



Release Notes PRIME Stack v01.00.00

Summary

This document describes the target devices, supported tools and features of the PRIME Software Stack release for Base Node and Service Node, with information regarding enhancements, bug fixes and known issues.

The release v01.00.00 includes the following PRIME stack versions:

- PRIMEv1.3 v13.10.05
- PRIMEv1.4 v14.04.01 supporting Hybrid Specification (Frequency Hopping included) as defined by the PRIME Alliance.

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1 Description

Microchip PRIME implementation provides individual version numbers for each prime protocol layer:

- ATPL360 PHY layer: 0x3605050F
- Service MAC 1.3 layer: 0x3A418904
- Service MAC 1.4 layer: 0x44118914
- Service 4-32 layer: 0x3A400000
- Service 4-32 layer: 0x44100000
- Base MAC 1.3 layer: 0xBA418904
- Base MAC 1.4 layer: 0xC4118914
- Base 4-32 1.3 layer: 0xBA400000
- Base 4-32 1.4 layer: 0xC4100000

Vendor ID is 0x0000 for all Devices.

The PRIME FW model and product ID are the following:

Device	FW Model	Product ID
SAM4CMS16C	PL360MB	0x3937
SAME70Q21 (PL360B)	PL360BN	0x3D3F
SAME70Q21 (PL460A) (RF215)	SAME70XPL460	0x3835
SAMG55j19 (PL360B) (RF215)	PL360G55CF	0x3D3D
SAMG55j19 (PL460A) (RF215)	SAMG55XPL460	0x3D3E
PIC32CX (PL460A) (RF215)	PIC32CXXPL460	0x3941

1.1 Target Devices

- SAM4CMS16C with PL360
- SAME70Q21 with PL360 (base only)
- SAME70Q21 with PL460 and/or AT86RF215 (base only)
- SAMG55J19 with PL460 and/or AT86RF215
- SAMG55J19 with PL360 and/or AT86RF215 (service only)
- PIC32CXMTSH with PL460 and/or AT86RF215 (service only)
- PIC32CXMTG with PL460 and/or AT86RF215

1.2 Supported Boards

The currently supported boards are given below:

- ATPL360-EK (Service node only)
- PIC32CXMTSH-DB with PL460-EK on Xplained port and/or ATREB215-EK on mikroBUS port
- PIC32CXMTG-EK with PL460-EK on Xplained port and/or ATREB215-EK on mikroBUS port 1

- PL360G55CF-EK with ATREB215-EK on mikroBUS port (Service node only)
- SAMG55 Xplained with PL460-EK on Xplained port 1 and/or ATREB215-EK on Xplained port 3 (Service node only)
- Base Node reference design PL360BN, implementing SAME70Q21B host plus PL360 PLC device (Base node only)
- SAME70 Xplained with PL460-EK on Xplained port 1 and/or ATREB215-EK on Xplained port 2 (Base node only).

NOTE: An adaptation is required in boards that use mikroBUS to connect ATREB215-EK.

1.3 Supported Development Tools

- IAR Embedded Workbench for ARM v9.20.04
- SAM-ICE JTAG emulator (not supported for PIC32CX)
- ATMEL-ICE JTAG (not supported for PIC32CX)
- J-32 Debug Probe
- Segger J-Link

1.4 Tools

- Microchip Hybrid Sniffer v2.0.4
- Microchip PRIME Manager v2.2.4
- Microchip PLC PHY Tester Tool v3.1.3
- Microchip PLC Tools PRIME V1.01
- Microchip USI HOST V2.4.0
- Microchip PLC BOARD FLASHER V3.3.4

2 Applicable Documents

- 50003018.pdf: PRIME 1.3 FW Stack for Base Node (rev. C).
- 50002777.pdf: PRIME 1.3 FW Stack for Service Nodes (rev D).
- 50002788.pdf: PRIME 1.4 FW Stack for Base Node (Rev D).
- 50002759.pdf: PRIME 1.4 FW Stack for Service Nodes (Rev D).
- PRIME-Spec_v1.4 +(20231117).pdf: PRIME 1.4 Specification revision 2023-11-17
- PRIME-Spec_v1.3.6.1.pdf: PRIME 1.3 Specification revision 1.3.6.1

3 Release Contents

Below there is a list of the application examples included in release package **PRIME_v1.0.0(14.04.01_13.10.05).zip**

3.1 Application Example: PRIME Service Dual DLMS APP

The Service Dual DLMS Application is an application example that shows how the PRIME API should be used by integrating an application with a DLMS server. This application configures the board as a Service Node with DLMS capabilities and simulates the data exchange between the PRIME Base Node and the Service Node. DLMS is linked to the IEC 61334-4-32 SSCS and answers a minimum set of objects requested from a commercial PRIME Data Concentrator.

