



HAB-FPA SERIES



FPA Series Preamplifiers Datasheet

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Product Overview

Uputronics FPA series preamplifiers for software defined radio/other similar applications. Depending on the model they are fitted with band pass filters to increase sensitivity on certain frequencies of interest.

Using SAW bandpass filters in conjunction with low noise amplifier reduces out of band intermodulation while providing additional gain for increased sensitivity. When fitted the LNA is before the SAW filter. The wideband unit is not fitted with any filter.

Powering The Unit

There are 2 options for powering the unit either by the USB-C header or via bias-tee. Some SDR's such as the Airspy can enable bias-tee and power the device. Alternatively, any USB-C cable can be used to power the device (USB-C Cable not provided). Both USB and Bias-tee can be connected at the same time with no detrimental effects.

Most USB wall chargers will power the unit, we note issues have been reported with some Apple USB-C plugs as the current requirement of the device is so low the charger doesn't trigger.

There is an LED indicator above the USB-C socket to indicate the unit is operational. Depending on stock availability at the time of manufacture this indicator can be either green or red.

Internally the device runs at 3.3V so minimum bias-tee voltage is 3.5V.

Operation

Connect your antenna to the port marked ANT and your receiver to the port marked RX. Either power via USB or bias-tee as discussed above.

If the unit is not powered there is no passthrough of signal and the unit attenuates heavily.

Specifications

NF	Average 0.75dB
Supply Voltage	USB/Bias tee 5V
Power Usage (from 5V)	50mA approx.
Case Dimensions	63.5mm x 63.5mm x 30mm (2.5" x 2.5" x 1.2") (Excluding optional lug kit)
Operational Temperature	-40°C to +85°C
Connectors	SMA Female input and output. USB-C Power
Case	Extruded Aluminium
In The Box	Uputronics FPA Preamplifier (No cables supplied)
Antenna Connector	DC Blocked (No Bias-tee passthrough)
ESD Protection	Skyworks Limiter on antenna input
Input HPF	HPF fitted to attenuate <100MHz on all models.

Gain

Model	Gain at least
162MHz	22dB
403MHz	21dB
434MHz	20dB
440MHz	20dB
868MHz	16dB
915MHz	16dB
1090MHz	15dB
WIDE	145MHz 23.9db
	434MHz 21.7db
	868MHz 18db
	1090MHz 16.7db
	1415MHz 15.2db

