OEM/Integrators Installation Manual

Important Notice to OEM integrators

1. This module is limited to OEM installation ONLY.
2. This module is limited to installation in mobile or fixed applications, according to Part 2.1091(b).
3. The separate approval is required for all other operating configurations, including portable configurations with respect to Part 2.1093 and different antenna configurations
4. For FCC Part 15.31 (h) and (k): The host manufacturer is responsible for additional testing to verify compliance as a composite system. When testing the host device for compliance with Part 15 Subpart B, the host manufacturer is required to show compliance with Part 15 Subpart B while the transmitter module(s) are installed and operating. The modules should be transmitting and the evaluation should confirm that the module's intentional emissions are compliant (i.e. fundamental and out of band emissions). The host manufacturer must verify that there are no additional unintentional emissions other than what is permitted in Part 15 Subpart B or emissions are complaint with the transmitter(s) rule(s).

End Product Labeling

When the module is installed in the host device, the FCC/IC ID label must be visible through a window on the final device or it must be visible when an access panel, door or cover is easily re-moved. If not, a second label must be placed on the outside of the final device that contains the following text: “Contains FCC ID: TYM-J100”
“Contains IC: 3794C-J100 “
The FCC ID/IC ID can be used only when all FCC/IC compliance requirements are met.

Antenna Installation

(1) The antenna must be installed such that 20 cm is maintained between the antenna and users,
(2) The transmitter module may not be co-located with any other transmitter or antenna.
(3) Only antennas of the same type and with equal or less gains as shown below may be used with this module. Other types of antennas and/or higher gain antennas may require additional authorization for operation.

Antenna type	2.4GHz band Peak Gain (dBi)	5.2GHz band Peak Gain (dBi)	5.8GHz band Peak Gain (dBi)
Chip antenna	2.1	2.4	2.4

In the event that these conditions cannot be met (for example certain laptop configurations or co-location with another transmitter), then the FCC/IC authorization is no longer considered valid and the FCC ID/IC ID cannot be used on the final product. In these circumstances, the OEM integrator will be responsible for re-evaluating the end product (including the transmitter) and obtaining a separate FCC/IC authorization.

Manual Information to the End User

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's manual of the end product which integrates this module. The end user manual shall include all required regulatory information/warning as show in this manual.

The device could automatically discontinue transmission in case of absence of information to transmit, or operational failure. Note that this is not intended to prohibit transmission of control or signaling information or the use of repetitive codes where required by the technology.

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;

L'appareil peut interrompre automatiquement la transmission en cas d'absence d'informations à transmettre ou de panne opérationnelle. Notez que ceci n'est pas destiné à interdire la transmission d'informations de contrôle ou de signalisation ou l'utilisation de codes répétitifs lorsque cela est requis par la technologie.

Le dispositif utilisé dans la bande 5150-5250 MHz est réservé à une utilisation en intérieur afin de réduire le risque de brouillage préjudiciable aux systèmes mobiles par satellite dans le même canal;

Radiation Exposure Statement

This equipment complies with FCC/IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20 cm between the radiator & your body.

AVAYA
J100 Wireless Module

Wireless LAN + Bluetooth® Module

(IEEE802.11ac (1x1)+ Bluetooth® 4.1)

AVAYA
J100 Wireless Module

Document constituent list

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AVAYA
J100 Wireless Module

Control No.		Control name
HD-AG-A140346	(1/1)	General Items

1. Product Number: J100
2. Function: Radio frequency transfer Module.(***IEEE802.11ac/a/b/g/n*** and ***Bluetooth®4.1*** standard

3. Application: Smart Phones and Tablets, Ultrabooks, Home audio/Video systems, Mobile routers, Handy Terminal, Game, Audio-visual equipment, Digital home electrical appliance, Mobile printer.
4. This product conforms to RoHS Directive .

6. Marking: Part number and Lot number.
7. Features:
   -***IEEE802.11ac/a/b/g/n*** and ***Bluetooth®4.1*** standard
   -Interface: SDIO3.0, HS-UART, PCM, UICC/SE, GPIO
   -Embedded MPU for reducing loads on host processor
   -Built-in EEPROM (MAC address)
8. Security: TKIP, WEP, AES, CCMP, CMAC, WAPI, WPA/WPA2(64bit/128bit)
9. Packing: Packaging method: Reel
   Packaging unit: TBD/Reel
   TBD/Box

Control No.		Control name
HD-AM-A140346	(1/1)	Absolute maximum ratings

Absolute maximum ratings

Item	Symbol	Rating			Unit	Remark
		Min.	Typ.	Max.		
Supply voltage 1	VBAT	-	3.3	5.0	V	
Supply voltage 2	VDD33	-	3.3	4.0	V	
Supply voltage 4	VIO	-	1.8	2.2	V	
		-	2.5	3.0	V	
		-	3.3	4.0	V	
Supply voltage 5	VIO_SD	-	1.8	2.2	V	
		-	3.3	4.0	V	
Supply voltage 6	VIO_RF	-	1.8	2.2	V	
		-	3.3	4.0	V	

Recommendation operating range

Item	Symbol	Rating			Unit	Remark
		Min.	Typ.	Max.		
Supply voltage 1	VBAT	2.7	3.3	5.0	V	
Supply voltage 2	VDD33	3.0	3.3	3.6	V	
Supply voltage 4	VIO	1.62	1.8	1.98	V	
		2.25	2.5	2.75	V	
		3.0	3.3	3.6	V	
Supply voltage 5	VIO_SD	1.62	1.8	1.98	V	
		3.0	3.3	3.6	V	
Supply voltage 6	VIO_RF	1.62	1.8	1.98	V	
		3.0	3.3	3.6	V	
Operation temperature range	Taopr	-30	25	85	Degrees C	
Storage temperature range	Tstg	-40		85	Degrees C	

