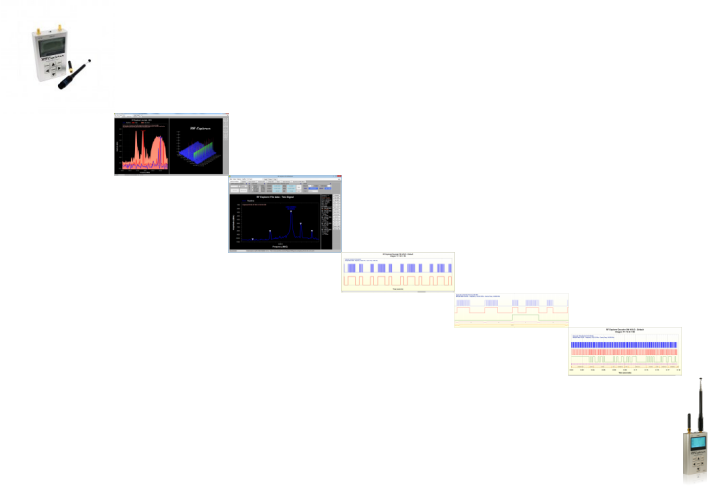
Handheld Spectrum Analyzer 15-2700MHz , 4850-6100MHz-484



Explorer 6G Combo (Seeed 109990063) 15-2700MHz ; 4850-6100MHz, new model 2017

HodnotenieNie je ešte ohodnotené
Cena
Predajná cena446,40 €

Predajná cena bez DPH372,00 €

2-3 Days

Opýtajte sa na tento produkt

Popis

Explorer 6G Combo (Seeed 109990063) 15-2700MHz ; 4850-6100MHz ++ Full 2017/484

RF Explorer is a handheld digital spectrum analyzer, a very affordable tool for work in all popular frequency bands. It is based on a highly integrated frequency synthesizer and double balanced mixer which offers high performance, compact size, low consumption and low cost. It has been designed to be used equally well outdoor and indoor, and can be connected to a PC for extra functionality using standard mini-USB 2.0 connector. This model includes a 6G baseline unit plus an RFEMWSUB3G Expansion Module conveniently assembled and tested. It comes with two SMA connectors and three antennas: a nice Nagoya NA773 wideband telescopic antenna for all Sub-GHz frequencies, a rubber duck 5.8 GHz and a whip helical for 2.4GHz band. Additional, specific band antennas may be needed to cover efficiently some of the frequencies supported. The combination of these two models offer coverage for most used communication frequency range used in modern communication technologies including WiFi, Bluetooth, Wireless Audio and Video, LTE, GSM, GPRS, Satellite, CATV, DTV, etc.

- Pocket size and light weight
- Solid aluminum metal case
- Spectrum Analyzer mode with Peak Max and Hold, Normal, Overwrite and Averaging modes
- Lifetime free firmware upgrades available, open to community requested features
- High capacity Lipo for 16hs+ of continuous run, rechargeable by USB
- Windows PC client Open Source
- Wide band coverage to all popular RF frequencies, starting at 15MHz and going up to 2.7GHz, as well as 4.85-6.1GHz. This include very interesting frequency areas such as 2m HAM radio, all VHF and UHF, FM radio, GPS, WiFi and WiMax, Bluetooth, etc.
- Firmware: RF Explorer 6G Combo is delivered with upgraded firmware v1.12. Note some of the features and operation accuracy will be improved in upcoming lifetime free firmware revisions.

Note this unit does not include RF Generator functionality, only Spectrum Analyzer functionality is available. For signal generator and tracking please consider RF Explorer Signal Generator model RFE6GEN.

- Frequency band: 15-2700 MHz and 4850-6100MHz
- Frequency span:
- Left SMA port (6G): 2-600Mhz
- Right SMA port (WSUB3G): 112KHz - 600MHz

- Graphics LCD 128x64 pixels, great visibility outdoors
- PC Windows client supports Windows XP/Vista/Win7 both 32 and 64bits
- Backlight for great indoor visibility
- 2 standard SMA 50 ohms Spectrum Analyzer connectors:
- Left SMA port (6G): 4850-6100MHz
- Right SMA port (WSUB3G): 15-2700 MHz
- Amplitude resolution: 0.5dBm
- Dynamic range:
- Left SMA port (6G): -105dBm to -15dBm
- Right SMA port (WSUB3G): -110dBm to -10dBm
- Absolute Max input power:
- Left SMA port (6G): +25dBm
- Right SMA port (WSUB3G): +30dBm
- Average noise level (typical): -105dBm
- Frequency stability and accuracy (typical):
- Left SMA port (6G): +-0.5ppm
- Right SMA port (WSUB3G): +-10ppm
- Amplitude stability and accuracy (typical):
- Left SMA port (6G): +-3dBm
- Right SMA port (WSUB3G): +-6dBm
- Frequency resolution: 1Khz ?
- Resolution bandwidth (RBW):
- Left SMA port (6G): automatic 58Khz to 812Khz
- Right SMA port (WSUB3G): automatic 3Khz to 600Khz
- Size: 113x70x25 mm

In a world with a growing list of wireless systems, there is a real need for monitoring tools and instruments everyone can use.

