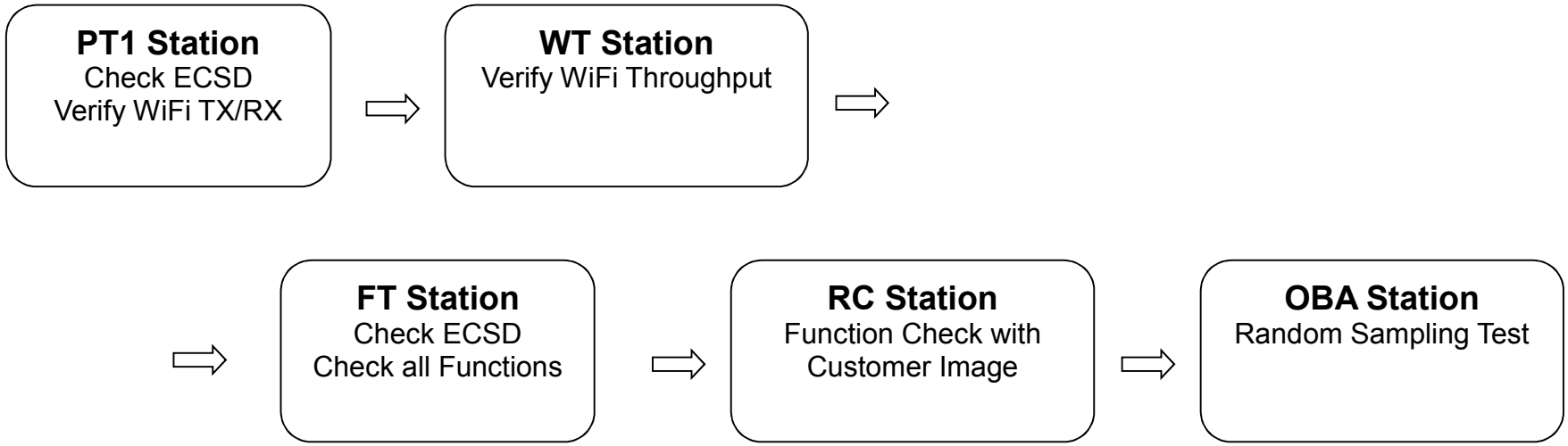
U10C180.00 MFG Test Plan History			
ITEM No	**DATE**	**MODIFY ITEM**	**REASON**
00	2022_4_14	Manufacture S/W Version:**14.8.S6302.US** Customer S/W Version:**UBC1338AA92-6304.UNI-v2.1.0r0002** BOLT Version:**v5.03_B02** Boot Code Version:**17.9.4** HW version:**3.56.2** PCB Version:**005**	Firstly Release
00A	2022_04_26	Download Wi-Fi Certs Check Wi-Fi Certs Check Wi-Fi Certs size ambitDeviceSelfCheckStatusReport	Customer request download WiFi Certs.
00B	2022_0427	MTA CA Key Selection to AMBIT	CA Key Selection
01	2022_05_09	Manufacture S/W Version:**14.8.S6304.U180** U10C180 2G/5G provision file update_20220506 wl0 provision-20220506 wl1 provision-20220506	Update provision file and Production image, fix PT1 issue
02	2022_06_28	Manufacture S/W Version:14.8.S6307.U180 Customer S/W Version:UBC1338AA92-6304.UNI-v2.1.0r0006	Update Manufacture S/W & Customer S/W
02A	2022_06_29	Manufacture S/W Version:14.8.S6308.U180 Customer S/W Version:UBC1338AA92-6304.UNI-v2.1.0r0006	Update Manufacture S/W & Customer S/W
02B	2022_07_04	Add Power Check D3.1 MIB command_Downstream [OID]:[1.3.6.1.4.1.4491.2.1.28.1.13.1.10.4] [OID]:[1.3.6.1.4.1.4491.2.1.28.1.13.1.10.80] Downstream OID:[1.3.6.1.4.1.4491.2.1.28.1.11.1.3.3.0] OID:[1.3.6.1.4.1.4491.2.1.28.1.11.1.3.48.0] [Assign WPS PIN] sed -i 's/^<WPSPIN>.*/<WPSPIN>XXXXXXXX<\/WPSPIN>/' /data/Alt-factry.config [Assign WPAPSK] sed -i 's/^<WiFiShareKey>.*/<WiFiShareKey>XXXXXXXXXX<\/WiFiShareKey>/' /data/Alt-factry.config	1) Add Power Check D3.1 MIB command_Downstream; 2) Command update [Assign WPS PIN] [Assign WPAPSK] [Assign CID] [Assign SSID]

		[Assign CID] sed -i 's/^<CID>.*/<CID>14<\/CID>/' /data/Alt-factry.config [Assign SSID] sed -i 's/^<WiFiSSID>.*/<WiFiSSID>MyOptimum XXXXXX<\/WiFiSSID>/' /data/Alt-factry.config	
03	2022_07_14	Manufacture S/W Version:14.8. S6310.U180 Customer S/W Version:UBC1338AA92-6304.UNI-v2.1.0r0009	Upgrade Manufacture S/W & Customer S/W
03A	2022_07_18	Manufacture S/W Version:14.8.S6311.U180 Customer S/W Version:UBC1338AA92-6304.UNI-v2.1.0r0009	Upgrade Manufacture S/W & Customer SW version 09 & Country code change from US /766 to US/753
03B	202_07_22	Remove D/S Power Accuracy Channel: 180MHz	TE server not support 180MHz for D/S power accuracy check(TE Otis)
04	2022_08_29	Change FT setting CMTS setting change from 8DS x 4US to 24DS x 8US	Improve product test coverage and solve the problems of OBA station products not online and VoIP not onlie,

