

Test Report

Report No. : MTi260703023-0408E3
Date of issue : 2026-08-14
Applicant : Shenzhen Zero Zero Infinity Technology Co.,
Ltd.
Product : HOVERAir VERSA
Model(s) : ZZ-H-1-006F

Shenzhen Microtest Co., Ltd.



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Test Result Certification

Applicant	Shenzhen Zero Zero Infinity Technology Co., Ltd.
Applicant Address	4th Floor,Qianhai E-metro Tower,Shenzhen-Hong Kong Cooperation Zone, Shenzhen,China
Manufacturer	Shenzhen Zero Zero Infinity Technology Co., Ltd.
Manufacturer Address	4th Floor,Qianhai E-metro Tower,Shenzhen-Hong Kong Cooperation Zone, Shenzhen,China

Product description

Product name	HOVERAir VERSA
Trademark	HOVERAir
Model name	ZZ-H-1-006F
Series Model(s)	N/A
Standards	Article 2-1, Item 19-2-2; MIC Notice No. 88 Appendix No. 43

Testing Information

Date of test	2026-08-10 to 2026-08-14		
Test result	Pass		
Prepared by:	Letter Lan		
Reviewed by:	David Lee		
Approved by:	Lewis Lian		

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1 General Description

1.1 Description of the EUT

Product name:	HOVERAir VERSA
Model name:	ZZ-H-1-006F
Series Model(s):	N/A
Model difference:	N/A
Electrical rating:	Input: 5V/9V/12V/15V== Max.3A Battery: 7.12VDC 2070mAh
Accessories:	Cable: Type-C to Type-C cable 0.5m
Hardware version:	HP01_MB_V20
Software version:	0.0.28
Test sample(s) number:	MTi260703023-04-R001
RF specification	
Operating frequency range:	2412-2472MHz
Channel number:	13 channels for 20MHz bandwidth; 9 channels for 40MHz bandwidth
Modulation type:	802.11b: DSSS(CCK, DQPSK, DBPSK); 802.11g: OFDM(BPSK, QPSK, 16QAM, 64QAM); 802.11n (HT20 and HT40): OFDM (BPSK, QPSK, 16QAM, 64QAM); 802.11ax(HE20 and HE40): OFDMA (BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM)
Antenna(s) type:	FPC
Antenna(s) gain:	ANT1: -1.2dBi ANT2: 2.6dBi Directional gain: 1.10dBi (Directional gain = $10 \log[(10^{G_1/10} + 10^{G_2/10} + \dots + 10^{G_N/10})/N_{ANT}]$ dBi)

1.2 Description of test modes

No.	Emission test modes
Mode1	unmodulated carrier ANT1
Mode2	802.11b mode ANT1
Mode3	802.11g mode ANT1
Mode4	802.11n(HT20) mode -SISO ANT1
Mode5	802.11n(HT40) mode -SISO ANT1
Mode6	802.11ax(HT20) mode -SISO ANT1
Mode7	802.11ax(HT40) mode -SISO ANT1
Mode8	unmodulated carrier ANT2

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Mode9	802.11b mode ANT2
Mode10	802.11g mode ANT2
Mode11	802.11n(HT20) mode -SISO ANT2
Mode12	802.11n(HT40) mode -SISO ANT2
Mode13	802.11ax(HT20) mode -SISO ANT2
Mode14	802.11ax(HT40) mode -SISO ANT2
Mode15	unmodulated carrier MIMO
Mode16	802.11n(HT20) mode MIMO
Mode17	802.11n(HT40) mode MIMO
Mode18	802.11ax (HT20) mode MIMO
Mode19	802.11ax (HT40) mode MIMO
Mode20	Receiving mode ANT1
Mode21	Receiving mode ANT2
Mode22	Receiving mode MIMO

1.2.1 Operation channel list

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
1	2412	6	2437	11	2462
2	2417	7	2442	12	2467
3	2422	8	2447	13	2472
4	2427	9	2452	/	/
5	2432	10	2457	/	/

Test Channel List Operation Band: 1

Bandwidth (MHz)	Lowest Channel (LCH) (MHz)	Middle Channel (MCH) (MHz)	Highest Channel (HCH) (MHz)
20	2412	2442	2472
40	2422	2442	2462

Note: The test software provided by manufacturer is used to control EUT for working in engineering mode, that enables selectable channel, and capable of continuous transmitting mode.

Test Software: Qualcomm Radio Control Tool

For power setting, refer to below table.

Mode	LCH	MCH	HCH
802.11b/g/n20/n40/ax20/ax40/ANT1+ANT2+MIMO	12	12	12

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1.3 Environmental Conditions

During the measurement the environmental conditions were within the listed ranges:

Temperature:	15°C ~ 35°C
Humidity:	20% RH ~ 75% RH
Atmospheric pressure:	98 kPa ~ 101 kPa

Test Conditions		Power Supply (V)	Input Voltage to the circuit of RF unit (V)
NTNV (V_{normal})	/	7.12	3.3
NTHV ($V_{\text{max.}}$)	+10%	7.83	3.3
NTLV ($V_{\text{min.}}$)	-10%	6.41	3.3

Note: The fluctuation of the power supply voltage at the RF terminal of the product within the limit voltage range is within $\pm 1\%$. Therefore, this report only tests and records the data of the rated voltage.

1.4 Description of support units

Support equipment list

Description	Model	Serial No.	Manufacturer
Laptop	e485	0E20AC5E-BE55-4970-8F1E-152D2E4549B1	Lenovo

Support cable list

Description	Length (m)	From	To
/	/	/	/

1.5 Measurement uncertainty

Parameter	Measurement uncertainty
Frequency tolerance	± 10 ppm
Occupied channel bandwidth	± 3 %
RF output power, conducted	± 1 dB
Power Spectral Density, conducted	± 1 dB
Unwanted Emissions, conducted	± 1 dB
All emissions, radiated	± 4.7 dB
Temperature	± 1 °C
Supply voltages	± 1 %
Time	± 1 %

Note: the measurement uncertainty is calculated and correspond to a factor $k=2$ (which provide confidence levels of 95.45%)

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2 Summary of Test Result

No.	Item	Standard	Requirement	Result
1	Tolerance of Frequency	MIC Notice No. 88 Appendix No. 43	Article 2-1, Item 19-2-2	Pass
2	Occupied Bandwidth (99%)	MIC Notice No. 88 Appendix No. 43	Article 2-1, Item 19-2-2	Pass
3	Antenna Power and Tolerance	MIC Notice No. 88 Appendix No. 43	Article 2-1, Item 19-2-2	Pass
4	Spurious Emission Intensity	MIC Notice No. 88 Appendix No. 43	Article 2-1, Item 19-2-2	Pass
5	Secondary Radiated Emissions	MIC Notice No. 88 Appendix No. 43	Article 2-1, Item 19-2-2	Pass
6	Carrier Sensing Function	MIC Notice No. 88 Appendix No. 43	Article 2-1, Item 19-2-2	Pass
7	Interference Prevention Function	MIC Notice No. 88 Appendix No. 43	Article 2-1, Item 19-2-2	Pass
8	Transmission Antenna Absolute Gain	MIC Notice No. 88 Appendix No. 43	Article 2-1, Item 19-2-2	Pass
9	Half Power Beam Angle (Radiation angle of antenna)	MIC Notice No. 88 Appendix No. 43	Article 2-1, Item 19-2-2	N/A*
10	Spread bandwidth & spreading factor	MIC Notice No. 88 Appendix No. 43	Article 2-1, Item 19-2-2	Pass**

Notes:

N/A means not applicable

*: Transmitter antenna beam width: this requirement does not apply to the EUT when its EIRP is under 12.14dBm/MHz for 20MHz system and 9.13dBm/MHz for 40MHz system.

**: spreading factor is applicable for 802.11b only.

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3 Test Facilities and accreditations

3.1 Test laboratory

Test laboratory:	Shenzhen Microtest Co., Ltd.
Test site location:	101, No.7, Zone 2, Xinxing Industrial Park, Fuhai Avenue, Xinhe Community, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China
Telephone:	(86-755)88850135
Fax:	(86-755)88850136
CNAS Registration No.:	CNAS L5868
FCC Registration No.:	448573
IC Registration No.:	21760
CABID:	CN0093

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4 List of test equipment

No.	Equipment	Manufacturer	Model	Serial No.	Cal. date	Cal. Due	Calibration method
Tolerance of Frequency Occupied Bandwidth (99%) Antenna Power and Tolerance Spurious Emission Intensity Secondary Radiated Emissions							
1	Wideband Radio Communication Tester	Rohde&schwarz	CMW500	149155	2026-03-09	2027-03-08	C
2	ESG Series Analog Ssignal Generator	Agilent	E4421B	GB40051240	2026-03-09	2027-03-08	C
3	PXA Signal Analyzer	Agilent	N9030A	MY51350296	2026-03-10	2027-03-09	C
4	Synthesized Sweeper	Agilent	83752A	3610A01957	2026-03-10	2027-03-09	C
5	MXA Signal Analyzer	Agilent	N9020A	MY50143483	2026-03-09	2027-03-08	C
6	RF Control Unit	Tonscend	JS0806-1	19D8060152	2026-03-11	2027-03-10	C
7	Band Reject Filter Group	Tonscend	JS0806-F	19D8060160	2026-03-11	2027-03-10	C
8	ESG Vector Signal Generator	Agilent	N5182A	MY50143762	2026-03-10	2027-03-09	C
9	DC Power Supply	Agilent	E3632A	MY40027695	2026-03-09	2027-03-08	C
10	RF Test System	Tonscend	JS1120-3 Test System	V3.6.21	/	/	/

Remark:

(a) Calibration conducted by the National institute of information and Communications Technology (NICT) in Japan (hereinafter referred to as "NICT") or a designated calibration agency under Article 102-18 paragraph (1) in JRL.

