

1. TEST RESULT REPORT

Applicant (SRAM, LLC)**Ken Lousberg, CEO****Test Laboratory: ESTECH CO., LTD****Tested Engineer;**signature
Na Hyun, Lim**Approval person;**signature
Keum Bum, Lee

Equipment Type Electronic Shifter

Model Name 00240

Serial Number -

Number of Tested Equipment 1

Date of Testing 2026-03-13 ~ 2026-03-16

Place of Testing
ESTECH CO., LTD.
Suite 1015, World Venture Center II, 123 Gasan Digital 2-ro,
Geumcheon-gu, Seoul, 08505, Korea

Test Result PASS (Refer to attachment)

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2. TEST INFORMATION

- | | |
|--|---|
| 1 Classification of Specified Radio Equipment | Article 2 Paragraph 1 of Item 19 |
| 2 Test Method | Ministry of Internal Affairs and Communications
MIC Notification. No. 88, Annex 43 |
| 3 Supply Voltage | DC 3 V |
| 4 Size (W x D x H) | 60 x 58 x 10 (mm) |
| 5 RF Specification Frequency range | BLE 1M : 2402 - 2480 MHz
AIREA (Proprietary 802.15.4) : 2405 - 2475 MHz |
| 6 RF Channels | BLE 1M : 40 Channels
AIREA (Proprietary 802.15.4) : 15 Channels |
| 7 Modulation method & Data rate | GFSK & 1 Mbps
O-QPSK & 0.25 Mbps |
| 8 Measurement Equipment | <u>Refer to Item 4</u> |
| 9 Type of Emissions, Frequency and Declaration Output Power to be tested | <u>Refer to Test Results</u> |

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2.1 TEST RESULTS DATA FOR JAPANESE CERTIFICATION (LE1M)

Environment of Test Room	Temperature	23 °C
	Humidity	48 %

Peak Antenna Gain	1.1	dBi
Declaration Output Power	3	mW
Declaration Output Power	4.77	dBm
E.I.R.P	5.87	dBm
Input Power Voltage	3	VDC

Tested Circuit Insertion Loss	1	dB
Burst	ON TIME	-Not applicable- sec
	OFF TIME	-Not applicable- sec
	Ratio	-Not applicable- %
Packet Type (Mode)	-Not applicable-	mode

Frequency equal to the transmission rate
of the modulation signal

N/A

Test Category ; 2.4GHz Band Wideband Low-Power Data Communication System

Comprehensive operation test

"When the input voltage to receiver RF circuit varies below $\pm 1\%$,
as the input voltage from the external power supply to the receiver varies $\pm 10\%$ (excluding power supply)."

2.4.1. TEST Results

Measurement Frequency	MHz	2402	2440	2480	Result	NOTES
Channel Number	Ch.	0	19	39	-----	
Reading Frequency	MHz	2401.961850	2439.996650	2479.992950	-----	
Frequency Tolerance	ppm	-15.88260	-1.37295	-2.84274	PASS	
Occupied Bandwidth	MHz	1.7504	1.8342	1.7822	PASS	
Spread Bandwidth	MHz	0.8720296	0.9448887	0.8959446	PASS	
RF Output Power	mW	2.891	2.793	2.559	PASS	
RF Output Power Tolerance	%	-3.64	-6.92	-14.71	PASS	
Real Total Output Power	dBm	4.61	4.46	4.08	-----	<Reference>
Unwanted Emission Strength	Under 2387MHz	$\mu\text{W}/\text{MHz}$	0.007920	0.010810	0.008260	PASS
		MHz	2338.08	1833.65	1849.19	-----
	2387-2400MHz	$\mu\text{W}/\text{MHz}$	10.000000	0.005620	0.006540	PASS
		MHz	2399.9921	2394.6689	2395.1482	-----
	2483.5-2496.5MHz	$\mu\text{W}/\text{MHz}$	0.003700	0.005960	0.074030	PASS
		MHz	2484.603	2485.7029	2483.5571	-----
	2496.5 - 12.5GHz	$\mu\text{W}/\text{MHz}$	0.013690	0.010760	0.010810	PASS
		MHz	4804.7	2503.8	4803.5	-----
Secondarily Emitted Radio Wave Strength (RX Spurious)	Under 1GHz	nW	0.939510	1.010000	1.110000	PASS
		MHz	703.35	600.09	618.56	-----
	1 - 12.5GHz	nW	3.860000	3.640000	3.980000	PASS
		MHz	10840.7	12253.7	12542	-----
Interference Prevention Function	-----	good			PASS	

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2.1 TEST RESULTS DATA FOR JAPANESE CERTIFICATION (AIREA)

Environment of Test Room	Temperature	23 °C
	Humidity	48 %

Peak Antenna Gain	1.1	dBi
Declaration Output Power	10	mW
Declaration Output Power	10.00	dBm
E.I.R.P	11.10	dBm
Input Power Voltage	3	VDC

Tested Circuit Insertion Loss	1	dB
Burst	ON TIME	-Not applicable- sec
	OFF TIME	-Not applicable- sec
	Ratio	-Not applicable- %
Packet Type (Mode)	-Not applicable-	mode

Frequency equal to the transmission rate
of the modulation signal

N/A

Test Category ; 2.4GHz Band Wideband Low-Power Data Communication System

Comprehensive operation test

"When the input voltage to receiver RF circuit varies below $\pm 1\%$,
as the input voltage from the external power supply to the receiver varies $\pm 10\%$ (excluding power supply)."

2.4.1. TEST Results

Measurement Frequency	MHz	2405	2440	2475	Result	NOTES
Channel Number	Ch.	11	18	25	-----	
Reading Frequency	MHz	2404.990450	2439.990440	2474.990360	-----	
Frequency Tolerance	ppm	-3.97089	-3.91803	-3.89495	PASS	
Occupied Bandwidth	MHz	3.3936	3.3201	3.0264	PASS	
Spread Bandwidth	MHz	2.1508	2.0955	2.0561	PASS	
RF Output Power	mW	3.083	2.884	2.698	PASS	
RF Output Power Tolerance	%	-69.17	-71.16	-73.02	PASS	
Real Total Output Power	dBm	4.89	4.6	4.31	-----	<Reference>
Unwanted Emission Strength	Under 2387MHz	$\mu\text{W/MHz}$	0.023150	0.014930	0.013760	PASS
		MHz	2328.87	2375.28	1757.92	-----
	2387-2400MHz	$\mu\text{W/MHz}$	0.022190	0.001900	0.001770	PASS
		MHz	2399.8968	2393.2723	2393.5389	-----
	2483.5-2496.5MHz	$\mu\text{W/MHz}$	0.001320	0.002300	0.002240	PASS
		MHz	2485.0919	2486.5139	2484.0634	-----
	2496.5 - 12.5GHz	$\mu\text{W/MHz}$	0.010730	0.010130	0.012190	PASS
		MHz	6793	7178.9	11884.5	-----
Secondarily Emitted Radio Wave Strength (RX Spurious)	Under 1GHz	nW	0.027660	0.028710	0.029300	PASS
		MHz	611.22	780.21	716.85	-----
	1 - 12.5GHz	nW	0.809100	0.850160	0.927680	PASS
		MHz	11242	11837.3	7609.9	-----
Interference Prevention Function	-----	good			PASS	

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Use	Instrument	Manufacturer
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禁製

of measurement equipment is valid for

shipment.

- y the National Institute of Information a
agency under Article 102-18 paragraph
ursuant to the provisions of Article 135
an Calibration Service System.
n foreign countries, which shall be equi
ibration agency under Article 102-18 pa
y using other equipment that listed abo

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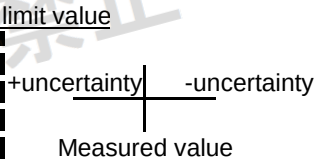
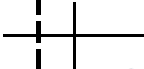
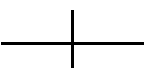
4. About Uncertainty of Measured Value

*In this test, the influence of an error or uncertainty may be done according to the following factors.

- Bias of a measurement equipment, Change by aging, Attrition, Noise
- Skill and capability of an inspector
- Environment (Temperature, Humidity)
- Dispersion in a EUT (Equipment Under Test)
- Uncertainty of calibration of a measurement equipment

Therefore, Synthetic uncertainty is calculated using "k=2" of coverage factor, and about 95% of confidence level shall be obtained.

In consideration of the above, it judged as follows.

JUDGE	Measured value and Standard limit value	
PASS	Case1  *Even if it takes uncertainty into consideration, a standard limit value is fulfilled.	
	Case2  *Although measured value is in a standard limit value, a limit value won't be fulfilled if uncertainty is taken into consideration.	
FAIL	Case3  *Although measured value exceeds a standard limit value, a limit value will be fulfilled if uncertainty is taken into consideration.	
	Case4  *Even if it takes uncertainty into consideration, a standard limit value isn't fulfilled.	

