



# MEASUREMENT REPORT

## FCC PART 15.249

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**FCC ID:** 2ADTD-D0710030  
**Applicant:** Hangzhou Hikvision Digital Technology Co., Ltd  
**Application Type:** Certification  
**Product:** Wired Dual-Tech AM Curtain Detector  
**Model No.:** DS-PDC10DM-VG3  
**Serial Model No.:** DS-PDC10DM-VG3UHK, DS-PDC10DM-VG3CKV,  
DS-PDC10DM-VG3UVS, DS-PDC10DM-VG3KVO,  
DS-PDC10DM-VG3HUN  
**Brand Name:** HIKVISION  
**FCC Classification:** Part 15 Low Power Communication Device Transmitter  
(DXX)  
**FCC Rule Part(s):** Part 15.249  
**Test Procedure(s):** ANSI C63.10 - 2013  
**Test Date:** April 29 ~ May 12, 2021

Reviewed By:

*oscar shi*

(Oscar Shi)

Approved By:

*Robin Wu*

(Robin Wu)



The test results relate only to the samples tested.

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in ANSI C63.10-2013. Test results reported herein relate only to the item(s) tested.

The test report shall not be reproduced except in full without the written approval of MRT Technology (Suzhou) Co., Ltd.

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## Revision History

Report No.	Version	Description	Issue Date	Note
2104RSU049-U1	Rev. 01	Initial Report	05-14-2021	Valid

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## 1. General Information

### 1.1. Applicant

Hangzhou Hikvision Digital Technology Co., Ltd  
 No.555 Qianmo Road, Binjiang District, Hangzhou 310052, China

### 1.2. Manufacturer

Hangzhou Hikvision Digital Technology Co., Ltd  
 No.555 Qianmo Road, Binjiang District, Hangzhou 310052, China

### 1.3. Testing Facility

<input checked="" type="checkbox"/>	<b>Test Site – MRT Suzhou Laboratory</b>
	<b>Laboratory Location (Suzhou - Wuzhong)</b>
	D8 Building, No.2 Tian'edang Rd., Wuzhong Economic Development Zone, Suzhou, China
	<b>Laboratory Location (Suzhou - SIP)</b>
	4b Building, Liando U Valley, No.200 Xingpu Rd., Shengpu Town, Suzhou Industrial Park, China
	<b>Laboratory Accreditations</b>
	A2LA: 3628.01 <span style="float: right;">CNAS: L10551</span>
	FCC: CN1166 <span style="float: right;">ISED: CN0001</span>
	VCCI: R-20025, G-20034, C-20020, T-20020
<input type="checkbox"/>	<b>Test Site – MRT Shenzhen Laboratory</b>
	<b>Laboratory Location (Shenzhen)</b>
	1G, Building A, Junxiangda Building, Zhongshanyuan Road West, Nanshan District, Shenzhen, China
	<b>Laboratory Accreditations</b>
	A2LA: 3628.02 <span style="float: right;">CNAS: L10551</span>
	FCC: CN1284 <span style="float: right;">ISED: CN0105</span>
<input type="checkbox"/>	<b>Test Site – MRT Taiwan Laboratory</b>
	<b>Laboratory Location (Taiwan)</b>
	No. 38, Fuxing 2nd Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.)
	<b>Laboratory Accreditations</b>
	TAF: L3261-190725
	FCC: 291082, TW3261 <span style="float: right;">ISED: TW3261</span>

## 2. PRODUCT INFORMATION

### 2.1. Equipment Description

Product Name	Wired Dual-Tech AM Curtain Detector
Model No.	DS-PDC10DM-VG3
Serial Model No.	DS-PDC10DM-VG3UHK, DS-PDC10DM-VG3CKV, DS-PDC10DM-VG3UVS, DS-PDC10DM-VG3KVO, DS-PDC10DM-VG3HUN
Brand Name	HIKVISION
Device Label ID No.	20210415Sample#1
Frequency	24GHz
Type of Modulation	FMCW
Temperature	-20°C ~ 55°C
Antenna Type	PCB Layout antenna
Antenna Gain	29dBi
Power Supply	DC 9 ~ 16V (Typical DC 12V)

Note: The model differences are only for marketing purpose, all the schematics are identical, so choose model DS-PDC10DM-VG3 to test.

### 2.2. Test Mode

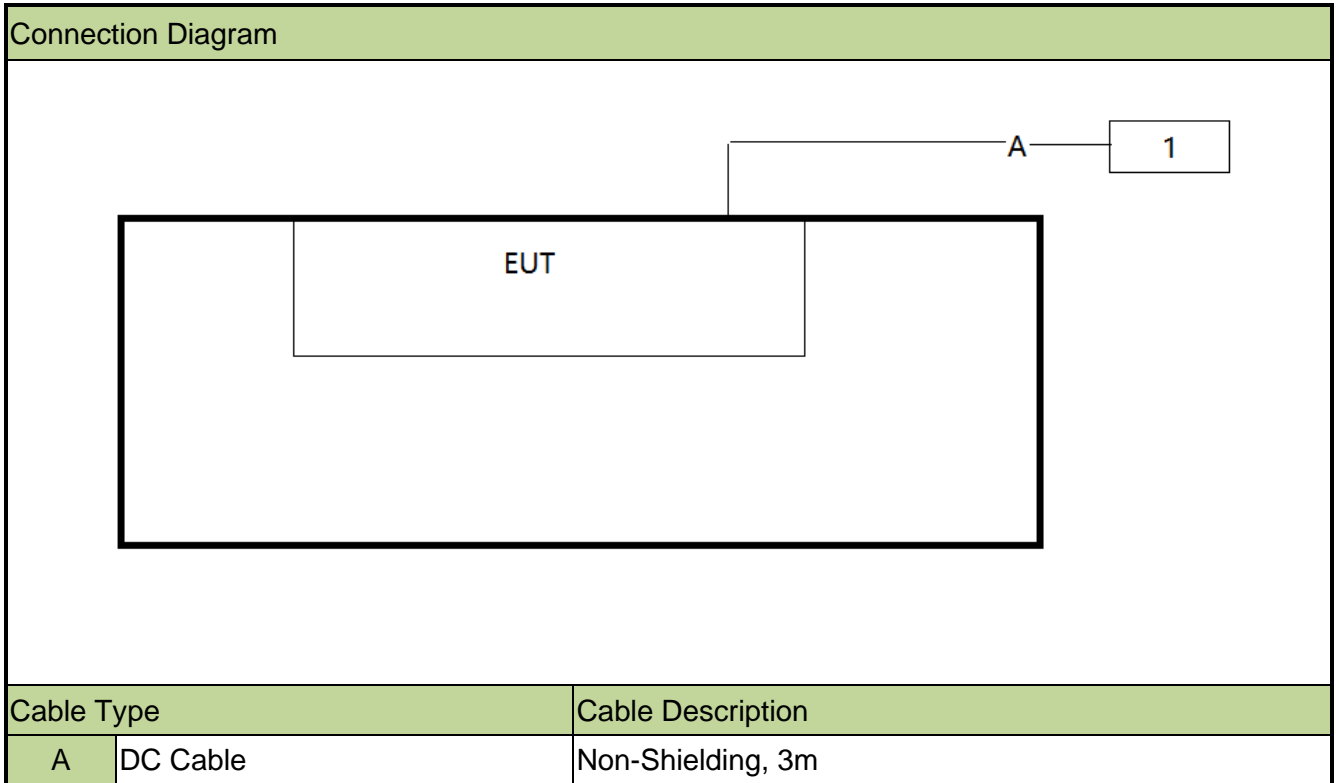
Test Mode	Mode 1: Transmit at 24GHz
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### 2.3. Test Environment Condition

