

RADIO TEST REPORT FCC ID: ZSW-30-121

Product: Mobile Phone Trade Mark: Bmobile Model No.: BL65 Family Model: N/A Report No.: S22032105001002 Issue Date: Apr 12. 2022

Prepared for

b mobile HK Limited

Flat 18; 14/F Block 1; Golden Industrial Building;16-26 Kwai Tak Street; Kwai Chung; New Territories; Hong Kong, China

Prepared by

Shenzhen NTEK Testing Technology Co., Ltd. 1/F, Building E, Fenda Science Park, Sanwei Community, Xixiang Street Bao'an District, Shenzhen 518126 P.R. China Tel. 400-800-6106, 0755-2320 0050, 0755-2320 0090 Website: http://www.ntek.org.cn





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1 TEST RESULT CERTIFICATION

Applicant's name:	b mobile HK Limited
Address:	Flat 18; 14/F Block 1; Golden Industrial Building;16-26 Kwai Tak Street; Kwai Chung; New Territories; Hong Kong, China
Manufacturer's Name:	b mobile HK Limited
Address:	Flat 18; 14/F Block 1; Golden Industrial Building;16-26 Kwai Tak Street; Kwai Chung; New Territories; Hong Kong, China
Product description	
Product name:	Mobile Phone
Model and/or type reference:	BL65
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	Complied
ANSI C63.10-2013	Complied
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	:	Mar 22. 2022 ~ Apr 11, 2022
Testing Engineer	:	Den bin
		(Allen Liu)
Authorized Signatory	:	Alex
		(Alex Li)

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2 SUMMARY OF TEST RESULTS

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FCC Part15 (15.247), Subpart C								
Standard Section 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						

ACCREDITED

Certificate #4298.01

Remark:

 "N/A" denotes test is not applicable in this Test Report.
All test items were verified and recorded according to the standards and without any deviation during the test.





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 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 %.

No.	Item	Uncertainty
1	Conducted Emission Test	±2.80dB
2	RF power, conducted	±0.16dB
3	Spurious emissions, conducted	±0.21dB
4	All emissions, radiated(30MHz~1GHz)	±2.64dB
5	All emissions, radiated(1GHz~6GHz)	±2.40dB
6	All emissions, radiated(>6GHz)	±2.52dB
7	Temperature	±0.5°C
8	Humidity	±2%
9	All emissions, radiated(9KHz~30MHz)	±6dB

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4 GENERAL DESCRIPTION OF EUT

Product Feature and Specification					
Equipment	Mobile Phone				
Trade Mark	Bmobile				
FCC ID	ZSW-30-121				
Model No.	BL65				
Family Model	N/A				
Model Difference	N/A				
Operating Frequency	2402MHz~2480MHz				
Modulation	GFSK				
Number of Channels	40 Channels				
Antenna Type	PIFA Antenna				
Antenna Gain	1 dBi				
Adapter	Input: AC 100-240V~50/60Hz 0.3A Output: DC 5V2000mA				
Battery	DC 3.85V, 4000mAh, 15.4Wh				
Power supply	DC 3.85V from battery or DC 5V from Adapter.				
HW Version	Bmobile_BL65_HW_V1.0				
SW Version Bmobile_BL65_0M_LATAM_V001					

Note 1: Based on the application, features, or specification exhibited in User's Manual, the EUT is considered as an ITE/Computing Device. More details of EUT technical specification, please refer to the User's Manual.

Note 2: The engineering test program was provided and the EUT was programmed to be in continuously transmitting mode.

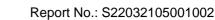




Revision History

Report No.	Version	Description	Issued Date		
S22032105001002	Rev.01	Initial issue of report	Apr 12, 2022		





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.

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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+kx2MHz 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		
AC Conducted Emission	Mode 1: normal link mode		
	Mode 1: normal link mode		
Radiated Test	Mode 2: GFSK Tx Ch00_2402MHz_1Mbps		
Cases	Mode 3: GFSK Tx Ch19_2440MHz_1Mbps		
	Mode 4: GFSK Tx Ch39_2480MHz_1Mbps		
Conducted Test	Mode 1: normal link mode Mode 2: GFSK Tx Ch00_2402MHz_1Mbps Mode 3: GFSK Tx Ch19_2440MHz_1Mbps Mode 4: GFSK Tx Ch39_2480MHz_1Mbps Mode 2: GFSK Tx Ch00_2402MHz_1Mbps		
Conducted Test Cases	Mode 3: GFSK Tx Ch19_2440MHz_1Mbps		
Cases	Mode 4: GFSK Tx Ch39_2480MHz_1Mbps		

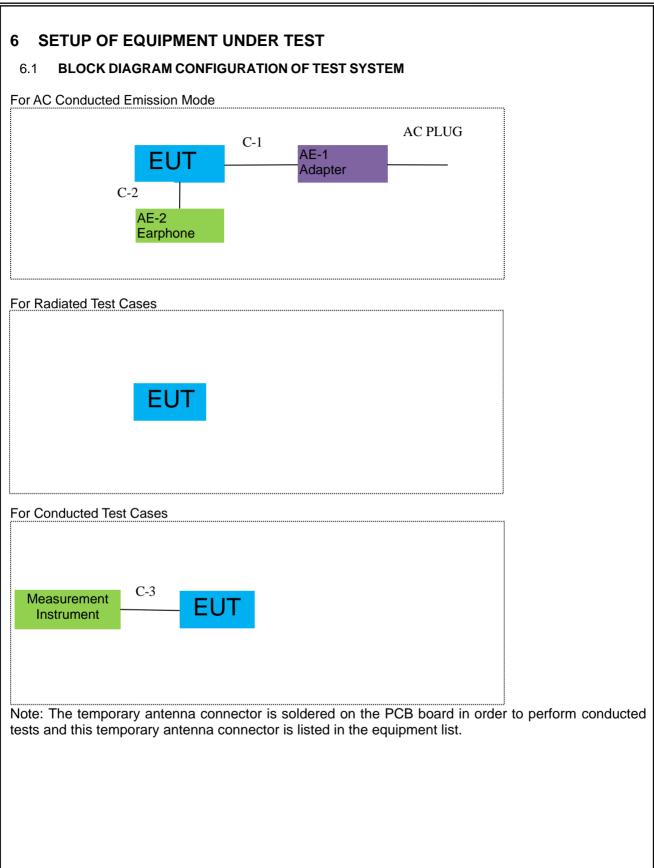
Note:

1. The engineering test program was provided and the EUT was programmed to be in continuously transmitting mode(duty cycle =100% during the test)

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.







6.2 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	Model/Type No.	Series No.	Note
AE-1	Adapter	N/A	N/A	Peripherals
AE-2	Earphone	N/A	N/A	Peripherals

Item	Cable Type	Shielded Type	Ferrite Core	Length
C-1	USB Cable	NO	NO	0.9m
C-2	Earphone Cable	NO	NO	1.2m
C-3	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".

