

LAN9255 –J2SIP Ethernet Application firmware Release Notes

|  |  |  |  |
| --- | --- | --- | --- |
| Microchip Technology, Inc. | | | Microchip Technology, Incorporated  2355 W. Chandler Boulevard  Chandler, Arizona 85224  480/792-7416 |
| REV | DATE | ORIGINATOR | DESCRIPTION OF CHANGE |
| 1.0 | 11/11/2020 | Sabari Guru Rajaa S | Added basic TCP/IP stack, DHCP client, ICMP client, System command support using UART and Static IP address support |
| 2.0 | 11/26/20 | Sabari Guru Rajaa S | Added HTTP Server, GPIO Input Read, GPIO Toggling, calculate md5sum, configure network configuration support via webserver, basic DNS client support, Daisy chain support, NBNS support and announce support. |
| 3.0 | 1/7/2021 | Sabari Guru Rajaa S | Customer Enablement Release |
| 4.0 | 2/9/2021 | Sabari Guru Rajaa S | Added SNMP agent, SNMP v1, V2, V3 trap. GPIO control using SNMP. Configure SNMP community, IPV6, NDP, ICMPv6. |
| 4.01 | 3/19/2021 | Sabari Guru Rajaa S | Bug Fix Release |
| 4.02 | 6/15/2021 | Venkata Durga Prasad | New device id support for all demo applications. |

Table of Contents

[1 Introduction 4](#_Toc74678395)

[2 Legal Information 4](#_Toc74678396)

[3 Terms and abbreviations 5](#_Toc74678397)

[4 Prerequisites 5](#_Toc74678398)

[5 References 5](#_Toc74678399)

[6 Release notes 6](#_Toc74678400)

[6.1 Version 1.1 6](#_Toc74678401)

[6.1.1 Not implemented / Limited functionality requirements 6](#_Toc74678402)

[6.1.2 Bug Fixes 6](#_Toc74678403)

[6.1.3 Features added 6](#_Toc74678404)

[6.1.4 Note 6](#_Toc74678405)

[6.2 Version 1.0 7](#_Toc74678406)

[6.2.1 Not implemented / Limited functionality requirements 7](#_Toc74678407)

[6.2.2 Bug Fixes 7](#_Toc74678408)

[6.2.3 Features added 7](#_Toc74678409)

[6.2.4 Note 7](#_Toc74678410)

[6.3 Version 0.9 8](#_Toc74678411)

[6.3.1 Not implemented / Limited functionality requirements 8](#_Toc74678412)

[6.3.2 Bug Fixes 8](#_Toc74678413)

[6.3.3 Features added 8](#_Toc74678414)

[6.3.4 Note 8](#_Toc74678415)

[6.4 Version 0.8 9](#_Toc74678416)

[6.4.1 Not implemented / Limited functionality requirements 9](#_Toc74678417)

[6.4.2 Bug Fixes 9](#_Toc74678418)

[6.4.3 Features added 9](#_Toc74678419)

[6.4.4 Note 9](#_Toc74678420)

[6.5 Version 0.7 10](#_Toc74678421)

[6.5.1 Not implemented / Limited functionality requirements 10](#_Toc74678422)

[6.5.2 Bug Fixes 10](#_Toc74678423)

[6.5.3 Features added 10](#_Toc74678424)

[6.6 Version 0.5 11](#_Toc74678425)

[6.6.1 Not implemented / Limited functionality requirements 11](#_Toc74678426)

[6.6.2 Bug Fixes 11](#_Toc74678427)

[6.6.3 Features added 11](#_Toc74678428)

# Introduction

|  |  |
| --- | --- |
| Component Type | Firmware Framework |
| **Target Silicon** | LAN9255 |
| **Where can an end user see the version number** |  |

This document contains the LAN9255 Ethernet firmware samples based on TCP/IP stack.

# Legal Information

Information contained in this publication regarding device applications and the like is provided only for your convenience and can be superseded by updates. It is your responsibility to ensure that your application meets with your specifications. MICROCHIP MAKES NO REPRESENTATIONS OR WARRANTIES OF ANY KIND WHETHER EXPRESS OR IMPLIED, WRITTEN OR ORAL, STATUTORY OR OTHERWISE, RELATED TO THE INFORMATION, INCLUDING BUT NOT LIMITED TO ITS CONDITION, QUALITY, PERFORMANCE, MERCHANTABILITY OR FITNESS FOR PURPOSE**.**

Microchip disclaims all liability arising from this information and its use. Use of Microchip devices in life support and/or safety applications is entirely at the buyer’s risk, and the buyer agrees to defend, indemnify and hold harmless Microchip from any and all damages, claims, suits, or expenses resulting from such use. No licenses are conveyed, implicitly or otherwise, under any Microchip intellectual property rights.

