



AirPrime GMM-G3, XA and XM Series

Firmware 5.1.1 Customer Release Note



SIERRA
WIRELESS®

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Document History

Version	Date	Updates
1.0	February 26, 2018	Creation
1.1	March 06, 2018	Updated: <ul style="list-style-type: none">• 4 Compatibility• Table 5 Interface Changes
1.2	March 19, 2018	Updated Table 5 Interface Changes
2.0	August 08, 2019	Removed obsolete modules from section 4 Compatibility



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1. Introduction

1.1. Document Scope

This document is the Firmware 5.1.1 release note for Sierra Wireless GNSS modules based on the Mediatek MT3333 chipset which includes AirPrime GMM-G3 and modules from the XA and XM series. This firmware is a maintenance release based on Firmware 3.8.

1.2. New Features/Enhancements

Table 1. New Features/Enhancements

Feature	Description
Galileo System	Firmware 5.1.1 can receive Galileo satellite navigation packets and decode emergency packets of SAR RLM (SAR RLM messages as per specification NMEA 0813 version 4.10).
SDK Commands	Firmware 5.1.1 provides many new SDK commands to configure GNSS parameters and save them in to the module flash.



2. Abbreviations and Definitions

Table 2. Abbreviations and Definitions

Abbreviation/Acronym	Definitions
GNSS	Global Navigation Satellite System
SAR	Search and Rescue
RLM	Return Link Message
DGPS	Differential Global Positioning System
FW	Firmware
GPIO	General Purpose Input Output
UART	Universal Asynchronous Receiver Transmitter
USB	Universal Serial Bus



3. Related Documentation

- [1] AirPrime XA and XM Series Software User Guide
Reference number: 41111121

4. Compatibility

Firmware 5.1.1 is compatible with the following AirPrime modules:

- GMM-G3
- XA1110
- XM1110



5. Software Release Identification

Table 3. Package Release Information

Identification	AXN5.1.1_8522_3333_1152.1151100.1
Date of generation	24 October
Binary size	654828 Bytes



6. Software Changes Description

6.1. Validated Corrections/Improvements

Table 4. Validated Corrections and/or Improvements

Description	Impacted Functionality/ Sub-Functionality
Solved QZSS satellite issue that resolved the GNSS no fix error and accuracy issue.	SBAS

6.2. Interface Changes

Table 5. Interface Changes

Command/Feature	Comment
Serial interface baud rate	The default baud rate for the serial interface has been changed from 9600bps to 115200bps
NMEA decimals length	The default NMEA decimals length has been changed from 4 to 6
SPI and I ² C interrupt I/O pin*	Changed SPI and I ² C interrupt I/O pin to operate at high-level active. When the GNSS module has NMEA sentences to send to the DPORT (SPI/I ² C) interface, the interrupt I/O pin will pull to high-level to indicate SPI/I ² C Master.
PMTK251	Unavailable
PMTK265	Supports GNSS NMEA decimal precision
PMTK306	Supports GNSS minimum satellite SNR threshold
PMTK308	Supports GNSS DR counter
PMTK311	Supports GNSS satellite elevation threshold
PMTK328	Supports GNSS high horizontal accuracy threshold
PMTK353	Unavailable
PMTK385	Supports GNSS high sensitivity
PMTK406	Supports GNSS minimum satellite SNR threshold query
PMTK408	Supports GNSS estimated fix counter query
PMTK411	Supports GNSS satellite elevation threshold query
PMTK428	Supports GNSS horizontal accuracy threshold query
PMTK436	Supports GNSS high sensitivity query
PMTK838	Supports jamming detection test
PGCMD229	Supports GNSS satellite search mode and saving into FLASH
PGCMD232	Supports GNSS baud rate and saving into FLASH

* Not applicable to the GMM-G3 as it doesn't include an I²C/SPI or interrupt pin.

7. Troubleshooting

Please contact Sierra Wireless customer service for support and debugging information.