**CETECOM™****CETECOM ICT Services**
consulting - testing - certification >>>

TEST REPORT

Test report no.: 1-8658/14-01-02-A

Deutsche
Akkreditierungsstelle
D-PL-12076-01-00

Testing laboratory

CETECOM ICT Services GmbH

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Internet: <http://www.cetecom.com>e-mail: ict@cetecom.com**Accredited Testing Laboratory:**

The testing laboratory (area of testing) is accredited according to DIN EN ISO/IEC 17025 (2005) by the Deutsche Akkreditierungsstelle GmbH (DAkkS)

The accreditation is valid for the scope of testing procedures as stated in the accreditation certificate with the registration number: D-PL-12076-01-00

Applicant

FEIG ELECTRONIC GmbH

Lange Str. 4

35781 Weilburg-Waldhausen / GERMANY

Phone: +49 6471 31 09-0

Fax: -/-

Contact: Frieder Heinze

Phone: +49 6471 310-90

Manufacturer

FEIG ELECTRONIC GmbH

Lange Str. 4

35781 Weilburg-Waldhausen / GERMANY

Test standard/s

47 CFR Part 15

Title 47 of the Code of Federal Regulations; Chapter I; Part 15 - Radio frequency devices

RSS - 210 Issue 8

Spectrum Management and Telecommunications Radio Standards Specification - Licence-exempt Radio Apparatus (All Frequency Bands): Category I Equipment

For further applied test standards please refer to section 3 of this test report.

Test Item

Kind of test item: Wireless Safety System for industrial doors**Model name:** TST FSAM 250 KBit**FCC ID:** PJMTSTFSAMK**IC:** 6633A-TSTFSAMK

Frequency: 2402 MHz – 2480 MHz

Technology tested: Proprietary

Antenna: Integrated antenna

Power supply: 3.7 V DC by lithium battery

Temperature range: -40°C to +70°C



This test report is electronically signed and valid without handwriting signature. For verification of the electronic signatures, the public keys can be requested at the testing laboratory.

Test report authorised:

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Radio Communications & EMC

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2 General information

2.1 Notes and disclaimer

The test results of this test report relate exclusively to the test item specified in this test report. CETECOM ICT Services GmbH does not assume responsibility for any conclusions and generalizations drawn from the test results with regard to other specimens or samples of the type of the equipment represented by the test item.

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This test report replaces the test report with the number 1-8658/14-01-02 and dated 2014-12-15

2.2 Application details

Date of receipt of order:	2014-11-19
Date of receipt of test item:	2014-11-24
Start of test:	2014-12-02
End of test:	2014-12-03
Person(s) present during the test:	-/-

3 Test standard/s

Test standard	Date	Test standard description
47 CFR Part 15		Title 47 of the Code of Federal Regulations; Chapter I; Part 15 - Radio frequency devices
RSS - 210 Issue 8	01.12.2010	Spectrum Management and Telecommunications Radio Standards Specification - Licence-exempt Radio Apparatus (All Frequency Bands): Category I Equipment

4 Test environment

Temperature:	T_{nom}	+22 °C during room temperature tests
	T_{max}	+70 °C during high temperature tests
	T_{min}	-40 °C during low temperature tests
Relative humidity content:		43 %
Barometric pressure:		not relevant for this kind of testing
Power supply:	V_{nom}	3.7 V DC by lithium battery
	V_{max}	-/- V
	V_{min}	-/- V

5 Test item

Kind of test item	:	Wireless Safety System for industrial doors
Type identification	:	TST FSAM 250 KBit
S/N serial number	:	F# 5195897
HW hardware status	:	FE622
SW software status	:	FSAM-ST V00-04
Frequency band [MHz]	:	2402 MHz – 2480 MHz
Type of modulation	:	GFSK
Number of channels	:	40
Antenna	:	Integrated antenna
Power supply	:	3.7 V DC by lithium battery
Temperature range	:	-40°C to +70 °C

5.1 Additional information

The content of the following annexes is defined in the QA. It may be that not all of the listed annexes are necessary for this report, thus some values in between may be missing.

Test setup- and EUT-photos are included in test report: 1-8658/14-01-01_AnnexA
 1-8658/14-01-01_AnnexB
 1-8658/14-01-01_AnnexX

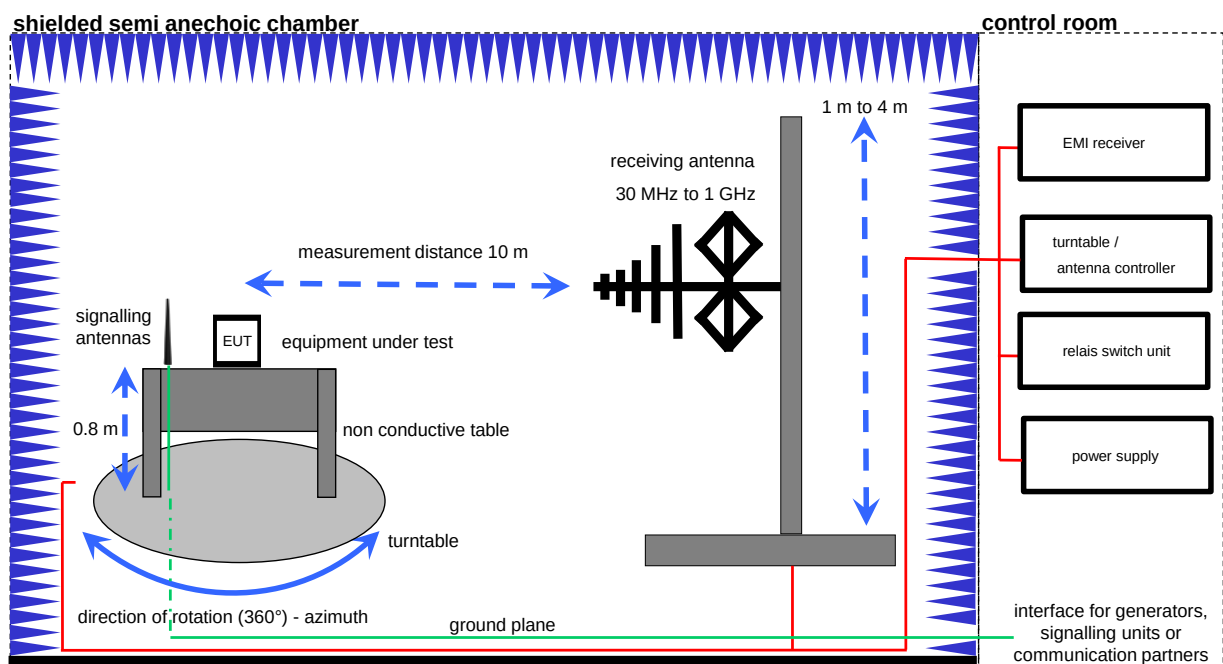
6 Test laboratories sub-contracted

None

7 Description of the test setup

7.1 Radiated measurements chamber F

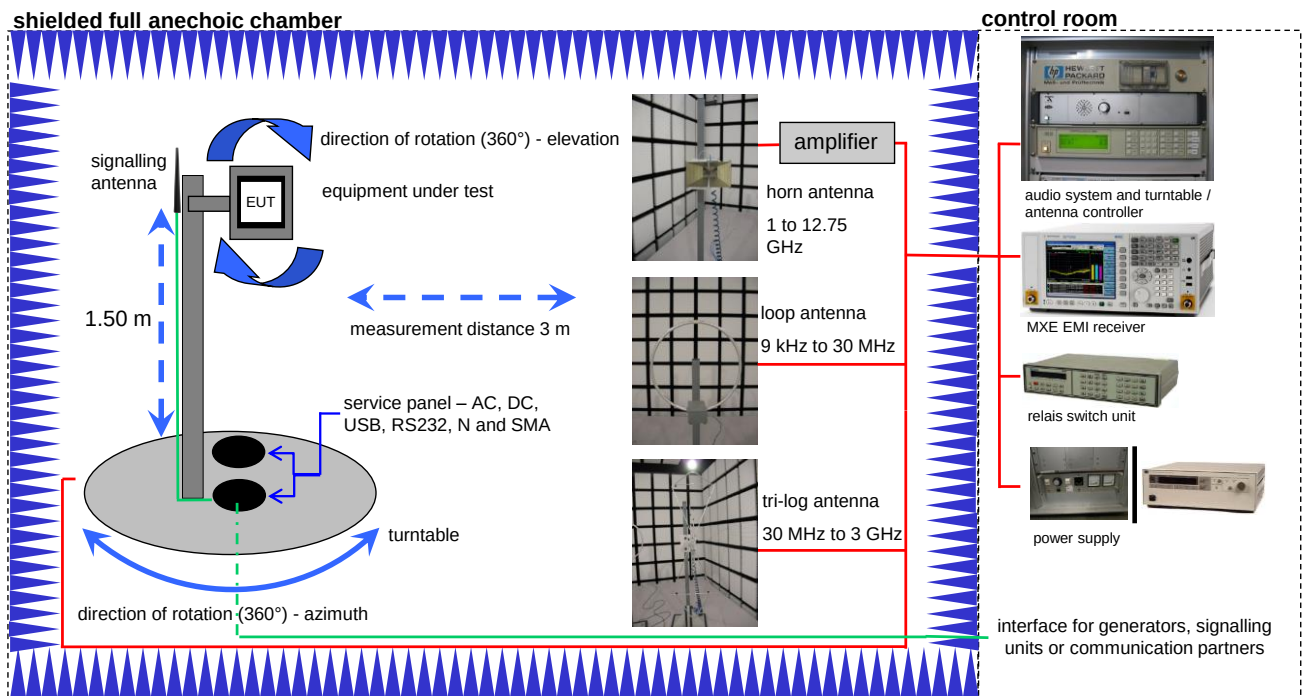
The radiated measurements are performed in vertical and horizontal plane in the frequency range from 9 kHz to 1 GHz in semi-anechoic chambers. The EUT is positioned on a non-conductive support with a height of 0.80 m above a conductive ground plane that covers the whole chamber. The receiving antennas are confirmed with specifications ANSI C63. These antennas can be moved over the height range between 1.0 m and 4.0 m in order to search for maximum field strength emitted from EUT. The measurement distances between EUT and receiving antennas are indicated in the test setups for the various frequency ranges. For each measurement, the EUT is rotated in all three axes until the maximum field strength is received. The wanted and unwanted emissions are received by spectrum analysers where the detector modes and resolution bandwidths over various frequency ranges are set according to requirement ANSI C63.



