



Nemko Italy S.p.A., Via del Carroccio 4, 20853, Biassono, Italy.

Report number: **253922-3TRFWL**

Equipment Under Test: TRE7S8SC8A9S19AWAS

Applicant: TEKO Telecom Srl  
Via Meucci, 24/a  
I-40024 Castel S. Pietro Terme (BO)

FCC ID: XM2-EP6B

Test specification:

**Title 47-Telecommunication**

Chapter I – Federal Communications Commission

Subchapter A – General

Part 22 – Public Mobile Services

Subpart H – Cellular Radiotelephone Service

Reviewed by:  2014/03/27  
Signature Date  
P. Barbieri, Wireless/EMC Specialist

Reviewed by:  2014/03/27  
Signature Date  
G. Curioni, Wireless/EMC Specialist

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Report number: **253922-3TRFWL**

Specification: FCC 22 Subpart H

## Table of contents

Title 47-Telecommunication .....	2
<b>Section 1: Report summary.....</b>	<b>3</b>
<b>Section 2: Equipment under test .....</b>	<b>4</b>
2.1 Identification of equipment under test (EUT).....	4
2.2 Accessories and support equipment .....	4
2.3 EUT description .....	5
2.4 Technical specifications of the EUT .....	5
2.5 EUT setup diagram.....	6
2.6 Operation of the EUT during testing .....	6
2.7 Modifications incorporated in the EUT .....	6
<b>Section 3: Test conditions .....</b>	<b>7</b>
3.1 Deviations from laboratory tests procedures.....	7
3.2 Test conditions, power source and ambient temperatures .....	7
3.3 Measurement uncertainty .....	8
3.4 Test equipment.....	9
<b>Section 4: Result summary .....</b>	<b>10</b>
4.1 Test results .....	10
<b>Appendix A: Test results .....</b>	<b>11</b>
Clause 22.913(a) Effective radiated power limits .....	11
Clause 2.1049 Occupied bandwidth .....	16
Clause 22.917 Out of band emissions at antenna terminal .....	23
Clause 22.917 Field strength of emissions.....	38
Clause 22.355 Frequency tolerance .....	41
<b>Appendix B: Block diagrams of test set-ups .....</b>	<b>48</b>

 Nemko Italy S.p.A. Via del Carroccio 4, 20046, Biassono, Italy.	Section 1: Report summary
	Report number: <b>253922-3TRFWL</b>
	Specification: FCC 22 Subpart H

## Section 1: Report summary

This report contains an assessment of apparatus against specifications based upon tests carried out on samples submitted at Nemko Italy SpA.

### Test specification: FCC Part 22 Subpart H, Cellular Radiotelephone Service

Compliance status:	<a href="#">Complies</a>
Exclusions:	<a href="#">None</a>
Non-compliances:	<a href="#">None</a>
Report release history:	Original release
Test location:	Nemko Italy S.p.A. Via del Carroccio 4, 20046, Biassono, Italy.
Registration number:	481407 (10 m Semi anechoic chamber)

Note that the results contained in this report relate only to the items tested and were obtained in the period between the date of initial receipt of samples and the date of issue of the report.

This test report has been completed in accordance with the requirements of ISO/IEC 17025. All results contain in this report are within Nemko Italy's ISO/IEC 17025 accreditation.

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Section 2: Equipment under test

Report number: **253922-3TRFWL**

Specification: FCC 22 Subpart H

## Section 2: Equipment under test

### 2.1 Identification of equipment under test (EUT)

The following information identifies the EUT under test:

Type of equipment:	Remote Unit
Product marketing name:	Teko Telecom Srl
Model number:	TRE7S8SC8A9S19AWAS
Serial number:	132059001
Nemko sample number:	-----
FCC ID:	XM2-EP6B
Date of receipt:	2014-03-03

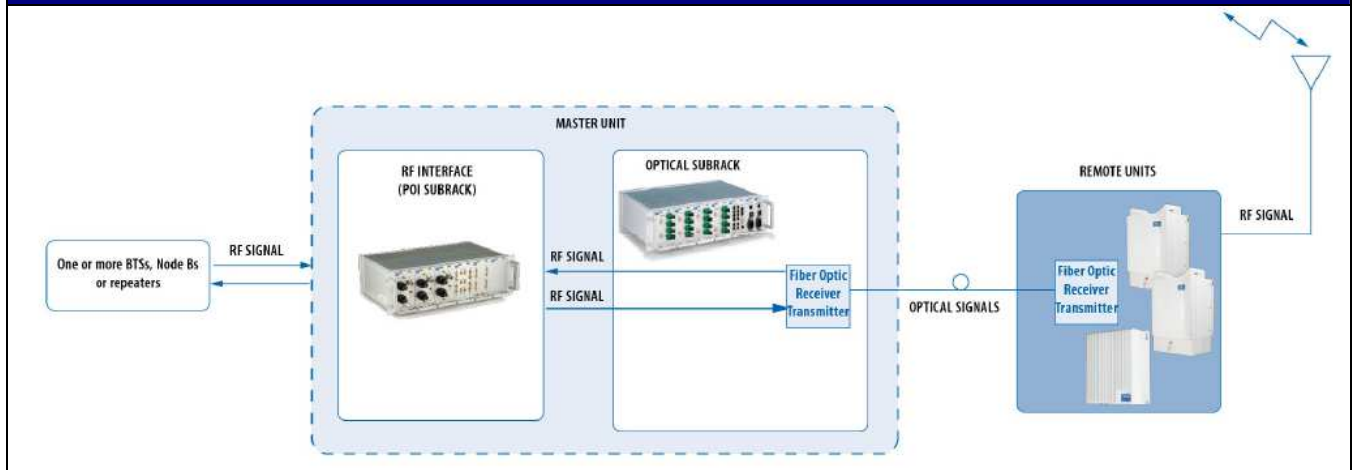
### 2.2 Accessories and support equipment

The following information identifies accessories used to exercise the EUT during testing:

Only setup See 3.4 test equipment and photo

## Section 2: Equipment under test, continued

### 2.3 EUT description



### 2.4 Technical specifications of the EUT

Operating band:	Down Link 869-894 MHz; Up Link 824-849 MHz
Operating frequencies:	Wideband
Modulation type:	GSM, EDGE, CDMA, WCDMA, LTE (QAM and QPSK)
Occupied bandwidth:	GSM and EDGE: 200 kHz; CDMA: 1,25 MHz, WCDMA: 5 MHz LTE: 1.4 MHz, 3 MHz, 5 MHz, 10 MHz
Channel spacing:	Standard
Emission designator:	GSM and EDGE: GXW; CDMA, WCDMA: F9W, LTE: D7W
RF Output	Down Link: 31dBm (1,25W) Up Link: N.A. (The EUT does not transmit over the air in the up-link direction)
Gain	Down Link: 36dB Up Link: N.A. (The EUT does not transmit over the air in the up-link direction)
Antenna data:	No antenna provided
Antenna type:	No antenna provided External Antenna (Equipment that has an external 50 $\Omega$ RF connector)
Power source	100-240 Vac

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	Report number: <b>253922-3TRFWL</b>
	Specification: FCC 22 Subpart H

## Section 2: Equipment under test, continued

### 2.5 EUT setup diagram



### 2.6 Operation of the EUT during testing

In down-link direction, normal working at max gain with max RF power output

### 2.7 Modifications incorporated in the EUT

None/Comments (Performed by: Client or Nemko)  
There were no modifications performed to the EUT during this assessment.

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	Report number: <b>253922-3TRFWL</b>
	Specification: FCC 22 Subpart H

## Section 3: Test conditions

### 3.1 Deviations from laboratory tests procedures

No deviations were made from laboratory test procedures.

### 3.2 Test conditions, power source and ambient temperatures

Normal temperature, humidity and air pressure test conditions	Temperature: 15–30 °C Relative humidity: 30–60 % Air pressure: 860–1060 hPa  When it is impracticable to carry out tests under these conditions, a note to this effect stating the ambient temperature and relative humidity during the tests shall be recorded and stated.
Power supply range:	The normal test voltage for equipment to be connected to the mains shall be the nominal mains voltage. For the purpose of the present document, the nominal voltage shall be the declared voltage, or any of the declared voltages $\pm 5\%$ , for which the equipment was designed.

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	Report number: <b>253922-3TRFWL</b>
	Specification: FCC 22 Subpart H

## Section 3: Test conditions, continued

### 3.3 Measurement uncertainty

Nemko S.p.A. measurement uncertainty has been calculated using the standard CISPR 16-4-2 "Specification for radio disturbance and immunity measuring apparatus and methods – Part 4-2: Uncertainties, statistics and limit modeling – Uncertainty in EMC measurements". All calculations have been performed to provide a confidence level of 95 % and can be found in Nemko S.p.A. document WML1002.





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### Section 3: Test conditions

Report number: **253922-3TRFWL**

Specification: FCC 22 Subpart H

## 3.4 Test equipment

Client's property:

Identification number	Description	Manufacturer model	s/n	Cal. Due
1a	Vector Signal Generator	Agilent N5182A MXG	MY48180714	May 2015
1b	Vector Signal Generator	Agilent E4438C ESG	MY45094485	Ago 2016
2a	Spectrum Analyzer	Agilent E4440A	US40420470	May 2015
2b	Spectrum Analyzer	Agilent E9020A MXA	MY48011812	Ago 2015
3	Network Analyzer	Agilent E5071B	MY42301133	Ago 2016
4	Climatic chamber	Angelantoni Hygros 600	7237	Nov 2014

Property of Nemko Italy:

Equipment	Manufacturer	Model no.	Asset no.	Cal cycle months	Next cal.
Trilog Broad Band Antenna 25-2000 MHz	Schwarzbeck	VULB 9168	VULB 9168-242	36	02/2015
Trilog Broad Band Antenna 25-8000 MHz	Schwarzbeck	VULB 9162	VULB 9162-25	36	05/2015
Antenna 1-18 GHz	Schwarzbeck	STLP 9148	STPL 9148-123	36	02/2015
Double ridge waveguide horn	RFspin	DRH40	061106A40		08/2016
Preamplifier 18-40 GHz	Miteq	JS44	1648665		09/2014
Broadband preamplifier 1-18 GHz	Schwarzbeck	BBV 9718	9718-137	36	09/2014
EMI receiver 20 Hz ÷ 8 GHz	R&S	ESU8	100202	12	02/2015
EMI receiver 20 Hz ÷ 3 GHz	R&S	ESCI	100888	12	08/2014
Hydraulic revolving platform	Nemko	RTPL 01	4.233		NCR
Turning-table	R&S	HCT	835 803/03		NCR
Antenna mast	R&S	HCM	836 529/05		NCR
Controller	R&S	HCC	836 620/7		NCR
Spectrum Analyzer 9kHz ÷ 40GHz	R&S	FSEK	848255/005		08/2014
Semi-anechoic chamber	Nemko	10m semi-anechoic chamber	530		08/2014
Shielded room	Siemens	10m control room	1947		NCR
Semi-anechoic chamber	Nemko	10m semi-anechoic chamber	70		NCR
Shielded Room	Siemens	3m semi-anechoic chamber	3		NCR
Motor controller	Emco	1051-25	9012-1559		NCR
Motor controller	Emco	1061-1.521	9012-1508		NCR
Antenna Tower	Emco	2071-2	9601-1940		NCR
Controller pole/table	Emco	2090	9511-1099		NCR
V-Network	Rohde & Schwarz	ESH2-Z5	872 460/041	12	09/2014

Note: N/A = Not applicable, NCR = No cal required, COU = Cal on use



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### Section 3: Test conditions

Report number: **253922-3TRFWL**

Specification: FCC 22 Subpart H

## Section 4: Result summary

### 4.1 Test results

The apparatus was assessed against the following specifications:

FCC Part 2 Subpart J, Equipment Authorization Procedures  
FCC Part 22 Subpart H Cellular Radiotelephone Service

The column headed 'Required' indicates whether the associated clauses were invoked for the apparatus under test. The following abbreviations are used:

N	No : not applicable / not relevant.
Y	Yes : Mandatory i.e. the apparatus shall conform to these tests.
N/T	Not Tested, mandatory but not assessed. (See report summary)

Part	Test description	Required	Result
§22.913(a)	Effective radiated power limits (500 W erp)	Y	Pass
§2.1049	Occupied bandwidth (Input/Output)	Y	Pass
§22.917	Out of band emissions (antenna terminals)	Y	Pass
§22.917	Field Strength of Spurious Emissions	Y	Pass
§22.355	Frequency tolerance	N	N/A a)
----	Filter Frequency Response	Y	Pass

Notes:

- a) NOT APPLICABLE: Modulation/frequency conversion circuitry not in use. No frequency change in EUT (input and output have same frequency)

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	Report number: <b>253922-3TRFWL</b>
	Specification: FCC 22 Subpart H

## Appendix A: Test results

### Clause 22.913(a) Effective radiated power limits

The effective radiated power (ERP) of transmitters in the Cellular Radiotelephone Service must not exceed the limits in this section.

- (a) Maximum ERP. In general, the effective radiated power (ERP) of base transmitters and cellular repeaters must not exceed 500 Watts (57 dBm). However, for those systems operating in areas more than 72 km (45 miles) from international borders that:
- (1) Are located in counties with population densities of 100 persons or fewer per square mile, based upon the most recently available population statistics from the Bureau of the Census; or,
  - (2) Extend coverage on a secondary basis into cellular unserved areas, as those areas are defined in §22.949, the ERP of base transmitters and cellular repeaters of such systems must not exceed 1000 Watts (60 dBm). The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts (38.45 dBm).

Test date: [2014-03-05](#)

Test results: [Pass](#)

### Special notes

Conducted measurement were performed:

- The power was measured using spectrum analyzer with RMS detector / average power meter.

In measuring transmissions in this band using an average power technique, the peak-to-average ratio (PAR) of the transmission may not exceed 13dB

Only conducted measurement at antenna connector was possible, no antenna provided by manufacturer



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Appendix A: Test results

Report number: **253922-3TRFWL**

Specification: FCC 22 Subpart H

Clause 22.913(a) RF power output, continued

Test data

**Conducted measurement**

Test data

Direction	Modulation	Frequency (MHz)	RF output Power (dBm)	RF output channel Power (W)	PAR (dB)
Down-link	GSM (200 kHz)	881.5	31.13	1.30	0.07
Down-link	EDGE (200 kHz)	881.5	31.10	1.29	3.43
Down-link	CDMA (1,25MHz)	881.5	31.08	1.28	9.20
Down-link	WCDMA (5MHz)	881.5	31.17	1.31	10.90
Down-link	LTE (QAM, 1,4MHz)	881.5	31.06	1.28	10.15
Down-link	LTE (QPSK, 1,4MHz)	881.5	31.14	1.30	9.70
Down-link	LTE (QAM, 3MHz)	881.5	31.13	1.30	10.35
Down-link	LTE (QPSK, 3MHz)	881.5	31.07	1.28	10.59
Down-link	LTE (QAM, 5MHz)	881.5	31.18	1.31	10.84
Down-link	LTE (QPSK, 5MHz)	881.5	31.11	1.29	10.32
Down-link	LTE (QAM, 10MHz)	881.5	31.18	1.31	10.88
Down-link	LTE (QPSK, 10MHz)	881.5	31.19	1.31	10.74



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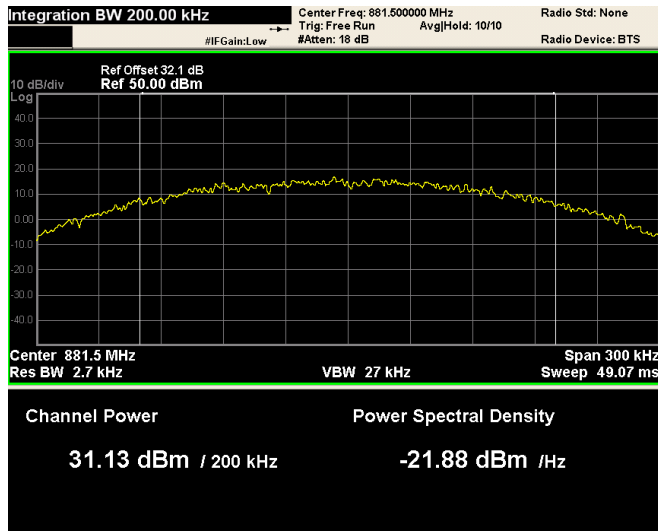
## Appendix A: Test results

