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4.6 Duty Cycle:

Serial Number:	21FA-1	Test Date:	2023/04/17
Test Site:	RF	Test Mode:	Transmitting
Tester:	Jim Wei	Test Result:	N/A

Environmental Conditions:									
Temperature:	Relative Humidity:	ATM Pressure:							
(°C)24.6	(%)	(kPa) ^{100.5}							

Test Equipment List and Details:

Manufacturer	Description Model		Serial Number	Calibration Date	Calibration Due Date	
zhuoxiang	Coaxial Cable	ial Cable SMA-178 211001		Each time	N/A	
R&S Spectrum Analyzer		FSV40	101943	2022/7/25	2023/7/24	
Mini-Circuits	DC Block	BLK-18-S+	1554403	Each time	N/A	

* Statement of Traceability: China Certification ICT Co., Ltd (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Data:

Test Modes	Ton (ms)	Ton+off (ms)	Duty cycle (%)	1/T (Hz)	Duty Factor (dB)
802.11a	1.3652	1.4249	95.81	732	0.19
802.11n ht20	1.2867	1.3217	97.35	777	0.12
802.11n ht40	0.6435	0.687	93.67	1554	0.28
802.11ac vht80	0.3239	0.3714	87.21	3087	0.59

	Duty Cycle						
	Spectrum Spectrum 2 Spectrum 3 Spectrum 4 Image: Constraint of the constraint of t						
	SGL @1Pk Clrw M1[1] 10.99 dBr S.2033 m						
	they dependent when the provident and provident the second provident the	1.3652 ms					
	0 dBm						
	-10 d8m						
	-20 dBm						
802.11a	-30 dBm						
	-90 dBm						
	-50 dBm						
	CF 5.26 GHz 501 pts	600.0 µs/					
	Marker Type Ref Trc X-value Y-value Function Function R	sult					
	M1 1 3.2033 ms 10.99 dBm D1 M1 1 1.3652 ms 0.58 dB						
	D2 M1 1 1.4249 ms 0.58 dB Ready	17.04.2023					
	Date: 17.APR.2023 14:32:44	14032143					
	Spectrum Spectrum 2 (3) Spectrum 3 (3) Spectrum 4 (3)						
	Ref Level 30.00 dBm Offset 0.50 dB RBW 10 MHz ● Att 40 dB ● SWT 6 ms ● VBW 10 MHz	(*)					
	SGL 9 1Pk Clrw						
	20.dBm	-30.35 dBm 2.06957 ms					
	which any possible which any percent which where possible we shall be and the	W-1.28696 ms					
	0 dBm						
	-10 dBm						
	-20 dBm	-					
802.11n ht20	-30 dBm U 00000000000000000000000000000000000						
	-40 dBm						
	-50 dam						
		600.0.464					
	Marker Tune Def Tax Y using Y using Counting D	000.0 µs7					
	Type Ref TC X-value T-value Function Function M1 1 2.06957 ms -30.35 dBm -30.35 dBm -30.35 dBm D1 M1 1 1.26696 ms 0.67 dB -67 dB -67 dB	/suit					
	D2 M1 1 1.32174 ms 0.42 dB	17.04.2023					
	Date: 17.APR.2023 14:31:09	14:31:08					
	Spectrum Spectrum 2 (3) Spectrum 3 (3) Spectrum 4	Ē					
	Ref Level 30.00 dbm Offset 0.50 db G RBW 10 MHz	[V]					
		1					
	M1[1]	-29.84 dBm 1.32174 ms					
	20 dBm DI[1]	-0.51 dB					
	0 dBm	<i>A</i> .					
	-10 dBm						
	-20 dBm-						
802.11n ht40	-30 dBm	10.54					
	-40 dBm-						
	-50 dBm						
	-buidem						
	CF 5.27 GHz 691 pts Marker	300.0 µs/					
	Type Ref Trc X-value Y-value Function Function Ru M1 1 1.32174 ms -29.84 dBm Function Function Ru D1 M1 1 0.02174 ms -29.84 dBm Function Ru	esult					
	U1 M1 1 0+3.48 US -0.51 dB D2 M1 1 686.96 µS 1.02 dB						
	Ready	17.04.2023 14:29:01					

