

JianYan Testing Group Shenzhen Co., Ltd.

Report No: JYTSZB-R01-2100826

FCC REPORT

Applicant: Yulong Computer Telecommunication Scientific (Shenzhen) Co.

Ltd

Address of Applicant: Floor 21, Block A, Coolpad Building North High-Tech Industrial

Park, Nanshan District

Equipment Under Test (EUT)

Product Name: 4G Smart Phone

Model No.: C202

Trade mark: Coolpad

FCC ID: R38YLCPC202

Applicable standards: FCC CFR Title 47 Part 15 Subpart B

Date of sample receipt: 24 Nov., 2021

Date of Test: 25 Nov., 2021 to 12 Jan., 2022

Date of report issued: 10 Feb., 2022

Test Result: PASS *

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 JYT product certification mark. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

This report may only be reproduced and distributed in full. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards.

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





Version

Version No.	Date	Description
00	13 Jan., 2022	Original
01	10 Feb., 2022	Update page 5

Tested by: Date: 10 Feb., 2022

Winner Thang
Project Engineer Reviewed by: Date: 10 Feb., 2022





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4 Test Summary

Test Item	Section in CFR 47	Result		
Conducted Emission	Part 15.107	Pass		
Radiated Emission	Part 15.109	Pass		
Remark: 1. Pass: The EUT complies with the essential requirements in the standard. Test Method: ANSI C63.4:2014				



5 General Information

5.1 Client Information

Applicant:	Yulong Computer Telecommunication Scientific (Shenzhen) Co. Ltd
Address:	Floor 21, Block A, Coolpad Building North High-Tech Industrial Park, Nanshan District
Manufacturer/Factory:	Mobiwire Mobiles(NongBo) Co.,Ltd.
Address:	No.999 DaCheng East Road, Fenghua Zhejiang,China

5.2 General Description of E.U.T.

Product Name:	4G Smart Phone
Model No.:	C202
Power supply:	Rechargeable Li-ion Battery DC3.8V, 2950mAh
AC adapter:	Model: A18A-050100U-US2 Input: AC100-240V, 50/60Hz, 0.2A Output: DC 5.0V, 1A
Test Sample Condition:	The test samples were provided in good working order with no visible defects.
Remark:	There are two kinds of EUTs, single SIM card slot EUT and dual SIM card slot EUT. The EUT is the same except for the card slot. Choose to test the dual SIM card slot EUT.

5.3 Test Mode

Operating mode	Detail description
PC mode	Keep the EUT in Downloading mode(Worst case)
Charging+Recording mode	Keep the EUT in Charging+Recording mode
Charging+Playing mode	Keep the EUT in Charging+Playing mode
FM mode	Keep the EUT in FM receiver mode
GPS mode	Keep the EUT in GPS receiver mode

The sample was placed 0.8m 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.

5.4 Measurement Uncertainty

Parameter	Expanded Uncertainty (Confidence of 95%)
Conducted Emission (9kHz ~ 150KHz) for V-AMN	3.11 dB
Conducted Emission (150kHz ~ 30MHz) for V-AMN	2.62 dB
Radiated Emission (9kHz ~ 30MHz electric field) for 3m SAC	3.13 dB
Radiated Emission (9kHz ~ 30MHz magnetic field) for 3m SAC	3.13 dB
Radiated Emission (30MHz ~ 1GHz) for 3m SAC	4.45 dB
Radiated Emission (1GHz ~ 18GHz) for 3m SAC	5.34 dB
Radiated Emission (18GHz ~ 40GHz) for 3m SAC	5.34 dB
Radiated Emission (30MHz ~ 1GHz) for 10m SAC	4.32 dB

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5.5 Description of Support Units

Manufacturer	Description	Model	S/N	FCC ID/DoC
Lenovo	Laptop	ThinkPad T14 Gen 1	SL10Z47277	DoC
HP	Printer	HP LaserJet P1007	VNFP409729	DoC

5.6 Related Submittal(s) / Grant (s)

This is an original grant, no related submittals and grants.

