



# P/N:LBW-AT06-F6W1A31875-SFSF

USB / Ethernet поглощающий аттенюатор с цифровым управлением  
0,5 - 6 ГГц

## Характеристики:

- Управление и питание через USB
- Ослабление до 31,875 дБ с шагом 0,125 дБ



Parameters	Min.	Typ.	Max.	Min.	Typ.	Max.	Units
Frequency Range	1-2		0.5-6				GHz
Attenuation Range		31.875			31.875		dB
Insertion Loss		2.0	2.5		4.0	4.5	dB
Insertion Loss Temperature Coefficient		0.01			0.01		dB/ °C
Attenuation Flatness: (Referenced to Insertion Loss)		±1.0			±1.5		dB
Control Bits	8						Bit
Control Step Size		0.125			0.125		dB
Input VSWR (All Atten. States)		1.4	1.8		1.5	2.0	: 1
Output VSWR (All Atten. States)		1.4	1.8		1.5	2.0	: 1
Input 0.1 dB Compression Point (P0.1dB)		27			27		dBm
RF Input Power			30			30	dBm
Input IP3		42			41		dBm
Bias Current	300						mA
Power Supply	USB(+5.0V)						
Weight	4.8 Max.						Ounces
Impedance	50						Ohms
Input / Output Connectors	SMA-Female						
Control Interface	USB2.0 & Ethernet(IPv4) (Control Cable Included)						
Material	Aluminum						
Finish	Nickel Plated						
Sealing	Hermetically Sealed (Optional)						

## Ordering Information

Part No.	Description
LBW-AT06-F6W1A31875-SFSF	0.5-6GHz Digital Control Attenuator