(Enable Secure Boot)

U10C180.00 Test Plan and Process Flow



=>Use SSH to 192.168.1.1 to enable Secure Boot
=> Enable Command: custotp --enable_secure_boot ; Check Command: custotp –r
=> Use command :

```
cp -f /usr/local/etc/wlan/provisioned_wifi_wl0_vars.txt /data/
cp -f /usr/local/etc/wlan/provisioned_wifi_wl1_vars.txt /data/
cp -f /usr/local/etc/wlan/Alt-factry.config /data/
restore_default ; sync
```

Mode	Channel	BW	Rate	Condition	Antenna	Limit(Preliminary)
TX Power						
11ax	3,9	40MHz	HE11NSS1	@target power:15.0dBm	CJ1,CJ2,CJ3,CJ4	15.0 ± 2.5dB
11ax	36,52,100,161	80MHz	HE11NSS1	@target power:15.0dBm	CJ1,CJ2,CJ3,CJ4	15.0 ± 2.5dB
11ax	36,100	160MHz	HE11NSS1	@target power:15.0dBm	CJ1,CJ2,CJ3,CJ4	15.0 ± 2.5dB
EVM Test						
11ax	3,9	40MHz	HE11NSS1	@target power:15.0dBm	CJ1,CJ2,CJ3,CJ4	<-35 dB
11ax	36,52,100,161	80MHz	HE11NSS1	@target power:15.0dBm	CJ1,CJ2,CJ3,CJ4	<-35 dB
11ax	36,100	160MHz	HE11NSS1	@target power:15.0dBm	CJ1,CJ2,CJ3,CJ4	<-35 dB
PER						
11ax	3	20MHz	HE11NSS1	@-58dBm	CJ1,CJ2,CJ3,CJ4	<10%
11ax	9	40MHz	HE11NSS1	@-55dBm	CJ1,CJ2,CJ3,CJ4	<10%
11ax	36,52,100,161	80MHz	HE11NSS1	@-52dBm	CJ1,CJ2,CJ3,CJ4	<10%

~~**Please refer to TE and OBA test report for further test items at each station.**~~

1. PT1 Station: WiFi Conducted TX/RX Test

Note1: Check value of eMMC ECSD register - enhance area size [142:140]
=> find /sys/devices -name 'enhanced_area_size'| grep mmc| xargs cat => 3334144

Note2: **U10C180.00** WiFi function default configuration is disabled, please use the following command to enable WiFi and run PT1 test after 2min30sec of Power-on

(@0sec)Power-on
(About 30sec after power on)
=>can ping to 192.168.1.1, ssh to 192.168.1.1
=> use command "wifi_api wifi_setRadioEnable 0 1; wifi_api wifi_setRadioEnable 1 1; wifi_api wifi_apply" ==> For enabling Wi-Fi
=> use command "wifi_api wifi_setRadioEnable 0 0; wifi_api wifi_setRadioEnable 1 0; wifi_api wifi_apply" ==> For disabling Wi-Fi
(@2min30sec) Can do WiFi test.

Note3: Check SLIC type
=> use command "snmpget -v 2c -c private 192.168.100.1 1.3.6.1.4.1.4684.80.2.7.0" ==> Value: **Si32392**

2. WT Station: WiFi Throughput Test

Test	Channel	Rate	Attenuation	Mode	Throughput Limit(Preliminary)	Link rate Limit(Preliminary)
TX Throughput						
ax mode	1	HE40 NSS4HE11	30 dB	11ax	>500 Mbps	>1000 Mbps
ax mode	36	HE80 NSS4HE11	30 dB	11ax	>700 Mbps	>2161 Mbps
RX Throughput						
ax mode	1	HE40 NSS4HE11	30 dB	11ax	>500 Mbps	>1000 Mbps
ax mode	36	HE80 NSS4HE11	30 dB	11ax	>700 Mbps	>2161 Mbps

Note1: Must use 4x4 802.11ax WiFi AP as Client.
Note2: **U10C180.00** WiFi function default configuration is disabled, please use the following command to enable WiFi and run WT test after 2min30sec of Power-on.

(@0sec)Power-on
(About 30sec after power on)
=>can ping to 192.168.1.1, ssh to 192.168.1.1
=> use command "wifi_api wifi_setRadioEnable 0 1; wifi_api wifi_setRadioEnable 1 1; wifi_api wifi_apply" ==> For enabling Wi-Fi
=> use command "wifi_api wifi_setRadioEnable 0 0; wifi_api wifi_setRadioEnable 1 0; wifi_api wifi_apply" ==> For disabling Wi-Fi
(@2min30sec) Can do WiFi test.

