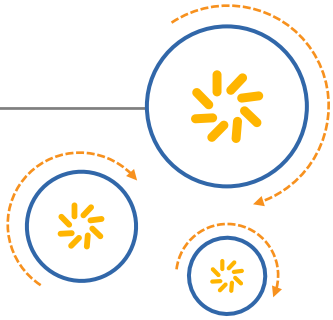
Qualcomm Atheros, Inc.



QCA8075

Device Revision Guide

80-Y9112-3 Rev. C

September 28, 2015

For additional information or to submit technical questions go to https://createpoint.qti.qualcomm.com/

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Revision history

Revision	Date	Description
A	July 2015	Initial release
B	July 2015	Updated Issues – description, impact, and workaround
C	September	Updated section 2.2 and chapter 3 for QCA8075 1.1 ES

Contents

1 Introduction

Technical information for the QCA8075 device is primarily covered by the documents listed in Table 1.

Table 1 Primary QCA8075 documents

Document number	Documentation title
80-Y9112-1	*QCA8075 Five-Port 10/100/1000 Mbps Ethernet Transceiver Preliminary Device Specification*
80-Y9112-2	*QCA8075 Five-Port 10/100/1000 Mbps Ethernet Transceiver Hardware Programming Reference*
80-Y9112-3 (this document)	*QCA8075 Device Revision Guide*

1.1 Scope and intended audience

This device revision guide identifies issues with all QCA8075 samples released to date. The following information is included:

- Introduction to this document and its topic (Chapter 1)
- Device identification (Chapter 2)
  - Device marking
  - Identification details for each sample type
  - Sample testing (ES and CS explanations)
- Known issues (Chapter 3)
  - Issue description
  - Impact to system performance
  - Possible workarounds (what designers should do to minimize the issue's impact)

This device revision guide is intended for new product developers who are designing, testing, and/or evaluating products that include the QCA8075 device.

2 Device Identification

The QCA8075 device can be identified by the markings on its top surface and by the contents of an identification register; these identification techniques are described in Section 2.1 through Section 2.2.

2.1 Device marking

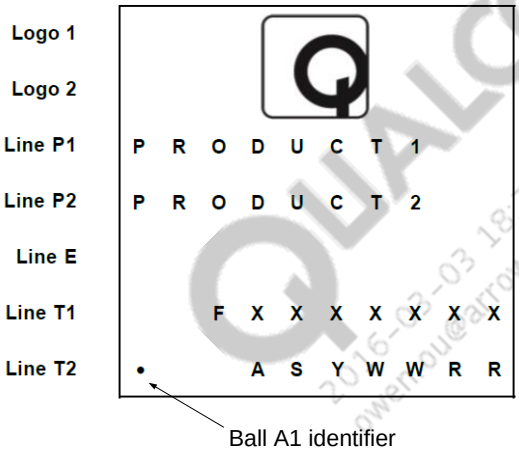

Figure 1 Device marking (top view, not to scale)

Table 2 Device marking line definitions

Line	Marking	Description
Logo 1 and 2	Qualcomm®	Qualcomm Atheros name or logo
P1	QCA8075	Qualcomm Atheros product name
P2	PAA	P = product configuration code AA = product feature code
E[1]		Blank space between P2 and T1
T1	FXXXXXXX	F = source of supply code XXXXXXX = wafer lot ID
T2	ASYWWRR	A = assembly site code S = assembly sequence number Y = single, last digit of year WW = work week (based on calendar year) RR = product revision

1. Line E may appear on the part marking for some samples. This is manufacturing information that is only relevant to Qualcomm and Qualcomm suppliers.

2.2 Device identification for each sample type

Table 3 Device identification details

Device	Product configuration code (P)	Product revision (RR)	Feature code (AA)	Sample type	Year/work week	Operating temperature (case)
QCA8075	0	00	VV	1.0 ES	≥ 1529	0 to 70°C
QCA8075	1	00	VV	1.0 ES	≥ 1529	-40 to 85°C
QCA8075	0	01	VV	1.1 ES	≥ 1538	0 to 70°C
QCA8075	1	01	VV	1.1 ES	≥ 1538	-40 to 85°C

2.3 Sample testing

The “Sample type” codes in Table 3 are defined below.

2.3.1 Engineering samples (ES)

These devices have undergone limited testing and sometimes have significant feature limitations. They are suitable to assist with PCB development, conduct board-level electrical evaluation tests, and explore manufacturing considerations.

2.3.2 Commercial samples (CS)

These devices have undergone full production-level testing and meet the specifications and features described in the device specification, except as otherwise noted in this document. They have passed device-level qualification. Commercial samples are suitable to be used for performance testing, and also product-level production and qualification.

3 Known Issues

3.1 Summary of known issues

All known issues for each revision of the QCA8075 device are summarized in Table 4. The text within the Issue column provides links to the sections of this document that explain the issues, regardless of the sample type (or types) on which they occur. An X in any of the other columns indicates that the issue occurs on the corresponding sample type.

Table 4 known issues – all sample types and revisions[1]

#	Issue	QCA8075 1.0 ES	QCA8075 1.1 ES
		P = 0, 1	P = 0, 1
		RR = 00	RR = 01
1	100BASE-TX link issue	X	

1. P and RR values are detailed in Table 2.

3.2 Issues – description, impact, and workaround

Issue 1 100BASE-TX link issue

Description	For each 100BASE-TX link, there is a chance that QCA8075 enters a state of no traffic. In this state, if checking the RX_CRC_check counter, there are all CRC error packets. After relink the cable, traffic may recover.
Impact	Relink needed for 100BASE-TX traffic recovery.
Workaround	For QCA8075 1.0 silicon, need to unplug-plug the cable when this issue happens. It does not relate to whether the PHY auto-negotiation is enabled or disabled. This issue is fixed in QCA8075 1.1 silicon.