



Date: January 27, 2022

CERTIFICATE OF COMPLIANCE

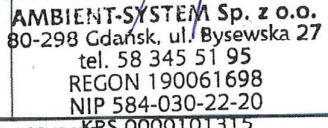
This certificate of compliance validates the following			
TEST REPORT NUMBER	1. 1334/BA/21 2. 1778/BA/19	CERTIFICATE NUMBER	DC – UAE – 0200
DATE OF ISSUE	1. November 15, 2021 2. January 24, 2020	DATE OF ISSUE	January 27, 2022
DATE OF EXPIRY	Not applicable	DATE OF EXPIRY	January 26, 2032
Manufacturer details			
NAME OF FACTORY / MANUFACTURER	Ambient-System Sp. z o.o.	NAME OF THE BRAND	Edwards
FACTORY ADDRESS / REGION	ul. Bysewska 27 80-298 Gdańsk Republic of Poland	MODEL / NO	EST-P20, EST-P20C, EST-P20P, EST-P20PC
WEBSITE	https://firesecurityproducts.com	LOGO ON THE PRODUCT	
TELEPHONE	+31 (0)495 - 579 579	EMAIL	secretariaat.nederland@carrier.com





Product Details From Test Report					Reference Test Report Page No.	
DESCRIPTION OF THE PRODUCT	Loudspeaker for voice alarm systems type EST-P20, EST-P20C, EST-P20P, EST-P20PC (Detailed specification below)				(3) 1334/BA/21	
TESTS STANDARD	EN 54-24:2008: Fire detection and fire alarm systems – Part 24: Components of voice alarm systems – Loudspeakers				(10) 1334/BA/21 1778/BA/19	
TESTS DESCRIPTION	Requirements, test methods and performance criteria for loudspeakers intended to broadcast a warning of fire between a fire detection and fire alarm system and the occupants of a building				(10) 1334/BA/21 1778/BA/19	
SPECIFICATION OF TEST SPECIMEN	Loudspeaker type:	EST-P20	EST-P20C	EST-P20P	EST-P20PC	(5-6) 1334/BA/21 1778/BA/19
	Typ transformatora:	LQS-LBEN-20W				
	Loudspeaker power voltage [V]:	70 / 100				
	Loudspeaker rated power [W]:	20				
	Loudspeaker output setting on the transformer taps [W]:	70V: 10 / 5 / 2,5 / 1,25 100V: 20 / 10 / 5 / 2,5				
	Loudspeaker impedance [Ω]:	8				
	Impedance of transformer – for particular terminals[Ω]:	500 / 1000 / 2000 / 4000				
	Maximum sound pressure level (rated power / 4m) [dB]:	90				
	Sensitivity S (1W / 4m) [dB]:	79				
	Coverage angle for 500 Hz [°]:	360				
	Coverage angle for 1kHz [°]:	230				
	Coverage angle for 2kHz [°]:	110				
	Coverage angle for 4kHz [°]:	65				
	Type of work environment:	B				
	IP protection:	33C				
	Terminals:	2 ceramic connection blocks				
	Type of installation:	surface wall or ceiling mounted		hanging		
	Dimensions of loudspeaker with housing [mm]:	Ø 143 x 210				
	Material of housing:	metal				
	Mass [g]:	2400	2440	2770	2800	
	Optional elements	Identifying data				
	Fuse activation parameter:	250V, 5A, 130°C		250V, 2A, 150°C		
	Type of capacitor:	not applicable	18µF, 250V DC	not applicable	18µF, 250V DC	
	Filter:	not applicable				
	Type of additional protection:	not applicable				
TESTS RESULTS	EN 54-24	Frequency response limits			PASS	(10) 1334/BA/21 (11-25) 1778/BA/19
	EN 54-24	Reproducibility			PASS	
	EN 54-24	Rated impedance			PASS	
	EN 54-24	Horizontal and vertical coverage angles			PASS	
	EN 54-24	Maximum sound pressure level			PASS	
	EN 54-24	Durability			PASS	
	EN 54-24	Construction			PASS	
	EN 54-24	Marking and data			PASS	
	EN 54-24	Rated noise power (durability)			PASS	
	EN 54-24 - EN 60529	Enclosure protection IP 33C			PASS	
	EN 54-24 - EN 60068-2-2	Dry heat (operational)			PASS	
	EN 54-24 - EN 60068-2-2	Dry heat (endurance)			PASS	
	EN 54-24 - EN 60068-2-1	Cold (operational)			PASS	
	EN 54-24 - EN 60068-2-30	Damp heat, cyclic (operational)			PASS	
	EN 54-24 - EN 60068-2-78	Damp heat, steady state (endurance)			PASS	
	EN 54-24 - EN 60068-2-30	Damp heat, cyclic (endurance)			PASS	
	EN 54-24 - EN 60068-2-42	Sulphur dioxide corrosion (endurance)			PASS	
	EN 54-24 - EN 60068-2-27	Shock (operational)			PASS	
	EN 54-24 - EN 60068-2-75	Impact (operational)			PASS	
	EN 54-24 - EN 60068-2-6	Sinusoidal vibration (operational)			PASS	
EN 54-24 - EN 60068-2-6	Sinusoidal vibration (endurance)			PASS		
PRODUCT APPLICATION GUIDELINE	EST-P20/EST-P20P_14 01 2022	EST-P20, EST-P20C, EST-P20P, EST-P20PC are indoor and outdoor loudspeakers. They are made of plastic material. The loudspeakers have to be mounted to the surface of the wall or to the ceiling (EST-P20, EST-P20C) or hanging (EST-P20P, EST-P20PC). The loudspeakers for voice alarm systems type EST-P10C, EST-P10PC are equipped with a capacitor. Loudspeakers for voice alarm systems type EST-P20, EST-P20C, EST-P20P and EST-P20PC have to be used with Voice Alarm System.			Not applicable	