Equipment table:

Equipment	Type	Manufacturer	Serial No.	INV. No Cetecom
Software	EMC32 V. 9.12.05	R&S	-/-	-/-
Switch-Unit	3488A	HP Meßtechnik	2719A14505	300000368
DC power supply, 60Vdc, 50A, 1200 W	6032A	HP Meßtechnik	2920A04466	300000580
EMI Test Receiver	ESCI 3	R&S	100083	300003312
Amplifier	JS42-00502650-28-5A	MITEQ	1084532	300003379
Antenna Tower	Model 2175	ETS-LINDGREN	64762	300003745
Positioning Controller	Model 2090	ETS-LINDGREN	64672	300003746
Turntable Interface-Box	Model 105637	ETS-LINDGREN	44583	300003747
TRILOG Broadband Test- Antenna 30 MHz - 3 GHz	VULB9163	Schwarzbeck	295	300003787
CBT (Bluetooth Tester + EDR Signalling)	CBT 1153.9000K35, CBT- B55, CBT-K55	R&S	100313	300003516

7.2 Radiated measurements chamber C



Equipment table:

Equipment	Type	Manufacturer	Serial No.	INV. No Cetecom
MXE EMI Receiver 20 Hz bis 26,5 GHz	N9038A	Agilent Technologies	MY51210197	300004405
TRILOG Broadband Test-Antenna 30 MHz - 3 GHz	VULB9163	Schwarzbeck	371	300003854
Band Reject filter	WRCG2400/2483-2375/2505-50/10SS	Wainwright	11	300003351
Highpass Filter	WHKX7.0/18G-8SS	Wainwright	18	300003789
Double-Ridged Waveguide Horn Antenna 1-18.0GHz	3115	EMCO	8812-3088	300001032
Active Loop Antenna	6502	EMCO	8905-2342	300000256
Anechoic chamber	FAC 3/5m	MWB / TDK	87400/02	300000996
Switch / Control Unit	3488A	HP Meßtechnik	*	300000199
Switch / Control Unit	3488A	HP Meßtechnik	2719A15013	300001156
Isolating Transformer	MPL IEC625 Bus Regeltrenntravo	Erfi	91350	300001155
Three-Way Power Splitter, 50 Ohm	11850C	HP Meßtechnik		300000997
Amplifier	js42-00502650-28-5a	Parzich GMBH	928979	300003143
CBT (Bluetooth Tester + EDR Signalling)	CBT 1153.9000K35, CBT-B55, CBT-K55	R&S	100313	300003516

7.3 Radiated measurements 12.75 GHz to 26 GHz**Equipment table:**

Equipment	Type	Manufacturer	Serial No.	INV. No Cetecom
Std. Gain Horn Antenna 12.4 to 18.0 GHz	639	Narda	8402	300000787
Std. Gain Horn Antenna 18.0 to 26.5 GHz	638	Narda	8205	300002442
Microwave System Amplifier, 0.5-26.5 GHz	83017A	HP Meßtechnik	00419	300002268
Spectrum Analyzer 20 Hz - 50 GHz	FSU50	R&S	200012	300003443
Signal Analyzer 40 GHz	FSV40	R&S	101042	300004517
CBT (Bluetooth Tester + EDR Signalling)	CBT 1153.9000K35, CBT- B55, CBT-K55	R&S	100313	300003516

8 Summary of measurement results



No deviations from the technical specifications were ascertained



There were deviations from the technical specifications ascertained

TC Identifier	Description	Verdict	Date	Remark
RF-Testing	47 CFR Part 15	Passed	2015-01-23	Radiated measurements only – according customer test plan

Test specification clause	Test case	Temperature conditions	Power source voltages	Pass	Fail	NA	NP	Results
§15.249(a)	Field strength of emissions (wanted signal)	Nominal	Nominal	☒	☐	☐	☐	complies
§2.1049	Occupied bandwidth (99% bandwidth)	Nominal	Nominal	☐	☐	☐	☒	-/-
§15.209(a) / §15.249(b)(1)(2)(3)	Field strength of emissions (spurious)	Nominal	Nominal	☒	☐	☐	☐	complies
§15.207(a)	Conducted emissions < 30 MHz	Nominal	Nominal	☐	☐	☒	☐	-/-
§15.109	Field strength of emissions (spurious)	Nominal	Nominal	☒	☐	☐	☐	complies

Note: NA = Not Applicable; NP = Not Performed

9 RF measurements

9.1 Additional comments

Reference documents: None

Special test descriptions: None

Configuration descriptions: None

Test mode: ☐ Normal operation, no special test mode available.

☒ Special software is used.

10 Measurement results

10.1 Field strength of emissions (wanted signal)

Description:

Measurement of the maximum radiated field strength of the wanted signal.

Measurement:

Measurement parameter	
Detector:	Pos-Peak
Sweep time:	Auto
Video bandwidth:	Auto
Resolution bandwidth:	1 MHz
Span:	max. 100 MHz
Trace-Mode:	Max Hold

Limits:

FCC		
Field strength of emissions		
The field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following:		
Frequency [MHz]	Field Strength [dB μ V/m]	Measurement distance
902 – 928 MHz	94	3

Result:

Test condition	Maximum field strength	
	Frequency [MHz]	Field strength [dB μ V/m] @ 3 m
T _{nom} / V _{nom}	2480.1	93.38
Measurement uncertainty	± 3 dB	

Result: passed.

10.2 Field strength of emissions (radiated spurious)

Description:

Measurement of the radiated spurious emissions in transmit mode.

Measurement:

Measurement parameter	
Detector:	Peak / Quasi Peak
Sweep time:	Auto
Video bandwidth:	Auto
Resolution bandwidth:	F < 1 GHz: 100 kHz F > 1 GHz: 1 MHz
Frequency range:	30 MHz to 100 GHz
Trace-Mode:	Max Hold

Limits:

FCC		
Radiated Spurious Emissions		
Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in § 15.209, whichever is the lesser attenuation.		
Frequency (MHz)	Field Strength (dBμV/m)	Measurement distance
0.009 – 0.490	2400/F(kHz)	300
0.490 – 1.705	24000/F(kHz)	30
1.705 – 30.0	30	30
30 – 88	30.0	10
88 – 216	33.5	10
216 – 960	36.0	10
Above 960	54.0	3

Results:

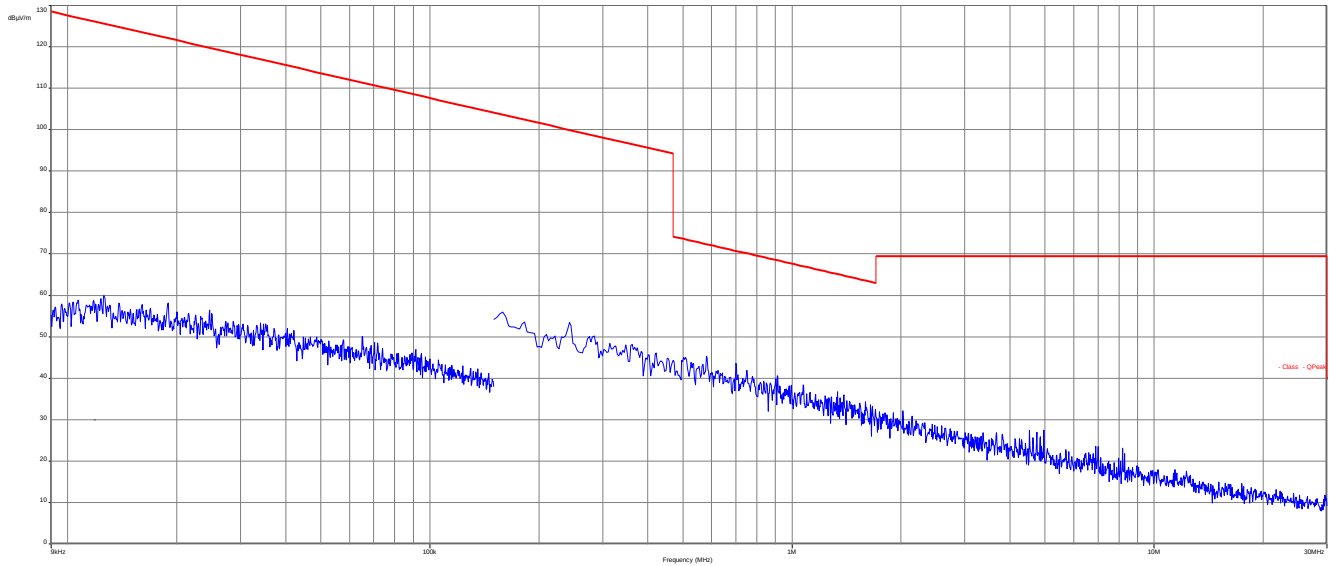
TX Spurious Emissions Radiated [dB μ V/m]								
Lowest			Middle			Highest		
F [MHz]	Detector	Level [dB μ V/m]	F [MHz]	Detector	Level [dB μ V/m]	F [MHz]	Detector	Level [dB μ V/m]
No peaks found			No peaks found			No peaks found		
Measurement uncertainty			± 3 dB					

Result: passed.

