

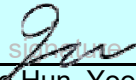
1. TEST RESULT REPORT

Applicant (SOLITY Co., Ltd.)

Yuseok KIM, CEO

Test Laboratory: ESTECH CO., LTD

Tested Engineer;


Se Hun, Yoon

Approval person;


Keum Bum, Lee

Equipment Type

Gateway

Model Name

GW-100

Serial Number

-

Number of Tested Equipment

1

Date of Testing

2026-06-01

~

2026-06-07

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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Phone: +82-2-867-3201, Fax: +82-2-867-3204

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 5.0 V |
| 4 Size (W x D x H) | 70 x 38 x 16.3 (mm) |
| 5 RF Specification Frequency range | BLE 1M : 2402 - 2480 MHz |
| 6 RF Channels | BLE 1M : 40 Channels |
| 7 Modulation method & Data rate | GFSK & 1Mbps |
| 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	24 °C
	Humidity	48 %

Peak Antenna Gain	2.24	dBi
Declaration Output Power	3	mW
Declaration Output Power	4.77	dBm
E.I.R.P	7.01	dBm
Input Power Voltage	5.0	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	2401.9563	2439.9555	2479.9545	-----	
Frequency Tolerance	ppm	-18.19317	-18.23770	-18.34677	PASS	
Occupied Bandwidth	MHz	1.036	1.034	1.038	PASS	
Spread Bandwidth	MHz	0.672	0.670	0.670	PASS	
RF Output Power	mW	1.300	1.641	2.084	PASS	
RF Output Power Tolerance	%	-56.66	-45.31	-30.52	PASS	
Real Total Output Power	dBm	1.14	2.15	3.19	-----	<Reference>
Unwanted Emission Strength	Under 2387MHz	μ W/MHz	0.0036830	0.0014338	0.0014747	PASS
		MHz	2386.7643	2159.0781	1934.6917	-----
	2387-2400MHz	μ W/MHz	0.7760700	0.0025515	0.0017519	PASS
		MHz	2399.9948	2399.1992	2389.6416	-----
	2483.5-2496.5MHz	μ W/MHz	0.0020230	0.0023185	0.0302480	PASS
		MHz	2494.2458	2485.2511	2483.9966	-----
	2496.5 - 12.5GHz	μ W/MHz	0.0075770	0.0117680	0.0151640	PASS
		MHz	4804.30745	4879.33370	4960.36205	-----
Secondarily Emitted Radio Wave Strength (RX Spurious)	Under 1GHz	nW	0.11458	0.12045	0.11679	PASS
		MHz	995.829	951.694	917.744	-----
	1 - 12.5GHz	nW	0.45604	0.46968	0.48306	PASS
		MHz	6002.50	6097.95	6198.00	-----
Interference Prevention Function	-----	good			PASS	

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2. "X" used equipment.

a) : Calibration conducted by the National Institute of Information and Communications Technology(NICT) or a designated calibration agency under Article 102-18 paragraph (1) of the Radio Law.

b) : Calibration conducted pursuant to the provisions of Article 135 or Article 144 of the Measurement Law (Law No. 51 of 1992) Japan Calibration Service System.

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 other equipment that listed above from a) to c).

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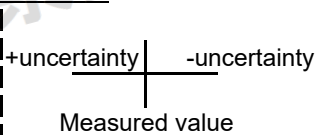
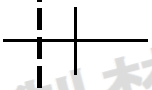
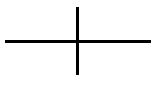
4. About Uncertainty of Measured Value

*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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6. Antenna List Table

MAX VALUE ;	2.2400 dBi
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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	ODBWPTR5020	2.24	Horizontal	0	2.240	
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	
16			0	Horizontal	0	0.000	
17			0	Horizontal	0	0.000	
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25			0	Horizontal	0	0.000	
26			0	Horizontal	0	0.000	
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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	
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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.

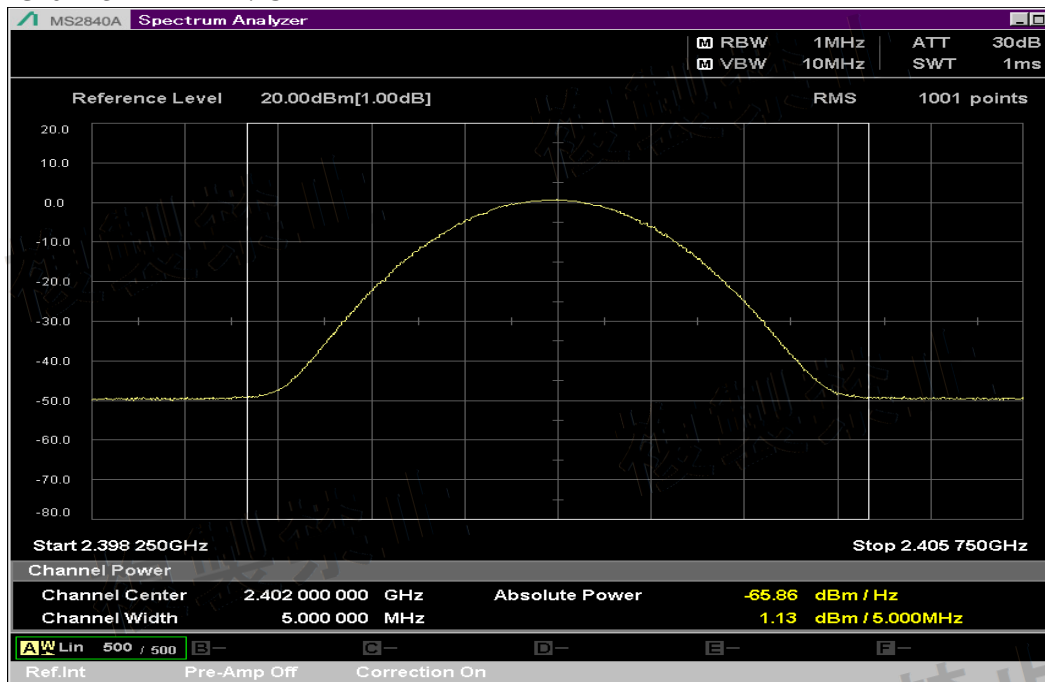
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BLE 1M

