FCC Test Report

APPLICANT	:	**Pod Trackers Pty Ltd**
EQUIPMENT	:	**Pod 3 GPS Tracker**
BRAND NAME	:	**Pod Trackers**
MODEL NAME	:	**POD-003**
MARKETING NAME	:	**Pod 3 GPS Tracker**
FCC ID	:	**2AD83POD-3-1**
STANDARD	:	**FCC 47 CFR FCC Part 15 Subpart B**
CLASSIFICATION	:	**Certification**

The product was received on Aug. 20, 2018 and testing was completed on Sep. 17, 2018. We, Sporton International (Shenzhen) Inc., would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of Sporton International (Shenzhen) Inc., the test report shall not be reproduced except in full.

Eric Shih

NVLAP TESTING
NVLAP LAB CODE 600156-0

Approved by: Eric Shih / Manager

Sporton International (Shenzhen) Inc.
1/F, 2/F, Bldg 5, Shiling Industrial Zone, Xinwei Village, Xili, Nanshan Shenzhen City
Guangdong Province 518055 China

TABLE OF CONTENTS

REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FC882005	Rev. 01	Initial issue of report	Nov. 20, 2018

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
-	15.107	AC Conducted Emission	< 15.107 limits	Not Required	-
3.1	15.109	Radiated Emission	< 15.109 limits	PASS	Under limit 13.64 dB at 796.300 MHz
Note: Not required means after assessing, test items are not necessary to carry out.					

1. General Description

1.1. Applicant

Pod Trackers Pty Ltd
Lvl 9,61 Lavender St Milsons Point NSW 2061 Australia

1.2. Manufacturer

Kaifa Technology Co., Ltd.
7006 Caitian Rd., Futian Distric, Shenzhen, China

1.3. Product Feature of Equipment Under Test

Product Feature	
Equipment	Pod 3 GPS Tracker
Brand Name	Pod Trackers
Model Name	POD-003
Marketing Name	Pod 3 GPS Tracker
FCC ID	2AD83POD-3-1
EUT supports Radios application	GSM/EGPRS/WCDMA/HSPA/GNSS WLAN 11b/g/n HT20 Bluetooth LE
HW Version	V3.1.0.0
SW Version	V3.3.83
EUT Stage	Production Unit

Remark: The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

1.4. Product Specification of Equipment Under Test

Standards-related Product Specification	
Tx Frequency	GSM850: 824.2 MHz ~ 848.8 MHz GSM1900: 1850.2 MHz ~ 1909.8MHz WCDMA Band V: 826.4 MHz ~ 846.6 MHz WCDMA Band IV : 1712.4 MHz ~ 1752.6 MHz WCDMA Band II: 1852.4 MHz ~ 1907.6 MHz 802.11b/g/n: 2412 MHz ~ 2462 MHz Bluetooth: 2402 MHz ~ 2480 MHz
Rx Frequency	GSM850: 869.2 MHz ~ 893.8 MHz GSM1900: 1930.2 MHz ~ 1989.8 MHz WCDMA Band V: 871.4 MHz ~ 891.6 MHz WCDMA Band IV : 2112.4 MHz ~ 2152.6 MHz WCDMA Band II: 1932.4 MHz ~ 1987.6 MHz 802.11b/g/n: 2412 MHz ~ 2462 MHz Bluetooth: 2402 MHz ~ 2480 MHz GNSS : 1559 GHz ~ 1610 MHz
Antenna Type	WWAN : PIFA Antenna WLAN : LA.02 Antenna Bluetooth : LA.02 Antenna GPS/Glonass : LA.02 Antenna
Type of Modulation	GSM: GMSK GPRS: GMSK EDGE(MCS 0-4): GMSK / (MCS 5-9): 8PSK WCDMA: QPSK (Uplink) HSUPA: QPSK (Uplink) 802.11b : DSSS (DBPSK / DQPSK / CCK) 802.11g/n : OFDM (BPSK / QPSK / 16QAM / 64QAM) Bluetooth LE : GFSK GNSS : BPSK

1.5. Modification of EUT

No modifications are made to the EUT during all test items.

