



 Project No.:
 TM-2207000341P

 Report No.:
 TMTN2207001012NR

FCC ID: GDDJR-925

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FCC 47 CFR PART 15 SUBPART C AND ANSI C63.10: 2013

TEST REPORT

For

Cherry Wireless Dongle

Model: JR-925

Brand: CHERRY

Issued for

Cherry Europe GmbH

Cherrystraße, 91275 Auerbach, Deutschland/Germany

Issued by:

Compliance Certification Services Inc.

Tainan Lab. No.8, Jiucengling, Xinhua Dist., Tainan City , Taiwan Issued Date: October 14, 2022

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程智科技股份有限公司_	



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REVISION HISTORY

Rev.	Issue Date	Revisions	Effect Page	Revised By
00	October 14, 2022	Initial Issue	ALL	Gina Lin



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1. TEST REPORT CERTIFICATION

Applicant Manufacturer	•	Cherry Europe GmbH Cherrystraße, 91275 Auerbach, Deutschland/Germany Jing Mold Electronic Tech. (Shen Zhen) Co., Ltd Xin Qiao 3rd Industrial Estate, Sha Jing, Bao An, Shenzhen, Guangdong, P.R. China
Equipment Under Test	:	Cherry Wireless Dongle
Model Number	:	JR-925
Brand Name	:	CHERRY
Date of Test	:	August 25, 2022 ~ August 29, 2022

APPLICABLE STANDARD				
STANDARD	TEST RESULT			
FCC 47 CFR Part 15 Subpart C ANSI C63.10: 2013	No non-compliance noted			

Statements of Conformity

Determining compliance shall be based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

FCC Standard Section	Report Section	Test Item	Result
15.247(a)	8.1	6dB BANDWIDTH	Pass
15.247(b)	8.2	MAXIMUM PEAK OUTPUT POWER	Pass
-	8.3	DUTY CYCLE	-
15.247(e)	8.4	POWER SPECTRAL DENSITY	Pass
15.247(d)	8.5	CONDUCTED SPURIOUS EMISSION	Pass
15.205(a)	8.6	RADIATED EMISSIONS	Pass
15.207(a)	8.7	POWERLINE CONDUCTED EMISSIONS	Pass
15.203	9	ANTENNA REQUIREMENT	Pass

Approved by:

John Chen

John Chen Supervisor



2. EUT DESCRIPTION

2.1 DESCRIPTION OF EUT & POWER

Product Name	Cherry Wireless Dongle
Model Number	JR-925
Brand Name	CHERRY
Received Date	July 21, 2022
Reported Date	September 05, 2022
Operating Frequency Range	2402MHz~2480MHz
Transmit Power	1.85dBm (1.529mW)
Average Power	1.43dBm (1.392mW)
Channel Spacing	2 MHz
Channel Number	40 Channels
Transmit Data Rate	1 Mbps
Type of Modulation	GFSK
Antenna Type	Manufacturer: ONEWAVE Type: Chip Antenna Model: WAN2012F245L08 Gain: 1.23 dBi
RF Module Model	nRF52833
Power Source	DC 5V
Temperature Range	0°C ~ +40°C
Firmware Version	002
Software Version	N/A

REMARK: 1. The sample selected for test was engineering sample that approximated to production product and was provided by manufacturer.

- 2. This submittal(s) (test report) is intended for FCC ID: <u>GDDJR-925</u> filing to comply with Section 15.207, 15.209 and 15.247 of the FCC Part 15, Subpart C Rules.
- 3. For more details, please refer to the user manual.
- 4. According to customer declaration Cherry Wireless Keyboard (JG-925 / FCC ID: GDDJG-925) for sale.

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3. DESCRIPTION OF TEST MODES

The EUT is a Cherry Wireless Dongle.

The RF Chip is manufactured by Nordic

The antenna peak gain 1.23 dBi (highest gain) were chosen for full testing.

GFSK mode

The EUT had been tested under operating condition.

There are three channels have been tested as following:

Channel	Frequency (MHz)
Low	2402
Middle	2440
High	2480

GFSK mode: 1Mbps long data rates (worst case) were chosen for full testing.

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4. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.10 and FCC CFR 47 15.207, 15.209 and 15.247 and KDB 558074.

5. FACILITIES AND ACCREDITATIONS

5.1 FACILITIES

All measurement facilities used to collect the measurement data are located at

No.8, Jiucengling, Xinhua Dist., Tainan City 712, Taiwan (R.O.C.)

No. 168, Ln. 523, Sec. 3, Zhongzheng Rd., Rende Dist., Tainan City 717017, Taiwan (R.O.C.)

The sites are constructed in conformance with the requirements of ANSI C63.7:1992, ANSI C63.10: 2013 and CISPR Publication 22.

5.2 EQUIPMENT

Radiated emissions are measured with one or more of the following types of linearly polarized antennas: tuned dipole, biconical, log periodic, bi-log, and/or ridged waveguide, horn. Spectrum analyzers with preselectors and quasi-peak detectors are used to perform radiated measurements.

Conducted emissions are measured with Line Impedance Stabilization Networks and EMI Test Receivers.

Calibrated wideband preamplifiers, coaxial cables, and coaxial attenuators are also used for making measurements.

All receiving equipment conforms to CISPR Publication 16-1, "Radio Interference Measuring Apparatus and Measurement Methods."

5.3 LABORATORY ACCREDITATIONS LISTINGS

The test facilities used to perform radiated and conducted emissions tests are accredited by Taiwan Accreditation Foundation for the specific scope of accreditation under Lab Code: 1109 to perform Electromagnetic Interference tests according to FCC PART 15 AND CISPR 22 requirements. No part of this report may be used to claim or imply product endorsement by TAF or any agency of the Government. In addition, the test facilities are listed with Federal Communications Commission (registration no: TW1109).



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5.4 TABLE OF ACCREDITATIONS AND LISTINGS

Our laboratories are accredited and approved by the following accreditation body according to ISO/IEC 17025.

Taiwan TAF

The measuring facility of laboratories has been authorized or registered by the following approval agencies.

Canada	Industry Canada
Germany	TUV NORD
Taiwan	BSMI
USA	FCC



5.5 MEASUREMENT EQUIPMENT USED

For §8.6

Chamber 1166 Room (Radiated Test)						
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due	
Active Loop Antenna	ETS-LINDREN	6502	8905-2356	09/06/2021	09/05/2022	
Attenuator	MCL	BW-S15W5	0535	01/28/2022	01/27/2023	
Band Reject Filter	MICRO-TRONICS	HPM13525	006	01/28/2022	01/27/2023	
Band Reject Filter	MICRO-TRONICS	HP50107-01	001	01/28/2022	01/27/2023	
Bilog Antenna With 6dB Attenuator	SUNOL SCIENCES & EMCI	JB1 & N-6-06	A021306 & AT-N0682	10/07/2021	10/06/2022	
Cable	EMCI	EM102-KMKM	CB1166-01	06/20/2022	06/19/2023	
Double Ridged Guide Horn Antenna	ETS-LINDGREN	3116	00078900	03/18/2022	03/17/2023	
EMI Test Receiver	R&S	ESCI 7	100856	06/21/2022	06/20/2023	
EXA Spectrum Analyzer	KEYSIGHT	N9010A	MY54430216	08/11/2022	08/10/2023	
Double Ridged Guide Horn Antenna	SCHWARZBECK	BBHA 9120D	9120D-788(98006)	04/19/2022	04/18/2023	
Notch Filter	MICRO-TRONICS	BRM50702-01	018	01/28/2022	01/27/2023	
Pre-Amplifier	EMCI	EMC012645	980098	01/28/2022	01/27/2023	
Pre-Amplifier	Com-Power	PAM-840A	461378	06/28/2022	06/27/2023	
Software	Software Excel(ccs-o6-2020 v1.1) , e3(v6.101222)					

Chamber 1166 Room (Radiated Test)						
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due	
Active Loop Antenna	ETS-LINDREN	6502	8905-2356	08/29/2022	08/28/2023	
Attenuator	MCL	BW-S15W5	0535	01/28/2022	01/27/2023	
Band Reject Filter	MICRO-TRONICS	HPM13525	006	01/28/2022	01/27/2023	
Band Reject Filter	MICRO-TRONICS	HP50107-01	001	01/28/2022	01/27/2023	
Bilog Antenna With 6dB Attenuator	SUNOL SCIENCES & EMCI	JB1 & N-6-06	A021306 & AT-N0682	10/07/2021	10/06/2022	
Cable	EMCI	EM102-KMKM	CB1166-01	06/20/2022	06/19/2023	
Double Ridged Guide Horn Antenna	ETS-LINDGREN	3116	00078900	03/18/2022	03/17/2023	
EMI Test Receiver	R&S	ESCI 7	100856	06/21/2022	06/20/2023	
EXA Spectrum Analyzer	KEYSIGHT	N9010A	MY54430216	08/11/2022	08/10/2023	
Double Ridged Guide Horn Antenna	SCHWARZBECK	BBHA 9120D	9120D-788(98006)	04/19/2022	04/18/2023	
Notch Filter	MICRO-TRONICS	BRM50702-01	018	01/28/2022	01/27/2023	
Pre-Amplifier	EMCI	EMC012645	980098	01/28/2022	01/27/2023	
Pre-Amplifier	Com-Power	PAM-840A	461378	06/28/2022	06/27/2023	
Software	tware Excel(ccs-o6-2020 v1.1) , e3(v6.101222)					



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For §8.6

1 01 3010							
Chamber 1166 Room (Radiated Test)							
Name of Equipment	Manufacturer	Manufacturer Model Serial Number Calibration Date Calibration Due					
Bilog Antenna With 6dB Attenuator	SUNOL SCIENCES & EMCI	JB1 & N-6-06	A021306 & AT-N0682	10/07/2021	10/06/2022		
Cable	EMCI	EM102-KMKM	CB1166-01	06/20/2022	06/19/2023		
EMI Test Receiver	R&S	ESCI 7	100856	06/21/2022	06/20/2023		
Software	e3(v6.101222)						

For §8.1~8.5

	Chamber 1166 Room (Conducted Test)								
Name of Equipment	Manufacturer	Manufacturer Model Serial Number Calibration Date Calibration Du							
EXA Spectrum Analyzer	KEYSIGHT N9010A MY54430216 08/11/2022 08/10/2023								
SMA Cable+10dB Attenuator	CCS SMA+10dB ATT SMA/10dB 01/28/2022 01/27/2023								
Software		Excel(ccs-o6-2020 v1.1)							

For §8.7

Conducted Emission room #1							
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due		
-	-	-	-	-	-		
-	-	-	-	-	-		
-	-	-	-	-	-		
-	-	-	-	-	-		
-	-	-	-	-	-		
Test S/W			-	•			



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6. CALIBRATION AND UNCERTAINTY

6.1 MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations, and is traceable to recognized national standards.

6.2 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

PARAMETER	UNCERTAINTY
Radiated Emission, 9kHz~30MHz Test Site : CB1166	±2.7dB
Radiated Emission, 30 MHz ~1GHz Test Site : CB1166	±3.76dB
Radiated Emission, 1GHz ~18GHz Test Site : CB1166	±4.43dB
Radiated Emission, 18GH~26.5GHz Test Site : CB1166	±4.79dB
Radiated Emission, 26.5GH~40GHz Test Site : CB1166	±4.72dB
Power Line Conducted Emission, 9kHz~30MHz	±1.83dB
Band Width	0.025%
Peak Output Power MU	±1.9dB
Band Edge MU	±0.264dBuV
Channel Separation MU	±361.69Hz
Duty Cycle MU	±0.2%
Frequency Stability MU	±0.493Hz
Temperature	±0.5
Humidity	±3%

This measurement uncertainty is confidence of approximately 95%, k=2



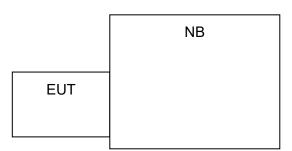
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7. SETUP OF EQUIPMENT UNDER TEST

7.1 SETUP CONFIGURATION OF EUT

[RF]



7.2 SUPPORT EQUIPMENT

[RF]

No.	Product	Manufacturer	Model No.	Certify No.	Signal cable
1	Note Book	Acer	Z5WE1	DOC	Unshd, 1.8m with 1 core

No.	Signal cable descriptio	n
А	N/A	-

[EMC]

No.	Product	Manufacturer	Model No.	Certify No.	Signal cable				
1	N/A	N/A	N/A	N/A	N/A				
No	No. Signal apple department								

A N/A -	NO.	Signal cable descriptio	n
	А	N/A	-

Note:

1) All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.

2) Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.

3) shd. = shielded; unshd. = unshielded



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7.3 EUT OPERATING CONDITION

RF Setup

- 1. Set up all computers like the setup diagram.
- 2. The "Sunrex_LSEC_Dongle_test_APP_V2.0.0" software was used for testing.

8 Sunrex LSEC Dongle Test	
nt to change mode, pleas	se close APP and re-pli
Dongle Ver: 2.0.0	
Erase Bonds	RePair Mode
Connect sta	tus 0 %
Vendor ID: 0000	
Product ID: 0000	
Product version: (0000
Firmware version:	
Modulation mode 2402 Mhz 2440	0 Mhz 2480 Mhz 0 Mhz 2480 Mhz 0 ader

TX Mode:

Modulation mode 2402Mhz : Low_freq 2440Mhz : Mid_freq 2480Mhz : High_freq



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8. APPLICABLE LIMITS AND TEST RESULTS

8.1 6dB BANDWIDTH

<u>LIMIT</u>

§ 15.207(a) (2) For direct sequence systems, the minimum 6dB bandwidth shall be at least 500kHz

TEST SETUP



TEST PROCEDURE

- a) Set RBW = 100 kHz.
- b) Set the video bandwidth (VBW) \ge 3 x RBW.
- c) Detector = Peak.
- d) Trace mode = max hold.
- e) Sweep = auto couple.
- f) Allow the trace to stabilize.

g) Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.



TEST RESULTS

No non-compliance noted.

Model Name	JR-925	Test By	Peter Chu
Temp & Humidity	25.5°C, 47%	Test Date	2022/08/26

GFSK mode

Channel	Channel Frequency (MHz)	6dB Bandwidth (kHz)	Minimum Limit (kHz)	Pass / Fail
Low	2402	697.00	500	PASS
Middle	2440	703.00	500	PASS
High	2480	700.00	500	PASS

NOTE : 1. At finial test to get the worst-case emission at1Mbps long.

