

The RoProxCon System on Module (SoM) is a radio module for high speed data transmission based on a 60GHz carrier frequency. The maximum data rate depends on distance between two communicating radio modules and is at most 3.125Gbit/s. Due to its small dimensions and usage of a media independent interface (MII), the SoM can be mounted on carrier boards in different applications.

Dimension	14.2 mm x 12.5 mm x 2 mm
Temperature Range Operating	-20°C to +85°C
Temperature Range Storage	-40°C to +105°C
Carrier Frequency	~ 60GHz
Data Rate	Up to 3.125 Gbit/s (depending on distance and rotation)
Signal Coding	NRZ – 8b10b (≥ 100 Mbit/s)
Signal Level	400 mVpp (SLVS – Scalable low voltage signalling)
Transmission Mode	Full-Duplex
Rotation	360°
Power Supply	2.5 V to 5 V
Power Consumption	~150 mW
Latency	~7 ns

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For the installation of the electrotechnical equipment, particular electrotechnical expertise is required.



Draft	Date	Approved	Date	Rev.	Eng. change number	Name	Date
S. Huber	05.02.2025	S. Huber	10.02.2025	600	25-0004	S. Hofmeister	10.02.2025

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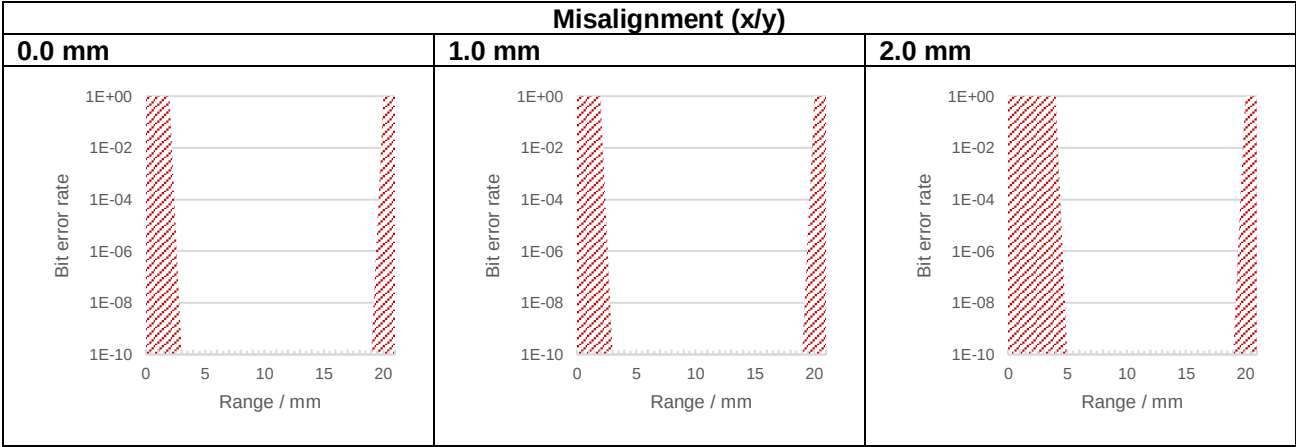
MI