(b) Correction conducted pursuant to the provisions of Article 135 or Article 144 of the Measurement Act (Act No. 51 of 1992).

(c) Calibration conducted in countries except Japan, which shall be equivalent to the calibration conducted by the NICT or a designated calibration agency under Article 102-18 paragraph (1).

(d) Calibration, etc, conducted by using measuring instruments and other equipment listed in the right column of appended table No. 3, which shall have been given any type of calibration, etc. listed above from (a) to (c)

From JRL Article 24-2, paragraph 4, Item 2

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5 Radio Spectrum Matter Test Results (RF)

5.1 Interference Prevention Function

Test Requirement:	The EUT shall support one of the following functions: - Automatic identification transmission - Automatic identification reception
Test Method:	Notification No.88 of MIC, 2004, Annex 43
Procedure:	(1) For EUTs capable of automatically transmitting identification data a. Transmit identification data from EUT to Demodulator b. Confirm identification data is correctly received by Demodulator (2) For EUTs capable of automatically receiving identification data a. Transmit identification data from Link Partner to EUT b. Confirm communication link is established c. Link Partner shall respond by transmitting different identification data back to the EUT d. Confirm EUT stops transmitting, or confirm EUT recognizes that the two identification data are different

5.1.1 Conclusion:

The detected ID of the device is below: 84:83:19:18:52:4B

Test result: The device meet the requirements
PASS

5.2 Tolerance of Frequency

Test Requirement:	Article 2-1, Item 19-2-2	
Test Limit:	±50ppm or less.	
Test Method:	Notification No.88 of MIC, 2004, Annex 43	
Procedure:	Center frequency:	Test frequency
	Span:	1 MHz
	RBW:	10 kHz (unmodulated)
	VBW:	10 kHz (unmodulated)
	Sweep data points:	1001 or greater
	Sweep time:	Auto
	Detector mode:	Positive peak
	Indication mode:	Max hold
	(1) Find the peak carrier signal and measure its frequency (2) For multiple antenna systems each antenna shall be measured (3) For an EUT with multiple antennas it is permissible to test a single antenna only, provided all the antenna measurement values are expected to be same for either of the following reasons: a) The frequency of all antenna transmissions are phase-synchronized to a common (fundamental) oscillator b) The antenna transmissions share a common clock signal	

5.2.1 E.U.T. Operation:

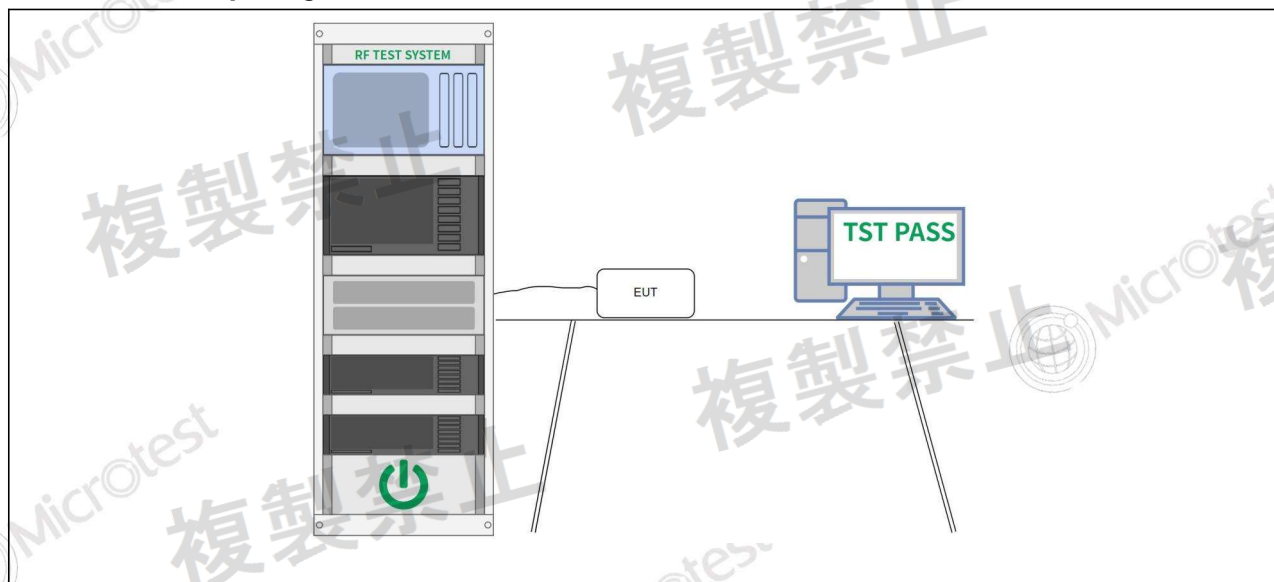
Operating Environment:					
Temperature:	23.5 °C	Humidity:	45.1 %	Atmospheric Pressure:	101 kPa

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Pre test mode:	Mode1, Mode8, Mode15
Final test mode:	Mode1, Mode8, Mode15

5.2.2 Test Setup Diagram:



5.2.3 Test Data:

Please Refer to Appendix for Details.

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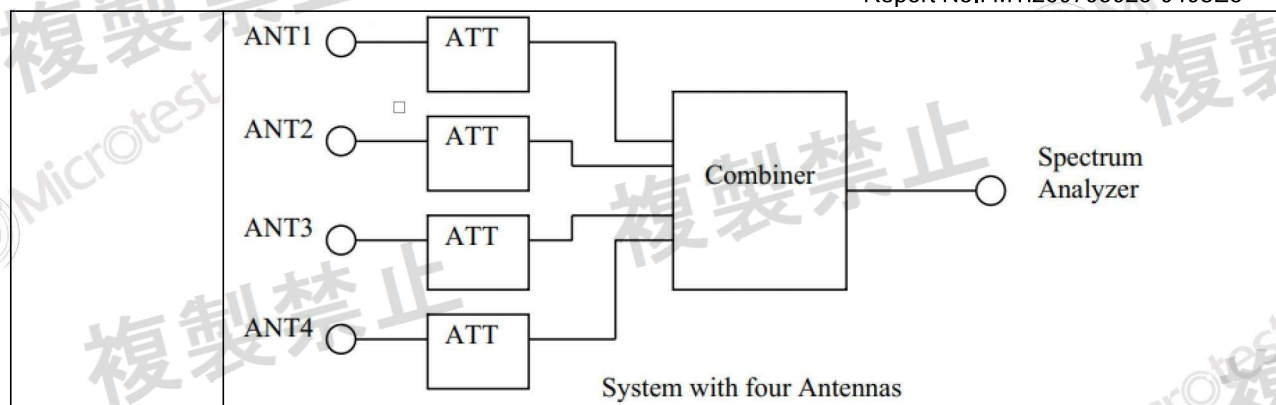
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5.3 Occupied Bandwidth (99%)

Test Requirement:	Article 2-1, Item 19-2-2																		
Test Limit:	For OFDM Modulation: The measured bandwidth at the low and high channels shall meet the following requirements: - The lowest frequency of the measured bandwidth shall not be less than 2400 MHz - The highest frequency of the measured bandwidth shall not be greater than 2483.5 MHz [Occupied Bandwidth] 40 MHz or less For DSSS or other modulation: The measured bandwidth at the low and high channels shall meet the following requirements: - The lowest frequency of the measured bandwidth shall not be less than 2400 MHz - The highest frequency of the measured bandwidth shall not be greater than 2483.5 MHz [Occupied Bandwidth] 26 MHz or less																		
Test Method:	Notification No.88 of MIC, 2004, Annex 43																		
Procedure:	<table border="1"> <tr> <td>Center Frequency:</td><td>Test frequency</td></tr> <tr> <td>Span:</td><td>2 - 3.5 times the technical standard</td></tr> <tr> <td>RBW:</td><td>Within 3% of the technical standard</td></tr> <tr> <td>VBW:</td><td>Same as RBW</td></tr> <tr> <td>Sweep time:</td><td>Auto</td></tr> <tr> <td>Sweep data points:</td><td>1001 or greater</td></tr> <tr> <td>Detector mode:</td><td>Positive peak</td></tr> <tr> <td>Indication mode:</td><td>Max hold</td></tr> <tr> <td>BW setting:</td><td>99%</td></tr> </table> (1) Measure the signal bandwidth using a spectrum analyzer (2) For multiple antenna systems: a) Each antenna shall be individually measured b) If the measured occupied bandwidth for any antenna exceeds [(Occupied Bandwidth Limit) – 100kHz] then, in addition, the occupied bandwidth shall be measured with all antennas combined – see diagram below:	Center Frequency:	Test frequency	Span:	2 - 3.5 times the technical standard	RBW:	Within 3% of the technical standard	VBW:	Same as RBW	Sweep time:	Auto	Sweep data points:	1001 or greater	Detector mode:	Positive peak	Indication mode:	Max hold	BW setting:	99%
Center Frequency:	Test frequency																		
Span:	2 - 3.5 times the technical standard																		
RBW:	Within 3% of the technical standard																		
VBW:	Same as RBW																		
Sweep time:	Auto																		
Sweep data points:	1001 or greater																		
Detector mode:	Positive peak																		
Indication mode:	Max hold																		
BW setting:	99%																		

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5.3.1 E.U.T. Operation:

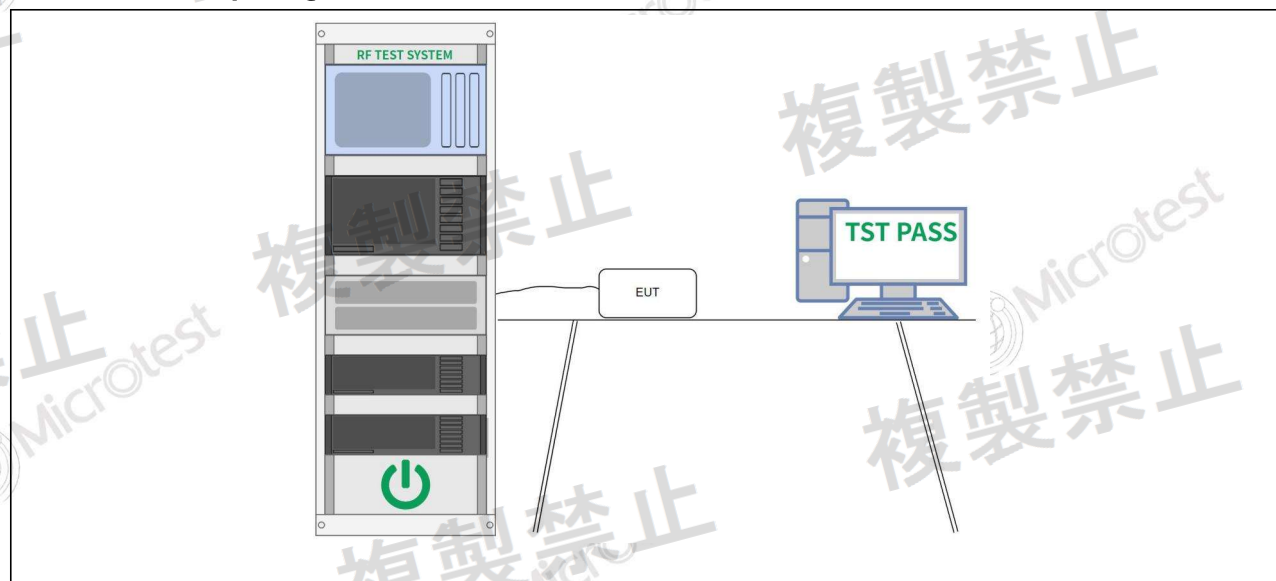
Operating Environment:

Temperature:	23.5 °C	Humidity:	45.1 %	Atmospheric Pressure:	101 kPa
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Pre test mode:	Mode2, Mode3, Mode4, Mode5, Mode6, Mode7, Mode9, Mode10, Mode11, Mode12, Mode13, Mode14
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Final test mode:	Mode2, Mode3, Mode4, Mode5, Mode6, Mode7, Mode9, Mode10, Mode11, Mode12, Mode13, Mode14
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5.3.2 Test Setup Diagram:



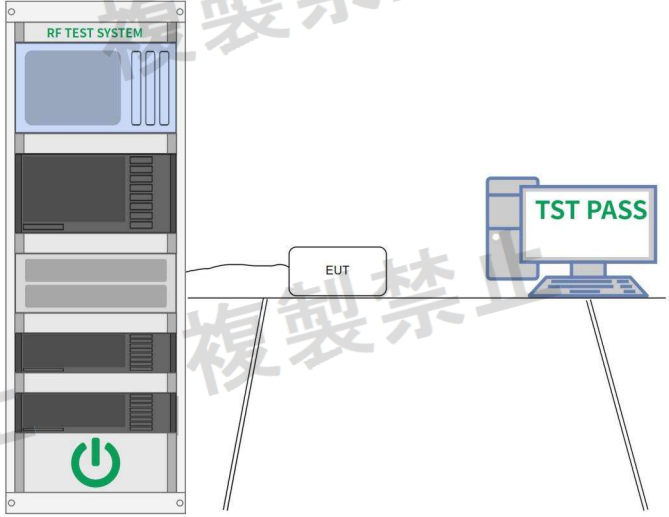
5.3.3 Test Data:

Please Refer to Appendix for Details.

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5.4 Antenna Power and Tolerance

Test Requirement:	Article 2-1, Item 19-2-2
Test Limit:	Antenna Power: $26\text{MHz} < \text{OBW} \leq 40\text{MHz}$: 5 mW/MHz or less Tolerance: +20% ~ -80% EIRP: 9.13dBm/MHz Antenna Power: $\text{OBW} \leq 26\text{MHz}$: 10mW/MHz or less Tolerance: +20% ~ -80% EIRP: 12.14dBm/MHz
Test Method:	Notification No.88 of MIC, 2004, Annex 43
Procedure:	3.Spectrum Analyzer conditions: Setup 1: Settings for search: Frequency: Test Frequency Span $\text{OBW} \times 2$ RBW 1 MHz VBW 1 MHz Sweep Time Auto detector mode Positive peak Indication mode Max hold Setup2: Settings when measuring. Center frequency: seached frequency. Span: 0Hz RBW:1MHz VBW:1MHz Sweep: Enough capture the burst. Detector: RMS Display mode (Trace): Triger approx.
Test Setup:	Spectrum Analyzer is used for measurement 

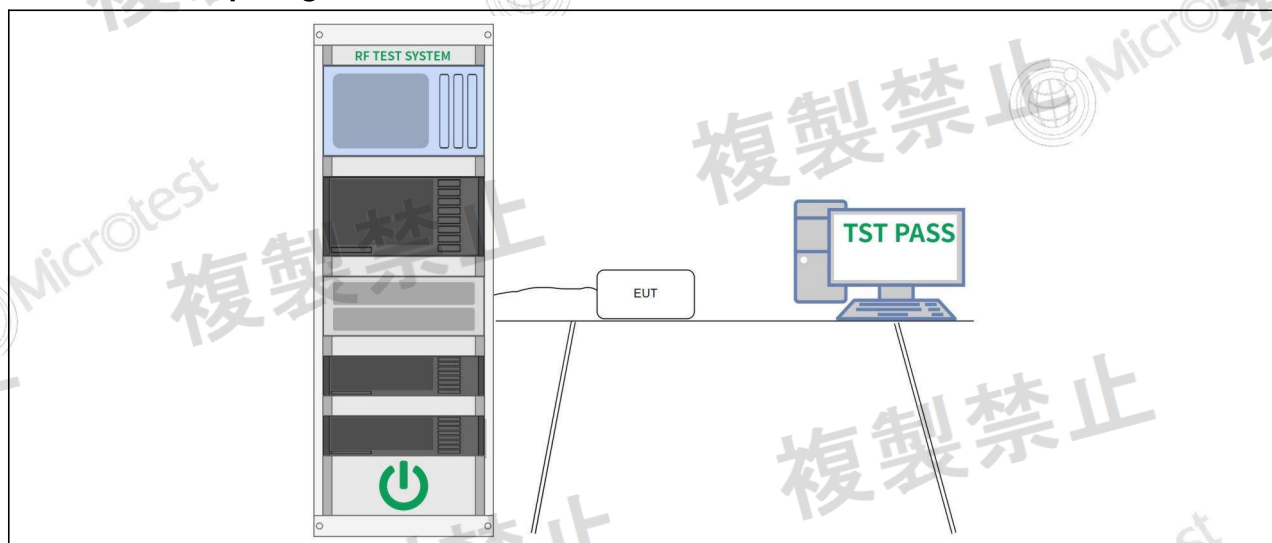
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5.4.1 E.U.T. Operation:

Operating Environment:					
Temperature:	23.5 °C	Humidity:	45.1 %	Atmospheric Pressure:	101 kPa
Pre test mode:	Mode2, Mode3, Mode4, Mode5, Mode6, Mode7, Mode9, Mode10, Mode11, Mode12, Mode13, Mode14, Mode16, Mode17, Mode18, Mode19, Mode20, Mode21, Mode22				
Final test mode:	Mode2, Mode3, Mode4, Mode5, Mode6, Mode7, Mode9, Mode10, Mode11, Mode12, Mode13, Mode14, Mode16, Mode17, Mode18, Mode19, Mode20, Mode21, Mode22				

5.4.2 Test Setup Diagram:



5.4.3 Test Data:

Please Refer to Appendix for Details.

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5.5 Spurious Emission Intensity

Test Requirement:	Article 2-1, Item 19-2-2	
Test Limit:	(1) Below 2387 MHz: 2.5 μ W (-26 dBm)/MHz or less (2) 2387 to 2400 MHz: 25.0 μ W (-16 dBm)/MHz or less (3) 2483.5 to 2496.5 MHz: 25.0 μ W (-16 dBm)/MHz or less (4) Over 2496.5 MHz: 2.5 μ W (-26 dBm)/MHz or less	
Test Method:	Notification No.88 of MIC, 2004, Annex 43	
Procedure:	[Setting 1]	
	Frequency range:	(see Note 1)
	RBW:	1 MHz
	VBW:	1 MHz
	Sweep time:	Minimum time required to make an accurate measurement
	Sweep Data Points:	1001 or greater
	Detector mode:	Positive peak
	Indication mode:	Max hold (see Note 2)
	Note 1:	Measurement range shall be 30 MHz to 12.5 GHz, except for the following cases: -FHSS, FHSS+DSSS, FHSS+OFDM:2374 MHz to 2509.5 MHz -Other than FHSS, FHSS+DSSS, FHSS+OFDM: 2400 MHz to 2483.5 MHz
	Note 2:	Sweep shall be repeated until the max hold waveform is stable.
	[Setting 2]	
	Center frequency:	Frequency of spurious emission found using [Setting 1]
	Span:	0 Hz
	RBW:	1 MHz
	VBW:	1 MHz
	Sweep time:	Minimum time required to make an accurate measurement. For burst type (intermittent) spurious emissions, sweep time shall be greater than one burst interval
	Sweep Data Points:	1001 or greater
	Detector mode:	Sample
	[Setting 3]	
	Frequency range:	2374 MHz to 2400 MHz 2483.5 MHz to 2509.5 MHz
	RBW:	30 kHz
	VBW:	30 kHz
Sweep time:	Minimum time required to make an accurate measurement.	