Laboratory and Certification Body Details			
NAME OF CERTIFICATION BODY	CNBOP-PIB Centrum Naukowo-Badawcze Ochrony Przeciwpozarowej Państwowy Instytut Badawczy	NAME OF TEST FACILITY	CNBOP-PIB Zespół Laboratoriów Sygnalizacji Alarmu Pożaru i Automatyki Pożarniczej
CERTIFICATION BODY ADDRESS / REGION	ul. Nadwiślańska 213 05-420 Józefów REPUBLIC OF POLAND	TEST FACILITY ADDRESS / REGION	ul. Nadwiślańska 213 05-420 Józefów REPUBLIC OF POLAND
WEBSITE	www.cnbop.pl	WEBSITE	www.cnbop.pl
TELEPHONE	+48 22 769 33 47	TELEPHONE	+48 22 769 32 26
EMAIL	jcw@cnbop.pl	EMAIL	ba@cnbop.pl
ACCREDITED BY	Polish Centre for Accreditation http://www.pca.gov.pl	ACCREDITED BY	Polish Centre for Accreditation http://www.pca.gov.pl
AS PER	EN ISO/IEC 17065 Conformity assessment. Requirements for bodies certifying products, processes and services	AS PER	EN ISO/IEC 17025 General requirements for the competence of testing and calibration laboratories
VALIDITY	October 3, 2022	VALIDITY	October 11, 2025
REFERENCE NUMBER	AC 063	REFERENCE NUMBER	AB 207
CERTIFICATION MARK			
(ENDORSEMENT) TO BE SIGNED BY MANUFACTURER			
NAME AND SURNAME OF MANUFACTURERS SIGNATORY	Ambient-System Sp. z o.o. V-ce President Bogusław Adamczyk	SIGNATURE	
EMAIL / TELEPHONE	Ambient-System Sp. z o.o. ambient@ambientsystem.pl +48 58 345 51 95	FACTORY OFFICIAL SEAL	 AMBIENT-SYSTEM Sp. z o.o. 80-298 Gdańsk, ul. Bysewska 27 tel. 58 345 51 95 REGON 190061698 NIP 584-030-22-20 KRS 0000101315
NOTES	I UNDERTAKE THAT ALL DATA AND INFORMATION PROVIDED ARE GENUINE AND ACCURATE.		
(ENDORSEMENT) TO BE CERTIFICATION BODY			
NAME AND SURNAME OF CERTIFICATION BODY SIGNATORY	st. bryg. dr inż. Paweł Janik	SIGNATURE	
EMAIL / TELEPHONE	cnbop@cnbop.pl +48 22 769 33 00	CERTIFICATION BODY OFFICIAL SEAL	
NOTES	I UNDERTAKE THAT ALL DATA AND INFORMATION PROVIDED ARE GENUINE AND ACCURATE.		

ATTACHEMENT:

COPY OF "CERTIFICATE OF CONSTANCY OF PERFORMANCE" NO. 1438-CPR-0804 ISSUE 1 ISSUED BY CERTIFICATION BODY