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6.3 EQUIPMENTS LIST FOR ALL TEST ITEMS

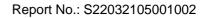
Radiation& Conducted Test equipment

	ena eenaaetea	lest equipment					
Item	Kind of Equipment	Manufacturer	Туре No.	Serial No.	Last calibration	Calibrated until	Calibrati on period
1	Spectrum Analyzer	Aglient	E4407B	MY45108040	2021.04.27	2022.04.26	1 year
2	Spectrum Analyzer	Agilent	N9020A	MY49100060	2021.07.01	2022.06.30	1 year
3	Spectrum Analyzer	R&S	FSV40	101417	2021.07.01	2022.06.30	1 year
4	Test Receiver	R&S	ESPI7	101318	2021.04.27	2022.04.26	1 year
5	Bilog Antenna	TESEQ	CBL6111D	31216	2021.03.29 2022/03/30	2022.03.28 2023.03.29	1 year
6	50Ω Coaxial Switch	Anritsu	MP59B	6200983705	2020.05.11	2023.05.10	3 year
7	Horn Antenna	EM	EM-AH-1018 0	2011071402	2021.03.29 2022/03/30	2022.03.28 2023.03.29	1 year
8	Broadband Horn Antenna	SCHWARZBE CK	BBHA 9170	803	2021.11.07	2022.11.06	1 year
9	Amplifier	EMC	EMC051835 SE	980246	2021.07.01	2022.06.30	1 year
10	Active Loop Antenna	SCHWARZBE CK	FMZB 1519 B	055	2021.11.07	2022.11.06	1 year
11	Power Meter	DARE	RPR3006W	15I00041SN 084	2021.07.01	2022.06.30	1 year
12	Test Cable (9KHz-30MHz)	N/A	R-01	N/A	2019.08.06	2022.08.05	3 year
13	Test Cable (30MHz-1GHz)	N/A	R-02	N/A	2019.08.06	2022.08.05	3 year
14	High Test Cable(1G-40G Hz)	N/A	R-03	N/A	2019.06.28	2022.06.27	3 year
15	High Test Cable(1G-40G Hz)	N/A	R-04	N/A	2019.08.06	2022.08.05	3 year
16	Filter	TRILTHIC	2400MHz	29	2021.07.01	2022.06.30	1 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





AC Co	AC Conduction Test equipment						
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until	Calibration period
1	Test Receiver	R&S	ESCI	101160	2021.04.27	2022.04.26	1 year
2	LISN	R&S	ENV216	101313	2021.04.27	2022.04.26	1 year
3	LISN	SCHWARZBE CK	NNLK 8129	8129245	2021.04.27	2022.04.26	1 year
4	50Ω Coaxial Switch	ANRITSU CORP	MP59B	6200983704	2020.05.11	2023.05.10	3 year
5	Test Cable (9KHz-30MH z)	N/A	C01	N/A	2020.05.11	2023.05.10	3 year
6	Test Cable (9KHz-30MH z)	N/A	C02	N/A	2020.05.11	2023.05.10	3 year
7	Test Cable (9KHz-30MH z)	N/A	C03	N/A	2020.05.11	2023.05.10	3 year

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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.

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7 TEST REQUIREMENTS

7.1 CONDUCTED EMISSIONS TEST

7.1.1 Applicable Standard

According to FCC Part 15.207(a)

7.1.2 Conformance Limit

	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

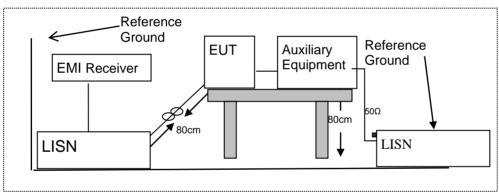
2. The lower limit shall apply at the transition frequencies

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.
- 7. The frequency range from 150KHz to 30MHz was searched.
- 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

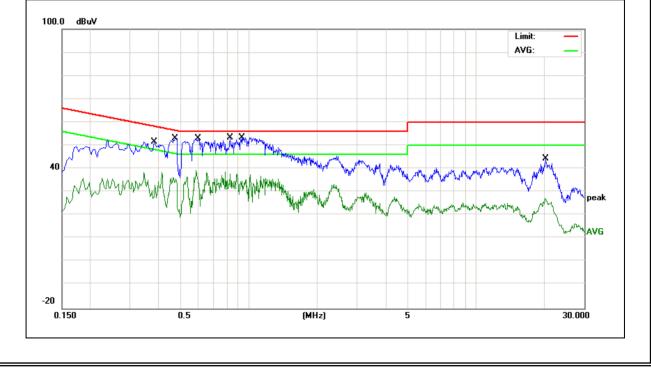
EUT:	Mobile Phone	Model Name :	BL65
Temperature:	22 ℃	Relative Humidity:	57%
Pressure:	1010hPa	Phase :	L
Test Voltage :	DC 5V from Adapter AC 120V/60Hz	Test Mode:	Mode 1

Frequency	Reading Level	Correct Factor	Measure-ment	Limits	Margin	Domork
(MHz)	(dBµV)	(dB)	(dBµV)	(dBµV)	(dB)	Remark
0.3820	41.77	9.64	51.41	58.23	-6.82	QP
0.3820	31.72	9.64	41.36	48.23	-6.87	AVG
0.4740	43.55	9.64	53.19	56.44	-3.25	QP
0.4740	33.68	9.64	43.32	46.44	-3.12	AVG
0.5980	43.23	9.69	52.92	56.00	-3.08	QP
0.5980	32.89	9.69	42.58	46.00	-3.42	AVG
0.8300	42.86	9.74	52.60	56.00	-3.40	QP
0.8300	32.41	9.74	42.15	46.00	-3.85	AVG
0.9300	38.85	9.75	48.60	56.00	-7.40	QP
0.9300	28.75	9.75	38.50	46.00	-7.50	AVG
20.3700	34.55	9.85	44.40	60.00	-15.60	QP
20.3700	17.37	9.85	27.22	50.00	-22.78	AVG

Remark:

1. All readings are Quasi-Peak and Average values.

2. Factor = Insertion Loss + Cable Loss.







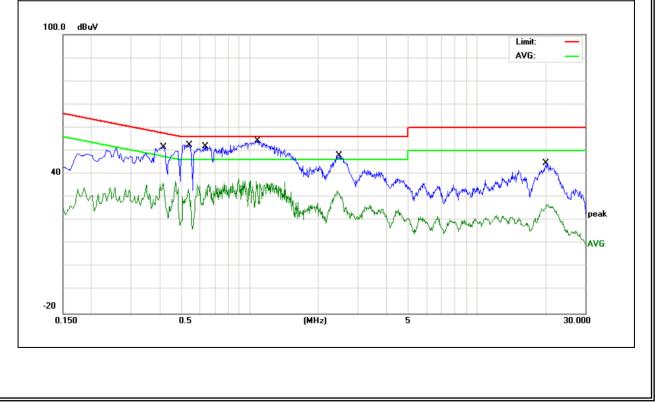
EUT:	Mobile Phone	Model Name :	BL65
Temperature:	22 ℃	Relative Humidity:	57%
Pressure:	1010hPa	Phase :	Ν
Test Voltage :	DC 5V from Adapter AC 120V/60Hz	Test Mode:	Mode 1

