

🧲 Shenzhen Zhongjian Nanfang Testing Co., Ltd.

Report No: CCISE190302004

FCC REPORT (BLE)

Applicant: MOVILTELCO TRADE, S.L

Address of Applicant: ABTAO, 25-1Floor A-office MADRID Spain

Equipment Under Test (EUT)

Product Name: mobile phone

Model No.: A86, A86A, A86B, A86C, A86D

Trade mark: mtt

FCC ID: 2ACQKTELCO020

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

Date of sample receipt: 08 Mar., 2019

Date of Test: 12 Mar., to 27 Mar., 2019

Date of report issued: 28 Mar., 2019

Test Result: PASS *

* In the configuration tested, the EUT complied with the standards specified above.

Authorized Signature:



Bruce Zhang Laboratory Manager

This report details the results of the testing carried out on one sample. The results contained in this test report do not relate to other samples of the same product and does not permit the use of the CCIS product certification mark. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

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2 Version

Version No.	Date	Description
00	28 Mar., 2019	Original

Tested by: | | CMC| Date: 28 Mar., 2019

Test Engineer

Reviewed by: 28 Mar., 2019

Project Engineer



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Test Summary

Test Items	Section in CFR 47	Result		
Antenna requirement	15.203 & 15.247 (c)	Pass		
AC Power Line Conducted Emission	15.207	Pass		
Conducted Peak Output Power	15.247 (b)(3)	Pass		
6dB Emission Bandwidth 99% Occupied Bandwidth	15.247 (a)(2)	Pass		
Power Spectral Density	15.247 (e)	Pass		
Band Edge	15.247 (d)	Pass		
Spurious Emission	15.205 & 15.209	Pass		
Pass: The EUT complies with the essential requirements in the standard.				

N/A: Not Applicable.



5 General Information

5.1 Client Information

Applicant:	MOVILTELCO TRADE, S.L
Address:	ABTAO, 25-1Floor A-office MADRID Spain
Manufacturer/Factory:	MOVILTELCO TRADE, S.L
Address:	6 floor, building 2, Zhenyan industrial park, No.1 xiangxing road, lanlian, longgang District, Shenzhen, China.

5.2 General Description of E.U.T.

Product Name:	mobile phone
Model No.:	A86, A86A, A86B, A86C, A86D
Operation Frequency:	2402-2480 MHz
Channel numbers:	40
Channel separation:	2 MHz
Modulation technology:	GFSK
Data speed :	1Mbps
Antenna Type:	Internal Antenna
Antenna gain:	-2.2 dBi
Power supply:	Rechargeable Li-ion Battery DC3.7V, 1400mAh
AC adapter:	US and Europe have the same adapter specifications Model: A86 Input: AC100-240V, 50/60Hz, 0.15A Output: DC 5.0V, 500mA
Test Sample Condition:	The test samples were provided in good working order with no visible defects.
Remarks:	item No.: A86, A86A, A86B, A86C, A86D were identical inside, the electrical circuit design, layout, components used and internal wiring, with only difference being model name

Operation Frequency each of channel							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
0	2402MHz	10	2422MHz	20	2442MHz	30	2462MHz
1	2404MHz	11	2424MHz	21	2444MHz	31	2464MHz
2	2406MHz	12	2426MHz	22	2446MHz	32	2466MHz
3	2408MHz	13	2428MHz	23	2448MHz	33	2468MHz
4	2410MHz	14	2430MHz	24	2450MHz	34	2470MHz
5	2412MHz	15	2432MHz	25	2452MHz	35	2472MHz
6	2414MHz	16	2434MHz	26	2454MHz	36	2474MHz
7	2416MHz	17	2436MHz	27	2456MHz	37	2476MHz
8	2418MHz	18	2438MHz	28	2458MHz	38	2478MHz
9	2420MHz	19	2440MHz	29	2460MHz	39	2480MHz

Note:

In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test. Channel No. 0, 20 & 39 were selected as Lowest, Middle and Highest channel.

5.3 Test environment and test mode

Operating Environment:	
Temperature:	24.0 °C
Humidity:	54 % RH
Atmospheric Pressure:	1010 mbar
Test mode:	
Transmitting mode	Keep the EUT in continuous transmitting with modulation

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The sample was placed 0.8m (below 1GHz)/1.5m (above 1GHz) above the ground plane of 3m chamber. Measurements in both horizontal and vertical polarities were performed. During the test, each emission was maximized by: having the EUT continuously working, investigated all operating modes, rotated about all 3 axis (X, Y & Z) and considered typical configuration to obtain worst position, manipulating interconnecting cables, rotating the turntable, varying antenna height from 1m to 4m in both horizontal and vertical polarizations. The emissions worst-case are shown in Test Results of the following pages. Duty cycle setting during the transmission is 100% with maximum power setting for all modulations.

5.4 Description of Support Units

The EUT has been tested as an independent unit.

5.5 Measurement Uncertainty

Parameters	Expanded Uncertainty
Conducted Emission (9kHz ~ 30MHz)	±2.22 dB (k=2)
Radiated Emission (9kHz ~ 30MHz)	±2.76 dB (k=2)
Radiated Emission (30MHz ~ 1000MHz)	±4.28 dB (k=2)
Radiated Emission (1GHz ~ 18GHz)	±5.72 dB (k=2)
Radiated Emission (18GHz ~ 40GHz)	±2.88 dB (k=2)

5.6 Laboratory Facility

The test facility is recognized, certified, or accredited by the following organizations:

FCC - Registration No.: 727551

Shenzhen Zhongjian Nanfang Testing Co., Ltd. has been accredited as a testing laboratory by FCC (Federal Communications Commission). The Registration No. is 727551.

IC - Registration No.: 10106A-1

The 3m Semi-anechoic chamber of Shenzhen Zhongjian Nanfang Testing Co., Ltd. has been Registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 10106A-1.

