SVP
BROADCAST
MICROWAVE

LNA-2GHz
Low Noise Amplifier

MANUAL

Dear Customer,

We would like to thank you for choosing this equipment and welcome you to the SVP's growing family of products.

We are sure that the addition of this equipment to your existing installation will cause you nothing but satisfaction.

Please read these instructions carefully, and keep them at hand in case you have to refer to them.

IMPORTANT NOTES:

1. The LNA low noise preamplifier for COFDM signals has a selective input filter, which can be modified under request of the customer in order to work in the wanted frequency range.

2. The COFDM low noise preamplifier is powered through the output coax connector. For it, a bias insertion tee (BIAS-TEE) can be used, which is an accessory available in our catalogue.

3. The high performance of this equipment is only guaranteed using high quality cables and connectors.

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1 Description

The very low noise preamplifier for COFDM signals offers its best performance with COFDM digital links. Also, it can be used with analogue links. This LNA is very useful for Broadcast applications and air links.

This equipment expands the possibilities of existing COFDM digital links, because with it, the noise figure of the receivers is improved. The selectivity is also increased and it compensates the attenuation caused by the coaxial cable between the antenna and the receiver.

It has two radiofrequency filters: one selective at the input with 5 poles, which enables it to work in the most adverse radiofrequency environments and other between the amplifier's stages.

The COFDM low noise preamplifier uses PHEMT technology and 90º hybrid couplers to ensure excellent linearity. The third order intermodulation products (IP3) are +33 dBm, which means they have no problem working with strong COFDM signals modulated in 64QAM.

The LNA preamplifier for COFDM signals has an excellent noise figure and so, link sensitivity is increased, thus improving coverage and reliability.

It has a good input adaptation, eliminating undesired self-oscillations.

The LNA is powered through the output coax. For it, a bias insertion tee (BIAS-TEE) can be used.

2 Technical Specifications

RF Specifications

Table 2.1 RF Specifications

Item	Specification
Frequency range	2.0 to 2.7 GHz
Noise figure	0,9 dB Typical
Gain	>25 dB
IP3 OUT	+33 dBm Typical
Input return loss	>20 dB (by isolator)
Output return loss	10 dB Typical
Number of filter poles	5
Static protection	Yes

Power Supply

Table 2.2 Power Supply Specifications

Item	Specification
Power range	10 to 30 VDC
DC Connector	RF output Connector (N connector)