Frequency	Reading Level	Correct Factor	Measure-ment	Limits	Margin	Domorik
(MHz)	(dBµV)	(dB)	(dBµV)	(dBµV)	(dB)	Remark
0.4180	41.75	9.71	51.46	57.49	-6.03	QP
0.4180	32.51	9.71	42.22	47.49	-5.27	AVG
0.5420	42.71	9.72	52.43	56.00	-3.57	QP
0.5420	27.12	9.72	36.84	46.00	-9.16	AVG
0.6380	42.08	9.67	51.75	56.00	-4.25	QP
0.6380	31.69	9.67	41.36	46.00	-4.64	AVG
1.0820	40.76	9.74	50.50	56.00	-5.50	QP
1.0820	27.12	9.74	36.86	46.00	-9.14	AVG
2.4860	38.37	9.68	48.05	56.00	-7.95	QP
2.4860	28.92	9.68	38.60	46.00	-7.40	AVG
20.2500	34.89	9.75	44.64	60.00	-15.36	QP
20.2500	17.24	9.75	26.99	50.00	-23.01	AVG

Remark:

1. All readings are Quasi-Peak and Average values.

2. Factor = Insertion Loss + Cable Loss.







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 1 00 1 art 15.200, restricted bands			
MHz	MHz	GHz	
16.42-16.423	399.9-410	4.5-5.15	
16.69475-16.69525	608-614	5.35-5.46	
16.80425-16.80475	960-1240	7.25-7.75	
25.5-25.67	1300-1427	8.025-8.5	
37.5-38.25	1435-1626.5	9.0-9.2	
73-74.6	1645.5-1646.5	9.3-9.5	
74.8-75.2	1660-1710	10.6-12.7	
123-138	2200-2300	14.47-14.5	
149.9-150.05	2310-2390	15.35-16.2	
156.52475-156.52525	2483.5-2500	17.7-21.4	
156.7-156.9	2690-2900	22.01-23.12	
162.0125-167.17	3260-3267	23.6-24.0	
167.72-173.2	3332-3339	31.2-31.8	
240-285	3345.8-3358	36.43-36.5	
322-335.4	3600-4400	(2)	
	MHz 16.42-16.423 16.69475-16.69525 16.80425-16.80475 25.5-25.67 37.5-38.25 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	MHzMHz16.42-16.423399.9-41016.69475-16.69525608-61416.80425-16.80475960-124025.5-25.671300-142737.5-38.251435-1626.573-74.61645.5-1646.574.8-75.21660-1710123-1382200-2300149.9-150.052310-2390156.52475-156.525252483.5-2500156.7-156.92690-2900162.0125-167.173260-3267167.72-173.23332-3339240-2853345.8-3358	

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)

Eroguopov(MHz)	Class B (dBuV/m) (at 3M)		
Frequency(MHz)	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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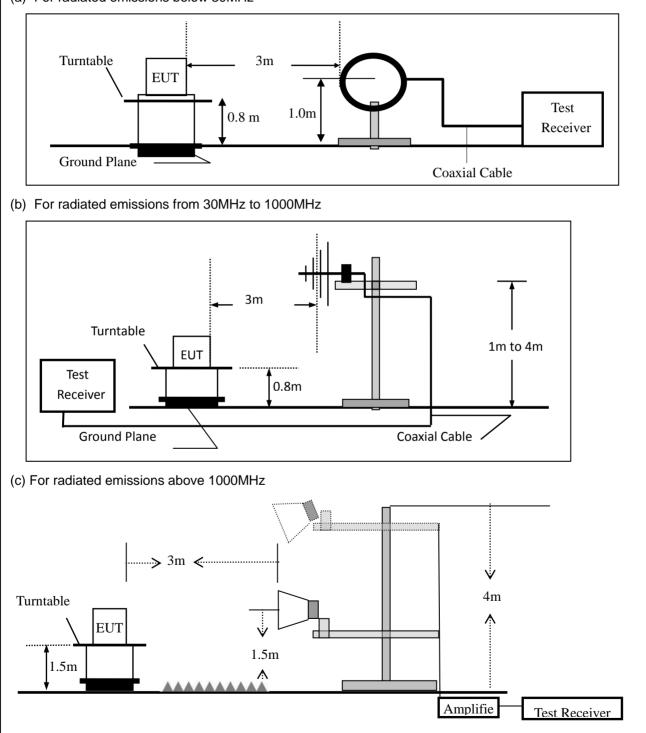


7.2.3 Measuring Instruments

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

7.2.4 Test Configuration

(a) For radiated emissions below 30MHz







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 / 1MHz 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 test, the Spectrum Analyzer was set with the following configurations:

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Frequency Band (MHz)	Function	Resolution bandwidth	Video Bandwidth
30 to 1000	QP	120 kHz	300 kHz
Above 4000	Peak	1 MHz	1 MHz
Above 1000	Average	1 MHz	1 MHz

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

	Spurious	Emission	below	30MHz	(9KHz to 30MHz)
--	----------	----------	-------	-------	-----------------

EUT:	Mobile Phone	Model No.:	BL65
Temperature:	20 ℃	Relative Humidity:	48%
Lest Mode.	Mode1/Mode2/Mode3/ Mode4	Test By:	Allen Liu

Freq.	Ant.Pol.	Emission L	.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.



Spurious Emission below 1GHz (30MHz to 1GHz) All the modulation modes have been tested, and the worst result was report as below:

EUT:	Mobile Phone	Model Name :	BL65
Temperature:	25 ℃	Relative Humidity:	55%
Pressure:	1010hPa	Test Mode:	Mode 1
Test Voltage :	DC 3.85V		

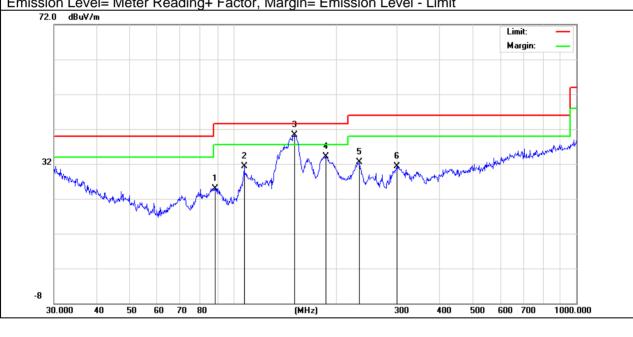
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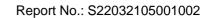
Polar	Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Remark
(H/V)	(MHz)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
V	88.3421	9.65	15.35	25.00	43.50	-18.50	QP
V	107.5101	14.43	16.79	31.22	43.50	-12.28	QP
V	150.5378	22.30	17.95	40.25	43.50	-3.25	QP
V	186.4409	18.65	15.55	34.20	43.50	-9.30	QP
V	233.3487	15.08	17.33	32.41	46.00	-13.59	QP
V	299.3158	11.12	20.28	31.40	46.00	-14.60	QP

Remark:

