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Test Report No.: RJ2504WDG0269-2



TEST REPORT

Applicant	Shenzhen Neutop Optoelectronics Co., Ltd.
Address	502, BLDG 4, Pingshan minQi Technology Park, No. 65 Lishan Road, Pingshan Community, Taoyuan Street, Nanshan District, Shenzhen, Guangdong, China

Manufacturer or Supplier	Shenzhen Neutop Optoelectronics Co., Ltd.	
Address	502, BLDG 4, Pingshan minQi Technology Park, No. 65 Lishan Road, Pingshan Community, Taoyuan Street, Nanshan District, Shenzhen, Guangdong, China	
Product	Projector	
Brand Name	Aurzen, Aurzen	
Model	A01M31	
Additional Model & Model Difference	N/A	
Date of tests	Apr. 23, 2025 ~ Apr. 30, 2025	

The tests have been carried out according to the requirements of the following standards:

☒ ARIB STD-T66, Article 2 Section 1 Item 19, MIC Notice No.88 Appendix No.43

CONCLUSION: The submitted sample was found to COMPLY with the test requirement

Prepared by Lucas Chen Project Engineer / EMC Department	Approved by Glyn He Assistant Manager / EMC Department
	Date: May 16, 2025

This report is governed by, and incorporates by reference, the Conditions of Testing as posted at the date of issuance of this report at <http://www.bureauveritas.com/home/about-us/our-business/cps/about-us/terms-conditions/> and is intended for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. This report sets forth our findings solely with respect to the test samples identified herein. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof based upon the information that you provided to us. Measurement uncertainty is only provided upon request for accredited tests. Statements of conformity are based on simple acceptance criteria without taking measurement uncertainty into account, unless otherwise requested in writing. You have 60 days from date of issuance of this report to notify us of any material error or omission caused by our negligence or if you require measurement uncertainty; provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.

Bureau Veritas Shenzhen Co., Ltd.
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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RJ2504WDG0269-2	Original release	May 16, 2025

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1 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications (For BT-LE):

Article 2 Section 1 Item 19 Reference	ARIB STD-T66 Ref.	Report reference	Parameter	Test Results (NOTE)
GENERAL PROVISIONS				
C	3.2 (4)	3.1	Frequency tolerance	C
D	3.2 (7)	3.2	Occupied bandwidth	C
E	3.2 (6)	3.3	Spurious emissions	C
TRANSMITTING EQUIPMENT				
F	3.2(1)	3.4	Antenna power	C
--	--	--	SAR	NA
TRANSMITTING ANTENNA				
--	--	2.5	Type, configuration, etc. of transmitting antenna	C
--	--	2.5	Direction pattern of transmitting antenna	C
RECEIVING EQUIPMENT				
G	3.3 (1)	3.5	Spurious emissions of receiver	C
--	--	2.5	Refer to all articles for transmitting antenna	C
OPERATING FREQUENCY 2400 TO 2483.5MHz				
--	3.7 (1)	3.3	High Frequency/modulation section cannot be opened easily	C
--	3.1 (1)	2.1	Communication method	C
--	3.2 (1)a	2.1	Modulation method	C
--	3.2 (1)a	2.1	Spread spectrum method	C
--	3.2 (2)	3.4	Antenna power	C
--	3.6 (2)	3.4	Absolute gain of transmitting antenna	C
--	3.6 (2)	3.4	Angular width of principal radiation (AWPR)	C
--	3.2 (10)	-	Number of carriers within 1 MHz bandwidth in OFDM	N/A
--	3.2 (8)	-	Diffusion bandwidth	N/A
--	3.2 (9)	-	Spreading factor	N/A
--	3.4.1(1)	3.7	Interference Prevention Function	C
--	3.4.1(3)	3.6	Carrier Sense Capability	C
NOTE: C = Conform NC = Not Conform NT = Not Tested NA = Not Applicable				



1.1 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT:

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k=2$.

ITEM	UNCERTAINTY
Occupied Bandwidth	206.50 Hz
Spurious emissions	$\pm 3.93\text{dB}$
Output power density	1.37dB
Out of band radiated power	2.52dB
Frequency Tolerance	0.104 ppm



2 GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

PRODUCT	Projector
MODEL NO.	A01M31
ADDITIONAL MODEL	N/A
NOMINAL VOLTAGE	DC 35V from Adapter
TYPE OF EQUIPMENT	Data transmission equipment operating in the 2.4GHz
MODULATION TYPE	BT-LE GFSK (1, 2 Mbps)
MODULATION TECHNOLOGY	DTS
OPERATING FREQUENCY	2402MHz ~ 2480MHz
NUMBER OF CHANNEL	40
RATED RF OUTPUT POWER	BT-LE 1Mbps :7 mW BT-LE 2Mbps :3 mW
CONDUCTED RF OUTPUT POWER	BT-LE 1Mbps :8.185mW BT-LE 2Mbps :2.028mW
EIRP OUTPUT POWER	BT-LE 1Mbps :13.646mW BT-LE 2Mbps :3.381mW
HW-RELEASE NO	V14.0.0.5
SW-RELEASE NO	MT9660_MB_A
ANTENNA TYPE	FPC Antenna, 2.22dBi Gain
CABLE SUPPLIED	Refer to the user's manual

NOTES:

1. For the test results, the EUT had been tested with all conditions.
2. The above EUT information was declared by the manufacturer and for more detailed features description please refers to the manufacturer's specifications or user's manual.
3. Please refer to the EUT photo document (Reference No.: 2504WDG0269) for detailed product photo.
4. The EUT was powered by the following adapter:

ADAPTER	
BRAND:	N/A
MODEL:	SOY-3500428-454
INPUT:	AC 100-240V, 50/60Hz 2.5A Max.
OUTPUT:	DC 35V, 4.28A, 149.8W
DC LINE:	Unshielded, Detachable, 1.5m
AC LINE:	Unshielded, Detachable, 1.2m, with one core



2.2 DESCRIPTION OF TEST CHANNELS

40 channels are provided for BT-LE (GFSK&1,2Mbps):

CHANNEL	FREQ. (MHZ)	CHANNEL	FREQ. (MHZ)	CHANNEL	FREQ. (MHZ)	CHANNEL	FREQ. (MHZ)
0	2402	10	2422	20	2442	30	2462
1	2404	11	2424	21	2444	31	2464
2	2406	12	2426	22	2446	32	2466
3	2408	13	2428	23	2448	33	2468
4	2410	14	2430	24	2450	34	2470
5	2412	15	2432	25	2452	35	2472
6	2414	16	2434	26	2454	36	2474
7	2416	17	2436	27	2456	37	2476
8	2418	18	2438	28	2458	38	2478
9	2420	19	2440	29	2460	39	2480

NOTES:

1. The channels which were indicated in bold type of the above channel list were selected as representative test channel. Therefore, only the data of the test channels were recorded in this report.
2. By means of test software for BT LE provided by manufacturers, the power levels during the tests were set according to the following codes:

BT-LE (GFSK), 1Mbps	
CHANNEL	POWER SETTING
0	6
19	6
39	6
BT-LE (GFSK), 2Mbps	
CHANNEL	POWER SETTING
0	5
19	5
39	5



2.3 TEST CONDITIONS

Test conditions	Voltage (Vac)
V_{normal}	100
V_{max}	110
V_{min}	90

2.4 ASSEMBLY

The RF circuits are located inside of the EUT. The RF circuit was covered by plastic housing and were locked by screws, Also it won't be easy to be opened. Frequency Band, channels and Modulation parameters are fixed inside the module. They cannot be edited or modified by end-user.

2.5 ANTENNA SPECIFICATIONS

2.5.1 ANTENNA GAIN

Ant. Type	Connector Type	Highest Peak Gain (dBi) 2.4GHz ~ 2.5GHz
FPC	i-pex	2.22

2.5.2 ANTENNA PATTERN

Please refer to the attached file (Antenna report).



3 TEST RESULTS

3.1 FREQUENCY TOLERANCE MEASUREMENT

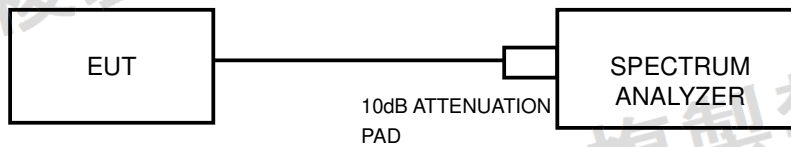
3.1.1 LIMITS OF FREQUENCY TOLERANCE MEASUREMENT

Tolerance of frequency shall be +/- 50ppm

3.1.2 TEST METHOD

According to MIC Notice No. 88 Appendix 43.

3.1.3 TEST SETUP





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3.1.4 TEST RESULTS

BT-LE (GFSK 1 Mbps)

ENVIRONMENTAL CONDITIONS		25 deg.C, 56% RH					
Channel	Frequency (MHz)	Voltage normal		Voltage +10%		Voltage -10%	
		Carrier frequency (MHz)	Frequency tolerance (ppm)	Carrier frequency (MHz)	Frequency tolerance (ppm)	Carrier frequency (MHz)	Frequency tolerance (ppm)
0	2402	2401.986519	-5.612	2401.986600	-5.578	2401.986640	-5.562
19	2440	2439.986600	-5.491	2439.986600	-5.491	2439.986640	-5.475
39	2480	2479.986359	-5.500	2479.986400	-5.483	2479.986479	-5.452

BT-LE (GFSK 2 Mbps)

ENVIRONMENTAL CONDITIONS		25 deg.C, 56% RH					
Channel	Frequency (MHz)	Voltage normal		Voltage +10%		Voltage -10%	
		Carrier frequency (MHz)	Frequency tolerance (ppm)	Carrier frequency (MHz)	Frequency tolerance (ppm)	Carrier frequency (MHz)	Frequency tolerance (ppm)
0	2402	2401.986800	-5.495	2401.986840	-5.478	2401.986879	-5.462
19	2440	2439.986759	-5.426	2439.986800	-5.409	2439.986800	-5.409
39	2480	2479.987119	-5.193	2479.987079	-5.210	2479.987079	-5.210



3.2 OCCUPIED BANDWIDTH MEASUREMENT (99% POWER BANDWIDTH)

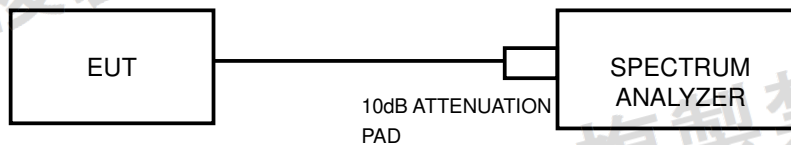
3.2.1 LIMITS OF OCCUPIED BANDWIDTH MEASUREMENT

ITEM	LIMIT	REMARK
Occupied bandwidth	<26MHz	For 802.11b, g & 802.11n (HT20)
Occupied bandwidth	<26MHz	For BT-LE (GFSK)

3.2.2 TEST METHOD

According to MIC Notice No. 88 Appendix 43.

3.2.3 TEST SETUP



3.2.4 TEST RESULTS

BT-LE (GFSK 1 Mbps)

ENVIRONMENTAL CONDITIONS		23 deg.C, 58 % RH		
CHANNEL	FREQUENCY (MHz)	V _{normal}	V _{+10%}	V _{-10%}
		OCCUPIED BANDWIDTH (MHz)	OCCUPIED BANDWIDTH (MHz)	OCCUPIED BANDWIDTH (MHz)
0	2402	1.26	1.26	1.26
19	2440	1.26	1.26	1.26
39	2480	1.26	1.26	1.26
Measurement uncertainty		± 206.50 Hz		

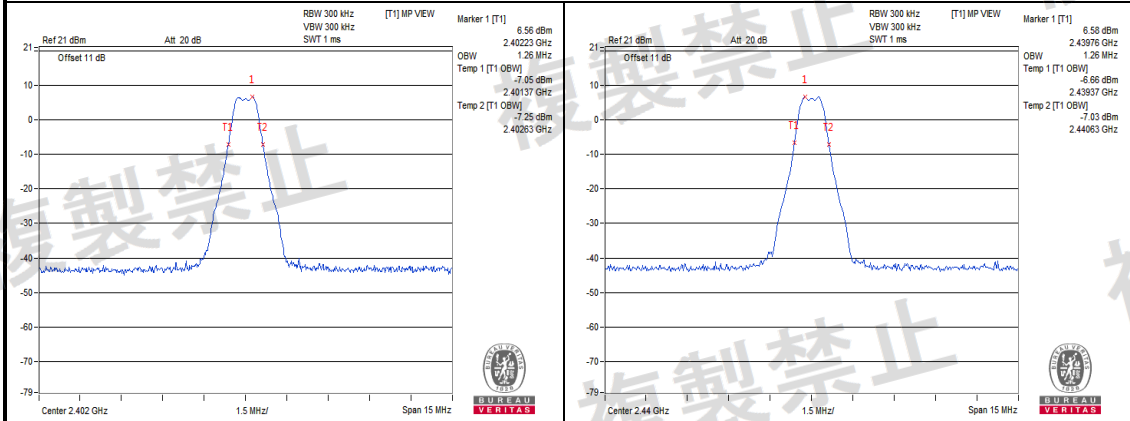
NOTE: For the test plots please refer to the below pages.



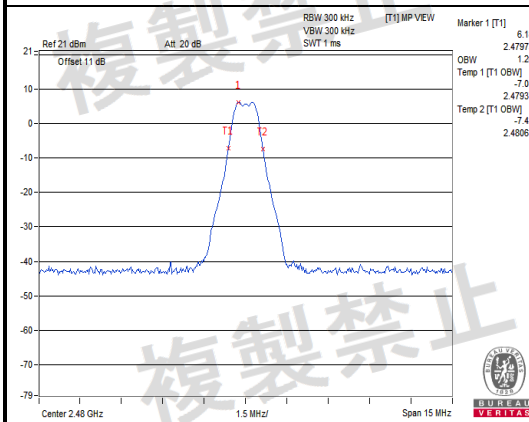
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Vnormal



Channel 0



Channel 19

NULL

Channel 39

NULL

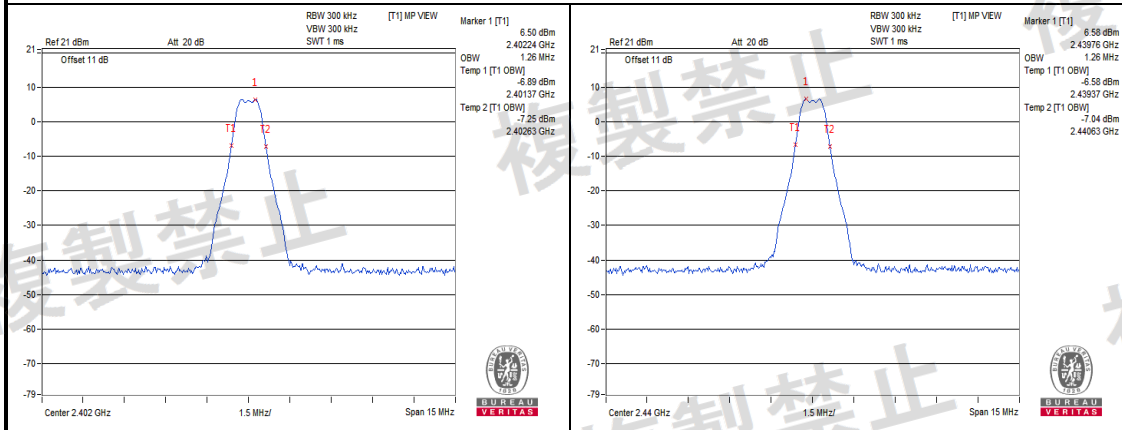
Measurement uncertainty: ± 206.50 Hz



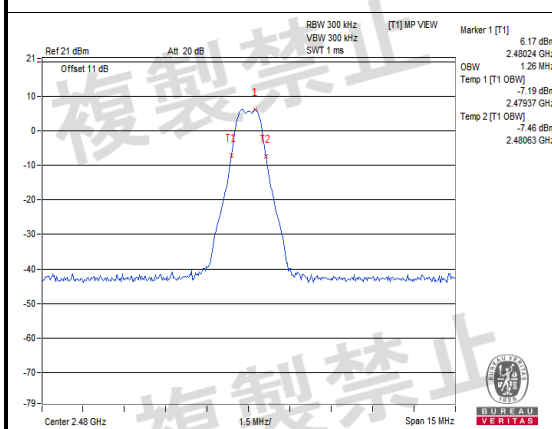
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V_{+10%}



Channel 0



Channel 19

NULL

Channel 39

NULL

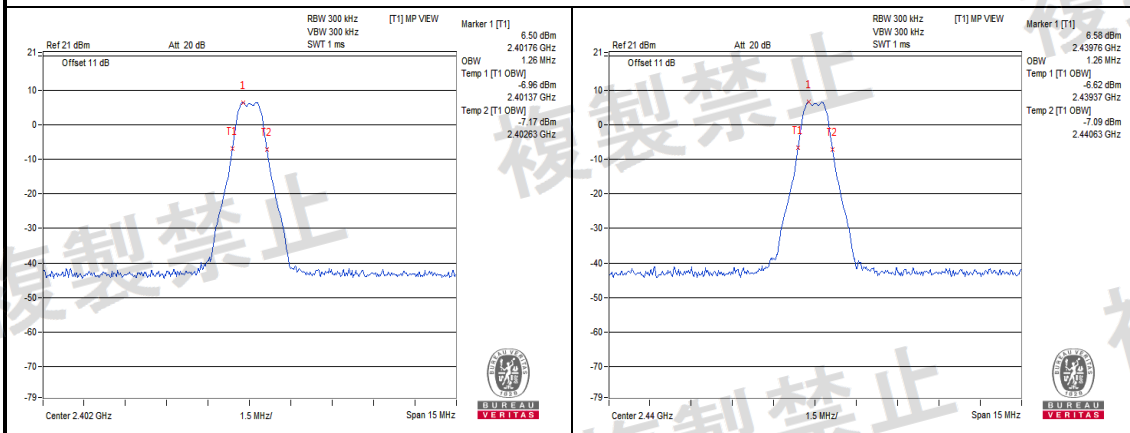
Measurement uncertainty: ± 206.50 Hz



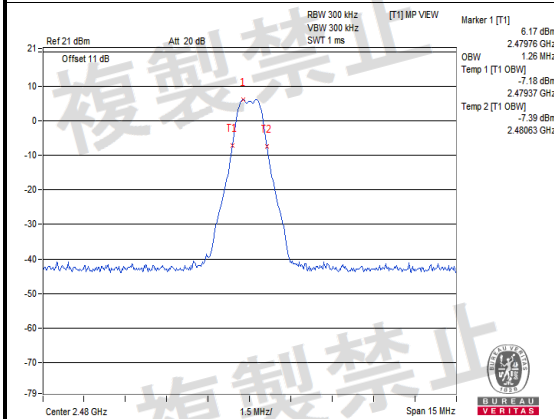
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V-10%



Channel 0



Channel 19



Channel 39

Measurement uncertainty: ± 206.50 Hz

NULL



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BT-LE (GFSK 2 Mbps)

ENVIRONMENTAL CONDITIONS		23 deg.C, 58 % RH		
CHANNEL	FREQUENCY (MHz)	V _{normal}	V _{+10%}	V _{-10%}
		OCCUPIED BANDWIDTH (MHz)	OCCUPIED BANDWIDTH (MHz)	OCCUPIED BANDWIDTH (MHz)
0	2402	2.22	2.22	2.22
19	2440	2.22	2.22	2.22
39	2480	2.22	2.22	2.22
Measurement uncertainty		± 206.50 Hz		

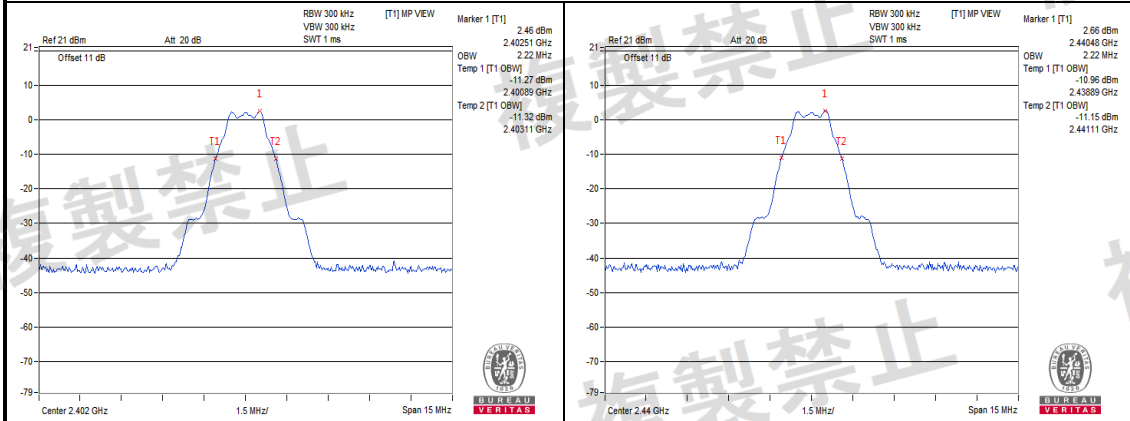
NOTE: For the test plots please refer to the below pages.



