



VARISCITE LTD.

---

DART-MX8M

EMC Radiation test

© 2019 Variscite Ltd.

All Rights Reserved. No part of this document may be photocopied, reproduced, stored in a retrieval system, or transmitted, in any form or by any means whether, electronic, Mechanical, or otherwise without the prior written permission of Variscite Ltd. No warranty of accuracy is given concerning the contents of the information contained in this publication. To the extent permitted by law no liability (including liability to any person by reason of negligence) will be accepted by Variscite Ltd., its subsidiaries or employees for any direct or indirect loss or damage caused by omissions from or inaccuracies in this document.

Variscite Ltd. reserves the right to change details in this publication without notice. Product and company names herein may be the trademarks of their respective owners.

# Document Revision History

Revision	Date	Notes
1.0	12/09/2019	Initial
1.1	17/05/2022	Added results for SOM revision v1.4 (ADIN1300 Ethernet PHY) – updated sections 2, 3.1,3.2; added section 3.3

## Table of Contents

Document Revision History .....	2
Table of Contents .....	3
1 Introduction .....	4
2 Test Set up.....	5
3 Results .....	5
3.1 Radiation Spectrum (SOM Rev 1.2) .....	5
3.2 Radiation Spectrum (SOM Rev 1.3) .....	6
3.3 Radiation Spectrum (SOM Rev 1.4) .....	7
4 Legal Notice .....	8
5 Warranty Terms .....	9
6 Contact Information.....	10

# 1 Introduction

This Document presents the DART-MX8M EMC radiation test, held at the “THE STANDARDS INSTITUTION OF ISRAEL” EMC test labs ([http://www.sii.org.il/896-en/SII\\_EN.aspx](http://www.sii.org.il/896-en/SII_EN.aspx)).

## 2 Test Set up

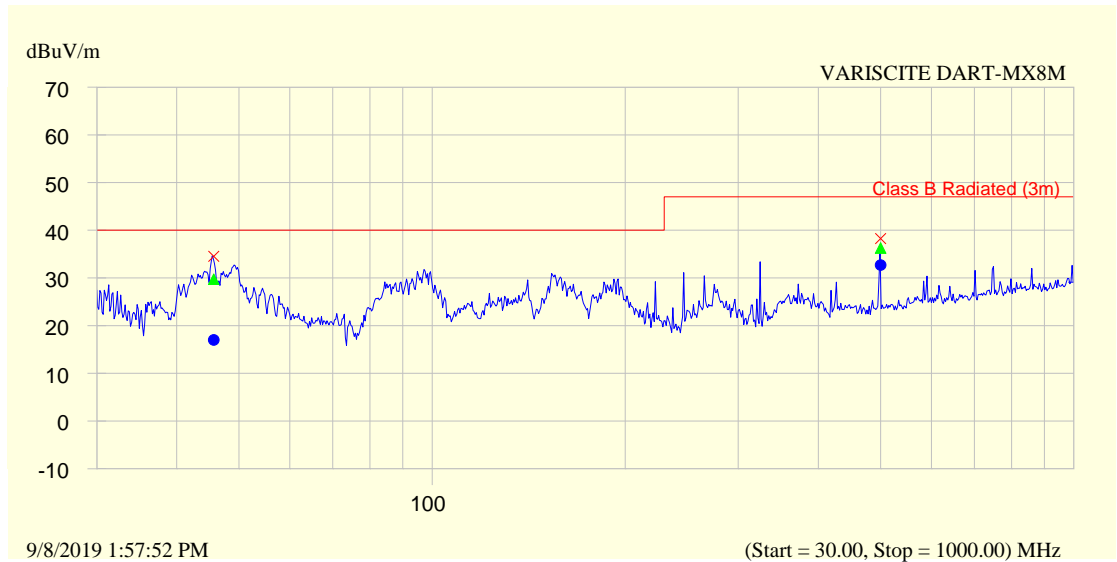
Test setup included a stock DART-MX8M module assembled on a VAR-DT8CustomBoard carrier board powered by 5V linear power supply. All SOM features were enabled, Ethernet port of carrier board was connected to Ethernet switch. A script running continuous scan for WLAN access points and eMMC writes was executed.

