

**47 CFR PART 15 SUBPART C TEST REPORT**

**for**

**315MHz TPMS (ASK+FSK)**

**Model No.: SN2-001**

**FCC ID: XVBSN2C01**

**IC: 9368A-SN2C01**

**of**

**Applicant: Standard Motor Products, Inc.**

**Address: 37-18 Northern Boulevard**

**Long Island City, New York 11101, United States**

**Tested and Prepared**

**By**

**Worldwide Testing Services (Taiwan) Co., Ltd.**

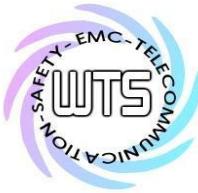
**FCC Registration No.: TW1072, TW1140, TW1146, TW1477, TW0037**

**Industry Canada filed test laboratory Reg. No.: 20037, 31634**



**Report No.: W6M22503-24263-C-1**

6F., No. 58, Ln. 188, Rueiguang Rd., Neihu Dist., Taipei City , Taiwan (R.O.C.)  
TEL: 886-2-66068877      FAX: 886-2-66068879      E-mail: [wts@wts-lab.com](mailto:wts@wts-lab.com)



# Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M22503-24263-C-1

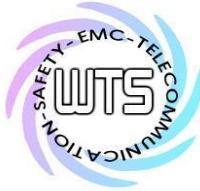
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# Worldwide Testing Services(Taiwan) Co., Ltd.

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## 1 General Information

### 1.1 Notes

The purpose of conformity testing is to increase the probability of adherence to the essential requirements or conformity specifications, as appropriate.

The complexity of the technical specifications, however, means that full and thorough testing is impractical for both technical and economic reasons.

Furthermore, there is no guarantee that a test sample which has passed all the relevant tests conforms to a specification.

Neither is there any guarantee that such a test sample will interwork with other genuinely open systems.

The existence of the tests nevertheless provides the confidence that the test sample possesses the qualities as maintained and that its performance generally conforms to representative cases of communications equipment.

Laboratory disclaimer-

1. The test results of this test report relate exclusively to the item tested as specified in 1.5.
2. The test report may only be reproduced or published in full.
3. Reproduction or publication of extracts from the report requires the prior written approval of the Worldwide Testing Services(Taiwan) Co., Ltd.

### Tester:

May 14, 2025

Kent Lin

---

Date

WTS-Lab.

Name

Signature

### Technical responsibility for area of testing:

May 14, 2025

Kevin Wang

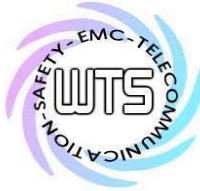
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Date

WTS

Name

Signature



# Worldwide Testing Services(Taiwan) Co., Ltd.

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## **1.2 Testing laboratory**

### **1.2.1 Location**

10m OATS

No.5-1, Lishui, Shuang Sing Village, Wanli Dist.,  
New Taipei City 207, Taiwan (R.O.C.)

3 meter semi-anechoic chamber/Conducted Emission

No. 99, Sec. 1, Balian Rd., Xizhi Dist.,  
New Taipei City 221032, Taiwan (R.O.C.)

Worldwide Testing Services (Taiwan) Co., Ltd.

6F., No. 58, Ln. 188, Ruiguang Rd., Neihu Dist.,  
Taipei City 114 , Taiwan (R.O.C.)

Tel: 886-2-6606-8877

### **1.2.2 Details of accreditation status**

Accredited testing laboratory

FCC filed test laboratory Reg. No.: TW1072, TW1140, TW1146, TW1477, TW0037

Industry Canada filed test laboratory Reg. No.: 20037, 31634

### **Test location, where different from Worldwide Testing Services (Taiwan) Co., Ltd.:**

Name: ./.

Accredited number: ./.

Street: ./.

Town: ./.

Country: ./.

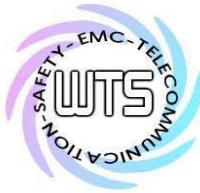
## **1.3 Details of approval holder**

Name: Standard Motor Products, Inc.

Street: 37-18 Northern Boulevard

Town: Long Island City, New York 11101,

Country: United States



# Worldwide Testing Services(Taiwan) Co., Ltd.

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## **1.4 Application details**

Date of receipt of test item: April 11, 2025  
Date of test from April 14, 2025 to April 28, 2025

## **1.5 Test item**

Description of test item: 315MHz TPMS (ASK+FSK)  
Type identification: SN2-001  
Brand name: SMP  
Multi-listing model number: SN2-XXX (for FCC)  
SN2-002, SN2-003, SN2-005 (for IC)  
Transmitting frequency: 315MHz  
Operation mode: Simplex  
Voltage supply: Battery 3Vd.c. (CR2050HR)  
Antenna type: Loop antenna  
Antenna gain: -13dBi  
Sample no.: #01

## **Manufacturer (if applicable)**

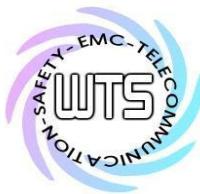
Name: Orange Electronic Co., Ltd  
Street: 5F., No.29, Keya Rd., Daya Dist.,  
Town: Taichung City 428,  
Country: Taiwan

## **1.6 Test standards**

Technical standard: 47 CFR PART 15 SUBPART C § 15.231 (e) (2023-10)

RSS-210 Issue 11 Amendment (2024-06)

ANSI C63.10-2013



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## 2 Technical test

### 2.1 Summary of test results

No deviations from the technical specification(s) were ascertained in the course of the tests performed.

or

The deviations were ascertained in the course of the tests performed.

