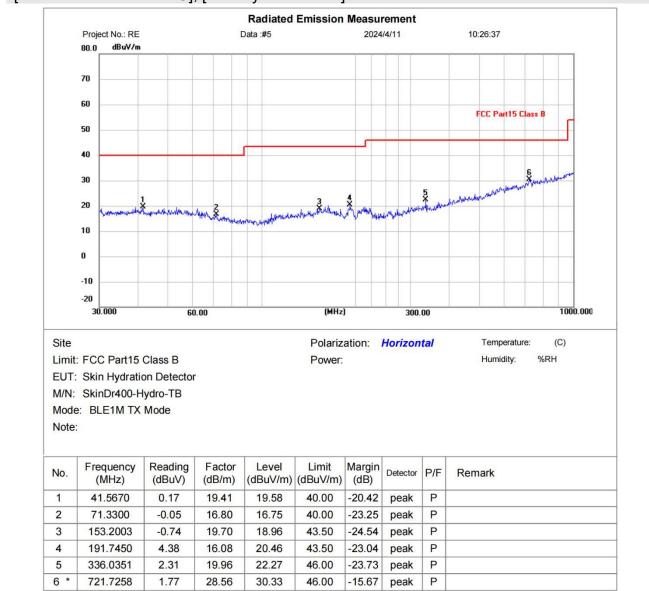
Final Test Level = Receiver Reading + Antenna Factor + Cable Factor - Preamplifier Factor

3) Scan from 9 kHz to 25GHz, the disturbance above 12.75GHz and below 30MHz was very low. The points marked on above plots are the highest emissions could be found when testing, so only above points had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported. Fundamental frequency is blocked by filter, and only spurious emission is shown.

4) For frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For the emissions whose peak level is lower than the average limit, only the peak measurement is shown in the report.



13.4 Test data

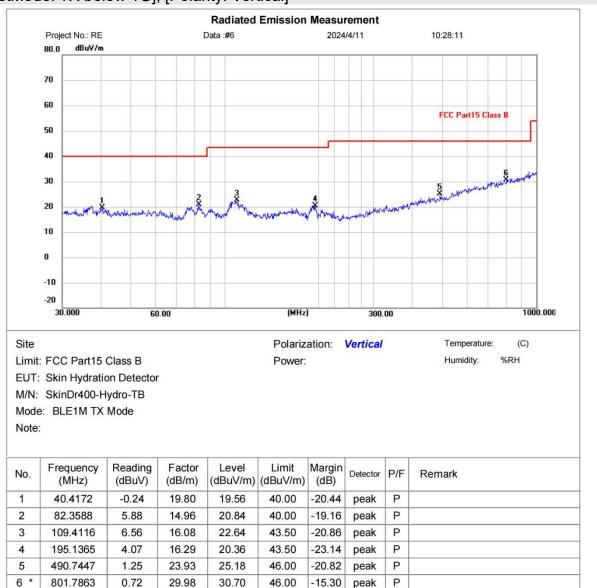


[TestMode: TX below 1G]; [Polarity: Horizontal]

*:Maximum data x:Over limit !:over margin

Test Result: Pass



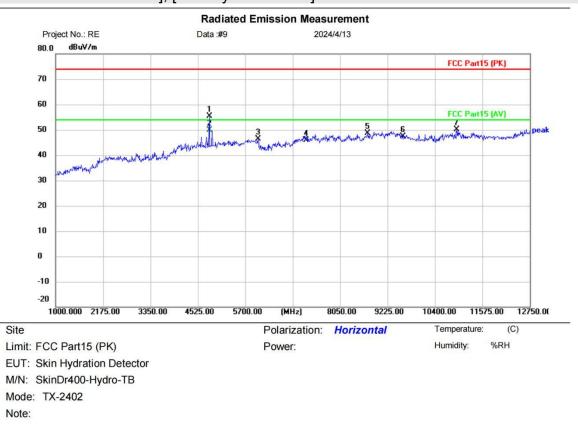


[TestMode: TX below 1G]; [Polarity: Vertical]

*:Maximum data x:Over limit !:over margin

Test Result: Pass





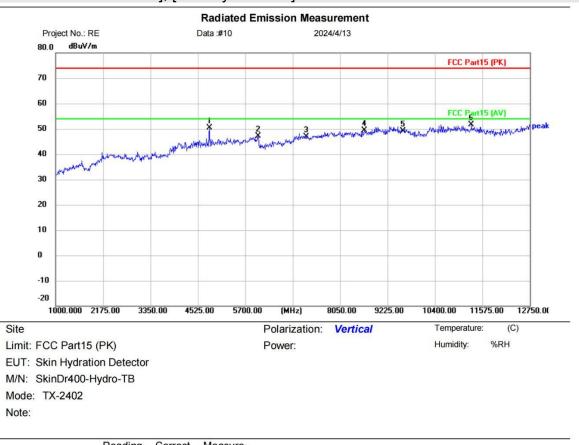
I	TestMode [.]	TX low	channell.	[Polarity	/: Horizontal]
	restinoue.		channel,	μ σιαπι	y. Honzontaij

No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4807.000	49.70	5.64	55.34	74.00	-18.66	peak	
2	*	4807.000	44.35	5.64	49.99	54.00	-4.01	AVG	
3		6017.250	40.74	5.63	46.37	74.00	-27.63	peak	
4		7206.000	36.52	9.24	45.76	74.00	-28.24	peak	
5		8731.500	36.97	11.56	48.53	74.00	-25.47	peak	
6		9608.000	34.97	12.31	47.28	74.00	-26.72	peak	
7		10940.50	36.96	13.25	50.21	74.00	-23.79	peak	

*:Maximum data	x:Over limit	!:over margin			(Reference Only
Receiver: E	SR_1		Spectrum Analyzer:	FSP40	
Antenna: E	Z 9120D 1G-18G		Engineer Signature		
t Result: P	ass				



