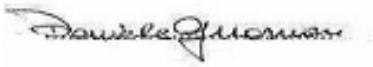
TEST REPORT

Global System for Mobile communications (GSM); Mobile Stations (MS) equipment

Report Reference No.....	344088-2TRFWL		
Tested by (name, function and signature).....	D. Guarnone	(project handler)	
Approved by (name, function and signature).....	R. Giampaglia	(verifier)	
Date of issue.....	2018-02-09		
Testing Laboratory.....	**Nemko Spa**		
Address.....	Via del Carroccio, 4 – 20853 Biassono (MB) – Italy		
Testing location	Nemko Spa		
Address.....	Via del Carroccio, 4 – 20853 Biassono (MB) – Italy		
Applicant's name.....	**Energy Team Spa**		
Address.....	Via della Repubblica 9 20090 Trezzano Sul Naviglio MI - Italy		
Test specification:			
Standard	ETSI EN 301 511 V12.5.1		
	Full application of the standards		☐
	Partial application of the standards		☒
Test procedure.....	Nemko WM L0077, WM L0177 and WM L1002		
Test Report Form No.....	MMTRFEMC		
TRF Originator.....	Nemko Spa		
Master TRF.....	2017-04		

Test item description	Gateway to acquire, store and send data
Trade Mark	Energy Team Spa
Manufacturer.....	**Energy Team Spa**
Address of manufacturer	Via della Repubblica 9 20090 Trezzano Sul Naviglio MI - Italy
Model	NG-Gateway
Ratings.....	10 W / 48-120 VDC / 100-240 VAC 50-60 Hz

Test Report No. : 344088-2TRFWL	2018-02-09 Date of issue

Short description of the EuT	Copy of marking plate
Gateway to acquire, store and send data	

Number of tested samples:	1
Serial number:	511425633
Frequency bands:	GSM/GPRS/EDGE: 900/1800MHz
Accessories and detachable parts included:	none

Testing

Date of receipt of test sample:	2018-01-29
Testing commenced on:	2018-01-29
Testing concluded on:	2018-02-09

Possible test case verdicts:

test case does not apply to the test object:	N (Not applicable)
test object does meet the requirement:	P (Pass)
test object does not meet the requirement:	F (Fail)

Symbols used in this test report

☒ The crossed square indicates that the listed condition or equipment is applicable for this report.

☐ The empty square indicates that the listed condition or equipment is not applicable for this report.

Throughout this report point is used as decimal separator.

The results contained in this report reflect the results for this particular model and serial number. It is the responsibility of the manufacturer to ensure that all production models meet the intent of the requirements detailed within this report.

Verdict according to the standards on page 5:	**Pass**

PROJECT HISTORY		
Report number	**Modification to the report / comments**	**Date**
344088-2TRFWL	First release	2018-02-09
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REMARKS		

PRODUCT VARIANTS		
Variant model	**Difference against the main model**	**Additional test performed**
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REMARKS		

Contents

1 TEST STANDARDS

The tests were performed according to following standards and procedures.

NEMKO WM L0177: General routines for using instruments at Nemko

NEMKO WM L1002: Measurement Uncertainty - Policy and Statement

NEMKO WM L0077: General routines to perform EMC tests

ETSI EN 301 511 V12.5.1
Global System for Mobile communications (GSM); Mobile Stations (MS) equipment; Harmonised Standard covering the essential requirements of article 3.2 of Directive 2014/53/EU

The main standard(s) above contains references to other standards, which are listed below.

ETSI TS 151 010-1 V12.8.0
Digital cellular telecommunications system (Phase 2+); Mobile Station (MS) conformance specification; Part 1: Conformance specification (3GPP TS 51.010-1 version 12.8.0 Release 12)

2 SUMMARY OF TEST RESULTS

Harmonized Standard ETSI EN 301 511				
Requirement		Requirement Conditionally		Test Result
No	Description	U/C	Condition	
16	Transmitter output power and burst timing	U		P
16	Radiated spurious emissions - MS allocated a channel	C	For all MS except R-GSM or ER-GSM MS	P
18	Radiated spurious emissions for MS supporting the R-GSM or ER-GSM frequency band - MS allocated a channel	C	For all R-GSM or ER-GSM MS	P

3 EQUIPMENT UNDER TEST

3.1 Power supply system utilised

Battery voltage:	☐	12 VDC	☒	230 Vac, 50 Hz

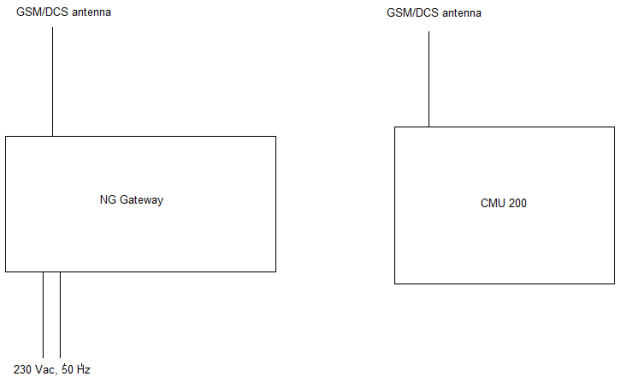
3.2 EuT operation modes

Mode	Description
1	The E.U.T. has been tested linked to GSM/DCS simulator

3.3 EuT configuration modes

Emission: the EuT was configured to measure its highest possible radiation level. The test modes selected are according to EuT instruction manual.

Immunity: the EuT was configured to have its highest possible susceptibility against tested phenomena. The test modes selected are according to EuT instruction manual.

Mode	Description
1	E.U.T. has been connected as in the following figure: 

3.4 Input/Output Ports

Port	Name	Type*	Cable Shielded	Description
0	Enclosure	N/E	—	—
1	Power input	AC/DC	☐	Two wires
2	Power output	AC/DC	☐	Two wires
3	RS485	I/O	☐	Three wires
3	RS485	I/O	☐	Three wires
2	Ethernet	TP	☐	Standard
2	USB	I/O	☐	Standard
5	GSM/GPRS	ANT	☐	Sma cable
7	WIFI	ANT	☐	Sma cable

*Note:

AC = AC Power Port DC = DC Power Port N/E = Non-Electrical

I/O = Signal/Control Input or Output Port TP = Telecommunication Port ANT = Antenna Port

3.5 Equipment Used During Test

Use*	Product Type	Manufacturer	Model	Comments
AE	Radiocommunication tester	R&S	CMU200	
AE	PC	--	--	

Note: * Use

EUT - Equipment Under Test

AE - Auxiliary/Associated Equipment (Not Subjected to Test)

SIM - Simulator (Not Subjected to Test)

4 TEST ENVIRONMENT

4.1 Address of the test laboratory

Nemko Spa
Via del Carroccio, 4
20853 Biassono (MB) – Italy

Tests site/benches are in accordance with applicable standard/s, and have been utilized under Nemko Spa testing engineer

4.2 Environmental conditions

Unless different values are declared in the test case, following ambient conditions apply for the tests:

Ambient temperature:	18÷33 °C
Relative Humidity:	30÷60 %
Atmospheric pressure:	980÷1060 hPa

4.3 Test equipment used for the monitoring of the environmental conditions

Equipment	Manufacturer	Model	Serial N°
Thermohygrometer data loggers	Testo	175-H2	20012380/305
Baarometer	MSR	MSR145B	330080

4.4 Statement of the measurement uncertainty

EUT	Type	Test	Range and Setup features	Measurement Uncertainty	Notes
Transmitter	Conducted	Frequency error	0.001MHz ÷ 18 GHz	0.08 ppm	(1)
		Carrier power RF Output Power	1MHz ÷ 18 GHz With power meter	1.6 dB	(1)
			1MHz ÷ 18 GHz With spectrum/receiver	3.0 dB	(1)
		Adjacent channel power	1MHz ÷ 18 GHz	1.6 dB	(1)
		Conducted spurious emissions	1MHz ÷ 18 GHz	4.2 dB	(1)
		Intermodulation attenuation	1MHz ÷ 18 GHz	2.2 dB	(1)
		Attack time – frequency behaviour	1MHz ÷ 18 GHz	2.0 ms	(1)
		Attack time – power behaviour	1MHz ÷ 18 GHz	2.5 ms	(1)
		Release time – frequency behaviour	1MHz ÷ 18 GHz	2.0 ms	(1)
		Release time – power behaviour	1MHz ÷ 18 GHz	2.5 ms	(1)
		Transient behaviour of the transmitter– Transient frequency behaviour	1MHz ÷ 18 GHz	0.2 kHz	(1)
		Transient behaviour of the transmitter – Power level slope	1MHz ÷ 18 GHz	9%	(1)
		Frequency deviation - Maximum permissible frequency deviation	0.001MHz ÷ 18 GHz	1.3%	(1)
		Frequency deviation - Response of the transmitter to modulation frequencies above 3 kHz	0.001MHz ÷ 18 GHz	0.5 dB	(1)
		Dwell time	-	3%	(1)
		Hopping Frequency Separation	0.01MHz ÷ 18 GHz	1%	(1)
		Occupied Channel Bandwidth	0.01MHz ÷ 18 GHz	2%	(1)
		Modulation Bandwidth	0.01MHz ÷ 18 GHz	2%	(1)
	Radiated	Radiated spurious emissions	30MHz ÷ 18 GHz	6.0 dB	(1)
		Effective radiated power transmitter	30MHz ÷ 18 GHz	6.0 dB	(1)
Receiver	Radiated	Radiated spurious emissions	30MHz ÷ 18 GHz	6.0 dB	(1)
		Sensitivity measurement	1MHz ÷ 18 GHz	6.0 dB	(1)
	Conducted	Conducted spurious emissions	1MHz ÷ 18 GHz	4.2 dB	(1)

NOTES:
(1) The reported expanded uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k = 2 which has been derived from the assumed normal probability distribution with infinite degrees of freedom and for a coverage probability of 95 %.

