EMC Test Report

Reference number:	EMC-180308/1
Customer:	Securecom Kft. H6724 Szeged, Kossuth Lajos sugárút 115. I/6.
Contact Person:	Tibor GALL Phone: +36302069985
Tested Product:	WIFI Based Alarm Monitoring Communicator Type: Singular WIFI S/N: WIFI170192 Singular W2G Singular W3G
Environmental conditions:	Temperature: 22 °C Humidity: 68 %
Date of tests:	06/03/2018

The tests were carried out by EMC Test Laboratory's engineers on behalf of T-Network Kft. Budapest, Hungary:

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Gabor SZABO

Laboratory Leader:

T-Network Kft.
EMC Laboratory
Ungvar u. 64-66. 1142 Budapest, Hungary
Registration num.: 12005222-2-42

.....
Sandor TATAR

The contact person participating in the tests considers the procedure convincing. The results verify the product's EMC compliance.

On behalf of Securecom Kft.:

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Tibor GALL

Summary of the test results

Description of the tests	Limits and test levels of the related Standard	Result
Disturbance emission tests		
Radiated RF emission test	**EN 55032:2015** 30-6000 MHz	**Passed**
Immunity tests		
Immunity against radiated RF disturbances	**EN 50130-4:2011+A1:2014** 10 V/m 0.08-2.7 GHz Modulation: 1 kHz, 80 % AM	**Passed**
Immunity against electrostatic discharges (ESD)	**EN 50130-4:2011+A1:2014** ±8 kV air, ±6 kV contact	**Passed**

The test results relate exclusively to the tested Singular WIFI and are valid for the equally manufactured products Singular W2G and Singular W3G as well!

Operational conditions during the tests

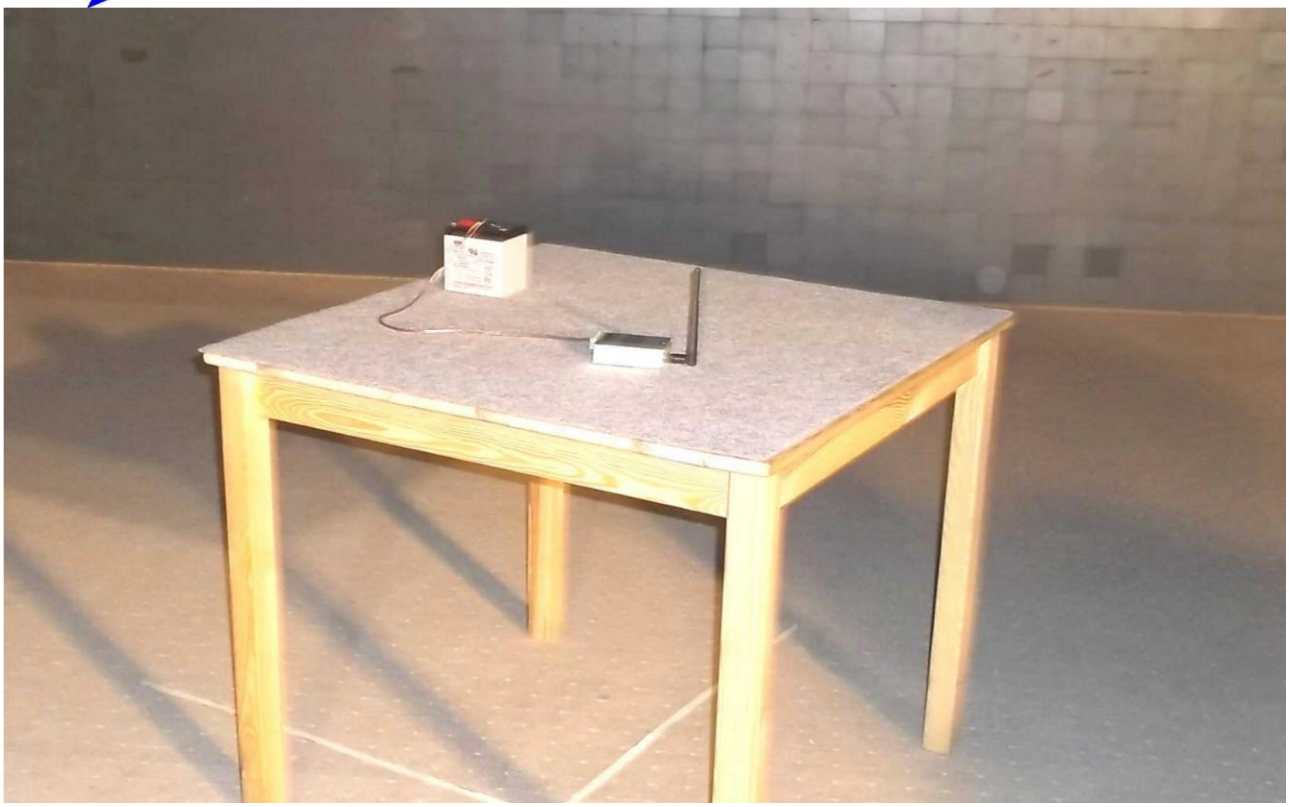
The Singular WIFI powered by external rechargeable battery continuously operated under tests communicating with the user via WIFI connection. The 12V DC cable was 0.5 m long.
Under the immunity tests the status LED of the Singular WIFI was observed for checking the operation.

