



TEST REPORT

Product: Laptop Computer

FCC ID: 2ADYY-T14RA-1

W5 ET Model No.: T14RA

Trade Mark: TECNO

Report No.: WSCT-ANAB-R&E240900045A-LE

Issued Date: 14 October 2024

Issued for:

TECNO MOBILE LIMITED

FLAT N 16/F BLOCK B UNIVERSAL INDUSTRIAL CENTRE 19-25 SHAN MEI STREET FOTAN NT HONGKONG

Issued By:

World Standardization Certification & Testing Group(Shenzhen) Co.,Ltd. Building A-B, Baoli'an Industrial Park, No. 58 and 60, Tangtou Avenue, Shiyan Street, Bao'an District, Shenzhen City, Guangdong Province, China 5 C

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World Standardization Certification & Testing Group (Shenzhen) Co., ltd.

Report No.: WSCT-ANAB-R&E240900045A-LE





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W5CT





WS CT

Report No.: WSCT-ANAB-R&E240900045A-LE

Test Certification

Product:

Laptop Computer

Model No.:

Trade Mark:

Address:

Address:

T14RA **TECNO**

Applicant: W WS CT

TECNO MOBILE LIMITED

FLAT N 16/F BLOCK B UNIVERSAL INDUSTRIAL CENTRE 19-25

WSCT

SHAN MEI STREET FOTAN NT HONGKONG

Manufacturer:

TECNO MOBILE LIMITED W.5

FLAT N 16/F BLOCK B UNIVERSAL INDUSTRIAL CENTRE 19-25 SHAN MEI STREET FOTAN NT HONGKONG

11 July 2024 to 11 October 2024 Date of Test:

Applicable Standards: FCC CFR Title 47 Part 15 Subpart C Section 15.247

KDB 558074 D01 DTS Meas Guidance v04

The above equipment has been tested by World Standardization Certification & Testing Group(Shenzhen)Co., Ltd. and found compliance with the requirements set forth in the technical standards mentioned above. The results of testing in this report apply only to the product system, which was tested. Other similar equipment will not necessarily produce the same results due to production tolerance and measurement uncertainties.

Tested By:

(Wang Xiang)

(Li Huaibi)

Checked By:

(Qin Shuiguan)

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Approved By:

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Test Result Summary 2.

ALCO CT STATE OF THE PARTY OF T	T	AVECES	(W 5 <i>CT</i> °)
Requirement	CFR 47 Section	Result	WEIGH
Antenna requirement	§15.203/§15.247 (c)	PASS	
AC Power Line Conducted Emission	W5 [T] §15.207	PASS PASS	\bigvee
Conducted Peak Output W5 [7] Power W5 [§15.247 (b)(3) §2.1046	W5 PASS	WSET
6dB Emission Bandwidth	§15.247 (a)(2) §2.1049	PASS	
Power Spectral Density	§15.247 (e)	PASS	
Band Edge	1§5.247(d) §2.1051, §2.1057	PASS	WSCT
Spurious Emission	§15.205/§15.209 §2.1053, §2.1057	PASS	
	Requirement Antenna requirement AC Power Line Conducted Emission Conducted Peak Output Power 6dB Emission Bandwidth Power Spectral Density Band Edge	Requirement CFR 47 Section Antenna requirement §15.203/§15.247 (c) AC Power Line Conducted Emission W577 Conducted Peak Output Power §15.247 (b)(3) §2.1046 §2.1046 6dB Emission Bandwidth §15.247 (a)(2) Power Spectral Density §15.247 (e) Band Edge \$2.1051, §2.1057 Spurious Emission §15.205/§15.209	Requirement CFR 47 Section Result Antenna requirement §15.203/§15.247 (c) PASS AC Power Line Conducted Emission §15.207 PASS Conducted Peak Output Power §15.247 (b)(3) PASS PASS 6dB Emission Bandwidth §15.247 (a)(2) PASS PASS Power Spectral Density §15.247 (e) PASS Band Edge §2.1051, §2.1057 PASS Spurious Emission §15.205/§15.209 PASS

Note:

1. PASS: Test item meets the requirement.

2. Fail: Test item does not meet the requirement.

3. N/A: Test case does not apply to the test object.

4. The test result judgment is decided by the limit of test standard.

W5 E1

W5 C WSE W5 C W5C

WS E1

W5 C1 WS ET W5 CT W5 E

W5 C 7

W5CT





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EUT Description 3.

			/
	Product:	Laptop Computer W5 CT W5 CT	V5 CT
\times	Model No.:	T14RA	
	Trade Mark:	TECNO	,
AWS ET	Operation Frequency:	1M:2402MHz~2480MHz 2M:2402MHz~2480MHz	\checkmark
	Channel Separation:	2MHz	
	Number of Channel:	40	VS CT
X	Modulation Technology:	GFSK	
W5 CT	Antenna Type: 5 57	Integral Antenna W5 ET W5 ET	
	Antenna Gain:	1.86dBi	X
	WSET W	Adapter: FC498U INPUT: 100-240V~50/60Hz 1.5A MAX W5 L7	V5 CT
X		OUTPUT: PD:5V==3A 9V==3A 12V==3A 20V==3.25A PPS:3.3—11V==5A MAX	
W5 CT	EUT Power Rating	Rechargeable Li-ion Polymer Battery: 528282-3S1P/5_77	
	\times	Nominal Voltage: 11.61V Rated Capacity:6460mAh/75Wh	\times
	W5ET W	Typical Capacity: 6550mAh/76.04Wh Limited Charge Voltage: 13.35V	VS ET
X	Remark:	N/A.	

	WSET	WSET	WSCT	WSET	WSCT
West	West			\times	

W5 CT W5 ET W5 CT W5E1



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W5 ET 1



W5 CT



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Configuration differences

Configuration/ **TDP** Processor 15W W 5 5 T14RA (i5-1335U) T14RA (i7-1355U) 15W T14RA (i5-13420H) 30W T14RA (i7-13620H) 30W T14RA (i7-13700H) 30W

Note: These models of TDP are different, and the T14RA (i7-13620H) is the main test model reported

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Operation Frequency each of channel

	- P		,					
	Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
	0	2402MHz	10	2422MHz	20	2442MHz	30	2462MHz
	1	2404MHz	11	2424MHz	21	2444MHz	31	2464MHz
	/ \		/		/		/	
_	∠W8 <i>CT</i>	2418MHz	V18 [7	2438MHz	28	2458MHz	38 [2478MHz
	9	2420MHz	19	2440MHz	29	2460MHz	39	2480MHz
	Remark: Channel 0, 19 & 39 have been tested.							

WSE

W5 ET W5 E1 WS CT

W5C1 WS CI WSE WSE

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W5C1

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4. Genera Information

4.1. Test environment and mode

Operating Environment:	
Temperature:	25.0 °C
Humidity:	56 % RH
Atmospheric Pressure:	1010 mbar
Took Mode.	

Test Mode:

Engineering mode:

Keep the EUT in continuous transmitting by select channel and modulations(The value of duty cycle is 98.46%) with Fully-charged battery.

The sample was placed (0.1m below 1GHz, 1.5m above 1GHz) above the ground plane of 3m chamber. Measurements in both horizontal and vertical polarities were performed. During the test, each emission was maximized by: having the EUT continuously working, investigated all operating modes, rotated about all 3 axis (X, Y & Z) and considered typical configuration to obtain worst position, manipulating interconnecting cables, rotating the turntable, varying antenna height from 1m to 4m in both horizontal and vertical polarizations. The emissions worst-case are shown in Test Results of the following pages.

4.2. Description of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Equipment	Model No.	Serial No.	FCC ID	Trade Name
Adapter	FC498U	1	/	TECNO

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. For conducted measurements (Output Power, 6dB Emission Bandwidth, Power Spectral Density, Spurious Emissions), the antenna of EUT is connected to the test equipment via temporary antenna connector, the antenna connector is soldered on the antenna port of EUT, and the temporary antenna connector is listed in the Test Instruments.

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Facilities and Accreditations 5.

5.1. Facilities

All measurement facilities used to collect the measurement data are located at World Standardization Certification & Testing Group (Shenzhen) Co., Ltd. Building A-B, Baoli'an Industrial Park, No. 58 and 60, Tangtou Avenue, Shiyan Street, Bao'an District, Shenzhen City, Guangdong Province, China

The sites are constructed in conformance with the requirements of ANSI C63.4 and CISPR Publication 32. All receiving equipment conforms to CISPR Publication 16-1, "Radio Interference Measuring Apparatus and Measurement Methods."