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Sweep data points:	1001 or greater
Detector mode:	Positive peak
Indication mode:	Max hold

(1) After configuring the spectrum analyzer to [Setting 1], search for spurious emissions from 30 MHz to 12.5 GHz. If the sweep range does not cover the required measurement frequency range then the measurement range will need to be divided into sufficient sections of size [RBW x Sweep Data Points]. If spurious emissions greater than [Limit - 3dB] are found, then more detailed measurements are required, go to step (2)

(2) Configure the spectrum analyzer using [Setting 2] and measure the average signal amplitude.

If the spurious emission is burst type (intermittent), then the average value shall not include signal OFF time.

If spurious emissions ranging from 30 MHz to 2374 MHz and from 2509.5MHz to 12.5GHz are over the limit, then the test result is Fail.

If spurious emissions ranging from 2374 MHz to 2400 MHz and from 2483.5 MHz to 2509.5 MHz are over the limit, then further detailed measurements are required, go to step (3)

(3) In the following cases, measure the spurious emissions using [Setting 3]

- Case1: FHSS, FHSS+DSSS, FHSS+OFDM
- Case2: Other than FHSS, FHSS+DSSS, FHSS+OFDM, and the spurious emissions in step (2) are over the limit

(4) Calculate the spurious emission value (Calculated Value) using following the formula below:

Calculated Value = (Measured Value using (3) + 15.2dB)

Note: 15.2dB adjustment is derived from the Conversion Factor of RBW

Conversion Factor of RBW = 10 x Log (Reference Bandwidth / RBW of measurement) = 15.2 [dB] Where: Reference Bandwidth = 1 MHz

RBW of measurement = 30 kHz

(5) If the calculated value using (4) is over the Limit (section 6.7), go to (6)

(6) Configure the spectrum analyzer to [Setting 3] then make the following changes: Frequency: Frequency of spurious emission

Span: 1 MHz

(7) After sweep, send the span data set to the PC

(8) Convert measured data from dBm to Watts

(9) Sum all the data using the formula below. If the sum is within the limit, the test result is Pass, otherwise, Fail

$$P_s = \left(\sum_{i=1}^n E_i \right) \times \frac{S_w}{RBW \times k \times n}$$

Ps: Sum (Watts)

Ei: Measured value at each point in the Span (Watts) Sw: Span (1MHz)

n: Number of measurement points in the Span

k: Correction factor for Equivalent Noise Bandwidth, specific to each spectrum analyzer, check the instrument user guide

RBW: Resolution Bandwidth (MHz).

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	(10) If the EUT has multiple antennas, measure the spurious emission form each individual antenna using steps (1) through (9)
	(11) Convert the individual antenna spurious level measurements (step (10)) from dB to absolute values
	(12) Combine (sum) the absolute values of the spurious measurements at each frequency for each antenna (to create a single composite spectrum of spurious emissions)
	(13) Ensure that the composite spectrum does not exceed the Limit defined in 6.7 (Technical Standard)
	(14) Configuring the spectrum analyzer using [Setting 3] and measure the spurious emissions with all the antennas electrically combined

5.5.1 E.U.T. Operation:

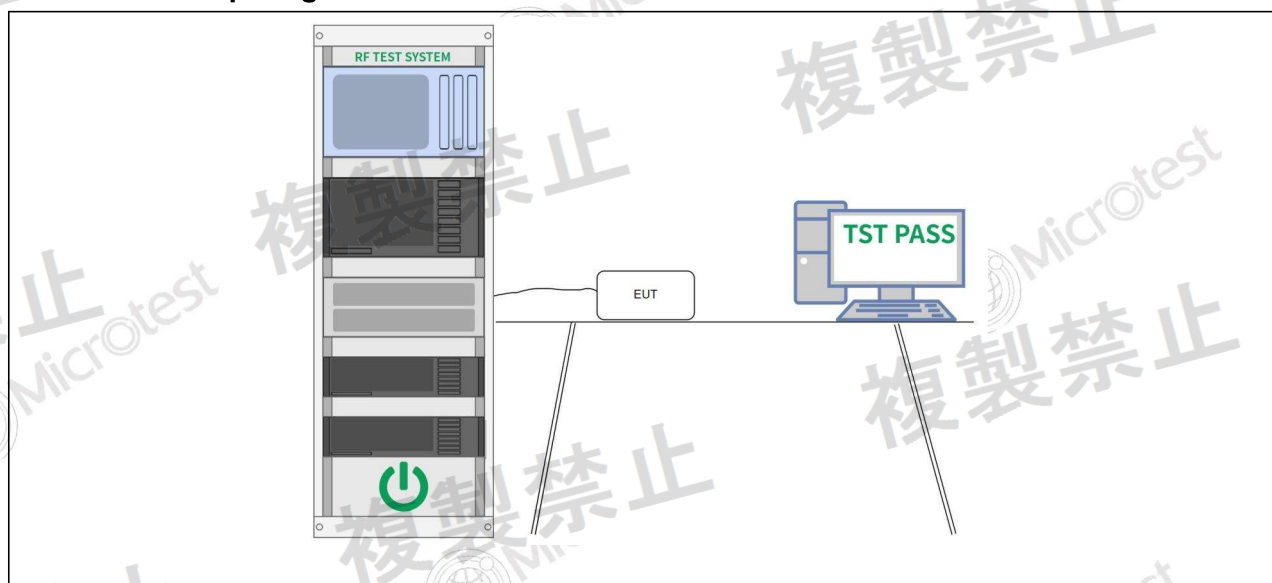
Operating Environment:

Temperature:	23.5 °C	Humidity:	45.1 %	Atmospheric Pressure:	101 kPa
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Pre test mode:	Mode2, Mode3, Mode4, Mode5, Mode6, Mode7, Mode9, Mode10, Mode11, Mode12, Mode13, Mode14, Mode16, Mode17, Mode18, Mode19, Mode20, Mode21, Mode22
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Final test mode:	Mode2, Mode3, Mode4, Mode5, Mode6, Mode7, Mode9, Mode10, Mode11, Mode12, Mode13, Mode14, Mode16, Mode17, Mode18, Mode19, Mode20, Mode21, Mode22
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5.5.2 Test Setup Diagram:



5.5.3 Test Data:

Please Refer to Appendix for Details.

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5.6 Secondary Radiated Emissions

Test Requirement:	Article 2-1, Item 19-2-2	
Test Limit:	(1) Below 1 GHz: 4 nW (-54dBm) or less (2) Above 1 GHz: 20 nW (-47dBm) or less	
Test Method:	Notification No.88 of MIC, 2004, Annex 43	
Procedure:	[Setting 1]	
	Frequency range:	30 MHz ~ 12.5 GHz
	RBW:	Below 1 GHz:100 kHz Above 1 GHz:1 MHz
	VBW:	Below 1 GHz:100 kHz Above 1 GHz:1 MHz
	Sweep time:	Auto
	Sweep data points:	1001 or greater
	Detector mode:	Positive peak
	Indication mode:	Max hold
	[Setting 2]	
	Center Frequency:	Frequency of spurious emission found using [Setting 1]
	Span:	0 Hz
	RBW:	Below 1 GHz:100 kHz Above 1 GHz:1 MHz
	VBW:	Below 1 GHz:100 kHz Above 1 GHz:1 MHz
	Sweep time:	Auto
	Sweep data points:	1001 or greater
	Detector mode:	Sample
(1) Configure the spectrum analyzer to [Setting 1] and then search for spurious emissions in the range 30 MHz to 12.5GHz. If the sweep range does not cover the required measurement frequency range then the measurement range will need to be divided into sufficient sections of size [RBW x Sweep Data Points]. (2) If spurious emissions are found with an amplitude greater than [Limit - 10dB] then perform further detailed measurements as described in (3) (3) Configure the spectrum analyzer using [Setting 2] and measure the average signal amplitude. If the spurious emission is burst type (intermittent), then the average value shall not include signal OFF time Multiple Antenna Systems If the EUT has multiple antennas then emissions from each antenna shall be measured individually, as described below (4) For each antenna repeat steps (1) through (3). Convert all spurious level measurements from dB to absolute value (5) Combine (sum) the absolute values of the spurious measurements at each frequency for each antenna (to create a single composite spectrum of spurious emissions) (6) Ensure that the composite spectrum does not exceed the Limit		