1. Radiated RF emission test

The applied limit values are according to the related EN 55032:2015 Standard Class B. **Test equipment**

Device name	Type	S/N	Calibration expires
Spektrum analyzer	R&S FSP13	100273	2019 . December
Receiver Antenna	Sunol JB1	A121307	2021. January
Test Chamber	T-Network SAR	-	2020 . January
Antenna MAST	INN-CO, MA4000-EP	222/18061207/L	2020 . December
MAST controller	INN-CO, CO-2000	462/18061207/L	2020 . December
Receiver Antenna	T-N DRH	3/2005	2018 . December
Test Chamber	T-Network FAR	-	2020 . January

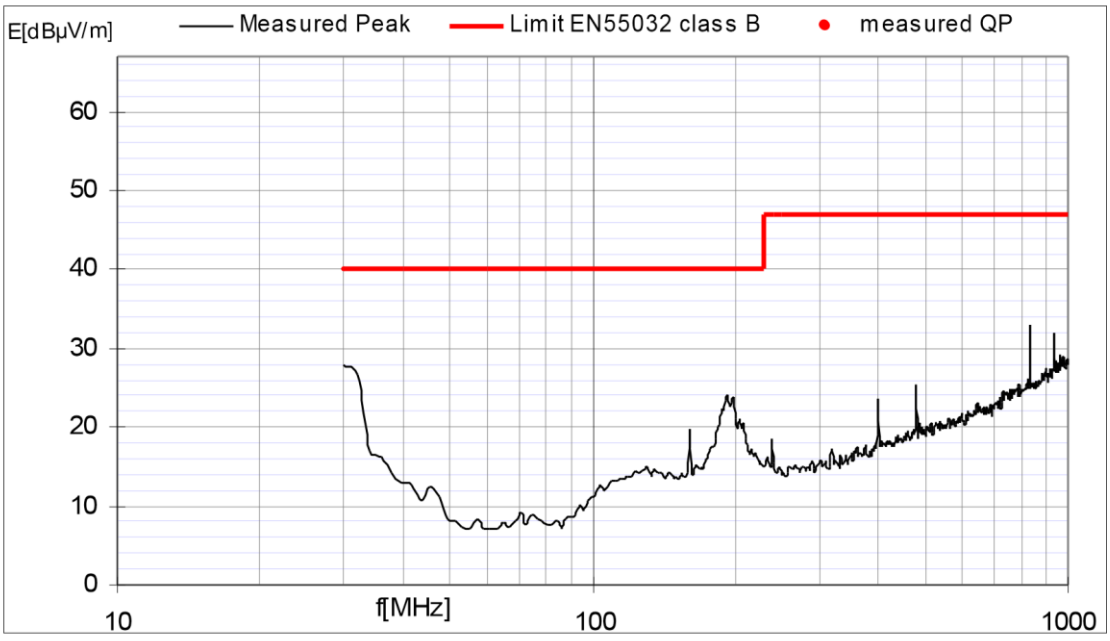
Test setup and method: as per the EN 55032:2015 the test distance was 3 m.



The Singular WIFI on the test site at 0 ° angle position

1.1 Radiated emission test results 30-1000 MHz, antenna polarization V and H

The limit line on the diagram below relates to the quasi peak measurement at 3 m test distance and is calculated from values given at 10 m test distance in the EN 55032:2015 Standard.

