

TEST REPORT

Report No.: SHE25090011-03AE

Date: 2025-12-09

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Applicant : Guardian Shanghai Corp.
Address of Applicant : 368, Min Shen Rd, Songjiang, Shanghai, China

Product Name : Universal Keypad
Brand Name : N/A
Model Name : UWK, UWKB
Sample No. : E25090011-03#01

FCC ID : YJFUWK
Standards : FCC CFR47 Part 15, Subpart C Section 15.231

Date of Receipt : 2025-11-27
Date of Test : 2025-11-27~2025-12-08
Date of Issue : 2025-12-09

Remark:

This report details the results of the testing carried out on one sample, the results contained in this report do not relate to other samples of the same product. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

Prepared by:



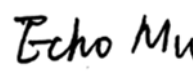
(Erik Yang)

Reviewed by:



(Jennifer Zhou)

Approved by:



(Authorized signatory: Echo Mu)

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1 General Information

1.1 Testing Laboratory

Company Name	ICAS Testing Technology Service (Shanghai) Co., Ltd.
Address	No.1298, Pingan Road, Minhang District, Shanghai, China
Telephone	0086 21-51682999
Fax	0086 21-54711112
Homepage	www.icasiso.com

1.2 Details of Application

Applicant Company Name	Guardian Shanghai Corp.
Applicant Company Address	368, Min Shen Rd, Songjiang, Shanghai, China
Contact Person	Vincent Chan
Telephone	+86-21-57684828
Email	vincent@adhguardian.com
Manufacturer Company Name	Guardian Shanghai Corp.
Manufacturer Company Address	368, Min Shen Rd, Songjiang, Shanghai, China
Factory Company Name	Guardian Shanghai Corp.
Factory Company Address	368, Min Shen Rd, Songjiang, Shanghai, China

1.3 Details of EUT

Product Name	Universal Keypad
Brand Name	N/A
Model Name Under Test	UWK
Series Model Name	UWKB
Difference Description	All the same except for the model name
FCC ID	YJFUWK
Operating Frequency	303MHz, 310MHz, 315MHz, 318MHz, 390MHz, 433.4MHz, 433.92MHz, 434.4MHz
Field Strength(3m)	303MHz: 66.11dBuV/m(peak)@3m 310MHz: 67.86dBuV/m(peak)@3m 315MHz: 68.37dBuV/m(peak)@3m 318MHz: 69.08dBuV/m(peak)@3m 390MHz: 73.80dBuV/m(peak)@3m 433.4MHz: 69.03dBuV/m(peak)@3m 433.92MHz: 68.62dBuV/m(peak)@3m 434.4MHz: 70.36dBuV/m(peak)@3m
Modulation Type	ASK

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Number of channels	8
Hardware Version	1.1
Software Version	1
Antenna Type	Integral Antenna (Met 15.203 Antenna requirement)
Antenna Gain	-5dBi
Power Supply	DC 3V by battery(AAA 1.5V*2)

Note:

1. The above information was declared by the manufacture.
2. For more details, please refer to the User's manual of the EUT.

1.4 Test Methodology

47 CFR Part 15, Subpart C	Telecommunication-Radio Frequency Devices-Intentional Radiators
ANSI C63.10-2020	American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices

Note(s):

All test items were verified and recorded according to the standards and without any addition/deviation/exclusion during the test.

1.5 Test Summary

Test Item	FCC Rules	Result
Antenna Requirement	§15.203	PASS
Manually operated transmitter	§15.231(a)(1)	PASS
Average Factor	§15.231(b)	PASS
Field Strength of Fundamental and Spurious Emission	§15.231(b) & §15.209	PASS
20dB Bandwidth	§15.231(c)	PASS
AC power-line conducted emissions	§15.207	N/A

Note(s): The EUT is powered by battery (AAA 1.5V*2)

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2 Test Condition

2.1 Environmental conditions

Temperature (°C)	15-35
Humidity (%RH)	30-60
Barometric Pressure (mbar)	860-1060

Note: Actual values will be recorded during the test.

2.2 Equipment List

Name of Equipment	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due
Spectrum Analyzer	Keysight	N9020B	MY59260184	2025-06-30	2026-06-29
Spectrum Analyzer	Rohde & Schwarz	FSV40N	101450	2025-06-10	2026-06-09
Signal Generator	Rohde & Schwarz	SMR27	100184	2025-06-30	2026-06-29
EMI Test Receiver	Rohde & Schwarz	ESR 7	101911	2025-06-09	2026-06-08
Broadband Antenna	SCHWARZBECK	VULB9163	9163-1037	2025-03-24	2027-03-23
Horn Antenna-18G	SCHWARZBECK	BBHA9120D	9120D-1775	2025-06-22	2027-06-21
Loop Antenna	SCHWARZBECK	FMZB 1513	/	2025-06-23	2027-06-22
Broadband Preamplifier	SCHWARZBECK	BBV 9718	346	2025-06-09	2026-06-08
EMC chamber 9*6*6(L*W*H)	CHANGNING	966	N/A	2025-06-10	2028-06-09
Test Software	BL	BL410_E	Version:2.1.1.436	N/A	N/A

2.3 Measurement Uncertainty

The uncertainty is calculated using the methods suggested in the “Guide to the Expression of Uncertainty in measurement” (GUM) published by CISPR and ANSI. The reported uncertainty of measurement $y \pm U$, where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately 95.45%.

Parameter		Uncertainty
Antenna Port Conducted Emission		$\pm 1.04\text{dB}$
Radiated Emission	< 1GHz	$\pm 5.00\text{dB}$
	> 1GHz	$\pm 5.46\text{dB}$
Duty Cycle		$\pm 2.00\%$
Occupied Channel Bandwidth		$\pm 39.26\text{KHz}$

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3 Test Set-up and Operation Modes

3.1 Details of Test Mode

Channel	Frequency
1	303MHz
2	310MHz
3	315MHz
4	318MHz
5	390MHz
6	433.4MHz
7	433.92MHz
8	434.4MHz

Note(s): For Radiated Emission, 3axis were chosen for testing for each applicable mode.

3.2 Special Accessories and Auxiliary Equipment

Description	Manufacturer	Model Name	Serial No.
N/A	N/A	N/A	N/A

3.3 Support Software

Description	Manufacturer	Software Name
N/A	N/A	N/A

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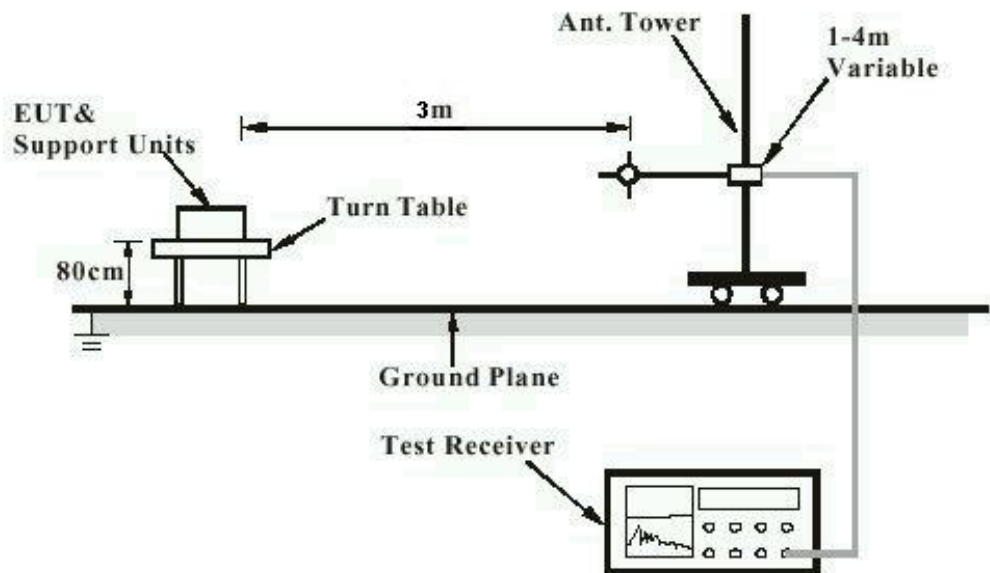
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3.4 Test Setup Diagram

Diagram of Measurement Configuration for Radiation Test



Note: Measurements above 1GHz are done with a table height of 1.5m. In addition, there is RF absorbing material on the floor of the test site for above 1GHz measurement.

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4 Test Results

4.1 Transmitter Requirement & Test Suites

4.1.1 Antenna Requirement

RESULT:

PASS

Test standard	: Part 15.203
Requirement	: The use of approved antennas only with directional gains that do not exceed 6dBi

According to the manufacturer declaration, The EUT has an antenna with a gain of -5dBi. The antenna is an Integral antenna with no possibility of replacement with a non-approved antenna by the end-user.

Therefore, the EUT is considered to comply with this provision.

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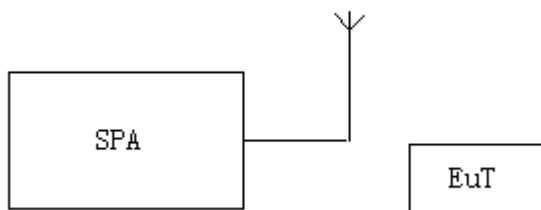
4.1.2 Provision For Momentary Operation

RESULT:

PASS

Test standard : §15.231(a)(1)
Requirement : ANSI C63.10-2020

Test Setup:



Measurement Procedure:

1. Set the parameters of SPA as below:
Centre frequency = Operation Frequency
RBW=100kHz, VBW=300KHz
Span: 0Hz
Sweep time: 10s
2. Set the EUT to transmit by manually operated. Use the "View" function of SPA to find the transmission time of being released.
3. Record the data.

Test Data:

Operating Frequency	The time of stopping transmission (s)	Limit (s)	Result
303MHz	1.020	<5	Pass
310MHz	0.980	<5	Pass
315MHz	1.200	<5	Pass
318MHz	1.060	<5	Pass
390MHz	1.200	<5	Pass
433.4MHz	1.140	<5	Pass
433.92MHz	0.980	<5	Pass
434.4MHz	1.080	<5	Pass

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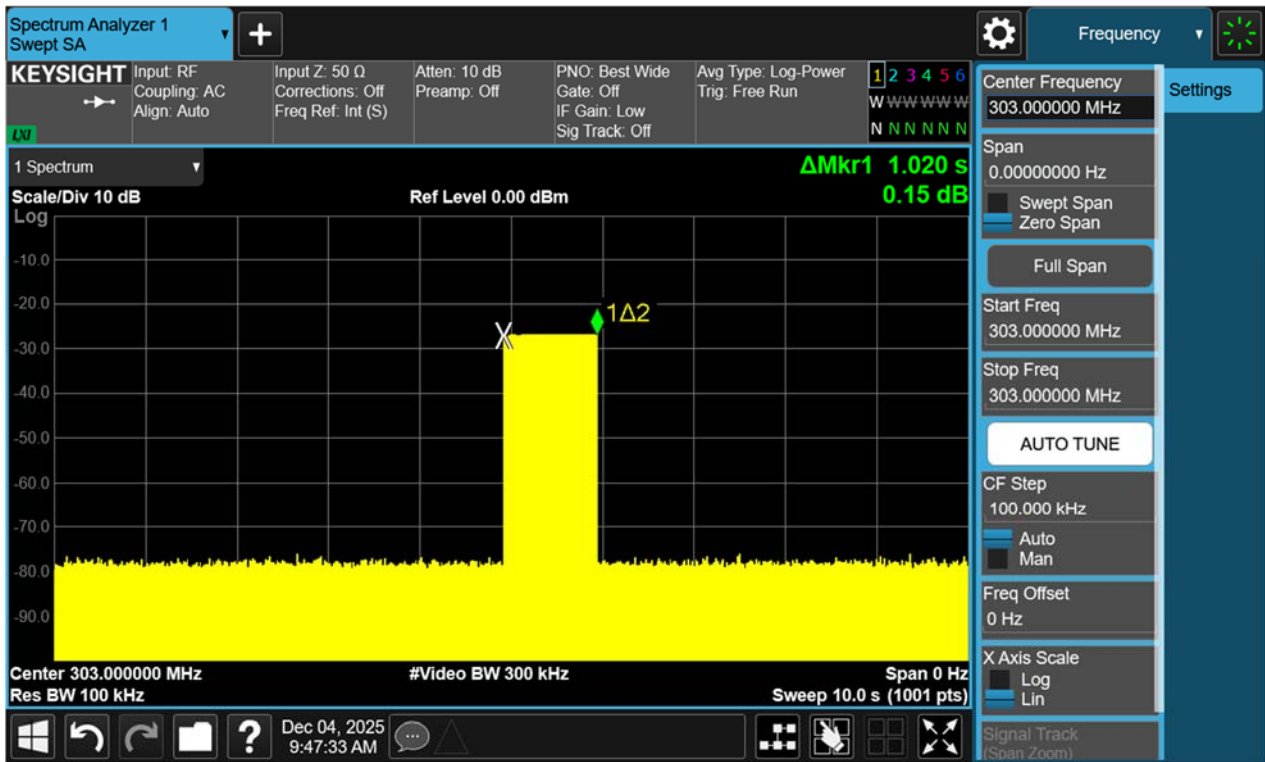
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Test Plots