2. The cable assembly insertion loss of 11.45dB (including 10 dB pad and 1.45 dB cable) was entered as an offset in the spectrum analyzer to allow for direct reading of power.



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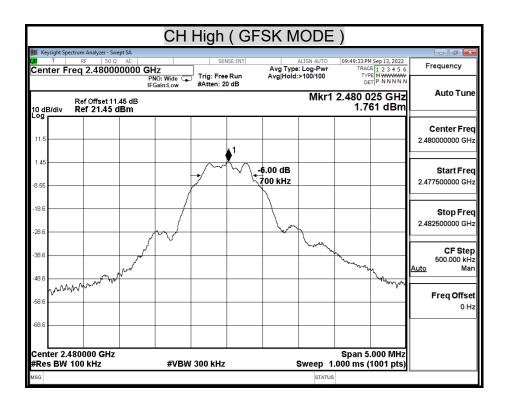
6dB BANDWIDTH (GFSK MODE)

			CH	Low	(GFSK	MODE)		
🎉 Keysight Sp	pectrum Analyzer - S						1		
vu ⊤ Center F	req 2.4020	PN	NO: Wide 🗔	Trig: Free	Run Avg	ALIGN AUTO Type: Log-Pwr Hold:>100/100	TRA T)	M Sep 13, 2022 CE 1 2 3 4 5 6 (PE M WWWW ET P N N N N N	Frequency
10 dB/div Log	Ref Offset 1 Ref 21.45	1.45 dB	Gain:Low	#Atten: 20	dВ	Mkr1	2.402	025 GHz 045 dBm	Auto Tune
11.5					1				Center Freq 2.40200000 GHz
-8.55				+	-6.00 697 k				Start Freq 2.399500000 GHz
-18.6									Stop Freq 2.404500000 GHz
-38.6	- Ana		~				and the second s	Man Brown Brown	CF Step 500.000 kHz Auto Man
-58.6	m Marine Marine							Marthalor	Freq Offset 0 Hz
	.402000 GHz	2	#VBW	300 kHz		Sweep 1		5.000 MHz (1001 pts)	
#Res BW	100 KH2					STATU			
MSG			СН	Mid (GFSK	STATU			
MSG Keysight Sp XX T	pectrum Analyzer - Si	Ω AC 00000 GH	łz	SEN		STATU) 09:48:57 P TRA	M Sep 13, 2022 CE 1 2 3 4 5 6 PE M WWWW	Frequency
MSG Keysight Sp M T Center F	pectrum Analyzer - S RF 50 f	Ω AC 000000 GH PN IFC 1.45 dB		SEN	SE:INT Avg Run Avg	STATU: MODE ALIGN AUTO Type: Log-Pwr Hold:>100/100) 09:48:57 F TRA TN 2.440	M Sep 13, 2022 CE 1 2 3 4 5 6 FE M WWWW ET P NNNN 025 GHz 143 dBm	
MSG Keysight Sp Center F 10 dB/div Log 11.5	RF 50 RF 50 Freq 2.4400 Ref Offset 1	Ω AC 000000 GH PN IFC 1.45 dB	¦z NO: Wide ⊂	SENS	SE:INT Avg Run Avg	STATU: MODE ALIGN AUTO Type: Log-Pwr Hold:>100/100) 09:48:57 F TRA TN 2.440		Frequency
MSG MSG Center F Center F	RF 50 RF 50 Freq 2.4400 Ref Offset 1	Ω AC 000000 GH PN IFC 1.45 dB	¦z NO: Wide ⊂	SENS	SE:INT Avg Run Avg dB	ALIGN AUTO Type: Log-Pwr Hold:>100/100 Mkr1) 09:48:57 F TRA TN 2.440		Frequency Auto Tune Center Freq
MSG Keysight S (2) T Center F 10 dB/div 11.5 1.45	RF 50 RF 50 Freq 2.4400 Ref Offset 1	Ω AC 000000 GH PN IFC 1.45 dB	¦z NO: Wide ⊂	SENS	SE:INT Avg Run Avg dB	ALIGN AUTO Type: Log-Pwr Hold:>100/100 Mkr1) 09:48:57 F TRA TN 2.440		Frequency Auto Tune Center Freq 2.44000000 GHz Start Freq
MSG Keysight Sg (X) T Center F 10 dB/div Log 11.5 1.45 -8.55 -18.6 -28.6 -38.6	RF 501 RF 501 Ref Offset 1 Ref 21.45	2 4C 00000 GH	¦z NO: Wide ⊂	SENS	SE:INT Avg Run Avg dB	ALIGN AUTO Type: Log-Pwr Hold:>100/100 Mkr1) 09:48:57 F TRA TN 2.440		Frequency Auto Tune Center Freq 2.44000000 GHz Start Freq 2.437500000 GHz Stop Freq
MSG MSG MSG MSG MSG T Center F Center F 10.dB/div 11.5 -8.55 -18.6 -28.6 -38.6 -48.6 -48.6 -58.6	RF 50 RF 50 Freq 2.4400 Ref Offset 1	2 4C 00000 GH	¦z NO: Wide ⊂	SENS	SE:INT Avg Run Avg dB	ALIGN AUTO Type: Log-Pwr Hold:>100/100 Mkr1) 09:48:57 F TRA TN 2.440		Frequency Auto Tune Center Freq 2.440000000 GHz Start Freq 2.437500000 GHz Stop Freq 2.442500000 GHz CF Step 500.000 KHz
мss (у) Т Center F 10 dB/div 11.5 1.45 -18.6 -28.6 -38.6 -48.6 -68.6 -68.6 -68.6 -68.6 -68.6 -68.6 -68.6 -68.6 -68.6 -68.6 -68.6 -68.6 -68.6 -68.6 -68.6 -69.6 -79.6 -70.7	RF 501 RF 501 Ref Offset 1 Ref 21.45	2 AC 1000000 PP IFC 1.45 dB dBm 	Iz VO: Wide G Gain:Low	SENS	SE:INT Avg Run Avg dB	MODE) 09:48:57 F TRA TRA 1.4 1.4 5pan 5		Frequency Auto Tune Center Freq 2.44000000 GHz Start Freq 2.437500000 GHz 2.442500000 GHz 2.442500000 GHz CF Step 500.000 KHz Auto Man



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8.2 MAXIMUM PEAK OUTPUT POWER

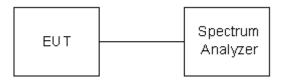
<u>LIMIT</u>

§ 15.247(b) The maximum peak output power of the intentional radiator shall not exceed the following :

15.247(b) (3) For systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands : 1 watt.

§ 15.247(b) (4) Except as shown in paragraphs (c) of this section , if transmitting antennas of directional gain greater than 6 dBi are used the peak output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1) or (b)(2), and (b)(3) of this section , as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

TEST SETUP





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TEST PROCEDURE

The tests were performed in accordance with KDB 558074 9.1.1

9.1.1 Measurement Procedure PK2:

Peak Power set:

- 1. Set the RBW = \geq DTS bandwidth.
- 2. Set the VBW \geq [3 × RBW].
- 3. Set the span \geq [1.5 × DTS bandwidth].
- 4. Detector = peak.
- 5. Sweep time = auto couple.
- 6.Trace mode = max hold.
- 7. Allow trace to fully stabilize.

8.Use the instrument's band/channel power measurement function with the band limits set equal to the DTS bandwidth edges (for some instruments, this may require a manual override to select the peak detector). If the instrument does not have a band power function, then sum the spectrum levels (in linear power units) at intervals equal to the RBW extending across the DTS channel bandwidth.

Average Power

Connect the EUT to power meter, set the center frequency of the power meter to the channel center frequency.

Average power set:

1.Measure the duty cycle D of the transmitter output signal

- 2. Set span to at least 1.5 times the OBW.
- 3. Set the RBW = \geq DTS bandwidth

4. Set VBW \geq [3 × RBW].

5. Number of points in sweep \geq [2 × span / RBW]. (This gives bin-to-bin spacing \leq RBW / 2, so that narrowband signals are not lost between frequency bins.)

6.Manually set sweep time \geq [10 × (number of points in sweep) × (total ON/OFF period of the transmitted signal)].

- 7. Set detector = RMS (power averaging).
- 8. Perform a single sweep.

9.Compute power by integrating the spectrum across the OBW of the signal using the instrument's band power measurement function with band limits set equal to the OBW band edges. If the instrument does not have a band power function, then sum the spectrum levels (in power units) at intervals equal to the RBW extending across the entire OBW.

10. Add [10 log (1 / D)], where D is the duty cycle, to the measured power to compute the average power during the actual transmission times.



TEST RESULTS

No non-compliance noted.

Model Name	JR-925	Test By	Peter Chu
Temp & Humidity	25.5°C, 47%	Test Date	2022/08/26

GFSK mode

Channel	Channel Frequency (MHz)	Peak Power (dBm)	Peak Power Limit (dBm)	Pass / Fail
Low	2402	1.09	30.00	PASS
Middle	2440	1.62	30.00	PASS
High	2480	1.85	30.00	PASS

NOTE : 1. At finial test to get the worst-case emission at 1Mbps long.
2. The cable assembly insertion loss of 11.45dB (including 10 dB pad and 1.45 dB)

cable) was entered as an offset in the power meter to allow for direct reading of power.



Average Power Data

Model Name	JR-925	Test By	Peter Chu
Temp & Humidity	25.5°C, 47%	Test Date	2022/08/26

GFSK mode

Channel	Channel Frequency (MHz)	Measure Power (dBm)	10 log (1 / D)	Average Power (dBm)
Low	2402	-6.97	7.545	0.57
Middle	2440	-6.45	7.545	1.09
High	2480	-6.11	7.545	1.43

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MAXIMUM PEAK OUTPUT POWER (GFSK MODE)