Emission Level= Meter Reading+ Factor, Margin= Emission Level - Limit







Polar	Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Remark
(H/V)	(MHz)	(dBuV)	uV) (dB) (dBuV/m		(dBuV/m)	(dB)	
Н	92.4624	12.91	15.89	28.80	43.50	-14.70	QP
Н	107.5101	14.79	16.79	31.58	43.50	-11.92	QP
Н	148.9625	13.63	17.97	31.60	43.50	-11.90	QP
Н	185.1379	13.74	15.63	29.37	43.50	-14.13	QP
Н	258.3264	13.45	20.22	33.67	46.00	-12.33	QP
Н	302.4812	16.81	20.29	37.10	46.00	-8.90	QP
Emissio 72.0	n Level= Meter F dBuV/m	Reading+ Fac	tor, Margin	= Emission Le	vel - Limit	Limit:	
32	Image: Contract of the second secon		2 3	4 , , , , , , , , , , , , , , , , , , ,	Marine Contraction		
-8	.000 40 50 E	<u>.</u> 50 70 80	(MI	17)	300 400 500	600 700	1000.000
				-			

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Spurious	Spurious Emission Above 1GHz (1GHz to 25GHz)											
EUT:		Mobile Pho	Mobile Phone Model No.:				BL65	5				
Temperature	e:	20 °C			Relative Humidity:			48%	48%			
Test Mode:		Mode2/Mo	de3/Mode4	Ļ	Test	By:		Aller	Liu			
						,						
Frequency	Read Leve		Antenna Factor	Prea Fac		Emission Level	Lim	iits	Margin	Remark	Comment	
(MHz)	(dBµ∨	/) (dB)	dB/m	(d	B)	(dBµV/m)	(dBµ	V/m)	(dB)			
			Low Cha	annel	(2402	MHz)(GFSK	()Abo	ve 1G	1			
4804.338	62.09	5.21	35.59	44.	30	58.59	74.	00	-15.41	Pk	Vertical	
4804.338	42.15	5 5.21	35.59	44.	30	38.65	54.	00	-15.35	AV	Vertical	
7206.107	61.35	6.48	36.27	44.	60	59.50	74.	00	-14.50	Pk	Vertical	
7206.107	41.73	6.48	36.27	44.	60	39.88	54.	00	-14.12	AV	Vertical	
4804.169	63.88	5.21	35.55	44.	30	60.34	74.	00	-13.66	Pk	Horizontal	
4804.169	41.64	5.21	35.55	44.	30	38.10	54.	00	-15.90	AV	Horizontal	
7206.214	61.02	6.48	36.27	44.	52	59.25 7		00	-14.75	Pk	Horizontal	
7206.214	42.65	6.48	36.27	44.	52	40.88	54.	00	-13.12	AV	Horizontal	
Mid Channel (2440 MHz)(GFSK)Above 1G												
4880.473	62.96	5.21	35.66	44.	20	59.63	74.	00	-14.37	Pk	Vertical	
4880.473	43.64	5.21	35.66	44.	20	40.31	54.	00	-13.69	AV	Vertical	
7320.265	65.19	7.10	36.50	44.	43	64.36	74.	00	-9.64	Pk	Vertical	
7320.265	40.80	7.10	36.50	44.	43	39.97	54.	00	-14.03	AV	Vertical	
4880.366	63.02	2 5.21	35.66	44.	20	59.69	74.	00	-14.31	Pk	Horizontal	
4880.366	40.80	5.21	35.66	44.	20	37.47	54.	00	-16.53	AV	Horizontal	
7320.234	59.98	3 7.10	36.50	44.	43	59.15	74.	00	-14.85	Pk	Horizontal	
7320.234	44.57	7.10	36.50	44.	43	43.74	54.	00	-10.26	AV	Horizontal	
			High Cha	annel	(2480	MHz)(GFSK	() Abo	ove 10	3			
4960.482	64.15	5 5.21	35.52	44.	21	60.67	74.	00	-13.33	Pk	Vertical	
4960.482	41.96	5.21	35.52	44.	21	38.48	54.	00	-15.52	AV	Vertical	
7440.131	64.25	5 7.10	36.53	44.	60	63.28	74.	00	-10.72	Pk	Vertical	
7440.131	49.11	7.10	36.53	44.	60	48.14	54.	00	-5.86	AV	Vertical	
4960.326	64.13	3 5.21	35.52	44.	21	60.65	74.	00	-13.35	Pk	Horizontal	
4960.326	44.55	5 5.21	35.52	44.	21	41.07	54.	00	-12.93	AV	Horizontal	
7440.199	63.65	5 7.10	36.53	44.	60	62.68	74.	00	-11.32	Pk	Horizontal	
7440.199	45.08	3 7.10	36.53	44.	60	44.11	54.	00	-9.89	AV	Horizontal	

Note:

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





ι	JT:	Mobile P	hone			Mode	I No.:		BL65			
e	emperature:	20 °C				Relat	ive Humidit	y:	48%			
Ē	est Mode: Mode2/ Mode4			Test I	Зу:		Allen	Liu				
	Frequency	Meter Reading	Cable Loss	Antenna Factor		eamp actor	Emission Level	Lin	nits	Margin	Detector	Comment
	(MHz)	(dBµV)	(dB)	dB/m	(dB)	(dBµV/m)	(dBµ	ıV/m)	(dB)	Туре	
	1Mbps(GFSK)											
	2310.00	62.43	2.97	27.80	43	3.80	49.40	7	'4	-24.60	Pk	Horizontal
	2310.00	42.48	2.97	27.80	4	3.80	29.45	5	54	-24.55	AV	Horizontal
	2310.00	60.96	2.97	27.80	43	3.80	47.93	7	'4	-26.07	Pk	Vertical
	2310.00	42.84	2.97	27.80	4	3.80	29.81	5	64	-24.19	AV	Vertical
	2390.00	63.08	3.14	27.21	4	3.80	49.63	7	'4	-24.37	Pk	Vertical
	2390.00	42.87	3.14	27.21	4	3.80	29.42	5	64	-24.58	AV	Vertical
	2390.00	64.76	3.14	27.21	4	3.80	51.31	7	'4	-22.69	Pk	Horizontal
	2390.00	43.38	3.14	27.21	4	3.80	29.93	5	64	-24.07	AV	Horizontal
	2483.50	62.79	3.58	27.70	4	4.00	50.07	7	'4	-23.93	Pk	Vertical
	2483.50	42.73	3.58	27.70	4	4.00	30.01	5	64	-23.99	AV	Vertical
	2483.50	64.39	3.58	27.70	4	4.00	51.67	7	'4	-22.33	Pk	Horizontal
	2483.50	44.51	3.58	27.70	4	4.00	31.79	5	4	-22.21	AV	Horizontal

