## Document Revision History

<table>
<thead>
<tr>
<th>Revision</th>
<th>Date</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0</td>
<td>17/12/2020</td>
<td>Initial</td>
</tr>
<tr>
<td>1.1</td>
<td>17/07/2022</td>
<td>Added results for SOM revision v1.3 (ADIN1300 Ethernet PHY) - updated sections 2, 3.1; added section 3.2</td>
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1 Introduction

This Document presents the VAR-SOM-MX8X EMC radiation test, held at the “THE STANDARDS INSTITUTION OF ISRAEL” EMC test labs (http://www.sii.org.il/896-en/SII_EN.aspx).
2 Test Set up

Test setup included a stock VAR-SOM-MX8X module assembled on a Symphony-Board carrier board, powered by 12V linear power supply. All SOM features were enabled, Ethernet ports of the carrier board were connected to an Ethernet switch. A script running continuous scan for WLAN access points and eMMC writes was executed.

3 Results

3.1 Radiation Spectrum (SOM Rev 1.2)

SOM: VAR-SOM-MX8X Rev 1.2
Carrier board: Symphony-Board Rev 1.4A

Notes:
Isolation resistors RN1,RN2,RN3,R151,R136 were not assembled on the Symphony-Board.

The blue graph represents Vertical & Horizontal polarity radiation frequency measurements. The red horizontal line is the EN55022 Class B standard limits

<table>
<thead>
<tr>
<th>Frequency, Mhz</th>
<th>Peak, dBµV/m</th>
<th>QP, dBµV/m</th>
<th>QP Limit, dBµV/m</th>
<th>Delta QP (dB)</th>
</tr>
</thead>
<tbody>
<tr>
<td>299.998</td>
<td>43.2</td>
<td>42.9</td>
<td>47.0</td>
<td>-4.1</td>
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</tbody>
</table>
### 3.2 Radiation Spectrum (SOM Rev 1.3)

SOM: VAR-SOM-MX8X Rev 1.3  
Carrier board: Symphony-Board Rev 1.6

The yellow graph represents Vertical & Horizontal polarity radiation frequency measurements. The yellow horizontal line is the EN55022 Class B standard limits.

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![Graph showing radiation spectrum with vertical and horizontal polarities.](image)

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<table>
<thead>
<tr>
<th>Mode</th>
<th>Frequency (MHz)</th>
<th>VBW 1.2 MHz</th>
<th>Dwell Time (μs)</th>
<th>Start Stop 1 GHz</th>
<th>Res BW 120 kHz</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>70.739 MHz</td>
<td>37.269 dBμV/m</td>
<td>-1.917 dBμV/m</td>
<td>12.917 dBμV/m</td>
<td>2.731 dB</td>
</tr>
<tr>
<td>2</td>
<td>73.678 MHz</td>
<td>32.867 dBμV/m</td>
<td>13.931 dBμV/m</td>
<td>-1.166 dB</td>
<td>-7.342 dB</td>
</tr>
<tr>
<td>3</td>
<td>300.00 MHz</td>
<td>44.850 dBμV/m</td>
<td>-1.140 dB</td>
<td>-4.495 dB</td>
<td>-9.038 dB</td>
</tr>
<tr>
<td>4</td>
<td>321.53 MHz</td>
<td>46.677 dBμV/m</td>
<td>26.309 dBμV/m</td>
<td>-2.323 dB</td>
<td>-4.786 dB</td>
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</table>
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6 Contact Information

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