

Test Report No:  
2540133R-RFUSV10S-A

## TEST REPORT

### FCC Rules&Regulations

Product Name	AUGi Sense
Brand Name	All Inspire Health
Model No.	IN6S001
FCC ID	2BNIV-SNS-1
Applicant's Name / Address	All Inspire Health 19 Morris Avenue, Building 128, Brooklyn, NY 11205
Manufacturer's Name	InnoComm Mobile Technology Corporation
Test Method Requested, Standard	FCC CFR Title 47 Part 15 Subpart C ANSI C63.10:2020
Verdict Summary	IN COMPLIANCE
Documented By April Chen	
Tested By Ivan Chuang	
Approved By Alan Chen	
Date of Receipt	2025/04/07
Date of Issue	2025/05/12
Report Version	V2.0

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Appendix B. Test Result of Occupied Bandwidth

Appendix C. Test Result of Maximum output power (EIRP)

Appendix D. Test Result of Radiated Emissions

Appendix E. Test Result of Frequency Stability

Appendix F. Test Setup Photograph

## Competences and Guarantees

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DEKRA is a testing laboratory competent to carry out the tests described in this report.

In order to assure the traceability to other national and international laboratories, DEKRA has a calibration and maintenance program for its measurement equipment.

DEKRA guarantees the reliability of the data presented in this report, which is the result of the measurements and the tests performed to the item under test on the date and under the conditions stated in the report and it is based on the knowledge and technical facilities available at DEKRA at the time of performance of the test.

DEKRA is liable to the client for the maintenance of the confidentiality of all information related to the item under test and the results of the test.

The results presented in this Test Report apply only to the particular item under test established in this document.

**IMPORTANT:** No parts of this report may be reproduced or quoted out of context, in any form or by any means, except in full, without the previous written permission of DEKRA.

## General Conditions

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1. The test results relate only to the samples tested.
2. The test results shown in the test report are traceable to the national/international standard through the calibration report of the equipment and evaluated measurement uncertainty herein.
3. This report must not be used to claim product endorsement by TAF or any agency of the government.
4. The test report shall not be reproduced without the written approval of DEKRA Testing and Certification Co., Ltd.
5. Measurement uncertainties evaluated for each testing system and associated connections are given here to provide the system information for reference. Compliance determinations do not take into account measurement uncertainties for each testing system, but are based on the results of the compliance measurement.

## Revision History

Version	Description	Issued Date
V1.0	Initial issue of report	2025/04/18
V2.0	Corrected the applicable standard to ANCI C63.10-2020	2025/05/12

## Summary of Test Result

Report Clause	Test Items	Result (PASS/FAIL)	Remark
3	AC Power Line Conducted Emission	PASS	-
4	Occupied Bandwidth	PASS	-
5	Maximum output power (EIRP)	PASS	-
6	Radiated Emission	PASS	-
7	Frequency Stability	PASS	-

### 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.

## Applied Standards and Test Method

FCC CFR Title 47 Part 15 Subpart C. SECTION 15.255

KDB 364244 D01 Meas 15.255 Radars v01r01

ANSI C63.10-2020

## 1. General Information

### 1.1. EUT Description

Frequency Band	59.7~ 62.0 GHz
Operating Frequency / Channel Number	60.85 GHz / 1 Channel
Type of Modulation	FMCW

Antenna Information				
Item.	Brand Name	Part No.	Type	Gain (dBi)
1	Innocomm	Sense_mmWave	mmWave	5.61

Working Frequency of Each Channel	
Channel	Frequency (GHz)
1	60.85

## 1.2. EUT Information

EUT Power Type	From Battery
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## 1.3. Testing Location Information

USA	FCC Designation Number: TW0033
Canada	CAB Identifier Number: TW3023 / Company Number: 26930

Site Description	Accredited by TAF
	Accredited Number: 3023

Test Laboratory	DEKRA Testing and Certification Co., Ltd.
	Linkou Laboratory
Address	No. 85, Wenlin St., Linkou Dist., New Taipei City 244017, Taiwan, R.O.C.
Performed Location	No. 26, Huaya 1st Rd., Guishan Dist., Taoyuan City 333411, Taiwan, R.O.C.
Phone Number	+886-3-275-7255
Fax Number	+886-3-327-8031

Ambient conditions in the laboratory:

Performed Item	Items	Required	Actual	Test Date
Radiated Emission	Temperature (°C)	10~40 °C	23.8 °C	2025/4/11~2025/4/16
	Humidity (%RH)	10~90 %	61.3 %	
RF Conducted Emission	Temperature (°C)	10~40 °C	25.8 °C	2025/4/11
	Humidity (%RH)	10~90 %	62.5 %	

## 1.4. Measurement Uncertainty

Uncertainties have been calculated according to the DEKRA internal document.

