

EMC TEST REPORT

FCC 47 CFR Part 15B
Industry Canada ICES-003

Electromagnetic compatibility - Unintentional radiators

Report Reference No. : G0M-1611-6080-EF01101-V01

Testing Laboratory : Eurofins Product Service GmbH

Address : Storkower Str. 38c
15526 Reichenwalde
Germany

Accreditation :



A2LA Accredited Testing Laboratory, Certificate No.: 1983.01
FCC Filed Test Laboratory, Reg.-No.: 96970
IC OATS Filing assigned code: 3470A

Applicant's name : TE Connectivity Germany GmbH

Address : Pfnorstraße 1
64293 Darmstadt
GERMANY

Test specification:

Standard..... : 47 CFR Part 15 Subpart B
ICES-003, Issue 6:2016
ANSI C63.4:2014

Equipment under test (EUT):

Product description	ARISO Contactless Connectivity (PN 2287598-3, Power Transmitter, Data Transceiver)	
Model No.	TXM030S012PNP8A, RXM030S012PNP8A	
Additional Models	None	
Hardware version	A2	
Firmware / Software version	RC15	
	FCC-ID: 2ADK7-ARISO	IC: 12496A-ARISO
Test result	Passed	

Test Report No.: G0M-1611-6080-EF01101-V01

Eurofins Product Service GmbH
Storkower Str. 38c, D-15526 Reichenwalde, Germany

Possible test case verdicts:

- not applicable to test object: N/A
- test object does meet the requirement.....: P (Pass)
- test object does not meet the requirement.....: F (Fail)

Testing:

Date of receipt of test item: 2016-12-15

Date (s) of performance of tests: 2016-12-15 - 2016-12-19

Compiled by: Andreas Pflug

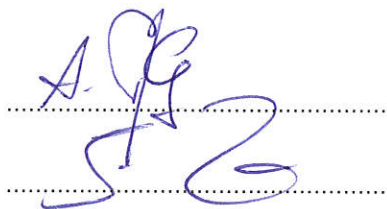
Tested by (+ signature).....: Andreas Pflug

Approved by (+ signature): Jens Zimmermann

Test Lab Engineer

Date of issue: 2016-12-21

Total number of pages.....: 35


General remarks:

The test results presented in this report relate only to the object tested.

The results contained in this report reflect the results for this particular model and serial number. It is the responsibility of the manufacturer to ensure that all production models meet the intent of the requirements detailed within this report.

This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.

Additional comments:

Beside the tested models the following models also exist: TXM030S012PNP2A, RXM030S012PNP2A, TXM030S012PNP8A, RXM030S012PNP8B. The PCBs of all models are identical. Only the number of interface lines varies between the models.

Version History

Version	Issue Date	Remarks	Revised by
V01	2016-12-21	Initial Release	

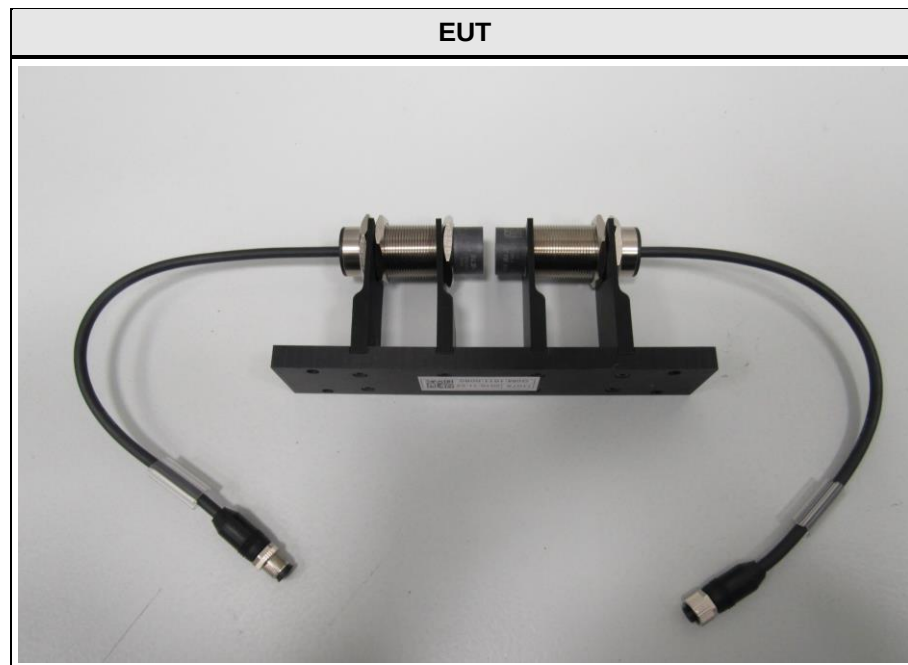
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1 Equipment (Test item) Description

Description	ARISO Contactless Connectivity (PN 2287598-3, Power Transmitter, Data Transceiver)	
Model	TXM030S012PNP8A, RXM030S012PNP8A	
Additional Models	None	
Serial number	None	
Hardware version	A2	
Software / Firmware version	RC15	
FCC-ID	2ADK7-ARISO	
IC	12496A-ARISO	
Power supply	24 VDC	
AC/DC-Adaptor	Model:	PSC20R-240
	Vendor	Phihong
	Input	100-240V, 50-60Hz
	Output	24V, 0.83A
Manufacturer	TE Connectivity Germany GmbH Pfnorstraße 1 64293 Darmstadt GERMANY	
Highest emission frequency	Fmax [MHz] = 2482	
Device classification	Class A	
Equipment type	Tabletop	
Number of tested samples	1	

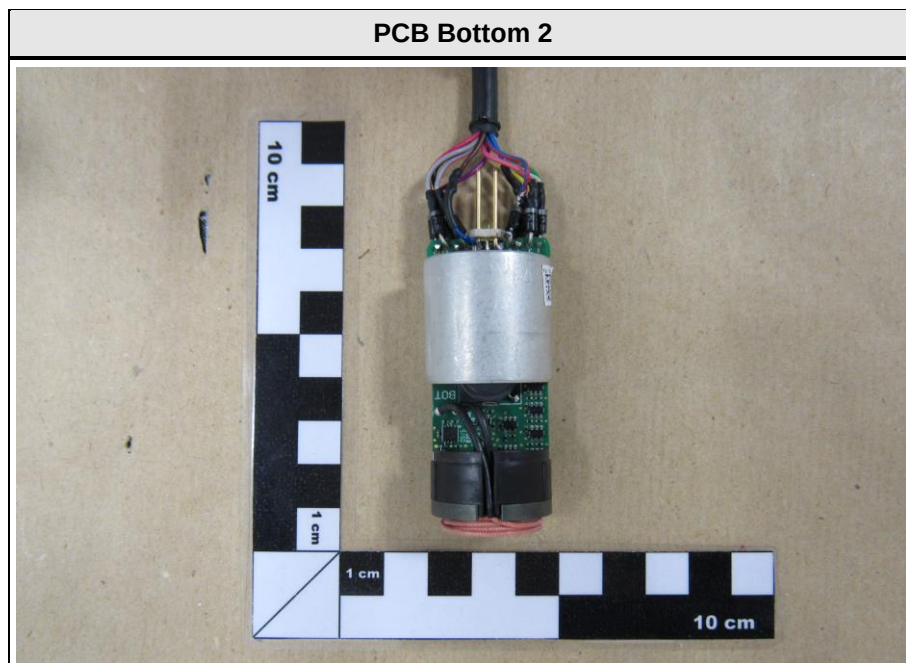
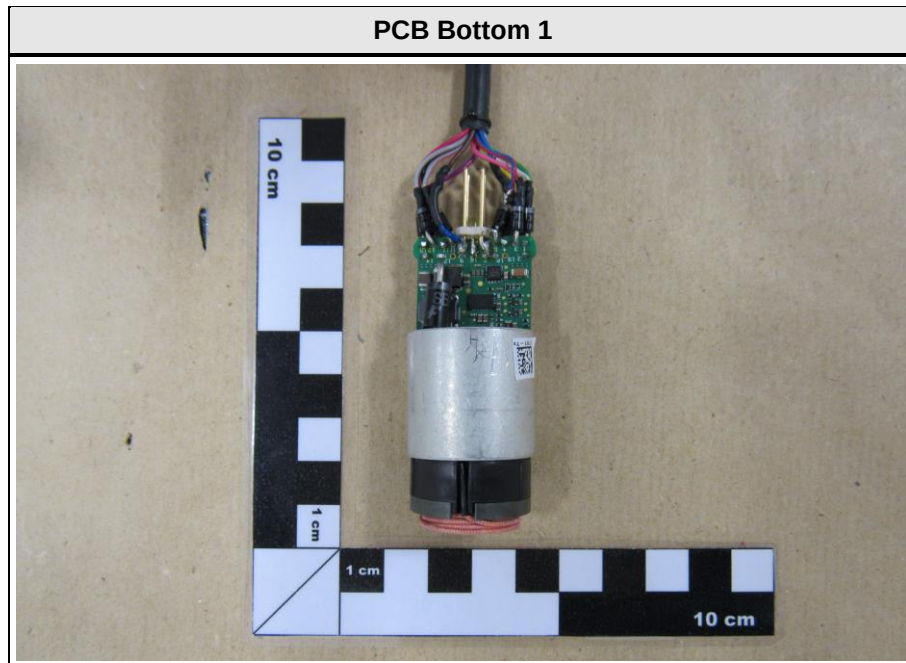
1.1 Photos – Equipment external



