

Test result and instruments about Type certificate

Specified low power radio equipment

1. General

Model name	SWL11-TR08	Date	2019/12/18
Serial number	0000000	Place	株式会社イーアンドエム
Class of emissions, Assigned frequency and Antenna power	F1D 429.2500MHz 0.01W	Remarks	種別：証明規則第2条1項第8号 試験方法：総務省告示88号別表第22第2

2. Measuring Instruments

Equipment type	Model number	Serial number	Manufacturer	Calibrated Date	Calibration Authority	Remarks
シグナルアナライザ	MS2830A	6201680058	アンリツ	2018/12/26	(株)宝永 二	
デジタルマルチメータ	AD7461A	662601170	アドバンテスト	2019/5/17	(株)宝永 二	

3. Test Result

Condition	Test Items *3	Unit	Normal Voltage +10% (DC26.4V)			Normal Voltage (DC24.0V)			Normal Voltage -10% (DC21.6V)			Judgment	Limit	Remarks
				429.2500			429.2500			429.2500				
Normal (25.5℃ 48%)	Frequency	MHz					429.249682					Pass		
		ppm					-0.741						4ppm	
	Occupied Bandwidth	kHz					6.44					Pass	8.5kHz	
	Spurious	30～(fc-1)MHz	dBm				-54.91					Pass	-26dBm	
			MHz				400.0038					Pass	-26dBm	-50.5
		(fc-1)～(fc-0.0625)MHz	dBm				-35.30							
			MHz				428.9871					Pass	-26dBm	-51.22
		(fc+0.0625)～(fc+1)MHz	dBm				-36.02							
			MHz				429.5137					Pass	-26dBm	
		(fc+1)～1000MHz	dBm				-49.61							
			MHz				858.5041					Pass	-26dBm	
	fc:測定周波数 [MHz]													
		1～3GHz	dBm				-42.35					Pass	-26dBm	
			MHz				1287.75							
	Antenna Power	W					0.00987					Pass	0.01W +20 ~ -50%	
		%					-1.30%							
	Adjacent-channel leakage power	Upper	dBc				-67.07					Pass	-40dBc	
		Lower	dBc				-66.67							
	Secondary Radiated Emissions	below 1GHz	dBm				-58.68					Pass	-54dBm	
			MHz				399.9990							
		1GHz～1.5G	dBm				-81.74					Pass	-54dBm	
			MHz				1120.00							
	Restricting transmit ON time	Transmit ON time	sec				-					-	-	
		Transmit OFF time	sec				-					-	-	
	Carrier sensing function						-98.6dBm					Pass	-96dBm	

Notes

※外部電源 DC 12V/DC 24V
電圧を10.8V～26.4Vに変化させた場合においても、系統図IC13 (NJM2881F33) により、IC15 (CG1125) への供給電圧が変化しないことを右の通り確認しました。
よって、電圧変動によるデータ取得を省略いたします。