Operating Frequency

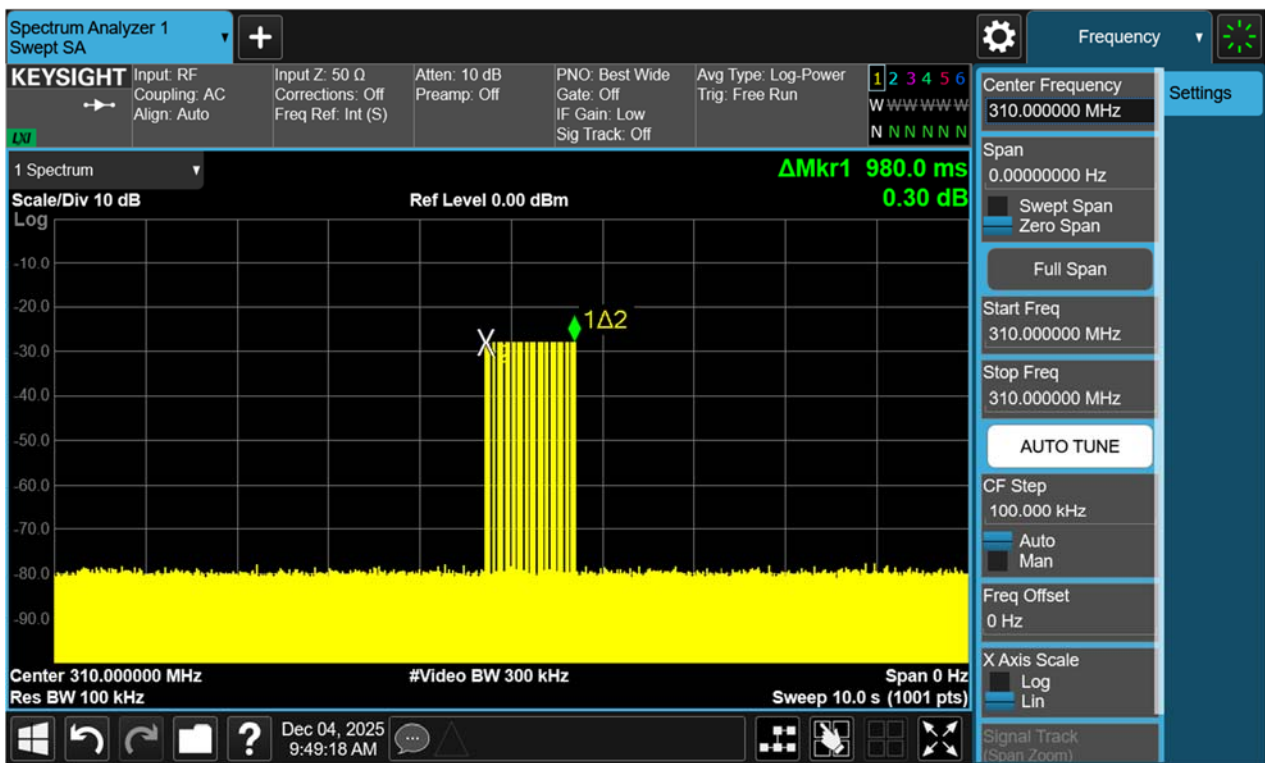
303MHz



Test Plots

Operating Frequency

310MHz



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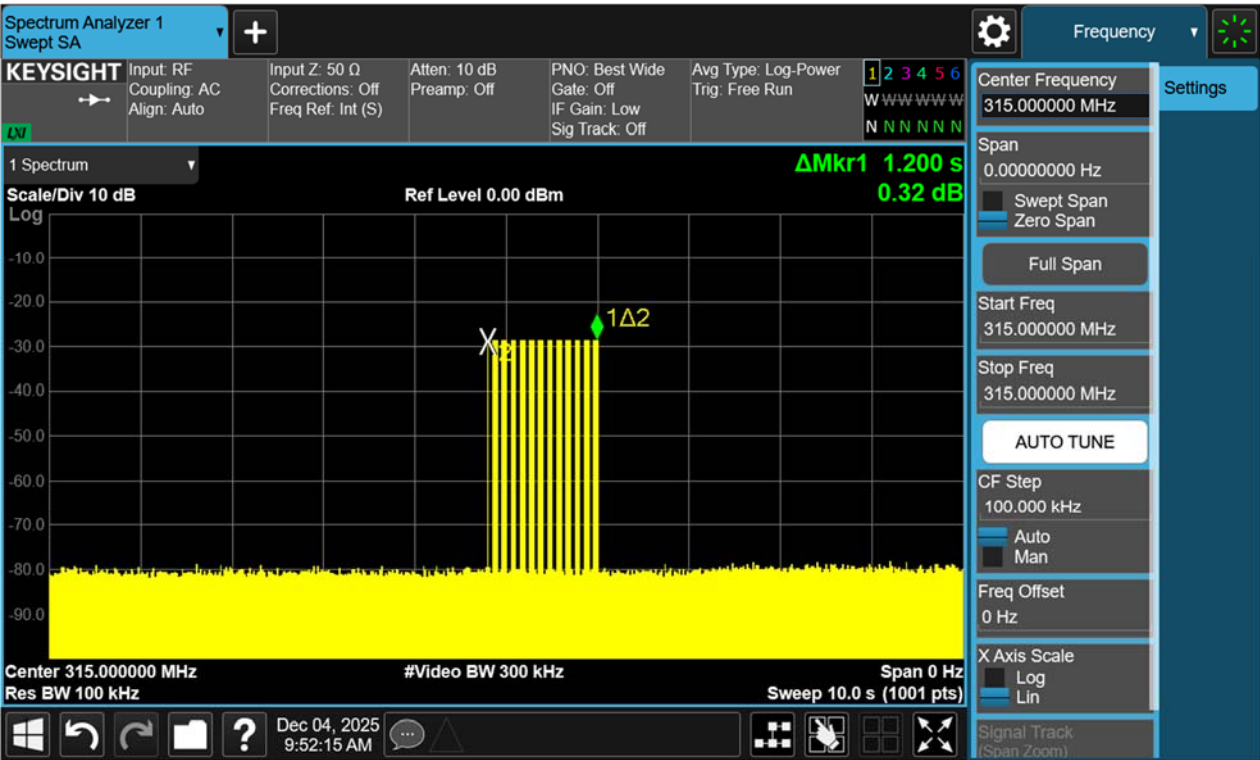
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Test Plots

Operating Frequency

315MHz



Test Plots

Operating Frequency

318MHz



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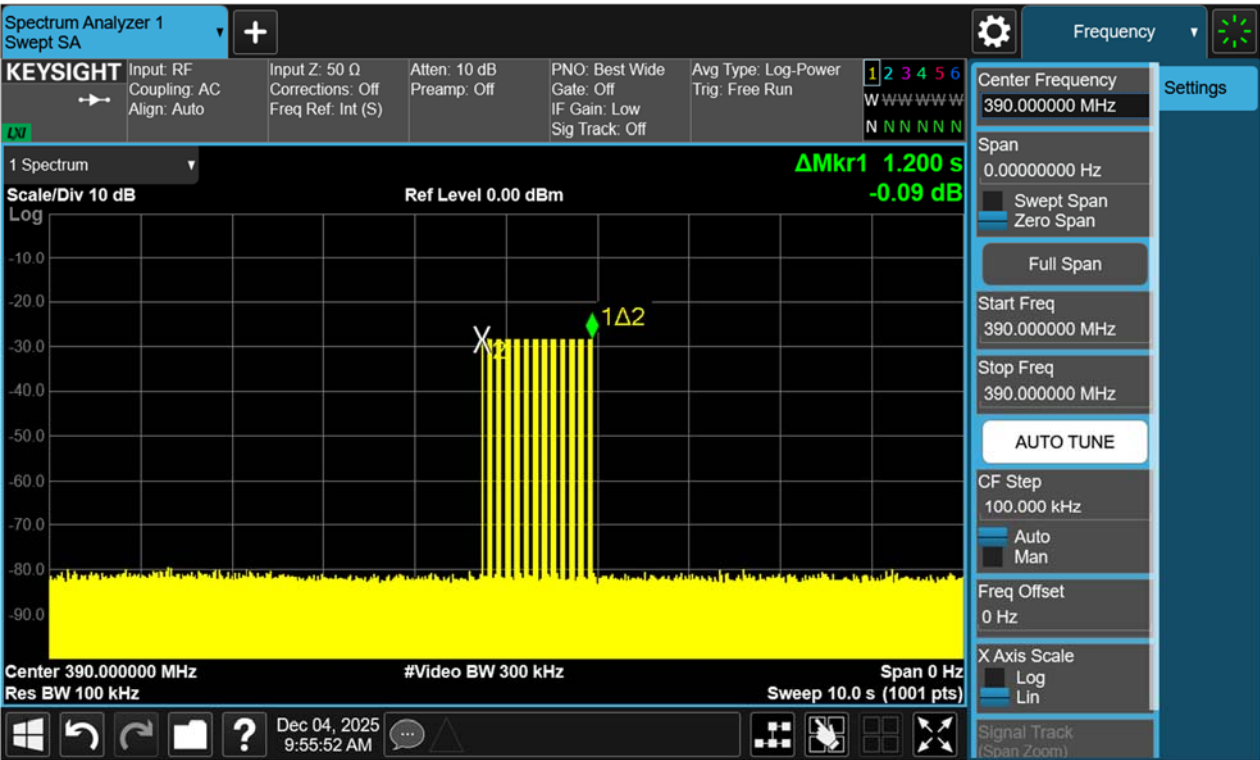
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Test Plots

Operating Frequency

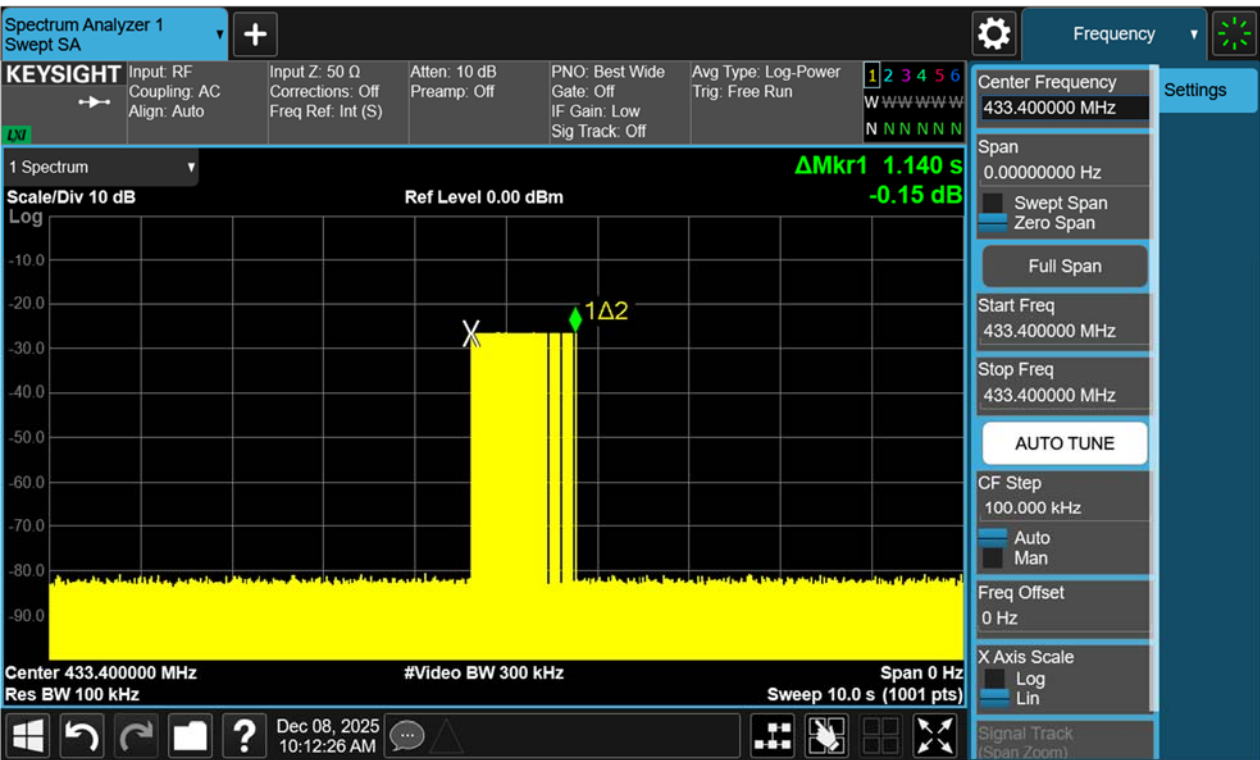
390MHz



Test Plots

Operating Frequency

433.4MHz



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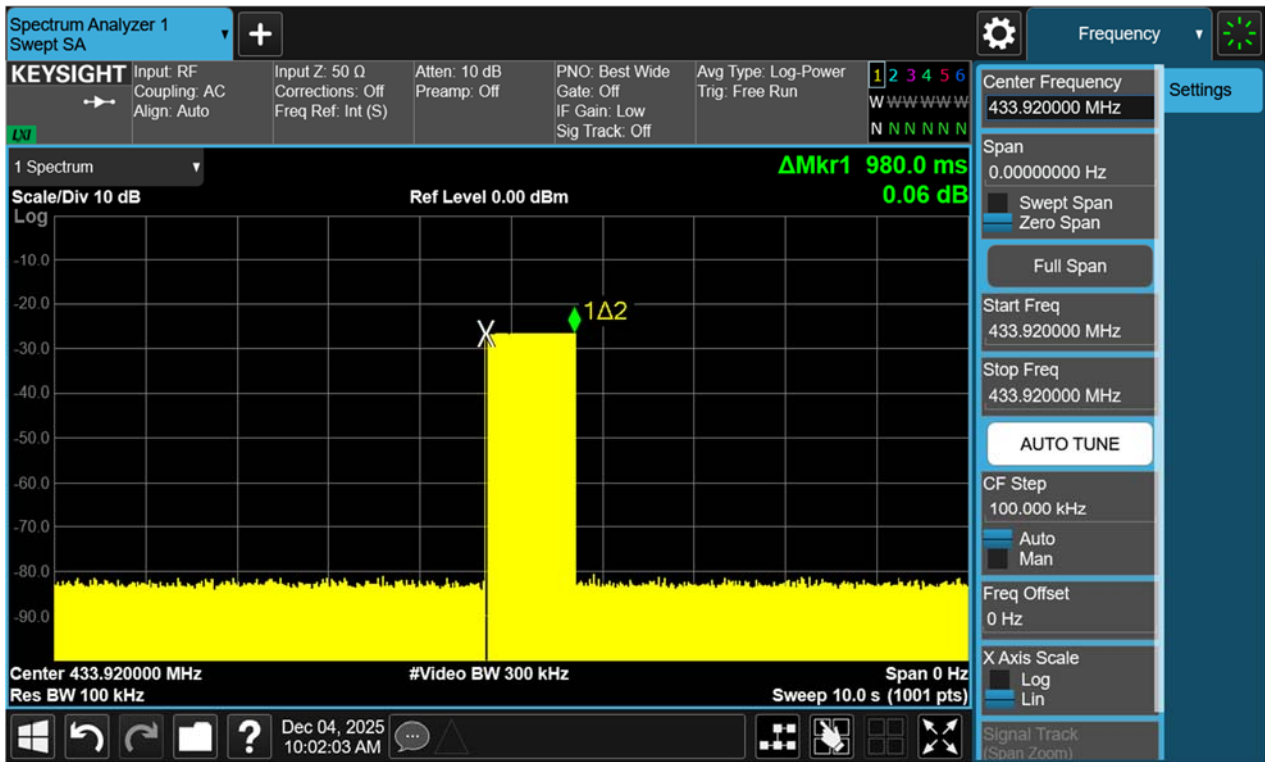
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Test Plots