Ambient Temperature	15°C ~ 35°C
Relative Humidity	20%RH ~ 75%RH

## 2.4. Configuration of Tested System

This device was tested per the guidance ANSI C63.10-2013 was used to reference the appropriate EUT setup for radiated emissions testing.



## 2.5. Test System Details

The types for all equipment, plus descriptions of all cables used in the tested system (including inserted cards) are:

Product	Manufacturer	Model No.
1 DC Power Supply	MESTEK	DP3005B

### 3. ANTENNA REQUIREMENTS

**Excerpt from §15.203 of the FCC Rules/Regulations:**

“An intentional radiator antenna shall be designed to ensure that no antenna other than that furnished by the responsible party can be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.”

- The antenna of Wired Dual-Tech AM Curtain Detector is **permanently attached**.
- There are no provisions for connection to an external antenna.

**Conclusion:**

This unit complies with the requirement of §15.203.



#### 4. TEST EQUIPMENT CALIBRATION DATE

Spectral Power Density / RF Output Power / Occupied Channel Bandwidth / Unwanted Emissions (SIP-AC2)

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
EMI Test Receiver	R&S	ESR3	MRTSUE06613	1 year	2021/07/02
EXA Signal Analyzer	Keysight	N9030B	MRTSUE06395	1 year	2021/09/03
Bilog Period Antenna	Schwarzbeck	VULB9168	MRTSUE06646	1 year	2021/08/30
Horn Antenna	Schwarzbeck	BBHA9120D	MRTSUE06648	1 year	2021/11/26
Broad Band Horn Antenna	Schwarzbeck	BBHA 9170	MRTSUE06024	1 year	2021/12/14
Microwave System Amplifier	Agilent	83017A	MRTSUE06076	1 year	2021/11/14
Preamplifier	EMCI	EMC051845SE	MRTSUE06644	1 year	2021/11/12
Micro-Wave Antenna	MI-WWAVE	261U-25	MRTSUE06273	N/A	N/A
Micro-Wave Antenna	MI-WWAVE	261E-25	MRTSUE06276	N/A	N/A
Micro-Wave Antenna	MI-WWAVE	261F-25	MRTSUE06275	N/A	N/A
Micro-Wave Antenna	MI-WWAVE	261G	MRTSUE06274	N/A	N/A
Standard Gain Horn Antenna	A-INFOMW	LB-10-25-A	MRTSUE06410	N/A	N/A
Standard Gain Horn Antenna	A-INFOMW	LB-15-25-A	MRTSUE06409	N/A	N/A
Waveguide Harmonic Mixer	Keysight	M1970V	MRTSUE06271	N/A	N/A
Waveguide Harmonic Mixer	Keysight	M1970W	MRTSUE06272	N/A	N/A
RF Signal Generator	Keysight	E8257D	MRTSUE06453	1 year	2021/07/02
SA Extension Module	Keysight	N9029AV06	MRTSUE06368	N/A	N/A
SA Extension Module	Keysight	N9029AV05	MRTSUE06367	N/A	N/A
SA Extension Module	Keysight	N9029AV03	MRTSUE06366	N/A	N/A
Millimeter wave signal source frequency expander	Keysight	E8257DV15	MRTSUE06456	N/A	N/A
Thermal Hygrometer	testo	608-H1	MRTSUE06624	1 year	2021/12/03
Anechoic Chamber	RIKEN	SIP-AC2	MRTSUE06781	1 year	2021/12/24

Conducted Emission (SIP -SR2)

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
EMI Test Receiver	R&S	ESR3	MRTSUE06613	1 year	2021/07/02
Two-Line V-Network	R&S	ENV216	MRTSUE06003	1 year	2021/09/09
Thermal Hygrometer	testo	608-H1	MRTSUE06621	1 year	2021/12/03

Software	Version	Function
EMI Software	V3	EMI Test Software

## 5. MEASUREMENT UNCERTAINTY

Where relevant, the following test uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of  $k = 2$ .

### AC Conducted Emission Measurement

Measurement Uncertainty for a Level of Confidence of 95% ( $U=2Uc(y)$ ):

9kHz~150kHz: 3.74dB

150kHz~30MHz: 3.44dB

### Radiated Disturbance

Measurement Uncertainty for a Level of Confidence of 95% ( $U=2Uc(y)$ ):

Horizontal: 30MHz~300MHz: 5.04dB

300MHz~1GHz: 4.95dB

1GHz~40GHz: 6.40dB

40GHz~100GHz: 6.40dB

Vertical: 30MHz~300MHz: 5.24dB

300MHz~1GHz: 6.03dB

1GHz~40GHz: 6.40dB

40GHz~100GHz: 6.40dB

## 6. TEST RESULT

### 6.1. Summary

FCC Part Section(s)	Test Description	Test Limit	Test Condition	Test Result	Reference
15.209 15.249	General Field Strength Limits (Restricted Bands and Radiated Emission Limits)	Emissions in restricted bands must meet the radiated limits detailed in 15.209	Radiated	Pass	Section 6.2& 6.3
15.215(c)	20dB Spectrum Bandwidth	20 dB bandwidth of the emission in the specific band	Radiated	Pass	Section 6.4

**Note:**

1. All modes of operation were investigated. The test results shown in the following sections represent the worst-case emissions.

## 6.2. Radiated Emission

### 6.2.1. Test Limit

FCC Part 15 Subpart C Paragraph 15.249		
Fundamental Frequency (MHz)	Field Strength of Fundamental (mV/m)	Field Strength of Harmonics (uV/m)
902 ~ 928	50	500
2400 ~ 2483.5	50	500
5725 ~ 5875	50	500
24000 ~ 24250	250	2500

Note: FCC Part 15.249 (d), Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in §15.209, whichever is the lesser attenuation.