Cable Modem Calibration Test Specification

1. Test Environments

Test Station		Calibration Test
CMTS		CASA 10G
Downstream	Frequency	88 ~ 1000 MHz
	Power	0dBmV
	Channel Width	6 MHz / Annex B
	Modulation Type	256-QAM

2. Test Specification

Test Item		Criteria
DS Lock Test	**DS Lock**	OK
	Check D/S Power Accuracy	+/-3dB

Tuner 0 (Diplexer 0) Downstream Power Check and Calibration

1. Tuner 0 Check D/S Power Accuracy Channel: 333,500,780,900,950 MHz
   Tuner 0 Check D/S Power: 0 dBmV ,Criteria +/-3dB
2. If step1 check power fail, go to step3, If check power PASS, close the DS Power check and Calibration.
3. Tuner 0 Calibration Frequency Channel:
   (a) 333 MHz
   (To adjust offsets @ 111,147,195,207,237,297,465,555 MHz)
   (b) 900 MHz
   (To adjust offsets @ 597,693,771,831,909,957,981,999 MHz)
4. Tuner 0 Calibration Power:0 dBmV

Tuner 0 Downstream Default Table (Diplexer 0)

Frequency	Offset Value	Frequency	Offset Value
111	**3.65**	**597**	**0.73**
147	**1.58**	**693**	**1.13**
195	**1.13**	**771**	**1.23**
207	**0.94**	**831**	**0.91**
237	**0.5**	**909**	**0.5**
297	**0.33**	**957**	**0.94**
465	**0.43**	**981**	**0.34**
555	**0.48**	**999**	**0.78**

Tuner 0 (Diplexer 1) Downstream Power Check and Calibration

1. Tuner 0 Check D/S Power Accuracy Channel: 333,500,780,900,950 MHz
   Tuner 0 Check D/S Power: 0 dBmV ,Criteria +/-3dB
2. If step1 check power fail, go to step3, If check power PASS, close the DS Power check and Calibration.
3. Tuner 0 Calibration Frequency Channel:
   (a) 333 MHz
   (To adjust offsets @ 111,147,195,207,237,297,465,555 MHz)
   (b) 900 MHz
   (To adjust offsets @ 597,693,771,831,909,957,981,999 MHz)
4. Tuner 0 Calibration Power:0 dBmV

Tuner 0 Downstream Default Table (Diplexer 1)

Frequency	Offset Value	Frequency	Offset Value
111	**3.65**	**597**	**0.73**
147	**1.58**	**693**	**1.13**
195	**1.13**	**771**	**1.23**
207	**0.94**	**831**	**0.91**
237	**0.5**	**909**	**0.5**
297	**0.33**	**957**	**0.94**
465	**0.43**	**981**	**0.34**
555	**0.48**	**999**	**0.78**

Diplexer Switchable (5-85 / 108-1002 MHz) => Diplexer 0 (5-42 / 108-1002 MHz) => Diplexer 1 (Note)	MIB cmDiplexerSettingsSelected ("1.3.6.1.4.1.4413.2.99.1.1.2.2.3.10.0") Value (1) : US:(5 MHz..85 MHz) DS:(108 MHz..1002 MHz) Value (2) : US:(5 MHz..42 MHz) DS:(108 MHz..1002 MHz)

Note :
Each diplexer (diplexer0 and diplexer1) should perform power check (calibration) and make sure diplexer is switched to diplexer 0 (5-85/108 -1002 MHz) after PT station test

3. FT Station: CM Final-Test Specification

(1). Test Environments

Test Station		Final-Test
CMTS		CASA 10G
Downstream 3.0 (24 ch)	Frequency	333,339,345,351 MHz 500,506,512,518 MHz 531,537,543,549 MHz 780,786,792,798 MHz 900,906,912,918 MHz 950,956,962,968 MHz
	Power	0dBmV±1dB
	Channel Width	6 MHz / Annex B
	Modulation Type	64-QAM
Upstream 3.0 (8 ch)	Power	52 dBmV±1dB
	Modulation Type	QPSK
	Modulation Profile	QPSK Default

(2). Test Specification

Test Item			Criteria
Final-Test	01. DRAM Test		Self Test OK
	02. Ethernet Port Test		Function test OK Please change to (1G/100M ping 30 times without ping loss)
	03. LED Test (Note 3)		OK
	04. US Power Check		XdBmV±2dB (X>40)
	05. DS power Check (780MHz)		0dBmV±3dB
	06. Ranging Test		D/S & U/S OK
	■Channel Bonding (8-ch)		DS channel bonding OK
	07. Image version Check (Production)		**14.8.S6311.U180**
	08. Code Hidden Version Check		---
	09. H/W Version Check		**3.56.2**
	10.	Model Name Check	**UBC1338AA92**
		Part Number in FW	---
	11. Boot Code Version		**17.9.4**
	12. Board ID Check		---
	13. SLIC type check		**Si32392** (1.3.6.1.4.1.4684.80.2.7.0)

