



Test report No:
NIE: 02297RCB.004

Test report

Citizen Broadband Radio Service Test report as per WINNForum Test Specification WINNF-TS-0122-V1.0.0

Identification of item tested	AirHarmony 4200 3550-3700MHz (B48)
Trademark	Not Provided
Model and /or type reference	AirHarmony 4200, LTE-TDD Base Station, CBSD
Other identification of the product	Not Provided
Features	CBSD, Domain Proxy, LTE-TDD 48
Manufacturer	AIRSPAN NETWORK INC 777 YAMATO ROAD SUIT 310 BOCA RATON, FLORIDA – 33431 UNITE STATES OF AMERICA
CBSD Final HW version	C2
CBSD Final SW version	SR16.00
Domain Proxy Final SW version	SR16.50
Domain Proxy Final HW version	NA
Test method requested, standard	WinnForum TEST SPECIFICATION WINNF-TS-0122-V1.0.0
Summary	IN COMPLIANCE
Approved by (name / position & signature)	Bryan Mikesh, Chief Operating Officer, DEKRA Certification Inc. <i>Bryan Mikesh</i>
Date of issue	2019-03-28
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Competences and guarantees

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The results presented in this Test Report apply only to the particular item under test established in this document.

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Uncertainty

Uncertainty (factor k=2) was calculated according to the DEKRA Testing and Certification internal document PODT000.

Data provided by the client

DEKRA declines any responsibility with respect to the information provided by the client and that may affect the validity of results.

Usage of samples

Samples undergoing test have been selected by: Airspan Network, Inc.

Sample M/01 is composed of the following elements:

Control N°	Description	Model	Serial N°	Date of reception
02297.004	CBSD	AirHarmony 4200	D5EF17CE65D4	2018-12-10
NA	Domain Proxy Software	Netspan	NA	2018-12-10

1. Sample M/01 has undergone the test(s) specified in subclause "Test method requested".

Identification of the client

AIRSPAN NETWORK INC
777 YAMATO ROAD SUIT 310, BOCA RATON, FLORIDA – 33431
UNITE STATES OF AMERICA

Testing period and place

Test Location	DEKRA Certification, Inc.
Date (start)	2018-12-10
Date (finish)	2018-12-12

Document history

Report number	Date	Description
02297RCB.004	2019-03-26	First release

Remarks and comments

- 1: The tests have been performed by the technical personnel: Indusha, Chitepu

Testing verdicts

Not applicable :	N/A
Pass :	P
Fail :	F
Not measured :	N/M

Summary

Standard :	WINNF-TS-0122
Band :	TDD 48
Total	PASS VERDICT
32	32

Appendix A: Test Results

Test Spec	Ref	Name	Condition	Date	Test sample	Result	SAS version	CBSD SW Version	CBSD HW Version	DP SW Version
WINNF-TS-0122-V1.0.0	WINNF.FT.D.REG.2	Domain Proxy Multi-Step registration	Normal	12/10/2018	02297.004	PASS	1.0.0.2	SR16.00	C2	SR16.50
WINNF-TS-0122-V1.0.0	WINNF.FT.D.REG.6	Domain Proxy Single-Step registration for CBSD with CPI signed data	Normal	12/10/2018	02297.004	PASS	1.0.0.2	SR16.00	C2	SR16.50
WINNF-TS-0122-V1.0.0	WINNF.FT.D.REG.9	Domain Proxy Missing Required parameters (responseCode 102)	Normal	12/10/2018	02297.004	PASS	1.0.0.2	SR16.00	C2	SR16.50
WINNF-TS-0122-V1.0.0	WINNF.FT.D.REG.11	Domain Proxy Pending registration (responseCode 200)	Normal	12/10/2018	02297.004	PASS	1.0.0.2	SR16.00	C2	SR16.50
WINNF-TS-0122-V1.0.0	WINNF.FT.D.REG.13	Domain Proxy Invalid parameters (responseCode 103)	Normal	12/10/2018	02297.004	PASS	1.0.0.2	SR16.00	C2	SR16.50
WINNF-TS-0122-V1.0.0	WINNF.FT.D.REG.15	Domain Proxy Blacklisted CBSD (responseCode 101)	Normal	12/10/2018	02297.004	PASS	1.0.0.2	SR16.00	C2	SR16.50
WINNF-TS-0122-V1.0.0	WINNF.FT.D.REG.17	Domain Proxy Unsupported SAS protocol version (responseCode 100)	Normal	12/10/2018	02297.004	PASS	1.0.0.2	SR16.00	C2	SR16.50
WINNF-TS-0122-V1.0.0	WINNF.FT.D.REG.19	Domain Proxy Group Error (responseCode 201)	Normal	12/10/2018	02297.004	PASS	1.0.0.2	SR16.00	C2	SR16.50
WINNF-TS-0122-V1.0.0	WINNF.FT.D.GRA.1	Unsuccessful Grant (responseCode=400) (INTERFERENCE)	Normal	12/11/2018	02297.004	PASS	1.0.0.2	SR16.00	C2	SR16.50

