



Т	EST REPORT				
Report Reference No	TRE1709016405 R/C: 21830				
FCC ID	ZSW-30-050				
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.				
Manufacturer	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.				
Test item description:	Mobile Phone				
Trade Mark	Bmobile				
Model/Type reference:	AX1071				
Listed Model(s)	AX1072				
Standard:	FCC CFR Title 47 Part 15 Subpart C Section 15.247				
Date of receipt of test sample	Sep.20, 2017				
Date of testing	Sep.21, 2017 - Oct.09, 2017				
Date of issue	Oct.10, 2017				
Result:	PASS				
Compiled by (Position+Printed name+Signature):	File administrators Candy Liu				
Supervised by (Position+Printed name+Signature):	Project Engineer : Edward Pan & & & & & & & & & & & & & & & & & & &				
Approved by (Position+Printed name+Signature):	RF Manager Hans Hu				
Testing Laboratory Name::	Shenzhen Huatongwei International Inspection Co., Ltd.				
Address	1/F, Bldg 3, Hongfa Hi-tech Industrial Park, Genyu Road, Tianliao, Gongming, Shenzhen, China				
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The test report merely correspond to the test sample.

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# 1. TEST STANDARDS AND REPORT VERSION

# 1.1. Test Standards

The tests were performed according to following standards:

FCC Rules Part 15.247: Frequency Hopping, Direct Spread Spectrum and Hybrid Systems that are in operation within the bands of 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz

ANSI C63.10:2013: American National Standard for Testing Unlicensed Wireless Devices

<u>KDB 558074 D01 DTS Meas Guidance v04:</u> Guidance for Performing Compliance Measurements on Digital Transmission Systems (DTS) Operating under §15.247

# 1.2. Report version

Version No.	Date of issue	Description
00	Oct.10, 2017	Original

# 2. TEST DESCRIPTION

Test Item	FCC Rule	Result	Test Engineer
Antenna requirement	15.203/15.247(c)	Pass	William Wang
Line Conducted Emissions (AC Main)	15.207	Pass	William Wang
Conducted Peak Output Power	15.247(b)(3)	Pass	William Wang
Power Spectral Density	15.247(e)	Pass	William Wang
6dB Bandwidth	15.247(a)(2)	Pass	William Wang
Restricted band	15.247(d)/15.205	Pass	William Wang
Spurious Emissions	15.247(d)/15.209	Pass	William Wang

Note: The measurement uncertainty is not included in the test result.

# 3. SUMMARY

# 3.1. Client Information

Applicant:	b mobile HK Limited
Address: Flat 18; 14/F Block 1; Golden Industrial Building;16-26 Kwai T Kwai Chung; New Territories; Hong Kong.	
Manufacturer:	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.

# 3.2. Product Description

Name of EUT:	Mobile Phone		
Trade Mark:	Bmobile		
Model No.:	AX1071		
Listed Model(s):	AX1072		
IMEI 1:	355408080203579		
IMEI 2:	355408080203868		
Power supply:	DC 3.8V From exchange battery		
Adapter information:	Input: 100-240Va.c., 50/60Hz, 0.2A Output: 5Vd.c.,1A		
Hardware version:	V00		
Software version:	MX2135FA_B25_E5017_SA11_N_V01_170906 Web Sep 6 17:20:53 CST 2017		
Bluetooth			
Version:	Supported BT4.0+BLE		
Modulation:	GFSK		
Operation frequency:	2402MHz~2480MHz		
Channel number:	40		
Channel separation:	2MHz		
Antenna type:	PIFA Antenna		
Antenna gain:	0.5 dBi		

# 3.3. Operation state

### Test frequency list

According to section 15.31(m), regards to the operating frequency range over 10 MHz, must select three channel which were tested. the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, please see the above gray bottom.

Channel	Frequency (MHz)
00	2402
01	2404
:	:
19	2440
:	:
38	2478
39	2480

### Test mode

For RF test items

The engineering test program was provided and enabled to make EUT continuous transmit (duty cycle>98%).

For AC power line conducted emissions:

The EUT was set to connect with the Bluetooth instrument under large package sizes transmission.

For RF test axis

EUT in each of three orthogonal axis emissions had been tested ,but only the worst case (X axis) data Recorded in the report.

# 3.4. EUT configuration

### The following peripheral devices and interface cables were connected during the measurement:

- supplied by the manufacturer
- supplied by the lab

1	Manufacturer:	/
7	Model No.:	/
1	Manufacturer:	/
	Model No.:	/

# 3.5. Modifications

No modifications were implemented to meet testing criteria.

# 4. TEST ENVIRONMENT

# 4.1. Address of the test laboratory

Laboratory: Shenzhen Huatongwei International Inspection Co., Ltd. Address: 1/F, Bldg 3, Hongfa Hi-tech Industrial Park, Genyu Road, Tianliao, Gongming, Shenzhen, China

# 4.2. Test Facility

### CNAS-Lab Code: L1225

Shenzhen Huatongwei International Inspection Co., Ltd. has been assessed and proved to be in compliance with CNAS-CL01 Accreditation Criteria for Testing and Calibration Laboratories (identical to ISO/IEC17025: 2005 General Requirements) for the Competence of Testing and Calibration Laboratories.

### A2LA-Lab Cert. No.: 3902.01

Shenzhen Huatongwei International Inspection Co., Ltd. EMC Laboratory has been accredited by A2LA for technical competence in the field of electrical testing, and proved to be in compliance with ISO/IEC 17025: 2005 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing.

### FCC-Registration No.: 762235

Shenzhen Huatongwei International Inspection Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the FCC (Federal Communications Commission). The acceptance letter from the FCC is maintained in our files.

### IC-Registration No.:5377B-1

Two 3m Alternate Test Site of Shenzhen Huatongwei International Inspection Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for the performance of radiated measurements with Registration No.: 5377B-1.

# ACA

Shenzhen Huatongwei International Inspection Co., Ltd. EMC Laboratory can also perform testing for the Australian C-Tick mark as a result of our A2LA accreditation.

# 4.3. Environmental conditions

During the measurement the environmental conditions were within the listed ranges:

Temperature:	15~35°C
Relative Humidity:	30~60 %
Air Pressure:	950~1050mba

# 4.4. Statement of the measurement uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors in calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report according to TR-100028-01 "Electromagnetic compatibility and Radio spectrum Matters (ERM); Uncertainties in the measurement of mobile radio equipment characteristics; Part 1" and TR-100028-02 "Electromagnetic compatibility and Radio spectrum Matters (ERM); Uncertainties in the measurement of mobile radio equipment characteristics; Part 2" and is documented in the Shenzhen Huatongwei International Inspection Co., Ltd. quality system according to ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

Here after the best measurement capability for Shenzhen Huatongwei International Inspection Co., Ltd. is reported:

Test Items	Measurement Uncertainty	Notes
Transmitter power conducted	0.57 dB	(1)
Transmitter power Radiated	2.20 dB	(1)
Conducted spurious emissions 9kHz~40GHz	1.60 dB	(1)
Radiated spurious emissions 9kHz~40GHz	2.20 dB	(1)
Conducted Emissions 9kHz~30MHz	3.39 dB	(1)
Radiated Emissions 30~1000MHz	4.24 dB	(1)
Radiated Emissions 1~18GHz	5.16 dB	(1)
Radiated Emissions 18~40GHz	5.54 dB	(1)

 This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=1.96.