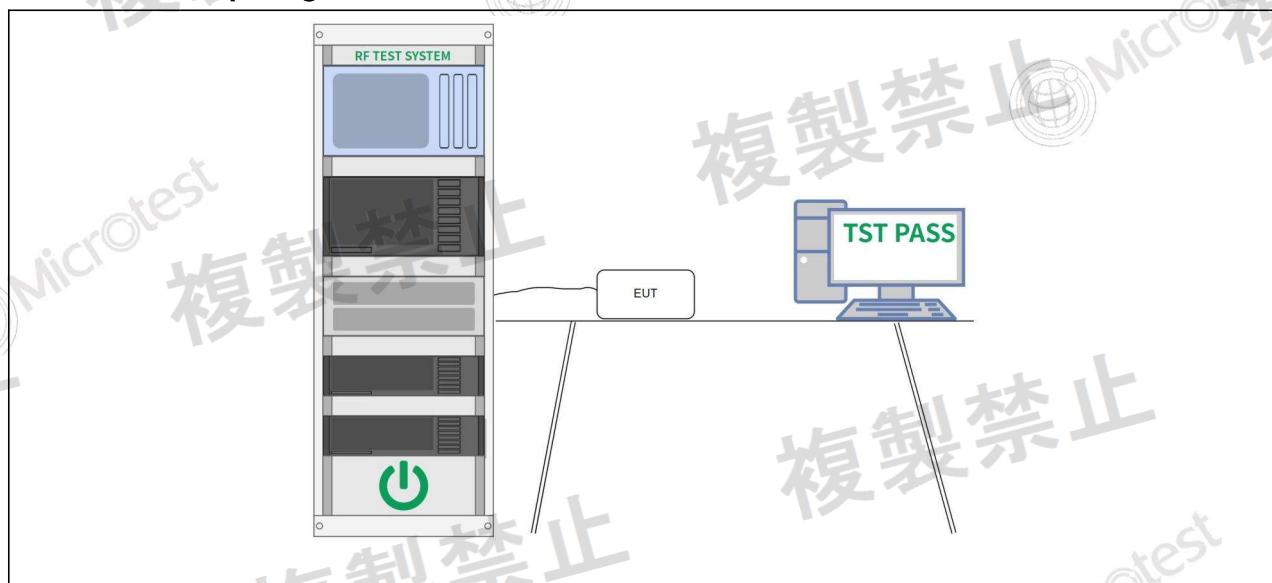
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5.6.1 E.U.T. Operation:

Operating Environment:					
Temperature:	23.5 °C	Humidity:	45.1 %	Atmospheric Pressure:	101 kPa
Pre test mode:	Mode2, Mode3, Mode4, Mode5, Mode6, Mode7, Mode9, Mode10, Mode11, Mode12, Mode13, Mode14, Mode16, Mode17, Mode18, Mode19, Mode20, Mode21, Mode22				
Final test mode:	Mode2, Mode3, Mode4, Mode5, Mode6, Mode7, Mode9, Mode10, Mode11, Mode12, Mode13, Mode14, Mode16, Mode17, Mode18, Mode19, Mode20, Mode21, Mode22				

5.6.2 Test Setup Diagram:



5.6.3 Test Data:

Please Refer to Appendix for Details.

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5.7 Carrier Sensing Function

Test Requirement:	Article 2-1, Item 19-2-2																						
Test Limit:	For outdoor model aircraft remote control devices (non-FHSS systems), it is necessary to check whether the channel has been occupied before sending the device.																						
Test Method:	Notification No.88 of MIC, 2004, Annex 43																						
Procedure:	(1) Standard Signal Generator Set the standard signal generator as follows: <table border="1"> <thead> <tr> <th>Parameter</th><th>Setting</th></tr> </thead> <tbody> <tr> <td>Carrier Frequency</td><td>Center frequency of the receiver operating band of the Equipment Under Test (EUT)</td></tr> <tr> <td>Modulation</td><td>Unmodulated carrier</td></tr> <tr> <td>Output Level</td><td>Operating threshold level specified in the submitted technical documentation, measured at the receiver input terminal of the EUT</td></tr> </tbody> </table> (2) Spectrum Analyzer Set the spectrum analyzer as follows: <table border="1"> <thead> <tr> <th>Parameter</th><th>Setting</th></tr> </thead> <tbody> <tr> <td>Center Frequency</td><td>Center frequency of the operating band</td></tr> <tr> <td>Frequency Span</td><td>50 MHz</td></tr> <tr> <td>Resolution Bandwidth (RBW)</td><td>1 MHz</td></tr> <tr> <td>Video Bandwidth (VBW)</td><td>Approximately equal to the RBW</td></tr> <tr> <td>Trigger Condition</td><td>Free Run</td></tr> <tr> <td>Detector Mode</td><td>Positive Peak</td></tr> </tbody> </table> (3). Measurement Procedure 1. Configure the spectrum analyzer according to Section 6.2.2. 2. Set the output level of the standard signal generator to the operating threshold level specified in the submitted documentation, as measured at the receiver input terminal of the EUT. 3. Place the EUT in the receive mode. 4. Enable RF output from the standard signal generator. 5. Force the EUT into transmit mode and verify with the spectrum analyzer that no radio transmission is emitted. 6. Return the EUT to receive mode. 7. Disable RF output from the standard signal generator. 1. Force the EUT into transmit mode and verify with the spectrum analyzer that radio transmission is emitted. (4) EUT Configuration Set the EUT to the test frequency.	Parameter	Setting	Carrier Frequency	Center frequency of the receiver operating band of the Equipment Under Test (EUT)	Modulation	Unmodulated carrier	Output Level	Operating threshold level specified in the submitted technical documentation, measured at the receiver input terminal of the EUT	Parameter	Setting	Center Frequency	Center frequency of the operating band	Frequency Span	50 MHz	Resolution Bandwidth (RBW)	1 MHz	Video Bandwidth (VBW)	Approximately equal to the RBW	Trigger Condition	Free Run	Detector Mode	Positive Peak
Parameter	Setting																						
Carrier Frequency	Center frequency of the receiver operating band of the Equipment Under Test (EUT)																						
Modulation	Unmodulated carrier																						
Output Level	Operating threshold level specified in the submitted technical documentation, measured at the receiver input terminal of the EUT																						
Parameter	Setting																						
Center Frequency	Center frequency of the operating band																						
Frequency Span	50 MHz																						
Resolution Bandwidth (RBW)	1 MHz																						
Video Bandwidth (VBW)	Approximately equal to the RBW																						
Trigger Condition	Free Run																						
Detector Mode	Positive Peak																						

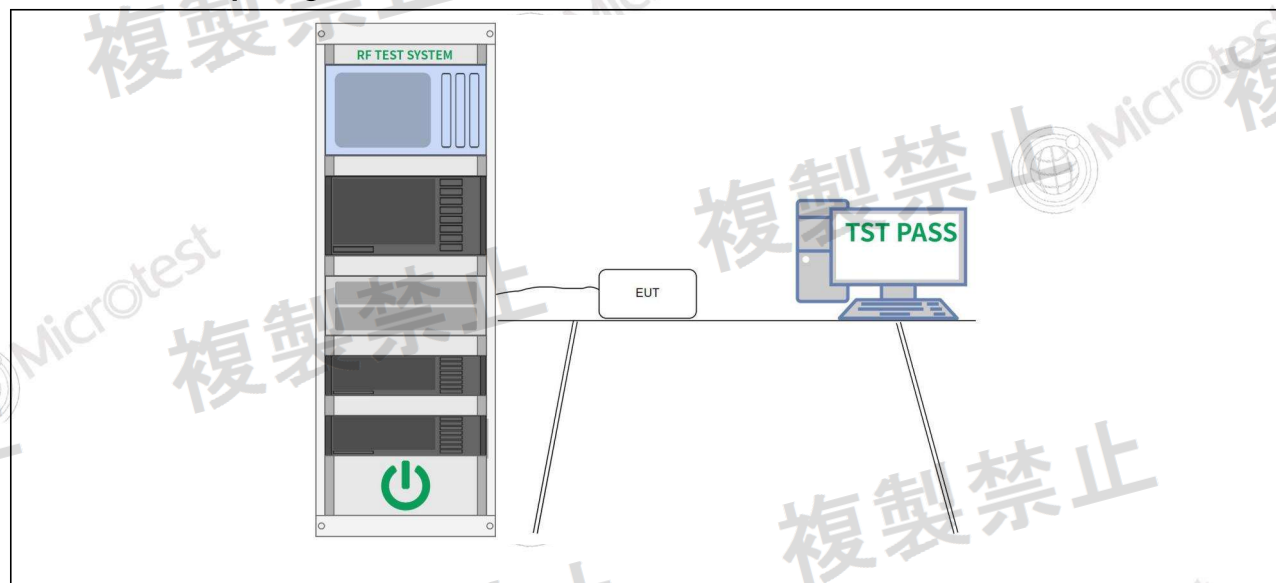
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5.7.1 E.U.T. Operation:

Operating Environment:					
Temperature:	23.5 °C	Humidity:	45.1 %	Atmospheric Pressure:	101 kPa
Pre test mode:	Mode2, Mode3, Mode4, Mode5, Mode6, Mode7, Mode9, Mode10, Mode11, Mode12, Mode13, Mode14, Mode16, Mode17, Mode18,				
Final test mode:	Mode2, Mode3, Mode4, Mode5, Mode6, Mode7, Mode9, Mode10, Mode11, Mode12, Mode13, Mode14, Mode16, Mode17, Mode18,				

5.7.2 Test Setup Diagram:



5.7.3 Test Result:

Test Mode	Test Result
802.11b	PASS
802.11g	PASS
802.11n20	PASS
802.11n40	PASS
802.11ax20	PASS
802.11ax40	PASS

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Photographs of the EUT

Refer to Appendix - EUT Photos

Appendix

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6 Appendix A: Frequency Error