5.2. ACCREDITATIONS

CNAS - Registration Number: L3732

China National Accreditation Service for Conformity Assessment, The test firm Registration Number: L3732

FCC - Designation Number: CN1303

World Standardization Certification & Testing Group(Shenzhen) CO., LTD. has been accredited as a testing laboratory by FCC(Federal Communications Commission). The test firm Designation Number: CN1303.

ANAB - Certificate Number: AT-3951

The EMC Laboratory has been accredited by the American Association for Laboratory Accreditation (ANAB). Certification Number: AT-3951

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5.3. Measurement Uncertainty

The reported uncertainty of measurement $y \pm U$, where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95 %.

X	-	1100 01 4 10 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Y	_
	No.	Item	MU	
W5 CT°	1	Conducted Emission Test	±3.2dB	
	2	RF power, conducted	±0.16dB	X
	3 _{W5} [Spurious emissions, conducted w5 77	±0.21dB	W5 C
	4	All emissions, radiated(<1GHz)	±4.7dB	
	5	All emissions, radiated(>1GHz)	±4.7dB	
WSET"	6	Temperature	±0.5°C	
	7	Humidity	±2.0%	X

	7 Humidity			±2.0%	
	WSLT	WSET	W5 CT	W5CT°	WSCT
WSCT	WSC	$\langle \hspace{0.1cm} \rangle$		5 <i>CT</i> W	SET
	W5ET	WSET	WSET	WSET	WSCT
WSET	$\langle \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \$	$\langle \hspace{0.1cm} \rangle$		\times	SET
	WSET	WSET	WSET	WSCT	WSCT
WSCT	($\langle \hspace{0.1cm} \rangle$		$\langle $	SET
	W5 ET	WSCT	WSET		X
					stiffcation Testino Cipe

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5.4.MEASUREMENT INSTRUMENTS WSET

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X	NAME OF EQUIPMENT	MANUFACTURER	MODEL	SERIAL NUMBER	Calibration Date	Calibration Due.	
Ľ	Test software //5	ET° V	/5 EZ-EMC	CON-03A	- /	15 CT	
	Test software	/	MTS8310	_	\vee	-	X
	EMI Test Receiver	R&S	ESCI	100005	11/05/2023	11/04/2024	
	LISN	AFJ-7	LS16 15 L	16010222119	11/05/2023	11/04/2024	'5 L
/	LISN(EUT)	Mestec	AN3016	04/10040	11/05/2023	11/04/2024	
C	Universal Radio Communication Tester	R&S	CMU 200	1100.0008.02	11/05/2023	11/04/2024	
	Coaxial cable	Megalon	LMR400	N/A	11/05/2023	11/04/2024	\times
	GPIB cable	Megalon	GPIB	N/A	11/05/2023	11/04/2024	
	Spectrum Analyzer	R&S	FSU W 5 L	100114	11/05/2023	11/04/2024	15 L
<	Pre Amplifier	H.P.	HP8447E	2945A02715	11/05/2023	11/04/2024	
	Pre-Amplifier	CDSI	PAP-1G18-38	Weet	11/05/2023	11/04/2024	
L	Bi-log Antenna	SCHWARZBECK	VULB9168	01488	11/05/2023	11/04/2024	
	9*6*6 Anechoic	-X	X		11/05/2023	11/04/2024	\times
	Horn Antenna	COMPLIANCE ENGINEERING	CE18000	7	11/05/2023	11/04/2024	15 L
	Horn Antenna	SCHWARZBECK	BBHA9120D	9120D-631	11/05/2023	11/04/2024	
	Cable	TIME MICROWAVE	LMR-400	N-TYPE04	11/05/2023	11/04/2024	
L	System-Controller	ccs V	V5	N/A	N.C.R	N.C.R	
	Turn Table	ccs	N/A	N/A	N.C.R	N.C.R	X
	Antenna Tower	ccs	N/A	N/A	N.C.R	N.C.R	
	RF cable	Murata	MXHQ87WA300 0		11/05/2023	11/04/2024	15 L
X	Loop Antenna	EMCO	6502	00042960	11/05/2023	11/04/2024	
<u> </u>	Horn Antenna	SCHWARZBECK	BBHA 9170	1123	11/05/2023	11/04/2024	
	Power meter	Anritsu	ML2487A	6K00003613	11/05/2023	11/04/2024	
	Power sensor	Anritsu	MX248XD		11/05/2023	11/04/2024	X
	Spectrum Analyzer	Keysight	N9010B	MY60241089	11/05/2023	11/04/2024	tin

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6. Test Results and Measurement Data

6.1. Antenna requirement

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Standard requirement:

FCC Part15 C Section 15.203 /247(c)

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

15.247(c) (1)(i) requirement:

(i) Systems operating in the 2400-2483.5 MHz band that is used exclusively for fixed. Point-to-point operations may employ transmitting antennas with directional gain greater than 6dBi provided the maximum conducted output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6dBi.

E.U.T Antenna:

The Bluetooth antenna is a Integral Antenna. it meets the standards, and the best case gain of the antenna is 1.86dBi.

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6.2. Conducted Emission

6.2.1. Test Specification

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6.	2.1. Test Specification		VJLI			
\times	Test Requirement:	FCC Part15 C Section 15.207				
WSCT	Test Method:	ANSI C63.10:2014 W5 [T] W5 [T]	,			
	Frequency Range:	150 kHz to 30 MHz	\vee			
	Receiver setup:	RBW=9 kHz, VBW=30 kHz, Sweep time=auto	V5 CT			
WSCT	Limits:	Frequency range (MHz) Limit (dBuV) Quasi-peak Average 0.15-0.5 66 to 56* 56 to 46* 0.5-5 56 46 5-30 60 50				
	X	Reference Plane	X			
	WSET WSE	40cm LISN	NS ET			
WSET	Test Setup:	E.U.T Adapter Test table/Insulation plane Remark E.U.T. Equipment Under Test E.U.T. Equipment Under Test	WS ET			
	Test Mode:	ANSI C63.10:2014 Range: 150 kHz to 30 MHz RBW=9 kHz, VBW=30 kHz, Sweep time=auto Frequency range Limit (dBuV) (MHz) Quasi-peak Average 0.15-0.5 66 to 56* 56 to 46* 0.5-5 56 46 5-30 60 50 Reference Plane Receiver Remark EUT Equipment Under Test LISN Line Impedence Stabilization Network Test table height-0 8m Charging + Transmitting Mode 1. The E.U.T is connected to an adapter through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm/50uH coupling impedance for the measuring equipment. 2. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refer to the block diagram of the test setup and photographs).				
WSET	WSET	 The E.U.T is connected to an adapter through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm/50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main 	X			
WSET	Test Procedure:	coupling impedance with 50ohm termination. (Please refer to the block diagram of the test setup and photographs).	VS ET*1			
	W5ET W5E	conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to	Sing T			
	Test Result:	PASS	S Group (S			
			5			

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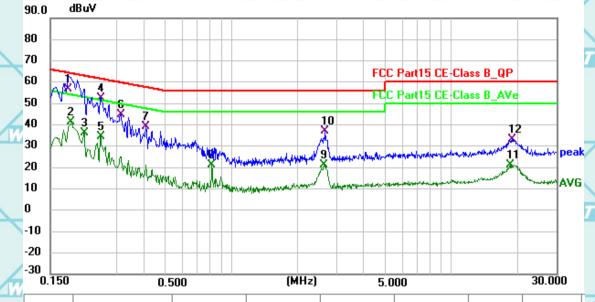
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6.2.2. Test data (worst case)

The worst mode is BLE 2M Conducted Emission on Line Terminal of the power line (150 kHz to 30MHz)

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No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	
1 *	0.1815	35.93	20.70	56.63	64.42	-7.79	QP	
2	0.1860	20.66	20.70	41.36	54.21	-12.85	AVG	
3	0.2130	15.74	20.68	36.42	53.09	-16.67	AVG	Ī
4	0.2535	31.98	20.66	52.64	61.64	-9.00	QP	
5	0.2535	13.89	20.66	34.55	51.64	-17.09	AVG	
6	0.3120	24.35	20.62	44.97	59.92	-14.95	QP	Г
7	0.4065	18.71	20.57	39.28	57.72	-18.44	QP	
8	0.8160	0.83	20.59	21.42	46.00	-24.58	AVG	F
9	2.6430	0.43	20.60	21.03	46.00	-24.97	AVG	
10	2.6745	16.36	20.60	36.96	56.00	-19.04	QP	Ī
11	18.5055	0.79	20.23	21.02	50.00	-28.98	AVG	-
12	18.8924	12.99	20.24	33.23	60.00	-26.77	QP	1

