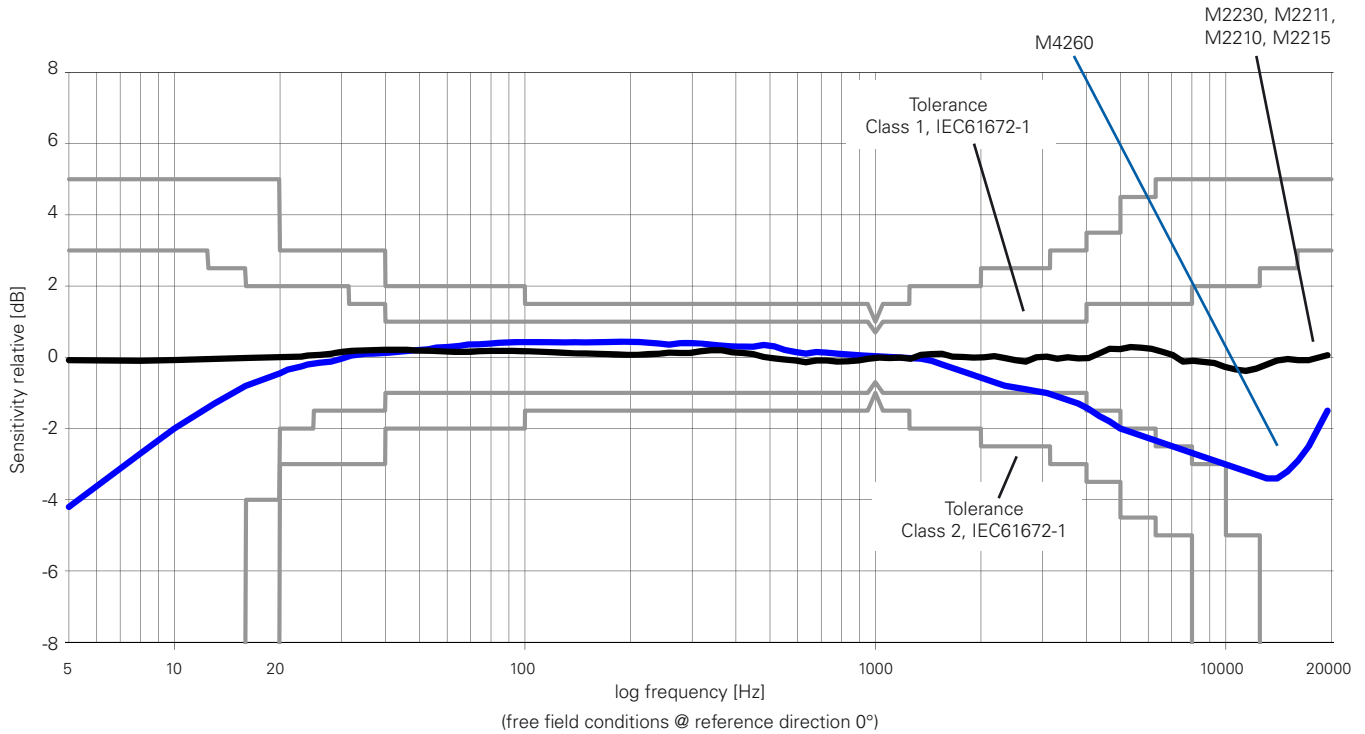


Technical Data Measurement Microphones

	M2230 Class 1 Certified	M2230-WP Class 1 Outdoor Microphone (M2230+WP30)	M2211 Frequency Response Class 1	M2215 High SPL Frequency Response Class 1	M4260 Class 2
Microphone Type	Omnidirectional, pre-polarized condenser, free field microphone				
Classification according IEC 61672 and ANSI S1.4	Class 1 / Type 1 Certified	Class 1 / Type 1	Frequency Response Class 1 / Type 1		Class 2 / Type 2
Capsule / Transducer	1/2" detachable with 60UNS2 thread, type WS2F according IEC 61094-4				1/4" permanently installed
PreAmplifier Type	MA220				-
Flatness tolerance bands typical	± 1 dB @ 5 Hz - 20 Hz ± 1 dB @ >20 Hz - 4 kHz ± 1.5 dB @ >4 kHz - 10 kHz ± 2 dB @ >10 kHz - 16 kHz ± 3 dB @ >16 kHz - 20 kHz				$+1/-4.5$ dB @ 5 Hz - 20 Hz ± 1.5 dB @ >20 Hz - 4 kHz ± 3 dB @ >4 kHz - 10 kHz ± 4.5 dB @ >10 kHz - 16 kHz ± 5 dB @ >16 kHz - 20 kHz
Frequency Range	5 Hz - 20 kHz				
Residual Noise Floor typical	16 dB(A)		21 dB(A)	25 dB(A)	29 dB(A)
Maximum SPL @ THD 3%, 1 kHz	139 dBSPL		144 dBSPL	153 dBSPL	144 dBSPL
Sensitivity typical @ 1 kHz	-27.5 dBV/Pa ± 2 dB (42 mV/Pa)		-34 dBV/Pa ± 3 dB (20 mV/Pa)	-42 dBV/Pa ± 3 dB (8 mV/Pa)	-31.7 dBV/Pa ± 3 dB (26 mV/Pa)
Temperature Coefficient	< -0.01 dB / °C		< ± 0.015 dB / °C		< ± 0.02 dB / °C

