



Qualcomm Technologies, Inc.

# **QGM8180x Exhibit User Manual**

80-W5660-8 Rev C

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## Revision history

Revision	Date	Description
A	April 2019	Initial release
B	May 2019	Updated text for labels
C	July 2019	Added Integration instructions DCN

# 1 RF Module Model QGM8180x Integration Guidelines

## 1.1 Introduction

This document provides guidance for OEM customers using the Gigabit Radio Card (GRC) RF module model QGM8180x in a host product.

In addition, the document provides customer regulatory certification for a host product that uses a Qualcomm® Snapdragon™ Mobile Station Modem (SDM) and a certified GRC module.

## 1.2 Product Overview

The GRC RF module is a self-contained solder down module with an integrated RF shield, including:

- Coaxial connectors for primary Tx antenna cables
- Transceiver, PA, filters, power conditioning, and shielding onboard the module
- It replaces a discrete RF front-end solution.

The GRC connects through a proprietary digital interface with the Qualcomm® SDM that contains an integrated modem. The high-speed data bus connection between the module and SDM is Qualcomm-proprietary. In addition, there is a limited number of control lines between the GRC module and the SDM.

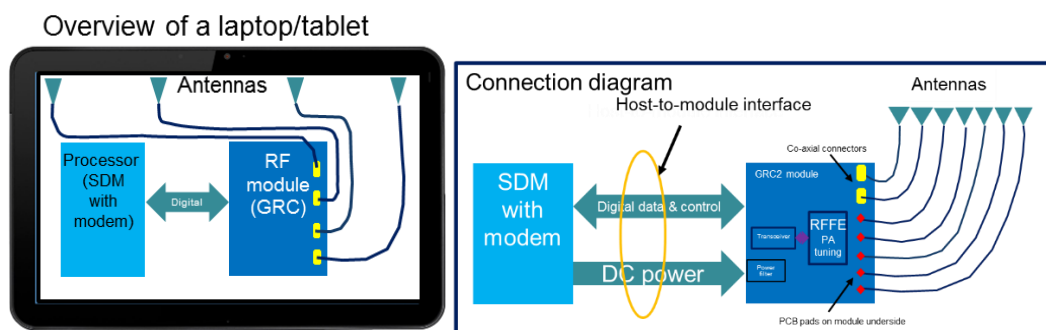


Figure 1 Module and host overview

## 1.3 Approved Chipset Pairings

The Qualcomm GRC RF module model QGM8180x communicates directly with the modem and is designed to be paired with the following Qualcomm chipsets while maintaining the same module RF characteristics:

- SDX24 - Standalone Modem
- SDM855 – Processor + integrated SDX24 Modem
- SM8150 - Processor + integrated SDX24 Modem
- SC8180X – Processor + integrated SDX24 Modem

For all integrations, the approved modem software for the GRC is stored in a secure area of the SDM host and cannot be modified other than reducing maximum transmit power as needed for an integrated product.

## 1.4 Integration Guidelines

The detailed integration instructions are confidential and are provided within Qualcomm document 80-PL288-5 that is available for integrators via the Qualcomm customer document distribution system.

The GRC module was tested in a test fixture. A limited number of permitted modifications are allowed to the integrated PCB to control/maintain the GRC module RF output at the host-product level.

These modifications are to enable the host (with the integrated GRC) to comply with regulatory requirements.

Permitted regulatory modifications include:

- The GRC transmit power can be reduced for a specific host product.
  - This scenario addresses RF exposure on a specific host.
  - Proximity sensors may trigger maximum transmitter states.
- Host customizations (for example, notebook ID, VID/PID, and enumeration requirements) and limited operator customization
- Labeling requirements
  - The host device must be labeled: Contains FCC ID: J9CQGM8180X

The OEM integrator is responsible for completing the following actions that apply to various countries' requirements, before releasing the host system for sale:

1. Affix the approval ID, logo, or other marking on the host system, and/or in the user manual, as specified by the regulator.
2. Affix the required wording on the outer packaging of the host system.
  - Include specific regulatory wording, warnings, and/or instructions to the end user in the host product's user documentation.