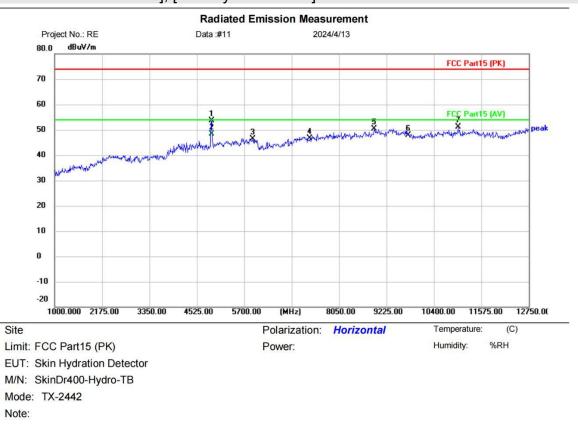
[TestMode: TX low channel]; [Polarity: Vertical]



	. Freq.	Level	Factor	ment	Limit	Over		
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
	4807.000	44.77	5.64	50.41	74.00	-23.59	peak	
	6017.250	41.46	5.63	47.09	74.00	-26.91	peak	
	7206.000	37.72	9.24	46.96	74.00	-27.04	peak	
	8649.250	38.11	11.30	49.41	74.00	-24.59	peak	
	9608.000	36.71	12.31	49.02	74.00	-24.98	peak	
*	11304.75	38.87	12.70	51.57	74.00	-22.43	peak	
	*	4807.000 6017.250 7206.000 8649.250 9608.000 * 11304.75	4807.000 44.77 6017.250 41.46 7206.000 37.72 8649.250 38.11 9608.000 36.71 * 11304.75 38.87	4807.000 44.77 5.64 6017.250 41.46 5.63 7206.000 37.72 9.24 8649.250 38.11 11.30 9608.000 36.71 12.31 * 11304.75 38.87 12.70	4807.000 44.77 5.64 50.41 6017.250 41.46 5.63 47.09 7206.000 37.72 9.24 46.96 8649.250 38.11 11.30 49.41 9608.000 36.71 12.31 49.02 * 11304.75 38.87 12.70 51.57	4807.000 44.77 5.64 50.41 74.00 6017.250 41.46 5.63 47.09 74.00 7206.000 37.72 9.24 46.96 74.00 8649.250 38.11 11.30 49.41 74.00 9608.000 36.71 12.31 49.02 74.00 * 11304.75 38.87 12.70 51.57 74.00	4807.000 44.77 5.64 50.41 74.00 -23.59 6017.250 41.46 5.63 47.09 74.00 -26.91 7206.000 37.72 9.24 46.96 74.00 -27.04 8649.250 38.11 11.30 49.41 74.00 -24.59 9608.000 36.71 12.31 49.02 74.00 -24.98 * 11304.75 38.87 12.70 51.57 74.00 -22.43	4807.000 44.77 5.64 50.41 74.00 -23.59 peak 6017.250 41.46 5.63 47.09 74.00 -26.91 peak 7206.000 37.72 9.24 46.96 74.00 -27.04 peak 8649.250 38.11 11.30 49.41 74.00 -24.59 peak 9608.000 36.71 12.31 49.02 74.00 -24.98 peak * 11304.75 38.87 12.70 51.57 74.00 -22.43 peak

x:Over limit	!:over margin			(Reference Only
R_1		Spectrum Analyzer:	FSP40	
9120D 1G-18G		Engineer Signature		
	R_1 9120D 1G-18G SS	9120D 1G-18G	9120D 1G-18G Engineer Signature	9120D 1G-18G Engineer Signature





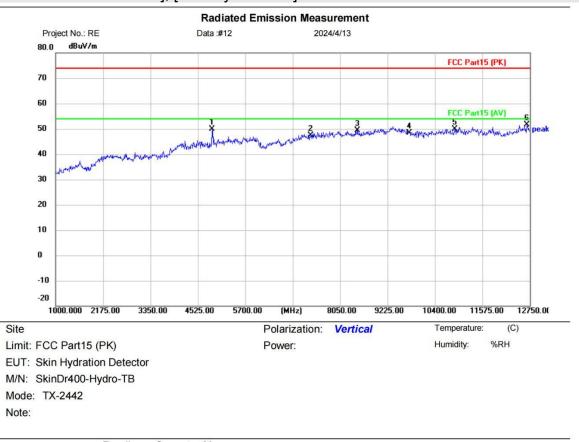
				· ·	
	lestMode.	I X mid	channell.	IPolarit\	/: Horizontal]
1	10000000		onannoij,	[1 0 0 1 1 1]	

No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4889.250	47.98	5.75	53.73	74.00	-20.27	peak	
2	*	4889.250	42.52	5.75	48.27	54.00	-5.73	AVG	
3		5911.500	37.72	8.68	46.40	74.00	-27.60	peak	
4		7326.000	37.24	9.43	46.67	74.00	-27.33	peak	
5		8919.500	38.13	12.14	50.27	74.00	-23.73	peak	
6		9768.000	35.67	12.22	47.89	74.00	-26.11	peak	
7		10999.25	37.65	13.48	51.13	74.00	-22.87	peak	

*:Maximum dat	a x:Over limit	!:over margin			(Reference Only
Receiver: E	SR_1		Spectrum Analyzer:	FSP40	
Antenna: E	Z 9120D 1G-18G		Engineer Signature		
t Result: P	ass				



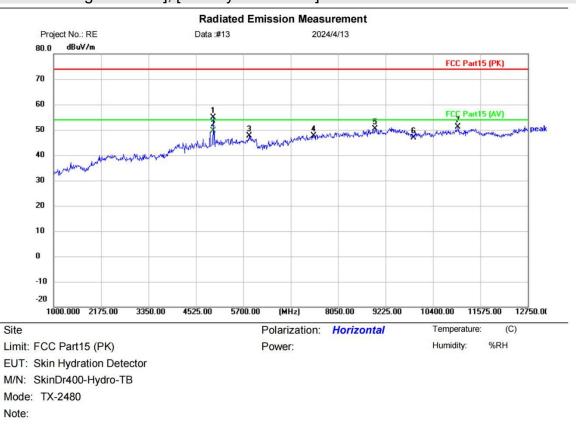
[TestMode: TX mid channel]; [Polarity: Vertical]