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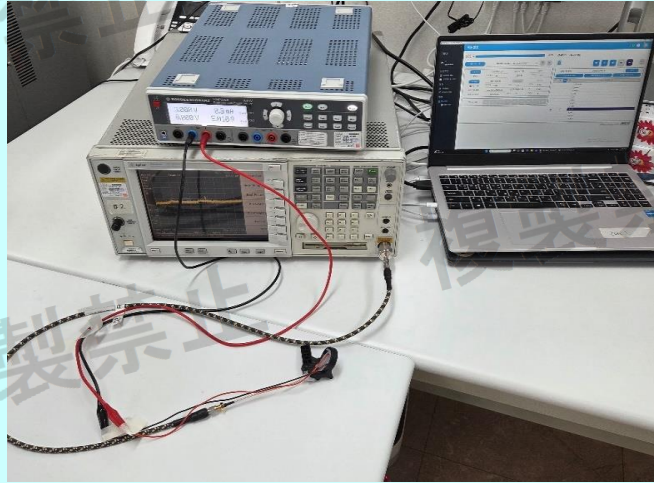
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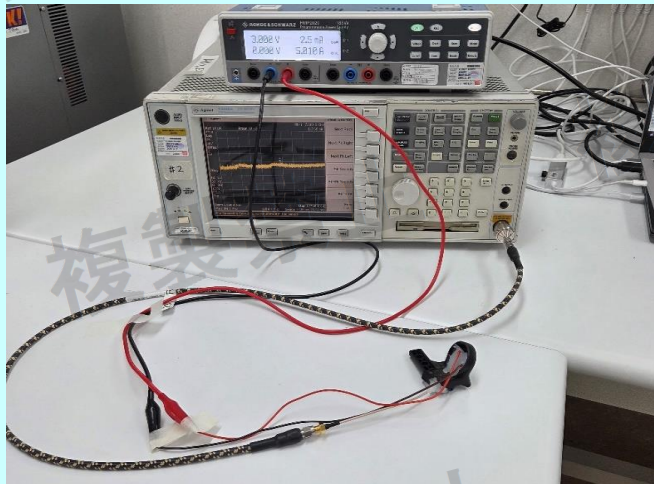
5. PHOTOGRAPHS

5 Test Conditions Photographs

Test Circuit Photo



Conducted Measurement Photo



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6. Antenna List Table

			MAX VALUE ;		1.1000 dBi		
ANTENNA			Gain Specification				NOTES (Cable or Others)
No	Type	Model Name	Max Gain (dBi)	Polarization (H or V)	Attenuation (dB)	Net Gain (dBi)	
1	Chip	W3008	1.1	Horizontal	0	1.100	
2			0	Horizontal	0	0.000	
3			0	Horizontal	0	0.000	
4			0	Horizontal	0	0.000	
5			0	Horizontal	0	0.000	
6			0	Horizontal	0	0.000	
7			0	Horizontal	0	0.000	
8			0	Horizontal	0	0.000	
9			0	Horizontal	0	0.000	
10			0	Horizontal	0	0.000	
11			0	Horizontal	0	0.000	
12			0	Horizontal	0	0.000	
13			0	Horizontal	0	0.000	
14			0	Horizontal	0	0.000	
15			0	Horizontal	0	0.000	
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17			0	Horizontal	0	0.000	
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19			0	Horizontal	0	0.000	
20			0	Horizontal	0	0.000	
21			0	Horizontal	0	0.000	
22			0	Horizontal	0	0.000	
23			0	Horizontal	0	0.000	
24			0	Horizontal	0	0.000	
25			0	Horizontal	0	0.000	
26			0	Horizontal	0	0.000	
27			0	Horizontal	0	0.000	
28			0	Horizontal	0	0.000	
29			0	Horizontal	0	0.000	
30			0	Horizontal	0	0.000	
31			0	Horizontal	0	0.000	
32			0	Horizontal	0	0.000	
33			0	Horizontal	0	0.000	
34			0	Horizontal	0	0.000	
35			0	Horizontal	0	0.000	
36			0	Horizontal	0	0.000	
37			0	Horizontal	0	0.000	
38			0	Horizontal	0	0.000	
39			0	Horizontal	0	0.000	
40			0	Horizontal	0	0.000	
41			0	Horizontal	0	0.000	
42			0	Horizontal	0	0.000	

If the equipment has more than two transmission chains (such like MIMO), the antenna combination should be considered not to exceed the limit of total EIRP.

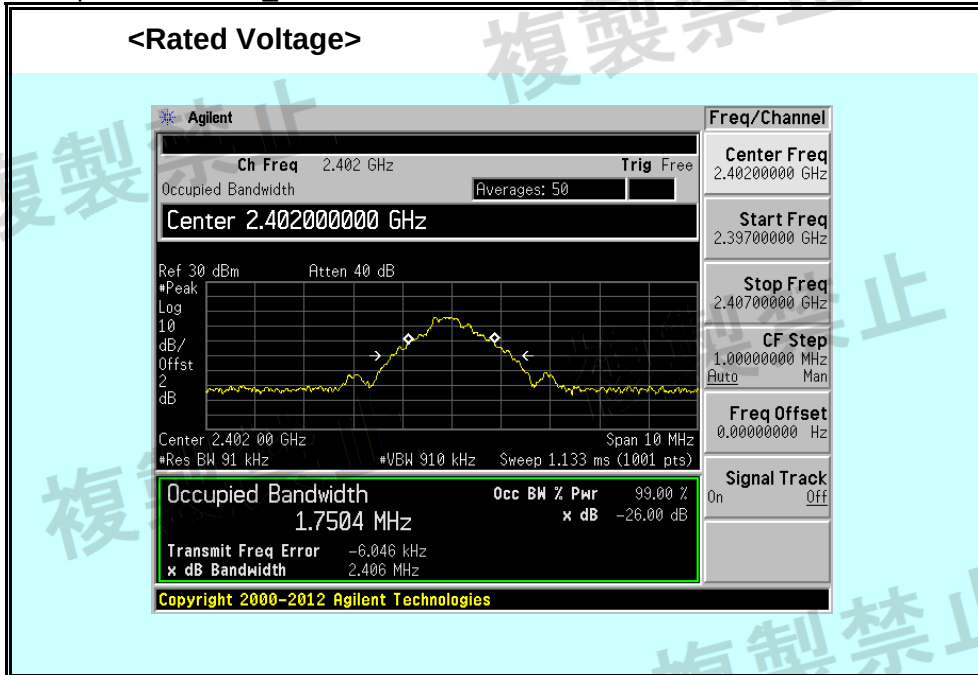
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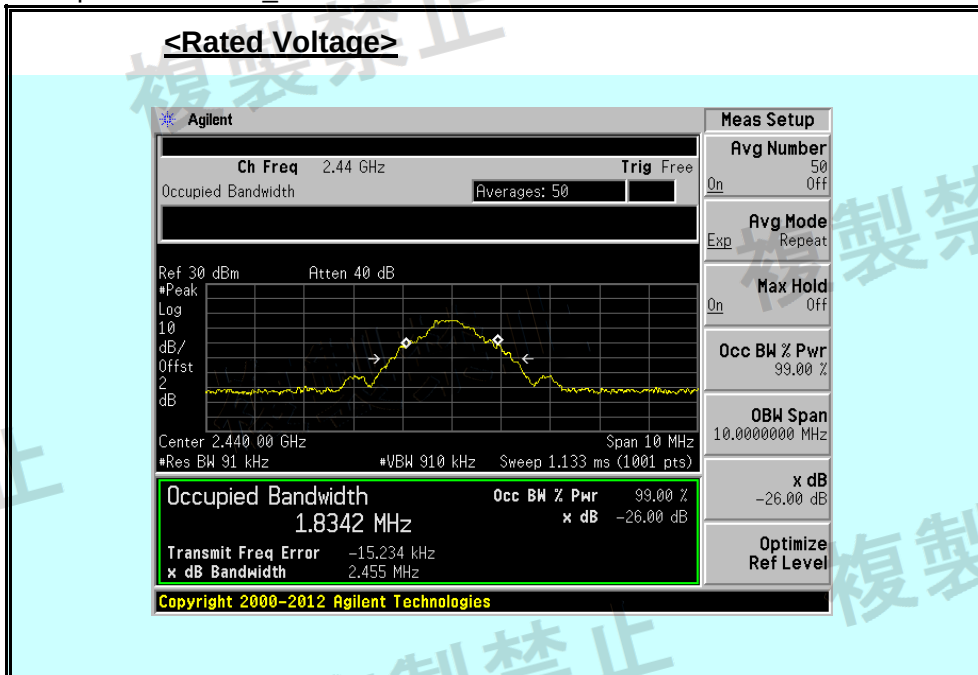
7. The picture of test data

Occupied Bandwidth(BLE1M)

