

# TEST REPORT

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## COMPLIANCE TEST REPORT

|                        |                         |
|------------------------|-------------------------|
| EUT Description        | Convertible PC          |
| Brand Name             | HP                      |
| Model Name             | TPN-C157                |
| FCC ID                 | PD9AX211NG              |
| Date of Test Start/End | 2022-04-05 / 2022-04-05 |
| Features               | IEEE802.11b/g/n/ac/ax   |

|                      |                                                                             |
|----------------------|-----------------------------------------------------------------------------|
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|                            |                                                                                                   |
|----------------------------|---------------------------------------------------------------------------------------------------|
| Test Report identification | 220311-03.TR01                                                                                    |
| Revision Control           | Rev. 00<br>This test report replaces any previous versions of this test report<br>(see Section 1) |

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## 2. Document Revision History

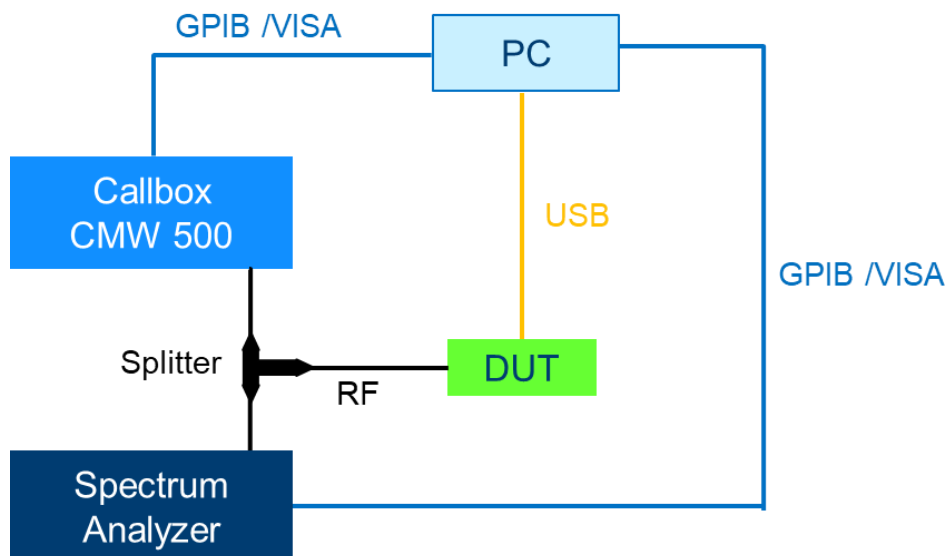
| Revision # | Date       | Modified by    | Revision Details |
|------------|------------|----------------|------------------|
| Rev.00     | 2022-04-08 | Tanguy MATHIEU | First Issue      |

## 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 Weller model TPN-C157.
- 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     | 211210-01.S01 | Convertible PC | TPN-C157 | 7235284900019 | -    |

#### 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 |
|---------|----------------------|------------|----------|-----------------|------------------------------------------|---------------|
| 144-000 | Communication Tester | CMW500     | 169123   | Rohde & Schwarz | 2021-05-18                               | 2023-05-18    |
| 131-000 | Spectrum Analyzer    | FSV40      | 101425   | Rohde & Schwarz | 2021-05-27                               | 2023-05-27    |
| 025     | 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<br>CH6 | IEEE 802.11a<br>CH120 | IEEE 802.11g<br>CH6 | IEEE 802.11a<br>CH120 |
| 20.0                | 20.0                  | 20.0                | 20.0                  |

