

FCC Test Report

APPLICANT	:	Positioning Universal Inc
EQUIPMENT	:	GPS TRACK
BRAND NAME	:	Positioning Universal
MODEL NAME	:	FT5000MW
FCC ID	:	2AHRH-FT5000MW
STANDARD	:	47 CFR Part 15 Subpart B
CLASSIFICATION	:	Certification
TEST DATE(S)	:	Jul. 16, 2021 ~ Jul. 22, 2021

We, Sporton International (Kunshan) Inc., would like to declare that the tested sample has been evaluated in accordance with the test procedures given in ANSI C63.4-2014 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 (Kunshan) Inc., the test report shall not be reproduced except in full.

JasonJia

Reviewed by: Jason Jia / Supervisor

Alexano

Approved by: Alex Wang / Manager



Sporton International (Kunshan) Inc. No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300 People's Republic of China



TABLE OF CONTENTS

RE	REVISION HISTORY		
SU	MMAR	Y OF TEST RESULT	.4
1.	GENE	RAL DESCRIPTION	.5
	1.1. 1.2.	Applicant Manufacturer	
	1.3.	Product Feature of Equipment Under Test	5
	1.4. 1.5.	Product Specification of Equipment Under Test	
	1.6.	Test Location	6
	1.7. 1.8.	Test Software Applicable Standards	
2.	TEST	CONFIGURATION OF EQUIPMENT UNDER TEST	.8
	2.1.	Test Mode	
	2.2. 2.3.	Connection Diagram of Test System	
	2.3. 2.4.	Support Unit used in test configuration and system EUT Operation Test Setup	
3.	TEST	RESULT	11
	3.1.	Test of AC Conducted Emission Measurement	
	3.2.	Test of Radiated Emission Measurement	15
4.	LIST	OF MEASURING EQUIPMENT	19
5.	UNCE	RTAINTY OF EVALUATION	20

APPENDIX A. SETUP PHOTOGRAPHS



REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FC162602	Rev. 01	Initial issue of report	Aug. 17, 2021



SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
					Under limit
3.1	15.107	AC Conducted Emission	< 15.107 limits	PASS	24.74 dB at
					0.516 MHz
					Under limit
3.2	15 100	15.109 Radiated Emission < 15.109 limits	PASS	15.47 dB at	
3.2	15.109		< 15.109 mms	FASS	75.59 MHz
					for peak

Declaration of Conformity:

The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.

Comments and Explanations:

The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.



1. General Description

1.1. Applicant

Positioning Universal Inc

4660 La Jolla Village Drive, Suite 1100, SanDiego , CA92122

1.2. Manufacturer

Positioning Universal Inc

4660 La Jolla Village Drive, Suite 1100, SanDiego , CA92122

1.3. Product Feature of Equipment Under Test

	Product Feature
Equipment	GPS TRACK
Brand Name	Positioning Universal
Model Name	FT5000MW
FCC ID	2AHRH-FT5000MW
EUT supports Radios application	GSM/LTE Cat M1/Bluetooth LE/GPS
IMEI Code	Conduction: 866833040135870
	Radiation: N/A
HW Version	P2.1
SW Version	A0.15.5
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 MHz ~ 849 MHz GSM1900: 1850MHz ~ 1910MHz LTE Band 2 : 1850 MHz ~ 1910 MHz LTE Band 4 : 1710 MHz ~ 1755 MHz LTE Band 5 : 824 MHz ~ 849 MHz LTE Band 12 : 699 MHz ~ 716 MHz LTE Band 13 : 777 MHz ~ 787 MHz LTE Band 25 : 1850 MHz ~ 1915 MHz LTE Band 26 : 814 MHz ~ 849 MHz LTE Band 66 : 1710 MHz ~ 1780 MHz LTE Band 85 : 698 MHz - 716 MHz Bluetooth LE : 2402 MHz ~ 2480 MHz		
Rx Frequency	GSM850: 869 MHz ~ 894 MHz GSM1900: 1930 MHz ~ 1990 MHz LTE Band 2 : 1930 MHz ~ 1990 MHz		