The use of PRIME 1.3 or PRIME 1.4 stack depends on the Base Node detected in runtime, except for SAMG55J19 XPLAINED and PL360G55CF-EK, in which it depends on the flashed stack (only 1 can be flashed).

BOARD SUPPORT	PATH TO PROJECT
PIC32CXMTSH-DB + PL460 (pic32cxmtsh_db_pl460)	thirdparty\prime_ng\apps\prime_service_dual_dlms\pic32cxmtsh_db_pl460_bootloader\ pic32cxmtsh_db_pl460_bootloader
PIC32CXMTG-EK + PL460 (pic32cxmtg_ek_pl460)	thirdparty\prime_ng\apps\prime_service_dual_dlms\pic32cxmtg_ek_pl460_bootloader\pic32cxmtg_ek_pl4 60_bootloader
SAMG55J19 XPLAINED + PL460 and/or RF215 (samg55j19_xplained_pl460)	thirdparty\prime_ng\apps\prime_service_dual_dlms\samg55j19_xplained_pl460_bootloader\samg55j19_x plained_pl460_bootloader
PL360G55CF-EK (and RF215) (samg55j19_pl360g55cf_ek)	thirdparty\prime_ng\apps\prime_service_dual_dlms\samg55j19_pl360g55cf_ek_bootloader\samg55j19_pl 360g55cf_ek_bootloader

3.2 Application Example: PRIME Service Dual DLMS MET APP

The Service Dual DLMS and Metrology Application is an application example that shows how the PRIME API should be used by integrating an application with a DLMS server. This application configures the board as a Service Node with DLMS capabilities and simulates the data exchange between the PRIME Base Node and the Service Node and shows real power values measurements from the metrology application.

The use of PRIME 1.3 or PRIME 1.4 stack depends on the detected Base Node.

BOARD SUPPORT	PATH TO PROJECT
PL360MB (sam4cms16c_atpl360mb)	thirdparty\prime_ng\apps\prime_service_dual_dlms_met\sam4cms16c_atpl360mb_bootloader

3.3 Application Example: PRIME Service Dual Modem

The Service Modem is an application example that shows how to serialize the PRIME API when the user application and the PRIME FW stack are running in different devices. This example serializes the PRIME API through Microchip Universal Serial Interface (USI).

The use of PRIME 1.3 or PRIME 1.4 stack depends on the Base Node detected in runtime, except for SAMG55J19 XPLAINED and PL360G55CF-EK, in which it depends on the flashed stack (only 1 can be flashed).

BOARD SUPPORT	PATH TO PROJECT
PIC32CXMTSH-DB + PL460 (pic32cxmtsh_db_pl460)	thirdparty\prime_ng\apps\prime_service_dual_modem\pic32cxmtsh_db_pl460_bootloader\ pic32cxmtsh_db_pl460_bootloader

PIC32CXMTG-EK + PL460 (pic32cxmtg_ek_pl460)	thirdparty\prime_ng\apps\prime_service_dual_modem\pic32cxmtg_ek_pl460_bootloader\pic32cxmtg_ek_pl460_bootloader
PL360MB (sam4cms16c_atpl360mb)	thirdparty\prime_ng\apps\prime_service_dual_modem\sam4cms16c_atpl360mb_bootloader
SAMG55J19 XPLAINED + PL460 and/or RF215 (samg55j19_xplained_pl460)	thirdparty\prime_ng\apps\prime_service_dual_modem\samg55j19_xplained_pl460_bootloader\samg55j19_xplained_pl460_bootloader
PL360G55CF-EK (and RF215) (samg55j19_pl360g55cf_ek)	thirdparty\prime_ng\apps\prime_service_dual_modem\samg55j19_pl360g55cf_ek_bootloader\samg55j19_pl360g55cf_ek_bootloader

3.4 Application Example: Bootloader Application

The bootloader application allows you to remotely upgrade the application, the communication stack and the PL360 binary.