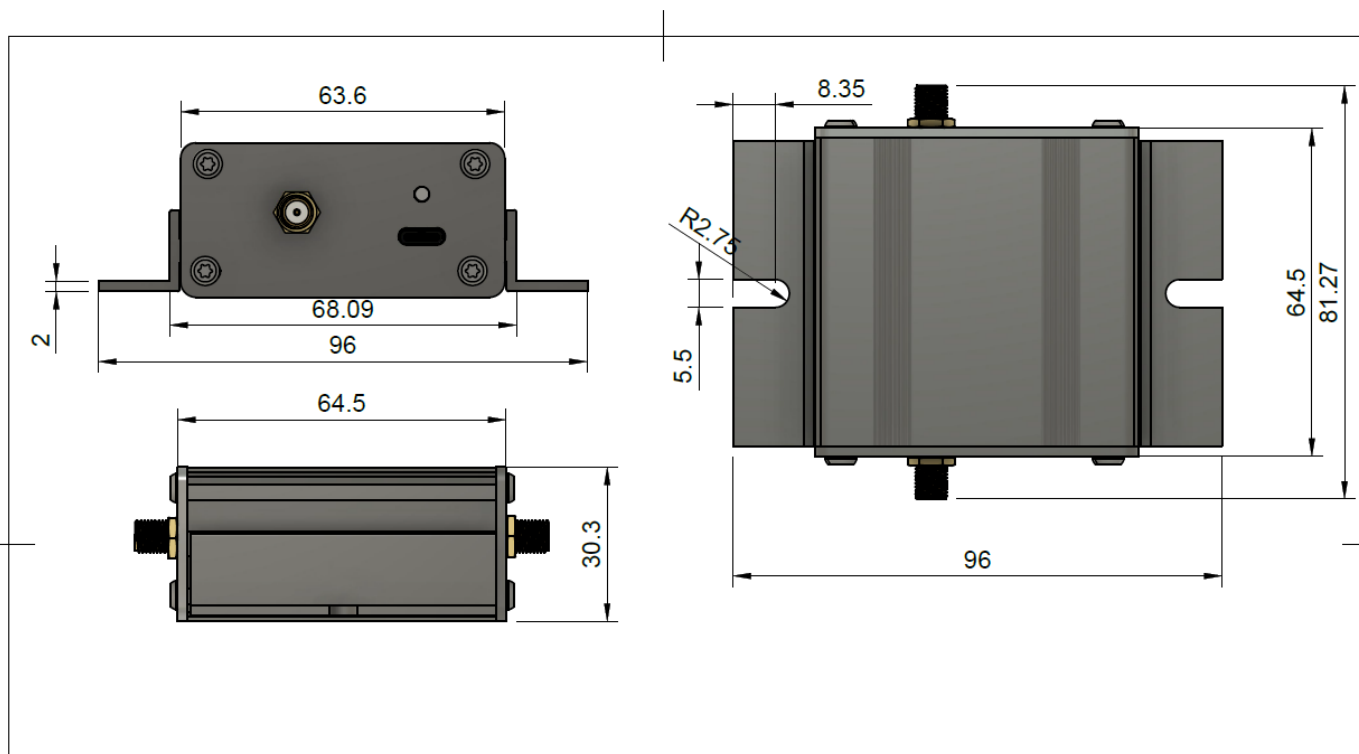
Disclaimer

All Uputronics products are sold as test equipment with no guarantees of performance or operation, they are intended for engineering, research or lab use only and have not been tested for integration into commercial systems.