Report number: **253922-3TRFWL**

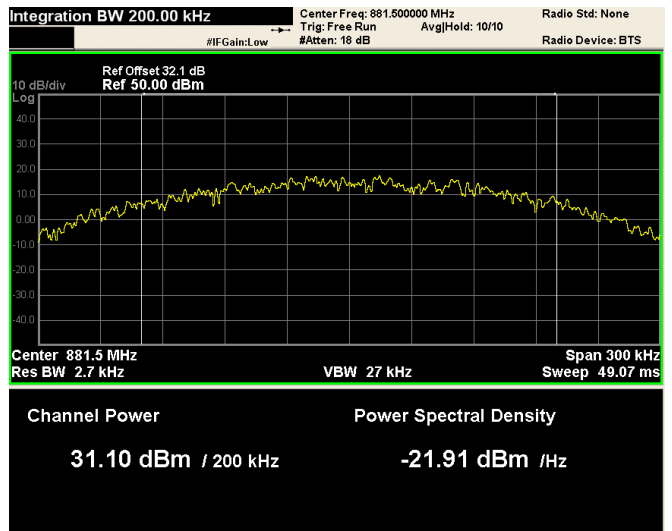
Specification: FCC 22 Subpart H

### Test data

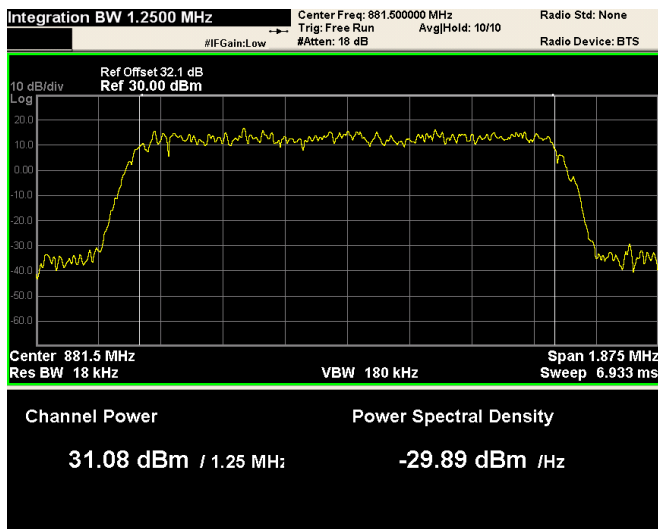
#### Mod. GSM



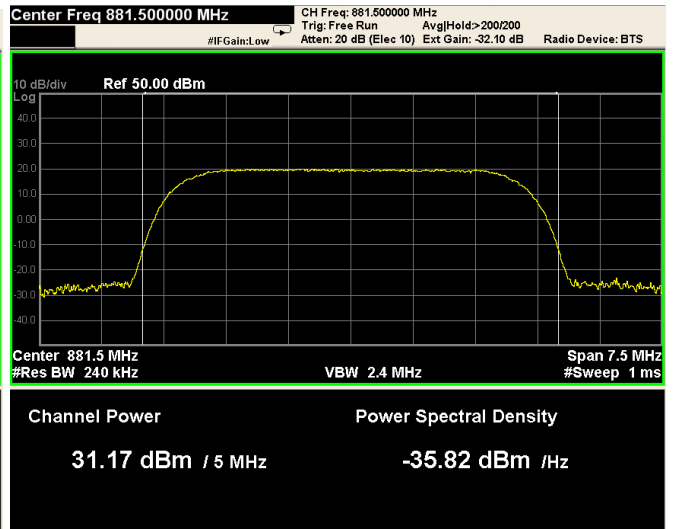
#### Mod. EDGE



#### Mod. CDMA



#### Mod. WCDMA





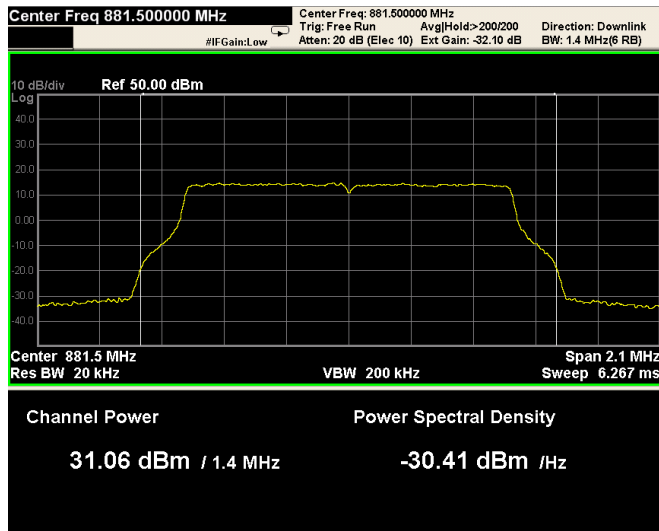
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## Appendix A: Test results

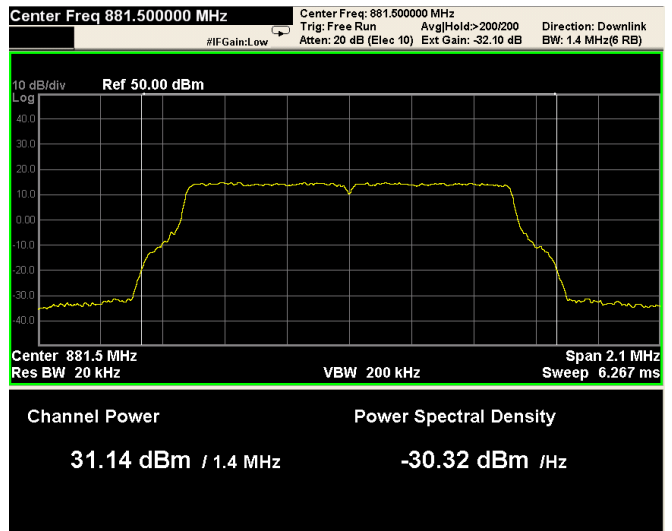
Report number: **253922-3TRFWL**

Specification: FCC 22 Subpart H

### Mod. LTE 1,4MHz (Down-link)

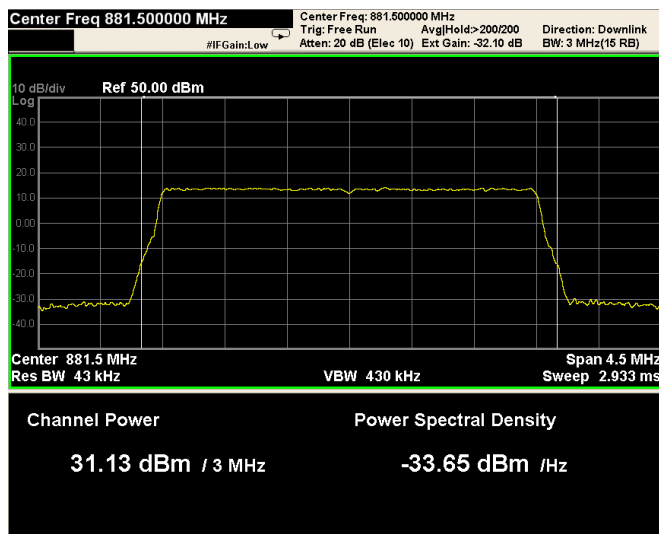


QAM

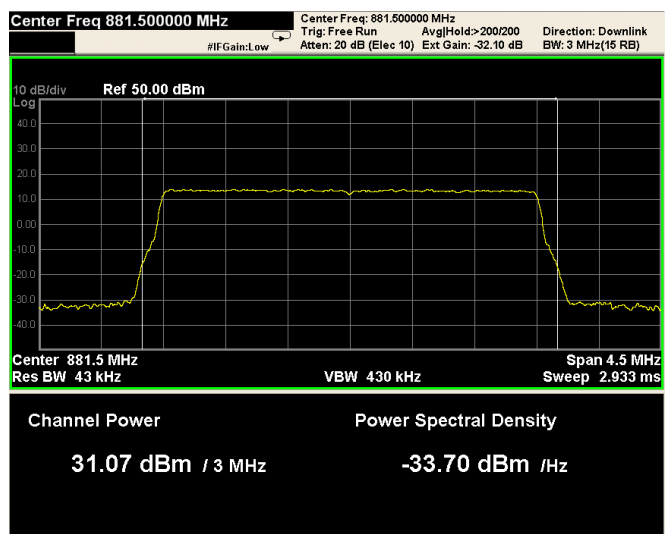


QPSK

### Mod. LTE 3MHz (Down-link)

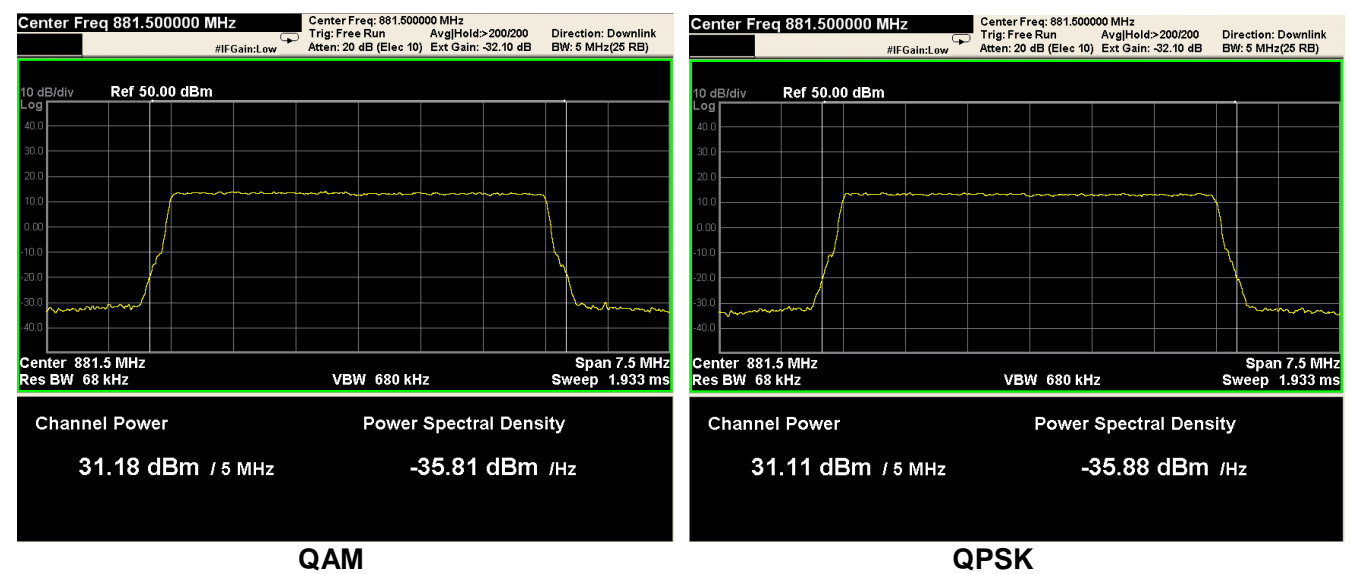


QAM



QPSK

### Mod. LTE 5MHz (Down-link)



Center Freq 881.500000 MHz

#IFGain:Low

Center Freq: 881.500000 MHz

Trig: Free Run

Avg/Hold:>200/200

Direction: Downlink

Atten: 20 dB (Elec 10)

Ext Gain: -32.10 dB

BW: 5 MHz(25 RB)

Center 881.5 MHz

Res BW 68 kHz

VBW 680 kHz

Span 7.5 MHz

Sweep 1.933 ms

Channel Power

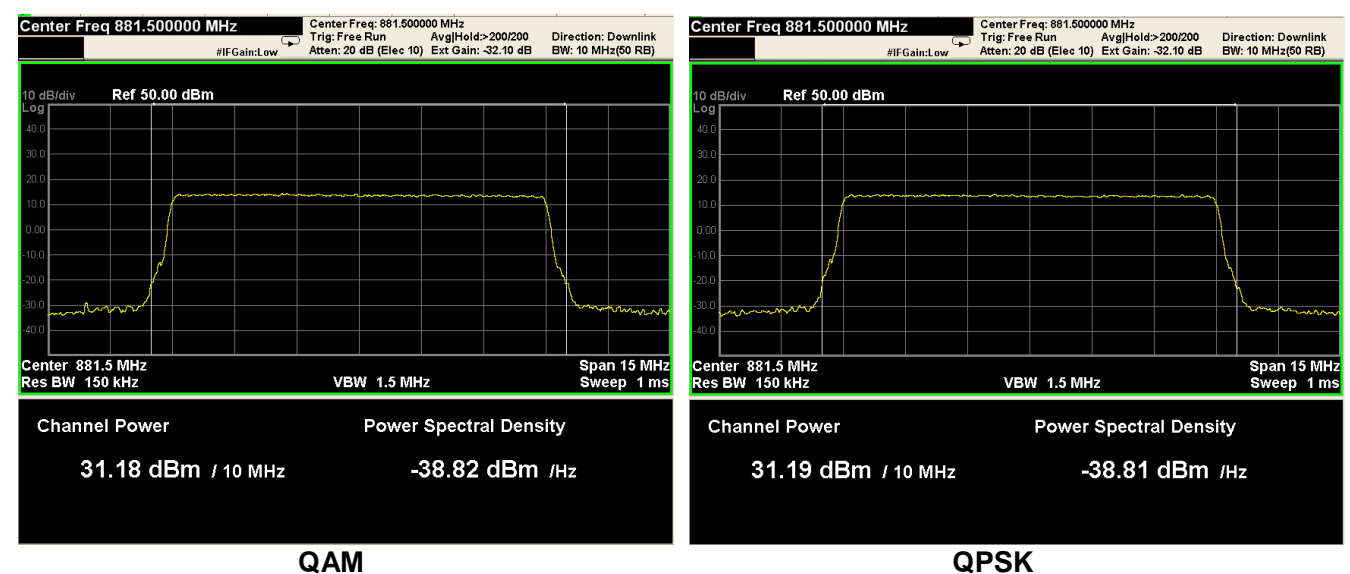
Power Spectral Density

31.11 dBm / 5 MHz

-35.88 dBm / Hz

QPSK

### Mod. LTE 10MHz (Down-link)



Center Freq 881.500000 MHz

#IFGain:Low

Center Freq: 881.500000 MHz

Trig: Free Run

Avg/Hold:>200/200

Direction: Downlink

Atten: 20 dB (Elec 10)

Ext Gain: -32.10 dB

BW: 10 MHz(60 RB)

Center 881.5 MHz

Res BW 150 kHz

VBW 1.5 MHz

Span 15 MHz

Sweep 1 ms

Channel Power

Power Spectral Density

31.19 dBm / 10 MHz

-38.81 dBm / Hz

QPSK

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	Report number: <b>253922-3TRFWL</b>
	Specification: FCC 22 Subpart H

## Clause 2.1049 Occupied bandwidth (input/output)

The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

Test date: [2014-03-05](#)

Test results: [Pass](#)

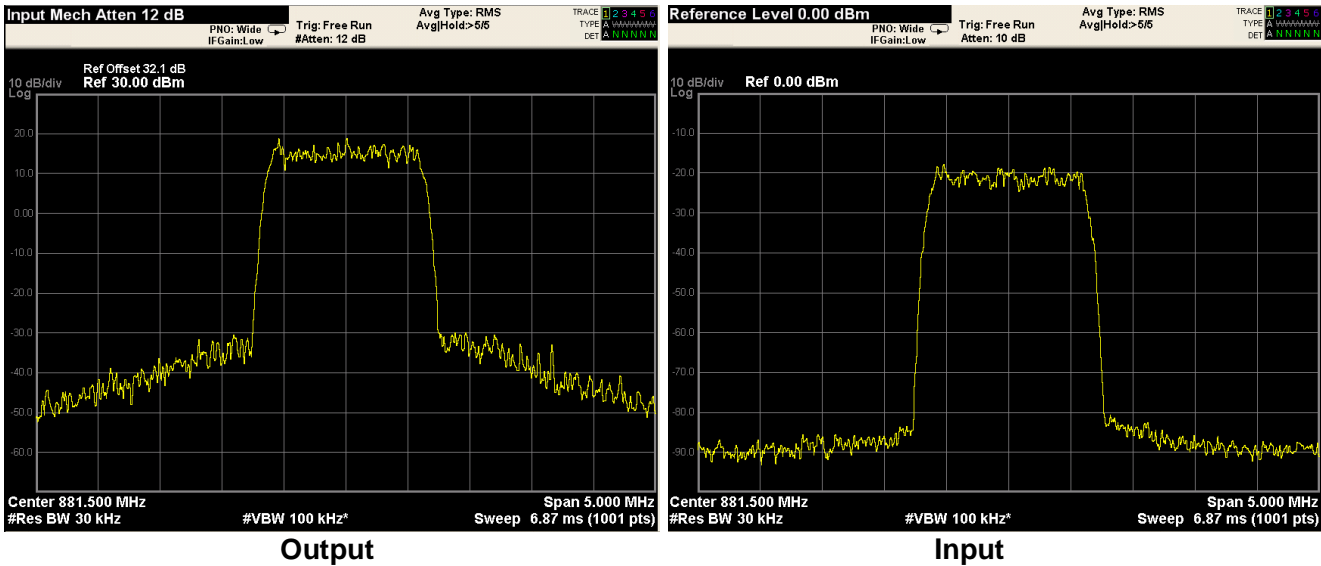
### Special notes

Resolution bandwidth was set wider or equal than occupied bandwidth.