# 4.5. Equipments Used during the Test

Condu	Conducted Emissions					
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	
1	Artificial Mains	Rohde&Schwarz	ESH2-Z5	100028	2016/11/13	
2	EMI Test Receiver	Rohde&Schwarz	ESCI3	100038	2016/11/13	
3	Pulse Limiter	Rohde&Schwarz	ESHSZ2	100044	2016/11/13	
4	EMI Test Software	Rohde&Schwarz	ES-K1 V1.71	-	-	

Radia	Radiated Emissions					
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	
1	EMI test receiver	Rohde&Schwarz	ESI 26	100009	2016/11/13	
2	Loop Antenna	Rohde&Schwarz	HFH2-Z2	100020	2016/11/13	
3	Ultra-Broadband Antenna	ShwarzBeck	VULB9163	538	2016/11/13	
4	Horn antenna	ShwarzBeck	9120D	1011	2016/11/13	
5	Horn Antenna	SCHWARZBECK	BBHA9170	25841	2016/11/13	
6	Amplifier	Sonoma	310N	E009-13	2016/11/13	
7	JS Amplifier	Rohde&Schwarz	JS4-00101800- 28-5A	F201504	2016/11/13	
8	Amplifier	Compliance Direction systems	PAP1-4060	120	2016/11/13	
9	High pass filter	Compliance Direction systems	BSU-6	34202	2016/11/13	
10	EMI test Software	Rohde&Schwarz	ESK1	-	-	
11	EMI test Software	Audix	E3	-	-	
12	TURNTABLE	MATURO	TT2.0	-	-	
13	ANTENNA MAST	MATURO	TAM-4.0-P	-	-	

RF Conducted methods								
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.			
1	Spectrum Analyzer	Rohde&Schwarz	FSP	1164.4391.40	2016/11/13			
2	MXA Signal Analyzer	Agilent Technologies	N9020A	MY5050187	2016/11/13			

The Cal.Interval was one year.

# 5. TEST CONDITIONS AND RESULTS

# 5.1. Antenna Requirement

# <u>Requirement</u>

### FCC CFR Title 47 Part 15 Subpart C Section 15.203:

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responseble party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

# FCC CFR Title 47 Part 15 Subpart C Section 15.247(c) (1)(i):

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

# TEST RESULTS

# ☑ Passed □ Not Applicable

The directional gain of the antenna less than 6 dBi, please refer to the below antenna photo.



# 5.2. Conducted Emissions (AC Main)

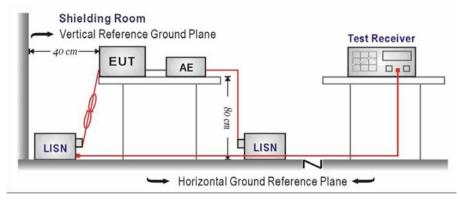
# <u>LIMIT</u>

FCC CFR Title 47 Part 15 Subpart C Section 15.207

	Limit (dBuV)				
Frequency range (MHz)	Quasi-peak	Average			
0.15-0.5	66 to 56*	56 to 46*			
0.5-5	56	46			
5-30	60	50			

\* Decreases with the logarithm of the frequency.

### **TEST CONFIGURATION**



# TEST PROCEDURE

- 1. The EUT was setup according to ANSI C63.10:2013 requirements.
- 2. The EUT was placed on a platform of nominal size, 1 m by 1.5 m, raised 80 cm above the conducting ground plane. The vertical conducting plane was located 40 cm to the rear of the EUT. All other surfaces of EUT were at least 80 cm from any other grounded conducting surface.
- 3. The EUT and simulators are connected to the main power through a line impedances stabilization network (LISN). The LISN provides a 50 ohm /50uH coupling impedance for the measuring equipment.
- 4. The peripheral devices are also connected to the main power through a LISN. (Please refer to the block diagram of the test setup and photographs)
- 5. Each current-carrying conductor of the EUT power cord, except the ground (safety) conductor, was individually connected through a LISN to the input power source.
- 6. The excess length of the power cord between the EUT and the LISN receptacle were folded back and forth at the center of the lead to form a bundle not exceeding 40 cm in length.
- 7. Conducted emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9 kHz.
- 8. During the above scans, the emissions were maximized by cable manipulation.

# TEST MODE:

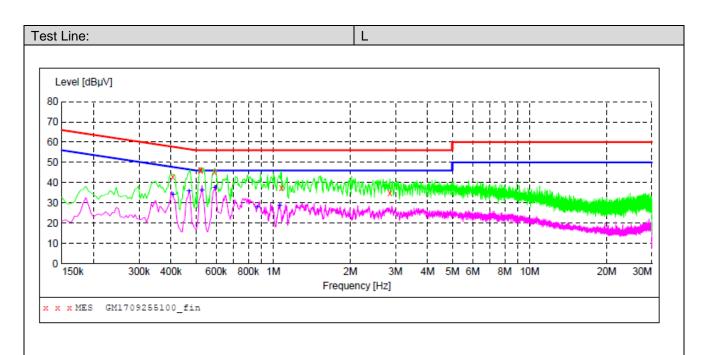
Please refer to the clause 3.3

### TEST RESULTS

# ☑ Passed □ Not Applicable

Note:

- 1) Transd = Cable lose + Pulse Limiter Factor + Artificial Mains Factor
- 2) Margin = Limit Level

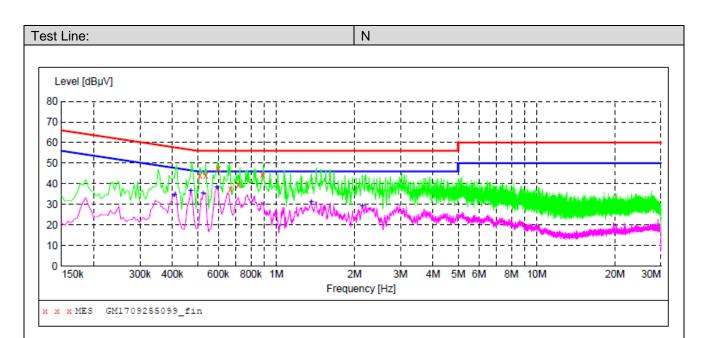


### MEASUREMENT RESULT: "GM1709255100\_fin"

9/25/2017 10: Frequency MHz		Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.406500 0.519000 0.523500 0.591000 1.077000 2.850000	43.00 46.10 46.30 45.60 37.40 35.10	10.2 10.2 10.2 10.2 10.2 10.2	58 56 56 56 56		-	L1 L1 L1 L1 L1 L1	GND GND GND GND GND GND

### MEASUREMENT RESULT: "GM1709255100\_fin2"

9/25/2017 10 Frequency MHz		Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.406500	34.20	10.2	48	13.5	AV	L1	GND
0.469500	35.60	10.2	47	10.9	AV	L1	GND
0.528000	36.30	10.2	46	9.7	AV	L1	GND
0.591000	37.40	10.2	46	8.6	AV	L1	GND
0.865500	28.00	10.1	46	18.0	AV	ь1	GND
1.059000	28.70	10.2	46	17.3	AV	L1	GND



### MEASUREMENT RESULT: "GM1709255099\_fin"

9/25/2017 10:36PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.510000	44.00	10.2	56	12.0	QP	N	GND
0.537000	44.30	10.2	56	11.7	QP	N	GND
0.600000	47.60	10.2	56	8.4	QP	N	GND
0.667500	37.60	10.2	56	18.4	QP	N	GND
0.717000	39.60	10.2	56	16.4	QP	N	GND
0.888000	44.70	10.1	56	11.3	QP	N	GND

### MEASUREMENT RESULT: "GM1709255099\_fin2"

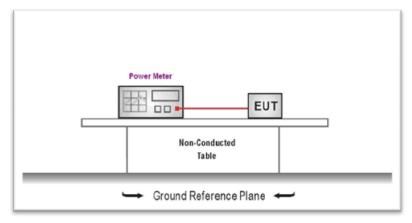
9/25/2017 Frequenc MF	cy Level	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.40650	34.60	10.2	48	13.1	AV	N	GND
0.46950	36.40	10.2	47	10.1	AV	N	GND
0.52350	35.40	10.2	46	10.6	AV	N	GND
0.59100	38.20	10.2	46	7.8	AV	N	GND
1.36500	31.20	10.2	46	14.8	AV	N	GND
2.13900	29.10	10.2	46	16.9	AV	N	GND

# 5.3. Conducted Peak Output Power

# <u>LIMIT</u>

FCC CFR Title 47 Part 15 Subpart C Section 15.247 (b)(3): 30 dBm

### **TEST CONFIGURATION**



### TEST PROCEDURE

- 1. The EUT was tested according to ANSI C63.10: 2013 and KDB 558074 D01 for compliance to FCC 47 CFR 15.247 requirements.
- 2. The maximum peak conducted output power may be measured using a broadband peak RF power meter.
- 3. The power meter shall have a video bandwidth that is greater than or equal to the DTS bandwidth and shall utilize a fast-responding diode detector.
- 4. Record the measurement data.