**Trademarks**

The Microchip name and logo, the Microchip logo, dsPIC, FlashFlex, flexPWR, JukeBlox, KEELOQ, KEELOQ logo, Kleer, LANCheck, MediaLB, MOST, MOST logo, MPLAB, OptoLyzer, PIC, PICSTART, PIC32 logo, RightTouch, SpyNIC, SST, SST Logo, SuperFlash and UNI/O are registered trademarks of Microchip Technology Incorporated in the U.S.A. and other countries.

The Embedded Control Solutions Company and mTouch are registered trademarks of Microchip Technology Incorporated in the U.S.A.

Analog-for-the-Digital Age, BodyCom, chipKIT, chipKIT logo, CodeGuard, dsPICDEM, dsPICDEM.net, ECAN, In-Circuit Serial Programming, ICSP, Inter-Chip Connectivity, KleerNet, KleerNet logo, MiWi, MPASM, MPF, MPLAB Certified logo, MPLIB, MPLINK, MultiTRAK, NetDetach, Omniscient Code Generation, PICDEM, PICDEM.net, PICkit, PICtail, RightTouch logo, REAL ICE, SQI, Serial Quad I/O, Total Endurance, TSHARC, USBCheck, VariSense, ViewSpan, WiperLock, Wireless DNA, and ZENA are trademarks of Microchip Technology Incorporated in the U.S.A. and other countries.

SQTP is a service mark of Microchip Technology Incorporated in the U.S.A.

Silicon Storage Technology is a registered trademark of Microchip Technology Inc. in other countries.

GestIC is a registered trademarks of Microchip Technology Germany II GmbH & Co. KG, a subsidiary of Microchip Technology Inc., in other countries.

All other trademarks mentioned herein are property of their respective companies.

© 2015, Microchip Technology Incorporated, Printed in the U.S.A., All Rights Reserved.

EtherCAT® is registered trademark and patented technology, licensed by Beckhoff Automation GmbH, Germany.

# Terms and abbreviations

|  |  |
| --- | --- |
| Terms | Abbreviation |
| FW | Firmware |
| ARP | Address Resolution Protocol |
| IP | Internet Protocol |
| IPv4 | Internet Protocol version 4 |
| UDP | User Datagram Protocol |
| TCP | Transmission Control Protocol |
| ICMP | Internet Control Message Protocol |
| DHCP | Dynamic Host Configuration Protocol |
| TX | Transmit |
| RX | Receive |
| GMAC | Gigabit Media Access Control |
| HTTP | Hypertext Transfer Protocol |
| NBNS | NetBIOS Name Server |
| DNS | Domain Name System |

# Prerequisites

The following development tools are required for using this sample for developing Ethernet application:

* MPLAB IDE v5.40 or above

(Refer to MPLAB IDE download link: <http://www.microchip.com/pagehandler/en-us/family/mplabx/>)

* MPLAB XC32 Compiler v3.01

(Refer to MPLAB XC Compiler download link: <http://www.microchip.com/pagehandler/en-us/devtools/mplabxc/home.html>)

* MPLAB IPE V5.40 or above

(Refer to MPLAB IPE download link: <http://microchip.wikidot.com/ipe:installation>)

* LAN9255DFP v1.1.7 or later
* PICkit4\_TP v1.9.1151 or later

# References

* Jutland Switches and Industrial Controllers DOS - <http://mchpweb:4576/Fileattach/SpecIndex/DOS1700119/DOS-02606c.pdf>

# Release notes

## Version 1.1

|  |  |
| --- | --- |
| Release date | 6/15/2021 |
| **Release Type** | Beta |
| **Pre-requisites (if any)** | No |
| **Source code path** | https://bitbucket.microchip.com/scm/ung\_apps/lan9255\_firmware\_applications.git |
| **Source code label / branch & perforce change list number** | develop |
| **Software Requirements Specification (SRS) Path and Revision Number** | NA |
| **Software Design Document (SDD) Path and Revision Number** | //depot\_hw\_jutland2\_MCM/doc/sw/EVB\_LAN9255\_Ethernet\_APP\_Design.docx |
| **Software Developer Test Plan (SDTP) Path and Revision Number** | //depot\_hw\_jutland2\_MCM/doc/sw/TestPlan/LAN9255-SAME53-ETHERAPP- MFTP.xlsm |
| **Software Requirements Tracker (SRT) Path and Revision Number** | //depot\_hw\_jutland2\_MCM/doc/sw/LAN9255\_CrossFunctional\_ProjectPlan.mpp |

### Not implemented / Limited functionality requirements

None

### Bug Fixes

None

### Features added

* New device id support. Updated the project demo applications with the new device id LAN9255ZMX020.