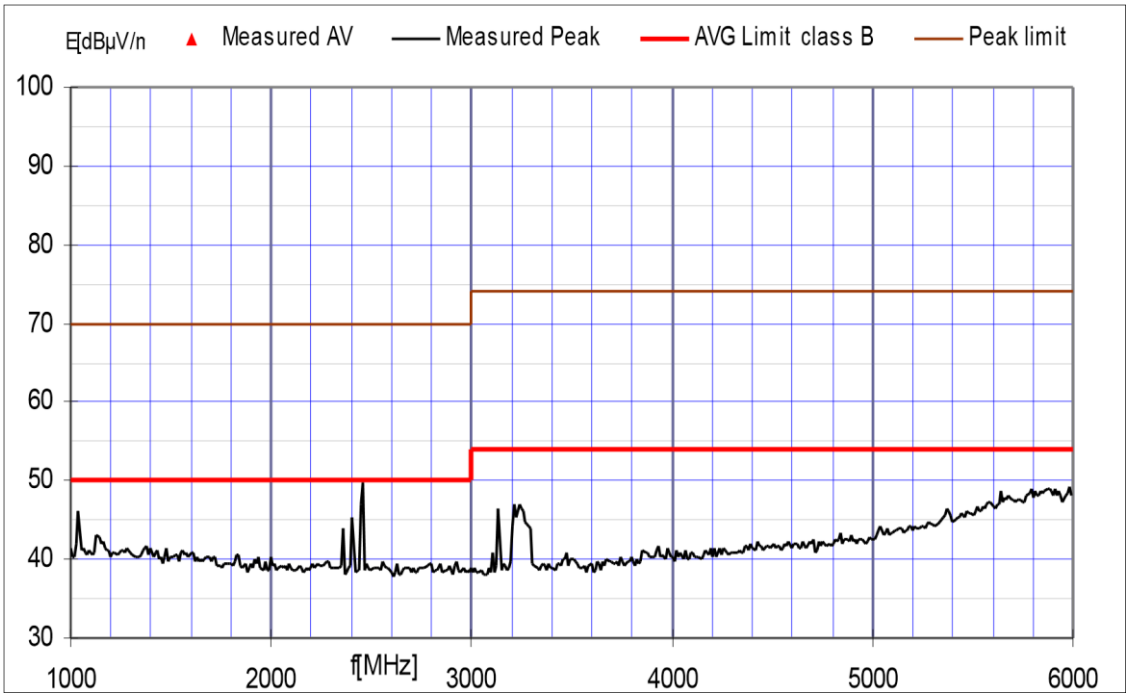


Evaluation of the test result:

The measured peak values are significantly below the QP limit therefore it can be stated without QP measurement that the Singular WIFI fulfills the EN 55032:2015 Standard's Class B requirements.

1.2 Radiated emission test results 1-6 GHz, antenna polarization V and H

Test setup and method: as per the EN 55032:2015 Standard the test distance was 3 m. The applied limit values are according to the related EN 55032:2015 Standard.



Evaluation of the test result:
The Singular WIFI fulfills the EN 55032:2015 Standard's requirements.

2. Immunity test against radiated RF disturbances

The test method was according to the related EN 61000-4-3:2006+A1:2008+A2:2010 Standard. Test signal: 10 V/m 0.08-2.7 GHz, modulation 1 kHz 80 % AM, frequency step 1 %, dwell time 1 s as per the EN 50130-4:2011+A1:2014 Standard.

Test equipment

Device name	Type	S/N	Calibration expires
Signal Generator	HP 8648C	3537A0181	2019 . August
Power Amplifier	Frankonia FLH20B	1084	-
Power Amplifier	T-N 2W	01/2016	-
Test Chamber	T-Network FAR	-	2020 . January
Antenna (80-1000 MHz)	TN/Logper	1/2008	-
Electric Field Probe	Narda EP300	000WJ70717	2020 . December
Receiver Antenna	T-N DRH	3/2005	2018 . December