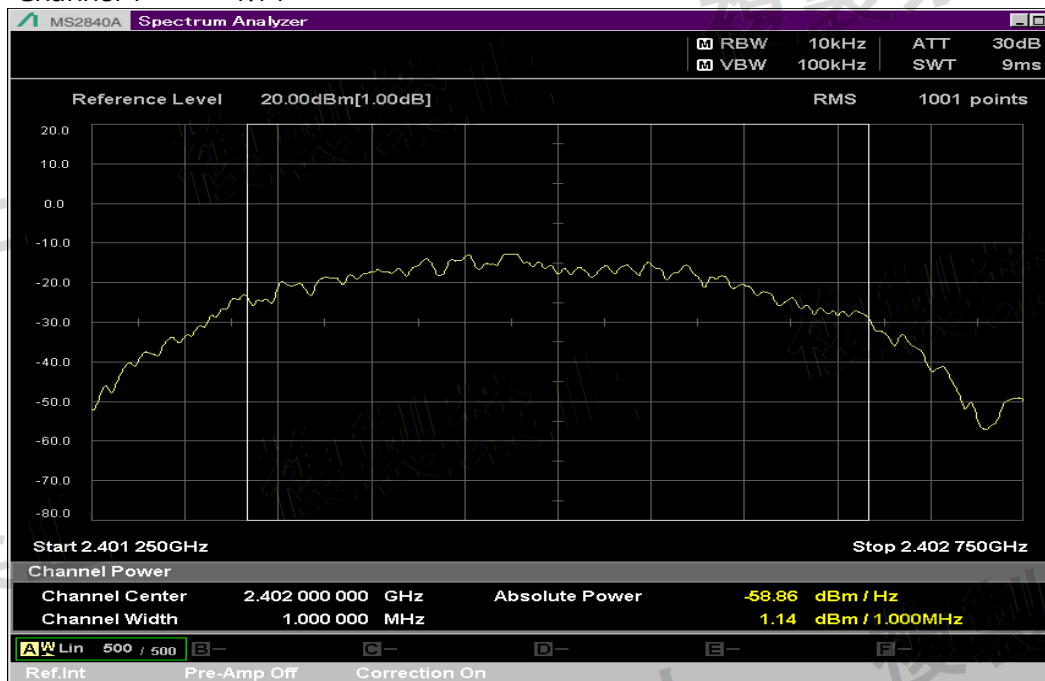
CH0 : 2 402 MHz

Channel P 1.13



RF output power_ch0

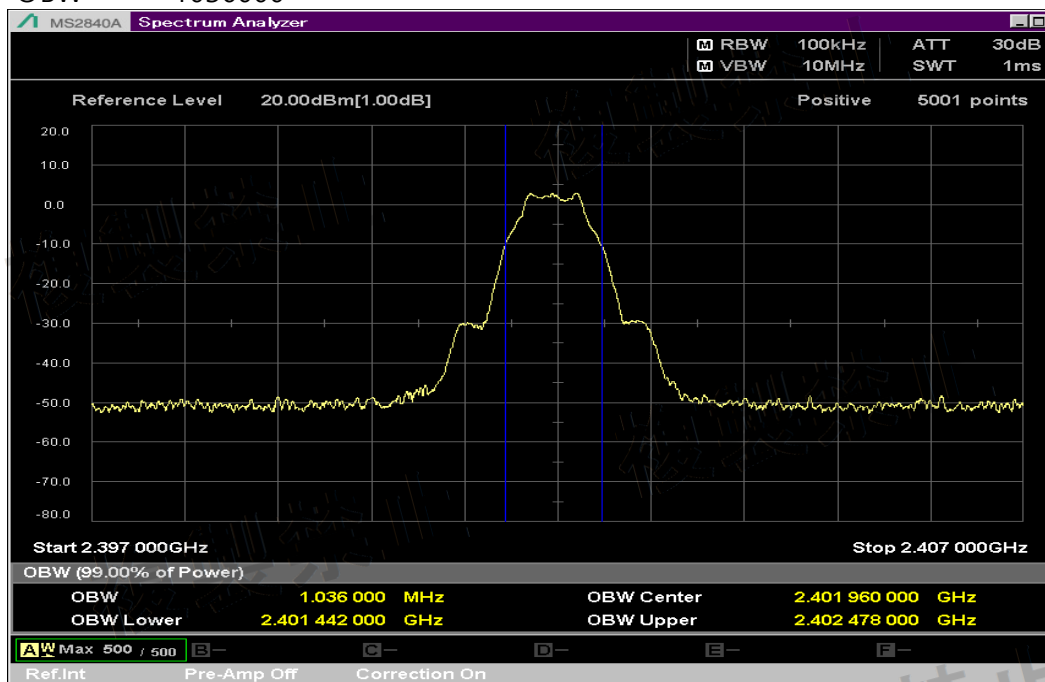
Channel P 1.14



BLE 1M

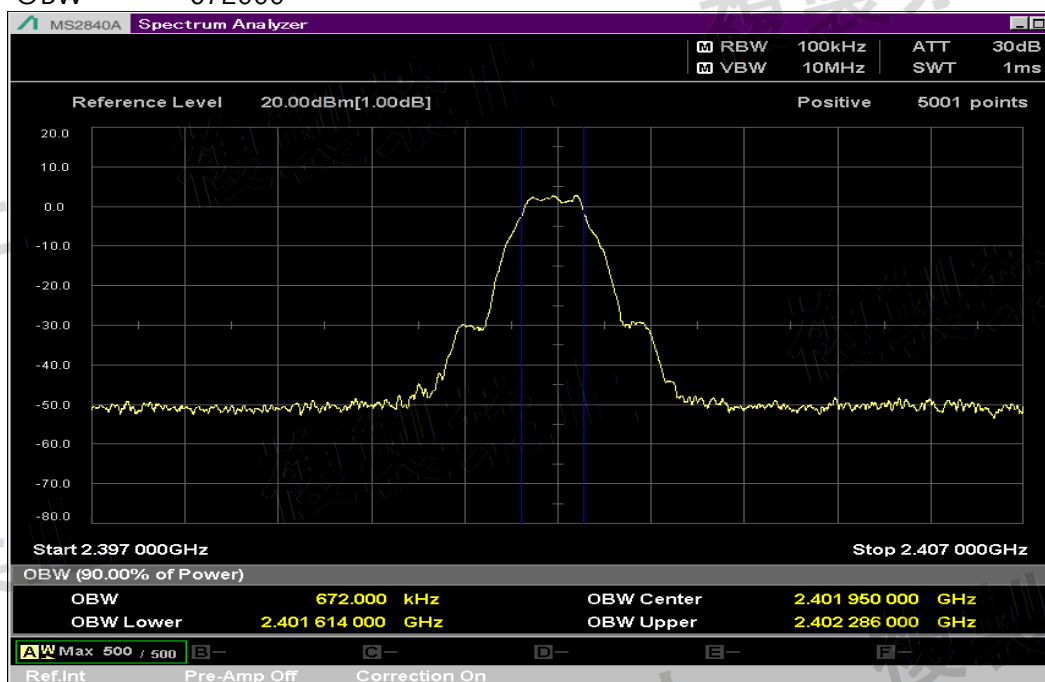
Occupied Bandwidth_ch0

OBW 1036000



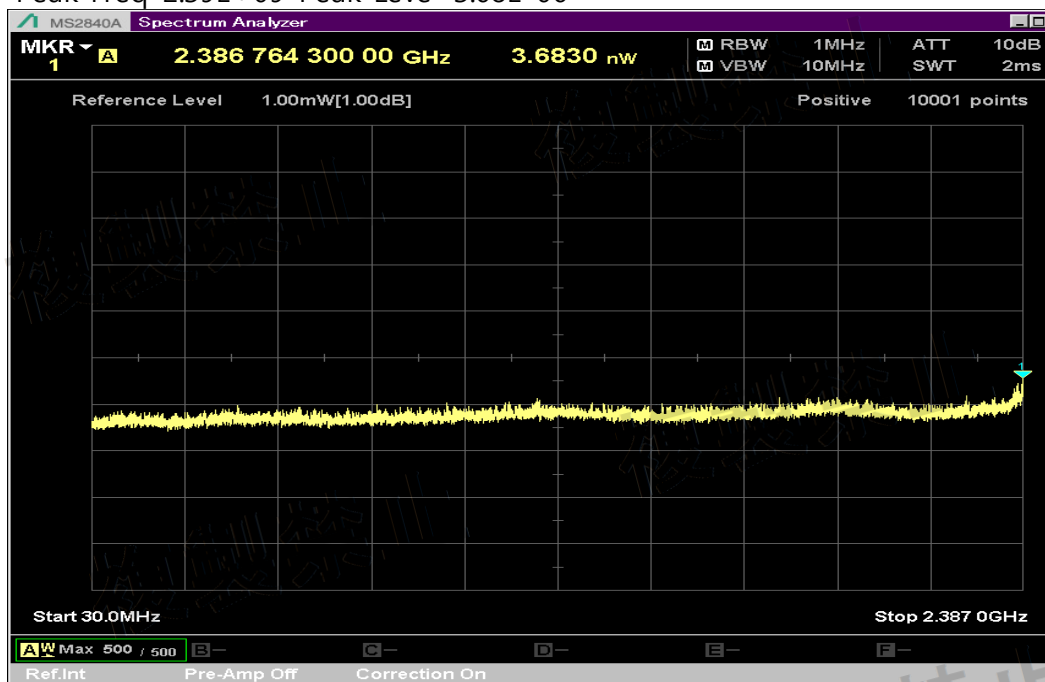
Spread Bandwidth_ch0

OBW 672000

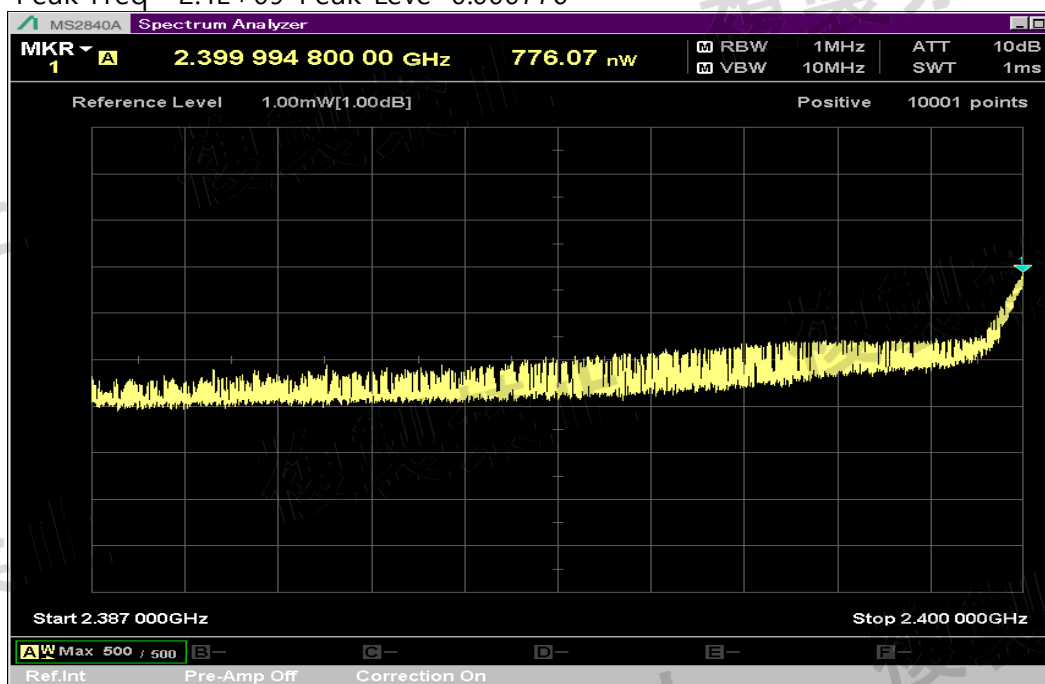


BLE 1M

Unwanted Emission _ under 2387 MHz _ ch0
Peak Freq 2.39E+09 Peak Leve 3.68E-06



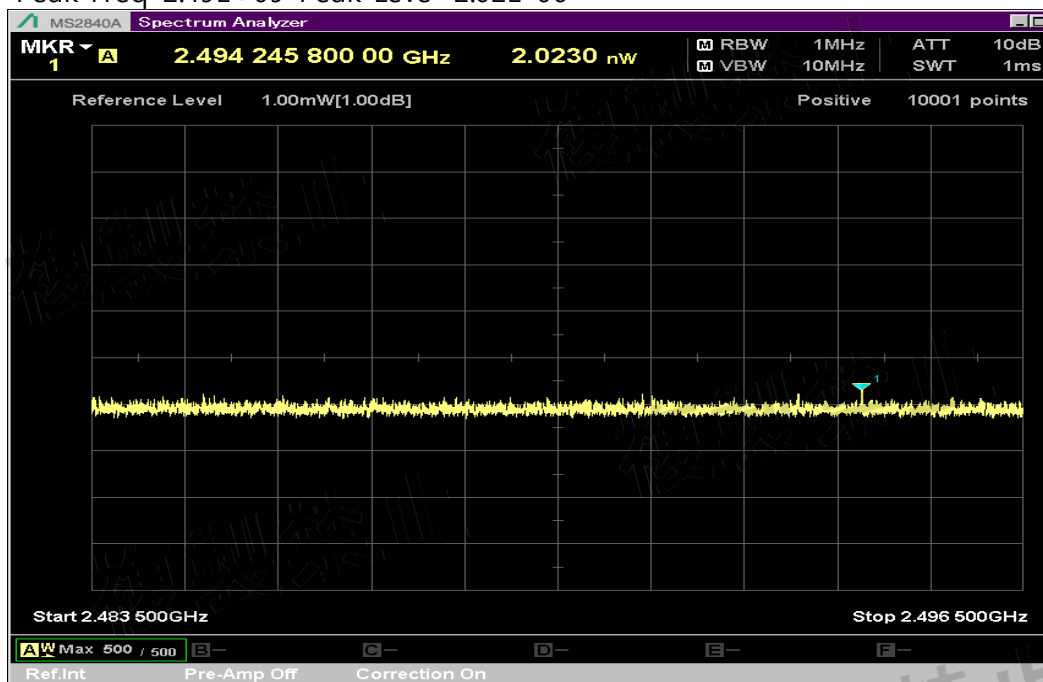
Unwanted Emission _ 2387 MHz - 2400 MHz _ ch0
Peak Freq 2.4E+09 Peak Leve 0.000776