TE2 入力電圧 [V]	IC13 (NJM2881F33) 出力電圧 [V]
10.8	3.30
24.0	3.31
26.4	3.31

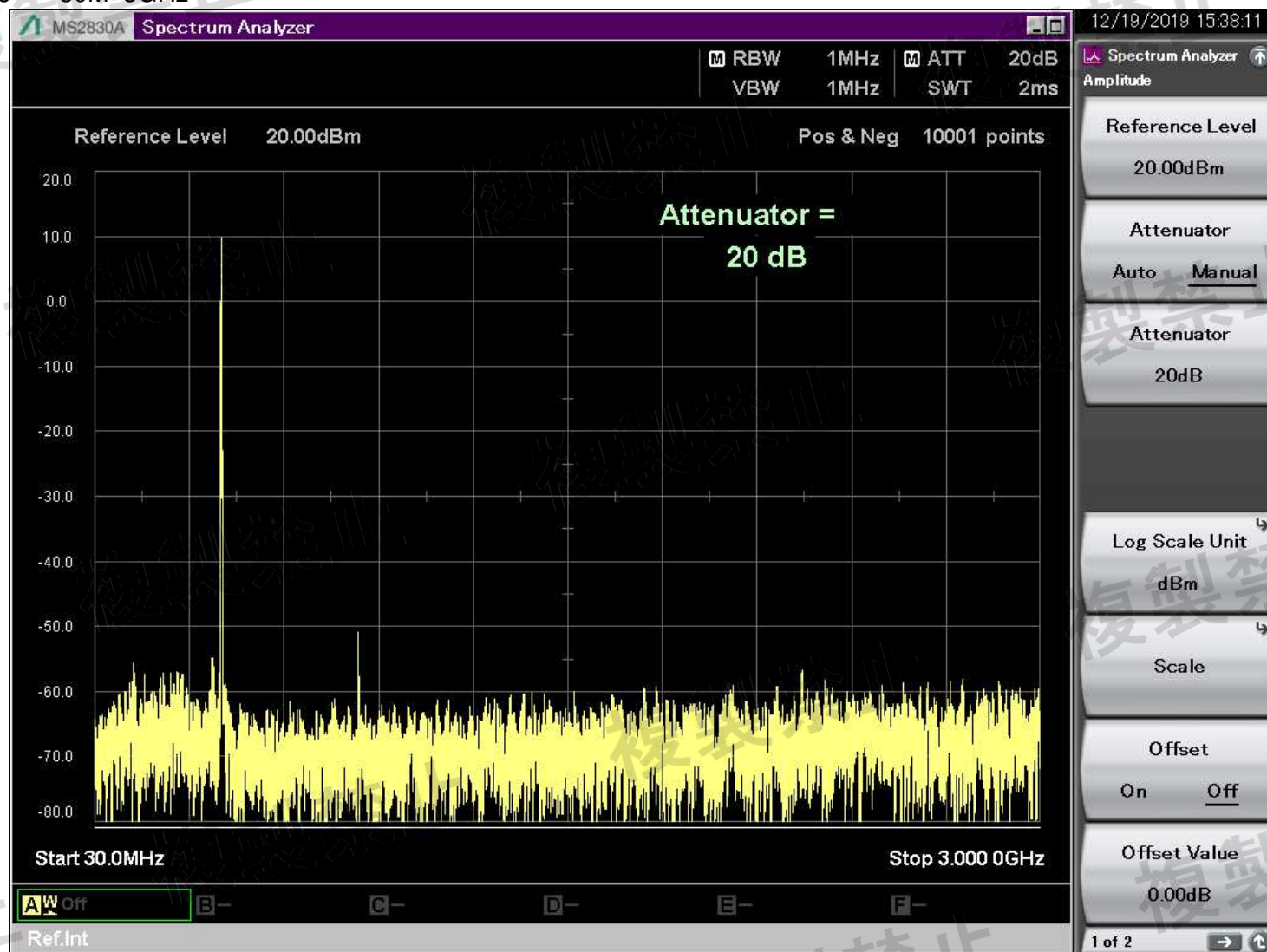
Screen Shot at normal voltage

Occupied Bandwidth