• CNAS - Registration No.: CNAS L6048

Shenzhen Zhongjian Nanfang Testing Co., Ltd. is accredited to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration laboratories for the competence of testing. The Registration No. is CNAS L6048.

A2LA - Registration No.: 4346.01

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. The test scope can be found as below link: https://portal.a2la.org/scopepdf/4346-01.pdf

5.7 Laboratory Location

Shenzhen Zhongjian Nanfang Testing Co., Ltd.

Address: No. B-C, 1/F., Building 2, Laodong No.2 Industrial Park, Xixiang Road,

Bao'an District, Shenzhen, Guangdong, China Tel: +86-755-23118282, Fax: +86-755-23116366

Email: info@ccis-cb.com, Website: http://www.ccis-cb.com

Shenzhen Zhongjian Nanfang Testing Co., Ltd.
No. B-C, 1/F., Building 2, Laodong No.2 Industrial Park, Xixiang Road, Bao'an District, Shenzhen, Guangdong, China
Telephone: +86 (0) 755 23118282 Fax: +86 (0) 755 23116366



5.8 Test Instruments list

Radiated Emission:					
Test Equipment	Manufacturer	Model No.	Serial No.	Cal. Date (mm-dd-yy)	Cal. Due date (mm-dd-yy)
3m SAC	SAEMC	9m*6m*6m	966	07-22-2017	07-21-2020
				03-16-2018	03-15-2019
Loop Antenna	SCHWARZBECK	FMZB1519B	00044	03-16-2019	03-15-2020
DiCanil on Antonna	COLIMADZDEOK	\/LII D0400	407	03-16-2018	03-15-2019
BiConiLog Antenna	SCHWARZBECK	VULB9163	497	03-16-2019	03-15-2020
Horn Antenna	SCHWARZBECK	BBHA9120D	916	03-16-2018	03-15-2019
nom Antenna	SURWARZBEUK	DDNA9120D	910	03-16-2019	03-15-2020
Horn Antenna	SCHWARZBECK	BBHA9120D	1805	06-22-2017	06-21-2020
Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170582	11-21-2018	11-20-2019
EMI Test Software	AUDIX	E3	\	/ersion: 6.110919	b
Dro omplifier	HP	8447D	2044400250	03-07-2018	03-06-2019
Pre-amplifier	пг	0447D	2944A09358	03-07-2019	03-06-2020
Pre-amplifier	CD	PAP-1G18	11804	03-07-2018	03-06-2019
rie-amplillei	OD	FAF-1G16	11004	03-07-2019	03-06-2020
Spectrum analyzer	Rohde & Schwarz	FSP30	101454	03-07-2018	03-06-2019
Opectium analyzer	Nonde & Ochwarz	1 01 00	101404	03-07-2019	03-06-2020
Spectrum analyzer	Rohde & Schwarz	FSP40	100363	11-21-2018	11-20-2019
EMI Test Receiver	Rohde & Schwarz	ESRP7	101070	03-07-2018	03-06-2019
Elvii Test Receiver	Ronde & Schwarz	ESRPI	101070	03-07-2019	03-06-2020
Cable	ZDECL	Z108-NJ-NJ-81	1608458	03-07-2018	03-06-2019
Cable	ZDECL	Z 100-INJ-INJ-01	1000400	03-07-2019	03-06-2020
Cable	MICRO-COAX	MFR64639	K10742-5	03-07-2018	03-06-2019
Cable	WICKO-COAX	WII 1104039	K10742-5	03-07-2019	03-06-2020
Cable	Cable SUHNER SUCOFLEX100 5819		58193/4PE	03-07-2018	03-06-2019
Cable	OOTHVEIX	3000FLEXT00	30133/4FE	03-07-2019	03-06-2020
RF Switch Unit	MWRFTEST	MW200	N/A	N/A	N/A
Test Software	MWRFTEST	MTS8200		Version: 2.0.0.0	

Conducted Emission:						
Test Equipment	Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due date	
root Equipment	Manadataror	model ito.	oonan ito:	(mm-dd-yy)	(mm-dd-yy)	
EMI Test Receiver	Rohde & Schwarz	ESCI	101189	03-07-2018	03-06-2019	
Elvii Test Receivei	Ronde & Schwarz	ESCI	101109	03-07-2019	03-06-2020	
Dulas Limitar	CCLIMA DZDECK	OCD AM 2200	9731	03-07-2018	03-06-2019	
Pulse Limiter	SCHWARZBECK	OSRAM 2306		03-07-2019	03-06-2020	
LICN	CHACE	MNIOOFOD	4.447	03-19-2018	03-18-2019	
LISN	CHASE	MN2050D	1447	03-19-2019	03-18-2020	
LISN	Rohde & Schwarz	ESH3-Z5	8438621/010	07-21-2018	07-20-2019	
Cable	1	405004	N/A	03-07-2018	03-06-2019	
Cable	Cable HP 1	10503A		03-07-2019	03-06-2020	
EMI Test Software	AUDIX	E3	\	/ersion: 6.110919	b	



6 Test results and Measurement Data

6.1 Antenna requirement:

Standard requirement: FCC Part 15 C Section 15.203 /247(b)

15.203 requirement:

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

15.247(b) (4) requirement:

(4) The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

E.U.T Antenna:

The BLE antenna is an Internal antenna which cannot replace by end-user, the best-case gain of the antenna is -2.2 dBi.





