

Report No.: KSCR220800137101

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# TEST REPORT

 Application No.:
 KSCR2208001371AT

 FCC ID:
 2A8CZ000077GB000002

 IC:
 29000-077GB000002

Applicant: Nova Electronics (Shanghai) Co., LTD

Address of Applicant: Zone A, 6th Floor, 1st Building, No. 601, Jinyuan fifth road, Jiading District,

Shanghai, P.R. China

Manufacturer: Nova Electronics (Shanghai) Co., LTD

Address of Manufacturer: Zone A, 6th Floor, 1st Building, No. 601, Jinyuan fifth road, Jiading District,

Shanghai, P.R. China

Factory: Nova Electronics (Shanghai) Co., LTD

Address of Factory: Zone A, 6th Floor, 1st Building, No. 601, Jinyuan fifth road, Jiading District,

Shanghai, P.R. China

**Equipment Under Test (EUT):** 

**EUT Name:** 77GHz millimeter-wave radar

Model No.: NOVA77GB-C Pro-H; NOVA77GB-C Pro-V

Standard(s): 47 CFR Part 95, Subpart M

RSS-251 Issue 2(July 2018)

RSS-Gen Issue5 Amendment 2(February 2021)

**Date of Receipt:** 2022-08-05

**Date of Test:** 2022-09-02 to 2022-09-20

**Date of Issue:** 2022-09-23

Test Result:

Eric Lin Laboratory Manager

Ina fin



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<sup>\*</sup> In the configuration tested, the EUT complied with the standards specified above.



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Revision Record						
Version	Description	Date	Remark			
00	Original	2022-09-23	/			

Authorized for issue by:		
	Paun Lin	
	Pawn Liu / Project Engineer	
	Eric Li	
	Eric Lin / Reviewer	



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## 2 Test Summary

Radio Spectrum Technical Requirement							
Item FCC Requirement IC Requirement Method Test Limit Resu							
47 CFR Part 95, Subpart M	RSS-Gen Clause 6.8	N/A	N/A	Pass			
	FCC Requirement 47 CFR Part 95,	FCC Requirement IC Requirement 47 CFR Part 95, RSS-Gen	FCC Requirement IC Requirement Method  47 CFR Part 95, RSS-Gen N/A	FCC Requirement IC Requirement Method Test Limit  47 CFR Part 95, RSS-Gen N/A N/A			

Radio Spectrum Matter Part For FCC								
Item	FCC Requirement	Method	Test Limit	Result				
EIRP	47 CFR Part 95, Subpart M	ANSI C63.26 (2015) Section 5.2	Peak EIRP<55dBm/MHz Average EIRP<50dBm/MHz	Pass				
Occupied Bandwidth	47 CFR Part 95, Subpart M	ANSI C63.26 (2015) Section 5.4	≽76GHz,≤81GHz	Pass				
Modulation characteristics	47 CFR Part 95, Subpart M	ANSI C63.26 (2015) Section 5.3	N/A	Pass				
Unwanted Emissions	47 CFR Part 95, Subpart M	ANSI C63.26 (2015) Section 5.5	Refer to 47 CFR Part 95, Subpart M § 95.3379	Pass				
Frequency Stability	47 CFR Part 95, Subpart M	ANSI C63.26 (2015) Section 5.6	76-81GHz	Pass				

Radio Spectrum Matter Part For IC								
Item	IC Requirement	Method	Test Limit	Result				
EIRP	RSS-251,Issue 2 Section 8.2	RSS-Gen Clause 6.12	Average EIRP<50dBm	Pass				
Peak e.i.r.p.spectral density	RSS-251,Issue 2 Section 9.2	RSS-Gen Clause 6.12	Peak e.i.r.p. spectral density<55 dBm/MHz	Pass				
Occupied Bandwidth	RSS-251,Issue 2 Section 7.2	RSS-Gen Clause 6.7	≥76GHz,≤81GHz	Pass				
Modulation characteristics	RSS-251,Issue 2 Section 6(b)	ANSI C63.26 (2015) Section 5.3	N/A	Pass				
Unwanted Emissions	RSS-251,Issue 2 Section 10.2	RSS-Gen Clause 6.13	Refer to RSS-251,Issue 2 Section 10.2 Table 1	Pass				
Frequency Stability	RSS-251,Issue 2 Section 11.2	RSS-Gen Clause 6.11	76-81GHz	Pass				



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Remark: There are series models mentioned in this report and they are the similar in electrical and electronic characters. Only the model NOVA77GB-C Pro-H was tested since their differences are model number and appearance.



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### 4 General Information

### 4.1 Details of E.U.T.

Power supply: DC 12-24V Test voltage: DC 12V

Frequency band: 76.0 GHz – 77.0 GHz

Type of modulation: FMCW
Center Frequency: 76.66GHz

Channel Number: 1

Antenna Type: PCB antenna

Antenna Gain: 15dBi (Provided by the manufacturer)

Serial Number: 090622A005

Software version: V0.83

### 4.2 Description of Support Units

Description	Manufacturer Model No.		Serial No.	
1	1	1	1	

### 4.3 Measurement Uncertainty

No.	Item	Measurement Uncertainty
1	Radio Frequency	8.4 x 10 <sup>-8</sup>
2	Occupied Bandwidth	3%
3	RF Power Density	2.9dB
4	DC Dadiated Dower	5.2dB (Below 1GHz)
4	RF Radiated Power	5.9dB (Above 1GHz)
		4.2dB (Below 30MHz)
5	Dedicted Spurious Emission Test	4.5dB (30MHz-1GHz)
5	Radiated Spurious Emission Test	5.1dB (1GHz-18GHz)
		5.4dB (Above 18GHz)
6	Temperature Test	1°C
7	Humidity Test	3%
8	Supply Voltages	1.5%
9	Time	3%

Note: The measurement uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.