Control No.	Control name
HD-AM-A140346 (1/2)	Electrical characteristics

Power consumption

The Specification applies for Topr.= 25 degrees C, Supply voltage=Typical voltage

No.	Parameter	Condition	Symbol	Min.	Typ.	Max.	Unit	Remark
1	Power consumption1	Tx: 15dBm 11b, 11Mbps	Pc1		505		mW	Duty=46.8%
2	Power consumption2	Rx 11b, 11Mbps	Pc2		198		mW	
3	Power consumption3	Tx: 12dBm 11g, 54Mbps	Pc3		297		mW	Duty=25.4%
4	Power consumption4	Rx 11g, 54Mbps	Pc4		211		mW	
5	Power consumption5	Tx: 12dBm, 40MHz BW 11n, MCS7, 2.4GHz	Pc5		211		mW	Duty=2.2%
6	Power consumption6	Rx, 40MHz BW 11n, MCS7, 2.4GHz	Pc6		244		mW	
7	Power consumption7	Tx: 12dBm 11a, 54Mbps	Pc9		363		mW	Duty=25.4%
8	Power consumption8	Rx 11a, 54Mbps	Pc10		244		mW	
9	Power consumption9	Tx: 10dBm , 40MHz BW 11n, MCS7, 5GHz	Pc11		244		mW	Duty=2.2%
10	Power consumption10	Rx, 40MHz BW 11n, MCS7, 5GHz	Pc12		277		mW	
11	Power consumption11	Tx: 8dBm, 80MHz BW 11an, MCS9, 5GHz	Pc13		314		mW	Duty=1.5%
12	Power consumption12	Rx, 80MHz BW 11ac, MCS9, 5GHz	Pc14		350		mW	
13	Power consumption13	Power save mode (DTIM=1,Beacon interval =100ms)	Pc15		TBD		mW	
14	Power consumption14	Deep Sleep	Pc16		TBD		mW	

*The power consumption might fluctuate with the condition of radio communication, host performance and test circuit.
*The Typ. is a reference value. The value may change depending on the evaluation.

Control No.	Control name
HD-AE-A140346 (2/2)	Electrical characteristics

2.4GHz Band RF Specifications

The Specification applies for Topr.= 25 degrees C, Supply voltage=Typical voltage

No.	Parameter	Condition	Symbol	Min	Typ	Max	Unit	Remark
1	TX Power	11Mbps, 11b	Po2-1	13	15（TBD）	17	dBm	
		54Mbps, 11g	Po2-2	10	12（TBD）	15		
		MCS7, 20MHz BW, 11n	Po2-3	10	12（TBD）	15		
		MCS7, 40MHz BW, 11n	Po2-4	10	12(TBD)	15		
2	Rx sensitivity	11Mbps, 11b	SEN2-1		-87	-76	dBm	
		54Mbps, 11g	SEN2-2		-73	-65		
		MCS7, 20MHz BW, 11n	SEN2-3		-69	-64		
		MCS7, 40MHz BW, 11n	SEN2-4		-66	-61		

5GHz Band RF Specifications

The Specification applies for Topr.= 25 degrees C, Supply voltage=Typical voltage

No.	Parameter	Condition	Symbol	Min	Typ	Max	Unit	Remark
1	TX Power	54Mbps, 11a	Po5-1	10	12(TBD)	14	dBm	
		MCS7, 20MHz BW, 11n	Po5-2	10	12(TBD)	14		
		MCS7, 40MHz BW, 11n	Po5-3	8	10(TBD)	12		
		MCS9, 80MHz BW, 11ac	Po5-4	6	8(TBD)	10		
2	Rx sensitivity	54Mbps, OFDM	SEN5-1		-71	-65	dBm	
		MCS7, 20MHzBW, OFDM	SEN5-2		-68	-64		
		MCS7, 40MHzBW, OFDM	SEN5-3		-65	-61		
		MCS9, 80MHzBW, OFDM	SEN5-4		-57	-51		

RF Specifications (*Bluetooth*®)

The Specification applies for Topr.= 25 degrees C, Supply voltage =Typical voltage.

No.	Parameter	Condition	Sym	Min	Typ	Max	Unit	Remark
1	Tx Power	Basic	Pob-2	-6	0	4	dBm	Class2
2	Sensitivity	Basic	SENB		-86	-70	dBm	

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FCC

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.
Changes or modifications not expressly approved by the party responsible for compliance could void the user`s authority to operate the equipment.
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.

IC

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:
1. This device may not cause interference.
2. This device must accept any interference, including interference that may cause undesired operation of the device.

Cet appareil contient des émetteurs / récepteurs exemptés de licence conformes aux RSS (RSS) d'Innovation, Sciences et Développement économique Canada. Le fonctionnement est soumis aux deux conditions suivantes:
1. Cet appareil ne doit pas causer d'interférences.
2. Cet appareil doit accepter toutes les interférences, y compris celles susceptibles de provoquer un fonctionnement indésirable.
CAN ICES-3(B)/NMB-3(B)

AVAYA
J100 Wireless Module

低功率電波輻射性電機管理辦法

第十二條 經型式認證合格之低功率射頻電機，非經許可，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。

第十四條 低功率射頻電機之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。

前項合法通信，指依電信法規定作業之無線電通信。

低功率射頻電機須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。

使用此產品時應避免影響附近雷達系統之操作。