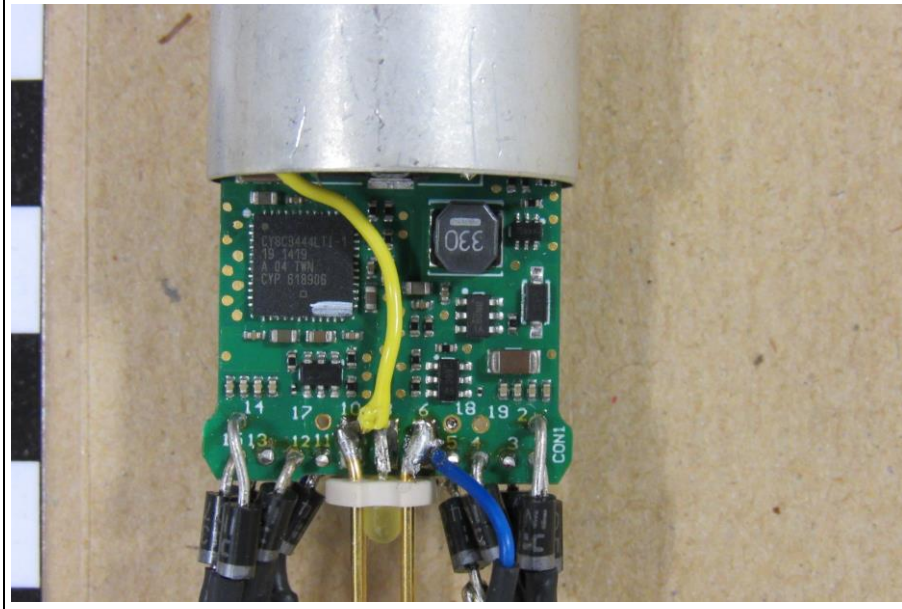
EUT TX1



1.2 Photos – Equipment internal

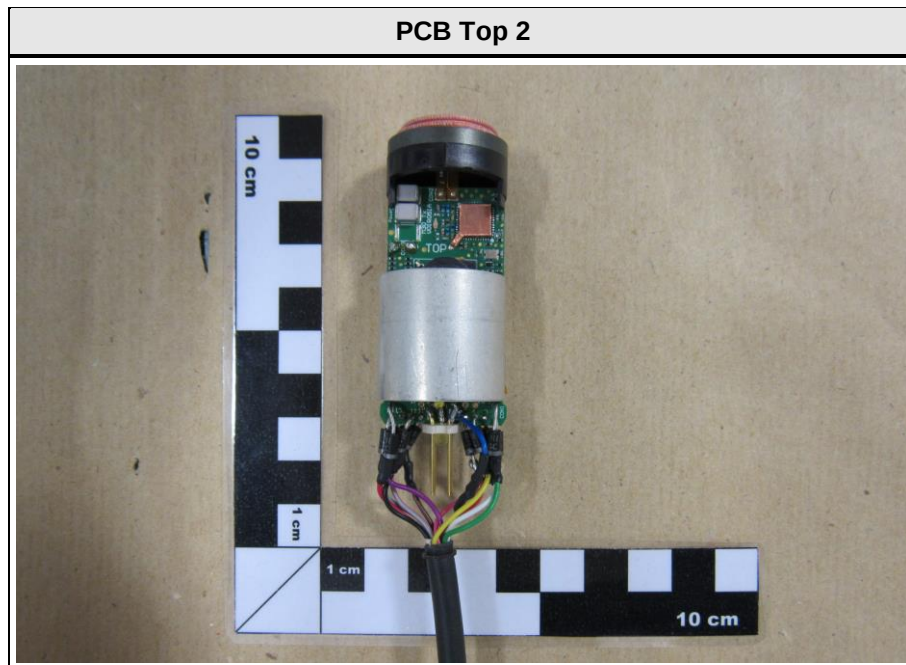


PCB Detail

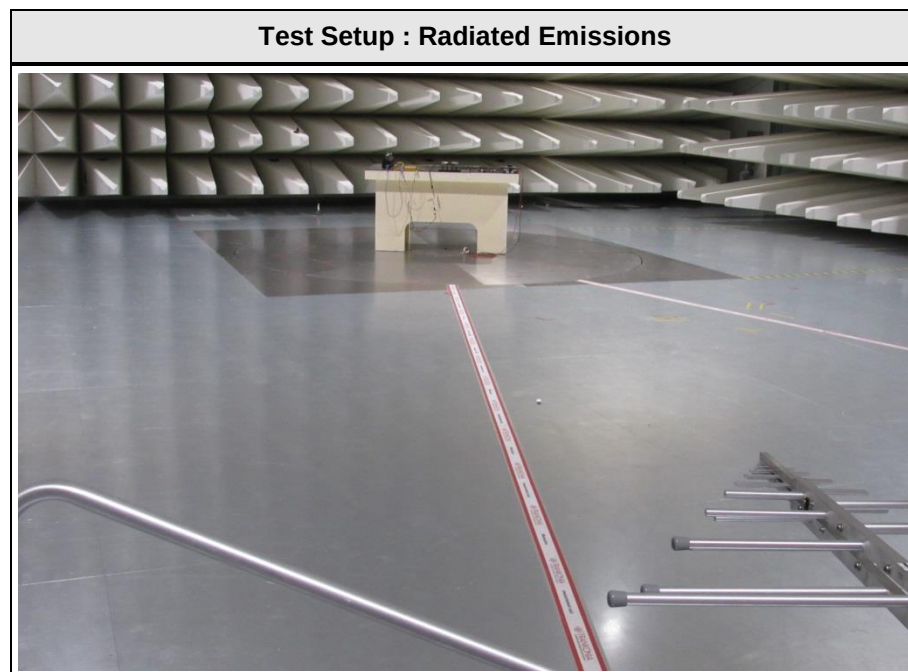
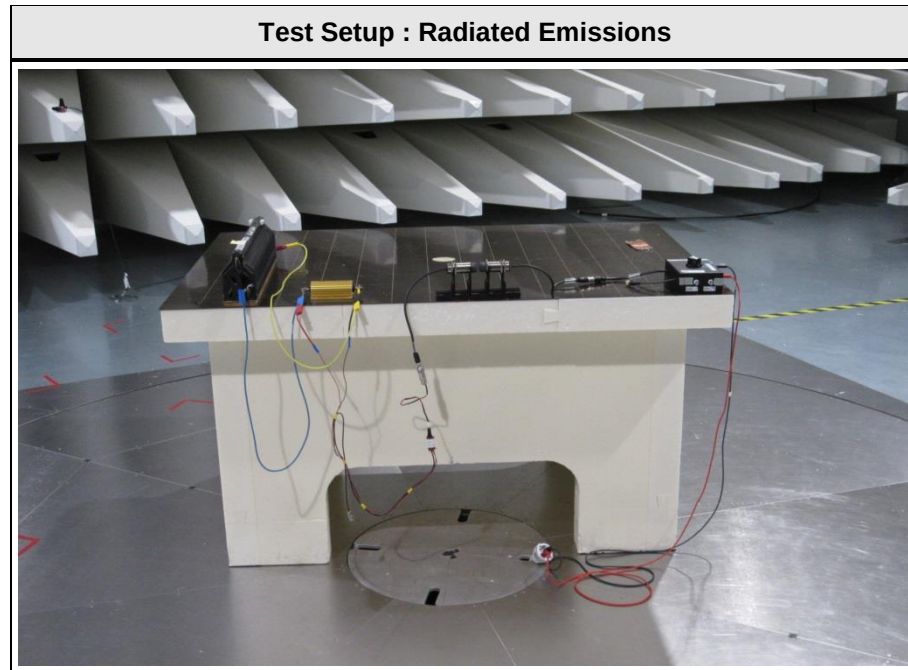


PCB Top 1

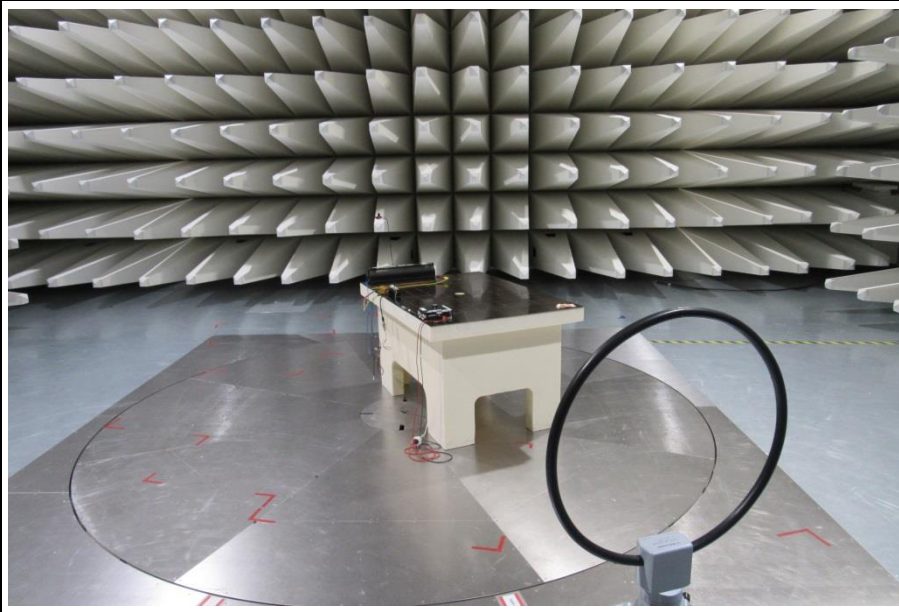




1.3 Photos – Test setup



Test Setup : Radiated Emissions



1.4 Supporting Equipment Used During Testing

Product Type*	Device	Manufacturer	Model No.	Comments (e.g. serial no.)
AE	TX Test Box		TE Connectivity	
AE	RX adapter	RX M12 cable + connector	TE Connectivity	
*Note: Use the following abbreviations: AE : Auxiliary/Associated Equipment, or SIM : Simulator (Not Subjected to Test) CABL : Connecting cables				

1.5 Input / Output Ports

Port #	Name	Type*	Max. Cable Length	Cable Shielded	Comments (e.g. Cat. of Cable)
1	GPIO - cable	I/O	-	No	Service only
2	GPIO - cable	I/O	-	No	Service only
*Note: Use the following abbreviations: AC : AC power port DC : DC power port N/E : Non electrical I/O : Signal input or output port TP : Telecommunication port					

1.6 Operating Modes and Configurations

Mode #	Description
1	The EUT has only one operating mode. When TX and RX completed their handshake, the TX sends Power to the RX (one direction only) while the Data is sent in both directions TX to RX and RX to TX.