The reported expanded uncertainties are based on a standard uncertainty multiplied by a coverage factor of  $k=2$ , providing a level of confidence of approximately 95%.

Measurement uncertainties evaluated for each testing system and associated connections are given here to provide the system information for reference. Compliance determinations do not take into account measurement uncertainties for each testing system, but are based on the results of the compliance measurement.

Test item	Uncertainty
AC Power Line Conducted Emission	$\pm 3.50$ dB
Occupied Bandwidth	$\pm 1580.61$ Hz
Maximum output power (EIRP)	$\pm 4.02$ dB
Radiated Emission	9kHz~30MHz: $\pm 3.88$ dB 30MHz~1GHz: $\pm 4.42$ dB 1GHz~18GHz: $\pm 4.28$ dB 18GHz~40GHz: $\pm 3.90$ dB 40GHz~50GHz: $\pm 5.06$ dB 50GHz~325GHz: $\pm 5.71$ dB
Frequency Stability	$\pm 1580.61$ Hz

## 1.5. List of Test Equipment

### For Conducted Measurements / HY-SR03

	Equipment	Manufacturer	Model No.	Serial No.	Cal. Date	Due Date
V	Spectrum Analyzer	KEYSIGHT	N9030B	MY56320509	2024/07/19	2025/07/18
V	Temperature Chamber	KSON	THS-D4T-100	A0606	2025/02/24	2026/02/23
V	AC Power Source	eec	6605	1570547	2025/01/22	2026/01/21
V	Dual Output Autoranging DC Power Supply	KEYSIGHT	E36234A	MY59001234	2024/10/29	2025/10/28

Note:

1. All equipment is calibrated every year.
2. The test instruments marked with "V" are used to measure the final test results.
3. Test Software Version: RF Conducted Test Tools R3 V3.0.1.14.

**For Radiated Measurements / HY-CB02**

	Equipment	Manufacturer	Model No.	Serial No.	Cal. Date	Due Date
V	Signal Analyzer	R&S	FSV3044	101113	2025/01/22	2026/01/21
V	Spectrum Analyzer	KEYSIGHT	N9030B	MY56320509	2024/07/19	2025/07/18
V	Oscilloscope	R&S	RTO 2022	330016	2024/07/14	2025/07/13
	Horn Antenna	Millitech	SGH-15-RP000	448	2023/10/16	2026/10/15
	RF Detector	Millitech	DET-15-RPFW0	075	2023/10/16	2026/10/15
V	Horn Antenna	VDI	RCH015 (50-75GHz)	--	2024/12/17	2027/12/16
V	Horn Antenna	VDI	RCH010 (75-110GHz)	--	2024/12/17	2027/12/16
V	Horn Antenna	VDI	RCH08 (90-140GHz)	--	2024/12/17	2027/12/16
V	Horn Antenna	VDI	RCH05 (140-220GHz)	--	2024/12/17	2027/12/16
V	Horn Antenna	VDI	RCH03 (220-330GHz)	--	2024/12/17	2027/12/16
V	Down Convertor(SAX156)	VDI	N9029AV15 (AT0-55847)	US54250119	2024/12/17	2027/12/16
V	Down Convertor(SAX902)	VDI	N9029AV10 (AT0-74929)	US53250010	2024/12/17	2027/12/16
V	Down Convertor(SAX091)	VDI	N9029AV08 (AT0-59571)	US53250004	2024/12/17	2027/12/16
V	Down Convertor(SAX090)	VDI	N9029AV05 (AT0-60029)	US53250004	2024/12/17	2027/12/16
V	Down Convertor(SAX214)	VDI	N9029AV03 (AT0-57775)	US53250006	2024/12/17	2027/12/16
V	Loop Antenna	AMETEK	HLA6121	49611	2025/02/18	2026/02/17
V	Bi-Log Antenna	SCHWARZBECK	VULB9168	9168-0675	2023/08/09	2025/08/08
V	Horn Antenna	RF SPIN	DRH18-E	210503A18ES	2024/02/29	2026/02/28
V	Horn Antenna	Com-Power	AH-840	101101	2023/12/04	2025/12/03
V	Horn Antenna with waveguide adapter	QuinStar	QWH-QPDR00	1409700013	2023/10/19	2026/10/18
V	Coaxial Cable	SGH	SGH18	2021001-22	2025/01/10	2026/01/09
V	Pre-Amplifier	SGH	SGH0301	20230308-1	2025/02/06	2026/02/05
V	Pre-Amplifier	EMCI	EMC184045SE	980369	2025/01/10	2026/01/09
	Coaxial Cable	EMCI	EMC102-KM-KM-600	1160311		
	Coaxial Cable	EMCI	EMC102-KM-KM-7000	170242		
V	EMI Test Receiver	R&S	ESR3	102793	2024/12/06	2025/12/05
V	Coaxial Cable	SGH	HA800	GD20110223-2	2025/01/10	2026/01/09
		SGH	HA800	GD20110222-4		
		SGH	SGH18	2021005-2		
		SGH	SGH18	202108-5		

