



# FCC Radio Test Report

## FCC ID: HLEPA520BTNF

This report concerns (check one) : ☒ Original Grant ☐ Class II Change

Issued Date : Feb. 11, 2014  
Project No. : 1312155  
Equipment : Rugged Mobile Computer  
Model Name : PA520

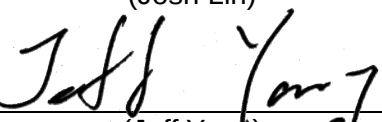
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Hsin-Tien Dist., New Taipei City, Taiwan

Tested by: Neutron Engineering Inc. EMC Laboratory  
Date of Receipt: Dec. 23, 2013  
Date of Test: Dec. 23, 2013 ~ Jan. 22, 2014

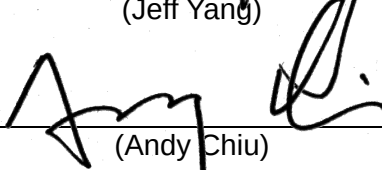
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**REPORT ISSUED HISTORY**

| Revised Version No. | Description    | Issued Date   |
|---------------------|----------------|---------------|
| -                   | Initial Issue. | Feb. 11, 2014 |



## **1 CERTIFICATION**

Equipment : Rugged Mobile Computer  
Brand Name : unitech  
Model Name : PA520  
Applicant : unitech electronics co., ltd.  
Date of Test : Dec. 23, 2013 ~ Jan. 22, 2014  
Standards : FCC Part 15, Subpart C: 2012  
ANSI C63.4: 2009

The above equipment has been tested and found compliance with the requirement of the relative standards by Neutron Engineering Inc. EMC Laboratory.

The test data, data evaluation, and equipment configuration contained in our test report (Ref No. NEI-FCCP-1-1312155) were obtained utilizing the test procedures, test instruments, test sites that has been accredited by the Authority of TAF according to the ISO-17025 quality assessment standard and technical standard(s).

**2. SUMMARY OF TEST RESULTS**

| Standard Clause | Test Item                           | Result      |
|-----------------|-------------------------------------|-------------|
| 15.207          | Conducted Emission                  | <b>PASS</b> |
| 15.247 (c)      | Antenna conducted Spurious Emission | <b>PASS</b> |
| 15.247 (a)(2)   | 6dB Bandwidth                       | <b>PASS</b> |
| 15.247 (b)      | Maximum Peak Conducted Output Power | <b>PASS</b> |
| 15.247 (c)      | Radiated Spurious Emission          | <b>PASS</b> |
| 15.247 (d)(e)   | Power Spectral Density              | <b>PASS</b> |
| 15.205          | Restricted Bands                    | <b>PASS</b> |
| 15.203          | Antenna Requirement                 | <b>PASS</b> |

**NOTE:**

- (1) N/A: denotes test is not applicable in this Test Report
- (2) This test report only covers radio operating bands: 2400-2483.5 MHz (IEEE 802.11b/g/n) and 5725-5825 MHz (IEEE 802.11a/n).  
The test for radio operating bands: 5150-5250 MHz, 5250-5350 MHz and 5470-5725 MHz (IEEE 802.11a/n) is covered in another test report: NEI-FCCP-2-1312155.
- (3) The test follows FCC KDB Publication NO. 558074 D01 DTS Meas Guidance v03r01(Measurement Guidelines of DTS)





## 2.1 TEST FACILITY

The test facilities used to collect the test data in this report:

### Conducted emission Test:

**C02:** (VCCI RN: C-3477; FCC RN: 614388; FCC DN: TW1054)  
1F., No. 61, Ln. 77, Sing-ai Rd., Neihu Dist., Taipei City 114, Taiwan (R.O.C.)

### Radiated emission Test (Below 1 GHz):

**CB08:** (FCC RN: 614388; FCC DN: TW1054; IC Assigned Code: 4428C-1)  
1F., No. 61, Ln. 77, Sing-ai Rd., Neihu Dist., Taipei City 114, Taiwan (R.O.C.)

### Radiated emission Test (Above 1 GHz):

**CB08:** (VCCI RN: G-91; FCC RN: 614388; FCC DN: TW1054; IC Assigned Code: 4428C-1)  
1F., No. 61, Ln. 77, Sing-ai Rd., Neihu Dist., Taipei City 114, Taiwan (R.O.C.)

## 2.2 MEASUREMENT UNCERTAINTY

**The measurement uncertainty is not specified by FCC rules and for reference only.**

The reported uncertainty of measurement  $y \pm U$ , where expanded uncertainty  $U$  is based on a standard uncertainty multiplied by a coverage factor of  $k=2$ , providing a level of confidence of approximately 95%.

The measurement instrumentation uncertainty considerations contained in CISPR 16-4-2.

### A. Conducted emission test:

| Test Site | Measurement Frequency Range | U, (dB) | NOTE |
|-----------|-----------------------------|---------|------|
| C02       | 150 kHz ~ 30 MHz            | 2.59    |      |

### B. Radiated emission test:

| Test Site | Item                    | Measurement Frequency Range | Uncertainty   | NOTE    |
|-----------|-------------------------|-----------------------------|---------------|---------|
| CB08      | Radiated emission at 3m | Horizontal Polarization     | 30 - 200MHz   | 3.35 dB |
|           |                         | Horizontal Polarization     | 200 - 1000MHz | 3.11 dB |
|           |                         | Horizontal Polarization     | 1 - 18GHz     | 3.97 dB |
|           |                         | Horizontal Polarization     | 18 - 40GHz    | 4.01 dB |
|           | Vertical Polarization   | Vertical Polarization       | 30 - 200MHz   | 3.22 dB |
|           |                         | Vertical Polarization       | 200 - 1000MHz | 3.24 dB |
|           |                         | Vertical Polarization       | 1 - 18GHz     | 4.05 dB |
|           |                         | Vertical Polarization       | 18 - 40GHz    | 4.04 dB |

Our calculated Measurement Instrumentation Uncertainty is shown in the tables above. These are our  $U_{lab}$  values in CISPR 16-4-2 terminology.

Since Table 1 of CISPR 16-4-2 has values of measurement instrumentation uncertainty, called  $U_{CISPR}$ , as follows:

Conducted Disturbance (mains port) – 150 kHz – 30 MHz: 3.6 dB

Radiated Disturbance (electric field strength on an open area test site or alternative test site) –  
30 MHz – 1000 MHz: 5.2 dB

It can be seen that our  $U_{lab}$  values are smaller than  $U_{CISPR}$ .

If  $U_{lab}$  is less than or equal to  $U_{CISPR}$ , then:

- compliance is deemed to occur if no measured disturbance level exceeds the disturbance limit;
- non-compliance is deemed to occur if any measured disturbance level exceeds the disturbance limit.

If  $U_{lab}$  is greater than  $U_{CISPR}$ , then:

- compliance is deemed to occur if no measured disturbance level, increased by  $(U_{lab} - U_{CISPR})$ , exceeds the disturbance limit;
- non-compliance is deemed to occur if any measured disturbance level, increased by  $(U_{lab} - U_{CISPR})$ , exceeds the disturbance limit.



### 3 GENERAL INFORMATION

#### 3.1 GENERAL DESCRIPTION OF EUT

|                        |                                                                                                                                                                                                            |                                                                                                                                                                                                                                                           |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Equipment              | Rugged Mobile Computer                                                                                                                                                                                     |                                                                                                                                                                                                                                                           |
| Brand Name             | unitech                                                                                                                                                                                                    |                                                                                                                                                                                                                                                           |
| Model Name             | PA520                                                                                                                                                                                                      |                                                                                                                                                                                                                                                           |
| OEM Brand/Model Name   | N/A                                                                                                                                                                                                        |                                                                                                                                                                                                                                                           |
| Model Difference       | N/A                                                                                                                                                                                                        |                                                                                                                                                                                                                                                           |
| Product Description    | The EUT is a Rugged Mobile Computer.                                                                                                                                                                       |                                                                                                                                                                                                                                                           |
|                        | Operation Frequency                                                                                                                                                                                        | 2412~2462 MHz, 5745~5825 MHz                                                                                                                                                                                                                              |
|                        | Modulation Type                                                                                                                                                                                            | DBPSK, DQPSK, CCK, BPSK, QPSK, 16QAM, 64QAM, MIMO<br><b>2412~2462 MHz:</b><br>IEEE 802.11b: DSSS<br>IEEE 802.11g: OFDM<br>IEEE 802.11n: OFDM (1 TX & 1 RX)<br><b>5745~5825 MHz:</b><br>IEEE 802.11a: OFDM<br>IEEE 802.11n: BPSK (1 TX & 1 RX)             |
|                        | Bit Rate of Transmitter                                                                                                                                                                                    | IEEE 802.11b: 1, 2, 5.5, 11 Mbps<br>IEEE 802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps<br>IEEE 802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps<br>IEEE 802.11n: HT20: 6.5, 7.2, 13.0, 14.4, 19.5, 21.7, 26.0, 28.9, 39.0, 43.3, 52.0, 57.8, 58.5, 65.0, 72.2 Mbps |
|                        | Number Of Channel                                                                                                                                                                                          | Please refer to the Note 2.                                                                                                                                                                                                                               |
|                        | Antenna Designation                                                                                                                                                                                        | Please refer to the Note 3.                                                                                                                                                                                                                               |
|                        | Antenna Gain(Peak)                                                                                                                                                                                         | Please refer to the Note 3.                                                                                                                                                                                                                               |
|                        | Maximum Conducted Output Power                                                                                                                                                                             | Peak Output Power:<br><b>2412~2462 MHz:</b><br>IEEE 802.11b/g: 20.30 dBm (0.1072 W)<br>IEEE 802.11n (20 MHz): 21.00 dBm (0.1259 W)<br><b>5745~5825 MHz:</b><br>IEEE 802.11a: 15.50 dBm (0.0355 W)<br>IEEE 802.11n (20 MHz): 15.41 dBm (0.0348 W)          |
|                        | More details of EUT technical specification, please refer to the User's Manual.                                                                                                                            |                                                                                                                                                                                                                                                           |
|                        |                                                                                                                                                                                                            |                                                                                                                                                                                                                                                           |
| Power Source           | 1. Battery supplied.<br>2. DC Voltage supplied from External Power Supply.                                                                                                                                 |                                                                                                                                                                                                                                                           |
| Power Rating           | 1. Li-ion BATTERY PACK: DC 3.7V<br>2. External Power Supply:<br>I/P: AC 100-240V 50-60Hz 0.6A / O/P: DC 5V 3.0A                                                                                            |                                                                                                                                                                                                                                                           |
| Connecting I/O Port(s) | Please refer to the User's Manual                                                                                                                                                                          |                                                                                                                                                                                                                                                           |
| Products Covered       | 1 * Reader (optional): 2D or 1D<br>1 * WLAN + Bluetooth Module<br>1 * RFID Module<br>1 * Li-ion BATTERY PACK: 3.7V 2200mAh, 8.14Wh<br>1 * USB Charging Cable<br>1 * External Power Supply: ENG, 3A-182WP05 |                                                                                                                                                                                                                                                           |
| EUT Modification(s)    | N/A                                                                                                                                                                                                        |                                                                                                                                                                                                                                                           |



**NOTE:**

1. For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.
2. Channel List:

| 2412-2462 MHz Band (IEEE 802.11b/g/n (20MHz)) |                 |         |                 |         |                 |
|-----------------------------------------------|-----------------|---------|-----------------|---------|-----------------|
| Channel                                       | Frequency (MHz) | Channel | Frequency (MHz) | Channel | Frequency (MHz) |
| 01                                            | 2412            | 05      | 2432            | 09      | 2452            |
| 02                                            | 2417            | 06      | 2437            | 10      | 2457            |
| 03                                            | 2422            | 07      | 2442            | 11      | 2462            |
| 04                                            | 2427            | 08      | 2447            |         |                 |

| 5745-5825 MHz Band (IEEE 802.11a/n (20MHz)) |                 |         |                 |         |                 |
|---------------------------------------------|-----------------|---------|-----------------|---------|-----------------|
| Channel                                     | Frequency (MHz) | Channel | Frequency (MHz) | Channel | Frequency (MHz) |
| 149                                         | 5745            | 157     | 5785            | 165     | 5825            |
| 153                                         | 5765            | 161     | 5805            |         |                 |

3. Table for Filed Antenna

| Ant. | Brand                        | Model Name | Antenna Type     | Connector | Gain (dBi) |      |
|------|------------------------------|------------|------------------|-----------|------------|------|
|      |                              |            |                  |           | 2.4G       | 5G   |
| 1    | SINBON Electronics Co., Ltd. | 204842G    | Monopole antenna | N/A       | 2.40       | 5.60 |

4. The EUT incorporates MIMO function. Physically, the EUT provides two completed transmitters and two receivers (1T1R).

| 2412-2462 MHz Band   |             |
|----------------------|-------------|
| Modulated type       | TX Function |
| IEEE 802.11b         | 1 TX        |
| IEEE 802.11g         | 1 TX        |
| IEEE 802.11n (20MHz) | 1 TX        |

| 5745-5825 MHz Band   |             |
|----------------------|-------------|
| Modulated type       | TX Function |
| IEEE 802.11a         | 1 TX        |
| IEEE 802.11n (20MHz) | 1 TX        |



### 3.2 DESCRIPTION OF TEST MODES

To investigate the maximum EMI emission characteristics generated from EUT, the test system was pre-scanning tested based on the consideration of following EUT operation mode or test configuration mode which possibly have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

| 2412-2462 MHz Band                           |                  |      |           |          |      |
|----------------------------------------------|------------------|------|-----------|----------|------|
| Test Items                                   | IEEE             | Mode | Data Rate | Channel  | Note |
| Conducted Emission                           | 802.11b          | DSSS | 1 Mbps    | 06       |      |
| Antenna conducted Spurious Emission          | 802.11b          | DSSS | 1 Mbps    | 01/06/11 |      |
|                                              | 802.11g          | OFDM | 6 Mbps    | 01/06/11 |      |
|                                              | 802.11n (20 MHz) | BPSK | MCS8      | 01/06/11 |      |
|                                              | 802.11b          | DSSS | 1 Mbps    | 01/06/11 |      |
| 6 dB Bandwidth                               | 802.11g          | OFDM | 6 Mbps    | 01/06/11 |      |
|                                              | 802.11n (20 MHz) | BPSK | MCS8      | 01/06/11 |      |
|                                              | 802.11b          | DSSS | 1 Mbps    | 01/06/11 |      |
| Maximum Peak Conducted Output Power          | 802.11g          | OFDM | 6 Mbps    | 01/06/11 |      |
|                                              | 802.11n (20 MHz) | BPSK | MCS8      | 01/06/11 |      |
|                                              | 802.11b          | DSSS | 1 Mbps    | 01/06/11 |      |
| Radiated Spurious Emission (30 MHz to 1 GHz) | 802.11n (20 MHz) | OFDM | MCS8      | 06       |      |
| Radiated Spurious Emission (above 1 GHz)     | 802.11b          | DSSS | 1 Mbps    | 01/06/11 |      |
|                                              | 802.11g          | OFDM | 6 Mbps    | 01/06/11 |      |
|                                              | 802.11n (20 MHz) | BPSK | MCS8      | 01/06/11 |      |
| Restricted Bands                             | 802.11b          | DSSS | 1 Mbps    | 01/06/11 |      |
|                                              | 802.11g          | OFDM | 6 Mbps    | 01/06/11 |      |
|                                              | 802.11n (20 MHz) | BPSK | MCS8      | 01/06/11 |      |
| Antenna Requirement                          | ---              |      | ---       | ---      |      |

| 5745-5825 MHz Band                           |                  |      |           |             |      |
|----------------------------------------------|------------------|------|-----------|-------------|------|
| Test Items                                   | IEEE             | Mode | Data Rate | Channel     | Note |
| Conducted Emission                           | 802.11a          | OFDM | 6 Mbps    | 157         |      |
| Antenna conducted Spurious Emission          | 802.11a          | OFDM | 6 Mbps    | 149/157/165 |      |
|                                              | 802.11n (20 MHz) | BPSK | MCS8      | 149/157/165 |      |
| 6 dB Bandwidth                               | 802.11a          | OFDM | 6 Mbps    | 149/157/165 |      |
|                                              | 802.11n (20 MHz) | BPSK | MCS8      | 149/157/165 |      |
| Maximum Peak Conducted Output Power          | 802.11a          | OFDM | 6 Mbps    | 149/157/165 |      |
|                                              | 802.11n (20 MHz) | BPSK | MCS8      | 149/157/165 |      |
| Radiated Spurious Emission (30 MHz to 1 GHz) | 802.11n (20 MHz) | OFDM | MCS8      | 157         |      |
| Radiated Spurious Emission (above 1 GHz)     | 802.11a          | OFDM | 6 Mbps    | 149/157/165 |      |
|                                              | 802.11n (20 MHz) | BPSK | MCS8      | 149/157/165 |      |
| Antenna Requirement                          | ---              |      | ---       | ---         |      |

NOTE: The measurements are performed at the highest, middle, lowest available channels.



### 3.3 TABLE OF PARAMETERS OF TEXT SOFTWARE SETTING

During testing channel & power controlling software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product.

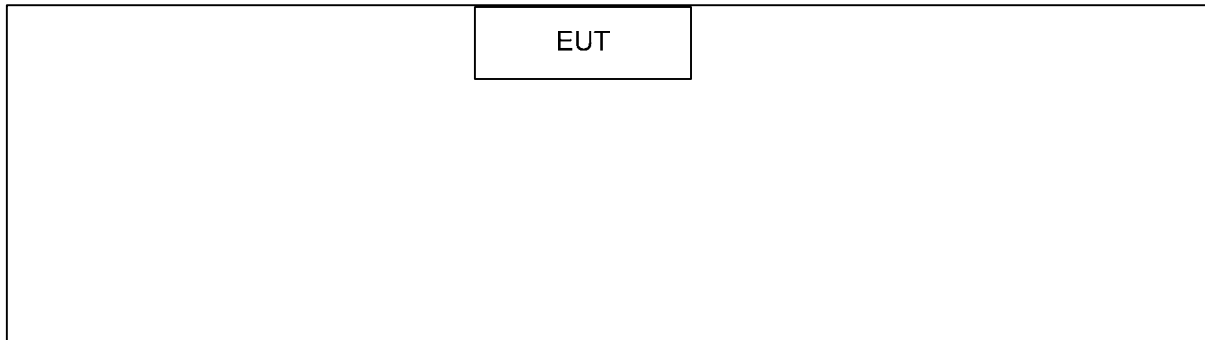
| 2412-2462 MHz Band    |              |          |          |              |          |          |
|-----------------------|--------------|----------|----------|--------------|----------|----------|
| IEEE                  | 802.11b      |          |          | 802.11g      |          |          |
| Test software Version | SRU v3.03.10 |          |          | SRU v3.03.10 |          |          |
| Frequency             | 2412 MHz     | 2437 MHz | 2462 MHz | 2412 MHz     | 2437 MHz | 2462 MHz |
| Parameter             | 100          | 100      | 100      | 100          | 100      | 100      |

| 2412-2462 MHz Band    |                  |          |          |  |  |  |
|-----------------------|------------------|----------|----------|--|--|--|
| IEEE                  | 802.11n (20 MHz) |          |          |  |  |  |
| Test software Version | SRU v3.03.10     |          |          |  |  |  |
| Frequency             | 2412 MHz         | 2437 MHz | 2462 MHz |  |  |  |
| Parameter             | 90               | 90       | 90       |  |  |  |

| 5745-5825 MHz Band    |              |          |          |                  |          |          |
|-----------------------|--------------|----------|----------|------------------|----------|----------|
| IEEE                  | 802.11a      |          |          | 802.11n (20 MHz) |          |          |
| Test software Version | SRU v3.03.10 |          |          | SRU v3.03.10     |          |          |
| Frequency             | 5745 MHz     | 5785 MHz | 5825 MHz | 5745 MHz         | 5785 MHz | 5825 MHz |
| Parameter             | 50           | 100      | 100      | 50               | 100      | 100      |



### 3.4 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED



**3.5 DESCRIPTION OF SUPPORT UNITS**

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

| Item | Equipment              | Mfr/Brand | Model/Type No. | FCC ID       | Series No. | Note |
|------|------------------------|-----------|----------------|--------------|------------|------|
| E-1  | Rugged Mobile Computer | unitech   | PA520          | HLEPA520BTNF | N/A        | EUT  |

| Item | Shielded Type | Ferrite Core | Length | Note |
|------|---------------|--------------|--------|------|
| N/A  | -             | -            | -      | -    |

NOTE: The support equipment was authorized by Declaration of Conformity (DOC).



## 4 CONDUCTED EMISSION

### 4.1 LIMIT

| FREQUENCY<br>(MHz) | Class A (dBuV) |         | Class B (dBuV) |           |
|--------------------|----------------|---------|----------------|-----------|
|                    | Quasi-peak     | Average | Quasi-peak     | Average   |
| 0.15 - 0.5         | 79.00          | 66.00   | 66 - 56 *      | 56 - 46 * |
| 0.50 - 5.0         | 73.00          | 60.00   | 56.00          | 46.00     |
| 5.0 - 30.0         | 73.00          | 60.00   | 60.00          | 50.00     |

NOTE:

1. The tighter limit applies at the band edges.
2. The limit of " \* " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.
3. The test result calculated as following:  
Measurement Value = Reading Level + Correct Factor  
Correct Factor = Insertion Loss + Cable Loss + Attenuator Factor(if use)  
Margin Level = Measurement Value – Limit Value

### 4.2 MEASUREMENT INSTRUMENTS LIST

| Item | Kind of Equipment    | Manufacturer | Type No.                   | Serial No. | Calibrated until |
|------|----------------------|--------------|----------------------------|------------|------------------|
| 1    | LISN                 | Schwarzbeck  | NSLK 8127                  | 8127685    | Feb. 24, 2014    |
| 2    | Test Cable           | TIMES        | CFD300-NL                  | C01        | Jun. 16, 2014    |
| 3    | EMI Test Receiver    | Agilent      | N9038A                     | MY51210215 | Mar. 21, 2014    |
| 4    | Measurement Software | EZ           | EZ_EMC<br>(Version NB-02A) | N/A        | N/A              |

NOTE: **N/A**: denotes No Model Name, No Serial No. or No Calibration specified.





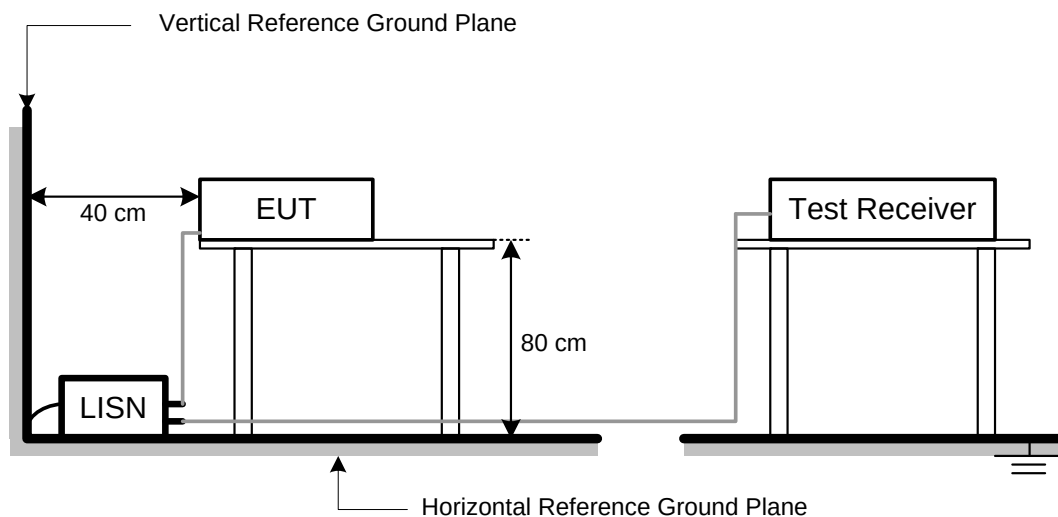
#### 4.3 TEST PROCEDURES

- The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
- Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
- I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
- LISN at least 80 cm from nearest part of EUT chassis.
- For the actual test configuration, please refer to the related Item –EUT Test Photos.

**NOTE:**

- Reading in which marked as Peak, QP or AVG means measurements by using are Quasi-Peak or Average Mode with Detector BW=9 kHz (6 dB Bandwidth).
- All readings are Peak Mode value unless otherwise stated QP or AVG in column of Note. If the Peak or QP Mode Measured value compliance with the QP Limits and lower than AVG Limits, the EUT shall be deemed to meet both QP & AVG Limits and then only Peak or QP Mode was measured, but AVG Mode didn't perform.

#### 4.4 TEST SETUP LAYOUT



#### 4.5 DEVIATION FROM TEST STANDARD

No deviation



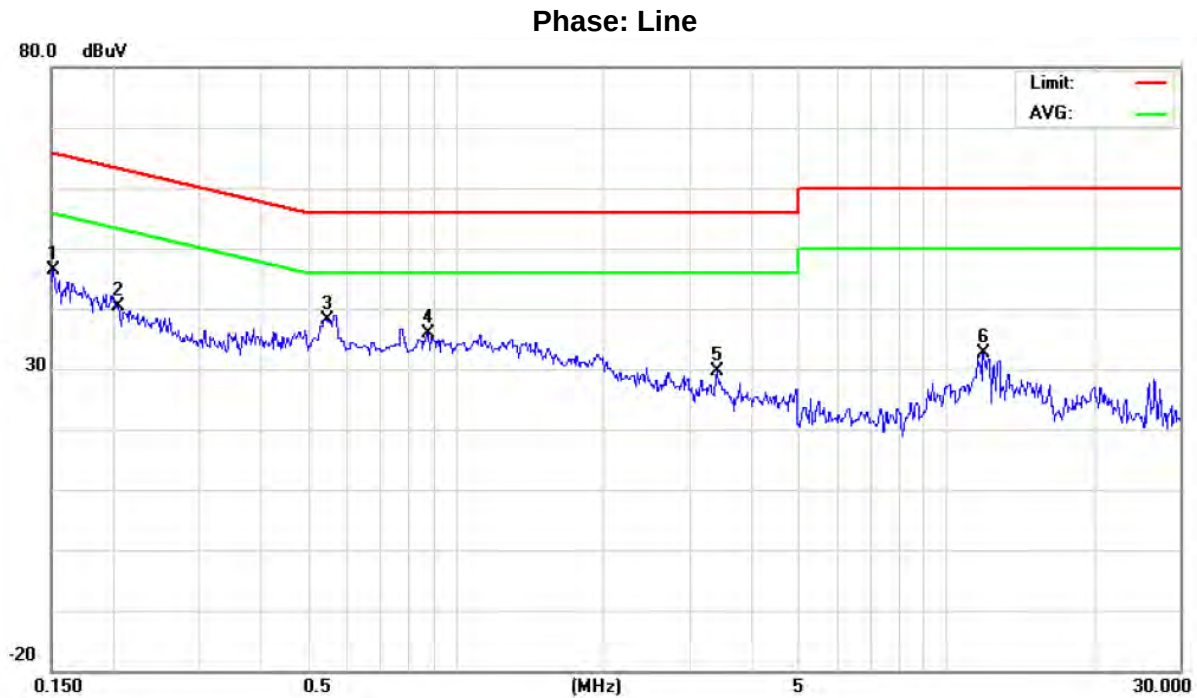
#### **4.6 EUT OPERATING CONDITIONS**

The EUT used during radiated and/or conducted emission measurement was designed to exercise in a manner similar to a typical use.



#### 4.7 TEST RESULTS - 2412-2462 MHZ

|              |                        |                   |       |
|--------------|------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer | Model Name        | PA520 |
| Temperature  | 24° C                  | Relative Humidity | 46%   |
| Test Voltage | AC 120V/60Hz           |                   |       |
| Test Mode    | IEEE 802.11b/2437 MHz  |                   |       |

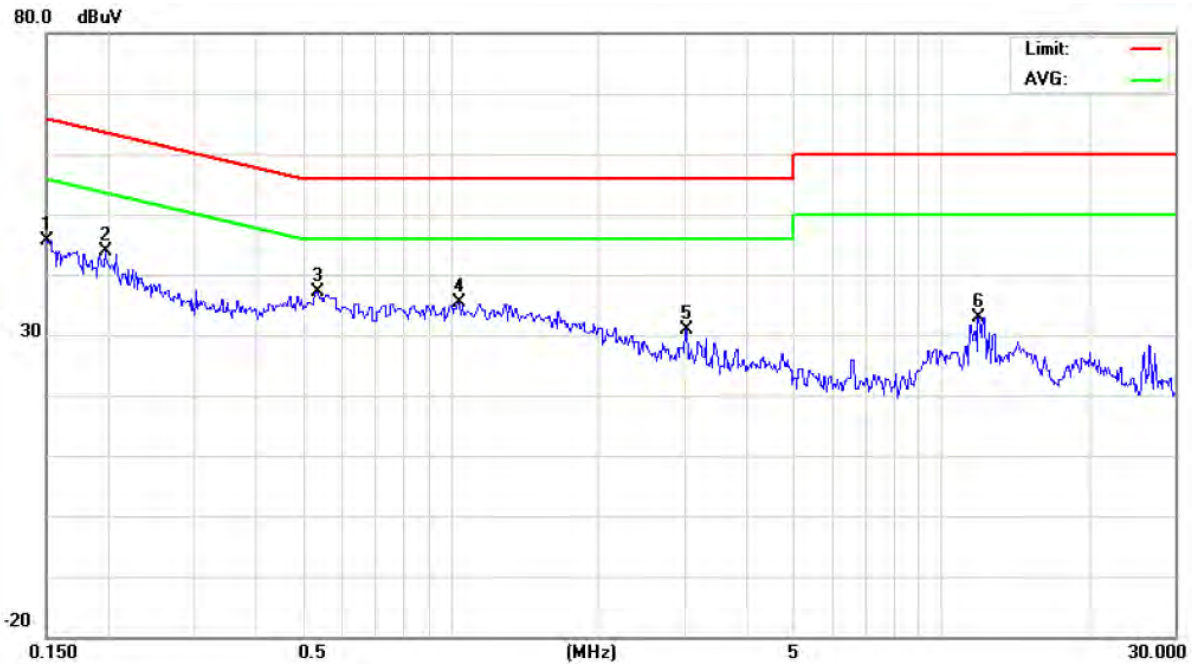


| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV | Limit<br>dBuV | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|--------------------------|---------------|------------|----------|---------|
| 1   |     | 0.1513       | 37.61                    | 8.70                    | 46.31                    | 65.93         | -19.62     | peak     |         |
| 2   |     | 0.2045       | 30.84                    | 9.43                    | 40.27                    | 63.43         | -23.16     | peak     |         |
| 3   | *   | 0.5450       | 29.62                    | 8.63                    | 38.25                    | 56.00         | -17.75     | peak     |         |
| 4   |     | 0.8780       | 26.47                    | 9.40                    | 35.87                    | 56.00         | -20.13     | peak     |         |
| 5   |     | 3.4160       | 20.32                    | 9.41                    | 29.73                    | 56.00         | -26.27     | peak     |         |
| 6   |     | 11.9000      | 23.35                    | 9.35                    | 32.70                    | 60.00         | -27.30     | peak     |         |



|              |                        |                   |       |
|--------------|------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer | Model Name        | PA520 |
| Temperature  | 24° C                  | Relative Humidity | 46%   |
| Test Voltage | AC 120V/60Hz           |                   |       |
| Test Mode    | IEEE 802.11b/2437 MHz  |                   |       |

**Phase: Neutral**

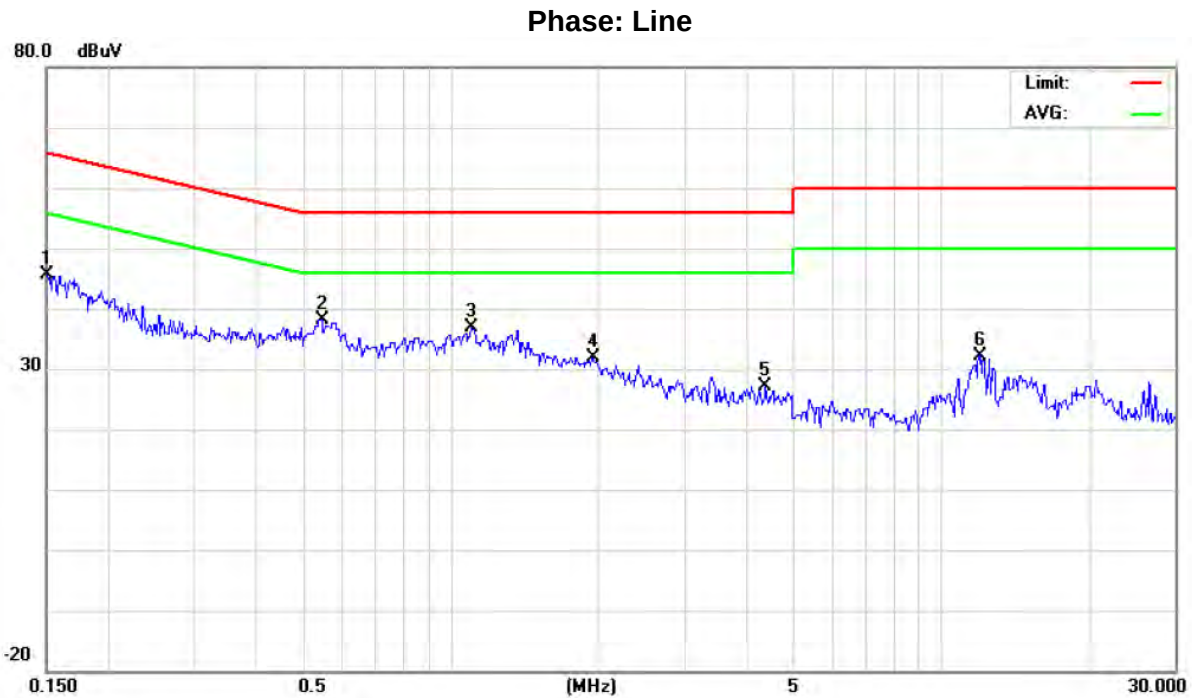


| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV | Limit<br>dBuV | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|--------------------------|---------------|------------|----------|---------|
| 1   |     | 0.1500       | 37.03                    | 8.68                    | 45.71                    | 66.00         | -20.29     | peak     |         |
| 2   |     | 0.1975       | 33.35                    | 10.41                   | 43.76                    | 63.72         | -19.96     | peak     |         |
| 3   | *   | 0.5360       | 28.65                    | 8.60                    | 37.25                    | 56.00         | -18.75     | peak     |         |
| 4   |     | 1.0399       | 25.77                    | 9.68                    | 35.45                    | 56.00         | -20.55     | peak     |         |
| 5   |     | 3.0110       | 21.49                    | 9.40                    | 30.89                    | 56.00         | -25.11     | peak     |         |
| 6   |     | 11.9000      | 23.64                    | 9.35                    | 32.99                    | 60.00         | -27.01     | peak     |         |



#### 4.8 TEST RESULTS - 5745-5825 MHZ

|              |                        |                   |       |
|--------------|------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer | Model Name        | PA520 |
| Temperature  | 24° C                  | Relative Humidity | 46%   |
| Test Voltage | AC 120V/60Hz           |                   |       |
| Test Mode    | IEEE 802.11a/5785 MHz  |                   |       |



| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV | Limit<br>dBuV | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|--------------------------|---------------|------------|----------|---------|
| 1   |     | 0.1500       | 37.07                    | 8.68                    | 45.75                    | 66.00         | -20.25     | peak     |         |
| 2   | *   | 0.5450       | 29.53                    | 8.63                    | 38.16                    | 56.00         | -17.84     | peak     |         |
| 3   |     | 1.1029       | 27.14                    | 9.66                    | 36.80                    | 56.00         | -19.20     | peak     |         |
| 4   |     | 1.9399       | 22.52                    | 9.36                    | 31.88                    | 56.00         | -24.12     | peak     |         |
| 5   |     | 4.3699       | 17.64                    | 9.48                    | 27.12                    | 56.00         | -28.88     | peak     |         |
| 6   |     | 11.9498      | 22.74                    | 9.35                    | 32.09                    | 60.00         | -27.91     | peak     |         |



|              |                        |                   |       |
|--------------|------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer | Model Name        | PA520 |
| Temperature  | 24° C                  | Relative Humidity | 46%   |
| Test Voltage | AC 120V/60Hz           |                   |       |
| Test Mode    | IEEE 802.11a/5785 MHz  |                   |       |

**Phase: Neutral**



| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV | Limit<br>dBuV | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|--------------------------|---------------|------------|----------|---------|
| 1   |     | 0.1714       | 34.59                    | 9.46                    | 44.05                    | 64.89         | -20.84     | peak     |         |
| 2   |     | 0.2248       | 31.26                    | 9.84                    | 41.10                    | 62.64         | -21.54     | peak     |         |
| 3   | *   | 0.5360       | 29.15                    | 8.60                    | 37.75                    | 56.00         | -18.25     | peak     |         |
| 4   |     | 0.9229       | 26.14                    | 9.51                    | 35.65                    | 56.00         | -20.35     | peak     |         |
| 5   |     | 1.5168       | 25.26                    | 9.50                    | 34.76                    | 56.00         | -21.24     | peak     |         |
| 6   |     | 12.7500      | 24.55                    | 9.39                    | 33.94                    | 60.00         | -26.06     | peak     |         |

**5 ANTENNA CONDUCTED SPURIOUS EMISSION****5.1 LIMIT**

| Test Item                           | Frequency Range (MHz) | Limit                                                   |
|-------------------------------------|-----------------------|---------------------------------------------------------|
| Antenna conducted Spurious Emission | 30-25000              | 20 dB less than the peak value of fundamental frequency |

**5.2 MEASUREMENT INSTRUMENTS LIST**

| Item | Kind of Equipment | Manufacturer | Type No. | Serial No. | Calibrated until |
|------|-------------------|--------------|----------|------------|------------------|
| 1    | Spectrum Analyzer | R&S          | FSP-30   | 100854     | Sep. 08, 2014    |

NOTE: **N/A**: denotes No Model Name, No Serial No. or No Calibration specified.

**5.3 TEST PROCEDURES**

- The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
- Spectrum Setting: RBW= 100KHz, VBW=300KHz, Sweep time = Auto.

**5.4 TEST SETUP LAYOUT****5.5 DEVIATION FROM TEST STANDARD**

No deviation

**5.6 EUT OPERATING CONDITIONS**

The EUT tested system was configured as the statements of 4.6 Unless otherwise a special operating condition is specified in the follows during the testing.

**5.7 TEST RESULTS - 2412-2462 MHZ**

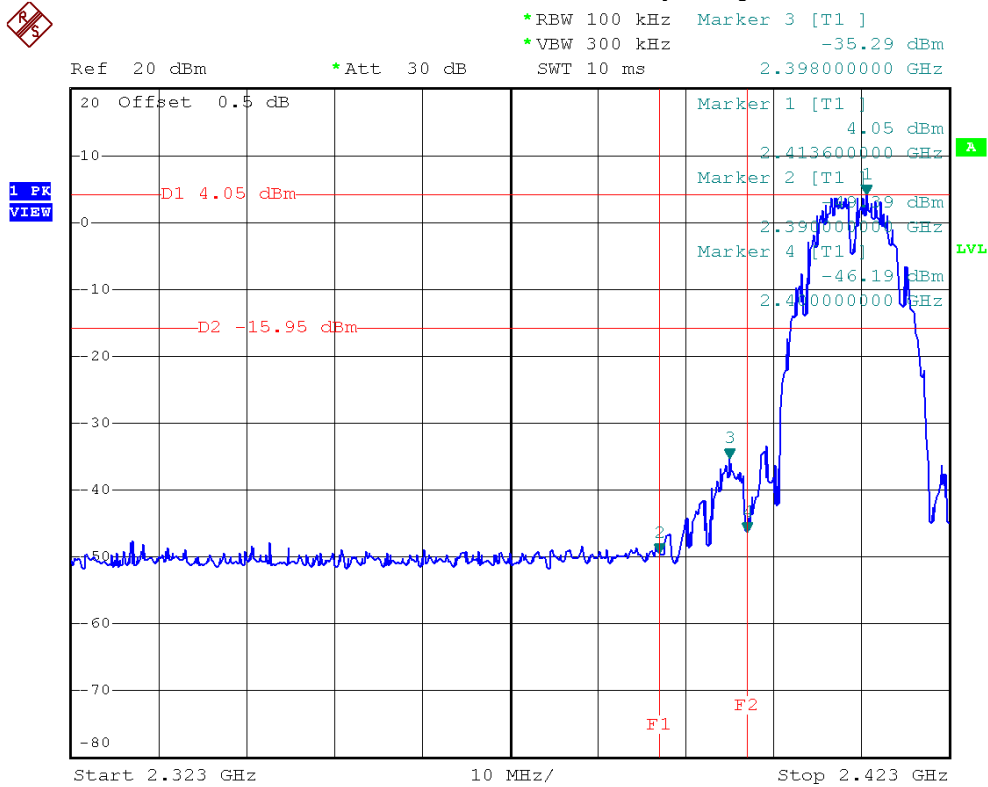
|              |                        |                   |       |
|--------------|------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer | Model Name        | PA520 |
| Temperature  | 26°C                   | Relative Humidity | 46%   |
| Test Voltage | AC 120V/60Hz           |                   |       |
| Test Mode    | IEEE 802.11b           |                   |       |

| Channel of Worst Data                                                                                                                                                                                   |            |                                                                                    |            |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|------------------------------------------------------------------------------------|------------|
| The max. radio frequency power in any 100kHz bandwidth outside the frequency band                                                                                                                       |            | The max. radio frequency power in any 100 kHz bandwidth within the frequency band. |            |
| FREQUENCY(MHz)                                                                                                                                                                                          | POWER(dBm) | FREQUENCY(MHz)                                                                     | POWER(dBm) |
| 2398.00                                                                                                                                                                                                 | -35.29     | 2484.00                                                                            | -48.48     |
| Result                                                                                                                                                                                                  |            |                                                                                    |            |
| In any 100kHz bandwidth outside the frequency band, the radio frequency power is at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power. |            |                                                                                    |            |

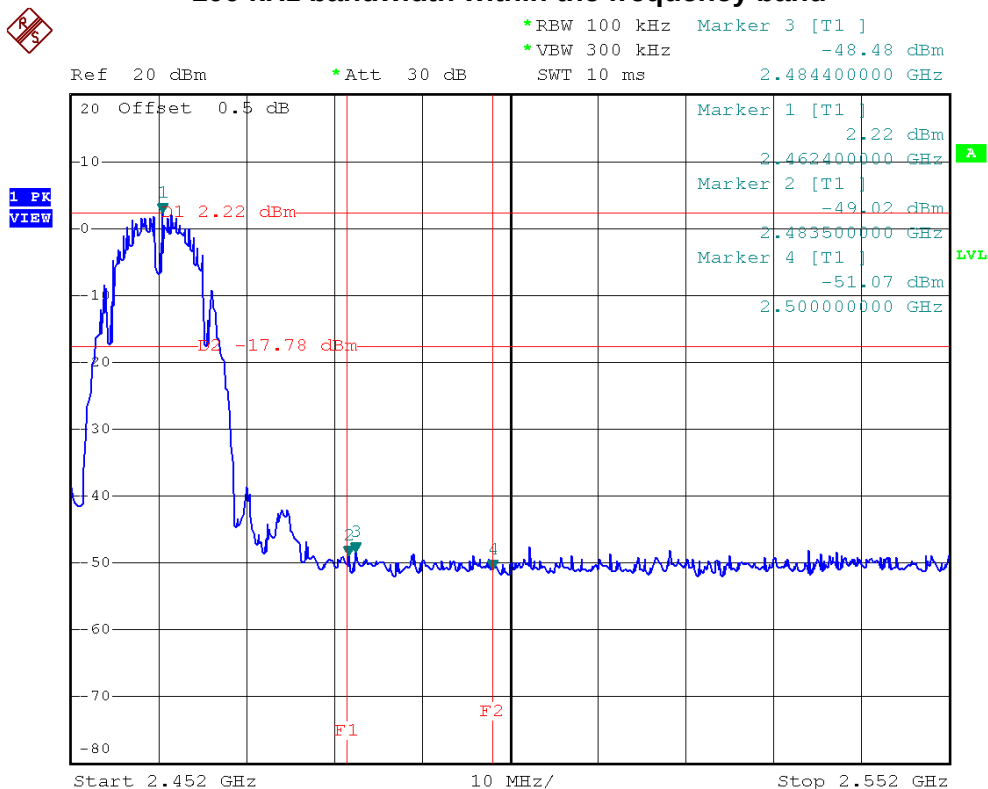




IEEE 802.11b/The max. radio frequency power in any  
100kHz bandwidth outside the frequency band

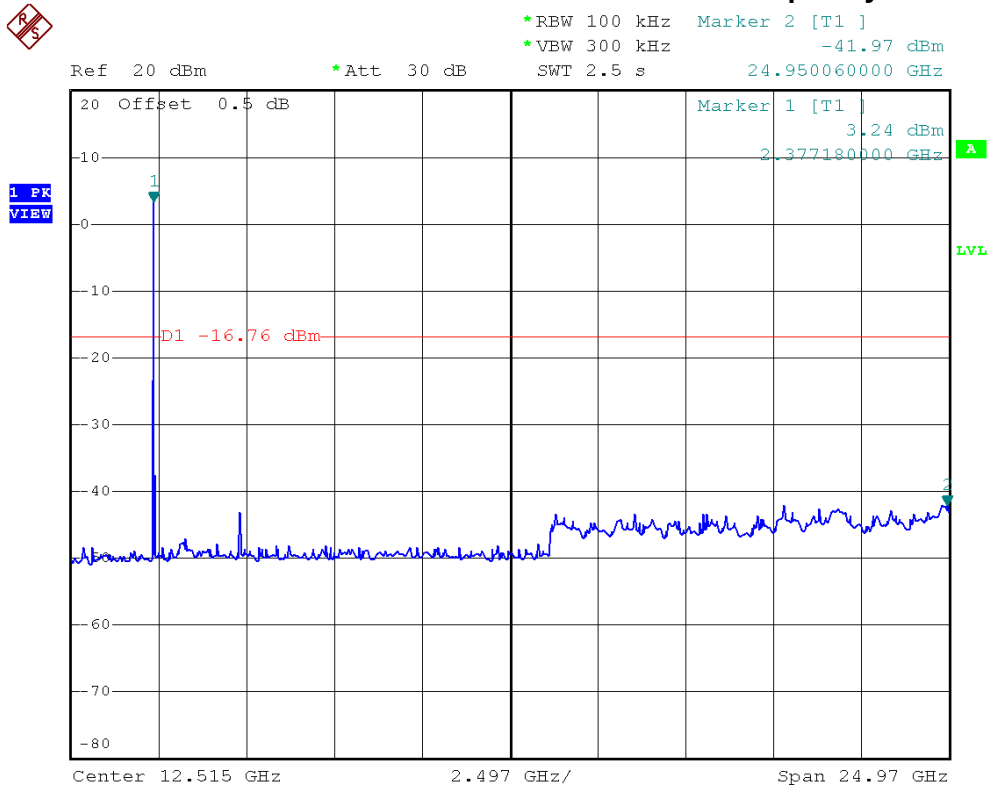


IEEE 802.11b/The max. radio frequency power in any  
100 kHz bandwidth within the frequency band

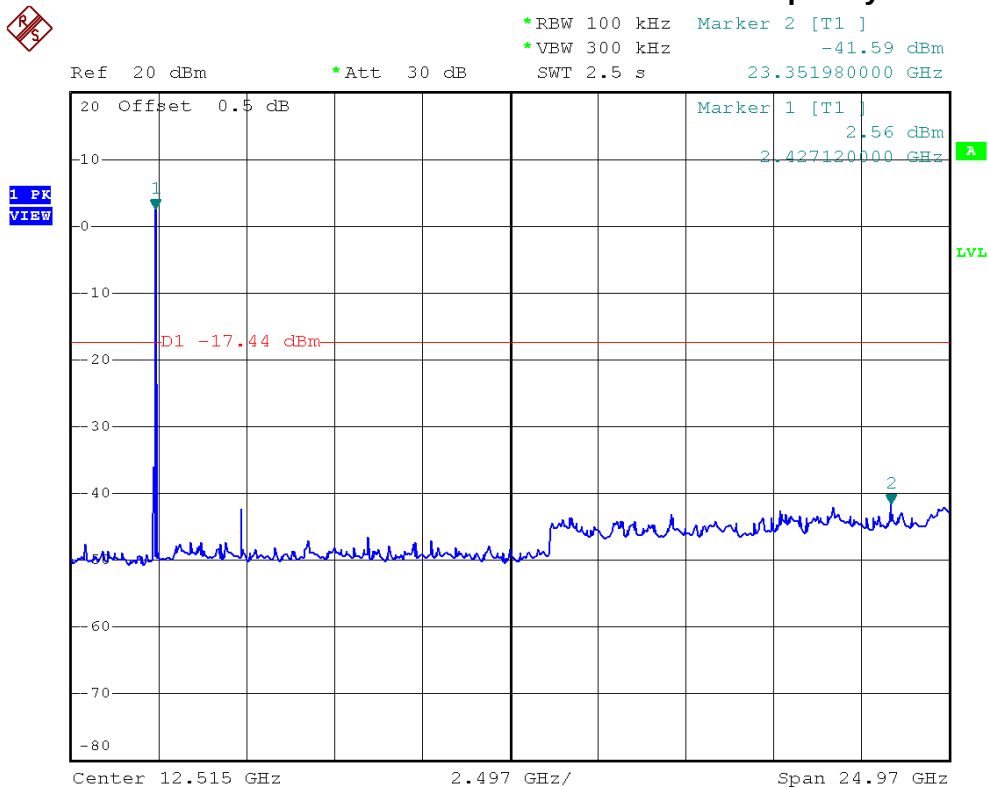




### IEEE 802.11b/2412 MHz/10 Harmonic of the frequency



### IEEE 802.11b/2437 MHz/10 Harmonic of the frequency

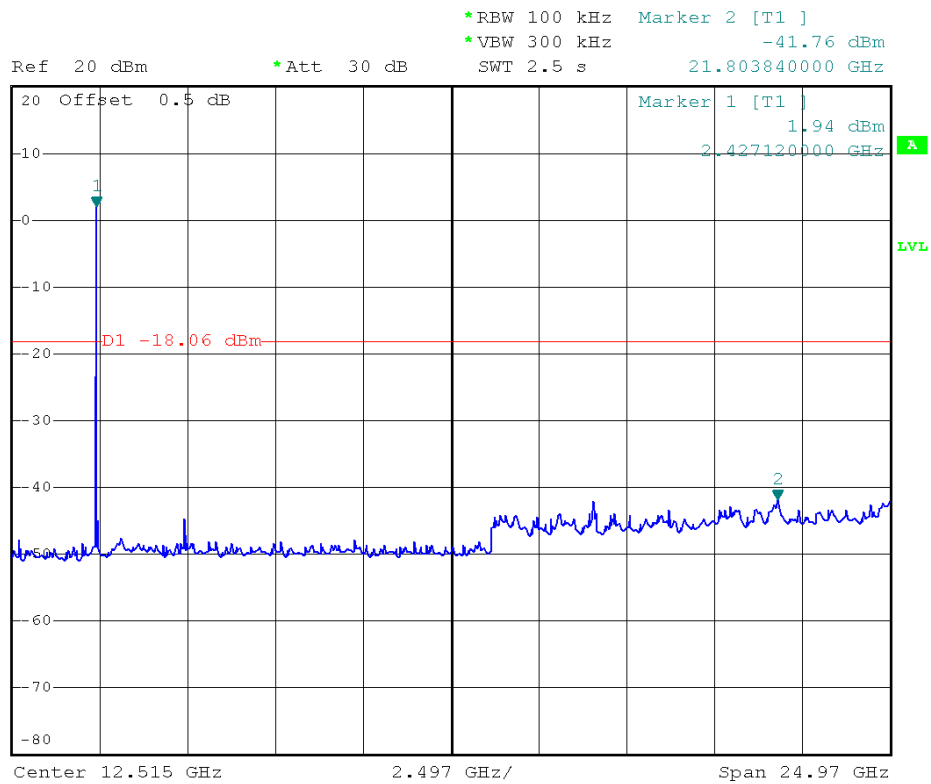




### IEEE 802.11b/2462 MHz/10 Harmonic of the frequency



1 PK  
VIEW



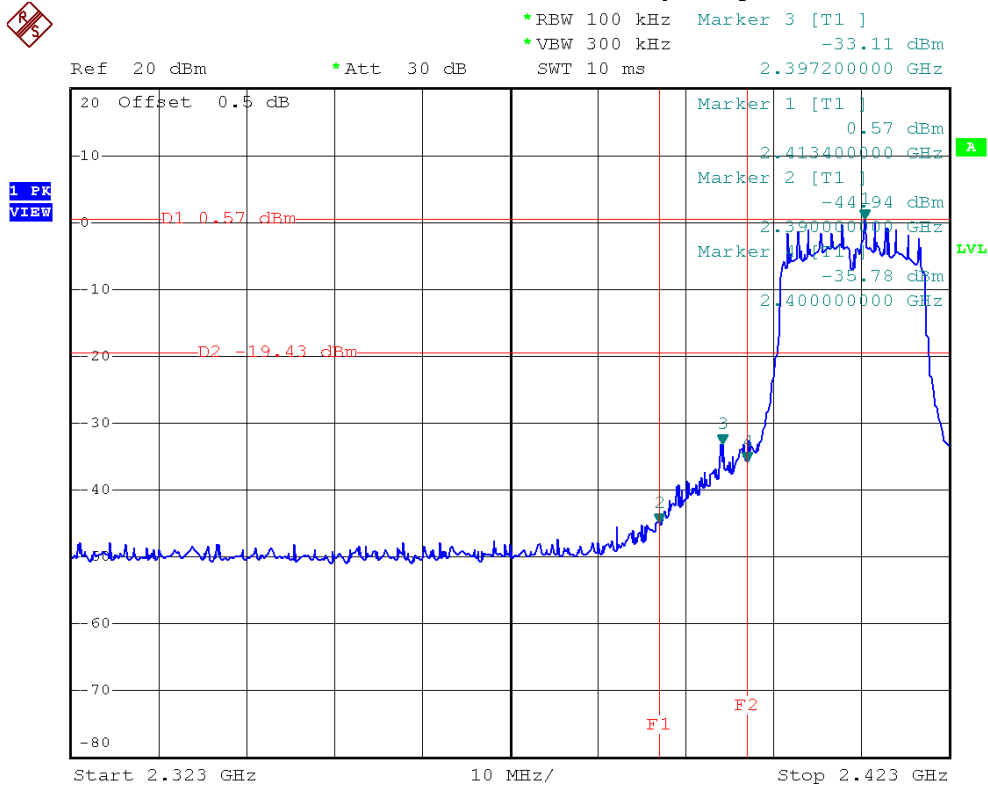


|              |                        |                   |       |
|--------------|------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer | Model Name        | PA520 |
| Temperature  | 26°C                   | Relative Humidity | 46%   |
| Test Voltage | AC 120V/60Hz           |                   |       |
| Test Mode    | IEEE 802.11g           |                   |       |