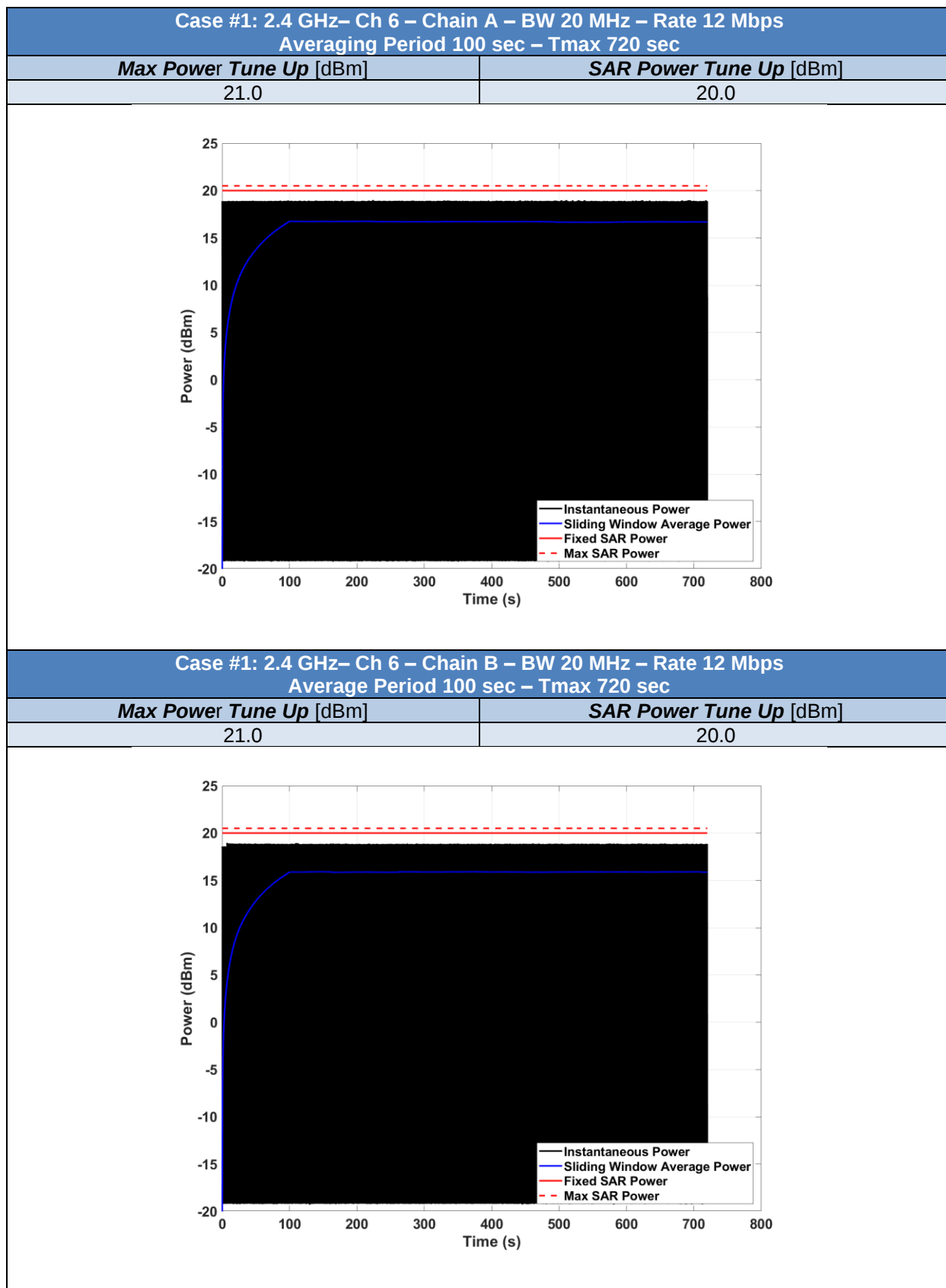
## 6.2. TAS Validation for 2.4 GHz Band on Channel 6

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                    | 20.0                    |
| 2           |         | B     | 20 MHz            | 100 sec                      | 0.3333 msec                 | 21.0                    | 20.0                    |