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



UT:	Mobile	Phone		Mo	Model No.:		BL65			
emperature:	20 ℃	Re	lative Humidit	ty:	48%					
Test Mode: Mode2/ Mode4			Te	st By:		Allen	Liu			
Frequency	Reading Level	Cable Loss	Antenna Factor	Pream Facto	r	Lin	nits	Margin	Detector	Comment
(MHz)	(dBµV)	(dB)	dB/m	(dB)	(dBµV/m)	(dBµ	ıV/m)	(dB)	Туре	
3260	63.59	4.04	29.57	44.70) 52.50	7	'4	-21.50	Pk	Vertical
3260	57.78	4.04	29.57	44.70) 46.69	5	54	-7.31	AV	Vertical
3260	65.81	4.04	29.57	44.70) 54.72	7	'4	-19.28	Pk	Horizontal
3260	58.15	4.04	29.57	44.70) 47.06	5	54	-6.94	AV	Horizontal
3332	66.47	4.26	29.87	44.40) 56.20	7	'4	-17.80	Pk	Vertical
3332	56.94	4.26	29.87	44.40) 46.67	5	54	-7.33	AV	Vertical
3332	66.92	4.26	29.87	44.40) 56.65	7	'4	-17.35	Pk	Horizontal
3332	52.57	4.26	29.87	44.40) 42.30	5	54	-11.70	AV	Horizontal
17797	46.26	10.99	43.95	43.50) 57.70	7	'4	-16.30	Pk	Vertical
17797	34.81	10.99	43.95	43.50) 46.25	5	54	-7.75	AV	Vertical
17788	45.42	11.81	43.69	44.60	56.32	7	'4	-17.68	Pk	Horizontal
17788	36.70	11.81	43.69	44.60) 47.60	5	54	-6.40	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.

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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) \geq 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.:	BL65
Temperature:	20 ℃	Relative Humidity:	48%
Test Mode:	Mode2/Mode3/Mode4	Test By:	Allen Liu





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 $T \le 6.25$ 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.:	BL65
Temperature:	20 ℃	Relative Humidity:	48%
Test Mode:	N/A	Test By:	N/A

Note: Not Applicable



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.

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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 6dBi.

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:	UT: Mobile Phone		BL65	
Temperature:	20 ℃	Relative Humidity:	48%	
Test Mode:	Mode2/Mode3/Mode4	Test By:	Allen Liu	



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.

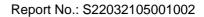




7.6.6 Test Results

EUT:	Mobile Phone	Model No.:	BL65
Temperature:	20 ℃	Relative Humidity:	48%
Test Mode:	Mode2/Mode3/Mode4	Test By:	Allen Liu





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.

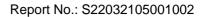
Measure the highest amplitude appearing on spectral display and set it as a reference level. Plot the graph with marking the highest point and edge frequency.

Repeat above procedures until all measured frequencies were complete.

7.7.6 Test Results

EUT:	Mobile Phone	Model No.:	BL65
Temperature:	20 ℃	Relative Humidity:	48%
Test Mode:	Mode2/Mode4	Test By:	Allen Liu





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.

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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 frequency 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.





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

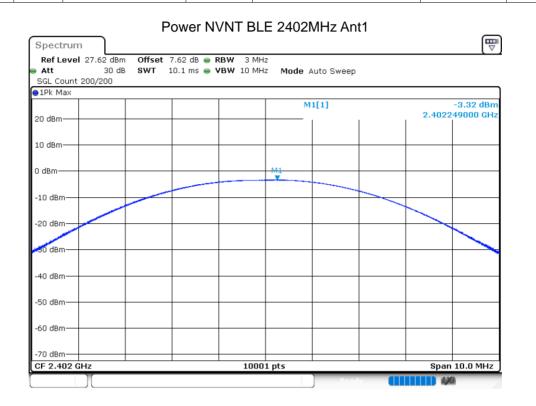
The EUT antenna is permanent attached PIFA antenna (Gain: 1 dBi). It comply with the standard requirement.



8 TEST RESULTS

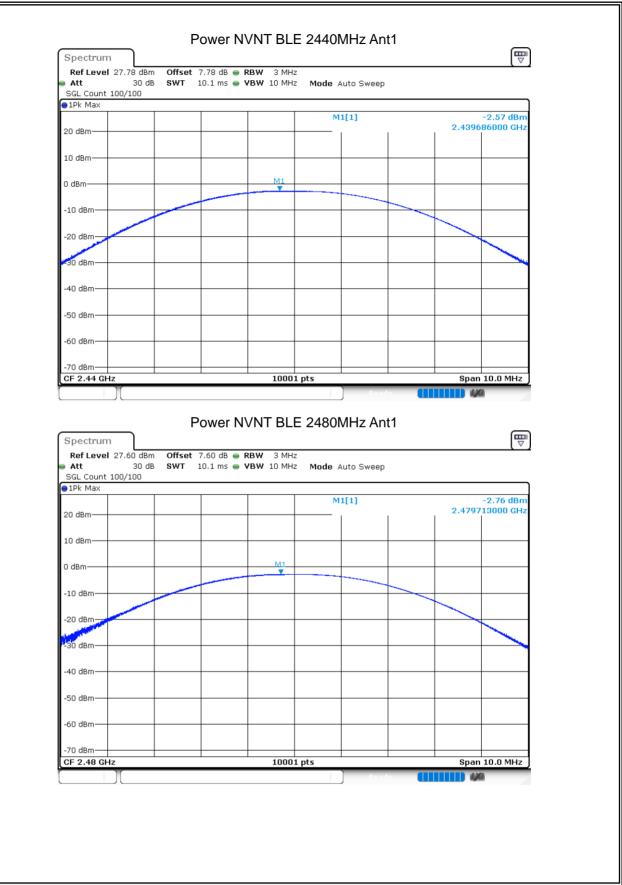
8.1 MAXIMUM CONDUCTED OUTPUT POWER

l	Condition NVNT NVNT NVNT	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
	NVNT	BLE	2402	Ant 1	-3.324	30	Pass
l	NVNT	BLE	2440	Ant 1	-2.571	30	Pass
I	NVNT	BLE	2480	Ant 1	-2.757	30	Pass





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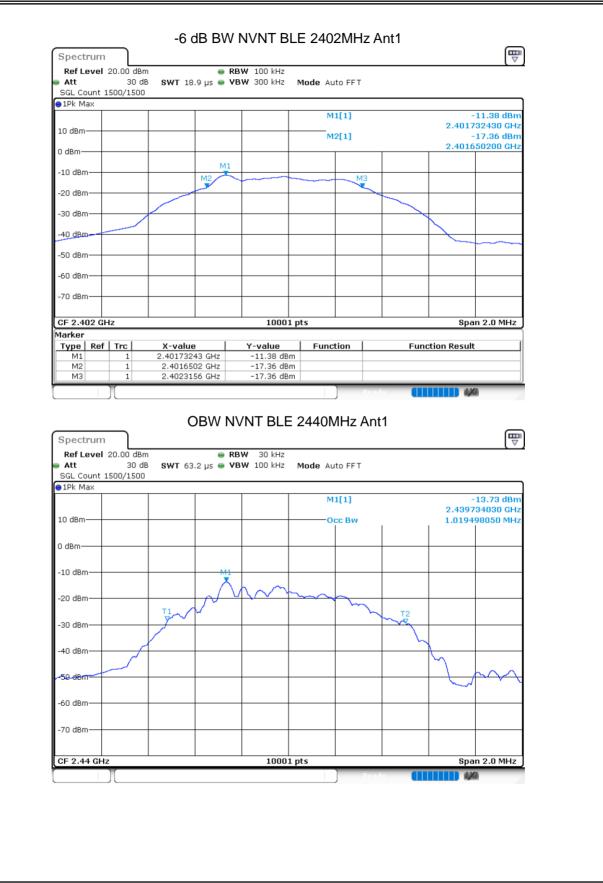