			CH	Low	(GF	SK M	ODE)		
📜 Keysiaht Sp	ectrum Analyzer - Swe	ept SA								- 5 -
LXI T	RF 50 Ω			SEN	SE:INT	/	LIGN AUTO	09:51:50 P	M Sep 13, 2022	
Center F	req 2.40200		Iz			Avg Type:		TRAC	E123456	Frequency
	•	Р	NO: Fast 🔾	Trig: Free #Atten: 20		Avg Hold:	>100/100	D	PE MWWWWW T P N N N N N	
		IF	Gain:Low	#Atten: 2	U UD					Auto Tune
	Ref Offset 11						MKr1		275 GHz	Auto Func
10 dB/div Log	Ref 21.45 c	iBm						1.0	89 dBm	
LUg										
										Center Freq
11.5										2.402000000 GHz
					1					
1.45										
										Start Freq
-8.55							_	h		2.399500000 GHz
-18.6	- AND									
10.0									~~~	Stop Freq
										2.404500000 GHz
-28.6										
										CF Step
-38.6										500.000 kHz
										<u>Auto</u> Man
-48.6										
										F
-58.6										Freq Offset
										0 Hz
-68.6										
100.0										
Center 2.	402000 GHz							Span 5	.000 MHz	
#Res BW			#VBW	5.0 MHz		s	Sweep 1	.000 ms (1001 pts)	
100										
MSG							STATUS			
MSG							STATUS			
MSG							STATUS			
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MSG			СН	Mid	(GFS	SK M(
			СН	Mid	(GFS	SK M(
	ectrum Analyzer - Swe		СН		<u>`</u>		ODE)	M Sen 13, 2022	
💓 Keysight Sp 🕅 T	RF 50 Ω	AC		SEN	ISE:INT	Avg Type:	ODE) 09:51:21 P TRAC	M Sep 13, 2022 ⋶ 1 2 3 4 5 6	Frequency
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I Keysight Sp M T Center F 10 dB/div	RF 50 Ω req 2.44000	AC 00000 GH PI IFC .45 dB	IZ NO: Fast ◯	SEN	NSE:INT	Avg Type:	ALIGN AUTO Log-Pwr >100/100) 09:51:21 P TRAC TY D 2.440 2	E 1 2 3 4 5 6 E MWWWW T P N N N N N	Frequency
∭r Keysight Sp (xr ⊤ ∣ Center F	RF 50 Ω Treq 2.44000 Ref Offset 11	AC 00000 GH PI IFC .45 dB	IZ NO: Fast ◯	SEN	NSE:INT	Avg Type:	ALIGN AUTO Log-Pwr >100/100) 09:51:21 P TRAC TY D 2.440 2		Frequency Auto Tune
W Keysight Sp W T Center F 10 dB/div Log	RF 50 Ω Treq 2.44000 Ref Offset 11	AC 00000 GH PI IFC .45 dB	IZ NO: Fast ◯	SEN	NSE:INT	Avg Type:	ALIGN AUTO Log-Pwr >100/100) 09:51:21 P TRAC TY D 2.440 2		Frequency Auto Tune Center Freq
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Everysight Sp Vit T Center F 10 dB/div Log 11.5	RF 50 Ω Treq 2.44000 Ref Offset 11	AC 00000 GH PI IFC .45 dB	IZ NO: Fast ◯	SEN	Run 0 dB	Avg Type:	ALIGN AUTO Log-Pwr >100/100) 09:51:21 P TRAC TY D 2.440 2		Frequency Auto Tune Center Freq 2.44000000 GHz Start Freq
Everysight Sp Vit T Center F 10 dB/div Log 11.5	RF 50 Ω Treq 2.44000 Ref Offset 11	AC 00000 GH PI IFC .45 dB	IZ NO: Fast ◯	SEN	Run 0 dB	Avg Type:	ALIGN AUTO Log-Pwr >100/100) 09:51:21 P TRAC TY D 2.440 2		Frequency Auto Tune Center Freq 2.440000000 GHz
Keysight Sp Center F Conter F 10 dB/div Log 11.5 1.45	RF 50 Ω Treq 2.44000 Ref Offset 11	AC 00000 GH PI IFC .45 dB	IZ NO: Fast ◯	SEN	Run 0 dB	Avg Type:	ALIGN AUTO Log-Pwr >100/100) 09:51:21 P TRAC TY D 2.440 2		Frequency Auto Tune Center Freq 2.44000000 GHz Start Freq
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Keysight Sp Center F Conter F 10 dB/div Log 11.5 1.45	RF 50 Ω Treq 2.44000 Ref Offset 11	AC 00000 GH PI IFC .45 dB	IZ NO: Fast ◯	SEN	Run 0 dB	Avg Type:	ALIGN AUTO Log-Pwr >100/100) 09:51:21 P TRAC TY D 2.440 2		Frequency Auto Tune Center Freq 2.44000000 GHz Start Freq 2.437500000 GHz Stop Freq
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Keylight Sp T Center F Conter F Log 11.5 1.45 -8.55	RF 50 Ω Treq 2.44000 Ref Offset 11	AC 00000 GH PI IFC .45 dB	IZ NO: Fast ◯	SEN	Run 0 dB	Avg Type:	ALIGN AUTO Log-Pwr >100/100) 09:51:21 P TRAC TY D 2.440 2		Frequency Auto Tune Center Freq 2.44000000 GHz Start Freq 2.437500000 GHz Stop Freq
Keysight Sp Ød T Center F 10 dB/div 11.5 1.45 -8.55 -8.65 -28.6	RF 50 Ω Treq 2.44000 Ref Offset 11	AC 00000 GH PI IFC .45 dB	IZ NO: Fast ◯	SEN	Run 0 dB	Avg Type:	ALIGN AUTO Log-Pwr >100/100) 09:51:21 P TRAC TY D 2.440 2		Frequency Auto Tune Center Freq 2.440000000 GHz Start Freq 2.437500000 GHz Stop Freq 2.442500000 GHz
■ Keysight Sp Ø T Center F 10 dB/div Log 11.5 1.45 -18.6	RF 50 Ω Treq 2.44000 Ref Offset 11	AC 00000 GH PI IFC .45 dB	IZ NO: Fast ◯	SEN	Run 0 dB	Avg Type:	ALIGN AUTO Log-Pwr >100/100) 09:51:21 P TRAC TY D 2.440 2		Frequency Auto Tune Center Freq 2.44000000 GHz Start Freq 2.437500000 GHz Stop Freq 2.442500000 GHz
Keysight Sp Ød T Center F 10 dB/div 11.5 1.45 -8.55 -8.65 -28.6	RF 50 Ω Treq 2.44000 Ref Offset 11	AC 00000 GH PI IFC .45 dB	IZ NO: Fast ◯	SEN	Run 0 dB	Avg Type:	ALIGN AUTO Log-Pwr >100/100) 09:51:21 P TRAC TY D 2.440 2		Frequency Auto Tune Center Freq 2.440000000 GHz Start Freq 2.437500000 GHz Stop Freq 2.442500000 GHz
Keysight Sp Ød T Center F 10 dB/div 11.5 1.45 -8.55 -8.65 -28.6	RF 50 Ω Treq 2.44000 Ref Offset 11	AC 00000 GH PI IFC .45 dB	IZ NO: Fast ◯	SEN	Run 0 dB	Avg Type:	ALIGN AUTO Log-Pwr >100/100) 09:51:21 P TRAC TY D 2.440 2		Frequency Auto Tune Center Freq 2.44000000 GHz Start Freq 2.437500000 GHz 2.442500000 GHz CF Step 500.000 KHz
■ Keyright Sp 30 T Center F 10 dB/div 11.5 1.45 -18.6 -28.6 -38.6	RF 50 Ω Treq 2.44000 Ref Offset 11	AC 00000 GH PI IFC .45 dB	IZ NO: Fast ◯	SEN	Run 0 dB	Avg Type:	ALIGN AUTO Log-Pwr >100/100) 09:51:21 P TRAC TY D 2.440 2		Frequency Auto Tune Center Freq 2.440000000 GHz Start Freq 2.437500000 GHz Stop Freq 2.442500000 GHz CF Step 500.000 kHz Auto Man
■ Kepsight Sp Ø T Center F 10 dB/div Log 11.5 1.45 -18.6 -38.6 -48.6	RF 50 Ω Treq 2.44000 Ref Offset 11	AC 00000 GH PI IFC .45 dB	IZ NO: Fast ◯	SEN	Run 0 dB	Avg Type:	ALIGN AUTO Log-Pwr >100/100) 09:51:21 P TRAC TY D 2.440 2		Frequency Auto Tune Center Freq 2.440000000 GHz Start Freq 2.437500000 GHz 2.442500000 GHz 2.442500000 GHz CF Step 500.000 kHz Auto Man
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Image: Keysight Sp Image: General constraints Image: Center F Image: Center	RF 50 Ω Treq 2.44000 Ref Offset 11	AC 00000 GH PI IFC .45 dB	IZ NO: Fast ◯	SEN	Run 0 dB	Avg Type:	ALIGN AUTO Log-Pwr >100/100) 09:51:21 P TRAC TY D 2.440 2		Frequency Auto Tune Center Freq 2.440000000 GHz Start Freq 2.437500000 GHz 2.442500000 GHz 2.442500000 GHz CF Step 500.000 kHz Auto Man
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Image: Keysight Sp Image: General constraints Image: Center F Image: Center	RF 50 Ω Treq 2.44000 Ref Offset 11	AC 00000 GH PI IFC .45 dB	IZ NO: Fast ◯	SEN	Run 0 dB	Avg Type:	ALIGN AUTO Log-Pwr >100/100) 09:51:21 P TRAC TY D 2.440 2		Frequency Auto Tune Center Freq 2.440000000 GHz Start Freq 2.437500000 GHz 2.442500000 GHz 2.442500000 GHz CF Step 500.000 kHz Auto Man
Image: Keysight Sp Image: Genter F Center F Image: Genter F <t< td=""><td>Ref Offset 11. Ref 01145 c</td><td>AC 00000 GH PI IFC .45 dB</td><td>IZ NO: Fast ◯</td><td>SEN</td><td>Run 0 dB</td><td>Avg Type:</td><td>ALIGN AUTO Log-Pwr >100/100</td><td>) 109:51:21P TRAG TRAG 1.6</td><td>284 5 6 GHz ETP PNNNNN 260 GHz 18 dBm</td><td>Frequency Auto Tune Center Freq 2.440000000 GHz Start Freq 2.437500000 GHz 2.437500000 GHz 2.442500000 GHz 500.000 kHz Auto Man</td></t<>	Ref Offset 11. Ref 01145 c	AC 00000 GH PI IFC .45 dB	IZ NO: Fast ◯	SEN	Run 0 dB	Avg Type:	ALIGN AUTO Log-Pwr >100/100) 109:51:21P TRAG TRAG 1.6	284 5 6 GHz ETP PNNNNN 260 GHz 18 dBm	Frequency Auto Tune Center Freq 2.440000000 GHz Start Freq 2.437500000 GHz 2.437500000 GHz 2.442500000 GHz 500.000 kHz Auto Man
KeylightSp Ja Center F Center F Center F Center Sc So So So So So So So So Center 2.	Ref Offset 11. Ref Offset 11. Ref 21.45 c	AC 00000 GH PI IFC .45 dB	Hz NO: Fast Gain:Low	SEN Trig: Free #Atten: 20	VISE:INT	Avg Types Avg Hold:	MIGN AUTO) 09:51-21 P TRAC TRAC 1.6	2.000 MHz	Frequency Auto Tune Center Freq 2.440000000 GHz Start Freq 2.437500000 GHz 2.437500000 GHz 2.442500000 GHz 500.000 kHz Auto Man
Keysight Sp Ø T Center F Log 11.5 1.45 -8.55 -18.6 -28.6 -38.6 -48.6 -68.6 -68.6	Ref Offset 11. Ref Offset 11. Ref 21.45 c	AC 00000 GH PI IFC .45 dB	Hz NO: Fast Gain:Low	SEN	VISE:INT	Avg Types Avg Hold:	MIGN AUTO) [09:51-21 P TRAC TRAC 1.6 	284 5 6 GHz ETP PNNNNN 260 GHz 18 dBm	Frequency Auto Tune Center Freq 2.440000000 GHz Start Freq 2.437500000 GHz 2.437500000 GHz 2.442500000 GHz 500.000 kHz Auto Man



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Report No.: TMTN2207001012NR

🍯 Keysight Sp	ectrum Analyzer - Swep	ot SA		riigii		SK M		- /		- 7 -
ar T Center F	RF 50 Ω req 2.48000	0000 GH	NO: Fast 🔾	7		Avg Type Avg Hold:		TRA	M Sep 13, 2022 CE 1 2 3 4 5 6 PE M WWWW ET P N N N N N	Frequency
10 dB/div	Ref Offset 11.4 Ref 21.45 di	15 dB	Gain:Low	#Atten: 20			Mkr1	2.480 2	245 GHz 45 dBm	Auto Tune
11.5					▲ 1					Center Fred 2.480000000 GH:
8.55										Start Fre 2.477500000 GH
28.6										Stop Fre 2.482500000 GH
48.6										CF Stej 500.000 kH <u>Auto</u> Ma
58.6										Freq Offse 0 H
68.6										
	480000 GHz 1.5 MHz		#VBV	/ 5.0 MHz		:	Sweep		.000 MHz (1001 pts)	



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MAXIMUM AVERAGE OUTPUT POWER (GFSK MODE)

LXI -				• • •	LOW (GI	SK MODE	=)	
₩ Cent	ight Spectr	um Analyzer - Swe	ept SA					- 7 -
Cent	T	RF 50 Ω			SENSE:INT	ALIGN AUTO Avg Type: RMS	09:55:22 PM Sep 13, 2022 TRACE 1 2 3 4 5 6	Frequency
1	er ⊦re	q 2.40200	10000 GI	HZ PNO: Fast 😱	Trig: Free Run	Avg/Hold: 1/1	TYPE M WWWWW	
			IF	Gain:Low	#Atten: 10 dB		DET A NNNN N	Auto Tune
	F	Ref Offset 11.	45 dB			Mkr	1 2.401 955 GHz	Autorune
10 dB/ Log	/div i	Ref 11.45 d	IBm				-6.973 dBm	
3								Center Freq
1.45								2.402000000 GHz
					▲ 1			2.402000000 GH2
-8.55								
								Start Freq
-18.6								2.399500000 GHz
-28.6								
								Stop Freq
-38.6	\square							2.404500000 GHz
00.0								
-48.6								CF Step
								500.000 kHz Auto Man
-58.6								<u>Auto</u> Man
-68.6								Freq Offset
								0 Hz
-78.6								
10.0								
1 L								
		2000 GHz			X		Span 5.000 MHz	
#Res	BW 1.	5 MHz		#VBW	5.0 MHz*	#Swee	p 50.00 s (1001 pts)	
MSG						STAT	rus	
				СН	Mid (GF		=)	
-				СН	Mid (GF	SK MODE	Ξ)	
		um Analyzer - Swe		CH				
LXI -	Т	RF 50 Ω	AC		SENSE:INT	ALIGN AUTO	09:56:36 PM Sep 13, 2022	Frequency
LXI -	Т		AC 10000 GI	Hz PNO: Fast 😱	SENSE:INT	ALIGN AUTO	09:56:36 PM Sep 13, 2022 TRACE 1 2 3 4 5 6	Frequency
LXI -	Т	RF 50 Ω	AC 10000 GI	Hz	SENSE:INT	ALIGN AUTO Avg Type: RMS Avg Hold: 1/1	0 09:56:36 PM Sep 13, 2022 TRACE 1 2 3 4 5 6 TYPE M WWWWW DET A N N N N	Frequency
Cento Cento	⊤ er Fre F	RF 50 Ω q 2.44000 Ref Offset 11.	AC 00000 GI F IF 45 dB	Hz PNO: Fast 😱	SENSE:INT	ALIGN AUTO Avg Type: RMS Avg Hold: 1/1	09:56:36 PM Sep 13, 2022 TRACE 1 2 3 4 5 6 TYPE M WWWW DET A N N N N 1 2.439 960 GHz	Frequency
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20 dB/ Cent 10 dB/ Log 1.45 - -8.65 - -8.65 - -8.6 - -48.6 - -68.6 -	⊤ er Fre F	RF 50 Ω q 2.44000 Ref Offset 11.	AC 00000 GI F IF 45 dB	Hz PNO: Fast 😱	SENSE:INT	ALIGN AUTO Avg Type: RMS Avg Hold: 1/1	09:56:36 PM Sep 13, 2022 TRACE 1 2 3 4 5 6 TYPE M WWWW DET A N N N N 1 2.439 960 GHz	Frequency Auto Tune Center Freq 2.440000000 GHz Start Freq 2.437500000 GHz 2.442500000 GHz 2.442500000 GHz CF Step 500.000 kHz Auto Man
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20	⊤ er Fre F	RF 50 Ω q 2.44000 Ref Offset 11.	AC 00000 GI F IF 45 dB	Hz PNO: Fast 😱	SENSE:INT	ALIGN AUTO Avg Type: RMS Avg Hold: 1/1	09:56:36 PM Sep 13, 2022 TRACE 1 2 3 4 5 6 TYPE M WWWW DET A N N N N 1 2.439 960 GHz	Frequency Auto Tune Center Freq 2.440000000 GHz Start Freq 2.437500000 GHz 2.442500000 GHz 2.442500000 GHz CF Step 500.000 kHz Auto Man
20 dB/ Cent 10 dB/ Log 1.45 - -8.65 - -8.65 - -8.6 - -48.6 - -68.6 -	⊤ er Fre F	RF 50 Ω q 2.44000 Ref Offset 11.	AC 00000 GI F IF 45 dB	Hz PNO: Fast 😱	SENSE:INT	ALIGN AUTO Avg Type: RMS Avg Hold: 1/1	09:56:36 PM Sep 13, 2022 TRACE 1 2 3 4 5 6 TYPE M WWWW DET A N N N N 1 2.439 960 GHz	Frequency Auto Tune Center Freq 2.440000000 GHz Start Freq 2.437500000 GHz 2.442500000 GHz 2.442500000 GHz CF Step 500.000 kHz Auto Man
20	⊤ er Fre F	RF 50 Ω q 2.44000 Ref Offset 11.	AC 00000 GI F IF 45 dB	Hz PNO: Fast 😱	SENSE:INT	ALIGN AUTO Avg Type: RMS Avg Hold: 1/1	09:56:36 PM Sep 13, 2022 TRACE 1 2 3 4 5 6 TYPE M WWWW DET A N N N N 1 2.439 960 GHz	Frequency Auto Tune Center Freq 2.440000000 GHz Start Freq 2.437500000 GHz 2.442500000 GHz 2.442500000 GHz CF Step 500.000 kHz Auto Man
20	r er Fre /div I	RF 50 Ω q 2.44000 Ref Offset 11.	AC 00000 GI F IF 45 dB	Hz NO: Fast Gain:Low	SENSE:INT	ALION AUTO Avg Type: RMS Avg Hold: 1/1 Mkr	09:55:36 PM Sep 13, 2022 TRACE 1 2 3 4 5 6 TYPE MAXWAWE DET A NNNN 1 2.439 960 GHz -6.451 dBm -6.451 dBm Span 5.000 MHz	Frequency Auto Tune Center Freq 2.440000000 GHz Start Freq 2.437500000 GHz 2.442500000 GHz 2.442500000 GHz CF Step 500.000 kHz Auto Man
Image Cent 10 dB/ dB/ 1.45 - - -8.55 - - -8.65 - - -8.66 - - -8.66 - - -8.66 - - -78.6 - - -78.6 - - Center -	r er Fre /div I	RF 502 q 2.44000 Ref Offset 11. Ref 11.45 0	AC 00000 GI F IF 45 dB	Hz NO: Fast Gain:Low	SENSE:INT	ALION AUTO Avg Type: RMS Avg Hold: 1/1 Mkr	2 09:56:36 PM Sep 13, 2022 TRACE 1 2 3 4 5 6 TYPE WWWWW DET A NNNN N 1 2.439 960 GHz -6.451 dBm	Frequency Auto Tune Center Freq 2.440000000 GHz Start Freq 2.437500000 GHz 2.442500000 GHz 2.442500000 GHz CF Step 500.000 kHz Auto Man