Mk	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
	4877.500	44.10	5.72	49.82	74.00	-24.18	peak	
	7326.000	37.84	9.43	47.27	74.00	-26.73	peak	
	8473.000	38.62	10.77	49.39	74.00	-24.61	peak	
	9768.000	36.27	12.22	48.49	74.00	-25.51	peak	
	10893.50	36.75	13.08	49.83	74.00	-24.17	peak	
*	12679.50	38.35	13.27	51.62	74.00	-22.38	peak	
		MHz 4877.500 7326.000 8473.000 9768.000 10893.50 * 12679.50	Mk. Freq. Level MHz dBuV 4877.500 44.10 7326.000 37.84 8473.000 38.62 9768.000 36.27 10893.50 36.75 * 12679.50 38.35	Mk. Freq. Level Factor MHz dBuV dB 4877.500 44.10 5.72 7326.000 37.84 9.43 8473.000 38.62 10.77 9768.000 36.27 12.22 10893.50 36.75 13.08 * 12679.50 38.35 13.27	Mk. Freq. Level Factor ment MHz dBuV dB dBuV/m 4877.500 44.10 5.72 49.82 7326.000 37.84 9.43 47.27 8473.000 38.62 10.77 49.39 9768.000 36.27 12.22 48.49 10893.50 36.75 13.08 49.83 * 12679.50 38.35 13.27 51.62	Mk. Freq. Level Factor ment Limit MHz dBuV dB dBuV/m dBuV/m 4877.500 44.10 5.72 49.82 74.00 7326.000 37.84 9.43 47.27 74.00 8473.000 38.62 10.77 49.39 74.00 9768.000 36.27 12.22 48.49 74.00 10893.50 36.75 13.08 49.83 74.00 * 12679.50 38.35 13.27 51.62 74.00	Mk. Freq. Level Factor ment Limit Over MHz dBuV dB dBuV/m dBuV/m dB 4877.500 44.10 5.72 49.82 74.00 -24.18 7326.000 37.84 9.43 47.27 74.00 -26.73 8473.000 38.62 10.77 49.39 74.00 -24.61 9768.000 36.27 12.22 48.49 74.00 -25.51 10893.50 36.75 13.08 49.83 74.00 -24.17 * 12679.50 38.35 13.27 51.62 74.00 -22.38	Mk. Freq. Level Factor ment Limit Over MHz dBuV dB dBuV/m dBuV/m dB Detector 4877.500 44.10 5.72 49.82 74.00 -24.18 peak 7326.000 37.84 9.43 47.27 74.00 -26.73 peak 8473.000 38.62 10.77 49.39 74.00 -24.61 peak 9768.000 36.27 12.22 48.49 74.00 -25.51 peak 10893.50 36.75 13.08 49.83 74.00 -24.17 peak * 12679.50 38.35 13.27 51.62 74.00 -22.38 peak

x:Over limit	!:over margin			(Reference Only
R_1		Spectrum Analyzer:	FSP40	
9120D 1G-18G		Engineer Signature		
	R_1 9120D 1G-18G SS	9120D 1G-18G	9120D 1G-18G Engineer Signature	9120D 1G-18G Engineer Signature





[TestMode: TX high channel]; [Polarity: Horizontal]

Ormert

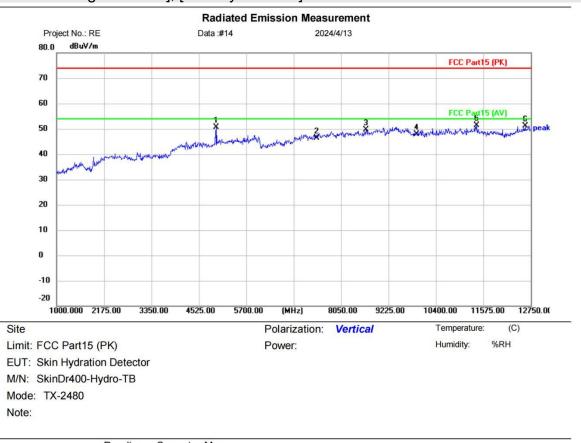
14

No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4959.750	48.29	6.60	54.89	74.00	- <mark>19.11</mark>	peak	
2	*	4959.750	42.98	6.60	49.58	54.00	-4.42	AVG	
3		5841.000	39.44	8.31	47.75	74.00	-26.25	peak	
4		7440.000	37.87	9.64	47.51	74.00	-26.49	peak	
5		8966.500	37.96	12.32	50.28	74.00	-23.72	peak	
6		9920.000	34.75	12.14	46.89	74.00	-27.11	peak	
7		11022.75	37.85	13.32	51.17	74.00	-22.83	peak	

*:Maximum o	lata	x:Over limit	!:over margin			Reference Only
Receiver:	ESR	_1		Spectrum Analyzer:	FSP40	
Antenna:	EZ 9	120D 1G-18G		Engineer Signature		
st Result:	Pas	S				



[TestMode: TX high channel]; [Polarity: Vertical]



Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
	4959.750	44.07	6.60	50.67	74.00	-23.33	peak	
	7440.000	36.70	9.64	46.34	74.00	-27.66	peak	
	8661.000	38.23	11.34	49.57	74.00	-24.43	peak	
	9920.000	35.86	12.14	48.00	74.00	-26.00	peak	
*	11410.50	38.83	12.61	51.44	74.00	-22.56	peak	
	12609.00	38.21	12.99	51.20	74.00	-22.80	peak	
	Mk	MHz 4959.750 7440.000 8661.000 9920.000 * 11410.50	Mk. Freq. Level MHz dBuV 4959.750 44.07 7440.000 36.70 8661.000 38.23 9920.000 35.86 * 11410.50 38.83 12609.00 38.21	Mk. Freq. Level Factor MHz dBuV dB 4959.750 44.07 6.60 7440.000 36.70 9.64 8661.000 38.23 11.34 9920.000 35.86 12.14 * 11410.50 38.83 12.61 12609.00 38.21 12.99	Mk. Freq. Level Factor ment MHz dBuV dB dBuV/m 4959.750 44.07 6.60 50.67 7440.000 36.70 9.64 46.34 8661.000 38.23 11.34 49.57 9920.000 35.86 12.14 48.00 * 11410.50 38.83 12.61 51.44 12609.00 38.21 12.99 51.20	Mk. Freq. Level Factor ment Limit MHz dBuV dB dBuV/m dBuV/m 4959.750 44.07 6.60 50.67 74.00 7440.000 36.70 9.64 46.34 74.00 8661.000 38.23 11.34 49.57 74.00 9920.000 35.86 12.14 48.00 74.00 * 11410.50 38.83 12.61 51.44 74.00 12609.00 38.21 12.99 51.20 74.00	Mk. Freq. Level Factor ment Limit Over MHz dBuV dB dBuV/m dBuV/m dB 4959.750 44.07 6.60 50.67 74.00 -23.33 7440.000 36.70 9.64 46.34 74.00 -27.66 8661.000 38.23 11.34 49.57 74.00 -24.43 9920.000 35.86 12.14 48.00 74.00 -26.00 * 11410.50 38.83 12.61 51.44 74.00 -22.56 12609.00 38.21 12.99 51.20 74.00 -22.80	Mk. Freq. Level Factor ment Limit Over MHz dBuV dB dBuV/m dBuV/m dB Detector 4959.750 44.07 6.60 50.67 74.00 -23.33 peak 7440.000 36.70 9.64 46.34 74.00 -27.66 peak 8661.000 38.23 11.34 49.57 74.00 -24.43 peak 9920.000 35.86 12.14 48.00 74.00 -22.60 peak * 11410.50 38.83 12.61 51.44 74.00 -22.80 peak 12609.00 38.21 12.99 51.20 74.00 -22.80 peak

x:Over limit	!:over margin			(Reference Only
R_1		Spectrum Analyzer:	FSP40	
9120D 1G-18G		Engineer Signature		
	R_1 9120D 1G-18G SS	9120D 1G-18G	9120D 1G-18G Engineer Signature	9120D 1G-18G Engineer Signature



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Remark:

- 1. Final Level =Receiver Read level + Correct factor
- 2. Correct factor = Antenna Factor + Cable Loss Preamplifier Factor
- 3. The emission levels of other frequencies are very lower than the limit and not show in test report.

BlueAsia of Technical Services(Shenzhen) Co.,Ltd. Tel: +86-755-23059481 Email: marketing@cblueasia.com www.cblueasia.com



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14 Radiated emissions which fall in the restricted bands

Test Standard	47 CFR Part 15, Subpart C 15.247							
Test Method	ANSI C63.10 (2013) Section 6.10.5							
Test Mode (Pre-Scan)	тх							
Test Mode (Final Test)	ТХ							
Tester	Jozu							
Temperature	25°C							
Humidity	60%							

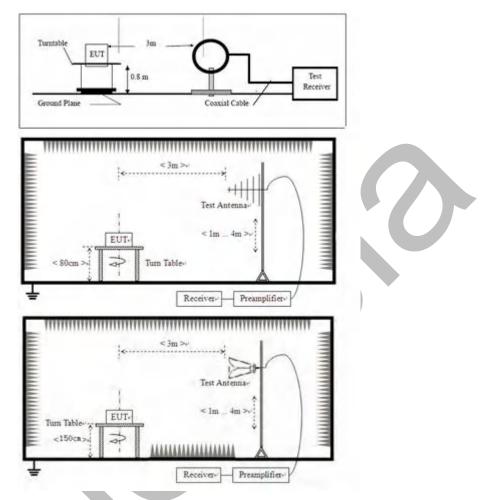
14.1 Limits

Frequency(MHz)	Field strength(microvolts/meter)	Measurement distance(meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

Remark: The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90kHz, 110-490kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.



14.2 Test setup



14.3 Procedure

a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.

b. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.

c. The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

d. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

e. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

f. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

g. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.



h. Test the EUT in the lowest channel, the middle channel, the highest channel.

i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.

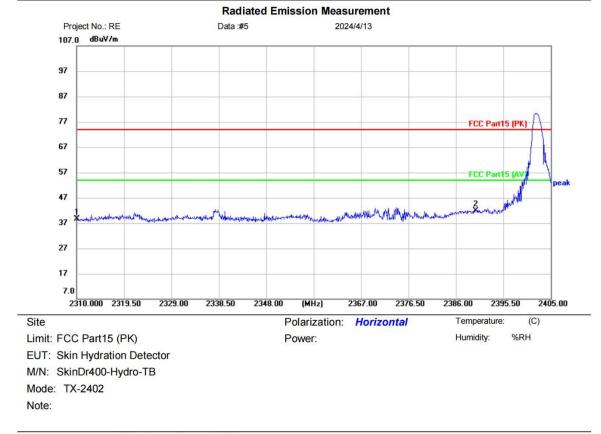
j. Repeat above procedures until all frequencies measured was complete.

Remark 1: Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor

Remark 2: For frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For the emissions whose peak level is lower than the average limit, only the peak measurement is shown in the report.



14.4 Test data



[TestMode: TX low channel]; [Polarity: Horizontal]

No.	M	k. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over			
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment	
1		2310.000	41.59	-2.89	38.70	74.00	-35.30	peak		
2	*	2390.000	44.57	-2.70	41.87	74.00	-32.13	peak		

*:Maximum data	x:Over limit	!:over margin			(Reference Only
Receiver: ES	SR_1		Spectrum Analyzer:	FSP40	
Antenna: EZ	2 9120D 1G-18G		Engineer Signature		
st Result: Pa	iss				



