PRODUCT SPECIFICATION

Wi-Fi (11a/b/g/n 2Tx2R)+BT (V4.1LE) USB Combo Module

WCBN4507R(32U)

MediaTek MT7632U

Version 1.0

Change History

Revision	Date	Author	Change List
Version 1.0	2015/07/24	Ben J Chen	Preliminary

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Wi-Fi (11a/b/g/n 2Tx2R)+BT (V4.1LE) USB Combo Module

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MediaTek MT7632U

Version 1.0

Networking B.U.
Lite-on Technology Corporation
4F, No. 90, Chien 1 Rd.,
Chung Ho, New Taipei City 235, Taiwan, R.O.C.

Customer Approval: _____(Signature)

_____(Title)

_____(Company)

_____(Date)

(Please Sign Back by FAX. For Confirming the Spec Only, not an Official Agreement for OEM/ODM Business)

CONTENT

PRODUCT FEATURES

BT FEATURE:

- Bluetooth V4.1 LE system
  Backwards compatible with BT version of 1.1, 1.2, 2.0, 2.1, 3.0+HS and 4.0
- Bluetooth Class 1 transmission power
- Best-in-class BT/Wi-Fi coexistence performance
- Support for Simple Pairing (SP) and Enhanced Inquiry Response (EIR) function
- Support for SCATTERNET and up to piconets simultaneously with background inquiry/page scan
- Support wide-band speech and hardware accelerated SBC codec for A2DP streaming
- Support Wake On Bluetooth

WI-FI FEATURE:

- Operate at ISM frequency Band (2.4/5GHz)
- IEEE Standards Support, 802.11a ,802.11b, 802.11g and 802.11n
- Support for both 20 MHz/40 MHz channel width in 2.4GHz and 5GHz
- Enterprise level security supporting: WPS2.0,WAPI, WPA, WPA2
- Dual-stream IEEE 802.11n support for 40MHz channels provides PHY layer rates up to 300Mbps
- QoS support of WFA WMM, WMMPS
- Support for WI-Fi Direct
- Support Wake On WLAN

COMMON FEATURE:

- MT7632U is a single chip integrated IEEE 802.11 a/b/g/n and Bluetooth 4.1LE with a single USB interface
- PA, LNA, and T/R switch integration for Wi-Fi and Bluetooth
- Best-in-class active and idle power consumption performance
- Fully compliance with USB v2.0 specification
- Support OS: Linux based
- RoHS compliance
- Low Halogen compliance

PRODUCT SPECIFICATIONS

MAIN CHIPSET

MediaTek MT7632U

FUNCTIONAL SPECIFICATIONS

BT Function	
Standard	Bluetooth V4.1LE
Bus Interface	USB2.0
Data Rate	1 Mbps, 2Mbps and Up to 3Mbps
Modulation Scheme	GFSK, π/4-DQPSK and 8-DPSK
Frequency Range	2.402~2.480 GHz
Transmit Output Power	+4 ≤ Output Power ≤ +10dBm; Class 1 Device
Receiver Sensitivity	< 0.1% BER at -80dBm

Wi-Fi Function	
Standard	IEEE802.11a; IEEE802.11b; IEEE 802.11g; IEEE 802.11n
Bus Interface	USB2.0
Data Rate	***802.11a:*** 54, 48, 36, 24, 18, 12, 9, 6 Mbps ***802.11b:*** 11, 5.5, 2, 1 Mbps ***802.11g:*** 54, 48, 36, 24, 18, 12, 9, 6 Mbps ***802.11n:*** MCS 0 to 15 for HT20MHz MCS 0 to 15 for HT40MHz
Media Access Control	CSMA/CA with ACK
Modulation Technique	***802.11a***: 64QAM, 16QAM, QPSK, BPSK ***802.11b***: CCK, DQPSK, DBPSK ***802.11g***: 64QAM, 16QAM, QPSK, BPSK ***802.11n***: 64QAM, 16QAM, QPSK, BPSK
Network Architecture	Ad-hoc mode (Peer-to-Peer) Infrastructure mode
Operation Channel	***2.4GHz*** 11: (Ch. 1-11) – United States 13: (Ch. 1-13) – Europe 14: (Ch. 1-14) – Japan ***5GHz***

	21: USA 19: EU 8: Japan
Frequency Range	***802.11bg*** 2.400 ~ 2.4835 GHz ***802.11a/ac*** 5.15 ~ 5.85 GHz
Transmit Output Power – 2x2 (Tolerance: ±1.5dBm)	***802.11a:*** 13 dBm@6Mbps 13 dBm@54Mbps ***802.11b:*** 15 dBm@1Mbps 15 dBm@11Mbps ***802.11g:*** 14 dBm@6Mbps 14 dBm@54Mbps ***802.11n(2.4G):*** **20MHz:** 14 dBm@MCS0 14 dBm@MCS7 **40MHz:** 12 dBm@MCS0 12 dBm@MCS7 ***802.11n(5G):*** **20MHz:** 13 dBm@MCS0 13 dBm@MCS7 **40MHz:** 11 dBm@MCS0 11 dBm@MCS7
Receiver Sensitivity	***802.11a:*** -86 dBm@6Mbps -70 dBm@54Mbps ***802.11b:*** -88 dBm@1Mbps -82 dBm@11Mbps ***802.11g:*** -86 dBm@6Mbps -71 dBm@54Mbps ***802.11n:*** ***2.4G/5G*** **20MHz** -86 dBm@MCS0 -70 dBm@MCS7 -68 dBm@MCS15 **40MHz** -83 dBm@MCS0 -67 dBm@MCS7 -65 dBm@MCS15
Security	WPS, WPA, WPA2, WEP 64bit & 128bit, IEEE 802.1X, IEEE 802.11i