BOARD SUPPORT	PATH TO PROJECT
PIC32CXMTSH-DB + PL460 (pic32cx2051mtsh128_pic32cxmtsh_db)	thirdparty\prime_ng\addons\bootloader\pic32cx2051mtsh128_pic32cxmtsh_db
PIC32CXMTG-EK + PL460 (pic32cx2051mtg128_pic32cxmtg_ek)	thirdparty\prime_ng\addons\bootloader\pic32cx2051mtg128_pic32cxmtg_ek
PL360MB (sam4cms16c_atpl360mb)	thirdparty\prime_ng\addons\bootloader\sam4cms16c_atpl360mb
SAMG55J19 XPLAINED + PL460 and/or RF215 (samg55j19_xplained_pl460)	thirdparty\prime_ng\addons\bootloader\samg55j19_xplained_pl460
PL360G55CF-EK (and RF215) (samg55j19_pl360g55cf_ek)	thirdparty\prime_ng\addons\bootloader\samg55j19_pl360g55cf_ek

3.5 Application Example: PRIME Service 1.3 Binary Stack

This is the binary application of the PRIME 1.4 service node communication protocol.

BOARD SUPPORT	PATH TO PROJECT
PIC32CXMTSH-DB and PIC32CXMTG-EK + PL460 (pic32cx_pl460_bin)	thirdparty\prime_ng\bin_service\prime_service_bin_1_3\pic32cx_pl460_bin
PL360MB (sam4c_atpl360b_bin)	thirdparty\prime_ng\bin_service\prime_service_bin_1_3\sam4c_atpl360b_bin
SAMG55J19 XPLAINED (samg55_pl460_bin)	thirdparty\prime_ng\bin_service\prime_service_bin_1_3\samg55_pl460_bin

PL360G55CF-EK (and RF215) (samg55_atpl360b_bin)	thirdparty\prime_ng\bin_service\prime_service_bin_1_3\samg55_atpl360b_bin
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3.6 Application Example: PRIME Service 1.4 Binary Stack

This is the binary application of the PRIME 1.4 service node communication protocol.

BOARD SUPPORT	PATH TO PROJECT
PIC32CXMTSH-DB and PIC32CXMTG-EK + PL460 (pic32cx_pl460_bin)	thirdparty\prime_ng\bin_service\prime_service_bin_1_4\pic32cx_pl460_bin
PL360MB (sam4c_atpl360b_bin)	thirdparty\prime_ng\bin_service\prime_service_bin_1_4\sam4c_atpl360b_bin
SAMG55J19 XPLAINED (samg55_pl460_bin)	thirdparty\prime_ng\bin_service\prime_service_bin_1_4\samg55_pl460_bin
PL360G55CF-EK (and RF215) (samg55_atpl360b_bin)	thirdparty\prime_ng\bin_service\prime_service_bin_1_4\samg55_atpl360b_bin

3.7 Application Example: PRIME 1.4 Base Modem

The base modem is the application example with PRIME base node functionality. This application is able to register the PRIME v1.4 service nodes and operate as PRIME base node. Depending of the RAM memory installed on the kit board the service node is able to register the number of nodes specified in the table below.

BOARD SUPPORT	Library Reference	Service Nodes Supported	PATH TO PROJECT
PL360BN (same70q21_pl360bn)	PRIME-BN XL	2000	thirdparty\prime_ng\apps\prime_1_4_base_modem\prime_base_modem\same70q21_pl360bn
SAME70 XPLAINED + PL460 (same70_xplained_atpl360mb)	PRIME-BN L	1500	thirdparty\prime_ng\apps\prime_1_4_base_modem\prime_base_modem\same70q21_xpld_pl460
PIC32CXMTSH-DB + PL460 (pic32cxmtsh_db_pl460)	PRIME-BN M	300	thirdparty\prime_ng\apps\prime_1_4_base_modem\prime_base_modem\pic32cxmtsh_db_pl460
PIC32CXMTG-EK + PL460 (pic32cxmtg_ek_pl460)	PRIME-BN M	300	thirdparty\prime_ng\apps\prime_1_4_base_modem\prime_base_modem\pic32cxmtg_ek_pl460
PL360BN (same70q21_pl360bn)	PRIME-BN S	150	thirdparty\prime_ng\apps\prime_1_4_base_modem\prime_base_modem\same70q21_pl360bn_s
SAME70 XPLAINED + PL460 (same70_xplained_atpl360mb)	PRIME-BN S	150	thirdparty\prime_ng\apps\prime_1_4_base_modem\prime_base_modem\same70q21_xpld_pl460_s
SAMG55J19 XPLAINED + PL460 (samg55j19_xplained_pl460)	PRIME-BN XS	20	thirdparty\prime_ng\apps\prime_1_4_base_modem\prime_base_modem\samg55j19_xplained_pl460

