



RADIO TEST REPORT FCC ID: ZSHW6

Product: Mobile phone Trade Mark: E&L Model No.: W6 Family Model: N/A Report No.: STR190715002003E Issue Date: 15 Oct. 2019

Prepared for

SHENZHEN KENXINDA TECHNOLOGY CO.,LTD 18TH FLOOR,FUCHUN ORIENT BUILDING, SHENNAN AV 7006, SHENZHEN, China

Prepared by

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1 TEST RESULT CERTIFICATION

Applicant's name:	SHENZHEN KENXINDA TECHNOLOGY CO.,LTD
Address:	18TH FLOOR,FUCHUN ORIENT BUILDING, SHENNAN AV 7006, SHENZHEN, China
Manufacturer's Name:	SHENZHEN KENXINDA TECHNOLOGY CO.,LTD
Address:	18TH FLOOR,FUCHUN ORIENT BUILDING, SHENNAN AV 7006, SHENZHEN, China
Product description	
Product name:	Mobile phone
Model and/or type reference:	W6
Family Model:	N/A

Measurement Procedure Used:

APPLICABLE STANDARDS

APPLICABLE STANDARD/ TEST PROCEDURE	TEST RESULT
FCC 47 CFR Part 2, Subpart J	
FCC 47 CFR Part 15, Subpart C	
KDB 174176 D01 Line Conducted FAQ v01r01	Complied
ANSI C63.10-2013	
KDB 558074 D01 15.247 Meas Guidance v05r02	

This device described above has been tested by Shenzhen NTEK Testing Technology Co., Ltd., and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

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The test results of this report relate only to the tested sample identified in this report.

Date of Test	: 16 Jul. 2019 ~ 15 Oct. 2019
Testing Engineer	13 Men Lin
	(Allen Liu)
Technical Manager	Jason chen
Ū	(Jason Chen)
	Sam. Chen
Authorized Signatory	: <u></u>
	(Sam Chen)

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Standard Section	FCC Part15 (15.247), Subpart Test Item	Verdict	Remark
15.207	Conducted Emission	PASS	
15.247 (a)(2)	6dB Bandwidth	PASS	
15.247 (b)	Peak Output Power	PASS	
15.209 (a) 15.205 (a)	Radiated Spurious Emission	PASS	
15.247 (e)	Power Spectral Density	PASS	
15.247 (d)	Band Edge Emission	PASS	
15.247 (d)	Spurious RF Conducted Emission	PASS	
15.203	Antenna Requirement	PASS	
nark: "N/A" denotes test is no All test items were ver the test.	ot applicable in this Test Report. ified and recorded according to the standard	ds and without a	-
nark: "N/A" denotes test is no All test items were ver the test. This EUT has also be	ot applicable in this Test Report. ified and recorded according to the standard	ds and without a	-
nark: "N/A" denotes test is no All test items were ver the test. This EUT has also be	ot applicable in this Test Report. ified and recorded according to the standard	ds and without a	-



3 FACILITIES AND ACCREDITATIONS

3.1 FACILITIES

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

1/F, Building E, Fenda Science Park, Sanwei Community, Xixiang Street, Bao'an District, Shenzhen 518126 P.R. China.

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

3.2 LABORATORY ACCREDITATIONS AND LISTINGS

Site Description	
CNAS-Lab.	: The Laboratory has been assessed and proved to be in compliance with
	CNAS-CL01:2006 (identical to ISO/IEC 17025:2005)
	The Certificate Registration Number is L5516.
IC-Registration	The Certificate Registration Number is 9270A.
	CAB identifier:CN0074
FCC- Accredited	Test Firm Registration Number: 463705.
	Designation Number: CN1184
A2LA-Lab.	The Certificate Registration Number is 4298.01
	This laboratory is accredited in accordance with the recognized
	International Standard ISO/IEC 17025:2005 General requirements for
	the competence of testing and calibration laboratories.
	This accreditation demonstrates technical competence for a defined
	scope and the operation of a laboratory quality management system
	(refer to joint ISO-ILAC-IAF Communiqué dated 8 January 2009).
Name of Firm	: Shenzhen NTEK Testing Technology Co., Ltd.
Site Location	: 1/F, Building E, Fenda Science Park, Sanwei Community, Xixiang
	Street, Bao'an District, Shenzhen 518126 P.R. China.

3.3 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 %.

Item	Uncertainty
Conducted Emission Test	±2.80dB
RF power, conducted	±0.16dB
Spurious emissions, conducted	±0.21dB
All emissions, radiated(30MHz~1GHz)	±2.64dB
All emissions, radiated(1GHz~6GHz)	±2.40dB
All emissions, radiated(>6GHz)	±2.52dB
Temperature	±0.5°C
Humidity	±2%
-	Conducted Emission Test RF power, conducted Spurious emissions, conducted All emissions, radiated(30MHz~1GHz) All emissions, radiated(1GHz~6GHz) All emissions, radiated(>6GHz) Temperature



4 GENERAL DESCRIPTION OF EUT

Equipment	Mobile phone
Trade Mark	E&L
FCC ID	ZSHW6
Model No.	W6
Family Model	N/A
Model Difference	N/A
Operating Frequency	2402MHz~2480MHz
Modulation	GFSK
Number of Channels	40 Channels
Bluetooth Version	BT V4.0
Antenna Type	PIFA Antenna
Antenna Gain	1.1dBi
	DC supply: DC 3.8V/2550mAh from Battery or DC 5V from USB Port.
Power supply	⊠Adapter supply: Model: Three anti-charger Input: 100-240V~50/60Hz 0.25A Output: 5V1A
HW Version	M510-MB-V4.0
SW Version	TM_BASE_W17.14.5 sc7731C_CP0_modem 04-07-2017 MOCORTM_W17.14.5_Debugl CP2_WCN_Trunk_W17.27.4_Releasel sc8830g_modem 07-06-2017



Revision History

Report No.	Version	Description	Issued Date
STR190715002003E	Rev.01	Initial issue of report	Oct 15, 2019
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5 DESCRIPTION OF TEST MODES

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

The Transmitter was operated in the normal operating mode. The TX frequency was fixed which was for the purpose of the measurements.

Test of channel included the lowest and middle and highest frequency to perform the test, then record on this report.

Those data rates (1Mbps for GFSK modulation) were used for all test.

The EUT was pretested with 3 orientations placed on the table for the radiated emission measurement -X, Y, and Z-plane. The X-plane results were found as the worst case and were shown in this report.

Carrier Frequency and Channel list:

Channel	Frequency(MHz)
0	2402
1	2404
19	2440
20	2442
38	2478
39	2480

Note: fc=2402MHz+k×2MHz k=0 to 39

The following summary table is showing all test modes to demonstrate in compliance with the standard.

	Test Cases
Test Item	Data Rate/ Modulation
Test Item	Bluetooth 4.0_LE / GFSK
AC Conducted Emission	Mode 1: normal link mode
	Mode 1: normal link mode
Radiated Test	Mode 2: Bluetooth Tx Ch00_2402MHz_1Mbps
Cases	Mode 3: Bluetooth Tx Ch19_2440MHz_1Mbps
	Mode 4: Bluetooth Tx Ch39_2480MHz_1Mbps
Conducted Test	Mode 2: Bluetooth Tx Ch00_2402MHz_1Mbps
Conducted Test	Mode 3: Bluetooth Tx Ch19_2440MHz_1Mbps
Cases	Mode 4: Bluetooth Tx Ch39_2480MHz_1Mbps

Note:

- 1. The engineering test program was provided and the EUT was programmed to be in continuously transmitting mode.
- 2. AC power line Conducted Emission was tested under maximum output power.
- 3. For radiated test cases, the worst mode data rate 1Mbps was reported only, because this data rate has the highest RF output power at preliminary tests, and no other significantly frequencies found in conducted spurious emission.
- 4. EUT built-in battery-powered, the battery is fully-charged.



6 SETUP OF EQUIPMENT UNDER TEST

6.1 BLOCK DIAGRAM CONFIGURATION OF TEST SYSTEM

For AC Conducted Emission Mode	1
AC PLUG	
For Radiated Test Cases	
EUT	
For Conducted Test Cases	
C-1 EUT	
Note:The temporary antenna connector is soldered on the PCB board in order tests and this temporary antenna connector is listed in the equipment list.	to perform conducted



6.2 SUPPORT EQUIPMENT

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.

Item	Equipment	Mfr/Brand	Model/Type No.	Series No.	Note

Item	Cable Type	Shielded Type	Ferrite Core	Length
C-1	RF Cable	YES	NO	0.1m

Notes:

- (1) The support equipment was authorized by Declaration of Confirmation.
- (2) For detachable type I/O cable should be specified the length in cm in [Length] column.
- (3) "YES" is means "shielded" "with core"; "NO" is means "unshielded" "without core".



