TEST REPORT

Dt&C Co., Ltd.
42, Yurim-ro, 154Beon-gil, Cheoin-gu, Yongin-si, Gyeonggi-do, Korea, 17042
Tel : 031-321-2664, Fax : 031-321-1664

1. Report No : DRTFCC2408-0099(1)

2. Customer

- Name (FCC) : Smart Radar System, Inc.
- Address (FCC) : 3rd Floor, Fine Venture Bldg, 41 Seongnam-daero 925gil, Bundang-gu, Seongnam-si Gyeonggi-do South Korea

3. Use of Report : FCC Certification

4. Product Name / Model Name : Millimeter wave radar / IRIS-H
FCC ID : 2AVKZIRISH

5. FCC Regulation(s): Part 95(M)
Test Method Used : ANSI C63.26-2015

6. Date of Test : 2024.06.28 ~ 2024.08.14

7. Location of Test : ☒ Permanent Testing Lab ☐ On Site Testing

8. Testing Environment : See appended test report.

9. Test Result : Refer to the attached test result.

The results shown in this test report refer only to the sample(s) tested unless otherwise stated.
This test report is not related to KOLAS accreditation.

Affirmation	Tested by Name : SeokHo Han (Signature)	Technical Manager Name : JaeJin Lee (Signature)

2024 . 09 . 02 .

Dt&C Co., Ltd.

If this report is required to confirmation of authenticity, please contact to report@dtnc.net

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Test Report Version

Test Report No.	Date	Description	Revised by	Reviewed by
DRTFCC2408-0099	Apr. 27, 2024	Initial issue	SeokHo Han	JaeJin Lee
DRTFCC2408-0099(1)	Sep. 02, 2024	Modification of Emission Designator	SeokHo Han	JaeJin Lee

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1 GENERAL INFORMATION

FCC Equipment Class	Part 95 Vehicular Radar Systems(VRD)	
Product Name	Millimeter wave radar	
Model Name	IRIS-H	
Add Model Name	-	
EUT Serial Number	301308-01753	
Power Supply	DC 12, 24 V	
Antenna Specification	Radar Module #1	Patch Antenna Gain: 10.8 dBi
	Radar Module #2	Patch Antenna Gain: 10.6 dBi
	Radar Module #3	Patch Antenna Gain: 10.8 dBi

Frequency Range(GHz)	Emission Designator	Modulation	EIRP(Peak detector)	
			Max power (dBm)	Max power (W)
78 ~ 81	1G85F0N	FMCW	20.28	0.106

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2 INTRODUCTION

2.1 EUT DESCRIPTION

The Equipment under Test (EUT) supports 78 ~ 81 GHz vehicular radar.

The EUT is consisted of three radar modules and three modules are not transmit at the same time.

Test Mode

Test Mode	Description	Tested Frequency (GHz)
TM 1	Radar Module #1	79.93
TM 2	Radar Module #2	79.00
TM 3	Radar Module #3	79.93

Operation test setup for EUT

- Test software: IRIS_CAN(1.0.0.0)
- Power setting: NA

2.2 TESTING ENVIRONMENT

Ambient Condition	
▪ Temperature	+21 ℃ ~ +23 ℃
▪ Relative Humidity	41 % ~ 44 %

2.3 MEASURING INSTRUMENT CALIBRATION

The measuring equipment, which was utilized in performing the tests documented herein, has been calibrated in accordance with the manufacturer's recommendations for utilizing calibration equipment, which is traceable to recognized national standards.

2.4 MEASUREMENT UNCERTAINTY

The measurement uncertainties shown below were calculated in accordance with requirements of ANSI C 63.4-2014. All measurement uncertainty values are shown with a coverage factor of *k* = 2 to indicate a 95 % level of confidence.

Parameter	Measurement uncertainty
Radiated emission (1 GHz Below)	5.0 dB (The confidence level is about 95 %, k = 2)
Radiated emission (1 GHz ~ 18 GHz)	4.8 dB (The confidence level is about 95 %, k = 2)
Radiated emission (18 GHz Above)	5.0 dB (The confidence level is about 95 %, k = 2)

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2.5 TEST FACILITY

Dt&C Co., Ltd.		
The 3 m test site and conducted measurement facility used to collect the radiated data are located at the 42, Yurim-ro, 154beon-gil, Cheoin-gu, Yongin-si, Gyeonggi-do, Korea 17042. The site is constructed in conformance with the requirements. **- FCC & IC MRA Designation No. : KR0034** **- ISED #: 5740A**		
www.dtnc.net		
Telephone	:	+ 82-31-321-2664
FAX	:	+ 82-31-321-1664

3 SUMMARY OF TEST RESULTS

FCC part section(s)	Test Description	Test Limit	Test Condition	Status Note 1
2.1049	Occupied Bandwidth	N/A	Radiated	C
95.3367(a)	Maximum power(EIRP)	< 50 dBm (Averaging detector)		C
95.3367(b)	Maximum peak power(EIRP)	< 55 dBm (Peak detector)		C
2.1053 95.3379(a)	Undesirable Emissions	Below 40GHz < Part 95.3379 (a)(1) 40 ~ 200GHz < 600 pW/cm^2 Above 200GHz < 1000 pW/cm^2		C
2.1055 95.3379(b)	Frequency Stability	Within the frequency bands		C