3.8 Application Example: PRIME 1.3 Base Modem

The base modem is the application example with PRIME base node functionality. This application is able to register the PRIME v1.3 service nodes and operate as PRIME base node. Depending of the RAM memory installed on the kit board the service node is able to register the number of nodes specified in the table below.

BOARD SUPPORT	Library Reference	Service Nodes Supported	PATH TO PROJECT
PL360BN (same70q21_pl360bn)	PRIME-BN XL	2000	thirdparty\prime_ng\apps\prime_1_3_base_modem\prime_base_modem\same70q21_pl360bn
SAME70 XPLAINED + PL460 (same70_xplained_atpl360mb)	PRIME-BN L	1500	thirdparty\prime_ng\apps\prime_1_3_base_modem\prime_base_modem\same70q21_xpld_pl460
PIC32CXMTSH-DB + PL460 (pic32cxmtsh_db_pl460)	PRIME-BN M	300	thirdparty\prime_ng\apps\prime_1_3_base_modem\prime_base_modem\pic32cxmtsh_db_pl460
PIC32CXMTG-EK + PL460 (pic32cxmtg_ek_pl460)	PRIME-BN M	300	thirdparty\prime_ng\apps\prime_1_3_base_modem\prime_base_modem\pic32cxmtg_ek_pl460
PL360BN (same70q21_pl360bn)	PRIME-BN S	150	thirdparty\prime_ng\apps\prime_1_3_base_modem\prime_base_modem\same70q21_pl360bn_s
SAME70 XPLAINED + PL460 (same70_xplained_atpl360mb)	PRIME-BN S	150	thirdparty\prime_ng\apps\prime_1_3_base_modem\prime_base_modem\same70q21_xpld_pl460_s
SAMG55J19 XPLAINED + PL460 (samg55j19_xplained_pl460)	PRIME-BN XS	20	thirdparty\prime_ng\apps\prime_1_3_base_modem\prime_base_modem\samg55j19_xplained_pl460

3.9 Application Example: PRIME 1.3 Base Slave Modem

The base slave modem is the application example with PRIME base slave functionality. This application is able to operate as PRIME base slave node.

BOARD SUPPORT	PATH TO PROJECT
PL360BN (same70q21_pl360bn)	thirdparty\prime_ng\apps\prime_1_3_base_modem\prime_1_3_base_slave_modem\same70q21_pl360bn

3.10 Application Example: Hybrid PHY Sniffer Tool

This PHY application allows monitoring of data traffic on a PRIME hybrid (PLC and/or RF) network by serializing PHY frames. The application uses the USI interface to communicate with the Microchip PLC Sniffer tool to show and analyze PRIME captured frames.

BOARD SUPPORT	PATH TO PROJECT
SAME70 XPLAINED + PL460 and/or RF215 (same70q21_xpld_pl460)	thirdparty\prime_ng\prime_ng\apps\prime_hybrid_phy_sniffer_tool\same70q21_xpld_pl460

PIC32CXMTSH-DB + PL460 and/or RF215 (pic32cxmtsh_db_pl460)	thirdparty\prime_ng\ prime_ng\apps\prime_hybrid_phy_sniffer_tool\ pic32cxmtsh_db_pl460
PIC32CXMTG-EK + PL460 and/or RF215 (pic32cxmtg_ek_pl460)	thirdparty\prime_ng\ prime_ng\apps\prime_hybrid_phy_sniffer_tool\pic32cxmtg_ek_pl460
SAMG55J19 XPLAINED + PL460 and/or RF215 (samg55j19_xplained_pl460)	thirdparty\prime_ng\ prime_ng\apps\prime_hybrid_phy_sniffer_tool\ samg55j19_xplained_pl460
PL360G55CF-EK (and RF215) (samg55j19_pl360g55cf_ek)	thirdparty\prime_ng\ prime_ng\apps\prime_hybrid_phy_sniffer_tool\ samg55j19_pl360g55cf_ek