6.3 EQUIPMENTS LIST FOR ALL TEST ITEMS

Radiation& Conducted Test equipment

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		estequipment					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until	Calibrati on period
1	Spectrum Analyzer	Aglient	E4407B	MY45108040	2019.05.13	2020.05.12	1 year
2	Spectrum Analyzer	Agilent	N9020A	MY49100060	2019.08.28	2020.08.27	1 year
3	Spectrum Analyzer	R&S	FSV40	101417	2019.08.28	2020.08.27	1 year
4	Test Receiver	R&S	ESPI7	101318	2019.05.13	2020.05.12	1 year
5	Bilog Antenna	TESEQ	CBL6111D	31216	2019.04.15	2020.04.14	1 year
6	50Ω Coaxial Switch	Anritsu	MP59B	6200983705	2018.05.19	2020.05.18	2 year
7	Horn Antenna	EM	EM-AH-1018 0	2011071402	2019.04.15	2020.04.14	1 year
8	Broadband Horn Antenna	SCHWARZBE CK	BBHA 9170	803	2018.12.11	2019.12.10	1 year
9	Amplifier	EMC	EMC051835 SE	980246	2019.08.06	2020.08.05	1 year
10	Active Loop Antenna	SCHWARZBE CK	FMZB 1519 B	055	2018.12.11	2019.12.10	1 year
11	Power Meter	DARE	RPR3006W	15I00041SN 084	2019.08.06	2020.08.05	1 year
12	Test Cable (9KHz-30MHz)	N/A	R-01	N/A	2017.04.21	2020.04.20	3 year
13	Test Cable (30MHz-1GHz)	N/A	R-02	N/A	2017.04.21	2020.04.20	3 year
14	High Test Cable(1G-40G Hz)	N/A	R-03	N/A	2017.04.21	2020.04.20	3 year
15	High Test Cable(1G-40G Hz)	N/A	R-04	N/A	2017.04.21	2020.04.20	3 year
16	Filter	TRILTHIC	2400MHz	29	2017.04.19	2020.04.18	3 year
17	temporary antenna connector (Note)	NTS	R001	N/A	N/A	N/A	N/A

Note:

We will use the temporary antenna connector (soldered on the PCB board) When conducted test And this temporary antenna connector is listed within the instrument list



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AC Cc	onduction Test	equipment					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until	Calibration period
1	Test Receiver	· R&S	ESCI	101160	2019.05.13	2020.05.12	1 year
2	LISN	R&S	ENV216	101313	2019.04.15	2020.04.14	1 year
3	LISN	SCHWARZBE CK	NNLK 8129	8129245	2019.05.13	2020.05.12	1 year
4	50Ω Coaxial Switch	ANRITSU CORP	MP59B	6200983704	2019.05.13	2020.05.12	2 year
5	Test Cable (9KHz-30MH z)	N/A	C01	N/A	2017.04.21	2020.04.20	3 year
6	Test Cable (9KHz-30MH z)	N/A	C02	N/A	2017.04.21	2020.04.20	3 year
7	Test Cable (9KHz-30MH z)	N/A	C03	N/A	2017.04.21	2020.04.20	3 year

Note: Each piece of equipment is scheduled for calibration once a year except the Aux Equipment & Test Cable which is scheduled for calibration every 2 or 3 years.



7 TEST REQUIREMENTS

7.1 CONDUCTED EMISSIONS TEST

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7.1.1 Applicable Standard

According to FCC Part 15.207(a) and KDB 174176 D01 Line Conducted FAQ v01r01

7.1.2 Conformance Limit

Eroguopov(MHz)	Conducted Emission Limit	
Frequency(MHz)	Quasi-peak	Average
0.15-0.5	66-56* 56-46*	
0.5-5.0	56 46	
5.0-30.0	60	50

Note: 1. *Decreases with the logarithm of the frequency

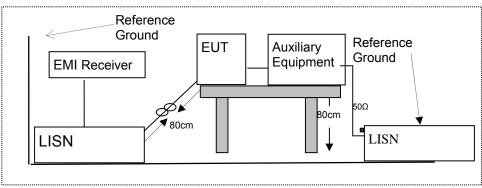
2. The lower limit shall apply at the transition frequencies

3. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

7.1.3 Measuring Instruments

The Measuring equipment is listed in the section 6.3 of this test report.

7.1.4 Test Configuration



7.1.5 Test Procedure

According to the requirements in Section 13.1.4.1 of ANSI C63.10-2013 Conducted emissions the EUT measured in the frequency range between 0.15 MHz and 30 MHz using CISPR Quasi-Peak and average detector mode.

- 1. The EUT was placed 0.4 meter from the conducting wall of the shielding room.
- 2. The EUT was placed on a table which is 0.8m above ground plane.
- 3. Connect EUT to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
- 4. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40cm long.
- 5. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
- 6. LISN at least 80 cm from nearest part of EUT chassis.
- The frequency range from 150KHz to 30MHz was searched.
 Set the test receiver system to Peak Detect Eulection and specified bandwide
- 8. Set the test-receiver system to Peak Detect Function and specified bandwidth(IF bandwidth=9KHz) with Maximum Hold Mode
- 9. For the actual test configuration, please refer to the related Item -EUT Test Photos.



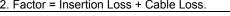
7.1.6 **Test Results**

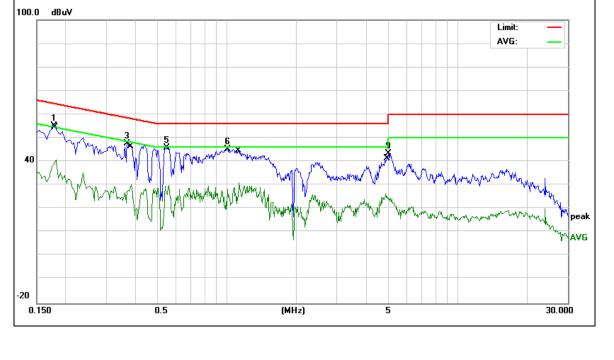
EUT:	Mobile phone	Model Name :	W6
Temperature:	26 ℃	Relative Humidity:	54%
Pressure:	1010hPa	Phase :	L
Test Voltage :	DC 5V from Adapter AC 120V/60Hz	Test Mode:	Mode 1

	1	I				
Frequency	Reading Level	Correct Factor	Measure-ment	Limits	Margin	Remark
(MHz)	(dBµV)	(dB)	(dBµV)	(dBµV)	(dB)	Remark
0.1779	45.40	9.73	55.13	64.58	-9.45	QP
0.1819	31.09	9.73	40.82	54.39	-13.57	AVG
0.3699	37.91	9.75	47.66	58.50	-10.84	QP
0.3860	20.40	9.75	30.15	48.15	-18.00	AVG
0.5500	36.13	9.75	45.88	56.00	-10.12	QP
1.0100	35.44	9.75	45.19	56.00	-10.81	QP
1.1339	21.43	9.75	31.18	46.00	-14.82	AVG
4.8859	16.30	9.94	26.24	46.00	-19.76	AVG
5.0058	33.53	9.94	43.47	60.00	-16.53	QP

Remark:

1. All readings are Quasi-Peak and Average values. 2. Factor = Insertion Loss + Cable Loss.





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EUT:	Mobile p 26 ℃			Polotive I	lumidity	EA0/	W6 54% N Mode 1	
Temperature:	26 C 1010hPa			Relative F Phase :	iumidity:			
Pressure: Test Voltage :		om Adapter		Phase : Test Mode	9:			
Frequency	Reading Level	Correct Factor	Meas	sure-ment	Limits	Margin	Remark	
(MHz)	(dBµV)	(dB)	((dBµV)	(dBµV)	(dB)	Remark	
0.1780	42.15	9.73	Ľ	51.88	64.57	-12.69	QP	
0.1780	25.94	9.73	L	35.67	54.57	-18.90	AVG	
0.3620	35.05	9.75	L	44.80	58.68	-13.88	QP	
0.5620	21.11	9.75		30.86	46.00	-15.14	AVG	
1.0700	35.54	9.75	L	45.29	56.00	-10.71	QP	
1.1340	21.07	9.75	L	30.82	46.00	-15.18	AVG	
4.8859	16.35	9.94		26.29	46.00	-19.71	AVG	
5.0459	33.13	9.94		43.07	60.00	-16.93	QP	
. All readings ar 2. Factor = Inser	re Quasi-Peak ar tion Loss + Cable	nd Average values e Loss.	\$			Limit:]	
2. Factor = Inser						Limit: AVG:		



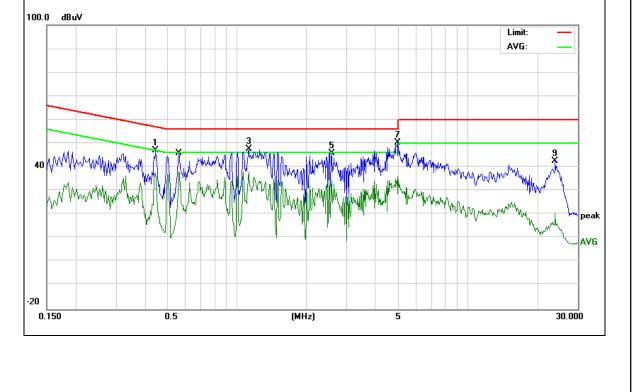
EUT:	Mobile p	Mobile phone Model Name :		:	W6		
Temperature:	26 ℃	26 ℃ Relative Humidity:		54%			
Pressure:	1010hPa	l	Phase :		L		
Test Voltage	DC 5V fr AC 240V	om Adapter //60Hz	Test Mode:		Mode 1		
Frequency	Reading Level	Correct Factor	Measure-ment	Lim	its	Margin	

Frequency	Reading Level	Correct Factor	Measure-ment	Limits	Margin	Remark
(MHz)	(dBµV)	(dB)	(dBµV)	(dBµV)	(dB)	Remark
0.4460	37.25	9.75	47.00	56.95	-9.95	QP
0.5620	28.36	9.75	38.11	46.00	-7.89	AVG
1.1260	37.88	9.75	47.63	56.00	-8.37	QP
1.1260	28.30	9.75	38.05	46.00	-7.95	AVG
2.5700	36.08	9.83	45.91	56.00	-10.09	QP
2.5700	24.72	9.83	34.55	46.00	-11.45	AVG
4.9579	40.41	9.94	50.35	56.00	-5.65	QP
4.9579	26.16	9.94	36.10	46.00	-9.90	AVG
24.0020	32.06	10.57	42.63	60.00	-17.37	QP

Remark:

All readings are Quasi-Peak and Average values.
 Factor = Insertion Loss + Cable Loss.