5 TEST CONDITIONS AND RESULTS

5.1 Transmitter output power and burst timing

The transmitter output power is the average value of the power delivered to an artificial antenna or radiated by the MS and its integral antenna, over the time that the useful information bits of one burst are transmitted

5.1.1 Photo documentation of the test set-up

5.1.2 Test method

Transmitter unwanted emissions in the spurious domain are emissions outside the allocated band and outside the out-of-band domain.

For radiated emissions, the equipment was placed at the specified height on an isolated support and in the position closest to normal use as declared by the provider. The test antenna was oriented initially for vertical polarization. The output of the test antenna was connected to the measuring receiver. The transmitter was switched on with modulation. The test antenna was raised and lowered through the specified range of height until a maximum signal level is detected by the measuring receiver. The transmitter shall then be rotated through 360° in the horizontal plane, until the maximum signal level is detected by the measuring receiver. The measurement was repeated with the test antenna orientated for horizontal polarization.

For conducted emissions, the antenna port of the EUT was connected directly to a spectrum analyser.

5.1.3 Limits

ETSI EN 301 511			
Frequency range	**Power level in dBm (GSM)**	**Power level in dBm (DCS)**	**Bandwidth**
100 kHz to 50 MHz	-36	-36	10 kHz
50 MHz to 500 MHz	-36	-36	100 kHz
500 MHz to 1 GHz	-36	-36	3 MHz
1 GHz to 1.710 GHz	-30	-30	3 MHz
1.710 GHz to 1.785 GHz	-30	-36	3 MHz
1.785 GHz to 12.75 GHz	-30	-30	3 MHz
Offset from edge	**Power level in dBm**	**Power level in dBm**	**Bandwidth**
0 to 10 MHz	-36	-30	100 kHz
>= 10 MHz	-36	-30	300 kHz
>= 20 MHz	-36	-30	1 MHz
>= 30 MHz	-36	-30	3 MHz
For radiated spurious emission the frequency range is 30 MHz to 4 GHz			

Power class				**Power control level**	**Transmitter output power**	**Tolerances**	
2	3	4	5		(dBm)	Normal	Extreme
.				2	39	± 2 dB	± 2.5 dB
.	.			3	37	± 3 dB (note 1)	± 3 dB (note 1)
.	.	.		4	35	± 3 dB	± 4 dB
.				5	33	± 3 dB (note 1)	± 4 dB (note 1)
.	.			6	31	± 3 dB	± 4 dB
.	.	.		7	29	± 3 dB	± 4 dB
.				8	27	± 3 dB	± 4 dB
.	.			9	25	± 3 dB	± 4 dB
.	.	.		10	23	± 3 dB	± 4 dB
.				11	21	± 3 dB	± 4 dB
.	.			12	19	± 3 dB	± 4 dB
.	.	.		13	17	± 3 dB	± 4 dB
.	.	.		14	15	± 3 dB	± 4 dB
.	.	.		15	13	± 3 dB	± 4 dB
.	.	.		16	11	± 5 dB	± 6 dB
.	.	.		17	9	± 5 dB	± 6 dB
.	.	.		18	7	± 5 dB	± 6 dB
.	.	.		19	5	± 5 dB	± 6 dB

5.1.4 Test result

Verdict:	☒ P ☐ F ☐ N
Test frequency:	900 MHz, 1800MHz
Operation mode:	1
Configuration mode:	1
Kind of test site:	shielded room
Remarks:	

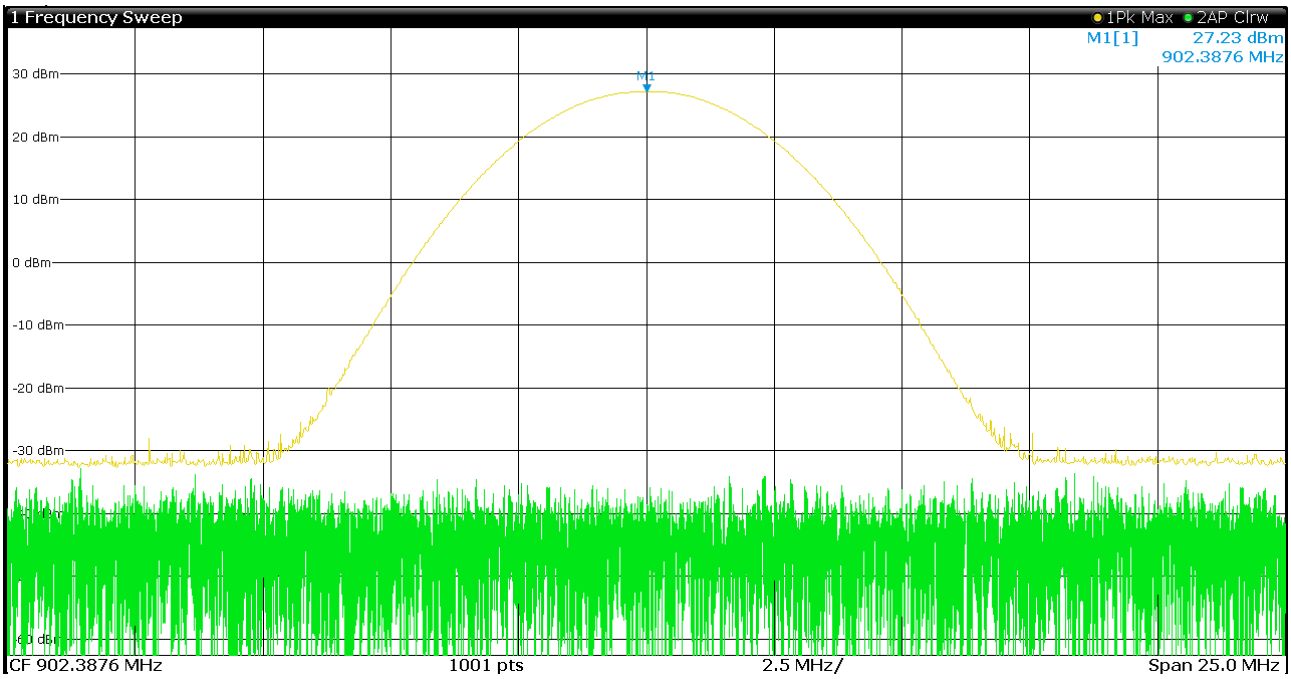
5.1.5 Test equipment used

Equipment	Manufacturer	Model	Serial N°
EMI receiver (20 Hz ÷ 8 GHz)	R&S	ESU8	100202
EMI receiver 2 Hz ÷ 44 GHz	R&S	ESW44	101620
Climatic Chamber	MSL	EC500DA	15022
Controller	EMCO	2090	9511-1099
Antenna Tower	EMCO	2071-2	9601-1940
Turning table Controller	EMCO	1061-1.521	9012-1508
Semi-anechoic chamber	Nemko	3m semi-anechoic chamber	70
Shielded room	Siemens	3m control room	3
Bilog antenna (1 ÷ 18 GHz)	Schwarzbeck	STLP 9148-123	123
Semi-anechoic chamber	Nemko	10m semi-anechoic chamber	530
Shielded room	Siemens	10m control room	1947