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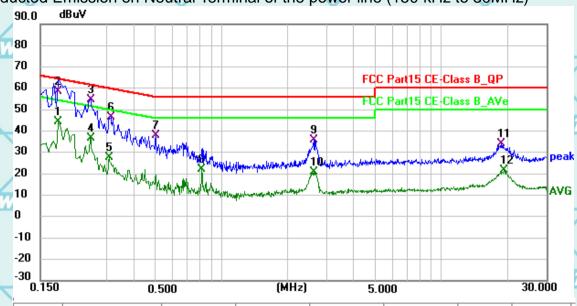






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Conducted Emission on Neutral Terminal of the power line (150 kHz to 30MHz)



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1814	23.70	20.70	44.40	54.42	-10.02	AVG
2 *	0.1815	37.61	20.70	58.31	64.42	-6.11	QP
3	0.2535	34.08	20.66	54.74	61.64	-6.90	QP
4	0.2535	15.93	20.66	36.59	51.64	-15.05	AVG
5	0.3074	7.10	20.63	27.73	50.04	-22.31	AVG
6	0.3120	25.71	20.62	46.33	59.92	-13.59	QP
7	0.5010	17.26	20.51	37.77	56.00	-18.23	QP
8	0.8160	1.57	20.59	22.16	46.00	-23.84	AVG
9	2.6430	15.26	20.60	35.86	56.00	-20.14	QP
10	2.6430	0.26	20.60	20.86	46.00	-25.14	AVG
11	18.7575	13.80	20.24	34.04	60.00	-25.96	QP
12	19.3200	1.48	20.25	21.73	50.00	-28.27	AVG

Note1:

Freq. = Emission frequency in MHz

Reading level $(dB\mu V)$ = Receiver reading

Corr. Factor (dB) = LISN factor + Cable loss

Measurement $(dB\mu V)$ = Reading level $(dB\mu V)$ + Corr. Factor (dB)

 $Limit (dB\mu V) = Limit stated in standard$

Margin (dB) = Measurement (dB μ V) – Limits (dB μ V)

Q.P. =Quasi-Peak AVG =average

* is meaning the worst frequency has been tested in the frequency range 150 kHz to 30MHz.

W5

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6.3. Maximum Conducted (Average) Output Power

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W5[T]

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W5ET

X	Test Requirement:	FCC Part15 C Section 15.247 (b)(3)	
WSET	Test Method:	KDB558074 W5 [T] W5 [T]	
	Limit:	30dBm	\times
	Test Setup:	EUT EUT	W5 ET
		Spectrum Analyzer	
WSCT	Test Mode:	Refer to item 4.1	
WSET	Test Procedure:	 The testing follows the Measurement Procedure of FCC KDB No. 558074 DTS D01 Meas. Guidance v04. Set spectrum analyzer as following: 5	WSCT
		e) Detector = peak. f) Trace mode = max hold. g) Allow trace to fully stabilize. h) Use peak marker function to determine the peak amplitude level.	WSCT
X	Test Result:	PASS	
August 1	NAME OF THE OWNER OWNER OF THE OWNER	Week Miles	

-	WSET	WSET	WSET	WS ET"	WSET
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ANAB
ANSI National Accreditation Boa

TESTING LABORATORY Certificate Number : AT-3951

W5 C1

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W5 C1

6.3.2. Test Data

W5 C7

WS CT

W5 CI

	BLE 1M					
	Test channel	Maximum Conducted Output Power (dBm)	Limit (dBm)	Result		
	Lowest	-3.4	30.00	PASS		
1	Middle	-4.14	30.00	PASS		
	Highest	-3.61	30.00	PASS		

		Annual An				
7	BLE 2M					
	Test channel	Maximum Conducted Output Power (dBm)	Limit (dBm)	Result		
0	Lowest	-3.945 [7]	30.00	PASS [7]		
	Middle	-3.95	30.00	PASS		
	Highest	-3.37	30.00	PASS		

Test plots as follows:

W5 CT

W5 CT

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WS CT

WSCT WSCT WSCT WSCT

WS ET

WSET WSET WSET WSET WSET

WS CT WS CT WS CT

WSCT WSCT WSCT

W5 CT

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Mahalalaha W5 CT Test Graphs Power NVNT BLE 1M 2402MHz Ant1 Spectrum Analyzer 1 Swept SA SCPI + KEYSIGHT Input: RF Input Z: 50 Ω Corr CCorr Freq Ref: Int (S) PNO: Fast Gate: Off IF Gain: Low Sig Track: Off #Atten: 30 dB Preamp: Off Mkr1 2.402 084 GHz Ref LvI Offset 2.26 dB Ref Level 20.00 dBm -3.40 dBm Scale/Div 10 dB #Video BW 6.0 MHz Center 2.402000 GHz #Res BW 2.0 MHz Span 10.00 MHz Sweep 1.33 ms (10001 pts)



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VS CI



WSET





VS CI







Report No.: WSCT-ANAB-R&E240900045A-LE

Emission Bandwidth

6.4.1. Test Specification V5

W5E7

W5 CT

W5 C1

W5CT

X	Test Requirement:	FCC Part15 C Section 15.247 (a)(2)	
WSET	Test Method:	KDB558074 W5 [7] W5 [7]	
	Limit:	>500kHz	\times
	Test Setup:		W5 CT
		Spectrum Analyzer EUT	
WSET	Test Mode:	Refer to item 4.1 W5 [7]	
W5 CT°	Test Procedure:	 The testing follows FCC KDB Publication No. 558074 DTS D01 Meas. Guidance v04. Set to the maximum power setting and enable the EUT transmit continuously. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 100 kHz. Set the Video bandwidth (VBW) = 300 kHz. In order to make an accurate measurement. The 6dB bandwidth must be greater than 500 kHz. 	WSET
	Test Result:	Measure and record the results in the test report. PASS WSLI WSL	WSCT

W5 C1 W5 CT W5C1 W5 C

W5 CT

W5 ET W5E1 W5 ET W5 ET

W5 CT

W5 CT



PASS



W5 E1

Report No.: WSCT-ANAB-R&E240900045A-LE

WSET

>500k

6.4.2. Test data

BI	LE 1M	WELT	WS	CT
	Test channel	6dB Emission	Bandwidth (kHz)	
X	rest chamilei	BT LE mode	Limit	Result
W5CT°	Lowest	0.7155	>500k	W5 CT

0.6914

Highest 0.6536 >500k

W5ET W5ET W5ET W5ET

_		A = A	_
-0	LE	2M	
	ᆫ	ZIVI	

WS CT

W5 E1

	Test channel	6dB Emission Bandwidth (kHz)		
	rest charmer	BT LE mode	Limit Result	
_	Lowest	1.233	>500k	
	Middle	1.166	>500k PASS	
	Highest	W5.CT 1.223 W5.CT	>500k	

Test plots as follows:

Middle

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NSCT [®]		W5CT*	WSCT	WSCT

W5 CT	W5 CT	W5 LT	WS CT"	W5 CT
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W5CT"	WSET	WSET	WSET	W5CT°

W5CT°	W5ET [®]	WSET	W5 CT	acation& Testin
			WSET	Strill Sec.