## 3 Results

### 3.1 Radiation Spectrum (SOM Rev 1.2)

SOM: DART-MX8M Rev 1.2  
 Carrier board: VAR-DT8CustomBoard 1.4

The blue graph represents Vertical & Horizontal polarity radiation frequency measurements. The red horizontal line is the EN5022 Class B standard limits



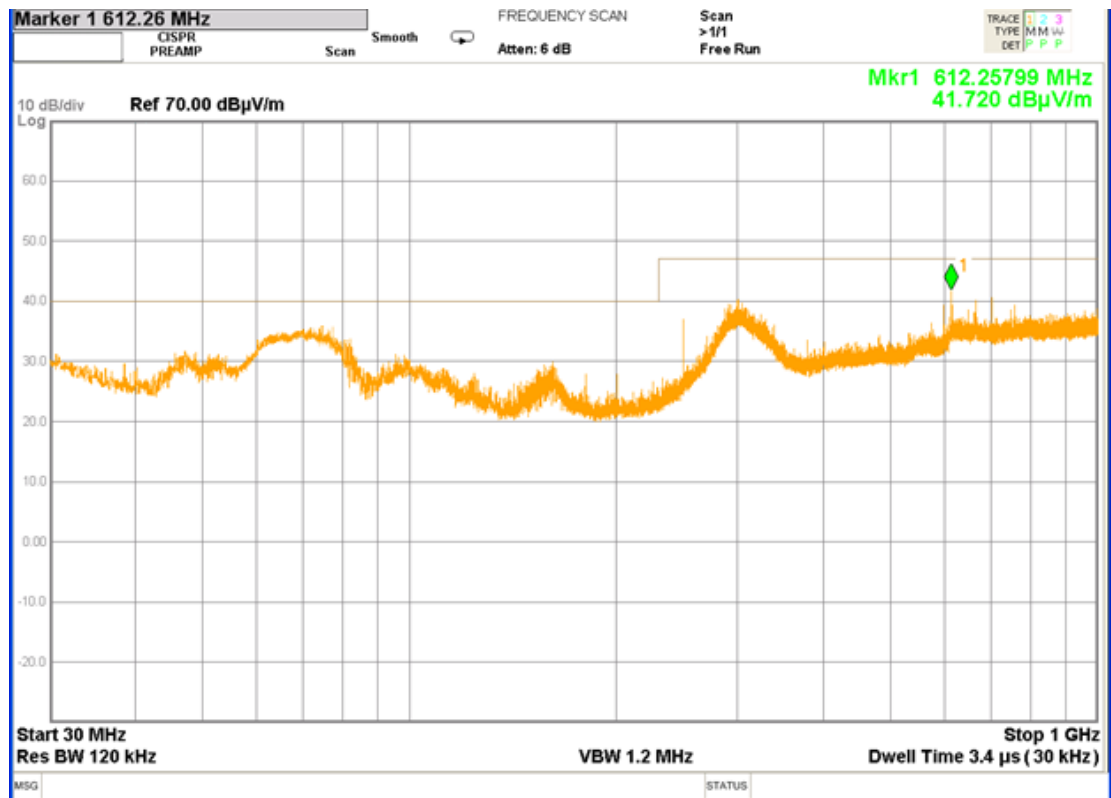
#### Peak Frequency Measurement

Frequency, Mhz	Peak, dBμV/m	QP, dBμV/m	Avg dBuV/m	QP Limit, dBμV/m	Delta QP (dB)
45.675	34.5	29.7	17.0	40.0	-10.3
500.029	38.2	36.3	32.7	47.0	-10.7

### 3.2 Radiation Spectrum (SOM Rev 1.3)

SOM: DART-MX8M Rev 1.3  
 Carrier board: VAR-DT8CustomBoard 3.0

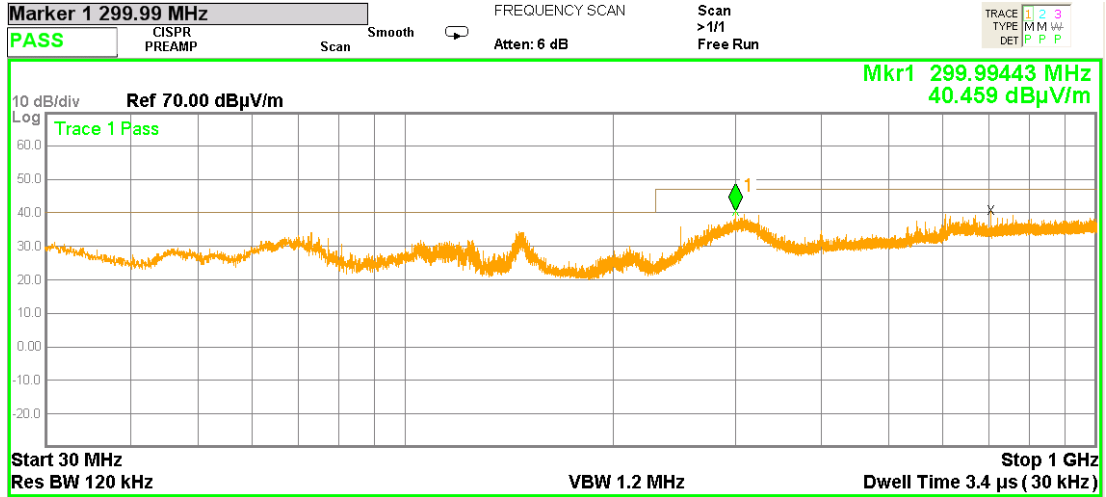
The yellow graph represents Vertical & Horizontal polarity radiation frequency measurements. The yellow horizontal line is the EN5022 Class B standard limits