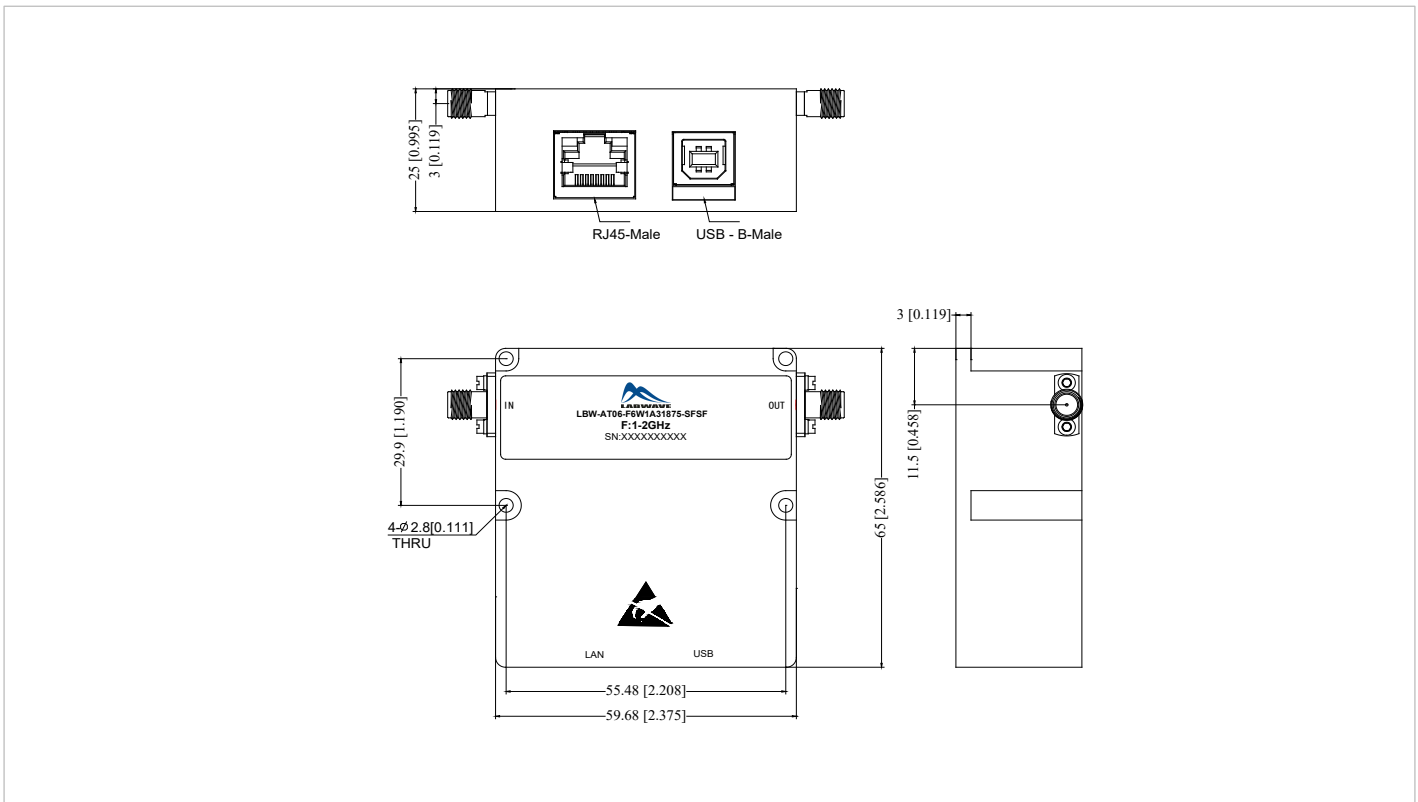
## Environmental Specifications

Operational Temperature	-40°C~+85°C
Storage Temperature	-50°C~+105°C
Vibration	25g RMS (15 degrees 2KHz) endurance, 1 hour per axis
Shock	20G for 11msec half sine wave, 3 axis both directions

## Outline Drawing:

All Dimensions in mm (inches)

Housing Tolerances  $\pm 0.1$  (0.004)



ID	Packing List	QTY
1	Fig a. USB/Ethernet Control RF Attenuator	1
2	Fig b. USB2.0 Cable (5 feet / 1.5 meter)	1
3	Fig c. Network Cable (6 feet / 2 meter)	1

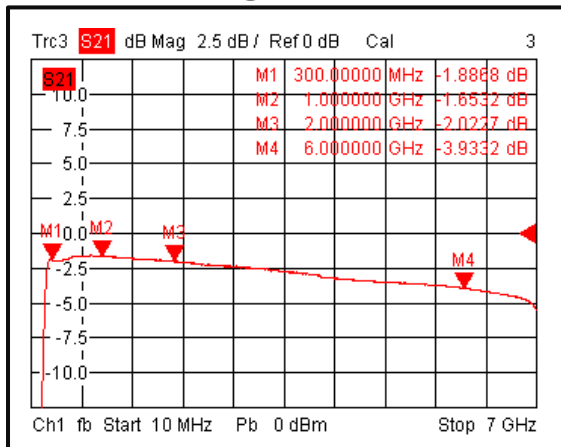


Fig b.

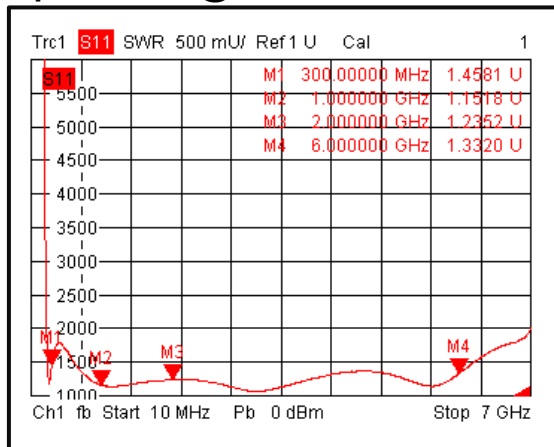


Fig c.