**Note:**

1. Bi-Log Antenna and Horn Antenna (AH-840, DRH18-E) are calibrated every two years, VDI and Millitech equipment are calibrated every three years, other equipment is calibrated every year.
2. The test instruments marked with "V" are used to measure the final test results.
3. Test Software Version: e3 230303 dekra V9.

## 2. Test Configuration of EUT

### 2.1. Test Condition

EUT Operational Condition	
Testing Voltage	DC 3.6V by Battery

### 2.2. Test Frequency Mode

Test Software Version	Industrial_Visualizer / Ver. 0.0
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Modulation	Frequency (GHz)	Power Setting
FMCW	60.85	N/A

### 2.3. Measurement Configuration

Test Mode	Mode 1: Transmit
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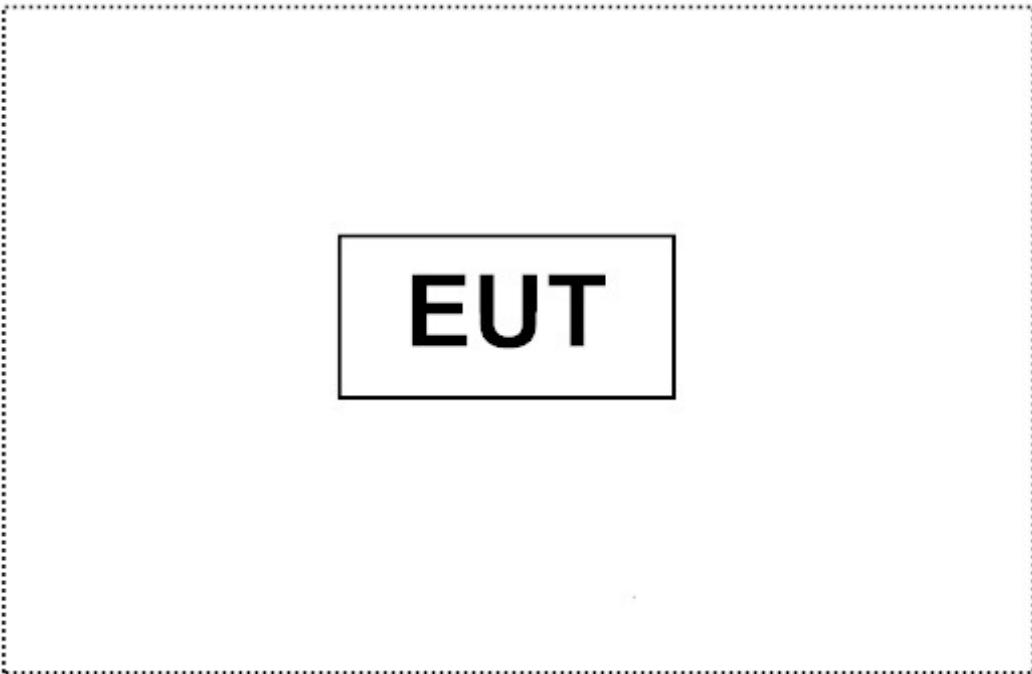
Note:

1. Determining compliance shall be based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.
2. The radiation measurements are performed in X, Y, Z axis positioning. Only the worst case is shown in the report.
3. These tests are conducted on a sample of the equipment for the purpose of demonstrating compliance of transmitter with Part 15 Subpart C Paragraph 15.255(b)(3), (c)(2)(iii)(B) For field disturbance sensors.