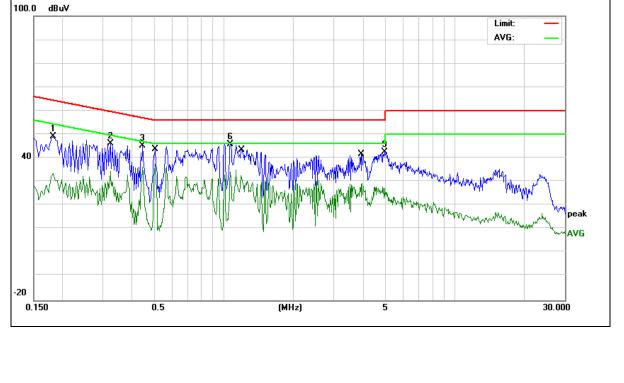
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EUT:	Mobile p	hone	Model Na	me :	W6	
Temperature:	26 ℃		Phase : N m Adapter Test Mode. Mod		54% N	
Pressure:	1010hPa	à				
Test Voltage	DC 5V fr AC 240V	om Adapter //60Hz			Mode 1	
						1
Frequency	Reading Level	Correct Factor	Measure-ment	Limits	Margin	– Remark
(MHz)	(dBµV)	(dB)	(dBµV)	(dBµV)	(dB)	Remark
0.1819	39.34	9.73	49.07	64.39	-15.32	QP
0.3220	36.53	9.74	46.27	59.65	-13.38	QP
0.4460	35.47	9.75	45.22	56.95	-11.73	QP
0.4460	26.47	9.75	36.22	46.95	-10.73	AVG
0.5060	27.80	9.75	37.55	46.00	-8.45	AVG
1.0700	36.10	9.75	45.85	56.00	-10.15	QP
1.1899	22.98	9.75	32.73	46.00	-13.27	AVG
3.9660	19.39	9.92	29.31	46.00	-16.69	AVG
4.9579	32.56	9.94	42.50	56.00	-13.50	QP
Remark:	re Quasi-Peak ar	nd Average values	S.			



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7.2 RADIATED SPURIOUS EMISSION

7.2.1 Applicable Standard

According to FCC Part 15.247(d) and 15.209 and ANSI C63.10-2013

7.2.2 Conformance Limit

According to FCC Part 15.247(d): 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)). According to FCC Part15.205, Restricted bands

		According to For Fart 13.20
MHz GHz	MHz	MHz
423 399.9-410 4.5-5.15	16.42-16.423	0.090-0.110
69525 608-614 5.35-5.46	16.69475-16.69525	0.495-0.505
80475 960-1240 7.25-7.75	16.80425-16.80475	2.1735-2.1905
67 1300-1427 8.025-8.5	25.5-25.67	4.125-4.128
25 1435-1626.5 9.0-9.2	37.5-38.25	4.17725-4.17775
6 1645.5-1646.5 9.3-9.5	73-74.6	4.20725-4.20775
2 1660-1710 10.6-12.7	74.8-75.2	6.215-6.218
3 2200-2300 14.47-14.5	123-138	6.26775-6.26825
.05 2310-2390 15.35-16.2	149.9-150.05	8.291-8.294
6.525252483.5-250017.7-21.4	156.52475-156.52525	8.362-8.366
5.92690-290022.01-23.12	156.7-156.9	8.37625-8.38675
3260-3267 23.6-24.0	162.0125-167.17	8.41425-8.41475
3.2 3332-3339 31.2-31.8	167.72-173.2	12.29-12.293
5 3345.8-3358 36.43-36.5	240-285	12.51975-12.52025
.4 3600-4400 (2)	322-335.4	12.57675-12.57725
		13.36-13.41
61645.5-1646.59.3-9.521660-171010.6-12.732200-230014.47-14.5.052310-239015.35-16.25.525252483.5-250017.7-21.45.92690-290022.01-23.1267.173260-326723.6-24.03.23332-333931.2-31.853345.8-335836.43-36.5	73-74.6 74.8-75.2 123-138 149.9-150.05 156.52475-156.52525 156.7-156.9 162.0125-167.17 167.72-173.2 240-285	4.20725-4.20775 6.215-6.218 6.26775-6.26825 8.291-8.294 8.362-8.366 8.37625-8.38675 8.41425-8.41475 12.29-12.293 12.51975-12.52025 12.57675-12.57725

20dBc in any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

Restricted Frequency(MHz)	Field Strength (µV/m)	Field Strength (dBµV/m)	Measurement Distance	
0.009~0.490	2400/F(KHz)	20 log (uV/m)	300	
0.490~1.705	24000/F(KHz)	20 log (uV/m)	30	
1.705~30.0	30	29.5	30	
30-88	100	40	3	
88-216	150	43.5	3	
216-960	200	46	3	
Above 960	500	54	3	

Limits of Radiated Emission Measurement(Above 1000MHz)

Frequency(MHz)	Class B (dBuV	/m) (at 3M)		
Frequency(winz)	PEAK	AVERAGE		
Above 1000	74	54		

Remark :1. Emission level in dBuV/m=20 log (uV/m)

2. Measurement was performed at an antenna to the closed point of EUT distance of meters.

3. For Frequency 9kHz~30MHz: Distance extrapolation factor =40log(Specific distance/ test distance)(dB); Limit line=Specific limits(dBuV) + distance extrapolation factor.

For Frequency above 30MHz: Distance extrapolation factor =20log(Specific distance/ test distance)(dB); Limit line=Specific limits(dBuV) + distance extrapolation factor.

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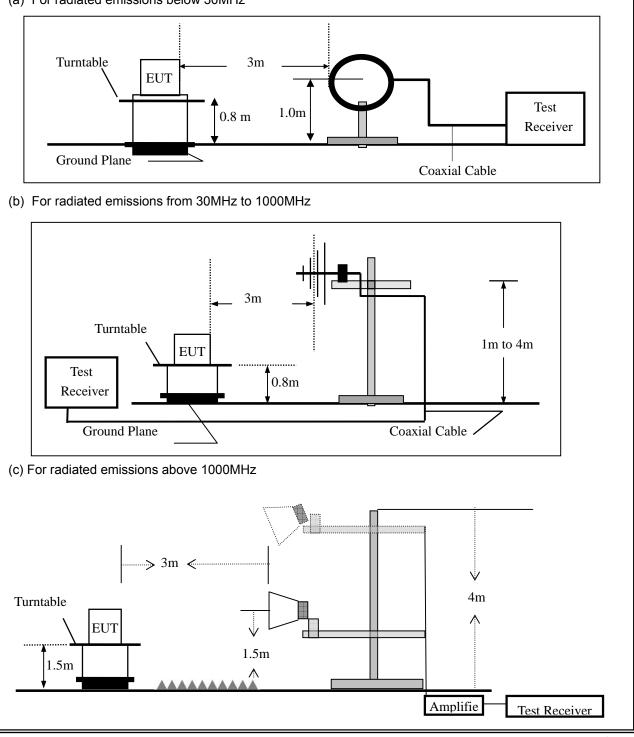


7.2.3 **Measuring Instruments**

The Measuring equipment is listed in the section 6.3 of this test report.

Test Configuration 7.2.4

(a) For radiated emissions below 30MHz



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7.2.5 Test Procedure

The test site semi-anechoic chamber has met the requirement of NSA tolerance 4 dB according to the standards: ANSI C63.10-2013. The test distance is 3m. The setup is according to the requirements in Section 13.1.4.1 of ANSI C63.10-2013 and CAN/CSA-CEI/IEC CISPR 22.