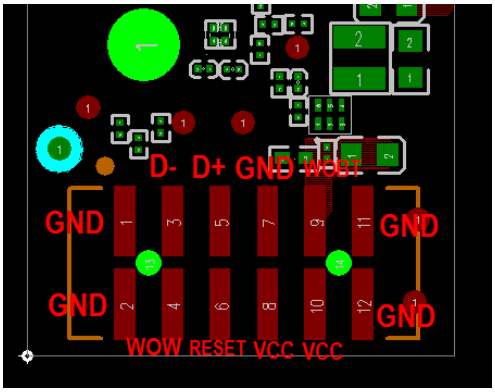
Common Function	
Operating Voltage	5 V ±5% I/O supply voltage

OS Supported	Linux Based				
Power Consumption	***Mode***	***Average***		***Peak***	
		2.4G	***5G***	***2.4G***	***5G***
	TX				
	RX				
	Idle				
	Standby				
Antenna Type	Triple U.FL connectors for plugging WiFi&BT external antenna				

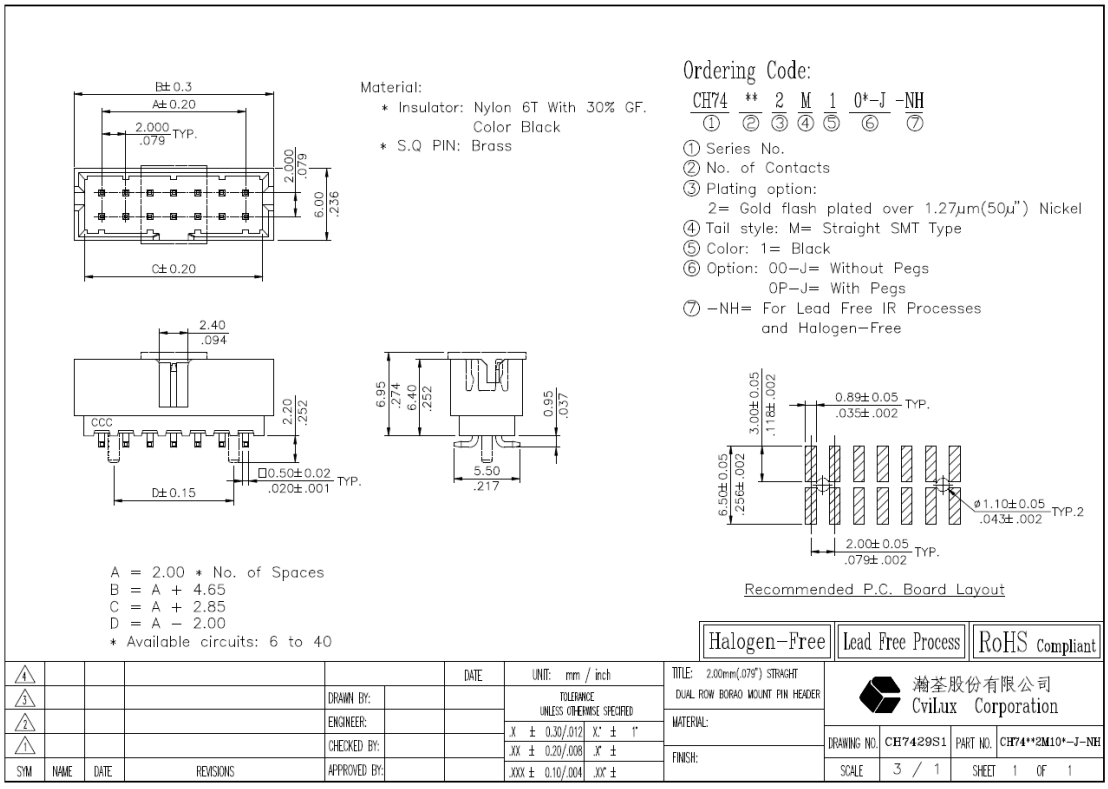
PIN ASSIGMENT

Pin.	Pin Define	Pin.	Pin Define
1	GND	2	GND
3	D-	4	WOW
5	D+	6	RESET#
7	GND	8	VCC
9	WOB	10	VCC
11	GND	12	GND