Configuration #	EUT Configuration
1	with load

1.7 Test Equipment Used During Testing

Measurement Software			
Description	Manufacturer	Name	Version
EMC Test Software	Dare Instruments	Radimation	2014.1.15

Radiated emissions – 10m Chamber					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Biconical Antenna	R&S	HK 116	EF00012	2016-05	2019-05
LPD-Antenne	R&S	HL 223	EF00187	2016-05	2019-05
Horn antenna	Schwarzbeck	BBHA 9120D	EF00018	2016-09	2019-09
EMI Test Receiver	Keysight	N9038A-526	EF01070	2016-08	2017-08
RF Cable	Huber & Suhner	Sucoflex 106	-	System Cal.	System Cal
RF Cable	Huber & Suhner	Multiflex 141	-	System Cal.	System Cal

Conducted emissions					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
AMN	Schwarzbeck	NSLK 8128	EF00975	2015-12	2016-12
EMI Test Receiver	R&S	ESR7	EF00943	2016-10	2017-10
EMI Test Receiver	Keysight	N9038A-526	EF01070	2016-08	2017-08
Cable	-	RG58/U	-	System Cal.	System Cal.

1.8 Sample emission level calculation

The following is a description of terms and a sample calculation, as appears in the radiated emissions data table. The numbers used in the calculation are for example only. There is no direct correlation to the specific data taken for the product described in this document:

Reading:

This is the reading obtained on the spectrum analyzer in dBμV. Any external preamplifiers used are taken into account through internal analyzer settings.

A.F.:

This is the antenna factor for the receiving antenna. It is a conversion factor, which converts electric fields strengths to voltages, which can be measured directly on the spectrum analyzer. It is treated as a loss in dB. Cable losses have been included with the A.F. to simplify the calculations. The antenna factor is used in calculations as follows:

$$\text{Reading on Analyzer (dB}\mu\text{V)} + \text{A.F. (dB)} = \text{Net field strength (dB}\mu\text{V/m)}$$

Net:

This is the net field strength measurement (as shown above).

Limit:

This is the FCC Class B radiated emission limit (in units of dBμV/m). The FCC limits are given in units of μV/m. The following formula is used to convert the units of μV/m to dBμV/m:

$$\text{Limit (dB}\mu\text{V/m)} = 20 * \log (\mu\text{V/m})$$

Margin:

This is the margin of compliance below the FCC limit. The units are given in dB. A negative margin indicates the emission was below the limit. A positive margin indicates that the emission exceeds the limit.

Example only:

Reading	+	AF	=	Net Reading	:	Net reading - FCC limit	=	Margin
21.5 dBμV	+	26 dB	=	47.5 dBμV/m	:	47.5 dBμV/m - 57.0 dBμV/m	=	-9.5 dB

2 Result Summary

FCC 47 CFR Part 15B, Industry Canada ICES-001				
Product Specific Standard	Requirement – Test	Reference Method	Result	Remarks
ICES-001 Item 6.2	Radiated emissions	CISPR 11	PASS	
47 CFR 15.109	Radiated emissions	ANSI C 63.4	PASS	
47 CFR 15.107	AC power line conducted emissions	ANSI C63.4	PASS	
Remarks:				

3 Test Conditions and Results

3.1 Test Conditions and Results – Radiated emissions ICES-001

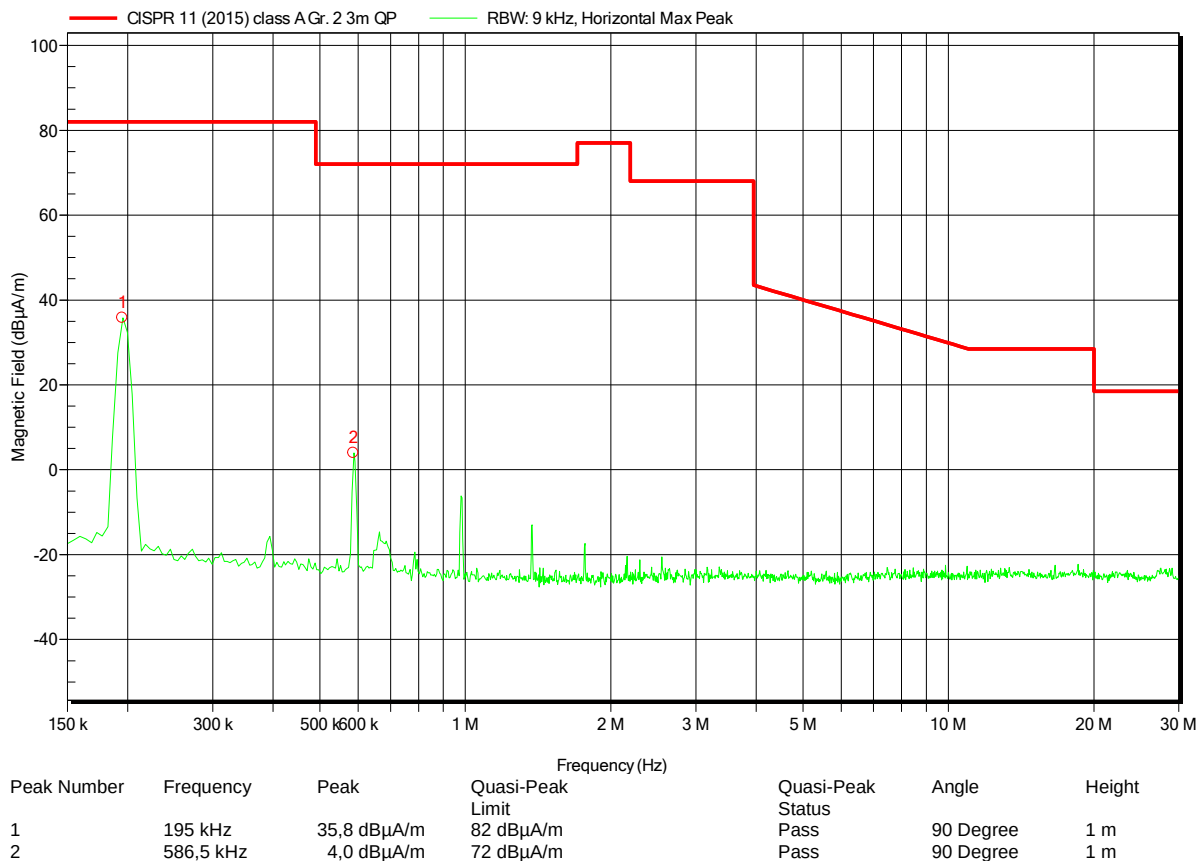
Radiated emissions acc. ICES-001				Verdict: PASS	
Laboratory Parameters:		Required prior to the test		During the test	
Ambient Temperature		15 to 35 °C		23°C	
Relative Humidity		30 to 60 %		41%	
Test according referenced standards		Reference Method			
		CISPR 11			
Sample is tested with respect to the requirements of the equipment class		Equipment class			
		Class A			
Test frequency range determined from highest emission frequency		Highest emission frequency			
		Fmax [MHz] = 2482			
Fully configured sample scanned over the following frequency range		Frequency range			
		0.15 MHz to 1 GHz			
Operating mode		1			
Configuration		1			
Comments:					
Limits and results Class A (CISPR 11 group 2)					
Frequency [MHz]	Quasi-Peak [dBµA/m] / 3m	Result	Quasi-Peak [dBµA/m] / 10m		Result
0.15 – 0.49	82	PASS	57.5		PASS
0.49 – 1.705	72	PASS	47.5		PASS
1.705 – 2.194	77	PASS	52.5		PASS
2.194 – 3.95	68	PASS	43.5		PASS
3.95 - 11	43.5 – 28.5	PASS	18.5		PASS
11 - 20	28.5	PASS	18.5		PASS
20 - 30	18.5	PASS	8.5		PASS

Radiated emissions according to ICES-001 (ISM)

Project number: G0M-1611-6080

Applicant: TE Connectivity Germany GmbH
 EUT Name: ARISO Contactless Connectivity (PN 2287598-3, Power Transmitter, Data Transceiver)
 Model: TXM030S012PNP8A, RXM030S012PNP8A
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Pflug
 Test Conditions: Tnom: 23°C, Unom: +24VDC
 Antenna: HFH 2-Z2, Vertical
 Measurement distance: 3 m
 Mode: without load
 Test Date: 2016-12-19
 Note:

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Test Report No.: G0M-1611-6080-EF01101-V01