This test is required for any spurious emission that falls in a Restricted Band, as defined in Section 15.205. It must be performed with the highest gain of each type of antenna proposed for use with the EUT. Use the following spectrum analyzer settings:

Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	10th carrier harmonic
RB / VB (emission in restricted band)	1 MHz / 1 MHz for Peak, 1 MHz / 10Hz for Average

Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~150kHz / RB 200Hz for QP
Start ~ Stop Frequency	150kHz~30MHz / RB 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RB 120kHz for QP

- a. The measuring distance of at 3 m shall be used for measurements at frequency up to 1GHz. For frequencies above 1GHz, any suitable measuring distance may be used.
- b. The EUT was placed on the top of a rotating table 0.8 m for below 1GHz and 1.5m for above 1GHz the ground at a 3 meter. The table was rotated 360 degrees to determine the position of the highest radiation.
- c. The height of the equipment or of the substitution antenna shall be 0.8 m for below 1GHz and 1.5m for above 1GHz; the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For the radiated emission test above 1GHz: Place the measurement antenna 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 m above the ground or reference ground plane.
- e. The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- f. If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed.
- g. For the actual test configuration, please refer to the related Item –EUT Test Photos. Note:

Both horizontal and vertical antenna polarities were tested and performed pretest to three orthogonal axis. The worst case emissions were reported



During the radiated emission t	est, the Spectrum An	t, the Spectrum Analyzer was set with the following configurations:						
Frequency Band (MHz)	Function	Resolution bandwidth	Video Bandwidth					
30 to 1000	QP	120 kHz	300 kHz					
Abaua 4000	Peak	1 MHz	1 MHz					
Above 1000	Above 1000 Average		10 Hz					

Note: for the frequency ranges below 30 MHz, a narrower RBW is used for these ranges but the measured value should add a RBW correction factor (RBWCF) where RBWCF [dB] =10*lg(100 [kHz]/narrower RBW [kHz]). , the narrower RBW is 1 kHz and RBWCF is 20 dB for the frequency 9 kHz to 150 kHz, and the narrower RBW is 10 kHz and RBWCF is 10 dB for the frequency 150 kHz to 30 MHz.

7.2.6 Test Results

EUT:	Mobile phone	Model No.:	W6
Temperature:	20 ℃	Relative Humidity:	48%
Test Mode:	Mode2/Mode3/Mode4	Test By:	Allen Liu

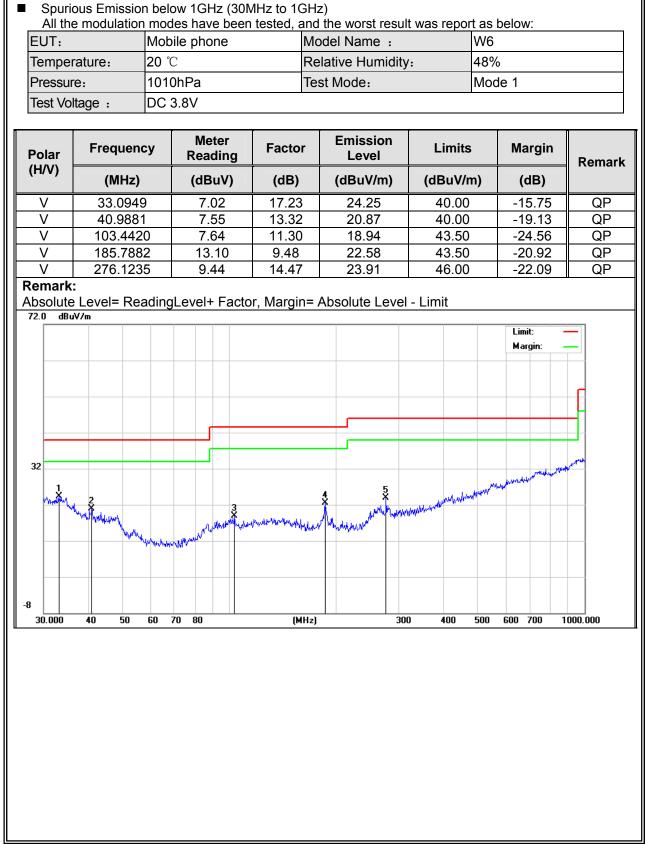
Freq.			.evel(dBuV/m)	Limit 3	m(dBuV/m)	Over(dB)		
(MHz)	H/V	PK	AV	PK	AV	PK	AV	

Note: the amplitude of spurious emission that is attenuated by more than 20dB below the permissible limit has no need to be reported.



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Protein Reading Leven Provide Remaining Remainin
H 123.6985 6.15 12.40 18.55 43.50 -24.95 QP H 151.5971 6.44 11.73 18.17 43.50 -25.33 QP H 279.0436 6.28 15.59 21.87 46.00 -24.13 QP H 848.0562 7.79 25.79 33.58 46.00 -12.42 QP Remark: Absolute Level= ReadingLevel+ Factor, Margin= Absolute Level - Limit Total BuV/m Margin: Margin: 72.0 dBuV/m dBuV/m </th
H 123.6985 6.15 12.40 18.55 43.50 -24.95 QP H 151.5971 6.44 11.73 18.17 43.50 -25.33 QP H 279.0436 6.28 15.59 21.87 46.00 -24.13 QP H 848.0562 7.79 25.79 33.58 46.00 -12.42 QP Remark: Absolute Level= ReadingLevel+ Factor, Margin= Absolute Level - Limit Margin: Image: Comparison of the comparison o
H 151.5971 6.44 11.73 18.17 43.50 -25.33 QP H 279.0436 6.28 15.59 21.87 46.00 -24.13 QP H 848.0562 7.79 25.79 33.58 46.00 -12.42 QP Remark: Absolute Level= ReadingLevel+ Factor, Margin= Absolute Level - Limit 72.0 dBuV/m Imit:
H 279.0436 6.28 15.59 21.87 46.00 -24.13 QP H 848.0562 7.79 25.79 33.58 46.00 -12.42 QP Remark: Absolute Level= ReadingLevel+ Factor, Margin= Absolute Level - Limit 72.0 dBuV/m Imit:
H 848.0562 7.79 25.79 33.58 46.00 -12.42 QP Remark: Absolute Level= ReadingLevel+ Factor, Margin= Absolute Level - Limit 72.0 dBuV/m
Remark: Absolute Level= ReadingLevel+ Factor, Margin= Absolute Level - Limit 72.0 dBuV/m
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Spuriou EUT:	IS EMISSIO		<u>1GHz (10</u>	HZ to	1	,		W6			
		Mobile	phone			el No.:					
Temperatu	re:	20 ℃			Rela	tive Humid	ity:	48%	6		
Test Mode:		Mode2/	Mode3/Mo	ode4	Test By:			Alle	n Liu		
Frequenc	Read	Cable	Antenna	Preamp		Emission	Limit	ts	Margin		
У	Level	loss	Factor	Fac		Level				Remark	Comment
(MHz)	(dBµV)	(dB)	dB/m	(dl	/		(dBµV/m)		(dB)		
Low Channel (2402 MHz)-Above 1G											
4804.78				61.30	74.0	-	-12.70	Pk	Vertical		
4804.78	42.94	5.21	35.59	44.		39.44	54.0		-14.56	AV	Vertical
7206.55	62.10	6.48	36.27	44.		60.25	74.0		-13.75	Pk	Vertical
7206.55	42.82	6.48	36.27	44.		40.97	54.0	_	-13.03	AV	Vertical
4804.61	64.79	5.21	35.55	44.30		61.25	74.0		-12.75	Pk	Horizontal
4804.61	43.31	5.21	35.55	44.	30	39.77	54.00		-14.23	AV	Horizontal
7206.65	62.83	6.48	36.27	44.	52	61.06	74.00		-12.94	Pk	Horizontal
7206.65	42.27	6.48	36.27	44.	52	40.50	54.00		-13.50	AV	Horizontal
Mid Channel (2440 MHz)-Above 1G											
4880.91	62.93	5.21	35.66	44.	20	59.60	74.0	0	-14.40	Pk	Vertical
4880.91	43.24	5.21	35.66	44.	20	39.91	54.0	0	-14.09	AV	Vertical
7320.71	63.54	7.10	36.50	44.	43	62.71	74.0	0	-11.29	Pk	Vertical
7320.71	40.69	7.10	36.50	44.	43	39.86	54.0	0	-14.14	AV	Vertical
4880.81	61.65	5.21	35.66	44.	20	58.32	74.0	0	-15.68	Pk	Horizontal
4880.81	40.15	5.21	35.66	44.	20	36.82	54.0	0	-17.18	AV	Horizontal
7320.67	59.62	7.10	36.50	44.	43	58.79	74.0	0	-15.21	Pk	Horizontal
7320.67	42.52	7.10	36.50	44.	43	41.69	54.0	0	-12.31	AV	Horizontal
			High	Chan	nel (2	480 MHz)-	Above	1G			
4960.92	65.80	5.21	35.52	44.	21	62.32	74.0	0	-11.68	Pk	Vertical
4960.92	43.47	5.21	35.52	44.	21	39.99	54.0	0	-14.01	AV	Vertical
7440.57	65.77	7.10	36.53	44.	60	64.80	74.0	0	-9.20	Pk	Vertical
7440.57	43.60	7.10	36.53	44.	60	42.63	54.0	0	-11.37	AV	Vertical
4960.77	64.17	5.21	35.52	44.	21	60.69	74.0	0	-13.31	Pk	Horizontal
4960.77	45.80	5.21	35.52	44.	21	42.32	54.0	0	-11.68	AV	Horizontal
7440.64	66.75	7.10	36.53	44.	60	65.78	74.0	0	-8.22	Pk	Horizontal
7440.64	47.36	7.10	36.53	44.	60	46.39	54.0	0	-7.61	AV	Horizontal

Note:

(1) Emission Level= Antenna Factor + Cable Loss + Read Level - Preamp Factor (2)All other emissions more than 20dB below the limit.