8.2 OCCUPIED CHANNEL BANDWIDTH

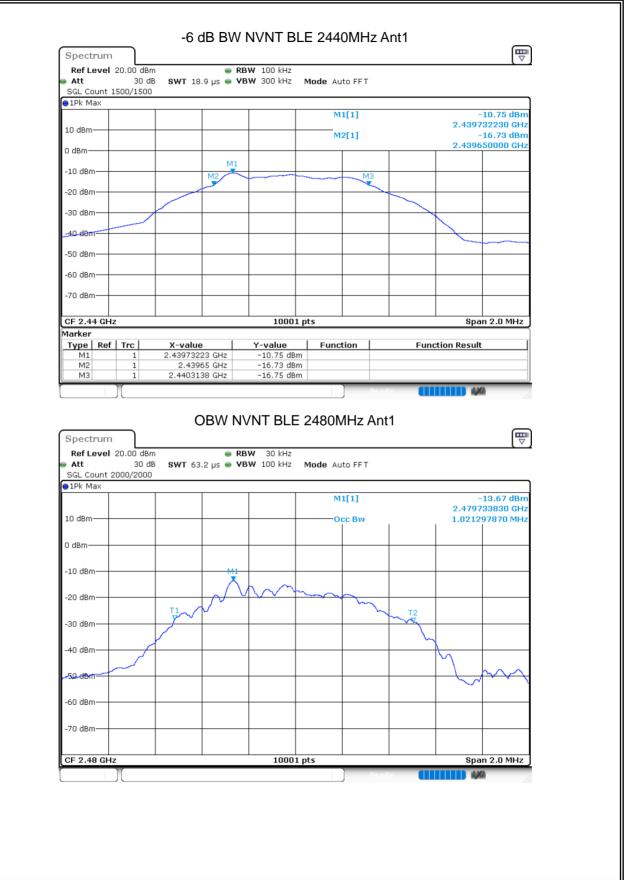
0.2 000							
Condition	Mode	Frequency	Antenna	99%	-6 dB	Limit -6 dB	Verdict
		(MHz)		OBW	Bandwidth	Bandwidth	
				(MHz)	(MHz)	(MHz)	
NVNT	BLE	2402	Ant 1	1.0193	0.6654	0.5	Pass
NVNT	BLE	2440	Ant 1	1.0195	0.6638	0.5	Pass
NVNT	BLE	2480	Ant 1	1.0213	0.6646	0.5	Pass







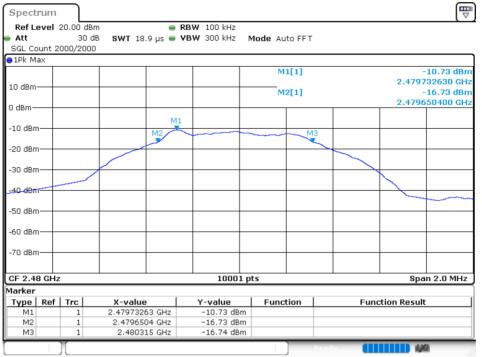








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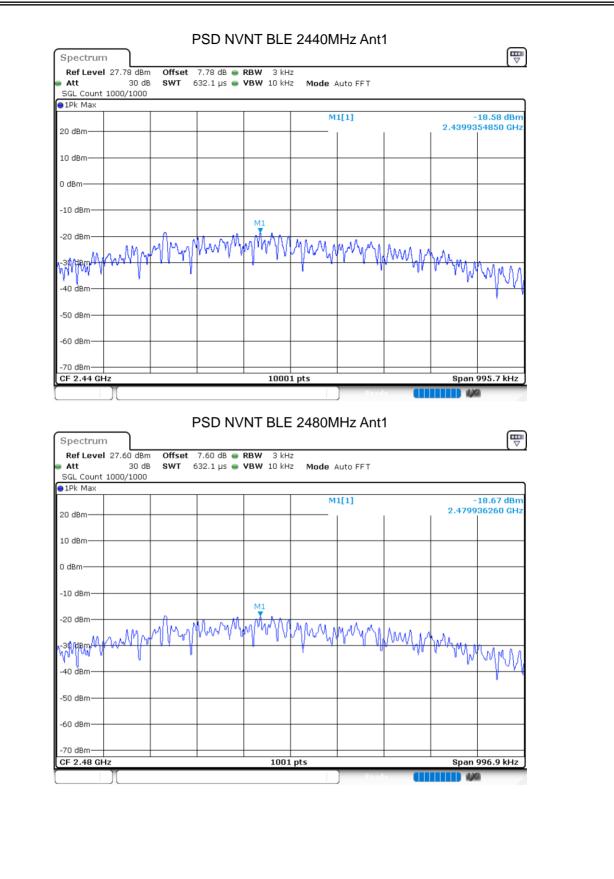




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Condition NVNT	Mode BLE	Frequence 24	cy (MHz) 02	Antenna Ant 1		D (dBm/3kł 19.311	Hz) Limi	t (dBm/3kHz) 8	Verdi Pas
NVNT	BLE	24		Ant 1		18.581		8	Pas
NVNT	BLE	24		Ant 1		18.668		8	Pas
	👄 Att	evel 27.62 dBm 30 dB unt 3000/3000 ax	Offset 7.6	D NVNT B	kHz kHz Mode		2.40	-19.31 dBm 19352300 GHz	
	10 dBm-								
	-10 dBm -20 dBm -30 dBm		MM	WWWWW	Mymy	WWW AM	MMMM	AMAMM N A	
	-40 dBm -50 dBm -60 dBm	1							
	-70 dBm			10	1001 pts		Sp	an 998.1 kHz	
						Ready	umm		





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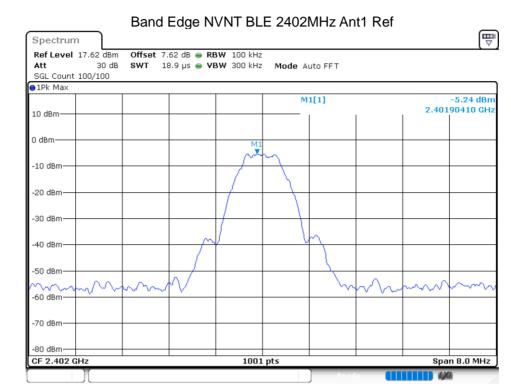
8.4 BAND EDGE

-	-					
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE	2402	Ant 1	-46.19	-20	Pass
NVNT	BLE	2480	Ant 1	-49.09	-20	Pass