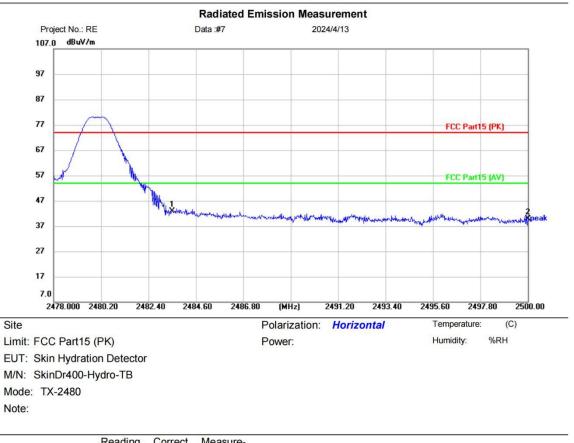
Radiated Emission Measurement Data :#6 2024/4/13 Project No.: RE 107.0 dBuV/m 97 87 77 FCC Part15 (PK) 67 57 FCC Part15 (AV 47 MA. alat 37 27 17 7.0 2310.000 2319.50 2329.00 2338.50 2348.00 (MHz) 2367.00 2376.50 2395.50 2405.00 2386.00 Polarization: Vertical Site Temperature: (C) Limit: FCC Part15 (PK) Humidity: %RH Power: EUT: Skin Hydration Detector M/N: SkinDr400-Hydro-TB Mode: TX-2402 Note:

[TestMode: TX low channel]; [Polarity: Vertical]

No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over			
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment	
1		2310.000	41.84	-2.89	38.95	74.00	-35.05	peak		
2	*	2390.000	44.79	-2.70	42.09	74.00	-31.91	peak		

*:Maximum data		x:Over limit	!:over margin			(Reference Only
Receiver:	ESR	_1		Spectrum Analyzer:	FSP40	
Antenna:	EZ 9	120D 1G-18G		Engineer Signature		
st Result	: Pas	S				



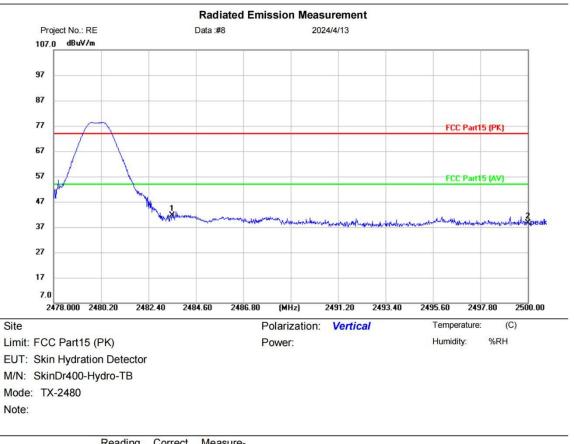


[TestMode: TX high channel]; [Polarity: Horizontal]

No.	M	k. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	2483.500	45.88	-2.91	42.97	74.00	-31.03	peak	
2		2500.000	42.81	-3.00	39.81	74.00	-34.19	peak	

*:Maximum da	ta	x:Over limit	!:over margin			(Reference Only
Receiver:	ESR_1	li i		Spectrum Analyzer:	FSP40	
Antenna:	EZ 912	20D 1G-18G		Engineer Signature		
st Result: F	Pass	5				





[TestMode: TX high channel]; [Polarity: Vertical]

No.	M	k. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	2483.500	44.63	-2.91	41.72	74.00	-32.28	peak	
2		2500.000	41.63	-3.00	38.63	74.00	-35.37	peak	

*:Maximum d	*:Maximum data		!:over margin			Reference Only
Receiver:	ESR	_1		Spectrum Analyzer:	FSP40	
Antenna:	EZ 9	120D 1G-18G		Engineer Signature		
st Result:	Pas	S				



Report No.: BLA-EMC-202404-A1502 Page 36 of 59

Remark:

- 1. Final Level =Receiver Read level + Correct factor
- 2. Correct factor = Antenna Factor + Cable Loss Preamplifier Factor
- 3. The emission levels of other frequencies are very lower than the limit and not show in test report.

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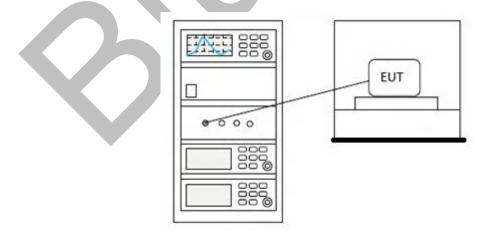
Test Standard	47 CFR Part 15, Subpart C 15.247
Test Method	ANSI C63.10 (2013) Section 7.8.6 & Section 11.11
Test Mode (Pre-Scan)	ТХ
Test Mode (Final Test)	ТХ
Tester	Jozu
Temperature	25°C
Humidity	60%

15 Conducted spurious emissions

15.1 Limits

Limit: 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, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

15.2 Test setup



15.3 Test data

Pass: Please Refer To Appendix: Appendix1 For Details



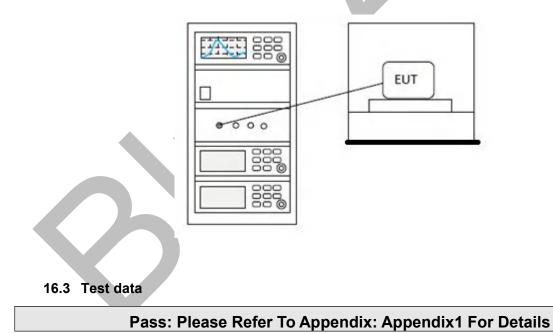
16 Power spectrum density

Test Standard	47 CFR Part 15, Subpart C 15.247
Test Method	ANSI C63.10 (2013) Section 11.10.2
Test Mode (Pre-Scan)	ТХ
Test Mode (Final Test)	ТХ
Tester	Jozu
Temperature	25°C
Humidity	60%

16.1 Limits

	≤8dBm in any 3 kHz band during any time interval of continuous
Limit:	transmission

16.2 Test setup





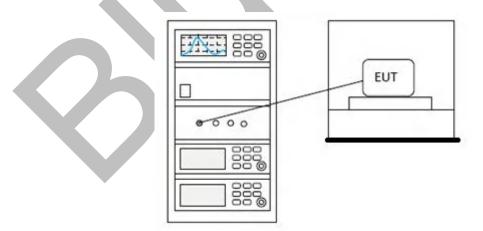
17 Conducted peak output power

Test Standard	47 CFR Part 15, Subpart C 15.247
Test Method	ANSI C63.10 (2013) Section 7.8.5
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX
Tester	Jozu
Temperature	25°C
Humidity	60%
17.1 Limits	