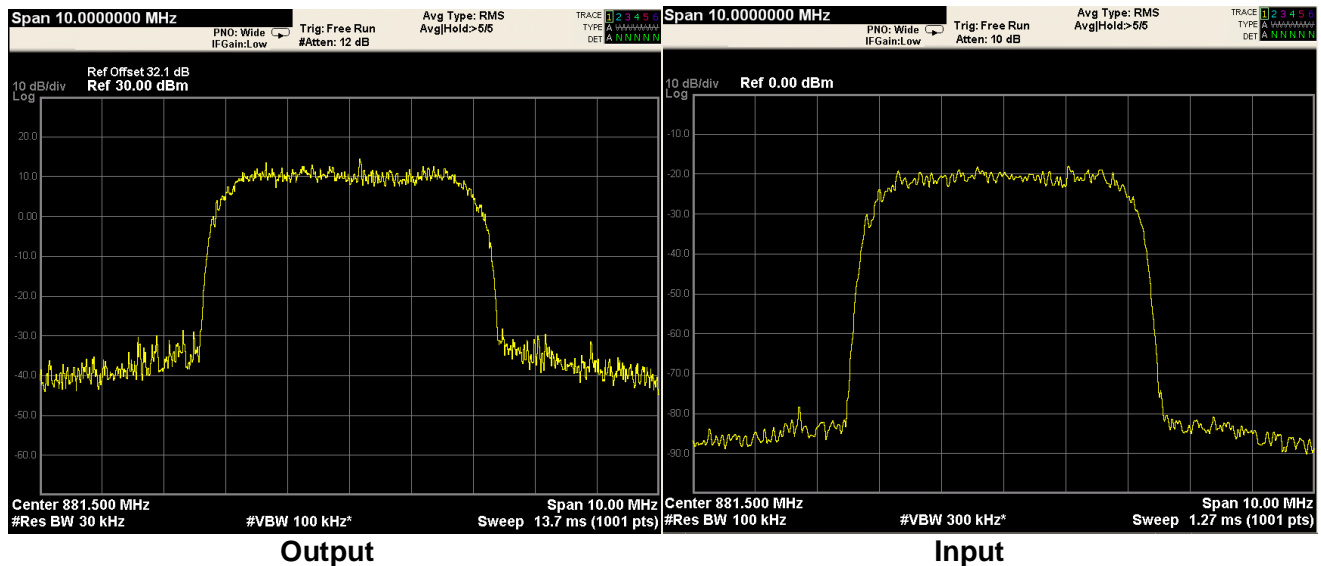




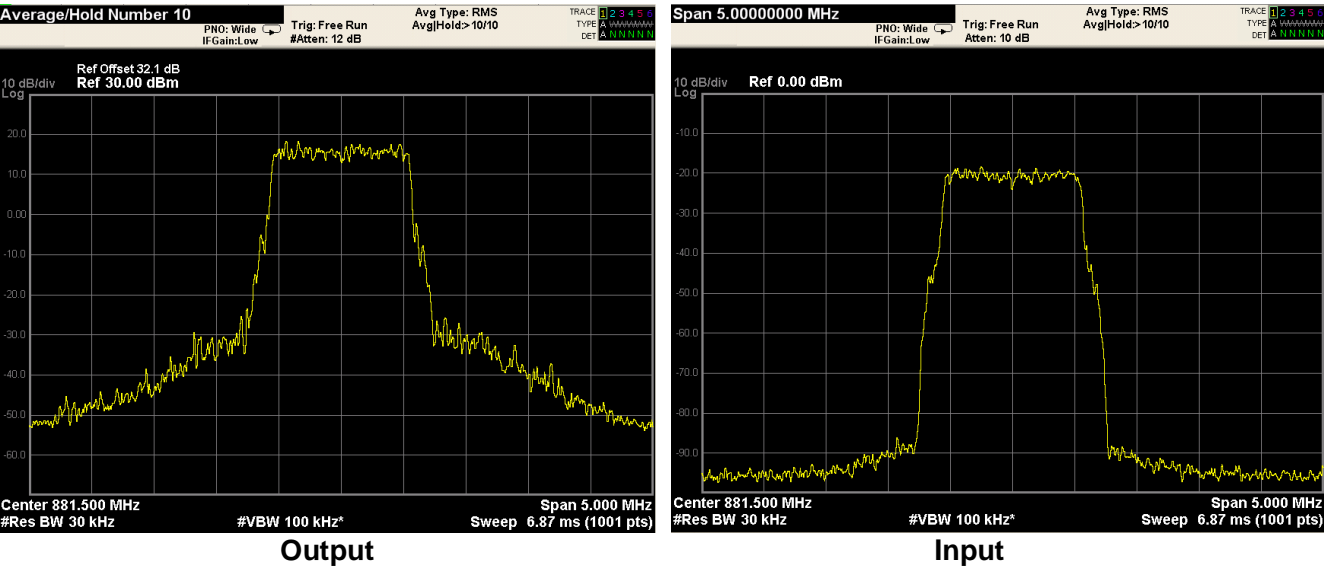
Mod. CDMA (Down-link)



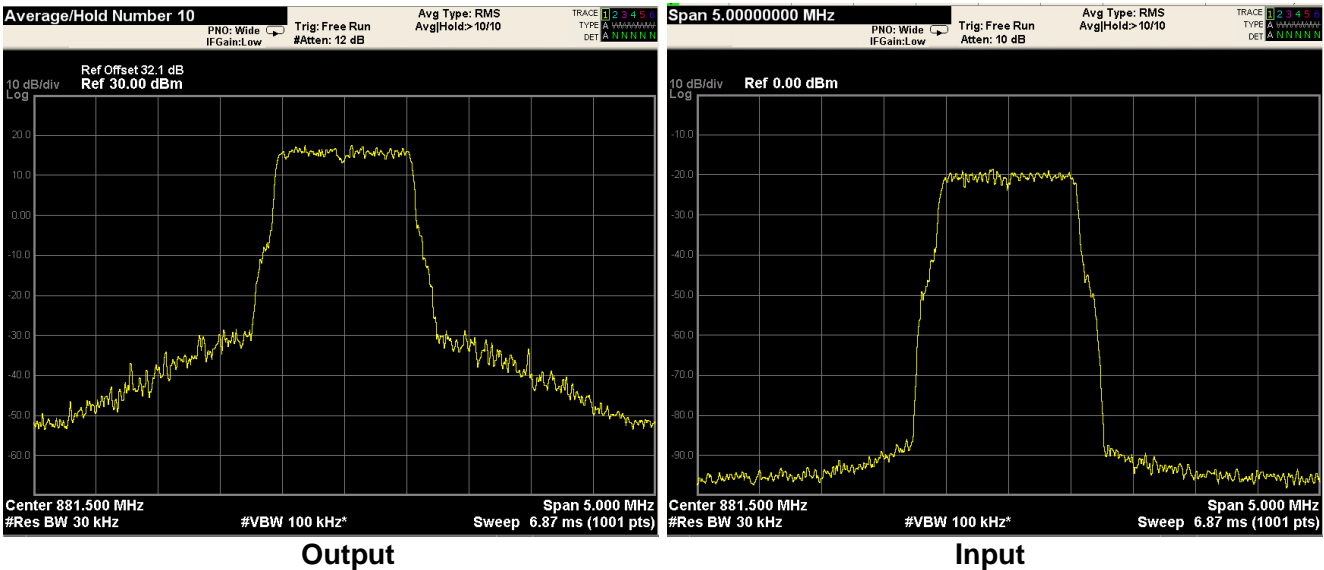
Mod. WCDMA (Down-link)



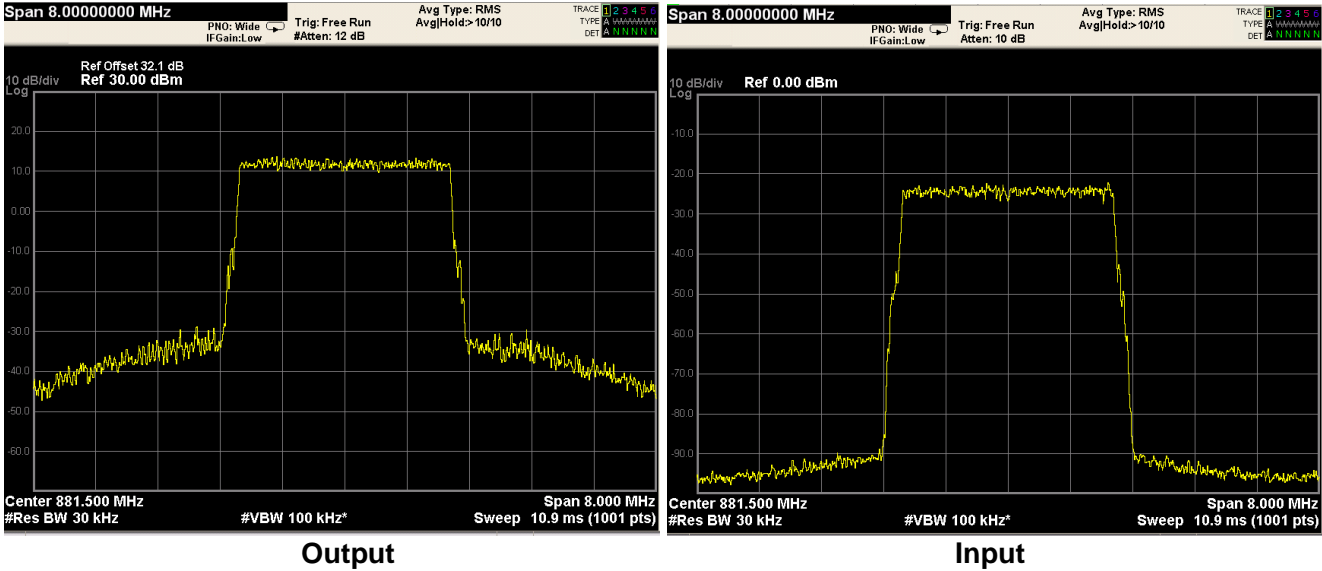
Mod. LTE 1.4MHz (QAM) (Down-link)



Mod. LTE 1.4MHz (QPSK) (Down-link)



Mod. LTE 3MHz (QAM) (Down-link)



Span 8.00000000 MHz

PNO: Wide

IFGain:Low

Trig: Free Run

Atten: 10 dB

Avg Type: RMS

AvgHold> 10/10

TRACE 1 2 3 4 5 6

TYPE A A A A A A A A

DET A A A A A A A A

Ref 0.00 dBm

Center 881.500 MHz

#Res BW 30 kHz

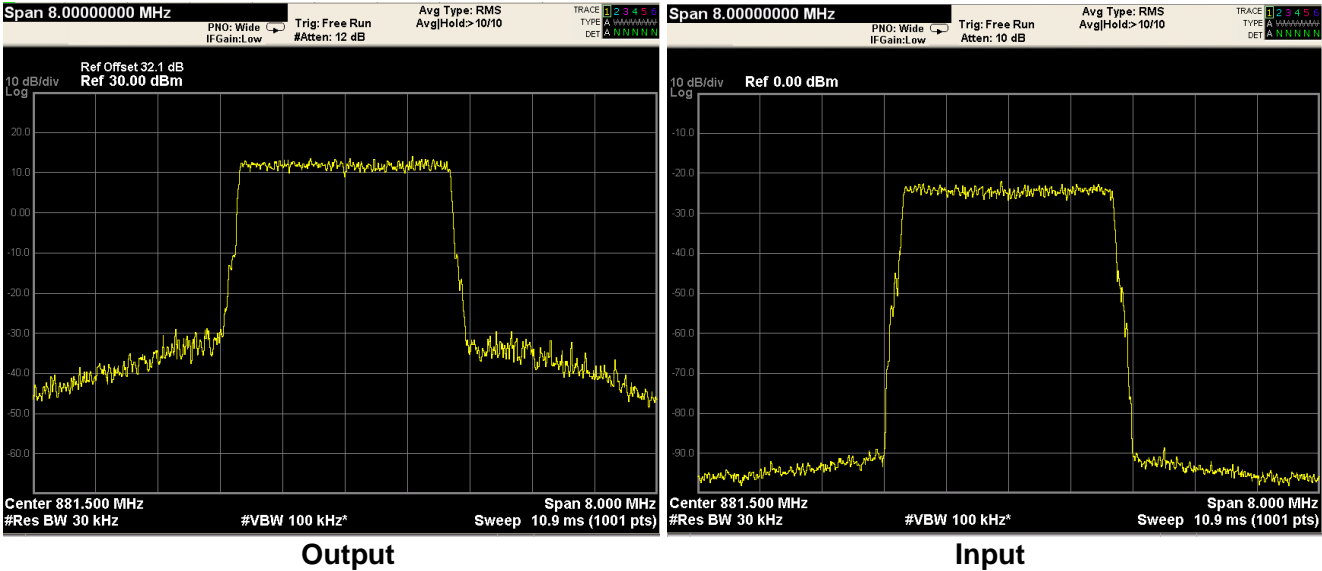
#VBW 100 kHz\*

Span 8.000 MHz

Sweep 10.9 ms (1001 pts)

Input

Mod. LTE 3MHz (QPSK) (Down-link)



Span 8.00000000 MHz

PNO: Wide

IFGain:Low

Trig: Free Run

Atten: 10 dB

Avg Type: RMS

AvgHold> 10/10

TRACE 1 2 3 4 5 6

TYPE A A A A A A A A

DET A A A A A A A A

Ref 0.00 dBm

Center 881.500 MHz

#Res BW 30 kHz

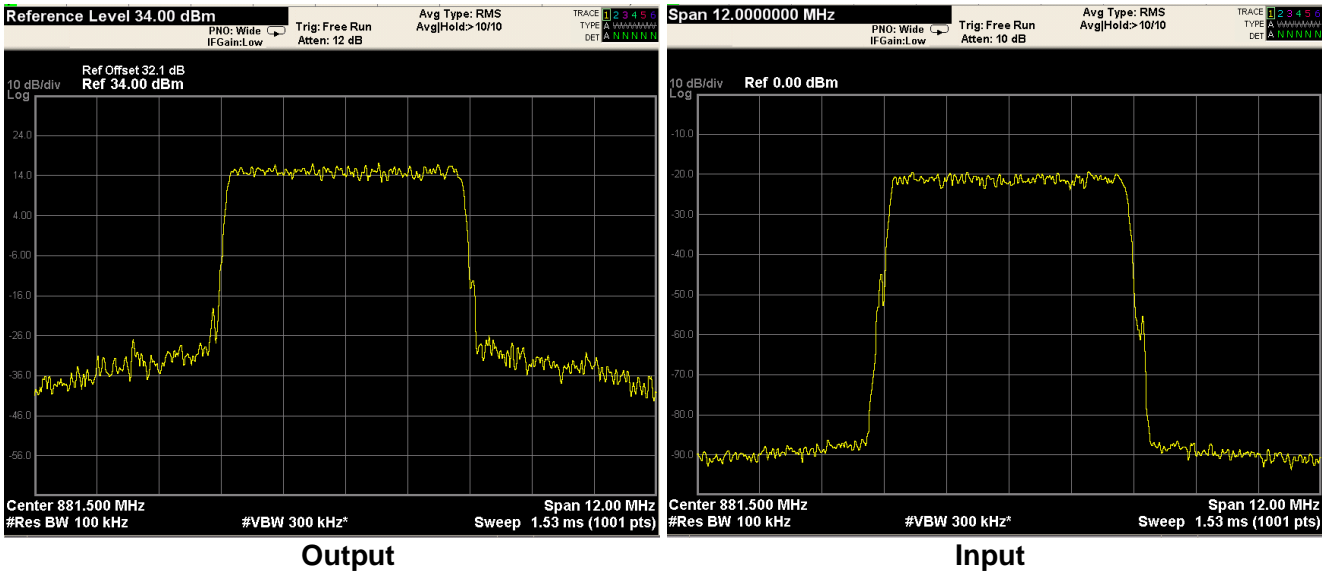
#VBW 100 kHz\*

Span 8.000 MHz

Sweep 10.9 ms (1001 pts)