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Report No.: TMTN2207001012NR

T	um Analyzer - Swept SA RF 50 Ω AC C 2.480000000 C	Hz PNO: Fast ⊂		Avg Type Avg Hold:		TRAC	M Sep 13, 2022 CE 1 2 3 4 5 6 PE M WWWW ET A N N N N N	Frequency
	Ref Offset 11.45 dB Ref 11.45 dBm	Guineow			Mkr1		950 GHz 10 dBm	Auto Tun
1.45								Center Fre 2.480000000 GH
18.6			 					Start Fre 2.477500000 G⊦
28.6								Stop Fre 2.482500000 G⊦
48.6								CF Ste 500.000 k⊦ <u>Auto</u> Ma
68.6								Freq Offso 0 ⊦
78.6								



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8.3 DUTY CYCLE

<u>LIMIT</u>

Nil (No dedicated limit specified in the Rules)

TEST SETUP



TEST PROCEDURE

- 1. Place the EUT on the table and set it in transmitting mode.
- 2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
- 3. The zero-span mode on a spectrum analyzer or EMI receiver if the response time and spacing between bins on the sweep are sufficient to permit accurate measurements of the on and off times of the transmitted signal. Set the center frequency of the instrument to the center frequency of the transmission. Set RBW ≥ OBW if possible; otherwise, set RBW to the largest available value. Set VBW ≥ RBW. Set detector = peak or average. The zero-span measurement method shall not be used unless both RBW and VBW are > 50/T and the number of sweep points across duration T exceeds 100. (For example, if VBW and/or RBW are limited to 3 MHz, then the zero-span measuring duty cycle shall not be used if T ≤ 16.7 microseconds.)



TEST RESULTS

No non-compliance noted.

Model Name	JR-925	Test By	Peter Chu
Temp & Humidity	25.5°C, 47%	Test Date	2022/08/26

GFSK Mode

	us	Times	Ton	Total Ton time(ms)
Ton1	110.000	1	110	
Ton2		0	0	
Ton3			0	0.11
Тр				0.625

Ton	0.11
Tp(Ton+Toff)	0.625
Duty Cycle	0.176
Duty Factor	7.545



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TEST PLOT

Duty Cycle

C	H Low (GF	SK MODE)		
Keysight Spectrum Analyzer - Swept SA		· · · · · ·		- 5 -
Center Freq 2.402000000 GHz PNO: Fast	SENSE:INT	ALIGN AUTO 09: Avg Type: Log-Pwr	33:07 PM Sep 13, 2022 TRACE 1 2 3 4 5 6 TYPE WWWWWW DET P N N N N N	Frequency
IFGain:Lo Ref Offset 11.45 dB 10 dB/div Ref 21.45 dBm Log		ΔΜκ	r1 110.0 μs 50.63 dB	Auto Tune
11.5 1.45 -8.55				Center Freq 2.402000000 GHz
-18.6				Start Freq 2.402000000 GHz
-48.6 -68.6 -68.6	324 hi yynirysmyd thailipysia	H neenpoolinety a porturonylyd-	tul wulannyann	Stop Freq 2.402000000 GHz
Center 2.402000000 GHz Res BW 1.0 MHz #\	/BW 3.0 MHz	Sweep 5.000		CF Step 1.000000 MHz <u>Auto</u> Man
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	(∆) 50.63 dB -52.78 dBm		E	Freq Offset 0 Hz
7 8 9 10 11 11				
MSG	III	STATUS	•	
Keysight Spectrum Analyzer - Swept SA	CH Mid (GFS	SK MODE)		
Ο Τ RF 50 Ω AC	SENSE:INT	ALIGN AUTO 09:: Avg Type: Log-Pwr	33:54 PM Sep 13, 2022 TRACE 1 2 3 4 5 6	Frequency
Center Freq 2.440000000 GHz PNO: Fas IFGain:Lot	t ↔ Trig: Free Run w #Atten: 20 dB		TYPE WWWWWW DET P NNNNN	
Ref Offset 11.45 dB 10 dB/div Ref 21.45 dBm	w watten 20 ab	ΔΜk	r1 110.0 µs 52.83 dB	Auto Tune
······································			02.00 00	
	2			Center Freq 2.440000000 GHz
Log 11.5 1.45 -8.55 -18.6 -28.6 -38.6 -48.6 -48.6 -48.6 -48.6 -10 -10 -10 -10 -10 -10 -10 -10	2 304		UNALIAN JUNI, AN	2.440000000 GHz Start Freq
Log 11.5 1.45 -8.55 -8.65 -8.66 -8.67 -8.777 -8.7777 -8.7777 -8.7777 -8.7777 -8.7777 -8.7777 -8.7777 -8.7777 -8.7777 -8.7777 -8.7777 -8.7777 -8.7777 -8.7777 -8.77777 -8.77777 -8.777777777777777777777777777777777777	3∆4 (mht.um Al-At.at.at.at.at.at.at.at.at.at.at.at.at.at	Sweep 5.000	المراجع (1001 pts)	2.44000000 GHz Start Freq 2.44000000 GHz Stop Freq
Log 11.5 1.47 1.47	3∆4 мідлям Аралици, 14 ми /BW 3.0 MHz		المراجع (1001 pts)	2.44000000 GHz Start Freq 2.44000000 GHz Stop Freq 2.44000000 GHz CF Step 1.00000 MHz
Log 11.5 1.45 6.55 -18.6 -28.6 -38.6	/ЗДА ////////////////////////////////////	Sweep 5.000	المراجع (1001 pts)	2.44000000 GHz Start Freq 2.440000000 GHz 2.440000000 GHz CF Step 1.00000 MHz Auto Man Freq Offset



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. Keysi	ght Spe	ctrum . RF	Analyzer - Sv						NSE:INT			ALIGN AUTO	00-40-16	DM Com 1	2 2022	- 7
ente	er Fi		2.4800				Tri	a: Fre			Avg Typ	e: Log-Pwr		ACE 1 2	3,2022 3 4 5 6	Frequency
					IFGai	Fast ↔ n:Low		tten: 2						DET P N	NNNN	Auto Tun
0 dB/	div		f Offset 1 f 21.45									Δ	Mkr1	110. 51.9:		
og 11.5																Center Fre
1.45	r	-1	ſ	-		1∆2	+	- 1		-1		-	 1	+	-	2.480000000 GH
1.55 - 8 6 -										+					+	
8.6																Start Fre 2.48000000 GH
8.6	_			-			+	3∆4		+						2.4000000000
8.6 8.6	n kiliki	High	/1444h.ah	WWW	(jurbrig)).	<u>a</u> lay ^d i Malay nd	₩.NP	hh	Altre for the	ή	town		haller	NaNak	vijuli yn	Stop Fre
8.6									<u> </u>		-					2.480000000 GH
			00000	GHz										Span		CF Ste
_	3W 1					#VBV	V 3.0	MHz	-			Sweep 5.				1.000000 MH <u>Auto</u> Ma
<u>1</u> Δ		t	(Δ)	Х) μs (Δ)		Y 51.93	dB	FUNC	CTION FU	NCTION WIDTH	FUNC	tion val	UE A	
2 F 3 Δ 4 F	4 1	t	(Δ)		1.535 625.0 1.535)µs (Δ)		2.13 2.13 79 d	dB						=1	Freq Offse
5 6	-				1.000										E	0
7 8																
9		-				_			+						-1	
1																



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8.4 POWER SPECTRAL DENSITY

<u>LIMIT</u>

§ 15.247(e) For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

TEST SETUP



TEST PROCEDURE

The tests were performed in accordance with 558074 D01 15.247 Meas Guidance v05

10.2 Method PKPSD (peak PSD):

- 1. Set analyzer center frequency to DTS channel center frequency.
- 2. Set the span to 1.5 times the DTS bandwidth.
- 3. Set the RBW to: $3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$.
- 4. Set the VBW \geq 3 x RBW.
- 5. Detector = peak.
- 6. Sweep time = auto couple.
- 7. Trace mode = max hold.
- 8. Allow trace to fully stabilize.
- 9. Use the peak marker function to determine the maximum amplitude level within the RBW.
- 10. If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.



Report No.: TMTN2207001012NR TEST RESULTS

No non-compliance noted.

Model Name	JR-925	Test By	Peter Chu
Temp & Humidity	25.5°C, 47%	Test Date	2022/08/26

GFSK mode

Channel	Frequency (MHz)	PPSD/3kHz (dBm)	Limit (dBm)	Margin (dB)	Result
Low	2402	-16.37	8.00	-24.37	PASS
Middle	2440	-15.60	8.00	-23.60	PASS
High	2480	-15.23	8.00	-23.23	PASS

NOTE: 1. At finial test to get the worst-case emission at 1Mbps long.

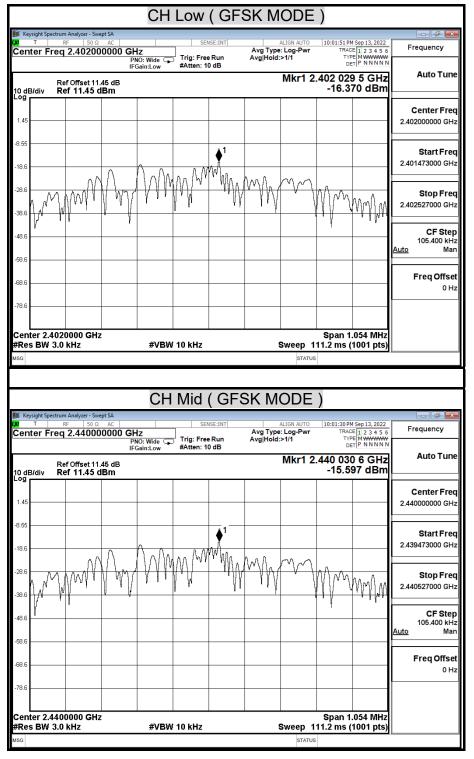
2. The cable assembly insertion loss of 11.45dB (including 10 dB pad and 1.45 dB cable) was Entered as an offset in the spectrum analyzer to allow for direct reading of power.



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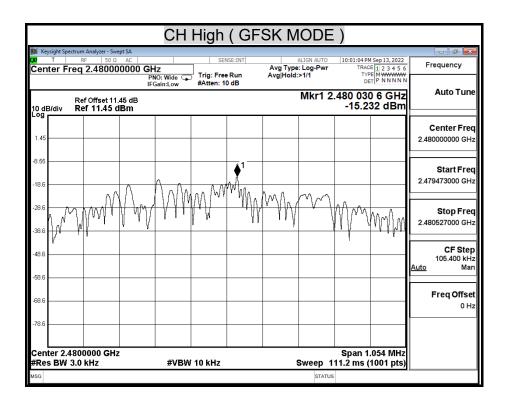
POWER SPECTRAL DENSITY (GFSK MODE)





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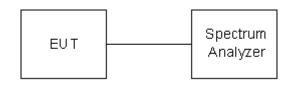
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8.6 CONDUCTED SPURIOUS EMISSION

LIMITS

§ 15.247(d) In any 100 kHz bandwidth outside the frequency band in which the spread spectrum 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 and that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. 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)).

TEST SETUP



TEST PROCEDURE

The transmitter output is connected to a spectrum analyzer. The resolution bandwidth is set to 100kHz $^{\circ}$ the video bandwidth is set to 300kHz.

The spectrum from 30 MHz to 26.5 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in the 2.4 GHz band.

TEST RESULTS

No non-compliance noted.



