



# ***WCN1320 EA544D Family Modular Installation Guide***

**80-VT857-1 Rev. A**

**September 11, 2009**

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## Revision history

Revision	Date	Description
A	September 2009	Initial release

# 1 Introduction

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## 1.1 Purpose

The purpose of this document is to provide OEMs and ODMs with installation information pertaining to the EA544D (65-VN663-xx) family of WCN1320-based Ethernet adapters. Disseminating end user documentation for the installation/removal of the EA544D family of adapters is expressly prohibited by regulatory statutes.

## 1.2 Scope

This document is intended as a guide for OEM and ODM personnel responsible for the installation of EA544D adapters into an appropriate housing.

## 1.3 Conventions

Function declarations, function names, type declarations, and code samples appear in a different font, e.g., `#include`.

Code variables appear in angle brackets, e.g., `<number>`.

Commands and command variables appear in a different font, e.g., **copy a:\*. \* b:**.

Parameter types are indicated by arrows:

- Designates an input parameter
- ← Designates an output parameter
- ↔ Designates a parameter used for both input and output

Shading indicates content that has been added or changed in this revision of the document.

## 1.4 References

Reference documents, which may include QUALCOMM<sup>®</sup>, standards, and resource documents, are listed in [Table 1-1](#). Reference documents that are no longer applicable are deleted from this table; therefore, reference numbers may not be sequential.

**Table 1-1 Reference documents and standards**

Ref.	Document	
<b>Qualcomm</b>		
Q1	<i>Application Note: Software Glossary for Customers</i>	CL93-V3077-1
Q2	<i>Application Note: WCN1320 EA544D Reference Design Family</i>	80-VT796-1

## 1.5 Technical assistance

For assistance or clarification on information in this guide, submit a case to Qualcomm CDMA Technologies at <https://support.cdmatech.com/>.

If you do not have access to the CDMA Tech Support Service website, register for access or send email to [support.cdmatech@qualcomm.com](mailto:support.cdmatech@qualcomm.com).

## 1.6 Acronyms

For definitions of terms and abbreviations, refer to [Q1].

## 2 Modular Installation

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This section provides typical modular installation instructions for the EA544D family of Ethernet adapters, product labeling, and product usage information.