Occupied Bandwidth_ch0



Occupied Bandwidth_ch19

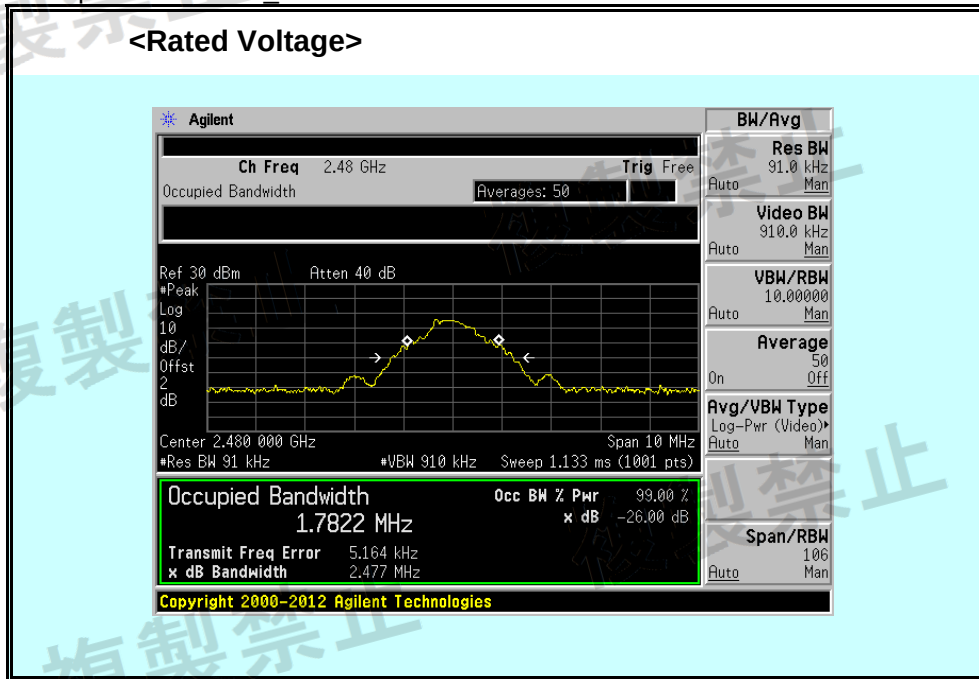


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Occupied Bandwidth_ch39

<Rated Voltage>

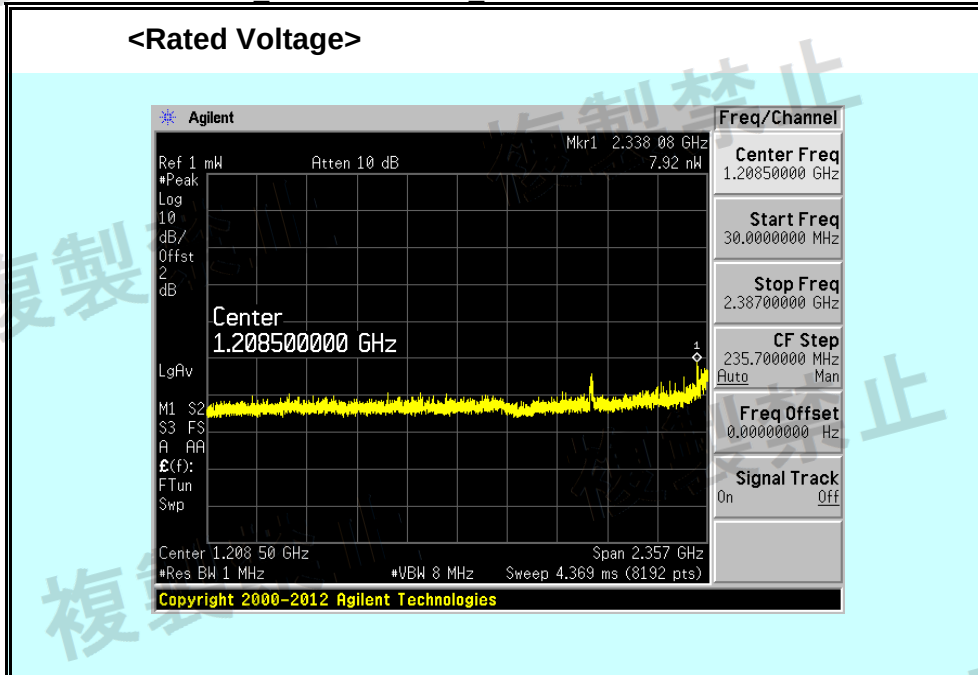


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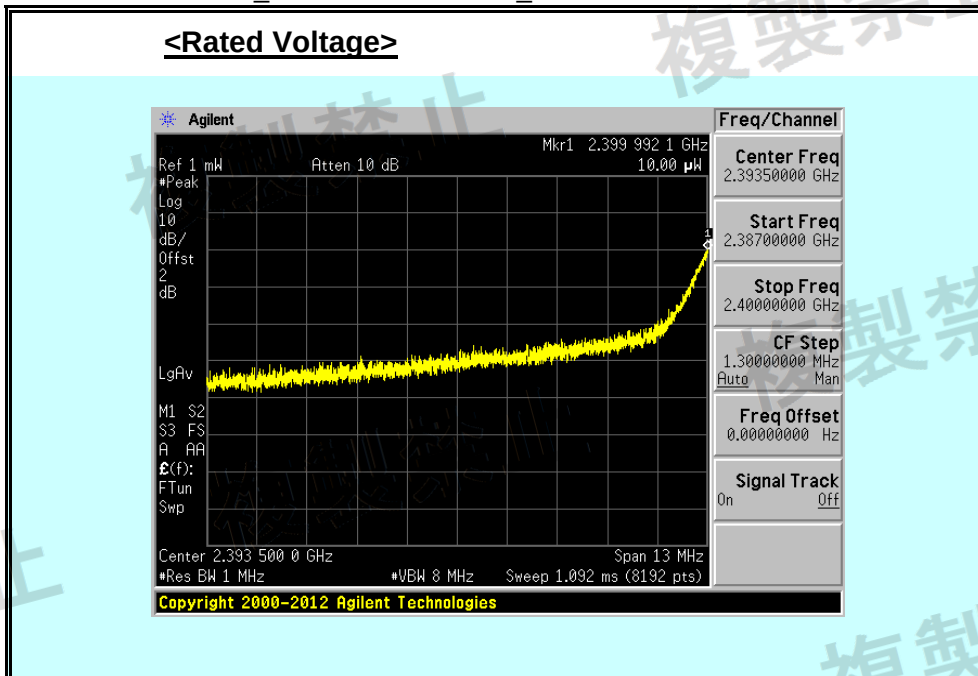
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Unwanted Emission Strength(BLE1M)

Unwanted Emission_under 2387 MHz_ch0



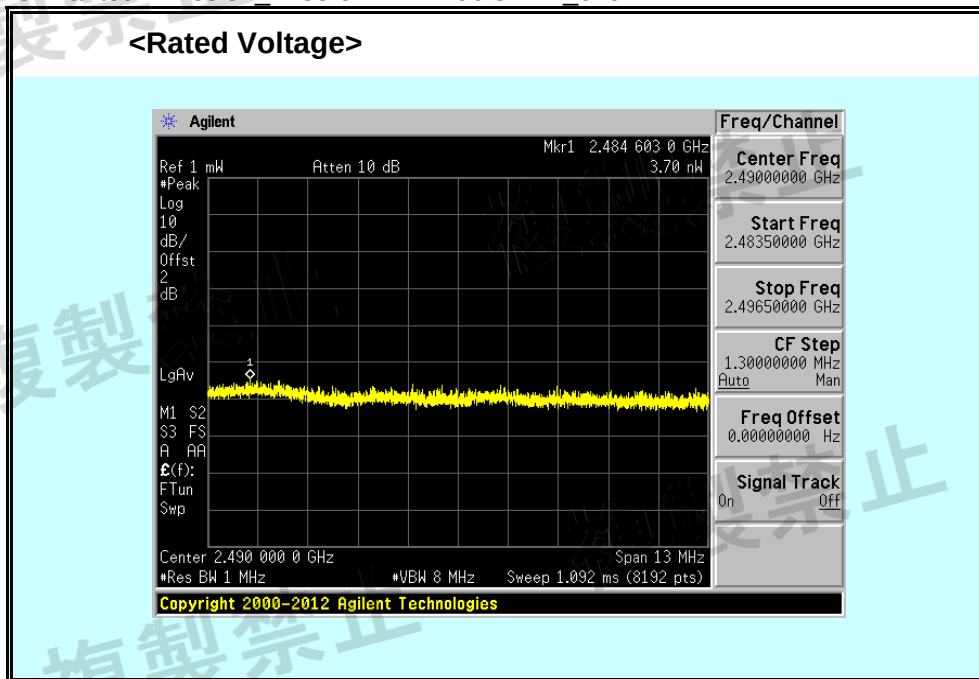
Unwanted Emission_2387 MHz-2400MHz_ch0



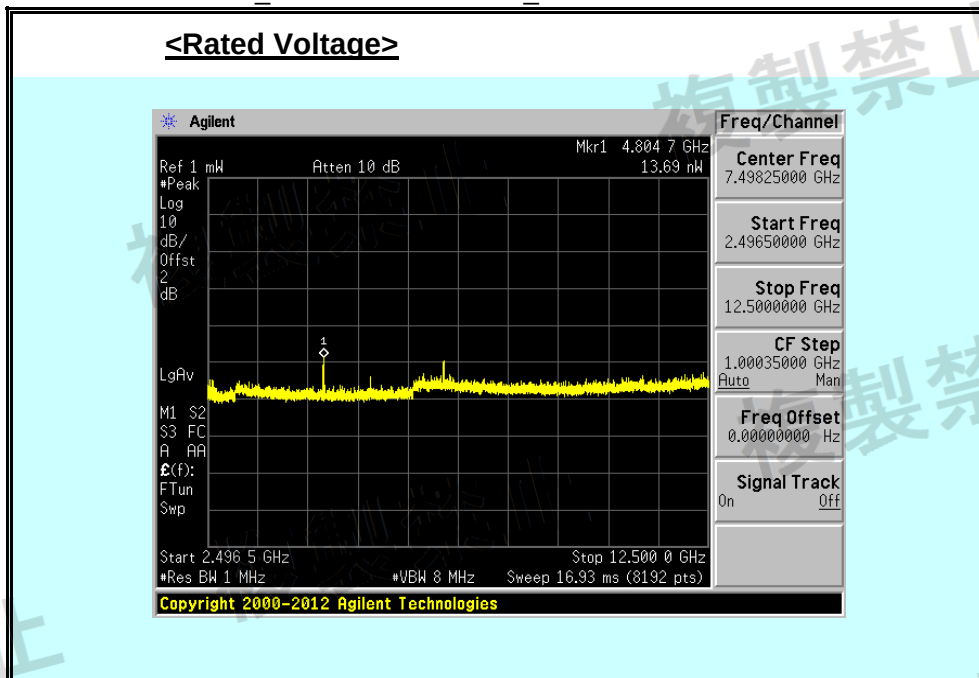
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Unwanted Emission_2483.5 MHz-2496.5MHz_ch0