Input

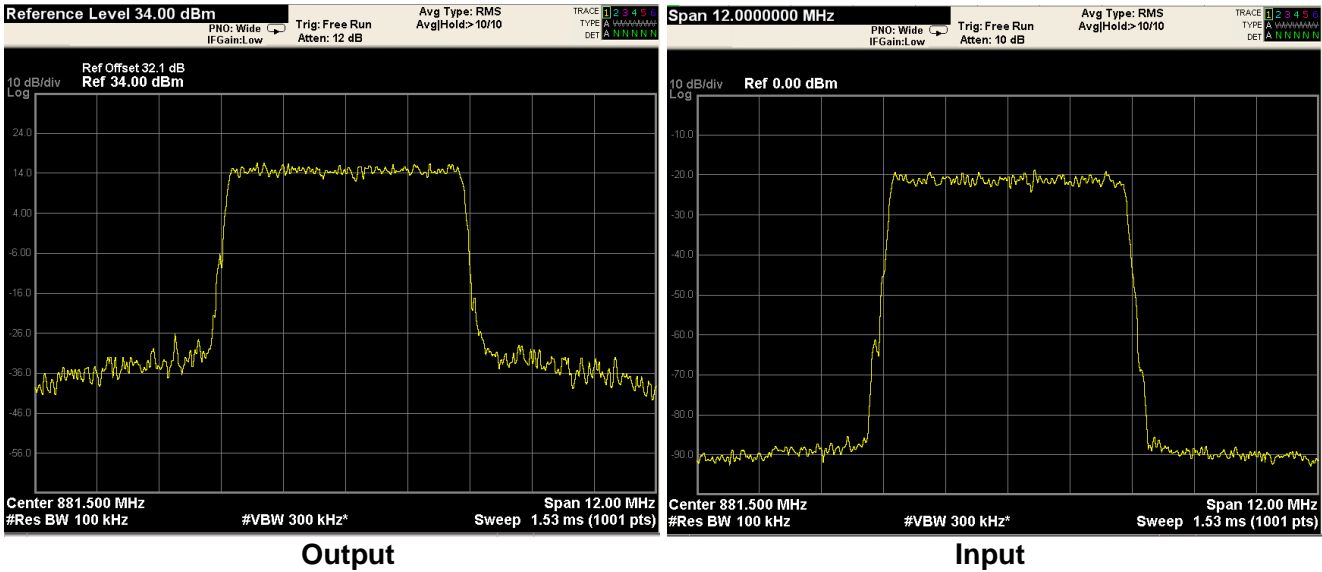
Mod. LTE 5MHz (QAM) (Down-link)



Output

Input

Mod. LTE 5MHz (QPSK) (Down-link)



Output

Input



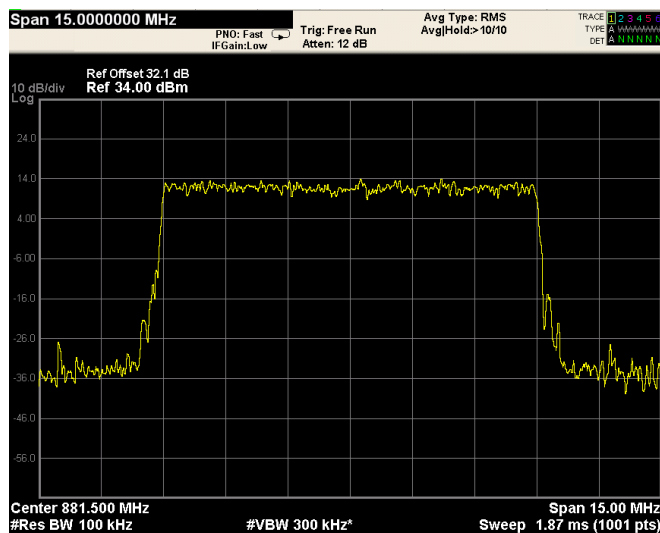
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## Appendix A: Test results

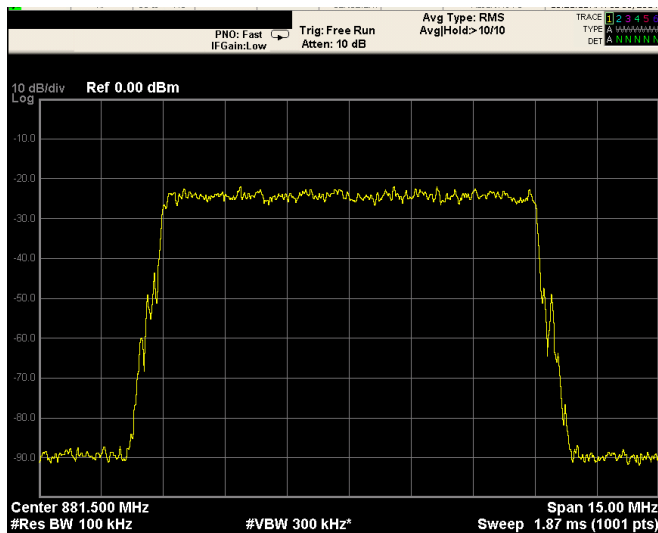
Report number: **253922-3TRFWL**

Specification: FCC 22 Subpart H

### Mod. LTE 10MHz (QAM) (Down-link)

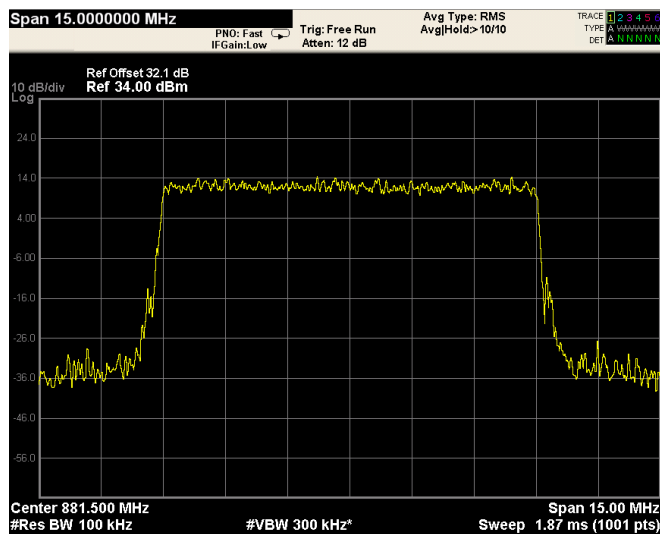


Output

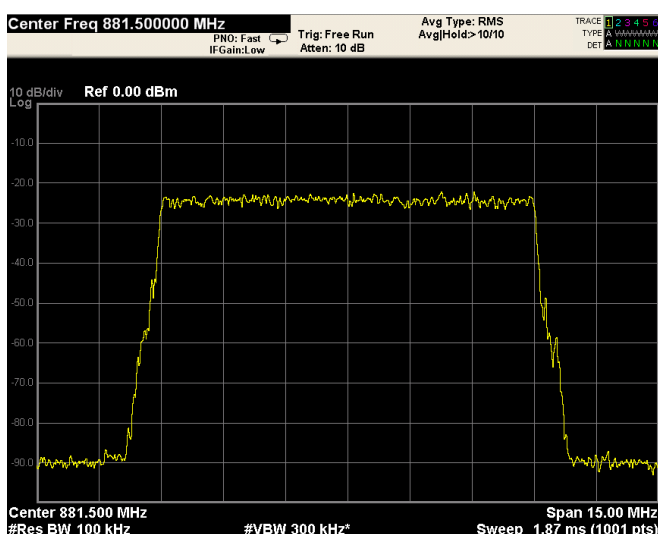


Input

### Mod. LTE 10MHz (QPSK) (Down-link)



Output



Input

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	Report number: <b>253922-3TRFWL</b>
	Specification: FCC 22 Subpart H

## Clause 22.917 Out of band emissions at antenna terminal

(a) Out of band emissions. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least  $43 + 10 \log(P)$  dB.

(b) Measurement procedure. Compliance with these rules is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater. In the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (i.e. 100 kHz or 1 percent of emission bandwidth, as specified).

Test date: [2014-03-05](#)

Test results: [Pass](#)

### Special notes

- The spectrum was searched from 30 MHz up to 10<sup>th</sup> harmonic
- Only the worst data presented in the test report.







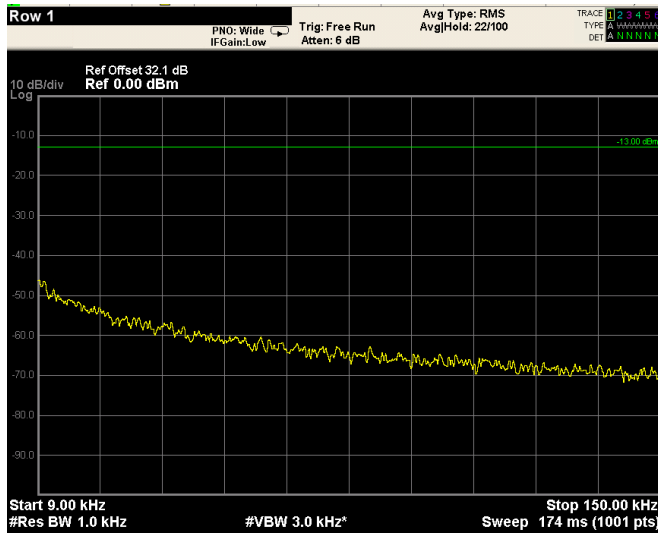
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## Appendix A: Test results

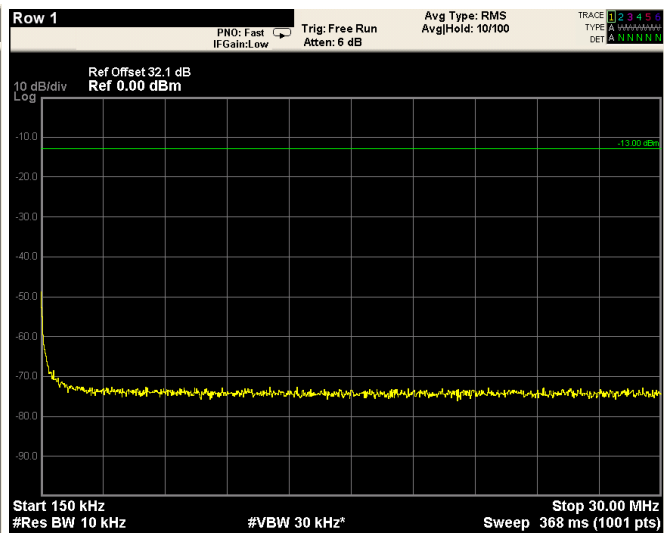
Report number: **253922-3TRFWL**

Specification: FCC 22 Subpart H

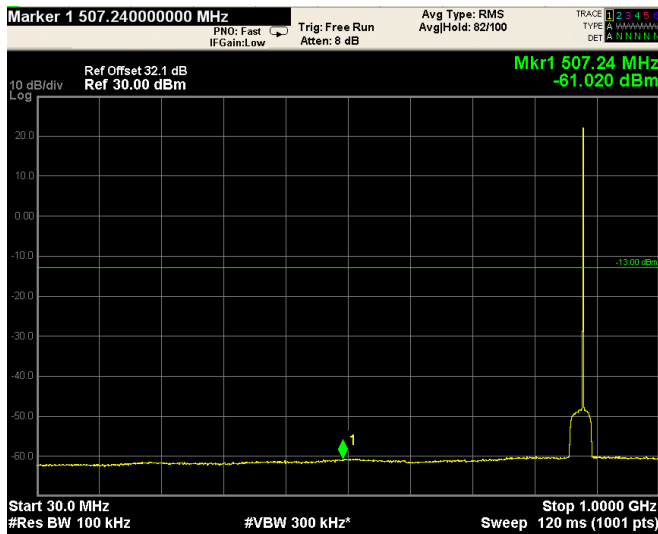
### Mod. EDGE (Down-link)



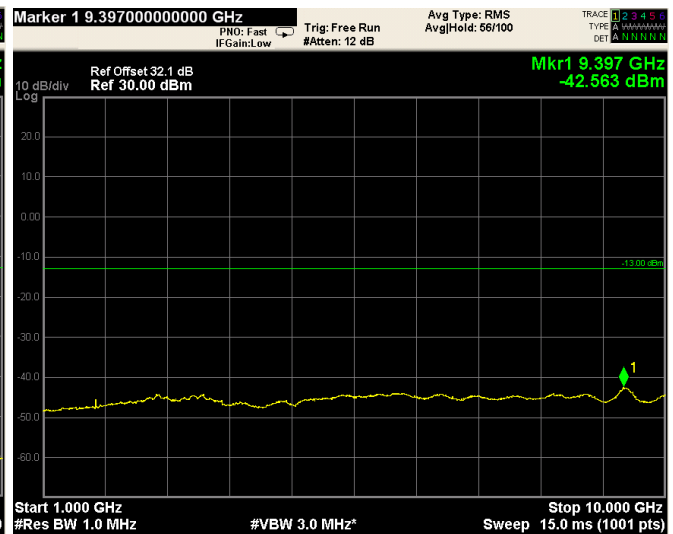
9kHz-150kHz



150kHz-30MHz



30MHz-1GHz



1GHz-10GHz



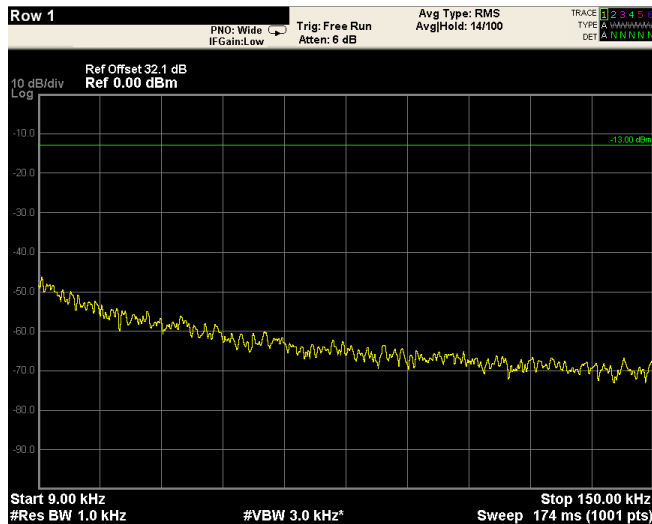
Nemko Italy S.p.A.  
Via del Carroccio 4, 20046, Biassono, Italy.