1.6. Test Location

Sporton Lab is accredited to ISO 17025 by National Voluntary Laboratory Accreditation Program (NVLAP code: 600156-0).

Test Site	Sporton International (Shenzhen) Inc.		
Test Site Location	No. 3 Bldg the third floor of south, Shahe River west, Fengzeyuan Warehouse, Nanshan District Shenzhen City Guangdong Province 518055 China TEL: +86-755-3320-2398		
Test Site No.	**Sporton Site No.**	**FCC designation No.**	**FCC Test Firm Registration No.**
	03CH04-SZ	CN5019	577730

1.7. Applicable Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- FCC 47 CFR FCC Part 15 Subpart B
- ANSI C63.4-2014

Remark: All test items were verified and recorded according to the standards and without any deviation during the test.

2. Test Configuration of Equipment Under Test

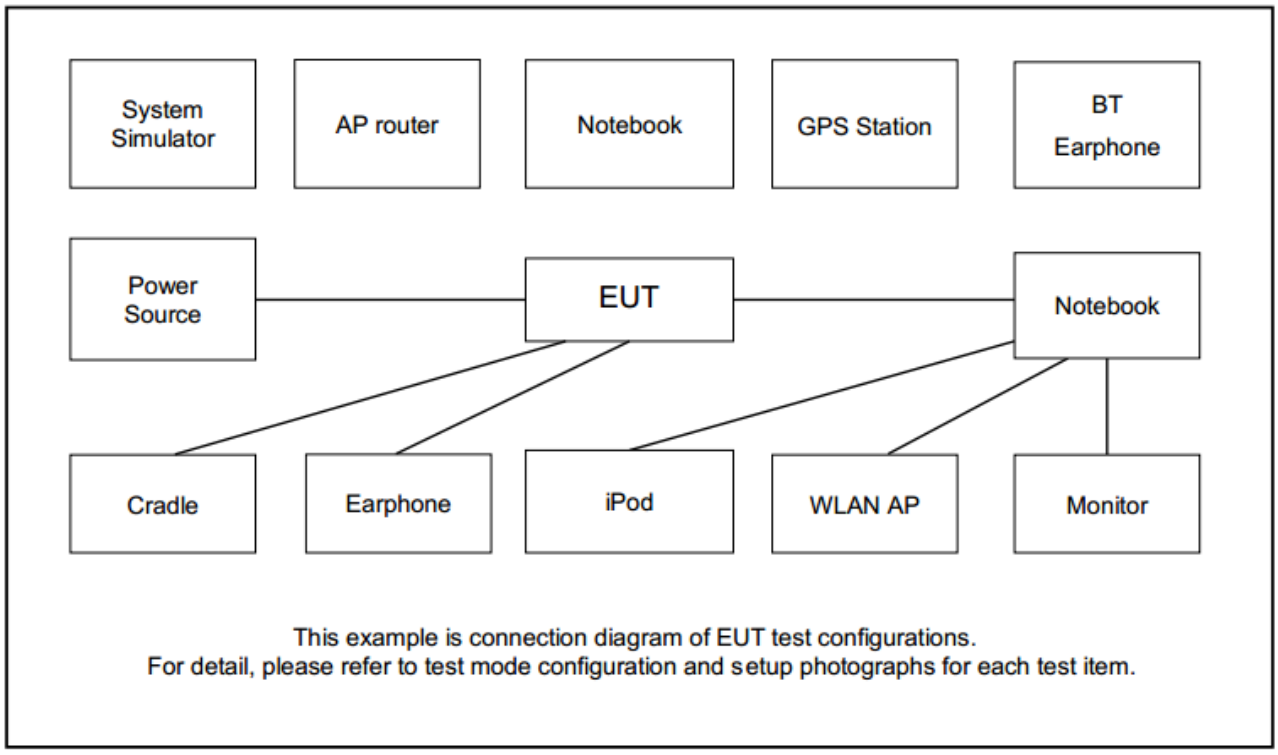
2.1. Test Mode

The EUT has been associated with peripherals pursuant to ANSI C63.4-2014 and configuration operated in a manner tended to maximize its emission characteristics in a typical application.

Frequency range investigated: conduction (150 kHz to 30 MHz), radiation (30MHz to the 5th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower).