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#### 4.4 Test Location

All tests were performed at:

Compliance Certification Services (Kunshan) Inc.

No.10 Weiye Rd, Innovation park, Eco&Tec, Development Zone, Kunshan City, Jiangsu, China.

Tel: +86 512 5735 5888 Fax: +86 512 5737 0818

No tests were sub-contracted.

Note:

1.SGS is not responsible for wrong test results due to incorrect information (e.g. max. clock frequency, highest internal frequency, antenna gain, cable loss, etc.) is provided by the applicant. (if applicable).

2.SGS is not responsible for the authenticity, integrity and the validity of the conclusion based on results of the data provided by applicant. (if applicable).

### 4.5 Test Facility

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

#### · CNAS

Compliance Certification Services (Kunshan) Inc. is accredited by the China National Accreditation Service for Conformity Assessment (CNAS). Registration No. CNAS L4354

#### A2LA

Compliance Certification Services (Kunshan) Inc. is accredited by the American Association for Laboratory Accreditation (A2LA). Certificate No. 2541.01.

#### • FCC

Compliance Certification Services (Kunshan) Inc. has been recognized as an accredited testing laboratory. Designation Number: CN1172.

#### • ISED

Compliance Certification Services (Kunshan) Inc. has been recognized by Innovation, Science and Economic Development Canada (ISED) as an accredited testing laboratory. Company Number: 2324E

#### VCCI

The 3m and 10m Semi-anechoic chamber and Shielded Room of Compliance Certification Services (Kunshan) Inc. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-20134, R-11600, C-11707, T-11499, G-10216 respectively.

### 4.6 Deviation from Standards

None

#### 4.7 Abnormalities from Standard Conditions

None



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# 5 Equipment List

Item	Equipment	Manufacturer	Model	Serial Number	Cal Date	Cal. Due Date
RF R	adiated Test					
1	Spectrum Analyzer	R&S	FSV40	101493	10/11/2021	10/10/2022
2	Signal Generator	Agilent	E8257C	MY43321570	10/18/2021	10/17/2022
3	Loop Antenna	Schwarzbeck	HXYZ9170	9170-108	02/21/2022	02/20/2023
4	Bilog Antenna	TESEQ	CBL 6112D	35403	06/21/2021	06/20/2023
5	Bilog Antenna	SCHWARZBECK	VULB9160	9160-3342	04/13/2021	04/12/2023
6	Horn-antenna(1-18GHz)	Schwarzbeck	BBHA9120D	267	10/26/2020	10/25/2022
7	Horn-antenna(1-18GHz)	ETS-LINDGREN	3117	00143290	02/22/2021	02/21/2023
8	Horn Antenna(18-40GHz)	Schwarzbeck	BBHA9170	BBHA9170171	02/21/2022	02/20/2023
9	Horn-antenna(40-60GHz)	REBES	SAZ-2410-19-S1	06299-01	N/A	N/A
10	Horn-antenna(50-75GHz)	REBES	SAZ-2410-15-S1	01731-01	N/A	N/A
11	Horn-antenna(75-110GHz)	REBES	SAZ-2410-10-S1	01773-09	N/A	N/A
12	Horn-antenna(110-170GHz)	REBES	SAZ-2410-06-S1	01776-05	N/A	N/A
13	Horn-antenna(140-220GHz)	REBES	SAZ-2410-05-S1	01759-04	N/A	N/A
14	Horn-antenna(220-325GHz)	REBES	SAR-2309-03-S2	06300-01	N/A	N/A
15	Extended waveguide(40-60GHz)	REBES	SWG-19025-FB	06303-01	N/A	N/A
16	Extended waveguide(50-75GHz)	REBES	SWG-15025-FB	01525-09	N/A	N/A
17	Extended waveguide(75-110GHz)	REBES	SWG-10025-FB	01509-01	N/A	N/A
18	Extended waveguide(110-170GHz)	REBES	SWG-06025-FB	06302-01	N/A	N/A
19	Extended waveguide(140-220GHz)	REBES	SWG-05025-FB	06304-01	N/A	N/A
20	Extended waveguide(220-325GHz)	REBES	SWG-03025-FB	06301-01	N/A	N/A
21	Harmonic mixer(110-170GHz)	REBES	STH-06SF-S1	06110-01	N/A	N/A
22	Harmonic mixer(40-60GHz)	REBES	STH-19SF-S1	06937-01	N/A	N/A
23	Harmonic mixer(140-220GHz)	REBES	STH-06SF-S1	0220-210-002-3D	N/A	N/A
24	Harmonic mixer(220-325GHz)	REBES	STH-19SF-S1	0325-210-002-2F	N/A	N/A
25	Waveguide Harmonic Mixer(50-75GHz)	KEYSIGHT	M1970V	MY51390966	N/A	N/A
26	Waveguide Harmonic Mixer(50-75GHz) cable	Silverline	SLU18-SMSM-01.00M	99612	N/A	N/A
27	Waveguide Harmonic Mixer(75-110GHz)	KEYSIGHT	M1970W	MY51430883	N/A	N/A
28	Waveguide Harmonic Mixer(75-110GHz) cable	Silverline	SLU18-SMSM-01.00M	94202	N/A	N/A
29	Waveguide Harmonic Mixer(40-60GHz) cable	Silverline	SLU18-SMSM-01.00M	94011	N/A	N/A
30	Waveguide Harmonic Mixer(110-170GHz) cable	Silverline	SLU18-SMSM-01.00M	96416	N/A	N/A
31	Waveguide Harmonic Mixer(140-220GHz) cable	Silverline	SLU18-SMSM-01.00M	99632	N/A	N/A
32	Waveguide Harmonic Mixer(220-325GHz) cable	Silverline	SLU18-SMSM-01.00M	94215	N/A	N/A
33	Pre-Amplifier(30MHz~18GHz)	LNA	1	/	04/14/2022	04/13/2023
34	Amplifier(18~40GHz)	COM-POWER	PAM-840A	461332	10/18/2021	10/17/2022
35	Low Pass Filter	MICRO-TRONICS	VLFX-950	RV142900829	N.C.R	N.C.R
36	High Pass Filter	Mini-Circuits	VHF-1200	15542	N.C.R	N.C.R
37	RE test cable	/	RE01-RE04	1	04/14/2022	04/13/2023
38	PXA Spectrum Analyzer	KEYSIGHT	N9030B	KSEM021-1	01/30/2022	01/29/2023