### TEST MODE:

Please refer to the clause 3.3

### TEST RESULTS

#### 

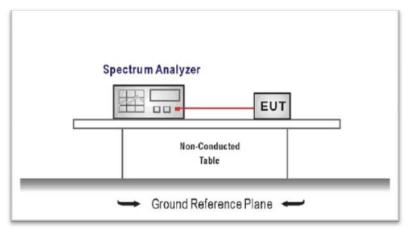
Туре	Channel	Output power (dBm)	Limit (dBm)	Result
	00	1.087		
BT-BLE	19	1.325	≤30.00	Pass
	39	2.674		

# 5.4. Power Spectral Density

### LIMIT

FCC CFR Title 47 Part 15 Subpart C Section 15.247 (e): For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

### **TEST CONFIGURATION**



# TEST PROCEDURE

- 1. Connect the antenna port(s) to the spectrum analyzer input,
- Configure the spectrum analyzer as shown below: Center frequency=DTS channel center frequency Span =1.5 times the DTS bandwidth RBW = 3 kHz ≤ RBW ≤ 100 kHz, VBW ≥ 3 × RBW Sweep time = auto couple Detector = peak Trace mode = max hold
- 3. Place the radio in continuous transmit mode, allow the trace to stabilize, view the transmitter wave form on the spectrum analyzer.
- 4. Use the peak marker function to determine the maximum amplitude level within the RBW.
- 5. If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

# TEST MODE:

Please refer to the clause 3.3

### TEST RESULTS

☑ Passed □ Not Applicable

Туре	Channel	Power Spectral Density(dBm/RBW)	Limit (dBm/RBW)	Result
	00	-14.030		
BT-BLE	19	-14.035	≤8.00	Pass
	39	-12.646		

Test plot as follows:

Shenzhen Huatongwei International Inspection Co., Ltd.

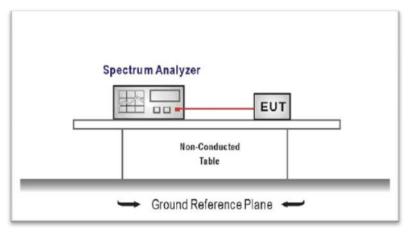
1	
	Address Spectrum Analyzer         Swept SM         Spectrum Analyzer         Swept SM           OF RL         RF         S0 0 AC         Spectrum Value         ALIGNAUTO         01552:21945(sp27, 2017)           Center Freq 2.4020000000 GHZ         Frig: Free Run         #Avg Type: RMS         TRACE         Frequency           PNO: Wide → Frig: Free Run         Frig: Free Run         Avg[Hold: 100/100         Type: PEPEPE         Frequency
	IFGainLow #Atten: 10 dB Computation Auto Tune Ref Offset 1 dB Mkr1 2.401 870 GHz Auto Tune 10 dB/div Ref 1.00 dBm -14.030 dBm
	2.40200000 GHz
	2.401500000 CHZ
CH00	300 Stop Freq
	410 2.402500000 GHz
	800 100.000 kHz 800 Min
	700 Freq Offset 0 Hz
	Center 2.4020000 GHz Span 1.000 MHz
	#Res BW 3.0 KHz #VBW 10 KHz Sweep 105.5 ms (1001 pts) msg startus
	Adlend Spectrum Analyzer. Swop 8.5         100 RC         10
	Ref Offset 1 dB Mkr1 2.439 971 GHz Auto Tune 10 dB/div Ref 10.50 dBm -1-41.035 CBm
	2.44000000 GHz
	Start Freq
CH19	ass when the second of the sec
on to	3976 2.440500000 GHz
	49.6 59.6 59.6 59.6 59.6 59.6 59.6 59.6 59.6 59.6 59.6 59.6 59.6 59.6 59.6 59.6 59.6 50.000 kHz 50.000 kHz 50.0000 kHz 50.000 kHz
	696 FreqOffset 0 Hz
	736 Center 2 4400000 GHz Span 1 000 MHz
	Center 2.4400000 GHz         Span 1.000 MHz           #Res BW 3.0 kHz         #VBW 10 kHz         Sweep 105.5 ms (1001 pts)           #starus         starus
	Adjend Spectram Analyzer - Swept SA         Stores FALSE         ALIXAUTO         0158:1294/59p27, 2017           Off Hot         60         90         AL         Stores FALSE         ALIXAUTO         0158:1294/59p27, 2017           Center Freq 2.480000000 GHz         Trig: Free Run         Marg Type: RNIS         Trig: Free Run         Frequency
	Ref Offset 1 dB Mkr1 2.479 978 GHz Auto Tune 10 dB/div Ref 10.50 dBm - 12.646 dBm
	2.48000000 GHz
	3 50 10 5 5 6 6 6 7 6 9 7 9 9 9 9 9 9 9 9 9 9 9 9 9
CH39	as MMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMM
	39.5 2.48050000 GHz
	49.5 59.5 59.5 59.5 59.5 59.5 59.5 59.5 59.5 59.5 59.5 59.5 59.5 59.5 59.5 59.5 59.5 59.5 59.5 50.000 kHz 50.000 kHz 50.0000 kHz 50.000 kHz 50.0000 kHz 50.0000 kHz 50.00000 kHz 50.0000 kHz 50.0000 kHz 50.00
	60.5 Freq Offset 0 Hz
	710 Center 2 4800000 GHz Span 1 000 MHz
	Center 2.4800000 GHz         Span 1.000 MHz           #Res BW 3.0 kHz         #VBW 10 kHz         Sweep 105.3 ms (1001 pts)           wsgi         tistnic         tistnic

# 5.5. 6dB bandwidth

### <u>LIMIT</u>

FCC CFR Title 47 Part 15 Subpart C Section 15.247 (a)(2): For digital modulation systems, the minimum 6 dB bandwidth shall be at least 500 kHz.

### TEST CONFIGURATION



# TEST PROCEDURE

- 1. Connect the antenna port(s) to the spectrum analyzer input.
- 2. Configure the spectrum analyzer as shown below (enter all losses between the transmitter output and the spectrum analyzer).

Center Frequency =DTS channel center frequency Span=2 x DTS bandwidth RBW = 100 kHz, VBW ≥ 3 × RBW Sweep time= auto couple Detector = Peak Trace mode = max hold

- 3. Place the radio in continuous transmit mode, allow the trace to stabilize, view the transmitter waveform on the spectrum analyzer.
- 4. 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, and record the pertinent measurements.

# TEST MODE:

Please refer to the clause 3.3

### TEST RESULTS

### ☑ Passed □ Not Applicable

Туре	Channel	6dB Bandwidth(kHz)	Limit (kHz)	Result
	00	0.6211		
BT-BLE	19	0.6114	≥500	Pass
	39	0.7096		

Test plot as follows:

Shenzhen Huatongwei International Inspection Co., Ltd.