FCC Part 15 Subpart C Paragraph 15.209		
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

Note 1: The lower limit shall apply at the transition frequency.  
 Note 2: Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.  
 Note 3: E field strength (dBµV/m) = 20 log E field strength (uV/m).

### 6.2.2. Test Procedure Used

ANSI C63.10-2013 Section 6.3

ANSI C63.10-2013 Section 6.4

ANSI C63.10-2013 Section 6.5

ANSI C63.10-2013 Section 6.6

ANSI C63.10-2013 Section 7.5

### 6.2.3. Test Setting

**Table 1 - RBW as a function of frequency**

Frequency	RBW
9 ~ 150 kHz	200 Hz
0.15 ~ 30 MHz	9 kHz
30 ~ 1000 MHz	120 kHz
> 1000 MHz	1 MHz

#### Measurements below 1GHz

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = as specified in Table 1
3. Detector = CISPR quasi-peak (a linear average detector for 9-90 kHz and 110-490 kHz)
4. Sweep time = auto couple
5. Trace was allowed to stabilize

#### Peak Measurements above 1GHz

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW = 3MHz
4. Detector = peak
5. Sweep time = auto couple

6. Trace mode = max hold

7. Trace was allowed to stabilize

**Average Measurements above 1GHz (Method VB)**

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest

2. RBW = 1MHz

3. VBW; If the EUT is configured to transmit with duty cycle  $\geq 98\%$ , set VBW = 10 Hz.

If the EUT duty cycle is  $< 98\%$ , set VBW  $\geq 1/T$ . T is the minimum transmission duration.

4. Detector = Peak

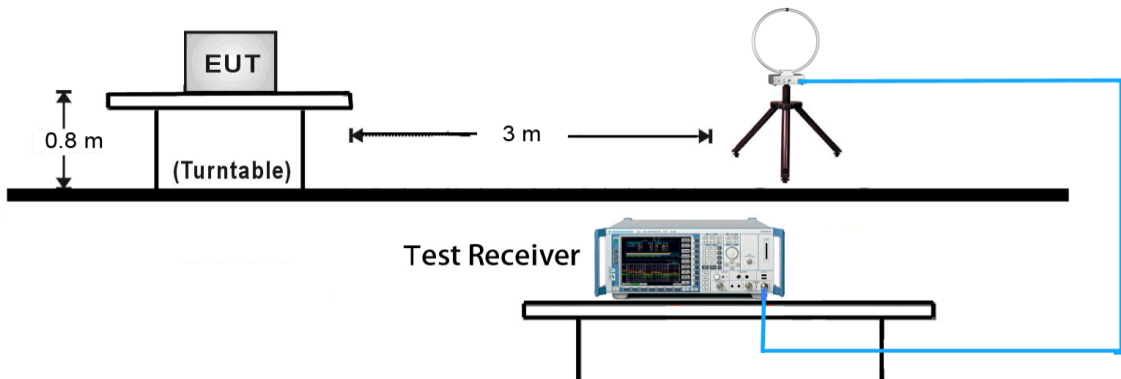
5. Sweep time = auto

6. Trace mode = max hold

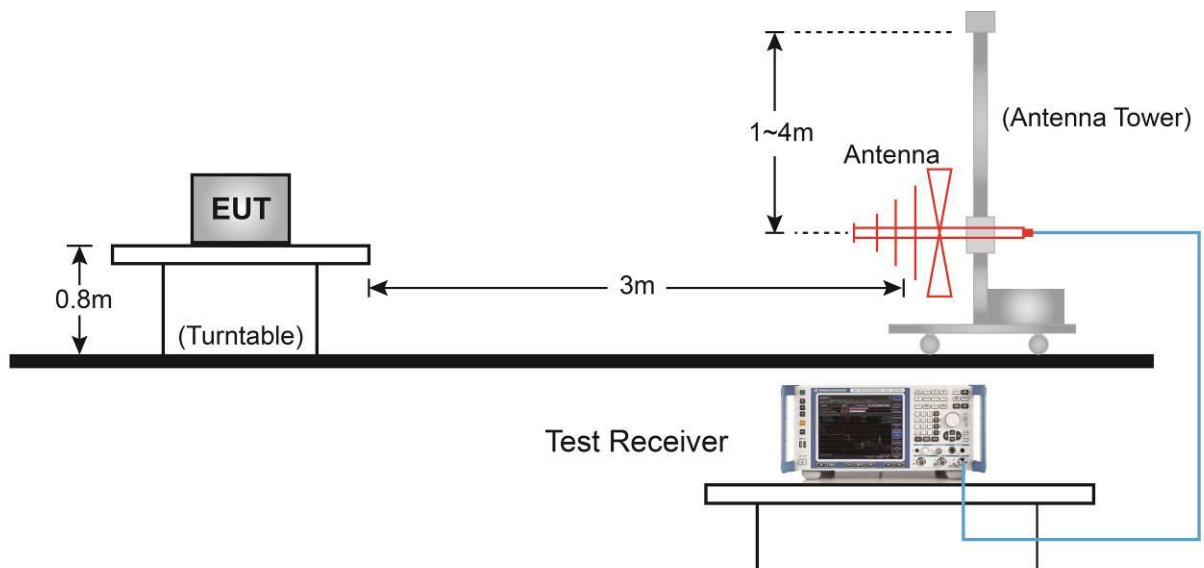
7. Trace was allowed to stabilize

### 6.2.4. Test Setup

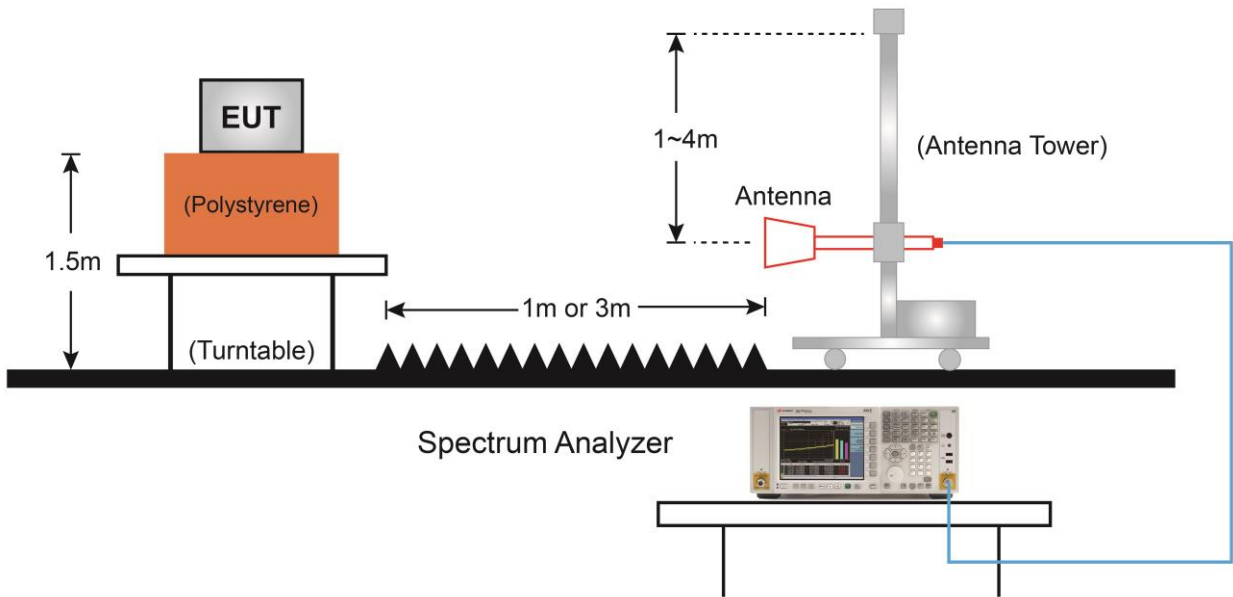
#### 9kHz ~ 30MHz Test Setup:



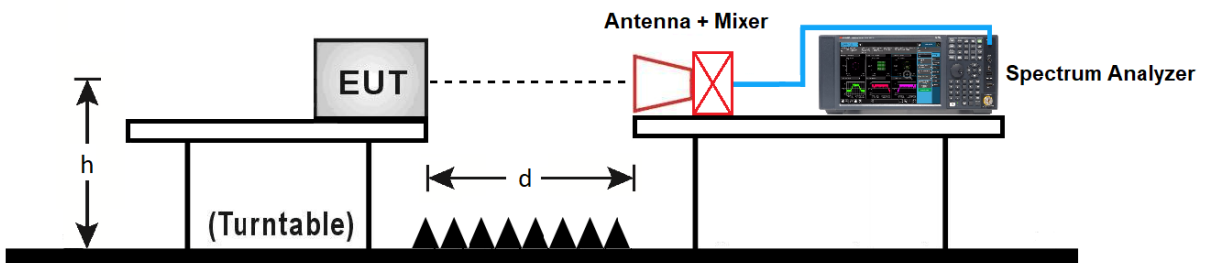
#### 30MHz ~ 1GHz Test Setup:



1GHz ~ 40GHz Test Setup:



Above 40GHz Test Setup:



$d$  = Substitution Distance;  $h$  = EUT Height



### 6.2.5. Test Result

Test Site	SIP-AC2	Test Date	2021/04/29
Test Engineer	Allen Zou	Remark	Fundamental Radiated Emission

Frequency (GHz)	Reading Level (dB $\mu$ V)	Factor (dB)	Measure Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Detector	Polarization
24.187	111.1	-8.2	102.9	128	-25.1	Peak	Horizontal
	69.1	-8.2	60.9	108	-47.1	Average	Horizontal
	102.2	-8.2	94.0	128	-34.0	Peak	Vertical
	68.2	-8.2	60.0	108	-48.0	Average	Vertical

Note: Measure Level (dB $\mu$ V/m) = Reading Level (dB $\mu$ V) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre\_Amplifier Gain (dB)

Test Site	SIP-AC1	Test Date	2021/04/29
Test Engineer	Allen Zhou	Remark:	Radiated Emission Below 1GHz (Worst-case mode)

Frequency (MHz)	Reading Level (dB $\mu$ V)	Factor (dB)	Measure Level (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Detector	Polarization
60.1	10.7	17.0	27.7	40.0	-12.3	QP	Horizontal
64.9	6.1	16.4	22.5	40.0	-17.5	QP	Horizontal
150.3	0.1	18.1	18.2	43.5	-25.3	QP	Horizontal
157.6	1.1	18.0	19.1	43.5	-24.4	QP	Horizontal
231.3	5.4	15.3	20.7	46.0	-25.3	QP	Horizontal
239.0	3.9	16.1	20.0	46.0	-26.0	QP	Horizontal
32.4	10.1	16.7	26.8	40.0	-13.2	QP	Vertical
35.8	13.4	17.1	30.5	40.0	-9.5	QP	Vertical
40.2	7.4	17.5	24.9	40.0	-15.1	QP	Vertical
60.0	16.4	17.0	33.4	40.0	-6.6	QP	Vertical
65.4	9.7	16.3	26.0	40.0	-14.0	QP	Vertical
73.2	6.7	14.8	21.5	40.0	-18.5	QP	Vertical

Note:

1. Measure Level (dB $\mu$ V/m) = Reading Level (dB $\mu$ V) + Factor (dB)  
Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m)
2. The test trace is same as the ambient noise (the test frequency range: 9kHz ~ 30MHz), therefore no data appear in the report.

Test Site	SIP-AC2	Test Date	2021/04/29
Test Engineer	Allen Zhou	Remark:	Radiated Emission above 1GHz

Frequency (MHz)	Reading Level (dB $\mu$ V)	Factor (dB)	Measure Level @ 3m (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Detector	Polarization
4782.5	53.3	-10.6	42.7	74.0	-31.3	Peak	Horizontal
7672.5	51.9	-6.8	45.1	74.0	-28.9	Peak	Horizontal
11446.5	50.8	-4.8	46.0	74.0	-28.0	Peak	Horizontal
23016.0	58.2	-7.7	50.5	74.0	-23.5	Peak	Horizontal
26690.0	57.6	-7.5	50.1	74.0	-23.9	Peak	Horizontal
32113.0	61.4	-8.1	53.3	74.0	-20.7	Peak	Horizontal
5020.5	53.3	-10.3	43.0	74.0	-31.0	Peak	Vertical
8208.0	51.3	-6.1	45.2	74.0	-28.8	Peak	Vertical
11735.5	50.4	-4.5	45.9	74.0	-28.1	Peak	Vertical
22455.0	57.2	-8.1	49.1	74.0	-24.9	Peak	Vertical
27966.0	58.5	-7.6	50.9	74.0	-23.1	Peak	Vertical
32520.0	60.4	-7.9	52.5	74.0	-21.5	Peak	Vertical

Note:

- Measure Level (dB $\mu$ V/m) = Reading Level (dB $\mu$ V) + Factor (dB)  
Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre-Amplifier Gain (dB)
- Average measurement was not performed when the peak level lower than average limit.
- 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.
- No emissions observed aboved the noise floor in the other frequency above 40GHz.

### 6.3. Radiated Restricted Band Edge Measurement

#### 6.3.1. Test Limit

**For 15.205 requirement:**

Radiated emissions which fall in the restricted bands, as defined in Section 15.205(a) of FCC part 15, must also comply with the radiated emission limits specified in Section 15.209(a).