	Spectrum	S	pectrum 2 🔿	Spectrum 3	× Spectr	um 4 🛞	E
02.11ac vht80	Ref Lovel Att SGL SIPk. Chw 20 dBm 10 dBm 10 dBm -10 dBm -20 dBm -30 dBm -50 dBm -60 dBm	30.00 dB 40 d	m Offset 0.50 dB B SWT 1.5 ms	RBW 10 MHz	M1[1] D1[1] \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		-31.30 dBm 623.91 µs -1.42 dB 323.91 µs -1.42 dB
	CF 5.29 GH	z		691 p	ts		150.0 µs/
	Type Ref	Trc	X-value	Y-value	Function	Function Resu	it l
	M1	1	623.91 µs	-31.30 dBm			
	D1 M1	1	323.91 µs	-1.42 dB			

5. RF EXPOSURE EVALUATION

5.1 Applicable Standard

FCC §15.247 (i)

Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess of the Commission's guidelines. See \$1.1307(b)(1) of this chapter.

5.2 Procedure

According to §1.1307(b)(3)(i)

(C) Or using Table 1 and the minimum separation distance (R in meters) from the body of a nearby person for the frequency (f in MHz) at which the source operates, the ERP (watts) is no more than the calculated value prescribed for that frequency. For the exemption in Table 1 to apply, R must be at least $\lambda/2\pi$, where λ is the free-space operating wavelength in meters. If the ERP of a single RF source is not easily obtained, then the available maximum time-averaged power may be used in lieu of ERP if the physical dimensions of the radiating structure(s) do not exceed the electrical length of $\lambda/4$ or if the antenna gain is less than that of a half-wave dipole (1.64 linear value).

Table 1 to § 1.1307(b)(3)(i)(C) - Single RF Sources Subject to Routine Environmental Evaluation

RF Source frequency (MHz)	Threshold ERP (watts)				
0.3-1.34	$1,920 \text{ R}^2.$				
1.34-30	$3,450 \text{ R}^2/\text{f}^2.$				
30-300	3.83 R^2 .				
300-1,500	$0.0128 \text{ R}^2 \text{f.}$				
1,500-100,000	19.2R ² .				

5.3 Measurement Result

				Exemption ERP		Maximum				
Operation Modes	Frequency (MHz)	λ/2π (mm)	Distance (mm)	(mW)	(dBm)	Conducted Power including Tune-up Tolerance (dBm)	Antenna Gain (dBi)	ERP (dBm)	ERP (mW)	MPE- Based Exemption
WLAN 2.4G	2412-2462	19.80	200	768	28.85	16.0	3.0	16.85	48.42	Compliant
WLAN 5.2G	5150-5250	9.22	200	768	28.85	13.0	5.0	15.85	38.46	Compliant
WLAN 5.3G	5250-5350	9.08	200	768	28.85	15.0	5.0	17.85	60.95	Compliant
WLAN 5.6G	5470-5725	8.69	200	768	28.85	16.0	5.0	18.85	76.74	Compliant
WLAN 5.8G	5725-5850	8.321	200	768	28.85	13.0	5.0	15.85	38.46	Compliant
Bluetooth BDR/EDR	2402-2480	19.89	200	768	28.85	3.2	3.0	4.05	2.54	Compliant
Bluetooth LE	2402-2480	19.89	200	768	28.85	2.3	3.0	3.15	2.07	Compliant

Result: The device compliant the MPE-Based Exemption at 20cm distances.

WLAN 2.4G and 5G can't transmit simultaneously, Bluetooth and WLAN can transmission simultaneously.

$$\sum_{i=1}^{a} \left(\frac{P_i}{P_{th_i}}\right) + \sum_{j=1}^{b} \left(\frac{ERP_j}{ERP_{th_j}}\right) + \sum_{k=1}^{c} \left(\frac{Evaluated_k}{Exposure\ Limit_k}\right)$$

= ERP _{-BT}/ ERP _{th-BT} + ERP _{-WLAN}/ ERP _{th-WLAN}

=2.54/768+76.74/768

=0.10

Result: The device compliant the Exemption at 20cm distances.

==== END OF REPORT =====