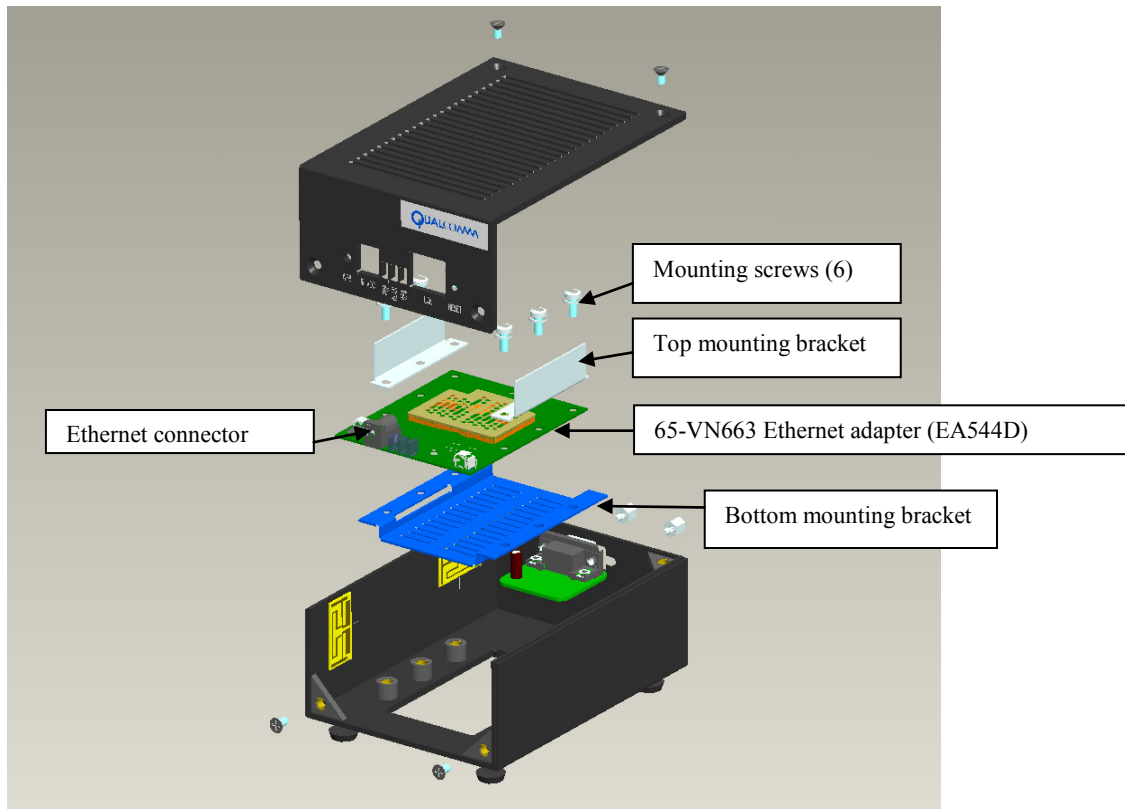
### 2.1 Typical modular installation

Figure 2-1 shows prototype housing for the EA544D family of Ethernet adapters. Remove the six (6) screws from the front (2 screws), top (2 screws), and top back edge of the housing.



**Figure 2-1 Prototype housing with internal EA544D Ethernet adapter**

The installation of the EA544D within the housing is shown in Figure 2-2. Position the adapter so that the Ethernet connector is facing the front of the housing and the metal shield on the EA544D is facing the top of the housing. The adapter fastens to the housing between top (metal brackets) and bottom (ventilated plate) supports with six (6) screws. Tighten the screws through the holes provided in the top bracket, the EA544D, and the bottom bracket, aligning the holes of the brackets and EA544D with the screw receptacles on the bottom of the housing.



**Figure 2-2 Modular installation**

**NOTE:** The 65-VN663 (EA544D) provides support for four (4) antennas per radio module. These antennas are connected by way of Hirose (U-FL or IPAX) connectors. There are no special requirements for the types of antennas used with 802.11n technology. The specifications for the antennas that have been used with the EA544D are as follows:

- Frequency range: 2.4 ~ 2.5 GHz; 4.9 ~ 5.825 GHz
- Impedance: 50 ohms nominal
- VSWR: 1.92: 1 maximum
- Normal gain: 2 dBi @ 2.4 ~ 2.5 GHz
- Normal gain: 3 dBi @ 4.9 ~ 5.825 GHz
- Radiation: omni-directional
- Polarization: linear; vertical



## 2.2 Product labeling

The EA544D radio transmitter module is authorized only for use in a device where the antenna may be installed so that 20 cm can be maintained between the antenna and the users. End user products containing EA544D modules **MUST** have the following phrase affixed to their labels:

**This product contains FCC ID: J9C-EA544D1 or J9C-EA544D2 or J9C-EA544D3 module**

## 2.3 Product usage

This device is intended only for OEM/ODM integrators under the following conditions:

1. The antenna must be installed so that 20 cm is maintained between the antenna and users.
2. The transmitter module may not be co-located with any other transmitter or antenna.

Use only authorized antenna(s) as described in the FCC filing under FCCID: J9C-EA544D1 or J9C-EA544D2 or J9C-EA544D3.

The OEM/ODM integrator is responsible for testing their product for any additional compliance mandates required when this module is installed within an end user product.

**i IMPORTANT NOTE:** In the event that these conditions cannot be met, then the FCC authorization is no longer considered valid and the FCC ID number cannot be used on the final product and thus the OEM/ODM integrator will be responsible for re-evaluating the end product (including the transmitter) and obtaining a separate FCC authorization.

## 2.4 Product documentation

The following RF exposure information shall be supplied in end user manuals for products containing the EA544D Ethernet adapters:

**i IMPORTANT NOTE:** To comply with FCC RF exposure compliance requirements, the antennas used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.