5.7 Description of Cable Used

Cable Type	Description	Length	From	То
Detached USB Cable	Shielding	1.0m	EUT	PC/Adapter
Detached headset cable	Unshielded	1.25m	EUT	Headset

5.8 Additions to, deviations, or exclusions from the method

No

5.9 Laboratory Facility

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

• FCC - Designation No.: CN1211

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

• ISED - CAB identifier.: CN0021

The 3m Semi-anechoic chamber and 10m Semi-anechoic chamber of JianYan Testing Group Shenzhen 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 L15527

JianYan Testing Group Shenzhen Co., Ltd. is accredited to ISO/IEC 17025:2017 General Requirements for the Competence of Testing and Calibration laboratories for the competence of testing. The Registration No. is CNAS L15527.

• A2LA - Registration No.: 4346.01

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 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

5.10 Laboratory Location

JianYan Testing Group Shenzhen Co., Ltd.

Address: No.101, Building 8, Innovation Wisdom Port, No.155 Hongtian Road, Huangpu Community, Xinqiao Street, Bao'an District, Shenzhen, Guangdong, People's Republic of China.

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5.11 Test Instruments list

Radiated Emission(bleow 1GHz):						
Test Equipment	Manufacturer	Model No.	Serial No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)	
3m SAC	ETS	RFD-100	Q1984	04-14-2021	04-13-2024	
Loop Antenna	SCHWARZBECK	FMZB 1519 B	1519B-044	03-07-2021	03-06-2022	
BiConiLog Antenna	SCHWARZBECK	VULB9163	9163-1246	03-07-2021	03-06-2022	
Biconical Antenna	SCHWARZBECK	VUBA 9117	9117#359	06-17-2021	06-17-2022	
Horn Antenna	SCHWARZBECK	BBHA9120D	912D-916	03-07-2021	03-06-2022	
Broad-Band Horn Antenna	SCHWARZBECK	BBHA9170	1067	04-02-2021	04-01-2022	
Broad-Band Horn Antenna	SCHWARZBECK	BBHA9170	1068	04-02-2021	04-01-2022	
EMI Test Receiver	Rohde & Schwarz	ESRP7	101070	03-03-2021	03-02-2022	
Spectrum analyzer	Rohde & Schwarz	FSP30	101454	03-03-2021	03-02-2022	
Spectrum analyzer	Keysight	N9010B	MY60240202	10-27-2021	10-26-2022	
Low Pre-amplifier	SCHWARZBECK	BBV9743B	00305	03-07-2021	03-06-2022	
High Pre-amplifier	SKET	LNPA_0118G-50	MF280208233	03-07-2021	03-06-2022	
Cable	Qualwave	JYT3M-1G-NN-8M	JYT3M-1	03-07-2021	03-06-2022	
Cable	Qualwave	JYT3M-18G-NN-8M	JYT3M-2	03-07-2021	03-06-2022	
Cable	Qualwave	JYT3M-1G-BB-5M	JYT3M-3	03-07-2021	03-06-2022	
Cable	Bost	JYT3M-40G-SS-8M	JYT3M-4	04-02-2021	04-01-2022	
EMI Test Software	Tonscend	TS+		Version:3.0.0.1		

Radiated Emission(Above 1GHz):						
Test Equipment	Manufacturer	Model No.	Serial No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)	
10m SAC	ETS	RFSD-100-F/A	Q2005	04-28-2021	04-27-2024	
BiConiLog Antenna	SCHWARZBECK	VULB 9168	1249	04-02-2021	04-01-2022	
BiConiLog Antenna	SCHWARZBECK	VULB 9168	1250	04-02-2021	04-01-2022	
EMI Test Receiver	R&S	ESR 3	102800	04-08-2021	04-07-2022	
EMI Test Receiver	R&S	ESR 3	102802	04-08-2021	04-07-2022	
Low Pre-amplifier	Bost	LNA 0920N	2016	04-06-2021	04-05-2022	
Low Pre-amplifier	Bost	LNA 0920N	2019	04-06-2021	04-05-2022	
Cable	Bost	JYT10M-1G-NN-10M	JYT10M-1	04-02-2021	04-01-2022	
Cable	Bost	JYT10M-1G-NN-10M	JYT10M-2	04-02-2021	04-01-2022	
Test Software	R&S	EMC32	,	Version: 10.50.4	0	