Note: The limit was recalculated with 20 dB / decade (Part 15.31) for all radiated spurious emissions 30 MHz to 1 GHz from 3 meter limit to a 10 meter distance. (40dB/decade for emissions < 30MHz)

Plots:

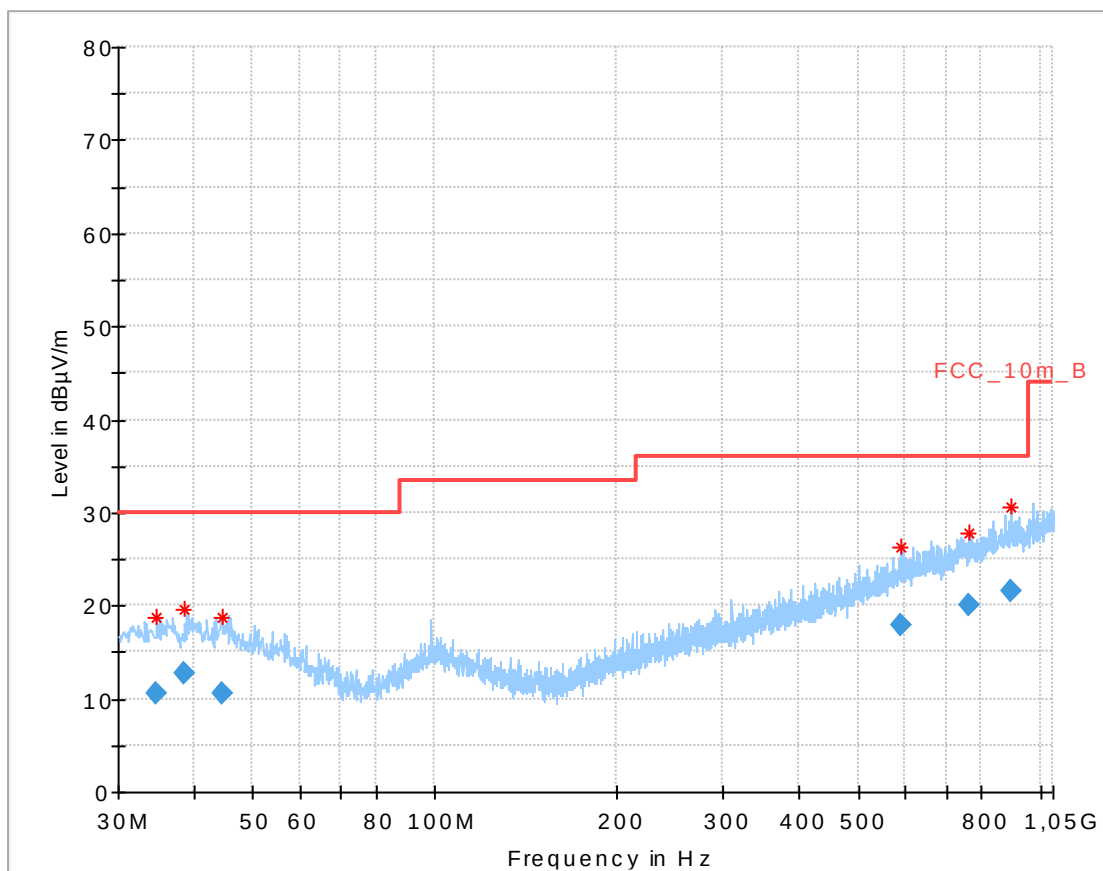
Plot 1: Lowest channel; 9 KHz to 30 MHz



Plot 2: Lowest channel; 30 MHz to 1 GHz, horizontal & vertical polarization

Common Information

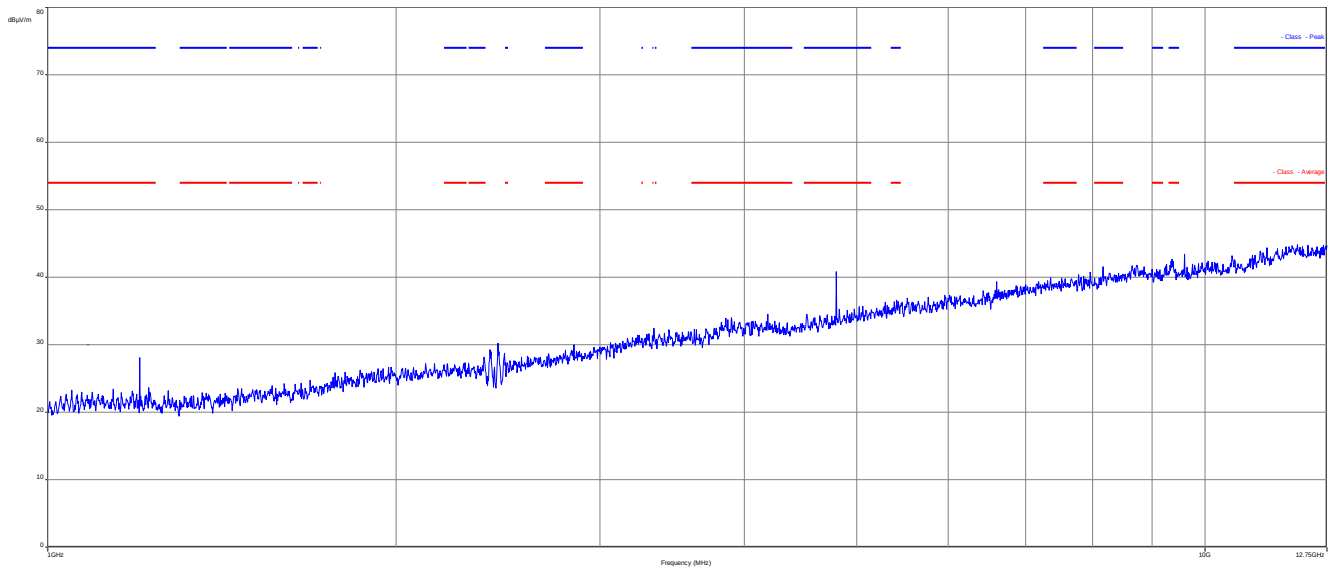
EUT:	TST-FSAM-B
Serial number:	5195897
Test description:	FCC part 15 class B @ 10 m
Operating condition:	TX lower channel
Operator name:	Hennemann
Comment:	3,6 V battery powered