### 2.2 Test environment

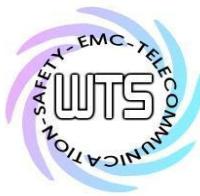
Relative humidity content: 20 ... 75 %

Air pressure: 86 ... 103 kPa

Details of power supply: Battery 3Vd.c. (CR2050HR)

Test item Name	Uncertainty
Estimation Result of Uncertainty of Conducted Emission (Conducted Measurement at (AC) Power Line)	Expanded Uncertainty : AMN : 0.94 dB Voltage probe : 0.96 dB Include Pulse Limiter : 1.5 dB
Estimation Result of Uncertainty of Radiated Emission(3M-966A) (Output Power (Field Strength), Out of Band Radiated Emissions, Transmitter Radiated Emissions in restricted Bands, Spurious Emission radiated)	Expanded Uncertainty : 0.009-30 MHz : 1.88 dB 30-1000 MHz : 3.20 dB 1-18 GHz : 3.56 dB 18-40 GHz : 2.94 dB
Estimation Result of Uncertainty of Bandwidth Measurement (Channel Bandwidth)	Expanded Uncertainty : 0.45 kHz
Estimation Result of Uncertainty of Frequency Drift Measurement (Frequency Tolerance)	Expanded Uncertainty : 6.11 Hz
Estimation Result of Uncertainty of Duty Cycle Measurement (Active Time)	Expanded Uncertainty : 0.1 ms

The decision rule is: Measurement uncertainty is not included in the calculation of test results.



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## **2.3 Test Mode**

This EUT is the portable device. So the EUT was tested on three different axes. Please see assessment test results as section 3 of this test report.



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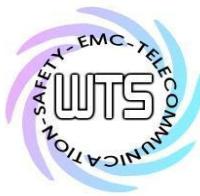
## **2.4 Test equipment utilized**

20DB Bandwidth & Duration time & Duty

Code No.	Test equipment	Mode No.	Serial No.	Brand	Cal. Date	Next Cal. Date
ETSTW-RE 055	SPECTRUM ANALYZER	FSU 26	200074	R&S	2025/3/5	2026/3/4

## Power & Spurious Emission (966A)

Code No.	Test equipment	Mode No.	Serial No.	Brand	Cal. Date	Next Cal. Date
ETSTW-RE 153	Signal Analyzer	FSV40	101929	R&S	2024/9/11	2025/9/10
ETSTW-RE 154	EMI Test Receiver	ESR3	102829	R&S	2025/4/9	2026/4/8
ETSTW-RE 160	Amplifier Module	CHC 3	None	WTS	2024/7/12	2025/7/11
ETSTW-RE 177	TRILOG Broadband Antenna	VULB 9168& EMCI-N-6-06	01380&AT-06007	SCHWARZBECK &EMC	2025/3/10	2026/3/9
ETSTW-RE 178	Double Ridged Guide Horn Antenna	DRH18-E	210505A18ES	RFSPIN	2025/3/7	2026/3/6
ETSTW-Cable 077	SMA type cable (10m)	EMC104-SM -SM-10000	230511	EMCI	2024/7/12	2025/7/11
ETSTW-Cable 084	SMA type cable (1m)	SF104-11SMA-1000	816477/4	HONOVA	2024/7/12	2025/7/11
ETSTW-Cable 089	SMA type cable (2m)	SF104-11SMA-2000	SN 811889/4	HUBER+SUHNER	2024/7/12	2025/7/11
WTSTW-SW 002	EMI TEST SOFTWARE	EZ_EMCA	None	Farad	Version ETS-03A1 Version EMEC-3A1+	



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## **2.5 General Test Procedure**

**POWER LINE CONDUCTED INTERFERENCE:** The procedure used was ANSI STANDARD C63.10-2013 6.2 using a LISN (if necessary). Both lines were observed. The bandwidth of the spectrum analyzer was 10 kHz with an appropriate sweep speed.

**RADIATION INTERFERENCE:** The test procedure used was ANSI STANDARD C63.10-2013 6.3 using a spectrum analyzer. The bandwidth of the spectrum analyzer was 100 kHz with an appropriate sweep speed. The analyzer was calibrated in dB above a microvolt at the output of the antenna. The resolution bandwidth was the 100 kHz and the video bandwidth was 300 kHz.

**FORMULA OF CONVERSION FACTORS:** The Field Strength at 3m was established by adding the meter reading of the spectrum analyzer (which is set to read in units of  $\text{dB}\mu\text{V}$ ) to the antenna correction factor supplied by the antenna manufacturer. The antenna correction factors are stated in terms of dB.

Example:

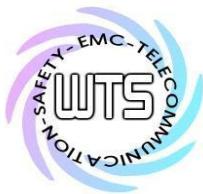
Freq (MHz)	METER READING + ACF + CABLE LOSS (to the receiver) = FS
33	$20 \text{ dB}\mu\text{V} + 10.36 \text{ dB/m} + 6 \text{ dB} = 36.36 \text{ dB}\mu\text{V/m} @3\text{m}$

**ANSI STANDARD C63.10-2013 6.2.2 MEASUREMENT PROCEDURES:** The EUT was placed on a table 80 cm high and with dimensions of 1m by 1.5m (non metallic table). The EUT was placed in the center of the table. The table used for radiated measurements is capable of continuous rotation. The spectrum was scanned from 30 MHz to 10<sup>th</sup> harmonic of the fundamental.

Peak readings were taken in three (3) orthogonal planes and the highest readings.

When an emission was found, the table was rotated to produce the maximum signal strength. At this point, the antenna was raised and lowered from 1m to 4m. The antenna was placed in both the horizontal and vertical planes.

**ANSI STANDARD C63.10-2009 B.2.7:** Any measurements that utilize special test software shall be indicated and referenced in the test report. During testing, test software 'EZ EMC' was used for setting up different operation modes.



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## 3 Test results (enclosure)

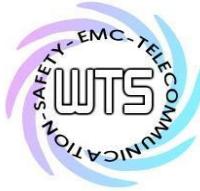
1st test

test after modification

production test

TEST CASE	Para. Number	Required	Test passed	Test failed
Transmission Requirements	15.231(e) RSS-210 Annex A A.1.1 & A.1.4	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Radiated Emission	15.231(e) RSS-210 E.1.8	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Bandwidth of Emission	15.231(c) RSS-210 Annex A A.1.3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Frequency Tolerance	15.231(d)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Period Alternate Field Strength Requirements	15.231(e) RSS-210 Annex A A.1.4 Table A2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Antenna Requirement	15.203 RSS-Gen	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Occupied Bandwidth	RSS-210 G.2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Conducted Measurement at (AC) Power Line	15.207 RSS-Gen 8.8	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

The following is intentionally left blank.



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## **3.1 Transmission Requirements**

FCC 15.231(e)

### **3.1.1 Limit of Transmission Time**

Devices operated under the provisions of this paragraph shall be provided with a means for automatically limiting operation so that the duration of each transmission shall not be greater than one second and the silent period between transmissions shall be at least 30 times the duration of the transmission but in no case less than 10 seconds.