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39	Vector Signal Generator	R&S	SMW200A	110074	10/12/2021	10/12/2022
40	Software	Farad	EZ-EMC	CCS-03A1	N/A	N/A

Note: N.C.R means Not Calibration Requirements.



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## 6 Radio Spectrum Technical Requirement

## 6.1 Antenna Requirement

#### 6.1.1 Test Requirement:

FCC 47 CFR Part 95M; RSS-Gen Clause 6.8

#### 6.1.2 Conclusion

Standard Requirement:

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit permanently attached antenna or of an so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

**EUT Antenna:** 

The antenna is PCB Antenna and no consideration of replacement.

Antenna location: Refer to EUT Photos.



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## 7 Radio Spectrum Matter Test Results

### 7.1 Modulation characteristics

### 7.1.1 Test Requirement:

47 CFR Part 95, Subpart M; RSS-251 Section 6(b)

### 7.1.2 Conclusion

According to § 2.1047, A curve or equivalent data which shows that the equipment will meet the modulation requirements of the rules under which the equipment is to be licensed

Comments from manufacturer on modulation characteristics according to KDB:

Parameter	
Duty Cycle %:	15%
Time RF on(ms):	15 ms
Time RF off (ms):	85 ms
Power:	Constant during RF on
Steepness of Ramps(GHz/s):	14 MHz/us
Calibration:	N/A
Antenna Beam Steering(TX):	±40°
Characteristics	
Sweep Bandwidth:	350MHz
Sweep Rate(KHz):	35KHz
Sweep Time(us):	28us



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#### **7.2 EIRP**

Test Requirement: 47 CFR Part 95, Subpart M; RSS-251 Section 8.2

Test Method: ANSI C63.26 (2015) Section 5.2; RSS-Gen Clause 6.12

Limit:

Peak EIRP <55dBm/MHz Average EIRP <50dBm

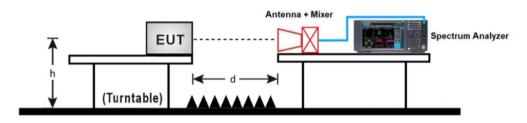
### 7.2.1 E.U.T. Operation

Operating Environment:

Temperature: 24 °C Humidity: 48 % RH Atmospheric Pressure: 1010 mbar

Test mode a:TX mode\_Make EUT continuously emit radar signals

#### 7.2.2 Test Setup Diagram



h=1.25m, d=0.15m

### 7.2.3 Measurement Data

Frequency (GHz)	Distance (cm)	Polarity	dBuV/m @ 0.15m	E.I.R.P. Power (dBm)	E.I.R.P Limit (dBm)	Result	Remark
	15	Horizontal	140.32	19.07	55.0	Pass	peak
76.66	15	Horizontal	129.03	7.78	50.0	Pass	AVG
76.66	15	Vertical	118.48	-2.77	55.0	Pass	peak
	15	Vertical	116.37	-4.88	50.0	Pass	AVG

#### Remark:

 $E[dB\mu V/m] = EIRP[dBm] - 20 log(d[meters]) + 104.77$ , where E = field strength and d = distance at which field strength limit is specified in the rules