Note 1: **C**=Comply **NC**=Not Comply **NT**=Not Tested **NA**=Not Applicable

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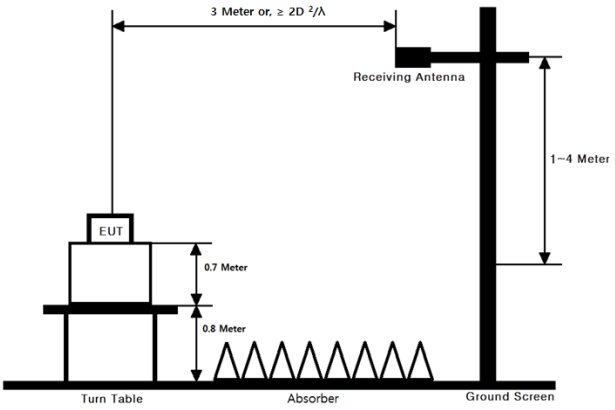
4 TEST RESULTS

4.1 OCCUPIED BANDWIDTH

Test Configuration

Above 1GHz



These measurements were performed at 3 m test site. The equipment under test is placed on a non-conductive table 1.5-meters above a turntable which is flush with the ground plane and 3 meters from the receive antenna. For measurements above 1GHz absorbers are placed on the floor between the turn table and the antenna mast in such a way so as to maximize the reduction of reflections. For measurements below 1 GHz, the absorbers are removed.

Test Procedure

- **ANSI C63.26-2015 – Section 5.4.4**

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

Test setting

1. The signal analyzer`s automatic bandwidth measurement capability was used to perform the 99 % occupied bandwidth. The bandwidth measurement was not influenced by any intermediate power nulls in the fundamental emission.
2. RBW = 1 ~ 5 % of the expected OBW & VBW ≥ 3 X RBW
3. Detector = Peak
4. Trance mode = Max hold
5. Sweep = Auto couple
6. The trace was allowed to stabilize

Limit

Within the designated 76~81GHz frequency band

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Test Results

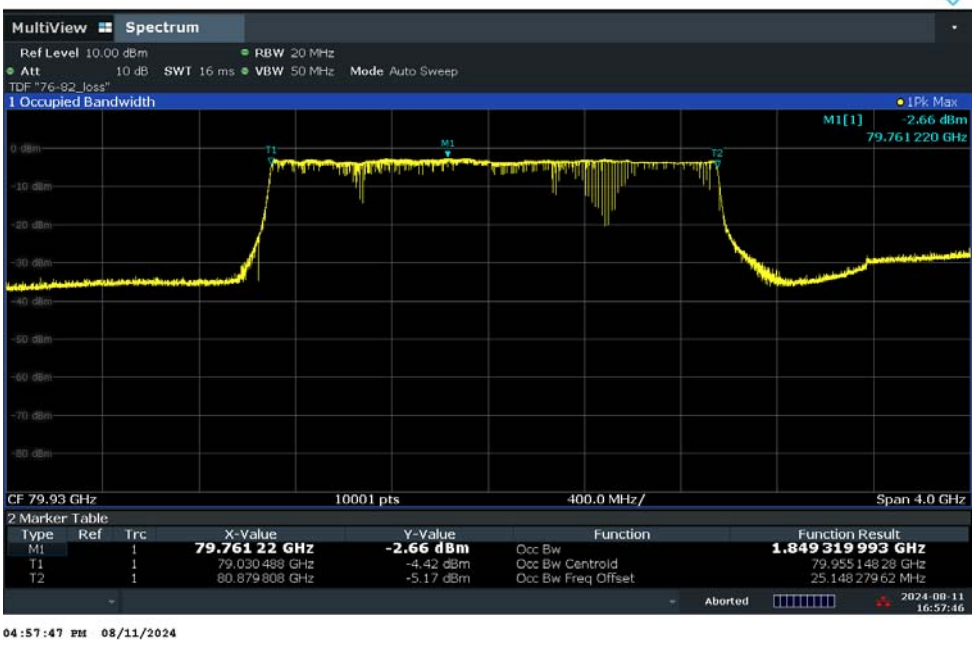
Test Mode	Tested Frequency (GHz)	Occupied Bandwidth(MHz)
TM 1	79.93	1 849.32
TM 2	79.00	1 847.87
TM 3	79.93	1 849.77

Emission Designator

Emission Designator = **1G85F1N**
OBW = 1 849.77 MHz
F = Frequency modulation
1 = A single channel containing quantized or digital information without the use of a modulating sub-carrier
N = No information transmitted

Occupied Bandwidth

TM1



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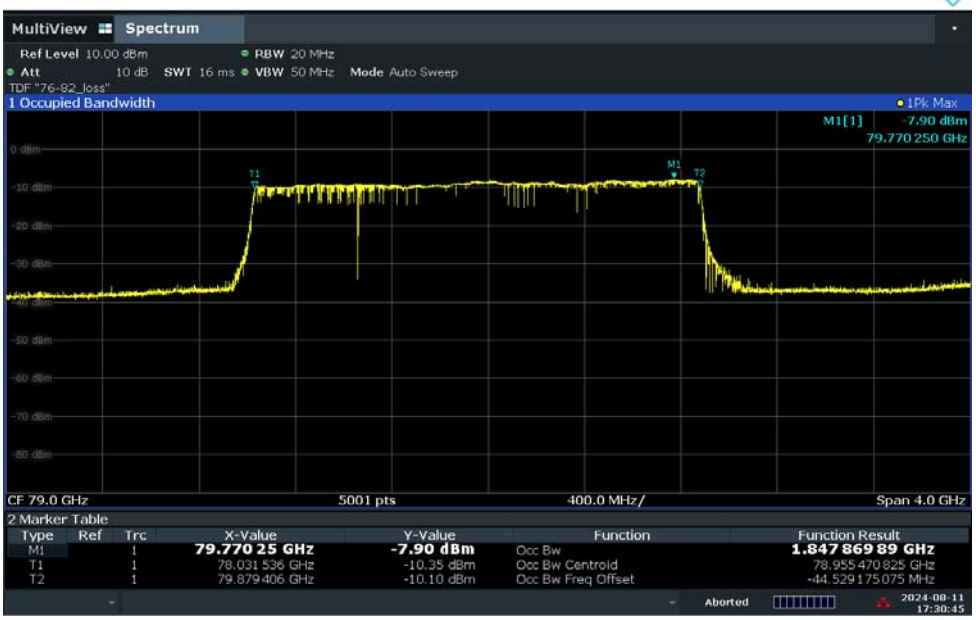
Occupied Bandwidth TM2