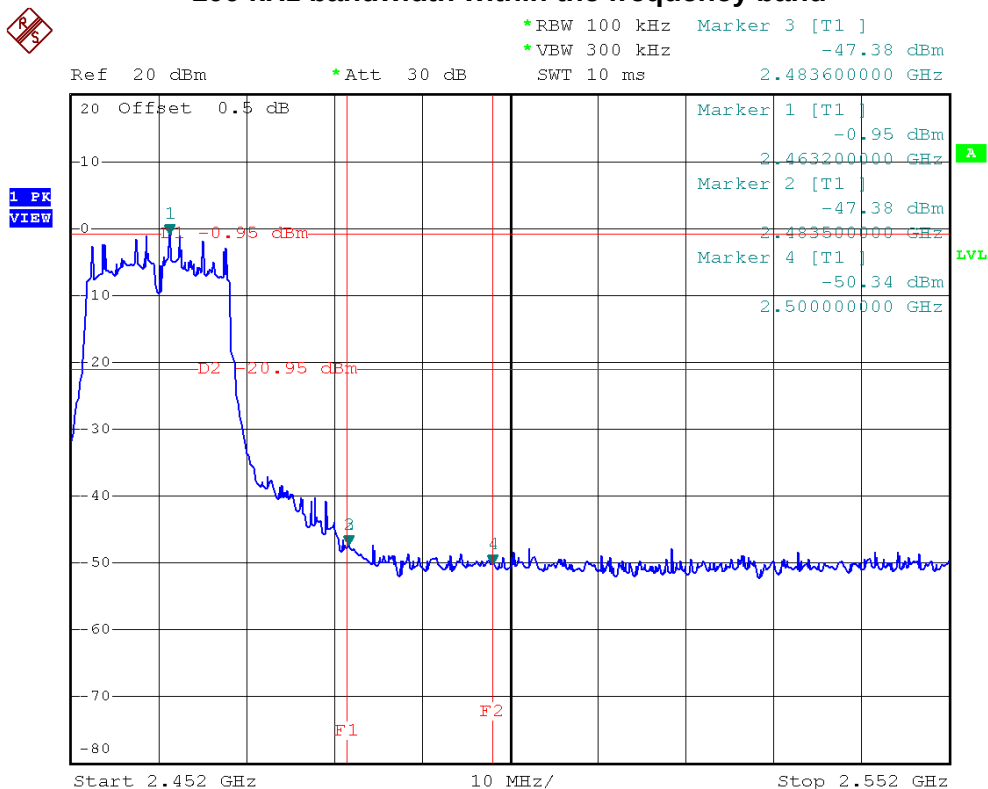
| Channel of Worst Data                                                                                                                                                                                   |            |                                                                                    |            |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|------------------------------------------------------------------------------------|------------|
| The max. radio frequency power in any 100kHz bandwidth outside the frequency band                                                                                                                       |            | The max. radio frequency power in any 100 kHz bandwidth within the frequency band. |            |
| FREQUENCY(MHz)                                                                                                                                                                                          | POWER(dBm) | FREQUENCY(MHz)                                                                     | POWER(dBm) |
| 2397.20                                                                                                                                                                                                 | -33.11     | 2483.60                                                                            | -47.38     |
| Result                                                                                                                                                                                                  |            |                                                                                    |            |
| In any 100kHz bandwidth outside the frequency band, the radio frequency power is at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power. |            |                                                                                    |            |



IEEE 802.11g/The max. radio frequency power in any  
100kHz bandwidth outside the frequency band

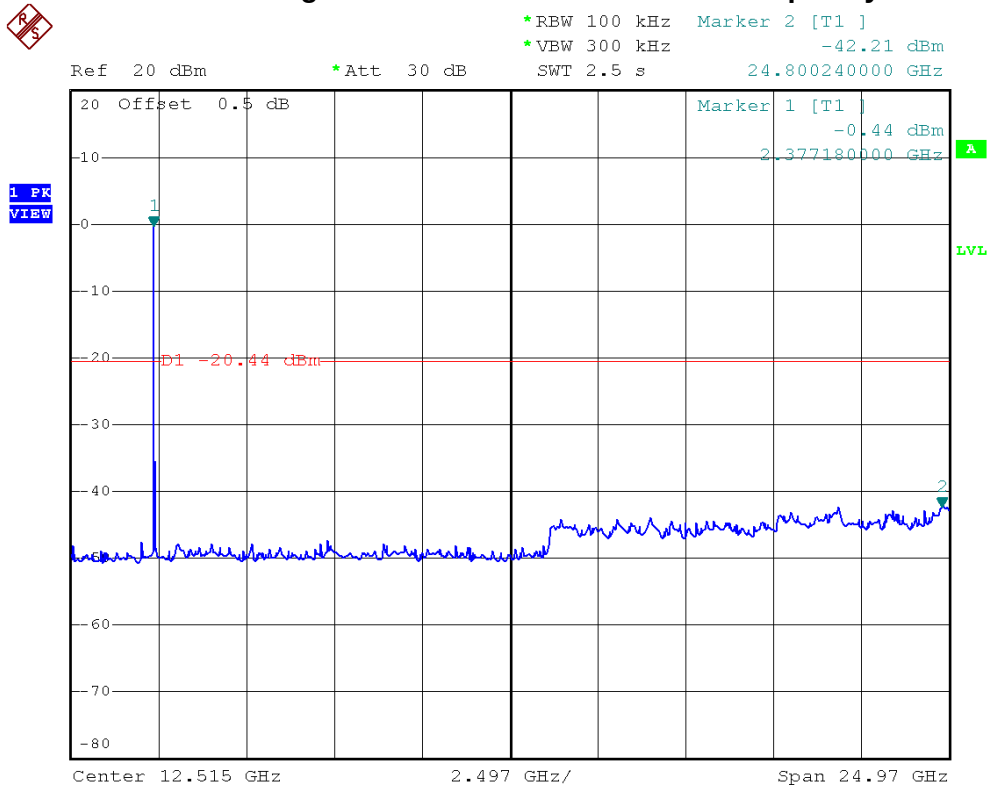


IEEE 802.11g/The max. radio frequency power in any  
100 kHz bandwidth within the frequency band

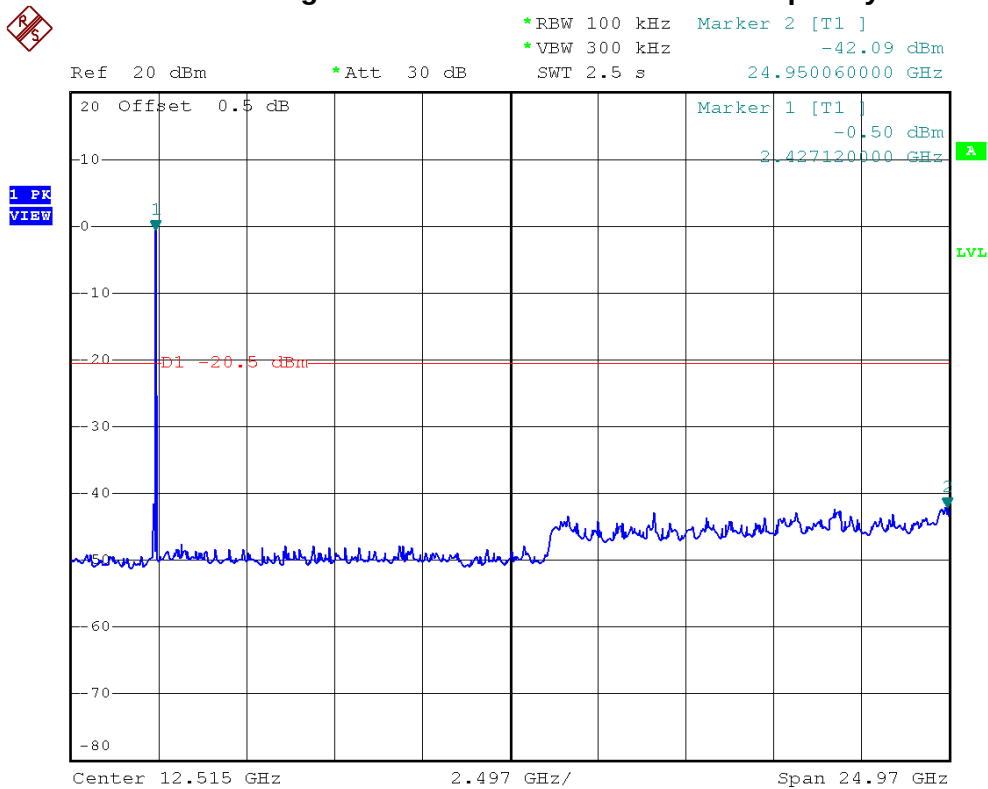




### IEEE 802.11g/2412 MHz/10 Harmonic of the frequency

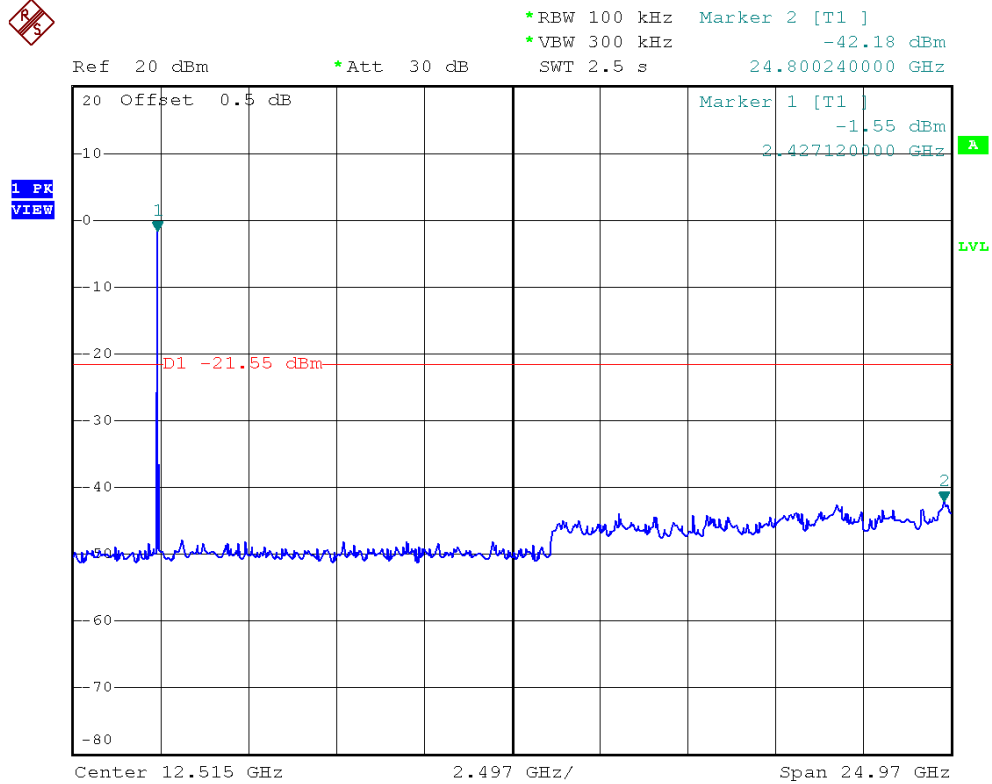


### IEEE 802.11g/2437 MHz/10 Harmonic of the frequency





### IEEE 802.11g/2462 MHz/10 Harmonic of the frequency





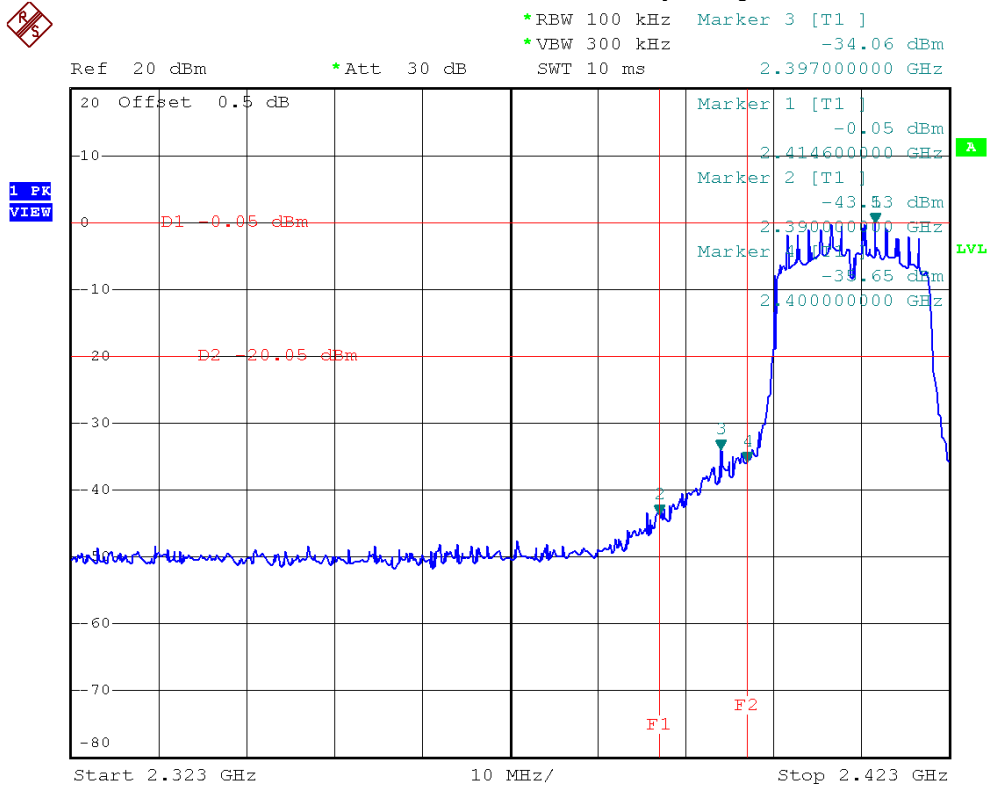
|              |                        |                   |       |
|--------------|------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer | Model Name        | PA520 |
| Temperature  | 26°C                   | Relative Humidity | 46%   |
| Test Voltage | AC 120V/60Hz           |                   |       |
| Test Mode    | IEEE 802.11n (20 MHz)  |                   |       |

| Channel of Worst Data                                                                                                                                                                                   |            |                                                                                    |            |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|------------------------------------------------------------------------------------|------------|
| The max. radio frequency power in any 100kHz bandwidth outside the frequency band                                                                                                                       |            | The max. radio frequency power in any 100 kHz bandwidth within the frequency band. |            |
| FREQUENCY(MHz)                                                                                                                                                                                          | POWER(dBm) | FREQUENCY(MHz)                                                                     | POWER(dBm) |
| 2397.00                                                                                                                                                                                                 | -34.06     | 2483.80                                                                            | -47.23     |
| Result                                                                                                                                                                                                  |            |                                                                                    |            |
| In any 100kHz bandwidth outside the frequency band, the radio frequency power is at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power. |            |                                                                                    |            |

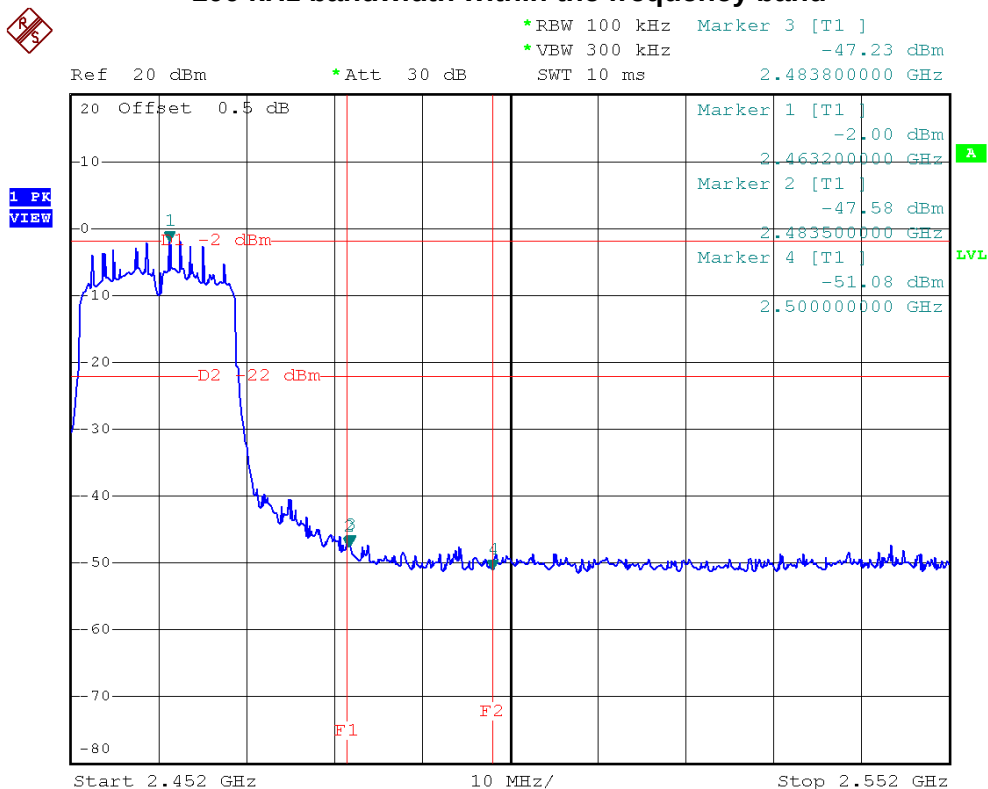




IEEE 802.11n (20 MHz)/The max. radio frequency power in any 100kHz bandwidth outside the frequency band

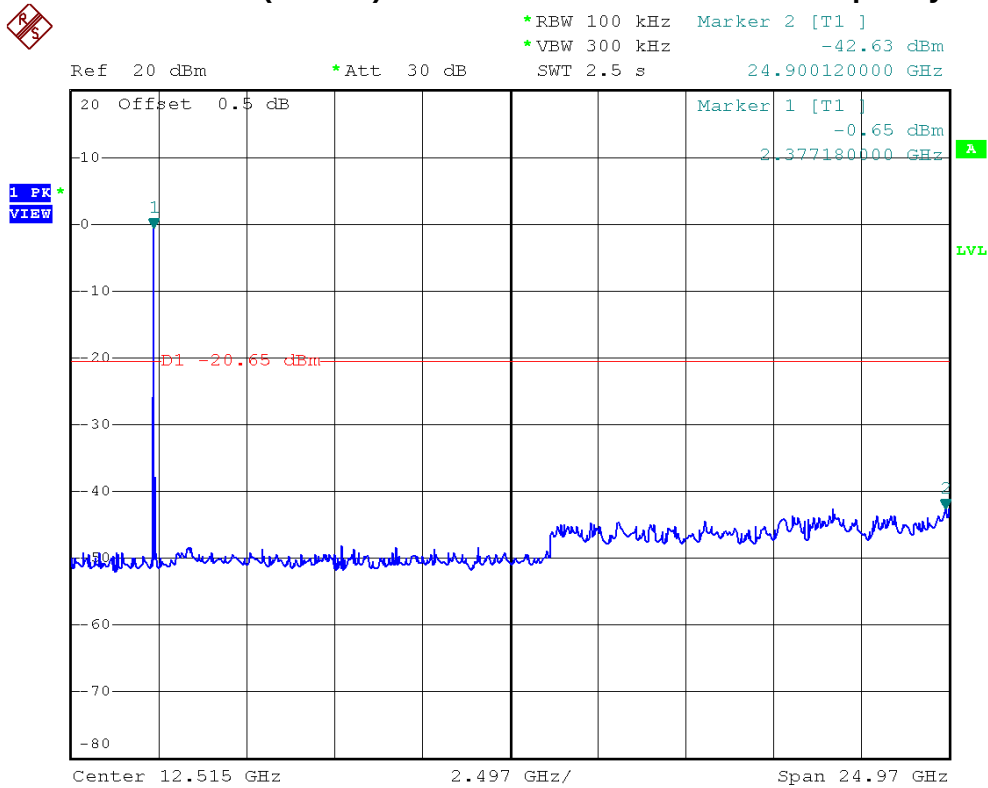


IEEE 802.11n (20 MHz)/The max. radio frequency power in any 100 kHz bandwidth within the frequency band

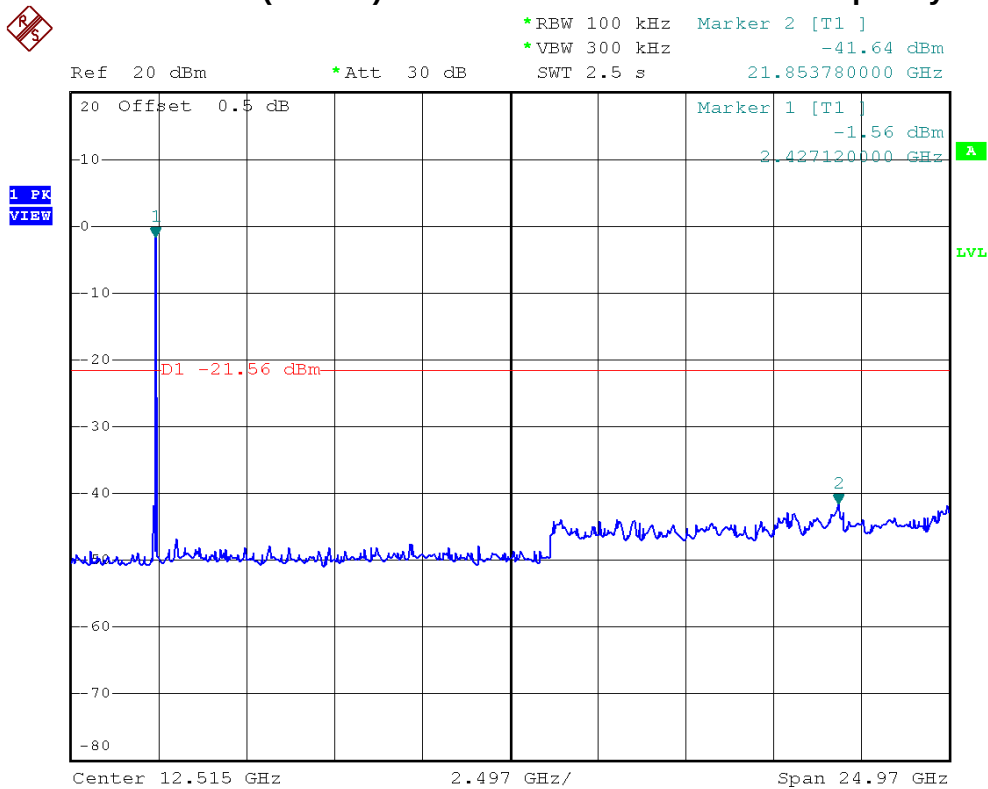




### IEEE 802.11n (20 MHz)/2412 MHz/10 Harmonic of the frequency



### IEEE 802.11n (20 MHz)/2437 MHz/10 Harmonic of the frequency





IEEE 802.11n (20 MHz)/2462 MHz/10 Harmonic of the frequency



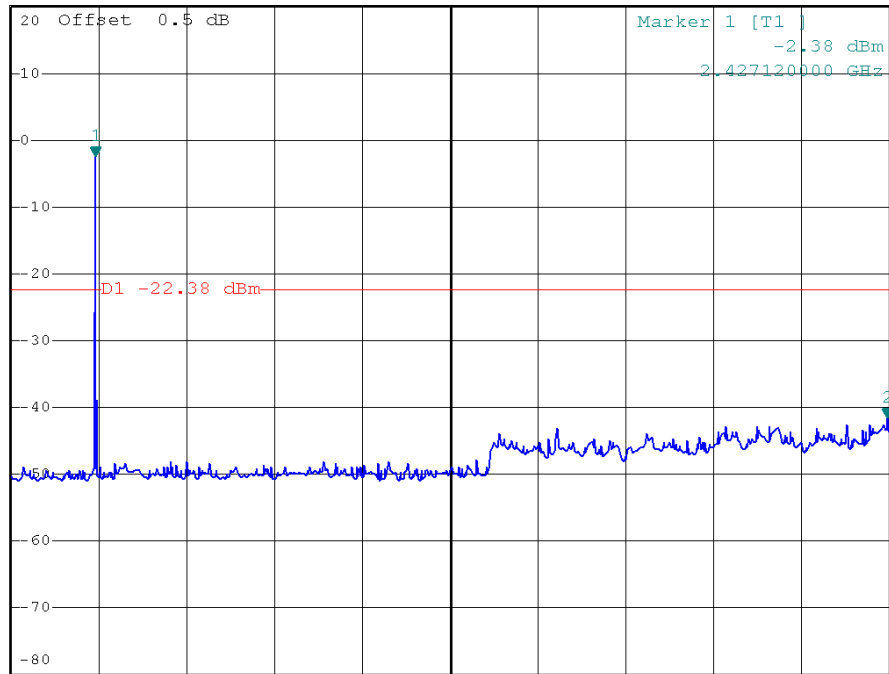
\*RBW 100 kHz Marker 2 [T1 ]  
\*VBW 300 kHz -41.64 dBm  
SWT 2.5 s 24.950060000 GHz

Ref 20 dBm

\*Att 30 dB

24.950060000 GHz

1 PK  
VIEW



Center 12.515 GHz

2.497 GHz/

Span 24.97 GHz

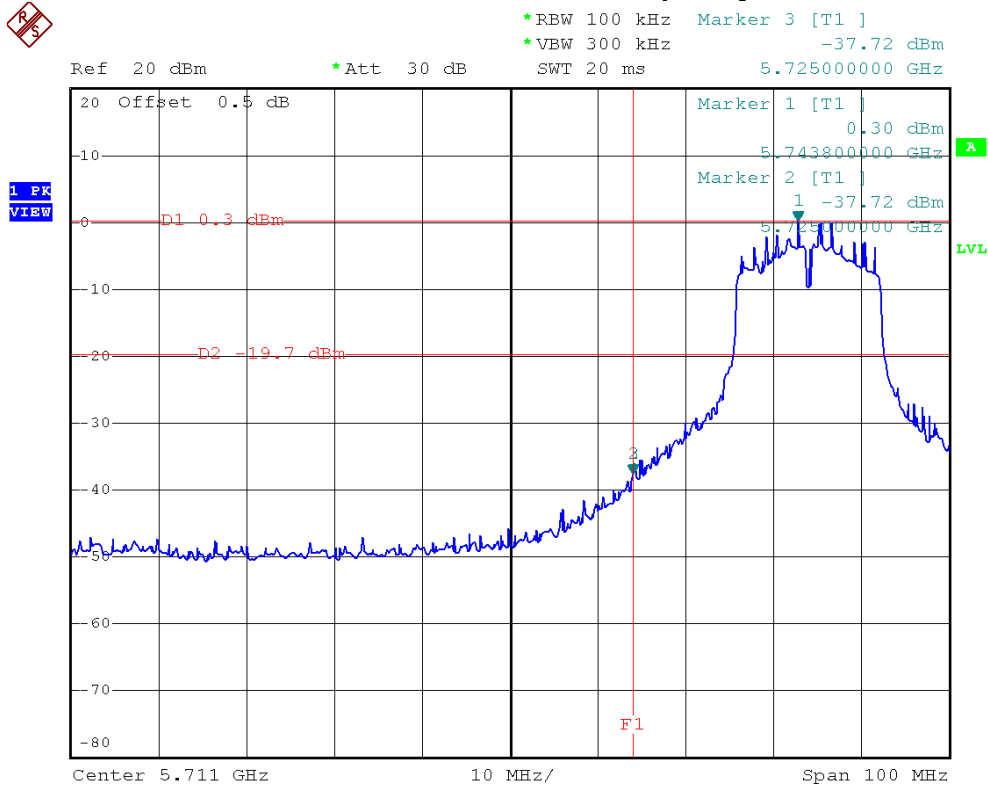
**5.8 TEST RESULTS - 5745-5825 MHZ**

|              |                        |                   |       |
|--------------|------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer | Model Name        | PA520 |
| Temperature  | 26°C                   | Relative Humidity | 46%   |
| Test Voltage | AC 120V/60Hz           |                   |       |
| Test Mode    | IEEE 802.11a           |                   |       |

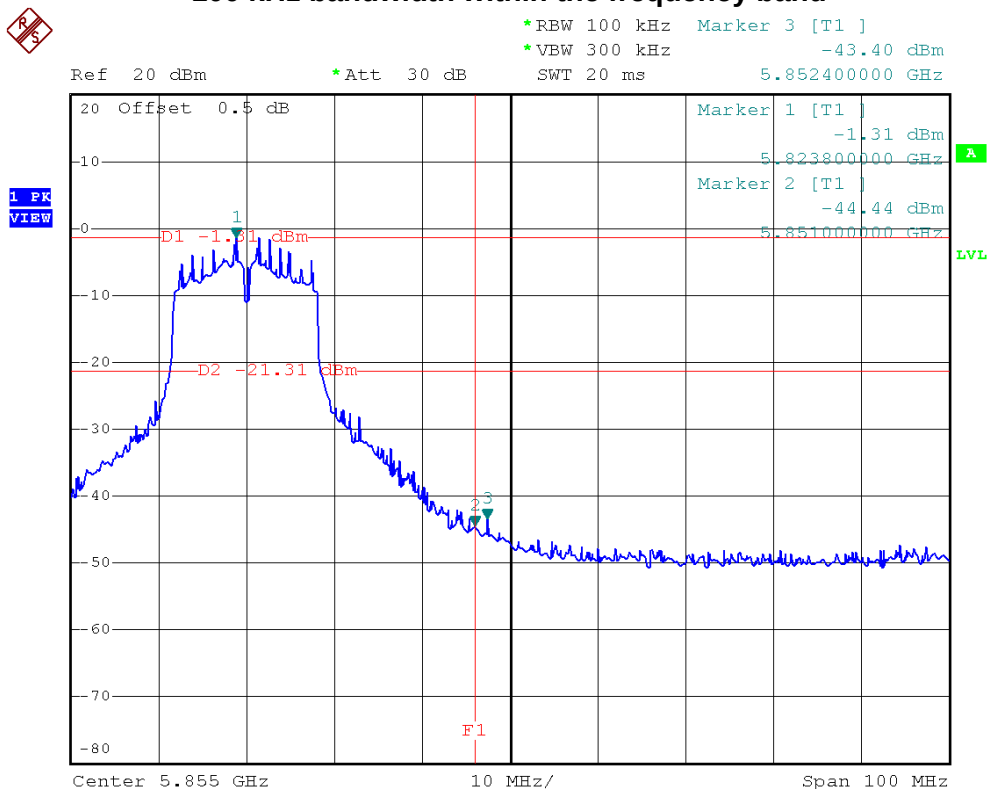
| Channel of Worst Data                                                                                                                                                                                   |            |                                                                                    |            |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|------------------------------------------------------------------------------------|------------|
| The max. radio frequency power in any 100kHz bandwidth outside the frequency band                                                                                                                       |            | The max. radio frequency power in any 100 kHz bandwidth within the frequency band. |            |
| FREQUENCY(MHz)                                                                                                                                                                                          | POWER(dBm) | FREQUENCY(MHz)                                                                     | POWER(dBm) |
| 5725.00                                                                                                                                                                                                 | -37.72     | 5852.40                                                                            | -43.40     |
| Result                                                                                                                                                                                                  |            |                                                                                    |            |
| In any 100kHz bandwidth outside the frequency band, the radio frequency power is at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power. |            |                                                                                    |            |



IEEE 802.11a/The max. radio frequency power in any 100kHz bandwidth outside the frequency band

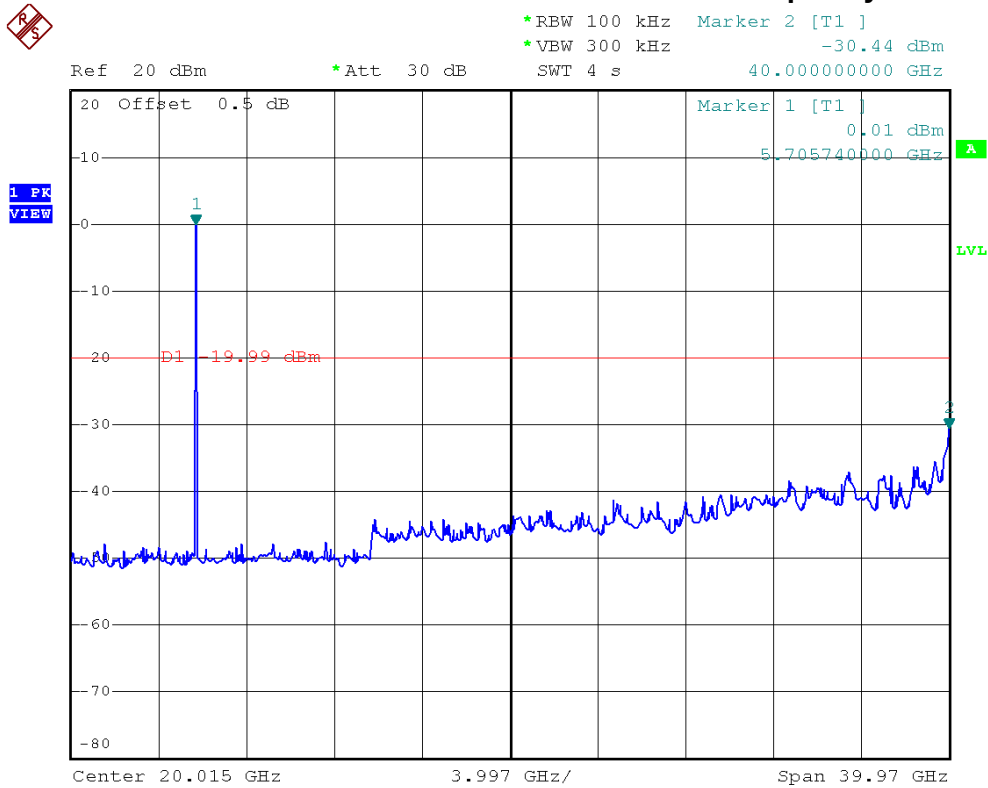


IEEE 802.11a/The max. radio frequency power in any 100 kHz bandwidth within the frequency band

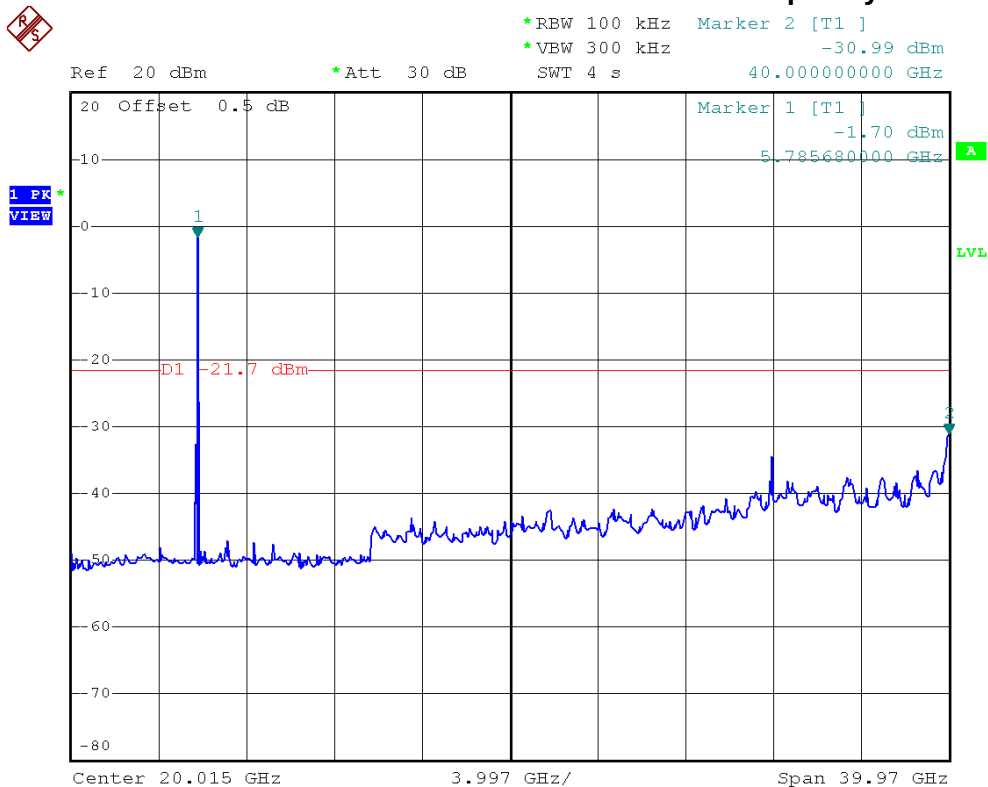




### IEEE 802.11a/5745 MHz/10 Harmonic of the frequency

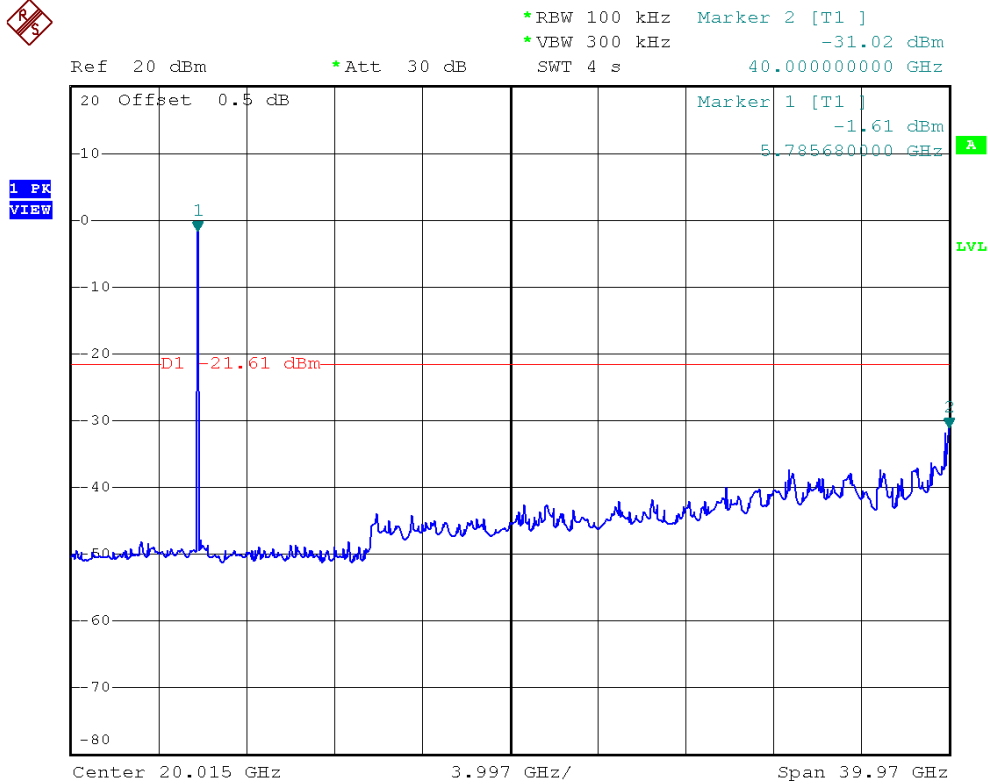


### IEEE 802.11a/5785 MHz/10 Harmonic of the frequency





### IEEE 802.11a/5825 MHz/10 Harmonic of the frequency





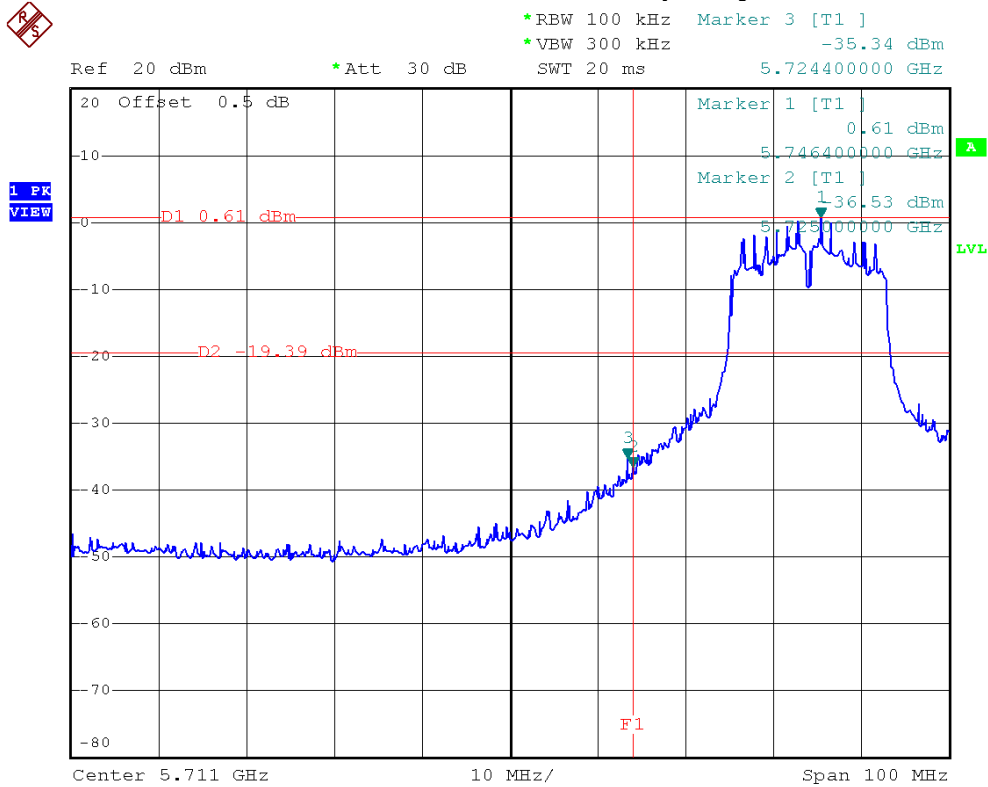
|              |                        |                   |       |
|--------------|------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer | Model Name        | PA520 |
| Temperature  | 26°C                   | Relative Humidity | 46%   |
| Test Voltage | AC 120V/60Hz           |                   |       |
| Test Mode    | IEEE 802.11n (20 MHz)  |                   |       |

| Channel of Worst Data                                                                                                                                                                                   |            |                                                                                    |            |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|------------------------------------------------------------------------------------|------------|
| The max. radio frequency power in any 100kHz bandwidth outside the frequency band                                                                                                                       |            | The max. radio frequency power in any 100 kHz bandwidth within the frequency band. |            |
| FREQUENCY(MHz)                                                                                                                                                                                          | POWER(dBm) | FREQUENCY(MHz)                                                                     | POWER(dBm) |
| 5724.40                                                                                                                                                                                                 | -35.34     | 5851.60                                                                            | -42.70     |
| Result                                                                                                                                                                                                  |            |                                                                                    |            |
| In any 100kHz bandwidth outside the frequency band, the radio frequency power is at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power. |            |                                                                                    |            |

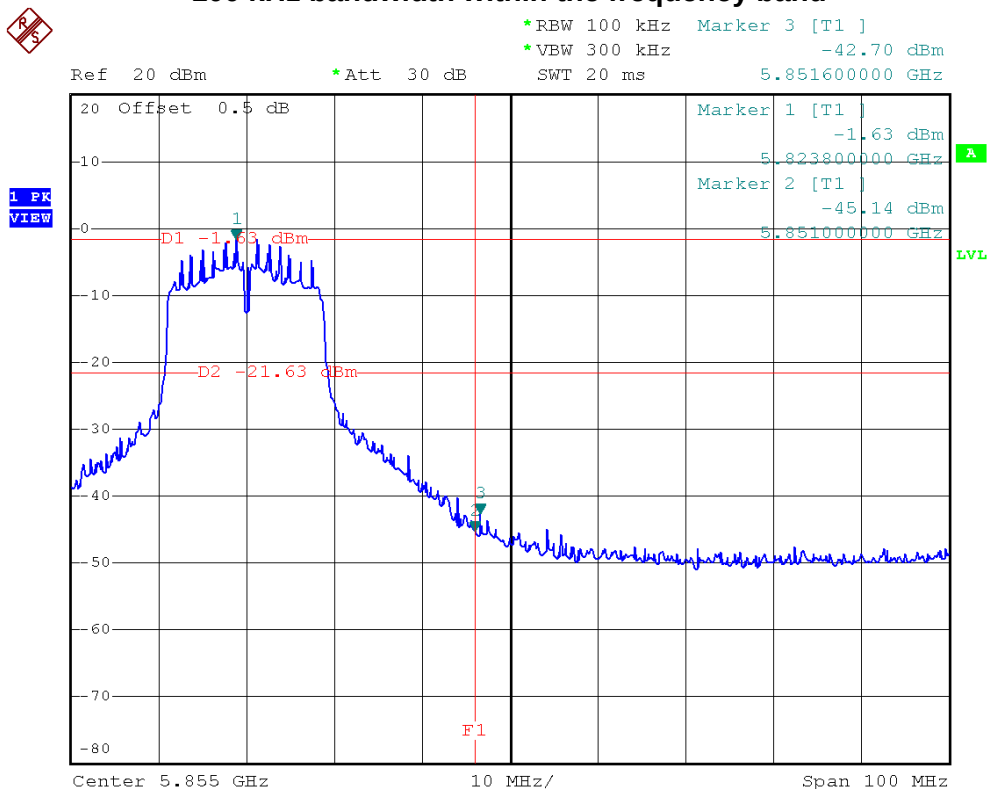




IEEE 802.11n (20 MHz)/The max. radio frequency power in any 100kHz bandwidth outside the frequency band

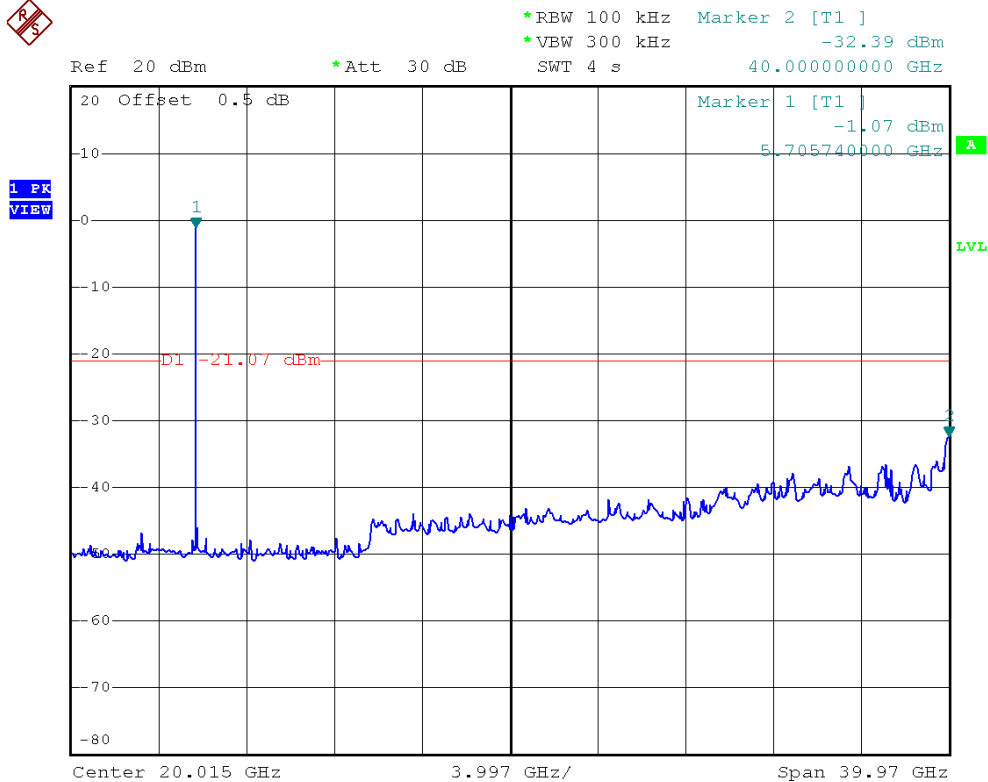


IEEE 802.11n (20 MHz)/The max. radio frequency power in any 100 kHz bandwidth within the frequency band

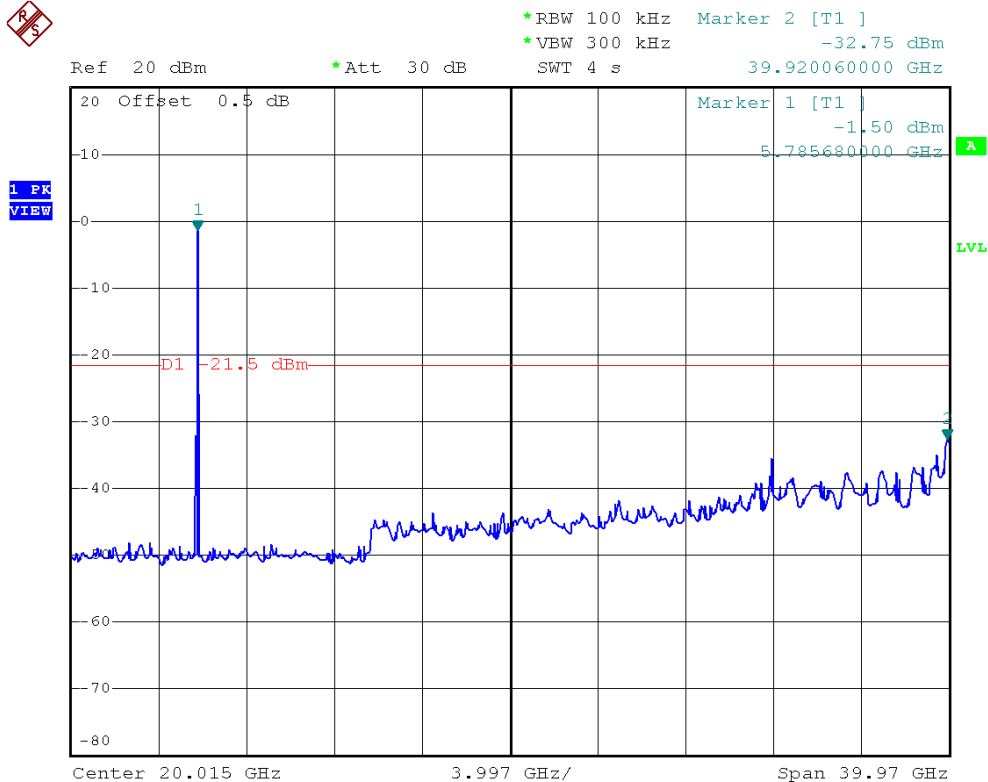




### IEEE 802.11n (20 MHz)/5745 MHz/10 Harmonic of the frequency



### IEEE 802.11n (20 MHz)/5785 MHz/10 Harmonic of the frequency





IEEE 802.11n (20 MHz)/5825 MHz/10 Harmonic of the frequency



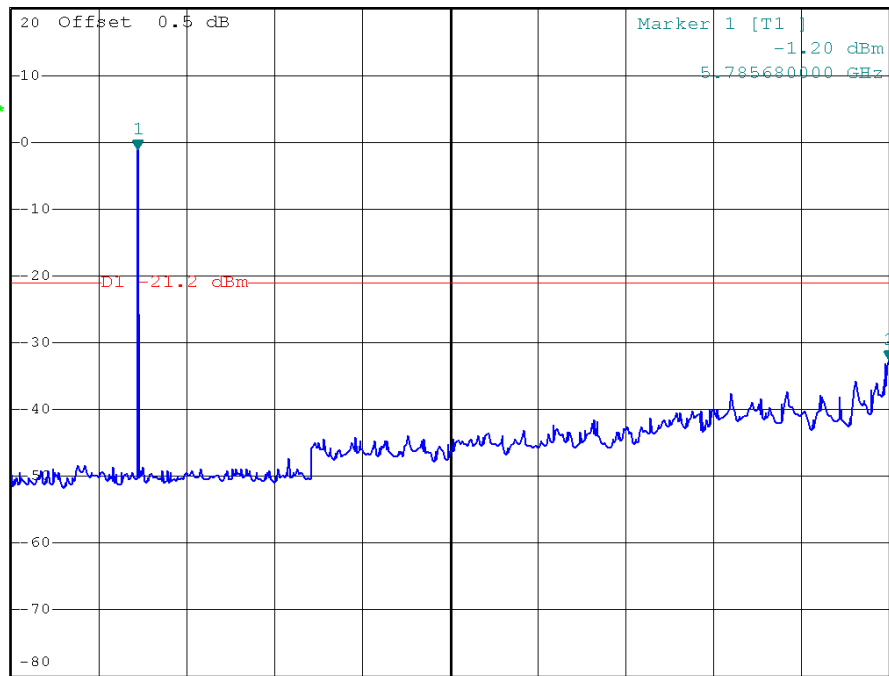
\*RBW 100 kHz Marker 2 [T1 ]  
\*VBW 300 kHz -32.56 dBm  
SWT 4 s 40.000000000 GHz

Ref 20 dBm

\*Att 30 dB

Marker 1 [T1 ]  
-1.20 dBm  
5.785680000 GHz

1 PK  
VIEW



Center 20.015 GHz

3.997 GHz/

Span 39.97 GHz

**6.6 DB BANDWIDTH****6.1 LIMIT**

| Test Item | Frequency Range (MHz) | Limit                                   |
|-----------|-----------------------|-----------------------------------------|
| Bandwidth | 2400-2483.5           | $\geq 500\text{KHz}$<br>(6dB bandwidth) |

**6.2 MEASUREMENT INSTRUMENTS LIST**

| Item | Kind of Equipment | Manufacturer | Type No. | Serial No. | Calibrated until |
|------|-------------------|--------------|----------|------------|------------------|
| 1    | Spectrum Analyzer | R&S          | FSP-30   | 100854     | Sep. 08, 2014    |

NOTE: **N/A**: denotes No Model Name, No Serial No. or No Calibration specified.

