



IECEX Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.:	IECEX BVS 15.0047X	Page 1 of 4	<u>Certificate history:</u>
Status:	Current	Issue No: 3	Issue 2 (2024-06-24)
Date of Issue:	2024-10-11		Issue 1 (2016-11-30)
Applicant:	Motorola Solutions Systems Polska S.p.z.o.o. Ul. Czerwone Maki 82 30-392 Krakow Poland		Issue 0 (2015-07-09)
Equipment:	Remote speaker microphone type PMMN4***A		
Optional accessory:			
Type of Protection:	Equipment protection by intrinsic safety "i"		
Marking:	Ex ib IIC T4 Gb Ex ib IIIC T90°C Db Ex ia I Ma		

Approved for issue on behalf of the IECEx
Certification Body:

Dr Michael Wittler

Position:

Deputy Head of Certification Body

Signature:
(for printed version)

Date:
(for printed version)

2024-10-11

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Certificate issued by:

DEKRA Testing and Certification GmbH
Certification Body
Dinnendahlstrasse 9
44809 Bochum
Germany





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Manufacturer: **Motorola Solutions Systems Polska S.p.z.o.o.**
Ul. Czerwone Maki 82
30-392 Krakow
Poland

Manufacturing
locations:

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEX Quality system requirements. This certificate is granted subject to the conditions as set out in IECEX Scheme Rules, IECEX 02 and Operational Documents as amended

STANDARDS :

The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

[IEC 60079-0:2017](#) Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

[IEC 60079-11:2011](#) Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
Edition:6.0

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Report:

[DE/BVS/ExTR15.0058/02](#)

Quality Assessment Report:

[DE/BVS/QAR20.0004/06](#)



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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

General product information:

See Annex

Technical parameters

See Annex

SPECIFIC CONDITIONS OF USE: YES as shown below:

1. Connect and disconnect the Remote Speaker Microphones or the optional plug in accessories only outside the potentially hazardous area.
2. For group I application the connection of the Remote Speaker Microphones type PMMN4093A, PMMN4094A, PMMN4100A, PMMN4101A, PMMN4109A, PMMN4110A, PMMN4111A und PMMN4112A with the headsets type MT1H7P3E2-07-51 (PMLN6089A) and MT1H7F2-07-51 (PMLN6090A) are in the scope of this certification. The ambient temperature range for these headsets is $-20\text{ °C} \leq T_a \leq +40\text{ °C}$.
3. The connection of the SAVOX HC-1 Ex (RMN5123A) und SAVOX HC-2 Ex (GMMN4580A) to the Remote Speaker Microphones type PMMN4093A, PMMN4094A, PMMN4100A, PMMN4101A, PMMN4109A, PMMN4110A, PMMN4111A und PMMN4112A is subject of this certificate.
4. The PMMN4093A, PMMN4094A, PMMN4100A, PMMN4101A, PMMN4109A, PMMN4110A, PMMN4111A, PMMN4112A, PMLN7188A, PMLN7188B and the accessories connected to the Nexus and 3.5mm jack are only protected to low risk of mechanical danger when used in Group I potentially hazardous area.
5. The interconnection of the remote speaker microphone for Group I applications and radio must be tested and certified separately in some countries.
6. The earpiece PMLN 7188A or PMLN7188B has to be used as intended.
7. Ensure that the remote speaker microphone connector is tightly fastened to the radio accessory connector before entering the potentially hazardous area.



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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

- Update of the used standard IEC 60079-0:2011 to IEC 60079-0:2017
- Update of the CE marking label
- Update of the PMLN7188B label
- Additional regional flag label
- Change of the name of the encapsulation
- Add additional sources for electrical parts
- Change of the cable construction
- Documentation update

Annex:

[BVS_15_0047x_Motorola_Annex_Issue3_1.pdf](#)



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General product information:

The Remote Speaker Microphone types PMMN4093A, PMMN4094A, PMMN4100A, PMMN4101, PMMN4109A, PMMN4110A, PMMN4111A and PMMN4112A are audio accessories for connection to the Motorola ATEX certified radios of the series MTP....Ex and DP....Ex.

Model number	Name	Type description
PMMN4093A	ANC RSM Ex 16ohm Std Cbl	for MTP....Ex radios, short cable
PMMN4094A	ANC RSM Ex 20ohm Std Cbl	for DP....Ex radios, short cable
PMMN4100A	ANC RSM Ex 20ohm Long Cbl	for DP....Ex radios, long cable
PMMN4101A	ANC RSM Ex 16ohm Long Cbl	for MTP....Ex radios, long cable
PMMN4109A	IMPRESS EX OMNI RSM STD CBL/NEX/16Ohm	for MTP....Ex radios, short cable
PMMN4110A	IMPRESS EX OMNI RSM STD CBL/NEX/20Ohm	for DP....Ex radios, short cable
PMMN4111A	IMPRESS EX OMNI RSM LONG CBL/NEX/20Ohm	for DP....Ex radios, long cable
PMMN4112A	IMPRESS EX OMNI RSM LONG CBL/NEX/16Ohm	for MTP...Ex radios, long cable



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The Remote Speaker Microphones are connected to the radios with the Motorola proprietary GCAI connector.

The Remote Speaker Microphones can only be connected or disconnected outside the potentially hazardous environment.