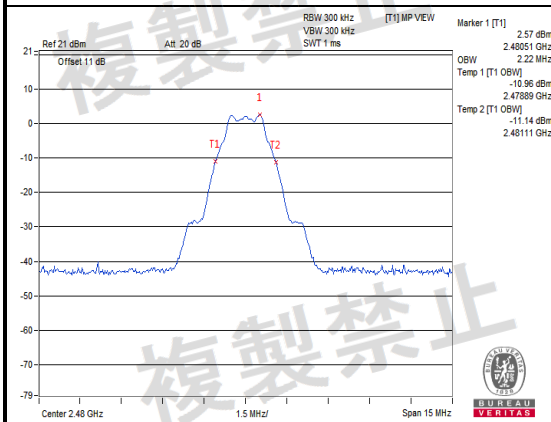
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Test Report No.: RJ2504WDG0269-2

Vnormal



Channel 0



Channel 19

NULL

Channel 39

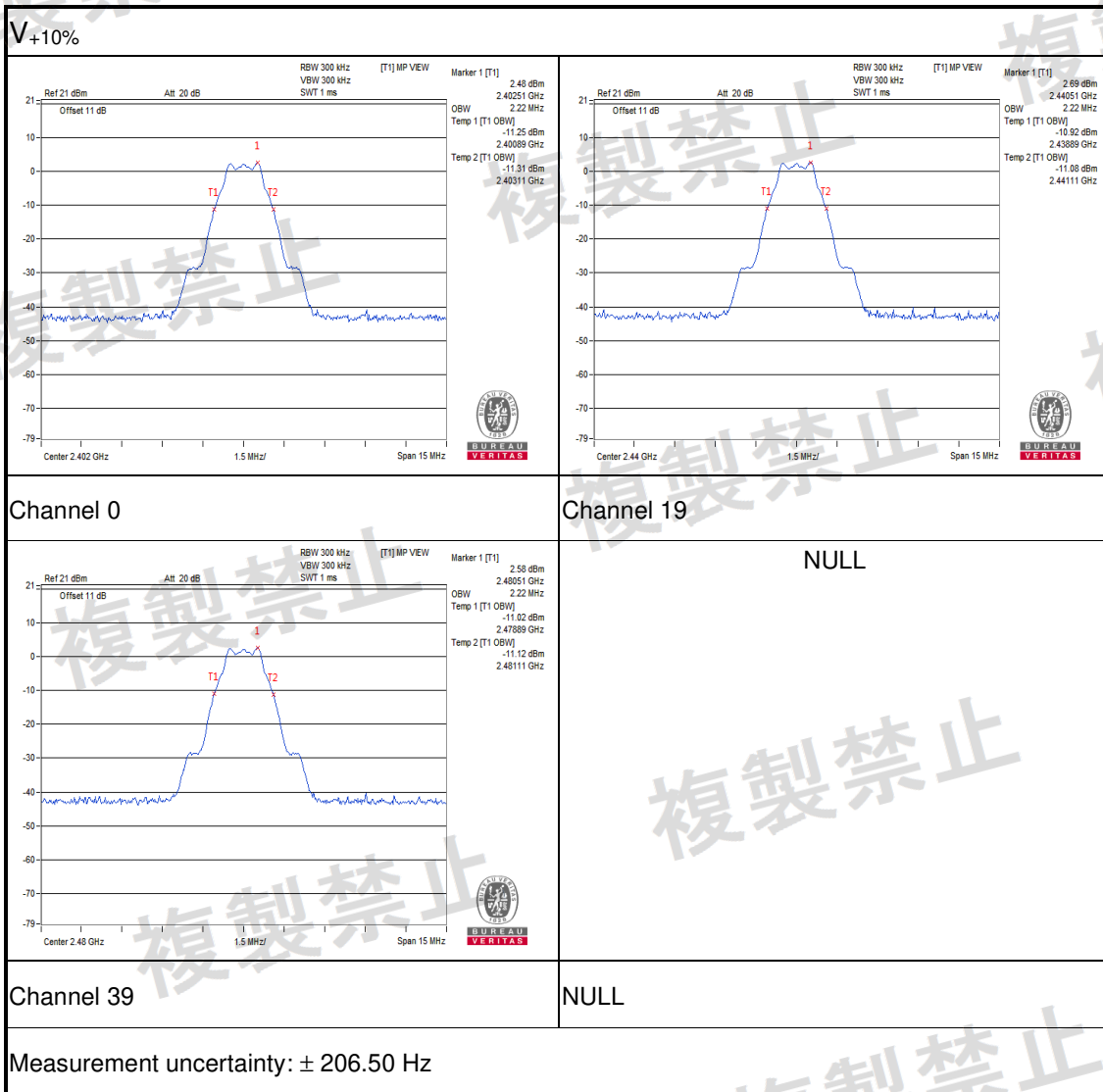
NULL

Measurement uncertainty: ± 206.50 Hz



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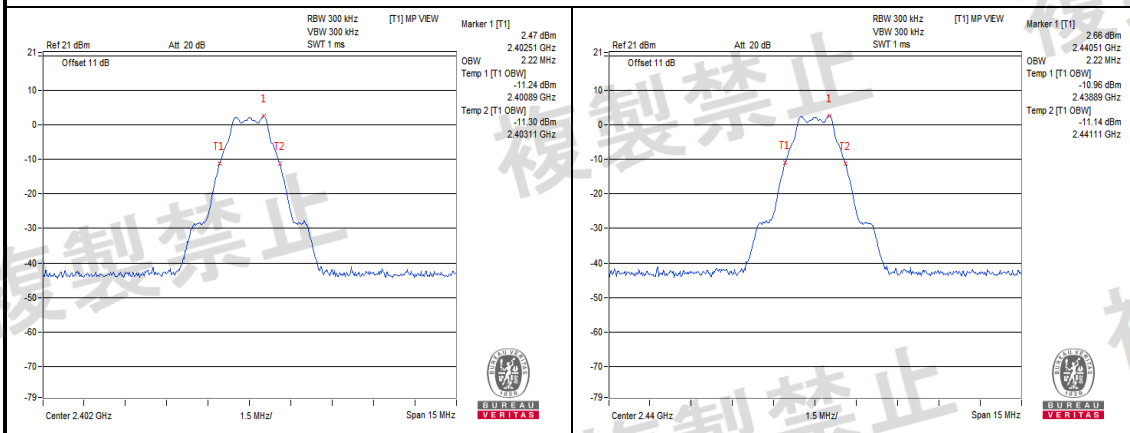




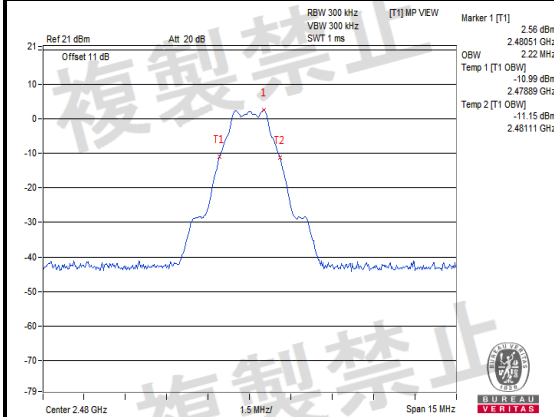
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Test Report No.: RJ2504WDG0269-2

V-10%



Channel 0



Channel 19

NULL

Channel 39

NULL

Measurement uncertainty: ± 206.50 Hz



3.3 SPURIOUS EMISSIONS FOR TRANSMITTER MEASUREMENT

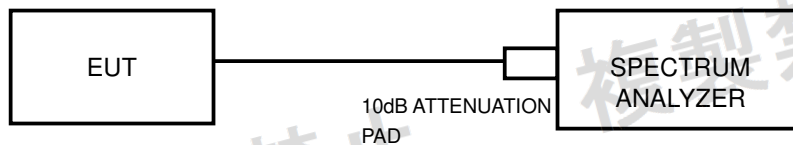
3.3.1 LIMITS OF SPURIOUS EMISSIONS

Frequencies (MHz)	Limit
Operating frequency 2400 to 2483.5MHz	
$2387 \leq f < 2400$	$\leq 25\mu\text{W/MHz}$
$2483.5 < f \leq 2496.5$	$\leq 25\mu\text{W/MHz}$
All other frequencies	$\leq 2.5\mu\text{W/MHz}$

3.3.2 TEST METHOD

According to MIC Notice No. 88 Appendix 43.

3.3.3 TEST SETUP





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3.3.4 SUMMARY OF TEST RESULT

BT-LE (GFSK 1 Mbps)

ENVIRONMENTAL CONDITIONS		23 deg.C, 58 % RH					
TEST CHANNEL		CH0 (2402MHz)		CH19 (2440MHz)		LIMIT (uW/MHz)	RESULT
TEST CONDITION	FREQUENCY RANGE	MEASURE. VALUE (MHz)	FREQUENCY (MHz)	MEASURE. VALUE (uW/MHz)	MEASURE. VALUE (uW/MHz)		
V _{normal}	30.0MHz to 1000.0MHz	846.250	0.004055uW	772.290	0.003243uW	2.5	PASS
	1000.0MHz to 2387MHz	1531.560	0.002553uW	1965.000	0.002291uW	2.5	PASS
	2387.0MHz to 2400.0MHz	2400.000	1.774189uW	2388.310	0.003581uW	25	PASS
	2483.5MHz to 2496.5MHz	2495.330	0.00342uW	2493.480	0.002877uW	25	PASS
	2496.5MHz to 12500.0MHz	6993.070	0.010162uW	6953.050	0.011169uW	2.5	PASS
V _{+10%}	30.0MHz to 1000.0MHz	906.880	0.003069uW	762.590	0.003266uW	2.5	PASS
	1000.0MHz to 2387MHz	2350.930	0.002692uW	2306.200	0.0026uW	2.5	PASS
	2387.0MHz to 2400.0MHz	2400.000	1.774189uW	2388.650	0.003673uW	25	PASS
	2483.5MHz to 2496.5MHz	2484.900	0.003055uW	2493.230	0.003119uW	25	PASS
	2496.5MHz to 12500.0MHz	6963.060	0.009817uW	6923.040	0.009616uW	2.5	PASS
V _{-10%}	30.0MHz to 1000.0MHz	887.230	0.003148uW	937.190	0.003396uW	2.5	PASS
	1000.0MHz to 2387MHz	2025.330	0.002483uW	1907.440	0.00257uW	2.5	PASS
	2387.0MHz to 2400.0MHz	2400.000	1.786488uW	2388.820	0.003846uW	25	PASS
	2483.5MHz to 2496.5MHz	2486.930	0.00342uW	2485.740	0.004102uW	25	PASS
	2496.5MHz to 12500.0MHz	6988.070	0.009772uW	6983.060	0.010839uW	2.5	PASS

NOTE: 1. the worst value in each frequency range v.s. each channel has been marked by boldface.



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ENVIRONMENTAL CONDITIONS		23 deg.C, 58 % RH			
TEST CHANNEL		CH39 (2480MHz)		LIMIT (uW/MHz)	RESULT
TEST CONDITION	FREQUENCY RANGE	FREQUENCY (MHz)	MEASURE. VALUE (uW/MHz)		
V _{normal}	30.0MHz to 1000.0MHz	690.570	0.003459uW	2.5	PASS
	1000.0MHz to 2387MHz	2357.870	0.002624uW	2.5	PASS
	2387.0MHz to 2400.0MHz	2392.960	0.00317uW	25	PASS
	2483.5MHz to 2496.5MHz	2483.540	0.014488uW	25	PASS
	2496.5MHz to 12500.0MHz	6973.060	0.009376uW	2.5	PASS
V _{+10%}	30.0MHz to 1000.0MHz	809.880	0.004436uW	2.5	PASS
	1000.0MHz to 2387MHz	2296.150	0.002582uW	2.5	PASS
	2387.0MHz to 2400.0MHz	2397.080	0.005129uW	25	PASS
	2483.5MHz to 2496.5MHz	2483.630	0.014322uW	25	PASS
	2496.5MHz to 12500.0MHz	6933.050	0.013552uW	2.5	PASS
V _{-10%}	30.0MHz to 1000.0MHz	766.470	0.003148uW	2.5	PASS
	1000.0MHz to 2387MHz	2293.370	0.002377uW	2.5	PASS
	2387.0MHz to 2400.0MHz	2396.470	0.002877uW	25	PASS
	2483.5MHz to 2496.5MHz	2483.630	0.011298uW	25	PASS
	2496.5MHz to 12500.0MHz	6905.540	0.010789uW	2.5	PASS

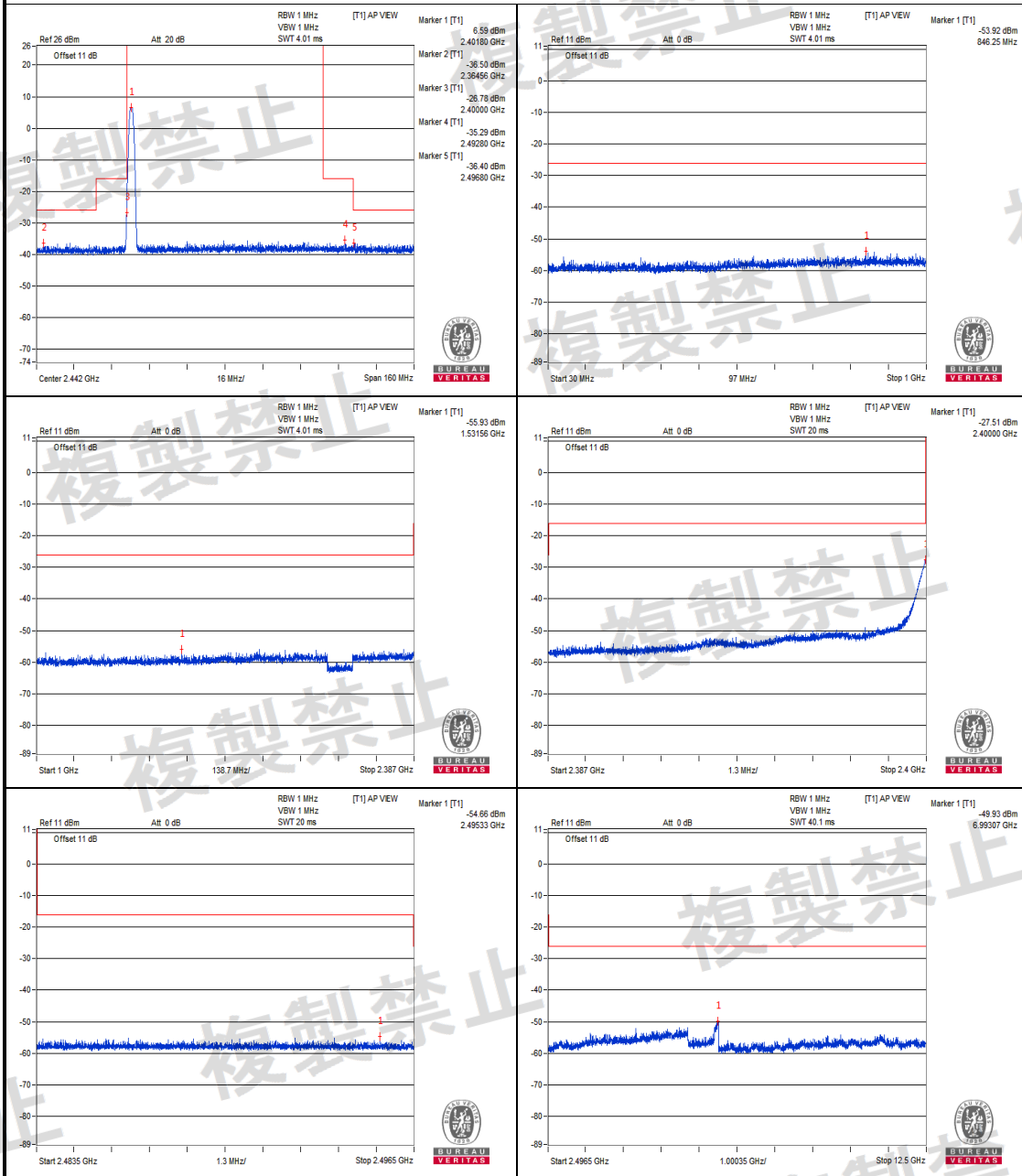
NOTES: 1. The worst value in each frequency range v.s. each channel has been marked by boldface.
2. The spectrum plots are attached on the following pages.