This product is not rated for outdoor use and isn't IP rated.

Physical Dimensions

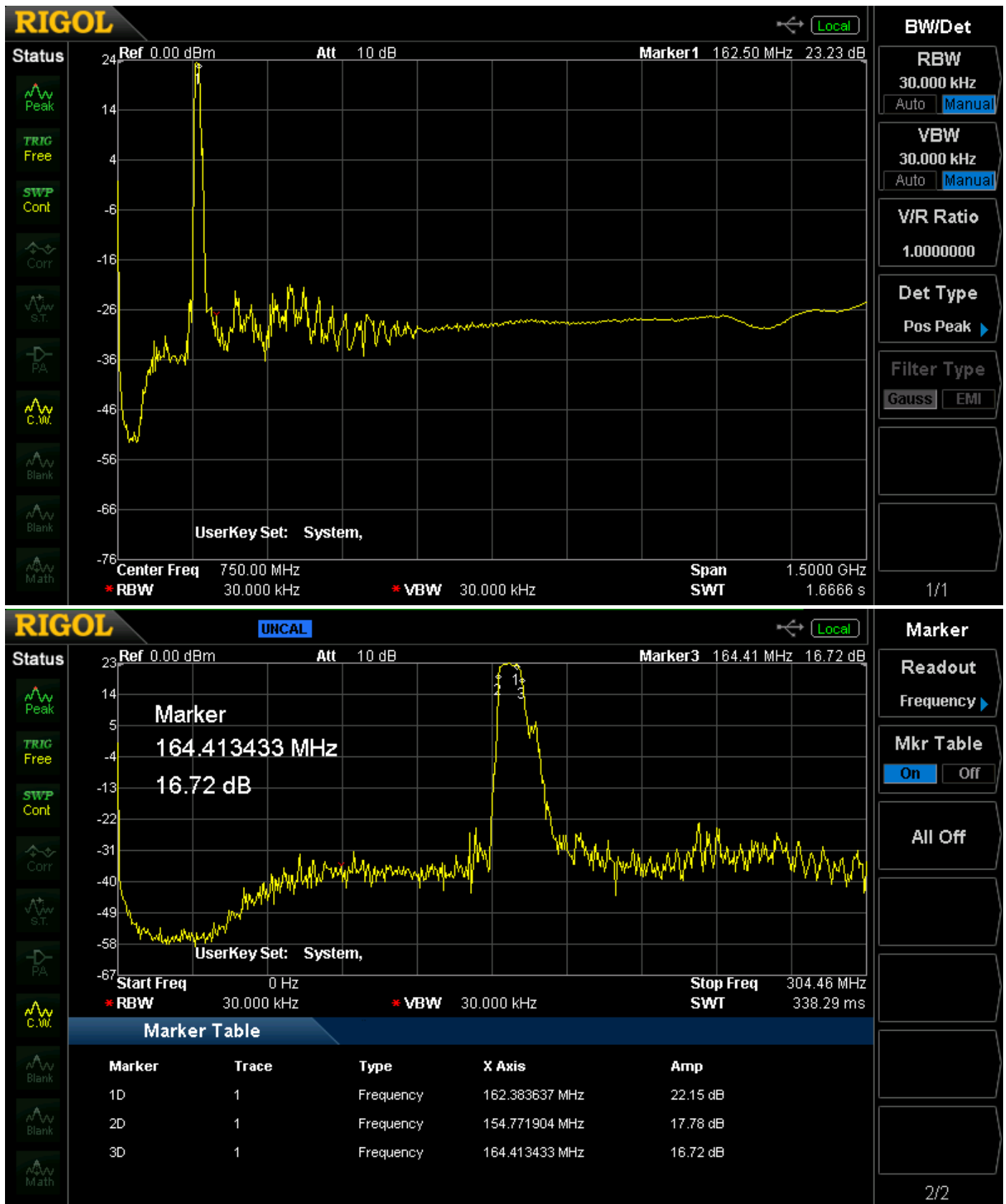
Showing the optional lug kit. This is available as a separate PDF download under the document links on all our FPA product pages.