All versions feature two audio interfaces for connection additional ATEX/IECEX certified accessories:

- a) Nexus connector for connection of talk and listen accessories
- b) 3.5mm audio jack for connection of listen only accessories

to a)

The following separately certified accessories can be used by the Nexus connector with the accessories

Type (Motorola reference number)

MT7H79F-50 (PMLN6087A)
Standard headset, with microphone and speaker
(Ambient temperature range: $-20\text{ °C} \leq T_a \leq +50\text{ °C}$)

MT1H7P3E2-07-51 (PMLN6089A)
Headset series, Tactical XP
(Ambient temperature range: $-20\text{ °C} \leq T_a \leq +40\text{ °C}$)

MT1H7F2-07-51 (PMLN6090A)
Headset series, Tactical XP
(Ambient temperature range: $-20\text{ °C} \leq T_a \leq +40\text{ °C}$)

MT7H79P3E-50 (PMLN6092A)
Standard headset, with microphone and speaker
(Ambient temperature range: $-20\text{ °C} \leq T_a \leq +50\text{ °C}$)

MT72H540P3E-50 (PMLN6333A)
Headset with microphone and speaker, twin cup
(Ambient temperature range: $-20\text{ °C} \leq T_a \leq +50\text{ °C}$)

MT7H79B-50 (PMLN7531A)
PELTOR Basic Headset Neckband
(Ambient temperature range: $-20\text{ °C} \leq T_a \leq +50\text{ °C}$)

MT1H7B2-07-51 (PMLN7535A)
PELTOR Tactical Headset Neckband
(Ambient temperature range: $-20\text{ °C} \leq T_a \leq +40\text{ °C}$)

SAVOX HC-1 Ex (RMN5123A)
Headset
(Ambient temperature range: $-20\text{ °C} \leq T_a \leq +55\text{ °C}$)

SAVOX HC-2 Ex (GMMN4580A)
Headset
(Ambient temperature range: $-20\text{ °C} \leq T_a \leq +55\text{ °C}$)

IECEX Type Examination Certificate

IECEX NEM09.0004X issue No.: 2
(For Group II application)

IECEX NEM11.0010X issue No.: 1
(For Group I and II applications)

IECEX NEM11.0010X issue No.: 1
(For Group I and II applications)

IECEX NEM09.0004X issue No.: 2
(For Group II applications)

IECEX NEM09.0005X issue No.: 2
(For Group II applications)

IECEX NEM11.0010X issue No.: 1
(For Group II applications)

IECEX NEM11.0010X issue No.: 1
(For Group I and II applications)

listed in
IECEX VTT15.0019X Issue 1
(For Group II and III applications)

listed in
IECEX VTT15.0019X Issue 1
(For Group II and III applications)



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to b)

The earpiece type PMLN7188A and type PMLN7188B can be connected to the 3.5 mm audio jack.

The accessories can only be connected or disconnected with the remote speaker microphone outside the potentially hazardous environment.

The ambient temperature range for the remote speaker microphone and the earpiece PMLN 7188A and PMLN7188B is $-20\text{ }^{\circ}\text{C} \leq T_a \leq +55\text{ }^{\circ}\text{C}$.

Parameters

1. Electrical data

Input parameter when the remote speaker microphone type PMMN4093A, PMMN4101A, PMMN4109A and PMMN4112A is used for Gb and Db (under 1 fault condition):

Max. Input voltage	U_i	8.4	V DC
Max. Input current	I_i	1.43	A
Max. Input power (linear characteristic)	P_i	2.83	W
Max. Internal effective capacitance	C_i	negligible	
Max. Internal effective inductance	L_i	120	μH

Input Parameter when the remote speaker microphone type PMMN4094A, PMMN4100A, PMMN4110A and PMMN4111A is used for Gb and Db applications (under 1 fault condition):

Max. Input voltage	U_i	8.4	V
Max. Input current	I_i	2.2	A
Max. Input power (linear characteristic)	P_i	2.8	W
Max. Internal effective capacitance	C_i	negligible	
Max. Internal effective inductance	L_i	120	μH

Input Parameter when the remote speaker microphone type PMMN4094A, PMMN4100A, PMMN4110A, PMMN4111A, PMMN4109A and PMMN4112A is used for Ma applications (under 2 fault conditions)

Max. Input voltage	U_i	8.4	V
Max. Input current	I_i	5.6	A
Max. Input power (linear characteristic)	P_i	2.8	W
Max. Internal effective capacitance	C_i	75	μF
Max. Internal effective inductance	L_i	120	μH

Input Parameter when the remote speaker microphone type PMMN4093A and PMMN4101A for Ma applications (under 2 fault conditions)

Max. Input voltage	U_i	8.4	V
Max. Input current	I_i	5.6	A
Max. Input power (linear characteristic)	P_i	2.8	W
Max. Internal effective capacitance	C_i	90	μF
Max. Internal effective inductance	L_i	120	μH

Remote speaker microphone has the following output parameters for Group I Ma, Group II Gb and Group III Db for:

Nexus Jack (under 2 fault condition)

Max. Output voltage	U_o	7	V
Max. Output current	I_o	0.160	A
Max. Output power (linear characteristic)	P_o	0.275	W
Max. External capacitance	C_o	1	μF
Max. External inductance	L_o	1	mH



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3.5 mm Audio Jack (under 2 fault condition)

Max. Output voltage	U_o	8.4	V
Max. Output current	I_o	0.142	A
Max. Output power (linear characteristic)	P_o	0.243	W
Max. External capacitance	C_o	1	μ F
Max. External inductance	L_o	1	mH

2. Ambient temperature range $-20\text{ }^{\circ}\text{C} \leq T_a \leq +55\text{ }^{\circ}\text{C}$

3. Ingress protection level RSM IP 64/67(acc. IEC 60079-0)

Listing of all components used referring to older standards

No components