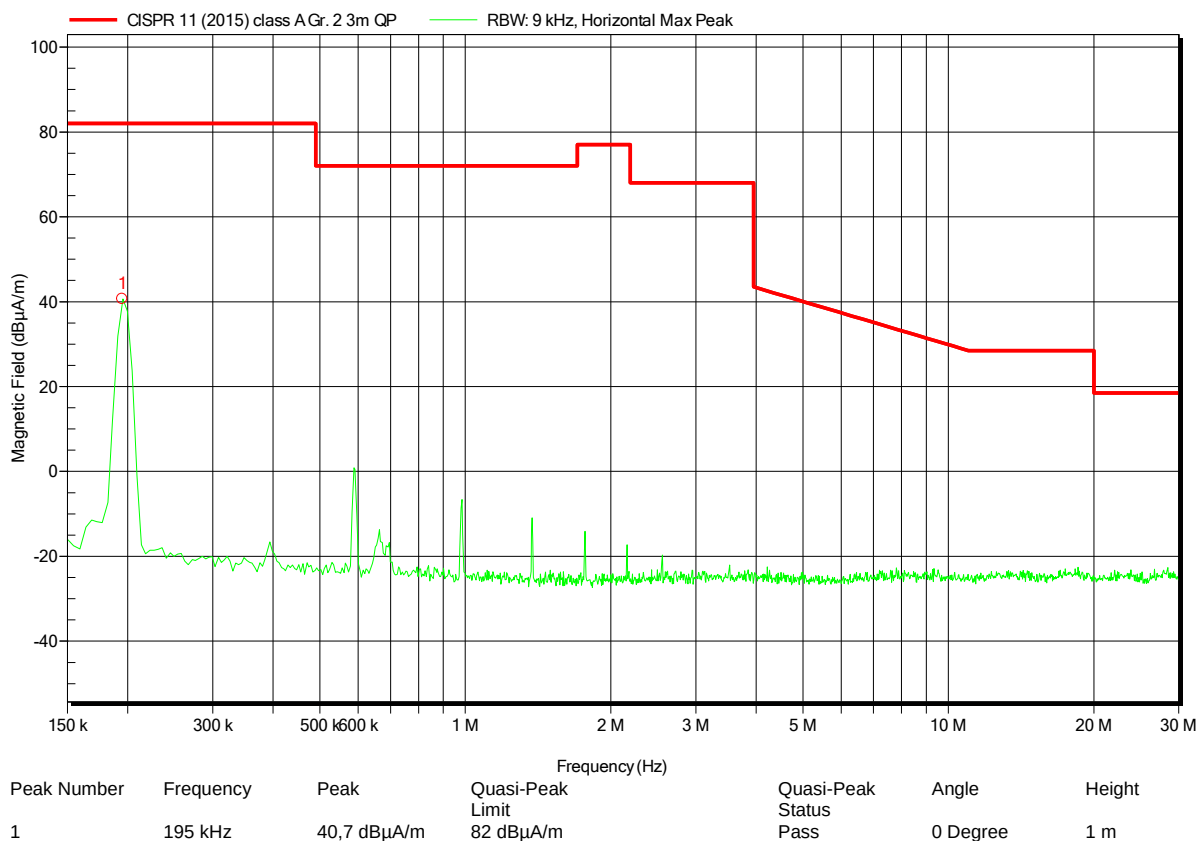
Eurofins Product Service GmbH
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

Radiated emissions according to ICES-001 (ISM)

Project number: G0M-1611-6080

Applicant: TE Connectivity Germany GmbH
 EUT Name: ARISO Contactless Connectivity (PN 2287598-3, Power Transmitter, Data Transceiver)
 Model: TXM030S012PNP8A, RXM030S012PNP8A
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Pflug
 Test Conditions: Tnom: 23°C, Unom: +24VDC
 Antenna: HFH 2-Z2, Vertical
 Measurement distance: 3 m
 Mode: 660mA
 position 2
 Test Date: 2016-12-19
 Note:

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Test Report No.: G0M-1611-6080-EF01101-V01

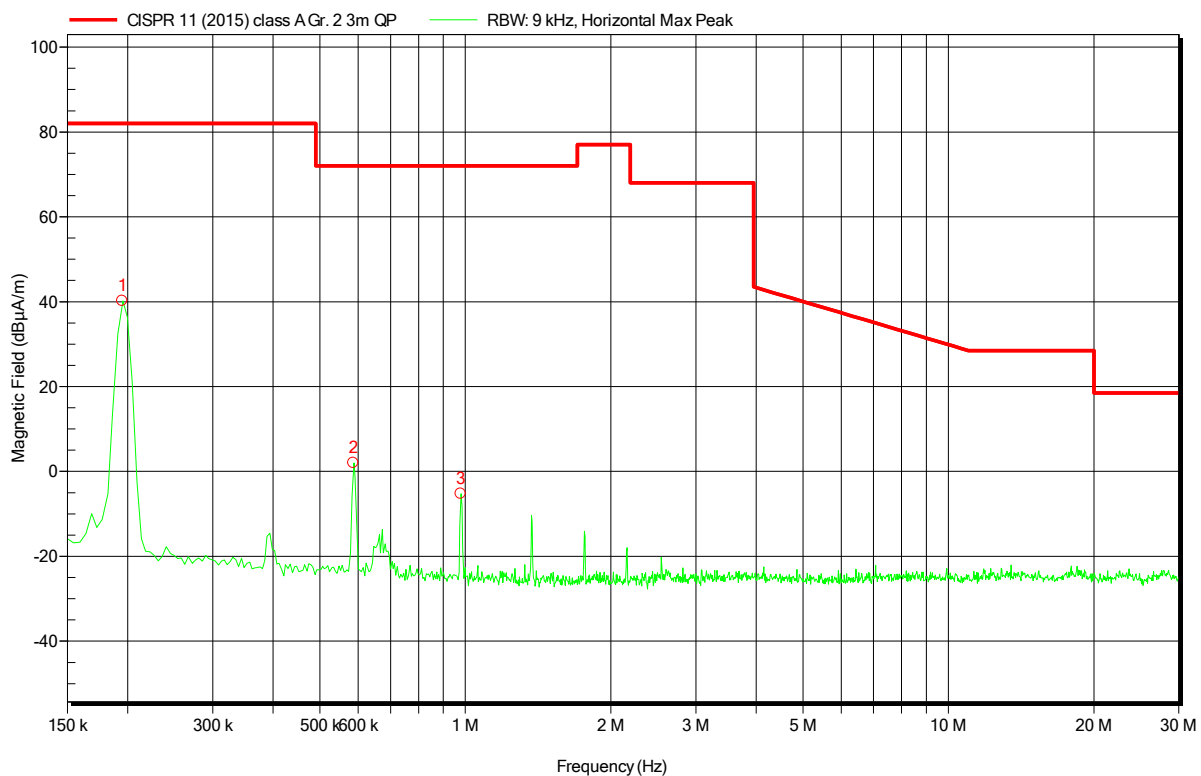
Eurofins Product Service GmbH
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

Radiated emissions according to ICES-001 (ISM)

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Model: TXM030S012PNP8A, RXM030S012PNP8A
Test Site: Eurofins Product Service GmbH
Operator: Mr. Pflug
Test Conditions: Tnom: 23°C, Unom: +24VDC
Antenna: HFH 2-Z2, Vertical
Measurement distance: 3 m
Mode: 660mA
position 1
Test Date: 2016-12-19
Note:

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Peak Number	Frequency	Peak	Quasi-Peak Limit	Quasi-Peak Status	Angle	Height
1	195 kHz	40,2 dBµA/m	82 dBµA/m	Pass	90 Degree	1 m
2	586,5 kHz	2,0 dBµA/m	72 dBµA/m	Pass	90 Degree	1 m
3	978 kHz	-5,3 dBµA/m	72 dBµA/m	Pass	90 Degree	1 m

Test Report No.: G0M-1611-6080-EF01101-V01

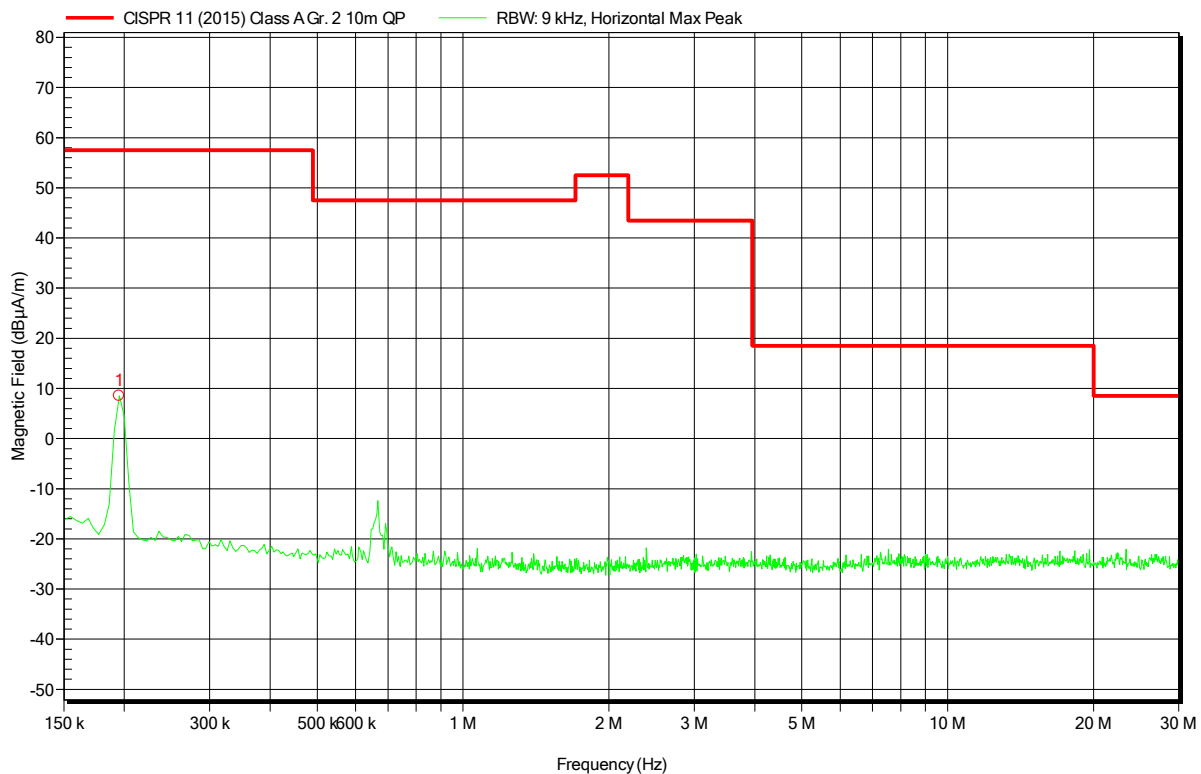
Eurofins Product Service GmbH
Storkower Str. 38c, D-15526 Reichenwalde, Germany

Radiated emissions according to ICES-001 (ISM)

Project number: G0M-1611-6080

Applicant: TE Connectivity Germany GmbH
 EUT Name: ARISO Contactless Connectivity (PN 2287598-3, Power Transmitter, Data Transceiver)
 Model: TXM030S012PNP8A, RXM030S012PNP8A
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Pflug
 Test Conditions: Tnom: 23°C, Unom: +24VDC
 Antenna: HFH 2-Z2, Vertical
 Measurement distance: 10 m
 Mode: 660mA
 position 1
 Test Date: 2016-12-19
 Note:

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Peak Number	Frequency	Peak	Quasi-Peak Limit	Quasi-Peak Status	Angle	Height
1	195 kHz	8,6 dBµA/m	57,5 dBµA/m	Pass	90 Degree	1 m

Test Report No.: G0M-1611-6080-EF01101-V01

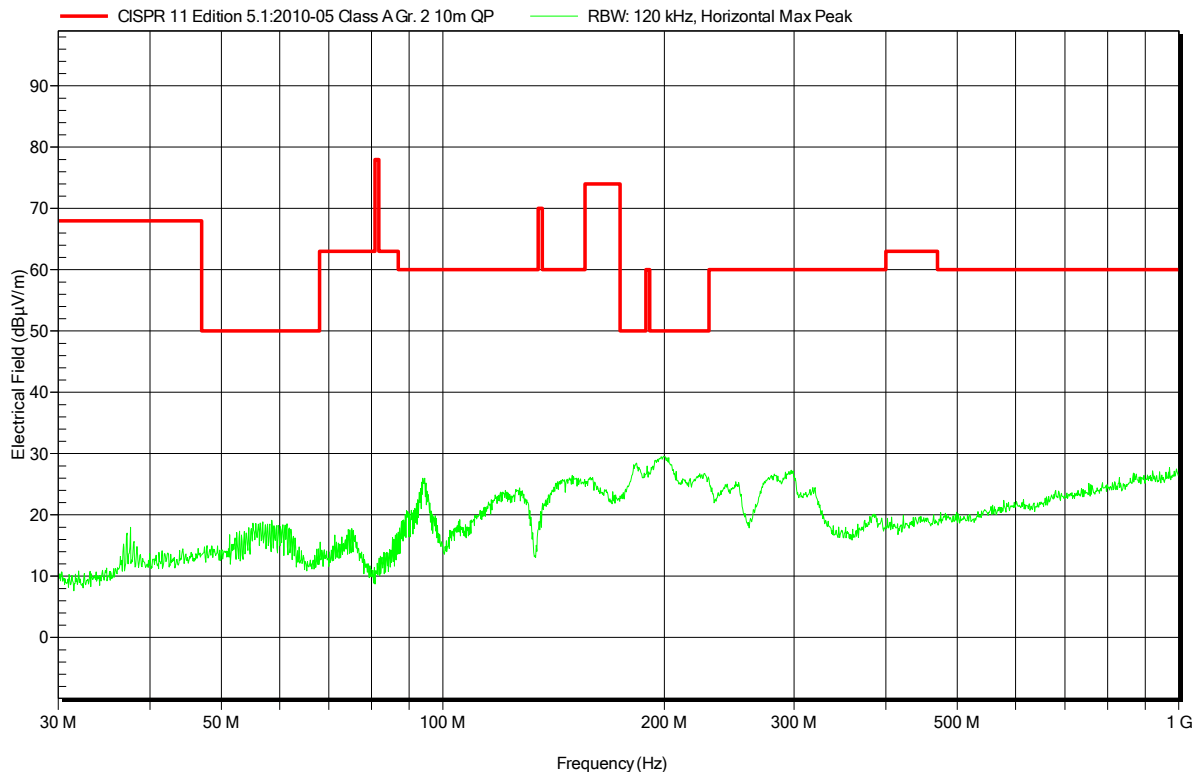
Eurofins Product Service GmbH
 Storkower Str. 38c, D-15526 Reichenwalde, Germany

Radiated emissions according to ICES-001 (ISM)

Project number: G0M-1611-6080

Applicant:	TE Connectivity Germany GmbH
EUT Name:	ARISO Contactless Connectivity (PN 2287598-3, Power Transmitter, Data Transceiver)
Model:	TXM030S012PNP8A, RXM030S012PNP8A
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Pflug
Test Conditions:	Tnom: 23°C, Unom: +24VDC
Antenna:	Schwarzbeck VULB 9162, Horizontal
Measurement distance:	10 m
Mode:	660mA
Test Date:	2016-12-15
Note:	

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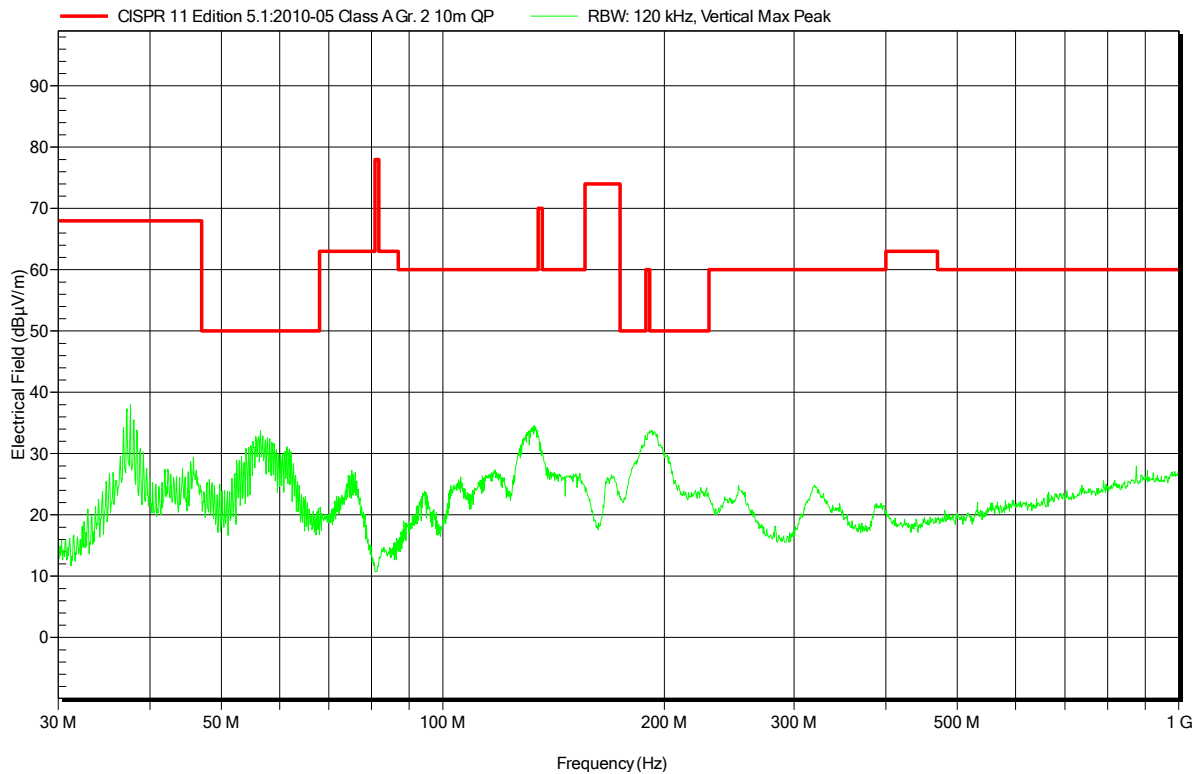


Radiated emissions according to ICES-001 (ISM)

Project number: G0M-1611-6080

Applicant: TE Connectivity Germany GmbH
 EUT Name: ARISO Contactless Connectivity (PN 2287598-3, Power Transmitter, Data Transceiver)
 Model: TXM030S012PNP8A, RXM030S012PNP8A
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Pflug
 Test Conditions: Tnom: 23°C, Unom: +24VDC
 Antenna: Schwarzbeck VULB 9162, Vertical
 Measurement distance: 10 m
 Mode: 660mA
 Test Date: 2016-12-15
 Note:

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3.2 Test Conditions and Results – Radiated emissions FCC part 15B

Radiated emissions acc. FCC 47 CFR 15.109				Verdict: PASS		
Laboratory Parameters:		Required prior to the test		During the test		
Ambient Temperature		15 to 35 °C		23°C		
Relative Humidity		30 to 60 %		41%		
Test according referenced standards		Reference Method				
		ANSI C63.4				
Sample is tested with respect to the requirements of the equipment class		Equipment class				
		Class A				
Test frequency range determined from highest emission frequency		Highest emission frequency				
		Fmax [MHz] = 2482				
Fully configured sample scanned over the following frequency range		Frequency range				
		30 MHz to 13 GHz				
Operating mode		1				
Configuration		1				
Comments:						
Limits and results Class A						
Frequency [MHz]	Quasi-Peak [dBµV/m]	Result	Average [dBµV/m]	Result	Peak [dBµV/m]	Result
30 – 88	39	PASS	-		-	-
88 – 216	43.5	PASS	-		-	-
216 – 960	46.5	PASS	-		-	-
960 – 1000	49.5	PASS	-		-	-
> 1000	-	-	49.5	PASS	69.5	PASS
Comments:						

Test Procedure:

The test site is in accordance with ANSI C63-4:2014 requirements and is listed by FCC.
The measurement procedure is as follows:

Exploratory measurement:

- The EUT was placed on a non-conductive table at a height of 0.8m.
- The EUT and support equipment, if needed, were set up to simulate typical usage.
- Cables, of type and length specified by the manufacturer, were connected to at least one port of each type and were terminated by a device or simulating load of actual usage.
- The antenna was placed at a distance of 3 or 10 m.
- The received signal was monitored at the measurement receiver.
 - Cables not bundled were manipulated within the range of likely arrangements to produce the highest emission amplitude
 - To maximize the suspected emissions the EUT is rotated 360 degrees. If the signal exceeds the previous amplitude, go back to the corresponding azimuth and manipulate the cables again for maximizing the emissions if possible.
 - Move the antenna from 1 to 4m to maximize the suspected highest amplitude signal.
- This procedure has to be performed in both antenna polarizations, horizontal and vertical.
- The arrangement of the equipment with the maximum emission level is shown on the setup picture at item 1.3.