Sporton International (Kunshan) Inc. TEL : +86-512-57900158 FAX : +86-512-57900958 FCC ID : 2AHRH-FT5000MW Page Number: 5 of 20Report Issued Date: Aug. 17, 2021Report Version: Rev. 01Report Template No.: BU5-FC15B Version 3.0



	LTE Band 4 : 2110 MHz ~ 2155 MHz
	LTE Band 5 : 869 MHz ~ 894 MHz
	LTE Band 12 : 729 MHz ~ 746 MHz
	LTE Band 13 : 746 MHz ~ 756 MHz
	LTE Band 25 : 1930 MHz ~ 1995 MHz
	LTE Band 26 : 859 MHz ~ 894 MHz
	LTE Band 66 : 2110 MHz~ 2180 MHz
	LTE Band 85 : 728 MHz – 746 MHz
	Bluetooth LE : 2402 MHz ~ 2480 MHz
	GPS : 1559 MHz ~ 1610 MHz
Antonno Tuno	WWAN : PIFA Antenna
Antenna Type	GPS: PCB Antenna
	GPRS: GMSK
	EDGE(MCS 0-4): GMSK / (MCS 5-9): 8PSK
Type of Modulation	LTE: QPSK / 16QAM
	Bluetooth LE : GFSK
	GPS : BPSK

1.5. Modification of EUT

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

1.6. Test Location

Sporton International (Kunshan) Inc. is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.02.

Test Firm	Sporton International (Kunshan) Inc.				
Test Site LocationNo. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300 People's Republic of China TEL : +86-512-57900158					
	FAX : +86-512-57900958				
	Sporton Sito No	ECC Designation No.	FCC Test Firm		
Test Site No.	Sporton Site No.	FCC Designation No.	Registration No.		
	CO01-KS 03CH02-KS	CN1257	314309		

1.7. Test Software

ltem	Site	Manufacturer	Name	Version
1.	03CH02-KS	AUDIX	E3	6.2009-8-24a
2.	CO01-KS	AUDIX	E3	6.2009-8-24



1.8. Applicable Standards

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

- 47 CFR 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

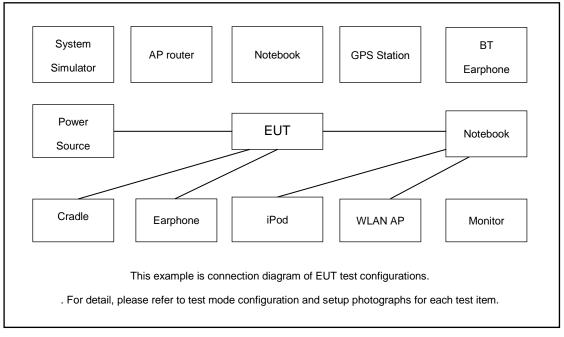
The EUT has been associated with peripherals pursuant to ANSI C63.4-2014 and configuration operated in a manner tended to maximize its emission characteristics in a typical application. Frequency range investigated: conduction emission (150 kHz to 30 MHz), radiation emission (30MHz to the 5th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower).

Test Items	Function Type				
	Mode 1: GSM 850 Rx(Middle) + Bluetooth Idle + GPS On + Power From AC Adaptor				
	Mode 2: LTE Band 5 Rx(High) + Bluetooth Idle + GPS On + Power From AC Adaptor				
AC Conducted	Mode 3: LTE Band 12 Rx(Low) + Bluetooth Idle + GPS On + Power From AC Adaptor				
Emission	Mode 4: LTE Band 13 Rx(Middle) + Bluetooth Idle + GPS On + Power From AC Adaptor				
	Mode 5: LTE Band 26 Rx(Middle) + Bluetooth Idle + GPS On + Power From AC Adaptor				
	Mode 6: LTE Band 85 Rx(Middle) + Bluetooth Idle + GPS On + Power From AC Adaptor				
	Mode 1: GSM 850 Rx(Middle) + Bluetooth Idle + GPS On + Power From AC Adaptor				
	Mode 2: LTE Band 5 Rx(High) + Bluetooth Idle + GPS On + Power From AC Adaptor				
Radiated	Mode 3: LTE Band 12 Rx(Low) + Bluetooth Idle + GPS On + Power From AC Adaptor				
Emissions	Mode 4: LTE Band 13 Rx(Middle) + Bluetooth Idle + GPS On + Power From AC Adaptor				
	Mode 5: LTE Band 26 Rx(Middle) + Bluetooth Idle + GPS On + Power From AC Adaptor				
	Mode 6: LTE Band 85 Rx(Middle) + Bluetooth Idle + GPS On + Power From AC Adaptor				
Remark:	Remark:				
1. The worst	1. The worst case of AC is mode 1; only the test data of this mode is reported.				
2. The worst	2. The worst case of RE is mode 5; only the test data of this mode is reported.				
3. Pre-scann	3. Pre-scanned Low/Middle/High channel for GSM 850/LTE Band 5/12/13 /26/85, the worst				

