



AirPrime EM74xx / EM74x1

Migration Guide



SIERRA
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Due to the nature of wireless communications, transmission and reception of data can never be guaranteed. Data may be delayed, corrupted (i.e., have errors) or be totally lost. Although significant delays or losses of data are rare when wireless devices such as the Sierra Wireless product are used in a normal manner with a well-constructed network, the Sierra Wireless product should not be used in situations where failure to transmit or receive data could result in damage of any kind to the user or any other party, including but not limited to personal injury, death, or loss of property. Sierra Wireless accepts no responsibility for damages of any kind resulting from delays or errors in data transmitted or received using the Sierra Wireless product, or for failure of the Sierra Wireless product to transmit or receive such data.

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Note: Some airlines may permit the use of cellular phones while the aircraft is on the ground and the door is open. Sierra Wireless products may be used at this time.

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Revision History

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1	May 2020	Document creation

Contents

Introduction	5
Module Differences	6
References	8

>> 1: Introduction

This document provides information for developers planning to migrate from AirPrime EM74xx (EM7430/EM7455) modules to AirPrime EM74x1 (EM7411/EM7421/EM7431) modules. AirPrime EM74x1 modules are drop-in compatible with other EM74xx modules, sharing common characteristics (e.g. nominal dimensions, power supply, environmental specifications etc.).

Included in this document are summaries of specific RF, interface, and regulatory differences between these module series.

Important: *This document summarizes key differences between modules. For detailed module specifications, including module-specific current consumption and RF sensitivity measurements, refer to each device's Product Technical Specification—see [Reference Documents on page 8](#).*

2.2 Module Pinouts

EM74xx and EM74x1 modules have identical pinouts, except for audio-related signals which are supported only on EM7430/EM7455, as detailed in [Table 2-2](#).

Table 2-2: Audio-related Pin Support

Pin #	EM74xx	EM74x1
20	PCM_CLK/I2S_CLK	NC
22	PCM_DIN/I2S_DIN	NC
24	PCM_DOUT/I2S_DOUT	NC
28	PCM_SYNC/I2S_WS	NC
56	I2C_DATA	NC
58	I2C_CLK	NC

2.3 Regulatory Compliance and Industry Certifications

The following table lists the regulatory compliance and industry certifications for each EM74xx/EM74x1 module. For detailed information, refer to the specific product specifications for each module, as listed in [Reference Documents on page 8](#).

Table 2-3: Regulatory Compliance and Industry Certifications

Reg/Cert	EM7430	EM7455	EM7411	EM7421	EM7431
ANATEL (Brazil)	Y	Y		TBD	
FCC (USA)	Y	Y	Y		
GCF	Y	Y	Y	Y	Y
IC (Canada)	Y	Y	Y		
MIC (Japan)	Y	Y	Y		Y
NCC (Taiwan)	Y	Y		Y	
PTCRB	Y	Y	Y		
RED (EU)	Y	Y	Y	Y	Y

>> 3: References

3.1 Web Site Support

Check source.sierrawireless.com for the latest available documentation for AirPrime EM74xx and AirPrime EM74x1 modules.

3.2 Reference Documents

- [1] AirPrime EM7411 Product Technical Specification and Customer Design Guidelines (Doc# 41113694)
- [2] AirPrime EM7421 Product Technical Specification and Customer Design Guidelines (Doc# 41113693)
- [3] AirPrime EM7430 Product Technical Specification and Customer Design Guidelines (Doc# 4116235)
- [4] AirPrime EM7431 Product Technical Specification and Customer Design Guidelines (Doc# 41113759)
- [5] AirPrime EM7455 Product Technical Specification and Customer Design Guidelines (Doc# 4116236)