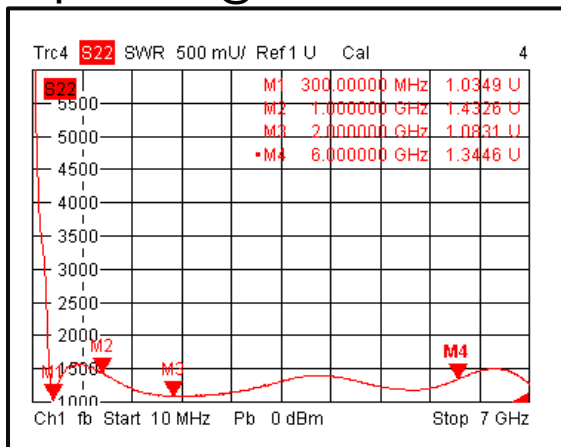
## Insertion Loss @+25°C



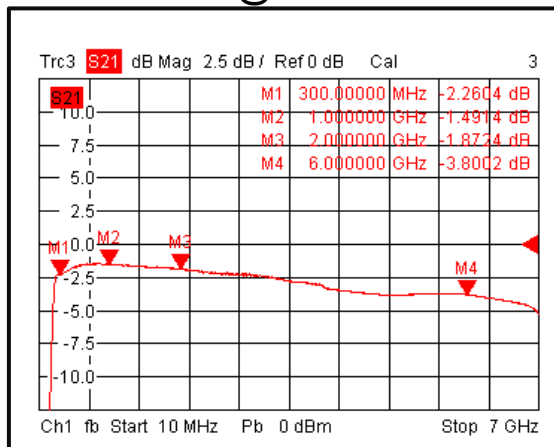
## Input VSWR @+25°C



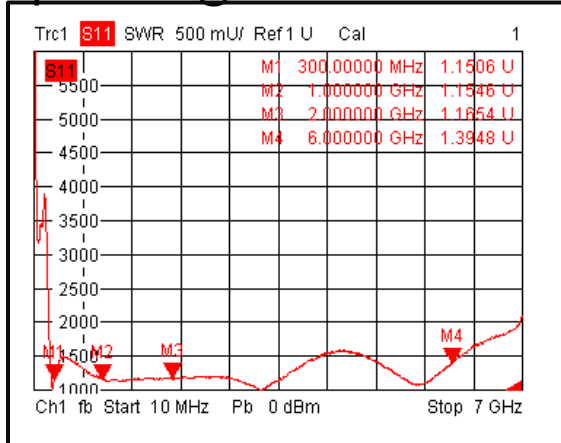
## Output VSWR @+25°C



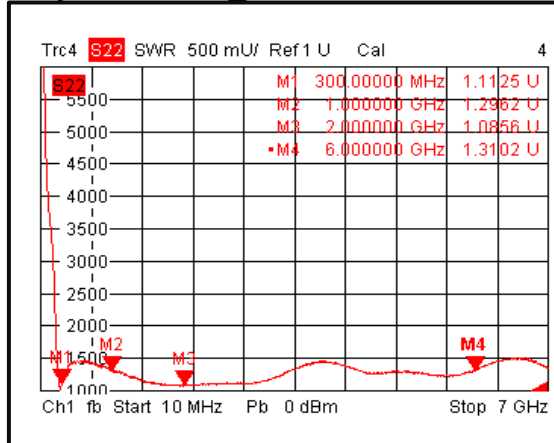
## Insertion Loss @-40°C



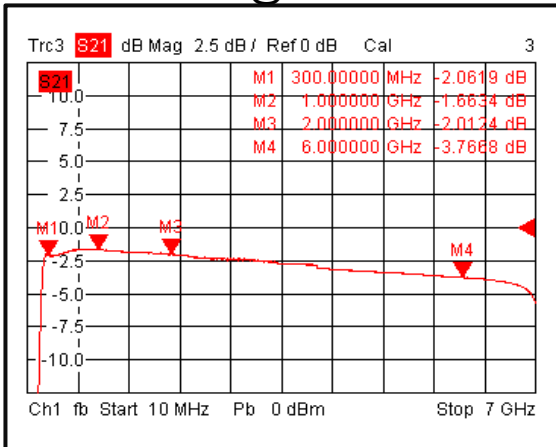
## Input VSWR @-40°C



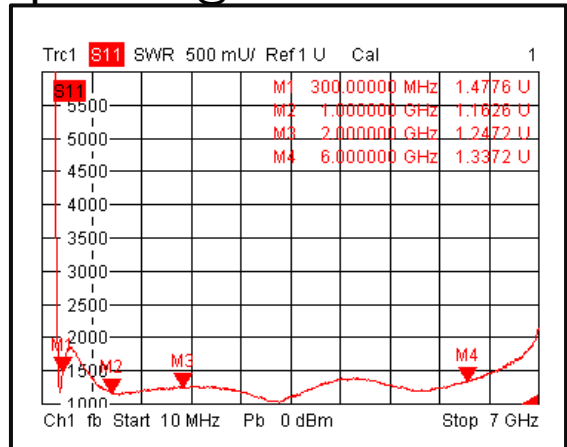