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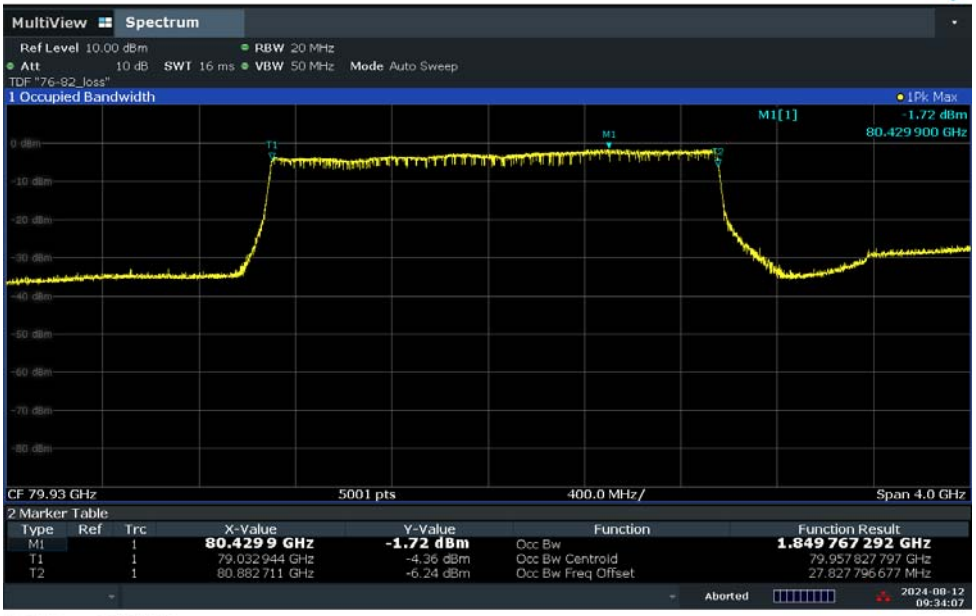
Occupied Bandwidth TM3



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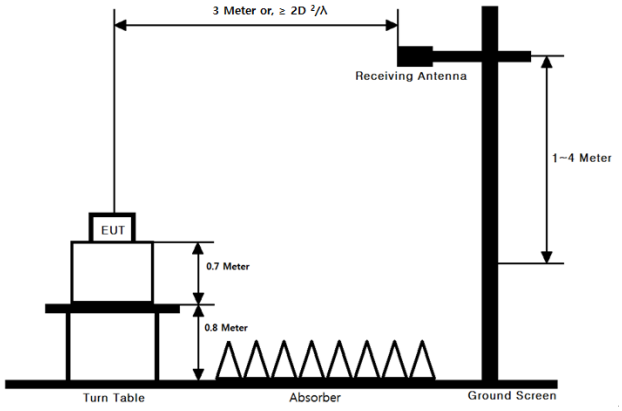
4.2 EIRP

Test Configuration

Above 1GHz



These measurements were performed at 3 m test site. The equipment under test is placed on a non-conductive table 1.5-meters above a turntable which is flush with the ground plane and 3 meters from the receive antenna. For measurements above 1GHz absorbers are placed on the floor between the turn table and the antenna mast in such a way so as to maximize the reduction of reflections. For measurements below 1 GHz, the absorbers are removed.

Far field distance (R_m)

$R_m = 2D^2 / \lambda$,

where, D=the largest dimension of the antenna / λ=the wavelength of the emissions

Frequency Range(GHz)	D(cm)	λ (cm)	Rm (m)	Measurement Distance(m)
78 ~ 81	4.82	0.37	1.25	1.60

Test Procedure

- **ANSI C63.26-2015 – Section 5.**
- **KDB 653005 D01v01r02 – Section 4**

-Maximum power(EIRP) – Averaging detector

The maximum fundamental emission power (EIRP) shall be measured using a power averaging (rms) detector with a 1 MHz resolution bandwidth (RBW) and integrated over the full 99% occupied bandwidth (OBW) to obtain the data necessary to demonstrate compliance to the 50 dBm limit.

-Maximum peak power(EIRP) – Peak detector

The maximum peak fundamental emission power (EIRP) measurement shall be performed by sweeping over the transmitted occupied bandwidth using a positive peak power detector with peak hold activated, and a 1 MHz RBW. Power integration is not to be used in performing this measurement. The resultant peak power spectral density (maximum in any 1 MHz) data shall be used to demonstrate compliance to the 55 dBm/MHz limit.

1) Peak power measurements of swept frequency radar implementations (e.g., high sweep rate FMCW) may require a desensitization correction factor to be applied to the measurement results. See relevant Application Note(s) from the measurement instrumentation vendor for details.