channel was recorded in this report.



2.2. Connection Diagram of Test System



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

2.3. Support Unit used in test configuration and system

ltem	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	LTE Base Station	Anritsu	MT8821C	N/A	N/A	Unshielded,1.8m
2.	LTE Base Station	Anritsu	MT8820C	N/A	N/A	Unshielded,1.8m
3.	WLAN AP	TP-Link	TL-WDR5600	N/A	N/A	Unshielded,1.8m
4.	Bluetooth Earphone	Xiaomi	LYEJ02LM	N/A	N/A	N/A
5.	Notebook	Lenovo	G480	QDS-BRCM1050I	N/A	AC I/P: Unshielded, 1.8 m DC O/P: Shielded, 1.8 m
6.	Notebook	Lenovo	S730-13IWL	N/A	N/A	AC I/P: Unshielded, 1.8 m DC O/P: Shielded, 1.8 m
7.	Vector Signal Generator	R&S	SMBV100A	258305	N/A	N/A
8.	SD Card	SanDisk	Uitra	N/A	N/A	N/A
9.	Hard disk	KINGSHARE	KSP6120G	Fcc DoC	Shielded, 1.2m	N/A



2.4. EUT Operation Test Setup

The EUT was in GSM or LTE 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 Bluetooth earphone or WLAN AP, and the following programs installed in the EUT were programmed during the test.

- 1. Data application is transferred between notebook and EUT via USB cable.
- 2. Turn on GNSS function to make the EUT receive continuous signals from GNSS station.



3. Test Result

3.1. Test of AC Conducted Emission Measurement

3.1.1 Limits of AC Conducted Emission

For equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table.

<Class B Limit>

Frequency of emission	Conducted limit (dBuV)	
(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.

3.1.2 Measuring Instruments

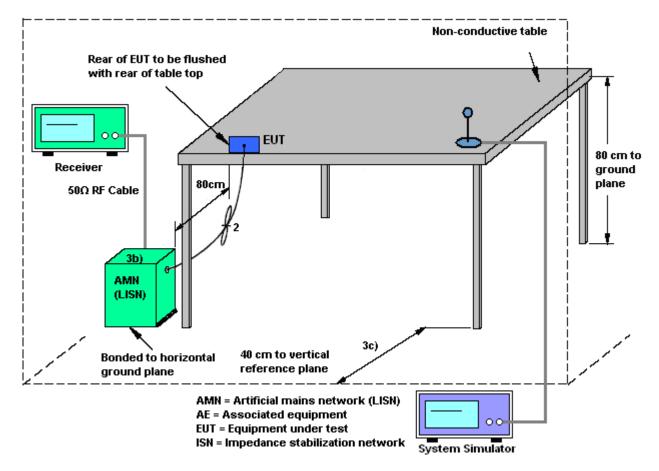
The measuring equipment is listed in the section 4 of this test report.