3.11 Application Example: PLC PHY Sniffer Tool

This PHY application allows monitoring of data traffic on a PRIME PLC network by serializing PHY frames. The application uses the USI interface to communicate with the Microchip PLC Sniffer tool to show and analyze PRIME captured frames.

BOARD SUPPORT	PATH TO PROJECT
PL360BN (same70q21_pl360bn)	thirdparty\prime_ng\phy\atpl360\apps\phy_sniffer_tool\same70q21_pl360bn
PL360MB (sam4cms16c_atpl360mb)	thirdparty\prime_ng\phy\ atpl360\apps\phy_sniffer_tool\sam4cms16c_atpl360mb

3.12 Application Example: PHY Tester Tool

This PHY application example shows the capabilities of the PL360 device or the PL460 in a point-to-point connection, using the USI to serialize the API of the PHY layer.

This application allows the board to communicate with the PHY Tester tool for PC to perform transmission and reception test between Microchip PLC boards.

BOARD SUPPORT	PATH TO PROJECT
SAME70 XPLAINED + PL460 and/or RF215 (same70q21_xpld_pl460)	thirdparty\prime_ng\phy\atpl360\apps\phy_tester_tool\same70q21_xpld_pl460
PL360BN (same70q21_pl360bn)	thirdparty\prime_ng\phy\atpl360\apps\phy_tester_tool\same70q21_pl360bn
PIC32CXMTSH-DB + PL460 and/or RF215 (pic32cxmtsh_db_pl460)	thirdparty\prime_ng\phy\atpl360\apps\phy_tester_tool\pic32cxmtsh_db_pl460
PIC32CXMTG-EK + PL460 and/or RF215 (pic32cxmtg_ek_pl460)	thirdparty\prime_ng\phy\atpl360\apps\phy_tester_tool\pic32cxmtg_ek_pl460
PL360MB (sam4cms16c_atpl360mb)	thirdparty\prime_ng\phy\atpl360\apps\phy_tester_tool\sam4cms16c_atpl360mb
SAMG55J19 XPLAINED + PL460 and/or RF215 (samg55j19_xplained_pl460)	thirdparty\prime_ng\phy\atpl360\apps\phy_tester_tool\prime_hybrid_phy_sniffer_tool\ samg55j19_xplained_pl460

PL360G55CF-EK (and RF215) (samg55j19_pl360g55cf_ek)	thirdparty\prime_ng\phy\atpl360\apps\phy_tester_tool\prime_hybrid_phy_sniffer_tool\ samg55j19_pl360g55cf_ek
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3.13 Application Example: PHY Test TX Console

This PHY application example uses a terminal console to configure the PHY layer and perform several board tests. Parameters that are configured include transmission parameters such as modulation, frame data length and time interval between frames.

BOARD SUPPORT	PATH TO PROJECT
SAME70 XPLAINED + PL460 and/or RF215 (same70q21_xpld_pl460)	thirdparty\prime_ng\phy\atpl360\apps\phy_tx_test_console\same70q21_xpld_pl460
PL360BN (same70q21_pl360bn)	thirdparty\prime_ng\phy\atpl360\apps\phy_tx_test_console\same70q21_pl360bn
PIC32CXMTSH-DB + PL460 and/or RF215 (pic32cxmtsh_db_pl460)	thirdparty\prime_ng\phy\atpl360\apps\phy_tx_test_console\pic32cxmtsh_db_pl460
PIC32CXMTG-EK + PL460 and/or RF215 (pic32cxmtg_ek_pl460)	thirdparty\prime_ng\phy\atpl360\apps\phy_tx_test_console\pic32cxmtg_ek_pl460
PL360MB (sam4cms16c_atpl360mb)	thirdparty\prime_ng\phy\atpl360\apps\phy_tx_test_console\sam4cms16c_atpl360mb
SAMG55J19 XPLAINED + PL460 and/or RF215 (samg55j19_xplained_pl460)	thirdparty\prime_ng\phy\atpl360\apps\phy_ tx_test_console\prime_hybrid_phy_sniffer_tool\samg55j19_xplained_pl460
PL360G55CF-EK (and RF215) (samg55j19_pl360g55cf_ek)	thirdparty\prime_ng\phy\atpl360\apps\phy_ tx_test_console\prime_hybrid_phy_sniffer_tool\samg55j19_pl360g55cf_ek