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Limit

- Part 95.3367

The fundamental radiated emission limits within the 76-81 GHz band are expressed in terms of Equivalent Isotropically radiated Power (EIRP) and are as follows:
(a) The maximum power (EIRP) within the 76-81 GHz band shall not exceed 50 dBm based on measurements employing a power averaging detector with a 1 MHz Resolution Bandwidth (RBW).
(b) The maximum peak power (EIRP) within the 76-81 GHz band shall not exceed 55 dBm based on measurements employing a peak detector with a 1 MHz RBW.

Test Results

Maximum power(EIRP) – Averaging detector & Maximum peak power(EIRP) – Peak detector

TM 1

Measurement distance(D)	Frequency (GHz)	ANT Pol	EUT Position (Axis)	Detector Mode	Measured Level(dBm)	TF (dB/m)	DCF (dB)	E (dBuV/m)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1.6 m	80.869	H	Z	PK	-15.26	15.99	12.47	120.20	19.48	55.00	35.52
1.6 m	79.950	H	Z	AV	-16.37	13.56	NA	104.19	3.47	50.00	46.53

TM 2

Measurement distance(D)	Frequency (GHz)	ANT Pol	EUT Position (Axis)	Detector Mode	Measured Level(dBm)	TF (dB/m)	DCF (dB)	E (dBuV/m)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1.6 m	79.868	H	Z	PK	-17.10	13.67	12.47	116.04	15.32	55.00	39.68
1.6 m	78.950	H	Z	AV	-23.12	14.88	NA	98.76	-1.96	50.00	51.96

TM 3

Measurement distance(D)	Frequency (GHz)	ANT Pol	EUT Position (Axis)	Detector Mode	Measured Level(dBm)	TF (dB/m)	DCF (dB)	E (dBuV/m)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1.6 m	80.869	H	Z	PK	-14.46	15.99	12.47	121.00	20.28	55.00	34.72
1.6 m	79.950	H	Z	AV	-16.86	13.56	NA	103.70	2.98	50.00	47.02

Note.

1. The EIRP was measured in each axis EUT positions and the worst case data was reported.
2. For peak power measurement, a desensitization correction factor was applied to the measurement result.
3. Sample Calculation.

E(dBuV/m) = Measured level (dBuV) + 107 + TF(dB/m) + DCF(dB)

where, E=field strength / TF = Total Factor / DCF = Desensitization Correction Factor

TF(dB/m) = Antenna Factor(dB/m) + Cable Loss(dB) + Attenuator Loss(dB) – Amplifier Gain(dB)

EIRP(dBm) = E(dBuV/m) + 20log(D) - 104.8; where, D is measurement distance (in the far field region) in m.

4. DCF Calculation

DCF = 5 x log (1+ K x (Sweep bandwidth/ (chirp length x $RBW^2)^2$)

= 5 x log (1+ 0.1947 x (1.638 GHz / (41us x $1MHz^2)^2$) = 12.47 dB

K = a correction factor for the settling process of the gaussian shaped filter (0.1947)

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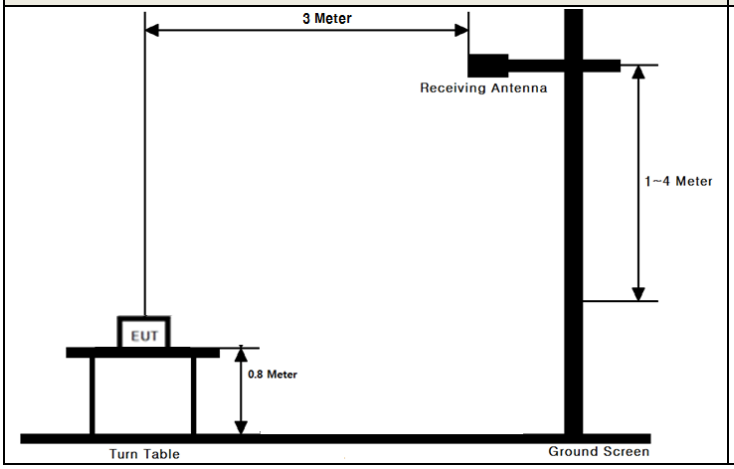
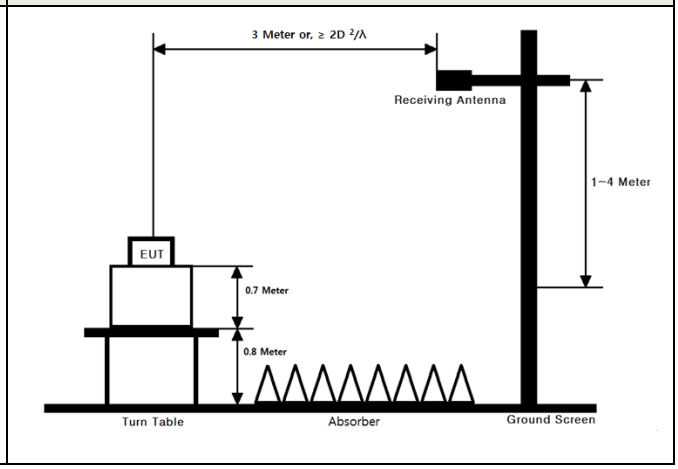
4.3 UNDESIRABLE EMISSIONS

Test Configuration

Below 1GHz	Above 1GHz
	

These measurements were performed at 3 test site. The equipment under test is placed on a non-conductive table 1.5-meters above a turntable which is flush with the ground plane and 3 meters(for below 1GHz: 0.8-m) from the receive antenna. For measurements above 1GHz absorbers are placed on the floor between the turn table and the antenna mast in such a way so as to maximize the reduction of reflections. For measurements below 1 GHz, the absorbers are removed.