Operating Frequency

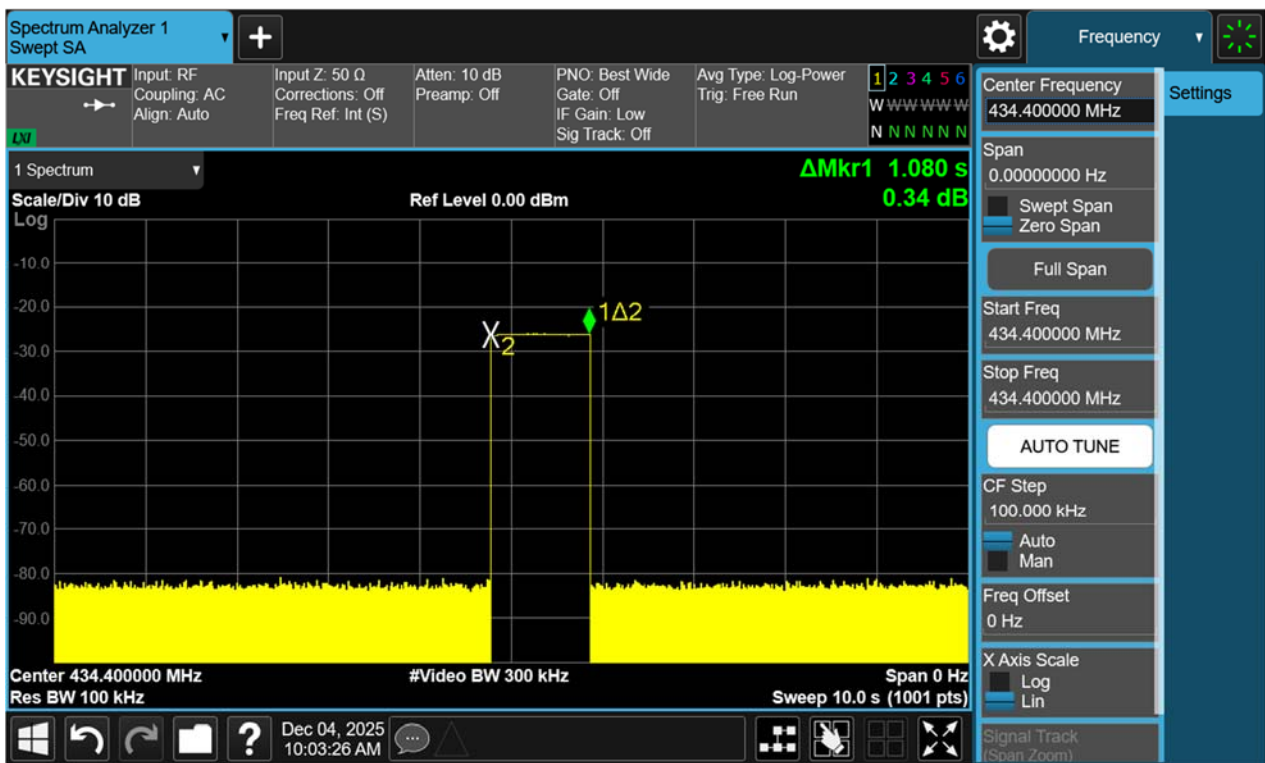
433.92MHz



Test Plots

Operating Frequency

434.4MHz



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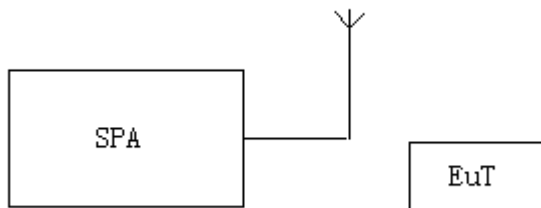
4.1.3 Duty Cycle Correction Factor

RESULT:

PASS

Test standard : §15.231(b)
Requirement : ANSI C63.10-2020

Test Setup



Measurement Procedure

- Set the parameters of SPA as below:
Centre frequency = Operation Frequency
RBW=100KHz; VBW=300KHz
Span: 0Hz
Sweep time: more than two pulse trains or more than each type of pulse occupancy time
- Set the EUT to transmit. Use the “Delta mark” function of SPA to find the period time between two pulse trains and each type of pulse occupancy time.
- Record the plots and Reported.

Test Data:

Operating Frequency	T(period)	Total On time	Duty Cycle	Duty cycle Correction Factor
303MHz	54.20ms	$0.54 \times 14 + 1.02 \times 15 = 22.86\text{ms}$	0.42	-7.54
310MHz	72.60ms	$2.08 \times 4 + 0.56 \times 4 = 10.56\text{ms}$	0.15	-16.48
315MHz	101.6ms	$1.5 \times 10 + 1 \times 4 + 0.5 \times 7 = 22.5\text{ms}$	0.23	-12.77
318MHz	150.5ms	$1 \times 17 = 17\text{ms}$	0.17	-15.39
390MHz	101.6ms	$0.5 \times 3 + 1 \times 10 + 1.52 \times 8 = 23.66\text{ms}$	0.24	-12.40
433.4MHz	141.6ms	$5.2 \times 1 + 2.6 \times 5 + 1.3 \times 15 + 0.65 \times 20 = 50.7\text{ms}$	0.51	-5.85
433.92MHz	105.2ms	$0.36 \times 26 + 0.72 \times 1 + 1.140 \times 28 = 42\text{ms}$	0.42	-7.54
434.4MHz			1.00	0

Note: $\delta(\text{dB}) = 20\log(\Delta)$; δ is the duty cycle correction factor (dB); Δ is the duty cycle (dimensionless);

If the pulse train is nonperiodic or is periodic with a period that exceeds 100ms, Determine the duty cycle by dividing the total maximum “ON time” by 100ms ($\text{ton}/100\text{ms}$)

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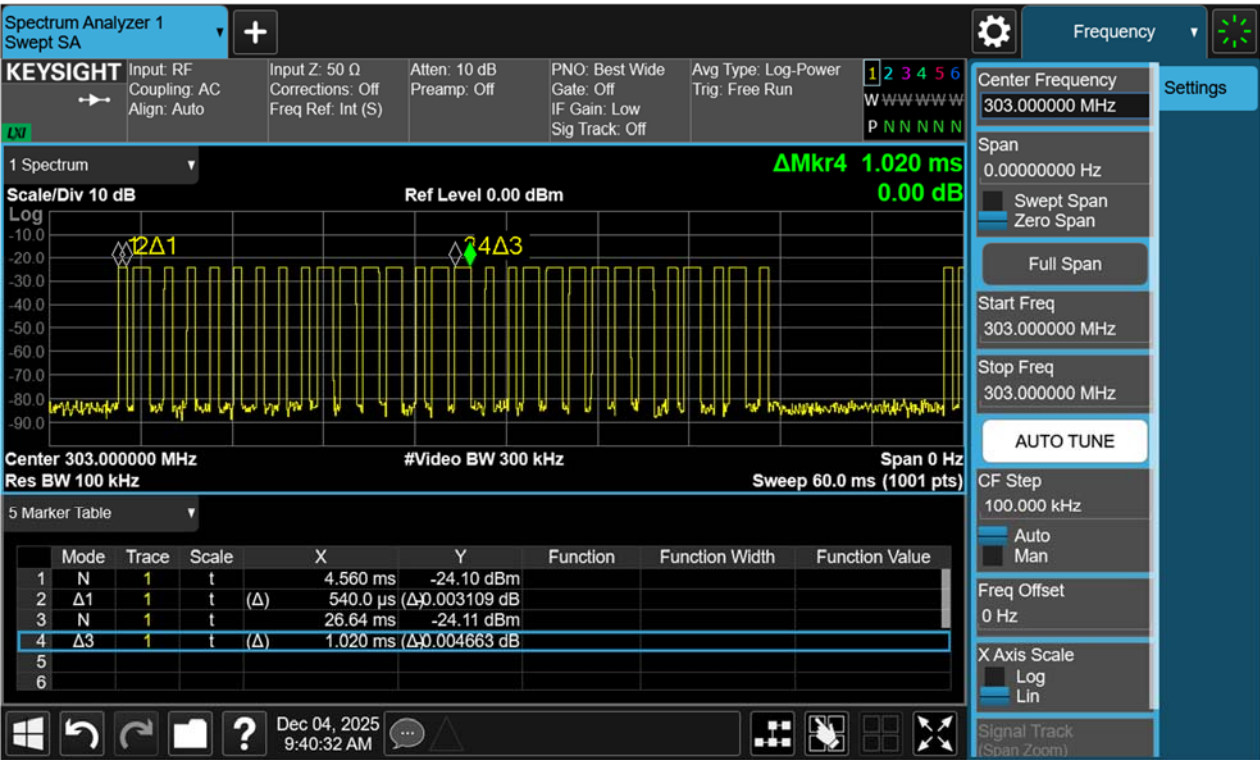
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Test Plots