Test Items	Function Type
Radiated Emissions	Mode 1: GSM850 Idle + WLAN (2.4GHz) Idle + Bluetooth Idle + GNSS On + Battery Mode 2: WCDMA Band II Idle + WLAN (2.4GHz) Idle + Bluetooth Idle + GNSS On + Battery Mode 3: Battery + Charging Dock + Powered by a Laptop
Remark: The worst case of RE is mode 3; only the test data of this mode was reported.	

2.2. Connection Diagram of Test System



2.3. Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	System Simulator	Anritsu	MT8820C	N/A	N/A	Unshielded, 1.8m
2.	Mobile phone	Huawei	MATA9	QISEVA-L09	N/A	N/A
3.	iPod	Apple	MC525 ZP/A	N/A	Shielded, 1.0m	N/A
4.	Router	Netcore	NW616	N/A	N/A	Unshielded, 1.8m with Core

2.4. EUT Operation Test Setup

The EUT was in GSM or WCDMA idle mode during the testing. The EUT was synchronized to the BCCH, and is in continuous receiving mode by setting system simulator's paging reorganization.

At the same time, the EUT was attached to the mobile phone (Bluetooth or WLAN), and the following programs installed in the EUT were programmed during the test.

1. Execute "GNSS Test" to make the EUT receive continuous signals from GPS station.

3. Test Result

3.1. Test of Radiated Emission Measurement

3.1.1. Limit of Radiated Emission

The emissions from an unintentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
30 – 88	100	3
88 – 216	150	3
216 - 960	200	3
Above 960	500	3

3.1.2. Measuring Instruments

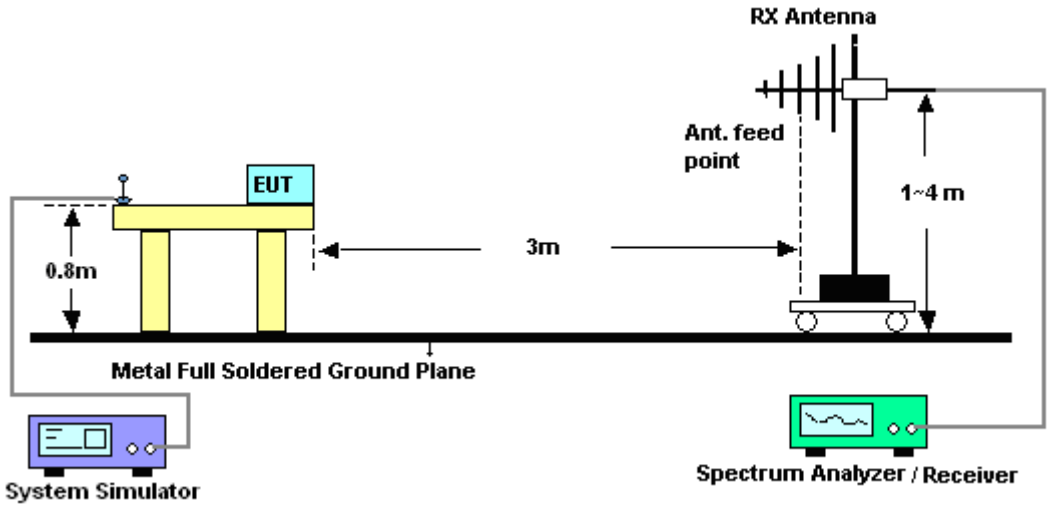
The measuring equipment is listed in the section 4 of this test report.

