

TEST REPORT

COMPLIANCE TEST REPORT

EUT Description	Convertible PC
Brand Name	HP
Model Name	TPN-W155
FCC ID	PD9AX211NG
Date of Test Start/End	2022-03-16 / 2022-03-16
Features	IEEE802.11b/g/n/ac/ax

Applicant	Intel Mobile Communications
Address	100 Center Point Circle, Suite 200 Columbia, South Carolina 29210 USA
Contact Person	Steven Hackett
Telephone/Fax/ Email	steven.c.hackett@intel.com

Test Report identification	220128-01.TR01
Revision Control	Rev. 00 This test report replaces any previous versions of this test report (see Section 1)

Table of Contents

1. Table of Contents	
2. Document Revision History	3
3. Test Setup.....	3
4. Test Sample.....	4
5. Test Equipment List.....	4
6. Test Results.....	4
6.1. SAR TUNE-UP POWER AS PER SAR ASSESSMENT	4
6.2. TAS VALIDATION FOR 2.4 GHZ BAND ON CHANNEL 6.....	5
6.3. TAS VALIDATION FOR 5 GHZ BAND ON CHANNEL 120	7
7. Conclusion	9

2. Document Revision History

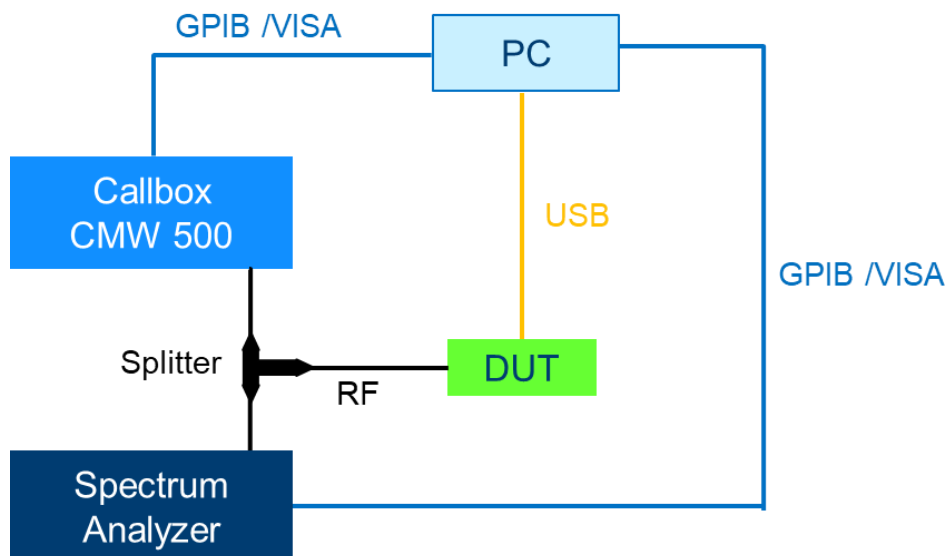
Revision #	Date	Modified by	Revision Details
Rev.00	2022-03-18	Tanguy MATHIEU	First Issue

3. Test Setup

The conducted power measurement test setup is described in the following and illustrated in Figure A.1.

- The DUT which AX211 WiFi module is installed inside convertible PC from HP model TPN-W155.
- A control PC is used to configure the Call Box as an access point to manage the uplink and downlink data traffic.
- Uplink signal power is measured with the Spectrum Analyzer and record by the PC with a maximum time resolution of 0.3333 msec.
- Uplink signal from the module is fed through a 3 dB Power Splitter, which delivers an equal amount of signal to the Spectrum Analyzer and the Call Box. The Splitter has high isolation between the Spectrum Analyzer and the Call Box.
- Path loss in the power measurement setup from the AX211 Antenna port to either the Call Box or the Spectrum Analyzer for 2.4 GHz and 5 GHz are 8.5 dB and 9.5 dB respectively.

Figure.1 – Validation using conducted power measurement test setup.



4. Test Sample

Sample	ID #	Description	Model	Serial #	Note
#1	211216-01.S02	Convertible PC	TPN-W155	ABC13901D2	-

5. Test Equipment List

Equipment and accessories used for the conducted power measurement test setup are listed below. The Test Platform (DUT), test setup and associated equipment are shown in A.1.3.