3.1.3 Test Procedure

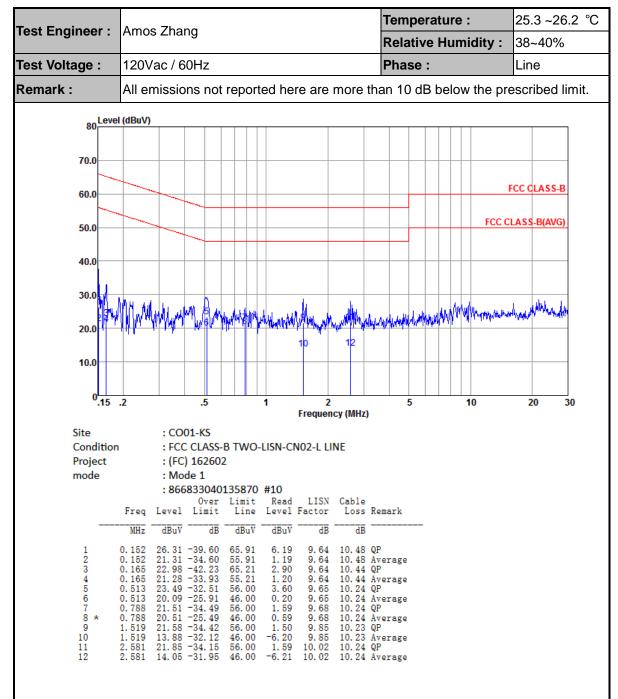
- 1. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
- 2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
- 3. All the support units are connecting to the other LISN.
- 4. The LISN provides 50 ohm coupling impedance for the measuring instrument.
- 5. The FCC states that a 50 ohm, 50 microhenry LISN should be used.
- 6. Both sides of AC line were checked for maximum conducted interference.
- 7. The frequency range from 150 kHz to 30 MHz was searched.
- Set the test-receiver system to Peak Detect Function and specified bandwidth (IF Bandwidth = 9kHz) with Maximum Hold Mode. Then measurement is also conducted by Average Detector and Quasi-Peak Detector Function respectively.



3.1.4 Test Setup

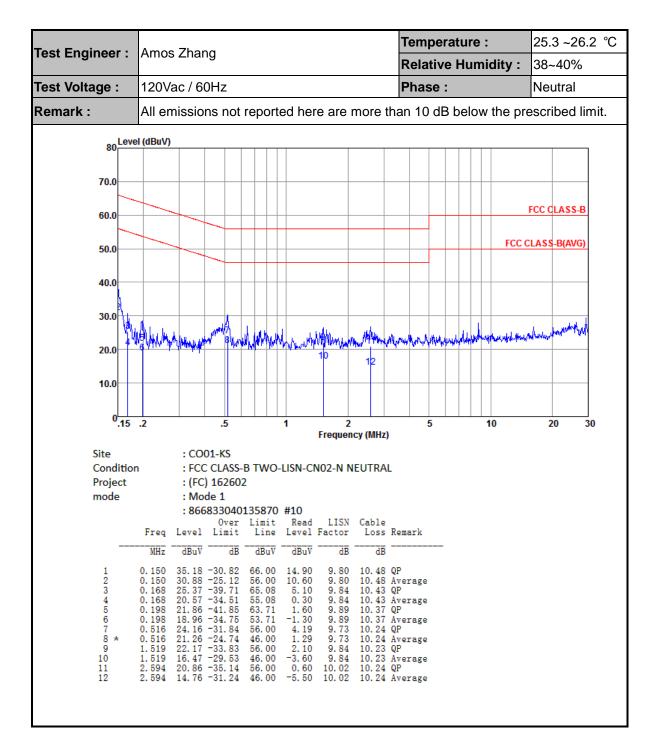






3.1.5 Test Result of AC Conducted Emission





Note:

- 1. Level(dB μ V) = Read Level(dB μ V) + LISN Factor(dB) + Cable Loss(dB)
- 2. Over Limit(dB) = Level(dB μ V) Limit Line(dB μ V)