3.1.3. Test Procedures

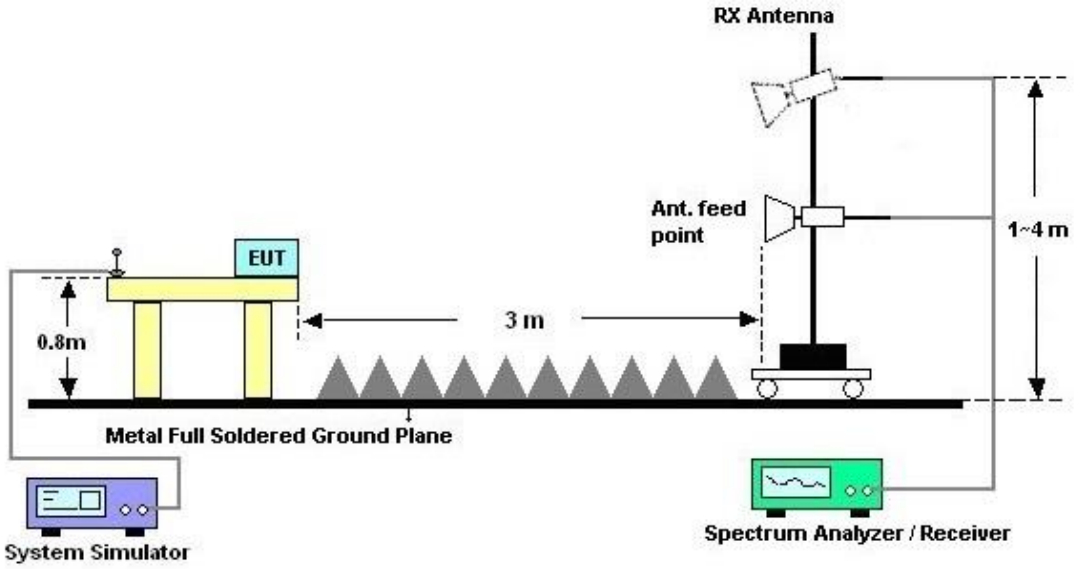
1. The EUT was placed on a turntable with 0.8 meter above ground.
2. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest radiation.
4. The antenna is a Bi-Log antenna and its height is adjusted between one to four meters above ground to find the maximum value of the field strength for both horizontal polarization and vertical polarization of the antenna.
5. For each suspected emission, the EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading.
6. Set the test-receiver system to Peak Detect Function and specified bandwidth with Maximum Hold Mode (RBW=120kHz/VBW=300kHz for frequency below 1GHz; RBW=1MHz VBW=3MHz (Peak), RBW=1MHz/VBW=10Hz (Average) for frequency above 1GHz).
7. If the emission level of the EUT in peak mode was 3 dB lower than the limit specified, peak values of EUT will be reported. Otherwise, the emission will be repeated by using the quasi-peak method and reported.
8. Emission level (dBμV/m) = 20 log Emission level (μV/m)
9. Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level