 $EIRP[dBm] = E[dB\mu V/m] + 20 log(d[meters]) - 104.77$ 



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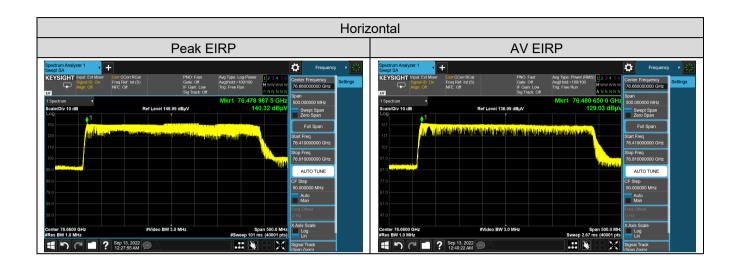
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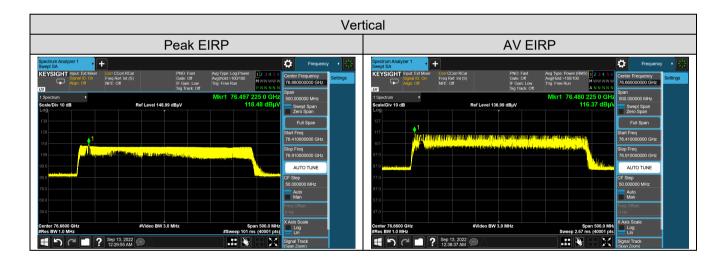
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### 7.3 Peak Eirp Spectral Density

Test Requirement: RSS-251 Section 9.2
Test Method: RSS-Gen Clause 6.12

Limit:

Peak Eirp Spectral Density <55dBm/MHz

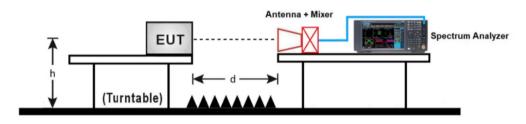
7.3.1 E.U.T. Operation

Operating Environment:

Temperature: 24 °C 48 % RH Atmospheric Pressure: 1010 mbar

Test mode a:TX mode\_Make EUT continuously emit radar signals

#### 7.3.2 Test Setup Diagram



h=1.25m, d=0.15m

### 7.3.3 Measurement Data

Frequency (GHz)	Distance (cm)	Polarity	dBuV/m @ 0.15m	E.I.R.P. Spectral Density(dB m)	E.I.R.P. Spectral Density Limit (dBm)	Result	Remark
76.66	15	Horizontal	140.32	19.07	55.0	Pass	peak
76.66	15	Vertical	118.48	-2.77	55.0	Pass	peak

#### Remark:

 $E[dB\mu V/m] = EIRP[dBm] - 20 log(d[meters]) + 104.77$ , where E = field strength and d = distance at which field strength limit is specified in the rules

 $EIRP[dBm] = E[dB\mu V/m] + 20 log(d[meters]) - 104.77$ 



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### 7.4 Occupied Bandwidth

Test Requirement: 47 CFR Part 95, Subpart M; RSS-251 Section 7.2
Test Method: ANSI C63.26 (2015)Section 5.4; RSS-Gen Clause 6.7

Limit: ≥76GHz,≤81GHz

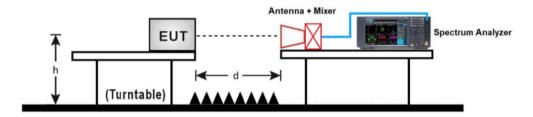
### 7.4.1 E.U.T. Operation

Operating Environment:

Temperature: 24 °C Humidity: 48 % RH Atmospheric Pressure: 1010 mbar

Test mode a:TX mode\_Make EUT continuously emit radar signals

### 7.4.2 Test Setup Diagram



h=1.25m, d=0.15m



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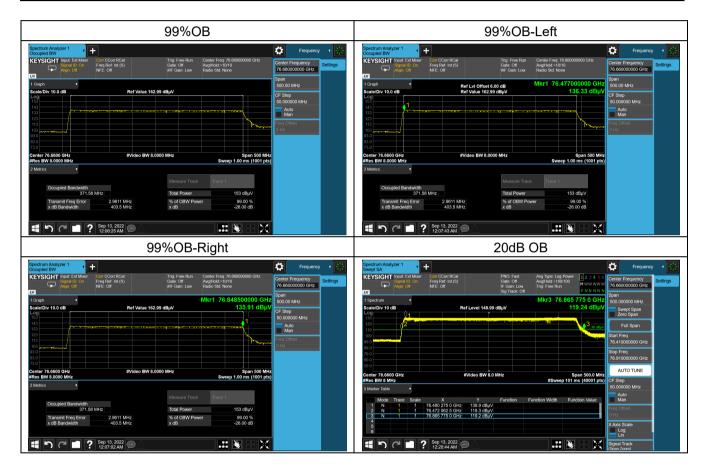


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#### 7.4.3 Measurement Data

99% Bandwidth (GHz)	Lowest Frequency (GHz)	Highest Frequency (GHz)	Limit	Result
0.372	76.4770	76.8485	76-81GHz	Pass





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#### 7.5 Unwanted Emissions

Test Requirement: 47 CFR Part 95, Subpart M; RSS-251 Section10.2

Test Method: ANSI C63.26 (2015) Section 5.5; RSS-Gen Clause 6.13

Limit:

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

**FCC** Limit:

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

Frequency (MHz)	Field Strength (uV/m)	Measurement Distance (m)
0.009 ~ 0.490	2400/F(kHz)	300
0.490 ~ 1.705	24000/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) The tighter limit applies at the band edges.
- (ii)The limits in the table 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 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
- (i) For radiated emissions between 40 GHz and 200 GHz: 600 pW/cm2 at a distance of 3 meters from the exterior surface of the radiating structure.
- (ii) For radiated emissions above 200 GHz: 1000 pW/cm2 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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Frequency (GHz)	Power density at 3 m distance (pW/cm²)	Distance (m)	Field strength (dBuV/m)*, peak	Field strength (dBuV/m)*, average
40 - 200	600	3.0	113.54	93.54
40 - 200	600	0.15	139.56**	119.56**
200-231	1000	3.0	115.76	95.76
200-231	1000	0.15	141.78**	121.78**

<sup>\* -</sup> Field strength was calculated per equation (26) of ANSI C63.10-2013 section 9 as follows: E=sqrt(PD×377), where PD is the power density at the distance specified by the limit in W/m², E- field strength in V/m.