### Note

* LAN9255DFP v1.1.7 or later
* PICkit4\_TP v1.9.1151 or later
* XC32 compiler v3.01 or later

## Version 1.0

|  |  |
| --- | --- |
| Release date | 3/19/2021 |
| **Release Type** | Beta |
| **Pre-requisites (if any)** | No |
| **Source code path** | https://bitbucket.microchip.com/scm/ung\_apps/lan9255\_firmware\_applications.git |
| **Source code label / branch & perforce change list number** | develop |
| **Software Requirements Specification (SRS) Path and Revision Number** | NA |
| **Software Design Document (SDD) Path and Revision Number** | //depot\_hw\_jutland2\_MCM/doc/sw/EVB\_LAN9255\_Ethernet\_APP\_Design.docx |
| **Software Developer Test Plan (SDTP) Path and Revision Number** | //depot\_hw\_jutland2\_MCM/doc/sw/TestPlan/LAN9255-SAME53-ETHERAPP- MFTP.xlsm |
| **Software Requirements Tracker (SRT) Path and Revision Number** | //depot\_hw\_jutland2\_MCM/doc/sw/LAN9255\_CrossFunctional\_ProjectPlan.mpp |

### Not implemented / Limited functionality requirements

* [UNG\_J2\_SIP-16](https://jira.microchip.com/browse/UNG_J2_SIP-16) - Inconsistency behaviour observed in DNS client Testcase: ETHERNET\_HTTP\_017
* [UNG\_J2\_SIP-47](https://jira.microchip.com/browse/UNG_J2_SIP-47) - Documentation on Ethernet Application (SNMP/IPV6) V0.90.
* [UNG\_J2\_SIP-55](https://jira.microchip.com/browse/UNG_J2_SIP-55) - CLONE - SNMP Ipv6 trap table index number(1) issue.

### Bug Fixes

* [UNG\_J2\_SIP-53](https://jira.microchip.com/browse/UNG_J2_SIP-53) - Community Name Configuration on HTTP Web Page
* [UNG\_J2\_SIP-60](https://jira.microchip.com/browse/UNG_J2_SIP-60) - Setting Down of 'IfAdminStatus' OID of IF-MIB Table was not Working Properly
* [UNG\_J2\_SIP-65](https://jira.microchip.com/browse/UNG_J2_SIP-65) - IPv6 Unicast/Multicast Address Status goes to Unknown State in a Daisy Chain Setup.

### Features added

* None

### Note

* None.

## Version 0.9

|  |  |
| --- | --- |
| Release date | 2/09/2021 |
| **Release Type** | Beta |
| **Pre-requisites (if any)** | No |
| **Source code path** | https://bitbucket.microchip.com/scm/ung\_apps/lan9255\_firmware\_applications.git |
| **Source code label / branch & perforce change list number** | develop  Tag: ETHERNET\_IPv6\_SNMPv3\_V0.9 |
| **Software Requirements Specification (SRS) Path and Revision Number** | NA |
| **Software Design Document (SDD) Path and Revision Number** | //depot\_hw\_jutland2\_MCM/doc/sw/EVB\_LAN9255\_Ethernet\_APP\_Design.docx |
| **Software Developer Test Plan (SDTP) Path and Revision Number** | //depot\_hw\_jutland2\_MCM/doc/sw/TestPlan/LAN9255-SAME53-ETHERAPP- MFTP.xlsm |
| **Software Requirements Tracker (SRT) Path and Revision Number** | //depot\_hw\_jutland2\_MCM/doc/sw/LAN9255\_CrossFunctional\_ProjectPlan.mpp |

### Not implemented / Limited functionality requirements

* [UNG\_J2\_SIP-16](https://jira.microchip.com/browse/UNG_J2_SIP-16) - Inconsistency behaviour observed in DNS client Testcase: ETHERNET\_HTTP\_017
* [UNG\_J2\_SIP-47](https://jira.microchip.com/browse/UNG_J2_SIP-47) - Documentation on Ethernet Application (SNMP/IPV6) V0.90.

### Bug Fixes

* None

### Features added

* [UNG\_J2\_SIP-32](https://jira.microchip.com/browse/UNG_J2_SIP-32) - Create sample application with IPV6 and SNMPV3 agent.

### Note

* None.