Far field distance (R_m)

$R_m = 2D^2 / \lambda$,

where, D=the largest dimension of the measurement antenna / λ=the wavelength of the emissions

Frequency Range(GHz)	D(cm)	λ (cm)	Rm (m)	Measurement Distance(m)
40 ~ 60	6.24	0.50	1.56	1.60
60 ~ 90	5.68	0.33	1.39	1.60
90 ~ 140	2.74	0.21	0.70	1.60
140 ~ 220	1.89	0.14	0.52	0.70
220 ~ 250	1.45	0.12	0.35	0.50

Test Procedure

- **ANSI C63.26-2015 – Section 5.5**

Test setting

Below 1GHz

RBW = 100 or 120 kHz, VBW = 3 x RBW, Detector = Peak or Quasi Peak

1~40 GHz

Peak Measurement

RBW = 1 MHz, VBW = 3 MHz, Detector = Peak, Sweep time = Auto, Trace mode = Max Hold until the trace stabilizes

Average Measurement

RBW = 1MHz, VBW = Reduce the video bandwidth until no significant variations in the displayed signal are observed in subsequent traces, provided the video bandwidth is no less than 1 Hz. (Actual VBW setting: 30Hz)

Detector = Peak, Sweep Time = Auto, Trace Mode = Max Hold until the trace stabilizes

Above 40GHz

Average Measurement

RBW = 1 MHz, VBW = 3 MHz, Detector = RMS, Sweep time = Auto, Trace mode = Max hold or Averaging

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Limit

Part 95.3379

(a) The power density of any emissions outside the 76-81 GHz band shall consist solely of spurious emissions and shall not exceed the following:

(1) Radiated emissions below 40 GHz shall not exceed the field strength as shown in the following emissions table.

Frequency (MHz)	Limit (uV/m)	Measurement Distance (meter)
0.009 – 0.490	2 400/F (kHz)	300
0.490 – 1.705	24 000/F (kHz)	30
1.705 – 30.0	30	30
30 ~ 88	100	3
88 ~ 216	150	3
216 ~ 960	200	3
Above 960	500	3

(i) In the emissions table in paragraph (a)(1) of this section, the tighter limit applies at the band edges.

(ii) The limits in the table in paragraph (a)(1) of this section are based on the frequency of the unwanted emissions and not the fundamental frequency. However, the level of any unwanted emissions shall not exceed the level of the fundamental frequency.

(iii) The emissions limits shown in the table in paragraph (a)(1) of this section are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9.0-90.0 kHz, 110.0-490.0 kHz, and above 1000 MHz. Radiated emissions limits in these three bands are based on measurements employing an average detector with a 1 MHz RBW.

(2) The power density of radiated emissions outside the 76-81 GHz band above 40.0 GHz shall not exceed the following, based on measurements employing an average detector with a 1 MHz RBW:

(i) For radiated emissions outside the 76-81 GHz band between 40 GHz and 200 GHz from field disturbance sensors and radar systems operating in the 76-81 GHz band: 600 pW/cm^2 at a distance of 3 meters from the exterior surface of the radiating structure.

(ii) For radiated emissions above 200 GHz from field disturbance sensors and radar systems operating in the 76-81 GHz band: 1000 pW/cm^2 at a distance of 3 meters from the exterior surface of the radiating structure.

(3) For field disturbance sensors and radar systems operating in the 76-81 GHz band, the spectrum shall be investigated up to 231.0 GHz.

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Test Results

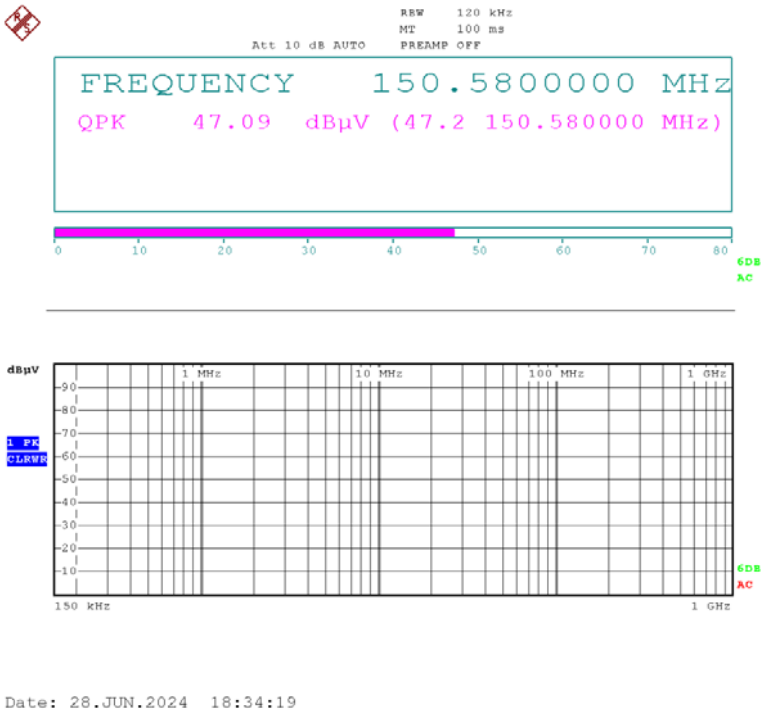
Frequency Range: 9 kHz ~ 1 GHz_TM 3

Frequency (MHz)	ANT Pol	Detector Mode	Measured Level(dBuV)	AFCLAG (dB/m)	Distance Factor(dB)	E (dBuV/m)	Limit (dBuV/m)	Margin (dB)
31.20	V	QP	46.10	-9.84	NA	36.26	40.00	3.74
32.88	V	QP	42.30	-9.82	NA	32.48	40.00	7.52
150.58	H	QP	47.20	-6.88	NA	40.32	43.50	3.18
240.65	H	QP	44.70	-7.16	NA	37.54	46.00	8.46
251.99	H	QP	44.50	-6.75	NA	37.75	46.00	8.25

Note.