**6.3 TEST PROCEDURES**

- The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.
- Spectrum Setting: RBW= 100KHz, VBW=300KHz, Sweep time = Auto.

**6.4 TEST SETUP LAYOUT****6.5 DEVIATION FROM TEST STANDARD**

No deviation

**6.6 EUT OPERATING CONDITIONS**

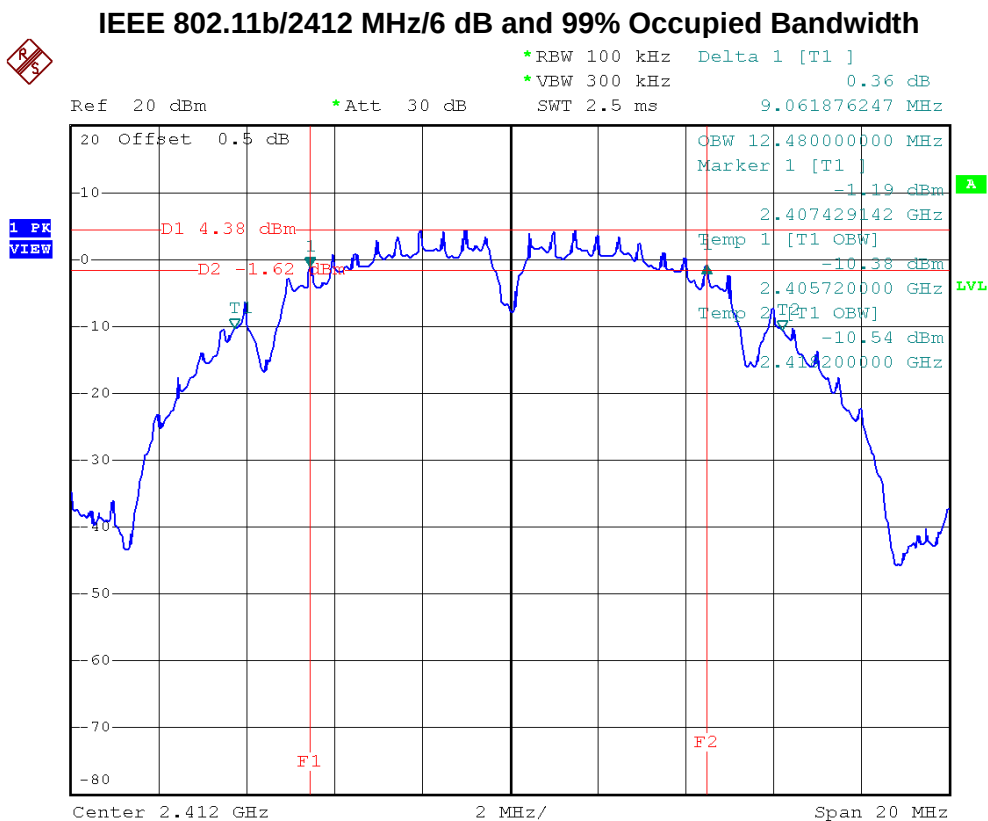
The EUT tested system was configured as the statements of 4.6 Unless otherwise a special operating condition is specified in the follows during the testing.



## 6.7 TEST RESULTS - 2412-2462 MHZ

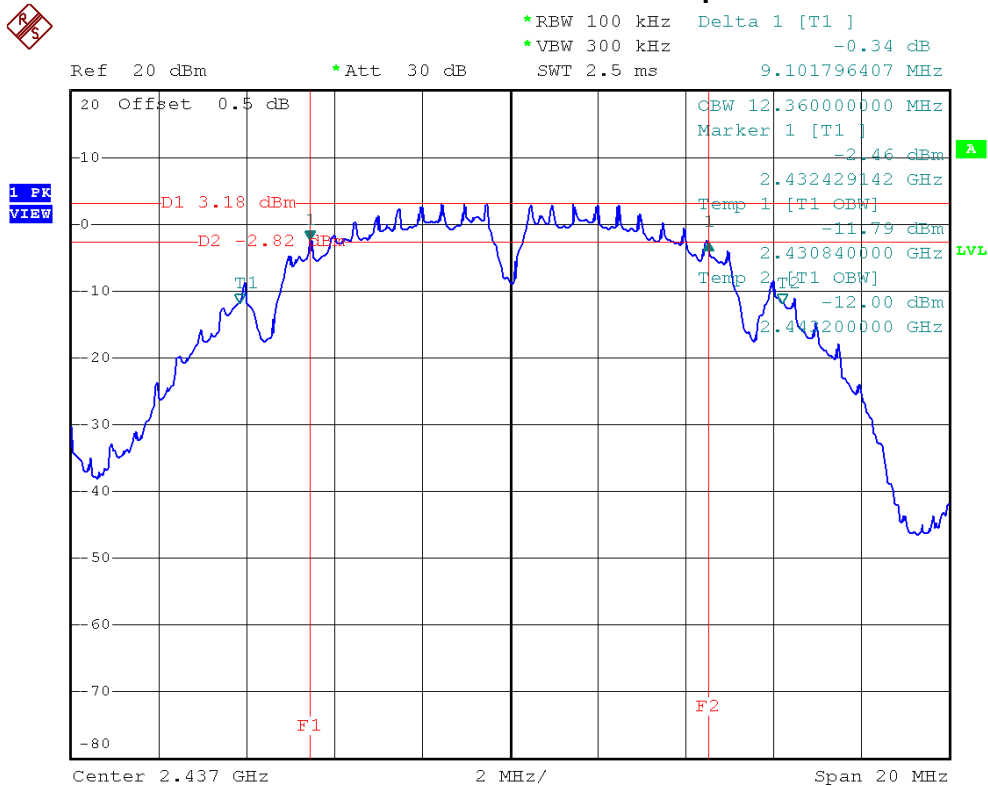
|              |                                           |                   |       |
|--------------|-------------------------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer                    | Model Name        | PA520 |
| Temperature  | 26°C                                      | Relative Humidity | 46%   |
| Test Voltage | AC 120V/60Hz                              |                   |       |
| Test Mode    | IEEE 802.11b/2412 MHz, 2437 MHz, 2462 MHz |                   |       |

| Frequency | 6 dB Bandwidth (MHz) | 99% Occupied Bandwidth (MHz) | Limit     | Result |
|-----------|----------------------|------------------------------|-----------|--------|
| 2412 MHz  | 9.06                 | 12.48                        | >=500 kHz | PASS   |
| 2437 MHz  | 9.10                 | 12.36                        | >=500 kHz | PASS   |
| 2462 MHz  | 8.54                 | 12.48                        | >=500 kHz | PASS   |

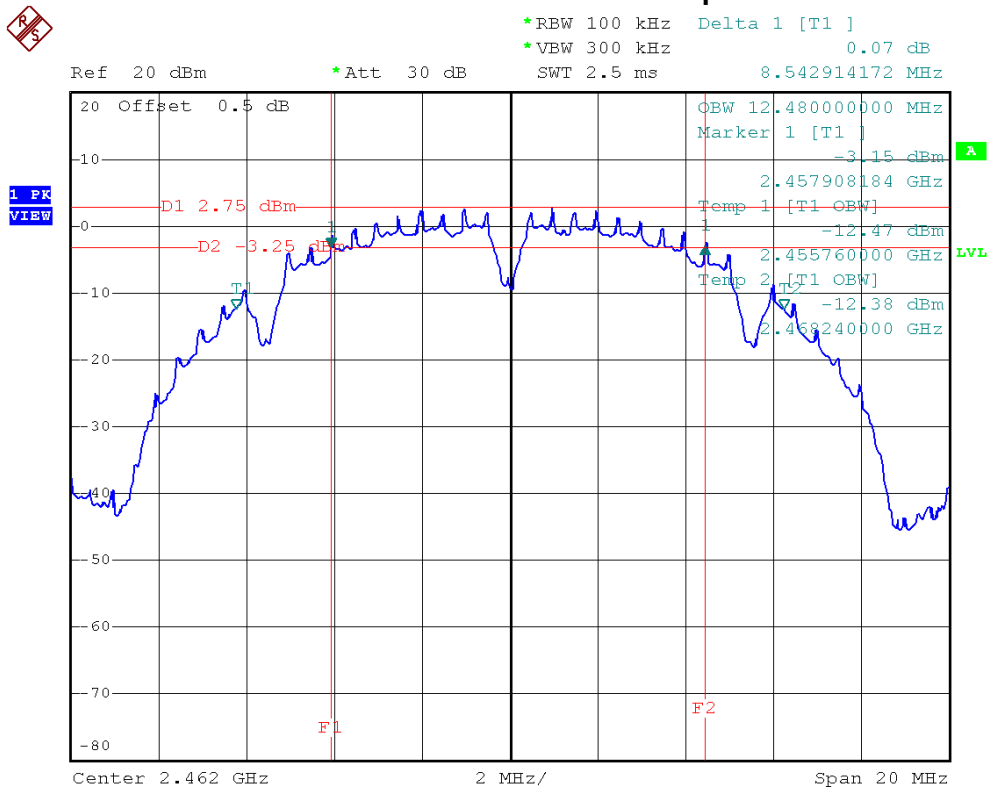




### IEEE 802.11b/2437 MHz/6 dB and 99% Occupied Bandwidth



### IEEE 802.11b/2462 MHz/6 dB and 99% Occupied Bandwidth

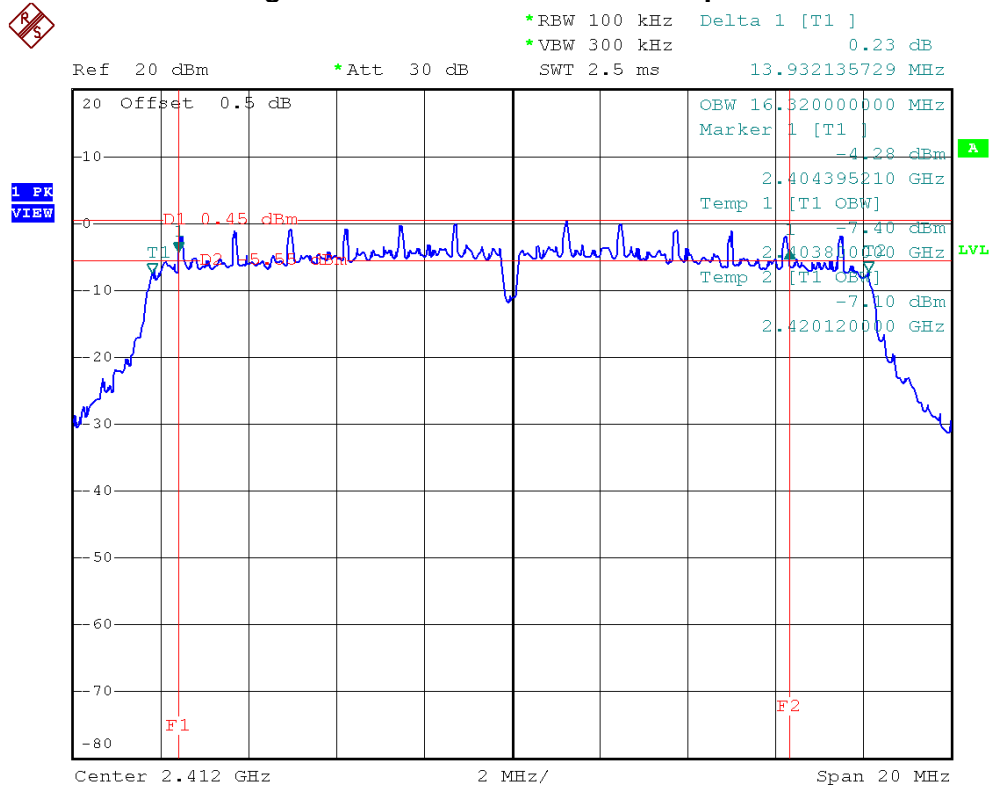




|              |                                           |                   |       |
|--------------|-------------------------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer                    | Model Name        | PA520 |
| Temperature  | 26°C                                      | Relative Humidity | 46%   |
| Test Voltage | AC 120V/60Hz                              |                   |       |
| Test Mode    | IEEE 802.11g/2412 MHz, 2437 MHz, 2462 MHz |                   |       |

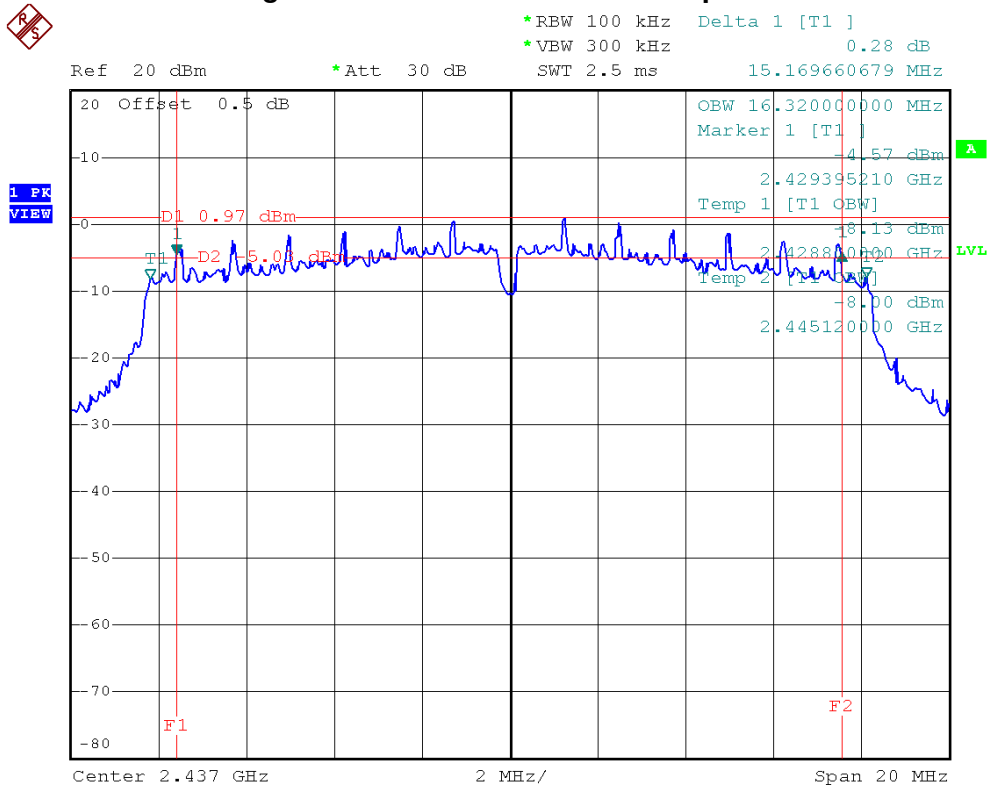
| Frequency | 6 dB Bandwidth (MHz) | 99% Occupied Bandwidth (MHz) | Limit     | Result |
|-----------|----------------------|------------------------------|-----------|--------|
| 2412 MHz  | 13.93                | 16.32                        | >=500 kHz | PASS   |
| 2437 MHz  | 15.17                | 16.32                        | >=500 kHz | PASS   |
| 2462 MHz  | 15.17                | 16.36                        | >=500 kHz | PASS   |

IEEE 802.11g/2412 MHz/6 dB and 99% Occupied Bandwidth

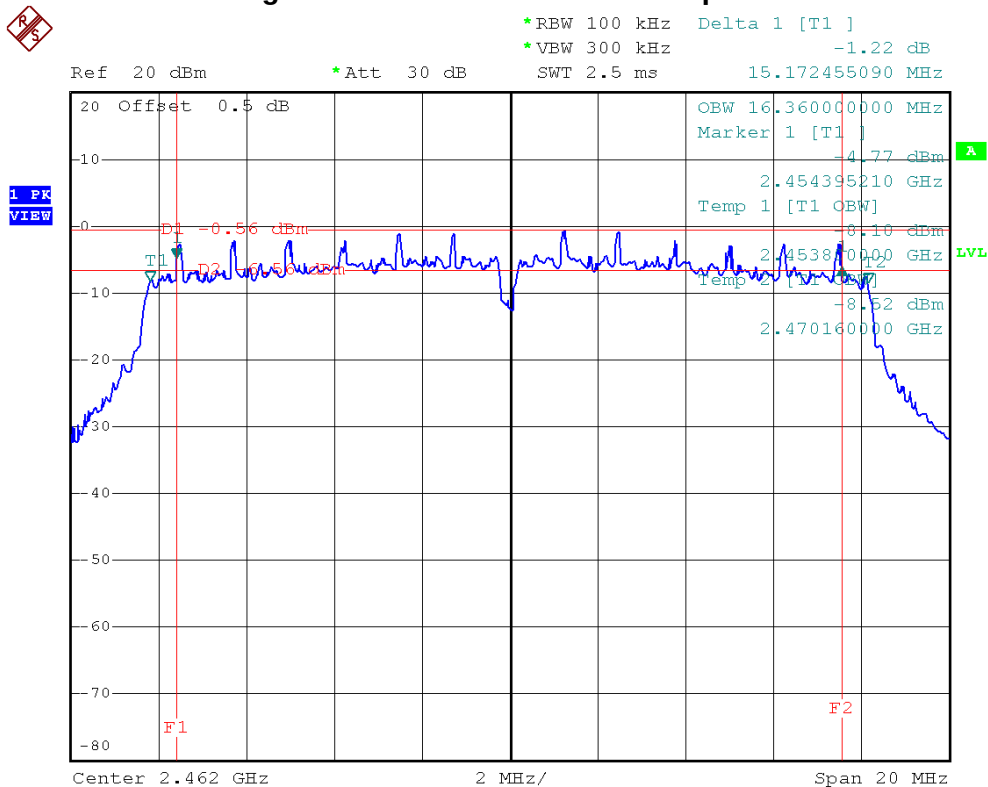




### IEEE 802.11g/2437 MHz/6 dB and 99% Occupied Bandwidth



### IEEE 802.11g/2462 MHz/6 dB and 99% Occupied Bandwidth



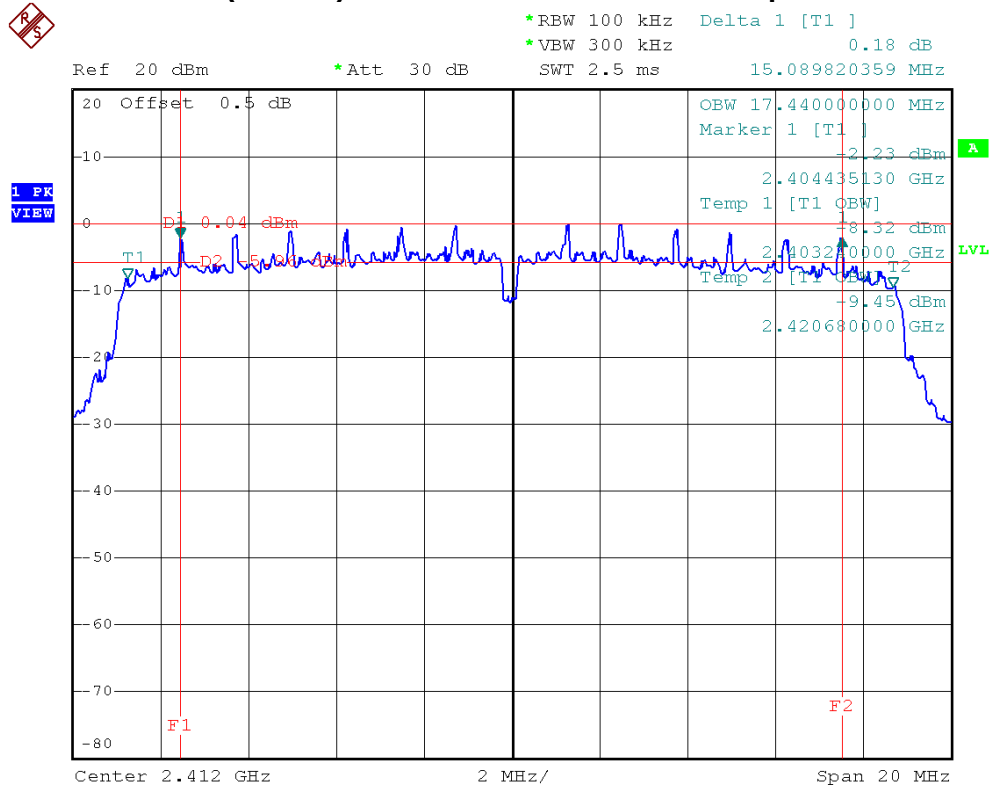




|              |                                                    |                   |       |
|--------------|----------------------------------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer                             | Model Name        | PA520 |
| Temperature  | 26°C                                               | Relative Humidity | 46%   |
| Test Voltage | AC 120V/60Hz                                       |                   |       |
| Test Mode    | IEEE 802.11n (20 MHz)/2412 MHz, 2437 MHz, 2462 MHz |                   |       |

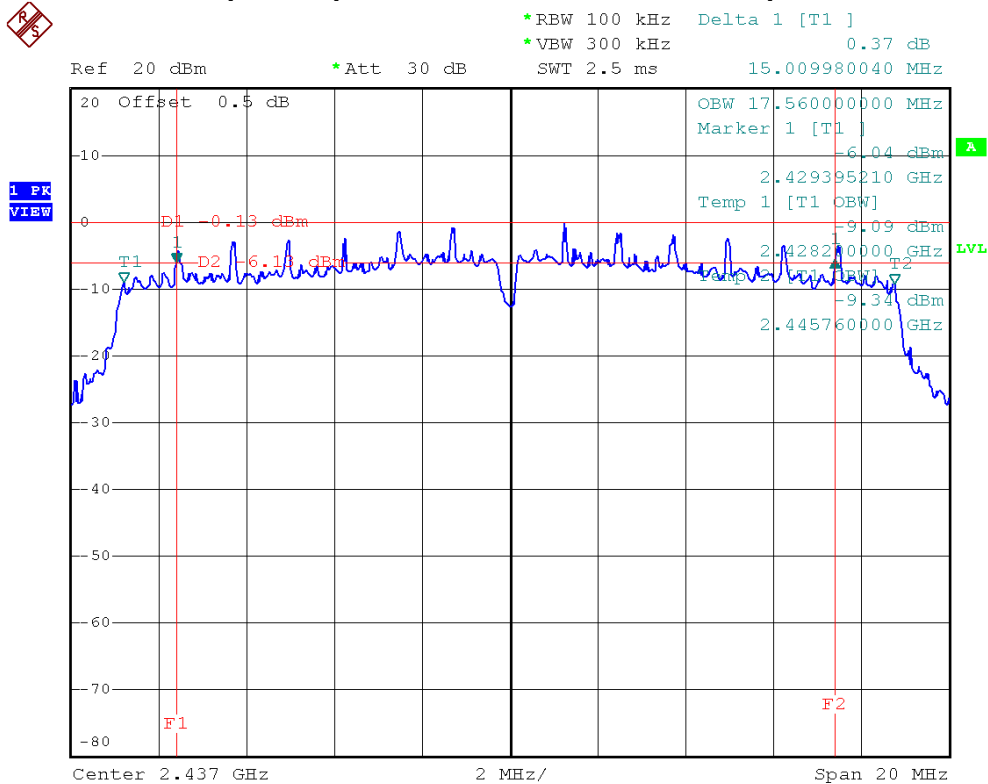
| Frequency | 6 dB Bandwidth (MHz) | 99% Occupied Bandwidth (MHz) | Limit     | Result |
|-----------|----------------------|------------------------------|-----------|--------|
| 2412 MHz  | 15.09                | 17.44                        | >=500 kHz | PASS   |
| 2437 MHz  | 15.01                | 17.56                        | >=500 kHz | PASS   |
| 2462 MHz  | 15.05                | 17.44                        | >=500 kHz | PASS   |

**IEEE 802.11n (20 MHz)/2412 MHz/6 dB and 99% Occupied Bandwidth**

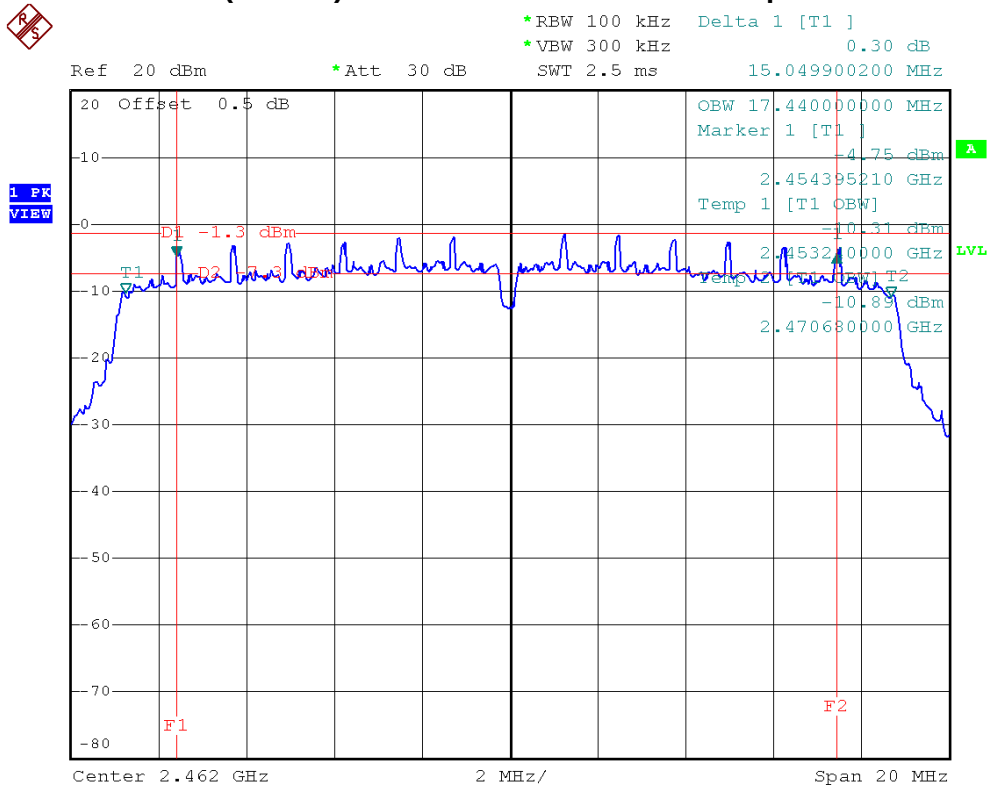




### IEEE 802.11n (20 MHz)/2437 MHz/6 dB and 99% Occupied Bandwidth



### IEEE 802.11n (20 MHz)/2462 MHz/6 dB and 99% Occupied Bandwidth



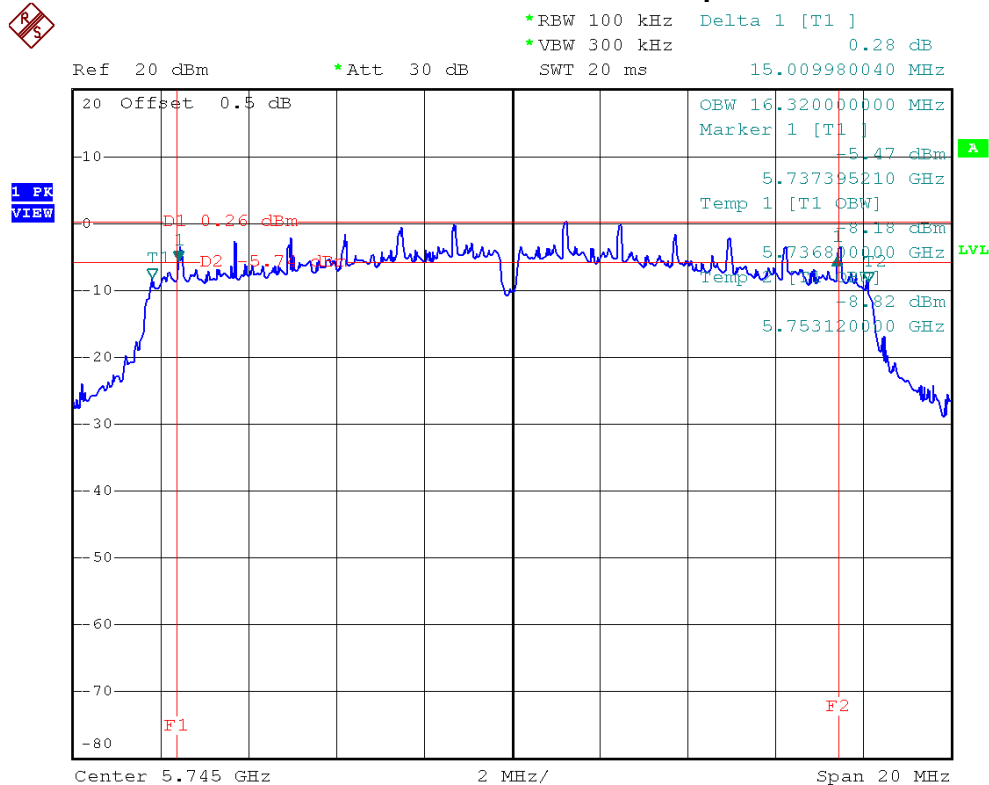


## 6.8 TEST RESULTS - 5745-5825 MHZ

|              |                                           |                   |       |
|--------------|-------------------------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer                    | Model Name        | PA520 |
| Temperature  | 26°C                                      | Relative Humidity | 46%   |
| Test Voltage | AC 120V/60Hz                              |                   |       |
| Test Mode    | IEEE 802.11a/5745 MHz, 5785 MHz, 5825 MHz |                   |       |

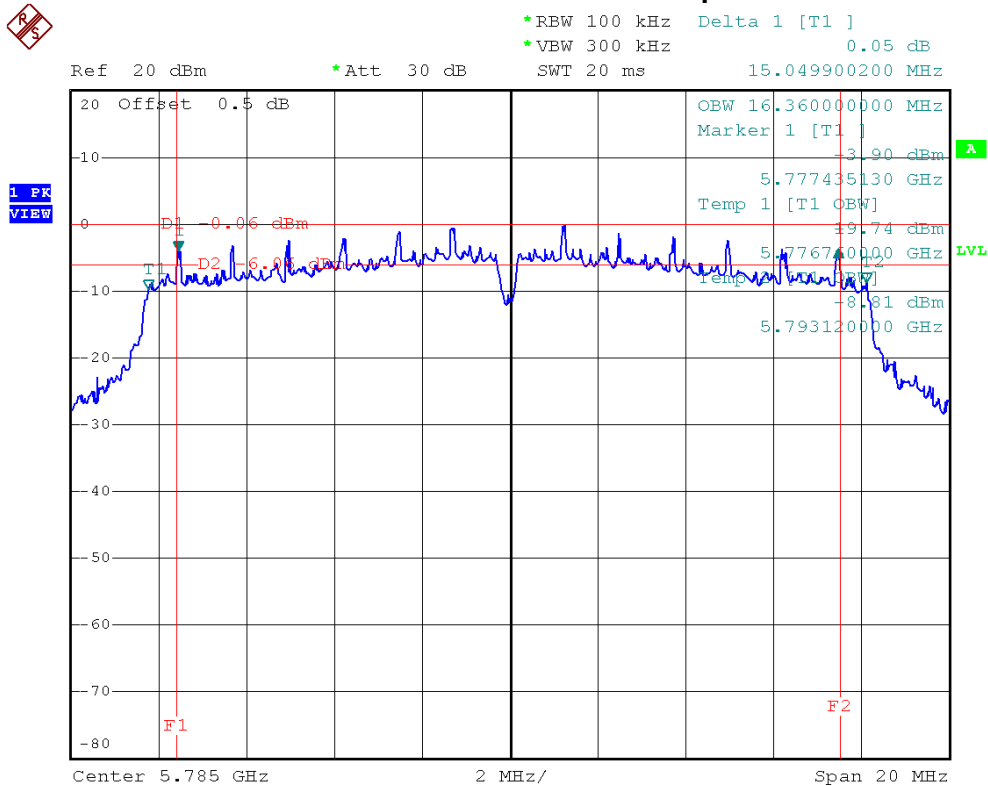
| Frequency | 6 dB Bandwidth (MHz) | 99% Occupied Bandwidth (MHz) | Limit     | Result |
|-----------|----------------------|------------------------------|-----------|--------|
| 5745 MHz  | 15.01                | 16.32                        | >=500 kHz | PASS   |
| 5785 MHz  | 15.05                | 16.36                        | >=500 kHz | PASS   |
| 5825 MHz  | 15.05                | 16.32                        | >=500 kHz | PASS   |

### IEEE 802.11a/5745 MHz/6 dB and 99% Occupied Bandwidth

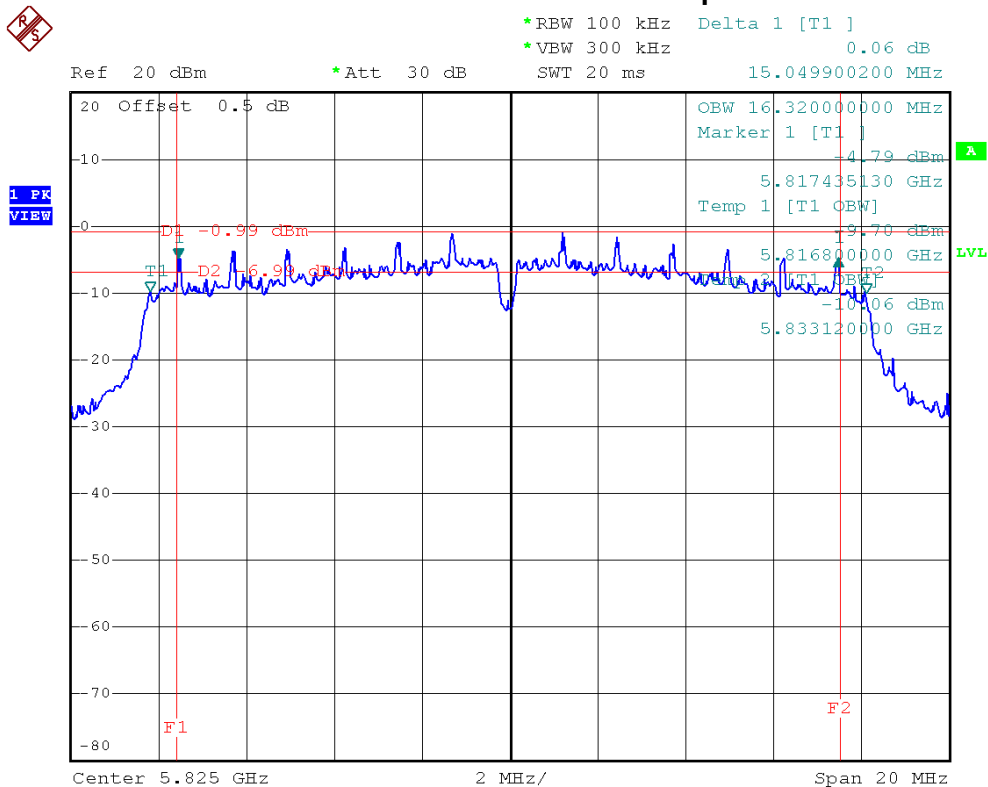




### IEEE 802.11a/5785 MHz/6 dB and 99% Occupied Bandwidth



### IEEE 802.11a/5825 MHz/6 dB and 99% Occupied Bandwidth

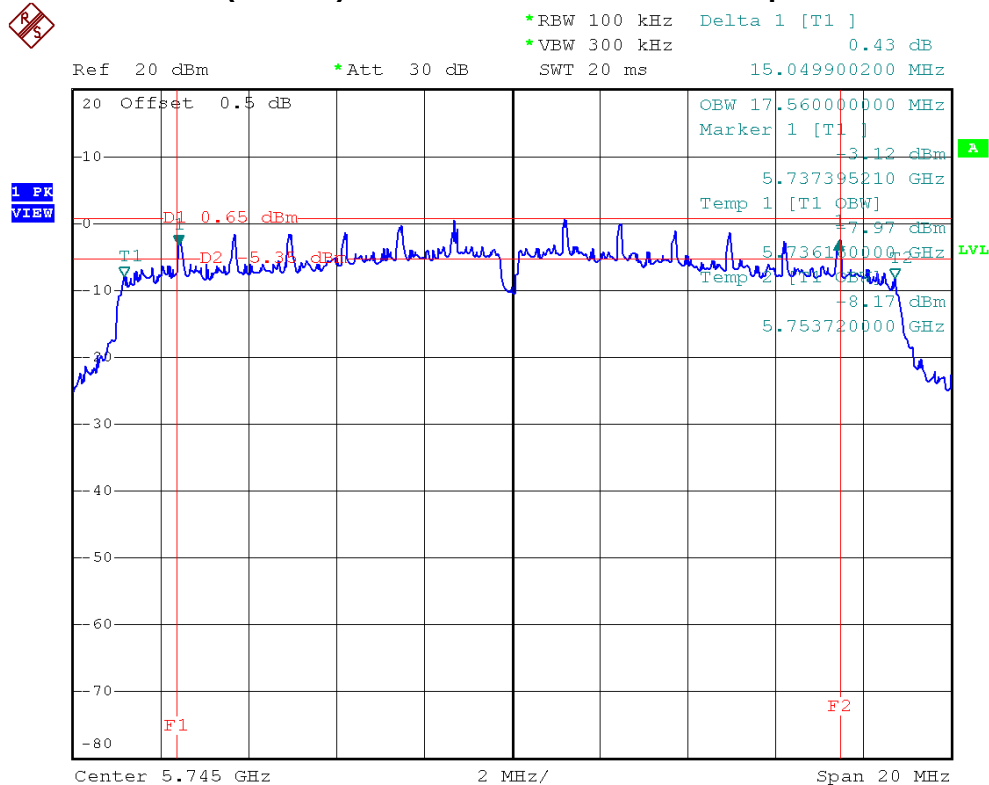




|              |                                                    |                   |       |
|--------------|----------------------------------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer                             | Model Name        | PA520 |
| Temperature  | 26°C                                               | Relative Humidity | 46%   |
| Test Voltage | AC 120V/60Hz                                       |                   |       |
| Test Mode    | IEEE 802.11n (20 MHz)/5745 MHz, 5785 MHz, 5825 MHz |                   |       |

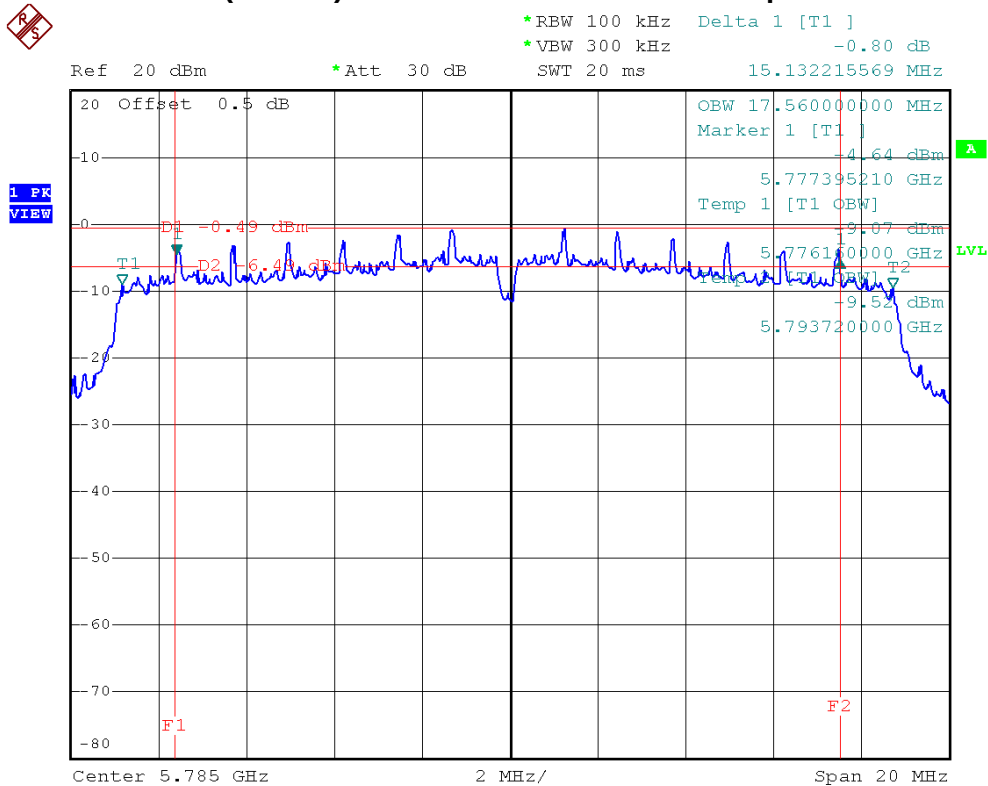
| Frequency | 6 dB Bandwidth (MHz) | 99% Occupied Bandwidth (MHz) | Limit     | Result |
|-----------|----------------------|------------------------------|-----------|--------|
| 5745 MHz  | 15.05                | 17.56                        | >=500 kHz | PASS   |
| 5785 MHz  | 15.13                | 17.56                        | >=500 kHz | PASS   |
| 5825 MHz  | 15.21                | 17.56                        | >=500 kHz | PASS   |

### IEEE 802.11n (20 MHz)/5745 MHz/6 dB and 99% Occupied Bandwidth

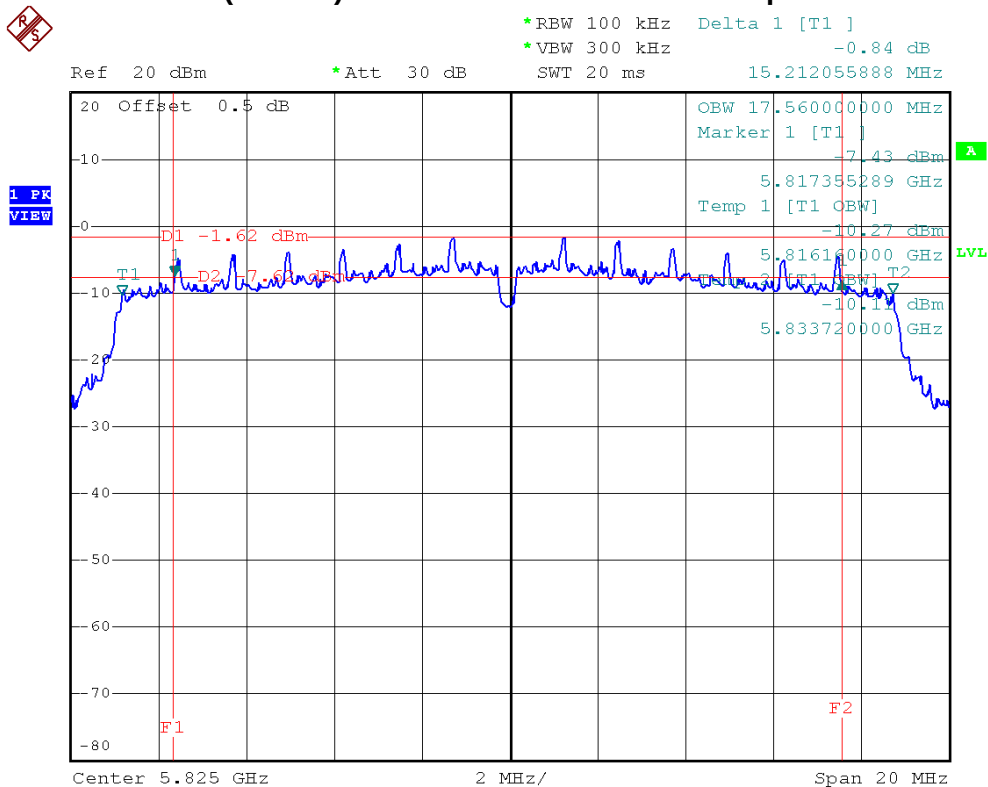




### IEEE 802.11n (20 MHz)/5785 MHz/6 dB and 99% Occupied Bandwidth



### IEEE 802.11n (20 MHz)/5825 MHz/6 dB and 99% Occupied Bandwidth



**7 MAXIMUM PEAK CONDUCTED OUTPUT POWER****7.1 LIMIT**

| Test Item                           | Frequency Range (MHz) | Limit            |
|-------------------------------------|-----------------------|------------------|
| Maximum Peak Conducted Output Power | 2400-2483.5           | 1 watt or 30 dBm |

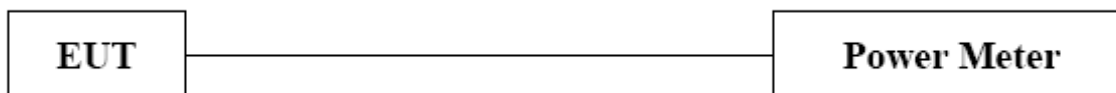
**7.2 MEASUREMENT INSTRUMENTS LIST**

| Item | Kind of Equipment  | Manufacturer | Type No. | Serial No. | Calibrated until |
|------|--------------------|--------------|----------|------------|------------------|
| 1    | Power Meter        | Anritsu      | ML2495A  | 1128008    | Aug. 15, 2014    |
| 2    | Power Meter Sensor | Anritsu      | MA2411B  | 1126001    | Aug. 15, 2014    |
| 3    | Spectrum Analyzer  | R&S          | FSP-30   | 100854     | Sep. 08, 2014    |

NOTE: **N/A**: denotes No Model Name, No Serial No. or No Calibration specified.

**7.3 TEST PROCEDURES**

a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.

**7.4 TEST SETUP LAYOUT****7.5 DEVIATION FROM TEST STANDARD**

No deviation

**7.6 EUT OPERATING CONDITIONS**

The EUT tested system was configured as the statements of 5.6 Unless otherwise a special operating condition is specified in the follows during the testing.

**7.7 TEST RESULTS - 2412-2462 MHZ**

|              |                                           |                   |       |
|--------------|-------------------------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer                    | Model Name        | PA520 |
| Temperature  | 26°C                                      | Relative Humidity | 46%   |
| Test Voltage | AC 120V/60Hz                              |                   |       |
| Test Mode    | IEEE 802.11b/2412 MHz, 2437 MHz, 2462 MHz |                   |       |

| Frequency | Peak Output Power (dBm) | LIMIT (dBm) | Result |
|-----------|-------------------------|-------------|--------|
| 2412 MHz  | 16.85                   | 30          | PASS   |
| 2437 MHz  | 16.12                   | 30          | PASS   |
| 2462 MHz  | 15.63                   | 30          | PASS   |





|              |                                           |                   |       |
|--------------|-------------------------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer                    | Model Name        | PA520 |
| Temperature  | 26°C                                      | Relative Humidity | 46%   |
| Test Voltage | AC 120V/60Hz                              |                   |       |
| Test Mode    | IEEE 802.11g/2412 MHz, 2437 MHz, 2462 MHz |                   |       |

| Frequency | Peak Output Power (dBm) | LIMIT (dBm) | Result |
|-----------|-------------------------|-------------|--------|
| 2412 MHz  | 20.30                   | 30          | PASS   |
| 2437 MHz  | 19.75                   | 30          | PASS   |
| 2462 MHz  | 19.22                   | 30          | PASS   |



|              |                                                    |                   |       |
|--------------|----------------------------------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer                             | Model Name        | PA520 |
| Temperature  | 26°C                                               | Relative Humidity | 46%   |
| Test Voltage | AC 120V/60Hz                                       |                   |       |
| Test Mode    | IEEE 802.11n (20 MHz)/2412 MHz, 2437 MHz, 2462 MHz |                   |       |

| Frequency | Peak Output Power (dBm) | LIMIT (dBm) | Result |
|-----------|-------------------------|-------------|--------|
| 2412 MHz  | 21.00                   | 30          | PASS   |
| 2437 MHz  | 20.34                   | 30          | PASS   |
| 2462 MHz  | 19.74                   | 30          | PASS   |

**7.8 TEST RESULTS - 5745-5825 MHZ**

|              |                                           |                   |       |
|--------------|-------------------------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer                    | Model Name        | PA520 |
| Temperature  | 26°C                                      | Relative Humidity | 46%   |
| Test Voltage | AC 120V/60Hz                              |                   |       |
| Test Mode    | IEEE 802.11a/5745 MHz, 5785 MHz, 5825 MHz |                   |       |

| Frequency | Peak Output Power (dBm) | LIMIT (dBm) | Result |
|-----------|-------------------------|-------------|--------|
| 5745 MHz  | 13.34                   | 30          | PASS   |
| 5785 MHz  | 15.50                   | 30          | PASS   |
| 5825 MHz  | 14.45                   | 30          | PASS   |



|              |                                                    |                   |       |
|--------------|----------------------------------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer                             | Model Name        | PA520 |
| Temperature  | 26°C                                               | Relative Humidity | 46%   |
| Test Voltage | AC 120V/60Hz                                       |                   |       |
| Test Mode    | IEEE 802.11n (20 MHz)/5745 MHz, 5785 MHz, 5825 MHz |                   |       |

| Frequency | Peak Output Power (dBm) | LIMIT (dBm) | Result |
|-----------|-------------------------|-------------|--------|
| 5745 MHz  | 13.27                   | 30          | PASS   |
| 5785 MHz  | 15.41                   | 30          | PASS   |
| 5825 MHz  | 14.49                   | 30          | PASS   |



## 8 RADIATED SPURIOUS EMISSION (9 KHZ TO 1 GHZ)

### 8.1 LIMIT

20 dB in any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

| Frequency Range: 9 kHz to 1 GHz |                                   |                               |
|---------------------------------|-----------------------------------|-------------------------------|
| FREQUENCY (MHz)                 | Field Strength (micровolts/meter) | Measurement Distance (meters) |
| 0.009~0.490                     | 2400/F(kHz)                       | 300                           |
| 0.490~1.705                     | 24000/F(kHz)                      | 30                            |
| 1.705~30.0                      | 30                                | 30                            |
| 30~88                           | 100                               | 3                             |
| 88~216                          | 150                               | 3                             |
| 216~960                         | 200                               | 3                             |
| Above 960                       | 500                               | 3                             |

| Frequency Range: above 1 GHz |                          |         |                          |         |
|------------------------------|--------------------------|---------|--------------------------|---------|
| FREQUENCY (MHz)              | Class A (dBuV/m) (at 3m) |         | Class B (dBuV/m) (at 3m) |         |
|                              | PEAK                     | AVERAGE | PEAK                     | AVERAGE |
| above 1 GHz                  | 80                       | 60      | 74                       | 54      |

**NOTE:**

1. The limit for radiated test was performed according to FCC PART 15B.
2. The tighter limit applies at the band edges.
3. Emission level (dBuV/m)=20log Emission level (uV/m).
4. The test result calculated as following:  
 Measurement Value = Reading Level + Correct Factor  
 Correct Factor = Antenna Factor + Cable Loss – Amplifier Gain(if use)  
 Margin Level = Measurement Value – Limit Value



## 8.2 MEASUREMENT INSTRUMENTS LIST

| Item | Kind of Equipment         | Manufacturer       | Type No.     | Serial No. | Calibrated until |
|------|---------------------------|--------------------|--------------|------------|------------------|
| 1    | Spectrum Analyzer         | R&S                | FSP-30       | 100854     | Sep. 08, 2014    |
| 2    | Horn Antenna              | Schwarzbeck        | BBHA 9120    | D-325      | Apr. 15, 2014    |
| 3    | Microwave Pre_amplifier   | Agilent            | 8449B        | 3008A01714 | Apr. 16, 2014    |
| 4    | Microflex Cable           | Harbour industries | 27478LL142   | 1m         | May. 13, 2014    |
| 5    | Microflex Cable           | EMC                | S104-SMA     | 8m         | May. 13, 2014    |
| 6    | Microflex Cable           | Harbour industries | 27478LL142   | 3m         | May. 13, 2014    |
| 7    | Test Cable                | LMR                | LMR-400      | 12m        | May. 14, 2014    |
| 8    | Test Cable                | LMR                | LMR-400      | 3m         | May. 14, 2014    |
| 9    | Pre-Amplifier             | Anritsu            | MH648A       | M92649     | Jun. 18, 2014    |
| 10   | Log-Bicon Antenna         | Schwarzbeck        | VULB9168-352 | 9168-352   | Jun. 11, 2014    |
| 11   | Preamplifier With Adaptor | EMC                | EMC2654045   | 980030     | Feb. 18, 2014    |
| 12   | Horn Antenna              | Schwarzbeck        | BBHA 9170    | 340        | Nov. 14, 2014    |

Remark: "N/A" denotes No Model Name, No Serial No. or No Calibration specified.