### **3.1.2 Results for the duration and silent period measurement**

Test date: April 20, 2025

Temperature: 25.6°C

Humidity: 56.8%

Tester: Sky

#### **ASK**

This manually operated transmitter employs software to control the duration of each transmission and silent period between transmissions. The real measured result for the duration of each transmission is \_\_\_\_\_ ms, and the result for silent period between transmissions is \_\_\_\_\_ second.

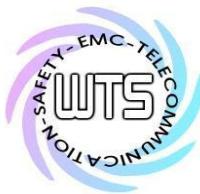
This transmitter is operated by automatic activation, and the duration of each transmission and silent period between transmissions will be controlled by software. The real measured result for the duration of each transmission is 951.923077ms, and the result for silent period between transmissions is 36.88second.

#### **FSK**

This manually operated transmitter employs software to control the duration of each transmission and silent period between transmissions. The real measured result for the duration of each transmission is \_\_\_\_\_ ms, and the result for silent period between transmissions is \_\_\_\_\_ second.

This transmitter is operated by automatic activation, and the duration of each transmission and silent period between transmissions will be controlled by software. The real measured result for the duration of each transmission is 948.717949ms, and the result for silent period between transmissions is 37.09second.

Explanation: See attached diagrams in appendix.



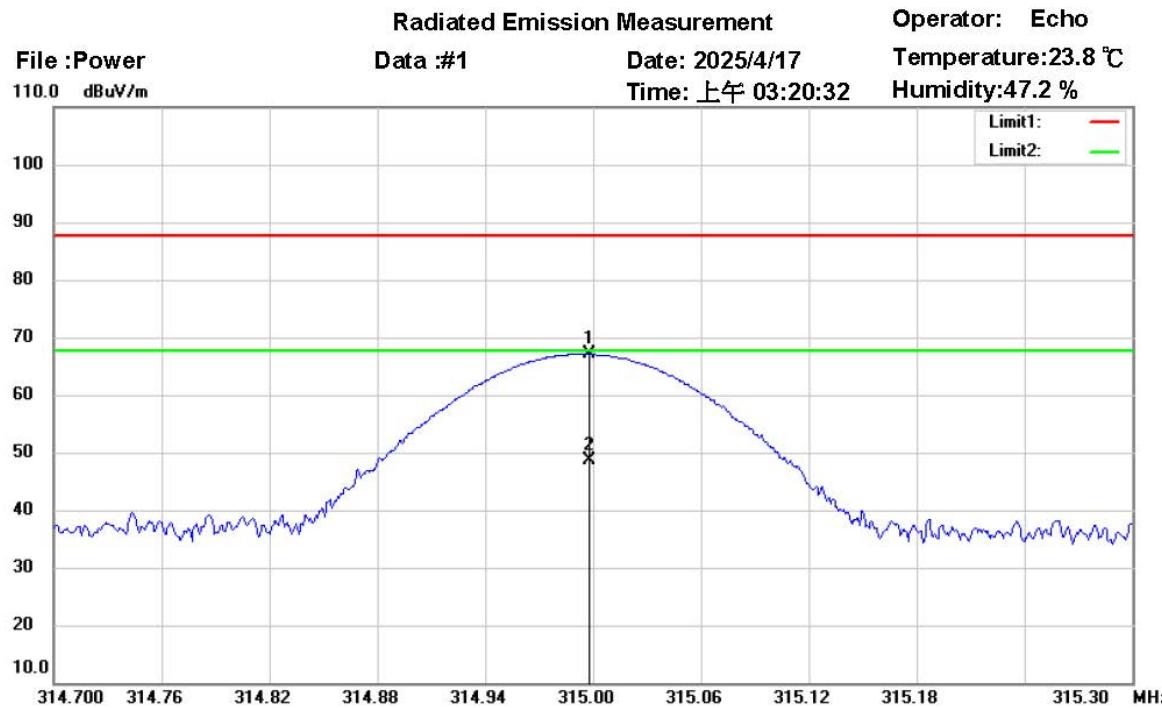
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IC: 9368A-SN2C01

## 3.2 Output Power (Field Strength)

ASK



Site : 966A Chamber

Condition : FCC 15.231(315MHz)Power(PK)<e>

Polarization: *Horizontal*

EUT : W6M22503-24263

Power : 3 Vdc.

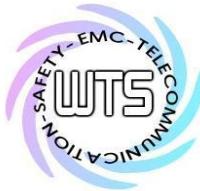
M/N:

Distance: 3m

Test Mode : TX 315MHz

Note :

Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corr. factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
	314.9975	45.39	peak	21.73	67.12	87.66	100	35	-20.54	
*	314.9975	26.87	AVG	21.73	48.60	67.66	100	35	-19.06	