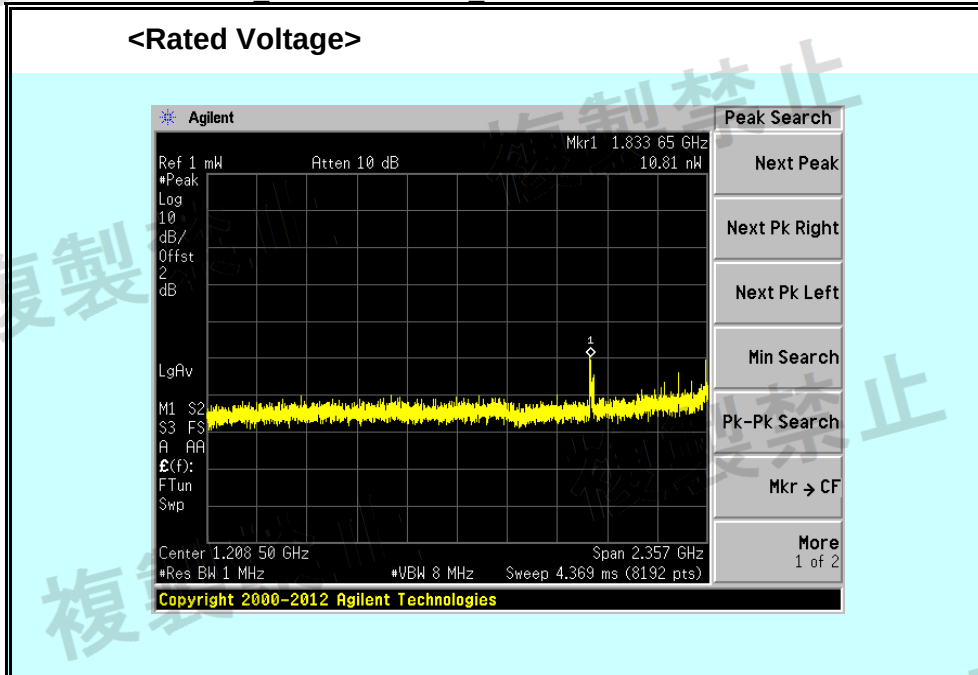
Unwanted Emission_2496.5MHz-12.5GHz_ch0



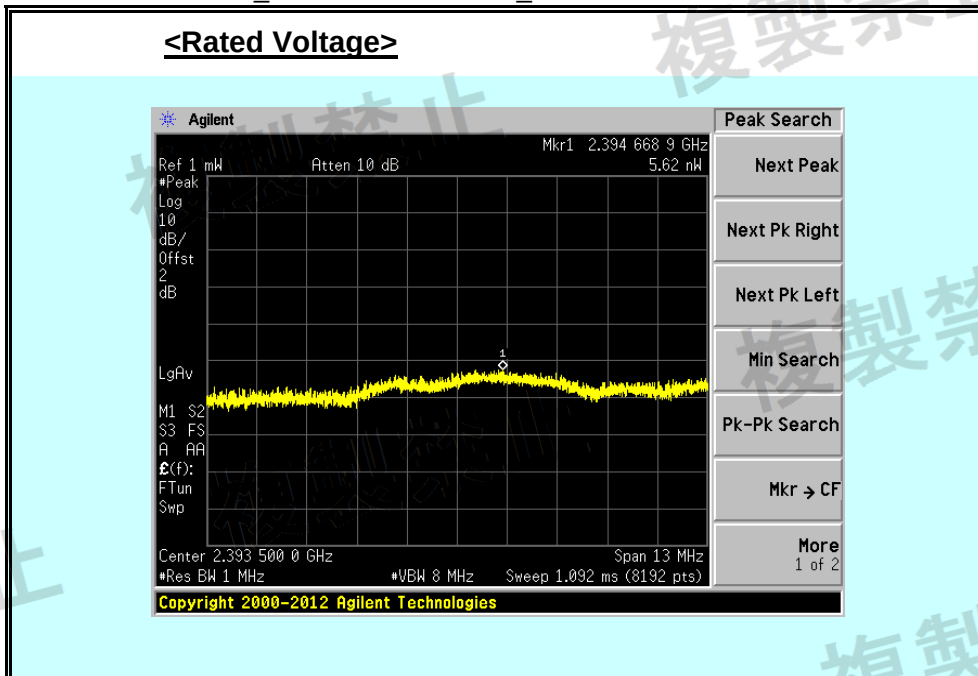
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Unwanted Emission_under 2387 MHz_ch19



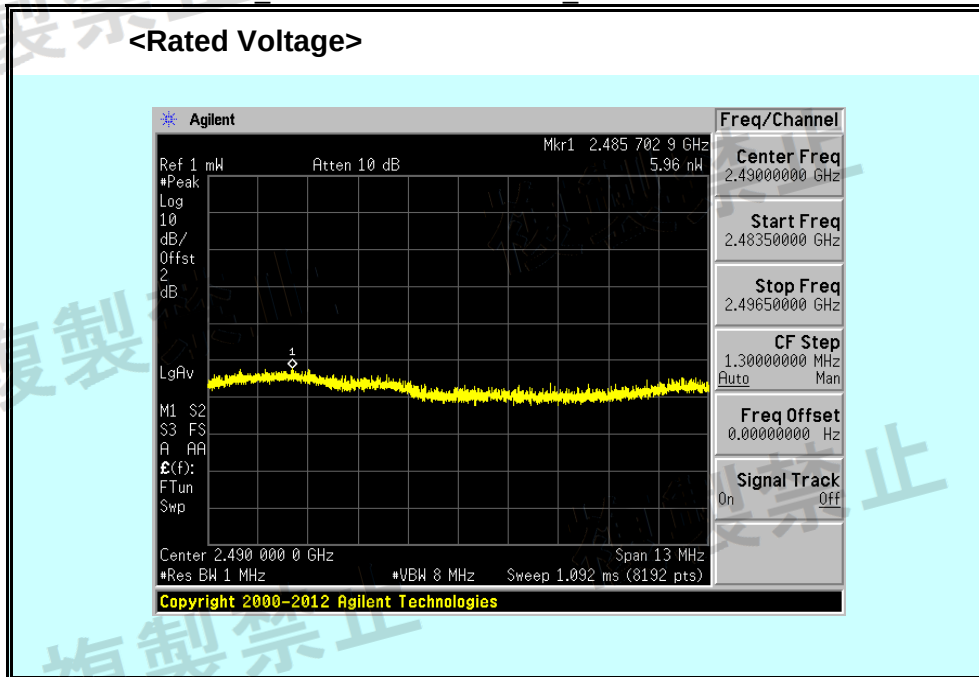
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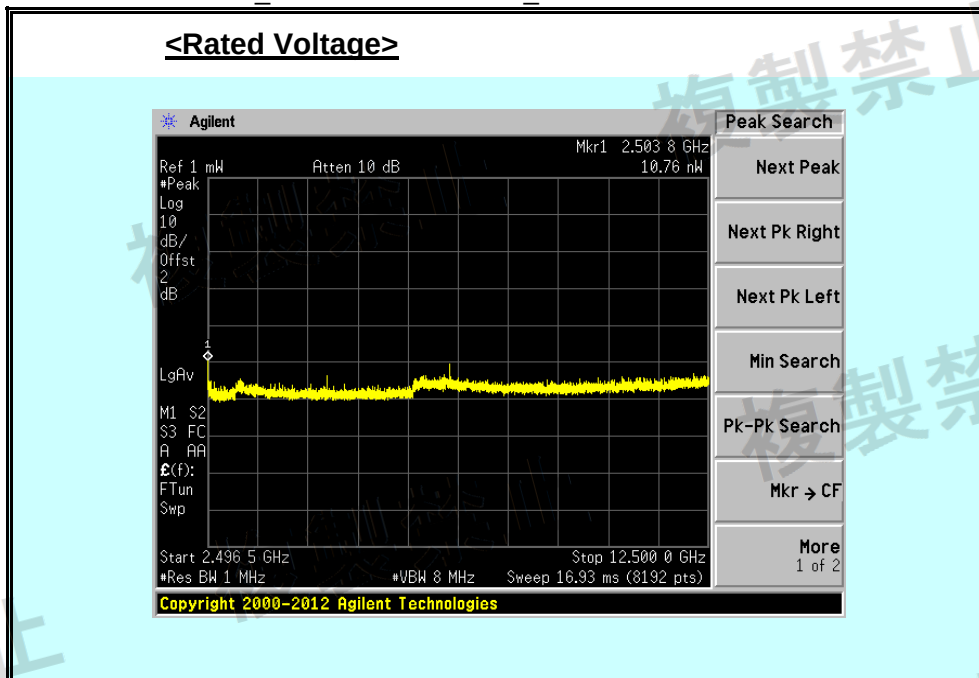
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Unwanted Emission_2483.5 MHz-2496.5MHz_ch19



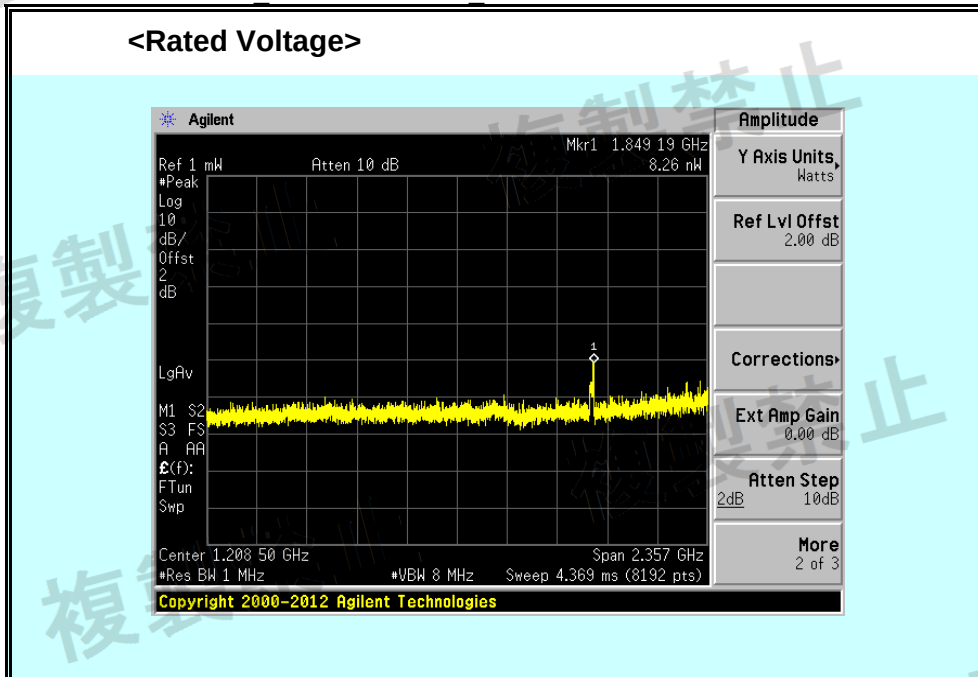
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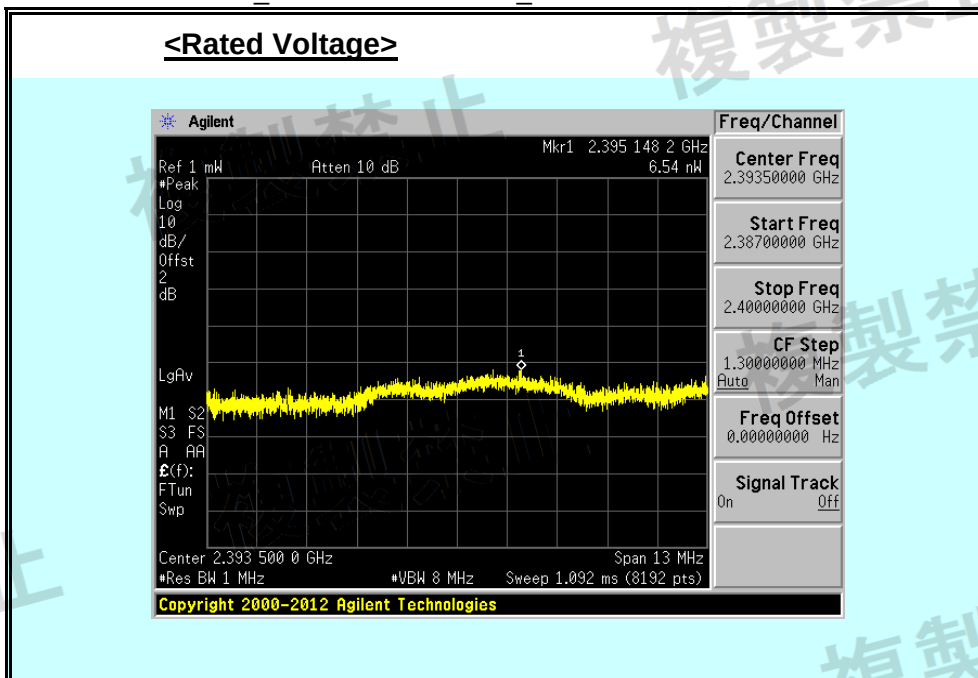
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Unwanted Emission_under 2387 MHz_ch39