Operating Frequency

303MHz



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Test Plots

Operating Frequency

310MHz

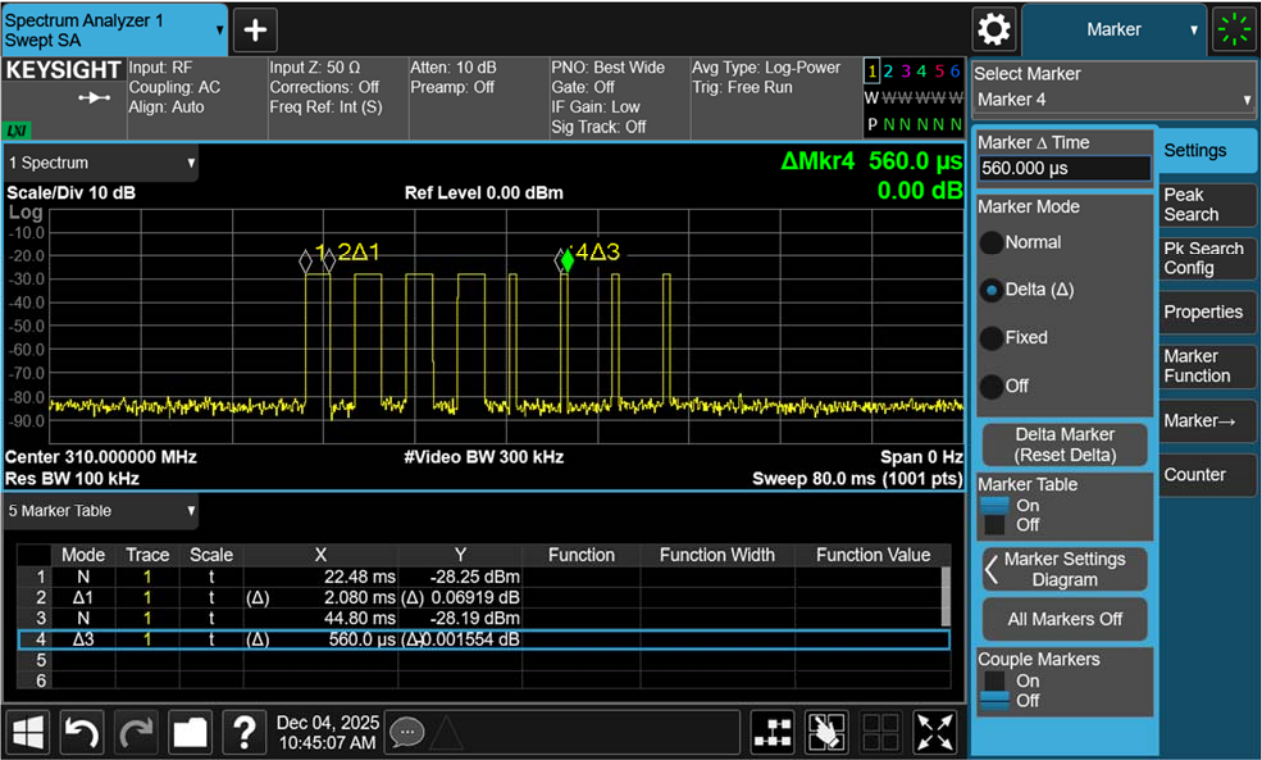


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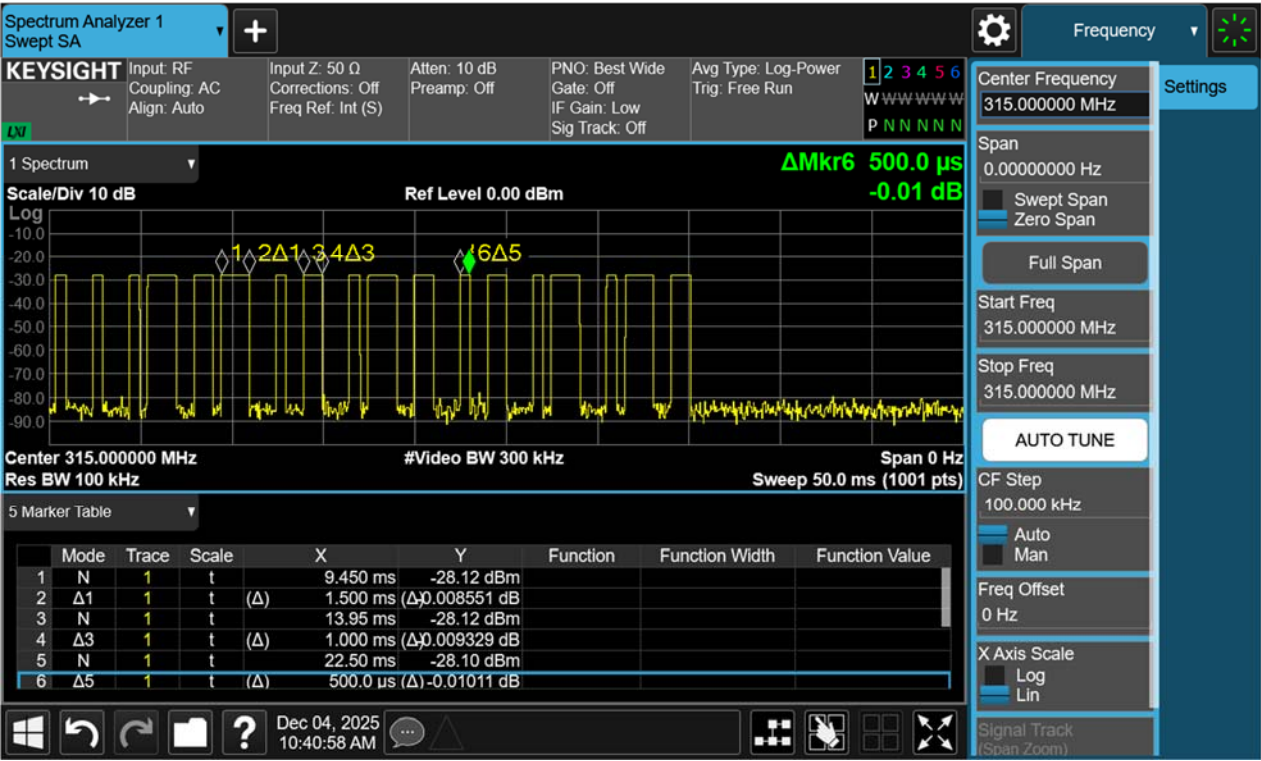
Test Plots

Operating Frequency

315MHz



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Test Plots

Operating Frequency

318MHz



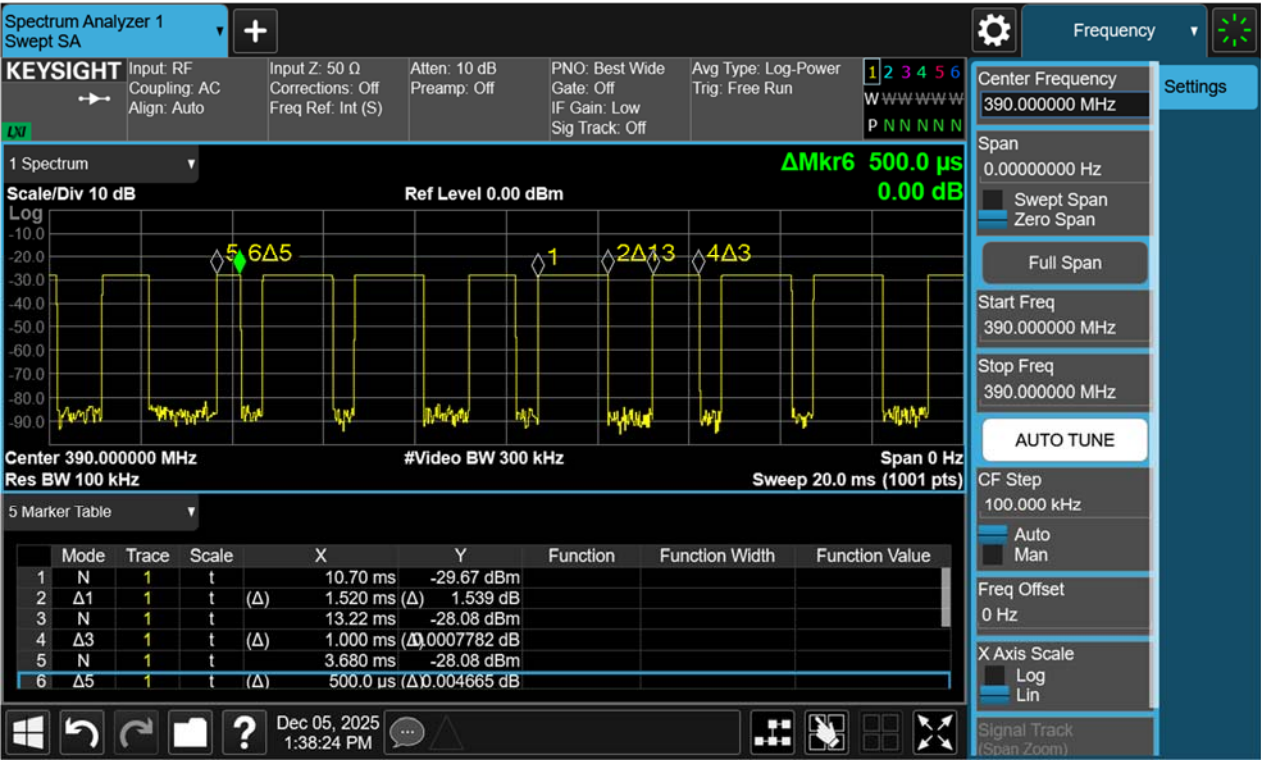
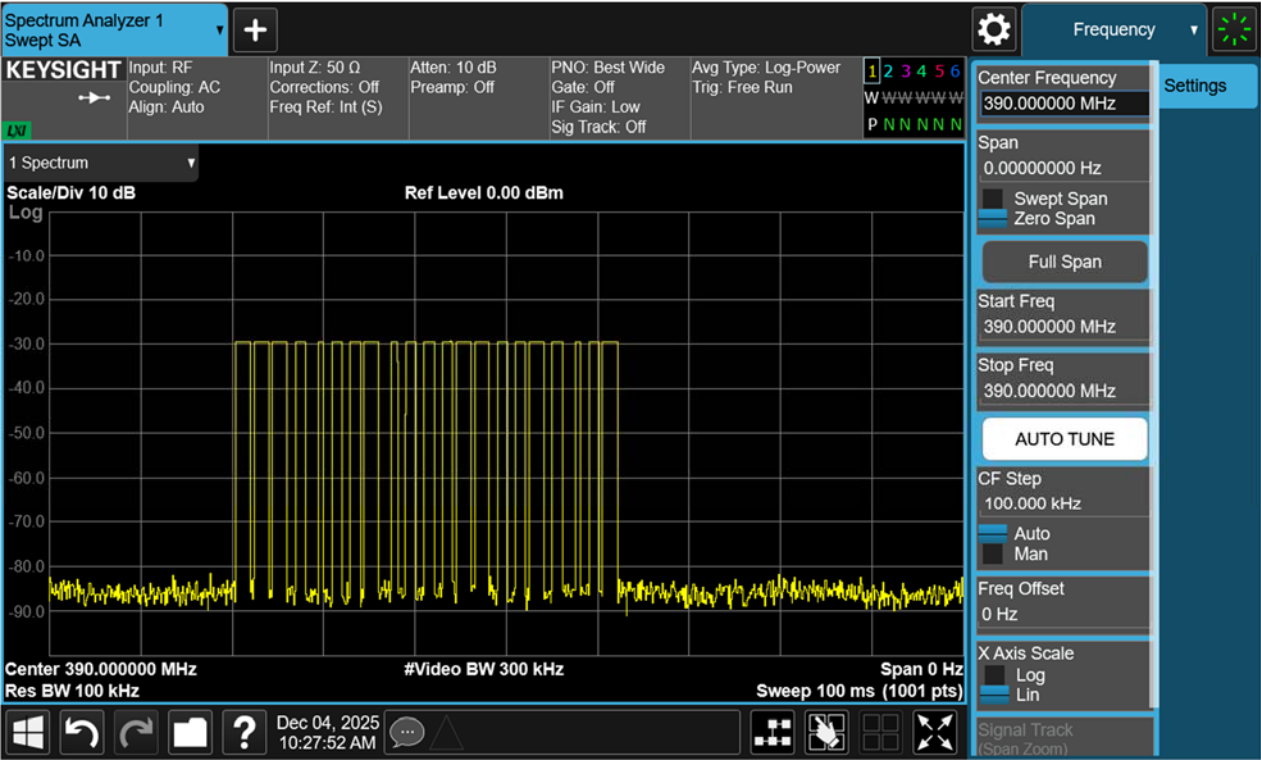
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Test Plots

Operating Frequency

433.4MHz

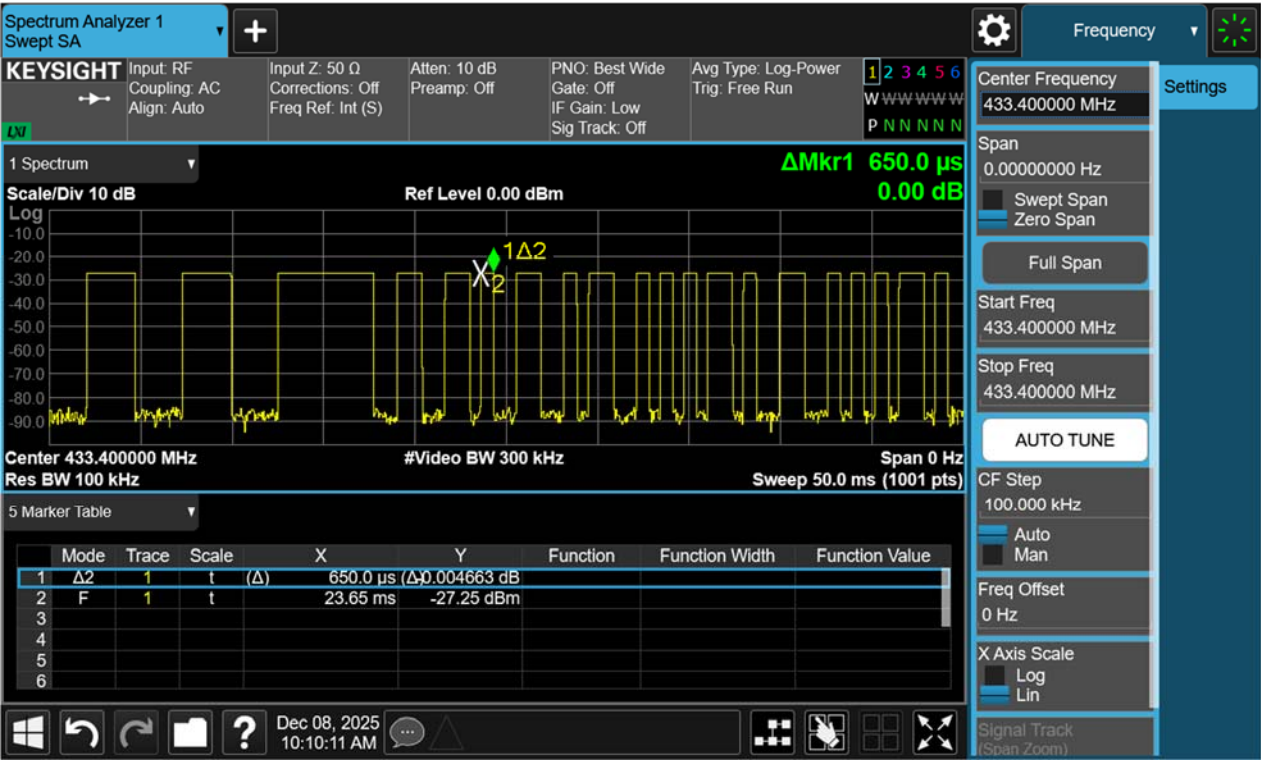
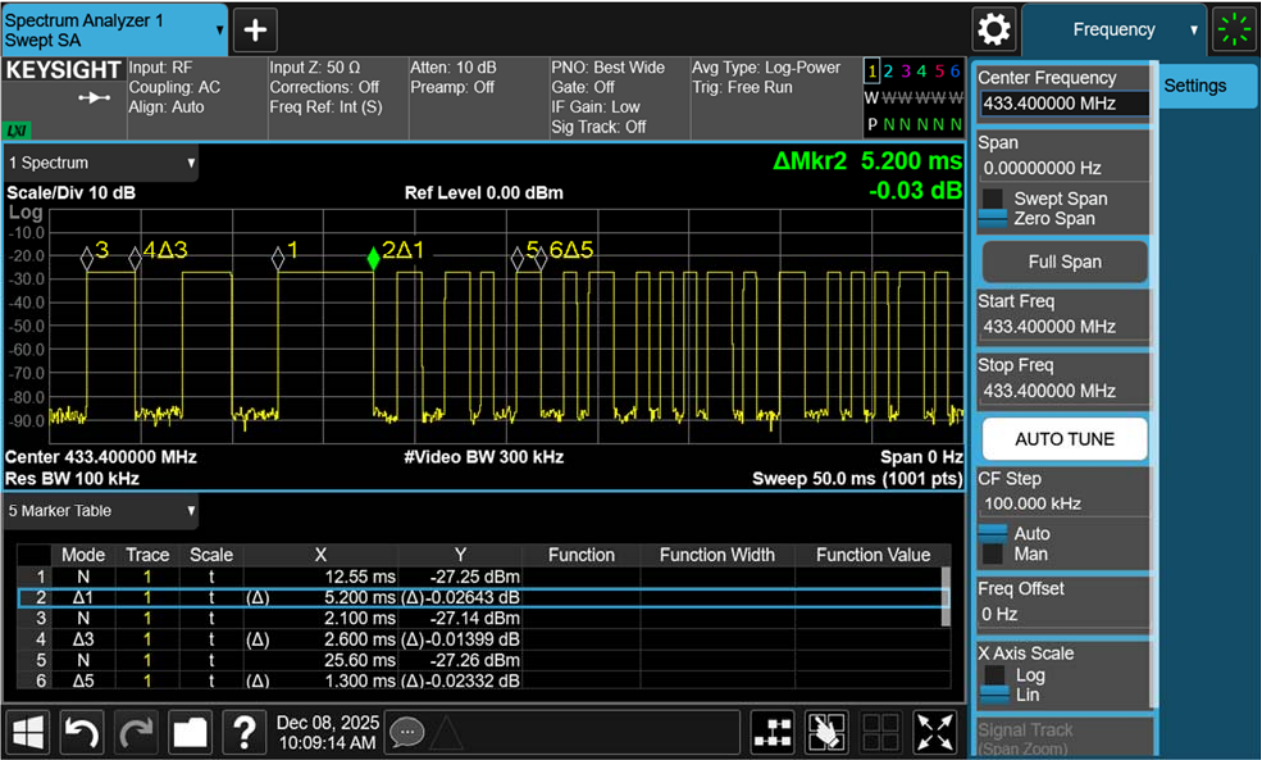