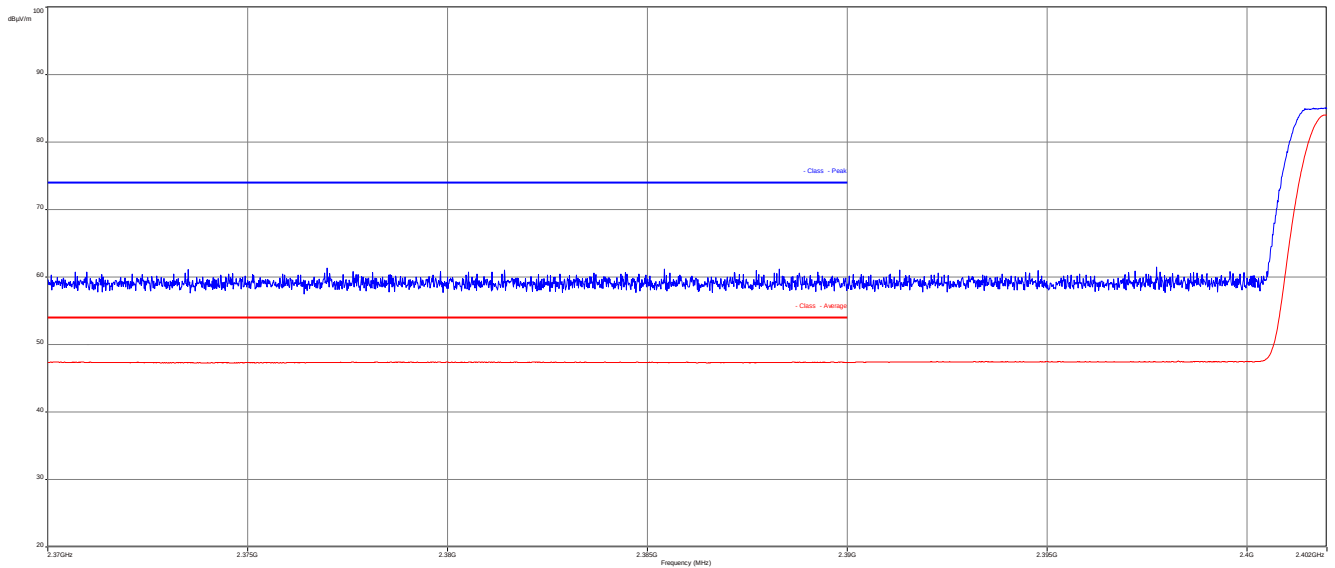
Final Result

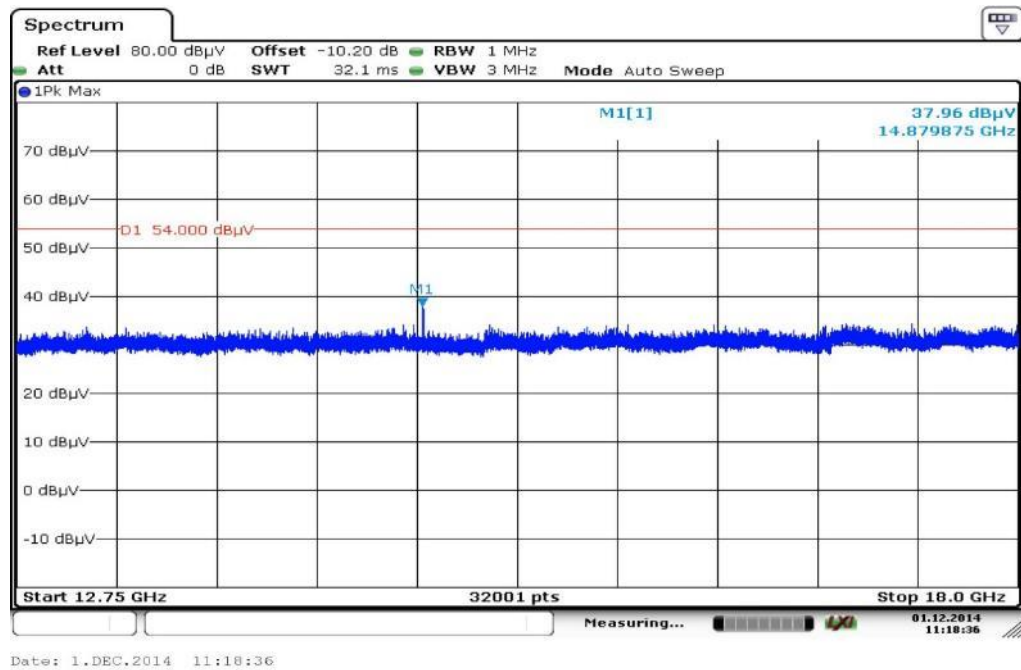
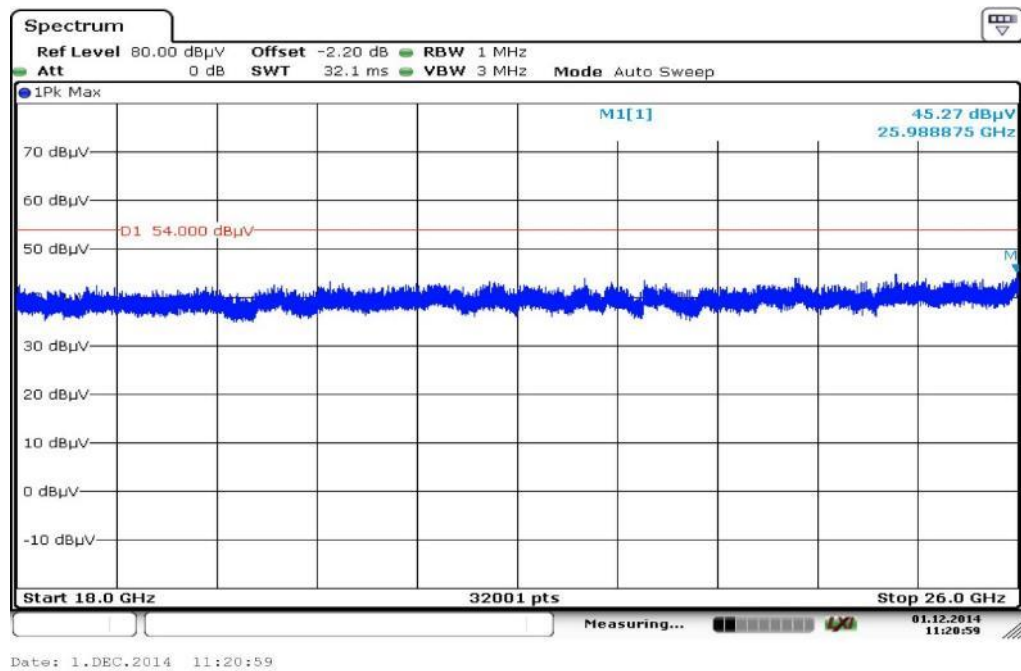
Frequency (MHz)	QuasiPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
34.706850	10.67	30.00	19.33	1000.0	120.000	101.0	H	270	13.8
38.679150	12.74	30.00	17.26	1000.0	120.000	170.0	V	295	14.0
44.427750	10.61	30.00	19.39	1000.0	120.000	170.0	V	245	13.9
587.068350	17.79	36.00	18.21	1000.0	120.000	170.0	V	-25	20.4
763.430850	20.16	36.00	15.84	1000.0	120.000	170.0	H	0	22.7
894.774150	21.47	36.00	14.53	1000.0	120.000	101.0	H	295	24.0

Plot 3: Lowest channel; 1 GHz to 12.75 GHz, horizontal & vertical polarization

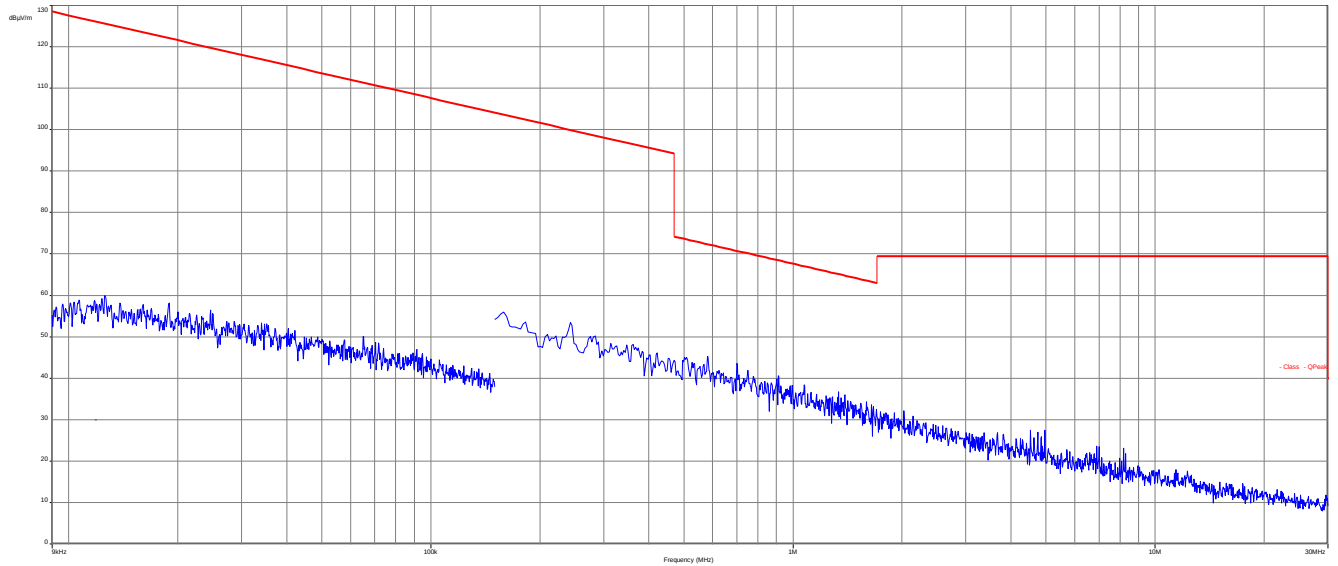


Plot 4: Lowest channel; Band-Edge-Compliance



Plot 5: Lowest channel; 12 GHz to 18 GHz, horizontal & vertical polarizationPlot 6: Lowest channel; 18 GHz to 26 GHz, horizontal & vertical polarization