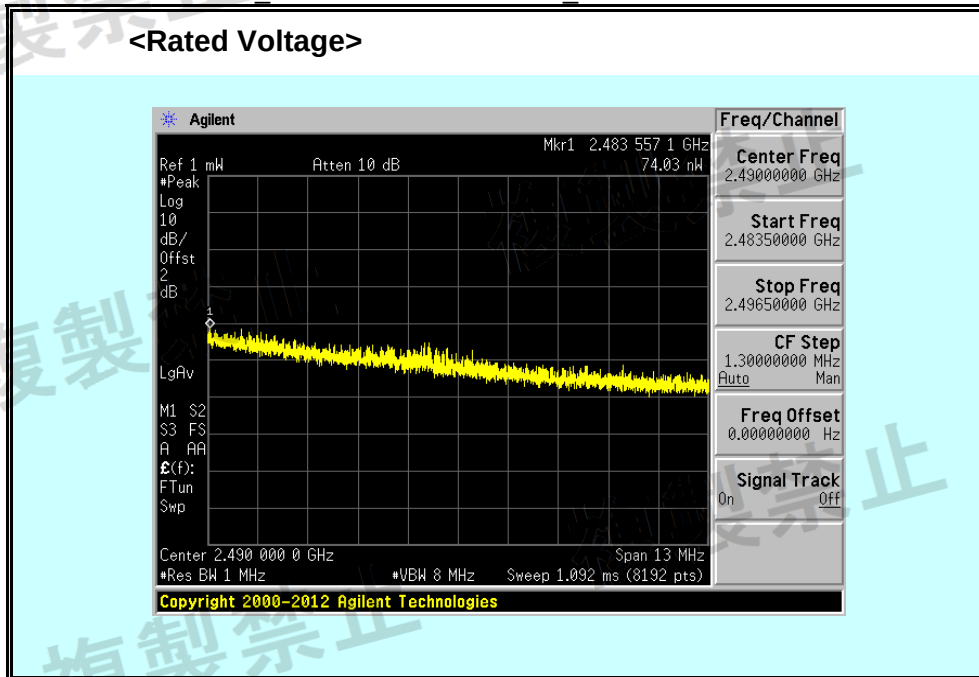
Unwanted Emission_2387 MHz-2400MHz_ch39



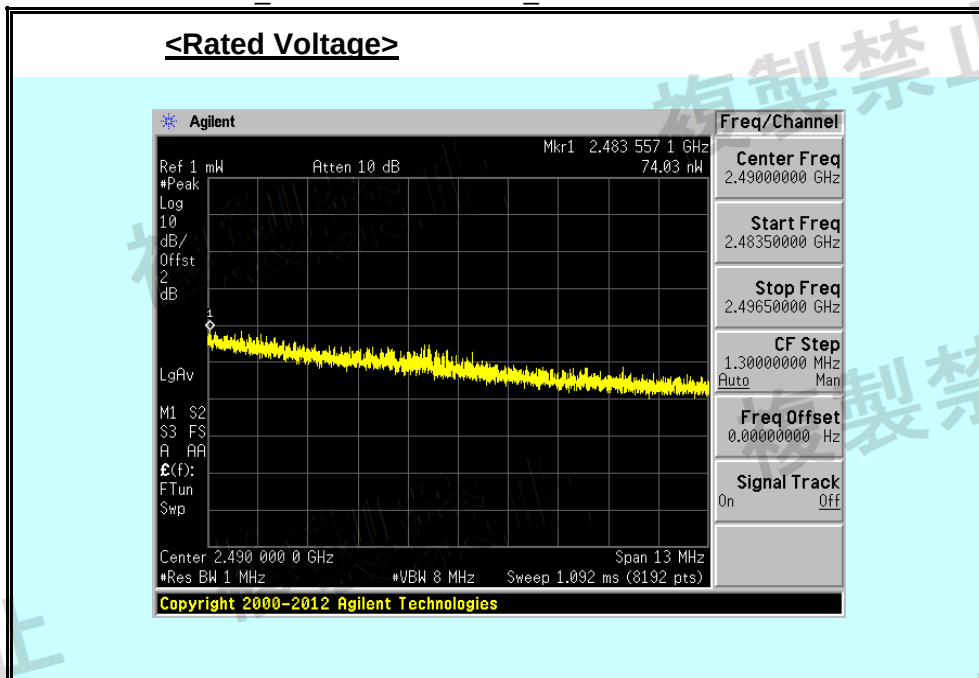
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Unwanted Emission_2483.5 MHz-2496.5MHz_ch39



Unwanted Emission_2496.5MHz-12.5GHz_ch39

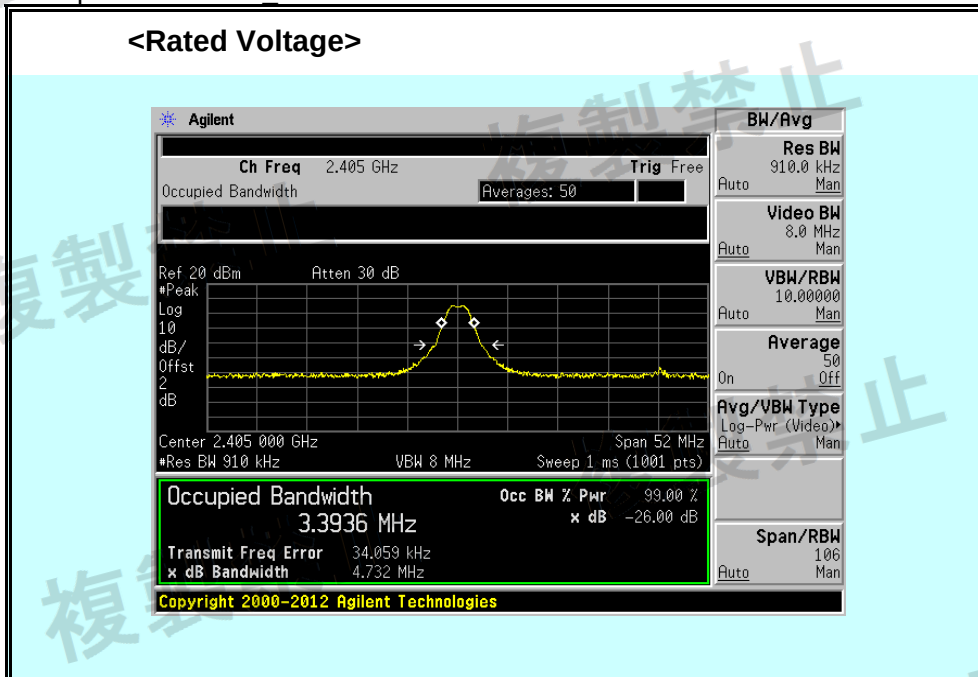


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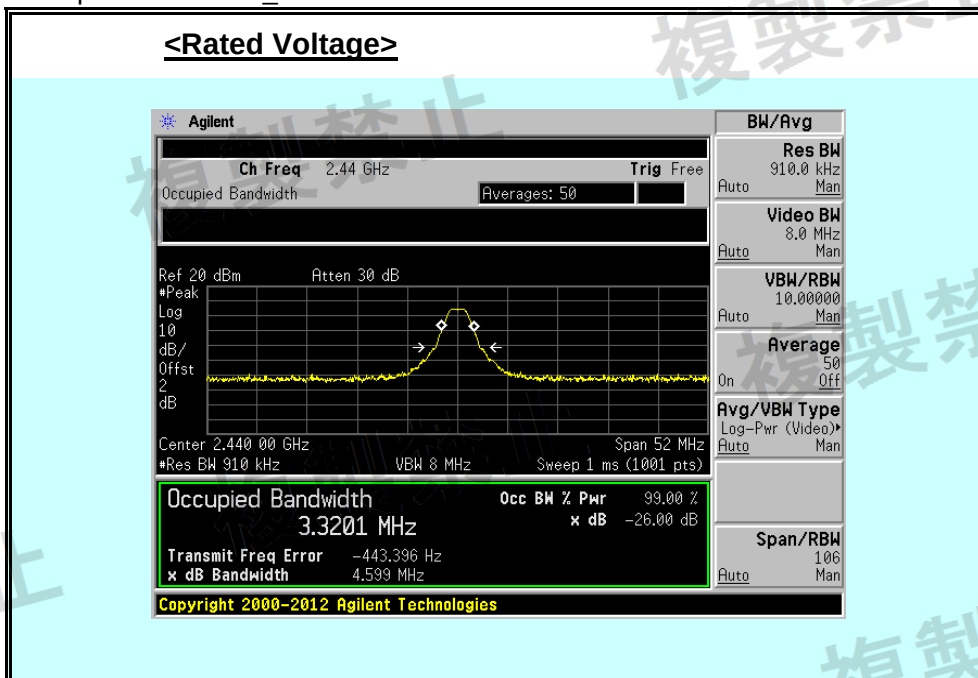
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Occupied Bandwidth (AIKEA)