Final measurement:

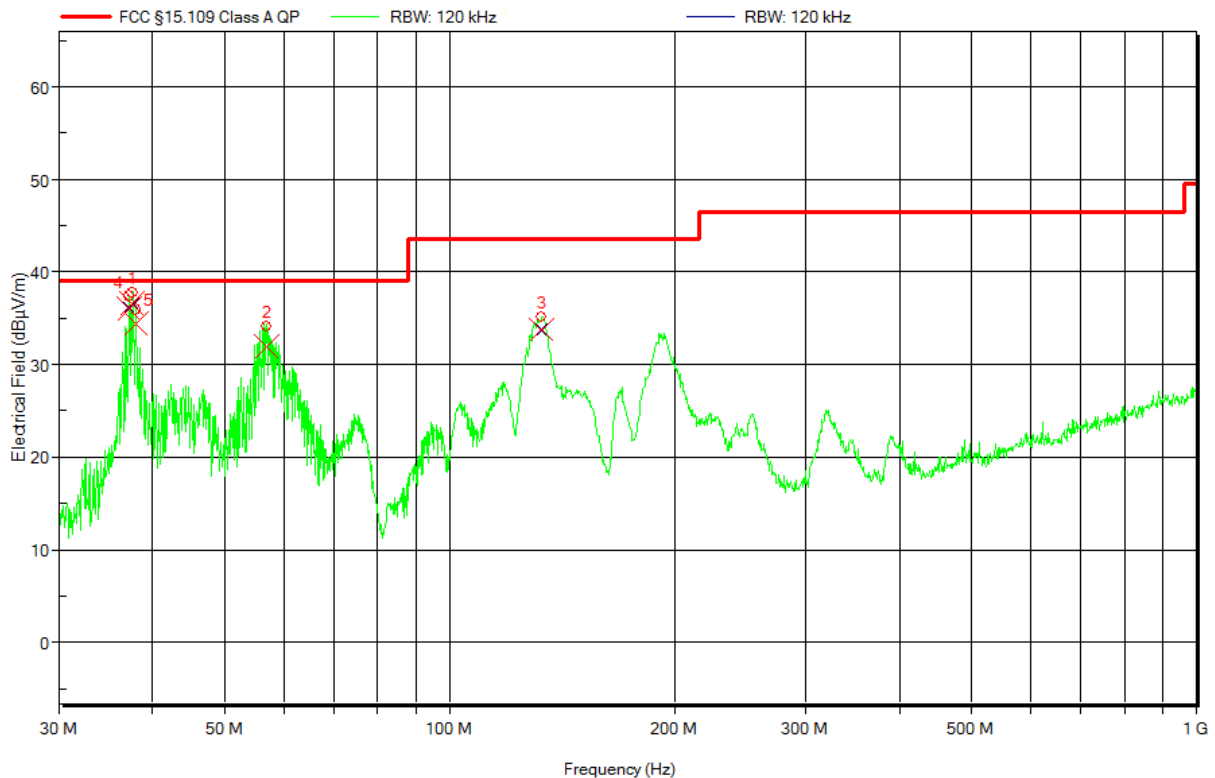
- The EUT was placed on a 0.8 m non-conductive table at a 3 m distance from the receive antenna. The antenna output was connected to the measurement receiver
- A broadband hybrid (bicon/log) antenna was used for the frequency range 30 – 1000 MHz.
- Above one 1 GHz a Double Ridged Broadband Horn antenna was used. The antenna was placed on an adjustable height antenna mast
- The EUT and cable arrangement were based on the exploratory measurement results
- Emissions were maximized at each frequency by rotating the EUT and adjusting the receive antenna height and polarization. The maximum values were recorded.
- The test data of the worst-case conditions were recorded and shown on the next pages.

Radiated emissions according to FCC 15B

Project number: G0M-1611-6080

Applicant: TE Connectivity Germany GmbH
EUT Name: ARISO Contactless Connectivity (PN 2287598-3, Power Transmitter, Data Transceiver)
Model: TXM030S012PNP8A, RXM030S012PNP8A
Test Site: Eurofins Product Service GmbH
Operator: Mr. Pflug
Test Conditions: Tnom: 23°C, Unom: +24VDC
Antenna: Schwarzbeck VULB 9162, Vertical
Measurement distance: 10 m
Mode: 660mA
Test Date: 2016-12-15
Note:

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Peak Number	Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status	Angle	Height
1	37,578 MHz	36,6 dBμV/m	39,1 dBμV/m	-2,5 dB	Pass	0 Degree	1 m
2	56,796 MHz	31,9 dBμV/m	39,1 dBμV/m	-7,2 dB	Pass	0 Degree	1 m
3	132,714 MHz	33,7 dBμV/m	43,5 dBμV/m	-9,8 dB	Pass	0 Degree	1 m
4	37,194 MHz	36 dBμV/m	39,1 dBμV/m	-3,0 dB	Pass	0 Degree	1 m
5	37,962 MHz	34,4 dBμV/m	39,1 dBμV/m	-4,7 dB	Pass	0 Degree	1 m

Test Report No.: G0M-1611-6080-EF01101-V01

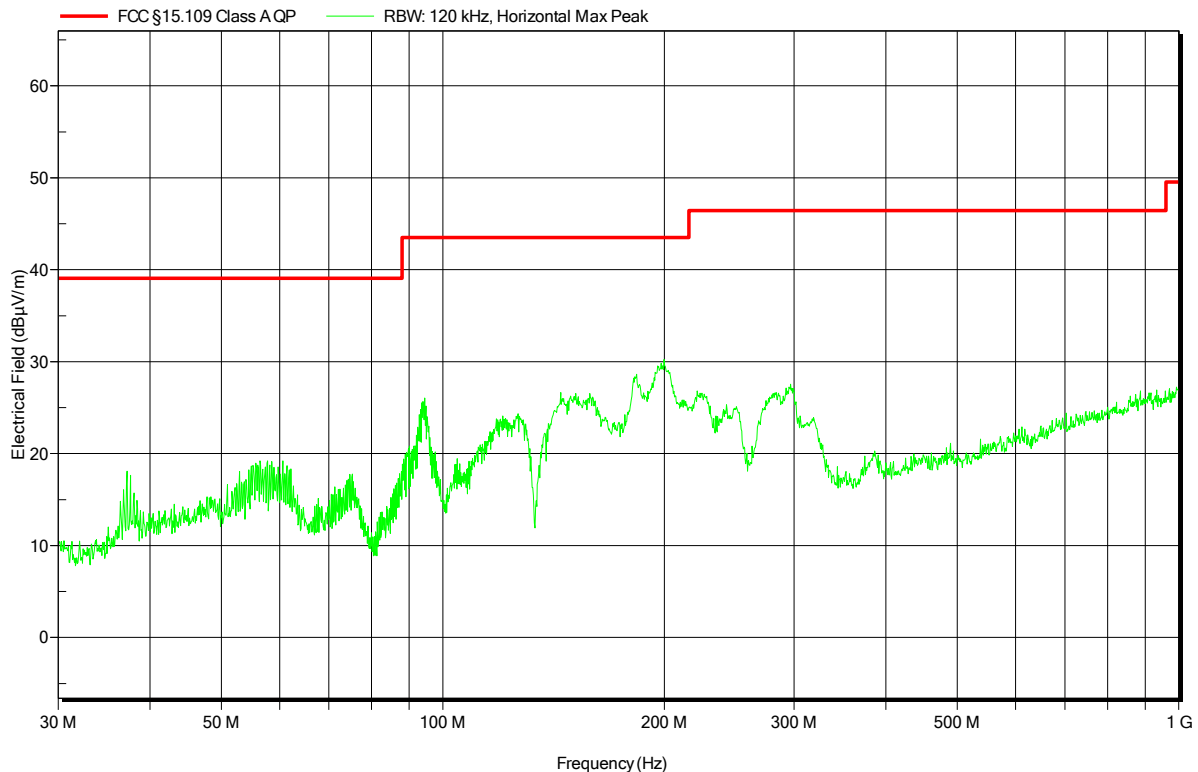
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Storkower Str. 38c, D-15526 Reichenwalde, Germany

Radiated emissions according to FCC 15B

Project number: G0M-1611-6080

Applicant: TE Connectivity Germany GmbH
 EUT Name: ARISO Contactless Connectivity (PN 2287598-3, Power Transmitter, Data Transceiver)
 Model: TXM030S012PNP8A, RXM030S012PNP8A
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Pflug
 Test Conditions: Tnom: 23°C, Unom: +24VDC
 Antenna: Schwarzbeck VULB 9162, Horizontal
 Measurement distance: 10 m
 Mode: 660mA
 Test Date: 2016-12-15
 Note:

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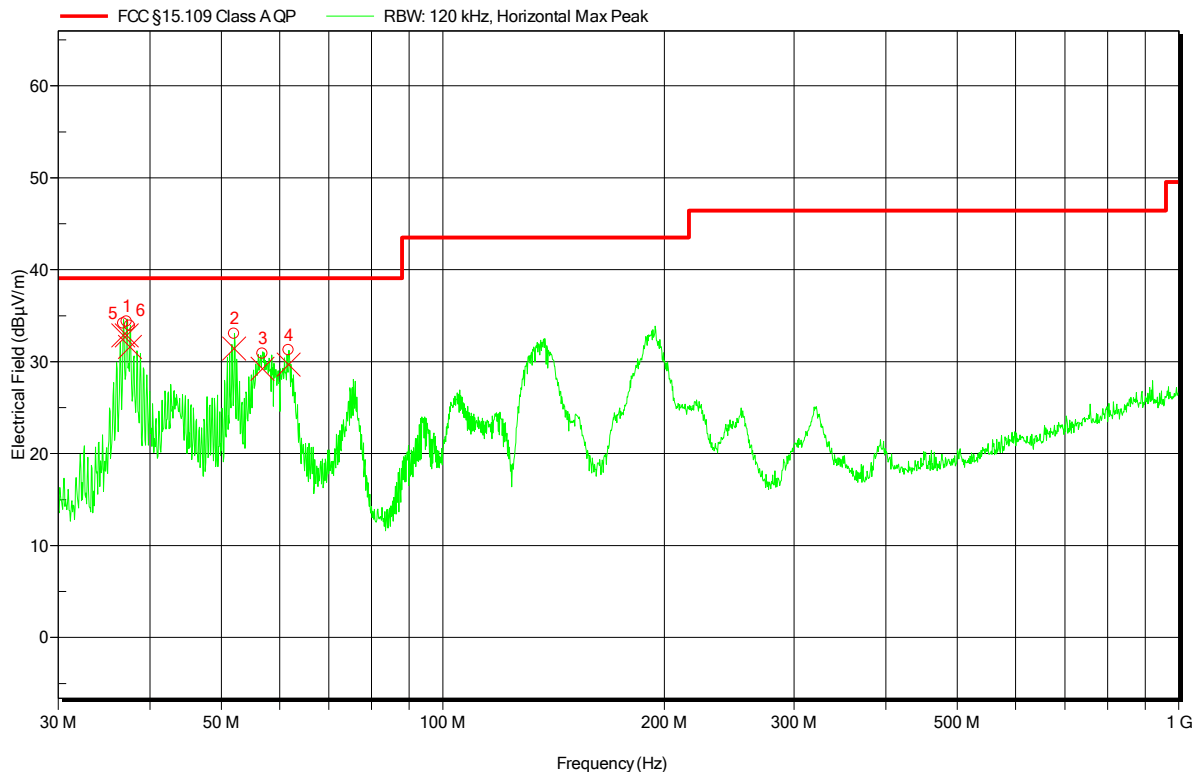


Radiated emissions according to FCC 15B

Project number: G0M-1611-6080

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EUT Name: ARISO Contactless Connectivity (PN 2287598-3, Power Transmitter, Data Transceiver)
Model: TXM030S012PNP8A, RXM030S012PNP8A
Test Site: Eurofins Product Service GmbH
Operator: Mr. Pflug
Test Conditions: Tnom: 23°C, Unom: +24VDC
Antenna: Schwarzbeck VULB 9162, Horizontal
Measurement distance: 10 m
Mode: 300mA
Test Date: 2016-12-15
Note:

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Peak Number	Frequency	Quasi-Peak	Quasi-Peak Limit	Quasi-Peak Difference	Quasi-Peak Status	Angle	Height
1	37,182 MHz	32,9 dBµV/m	39,1 dBµV/m	-6,2 dB	Pass	0 Degree	1 m
2	52,05 MHz	31,4 dBµV/m	39,1 dBµV/m	-7,6 dB	Pass	0 Degree	1 m
3	56,862 MHz	29,2 dBµV/m	39,1 dBµV/m	-9,8 dB	Pass	0 Degree	1 m
4	61,728 MHz	29,7 dBµV/m	39,1 dBµV/m	-9,4 dB	Pass	0 Degree	1 m
5	36,786 MHz	32,9 dBµV/m	39,1 dBµV/m	-6,2 dB	Pass	0 Degree	1 m
6	37,566 MHz	31,6 dBµV/m	39,1 dBµV/m	-7,5 dB	Pass	0 Degree	1 m

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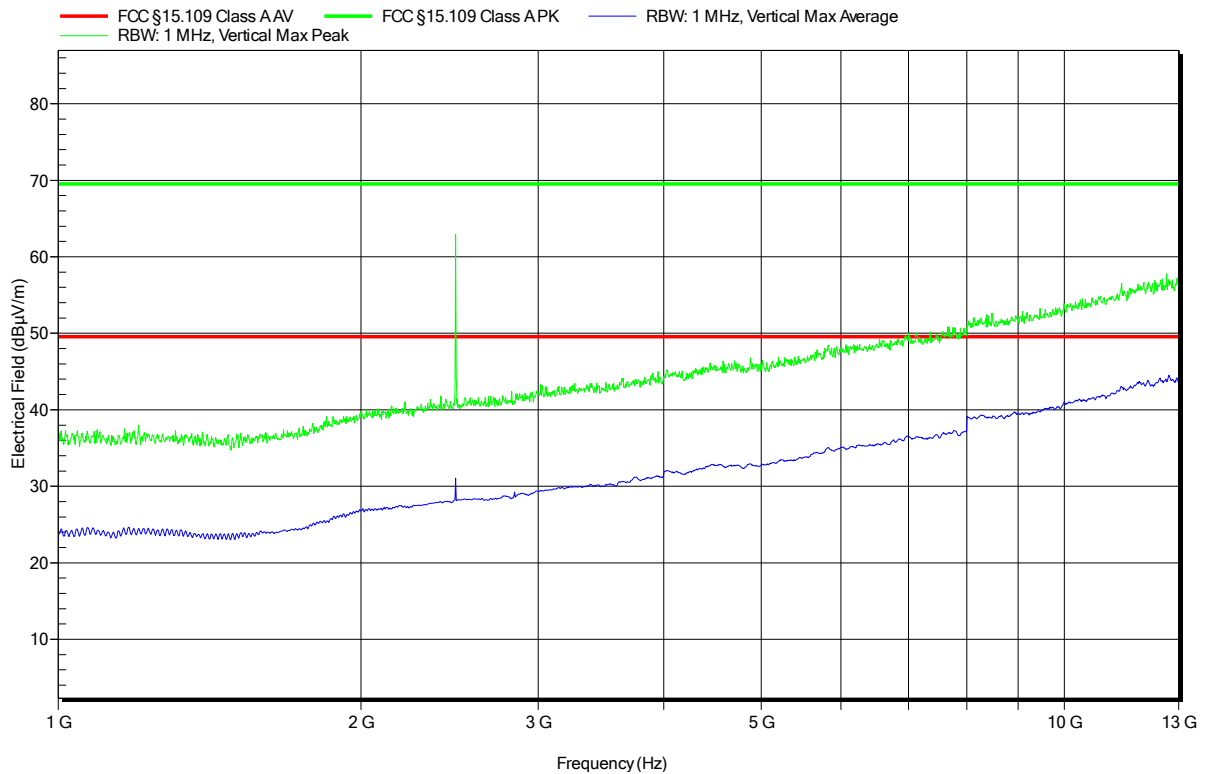
Eurofins Product Service GmbH
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Radiated emissions according to FCC 15B

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 Model: TXM030S012PNP8A, RXM030S012PNP8A
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Pflug
 Test Conditions: Tnom: 23°C, Unom: +24VDC
 Antenna: ETS-Lindgren 3117, Vertical
 Measurement distance: 3 m
 Mode: 660mA
 Test Date: 2016-12-15
 Note:

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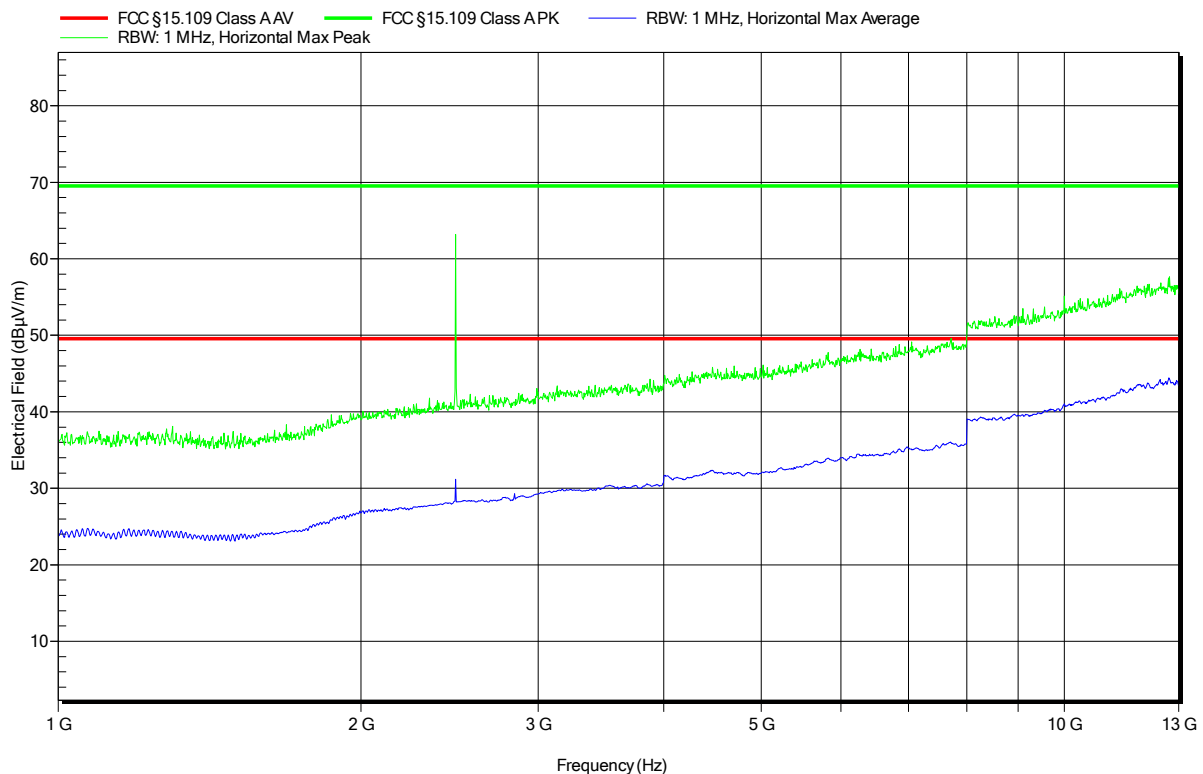


Radiated emissions according to FCC 15B

Project number: G0M-1611-6080

Applicant: TE Connectivity Germany GmbH
 EUT Name: ARISO Contactless Connectivity (PN 2287598-3, Power Transmitter, Data Transceiver)
 Model: TXM030S012PNP8A, RXM030S012PNP8A
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Pflug
 Test Conditions: Tnom: 23°C, Unom: +24VDC
 Antenna: ETS-Lindgren 3117, Horizontal
 Measurement distance: 3 m
 Mode: 660mA
 Test Date: 2016-12-15
 Note:

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3.1 Test Conditions and Results – AC power line conducted emissions

Conducted emissions acc. FCC 47 CFR 15.107				Verdict: PASS	
Laboratory Parameters:		Required prior to the test		During the test	
Ambient Temperature		15 to 35 °C		23°C	
Relative Humidity		30 to 60 %		41%	
Test according referenced standards		Reference Method			
		ANSI C63.4			
Fully configured sample scanned over the following frequency range		Frequency range			
		0.15 MHz to 30 MHz			
Sample is tested with respect to the requirements of the equipment class		Equipment class			
		Class A			
Points of Application		Application Interface			
AC Mains		LISN			
Operating mode		1			
Configuration		1			
Limits and results Class A					
Frequency [MHz]		Quasi-Peak [dBµV]	Result	Average [dBµV]	Result
0.15 to 5		79	PASS	66	PASS
5 to 30		73	PASS	60	PASS
Comments:					
* Limit decreases linearly with the logarithm of the frequency.					