TEST DATA

Model Name	JR-925	Test By	Peter Chu
Temp & Humidity	25.5°C, 47%	Test Date	2022/08/26

OUT-OF-BAND SPURIOUS EMISSIONS-CONDUCTED MEASUREMENT

				CH	l Low	(GF	SK N	IODE)		
💓 Keysight S											- 5 💌
Kanter F Center F	req 2		0000 GH	IO: Wide 🔾				ALIGN AUTO e: Log-Pwr I:>100/100	TRAC	E 1 2 3 4 5 6 E M WWWW T P N N N N N	Frequency
10 dB/div Log		Offset 11. 7 21.45 d	45 dB	Gain:Low	#Atten: 2	U dB		Mkr1	2.402 0	25 GHz 45 dBm	Auto Tune
11.5											Center Freq 2.402000000 GHz
-8.55					•		-6.00 dB 697 kHz				Start Freq 2.399500000 GHz
-18.6											Stop Freq 2.404500000 GHz
-38.6			- A					<u>\</u>	Marker Marker		CF Step 500.000 kHz <u>Auto</u> Man
-48.6 -58.6	mar	Wa War	»**						F	nn mynyny yrtyg	Freq Offset 0 Hz
-68.6 Center 2 #Res BW				#VB\	W 300 kHz			Sweep 1	Span 5 .000 ms (.000 MHz 1001 pts)	
MSG								STATUS	3	,	
MSG Keysight S LXI T	pectrum A RF	Analyzer - Swe			SE	NSE:INT		STATUS			
	RF	Analyzer - Swe	AC DOO GHz Pt	NO: Fast G Gain:Low			Avg Typ Avg Hold	ALIGN AUTO	10:10:45 PI TRAC	4 Sep 13, 2022 E 1 2 3 4 5 6 E M WWWW T P N N N N N	Frequency
Keysight S X T Start Fre	R⊧ eq 2.3 Ref	Analyzer - Swe	AC DOO GHZ PI IFC		Trig: Free	e Run	Avg Typ Avg Holo	ALIGN AUTO e: Log-Pwr i:>10/10	10:10:45 PI TRAC TYI DI .402 02:	4 Sep 13, 2022 E 1 2 3 4 5 6 M ₩₩₩₩₩₩ T P N N N N N	
Keysight S M T Start Fre	R⊧ eq 2.3 Ref	Analyzer - Swe 50 Ω 3100000 Offset 11.	AC DOO GHZ PI IFC		Trig: Free	e Run	Avg Typ Avg Holo	ALIGN AUTO e: Log-Pwr i:>10/10	10:10:45 PI TRAC TYI DI .402 02:	1 Sep 13, 2022 E 1 2 3 4 5 6 M WWWWW T P N N N N 8 9 GHz	Frequency
Keysight S X T Start Fre 10 dB/div Log 1.45 -8.55	R⊧ eq 2.3 Ref	Analyzer - Swe 50 Ω 3100000 Offset 11.	AC DOO GHZ PI IFC		Trig: Free	e Run	Avg Typ Avg Holc	ALIGN AUTO e: Log-Pwr i:>10/10	10:10:45 PI TRAC TYI DI .402 02:	4 Sep 13, 2022 EE 1 2 3 4 5 6 EMWWWW TP NNNNN 3 9 GHz 66 dBm 1	Frequency Auto Tune Center Freq
Keysight Sj. X# T Start Fre 10 dB/div Log 1.45 -8.55 -18.6 -28.6 -38.6	R⊧ eq 2.3 Ref	Analyzer - Swe 50 Ω 3100000 Offset 11.	AC DOO GHZ PI IFC		Trig: Free #Atten: 1	e Run	Arg Typ Avg[Hold	ALIGN AUTO e: Log-Pwr i:>10/10	10:10:45 PI TRAC TYI DI .402 02:	4 Sep 13, 2022 EE 1 2 3 4 5 6 EMWWWW TP NNNNN 3 9 GHz 66 dBm 1	Frequency Auto Tune Center Freq 2.358500000 GHz Start Freq
10 dB/div 145 145 145 145 18.6 28.6 28.6 28.6 28.6 28.6 28.6 28.6 28.6 28.6 28.6 28.6 28.6 58.6	Ref Ref Ref	Analyzer Swe 50 Q 3100000 Offset 11. 7 11.45 c Anyzer He GHz KHz	AC PO00 GHz PT IFC 45 dB IBM		Trig: Free #Atten: 1			STATUS ALIGN AUTO e: Log-Pwr i>10/10 Mkr1 2 Mkr1 2 Sweep 10	10:10:45 PP TRAC TYPE 2.402 02: 1.0 	4 Sep 13, 2022 THE [1 2 3 4 5 6 HM MMM September 2017 TP NNNN N 3 9 GHz 66 dBm 1 -1566 dbm 2 -1566 dbm 0 0 0 0 0 0 0 0 0 0 0 0 0	Frequency Auto Tune Center Freq 2.358500000 GHz Start Freq 2.310000000 GHz 2.407000000 GHz CF Step 9.700000 MHz
Keysight S 10 dB/div Log 1.45 -8 55 -18 6 -28 6 -38 6 -86 6 -88 7 -88 8 -88 8 -88 8 -88 8 -88 8 -88 8 -88 8 -88 8 -88 8 -	Ref Ref Ref	Analyzer Swe 50 Q 3100000 Offset 11. 7 11.45 c Anyzer He GHz KHz	AC PO00 GHz PT IFC 45 dB IBM	#VB1	Trig: Free #Atten: 1	B Run 0 dB		STATUS ALIGN AUTO e: Log-Pwr i>10/10 Mkr1 2 Mkr1 2 Sweep 10	10:10:45 PP TRAC TYPE 2.402 02: 1.0 	A Sep 13, 2022 IFE [1 2 3 4 5 6 MMMMMM TP NNNN 3 9 GHz 66 dBm 1 -1546 dBm 2 -1546 dBm -1546 dBm -15	Start Frequency Auto Tune Center Freq 2.358500000 GHz Start Freq 2.310000000 GHz Stop Freq 2.407000000 GHz Gr Stop Freq 9.700000 GHz Quito
It Keyslight S It deB/div Start Fre	Ref Ref Ref 10000 1 1000 1 1 1	Analyzer Swe 50 Q 3100000 Offset 11. 7 11.45 c Anyzer He GHz KHz	AC D00 GHZ P IFC 45 dB IBM 2400 000 1 2.402 023 1 2.402 023 1	#VB1	Trig: Free #Atten: 1	B Run 0 dB		STATUS ALIGN AUTO e: Log-Pwr i>10/10 Mkr1 2 Mkr1 2 Sweep 10	10:10:45 PP TRAC TYPE 2.402 02: 1.0 	4 Sep 13, 2022 TF [12 3 4 5 6 MMMMMM TP NNNN 3 9 GHz 66 dBm 1 -1566 dbm 2 -1566 dbm 2 -1566 dbm 2 -1506 dbm 2 -1506 dbm -1506 d	Frequency Auto Tune Center Freq 2.358500000 GHz Start Freq 2.310000000 GHz Stop Freq 2.407000000 GHz 9.700000 MHz Auto Man
Keysight S 0 dB/div Start From	Ref Ref Ref 10000 1 1000 1 1 1	Analyzer Swe 50 Q 3100000 Offset 11. 7 11.45 c Anyzer He GHz KHz	AC D00 GHZ P IFC 45 dB IBM 2400 000 1 2.402 023 1 2.402 023 1	#VB1	Trig: Free #Atten: 1	B Run 0 dB		STATUS ALIGN AUTO e: Log-Pwr i>10/10 Mkr1 2 Mkr1 2 Sweep 10	10:10:45 PP TRAC TYPE 2.402 02: 1.0 	4 Sep 13, 2022 TF [12 3 4 5 6 MMMMMM TP NNNN 3 9 GHz 66 dBm 1 -1566 dbm 2 -1566 dbm 2 -1566 dbm 2 -1506 dbm 2 -1506 dbm -1506 d	Frequency Auto Tune Center Freq 2.358500000 GHz Start Freq 2.310000000 GHz 2.407000000 GHz Stop Freq 2.40700000 GHz GF Step 9.700000 MHz Auto Man



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🃕 Keysigh	ht Spect		nalyzer - Sw									- 5 -
<mark>¤ ⊺</mark> Start F	req	RF 30.0	50 Ω 00000	AC 0 MHz			ENSE:INT		ALIGN AUTO	TRA	M Sep 13, 2022 CE 1 2 3 4 5 6	Frequency
					PNO: Fast IFGain:Low			Avg H	old:>10/10	D		Auto Tune
10 dB/d			Offset 11 11.45 (Mk		1 7 GHz 99 dBm	
1.45		≬ 1										Center Fre
8.55					_		_					13.265000000 GH
18.6						_					-19.06 dBm	
-28.6						-		-				Start Fre
-38.6												30.000000 MH
-48.6		Ŷ										
58.6		3		فاسر الالمام	مريدة باسطاليان	a his manufa la da	والمتلفظ والم	ويعقص ويرار ويتح المريدو	ورغامة ومرطاطين أمرون	فريعت والتوريس ويع		Stop Fre
-78.6				Carlo Carlos Carlos								26.50000000 GH
L												
Start 3 #Res E			Hz		#VI	BW 300 KH	z		Sweep 3		26.50 GHz 0001 pts)	CF Ste 2.647000000 GH
MKR MOD	DE TRC			X		Y		JNCTION	FUNCTION WIDTH	FUNCT	ON VALUE	<u>Auto</u> Ma
1 N 2 N	1	f		2.40	1 7 GHz 0 0 GHz	0.799						
3 N 4	1	f		2.483 50	0 0 GHz	-69.777	dBm					Freq Offse 0 H
5											E	01
7												
9												
10	-											
11	-											1
						III			STATUS	1		



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			CH	Mid (GFSK	MODE)		
🎉 Keysight Spe	ectrum Analyzer - Sv								
LXI T	RF 50 \$			SENS	SE:INT	ALIGN AUTO		M Sep 13, 2022	Frequency
Center F	req 2.4400	00000 GH	<u>Iz</u>	Trig: Free		J Type: Log-Pwr Hold:>100/100	TRAC TYI	CE 1 2 3 4 5 6	
		IF	NO: Wide 🗔 Gain:Low	#Atten: 20			D	PE MWWWWW ET P NNNNN	
						Mkr1	2 440 0	25 GHz	Auto Tune
10 dB/div	Ref Offset 1' Ref 21.45							43 dBm	
Log	KCI 21.45			1			1		
									Center Freq
11.5									2.440000000 GHz
					.1				
1.45									
				L/~	√ ∖6.00	dB			Start Freq
-8.55				1	<u> </u>	Hz			2.437500000 GHz
			1	1	h				
-18.6			/		\				Oton From
									Stop Freq
-28.6			_ /		\	\sim			2.442500000 GHz
		1	\mathbb{T}			T \			
-38.6						m			CF Step
00.0		, m					mar and a second		500.000 kHz
-48.6		and a						h.	<u>Auto</u> Man
-40.0	manna	h.						mar and the	
4 Marin	viu r								Freq Offset
-58.6			1						0 Hz
									ļ
-68.6									
Center 2.4	440000 GHz	,					Span 5	.000 MHz	
#Res BW		•	#VBW	/ 300 kHz		Sween 1	1.000 ms (
MSG						STATU		,	<u>I</u>
MSG								,	
🎉 Keysight Spe	ectrum Analyzer - Sv					STATU	S		- 7 -
💓 Keysight Spe LXI T	RF 50 S	Ω AC		SENS	SE:INT	STATU: ALIGN AUTO	s 10:13:22 P	M Sep 13, 2022	Frequency
💓 Keysight Spe LXI T		Ω AC DO MHz P	NO: Fast 🕞	Trig: Free	Avg Run Avg	STATU	S 10:13:22 P TRAC TY	M Sep 13, 2022 SE 1 2 3 4 5 6 PE M WWWW	Frequency
💓 Keysight Spe LXI T	RF 50 S	Ω AC DO MHz P	NO: Fast Gain:Low		Avg Run Avg	ALIGN AUTO 3 Type: Log-Pwr Hold:>10/10	S 10:13:22 P TRAC TYI D	M Sep 13, 2022 DE 1 2 3 4 5 6 PE MWWWW ET P N N N N N	Frequency
💓 Keysight Spe LXI T	RF 50 S cq 30.00000	Ω AC DO MHz IF	NO: Fast Gain:Low	Trig: Free	Avg Run Avg	ALIGN AUTO 3 Type: Log-Pwr Hold:>10/10	s 10:13:22 P TRAC TY D Kr1 2.44	M Sep 13, 2022 DE 1 2 3 4 5 6 PE M WWWW ET P N N N N N 0 1 GHz	Frequency
Keysight Spr X T Start Fre	RF 50 S	Ω AC DO MHz P IF ¹ 1.45 dB	NO:Fast ⊂ Gain:Low	Trig: Free	Avg Run Avg	ALIGN AUTO 3 Type: Log-Pwr Hold:>10/10	s 10:13:22 P TRAC TY D Kr1 2.44	M Sep 13, 2022 DE 1 2 3 4 5 6 PE MWWWW ET P N N N N N	Frequency
W Keysight Spr XM ⊤ Start Fre 10 dB/div Log	RF 50 G	Ω AC DO MHz P IF ¹ 1.45 dB	NO: Fast Gain:Low	Trig: Free	Avg Run Avg	ALIGN AUTO 3 Type: Log-Pwr Hold:>10/10	s 10:13:22 P TRAC TY D Kr1 2.44	M Sep 13, 2022 DE 1 2 3 4 5 6 PE M WWWW ET P N N N N N 0 1 GHz	Frequency Auto Tune
Keysight Spo X T Start Fre	Ref Offset 1 Ref <u>11.45</u>	Ω AC DO MHz P IF ¹ 1.45 dB	NO: Fast Gain:Low	Trig: Free	Avg Run Avg	ALIGN AUTO 3 Type: Log-Pwr Hold:>10/10	s 10:13:22 P TRAC TY D Kr1 2.44	M Sep 13, 2022 DE 1 2 3 4 5 6 PE M WWWW ET P N N N N N 0 1 GHz	Frequency Auto Tune Center Freq
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Report No.: TMTN2207001012NR