Consumption

Table 2.3 Consumption

Item	Specification
DC Current	250 mA

Physical Characteristics

Table 2.4 Physical Characteristics

Item	Specification
Size	137 x 126 x 30 mm
Weight	1 kg

Environmental Conditions

Table 2.5 Environmental conditions

Item	Specification
Rango de temperatura de funcionamiento	-10ºC a 55ºC

3 Electronics Diagram

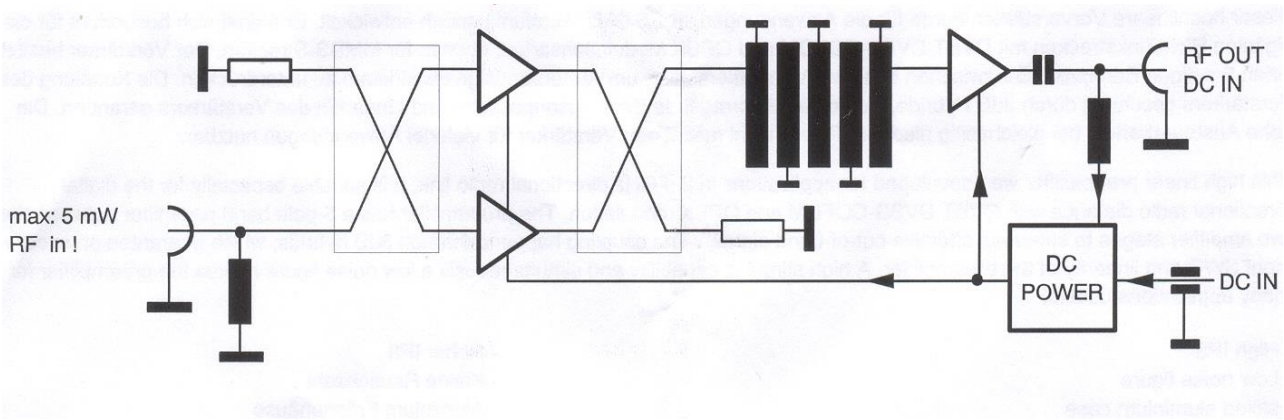

Figure 3.1 COFRDM Low Noise Preamplifier's electronics diagram

4 Frequency Response

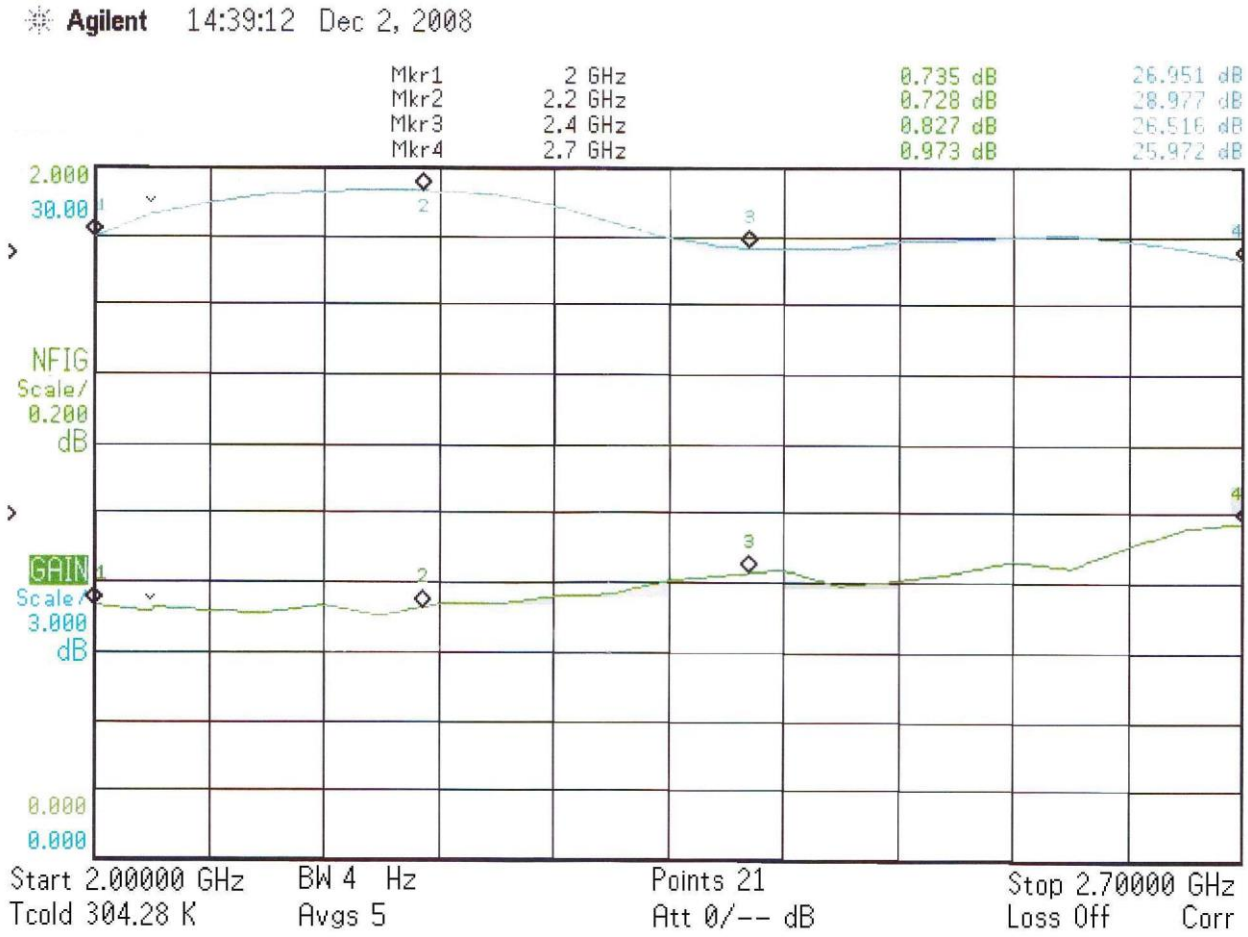

Figure 4.1 COFDM Low Noise Preamplifier's frequency response (1)