Test Procedure:

The test site is in accordance with ANSI C63-4:2014 requirements and is listed by FCC.
The measurement procedure is as follows:

Exploratory measurement:

- The EUT was placed on a non conductive table 0.8 m above the reference ground plane and 0.4 m away from the vertical conducting plane (ANSI C63.4: 2014 item 7.3.1)
- The power cord that is normally supplied or recommended by the manufacturer was connected to the LISN.
- The distance between the outer edge of the EUT and the LISN shall be set to 0.8 m. A longer power cord shall be bundled to this length (bundling shall not exceed 40 cm in length).
- The LISN measurement port was connected to a measurement receiver
- I/O cables were bundled not longer than 0.4 m
- Measurement was performed in the frequency range 0.15 – 30MHz on each current-carrying conductor
- To maximize the emissions the cable positions were manipulated
- The worst configuration of EUT and cables is shown on a test setup picture at item 1.3

Test Procedure:**Final measurement:**

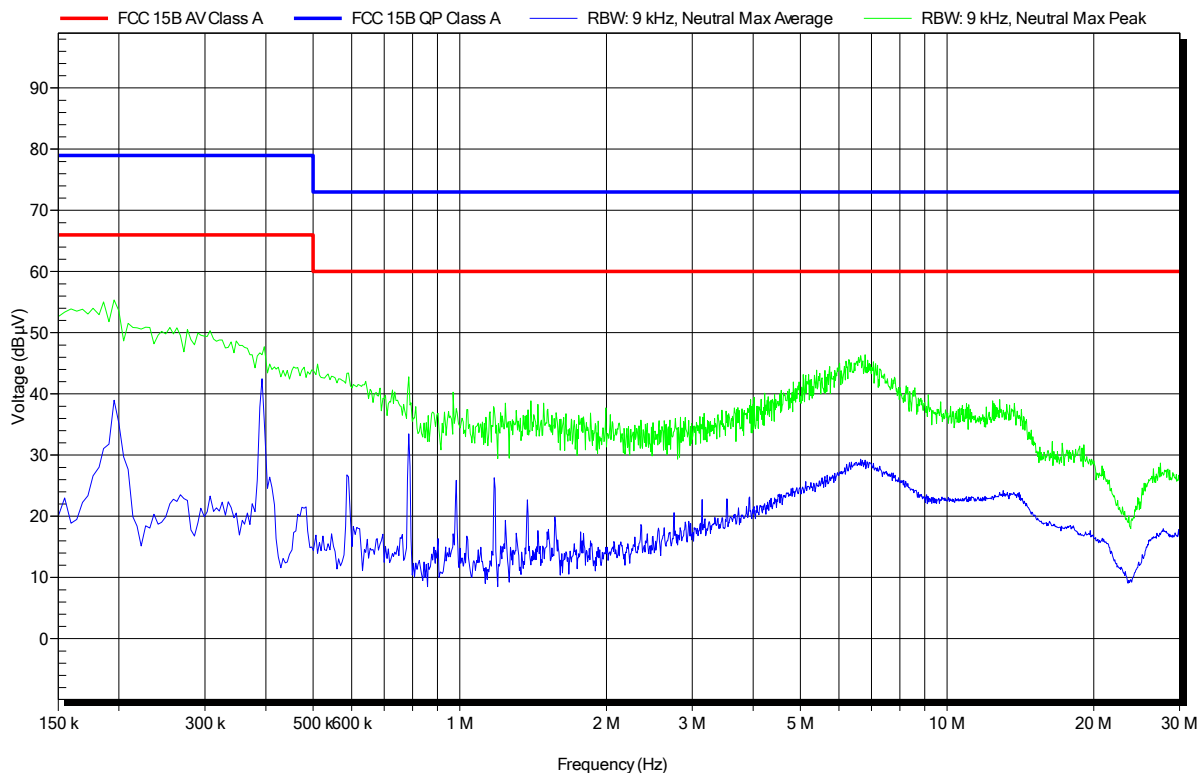
- The EUT was placed on a non conductive table 0.8 m above the reference ground plane and 0.4 m away from the vertical conducting plane (ANSI C63.4: 2014 item 7.3.1)
- The power cord that is normally supplied or recommended by the manufacturer was connected to the LISN.
- The distance between the outer edge of the EUT and the LISN shall be set to 0.8 m. A longer power cord shall be bundled to this length (bundling shall not exceed 40 cm in length).
- The LISN measurement port was connected to a measurement receiver
- The EUT and cable arrangement were based on the exploratory measurement results
- The test data of the worst-case conditions were recorded and shown on the next pages.

EMI voltage test in the ac-mains according to FCC 15B

Project number: G0M-1611-6080

Applicant:	TE Connectivity Germany GmbH
EUT Name:	ARISO Contactless Connectivity (PN 2287598-3, Power Transmitter, Data Transceiver)
Model:	TXM030S012PNP8A, RXM030S012PNP8A
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Laurisch
Test Conditions:	Tnom: 23°C, Unom: 24 VDC via AC/DC-adapter
LISN:	ESH3-Z5 (N)
Mode:	14 dBm 200 kHz CP2
Test Date:	2016-12-21
Note:	Pass

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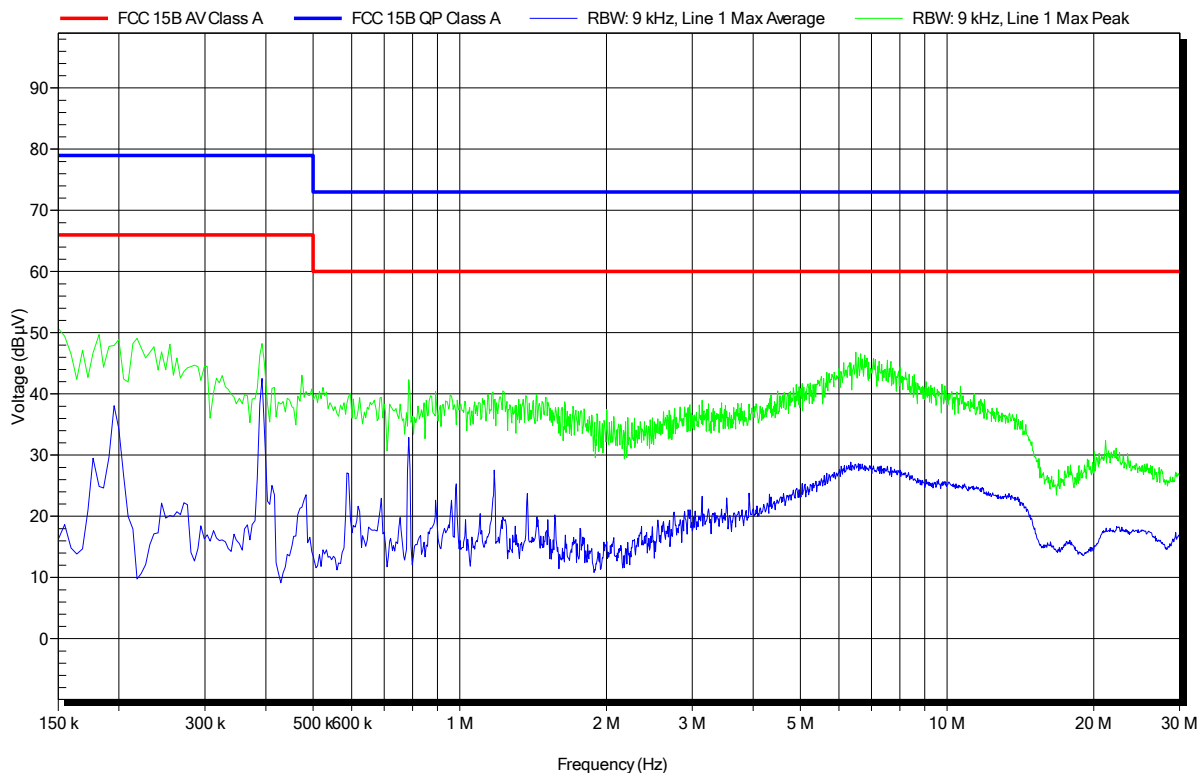


EMI voltage test in the ac-mains according to FCC 15B

Project number: G0M-1611-6080

Applicant: TE Connectivity Germany GmbH
 EUT Name: ARISO Contactless Connectivity
 (PN 2287598-3, Power Transmitter, Data Transceiver)
 Model: TXM030S012PNP8A, RXM030S012PNP8A
 Test Site: Eurofins Product Service GmbH
 Operator: Mr. Laurisch
 Test Conditions: Tnom: 23°C, Unom: +24VDC via AC/DC-adapter
 LISN: ESH3-Z5 (L)
 Mode: 14 dBm 200 kHz CP2
 Test Date: 2016-12-21
 Note: Pass

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Test Report No.: G0M-1611-6080-EF01101-V01

Eurofins Product Service GmbH
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