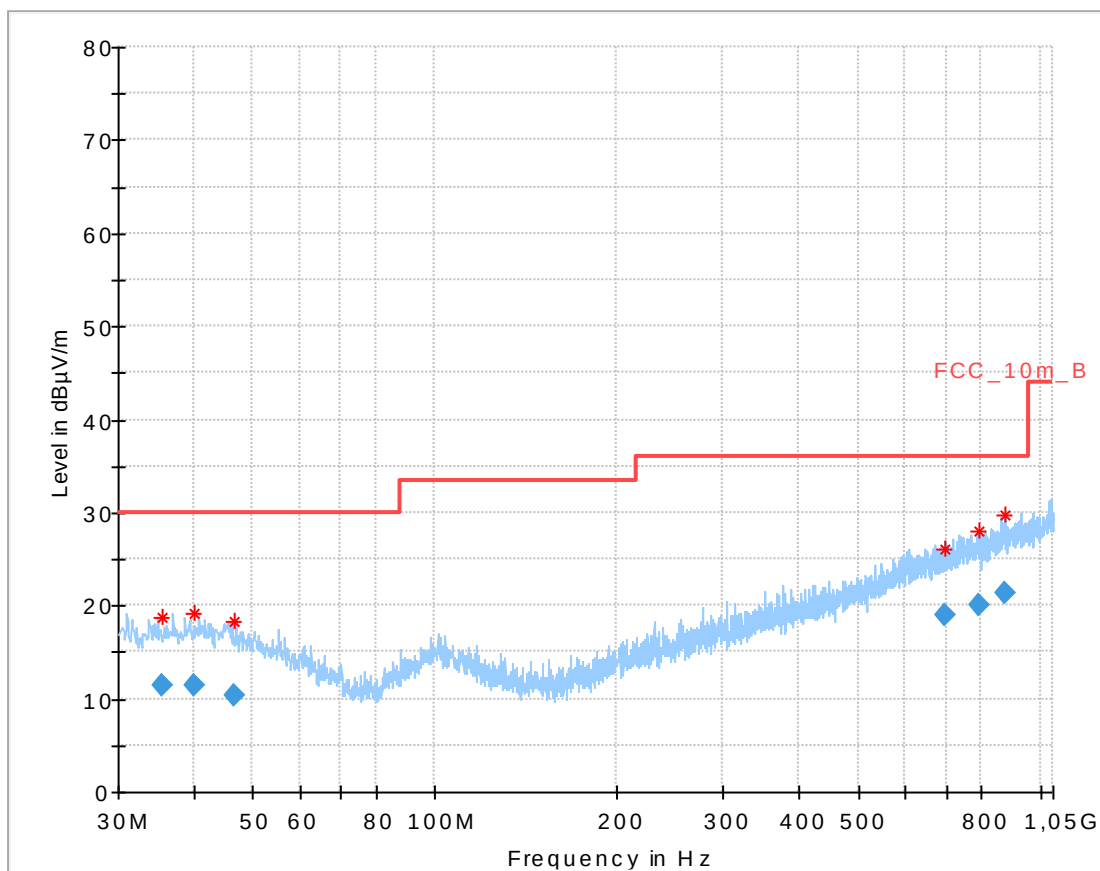
Plot 7: Middle channel; 9 KHz to 30 MHz



Plot 8: Middle channel; 30 MHz to 1 GHz, horizontal & vertical polarization

Common Information

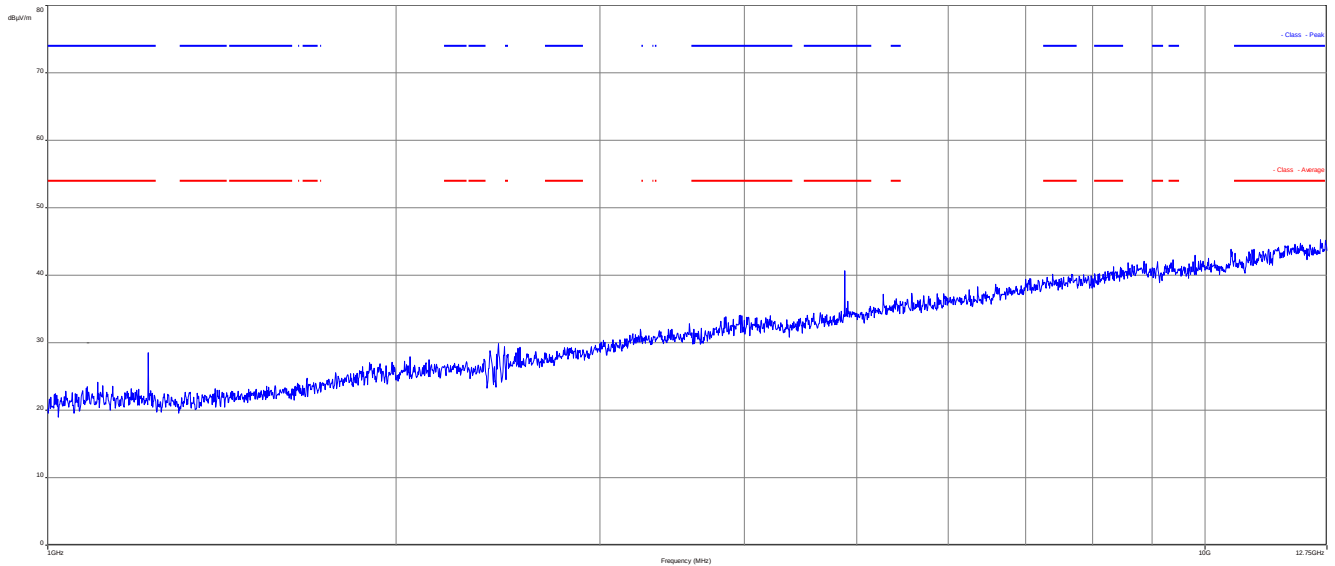
EUT:	TST-FSAM-B
Serial number:	5195897
Test description:	FCC part 15 class B @ 10 m
Operating condition:	TX middle channel
Operator name:	Hennemann
Comment:	3,6 V battery powered



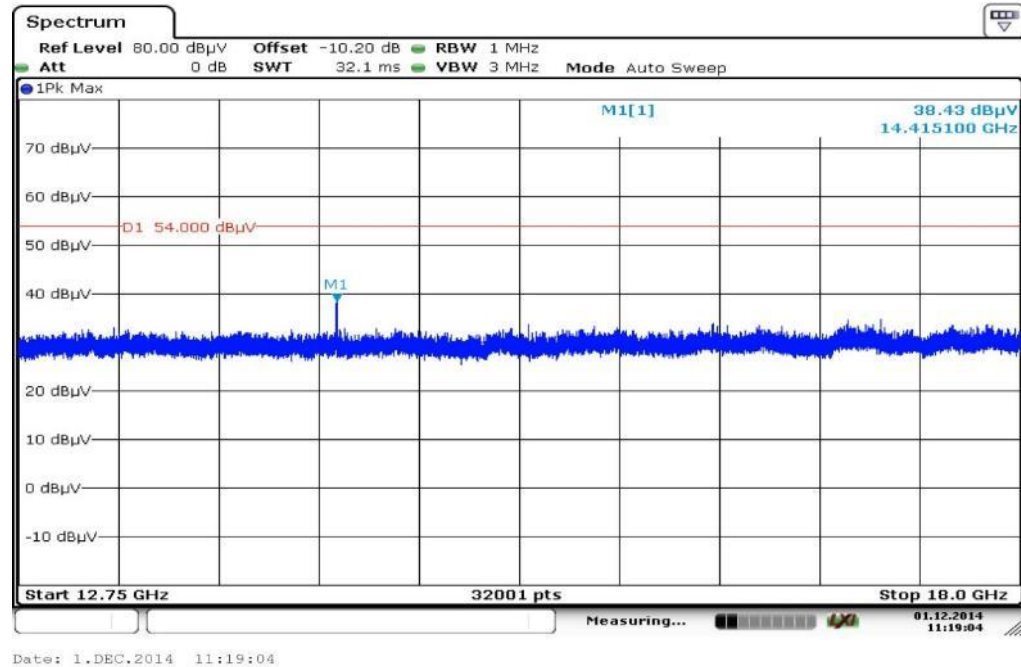
Final Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
35.426100	11.38	30.00	18.62	1000.0	120.000	101.0	H	-25	13.8
40.207350	11.44	30.00	18.56	1000.0	120.000	170.0	V	25	14.0
46.605450	10.28	30.00	19.72	1000.0	120.000	170.0	H	155	13.5
693.854400	18.90	36.00	17.10	1000.0	120.000	170.0	H	155	21.5
792.358500	20.00	36.00	16.00	1000.0	120.000	170.0	H	205	22.7
876.031950	21.42	36.00	14.58	1000.0	120.000	98.0	V	295	23.8

