



IOTG

Intel[®] IoT Gateways Components List

Application Ready Platform Division

August 2015



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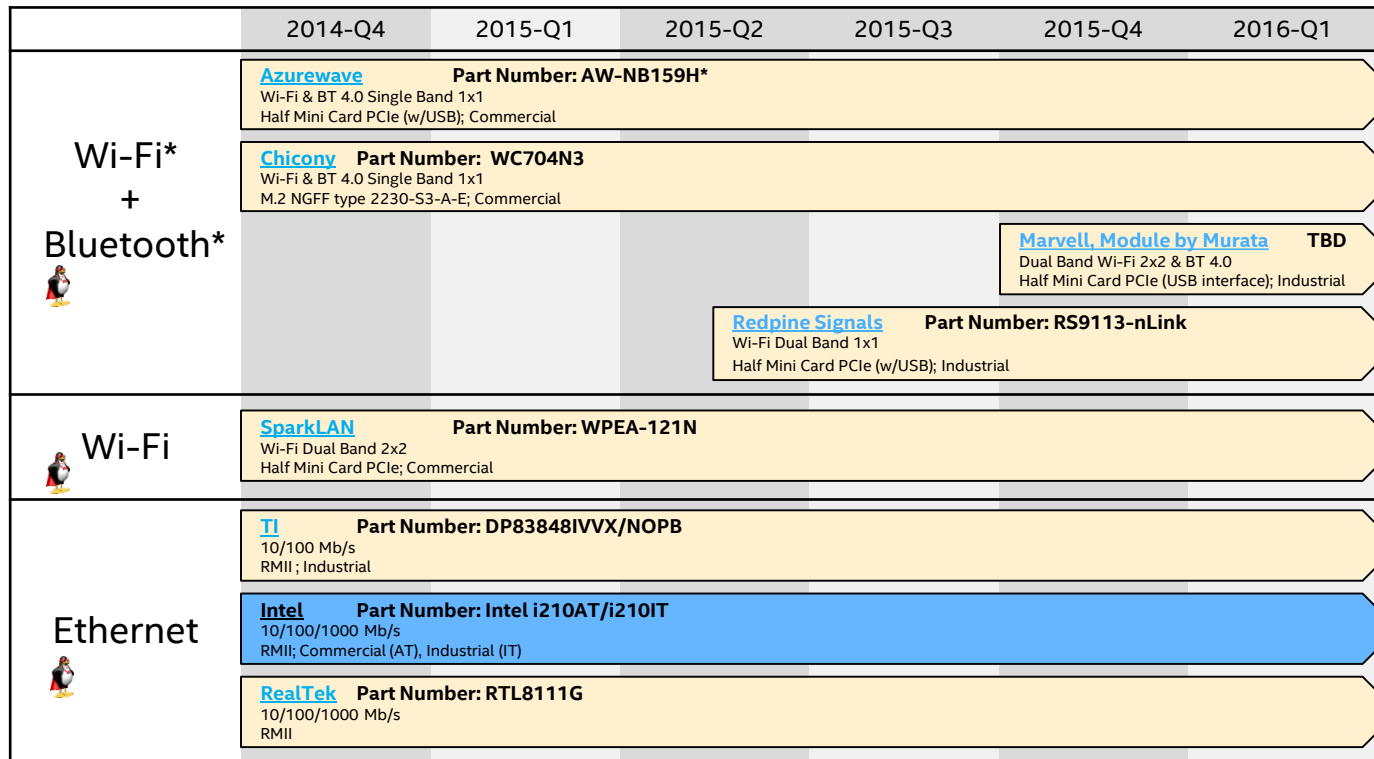
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



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Proposed Component Categories

Component category	Ease-of-Use		Validation and Testing	Support		
	Part Availability	Certification Tools Availability (Wi-Fi Only)	Regression Testing (Performed at Intel Gateway Major and associated Minor release)	Firmware, SDK or Software Stack update integration and notification	PAE Support	Supplier MoU for Support
Category 1	Yes	Yes	Full Regression testing on at least one Gateway Reference designs	Yes At Moon Island Release Cadence	Full	Yes
Category 2	No Guarantee	No Guarantee	Limited Functional Validation on ODM Platform	No	Limited	No