ID#	Device	Type/Model	Serial #	Manufacturer	Cal. Date	Cal. Due Date
025-005	Communication Tester	CMW500	161493	Rohde & Schwarz	N/A	N/A
159-000	Spectrum Analyzer	FSV40	101072	Rohde & Schwarz	2021-09-10	2023-09-10
452	Setup Cable	-	-	-	Attenuation and loss verified before use	

6. Test Results

6.1. SAR Tune-Up Power as per SAR assessment

Chain A		Chain B	
IEEE 802.11g CH6	IEEE 802.11a CH120	IEEE 802.11g CH6	IEEE 802.11a CH120
20	20	20	20

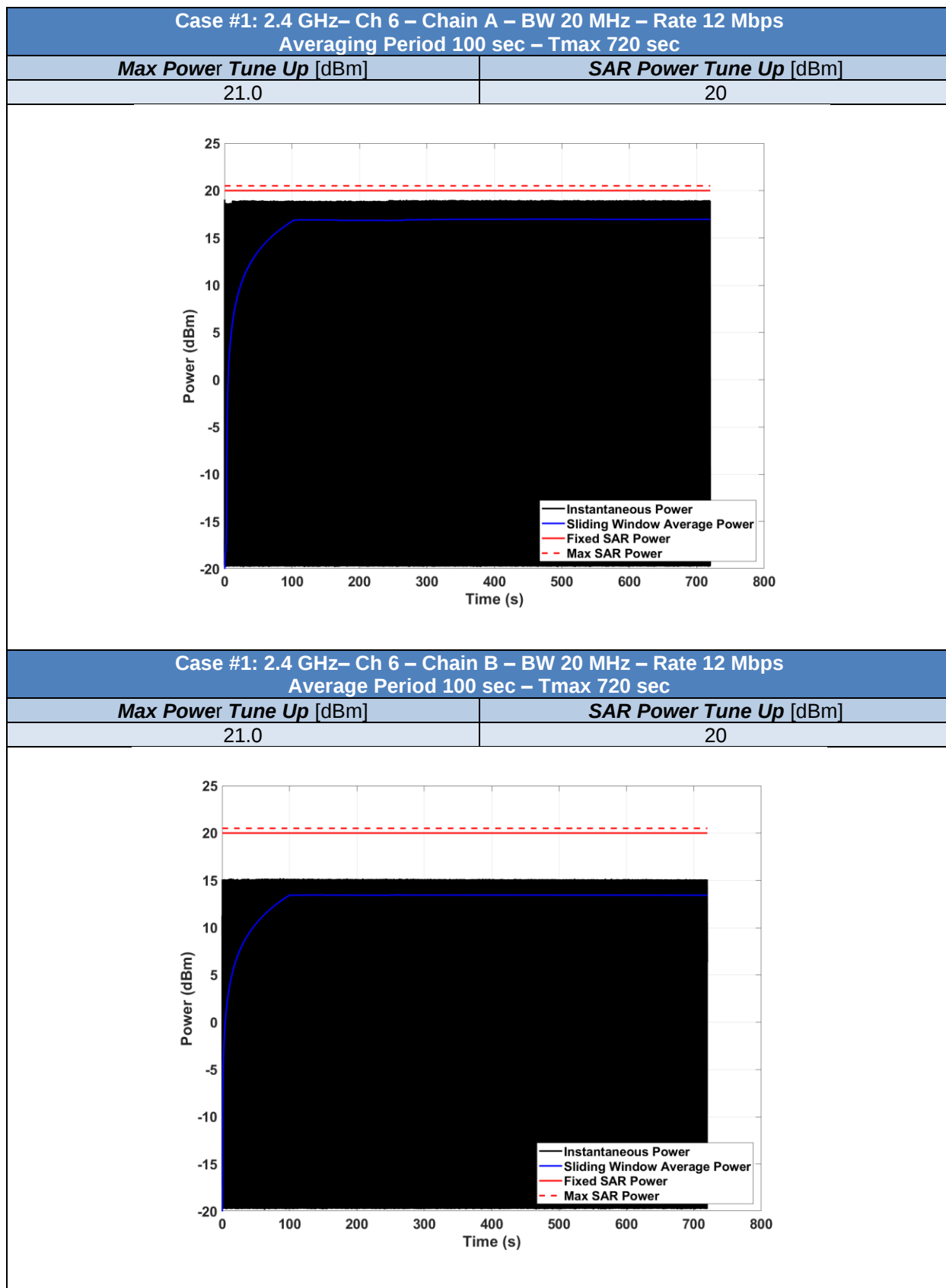
6.2. TAS Validation for 2.4 GHz Band on Channel 6

Table B1 – Test Cases for 2.4 GHz Channel 6

Test Case #	Channel	Chain	Channel Bandwidth	Measurement Averaging Period	Measurement Time Resolution	Max Tune-Up Power [dBm]	SAR Tune-Up Power [dBm]
1	6	A	20 MHz	100 sec	0.3333 msec	21.0	20
2		B	20 MHz	100 sec	0.3333 msec	21.0	20

Results of test cases in Table B1 are shown in the following plots.