Wireless microphones, Video links, GSM/GPRS/3G/4G networks, WiFi, ZigBee, Bluetooth, ISM bands… The list never ends. Some of these are amateur RF bands and therefore nice for hacking and tinkering. Some others are professional, licensed bands with specific use where every Hertz of the assigned spectrum is precious.

Dealing with all this complexity is only feasible with the right tool at hand.

RF Explorer is an affordable Handheld Spectrum Analyzer designed from scratch to be a sort of Swiss Army Knife for the specific needs of digital radio frequency communication.

Commercial high-end spectrum analyzers are traditionally expensive and bulky, in the order of many thousand dollars, and you need significant expertise to master them. RF Explorer offers 90% of what a high cost unit will do for RF digital band communication, at a 5% of the cost.

Additionally, it can be carried on easily anywhere, used outdoors efficiently for hours with a single battery charge.

RF enthusiast have limited themselves to cheap "RF Power Detector / Frequency counter" devices in the past. But these are limited to display data for a single point of maximum power, and traditionally power metrics are too unreliable, in the order of 20dB or even 30dB inaccuracy.

In contrast, a spectrum analyzer like RF Explorer will display full frequency spectrum in the band, including carrier and modulated shape, will display Spread Spectrum activity if that exist, and will show bandwidth to monitor collisions, frequency deviation from expected tone, etc.

RF Explorer start at only $99 for narrow bands ISM models, and they are fully functional analyzers used worldwide by radio enthusiasts, engineers and companies who deal with specific ISM bands only.

But there are more advanced models available covering wider bands including the 6G model with a full coverage of 15-2700MHz and 4850-6100MHz in the same unit, with excellent dynamic range and plenty of features.

There are some other devices in the market which offers some of these features in an USB key, and they are of reasonable cost, albeit with limited bandwidth and resolution when compared to RF Explorer. However, USB-Key devices always depend on a PC connection, and that is very inconvenient for outdoor work or if you need to save space in the lab desk.

You can connect RF Explorer to your PC for additional features and display quality, but that is optional; RF Explorer is fully functional as an independent unit.

See below a quick summary of what you can do today with RF Explorer, together with firmware extensions we are working on for the near future.

Let us know your suggestions in RF Explorer distribution List as we are highly motivated to extend this device based on community requests.

Currently in BETA the new RF Signal Generator is fully programmable, can work as a CW single carrier, multi Sweep and Tracking Generator from 23.4Mhz to 6GHz. More details available on this page.

RF Explorer currently supported workflows

Monitor continuous wave (CW) and temporary transmissions in specific ISM band.
Detect whether a device is transmitting in the expected frequency and with expected power
Check whether an antenna or amplifier change makes a difference in power, orientation and noise
Detect band occupancy to move your gadget to a different channel
Works as RF Generator to transmit pure RF tone so you can test your RF link in seconds
Works completely automatic so you do not need to be an expert to use it. It will resolve RBW, Sweep time, for you.
Offer spectrum data in Normal, Average, Peak Maximum calculator modes
Open communication API SCPI.
Open source PC client software for Windows and Mac OSX, unlimited capture and post-processing storage
Optimized for all worldwide frequencies between 15 to 2700MHz. Check on this model map for more details and comparison chart.
RF Explorer Signal Generator with tracking capabilities for full SNA test and characterization of 2 port RF devices. More details here.
Additional information

If you just received your RF Explorer and want to start playing with it, please go to the Getting Started page.
RF Explorer detailed specifications and model map
Free Downloads, including User Manual and firmware upgrades
Windows PC Client - download it for free and check some of the included examples to try RF Explorer right now!
Mac OSX Client - download it for free.
Uploading new firmware is easy and safe
Example of an RFBee transceiver monitored with a RF Explorer
Do you want to know what people say about RF Explorer? Check some of the reference threads online

High performance software for Windows

Realtime or adjusted signals, 3D spectrogram waterfall, CSV export, high quality graphics and a large feature set is available for free to RF Explorer users

RF Explorer roadmap and future extensions

Transmission test tones in OOK and FSK
Digital transmission decoding and packet sniffing for OOK and FSK, including Manchester code support
Logging features for multi-hour transmission monitoring
Frequency counter
Automatic peak detection
Storage for 1000's screenshots in expanded memory.

Expansion modules for additional ISM band support, expanded RF Generator and Tracking Generator for circuit analysis, etc.
For an example of how easy and powerful RF Explorer is in a real use case, check this tutorial.