Connectivity Solutions Roadmap for Intel® IoT Gateway



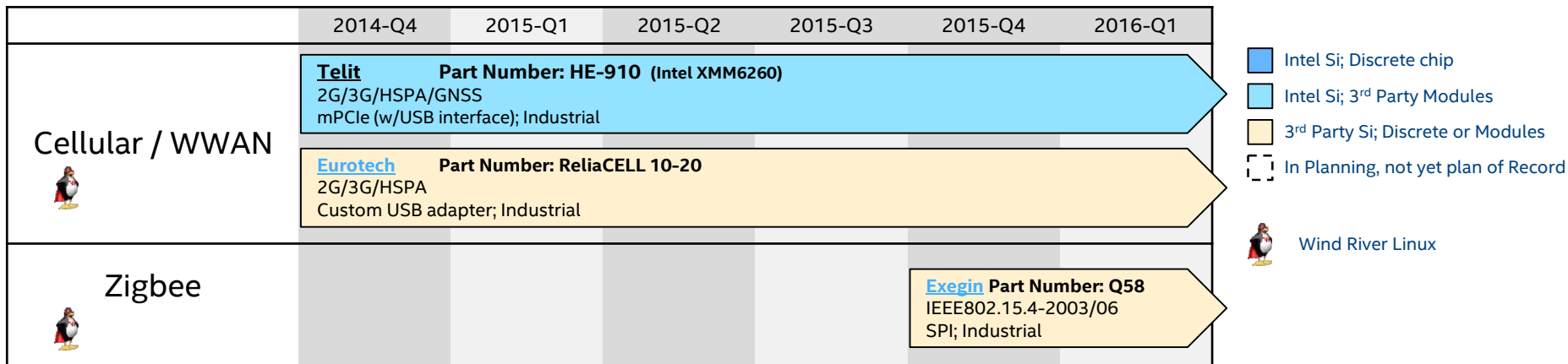
-  Intel Si; Discrete chip
-  Intel Si; 3rd Party Modules
-  3rd Party Si; Discrete or Modules
-  In Planning, not yet plan of Record



Wind River Linux

Connectivity Solutions Roadmap for Intel® IoT Gateway

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Connectivity – Wi-Fi* and Bluetooth*

Sub-system	Description	Vendor	Part Number	Category	OS Support	Industrial Temp	Interface Support (Phy, wifi, BT)	Hardware AP Support
Wi-Fi* + Bluetooth*	Wi-Fi & BT 4.0 Single Band 1x1 (0 to +60 degree C operation) PCI IDs: V : 0x10EC D: 0xB723	Azurewave	AW-NB159H* (Realtek RTL8723BE)	Cat 2	Wind River	No	HMC, PCIe*, USB	No**
Wi-Fi + Bluetooth	Wi-Fi & BT 4.0 Single Band 1x1 (0 to +70 degree C operation) PCI IDs: V : 0x10EC D: 0xB723	Chicony	WC704N3 (aka RealTek8723B)	Cat 2	Wind River	No	M.2 NGFF type 2230-S3-A-E, PCIe, USB	No**
Wi-Fi	Wi-Fi 2x2 a/b/g/n Dual Band (0 to +70 degree C operation) PCIe Half Mini Card	SparkLAN	WPEA-121N	Cat 2	Wind River	No	HMC, PCIe	No**
Wi-Fi + BT	Wi-Fi & BT 4.0 Dual Band 1x1 Industrial Grade -40°C to +85°C (Zigbee capable, but not supported by ARP)	Redpine Signals	RS9113-nLink	Cat 2	Contact RPS directly for driver	Yes	HMC, USB, USB	No**
Wifi + BT	Dual Band WiFi 2X2 ac/a/b/g/n + BT 4.0 PCIe Half Minicard	Murata	TBD (Marvell 88W8897PB1- NMJ2E005)	Cat 1 ^{TBC}	Wind River	Yes	HMC, PCIe, USB	No** (HW based AP in 2015)