BLE 1M

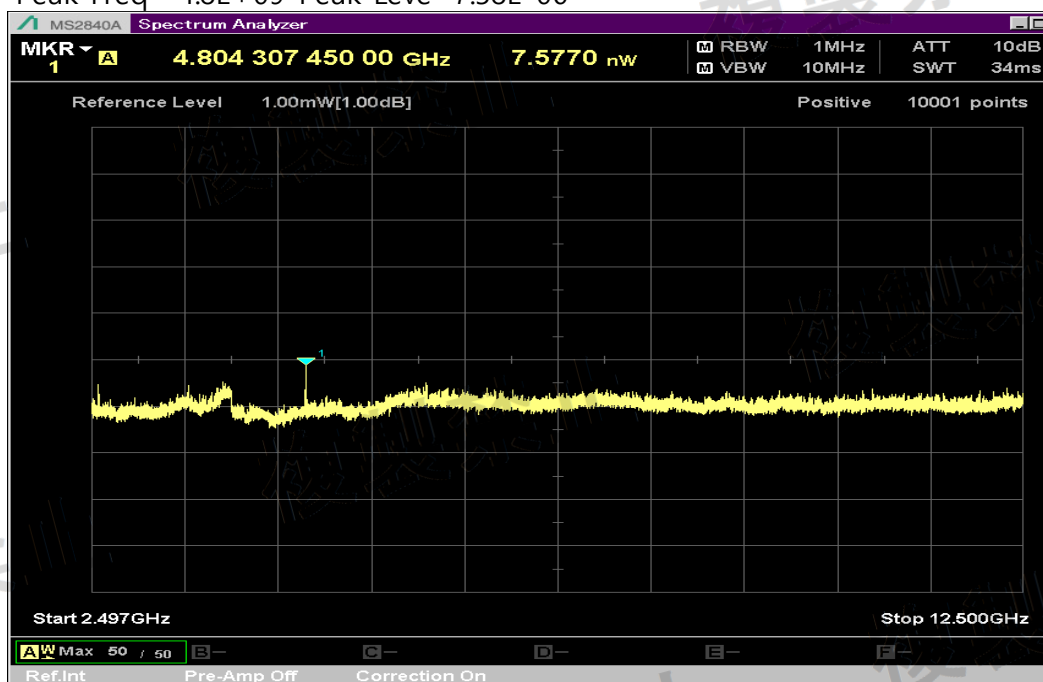
Unwanted Emission _ 2483.5 MHz - 2496.5 MHz _ ch0