3.2. Test of Radiated Emission Measurement

3.2.1. Limit of Radiated Emission

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

<Class B Limit>

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

3.2.2. Measuring Instruments

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

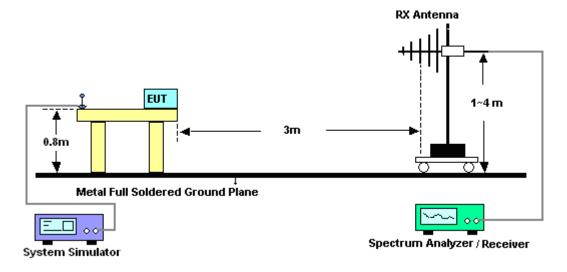
3.2.3. Test Procedures

- 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.
- 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 $(dB\mu V/m) = 20 \log Emission level (\mu V/m)$
- 9. Corrected Reading: Antenna Factor + Cable Loss + Read Level Preamp Factor = Level

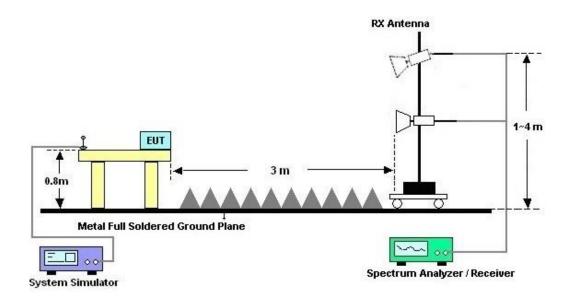


3.2.4. Test Setup of Radiated Emission

For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz

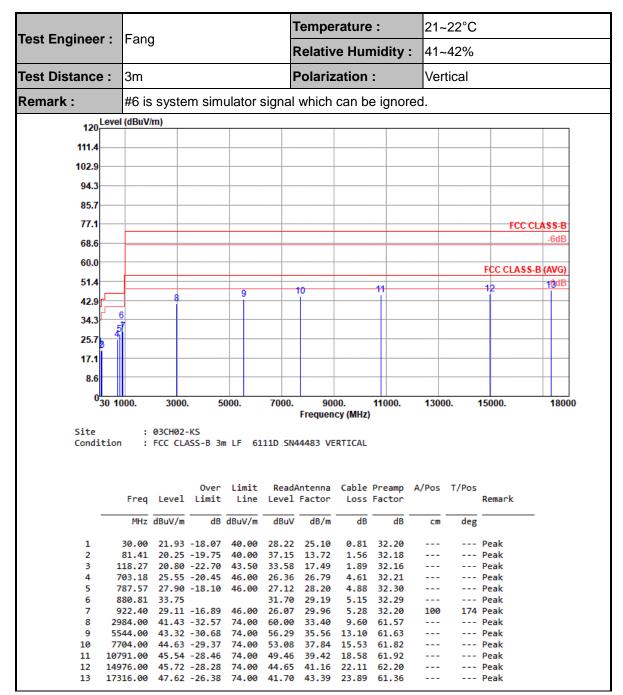




3.2.5. Test Result of Radiated Emission

Test Engineer	. Fam	Farra				Temperature :			21~	21~22°C			
Test Engineer	: Fang	Fang				Relative Humidity :				41~42%			
Test Distance	: 3m	3m				Polarization :			Hor	Horizontal			
Remark :	#6 is	#6 is system simulator signa				al which can be ignored				l.			
120	evel (dBuV	/m)											
111.4													
102.9													
94.3													
85.7													
77.1											FCC	CLASS-B	
68.6												-6dB	
60.0													
51.4											FCC CLAS	S-B (AVG) 10dB	
	_		9			10	11			12		1000	
42.9	8												
34.3	47												
25.7	4												
17.1													
0.6													
8.6													
) 1000.	3000.	5	000.	7000.	90		11000.	1300	0.	15000.	18000	
) 1000.	3000.	5	000.	7000.	900 Frequen			1300	0.	15000.	18000	
0 ₃₀ Site	:	03CH02-	KS			Frequen	cy (MHz))	1300	0.	15000.	18000	
030	:		KS			Frequen	cy (MHz))	1300	0.	15000.	18000	
0 ₃₀ Site	:	03CH02-	KS			Frequen	cy (MHz))	1300	0.	15000.	18000	
0 ₃₀ Site	:	03CH02-	KS		11D SN4	Frequen	C Y (MHZ) RIZONT)			15000.	18000	
0 ₃₀ Site	: ion :	03CH02-	KS SS-B 3m Over	LF 61 Limit	.11D SN4 Read/	Frequen	c y (MHz) RIZONTA Cable) Al			15000. Remark	18000	
0 ₃₀ Site	: ion : Freq	03CH02- FCC CLA	KS SS-B 3m Over Limit	LF 61 Limit	.11D SN4 Read/	Frequen 14483 HC Antenna	c y (MHz) RIZONTA Cable) AL Preamp				18000	
0 ₃₀ Site Conditi	: ion : Freq MHz	03CH02- FCC CLA Level dBuV/m	KS SS-B 3m Over Limit dB	Limit Limit Line dBuV/m	Read, Level	Frequen 44483 HC Antenna Factor dB/m	Cy (MHz) RIZONT/ Cable Loss dB) AL Preamp Factor dB	A/Pos 	T/Pos deg	Remark	18000	