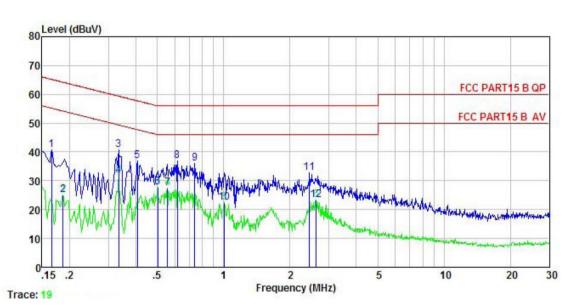
6.2 Conducted Emission

Test Requirement: FCC Part 15 C Section 15.207 Test Method: ANSI C63.10: 2013 Test Frequency Range: 150 kHz to 30 MHz				
1 2 0	ANSI C63.10: 2013			
Class / Severity: Class B				
Receiver setup: RBW=9kHz, VBW=30kHz				
Limit: Erequency renge (MHz) 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 * Decreases with the logarithm of the frequency.	50			
line impedance stabilization network (L.I.S.N.), which 50ohm/50uH coupling impedance for the measuring 2. The peripheral devices are also connected to the material and LISN that provides a 50ohm/50uH coupling impeditermination. (Please refer to the block diagram of the photographs). 3. Both sides of A.C. line are checked for maximum continuer interference. In order to find the maximum emission, positions of equipment and all of the interface cables changed according to ANSI C63.4: 2014 on conduct measurement.	 a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refer to the block diagram of the test setup and photographs). 3. Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.4: 2014 on conducted 			
LISN 40cm 80cm Filter AUX Equipment E.U.T Test table/Insulation plane Remark	AUX Equipment Test table/Insulation plane Remark E.U.T. Equipment Under Test LISN: Line Impedence Stabilization Network			
LISN: Line Impedence Stabilization Network				
LISN: Line Impedence Stabilization Network Test table height=0.8m				



Measurement Data:

Product name:	mobile phone	Product model:	A86
Test by:	YT	Test mode:	BLE Tx mode
Test frequency:	150 kHz ~ 30 MHz	Phase:	Line
Test voltage:	AC 120 V/60 Hz	Environment:	Temp: 22.5℃ Huni: 55%



Remark

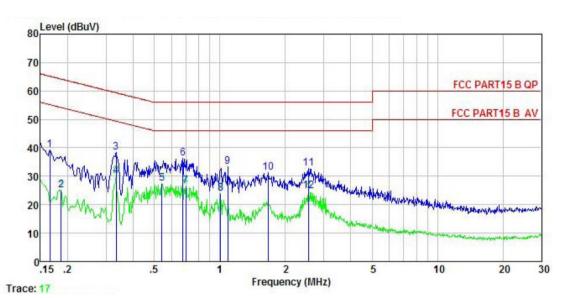
	Freq	Read Level	LISN Factor	Cable Loss	Level	Limit Line	Over Limit	Remark
	MHz	dBu∜	₫B	₫B	dBu₹	dBu∜	<u>d</u> B	
1	0.166	29.75	0.17	10.77	40.69	65.16	-24.47	QP
2	0.186	14.24	0.16	10.76	25.16	54.20	-29.04	Average
3	0.334	29.82	0.13	10.73	40.68	59.35	-18.67	QP
1 2 3 4 5 6 7 8 9	0.334	21.14	0.13	10.73	32.00	49.35	-17.35	Average
5	0.406	26.10	0.12	10.72	36.94	57.73	-20.79	QP
6	0.502	17.00	0.12	10.76	27.88	46.00	-18.12	Average
7	0.555	16.53	0.12	10.76	27.41			Average
8	0.617	25.93	0.13	10.77	36.83	56.00	-19.17	QP
9	0.739	25.04	0.13	10.79	35.96	56.00	-20.04	QP
10	1.010	11.52	0.13	10.87	22.52	46.00	-23.48	Average
11	2.448	21.60	0.15	10.94	32.69		-23.31	
12	2.636	12.34	0.16	10.93	23.43			Average

Notes:

- 1. An initial pre-scan was performed on the line and neutral lines with peak detector.
- 2. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.
- 3. Final Level =Receiver Read level + LISN Factor + Cable Loss.



Product name:	mobile phone	Product model:	A86
Test by:	YT	Test mode:	BLE Tx mode
Test frequency:	150 kHz ~ 30 MHz	Phase:	Neutral
Test voltage:	AC 120 V/60 Hz	Environment:	Temp: 22.5℃ Huni: 55%