#### IC Limit:

Table 1: Unwanted emissions limits outside the 76-81 GHz frequency band									
<b>Emission frequency range</b>	Limit	Applicable detector							
Below 40 GHz	RSS-Gen general field strength limits for licence-exempt radio apparatus	RSS-Gen requirements							
40-162 GHz *	-30 dBm/MHz (e.i.r.p.)	RMS detector							

#### Note:

<sup>\*</sup> For radar devices that operate solely in the 76-77 GHz band (i.e. the occupied bandwidth is entirely contained in the 76-77 GHz band), an unwanted emissions limit of 0 dBm/MHz shall apply for the unwanted emission that fall in the 73.5-76 GHz band. Outside of the 73.5-76 GHz band, the unwanted emission limits prescribed in table 1 shall apply.

Frequency (GHz)	Eirp at 3 m distance	Distance (m)	Field strength	Field strength	
	(dBm/MHz)		(dBuV/m)*,	(dBuV/m)*,	
			peak	average	
40 - 162	-30	3.0	85.2	65.2	
40 - 162	-30	0.15	111.22	91.22	
73.5 - 76	0	3.0	115.2	95.2	
73.5 - 76	0	0.15	141.22	121.22	

#### Remark:

 $E[dB\mu V/m] = EIRP[dBm] - 20 log(d[meters]) + 104.77$ , where E = field strength and d = distance at which field strength limit is specified in the rules

### 7.5.1 E.U.T. Operation

**Operating Environment:** 

Temperature: 24 °C Humidity: 48 % RH Atmospheric Pressure: 1010 mbar

Test mode a:TX mode\_Make EUT continuously emit radar signals



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<sup>\*\*-</sup> The limit for other test distance was calculated using the inverse distance extrapolation factor as follows: LimS2 = LimS1 + 20 log (S1/S2), where S1 and S2 - standard defined and test distance respectively in meters.



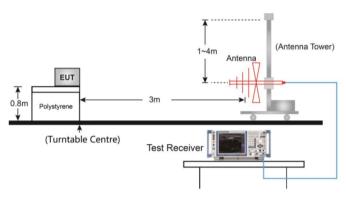
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### 7.5.2 Test Setup Diagram

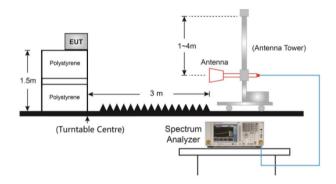
Below 1GHz

Below 1GHz Test Setup:



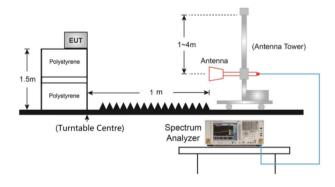
1GHz-18GHz

1GHz ~ 40GHz Test Setup:



18GHz-40GHz

1GHz ~ 40GHz Test Setup:





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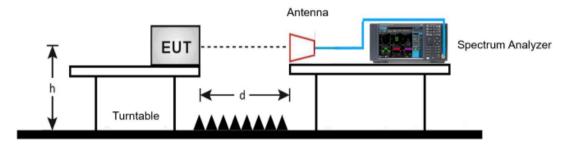


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Above 40GHz

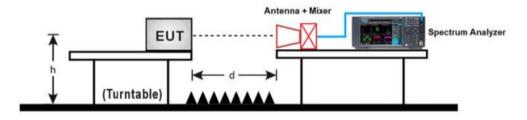
Above 40GHz Test Setup:



h = 1.25m, d = 0.15m

#### Above 50GHz

Above 50GHz Test Setup:



h=1.25m, d=0.15m

#### 7.5.3 Measurement Data

An initial pre-scan was performed in the chamber using the spectrum analyser in peak detection mode. Average measurements were conducted based on the peak sweep graph. The EUT was measured by Horn antenna with 2 orthogonal polarities.