Peak Freq 2.49E+09 Peak Leve 2.02E-06



Unwanted Emission _ 2496.5 MHz - 12.5 GHz _ ch0

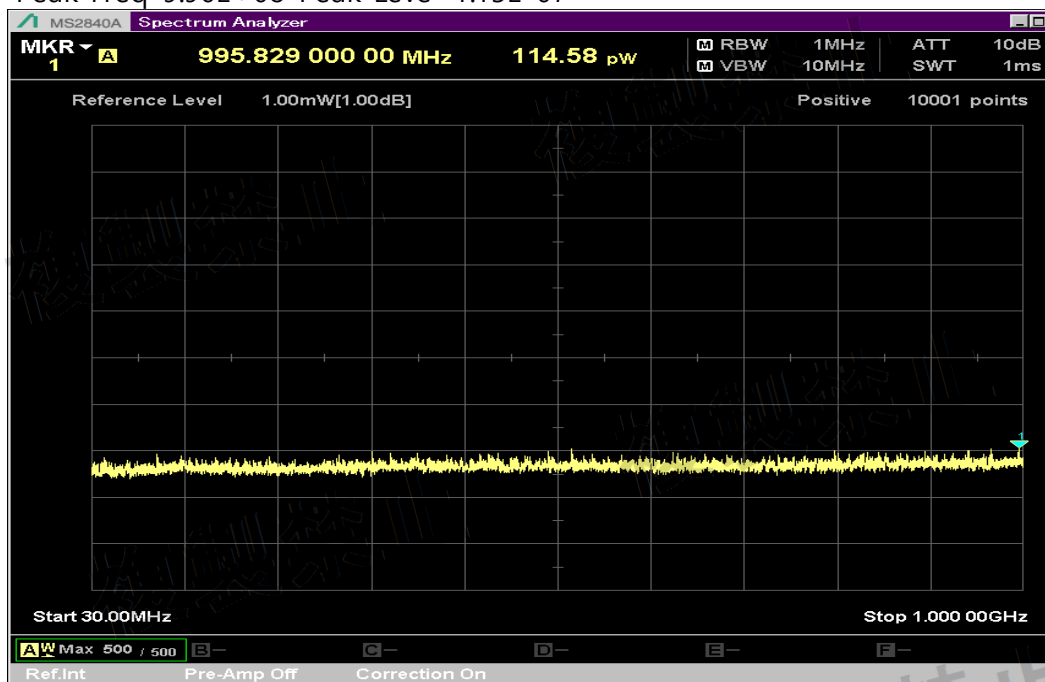
Peak Freq 4.8E+09 Peak Leve 7.58E-06



BLE 1M

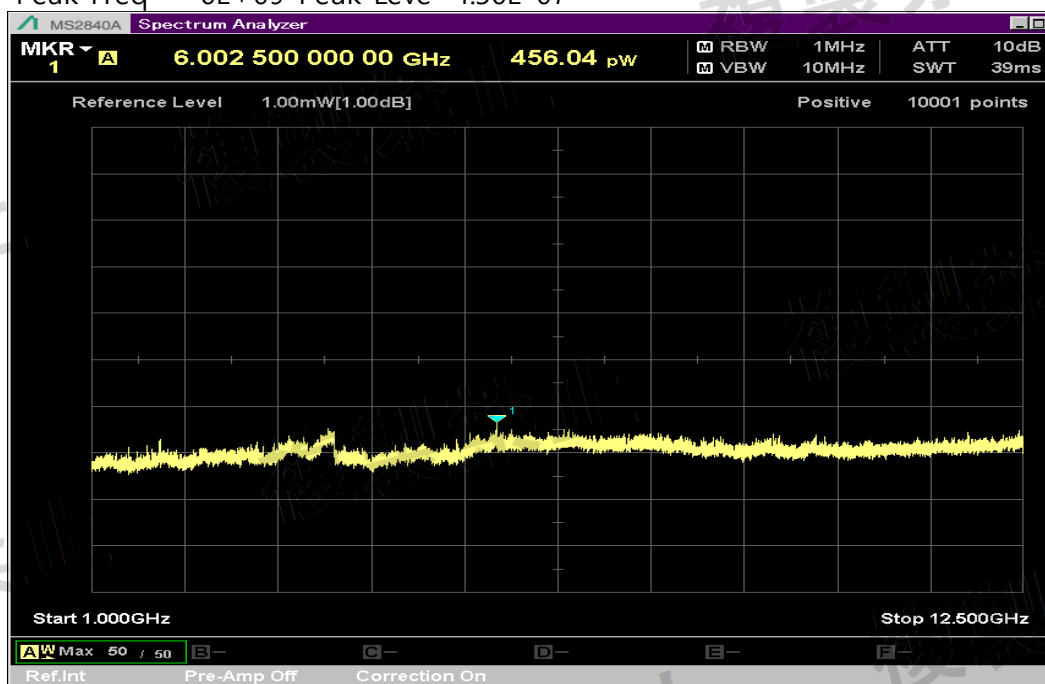
Rx Spurious _ under 1 GHz _ ch0

Peak Freq 9.96E+08 Peak Leve 1.15E-07



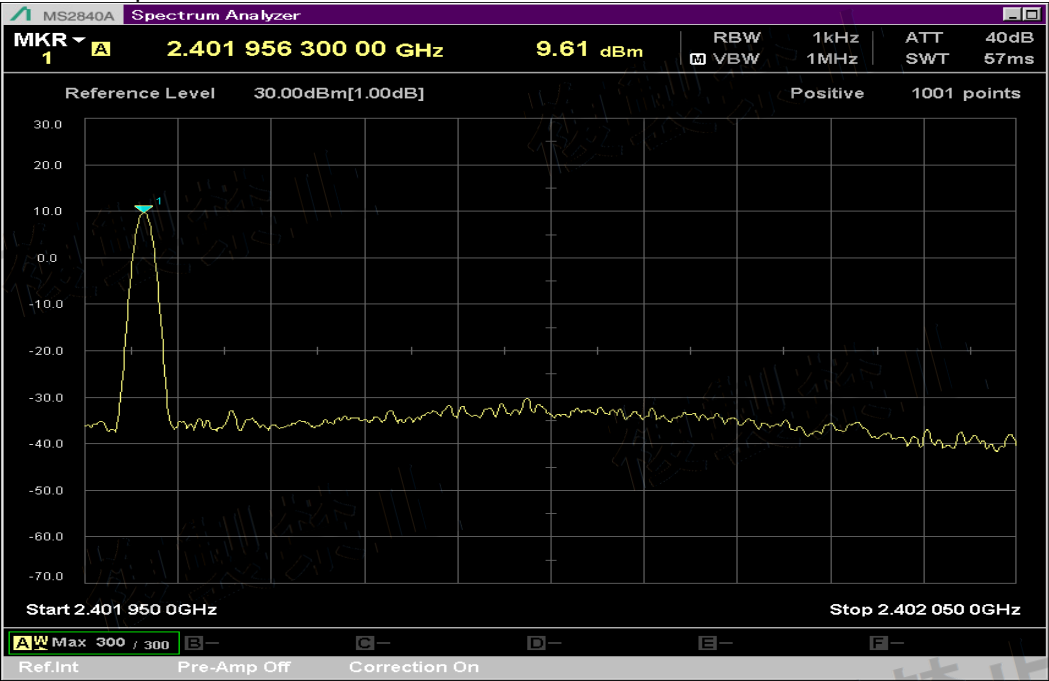
Rx Spurious _ 1 GHz - 12.5 GHz _ ch0

Peak Freq 6E+09 Peak Leve 4.56E-07



BLE 1M

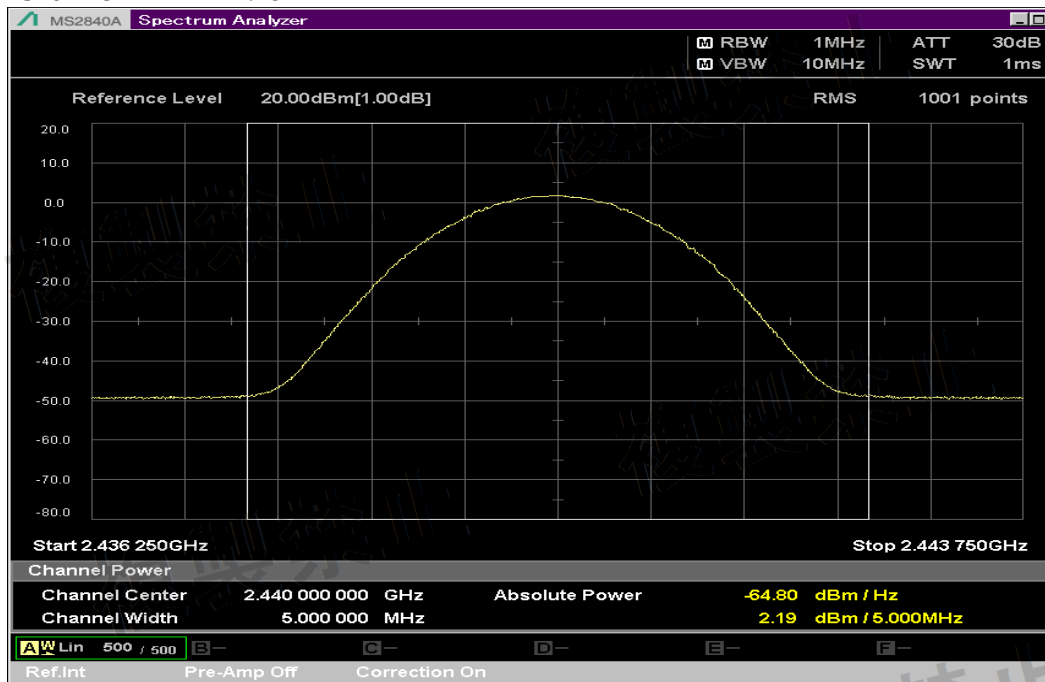
Reading Frequency_ch0
Peak Freq 2.4E+09 Peak Leve 9.609