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Image: second	RF 50 2 q 2.475000 Ref Offset 1 Ref 11.45	2 AC 0000 GHz PI IF0 1.45 dB	NO: Fast C Gain:Low	Trig: Free #Atten: 10	Run A	Avg Type Avg Hold: M	status ALIGN AUTO 1: Log-Pwr >10/10 kr1 2.48	10:16:34 PP TRAC TRAC DE 00 025 0 1.9	4 Sep 13, 2022 = [1 2 3 4 5 6 = P NNNN 00 GHz 19 dBm -18.24 dbn -18.24 dbn -18.24 dbn -0000 GHz	Frequency Auto Tune Center Freq 2.487500000 GHz Start Freq 2.475000000 GHz Stop Freq 2.500000000 GHz
M T Start Fre 10 dB/div Log 1.45 -8.55 -18.6 -38.6 -48.6 -8.6 -78.6	RF 50 2 q 2.475000 Ref Offset 1 Ref 11.45	2 AC 0000 GHz PI IF0 1.45 dB	NO: Fast C Gain:Low	Trig: Free #Atten: 10	Run A	Avg Type Avg Hold: M	status sta	10:16:34 PP TRAC TRAC DE 00 025 0 1.9	4 Sep 13, 2022 = [1 2 3 4 5 6 = P NNNN 00 GHz 19 dBm -18.24 dbn -18.24 dbn -18.24 dbn -0000 GHz	Frequency Auto Tune Center Freq 2.487500000 GHz Start Freq 2.475000000 GHz Stop Freq 2.50000000 GHz CF Step 2.500000 MHz
M T Start Fre 10 dB/div 1.45 -8.55 -18.6 -28.6 -48.6 -38.6 -48.6 -58.6 -78.6 Start 2.477 #Res BW	Ref Offset 11 Ref 11.45	2 AC 000 GHZ IF IF If AS dB dBm ∮1 √ √ √ √ √ √ √ √ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓	NO: Fast Gain:Low	V 300 kHz		Avg Type Avg Hold M	status ALIGN AUTO 1: Log-Pwr >10/10 kr1 2.48	10:16:34 PP TRAC 10:00 1	4 Sep 13, 2022 = [1 2 3 4 5 6 = P NNNN 00 GHz 19 dBm -18.24 dbn -18.24 dbn -18.24 dbn -0000 GHz	Frequency Auto Tune Center Freq 2.487500000 GHz Start Freq 2.475000000 GHz Stop Freq 2.500000000 GHz
M T Start Fre 10 dB/div Log 1.45 -8.55 -18.6 -28.6 -38.6 -48.6 -48.6 -78.7 -78.8	Ref Offset 11 Ref 015et 11 Ref 11.45	2 AC 000 GHz PP PI I.45 dB dBm ∮1 TM ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓	NO: Fast Gain:Low #VBW	V 300 kHz		Avg Type Avg Hold M	status ALIGN AUTO :: Log-Pwr >10/10 kr1 2.48	10:16:34 PP TRAC 10:00 1	4 Sep 13, 2022 E [] 2 3 4 5 6 E 2	Frequency Auto Tune Center Freq 2.487500000 GHz Start Freq 2.475000000 GHz Stop Freq 2.50000000 GHz CF Step 2.500000 MHz Auto Man
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M T Start Fre 10 dB/div Log 1.45 -8.65 -88.6 -88.6 -88.6 -88.6 -88.6 -88.6 -88.6 -88.6 -78.6 Start 2.47 #Res BW Mission 000000000000000000000000000000000000	Ref Offset 1 Ref Offset 1 Ref 11.45 7500 GHz 100 kHz Ref 2	2 AC 1000 GHZ P IF I-45 dB dBm ∮1 √ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓	NO: Fast Gain:Low #VBW	V 300 kHz		Avg Type Avg Hold M	status ALIGN AUTO :: Log-Pwr >10/10 kr1 2.48	10:16:34 PP TRAC 10:00 1	4 Sep 13, 2022 E [1 2 3 4 5 6 E W HWH WH W HWH WH W HWH WH M HWH WH M HWH WH H	Frequency Auto Tune Center Freq 2.487500000 GHz Start Freq 2.475000000 GHz Stop Freq 2.50000000 GHz CF Step 2.500000 MHz
M T Start Fre 10 dB/div Log 1.45 -8.55 -18.6 -28.6 -38.6 -48.6 -86.6 -78.6 Start 2.47 #Res BW 11 12 13 4 6	Ref Offset 1 Ref Offset 1 Ref 11.45 7500 GHz 100 kHz Ref 2	2 AC 1000 GHZ P IF I-45 dB dBm ∮1 √ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓	NO: Fast Gain:Low #VBW	V 300 kHz		Avg Type Avg Hold M	status ALIGN AUTO :: Log-Pwr >10/10 kr1 2.48	10:16:34 PP TRAC 10:00 1	4 Sep 13, 2022 E [] 2 3 4 5 6 E 2	Frequency Auto Tune Center Freq 2.487500000 GHz Start Freq 2.475000000 GHz Stop Freq 2.500000 000 GHz CF Step 2.500000 MHz Auto Freq Offset
M T Start Fre 10 dB/div 145 -8.55 -18.6 -28.6 -48.6 -28.6 -78.6 Start 2.47 Res BW 1 N 2 N 3 N 4 6 6 7	Ref Offset 1 Ref Offset 1 Ref 11.45 7500 GHz 100 kHz Ref 2	2 AC 1000 GHZ P IF I-45 dB dBm ∮1 √ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓	NO: Fast Gain:Low #VBW	V 300 kHz		Avg Type Avg Hold M	status ALIGN AUTO :: Log-Pwr >10/10 kr1 2.48	10:16:34 PP TRAC 10:00 1	4 Sep 13, 2022 E [1 2 3 4 5 6 E W HWH WH W HWH WH W HWH WH M HWH WH M HWH WH H	Frequency Auto Tune Center Freq 2.487500000 GHz Start Freq 2.475000000 GHz Stop Freq 2.500000 0GHz CF Step 2.500000 MHz Auto Man Freq Offset
M T Start Fre 10 dB/div Log 1.45 -8.55 -18.6 -28.6 -38.6 -48.6 -86.6 -78.6 Start 2.47 #Res BW 11 12 13 4 6	Ref Offset 1 Ref Offset 1 Ref 11.45 7500 GHz 100 kHz Ref 2	2 AC 1000 GHZ P IF I-45 dB dBm ∮1 √ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓	NO: Fast Gain:Low #VBW	V 300 kHz		Avg Type Avg Hold M	status ALIGN AUTO :: Log-Pwr >10/10 kr1 2.48	10:16:34 PP TRAC 10:00 1	4 Sep 13, 2022 E [1 2 3 4 5 6 E W HWH WH W HWH WH W HWH WH M HWH WH M HWH WH H	Frequency Auto Tune Center Freq 2.487500000 GHz Start Freq 2.475000000 GHz Stop Freq 2.500000 000 GHz CF Step 2.500000 MHz Auto Freq Offset
XI T Start Fre 10 dB/div Log 1.45 -8.55 -18.6 -28.6 -38.6 -48.6 -48.6 -78.6 Start 2.47 XRes BW Market 2.47 1 N 2 N 3 N 4 5 6 7 8 9 10	Ref Offset 1 Ref Offset 1 Ref 11.45 7500 GHz 100 kHz Ref 2	2 AC 1000 GHZ P IF I-45 dB dBm ∮1 √ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓	NO: Fast Gain:Low #VBW	V 300 kHz		Avg Type Avg Hold M	status ALIGN AUTO :: Log-Pwr >10/10 kr1 2.48	10:16:34 PP TRAC 10:00 1	4 Sep 13, 2022 E [1 2 3 4 5 6 E W HWH WH W HWH WH W HWH WH M HWH WH M HWH WH H	Frequency Auto Tune Center Freq 2.487500000 GHz Start Freq 2.475000000 GHz Stop Freq 2.500000 0GHz CF Step 2.500000 MHz Auto Man Freq Offset
X T Start Fre Start Fre 1.45 -8.55 -18.6 -28.6 -48.6 -8.65 -78.6 -78.6 -78.6 -78.6 -78.6 -78.6 -78.6 -78.6 -78.6 -78.6 -78.6 -78.6 -78.6 -78.6 -78.6 -78.6 -78.7 -78.8 -78.9 -78.9 -78.10 -78.10 -78.10 -78.10 -78.10 -78.10 -78.10 -78.10 -78.10 -78.10 -78.10 -78.10 -78.10 -78.10 -78.10 -78.10 -78.10 -79.10	Ref Offset 1 Ref Offset 1 Ref 11.45 7500 GHz 100 kHz Ref 2	2 AC 1000 GHZ P IF I-45 dB dBm ∮1 √ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓	NO: Fast Gain:Low #VBW	V 300 kHz		Avg Type Avg Hold M	status ALIGN AUTO :: Log-Pwr >10/10 kr1 2.48	10:16:34 PP TRAC 10:00 1	4 Sep 13, 2022 E [1 2 3 4 5 6 E W HWH WH W HWH WH W HWH WH M HWH WH M HWH WH H	Frequency Auto Tune Center Freq 2.487500000 GHz Start Freq 2.475000000 GHz Stop Freq 2.500000 000 GHz CF Step 2.500000 MHz Auto Freq Offset
X T Start Fre 10 dB/div Log 1.45 -8.55 -18.6 -28.6 -38.6 -48.6 -48.6 -78.6 Start 2.47 WRes BW Market 2.47 N 2 N 3 4 5 77 8 9 10	Ref Offset 1 Ref Offset 1 Ref 11.45 7500 GHz 100 kHz Ref 2	2 AC 1000 GHZ P IF I-45 dB dBm ∮1 √ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓	NO: Fast Gain:Low #VBW	V 300 kHz		Avg Type Avg Hold M	status ALIGN AUTO :: Log-Pwr >10/10 kr1 2.48	10:16:34 PP TRACE 00 025 0 1.9 00 025 0 1.9 00 025 0 1.9 00 025 0 0 025 0 0 025 0 0 025 0 0 025 0 1.9 0 0 025 0 1.9 0 0 0 0 0 1.9 0 0 0 0 0 0 1.9 0 0 0 0 0 0 0 0 0 1.9 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	M Sep 13, 2022 FE [1 2 3 4 5 6 FE [M WWWWWW TP N N N N 000 GHz 19 dBm 10.24 dBm 	Frequency Auto Tune Center Freq 2.487500000 GHz Start Freq 2.475000000 GHz Stop Freq 2.500000 0GHz CF Step 2.500000 MHz Auto Man Freq Offset



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			alyzer - Swe										- 6
~	T T Frec	RF 1 30.0	50 Ω					SE:INT		ALIGN AUTO	TRA	M Sep 13, 2022 CE 1 2 3 4 5 6 PE M WWWW	
		Def 0	ffset 11.	IF	PNO: Fast Gain:Lov		Trig: Free #Atten: 10		Avgino	6id:>10/10	D	9 8 GHz	Auto Tu
10 dB _og r	3/div		11.45 d									53 dBm	
1.45		• 1											Center Fre
8.55										_			13.265000000 G
18.6						-						-18.24 dBm	
28.6										_			Start Fr
38.6													30.000000 M
48.6		13	1										
58.6					-								
co c	ы	<u>سالا ر</u>		ساافيندن بعاريات	ويدونه ويقاص				فيتعلى ويندر	فمساد حمد أدبر	ومسيعا ويقتر والمس		Stop Fr
	ساليوا	4	-	جافسي فروندي							التي من جادية المربي بأوجون (التي من يوانية المربي بأوجوني)		
78.6	مسائيها							<u>distriktiön nu</u>					26.50000000 G
78.6 Start	t 30 M		Hz		#W	/BW :	300 kHz			Sweep		6.50 GHz	26.500000000 G
^{78.6} Start		100 k	Hz	×	#V	/BW :	300 kHz	FUNC		Sweep	2.531 s (4	6.50 GHz 0001 pts)	Stop Fro 26.50000000 G CF Sto 2.64700000 G Auto M
78.6 Itari Res	S BW	100 kl		2.479	8 GHz		Y 1.753 dB	m			2.531 s (4	0001 pts)	26.50000000 G CF St 2.647000000 G <u>Auto</u> M
78.6 Start Res	SBW KODENTRO N 1	100 k C SCL			8 GHz 0 GHz		Y	m m			2.531 s (4	0001 pts)	26.50000000 G CF St 2.647000000 G <u>Auto</u> Freq Offs
78.6 Start Res 1 2 3 4 5	SBW KODENTRI N 1 N 1	100 ki set f		2.479 2.400 000	8 GHz 0 GHz		Y 1.753 dB -63.784 dB	m m			2.531 s (4	0001 pts)	26.50000000 G CF St 2.647000000 G <u>Auto</u> Freq Offs
78.6 Start Res 4 8 3 4 5 6 7	SBW KODENTRI N 1 N 1	100 ki set f		2.479 2.400 000	8 GHz 0 GHz		Y 1.753 dB -63.784 dB	m m	STION I		2.531 s (4	0001 pts)	26.50000000 G CF St 2.647000000 G <u>Auto</u> Freq Offs
78.6 Start Res MKR M 1 2 3 4 5 6 7 8 9	SBW KODENTRI N 1 N 1	100 ki set f		2.479 2.400 000	8 GHz 0 GHz		Y 1.753 dB -63.784 dB	m m			2.531 s (4	0001 pts)	26.50000000 G CF Str 2.647000000 G <u>Auto</u> Freq Offs
#Res 1 2 3 4 5 6 7 8	SBW KODENTRI N 1 N 1	100 ki set f		2.479 2.400 000	8 GHz 0 GHz		Y 1.753 dB -63.784 dB	m m			2.531 s (4	0001 pts)	26.50000000 G CF St 2.647000000 G



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8.7 RADIATED EMISSIONS

8.7.1 TRANSMITTER RADIATED SUPURIOUS EMSSIONS LIMITS

§ 15.205 (a) Except as shown in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
¹ 0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 -1710	10.6 -12.7
6.26775 - 6.26825	108 -121.94	1718.8 - 1722.2	13.25 -13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 – 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 -16.2
8.362 - 8.366	156.52475 - 156.52525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2655 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3338	36.43 - 36.5
12.57675 - 12.57725	322 -335.4	3600 - 4400	(2)
13.36 - 13.41			

¹ Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.

² Above 38.6

§ 15.205 (b) Except as provided in paragraphs (d) and (e), the field strength of emissions appearing within these frequency bands shall not exceed the limits shown is Section 15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in Section 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in Section 15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in Section 15.35 apply to these measurements.



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Report No.: TMTN2207001012NR Rev.: 00 § 15.209 (a) Except as provided elsewhere in this Subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table :

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
30 - 88	100 **	3
88 - 216	150 **	3
216 - 960	200 **	3
Above 960	500	3

** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz, However, operation within these frequency bands is permitted under other sections of this Part, e-g, Sections 15.231 and 15.241.

§ 15.209 (b) In the emission table above, the tighter limit applies at the band edges.

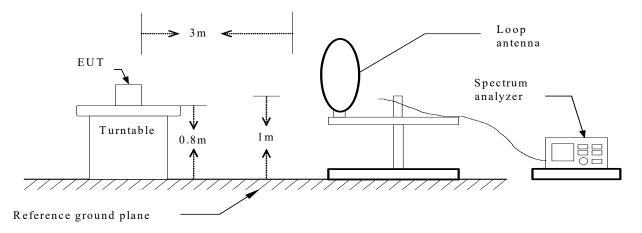


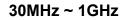
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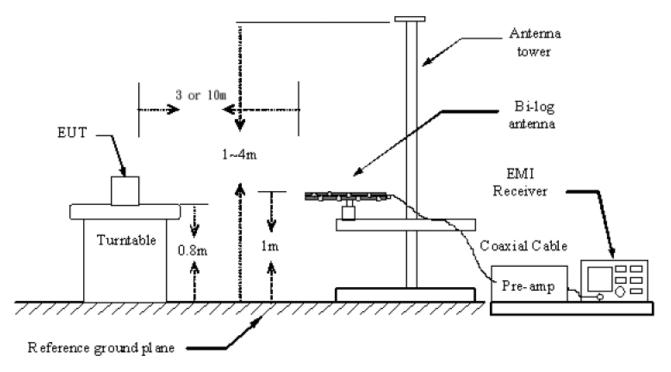
TEST SETUP

The diagram below shows the test setup that is utilized to make the measurements for emission from below 1GHz.

