



# FCC RADIO TEST REPORT

Applicant : ELO TOUCH SOLUTIONS, INC.

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Address : 670 N. McCarthy Blvd., Suite 100 Milpitas, CA  
95035 USA

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Equipment : Touch All-in-One Computer

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Model No. : ESY15I1E-C

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Trade Name : Elo or 

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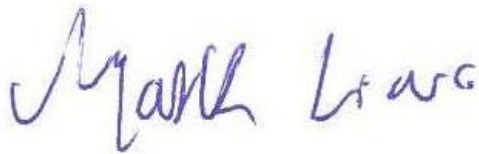
FCC ID : RBWESY15I1EC

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## I HEREBY CERTIFY THAT :

The sample was received on Jun. 27, 2024 and the testing was completed on Oct. 22, 2024 at CerpPASS Technology Corp. The test result refers exclusively to the test presented test model / sample. Without written approval of CerpPASS Technology Corp., the test report shall not be reproduced except in full.

Approved by:



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Mark Liao / Supervisor

Laboratory Accreditation:

CerpPASS Technology Corporation Test Laboratory





## CONTENTS

|      |                                                     |     |
|------|-----------------------------------------------------|-----|
| 1.   | Summary of Test Procedure and Test Results .....    | 5   |
| 1.1. | Applicable Standards .....                          | 5   |
| 2.   | Test Configuration of Equipment under Test .....    | 6   |
| 2.1. | Feature of Equipment under Test.....                | 6   |
| 2.2. | Carrier Frequency of Channels .....                 | 8   |
| 2.3. | Test Mode and Test Software .....                   | 10  |
| 2.4. | Description of Test System.....                     | 12  |
| 2.5. | General Information of Test.....                    | 13  |
| 2.6. | Measurement Uncertainty .....                       | 14  |
| 3.   | Test Equipment and Ancillaries Used for Tests ..... | 15  |
| 4.   | Antenna Requirements .....                          | 17  |
| 4.1. | Standard Applicable .....                           | 17  |
| 4.2. | Antenna Construction and Directional Gain.....      | 18  |
| 5.   | Test of AC Power Line Conducted Emission .....      | 20  |
| 5.1. | Test Limit .....                                    | 20  |
| 5.2. | Test Procedures .....                               | 20  |
| 5.3. | Typical Test Setup .....                            | 21  |
| 5.4. | Test Result and Data.....                           | 22  |
| 5.5. | Test Photographs .....                              | 24  |
| 6.   | Test of Spurious Emission (Radiated).....           | 25  |
| 6.1. | Test Limit .....                                    | 25  |
| 6.2. | Test Procedures .....                               | 26  |
| 6.3. | Typical Test Setup .....                            | 27  |
| 6.4. | Test Result and Data (9kHz ~ 30MHz).....            | 28  |
| 6.5. | Test Result and Data (30MHz ~ 1GHz) .....           | 28  |
| 6.6. | Test Result and Data (1GHz ~ 40GHz).....            | 30  |
| 6.7. | Restricted Bands of Operation .....                 | 118 |
| 6.8. | Test Photographs (30MHz ~ 1GHz) .....               | 119 |
| 6.9. | Test Photographs (1GHz ~ 40GHz) .....               | 120 |
| 7.   | On Time, Duty Cycle and Measurement methods .....   | 122 |
| 7.1. | Test Limit .....                                    | 122 |
| 7.2. | Test Procedure .....                                | 122 |
| 7.3. | Test Setup Layout .....                             | 122 |
| 7.4. | Test Result and Data.....                           | 123 |
| 7.5. | Measurement Methods .....                           | 123 |
| 8.   | 6dB Bandwidth & 99% Occupied Bandwidth .....        | 126 |
| 8.1. | Test Limit .....                                    | 126 |
| 8.2. | Test Procedure .....                                | 126 |
| 8.3. | Test Setup Layout .....                             | 126 |
| 8.4. | Test Result and Data.....                           | 127 |
| 9.   | 26dB Bandwidth & 99% Occupied Bandwidth .....       | 141 |
| 9.1. | Test Limit .....                                    | 141 |



|       |                                |     |
|-------|--------------------------------|-----|
| 9.2.  | Test Procedure .....           | 141 |
| 9.3.  | Test Setup Layout .....        | 141 |
| 9.4.  | Test Result and Data .....     | 142 |
| 10.   | Average Power .....            | 176 |
| 10.1. | Test Limit .....               | 176 |
| 10.2. | Test Procedure .....           | 177 |
| 10.3. | Test Setup Layout .....        | 177 |
| 10.4. | Test Result and Data .....     | 178 |
| 11.   | Power Spectral Density .....   | 191 |
| 11.1. | Test Limit .....               | 191 |
| 11.2. | Test Procedure .....           | 191 |
| 11.3. | Test Setup Layout .....        | 191 |
| 11.4. | Test Result and Data .....     | 192 |
| 12.   | Radio Frequency Exposure ..... | 213 |
| 12.1. | Applicable Standards .....     | 213 |
| 12.2. | EUT Specification .....        | 214 |
| 12.3. | Result .....                   | 215 |



### History of this test report

| Report No.       | Issued Date   | Description |
|------------------|---------------|-------------|
| 24060472-TRFCC04 | Oct. 24, 2024 | Original    |
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## 1. Summary of Test Procedure and Test Results

### 1.1. Applicable Standards

**ANSI C63.10:2013**

**FCC Rules and Regulations Part 15 Subpart E §15.407**

**KDB 789033**

| FCC Rule               | Description of Test              | Result |
|------------------------|----------------------------------|--------|
| 15.203                 | Antenna Requirement              | PASS   |
| 15.207(a)              | AC Power Line Conducted Emission | PASS   |
| 15.407(b)<br>15.209    | Radiated Spurious Emission       | PASS   |
| 15.407(a)              | 26 dB & Occupied Bandwidth       | PASS   |
| 15.407                 | 6 dB Bandwidth                   | PASS   |
| 15.407<br>(a) & (a)(3) | Average Power                    | PASS   |
| 15.407(a)              | Power Spectral Density           | PASS   |
| 2.1091                 | Radio Frequency Exposure         | PASS   |

\*The lab has reduced the uncertainty risk factor from test equipment, environment and staff technicians which according to the standard on contract. Therefore, the test result will only be determined by standard requirement, measurement uncertainty evaluation is not considered.



## 2. Test Configuration of Equipment under Test

### 2.1. Feature of Equipment under Test

|                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Operation Frequency Range | BT / BLE: 2400-2483.5MHz<br>WLAN:802.11b/g/n/ax: 2400-2483.5MHz<br>5GHz:802.11a/n/ac/ax:5150-5250MHz, 5250-5350MHz,<br>5470-5725MHz, 5725-5875MHz<br>6GHz: 802.11a/ax: 5925MHz~6425MHz, 6425MHz~6525MHz<br>6525MHz~6875MHz, 6875MHz~7125MHz                                                                                                                                                                                                                                                                                          |
| Center Frequency Range    | BT / BLE: 2402MHz-2480MHz<br>WLAN:802.11b/g/n/ax: 2412MHz-2462MHz<br>5GHz:802.11a/n/ac/ax:5180-5240MHz, 5260-5320MHz,<br>5500-5720MHz, 5745-5825MHz<br>6GHz: 802.11a/ax: 5955MHz~6415MHz, 6435MHz~6515MHz<br>6535MHz~6855MHz, 6875MHz~7115MHz                                                                                                                                                                                                                                                                                        |
| Modulation Type           | BT: GFSK, $\pi/4$ -DQPSK, 8DPSK<br>BLE: GFSK<br>WLAN:<br>2.4GHz:<br>802.11b: CCK, DQPSK, DBPSK<br>802.11g/n: BPSK, QPSK, 16QAM, 64QAM<br>802.11ax: BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM<br>5GHz:<br>802.11a/n: BPSK, QPSK, 16QAM, 64QAM<br>802.11ac: BPSK, QPSK, 16QAM, 64QAM, 256QAM<br>802.11ax: BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM<br>6GHz<br>802.11a: BPSK, QPSK, 16QAM, 64QAM<br>802.11ax: BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM                                                                                |
| Modulation Technology     | DSSS, OFDM, FHSS, DTS, OFDMA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Data Rate                 | BT:<br>GFSK: 1Mbps, $\pi/4$ -DQPSK: 2Mbps, 8DPSK: 3Mbps<br>BLE:<br>GFSK: 1Mbps, 2Mbps<br>WLAN:<br>2.4GHz:<br>802.11b: 1, 2, 5.5, 11Mbps<br>802.11g: 6, 9, 12, 18, 24, 36, 48, 54Mbps<br>802.11n: MCS0 – MCS15, HT20/40<br>802.11ax: MCS0 – MCS11, HE20/40<br>5GHz:<br>802.11a: 6, 9, 12, 18, 24, 36, 48, 54Mbps<br>802.11n: MCS0 – MCS15, HT20/40<br>802.11ac: MCS0 – MCS9, VHT20/40/80/160<br>802.11ax: MCS0 – MCS11, HE20/40/80/160<br>6GHz<br>802.11a: 6, 9, 12, 18, 24, 36, 48, 54Mbps<br>802.11ax: MCS0 – MCS11, HE20/40/80/160 |
| Antenna Type              | PIFA Antenna                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |



|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Antenna Gain    | For BT / BLE:<br>2400-2500MHz: ANT A: 1.97dBi<br>For WLAN:<br>2400-2500MHz: ANT A: 1.97dBi, ANT B: 1.82dBi<br>5150-5250MHz: ANT A: 2.73dBi, ANT B: 2.11dBi<br>5250-5350MHz: ANT A: 2.73dBi, ANT B: 2.54dBi<br>5470-5725MHz: ANT A: 2.35dBi, ANT B: 2.4dBi<br>5725-5850MHz: ANT A: 2.4dBi, ANT B: 2.34dBi<br>5925~6425MHz:ANT A: 2.07dBi, ANT B: 2.48dBi<br>6425~6525MHz:ANT A: 1.77dBi, ANT B: 1.79dBi<br>6525~6875MHz:ANT A: 2.43dBi, ANT B: 2.37dBi<br>6875~7125MHz:ANT A: 2.24dBi, ANT B: 2.19dBi |
| Adapter         | Brand: Delta<br>Model: ADP-150EH B                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Adapter         | Brand: Delta<br>Model: ADP-65JH HB                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Adapter         | Brand: Billion<br>Model: BA070-190342MBX                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Adapter         | Brand: FSP<br>Model: FSP150-AABN3                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Power cord (US) | Brand: I-SHENG<br>Model: V44VS336T1218000-A01                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Power cord (EU) | Brand: I-SHENG<br>Model: EU85B300S121800                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| USBC-POS-STAND  | Brand: ELO<br>Model: KIT, Z30-POS-Stand-CFD-Gen 2-15                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| USBC-POS-STAND  | Brand: ELO<br>Model: KIT, Z30-POS-STAND-GEN2-15                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| USBC-IO-HUB     | Brand: ELO<br>Model: USBC-IO-HUB-POWER-BARICK-V2                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Panel           | Brand: AUO<br>Model: A156HAN01.1                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Panel           | Brand: BOE<br>Model: PV156FHM-N30                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

## Note:

1. EUT support TPC Function.
2. EUT supports DFS Client Mode, without radar detection.
3. WLAN and BT can simultaneously transmission.
4. The device not support Channel Puncturing or Bandwidth Reduction mechanisms supported
5. 802.11ax EUT only Support Full RU
6. EUT Operating mode: Indoor Client
7. For more details, please refer to the User's manual of the EUT.