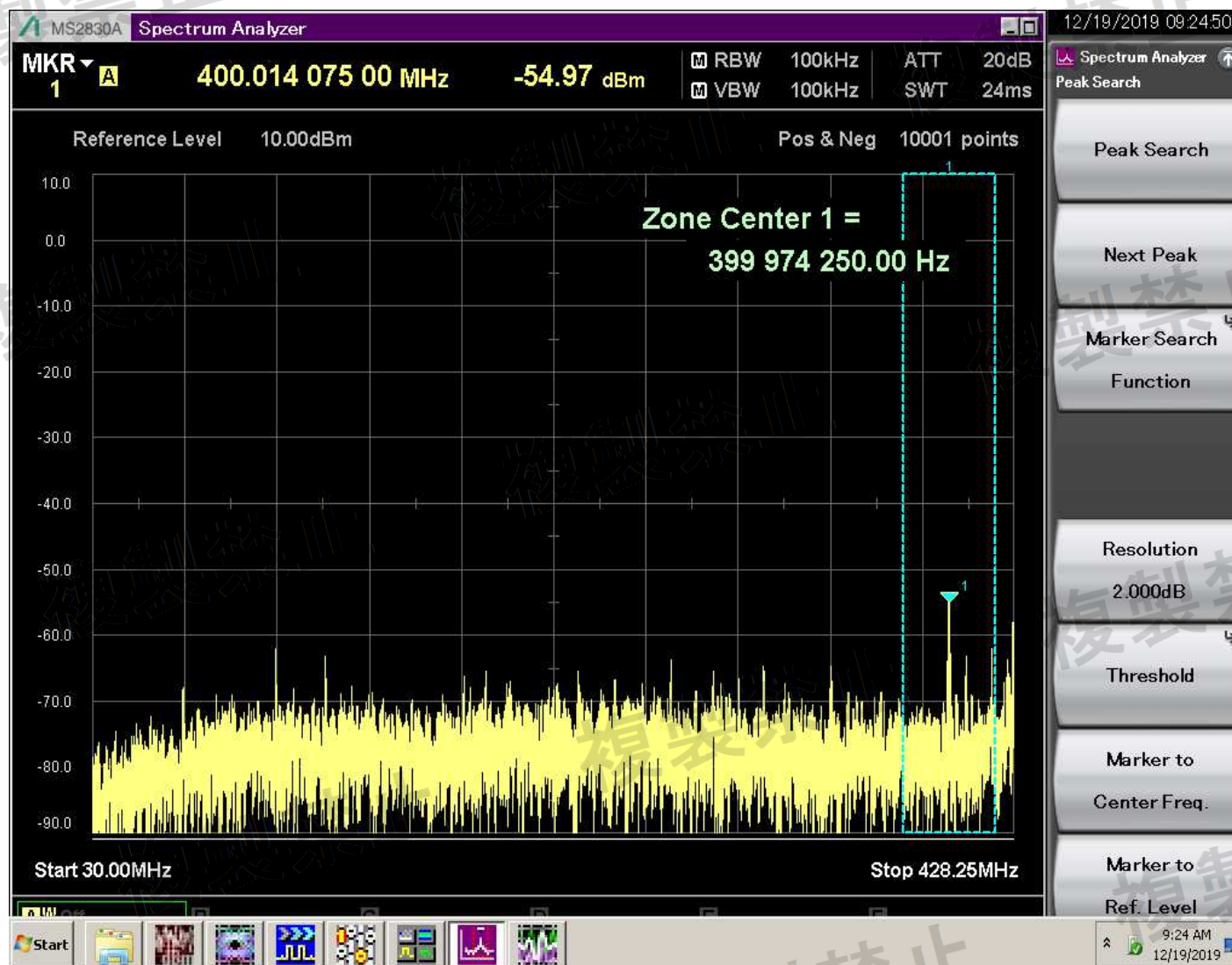


Spurious Emissions

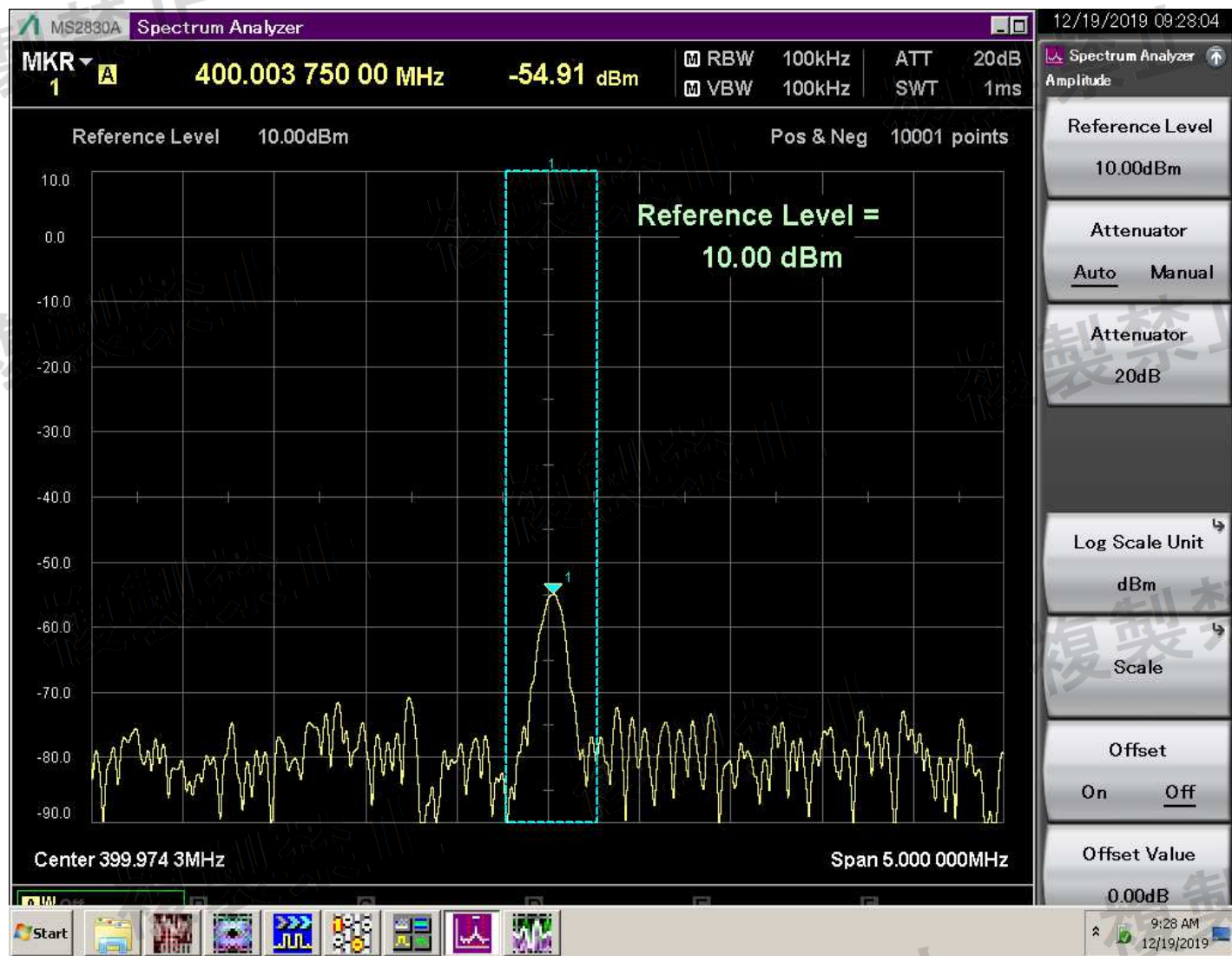
Entire 30M~3GHz



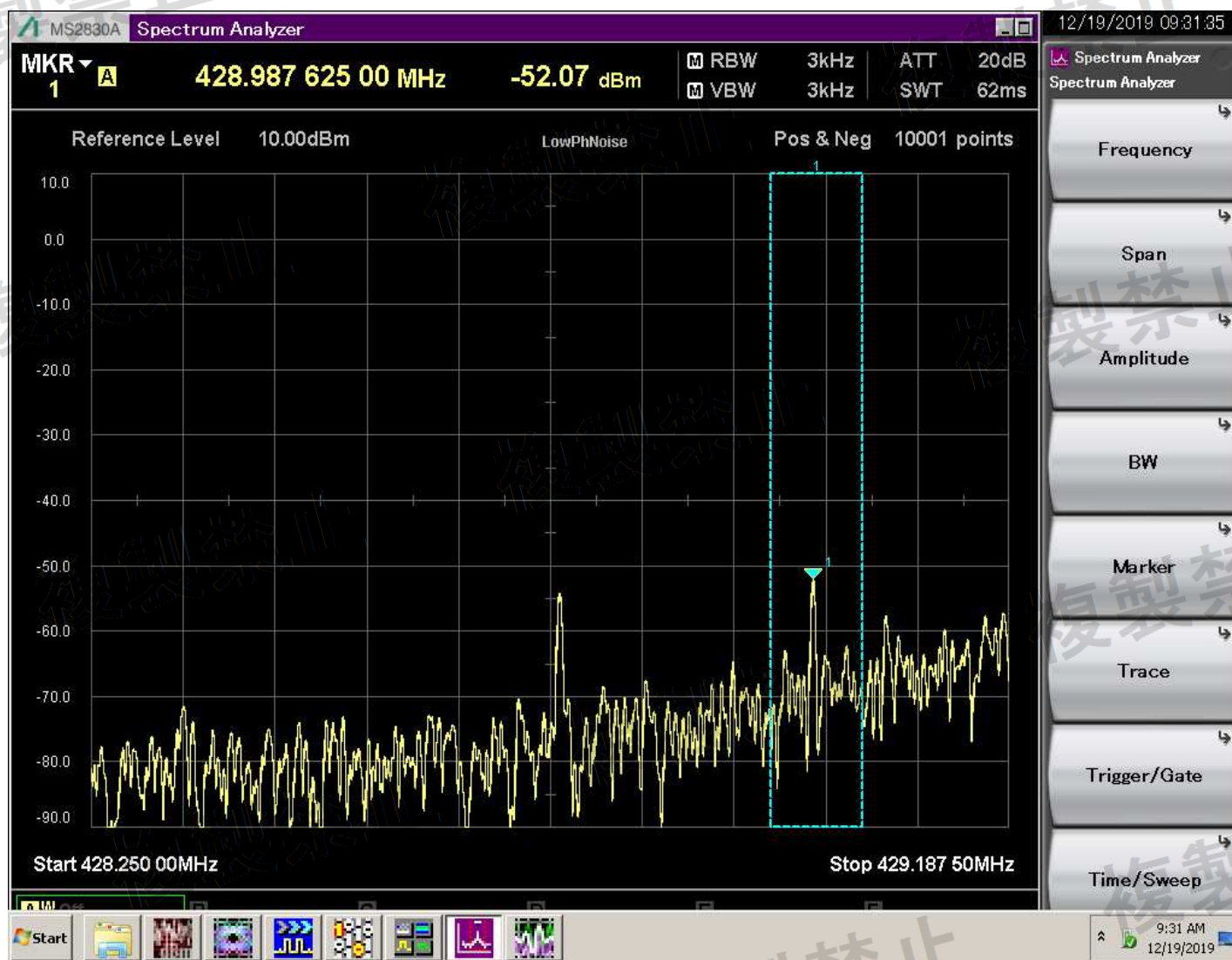
30~(fc-1)MHz : Search