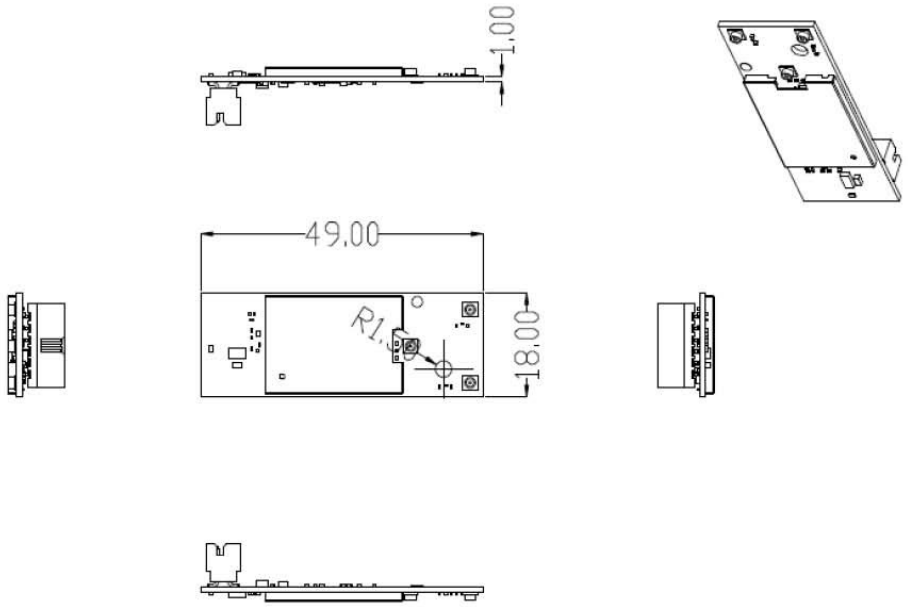
Top View



USB CONNECTOR SPEC



MECHANICAL



Tolerance:

DIM \ DEG	A	B	C	D	ANGLE	
0-5	±0.05	±0.05	±0.10		0°~30°	±0.1°
5-10	±0.05	±0.10	±0.15		31°~60°	±0.3°
10-50	±0.10	±0.15	±0.20		61°~90°	±0.5°
50-100	±0.15	±0.20	±0.25			
100-	±0.15%	±0.20%	±0.25%			

Unit:mm

PCB UL CERTIFICATE

Manufacturer: APCB

ONLINE CERTIFICATIONS DIRECTORY

ZPMV2.E85792
Wiring, Printed - Component

Enhanced searching capability for this category can be found in UL's iQ Family of Databases (iq.ul.com).

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Wiring, Printed - Component

See General Information for Wiring, Printed - Component

APCB INC
6 LANE 84 CHUN YING ST
SHU LIN
NEW TAIPEI, 238 TAIWAN

E85792

	Cond Width				Max			Max			
		Min	Cond	SS/	Area	Solder		Oper		Meets	C
	Min	Edge	Thk	DS/	Diam	Limits		Temp	Flame	UL796	T
Type	mm(in)	mm(in)	mic(mil)	DSO	mm(in)	C	sec	C	Class	DSR	I
Multilayer metal base printed wiring boards, flammability only Recognition.											
33B	-	-	-	SS	-	288	10	-	V-0	-	-
Multilayer printed wiring boards.											
77	0.06 (0.002)	0.06 (0.002)	17 (0.67) Int:34	DS	76.2 (3.0)	288	20	130	V-0	All	-
77-1	0.10 (0.004)	0.10 (0.004)	17 (0.67) Int:34	DS	76.2 (3.0)	288	20	130	V-0	All	-
77A	0.06 (0.002)	0.07 (0.003)	17 (0.67) Int:34	DS	76.2 (3.0)	288	20	130	V-0	All	-
77B	0.07 (0.003)	0.07 (0.003)	17 (0.67) Int:68	DS	76.2 (3.0)	288	20	130	V-0	All	-
99	0.1 (0.004)	0.2 (0.008)	17.3 (0.68)	DS	76.2 (3.0)	260	10	105	V-0	All	-
Multilayer printed wiring boards, flammability only Recognition.											
77C	-	-	-	DS	-	288	20	-	V-0	-	-
Single layer metal base printed wiring boards.											
33A-1	(1) (0.0000)	(1) (0.0000)	17 (0.67)	SS	76.2 (3.0)	300	60	110	V-0	All	0
Single layer metal base printed wiring boards, flammability only Recognition.											
33A	-	-	-	SS	-	288	10	-	V-0	-	-
AC-89	-	-	-	SS	-	288	30	-	V-0	-	-
AP2	-	-	-	SS	-	300	60	-	V-0	-	-
AP4	-	-	-	SS	-	300	60	-	V-0	-	-
AP8	-	-	-	SS	-	300	60	-	V-0	-	-
Single layer printed wiring boards.											
66	0.1 (0.004)	0.17 (0.007)	17 (0.67)	DS	76.2 (3.0)	274	15	130	V-0	All	-
66-1	0.10 (0.004)	0.17 (0.007)	17 (0.67)	DS	76.2 (3.0)	274	15	130	V-0	All	*
66A	0.1 (0.004)	0.18 (0.007)	17 (0.67)	DS	25.4 (1.0)	274	15	105	V-0	All	-
66B	0.1 (0.004)	0.17 (0.007)	17 (0.67)	DS	25.4 (1.0)	274	15	130	V-0	All	-
66C	0.1 (0.004)	0.1 (0.004)	34.3 (1.35)	SS	25.4 (1.0)	260	15	130	V-0	All	-
66D	0.06 (0.002)	0.07 (0.003)	17 (0.67)	DS	76.2 (3.0)	288	20	130	V-0	All	-
66E	0.07 (0.003)	0.07 (0.003)	17 (0.67)	DS	76.2 (3.0)	288	20	130	V-0	All	-
88	0.1 (0.004)	0.18 (0.007)	17.3 (0.68)	DS	25.4 (1.0)	260	10	105	V-0	All	-
CKV-0	0.18 (0.007)	0.18 (0.007)	33 (1.30)	DS	25.4 (1.0)	270	10	130	V-0	All	-
D-1	0.1 (0.004)	0.17 (0.007)	17 (0.67)	DS	25.4 (1.0)	274	15	130	V-0	All	-
Single layer printed wiring boards, flammability only Recognition.											