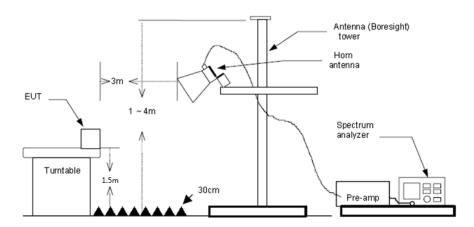
	killerit Soretnan Ankore - Deceded BW
	Adjend: Spectrum: Analyzer:         December 189         SPECERULE:         ALEVRATIO         0.15:5-77 PM Sec 22, 2017           Center Freq 2.402000000 GHz         Center Freq 2.402000000 GHz         Center Freq 2.40200000 GHz         Frequency
	#IFGaint.ow #Atten: 20 dB Radio Device: BTS
	10 dB/div Ref 11.00 dBm
	2.40200000 GHz
	230 Arrow and a contraction of the contraction of t
CH00	
	Center 2.402 GHz Span 2 MHz
	#Res BW 100 kHz #VBW 300 kHz Sweep 1.067 ms 200.000 kHz 200.000 kHz
	Occupied Bandwidth Total Power 4./1 dBm
	Transmit Freq Error 12.723 kHz OBW Power 99.00 %
	x dB Bandwidth 621.1 kHz x dB -6.00 dB
	MGG STATUS
	Addrest Spectrum Analyzer. Docupied BW         Spectrum Col
	#IFGein.tow #Atten: 20 dB Radio Device: BTS
	Ref Offset 1 dB 10 dB/div Ref 11.00 dBm Log
	2.44000000 GHz
CH19	
OTT5	730
	Center 2.44 GHz Span 2 MHz CF Step #Res BW 100 kHz #VBW 300 kHz Sweep 1.067 ms 200.000 kHz
	Occupied Bandwidth Total Power 4.88 dBm
	1.0699 MHz Freq Offset Transmit Freq Error 7.497 kHz OBW Power 99.00 % 0Hz
	x dB Bandwidth 611.4 kHz x dB -6.00 dB
	MSG STATUS
	Aglent Spectrum Analyzer         Occupied BW         SPISE PULSE         ALIONATIO         0157:38/PUSp:27, 2017           01         RL         RF         S00         AC         SPISE PULSE         ALIONATIO         0157:38/PUSp:27, 2017           Center Freq. 2.480000000 GHz         Center Freq. 2.480000000 GHz         Radio Std: None         Frequency
	Center Freq 2.480000000 GHz #IFGeint.ew #IFGeint.ew #Reserved Augustation Augu
	Ref Offset 1 dB 10 dB/d/v Ref 11.00 dBm
	Log 1.00 Center Freq 2.48000000 GHz
	200 January and the second sec
01100	
CH39	
	Center 2.48 GHz Span 2 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 1.067 ms 200000 kHz
	Occupied Bandwidth Total Power 6.22 dBm
	1.0560 MHz Freq Offset
	Transmit Freq Error     16.036 kHz     OBW Power     99.00 %     0 Hz       x dB Bandwidth     709.6 kHz     x dB     -6.00 dB
	MSG ISTATUS
	ena pinus

# 5.6. Restricted band

### <u>LIMIT</u>

FCC CFR Title 47 Part 15 Subpart C Section 15.247 (d):In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, Radiated Emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the Radiated Emissions limits specified in §15.209(a) (see §15.205(c)).

### **TEST CONFIGURATION**



### TEST PROCEDURE

- 1. The EUT was setup and tested according to ANSI C63.10:2013 for compliance to FCC 47CFR 15.247 requirements.
- 2. The EUT is placed on a turn table which is 1.5 meter above ground. The turn table is rotated 360 degrees to determine the position of the maximum emission level.
- 3. The EUT waspositioned such that the distance from antenna to the EUT was 3 meters.
- 4. The antenna is scanned from 1 meter to 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the antenna. In order to find themaximum emission, all of the interface cables were manipulated according to ANSI C63.10:2013 on radiated measurement.
- The receiver set as follow: RBW=1MHz, VBW=3MHz Peak detector for Peak value. RBW=1MHz, VBW=3MHz RMS detector for Average value.

### TEST MODE:

Please refer to the clause 3.3

### TEST RESULTS

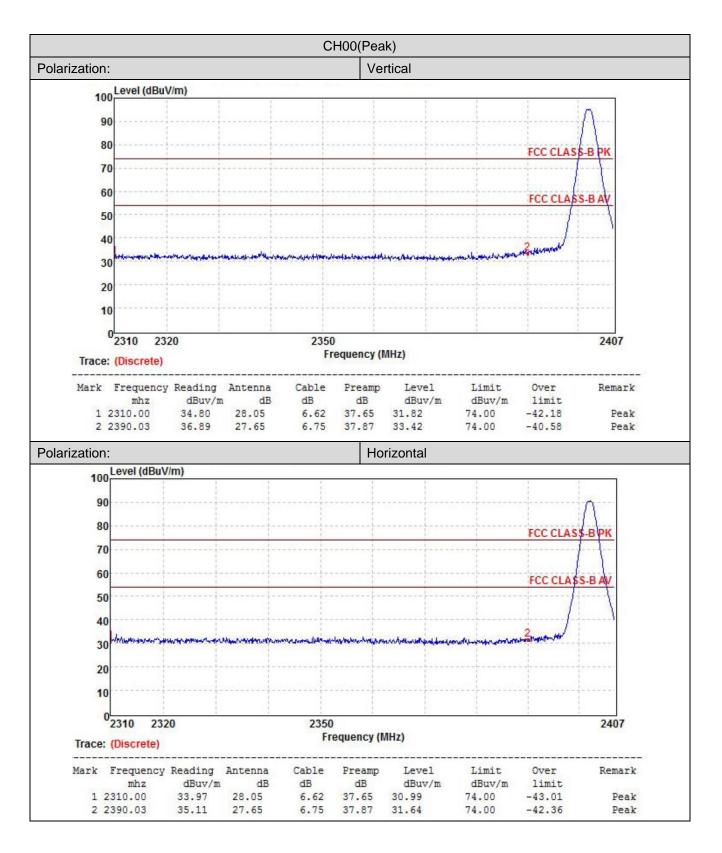
☑ Passed □ Not Applicable

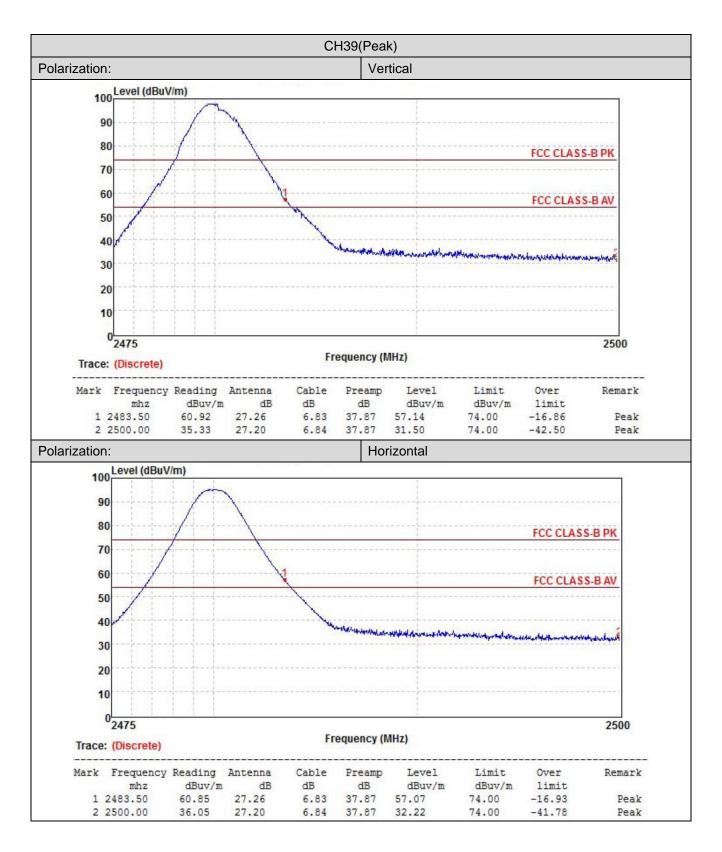
Note:

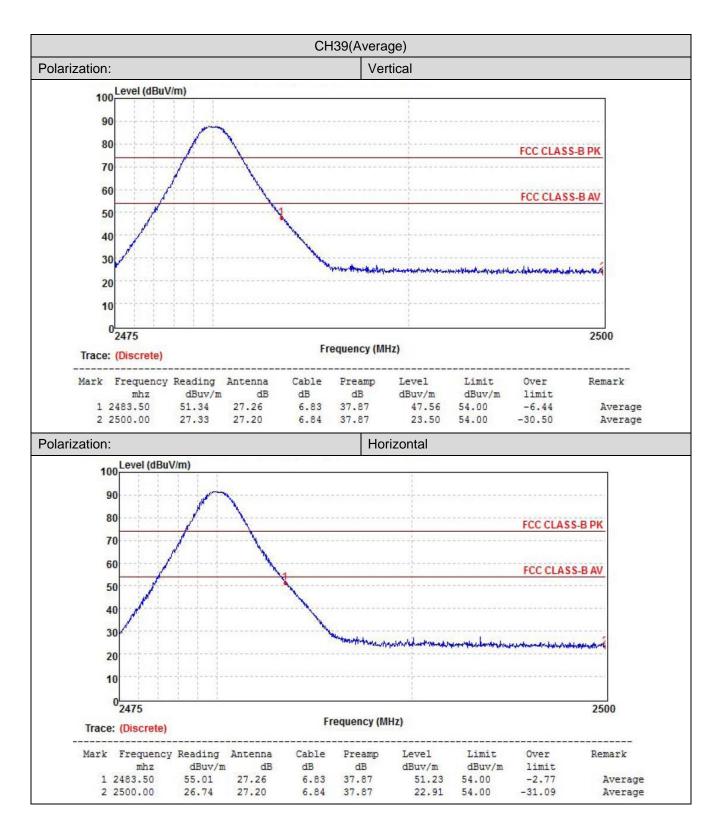
- 1) Final level= Read level + Antenna Factor+ Cable Loss- Preamp Factor
- 2) The peak level is lower than average limit(54 dBuV/m), this data is the too weak instrument of signal is unable to test.