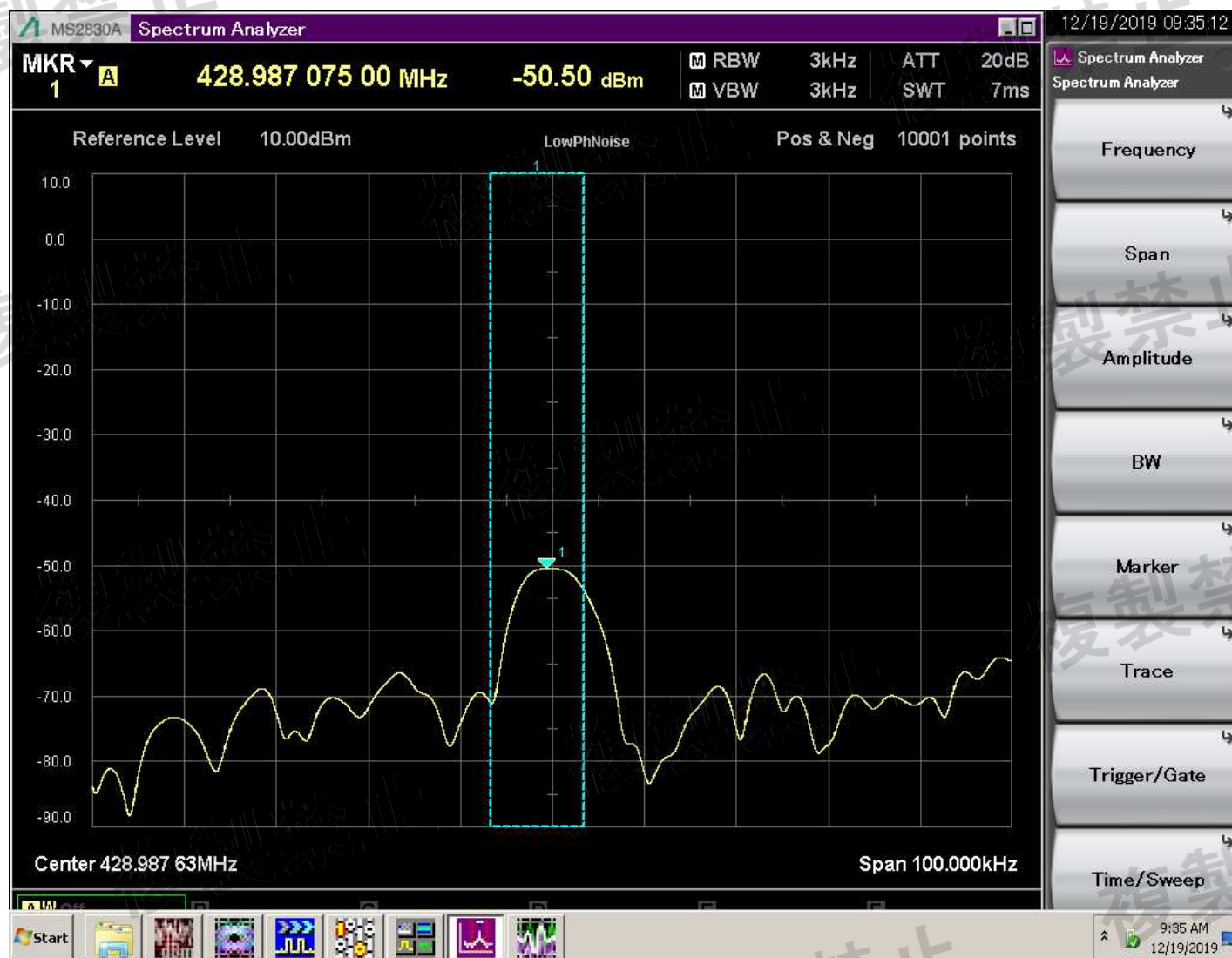
30~(fc-1)MHz : Meas



(fc-1)~(fc-0.0625)MHz : Search



(fc-1)~(fc-0.0625)MHz : Meas



MS2830A Spectrum Analyzer

12/19/2019 09:37:01