## 2.4. Tested System Details

No.	Equipment	Brand Name	Model No.	Serial No.	Power Cord
			N/A		

## 2.5. Configuration of tested System

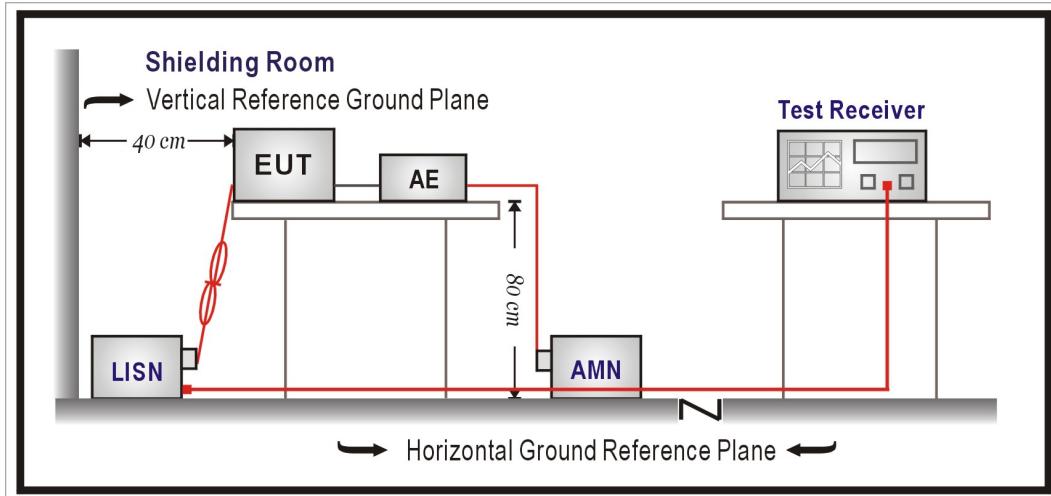
Connection Diagram	
	
Signal Cable Type	Signal Cable Description
	N/A

## 2.6. EUT Operating Procedures

1	Setup the EUT as shown in Section 2.5.
2	Execute software "Industrial_Visualizer / Ver. 0.0" on the EUT.
3	Configure the test mode, the test channel.
4	Verify that the EUT works properly.

### 3. AC Power Line Conducted Emission

#### 3.1. Test Setup



#### 3.2. Test Limit

Frequency (MHz)	QP (dBuV)	AV (dBuV)
0.15 - 0.50	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 30	60	50

Remarks: In the above table, the tighter limit applies at the band edges.

#### 3.3. Test Procedure

The EUT and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50 ohm /50 uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50 ohm /50 uH coupling impedance with 50ohm termination. (Please refer 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 C63.10:2020 on conducted measurement.

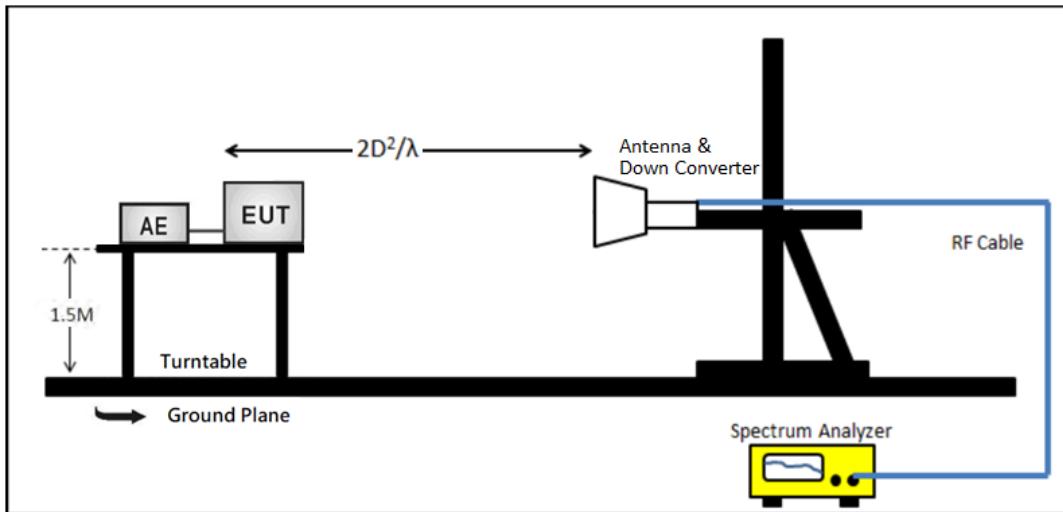
Conducted emissions were invested over the frequency range from 0.15 MHz to 30 MHz using a receiver bandwidth of 9 kHz.