17.1 Limits

Frequency range(MHz)	Output power of the intentional radiator(watt)	
	1 for ≥50 hopping channels	
902-928	0.25 for 25≤ hopping channels <50	
	1 for digital modulation	
	1 for ≥75 non-overlapping hopping channels	
2400-2483.5	0.125 for all other frequency hopping systems	
	1 for digital modulation	
	1 for frequency hopping systems and digital	
5725-5850	modulation	

17.2 Test setup



17.3 Test data

Pass: Please Refer To Appendix: Appendix1 For Details



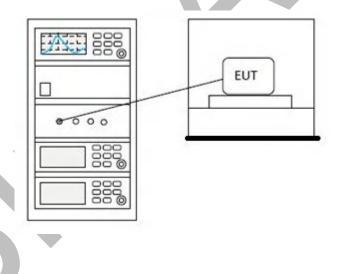
18 Minimum 6dB bandwidth

Test Standard	47 CFR Part 15, Subpart C 15.247
Test Method	ANSI C63.10 (2013) Section 11.8.1
Test Mode (Pre-Scan)	ТХ
Test Mode (Final Test)	ТХ
Tester	Jozu
Temperature	25 ℃
Humidity	60%

18.1 Limits

Limit: ≥500 kHz

18.2 Test setup



18.3 Test data

Pass: Please Refer To Appendix: Appendix1 For Details



19 Antenna requirement

Test Standard	47 CFR Part 15, Subpart C 15.247
Test Method	N/A

19.1 Conclusion

Standard Requirement:

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. The use of a antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit permanently attached antenna or of an so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

EUT Antenna:

The best case gain of the antenna is 1.5dBi.

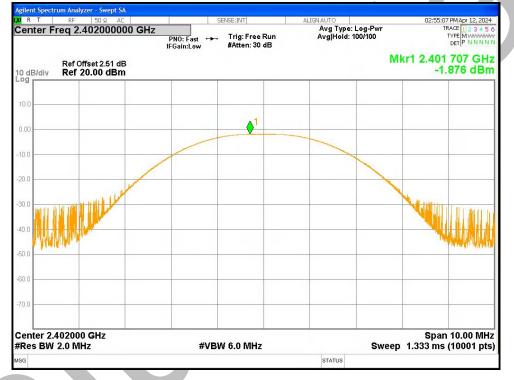


20 Appendix1

Maximum Conducted Output Power

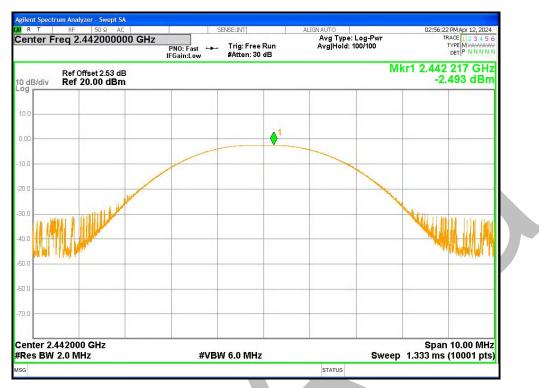
Condition	Mode	Frequency	Antenna	Conducted Power	Limit	Verdict
		(MHz)		(dBm)	(dBm)	
NVNT	BLE	2402	Ant1	-1.876	30	Pass
NVNT	BLE	2442	Ant1	-2.493	30	Pass
NVNT	BLE	2480	Ant1	-2.675	30	Pass

Power NVNT BLE 2402MHz Ant1



Power NVNT BLE 2442MHz Ant1





Power NVNT BLE 2480MHz Ant1





-6dB Bandwidth

Condition	Mode	Frequency	Antenna	-6 dB	Limit -6 dB	Verdict
		(MHz)		Bandwidth	Bandwidth (MHz)	
		. ,		(MHz)		
NVNT	BLE	2402	Ant1	0.661	0.5	Pass
NVNT	BLE	2442	Ant1	0.64	0.5	Pass
NVNT	BLE	2480	Ant1	0.702	0.5	Pass

-6dB Bandwidth NVNT BLE 2402MHz Ant1



-6dB Bandwidth NVNT BLE 2442MHz Ant1



Agilent Spectrum Analyzer - Occupied B K/ R T RF 50 Q AC		SENSE:INT	ALIGN AUTO	02:56:34 PM Apr 12, 2024
Center Freq 2.44200000	I GHz #IFGain:Low	Center Freq: 2.4420000 Trig: Free Run #Atten: 30 dB		Radio Std: None Radio Device: BTS
Ref Offset 2.53 d 0 dB/div Ref 22.53 dBn				Mkr1 2.442 GHz -3.9432 dBm
.og 12.5				
2.53		1		
7.47	mon	mon and a month	m	
7.5			manne	
27.5				Non the case of
37.5				. A AMMUNICAN
47.5				
57.5				
67.5				
Center 2.442 GHz #Res BW 100 kHz		#VBW 300 k	Hz	Span 2 MHz Sweep 1.333 ms
Occupied Bandwidt	_h 0640 MHz	Total Power	3.59 dBm	
Transmit Freq Error	-24.203 kHz	OBW Power	99.00 %	
x dB Bandwidth	639.8 kHz	x dB	-6.00 dB	
ISG			STATUS	

-6dB Bandwidth NVNT BLE 2480MHz Ant1





Occupied Channel Bandwidth

Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	BLE	2402	Ant1	1.047242051
NVNT	BLE	2442	Ant1	1.044711763
NVNT	BLE	2480	Ant1	1.053355892

ilent Spectrum Analyzer - Occupied BW RΤ 02:55:13 PM Apr 12, 2024 Radio Std: None SENSE:INT ALIGNAUTO Center Freq: 2.402000000 GHz Trig: Free Run Avg|Ho #Atten: 30 dB Center Freq 2.402000000 GHz Avg|Hold: 100/100 -Radio Device: BTS #IFGain:Low Ref Offset 2.51 dB Ref 22.51 dBm 10 dB/div .og Vm Center 2.402 GHz #Res BW 30 kHz Span 3 MHz #VBW 100 kHz Sweep 3.333 ms **Total Power** 4.64 dBm **Occupied Bandwidth** 1.0472 MHz -19.384 kHz **Transmit Freq Error OBW Power** 99.00 % x dB Bandwidth 1.282 MHz x dB -26.00 dB STATUS