5.1.6 Test protocol

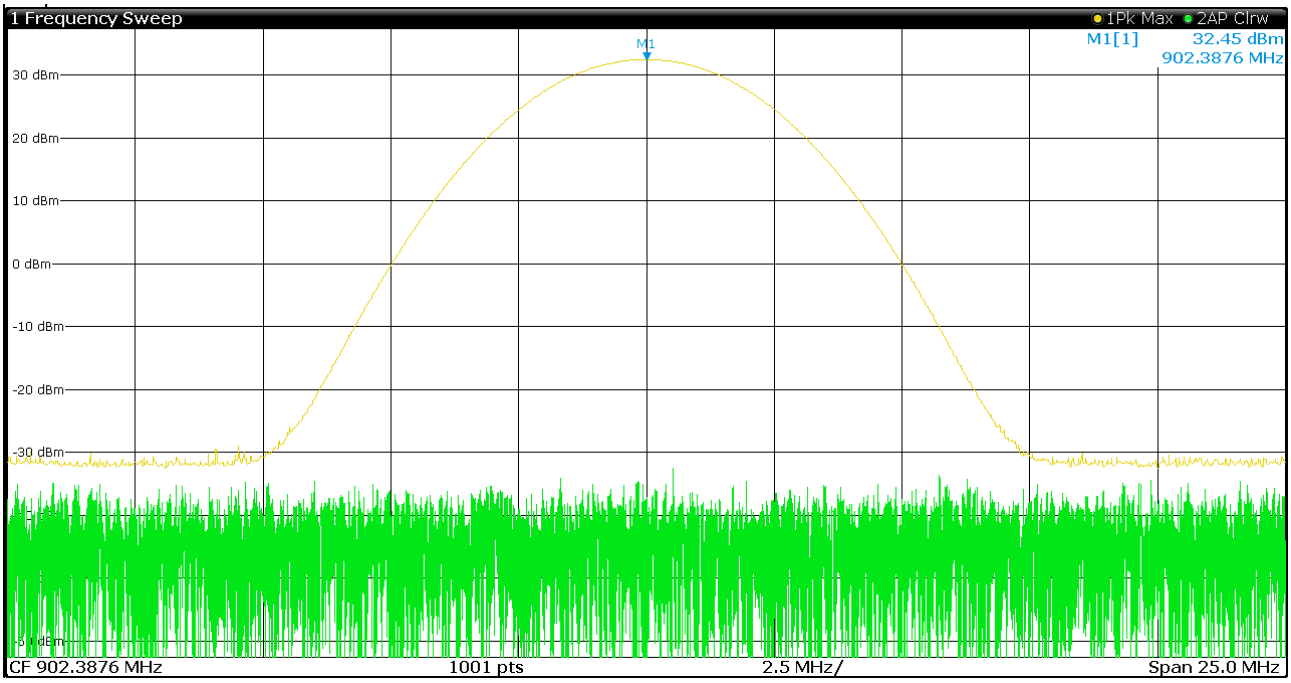
Antenna polarization: Horizontal
Operation mode: 1
Configuration mode: 1
TX frequency: GSM 900

Verdict: Pass

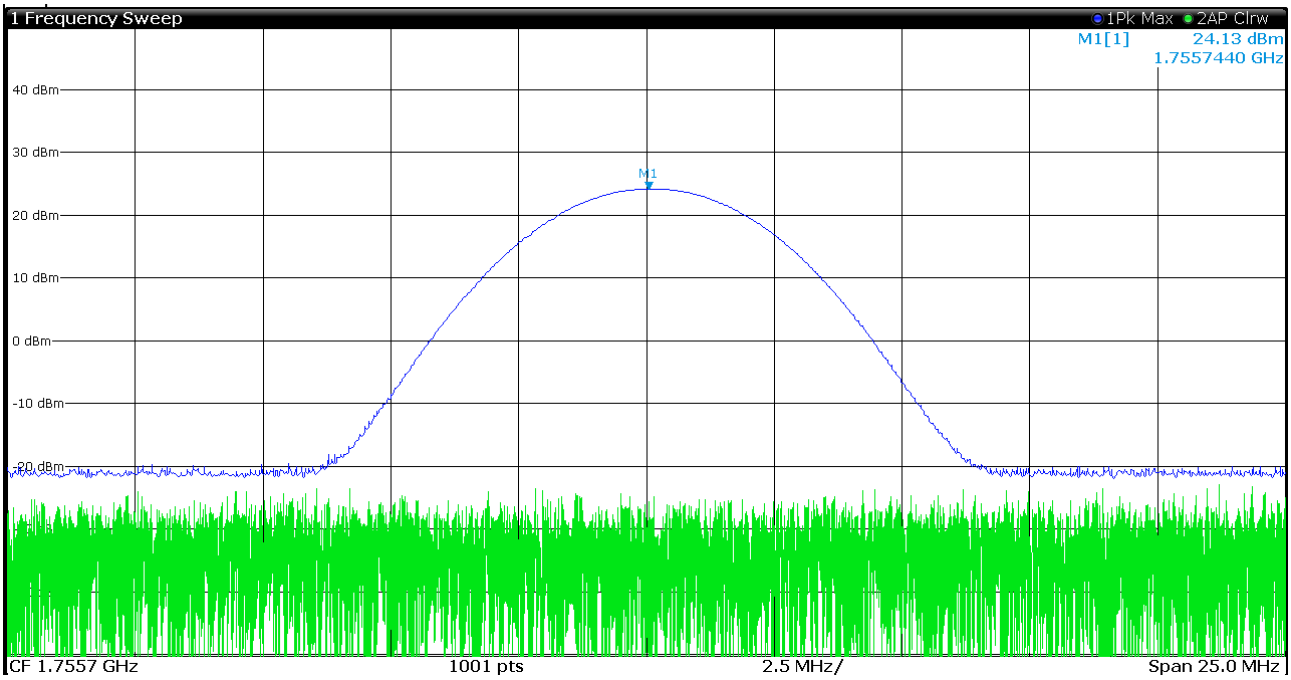


Antenna polarization: Vertical
Operation mode: 1
Configuration mode: 1
TX frequency: GSM 900

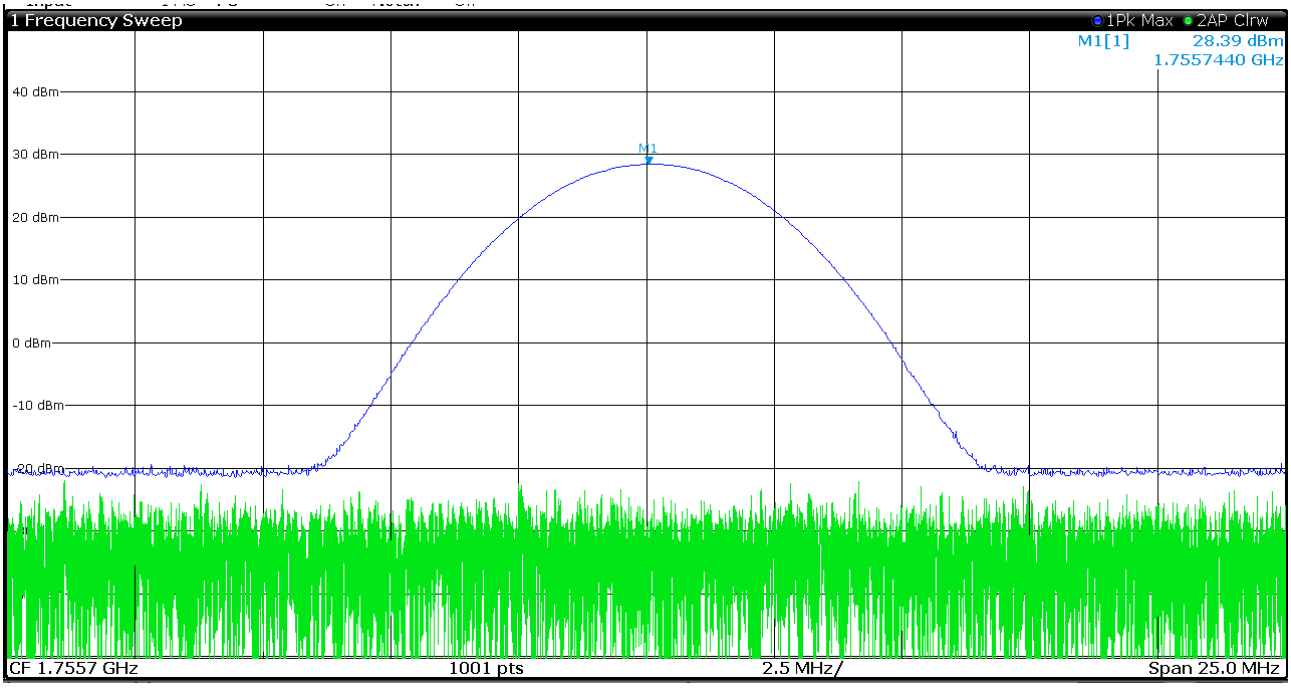
Verdict: Pass



Antenna polarization: Horizontal Verdict: Pass
Operation mode: 1
Configuration mode: DCS 1756 MHz
TX frequency:



Antenna polarization: Vertical Verdict: Pass
Operation mode: 1
Configuration mode: 1
TX frequency: DCS 1756



5.2 Unwanted emissions in the spurious domain

5.2.1 Photo documentation of the test set-up

5.2.2 Test method

Transmitter unwanted emissions in the spurious domain are emissions outside the allocated band and outside the out-of-band domain.