Conducted Emission:						
Test Equipment	Manufacturer	Model No.	Serial No.	Cal. Date (mm-dd-yy)	Cal. Due date (mm-dd-yy)	
EMI Test Receiver	Rohde & Schwarz	ESCI 3	101189	03-03-2021	03-02-2022	
LISN	Schwarzbeck	NSLK 8127	QCJ001-13	03-18-2021	03-17-2022	
LISN	Rohde & Schwarz	ESH3-Z5	843862/010	06-18-2020	06-17-2022	
RF Switch	TOP PRECISION	RSU0301	N/A	03-03-2021	03-02-2022	
Cable	Bost	JYTCE-1G-NN-2M	JYTCE-1	03-03-2021	03-02-2022	
Cable	Bost	JYTCE-1G-BN-3M	JYTCE-2	03-03-2021	03-02-2022	
EMI Test Software	AUDIX	E3	V	ersion: 6.110919	b	

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Test results and Measurement Data

6.1 Conducted Emission

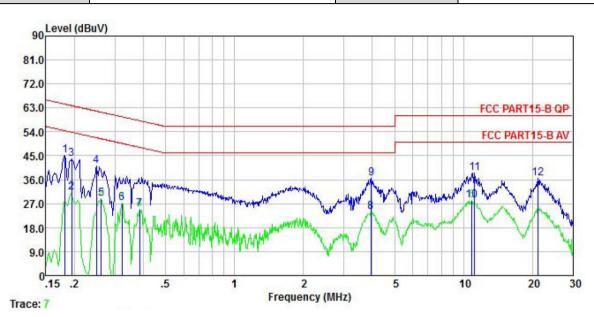
Test Requirement:	FCC Part 15 B Section 15.107			
Test Frequency Range:	150kHz to 30MHz			
Class / Severity:	Class B			
Receiver setup:	RBW=9kHz, VBW=30kHz			
Limit:	Frequency range (MHz)		(dBµV)	
	. , ,	Quasi-peak	Average	
	0.15-0.5	66 to 56*	56 to 46*	
	0.5-5	56	46	
	0.5-30	60	50	
	* Decreases with the logarithm	of the frequency.		
Test precedure	Remark E.U.T. Equipment Under Test LISN: Line Impedence Stabilization Network Test table height=0.8m	EMI Receiver		
Test procedure	 The E.U.T and simulators are connected to the main power through a line impedance stabilization network(L.I.S.N.). The provide a 50ohm/50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refers to the block diagram of the test setup and photographs). 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(latest version) on conducted measurement. 			
Test Instruments:	Refer to section 5.11 for details			
Test mode:	Refer to section 5.3 for details			
Test results:	Pass			

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Measurement data:

Product name:	4G Smart Phone	Product model:	C202
Test by:	Mike	Test mode:	PC mode
Test frequency:	150 kHz ~ 30 MHz	Phase:	Line
Test voltage:	AC 120 V/60 Hz	Environment:	Temp: 22.5℃ Huni: 55%



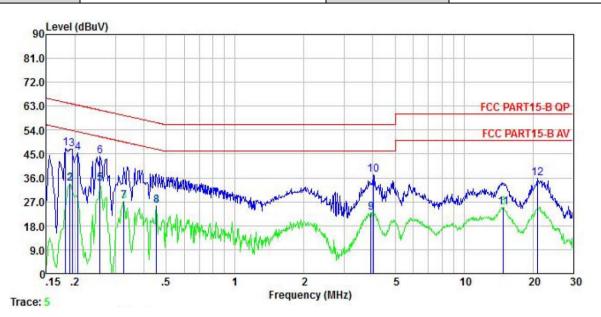
	Freq	Read Level	LISN Factor	Aux Factor	Cable Loss	Level	Limit Line	Over Limit	Remark
-	MHz	dBu₹	dB	dB	dB	dBu₹	dBu∜	dB	
1 2	0.182 0.194	35.01 21.05	10.23 10.23	0.00 0.00	0.01 0.03	45.25 31.31		-19.17 -22.53	QP Average
2 3 4 5 6	0. 194 0. 249	33.59 30.87	10.23 10.25		0.03	43.85	63.84	-19.99 -20.65	QP
5	0.262	18.64	10.25	0.00	0.01	28.90	51.38	-22.48	Average
7	0.322 0.385	17.03 14.61	10.26 10.27	0.00	0.03		48.17	-23.26	Average Average
8 9	3.943 3.964	13.38 26.15	10.39 10.39	0.00 0.00	0.08 0.08	23.85 36.62		-22.15 -19.38	Average QP
10 11	10.905 11.198	17.49 27.74	10.63 10.65	0.00	0.12 0.11	28.24 38.50		-21.76 -21.50	Average QP
12	21.147	25.36	10.93	0.00	0.17	36.46	60.00	-23.54	QP

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.
- Final Level =Receiver Read level + LISN Factor + Cable Loss.