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Test Plots

Operating Frequency

433.92MHz

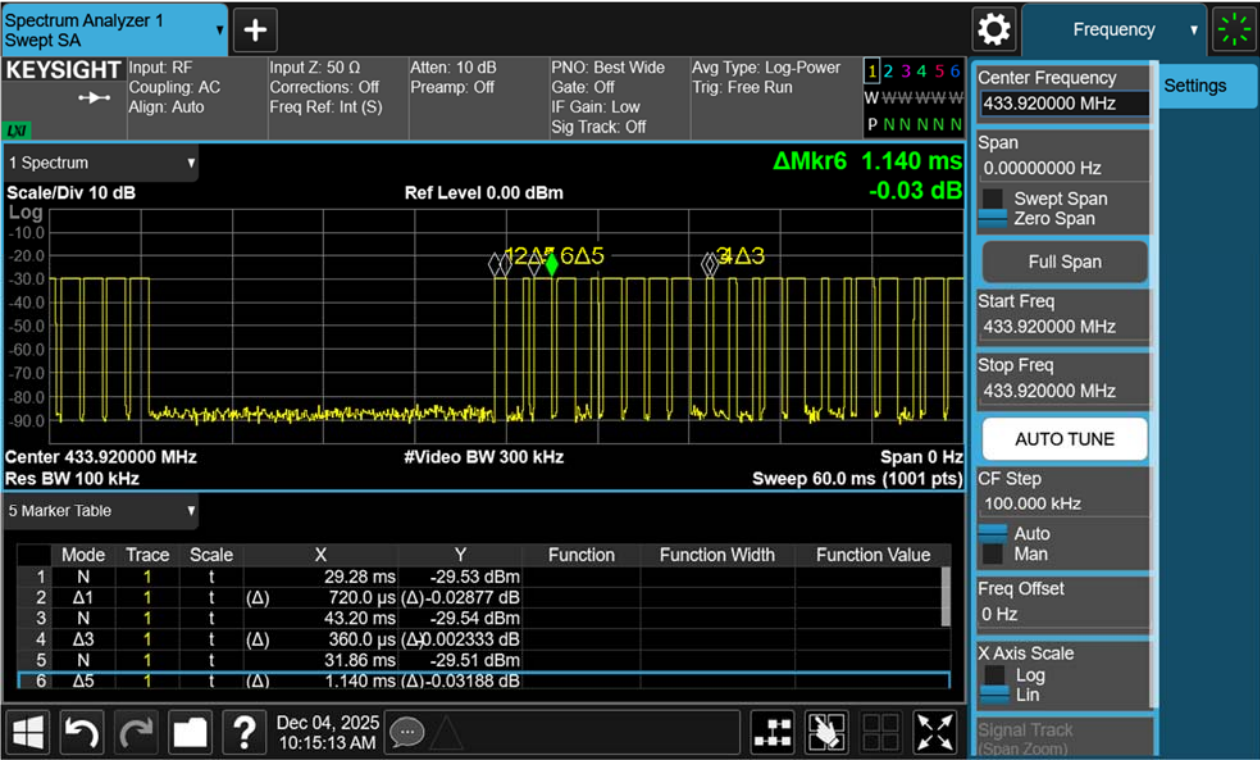


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Test Plots

Operating Frequency

434.4MHz



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4.1.4 Radiated Emission

RESULT:

PASS

Test standard : §15.231(b), §15.209
Requirement : ANSI C63.10-2020
Kind of test site : 3m Semi-Anechoic Chamber

Test setup

Test Diagram : Clause 3.4
Operation Mode : Transmitting mode
Ambient temperature : 23.1°C
Relative humidity : 45%

Note(s): In addition to the provisions of §15.205, the field strength of emissions from intentional radiators operated under this section shall not exceed the following:

Fundamental frequency (MHz)	Field strength of fundamental (microvolts/meter)	Field strength of spurious emissions (microvolts/meter)
40.66-40.70	2250	225
70-130	1250	125
130-174	1250 to 3750*	125 to 375*
174-260	3750	375
260-470	3750 to 12500*	375 to 1250*
Above 470	12500	1250

*Linear interpolations

The above field strength limits are specified at a distance of 3 meters.

The limits on the field strength of the spurious emissions in the above table are based on the fundamental frequency of the intentional radiator. Spurious emissions shall be attenuated to the average (or, alternatively, CI SPR quasi-peak) limits shown in this table or to the general limits shown in §15.209, whichever limit permits a higher field strength.

The emission limit in this paragraph is based on measurement instrumentation employing an average detector. The provisions in §15.35 for limiting peak emissions apply. Spurious Radiated Emissions measurements start below or at the lowest crystal frequency.

Compliance with the provisions of §15.205 shall be demonstrated using the measurement instrumentation specified in that section.

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Measurement Procedure

1. The EUT was placed on the top of the turntable 0.8 or 1.5 meter above ground. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 3 meters far away from the turntable.
2. Power on the EUT and all the supporting units. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
3. The height of the broadband receiving antenna was varied between one meter and four meters above ground to find the maximum emissions field strength of both horizontal and vertical polarization.
4. For each suspected emissions, the antenna tower was scan (from 1 M to 4 M) and then the turntable was rotated (from 0 degree to 360 degrees) to find the maximum reading.
5. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function with specified bandwidth under Maximum Hold Mode.
6. For emissions above 1GHz, use 1MHz VBW and RBW for peak reading. Then 1MHz RBW and 10Hz VBW for average reading in spectrum analyzer. Place the measurement antenna away from each area of the EUT determined to be a source of emissions at the specified measurement distance, while keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response. The measurement antenna may have to be higher or lower than the EUT, depending on the radiation pattern of the emission and staying aimed at the emission source for receiving the maximum signal. The final measurement antenna elevation shall be that which maximizes the emissions. The measurement antenna elevation for maximum emissions shall be restricted to a range of heights of from 1 m to 4 m above the ground or reference ground plane.
7. When the radiated emissions limits are expressed in terms of the average value of the emissions, and pulsed operation is employed, the measurement field strength shall be determined by averaging over one complete pulse train, including blanking intervals, as long as the pulse train does not exceed 0.1 seconds. As an alternative (provided the transmitter operates for longer than 0.1 seconds) or in cases where the pulse train exceeds 0.1 seconds, the measured field strength shall be determined from the average absolute voltage during a 0.1 second interval during which the field strength is at its maximum values.
8. If the emissions level of the EUT in peak mode was 3 dB lower than the average limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method for below 1GHz.
9. For testing above 1GHz, the emissions level of the EUT in peak mode was lower than average limit (that means the emissions level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
10. In case the emission is lower than 30MHz, loop antenna has to be used for measurement and the recorded data should be QP measured by receiver. High - Low scan is not required in this case.

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The following table is the setting of spectrum analyzer and receiver.

Spectrum Parameter	Setting
Start Frequency	1000MHz
Stop Frequency	10 th carrier harmonic
RB / VB (emission in restricted band)	1MHz/1MHz for Peak, 1MHz/10Hz for Average

Receiver Parameter	Setting
Start ~Stop Frequency	9KHz~150KHz/RBW 200Hz for QP
Start ~Stop Frequency	150KHz~30MHz/RBW 9KHz for QP
Start ~Stop Frequency	30MHz~1000MHz/RBW 120KHz for QP

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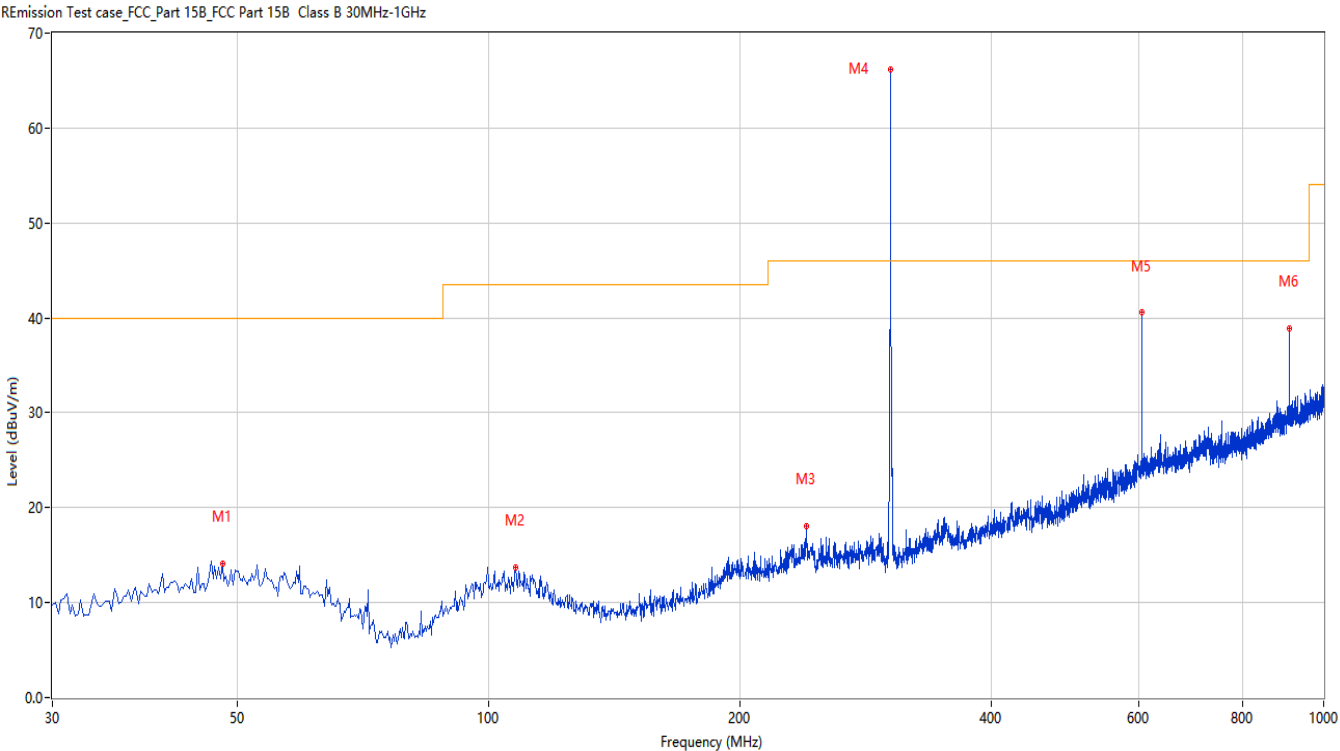
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Test Data

Radiated Emission Below 30MHz

No emission found between lowest internal used/generated frequencies to 30MHz.