Occupied Bandwidth_ch11



Occupied Bandwidth_ch18

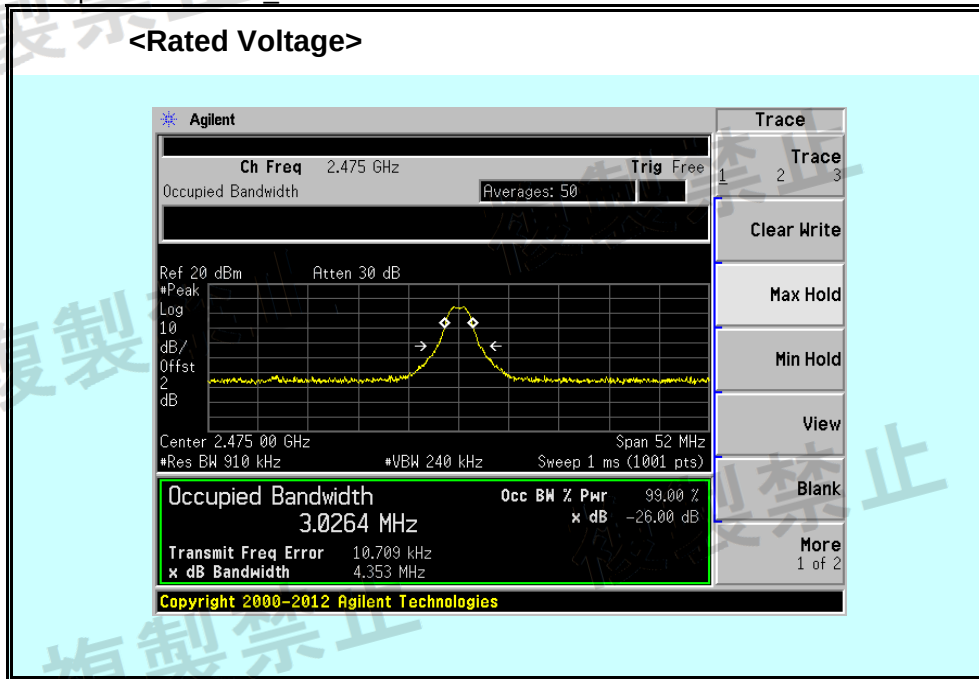


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Occupied Bandwidth_ch25

<Rated Voltage>

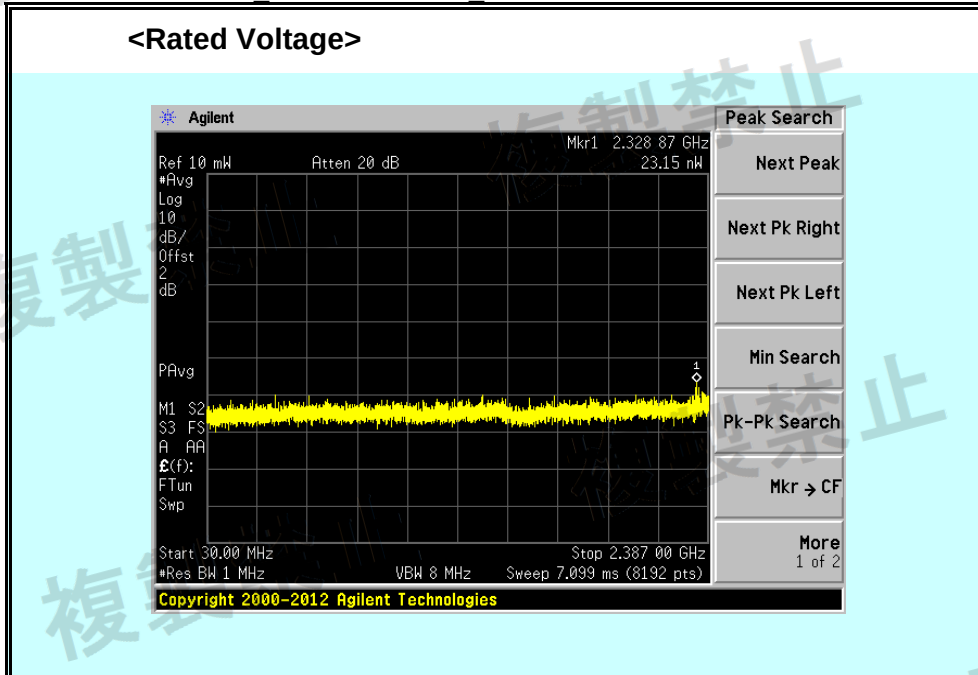


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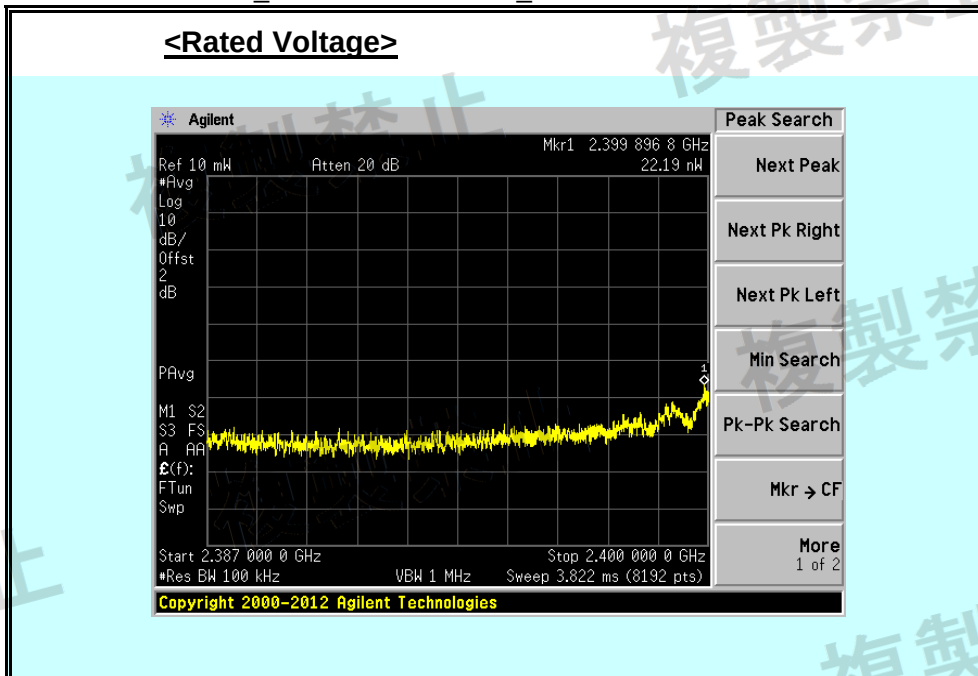
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Unwanted Emission Strength(Zigbee)

Unwanted Emission_under 2387 MHz_ch11



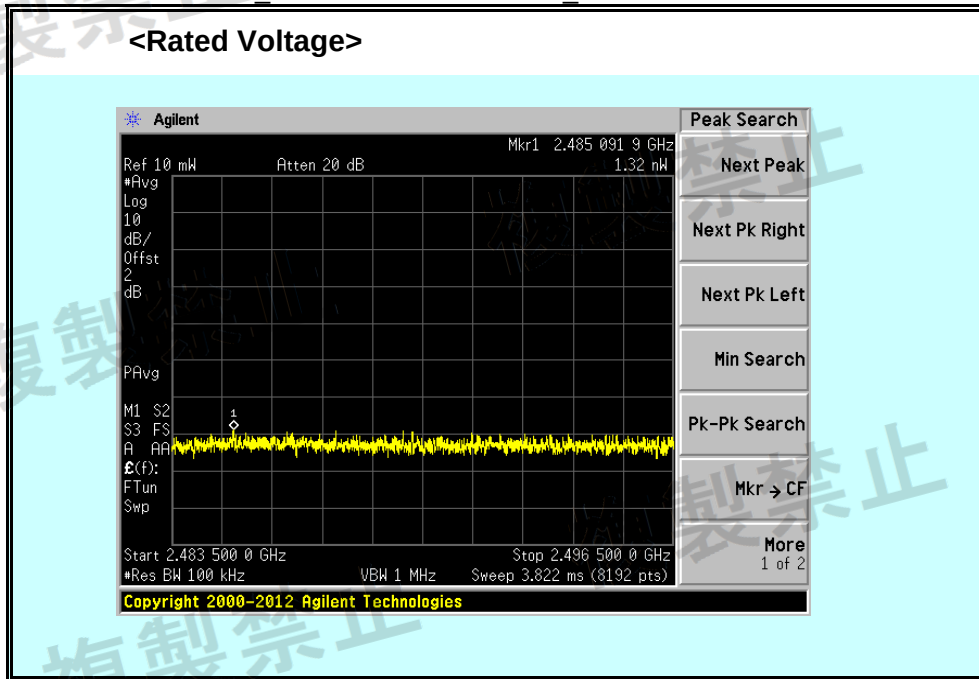
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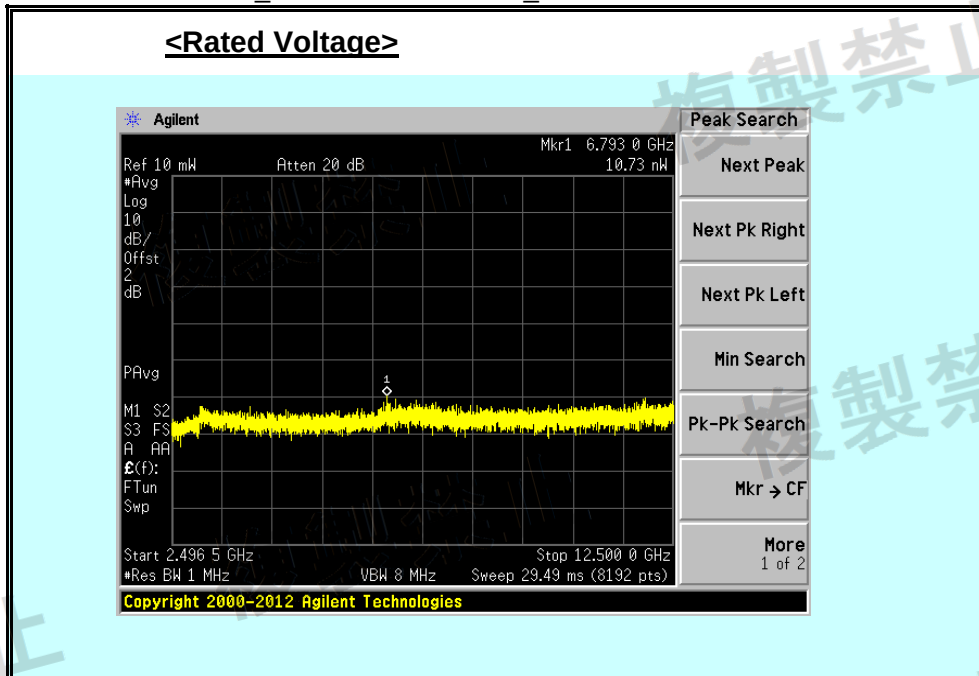
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Unwanted Emission_2483.5 MHz-2496.5MHz_ch11