Remark

Freq	Read Level	LISN Factor	Cable Loss	Level	Limit Line	Over Limit	Remark
MHz	dBu∀	₫B	<u>dB</u>	dBu∜	dBu∜	<u>dB</u>	
0.166	27.48	0.97	10.77	39.22	65.16	-25.94	QP
0.186	13.51	0.94	10.76	25.21	54.20	-28.99	Average
0.334	26.73	0.97	10.73	38.43	59.35	-20.92	QP
0.334	18.50	0.97	10.73	30.20	49.35	-19.15	Average
0.541	15.84	0.97	10.76	27.57	46.00	-18.43	Average
0.675	24.44	0.97	10.77	36.18	56.00	-19.82	QP
0.697	14.86	0.97	10.77	26.60	46.00	-19.40	Average
1.010	12.00	0.97	10.87	23.84	46.00	-22.16	Average
1.088	21.50	0.97	10.88	33.35	56.00	-22.65	QP
1.671	19.33	0.98	10.94	31.25	56.00	-24.75	QP
2.567	20.96	0.99	10.94	32.89	56.00	-23.11	QP
2.567	12.76	0.99	10.94	24.69	46.00	-21.31	Average
	MHz 0.166 0.186 0.334 0.334 0.541 0.675 0.697 1.010 1.088 1.671 2.567	Freq Level MHz dBuV 0.166 27.48 0.186 13.51 0.334 26.73 0.334 18.50 0.541 15.84 0.675 24.44 0.697 14.86 1.010 12.00 1.088 21.50 1.671 19.33 2.567 20.96	Freq Level Factor MHz dBuV dB 0.166 27.48 0.97 0.186 13.51 0.94 0.334 26.73 0.97 0.334 18.50 0.97 0.541 15.84 0.97 0.675 24.44 0.97 0.697 14.86 0.97 1.010 12.00 0.97 1.088 21.50 0.97 1.671 19.33 0.98 2.567 20.96 0.99	MHz dBuV dB dB 0.166 27.48 0.97 10.77 0.186 13.51 0.94 10.76 0.334 26.73 0.97 10.73 0.334 18.50 0.97 10.73 0.541 15.84 0.97 10.76 0.675 24.44 0.97 10.77 0.697 14.86 0.97 10.77 1.010 12.00 0.97 10.87 1.088 21.50 0.97 10.88 1.671 19.33 0.98 10.94 2.567 20.96 0.99 10.94	MHz dBuV dB dB dBuV 0.166 27.48 0.97 10.77 39.22 0.186 13.51 0.94 10.76 25.21 0.334 26.73 0.97 10.73 38.43 0.334 18.50 0.97 10.73 30.20 0.541 15.84 0.97 10.76 27.57 0.675 24.44 0.97 10.77 36.18 0.697 14.86 0.97 10.77 26.60 1.010 12.00 0.97 10.87 23.84 1.088 21.50 0.97 10.88 33.35 1.671 19.33 0.98 10.94 31.25 2.567 20.96 0.99 10.94 32.89	MHz dBuV dB dB dBuV dBuV 0.166 27.48 0.97 10.77 39.22 65.16 0.186 13.51 0.94 10.76 25.21 54.20 0.334 26.73 0.97 10.73 38.43 59.35 0.334 18.50 0.97 10.73 30.20 49.35 0.541 15.84 0.97 10.76 27.57 46.00 0.675 24.44 0.97 10.77 36.18 56.00 0.697 14.86 0.97 10.77 26.60 46.00 1.010 12.00 0.97 10.87 23.84 46.00 1.088 21.50 0.97 10.88 33.35 56.00 2.567 20.96 0.99 10.94 31.25 56.00 2.567 20.96 0.99 10.94 32.89 56.00	MHz dBuV dB dB dBuV dBuV dB 0.166 27.48 0.97 10.77 39.22 65.16 -25.94 0.186 13.51 0.94 10.76 25.21 54.20 -28.99 0.334 26.73 0.97 10.73 38.43 59.35 -20.92 0.334 18.50 0.97 10.73 30.20 49.35 -19.15 0.541 15.84 0.97 10.76 27.57 46.00 -18.43 0.675 24.44 0.97 10.77 36.18 56.00 -19.82 0.697 14.86 0.97 10.77 26.60 46.00 -19.82 1.010 12.00 0.97 10.87 23.84 46.00 -22.16 1.088 21.50 0.97 10.88 33.35 56.00 -22.65 1.671 19.33 0.98 10.94 31.25 56.00 -23.11 2.567 20.96 0.99

Notes:

- 1. An initial pre-scan was performed on the line and neutral lines with peak detector.
- 2. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.
- 3. Final Level =Receiver Read level + LISN Factor + Cable Loss.



6.3 Conducted Output Power

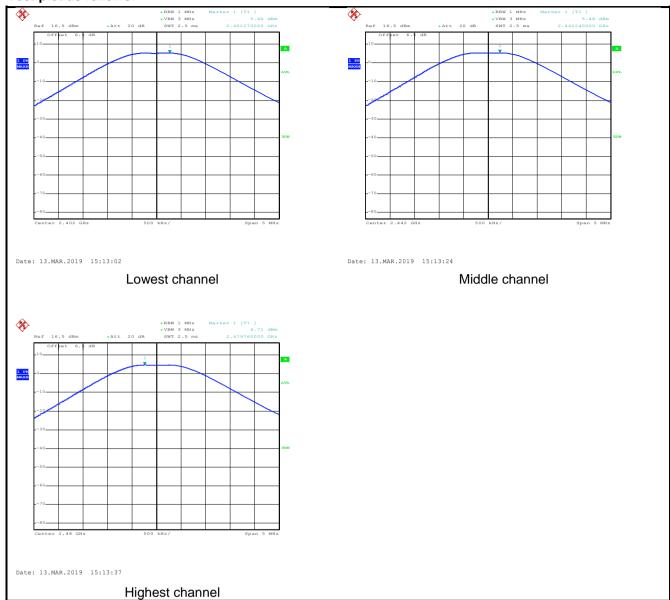
Test Requirement:	FCC Part 15 C Section 15.247 (b)(3)				
Test Method:	ANSI C63.10:2013 and KDB 558074				
Limit:	30dBm				
Test setup:	Spectrum Analyzer E.U.T Non-Conducted Table Ground Reference Plane				
Test Instruments:	Refer to section 5.8 for details				
Test mode:	Refer to section 5.3 for details				
Test results:	Passed				

Measurement Data:

Test CH	Maximum Conducted Output Power (dBm)	Limit(dBm)	Result
Lowest	5.40		
Middle	5.48	30.00	Pass
Highest	4.71		



Test plot as follows:





6.4 Occupy Bandwidth

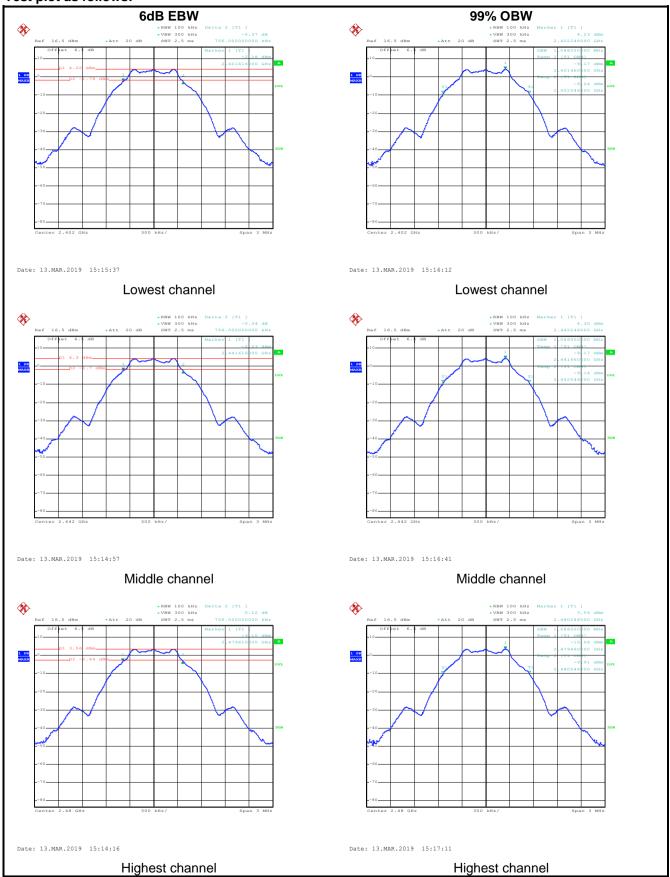
Test Requirement:	FCC Part 15 C Section 15.247 (a)(2)			
Test Method:	ANSI C63.10:2013 and KDB 558074			
Limit:	>500kHz			
Test setup:	Spectrum Analyzer E.U.T Non-Conducted Table Ground Reference Plane			
Test Instruments:	Refer to section 5.8 for details			
Test mode:	Refer to section 5.3 for details			
Test results:	Passed			