0 ₃₀ Site Condit: 1 2	: ion : Freq MHz 75.59 122.15	03CH02- FCC CLA Level dBuV/m 24.53 20.59	KS SS-B 3m Over Limit dB -15.47 -22.91	Limit Line dBuV/m 40.00 43.50	Read. Level dBuV 42.14 33.23	Frequen 14483 HC Antenna Factor dB/m 13.10 17.60	Cy (MHz) RIZONT/ Cable Loss	AL Preamp Factor dB 32.20 32.16	A/Pos	T/Pos deg 192		18000	
0 ₃₀ Site Conditi 1 2 3	Freq MHz 75.59 122.15 248.25	03CH02- FCC CLA Level dBuV/m 24.53 20.59 17.90	KS SS-B 3m Over Limit dB -15.47 -22.91 -28.10	Limit Line dBuV/m 40.00 43.50 46.00	Read, Level dBuV 42.14 33.23 28.61	Frequen 44483 HC Antenna Factor dB/m 13.10 17.60 18.74	Cable Cable Loss dB 1.49 1.92 2.75) AL Factor dB 32.20 32.16 32.20	A/Pos cm 200	T/Pos deg 192 	Remark Peak Peak Peak	18000	
0 ₃₀ Site Condit: 1 2	: ion : Freq MHz 75.59 122.15	03CH02- FCC CLA Level dBuV/m 24.53 20.59 17.90 25.24	KS SS-B 3m Over Limit dB -15.47 -22.91 -28.10 -20.76	Limit Line dBuV/m 40.00 43.50	Read. Level dBuV 42.14 33.23	Frequen 44483 HC Antenna Factor dB/m 13.10 17.60 18.74 25.90	Cy (MHZ) RIZONT/ Cable Loss dB 1.49 1.92) AL Factor dB 32.20 32.16 32.20 32.29	A/Pos cm 200	T/Pos deg 192 	Remark Peak Peak	18000	
030 Site Condit: 1 2 3 4 5 6	: ion : Freq MHz 75.59 122.15 248.25 607.15 838.01 880.81	03CH02- FCC CLA Level dBuV/m 24.53 20.59 17.90 25.24 27.71 33.51	KS SS-B 3m Over Limit dB -15.47 -22.91 -28.10 -20.76 -18.29	Limit Line dBuV/m 40.00 43.50 46.00 46.00	Read/ Level dBuV 42.14 33.23 28.61 27.35 26.02 31.46	Frequen 44483 HC Antenna Factor dB/m 13.10 17.60 18.74 25.90 29.04 29.19	Cy (MHz) RIZONT/ Cable Loss dB 1.49 1.92 2.75 4.28 5.03 5.15	Preamp Factor dB 32.20 32.16 32.20 32.29 32.38 32.29	A/Pos cm 200 	T/Pos deg 192 	Remark Peak Peak Peak Peak Peak Peak Peak	18000	
030 Site Condit: 1 2 3 4 5 6 7	: ion : Freq MHz 75.59 122.15 248.25 607.15 838.01 880.81 939.86	03CH02- FCC CLA Level dBuV/m 24.53 20.59 17.90 25.24 27.71 33.51 28.20	KS SS-B 3m Over Limit dB -15.47 -22.91 -28.10 -20.76 -18.29 -17.80	Limit Line dBuV/m 40.00 43.50 46.00 46.00 46.00	Read/ Level dBuV 42.14 33.23 28.61 27.35 26.02 31.46 24.45	Frequen 44483 HC Antenna Factor dB/m 13.10 17.60 18.74 25.90 29.04 29.19 30.63	Cable Cable Loss dB 1.49 1.92 2.75 4.28 5.03 5.15 5.32	Preamp Factor dB 32.20 32.16 32.20 32.29 32.38 32.29 32.38 32.29 32.32	A/Pos cm 200 	T/Pos deg 192 	Remark Peak Peak Peak Peak Peak Peak Peak	18000	