* Intel confidence for volume supply chain readiness, **Soft AP supported via hostapd

Connectivity – WWAN

Sub-system	Description	Vendor	Part Number	Category	OS Supported	Industrial Temp	Bus Support
WWAN	<ul style="list-style-type: none"> 3.5 G with GSM fallbacks Up to 21/5.7 Mbps DL/UL data rates GSM GPRS EDGE UMTS HSPA PCIe Full Size MC w/2FF SIM Slot GPS Available for: <ul style="list-style-type: none"> EMEA, North America, Latin America, APAC, Korea, Australia 	Telit	HE-910 PCI (XMM 6260)	Cat 1	Wind River	-20 to +55C (Full ETSI) -30 to +85C (Restrictions)	USB
WWAN	<ul style="list-style-type: none"> 2G GSM 2.5G 1xRTT 3G HSDPA/UMTS/EVDO Rev A 4G LTE Custom USB Adapter 	Eurotech	ReliaCELL 10-20	Cat 2	Wind River	-40° to +85°C	USB
WWAN	<ul style="list-style-type: none"> 3G/2G Up to 21/5.76 Mbps DL/UL data rates HSPA+ Based on Telit HE910 USB Dongle Recommended for ODM development/testing 	Multi-tech	MTD-H5	Cat 2	Wind River, with special config	No	USB
WWAN	<ul style="list-style-type: none"> EV-DO Dual-band 800/1900 Up to 31/1.8 Mbps DL/UL data rates USB Dongle Recommended for ODM development/testing 	Multi-Tech	MTD-EV3	Cat 2	Wind River	No	USB

Connectivity – 802.15.4 (Zigbee*, 6LoWPAN*), GPS

Sub-system	Description	Vendor	Part Number	Category	OS Supported	Industrial Temp	Bus Support
Zigbee	<ul style="list-style-type: none"> IEEE 802.15.4 Dual Transceivers Supports 2 mesh networks Custom SPI module for Quark platforms 	Exigen	Q58	Cat 2	Wind River	Yes	SPI
Zigbee ^{TBC}	<ul style="list-style-type: none"> USB Dongle 	Digi	Xstick ZB	Cat 2	Wind River, with special config	No	USB
6LoWPAN ^{TBC}	<ul style="list-style-type: none"> Wireless Microcontroller System-On-Chip for 2.4-GHz IEEE 802.15.4, 6LoWPAN, and ZigBee® QFN package type May also be used in conjunction with CC2592 2.4-GHz Range Extender (only 6LoWPAN capability validated by ARP) 	TI	CC2538	Cat 2	Wind River	Yes	UART, SPI, USB, I2C
GPS	Standalone GPS Module UART, USB, DDC (I2C compliant), and SPI interfaces	U-Blox	NEO-6M MAX-7Q	Cat 2	Wind River	-40° to +85°C	UART/USB/SPI

Connectivity – Serial

Sub-system	Description	Vendor	Part Number	Category	OS Supported
Serial	RS-485 Transceiver IC	Analog Devices	ADM2491EBRWZ	Cat 1	Wind River
Serial	RS-232 IC	TI	SN65C3232PW	Cat 1	Wind River

Connectivity – CAN

Sub-system	Description	Vendor	Part Number	Category	OS Supported
IO	CAN Controller	Fujitsu	MB91F526BSBPMC1	Cat 1	Wind River