## 8.3 MEASURING INSTRUMENTS SETTING

| EMI Test Receiver      | Parameter Setting                |
|------------------------|----------------------------------|
| Attenuation            | Auto                             |
| Start ~ Stop Frequency | 9kHz~150kHz / RB 200Hz for QP    |
| Start ~ Stop Frequency | 150kHz~30MHz / RB 9kHz for QP    |
| Start ~ Stop Frequency | 30MHz~1000MHz / RB 120kHz for QP |



## 8.4 TEST PROCEDURES

- The measuring distance of at 3 m shall be used for measurements at frequency up to 1 GHz. For frequencies above 1 GHz, any suitable measuring distance may be used.
- The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3m Semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- The height of the equipment or of the substitution antenna shall be 0.8 m; the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed.
- For the actual test configuration, please refer to the related Item –EUT Test Photos.
- The testing follows the guidelines in ANSI C63.4 and FCC Public Notice DA 00-705 Measurement Guidelines. In case the emission is fail due to the used RBW/VBW is too wide, marker-delta method of FCC Public Notice DA 00-705 will be followed.

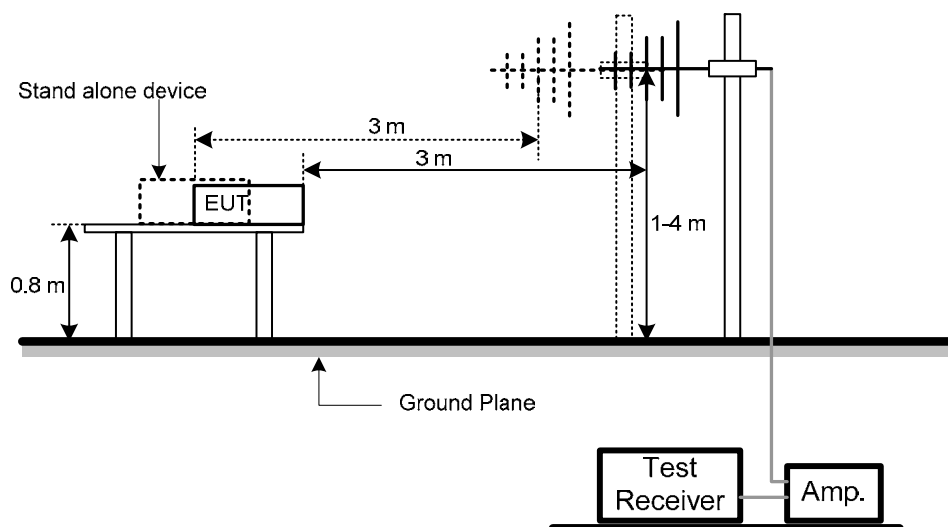
### NOTE:

- Reading in which marked as QP or Peak means measurements by using are Quasi-Peak Mode with Detector BW=120 kHz; SPA setting in RBW=100 kHz, VBW =100 kHz, Swp. Time = 0.3 sec./ MHz.
- All readings are Peak unless otherwise stated QP in column of Note. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform.

## 8.5 DEVIATION FROM TEST STANDARD

No deviation

## 8.6 TEST SETUP LAYOUT





## **8.7 EUT OPERATING CONDITIONS**

The EUT tested system was configured as the statements of 5.6 Unless otherwise a special operating condition is specified in the follows during the testing.

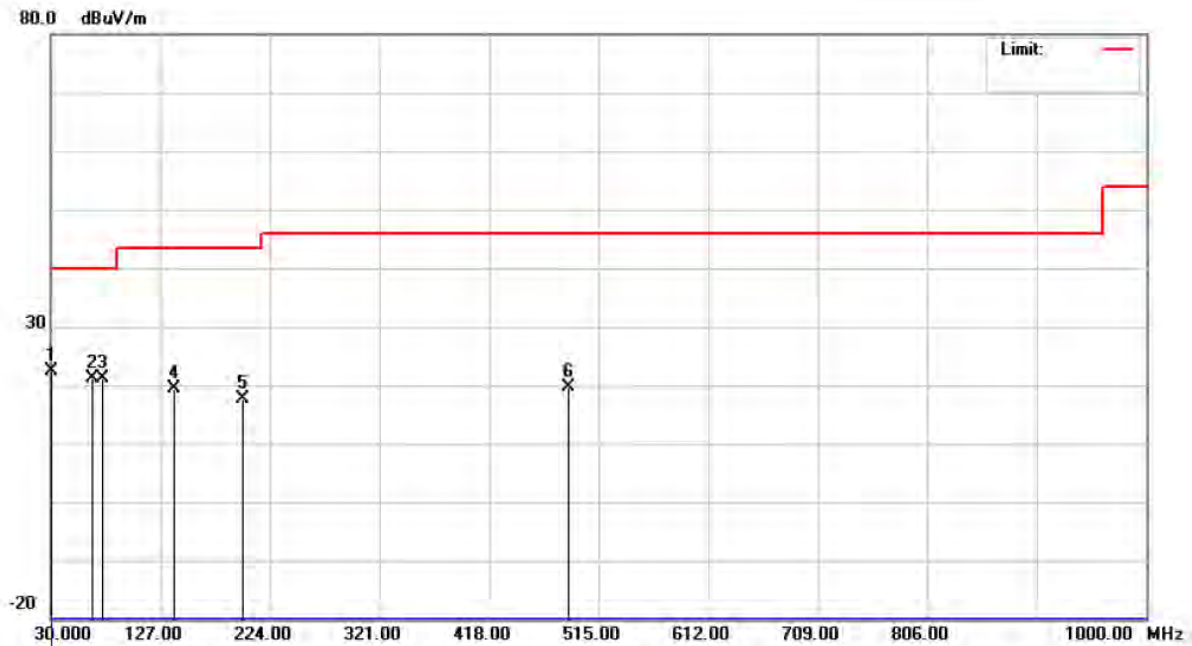




## 8.8 TEST RESULTS

|              |                        |                   |       |
|--------------|------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer | Model Name        | PA520 |
| Temperature  | 25°C                   | Relative Humidity | 62%   |
| Test Voltage | AC 120V/60Hz           |                   |       |
| Test Mode    | IEEE 802.11b/2437 MHz  |                   |       |

### Polarization: Vertical



| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|---------|
| 1   | *   | 32.4249      | 37.38                    | -14.93                  | 22.45                      | 40.00           | -17.55     | peak     |         |
| 2   |     | 66.3750      | 36.59                    | -15.50                  | 21.09                      | 40.00           | -18.91     | peak     |         |
| 3   |     | 76.0748      | 38.85                    | -17.75                  | 21.10                      | 40.00           | -18.90     | peak     |         |
| 4   |     | 139.1250     | 34.22                    | -14.75                  | 19.47                      | 43.50           | -24.03     | peak     |         |
| 5   |     | 199.7500     | 34.56                    | -16.89                  | 17.67                      | 43.50           | -25.83     | peak     |         |
| 6   |     | 488.3250     | 29.15                    | -9.55                   | 19.60                      | 46.00           | -26.40     | peak     |         |



|              |                        |                   |       |
|--------------|------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer | Model Name        | PA520 |
| Temperature  | 25°C                   | Relative Humidity | 62%   |
| Test Voltage | AC 120V/60Hz           |                   |       |
| Test Mode    | IEEE 802.11b/2437 MHz  |                   |       |

**Polarization: Horizontal**



| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|---------|
| 1   | *   | 32.4249      | 37.16                    | -14.93                  | 22.23                      | 40.00           | -17.77     | peak     |         |
| 2   |     | 42.1250      | 32.89                    | -14.25                  | 18.64                      | 40.00           | -21.36     | peak     |         |
| 3   |     | 49.4000      | 29.94                    | -13.64                  | 16.30                      | 40.00           | -23.70     | peak     |         |
| 4   |     | 141.5500     | 27.48                    | -14.56                  | 12.92                      | 43.50           | -30.58     | peak     |         |
| 5   |     | 207.0249     | 30.38                    | -16.98                  | 13.40                      | 43.50           | -30.10     | peak     |         |
| 6   |     | 260.3750     | 28.89                    | -14.52                  | 14.37                      | 46.00           | -31.63     | peak     |         |



## 9 RADIATED SPURIOUS EMISSION (ABOVE 1 GHz)

### 9.1 LIMIT

20dBc in any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

| Frequency Range: 9 kHz to 1 GHz |                                   |                               |
|---------------------------------|-----------------------------------|-------------------------------|
| FREQUENCY (MHz)                 | Field Strength (micровolts/meter) | Measurement Distance (meters) |
| 0.009~0.490                     | 2400/F(kHz)                       | 300                           |
| 0.490~1.705                     | 24000/F(kHz)                      | 30                            |
| 1.705~30.0                      | 30                                | 30                            |
| 30~88                           | 100                               | 3                             |
| 88~216                          | 150                               | 3                             |
| 216~960                         | 200                               | 3                             |
| Above 960                       | 500                               | 3                             |

| Frequency Range: above 1 GHz |                          |         |                          |         |
|------------------------------|--------------------------|---------|--------------------------|---------|
| FREQUENCY (MHz)              | Class A (dBuV/m) (at 3m) |         | Class B (dBuV/m) (at 3m) |         |
|                              | PEAK                     | AVERAGE | PEAK                     | AVERAGE |
| above 1 GHz                  | 80                       | 60      | 74                       | 54      |

**NOTE:**

- (1) The limit for radiated test was performed according to FCC PART 15B.
- (2) The tighter limit applies at the band edges.
- (3) Emission level (dBuV/m)=20log Emission level (uV/m).
- (4) The test result calculated as following:  
 Measurement Value = Reading Level + Correct Factor  
 Correct Factor = Antenna Factor + Cable Loss – Amplifier Gain(if use)  
 Margin Level = Measurement Value – Limit Value



## 9.2 MEASUREMENT INSTRUMENTS LIST

| Item | Kind of Equipment         | Manufacturer       | Type No.     | Serial No. | Calibrated until |
|------|---------------------------|--------------------|--------------|------------|------------------|
| 1    | Spectrum Analyzer         | R&S                | FSP-30       | 100854     | Sep. 08, 2014    |
| 2    | Horn Antenna              | Schwarzbeck        | BBHA 9120    | D-325      | Apr. 15, 2014    |
| 3    | Microwave Pre amplifier   | Agilent            | 8449B        | 3008A01714 | Apr. 16, 2014    |
| 4    | Microflex Cable           | Harbour industries | 27478LL142   | 1m         | May. 13, 2014    |
| 5    | Microflex Cable           | EMC                | S104-SMA     | 8m         | May. 13, 2014    |
| 6    | Microflex Cable           | Harbour industries | 27478LL142   | 3m         | May. 13, 2014    |
| 7    | Test Cable                | LMR                | LMR-400      | 12m        | May. 14, 2014    |
| 8    | Test Cable                | LMR                | LMR-400      | 3m         | May. 14, 2014    |
| 9    | Pre-Amplifier             | Anritsu            | MH648A       | M92649     | Jun. 18, 2014    |
| 10   | Log-Bicon Antenna         | Schwarzbeck        | VULB9168-352 | 9168-352   | Jun. 11, 2014    |
| 11   | Preamplifier With Adaptor | EMC                | EMC2654045   | 980030     | Feb. 18, 2014    |
| 12   | Horn Antenna              | Schwarzbeck        | BBHA 9170    | 340        | Nov. 14, 2014    |

Remark: "N/A" denotes No Model Name, No Serial No. or No Calibration specified.

## 9.3 MEASURING INSTRUMENTS SETTING

| Spectrum Analyzer                     | Parameter Setting                              |
|---------------------------------------|------------------------------------------------|
| Attenuation                           | Auto                                           |
| Start Frequency                       | 1000 MHz                                       |
| Stop Frequency                        | 10th carrier harmonic                          |
| RB / VB (emission in restricted band) | 1MHz / 1MHz for Peak, 1 MHz / 10Hz for Average |
| RB / VB (other emission)              | 1MHz / 1MHz for Peak, 1 MHz / 10Hz for Average |



## 9.4 TEST PROCEDURES

- The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3m Semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- The height of the equipment or of the substitution antenna shall be 0.8 m; the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed.
- For the actual test configuration, please refer to the related Item –EUT Test Photos.
- The testing follows the guidelines in ANSI C63.4 and FCC Public Notice DA 00-705 Measurement Guidelines. In case the emission is fail due to the used RBW/VBW is too wide, marker-delta method of FCC Public Notice DA 00-705 will be followed.

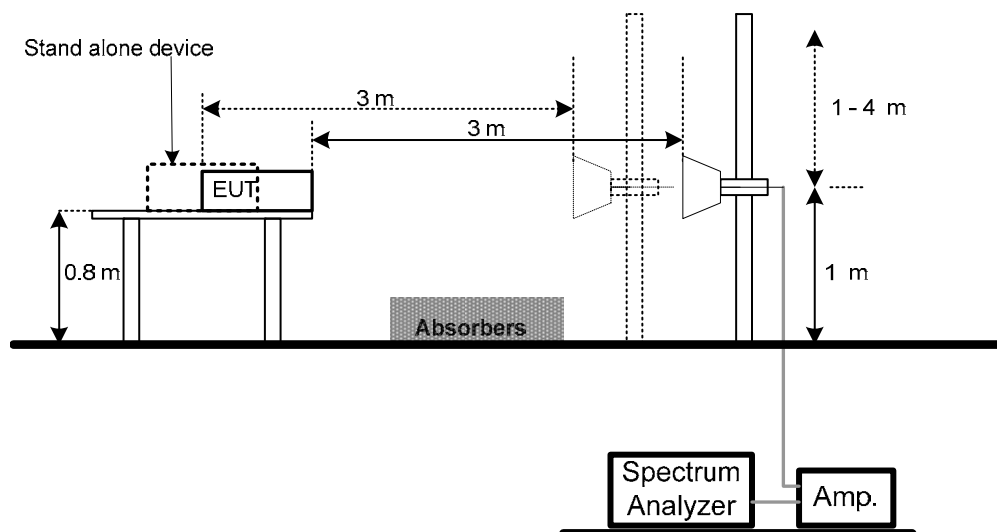
### NOTE:

- Reading in which marked as Peak means measurements by using are Peak Mode with instrument setting in RBW= 1 MHz, VBW= 1 MHz, Swp. Time = Auto.  
Reading in which marked as AV means measurements by using are Average Mode with instrument setting in RBW= 1 MHz, VBW= 10 Hz, Swp. Time = Auto.
- All readings are Peak Mode value unless otherwise stated AVG in column of Note. If the Peak Mode Measured value compliance with the Peak Limits and lower than AVG Limits, the EUT shall be deemed to meet both Peak & AVG Limits and then only Peak Mode was measured, but AVG Mode didn't perform.

## 9.5 DEVIATION FROM TEST STANDARD

No deviation

## 9.6 TEST SETUP LAYOUT





## **9.7 EUT OPERATING CONDITIONS**

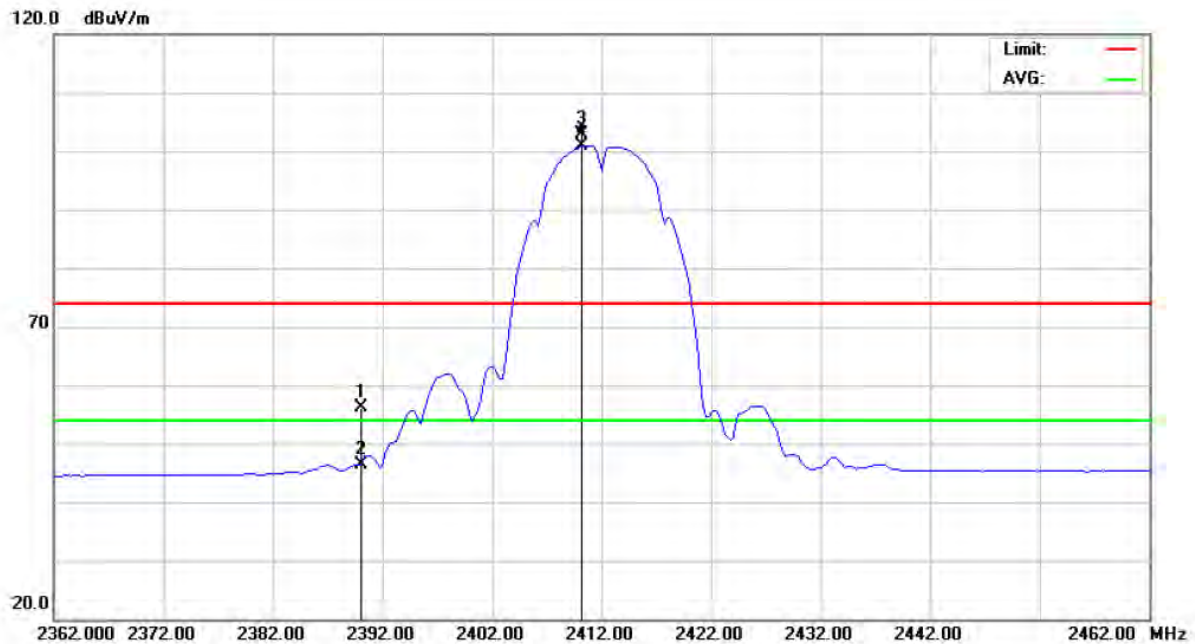
The EUT tested system was configured as the statements of 5.6 Unless otherwise a special operating condition is specified in the follows during the testing.



## 9.8 TEST RESULTS - 2412-2462 MHZ

|              |                        |                   |       |
|--------------|------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer | Model Name        | PA520 |
| Temperature  | 25°C                   | Relative Humidity | 62%   |
| Test Voltage | AC 120V/60Hz           |                   |       |
| Test Mode    | IEEE 802.11b/2412 MHz  |                   |       |

### Polarization: Vertical

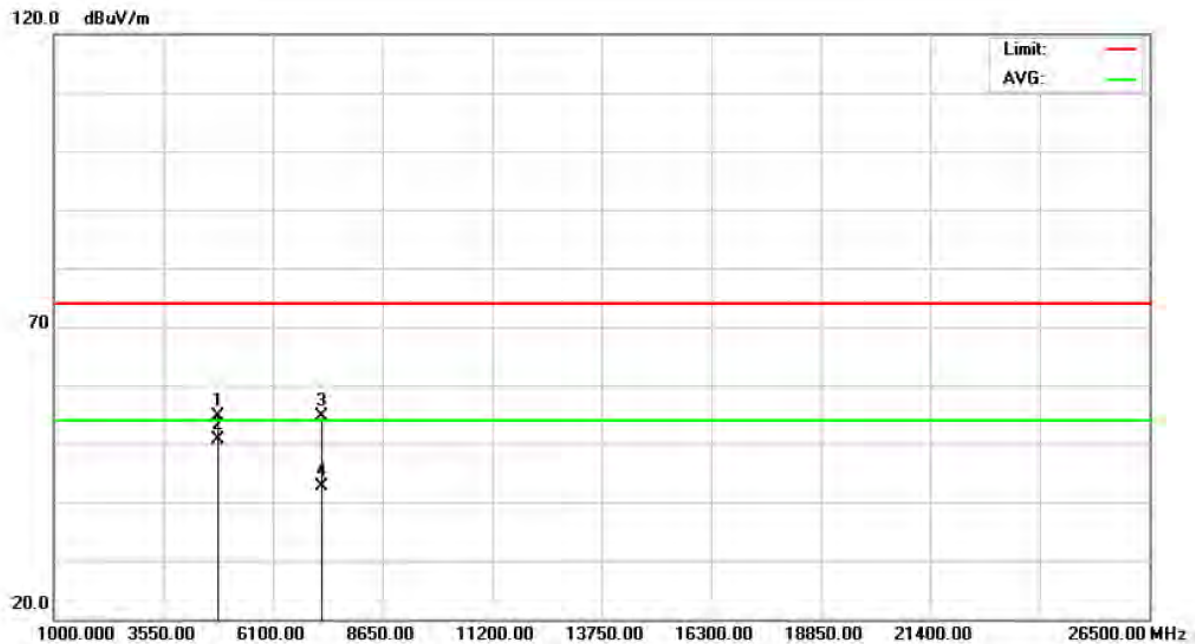


| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|---------|
| 1   |     | 2390.000     | 24.56                    | 31.67                   | 56.23                      | 74.00           | -17.77     | peak     |         |
| 2   |     | 2390.000     | 14.80                    | 31.67                   | 46.47                      | 54.00           | -7.53      | AVG      |         |
| 3   | X   | 2410.250     | 71.04                    | 31.76                   | 102.80                     | 74.00           | 28.80      | peak     |         |
| 4   | *   | 2410.250     | 69.10                    | 31.76                   | 100.86                     | 54.00           | 46.86      | AVG      |         |



|              |                        |                   |       |
|--------------|------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer | Model Name        | PA520 |
| Temperature  | 25°C                   | Relative Humidity | 62%   |
| Test Voltage | AC 120V/60Hz           |                   |       |
| Test Mode    | IEEE 802.11b/2412 MHz  |                   |       |

**Polarization: Vertical**



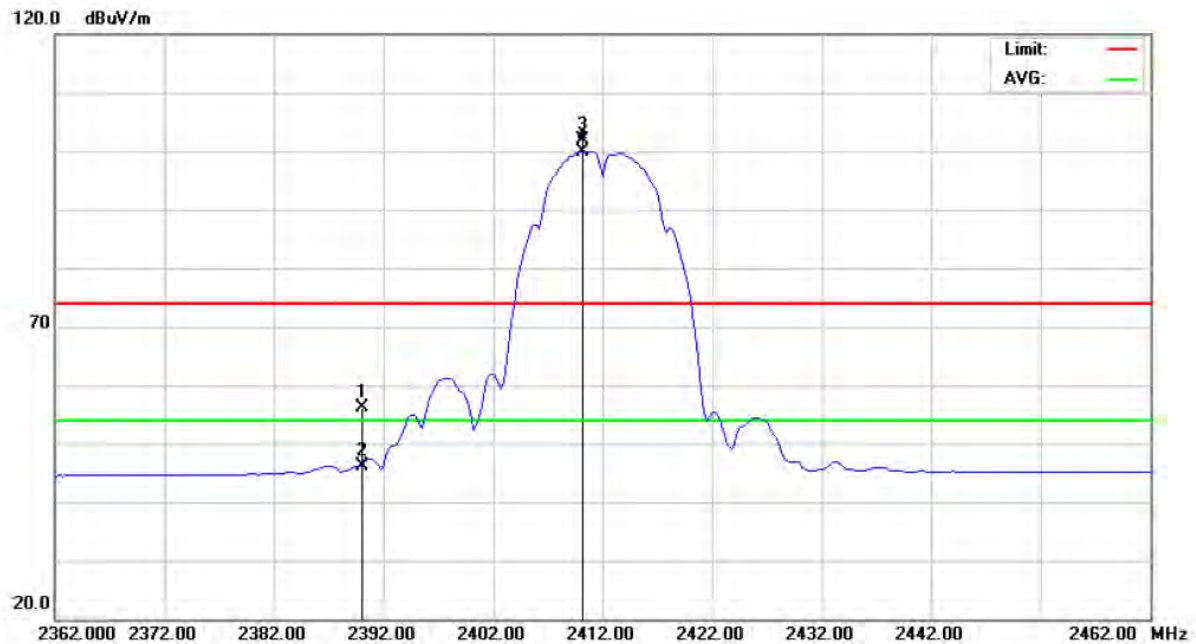
| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|---------|
| 1   |     | 4823.965     | 48.85                    | 5.71                    | 54.56                      | 74.00           | -19.44     | peak     |         |
| 2   | *   | 4823.965     | 44.97                    | 5.71                    | 50.68                      | 54.00           | -3.32      | AVG      |         |
| 3   |     | 7236.030     | 42.29                    | 12.29                   | 54.58                      | 74.00           | -19.42     | peak     |         |
| 4   |     | 7236.030     | 30.23                    | 12.29                   | 42.52                      | 54.00           | -11.48     | AVG      |         |





|              |                        |                   |       |
|--------------|------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer | Model Name        | PA520 |
| Temperature  | 25°C                   | Relative Humidity | 62%   |
| Test Voltage | AC 120V/60Hz           |                   |       |
| Test Mode    | IEEE 802.11b/2412 MHz  |                   |       |

**Polarization: Horizontal**

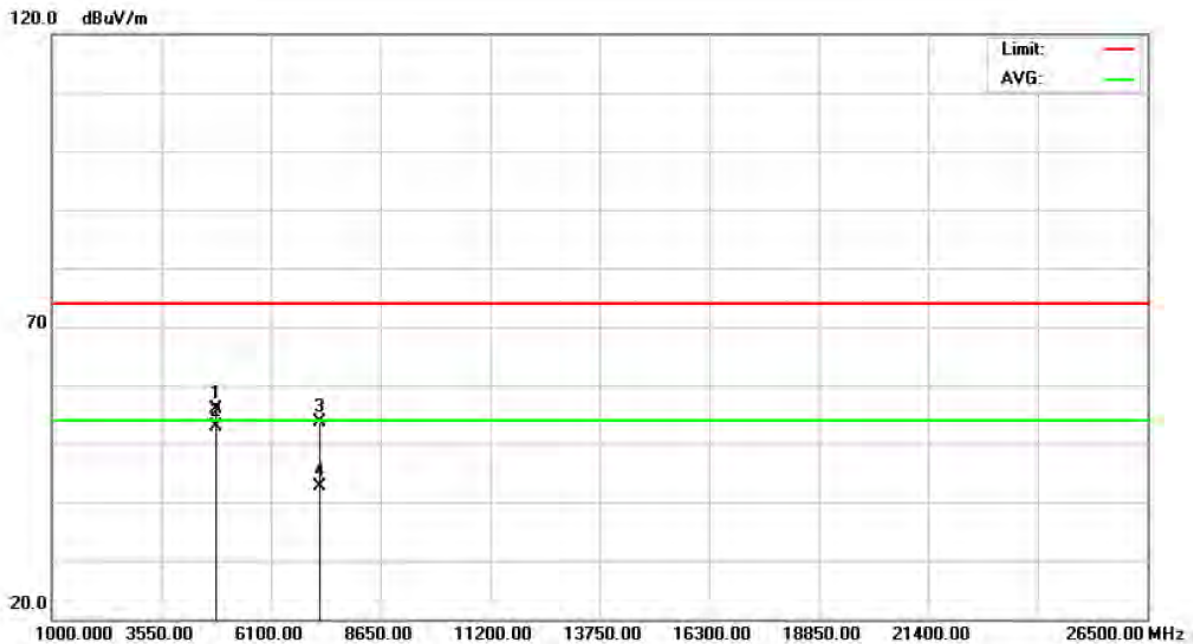


| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|---------|
| 1   |     | 2390.000     | 24.54                    | 31.67                   | 56.21                      | 74.00           | -17.79     | peak     |         |
| 2   |     | 2390.000     | 14.50                    | 31.67                   | 46.17                      | 54.00           | -7.83      | AVG      |         |
| 3   | X   | 2410.250     | 70.13                    | 31.76                   | 101.89                     | 74.00           | 27.89      | peak     |         |
| 4   | *   | 2410.250     | 68.23                    | 31.76                   | 99.99                      | 54.00           | 45.99      | AVG      |         |



|              |                        |                   |       |
|--------------|------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer | Model Name        | PA520 |
| Temperature  | 25°C                   | Relative Humidity | 62%   |
| Test Voltage | AC 120V/60Hz           |                   |       |
| Test Mode    | IEEE 802.11b/2412 MHz  |                   |       |

**Polarization: Horizontal**

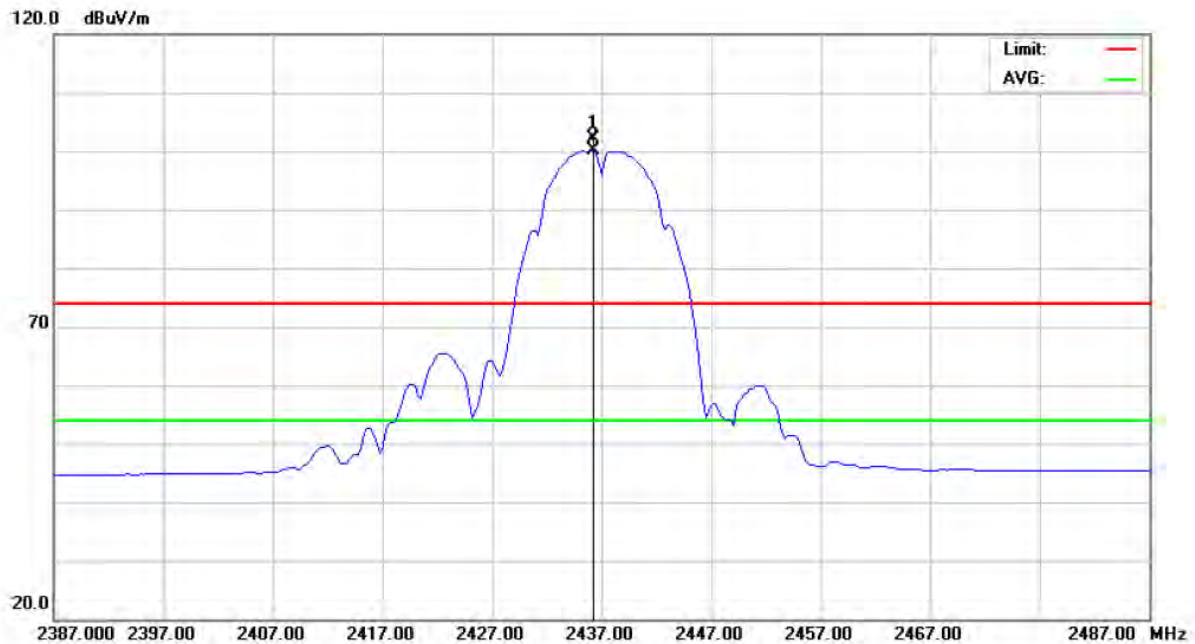


| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|---------|
| 1   |     | 4823.940     | 50.06                    | 5.71                    | 55.77                      | 74.00           | -18.23     | peak     |         |
| 2   | *   | 4823.940     | 47.13                    | 5.71                    | 52.84                      | 54.00           | -1.16      | AVG      |         |
| 3   |     | 7235.970     | 41.44                    | 12.29                   | 53.73                      | 74.00           | -20.27     | peak     |         |
| 4   |     | 7235.970     | 30.25                    | 12.29                   | 42.54                      | 54.00           | -11.46     | AVG      |         |



|              |                        |                   |       |
|--------------|------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer | Model Name        | PA520 |
| Temperature  | 25°C                   | Relative Humidity | 62%   |
| Test Voltage | AC 120V/60Hz           |                   |       |
| Test Mode    | IEEE 802.11b/2437 MHz  |                   |       |

**Polarization: Vertical**

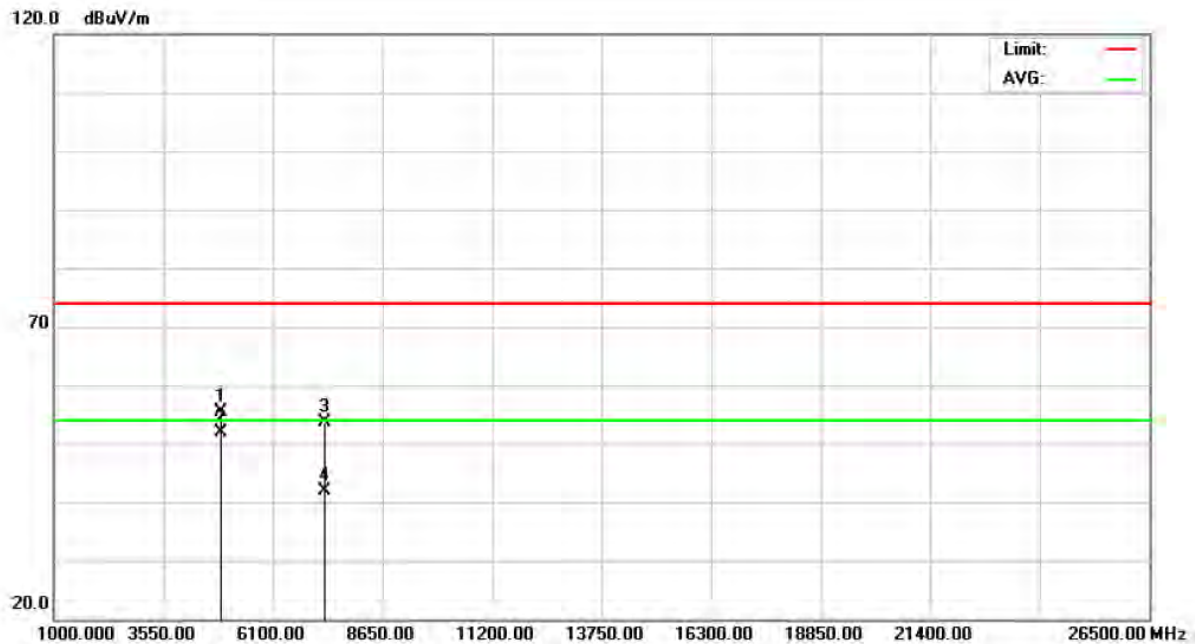


| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|---------|
| 1   | X   | 2436.250     | 70.29                    | 31.87                   | 102.16                     | 74.00           | 28.16      | peak     |         |
| 2   | *   | 2436.250     | 68.22                    | 31.87                   | 100.09                     | 54.00           | 46.09      | AVG      |         |



|              |                        |                   |       |
|--------------|------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer | Model Name        | PA520 |
| Temperature  | 25°C                   | Relative Humidity | 62%   |
| Test Voltage | AC 120V/60Hz           |                   |       |
| Test Mode    | IEEE 802.11b/2437 MHz  |                   |       |

**Polarization: Vertical**

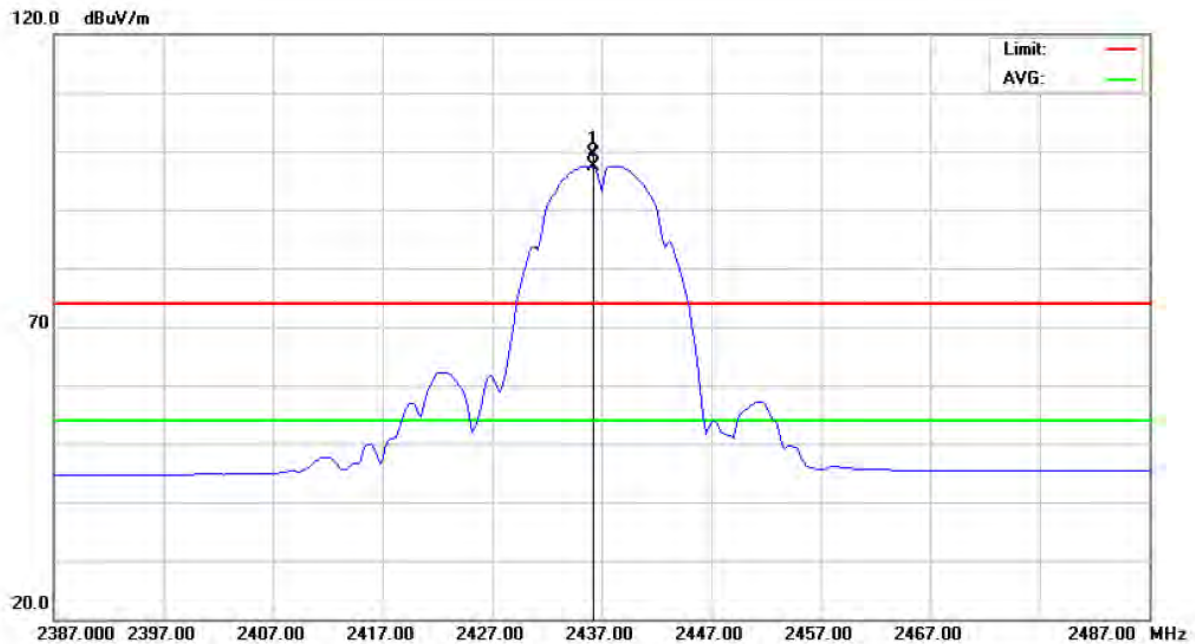


| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|---------|
| 1   |     | 4873.950     | 49.72                    | 5.78                    | 55.50                      | 74.00           | -18.50     | peak     |         |
| 2   | *   | 4873.950     | 46.03                    | 5.78                    | 51.81                      | 54.00           | -2.19      | AVG      |         |
| 3   |     | 7310.465     | 41.12                    | 12.57                   | 53.69                      | 74.00           | -20.31     | peak     |         |
| 4   |     | 7310.465     | 29.28                    | 12.57                   | 41.85                      | 54.00           | -12.15     | AVG      |         |



|              |                        |                   |       |
|--------------|------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer | Model Name        | PA520 |
| Temperature  | 25°C                   | Relative Humidity | 62%   |
| Test Voltage | AC 120V/60Hz           |                   |       |
| Test Mode    | IEEE 802.11b/2437 MHz  |                   |       |

**Polarization: Horizontal**

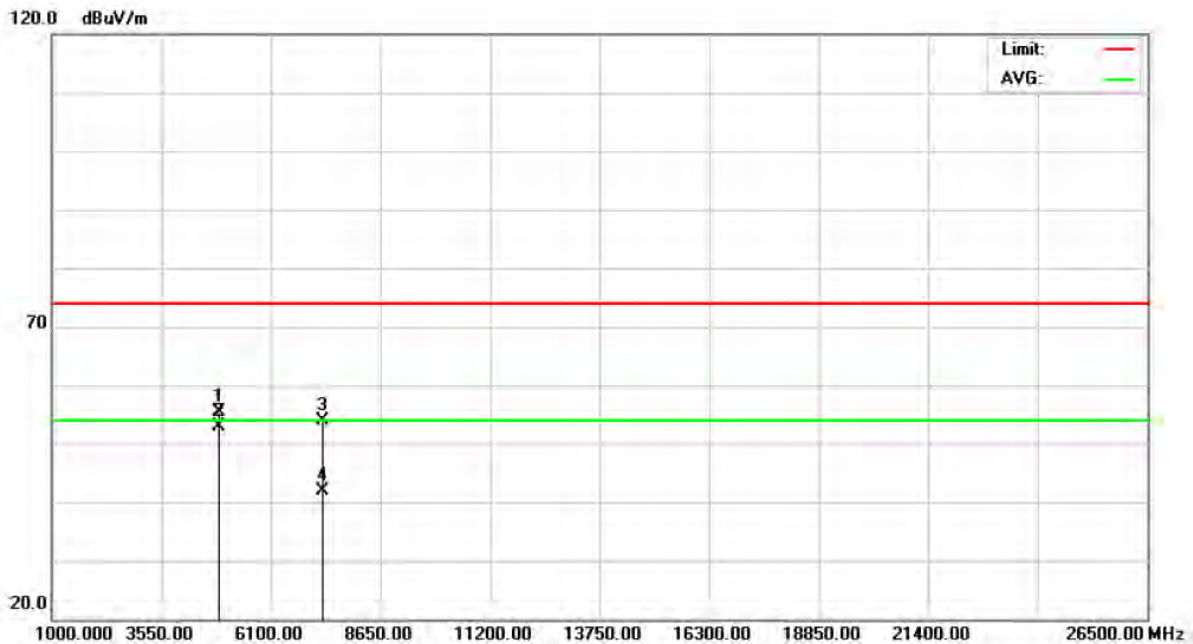


| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|---------|
| 1   | X   | 2436.250     | 67.62                    | 31.87                   | 99.49                      | 74.00           | 25.49      | peak     |         |
| 2   | *   | 2436.250     | 65.59                    | 31.87                   | 97.46                      | 54.00           | 43.46      | AVG      |         |



|              |                        |                   |       |
|--------------|------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer | Model Name        | PA520 |
| Temperature  | 25°C                   | Relative Humidity | 62%   |
| Test Voltage | AC 120V/60Hz           |                   |       |
| Test Mode    | IEEE 802.11b/2437 MHz  |                   |       |

**Polarization: Horizontal**

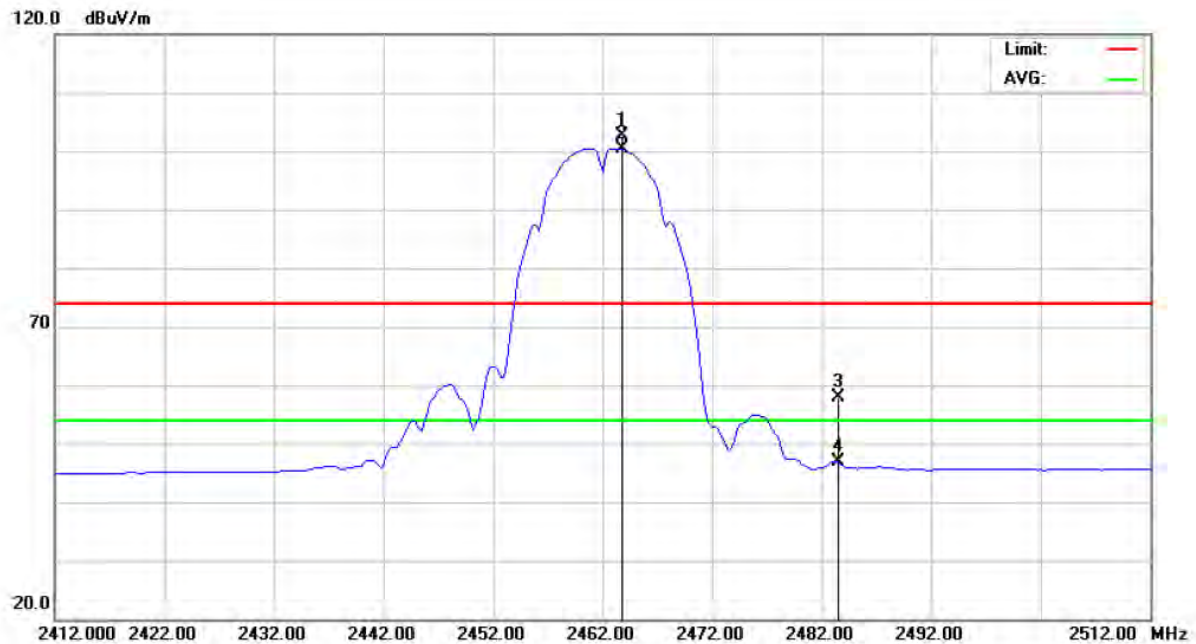


| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|---------|
| 1   |     | 4873.940     | 49.63                    | 5.78                    | 55.41                      | 74.00           | -18.59     | peak     |         |
| 2   | *   | 4873.940     | 47.21                    | 5.78                    | 52.99                      | 54.00           | -1.01      | AVG      |         |
| 3   |     | 7310.755     | 41.42                    | 12.57                   | 53.99                      | 74.00           | -20.01     | peak     |         |
| 4   |     | 7310.755     | 29.32                    | 12.57                   | 41.89                      | 54.00           | -12.11     | AVG      |         |



|              |                        |                   |       |
|--------------|------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer | Model Name        | PA520 |
| Temperature  | 25°C                   | Relative Humidity | 62%   |
| Test Voltage | AC 120V/60Hz           |                   |       |
| Test Mode    | IEEE 802.11b/2462 MHz  |                   |       |

**Polarization: Vertical**

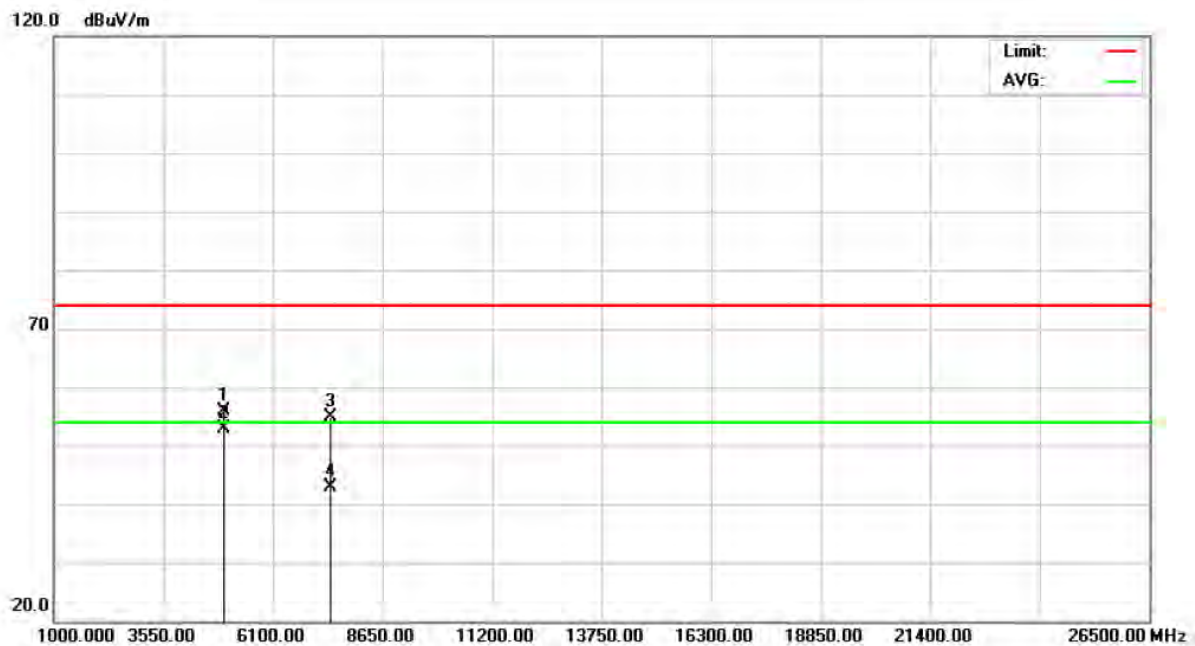


| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|---------|
| 1   | X   | 2463.750     | 70.68                    | 32.00                   | 102.68                     | 74.00           | 28.68      | peak     |         |
| 2   | *   | 2463.750     | 68.45                    | 32.00                   | 100.45                     | 54.00           | 46.45      | AVG      |         |
| 3   |     | 2483.500     | 25.70                    | 32.09                   | 57.79                      | 74.00           | -16.21     | peak     |         |
| 4   |     | 2483.500     | 14.70                    | 32.09                   | 46.79                      | 54.00           | -7.21      | AVG      |         |



|              |                        |                   |       |
|--------------|------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer | Model Name        | PA520 |
| Temperature  | 25°C                   | Relative Humidity | 62%   |
| Test Voltage | AC 120V/60Hz           |                   |       |
| Test Mode    | IEEE 802.11b/2462 MHz  |                   |       |

**Polarization: Vertical**



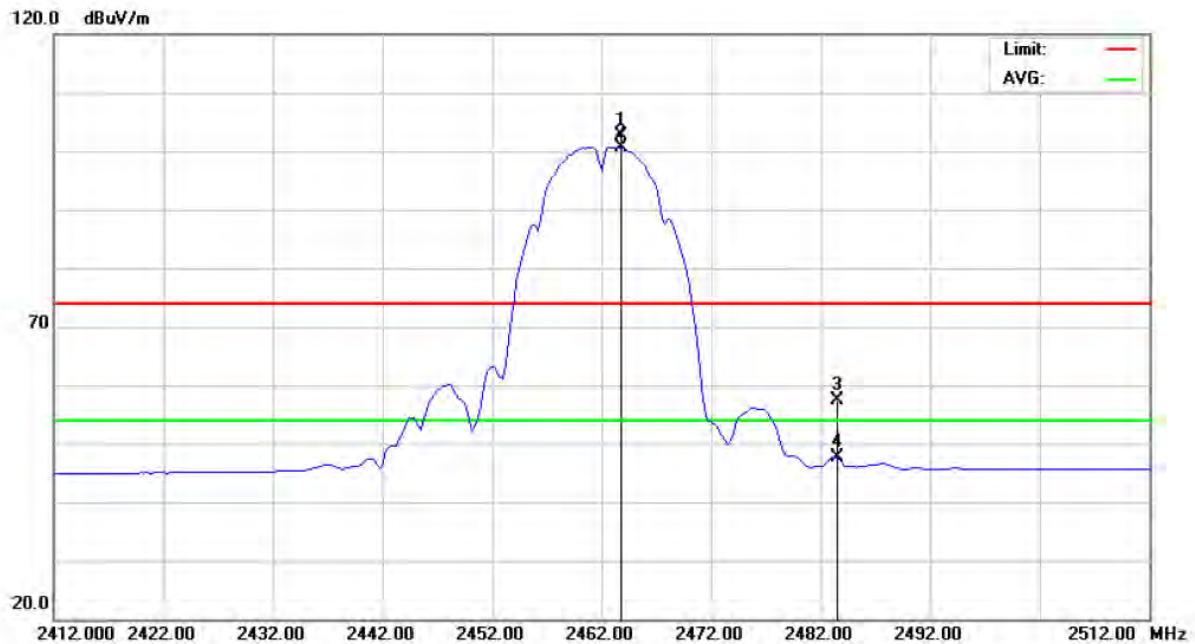
| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|---------|
| 1   |     | 4923.955     | 50.12                    | 5.84                    | 55.96                      | 74.00           | -18.04     | peak     |         |
| 2   | *   | 4923.955     | 47.16                    | 5.84                    | 53.00                      | 54.00           | -1.00      | AVG      |         |
| 3   |     | 7385.930     | 41.94                    | 12.85                   | 54.79                      | 74.00           | -19.21     | peak     |         |
| 4   |     | 7385.930     | 30.14                    | 12.85                   | 42.99                      | 54.00           | -11.01     | AVG      |         |





|              |                        |                   |       |
|--------------|------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer | Model Name        | PA520 |
| Temperature  | 25°C                   | Relative Humidity | 62%   |
| Test Voltage | AC 120V/60Hz           |                   |       |
| Test Mode    | IEEE 802.11b/2462 MHz  |                   |       |