Test Report No: 220128-01.TR01



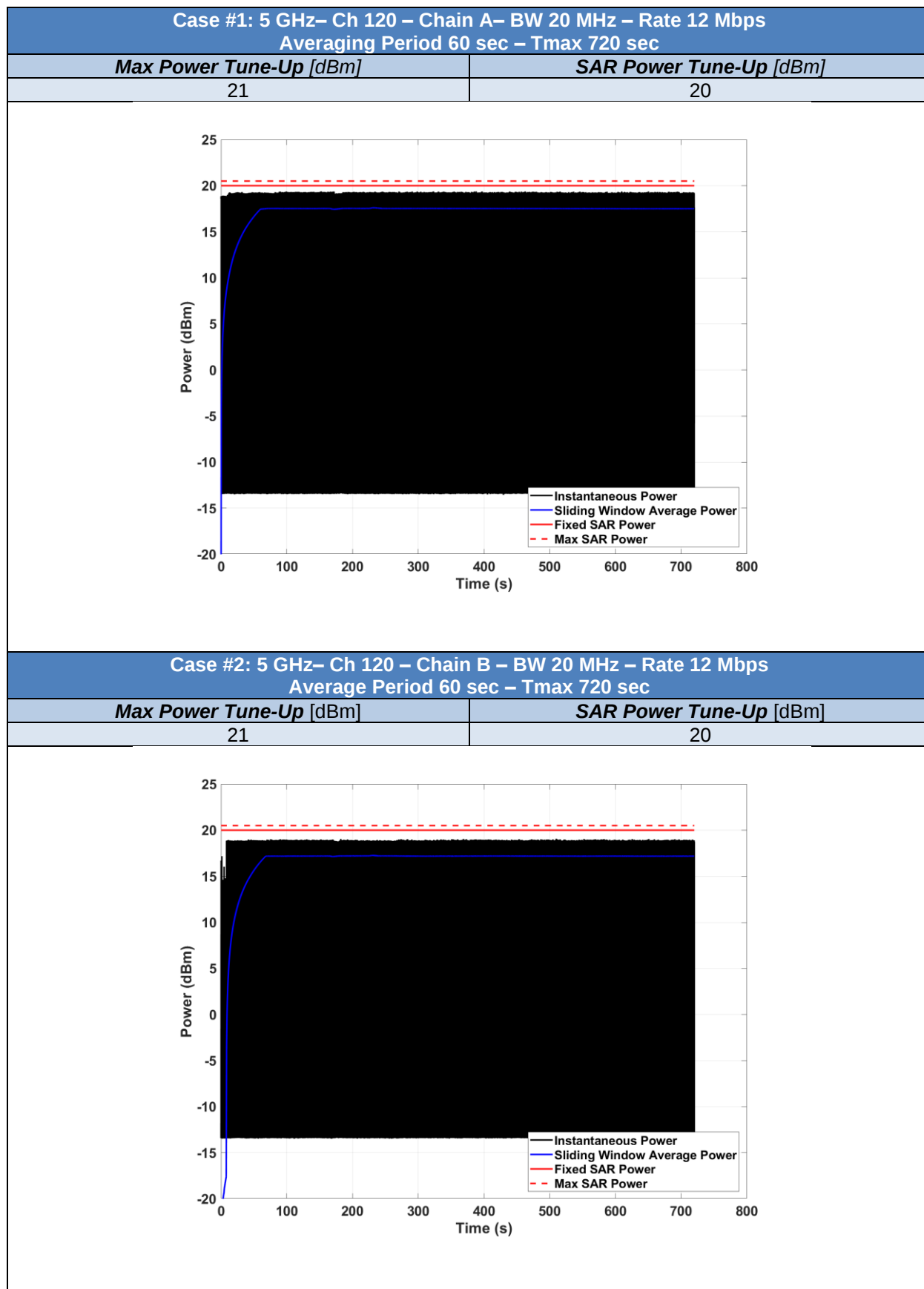
6.3. TAS Validation for 5 GHz Band on Channel 120

Table B2 – Test Cases for 5 GHz Channel 120

Test Case #	Channel	Chain	Channel Bandwidth	Measurement Averaging Period	Measurement Time Resolution	Max Power Tune-Up [dBm]	SAR Power Tune-Up [dBm]
1	120	A	20 MHz	60 sec	0.3333 msec	21	20
2		B	20 MHz	60 sec	0.3333 msec	21	20

Results of test cases in Table B2 are shown in the following plots.

Test Report No: 220128-01.TR01



7. Conclusion

The TAS Intel Algorithm functionality of AX211 WiFi Module Integrated inside HP Riesling TPN-W155 is tested. All test cases are compliant with SAR limit.