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Vnormal Channel 0



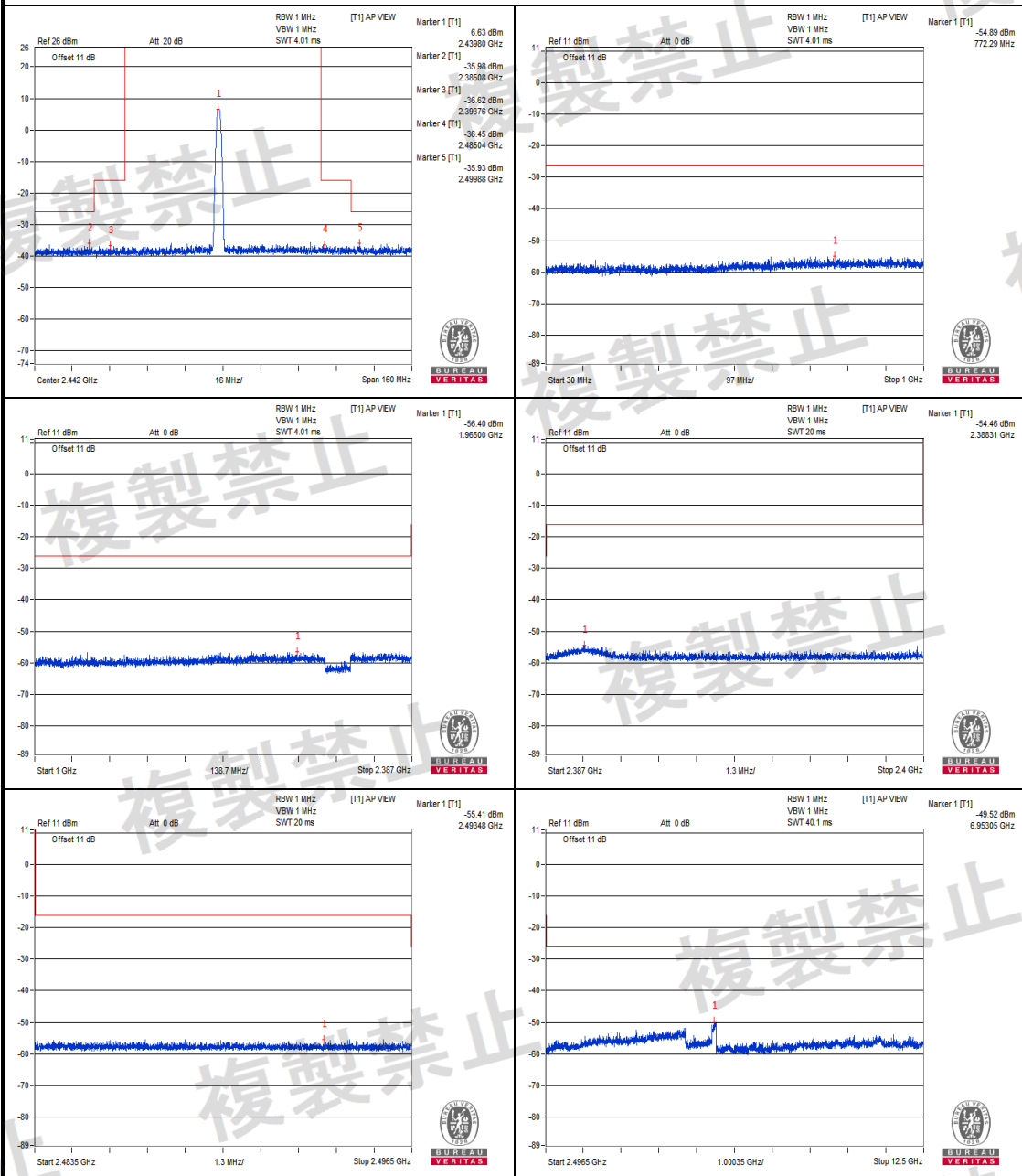
Measurement uncertainty: $\pm 3.93\text{dB}$



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Vnormal
Channel 19



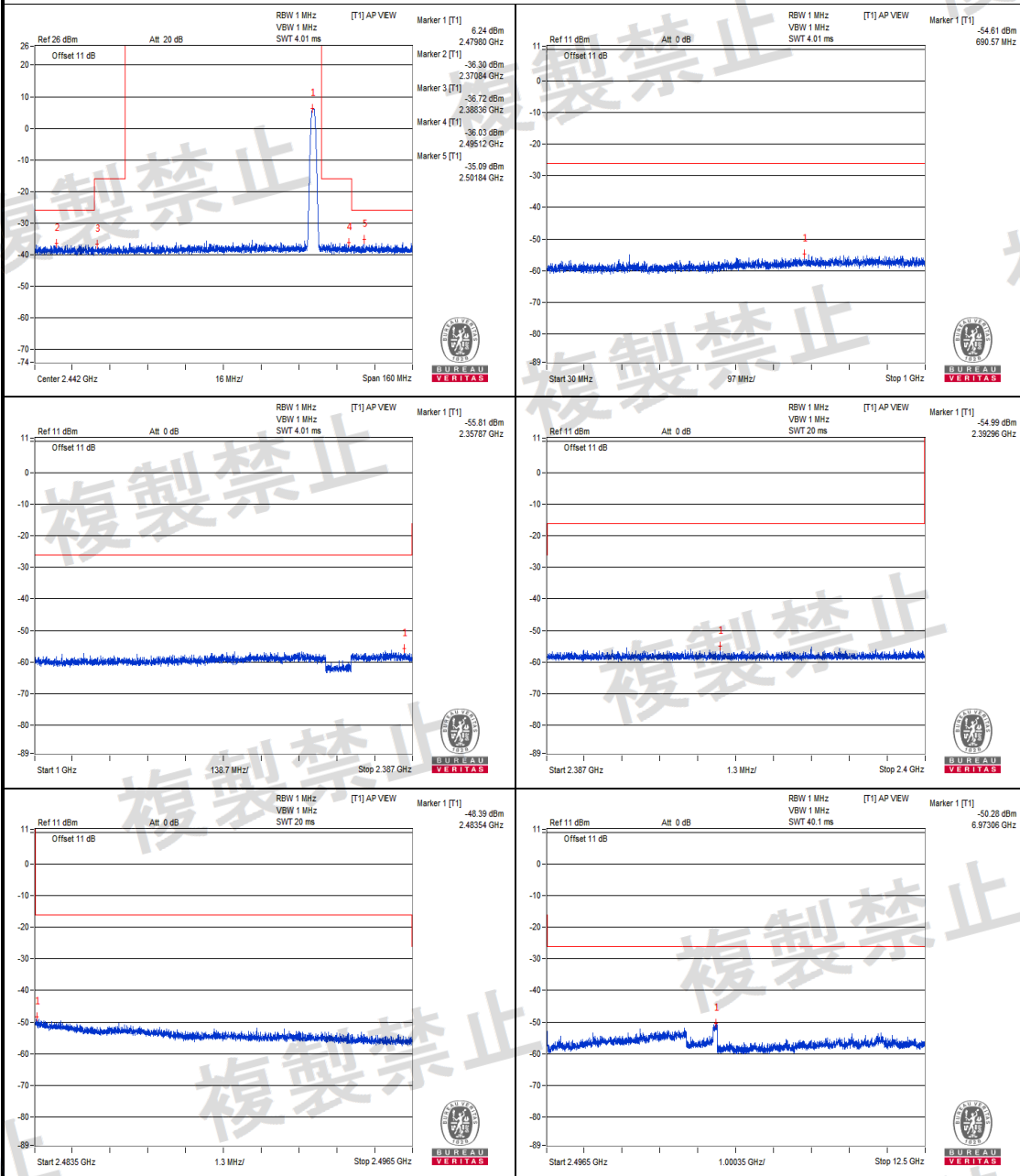
Measurement uncertainty: $\pm 3.93\text{dB}$



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Test Report No.: RJ2504WDG0269-2

Vnormal Channel 39



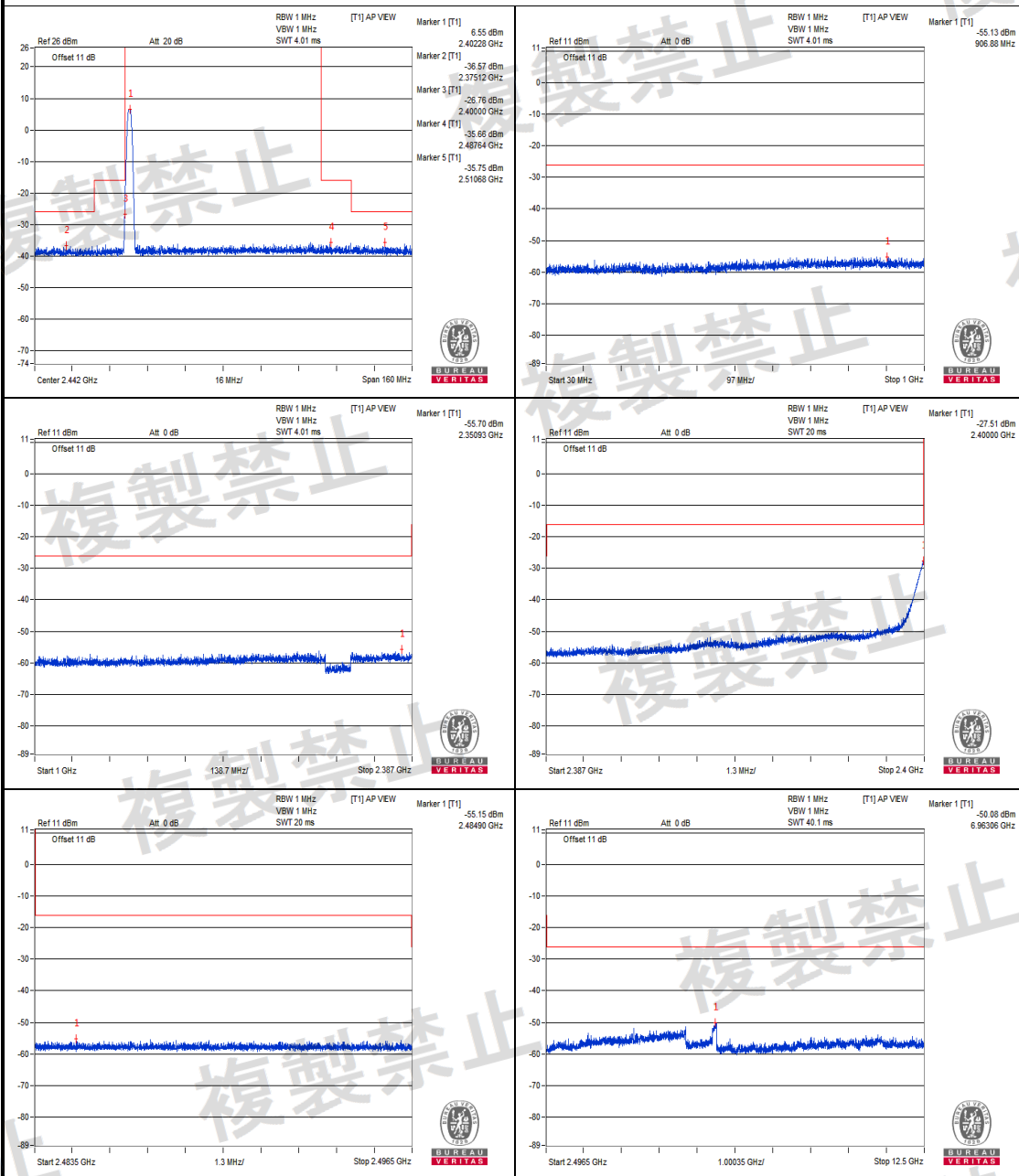
Measurement uncertainty: $\pm 3.93\text{dB}$



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Test Report No.: RJ2504WDG0269-2

V+10%
Channel 0



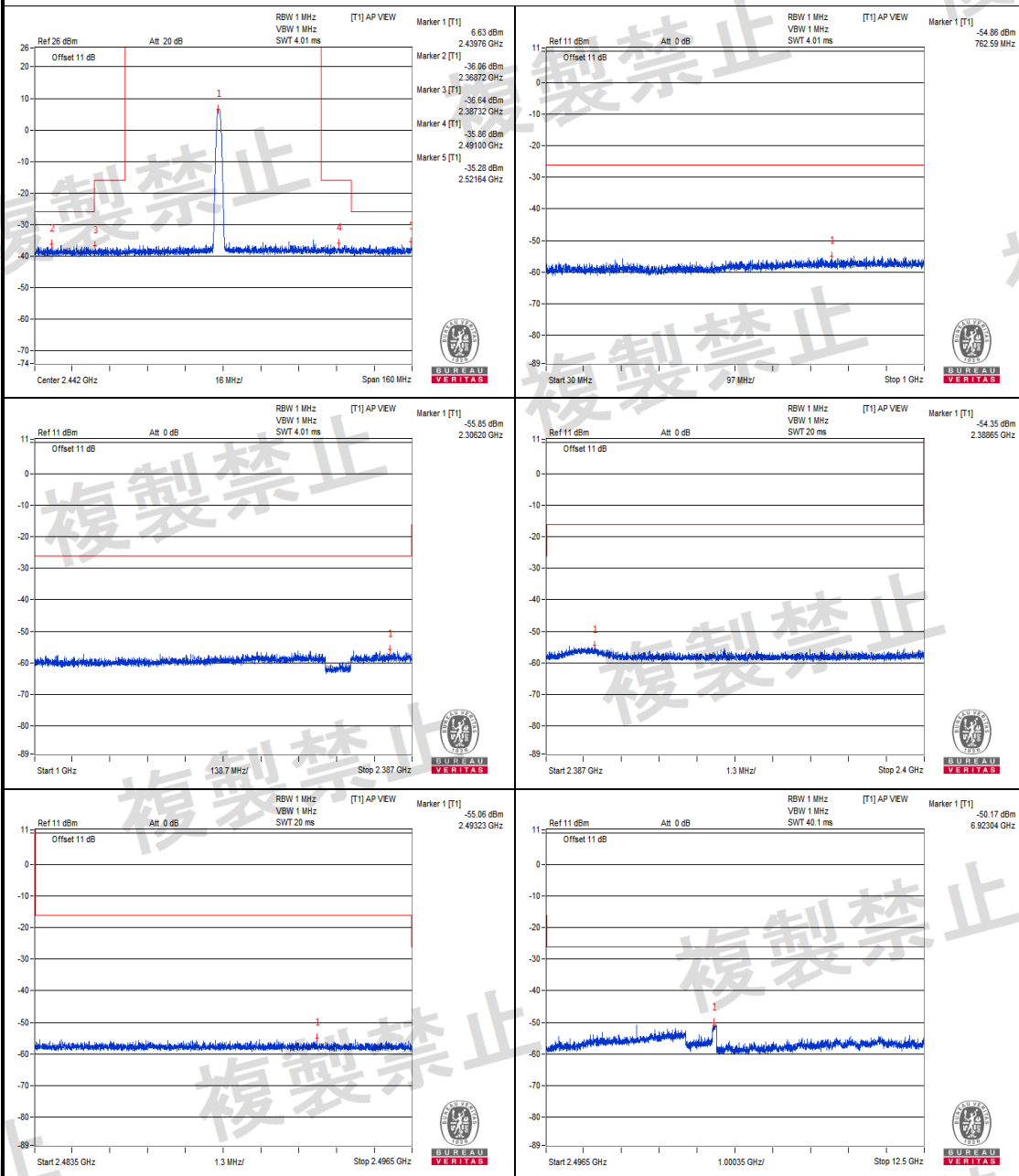
Measurement uncertainty: $\pm 3.93\text{dB}$



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Test Report No.: RJ2504WDG0269-2

V+10%
Channel 19



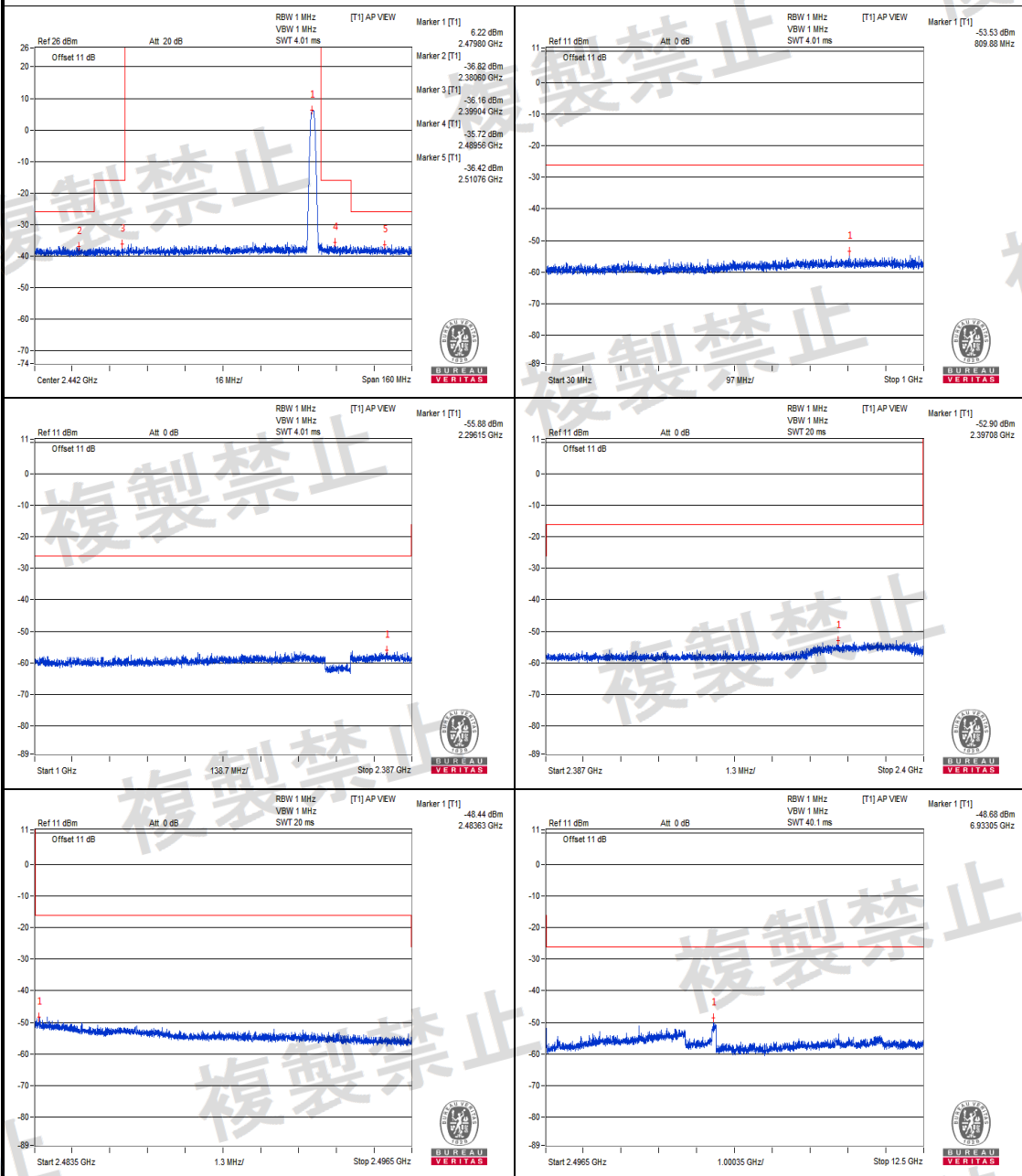
Measurement uncertainty: $\pm 3.93\text{dB}$



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Test Report No.: RJ2504WDG0269-2

V+10%
Channel 39



Measurement uncertainty: $\pm 3.93\text{dB}$

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Town, Dongguan City, Guangdong Province.
523942, People's Republic of China.