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WSET WSET

Mahahaha World Standardization Certification & Testing Group (Shenzhen) Co., ltd. **ac-MRA** CCREDITED Mahalalak W5 CI Report No.: WSCT-ANAB-R&E240900045A-LE Test Graphs -6dB Bandwidth NVNT BLE 1M 2402MHz Ant1 SCPI Spectrum Analyzer 1 Occupied BW + Center Freq: 2.402000000 GHz Avg|Hold: 100/100 Radio Std: None Input Z: 50 Ω Corr CCorr Freq Ref: Int (S) Trig: Free Run Gate: Off #IF Gain: Low KEYSIGHT Input: RF Atten: 30 dB Preamp: Off Mkr3 2.402354000 GHz Ref LvI Offset 2.26 dB Ref Value 22.26 dBm -11.78 dBm Scale/Div 10.0 dB



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Report No.: WSCT-ANAB-R&E240900045A-LE

-6dB Bandwidth NVNT BLE 2M 244

Spectrum Analyzer 1





WS CT°





NS CI

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Report No.: WSCT-ANAB-R&E240900045A-LE

6.5. Power Spectral Density

6.5.1. Test Specification

	WSCT	T WSTT WSTT	W5 CT
7	Test Requirement:	FCC Part15 C Section 15.247 (e)	
\	Test Method:	KDB558074	
	Limit:	The peak power spectral density shall not be greater than 8dBm in any 3kHz band at any time interval of continuous transmission.	X
7	Test Setup:	Spectrum Analyzer EUT	W5 E1
	Test Mode:	Refer to item 4.1	
	Test Procedure:	 The testing follows Measurement Procedure 10.2 Method PKPSD of FCC KDB Publication No.558074 D01 DTS Meas. Guidance v04 The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement. Set to the maximum power setting and enable the EUT transmit continuously. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW): 3 kHz ≤ RBW ≤ 100 kHz. Video bandwidth VBW ≥ 3 x RBW. In order to make an accurate measurement, set the span to 1.5 times DTS Channel Bandwidth. (6dB BW) Detector = peak, Sweep time = auto couple, Trace mode = max hold, Allow trace to fully stabilize. Use the peak marker function to determine the maximum power level. Measure and record the results in the test report. 	WSIG
	Test Result:	PASS	X

6.5.2. Test Instruments W5 CT

	RF Test Room					
1	Equipment	Manufacturer	Model	Serial Number	Calibration Due	
	Spectrum Analyzer	R&S	FSU	200054	Nov. 27, 2024	
	RF cable (9kHz-26.5GHz)	тст	RE-06	N/A	Nov. 27, 2024	
4	Antenna Connector	тст	RFC-01	N/A	Nov. 27, 2024	

Note: The calibration interval of the above test instruments is 12 months and the calibrations are traceable to W5LT international system unit (SI).



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W5 CI

Report No.: WSCT-ANAB-R&E240900045A-LE

W5 ET

6.5.3. Test data

W5 C7

WS E1

	Test channel	Power Spectral Density (dBm/3kHz)			
1	rest chamilei	BLE 1M	Limit	Result	
	Lowest	-19.65	8		
0	Middle	-20.2	W5E8	PASS	
	Highest	-19.81	8		

	Test channel	Power Spectral D	ensity (dBm/3kl	Hz)	W5
7	rest chamber	BLE 2M	Limit	Result	
	Lowest	-22.53	8		
9	Middle	w-22.52	W5 [8	PASS	
	Highest	-21.94	8		

Test plots as follows: W5 CI W5 CT W5 C7 W5E7 WS CT W5 C7 W5 CT WS ET W5CT W5 CT W5 C1 WS C WS CI W5C W5 CI

W5 C1 W5 CT

W5C1 W5 CT WS CT W5 E1 ation& Testin

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W5CT



Mahahaha World Standardization Certification & Testing Group (Shenzhen) Co., ltd. **ac-MRA** Mahalalaha WSET Report No.: WSCT-ANAB-R&E240900045A-LE PSD NVNT BLE 1M 2480MHz Ant1 **+** Input Z: 50 Ω Corr CCorr Freq Ref: Int (S) KEYSIGHT Input: RF PNO: Best Wide Gate: Off IF Gain: Low Sig Track: Off Avg Type: Log-Power Avg|Hold: 100/100 Trig: Free Run Mkr1 2.480 015 7 GHz 1 Spectrum Ref LvI Offset 2.33 dB Ref Level 20.00 dBm -19.81 dBm Scale/Div 10 dB Center 2.4800000 GHz #Res BW 3.0 kHz #Video BW 10 kHz Span 981.0 kHz Sweep 103 ms (1001 pts) ? Oct 12, 2024 5:32:25 PM 1 5 6 PSD NVNT BLE 2M 2402MHz Ant1 Spectrum Analyzer 1 Swept SA + Input Z: 50 Ω Corr CCorr Freq Ref: Int (S) PNO: Best Wide Gate: Off IF Gain: Low Sig Track: Off KEYSIGHT Input: RF Avg Type: Log-Power Avg|Hold: 100/100 Trig: Free Run Mkr1 2.401 961 2 GHz Ref LvI Offset 2.26 dB Ref Level 20.00 dBm -22.53 dBm Scale/Div 10 dB #Video BW 10 kHz Center 2.4020000 GHz #Res BW 3.0 kHz Span 1.850 MHz Sweep 195 ms (1001 pts) ? Oct 12, 2024 5:34:03 PM ation& Tesus ADD: Building A-B, Baoli'an Industrial Park, No. 58 and 60, Tangtou Avenue, 深圳世标检测认证股份有限公司 Page 28 V5 C1









Report No.: WSCT-ANAB-R&E240900045A-LE

Conducted Band Edge and Spurious Emission Measurement 6.6.

6.6.1. Test Specification

6.	6.1. Test Specification 5.	T WSET WSET	(W5 CT°)
\times	Test Requirement:	FCC Part15 C Section 15.247 (d)	
	Test Method:	KDB558074	
WS CT	Limit:	In any 100 kHz bandwidth outside of the authorized frequency band, the emissions which fall in the non-restricted bands shall be attenuated at least 20 dB / 30dB relative to the maximum PSD level in 100 kHz by RF conducted measurement and radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a).	WSET
	Test Setup:	Spectrum Analyzer EUT	WSET
\bigvee	Test Mode:	Refer to item 4.1	
WS CT	Test Procedure:	 The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement. Set to the maximum power setting and enable the EUT transmit continuously. Set RBW = 100 kHz, VBW=300 kHz, Peak Detector. Unwanted Emissions measured in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum in-band peak PSD level in 100 kHz when maximum peak conducted output power procedure is used. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, the attenuation required under this paragraph shall be 30 dB instead of 20 dB per 15.247(d). Measure and record the results in the test report. The RF fundamental frequency should be excluded against the limit line in the operating frequency band. 	X
	Test Result:	PASS	X

WSET



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Report No.: WSCT-ANAB-R&E240900045A-LE

Band Edge NVNT BLE 1M 2480MH

Spectrum Analyzer 1
Swept SA





W5 CT Band Edge NVNT BLE 1M 2480MHz Ant1 Ref Input Z: 50 Ω Corr CCorr Freq Ref: Int (S) KEYSIGHT Input: RF PNO: Best Wide Gate: Off IF Gain: Low Sig Track: Off Avg Type: Log-Pow Avg|Hold: 100/100 Trig: Free Run Mkr1 2.480 256 GHz 1 Spectrum Ref LvI Offset 2.33 dB Ref Level 20.00 dBm -3.80 dBm Scale/Div 10 dB #Video BW 300 kHz Center 2.480000 GHz #Res BW 100 kHz Span 8.000 MHz Sweep 1.00 ms (1001 pts) Oct 12, 2024 5:32:29 PM 1 5 6 Band Edge NVNT BLE 1M 2480MHz Ant1 Emission Spectrum Analyzer 1 Swept SA + Input Z: 50 Ω Corr CCorr Freq Ref: Int (S) KEYSIGHT Input: RF #Atten: 30 dB Preamp: Off PNO: Fast Gate: Off IF Gain: Low Sig Track: Off Avg Type: Log-Power Avg|Hold: 100/100 Trig: Free Run PNNNNN Mkr1 2.480 0 GHz Ref LvI Offset 2.33 dB Ref Level 20.00 dBm -4.53 dBm Scale/Div 10 dB Start 2.47600 GHz #Res BW 100 kHz Stop 2.57600 GHz Sweep 9.60 ms (1001 pts) #Video BW 300 kHz Function Width Function Value -4.53 dBm -60.70 dBm -60.04 dBm -56.80 dBm 2.500 0 GHz 2.489 4 GHz