30	-	-	-	DS	-	274	15	-	V-0	-	-
66F	-	-	-	DS	-	288	20	-	V-0	-	-

(1) - Conductor/Edge Conductor Width: 0.06 mm/0.18 mm (Cu thickness = 17~102 mics); 0.21 mm/0.21 mm (Cu thickness = 102~136 mics)

* - CTI PLC is marked on individual board.

Marking: Company name or tradename "CK" or file number and type designation. May be followed by a suffix to denote factory identification or burning test classification.

Last Updated on 2012-03-13

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ONLINE CERTIFICATIONS DIRECTORY

ZPMV2.E198991
Wiring, Printed - Component

Enhanced searching capability for this category can be found in UL's iQ Family of Databases (iq.ul.com).

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Wiring, Printed - Component

See General Information for Wiring, Printed - Component

BROAD TECHNOLOGY INC E198991
18 BAOYING AVE
GUANGZHOU FREE TRADE ZONE
GUANGZHOU, GUANGDONG 510730 CHINA

	Cond Width				Max			Max			
		Min	Cond	SS/	Area	Solder		Oper		Meets	C
	Min	Edge	Thk	DS/	Diam	Limits		Temp	Flame	UL796	T
Type	mm(in)	mm(in)	mic(mil)	DSO	mm(in)	C	sec	C	Class	DSR	I
Multilayer printed wiring boards.											
ML-1	0.1 (0.004)	0.22 (0.009)	17 (0.67) Int: 34	DS	76.2 (3.0)	260	10	130	V-0	All	-
ML-2	0.075 (0.003)	0.075 (0.003)	17 (0.67) Int: 68	DS	76.2 (3.0)	288	30	130	V-0	All	-
ML-3	0.07 (0.003)	0.10 (0.004)	15 (0.59) Int: 34	DS	50.8 (2.0)	288	30	130	V-0	All	-
Single layer metal base printed wiring boards.											
SS-2	0.095 (0.004)	0.100 (0.004)	17 (0.67)	SS	76.2 (3.0)	288	10	50	V-0	All	-
SS-3	0.075 (0.003)	0.100 (0.004)	17 (0.67)	SS	76.2 (3.0)	288	10	50	V-0	All	-
Single layer printed wiring boards.											
DS-1	0.1 (0.004)	0.22 (0.009)	17 (0.67)	DS	76.2 (3.0)	260	10	130	V-0	All	-
DS-2	0.075 (0.003)	0.075 (0.003)	17 (0.67)	DS	76.2 (3.0)	288	30	130	V-0	All	-
SS-1	0.1 (0.004)	0.22 (0.009)	17 (0.67)	SS	76.2 (3.0)	260	10	130	V-0	All	-

Marking: Company name or tradename "BTI" or file number and type designation. May be followed by a suffix to denote factory identification or burning test classification.

Last Updated on 2011-09-30

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ONLINE CERTIFICATIONS DIRECTORY