3.14 Application Example: PHY PLC and Go

This PHY application example is a chat application running on top of PL360/PL460 PHY Layer.

BOARD SUPPORT	PATH TO PROJECT
PIC32CXMTSH-DB + PL460 and/or RF215 (pic32cxmtsh_db_pl460)	thirdparty\prime_ng\phy\atpl360\apps\phy_plc_and_go\pic32cxmtsh_db_pl460
PIC32CXMTG-EK + PL460 and/or RF215 (pic32cxmtg_ek_pl460)	thirdparty\prime_ng\phy\atpl360\apps\phy_plc_and_go\pic32cxmtg_ek_pl460
PL360MB (sam4cms16c_atpl360mb)	thirdparty\prime_ng\phy\atpl360\apps\phy_plc_and_go\sam4cms16c_atpl360mb
SAMG55J19 XPLAINED + PL460 and/or RF215 (samg55j19_xplained_pl460)	thirdparty\prime_ng\phy\atpl360\apps\phy_plc_and_go\ samg55j19_xplained_pl460
PL360G55CF-EK (and RF215) (samg55j19_pl360g55cf_ek)	thirdparty\prime_ng\phy\atpl360\apps\phy_plc_and_go\ samg55j19_pl360g55cf_ek

4 New Features / Changes

- Added support for PIC32CXMTx platforms.
- Added support for PL460.
- Deprecated all platforms based on ATPL230.
- Transferred the handling of carrier detection to the PLC transceiver (ATPL360/PL460). This modification reduces real-time constraints.
- Quality evaluation of the PLC channel is now performed in the PAL layer.

4.1 PRIME 1.3 specific changes

- Updated the API to be fully compatible with the PRIME 1.4 API, ignoring unused parameters.
 - Service Node: This allows for a dual application capable of handling both PRIME 1.3 and PRIME 1.4, with the ability to switch between stacks.
- Service Node: Added detection of a PRIME 1.4 Beacon to inform the application for a potential stack change.

4.2 PRIME 1.4 specific changes

- Included hybrid features with frequency hopping as described in the latest official PRIME 1.4 specification: PRIME-Spec_v1.4+(20231117).pdf.
- Added detection of a PRIME 1.3 Beacon in PLC channel 1 to signal the application for a potential stack change.
- Added support for AT86RF215 as RF transceiver.
- Enabled configuration of the physical layer RF for any working mode, including FSK or OFDM.
- Included FSK Mode 1 parameterization for the PRIME stack, with easy extension to other modes.
- Introduced new proprietary PIBs:
 - Service Node: PIB_MAC_CHN_SCANNING_MODE (0x8135)
 - Base Node: PIB_MAC_ACTION_CFG_BCN_TX_SCHEME (0x8133)
 - Base Node: PIB_MAC_ACTION_CFG_BCN_SWITCH_RATE (0x8136)

5 Memory Footprint

The table below lists the ROM and DATA memory footprint, in bytes, for all platforms with the corresponding compiler.

Table 5-1. Service Application Examples

NOTE: The footprint for the Service Application does not include stacks and bootloader.