Radiated Emission-Test Plots	
Operating Frequency	303MHz
Antenna Polarization	Horizontal
Test Frequency Range	30MHz-1GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	47.941	14.10	-23.69	40.0	25.90	Peak	90.00	100	Horizontal	Pass
2	107.581	13.71	-25.00	43.5	29.79	Peak	119.40	100	Horizontal	Pass
3	240.437	18.08	-23.05	46.0	27.92	Peak	285.90	100	Horizontal	Pass
4	302.987	66.11	-21.94	94.87	28.76	Peak	72.50	100	Horizontal	Pass
4*	302.987	58.57	-21.94	74.87	16.30	AV	72.50	100	Horizontal	Pass
5	605.794	40.54	-13.38	74.87	34.33	Peak	24.10	100	Horizontal	Pass
5*	605.794	33.00	-13.38	54.87	21.87	AV	24.10	100	Horizontal	Pass
6	908.843	38.85	-7.80	74.87	36.02	Peak	284.90	100	Horizontal	Pass
6*	908.843	31.31	-7.80	54.87	23.56	AV	284.90	100	Horizontal	Pass

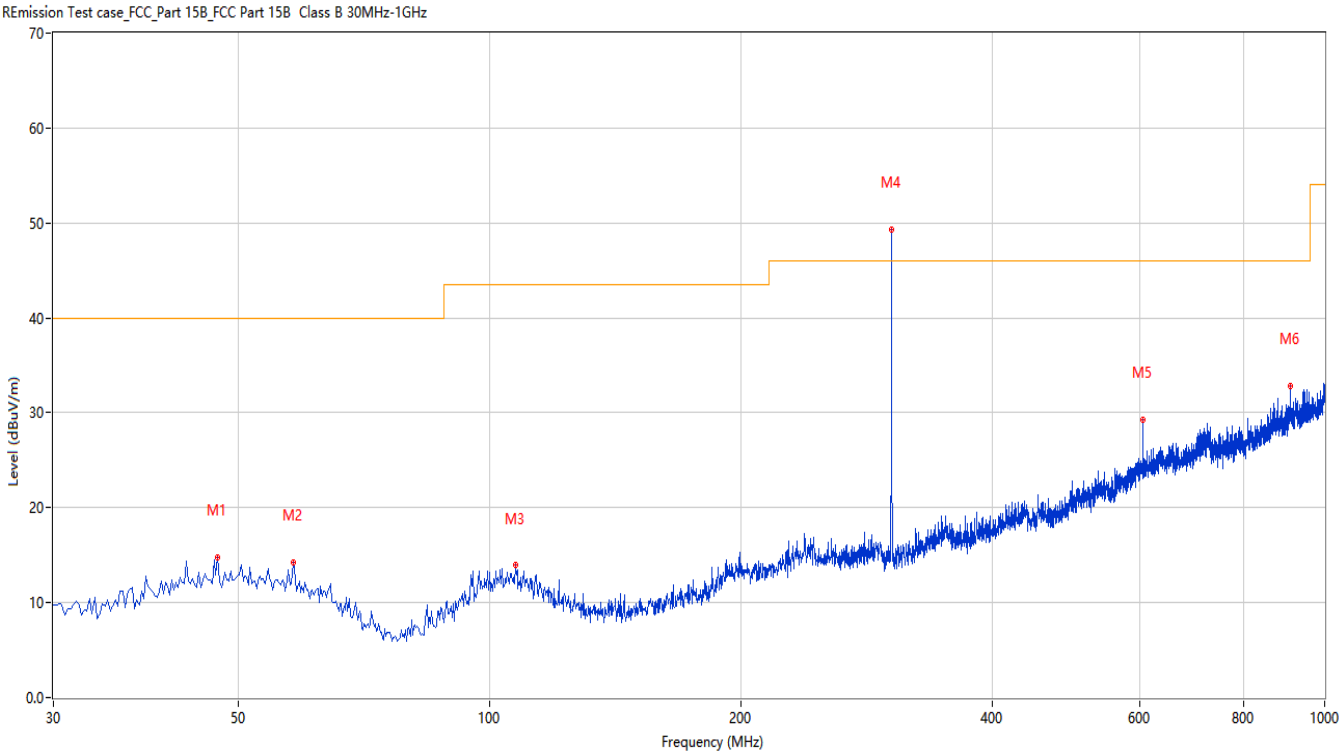
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Radiated Emission-Test Plots	
Operating Frequency	303MHz
Antenna Polarization	Vertical
Test Frequency Range	30MHz-1GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	47.213	14.82	-23.72	40.0	25.18	Peak	64.50	100	Vertical	Pass
2	58.123	14.26	-24.53	40.0	25.74	Peak	356.30	100	Vertical	Pass
3	107.338	13.92	-24.99	43.5	29.58	Peak	265.30	100	Vertical	Pass
4	302.987	49.32	-21.94	94.87	45.55	Peak	130.90	100	Vertical	Pass
4*	302.987	41.78	-21.94	74.87	33.09	AV	130.90	100	Vertical	Pass
5	605.794	29.22	-13.38	74.87	45.65	Peak	269.80	100	Vertical	Pass
5*	605.794	21.68	-13.38	54.87	33.19	AV	269.80	100	Vertical	Pass
6	908.843	32.77	-7.80	74.87	42.10	Peak	155.40	100	Vertical	Pass
6*	908.843	25.23	-7.80	54.87	29.64	AV	155.40	100	Vertical	Pass

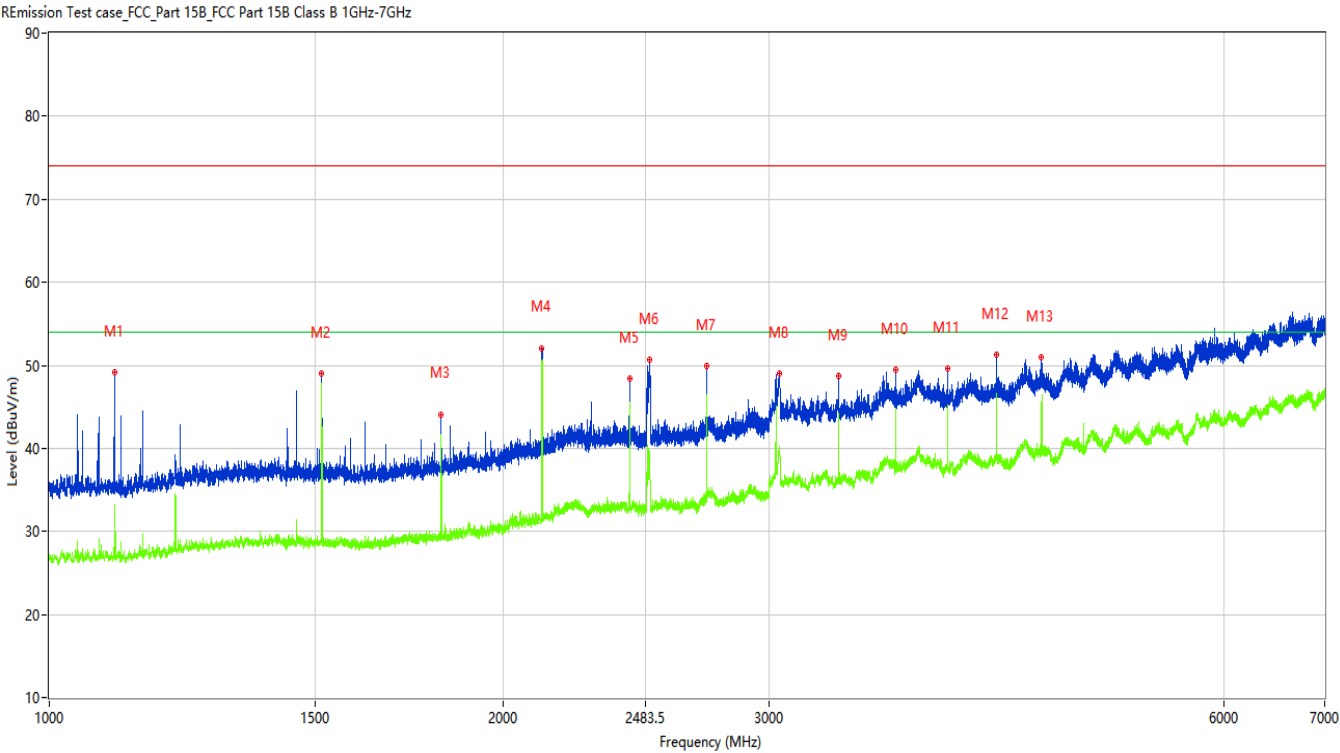
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Radiated Emission-Test Plots	
Operating Frequency	303MHz
Antenna Polarization	Horizontal
Test Frequency Range	1GHz-7GHz



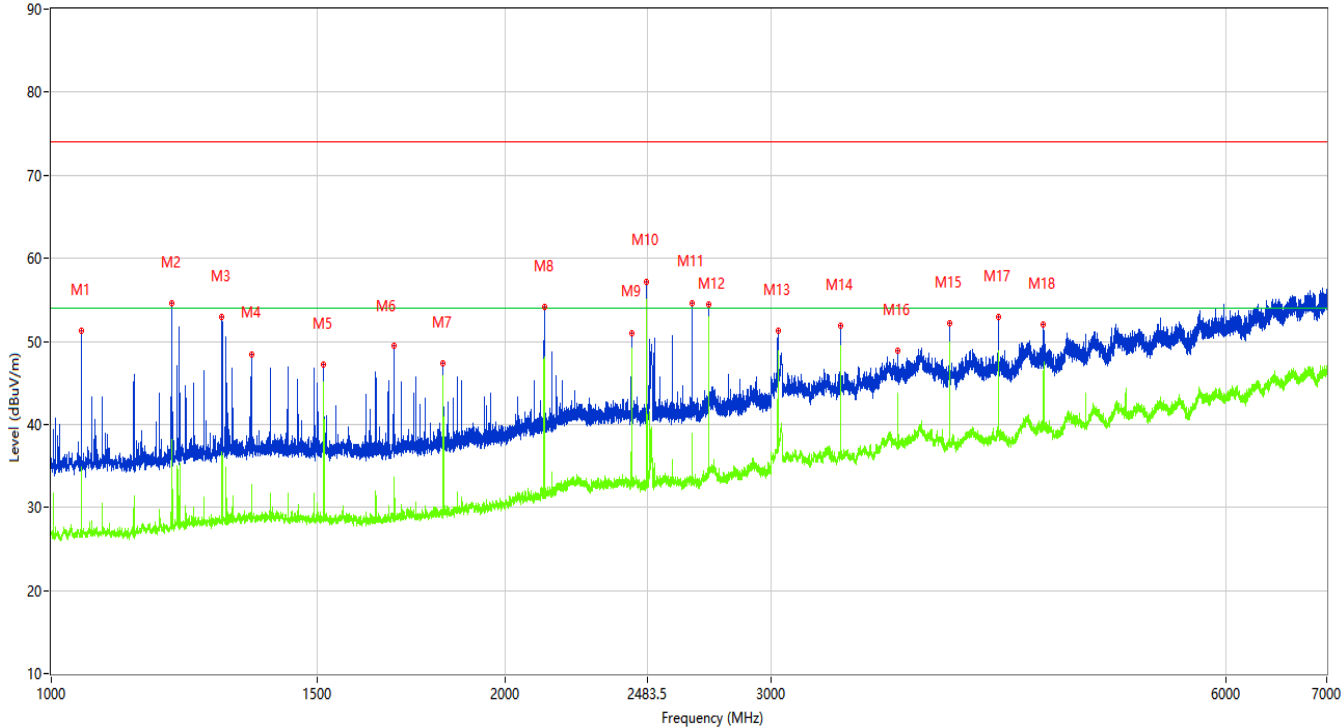
No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1105.500	49.15	-16.56	74.0	24.85	Peak	26.70	100	Horizontal	Pass
1**	1105.500	26.67	-16.56	54.0	27.33	AV	26.70	100	Horizontal	Pass
2	1515.000	49.04	-15.54	74.87	25.83	Peak	60.30	100	Horizontal	Pass
2**	1515.000	41.50	-15.54	54.87	13.37	AV	60.30	100	Horizontal	Pass
3	1818.000	44.10	-15.01	74.87	30.77	Peak	319.00	100	Horizontal	Pass
3**	1818.000	36.56	-15.01	54.87	18.31	AV	319.00	100	Horizontal	Pass
4	2121.000	52.09	-12.37	74.87	22.78	Peak	330.20	100	Horizontal	Pass
4**	2121.000	44.55	-12.37	54.87	10.32	AV	330.20	100	Horizontal	Pass
5	2423.750	48.38	-10.19	74.87	26.49	Peak	97.80	100	Horizontal	Pass
5**	2423.750	40.84	-10.19	54.87	14.03	AV	97.80	100	Horizontal	Pass
6	2500.000	50.67	-10.50	74.0	23.33	Peak	72.40	100	Horizontal	Pass
6**	2500.000	39.51	-10.50	54.0	14.49	AV	72.40	100	Horizontal	Pass
7	2726.750	49.91	-8.90	74.87	24.96	Peak	354.10	100	Horizontal	Pass
7**	2726.750	42.37	-8.90	54.87	12.50	AV	354.10	100	Horizontal	Pass
8	3045.000	49.06	-2.51	74.0	24.94	Peak	192.60	100	Horizontal	Pass
8**	3045.000	39.15	-2.51	54.0	14.85	AV	192.60	100	Horizontal	Pass

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9	3333.000	48.65	-5.58	74.87	26.22	Peak	183.50	100	Horizontal	Pass
9**	3333.000	41.11	-5.58	54.87	13.76	AV	183.50	100	Horizontal	Pass
10	3636.000	49.47	-2.58	74.87	25.40	Peak	19.70	100	Horizontal	Pass
10**	3636.000	41.93	-2.58	54.87	12.94	AV	19.70	100	Horizontal	Pass
11	3939.000	49.58	-2.52	74.87	25.29	Peak	151.40	100	Horizontal	Pass
11**	3939.000	42.04	-2.52	54.87	12.83	AV	151.40	100	Horizontal	Pass
12	4242.500	51.24	-2.05	74.87	23.63	Peak	153.60	100	Horizontal	Pass
12**	4242.500	43.70	-2.05	54.87	11.17	AV	153.60	100	Horizontal	Pass
13	4544.500	50.99	-1.04	74.87	23.88	Peak	0.00	100	Horizontal	Pass
13**	4544.500	43.45	-1.04	54.87	11.42	AV	0.00	100	Horizontal	Pass

Radiated Emission-Test Plots	
Operating Frequency	303MHz
Antenna Polarization	Vertical
Test Frequency Range	1GHz-7GHz

REmission Test case_FCC_Part 15B_FCC Part 15B Class B 1GHz-7GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1047.250	51.26	-16.50	74.0	22.74	Peak	224.00	100	Vertical	Pass
1**	1047.250	26.79	-16.50	54.0	27.21	AV	224.00	100	Vertical	Pass
2	1201.500	54.61	-16.02	74.0	19.39	Peak	129.50	100	Vertical	Pass
2**	1201.500	30.87	-16.02	54.0	23.13	AV	129.50	100	Vertical	Pass