ZPMV2.E187565
Wiring, Printed - Component

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Wiring, Printed - Component

See General Information for Wiring, Printed - Component

TRIPOD TECHNOLOGY CO LTD E187565
21 INDUSTRIAL 5TH RD
PING-CHENG INDUSTRIAL ZONE
PING-CHENG, TAOYUAN HSIEN 324 TAIWAN

	Cond Width				Max			Max			
		Min	Cond	SS/	Area	Solder		Oper		Meets	C
	Min	Edge	Thk	DS/	Diam	Limits		Temp	Flame	UL796	T
Type	mm(in)	mm(in)	mic(mil)	DSO	mm(in)	C	sec	C	Class	DSR	I
Multilayer printed wiring boards.											
2	0.03 (0.001)	0.03 (0.001)	17 (0.67) Int:102	DS	25.4 (1.0)	260	20	130	V-0	All	-
2-10	0.04 (0.002)	0.04 (0.002)	12 (0.47) Int:68	DS	50.8 (2.0)	288	20	130	V-0	All	*
2-3	0.04 (0.002)	0.04 (0.002)	11 (0.43) Int:35	DS	25.4 (1.0)	288	20	120	V-0	All	-
2-4	0.04 (0.002)	0.04 (0.002)	11 (0.43) Int:35	DS	25.4 (1.0)	288	20	120	V-0	All	-
2-5	0.04 (0.002)	0.04 (0.002)	11 (0.43) Int:35	DS	25.4 (1.0)	288	20	105	V-0	All	-
2-6	0.05 (0.002)	0.18 (0.007)	17 (0.67) Int:17	DS	25.4 (1.0)	260	20	120	V-0	All	-
2-7	0.03 (0.001)	0.03 (0.001)	17 (0.67) Int:70	DS	25.4 (1.0)	260	20	120	V-0	All	-
2-8	0.06 (0.002)	0.06 (0.002)	11 (0.43) Int:17	DS	25.4 (1.0)	288	20	120	V-0	All	-
2-9	0.04 (0.002)	0.04 (0.002)	12 (0.47) Int:70	DS	50.8 (2.0)	288	20	130	V-0	All	*
2A	0.04 (0.002)	0.04 (0.002)	17 (0.67) Int:70	DS	25.4 (1.0)	260	20	130	V-0	All	*
2B	0.03 (0.001)	0.03 (0.001)	17 (0.67) Int:70	DS	25.4 (1.0)	260	20	130	V-0	All	-
2C	0.06 (0.002)	0.06 (0.002)	17 (0.67) Int:70	DS	25.4 (1.0)	288	20	130	V-0	All	*
2D	0.06 (0.002)	0.18 (0.007)	16 (0.63) Int:68	DS	25.4 (1.0)	288	20	130	V-0	All	*
2E	0.25 (0.010)	0.75 (0.030)	12 (0.47) Int:102	DS	25.4 (1.0)	288	20	130	V-0	All	3
2G	0.06 (0.002)	0.06 (0.002)	17 (0.67) Int:68	DS	25.4 (1.0)	288	20	130	V-0	All	4
2K	0.04 (0.002)	0.04 (0.002)	12 (0.47) Int:70	DS	76.2 (3.0)	288	20	130	V-0	All	3
2N	0.04 (0.002)	0.12 (0.005)	12 (0.47) Int:70	DS	50.8 (2.0)	288	20	130	V-0	All	-
2P	0.04 (0.002)	0.04 (0.002)	11 (0.43) Int:68	DS	50.8 (2.0)	288	30	90	V-0	All	-
2S	0.04 (0.002)	0.04 (0.002)	12 (0.47) Int:70	DS	50.8 (2.0)	288	20	130	V-0	All	-
2U	0.04 (0.002)	0.04 (0.002)	9 (0.35) Int:170	DS	50.8 (2.0)	288	20	130	V-0	All	*
3	0.05 (0.002)	0.05 (0.002)	17 (0.67) Int:70	DS	25.4 (1.0)	260	20	120	V-0	All	3
3A	0.05 (0.002)	0.05 (0.002)	17 (0.67) Int:70	DS	25.4 (1.0)	260	20	105	V-0	All	2
5	0.04 (0.002)	0.04 (0.002)	12 (0.47) Int:34	DS	25.4 (1.0)	260	20	105	V-0	All	*
5-1	0.04 (0.002)	0.05 (0.002)	12 (0.47) Int:35	DS	25.4 (1.0)	288	30	100	V-0	All	-
5-2	0.04 (0.002)	0.04 (0.002)	17 (0.67) Int:102	DS	25.4 (1.0)	260	20	130	V-0	▲	-
5-3	0.04 (0.002)	0.04 (0.002)	11 (0.43) Int:35	DS	25.4 (1.0)	288	20	120	V-0	All	-
5B	0.04 (0.002)	0.04 (0.002)	12 (0.47) Int:68	DS	25.4 (1.0)	260	20	105	V-0	All	3
7-1	0.04 (0.002)	0.04 (0.002)	17 (0.67) Int:102	DS	25.4 (1.0)	260	20	130	V-0	All	4
7-2	0.03 (0.001)	0.03 (0.001)	17 (0.67) Int:70	DS	25.4 (1.0)	260	20	105	V-0	All	-