Test Spec	Ref	Name	Condition	Date	Test sample	Result	SAS version	CBSD SW Version	CBSD HW Version	DP SW Version
WINNF-TS-0122-V1.0.0	WINNF.FT.C.GRA.2	Unsuccessful Grant responseCode=401 (GRANT CONFLICT)	Normal	12/11/2018	02297.004	PASS	1.0.0.2	SR16.00	C2	SR16.50
WINNF-TS-0122-V1.0.0	WINNF.FT.D.HBT.2	Domain Proxy Heartbeat Success Case (first Heartbeat Response)	Normal	12/11/2018	02297.004	PASS	1.0.0.2	SR16.00	C2	SR16.50
WINNF-TS-0122-V1.0.0	WINNF.FT.C.HBT.3	Heartbeat responseCode=105 (DEREGISTER)	Normal	12/11/2018	02297.004	PASS	1.0.0.2	SR16.00	C2	SR16.50
WINNF-TS-0122-V1.0.0	WINNF.FT.C.HBT.5	Heartbeat responseCode=501 (SUSPENDED_GRANT) in First Heartbeat Response	Normal	12/11/2018	02297.004	PASS	1.0.0.2	SR16.00	C2	SR16.50
WINNF-TS-0122-V1.0.0	WINNF.FT.C.HBT.6	Heartbeat responseCode=501 (SUSPENDED_GRANT) in Subsequent Heartbeat Response	Normal	12/11/2018	02297.004	PASS	1.0.0.2	SR16.00	C2	SR16.50
WINNF-TS-0122-V1.0.0	WINNF.FT.C.HBT.7	Heartbeat responseCode=502 (UNSYNC OP PARAM)	Normal	12/11/2018	02297.004	PASS	1.0.0.2	SR16.00	C2	SR16.50
WINNF-TS-0122-V1.0.0	WINNF.FT.D.HBT.8	Domain Proxy Heartbeat responseCode=500 (TEMINATED_GRANT)	Normal	12/11/2018	02297.004	PASS	1.0.0.2	SR16.00	C2	SR16.50
WINNF-TS-0122-V1.0.0	WINNF.FT.C.HBT.9	Heartbeat Response Absent (First Heartbeat)	Normal	12/11/2018	02297.004	PASS	1.0.0.2	SR16.00	C2	SR16.50
WINNF-TS-0122-V1.0.0	WINNF.FT.C.HBT.10	Heartbeat Response Absent (Subsequent Heartbeat)	Normal	12/11/2018	02297.004	PASS	1.0.0.2	SR16.00	C2	SR16.50