## 2.2. Carrier Frequency of Channels

Band: 5150MHz-5250MHz

802.11a, 802.11n HT20, 802.11ac VHT20, 802.11ax HE20

| Channel    | Frequency(MHz) | Channel    | Frequency(MHz) |
|------------|----------------|------------|----------------|
| <b>*36</b> | <b>5180</b>    | 44         | 5220           |
| <b>*40</b> | <b>5200</b>    | <b>*48</b> | <b>5240</b>    |

802.11n HT40, 802.11ac VHT40, 802.11ax HE40

| Channel    | Frequency(MHz) | Channel    | Frequency(MHz) |
|------------|----------------|------------|----------------|
| <b>*38</b> | <b>5190</b>    | <b>*46</b> | <b>5230</b>    |

802.11ac VHT80, 802.11ax HE80

| Channel    | Frequency(MHz) |
|------------|----------------|
| <b>*42</b> | <b>5210</b>    |

802.11ac VHT160, 802.11ax HE160

| Channel    | Frequency(MHz) |
|------------|----------------|
| <b>*50</b> | <b>5250</b>    |

Band: 5250MHz-5350MHz

802.11a, 802.11n HT20, 802.11ac VHT20, 802.11ax HE20

| Channel    | Frequency(MHz) | Channel    | Frequency(MHz) |
|------------|----------------|------------|----------------|
| <b>*52</b> | <b>5260</b>    | <b>*60</b> | <b>5300</b>    |
| 56         | 5280           | <b>*64</b> | <b>5320</b>    |

802.11n HT40, 802.11ac VHT40, 802.11ax HE40

| Channel    | Frequency(MHz) | Channel    | Frequency(MHz) |
|------------|----------------|------------|----------------|
| <b>*54</b> | <b>5270</b>    | <b>*62</b> | <b>5310</b>    |

802.11ac VHT80, 802.11ax HE80

| Channel    | Frequency(MHz) |
|------------|----------------|
| <b>*58</b> | <b>5290</b>    |

Band: 5470MHz-5725MHz

802.11a, 802.11n HT20, 802.11ac VHT20, 802.11ax HE20

| Channel     | Frequency(MHz) | Channel     | Frequency(MHz) |
|-------------|----------------|-------------|----------------|
| <b>*100</b> | <b>5500</b>    | 124         | 5620           |
| 104         | 5520           | 128         | 5640           |
| 108         | 5540           | 132         | 5660           |
| 112         | 5560           | 136         | 5680           |
| 116         | 5580           | <b>*140</b> | <b>5700</b>    |
| <b>*120</b> | <b>5600</b>    |             |                |

802.11n HT40, 802.11ac VHT40, 802.11ax HE40

| Channel     | Frequency(MHz) | Channel     | Frequency(MHz) |
|-------------|----------------|-------------|----------------|
| <b>*102</b> | <b>5510</b>    | 126         | 5630           |
| 110         | 5550           | <b>*134</b> | <b>5670</b>    |
| <b>*118</b> | <b>5590</b>    |             |                |

802.11ac VHT80, 802.11ax HE80

| Channel     | Frequency(MHz) | Channel     | Frequency(MHz) |
|-------------|----------------|-------------|----------------|
| <b>*106</b> | <b>5530</b>    | <b>*122</b> | <b>5610</b>    |

802.11ac VHT160, 802.11ax HE160

| Channel     | Frequency(MHz) |
|-------------|----------------|
| <b>*114</b> | <b>5570</b>    |



## Band 3: Straddle Channel

802.11a, 802.11n HT 20, 802.11ac VHT20, 802.11ax HE20

| Channel     | Frequency(MHz) |
|-------------|----------------|
| <b>*144</b> | <b>5720</b>    |

802.11n HT40, 802.11ac VHT40, 802.11ax HE40

| Channel     | Frequency(MHz) |
|-------------|----------------|
| <b>*142</b> | <b>5710</b>    |

802.11ac VHT80, 802.11ax HE80

| Channel     | Frequency(MHz) |
|-------------|----------------|
| <b>*138</b> | <b>5690</b>    |

## Band: 5725MHz-5850MHz

802.11a, 802.11n HT20, 802.11ac VHT20, 802.11ax HE20

| Channel     | Frequency(MHz) | Channel     | Frequency(MHz) |
|-------------|----------------|-------------|----------------|
| <b>*149</b> | <b>5745</b>    | 161         | 5805           |
| 153         | 5765           | <b>*165</b> | <b>5825</b>    |
| <b>*157</b> | <b>5785</b>    |             |                |

802.11n HT40, 802.11ac VHT40, 802.11ax HE40

| Channel     | Frequency(MHz) | Channel     | Frequency(MHz) |
|-------------|----------------|-------------|----------------|
| <b>*151</b> | <b>5755</b>    | <b>*159</b> | <b>5795</b>    |

802.11ac VHT80, 802.11ax HE80

| Channel     | Frequency(MHz) |
|-------------|----------------|
| <b>*155</b> | <b>5775</b>    |

Note: Channels remarked \* are selected to perform test.



## 2.3. Test Mode and Test Software

- During testing, the interface cables and equipment positions were varied according to ANSI C63.10.
- The complete test system included remote workstation and EUT for RF test. The remote workstation included Notebook.
- An executive program," QRCT V4.0.211.0" under Windows OS system was executed to transmit and receive data via WLAN.
- The following test modes were performed for the test:

| Conducted Emissions from the AC mains power ports                                      |                           |
|----------------------------------------------------------------------------------------|---------------------------|
| Test Mode                                                                              | Operating Description     |
| 1                                                                                      | 802.11a (6Mbps)           |
| 2                                                                                      | 802.11ax HE20 (7.3Mbps)   |
| 3                                                                                      | 802.11ax HE40 (14.6Mbps)  |
| 4                                                                                      | 802.11ax HE80 (30.6Mbps)  |
| 5                                                                                      | 802.11ax HE160 (61.3Mbps) |
| caused "Test Mode 1" generated the worst case, it was reported as the final data.      |                           |
| Radiation Emissions (9KHz ~30MHz & 30MHz ~ 1GHz)                                       |                           |
| Test Mode                                                                              | Operating Description     |
| 1                                                                                      | 802.11a (6Mbps)           |
| 2                                                                                      | 802.11ax HE20 (7.3Mbps)   |
| 3                                                                                      | 802.11ax HE40 (14.6Mbps)  |
| 4                                                                                      | 802.11ax HE80 (30.6Mbps)  |
| 5                                                                                      | 802.11ax HE160 (61.3Mbps) |
| caused "Test Mode 1" generated the worst case, it was reported as the final data.      |                           |
| Radiation Emissions (1GHz ~ 40GHz)                                                     |                           |
| Test Mode                                                                              | Operating Description     |
| 1                                                                                      | 802.11a (6Mbps)           |
| 2                                                                                      | 802.11ax HE20 (7.3Mbps)   |
| 3                                                                                      | 802.11ax HE40 (14.6Mbps)  |
| 4                                                                                      | 802.11ax HE80 (30.6Mbps)  |
| 5                                                                                      | 802.11ax HE160 (61.3Mbps) |
| caused "Test Mode 1~5" generated the worst case, they were reported as the final data. |                           |

Note: 1. There are two kinds of test voltage: AC 120V / 60Hz and AC 240V / 60Hz.

worst case (V)

| Test Item /test voltage                               | AC 120V / 60Hz | AC 240V / 60Hz. |
|-------------------------------------------------------|----------------|-----------------|
| AC Power Line Conducted Emission: SISO ANT/ MIMO ANT  | V              |                 |
| Radiation Emissions (Below 1GHz) : SISO ANT/ MIMO ANT |                | V               |

- The EUT has Four types of Adapters. After engineering evaluation, For AC Power Line Conducted Emission, FSP150-AABN3 is worst case. For Radiated Spurious Emission(9kHz~30MHz,30MHz~1GHz), ADP-65JH is worst case. For Radiated Spurious Emission(1GHz~40GHz), ADP-150EH B is worst case., hence, are used at test report.

|         |                                          |
|---------|------------------------------------------|
| Adapter | Brand: Delta<br>Model: ADP-150EH B       |
| Adapter | Brand: Delta<br>Model: ADP-65JH HB       |
| Adapter | Brand: Billion<br>Model: BA070-190342MBX |
| Adapter | Brand: FSP<br>Model: FSP150-AABN3        |



3. There are two types of Panels: AUO&BOE. After engineering evaluation, AUO is worst case, hence, is used at test report.

|       |                                   |
|-------|-----------------------------------|
| Panel | Brand: AUO<br>Model: A156HAN01.1  |
|       | Brand: BOE<br>Model: PV156FHM-N30 |

4. The EUT has Two types of USBC-POS-STANDS. After engineering evaluation, For AC Power Line Conducted Emission, KIT, Z30-POS-STAND-GEN2-15 is worst case. For Radiated Spurious Emission(9kHz~30MHz,30MHz~1GHz), none-docking is worst case. For Radiated Spurious Emission(1GHz~40GHz), KIT, Z30-POS-STAND-CFD-Gen 2-15 is worst case., hence, are used at test report

|                |                                                      |
|----------------|------------------------------------------------------|
| USBC-POS-STAND | Brand: ELO<br>Model: KIT, Z30-POS-Stand-CFD-Gen 2-15 |
| USBC-POS-STAND | Brand: ELO<br>Model: KIT, Z30-POS-STAND-GEN2-15      |

The EUT incorporates a MIMO function

| Modulation Type | TX CONFIGURATION |
|-----------------|------------------|
| 802.11a         | 1TX (Diversity)  |
| 802.11n HT20    | 2TX              |
| 802.11n HT40    | 2TX              |
| 802.11ac VHT20  | 2TX              |
| 802.11ac VHT40  | 2TX              |
| 802.11ac VHT80  | 2TX              |
| 802.11ac VHT160 | 2TX              |
| 802.11ax HE20   | 2TX              |
| 802.11ax HE40   | 2TX              |
| 802.11ax HE80   | 2TX              |
| 802.11ax HE160  | 2TX              |



## 2.4. Description of Test System

| RF Conducted    |        |            |             |                        |
|-----------------|--------|------------|-------------|------------------------|
| Equipment       | Brand  | Model      | Length/Type | Power cord/Length/Type |
| Notebook        | lenovo | S1GL2W     | N/A         | N/A                    |
| Micro USB(Blue) | kolin  | KEX-DLCP07 | 1m / NS     | N/A                    |

| Radiated Emissions |                    |                |             |                        |
|--------------------|--------------------|----------------|-------------|------------------------|
| Equipment          | Brand              | Model          | Length/Type | Power cord/Length/Type |
| Notebook           | DELL               | Latitude E5470 | N/A         | Adapter / 1.8m / NS    |
| Micro USB(Blue)    | kolin              | KEX-DLCP07     | 1m / NS     | N/A                    |
| Flash*4            | TranScend          | USB3.0 3GB     | N/A         | N/A                    |
| RJ45 Cable         | TE<br>CONNECTIVITY | CAT5E          | 1.2m / NS   | N/A                    |

| AC Power Line Conducted Emission |                    |                |             |                        |
|----------------------------------|--------------------|----------------|-------------|------------------------|
| Equipment                        | Brand              | Model          | Length/Type | Power cord/Length/Type |
| Notebook                         | DELL               | Latitude E5470 | N/A         | Adapter / 1.8m / NS    |
| Micro USB(White)                 | kolin              | KEX-DLCP07     | 1m / NS     | N/A                    |
| RJ45 Cable                       | TE<br>CONNECTIVITY | CAT5E          | 1.2m / NS   | N/A                    |
| Cash Drawer                      | PARTNER            | 5E415          | 1.8m / NS   | N/A                    |
| TYPE-C(Blue)                     | kolin              | KEX-DLCP08     | 1m / NS     | N/A                    |
| Flash*4                          | TranScend          | USB3.0 3GB     | N/A         | N/A                    |
| Power USB Panel<br>Type - 24V    | TAIMING            | Power USB      | 1.8m / NS   | N/A                    |



## 2.5. General Information of Test

|                              |                                                                                                                                                                                           |                  |
|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| ☑ Test Site                  | CerpPASS Technology Corporation Test Laboratory<br>Address: No.10, Ln. 2, Lianfu St., Luzhu Dist., Taoyuan City 33848,<br>Taiwan (R.O.C.)<br>Tel: +886-3-3226-888<br>Fax: +886-3-3226-881 |                  |
|                              | FCC                                                                                                                                                                                       | TW1439, TW1079   |
|                              | IC                                                                                                                                                                                        | 4934E-1, 4934E-2 |
| Frequency Range Investigated | Conducted: from 150kHz to 30 MHz<br>Radiation: from 9kHz to 40,000MHz                                                                                                                     |                  |
| Test Distance                | The test distance of radiated emission from antenna to EUT is 3 M.                                                                                                                        |                  |

### ANT A

| Test Item          | Test Site  | Test Period | Environmental Conditions | Tested By  |
|--------------------|------------|-------------|--------------------------|------------|
| RF Conducted       | RFCON01-NK | 2024/08/03  | 26.4°C / 51%             | Leon Huang |
| RF Conducted       | RFCON01-NK | 2024/10/07  | 27.1°C / 45%             | Leon Huang |
| Radiated Emissions | 3M02-NK    | 2024/07/26  | 25.8°C / 71%             | Leon Huang |