030 Site Condit: 1 2 3 4 5 6	: ion : Freq MHz 75.59 122.15 248.25 607.15 838.01 880.81	03CH02- FCC CLA Level dBuV/m 24.53 20.59 17.90 25.24 27.71 33.51 28.20 37.72	KS SS-B 3m Over Limit dB -15.47 -22.91 -28.10 -20.76 -18.29 -17.80 -36.28	Limit Line dBuV/m 40.00 43.50 46.00 46.00	Read/ Level dBuV 42.14 33.23 28.61 27.35 26.02 31.46	Frequen 44483 HC Antenna Factor dB/m 13.10 17.60 18.74 25.90 29.04 29.19 30.63	Cy (MHz) RIZONT/ Cable Loss dB 1.49 1.92 2.75 4.28 5.03 5.15	Preamp Factor dB 32.20 32.16 32.20 32.29 32.38 32.29 32.38 32.29 32.38	A/Pos cm 200 	T/Pos deg 192 	Remark Peak Peak Peak Peak Peak Peak Peak	18000	
030 Site Conditi 1 2 3 4 5 6 7 8 9 10	: ion : Freq MHz 75.59 122.15 248.25 607.15 838.01 880.81 939.86 1784.00 4000.00 8712.00	03CH02- FCC CLA Level dBuV/m 24.53 20.59 17.90 25.24 27.71 33.51 28.20 37.72 241.97 45.25	KS SS-B 3m Over Limit dB -15.47 -22.91 -28.10 -20.76 -18.29 -17.80 -36.28 -32.03 -28.75	Limit Line dBuV/m 40.00 43.50 46.00 46.00 46.00 74.00 74.00 74.00	Read/ Level dBuV 42.14 33.23 28.61 27.35 26.02 31.46 24.45 61.62 57.35 52.76	Frequen 44483 HC Antenna Factor dB/m 13.10 17.60 18.74 25.90 29.04 29.19 30.63 30.63 30.63 30.63 35.30 38.11	Cable RIZONT/ Cable Loss dB 1.49 1.49 2.75 4.28 5.03 5.15 5.32 7.39 11.13 16.70	Preamp Factor dB 32.20 32.16 32.20 32.29 32.38 32.29 32.20 61.91 61.81 62.32	A/Pos cm 200 	T/Pos deg 192 	Remark Peak Peak Peak Peak Peak Peak Peak Pea	18000	
030 Site Condit: 1 2 3 4 5 6 7 8 9 10 11	: ion : Freq MHz 75.59 122.15 248.25 607.15 838.01 880.81 939.86 1784.00 4000.00	03CH02- FCC CLA Level dBuV/m 24.53 20.59 17.90 25.24 27.71 33.51 28.20 37.72 41.97 45.25 44.98	KS SS-B 3m Over Limit dB -15.47 -22.91 -28.10 -20.76 -18.29 -17.80 -36.28 -32.03 -28.75 -29.02	Limit Line dBuV/m 40.00 43.50 46.00 46.00 46.00 74.00 74.00	Read, Level dBuV 42.14 33.23 28.61 27.35 26.02 31.46 24.45 61.62 57.35	Frequen 44483 HC Antenna Factor dB/m 13.10 17.60 18.74 25.90 29.04 29.19 30.63 30.62 35.30 38.11 39.37	Cable Loss dB 1.49 2.75 4.28 5.03 5.15 5.32 7.39 11.13	Preamp Factor dB 32.20 32.20 32.20 32.29 32.29 32.29 32.29 32.20 61.91 61.91 62.32 62.04	A/Pos cm 200 	T/Pos deg 192 	Remark Peak Peak Peak Peak Peak Peak Peak Pea	18000	