OBW NVNT BLE 2402MHz Ant1

OBW NVNT BLE 2442MHz Ant1



ilent Spectrum Analyzer - Occupied B R T RF 50 Ω AC	w	SENSE:INT	ALIGNAUTO	02:56:28 PM Apr 12, 2024
enter Freq 2.442000000	I GHz #IEGain:Low	Center Freq: 2.4420000		Radio Std: None Radio Device: BTS
Ref Offset 2.53 dl 0 dB/div Ref 22.53 dBn 9g	В		· · · ·	
2.5				
.53				
.47	a min	man	home	
7.5	and the		m	
7.5	- M			ward
7.5	mur l		-	www.
7.5 mar Marson -				- Ver m
7.5				
enter 2.442 GHz Res BW 30 kHz		#VBW 100 k	Hz	Span 3 MHz Sweep 3.333 ms
Occupied Bandwidt	h	Total Power	3.97 dBm	
1.	0447 MHz			
Transmit Freq Error	-20.209 kHz	OBW Power	99.00 %	
x dB Bandwidth	1.300 MHz	x dB	-26.00 dB	
G			STATUS	
u			STATUS	

OBW NVNT BLE 2480MHz Ant1





Maximum Power Spectral Density Level

Condition	Mode	Frequency (MHz)	Antenna	Max PSD (dBm)	Limit (dBm)	Verdict
NVNT	BLE	2402	Ant1	-18.571	8	Pass
NVNT	BLE	2442	Ant1	-19.266	8	Pass
NVNT	BLE	2480	Ant1	-19.7	8	Pass

PSD NVNT BLE 2402MHz Ant1



PSD NVNT BLE 2442MHz Ant1





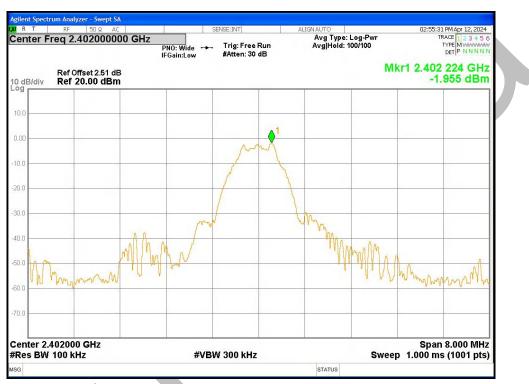
PSD NVNT BLE 2480MHz Ant1





Band Edge

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE	2402	Ant1	-44.96	-20	Pass
NVNT	BLE	2480	Ant1	-42.83	-20	Pass



Band Edge NVNT BLE 2402MHz Ant1 Ref

Band Edge NVNT BLE 2402MHz Ant1 Emission



R	Т	RF	a <mark>lyzer - Swept</mark> S 50 Ω A	c l	SEN	SE:INT	ALIGN AUTO		02:55:34	4 PM Apr 12, 2024
ent	er F	req 2	2.3560000	PN	0:East ↔	Trig: Free Run #Atten: 30 dB	Avg Type Avg Hold:	: Log-Pwr 100/100	TI	RACE 123456 TYPE MWMMM DET P NNNN
0 dB	/div		Offset 2.51 d 20.00 dBr							02 2 GHz 117 dBm
10.0	_									
0.00										\
10.0										A
20.0										-21.96.dBm
-30.0										\wedge^2
40.0									~	
-50.0		_	-		1		X		$\sqrt{3}$	
60.0	artrate	wy Prof Las	and the second	mannaman	1 manufacture	yourshappy	mound property	aladhim on the	1 who had a had a	New W
70.0										
		0600 / 100			#VBW	300 kHz		Sweep		40600 GHz s (1001 pts)
		IRC SCL		X	Y	FUNCTION	FUNCTION WIDTH	FL	INCTION VALUE	^
2 3 4	N N N N	1 f 1 f 1 f		2.402 2 GHz 2.400 0 GHz 2.390 0 GHz 2.370 0 GHz	-2.117 dB -36.449 dB -53.572 dB -46.913 dB	m m				
5 6 7 8 9										
10 11										
						1111				
SG							STATUS			

Band Edge NVNT BLE 2480MHz Ant1 Ref



Band Edge NVNT BLE 2480MHz Ant1 Emission



gilent Spectrum Analyzer - Swept S R T RE 50.9 A	SA	SENSE:INT	ALIGNAUTO	02:57:57 PM Apr 12, 2024
jient Spectrum Analyzer - Swept S R T RF 50 Ω A enter Freq 2.5260000	000 GHz PNO: Fa IFGain:L	st 🛶 Trig: Free Run	Avg Type: Log-Pwr Avg Hold: 100/100	TRACE 1 2 3 4 5 6 TYPE MWWWW DET P N N N N
Ref Offset 2.58 c dB/div Ref 20.00 dB	яв		M	kr1 2.480 2 GHz -2.712 dBm
1.00 1				
0.0				
0.0				-23.28 dBm
2.0 V William	Munhammer and	mannelermalenamenan	eronance transmission	have a second and a second
0.0				
tart 2.47600 GHz			•	Stop 2.57600 GHz
Res BW 100 kHz	×	#VBW 300 kHz		9.600 ms (1001 pts)
1 N 1 f	2.480 2 GHz 2.483 5 GHz	-2.712 dBm 56.384 dBm		
3 N 1 f 4 N 1 f	2.500 0 GHz 2.483 9 GHz	58.477 dBm 46.114 dBm		
5 6 7				
2 N 1 f 3 N 1 f 5 6 7 8 9 00				
1				
G			STATUS	
		2		



Conducted RF Spurious Emission

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE	2402	Ant1	-39.75	-20	Pass
NVNT	BLE	2442	Ant1	-38.2	-20	Pass
NVNT	BLE	2480	Ant1	-36.52	-20	Pass