### ANT B

| Test Item                        | Test Site  | Test Period | Environmental Conditions | Tested By  |
|----------------------------------|------------|-------------|--------------------------|------------|
| RF Conducted                     | RFCON01-NK | 2024/08/02  | 25.8°C / 48%             | Leon Huang |
| RF Conducted                     | RFCON01-NK | 2024/08/03  | 26.4°C / 51%             | Leon Huang |
| RF Conducted                     | RFCON01-NK | 2024/10/22  | 25.2°C / 45%             | Leon Huang |
| Radiated Emissions               | 3M02-NK    | 2024/07/23  | 26.4°C / 62%             | Leon Huang |
| Radiated Emissions               | 3M02-NK    | 2024/08/20  | 20.4°C / 40%             | Leon Huang |
| AC Power Line Conducted Emission | CON02-NK   | 2024/08/23  | 25.3°C / 53%             | Leon Huang |
| AC Power Line Conducted Emission | CON02-NK   | 2024/08/24  | 26.5°C / 43%             | Leon Huang |

### ANT A, B

| Test Item                        | Test Site  | Test Period | Environmental Conditions | Tested By  |
|----------------------------------|------------|-------------|--------------------------|------------|
| RF Conducted                     | RFCON01-NK | 2024/07/30  | 26.3°C / 46%             | Leon Huang |
| RF Conducted                     | RFCON01-NK | 2024/07/31  | 26.6°C / 49%             | Leon Huang |
| RF Conducted                     | RFCON01-NK | 2024/08/01  | 26.9°C / 47%             | Leon Huang |
| Radiated Emissions               | 3M02-NK    | 2024/08/02  | 20.3°C / 53%             | Leon Huang |
| Radiated Emissions               | 3M02-NK    | 2024/08/20  | 20.4°C / 40%             | Leon Huang |
| AC Power Line Conducted Emission | CON02-NK   | 2024/08/23  | 25.3°C / 53%             | Leon Huang |
| AC Power Line Conducted Emission | CON02-NK   | 2024/08/24  | 26.5°C / 43%             | Leon Huang |



## 2.6. Measurement Uncertainty

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2))

| Measurement Item                         | Uncertainty          |
|------------------------------------------|----------------------|
| AC Power Line Conduction(150K~30MHz)     | $\pm 3.12\text{dB}$  |
| Radiated Spurious Emission(9KHz~30MHz)   | $\pm 3.5\text{dB}$   |
| Radiated Spurious Emission(30MHz~1GHz)   | $\pm 5.1\text{dB}$   |
| Radiated Spurious Emission(1GHz~40GHz)   | $\pm 5.2\text{dB}$   |
| 6dB Bandwidth                            | $\pm 5.4\%$          |
| 26dB Bandwidth                           | $\pm 4.4\%$          |
| Occupied Bandwidth                       | $\pm 4.5\%$          |
| Peak Output Power(Conducted Power Meter) | $\pm 1.1\text{dB}$   |
| Power Spectral Density                   | $\pm 2.0\text{dB}$   |
| Duty Cycle                               | $\pm 3.5\%$          |
| Frequency Stability                      | $\pm 0.23\text{KHz}$ |



### 3. Test Equipment and Ancillaries Used for Tests

|                     |                             |                      |             |                  |            |
|---------------------|-----------------------------|----------------------|-------------|------------------|------------|
| Test Item           | Radiated Emissions          |                      |             |                  |            |
| Test Site           | Semi Anechoic Room(3M02-NK) |                      |             |                  |            |
| Instrument          | Manufacturer                | Model No             | Serial No   | Calibration Date | Valid Date |
| Bilog Antenna       | Schwarzbeck                 | VULB9168             | 369         | 2024/02/19       | 2025/02/18 |
| Active Loop Antenna | Schwarzbeck                 | FMZB 1513            | 414         | 2024/01/16       | 2025/01/15 |
| Horn Antenna        | EMCO                        | 3115                 | 31589       | 2024/02/26       | 2025/02/25 |
| Horn Antenna        | EMCO                        | 3116                 | 31974       | 2023/10/16       | 2024/10/15 |
| EMI Receiver        | ROHDE & SCHWARZ             | ESR 7                | 101906      | 2024/05/13       | 2025/05/12 |
| Spectrum Analyzer   | ROHDE & SCHWARZ             | FSV 40-N             | 101329      | 2024/07/16       | 2025/07/15 |
| Preamplifier        | Agilent                     | 8449B                | 3008A01954  | 2024/03/01       | 2025/02/28 |
| Preamplifier        | EMC INSTRUMENTS             | EMC184045            | 980065      | 2023/10/13       | 2024/10/12 |
| Preamplifier        | EM Electronics corp.        | EM330                | 60659       | 2024/02/17       | 2025/02/16 |
| Cable-6m(9k~300M)   | N/A                         | EMC5D-BM-BM-6        | 130606      | 2024/03/13       | 2025/03/12 |
| Cable-3in1(30M-1G)  | HARBOUR INDUSTRIES          | LL142                | CCE1315     | 2024/02/23       | 2025/02/22 |
| Cable-0.5m(1G-40G)  | HUBER SUHNER                | SUCOFLEX 104         | 805443/4    | 2024/03/05       | 2025/03/04 |
| Cable-3m(1G-40G)    | HUBER SUHNER                | SUCOFLEX 104         | 805796/4    | 2024/03/05       | 2025/03/04 |
| Cable-8m(1G-26.5G)  | WOKEN                       | WCBA-WCA203SM        | CCE1374     | 2024/03/05       | 2025/03/04 |
| Cable-1m(1G-40G)    | HUBER SUHNER                | HUBER SUHNER / SF102 | 804398/2    | 2023/10/12       | 2024/10/11 |
| Cable-3m(1G-40G)    | HUBER SUHNER                | HUBER SUHNER / SF102 | 804619/2    | 2023/10/12       | 2024/10/11 |
| E3                  | AUDIX                       | v8.2014-8-6          | RK-000529   | NA               | NA         |
| Highpass Filter     | Warison                     | WFIL-H3000-18000F-03 | WRJ5CFWC2J1 | 2024/07/03       | 2025/07/02 |
| Notch Filter        | Warison                     | WFIL-N5925-7125F-04  | WRQ4BFWC4M1 | 2024/03/11       | 2025/03/10 |
| Hipass Filter       | Warison                     | WFIL-H7500-18000F    | WRQ4BFWC2J1 | 2024/03/11       | 2025/03/10 |

|                     |              |          |            |                  |            |
|---------------------|--------------|----------|------------|------------------|------------|
| Test Item           | RF Conducted |          |            |                  |            |
| Test Site           | RFCON01-NK   |          |            |                  |            |
| Instrument          | Manufacturer | Model No | Serial No  | Calibration Date | Valid Date |
| CAX Signal Analyzer | KEYSIGHT     | N9000B   | MY57100339 | 2023/11/06       | 2024/11/05 |
| Power Meter         | Anritsu      | ML2495A  | 1224005    | 2024/02/17       | 2025/02/16 |
| Power Sensor        | Anritsu      | MA2411B  | 1207295    | 2024/02/17       | 2025/02/16 |
| Attenuator          | KEYSIGHT     | 8491B    | MY39250703 | 2024/02/20       | 2025/02/19 |



|                                      |                                  |               |           |                  |            |
|--------------------------------------|----------------------------------|---------------|-----------|------------------|------------|
| Test Item                            | AC Power Line Conducted Emission |               |           |                  |            |
| Test Site                            | CON02-NK                         |               |           |                  |            |
| Instrument                           | Manufacturer                     | Model No      | Serial No | Calibration Date | Valid Date |
| EMI Receiver                         | ROHDE & SCHWARZ                  | ESR 7         | 101906    | 2024/05/13       | 2025/05/12 |
| Line Impedance Stabilization Network | Schwarzbeck                      | NSLK 8127     | 8127516   | 2023/10/03       | 2024/10/02 |
| Line Impedance Stabilization Network | Schwarzbeck                      | NSLK 8127     | 8127740   | 2023/08/28       | 2024/08/27 |
| Pulse Limiter                        | ROHDE & SCHWARZ                  | ESH3-Z2       | 101934    | 2024/03/01       | 2025/02/28 |
| Cable-6m(9k~300M)                    | N/A                              | EMC5D-BM-BM-6 | 130606    | 2024/03/13       | 2025/03/12 |
| E3                                   | AUDIX                            | v8.2014-8-6   | RK-000536 | NA               | NA         |



## 4. Antenna Requirements

### 4.1. Standard Applicable

For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

And according to FCC 47 CFR Section 15.407 (a), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.



## 4.2. Antenna Construction and Directional Gain

|              |                                                                                                                                                                                              |
|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Antenna Type | PIFA Antenna                                                                                                                                                                                 |
| Antenna Gain | 5150-5250MHz: ANT A: 2.73dBi, ANT B: 2.11dBi<br>5250-5350MHz: ANT A: 2.73dBi, ANT B: 2.54dBi<br>5470-5725MHz: ANT A: 2.35dBi, ANT B: 2.40dBi<br>5725-5850MHz: ANT A: 2.40dBi, ANT B: 2.34dBi |

### SISO ANT A

|                                                                                       |
|---------------------------------------------------------------------------------------|
| 5150-5250MHz                                                                          |
| For Power directional gain= Gant= 2.73dBi<br>For PSD directional gain = Gant= 2.73dBi |
| 5250-5350MHz                                                                          |
| For Power directional gain= Gant= 2.73dBi<br>For PSD directional gain = Gant= 2.73dBi |
| 5470-5725MHz                                                                          |
| For Power directional gain= Gant= 2.35dBi<br>For PSD directional gain = Gant= 2.35dBi |
| 5725-5850MHz                                                                          |
| For Power directional gain= Gant=2.40dBi<br>For PSD directional gain = Gant=2.40dBi   |

### SISO ANT B

|                                                                                       |
|---------------------------------------------------------------------------------------|
| 5150-5250MHz                                                                          |
| For Power directional gain= Gant= 2.11dBi<br>For PSD directional gain = Gant= 2.11dBi |
| 5250-5350MHz                                                                          |
| For Power directional gain= Gant= 2.54dBi<br>For PSD directional gain = Gant= 2.54dBi |
| 5470-5725MHz                                                                          |
| For Power directional gain= Gant= 2.40dBi<br>For PSD directional gain = Gant= 2.40dBi |
| 5725-5850MHz                                                                          |
| For Power directional gain= Gant=2.34dBi<br>For PSD directional gain = Gant=2.34dBi   |



## MIMO

|                                                                                                                                                                           |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5150-5250MHz                                                                                                                                                              |
| For Power directional gain= $G_{ant}= 2.73\text{dBi}$<br>For PSD directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2 / N_{ANT}]$<br>= 5.44(dBi)  |
| 5250-5350MHz                                                                                                                                                              |
| For Power directional gain= $G_{ant}= 2.73\text{dBi}$<br>For PSD directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2 / N_{ANT}]$<br>= 5.65 (dBi) |
| 5470-5725MHz                                                                                                                                                              |
| For Power directional gain= $G_{ant}= 2.40\text{dBi}$<br>For PSD directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2 / N_{ANT}]$<br>= 5.39(dBi)  |
| 5725-5850MHz                                                                                                                                                              |
| For Power directional gain= $G_{ant}= 2.40\text{dBi}$<br>For PSD directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2 / N_{ANT}]$<br>= 5.38(dBi)  |

\*MIMO type: Cyclic Delay Diversity (CDD) mode.