Spurious Emission in Restricted Band 2310-2390MHz and 2483.5-2500MHz					
EUT:	Mobile phone	Model No.:	W6		
Temperature:	20 ℃	Relative Humidity:	48%		
Test Mode:	Mode2/ Mode4	Test By:	Allen Liu		

Frequenc v	Meter Reading	Cable Loss	Antenna Factor	Preamp Factor	Emission Level	Limits	Margin	Detector	Comment
(MHz)	(dBµV)	(dB)	dB/m	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре	
GFSK									
2310.00	66.15	2.97	27.80	43.80	53.12	74	-20.88	Pk	Horizontal
2310.00	45.91	2.97	27.80	43.80	32.88	54	-21.12	AV	Horizontal
2310.00	65.75	2.97	27.80	43.80	52.72	74	-21.28	Pk	Vertical
2310.00	44.97	2.97	27.80	43.80	31.94	54	-22.06	AV	Vertical
2390.00	66.34	3.14	27.21	43.80	52.89	74	-21.11	Pk	Vertical
2390.00	46.93	3.14	27.21	43.80	33.48	54	-20.52	AV	Vertical
2390.00	67.80	3.14	27.21	43.80	54.35	74	-19.65	Pk	Horizontal
2390.00	46.25	3.14	27.21	43.80	32.80	54	-21.20	AV	Horizontal
2483.50	64.96	3.58	27.70	44.00	52.24	74	-21.76	Pk	Vertical
2483.50	46.58	3.58	27.70	44.00	33.86	54	-20.14	AV	Vertical
2483.50	68.27	3.58	27.70	44.00	55.55	74	-18.45	Pk	Horizontal
2483.50	47.97	3.58	27.70	44.00	35.25	54	-18.75	AV	Horizontal

Note: (1) All other emissions more than 20dB below the limit.



UT:	Mot	Mobile phone		Model N	Model No.:		W6				
Tempera	20 °	С	Relativ		Relative Humidity:		48%				
Test Mode:		Mod	de2/ Mod	e4 Test By		Test By:		Allen Liu			
-					_						
Fr	requenc y	Readin g Level	Cable Loss	Antenn a	Preamp Factor	Emission Level	Lim	its	Margin	Detecto r	Commont
	(MHz)	(dBµV)	(dB)	dB/m	(dB)	(dBµ V/m)	(dB V/n		(dB)	Туре	Comment
	3260	59.47	4.04	29.57	44.70	48.38	74	1	-25.62	Pk	Vertical
	3260	52.87	4.04	29.57	44.70	41.78	54	1	-12.22	AV	Vertical
	3260	61.28	4.04	29.57	44.70	50.19	74	1	-23.81	Pk	Horizontal
	3260	53.12	4.04	29.57	44.70	42.03	54	1	-11.97	AV	Horizontal
	3332	59.97	4.26	29.87	44.40	49.70	74	1	-24.30	Pk	Vertical
	3332	52.91	4.26	29.87	44.40	42.64	54	1	-11.36	AV	Vertical
	3332	60.81	4.26	29.87	44.40	50.54	74	1	-23.46	Pk	Horizontal
	3332	47.90	4.26	29.87	44.40	37.63	54	1	-16.37	AV	Horizontal
	17797	41.05	10.99	43.95	43.50	52.49	74	1	-21.51	Pk	Vertical
	17797	30.52	10.99	43.95	43.50	41.96	54	1	-12.04	AV	Vertical
	17788	40.32	11.81	43.69	44.60	51.22	74	1	-22.78	Pk	Horizontal
	17788	31.11	11.81	43.69	44.60	42.01	54	1	-11.99	AV	Horizontal

Note: (1) All other emissions more than 20dB below the limit.



7.3 6DB BANDWIDTH

7.3.1 Applicable Standard

According to FCC Part 15.247(a)(2) and KDB 558074 D01 15.247 Meas Guidance v05r02 Section 8.2.

7.3.2 Conformance Limit

The minimum permissible 6dB bandwidth is 500 kHz.

7.3.3 Measuring Instruments

The Measuring equipment is listed in the section 6.3 of this test report.

7.3.4 Test Setup

Please refer to Section 6.1 of this test report.

7.3.5 Test Procedure

The testing follows Subclause 11.8 of ANSI C63.10

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.

The EUT was operating in controlled its channel.

Use the following spectrum analyzer settings:

a) Set RBW = 100 kHz.

- b) Set the video bandwidth (VBW) \ge 3*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.

7.3.6 Test Results

EUT:	Mobile phone	Model No.:	W6
Temperature:	20 ℃	Relative Humidity:	48%
Test Mode:	Mode2/Mode3/Mode4	Test By:	Allen Liu

Test data reference attachment.



7.4 DUTY CYCLE

7.4.1 Applicable Standard

According to KDB 558074 D01 15.247 Meas Guidance v05r02s Section 6.

7.4.2 Conformance Limit

No limit requirement.

7.4.3 Measuring Instruments

The Measuring equipment is listed in the section 6.3 of this test report.

7.4.4 Test Setup

Please refer to Section 6.1 of this test report.

7.4.5 Test Procedure

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 \geq OBW if possible; otherwise, set RBW to the largest available value. Set VBW \geq 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 method of measuring duty cycle shall not be used if T \leq 16.7 microseconds.)

The transmitter output is connected to the Spectrum Analyzer. We tested accroding to the zero-span measurement method, 6.0)b) in KDB 558074

The largest available value of RBW is 8 MHz and VBW is 50 MHz. The zero-span method of measuring duty cycle shall not be used if T \leq 6.25 microseconds. (50/6.25 = 8)

The zero-span method was used because all measured T data are > 6.25 microseconds and both RBW and VBW are > 50/T.

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. The EUT was operating in controlled its channel. Use the following spectrum analyzer settings: Span = Zero Span RBW = 8MHz(the largest available value) VBW = 8MHz (\geq RBW) Number of points in Sweep >100 Detector function = peak Trace = Clear write Measure T_{total} and T_{on} Calculate Duty Cycle = T_{on} / T_{total}



7.4.6 Test Results

EUT:	Mobile phone	Model No.:	W6
Temperature:	20 ℃	Relative Humidity:	48%
Test Mode:	Mode2/Mode3/Mode4	Test By:	Allen Liu

Test data reference attachment.

Version.1.3



7.5 PEAK OUTPUT POWER

7.5.1 Applicable Standard

According to FCC Part 15.247(b)(3) and KDB 558074 D01 15.247 Meas Guidance v05r02 Section 8.3.1.

7.5.2 Conformance Limit

The maximum peak conducted output power of the intentional radiator for systems using digital modulation in the 2400 - 2483.5 MHz bands shall not exceed: 1 Watt (30dBm). If transmitting antenna of directional gain greater than 6dBi is used, the peak output power from the intentional radiator shall be reduced below the above stated value by the amount in dB that the directional gain of the antenna exceeds 6 dBi. In case of point-to-point operation, the limit has to be reduced by 1dB for every 3dB that the directional gain of the antenna exceeds 6 dBi.

7.5.3 Measuring Instruments

The Measuring equipment is listed in the section 6.3 of this test report.

7.5.4 Test Setup

Please refer to Section 6.1 of this test report.

7.5.5 Test Procedure

The testing follows Subclause 11.9.1.1 of ANSI C63.10 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. The EUT was operating in controlled its channel. Use the following spectrum analyzer settings: Set the RBW \geq DTS bandwidth. Set VBW =3*RBW. Set the span \geq 3*RBW Set Sweep time = auto couple. Set Detector = peak. Set Trace mode = max hold. Allow trace to fully stabilize. Use peak marker function to determine the peak amplitude level.

7.5.6 Test Results

EUT:	Mobile phone	Model No.:	W6
Temperature:	20 ℃	Relative Humidity:	48%
Test Mode:	Mode2/Mode3/Mode4	Test By:	Allen Liu

Test data reference attachment.



7.6 POWER SPECTRAL DENSITY

7.6.1 Applicable Standard

According to FCC Part 15.247(e) and KDB 558074 D01 15.247 Meas Guidance v05r02 Section 8.4.

7.6.2 Conformance Limit

The transmitter power spectral density conducted from the transmitter to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

7.6.3 Measuring Instruments

The Measuring equipment is listed in the section 6.3 of this test report.

7.6.4 Test Setup

Please refer to Section 6.1 of this test report.

7.6.5 Test Procedure

The testing follows Measurement Procedure Subclause 11.10.2 of ANSI C63.10 This procedure shall be used if maximum peak conducted output power was used to demonstrate compliance, and is optional if the maximum conducted (average) output power was used to demonstrate compliance.

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.

The EUT was operating in controlled its channel.

a) Set analyzer center frequency to DTS channel center frequency.