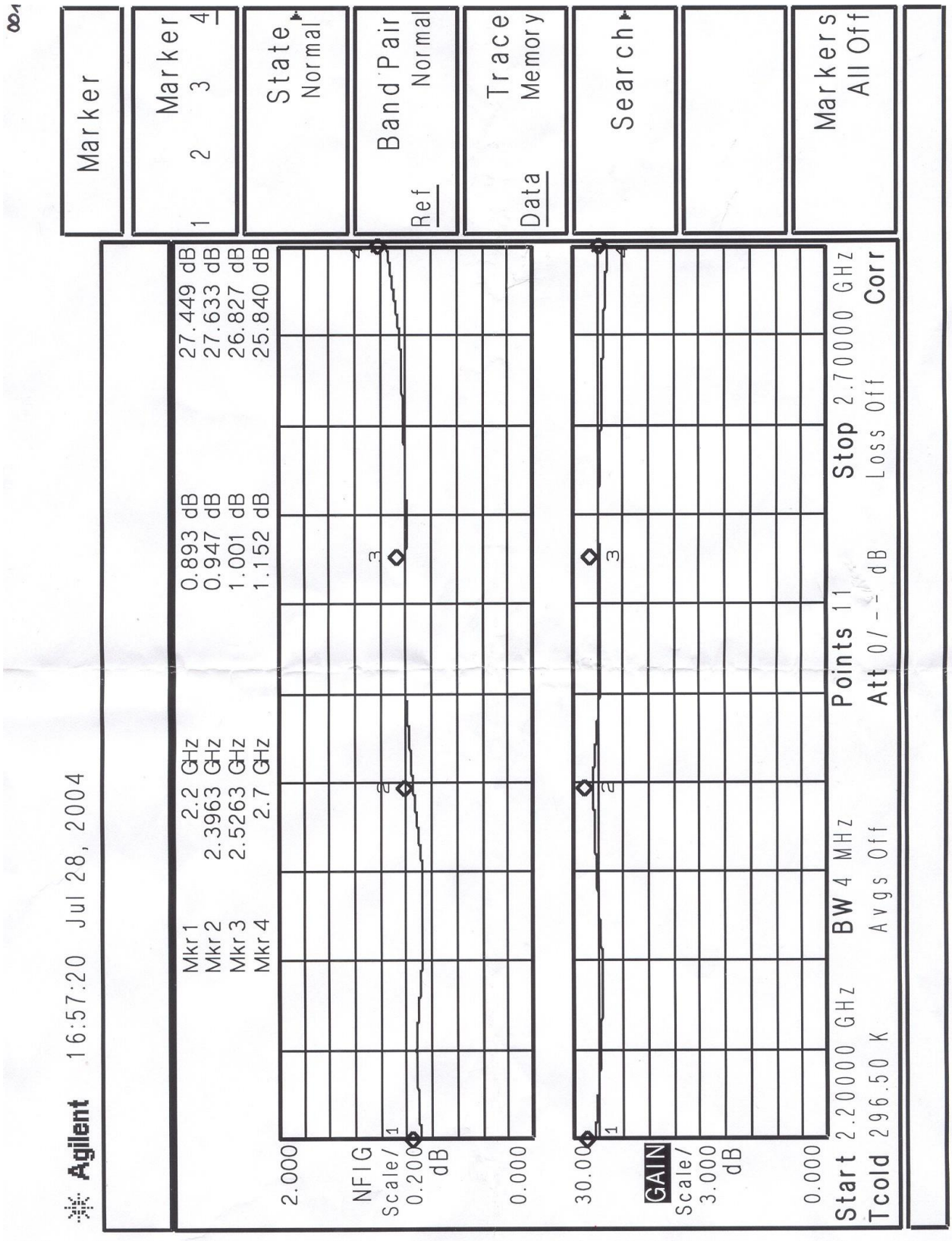

Figure 4.2 COFDM Low Noise Preamplifier's frequency response (2)

NOTES:

End note

At SVP Broadcast Microwave S.L. we make a constant effort to continuously improve our equipments and models. For that reason, please understand that there may be some changes in design, equipment and technology. Therefore, we cannot be held liable for the data, figures and descriptions given in this datasheet.

The datasheet's text, figures and standards are based on the information we had when the datasheet was published.

SVP Broadcast Microwave reserves the right to make changes to this user's guide and the device without prior warning.

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