RoProxCon – SoM HDR

MI1C803-900

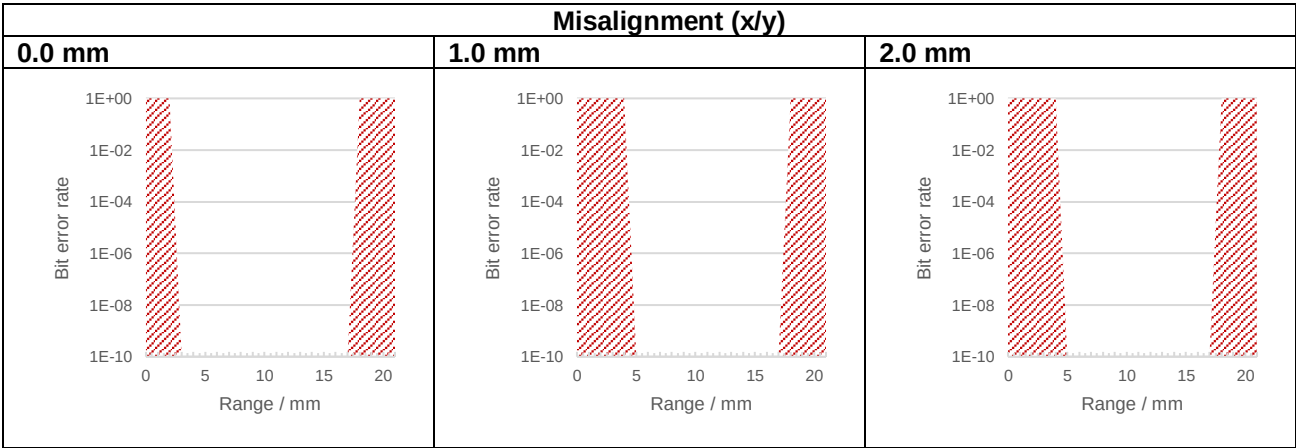
Typical Range @ 20°C

Data Rate of 1.25 Gbit/s



* Distance Top Side Ring to Top Side Ring

Data Rate of 3.125 Gbit/s



* Distance Top Side Ring to Top Side Ring

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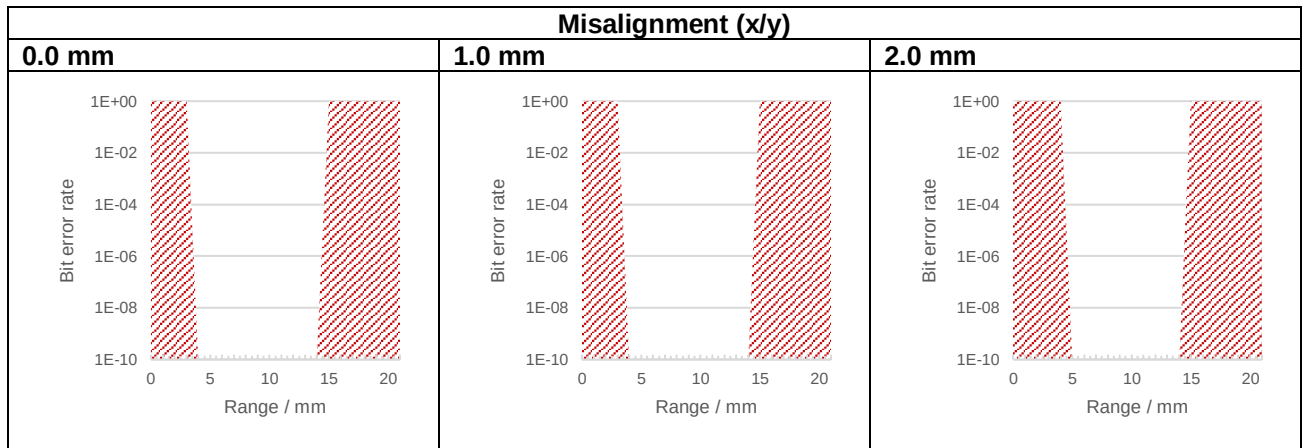
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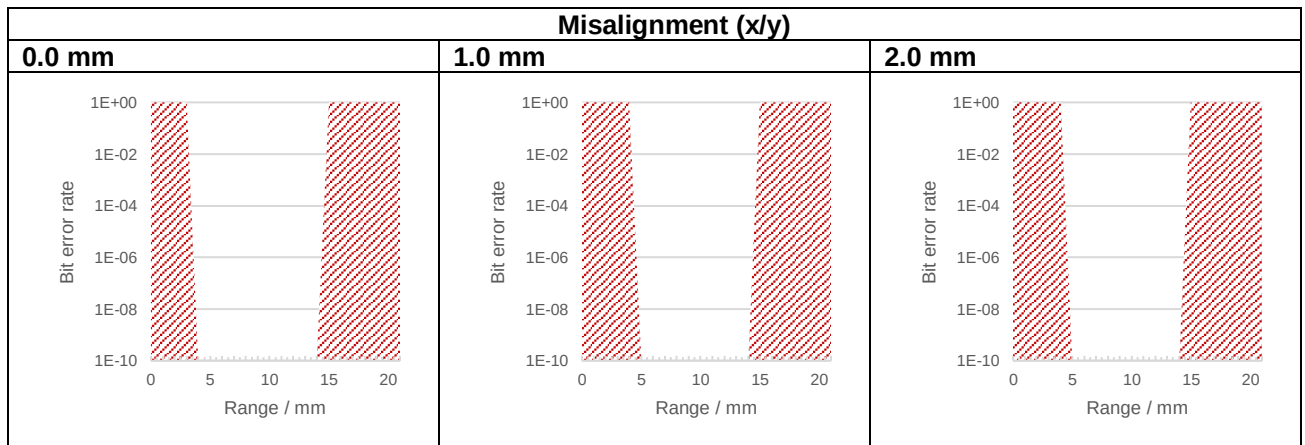
Typical Range @ 85°C