## 5. Test of AC Power Line Conducted Emission

### 5.1. Test Limit

Conducted Emissions were measured from 150 kHz to 30 MHz with a bandwidth of 9 KHz, according to the methods defined in ANSI C63.10-2013. The EUT was placed on a nonmetallic stand in a shielded room 0.8 meters above the ground plane. The interface cables and equipment positioning were varied within limits of reasonable applications to determine the position produced maximum conducted emissions.

| Frequency (MHz) | Quasi Peak (dB $\mu$ V) | Average (dB $\mu$ V) |
|-----------------|-------------------------|----------------------|
| 0.15 – 0.5      | 66-56*                  | 56-46*               |
| 0.5 – 5.0       | 56                      | 46                   |
| 5.0 – 30.0      | 60                      | 50                   |

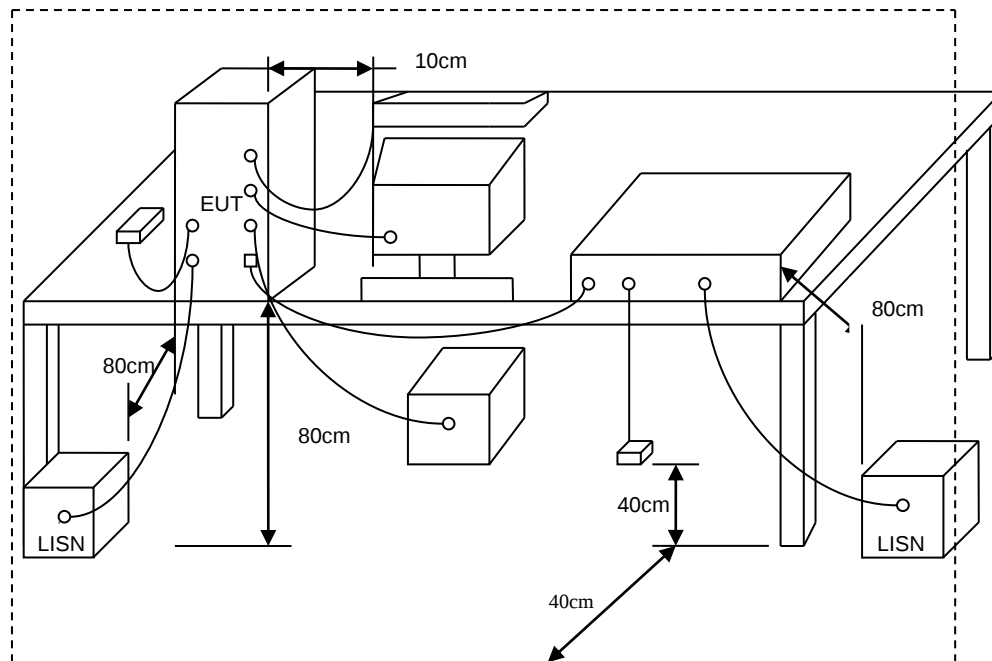
\*Decreases with the logarithm of the frequency.

### 5.2. Test Procedures

- The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
- Connect EUT to the power mains through a line impedance stabilization network (LISN).
- All the support units are connecting to the other LISN.
- The LISN provides 50 ohm coupling impedance for the measuring instrument.
- The FCC states that a 50 ohm, 50 micro-Henry LISN should be used.
- Both sides of AC line were checked for maximum conducted interference.
- The frequency range from 150 kHz to 30 MHz was searched.
- Set the test-receiver system to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.



### 5.3. Typical Test Setup



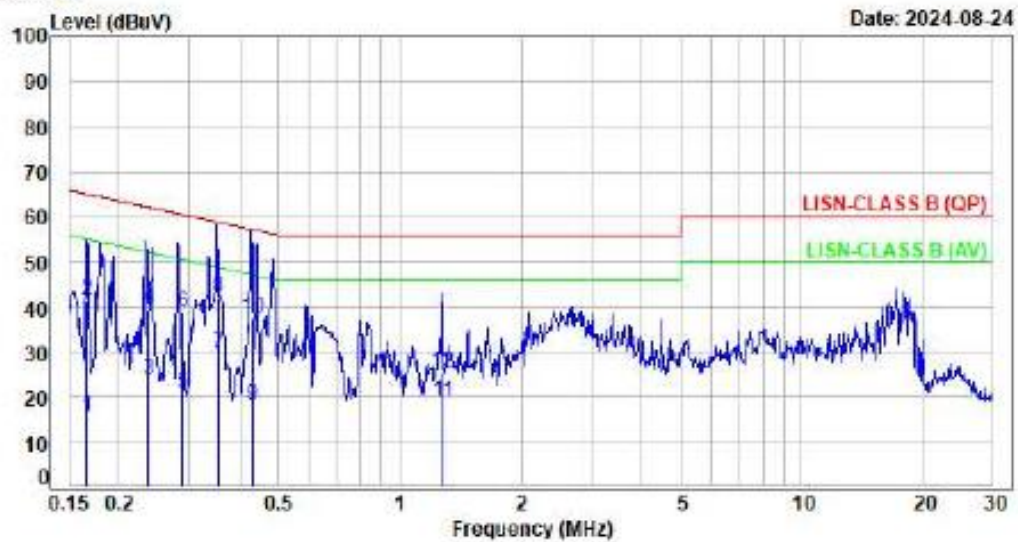


## 5.4. Test Result and Data

### MIMO

Test Mode : 2TX 11ax20 CH157 NSS1 MCS0  
Voltage : From Adapter(AC 120V/60Hz)  
Phase : Line

Data: 15



| No. | Frequency (MHz) | Factor (dB) | Reading (dBuV) | Level (dBuV) | Limit (dBuV) | Margin (dB) | Detector | P/F |
|-----|-----------------|-------------|----------------|--------------|--------------|-------------|----------|-----|
| 1   | 0.1664          | 9.92        | 5.77           | 15.69        | 55.14        | -39.45      | Average  | P   |
| 2   | 0.1664          | 9.92        | 31.37          | 41.29        | 65.14        | -23.85      | QP       | P   |
| 3   | 0.2355          | 9.92        | 14.02          | 23.94        | 52.25        | -28.31      | Average  | P   |
| 4   | 0.2355          | 9.92        | 29.66          | 39.58        | 62.25        | -22.67      | QP       | P   |
| 5   | 0.2877          | 9.92        | 11.03          | 20.95        | 50.59        | -29.64      | Average  | P   |
| 6   | 0.2877          | 9.92        | 28.84          | 38.76        | 60.59        | -21.83      | QP       | P   |
| 7   | 0.3543          | 9.93        | 19.87          | 29.80        | 48.86        | -19.06      | Average  | P   |
| 8   | 0.3543          | 9.93        | 32.39          | 42.32        | 58.86        | -16.54      | QP       | P   |
| 9   | 0.4320          | 9.93        | 8.43           | 18.36        | 47.21        | -28.85      | Average  | P   |
| 10  | 0.4320          | 9.93        | 27.68          | 37.61        | 57.21        | -19.60      | QP       | P   |
| 11  | 1.2739          | 9.98        | 9.10           | 19.08        | 46.00        | -26.92      | Average  | P   |
| 12  | 1.2739          | 9.98        | 15.45          | 25.43        | 56.00        | -30.57      | QP       | P   |

Note: Level=Reading+Factor

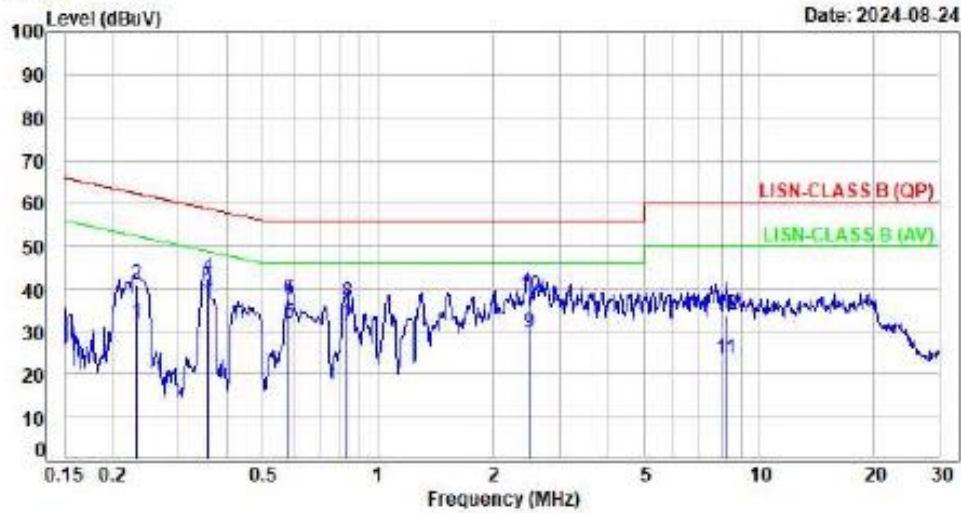
Margin=Level-Limit

Factor=(LISN or ISN or Current Probe)Factor + Cable Loss



Test Mode : 2TX 11ax20 CH157 NSS1 MCS0  
Voltage : From Adapter(AC 120V/60Hz)  
Phase : Neutral

Data: 16



| No. | Frequency (MHz) | Factor (dB) | Reading (dBuV) | Level (dBuV) | Limit (dBuV) | Margin (dB) | Detector | P/F |
|-----|-----------------|-------------|----------------|--------------|--------------|-------------|----------|-----|
| 1   | 0.2315          | 9.94        | 22.11          | 32.05        | 52.40        | -20.35      | Average  | P   |
| 2   | 0.2315          | 9.94        | 31.00          | 40.94        | 62.40        | -21.46      | QP       | P   |
| 3   | 0.3560          | 9.96        | 29.24          | 39.20        | 48.82        | -9.62       | Average  | P   |
| 4   | 0.3560          | 9.96        | 32.61          | 42.57        | 58.82        | -16.25      | QP       | P   |
| 5   | 0.5845          | 9.96        | 22.01          | 31.97        | 46.00        | -14.03      | Average  | P   |
| 6   | 0.5845          | 9.96        | 27.81          | 37.77        | 56.00        | -18.23      | QP       | P   |
| 7   | 0.8285          | 9.98        | 21.31          | 31.29        | 46.00        | -14.71      | Average  | P   |
| 8   | 0.8285          | 9.98        | 26.73          | 36.71        | 56.00        | -19.29      | QP       | P   |
| 9   | 2.4923          | 10.04       | 19.49          | 29.53        | 46.00        | -16.47      | Average  | P   |
| 10  | 2.4923          | 10.04       | 28.23          | 38.27        | 56.00        | -17.73      | QP       | P   |
| 11  | 8.1986          | 10.26       | 13.17          | 23.43        | 50.00        | -26.57      | Average  | P   |
| 12  | 8.1986          | 10.26       | 23.67          | 33.93        | 60.00        | -26.07      | QP       | P   |

Note: Level=Reading+Factor

Margin=Level-Limit

Factor=(LISN or ISN or Current Probe)Factor + Cable Loss



## 6. Test of Spurious Emission (Radiated)

### 6.1. Test Limit

Undesirable emission limits. Except as shown in paragraph (b)(7) of this section, the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

- (1) For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.
- (2) For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.
- (3) For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.
- (4) For transmitters operating in the 5.725-5.85 GHz band:  
All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27dBm/MHz at the band edge.
- (5) The emission measurements shall be performed using a minimum resolution bandwidth of 1 MHz. A lower resolution bandwidth may be employed near the band edge, when necessary, provided the measured energy is integrated to show the total power over 1 MHz.
- (6) Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in §15.209. Further, any U-NII devices using an AC power line are required to comply also with the conducted limits set forth in §15.207.
- (7) The provisions of §15.205 apply to intentional radiators operating under this section.
- (8) When measuring the emission limits, the nominal carrier frequency shall be adjusted as close to the upper and lower frequency band edges as the design of the equipment permits.



## 6.2. Test Procedures

- a. The EUT was placed on a rotatable table top 0.8 meter above ground.
- b. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
- c. The table was rotated 360 degrees to determine the position of the highest radiation.
- d. The antenna is a broadband antenna and its height is varied between one meter and four meters above ground to find the maximum value of the field strength both horizontal polarization and vertical polarization of the antenna are set to make the measurement.
- e. For each suspected emission the EUT was arranged to its worst case and then tune the antenna tower (from 1 M to 4 M) and turn table (from 0 degree to 360 degrees) to find the maximum reading.
- f. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function and specified bandwidth with Maximum Hold Mode.
- g. If the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method and reported.
- h. For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than average limit (that means the emission level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
- i. "Cone of radiation" has been considered to be 3dB bandwidth of the measurement antenna.