## Appendix A: Test results

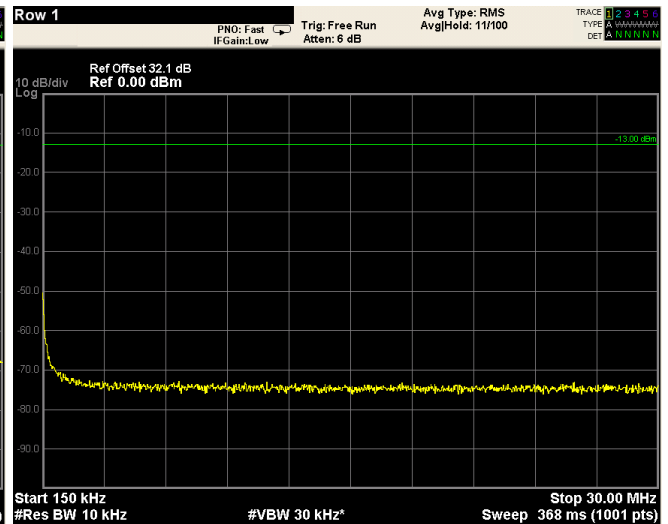
Report number: **253922-3TRFWL**

Specification: FCC 22 Subpart H

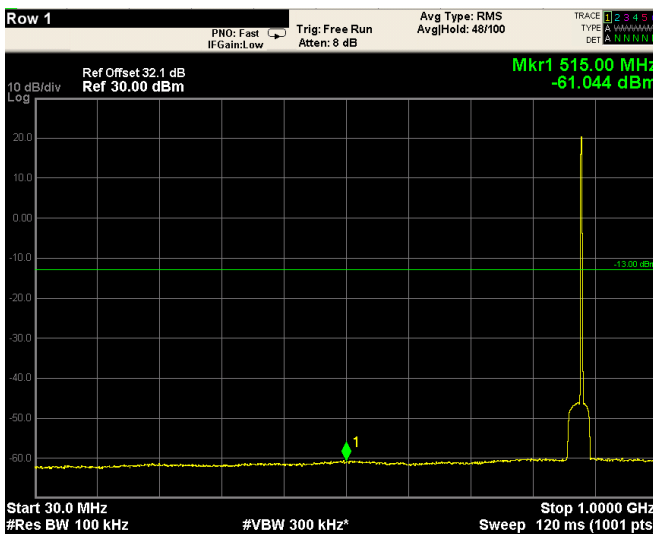
### Mod. CDMA (Down-link)



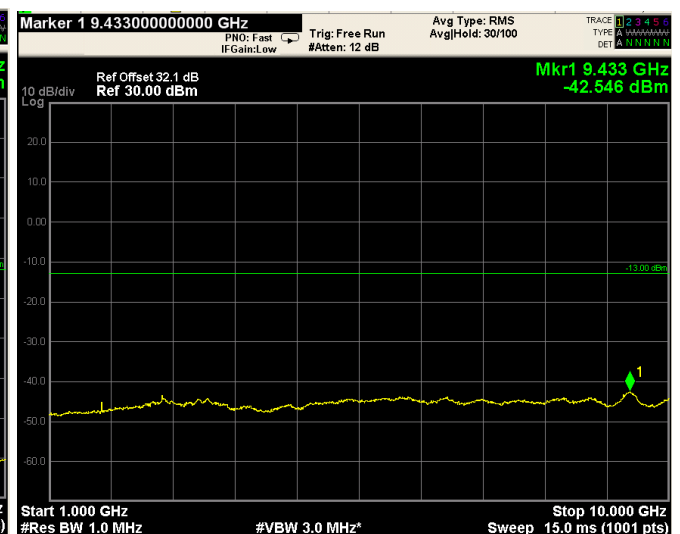
9kHz-150kHz



150kHz-30MHz



30MHz-1GHz



1GHz-10GHz





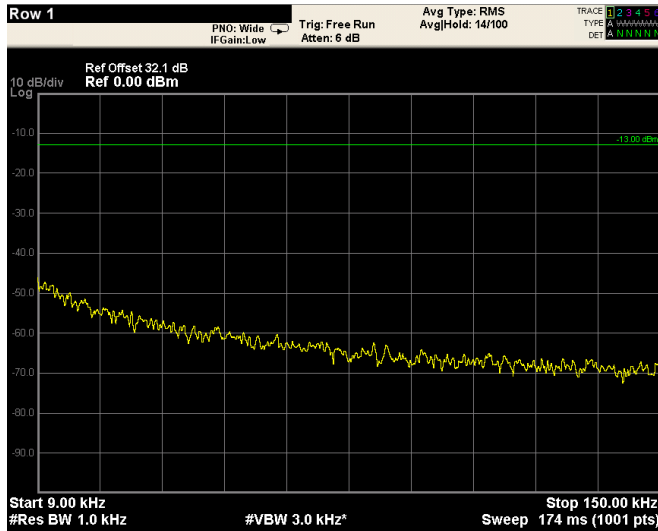
Nemko Italy S.p.A.  
Via del Carroccio 4, 20046, Biassono, Italy.

## Appendix A: Test results

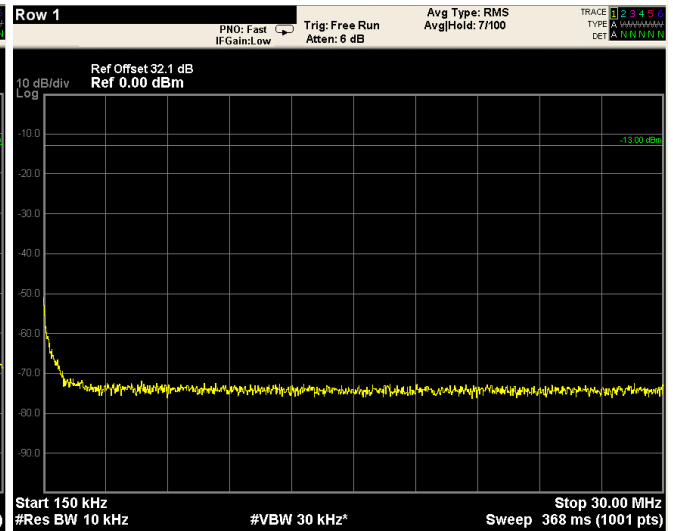
Report number: **253922-3TRFWL**

Specification: FCC 22 Subpart H

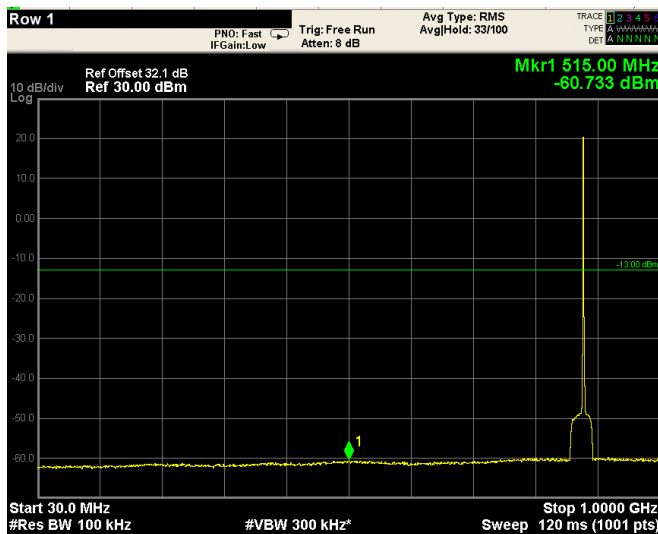
### Mod. LTE 1.4MHz (QAM) (Down-link)



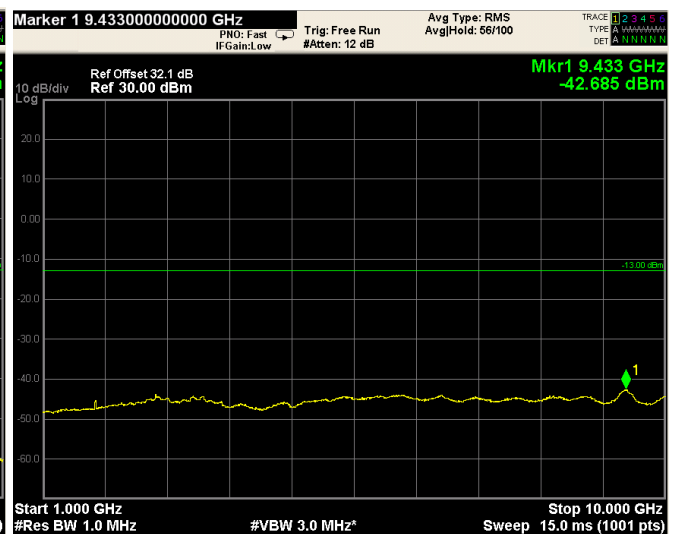
9kHz-150kHz



150kHz-30MHz



30MHz-1GHz



1GHz-10GHz



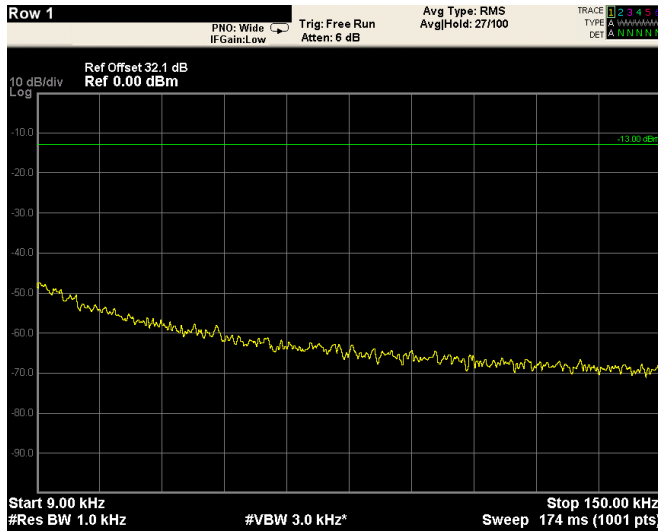
Nemko Italy S.p.A.  
Via del Carroccio 4, 20046, Biassono, Italy.

## Appendix A: Test results

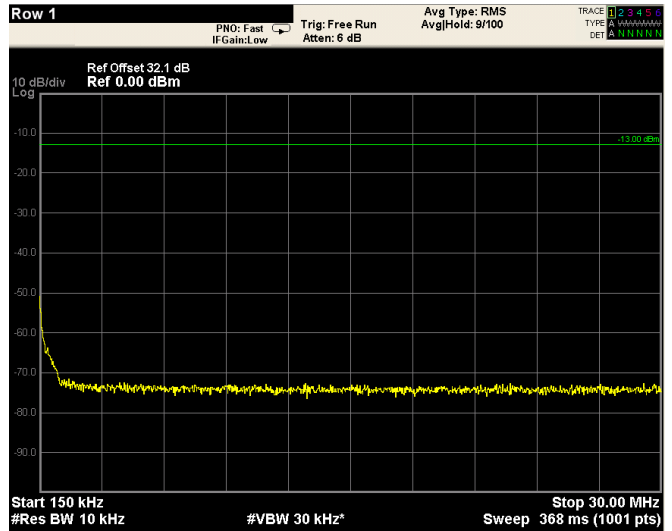
Report number: **253922-3TRFWL**

Specification: FCC 22 Subpart H

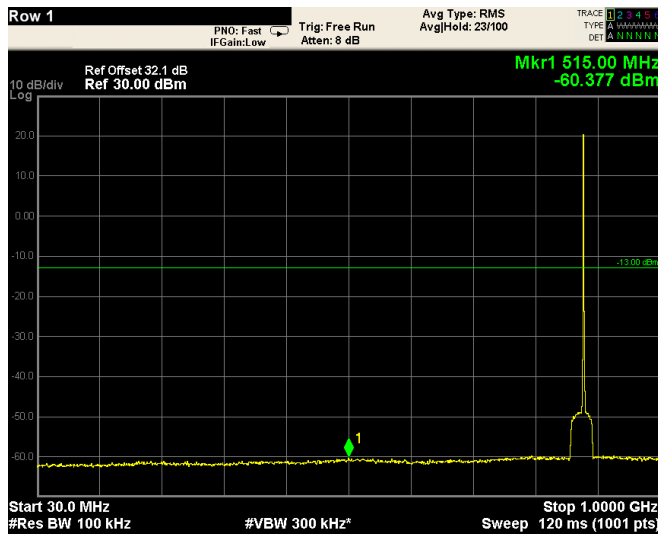
### Mod. LTE 1.4MHz (QPSK) (Down-link)



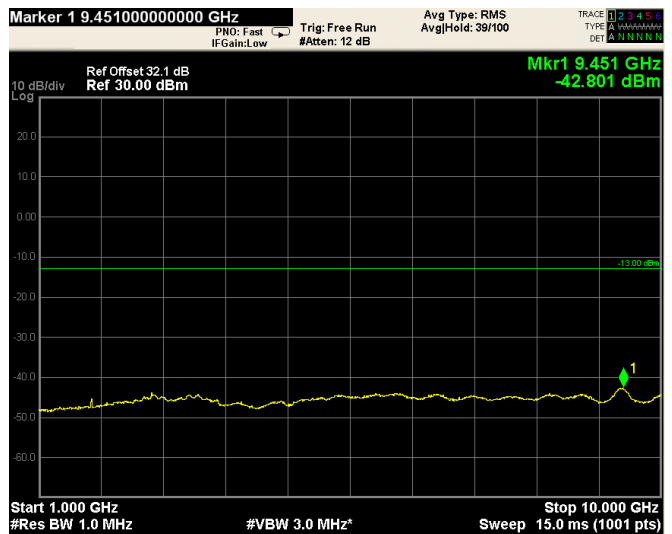
9kHz-150kHz



150kHz-30MHz



30MHz-1GHz



1GHz-20GHz



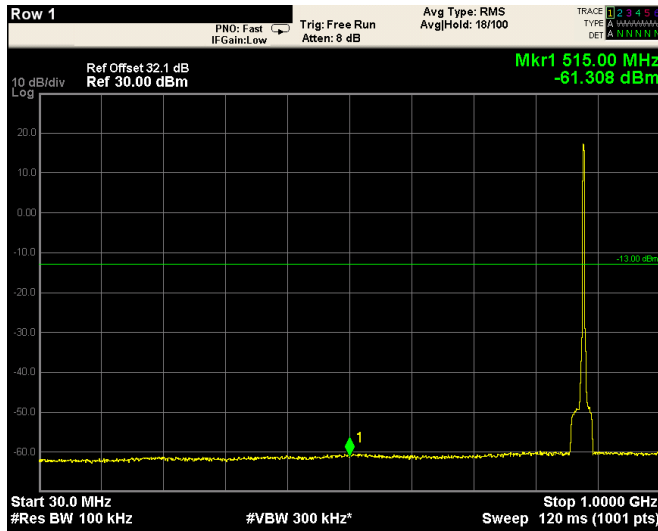
Nemko Italy S.p.A.  
Via del Carroccio 4, 20046, Biassono, Italy.