Final-Test	14. Assign Real MAC & Serial No. RG without USB IPStack-1 Base (CM) Wan-Manage Base + 1 (Wan-Manage) IPStack-6 Base + 2 (MTA) CPE Gateway Base + 3 (CPE Gateway) WiFi-2.4G Base + 4 (WiFi) WiFi-5G Base + 5 (WiFi)	Write MAC & Serial No. OK
	15. SMB Filename Check	---
	16. USB Port Test	Test Function OK
	17. Install **US-**CM-3.0 / CM-3.1 CA Key **US-**PacketCable CA key	Yes
	18. Diplexer Switchable (5-85 / 108-1002 MHz) => Diplexer 0 (5-42 / 108-1002 MHz) => Diplexer 1 (Note1)	Function test OK cmDsCalDiplexerNumber "(1.3.6.1.4.1.4413.2.99.1.1.2.2.3.10.0") 0: US:(5 MHz..85 MHz) DS:(108 MHz..1002 MHz) 1: US:(5 MHz..42 MHz) DS:(108 MHz..1002 MHz)
	19. 2 Ethernet Ports Ping Test	---
	20. Wireless Ping Test	Ping OK (WiFi connected and ping 5 times without ping loss)
	21. VoIP Test	Function Test OK(NCS PC1.5)
	22. Reset Button Test	Function test OK ambitCmResetButtonPressedDetected (1.3.6.1.4.1.4684.80.1.5.0)
	23. RSSI	---
	24. Check 2.4/5G Country Code	**US 753**
	25. WPS Button test	Function test OK ambitCmWPSButtonPressedDetected (1.3.6.1.4.1.4684.80.4.2.0)
	26. WiFi Button test	Function test OK AmbitWiFiButtonEnabled (1.3.6.1.4.1.4684.80.4.14.0)
	27. Self Check (Note8)	Function test OK (1.3.6.1.4.1.4684.80.1.1.0)
	28. Assign WPS PIN Number (Note2)	Yes~~(1.3.6.1.4.1.4684.80.4.5.0)~~
	29. Assign WPA2-PSK (Note3)	Yes~~(1.3.6.1.4.1.4684.80.4.4.0)~~
	30. Assign WiFi SSID (Note4)	Yes~~(1.3.6.1.4.1.4684.80.4.10.0)~~
	31. Check eMMC ECSD Register(Note5)	find /sys/devices -name 'enhanced_area_size'| grep mmc| xargs cat => 3334144
	32. Check MCU Firmware	---
	33. Download Wi-Fi Certs (Note7)	Yes
	34. After all settings are configured	(Production Image) Using SSH to 192.168.1.1 1) Switch to Customer image 2) restore_default

	35. Assign CID (Note 8)	Yes

Note1:

Each diplexer (diplexer0 and diplexer1) should perform power check (calibration) and make sure diplexer is switched to diplexer 0 (5-85/108 -1002MHz) after FT station test

Note2:

A randomly generated eight (8) digit number in accordance with the WPS specification.

[Assign WPS PIN]

sed -i 's/^<WPSPIN>.*/<WPSPIN>XXXXXXXX<\/WPSPIN>/' /data/Alt-factry.config

Note3:

The password will consist of the following, randomly concatenated:
Six numeric digits (0-9) - in two groupings of 2, 3, or 4 digits (no single/stand-alone digit)
One name of a color from a list of 52 colors ranging in length between 4 and 10 lowercase characters (amber, aqua, auburn, beige, blue, brick, bronze, burgundy, chestnut, cobalt, copper, coral, cordovan, crimson, cyan, emerald, garnet, gold, granite, green, grey, indigo, jade, lavender, lemon, lime, linen, magenta, maroon, mauve, navy, ochre, olive, orange, orchid, peach, periwinkle, pewter, pink, plum, purple, rose, sage, sepia, sienna, silver, slate, taupe, teal, turquoise, umber, violet).
Two hyphens, separating the two groups of numeric digits and the color word.
Examples:
34-crimson-1253
gold-530-991
5112-orange-91
432-indigo-209
silver-12-9493

[Assign WPAPSK]

sed -i 's/^<WiFiShareKey>.*/<WiFiShareKey>XXXXXXXXXX<\/WiFiShareKey>/' /data/Alt-factry.config

Note4:

For the Home VAPs (both the 2.4-GHz VAP and the 5-GHz VAP), the default SSID name is " MyOptimum" concatenated with a space and the last 6 digits of Router "WAN" MAC(lowercase characters,no spaces or additional separation characters).

[Assign SSID]

sed -i 's/^<WiFiSSID>.*/<WiFiSSID>MyOptimum XXXXXX<\/WiFiSSID>/' /data/Alt-factry.config

Note5:

Use same command as PT1 to enable WiFi function, check ECSD register.

And Do NOT disable WiFi from now on.

Note6:

Following is command for controlling LED.

LEDs - All ON in production image
MIB / ambitCmLedController "1.3.6.1.4.1.4684.80.1.6.0" 1: All ON

LEDs - All OFF in production image
MIB / ambitCmLedController "1.3.6.1.4.1.4684.80.1.6.0" 3: All OFF

	Location	Function	Color	Remarks
PCB	D506	POWER	White	- Solid White, when device has power - Blinking, when device is booting - Off, when device has no power
PCB	D505	PHONE	White	- Solid White, telephone service is available - Blinking, provision error - Off, telephone service is not available
PCB	D507	WIFI	White	- Solid White, 5GHz/2.4GHz or both WLAN is activated - Blinking, WLAN is during enabling or disabling duration - Fast Blinking, data transition - Off, 5GHz/2.4GHz WLAN are both deactivated
PCB	D503	WPS	White	- Blinking, WPS is enabling or pairing - Off, when WPS connection set or no WPS activity
PCB	D502	INTERNET	White	- Solid White, synchronized and registered service - Blinking, synchronizing to register service - Off, internet error or not registered service
PCB	D501	DS/US	White	- Solid White, service online - Fast Blinking White, data transition - Off, internet error or service not register
RJ45	J5	Ethernet 1	Green	- Identify Ethernet connection status
RJ45	J5	Ethernet 2	Green	- Identify Ethernet connection status
RJ11	NA	NA	NA	NA
RJ11	NA	NA	NA	NA

Note7:

IP TftpSever To Download : 192.168.1.100

[Download]

tftp -g -r alticelabs-pubca-chain.pem -l /security/certificates/alticelabs-pubca-chain.pem 192.168.1.100

tftp -g -r U1338AA0000001.pem -l /security/certificates/U1338AA0000001.pem 192.168.1.100

(Wi-Fi certificates file must same as the product SN definition)

[Check]

du -h /security/certificates/alticelabs-pubca-chain.pem

5.0K /security/certificates/alticelabs-pubca-chain.pem

du -h /security/certificates/U1338AAXXXXXXX.pem

6.0K /security/certificates/U1338AAXXXXXXX.pem

Note8:

[ambitDeviceSelfCheckStatusReport]

snmpget -v 2c -c private 172.31.255.45 1.3.6.1.4.1.4684.80.1.16.0

if the value is 'MTA_DEVICE_CERT|MTA_MFGCA', please ignore the error.