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

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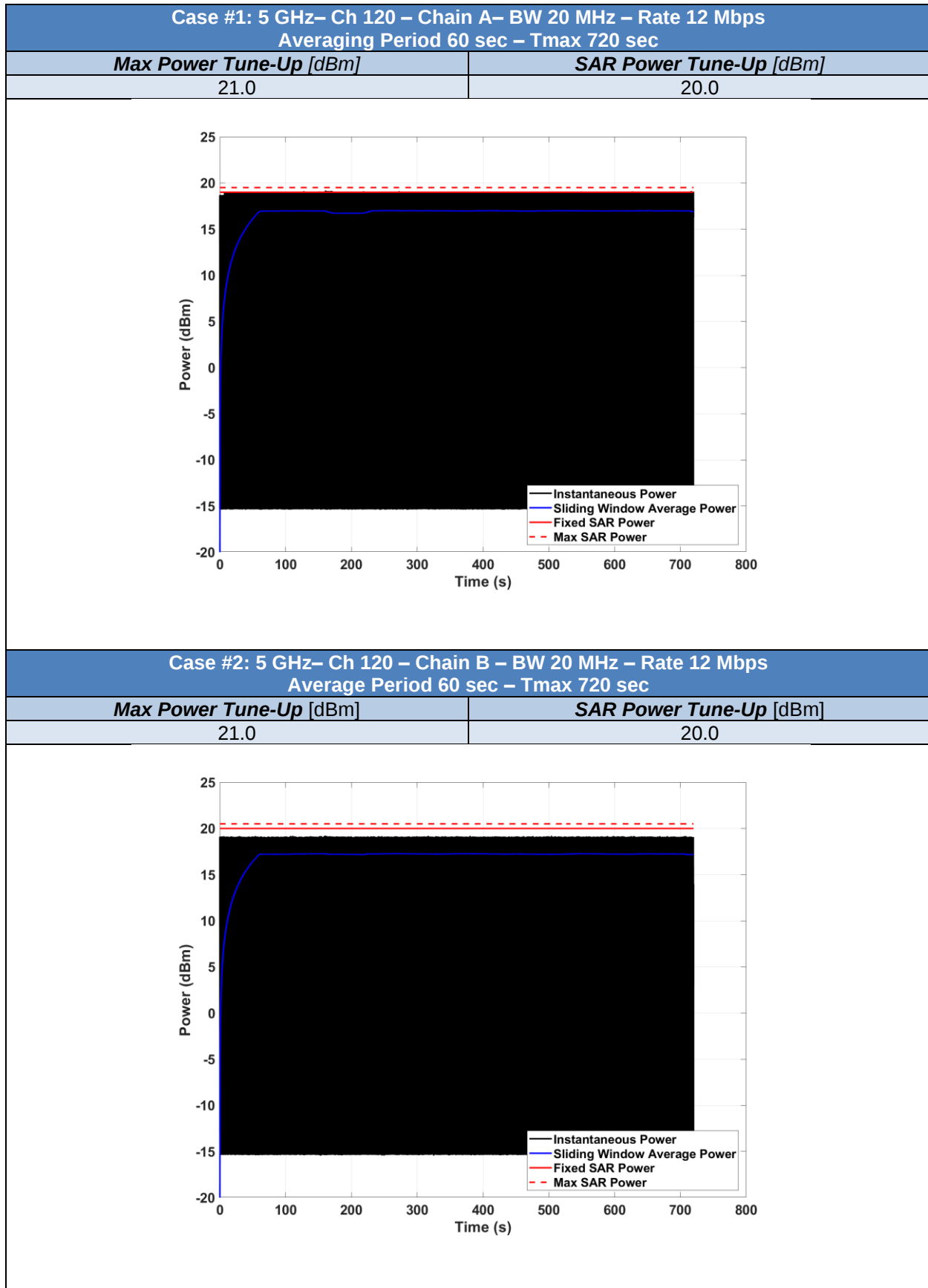


### 6.3. TAS Validation for 5 GHz Band on Channel 120

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                 | 21.0                    | 20.0                    |
| 2           |         | B     | 20 MHz            | 60 sec                       | 0.3333 msec                 | 21.0                    | 20.0                    |

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



## 7. Conclusion

The TAS Intel Algorithm functionality of AX211 WiFi Module Integrated inside HP Weller TPN-C157 is tested. All test cases are compliant with SAR limit.