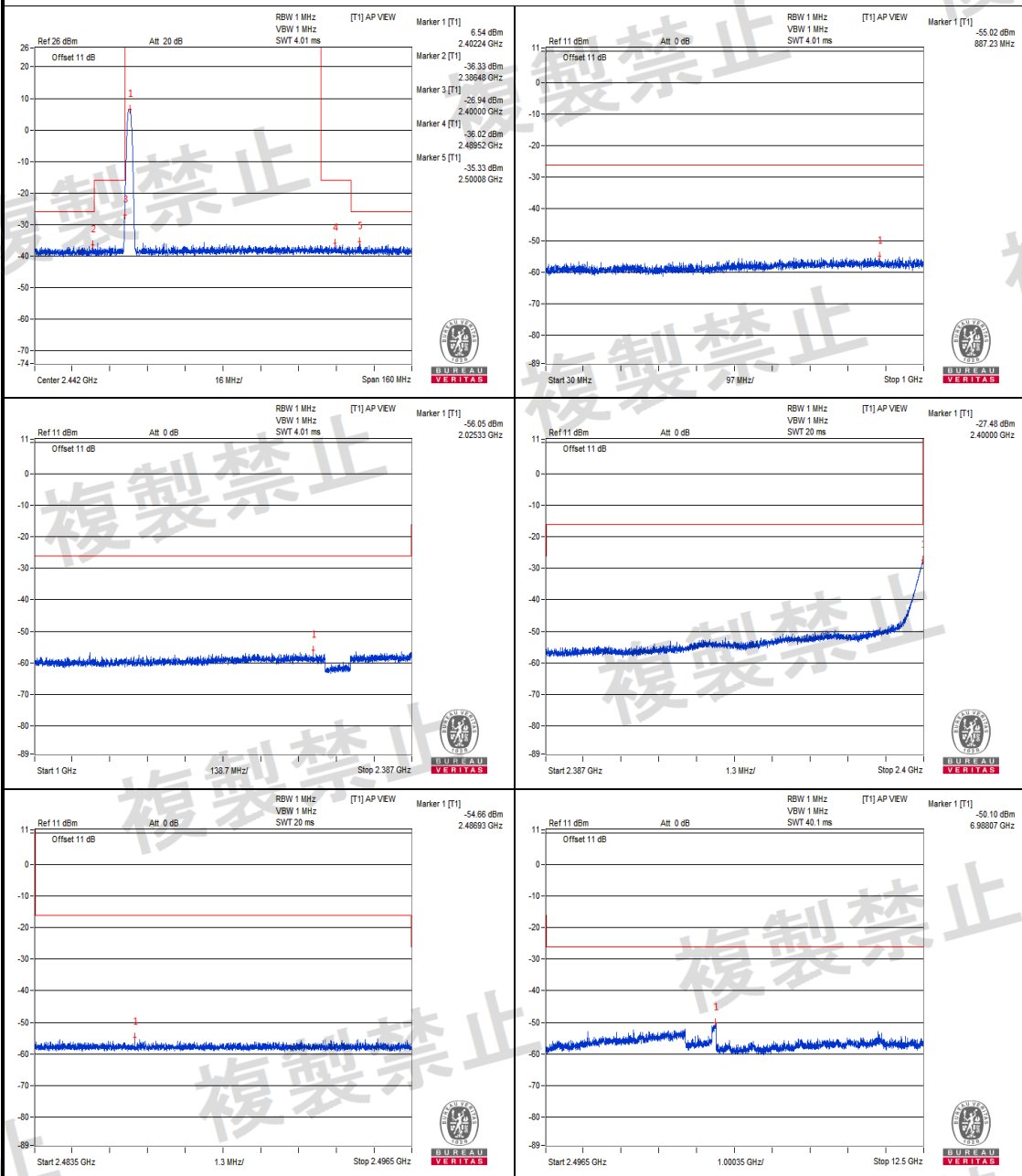
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V-10%
Channel 0



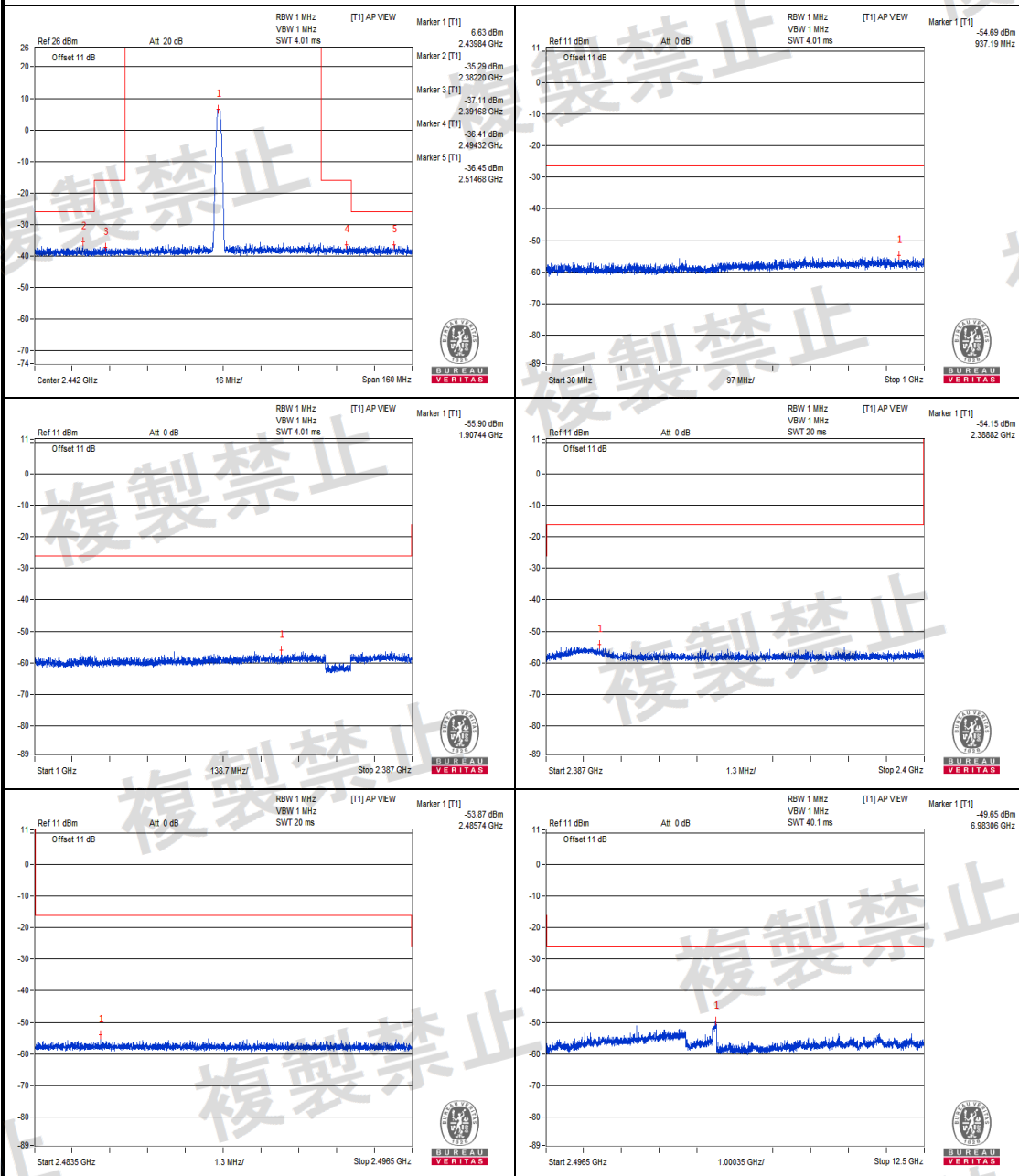
Measurement uncertainty: $\pm 3.93\text{dB}$



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Test Report No.: RJ2504WDG0269-2

V-10%
Channel 19



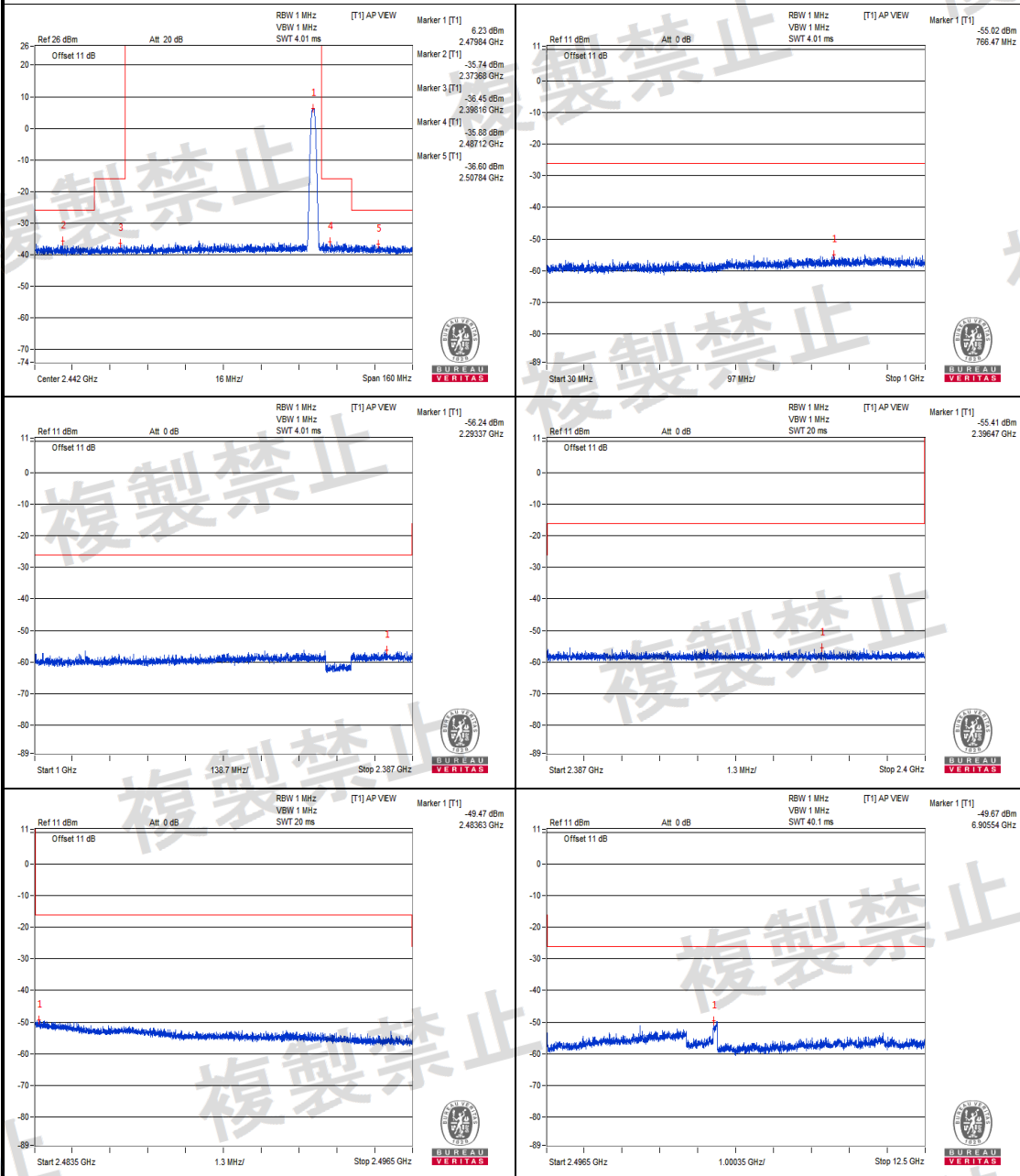
Measurement uncertainty: $\pm 3.93\text{dB}$



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V-10%
Channel 39



Measurement uncertainty: $\pm 3.93\text{dB}$



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Test Report No.: RJ2504WDG0269-2

BT-LE (GFSK 2 Mbps)

ENVIRONMENTAL CONDITIONS		23 deg.C, 58 % RH					
TEST CHANNEL		CH0 (2402MHz)		CH19 (2440MHz)		LIMIT (uW/MHz)	RESULT
TEST CONDITION	FREQUENCY RANGE	FREQUENCY (MHz)	MEASURE. VALUE (uW/MHz)	FREQUENCY (MHz)	MEASURE. VALUE (uW/MHz)		
V _{normal}	30.0MHz to 1000.0MHz	876.560	0.004375uW	827.820	0.016558uW	2.5	PASS
	1000.0MHz to 2387MHz	1699.740	0.002547uW	2301.690	0.002594uW	2.5	PASS
	2387.0MHz to 2400.0MHz	2400.000	10.81434uW	2388.190	0.002924uW	25	PASS
	2483.5MHz to 2496.5MHz	2484.110	0.003319uW	2485.110	0.003112uW	25	PASS
	2496.5MHz to 12500.0MHz	6990.570	0.010495uW	6970.560	0.009162uW	2.5	PASS
V _{+10%}	30.0MHz to 1000.0MHz	788.290	0.003855uW	884.810	0.004159uW	2.5	PASS
	1000.0MHz to 2387MHz	1841.210	0.002754uW	2046.490	0.002466uW	2.5	PASS
	2387.0MHz to 2400.0MHz	2400.000	10.839269uW	2391.600	0.002944uW	25	PASS
	2483.5MHz to 2496.5MHz	2490.220	0.003184uW	2495.120	0.002931uW	25	PASS
	2496.5MHz to 12500.0MHz	6958.060	0.009528uW	6995.570	0.011298uW	2.5	PASS
V _{-10%}	30.0MHz to 1000.0MHz	873.170	0.003221uW	803.090	0.003715uW	2.5	PASS
	1000.0MHz to 2387MHz	2266.330	0.002254uW	1972.630	0.002529uW	2.5	PASS
	2387.0MHz to 2400.0MHz	2400.000	10.789467uW	2398.940	0.002877uW	25	PASS
	2483.5MHz to 2496.5MHz	2490.160	0.003048uW	2491.570	0.003214uW	25	PASS
	2496.5MHz to 12500.0MHz	6973.060	0.011641uW	6945.550	0.009462uW	2.5	PASS

NOTE: 1. the worst value in each frequency range v.s. each channel has been marked by boldface.

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Test Report No.: RJ2504WDG0269-2

ENVIRONMENTAL CONDITIONS		23 deg.C, 58 % RH			
TEST CHANNEL		CH39 (2480MHz)		LIMIT (uW/MHz)	RESULT
TEST CONDITION	FREQUENCY RANGE	FREQUENCY (MHz)	MEASURE. VALUE (uW/MHz)		
V _{normal}	30.0MHz to 1000.0MHz	925.060	0.003443uW	2.5	PASS
	1000.0MHz to 2387MHz	2365.150	0.002477uW	2.5	PASS
	2387.0MHz to 2400.0MHz	2394.820	0.002793uW	25	PASS
	2483.5MHz to 2496.5MHz	2483.510	0.015488uW	25	PASS
	2496.5MHz to 12500.0MHz	6990.570	0.010257uW	2.5	PASS
V _{+10%}	30.0MHz to 1000.0MHz	924.340	0.003828uW	2.5	PASS
	1000.0MHz to 2387MHz	2303.780	0.002296uW	2.5	PASS
	2387.0MHz to 2400.0MHz	2399.240	0.003069uW	25	PASS
	2483.5MHz to 2496.5MHz	2483.520	0.016368uW	25	PASS
	2496.5MHz to 12500.0MHz	6998.070	0.010765uW	2.5	PASS
V _{-10%}	30.0MHz to 1000.0MHz	816.180	0.003443uW	2.5	PASS
	1000.0MHz to 2387MHz	2312.440	0.002344uW	2.5	PASS
	2387.0MHz to 2400.0MHz	2394.490	0.002884uW	25	PASS
	2483.5MHz to 2496.5MHz	2483.500	0.015704uW	25	PASS
	2496.5MHz to 12500.0MHz	6983.060	0.008974uW	2.5	PASS

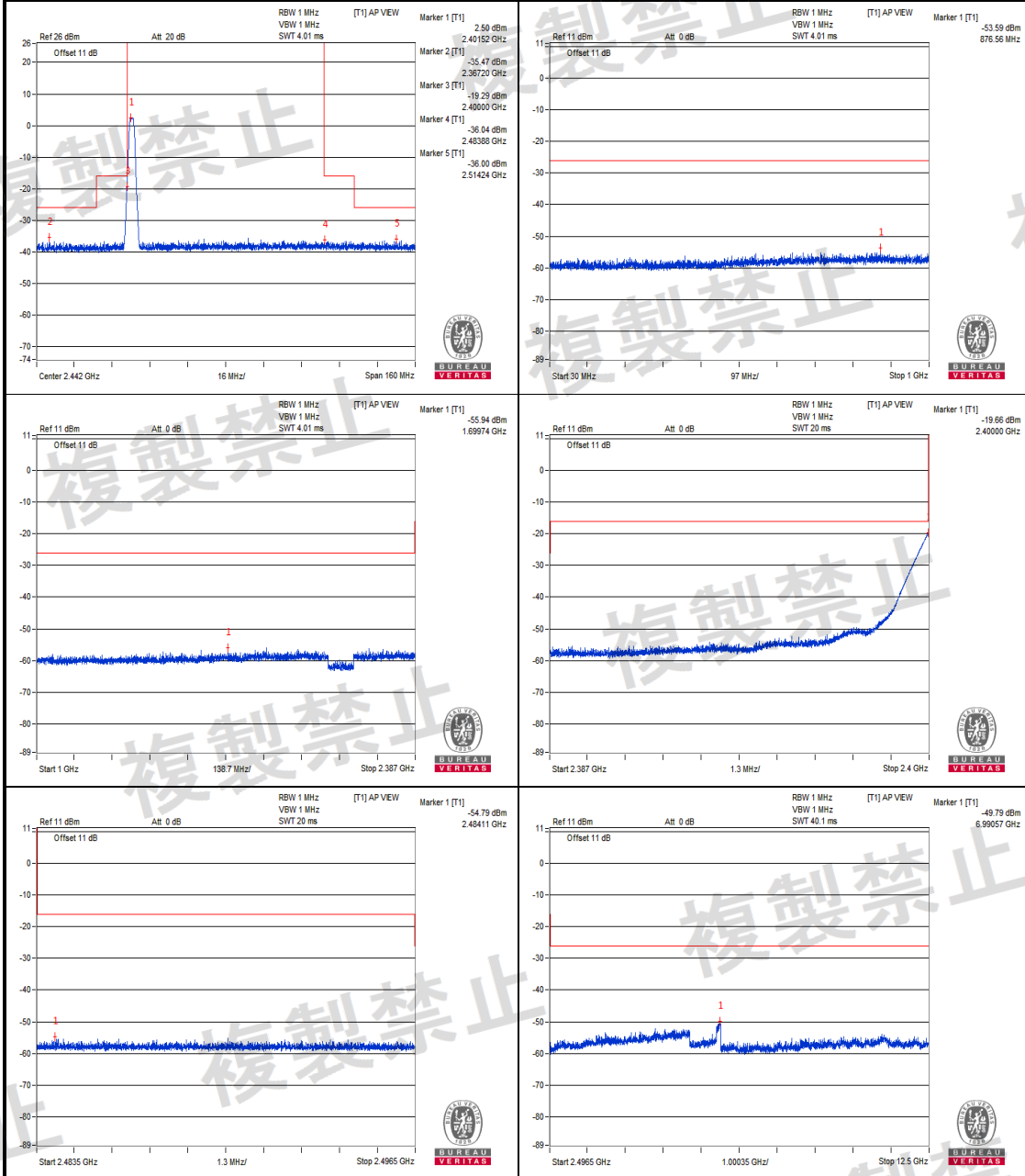
NOTES: 1. The worst value in each frequency range v.s. each channel has been marked by boldface.
2. The spectrum plots are attached on the following pages.