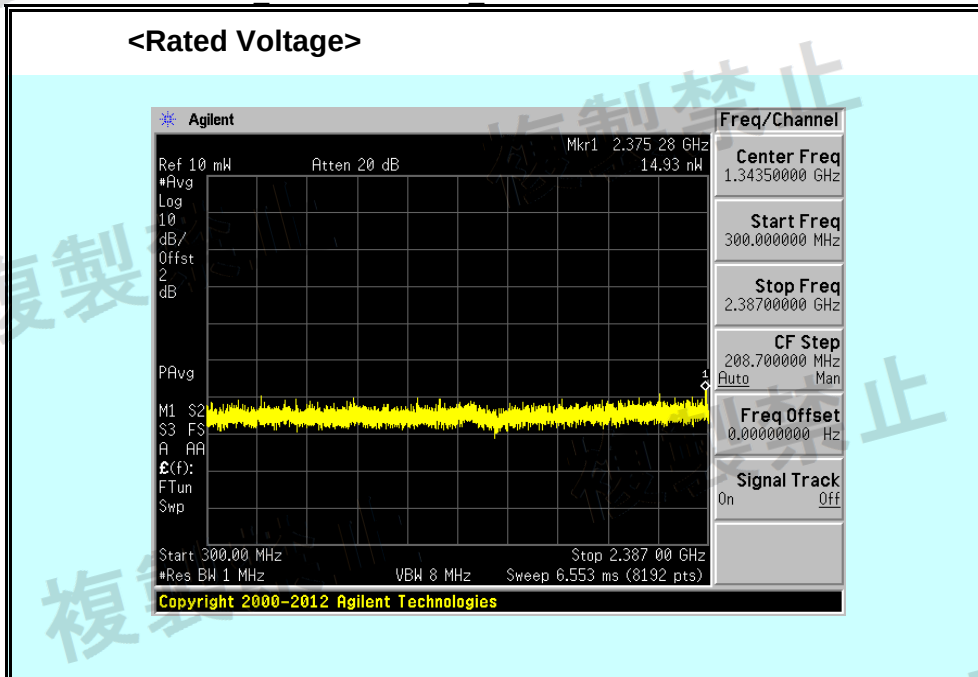
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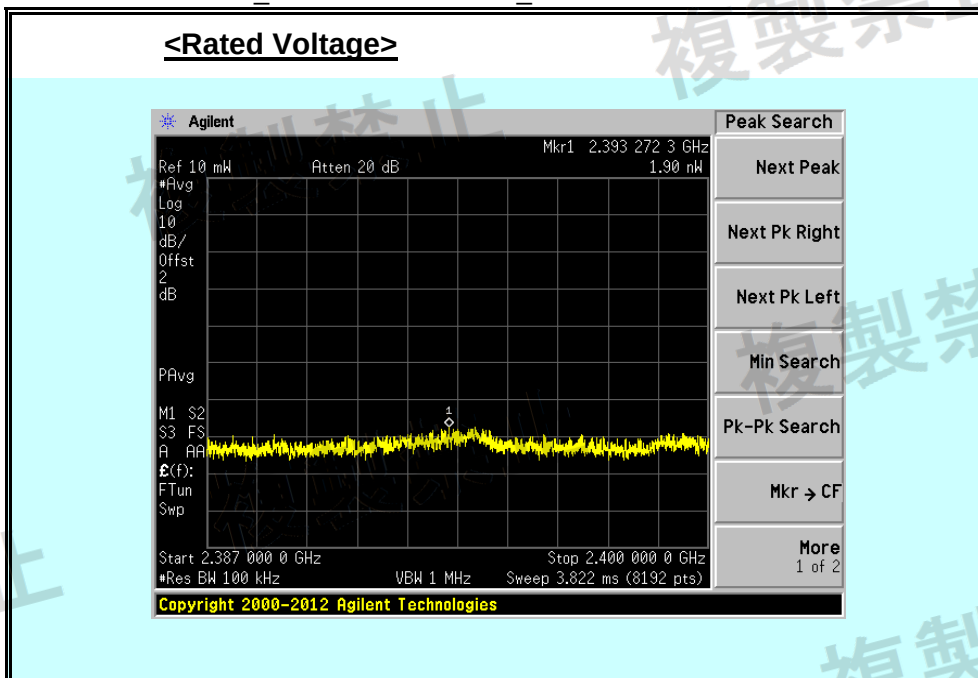
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Unwanted Emission_under 2387 MHz_ch18



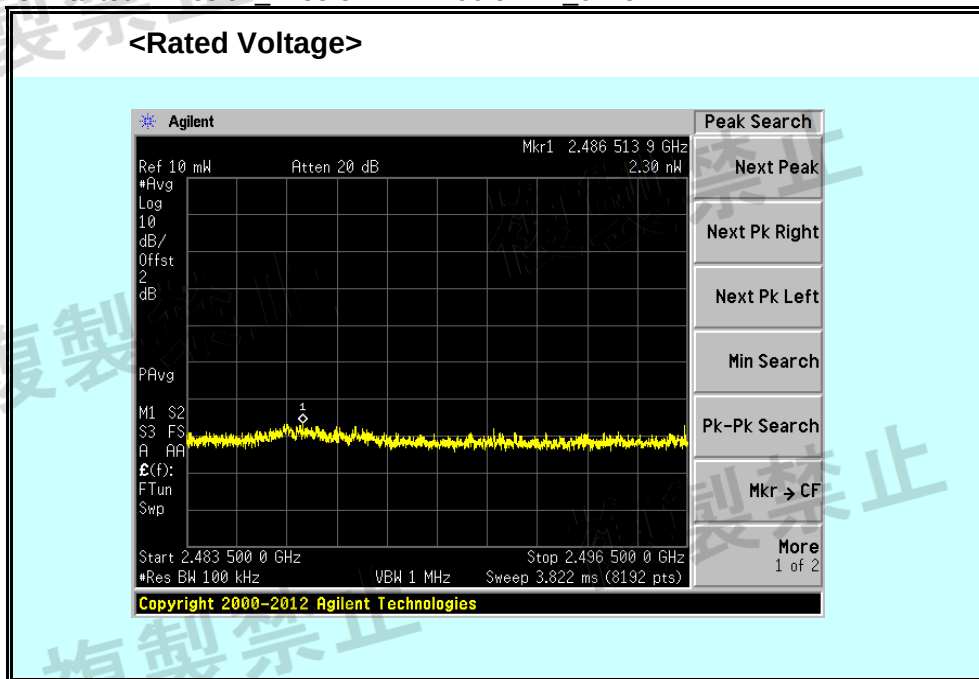
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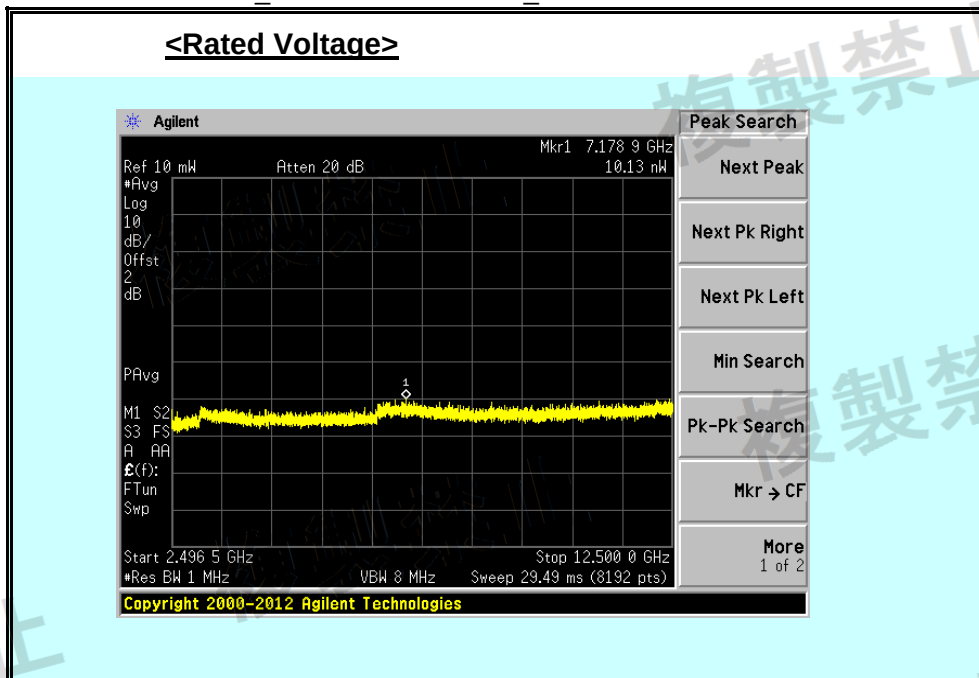
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Unwanted Emission_2483.5 MHz-2496.5MHz_ch18