7-3	0.04 (0.002)	0.04 (0.002)	11 (0.43) Int:35	DS	25.4 (1.0)	288	20	105	V-0	All	-
7-4	0.04 (0.002)	0.04 (0.002)	17 (0.67) Int:102	DS	25.4 (1.0)	260	20	130	V-0	All	-
8	0.07 (0.003)	0.06 (0.002)	17 (0.67) Int:68	DS	25.4 (1.0)	300	30	140	V-0	All	-
A	0.04 (0.002)	0.04 (0.002)	17 (0.67) Int:102	DS	25.4 (1.0)	260	20	110	V-0	All	*
M-2	0.04 (0.002)	0.04 (0.002)	11.3 (0.44) Int:34	DS	50.8 (2.0)	288	20	130	V-0	All	4
M-3	0.04 (0.002)	0.04 (0.002)	12 (0.47) Int:70	DS	50.8 (2.0)	288	20	130	V-0	All	3
M-4	0.04 (0.002)	0.04 (0.002)	12 (0.47) Int:70	DS	50.8 (2.0)	288	20	130	V-0	All	3
M-7	0.04 (0.002)	0.04 (0.002)	17 (0.67) Int:70	DS	50.8 (2.0)	288	20	130	V-0	All	3
M-8	0.04 (0.002)	0.04 (0.002)	11 (0.43) Int:68	DS	50.8 (2.0)	288	20	105	V-1	All	1
M-9	0.04 (0.002)	0.04 (0.002)	12 (0.47) Int:70	DS	50.8 (2.0)	288	20	130	V-0	All	3
Multilayer printed wiring boards, employing HDI (High Density Interconnect) insulation, flammability only Recognition..											
3-3	-	-	-	DS	-	260	30	-	V-0	-	-
3-4	-	-	-	DS	-	260	30	-	V-0	-	-
3-5	-	-	-	DS	-	260	20	-	V-1	-	-
3-6	-	-	-	DS	-	260	20	-	V-1	-	-
3-7	-	-	-	DS	-	260	20	-	V-0	-	-
3-9	-	-	-	DS	-	260	20	-	V-0	-	-
R-1	-	-	-	DS	-	260	20	-	V-0	-	-
R-2	-	-	-	DS	-	288	20	-	V-0	-	-
R-3	-	-	-	DS	-	288	20	-	V-0	-	-
R-4	-	-	-	DS	-	288	20	-	V-0	-	-
R-5	-	-	-	DS	-	288	20	-	V-0	-	-
Multilayer printed wiring boards, employing HDI (High Density Interconnect) insulation..											
3-1	0.04 (0.002)	0.04 (0.002)	12 (0.47) Int:68	DS	25.4 (1.0)	260	20	105	V-0	All	-
3-2	0.04 (0.002)	0.04 (0.002)	12 (0.47) Int:68	DS	25.4 (1.0)	260	20	105	V-0	All	-
Multilayer printed wiring boards, flammability only Recognition.											
2T	-	-	-	DS	-	288	40	-	V-0	-	-
M-1	-	-	-	DS	-	288	20	-	V-0	-	-
Single layer metal base printed wiring boards.											
L1	0.04 (0.002)	0.04 (0.002)	17 (0.67)	SS	50.8 (2.0)	260	20	110	V-0	All	0
L2	0.04 (0.002)	0.04 (0.002)	17 (0.67)	SS	50.8 (2.0)	260	20	90	V-0	-	1
L3	0.04 (0.002)	0.04 (0.002)	17 (0.67)	SS	50.8 (2.0)	260	20	110	V-0	-	2
L4	0.04 (0.002)	0.04 (0.002)	17 (0.67)	SS	50.8 (2.0)	260	20	115	V-0	All	0
L5	0.04 (0.002)	0.12 (0.005)	17 (0.67)	SS	50.8 (2.0)	260	20	130	V-0	All	0
L7	0.04 (0.002)	0.04 (0.002)	17 (0.67)	SS	50.8 (2.0)	260	20	50	V-0	All	0
L8	0.04 (0.002)	0.04 (0.002)	17 (0.67)	SS	50.8 (2.0)	260	20	50	V-0	All	0
L9	0.05 (0.002)	0.06 (0.002)	30 (1.18)	SS	50.8 (2.0)	260	20	50	V-0	All	0
Single layer printed wiring boards.											
1	0.04 (0.002)	0.04 (0.002)	17 (0.67)	DS	25.4 (1.0)	260	20	130	V-0	All	-
1-1	0.06 (0.002)	0.06 (0.002)	11 (0.43)	DS	25.4 (1.0)	288	20	120	V-0	All	-
1-2	0.06 (0.002)	0.06 (0.002)	11 (0.43)	DS	25.4 (1.0)	288	20	120	V-0	All	-
1-3	0.06 (0.002)	0.06 (0.002)	11 (0.43)	DS	25.4 (1.0)	288	20	120	V-0	All	-
1-5	0.04 (0.002)	0.04 (0.002)	11 (0.43)	DS	50.8 (2.0)	260	20	105	V-0	All	-
1-9	0.04 (0.002)	0.04 (0.002)	12 (0.47)	DS	50.8 (2.0)	288	20	130	V-0	All	*
1A	0.04 (0.002)	0.04 (0.002)	12 (0.47)	DS	25.4 (1.0)	260	20	120	V-0	All	3
1B	0.06 (0.002)	0.06 (0.002)	17 (0.67)	DS	25.4 (1.0)	288	20	130	V-0	All	*