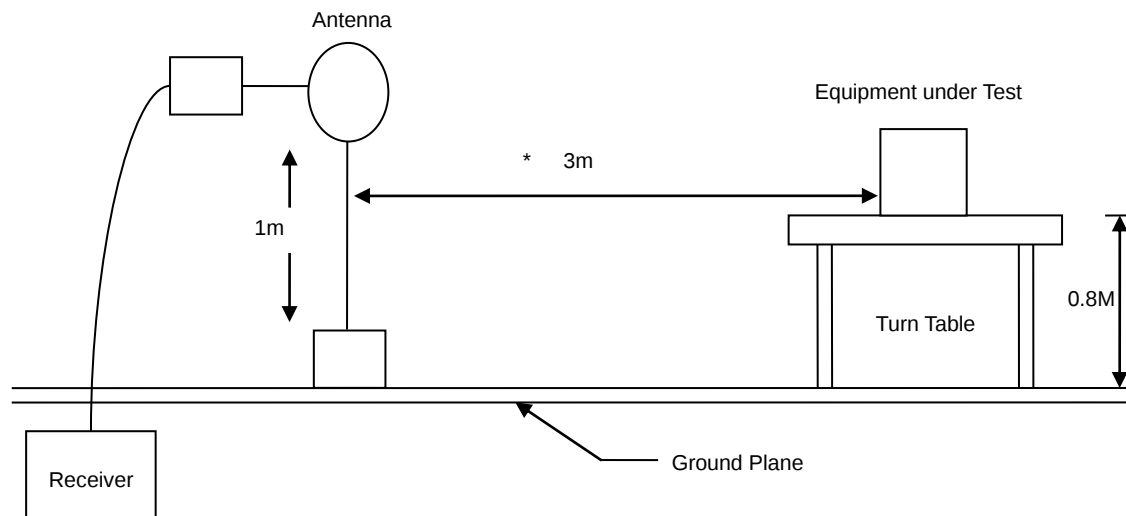
Note:

- 1.The supporting fixture shall permit orientation of the EUT in each of three orthogonal axis positions such that emissions from the EUT are maximized.
- 2.Due to the test software function limit the operation band setting(200dBuV/m). There's no corresponding limitation in the actual test item.

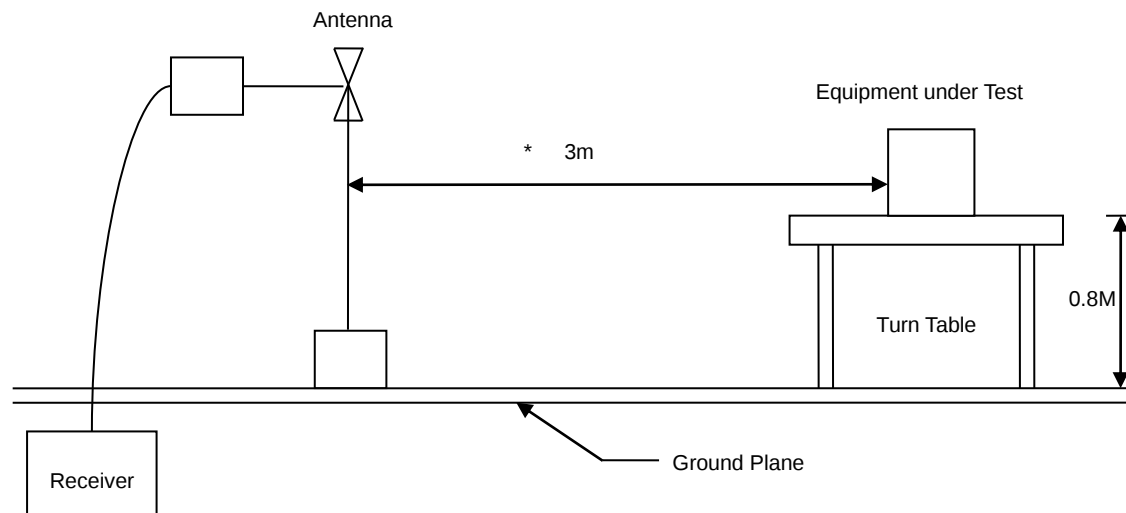


### 6.3. Typical Test Setup

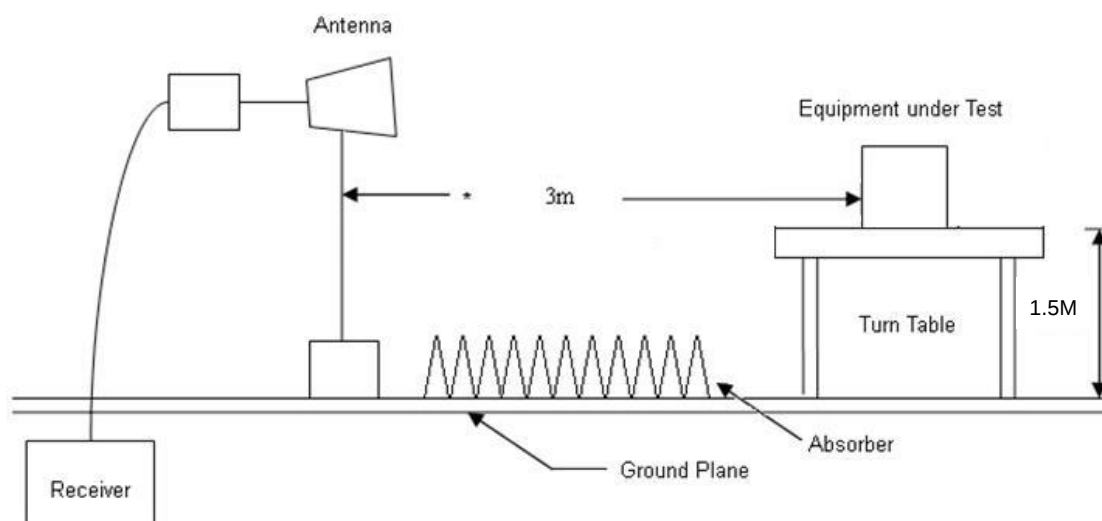
#### Below 30MHz test setup



#### 30MHz- 1GHz Test Setup



#### Above 1GHz Test Setup





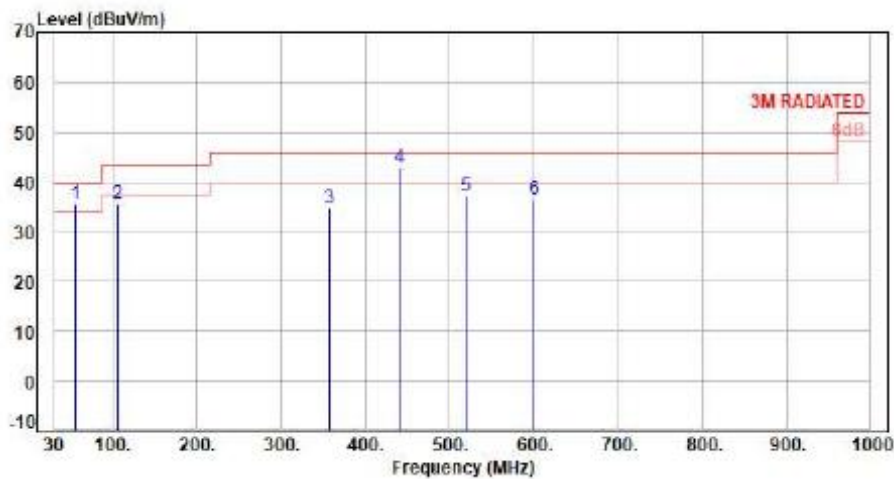
#### 6.4. Test Result and Data (9kHz ~ 30MHz)

The 9kHz - 30MHz spurious emission is under limit 20dB more.

#### 6.5. Test Result and Data (30MHz ~ 1GHz)

MIMO

Test Mode : 2TX 11ax20 CH157 NSS1 MCS0  
Voltage : From Adapter(AC240V/60Hz)  
Pol : Vertical



| No. | Frequency (MHz) | Factor (dB) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Height (cm) | Azimuth (deg) | P/F |
|-----|-----------------|-------------|----------------|----------------|----------------|-------------|----------|-------------|---------------|-----|
| 1   | 55.22           | -9.22       | 45.00          | 35.78          | 40.00          | -4.22       | Peak     | 400         | 0             | P   |
| 2   | 105.66          | -13.45      | 48.96          | 35.51          | 43.50          | -7.99       | Peak     | 400         | 0             | P   |
| 3   | 357.66          | -7.03       | 41.70          | 34.67          | 46.00          | -11.33      | Peak     | 400         | 0             | P   |
| 4   | 441.28          | -4.58       | 47.53          | 42.95          | 46.00          | -3.05       | Peak     | 400         | 0             | P   |
| 5   | 518.88          | -2.82       | 39.92          | 37.10          | 46.00          | -8.90       | Peak     | 400         | 0             | P   |
| 6   | 600.36          | -0.75       | 37.40          | 36.65          | 46.00          | -9.35       | Peak     | 400         | 0             | P   |

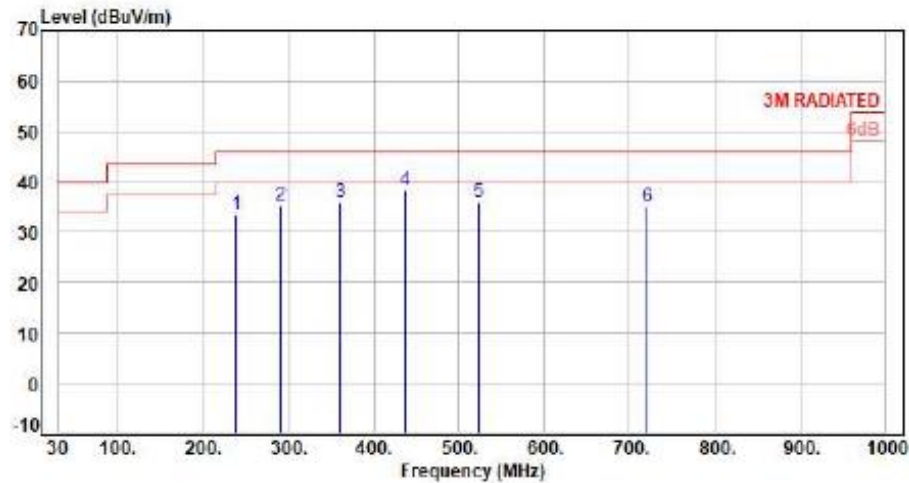
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Test Mode : 2TX 11ax20 CH157 NSS1 MCS0  
Voltage : From Adatper(AC240V/60Hz)  
Pol : Horizontal



| No. | Frequency (MHz) | Factor (dB) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Height (cm) | Azimuth (deg) | P/F |
|-----|-----------------|-------------|----------------|----------------|----------------|-------------|----------|-------------|---------------|-----|
| 1   | 239.52          | -10.52      | 44.04          | 33.52          | 46.00          | -12.48      | Peak     | 400         | 360           | P   |
| 2   | 291.98          | -8.68       | 44.14          | 35.46          | 46.00          | -10.54      | Peak     | 400         | 360           | P   |
| 3   | 361.74          | -6.85       | 42.65          | 35.80          | 46.00          | -10.20      | Peak     | 400         | 360           | P   |
| 4   | 437.40          | -4.72       | 43.18          | 38.46          | 46.00          | -7.54       | Peak     | 400         | 360           | P   |
| 5   | 522.76          | -2.71       | 38.51          | 35.80          | 46.00          | -10.20      | Peak     | 400         | 360           | P   |
| 6   | 720.64          | 0.84        | 34.18          | 35.02          | 46.00          | -10.98      | Peak     | 400         | 360           | P   |

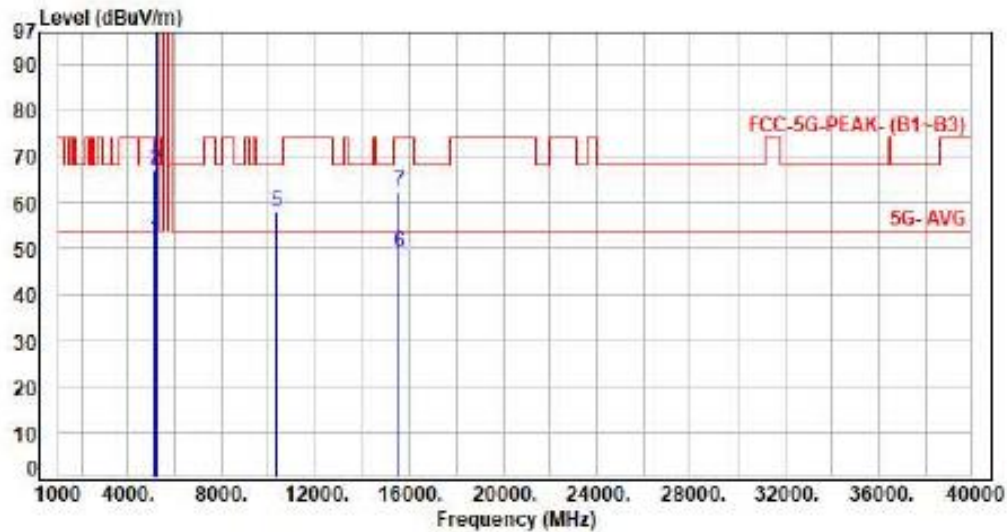
Note: Level=Reading+Factor  
Margin=Level-Limit  
Factor=Antenna Factor + cable loss - Amplifier Factor