BLE 1M

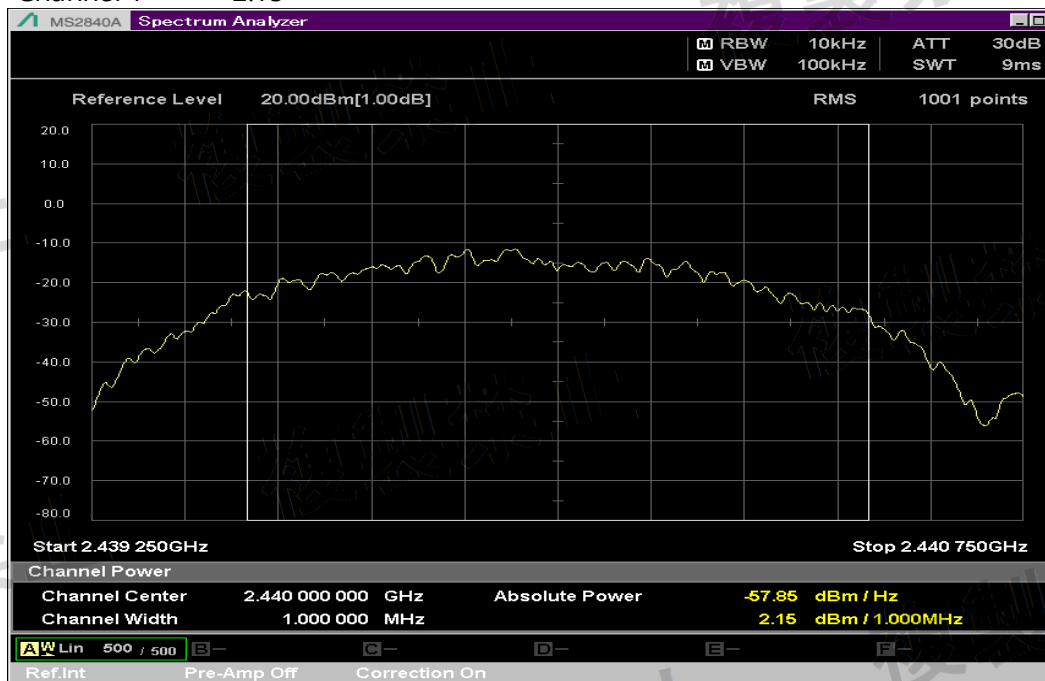
CH19 : 2 440 MHz

Channel P 2.19



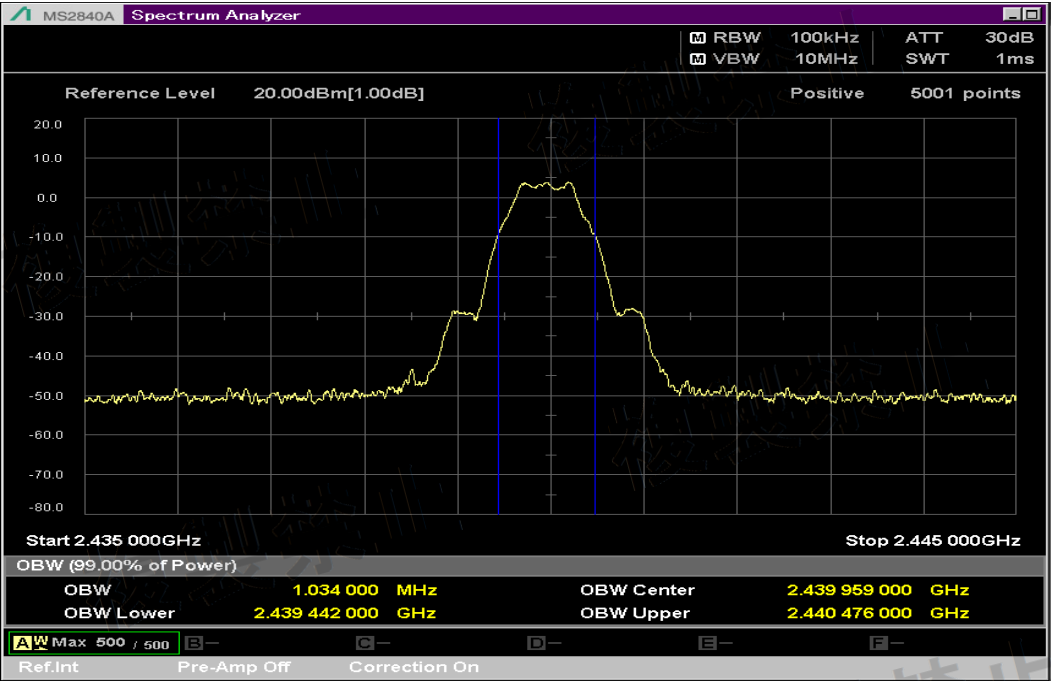
RF output power_ch19

Channel P 2.15

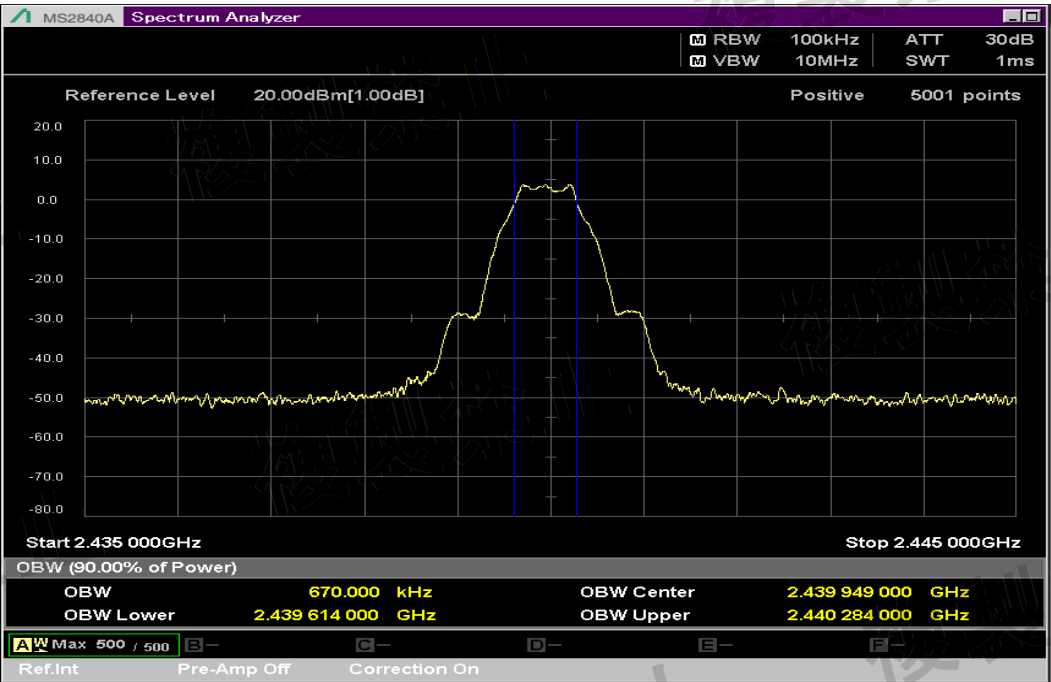


BLE 1M

Occupied Bandwidth_ch19
OBW 1034000

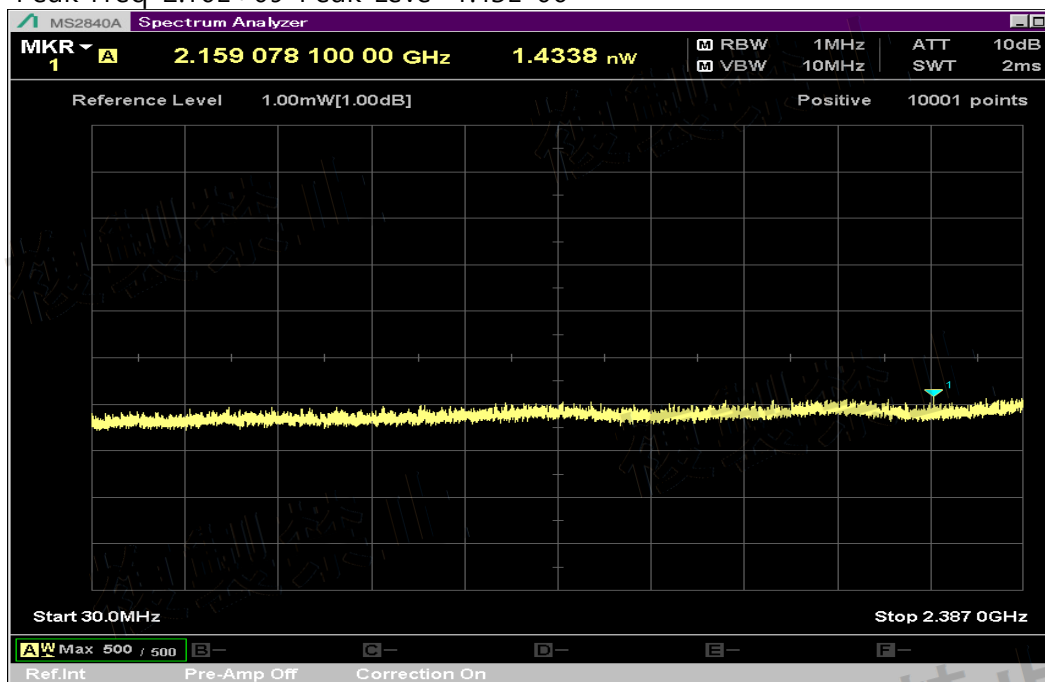


Spread Bandwidth_ch19
OBW 670000

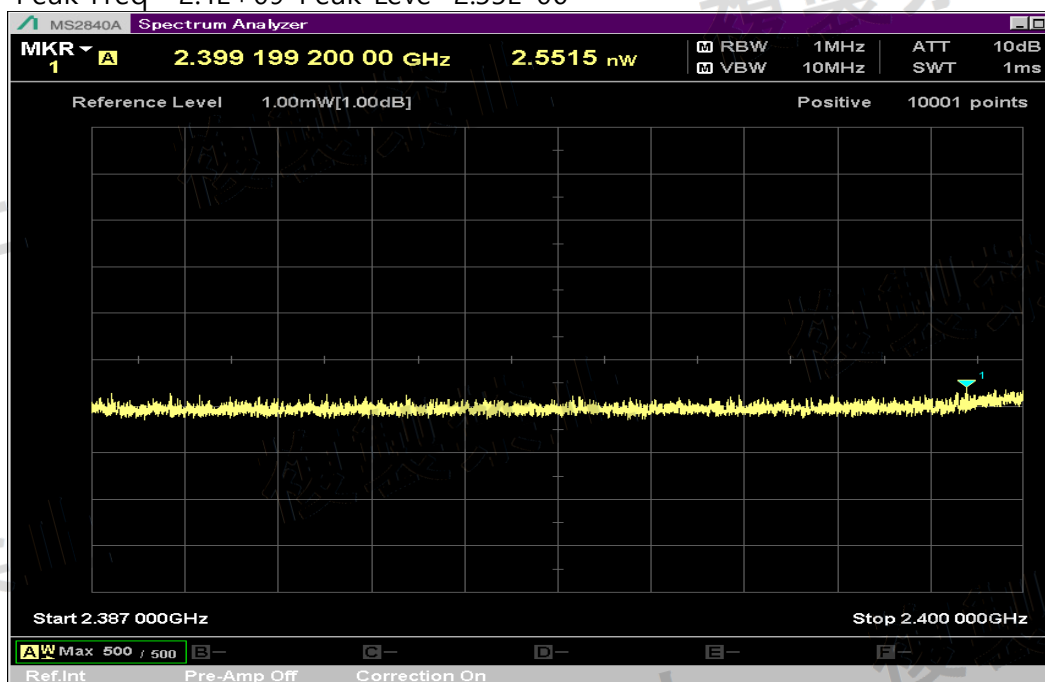


BLE 1M

Unwanted Emission _ under 2387 MHz _ ch19
Peak Freq 2.16E+09 Peak Leve 1.43E-06



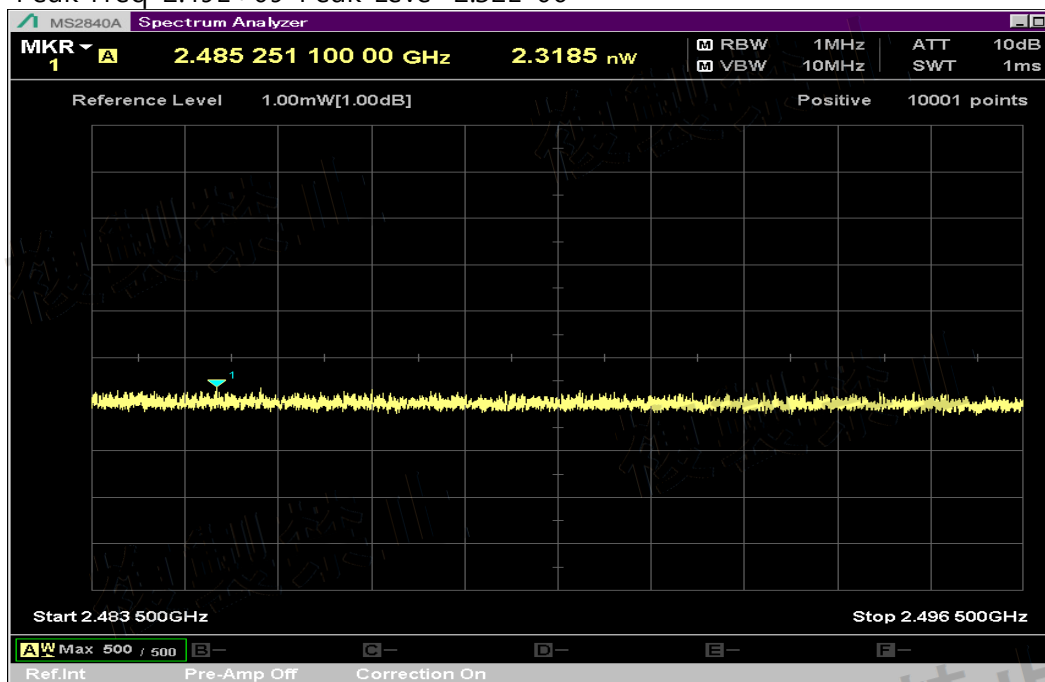
Unwanted Emission _ 2387 MHz - 2400 MHz _ ch19
Peak Freq 2.4E+09 Peak Leve 2.55E-06



BLE 1M

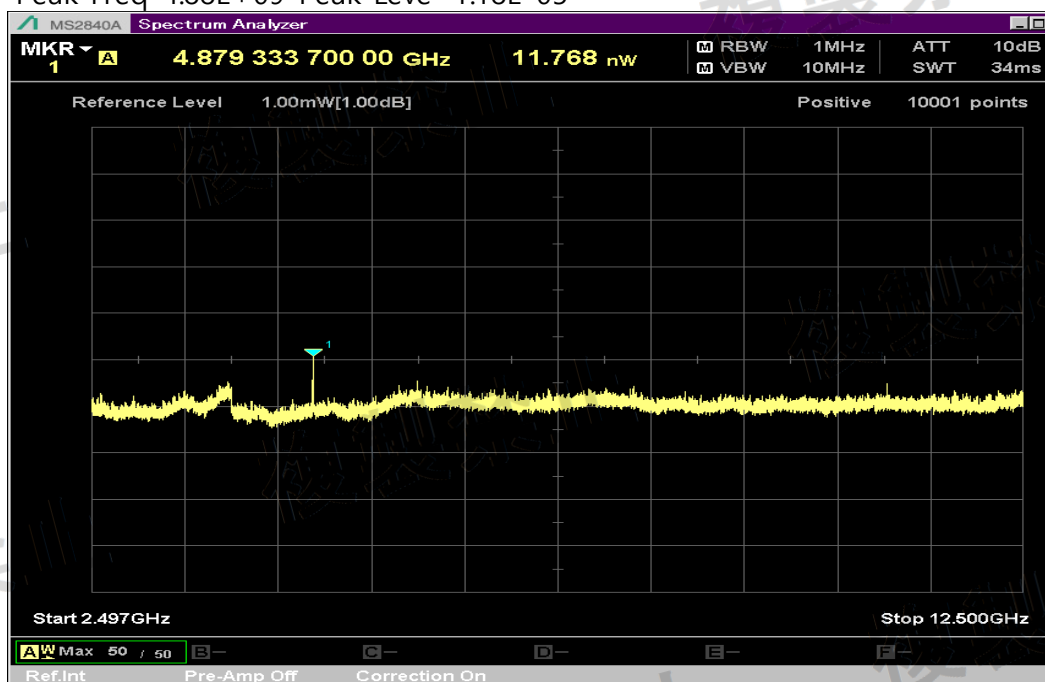
Unwanted Emission _ 2483.5 MHz - 2496.5 MHz _ ch19