Frequency (MHz)	Frequency (MHz)	Frequency (MHz)	Frequency (GHz)
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
<sup>1</sup> 0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.52525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2690 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	( <sup>2</sup> )
13.36 - 13.41	--	--	--

All out of band emissions appearing in a restricted band as specified in Section 15.205 of the Title 47 CFR must not exceed the limits shown in Table per Section 15.209.

FCC Part 15 Subpart C Paragraph 15.209		
Frequency [MHz]	Field Strength [ $\mu\text{V}/\text{m}$ ]	Measured Distance [Meter]
0.009 ~ 0.490	2400/F (kHz)	300
0.490 ~ 1.705	24000/F (kHz)	30
1.705 ~ 30	30	30
30 ~ 88	100	3
88 ~ 216	150	3
216 ~ 960	200	3
Above 960	500	3

### 6.3.2. Test Procedure Used

ANSI C63.10-2013 Section 6.3

ANSI C63.10-2013 Section 6.6

ANSI C63.10-2013 Section 11.13

### 6.3.3. Test Setting

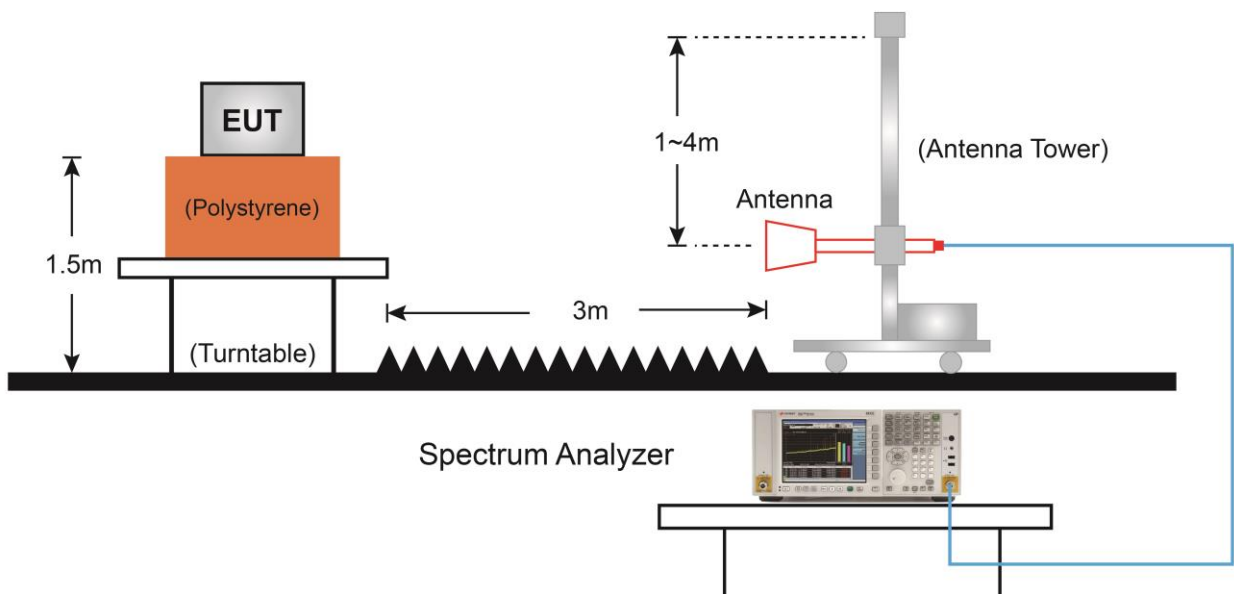
#### Peak Field Strength Measurements

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW = 3MHz
4. Detector = peak
5. Sweep time = auto couple
6. Trace mode = max hold
7. Trace was allowed to stabilize

### Average Field Strength Measurements

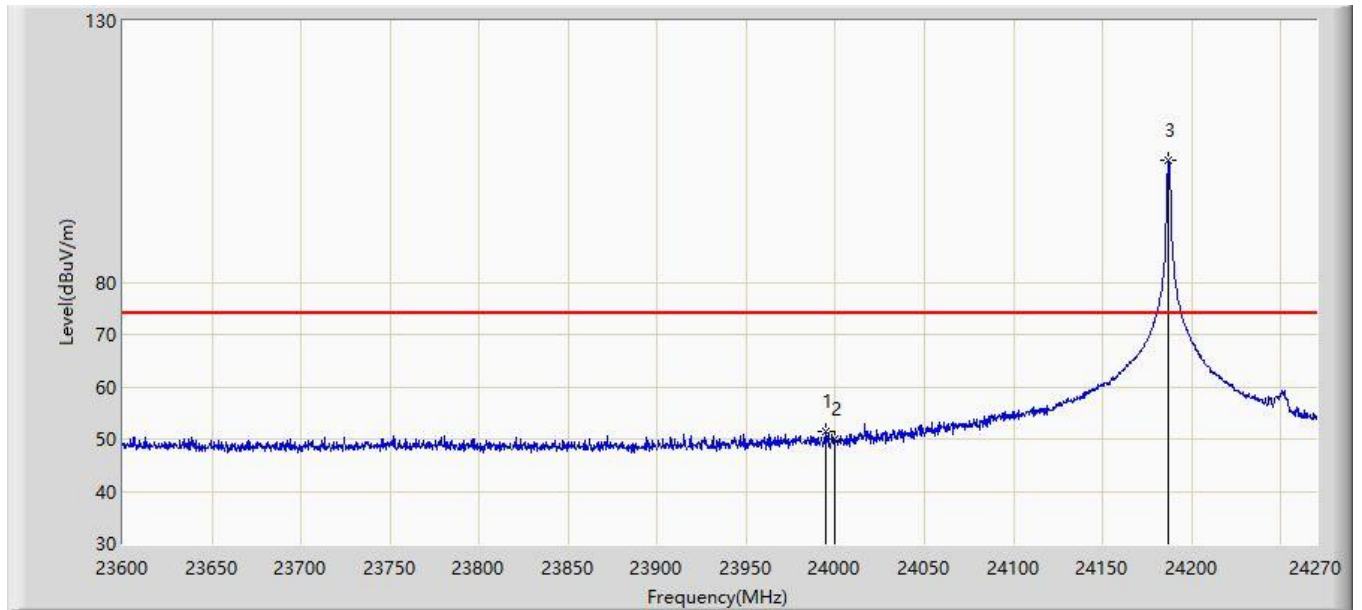
1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW  $\geq 1/T$
4. As an alternative, the instrument may be set to linear detector mode. Ensure that video filtering is applied in linear voltage domain (rather than in a log or dB domain). Some instruments require linear display mode in order to accomplish this. Others have a setting for Average-VBW Type, which can be set to "Voltage" regardless of the display mode
5. Detector = Peak
6. Sweep time = auto
7. Trace mode = max hold
8. Allow max hold to run for at least 50 times (1/duty cycle) traces

