

LAN9255 –J2SIP Ethernet Application firmware (Compliance) Release Notes

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| Microchip Technology, Inc. | | | Microchip Technology, Incorporated  2355 W. Chandler Boulevard  Chandler, Arizona 85224  480/792-7416 |
| REV | DATE | ORIGINATOR | DESCRIPTION OF CHANGE |
| 1.0 | 2/19/2021 | Sabari Guru Rajaa S | Added basic TCP/IP stack, DHCP client, ICMP client, System command support using UART, Static IP address support, 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.  PHY Device - LAN8740. |
| 1.1 | 3/23/2021 | Sabari Guru Rajaa S | Added CLI command to access GMAC registers and PHY registers. |
| 1.2 | 3/31/2021 | Sabari Guru Rajaa S | Added CLI command to send two packets with minimum IPG interval. |

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# 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.

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# 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 v2.41

(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>)

# References

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

# Release notes

## Version 1.0

|  |  |
| --- | --- |
| Release date | 3/31/2021 |
| **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-50](https://jira.microchip.com/browse/UNG_J2_SIP-50) - Documentation on Ethernet Application (LAN8740 compliance) V0.80

### Bug Fixes

* None

### Features added

* [UNG\_J2\_SIP-71](https://jira.microchip.com/browse/UNG_J2_SIP-71) - Provide command interface to Send two packets consequently with minimum IPG gap.

### Note

* None

## Version 0.9

|  |  |
| --- | --- |
| Release date | 3/23/2021 |
| **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\_LAN8740\_COMPLIANCE\_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-50](https://jira.microchip.com/browse/UNG_J2_SIP-50) - Documentation on Ethernet Application (LAN8740 compliance) V0.80

### Bug Fixes

* None

### Features added

* [UNG\_J2\_SIP-68](https://jira.microchip.com/browse/UNG_J2_SIP-68) - Provide command interface to access GMAC Registers and Phy Registers.

### Note

* None

## Version 0.8

|  |  |
| --- | --- |
| Release date | 2/19/2021 |
| **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  Tag: ETHERNET\_LAN8740\_COMPLIANCE\_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
* [UNG\_J2\_SIP-50](https://jira.microchip.com/browse/UNG_J2_SIP-50) - Documentation on Ethernet Application (LAN8740 compliance) V0.80

### Bug Fixes

* None

### Features added

* [UNG\_J2\_SIP-49](https://jira.microchip.com/browse/UNG_J2_SIP-49) - Firmware Support for LAN8740 with LAN9255 Board

### Note

* None