## 6.6. Test Result and Data (1GHz ~ 40GHz)

### SISO ANT B

Test Mode : ITX 11a CH36 6Mbps  
Voltage : From Adapter(AC120V/60Hz)  
Pol : Vertical



| No. | Frequency (MHz) | Factor (dB) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Height (cm) | Azimuth (deg) | P/F |
|-----|-----------------|-------------|----------------|----------------|----------------|-------------|----------|-------------|---------------|-----|
| 1   | 5150.00         | 6.69        | 45.35          | 52.04          | 54.00          | -1.96       | Average  | 100         | 335           | P   |
| 2   | 5150.00         | 6.69        | 60.35          | 67.04          | 74.00          | -6.96       | Peak     | 100         | 335           | P   |
| 3   | 5180.00         | 6.79        | 91.69          | 98.48          | 200.00         | -101.52     | Average  | 100         | 335           | P   |
| 4   | 5180.00         | 6.79        | 102.12         | 108.91         | 200.00         | -91.09      | Peak     | 100         | 335           | P   |
| 5   | 10360.00        | 14.86       | 43.03          | 57.89          | 68.20          | -10.31      | Peak     | 100         | 331           | P   |
| 6   | 15540.00        | 18.46       | 30.44          | 48.90          | 54.00          | -5.10       | Average  | 100         | 247           | P   |
| 7   | 15540.00        | 18.46       | 43.69          | 62.15          | 74.00          | -11.85      | Peak     | 100         | 247           | P   |

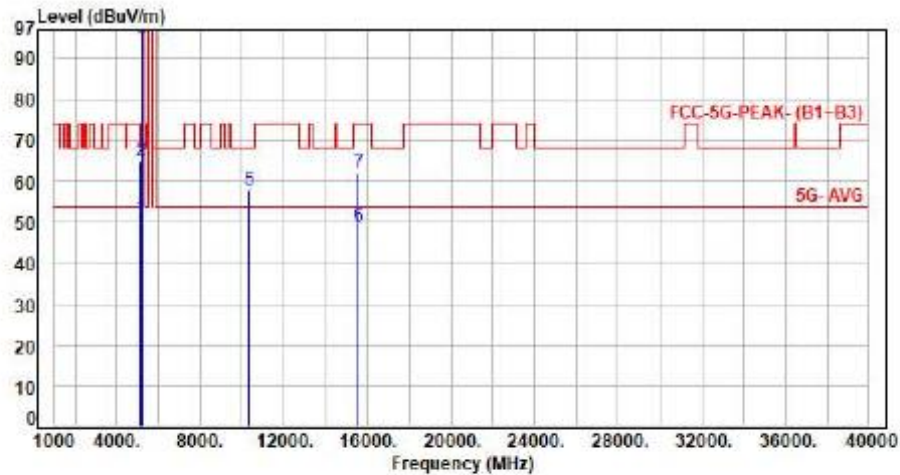
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Test Mode : ITX 11a CH36 6Mbps  
Voltage : From Adapter(AC120V/60Hz)  
Pol : Horizontal



| No. | Frequency (MHz) | Factor (dB) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Height (cm) | Azimuth (deg) | P/F |
|-----|-----------------|-------------|----------------|----------------|----------------|-------------|----------|-------------|---------------|-----|
| 1   | 5150.00         | 6.69        | 44.13          | 50.82          | 54.00          | -3.18       | Average  | 115         | 348           | P   |
| 2   | 5150.00         | 6.69        | 58.22          | 64.91          | 74.00          | -9.09       | Peak     | 115         | 348           | P   |
| 3   | 5180.00         | 6.79        | 88.11          | 94.90          | 200.00         | -105.10     | Average  | 115         | 348           | P   |
| 4   | 5180.00         | 6.79        | 98.43          | 105.22         | 200.00         | -94.78      | Peak     | 115         | 348           | P   |
| 5   | 10360.00        | 14.86       | 42.89          | 57.75          | 68.20          | -10.45      | Peak     | 100         | 311           | P   |
| 6   | 15540.00        | 18.46       | 30.47          | 48.93          | 54.00          | -5.07       | Average  | 100         | 311           | P   |
| 7   | 15540.00        | 18.46       | 43.59          | 62.05          | 74.00          | -11.95      | Peak     | 100         | 311           | P   |

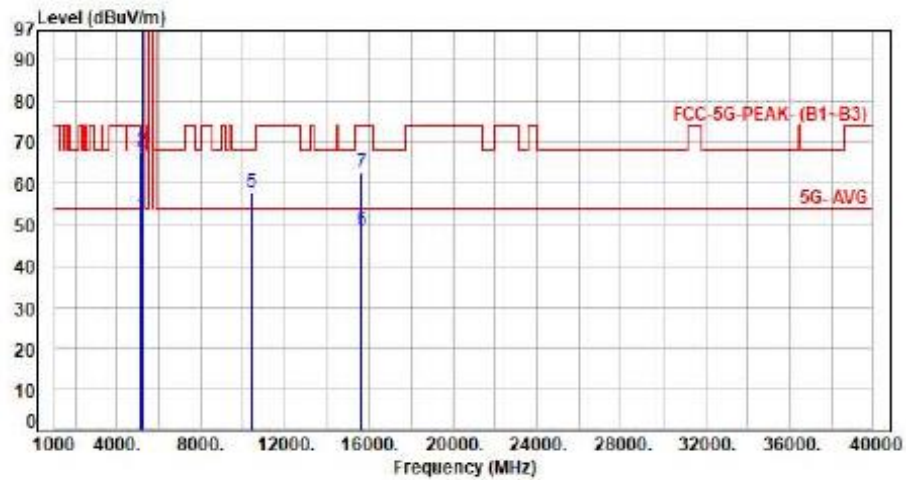
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Test Mode : ITX 11a CH40 6Mbps  
Voltage : From Adapter(AC120V/60Hz)  
Pol : Vertical



| No. | Frequency (MHz) | Factor (dB) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Height (cm) | Azimuth (deg) | P/F |
|-----|-----------------|-------------|----------------|----------------|----------------|-------------|----------|-------------|---------------|-----|
| 1   | 5150.00         | 6.69        | 45.74          | 52.43          | 54.00          | -1.57       | Average  | 245         | 331           | P   |
| 2   | 5150.00         | 6.69        | 61.34          | 68.03          | 74.00          | -5.97       | Peak     | 245         | 331           | P   |
| 3   | 5200.00         | 6.86        | 94.32          | 101.18         | 200.00         | -98.82      | Average  | 245         | 331           | P   |
| 4   | 5200.00         | 6.86        | 104.68         | 111.54         | 200.00         | -88.46      | Peak     | 245         | 331           | P   |
| 5   | 10400.00        | 14.77       | 42.99          | 57.76          | 68.20          | -10.44      | Peak     | 100         | 213           | P   |
| 6   | 15600.00        | 18.20       | 30.50          | 48.70          | 54.00          | -5.30       | Average  | 100         | 157           | P   |
| 7   | 15600.00        | 18.20       | 44.42          | 62.62          | 74.00          | -11.38      | Peak     | 100         | 157           | P   |

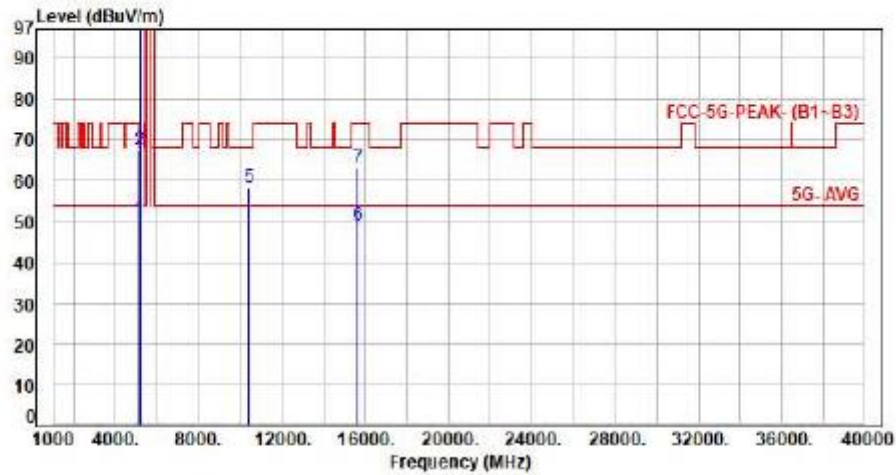
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Test Mode : 1TX 11a CH48 6Mbps  
Voltage : From Adapter(AC120V/60Hz)  
Pol : Horizontal



| No. | Frequency (MHz) | Factor (dB) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Height (cm) | Azimuth (deg) | P/F |
|-----|-----------------|-------------|----------------|----------------|----------------|-------------|----------|-------------|---------------|-----|
| 1   | 5150.00         | 6.69        | 44.31          | 51.00          | 54.00          | -3.00       | Average  | 100         | 350           | P   |
| 2   | 5150.00         | 6.69        | 60.83          | 67.52          | 74.00          | -6.48       | Peak     | 100         | 350           | P   |
| 3   | 5200.00         | 6.86        | 89.51          | 96.37          | 200.00         | -103.63     | Average  | 100         | 350           | P   |
| 4   | 5200.00         | 6.86        | 99.69          | 106.55         | 200.00         | -93.45      | Peak     | 100         | 350           | P   |
| 5   | 10400.00        | 14.77       | 43.45          | 58.22          | 68.20          | -9.98       | Peak     | 100         | 157           | P   |
| 6   | 15500.00        | 18.20       | 30.74          | 48.94          | 54.00          | -5.06       | Average  | 100         | 144           | P   |
| 7   | 15500.00        | 18.20       | 44.97          | 63.17          | 74.00          | -10.83      | Peak     | 100         | 144           | P   |

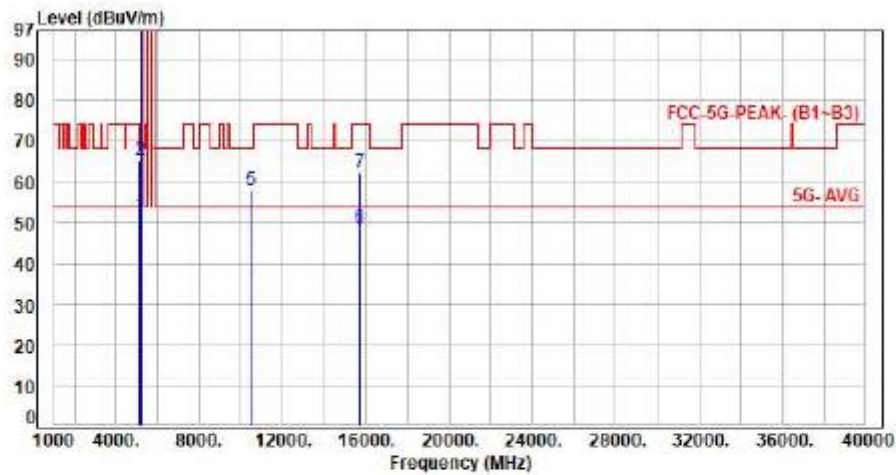
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Test Mode : 1TX 11a CH48 6Mbps  
Voltage : From Adapter(AC120V/60Hz)  
Pol : Vertical



| No. | Frequency (MHz) | Factor (dB) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Height (cm) | Azimuth (deg) | P/F |
|-----|-----------------|-------------|----------------|----------------|----------------|-------------|----------|-------------|---------------|-----|
| 1   | 5150.00         | 6.69        | 44.81          | 51.50          | 54.00          | -2.50       | Average  | 100         | 326           | P   |
| 2   | 5150.00         | 6.69        | 58.59          | 65.28          | 74.00          | -8.72       | Peak     | 100         | 326           | P   |
| 3   | 5240.00         | 6.91        | 95.64          | 102.55         | 200.00         | -97.45      | Average  | 100         | 326           | P   |
| 4   | 5240.00         | 6.91        | 105.93         | 112.84         | 200.00         | -87.16      | Peak     | 100         | 326           | P   |
| 5   | 10480.00        | 14.94       | 42.79          | 57.73          | 68.20          | -10.47      | Peak     | 100         | 117           | P   |
| 6   | 15720.00        | 17.80       | 30.78          | 48.58          | 54.00          | -5.42       | Average  | 100         | 159           | P   |
| 7   | 15720.00        | 17.80       | 44.46          | 62.26          | 74.00          | -11.74      | Peak     | 100         | 159           | P   |