Note8:

[Assign CID]

sed -i 's/^<CID>.*/<CID>14<\/CID>/' /data/Alt-factry.config

(3). VOICE Specification

Test Item		Criteria
Dial tone	Line1	Voice card detect dial tone
Ringing		Voice card detect ring
DTMF		ITCM detect DTMF

(註) 1) VOIP Test: detect dail-tone 時，單個 port 進行。
即 port1 發 dail-tone，這時用語音卡檢測到 line1 有 dail-tone ;
port1 停止發 dial-tone，此時語音卡檢測到 line1 沒有 dail-tone。

CA Key Selection

Model Type	
US	V
Euro	
Dual	
Certificate Format	
Ambit Format	
Broadcom Format	V
Encryption Option	
Encrypt(Factory)	
Non-encrypt key	V
Generate Log Option	
Yes	
No(Factory)	V
CA Key Selection	
CM-3.0	CRA
CM-3.1	CRA
MTA	Ubee
CH	No
Data(with USB)	
Data(without USB)	
Emta(with USB)	
Emta(without USB)	
Rg(with USB)	
Rg(without USB)	
Rg(without USB E08C005)	
Trio(with USB)	
Trio(without USB)	V

MAC range & Serial number range

No	Item	Description
1	**XXXXXXXXXXXX~ XXXXXXXXXXXX**	
2	Serial number range	12345678YYYYYY

Note 1. XXXXXXXXXXXX 代表客戶無規範

Note 2 .Serial number definition: Please refer to PDF file as following

PS1.Serial number definition:

1: Vendor: Vendor is Ubee ,Serial ver. "U"

2~7: Model: Ubee Model is UBC1338AA92 ,

FXN Model is U10C180.00 ,

Serial ver."1338AA"

8: Manufacturing Year: Year 2020-"0" ,

2021-"1" ,

2022-"2"

~~

2025-"5"

9-14: Serial Number: 000001-999999 **Hexadecimal**

5. RC Station: Function Check with Customer Image

1	Check DUT Alive
2	Ethernet 1-Port Test
3	Check Product Default Done
4	Check Version
5	Check SN MAC
6	Check Model HW Version SFIS
7	Check WIFI Radio Enable Status
8	Check WPA WPS
9	Check SSID
10	Check WIFI Country Code
11	Range Check D3.1 Diplexer0
12	Range Check D3.1 Diplexer1

D3.1 Power Check

(1). Test Environments

CMTS		**HUA-WEI CMTS MA5800X7**
Downstream	Frequency	**OFDM1:PLC 282MHz,BW 192MHz**
		OFDM2:PLC 812MHz,BW 192MHz
	Power	**0dBmv±1dB**
	Modulation	**OFDM1:256-QAM**
		OFDM2:4096-QAM
Upstream	Frequency	**OFDM1:12MHz-24MHz**
		OFDM2:28MHz-39MHz
	Power	**40dBmv±1dB**
	Modulation	**OFDM1:1024-QAM**
		OFDM2:1024-QAM

(2). Test Specification

No.	Test Item	Test Condition	Test Specification
1	Check DUT Alive	Ping DUT	No packets loss
2	Ethernet Status Check	MIB command	**Pass**
3	Setting to Diplexer 0	Telnet command	**PASS**
4	DS Power Docsis 3.1 Check	MIB command	**0 +/-3dBmv**
5	US Power Docsis 3.1 Check	MIB command	**40 +/-3dBmv**
6	Setting to Diplexer 1	Telnet command	**PASS**
7	DS Power Docsis 3.1 Check	MIB command	**0 +/-3dBmv**
8	US Power Docsis 3.1 Check	MIB command	**40 +/-3dBmv**

Cable Modem Read Code Test Specification

Test Item		Criteria
Read Code	Check System Description (MIB value:sysDescr) (Note1)	Ubee DOCSIS-3.1 W-EMTA <<HW_REV: 3.56.2; VENDOR: Ubee; BOOTR: 17.9.4; SW_REV: UBC1338AA92-6304.UNI-v2.1.0r0009; MODEL: UBC1338AA92
	Delete Image 2	--
	Image 1 Code Version Check	**UBC1338AA92-6304.UNI-v2.1.0r0009**
	SelfCheck	**YES**

Note:

1. The OID of MIB value “sysDescr” is “1.3.6.1.2.1.1.1.0”.
2. 若出現 XXX<<XXX;XXX;XXX;XXX;XXX>>FACTORY MODE ENABLED!，請檢查 MAC Address (Note3, Note4)，若無出現”FACTORY MODE ENABLED!”表示 PASS。
3. 若檢查 MAC Address 後，發現其為 Virtual MAC Address，請自行從 PT 站重跑測試流程。
4. 若檢查 MAC Address 後，發現其為 Real MAC Address，請執行”Reset to Defaults”再重新讀取 MIB 值。