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ilac-MR/





Att 3 SGL Count 100/1 91Pk Max		227.5 µs 👄	VBW 300 kHz	z Mode A	uto FFT				h
_				M	1[1]			-4.20 dBm	
10 dBm				M	2[1]		-	.75000 GHz ∙55.25 dBm 00000€GHz	
-10 dBm								<u> </u>	
-20 dBm		_							
-30 dBm	5.236 dBm								
-40 dBm									
-50 dBm		N	14						
Men hor property	mppportenteritration	Ullegener 10 Mar Ala	duwwwwwww	how when when	untroneyona	ungunterenally	Municipal	wayne ha	
-60 dBm									
-70 dBm									
-80 dBm Start 2.306 GHz			1001	pts			Stop :	2.406 GHz	J
Marker	1	1		1 -	1	_	N		
Type Ref Tro		UE D175 GHz	Y-value -4.20 dBr			Fund	tion Result		
M2	1	2.4 GHz 2.39 GHz	-55.25 dBr -55.28 dBr						
M2 M3 M4 Spectrum Ref Level 17.60	Band	2.4 GHz 2.39 GHz 3452 GHz d Edge N 7.60 dB • F	-55.28 dBr -51.44 dBr NVNT BLI RBW 100 kHz	E 2480		nt1 Ref)
M2 M3 M3 M4 Spectrum Ref Level 17.60 Att SGL Count 100/1	Band	2.4 GHz 2.39 GHz 3452 GHz d Edge N 7.60 dB • F	-55.28 dBr -51.44 dBr	E 2480		nt1 Ref]
M2 M3 M4 Spectrum Ref Level 17.60 Att	Band	2.4 GHz 2.39 GHz 3452 GHz d Edge N 7.60 dB • F	-55.28 dBr -51.44 dBr NVNT BLI RBW 100 kHz	m E 24801 Mode Au		nt1 Ref		-3.97 dBm]
M2 M3 M3 M4 Spectrum Ref Level 17.60 Att SGL Count 100/1	Band	2.4 GHz 2.39 GHz 3452 GHz d Edge N 7.60 dB • F	-55.28 dBr -51.44 dBr NVNT BLI RBW 100 kHz	m E 24801 Mode Au	uto FFT	nt1 Ref	2.479]
M2 M3 M4 Spectrum Ref Level 17.60 Att 3 SGL Count 100/1 • 1Pk Max	Band	2.4 GHz 2.39 GHz 3452 GHz d Edge N 7.60 dB • F	-55.28 dBr -51.44 dBr NVNT BLI RBW 100 kHz	m E 24801 Mode Au	uto FFT	nt1 Ref	2.479	-3.97 dBm]
M2 M3 M3 M4 Spectrum Ref Level 17.60 Att SGL Count 100/1 1Pk Max 10 dBm 0 dBm 0	Band	2.4 GHz 2.39 GHz 3452 GHz d Edge N 7.60 dB • F	-55.28 dBr -51.44 dBr NVNT BLI RBW 100 kHz	m E 24801 Mode Au	uto FFT	ht1 Ref	2.479	-3.97 dBm]
M2 M3 M4 Spectrum Ref Level 17.60 Att 3 SGL Count 100/1 1Pk Max 10 dBm	Band	2.4 GHz 2.39 GHz 3452 GHz d Edge N 7.60 dB • F	-55.28 dBr -51.44 dBr NVNT BLI RBW 100 kHz	m E 24801 Mode Au	uto FFT	nt1 Ref	2.479	-3.97 dBm]
M2 M3 M3 M4 Spectrum Ref Level 17.60 Att SGL Count 100/1 1Pk Max 10 dBm 0 dBm 0	Band	2.4 GHz 2.39 GHz 3452 GHz d Edge N 7.60 dB • F	-55.28 dBr -51.44 dBr NVNT BLI RBW 100 kHz	m E 24801 Mode Au	uto FFT	tv III ht1 Ref	2.479	-3.97 dBm]
M2 M3 M3 M4 Spectrum Ref Level 17.60 Att SGL Count 100/1 1Pk Max 10 dBm 0 dBm -10 dBm	Band	2.4 GHz 2.39 GHz 3452 GHz d Edge N 7.60 dB • F	-55.28 dBr -51.44 dBr NVNT BLI RBW 100 kHz	m E 24801 Mode Au	uto FFT	nt1 Ref	2.479	-3.97 dBm]
M2 M3 M3 M4 M4 M4 Spectrum Ref Level 17.60 Att 3 SGL Count 100/1 10/1 1Pk Max 10 0 dBm 0 -10 dBm -0 -20 dBm -30 dBm	Band	2.4 GHz 2.39 GHz 3452 GHz d Edge N 7.60 dB • F	-55.28 dBr -51.44 dBr	m E 24801 Mode Au	uto FFT	nt1 Ref	2.479	-3.97 dBm]
M2 M3 M3 M4 Spectrum Ref Level 17.60 Att 3 SGL Count 100/1 1Pk Max 10 dBm 0 -10 dBm - -20 dBm -	Band	2.4 GHz 2.39 GHz 3452 GHz 7.60 dB • Γ 18.9 μs • \	-55.28 dBr -51.44 dBr	m E 24801 Mode Au	uto FFT	ht1 Ref	2.479	-3.97 dBm]
M2 M3 M3 M4 M4 M4 Spectrum Ref Level 17.60 Att 3 SGL Count 100/1 10/1 1Pk Max 10 0 dBm 0 -10 dBm -0 -20 dBm -30 dBm	Band	2.4 GHz 2.39 GHz 3452 GHz 7.60 dB • Γ 18.9 μs • \	-55.28 dBr -51.44 dBr	m E 24801 Mode Au	uto FFT	nt1 Ref	2.479	-3.97 dBm]
M2 M3 M3 M4 Spectrum Ref Level 17.60 Att SGL Count 100/1 SGL Count 100/1 SGL Count 100/1 1D dBm 0 0 dBm -0 -10 dBm -0 -20 dBm -0 -30 dBm -30 dBm -40 dBm -50 dBm	Band	2.4 GHz 2.39 GHz 3452 GHz 7.60 dB • Γ 18.9 μs • \	-55.28 dBr -51.44 dBr	m E 24801 Mode Au	uto FFT	tv II Ref	2.479	-3.97 dBm]
M2 M3 M3 M4 M4 M4 Spectrum Ref Level 17.60 Att SGL Count 100/1 SGL Count 100/1 M4 10 dBm 0 -10 dBm -0 -20 dBm -0 -30 dBm -0	Band	2.4 GHz 2.39 GHz 3452 GHz 7.60 dB • Γ 18.9 μs • \	-55.28 dBr -51.44 dBr	m E 24801 Mode Au	uto FFT	tv II Ref	2.479	-3.97 dBm]
M2 M3 M3 M4 Spectrum Ref Level 17.60 Att SGL Count 100/1 1D dBm 0 1D dBm 0 -20 dBm	Band	2.4 GHz 2.39 GHz 3452 GHz 7.60 dB • Γ 18.9 μs • \	-55.28 dBr -51.44 dBr	m E 24801 Mode Au	uto FFT	nt1 Ref	2.479	-3.97 dBm]
M2 M3 M3 M4 Spectrum Ref Level 17.60 Att SGL Count 100/1 SGL Count 100/1 SGL Count 100/1 ID dBm 0 0 dBm - -20 dBm - -30 dBm - -50 dBm - -60 dBm -	Band	2.4 GHz 2.39 GHz 3452 GHz 7.60 dB • Γ 18.9 μs • \	-55.28 dBr -51.44 dBr	m E 24801 Mode Au	uto FFT	tv II Ref	2.479	-3.97 dBm]