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		Document type	Document status	
		Title LNA Case V2	DWG No.	
		Rev.	Date of issue	Sheet 1/1

162MHz Frequency Response

The following images show the frequency response of the 162MHz variant.



403MHz Frequency Response

The following images show the frequency response of the 403MHz Radiosonde variant.



434MHz Frequency Response

The following images show the frequency response of the 434MHz variant.



440MHz Frequency Response

The following images show the frequency response of the 440MHz Cubesat variant.



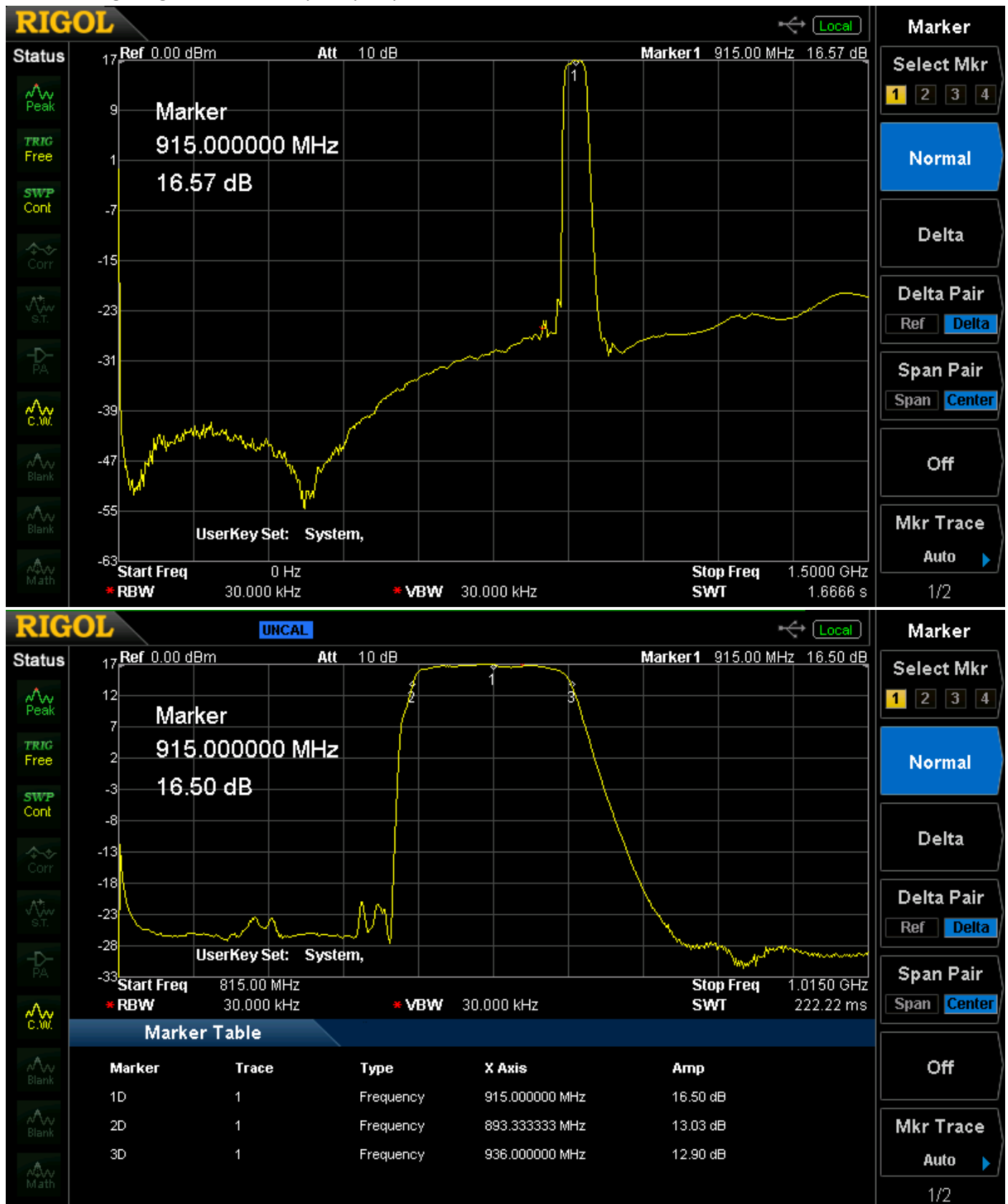
868MHz Frequency Response

The following images show the frequency response of the 868MHz variant.



