



2. For RF Connector models, the external antennas have been tested and approved specified below. The ZB100 (D, E, H or J) models may be integrated with other types or custom designed antennas which the OEM installer must authorize following the FCC 15.21 requirements.

**WARNING:** The Original Equipment Manufacturer (OEM) must ensure that the OEM modular transmitter must be labeled with its own FCC ID number. This includes a clearly visible label on the outside of the final product enclosure that displays the contents shown below. If the FCC ID is not visible when the equipment is installed inside another device, then the outside of the device into which the equipment is installed must also display a label referring to the enclosed equipment.

**IMPORTANT:** This equipment complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (i) this device may not cause harmful interference and (ii) this device must accept any interference received, including interference that may cause undesired operation (FCC 15.19)

The internal / external antenna(s) used for this mobile transmitter must provide a separation distance of at least 20cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

**IMPORTANT:** Modifications not expressly approved by this company could void the user's authority to operate this equipment (FCC section 15.21)

**IMPORTANT:** This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in residential areas is likely to cause harmful interference in which case the user will be required to correct the interference at his/her own expense (FCC section 15.105).

## Approved Antenna List

Part Number	Manufacturer / Description	Gain, dBi	ETSI	FCC
3030A5839-01	Antenova Rufa chip antenna (Left-hand), frequency range 2400 – 2500MHz	2.1dBi Peak	✓	✓
2010B4844-01 (SMA)	Antenova Titanis, swivel antenna (1/2 wave), frequency range 2400 – 2500MHz	2.2dBi Peak	✓	✗
2010B6090-01 (RP-SMA)			✓	✓
NET-WL-ANT009OSC	Solwise omni-directional dipole with RP-SMA connector, frequency range 2400 – 2500MHz See Notes **	8.5±0.5dBi	✓	✓

### NOTES:

All testing has been carried out with the CC2430 / CC2431 programmed for maximum RF output power of 0.6 dBm (Register TXCTRLL = 0xFF).

Any omni-directional dipole (articulated or straight) may be used providing the gain is less than that tested using the **NET-WL-ANT009OSC (9dBi)**

### \*\* Channel 26 - restriction for use under FCC Part 15 Rules.

The output power for channel 26 (2480MHz) is restricted as follows:

1. Use an omni-directional dipole antenna with gain no greater than 3 dBi.
2. Reduce the radio power accordingly within the software. E.g. for the 9dBi antenna, the power outputs needs reducing by  $\geq 6$ dB from maximum.