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Test Report No.: RJ2504WDG0269-2

Vnormal Channel 0



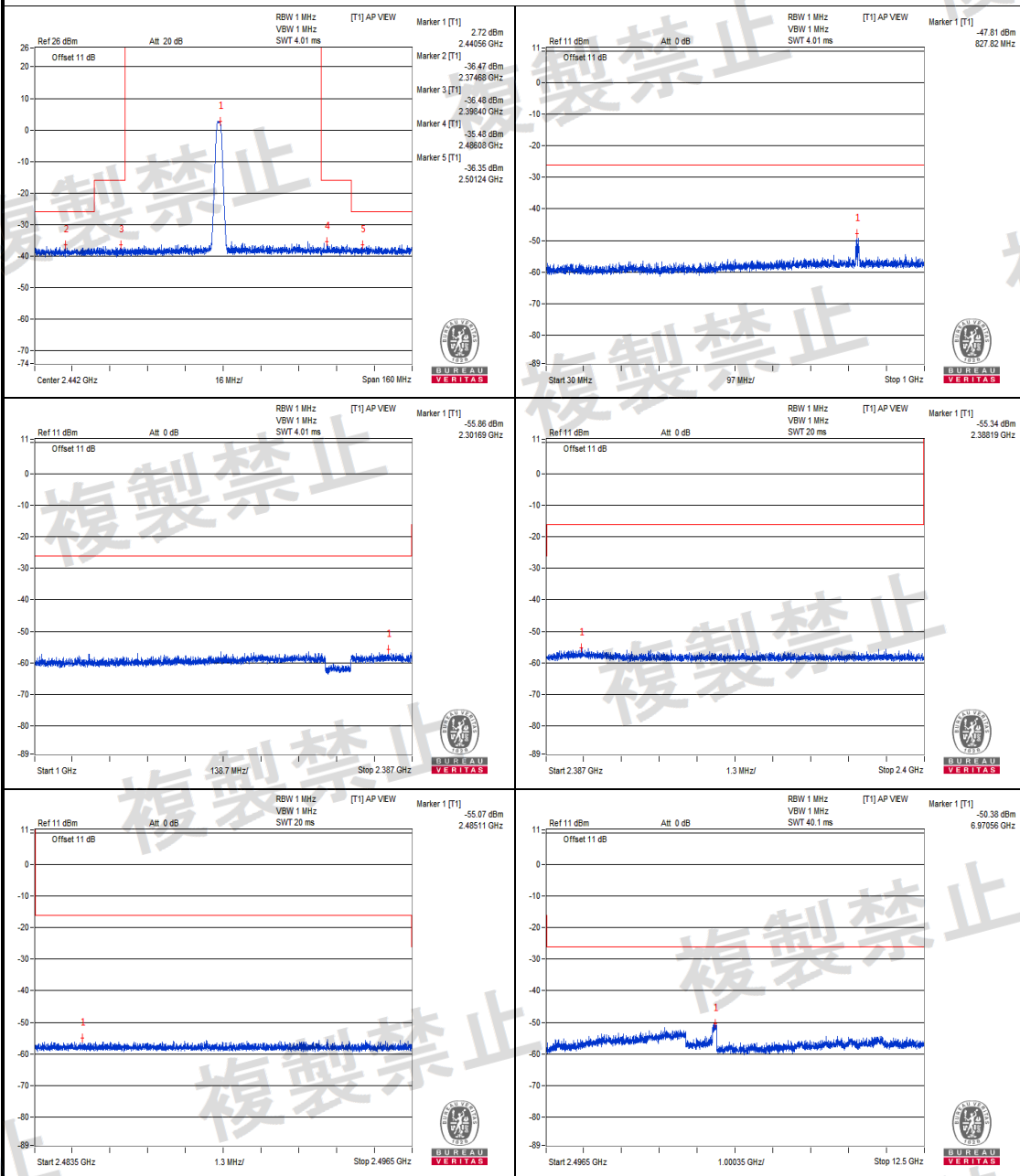
Measurement uncertainty: $\pm 3.93\text{dB}$



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Test Report No.: RJ2504WDG0269-2

Vnormal Channel 19



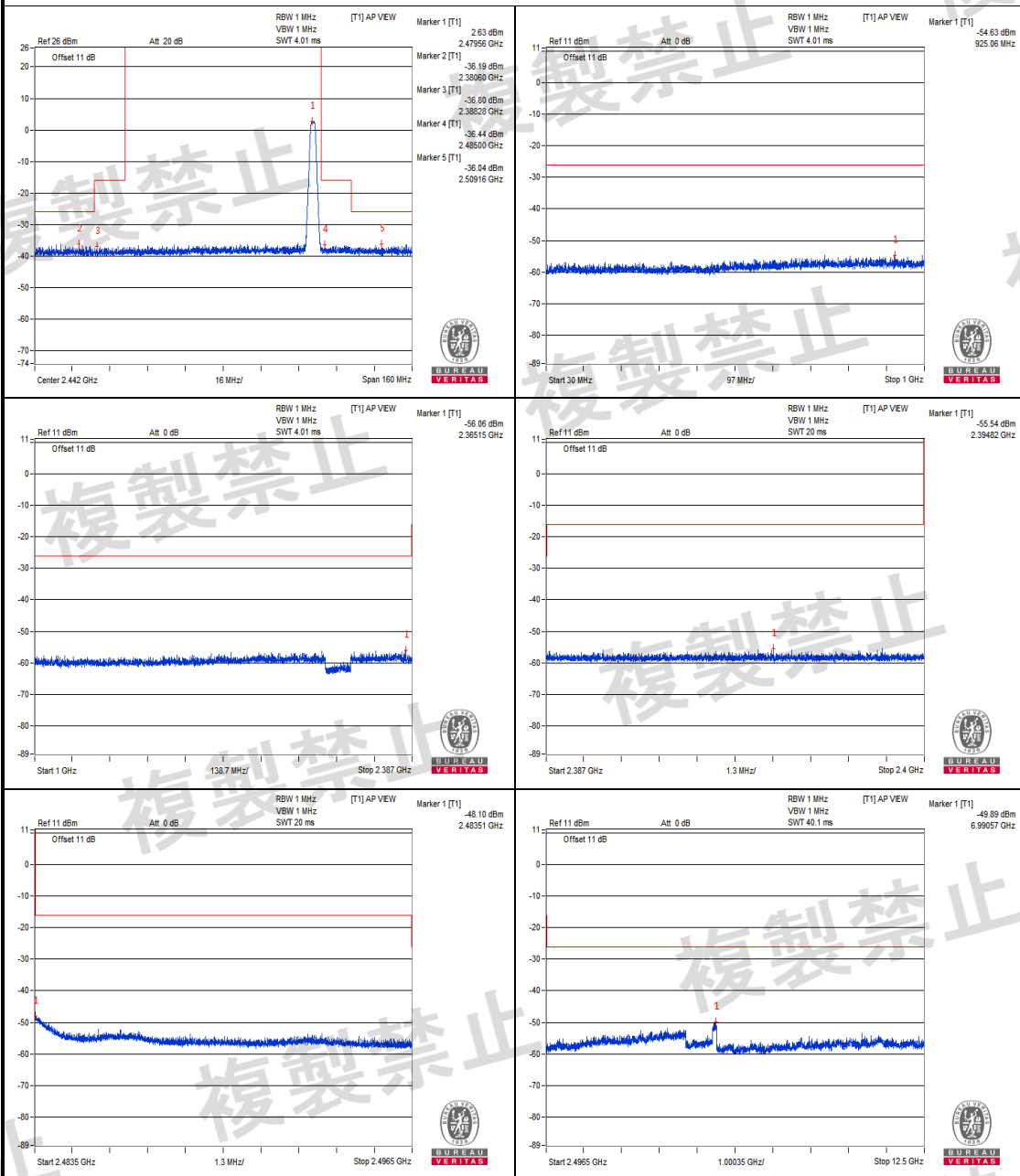
Measurement uncertainty: $\pm 3.93\text{dB}$



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Test Report No.: RJ2504WDG0269-2

Vnormal Channel 39



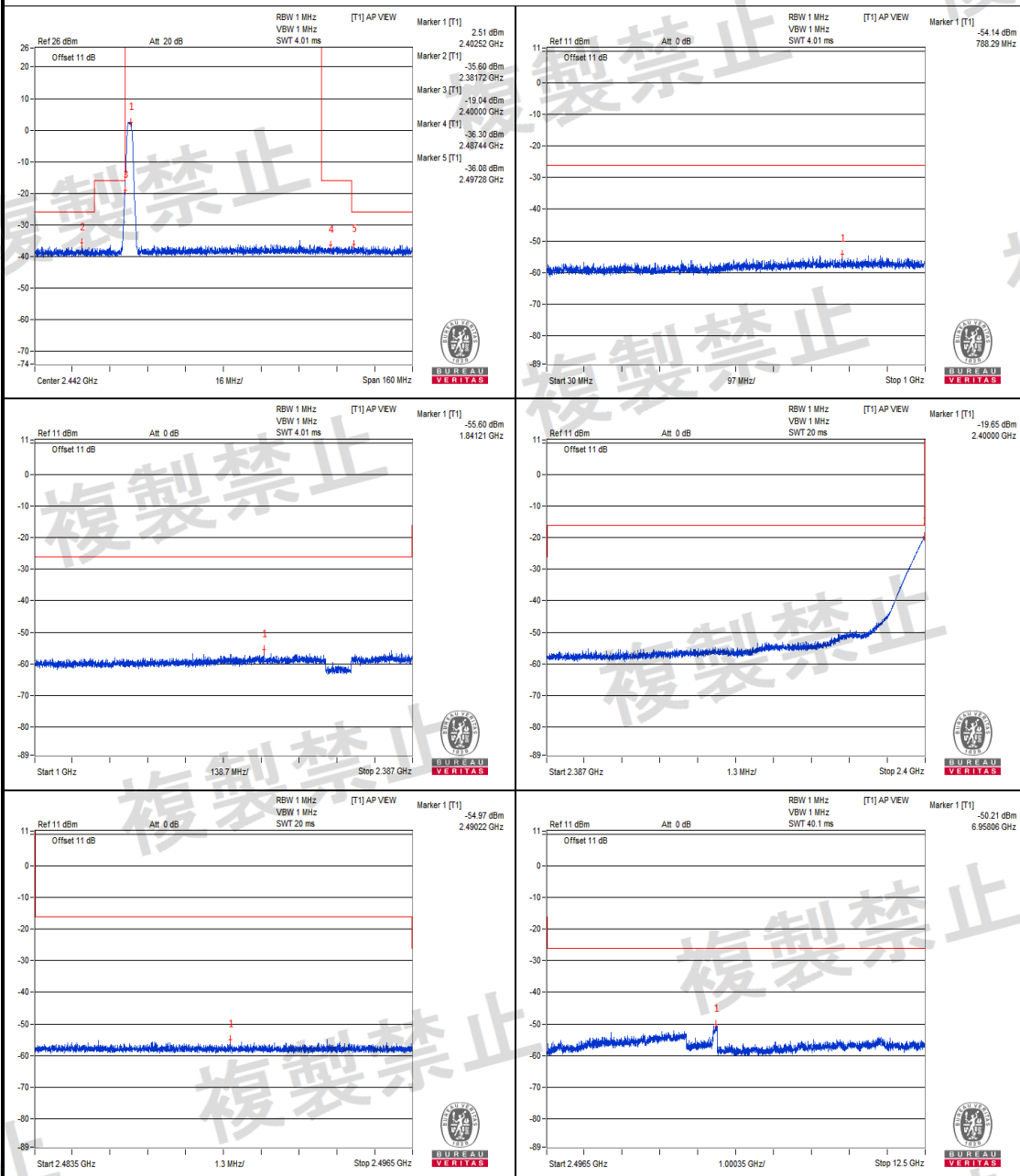
Measurement uncertainty: $\pm 3.93\text{dB}$



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V+10%
Channel 0



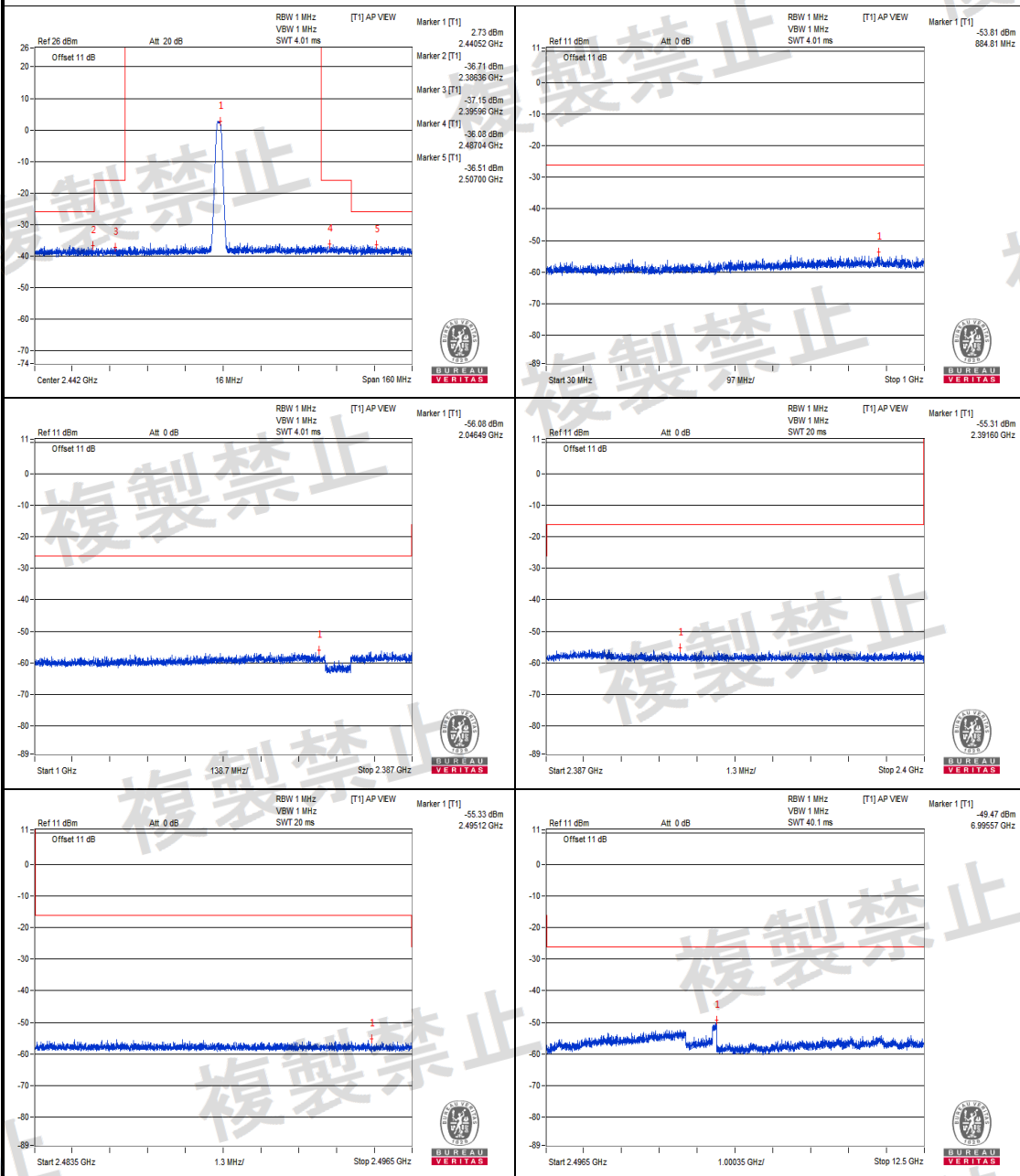
Measurement uncertainty: $\pm 3.93\text{dB}$



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Test Report No.: RJ2504WDG0269-2

V+10%
Channel 19



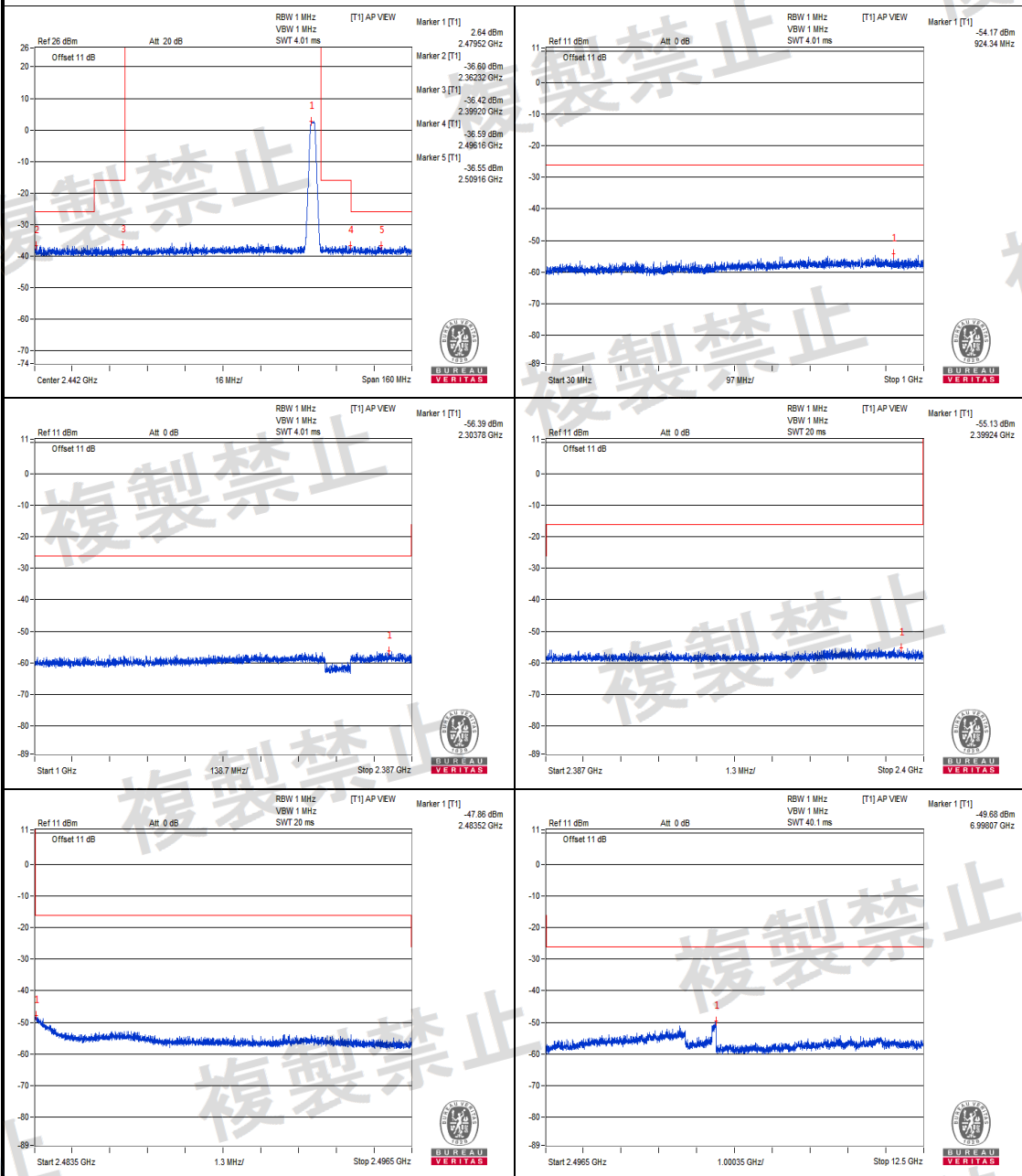
Measurement uncertainty: $\pm 3.93\text{dB}$



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Test Report No.: RJ2504WDG0269-2

V+10%
Channel 39



Measurement uncertainty: $\pm 3.93\text{dB}$

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523942, People's Republic of China.