MRK 1 A 429.508 906 25 MHz -50.69 dBm

M RBW 3kHz ATT 20dB
M VBW 3kHz SWT 62ms

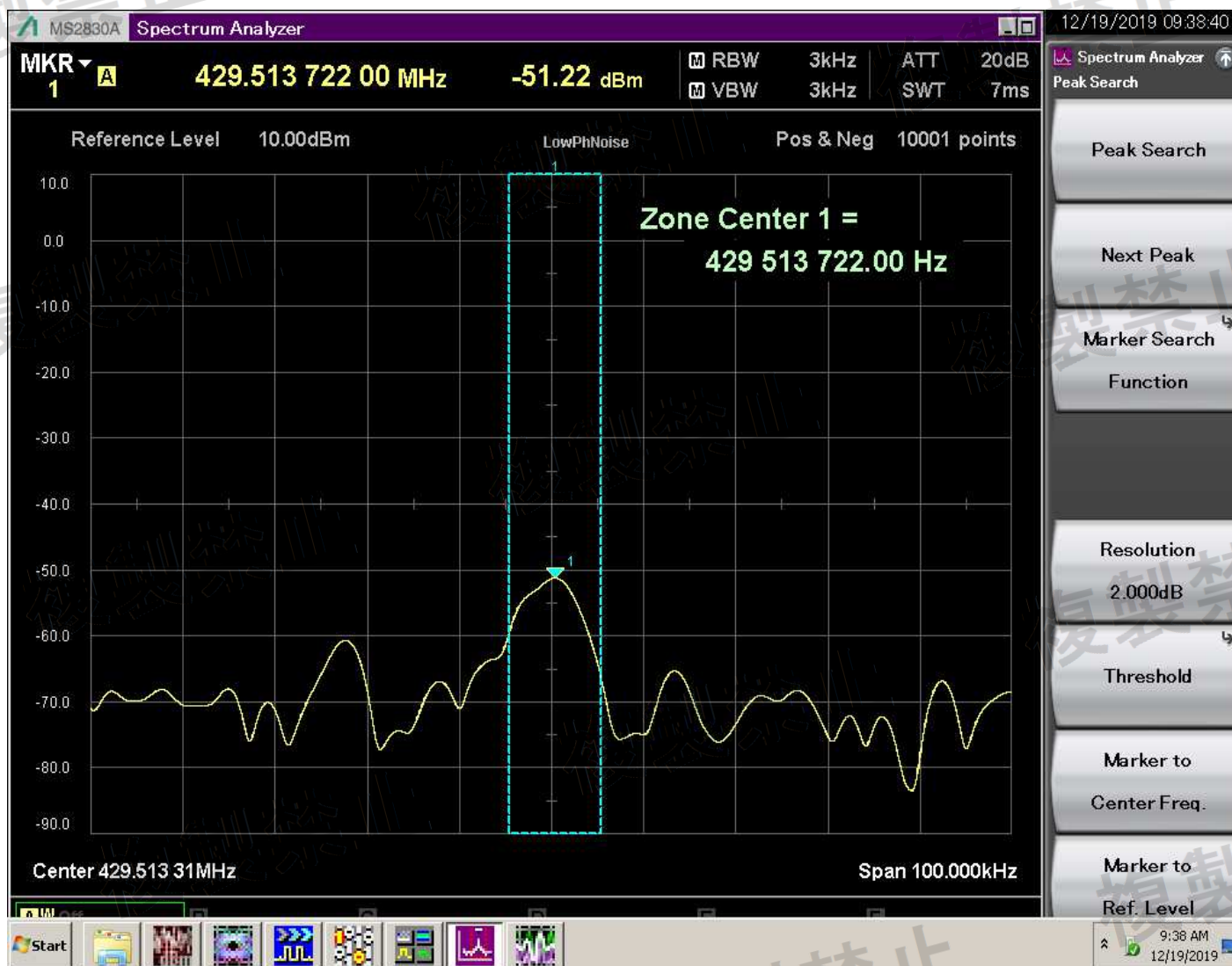
Reference Level 10.00dBm LowPhNoise Pos & Neg 10001 points