Measurement Data:

Test CH	6dB Emission Bandwidth (MHz)	Limit(kHz)	Result	
Lowest	0.756			
Middle	0.756	>500	Pass	
Highest	0.756			
Test CH	99% Occupy Bandwidth (MHz)	Limit(kHz)	Result	
Lowest	1.086			
Middle	1.086	N/A	N/A	
Highest	1.086			



Test plot as follows:





6.5 Power Spectral Density

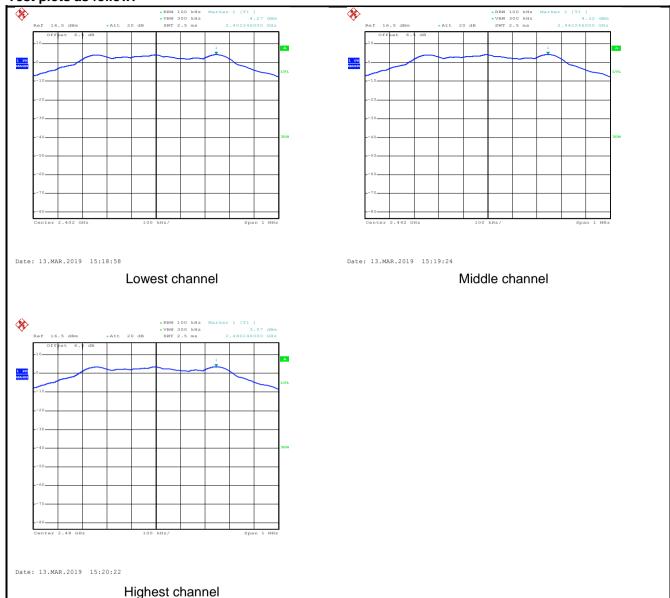
Test Requirement:	FCC Part 15 C Section 15.247 (e)			
Test Method:	ANSI C63.10:2013 and KDB 558074			
Limit:	8 dBm			
Test setup:	Spectrum Analyzer E.U.T Non-Conducted Table Ground Reference Plane			
Test Instruments:	Refer to section 5.8 for details			
Test mode:	Refer to section 5.3 for details			
Test results:	Passed			

Measurement Data:

Test CH	Power Spectral Density (dBm)	Limit(dBm)	Result
Lowest	4.27		
Middle	4.32	8.00	Pass
Highest	3.57		



Test plots as follow:





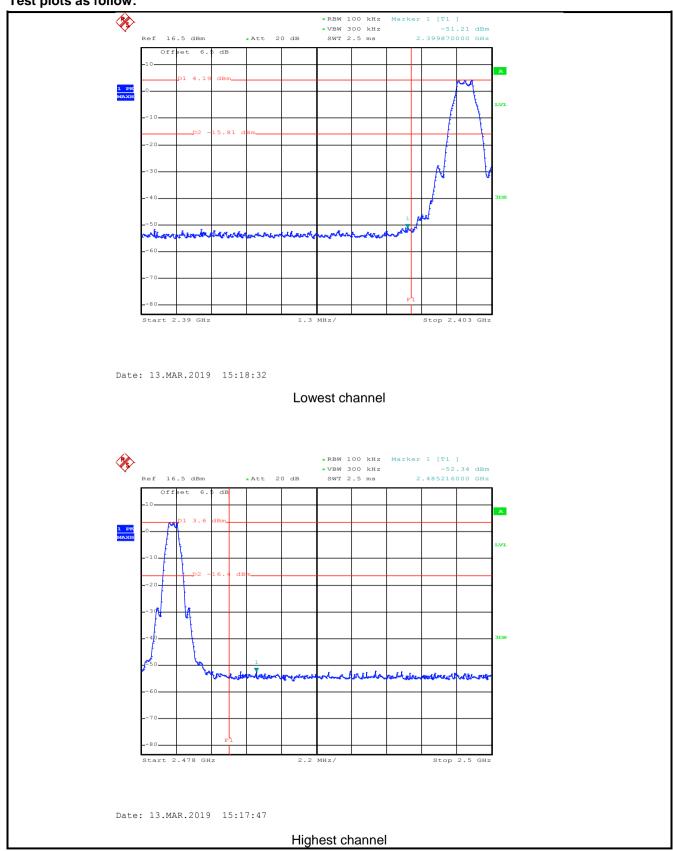
6.6 Band Edge

6.6.1 Conducted Emission Method

Test Requirement:	FCC Part 15 C Section 15.247 (d)					
Test Method:	ANSI C63.10:2013 and KDB 558074					
Limit:	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 setup:						
	Spectrum Analyzer					
	E.U.T					
	Non-Conducted Table					
	Ground Reference Plane					
	Ground Reference France					
Test Instruments:	Refer to section 5.8 for details					
Test mode:	Refer to section 5.3 for details					
Test results:	Passed					



Test plots as follow:





6.6.2 Radiated Emission Method

6.6.2 Radiated Emission Method							
Test Requirement:	FCC Part 15 C	FCC Part 15 C Section 15.205 and 15.209					
Test Method:	ANSI C63.10:	ANSI C63.10: 2013 and KDB 558074					
Test Frequency Range:	2.3GHz to 2.5	2.3GHz to 2.5GHz					
Test Distance:	3m						
Receiver setup:	Frequency Detector RBW VBW Remark						
	Above 1GHz	Peak	1MHz	3MHz	Peak Value		
 Limit:	Frequer	RMS	1MHz Limit (dBuV/m @3	3MHz	Average Value Remark		
Liiiit.		_	54.00		verage Value		
	Above 10		74.00		Peak Value		
Test Procedure:	the groun to determ 2. The EUT antenna, tower. 3. The anter the groun Both horizemake the 4. For each case and meters are to find the 5. The test-specified 6. If the emite the limits of the EU have 10 ce	 antenna, which was mounted on the top of a variable-height antenr tower. 3. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement. 4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rota table was turned from 0 degrees to 360 degree to find the maximum reading. 5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. 6. If the emission level of the EUT in peak mode was 10 dB lower that the limit specified, then testing could be stopped and the peak value of the EUT would be reported. Otherwise the emissions that did not have 10 dB margin would be re-tested one by one using peak, qual peak or average method as specified and then reported in a data 					
Test setup:	AE Wags	Test Received	Horn Antenna 3m round Reference Plane	Antenna Tower			
Test Instruments:	Refer to section	on 5.8 for de	tails				
Test mode:	Refer to section	Refer to section 5.3 for details					
Test results:	Passed	Passed					