**Polarization: Horizontal**

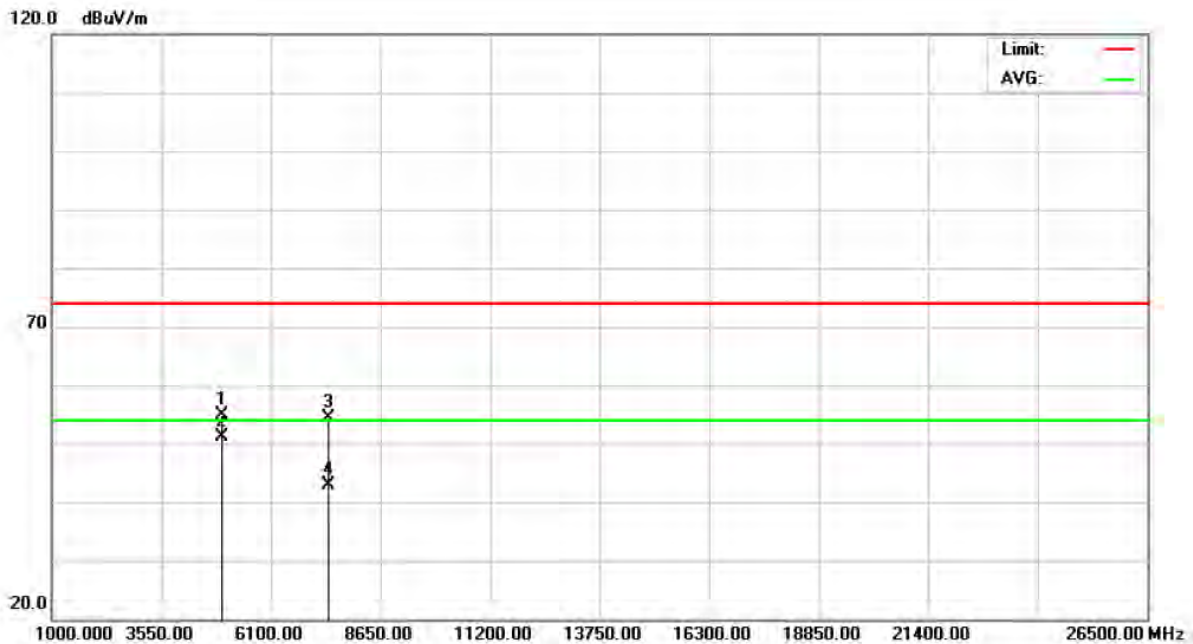


| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|---------|
| 1   | X   | 2463.750     | 70.70                    | 32.00                   | 102.70                     | 74.00           | 28.70      | peak     |         |
| 2   | *   | 2463.750     | 68.68                    | 32.00                   | 100.68                     | 54.00           | 46.68      | AVG      |         |
| 3   |     | 2483.500     | 25.28                    | 32.09                   | 57.37                      | 74.00           | -16.63     | peak     |         |
| 4   |     | 2483.500     | 15.50                    | 32.09                   | 47.59                      | 54.00           | -6.41      | AVG      |         |



|              |                        |                   |       |
|--------------|------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer | Model Name        | PA520 |
| Temperature  | 25°C                   | Relative Humidity | 62%   |
| Test Voltage | AC 120V/60Hz           |                   |       |
| Test Mode    | IEEE 802.11b/2462 MHz  |                   |       |

**Polarization: Horizontal**

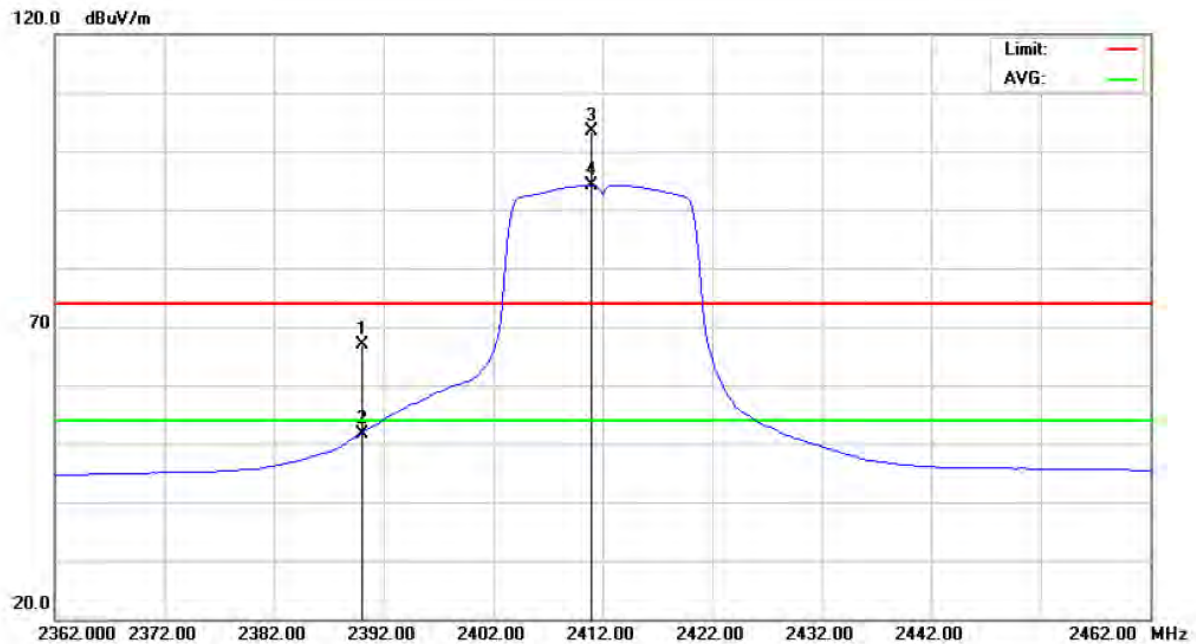


| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|---------|
| 1   |     | 4923.965     | 48.94                    | 5.84                    | 54.78                      | 74.00           | -19.22     | peak     |         |
| 2   | *   | 4923.965     | 45.33                    | 5.84                    | 51.17                      | 54.00           | -2.83      | AVG      |         |
| 3   |     | 7385.505     | 41.42                    | 12.84                   | 54.26                      | 74.00           | -19.74     | peak     |         |
| 4   |     | 7385.505     | 30.04                    | 12.84                   | 42.88                      | 54.00           | -11.12     | AVG      |         |



|              |                        |                   |       |
|--------------|------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer | Model Name        | PA520 |
| Temperature  | 25°C                   | Relative Humidity | 62%   |
| Test Voltage | AC 120V/60Hz           |                   |       |
| Test Mode    | IEEE 802.11g/2412 MHz  |                   |       |

**Polarization: Vertical**

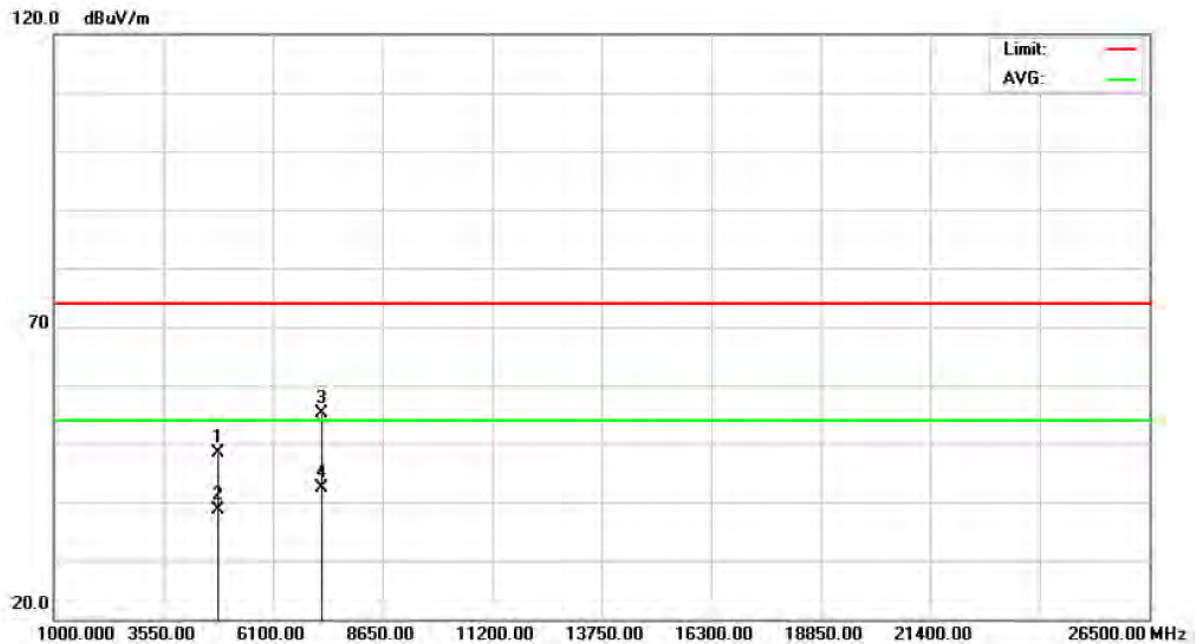


| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|---------|
| 1   |     | 2390.000     | 35.27                    | 31.67                   | 66.94                      | 74.00           | -7.06      | peak     |         |
| 2   |     | 2390.000     | 20.08                    | 31.67                   | 51.75                      | 54.00           | -2.25      | AVG      |         |
| 3   | X   | 2411.000     | 71.56                    | 31.76                   | 103.32                     | 74.00           | 29.32      | peak     |         |
| 4   | *   | 2411.000     | 62.44                    | 31.76                   | 94.20                      | 54.00           | 40.20      | AVG      |         |



|              |                        |                   |       |
|--------------|------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer | Model Name        | PA520 |
| Temperature  | 25°C                   | Relative Humidity | 62%   |
| Test Voltage | AC 120V/60Hz           |                   |       |
| Test Mode    | IEEE 802.11g/2412 MHz  |                   |       |

**Polarization: Vertical**

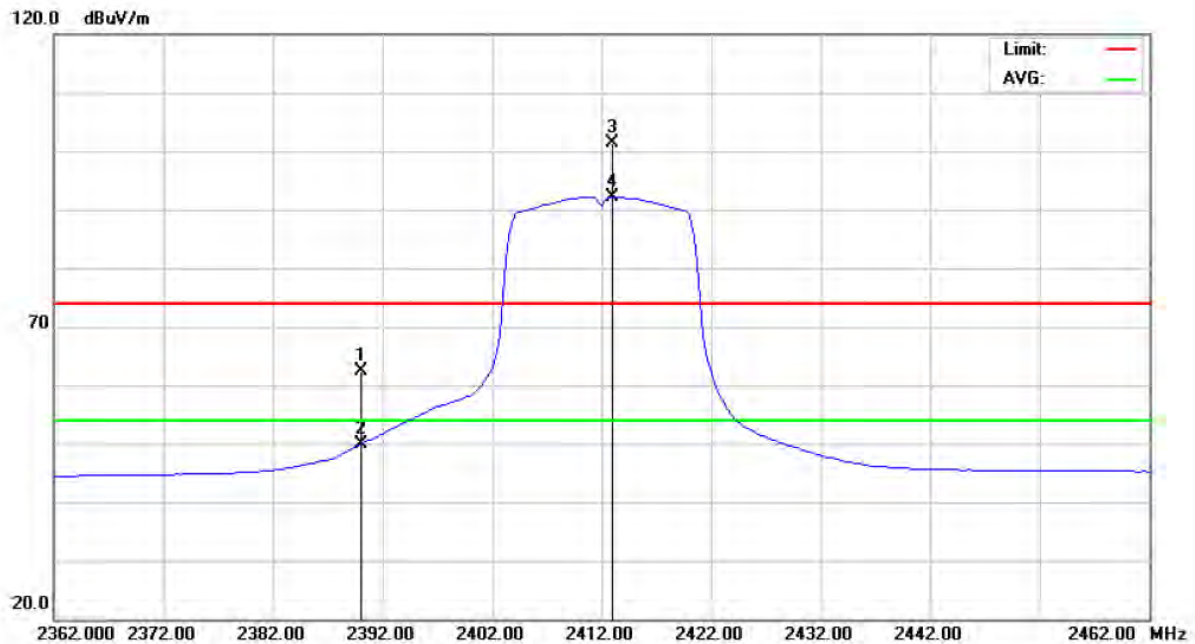


| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|---------|
| 1   |     | 4824.050     | 42.60                    | 5.71                    | 48.31                      | 74.00           | -25.69     | peak     |         |
| 2   |     | 4824.050     | 32.95                    | 5.71                    | 38.66                      | 54.00           | -15.34     | AVG      |         |
| 3   |     | 7235.950     | 42.89                    | 12.29                   | 55.18                      | 74.00           | -18.82     | peak     |         |
| 4   | *   | 7235.950     | 30.14                    | 12.29                   | 42.43                      | 54.00           | -11.57     | AVG      |         |



|              |                        |                   |       |
|--------------|------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer | Model Name        | PA520 |
| Temperature  | 25°C                   | Relative Humidity | 62%   |
| Test Voltage | AC 120V/60Hz           |                   |       |
| Test Mode    | IEEE 802.11g/2412 MHz  |                   |       |

**Polarization: Horizontal**

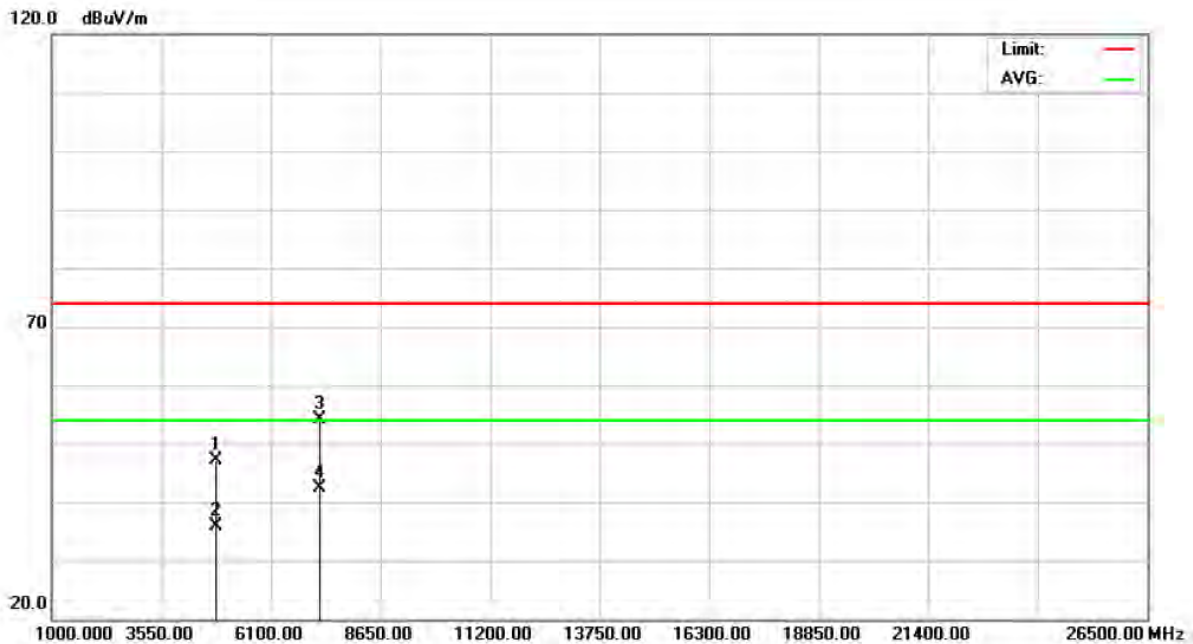


| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|---------|
| 1   |     | 2390.000     | 30.74                    | 31.67                   | 62.41                      | 74.00           | -11.59     | peak     |         |
| 2   |     | 2390.000     | 18.09                    | 31.67                   | 49.76                      | 54.00           | -4.24      | AVG      |         |
| 3   | X   | 2413.000     | 69.53                    | 31.77                   | 101.30                     | 74.00           | 27.30      | peak     |         |
| 4   | *   | 2413.000     | 60.37                    | 31.77                   | 92.14                      | 54.00           | 38.14      | AVG      |         |



|              |                        |                   |       |
|--------------|------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer | Model Name        | PA520 |
| Temperature  | 25°C                   | Relative Humidity | 62%   |
| Test Voltage | AC 120V/60Hz           |                   |       |
| Test Mode    | IEEE 802.11g/2412 MHz  |                   |       |

**Polarization: Horizontal**

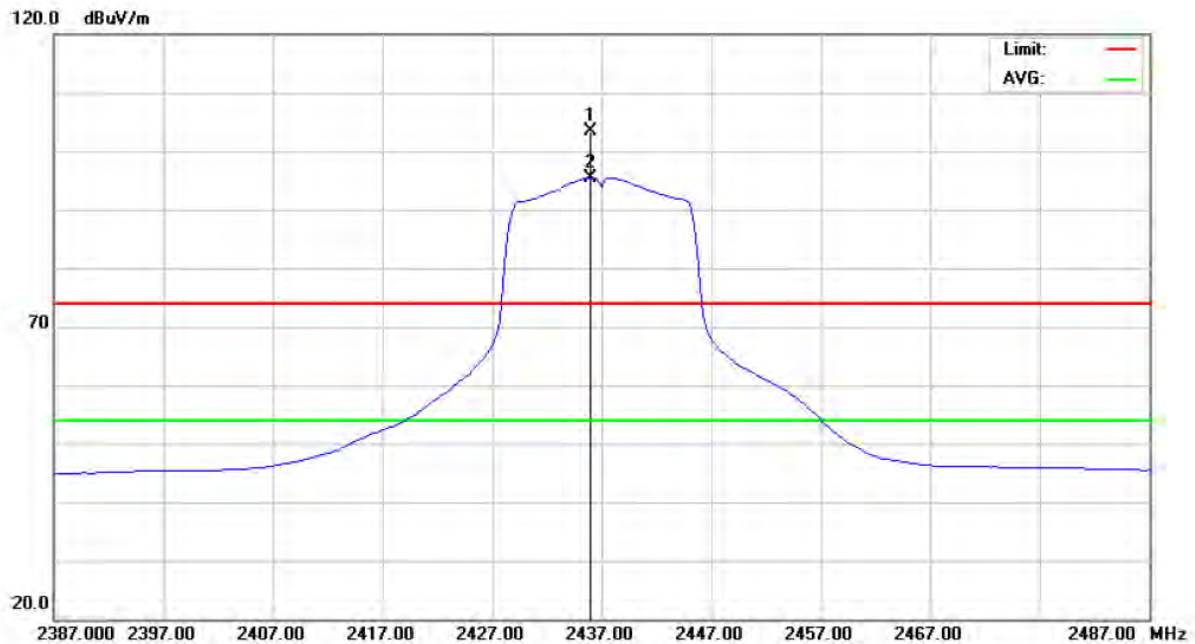


| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|---------|
| 1   |     | 4823.440     | 41.53                    | 5.71                    | 47.24                      | 74.00           | -26.76     | peak     |         |
| 2   |     | 4823.440     | 30.23                    | 5.71                    | 35.94                      | 54.00           | -18.06     | AVG      |         |
| 3   |     | 7236.010     | 41.90                    | 12.29                   | 54.19                      | 74.00           | -19.81     | peak     |         |
| 4   | *   | 7236.010     | 30.17                    | 12.29                   | 42.46                      | 54.00           | -11.54     | AVG      |         |



|              |                        |                   |       |
|--------------|------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer | Model Name        | PA520 |
| Temperature  | 25°C                   | Relative Humidity | 62%   |
| Test Voltage | AC 120V/60Hz           |                   |       |
| Test Mode    | IEEE 802.11g/2437 MHz  |                   |       |

**Polarization: Vertical**

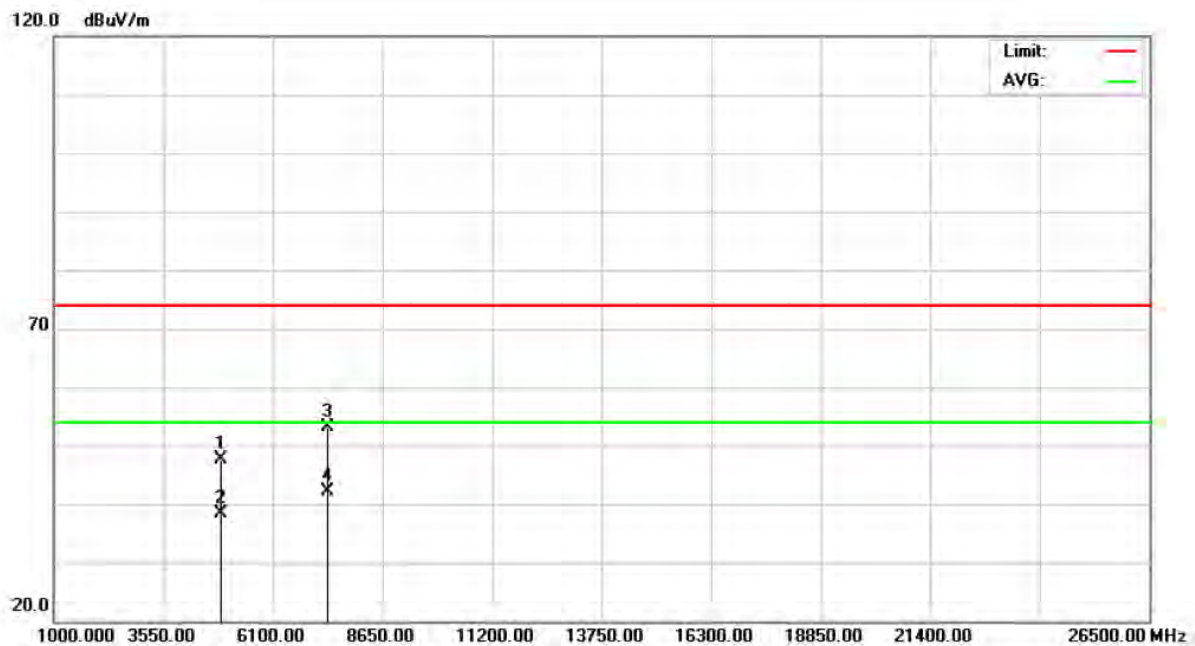


| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|---------|
| 1   | X   | 2436.000     | 71.39                    | 31.87                   | 103.26                     | 74.00           | 29.26      | peak     |         |
| 2   | *   | 2436.000     | 63.59                    | 31.87                   | 95.46                      | 54.00           | 41.46      | AVG      |         |



|              |                        |                   |       |
|--------------|------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer | Model Name        | PA520 |
| Temperature  | 25°C                   | Relative Humidity | 62%   |
| Test Voltage | AC 120V/60Hz           |                   |       |
| Test Mode    | IEEE 802.11g/2437 MHz  |                   |       |

**Polarization: Vertical**



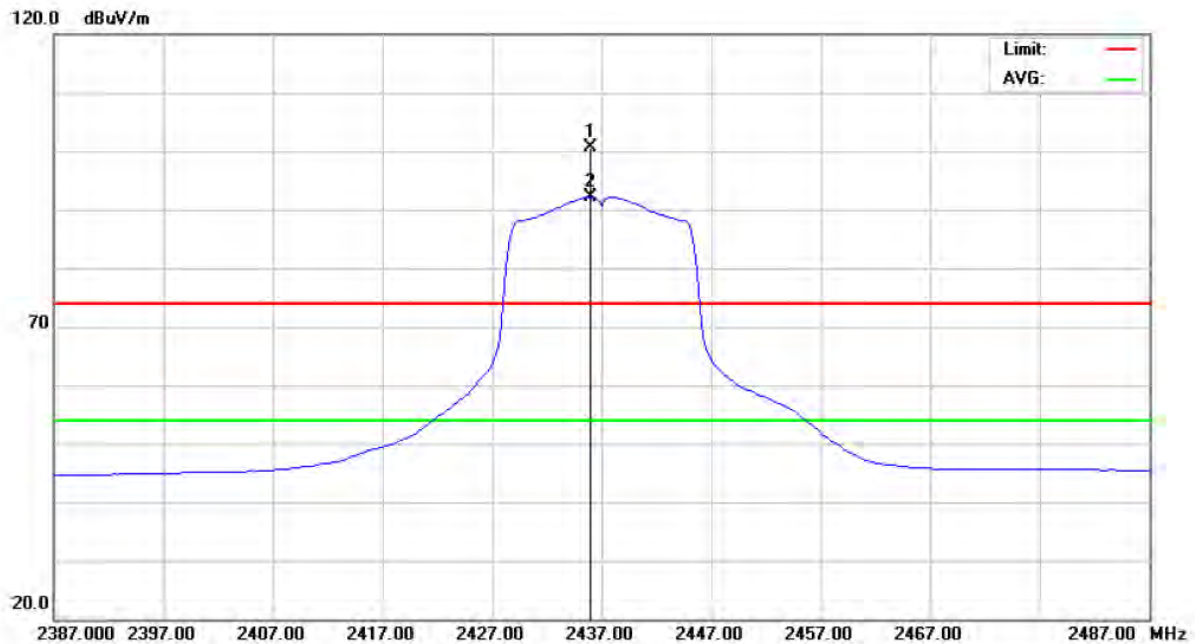
| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|---------|
| 1   |     | 4874.005     | 41.80                    | 5.78                    | 47.58                      | 74.00           | -26.42     | peak     |         |
| 2   |     | 4874.005     | 32.48                    | 5.78                    | 38.26                      | 54.00           | -15.74     | AVG      |         |
| 3   |     | 7311.320     | 40.58                    | 12.57                   | 53.15                      | 74.00           | -20.85     | peak     |         |
| 4   | *   | 7311.320     | 29.63                    | 12.57                   | 42.20                      | 54.00           | -11.80     | AVG      |         |





|              |                        |                   |       |
|--------------|------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer | Model Name        | PA520 |
| Temperature  | 25°C                   | Relative Humidity | 62%   |
| Test Voltage | AC 120V/60Hz           |                   |       |
| Test Mode    | IEEE 802.11g/2437 MHz  |                   |       |

**Polarization: Horizontal**

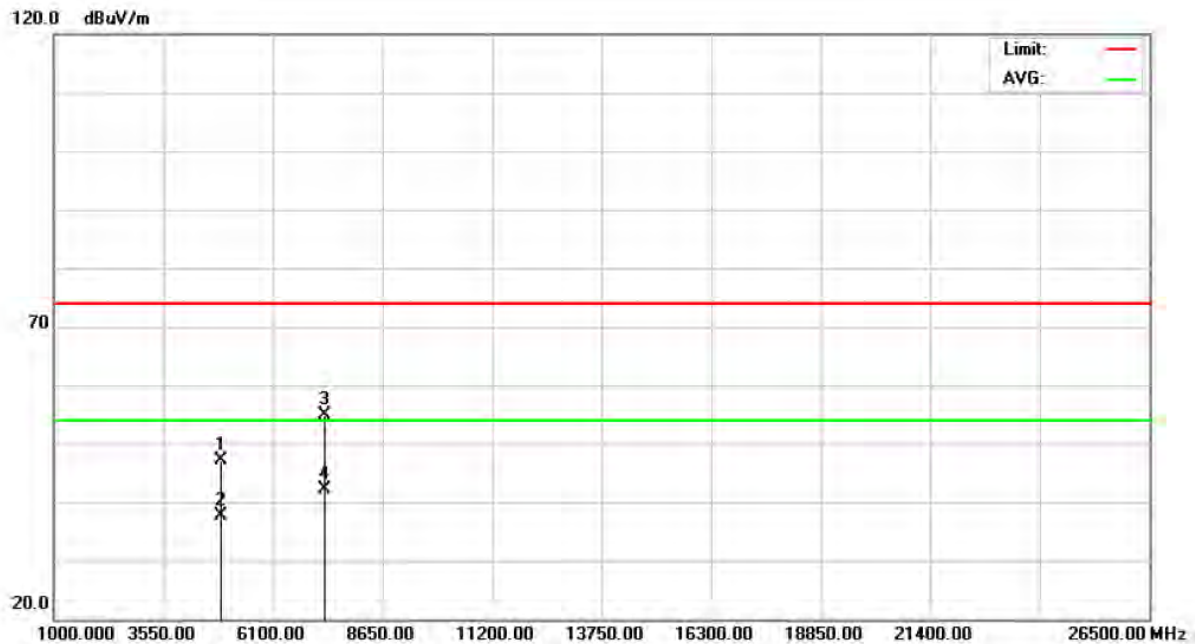


| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|---------|
| 1   | X   | 2436.000     | 68.66                    | 31.87                   | 100.53                     | 74.00           | 26.53      | peak     |         |
| 2   | *   | 2436.000     | 60.32                    | 31.87                   | 92.19                      | 54.00           | 38.19      | AVG      |         |



|              |                        |                   |       |
|--------------|------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer | Model Name        | PA520 |
| Temperature  | 25°C                   | Relative Humidity | 62%   |
| Test Voltage | AC 120V/60Hz           |                   |       |
| Test Mode    | IEEE 802.11g/2437 MHz  |                   |       |

**Polarization: Horizontal**

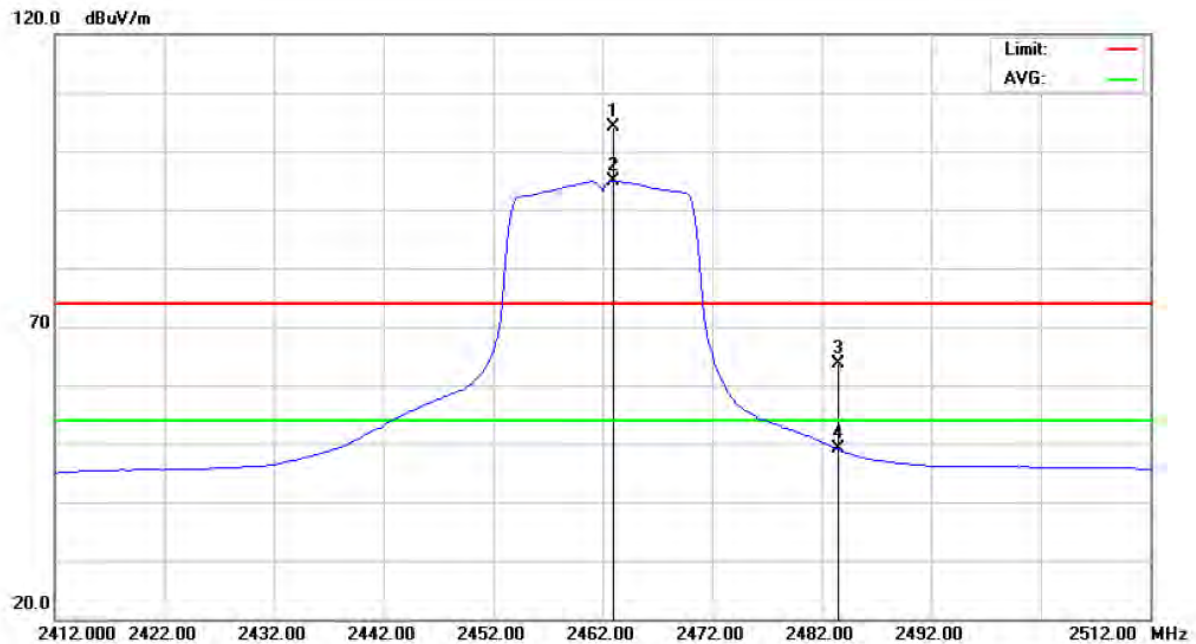


| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|---------|
| 1   |     | 4874.125     | 41.36                    | 5.78                    | 47.14                      | 74.00           | -26.86     | peak     |         |
| 2   |     | 4874.125     | 31.94                    | 5.78                    | 37.72                      | 54.00           | -16.28     | AVG      |         |
| 3   |     | 7310.955     | 42.34                    | 12.57                   | 54.91                      | 74.00           | -19.09     | peak     |         |
| 4   | *   | 7310.955     | 29.66                    | 12.57                   | 42.23                      | 54.00           | -11.77     | AVG      |         |



|              |                        |                   |       |
|--------------|------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer | Model Name        | PA520 |
| Temperature  | 25°C                   | Relative Humidity | 62%   |
| Test Voltage | AC 120V/60Hz           |                   |       |
| Test Mode    | IEEE 802.11g/2462 MHz  |                   |       |

**Polarization: Vertical**

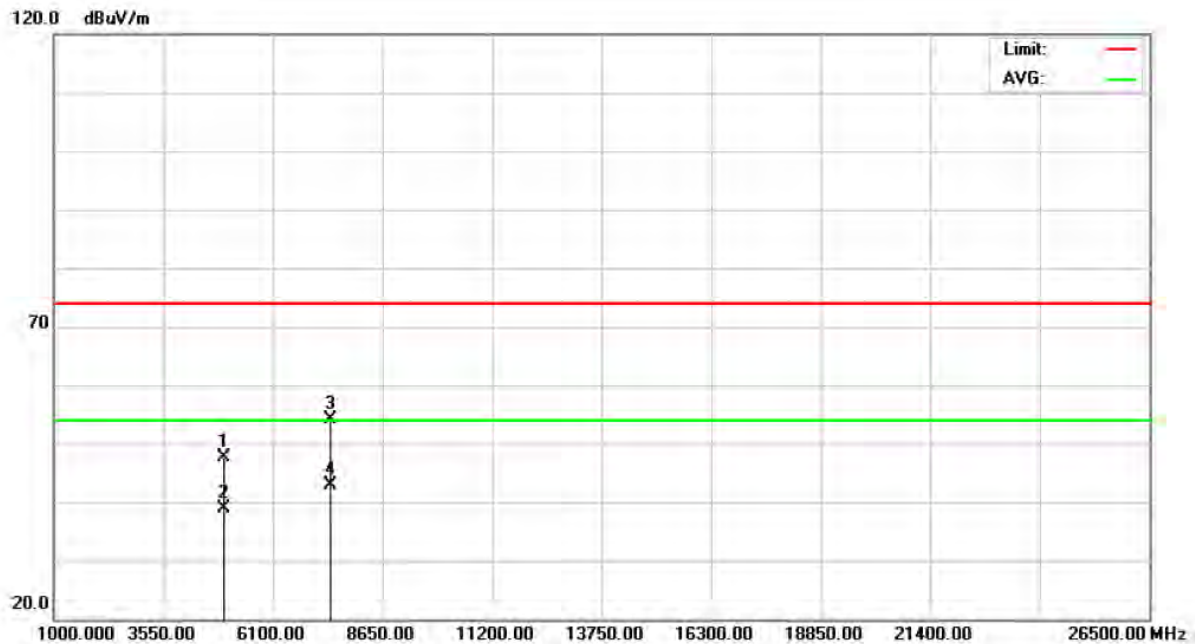


| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|---------|
| 1   | X   | 2463.000     | 72.15                    | 31.99                   | 104.14                     | 74.00           | 30.14      | peak     |         |
| 2   | *   | 2463.000     | 62.86                    | 31.99                   | 94.85                      | 54.00           | 40.85      | AVG      |         |
| 3   |     | 2483.500     | 31.42                    | 32.09                   | 63.51                      | 74.00           | -10.49     | peak     |         |
| 4   |     | 2483.500     | 17.01                    | 32.09                   | 49.10                      | 54.00           | -4.90      | AVG      |         |



|              |                        |                   |       |
|--------------|------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer | Model Name        | PA520 |
| Temperature  | 25°C                   | Relative Humidity | 62%   |
| Test Voltage | AC 120V/60Hz           |                   |       |
| Test Mode    | IEEE 802.11g/2462 MHz  |                   |       |

**Polarization: Vertical**

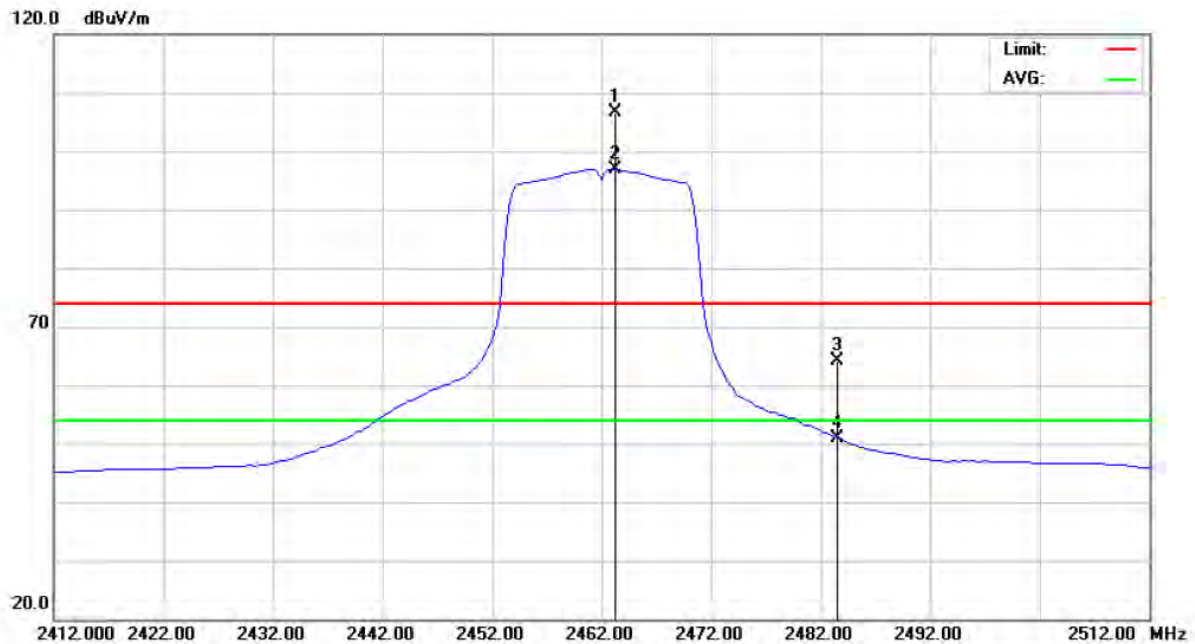


| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|---------|
| 1   |     | 4923.740     | 41.71                    | 5.84                    | 47.55                      | 74.00           | -26.45     | peak     |         |
| 2   |     | 4923.740     | 33.12                    | 5.84                    | 38.96                      | 54.00           | -15.04     | AVG      |         |
| 3   |     | 7386.555     | 41.19                    | 12.85                   | 54.04                      | 74.00           | -19.96     | peak     |         |
| 4   | *   | 7386.555     | 30.08                    | 12.85                   | 42.93                      | 54.00           | -11.07     | AVG      |         |



|              |                        |                   |       |
|--------------|------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer | Model Name        | PA520 |
| Temperature  | 25°C                   | Relative Humidity | 62%   |
| Test Voltage | AC 120V/60Hz           |                   |       |
| Test Mode    | IEEE 802.11g/2462 MHz  |                   |       |

**Polarization: Horizontal**

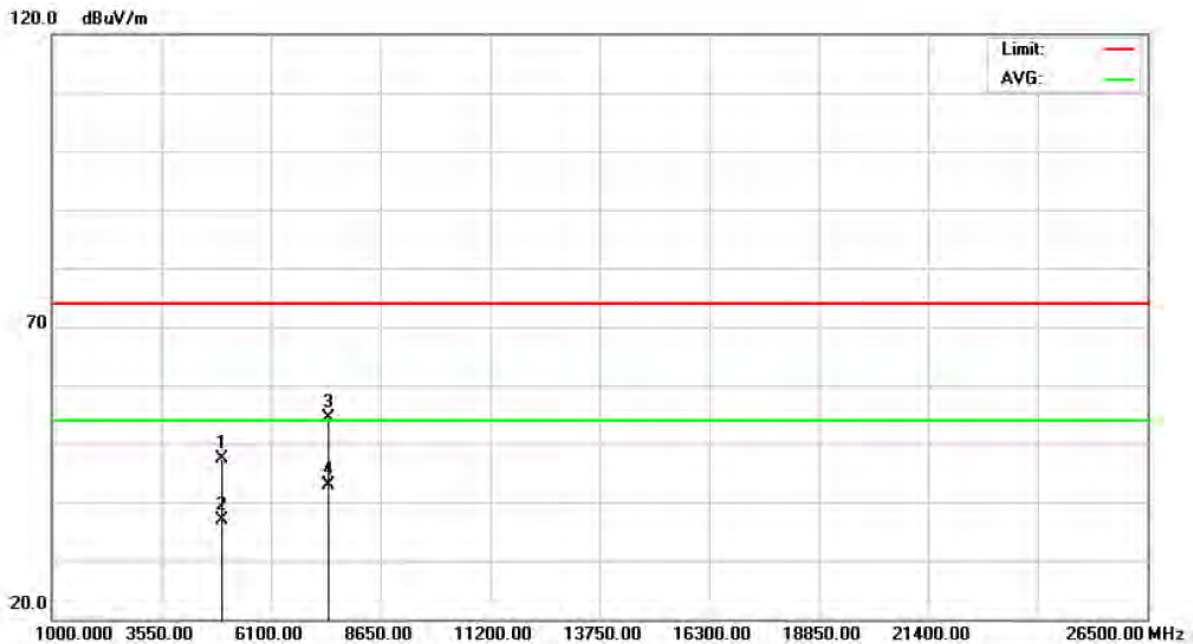


| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|---------|
| 1   | X   | 2463.250     | 74.59                    | 32.00                   | 106.59                     | 74.00           | 32.59      | peak     |         |
| 2   | *   | 2463.250     | 64.90                    | 32.00                   | 96.90                      | 54.00           | 42.90      | AVG      |         |
| 3   |     | 2483.500     | 32.05                    | 32.09                   | 64.14                      | 74.00           | -9.86      | peak     |         |
| 4   |     | 2483.500     | 18.90                    | 32.09                   | 50.99                      | 54.00           | -3.01      | AVG      |         |



|              |                        |                   |       |
|--------------|------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer | Model Name        | PA520 |
| Temperature  | 25°C                   | Relative Humidity | 62%   |
| Test Voltage | AC 120V/60Hz           |                   |       |
| Test Mode    | IEEE 802.11g/2462 MHz  |                   |       |

**Polarization: Horizontal**

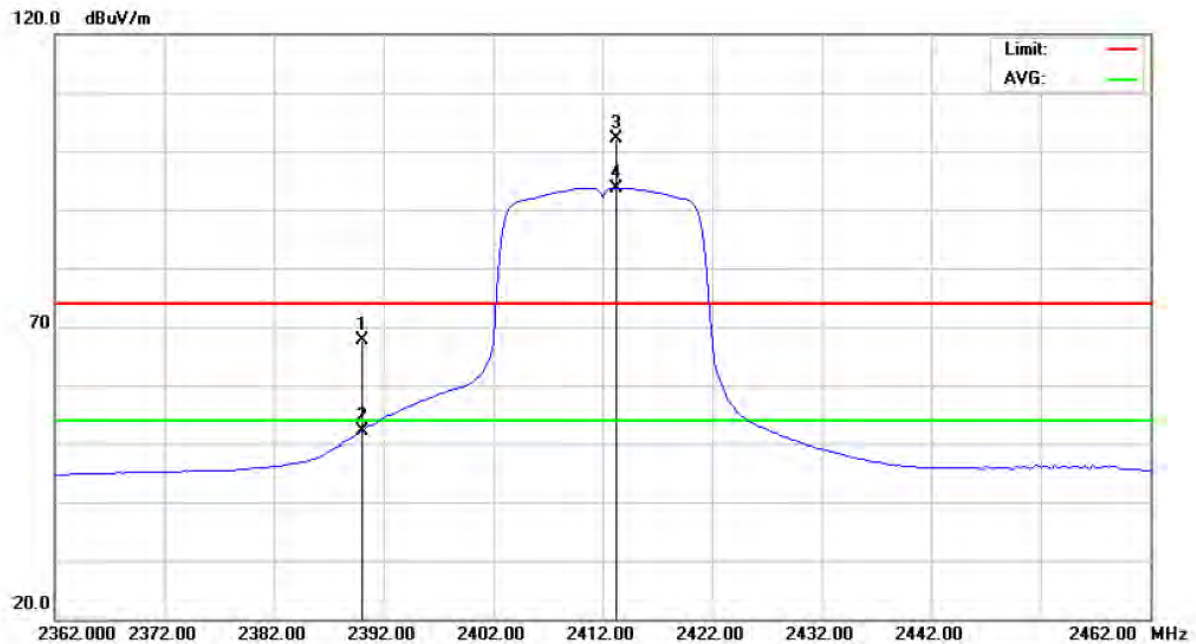


| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|---------|
| 1   |     | 4924.110     | 41.48                    | 5.84                    | 47.32                      | 74.00           | -26.68     | peak     |         |
| 2   |     | 4924.110     | 31.03                    | 5.84                    | 36.87                      | 54.00           | -17.13     | AVG      |         |
| 3   |     | 7386.055     | 41.49                    | 12.85                   | 54.34                      | 74.00           | -19.66     | peak     |         |
| 4   | *   | 7386.055     | 30.14                    | 12.85                   | 42.99                      | 54.00           | -11.01     | AVG      |         |



|              |                                |                   |       |
|--------------|--------------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer         | Model Name        | PA520 |
| Temperature  | 25°C                           | Relative Humidity | 62%   |
| Test Voltage | AC 120V/60Hz                   |                   |       |
| Test Mode    | IEEE 802.11n (20 MHz)/2412 MHz |                   |       |

**Polarization: Vertical**

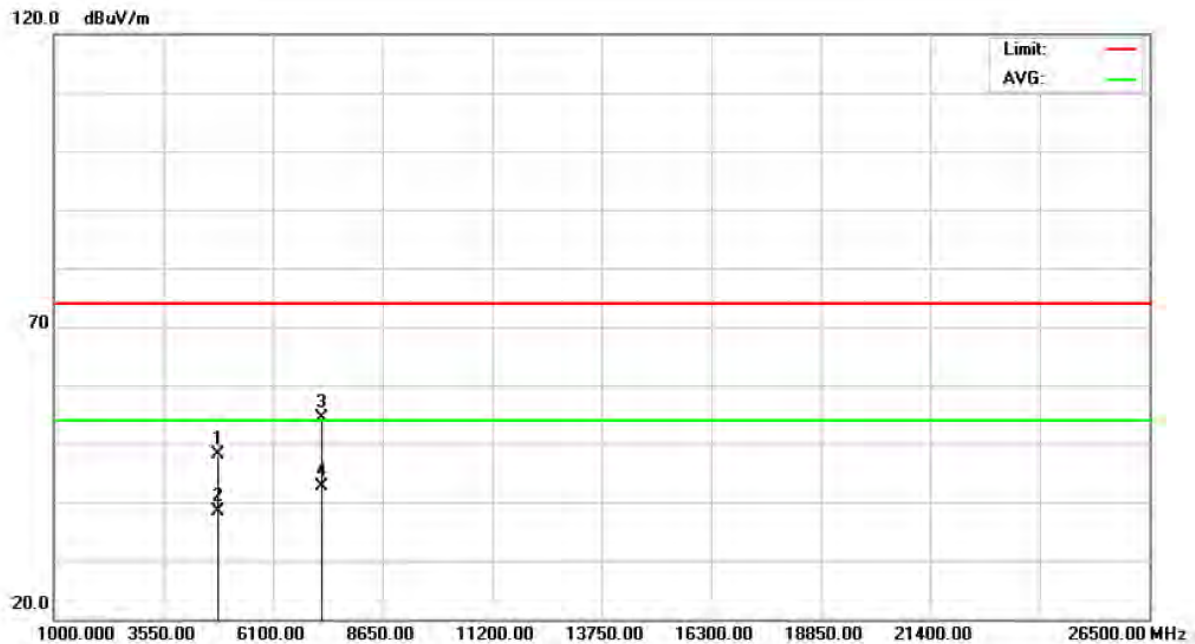


| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|---------|
| 1   |     | 2390.000     | 35.97                    | 31.67                   | 67.64                      | 74.00           | -6.36      | peak     |         |
| 2   |     | 2390.000     | 20.39                    | 31.67                   | 52.06                      | 54.00           | -1.94      | AVG      |         |
| 3   | X   | 2413.250     | 70.40                    | 31.77                   | 102.17                     | 74.00           | 28.17      | peak     |         |
| 4   | *   | 2413.250     | 61.94                    | 31.77                   | 93.71                      | 54.00           | 39.71      | AVG      |         |



|              |                                |                   |       |
|--------------|--------------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer         | Model Name        | PA520 |
| Temperature  | 25°C                           | Relative Humidity | 62%   |
| Test Voltage | AC 120V/60Hz                   |                   |       |
| Test Mode    | IEEE 802.11n (20 MHz)/2412 MHz |                   |       |

**Polarization: Vertical**



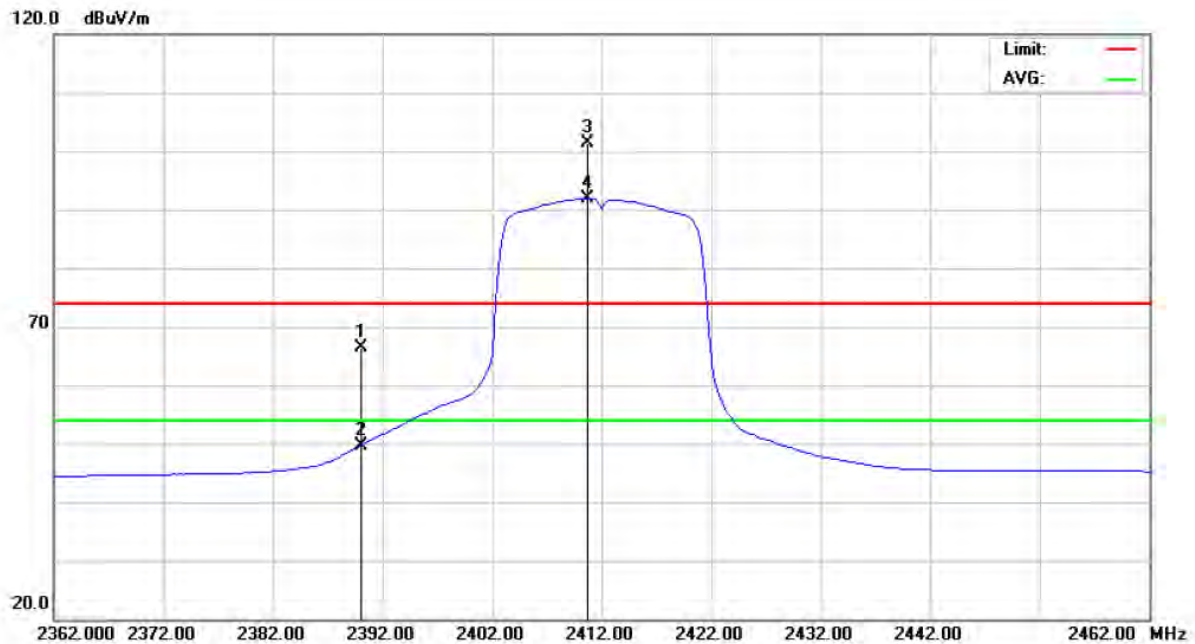
| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|---------|
| 1   |     | 4823.940     | 42.32                    | 5.71                    | 48.03                      | 74.00           | -25.97     | peak     |         |
| 2   |     | 4823.940     | 32.77                    | 5.71                    | 38.48                      | 54.00           | -15.52     | AVG      |         |
| 3   |     | 7235.985     | 42.13                    | 12.29                   | 54.42                      | 74.00           | -19.58     | peak     |         |
| 4   | *   | 7235.985     | 30.23                    | 12.29                   | 42.52                      | 54.00           | -11.48     | AVG      |         |





|              |                                |                   |       |
|--------------|--------------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer         | Model Name        | PA520 |
| Temperature  | 25°C                           | Relative Humidity | 62%   |
| Test Voltage | AC 120V/60Hz                   |                   |       |
| Test Mode    | IEEE 802.11n (20 MHz)/2412 MHz |                   |       |