Peak Freq 2.49E+09 Peak Leve 2.32E-06



Unwanted Emission _ 2496.5 MHz - 12.5 GHz _ ch19

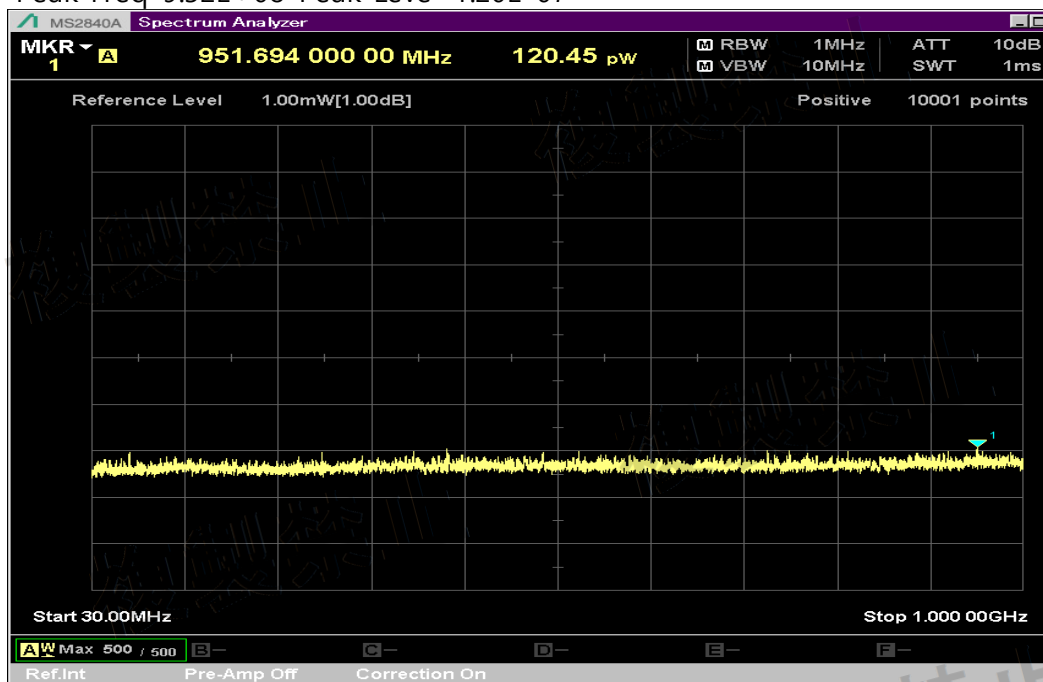
Peak Freq 4.88E+09 Peak Leve 1.18E-05



BLE 1M

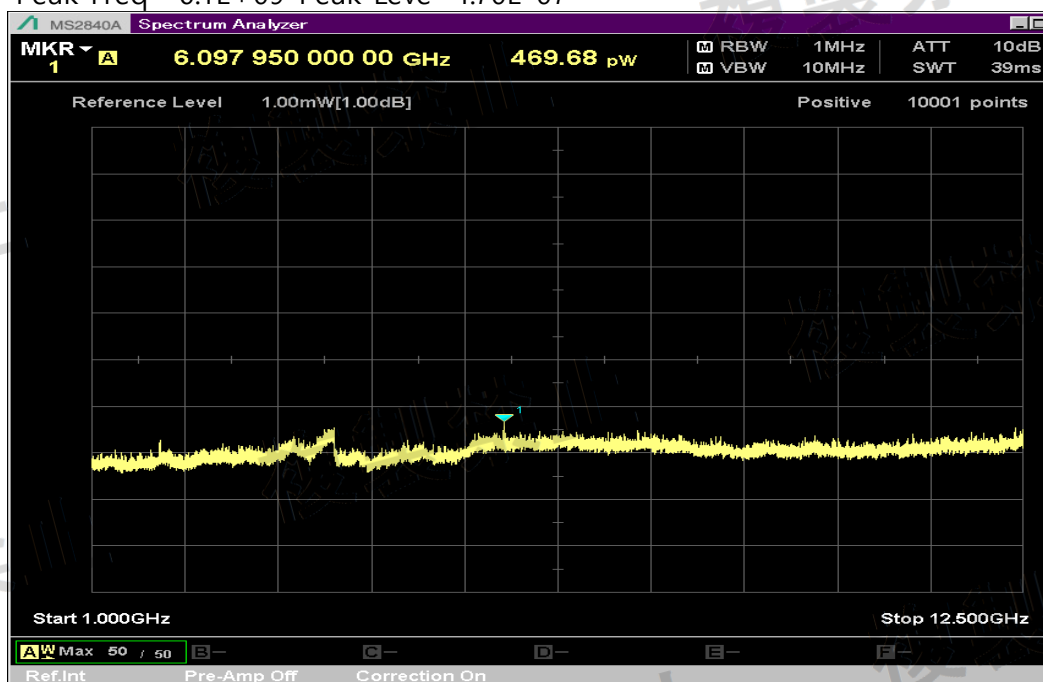
Rx Spurious _ under 1 GHz _ ch19

Peak Freq 9.52E+08 Peak Leve 1.20E-07



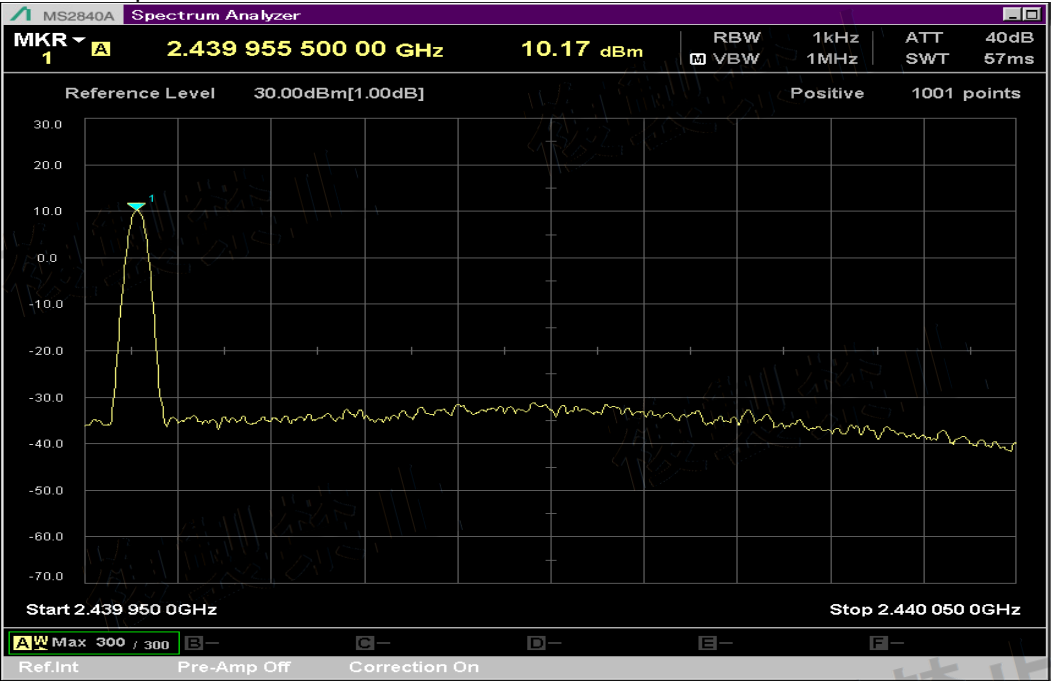
Rx Spurious _ 1 GHz - 12.5 GHz _ ch19

Peak Freq 6.1E+09 Peak Leve 4.70E-07



BLE 1M

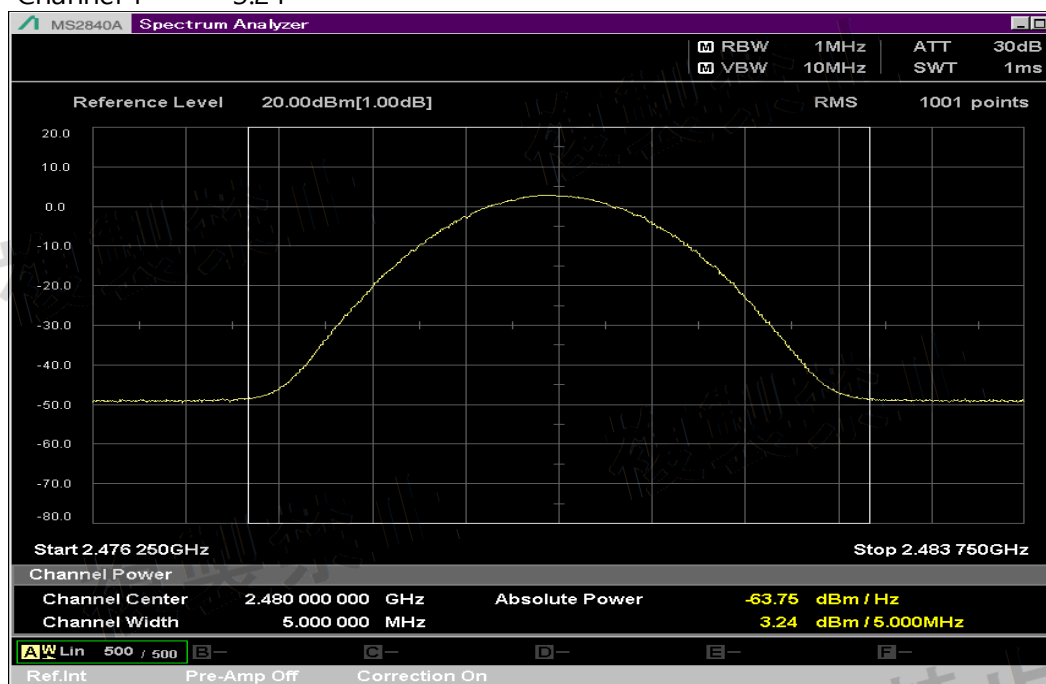
Reading Frequency_ch19
Peak Freq 2.44E+09 Peak Leve 10.166