- 1.Result (dBuV/m) = Reading(dBuV/m) + Correction Factor (dB/m)
- 2.Correction Factor (dB/m)=Antenna Factor (dB/m)+Cable Loss (dB)- Amplifier (dB)



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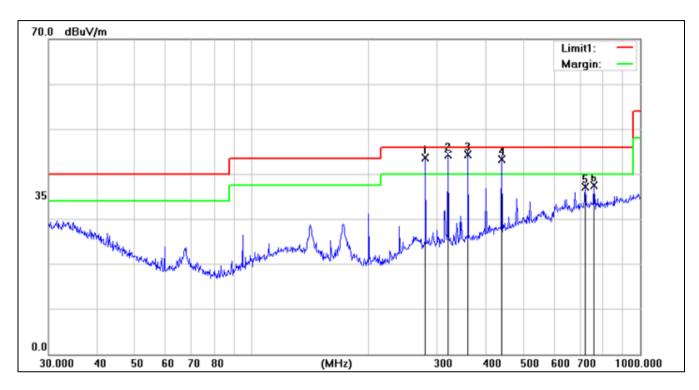
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Below 1GHz- Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	280.0237	23.24	20.34	43.58	46.00	-2.42	100	291	QP
2	320.0170	23.37	21.10	44.47	46.00	-1.53	100	331	QP
3	360.4476	22.15	22.24	44.39	46.00	-1.61	100	63	QP
4	440.1963	19.25	24.03	43.28	46.00	-2.72	100	252	QP
5	721.7260	34.69	2.43	37.12	46.00	-8.88	100	14	QP
6	760.7036	35.12	2.34	37.46	46.00	-8.54	100	253	QP



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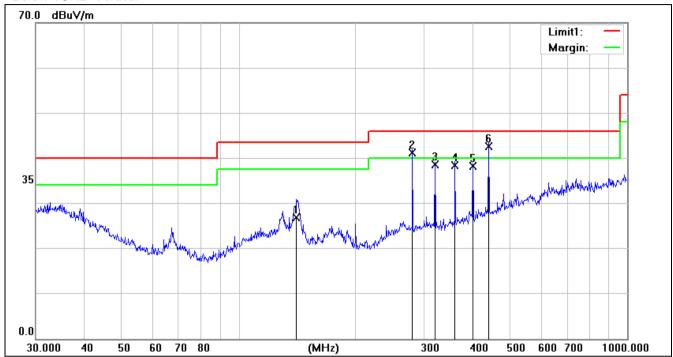
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### Below 1GHz- Vertical



No.	Frequency	Reading	Correct	Result	Limit	Margin	Height	Degree	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(cm)	(deg.)	
1	140.8351	8.48	18.46	26.94	43.50	-16.56	100	55	QP
2	280.0237	20.89	20.34	41.23	46.00	-4.77	124	0	QP
3	319.9370	17.49	21.10	38.59	46.00	-7.41	132	0	QP
4	360.4476	16.23	22.24	38.47	46.00	-7.53	200	354	QP
5	400.4320	14.88	23.36	38.24	46.00	-7.76	100	360	QP
6	440.1963	18.52	24.03	42.55	46.00	-3.45	100	301	QP

Note: The amplitude of radiated emissions (frequency range from 9KHz to 30MHz) is that proximity to ambient noise, which also are attenuated more than 20 dB below the permissible value. Therefore, the data is not Presented in the report.



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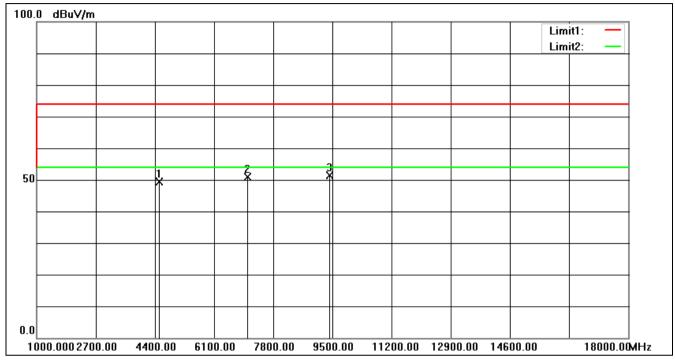
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### 1GHz-18GHz- Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	4520.000	58.11	-8.69	49.42	74.00	-24.58	peak
2	7058.000	56.54	-5.61	50.93	74.00	-23.07	peak
3	9424.000	53.42	-2.08	51.34	74.00	-22.66	peak



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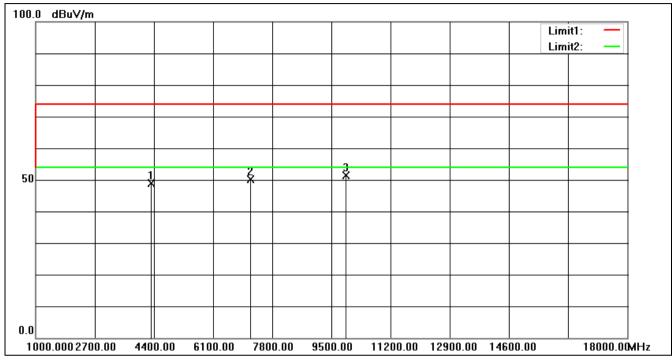
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### 1GHz-18GHz-Vertical



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	4326.000	57.79	-9.00	48.79	74.00	-25.21	peak
2	7168.000	55.89	-5.83	50.06	74.00	-23.94	peak
3	9918.000	52.38	-0.95	51.43	74.00	-22.57	peak