For radiated emissions, the equipment was placed at the specified height on an isolated support and in the position closest to normal use as declared by the provider. The test antenna was oriented initially for vertical polarization. The output of the test antenna was connected to the measuring receiver. The transmitter was switched on with modulation. The test antenna was raised and lowered through the specified range of height until a maximum signal level is detected by the measuring receiver. The transmitter shall then be rotated through 360° in the horizontal plane, until the maximum signal level is detected by the measuring receiver. The measurement was repeated with the test antenna orientated for horizontal polarization.

For conducted emissions, the antenna port of the EUT was connected directly to a spectrum analyser.

5.2.3 Limits

ETSI EN 301 511			
Frequency range	**Power level in dBm (GSM)**	**Power level in dBm (DCS)**	**Bandwidth**
100 kHz to 50 MHz	-36	-36	10 kHz
50 MHz to 500 MHz	-36	-36	100 kHz
500 MHz to 1 GHz	-36	-36	3 MHz
1 GHz to 1.710 GHz	-30	-30	3 MHz
1.710 GHz to 1.785 GHz	-30	-36	3 MHz
1.785 GHz to 12.75 GHz	-30	-30	3 MHz
Offset from edge	**Power level in dBm**	**Power level in dBm**	**Bandwidth**
0 to 10 MHz	-36	-30	100 kHz
>= 10 MHz	-36	-30	300 kHz
>= 20 MHz	-36	-30	1 MHz
>= 30 MHz	-36	-30	3 MHz
For radiated spurious emission the frequency range is 30 MHz to 4 GHz			

5.2.4 Test result

Verdict:	☒ P ☐ F ☐ N
Frequency range:	30 MHz to 12.75 GHz
Measurement distance:	3 m and 10 m
Kind of test site:	Semi anechoic chamber
Remarks:	

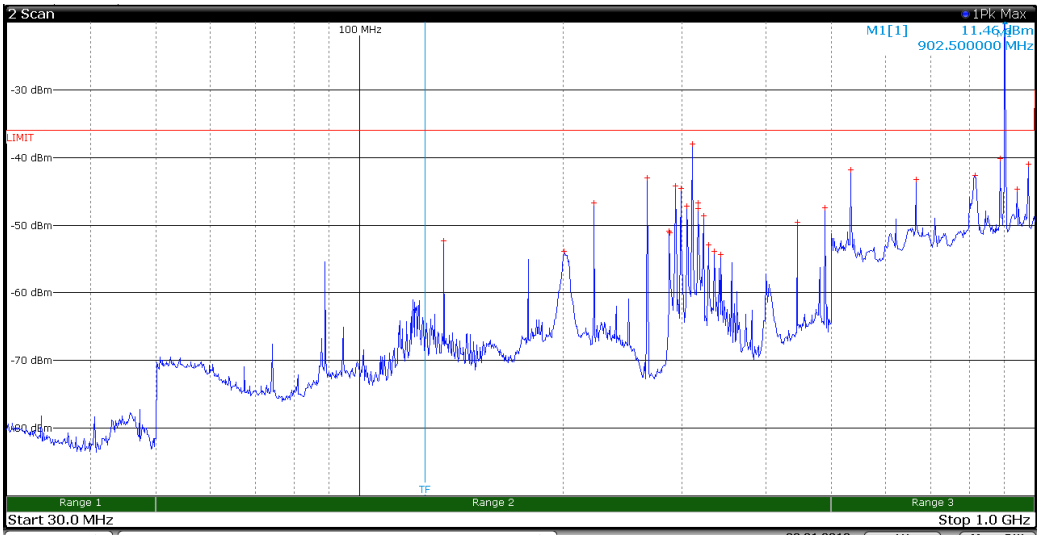
5.2.5 Test equipment used

Equipment	Manufacturer	Model	Serial N°
Trilog Broadband Antenna	Schwarzbeck	VULB 9168	9168-242
Bilog antenna 1 ÷ 18 GHz	Schwarzbeck	STLP 9148-123	123
Broadband preamplifier	Schwarzbeck	BBV 9718	9718-137
EMI receiver 20 Hz ÷ 8 GHz	R&S	ESU8	100202
EMI receiver 2 Hz ÷ 44 GHz	R&S	ESW44	101620
Turning-table	R&S	HCT	835 803/03
Antenna mast	R&S	HCM	836 529/05
Controller	R&S	HCC	836 620/7
Semi-anechoic chamber	Nemko	10m semi-anechoic chamber	530
Shielded room	Siemens	10m control room	1947
Shielded room	Siemens	Conducted emission test room	1862
Controller	EMCO	2090	9511-1099
Antenna Tower	EMCO	2071-2	9601-1940
Turning table Controller	EMCO	1061-1.521	9012-1508
Semi-anechoic chamber	Nemko	3m semi-anechoic chamber	70
Shielded room	Siemens	3m control room	3

5.2.6 Test protocol

Antenna polarization: Vertical
Operation mode: 1
Configuration mode: 1
TX frequency: GSM 900
Frequency range: 30 MHz to 1000 MHz

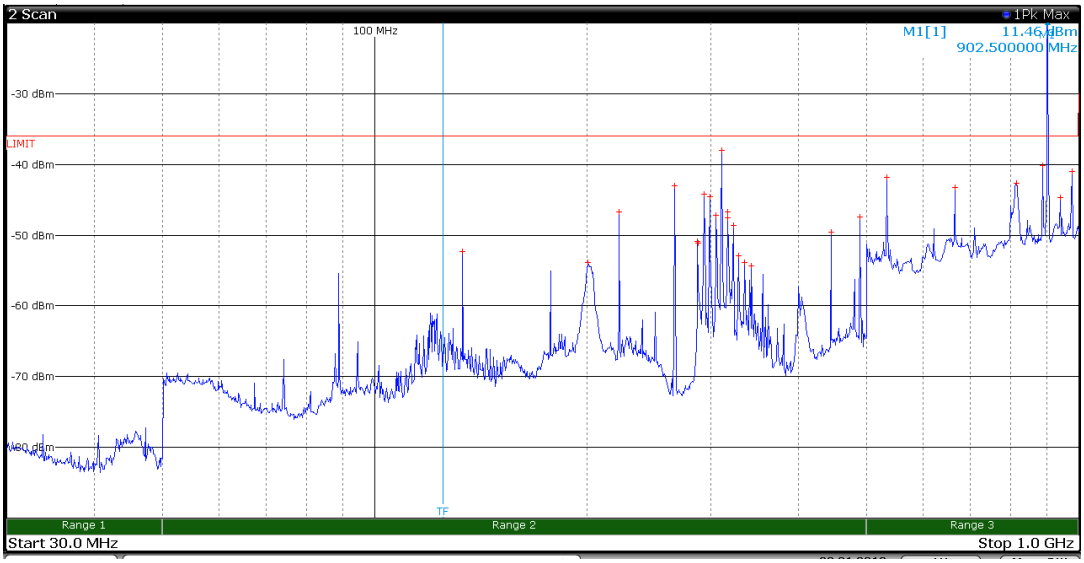
Verdict: Pass



Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)
88.9000	-51.3	-36.0	-15.3
97.9250	-53.3	-36.0	-17.3
103.7000	-50.5	-36.0	-14.5
121.4000	-52.0	-36.0	-16
222.2250	-43.1	-36.0	-7.1
266.6750	-42.0	-36.0	-6.0
311.1000	-48.6	-36.0	-12.6
342.9250	-49.7	-36.0	-13.7
355.5500	-44.7	-36.0	-8.7
361.8750	-46.2	-36.0	-10.2
373.3250	-48.5	-36.0	-12.5
380.9250	-50.6	-36.0	-14.6
381.7500	-54.1	-36.0	-18.1
400.0000	-52.6	-36.0	-16.6
444.4250	-47.8	-36.0	-11.8
488.9000	-49.6	-36.0	-13.6
533.2500	-42.0	-36.0	-6
622.0000	-46.4	-36.0	-10.4
667.0000	-47.5	-36.0	-11.5
711.0000	-42.0	-36.0	-6
755.7500	-46.3	-36.0	-10.3
800.0000	-42.0	-36.0	-6
876.5000	-41.2	-36.0	-5.2
902.5000	31.7	-36.0	67.7
977.7500	-39.2	-36.0	-3.2

