

## Compact Automatic Gain Control Module for Compact EGC Amplifier

The Cisco Compact Automatic Gain Control (AGC) module is a plug-in module designed for the Compact EGC Amplifier, turning them into intelligent network elements by providing status information of the output signals.

The AGC module is capable of handling un-modulated pilots, analog channels (PAL, NTSC, and SECAM), as well as digital channels (QAM), over the entire frequency band from 47 to 1002 MHz.

When the AGC module is installed in the amplifier, three functions are available:

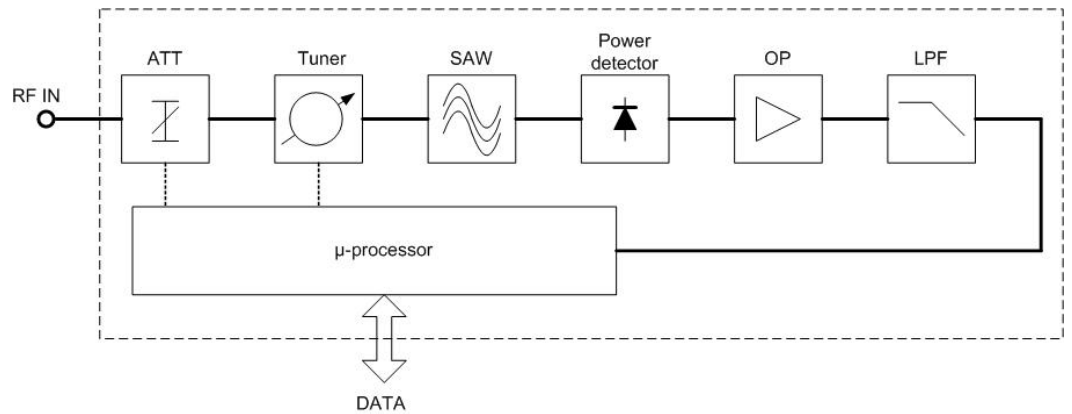
- Auto alignment function, which adjusts the auto alignment attenuator and equalizer in the amplifier to get the desired output level and tilt;
- AGC function, which continuously adjusts AGC attenuators and equalizers in the amplifier to keep the output level and tilt of the amplifier constant.
- Fixed gain function, which sets the amplifier to its nominal gain, with the output of the amplifier monitored constantly.

If no function is required, the AGC module is set to Standby mode to reduce power consumption.

Figure 1. Compact Automatic Gain Control Module



Figure 2. Block Diagram



### Features

- Compact design
- Unique power saving functionality
- 4 pilots including 2 main pilots and 2 backup pilots between 47 and 1002 MHz
- Downstream auto alignment function to adjust the output level and tilt of the amplifier according to the pilot levels
- AGC function to constantly maintain output level and tilt
- Detection of 10 other frequencies besides the pilots
- Temperature back-off function to off-set attenuation and equalization when the amplifier is in auto alignment function at a non-room temperature.

## Product Specifications

**Table 1.** Electrical Specifications

| Item <sup>1</sup>                                                                                                 | Unit       | Value     |
|-------------------------------------------------------------------------------------------------------------------|------------|-----------|
| Pilot frequency                                                                                                   | MHz        | 47–1002   |
| Pilot level                                                                                                       | dB $\mu$ V | 85–120    |
| AGC attenuator control range                                                                                      | dB         | $\pm 4$   |
| AGC equalizer control range                                                                                       | dB         | $\pm 4$   |
| Absolute level accuracy                                                                                           | dB         | $\pm 0.5$ |
| Relative level accuracy                                                                                           | dB         | $\pm 0.3$ |
| Absolute level accuracy over temperature <sup>2</sup>                                                             | dB         | $\pm 1.4$ |
| Relative level accuracy over temperature <sup>2</sup>                                                             | dB         | $\pm 0.5$ |
| Notes:                                                                                                            |            |           |
| 1. Unless otherwise specified, all the accuracy specifications are tested with un-modulated single analog signal. |            |           |
| 2. Accuracy over temperature specifications are tested from -15 to +75 °C.                                        |            |           |

**Table 2.** Power Supply and Current Consumption Specifications

| Item                           | Unit | Value    |
|--------------------------------|------|----------|
| Maximum power consumption      | W    | 2.5      |
| Average power consumption      | W    | $\leq 1$ |
| Note: Mounted in the amplifier |      |          |

**Table 3.** Environmental and Mechanical Specifications

| Item                  | Unit | Value          |
|-----------------------|------|----------------|
| <b>Environmental</b>  |      |                |
| Operating Temperature | °C   | -25 to +85     |
| Storage Temperature   | °C   | -40 to +85     |
| <b>Mechanical</b>     |      |                |
| Dimension (H x W x D) | mm   | 38 x 80 x 12.5 |
| Weight                | kg   | 0.1            |

## Ordering Information

Refer to the tables below for product ordering information.

**Table 4.** Ordering Information

| Description                           | Part Number on Module | Part Number for Ordering |
|---------------------------------------|-----------------------|--------------------------|
| Compact Automatic Gain Control Module | 4031283               | 4036170                  |



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