

VGLA20RPDC

Technical Product Data

Features

- **Variable Gain Amplifier**
-3 ≤ Gain ≤ 23dB
- **Extremely Flat Group Delay**
Less than 1ns Variation
- **Excellent SWR Throughout Dynamic Range**
SWR ≤ 1.8:1 Max, ≤ 1.5:1 Typical

Description

The VGLA20RPDC GPS Variable Gain Line Amplifier is a one input, one output device featuring a variable gain block with 25dB of dynamic range. The frequency response covers the GPS L1/L2 and GLONASS bands with excellent flatness throughout most of the attenuation range. In the normal configuration, the RF output (J1) passes DC from the connected GPS receiver through the amplifier to the antenna, allowing the GPS receiver to power both the antenna and the amplifier.

Electrical Specifications, T_A = 25^oC

Parameter	Conditions	Min	Typ	Max	Units
Freq. Range	Ant – J1	1.1		1.7	GHz
In/Out Impedance	Ant, J1		50		Ω
Gain, Max Setting	Ant – J1, Control Fully Clockwise	22	23	24	dB
Gain, Min Setting	Ant – J1, Control Fully Counterclockwise	-4	-3	-2	dB
Input SWR	J1 - 50Ω, across full gain range			1.8:1	-
Output SWR	Ant - 50Ω, across full gain range			2.0:1	-
Gain Flatness	L1 - L2 , Ant – J1, from 0dB gain to 20+ dB gain			1.5	dB
Reverse Isolation	J1 – Ant, Max Gain setting	40			dB
Group Delay Flatness	τ _{d,max} - τ _{d,min} : Ant – J1			1	ns
Req. DC Input V.	Non-Network Configuration, DC Input on J1	3.8		15	Vdc
Current ⁽¹⁾	Amplifier Current Draw, All products - 50Ω			15	mA

(1). Current draw on J1 port in the non-networked configuration.

Available Options

Network Power Supply		
Source Voltage Options	VOLTAGE INPUT	STYLE
	110VAC	Transformer (Wall Mount)
	220 VAC	Transformer (Wall Mount)
	240 VAC (United Kingdom)	Transformer (Wall Mount)
Output Voltage Options ⁽¹⁾	Customer Supplied DC 9-32 VDC	Military Style Connector
	DC VOLTAGE OUT	MAX CURRENT OUT FOR CORRESPONDING Vout ⁽²⁾
	5 V	110mA
	7.5V	130mA
	9V	140mA
	12V	170mA
	15V	210mA
Custom	TDB	
Pass/Block DC Options		
Pass DC ⁽¹⁾	All Ports Pass DC	
DC Blocked ⁽¹⁾	Ant is DC blocked, Pass DC J1	
RF Connector Options		
Connector Options	CONNECTOR STYLE	CHARGE
	Type N	NC
	Type SMA	NC
	Type TNC	NC
Type BNC	NC	

(1). With Network Option, any RF port (input or output) can be DC blocked or can pass the network DC voltage.

(2). TA = +50°C. Assuming a Source of 110V, 220V or 240V Wall Mount Transformer. In general, maximum output current can be determined by:

$$I_{out} \leq 2.9 / (V_{sourceDC} - V_{out}) \text{ A}$$

Part Number

N VGLA20 PDC - S / 5 / 110

Network Option:

N =Network Option; **Blank**: No Network

DC Options:

DCB = Ant. DC Blocked; **PDC** = Pass DC

Connector Options:

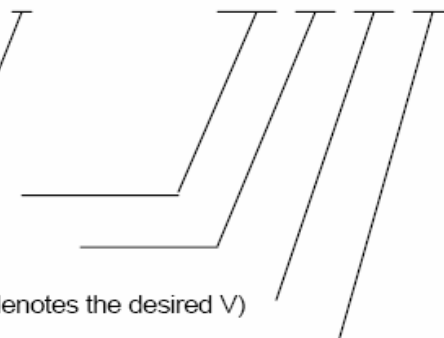
N = N type; **S** = SMA; **T** = TNC; **B** = BNC

DC Output Voltage:

3.3, 5, 7.5, 9, 12, 15, CXX (Custom: "XX" denotes the desired V)

Source Voltage:

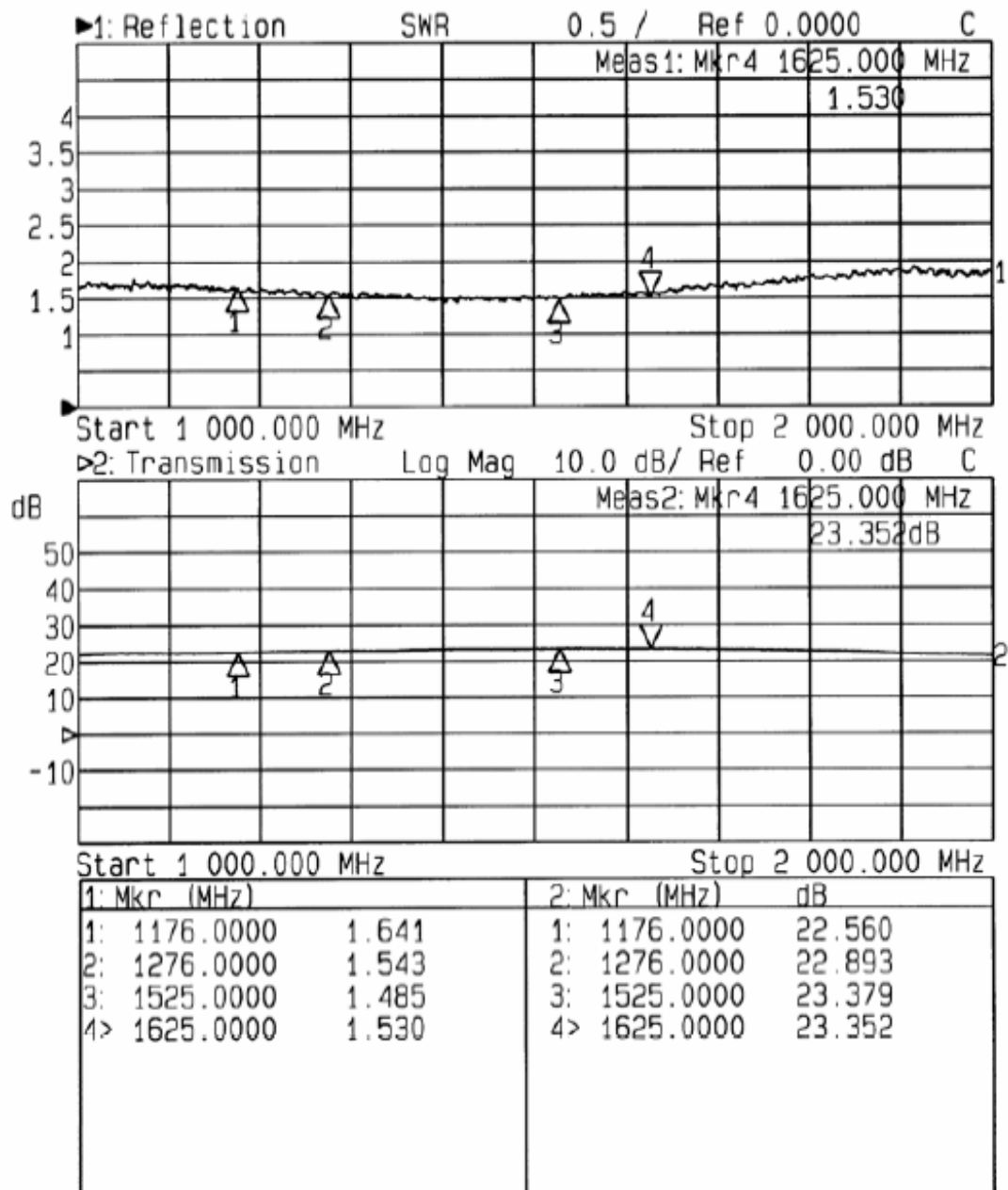
110 -Transformer, **220** – Transformer, **240** – Transformer, **MC** – Military Conn. (User supplies DC Voltage)