9kHz ~ 30MHz

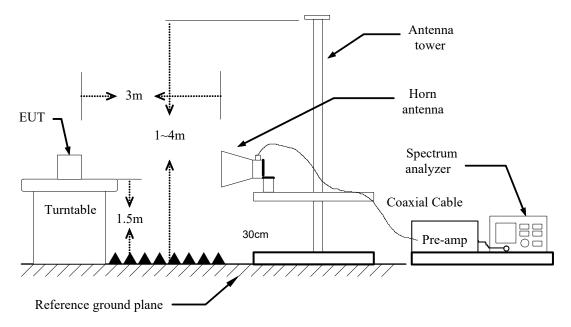








The diagram below shows the test setup that is utilized to make the measurements for emission above 1GHz.



TEST PROCEDURE

- a. The EUT was placed on the top of a rotating table 0.8/1.5 meters above the ground at a 3 meter chamber test site. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. While measuring the radiated emission below 1GHz, the EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. While measuring the radiated emission above 1GHz, the EUT was set 3 meters away from the interference-receiving antenna
- c. The antenna is a broadband antenna, and its 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 polarization of the antenna are set to make the measurement.
- d. 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 and the table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The spectrum analyzer was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- f. If the emission level of the EUT in peak mode was 10 dB 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 10 dB margin would be re-tested one by one using peak, quasi-peak

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or average method as specified and then reported in a data sheet.

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g. The tests were performed in accordance with 558074 D01 15.247 Meas Guidance v05

NOTE:

- 1. The resolution bandwidth of test receiver is 120 kHz for Quasi-peak detection (QP) at frequency below 1GHz.
- 2. The resolution bandwidth of test spectrum analyzer is 1MHz, the video bandwidth is 3MHz and detector is Peak for Peak detection and frequency above 1GHz.
- 3. The resolution bandwidth of test spectrum analyzer is 1 MHz and the video bandwidth is more than 1/T for Average detection (AV) at frequency above 1GHz.
- 4. No emission is found between lowest internal used/generated frequency to 30MHz (9kHz~30MHz)

TEST RESULTS

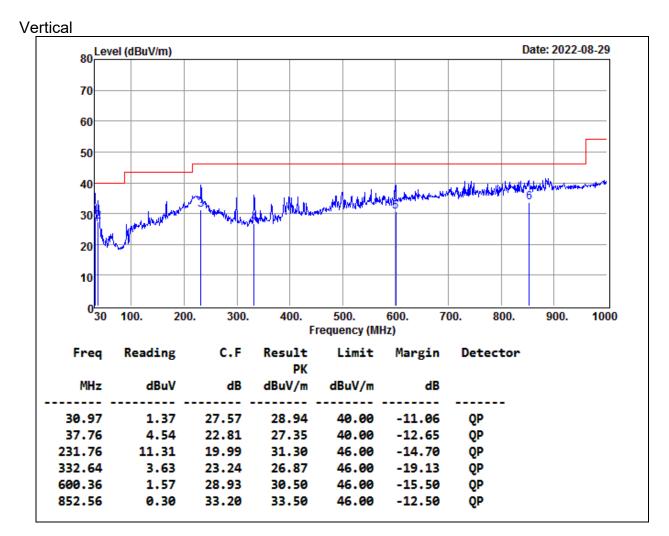
No non-compliance noted.



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Report No.: TMTN2207001012NR 8.7.2 WORST-CASE RADIATED EMISSION BELOW 1 GHz

Product Name	Cherry Wireless Dongle	Test Date	2022/08/29
Model Name	JR-925	Test By	Peter Chu
Test Mode	ТХ	Temp & Humidity	25°C, 61%



- No emission found between lowest internal used/generated frequency to 30MHz (9kHz~30MHz).
- 2. Radiated emissions measured were made with an instrument using peak/quasi-peak detector mode.
- 3. Quasi-peak test would be performed if the peak result were greater than the quasi-peak limit or as required by the applicant.
- 4. Margin (dB) = Remark result (dBuV/m) Quasi-peak limit (dBuV/m).

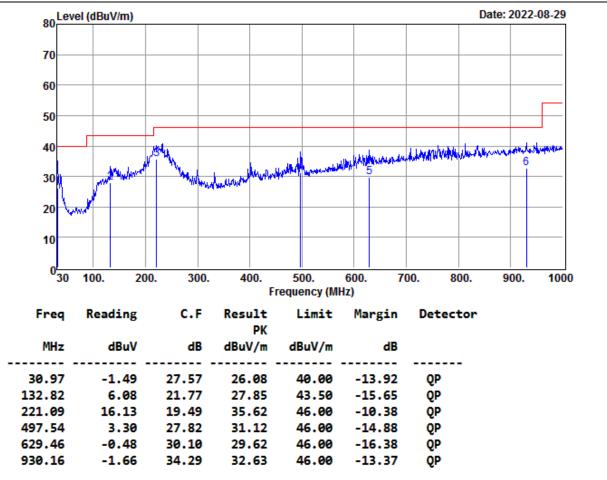


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Product Name	Cherry Wireless Dongle	Test Date	2022/08/29
Model Name	JR-925	Test By	Peter Chu
Test Mode	ТХ	Temp & Humidity	25°C, 61%

Horizontal



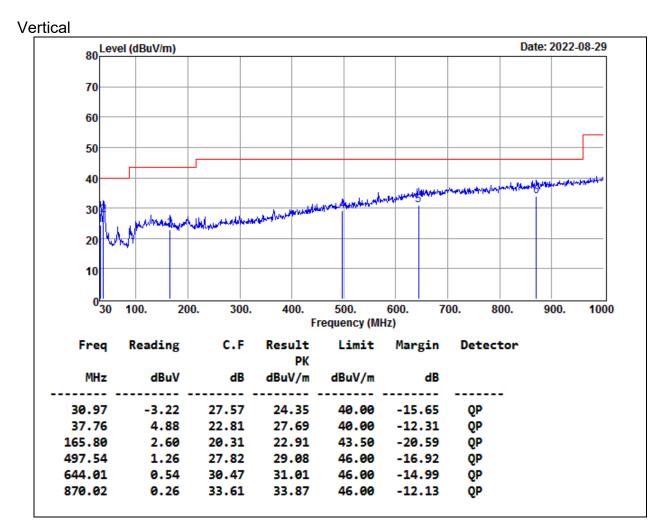
- 1. No emission found between lowest internal used/generated frequency to 30MHz (9kHz~30MHz).
- 2. Radiated emissions measured were made with an instrument using peak/quasi-peak detector mode.
- 3. Quasi-peak test would be performed if the peak result were greater than the quasi-peak limit or as required by the applicant.
- 4. Margin (dB) = Remark result (dBuV/m) Quasi-peak limit (dBuV/m).



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Report No.:	TMTN2207001012NR
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Product Name	Cherry Wireless Dongle	Test Date	2022/08/29
Model Name	JR-925	Test By	Peter Chu
Test Mode	RX	Temp & Humidity	25°C, 61%



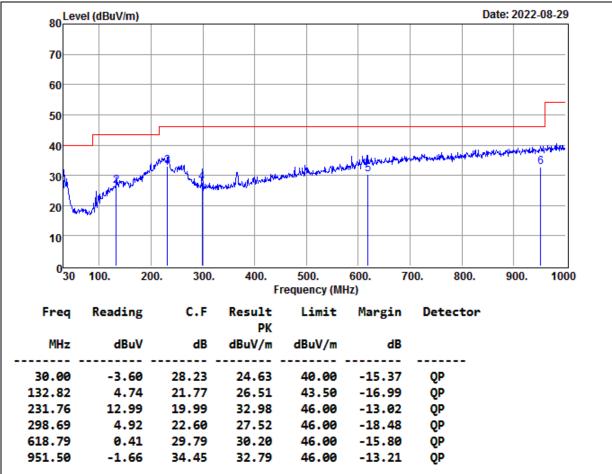
- 1. No emission found between lowest internal used/generated frequency to 30MHz (9kHz~30MHz).
- 2. Radiated emissions measured were made with an instrument using peak/quasi-peak detector mode.
- 3. Quasi-peak test would be performed if the peak result were greater than the quasi-peak limit or as required by the applicant.
- 4. Margin (dB) = Remark result (dBuV/m) Quasi-peak limit (dBuV/m).



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Product Name	Cherry Wireless Dongle	Test Date	2022/08/29
Model Name	JR-925	Test By	Peter Chu
Test Mode	RX	Temp & Humidity	25°C, 61%

Horizontal



- 1. No emission found between lowest internal used/generated frequency to 30MHz (9kHz~30MHz).
- 2. Radiated emissions measured were made with an instrument using peak/quasi-peak detector mode.
- 3. Quasi-peak test would be performed if the peak result were greater than the quasi-peak limit or as required by the applicant.
- 4. Margin (dB) = Remark result (dBuV/m) Quasi-peak limit (dBuV/m).



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Report No.: TMTN2207001012NR 8.7.3 TRANSMITTER RADIATED EMISSION ABOVE 1 GHz

Product Nam	е	Cherry Wireless Dongle				Test Date		09/13/2022	
Model		JR-	925		Test	Ву	Pet	ter Chu	
Test Mode		GFSK TX	(CH Low)		TEMP& Hu	imidity	25°	C, 61%	
Horizontal									
100	el (dBuV/m)						Date	: 2022-09-1	13
90									_
80									
70									-
60	6								-
50	1 5								_
40									_
30									
20									-
10									-
0	0 4000.	6000. 8000.	10000 120	00 14000	16000. 1800	20000	22000 2	24000 264	500
100	4000.	0000. 0000.		requency (M		0. 20000.	22000. /	24000. 20.	500
Freq	Reading	C.F	Result PK	Limit	Margin	Detec	tor		
MHz	dBuV	dB	dBuV/m	dBuV/m	dB				
1080.25	46.94	-13.75	33.19	54.00	-20.81	Aver			
1080.25			43.73		-30.27				
1928.24 1928.24	47.57 57.27		38.44 48.14		-15.56 -25.86		-		
17/8./4	5/.2/	-9.15							
4804.25	47.31	1.94	49.25	54.00	-4.75	Avera	age		

REMARK:

1. AF: Antenna Factor, Cable: Cable Loss, Pre-Amp: Preamplifier gain, Filter: 2.4GHz~2.5GHz Filter Insertion Loss

2. Spectrum analyzer setting P(Peak): RBW=1MHz, VBW=3MHz,A(Average): RBW=1MHz, VBW ≥ 1/T

- 3. The result basic equation calculation is as follow:
- Level = Reading + AF + Cable Preamp + Filter, Margin = Level-Limit
- 4. The other emission levels were 10dB below the limit
- 5. The test distance is 3m.
- 6. *=Restricted bands of operation

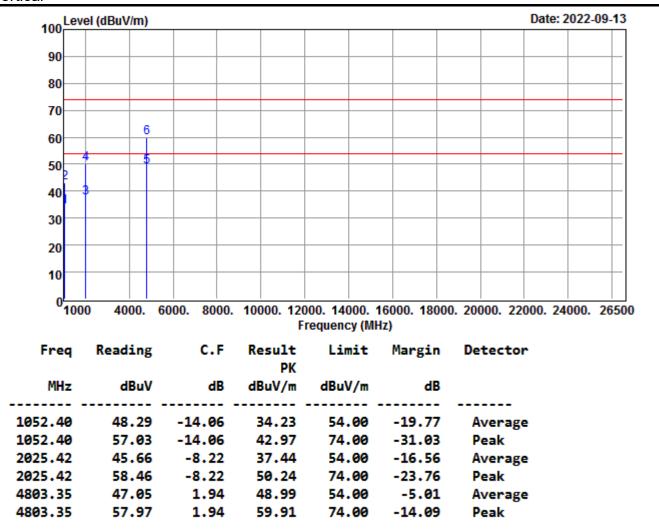


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Report No.: TMTN2207001012NR

Product Name	Cherry Wireless Dongle	Test Date	09/13/2022
Model	JR-925	Test By	Peter Chu
Test Mode	GFSK TX (CH Low)	TEMP& Humidity	25°C, 61%

Vertical



REMARK:

- 1. AF: Antenna Factor, Cable: Cable Loss, Pre-Amp: Preamplifier gain, Filter: 2.4GHz~2.5GHz Filter Insertion Loss
- 2. Spectrum analyzer setting P(Peak): RBW=1MHz, VBW=3MHz,A(Average): RBW=1MHz, VBW ≥ 1/T
- 3. The result basic equation calculation is as follow:
 - Level = Reading + AF + Cable Preamp + Filter, Margin = Level-Limit
- 4. The other emission levels were 10dB below the limit
- 5. The test distance is 3m.
- 6. *=Restricted bands of operation



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Report No.: TMTN2207001012NR

Product Name		Cherry Wireless Dongle				Date	09/13/2022	
Model		JR-925				Ву	Peter Chu	
Test Mode		GFSK TX	(CH Middle	e)	TEMP& H	umidity	25°C, 61%	
Horizontal								
100 Level (dBuV/m)						Date: 2022-09-13	
90								
80								
70								
60	6							
502	- 5							
40								
30								
20								
10								
0	4000	0000 0000	40000 400		40000 4000	20000 1		
~1000	4000.	6000. 8000		requency (M		J. 20000. 2	2000. 24000. 26500	
Freq F	Reading	C.F	Result PK	Limit	Margin	Detect	or	
MHz	dBuV	dB	dBuV/m	dBuV/m	dB			
1053.22		-14.04	34.01		-19.99	Avera	ge	
1053.22 1937.14	58.25	-14.04 -9.03	44.21 38.65		-29.79 -15.35	Peak	~	
1937.14		-9.03			-15.35	Avera Peak	ge	
		2.15			-5.79		ge	
4879.54	57.51	2.15	59.66	74.00	-14.34	Peak		