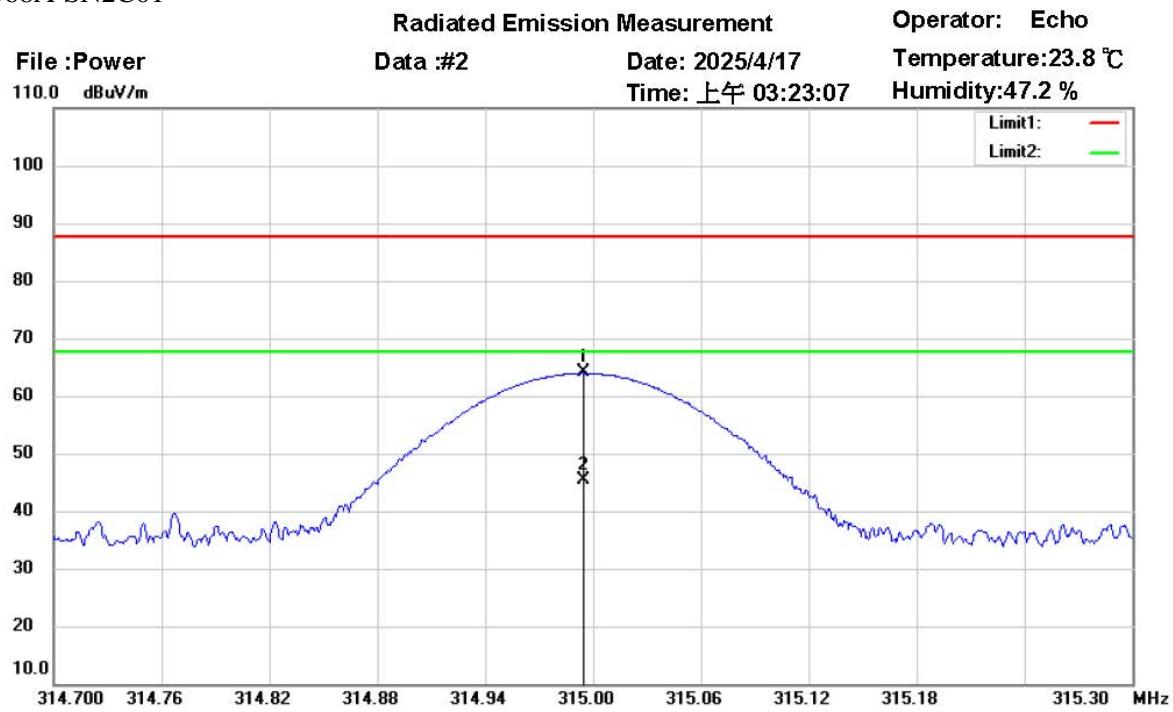


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Site : 966A Chamber

Condition : FCC 15.231(315MHz)Power(PK)<e>

Polarization: *Vertical*

EUT : W6M22503-24263

Power : 3 Vdc.

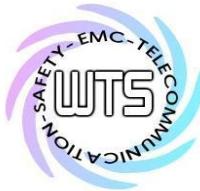
M/N:

Distance: 3m

Test Mode : TX 315MHz

Note :

Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corr. factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
	314.9946	42.28	peak	21.73	64.01	87.66	100	271	-23.65	
*	314.9946	23.76	AVG	21.73	45.49	67.66	100	271	-22.17	



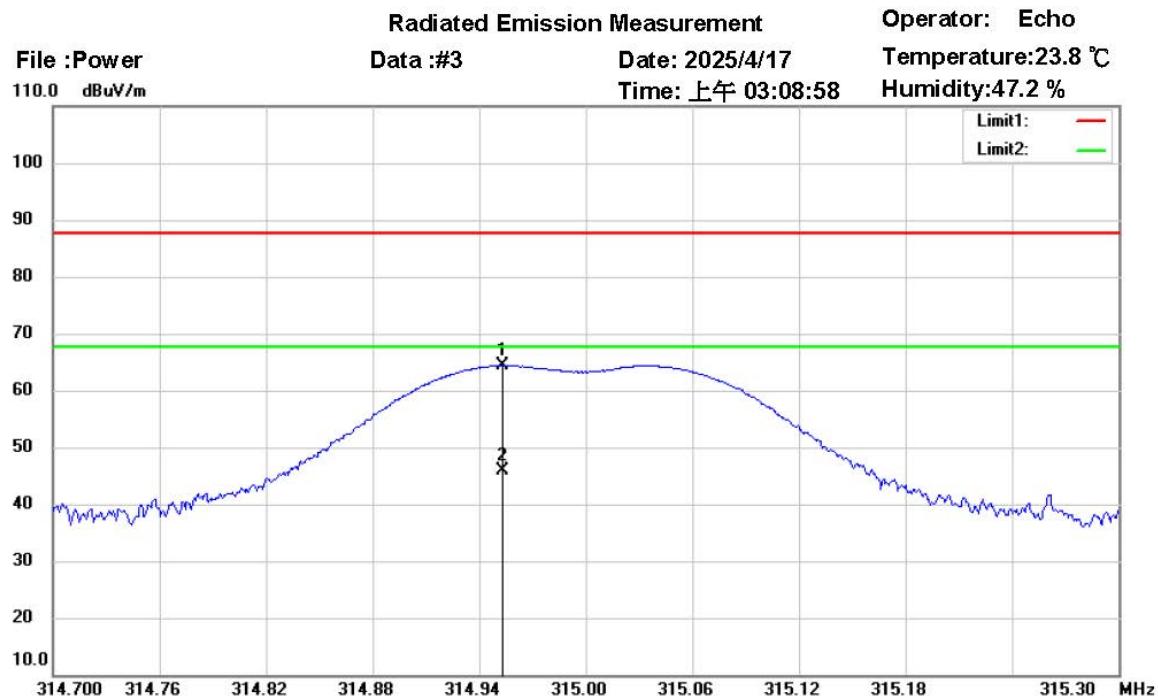
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FSK



Site : 966A Chamber

Condition : FCC 15.231(315MHz)Power(PK)<e>

Polarization: *Horizontal*

EUT : W6M22503-24263

Power : 3 Vd.c.

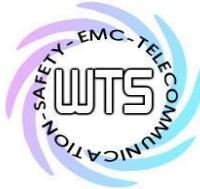
M/N:

Distance: 3m

Test Mode : TX 315MHz

Note :

Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corr. factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
	314.9532	42.65	peak	21.73	64.38	87.66	100	277	-23.28	
*	314.9532	24.25	AVG	21.73	45.98	67.66	100	277	-21.68	