Limit exceeded by the carrier

Antenna polarization: Horizontal Verdict: Pass
Operation mode: 1
Configuration mode: 1
TX frequency: GSM 900
Frequency range: 30 MHz to 1000 MHz

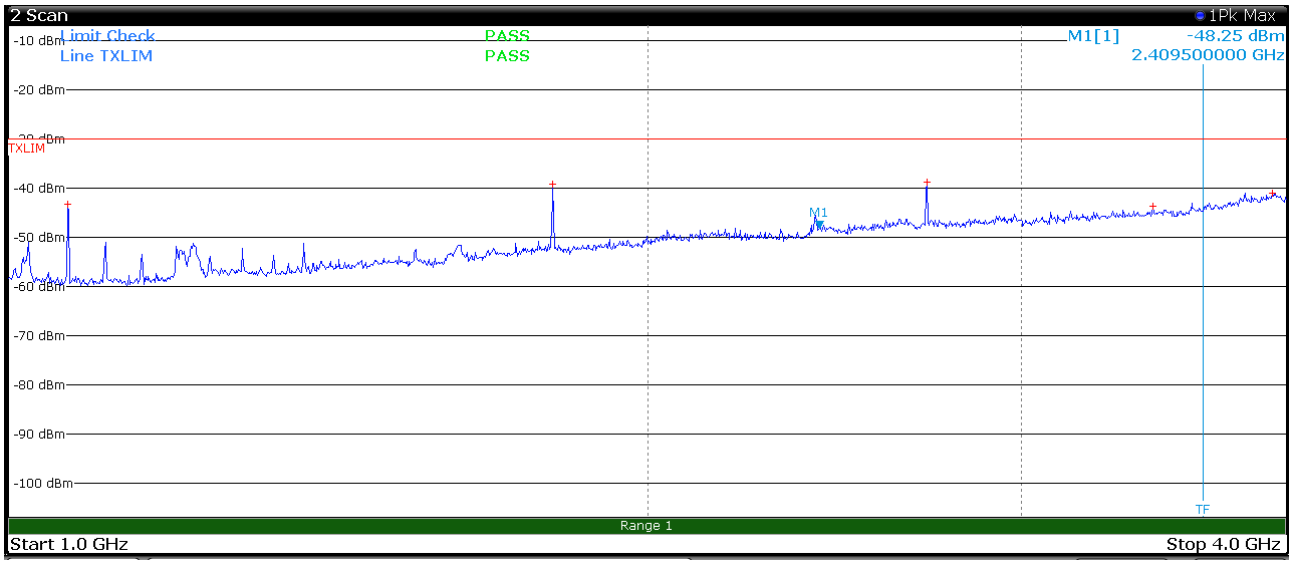


Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)
133.3250	-52.3	-36.0	-15.3
200.9000	-54.0	-36.0	-17.3
222.2250	-46.8	-36.0	-14.4
266.6750	-43.0	-36.0	-16.0
287.2500	-50.9	-36.0	-7.1
287.6250	-51.2	-36.0	-6.0
293.4000	-44.3	-36.0	-12.6
299.1750	-44.6	-36.0	-13.6
305.3250	-47.2	-36.0	-8.7
311.1250	-38.1	-36.0	-10.1
316.9000	-46.7	-36.0	-12.4
317.2500	-47.6	-36.0	-14.6
323.0250	-48.7	-36.0	-18.1
328.8250	-53.0	-36.0	-16.6
334.9500	-54.0	-36.0	-11.8
342.8750	-54.4	-36.0	-13.5
444.4500	-49.6	-36.0	-6.0
488.9000	-47.5	-36.0	-10.3
533.2500	-41.9	-36.0	-11.4
666.5000	-43.3	-36.0	-6.0
814.5000	-42.7	-36.0	-10.2
889.0000	-40.2	-36.0	-6.0
902.5000	11.5	-36.0	-5.2
941.2500	-44.7	-36.0	67.7
977.7500	-41.1	-36.0	-3.2

Limit exceeded by the carrier

Antenna polarization: Horizontal
Operation mode: 1
Configuration mode: 1
TX frequency: GSM 900
Frequency range: 1 GHz to 4 GHz

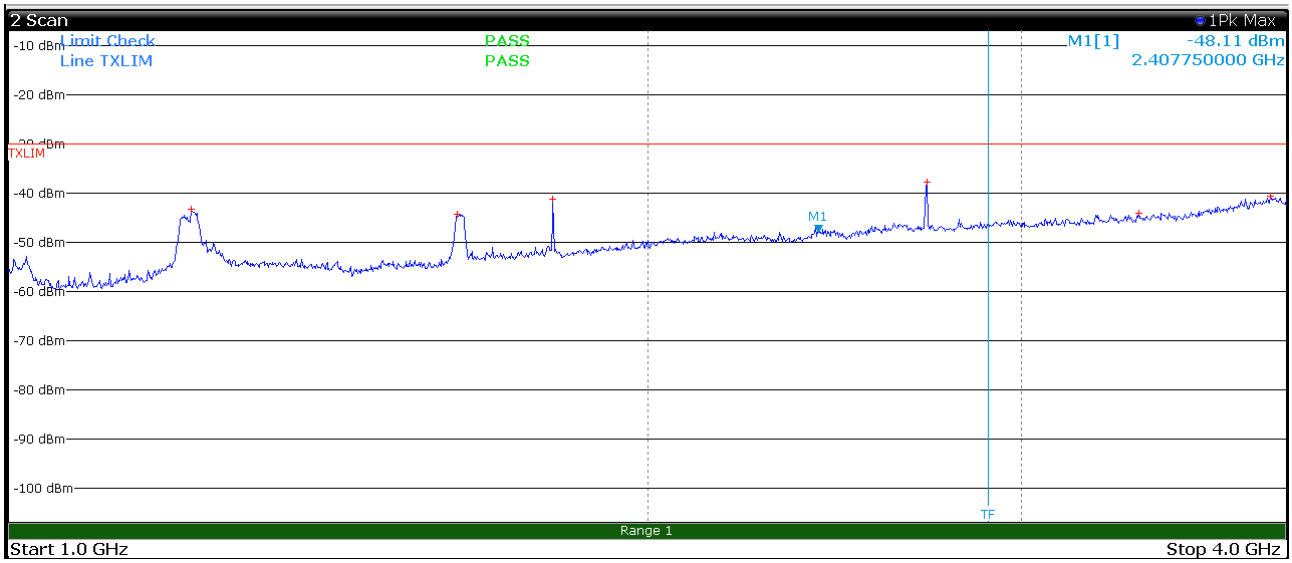
Verdict: Pass



Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)
1066.7500	-43.3	-30.0	-13.3
1804.7500	-39.3	-30.1	-9.2
2707.2500	-38.8	-30.1	-8.7
3462.2500	-43.8	-30.1	-13.7
3938.2500	-41.1	-30.1	-11.0

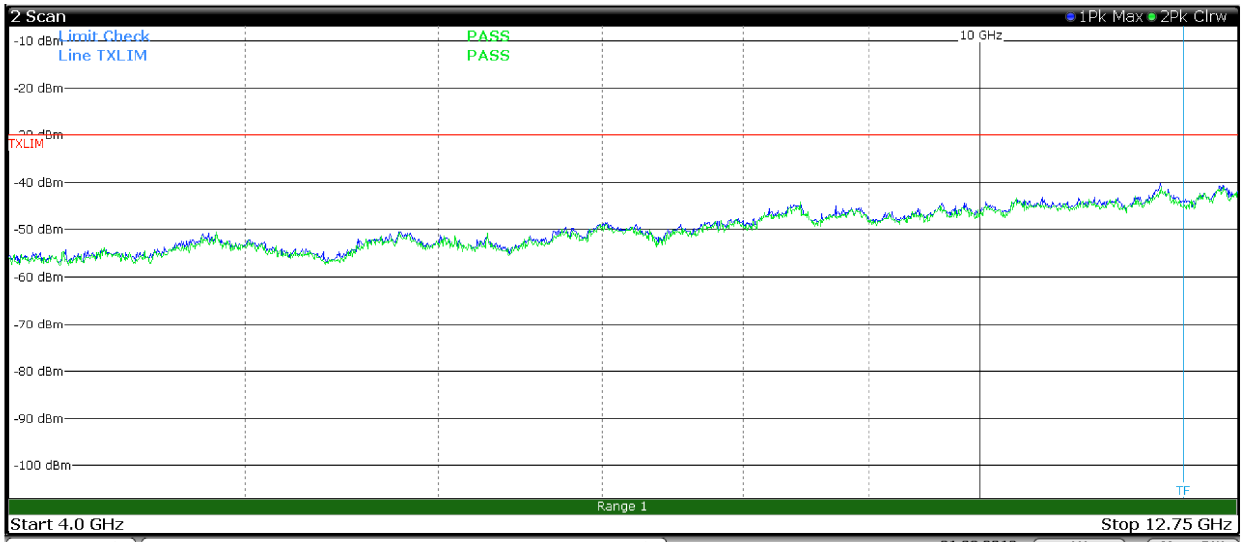
Antenna polarization: Vertical
Operation mode: 1
Configuration mode: 1
TX frequency: GSM 900
Frequency range: 1 GHz to 4 GHz