Test Spec	Ref	Name	Condition	Date	Test sample	Result	SAS version	CBSD SW Version	CBSD HW Version	DP SW Version
WINNF-TS-0122-V1.0.0	WINNF.FT.C.HBT.11	Successful Grant Renewal in Heartbeat Test Case	Normal	12/11/2018	02297.004	PASS	1.0.0.2	SR16.00	C2	SR16.50
WINNF-TS-0122-V1.0.0	WINNF.FT.D.MES.2	Domain Proxy Registration Response contains measReportConfig	Normal	12/10/2018	02297.004	PASS	1.0.0.2	SR16.00	C2	SR16.50
WINNF-TS-0122-V1.0.0	WINNF.FT.D.RLQ.2	Domain Proxy Successful Relinquishment	Normal	12/10/2018	02297.004	PASS	1.0.0.2	SR16.00	C2	SR16.50
WINNF-TS-0122-V1.0.0	WINNF.FT.D.RLQ.4	Domain Proxy Unsuccessful Relinquishment, responseCode=102	Normal	12/10/2018	02297.004	PASS	1.0.0.2	SR16.00	C2	SR16.50
WINNF-TS-0122-V1.0.0	WINNF.FT.D.RLQ.6	Domain Proxy Unsuccessful Relinquishment, responseCode=103	Normal	12/10/2018	02297.004	PASS	1.0.0.2	SR16.00	C2	SR16.50
WINNF-TS-0122-V1.0.0	WINNF.FT.D.DRG.2	Domain Proxy Successful Deregistration	Normal	12/10/2018	02297.004	PASS	1.0.0.2	SR16.00	C2	SR16.50
WINNF-TS-0122-V1.0.0	WINNF.FT.D.DRG.4	Domain Proxy Deregistration responseCode=102	Normal	12/10/2018	02297.004	PASS	1.0.0.2	SR16.00	C2	SR16.50
WINNF-TS-0122-V1.0.0	WINNF.FT.C.DRG.5	Deregistration responseCode=103	Normal	12/11/2018	02297.004	PASS	1.0.0.2	SR16.00	C2	SR16.50
WINNF-TS-0122-V1.0.0	WINNF.FT.C.SCS.1	Successful TLS connection between UUT and SAS Test Harness	Normal	12/12/2018	02297.004	PASS	1.0.0.2	SR16.00	C2	SR16.50
WINNF-TS-0122-V1.0.0	WINNF.FT.C.SCS.2	TLS failure due to revoked certificate	Normal	12/12/2018	02297.004	PASS	1.0.0.2	SR16.00	C2	SR16.50

Test Spec	Ref	Name	Condition	Date	Test sample	Result	SAS version	CBSD SW Version	CBSD HW Version	DP SW Version
WINNF-TS-0122-V1.0.0	WINNF.FT.C.SCS.3	TLS failure due to expired server certificate	Normal	12/12/2018	02297.004	PASS	1.0.0.2	SR16.00	C2	SR16.50
WINNF-TS-0122-V1.0.0	WINNF.FT.C.SCS.4	TLS failure when SAS Test Harness certificate is issue by unknown CA	Normal	12/12/2018	02297.004	PASS	1.0.0.2	SR16.00	C2	SR16.50
WINNF-TS-0122-V1.0.0	WINNF.FT.C.SCS.5	TLS failure when certificate at the SAS Test Harness is corrupted	Normal	12/12/2018	02297.004	PASS	1.0.0.2	SR16.00	C2	SR16.50
WINNF-TS-0122-V1.0.0	WINNF.PT.C.HBT	UUT RF Transmit Power Measurement	Normal	12/12/2018	02297.004	PASS	1.0.0.2	SR16.00	C2	SR16.50

Appendix B: Test Systems

Test System Used

Model	Description	Control Number	Uncertainties
Dell Latitude, Windows 7, 64-bit	Laptop with SAS harness	CTC-5233-K	NA
EXA N9010A	Signal Analyzer	0018	NA
MXA N9020A	Signal Analyzer	0382	NA
HWg-STE Plain	Ethernet SNMP Thermometer	1107	NA
DR-4X7S201-LH	Shielded Chamber	0131	NA

Appendix C: CBSD/ DP Supported Features

Supported Features

Condition	Feature Description	Supported
C1	Mandatory for UUT which supports multi-step registration message.	Y
C2	Mandatory for UUT which supports single-step registration with no CPI-signed data in the registration message. By definition, this is a subset of Category A devices which determine all registration information, including location, without CPI intervention.	N
C3	Mandatory for UUT which supports single-step registration containing CPI-signed data in the registration message.	Y
C4	Mandatory for UUT which supports RECEIVED_POWER_WITHOUT_GRANT measurement report type.	Y
C5	Mandatory for UUT which supports RECEIVED_POWER_WITH_GRANT measurement report type.	N
C6	Mandatory for UUT which supports parameter change being made at the UUT and prior to sending a deregistration.	N

Appendix D: Reference Standards and Procedures

Reference Standards

Test and Certification for Citizens Broadband Radio Service (CBRS); Conformance and Performance Test Technical Specification; CBSD/DP as Unit Under Test (UUT) Working Document WINNF-TS-0122	V1.0.0
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Test Procedures

PECB001_00: CBRS Alliance Certification Testing Based On WINN Forum CBRS CBSD Test Specification “WINNF-TS-0122”