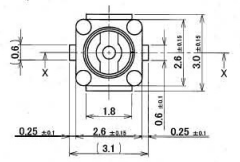
	0.04 (0.002)	0.04 (0.002)	12 (0.47)	DS	25.4 (1.0)	260	20	105	V-0	All	*
1D	0.06 (0.002)	0.06 (0.002)	9 (0.35)	DS	25.4 (1.0)	288	20	120	V-0	All	3
1E	0.06 (0.002)	0.18 (0.007)	16 (0.63)	DS	25.4 (1.0)	288	20	130	V-0	All	*
1H	0.25 (0.010)	0.75 (0.030)	12 (0.47)	DS	25.4 (1.0)	288	20	130	V-0	All	3
1L	0.25 (0.010)	0.28 (0.011)	102 (4.02)	DS	25.4 (1.0)	288	20	130	V-0	All	3
1N	0.04 (0.002)	0.12 (0.005)	12 (0.47)	DS	50.8 (2.0)	288	20	130	V-0	All	-
1P	0.04 (0.002)	0.04 (0.002)	11 (0.43)	DS	50.8 (2.0)	288	30	90	V-0	All	-
1S	0.04 (0.002)	0.04 (0.002)	12 (0.47)	DS	50.8 (2.0)	288	20	130	V-0	All	-
1U	0.04 (0.002)	0.04 (0.002)	9 (0.35)	DS	50.8 (2.0)	288	20	130	V-0	All	*
4	0.03 (0.001)	0.1 (0.004)	35.1 (1.38)	DS	25.4 (1.0)	260	20	105	V-1	-	-
4-1	0.06 (0.002)	0.06 (0.002)	11 (0.43)	DS	25.4 (1.0)	288	30	120	V-0	All	-
6	0.05 (0.002)	0.18 (0.007)	35.1 (1.38)	DS	25.4 (1.0)	260	20	50	V-0	-	-
D-2	0.04 (0.002)	0.04 (0.002)	11 (0.43)	DS	50.8 (2.0)	288	20	125	V-0	All	*
D-3	0.04 (0.002)	0.04 (0.002)	12 (0.47)	DS	50.8 (2.0)	288	20	130	V-0	All	3
D-4	0.04 (0.002)	0.04 (0.002)	12 (0.47)	DS	50.8 (2.0)	288	20	130	V-0	All	0
D-5	0.04 (0.002)	0.04 (0.002)	17 (0.67)	DS	50.8 (2.0)	288	20	130	V-0	All	0
Single layer printed wiring boards, flammability only Recognition.											
1T	-	-	-	DS	-	288	40	-	V-0	-	-
1V	-	-	-	DS	-	288	30	-	V-0	-	-
D-1	-	-	-	DS	-	288	20	-	V-0	-	-

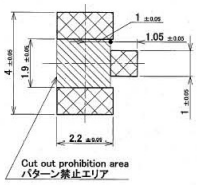
* - CTI PLC value is marked on each individual board.

Marking: Company name or tradename "E187565" or trademark  or file number and type designation. May be followed by a suffix to denote factory identification or burning test classification.
Last Updated on 2014-04-28

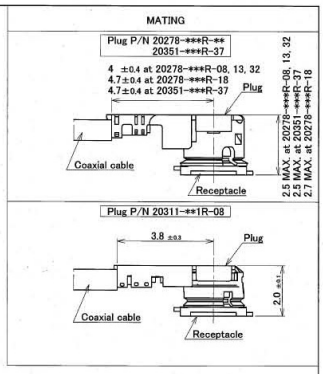
U.FL CONNECTOR SPEC

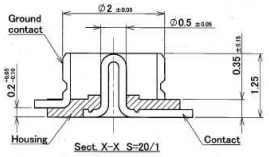
PART NO.	Packing reel	QTY
20279-001E-01	Corrugated paper reel	2500
20279-001E-02	Plastic reel	2500
20279-001E-03	Plastic reel	5000





RECOMMENDED FOOTPRINT PATTERN





Notes.

1. Material
(1) Housing : LCP, UL94V-0, white
(2) Contact : brass
Au 0.1 μm MIN. over Ni 1.27 μm MIN.
(3) Ground Contact : phosphor bronze
Au 0.05 μm MIN. over Ni 1.27 μm MIN.
2. Coplanarity : 0.1mm MAX.
3. Packing : emboss tape
4. Mating partner Part No. :
20278-***R-**
20311-**1R-08
5. This is "Pb-free" connector.
6. RoHS compliant.

Notes.

1. 材料
(1) ハウジング : LCP, UL94V-0, 白色
(2) コンタクト : 黄銅
金メッキ 0.1 μm MIN. 下地 ニッケルメッキ 1.27 μm MIN.
(3) グランドコンタクト : りん青銅
金メッキ 0.05 μm MIN. 下地 ニッケルメッキ 1.27 μm MIN.
2. コプラナリティ : 0.1mm MAX.
3. 梱包 : エンボステープ
4. 嵌合相手 Part No. :
20278-***R-**
20311-**1R-08
5. 本コネクタは"Pb-free"である
6. RoHS指令を満足している

GENERAL TOLERANCE	
6 MAX.	±0.2
6 OVER MAX. 30	±0.3
30 OVER MAX. 120	±0.5
ANGLE	±2°

REV	ECN	BY	DATE	APP	REV.RECORD
10	改訂	T.H	Sep./30/'04	K.O	4
9	Z09317	H.M	Jul./01/'09	E.K	3
8	Z07672	D.J	Feb./29/'08	E.K	2
7	Z05283	K.O	Jun./20/'05	E.K	1
6	Z04457	K.O	Dec./20/'04	E.K	0
5	Z04412	K.O	Nov./24/'04	E.K	SERIES No.