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> Oct 12, 2024 5:34:07 PM 1 5 6 Band Edge NVNT BLE 2M 2402MHz Ant1 Emission Spectrum Analyzer 1 Swept SA + Input Z: 50 Ω Corr CCorr Freq Ref: Int (S) KEYSIGHT Input: RF PNO: Fast Gate: Off IF Gain: Low Sig Track: Off Avg Type: Log-Power Avg|Hold: 100/100 Trig: Free Run #Atten: 30 dB Preamp: Off PNNNNN Mkr1 2.402 0 GHz Ref LvI Offset 2.26 dB Ref Level 20.00 dBm -4.88 dBm Scale/Div 10 dB Start 2.30600 GHz #Res BW 100 kHz Stop 2.40600 GHz Sweep 9.60 ms (1001 pts) #Video BW 300 kHz Function Width Function Value -4.88 dBm -39.24 dBm -39.24 dBm -39.24 dBm 2.400 0 GHz 2.400 0 GHz ? Oct 12, 2024 5:34:09 PM

#Video BW 300 kHz

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Span 8.000 MHz Sweep 1.00 ms (1001 pts)

Center 2.402000 GHz #Res BW 100 kHz

WSET

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WSET

W5 CT





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Report No.: WSCT-ANAB-R&E240900045A-LE

TX Spurious NVNT BLE 1M 2480M



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Mahahaha World Standardization Certification & Testing Group (Shenzhen) Co., ltd. **ac-MRA** Mahalalak W5C7 Report No.: WSCT-ANAB-R&E240900045A-LE Tx. Spurious NVNT BLE 2M 2402MHz Ant1 Ref + Input Z: 50 Ω Corr CCorr Freq Ref: Int (S) KEYSIGHT Input: RF PNO: Best Wide Gate: Off IF Gain: Low Sig Track: Off Avg Type: Log-Powe Avg|Hold: 100/100 Trig: Free Run Mkr1 2.401 937 GHz 1 Spectrum Ref LvI Offset 2.26 dB Ref Level 20.00 dBm -6.91 dBm Scale/Div 10 dB

#Video BW 300 kHz Center 2.402000 GHz #Res BW 100 kHz Span 3.000 MHz Sweep 1.00 ms (1001 pts) Oct 12, 2024 5:34:13 PM 1 5 6 Tx. Spurious NVNT BLE 2M 2402MHz Ant1 Emission + Input Z: 50 Ω Corr CCorr Freq Ref: Int (S) KEYSIGHT Input: RF #Atten: 30 dB Preamp: Off PNO: Fast Gate: Off IF Gain: Low Sig Track: Off Avg Type: Log-Power Avg|Hold: 10/10 Trig: Free Run PNNNNN Mkr1 2.402 6 GHz Ref LvI Offset 2.26 dB Ref Level 20.00 dBm -5.22 dBm Scale/Div 10 dB Start 30 MHz #Res BW 100 kHz Stop 26.50 GHz Sweep ~2.53 s (30001 pts) #Video BW 300 kHz Function Value Function Width 2.402 6 GHz 5.769 6 GHz 4.989 6 GHz 7.244 0 GHz 9.754 2 GHz -5.22 dBm -48.97 dBm -53.56 dBm -54.10 dBm -54.49 dBm Oct 12, 2024 5:34:44 PM

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Mahahaha World Standardization Certification & Testing Group (Shenzhen) Co., ltd. **ac-MRA** Mahalalak W5C7 Report No.: WSCT-ANAB-R&E240900045A-LE Tx. Spurious NVNT BLE 2M 2480MHz Ant1 Ref + Input Z: 50 Ω Corr CCorr Freq Ref: Int (S) KEYSIGHT Input: RF PNO: Best Wide Gate: Off IF Gain: Low Sig Track: Off Avg Type: Log-Powe Avg|Hold: 100/100 Trig: Free Run Mkr1 2.480 489 GHz 1 Spectrum Ref LvI Offset 2.33 dB Ref Level 20.00 dBm -4.73 dBm Scale/Div 10 dB #Video BW 300 kHz Center 2.480000 GHz #Res BW 100 kHz Span 3.000 MHz Sweep 1.00 ms (1001 pts) Oct 12, 2024 5:37:51 PM 1 5 6 Tx. Spurious NVNT BLE 2M 2480MHz Ant1 Emission Spectrum Analyzer 1 Swept SA + Input Z: 50 Ω Corr CCorr Freq Ref: Int (S) KEYSIGHT Input: RF #Atten: 30 dB Preamp: Off PNO: Fast Gate: Off IF Gain: Low Sig Track: Off Avg Type: Log-Power Avg|Hold: 10/10 Trig: Free Run PNNNNN Mkr1 2.480 2 GHz Ref LvI Offset 2.33 dB Ref Level 20.00 dBm -7.94 dBm Scale/Div 10 dB Start 30 MHz #Res BW 100 kHz Stop 26.50 GHz Sweep ~2.53 s (30001 pts) #Video BW 300 kHz Function Value Function Width 2.480 2 GHz 5.806 6 GHz 5.027 5 GHz 7.370 1 GHz 9.778 9 GHz -7.94 dBm -48.27 dBm -53.56 dBm -53.94 dBm -53.75 dBm Oct 12, 2024 5:38:23 PM ation& Testi Shiyan Street, Bao'an District, Shenzhen City, Guangdong Province, China. ADD: Building A-B, Baoli'an Industrial Park, No. 58 and 60, Tangtou Avenue, 深圳世标检测认证股份有限公司 FAX: 0086-755-86376605 Page 40







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W5CT°

6.7. Radiated Spurious Emission Measurement

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6.	7.1. Test Specification		AWSLI		/W 5			WYLI		
					4					
X	Test Requirement:	FCC Part15	C Section	15.209						
WSET	Test Method:	ANSI C63.10):2014	WSET		W5	r T°			
	Frequency Range:	9 kHz to 25 (9 kHz to 25 GHz							
	Measurement Distance:	3 m	m					\wedge		
	Antenna Polarization: V5 []	Horizontal &	Vertical		W5	7		W5CT		
	Operation mode:	Refer to item	4.1							
		Frequency	Detector	RBW	VBW	Remar	k			
W5CT"	WS CT [®]	9kHz- 150kHz	Quasi-peak	200Hz	1kHz	Quasi-peak	Value			
	Receiver Setup:	150kHz- 30MHz	Quasi-peak	9kHz	30kHz	Quasi-peak	Value			
	Treestrer colup.	30MHz-1GHz	Quasi-peak	100KHz	300KHz	Quasi-peak	Value	X		
			Peak	1MHz	3MHz	Peak Val				
	WS CT WS CT	Above 1GHz	Peak	1MHz	10Hz	Average V	alue /	W5CT		
X	X	Frequen	су	Field Stre	-	Measurem				
		0.009-0.4	190	(microvolts, 2400/F(k		Distance (m	eters)			
W5 CT°	WSCT	0.490-1.7		24000/F(KHz) 30			CT N			
		1.705-3		30		30				
	X	30-88	X	100				X		
		88-216		150		3				
	Limit: WS C1	216-96		200 3				W5CT		
$\overline{}$		Above 9	60	500		3				
X	X	-X		$-\times$	Measurer	mont				
		Frequency		d Strength	Distance		ector			
W5 CT	W5 CT	WSCT	(micro	volts/meter)	(meter	And the second	CT°			
		Above 1GHz		500	3	Avei	rage			
	X	715070 10112	X_	5000	3	Pe	ak	X		
	WSCT WSCT	For radiated	emissions	below 30	МН			WSCT		
		Di	stance = 3m		1 1 1 1					
X	X	I.	.1			Computer				
			 /		Dea	Amplifier				
W5 CT	Tost sotup. WS ET	<u>'</u>	'(/ г	Fre-	Ampline	7			
	Test setup:	EUT	`	\top						

AWS CT

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WELT

30MHz to 1GHz

4W5C7

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W5E

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roup (WSC I BA)

W5C1

W5 ET

Ground Plane

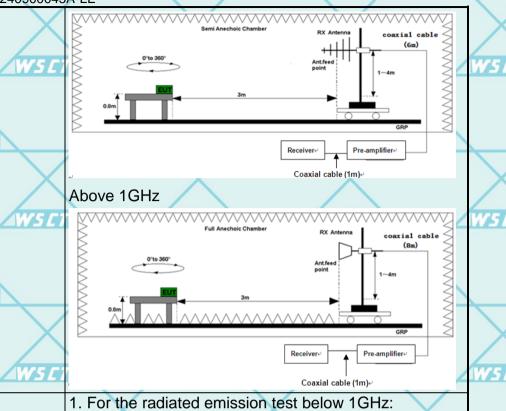
age 41

SET WSET





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WSET WSET

Test Procedure:

WS CT WS C

W5ET W5E

The EUT was placed on a turntable with 0.1 meter above ground. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high PASS filter are used for the test in order to get better signal level. For the radiated emission test above 1GHz: Place the measurement antenna on a turntable with 1.5 meter above ground, which is away from each area of the EUT determined to be a source of emissions at the specified measurement distance, while keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response. The measurement antenna may have to be higher or lower than the EUT, depending on the radiation pattern of the emission and staying aimed at the emission source for receiving the maximum signal. The final measurement antenna elevation shall be that which maximizes the emissions. The measurement antenna elevation for maximum emissions shall be restricted to a range of heights of from 1 m to 4 mys above the ground or reference ground plane

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ANAB ANSI National Accreditation Board A C C R E D I T E D

Certificate Number : AT-3951

W5 CI



W5CT[®]

lac-MRA

SET	WSCT	WSET	WSCT	Illa aldahi
Report No.: WSC	CT-ANAB-R&E240900	045A-LE		
			ding: Antenna Factor	+ Cable Loss +
	/	Pead Level - I	Preamp Factor - Lave	۵

		2. Corrected Reading: Antenna Factor + Cable Loss +
		Read Level - Preamp Factor = Level
		3. For measurement below 1GHz, If the emission level
	WSET WSET	of the EUT measured by the peak detector is 3 dB
\times		lower than the applicable limit, the peak emission
		level will be reported. Otherwise, the emission
		measurement will be repeated using the quasi-peak
W5CT°	W5 CT	detector and reported.
		4. Use the following spectrum analyzer settings:
	X	(1) Span shall wide enough to fully capture the
		emission being measured;
	WSCT WSCI	THE CT !
	TIPITAL TIPITAL	(2) Set RBW=100 kHz for f < 1 GHz; VBW ≥RBW;
		Sweep = auto; Detector function = peak; Trace =
X		max hold;
		(3) Set RBW = 1 MHz, VBW= 3MHz for f 1 GHz
W5 CT	WSCT	for peak measurement.
		For average measurement: VBW = 10 Hz, when
		duty cycle is no less than 98 percent. VBW ≥ 1/T,
	formal formal	when duty cycle is less than 98 percent where T is
\rightarrow	WSCT WSCT	the minimum transmission duration over which the
X	X	transmitter is on and is transmitting at its maximum
		power control level for the tested mode of operation.
W5 CT	Test mode: W5[7]	Refer to section 4.1 for details ws

Note: Freq. = Emission frequency in MHz Reading level (dB μ V) = Receiver reading Corr. Factor (dB) = Attenuation factor + Cable loss Level (dB μ V) = Reading level (dB μ V) + Corr. Factor (dB) Limit (dB μ V) = Limit stated in standard Margin (dB) = Level (dB μ V) - Limits (dB μ V)

Test results:

WS CT WS CT

WSCT WSCT WSCT WSCT

PASS

WSCT WSCT WSCT WSCT

WSET WSET WSET

WSCT WSCT WSCT

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WELT

WSET WSET

W5C1



W5 CT





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W5 C1

6.7.2. Test Data(worst case)

Please refer to following diagram for individual

The worst mode is BLE 2M

Below 1GHz

Horizontal:



		_
	-	
	_	

	No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)		Margin (dB)	Detector	
	1	71.2051	42.97	-22.41	20.56	40.00	-19.44	QP	
-	2	100.7571	46.68	-23.58	23.10	43.50	-20.40	QP	F
	3	140.3421	49.01	-19.90	29.11	43.50	-14.39	QP	
1	4	185.9512	45.47	-22.69	22.78	43.50	-20.72	QP	
	5 *	245.4125	55.98	-22.07	33.91	46.00	-12.09	QP	
	6	431.0316	44.39	-16.93	27.46	46.00	-18.54	QP	

W5CT° W5 ET

W5C1 WS CI WS CI

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W5CT

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WSCT



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	1
1 *	35.7178	50.13	-19.46	30.67	40.00	-9.33	QP	
2	72.7509	46.06	-22.82	23.24	40.00	-16.76	QP	
3	81.9987	49.90	-24.08	25.82	40.00	-14.18	QP	
4	100.7130	49.34	-23.59	25.75	43.50	-17.75	QP	
5	249.8627	44.52	-21.80	22.72	46.00	-23.28	QP	
6	451.3328	45.84	-16.32	29.52	46.00	-16.48	QP	

NS ET

Note1:

Freq. = Emission frequency in MHz

Reading level (dBµV) = Receiver reading

Corr. Factor (dB) = Antenna factor + Cable loss - Amplifier factor.

Measurement ($dB\mu V$) = Reading level ($dB\mu V$) + Corr. Factor (dB)

Limit (dBµV) = Limit stated in standard

Margin (dB) = Measurement (dB μ V) - Limits (dB μ V)

W5C

W5 C

W5C

W5 CI

NS CI

W5 C

W5 CI

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W5 CT

Above 1GHz

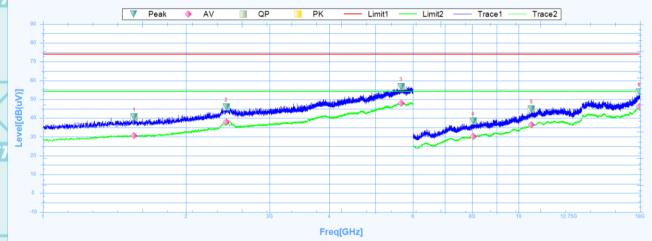
Note 1: The marked spikes near 2400 MHz with circle should be ignored because they are Fundamental

Note 2: The spurious above 18G is noise only, do not show on the report.

Note 3 BLE 1M and 2M both tested the report and only recorded the worst-case scenario 1M:

Low channel: 2402MHz

Horizontal:



Suspu	ıted Data Lis	st								
NO.	Freq. [MHz]	Reading [dB(uV)]	Factor [dB]	Level [dB(uV)]	Limit [dB]	Margin [dB]	Deg [°]	Polarity	Trace	Verdict
1	1555.6250	40.52	24.94	15.58	74	-33.48	134.7	Horizontal	PK	Pass
1	1555.6250	30.66	24.94	5.72	54	-23.34	134.7	Horizontal	AV	Pass
2	2428.7500	45.99	27.36	18.63	74	-28.01	109.7	Horizontal	PK	Pass
2	2428.7500	37.94	27.36	10.58	54	-16.06	109.7	Horizontal	AV	Pass
3	5663.1250	56.71	32.26	24.45	74	-17.29	355.9	Horizontal	PK	Pass
3	5663.1250	47.96	32.26	15.7	54	-6.04	355.9	Horizontal	AV	Pass
4	8025.0000	38.37	8.33	30.04	74	-35.63	360.1	Horizontal	PK	Pass
4	8025.0000	30.29	8.33	21.96	54	-23.71	360.1	Horizontal	AV	Pass
5	10647.0000	44.71	14.5	30.21	74	-29.29	285	Horizontal	PK	Pass
5	10647.0000	36.34	14.5	21.84	54	-17.66	285	Horizontal	AV	Pass
6	17943.0000	53.78	23.53	30.25	74	-20.22	67.4	Horizontal	PK	Pass
6	17943.0000	46.17	23.53	22.64	54	-7.83	67.4	Horizontal	AV	Pass

	W5 [T	W5CT" W	SET W	SCT° WSCT°
X	X	X	X	X
WSET	WSCT	WSET	WSCT	WSET

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Report No.: WSCT-ANAB-R&E240900045A-LE Vertical:

Peak AV QP PK Limit1 Limit2 Trace1 Trace2

Suspu	ted Data Lis	st		Aug -		140	e e e e		Wes		[<u> </u>
NO.	Freq. [MHz]	Reading [dB(uV)]	Factor [dB]	Level [dB(uV)]	Limit [dB]	Margin [dB]	Deg [°]	Polarity	Trace	Verdict	\rangle
1	1523.7500	40.19	24.98	15.21	74	-33.81	81	Vertical	PK	Pass	
1	1523.7500	30.1	24.98	5.12	54	-23.9	81	Vertical	AV	Pass	75
2	2448.7500	46.28	27.43	18.85	74	-27.72	330.9	Vertical	PK	Pass	
2	2448.7500	37.87	27.43	10.44	54	-16.13	330.9	Vertical	AV	Pass	
3	5941.8750	57.23	32.71	24.52	74	-16.77	358.6	Vertical	PK	Pass	
3	5941.8750	47.77	32.71	15.06	54	-6.23	358.6	Vertical	AV	Pass	
4	8388.0000	39.62	9.08	30.54	74	-34.38	0.5	Vertical	PK	Pass	
4	8388.0000	30.82	9.08	21.74	54	-23.18	0.5	Vertical	AV	Pass	
5	11119.5000	46	15.84	30.16	74	-28	360	Vertical	PK	Pass	
5	11119.5000	37.45	15.84	21.61	54	-16.55	360	Vertical	AV	Pass	
6	17776.5000	53.35	22.47	30.88	74	-20.65	337.5	Vertical	PK	Pass	15
6	17776.5000	45.28	22.47	22.81	54	-8.72	337.5	Vertical	AV	Pass	
	NO. 1 1 2 2 3 3 4 4 5 5 6	NO. Freq. [MHz] 1	Susputed Data List NO. Freq. [MHz] Reading [dB(uV)] 1 1523.7500 40.19 1 1523.7500 30.1 2 2448.7500 46.28 2 2448.7500 37.87 3 5941.8750 57.23 3 5941.8750 47.77 4 8388.0000 39.62 4 8388.0000 30.82 5 11119.5000 46 5 117776.5000 53.35	NO. Freq. [MHz] Reading [dB(uV)] Factor [dB] 1 1523.7500 40.19 24.98 1 1523.7500 30.1 24.98 2 2448.7500 46.28 27.43 2 2448.7500 37.87 27.43 3 5941.8750 57.23 32.71 3 5941.8750 47.77 32.71 4 8388.0000 39.62 9.08 4 8388.0000 30.82 9.08 5 11119.5000 46 15.84 5 11119.5000 37.45 15.84 6 17776.5000 53.35 22.47	NO. Freq. [MHz] Reading [dB(uV)] Factor [dB] Level [dB(uV)] 1 1523.7500 40.19 24.98 15.21 1 1523.7500 30.1 24.98 5.12 2 2448.7500 46.28 27.43 18.85 2 2448.7500 37.87 27.43 10.44 3 5941.8750 57.23 32.71 24.52 3 5941.8750 47.77 32.71 15.06 4 8388.0000 39.62 9.08 30.54 4 8388.0000 30.82 9.08 21.74 5 11119.5000 46 15.84 30.16 5 11119.5000 37.45 15.84 21.61 6 17776.5000 53.35 22.47 30.88	NO. Freq. [MHz] Reading [dB(uV)] Factor [dB] Level [dB(uV)] Limit [dB] 1 1523.7500 40.19 24.98 15.21 74 1 1523.7500 30.1 24.98 5.12 54 2 2448.7500 46.28 27.43 18.85 74 2 2448.7500 37.87 27.43 10.44 54 3 5941.8750 57.23 32.71 24.52 74 3 5941.8750 47.77 32.71 15.06 54 4 8388.0000 39.62 9.08 30.54 74 4 8388.0000 30.82 9.08 21.74 54 5 11119.5000 46 15.84 30.16 74 5 11119.5000 37.45 15.84 21.61 54 6 17776.5000 53.35 22.47 30.88 74	NO. Freq. [MHz] Reading [dB(uV)] Factor [dB] Level [dB(uV)] Limit [dB] Margin [dB] 1 1523.7500 40.19 24.98 15.21 74 -33.81 1 1523.7500 30.1 24.98 5.12 54 -23.9 2 2448.7500 46.28 27.43 18.85 74 -27.72 2 2448.7500 37.87 27.43 10.44 54 -16.13 3 5941.8750 57.23 32.71 24.52 74 -16.77 3 5941.8750 47.77 32.71 15.06 54 -6.23 4 8388.0000 39.62 9.08 30.54 74 -34.38 4 8388.0000 30.82 9.08 21.74 54 -23.18 5 11119.5000 46 15.84 30.16 74 -28 5 11119.5000 53.35 22.47 30.88 74 -20.65	NO. Freq. [MHz] Reading [dB(uV)] Factor [dB] Level [dB(uV)] Limit [dB] Margin [dB] Deg [°] 1 1523.7500 40.19 24.98 15.21 74 -33.81 81 1 1523.7500 30.1 24.98 5.12 54 -23.9 81 2 2448.7500 46.28 27.43 18.85 74 -27.72 330.9 2 2448.7500 37.87 27.43 10.44 54 -16.13 330.9 3 5941.8750 57.23 32.71 24.52 74 -16.77 358.6 3 5941.8750 47.77 32.71 15.06 54 -6.23 358.6 4 8388.0000 39.62 9.08 30.54 74 -34.38 0.5 5 11119.5000 46 15.84 30.16 74 -28 360 5 11119.5000 37.45 15.84 21.61 54 -16.55 360	NO. Freq. [MHz] Reading [dB(uV)] Factor [dB] Level [dB(uV)] Limit [dB] Margin [dB] Deg [°] Polarity 1 1523.7500 40.19 24.98 15.21 74 -33.81 81 Vertical 1 1523.7500 30.1 24.98 5.12 54 -23.9 81 Vertical 2 2448.7500 46.28 27.43 18.85 74 -27.72 330.9 Vertical 2 2448.7500 37.87 27.43 10.44 54 -16.13 330.9 Vertical 3 5941.8750 57.23 32.71 24.52 74 -16.77 358.6 Vertical 3 5941.8750 47.77 32.71 15.06 54 -6.23 358.6 Vertical 4 8388.0000 39.62 9.08 30.54 74 -34.38 0.5 Vertical 5 11119.5000 46 15.84 30.16 74 -28 360	NO. Freq. [MHz] Reading [dB(uV)] Factor [dB] Level [dB(uV)] Limit [dB] Margin [dB] Deg [°] Polarity Trace 1 1523.7500 40.19 24.98 15.21 74 -33.81 81 Vertical PK 1 1523.7500 30.1 24.98 5.12 54 -23.9 81 Vertical AV 2 2448.7500 46.28 27.43 18.85 74 -27.72 330.9 Vertical PK 2 2448.7500 37.87 27.43 10.44 54 -16.13 330.9 Vertical AV 3 5941.8750 57.23 32.71 24.52 74 -16.77 358.6 Vertical PK 3 5941.8750 47.77 32.71 15.06 54 -6.23 358.6 Vertical AV 4 8388.0000 39.62 9.08 21.74 54 -23.18 0.5 Vertical AV 5	NO. Freq. [MHz] Reading [dB(uV)] Factor [dB] Level [dB(uV)] Limit [dB] Margin [dB] Deg [°] Polarity Trace Verdict 1 1523.7500 40.19 24.98 15.21 74 -33.81 81 Vertical PK Pass 1 1523.7500 30.1 24.98 5.12 54 -23.9 81 Vertical AV Pass 2 2448.7500 46.28 27.43 18.85 74 -27.72 330.9 Vertical PK Pass 2 2448.7500 37.87 27.43 10.44 54 -16.13 330.9 Vertical PK Pass 3 5941.8750 57.23 32.71 24.52 74 -16.77 358.6 Vertical PK Pass 4 8388.0000 39.62 9.08 30.54 74 -34.38 0.5 Vertical PK Pass 4 8388.0000 30.82 9.08 21.74

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		\vee			
WAS	CT .	WS CT	WSET	W5ET°	WS ET*
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No.	CT [*]	WSET	W5 CT	W5ET*	ions to
The state of the s		VE 174	VEIZE	VE14	sincations Testing

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WSCT WSCT



W5 CT





5 C T

Report No.: WSCT-ANAB-R&E240900045A-LE

Middle channel: 2440MHz

Horizontal:

W5 CT



W5[T]