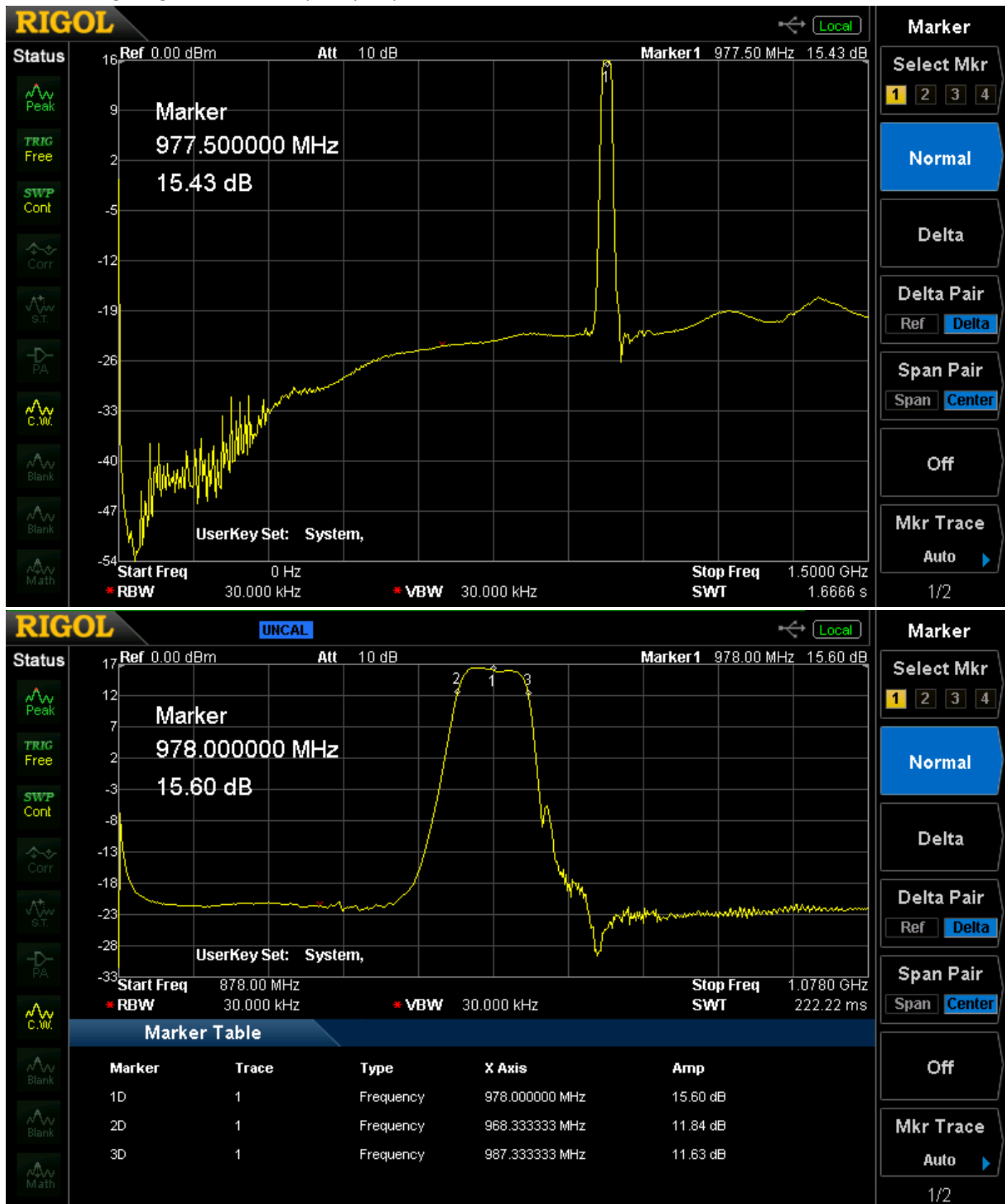
915MHz Frequency Response

The following images show the frequency response of the 915MHz variant.