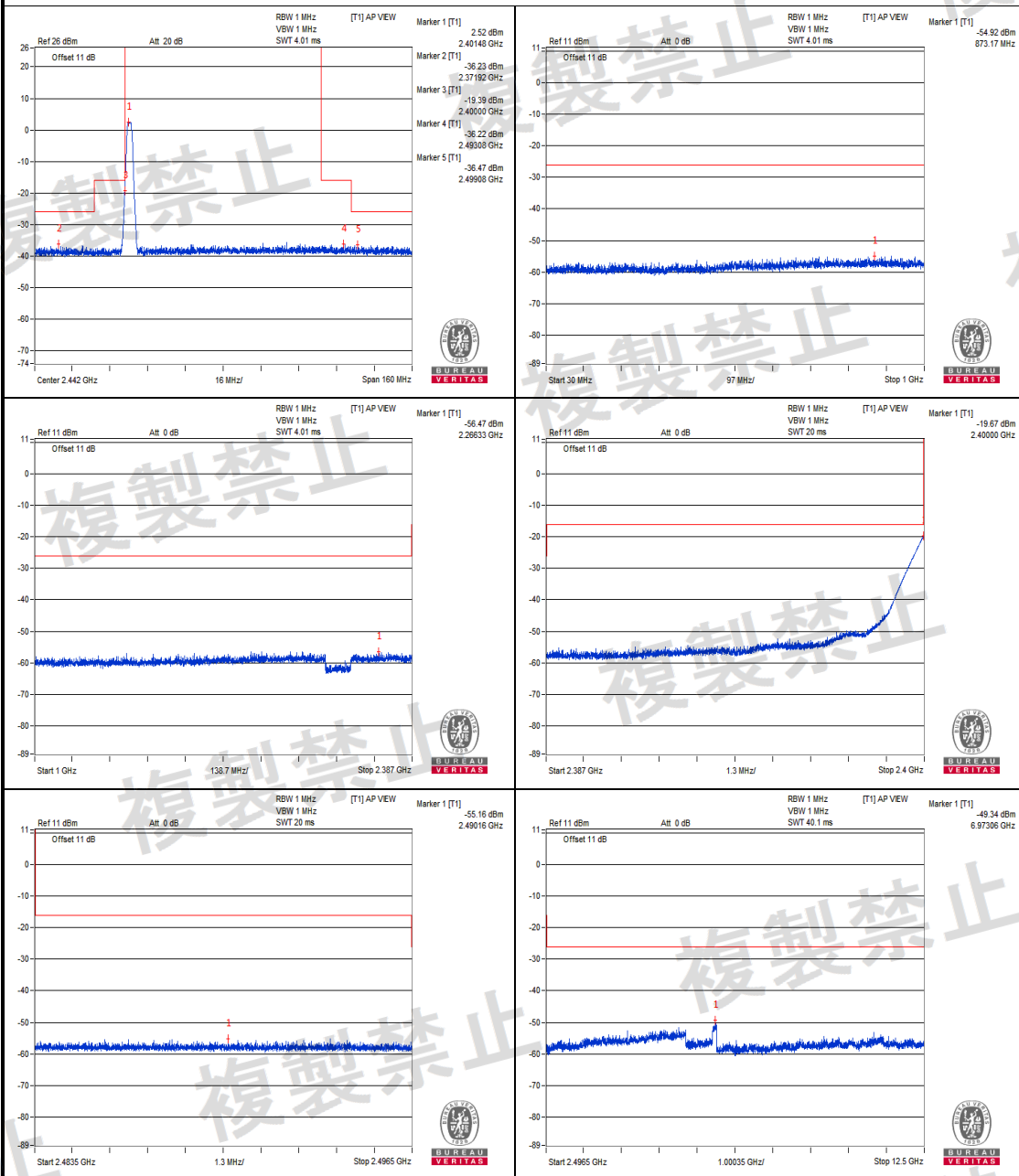
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V-10%
Channel 0



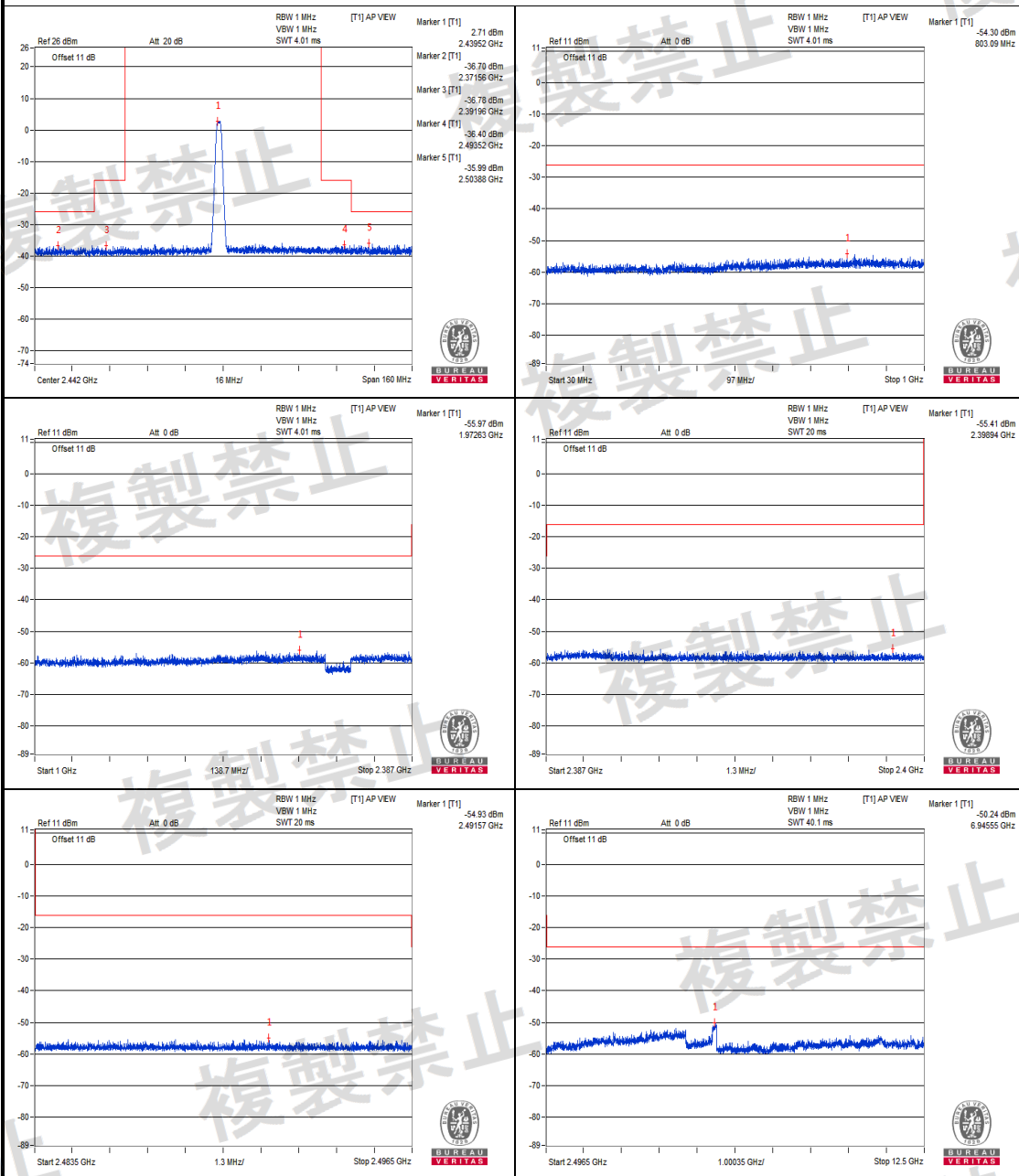
Measurement uncertainty: $\pm 3.93\text{dB}$



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Test Report No.: RJ2504WDG0269-2

V-10%
Channel 19



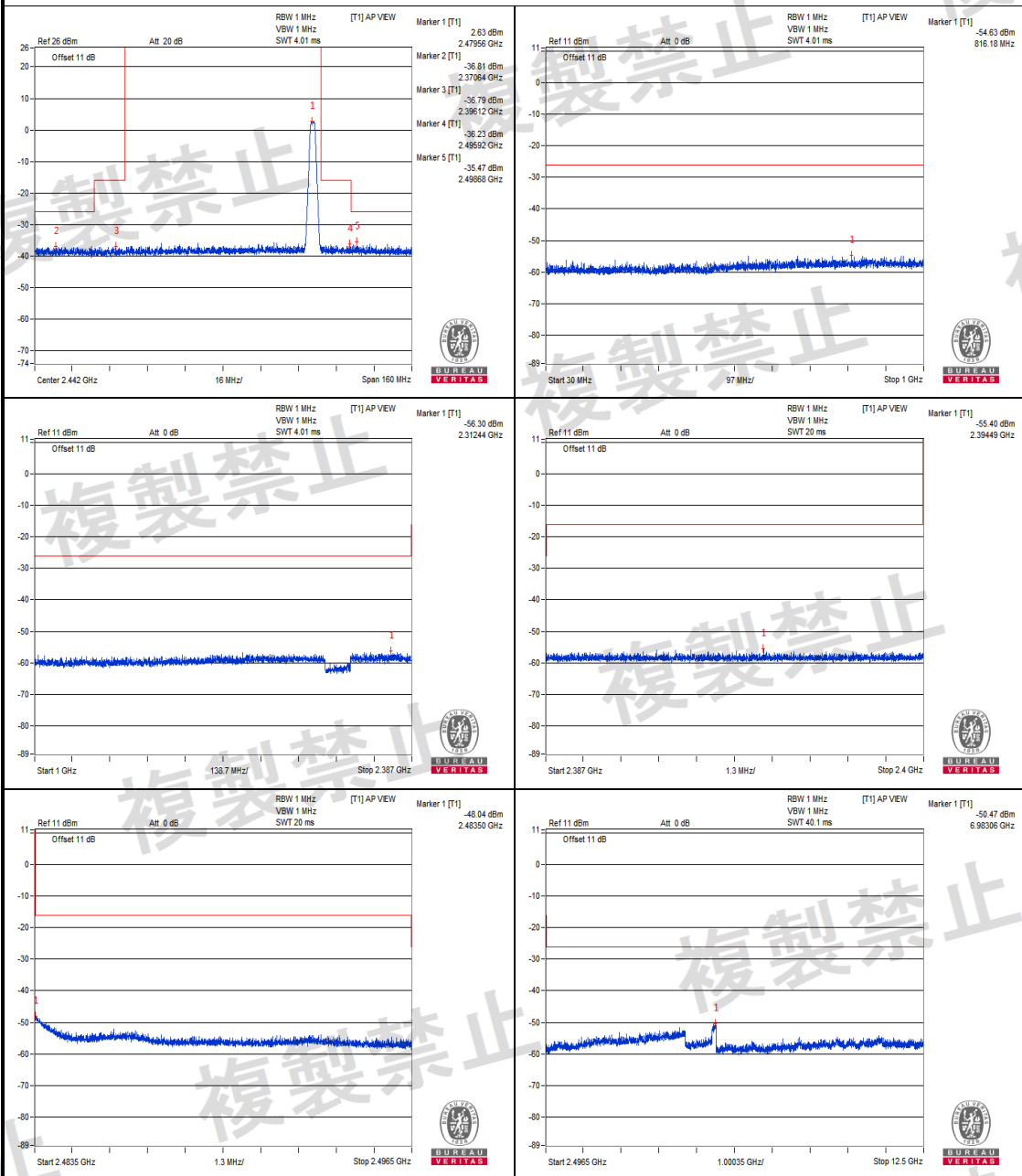
Measurement uncertainty: $\pm 3.93\text{dB}$



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Test Report No.: RJ2504WDG0269-2

V-10%
Channel 39



Measurement uncertainty: $\pm 3.93\text{dB}$



3.4 ANTENNA POWER MEASUREMENT

3.4.1 LIMITS OF ANTENNA POWER

Modulation system	Frequency band used	Antenna power (max.)	EIRP (max)	
			Omni-directional case	Directional case
DS-OFDM (Narrow-Band)	2,400 – 2,4835 MHz	10mW/MHz	12.14 dBm/MHz (16.367 mW/MHz)	22.14 dBm/MHz (163.682 mW/MHz)
OFDM (Wide-Band)	2,400 – 2,4835 MHz	5mW/MHz	9.13dBm/MHz (8.185mW/MHz)	19.13dBm/MHz (81.846mW/MHz)
DTS	2,400 – 2,4835 MHz	10mW	12.14 dBm 16.367 mW	22.14 dBm 163.682 mW

Tolerance of antenna power shall be +20% (upper value).

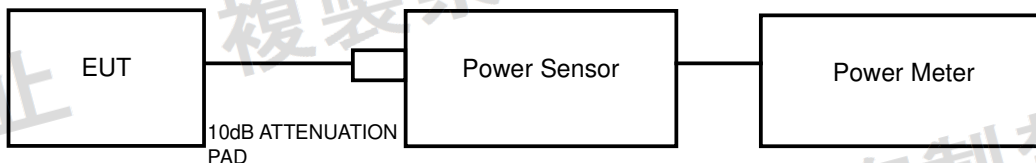
According article 49.20 f(2) The angular width of the principal radiation in the horizontal and vertical planes of the transmitting antenna shall not exceed the value obtained by the following expression. $360/A$ degree

A represents the value determined by dividing an equivalent isotropically radiated power by the value obtained by applying an antenna power with the mean power of 10 mW to the transmitting antenna with its absolute gain being 2.14 dB, and shall be 1 when it is lower than 1

3.4.2 TEST METHOD

According to MIC Notice No. 88 Appendix 43.

3.4.3 TEST SETUP





3.4.4 TEST RESULTS

BT-LE (GFSK 1 Mbps)

ENVIRONMENTAL CONDITIONS	25 deg.C, 56% RH			
TEST CONDITION	Conducted RF output power (mW)			
	CHANNEL 0 2402MHz	CHANNEL 19 2440MHz	CHANNEL 39 2480MHz	MAX. LIMIT (mW)
V _{normal}	7.870	7.568	7.362	10
V _{+10%}	8.185	7.852	7.621	10
V _{-10%}	7.551	7.278	7.096	10
RATED POWER	7			
TOLERANCE OF ANTENNA POWER	<8.4			

ENVIRONMENTAL CONDITIONS	25 deg.C, 56% RH			
TEST CONDITION	EIRP output power (mW)			
	CHANNEL 0 2402MHz	CHANNEL 19 2440MHz	CHANNEL 39 2480MHz	MAX. LIMIT (mW)
V _{normal}	13.121	12.618	12.274	16.367
V _{+10%}	13.646	13.091	12.706	16.367
V _{-10%}	12.589	12.134	11.831	16.367

NOTES: 1. The EIRP output power is a “calculated” value derived from the conducted value.

2. Formula: EIRP output power = Conducted RF output power + Antenna Gain.



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Test Report No.: RJ2504WDG0269-2

BT-LE (GFSK 2 Mbps)

ENVIRONMENTAL CONDITIONS	25 deg.C, 56% RH			
TEST CONDITION	Conducted RF output power (mW)			
	CHANNEL 0 2402MHz	CHANNEL 19 2440MHz	CHANNEL 39 2480MHz	MAX. LIMIT (mW)
V _{normal}	1.954	1.945	1.879	10
V _{+10%}	2.028	2.004	1.954	10
V _{-10%}	1.884	2.355	1.807	10
RATED POWER	3			
TOLERANCE OF ANTENNA POWER	<3.6			

ENVIRONMENTAL CONDITIONS	25 deg.C, 56% RH			
TEST CONDITION	EIRP output power (mW)			
	CHANNEL 0 2402MHz	CHANNEL 19 2440MHz	CHANNEL 39 2480MHz	MAX. LIMIT (mW)
V _{normal}	3.258	3.243	3.133	16.367
V _{+10%}	3.381	3.341	3.258	16.367
V _{-10%}	3.141	3.926	3.013	16.367

NOTES: 1. The EIRP output power is a “calculated” value derived from the conducted value.