REMARK:

1. AF: Antenna Factor, Cable: Cable Loss, Pre-Amp: Preamplifier gain, Filter: 2.4GHz~2.5GHz Filter Insertion Loss

2. Spectrum analyzer setting P(Peak): RBW=1MHz, VBW=3MHz,A(Average): RBW=1MHz, VBW ≥ 1/T

3. The result basic equation calculation is as follow:

Level = Reading + AF + Cable – Preamp + Filter, Margin = Level-Limit

- 4. The other emission levels were 10dB below the limit
- 5. The test distance is 3m.
- 6. *=Restricted bands of operation



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Product Name	Cherry Wireless Dongle	Test Date	09/13/2022
Model	JR-925	Test By	Peter Chu
Test Mode	GFSK TX (CH Middle)	TEMP& Humidity	25°C, 61%
Vertical			

100 Level (dBuV/m) Date: 2022-09-13 90 80 70 60 50 40 30 20 10 0 1000 10000. 12000. 14000. 16000. 18000. 20000. 22000. 24000. 26500 4000. 6000. 8000. Frequency (MHz) Freq Reading C.F Result Limit Margin Detector PK MHz dBuV dB dBuV/m dBuV/m dB _ _ _ _ _ _ _ _ _ _ _ 1082.96 47.22 -13.73 33.49 54.00 -20.51 Average 1082.96 57.29 -13.73 74.00 43.56 -30.44 Peak Average 2090.44 46.58 -7.41 39.17 54.00 -14.832090.44 57.28 -7.41 49.87 74.00 -24.13 Peak 4879.97 46.33 2.15 -5.52 48.48 54.00 Average 4879.97 55.37 2.15 57.52 74.00 -16.48 Peak

REMARK:

- 1. AF: Antenna Factor, Cable: Cable Loss, Pre-Amp: Preamplifier gain, Filter: 2.4GHz~2.5GHz Filter Insertion Loss
- 2. Spectrum analyzer setting P(Peak): RBW=1MHz, VBW=3MHz,A(Average): RBW=1MHz, VBW ≥ 1/T
- The result basic equation calculation is as follow: Level = Reading + AF + Cable – Preamp + Filter, Margin = Level-Limit
- 4. The other emission levels were 10dB below the limit
- 5. The test distance is 3m.
- 6. *=Restricted bands of operation



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Product Nam	е	Cherry Wireless Dongle				Date	09/13/2022	
Model		JR-925				Ву	Peter Chu	
Test Mode		GFSK TX	(CH High)		TEMP& H	umidity	25°C, 61%	
Iorizontal								_
100Leve	l (dBuV/m)						Date: 2022-09-13	3 7
90								
80								
70								
60	6							
50 <mark>4</mark>	5							
40								
30								
20								
10								
0 <mark>1000</mark>	4000 .	6000. 8000.)00. 14000. requency (M		0. 20000. 2	22000. 24000. 2650	」 00
Freq	Reading	C.F	Result PK	Limit	Margin	Detect	or	
MHz	dBuV	dB	dBuV/m	dBuV/m	dB			
1052.21	47.33		33.27		-20.73	Avera	ge	
1052.21 1928.91	57.83 47.69		43.77 38.57		-30.23 -15.43	Peak Avera		
1928.91	58.37		49.25		-24.75	Peak	5=	
4960.20	46.06	2.52	48.58	54.00	-5.42	Avera	ge	
4960.20	56.90	2.52	59.42	74.00	-14.58	Peak		

REMARK:

1. AF: Antenna Factor, Cable: Cable Loss, Pre-Amp: Preamplifier gain, Filter: 2.4GHz~2.5GHz Filter Insertion Loss

2. Spectrum analyzer setting P(Peak): RBW=1MHz, VBW=3MHz,A(Average): RBW=1MHz, VBW ≥ 1/T

3. The result basic equation calculation is as follow:

Level = Reading + AF + Cable – Preamp + Filter, Margin = Level-Limit

4. The other emission levels were 10dB below the limit

- 5. The test distance is 3m.
- 6. *=Restricted bands of operation



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Report No.:	TMTN2207001012NR
Report No	

Product Name	Э	Cherry Wireless Dongle				Test Date		022
Model		JR	-925		Test	Ву	Peter Chu	
Test Mode		GFSK TX	(CH High))	TEMP& Hu	umidity	25°C, 6	1%
/ertical								
100	(dBuV/m)						Date: 2022	2-09-13
90								
80								
70								
60	6							
50	5							
40								
30								
20								
10								
0 <mark>1000</mark>	4000.	6000. 8000.		000. 14000. Tequency (M	16000. 18000 Hz)	0. 20000. 2	22000. 24000	. 26500
Freq	Reading	C.F	Result PK	Limit	Margin	Detect	or	
MHz	dBuV	dB	dBuV/m	dBuV/m	dB			
1083.12	46.48		32.75	54.00	-21.25	Avera	ge	
1083.12 2091.15	57.71 47.06		43.98 39.65	74.00 54.00	-30.02 -14.35	Peak Avera	9 0	
2091.15	58.88		51.47		-22.53	Peak		
4960.32	46.97		49.49		-4.51	Avera	ge	
4960.32	57.64	2.52	60.16	74.00	-13.84	Peak		

REMARK:

1. AF: Antenna Factor, Cable: Cable Loss, Pre-Amp: Preamplifier gain, Filter: 2.4GHz~2.5GHz Filter Insertion Loss

2. Spectrum analyzer setting P(Peak): RBW=1MHz, VBW=3MHz,A(Average): RBW=1MHz, VBW ≥ 1/T

3. The result basic equation calculation is as follow:

Level = Reading + AF + Cable – Preamp + Filter, Margin = Level-Limit

- 4. The other emission levels were 10dB below the limit
- 5. The test distance is 3m.
- 6. *=Restricted bands of operation



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Product Name		Cherry Wire	eless Dong	le	Test D	ate	09/13/2022	2
Model		JR	-925		Test	Ву	Peter Chu	
Test Mode		GFSK RX				umidity	25°C, 61%)
lorizontal								
100 Level ((dBuV/m)						Date: 2022-09	-13
90								-
80								-
70								-
60								+
502								
40								+
30								+
20								
10								
01000	4000. 6	000. 8000.		00. 14000. requency (M		. 20000. 2	22000. 24000. 2	6500
Freq I	Reading	C.F	Result PK	Limit	Margin	Detect	or	
MHz	dBuV	dB	dBuV/m	dBuV/m	dB			
1055.24		-14.03	32.34		-21.66	Avera	ge	
1055.24 1934.10	57.36 46.37	-14.03 -9.06	43.33 37.31	74.00 54.00	-30.67 -16.69	Peak Avera	ge	
1934.10		-9.06	48.76		-25.24	Peak	-	
2047.50		-8.03			-13.97	Avera	ge	
2047.50	56.92	-8.03	48.89	74.00	-25.11	Peak		

REMARK:

1. AF: Antenna Factor, Cable: Cable Loss, Pre-Amp: Preamplifier gain, Filter: 2.4GHz~2.5GHz Filter Insertion Loss

2. Spectrum analyzer setting P(Peak): RBW=1MHz, VBW=3MHz,A(Average): RBW=1MHz, VBW ≥ 1/T

 The result basic equation calculation is as follow: Level = Reading + AF + Cable – Preamp + Filter, Margin = Level-Limit

4. The other emission levels were 10dB below the limit

- 5. The test distance is 3m.
- 6. *=Restricted bands of operation



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Product Name	•	Cherry Wire	eless Dong	le	Test D	ate	09/13/2022	
Model		JR-925		Test By		Peter Chu		
Test Mode		GFSK RX		TEMP& Humidity		25°C, 61%		
/ertical								
100Level	(dBuV/m)						Date: 2022-09-	-13
90								
80								
70								-
60								
50 2								
40 3								
30								
20								
10								
0								
⁰ 1000	4000. 6	000. 8000.		00. 14000. requency (M). 20000. 2	22000. 24000. 26	6500
Freq	Reading	C.F	Result PK	Limit	Margin	Detect	or	
MHz	dBuV	dB	dBuV/m	dBuV/m	dB			
1081.40	46.27	-13.74	32.53	54.00	-21.47	Avera	ge	
1081.40	57.28	-13.74	43.54		-30.46	Peak		
1948.19 1948.19	47.52 57.93	-8.90 -8.90	38.62 49.03		-15.38 -24.97	Avera Peak	ge	
2090.42	47.31	-7.41	39.90		-14.10	Avera	ge	
2090.42	57.68	-7.41	50.27	74.00	-23.73	Peak	_	

REMARK:

- 1. AF: Antenna Factor, Cable: Cable Loss, Pre-Amp: Preamplifier gain, Filter: 2.4GHz~2.5GHz Filter Insertion Loss
- 2. Spectrum analyzer setting P(Peak): RBW=1MHz, VBW=3MHz, A(Average): RBW=1MHz, VBW \geq 1/T
- The result basic equation calculation is as follow: Level = Reading + AF + Cable – Preamp + Filter, Margin = Level-Limit
- 4. The other emission levels were 10dB below the limit
- 5. The test distance is 3m.
- 6. *=Restricted bands of operation

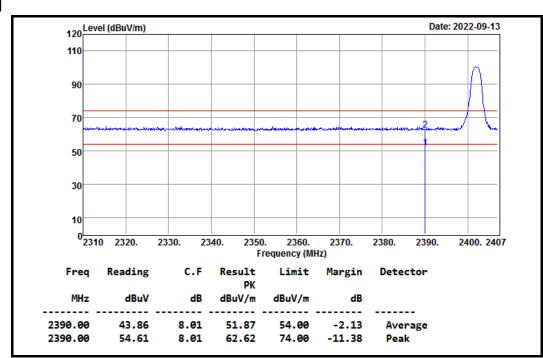


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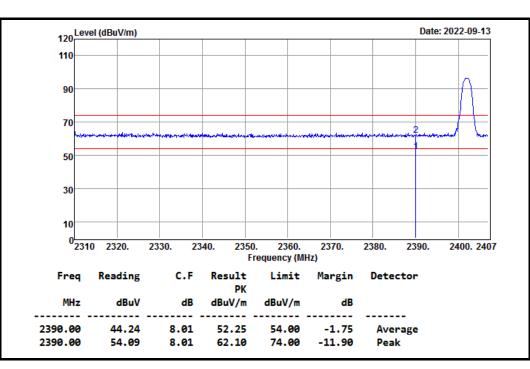
Report No.: TMTN2207001012NR 8.7.4 RESTRICTED BAND EDGES

Product Name	Cherry Wireless Dongle	Test Date	2022/09/13
Model Name	JR-925	Test By	Peter Chu
Test Mode	CH Low TX / BLE 1M	Temp & Humidity	25.2°C, 54%

Horizontal



Vertical



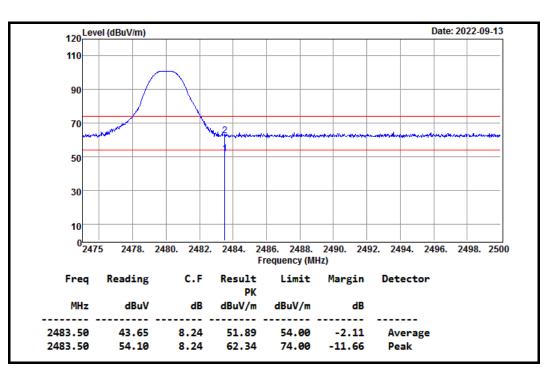


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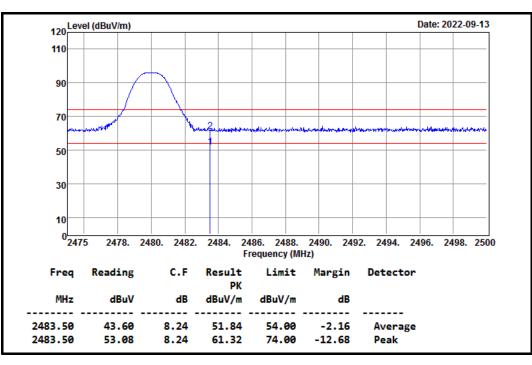
Report No.: TMTN2207001012NR

Product Name	Cherry Wireless Dongle	Test Date	2022/09/13
Model Name	JR-925	Test By	Peter Chu
Test Mode	CH High TX / BLE 1M	Temp & Humidity	25.2°C, 54%

Horizontal



Vertical





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Report No.: TMTN2207001012NR

8.8 POWERLINE CONDUCTED EMISSIONS

<u>LIMITS</u>

§ 15.207 (a) Except as shown in paragraph (b) and (c) this section, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table, as measured using a 50 μ H/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal.

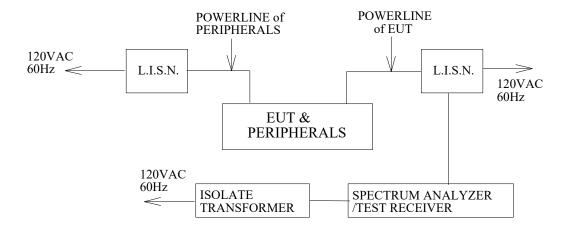
The lower limit applies at the boundary between the frequency ranges.

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



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Report No.: TMTN2207001012NR TEST SETUP



TEST PROCEDURE

The EUT is placed on a non-conducting table 40 cm from the vertical ground plane and 80cm above the horizontal ground plane. The EUT IS CONFIGURED IN ACCORDANCE WITH ANSI C63.10.

The resolution bandwidth is set to 9 kHz for both quasi-peak detection and average detection measurements.

Line conducted data is recorded for both NEUTRAL and LINE.

TEST RESULTS

No non-compliance noted.

※ This EUT is not connected to AC Source directly. Not applicable for this test.



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Report No.: TMTN2207001012NR

9. ANTENNA REQUIREMENT

9.1 STANDARD APPLICABLE

For intentional device, according to FCC 47 CFR Section 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.

And according to FCC 47 CFR Section 15.247 (b), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

9.2 ANTENNA CONNECTED CONSTRUCTION

Manufacturer: ONEWAVE Type: Chip Antenna Model: WAN2012F245L08 Gain: 1.23 dBi

===End of Test Report===