## Appendix A: Test results

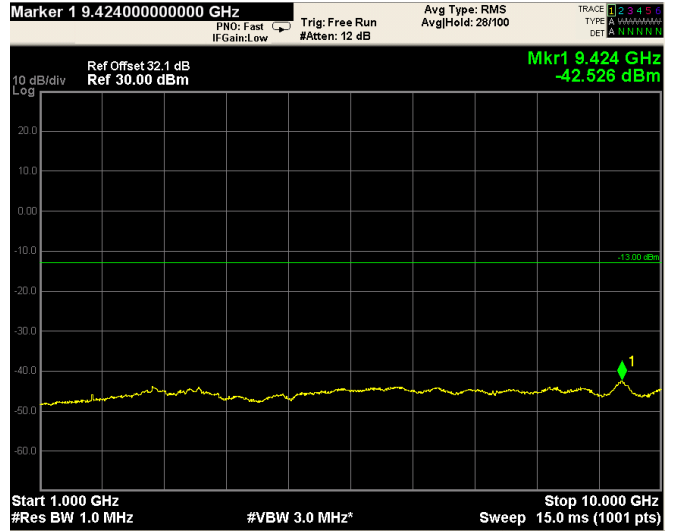
Report number: **253922-3TRFWL**

Specification: FCC 22 Subpart H

### Mod. LTE 3MHz, only 30M-10G plot (Down-link)

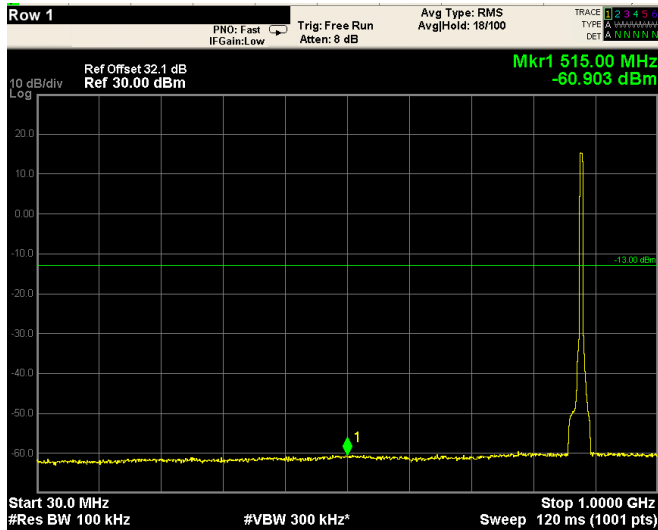


30MHz-1GHz

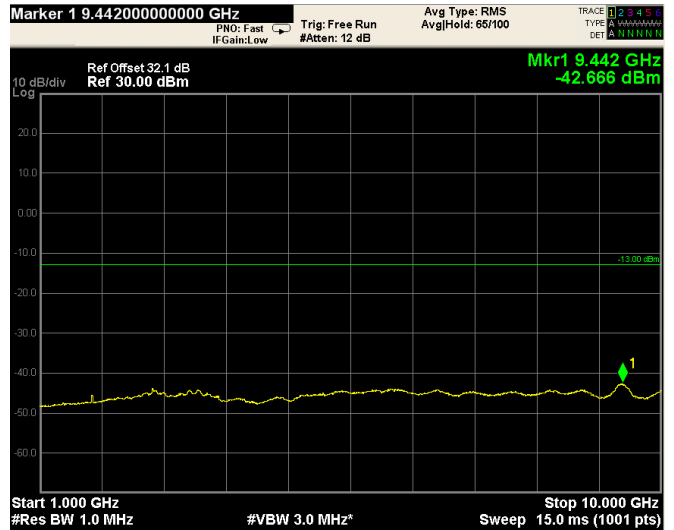


1GHz-10GHz

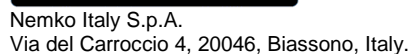
### Mod. LTE 5MHz, only 30M-10G plot (Down-link)



30MHz-1GHz



1GHz-10GHz



Report number: **253922-3TRFWL**

Specification: FCC 22 Subpart H



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## Appendix A: Test results

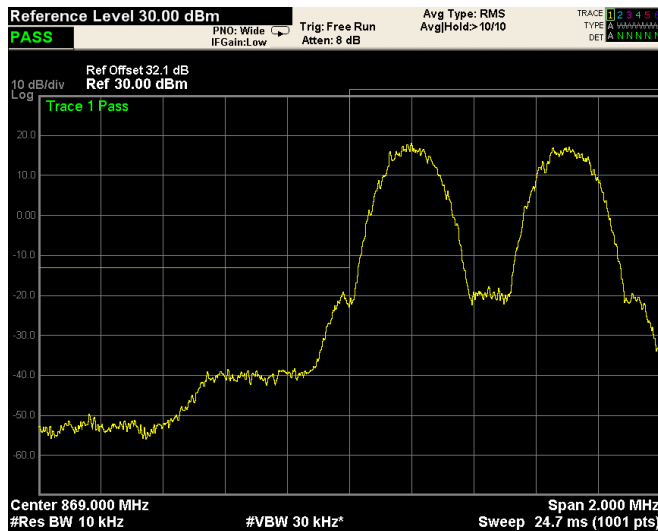
Report number: **253922-3TRFWL**

Specification: FCC 22 Subpart H

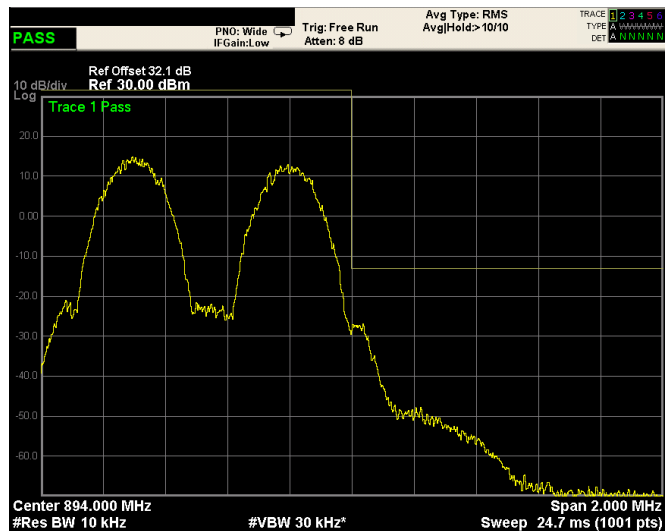
### Clause 22.917(a) Out of band emissions at antenna terminal, continued

#### Test data, continued band edges Inter modulation:

##### Mod. GSM (Down-link)

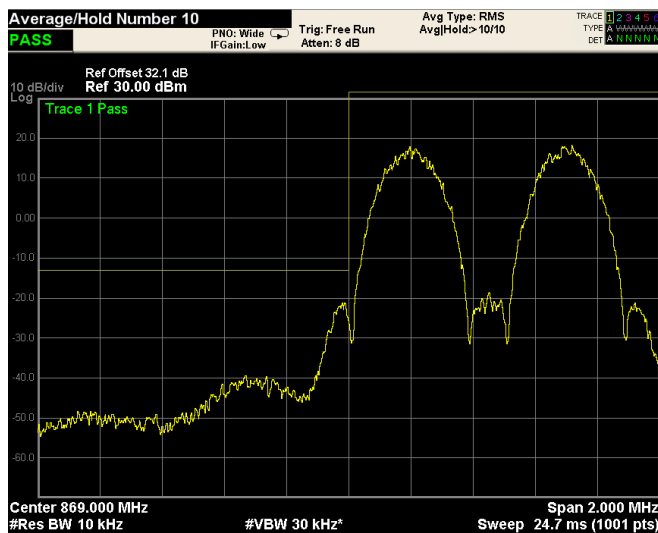


Low Band Edge

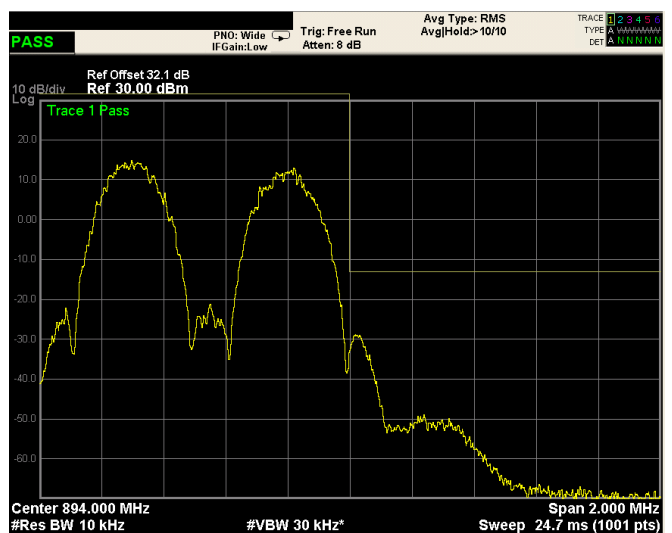


High Band Edge

##### Mod. EDGE (Down-link)



Low Band Edge



High Band Edge





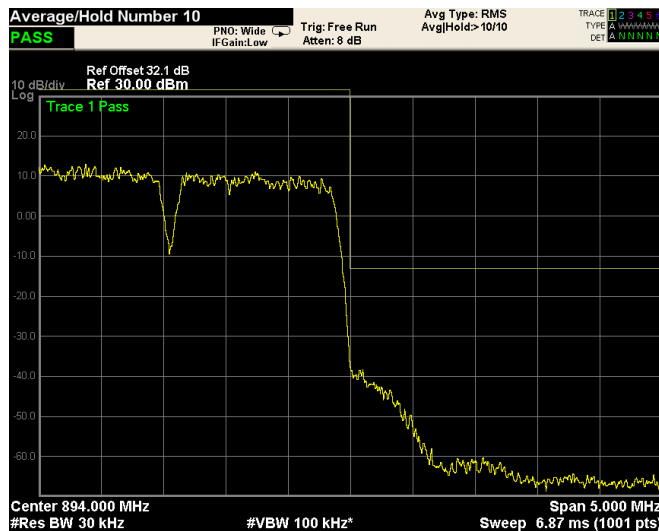
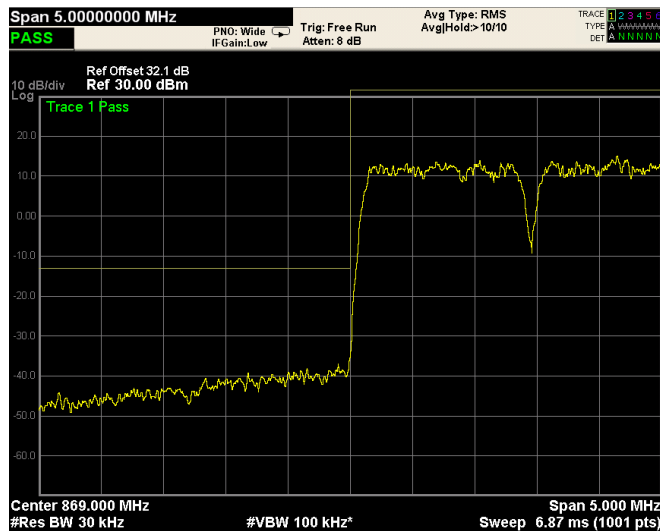
Nemko Italy S.p.A.  
Via del Carroccio 4, 20046, Biassono, Italy.

## Appendix A: Test results

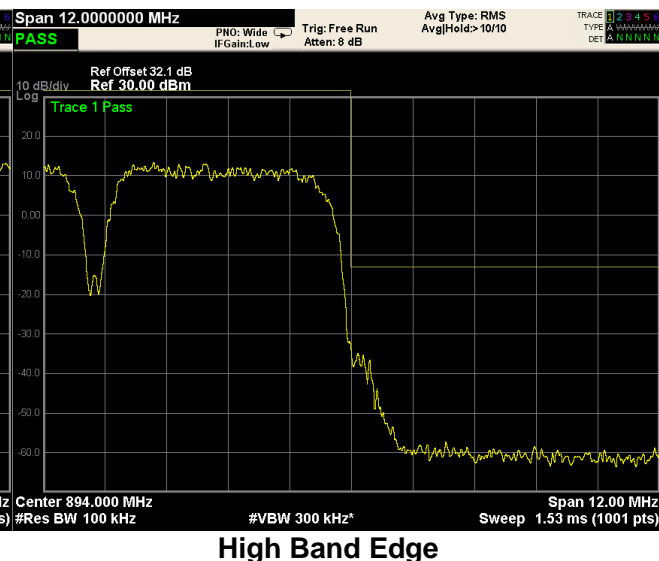
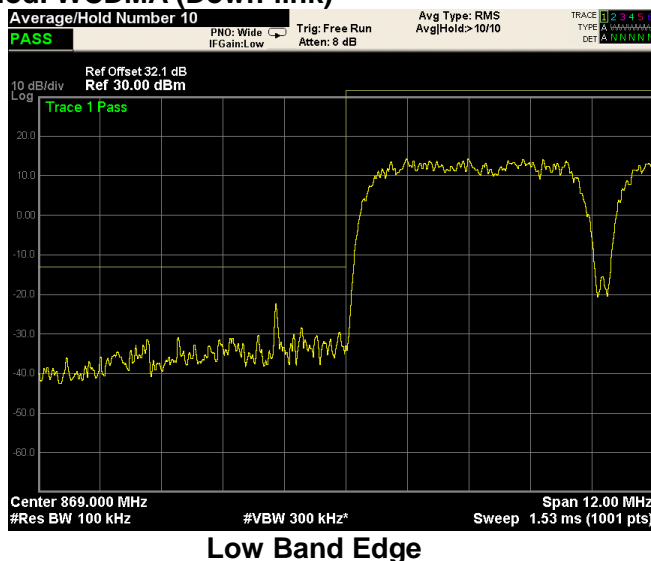
Report number: **253922-3TRFWL**

Specification: FCC 22 Subpart H

### Mod. CDMA (Down-link)



### Mod. WCDMA (Down-link)





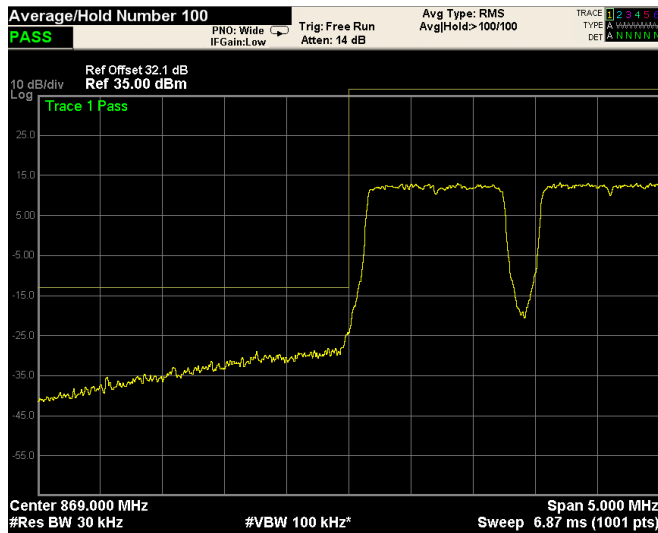
Nemko Italy S.p.A.  
Via del Carroccio 4, 20046, Biassono, Italy.