Performance

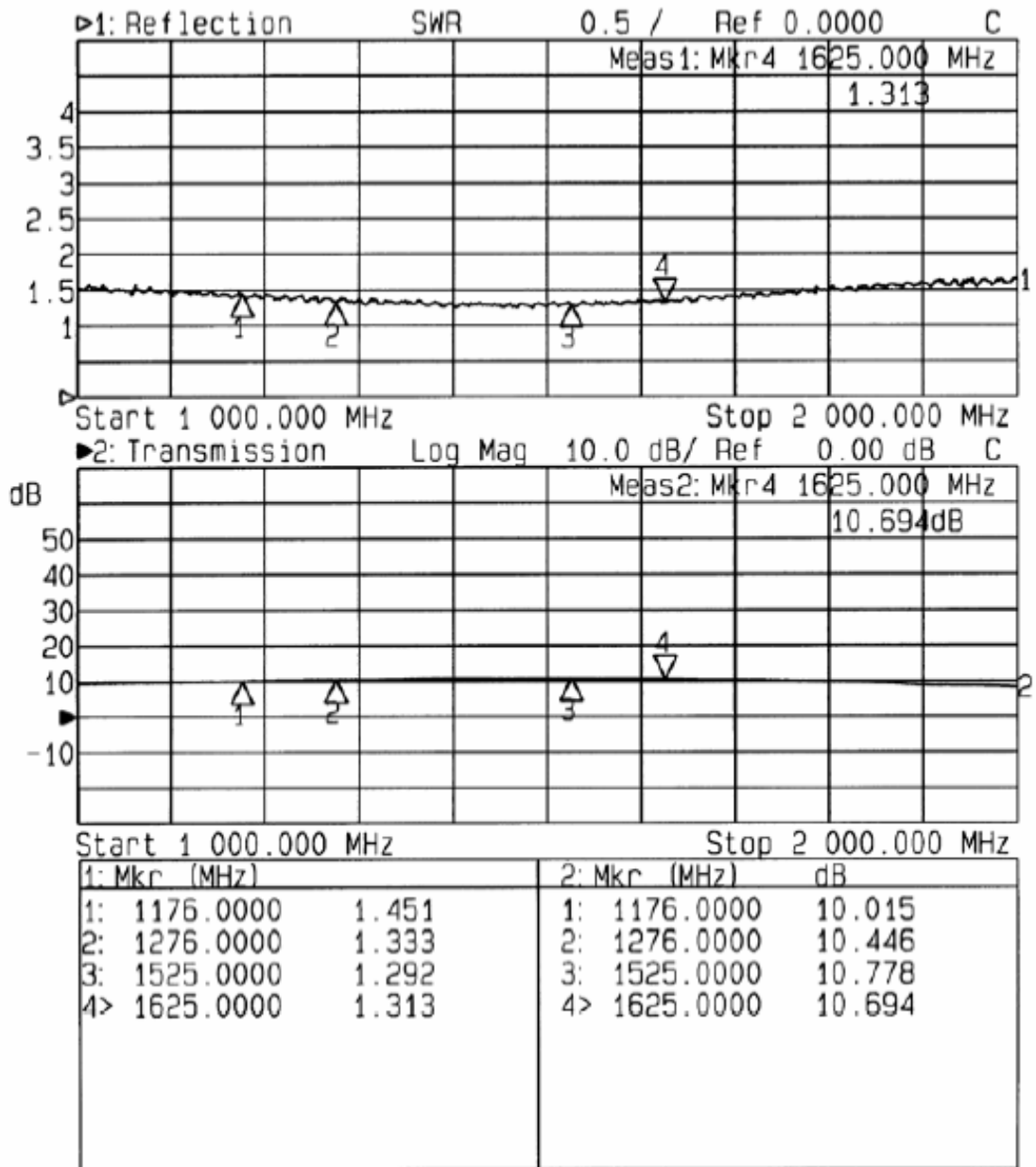
Max Gain Setting (Control Full CW)

Input SWR (Ant. Port) and Frequency Response (Typical, Type N Connector)