4	Z04337	K.O	Sep./30/'04	T.H
3	Z2134	K.O	Jun./11/'02	K.K
2	Z2052	A.H	Mar./07/'02	K.K
1	Z1197	K.O	Aug./27/'01	K.K
0	Z1103	K.O	Jun./07/'01	

DESIGNED BY	DATE
K.Ohbayashi	Jun./07/'01
CH'D BY	DATE
E.Kawabe	Jun./07/'01
APP'D BY	DATE
K.Katabuchi	Jun./07/'01

CUSTOMER COPY

PROJECTION

I-PEX Advanced Packaging Electronics TOKYO,JAPAN

TITLE: MHF series micro coaxial connector receptacle vertical

SCALE	UNIT	DWG. No.	SHEET	REV.
10:1	mm	20279	1/1	10

EEPROM INFORMATION

BT

Vendor ID	0x0E8D
Product ID	0x7632

WI-FI

Reg Domain	World Wide **2.4G/5G** Read from registry; Control by driver
	Offset 0x38 for 5G: 0xFF Offset 0x39 for 2.4G: 0xFF
Vendor ID	0x0E8D
Device ID	0x7632

ENVIRONMENTAL

OPERATING

Operating Temperature: 0 to 70 °C (32 to 158 °F)

Relative Humidity: 5-90% (non-condensing)

STORAGE

Temperature: -40 to 80 °C (-40 to 176 °F)

Relative Humidity: 5-95% (non-condensing)

FCC WARING STATEMENT

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

You are cautioned that changes or modifications not expressly approved by the party responsible for compliance could void your authority to operate the equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC RF Radiation Exposure Statement:

1. This Transmitter must not be co - located or operating in conjunction with any other antenna or transmitter.
2. This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and your body.

According to FCC 15.407(e), the device is intended to operate in the frequency band of 5.15GHz to 5.25GHz under all conditions of normal operation. Normal operation of this device is restricted to indoor used only to reduce any potential for harmful interference to co‐channel MSS operations.

Information to OEM integrator

The OEM integrator has to be aware not to provide information to the end user regarding how to install or remove this RF module in the user manual of the end product. The user manual which is provided by OEM integrators for end users must include the following information in a prominent location.

1. To comply with FCC RF exposure compliance requirements, the antenna used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co- located or operating in conjunction with any other antenna or transmitter, except in accordance with FCC multi‐transmitter product transmitter product procedures.
2. Only those antennas with same type and lesser gain filed under this FCC ID number can be used with this device.
3. The regulatory label on the final system must include the statement: “Contains FCC ID: PPQ-WCBN4507R“.
4. The final system integrator must ensure there is no instruction provided in the user manual or customer documentation indicating how to install or remove the transmitter module except such device has implemented two‐ways authentication between module and the host system.
5. If the end product integrating this module is going to be operated in 5.15 ~5.25GHz frequency range, the warning statement in the user manual of the end product should include the restriction of operating this device in indoor could void the user’s authority to operate the equipment.

IC WARING STATEMENT

Canada, Industry Canada (IC) Notices
This Class B digital apparatus complies with Canadian ICES-003 and RSS-247.
Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Canada, avis d'Industry Canada (IC)
Cet appareil numerique de classe B est conforme aux normes canadiennes ICES-003 et RSS-247.
IC Son fonctionnement est soumis aux deux conditions suivantes : (1) cet appareil ne doit pas causer d'interference et (2) cet appareil doit accepter toute interference, notamment les interferences qui peuvent affecter son fonctionnement.

Radio Frequency (RF) Exposure Information
The radiated output power of the Wireless Device is below the Industry Canada (IC) radio frequency exposure limits. The Wireless Device should be used in such a manner such that the potential for human contact during normal operation is minimized.

This device has also been evaluated and shown compliant with the IC RF Exposure limits under mobile exposure conditions. (antennas are greater than 20cm from a person's body).

Informations concernant l'exposition aux frequences radio (RF)
La puissance de sortie emise par l’appareil de sans fil est inferieure a la limite d'exposition aux frequences radio d'Industry Canada (IC).
Utilisez l’appareil de sans fil de facon a minimiser les contacts humains lors du fonctionnement normal.

Ce peripherique a egalement ete evalue et demontre conforme aux limites d'exposition aux RF d'IC dans des conditions d'exposition a des appareils mobiles (les antennes se situent a moins de 20 cm du corps d'une personne).

Host device labeling requirement in accordance with RSP-100 Section 7.2:
The host device shall be properly labeled to identify the modules within the host device.
The Industry Canada certification label of a module shall be clearly visible at all times when installed in the host device; otherwise, the host device must be labeled to display the Industry Canada certification number for the module, preceded by the words "Contains transmitter module", or the word "Contains", or similar wording expressing the same meaning, as follows:
Contains transmitter module IC: 4491A-WCBN4507R
where 4491A-WCBN4507R is the module’s certification number

IC WARING STATEMENT

i. the device for operation in the band 5150-5250 MHz is only for indoor use to reduce the potential for harmful interference to co-channel mobile satellite systems;

ii. for devices with detachable antenna(s), the maximum antenna gain permitted for devices in the bands 5250-5350 MHz and 5470-5725 MHz shall be such that the equipment still complies with the e.i.r.p. limit;

iii. for devices with detachable antenna(s), the maximum antenna gain permitted for devices in the band 5725-5850 MHz shall be such that the equipment still complies with the e.i.r.p. limits specified for point-to-point and non-point-to-point operation as appropriate; and
iv.the worst-case tilt angle(s) necessary to remain compliant with the e.i.r.p. elevation mask requirement set forth in Section 6.2.2(3) shall be clearly indicated.

High power radars are allocated as primary users (meaning they have priority) of
5250-5350 MHz and 5650-5850 MHz bands and these radars could cause interference
and/or damage to LE-LAN (Licence-Exempt Local Area Network) devices.