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3	1296.750	52.96	-15.44	74.0	21.04	Peak	137.20	100	Vertical	Pass
3**	1296.750	28.15	-15.44	54.0	25.85	AV	137.20	100	Vertical	Pass
4	1357.000	48.47	-15.28	74.0	25.53	Peak	218.30	100	Vertical	Pass
4**	1357.000	28.91	-15.28	54.0	25.09	AV	218.30	100	Vertical	Pass
5	1514.750	47.24	-15.53	74.87	27.63	Peak	331.80	100	Vertical	Pass
5**	1514.750	39.70	-15.53	54.87	15.17	AV	331.80	100	Vertical	Pass
6	1688.000	49.42	-15.58	74.0	24.58	Peak	129.50	100	Vertical	Pass
6**	1688.000	28.83	-15.58	54.0	25.17	AV	129.50	100	Vertical	Pass
7	1817.750	47.37	-15.00	74.87	27.50	Peak	247.70	100	Vertical	Pass
7**	1817.750	39.83	-15.00	54.87	15.04	AV	247.70	100	Vertical	Pass
8	2122.500	54.07	-12.32	74.87	20.80	Peak	314.50	100	Vertical	Pass
8**	2122.500	46.53	-12.32	54.87	8.34	AV	314.50	100	Vertical	Pass
9	2424.000	50.94	-10.19	74.87	23.93	Peak	353.80	100	Vertical	Pass
9**	2424.000	43.40	-10.19	54.87	11.47	AV	353.80	100	Vertical	Pass
10	2479.750	57.20	-10.64	74.0	16.80	Peak	244.20	100	Vertical	Pass
10**	2479.750	52.62	-10.64	54.0	1.38	AV	244.20	100	Vertical	Pass
11	2659.250	54.55	-9.94	74.0	19.45	Peak	314.50	100	Vertical	Pass
11**	2659.250	33.17	-9.94	54.0	20.83	AV	314.50	100	Vertical	Pass
12	2727.000	54.51	-8.90	74.87	20.36	Peak	32.60	100	Vertical	Pass
12**	2727.000	46.97	-8.90	54.87	7.90	AV	32.60	100	Vertical	Pass
13	3030.000	51.34	-5.20	74.87	23.53	Peak	27.10	100	Vertical	Pass
13**	3030.000	43.80	-5.20	54.87	11.07	AV	27.10	100	Vertical	Pass
14	3333.000	51.92	-5.58	74.87	22.95	Peak	42.40	100	Vertical	Pass
14**	3333.000	44.38	-5.58	54.87	10.49	AV	42.40	100	Vertical	Pass
15	3939.000	52.21	-2.52	74.87	22.66	Peak	60.20	100	Vertical	Pass
15**	3939.000	44.67	-2.52	54.87	10.20	AV	60.20	100	Vertical	Pass
16	3636.000	48.92	-2.58	74.0	25.08	Peak	196.60	100	Vertical	Pass
16**	3636.000	41.82	-2.58	54.0	12.18	AV	196.60	100	Vertical	Pass
17	4242.000	52.94	-2.03	74.87	21.93	Peak	0.20	100	Vertical	Pass
17**	4242.000	45.40	-2.03	54.87	9.47	AV	0.20	100	Vertical	Pass
18	4545.000	51.97	-1.03	74.87	22.90	Peak	158.30	100	Vertical	Pass
18**	4545.000	44.43	-1.03	54.87	10.44	AV	158.30	100	Vertical	Pass

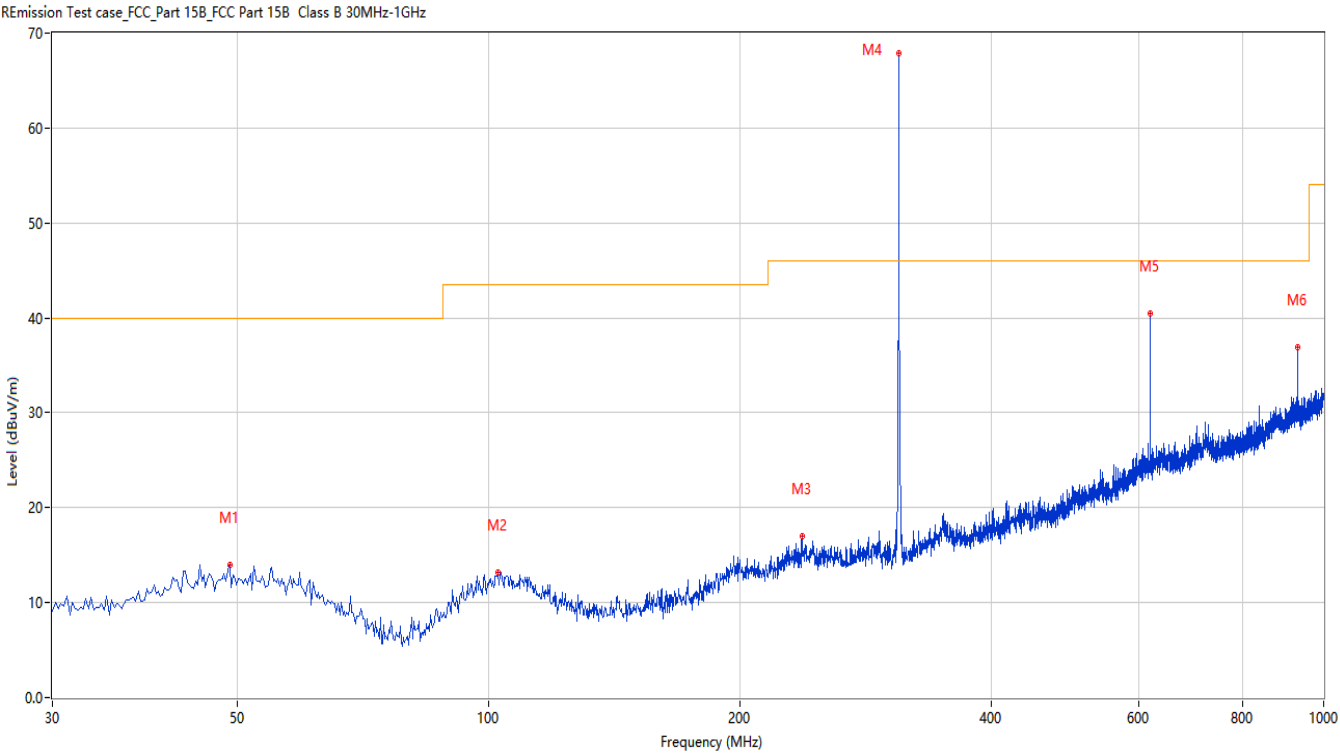
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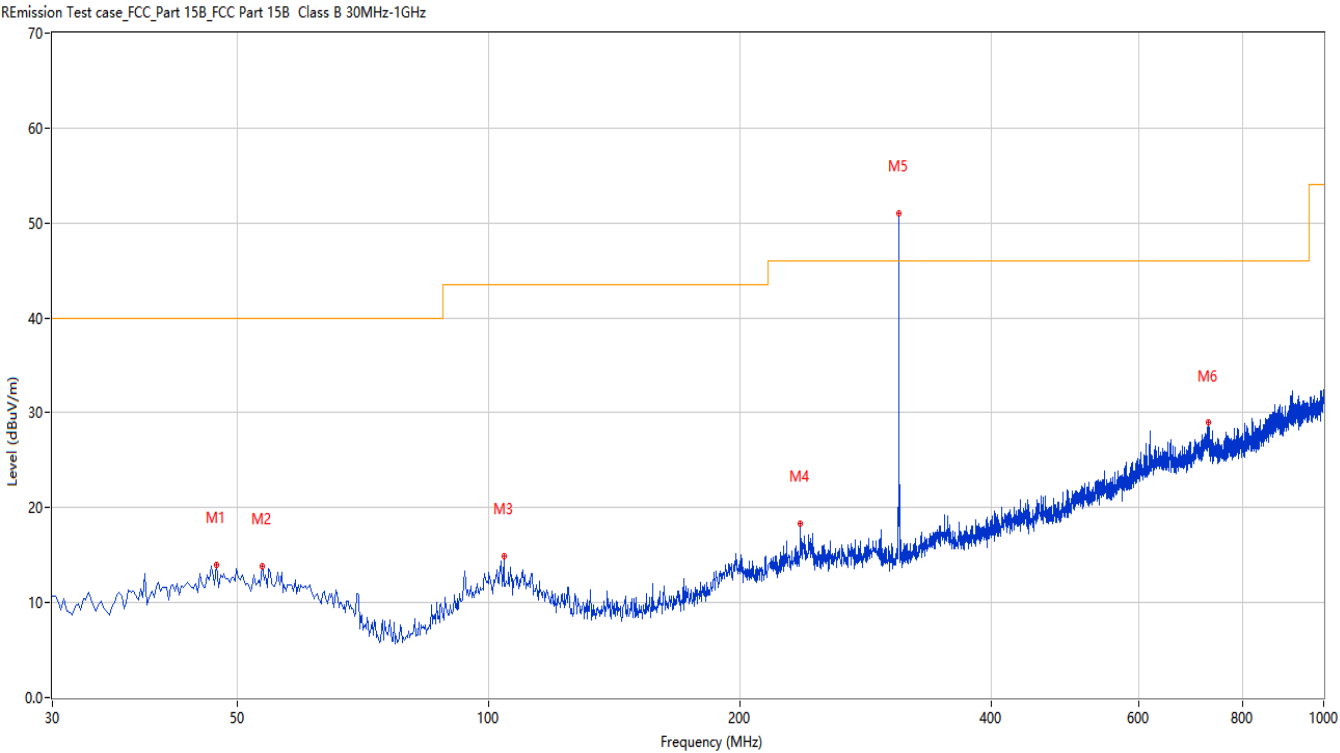
Radiated Emission-Test Plots	
Operating Frequency	310MHz
Antenna Polarization	Horizontal
Test Frequency Range	30MHz-1GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	48.910	14.00	-23.68	40.0	26.00	Peak	331.30	100	Horizontal	Pass
2	102.489	13.19	-25.02	43.5	30.31	Peak	77.60	100	Horizontal	Pass
3	237.043	17.00	-23.32	46.0	29.00	Peak	48.20	100	Horizontal	Pass
4	309.775	67.86	-21.92	95.32	27.46	Peak	69.90	100	Horizontal	Pass
4*	309.775	51.38	-21.92	75.32	23.94	AV	69.90	100	Horizontal	Pass
5	619.855	40.44	-13.22	75.32	34.88	Peak	60.00	100	Horizontal	Pass
5*	619.855	23.96	-13.22	55.32	31.36	AV	60.00	100	Horizontal	Pass
6	929.935	36.88	-7.60	75.32	38.44	Peak	279.90	100	Horizontal	Pass
6*	929.935	20.40	-7.60	55.32	34.92	AV	279.90	100	Horizontal	Pass

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Radiated Emission-Test Plots	
Operating Frequency	310MHz
Antenna Polarization	Vertical
Test Frequency Range	30MHz-1GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	47.213	13.93	-23.72	40.0	26.07	Peak	257.10	100	Vertical	Pass
2	53.517	13.88	-23.91	40.0	26.12	Peak	0.00	100	Vertical	Pass
3	104.186	14.85	-24.92	43.5	28.65	Peak	157.00	100	Vertical	Pass
4	236.073	18.31	-23.40	46.0	27.69	Peak	24.20	100	Vertical	Pass
5	309.775	50.98	-21.92	95.32	44.34	Peak	187.70	100	Vertical	Pass
5*	309.775	34.50	-21.92	75.32	40.82	AV	187.70	100	Vertical	Pass
6	728.468	28.97	-11.63	46.0	17.03	Peak	19.00	100	Vertical	Pass

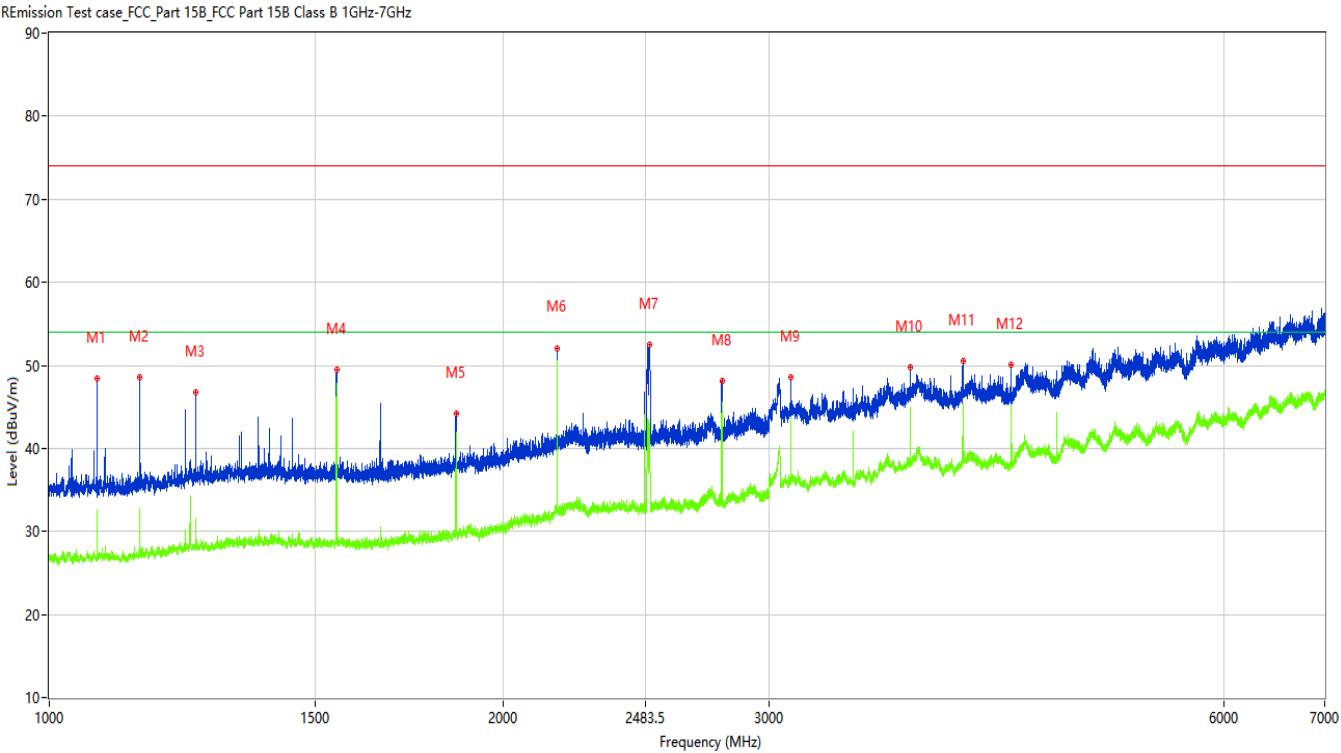
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Radiated Emission-Test Plots	
Operating Frequency	310MHz
Antenna Polarization	Horizontal
Test Frequency Range	1GHz-7GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1075.500	48.46	-16.29	74.0	25.54	Peak	209.50	100	Horizontal	Pass
1**	1075.500	27.13	-16.29	54.0	26.87	AV	209.50	100	Horizontal	Pass
2	1147.750	48.60	-16.43	74.0	25.40	Peak	226.20	100	Horizontal	Pass
2**	1147.750	26.96	-16.43	54.0	27.04	AV	226.20	100	Horizontal	Pass
3	1250.500	46.76	-15.52	74.0	27.24	Peak	226.20	100	Horizontal	Pass
3**	1250.500	28.78	-15.52	54.0	25.22	AV	226.20	100	Horizontal	Pass
4	1550.000	49.40	-15.37	75.32	25.92	Peak	265.80	100	Horizontal	Pass
4**	1550.000	32.92	-15.37	55.32	22.40	AV	265.80	100	Horizontal	Pass
5	1860.000	44.22	-14.57	75.32	31.10	Peak	313.00	100	Horizontal	Pass
5**	1860.000	27.74	-14.57	55.32	27.58	AV	313.00	100	Horizontal	Pass
6	2170.000	52.09	-11.60	75.32	23.23	Peak	322.40	100	Horizontal	Pass
6**	2170.000	35.61	-11.60	55.32	19.71	AV	322.40	100	Horizontal	Pass
7	2500.250	52.42	-10.50	74.0	21.58	Peak	355.20	100	Horizontal	Pass
7**	2500.250	40.08	-10.50	54.0	13.92	AV	355.20	100	Horizontal	Pass
8	2790.000	48.16	-8.58	75.32	27.16	Peak	334.70	100	Horizontal	Pass
8**	2790.000	31.68	-8.58	55.32	23.64	AV	334.70	100	Horizontal	Pass