Verdict: Pass

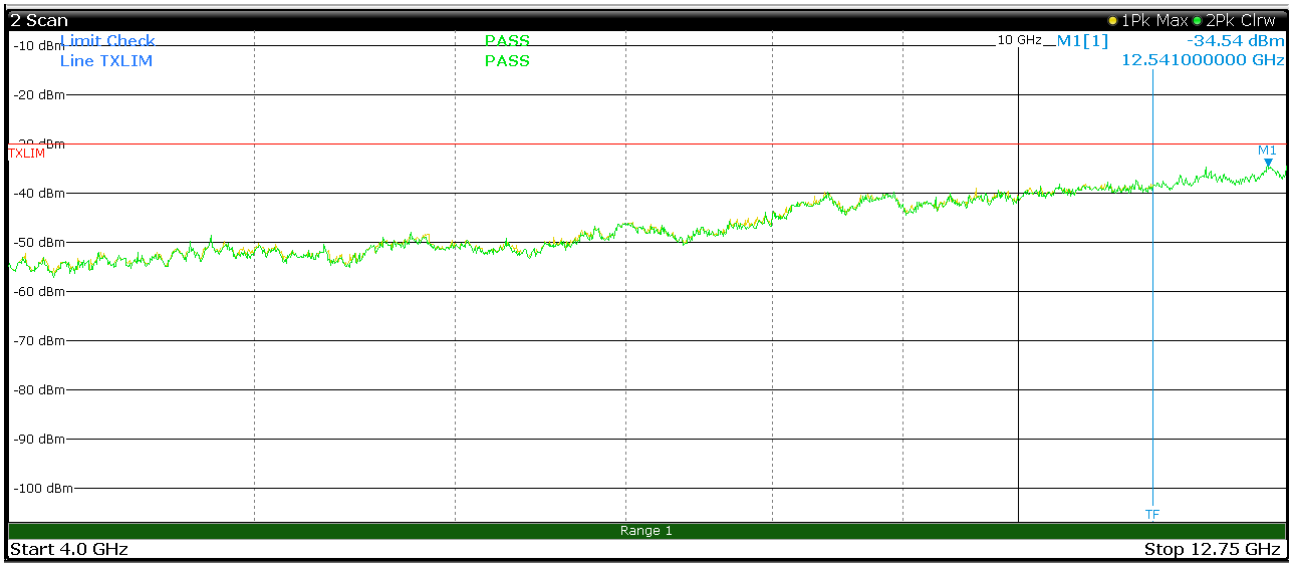


Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)
1219.0000	-43.3	-30.0	-13.3
1626.7500	-44.4	-30.1	-14.3
1805.0000	-41.4	-30.1	-11.3
2707.2500	-37.8	-30.1	-7.7
3407.2500	-44.3	-30.1	-14.2
3932.7500	-40.7	-30.1	-10.6

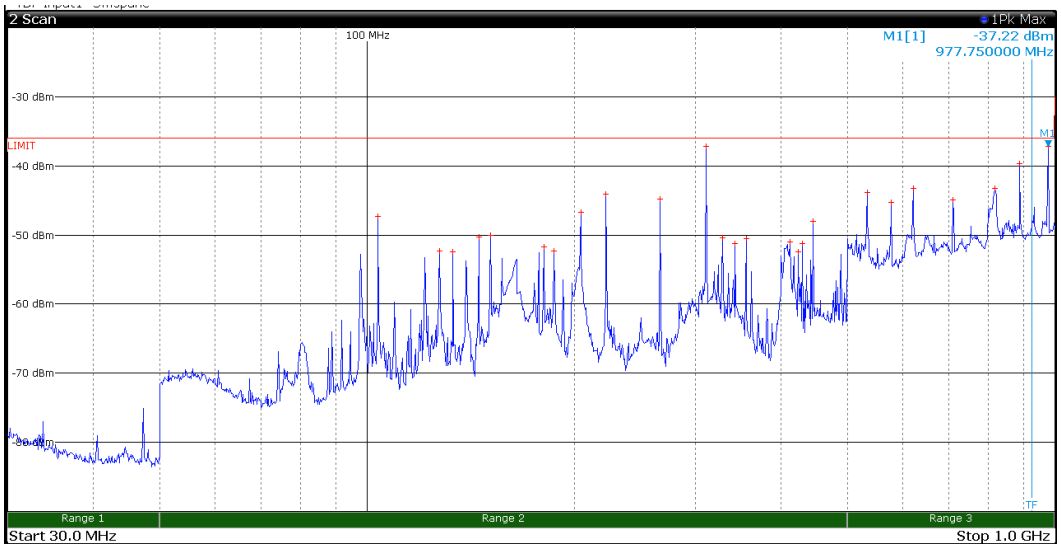
Antenna polarization: Horizontal Verdict: Pass
Operation mode: 1
Configuration mode: 1
TX frequency: GSM 900
Frequency range: 4GHz to 12.75 GHz



Antenna polarization: Vertical Verdict: Pass
Operation mode: 1
Configuration mode: 1
TX frequency: GSM 900
Frequency range: 4 GHz to 12.75 GHz



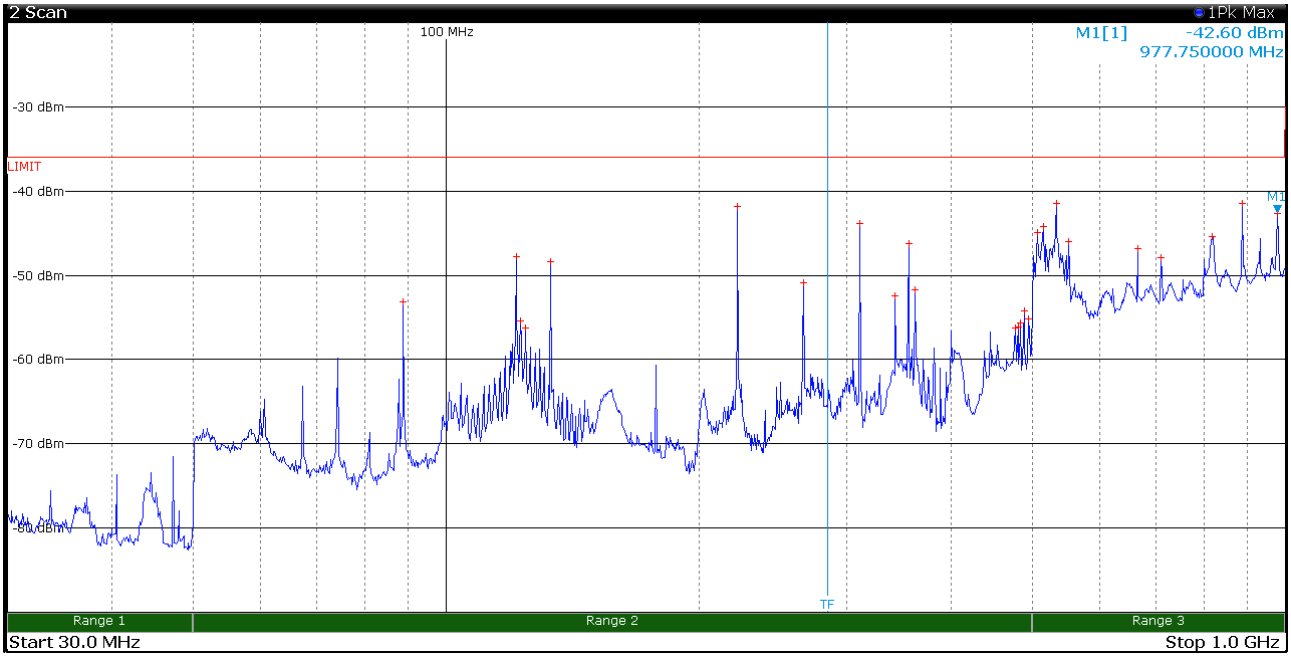
Antenna polarization: Horizontal Verdict: Pass
Operation mode: 1
Configuration mode: 1
TX frequency: DCS 1800
Frequency range: 30 MHz to 1000 MHz



Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)
103.7000	-47.4	-36.0	-11.4
127.5500	-52.3	-36.0	-16.3
133.3250	-52.4	-36.0	-16.4
145.2500	-50.4	-36.0	-14.4
151.0500	-50.1	-36.0	-14.1
180.6750	-51.8	-36.0	-15.8
186.8000	-52.3	-36.0	-16.3
204.5250	-46.7	-36.0	-10.7
222.2250	-44.1	-36.0	-8.1
266.6750	-44.8	-36.0	-8.8
311.1000	-37.2	-36.0	-1.2
328.8250	-50.5	-36.0	-14.5
342.9000	-51.3	-36.0	-15.3
355.5500	-50.6	-36.0	-14.6
411.9250	-51.1	-36.0	-15.1
423.8500	-52.4	-36.0	-16.4
429.6250	-51.3	-36.0	-15.3
444.4500	-48.1	-36.0	-12.1
533.2500	-43.9	-36.0	-7.9
577.7500	-45.3	-36.0	-9.3
622.2500	-43.3	-36.0	-7.3
711.0000	-45.0	-36.0	-9
818.5000	-43.2	-36.0	-7.2
888.7500	-39.7	-36.0	-3.7
977.7500	-37.3	-36.0	-1.3

Antenna polarization: Vertical
Operation mode: 1
Configuration mode: 1
TX frequency: DCS 1800
Frequency range: 30 MHz to 1000 MHz

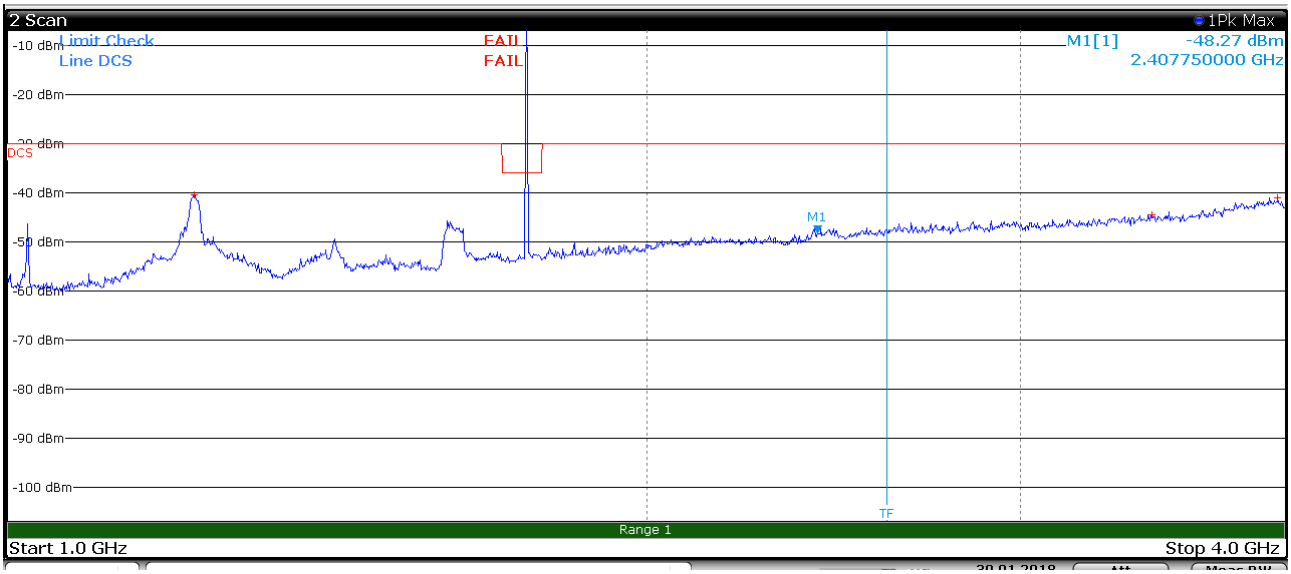
Verdict: Pass



Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)
88.8750	-53.2	-36.0	-17.2
121.1250	-47.8	-36.0	-11.8
122.6000	-55.4	-36.0	-19.4
124.3250	-56.3	-36.0	-20.3
133.3250	-48.4	-36.0	-12.4
222.2250	-41.9	-36.0	-5.9
266.6750	-51.0	-36.0	-15
311.1000	-43.9	-36.0	-7.9
342.9000	-52.4	-36.0	-16.4
355.5500	-46.3	-36.0	-10.3
361.8750	-51.8	-36.0	-15.8
476.9500	-56.3	-36.0	-20.3
480.0000	-56.2	-36.0	-20.2
483.1000	-55.7	-36.0	-19.7
488.8750	-54.2	-36.0	-18.2
494.6750	-55.2	-36.0	-19.2
506.5000	-45.0	-36.0	-9
514.2500	-44.2	-36.0	-8.2
533.5000	-41.5	-36.0	-5.5
552.2500	-46.0	-36.0	-10
666.5000	-46.9	-36.0	-10.9
711.0000	-47.9	-36.0	-11.9
816.7500	-45.4	-36.0	-9.4
889.2500	-41.5	-36.0	-5.5
977.7500	-42.6	-36.0	-6.6

Antenna polarization: Horizontal
Operation mode: 1
Configuration mode: 1
TX frequency: DCS 1800
Frequency range: 1 GHz to 4 GHz

Verdict: Pass

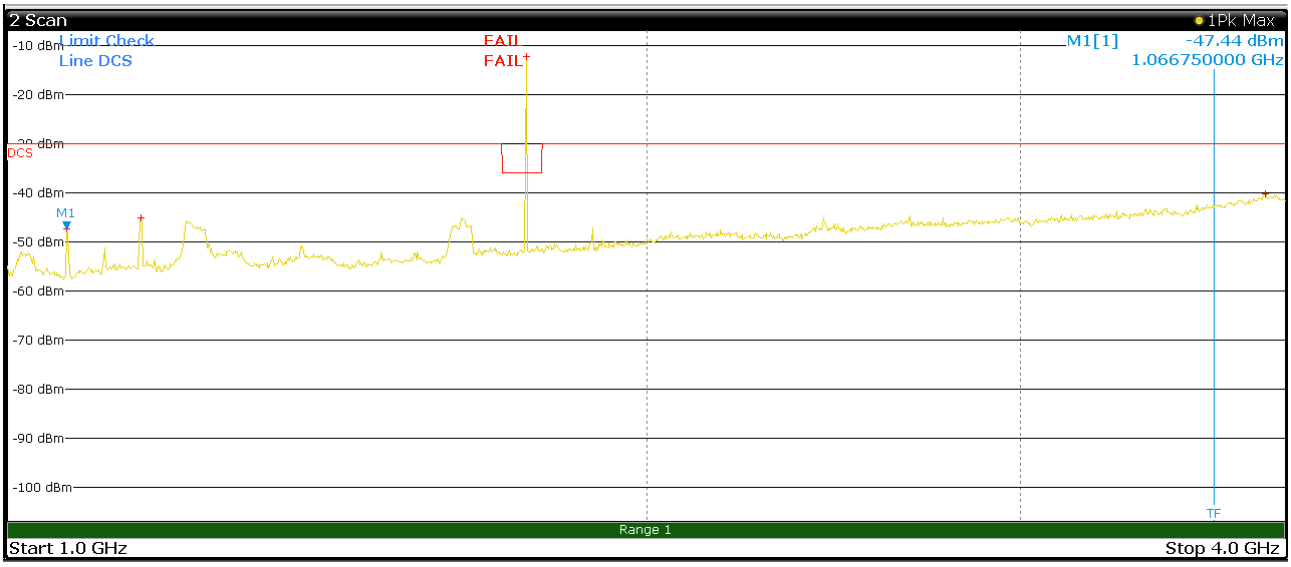


Limit exceeded by the carrier

Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)
1155.7500	-44.1	-30.1	-14.0
1222.7500	-40.3	-30.1	-10.2
1755.7500	3.6	-35.9	39.5
3462.7500	-44.4	-30.1	-14.3
3987.7500	-40.9	-30.1	-10.8

Antenna polarization: Vertical
Operation mode: 1
Configuration mode: 1
TX frequency: DCS 1800
Frequency range: 1 GHz to 4 GHz