	CH00									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization	Test value	
2310.00	34.80	28.05	6.62	37.65	31.82	74.00	-42.18	Vertical	Peak	
2390.03	36.89	27.65	6.75	37.87	33.42	74.00	-40.58	Vertical	Peak	
2310.00	33.97	28.05	6.62	37.65	30.99	74.00	-43.01	Horizontal	Peak	
2390.03	35.11	27.65	6.75	37.87	31.64	74.00	-42.36	Horizontal	Peak	

	CH39											
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization	Test value			
2483.50	60.92	27.26	6.83	37.87	57.14	74.00	-16.86	Vertical	Peak			
2500.00	35.33	27.20	6.84	37.87	31.50	74.00	-42.50	Vertical	Peak			
2483.50	60.85	27.26	6.83	37.87	57.07	74.00	-16.93	Horizontal	Peak			
2500.00	36.05	27.20	6.84	37.87	32.22	74.00	-41.78	Horizontal	Peak			
2483.50	51.34	27.26	6.83	37.87	47.56	54.00	-6.44	Vertical	Average			
2500.00	27.33	27.20	6.84	37.87	23.50	54.00	-30.50	Vertical	Average			
2483.50	55.01	27.26	6.83	37.87	51.23	54.00	-2.77	Horizontal	Average			
2500.00	26.74	27.20	6.84	37.87	22.91	54.00	-31.09	Horizontal	Average			





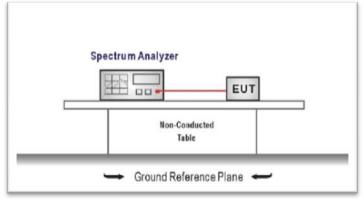


# 5.7. Band edge and Spurious Emissions (conducted)

# <u>LIMIT</u>

FCC CFR Title 47 Part 15 Subpart C Section15.247 (d):In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.

### **TEST CONFIGURATION**



# TEST PROCEDURE

- 1. Connect the antenna port(s) to the spectrum analyzer input.
- Establish a reference level by using the following procedure Center frequency=DTS channel center frequency The span = 1.5 times the DTS bandwidth. RBW = 100 kHz, VBW ≥ 3 x RBW Detector = peak, Sweep time = auto couple, Trace mode = max hold Allow trace to fully stabilize Use the peak marker function to determine the maximum PSD level

Note that the channel found to contain the maximum PSD level can be used to establish the reference level.

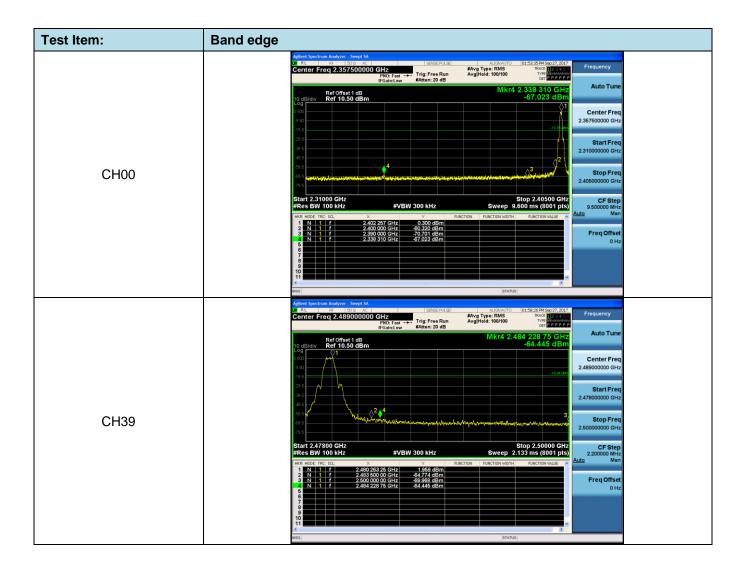
- Emission level measurement Set the center frequency and span to encompass frequency range to be measured RBW = 100 kHz, VBW ≥ 3 x RBW Detector = peak, Sweep time = auto couple, Trace mode = max hold Allow trace to fully stabilize Use the peak marker function to determine the maximum amplitude level.
- 4. Place the radio in continuous transmit mode, allow the trace to stabilize, view the transmitter waveform on the spectrum analyzer.
- Ensure that the amplitude of all unwanted emission outside of the authorized frequency band excluding restricted frequency bands) are attenuated by at least the minimum requirements specified (at least 20 dB relative to the maximum in-band peak PSD level in 100 kHz). Report the three highest emission relative to the limit.

### TEST MODE:

Please refer to the clause 3.3

### TEST RESULTS

☑ Passed □ Not Applicable





	Agilent Spectrum Analyzer - Swept SA
	D RL RF S0 9 AC SENSE-PULSE ALIGNAUTO 01:54:19PM Sip 27,2017 Center Freq 7.500000000 GHz #Avg Type: RMS TRACE P234.5 €
	PR0: Fast         →         Trig: Free Run IFGainLow         Avg Hold: 11/100         Trig: Free Run tor B perperperts         Avg Hold: 11/100         Trig: Free Run tor B perperperperts         Avg Hold: 11/100         Trig: Free Run tor B perperperperperperperts         Avg Hold: 11/100         Trig: Free Run tor B perperperperperperperperperperperperperp
	11.0 Center Freq 7.50000000 GHz
	1.00 Start Freq
CH00	9:00 5.0000000 GHz
5GHz~10GHz	530 Stop Freq 530 10.0000000 GHz
	5300 CF Step 500.00000 Min Auto Man
	Start 5.000 GHz Stop 10.000 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 477.9 ms (8001 pts)
	1950 [STATUS] Agelent Spectrum Analyzer - Swept SA U RL 9F 50.0 AC [SPICESALSE] ALIXANTO [0154500PM Stp.27, 2017
	Center Freq 12.50000000 GHz Trig: Free Run Avgi Hol: 10/100 Trig: 10/1
	Ref Offset1 dB 10 dBldly Ref 21.00 dBm -52.226 dBm
	11.0 Center Freq 12.50000000 GHz
01100	9 00 Start Freq 10.00000000 GHz
CH00	190 Stop Freq 15.000000 GHz
10GHz~15GHz	23 0
	500.00000 MHz Auto Man
	600 mthey and a stand of the st
	Start 10 000 GHz Stor 15 000 GHz
	Start 10.000 GHz Stop 15.000 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 477.9 ms (8001 pts)
	Address Spectrum Addyzer         Spectrum
	Ref Offset 1 dB         Mkr1 24,155 00 GHz         Auto Tune           10 gB/div         Ref 23.00 dBm         -43.833 dBm         Auto Tune
	130 Center Freq 20.00000000 GHz
	3.00 Start Freq
CH00	7.00 15.0000000 GHz
15GHz~25GHz	27.0 25.00000000 GHz
	CF Step 1.000000 GHz Autz Man
	CO www.endergic.interface.com.endergic
	Start 15.000 GHz Stop 25.000 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 955.7 ms (8001 pts)
	MSG STATUS

