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AWS (UMTS/HSPA) 120W Multi-Carrier Power Amplifier **CCI Model Number MCPA-2100-125** **USER'S GUIDE**

Product Description:

MCPA-2100-125 AWS (UMTS/HSPA) 120W Multi-Carrier Power Amplifier:

The CCI AWS (UMTS/HSPA) 120W Multi-Carrier Power Amplifier (MCPA) Module consists of a Digital Pre-Distortion power amplifier, capable of generating a minimum 120 Watt UMTS/HSPA signal.

Operation Description:

The MCPA-2100-125 Multi-Carrier Power Amplifier is designed to supply a nominal output power level of 120 Watts (+50.8 dBm). Although the gain of the MCPA is fixed, the output can be adjusted by setting the input power level.

Operation and Installation Instructions:

The following instructions should be followed when installing the unit in service:

- Apply a 30-34 VDC input voltage to the DC Input connector of the AWS 120W Multi-Carrier Power Amplifier Module.
- Insure that the DC Source is capable of delivering up to 15 Amps at 32 VDC.
- Apply a UMTS/HSPA signal up to +9 dBm to the RF Input port of the Multi-Carrier Power Amplifier Module.

*Note: "System Level" usage (see typical site installation block diagram on page 2) is based on the input signal from the BTS being +46 dBm. If a directional coupler with a -30 dB forward coupled port is used as the input to the AWS 120W MCPA Module, then the signal level out of the coupled port is +16 dBm. Finally, there is a variable attenuator set to 6 dB is placed prior to the MCPA Module. This drops the input level to the Amplifier to approximately +9 dBm including the Attenuator and any Cable losses. **Note: A variable attenuator is called out in case the coupler used has a different value for its coupled port, or the cable losses vary. Remember, the maximum input to the Amplifier is +9 dBm.***

- The Multi-Carrier Power Amplifier Module will provide approximately 42 dB or less of RF Gain.
- Check the RF Output to insure proper output power is present.
{Approximately ~~125 Watts (+51 dBm)~~}
- Adjust the input power level to insure the output power level is in compliance with the values indicated in the table on page 2.
- Install the Alarm Connector to the Alarm Output connector of the Multi-Channel Power Amplifier Module.

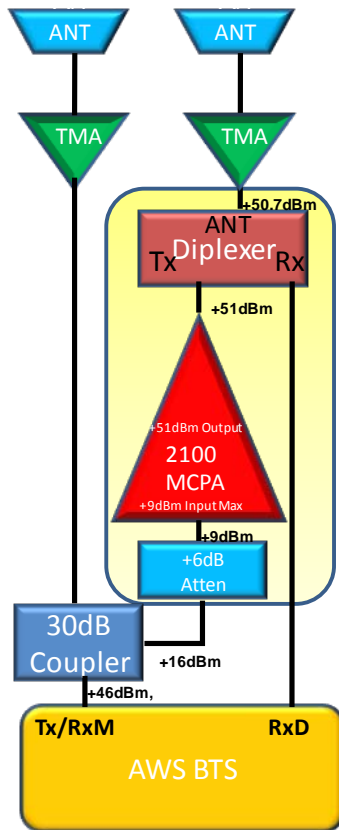


Figure 1 - “Typical Site Installation Config.” Block Diagram for AWS 120W Cell Extender

Setting the RF Output Power to the MCPA-2100-125 Multi-Carrier Power Amplifier:

The RF output power is not adjustable on the AWS MCPA Amplifier. The user must adjust the RF input power to the AWS MCPA Amplifier such that the RF output power level does not exceed the levels shown below in order for the RF output spectral emissions to be compliant with the FCC spurious emissions limit of -13 dBm outside of the assigned frequency block. **These levels must not be exceeded. The total output power at the antenna terminal output of the device must not exceed the peak output power of 125.9W**

Center Channel Frequency (MHz)	Maximum RF Output (Watt)*
2110 - 2155	11

*Note: The Maximum RF Output Power is after any passive losses after the MCPA Module such as filters and cables.

This equipment complies with Part 24 of the FCC rules. Any changes or modifications not expressly approved by the manufacturer could void the user’s authority to operate the equipment.

In order to comply with FCC rules for RF exposure, it must be observed that the antenna connected to this equipment be fixed on an outdoor structure and that it must have a minimum separation distance of 10 meters between it and any person.