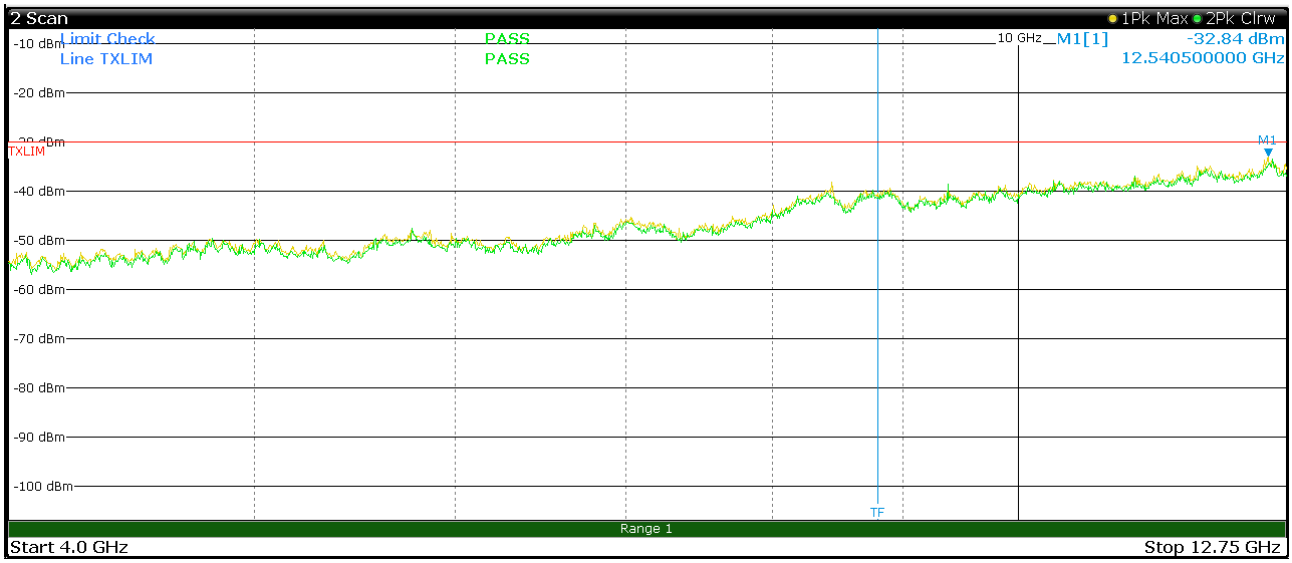
Verdict: Pass



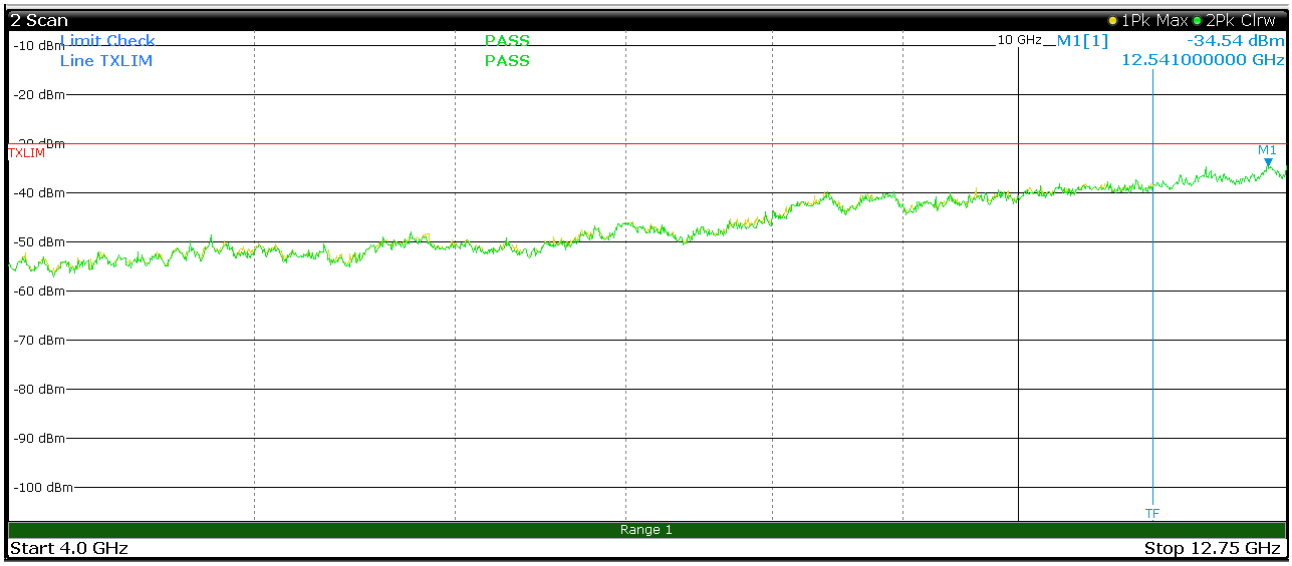
Frequency (MHz)	Level (dBm)	Limit (dBm)	Margin (dB)
1066.7500	-47.5	-30.1	-17.4
1155.2500	-45.3	-30.1	-15.2
1755.7500	-12.4	-36.0	23.6
3911.7500	-40.4	-30.1	-10.3

Limit exceeded by the carrier

Antenna polarization: Horizontal Verdict: Pass
Operation mode: 1
Configuration mode: 1
TX frequency: DCS1800
Frequency range: 4GHz to 12.75 GHz



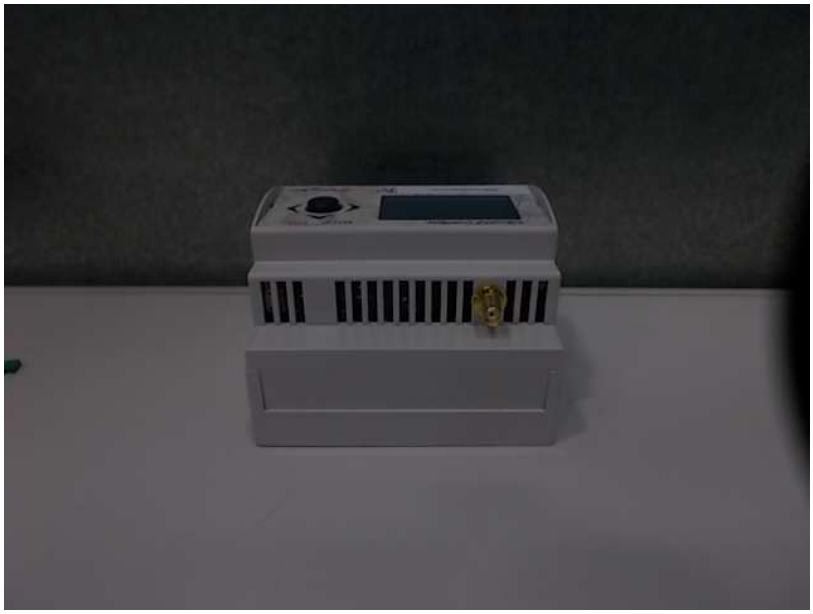
Antenna polarization: Vertical Verdict: Pass
Operation mode: 1
Configuration mode: 1
TX frequency: DCS 1800
Frequency range: 4 GHz to 12.75 GHz



6 EUT PHOTOS

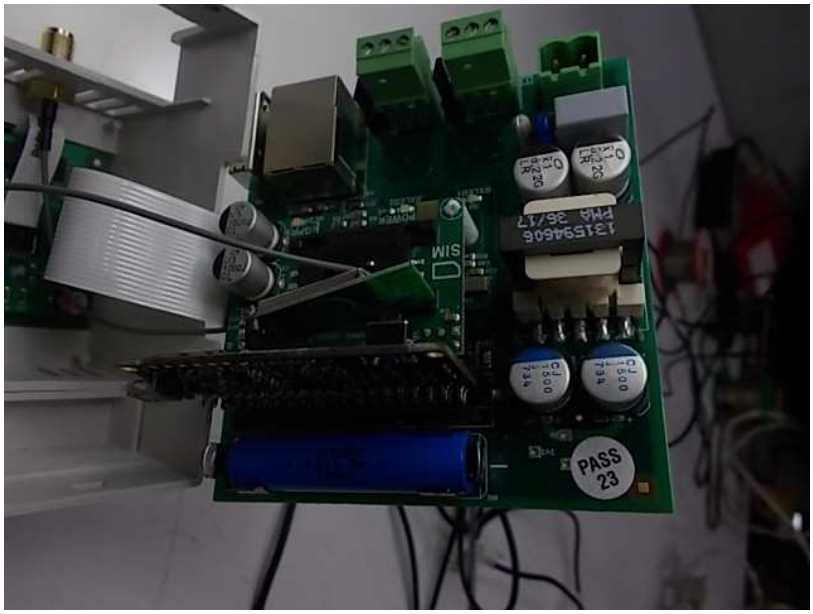

Industrial Gateway
EnergyTeam


TOP
TOP
EnergyTeam S.p.A.
NG-Gateway
serial
171220IG161258
MAC address
40-D8-55-82-24-D0




EnergyTeam S.p.A.


PASS
23



End of report