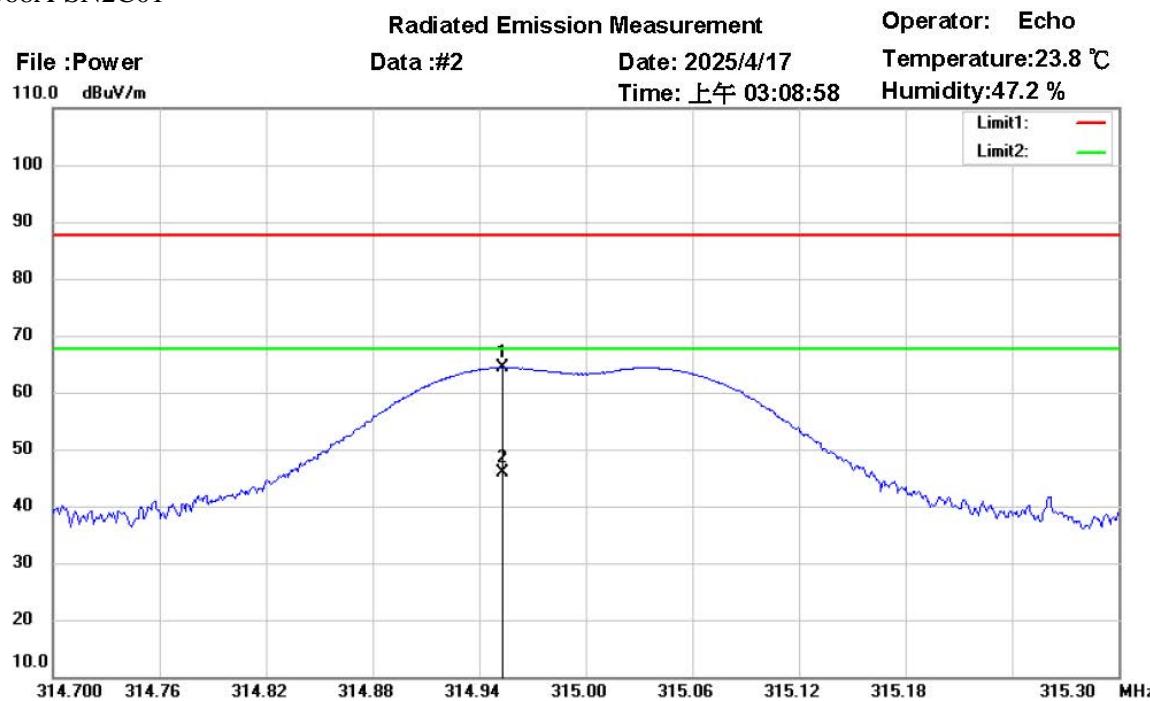


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Site : 966A Chamber

Condition : FCC 15.231(315MHz)Power(PK)<e>

Polarization: **Vertical**

EUT : W6M22503-24263

Power : 3 Vd.c.

M/N:

Distance: 3m

Test Mode : TX 315MHz

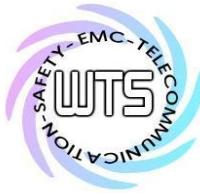
Note :

Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corr. factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Ant.Pos (cm)	Tab.Pos (deg.)	Margin (dB)	Comment
	314.9532	42.65	peak	21.73	64.38	87.66	100	277	-23.28	
*	314.9532	24.25	AVG	21.73	45.98	67.66	100	277	-21.68	

Limit 15.231(e)

Fundamental Frequency (MHz)	Field strength of fundamental, limit $\mu$ V/m
40.66 – 40.70	1,000
70 – 130	500
130 – 174	500 to 1,500
174 – 260	1,500
260 – 470	1,500 to 5,000** (315 MHz: $67.66 \text{ dB}\mu\text{V/m} = 2416.677 \mu\text{V/m}$ ) (433.93 MHz: $72.80 \text{ dB}\mu\text{V/m} = 4399.181 \mu\text{V/m}$ )
Above 470	5,000

\*\* linear interpolation



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### **3.3 Out of Band Radiated Emissions**

FCC Rule: 15.231(e) , 15.35

For out of band emissions that are close to or that exceed the 20 dB attenuation requirement described in the specification, radiated measurements were performed at a 3 m separation distance to determine whether these emissions complied with the general radiated emission requirement.

Guidance on Measurement of pulsed emission: 15.35(c)

“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 value.”

Duty Cycle correction =  $20 \log (\text{dwell time}/100\text{ms or one period})$

Limits:

For frequencies (Average measurements)

Correction factor conform 15.35 (c) (Average measurements)

Duty cycle correction :

Max. Peak reading – duty cycle correction

Max permitted average Limits = Max permitted Fundamental limit – 20 dB

For example for 315 fundamental carrier:

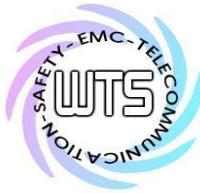
Max permitted average Limit:  $67.66 \text{ dB}\mu\text{V/m} - 20 \text{ dB} = 47.66 \text{ dB}\mu\text{V/m}$

For example for 433.93 fundamental carrier:

Max permitted average Limit:  $72.80 \text{ dB}\mu\text{V/m} - 20 \text{ dB} = 52.80 \text{ dB}\mu\text{V/m}$

For frequencies above 1GHz (Peak measurements).

Modified Limits for peak conform 15.35 (b) = Max Permitted average Limits + 20dB (because Peak detector is used)



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### **3.4 Transmitter Radiated Emissions in restricted Bands**

FCC Rules: 15.231 (e), 15.205, 15.209, 15.35

Radiated emission measurements were performed from 30 MHz to 8000 MHz.

For radiated emission tests, the analyzer setting was as followings:

RES BW VID BW

Frequency <1 GHz 100 kHz 100 kHz (Peak measurements)

Frequency >1 GHz 1 MHz 1 MHz (Peak measurements)

1 MHz 1 MHz (Average measurements)

Limits:

For frequencies below 1GHz :

Frequency of Emission (MHz)	Field strength (microvolts/meter)	Field Strength (dB microvolts/meter)
30 – 88	100	40.0
88 – 216	150	43.5
216 – 960	200	46.0
Above 960	500	54.0

For frequencies above 1GHz (Average measurements).

Guidance on Measurement of pulsed emission:

"If the emission is pulsed, modify the unit for continues operation , use the settings shown above, then correct the reading by subtracting the peak-average correction factor, derived from the appropriate duty cycle calculation.

For frequencies above 1GHz (Average measurements).

The correction factor, based on the channel dwell time in a 100 ms period, may be mathematically applied to a measurement made with an average detector, to further reduce the value.

Duty cycle correction =  $20 \log (\text{dwell time}/100\text{ms})$

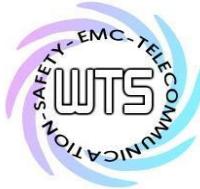
No duty cycle correction was added to the reading

Modified Limits for peak conform 15.35 (b) = Max Permitted average Limits + 20dB (because Peak detector is used)

Above 960 MHz

For mode DSSS CW:  $54 \text{ dB}\mu\text{V/m} + 20 \text{ dB} = 74 \text{ dB}\mu\text{V/m}$

Explanation: See attached diagrams in appendix.



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## 3.5 Spurious Emission radiated, Transmitter

Spurious emission was measured with modulation (declared by manufacturer).