**Polarization: Horizontal**

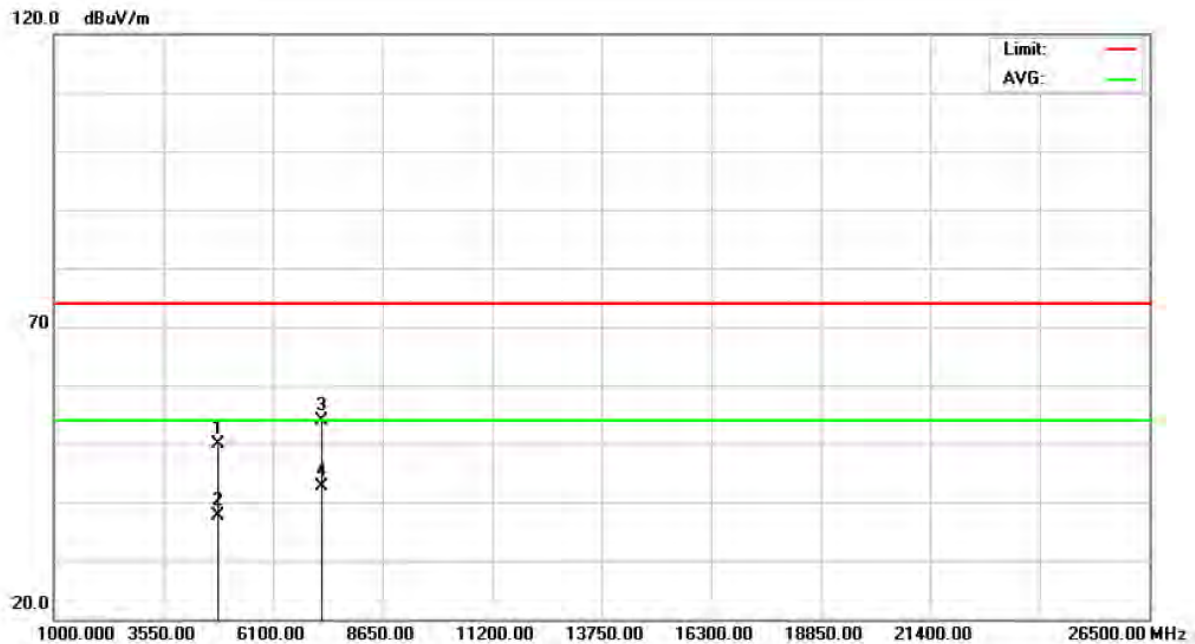


| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|---------|
| 1   |     | 2390.000     | 34.62                    | 31.67                   | 66.29                      | 74.00           | -7.71      | peak     |         |
| 2   |     | 2390.000     | 17.94                    | 31.67                   | 49.61                      | 54.00           | -4.39      | AVG      |         |
| 3   | X   | 2410.750     | 69.57                    | 31.76                   | 101.33                     | 74.00           | 27.33      | peak     |         |
| 4   | *   | 2410.750     | 60.12                    | 31.76                   | 91.88                      | 54.00           | 37.88      | AVG      |         |



|              |                                |                   |       |
|--------------|--------------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer         | Model Name        | PA520 |
| Temperature  | 25°C                           | Relative Humidity | 62%   |
| Test Voltage | AC 120V/60Hz                   |                   |       |
| Test Mode    | IEEE 802.11n (20 MHz)/2412 MHz |                   |       |

**Polarization: Horizontal**

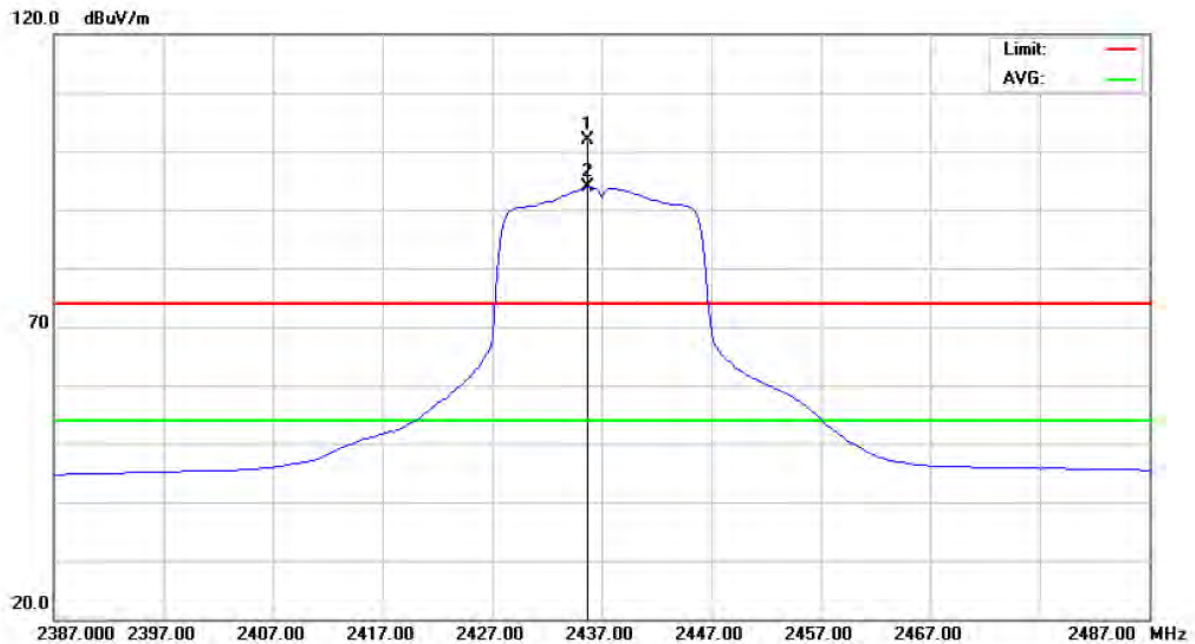


| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|---------|
| 1   |     | 4824.040     | 44.09                    | 5.71                    | 49.80                      | 74.00           | -24.20     | peak     |         |
| 2   |     | 4824.040     | 31.82                    | 5.71                    | 37.53                      | 54.00           | -16.47     | AVG      |         |
| 3   |     | 7236.045     | 41.56                    | 12.29                   | 53.85                      | 74.00           | -20.15     | peak     |         |
| 4   | *   | 7236.045     | 30.24                    | 12.29                   | 42.53                      | 54.00           | -11.47     | AVG      |         |



|              |                                |                   |       |
|--------------|--------------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer         | Model Name        | PA520 |
| Temperature  | 25°C                           | Relative Humidity | 62%   |
| Test Voltage | AC 120V/60Hz                   |                   |       |
| Test Mode    | IEEE 802.11n (20 MHz)/2437 MHz |                   |       |

**Polarization: Vertical**

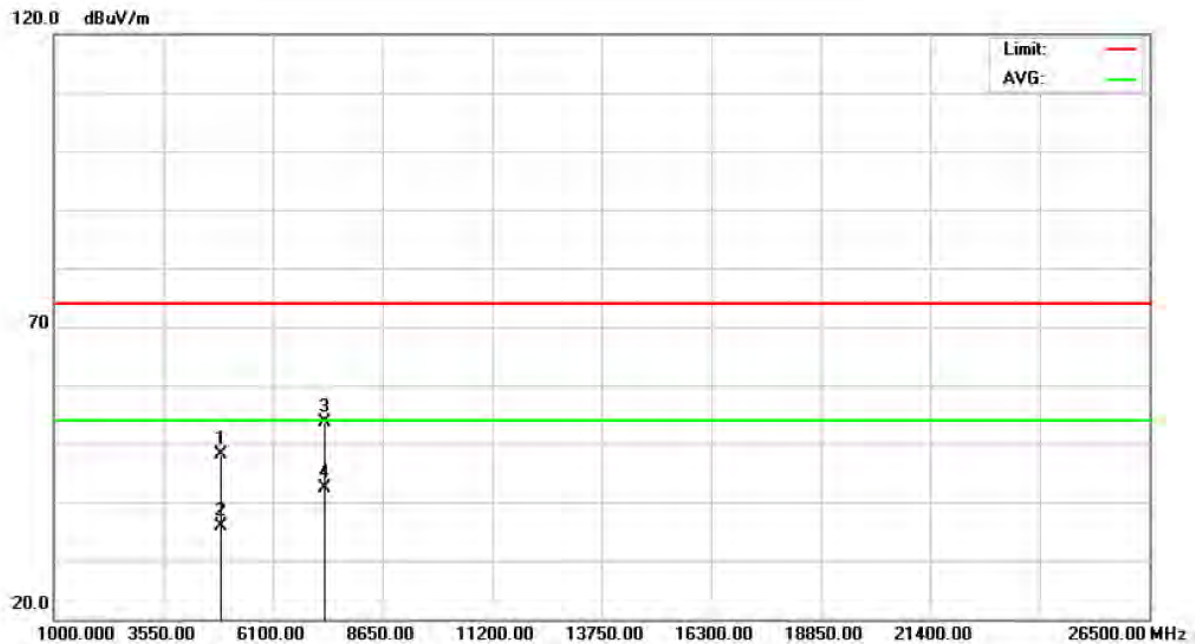


| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|---------|
| 1   | X   | 2435.750     | 70.04                    | 31.87                   | 101.91                     | 74.00           | 27.91      | peak     |         |
| 2   | *   | 2435.750     | 61.94                    | 31.87                   | 93.81                      | 54.00           | 39.81      | AVG      |         |



|              |                                |                   |       |
|--------------|--------------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer         | Model Name        | PA520 |
| Temperature  | 25°C                           | Relative Humidity | 62%   |
| Test Voltage | AC 120V/60Hz                   |                   |       |
| Test Mode    | IEEE 802.11n (20 MHz)/2437 MHz |                   |       |

**Polarization: Vertical**

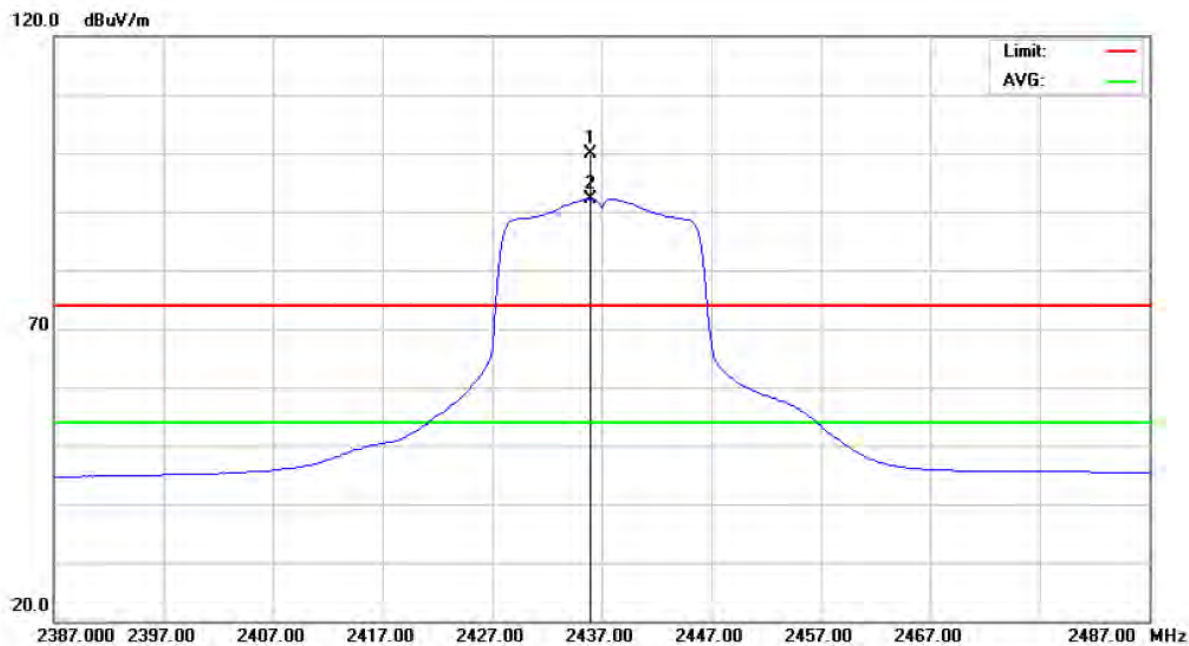


| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|---------|
| 1   |     | 4873.925     | 42.35                    | 5.78                    | 48.13                      | 74.00           | -25.87     | peak     |         |
| 2   |     | 4873.925     | 29.98                    | 5.78                    | 35.76                      | 54.00           | -18.24     | AVG      |         |
| 3   |     | 7311.245     | 41.15                    | 12.57                   | 53.72                      | 74.00           | -20.28     | peak     |         |
| 4   | *   | 7311.245     | 29.74                    | 12.57                   | 42.31                      | 54.00           | -11.69     | AVG      |         |



|              |                                |                   |       |
|--------------|--------------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer         | Model Name        | PA520 |
| Temperature  | 25°C                           | Relative Humidity | 62%   |
| Test Voltage | AC 120V/60Hz                   |                   |       |
| Test Mode    | IEEE 802.11n (20 MHz)/2437 MHz |                   |       |

**Polarization: Horizontal**

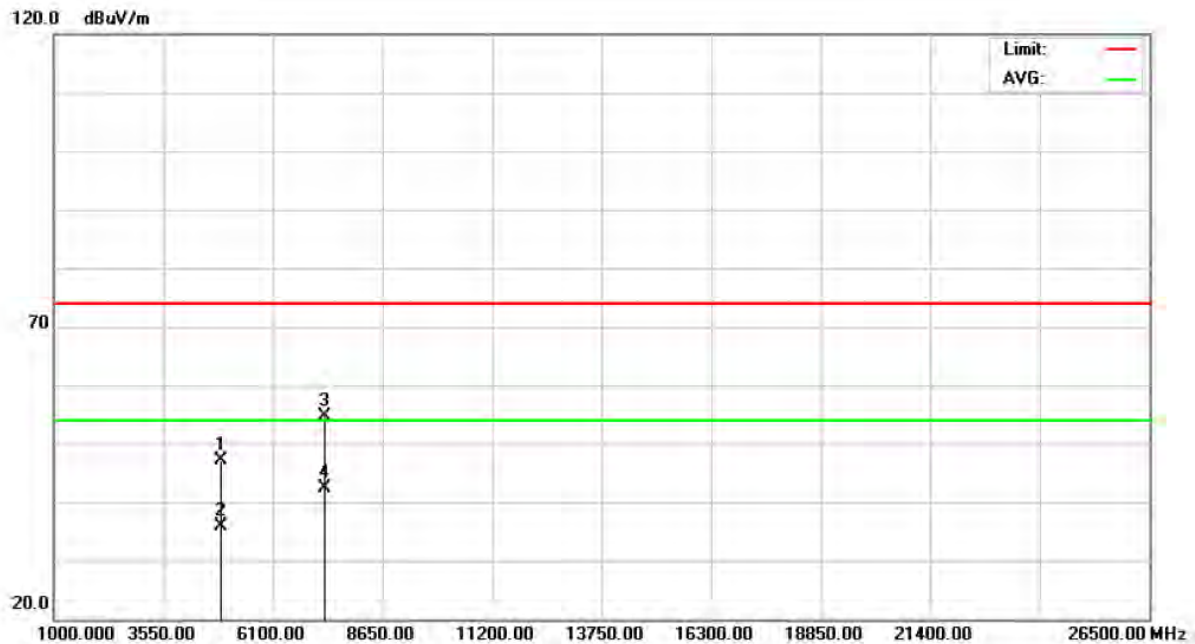


| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|---------|
| 1   | X   | 2436.000     | 68.12                    | 31.87                   | 99.99                      | 74.00           | 25.99      | peak     |         |
| 2   | *   | 2436.000     | 60.29                    | 31.87                   | 92.16                      | 54.00           | 38.16      | AVG      |         |



|              |                                |                   |       |
|--------------|--------------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer         | Model Name        | PA520 |
| Temperature  | 25°C                           | Relative Humidity | 62%   |
| Test Voltage | AC 120V/60Hz                   |                   |       |
| Test Mode    | IEEE 802.11n (20 MHz)/2437 MHz |                   |       |

**Polarization: Horizontal**

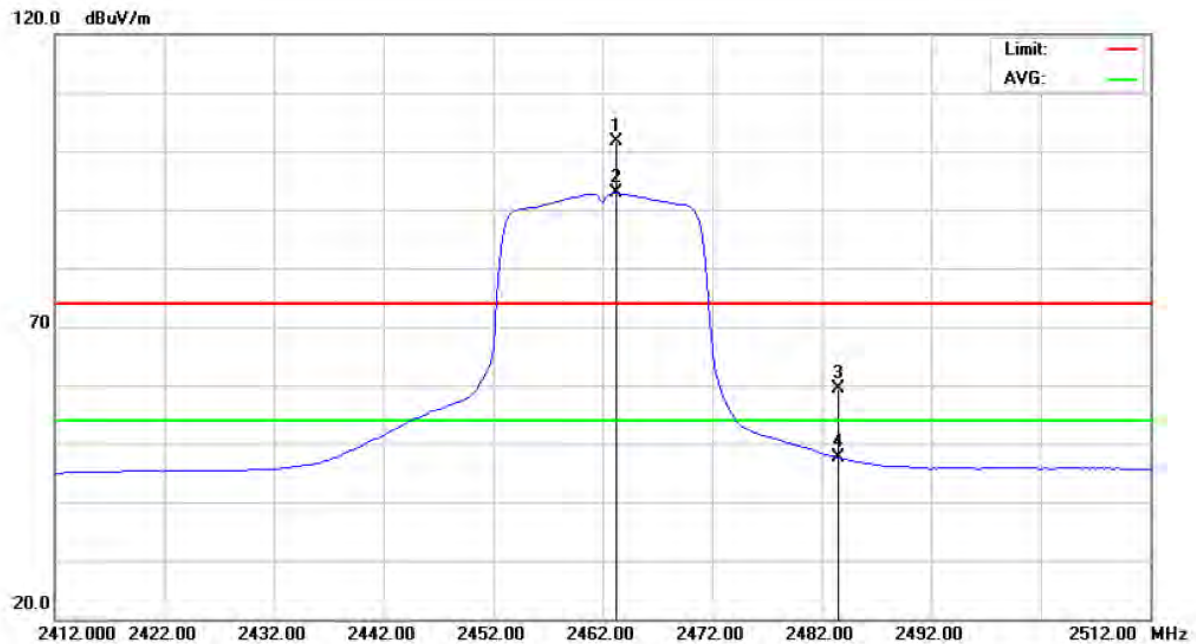


| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|---------|
| 1   |     | 4874.470     | 41.35                    | 5.78                    | 47.13                      | 74.00           | -26.87     | peak     |         |
| 2   |     | 4874.470     | 29.98                    | 5.78                    | 35.76                      | 54.00           | -18.24     | AVG      |         |
| 3   |     | 7311.150     | 41.95                    | 12.57                   | 54.52                      | 74.00           | -19.48     | peak     |         |
| 4   | *   | 7311.150     | 29.70                    | 12.57                   | 42.27                      | 54.00           | -11.73     | AVG      |         |



|              |                                |                   |       |
|--------------|--------------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer         | Model Name        | PA520 |
| Temperature  | 25°C                           | Relative Humidity | 62%   |
| Test Voltage | AC 120V/60Hz                   |                   |       |
| Test Mode    | IEEE 802.11n (20 MHz)/2462 MHz |                   |       |

**Polarization: Vertical**

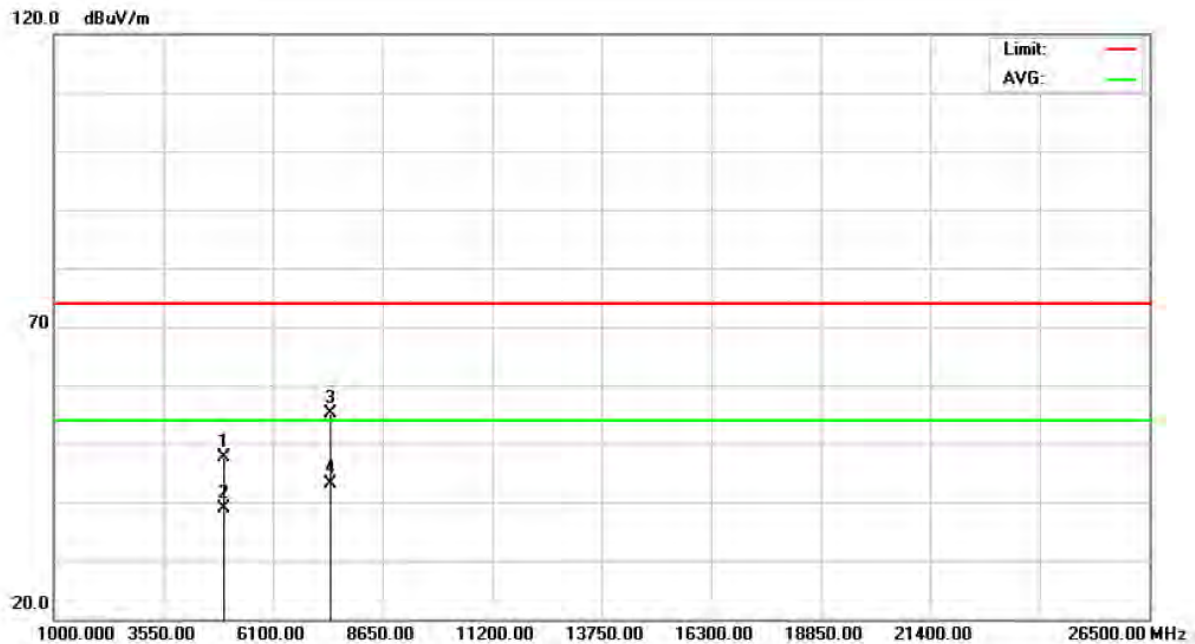


| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|---------|
| 1   | X   | 2463.250     | 69.53                    | 32.00                   | 101.53                     | 74.00           | 27.53      | peak     |         |
| 2   | *   | 2463.250     | 60.78                    | 32.00                   | 92.78                      | 54.00           | 38.78      | AVG      |         |
| 3   |     | 2483.500     | 27.31                    | 32.09                   | 59.40                      | 74.00           | -14.60     | peak     |         |
| 4   |     | 2483.500     | 15.50                    | 32.09                   | 47.59                      | 54.00           | -6.41      | AVG      |         |



|              |                                |                   |       |
|--------------|--------------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer         | Model Name        | PA520 |
| Temperature  | 25°C                           | Relative Humidity | 62%   |
| Test Voltage | AC 120V/60Hz                   |                   |       |
| Test Mode    | IEEE 802.11n (20 MHz)/2462 MHz |                   |       |

**Polarization: Vertical**



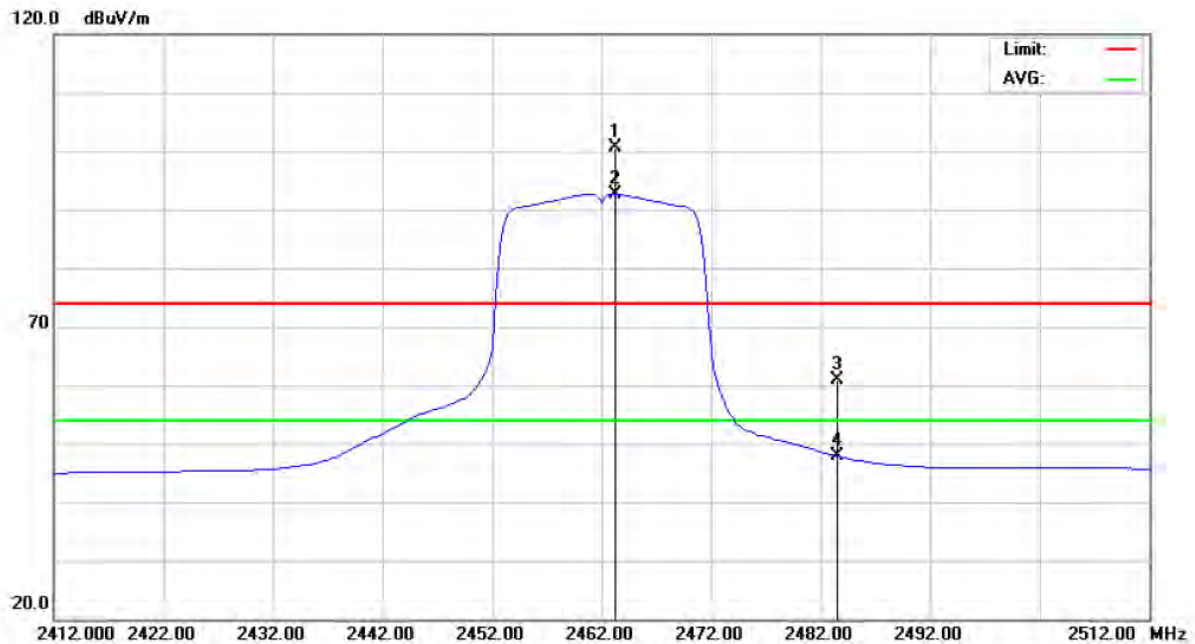
| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|---------|
| 1   |     | 4923.895     | 41.88                    | 5.84                    | 47.72                      | 74.00           | -26.28     | peak     |         |
| 2   |     | 4923.895     | 32.97                    | 5.84                    | 38.81                      | 54.00           | -15.19     | AVG      |         |
| 3   |     | 7386.575     | 42.34                    | 12.85                   | 55.19                      | 74.00           | -18.81     | peak     |         |
| 4   | *   | 7386.575     | 30.21                    | 12.85                   | 43.06                      | 54.00           | -10.94     | AVG      |         |





|              |                                |                   |       |
|--------------|--------------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer         | Model Name        | PA520 |
| Temperature  | 25°C                           | Relative Humidity | 62%   |
| Test Voltage | AC 120V/60Hz                   |                   |       |
| Test Mode    | IEEE 802.11n (20 MHz)/2462 MHz |                   |       |

**Polarization: Horizontal**

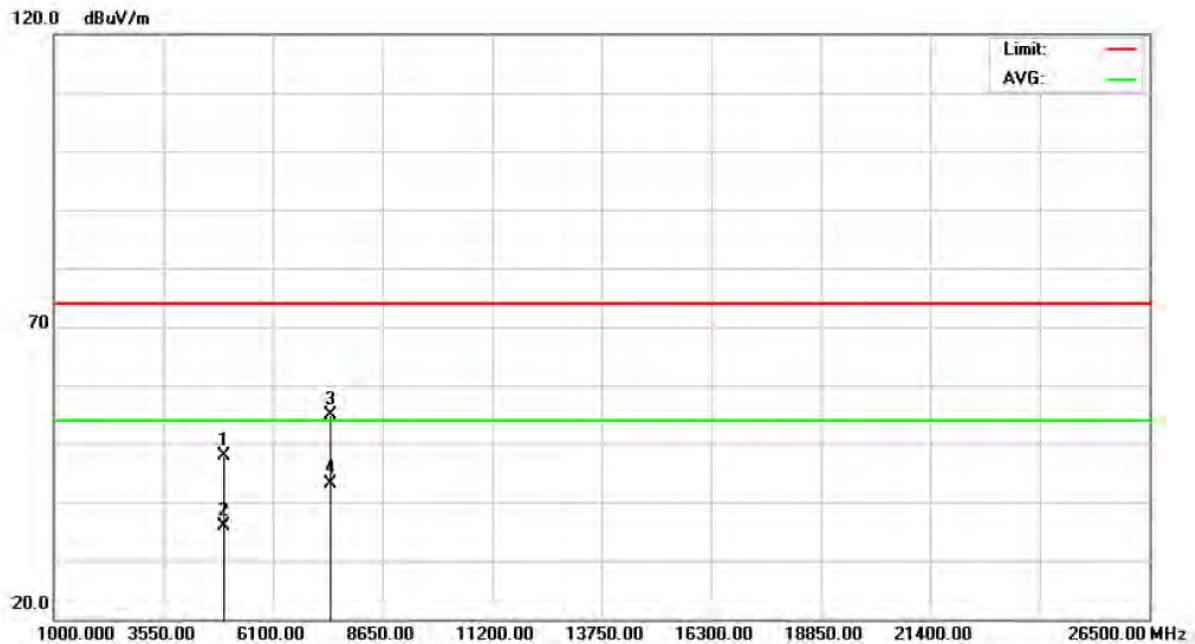


| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|---------|
| 1   | X   | 2463.250     | 68.63                    | 32.00                   | 100.63                     | 74.00           | 26.63      | peak     |         |
| 2   | *   | 2463.250     | 60.69                    | 32.00                   | 92.69                      | 54.00           | 38.69      | AVG      |         |
| 3   |     | 2483.500     | 28.75                    | 32.09                   | 60.84                      | 74.00           | -13.16     | peak     |         |
| 4   |     | 2483.500     | 15.77                    | 32.09                   | 47.86                      | 54.00           | -6.14      | AVG      |         |



|              |                                |                   |       |
|--------------|--------------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer         | Model Name        | PA520 |
| Temperature  | 25°C                           | Relative Humidity | 62%   |
| Test Voltage | AC 120V/60Hz                   |                   |       |
| Test Mode    | IEEE 802.11n (20 MHz)/2462 MHz |                   |       |

**Polarization: Horizontal**



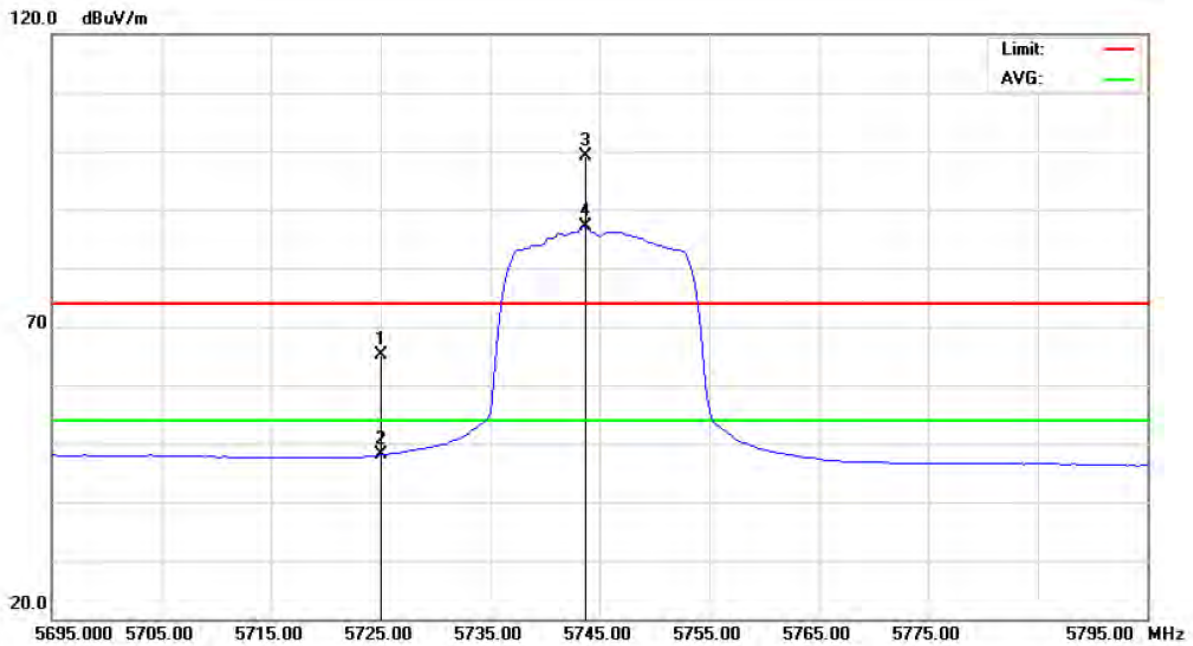
| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|---------|
| 1   |     | 4923.345     | 42.04                    | 5.84                    | 47.88                      | 74.00           | -26.12     | peak     |         |
| 2   |     | 4923.345     | 30.11                    | 5.84                    | 35.95                      | 54.00           | -18.05     | AVG      |         |
| 3   |     | 7385.300     | 41.93                    | 12.84                   | 54.77                      | 74.00           | -19.23     | peak     |         |
| 4   | *   | 7385.300     | 30.25                    | 12.84                   | 43.09                      | 54.00           | -10.91     | AVG      |         |



### 9.9 TEST RESULTS - 5745-5825 MHZ

|              |                        |                   |       |
|--------------|------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer | Model Name        | PA520 |
| Temperature  | 25°C                   | Relative Humidity | 62%   |
| Test Voltage | AC 120V/60Hz           |                   |       |
| Test Mode    | IEEE 802.11a/5745 MHz  |                   |       |

**Polarization: Vertical**



| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|---------|
| 1   |     | 5725.000     | 32.76                    | 32.26                   | 65.02                      | 74.00           | -8.98      | peak     |         |
| 2   |     | 5725.000     | 15.75                    | 32.26                   | 48.01                      | 54.00           | -5.99      | AVG      |         |
| 3   | X   | 5743.750     | 66.79                    | 32.29                   | 99.08                      | 74.00           | 25.08      | peak     |         |
| 4   | *   | 5743.750     | 54.88                    | 32.29                   | 87.17                      | 54.00           | 33.17      | AVG      |         |



|              |                        |                   |       |
|--------------|------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer | Model Name        | PA520 |
| Temperature  | 25°C                   | Relative Humidity | 62%   |
| Test Voltage | AC 120V/60Hz           |                   |       |
| Test Mode    | IEEE 802.11a/5745 MHz  |                   |       |

**Polarization: Vertical**

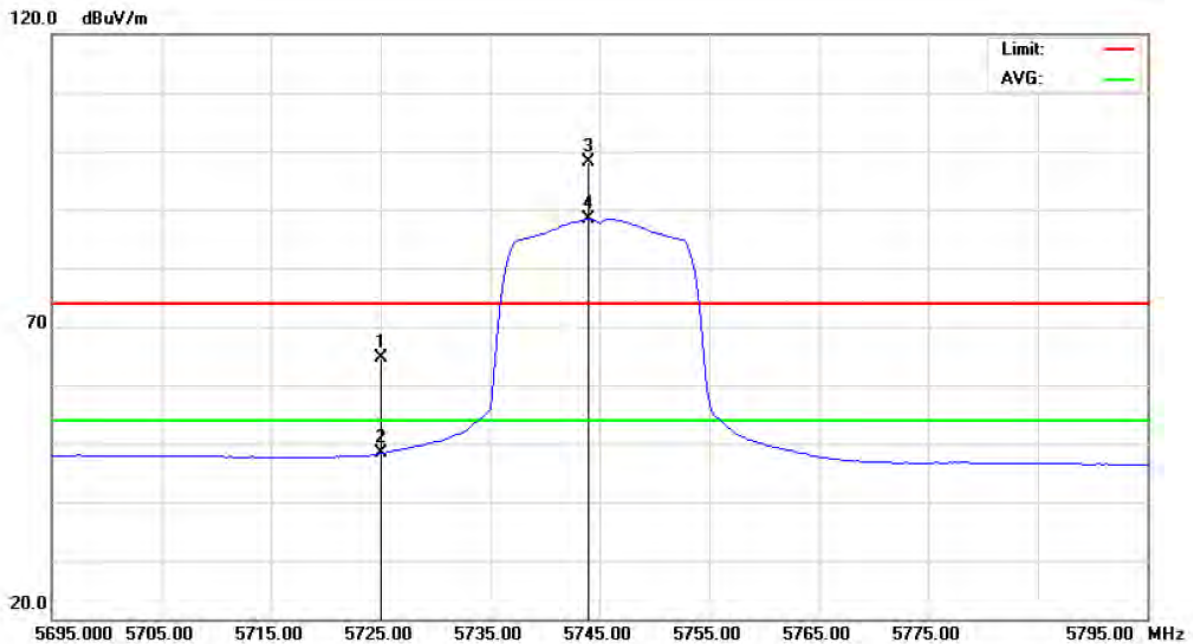


| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|---------|
| 1   |     | 11490.13     | 44.61                    | 18.80                   | 63.41                      | 74.00           | -10.59     | peak     |         |
| 2   | *   | 11490.13     | 31.98                    | 18.80                   | 50.78                      | 54.00           | -3.22      | AVG      |         |



|              |                        |                   |       |
|--------------|------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer | Model Name        | PA520 |
| Temperature  | 25°C                   | Relative Humidity | 62%   |
| Test Voltage | AC 120V/60Hz           |                   |       |
| Test Mode    | IEEE 802.11a/5745 MHz  |                   |       |

**Polarization: Horizontal**



| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|---------|
| 1   |     | 5725.000     | 25.93                    | 38.77                   | 64.70                      | 74.00           | -9.30      | peak     |         |
| 2   |     | 5725.000     | 9.52                     | 38.77                   | 48.29                      | 54.00           | -5.71      | AVG      |         |
| 3   | X   | 5744.000     | 59.33                    | 38.81                   | 98.14                      | 74.00           | 24.14      | peak     |         |
| 4   | *   | 5744.000     | 49.53                    | 38.81                   | 88.34                      | 54.00           | 34.34      | AVG      |         |



|              |                        |                   |       |
|--------------|------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer | Model Name        | PA520 |
| Temperature  | 25°C                   | Relative Humidity | 62%   |
| Test Voltage | AC 120V/60Hz           |                   |       |
| Test Mode    | IEEE 802.11a/5745 MHz  |                   |       |

**Polarization: Horizontal**

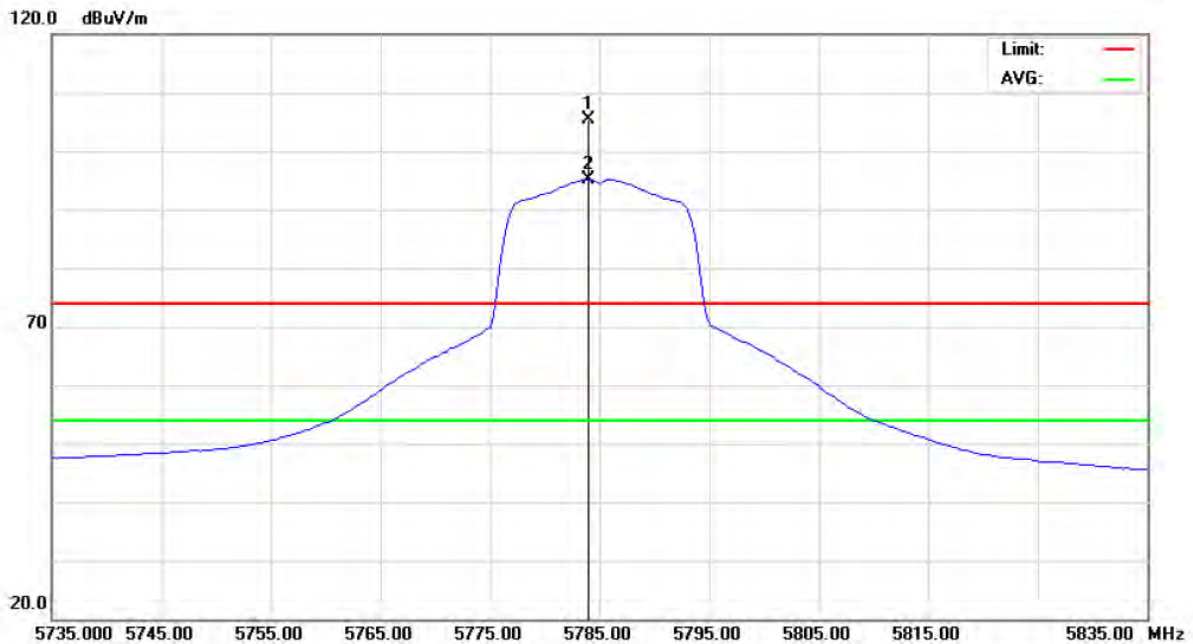


| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|---------|
| 1   |     | 11489.97     | 44.17                    | 18.80                   | 62.97                      | 74.00           | -11.03     | peak     |         |
| 2   | *   | 11489.97     | 31.71                    | 18.80                   | 50.51                      | 54.00           | -3.49      | AVG      |         |



|              |                        |                   |       |
|--------------|------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer | Model Name        | PA520 |
| Temperature  | 25°C                   | Relative Humidity | 62%   |
| Test Voltage | AC 120V/60Hz           |                   |       |
| Test Mode    | IEEE 802.11a/5785 MHz  |                   |       |

**Polarization: Vertical**

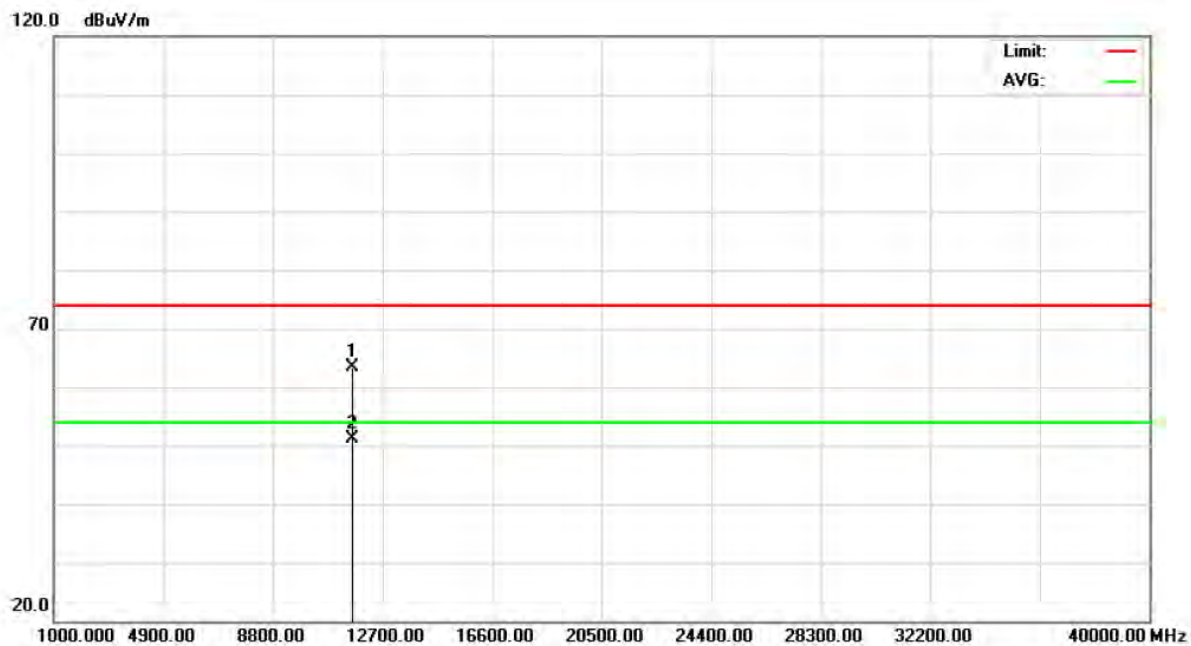


| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|---------|
| 1   | X   | 5784.000     | 66.43                    | 38.87                   | 105.30                     | 74.00           | 31.30      | peak     |         |
| 2   | *   | 5784.000     | 56.24                    | 38.87                   | 95.11                      | 54.00           | 41.11      | AVG      |         |



|              |                        |                   |       |
|--------------|------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer | Model Name        | PA520 |
| Temperature  | 25°C                   | Relative Humidity | 62%   |
| Test Voltage | AC 120V/60Hz           |                   |       |
| Test Mode    | IEEE 802.11a/5785 MHz  |                   |       |

**Polarization: Vertical**



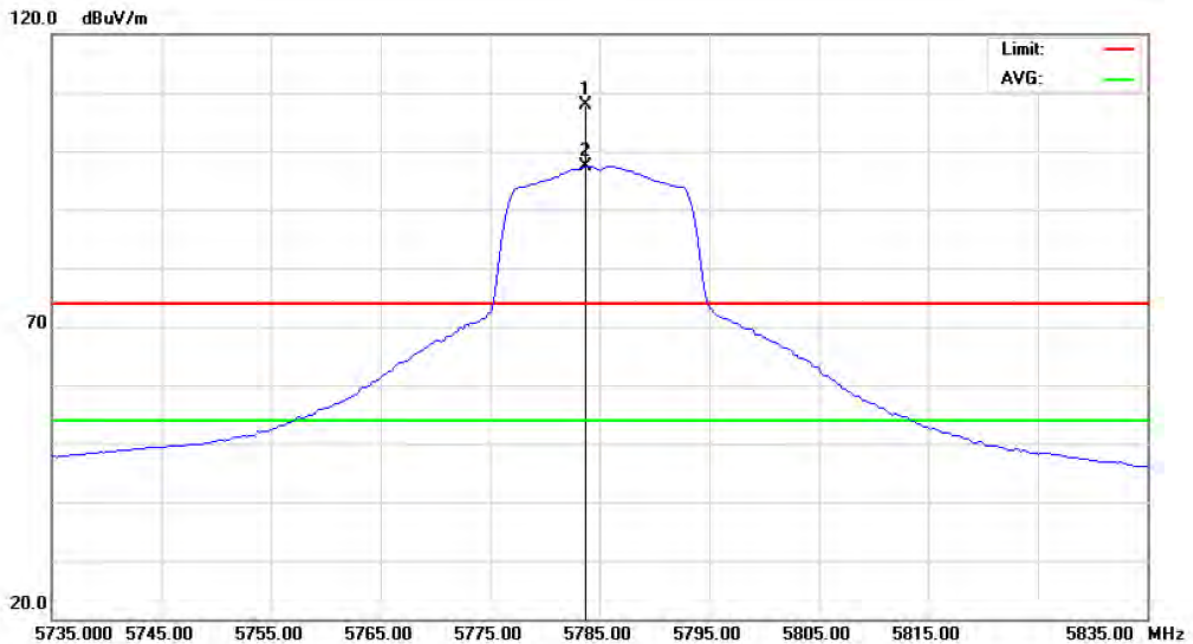
| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|---------|
| 1   |     | 11570.46     | 44.67                    | 18.76                   | 63.43                      | 74.00           | -10.57     | peak     |         |
| 2   | *   | 11570.46     | 32.40                    | 18.76                   | 51.16                      | 54.00           | -2.84      | AVG      |         |





|              |                        |                   |       |
|--------------|------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer | Model Name        | PA520 |
| Temperature  | 25°C                   | Relative Humidity | 62%   |
| Test Voltage | AC 120V/60Hz           |                   |       |
| Test Mode    | IEEE 802.11a/5785 MHz  |                   |       |

**Polarization: Horizontal**



| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|---------|
| 1   | X   | 5783.750     | 69.06                    | 38.87                   | 107.93                     | 74.00           | 33.93      | peak     |         |
| 2   | *   | 5783.750     | 58.46                    | 38.87                   | 97.33                      | 54.00           | 43.33      | AVG      |         |



|              |                        |                   |       |
|--------------|------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer | Model Name        | PA520 |
| Temperature  | 25°C                   | Relative Humidity | 62%   |
| Test Voltage | AC 120V/60Hz           |                   |       |
| Test Mode    | IEEE 802.11a/5785 MHz  |                   |       |

**Polarization: Horizontal**

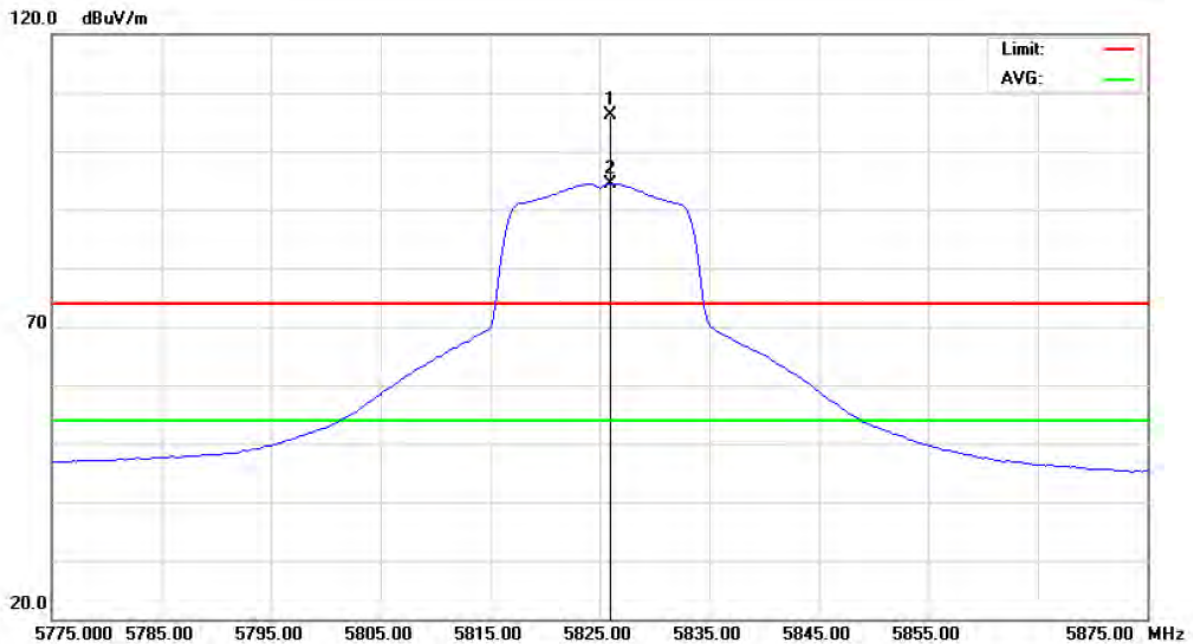


| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|---------|
| 1   |     | 11570.18     | 45.89                    | 18.76                   | 64.65                      | 74.00           | -9.35      | peak     |         |
| 2   | *   | 11570.18     | 32.32                    | 18.76                   | 51.08                      | 54.00           | -2.92      | AVG      |         |



|              |                        |                   |       |
|--------------|------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer | Model Name        | PA520 |
| Temperature  | 25°C                   | Relative Humidity | 62%   |
| Test Voltage | AC 120V/60Hz           |                   |       |
| Test Mode    | IEEE 802.11a/5825 MHz  |                   |       |

**Polarization: Vertical**



| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|---------|
| 1   | X   | 5826.000     | 67.08                    | 38.94                   | 106.02                     | 74.00           | 32.02      | peak     |         |
| 2   | *   | 5826.000     | 55.47                    | 38.94                   | 94.41                      | 54.00           | 40.41      | AVG      |         |



|              |                        |                   |       |
|--------------|------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer | Model Name        | PA520 |
| Temperature  | 25°C                   | Relative Humidity | 62%   |
| Test Voltage | AC 120V/60Hz           |                   |       |
| Test Mode    | IEEE 802.11a/5825 MHz  |                   |       |

**Polarization: Vertical**

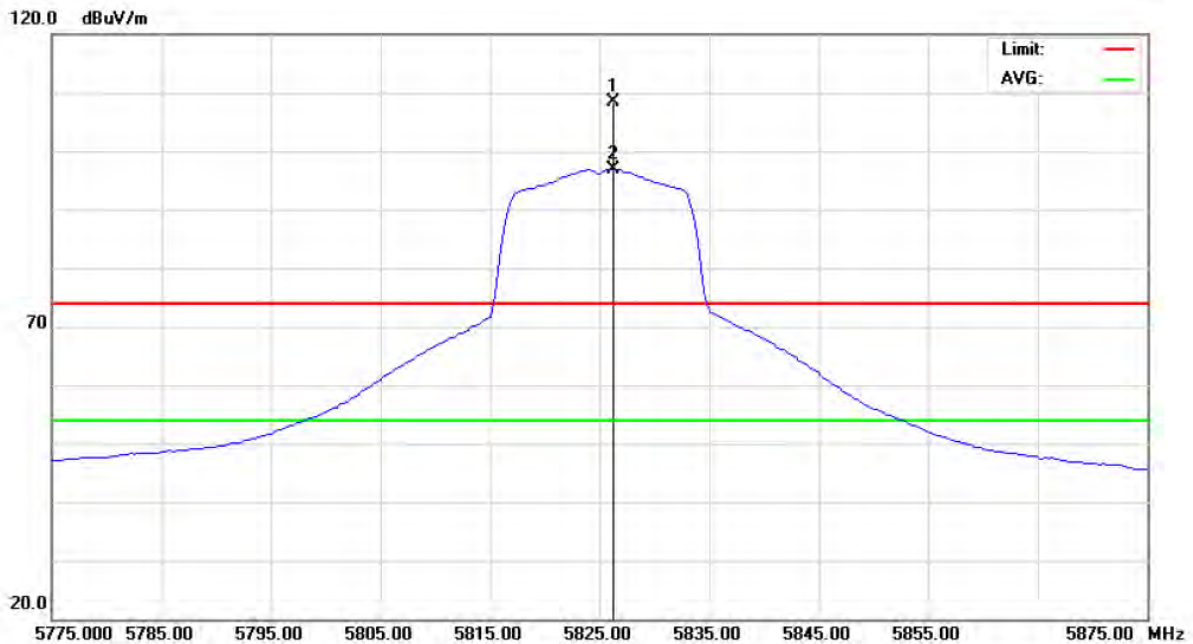


| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|---------|
| 1   |     | 11649.29     | 44.97                    | 18.74                   | 63.71                      | 74.00           | -10.29     | peak     |         |
| 2   | *   | 11649.29     | 32.30                    | 18.74                   | 51.04                      | 54.00           | -2.96      | AVG      |         |



|              |                        |                   |       |
|--------------|------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer | Model Name        | PA520 |
| Temperature  | 25°C                   | Relative Humidity | 62%   |
| Test Voltage | AC 120V/60Hz           |                   |       |
| Test Mode    | IEEE 802.11a/5825 MHz  |                   |       |

**Polarization: Horizontal**



| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|---------|
| 1   | X   | 5826.250     | 69.42                    | 38.94                   | 108.36                     | 74.00           | 34.36      | peak     |         |
| 2   | *   | 5826.250     | 57.95                    | 38.94                   | 96.89                      | 54.00           | 42.89      | AVG      |         |



|              |                        |                   |       |
|--------------|------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer | Model Name        | PA520 |
| Temperature  | 25°C                   | Relative Humidity | 62%   |
| Test Voltage | AC 120V/60Hz           |                   |       |
| Test Mode    | IEEE 802.11a/5825 MHz  |                   |       |