Zone Center 1 = 429 513 312.50 Hz

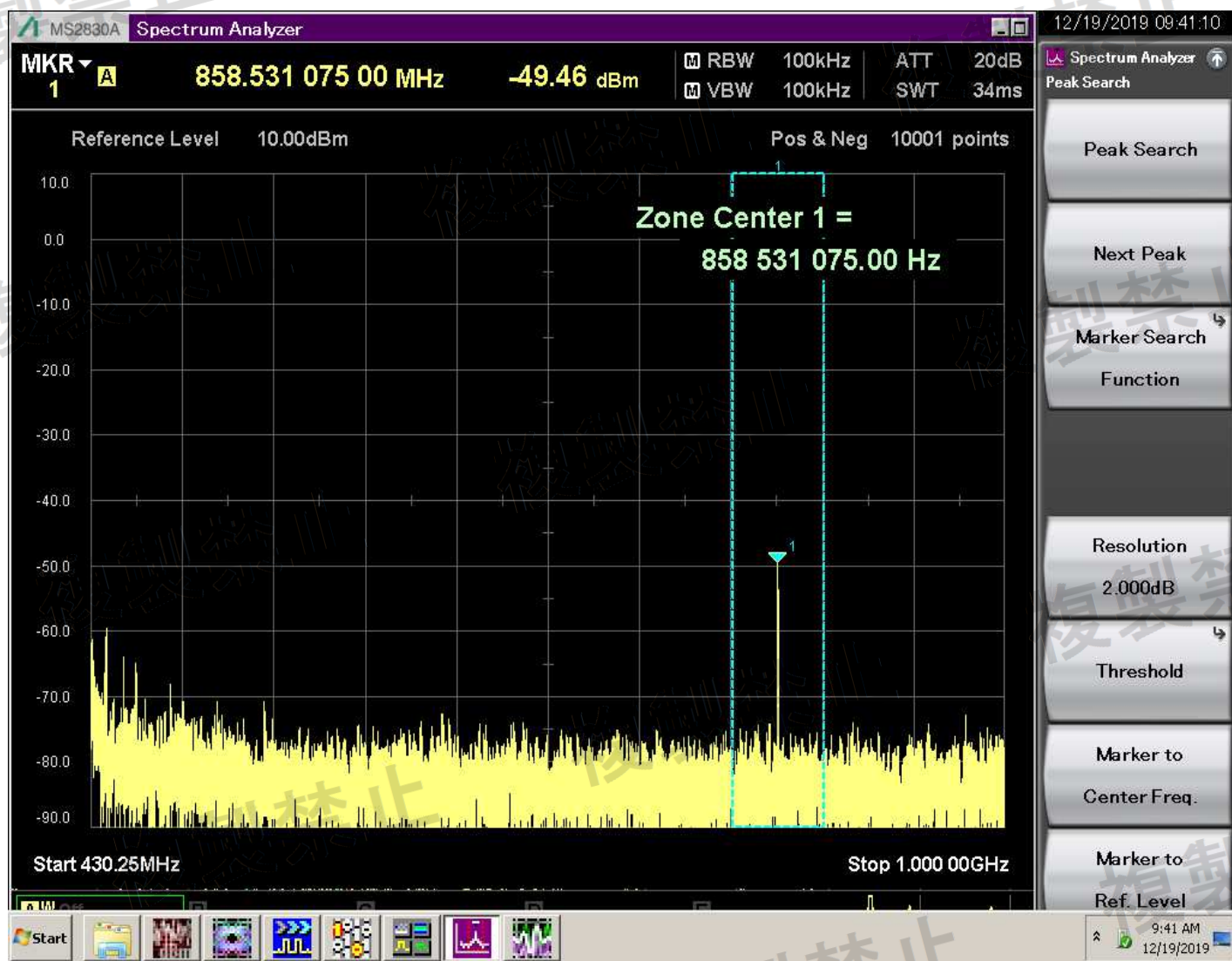
Start 429.312 50MHz Stop 430.250 00MHz

The screenshot shows a Spectrum Analyzer interface. At the top, the title bar reads 'MS2830A Spectrum Analyzer'. The main display area shows a frequency spectrum with a yellow trace. A red dashed box highlights a specific region, and a red triangle points to a peak within this region. The peak is labeled 'Zone Center 1 = 429 513 312.50 Hz'. The power level of the signal is indicated as -50.69 dBm. The frequency range is set from 429.31250 MHz to 430.25000 MHz. The reference level is 10.00 dBm. The resolution is 2.000 dB. The threshold is set to a specific value. The marker is set to the center frequency. The reference level is set to a specific value. The right side of the screen contains several buttons: 'Peak Search', 'Next Peak', 'Marker Search', 'Function', 'Resolution', 'Threshold', 'Marker to Center Freq.', and 'Marker to Ref. Level'. The bottom of the screen shows a Windows taskbar with various icons.