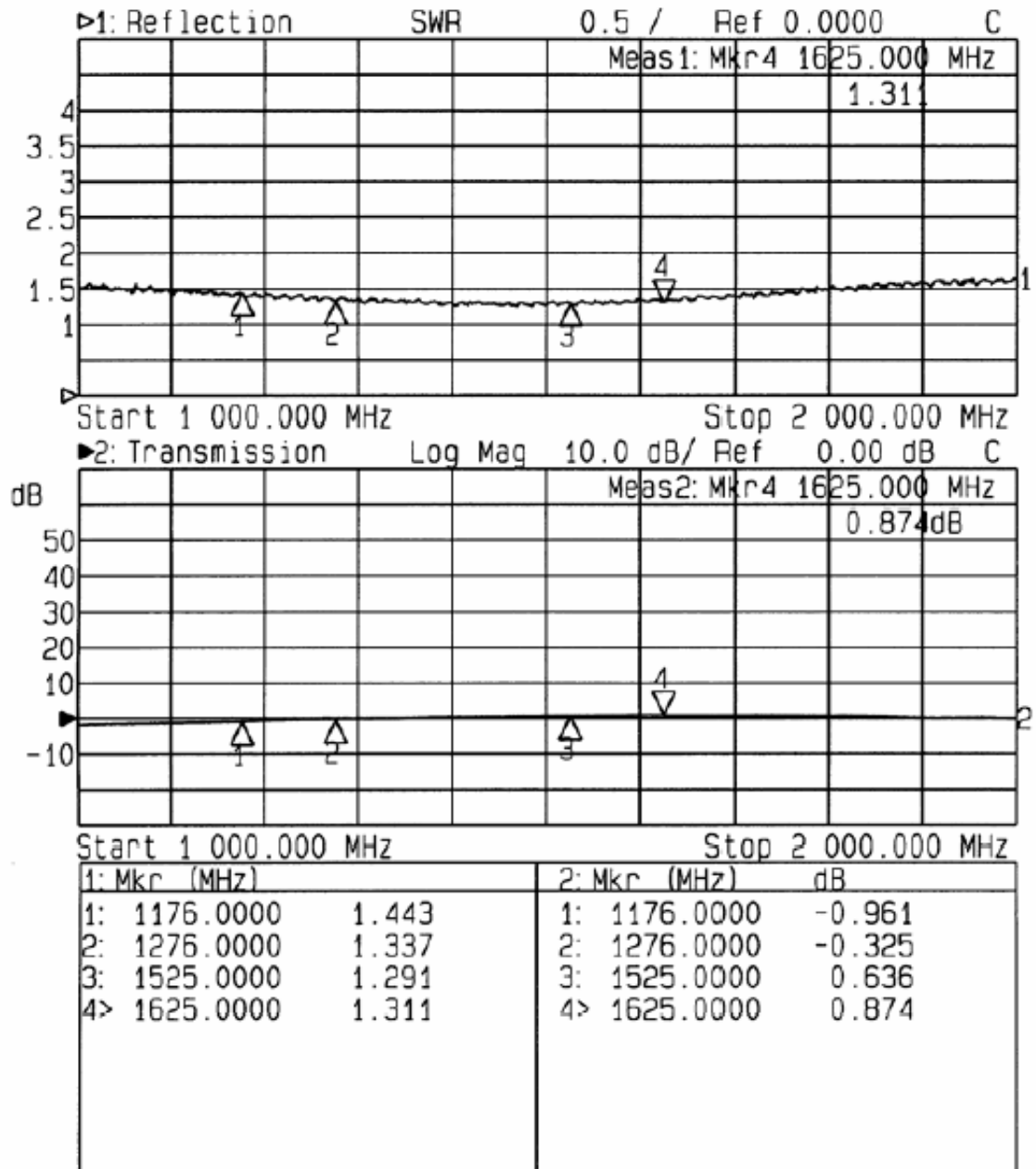
Mid Gain Setting (Control 1/3 CCW)

Input SWR (Ant. Port) and Frequency Response (Typical, Type N Connector)