Susputed Data List

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_	Juspu	iteu Data Lis	.									
	NO.	Freq. [MHz]	Reading [dB(uV)]	Factor [dB]	Level [dB(uV)]	Limit [dB]	Margin [dB]	Deg [°]	Polarity	Trace	Verdict	
	1	1783.7500	45.5	24.99	20.51	74	-28.5	236.4	Horizontal	PK	Pass	
	1	1783.7500	31.05	24.99	6.06	54	-22.95	236.4	Horizontal	AV	Pass	4
	2	2447.5000	47.21	27.42	19.79	74	-26.79	359	Horizontal	PK	Pass	
	2	2447.5000	37.81	27.42	10.39	54	-16.19	359	Horizontal	AV	Pass	
1	3	5893.7500	56.74	32.63	24.11	74	-17.26	223.2	Horizontal	PK	Pass	
3	3	5893.7500	47.73	32.63	15.1	54	-6.27	223.2	Horizontal	AV	Pass	
	4	9786.0000	40.47	11.86	28.61	74	-33.53	360.1	Horizontal	PK	Pass	
	4	9786.0000	33.69	11.86	21.83	54	-20.31	360.1	Horizontal	AV	Pass	
	5	13615.5000	49.1	18.01	31.09	74	-24.9	245.6	Horizontal	PK	Pass	
	5	13615.5000	41.5	18.01	23.49	54	-12.5	245.6	Horizontal	AV	Pass	
	6	17877.0000	53.49	23.12	30.37	74	-20.51	1.5	Horizontal	PK	Pass	7
,	6	17877.0000	45.85	23.12	22.73	54	-8.15	1.5	Horizontal	AV	Pass	

WSCT WSCT WSCT WSCT WSCT

WSCT WSCT WSCT WSCT WSCT

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WSCT WSCT WSCT

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TEL: 088-755-26996192 26996053 26996144 FAX: 088-755-86376605 E-mail: fengbing.wang@wsct-cert.com Http://www.wsct-cert.com

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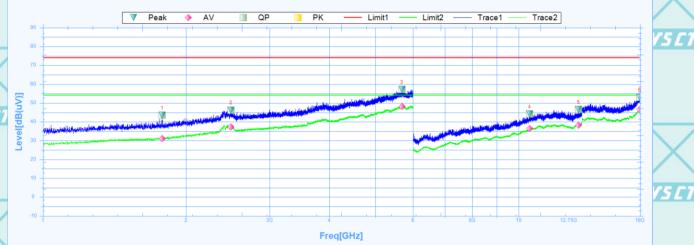




Report No.: WSCT-ANAB-R&E240900045A-LE

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Vertical:



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Susputed Data List											
Z	NO.	Freq. [MHz]	Reading [dB(uV)]	Factor [dB]	Level [dB(uV)]	Limit [dB]	Margin [dB]	Deg [°]	Polarity	Trace	Verdict
	1	1781.8750	43.49	24.99	18.5	74	-30.51	125.4	Vertical	PK	Pass
	1	1781.8750	31.21	24.99	6.22	54	-22.79	125.4	Vertical	AV	Pass
	2	2485.0000	46.23	27.55	18.68	74	-27.77	178	Vertical	PK	Pass
	2	2485.0000	37.22	27.55	9.67	54	-16.78	178	Vertical	AV	Pass
	3	5685.6250	57.09	32.3	24.79	74	-16.91	139.7	Vertical	PK	Pass
	3	5685.6250	48.08	32.3	15.78	54	-5.92	139.7	Vertical	AV	Pass
7	4	10557.0000	44.04	14.16	29.88	74	-29.96	360.1	Vertical	PK	Pass
	4	10557.0000	36.5	14.16	22.34	54	-17.5	360.1	Vertical	AV	Pass
	5	13374.0000	46.51	17.29	29.22	74	-27.49	1	Vertical	PK	Pass
	5	13374.0000	38.16	17.29	20.87	54	-15.84	1	Vertical	AV	Pass
	6	17992.5000	53.02	23.88	29.14	74	-20.98	236	Vertical	PK	Pass
	6	17992.5000	46.48	23.88	22.6	54	-7.52	236	Vertical	AV	Pass

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W5CT



W5ET





Report No.: WSCT-ANAB-R&E240900045A-LE

High channel: 2480MHz

Horizontal:

W5 CT



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W5 E

Susputed Data List											
	NO.	Freq. [MHz]	Reading [dB(uV)]	Factor [dB]	Level [dB(uV)]	Limit [dB]	Margin [dB]	Deg [°]	Polarity	Trace	Verdict
	1	1487.5000	39.54	25.01	14.53	74	-34.46	348.6	Horizontal	PK	Pass
	1	1487.5000	30.33	25.01	5.32	54	-23.67	348.6	Horizontal	AV	Pass
	2	2401.8750	46.3	27.27	19.03	74	-27.7	359.5	Horizontal	PK	Pass
	2	2401.8750	37.88	27.27	10.61	54	-16.12	359.5	Horizontal	AV	Pass
	3	5742.5000	56.73	32.39	24.34	74	-17.27	353.5	Horizontal	PK	Pass
7	3	5742.5000	47.55	32.39	15.16	54	-6.45	353.5	Horizontal	AV	Pass
	4	9813.0000	41.6	11.93	29.67	74	-32.4	77	Horizontal	PK	Pass
	4	9813.0000	33.92	11.93	21.99	54	-20.08	77	Horizontal	AV	Pass
	5	12040.5000	45.84	16.77	29.07	74	-28.16	360.1	Horizontal	PK	Pass
	5	12040.5000	38.24	16.77	21.47	54	-15.76	360.1	Horizontal	AV	Pass
	6	17988.0000	53.12	23.84	29.28	74	-20.88	129.6	Horizontal	PK	Pass
/	6	17988.0000	46.64	23.84	22.8	54	-7.36	129.6	Horizontal	AV	Pass

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DD: Building A-B,Baoli'an Industrial Park,No.58 and 60,Tangtou Avenue, Shiyan Street, Bao'an District, Shenzhen City, Guangdong Province, Chir EL: 0086-755-26996192 26996053 26996144 FAX: 0086-755-86376605 E-mail: fengbing.wang@wsct-cert.com Http://www.wsct-cert.co 深圳世标检测认证股份有限公司 World Standard ration Certification& Testing Group(Shenzhen) Co.,Ltd

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W5 ET

W5 CT

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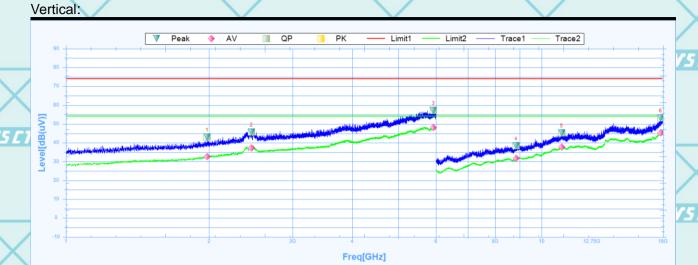






Report No.: WSCT-ANAB-R&E240900045A-LE

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Susputed Data List										
NO.	Freq. [MHz]	Reading [dB(uV)]	Factor [dB]	Level [dB(uV)]	Limit [dB]	Margin [dB]	Deg [°]	Polarity	Trace	Verdict
1	1981.2500	43.07	25.82	17.25	74	-30.93	359.5	Vertical	PK	Pass
1	1981.2500	32.66	25.82	6.84	54	-21.34	359.5	Vertical	AV	Pass
2	2455.6250	45.73	27.45	18.28	74	-28.27	-0.1	Vertical	PK	Pass
2	2455.6250	37.35	27.45	9.9	54	-16.65	-0.1	Vertical	AV	Pass
3	5927.5000	57.09	32.68	24.41	74	-16.91	-0.1	Vertical	PK	Pass
3	5927.5000	48.2	32.68	15.52	54	-5.8	-0.1	Vertical	AV	Pass
4	8839.5000	38.38	9.6	28.78	74	-35.62	250.3	Vertical	PK	Pass
4	8839.5000	31.85	9.6	22.25	54	-22.15	250.3	Vertical	AV	Pass
5	11020.5000	45.3	15.68	29.62	74	-28.7	240.8	Vertical	PK	Pass
5	11020.5000	37.74	15.68	22.06	54	-16.26	240.8	Vertical	AV	Pass
6	17797.5000	53.2	22.6	30.6	74	-20.8	8	Vertical	PK	Pass
6	17797.5000	45.18	22.6	22.58	54	-8.82	8	Vertical	AV	Pass

Note:

- 1. All emissions not reported were more than 20dB below the specified limit or in the noise floor.
- 2. Emission Level= Reading Level+Probe Factor +Cable Loss.
- 3. Data of measurement within this frequency range shown "--" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

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W5 CI

8 Test Setup Photographs

Please refer to Annex "Set Up Photos-15C" for test setup photos

*****END OF REPORT****

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W5 C7 WS CI WS ET

W5C NSCI WSE

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