Agtent Spectrum Analyzer 2. RUE 69 Center Freq 2.44	50 Q AC	SENSE:PULSE	ALIGNAUTO #Avg Type: RMS Avg Hold: 100/100	01:56:03 PM Sep 27, 2017 TRACE	Frequency
	PNO: Wide +++ IFGain:Low	Trig: Free Run ≇Atten: 20 dB			Auto Tune
10 dB/dviv Ref 0ffse Log	et 1 dB .00 dBm		WIKIT 2.	440 006 5 GHz 0.378 dBm	
1.00		1 mmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmmm			Center Freq 2.440000000 GHz
.9.00		,			Start Freq
CH19				-19.62 dBe	2.438000000 GHz
-29.0	and the second s		form		Stop Freq 2.442000000 GHz
Reference level			À		
49.0	M			my .	CF Step 400.000 kHz Auto Man
				FW M	Freq Offset
-69.0					0 Hz
-79.0					
Center 2.440000 G #Res BW 100 kHz	GHz #VBW 3	00 kHz	Sween 1	Span 4.000 MHz 067 ms (8001 pts)	
MSG			STATUS		
Addent Spectrum Analyzer 2. RU: 600 Center Freq 1.51		SENSE:PULSE	ALIGNAUTO	01:56:15 PM Sep 27, 2017 TRACE 2345 T	Frequency
	PNO: Fast	Trig:FreeRun #Atten:30 dB		DETPPPPP	Auto Tune
Ref Offse 10 dB/div Ref 21.	et 1 dB .00 dBm		Mk	r2 2.609 4 GHz -56.318 dBm	Auto Tune
					Center Freq
				<b>∆</b> 1	1.515000000 GHz
					Start Freq 30.000000 MHz
CH19				-19.62 d <del>Br</del> i	
					Stop Freq 3.00000000 GHz
30MHz~3GHz					CF Step 297.000000 MHz
49.0					297.000000 MHz <u>Auto</u> Man
					Freq Offset
in the Network of Section 2015 and the Network of				(a universitati selatti ugaturta	0 Hz
Start 30 MHz #Res BW 100 kHz	#VBW 3	00 kHz		Stop 3.000 GHz 34.3 ms (8001 pts)	
MSG Julijani Sportnom Andread	r - Swept SA		STATUS		
Agient Spectra Madyzer 1 81 65 Center Freq 4.00	00000000 GHz	SENSE:PULSE	ALIGNAUTO #Avg Type: RMS Avg Hold: 15/100	01:56:24 PM Sep 27, 2017 TRACE 2 3 4 5 0 TYPE	Frequency
	IFGain:Low	Trig:Free Run #Atten:30 dB		DET PPPPP	Auto Tune
10 dB/div Ref 21.	et 1 dB .00 dBm			1 3.660 00 GHz -54.148 dBm	
11.0					Center Freq 4.00000000 GHz
1.00					a
					Start Freq 3.00000000 GHz
CH19				-19.62 dBm	Stop Freq
3GHz~5GHz					5.000000000 GHz
					CF Step 200.000000 MHz
49.0	1				Auto Man
-50.0 Nite-autority-			Hard Strand Strand Strand Street	and the second second	Freq Offset 0 Hz
-69 0	Store Billion, Store Statistics (N.		lan an shy desident water dit production	A AND DESCRIPTION OF A	0 Hz
				Stop E 999 Olt	
Start 3.000 GHz #Res BW 100 kHz	#VBW 3	00 kHz		Stop 5.000 GHz 91.5 ms (8001 pts)	
			STATUS		

	Agilent Spectrum Analyzer - Swept SA	
	Addred Spectrum Audyrez, Swept SA         ISPRE PLUE         ALDMANTO         [0156:87PM Spc27.az           Center Freq 7.500000000 GHz         ISPRE PLUE         Aug Type: RMS         Income           PR0 CF         FR0 CF         ISPRE PLUE         Aug Type: RMS         Income	Frequency
	IFGaint.ow #Atten: 30 dB Mkr1 7.320 000 GP	
	10 dB/div Ref 21.00 dBm -44.568 dBi	Center Freq
	110	7.500000000 GHz
	400	Start Freq 5.00000000 GHz
CH19	-19.0	Stop Freq
5GHz~10GHz	-29.0	10.000000000 GHz
	39.0	CF Step 500.000000 MHz
	-49.0	<u>Auto</u> Man
	69.0 a star on the distribution of the start	Freq Offset 0 Hz
	69.0	
	Start 5.000 GHz         Stop 10.000 GH           #Res BW 100 kHz         #VBW 300 kHz         Sweep 477.9 ms (8001 pt	lz (S)
	MSG STATUS Agilent Spectrum Analyzer - Swept SA	
	MIL         PF         S0.9         AC         SPERFALSE         AURANTO         [0:54:40F995027.20           Center Freq 12,500000000 GHz         Freq Freq Nu         Freq Freq Nu         AvgHeld: 10100         Nu	Frequency
	Ref Offset 1 dB Mkr1 14.936 875 GH	
	10 dB/div Ref 21.00 dBm -53.193 dBi	Center Freq
	110	12.500000000 GHz
	.00	Start Freq 10.000000000 GHz
CH19	-19.0	Stop Freq
10GHz~15GHz	-29.0	15.000000000 GHz
	39.0	CF Step 500.000000 MHz
	-80	Auto Man
		Freq Offset 0 Hz
	43.0	
	Start 10.000 GHz         Stop 15.000 GH           #Res BW 100 kHz         #VBW 300 kHz         Sweep 477.9 ms (8001 pt	iz (5)
	1450 [STATUS Address Sportnam Analyzer Swood SA 2011 RL FF [SD 9 AC ] SERIERULSE ALIXIAUTO [01:56:57PM Spp27.20	
	Mit         PS         State         ENSIGNAL         ALXIVATO         [01:56:27:89:62:20           Center Freq 20,00000000 GHz         BAve Type: FMS         File         Bave Type: FMS         File         File<	Selfrequency
	Ref Offset 1 dB 10 dB/div Ref 23.00 dBm -43.972 dB	Hz Auto Tune m
	13.0	Center Freq 20.00000000 GHz
	3.00	
CH19	-7 00	Start Freq 15.00000000 GHz
Citta	-17.0	
15GHz~25GHz	27.0	25.000000000 GHz
	32.0	CF Step 1.00000000 GHz Auto Man
		Freq Offset
	47.0	0 Hz
	Start 15.000 GHz         Stop 25.000 GH           #Res BW 100 kHz         #VBW 300 kHz         Sweep 955.7 ms (8001 pt	12 (S)
	#Res BW 100 kHz #VBW 300 kHz Sweep 955.7 ms (8001 pt ISTO INTERNATIONAL	<u>s)</u>

	Agilent Spectrum Analyzer         Swept SA         SPIGEPRLIEF         ALIONAUTO         01/56:38 M Sip 27, 2017         Frequency           OF RL         8F         50 0         AC         SPIGEPRLIEF         ALIONAUTO         01/56:38 M Sip 27, 2017         Frequency           Center Freq 2.480000000 GHz         Trig: Free Run         Frequency         Frequency         Frequency           FIGS.mix: 0 dB         Frequency         Frequency         Frequency         Frequency
	Ref Offset 1 dB Mkr1 2.480 265 0 GHz Auto Tune
	1.646 dBm 1.646 dBm 1.00 dBm 1.646 dBm 2.48000000 GHz
	accord and a start Freq
CH39	-1930
	220 Stop Freq 2.48200000 GHz
Reference level	400 March CF Step 400.000 kHz
	Auto Man
	初0 Freq Offset 0 Hz
	72.0
	Center 2.480000 GHz Span 4.000 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 1.067 ms (8001 pts)
	MIG         ISTATUS           Actient Spectrum Analyzer - Swept SA         SPISE PLLSE           MIR         PF         SD G           MIR         PF         SD G
	Center Freq 1.515000000 GHz Frequency Freq
	Ref Offset 1 dB         Mkr2 2:329 5 GHz         Auto Tune           10 dB/div         Ref 21.00 dBm         -56.056 dBm
	110 Center Freq 1.51500000 GHz
	± 00 Start Freq
CH39	300 30.000000 MHz
30MHz~3GHz	200 Stop Freq 3.00000000 GHz
300002~3002	CF Step 297.00000 MHz
	Alto Man
	690 or state buy and a state in a state of a state of the
	Start 30 MHz         Stop 3.000 GHz           #Res BW 100 kHz         #VBW 300 kHz         Sweep 284.3 ms (8001 pts)           #msi         Istrution
	Aglent Spectrum Analyzer - Swipt SA. U RL RF 50.0 AC SENSERUSE AUSIAUTO 01:58:59PM Sig 27, 2017
	PN0: Fast Trig: Free Run Avg Hold: 15/100 TVF Management IFGain:Low #Atten: 30 dB CEP PP PP
	Ref Offset 1 dB Mkr1 3,720 00 GHz Auto Tune 10 dB/div Ref 21.00 dBm -52.611 dBm
	11.0 Center Freq 4.00000000 GHz
	100 Start Freq 3.0000000 GHz
CH39	10.25 day
	220 Stop Freq 5.00000000 GHz
3GHz~5GHz	300 5.0000000 GHz CF Step 200.00000 MHz
	200 5.0000000 GHz 300 CF Step 20.000000 MHz 400 ↓1 Man
	300 5.0000000 GHz CF Step 200.00000 MHz
	500000000 GHz CF Step 200000000 Hiz 400 1 500 Jan Step 20000000 Hiz Auto Man 500 Jan Step 2000000 Hiz Auto Freq Offset