## Appendix A: Test results

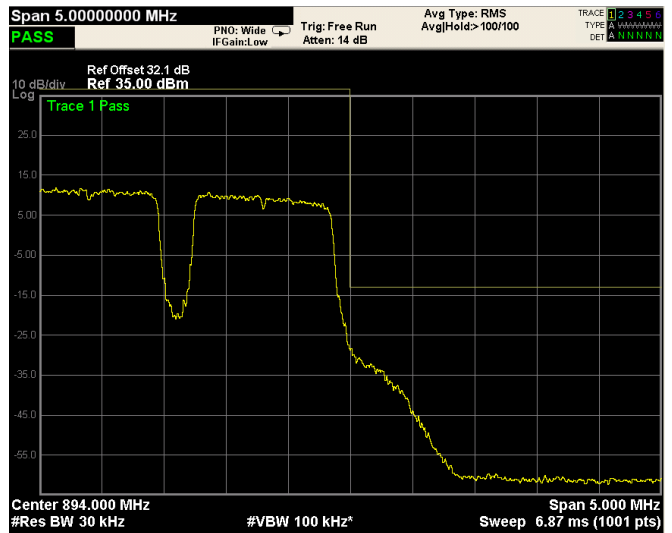
Report number: **253922-3TRFWL**

Specification: FCC 22 Subpart H

### Mod. LTE 1.4MHz (QAM) (Down-link)

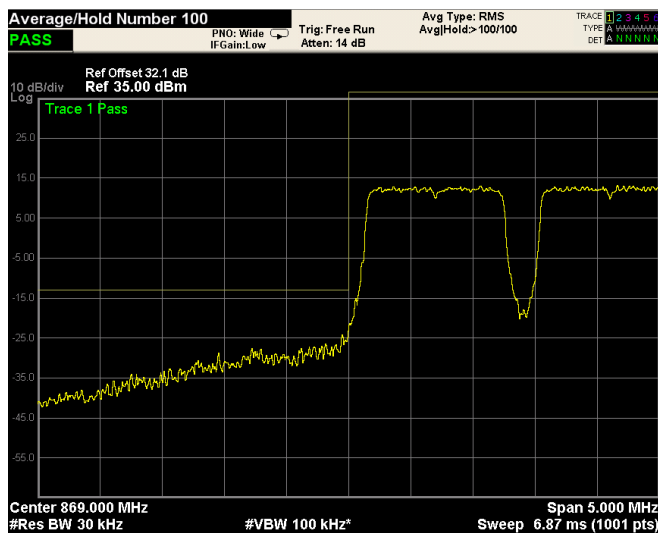


Low Band Edge

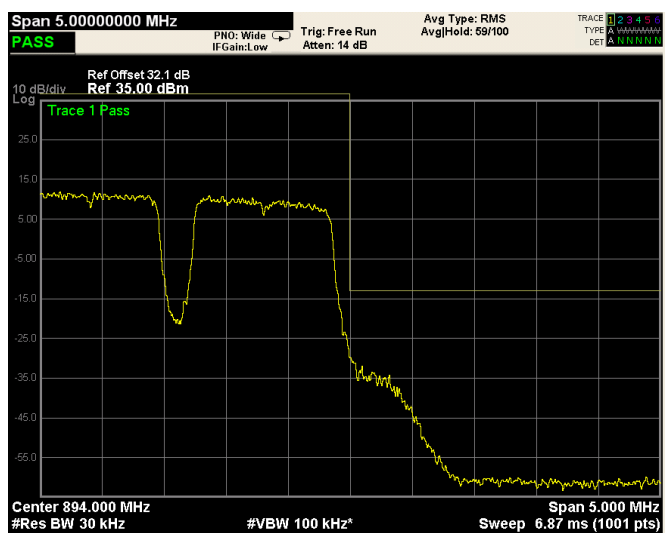


High Band Edge

### Mod. LTE 1.4MHz (QPSK) (Down-link)

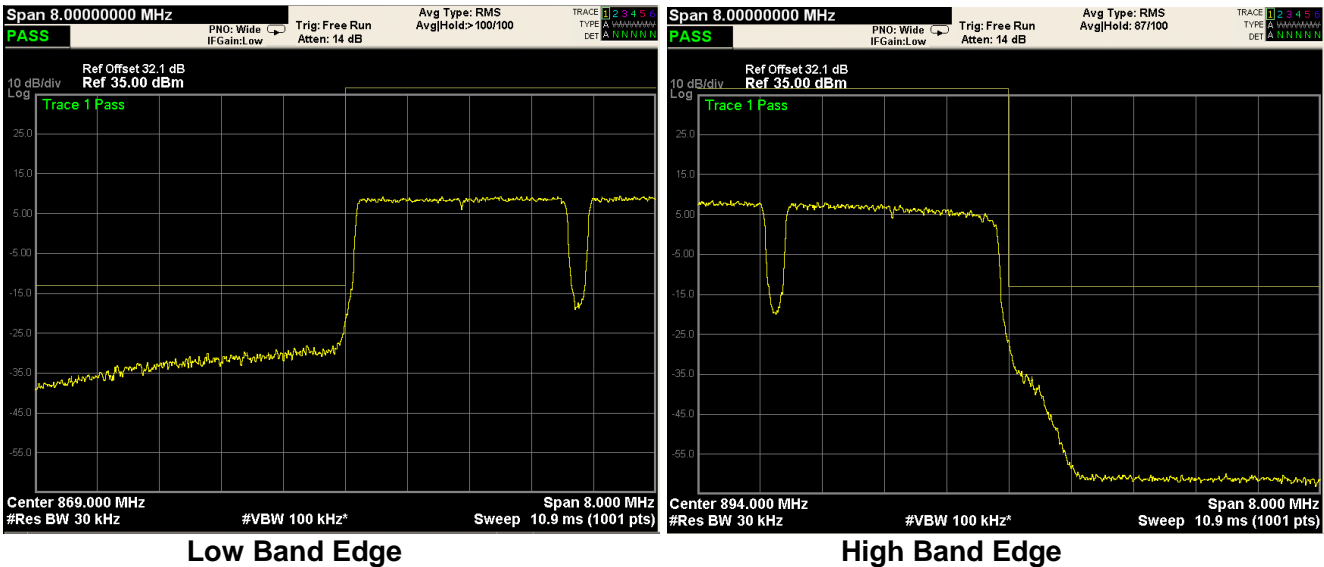


Low Band Edge



High Band Edge

Mod. LTE 3MHz (QAM) (Down-link)



Span 8.00000000 MHz

PASS

PNO: Wide  
IFGain:Low

Trig: Free Run  
Atten: 14 dB

Avg Type: RMS  
Avg|Hold> 87/100

TRACE 1 2 3 4 5 6  
TYPE A W W W W W W W W  
DET A N N N N N N

Ref Offset 32.1 dB  
Ref 35.00 dBm

Trace 1 Pass



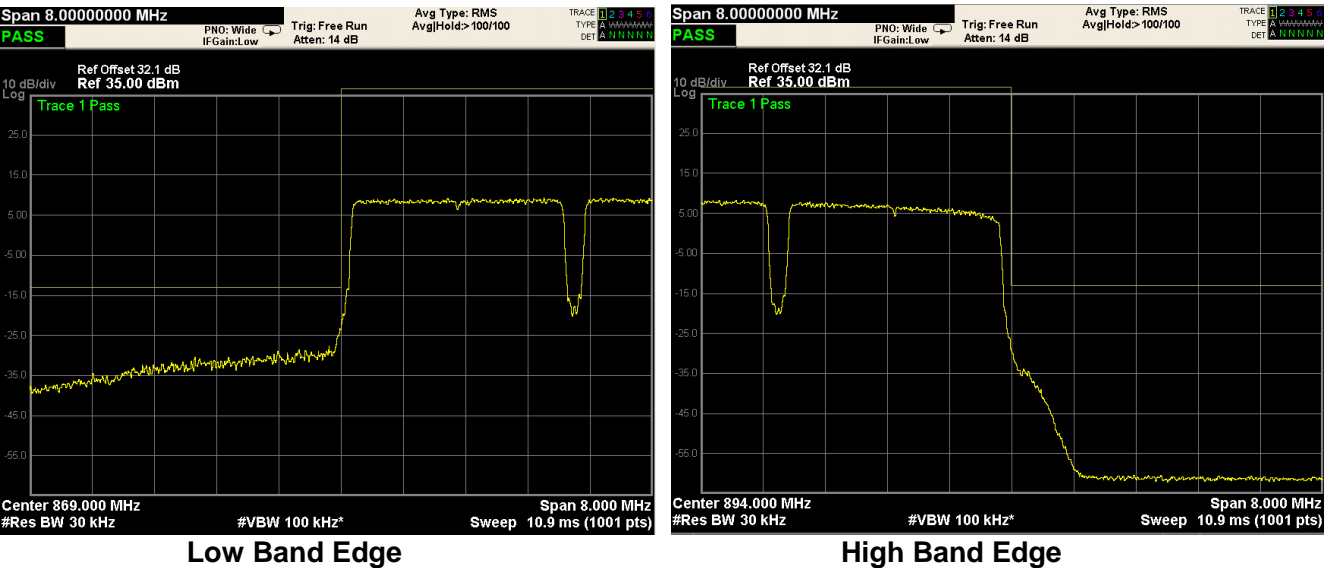
Center 894.000 MHz  
#Res BW 30 kHz

#VBW 100 kHz\*

Sweep 10.9 ms (1001 pts)

High Band Edge

Mod. LTE 3MHz (QPSK) (Down-link)



Span 8.00000000 MHz

PASS

PNO: Wide  
IFGain:Low

Trig: Free Run  
Atten: 14 dB

Avg Type: RMS  
Avg|Hold> 100/100

TRACE 1 2 3 4 5 6  
TYPE A W W W W W W W W  
DET A N N N N N N

Ref Offset 32.1 dB  
Ref 35.00 dBm

Trace 1 Pass



Center 894.000 MHz  
#Res BW 30 kHz

#VBW 100 kHz\*

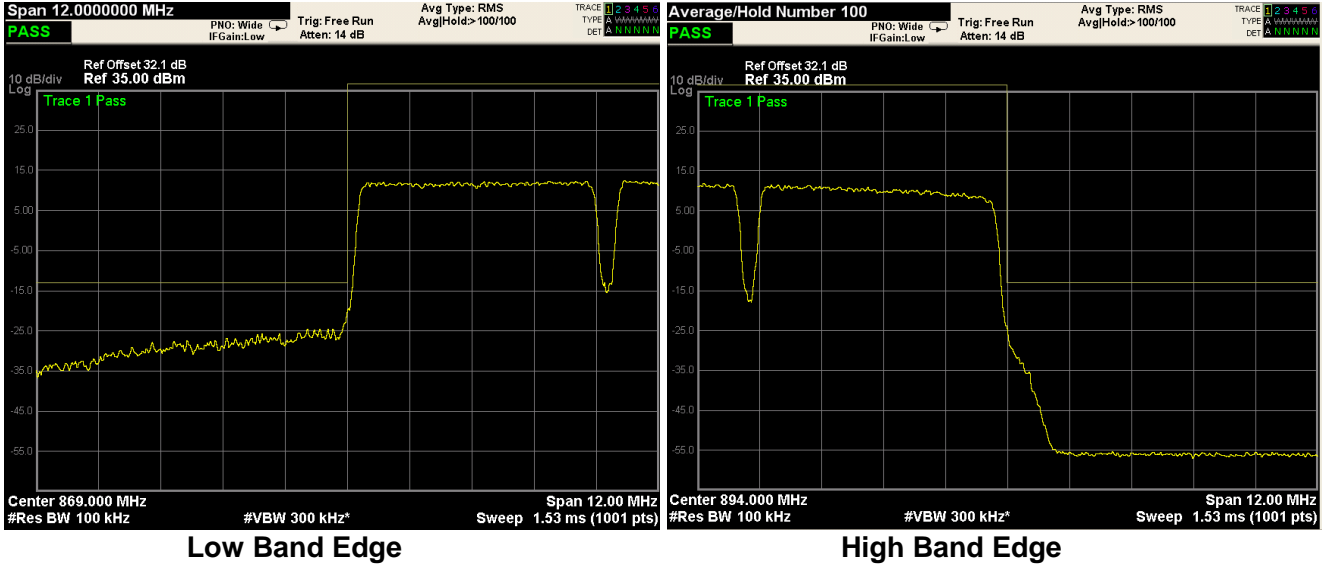
Sweep 10.9 ms (1001 pts)

High Band Edge

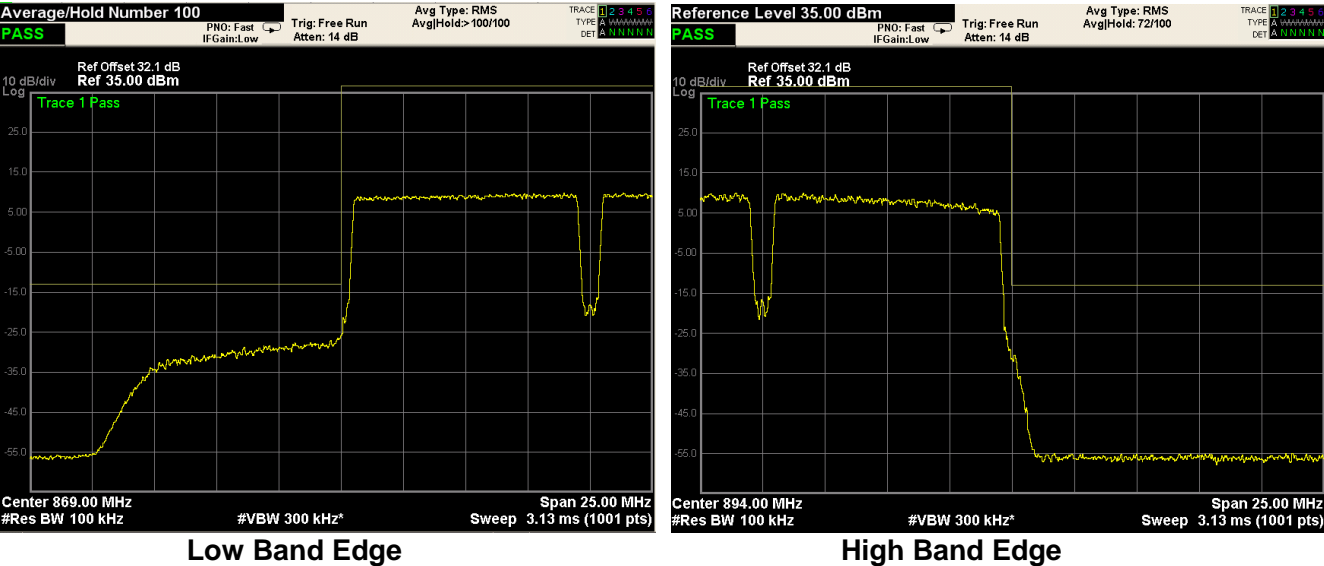
Mod. LTE 5MHz (QAM) (Down-link)



Mod. LTE 5MHz (QPSK) (Down-link)



Mod. LTE 10MHz (QAM) (Down-link)



Reference Level 35.00 dBm

PASS

PNO: Fast

IFGain:Low

Trig: Free Run

Atten: 14 dB

Avg Type: RMS

AvgHold:72/100

TRACE 1 2 3 4 5 6

TYPE A W W W W W W W W

DET A N N N N N

Ref Offset 32.1 dB

Ref 35.00 dBm



Center 894.00 MHz

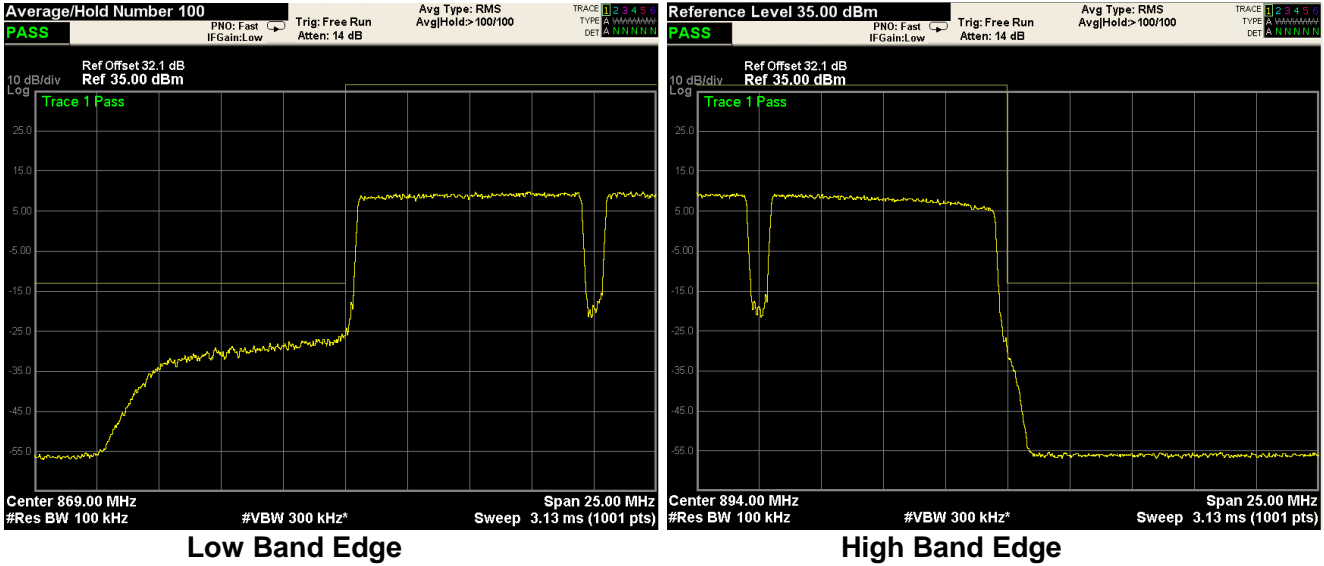
#Res BW 100 kHz

#VBW 300 kHz\*

Sweep 3.13 ms (1001 pts)

High Band Edge

Mod. LTE 10MHz (QPSK) (Down-link)



Reference Level 35.00 dBm

PASS

PNO: Fast

IFGain:Low

Trig: Free Run

Atten: 14 dB

Avg Type: RMS

AvgHold:>100/100

TRACE 1 2 3 4 5 6

TYPE A W W W W W W W W

DET A N N N N N

Ref Offset 32.1 dB

Ref 35.00 dBm



Center 894.00 MHz

#Res BW 100 kHz

#VBW 300 kHz\*

Sweep 3.13 ms (1001 pts)

High Band Edge

 Nemko Italy S.p.A. Via del Carroccio 4, 20046, Biassono, Italy.	Appendix A: Test results
	Report number: <b>253922-3TRFWL</b>
	Specification: FCC 22 Subpart H

## Clause 22.917 Field strength of emissions

(a) Out of band emissions. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least  $43 + 10 \log(P)$  dB.

(b) Measurement procedure. Compliance with these rules is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater. In the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (i.e. 100 kHz or 1 percent of emission bandwidth, as specified).

Test date: 2014-03-05.