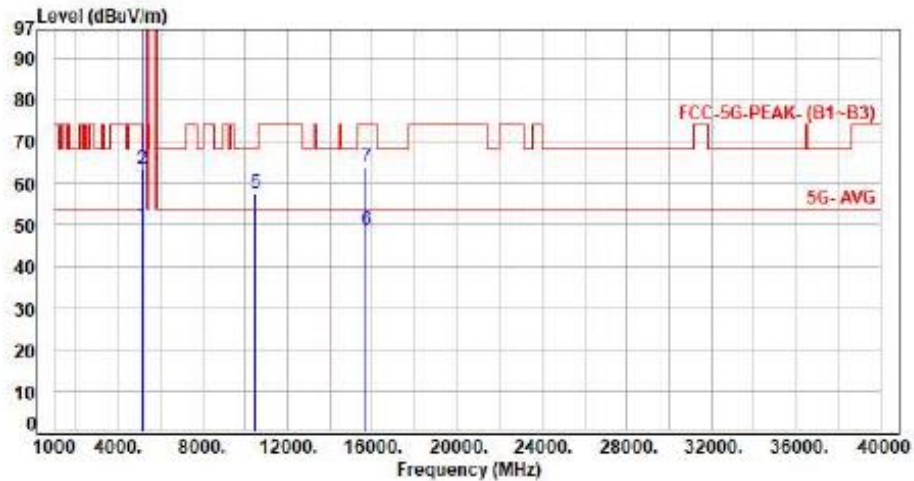
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Test Mode : 1TX 11a CH48 6Mbps  
Voltage : From Adapter(AC120V/60Hz)  
Pol : Horizontal



| No. | Frequency (MHz) | Factor (dB) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Height (cm) | Azimuth (deg) | P/F |
|-----|-----------------|-------------|----------------|----------------|----------------|-------------|----------|-------------|---------------|-----|
| 1   | 5150.00         | 6.69        | 43.01          | 49.70          | 54.00          | -4.30       | Average  | 190         | 350           | P   |
| 2   | 5150.00         | 6.69        | 56.70          | 63.39          | 74.00          | -10.61      | Peak     | 190         | 350           | P   |
| 3   | 5240.00         | 6.91        | 90.91          | 97.82          | 200.00         | -102.18     | Average  | 190         | 350           | P   |
| 4   | 5240.00         | 6.91        | 101.44         | 108.35         | 200.00         | -91.65      | Peak     | 190         | 350           | P   |
| 5   | 10480.00        | 14.94       | 42.55          | 57.49          | 68.20          | -10.71      | Peak     | 100         | 247           | P   |
| 6   | 15720.00        | 17.80       | 30.87          | 48.67          | 54.00          | -5.33       | Average  | 100         | 247           | P   |
| 7   | 15720.00        | 17.80       | 45.84          | 63.64          | 74.00          | -10.36      | Peak     | 100         | 123           | P   |

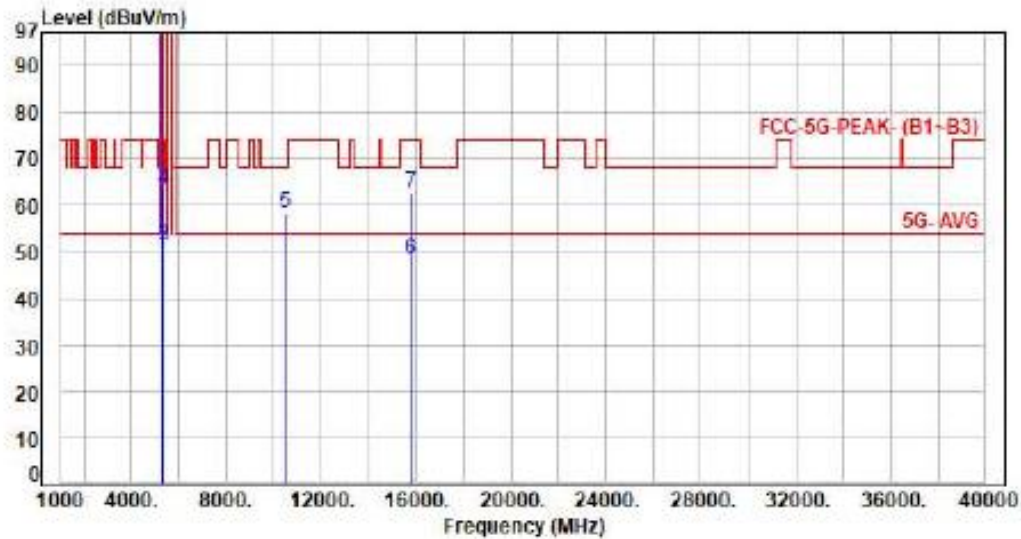
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Test Mode : ITX 11a CH52 6Mbps  
Voltage : From Adapter(AC120V/60Hz)  
Pol : Vertical



| No. | Frequency (MHz) | Factor (dB) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Height (cm) | Azimuth (deg) | P/F |
|-----|-----------------|-------------|----------------|----------------|----------------|-------------|----------|-------------|---------------|-----|
| 1   | 5260.00         | 6.99        | 94.26          | 101.25         | 200.00         | -98.75      | Average  | 190         | 207           | P   |
| 2   | 5260.00         | 6.99        | 104.50         | 111.49         | 200.00         | -88.51      | Peak     | 190         | 207           | P   |
| 3   | 5350.00         | 7.27        | 43.83          | 51.10          | 54.00          | -2.90       | Average  | 190         | 207           | P   |
| 4   | 5350.00         | 7.27        | 56.26          | 63.53          | 74.00          | -10.47      | Peak     | 190         | 207           | P   |
| 5   | 10520.00        | 15.08       | 43.20          | 58.28          | 68.20          | -9.92       | Peak     | 190         | 207           | P   |
| 6   | 15780.00        | 17.59       | 30.76          | 48.35          | 54.00          | -5.65       | Average  | 190         | 207           | P   |
| 7   | 15780.00        | 17.59       | 45.03          | 62.62          | 74.00          | -11.38      | Peak     | 190         | 207           | P   |

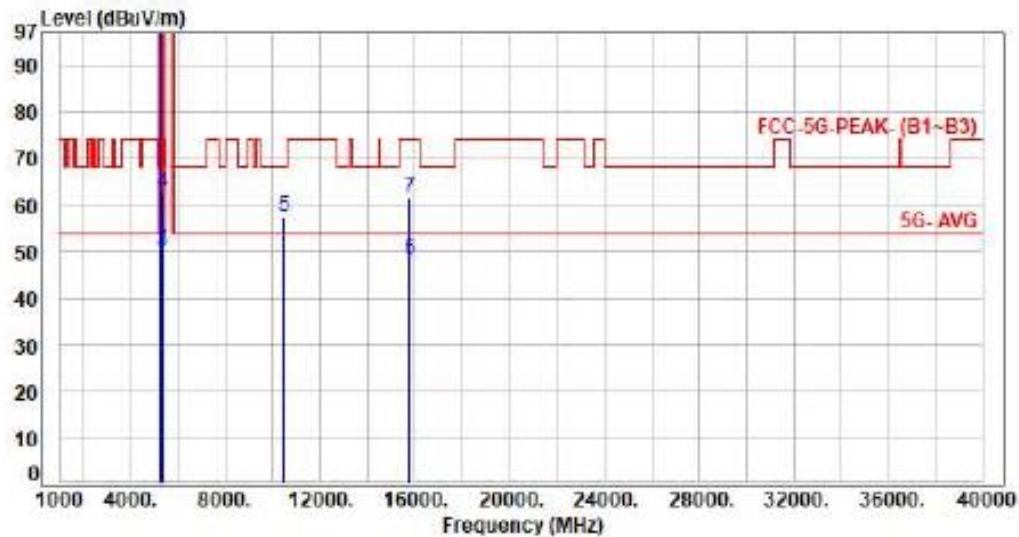
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Test Mode : 1TX 11a CH52 6Mbps  
Voltage : From Adapter(AC120V/60Hz)  
Pol : Horizontal



| No. | Frequency (MHz) | Factor (dB) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Height (cm) | Azimuth (deg) | P/F |
|-----|-----------------|-------------|----------------|----------------|----------------|-------------|----------|-------------|---------------|-----|
| 1   | 5260.00         | 6.99        | 89.11          | 96.10          | 200.00         | -103.90     | Average  | 197         | 349           | P   |
| 2   | 5260.00         | 6.99        | 99.41          | 106.40         | 200.00         | -93.60      | Peak     | 197         | 349           | P   |
| 3   | 5350.00         | 7.27        | 43.02          | 50.29          | 54.00          | -3.71       | Average  | 197         | 349           | P   |
| 4   | 5350.00         | 7.27        | 55.61          | 62.88          | 74.00          | -11.12      | Peak     | 197         | 349           | P   |
| 5   | 10520.00        | 15.08       | 42.51          | 57.59          | 68.20          | -10.61      | Peak     | 197         | 349           | P   |
| 6   | 15780.00        | 17.59       | 30.83          | 48.42          | 54.00          | -5.58       | Average  | 197         | 349           | P   |
| 7   | 15780.00        | 17.59       | 44.13          | 61.72          | 74.00          | -12.28      | Peak     | 197         | 349           | P   |

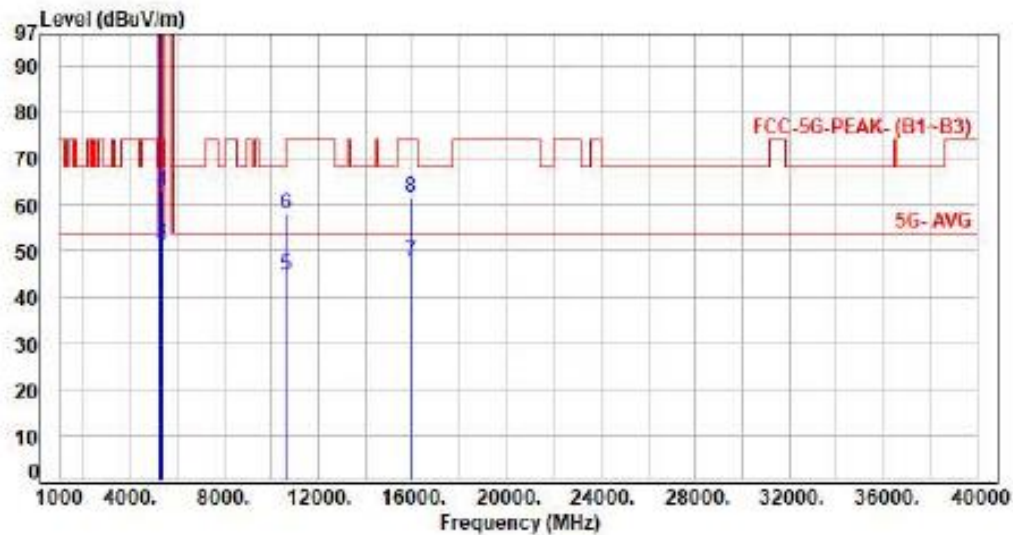
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Test Mode : 1TX 11a CH50 6Mbps  
Voltage : From Adapter(AC120V/60Hz)  
Pol : Vertical



| No. | Frequency (MHz) | Factor (dB) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Height (cm) | Azimuth (deg) | P/F |
|-----|-----------------|-------------|----------------|----------------|----------------|-------------|----------|-------------|---------------|-----|
| 1   | 5300.00         | 7.20        | 93.67          | 100.87         | 200.00         | -99.13      | Average  | 189         | 209           | P   |
| 2   | 5300.00         | 7.20        | 104.01         | 111.21         | 200.00         | -88.79      | Peak     | 189         | 209           | P   |
| 3   | 5350.00         | 7.27        | 44.01          | 51.28          | 54.00          | -2.72       | Average  | 189         | 209           | P   |
| 4   | 5350.00         | 7.27        | 55.93          | 63.20          | 74.00          | -10.80      | Peak     | 189         | 209           | P   |
| 5   | 10600.00        | 15.29       | 29.51          | 44.80          | 54.00          | -9.20       | Average  | 100         | 118           | P   |
| 6   | 10600.00        | 15.29       | 42.66          | 57.95          | 74.00          | -16.05      | Peak     | 100         | 118           | P   |
| 7   | 15900.00        | 17.45       | 30.10          | 47.55          | 54.00          | -6.45       | Average  | 100         | 252           | P   |
| 8   | 15900.00        | 17.45       | 44.16          | 61.61          | 74.00          | -12.39      | Peak     | 100         | 252           | P   |