BLE 1M

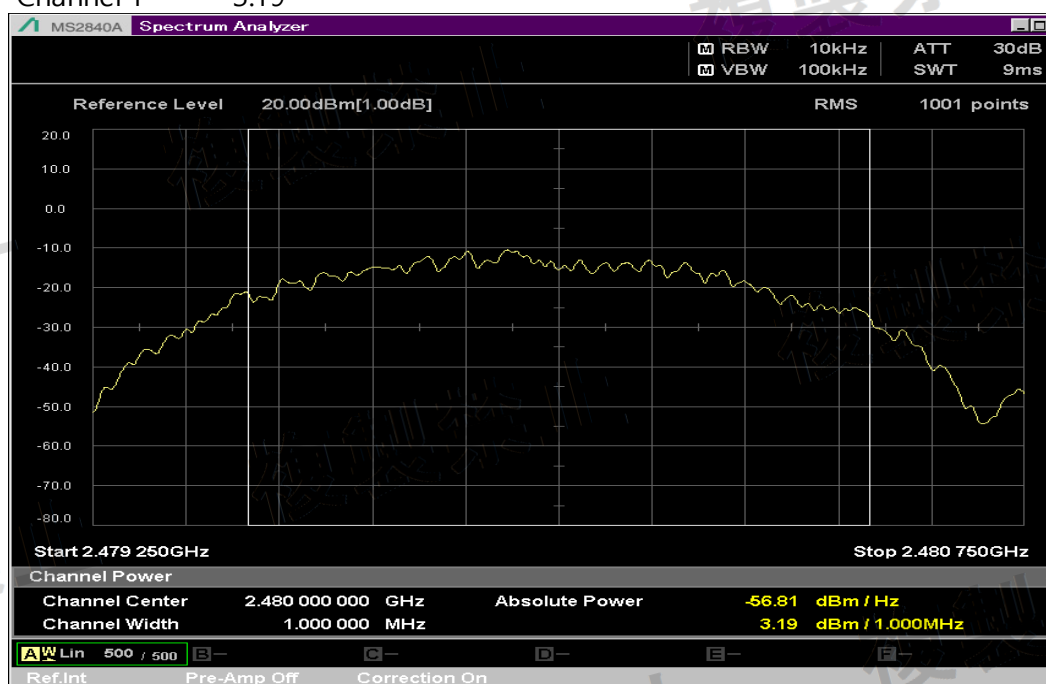
CH39 : 2 480 MHz

Channel P 3.24



RF output power_ch39

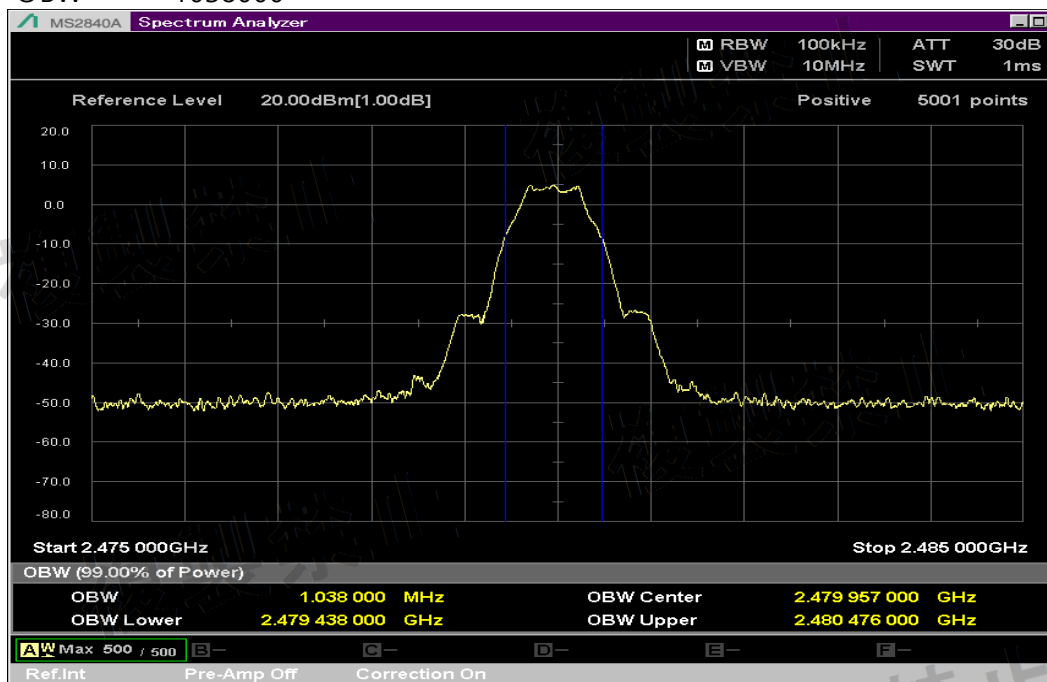
Channel P 3.19



BLE 1M

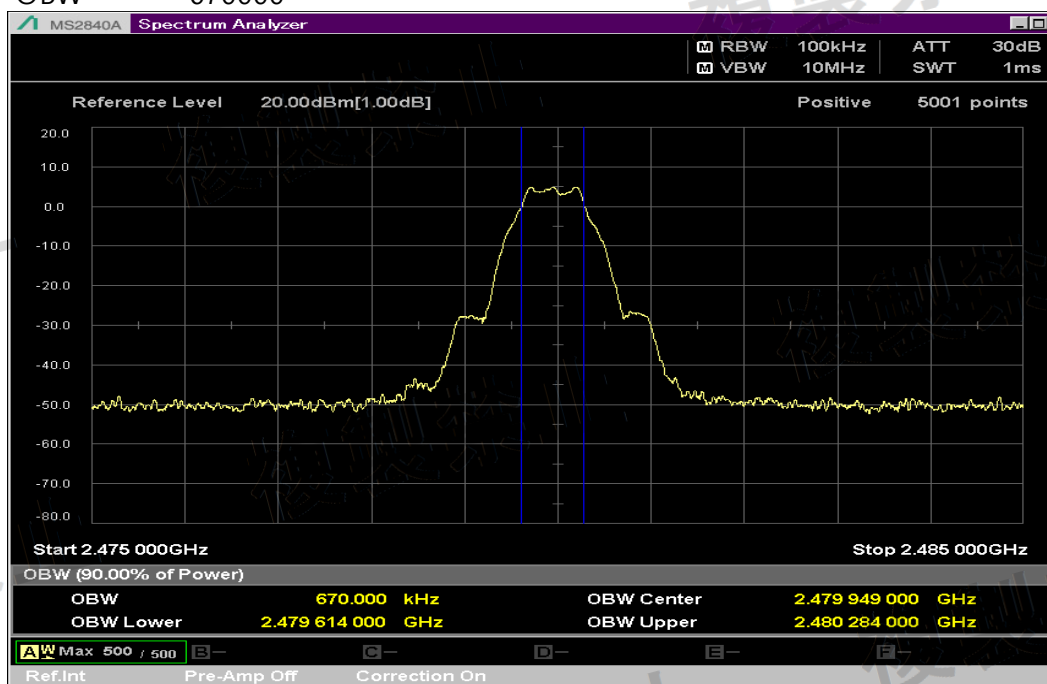
Occupied Bandwidth_ch39

OBW 1038000



Spread Bandwidth_ch39

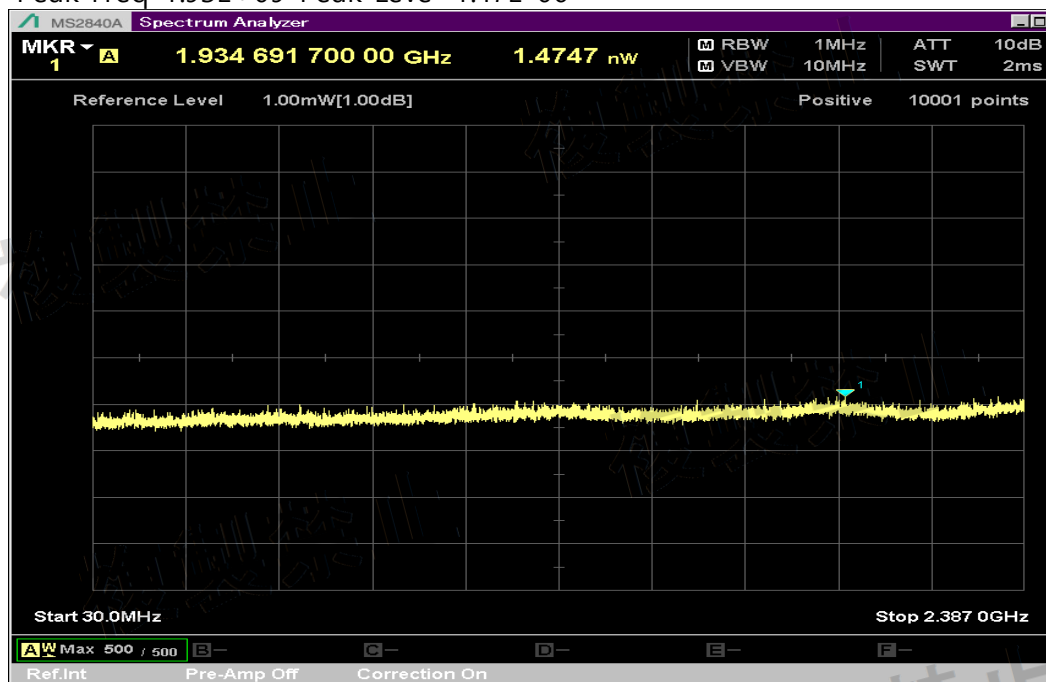
OBW 670000



BLE 1M

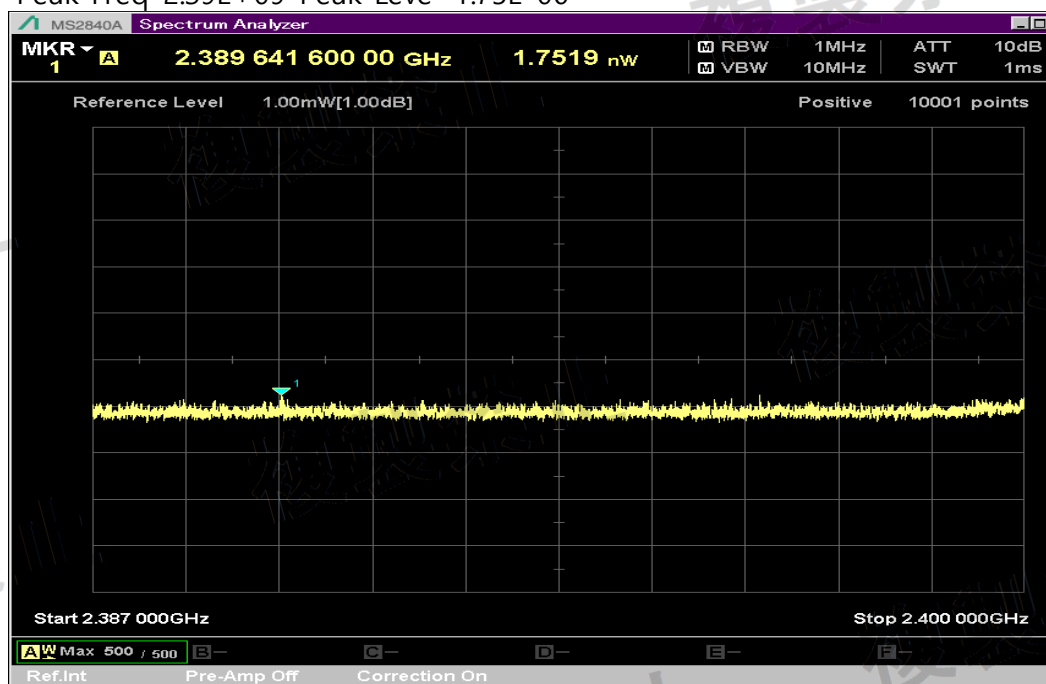
Unwanted Emission _ under 2387 MHz _ ch39