### 3.3 Radiation Spectrum (SOM Rev 1.4)

SOM: DART-MX8M Rev 1.4  
 Carrier board: VAR-DT8CustomBoard 3.0

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



#### Peak Frequency Measurement

Frequency, Mhz	Peak, dBμV/m	QP, dBμV/m	Avg dBuV/m	QP Limit, dBμV/m	Delta QP (dB)
300	43.652	40.046	35.642	47.0	-6.954
702	42.783	40.017	37.008	47.0	-9.991

## 4 Legal Notice

Variscite Ltd. (“Variscite”) products and services are sold subject to Variscite terms and conditions of sale, delivery and payment supplied at the time of order acknowledgement.

Variscite warrants performance of its products to the specifications in effect at the date of shipment. Variscite reserves the right to make changes to its products and specifications or to discontinue any product or service without notice. Customers should therefore obtain the latest version of relevant product information from Variscite to verify that their reference is current.

Testing and other quality control techniques are utilized to the extent that Variscite deems necessary to support its warranty.

Specific testing of all parameters of each device is not necessarily performed unless required by law or regulation.

In order to minimize risks associated with customer applications, the customer must use adequate design and operating safeguards to minimize inherent or procedural hazards. Variscite is not liable for applications assistance or customer product design. The customer is solely responsible for its selection and use of Variscite products. Variscite is not liable for such selection or use or for use of any circuitry other than circuitry entirely embodied in a Variscite product.

Variscite products are not intended for use in life support systems, appliances, nuclear systems or systems where malfunction can reasonably be expected to result in personal injury, death or severe property or environmental damage. Any use of products by the customer for such purposes is at the customer’s own risk.

Variscite does not grant any license (express or implied) under any patent right, copyright, mask work right or other intellectual property right of Variscite covering or relating to any combination, machine, or process in which its products or services might be or are used. Any provision or publication of any third party’s products or services does not constitute Variscite’s approval, license, warranty or endorsement thereof. Any third party trademarks contained in this document belong to the respective third party owner.

Reproduction of information from Variscite datasheets is permissible only if reproduction is without alteration and is accompanied by all associated copyright, proprietary and other notices (including this notice) and conditions. Variscite is not liable for any un-authorized alteration of such information or for any reliance placed thereon.

Any representations made, warranties given, and/or liabilities accepted by any person which differ from those contained in this datasheet or in Variscite’s standard terms and conditions of sale, delivery and payment are made, given and/or accepted at that person’s own risk. Variscite is not liable for any such representations, warranties or liabilities or for any reliance placed thereon by any person.



## 5 Warranty Terms

### Warranty Terms

Variscite guarantees hardware products against defects in workmanship and material for a period of one (1) year from the date of shipment. Your sole remedy and Variscite's sole liability shall be for Variscite, at its sole discretion, to either repair or replace the defective hardware product at no charge or to refund the purchase price. Shipment costs in both directions are the responsibility of the customer. This warranty is void if the hardware product has been altered or damaged by accident, misuse or abuse.

### Disclaimer of Warranty

THIS WARRANTY IS MADE IN LIEU OF ANY OTHER WARRANTY, WHETHER EXPRESSED, OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A SPECIFIC PURPOSE, NON-INFRINGEMENT OR THEIR EQUIVALENTS UNDER THE LAWS OF ANY JURISDICTION, EXCEPT THE WARRANTY EXPRESSLY STATED HEREIN. THE REMEDIES SET FORTH HEREIN SHALL BE THE SOLE AND EXCLUSIVE REMEDIES OF ANY PURCHASER WITH RESPECT TO ANY DEFECTIVE PRODUCT.

### Limitation on Liability

UNDER NO CIRCUMSTANCES SHALL VARISCITE BE LIABLE FOR ANY LOSS, DAMAGE OR EXPENSE SUFFERED OR INCURRED WITH RESPECT TO ANY DEFECTIVE PRODUCT. IN NO EVENT SHALL VARISCITE BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES THAT YOU MAY SUFFER DIRECTLY OR INDIRECTLY FROM USE OF ANY PRODUCT. BY ORDERING THE SOM, THE CUSTOMER APPROVES THAT THE VARISCITE SOM, HARDWARE AND SOFTWARE, WAS THOROUGHLY TESTED AND HAS MET THE CUSTOMER'S REQUIREMENTS AND SPECIFICATIONS.

## 6 Contact Information

Headquarters:

**Variscite Ltd.**

4, Hamelacha st. Lod  
Israel

Tel: +972 (9) 9562910  
Fax: +972 (9) 9589477

Sales: [sales@variscite.com](mailto:sales@variscite.com)

Technical Support: [support@variscite.com](mailto:support@variscite.com)

Corporate Website: [www.variscite.com](http://www.variscite.com)