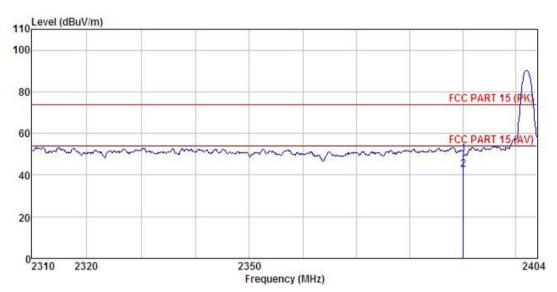


Product Name:	oduct Name: mobile phone Product Model:		A86		
Test By:	YT	YT		Test mode:	BLE Tx mode
Test Channel:	Lowest cha	annel		Polarization:	Vertical
Test Voltage:	AC 120/60	Hz		Environment:	Temp: 24℃ Huni: 57%
110 Level (d	BuV/m)				
100					
80					FCC PART 15 (PK)
60					FCC PART 15 (AV)
~~~	Morm		mmy	mm	
40					
20					
0 ²³¹⁰	2320		350 Frequency (f	1011-X	2404
			Frequency (I	vinz)	
REMARK	: Rea	adAntenna Cal	ole Preaπ	np Limi	t Over
				or Level Lin	
	MHz dB	ıV —dB/m	<u>dB</u>	B dBuV/m dBuV/	m dB
	90.000 17.9 90.000 7.8		.69 0.0 .69 0.0	00 51.70 74.0 00 41.57 54.0	0 -22.30 Peak 0 -12.43 Average

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



Product Name:	mobile phone	Product Model:	A86
Test By:	YT	Test mode:	BLE Tx mode
Test Channel:	Lowest channel	Polarization:	Horizontal
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24℃ Huni: 57%



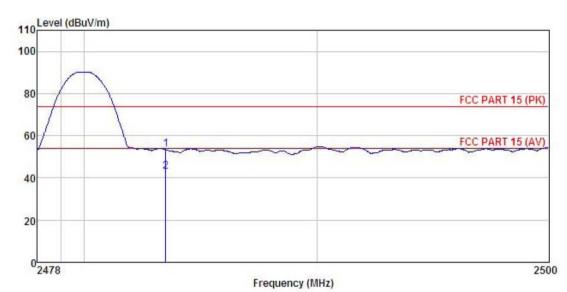
REMAR	к :	Read	Åntenna	Cable	Preamo		Limit	Over	
	Freq		Factor						Remark
	MHz	dBu∜	dB/m	<u>d</u> B	<u>dB</u>	dBuV/m	dBuV/m	<u>dB</u>	
1	2390.000	16.33	27.37	4.69	0.00	50.07	74.00	-23.93	Peak
2	2390.000	8.84	27.37	4.69	0.00	42.58	54.00	-11.42	Average

#### Remark:

- 1. 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.



Product Name:	mobile phone	Product Model:	A86
Test By:	YT	Test mode:	BLE Tx mode
Test Channel:	Highest channel	Polarization:	Vertical
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24℃ Huni: 57%



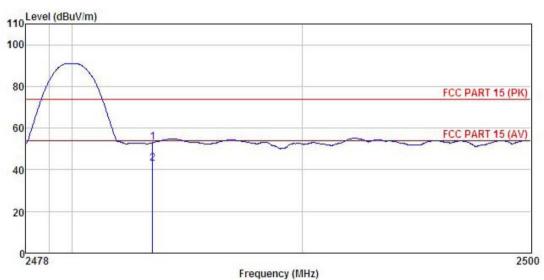
REMARK	<b>(</b> :								
i de la			Antenna Factor					Over Limit	Remark
-	MHz	dBu₹	<u>dB</u> /m	<u>d</u> B	<u>d</u> B	dBuV/m	dBuV/m	<u>d</u> B	
1 2	2483,500 2483,500	19.34 8.85		4.81 4.81		53.42 42.93			Peak Average

#### Remark:

- 1. 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.



Product Name:	mobile phone	Product Model:	A86
Test By:	YT	Test mode:	BLE Tx mode
Test Channel:	Highest channel	Polarization:	Horizontal
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24℃ Huni: 57%



REMARK ReadAntenna Cable Preamp Limit Over Loss Factor Level Freq Level Factor Line Limit Remark MHz dBuV dB/m dB dB dBuV/m dBuV/m 0.00 53.05 74.00 -20.95 Peak 0.00 42.90 54.00 -11.10 Average 2483.500 18.97 27.57 4.81 27.57 2483.500 4.81 8.82

#### Remark:

- 1. 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.



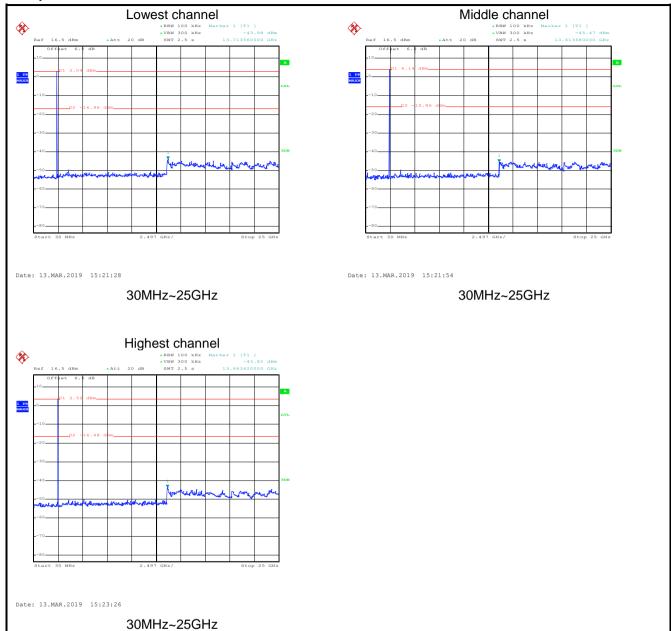
## 6.7 Spurious Emission

#### 6.7.1 Conducted Emission Method

Test Requirement:	FCC Part 15 C Section 15.247 (d)
Test Method:	ANSI C63.10:2013 and KDB 558074
Limit:	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 setup:	Spectrum Analyzer  E.U.T  Non-Conducted Table  Ground Reference Plane
Test Instruments:	Refer to section 5.8 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed



#### Test plot as follows:

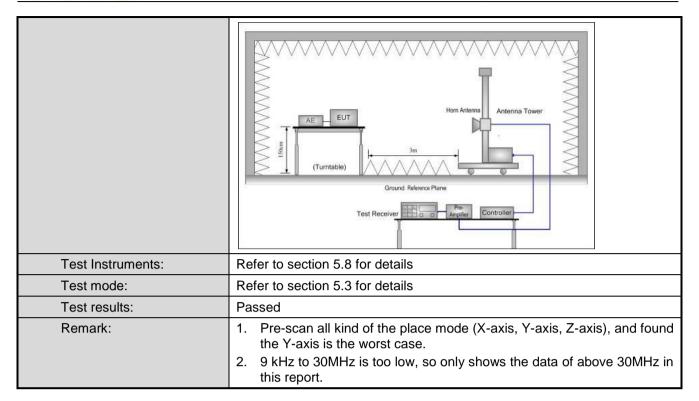




#### 6.7.2 Radiated Emission Method

6.7.2 Radiated Emission		0	005				
Test Requirement:	FCC Part 15 C		.205	and 15.209			
Test Method:	ANSI C63.10:20	)13					
Test Frequency Range:	9kHz to 25GHz						
Test Distance:	3m						
Receiver setup:	Frequency	Detector	r	RBW	VB		Remark
	30MHz-1GHz	Quasi-pea	ak	120KHz	3001		Quasi-peak Value
	Above 1GHz	Peak		1MHz	3M		Peak Value
Limite	Frequency	RMS	Lin	1MHz nit (dBuV/m @	3M	HZ	Average Value Remark
Limit:	30MHz-88M		LIII	40.0	3111)	C	Quasi-peak Value
	88MHz-216M			43.5			luasi-peak Value
	216MHz-960N			46.0			luasi-peak Value
	960MHz-1G	Hz		54.0		C	luasi-peak Value
	Above 1GH	lz –		54.0			Average Value
			1 .	74.0			Peak Value
Test Procedure:	1GHz)/1.5r The table was highest rad 2. The EUT antenna, was tower. 3. The antenre the ground Both horizon make the make the make the meters and to find the make the meters and to find the make the limit spoof the EUT have 10 dE	n(above 10 was rotated iation. was set 3 hich was no ha height is to determental and was because the anaximum receiver system and with the sion level of ecified, the would be margin wo	GHz d 36 d 36 d mould dis variable dentale den	z) above the 50 degrees to eters away to the first aried from one the maximulation of the maximulation of the maximulation of the maximulation of the maximum Hamilton of the EUT in peresting could be orted. Other to the tested of the first away to the first of the	e groun o deter from the op of a ne met um valuitions of EUT was d to he from 0 to Pea old Mo ak mod oe stop wise the d one b	d at a rmine ne inter to due of the a as arraceights degreede. We was ped arrie emity one	table 0.8m(below a 3 meter camber. the position of the efference-receiving ble-height antenna four meters above the field strength. antenna are set to anged to its worst from 1 meter to 4 tes to 360 degrees tect Function and as 10 dB lower than and the peak values ssions that did not using peak, quasi-reported in a data