The Singular WIFI on the test site

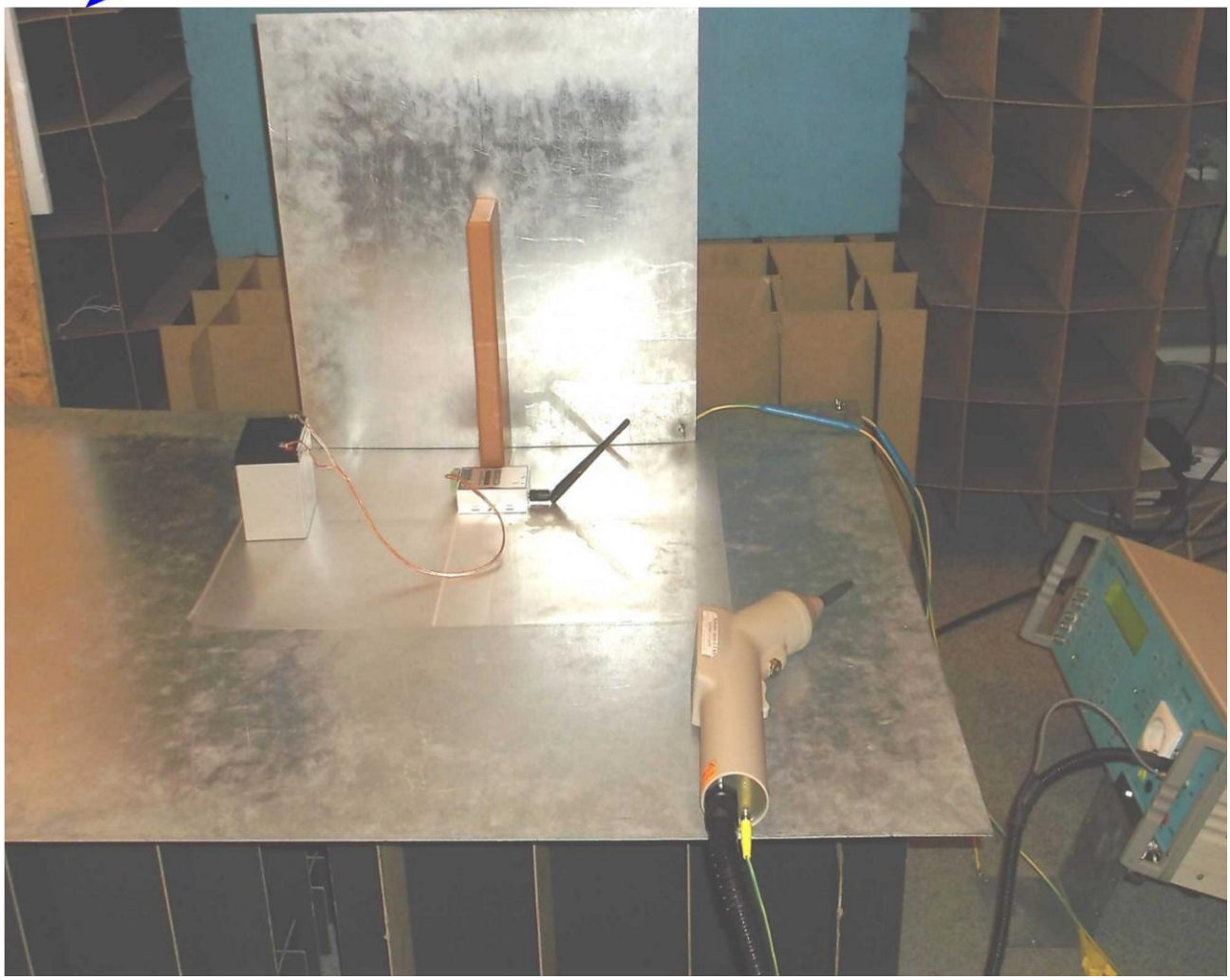
Evaluation of the test result: The Singular WIFI operated perfectly during the test.

3. Electrostatic Discharge (ESD) Test

The test method was according to the related EN 61000-4-2:2009 Standard.
The applied test voltages were according to the EN 55024:2010+A1:2015 Standard. **Test equipment**

Device name	Type	S/N	Calibration expires
CWG Generator	EMC Partner TRA-2000	969	2019 . September
ESD Pistol	EMC Partner ESD2000	0360	2019 . September
Test Chamber	T-Network FAR	-	2020 . January

±4 kV contact discharges were applied at 4 sides of the Singular WIFI to the horizontal and vertical coupling plate and to the touchable conductive parts of the Singular WIFI. Further ±8 kV air discharges were sparked to the touchable nonconductive parts according to the related Standard.



The Singular WIFI on the test site

Evaluation of the test result: The Singular WIFI operated perfectly during the test.