2. Formula: EIRP output power = Conducted RF output power + Antenna Gain.



3.5 SPURIOUS EMISSIONS FOR RECEIVER

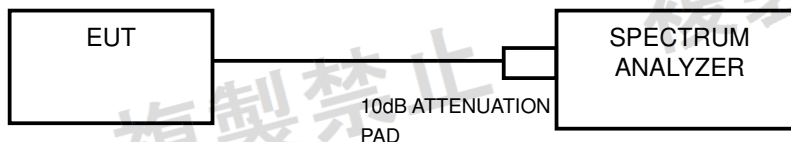
3.5.1 LIMITS OF SPURIOUS EMISSIONS FOR RECEIVER

FREQUENCIES (MHz)	LIMIT
Below 1GHz	$\leq 4\text{nW}$ (-54dBm)
Above 1GHz	$\leq 20\text{nW}$ (-47dBm)

3.5.2 TEST METHOD

According to MIC Notice No. 88 Appendix 43.

3.5.3 TEST SETUP





3.5.4 SUMMARY OF TEST RESULT

BT-LE (GFSK 1 Mbps)

TEST CHANNEL		CH 0 (2402MHz)		CH 19 (2440MHz)		LIMIT	RESULT
TEST CONDITION	FREQUENCY RANGE	FREQUENCY (MHz)	MEASURE. VALUE	FREQUENCY (MHz)	MEASURE. VALUE		
Vnormal	below 1GHz	937.190	0.42462nW	851.830	0.336512nW	4nW	PASS
	above 1GHz	6997.250	7.852356nW	7000.120	9.246982nW	20nW	PASS
V+10%	below 1GHz	848.190	0.34914nW	996.360	0.32434nW	4nW	PASS
	above 1GHz	6997.250	11.455129nW	6985.750	9.099133nW	20nW	PASS
V-10%	below 1GHz	874.620	0.410204nW	815.210	0.333426nW	4nW	PASS
	above 1GHz	6988.620	8.892011nW	6968.500	8.128305nW	20nW	PASS
TEST CHANNEL		CH 39 (2480MHz)				LIMIT	RESULT
TEST CONDITION	FREQUENCY RANGE	FREQUENCY (MHz)		MEASURE. VALUE			
Vnormal	below 1GHz	719.670		0.364754nW		4nW	PASS
	above 1GHz	6974.250		10.280163nW		20nW	PASS
V+10%	below 1GHz	869.770		0.352371nW		4nW	PASS
	above 1GHz	6997.250		11.668096nW		20nW	PASS
V-10%	below 1GHz	627.760		0.396278nW		4nW	PASS
	above 1GHz	6991.500		9.7949nW		20nW	PASS

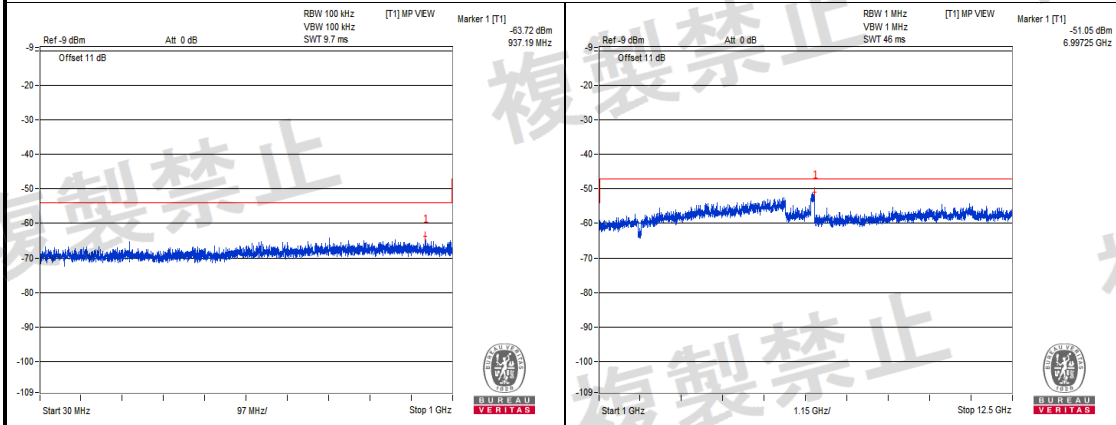
NOTES: 1. The worst value in each frequency range v.s. each channel has been marked by boldface.
2. The spectrum plots are attached on the following pages.



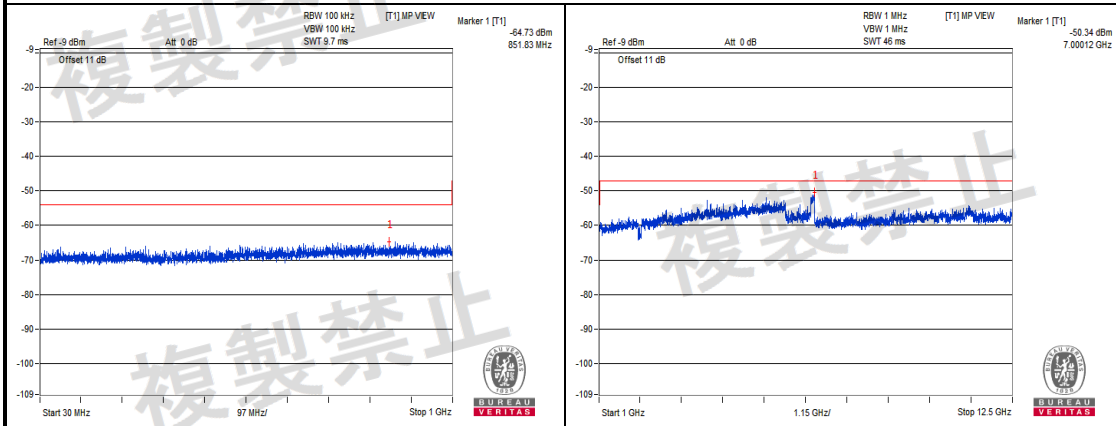
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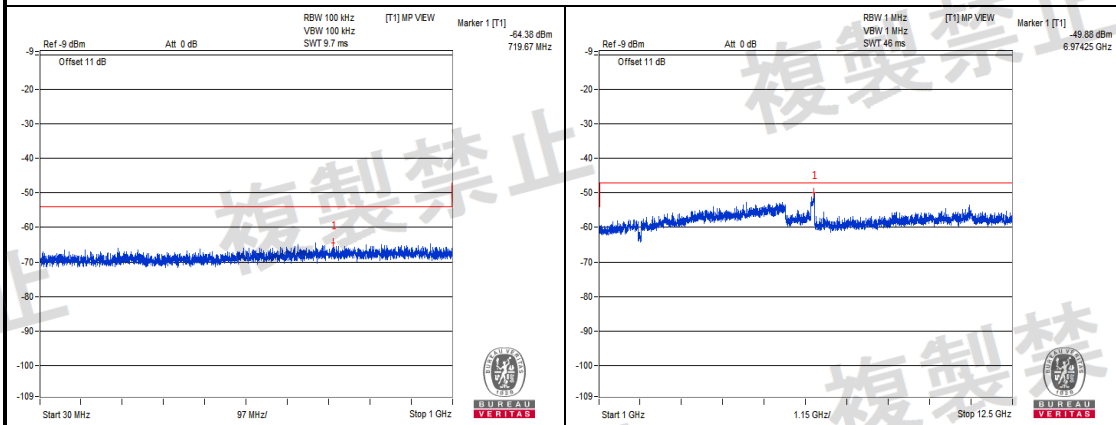
Vnormal



Channel 0



Channel 19



Channel 39

Measurement uncertainty: ± 3.93 dB

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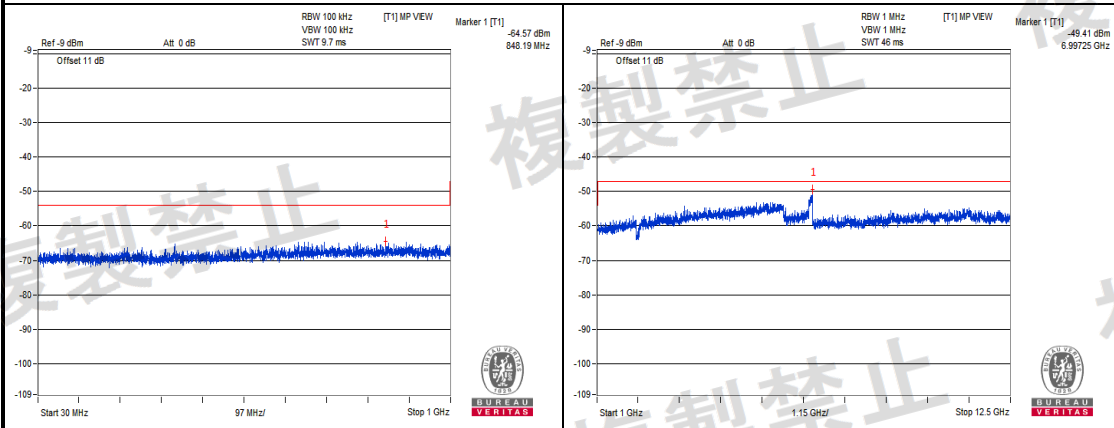
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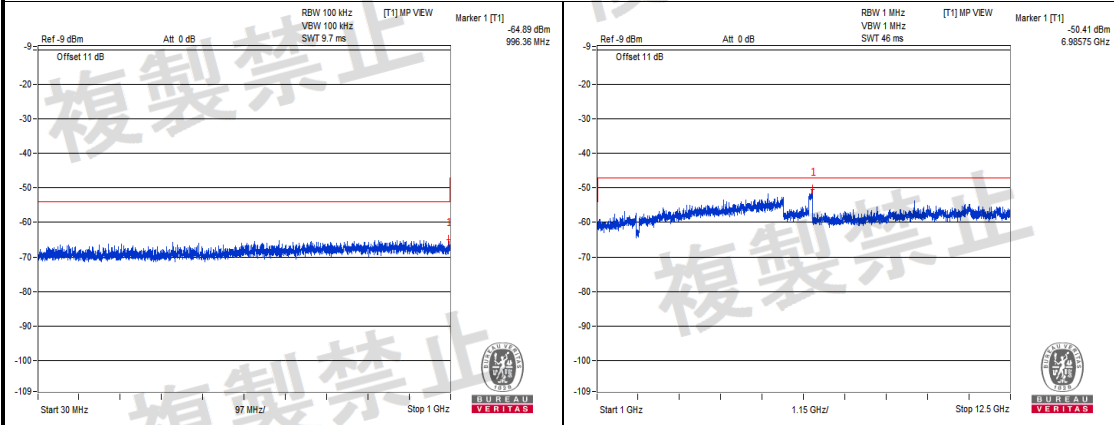
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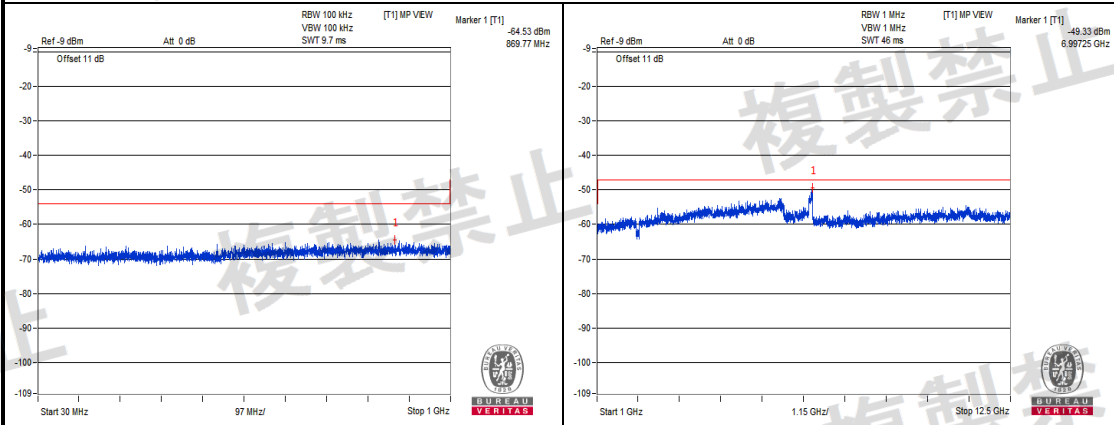
V+10%



Channel 0



Channel 19



Channel 39

Measurement uncertainty: ± 3.93 dB

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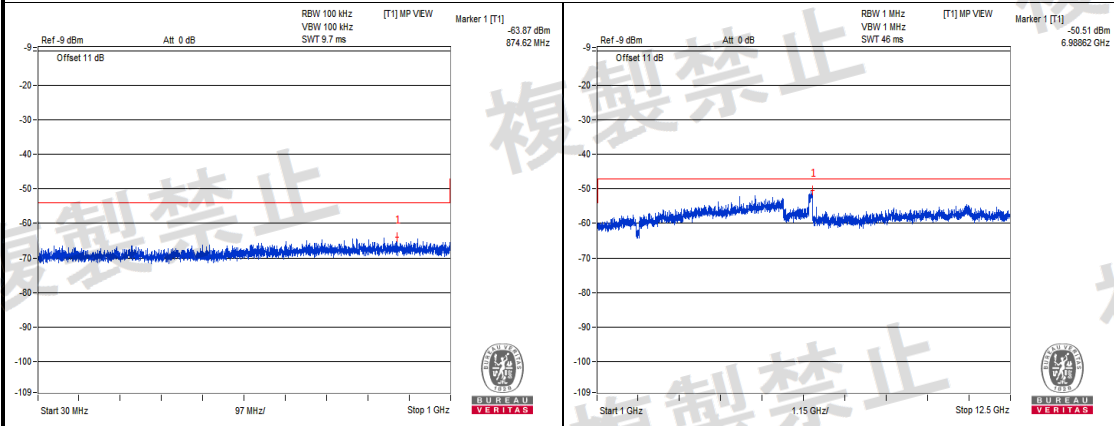
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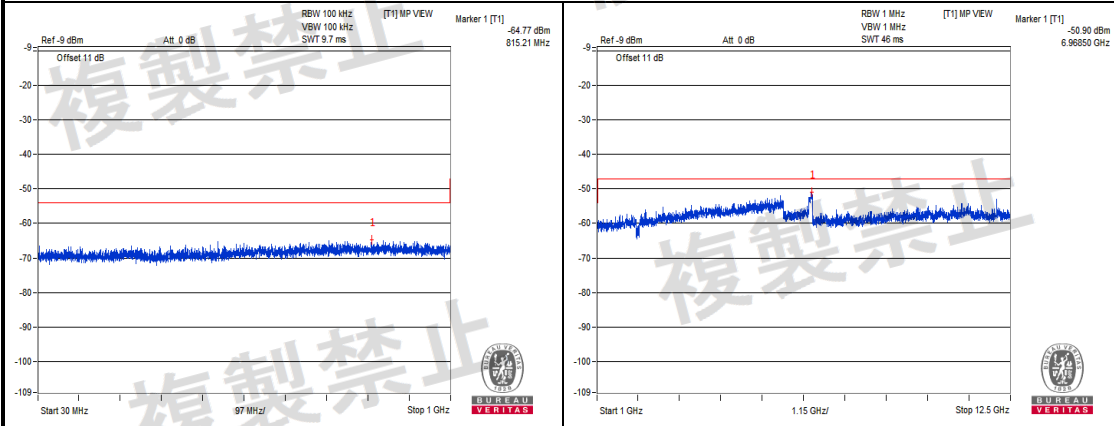
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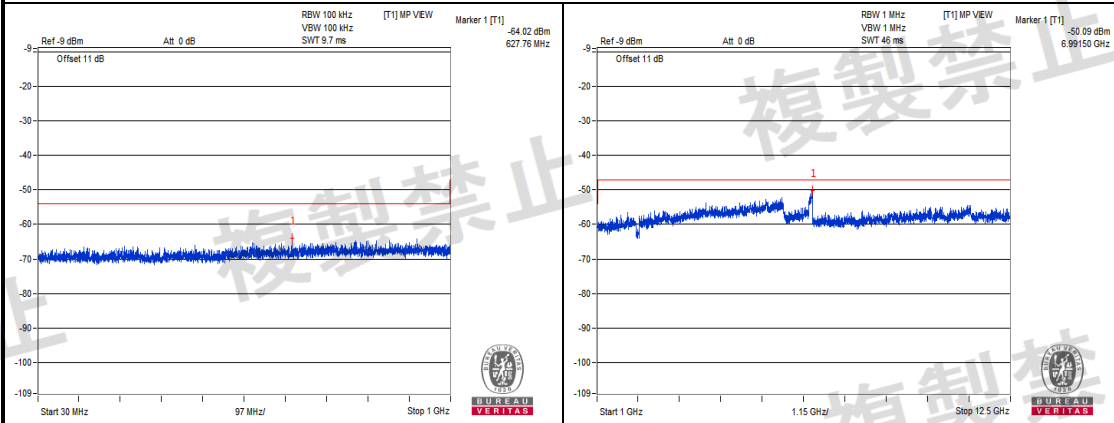
V-10%



Channel 0



Channel 19



Channel 39

Measurement uncertainty: $\pm 3.93\text{dB}$

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BT-LE (GFSK 2 Mbps)

TEST CHANNEL		CH 0 (2402MHz)		CH 19 (2440MHz)		LIMIT	RESULT
TEST CONDITION	FREQUENCY RANGE	FREQUENCY (MHz)	MEASURE. VALUE	FREQUENCY (MHz)	MEASURE. VALUE		
Vnormal	below 1GHz	281.710	0.33037nW	964.590	0.381066nW	4nW	PASS
	above 1GHz	6988.620	8.770008nW	6994.370	8.892011nW	20nW	PASS
V+10%	below 1GHz	894.020	0.390841nW	680.140	0.370681nW	4nW	PASS
	above 1GHz	6997.250	9.099133nW	6994.370	8.87156nW	20nW	PASS
V-10%	below 1GHz	906.630	0.376704nW	740.760	0.35156nW	4nW	PASS
	above 1GHz	6977.120	7.906786nW	6982.870	8.87156nW	20nW	PASS
TEST CHANNEL		CH 39 (2480MHz)				LIMIT	RESULT
TEST CONDITION	FREQUENCY RANGE	FREQUENCY (MHz)		MEASURE. VALUE			
Vnormal	below 1GHz	925.060		0.331894nW		4nW	PASS
	above 1GHz	6942.620		9.594006nW		20nW	PASS
V+10%	below 1GHz	948.100		0.475335nW		4nW	PASS
	above 1GHz	7000.120		8.51138nW		20nW	PASS
V-10%	below 1GHz	769.860		0.389942nW		4nW	PASS
	above 1GHz	6994.370		8.790225nW		20nW	PASS

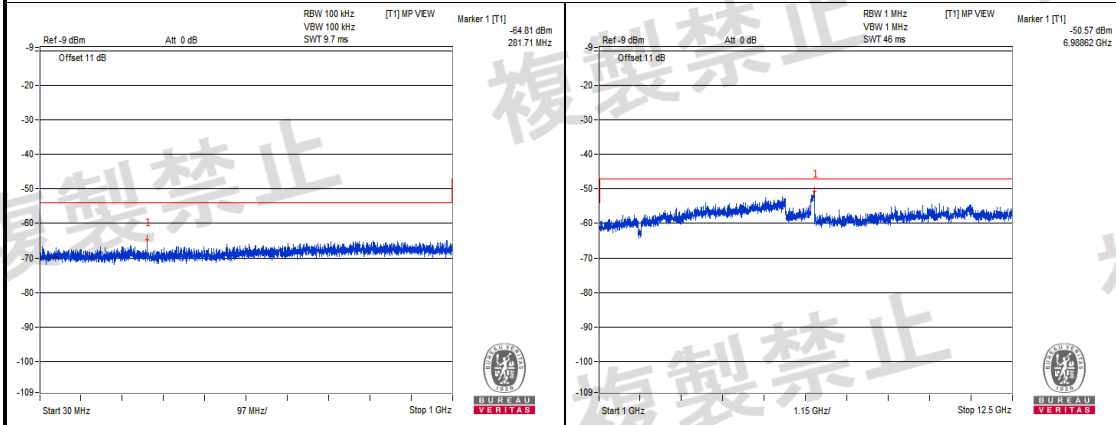
- NOTES:** 1. The worst value in each frequency range v.s. each channel has been marked by boldface.
2. The spectrum plots are attached on the following pages.