**Polarization: Horizontal**

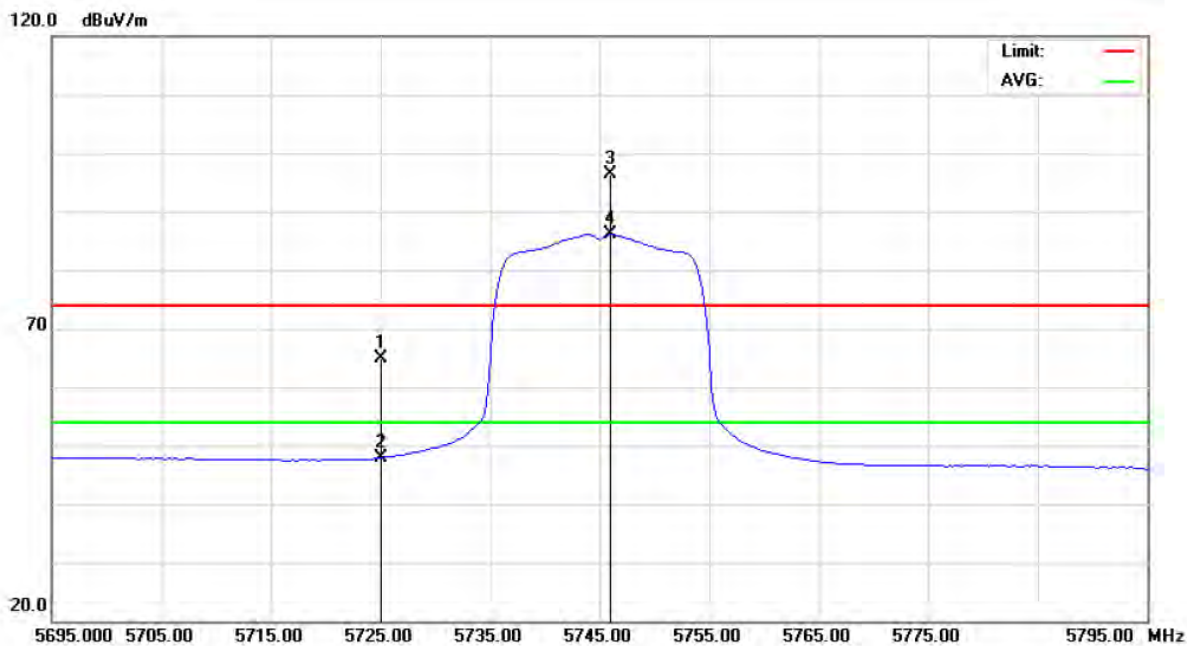


| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|---------|
| 1   |     | 11649.87     | 45.58                    | 18.74                   | 64.32                      | 74.00           | -9.68      | peak     |         |
| 2   | *   | 11649.87     | 32.31                    | 18.74                   | 51.05                      | 54.00           | -2.95      | AVG      |         |



|              |                                |                   |       |
|--------------|--------------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer         | Model Name        | PA520 |
| Temperature  | 25°C                           | Relative Humidity | 62%   |
| Test Voltage | AC 120V/60Hz                   |                   |       |
| Test Mode    | IEEE 802.11n (20 MHz)/5745 MHz |                   |       |

**Polarization: Vertical**



| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|---------|
| 1   |     | 5725.000     | 26.17                    | 38.77                   | 64.94                      | 74.00           | -9.06      | peak     |         |
| 2   |     | 5725.000     | 9.17                     | 38.77                   | 47.94                      | 54.00           | -6.06      | AVG      |         |
| 3   | X   | 5746.000     | 57.47                    | 38.81                   | 96.28                      | 74.00           | 22.28      | peak     |         |
| 4   | *   | 5746.000     | 47.23                    | 38.81                   | 86.04                      | 54.00           | 32.04      | AVG      |         |



|              |                                |                   |       |
|--------------|--------------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer         | Model Name        | PA520 |
| Temperature  | 25°C                           | Relative Humidity | 62%   |
| Test Voltage | AC 120V/60Hz                   |                   |       |
| Test Mode    | IEEE 802.11n (20 MHz)/5745 MHz |                   |       |

**Polarization: Vertical**



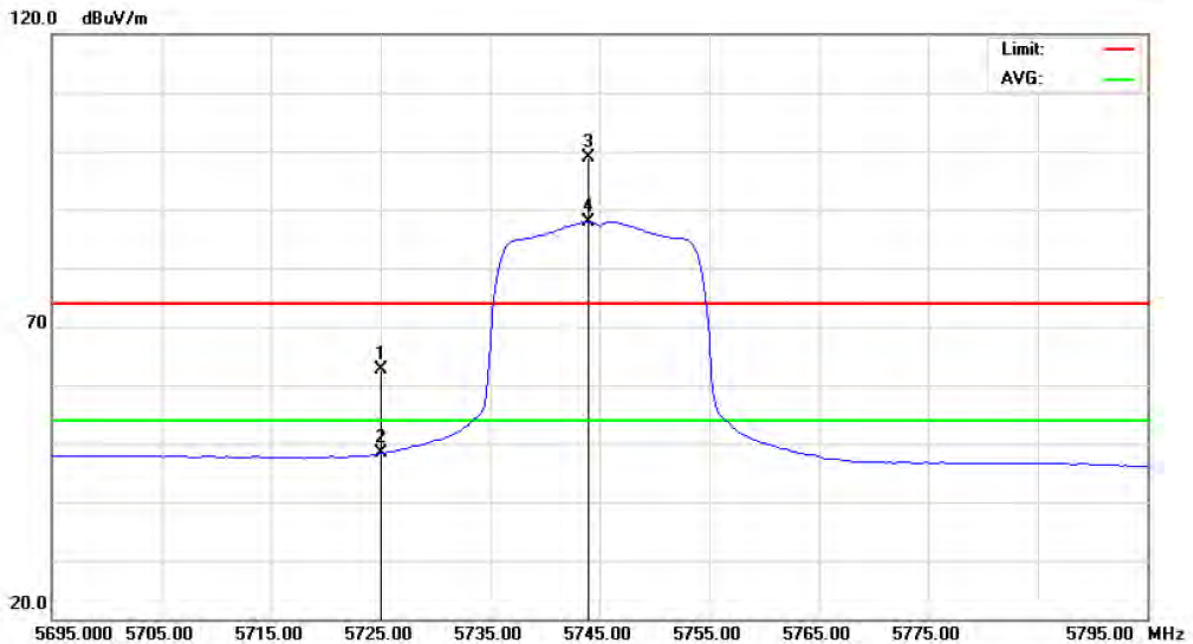
| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|---------|
| 1   |     | 11490.06     | 45.78                    | 18.80                   | 64.58                      | 74.00           | -9.42      | peak     |         |
| 2   | *   | 11490.06     | 31.84                    | 18.80                   | 50.64                      | 54.00           | -3.36      | AVG      |         |





|              |                                |                   |       |
|--------------|--------------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer         | Model Name        | PA520 |
| Temperature  | 25°C                           | Relative Humidity | 62%   |
| Test Voltage | AC 120V/60Hz                   |                   |       |
| Test Mode    | IEEE 802.11n (20 MHz)/5745 MHz |                   |       |

**Polarization: Horizontal**



| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|---------|
| 1   |     | 5725.000     | 23.74                    | 38.77                   | 62.51                      | 74.00           | -11.49     | peak     |         |
| 2   |     | 5725.000     | 9.56                     | 38.77                   | 48.33                      | 54.00           | -5.67      | AVG      |         |
| 3   | X   | 5744.000     | 59.98                    | 38.81                   | 98.79                      | 74.00           | 24.79      | peak     |         |
| 4   | *   | 5744.000     | 49.12                    | 38.81                   | 87.93                      | 54.00           | 33.93      | AVG      |         |



|              |                                |                   |       |
|--------------|--------------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer         | Model Name        | PA520 |
| Temperature  | 25°C                           | Relative Humidity | 62%   |
| Test Voltage | AC 120V/60Hz                   |                   |       |
| Test Mode    | IEEE 802.11n (20 MHz)/5745 MHz |                   |       |

**Polarization: Horizontal**

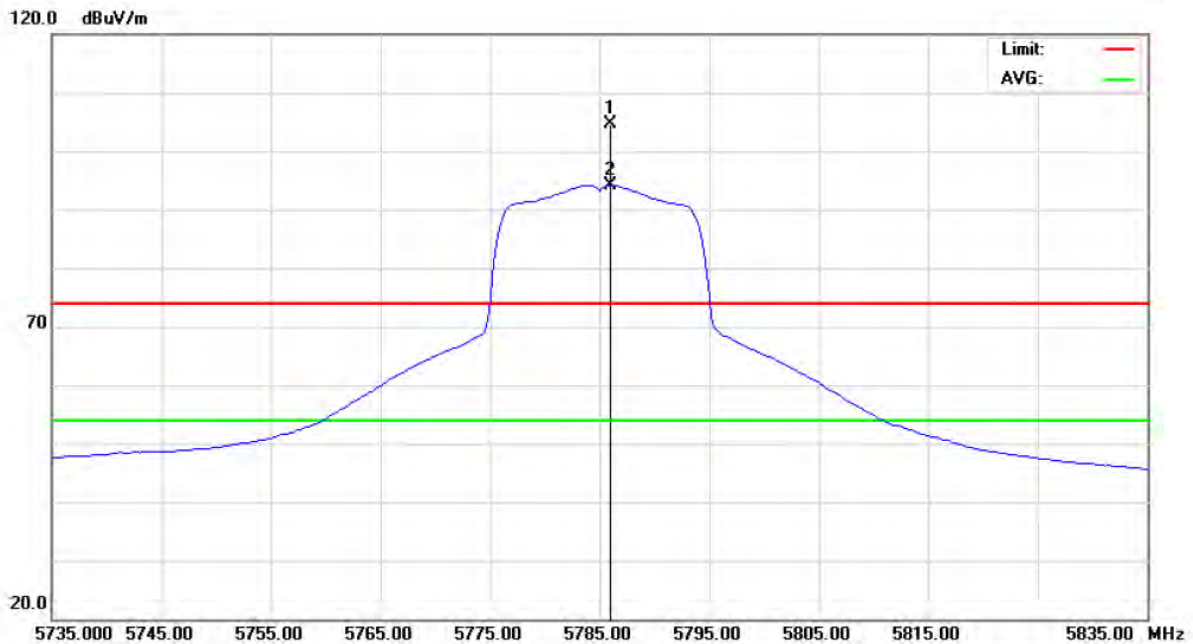


| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|---------|
| 1   |     | 11479.81     | 44.27                    | 18.81                   | 63.08                      | 74.00           | -10.92     | peak     |         |
| 2   | *   | 11479.81     | 31.89                    | 18.81                   | 50.70                      | 54.00           | -3.30      | AVG      |         |



|              |                                |                   |       |
|--------------|--------------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer         | Model Name        | PA520 |
| Temperature  | 25°C                           | Relative Humidity | 62%   |
| Test Voltage | AC 120V/60Hz                   |                   |       |
| Test Mode    | IEEE 802.11n (20 MHz)/5785 MHz |                   |       |

**Polarization: Vertical**



| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|---------|
| 1   | X   | 5786.000     | 65.71                    | 38.87                   | 104.58                     | 74.00           | 30.58      | peak     |         |
| 2   | *   | 5786.000     | 55.25                    | 38.87                   | 94.12                      | 54.00           | 40.12      | AVG      |         |



|              |                                |                   |       |
|--------------|--------------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer         | Model Name        | PA520 |
| Temperature  | 25°C                           | Relative Humidity | 62%   |
| Test Voltage | AC 120V/60Hz                   |                   |       |
| Test Mode    | IEEE 802.11n (20 MHz)/5785 MHz |                   |       |

**Polarization: Vertical**

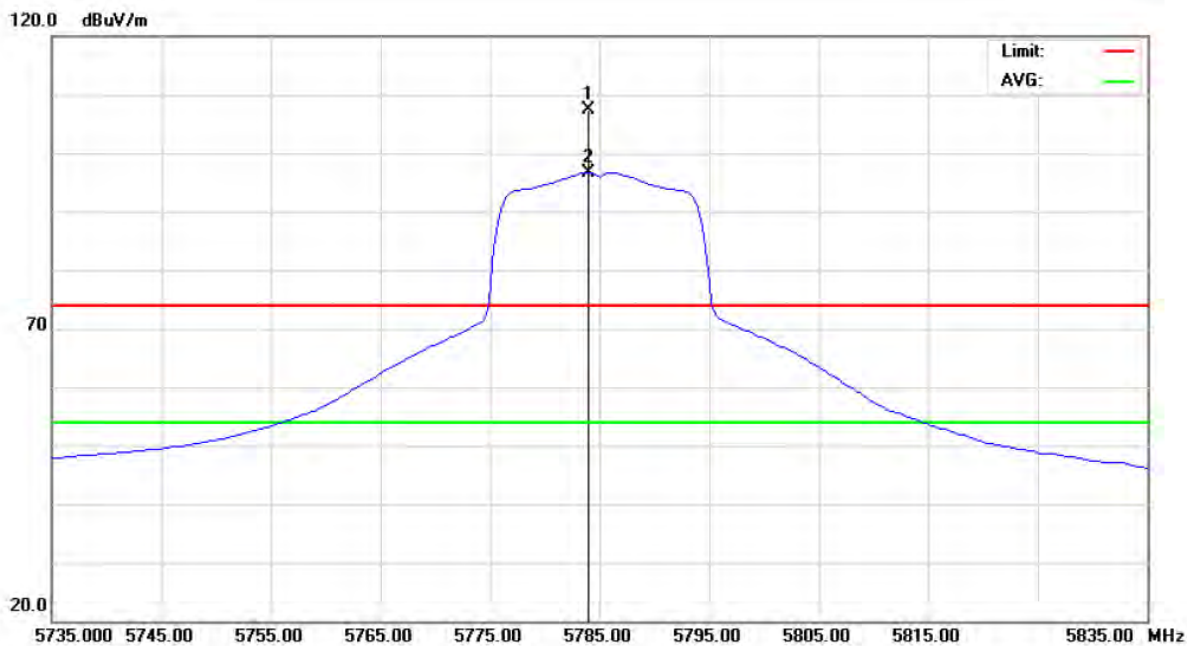


| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|---------|
| 1   |     | 11569.49     | 45.51                    | 18.76                   | 64.27                      | 74.00           | -9.73      | peak     |         |
| 2   | *   | 11569.49     | 32.34                    | 18.76                   | 51.10                      | 54.00           | -2.90      | AVG      |         |



|              |                                |                   |       |
|--------------|--------------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer         | Model Name        | PA520 |
| Temperature  | 25°C                           | Relative Humidity | 62%   |
| Test Voltage | AC 120V/60Hz                   |                   |       |
| Test Mode    | IEEE 802.11n (20 MHz)/5785 MHz |                   |       |

**Polarization: Horizontal**



| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|---------|
| 1   | X   | 5784.000     | 68.46                    | 38.87                   | 107.33                     | 74.00           | 33.33      | peak     |         |
| 2   | *   | 5784.000     | 57.80                    | 38.87                   | 96.67                      | 54.00           | 42.67      | AVG      |         |



|              |                                |                   |       |
|--------------|--------------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer         | Model Name        | PA520 |
| Temperature  | 25°C                           | Relative Humidity | 62%   |
| Test Voltage | AC 120V/60Hz                   |                   |       |
| Test Mode    | IEEE 802.11n (20 MHz)/5785 MHz |                   |       |

**Polarization: Horizontal**

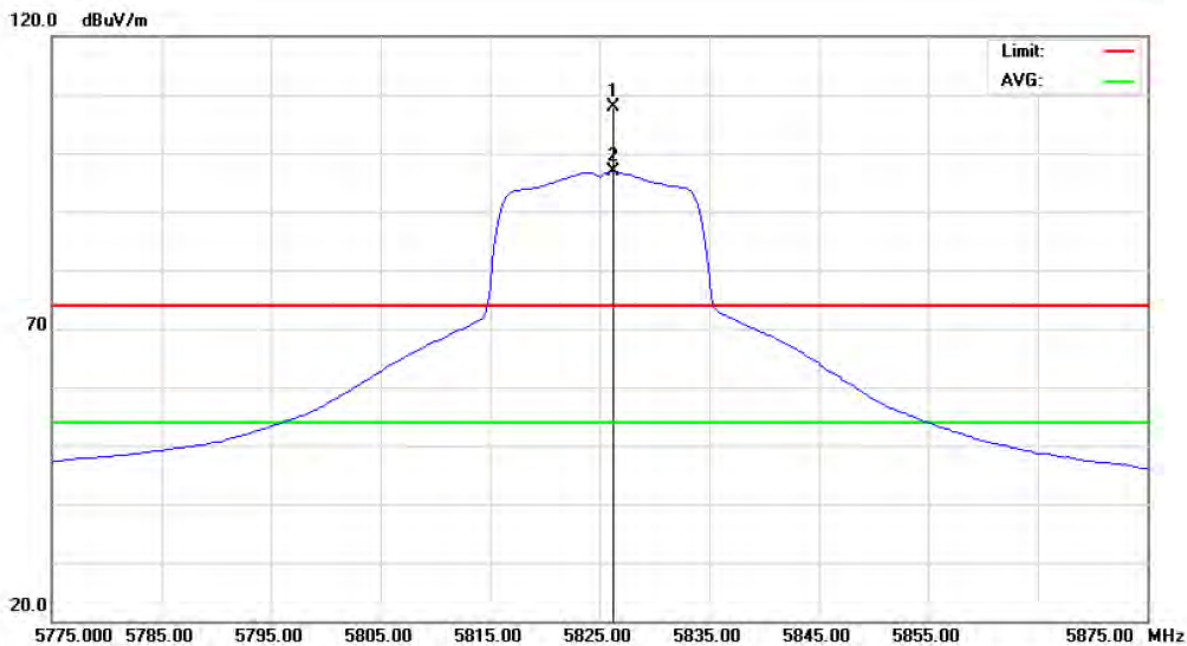


| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|---------|
| 1   |     | 11569.30     | 46.17                    | 18.76                   | 64.93                      | 74.00           | -9.07      | peak     |         |
| 2   | *   | 11569.30     | 32.24                    | 18.76                   | 51.00                      | 54.00           | -3.00      | AVG      |         |



|              |                                |                   |       |
|--------------|--------------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer         | Model Name        | PA520 |
| Temperature  | 25°C                           | Relative Humidity | 62%   |
| Test Voltage | AC 120V/60Hz                   |                   |       |
| Test Mode    | IEEE 802.11n (20 MHz)/5825 MHz |                   |       |

**Polarization: Vertical**



| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|---------|
| 1   | X   | 5826.250     | 69.00                    | 38.94                   | 107.94                     | 74.00           | 33.94      | peak     |         |
| 2   | *   | 5826.250     | 57.86                    | 38.94                   | 96.80                      | 54.00           | 42.80      | AVG      |         |



|              |                                |                   |       |
|--------------|--------------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer         | Model Name        | PA520 |
| Temperature  | 25°C                           | Relative Humidity | 62%   |
| Test Voltage | AC 120V/60Hz                   |                   |       |
| Test Mode    | IEEE 802.11n (20 MHz)/5825 MHz |                   |       |

**Polarization: Vertical**



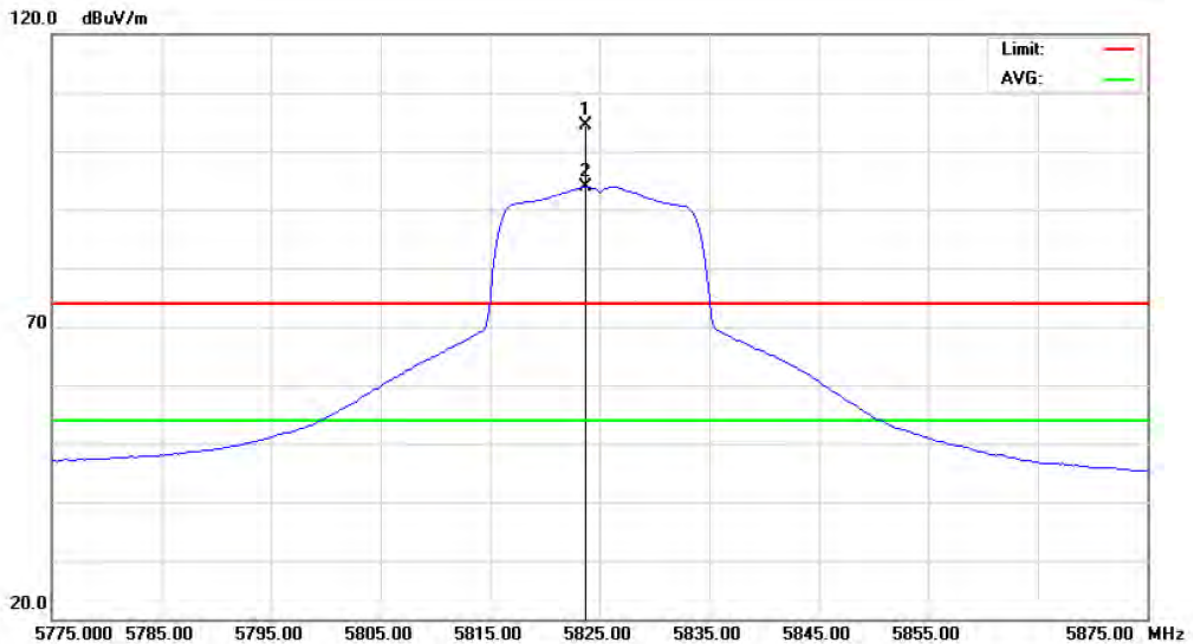
| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|---------|
| 1   |     | 11650.49     | 45.62                    | 18.73                   | 64.35                      | 74.00           | -9.65      | peak     |         |
| 2   | *   | 11650.49     | 32.34                    | 18.73                   | 51.07                      | 54.00           | -2.93      | AVG      |         |





|              |                                |                   |       |
|--------------|--------------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer         | Model Name        | PA520 |
| Temperature  | 25°C                           | Relative Humidity | 62%   |
| Test Voltage | AC 120V/60Hz                   |                   |       |
| Test Mode    | IEEE 802.11n (20 MHz)/5825 MHz |                   |       |

**Polarization: Horizontal**

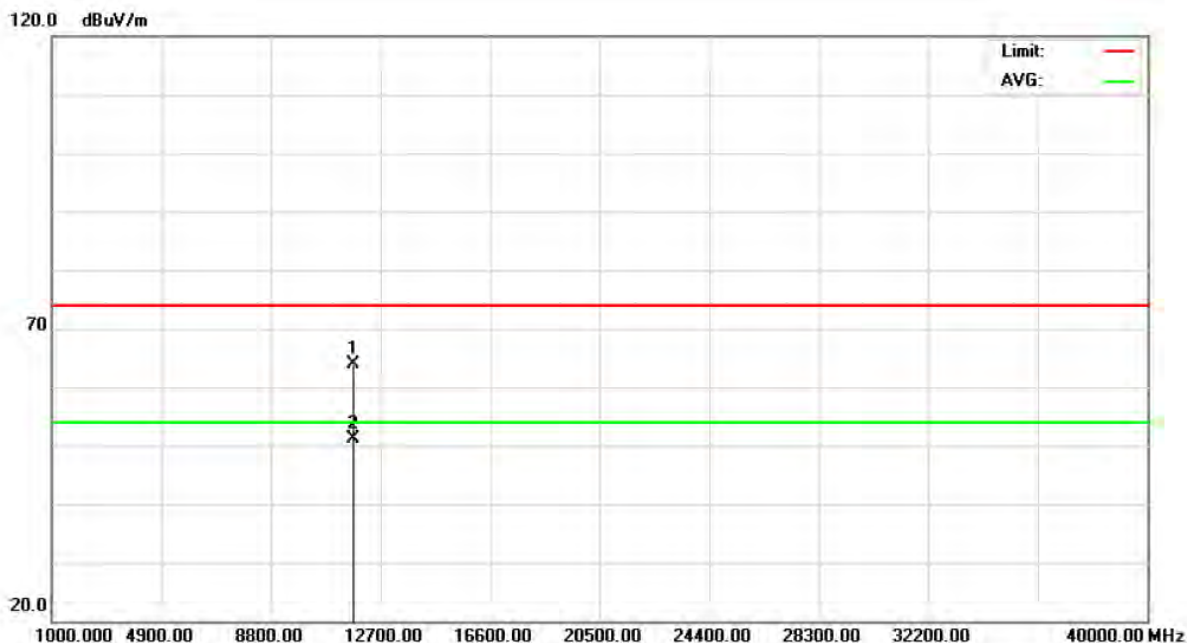


| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|---------|
| 1   | X   | 5823.750     | 65.50                    | 38.93                   | 104.43                     | 74.00           | 30.43      | peak     |         |
| 2   | *   | 5823.750     | 54.89                    | 38.93                   | 93.82                      | 54.00           | 39.82      | AVG      |         |



|              |                                |                   |       |
|--------------|--------------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer         | Model Name        | PA520 |
| Temperature  | 25°C                           | Relative Humidity | 62%   |
| Test Voltage | AC 120V/60Hz                   |                   |       |
| Test Mode    | IEEE 802.11n (20 MHz)/5825 MHz |                   |       |

**Polarization: Horizontal**



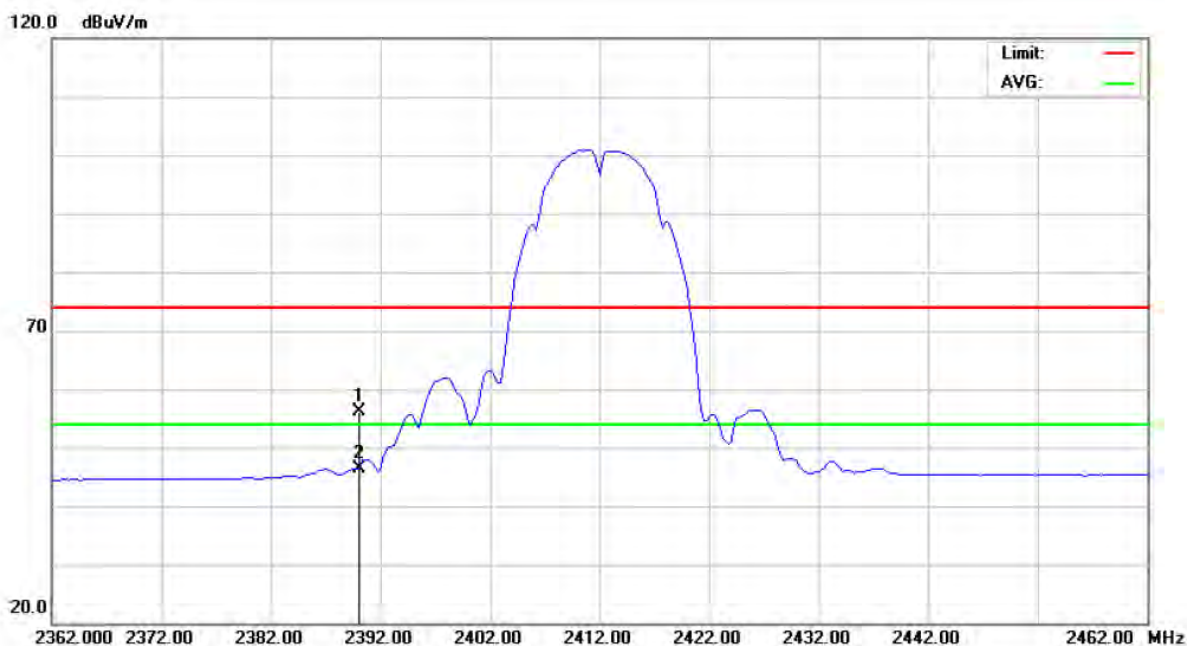
| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|---------|
| 1   |     | 11650.16     | 45.11                    | 18.73                   | 63.84                      | 74.00           | -10.16     | peak     |         |
| 2   | *   | 11650.16     | 32.37                    | 18.73                   | 51.10                      | 54.00           | -2.90      | AVG      |         |



### 9.10 TEST RESULTS (RESTRICTED BANDS)

|              |                                                                                                                   |                   |       |
|--------------|-------------------------------------------------------------------------------------------------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer                                                                                            | Model Name        | PA520 |
| Temperature  | 24°C                                                                                                              | Relative Humidity | 46%   |
| Test Voltage | AC 120V/60Hz                                                                                                      |                   |       |
| Test Mode    | IEEE 802.11b                                                                                                      |                   |       |
| NOTE         | The transmitter was setup to transmit at the lowest channel and the field strength was measured at 2310-2390 MHz. |                   |       |

#### Polarization: Vertical

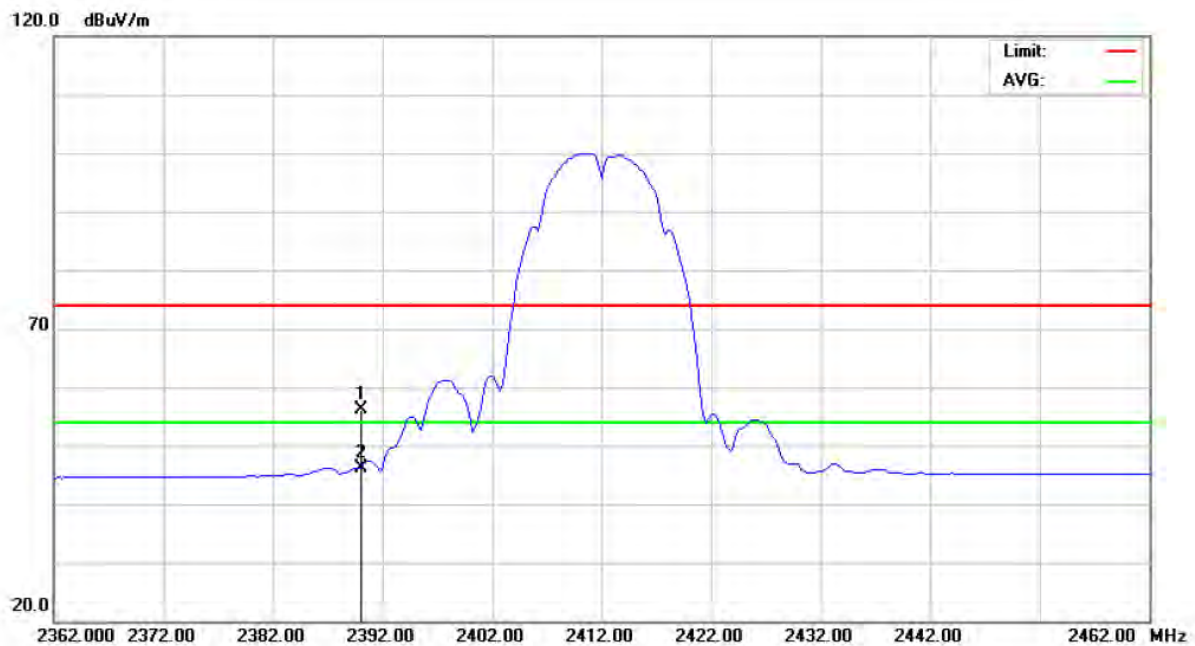


| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|---------|
| 1   |     | 2390.000     | 24.56                    | 31.67                   | 56.23                      | 74.00           | -17.77     | peak     |         |
| 2   | *   | 2390.000     | 14.80                    | 31.67                   | 46.47                      | 54.00           | -7.53      | AVG      |         |



|              |                                                                                                                   |                   |       |
|--------------|-------------------------------------------------------------------------------------------------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer                                                                                            | Model Name        | PA520 |
| Temperature  | 24°C                                                                                                              | Relative Humidity | 46%   |
| Test Voltage | AC 120V/60Hz                                                                                                      |                   |       |
| Test Mode    | IEEE 802.11b                                                                                                      |                   |       |
| NOTE         | The transmitter was setup to transmit at the lowest channel and the field strength was measured at 2310-2390 MHz. |                   |       |

**Polarization: Horizontal**

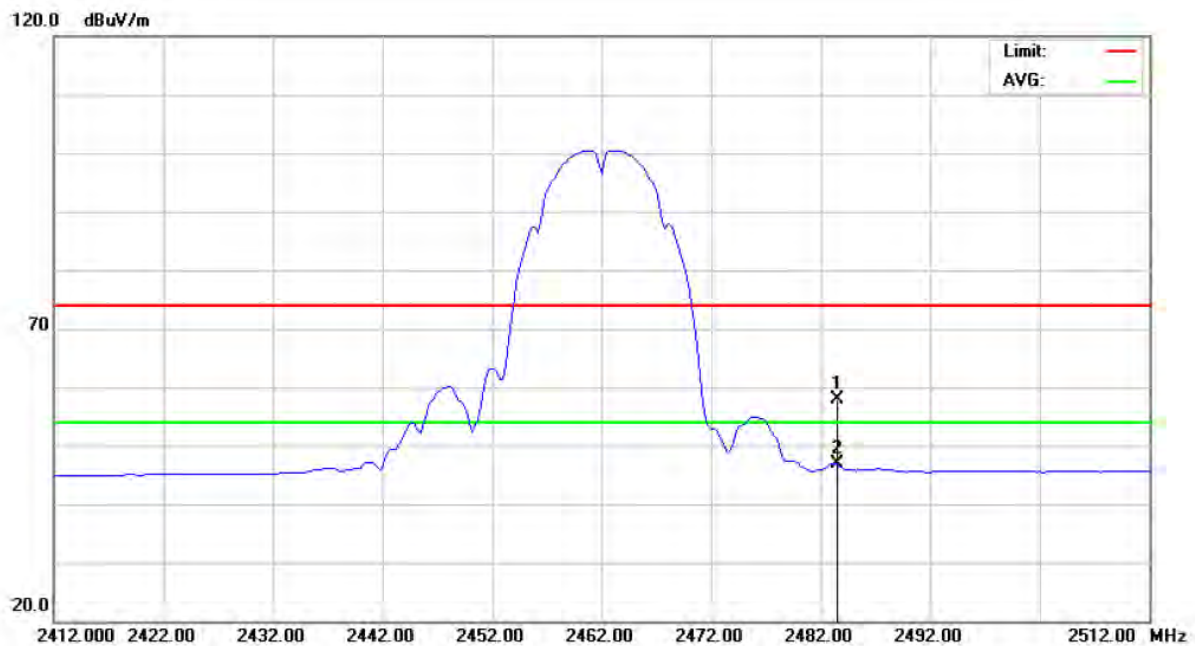


| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|---------|
| 1   |     | 2390.000     | 24.54                    | 31.67                   | 56.21                      | 74.00           | -17.79     | peak     |         |
| 2   | *   | 2390.000     | 14.50                    | 31.67                   | 46.17                      | 54.00           | -7.83      | AVG      |         |



|              |                                                                                                                      |                   |       |
|--------------|----------------------------------------------------------------------------------------------------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer                                                                                               | Model Name        | PA520 |
| Temperature  | 24°C                                                                                                                 | Relative Humidity | 46%   |
| Test Voltage | AC 120V/60Hz                                                                                                         |                   |       |
| Test Mode    | IEEE 802.11b                                                                                                         |                   |       |
| NOTE         | The transmitter was setup to transmit at the highest channel and the field strength was measured at 2483.5-2500 MHz. |                   |       |

**Polarization: Vertical**

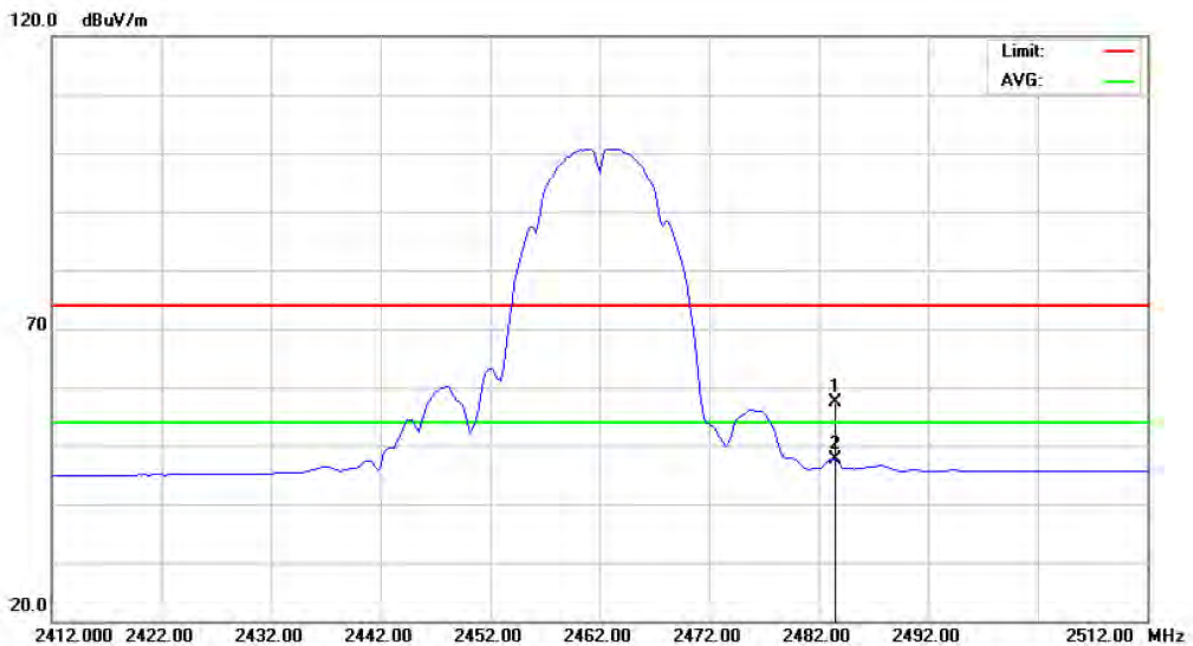


| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|---------|
| 1   |     | 2483.500     | 25.70                    | 32.09                   | 57.79                      | 74.00           | -16.21     | peak     |         |
| 2   | *   | 2483.500     | 14.70                    | 32.09                   | 46.79                      | 54.00           | -7.21      | AVG      |         |



|              |                                                                                                                      |                   |       |
|--------------|----------------------------------------------------------------------------------------------------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer                                                                                               | Model Name        | PA520 |
| Temperature  | 24°C                                                                                                                 | Relative Humidity | 46%   |
| Test Voltage | AC 120V/60Hz                                                                                                         |                   |       |
| Test Mode    | IEEE 802.11b                                                                                                         |                   |       |
| NOTE         | The transmitter was setup to transmit at the highest channel and the field strength was measured at 2483.5-2500 MHz. |                   |       |

**Polarization: Horizontal**

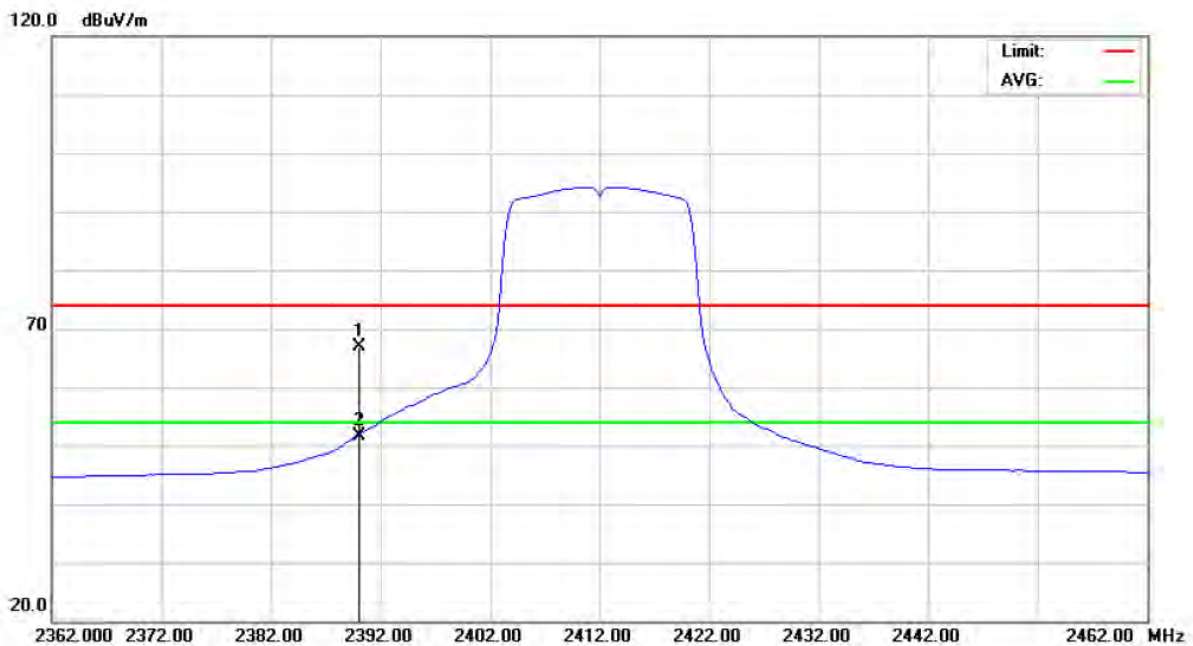


| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|---------|
| 1   |     | 2483.500     | 25.28                    | 32.09                   | 57.37                      | 74.00           | -16.63     | peak     |         |
| 2   | *   | 2483.500     | 15.50                    | 32.09                   | 47.59                      | 54.00           | -6.41      | AVG      |         |



|              |                                                                                                                   |                   |       |
|--------------|-------------------------------------------------------------------------------------------------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer                                                                                            | Model Name        | PA520 |
| Temperature  | 24°C                                                                                                              | Relative Humidity | 46%   |
| Test Voltage | AC 120V/60Hz                                                                                                      |                   |       |
| Test Mode    | IEEE 802.11g                                                                                                      |                   |       |
| NOTE         | The transmitter was setup to transmit at the lowest channel and the field strength was measured at 2310-2390 MHz. |                   |       |

**Polarization: Vertical**

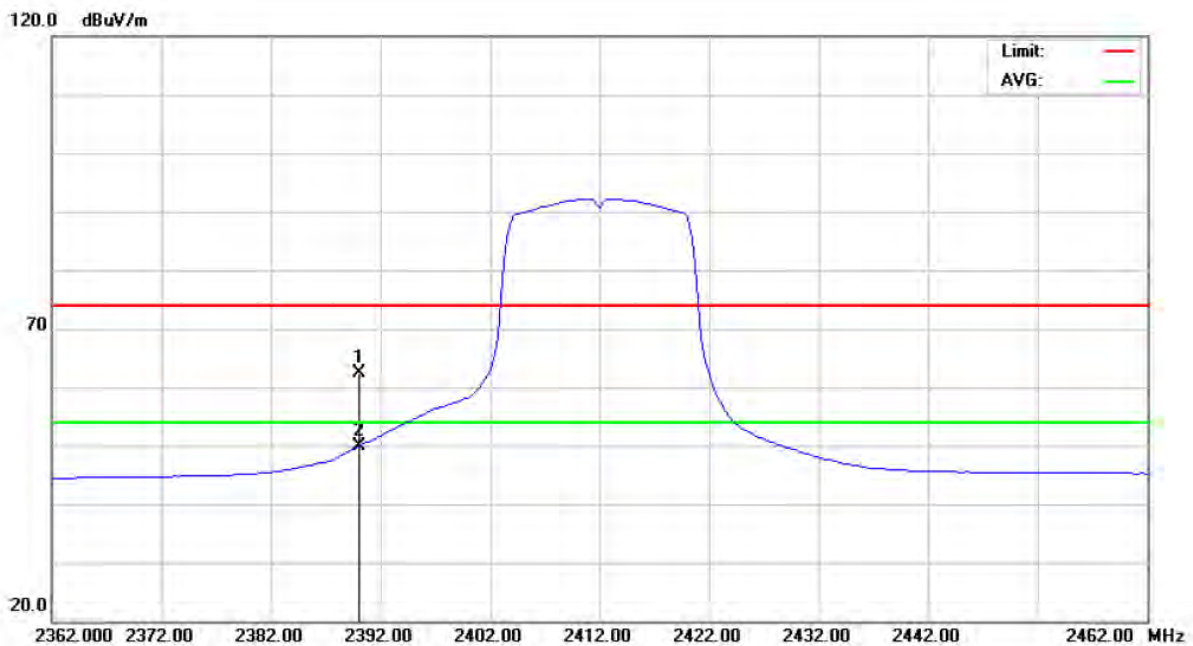


| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|---------|
| 1   |     | 2390.000     | 35.27                    | 31.67                   | 66.94                      | 74.00           | -7.06      | peak     |         |
| 2   | *   | 2390.000     | 20.08                    | 31.67                   | 51.75                      | 54.00           | -2.25      | AVG      |         |



|              |                                                                                                                   |                   |       |
|--------------|-------------------------------------------------------------------------------------------------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer                                                                                            | Model Name        | PA520 |
| Temperature  | 24°C                                                                                                              | Relative Humidity | 46%   |
| Test Voltage | AC 120V/60Hz                                                                                                      |                   |       |
| Test Mode    | IEEE 802.11g                                                                                                      |                   |       |
| NOTE         | The transmitter was setup to transmit at the lowest channel and the field strength was measured at 2310-2390 MHz. |                   |       |

**Polarization: Horizontal**



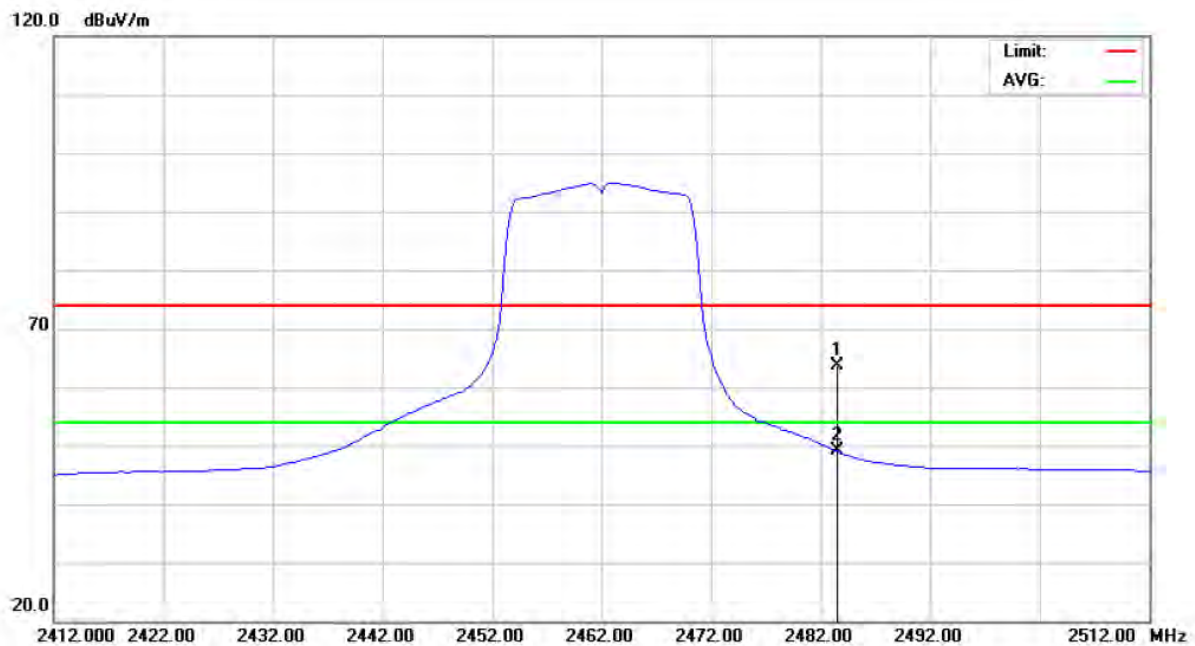
| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|---------|
| 1   |     | 2390.000     | 30.74                    | 31.67                   | 62.41                      | 74.00           | -11.59     | peak     |         |
| 2   | *   | 2390.000     | 18.09                    | 31.67                   | 49.76                      | 54.00           | -4.24      | AVG      |         |





|              |                                                                                                                      |                   |       |
|--------------|----------------------------------------------------------------------------------------------------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer                                                                                               | Model Name        | PA520 |
| Temperature  | 24°C                                                                                                                 | Relative Humidity | 46%   |
| Test Voltage | AC 120V/60Hz                                                                                                         |                   |       |
| Test Mode    | IEEE 802.11g                                                                                                         |                   |       |
| NOTE         | The transmitter was setup to transmit at the highest channel and the field strength was measured at 2483.5-2500 MHz. |                   |       |

**Polarization: Vertical**

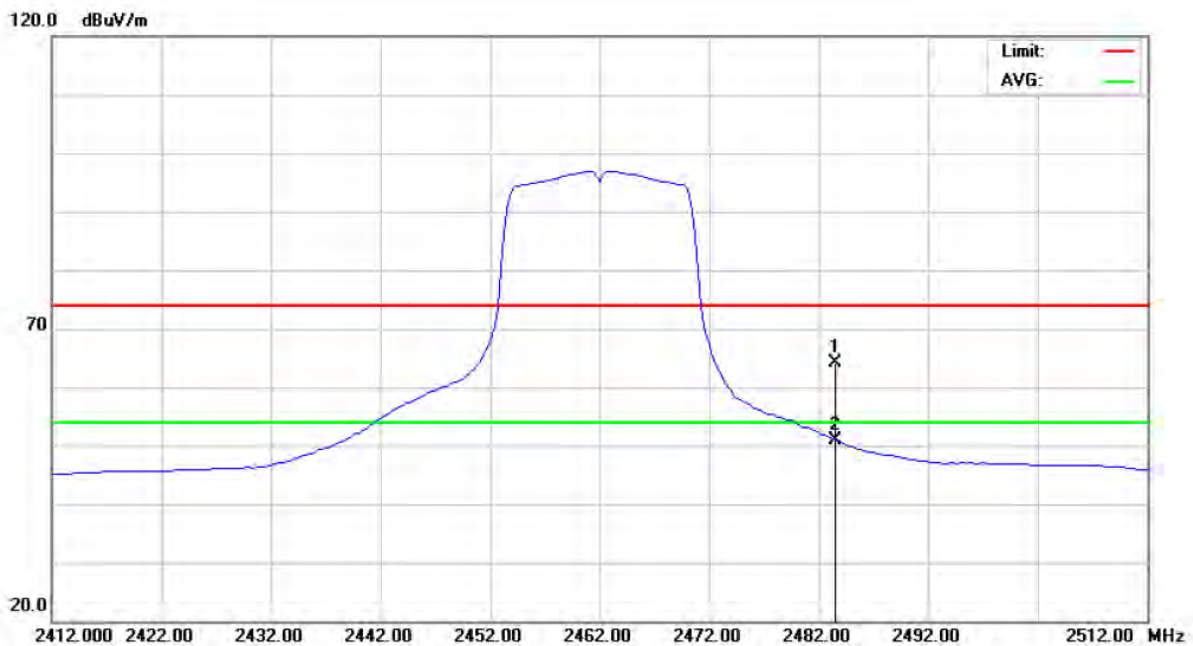


| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|---------|
| 1   |     | 2483.500     | 31.42                    | 32.09                   | 63.51                      | 74.00           | -10.49     | peak     |         |
| 2   | *   | 2483.500     | 17.01                    | 32.09                   | 49.10                      | 54.00           | -4.90      | AVG      |         |



|              |                                                                                                                      |                   |       |
|--------------|----------------------------------------------------------------------------------------------------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer                                                                                               | Model Name        | PA520 |
| Temperature  | 24°C                                                                                                                 | Relative Humidity | 46%   |
| Test Voltage | AC 120V/60Hz                                                                                                         |                   |       |
| Test Mode    | IEEE 802.11g                                                                                                         |                   |       |
| NOTE         | The transmitter was setup to transmit at the highest channel and the field strength was measured at 2483.5-2500 MHz. |                   |       |