#### 6.3.4. Test Setup



### 6.3.5. Test Result

Site: SIP-AC3	Time: 2021/04/29
Limit: FCC_Part15.209_RSE(3m)	Engineer: Allen Zou
Probe: SIP-AC1_BBHA9170_18-40GHz (00935)	Polarity: Horizontal
EUT: Wired Dual-Tech AM Curtain Detector	Power: DC 12V
Test Mode: Transmit at 24GHz	

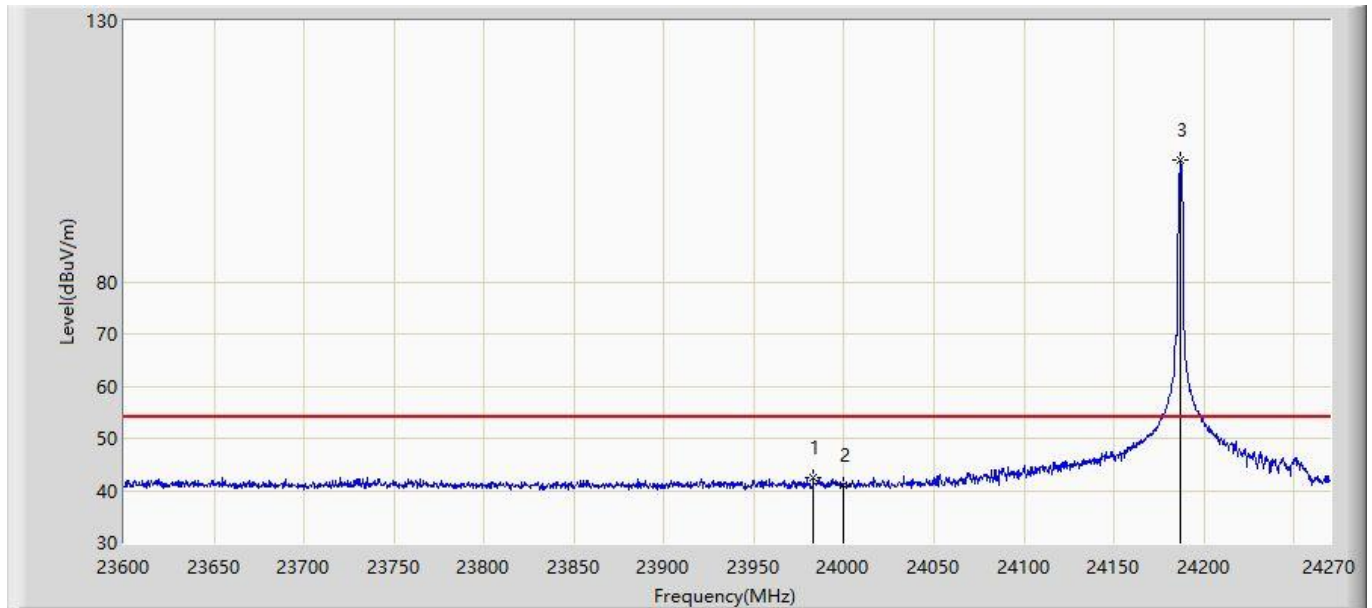


No	Flag	Mark	Frequency (MHz)	Measure Level (dBμV/m)	Reading Level (dBμV)	Margin (dB)	Limit (dBμV/m)	Factor (dB)	Type
1			23994.295	51.309	59.664	-22.691	74.000	-8.355	PK
2			24000.000	50.120	58.497	-23.880	74.000	-8.377	PK
3		*	24186.920	103.302	111.534	N/A	N/A	-8.232	PK

Test Mode: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) – Pre\_Amplifier Gain (dB)

Site: SIP-AC3	Time: 2021/04/29
Limit: FCC_Part15.209_RSE(3m)	Engineer: Allen Zou
Probe: SIP-AC1_BBHA9170_18-40GHz (00935)	Polarity: Horizontal
EUT: Wired Dual-Tech AM Curtain Detector	Power: DC 12V
Test Mode: Transmit at 24GHz	



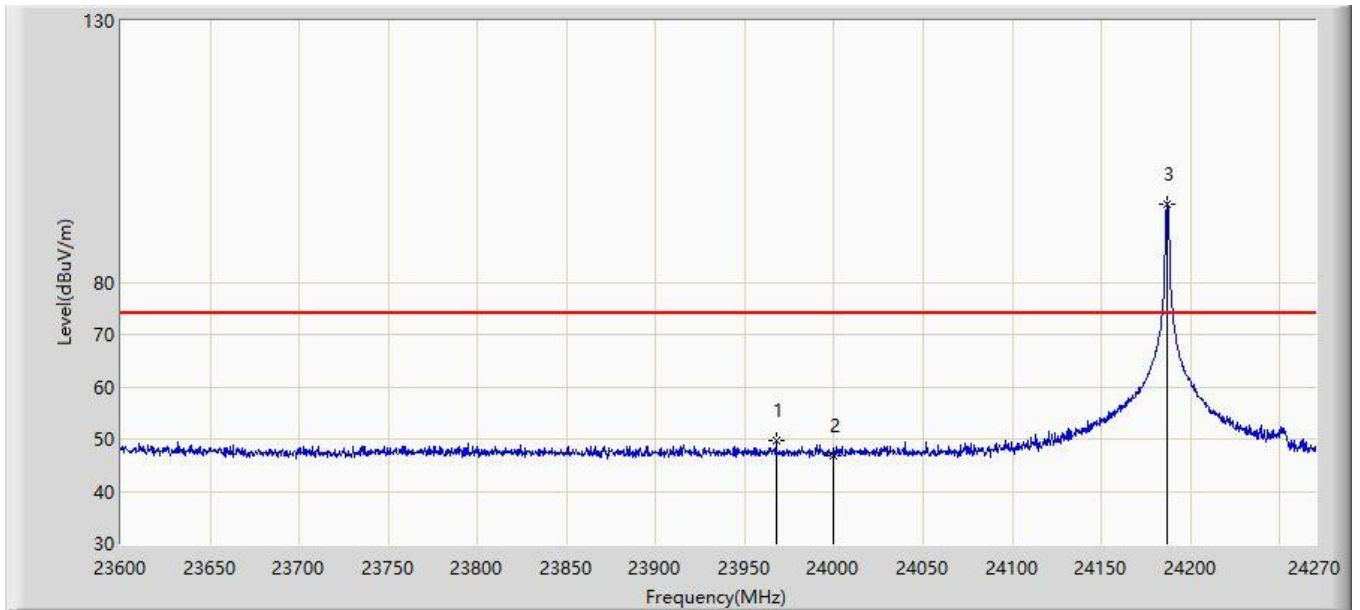
No	Flag	Mark	Frequency (MHz)	Measure Level (dBμV/m)	Reading Level (dBμV)	Margin (dB)	Limit (dBμV/m)	Factor (dB)	Type
1			23982.904	42.393	50.703	-11.607	54.000	-8.310	AV
2			24000.000	40.899	49.276	-13.101	54.000	-8.377	AV
3		*	24186.920	103.351	111.583	N/A	N/A	-8.232	AV