#### 3.4. Test Result of AC Power Line Conducted Emission

Refer as Appendix A

## 4. Occupied Bandwidth

### 4.1. Test Setup



### 4.2. Test Limit

Within the designated 57-64GHz frequency band.

### 4.3. Test Procedures

The occupied bandwidth (OBW) is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers are each equal to 0.5% of the total mean power of the given emission.

The following procedure shall be used for measuring 99% power bandwidth:

Use the following spectrum analyzer settings:

1. Span equal to approximately 1.5 times the OBW, centered on the carrier frequency.
2. RBW, prefer 1% to 5% of OBW, or a minimum of 1 MHz if this is not possible due to a large OBW
3. VBW approximately  $3 \times$  RBW
4. Set the reference level of the instrument as required to reduce the chance of the signal amplitude exceeding the maximum spectrum analyzer input mixer level for linear operation.
5. Sweep = No faster than coupled (auto) time.
6. Detector function = peak.
7. Trace = max-hold.

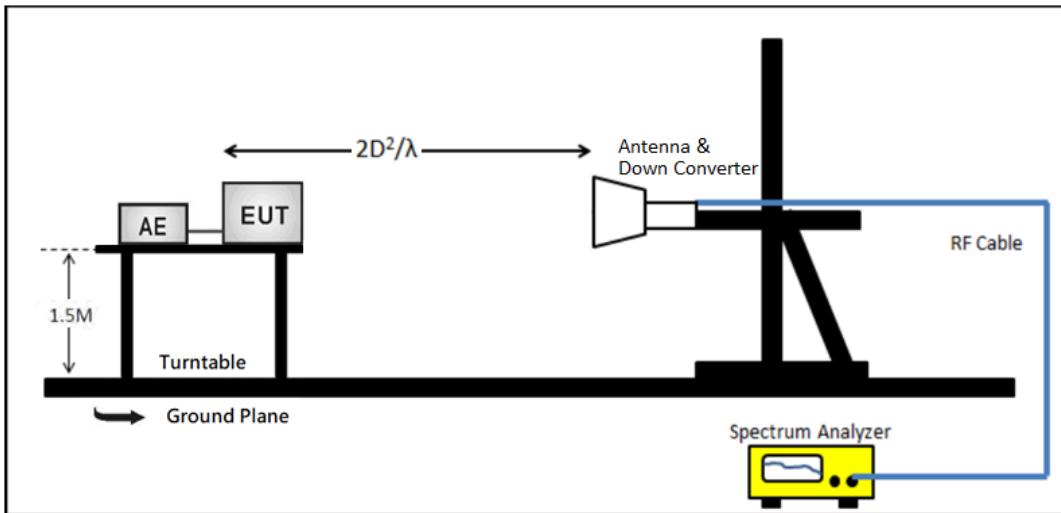
Note: The RBW and VBW were setting up to the limitations of the test equipment.

### 4.4. Test Result of Occupied Bandwidth

Refer as Appendix B

## 5. Maximum output power (EIRP)

### 5.1. Test Setup



### 5.2. Test Limit

FCC 15.255(c)(2)(iii): Within the 57-64 GHz band, emission levels shall not exceed the following equivalent isotropically radiated power (EIRP):

For fixed field disturbance sensors other than those operating under the provisions of paragraph FCC 15.255(c)(2)(iii)(B) of this section, The peak EIRP shall not exceed 20 dBm, and the sum of continuous transmitter off-times of at least two milliseconds shall equal at least 16.5 milliseconds within any contiguous interval of 33 milliseconds when operated outdoors.

### 5.3. Test Procedures

Maximum power (EIRP) –Averaging detector

Note: The maximum power (averaging detector) measurements are performed using the “channel power” measurement capability and integrated over the 99% OBW to obtain the result.