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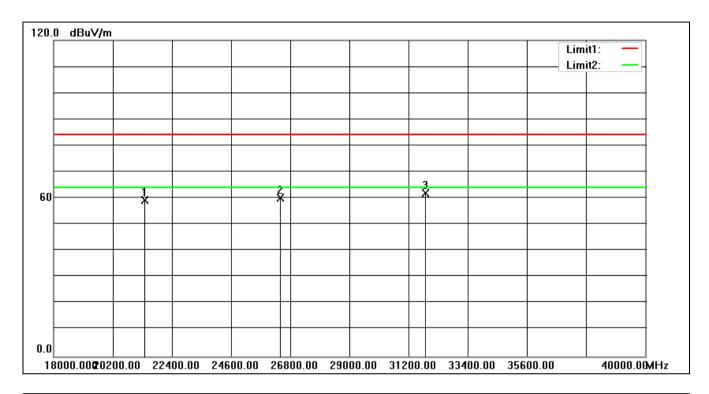
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18GHz-40GHz- Horizontal



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	21386.000	46.73	12.61	59.34	83.50	-24.16	peak
2	26428.000	44.47	15.78	60.25	83.50	-23.25	peak
3	31844.000	47.02	14.81	61.83	83.50	-21.67	peak



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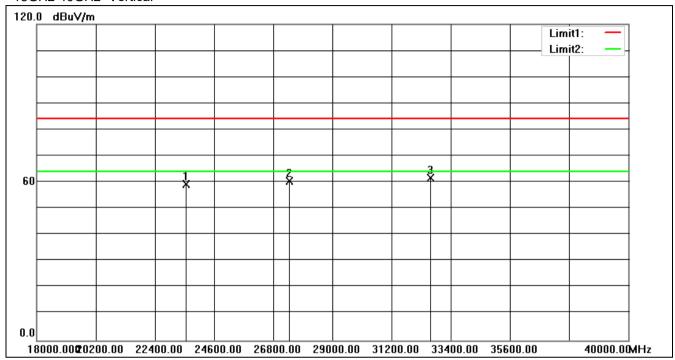
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#### 18GHz-40GHz- Vertical



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	23564.000	46.80	12.57	59.37	83.50	-24.13	peak
2	27408.000	45.45	15.01	60.46	83.50	-23.04	peak
3	32650.000	44.83	16.73	61.56	83.50	-21.94	peak



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#### 40GHz-50GHz Horizontal



#### 40GHz-50GHz Vertical



Frequency (GHz)	Distance (M)	Peak Value (dBuv/m)	IC AV Limit (dBuv/m)	FCC AV Limit (dBuv/m)	Polariza tion	Result
44.05800	0.15	89.07	91.22	119.56	Η	PASS
49.64525	0.15	88.62	91.22	119.56	V	PASS



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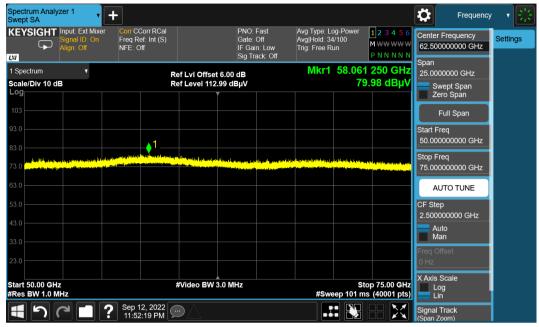
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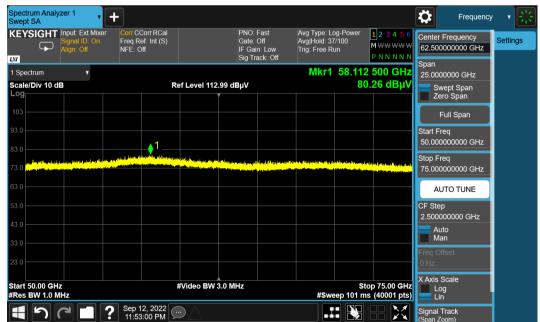
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#### 50GHz-75GHz Horizontal



#### 50GHz-75GHz Vertical



					pair Loonii)	
Frequency (GHz)	Distance (M)	Peak Value (dBuv/m)	IC AV Limit (dBuv/m)	FCC AV Limit (dBuv/m)	Polarizati on	Result
58.061250	0.15	79.98	91.22	119.56	Н	PASS
58.112500	0.15	80.26	91.22	119.56	V	PASS



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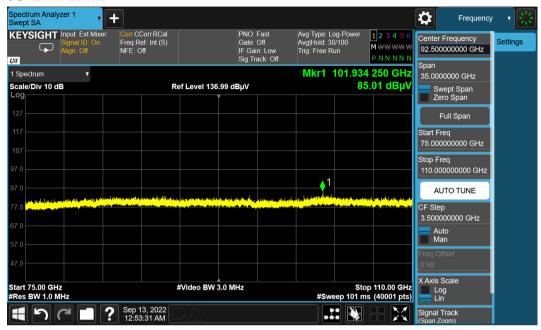
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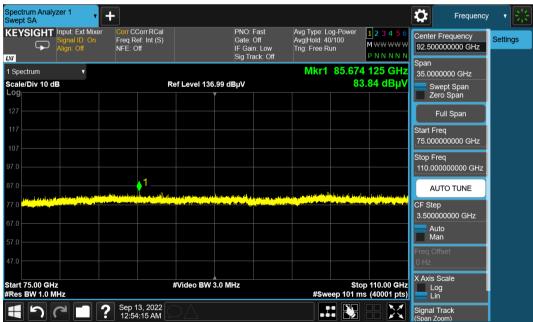
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#### 75GHz-110GHz Horizontal