Test Mode: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre\_Amplifier Gain (dB)



Site: SIP-AC3	Time: 2021/04/29
Limit: FCC_Part15.209_RSE(3m)	Engineer: Allen Zou
Probe: SIP-AC1_BBHA9170_18-40GHz (00935)	Polarity: Vertical
EUT: Wired Dual-Tech AM Curtain Detector	Power: DC 12V
Test Mode: Transmit at 24GHz	

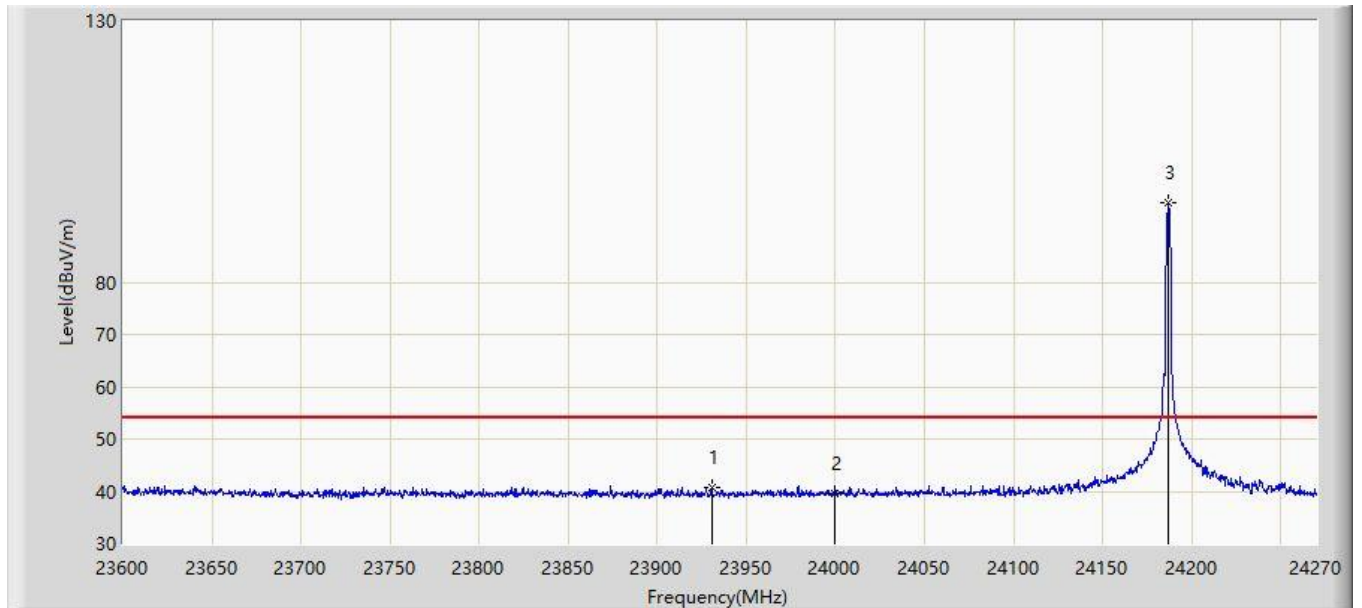


No	Flag	Mark	Frequency (MHz)	Measure Level (dBμV/m)	Reading Level (dBμV)	Margin (dB)	Limit (dBμV/m)	Factor (dB)	Type
1			23967.830	49.847	58.089	-24.153	74.000	-8.242	PK
2			24000.000	46.879	55.256	-27.121	74.000	-8.377	PK
3		*	24186.586	95.065	103.294	N/A	N/A	-8.230	PK

Test Mode: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre\_Amplifier Gain (dB)

Site: SIP-AC3	Time: 2021/04/29
Limit: FCC_Part15.209_RSE(3m)	Engineer: Allen Zou
Probe: SIP-AC1_BBHA9170_18-40GHz (00935)	Polarity: Vertical
EUT: Wired Dual-Tech AM Curtain Detector	Power: DC 12V
Test Mode: Transmit at 24GHz	



No	Flag	Mark	Frequency (MHz)	Measure Level (dB $\mu$ V/m)	Reading Level (dB $\mu$ V)	Margin (dB)	Limit (dB $\mu$ V/m)	Factor (dB)	Type
1			23930.645	40.742	48.884	-13.258	54.000	-8.142	AV
2			24000.000	39.545	47.922	-14.455	54.000	-8.377	AV
3		*	24186.920	95.275	103.507	N/A	N/A	-8.232	AV

Test Mode: Measure Level (dB $\mu$ V/m) = Reading Level (dB $\mu$ V) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre\_Amplifier Gain (dB)

## 6.4. 20dB Spectrum Bandwidth Measurement

### 6.4.1. Test Limit

Intentional radiators must be designed to ensure that the 20 dB bandwidth of the emission in the specific band.

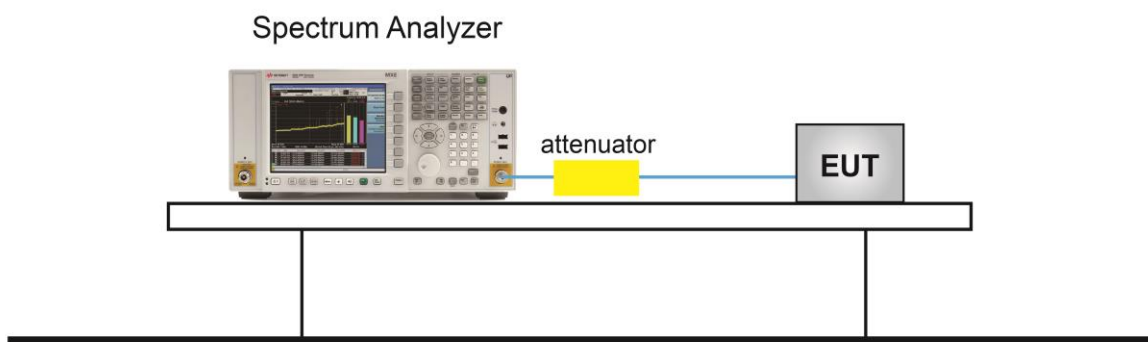
### 6.4.2. Test Procedure used

ANSI C63.10-2013 Clause 6.9.2

### 6.4.3. Test Setting

1. Set the spectrum span range to overlap the nominal center frequency
2. Set RBW = 1% ~ 5% of the OBW
3. VBW  $\geq 3 \times$  RBW
4. Detector = Peak
5. Trace mode = max hold
6. Sweep = auto couple
7. Allow the trace to stabilize and marker the highest level
8. Determine the display level (the highest level - 20dB) and place two markers, one at the lowest frequency and the other at the highest frequency