	M2230 Class 1 Certified	M2230-WP Class 1 Outdoor Microphone (M2230+WP30)	M2211 Frequency Response Class 1	M2215 High SPL Frequency Response Class 1	M4260 Class 2
Temperature Range	-10°C to +50°C (14°F to 122°F)				0°C to +40°C (32°F to 104°F)
Pressure Coefficient	-0.005 dB / kPa		-0.02 dB / kPa		-0.04 dB / kPa
Influence of Humidity (non-condensing)	< ±0.05 dB				< ±0.4 dB
Humidity	5% to 90% RH, non-condensing				
Long Term Stability	> 250 years / dB				-
Electronic Data Sheet	NTi Audio ASD in accordance with IEEE P1451.4 V1.0, Class 2, Template 27				
Output Impedance	100 Ohm balanced				
Power Supply	48 VDC phantom power, 3 mA typical				
Connector	Balanced 3-pole XLR				
Diameter Dimensions	20.5 mm (0.8")	36 mm (1.4")	20.5 mm (0.8")		
Length Dimensions	154 mm (6.1")	378 mm (14.9")	150 mm (5.9")		
Weight	100 g, 3.53 oz	430 g, 15.17 oz	100 g, 3.53 oz		83 g, 2.93 oz
Environmental protection	IP51	IP54 in vertical position	IP51		
NTi Audio #	600 040 050	600 040 055	600 040 022	600 040 045	600 040 025

Typical Frequency Response of Measurement Microphones



Free Field - Pressure Field Correction Factors

Nominal Frequency [Hz]	M2230 Microphone [dB]	M2211 Microphone [dB]	M2215 Microphone [dB]
50 63 80	0.0 0.0 0.0	0.0 0.0 0.0	0.0 0.0 0.0
100 125 160	0.0 0.0 0.0	0.0 0.0 0.0	0.0 0.0 0.0
200 250 315	0.0 0.0 0.0	0.0 0.0 0.0	0.0 0.0 0.0
400 500 630	0.0 0.0 0.0	0.0 0.1 0.1	0.0 0.0 0.0
800 1000 1250	0.1 0.2 0.3	0.1 0.1 0.3	0.0 0.0 0.0
1600 2000 2500	0.4 0.5 0.6	0.5 0.6 0.7	0.1 0.2 0.6
3150 4000 5000	0.8 1.0 1.5	1.1 1.7 2.2	0.7 1.2 2.1
6300 8000 10000	2.2 3.3 4.6	3.3 4.2 5.4	3.0 3.9 3.7
12500 16000 20000	6.5 8.0 9.0	7.3 9.2 11.0	6.7 9.0 10.6

Diffuse Field Correction Factors

Nominal Frequency [Hz]	M2230 Microphone [dB]
50 63 80	0.0 0.0 0.0
100 125 160	0.0 0.0 0.0
200 250 315	0.0 0.0 0.0
400 500 630	0.0 0.0 0.0
800 1000 1250	0.1 0.1 0.1
1600 2000 2500	0.2 0.4 0.5
3150 4000 5000	0.5 1.1 1.7
6300 8000 10000	1.9 2.6 3.3
12500 16000 20000	4.8 6.1 8.9

Technical Data PreAmplifier

	MA220 PreAmplifier
Microphone PreAmplifier	Compatible with 1/2" microphone capsules type WS2F in accordance with IEC61094-4
Frequency Range	4 Hz - 100 kHz
Residual Noise Floor typical	1.6 μ V(A) at C_in 18pF \pm 12 dBA @ 20 mV/Pa
Frequency Response Flatness	\pm 0.2 dB
Phase Linearity	< 1° @ 20 Hz - 20 kHz
Maximum Output Voltage	21 Vpp \pm 7.4 Vrms \pm 145 dBSPL @ 20 mV/Pa, THD 3%, 1 kHz
Electronic Data Sheet	<ul style="list-style-type: none"> • Containing user calibration data • Default factory sensitivity = 4.9 V/Pa • Read/write by XL2 Audio and Acoustic Analyzer • NTi Audio ASD in accordance with IEEE P1451.4 V1.0, Class 2, Template 27
Impedance	Input: 20 GOhm // 0.26 pF, Output: 100 Ohm balanced
Power Supply	48 VDC phantom power, 3 mA typical
Attenuation	< 0.17 dB (Rphantom 2x 6.8 kOhm)
Connector	Balanced 3-pole XLR
Thread for Capsule	60 UNS2
Weight	90 g, 3.17 oz
Dimensions	Length 142.5 mm (5.6"), diameter 20.5 mm (0.8")
Temperature Range	-10°C to +50°C (14°F to 122°F)
Humidity	5% to 90% RH, non-condensing
NTi Audio #	600 040 040

The product specifications may vary based on the mounted microphone capsule type.