The limits on the field strength of the spurious emission in the table § 15.231(e) are based on the fundamental frequency of the intentional radiator. Spurious emission shall be attenuated to the average (or alternatively, CISPR quasi-peak) limits shown in this table or to the general limits shown in § 15.209, whichever limit permits a higher field strength.

In addition, radiated emission which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a) (see § 15.205(c)).

**SAMPLE CALCULATION OF LIMIT.** All results will be updated by an automatic measuring system in accordance to point 2.3.

Calculation of test results:

Such factors like antenna correction, cable loss, external attenuation etc. are already included in the provided measurement results. This is done by using validated test software and calibrated test system according the accreditation requirements.

The peak and average spurious emission plots was measured with the average limits.

In the Table being listed the critical peak and average value an exhibit the compliance with the above calculated Limits.

Summary table with radiated data of the test plots

Model: SN2-001			Date: --			Temperature: -- °C			Engineer: --	
Mode: --			Humidity: -- %							
Polarization: Horizontal										
Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)		
--	--	--	--	--	--	--	--	--		
--	--	--	--	--	--	--	--	--		

Polarization: Vertical

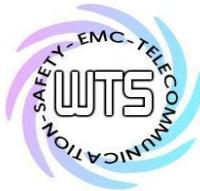
Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--

### Note

1. Correction Factor = Antenna factor + Cable loss - Preamplifier
2. The formula of measured value as: Test Result = Reading + Correction Factor
3. Detector function in the form : PK = Peak, QP = Quasi Peak, AV = Average
4. All not in the table noted test results are more than 20 dB below the relevant limits.
5. See attached diagrams in appendix.

All other not noted test plots do not contain significant test results in relation to the limits

Test results: The unit meet the FCC requirements.



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## **3.6 Channel Bandwidth**

Measurement of Necessary Bandwidth (BN)

Test date: April 11, 2025

Temperature: 26.5°C

Humidity: 56.0%

Tester: Sky

ASK

Used frequency	Bandwidth	Limit
315 MHz	62.019230769 kHz	1.0848 MHz

FSK

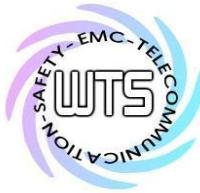
Used frequency	Bandwidth	Limit
315 MHz	128.365384615 kHz	1.0848 MHz

Explanation: The bandwidth fulfills the requirements of FCC § 15.231, see attached diagrams.

Limits:

The bandwidth of the emission shall be no wider than 0.25% of the center frequency for devices operating above 70 MHz and below 900 MHz. For devices operating above 900 MHz, the emission shall be no wider than 0.5% of the center frequency. Bandwidth is determined at the points 20 dB down from the modulated carrier.

Explanation: See attached diagrams in appendix.



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## **3.7 Antenna 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 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 manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. This requirement does not apply to carrier current devices or to devices operated under the provisions of Sections 15.211, 15.213, 15.217, 15.219, or 15.221. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with Section 15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this Part are not exceeded.

Explanation: This Loop antenna is integral antenna which passes antenna requirement.

The equipment meets the requirements	yes <input checked="" type="checkbox"/>	no <input type="checkbox"/>
--------------------------------------	--	--------------------------------

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## Occupied Bandwidth

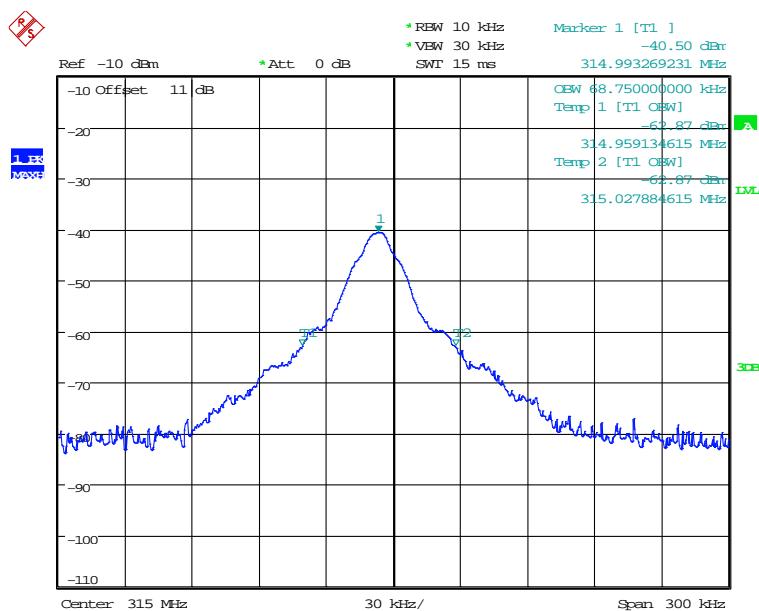
Test date: April 23, 2025

Temperature: 25.7°C

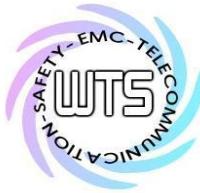
Humidity: 54.0%

Tester: Sky

## ASK



Occupied frequency bandwidth  
 Date: 23.APR.2025 19:08:34



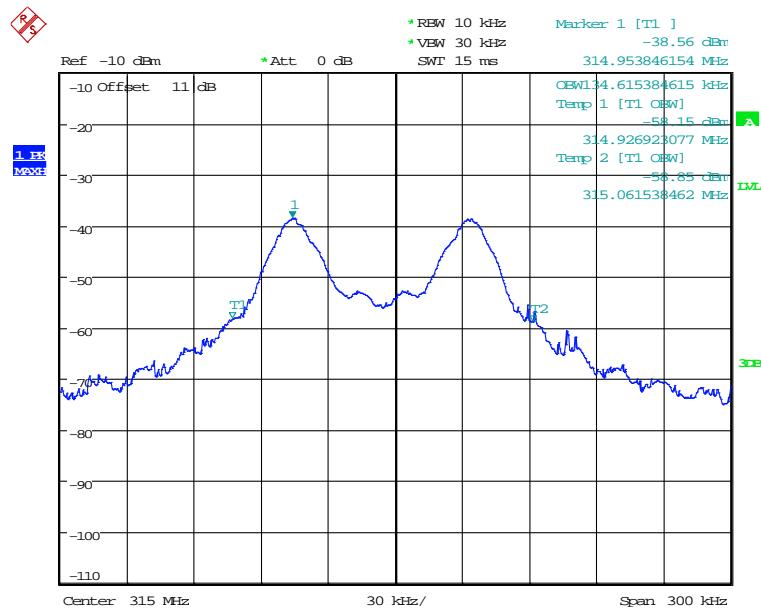
*Worldwide Testing Services(Taiwan) Co., Ltd.*

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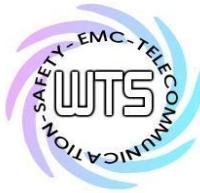
IC: 9368A-SN2C01

FSK



Occupied frequency bandwidth

Date: 23.APR.2025 19:12:58



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FCC ID: XVBSN2C01

IC: 9368A-SN2C01

### **3.8 Duty Cycle**

The correction factor, based on the channel dwell time in a 100ms period, may be mathematically applied to a measurement made with an average detector, to further reduce the measured value.