- b) Set the span to 1.5*DTS bandwidth.
- c) Set the RBW to: $3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$.
- d) Set the VBW \geq 3 RBW.
- e) Detector = peak.
- f) Sweep time = auto couple.
- g) Trace mode = max hold.
- h) Allow trace to fully stabilize.
- i) Use the peak marker function to determine the maximum amplitude level within the RBW.
- j) If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.



7.6.6 Test Results

EUT:	Mobile phone	Model No.:	W6
Temperature:	20 ℃	Relative Humidity:	48%
Test Mode:	Mode2/Mode3/Mode4	Test By:	Allen Liu

Test data reference attachment.

Version.1.3



7.7 CONDUCTED BAND EDGE MEASUREMENT

7.7.1 Applicable Standard

According to FCC Part 15.247(d) and KDB 558074 D01 15.247 Meas Guidance v05r02 Section 8.7.

7.7.2 Conformance Limit

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB.

7.7.3 Measuring Instruments

The Measuring equipment is listed in the section 6.3 of this test report.

7.7.4 Test Setup

Please refer to Section 6.1 of this test report.

7.7.5 Test Procedure

The testing follows FCC KDB 558074 D01 15.247 Meas Guidance v05r02 Section 8.7.

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.

The EUT was operating in controlled its channel.

Set RBW to 100 kHz and VBW of spectrum analyzer to 300 kHz with a convenient frequency span including 100 kHz bandwidth from band edge.

Measure the highest amplitude appearing on spectral display and set it as a reference level. Plot the graph with marking the highest point and edge frequency.

Repeat above procedures until all measured frequencies were complete.

7.7.6 Test Results

EUT:	Mobile phone	Model No.:	W6
Temperature:	20 ℃	Relative Humidity:	48%
Test Mode:	Mode2/Mode4	Test By:	Allen Liu

Test data reference attachment.



7.8 SPURIOUS RF CONDUCTED EMISSIONS

7.8.1 Conformance Limit

1. Below -20dB of the highest emission level in operating band.

2. Fall in the restricted bands listed in section 15.205. The maximum permitted average field strength is listed in section 15.209.

7.8.2 Measuring Instruments

The Measuring equipment is listed in the section 6.3 of this test report.

7.8.3 Test Setup

Please refer to Section 6.1 of this test report.

7.8.4 Test Procedure

The Spurious RF conducted emissions compliance of RF radiated emission should be measured by following the guidance in ANSI C63.10-2013 with respect to maximizing the emission by rotating the EUT, measuring the emission while the EUT is situated in three orthogonal planes (if appropriate), adjusting the measurement antenna height and polarization etc. Set RBW=100kHz and VBW= 300KHz to measure the peak field strength , and measure frequeny range from 30MHz to 26.5GHz.

7.8.5 Test Results

Remark: The measurement frequency range is from 30MHz to the 10th harmonic of the fundamental frequency. The lowest, middle and highest channels are tested to verify the spurious emissions and bandege measurement data.

Test data reference attachment.



7.9 ANTENNA APPLICATION

7.9.1 Antenna Requirement

15.203 requirement: For intentional device, according to 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.

7.9.2 Result

N

The EUT antenna is permanent attached PIFA antenna (Gain: 1.1dBi). It comply with the standard requirement.

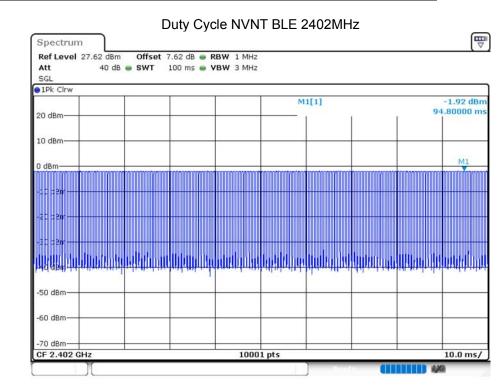


8 TEST RESULTS

N

8.1 DUTY CYCLE

Condition	Mode	Frequency (MHz)	Duty Cycle (%)	Correction Factor (dB)
NVNT	BLE	2402	96.17	0.17
Condition NVNT NVNT NVNT	BLE	2440	97.26	0.12
NVNT	BLE	2480	97.39	0.11



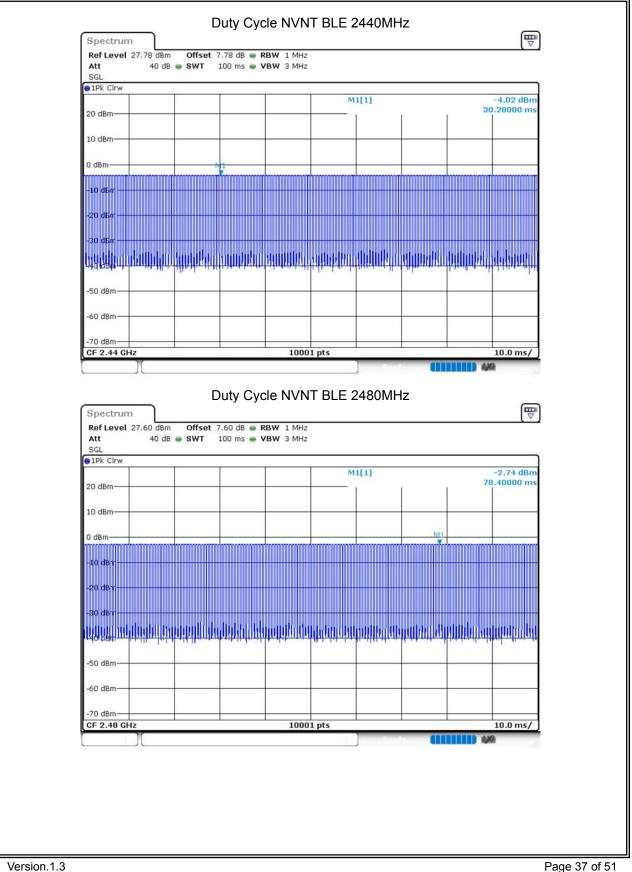


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Report No.:STR190715002003E





Condition	Mode	CONDUCTED Frequency (MHz)	Antenna	Conducted Power (dBm)	Duty Factor (dB)	Total Power (dBm)	Limit (dBm)	Verdi
NVNT NVNT	BLE	2402 2440	Ant 1 Ant 1	-2.193 -4.001	N/A N/A	-2.193 -4.001	30 30	Pas: Pas:
NVNT	BLE	2480	Ant 1	-2.703	N/A	-2.703	30	Pas
			Power NI	/NT BLE 2402MI	-lz Δnt1			
	Spectr	um	1 Ower IN					
	👄 Att		et 7.62 dB 🕳 R 10.1 ms 🕳 V	BW 3 MHz BW 10 MHz Mode Auto	o Sweep			
	😑 1Pk Ma	X		M1[1	1	-2	.19 dBm	
	20 dBm-			ı	1	2.401863	000 GHz	
	10 dBm-							
	0 dBm—			M1	1078	_		
	-10 dBm·							
	-20 dBm-							
	30 dBm							
	-40 dBm							
	-50 dBm·							
	-60 dBm-							
	-70 dBm-			10001 pts		Span 10	0.0 MHz	
		1			Denisty (