1	Check SN MACs	RG without USB IPStack-1 Base (CM) Wan-Manage Base + 1 (Wan-Manage) IPStack-6 Base + 2 (MTA) CPE Gateway Base + 3 (CPE Gateway) WiFi-2.4G Base + 4 (WiFi) WiFi-5G Base + 5 (WiFi)
2	Check Version	BOOTR: **17.9.4** HW Ver: **3.56.2** SW Ver: **UBC1338AA92-6304.UNI-v2.1.0r0009** Model: **UBC1338AA92**
3	Check Wi-Fi Certs	/security/certificates/alticelabs-pubca-chain.pem
4	Check Wi-Fi Certs size	~5.0K
5	Check Wi-Fi Certs	/security/certificates/U1338AAXXXXXXX.pem
6	Check Wi-Fi Certs size	~6.0K
7	Check Secure Boot	Secure Boot Enable

How to TELNET to RG console				1. Test PC uses DHCP to acquire IP address. Then, ping 192.168.100.1 to ensure connection is available. 2. Run SNMP commands in PC as below to start up TELNET service. snmpset -v 2c -c private 192.168.100.1 1.3.6.1.4.1.4413.2.2.2.1.1.1.1.0 b "1" snmpset -v 2c -c private 192.168.100.1 1.3.6.1.4.1.4413.2.2.2.1.1.1.4.0 i 1 3. Telnet to **192.168.100.1: 64684** Username: technician Password: ElevatorGreen7# 4. Switch to RG console Username: admin Password: DustBunnyRoundup9# 5. When finished testing, must to run SNMP commands in PC as below to disable TELNET. snmpset -v 2c -c private 192.168.100.1 1.3.6.1.4.1.4413.2.2.2.1.1.1.1.0 b " "
Enable factory mode	cdPvtMibEnableKeyValue	1.3.6.1.4.1.4413.2.99.1.1.1.2.1.2.1		root@Docsis-Gateway:~# snmpset -v 2c -c private 172.31.255.45 1.3.6.1.4.1.4413.2.99.1.1.1.2.1.2.1 s '!@#$%^&^'
Retore default				root@Docsis-Gateway:~# restore_default
Wi-Fi SSID				root@Docsis-Gateway:~# cat /data/Alt-factry.config | grep WiFiSSID | cut -d '>' -f2 | cut -d '<' -f1
Wi-Fi WPA-PSK				root@Docsis-Gateway:~# cat /data/Alt-factry.config | grep WiFiShareKey | cut -d '>' -f2 | cut -d '<' -f1
Wi-Fi WPS-PIN				root@Docsis-Gateway:~# cat /data/Alt-factry.config | grep WPSPIN | cut -d '>' -f2 | cut -d '<' -f1
Altice CID				root@Docsis-Gateway:~# cat /data/Alt-factry.config | grep PID | cut -d '>' -f2 | cut -d '<' -f1
Self Check	ambitDeviceSelfCheckStatus	1.3.6.1.4.1.4684.80.1.1.0		root@Docsis-Gateway:~# snmpget -v 2c -c private 172.31.255.45 1.3.6.1.4.1.4684.80.1.1.0
Self check report	ambitDeviceSelfCheckStatusReport	1.3.6.1.4.1.4684.80.1.16.0		root@Docsis-Gateway:~# snmpget -v 2c -c private 172.31.255.45 1.3.6.1.4.1.4684.80.1.16.0 Passed if value is 'MTA_DEVICE_CERT|MTA_MFGCA'
Software version	sysDescr	1.3.6.1.2.1.1.1.0		root@Docsis-Gateway:~# snmpget -v 2c -c private 172.31.255.45 1.3.6.1.2.1.1.1.0
Check MACs	RF-MAC	1.3.6.1.4.1.4413.2.99.1.1.2.1.4.1.2.1		root@Docsis-Gateway:~# snmpget -v 2c -c private 172.31.255.45 1.3.6.1.4.1.4413.2.99.1.1.2.1.4.1.2.1
	WAN Manage MAC			root@Docsis-Gateway:~# cat /data/router-perm.config | grep WanBridgeMacAddress | cut -d '>' -f2 | cut -d '<' -f1
	CPE Gateway MAC			root@Docsis-Gateway:~# cat /data/router-perm.config | grep LanBridgeMacAddress | cut -d '>' -f2 | cut -d '<' -f1
	MTA MAC	1.3.6.1.4.1.4413.2.99.1.1.2.1.4.1.2.6		root@Docsis-Gateway:~# snmpget -v 2c -c private 172.31.255.45 1.3.6.1.4.1.4413.2.99.1.1.2.1.4.1.2.6
	WiFi MAC - 2.4G			root@Docsis-Gateway:~# cat /data/Alt-factry.config | grep WI0MacAddress | cut -d '>' -f2 | cut -d '<' -f1
	WiFi MAC - 5G			root@Docsis-Gateway:~# cat /data/Alt-factry.config | grep WI1MacAddress | cut -d '>' -f2 | cut -d '<' -f1
Check EdgeTrak		1.3.6.1.4.1.4413.2.2.2.1.2.1.25.0		root@Docsis-Gateway:~# snmpget -v 2c -c private 172.31.255.45 1.3.6.1.4.1.4413.2.2.2.1.2.1.25.0 Value shall be '00'

.ogin credential of customer image:

Username:	**altfactory**
Password:	**maNUfac7ur!Ng0**

U10C180_UBC133
8AA92-6304.UNI-

Note1: Wi-Fi WPA-PSK
This password will be printed on a label on the router.
The password will consist of the following, randomly concatenated:
Six numeric digits (0-9) - in two groupings of 2, 3, or 4 digits (no single/stand-alone digit)
One name of a color from a list of 52 colors ranging in length between 4 and 10 lowercase characters (amber, aqua, auburn, beige, blue, brick, bronze, burgundy, chestnut, cobalt, copper, coral, cordovan, crimson, cyan, emerald, garnet, gold, granite, green, grey, indigo, jade, lavender, lemon, lime, linen, magenta, maroon, mauve, navy, ochre, olive, orange, orchid, peach, periwinkle, pewter, pink, plum, purple, rose, sage, sepia, sienna, silver, slate, taupe, teal, turquoise, umber, violet).
Two hyphens, separating the two groups of numeric digits and the color word.
Examples:
34-crimson-1253
gold-530-991
5112-orange-91
432-indigo-209
silver-12-9493

Note2: Wi-Fi WPS-PIN
WPSPIN: 8 digit characters generated randomly
Note3: Wi-Fi SSID
The housing label MUST include the SSID.
For the Home VAPs (both the 2.4-GHz VAP and the 5-GHz VAP), the default SSID name is " MyOptimum" concatenated with a space and the last 6 digits of Router "WAN" MAC(lowercase characters,no spaces or additional separation characters).

Note4: Power Check D3.1 MIB command
Upstream
[OID]:[1.3.6.1.4.1.4491.2.1.28.1.13.1.10.4]
[OID]:[1.3.6.1.4.1.4491.2.1.28.1.13.1.10.80]

Downstream
OID:[1.3.6.1.4.1.4491.2.1.28.1.11.1.3.3.0]
OID:[1.3.6.1.4.1.4491.2.1.28.1.11.1.3.48.0]

6. OBA Station: Test Specification

1. Test Environments		
Test Station		OBA
CMTS		**CASA 10G**
Downstream 3.0 (24 ch)	Frequency	333,339,345,351 MHz 500,506,512,518 MHz 531,537,543,549 MHz 780,786,792,798 MHz 900,906,912,918 MHz 950,956,962,968 MHz
	Power	0dBmV±0.3dB
	Channel Width	6 MHz / Annex B
	Modulation Type	256-QAM
Upstream 3.0 (8 ch)	Power	52 dBmV±1dB
	Modulation Type	QPSK
	Modulation Profile	QPSK Default
CMTS		**HUA-WEI CMTS**
Downstream 3.1	Frequency	OFDM1:PLC 282MHz,BW 192MHz
		OFDM2:PLC 812MHz,BW 192MHz
	Power	0dBmv±1dB
	Modulation Type	OFDM1:256-QAM
		OFDM2:4096-QAM
Upstream 3.1	Frequency	OFDM1:12MHz-24MHz
		OFDM2:28MHz-39MHz
	Power	40dBmv±1dB
	Modulation Type	OFDM1:1024-QAM
		OFDM2:1024-QAM

2. Test Specification		
OBA-Test	Test Item	Criteria
	01. Ethernet Ping CMTS Test	OK
	02. SSH of Customer image	Username: **altfactory** Password: **maNUfac7ur!Ng0**
	03. SW Version Check	**UBC1338AA92-6304.UNI-v2.1.0r0009**
	04. HW Version Check	**3.56.2**
	05. Boot Code Version Check	**17.9.4**
	06. Model Name Check	**UBC1338AA92**
	07. Part Number in FW	--
	08. Check 2.4G and 5G SSID	As label
	09. Check 2.4G and 5G WPA Key	As label
	10. Check 2.4G and 5G WPS PIN	As label

	11. MAC, SN Check	As label
	12. Check MCU Firmware Version	---
	13. Check eMMC ECSD Register(Note1)	find /sys/devices -name 'enhanced_area_size'| grep mmc| xargs cat => 3334144
	14. PID Check	---
	15. DS (D3.0) power Check (Diplexer 0 & 1)	0±3dBmV
	16. US (D3.0) Power Check (Diplexer 0 & 1)	XdBmV±3dB (X>40)
	17. DS (D3.1) Power Check (Diplexer 0 & 1)	0 +/-3dBmv
	18. US (D3.1) Power Check (Diplexer 0 & 1)	XdBmV±3dB (X>40)
	19. **Diplexer Switchable** **(5-85 / 108-1002MHz) => Diplexer 0** **(5-42 / 108-1002 MHz) => Diplexer 1** (Note2)	cmDsCalDiplexerNumber "(1.3.6.1.4.1.4413.2.99.1.1.2.2.3.10.0") 0: US:(5 MHz..85 MHz) DS:(108 MHz..1002 MHz) 1: US:(5 MHz..42 MHz) DS:(108 MHz..1002 MHz)
	20. Ranging Test Channel Bonding (16-ch)	D/S & U/S OK DS channel bonding OK
	21. VOIP Test	Test Function OK (SIP PC2.0)
	22. USB Test (USB Device Detected)	Test Function OK
	23. Ethernet Function Test	OK
	24. WPS Button Test	OK
	25. Reset Button Test	Test Function OK
	26. LED Check	OK
	27. OBA Self-Check test	OK
	28. Wireless Function test 2.4G Throughput (HE40,Att. 20dB) 5G Throughput (HE80,Att. 20dB)	2.4G Throughput TX > 500 Mbps 2.4G Throughput RX >500 Mbps 5G Throughput TX > 700 Mbps 5G Throughput RX > 700 Mbps
	29. Reset Factory Default (Note3)	Test Function OK
	30. Check SSID Again	**Use "wl" and "nvram" commands to check WiFi SSID.** **Must follow label SSID.**
	31. Check Wi-Fi Certs	OK
	32. Check Wi-Fi Certs size	OK
	33. Check Secure Boot	OK
	34. CM NonVol Default	snmpget -v 2c -c private 172.31.255.45 1.3.6.1.4.1.4413.2.2.2.1.2.1.25.0 Value shall be '00'

