

EMI Receiver

EM5080A (9kHz-30MHz)



Shenzhen Zhiyong Electronic Co., Ltd.

Introduction

First of all, thank you for purchasing our products, the product specification is about the function, usage, operation attention points, etc. Before use, please read the instructions carefully and used correctly. Please save it after reading.

Manual annotation will use the following symbols to distinguish.



This symbol means it has a harm to the machine and human body, you must refer to manual operation.

Warning

In the case of wrong operation, the user has the threat of injury, it records the relevant matters needing attention to avoid such dangers.

Notice

The user may have suffered minor injuries and material damage while with the wrong operation, to avoid such situation, note the matters needing attention.

Note

Recording of important notes while using the machine.

For the safe use of the machine, you must abide by the following safety precautions strictly. If it is not in accordance with the manual, is likely to damage the protective function of the machine. In addition, the company is not responsible for the violation of personal safety arise from the matters needing attention in operation.



- ◆ Make sure the product is operating in rating range.
- ◆ Do not open the shell when the product is working.
- ◆ Do not use the product in wet, combustible or explosive environment.
- ◆ Keep the device surface dry and clean before using it.
- ◆ If there's anything wrong, please contact the company immediately. Do not open the shell and try to repair it in order to prevent unwanted accident.

1. Summary

EM5080A (9kHz-30MHz) receiver is a kind of Pre-compliance EMI Receiver that based on the SDR platform. EM5080A is digitalized receiver which can be operating by standard PC software and make the test process easy for the users. All of these make EM5080A very cost-effective.

EM5080A is compliance with CISPR 16-1. It is very useful in the standard EMI measurement such as CISPR, EN550XX, FCC and MIL. It is especially good for the EMI test for household electrical appliances (CISPR 14-1) and lighting equipment.

EM5080A Receiver can be switched to FFT spectrum analyzer mode with RBW 1.5kHz and its fast scanning speed make it a powerful equipment for different kind of debugging test.

2. Characteristics

- ✧ Build on leading technology of SDR platform, can provide high accuracy and reliability
- ✧ High speed and high precision (AD+ RPGA) and Fully Digitalized DDC transform, Full Digital IF Filter
- ✧ Digital detector: Peak, quasi-peak, CISPR average.
- ✧ The standard FFT spectrum analyzer mode make users able to observe the result fast and easy for the engineer to debug the EMI .
- ✧ Free test software based on Windows and can download the latest software on their own.
- ✧ With near field probe EM5030, users can find the source and emission at the stage of design and test.
- ✧ The users can complete the conduction EMI measurement by using LISN EM5040A with embedded limiter or 5040B with CM/DM separator.

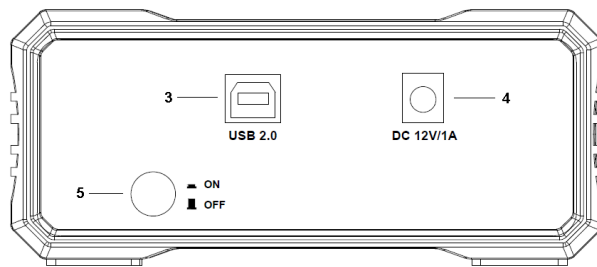
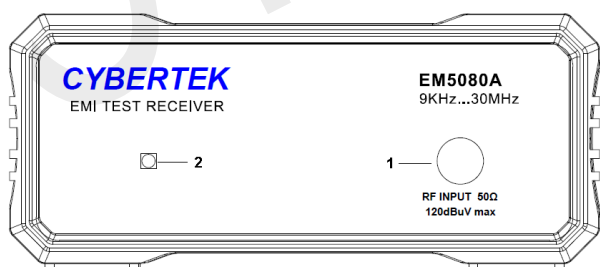
3. specification

Frequency Range		9kHz-30MHz
Frequency resolution		1Hz
Measurement Accuracy		<1ppm
RF input		50Ω, SMA fem.
VSWR	30dB RF att.	<1.2
	0dB RF att.	<2
Attenuation		0dB—30dB
Measurement Accuracy (Typical)		±1.5dB
Max Input Level(If equipment is not damaged)		
Sinusoidal Voltage		120dBuV
Density of Impulse Frequency		+97dBμV/MHz
Preselector		
Fixed bandpass filter		LP-150kHz 150kHz-4.05MHz 4.05MHz-12.8MHz 12.8MHz-21.55MHz 21.55MHz-30MHz
IF Bandwidth		
6dB		0.2 and 9kHz (CISPR 16-1-1)

Displayed average noise level (DANL)		
9kHz-150kHz (200Hz BW)		<0dBμV(QP) typical
		<-5dBμV(AV) typical
150kHz-30MHz (9kHz BW)		<5dBμV(QP) typical
		<0dBμV(AV) typical
Detector		Peak, quasi-peak, CISPR average
Test Time(Dwell Time)		PK/AV:5-500ms Adjustable QP:1s-15s Adjustable
Image Rejection		90dB typical
Display Unit		dB μV dBm
Real time FFT spectrum analyzer mode		1.5kHz RBW
Communication port		USB2.0
Power Supply		DC12V/1A
Operating Temperature		0°C ~ 45°C
Size		193*134*58mm
Weight		1kg

4. Introduction

■ Product

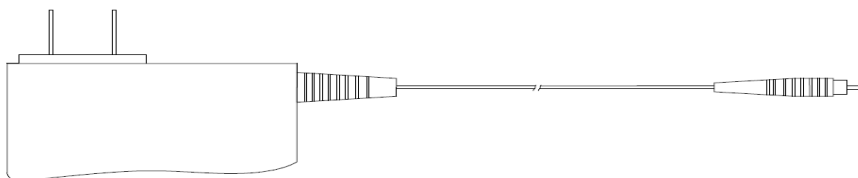


- ❖ **RF input port:** 50Ω, SMA female.
- ❖ **LED:** Power Indicator, Green
- ❖ **USB port:** USB2.0, connecting with PC software and realizing EMI measurement.
- ❖ **Power port:** DC 12V power supply port
- ❖ **Switch:** Button switch, controlling the power of the machine.