## Output VSWR @-40°C



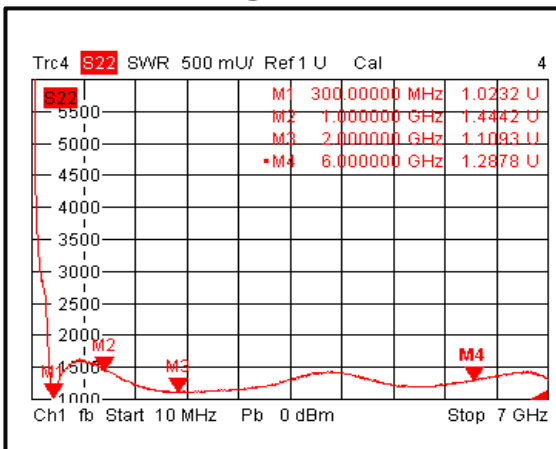
## Insertion Loss @+85°C



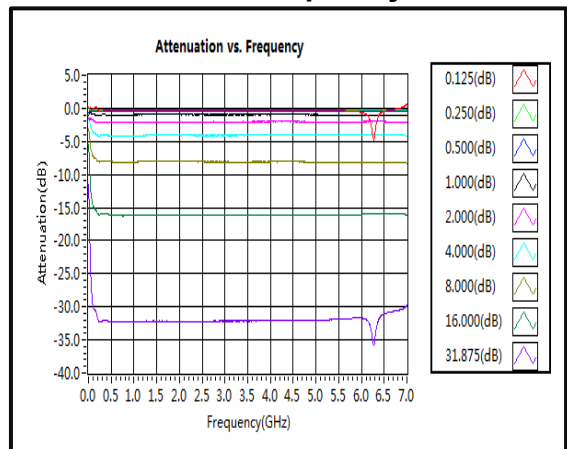
## Input VSWR @+85°C



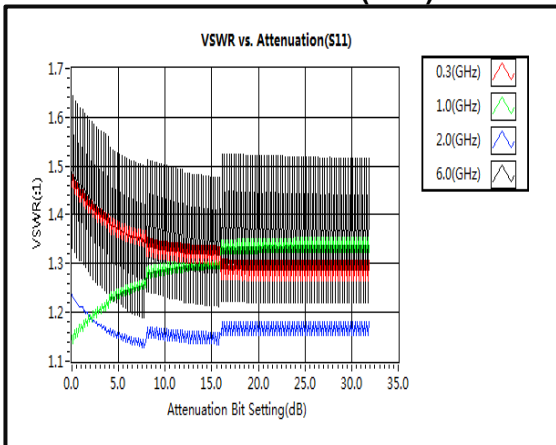
## Output VSWR @+85°C



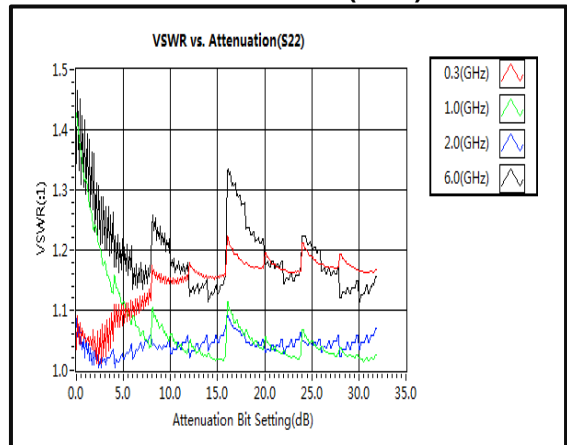
## Attenuation vs. Frequency



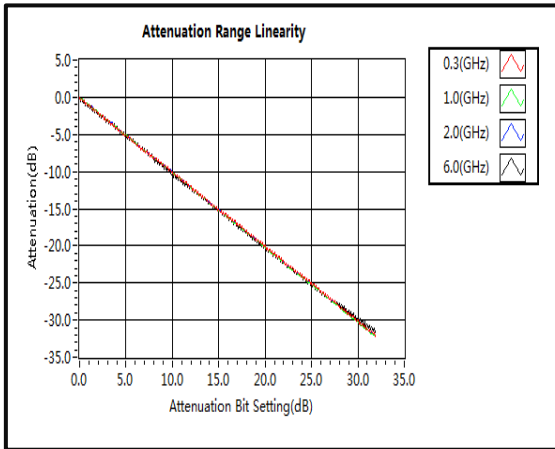
## VSWR vs. Attenuation (S11)