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Att		7.60 dBr		B 👄 RBW 100 kH					
	unt 1	30 d 000/100		s ⊜ VBW 300 kH	lz Mode /	Auto FFT			
1Pk M	ах								
					M	1[1]			-3.13 dBm
10 dBm									975000 GHz
o delm-					M	2[1]			-53.71 dBm 350000 GHz
³ uun						I	1	2.483	30000 GH2
-10 dBn									
- N -									
-20 dBn		1 -23.96	i6 dBm						
30 cBn		1 -20.90	Jo ubin						
39 (51)	'								
-40 dBn							_		
ΠΛ.	44								
ap or		and the second second	M3	top hunger by we used a dealer	In such that the sec	a harden ta an	Alexandre Barrelow	an reparried	A shall be the state
-60 dBn		- and a start of the	alar alar alar a	. W. andresser		100- IN VIV	and an an Arrestor A		A
00 001	'								
-70 dBn	∩								
-80 dBn								+	
Start 2	.476	GHz		100:	1 pts			Stop	2.576 GHz
1arker				1	1 -				
Type M1	Ref	Trc 1	2.47975 GH	Y-value -3.13 df	Func	tion	Fun	ction Result	<u> </u>
M1 M2		1	2.47975 GH						
M3		1	2.4000 GH						
M4		1	2.4837 GH						

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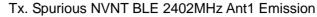


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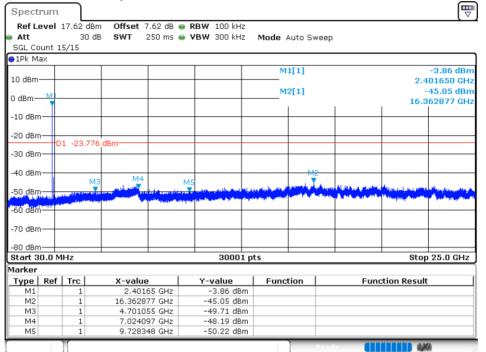
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0.5 00						
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdic
NVNT	BLE	2402	Ant 1	-41.27	-20	Pass
NVNT	BLE	2440	Ant 1	Ant 1 -42.47		Pass
NVNT	BLE	2480	Ant 1	-41.47	-20	Pass
	🕳 Att	rum evel 17.62 dBm Offset 7.62	ious NVNT 2 db — Rbw 100 9 µs — Vbw 300		1 Ref	
	O 1Pk Ma					
	10 dBm·			M1[1]	2.40173	-3.78 dBm 13590 GHz
	0 dBm—					
	-10 dBm					
	-20 dBm					
	-30 dBfr	י <u></u>				
	-40 dBm]				
	-50 dBm					
	-60 dBm					
	-70 dBm					
	-80 dBm			001 pts		n 1.5 MHz
	<u>Cor 2.10</u>			loor pes	000	

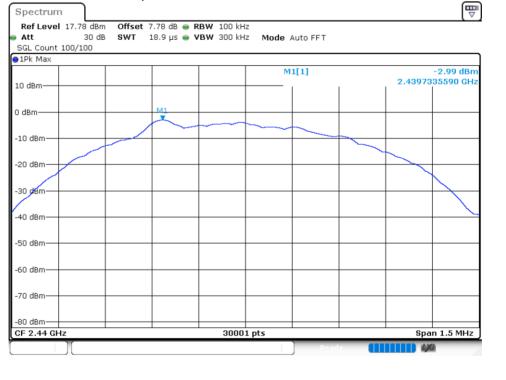




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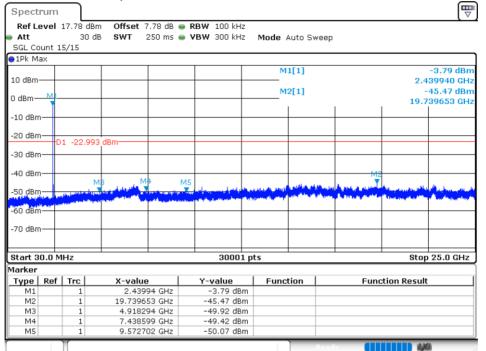




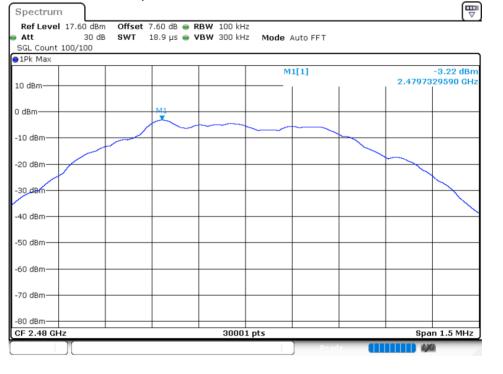




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-20 dBm-

Tx. Spurious NVNT BLE 2480MHz Ant1 Emission ₽ Spectrum Ref Level 17.60 dBm Offset 7.60 dB 🖷 RBW 100 kHz SWT 250 ms 🖷 VBW 300 kHz Att 30 dB Mode Auto Sweep SGL Count 10/10 ●1Pk Max M1[1] -4.44 dBm 2.479890 GHz 10 dBm -44.70 dBm 17.731233 GHz M2[1] 0 dBm -10 dBm

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01 -23.216	dBm							
			L			42		
M	B M	F N	P		ورياف بالالمتحدر	a sure a sur data		
"Internation of the	toppe and	and the second	Here's tracking the		and the state of the			
an de la constante de la const La constante de la constante de	ana an		and the second					1 1 1
1Hz			3000	1 pts			Stop	25.0 GHz
Trc	X-value	.	Y-value	Func	tion	Fund	tion Result	
1	2.4798	39 GHz	-4.44 dB	m				
1	17.73123	33 GHz	-44.70 dB	m				
1	4.9382	27 GHz	-50.57 dB	m				
1	7.3994	79 GHz	-49.73 dB	m				
		31 GHz	-48.80 dB					
	MHz	M8 M MHz I 2.479 1 2.479 1 17.7312 1 4.938	MB MA N	MB M4 M5 MHz 3000 Trc X-value Y-value 1 2.47989 GHz -4.44 dB 1 17.731233 GHz -4.47 0 dB 1 4.93827 GHz -50.57 dB	MB MB MB MB MB MB	MB M5 MB M5 MB M5 MB M6 M8 <	MB MB<	MB M5 M2 MB M5 M2 MB M5 M3 MB M5 M3 MB M5 M4 MB M5 M5 MB M5 M5 MB M5 M5 MB M5 M6 MB M5 M6 MB M6 M6

END OF REPORT