1. No other spurious and harmonic emissions were found above listed frequencies. And the worst-case data(TM3) was reported.
2. Information of Distance Factor
   For finding emissions, measurements may be performed at a distance closer than that specified in the regulations.
   In this case, the distance correction factor is applied to the result.
   - Calculation of distance correction factor
   At frequencies below 30 MHz = 40 log(tested distance / specified distance)
   At frequencies at or above 30 MHz = 20 log(tested distance / specified distance)
   When distance factor is “N/A”, the measurements were performed at the specified distance and distance factor is not applied.
3. Sample Calculation.
   Margin = Limit – Result
   E(dBuV/m) = Measured level (dBuV) + AFCLAG(dB/m)
   where, E=field strength / AFCLAG = Antenna Factor(dB/m) + Cable Loss(dB) – Amp Gain(dB)

Worst data plot (Measured Level), Y axis



Frequency Range: 1 ~ 40 GHz_TM 3

Frequency (MHz)	ANT Pol	Detector Mode	Measured Level(dBuV)	AFCLAG (dB/m)	Distance Factor(dB)	E (dBuV/m)	Limit (dBuV/m)	Margin (dB)
14 399.80	V	PK	48.88	9.54	NA	58.42	74.00	15.58
14 399.70	V	AV	41.56	9.54	NA	51.10	54.00	2.90
28 799.33	H	PK	50.39	10.29	-5.46	55.22	74.00	18.78
28 799.30	H	AV	45.72	10.29	-5.46	50.55	54.00	3.45
-	-	-	-	-	-	-	-	-

Note.

1. No other spurious and harmonic emissions were found above listed frequencies. And the worst-case data(TM3) was reported.
2. Information of Distance Factor

   For finding emissions, the test distance might be reduced. In this case, the distance factor is applied to the result.

   - Calculation of distance factor = 20 log(applied distance / required distance)

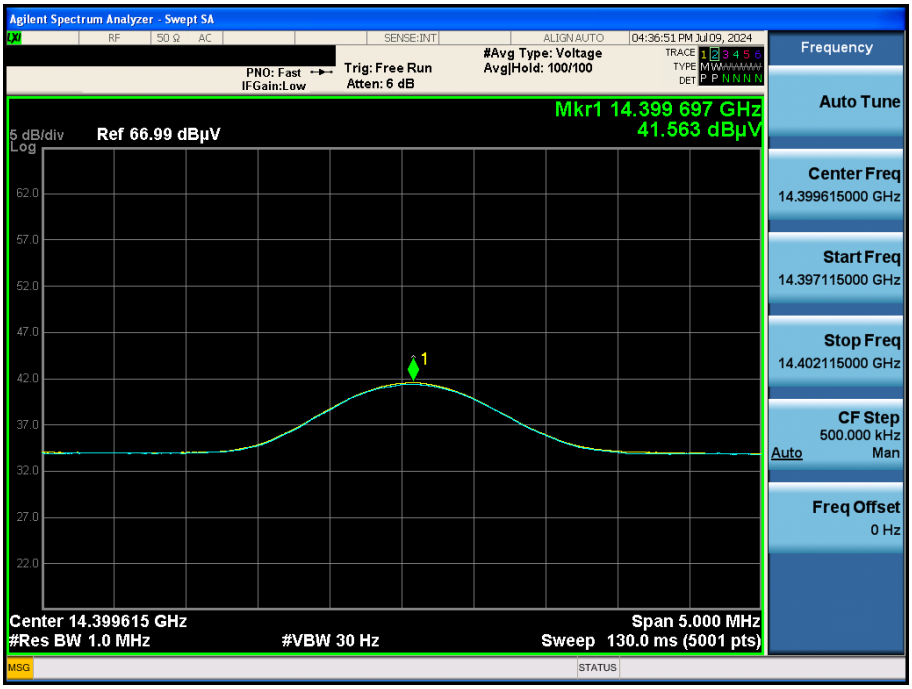
   When distance factor is “N/A”, the distance is 3 m and distance factor is not applied.
3. Sample Calculation.

   Margin = Limit – Result

   E(dBuV/m) = Measured level (dBuV) + AFCLAG(dB/m)

   where, E=field strength / AFCLAG = Antenna Factor(dB/m) + Cable Loss(dB) – Amp Gain(dB)
4. * Noise floor.