3.1.4. Test Setup of Radiated Emission

For radiated emissions from 30MHz to 1GHz

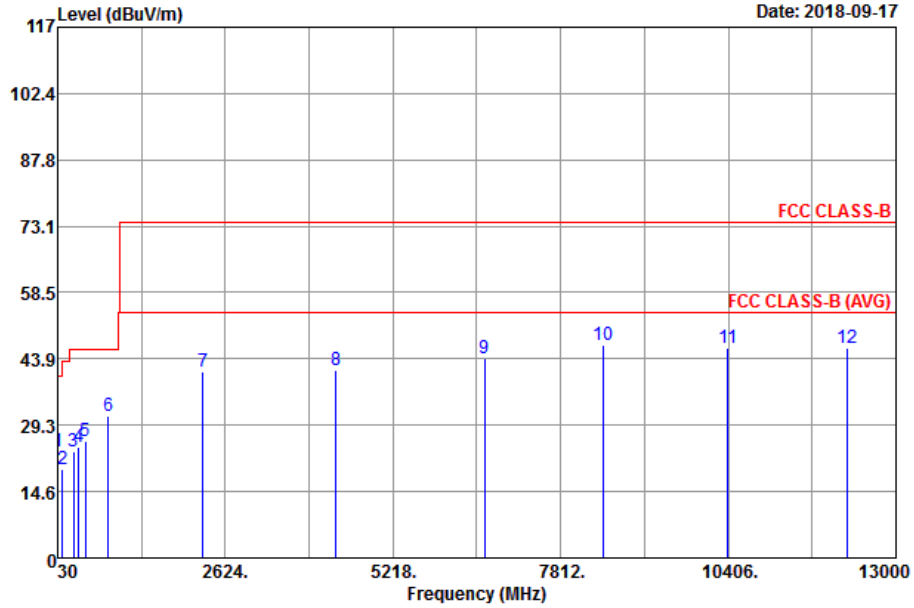


For radiated emissions above 1GHz



3.1.5. Test Result of Radiated Emission

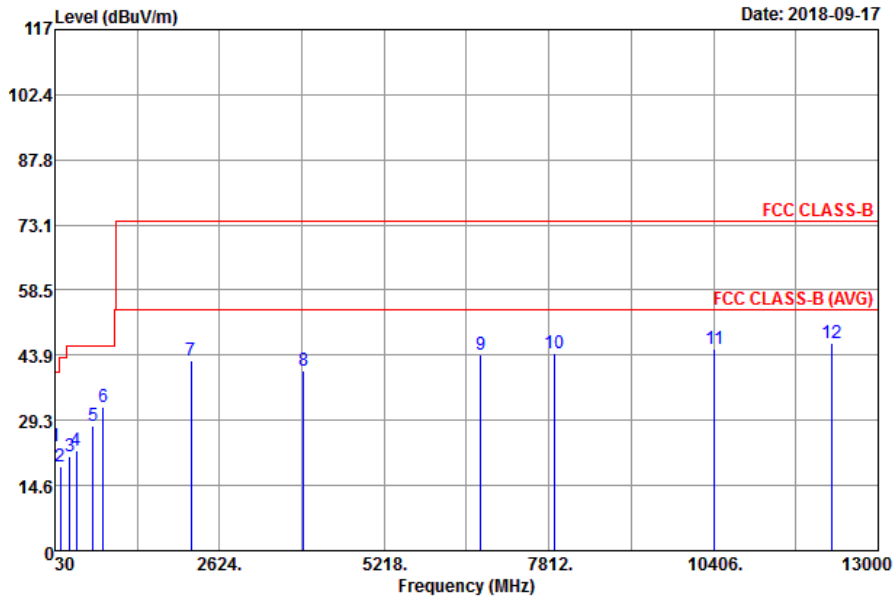
Test Mode :	Mode 3	Temperature :	24~25°C
Test Engineer :	Feiyan Zhang	Relative Humidity :	48~49%
Test Distance :	3m	Polarization :	Horizontal
Function Type :	Battery + Charging Dock + Powered by a Laptop		



Site : 03CH04-SZ
Condition : FCC CLASS-B 3m LF_ANT35408_6_18 HORIZONTAL
Project : 882005
Mode : Mode 3
battery : #16
Plane : Y

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	30.00	23.51	-16.49	40.00	30.83	24.40	0.25	31.97	---	---	Peak
2	109.54	19.40	-24.10	43.50	32.67	17.32	1.10	31.69	---	---	Peak
3	278.32	23.37	-22.63	46.00	33.82	18.99	1.79	31.23	---	---	Peak
4	351.07	24.43	-21.57	46.00	33.11	20.43	2.10	31.21	---	---	Peak
5	458.74	25.85	-20.15	46.00	32.15	22.66	2.32	31.28	---	---	Peak
6	817.64	31.30	-14.70	46.00	33.03	26.25	3.19	31.17	100	188	Peak
7	2278.00	41.13	-32.87	74.00	66.72	27.83	4.61	58.03	---	---	Peak
8	4334.00	41.48	-32.52	74.00	64.77	30.63	5.10	59.02	---	---	Peak
9	6630.00	44.08	-29.92	74.00	61.27	34.44	6.64	58.27	---	---	Peak
10	8462.00	46.91	-27.09	74.00	57.69	37.29	7.22	55.29	100	162	Peak
11	10394.00	46.32	-27.68	74.00	54.66	38.28	9.24	55.86	---	---	Peak
12	12244.00	46.38	-27.62	74.00	52.69	39.44	9.68	55.43	---	---	Peak

Test Mode :	Mode 3	Temperature :	24~25°C
Test Engineer :	Feiyan Zhang	Relative Humidity :	48~49%
Test Distance :	3m	Polarization :	Vertical
Function Type :	Battery + Charging Dock + Powered by a Laptop		



Site : 03CH04-SZ
Condition : FCC CLASS-B 3m LF_ANT35408_6_18 VERTICAL
Project : 882005
Mode : Mode 3
battery : #16
Plane : Y