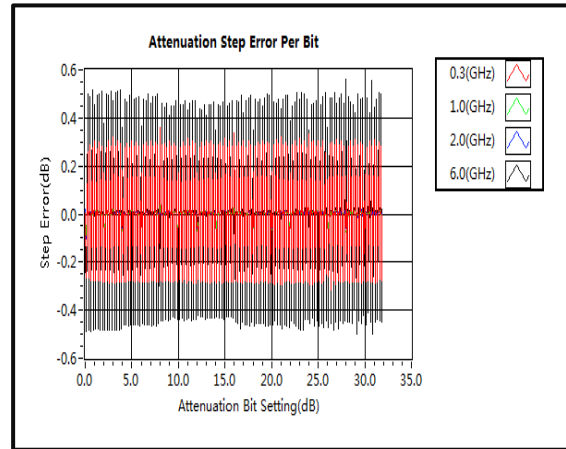
## VSWR vs. Attenuation (S22)



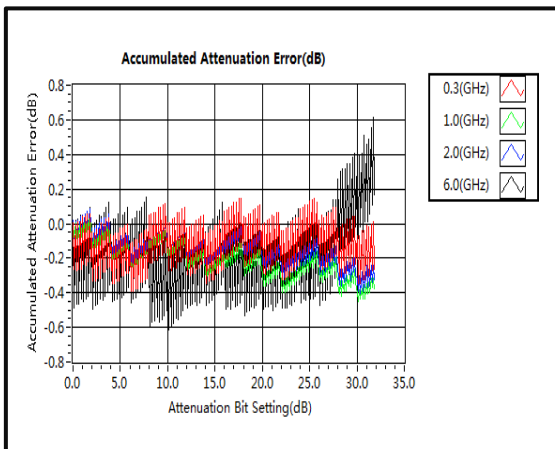
## Attenuation Range Linearity



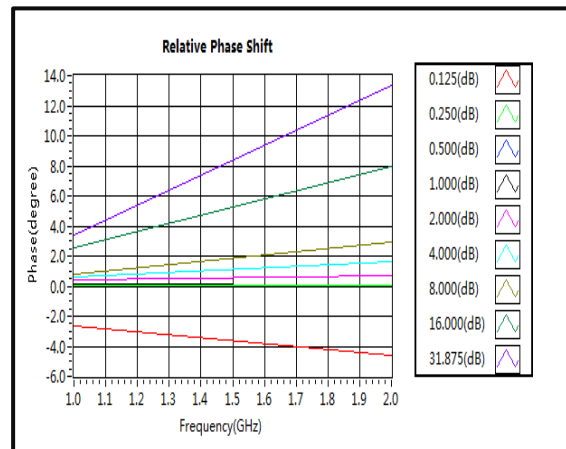
## Attenuation Step Error Per Bit (dB)



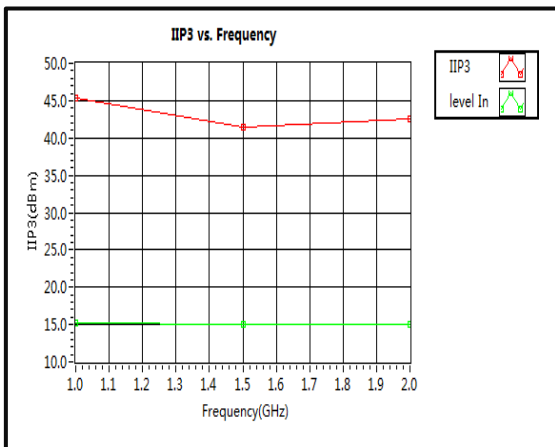
## Accumulated Attenuation Error (dB)