Average Reading = Peak Reading (dBuV/m) + Duty Cycle Correction

Test date: April 20, 2025

Temperature: 25.6°C

Humidity: 56.8%

Tester: Sky

Duty Cycle Correction =  $20 \log(\text{Cycle})$

In order to determine the Duty Cycle, the EUT is measured as:

ASK

Testing Mode	T period (ms)	T on (ms)	Duty Cycle	Duty Cycle Correction $20 \log(\text{Duty Cycle})$
315MHz	100	11.85897	0.11858974	-18.52

FSK

Testing Mode	T period (ms)	T on (ms)	Duty Cycle	Duty Cycle Correction $20 \log(\text{Duty Cycle})$
315MHz	100	12.01923	0.12019231	-18.40

Explanation: See attached diagrams in appendix.



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### **3.9 Conducted Measurement at (AC) Power Line**

For an intentional radiator which is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the table below with this provision shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminals.

This measurement was transacted first with instrumentation using an average and peak detector and a 10 kHz bandwidth. If the peak detector achieves a calculated level, the measurement is repeated by an instrumentation using a quasi-peak detector.

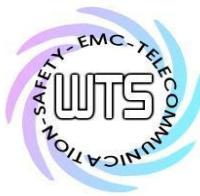
Frequency	Level	
	quasi-peak (dB $\mu$ V/m)	average (dB $\mu$ V/m)
-- kHz	--	--

#### **Note**

1. The formula of measured value as: Test Result = Reading + Correction Factor
2. The Correction Factor = Cable Loss + LISN Insertion Loss + Pulse Limit Loss
3. Detector function in the form : PK = Peak, QP = Quasi Peak, AV = Average
4. All not in the table noted test results are more than 20 dB below the relevant limits.
5. Up Line: QP Limit Line, Down Line: Ave Limit Line.
6. This test is not required because the EUT is battery-used.

#### **Limits:**

Frequency of Emission (MHz)	Conducted Limit (dB $\mu$ V)	
	Quasi Peak	Average
0.15-0.5	66 to 56	56 to 46
	56	46
	60	50