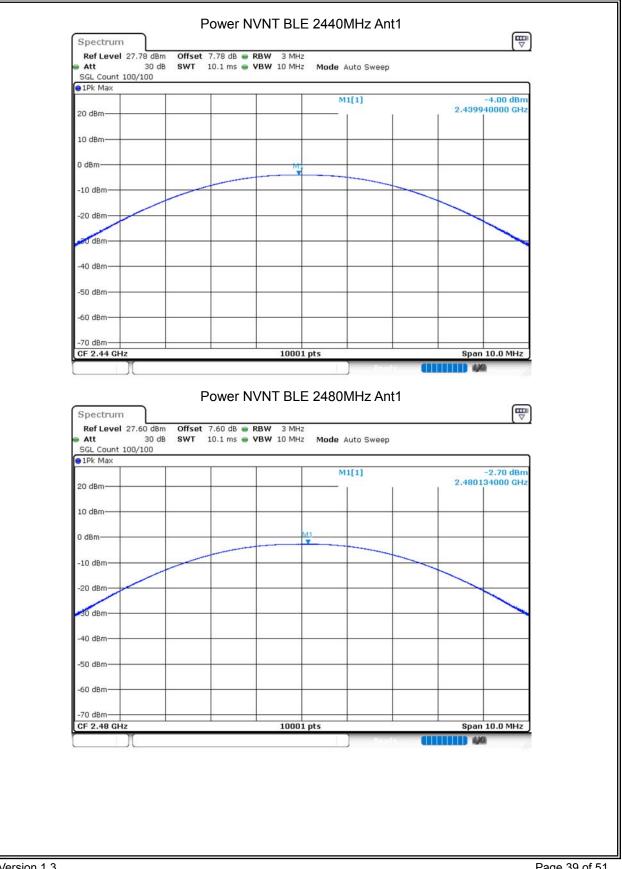


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Certificate #4298.01

Report No.:STR190715002003E



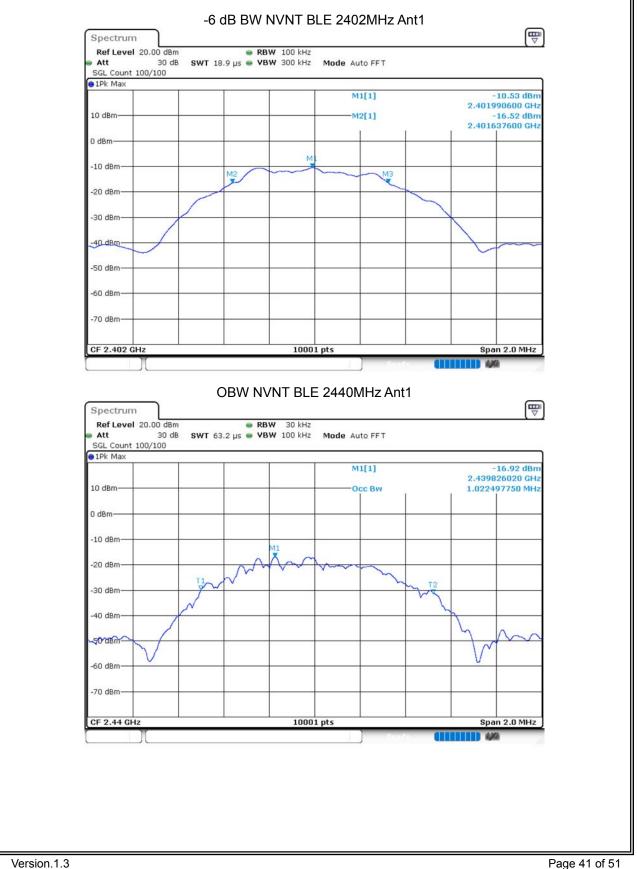
Version.1.3

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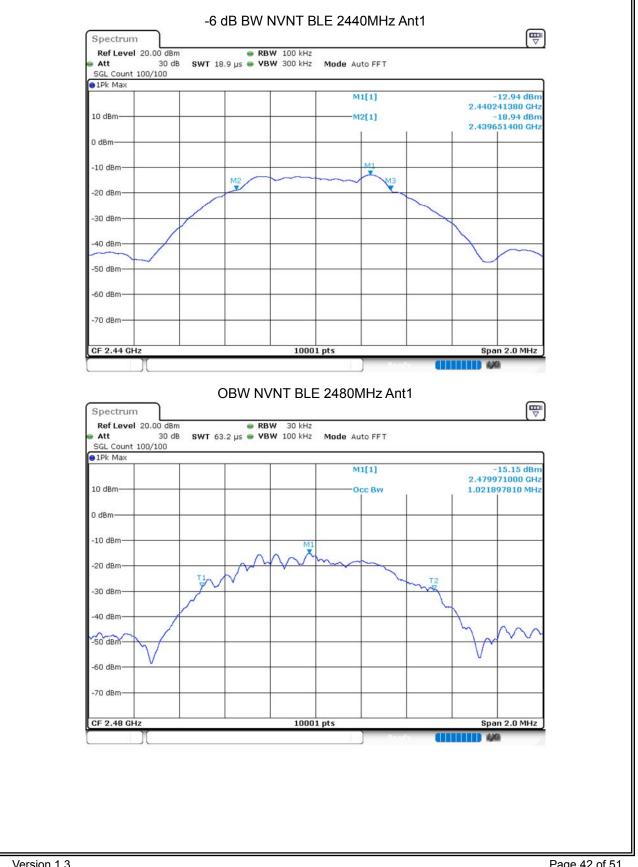


Condition	Mode	CHANNEL BA Frequency (MHz)	Antenna	99% OBW (MHz)	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdic
NVNT NVNT	BLE	2402 2440	Ant 1 Ant 1	1.0267 1.0225	0.686	≥0.5	Pass Pass
NVNT	BLE	2480	Ant 1	1.0219	0.6726	≥0.5	Pass
	Spectr	rum		NT BLE 24	02MHz Ant1		
	👄 Att		63.2 µs 👄 VBW		e Auto FFT		
	● 1Pk Ma 10 dBm-	эх 			M1[1] —Occ Bw	-14.01 dBm 2.401969800 GHz 1.026697330 MHz	
	0 dBm			1011			
	-20 dBm -30 dBm	TI	~~~~~		m have	T2 	
	-40 dBm	~ 1				hom	
	-60 dBm	V				V	
	-70 dBm						
	CF 2.40	02 GHz		10001 pts	Deceder	Span 2.0 MHz	





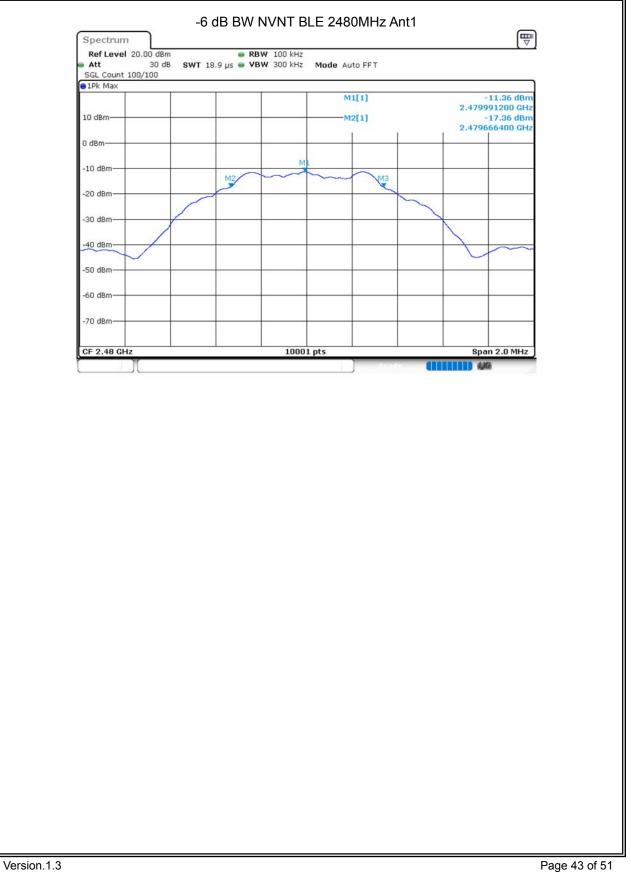




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ACCREDITED Certificate #4298.01

Report No.:STR190715002003E

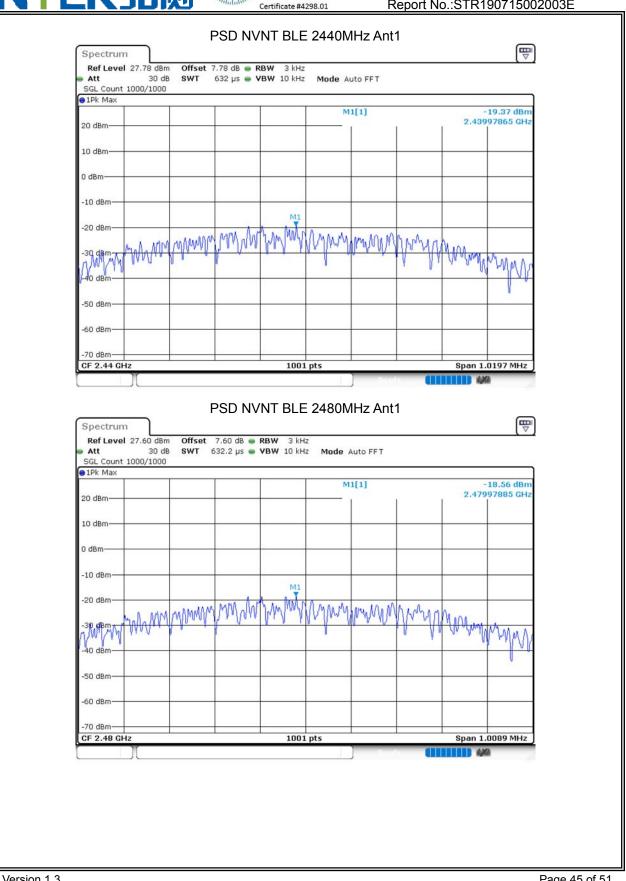
ondition	Mode	POWER SPE Frequency	(MHz)	Antenna		D (dBm/3kHz)	Limit (dBm/3kHz)	Verdic
NVNT	BLE	2402		Ant 1		17.667		8	Pass
	BLE	2440		Ant 1		19.367		8	Pass
NVNT	BLE	2480	i	Ant 1	-	18.556		8	Pass
			PSI		BLE 2402N	/Hz Ant1			
	Spect	rum	1 01						
	Ref Le	evel 27.62 dBm		dB 🖷 RBW 3					
		unt 1000/1000	SWT 632	µs 👄 VBW 10) kHz Mode A	uto FFT			
	⊖1Pk Ma	ax .			N	1[1]		17.67 dBm	
	20 dBm-							97940 GHz	
	10.10								
	10 dBm-								
	0 dBm—								
	-10 dBm							12	
					MI				
	-20 dBm	manan	AMMAM M	NAMAAN	MAMM	mmmm	n A.		
	-30/dBm	MANANI -	10.00	0	hal.	h. h. n M. e.	My Mary	100.00	
	VV V	1.						NV	
	40 dBm								
	-50 dBm								
	-60 dBm	er							
	-70 dBm CF 2.40				1001 pts		Span	1.029 MHz	
		T T				Providy.			