## Relative Phase Shift



## IIP3

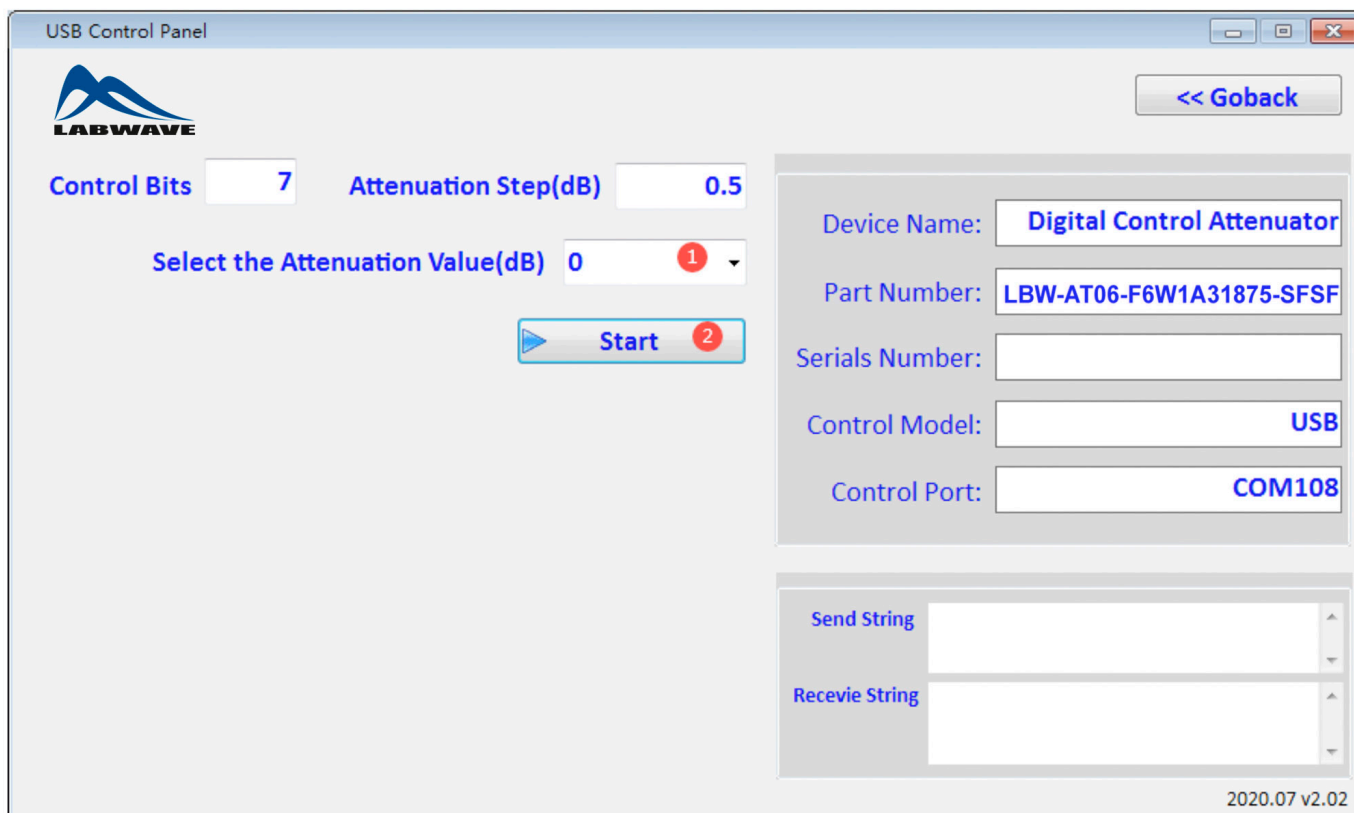


Control Content Description			
Format Requirement	USB (virtual serial port ) Configuration	LAN Interface	Range of Parameters
a.All commands must end with a semicolon. b.All commands are case insensitive. c.Comma is used to separate multiple parameters in commands. d.All commands are suitable for USB(virtual serial port) and LAN interface.	Baud Rate :115200 Data bits : 8 Parity : None Stop bits : 1 Flow Type :None	IP address and Port. Default:192.168.1.225:5100; use 'USB Control panel.exe' to update.	x(Step): 1~2^n ,n is control bits.

Command Specification				
ID	Order	Description	Return	Example
1	*IDN?;	Query product information	Product PN ,SN, Manufacturer ,version	*IDN?;
2	Reset;	Reset the product	/	Reset;
3	AT:ATT x;	Set attenuation step	Attenuation value	AT:ATT 2; Return : 2*step size
4	AT:ATT?;	Query current attenuation value	Attenuation step, attenuation value	AT:ATT? Return :2, 2*step size
5	AT:ATTS?	Query attenuation step size	Attenuation step size	AT:ATTS? Return : step size

Error Code Query		
ID	Return	Description
1	E1	Missing semicolon
2	E2	Incorrect command
3	E3	Missing space character
4	E4	Out of range parameters





USB Control Panel

LABWAVE

Control Bits:  Attenuation Step(dB):

Select the Attenuation Value(dB):  1

2

Device Name:

Part Number:

Serials Number:

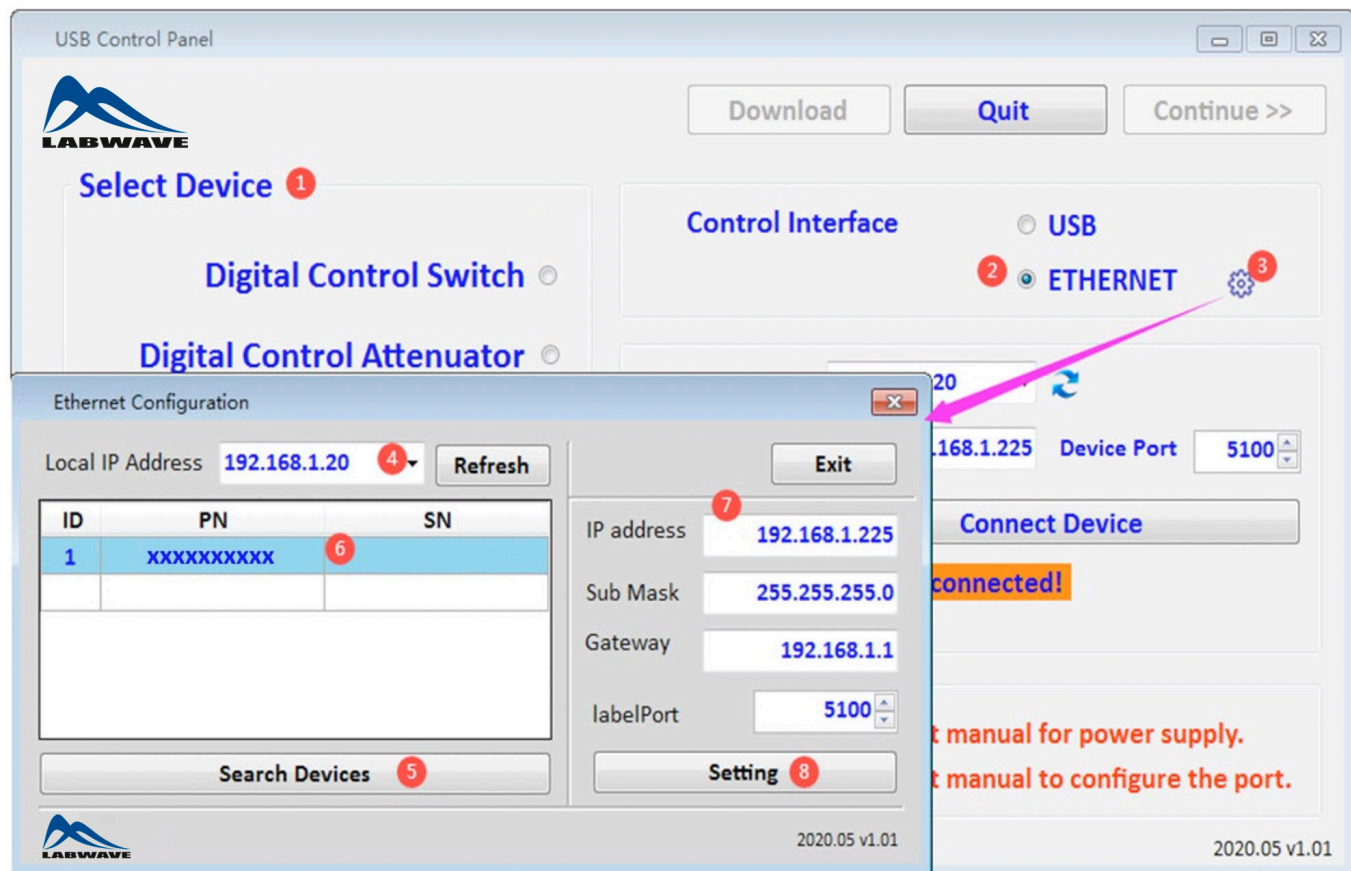
Control Model:

Control Port:

Send String:

Recevie String:

2020.07 v2.02



USB Control Panel

LABWAVE

Download Quit Continue >>

Select Device 1

Digital Control Switch

Digital Control Attenuator

Control Interface

USB

ETHERNET 2 3

Local IP Address:  4 Refresh

ID	PN	SN
1	XXXXXXXXXX	<span style="border: 1px solid red; border-radius: 50%; padding: 2px;">6</span>

Search Devices 5

IP address 7:

Sub Mask:

Gateway:

labelPort:

Setting 8

Device Port:

Connect Device

connected!

... manual for power supply.  
... manual to configure the port.

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