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## Appendix

### **Measurement diagrams**

1. Active Time
2. Bandwidth
3. Spurious Emissions radiated

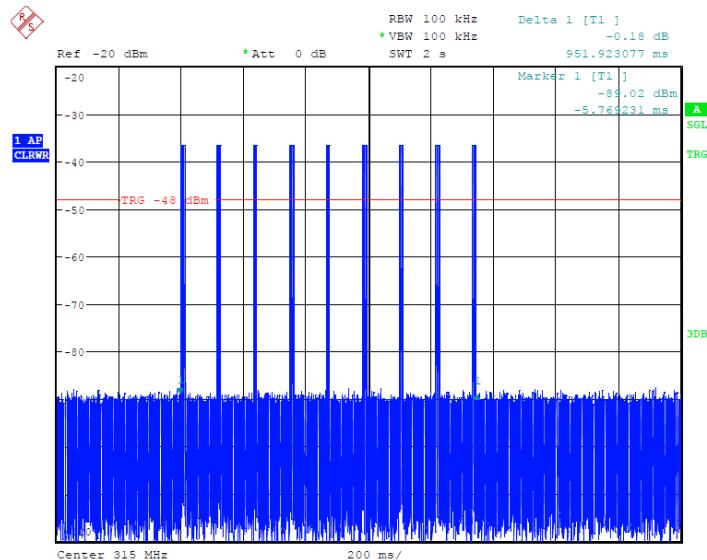
Registration number: W6M22503-24263-C-1

FCC ID: XVBSN2C01

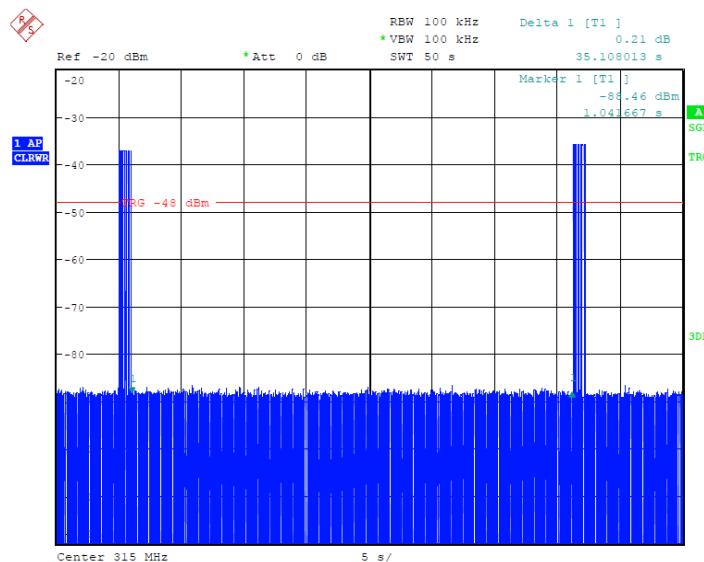
IC: 9368A-SN2C01

Active Time

ASK



Duration T  
 Date: 20.APR.2025 16:23:05



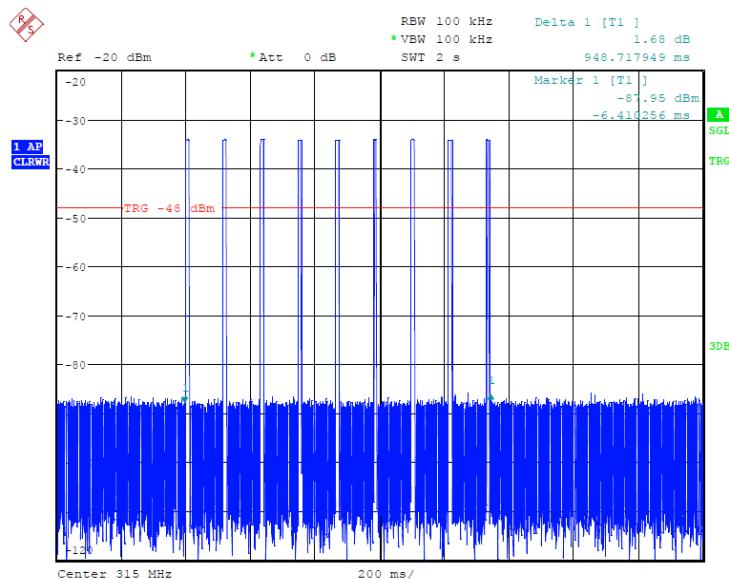
Duration time  
 Date: 20.APR.2025 16:15:32

Registration number: W6M22503-24263-C-1

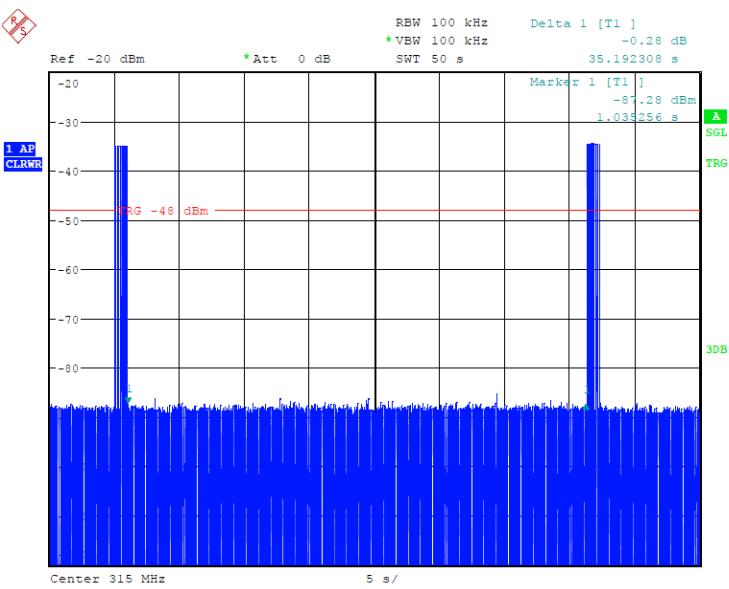
FCC ID: XVBSN2C01

IC: 9368A-SN2C01

FSK



Duration T  
Date: 20.APR.2025 15:36:01



Duration time  
Date: 20.APR.2025 15:33:04

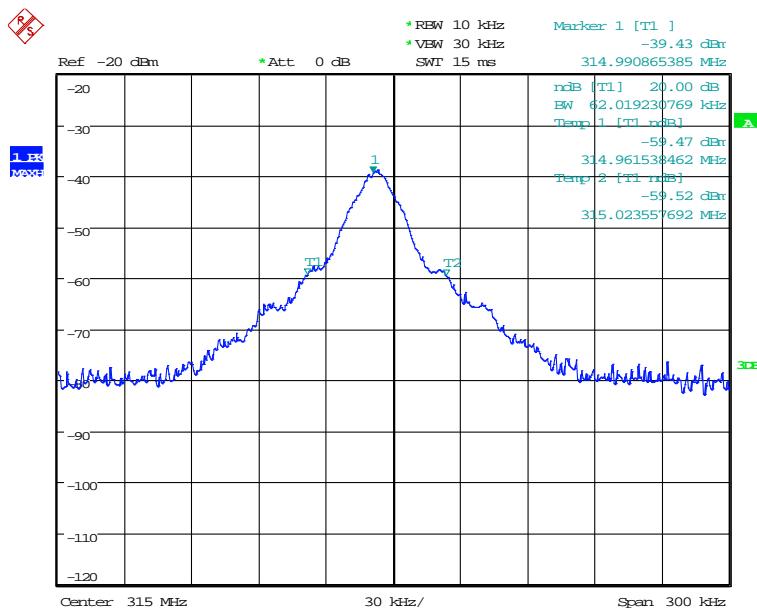
Registration number: W6M22503-24263-C-1

FCC ID: XVBSN2C01

IC: 9368A-SN2C01

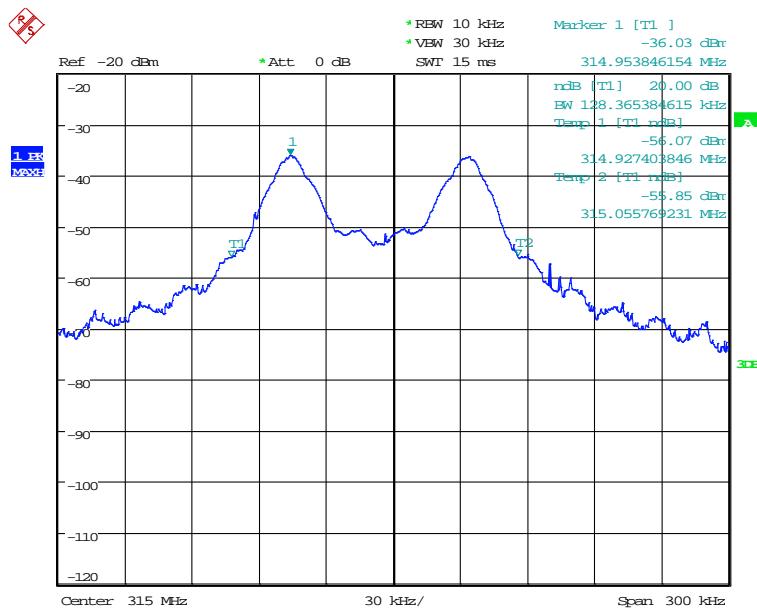
## Bandwidth

### ASK



20 DB BANDWIDTH  
Date: 11.APR.2025 16:06:42

## FSK



20 DB BANDWIDTH  
Date: 11.APR.2025 16:02:58