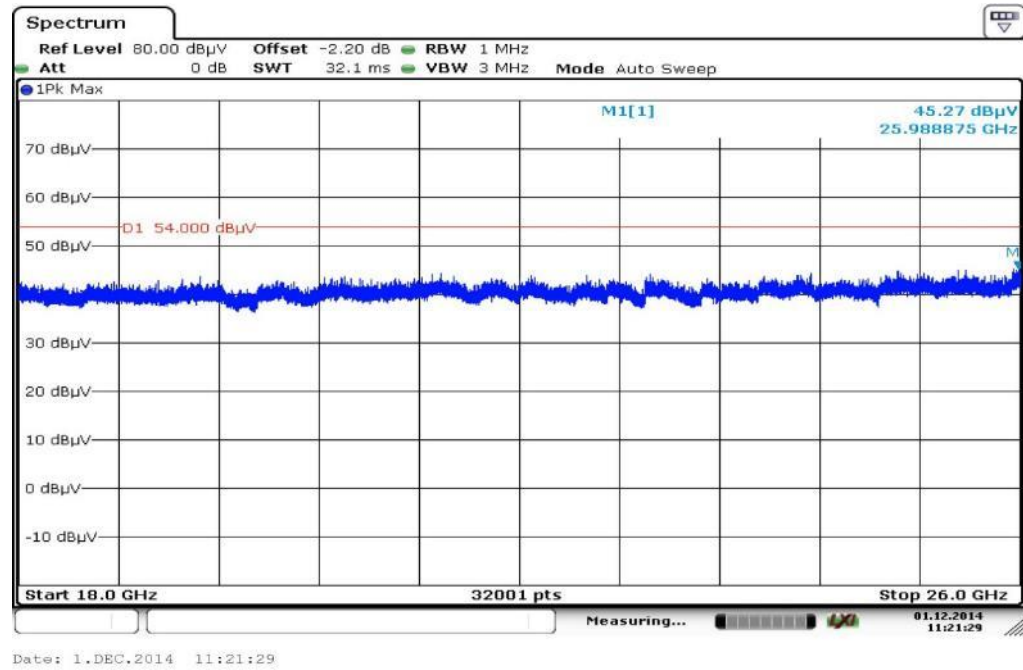
Plot 9: Middle channel; 1 GHz to 12.75 GHz, horizontal & vertical polarization



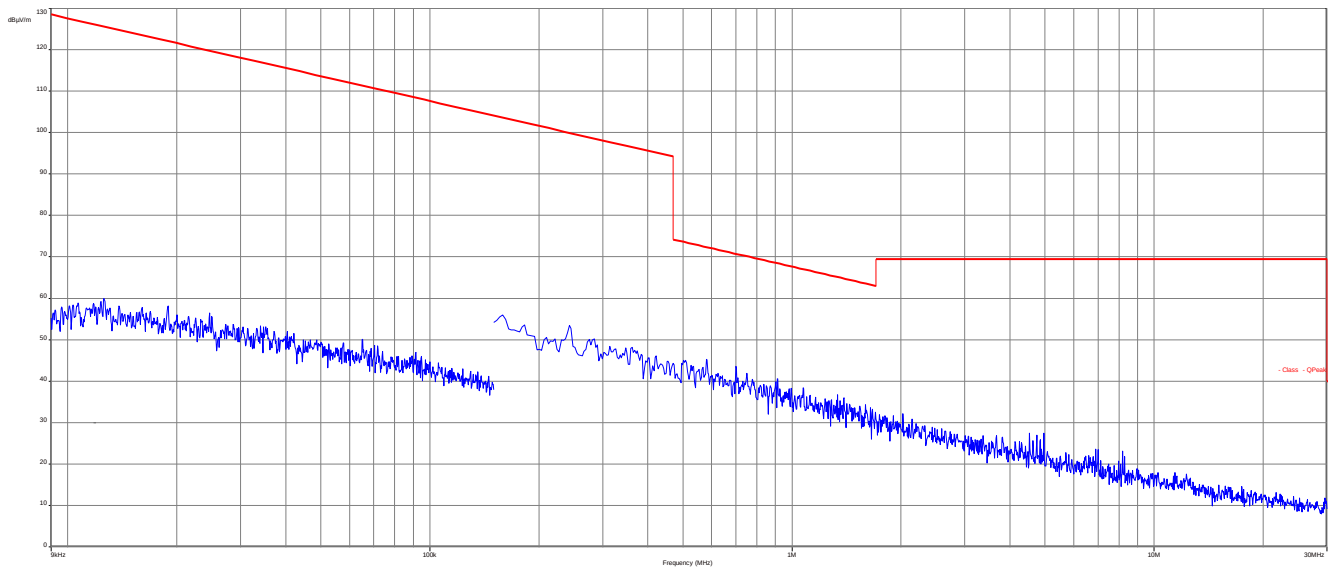
Plot 10: Middle channel; 12 GHz to 18 GHz, horizontal & vertical polarization



Plot 11: Middle channel; 18 GHz to 26 GHz, horizontal & vertical polarization



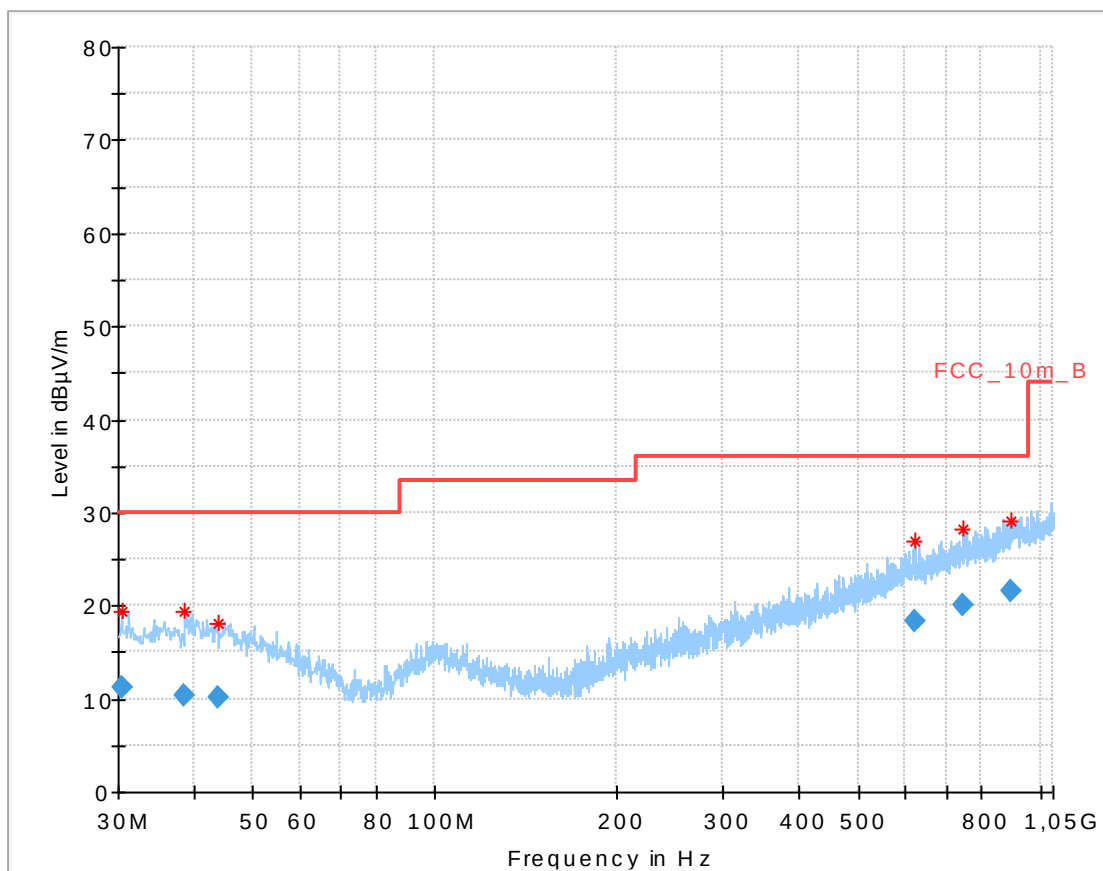
Plot 12: Highest channel; 9 KHz to 30 MHz



Plot 13: Highest channel; 30 MHz to 1 GHz, horizontal & vertical polarization

Common Information

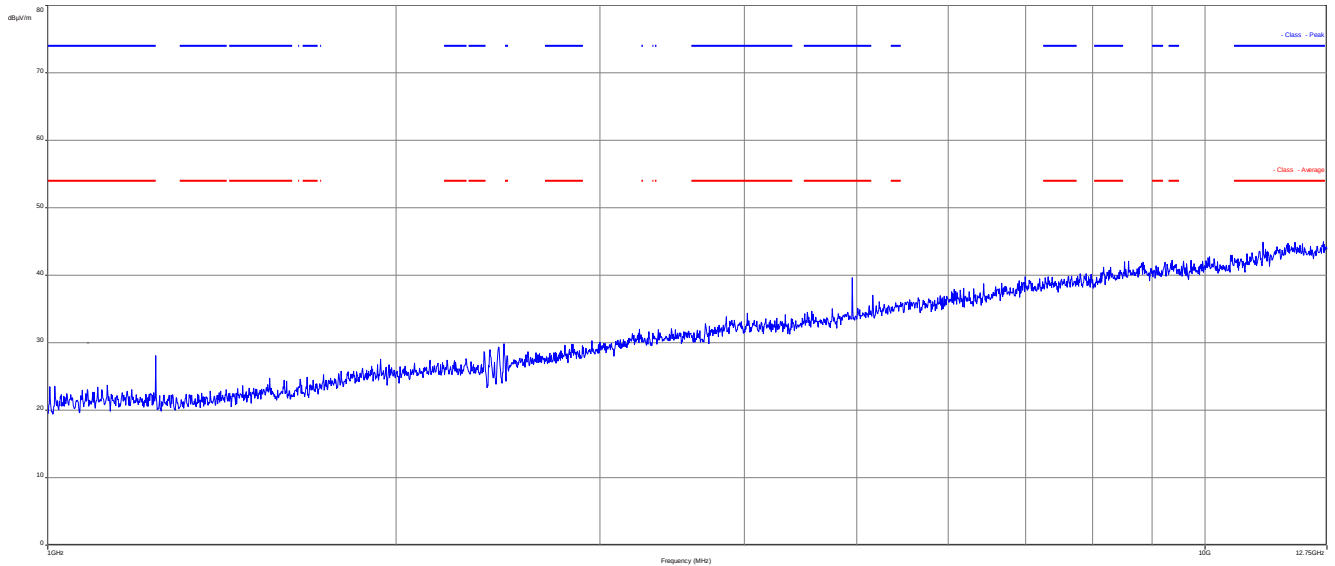
EUT:	TST-FSAM-B
Serial number:	5195897
Test description:	FCC part 15 class B @ 10 m
Operating condition:	TX upper channel
Operator name:	Hennemann
Comment:	3,6 V battery powered