Tx. Spurious NVNT BLE 2402MHz Ant1 Ref

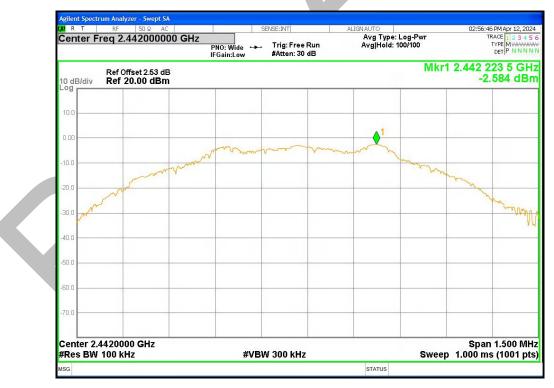


Tx. Spurious NVNT BLE 2402MHz Ant1 Emission



ent Spectrum Analyzer - Swept SA						
R T RF 50 Ω AC Inter Freq 13.265000000	GH7	ISE:INT	ALIGNAUTO Avg Type:	Log-Pwr		PM Apr 12, 2024 ACE 1 2 3 4 5 6
111011104 13.203000000	PNO: Fast	Trig: Free Run #Atten: 30 dB	Avg Hold:		Т	YPE MWWWWW DET P NNNNN
Ref Offset 2.51 dB dB/div Ref 20.00 dBm						412 GHz 168 dBm
g						
.0						
.0						
.0						-22.11 dBm
.0						
.0	A				Aus	i malam
0 America demons		mennemperhing	and the second states	and and an and and	marent	
0 hardenter werther w	the second polyhold and the second					
.0						
art 30 MHz les BW 100 kHz	#\/D\/	300 kHz		Swoo	Stop 2.530 s	26.50 GHz
					-	(1001 pts)
R MODE TRC SCL X	412 GHz -2.468 dB		FUNCTION WIDTH	FU	NCTION VALUE	
	795 GHz -41.859 dE 795 GHz -41.859 dE					
	203 GHz -47.766 dE	3m				
N 1 f 9.	665 GHz -55.880 dE	3m				
N 1 f 7. N 1 f 9.						
						~
						>
			STATUS			

Tx. Spurious NVNT BLE 2442MHz Ant1 Ref



Tx. Spurious NVNT BLE 2442MHz Ant1 Emission



4 R T RF 50 Ω AC SENSE:INT ALIGNA Center Freq 13.265000000 GHz A FNO: Fast → Trig: Free Run Av FGain:Low #Atten: 30 dB	Avg Type: Log-Pwr TRACE 1 2 3 4 5 6
	vg Hold: 10/10 TYPE MWWWW DET P NNNN
Ref Offset 2.53 dB 0 dB/div Ref 20.00 dBm -99	Mkr1 2.439 GHz -3.045 dBm
10.0	
0.00	
20.0	-22.58 dBm
30.0	
40.0	
a province and a subject of the second strategy and the second strategy and the second strategy and the second strategy and se	More and assessment of the second of the second sec
60.0 	
Start 30 MHz	Stop 26.50 GHz
Res BW 100 kHz #VBW 300 kHz	Sweep 2.530 s (1001 pts)
MODE TRC SCL X Y FUNCTION FUNCTION 1 N 1 f 2.439 GHz -3.045 dBm	WIDTH FUNCTION VALUE
2 N 1 f 4.874 GHz -40.789 dBm 3 N 1 f 4.874 GHz -40.789 dBm	
4 N 1 f 7.336 GHz 53.079 dBm 5 N 1 f 9.586 GHz 56.041 dBm	
6 7	
4 N 1 f 7.336 GHz -53.079 dBm 5 N 1 f 9.586 GHz -56.041 dBm 7 8 9 0	
11	×
sc	STATUS

Tx. Spurious NVNT BLE 2480MHz Ant1 Ref



Tx. Spurious NVNT BLE 2480MHz Ant1 Emission



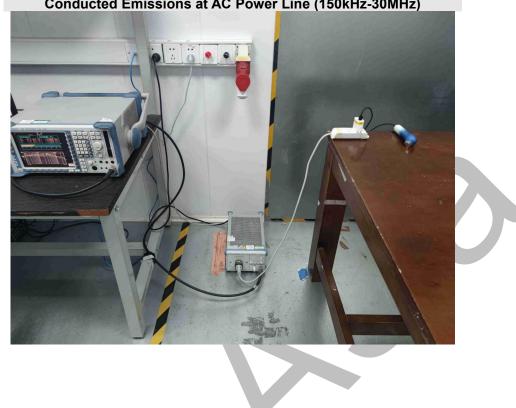
gilent	Spe	ctrur	n Ana	lyzer - Swept SA								
ent	er	Fre	RF eq 1	50 Q AC	PNC	l: Fast ↔	SE:INT Trig: Free Run #Atten: 30 dB		vg Type: L vg Hold: 10		TF	PM Apr 12, 2024 RACE 1 2 3 4 5 6 TYPE M WAAAAAAA DET P N N N N N
) dE	8/div			Offset 2.58 dE 20.00 dBm								492 GHz 374 dBm
0.0				1								
0.0												
0.0 0.0					•							-22.92 dBm
io.o 50.0			-				بەر بەر مەر مەر مەر مەر مەر مەر مەر مەر مەر م	the standard	mannan		Maryan and Maryan	halesensitessame
0.0 0.0	har	مسميل	and '	her and the second of	and a strategy and a	teographic both	an about about a fair a					
) MI W 1	-1z 00 H	kHz		#VBW :	300 kHz			Swe	Stop ep 2.530 s	26.50 GHz (1001 pts)
1 2 3	N N N N		f f f f	••••••	2.492 GHz 4.953 GHz 4.953 GHz 7.600 GHz	-5.374 dB -39.447 dB -39.447 dB -39.447 dB -54.860 dB	m m	FUNCTION	WIDTH	F	UNCTION VALUE	^
	N		f		10.009 GHz	-54.610 dB						
9 10 1												~
SG									STATUS			





APPENDIX A: PHOTOGRAPHS OF TEST SETUP





Conducted Emissions at AC Power Line (150kHz-30MHz)



APPENDIX B: PHOTOGRAPHS OF EUT

Reference to the test report No. BLA-EMC-2024-A1501

----END OF REPORT----

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