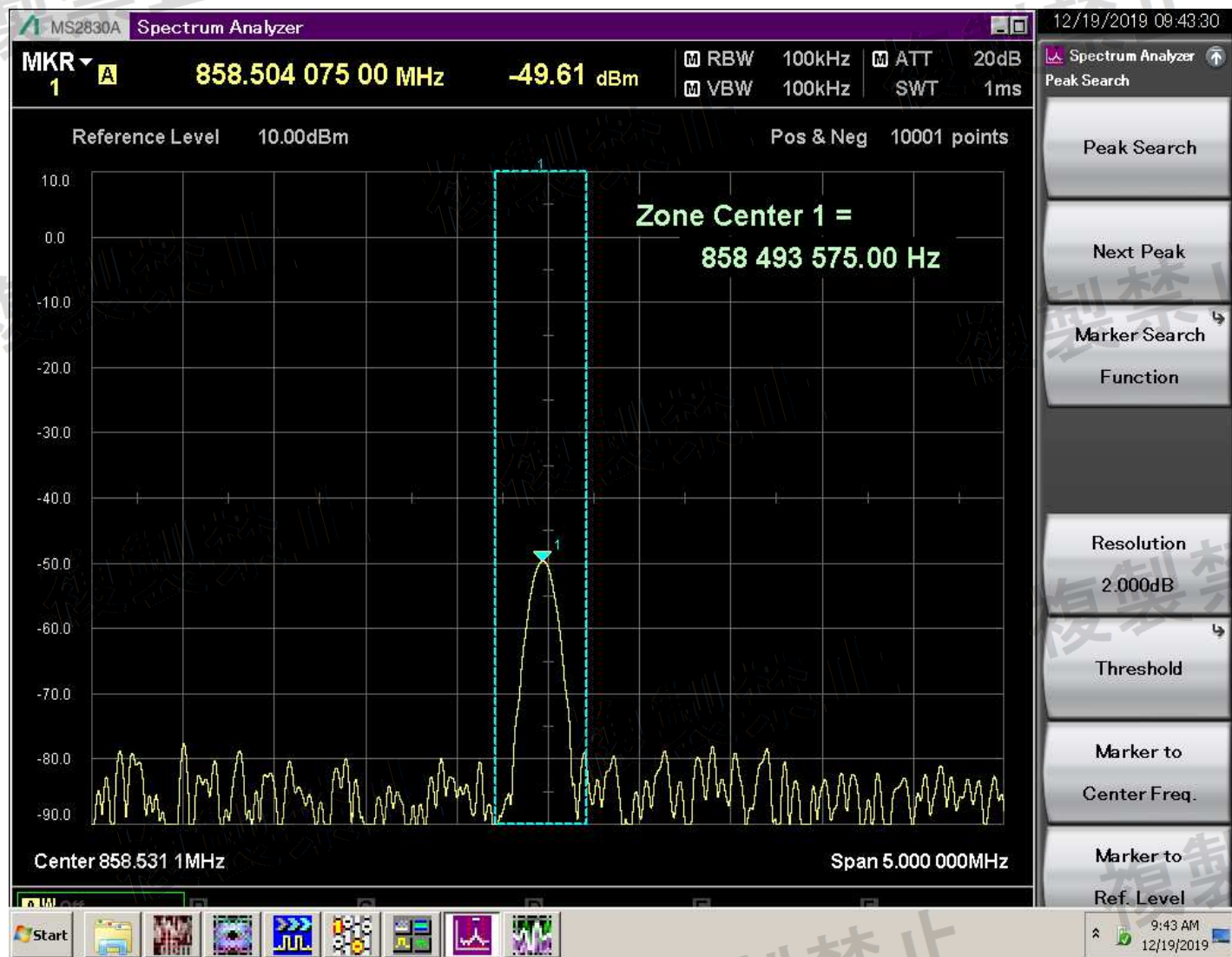
(fc+0.0625)~(fc+1)MHz : Meas



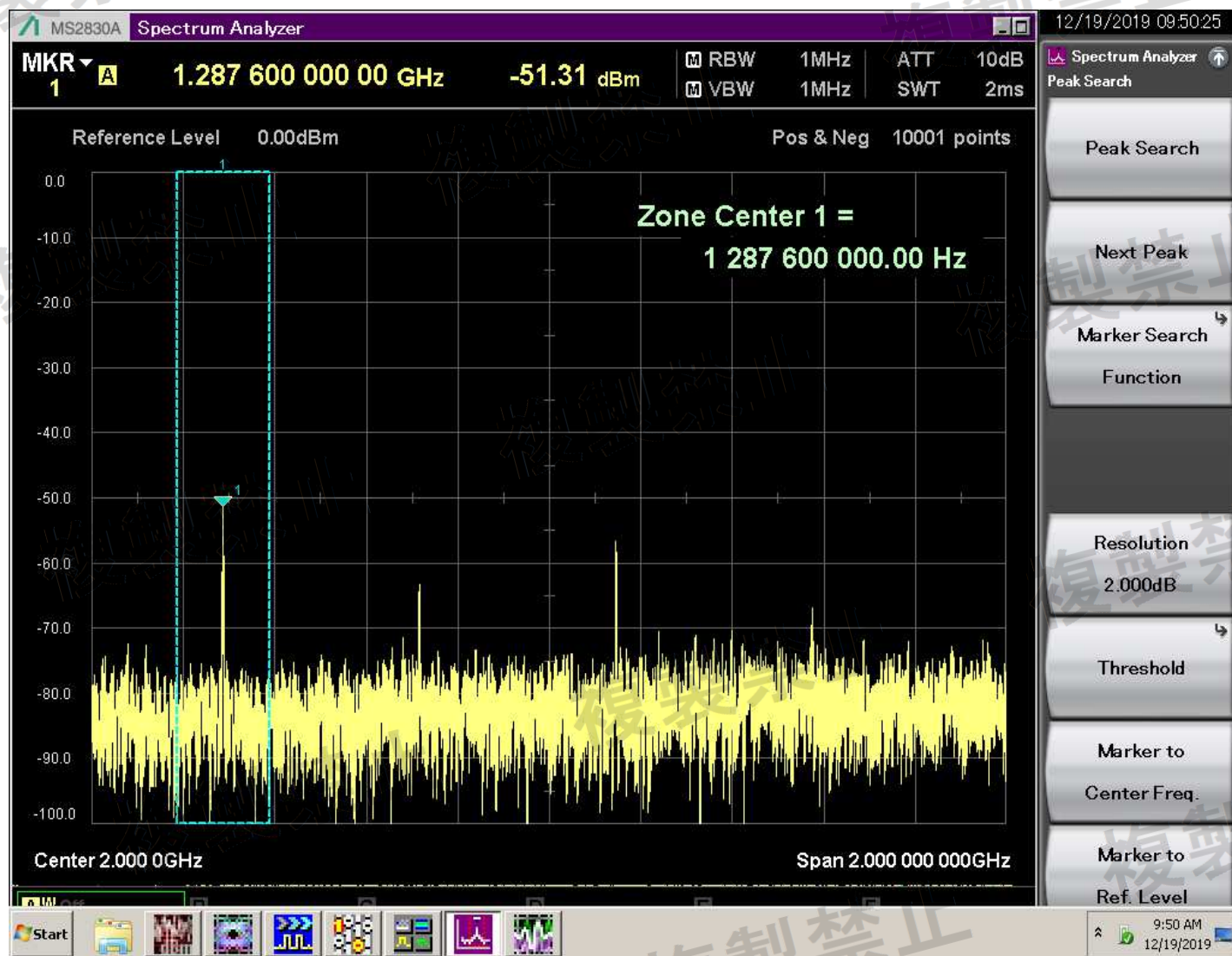
(fc+1)~1000MHz : Search