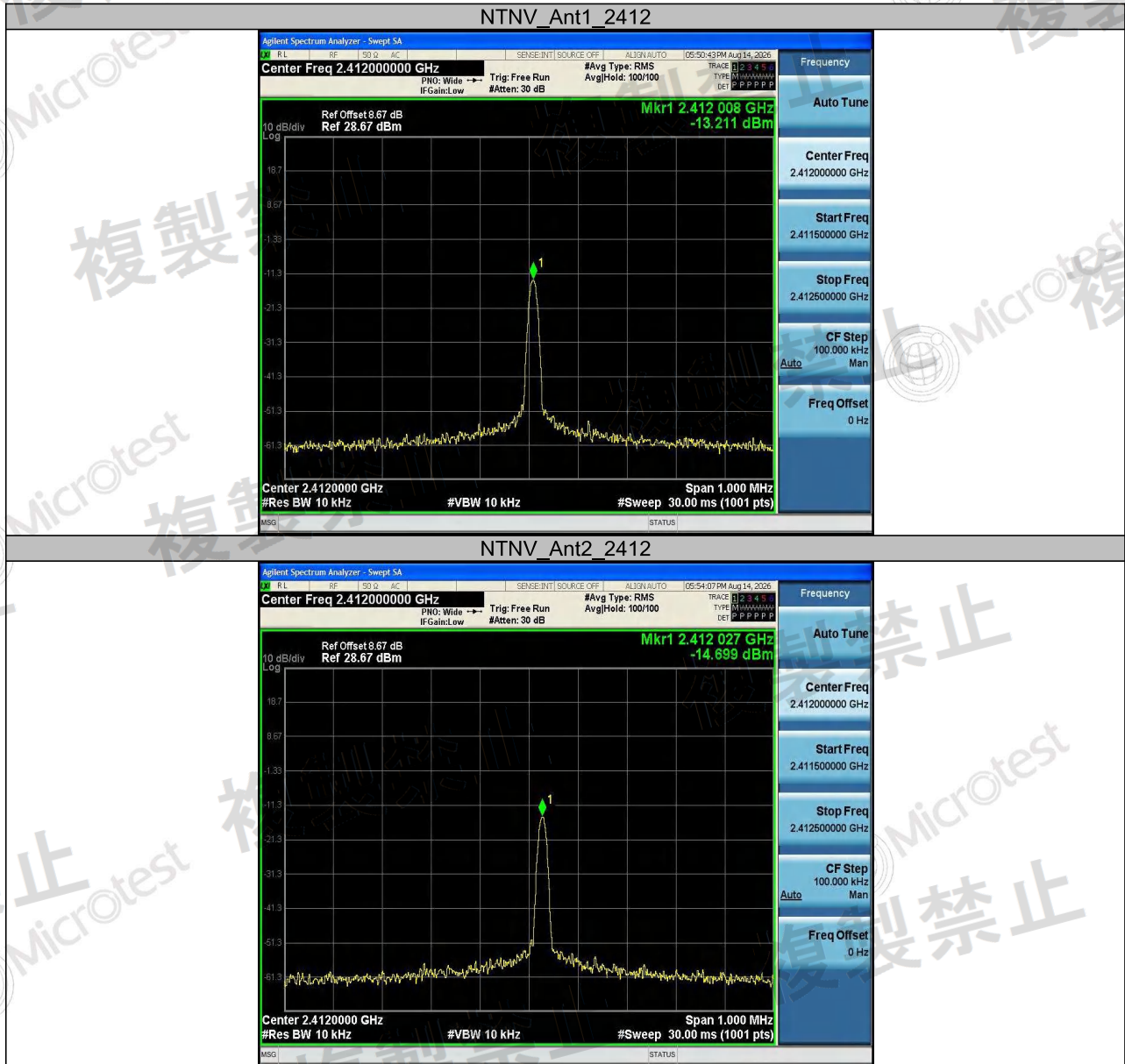
6.1.1 Test Result

TestCondition	TestMode	Antenna	Frequency[MHz]	CenterFreq[MHz]	Result[ppm]	Limit[ppm]	Verdict
NTNV	unmodulated carrier	Ant1	2412	2412.008	3.31675	±50	PASS
		Ant2	2412	2412.027	11.19403	±50	PASS
		Ant1	2442	2442.014	5.73301	±50	PASS
		Ant2	2442	2442.021	8.59951	±50	PASS
		Ant1	2472	2472.018	7.28155	±50	PASS
		Ant2	2472	2472.023	9.30421	±50	PASS
	unmodulated carrier	Ant1	2422	2422.023	9.49628	±50	PASS
		Ant2	2422	2422.019	7.84476	±50	PASS
		Ant1	2442	2442.023	9.41851	±50	PASS
		Ant2	2442	2442.018	7.37101	±50	PASS
		Ant1	2462	2462.026	10.56052	±50	PASS
		Ant2	2462	2462.018	7.31113	±50	PASS

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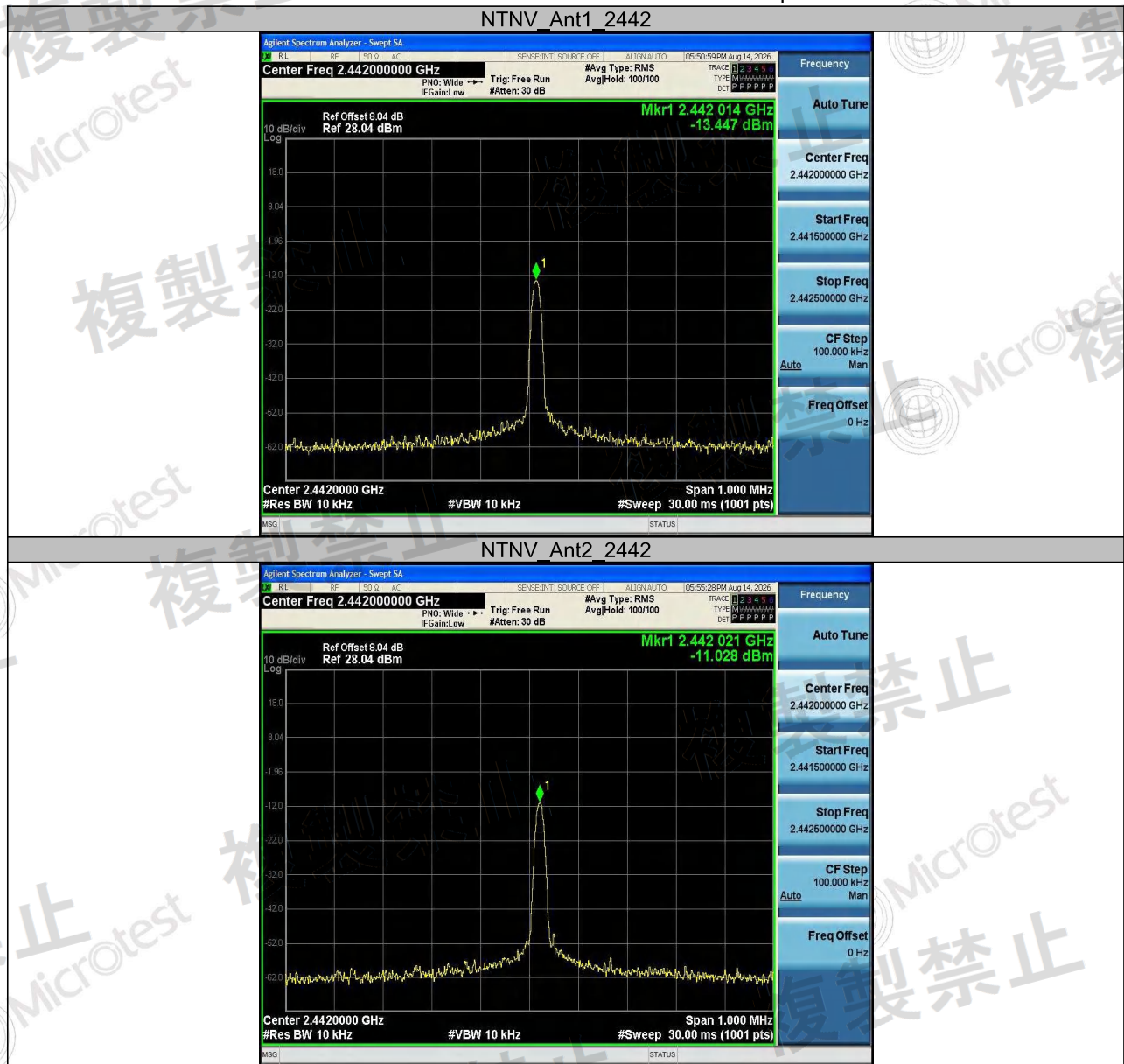
Report No.: MTi260703023-0408E3