Connectivity – Ethernet

Sub-system	Description	Vendor	Part Number	Category	OS Supported
LAN	<ul style="list-style-type: none">Ethernet ICs SGL Port 10/100 Mb/s Transceiver	TI	DP83848IVVX/NOPB	Cat 1	Wind River
LAN	<ul style="list-style-type: none">Fully Integrated GbE MAC/PHY10/100/100 Mb/sPCIe x 1 Connectivity	Intel	Intel i210AT	Cat 1	Wind River
LAN	<ul style="list-style-type: none">Integrated 10/100/1000 transceiverPCIe x 1 Connectivity	RealTek	RTL8111G	Cat 1	Wind River

Storage, Memory

Sub-system	Description	Vendor	Part Number	Category	Type	OS Supported	Operating Temp
Storage	eMMC 4.41 (16 Gb)	Kingston	KE4BT4B6A	Cat 2	3 rd Party	Wind River	-25°C - 85°C
Storage	eMMC 4.41 (4 Gb)	Micron	MTFC4GMVEA-4M IT	Cat 2	3 rd Party	Wind River	-40°C to +85°C
Memory	DDR3L, 256M x 8 (2 Gb)	Micron	MT41J256M8-187EM	Cat 1	iPOR	Wind River	0°C ≤ TC ≤ +95°C
Memory	DDR3L, 512Mx8 (4 Gb)	Samsung	K4B4G0846D-BYK0	Cat 2	3 rd Party	Wind River	0°C to 95°C
Memory	DDR3L, 512M x 8 (4 Gb)	Micron	MT41K512M8RH-125	Cat 2	3 rd Party	Wind River	0°C to 95°C
Memory	DDR3L, 512M x 8 (4 Gb)	Kingston	D5128EETBPGBU	Cat 2	3 rd Party	Wind River	0°C ~ +95°C
SPI	8 MB	Windband	W25Q64BVSSIG	Cat 1	iPOR	Wind River	-40°C to +85°C
SPI	8 MB	Windband	W25Q64FVSSIG	Cat 2	3 rd Party	Wind River	-40°C to +85°C

Security, IO

Sub-system	Description	Vendor	Part Number	Category	OS Supported
Security	dTPM (Trusted Platform Module)	Infineon	SLB9635	Cat 1	Wind River
Security	dTPM (Trusted Platform Module)	Micron	SLB9645TT1.2	Cat 1	Wind River
Security	dTPM (Trusted Platform Module)	Infineon	SLB9645	Cat 2	Wind River
Security	dTPM (Trusted Platform Module)	Infineon	SLB9660	Cat 2	Wind River
Super IO	IO Controller	ITE	8773FX	Cat 2	Wind River
GPIO	IO Chip, 20 GPIOs	Fintek	F75111RG	Cat 2	Wind River
ADC	12 bit ADC	TI	ADS8028IRTJ	Cat 2	Wind River
ADC	8 Channel 12 bit ADC	Analog Devices	AD 7928	Cat 1	Wind River

MI 3.0 Supported Communication Protocols

Protocol	Software Package	Hardware Required	How to install
ZigBee Pro*	Exegin SDK	DK100: Exegin Q58 SPI Module	Include '--with-layer=wr-exegin-zigbee-ia' in gateway image
Bluetooth*	BlueZ SDK	BSP supported Wi-Fi+BT Controller	Include '--with-template=feature/bluetooth' in gateway image
MQTT	Mosquito Broker (CLI)	BSP supported network connectivity	Included by default by '--enable-addons=wr-idp'
IPsec VPN	Strongswan	BSP supported network connectivity	Include "--with-template=feature/ipsec_vpn" in gateway image
L2TP VPN	OpenL2TP	BSP supported network connectivity	Include "--with-template=feature/l2tp" in gateway image
PPTP VPN	PPTP	BSP supported network connectivity	Include "--with-template=feature/pptp_vpn" in gateway image
pppoe	RP-PPPoE	BSP supported network connectivity	Included by default by '--enable-addons=wr-idp'
TCP/IP	Socket Programming (socket.h)	BSP supported network connectivity	Standard Wind River Linux Libraries
RS232/RS485	Standard Serial Programming (dev/ttyxx)	Supported RS232 or RS485 Transceiver	Standard Wind River Linux Libraries