1. Measurement capability of instrument = channel power
2. Set RBW = 1MHz
3. Set VBW  $\geq$  3 x RBW
4. span to 2 x to 3 x the OBW
5. Channel bandwidth setting of instrument  $\geq$ OBW
6. Detector = power averaging (rms)
7. Set number of points in sweep  $\geq 2 \times$  span / RBW
8. Sweep time=auto-couple
9. Trace = averaging

Maximum peak power (EIRP) –Peak detector

1. Set RBW = 1MHz
2. Set VBW  $\geq$  3 x RBW
3. span to 2 x to 3 x the OBW
4. Detector = Peak
5. Set number of points in sweep  $\geq 2 \times$  span / RBW
6. Sweep time=auto-couple
7. Trace = max-hold

Measuring the frequency range above 1GHz, 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.

The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

The antenna is scanned between 1 meter and 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: 2020 Section 9.8 on radiated measurement.

The resolution bandwidth below 30MHz setting on the field strength meter is above 1GHz is 1MHz.

Radiated emission measurements above 1GHz are made using Horn Antennas.

The measurement is divided into the Preliminary Measurement and the Final Measurement.

The suspected frequencies are searched for in Preliminary Measurement with the measurement antenna kept pointed at the source of the emission both in azimuth and elevation, with the polarization of the antenna oriented for maximum response. The antenna is pointed at an angle towards the source of the emission, and the EUT is rotated in both height and polarization to maximize the measured emission. The emission is kept within the illumination area of the 3 dB bandwidth of the antenna.

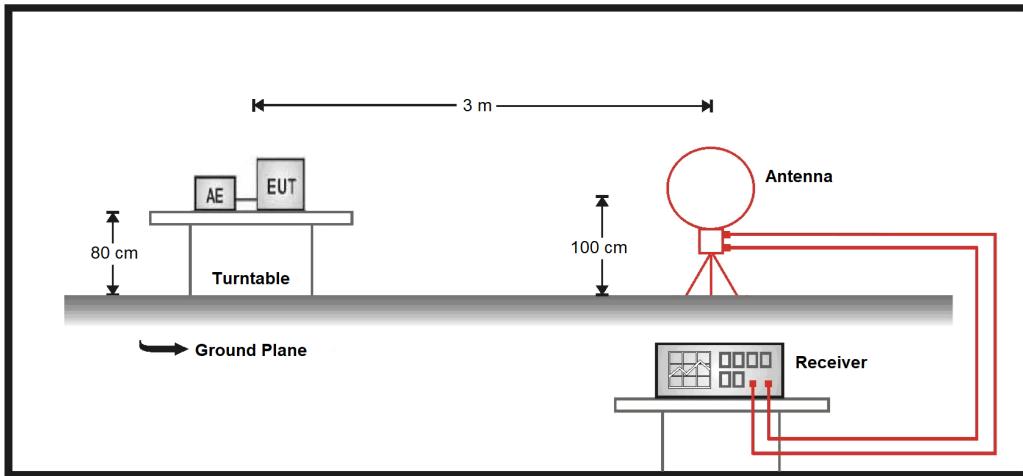
### 5.4. Test Result of Maximum output power (EIRP)