**Polarization: Horizontal**

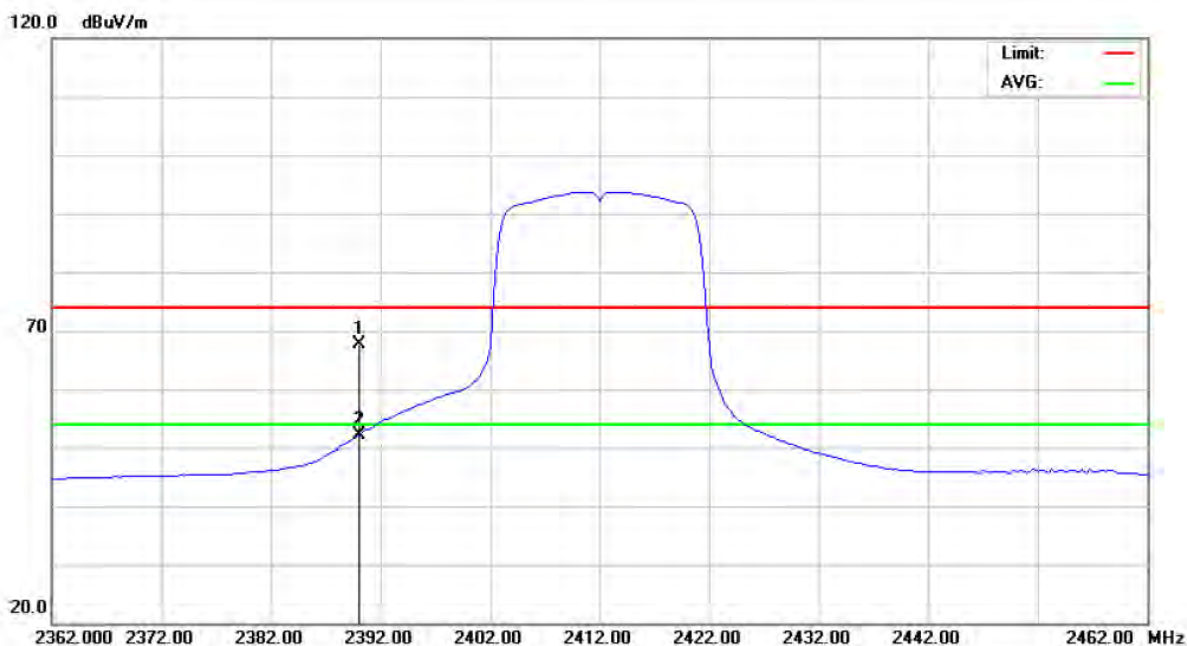


| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|---------|
| 1   |     | 2483.500     | 32.05                    | 32.09                   | 64.14                      | 74.00           | -9.86      | peak     |         |
| 2   | *   | 2483.500     | 18.90                    | 32.09                   | 50.99                      | 54.00           | -3.01      | AVG      |         |



|              |                                                                                                                   |                   |       |
|--------------|-------------------------------------------------------------------------------------------------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer                                                                                            | Model Name        | PA520 |
| Temperature  | 24°C                                                                                                              | Relative Humidity | 46%   |
| Test Voltage | AC 120V/60Hz                                                                                                      |                   |       |
| Test Mode    | IEEE 802.11n (20 MHz)                                                                                             |                   |       |
| NOTE         | The transmitter was setup to transmit at the lowest channel and the field strength was measured at 2310-2390 MHz. |                   |       |

**Polarization: Vertical**

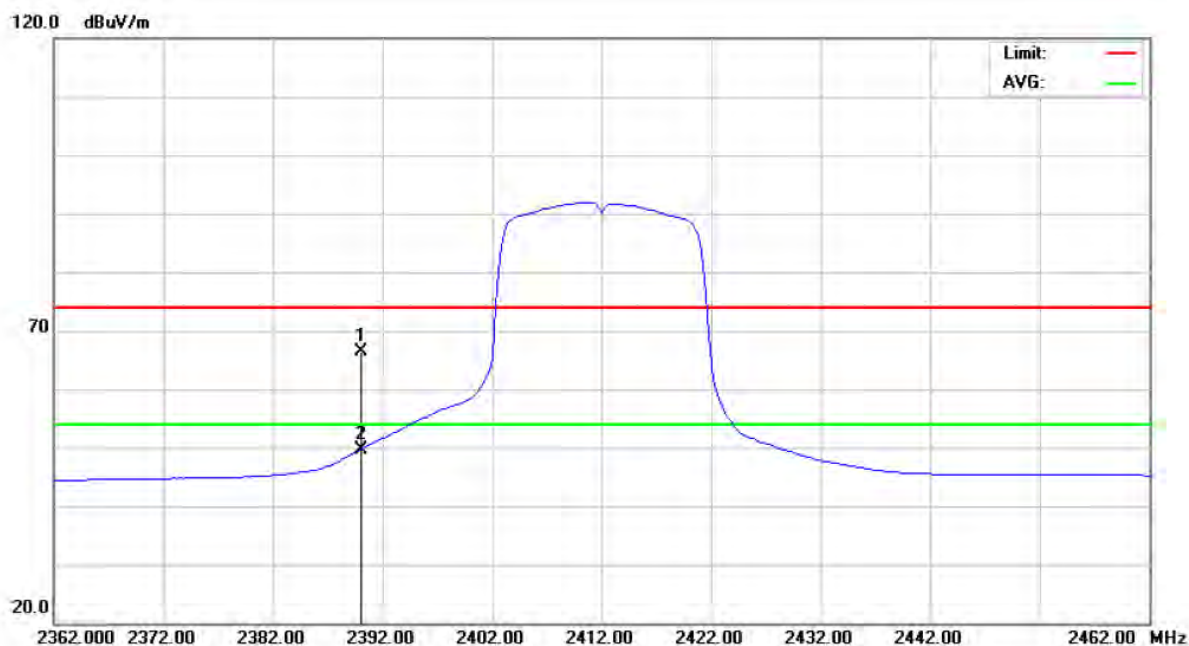


| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|---------|
| 1   |     | 2390.000     | 35.97                    | 31.67                   | 67.64                      | 74.00           | -6.36      | peak     |         |
| 2   | *   | 2390.000     | 20.39                    | 31.67                   | 52.06                      | 54.00           | -1.94      | AVG      |         |



|              |                                                                                                                   |                   |       |
|--------------|-------------------------------------------------------------------------------------------------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer                                                                                            | Model Name        | PA520 |
| Temperature  | 24°C                                                                                                              | Relative Humidity | 46%   |
| Test Voltage | AC 120V/60Hz                                                                                                      |                   |       |
| Test Mode    | IEEE 802.11n (20 MHz)                                                                                             |                   |       |
| NOTE         | The transmitter was setup to transmit at the lowest channel and the field strength was measured at 2310-2390 MHz. |                   |       |

**Polarization: Horizontal**

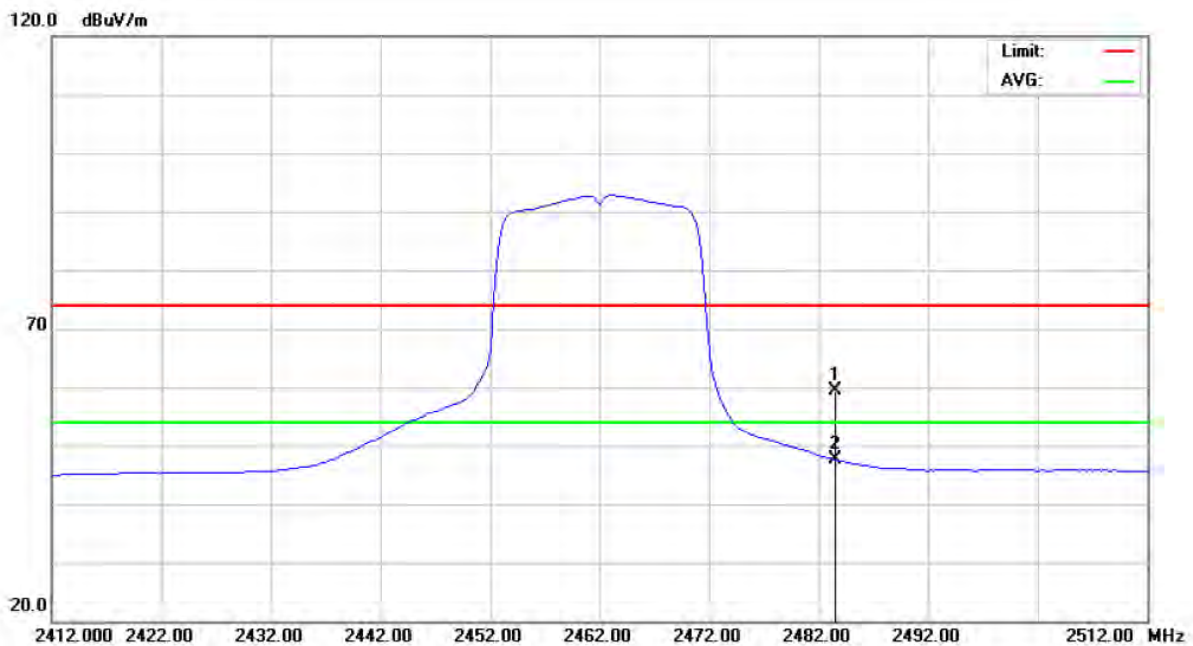


| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|---------|
| 1   |     | 2390.000     | 34.62                    | 31.67                   | 66.29                      | 74.00           | -7.71      | peak     |         |
| 2   | *   | 2390.000     | 17.94                    | 31.67                   | 49.61                      | 54.00           | -4.39      | AVG      |         |



|              |                                                                                                                      |                   |       |
|--------------|----------------------------------------------------------------------------------------------------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer                                                                                               | Model Name        | PA520 |
| Temperature  | 24°C                                                                                                                 | Relative Humidity | 46%   |
| Test Voltage | AC 120V/60Hz                                                                                                         |                   |       |
| Test Mode    | IEEE 802.11n (20 MHz)                                                                                                |                   |       |
| NOTE         | The transmitter was setup to transmit at the highest channel and the field strength was measured at 2483.5-2500 MHz. |                   |       |

**Polarization: Vertical**

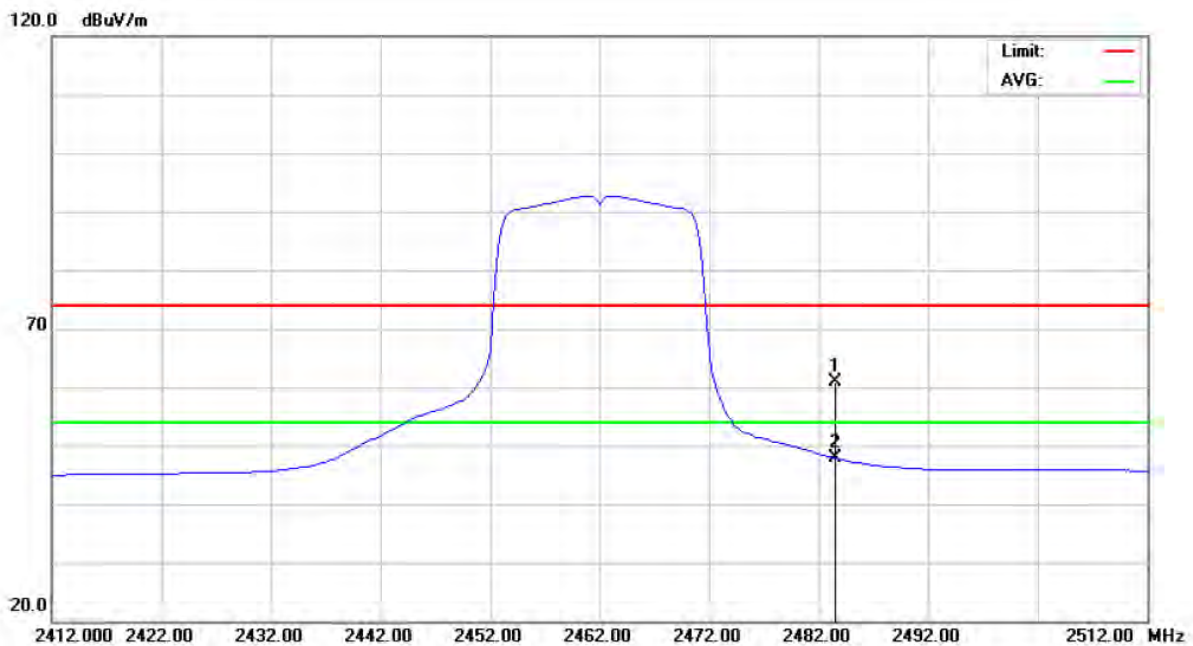


| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|---------|
| 1   |     | 2483.500     | 27.31                    | 32.09                   | 59.40                      | 74.00           | -14.60     | peak     |         |
| 2   | *   | 2483.500     | 15.50                    | 32.09                   | 47.59                      | 54.00           | -6.41      | AVG      |         |



|              |                                                                                                                      |                   |       |
|--------------|----------------------------------------------------------------------------------------------------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer                                                                                               | Model Name        | PA520 |
| Temperature  | 24°C                                                                                                                 | Relative Humidity | 46%   |
| Test Voltage | AC 120V/60Hz                                                                                                         |                   |       |
| Test Mode    | IEEE 802.11n (20 MHz)                                                                                                |                   |       |
| NOTE         | The transmitter was setup to transmit at the highest channel and the field strength was measured at 2483.5-2500 MHz. |                   |       |

**Polarization: Horizontal**



| No. | Mk. | Freq.<br>MHz | Reading<br>Level<br>dBuV | Correct<br>Factor<br>dB | Measure-<br>ment<br>dBuV/m | Limit<br>dBuV/m | Over<br>dB | Detector | Comment |
|-----|-----|--------------|--------------------------|-------------------------|----------------------------|-----------------|------------|----------|---------|
| 1   |     | 2483.500     | 28.75                    | 32.09                   | 60.84                      | 74.00           | -13.16     | peak     |         |
| 2   | *   | 2483.500     | 15.77                    | 32.09                   | 47.86                      | 54.00           | -6.14      | AVG      |         |

**10 POWER SPECTRAL DENSITY****10.1 LIMIT**

| Test Item              | Frequency Range (MHz) | Limit                |
|------------------------|-----------------------|----------------------|
| Power Spectral Density | 2400-2483.5           | 8 dBm (in any 3 kHz) |

**10.2 MEASUREMENT INSTRUMENTS LIST**

| Item | Kind of Equipment | Manufacturer | Type No. | Serial No. | Calibrated until |
|------|-------------------|--------------|----------|------------|------------------|
| 1    | Spectrum Analyzer | R&S          | FSP-30   | 100854     | Sep. 08, 2014    |

NOTE: **N/A**: denotes No Model Name, No Serial No. or No Calibration specified.

**10.3 TEST PROCEDURES**

- The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.
- Spectrum Setting: RBW=3 kHz, VBW=10 kHz, Sweep time = AUTO.

**10.4 TEST SETUP LAYOUT****10.5 DEVIATION FROM TEST STANDARD**

No deviation

**10.6 EUT OPERATING CONDITIONS**

The EUT tested system was configured as the statements of 5.6 Unless otherwise a special operating condition is specified in the follows during the testing.

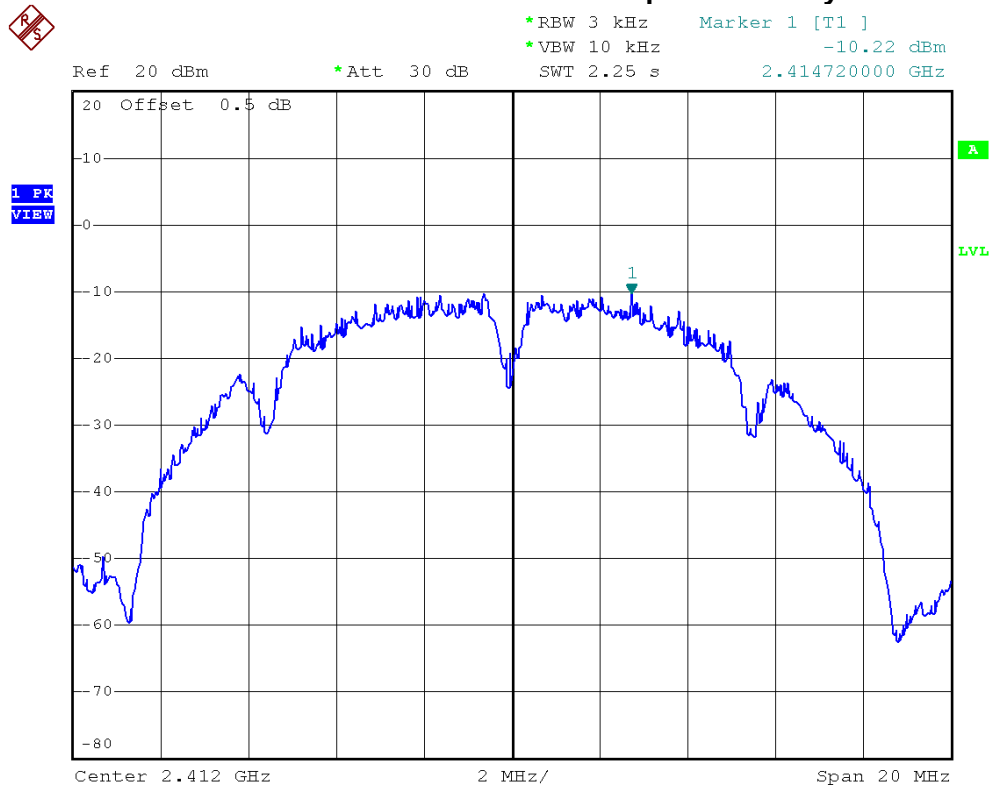


### 10.7 TEST RESULTS - 2412-2462 MHZ

|              |                                           |                   |       |
|--------------|-------------------------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer                    | Model Name        | PA520 |
| Temperature  | 25°C                                      | Relative Humidity | 62%   |
| Test Voltage | AC 120V/60Hz                              |                   |       |
| Test Mode    | IEEE 802.11b/2412 MHz, 2437 MHz, 2462 MHz |                   |       |

| Frequency | Power Density (dBm) | Limit (dBm) | Result |
|-----------|---------------------|-------------|--------|
| 2412 MHz  | -10.22              | 8           | PASS   |
| 2437 MHz  | -10.78              | 8           | PASS   |
| 2462 MHz  | -11.98              | 8           | PASS   |

### IEEE 802.11b/2412 MHz/Power Sepctral Density







### IEEE 802.11b/2437 MHz/Power Sepctral Density



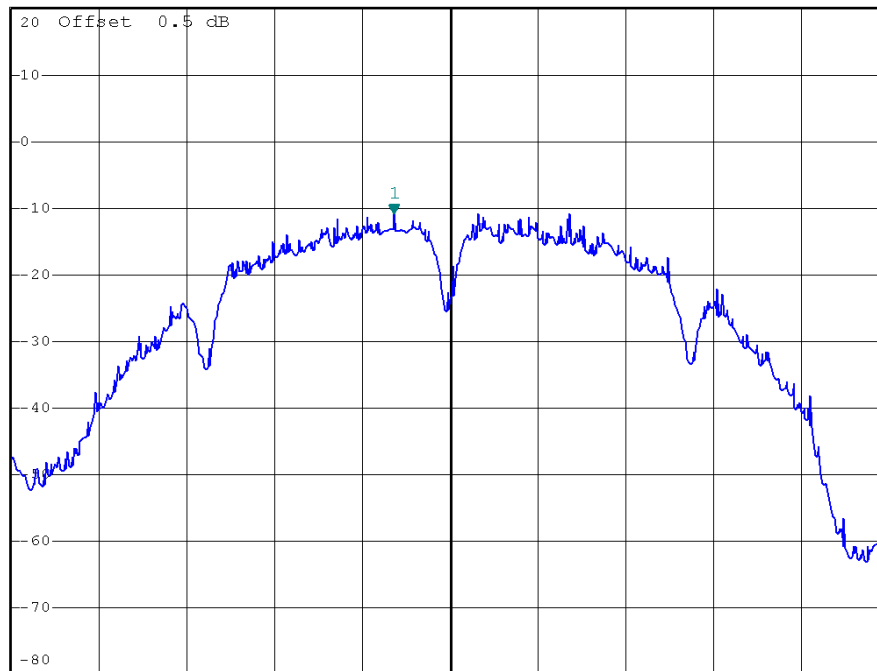
\*RBW 3 kHz      Marker 1 [T1 ]  
\*VBW 10 kHz      -10.78 dBm  
SWT 2.25 s      2.435720000 GHz

Ref 20 dBm

\*Att 30 dB

2.435720000 GHz

1 PK  
VIEW



Center 2.437 GHz

2 MHz/

Span 20 MHz

### IEEE 802.11b/2462 MHz/Power Sepctral Density



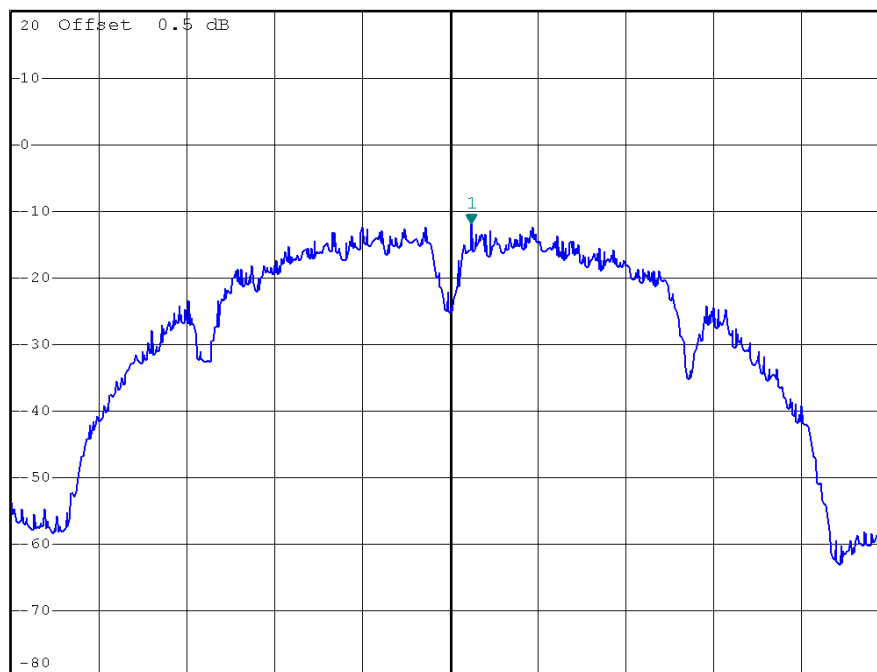
\*RBW 3 kHz      Marker 1 [T1 ]  
\*VBW 10 kHz      -11.98 dBm  
SWT 2.25 s      2.462480000 GHz

Ref 20 dBm

\*Att 30 dB

2.462480000 GHz

1 PK  
VIEW



Center 2.462 GHz

2 MHz/

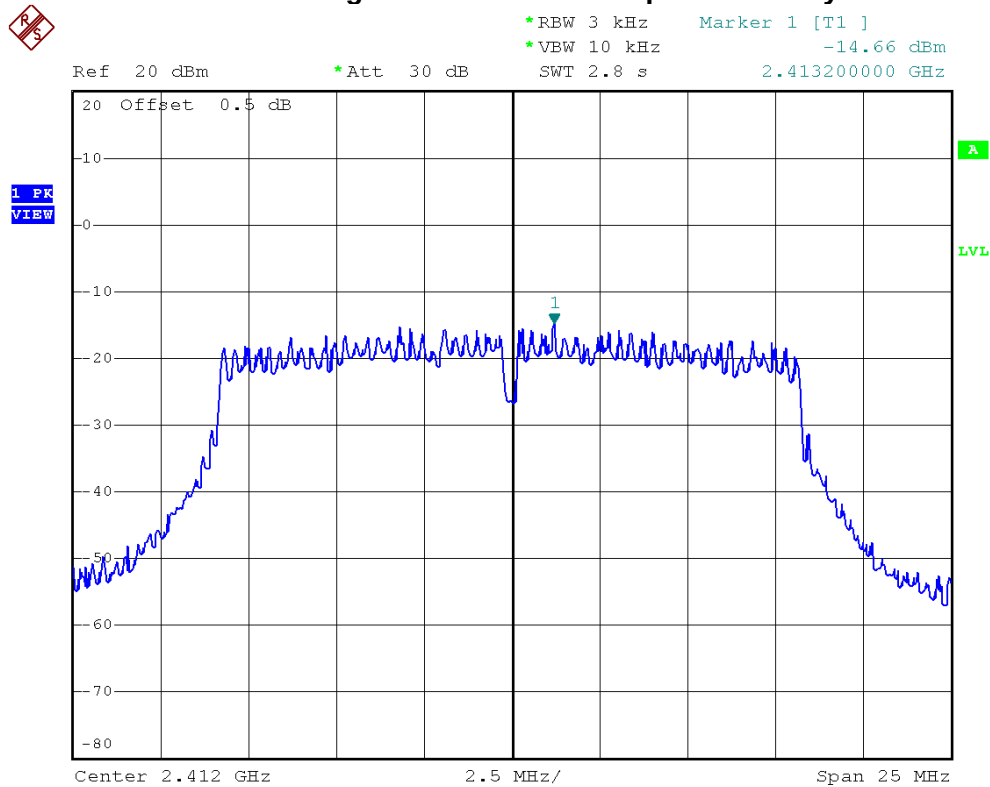
Span 20 MHz



|              |                                           |                   |       |
|--------------|-------------------------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer                    | Model Name        | PA520 |
| Temperature  | 25°C                                      | Relative Humidity | 62%   |
| Test Voltage | AC 120V/60Hz                              |                   |       |
| Test Mode    | IEEE 802.11g/2412 MHz, 2437 MHz, 2462 MHz |                   |       |

| Frequency | Power Density (dBm) | Limit (dBm) | Result |
|-----------|---------------------|-------------|--------|
| 2412 MHz  | -14.66              | 8           | PASS   |
| 2437 MHz  | -15.40              | 8           | PASS   |
| 2462 MHz  | -15.63              | 8           | PASS   |

IEEE 802.11g/2412 MHz/Power Sepctral Density





### IEEE 802.11g/2437 MHz/Power Sepctral Density



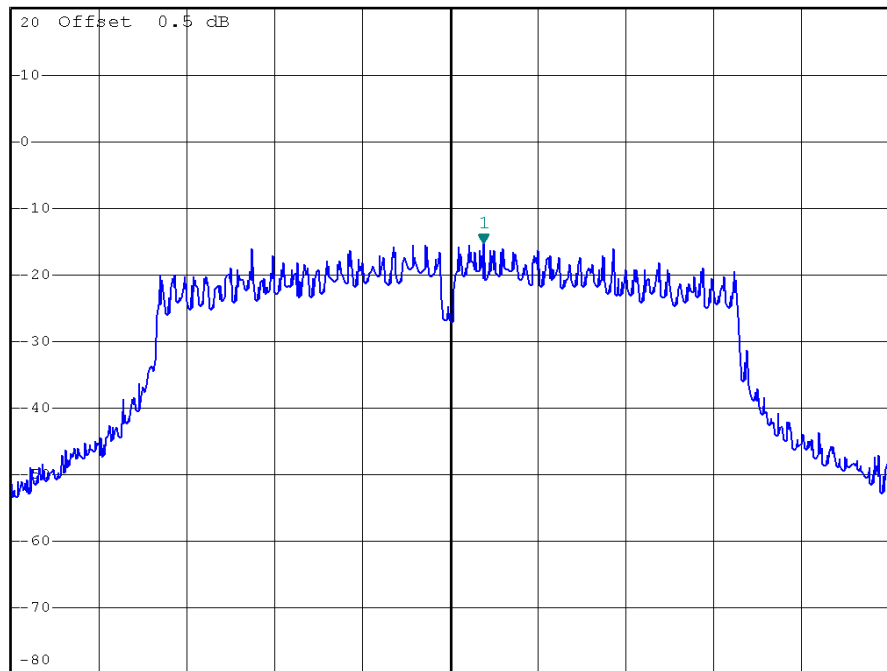
\*RBW 3 kHz Marker 1 [T1 ]  
\*VBW 10 kHz -15.40 dBm  
SWT 2.8 s 2.437950000 GHz

Ref 20 dBm

\*Att 30 dB

2.437950000 GHz

1 PK  
VIEW



Center 2.437 GHz

2.5 MHz/

Span 25 MHz

### IEEE 802.11g/2462 MHz/Power Sepctral Density



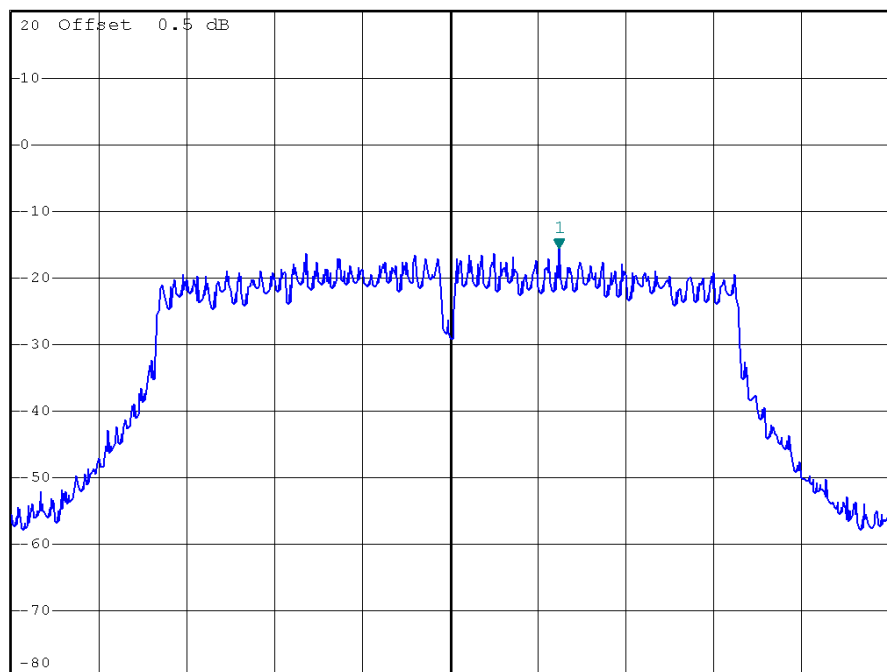
\*RBW 3 kHz Marker 1 [T1 ]  
\*VBW 10 kHz -15.63 dBm  
SWT 2.8 s 2.465100000 GHz

Ref 20 dBm

\*Att 30 dB

2.465100000 GHz

1 PK  
VIEW



Center 2.462 GHz

2.5 MHz/

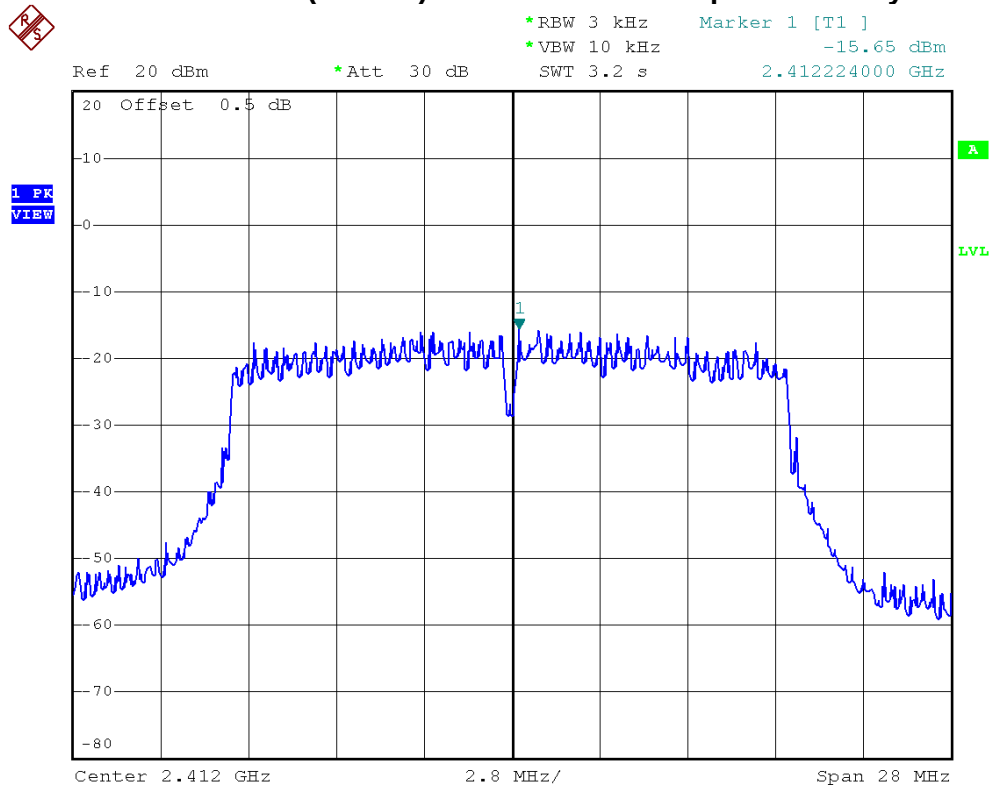
Span 25 MHz



|              |                                                    |                   |       |
|--------------|----------------------------------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer                             | Model Name        | PA520 |
| Temperature  | 25°C                                               | Relative Humidity | 62%   |
| Test Voltage | AC 120V/60Hz                                       |                   |       |
| Test Mode    | IEEE 802.11n (20 MHz)/2412 MHz, 2437 MHz, 2462 MHz |                   |       |

| Frequency | Power Density (dBm) | Limit (dBm) | Result |
|-----------|---------------------|-------------|--------|
| 2412 MHz  | -15.65              | 8           | PASS   |
| 2437 MHz  | -15.94              | 8           | PASS   |
| 2462 MHz  | -16.43              | 8           | PASS   |

IEEE 802.11n (20 MHz)/2412 MHz/Power Sepctral Density





### IEEE 802.11n (20 MHz)/2437 MHz/Power Sepctral Density



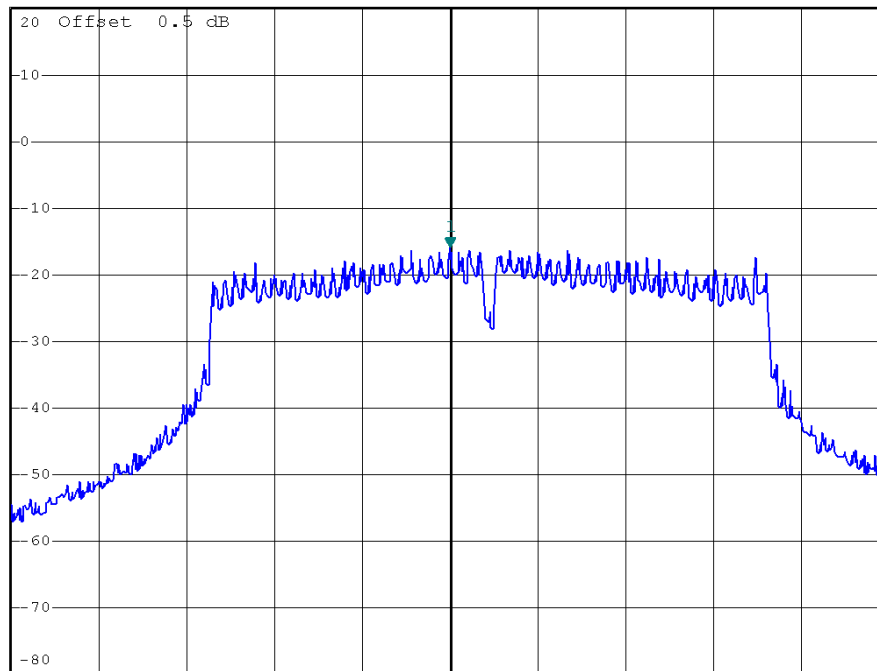
\*RBW 3 kHz      Marker 1 [T1 ]  
\*VBW 10 kHz      -15.94 dBm  
SWT 3.2 s      2.435680000 GHz

Ref 20 dBm

\*Att 30 dB

2.435680000 GHz

1 PK  
VIEW



Center 2.43568 GHz

2.8 MHz/

Span 28 MHz

### IEEE 802.11n (20 MHz)/2462 MHz/Power Sepctral Density



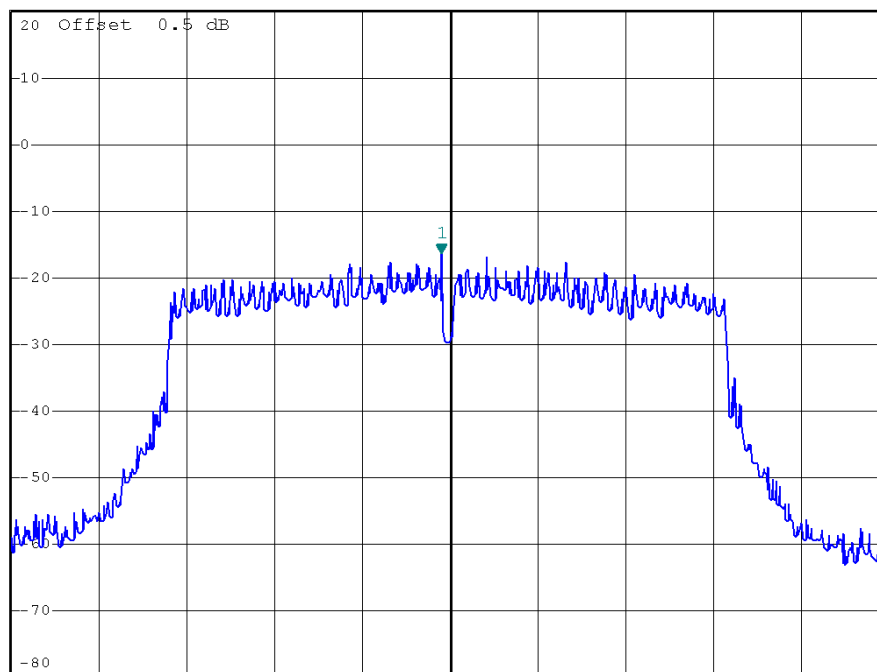
\*RBW 3 kHz      Marker 1 [T1 ]  
\*VBW 10 kHz      -16.43 dBm  
SWT 3.2 s      2.461720000 GHz

Ref 20 dBm

\*Att 30 dB

2.461720000 GHz

1 PK  
VIEW



Center 2.462 GHz

2.8 MHz/

Span 28 MHz

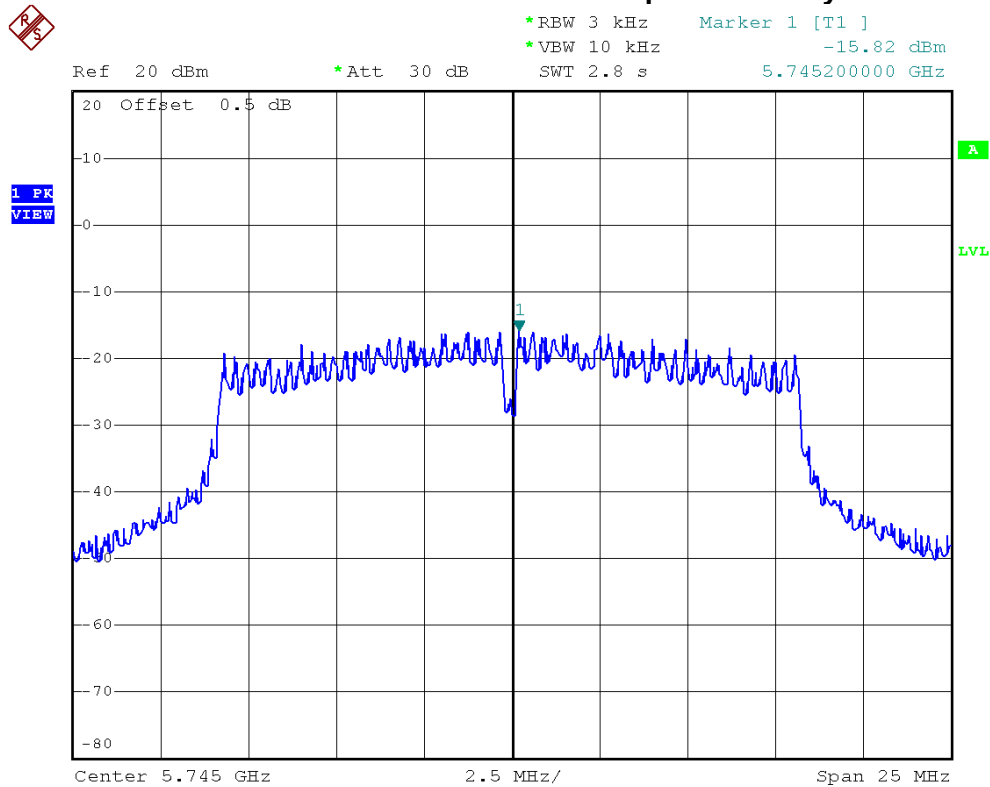


### 10.8 TEST RESULTS - 5745-5825 MHZ

|              |                                           |                   |       |
|--------------|-------------------------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer                    | Model Name        | PA520 |
| Temperature  | 25°C                                      | Relative Humidity | 62%   |
| Test Voltage | AC 120V/60Hz                              |                   |       |
| Test Mode    | IEEE 802.11a/5745 MHz, 5785 MHz, 5825 MHz |                   |       |

| Frequency | Power Density (dBm) | Limit (dBm) | Result |
|-----------|---------------------|-------------|--------|
| 5745 MHz  | -15.82              | 8           | PASS   |
| 5785 MHz  | -15.75              | 8           | PASS   |
| 5825 MHz  | -16.78              | 8           | PASS   |

#### IEEE 802.11a/5745 MHz/Power Sepctral Density





### IEEE 802.11a/5785 MHz/Power Sepctral Density



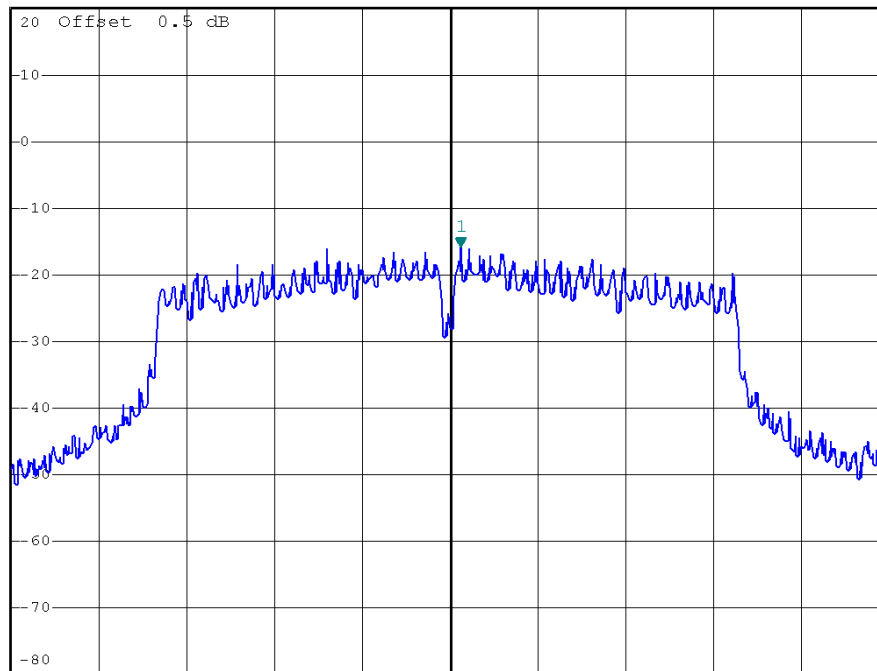
\*RBW 3 kHz Marker 1 [T1 ]  
\*VBW 10 kHz -15.75 dBm  
SWT 2.8 s 5.785300000 GHz

Ref 20 dBm

\*Att 30 dB

5.785300000 GHz

1 PK  
VIEW



Center 5.785 GHz

2.5 MHz/

Span 25 MHz

### IEEE 802.11a/5825 MHz/Power Sepctral Density



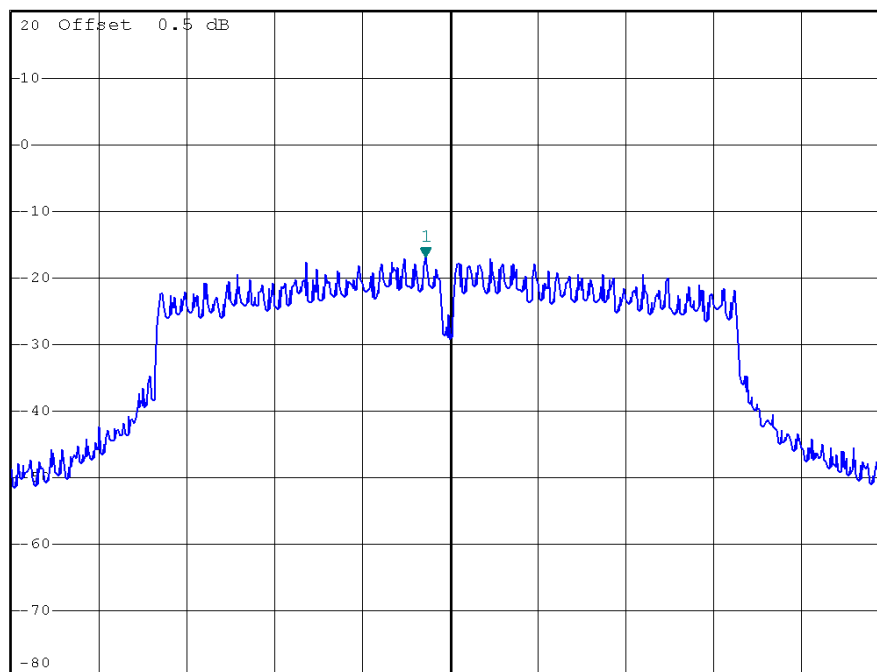
\*RBW 3 kHz Marker 1 [T1 ]  
\*VBW 10 kHz -16.78 dBm  
SWT 2.8 s 5.824300000 GHz

Ref 20 dBm

\*Att 30 dB

5.824300000 GHz

1 PK  
VIEW



Center 5.825 GHz

2.5 MHz/

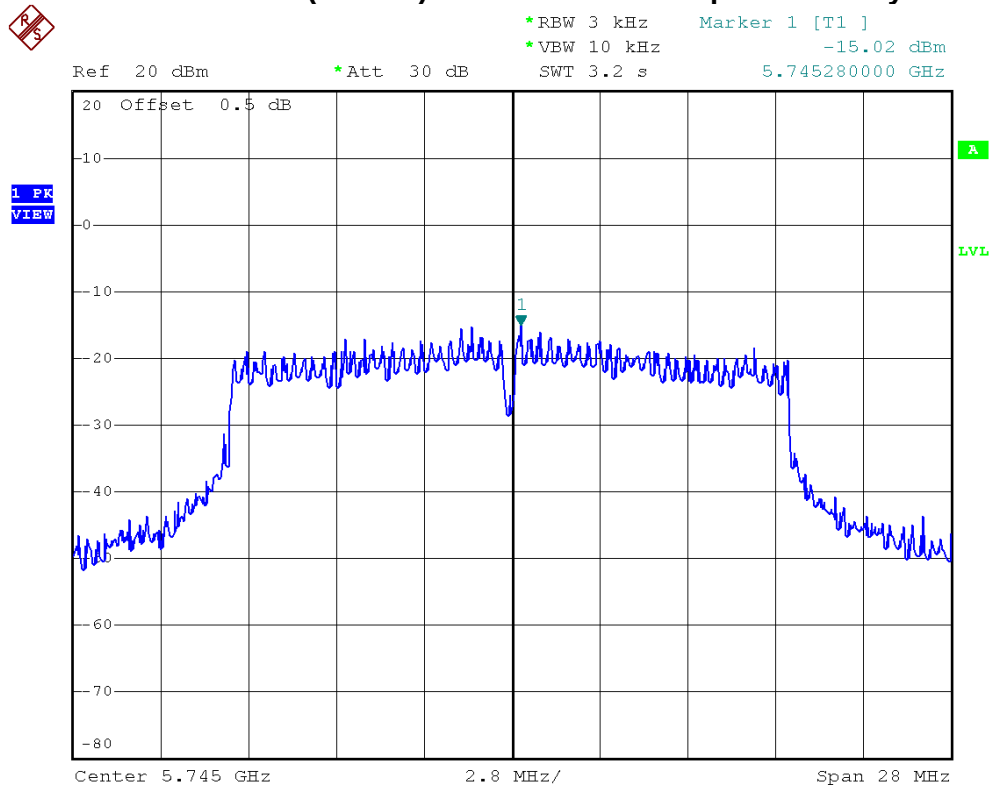
Span 25 MHz



|              |                                                    |                   |       |
|--------------|----------------------------------------------------|-------------------|-------|
| EUT          | Rugged Mobile Computer                             | Model Name        | PA520 |
| Temperature  | 25°C                                               | Relative Humidity | 62%   |
| Test Voltage | AC 120V/60Hz                                       |                   |       |
| Test Mode    | IEEE 802.11n (20 MHz)/5745 MHz, 5785 MHz, 5825 MHz |                   |       |

| Frequency | Power Density (dBm) | Limit (dBm) | Result |
|-----------|---------------------|-------------|--------|
| 5745 MHz  | -15.02              | 8           | PASS   |
| 5785 MHz  | -15.22              | 8           | PASS   |
| 5825 MHz  | -17.37              | 8           | PASS   |

IEEE 802.11n (20 MHz)/5745 MHz/Power Sepctral Density







### IEEE 802.11n (20 MHz)/5785 MHz/Power Sepctral Density



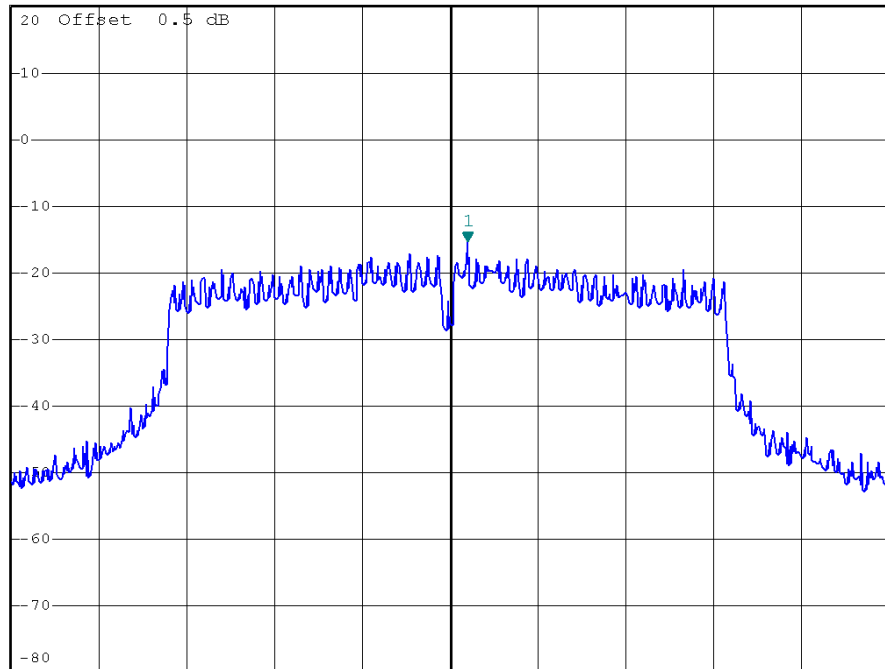
\*RBW 3 kHz      Marker 1 [T1 ]  
\*VBW 10 kHz      -15.22 dBm  
SWT 3.2 s      5.785560000 GHz

Ref 20 dBm

\*Att 30 dB

5.785560000 GHz

1 PK  
VIEW



Center 5.785 GHz

2.8 MHz/

Span 28 MHz

### IEEE 802.11n (20 MHz)/5825 MHz/Power Sepctral Density



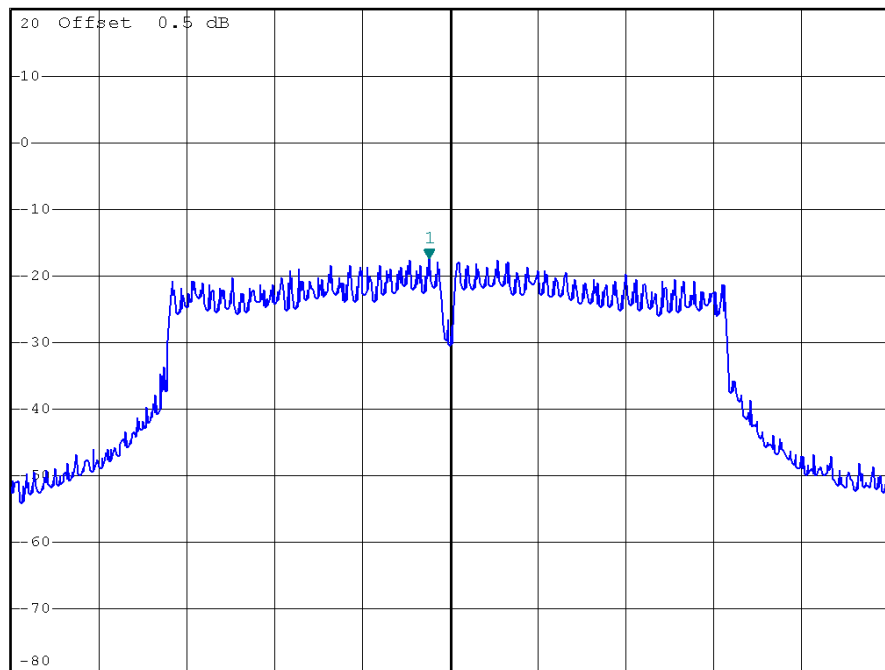
\*RBW 3 kHz      Marker 1 [T1 ]  
\*VBW 10 kHz      -17.37 dBm  
SWT 3.2 s      5.824328000 GHz

Ref 20 dBm

\*Att 30 dB

5.824328000 GHz

1 PK  
VIEW



Center 5.825 GHz

2.8 MHz/

Span 28 MHz

## 11 EUT TEST PHOTO

### Conducted emission test photos



**Radiated spurious emission test photos**