Peak Freq 1.93E+09 Peak Leve 1.47E-06



Unwanted Emission _ 2387 MHz - 2400 MHz _ ch39

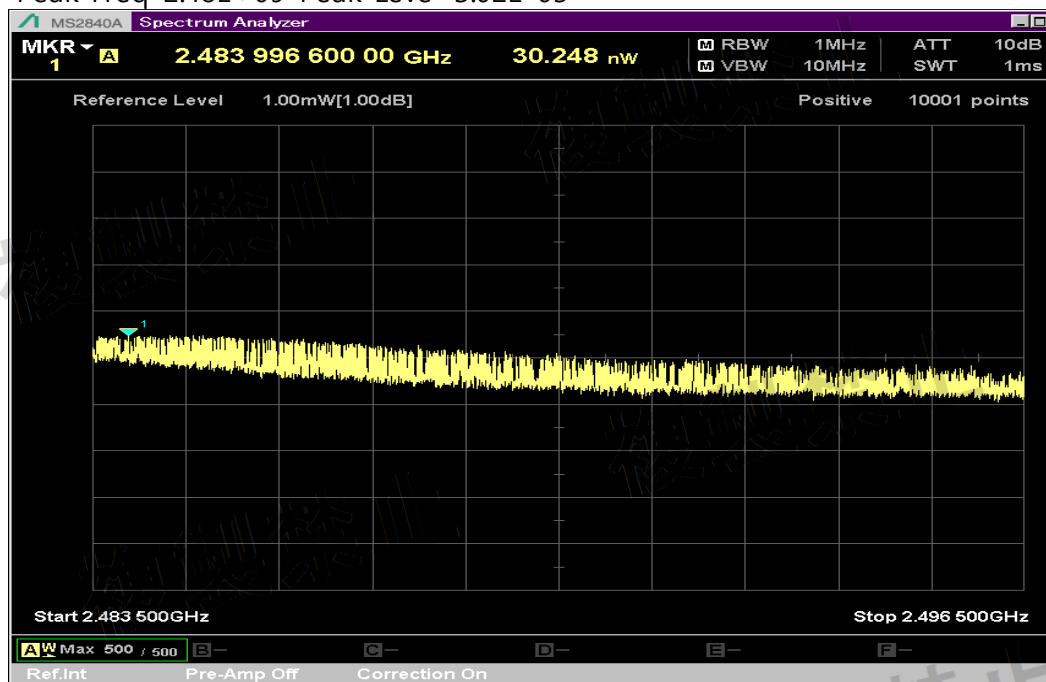
Peak Freq 2.39E+09 Peak Leve 1.75E-06



BLE 1M

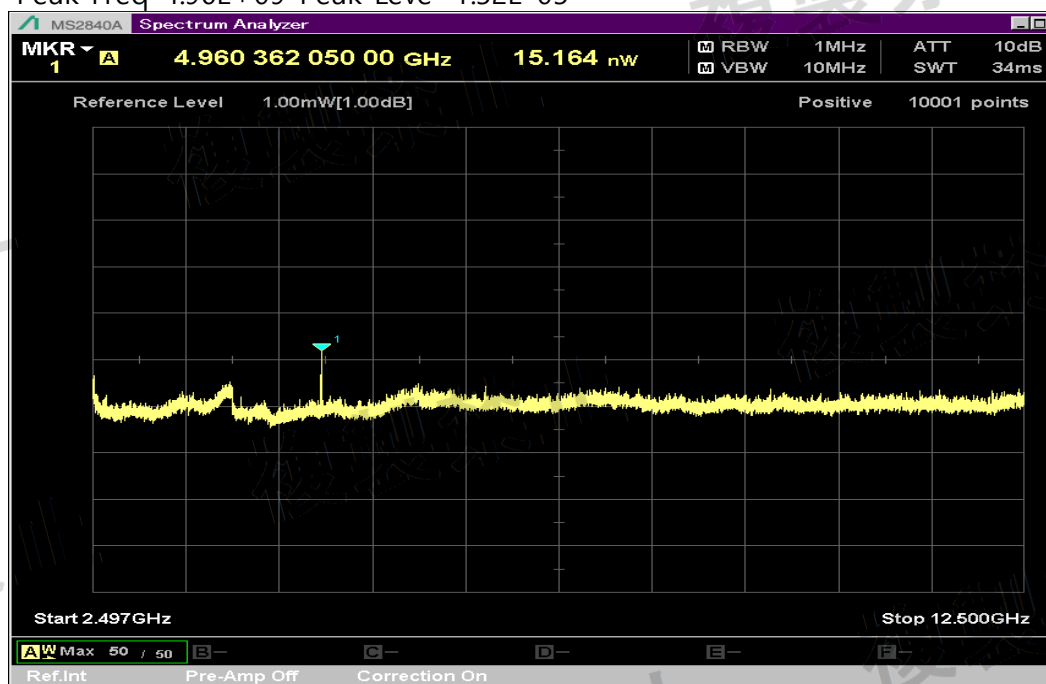
Unwanted Emission _ 2483.5 MHz - 2496.5 MHz _ ch39

Peak Freq 2.48E+09 Peak Leve 3.02E-05



Unwanted Emission _ 2496.5 MHz - 12.5 GHz _ ch39

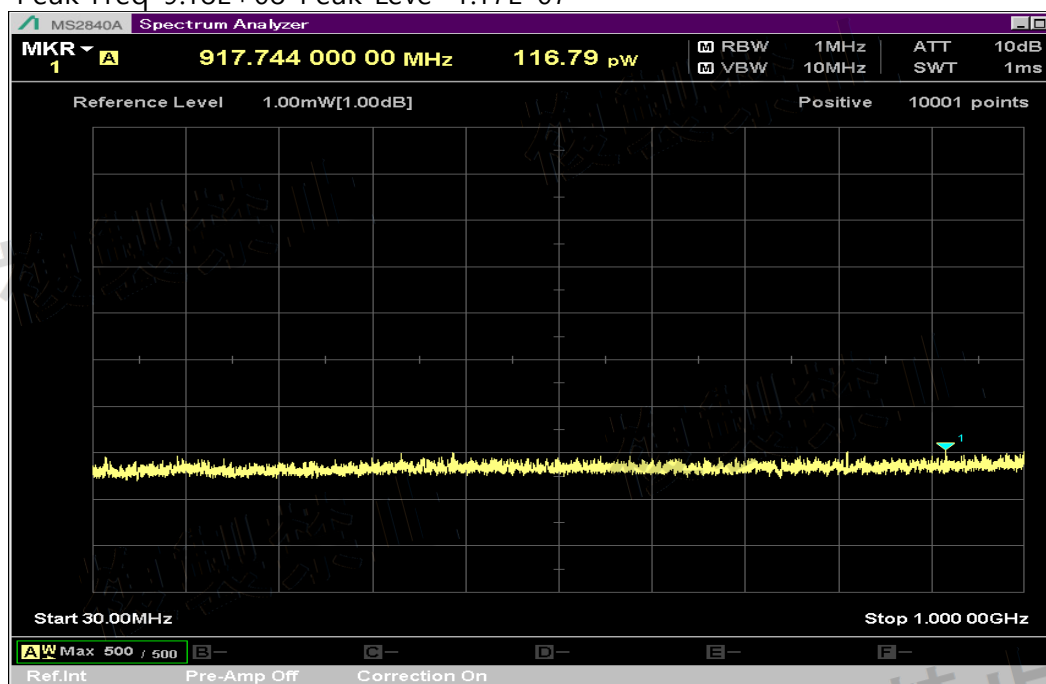
Peak Freq 4.96E+09 Peak Leve 1.52E-05



BLE 1M

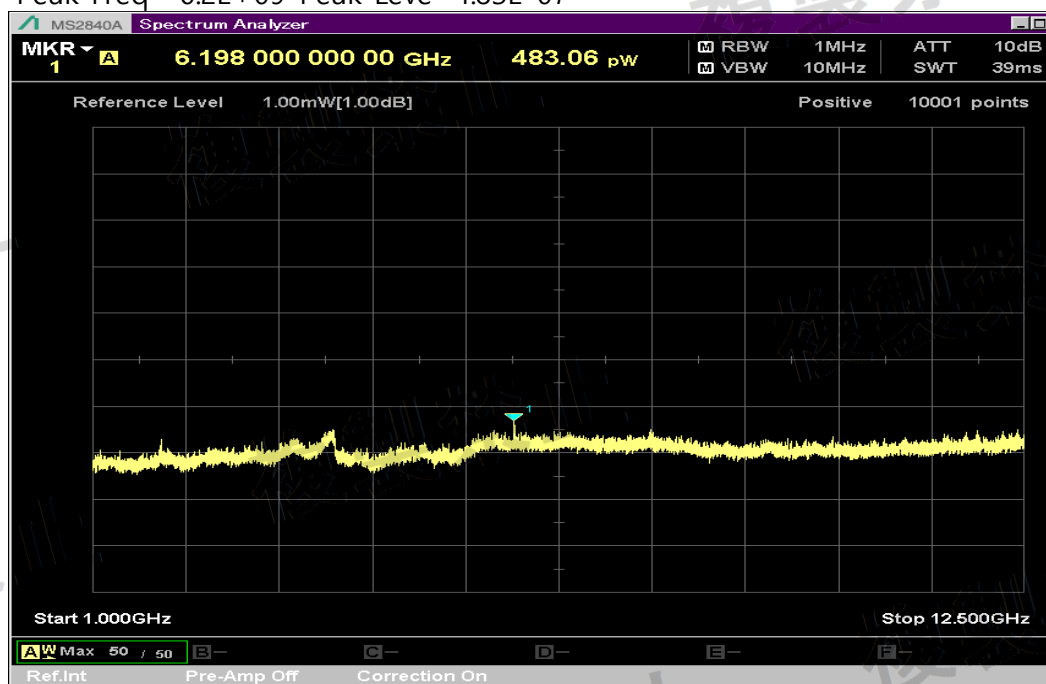
Rx Spurious _ under 1 GHz _ ch39

Peak Freq 9.18E+08 Peak Leve 1.17E-07



Rx Spurious _ 1 GHz - 12.5 GHz _ ch39

Peak Freq 6.2E+09 Peak Leve 4.83E-07



BLE 1M

Reading Frequency_ch39
Peak Freq 2.48E+09 Peak Leve 10.755