6.1.2 Test Graphs



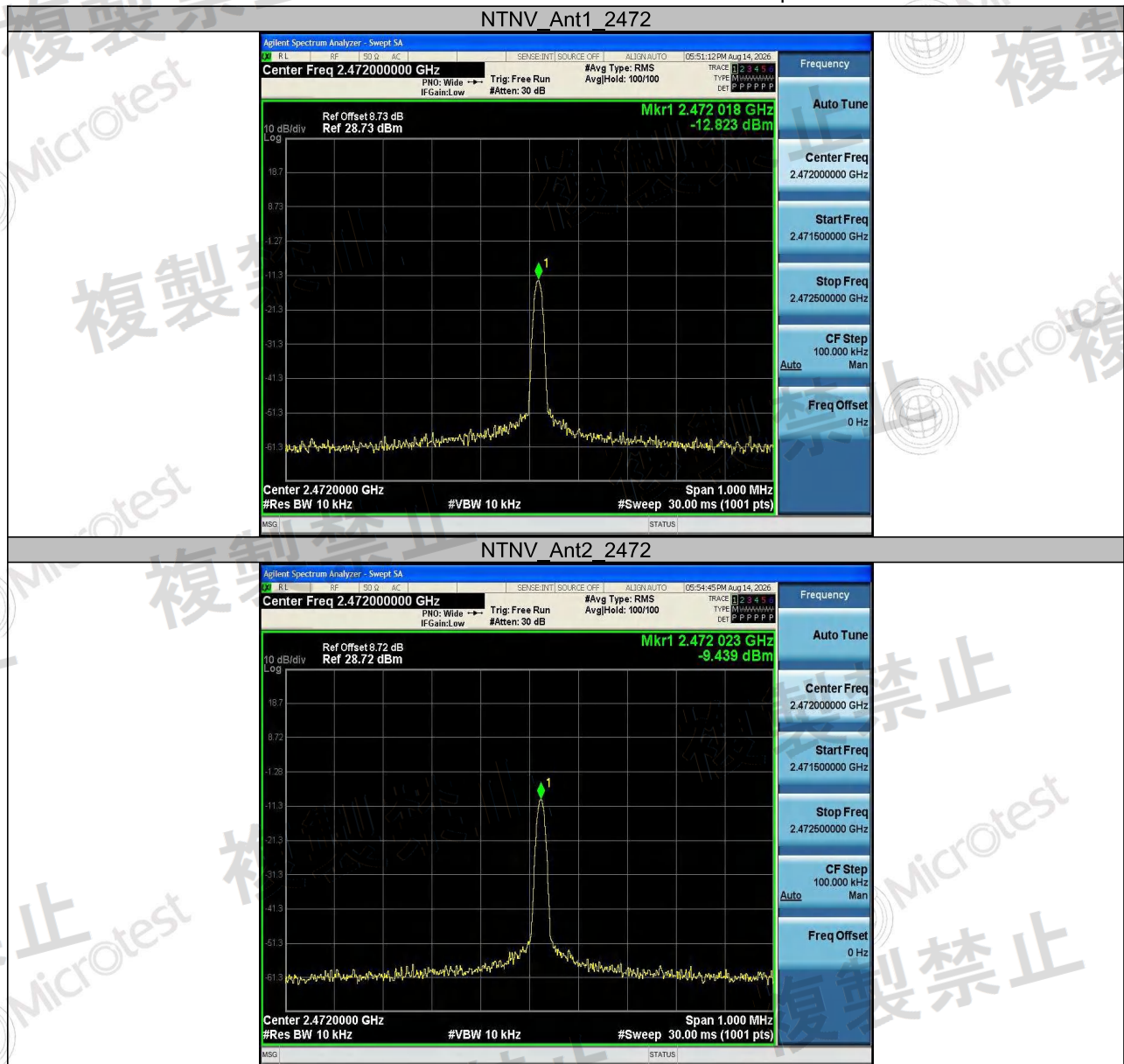
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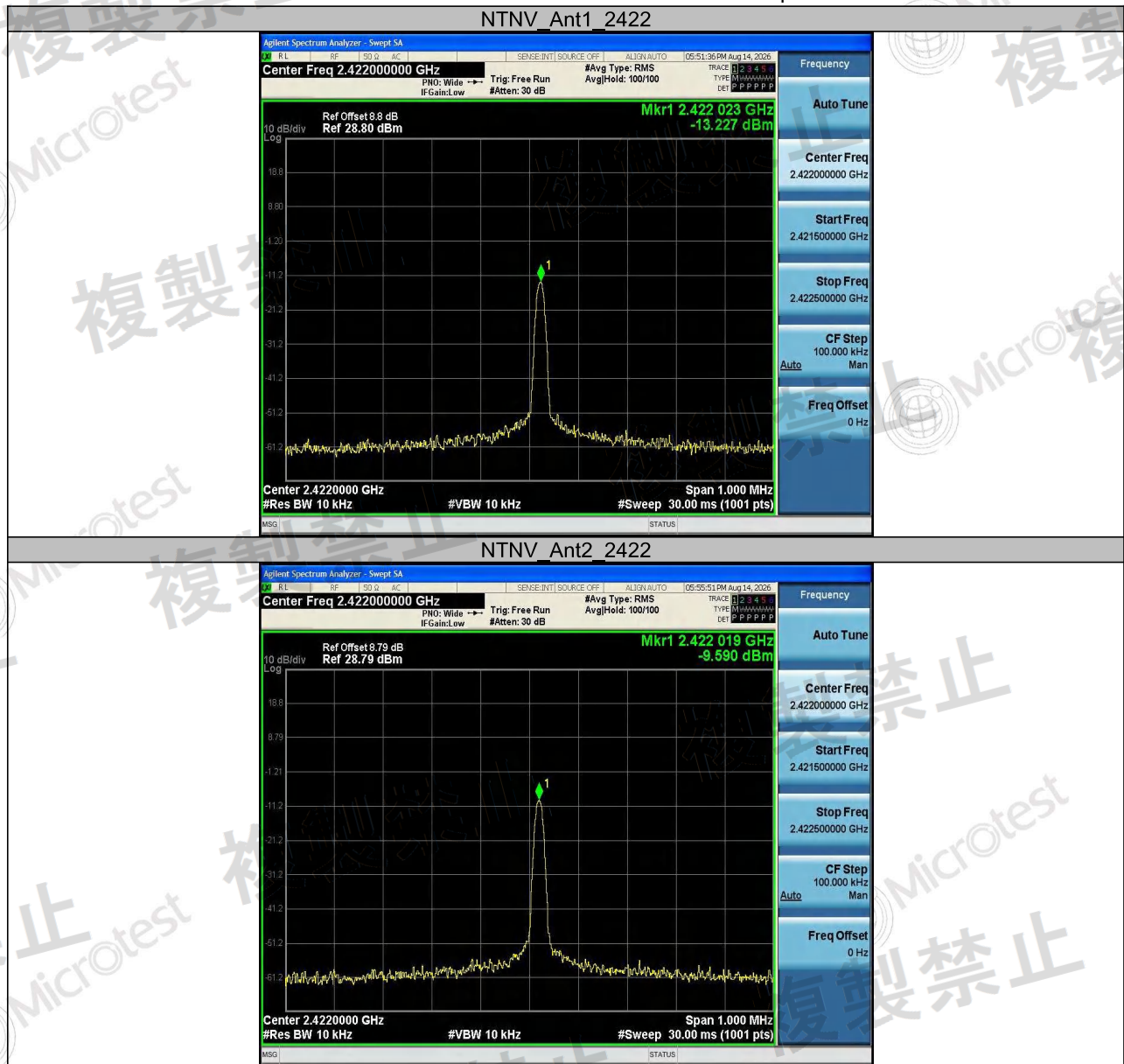
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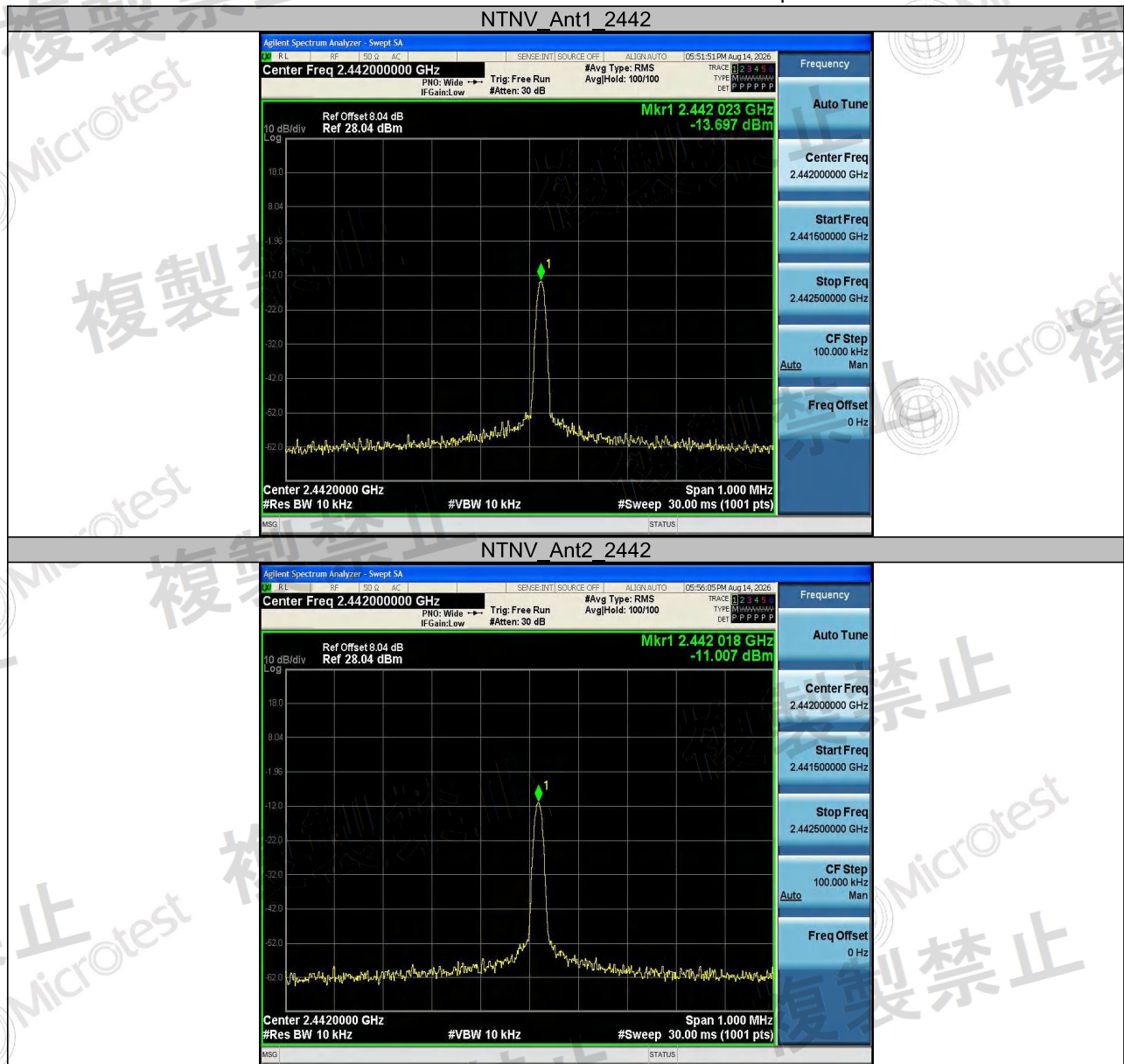
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7 Appendix B: Antenna Power