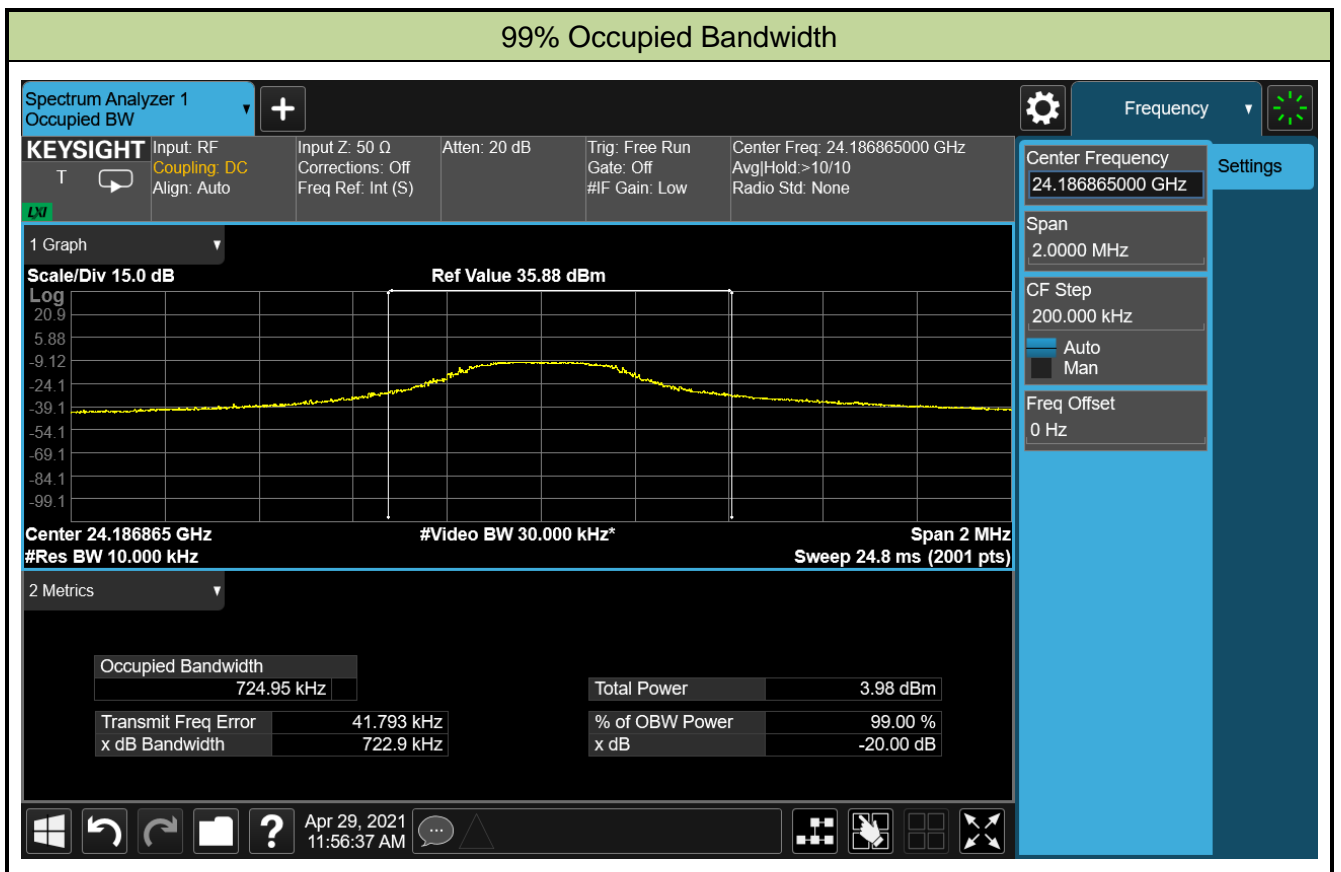
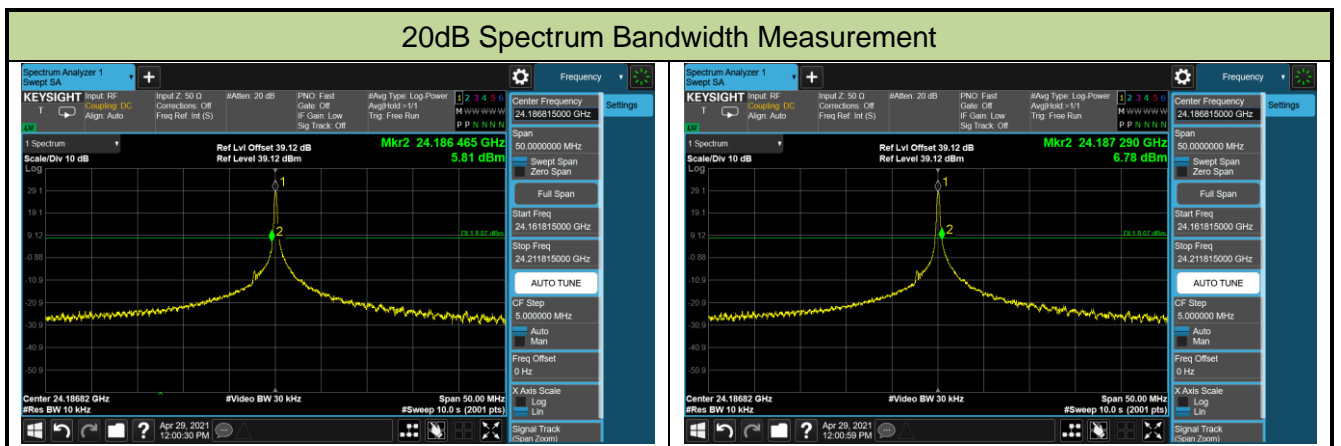
### 6.4.4. Test Setup



### 6.4.5. Test Result

Test Site	SIP-AC2	Test Date	2021/04/29
Test Engineer	Allen Zou		

Frequency (GHz)	Frequency Range (MHz)	Frequency Range (MHz)	Limit (MHz)	Result
24.142	24186.5	--	> 24000.0	Pass
24.142	--	24187.3	< 24250.0	Pass



## 7. CONCLUSION

The data collected relate only the item(s) tested and show that this device is compliance with Part 15.249 of the FCC Rules.

## **Appendix A - Test Setup Photograph**

Refer to "2104RSU049-UT" file.

## **Appendix B - EUT Photograph**

Refer to "2104RSU049-UE" file.