Data Rate of 1.25 Gbit/s



* Distance Top Side Ring to Top Side Ring

Data Rate of 3.125 Gbit/s



* Distance Top Side Ring to Top Side Ring

Note:

All values above are valid for any rotational angle between two communicating radio modules arranged on an axis of rotation perpendicular to and passing through the centre of geometry of the two radio modules.

Caution:

The overall performance of the RoProxCon System on Module is highly dependent on the direct environment of the radio transmission. Particularly electrically conductive objects in the immediate vicinity can impair the radio transmission.

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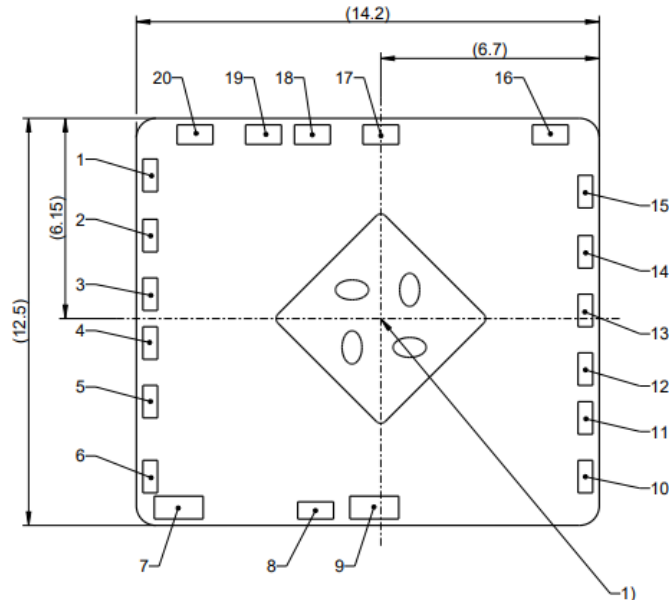
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TECHNICAL DATA SHEET-DRAFT					Rosenberger		
MI		RoProxCon – SoM HDR			MI1C803-900		
Certification Radio Equipment Directive (2014/53/EU) RoHS 2 Pre-certified compliant Evaluation Board MI1C813-900 Packing & Storage Recommended Storage Condition Package 23 ±5 °C / 35-60% rH Tape&Reel							
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Pin Assignment

Pinbelegung / Pin Assignment



- 1) Antennenmittelpunkt entspricht nicht dem Bauteilmittelpunkt - Offset (-0,4|0,1)
Antenna center point does not correspond to the component center point - Offset (-0.4|0.1)
2) Lötprofil IPC/JEDEC J-STD- 020 Rev. E für bleifreie Bauteile
Soldering profile IPC/JEDEC J-STD- 020 Rev. E for lead-free components

Nummer number	Name name	Beschreibung description	Bemerkung note
1	GND	Ground	-
2	GND	Ground	-
3	TX_P	Transmit input, positive	Differential signal
4	TX_N	Transmit input, negative	Differential signal
5	GND	Ground	-
6	GND	Ground	-
7	GND	Ground	-
8	VIN	Power Supply 3V	-
9	GND	Ground	-
10	GND	Ground	-
11	RX_N	Recive output, negative	Differential signal
12	RX_P	Recive output, positive	Differential signal
13	GND	Ground	-
14	GND	Ground	-
15	GND	Ground	-
16	GND	Ground	-
17	GND	Ground	-
18	GND	Ground	-
19	GND	Ground	-
20	GND	Ground	-