Worst data plot (Measured Level), Y axis & Ver



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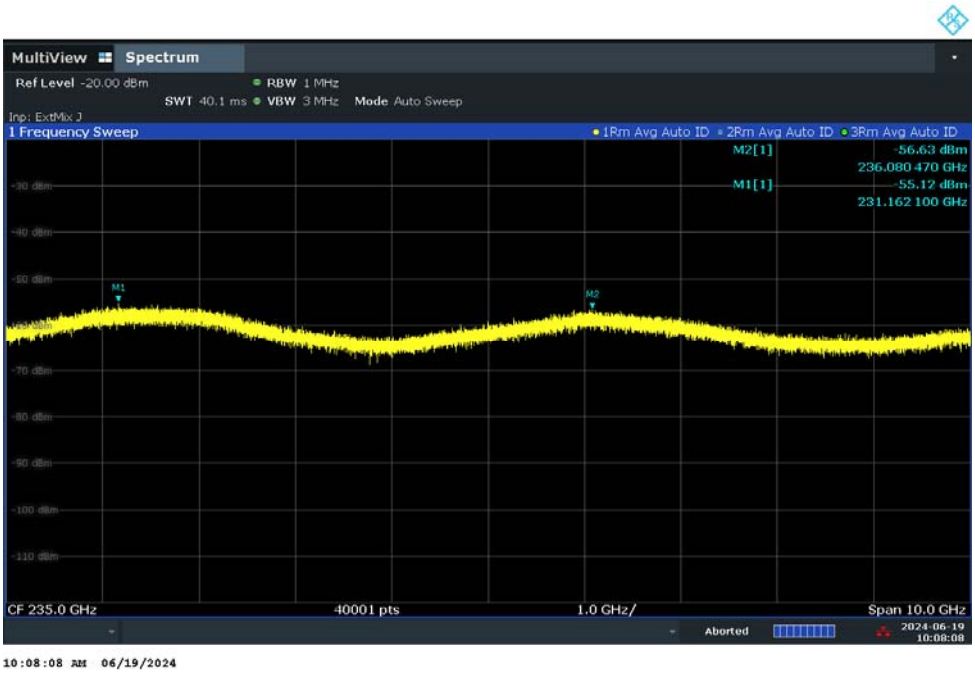
Frequency Range: 40 ~ 243 GHz_TM 3

Measurement distance(D)	Frequency (MHz)	ANT Pol	EUT Axis	Measured Level (dBm)	AFCLAG (dB/m)	E (dBuV/m)	EIRP (dBm)	Power Density (pW/cm^2)	Limit (pW/cm^2)
1.6 m	*124 915.25	H	Z	-67.62	47.82	87.20	-13.52	39.31	600.00
0.7 m	*191 658.89	H	Z	-65.81	51.95	93.14	-14.76	29.55	600.00
0.5 m	*226 079.47	H	Z	-56.45	54.36	104.91	-5.91	226.75	1000.00
0.5 m	*231 162.10	H	Z	-55.12	54.55	106.43	-4.39	321.77	1000.00

Note.

1. The radiated emissions were investigated up to 243GHz and no other spurious and harmonic emissions were found above listed frequencies. The worst-case data(TM 3) was reported.
2. Sample Calculation.
   E(dBuV/m) = Measured level (dBm) + 107 + AFCLAG(dB/m)
   where, E=field strength / AFCLAG = Antenna Factor(dB/m) + Cable Loss(dB) – Amp Gain(dB)
   EIRP(dBm) = E(dBuV/m) + 20log(D) - 104.8; where, D is measurement distance (in the far field region) in m.
   $PD = EIRP_{Linear} / 4\pi d^2$
   Where, PD = the power density at the distance specified by the limit, in W/m^2
   $EIRP_{Linear}$ = EIRP, in watts
   D = is the distance at which the power density limit is specified, in m
   If the mixer is used, mixer loss was applied to the measured level by SA correction factor.
3. * Noise floor

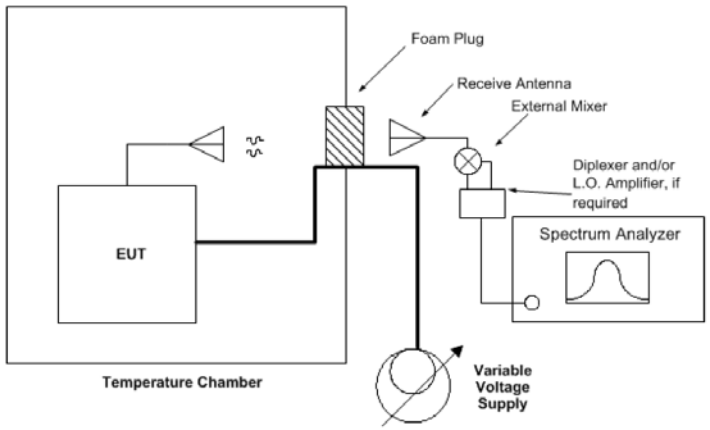
Worst data plot (Measured Level: Noise floor), Z axis & Hor



4.4 FREQUENCY STABILITY

Test configuration

Frequency stability



Test Procedure

- **ANSI C63.26-2015 – Section 5.6**

The frequency stability of the transmitter is measured by:

1. At 10 °C intervals of temperatures between −30 °C and +50 °C at the manufacturer's rated supply voltage, and

2. At +20 °C temperature and ±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.

Time Period and Procedure:

1. The carrier frequency of the transmitter is measured at room temperature.
   (20 °C to provide a reference)

2. The equipment is turned on in a "standby" condition for one minute before applying power to the transmitter. Measurement of the carrier frequency of the transmitter is made within one minute after applying power to the transmitter.

3. Frequency measurements are made at 10 °C intervals ranging from -30 °C to +50 °C.
   A period of at least one half-hour is provided to allow stabilization of the equipment at each temperature level.

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Limit

Part 95.3379(b)

Fundamental emissions must be contained within the frequency bands specified in Part 95(M) during all conditions of operation. Equipment is presumed to operate over the temperature range −20 to +50 degrees Celsius with an input voltage variation of 85% to 115% of rated input voltage, unless justification is presented to demonstrate otherwise.