7.1.1 Test Result

Antenna Power							
Test Condition	Test Mode	Antenna	Frequency[MHz]	Result(dBm/MHz)	Result(mW/MHz)	Limit(mW/MHz)	Verdict
NTNV	11B	Ant1	2412	2.2	1.6596	≤10	PASS
		Ant2	2412	1.73	1.4894	≤10	PASS
		Ant1	2442	1.57	1.4355	≤10	PASS
		Ant2	2442	0.9	1.2303	≤10	PASS
		Ant1	2472	3.43	2.2029	≤10	PASS
		Ant2	2472	2.7	1.8621	≤10	PASS
	11G	Ant1	2412	-4.79	0.3319	≤10	PASS
		Ant2	2412	-1.23	0.7534	≤10	PASS
		Ant1	2442	-1.59	0.6934	≤10	PASS
		Ant2	2442	-1.58	0.6950	≤10	PASS
		Ant1	2472	-0.77	0.8375	≤10	PASS
		Ant2	2472	-0.6	0.8710	≤10	PASS
	11N20SISO	Ant1	2412	-1.43	0.7194	≤10	PASS
		Ant2	2412	-0.76	0.8395	≤10	PASS
		Ant1	2442	-1.49	0.7096	≤10	PASS
		Ant2	2442	-1.09	0.7780	≤10	PASS
		Ant1	2472	-0.51	0.8892	≤10	PASS
		Ant2	2472	-0.76	0.8395	≤10	PASS
	11N40SISO	Ant1	2422	-4.11	0.3882	≤5	PASS
		Ant2	2422	-5.22	0.3006	≤5	PASS
		Ant1	2442	-5.01	0.3155	≤5	PASS
		Ant2	2442	-6.56	0.2208	≤5	PASS
		Ant1	2462	-4.27	0.3741	≤5	PASS
		Ant2	2462	-6.31	0.2339	≤5	PASS
	11AX20SISO	Ant1	2412	-4.52	0.3532	≤10	PASS
		Ant2	2412	-0.97	0.7998	≤10	PASS
		Ant1	2442	-3.81	0.4159	≤10	PASS
		Ant2	2442	-1.04	0.7870	≤10	PASS
		Ant1	2472	-3.47	0.4498	≤10	PASS
		Ant2	2472	-3.81	0.4159	≤10	PASS
	11AX40SISO	Ant1	2422	-7.54	0.1762	≤5	PASS
		Ant2	2422	-3.78	0.4188	≤5	PASS
		Ant1	2442	-7.81	0.1656	≤5	PASS
		Ant2	2442	-6.75	0.2113	≤5	PASS
		Ant1	2462	-4.01	0.3972	≤5	PASS
		Ant2	2462	-5.39	0.2891	≤5	PASS
	11N20MIMO	Ant1	2412	-4.36	0.3664	≤10	PASS
		Ant2	2412	-4.63	0.3443	≤10	PASS
		total	2412	-1.48	0.7108	≤10	PASS
		Ant1	2442	-5.68	0.2704	≤10	PASS
		Ant2	2442	-5.25	0.2985	≤10	PASS
		total	2442	-2.45	0.5689	≤10	PASS
		Ant1	2472	-4.60	0.3467	≤10	PASS
		Ant2	2472	-4.64	0.3436	≤10	PASS
	11N40MIMO	total	2472	-1.61	0.6903	≤10	PASS
		Ant1	2422	-7.63	0.1726	≤5	PASS
		Ant2	2422	-6.56	0.2208	≤5	PASS
		total	2422	-4.05	0.3934	≤5	PASS
		Ant1	2442	-8.17	0.1524	≤5	PASS
		Ant2	2442	-7.91	0.1618	≤5	PASS
		total	2442	-5.03	0.3142	≤5	PASS
		Ant1	2462	-7.62	0.1730	≤5	PASS
		Ant2	2462	-7.79	0.1663	≤5	PASS

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11AX20MIM O	total	2462	-4.69	0.3393	≤5	PASS
	Ant1	2412	-4.48	0.3565	≤10	PASS
	Ant2	2412	-4.82	0.3296	≤10	PASS
	total	2412	-1.64	0.6861	≤10	PASS
	Ant1	2442	-4.97	0.3184	≤10	PASS
	Ant2	2442	-5.05	0.3126	≤10	PASS
	total	2442	-2.00	0.6310	≤10	PASS
	Ant1	2472	-4.80	0.3311	≤10	PASS
	Ant2	2472	-4.75	0.3350	≤10	PASS
	total	2472	-1.76	0.6661	≤10	PASS
	Ant1	2422	-4.50	0.3548	≤5	PASS
	Ant2	2422	-4.18	0.3819	≤5	PASS
	total	2422	-1.33	0.7368	≤5	PASS
	Ant1	2442	-5.00	0.3162	≤5	PASS
	Ant2	2442	-4.76	0.3342	≤5	PASS
	total	2442	-1.87	0.6504	≤5	PASS
11AX40MIM O	Ant1	2462	-4.59	0.3475	≤5	PASS
	Ant2	2462	-4.50	0.3548	≤5	PASS
	total	2462	-1.53	0.7023	≤5	PASS

Tolerance									
Test Condition	Test Mode	Antenna	Frequency[MHz]	Power (mW/MHz)	Rated Power (mW/MHz)	Result (%)	Low Limit [%]	High Limit [%]	Verdict
NTNV	11B	Ant1	2412	1.6596	3	-44.68	≥-80	≤20	PASS
		Ant2	2412	1.4894	3	50.35333333	≥-80	≤20	PASS
		Ant1	2442	1.4355	3	-52.15	≥-80	≤20	PASS
		Ant2	2442	1.2303	3	-58.99	≥-80	≤20	PASS
		Ant1	2472	2.2029	3	-26.57	≥-80	≤20	PASS
		Ant2	2472	1.8621	3	-37.93	≥-80	≤20	PASS
	11G	Ant1	2412	0.3319	1	-66.81	≥-80	≤20	PASS
		Ant2	2412	0.7534	1	-24.66	≥-80	≤20	PASS
		Ant1	2442	0.6934	1	-30.66	≥-80	≤20	PASS
		Ant2	2442	0.695	1	-30.5	≥-80	≤20	PASS
		Ant1	2472	0.8375	1	-16.25	≥-80	≤20	PASS
		Ant2	2472	0.871	1	-12.9	≥-80	≤20	PASS
	11N20SISO	Ant1	2412	0.7194	1	-28.06	≥-80	≤20	PASS
		Ant2	2412	0.8395	1	-16.05	≥-80	≤20	PASS
		Ant1	2442	0.7096	1	-29.04	≥-80	≤20	PASS
		Ant2	2442	0.778	1	-22.2	≥-80	≤20	PASS

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Microtest		Ant1	2472	0.8892	1	-11.08	≥-80	≤20	PASS
		Ant2	2472	0.8395	1	-16.05	≥-80	≤20	PASS
	11N40SISO	Ant1	2422	0.3882	1	-61.18	≥-80	≤20	PASS
		Ant2	2422	0.3006	1	-69.94	≥-80	≤20	PASS
		Ant1	2442	0.3155	1	-68.45	≥-80	≤20	PASS
		Ant2	2442	0.2208	1	-77.92	≥-80	≤20	PASS
		Ant1	2462	0.3741	1	-62.59	≥-80	≤20	PASS
		Ant2	2462	0.2339	1	-76.61	≥-80	≤20	PASS
	11AX20SISO	Ant1	2412	0.3532	1	-64.68	≥-80	≤20	PASS
		Ant2	2412	0.7998	1	-20.02	≥-80	≤20	PASS
		Ant1	2442	0.4159	1	-58.41	≥-80	≤20	PASS
		Ant2	2442	0.787	1	-21.3	≥-80	≤20	PASS
		Ant1	2472	0.4498	1	-55.02	≥-80	≤20	PASS
		Ant2	2472	0.4159	1	-58.41	≥-80	≤20	PASS
	11AX40SISO	Ant1	2422	0.1762	0.5	-64.76	≥-80	≤20	PASS
		Ant2	2422	0.4188	0.5	-16.24	≥-80	≤20	PASS
		Ant1	2442	0.1656	0.5	-66.88	≥-80	≤20	PASS
		Ant2	2442	0.2113	0.5	-57.74	≥-80	≤20	PASS
		Ant1	2462	0.3972	0.5	-20.56	≥-80	≤20	PASS
		Ant2	2462	0.2891	0.5	-42.18	≥-80	≤20	PASS
	11N20MIMO	total	2412	0.7108	1	-28.92	≥-80	≤20	PASS
			2442	0.5689	1	-43.11	≥-80	≤20	PASS
			2472	0.6903	1	-30.97	≥-80	≤20	PASS
	11N40MIMO	total	2422	0.3934	1	-60.66	≥-80	≤20	PASS
			2442	0.3142	1	-68.58	≥-80	≤20	PASS
			2462	0.3393	1	-66.07	≥-80	≤20	PASS
	11AX20MIMO	total	2412	0.6861	1	-31.39	≥-80	≤20	PASS
			2442	0.631	1	-36.9	≥-80	≤20	PASS
2472			0.6661	1	-33.39	≥-80	≤20	PASS	