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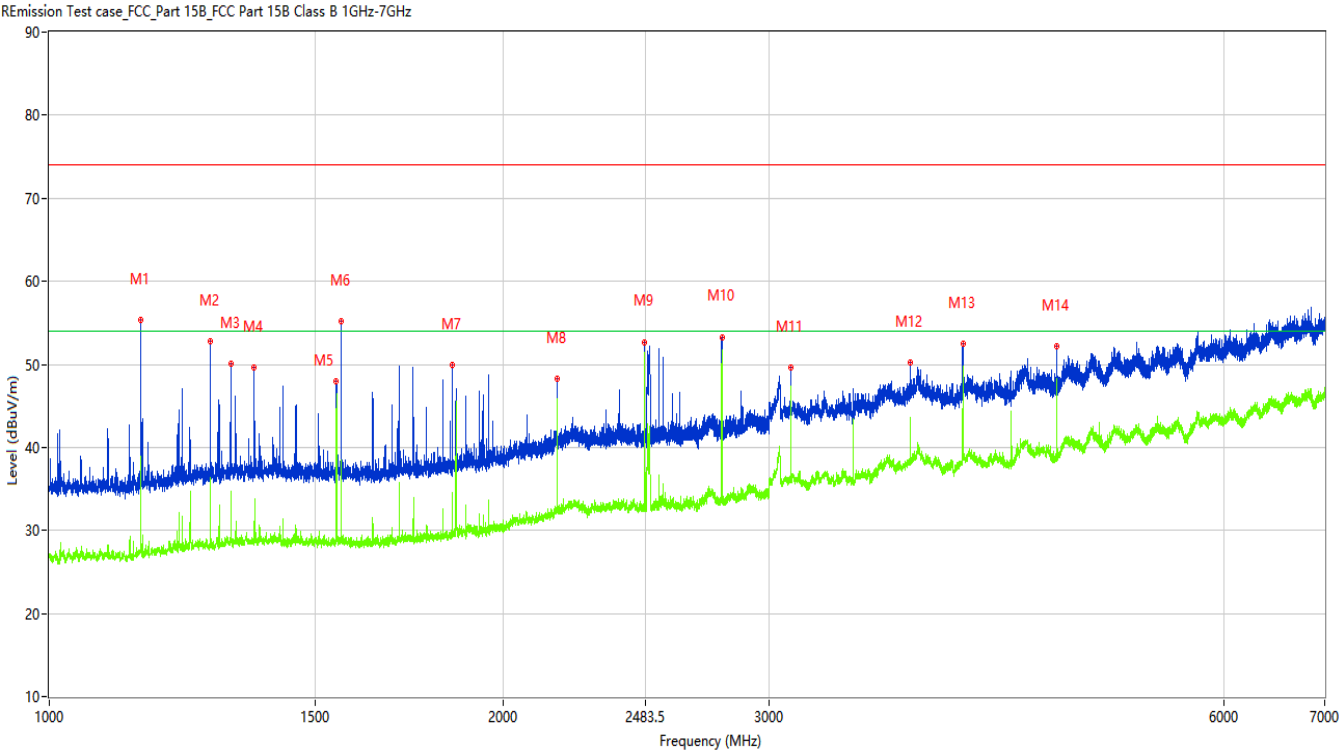
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9	3100.000	48.54	-5.76	75.32	26.78	Peak	131.80	100	Horizontal	Pass
9**	3100.000	32.06	-5.76	55.32	23.26	AV	131.80	100	Horizontal	Pass
10	3720.000	49.79	-2.69	74.0	24.21	Peak	144.90	100	Horizontal	Pass
10**	3720.000	43.22	-2.69	54.0	10.78	AV	144.90	100	Horizontal	Pass
11	4030.000	50.50	-2.02	75.32	24.82	Peak	162.50	100	Horizontal	Pass
11**	4030.000	34.02	-2.02	55.32	21.30	AV	162.50	100	Horizontal	Pass
12	4339.500	50.05	-2.34	75.32	25.27	Peak	136.80	100	Horizontal	Pass
12**	4339.500	33.57	-2.34	55.32	21.75	AV	136.80	100	Horizontal	Pass

Radiated Emission-Test Plots	
Operating Frequency	310MHz
Antenna Polarization	Vertical
Test Frequency Range	1GHz-7GHz



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB/m)	Limit (dBuV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	1149.000	55.28	-16.47	74.0	18.72	Peak	133.40	100	Vertical	Pass
1**	1149.000	27.26	-16.47	54.0	26.74	AV	133.40	100	Vertical	Pass
2	1277.750	52.74	-15.51	74.0	21.26	Peak	210.30	100	Vertical	Pass
2**	1277.750	28.29	-15.51	54.0	25.71	AV	210.30	100	Vertical	Pass
3	1318.750	50.06	-15.36	74.0	23.94	Peak	133.40	100	Vertical	Pass
3**	1318.750	28.61	-15.36	54.0	25.39	AV	133.40	100	Vertical	Pass

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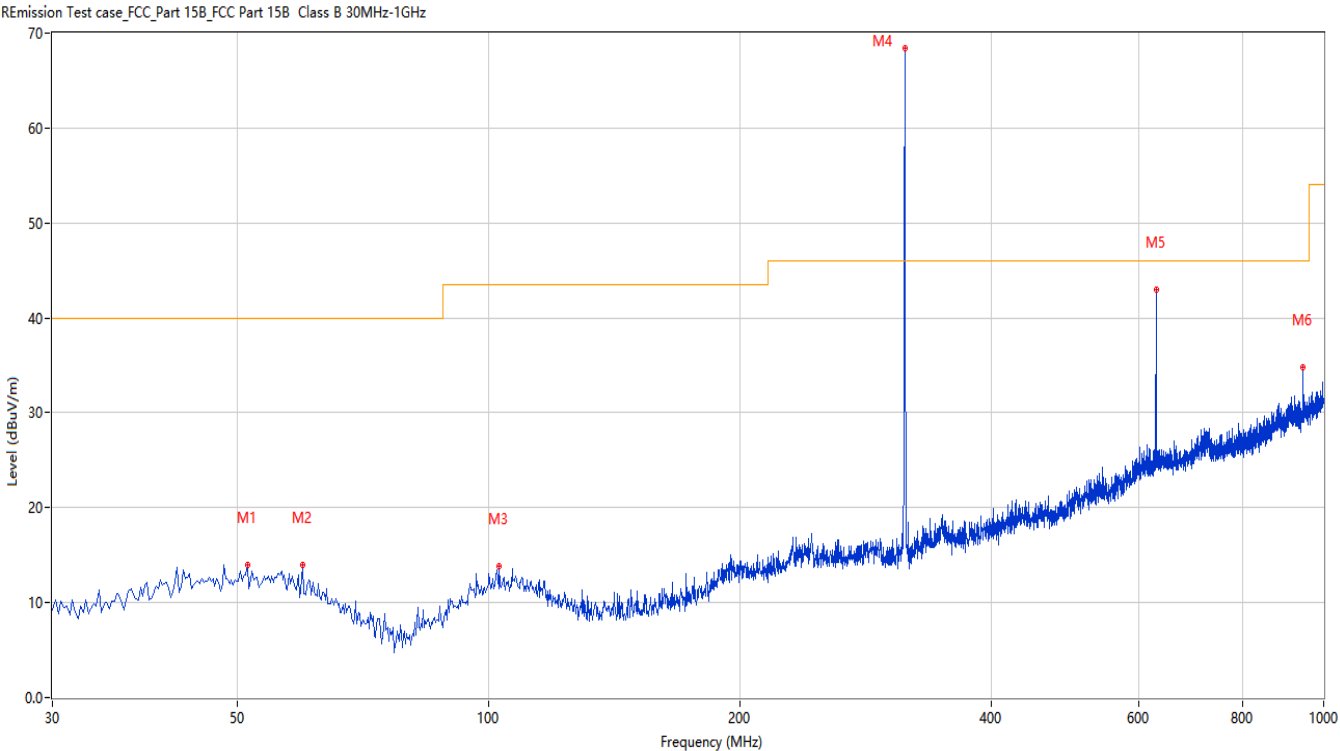
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4	1367.250	49.61	-15.14	74.0	24.39	Peak	356.20	100	Vertical	Pass
4**	1367.250	28.47	-15.14	54.0	25.53	AV	356.20	100	Vertical	Pass
5	1549.750	47.89	-15.37	75.32	27.43	Peak	335.90	100	Vertical	Pass
5**	1549.750	31.41	-15.37	55.32	23.91	AV	335.90	100	Vertical	Pass
6	1561.250	55.17	-15.37	74.0	18.83	Peak	122.00	100	Vertical	Pass
6**	1561.250	28.78	-15.37	54.0	25.22	AV	122.00	100	Vertical	Pass
7	1849.250	49.91	-14.72	74.0	24.09	Peak	212.20	100	Vertical	Pass
7**	1849.250	29.54	-14.72	54.0	24.46	AV	212.20	100	Vertical	Pass
8	2170.000	48.28	-11.60	75.32	27.04	Peak	64.40	100	Vertical	Pass
8**	2170.000	31.80	-11.60	55.32	23.52	AV	64.40	100	Vertical	Pass
9	2480.000	52.71	-10.63	75.32	22.61	Peak	28.60	100	Vertical	Pass
9**	2480.000	36.23	-10.63	55.32	19.09	AV	28.60	100	Vertical	Pass
10	2790.000	53.30	-8.58	75.32	22.02	Peak	36.00	100	Vertical	Pass
10**	2790.000	36.82	-8.58	55.32	18.50	AV	36.00	100	Vertical	Pass
11	3100.000	49.63	-5.76	75.32	25.69	Peak	43.60	100	Vertical	Pass
11**	3100.000	33.15	-5.76	55.32	22.17	AV	43.60	100	Vertical	Pass
12	3720.000	50.21	-2.69	75.32	25.11	Peak	4.80	100	Vertical	Pass
12**	3720.000	33.73	-2.69	55.32	21.59	AV	4.80	100	Vertical	Pass
13	4030.000	52.53	-2.02	75.32	22.79	Peak	59.20	100	Vertical	Pass
13**	4030.000	36.05	-2.02	55.32	19.27	AV	59.20	100	Vertical	Pass
14	4650.000	52.18	-1.51	75.32	23.14	Peak	13.50	100	Vertical	Pass
14**	4650.000	35.70	-1.51	55.32	19.62	AV	13.50	100	Vertical	Pass

TEST REPORT

Radiated Emission-Test Plots	
Operating Frequency	315MHz
Antenna Polarization	Horizontal
Test Frequency Range	30MHz-1GHz



No.	Frequency (MHz)	Results (dBUV/m)	Factor (dB/m)	Limit (dBUV/m)	Margin (dB)	Detector	Table (Degree)	Height (cm)	Antenna	Verdict
1	51.335	14.02	-23.75	40.0	25.98	Peak	257.20	100	Horizontal	Pass
2	59.820	14.03	-24.88	40.0	25.97	Peak	94.10	100	Horizontal	Pass
3	102.974	13.86	-24.98	43.5	29.64	Peak	19.70	100	Horizontal	Pass
4	314.866	68.37	-21.69	95.62	27.25	Peak	287.80	100	Horizontal	Pass
4*	314.866	55.60	-21.69	75.62	20.02	AV	287.80	100	Horizontal	Pass
5	629.795	43.03	-12.85	75.62	32.59	Peak	70.40	100	Horizontal	Pass
5*	629.795	30.26	-12.85	55.62	25.36	AV	70.40	100	Horizontal	Pass
6	944.966	34.77	-7.56	75.62	40.85	Peak	282.40	100	Horizontal	Pass
6*	944.966	22.00	-7.56	55.62	33.62	AV	282.40	100	Horizontal	Pass