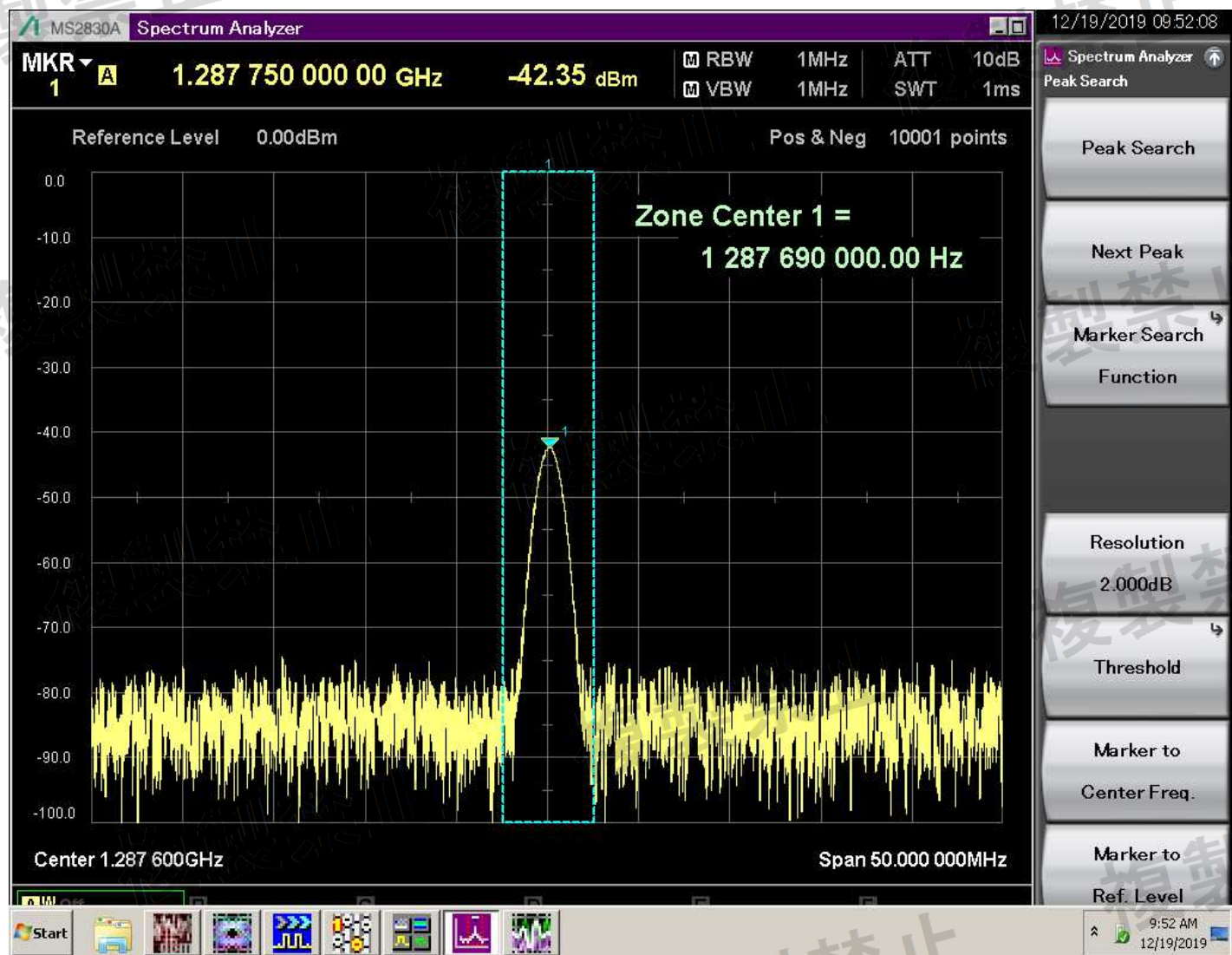
(fc+1)~1000MHz : Meas



1~3GHz : Search



1~3GHz : Meas



Adjacent channel leakage power