Test results: Pass

### Special notes

- The spectrum was searched from 30 MHz up to 10<sup>th</sup> harmonic
- The EUT was measured on three orthogonal axis.
- All measurements were performed at a distance of 3 m.
- Only the worst data presented in the test report.
- The EUT's antenna port was terminated with 50  $\Omega$  termination.

### Test Data

The D.U.T. was positioned according to the radiated emissions set-up

The D.U.T. antenna connector was terminated by a 50  $\Omega$  shielded dummy load.

The spectrum was searched from 30 MHz to 1 GHz (RBW 100 kHz) & 1 GHz (RBW 1 MHz) to the tenth harmonic of the carrier.

There were no emissions detected above the noise floor which was at least 20 dB below the specification limit.

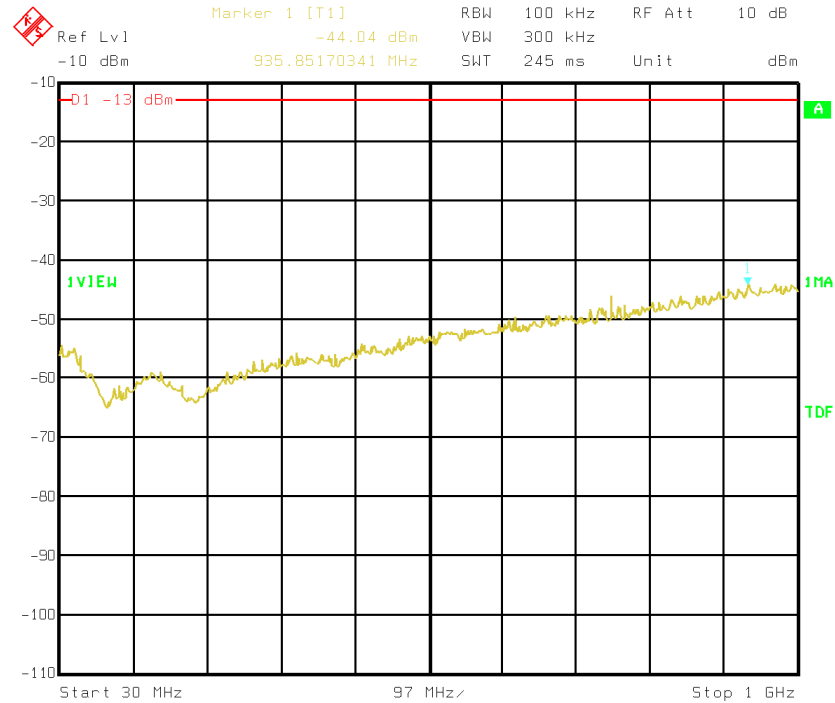


Nemko Italy S.p.A.  
Via del Carroccio 4, 20046, Biassono, Italy.

## Appendix A: Test results

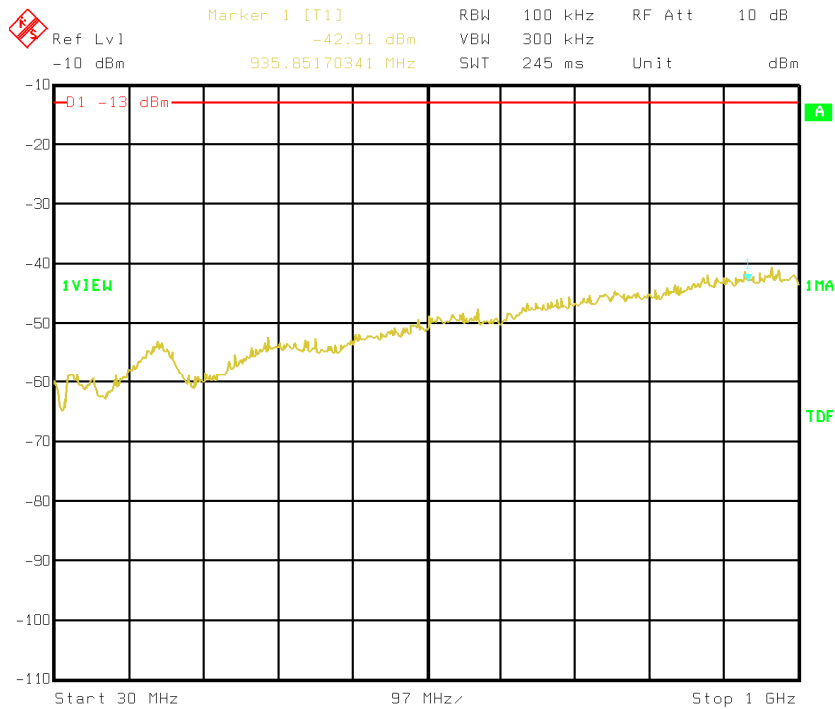
Report number: **253922-3TRFWL**

Specification: FCC 22 Subpart H



Date: 26.MAR.2014 13:23:06

### 30MHz-1GHz – H Pol



Date: 26.MAR.2014 13:25:53

### 30MHz-1GHz – V Pol

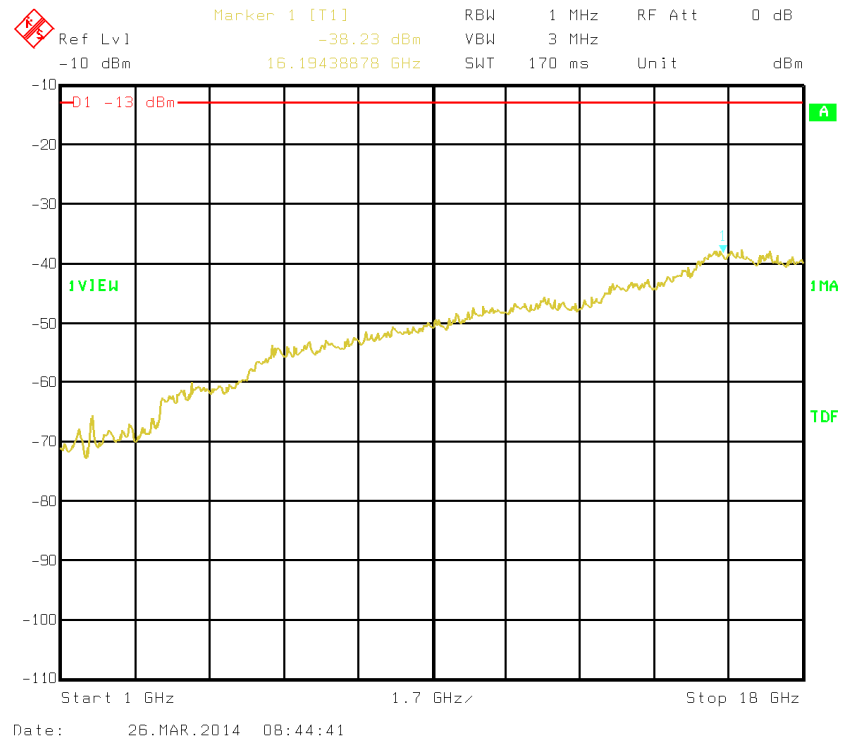


Nemko Italy S.p.A.  
Via del Carroccio 4, 20046, Biassono, Italy.

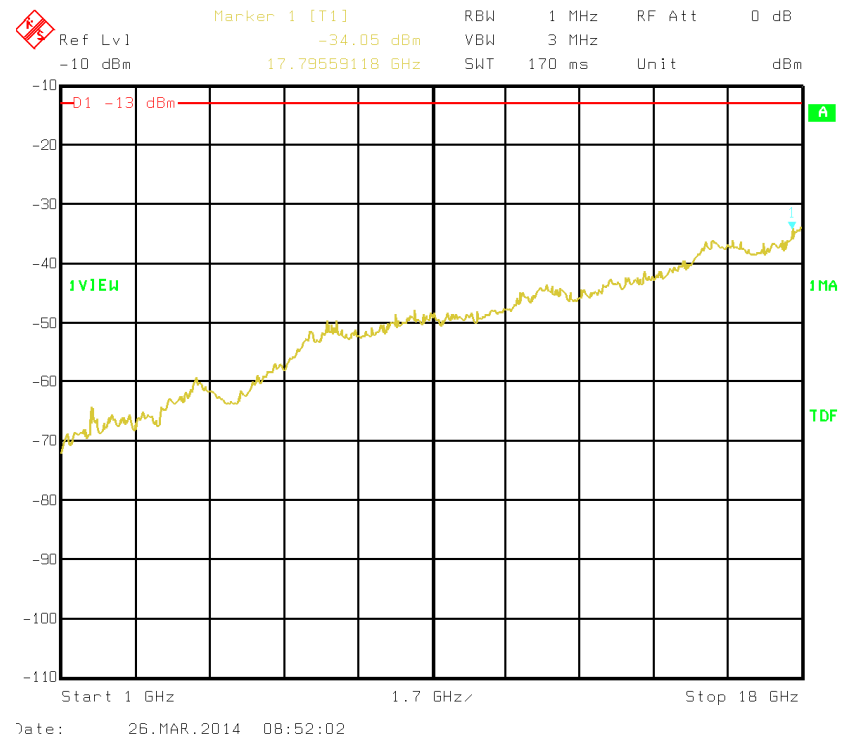
## Appendix A: Test results

Report number: **253922-3TRFWL**

Specification: FCC 22 Subpart H



### 1GHz-18GHz – H Pol



### 1GHz-18GHz – V Pol





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Appendix A: Test results

Report number: **253922-3TRFWL**

Specification: FCC 22 Subpart H

## Clause 22.355 Frequency tolerance

Except as otherwise provided in this part, the carrier frequency of each transmitter in the Public Mobile Services must be maintained within the tolerances as follows:

Base fixed station (ppm)	Mobile station (ppm)
1.5	2.5

Test date:

### Test results:

NOT APPLICABLE: Modulation/frequency conversion circuitry not in use. No frequency change in EUT (input and output have same frequency)

### Special notes

The resolution bandwidth was set to 10 kHz, video bandwidth was set to 100 Hz

Clause 22.355 Frequency tolerance, continued

Test data				
Down-link				
Conditions	Frequency (Hz)	Offset (ppm)	Limit (ppm)	Margin (ppm)
+50 °C, Nominal power				
+40 °C, Nominal power				
+30 °C, Nominal power				
+20 °C, +10% power				
+20 °C, Nominal power				
+20 °C, −10% power				
+10 °C, Nominal power				
0 °C, Nominal power				
−10 °C, Nominal power				
−20 °C, Nominal power				
<div> <ul style="list-style-type: none"> <li>Note: Offset calculation: <math>\frac{F_{Measured} - F_{reference}}{F_{reference}} \times 1 \cdot 10^6</math></li> <li>Maximum frequency drift is    kHz</li> </ul> </div>				

Filter Frequency Response

Test date: 2014-03-05.

Test results: Pass

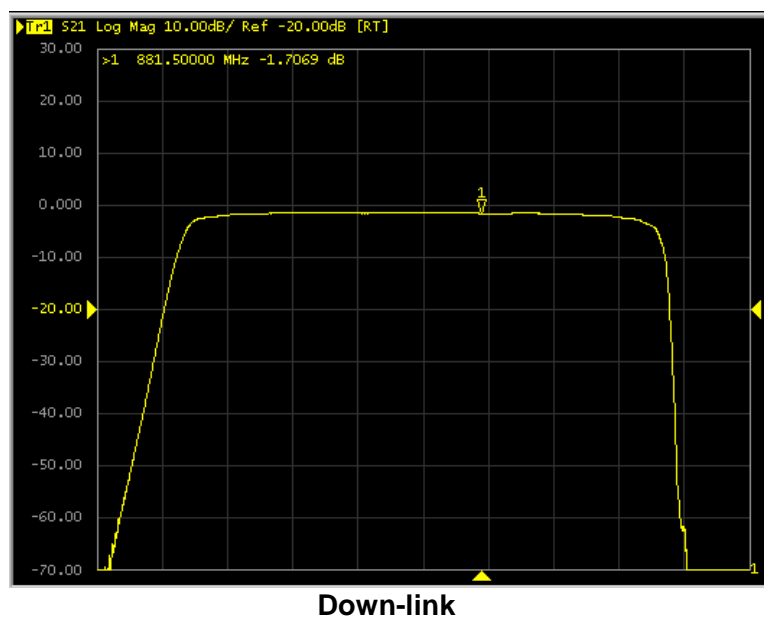


Photo Set up



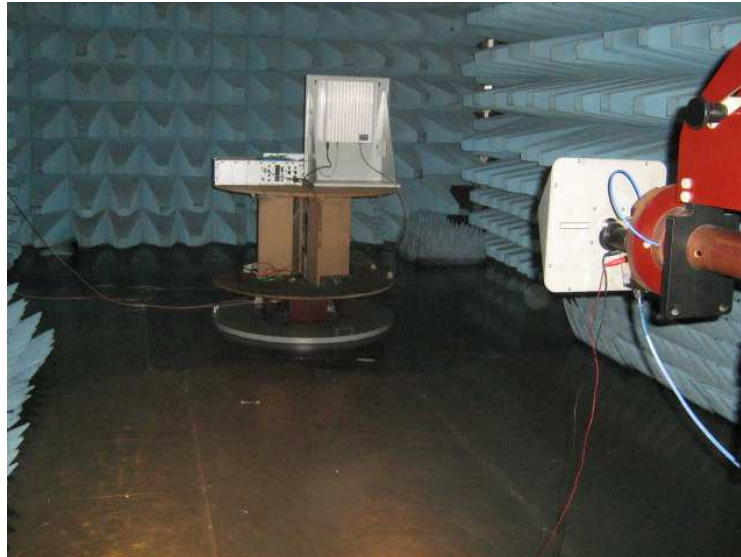


Nemko Italy S.p.A.  
Via del Carroccio 4, 20046, Biassono, Italy.

Appendix A: Test results

Report number: **253922-3TRFWL**

Specification: FCC 22 Subpart H



<div data-bbox="132 197 421 264">  <b>Nemko</b> </div> <div data-bbox="132 266 533 320"> Nemko Italy S.p.A.  Via del Carroccio 4, 20046, Biassono, Italy. </div>	Appendix A: Test results
	Report number: <b>253922-3TRFWL</b>
	Specification: FCC 22 Subpart H

Photo EUT

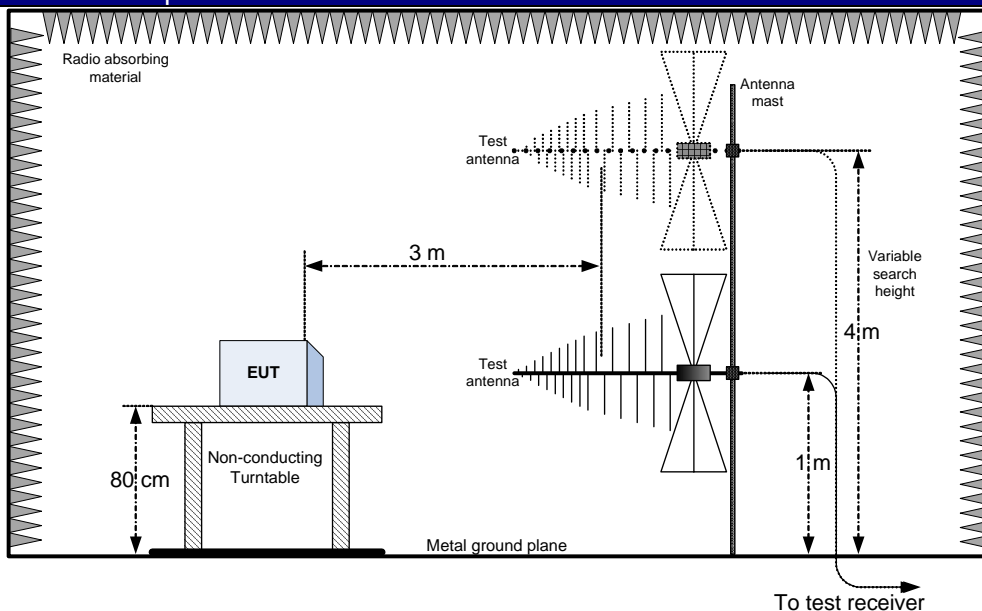






## Appendix B: Block diagrams of test set-ups

### Radiated emissions set-up



### Substitution method set-up