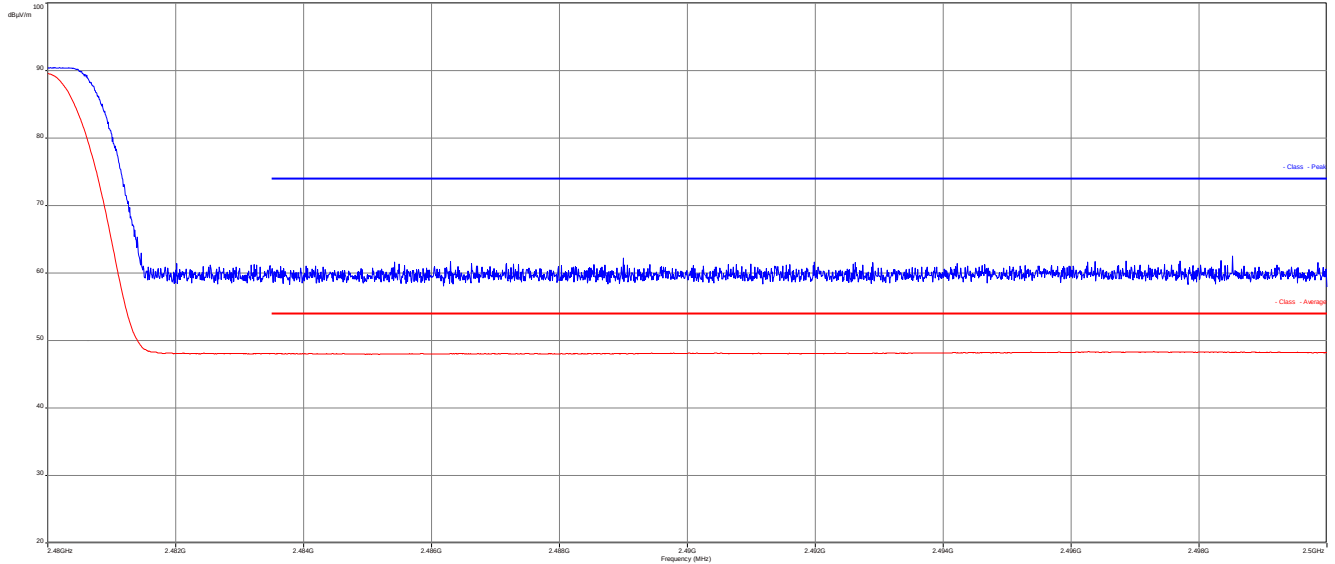
Final Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
30.567025	11.22	30.00	18.78	1000.0	120.000	100.0	V	115	13.4
38.690850	10.27	30.00	19.73	1000.0	120.000	101.0	H	295	14.0
43.876050	10.17	30.00	19.83	1000.0	120.000	101.0	H	205	13.9
622.015650	18.31	36.00	17.69	1000.0	120.000	170.0	H	205	20.9
743.862750	19.98	36.00	16.02	1000.0	120.000	170.0	H	25	22.6
893.748000	21.47	36.00	14.53	1000.0	120.000	170.0	H	25	24.0

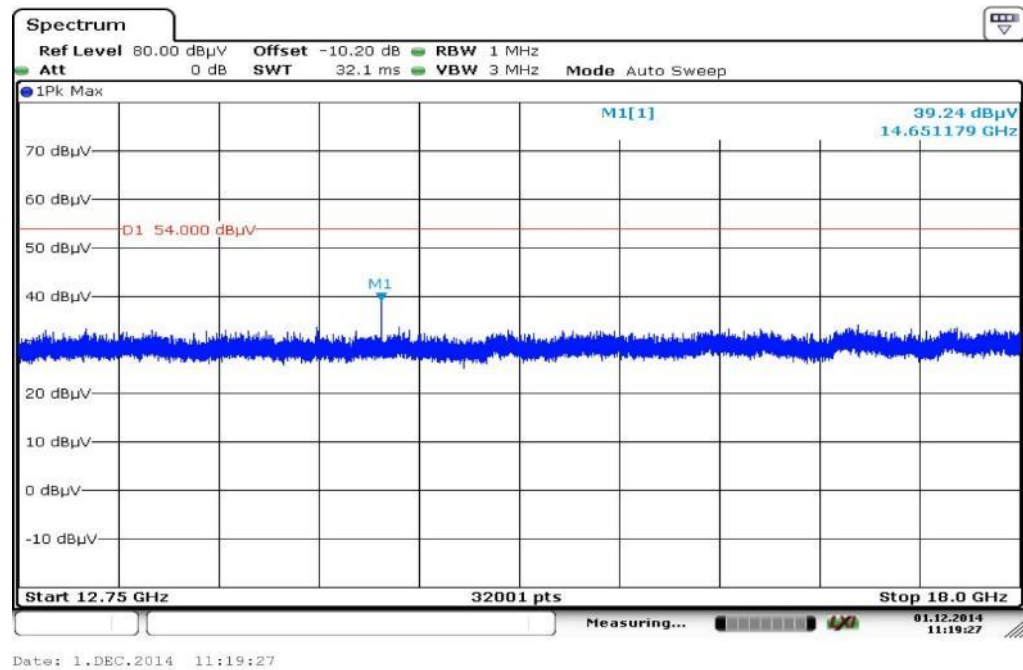
Plot 14: Highest channel; 1 GHz to 12.75 GHz, horizontal & vertical polarization



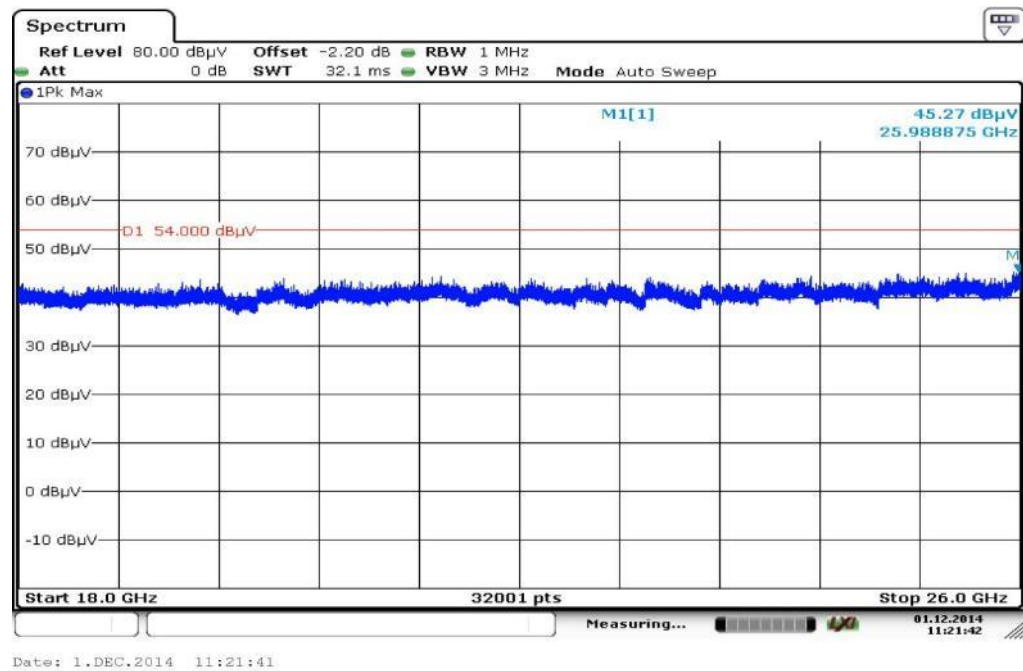
Plot 15: Highest channel; Band-Edge-Compliance



Plot 16: Highest channel; 12 GHz to 18 GHz, horizontal & vertical polarization



Plot 17: Highest channel; 18 GHz to 26 GHz, horizontal & vertical polarization



10.1 Results receiver mode**10.1.1 Spurious emissions radiated – receiver mode****Description:**

The measurement was performed in worst case.