#### 75GHz-110GHz Vertical



Frequency (GHz)	Distance (M)	Peak Value (dBuv/m)	IC AV Limit (dBuv/m)	FCC AV Limit (dBuv/m)	Polarizati on	Result
101.934250	0.15	85.01	91.22	119.56	Н	PASS
85.674125	0.15	83.84	91.22	119.56	V	PASS



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#### 110GHz-170GHz Horizontal



#### 110GHz-170GHz Vertical



Frequency (GHz)	Distance (M)	Peak Value (dBuv/m)	IC AV Limit (dBuv/m)	FCC AV Limit (dBuv/m)	Polariza tion	Result
115.9610	0.15	86.10	91.22	119.56	Н	PASS
115.8485	0.15	85.66	91.22	119.56	V	PASS



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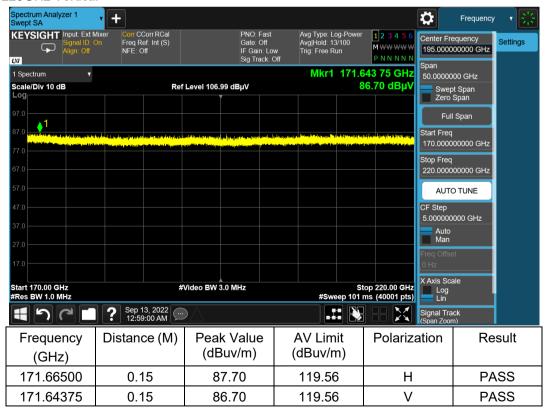
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#### 170GHz-220GHz Horizontal



#### 170GHz-220GHz Vertical





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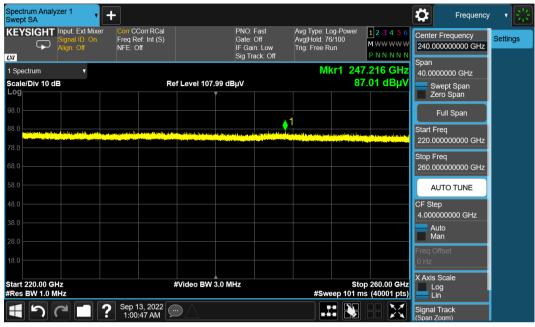
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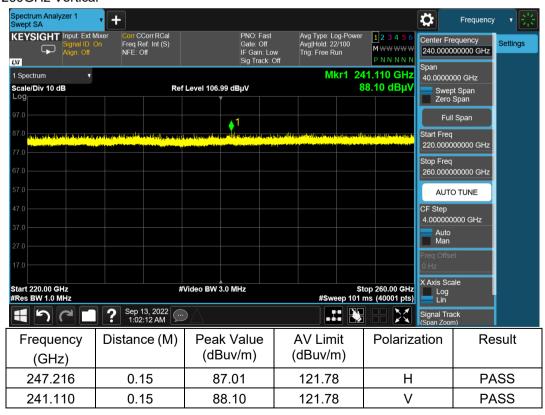
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#### 220GHz-260GHz Horizontal



#### 220GHz-260GHz Vertical





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### 7.6 Frequency Stability

Test Requirement: 47 CFR Part 95, Subpart M; RSS-251 Section11.2

Test Method: ANSI C63.26 (2015) Section 5.6; RSS-Gen Clause 6.11

Limit: 76-81GHz

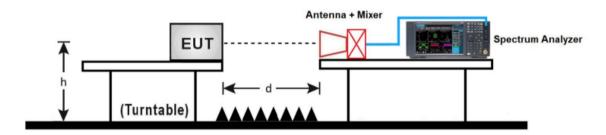
### 7.6.1 E.U.T. Operation

Operating Environment:

Temperature: 20 °C Humidity: 48 % RH Atmospheric Pressure: 1010 mbar

Test mode a:TX mode Make EUT continuously emit radar signals

### 7.6.2 Test Setup Diagram



h=1.25m, d=0.15m

#### 7.6.3 Measurement Data

7.0.3 Measurement Data							
Voltage	Power	Temp	FL	FH	Limit	Result	
(%)	(VDC)	(°C)	(GHz)	(GHz)	(GHz)		
		-30	76.498	76.670	76-81GHz	Pass	
		-20	76.478	76.602	76-81GHz	Pass	
		-10	76.440	76.641	76-81GHz	Pass	
100%		0	76.418	76.658	76-81GHz	Pass	
	12V	+10	76.450	76.655	76-81GHz	Pass	
		+20	76.429	76.620	76-81GHz	Pass	
		+30	76.486	76.660	76-81GHz	Pass	
		+40	76.421	76.603	76-81GHz	Pass	
		+50	76.408	76.668	76-81GHz	Pass	
		+60	76.405	76.608	76-81GHz	Pass	
		+70	76.408	76.642	76-81GHz	Pass	
115%	13.8V	+20	76.457	76.613	76-81GHz	Pass	
85%	10.2V	+20	76.417	76.642	76-81GHz	Pass	



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## 8 Test Setup Photo

Refer to Appendix - Test Setup Photo for KSCR2208001371AT

## 9 EUT Constructional Details (EUT Photos)

Refer to Appendix - Photographs of EUT Constructional Details for KSCR2208001371AT

- End of the Report -



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