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	A/Pos	T/Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1	30.00	23.49	-16.51	40.00	30.81	24.40	0.25	31.97	---	---	Peak
2	115.36	19.06	-24.44	43.50	31.92	17.69	1.12	31.67	---	---	Peak
3	260.86	21.14	-24.86	46.00	30.88	19.76	1.74	31.24	---	---	Peak
4	362.71	22.58	-23.42	46.00	30.96	20.71	2.12	31.21	---	---	Peak
5	634.31	27.93	-18.07	46.00	31.75	24.64	2.78	31.24	---	---	Peak
6	796.30	32.36	-13.64	46.00	34.22	26.15	3.15	31.16	100	216	Peak
7	2172.00	42.66	-31.34	74.00	68.73	27.60	4.46	58.13	---	---	Peak
8	3948.00	40.46	-33.54	74.00	65.29	29.91	4.74	59.48	---	---	Peak
9	6738.00	43.93	-30.07	74.00	60.82	34.78	6.80	58.47	---	---	Peak
10	7902.00	44.42	-29.58	74.00	55.74	37.28	7.43	56.03	---	---	Peak
11	10426.00	45.23	-28.77	74.00	53.56	38.29	9.25	55.87	---	---	Peak
12	12276.00	46.50	-27.50	74.00	52.90	39.46	9.69	55.55	100	255	Peak

4. List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
EMI Test Receiver	R&S	ESR7	101404	9kHz~7GHz	Apr. 19, 2018	Sep. 17, 2018	Apr. 18, 2019	Radiation (03CH04-SZ)
EXA Spectrum Analyzer	KEYSIGHT	N9010A	MY55150213	10Hz~44GHz	Apr. 19, 2018	Sep. 17, 2018	Apr. 18, 2019	Radiation (03CH04-SZ)
Loop Antenna	R&S	HFH2-Z2	100354	9kHz~30MHz	May 14, 2018	Sep. 17, 2018	May 13, 2019	Radiation (03CH04-SZ)
Bilog Antenna	TeseQ	CBL6111D	41909	30MHz~1GHz	Aug. 28, 2018	Sep. 17, 2018	Aug. 27, 2019	Radiation (03CH04-SZ)
Double Ridge Horn Antenna	SCHWARZBECK	BBHA9120D	9120D-1285	1GHz~18GHz	Dec. 13, 2017	Sep. 17, 2018	Dec. 12, 2018	Radiation (03CH04-SZ)
Horn Antenna	SCHWARZBECK	BBHA9170	9170#679	15GHz~40GHz	Apr. 20, 2018	Sep. 17, 2018	Apr. 19, 2019	Radiation (03CH04-SZ)
Amplifier	Burgeon	BPA-530	102211	0.01Hz ~3000MHz	Oct.18, 2018	Sep. 17, 2018	Oct. 17, 2019	Radiation (03CH04-SZ)
HF Amplifier	MITEQ	AMF-7D-00101 800-30-10P-R	1989346	1GHz~18GHz	Jul. 30, 2018	Sep. 17, 2018	Jul. 29, 2019	Radiation (03CH04-SZ)
HF Amplifier	MITEQ	TTA1840-35-HG	1988315	18GHz~40GHz	Jul. 26, 2018	Sep. 17, 2018	Jul. 25, 2019	Radiation (03CH04-SZ
Amplifier	Agilent Technologies	83017A	MY53270156	500MHz~ 26.5GHz	Apr. 19, 2018	Sep. 17, 2018	Apr. 18, 2019	Radiation (03CH04-SZ)
AC Power Source	Chroma	61601	N/A	N/A	NCR	Sep. 17, 2018	NCR	Radiation (03CH04-SZ)
Turn Table	EM	EM1000	N/A	0~360 degree	NCR	Sep. 17, 2018	NCR	Radiation (03CH04-SZ)
Antenna Mast	EM	EM1000	N/A	1 m~4 m	NCR	Sep. 17, 2018	NCR	Radiation (03CH04-SZ)

5. Uncertainty of Evaluation

Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**5.1dB**

Uncertainty of Radiated Emission Measurement (1000 MHz ~ 18000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U=2Uc(y))	**4.8dB**