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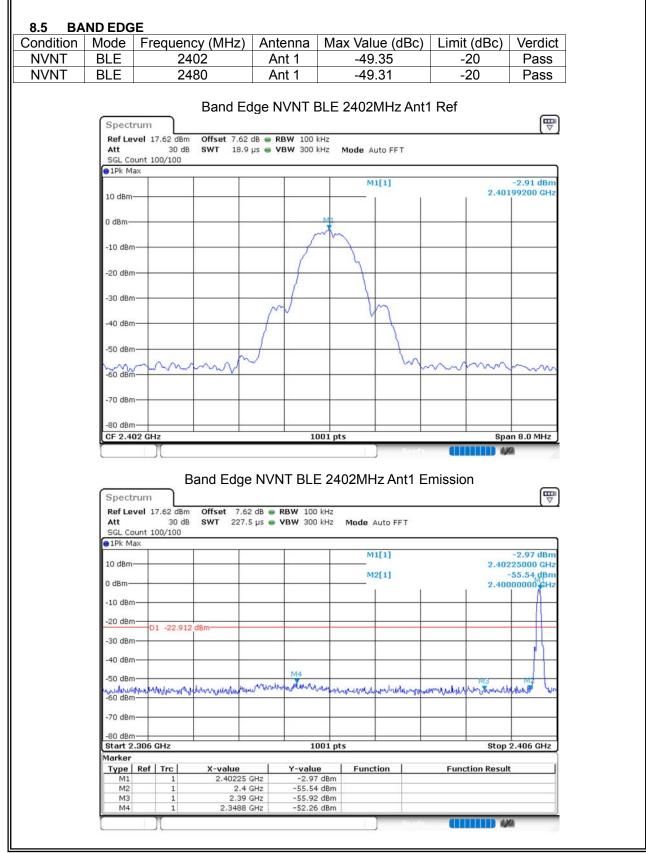
Report No.:STR190715002003E



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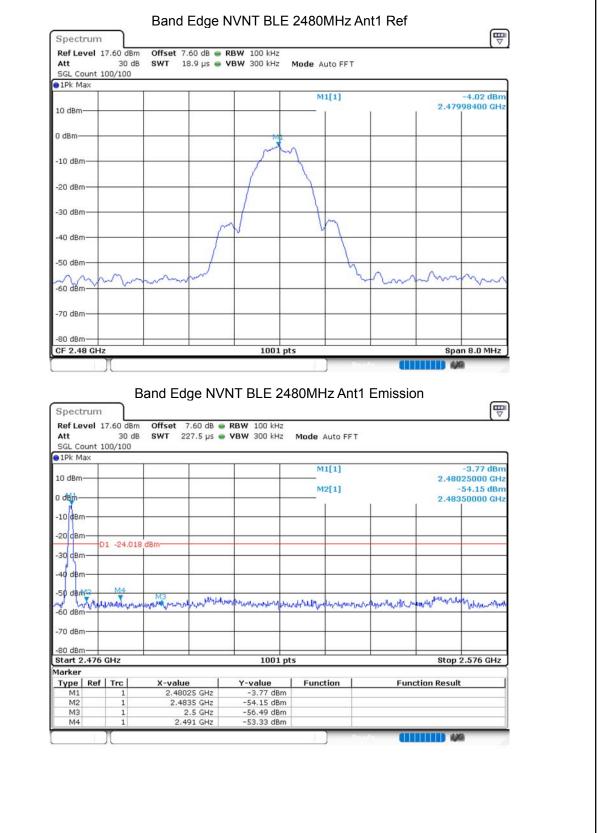
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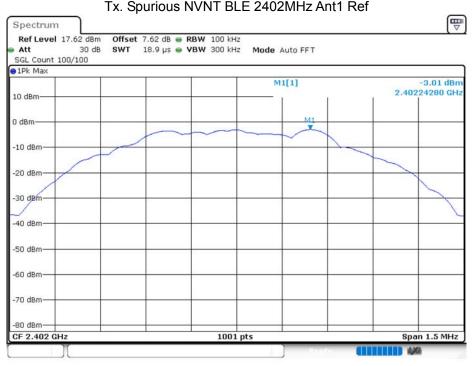
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8.6 CONDUCTED RF SPURIOUS EMISSION

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Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE	2402	Ant 1	-41.72	-20	Pass
NVNT	BLE	2440	Ant 1	-39.62	-20	Pass
Condition NVNT NVNT NVNT	BLE	2480	Ant 1	-39.87	-20	Pass



Tx. Spurious NVNT BLE 2402MHz Ant1 Ref

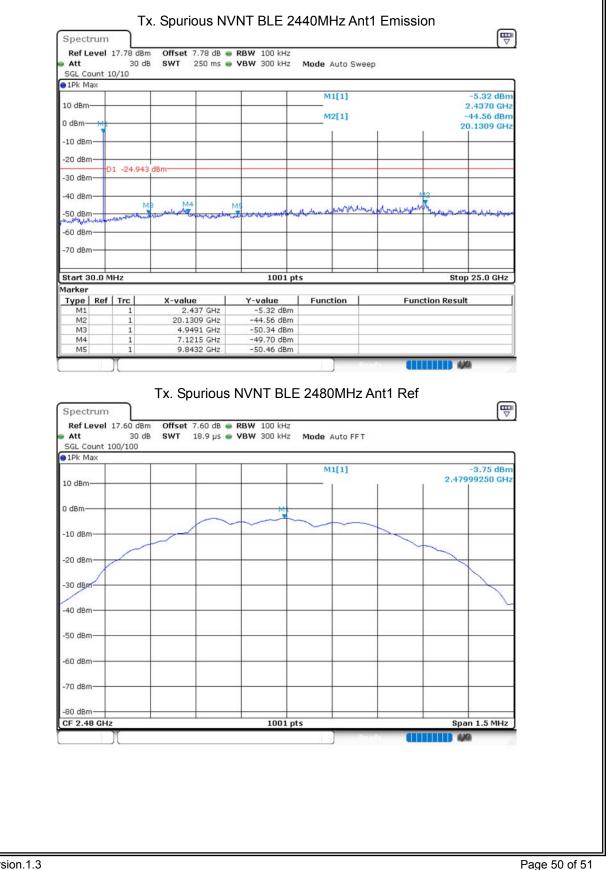




Version.1.3

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Att	evel 17.60 dBr		RBW 100 kHz				
	30 d			Mode Auto Sweep	i i		
our ou	unt 10/10			mode nete enter	53. 		
1Pk M	ах						
10 dBm				M1[1]		-4.96 dBm	
10 GBM				M2[1]		2.4870 GHz -43.63 dBm	
0 dBm-	Ma			M2[1]		20.1309 GHz	
-10 dBm					1		
-10 050							
-20 dBr	D1 -23.75						
-30 dBm		2 dBm					
					+		
-40 dBm		Ma	ME		N12		
		M3 M#	MS	al and the second of the second of the	N2	the the second second	
-50 dBr	and a state of the	Y 3	M5 NBS	and a particular	M2	- and the construction	
	and a state of the	Y 3	MS annorsendered	Byordynes Chillenterworking	N12		
-50 dBr	also drakt vite also	Y 3	MS พฎษาราชาระชายะใช้สองไ	Barture & Westmannel	M2	-salter and	
-50 dBn -60 dBn -70 dBn	ashqlardir dirtullar	Y 3	MS mynterierieriethethet	Barter But row its	N2 Muranetal and		
-50 dBn -60 dBn -70 dBn -80 dBn	ashqlardir dirtullar	Y 3					
-50 dBn -60 dBn -70 dBn -80 dBn	aataleelleveliktertuks	Y 3	MS 			Stop 25.0 GHz	
-50 dBn -60 dBn -70 dBn <u>-80 dBn</u> Start 3	aataleelleveliktertuks	Y 3				Stop 25.0 GHz	
-50 dBm -60 dBm -70 dBm <u>-80 dBm</u> Start 3 Marker Type M1	0.0 MHz	X-value 2.487 GHz	1001 pt: Y-value -4.96 dBm	s		Stop 25.0 GHz	
-50 dBm -60 dBm -70 dBm -80 dBm Start 3 Marker Type M1 M2	0.0 MHz Ref Trc 1 1	X-value 2.487 GHz 20.1309 GHz	1001 pt: -4.96 dBm -43.63 dBm	s		Stop 25.0 GHz	
-50 dBm -60 dBm -70 dBm <u>-80 dBm</u> Start 3 Marker Type M1	0.0 MHz Ref Trc 1 1 1	X-value 2.487 GHz 20.1309 GHz 5.049 GHz	1001 pt: -4.96 dBm -43.63 dBm -50.78 dBm	s		Stop 25.0 GHz	
-50 dBm -60 dBm -70 dBm Start 3 Marker Type M1 M2 M3	0.0 MHz Ref Trc 1 1	X-value 2.487 GHz 20.1309 GHz	1001 pt: -4.96 dBm -43.63 dBm	s		Stop 25.0 GHz	