Test Results

VOLTAGE (%)	POWER (V DC)	TEMP (℃)	Test Mode: TM 2 Measured low frequency(F_L) (MHz)	Test Mode: TM 1 Measured high frequency(F_H) (MHz)
100 %	24.0	+20'C	78031.54	80882.71
100 %		-30	78032.71	80880.94
100 %		-20	78030.48	80881.34
100 %		-10	78031.19	80883.08
100 %		0	78030.94	80882.16
100 %		+10	78029.85	80881.47
100 %		+20	78031.54	80882.71
100 %		+30	78032.22	80880.48
100 %		+40	78031.76	80881.75
100 %		+50	78032.09	80882.44
115 %	27.6	+20'C	78030.80	80880.93
85 %	10.2*	+20'C	78031.17	80881.59

Note 1: Fundamental emissions were contained within the frequency bands.
Note 2: * = -15 % variation was applied to the lowermost voltage (12 V).

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5 LIST OF TEST EQUIPMENT

Type	Manufacturer	Model	Cal.Date (yy/mm/dd)	Next.Cal. Date (yy/mm/dd)	S/N
Signal Analyzer	Rohde Schwarz	FSW85	23/12/15	24/12/15	101530
Spectrum Analyzer	Agilent Technologies	N9020A	23/12/15	24/12/15	MY48010133
DC Power Supply	SM techno	SDP30-5D	24/06/05	25/06/05	305DNF079
Digital Multimeter	FLUKE	17B+	23/12/15	24/12/15	36390701WS
Thermohygrometer	XIAOMI	MHO-C201	23/12/15	24/12/15	00089675
Thermohygrometer	BODYCOM	BJ5478	23/12/15	24/12/15	120612-2
Temp & Humi Test Chamber	ESPEC	LHU-123	24/06/12	25/06/12	1012008111
Signal Generator	ANRITSU	MG3695C	23/12/15	24/12/15	173501
Signal Generator	KEYSIGHT	N5182B	23/12/15	24/12/15	MY53050182
Loop Antenna	ETS-Lindgren	6502	23/12/15	24/12/15	00226186
Hybrid Antenna	Schwarzbeck	VULB 9160	23/12/15	24/12/15	3362
PreAmplifier	H.P	8447D	23/12/15	24/12/15	2944A07774
PreAmplifier	Agilent Technologies	8449B	23/12/15	24/12/15	3008A02108
PreAmplifier	tsj	MLA-1840-J02-45	24/06/03	25/06/03	16966-10728
PreAmplifier	Norden Millimeter Inc.	NA4060G50N8P12	22/12/16	24/12/16	1003
PreAmplifier	Norden Millimeter Inc.	NN6090G40N5P-2	22/12/16	24/12/16	1001
Level setting Attenuator	SAGE Millimeter	STA-30-12-M3-2	23/12/15	24/12/15	10391-01
Horn Antenna	ETS-Lindgren	3117	23/12/15	24/12/15	00140394
Horn Antenna	A.H. Systems Inc.	SAS-574	24/06/11	25/06/11	155
Horn Antenna	MI Wave	RX ANT-5 261U+410U	24/06/18	25/06/18	108
Horn Antenna	MI Wave	RX ANT-7 261E	24/06/18	25/06/18	112
Horn Antenna	MI Wave	261W-25/387	24/06/18	25/06/18	743
Horn Antenna	MI Wave	RX ANT-8 261F	24/06/18	25/06/18	114
Horn Antenna	MI Wave	RX ANT-9 261G	24/06/18	25/06/18	116
Horn Antenna	SAGE Millimeter	SAR-2507-03-S2	24/06/18	25/06/18	14614-01
Harmonic Mixers	KEYSIGHT	M1971W	23/12/15	24/12/15	MY56390126
Harmonic Mixers	Rohde Schwarz	FS-Z90	24/06/14	25/06/14	101714
Harmonic Mixers	Rohde Schwarz	FS-Z140	24/06/14	25/06/14	101009
Harmonic Mixers	Rohde Schwarz	FS-Z220	24/06/14	25/06/14	101012
Harmonic Mixers	Rohde Schwarz	FS-Z325	24/06/14	25/06/14	100925
Cable	HUBER+SUHNER	SUCOFLEX100	24/01/03	25/01/03	M-1
Cable	HUBER+SUHNER	SUCOFLEX100	24/01/03	25/01/03	M-2
Cable	Junkosha	MWX241/B	24/01/03	25/01/03	M-3
Cable	Junkosha	MWX221	24/01/03	25/01/03	M-4
Cable	Junkosha	MWX221	24/01/03	25/01/03	M-5
Cable	JUNFLON	J12J101757-00	24/01/03	25/01/03	M-7
Cable	HUBER+SUHNER	SUCOFLEX104	24/01/03	25/01/03	M-8
Cable	HUBER+SUHNER	SUCOFLEX106	24/01/03	25/01/03	M-9
Cable	Junkosha	MWX315	24/01/03	25/01/03	M-10
Cable	DTNC	Cable	24/01/03	25/01/03	RFC-69
Cable	Junkosha	MWX241	24/01/03	25/01/03	mmW-1
Cable	Junkosha	MWX241	24/01/03	25/01/03	mmW-4
Cable	Junkosha	MWX261	24/01/03	25/01/03	mmW-15
Cable	HUBER+SUHNER	SUCOFLEX 104	24/01/03	25/01/03	mmW-8
Cable	HUBER+SUHNER	SUCOFLEX 104	24/01/03	25/01/03	mmW-9
Cable	SAGE MILLIMETER Inc	SCW-1M1M024-F1	24/01/03	25/01/03	mmW-10
Test Software	tsj	Radiated Emission Measurement	NA	NA	Version 2.00.0185
Test Software	tsj	Noise Terminal Measurement	NA	NA	Version 2.00.0190

Note1: The measurement antennas were calibrated in accordance to the requirements of ANSI C63.5-2017.
Note2: The cable is not a regular calibration item, so it has been calibrated by Dt&C itself.

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