	Agenet Systems Analyzer - Snept SA         SENSE FALSE         ALSHAUTO         0159:EDPM Snep27.2017           Center Freq 7,500000000 GHz         Freq 7,500000000 GHz         Freq Freq RNA         TrapEter T         TrapEter T           PR0: Fast →         TrapEter T         TrapEter T         TrapEter T         TrapEter T	Frequency
	IFGain:Low #Atten: 30 dB	Auto Tune
	Reforment ab Mkr1 7.440 000 GHz 10 dBidiv Ref 21.00 dBm -46.705 dBm	Auto Tune
		Center Freq
	11.0	7.50000000 GHz
	1.00	Start Freq
CH39	8.00	5.00000000 GHz
01100	-19.0	Stop Freq
5GHz~10GHz	22.0	0.00000000 GHz
	39.0	CF Step
	-490 ▲	500.000000 MHz uto Man
		Freq Offset
		0 Hz
	69.0	
	Start 5.000 GHz         Stop 10.000 GHz           #Res BW 100 kHz         #VBW 300 kHz         Sweep 477.9 ms (8001 pts)	
	Agilent Spectrum Analyzer         Swept SA           L         RL         RF         50.9         AC         SERGE-PULSE         ALR9AU/TO         01:59x21 PM Sep 27, 2017	
	0 RL 07 1012014 002 007 001 0012014 0022 0017 Center Freq 12:50000000000 01CH2 PHO: Fast → Trig: Free Run IFGsinto: 08 4/2014016 10100 1012014 00120 01100 1012014 001201 IFGsinto: 08 4/201401 01100 1012014 0012014 01100 1012014 001200	Frequency
	Ref Offset 1 dB Mkr1 14.883 750 GHz	Auto Tune
	10 dB/d/y Ref 21.00 dBm -52.262 dBm	
	11.0	Center Freq 2.50000000 GHz
	1.00	
	.900 1	Start Freq 0.000000000 GHz
CH39	-18.25 dbg	
		Stop Freq 5.00000000 GHz
10GHz~15GHz	-29.0	OF Oton
	33.0	CF Step 500.000000 MHz uto Man
	-49.0	
	59.0 Kernet, and a state of the second and the seco	Freq Offset 0 Hz
	69.0	
	Start 10.000 GHz Stop 15.000 GHz	
	Start 10.000 GHz         Stop 15.000 GHz           #Res BW 100 kHz         #VBW 300 kHz         Sweep 477.9 ms (8001 pts)           M00         \$\$\$xweb         \$	
	Avlient Spectrum Analyzer - Swept SA	
	Agenet Systems Analyzer - Snept SA         SBNEE PLASE         ALIGNATIO         01598-22 PM Snep27.2017           Center Freq 20.000000000 CH2 PR0: Fast → Trig: Free Run         SAvg Type: RNS         Triac PDE Ext Tipe: PLASE         Avg Hardie Srito	Frequency
	IFGain:Low #Atten: 32 dB	Auto Tune
	Ref Offset 1 dB WIKT 24.817 50 GHz 10 dB/dlv Ref 23.00 dBm -43.752 dBm	
		Center Freq
		Center Freq 20.000000000 GHz
	300	20.000000000 GHz Start Freq
CH39	300	20.000000000 GHz
CH39	300 700 1170	20.00000000 GHz Start Freq 15.000000000 GHz Stop Freq
CH39 15GHz~25GHz	300 700 1170	20.00000000 GHz Start Freq 15.00000000 GHz
	300 700 170 270 270	20.00000000 GHz Start Freq 15.00000000 GHz Stop Freq 25.00000000 GHz CF Step 1.00000000 GHz
		20.00000000 GHz Start Freq 15.000000000 GHz Stop Freq
	300 700 170 270 270	0.00000000 GHz Start Freq 5.00000000 GHz 5.00000000 GHz 1.00000000 GHz 1.00000000 GHz 1.00000000 GHz Man Freq Offset
		0.00000000 GHz Start Freq 16.00000000 GHz Stop Freq 25.00000000 GHz CF Step 1.00000000 GHz <u>tto</u> Man
	350	0.00000000 GHz Start Freq 5.00000000 GHz 5.00000000 GHz 1.00000000 GHz 1.00000000 GHz 1.00000000 GHz Man Freq Offset
		0.00000000 GHz Start Freq 5.00000000 GHz 5.00000000 GHz 1.00000000 GHz 1.00000000 GHz 1.00000000 GHz Man Freq Offset

# 5.8. Spurious Emissions (radiated)

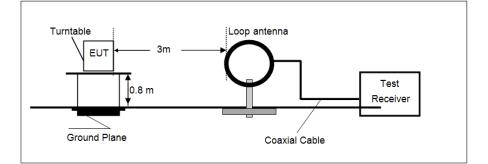
# <u>LIMIT</u>

### FCC CFR Title 47 Part 15 Subpart C Section 15.209

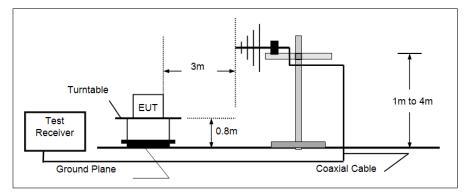
Frequency	Limit (dBuV/m @3m)	Value	
30MHz~88MHz	40.00	Quasi-peak	
88MHz~216MHz	43.50	Quasi-peak	
216MHz~960MHz	46.00	Quasi-peak	
960MHz~1GHz	54.00	Quasi-peak	
Above 1GHz	54.00	Average	
Above IGH2	74.00	Peak	

# **TEST CONFIGURATION**

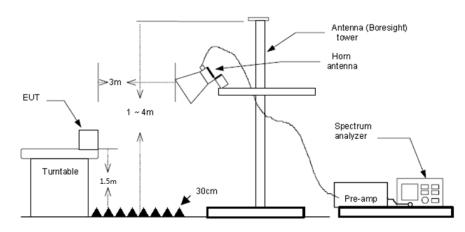
➢ 9 kHz ~ 30 MHz



### 30 MHz ~ 1 GHz



Above 1 GHz



# TEST PROCEDURE

- 1. The EUT was setup and tested according to ANSI C63.10:2013 for compliance to FCC 47CFR 15.247 requirements.
- The EUT is placed on a turn table which is 0.8 meter above ground for below 1 GHz, and 1.5 m for above 1 GHz. The turn table is rotated 360 degrees to determine the position of the maximum emission level.
- 3. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.
- 4. The antenna is scanned from 1 meter to 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the antenna. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.10:2013 on radiated measurement.
- 5. Use the following spectrum analyzer settings
  - (1) Span shall wide enough to fully capture the emission being measured;
    - (2) Below 1 GHz, RBW=120 kHz, VBW=300 kHz, Sweep=auto, Detector function=peak, Trace=max hold; If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.
    - (3) Above 1GHz, RBW=1MHz, VBW=3MHz Peak detector for Peak value.
      - RBW=1MHz, VBW=3MHz RMS detector for Average value.

### TEST MODE:

Please refer to the clause 3.3

# TEST RESULTS

# ☑ Passed □ Not Applicable

Note:

- 1) Above 1GHz Final Level = Receiver Read level + Antenna Factor + Cable Loss Preamplifier Factor
- 2) The emission levels of other frequencies are very lower than the limit and not show in test report.