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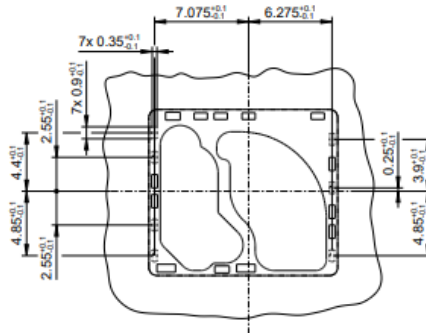
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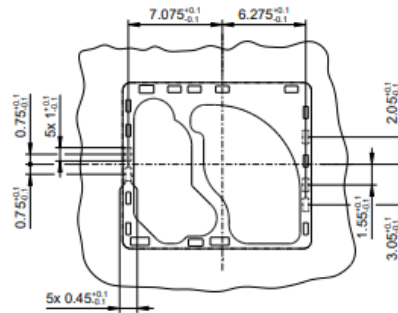
MI1C803-900

Footprint PCB

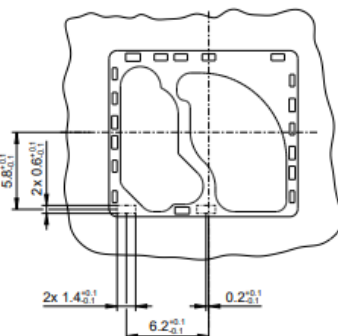
Bemaßung der Pads 0.9x0.35
dimensioning of the pads 0.9x0.35



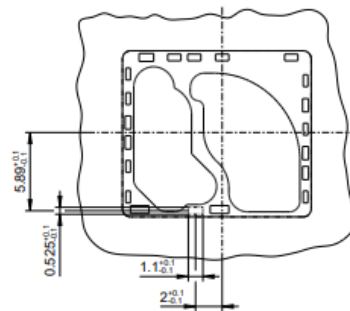
Bemaßung der Pads 1.0x0.45
dimensioning of the pads 1.0x0.45



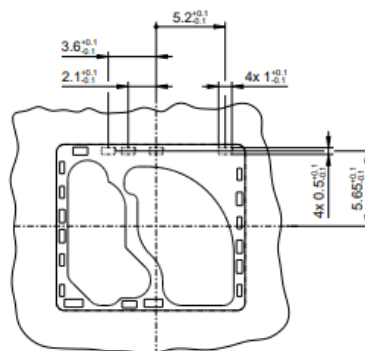
Bemaßung der Pads 1.4x0.6
dimensioning of the pads 1.4x0.6



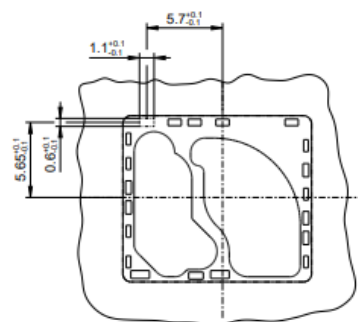
Bemaßung der Pads 1.1x0.525
dimensioning of the pads 1.1x0.525



Bemaßung der Pads 1.0x0.5
dimensioning of the pads 1.0x0.5



Bemaßung der Pads 1.1x0.6
dimensioning of the pads 1.1x0.6



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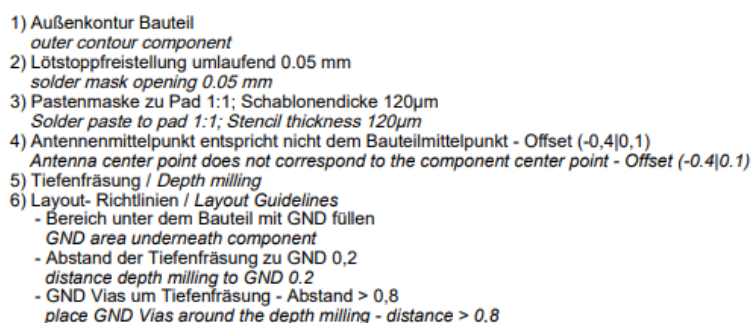


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In order to guarantee optimum high frequency properties of the radio module, a Design-In is recommended.

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