Refer as Appendix C

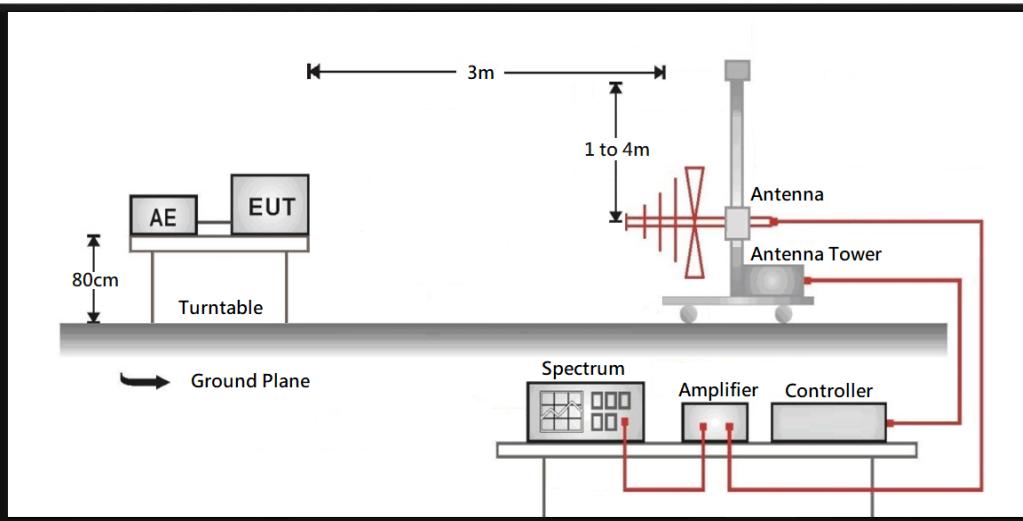
## 6. Radiated Emission

### 6.1. Test Setup

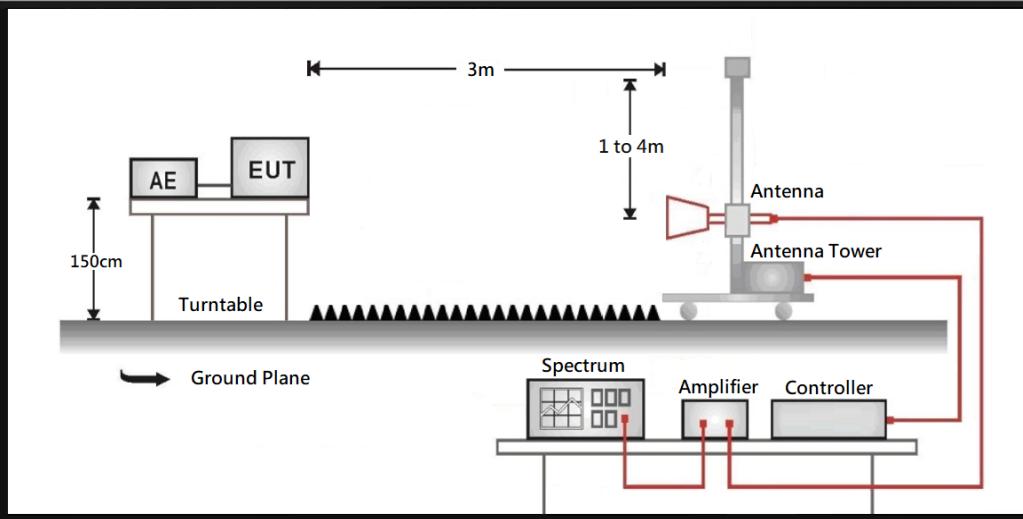
9kHz ~ 30 MHz



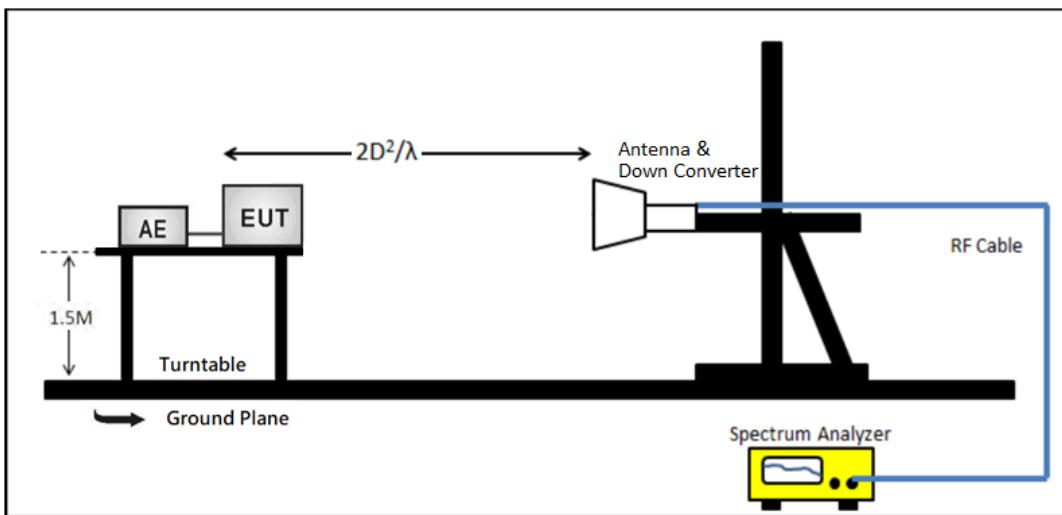
30 MHz ~ 1 GHz



Above 1 GHz



Above 50 GHz



## 6.2. Test Limit

Frequency (MHz)	Field strength (uV/m)	Field strength (dBuV/m)	Measurement distance (m)
0.009 – 0.490	$2400/F(\text{kHz})$	$20 \log (2400/F(\text{kHz}))$	300
0.490 – 1.705	$24000/F(\text{kHz})$	$20 \log (24000/F(\text{kHz}))$	30
1.705 - 30	30	29.5	30
30 - 88	100	40	3
88 - 216	150	43.5	3
216 - 960	200	46	3
Above 960	500	54	3

Between 40 GHz and 200 GHz, the level of these emissions shall not exceed 90 pW / cm<sup>2</sup> at a distance of 3 meters.