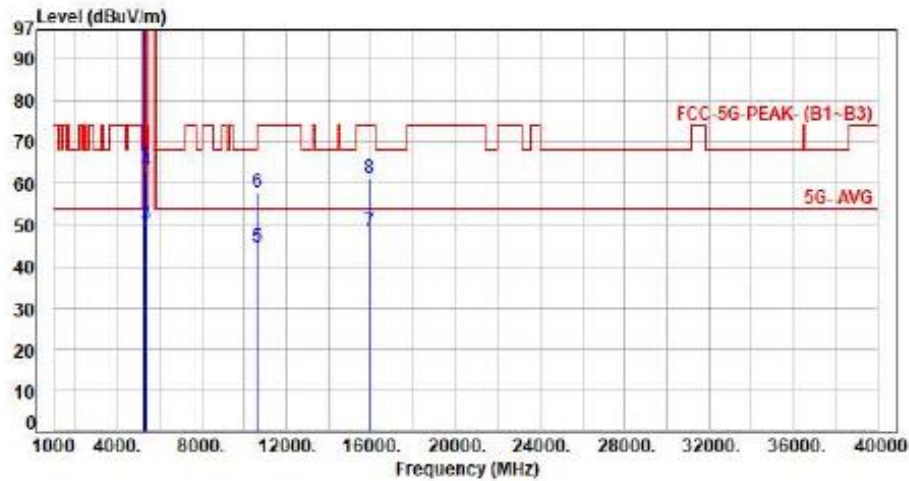
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Test Mode : ITX 11a CH60 6Mbps  
Voltage : From Adapter(AC120V/60Hz)  
Pol : Horizontal



| No. | Frequency (MHz) | Factor (dB) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Height (cm) | Azimuth (deg) | P/F |
|-----|-----------------|-------------|----------------|----------------|----------------|-------------|----------|-------------|---------------|-----|
| 1   | 5300.00         | 7.20        | 57.46          | 64.66          | 200.00         | -135.34     | Average  | 117         | 308           | P   |
| 2   | 5300.00         | 7.20        | 97.15          | 104.35         | 200.00         | -95.65      | Peak     | 117         | 308           | P   |
| 3   | 5350.00         | 7.27        | 43.06          | 50.33          | 54.00          | -3.67       | Average  | 117         | 308           | P   |
| 4   | 5350.00         | 7.27        | 55.85          | 63.12          | 74.00          | -10.88      | Peak     | 117         | 308           | P   |
| 5   | 10600.00        | 15.29       | 29.24          | 44.53          | 54.00          | -9.47       | Average  | 100         | 162           | P   |
| 6   | 10600.00        | 15.29       | 42.58          | 57.87          | 74.00          | -16.13      | Peak     | 100         | 162           | P   |
| 7   | 15900.00        | 17.45       | 30.91          | 48.36          | 54.00          | -5.64       | Average  | 100         | 162           | P   |
| 8   | 15900.00        | 17.45       | 43.85          | 61.30          | 74.00          | -12.70      | Peak     | 100         | 162           | P   |

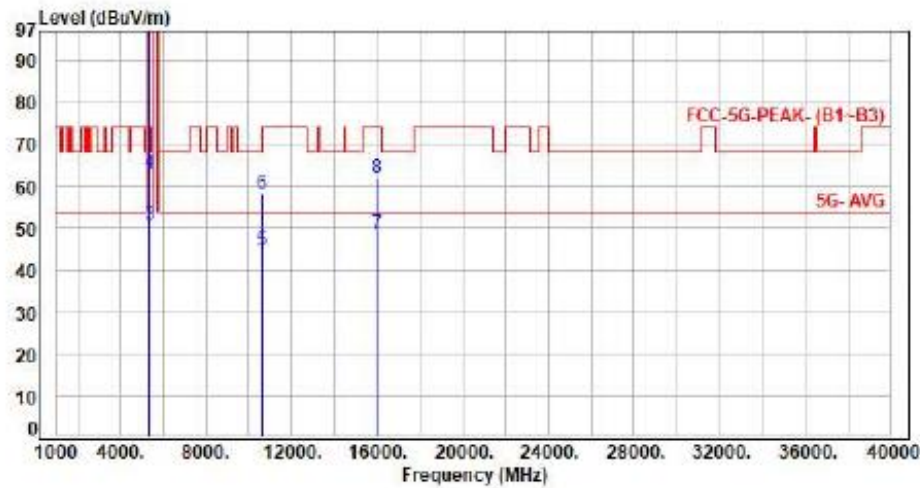
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Test Mode : 1TX 11a CH64 6Mbps  
Voltage : From Adapter(AC120V/60Hz)  
Pol : Vertical



| No. | Frequency (MHz) | Factor (dB) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Height (cm) | Azimuth (deg) | P/F |
|-----|-----------------|-------------|----------------|----------------|----------------|-------------|----------|-------------|---------------|-----|
| 1   | 5320.00         | 7.23        | 92.17          | 99.40          | 200.00         | -100.60     | Average  | 220         | 323           | P   |
| 2   | 5320.00         | 7.23        | 102.67         | 109.90         | 200.00         | -90.10      | Peak     | 220         | 323           | P   |
| 3   | 5350.00         | 7.27        | 43.49          | 50.76          | 54.00          | -3.24       | Average  | 220         | 323           | P   |
| 4   | 5350.00         | 7.27        | 55.75          | 63.02          | 74.00          | -10.98      | Peak     | 220         | 323           | P   |
| 5   | 10640.00        | 15.44       | 29.34          | 44.78          | 54.00          | -9.22       | Average  | 100         | 187           | P   |
| 6   | 10640.00        | 15.44       | 42.70          | 58.14          | 74.00          | -15.86      | Peak     | 100         | 187           | P   |
| 7   | 15960.00        | 17.45       | 31.35          | 48.80          | 54.00          | -5.20       | Average  | 100         | 117           | P   |
| 8   | 15960.00        | 17.45       | 44.42          | 61.87          | 74.00          | -12.13      | Peak     | 100         | 117           | P   |

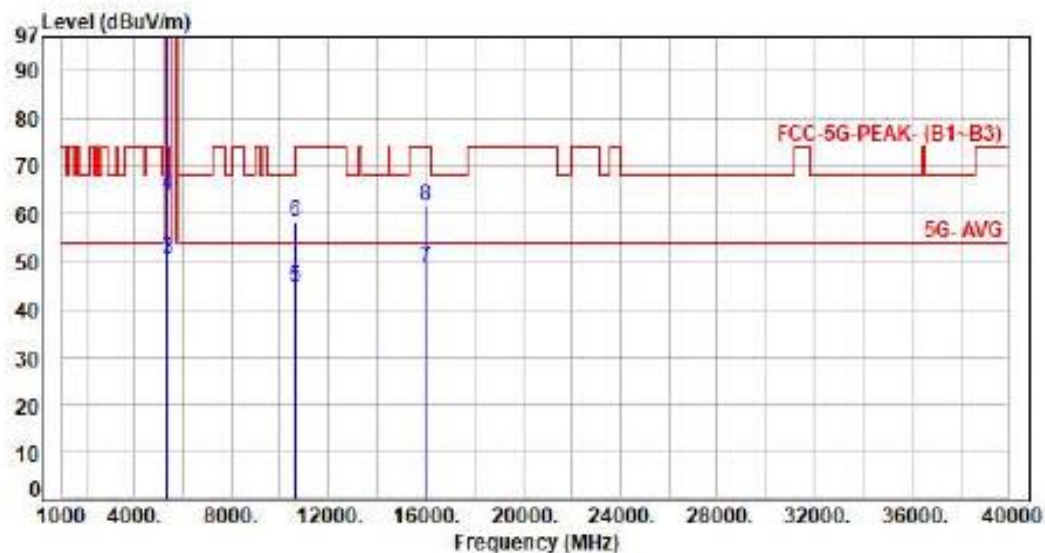
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Test Mode : ITX 11a CH64 6Mbps  
Voltage : From Adapter(AC120V/60Hz)  
Pol : Horizontal



| No. | Frequency (MHz) | Factor (dB) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Height (cm) | Azimuth (deg) | P/F |
|-----|-----------------|-------------|----------------|----------------|----------------|-------------|----------|-------------|---------------|-----|
| 1   | 5320.00         | 7.23        | 86.71          | 93.94          | 200.00         | -106.06     | Average  | 107         | 308           | P   |
| 2   | 5320.00         | 7.23        | 96.47          | 103.70         | 200.00         | -96.30      | Peak     | 107         | 308           | P   |
| 3   | 5350.00         | 7.27        | 43.09          | 50.36          | 54.00          | -3.64       | Average  | 107         | 308           | P   |
| 4   | 5350.00         | 7.27        | 56.61          | 63.88          | 74.00          | -10.12      | Peak     | 107         | 308           | P   |
| 5   | 10640.00        | 15.44       | 29.19          | 44.63          | 54.00          | -9.37       | Average  | 100         | 214           | P   |
| 6   | 10640.00        | 15.44       | 42.86          | 58.30          | 74.00          | -15.70      | Peak     | 100         | 214           | P   |
| 7   | 15960.00        | 17.45       | 31.25          | 48.70          | 54.00          | -5.30       | Average  | 100         | 162           | P   |
| 8   | 15960.00        | 17.45       | 44.22          | 61.67          | 74.00          | -12.33      | Peak     | 100         | 162           | P   |

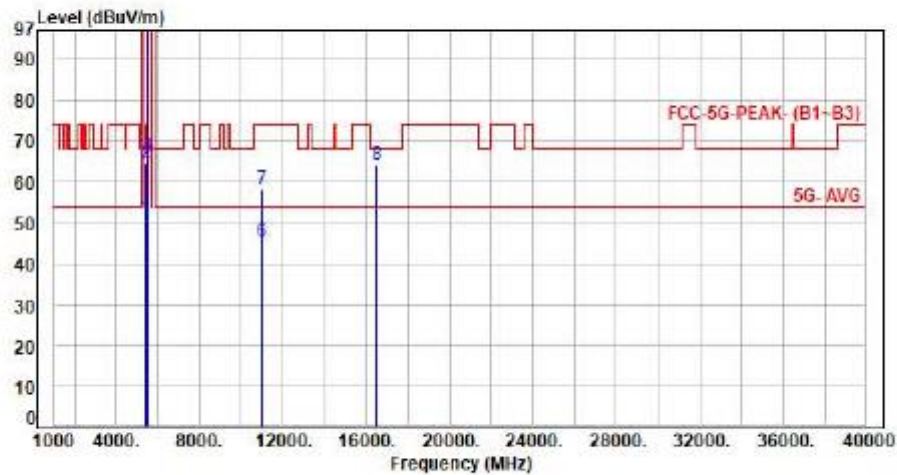
Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor



Test Mode : ITX 11a CH100 6Mbps  
Voltage : From Adapter(AC120V/60Hz)  
Pol : Vertical



| No. | Frequency (MHz) | Factor (dB) | Reading (dBuV) | Level (dBuV/m) | Limit (dBuV/m) | Margin (dB) | Detector | Height (cm) | Azimuth (deg) | P/F |
|-----|-----------------|-------------|----------------|----------------|----------------|-------------|----------|-------------|---------------|-----|
| 1   | 5460.00         | 7.55        | 43.80          | 51.35          | 54.00          | -2.65       | Average  | 185         | 210           | P   |
| 2   | 5460.00         | 7.55        | 56.82          | 64.37          | 74.00          | -9.63       | Peak     | 185         | 210           | P   |
| 3   | 5470.00         | 7.58        | 58.86          | 66.44          | 68.20          | -1.76       | Peak     | 185         | 210           | P   |
| 4   | 5500.00         | 7.68        | 91.49          | 99.17          | 200.00         | -100.83     | Average  | 185         | 210           | P   |
| 5   | 5500.00         | 7.68        | 101.78         | 109.46         | 200.00         | -90.54      | Peak     | 185         | 210           | P   |
| 6   | 11000.00        | 16.20       | 29.30          | 45.50          | 54.00          | -8.50       | Average  | 100         | 116           | P   |
| 7   | 11000.00        | 16.20       | 42.01          | 58.21          | 74.00          | -15.79      | Peak     | 100         | 116           | P   |
| 8   | 16500.00        | 18.92       | 45.13          | 64.05          | 68.20          | -4.15       | Peak     | 100         | 224           | P   |

Note: Level=Reading+Factor

Margin=Level-Limit

Factor=Antenna Factor + cable loss - Amplifier Factor