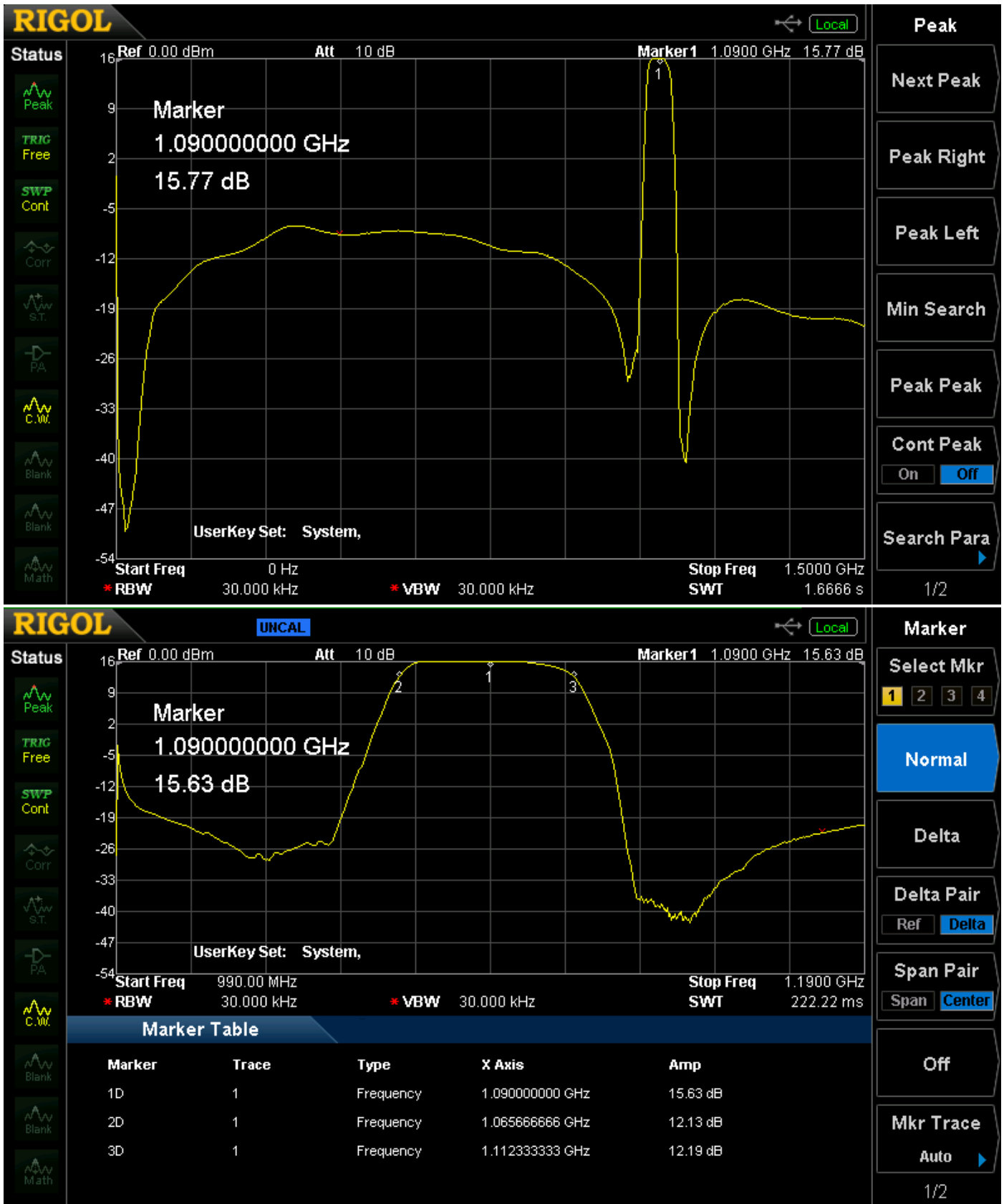
978MHz Frequency Response

The following images show the frequency response of the 978MHz UAT variant.



1090MHz Frequency Response

The following images show the frequency response of the 1090MHz ADS-B variant.



Wide Band Frequency Response

The following image show the frequency response of the Wideband variant.



CE Declaration of Conformity



EU Declaration of Conformity

This EU Declaration of Conformity is issued under the sole responsibility of:

Manufacturer Details

Uputronics t/a Nevis Computers Ltd
Cottingley Business Park, Bingley, BD16 1PE
West Yorkshire, United Kingdom
orders@uputronics.com
www.uputronics.com
+44 (0)1274 550919

That the product:

Product type: Filtered PreAmp
Model #: Wide/137.5/162/403/434/440/868/915/978/1090MHz

Is in compliance with the essential requirements of the following:

Directive	Description
2014/30/EU	Electromagnetic Compatibility
2011/65/EU	RoHS (EU RoHS 2)

Harmonised standards applied were:

Standard	Description
EN 55032:2012 (Class B)	Emissions requirements, multimedia equipment (Class B)
EN 55035:2017	Immunity requirements, multimedia equipment

Signed for and on behalf of:

Name: Anthony Stirk
Function: Director
Date of issue: 26/04/2023

UKCA Declaration of Conformity



UK Declaration of Conformity

This UK Declaration of Conformity is issued under the sole responsibility of:

Manufacturer Details

Uputronics t/a Nevis Computers Ltd
Cottingley Business Park, Bingley, BD16 1PE
West Yorkshire, United Kingdom
orders@uputronics.com
www.uputronics.com
+44 (0)1274 550919

That the product:

Product type: Filtered PreAmp
Model #: Wide/137.5/162/403/434/440/868/915/978/1090MHz

Are in compliance with the essential requirements of the following:

SI	Description
SI 2019/492	The restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (Amendment) Regulations 2019
SI 2016/1091	The Electromagnetic Compatibility Regulations 2016

Designated Standards applied were:

Standard	Description
EN 55032:2012 (Class B)	Emissions requirements, multimedia equipment (Class B)
EN 55035:2017	Immunity requirements, multimedia equipment

Signed for and on behalf of:

Name: Anthony Stirk
Function: Director
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