To better know what others are saying about RF Explorer, check on online videos and references.

RF Explorer Sniffer - public Beta available

This major feature for RF Explorer Spectrum Analyzers is now available as public Beta release.

We have been working hard the last few months to embed a huge list of features, including the ability to create your own decoder Add-ins:

- Capture OOK/ASK modulation data packets at any frequency supported by your device model (in the range 15-2700MHz)
- Filter and trim noise out of the data capture
- Included decoders for PT2264 remote controls and Oregon Scientific weather stations
- Advanced zoom, contextual menus, text, configuration settings for sample rate and frequency.

There are so many features included, the only way to elaborate them is through an accompanying guide included in the software package.

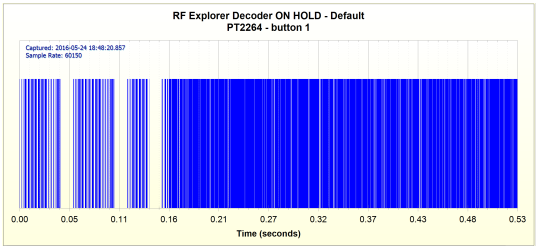
Download available in the BETA area of the download page.

How the RF sniffer works

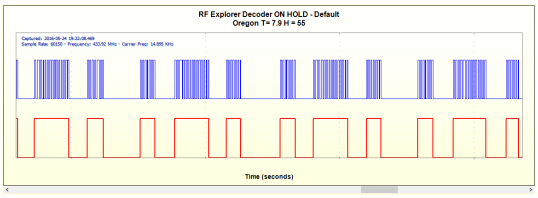
You can detect RF transmission and decode data either manually or automatically.

Most gadgets and devices like the ones depicted below can be easily captured and processed by RF Explorer sniffer tool:

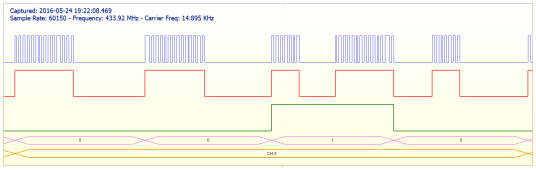
The RF transmission would look like a train of pulses at first sight, but it can include a large number of unusable noisy data, as well as duplicated data packets transmitted by the gadget.



Thanks to RF Explorer Sniffer tool advanced features, you can easily remove unwanted noise and detect envelope digital modulated signal, so it can be interpreted according to available documentation or reverse engineering.

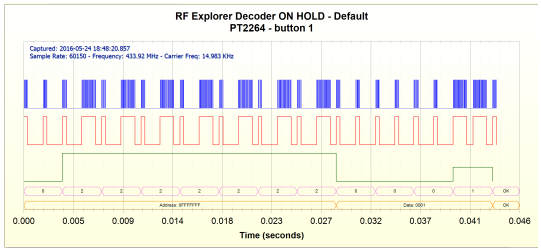


If the device transmit a protocol currently supported by one of the included Decoders, the RF Explorer Sniffer will do all decoding with a single click:

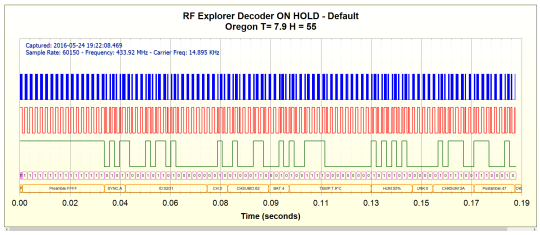


Using this extremely advanced feature, checking any RF transmission is now a trivial task.

Below is a fully decoded RF remote control data packet including address and data values when pressing button [1] of that particular remote control. A good example of use for this would be to adjust your remote control receiver to the right address to react to that remote control.



And this is an example of fully decoded Oregon Scientific Weather Station sensor transmitting 7.9C temperature and 55% humidity.



This useful tool enables RF Explorer models such as 433M (by a mere $99) assist you on debugging RF projects, detect wanted and unwanted transmissions and interpret any gadget at hand. As opposed to other tools available, you do not need to disassemble or connect cables to the RF gadget in order to detect what is being transmitted: your RF Explorer connected to a Windows PC is all you need for the antenna capture and sniff around!

Developing your own Decoder add-ins

By using a simple yet effective Add-in model, RF Explorer for Windows can be easily extended with your own Decoders.

You can develop decoders in any language, samples are provided in Python and C#, but others like Perl, VB, C/C++, Java and pretty much any environment you are familiar with can do the work just fine. The only requirement is to produce a command line tool, following certain convention for data communication between the Add-in and the RF Explorer for Windows tool.

Happy hacking!

Recenzie

Zatia? tu nie je žiadna recenzia pre tento tovar.