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US106

Marketing Requirements Specification

April 17, 2008

Revision Log:

版本 (Version)	日期(Date)	作者(Author)	修訂(Modification Comment)
0.1	2008/4/16	Jack Ong	Initial Release
0.2	2008/4/17	Jack Ong	Specification updated



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Definitions

QOS	Quality of Service
WPA	Wi-Fi Protected Access
DPF	Digital Photo Frame



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1. Introduction

This documentation describes the marketing requirement specification of the USB module. It is a confidential document of QMI.

1.1 Scope

US106-AR module supports USB interface. US106-AR module is the perfect way to offer high-speed, worldwide wireless connectivity in DPF or others.

1.2 Target BOM cost

USD 6



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2. Specification

2.1 Hardware Specification

Standard Compliance	IEEE 802.11b CCK modulation in the 2.4-GHz band IEEE 802.11g OFDM modulation in the 2.4-GHz band
Physical Interface	USB1.0/2.0

2.2 Software Specification

Specification

OS :	Windows XP/Vista, Linux
Interface :	USB1.0/2.0
Qos :	WME, 802.11e
Security :	WEP(64 and 128b), WPA

3. Product Requirements

3.1 Hardware Requirements

Interface	USB			
Network Standard	IEEE802.11b/g			
Modulation	802.11b---- CCK (11Mbps, 5.5Mbps), QPSK (2Mbps), BPSK 802.11g----OFDM			
Technique	Direct Sequence Spread Spectrum			
Operating Frequency	2.412 ~ 2.462 GHz: North America 2.412 ~ 2.472 GHz: Europe ETSI and 2.412 ~ 2.472 GHz: Japan (ARIB STD-33)			
Operating Channels	1~11 for N. America, 1~13 for Europe (ETSI) and 1~14 for Japan,			
RF Output Power	11g: 14dBm+-1dBm 11b: 16dBm+-1dBm			
Antenna	Antenna design for diversity, and one PCB antenna with external system antenna			
Receiver Sensitivity	11b: -90 dBm @ 11M 11g: -72dBm @ 54M			
Power Consumption	11g		11b	
	Packet TX @12 dBm	<480mA maximum	Packet TX @14 dBm	<460mA
	Con. TX @12 dBm	Above 480mA	Con. TX @14 dBm	Above 460mA
	RX	<300mA (Rxin -20dB and -70dBm)	RX	<270mA (Rxin -20dB and -70dBm)
Supply Voltage	3.3V			

3.2 Hardware Architecture

The circuit design of the IEEE802.11b/g USB module is based on Atheros chipset, including AR2524 (Digital Base-band Processor) & AL2230 (Receive/Transmit Devices). The chip set block diagram is shown in Figure 1.

Federal Communication Commission Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This device complies with Part 15 of the FCC Rules .

Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

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

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

IMPORTANT NOTE: In the event that these conditions can not be met (for example certain laptop configurations or co-location with another transmitter), then the FCC authorization is no longer considered valid and the FCC ID can not be used on the final product. In these circumstances, the OEM integrator will be responsible for re-evaluating the end product (including the transmitter) and obtaining a separate FCC authorization.

End Product Labeling

This transmitter module is authorized only for use in device where the antenna may be installed such that 20 cm may be maintained between the antenna and users. The final end product must be labeled in a visible area with the following: "Contains FCC ID:T5U-US106".

Manual Information To the End User

The OEM integrator has to be aware not to provide information to the end user regarding how to install or remove this RF module in the user's manual of the end product which integrates this module.

The end user manual shall include all required regulatory information/warning as show in this manual.

This device complies with RSS-210 of IC Rules.

Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

IC Detachable Antenna Related Statements

To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that permitted for successful communication.

This device has been designed to operate with the antennas listed below, and having a maximum gain of 2.13 dBi. Antennas not included in this list or having a gain greater than 2.13 dBi are strictly prohibited for use with this device. The required antenna impedance is 50 ohms