■ Accessories



RF line (CK-318): BNC male to SMA male



Power supply adaptor (CK-612) DC12V/1.2A

5. Building of conduction test platform

Notice

Warning:

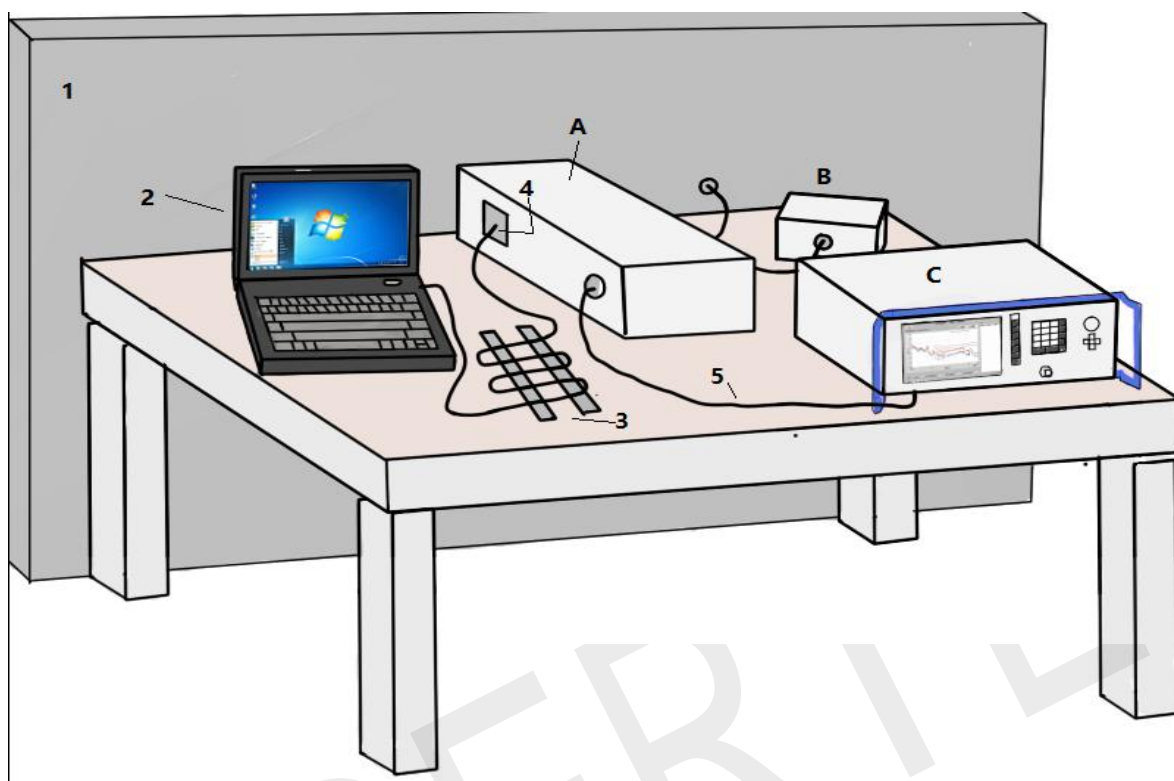
- ✧ Do not open the case in operation. Do not use the product in wet or combustible or explosive environment. Keep the device surface dry and clean before using.
- ✧ To avoid accidentally damaging of the receiver, when conduct measuring high-power equipment, the EUT can disconnect from the RF input connection of the receiver when EUT is turned on or off.
- ✧ Highly recommend the Isolation Transformer that can prevent accidental electric shock.
- ✧ If there's anything wrong with the product, please contact the company immediately. Do not try to open the shell and repair it to prevent unwanted accident.



Safety Instruction:

- ✧ The conduct measurement must always be isolated by the isolation transformer to keep the users safe.
- ✧ The protection earth tip of the LISN requires ground to keep the users safe. Especially when isolation transformer is not used, LISN must be grounded, or there could be deadly electric shock.

5.1 Diagram for the construction of the platform



Item	Description
1	Metal board at least 2mx2m
2	Equipment Under Test
3	The method folding the power supply line when it is longer than 1 meter.
4	Power supply port for EUT
5	RF shielded cable
A	LISN
B	Isolation Transformer
C	Receiver

5.2 Test setup steps

- ✧ Connect the ground line of the EM5040A and receiver EM5080A, earthed.
- ✧ Connect the isolation transformer EM5060 and LISN EM5040A
- ✧ Connect the EUT and position the equipment according to the diagram above.
- ✧ Connect the interference signal output port of EM5040A with the input port of the EMI receiver.
- ✧ Choose the correct filter compatible with EM5040A according to the level of EUT.
- ✧ Power up EM5060 isolation transformer and test it.
- ✧ Processing different test through operating different button switch of the EM5040A.
- ✧

6. Packing List

Packing List	
Name	Quantity
Receiver	1
DC12V/1.2A Adaptor	1
SMA-BNC Line	1
USB Line (AM-BM,1.5m)	1
High-level Tool Bag	1
Instruction Book	1
Warranty Card	1
Test Report	1

CYBERTEK

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Published in China, June 1, 2016