Note1: Check value of eMMC ECSD register - enhance area size [142:140]
=> find /sys/devices -name 'enhanced_area_size'| grep mmc| xargs cat => 3334144

Note2: Each diplexer (diplexer0 and diplexer1) should perform OBA test and make sure diplexer is switched to diplexer 0 (5-85/108-1002MHz) after OBA station test.

Note3: After testing WiFi throughput, use command to do restore_defaults and reboot system (Do NOT plug out power cable). Then login DUT via SSH and use commands to check SSID. (No Broadcom SSID show)

U10C180.00 Upstream Offset value (5-85MHz)

U10C180.00 Upstream Offset value (5-85MHz)								
Index	Freq(MHz)	Offset (dBmV)	Index	Freq(MHz)	Offset (dBmV)	Index	Freq(MHz)	Offset (dBmV)
0	5	-2.01	31	36	-1.44	62	67	-1.05
1	6	-2.03	32	37	-1.43	63	68	-1.07
2	7	-1.98	33	38	-1.42	64	69	-0.93
3	8	-2.05	34	39	-1.49	65	70	-0.88
4	9	-2.13	35	40	-1.46	66	71	-0.91
5	10	-2.04	36	41	-1.48	67	72	-0.79
6	11	-2.04	37	42	-1.44	68	73	-0.71
7	12	-2.08	38	43	-1.36	69	74	-0.62
8	13	-2.11	39	44	-1.4	70	75	-0.63
9	14	-2.12	40	45	-1.43	71	76	-0.49
10	15	-1.98	41	46	-1.28	72	77	-0.47
11	16	-2.03	42	47	-1.36	73	78	-0.45
12	17	-2.12	43	48	-1.41	74	79	-0.43
13	18	-1.94	44	49	-1.39	75	80	-0.37
14	19	-2.05	45	50	-1.45	76	81	-0.41
15	20	-2.03	46	51	-1.45	77	82	-0.16
16	21	-2.08	47	52	-1.47	78	83	-0.2
17	22	-1.93	48	53	-1.4	79	84	-0.05
18	23	-2.02	49	54	-1.44	80	85	-0.01
19	24	-1.85	50	55	-1.45			
20	25	-1.84	51	56	-1.35			
21	26	-1.9	52	57	-1.54			
22	27	-2.04	53	58	-1.48			
23	28	-1.72	54	59	-1.37			
24	29	-1.72	55	60	-1.45			
25	30	-1.8	56	61	-1.33			
26	31	-1.78	57	62	-1.23			
27	32	-1.56	58	63	-1.25			
28	33	-1.59	59	64	-1.1			
29	34	-1.59	60	65	-1.13			
30	35	-1.63	61	66	-1.08			

U10C180.00 Upstream Offset value (5-42MHz)

U10C180.00 Upstream Offset value (5-42MHz)								
Index	Freq(MHz)	Offset (dBmV)	Index	Freq(MHz)	Offset (dBmV)	Index	Freq(MHz)	Offset (dBmV)
0	5	-1.69	14	19	-1.26	28	33	-0.63
1	6	-1.75	15	20	-1.24	29	34	-0.64
2	7	-1.73	16	21	-1.21	30	35	-0.32
3	8	-1.76	17	22	-1.25	31	36	-0.19
4	9	-1.67	18	23	-1.22	32	37	0
5	10	-1.55	19	24	-1.23	33	38	0.13
6	11	-1.48	20	25	-1.24	34	39	0.22
7	12	-1.49	21	26	-1.06	35	40	0.46
8	13	-1.4	22	27	-1.21	36	41	0.41
9	14	-1.36	23	28	-1.1	37	42	0.6
10	15	-1.29	24	29	-0.97			
11	16	-1.28	25	30	-1.05			
12	17	-1.17	26	31	-0.81			
13	18	-1.32	27	32	-0.79			

2.4G Wifi SROM table
_ wl0 provision-20220623_US-753.txt

wl0
provision-2022062

5 G Wifi SROM table
_ wl1 provision-20220623_US-753.txt

wl1
provision-2022062

Appendix

NOTE: S/N digit (left to right)

1: Vendor: Vendor_Ubee ,Serial ver. "**U**"

2~7: Model: Ubee Model_UBC1338AA92 ,FXN Model_U10C180.00 ,Serial ver."**1338AA**"

8: Manufacturing Year: Year 2020-"**0**" , 2021-"1" ,2022-"2" ~~2025-"5"

9-14: Serial Number: **000001**-999999 Hexadecimal

1: Vendor		2-7: Model			8: Manufacturing Year		9-14: Serial Number
Vendor	Serial ver.	Ubee Model	FXN Model	Serial ver.	Year	Serial ver.	000001-999999 Hexadecimal
Ubee	U	UBC1338AA92	U10C180.00	1338AA	2022	2	000001
					2023	3	
					2024	4	
					2025	5	