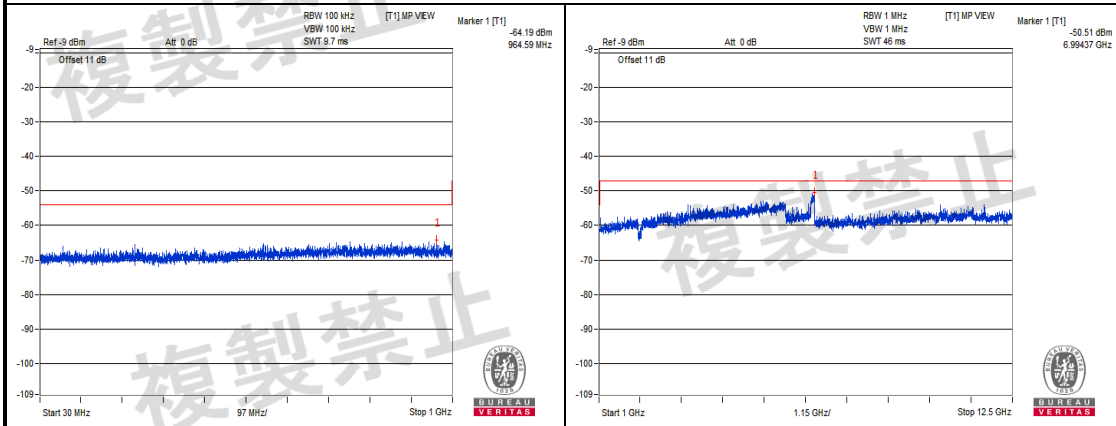
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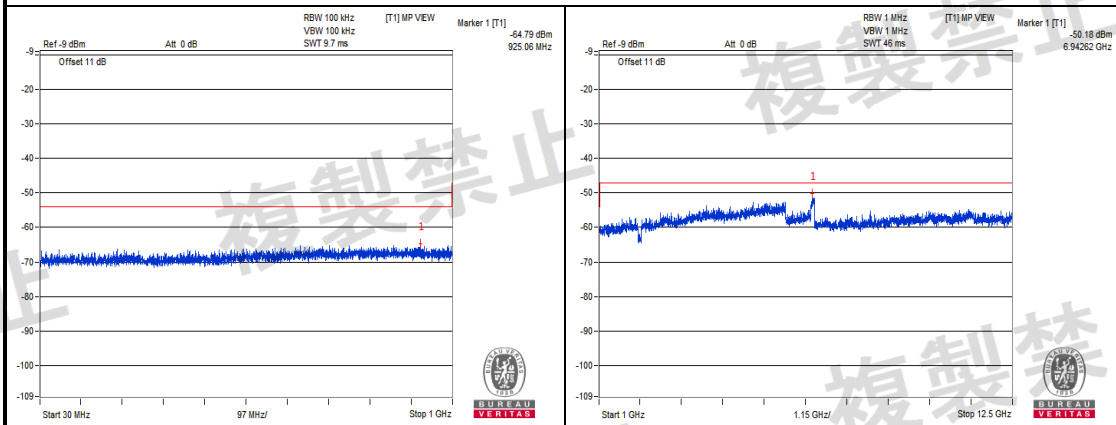
Vnormal



Channel 0



Channel 19



Channel 39

Measurement uncertainty: $\pm 3.93\text{dB}$

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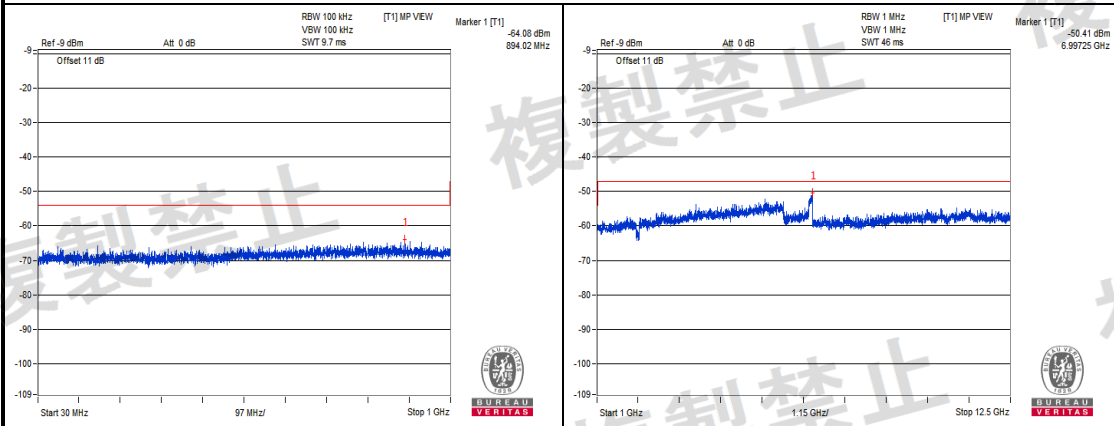
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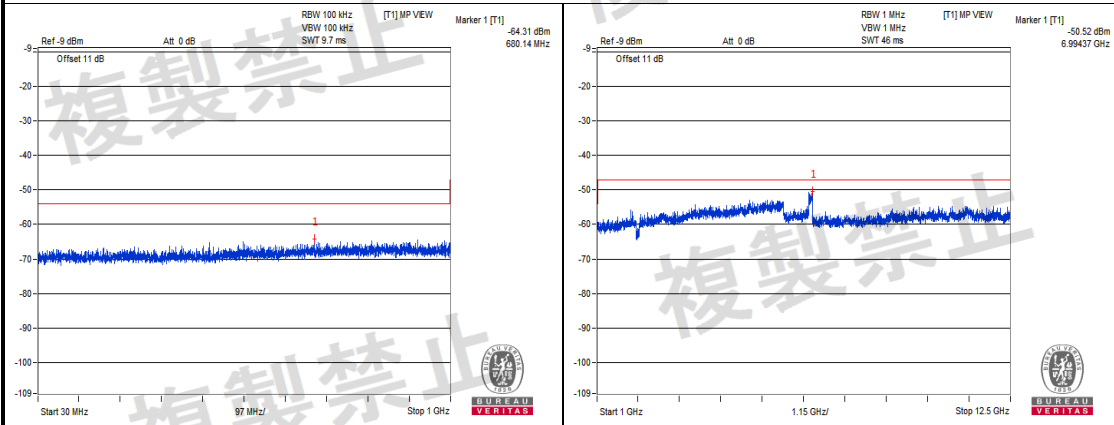
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Test Report No.: RJ2504WDG0269-2

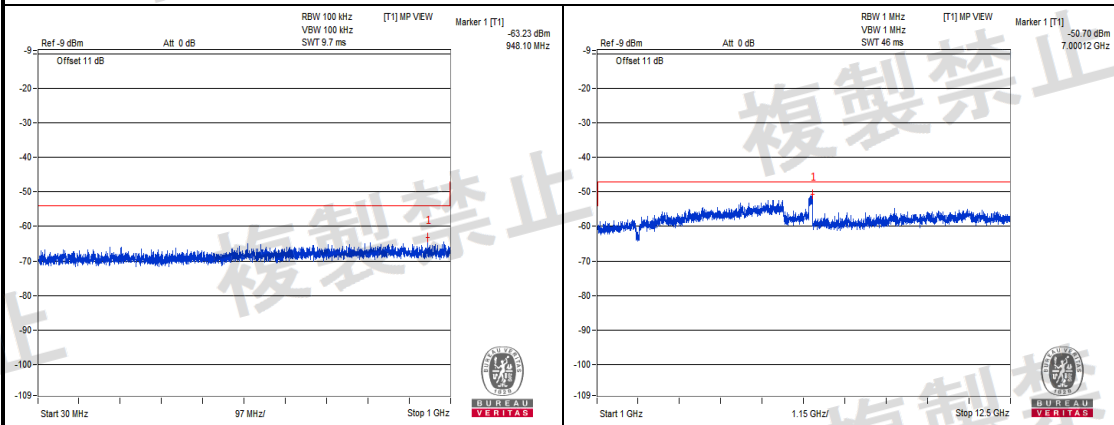
V+10%



Channel 0



Channel 19



Channel 39

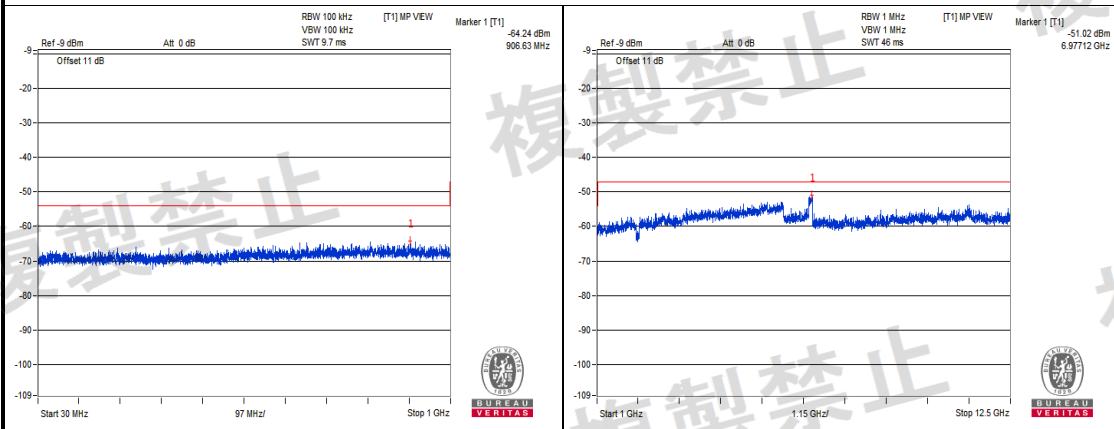
Measurement uncertainty: $\pm 3.93\text{dB}$



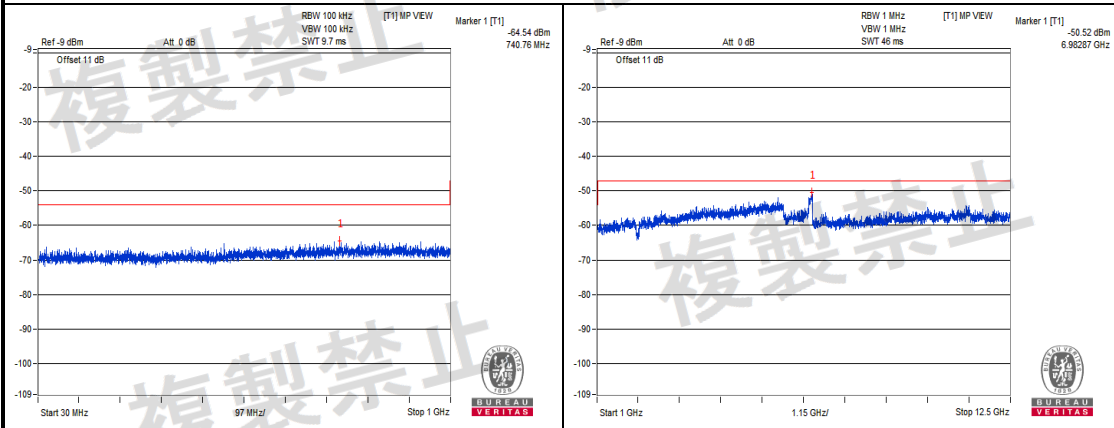
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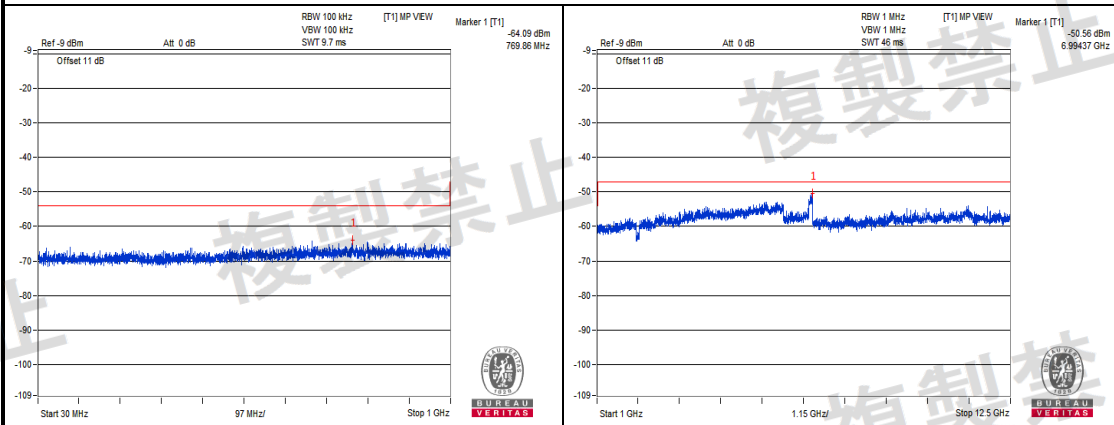
V-10%



Channel 0



Channel 19



Channel 39

Measurement uncertainty: $\pm 3.93\text{dB}$

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3.6 INTERFERENCE PREVENTION FUNCTION

3.6.1 LIMITS OF INTERFERENCE PREVENTION FUNCTION

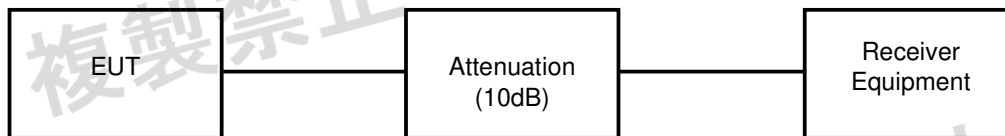
Item	Limits
Identification	≥48bits

Note: In ASCII, a character usually takes 8 bits.

3.6.2 TEST METHOD

According to MIC Notice No. 88 Appendix 43.

3.6.3 TEST SETUP



3.6.4 TEST RESULTS

ENVIRONMENTAL CONDITIONS	25 deg.C, 56% RH
LINK MODE	TEST RESULT
BT	PASS
MAC Address	6C:05:D3:C6:CE:84



4 TEST INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Next Cal.	Calibration Body	Calibration Method
Signal and Spectrum Analyzer	Rohde& Schwarz	FSV40	101094	Oct. 09, 25	GRGT	C
Power Meter	Anritsu	ML2495A	1139001	Feb. 24,26	CEPREI	C
Power Sensor	Anritsu	MA2411B	1531155	Feb. 24,26	CEPREI	C
Digital Multimeter	FLUKE	15B	A1220010DG	N/A	CEPREI	C
Attenuator	MINI	BW-S10W2+	S130129FGE2	N/A	internal	C
Contact Demodulator	LONGGUANG	TDGC ₂ J-3	2006	Mar. 20, 26	internal	C

NOTES:

1. The test was performed in RF Ovenroom.
2. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to CEPREI/CHINA, GRGT/CHINA and NIM/CHINA.

Calibration Method:

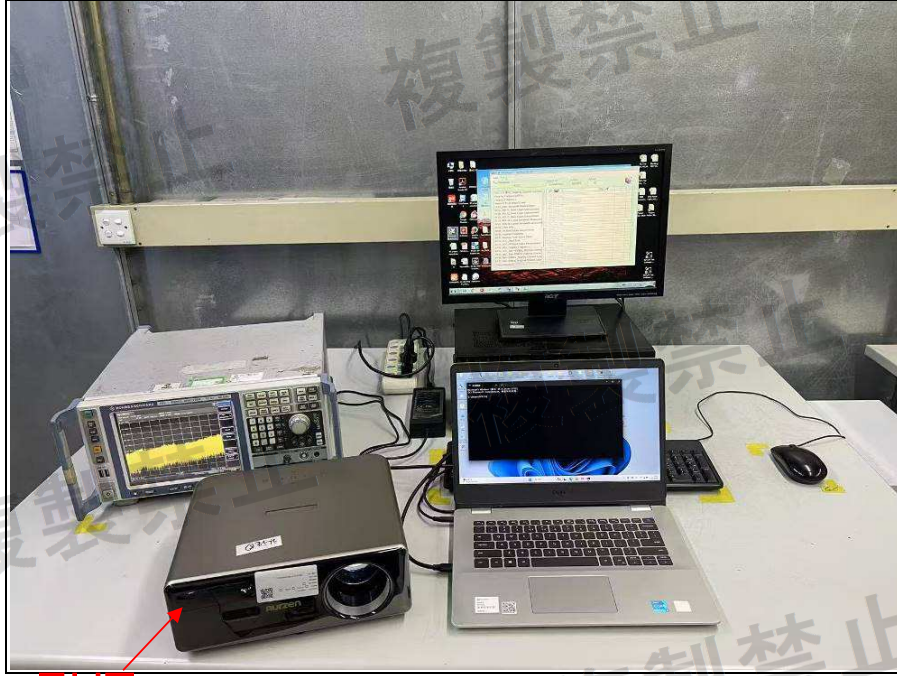
- a) Calibration conducted by the National Institute of Information and Communications Technology (NICT) (hereinafter referred to as "NICT") or a designated calibration agency under Article 102-18 paragraph (1)
- b) Correction conducted pursuant to the provisions of Article 135 or Article 144 of the Measurement Law (Law No. 51 of 1992)
- c) Calibration conducted in foreign countries, which shall be equivalent to the calibration conducted by the NICT or a designated calibration agency under Article 102-18 paragraph (1)
- d) Calibration conducted by using measuring instruments and other equipment listed in the right column of Table No. 3 attached hereto, which shall have been given any of calibration, etc. listed above from a) to c)



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5 PHOTOGRAPHS OF THE TEST CONFIGURATION



EUT



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6 APPENDIX A – MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB

No modifications were made to the EUT by the lab during the test.

--- END ---