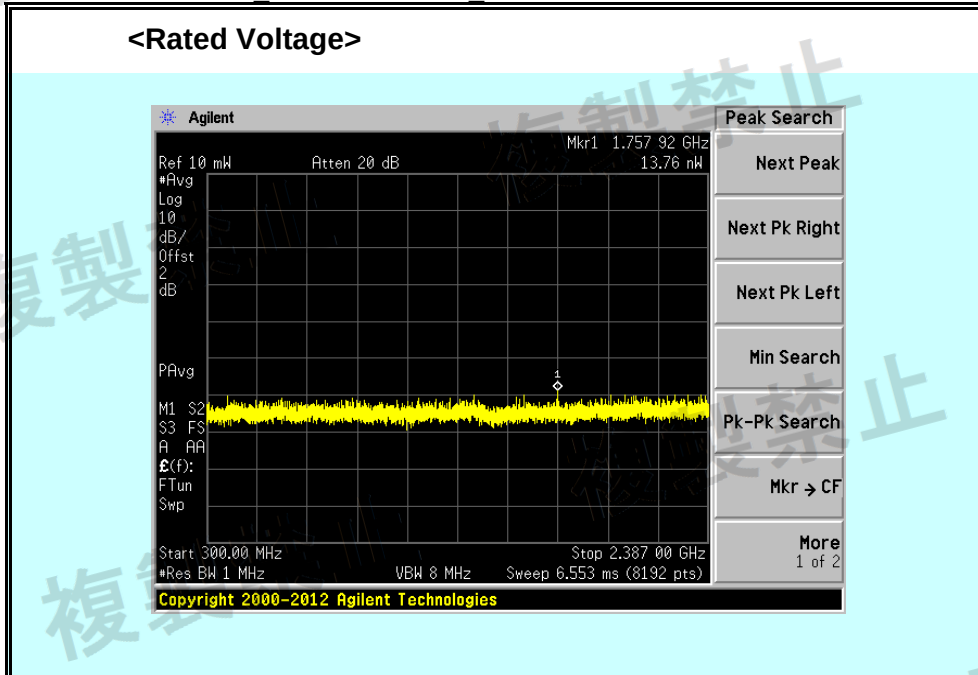
Unwanted Emission_2496.5MHz-12.5GHz_ch18



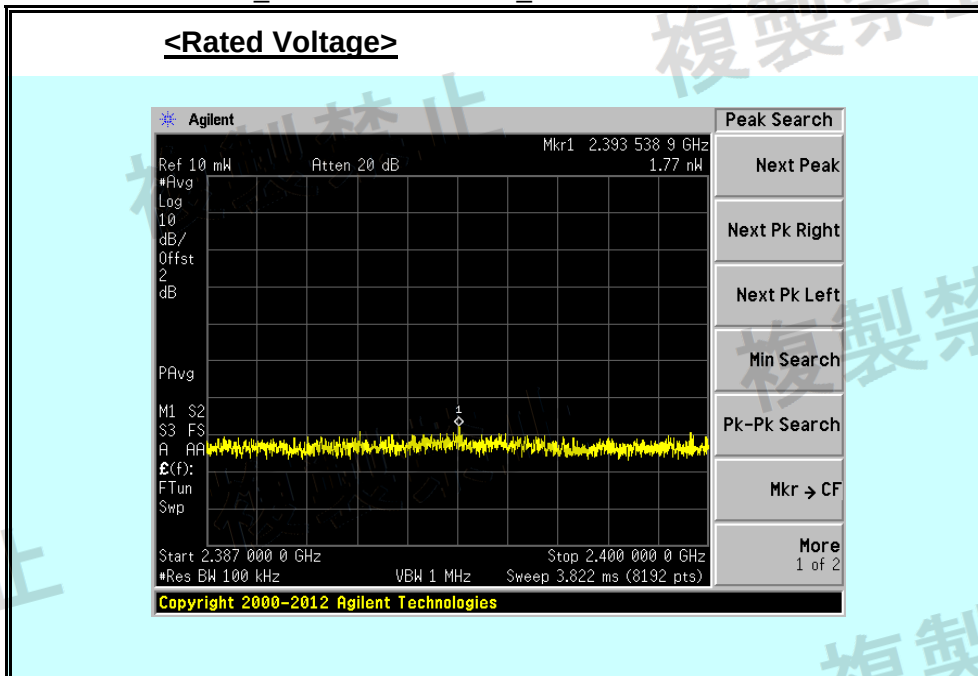
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Unwanted Emission_under 2387 MHz_ch25



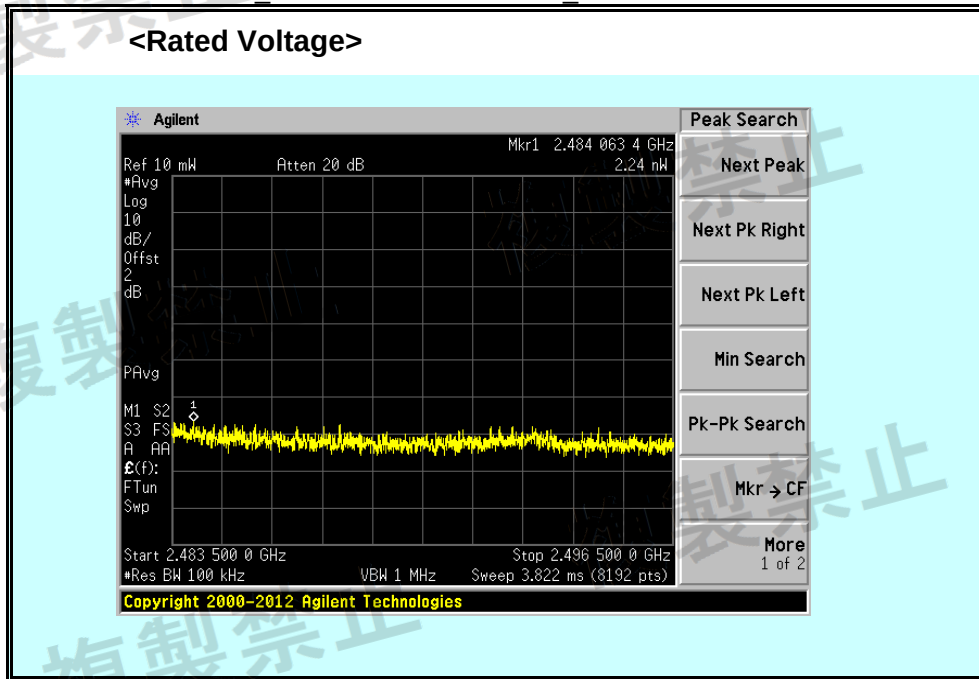
Unwanted Emission_2387 MHz-2400MHz_ch25



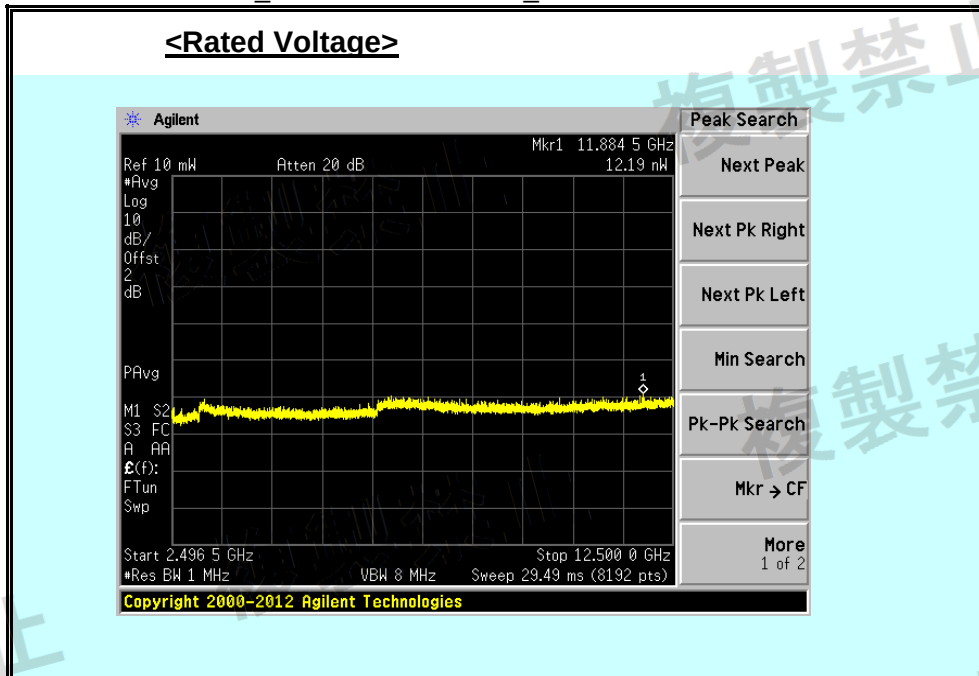
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Unwanted Emission_2483.5 MHz-2496.5MHz_ch25



Unwanted Emission_2496.5MHz-12.5GHz_ch25



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