Product name:	4G Smart Phone	Product model:	C202
Test by:	Mike	Test mode:	PC mode
Test frequency:	150 kHz ~ 30 MHz	Phase:	Neutral
Test voltage:	AC 120 V/60 Hz	Environment:	Temp: 22.5℃ Huni: 55%



	Freq	Read Level	LISN Factor	Aux Factor	Cable Loss	Level	Limit Line	Over Limit	Remark
	MHz	dBu∀	<u>dB</u>		dB	dBu₹	dBu₹	<u>dB</u>	
1	0.182 0.190	36.94 23.75	10.21 10.21	0.00	0.01 0.03	47.16 33.99		-17.26 -20.03	QP Average
3	0.194 0.206	36.72	10.22	0.00	0.03	46.97 45.53	63.84	-16.87 -17.83	QP
1 2 3 4 5 6 7	0.258	35.27 23.61	10.24	0.00	0.01	33.86	51.51	-17.65	Average
7	0.258 0.327	33.80 17.09	10.24 10.26	0.00 0.00	0.01 0.02	44.05 27.37	49.53		Average
8	0.454 3.922	15.43 12.49	10.27 10.38	0.00	0.03 0.08	25.73 22.95			Average Average
10 11 12	4.006 14.828 21.035	26.72 14.06 24.82	10.38 10.72 10.88	0.00 0.00 0.00	0.08 0.14 0.17	37.18 24.92 35.87	50.00	-18.82 -25.08 -24.13	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.

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6.2 Radiated Emission

Test Requirement:	FCC Part 15 B Se	FCC Part 15 B Section 15.109				
Test Frequency Range:	30MHz to 6000M	Hz				
Test site:	Measurement Distance: 3m or 10m (Semi-Anechoic Chamber)					
		Detecto		RBW	VBW	Remark
Receiver setup:	Frequency 30MHz-1GHz	Quasi-pe		120kHz	300kHz	
		Peak		1MHz	3MHz	Peak Value
	Above 1GHz	RMS		1MHz	3MHz	Average Value
Limit:	Frequenc	1	Lim	it (dBuV/m @		Remark
	30MHz-88N			30.0	,	Quasi-peak Value
	88MHz-216	MHz		33.5		Quasi-peak Value
	216MHz-960			36.0		Quasi-peak Value
	960MHz-10			44.0		Quasi-peak Value
	Frequenc	СУ	Lim	nit (dBuV/m	@3m)	Remark
	Above 1G	Hz		54.0		Average Value
Test setup:				74.0		Peak Value
	Ground Plane Above 1GHz	EUT Gn Test Receiv		Pre- Amptifier C	Antenna Tower Antenna Tower Antenna Tower	
Test Procedure:	ground at a find	 The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 10 meter chamber (below 1GHz)or 3 meter chamber (above 1GHz). The table was rotated 360 degrees to determine the position of the highest radiation. The EUT was set 10 meters (below 1GHz) or 3 meters (above 1GHz) away from the interference-receiving antenna, which was mounted on 				





	the top of a variable-height antenna tower.			
	 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 rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.			
	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 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.			
Test Instruments:	Refer to section 5.11 for details			
Test mode:	Refer to section 5.3 for details			
Test results:	Passed			
Remark:	All of the observed value above 6GHz ware the niose floor , which were no recorded			

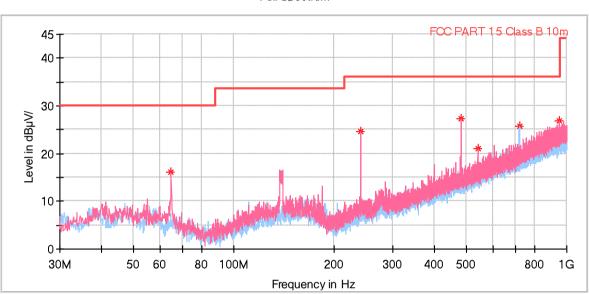


Measurement Data:

Below 1GHz:

Product Name:	4G Smart Phone	Product Model:	C202
Test By:	Mike	Test mode:	PC mode
Test Frequency:	30 MHz ~ 1 GHz	Polarization:	Vertical & Horizontal
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24°C Huni: 57%





Frequency (MHz)	MaxPeak (dBμ V/m)	Limit (dBµ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
64.726000	16.17	30.00	13.83	100.0	V	107.0	-17.3
240.005000	24.53	36.00	11.47	100.0	V	43.0	-15.7
479.983000	27.33	36.00	8.67	100.0	V	47.0	-9.3
539.929000	21.06	36.00	14.94	100.0	V	77.0	-8.0
720.058000	25.77	36.00	10.23	100.0	Н	73.0	-4.7
950.142000	26.82	36.00	9.18	100.0	V	0.0	-0.1

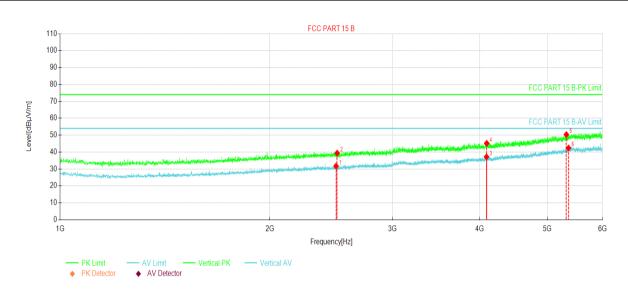
Remark:

- 1. Final Level = Receiver Read level + Factor.(Antenna Factor + Cable Loss Preamplifier Factor).
- The emission levels of other frequencies are lower than the limit 20dB and not show in test report.



Above 1GHz:

Product Name:	4G Smart Phone	Product Model:	C202
Test By:	Mike	Test mode:	PC mode
Test Frequency:	1 GHz ~ 6 GHz	Polarization:	Vertical
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24℃ Huni: 57%



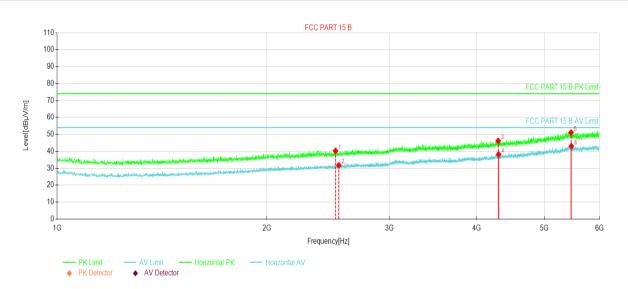
NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Trace	Polarity
1	2488.12	50.34	31.71	-18.63	54.00	22.29	AV	Vertical
2	2497.50	57.99	39.38	-18.61	74.00	34.62	PK	Vertical
3	4090.00	49.78	37.18	-12.60	54.00	16.82	AV	Vertical
4	4093.12	57.75	45.17	-12.58	74.00	28.83	PK	Vertical
5	5325.00	56.82	50.35	-6.47	74.00	23.65	PK	Vertical
6	5363.12	48.58	42.38	-6.20	54.00	11.62	AV	Vertical

Remark:

- 1. Final Level = Receiver Read level + Factor.(Antenna Factor + Cable Loss Preamplifier Factor).
- 2. The emission levels of other frequencies are lower than the limit 20dB and not show in test report.



Product Name:	4G Smart Phone	Product Model:	C202
Test By:	Mike	Test mode:	PC mode
Test Frequency:	1 GHz ~ 6 GHz	Polarization:	Horizontal
Test Voltage:	AC 120/60Hz	Environment:	Temp: 24℃ Huni: 57%



NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Trace	Polarity
1	2508.75	58.82	40.26	-18.56	74.00	33.74	PK	Horizontal
2	2536.25	50.15	31.74	-18.41	54.00	22.26	AV	Horizontal
3	4293.12	57.81	46.15	-11.66	74.00	27.85	PK	Horizontal
4	4299.37	49.79	38.15	-11.64	54.00	15.85	AV	Horizontal
5	5461.87	57.11	51.09	-6.02	74.00	22.91	PK	Horizontal
6	5466.87	49.05	43.02	-6.03	54.00	10.98	AV	Horizontal

Remark:

- 1. Final Level = Receiver Read level + Factor.(Antenna Factor + Cable Loss Preamplifier Factor).
- The emission levels of other frequencies are lower than the limit 20dB and not show in test report.

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