## Version 0.8

|  |  |
| --- | --- |
| Release date | 1/07/2021 |
| **Release Type** | Alpha |
| **Pre-requisites (if any)** | No |
| **Source code path** | https://bitbucket.microchip.com/scm/ung\_apps/lan9255\_firmware\_applications.git |
| **Source code label / branch & perforce change list number** | develop  Tag: ETHERNET\_CUSTOMER\_ENABLEMENT\_V0.8 |
| **Software Requirements Specification (SRS) Path and Revision Number** | NA |
| **Software Design Document (SDD) Path and Revision Number** | //depot\_hw\_jutland2\_MCM/doc/sw/EVB\_LAN9255\_Ethernet\_APP\_Design.docx |
| **Software Developer Test Plan (SDTP) Path and Revision Number** | //depot\_hw\_jutland2\_MCM/doc/sw/TestPlan/LAN9255-SAME53-ETHERAPP- MFTP.xlsm |
| **Software Requirements Tracker (SRT) Path and Revision Number** | //depot\_hw\_jutland2\_MCM/doc/sw/LAN9255\_CrossFunctional\_ProjectPlan.mpp |

### Not implemented / Limited functionality requirements

* [UNG\_J2\_SIP-16](https://jira.microchip.com/browse/UNG_J2_SIP-16) - Inconsistency behaviour observed in DNS client Testcase: ETHERNET\_HTTP\_017

### Bug Fixes

* None

### Features added

* [UNG\_J2\_SIP-15](https://jira.microchip.com/browse/UNG_J2_SIP-15) - Create sample application with HTTP Web server.

### Note

* No features are added.
* It is same as that of V0.7 Release.
* There is no change in firmware or binary.

## Version 0.7

|  |  |
| --- | --- |
| Release date | 11/26/2020 |
| **Release Type** | Alpha |
| **Pre-requisites (if any)** | No |
| **Source code path** | https://bitbucket.microchip.com/scm/ung\_apps/lan9255\_firmware\_applications.git |
| **Source code label / branch & perforce change list number** | feature/ethernet\_http  Tag: ETHERNET\_HTTP\_V0.7 |
| **Software Requirements Specification (SRS) Path and Revision Number** | NA |
| **Software Design Document (SDD) Path and Revision Number** | //depot\_hw\_jutland2\_MCM/doc/sw/EVB\_LAN9255\_Ethernet\_APP\_Design.docx |
| **Software Developer Test Plan (SDTP) Path and Revision Number** | //depot\_hw\_jutland2\_MCM/doc/sw/TestPlan/LAN9255-SAME53-ETHERAPP- MFTP.xlsm |
| **Software Requirements Tracker (SRT) Path and Revision Number** | //depot\_hw\_jutland2\_MCM/doc/sw/LAN9255\_CrossFunctional\_ProjectPlan.mpp |

### Not implemented / Limited functionality requirements

* [UNG\_J2\_SIP-16](https://jira.microchip.com/browse/UNG_J2_SIP-16) - Inconsistency behaviour observed in DNS client Testcase: ETHERNET\_HTTP\_017

### Bug Fixes

* None

### Features added

* [UNG\_J2\_SIP-15](https://jira.microchip.com/browse/UNG_J2_SIP-15) - Create sample application with HTTP Web server.

## Version 0.5

|  |  |
| --- | --- |
| Release date | 11/11/2020 |
| **Release Type** | Alpha |
| **Pre-requisites (if any)** | No |
| **Source code path** | https://bitbucket.microchip.com/scm/ung\_apps/lan9255\_firmware\_applications.git |
| **Source code label / branch & perforce change list number** | feature/ethernet\_icmp  Tag: ETHERNET\_ICMP\_V0.5 |
| **Software Requirements Specification (SRS) Path and Revision Number** | NA |
| **Software Design Document (SDD) Path and Revision Number** | //depot\_hw\_jutland2\_MCM/doc/sw/EVB\_LAN9255\_Ethernet\_APP\_Design.docx |
| **Software Developer Test Plan (SDTP) Path and Revision Number** | //depot\_hw\_jutland2\_MCM/doc/sw/TestPlan/LAN9255-SAME53-ETHERAPP- MFTP.xlsm |
| **Software Requirements Tracker (SRT) Path and Revision Number** | //depot\_hw\_jutland2\_MCM/doc/sw/LAN9255\_CrossFunctional\_ProjectPlan.mpp |

### Not implemented / Limited functionality requirements

None

### Bug Fixes

* None

### Features added

* [UNG\_J2\_SIP-13](https://jira.microchip.com/browse/UNG_J2_SIP-13) - Create firmware application with DHCP client, ICMP Client and basic TCP/IP stack support
* [UNG\_J2\_SIP-12](https://jira.microchip.com/browse/UNG_J2_SIP-12) - LAN9255 Ethernet Application firmware - PCLint setup with MISRA 2012 standard.