# *RMALDCBS1X8*

Technical Product Data

## Features

- **Extremely Flat Group Delay**
  Less that 1ns variation

- **High Isolation Option**
  >35dB of isolation between adjacent output ports

- **Phase Matched Outputs**
  Phase (J1 – J2) < 1.0$^{o}$

## Description

The RMALDCBS1X8 GPS Rack Mount Amplified Splitter is a one input, eight output device. The frequency response covers the GPS L1 & L2 bands with excellent gain flatness. In the normal configuration, the splitter is powered by a transformer that supplies power to the splitter's amplifiers and roof antenna. The outputs are DC loaded with 200Ω resistors to simulate the antenna current draw. Product is ideal for timing and testing applications where the GPS carrier signal is required by up to 8 GPS devices simultaneously.

## Electrical Specifications, $T_A$ = 25$^{0}$C

| Parameter | Conditions | Min | Typ | Max | Units |
|---|---|---|---|---|---|
| Freq. Range | Ant – Any Output, Unused Outputs - 50Ω | 1.1 | | 1.7 | GHz |
| In/Out Imped. | Ant, J1, J2, J3, J4, J5, J6, J7, J8 | | 50 | | Ω |
| Gain | Ant – Any Output, Unused Outputs - 50Ω | 13 | 14.5 | 16.5 | dB |
| Gain High Isolation | Ant – Any Output, Unused Outputs - 50Ω | 3.0 | 4.5 | 6.5 | dB |
| Input SWR | All ports - 50Ω | | | 2.0:1 | - |
| Output SWR | All ports - 50Ω | | | 1.3:1 | - |
| Noise Figure | Normal Config., Ant – Any Output, Unused Outputs - 50Ω | | 3.8 | 4.3 | dB |
| Gain Flatness | \| L1 – L2 \| ; Ant – Any Output, Unused Outputs - 50Ω | | 0.5 | 1 | dB |
| Amplitude Balance | \| J1 – J2 \| ; Ant – Any Output, Unused Outputs - 50Ω | | | 0.5 | dB |
| Phase Balance | Phase (J1 – J2) ; Ant – Any Output, Unused Outputs - 50Ω | | | 1.0 | deg |
| Isolation | Hi Isolation Config, Adjacent Ports, Ant - 50Ω (see plots) | 35 | | | dB |
| Group delay Flatness | $\tau_{d,max} - \tau_{d,min}$ : Ant – J1, J2 - 50Ω ; Ant – J2, J1 - 50Ω | | | 1 | ns |
| Current | Amplifier Current Draw, All ports - 50Ω | | | 15 | mA |

## 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) |
| | Customer Supplied DC 9-32 VDC | Military Style Connector |
| Output Voltage Options [1] | DC VOLTAGE OUT | MAX CURRENT OUT FOR CORRESPONDING Vout[2] |
| | 5 V | 110mA |
| | 7.5V | 130mA |
| | 9V | 140mA |
| | 12V | 170mA |
| | 15V | 210mA |
| | Custom | TDB |
| **Output Port Isolation Options** | | |
| High Isolation Option | High Isolation, 35dB min. Output Port – to – Output Port | |
| **Pass/Block DC Options** | | |
| DC Blocked [1] | Jx (x=1…8) is DC blocked, Pass DC from to ANT. | |
| **RF Connector Options** | | |
| Connector Options | CONNECTOR STYLE | CHARGE |
| | Type N, TNC, SMA and 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 Source of 110V or 220V Wall Mount Transformer. In general, maximum output current can be determined by:

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

## Part Number

**N HI RMALDCB S1X8-N/5/110**

Network Option:
**N** = Networked; **Blank** = No Network
Isolation Option:
**HI =** High Isolation Option;
Amplified, Loaded:
**A** = Amplified; **L** = 200Ω load/output
DC Options:
**DCB** = 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 desired V)
Source Voltage:
**110** -Transformer, **220** – Transformer, **240** – Transformer, **MC** – Military Conn. (User supplies DC Voltage)

## Mechanical

| | |
|---|---|
| Dimensions: | Height: 1.5” |
| | Length: 8.5” |
| | Width: 17.0” |
| Weight: | 12 lbs. |
| Operating Temp. Range: | -40$^{o}$ to + 75$^{o}$C |