Test setup:	EUT	3m < 4m				Antenna Search Antenn Test eiver —	



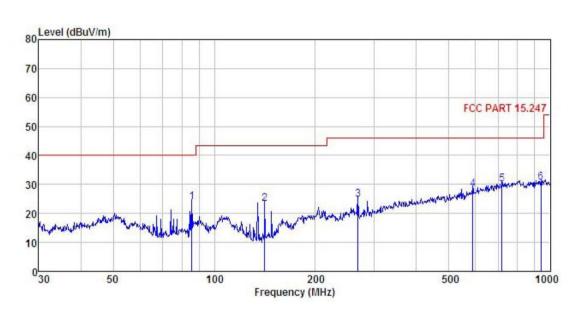




#### Measurement Data (worst case):

#### Below 1GHz:

Product Name:	mobile phone	Product Model:	A86
Test By:	YT	Test mode:	BLE Tx mode
Test Frequency:	30 MHz ~ 1 GHz	Polarization:	Vertical
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24℃ Huni: 57%



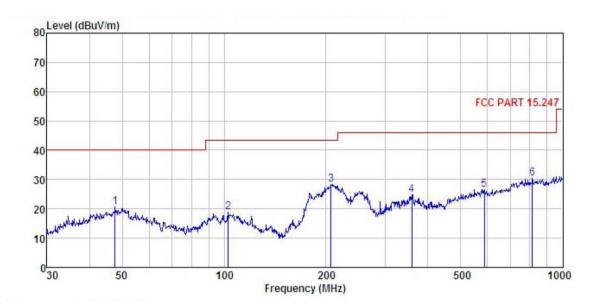
REMARK	:	Road	Ant enna	Cable	Dreamn		Limit	Over	
	Freq		Factor						Remark
	MHz	dBu∜		<u>dB</u>	<u>dB</u>	$\overline{dBuV/m}$	dBuV/m	<u>dB</u>	
1	85.598	42.31	9.19	1.87	29.60	23.77	40.00	-16.23	QP
2	141.330	41.98	8.17	2.42	29.27	23.30	43.50	-20.20	QP
2 3 4 5	267.546	37.00	13.41	2.86	28.51	24.76	46.00	-21.24	QP
4	588.905	34.56	18.94	3.93	28.97	28.46	46.00	-17.54	QP
5	719.200	34.17	20.27	4.25	28.59	30.10	46.00	-15.90	QP
6	938.833	32.12	22.38	4.10	27.76	30.84	46.00	-15.16	QP

#### Remark:

- 1. 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.



Product Name:	mobile phone	Product Model:	A86
Test By:	YT	Test mode:	BLE Tx mode
Test Frequency:	30 MHz ~ 1 GHz	Polarization:	Horizontal
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24°C Huni: 57%



REMARK	:	Read	Ant enna	Cable	Preamp		Limit	Over	
	Freq				Factor	Level	Line	Limit	Remark
	MHz	dBu∜	dB/m		<u>ab</u>	$\overline{dBuV/m}$	$\overline{dBuV/m}$	<u>dB</u>	
1	47.659	35.17	13.92	1.27	29.84	20.52	40.00	-19.48	QP
2	102.719	34.62	11.87	1.96	29.51	18.94	43.50	-24.56	QP
3	207.123	42.40	11.78	2.86	28.78	28.26	43.50	-15.24	QP
4	357.929	35.59	14.75	3.10	28.59	24.85	46.00	-21.15	QP
5	586.844	32.76	18.89	3.93	28.98	26.60	46.00	-19.40	QP
2 3 4 5 6	813.112	33.05		4.31	28.14	30.30		-15.70	100 TO 10

#### Remark:

- 1. 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.



#### **Above 1GHz**

			i est cr	iailiei. Lowe	est channel			
			De	tector: Peak	k Value			
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
4804.00	49.85	30.85	6.80	41.81	45.69	74.00	-28.31	Vertical
4804.00	48.32	30.85	6.80	41.81	44.16	74.00	-29.84	Horizontal
			Dete	ector: Averaç	ge Value			
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
4804.00	39.74	30.85	6.80	41.81	35.58	54.00	-18.42	Vertical
		00.05	6.80	41.81	35.95	54.00	-18.05	Horizontal
4804.00	40.11	30.85	0.00		00.00	5 5	10.00	
4804.00	40.11	30.85	Test ch	nannel: Midd	dle channel		10.00	
4804.00  Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Test ch	nannel: Midd	dle channel	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
Frequency	Read Level	Antenna Factor	Test ch De Cable Loss	nannel: Mido tector: Peak Preamp Factor	dle channel Value Level	Limit Line	Over Limit	
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Test ch De Cable Loss (dB)	nannel: Mido tector: Peak Preamp Factor (dB)	dle channel v Value Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
Frequency (MHz) 4884.00	Read Level (dBuV) 49.87	Antenna Factor (dB/m) 31.20	Test ch De Cable Loss (dB) 6.86	nannel: Midd tector: Peak Preamp Factor (dB) 41.84	dle channel v Value Level (dBuV/m) 46.09 44.88	Limit Line (dBuV/m) 74.00	Over Limit (dB) -27.91	Polarization Vertical
Frequency (MHz) 4884.00	Read Level (dBuV) 49.87	Antenna Factor (dB/m) 31.20	Test ch De Cable Loss (dB) 6.86	nannel: Mido tector: Peak Preamp Factor (dB) 41.84 41.84	dle channel v Value Level (dBuV/m) 46.09 44.88	Limit Line (dBuV/m) 74.00	Over Limit (dB) -27.91	Polarization Vertical
Frequency (MHz) 4884.00 4884.00 Frequency	Read Level (dBuV) 49.87 48.66 Read Level	Antenna Factor (dB/m) 31.20 31.20 Antenna Factor	Test ch De Cable Loss (dB) 6.86 6.86 Dete Cable Loss	Preamp Factor (dB) 41.84 41.84 ector: Average Preamp Factor	dle channel c Value  Level (dBuV/m)  46.09  44.88 ge Value  Level	Limit Line (dBuV/m) 74.00 74.00 Limit Line	Over Limit (dB) -27.91 -29.12 Over Limit	Polarization  Vertical  Horizontal

Test channel: Highest channel								
Detector: Peak Value								
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
4960.00	49.66	31.63	6.91	41.87	46.33	74.00	-27.67	Vertical
4960.00	48.77	31.63	6.91	41.87	45.44	74.00	-28.56	Horizontal
Detector: Average Value								
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
4960.00	39.62	31.63	6.91	41.87	36.29	54.00	-17.71	Vertical
4960.00	40.33	31.63	6.91	41.87	37.00	54.00	-17.00	Horizontal

#### Remark.

^{1.} 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.