APPLICATION NAME	IAR COMPILER SUPPORTED APPLICATIONS	
	ROM DATA	RAM DATA
service_dual_dlms-pic32cxmtg_ek_pl460_bootloader	89612	42854
service_dual_dlms-pic32cxmtsh_db_pl460_bootloader	91156	42864
service_dual_dlms-samg55j19_pl360g55cf_ek_bootloader	99405	50967
service_dual_dlms-samg55j19_xplained_pl460_bootloader	100617	50980

service_dual_dlms_met-sam4cms16c_atpl360mb_bootloader	107117	44030
service_dual_modem-pic32cxmtg_ek_pl460_bootloader	75684	34519
service_dual_modem-pic32cxmtsh_db_pl460_bootloader	77168	34529
service_dual_modem-sam4cms16c_atpl360mb_bootloader	69300	33762
service_dual_modem-samg55j19_pl360g55cf_ek_bootloader	85464	42632
service_dual_modem-samg55j19_xplained_pl460_bootloader	86228	42637

Table 5-2. Service PRIME 1.3 Stacks

APPLICATION NAME	IAR COMPILER SUPPORTED APPLICATIONS	
	ROM DATA	RAM DATA
service_1_3-pic32cx_pl460	76544	30588
service_1_3-sam4c_atpl360b	72292	30588
service_1_3-samg55_atpl360b	72516	30592
service_1_3-samg55_pl460	76544	30588

Table 5-3. Service PRIME 1.4 Stacks

APPLICATION NAME	IAR COMPILER SUPPORTED APPLICATIONS	
	ROM DATA	RAM DATA
service_1_4-pic32cx_pl460 Hybrid	137104	44808
service_1_4-pic32cx_pl460 Hybrid Frequency Hopping	137588	44944
service_1_4-pic32cx_pl460 PLC Only	116176	39604
service_1_4-pic32cx_pl460 RF Only	123036	41316
service_1_4-pic32cx_pl460 RF Frequency Hopping Only	123520	41452
service_1_4-sam4c_atpl360b PLC Only	112536	39604
service_1_4-samg55_atpl360b Hybrid	137324	44812
service_1_4-samg55_atpl360b Hybrid Frequency Hopping	137808	44948
service_1_4-samg55_atpl360b PLC Only	116396	39608
service_1_4-samg55_atpl360b RF Only	123032	41316
service_1_4-samg55_atpl360b RF Frequency Hopping Only	123516	41452
service_1_4-samg55_pl460 Hybrid	137104	44808
service_1_4-samg55_pl460 Hybrid Frequency Hopping	137588	44944
service_1_4-samg55_pl460 PLC Only	116176	39604

service_1_4-samg55_pl460 RF Only	123036	41316
service_1_4-samg55_pl460 RF Frequency Hopping Only	123520	41452

Table 5-4. PRIME Bootloader

APPLICATION NAME	IAR COMPILER SUPPORTED APPLICATIONS	
	ROM DATA	RAM DATA
addons_bootloader-pic32cx2051mtg128_pic32cxmtg_ek	8552	17807
addons_bootloader-pic32cx2051mtsh128_pic32cxmtsh_db	8456	17807
addons_bootloader-sam4cms16c_atpl360mb	6952	17755
addons_bootloader-samg55j19_pl360g55cf_ek	6544	21851
addons_bootloader-samg55j19_xplained_pl460	6532	21739

Table 5-5. Base PRIME 1.3 Application Examples

NOTE: The footprint for the Base Application includes the PRIME 1.3 Stack.

APPLICATION NAME	IAR COMPILER SUPPORTED APPLICATIONS	
	ROM DATA	RAM DATA
base_modem-pic32cxmtg_ek_pl460	248508	476445
base_modem-pic32cxmtsh_db_pl460	250108	476466
base_modem-same70q21_pl360bn	255194	2214107
base_modem-same70q21_pl360bn_s	258316	285083
base_modem-same70q21_xpld_pl460	250619	1719657
base_modem-same70q21_xpld_pl460_s	248819	296325
base_modem-samg55j19_xplained_pl460	255137	122149
base_slave_modem-same70q21_pl360bn	196298	67916

Table 5-6. Base PRIME 1.4 Application Examples

NOTE: The footprint for the Base Application includes the PRIME 1.3 Stack.