Remarks:

1. Field strength (dBuV/m) = 20 log Field strength (uV/m)
2. In the Above Table, the tighter limit applies at the band edges.
3. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system

### 6.3. Test Procedure

Measuring the frequency range below 1GHz, the EUT is placed on a turn table which is 0.8 meter above ground, when measuring the frequency range above 1GHz, 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.

The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

The antenna is scanned between 1 meter and 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 C63.10:2020 on radiated measurement.

The resolution bandwidth below 30MHz setting on the field strength meter is 9kHz and

30MHz~1GHz is 120kHz and above 1GHz is 1MHz.

Radiated emission measurements below 30MHz are made using Loop Antenna and 30MHz~1GHz are made using broadband Bi-Log antenna and above 1GHz are made using Horn Antennas.

The measurement is divided into the Preliminary Measurement and the Final Measurement.

The suspected frequencies are searched for in Preliminary Measurement with the measurement antenna kept pointed at the source of the emission both in azimuth and elevation, with the polarization of the antenna oriented for maximum response. The antenna is pointed at an angle towards the source of the emission, and the EUT is rotated in both height and polarization to maximize the measured emission. The emission is kept within the illumination area of the 3 dB bandwidth of the antenna.

The measurement frequency range from 9kHz – 200GHz was investigated.

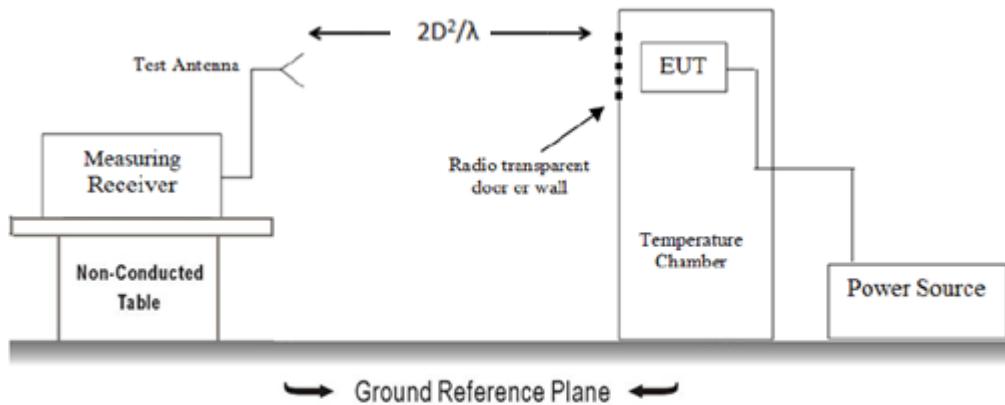
For measurements above 40 GHz, the effects of reflections were minimized as required by KDB 414788 D01 and ANSI C63.10-2020 Clause 5.2, and a site source (signal generator with up-converter) was used before testing to confirm that the measurement results are not affected by reflections.

### 6.4. Test Result of Radiated Emissions

Refer as Appendix D

## 7. Frequency Stability

### 7.1. Test Setup



### 7.2. Limit

Fundamental emissions must be contained within the frequency bands specified in this section during all conditions of operation.

### 7.3. Test Procedure

The carrier frequency of the transmitter is measured at room temperature. (20°C to provide a reference) At 10 °C intervals of temperatures between -20 °C and +50 °C at the manufacturer's rated supply voltage, and At +20 °C temperature and  $\pm 15\%$  supply voltage variations. If a product is specified to operate over a range of input voltage then the -15% variation is applied to the lowermost voltage and the +15% is applied to the uppermost voltage.

Measurement data showing variation in transmitter output frequency from a cold start and the elapsed time necessary for the frequency to stabilize within the applicable tolerance. Tests shall be made after temperature stabilization at each of the ambient temperature levels.

Beginning at each temperature level, While maintaining a constant temperature inside the environmental chamber, turn the EUT ON and record the operating frequency at startup, and at 2 min, 5 min, and 10 min after the EUT is energized. Four measurements in total are made.. During each test, the ambient temperature shall not be allowed to rise more than 10° centigrade above the respective beginning ambient temperature level.

### 7.4. Test Result of Frequency Stability

Refer as Appendix E