Note:

- Level(dBµV/m) = Read Level(dBµV) + Antenna Factor(dB/m) + Cable Loss(dB) Preamp Factor(dB)
- 2. Over $Limit(dB) = Level(dB\mu V/m) Limit Line(dB\mu V/m)$



4. List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
EMI Receiver	R&S	ESCI7	100768	9kHz~7GHz;	Apr. 21, 2021	Jul. 22, 2021	Apr. 20, 2022	Conduction (CO01-KS)
AC LISN (for auxiliary equipment)	MessTec	AN3016	060103	9kHz~30MHz	Oct. 17, 2020	Jul. 22, 2021	Oct. 16, 2021	Conduction (CO01-KS)
AC LISN	R&S	ENV216	100334	9kHz~30MHz	Oct. 17, 2020	Jul. 22, 2021	Oct. 16, 2021	Conduction (CO01-KS)
AC Power Source	Chroma	61602	ABP0000008 11	AC 0V~300V, 45Hz~1000Hz	Oct. 17, 2020	Jul. 22, 2021	Oct. 16, 2021	Conduction (CO01-KS)
EMI Test Receiver	R&S	ESR7	101403	9kHz~7GHz;Ma x 30dBm	Oct. 17, 2020	Jul. 16, 2021	Oct. 16, 2021	Radiation (03CH02-KS)
EXA Spectrum Analyzer	Keysight	N9010A	MY55370528	10Hz-44G,MAX 30dB	Oct. 17, 2020	Jul. 16, 2021	Oct. 16, 2021	Radiation (03CH02-KS)
Bilog Antenna	TeseQ	CBL6111D	44483	30MHz-1GHz	Jan. 26, 2021	Jul. 16, 2021	Jan. 25, 2022	Radiation (03CH02-KS)
Double Ridge Horn Antenna	ETS-Lindgren	3117	75957	1GHz~18GHz	Nov. 01, 2020	Jul. 16, 2021	Oct. 31, 2021	Radiation (03CH02-KS)
SHF-EHF Horn	Com-power	AH-840	101115	18GHz~40GHz	Nov. 06, 2020	Jul. 16, 2021	Nov. 05, 2021	Radiation (03CH02-KS)
Amplifier	MITEQ	EM18G40GGA	060728	18~40GHz	Jan. 06, 2021	Jul. 16, 2021	Jan. 05, 2022	Radiation (03CH02-KS)
Amplifier	SONOMA	310N	187289	9KHz-1GHz	Apr. 12, 2021	Jul. 16, 2021	Apr. 11, 2022	Radiation (03CH02-KS)
Amplifier	Keysight	83017A	MY53270316	500MHz~26.5G Hz	Oct. 17, 2020	Jul. 16, 2021	Oct. 16, 2021	Radiation (03CH02-KS)
AC Power Source	Chroma	61601	61601000247 3	N/A	NCR	Jul. 16, 2021	NCR	Radiation (03CH02-KS)
Turn Table	MF	MF7802	N/A	0~360 degree	NCR	Jul. 16, 2021	NCR	Radiation (03CH02-KS)
Antenna Mast	MF	MF7802	N/A	1 m~4 m	NCR	Jul. 16, 2021	NCR	Radiation (03CH02-KS)

NCR: No Calibration Required



5. Uncertainty of Evaluation

Uncertainty of Conducted Emission Measurement (150 kHz ~ 30 MHz)

Measuring Uncertainty for a Level of Confidence	2.9dB
of 95% (U = 2Uc(y))	2.908

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

Measuring Uncertainty for a Level of Confidence	4.9dB
of 95% (U = 2Uc(y))	4.300

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

Measuring Uncertainty for a Level of Confidence	5.0dB
of 95% (U = 2Uc(y))	5.00B