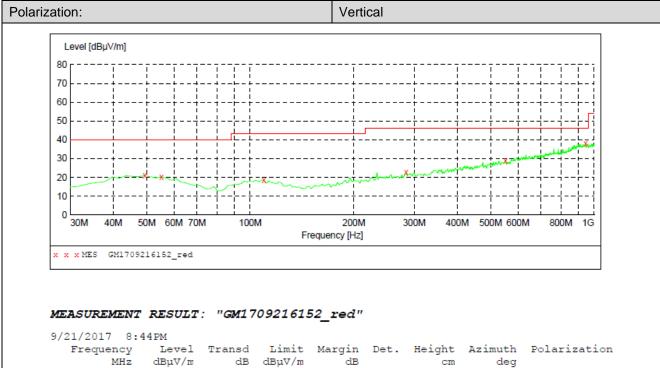
# ➢ 9 kHz ~ 30 MHz

The EUT was pre-scanned the frequency band (9 kHz  $\sim$  30 MHz), found the radiated level lower than the limit, so don't show on the report.

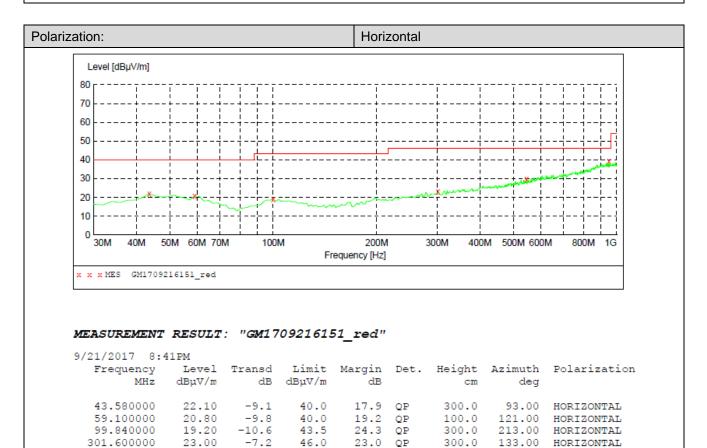
### ➢ 30 MHz ~ 1000 MHz

Have pre-scan all modulation mode, found the BT-BLE mode CH39 which it was worst case, so only the worst case's data on the test report.





49.400000	21.00	-8.7	40.0	19.0	QP	100.0	171.00	VERTICAL
55.220000	20.40	-9.2	40.0	19.6	QP	100.0	292.00	VERTICAL
109.540000	18.70	-10.8	43.5	24.8	QP	100.0	147.00	VERTICAL
284.140000	22.60	-7.6	46.0	23.4	QP	100.0	280.00	VERTICAL
551.860000	29.00	-0.7	46.0	17.0	QP	100.0	292.00	VERTICAL
943.740000	37.90	7.2	46.0	8.1	QP	100.0	187.00	VERTICAL



16.0 QP 6.7 QP

300.0

300.0

Shenzhen Huatongwei International Inspection Co., Ltd.

30.00

39.30

-0.8

7.2

46.0

46.0

546.040000

947.620000

360.00 HORIZONTAL

5.00 HORIZONTAL

					CH00				
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization	Test value
1777.65	37.72	25.36	5.92	37.09	31.91	74.00	-42.09	Vertical	Peak
3607.26	37.45	29.30	8.28	38.27	36.76	74.00	-37.24	Vertical	Peak
4809.50	56.76	31.58	9.55	36.93	60.96	74.00	-13.04	Vertical	Peak
7209.02	40.26	36.21	11.87	35.07	53.27	74.00	-20.73	Vertical	Peak
4809.50	34.98	31.58	9.55	36.93	39.18	54.00	-14.82	Vertical	Average
7209.02	24.95	36.21	11.87	35.07	37.96	54.00	-16.04	Vertical	Average
1741.81	51.87	25.29	5.85	37.02	45.99	74.00	-28.01	Horizontal	Peak
3607.26	39.18	29.30	8.28	38.27	38.49	74.00	-35.51	Horizontal	Peak
4809.50	50.71	31.58	9.55	36.93	54.91	74.00	-19.09	Horizontal	Peak
7209.02	41.47	36.21	11.87	35.07	54.48	74.00	-19.52	Horizontal	Peak
4809.50	39.32	31.58	9.55	36.93	43.52	54.00	-10.48	Horizontal	Average
7209.02	23.12	36.21	11.87	35.07	36.13	54.00	-17.87	Horizontal	Average

# > Above 1 GHz

CH19											
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarizatio n	Test value		
1746.25	48.59	25.29	5.86	37.03	42.71	74.00	-31.29	Vertical	Peak		
3662.78	39.91	29.30	8.34	38.26	39.29	74.00	-34.71	Vertical	Peak		
4883.52	58.69	31.43	9.59	36.73	62.98	74.00	-11.02	Vertical	Peak		
7319.96	44.80	36.30	11.99	34.92	58.17	74.00	-15.83	Vertical	Peak		
4883.52	23.95	31.43	9.59	36.73	28.24	54.00	-25.76	Vertical	Average		
7319.96	22.46	36.30	11.99	34.92	35.83	54.00	-18.17	Vertical	Average		
2050.00	36.72	26.50	6.31	37.31	32.22	74.00	-41.78	Horizontal	Peak		
3634.91	36.50	29.30	8.31	38.26	35.85	74.00	-38.15	Horizontal	Peak		
4883.52	53.99	31.43	9.59	36.73	58.28	74.00	-15.72	Horizontal	Peak		
7319.96	41.74	36.30	11.99	34.92	55.11	74.00	-18.89	Horizontal	Peak		
4883.52	34.90	31.43	9.59	36.73	39.19	54.00	-14.81	Horizontal	Average		
7319.96	23.09	36.30	11.99	34.92	36.46	54.00	-17.54	Horizontal	Average		

	CH39											
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarizatio n	Test value			
3719.15	37.33	29.36	8.41	38.25	36.85	74.00	-37.15	Vertical	Peak			
4128.28	34.65	29.93	8.88	37.81	35.65	74.00	-38.35	Vertical	Peak			
4958.68	58.28	31.46	9.64	36.52	62.86	74.00	-11.14	Vertical	Peak			
7451.57	47.36	36.20	12.24	34.86	60.94	74.00	-13.06	Vertical	Peak			
4958.68	35.31	31.46	9.64	36.52	39.89	54.00	-14.11	Vertical	Average			
7451.57	22.04	36.20	12.24	34.86	35.62	54.00	-18.38	Vertical	Average			
1958.19	43.52	25.89	6.21	37.27	38.35	74.00	-35.65	Horizontal	Peak			
3151.99	36.61	28.80	7.66	38.21	34.86	74.00	-39.14	Horizontal	Peak			
4332.85	33.07	30.30	9.07	37.59	34.85	74.00	-39.15	Horizontal	Peak			
4958.68	50.81	31.46	9.64	36.52	55.39	74.00	-18.61	Horizontal	Peak			
4958.68	35.31	31.46	9.64	36.52	39.89	54.00	-14.11	Horizontal	Average			
3719.15	37.33	29.36	8.41	38.25	36.85	74.00	-37.15	Horizontal	Average			

Remark:

1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor

2. The peak level is lower than average limit (54 dBuV/m), this data is the too weak instrument of signal is unable to test.

3. The emission levels of other frequencies are very lower than the limit and not show in test report.

# 6. TEST SETUP PHOTOS

# **Conducted Emissions**

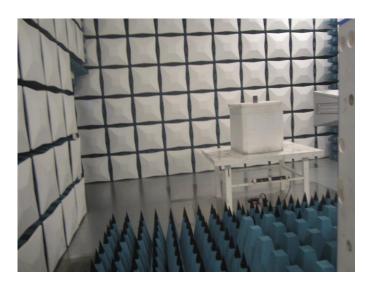


# Radiated Emissions





Shenzhen Huatongwei International Inspection Co., Ltd.



# 7. EXTERANAL AND INTERNAL PHOTOS

Reference to the test report No.: TRE1709016401.

.....End of Report.....