APPLICATION NAME	IAR COMPILER SUPPORTED APPLICATIONS	
	ROM DATA	RAM DATA
base_modem-pic32cxmtg_ek_pl460 Hybrid	282844	478865
base_modem-pic32cxmtg_ek_pl460 Hybrid Frequency Hopping	283672	479000

base_modem-pic32cxmtg_ek_pl460 PLC Only	248836	473665
base_modem-pic32cxmtg_ek_pl460 RF Only	195204	475374
base_modem-pic32cxmtg_ek_pl460 RF Frequency Hopping Only	196036	475509
base_modem-pic32cxmtsh_db_pl460 Hybrid	284372	478885
base_modem-pic32cxmtsh_db_pl460 Hybrid Frequency Hopping	285200	479020
base_modem-pic32cxmtsh_db_pl460 PLC Only	250364	473685
base_modem-pic32cxmtsh_db_pl460 RF Only	196732	475394
base_modem-pic32cxmtsh_db_pl460 RF Frequency Hopping Only	197564	475529
base_modem-same70q21_pl360bn	282339	2649503
base_modem-same70q21_pl360bn_s	280686	384091
base_modem-same70q21_xpld_pl460 Hybrid	337738	2048289
base_modem-same70q21_xpld_pl460 Hybrid Frequency Hopping	338567	2048424
base_modem-same70q21_xpld_pl460 PLC Only	303721	2043089
base_modem-same70q21_xpld_pl460 RF Only	250091	2044798
base_modem-same70q21_xpld_pl460 RF Frequency Hopping Only	250925	2044933
base_modem-same70q21_xpld_pl460_s Hybrid	315623	389890
base_modem-same70q21_xpld_pl460_s Hybrid Frequency Hopping	316452	390025
base_modem-same70q21_xpld_pl460_s PLC Only	281606	384690
base_modem-same70q21_xpld_pl460_s RF Only	227976	386399
base_modem-same70q21_xpld_pl460_s RF Frequency Hopping Only	228810	386534
base_modem-samg55j19_xplained_pl460 Hybrid	293645	161339
base_modem-samg55j19_xplained_pl460 Hybrid Frequency Hopping	294473	161474
base_modem-samg55j19_xplained_pl460 PLC Only	259619	156139
base_modem-samg55j19_xplained_pl460 RF Only	206005	157848
base_modem-samg55j19_xplained_pl460 RF Frequency Hopping Only	206834	157983

Table 5-7. PHY PLC Applications

APPLICATION NAME	IAR COMPILER SUPPORT APPLICATIONS	
	ROM DATA	RAM DATA
plc_and_go-pic32cxmtg_ek_pl460	92602	13336
plc_and_go-pic32cxmtsh_db_pl460	93550	13344
plc_and_go-sam4cms16c_atpl360mb	90141	16342
plc_and_go-samg55j19_pl360g55cf_ek	106092	19702
plc_and_go-samg55j19_xplained_pl460	101615	19710

sniffer_tool-sam4cms16c_atpl360mb	93780	19718
sniffer_tool-same70q21_pl360bn	114951	22114
tester_tool-pic32cxmtg_ek_pl460	109231	19808
tester_tool-pic32cxmtsh_db_pl460	110195	19824
tester_tool-sam4cms16c_atpl360mb	106200	19694
tester_tool-same70q21_pl360bn	127631	22089
tester_tool-same70q21_xpld_pl460	120313	17858
tester_tool-samg55j19_pl360g55cf_ek	112417	23013
tester_tool-samg55j19_xplained_pl460	112921	23017
tx_test_console-pic32cxmtg_ek_pl460	119542	27922
tx_test_console-pic32cxmtsh_db_pl460	120586	27934
tx_test_console-sam4cms16c_atpl360mb	117221	30922
tx_test_console-same70q21_pl360bn	144589	39752
tx_test_console-same70q21_xpld_pl460	140012	30187

Table 5-8. PHY Hybrid Applications

APPLICATION NAME	IAR COMPILER SUPPORT APPLICATIONS	
	ROM DATA	RAM DATA
hybrid_phy_sniffer_tool-pic32cxmtg_ek_pl460	121230	24999
hybrid_phy_sniffer_tool-pic32cxmtsh_db_pl460	122370	26223
hybrid_phy_sniffer_tool-same70q21_xpld_pl460	124858	28508
hybrid_phy_sniffer_tool-samg55j19_pl360g55cf_ek	130757	28207
hybrid_phy_sniffer_tool-samg55j19_xplained_pl460	123925	28207

Table 5-9. PL360/460 Firmware

APPLICATION NAME	IAR COMPILER SUPPORT APPLICATIONS
	ROM DATA
ATPL360B_PRIME (Single channel)	64353
ATPL360B_PRIME_2CHN (2 channels)	69204

6 Revision History

A	10/2024	First version
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