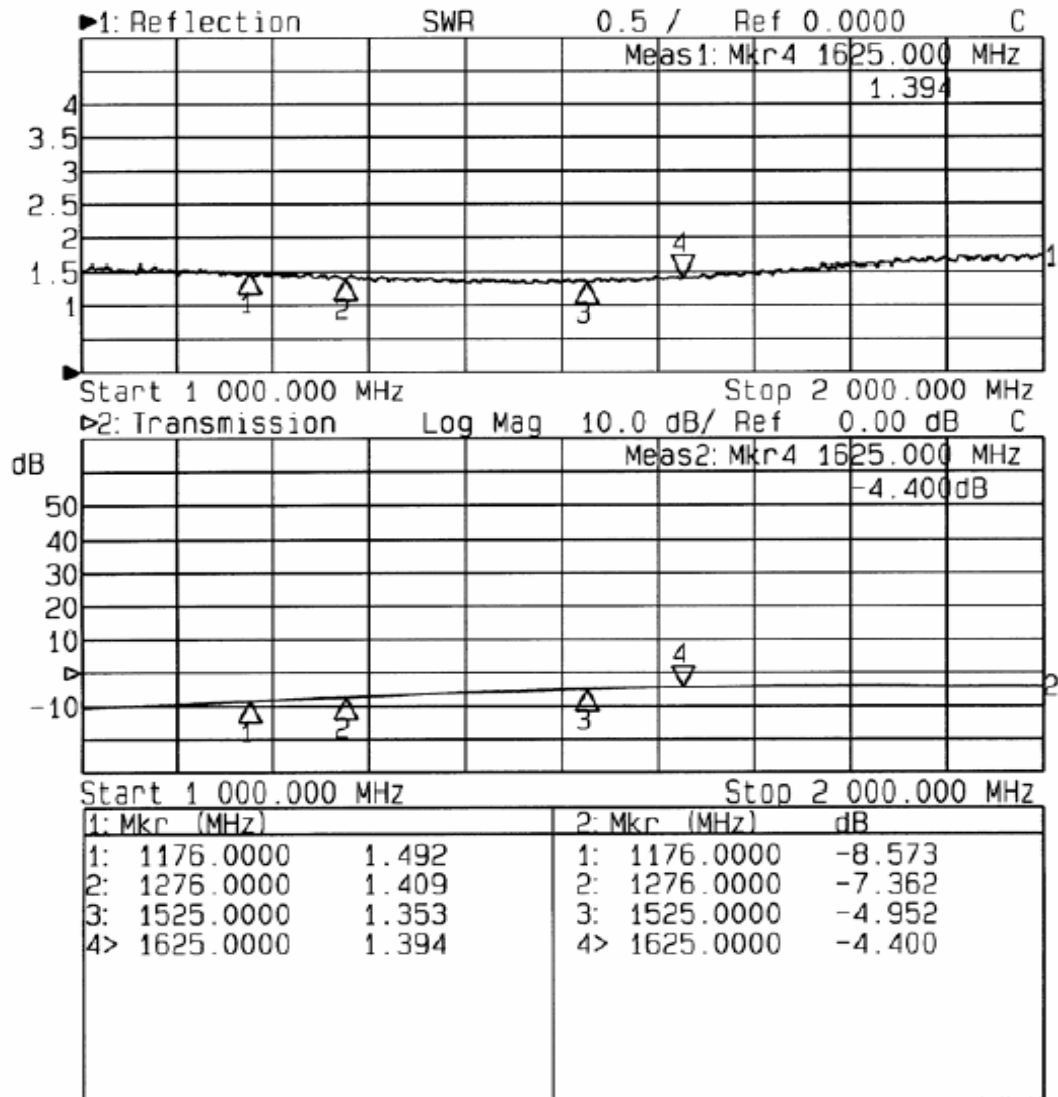
Mid Gain Setting (Control 2/3 CCW)

Input SWR (Ant. Port) and Frequency Response (Typical, Type N Connector)



Min Gain Setting (Control Full CCW)

Input SWR (Ant. Port) and Frequency Response (Typical, Type N Connector)



Mechanical

Dimensions:

Height: 1.3"

Length (not including connectors) Body: 2.5"

Base Plate: 3.25"

Width: 2.5"

Weight:

9.8 oz. (272 grams)