Measurement:

Measurement parameters	
Detector:	Below 1 GHz Peak / QuasiPeak Above 1 GHz Peak / Average
Sweep time:	2 sec
Video bandwidth:	Below 1 GHz 100 kHz Above 1 GHz 1 MHz
Resolution bandwidth:	1 MHz
Span:	100 MHz Steps
Trace-Mode:	Max Hold

Limits:

FCC		IC
Spurious Emissions Radiated – Receiver Mode		
Frequency (MHz)	Field Strength (dBμV/m)	Measurement distance (m)
30 – 88	30.0	10
88 - 216	33.5	10
216 – 960	36.0	10
Above 960	54.0	3

Results:

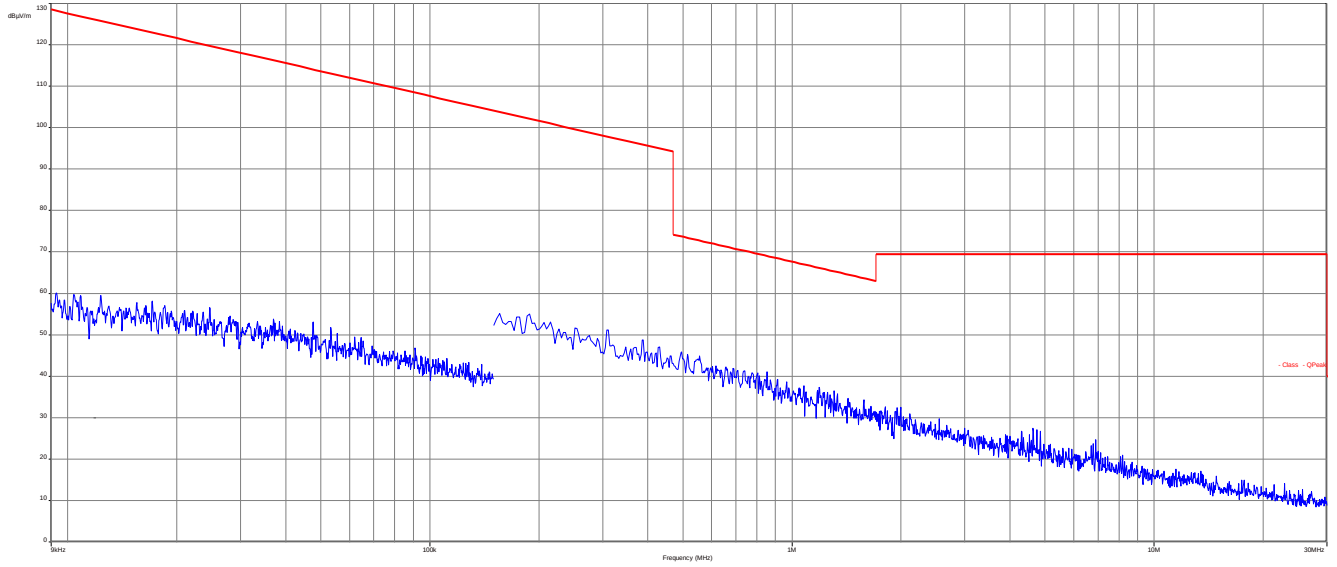
SPURIOUS EMISSION LEVEL (dBμV/m)		
Frequency (MHz)	Detector	Level (dBμV/m)
No peaks found		
Measurement uncertainty		± 3dB

Result: **Passed**

Note: The limit was recalculated with 20 dB / decade (Part 15.31) for all radiated spurious emissions 30 MHz to 1 GHz from 3 meter limit to a 10 meter distance. (40dB/decade for emissions < 30MHz)

Plots:

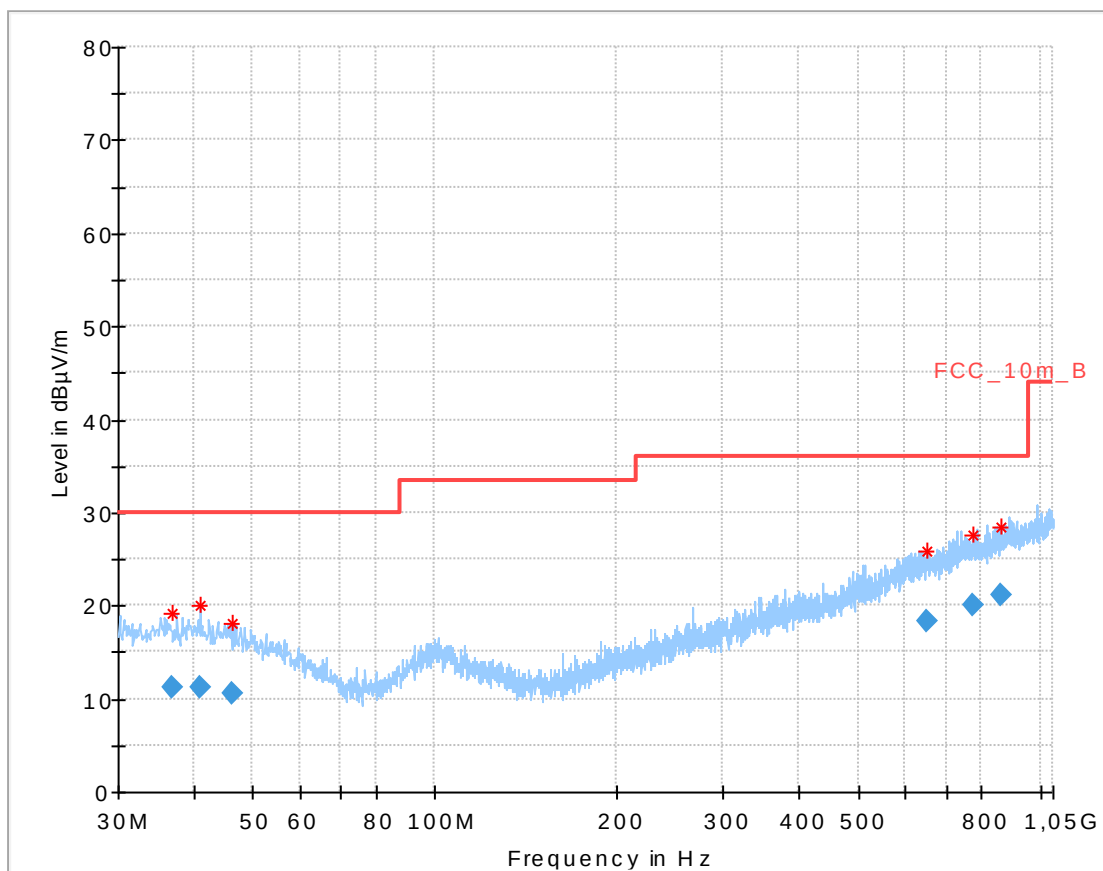
Plot 1: Receiver mode up to 30 MHz



Plot 2: Receiver mode (30 MHz - 1 GHz)

Common Information

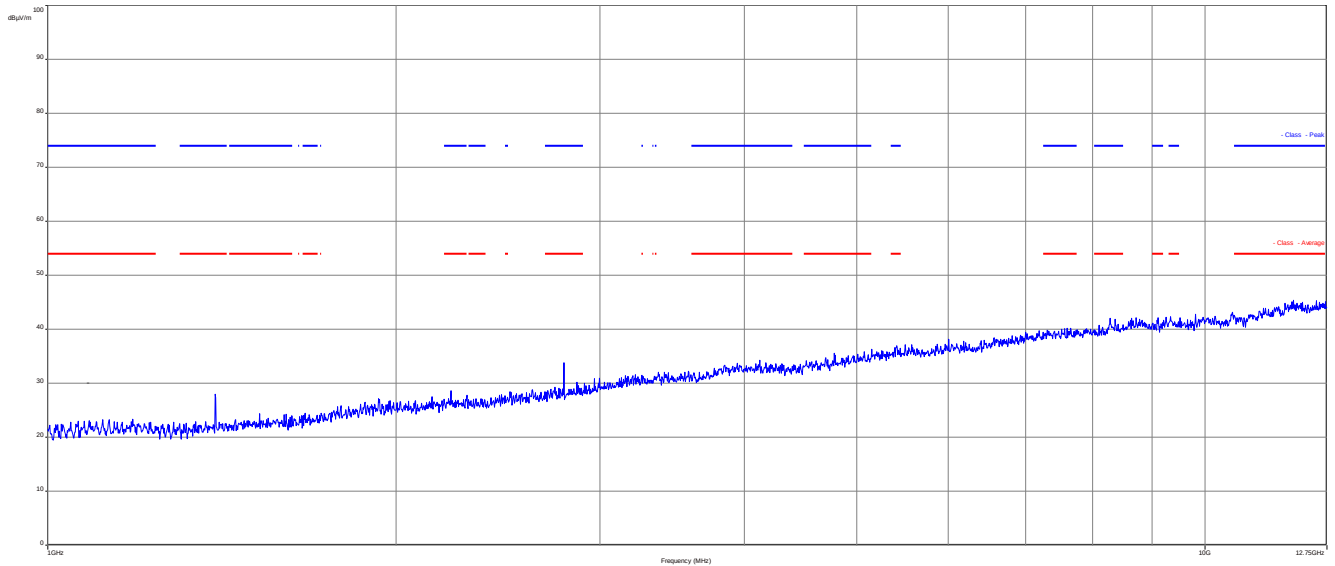
EUT:	TST-FSAM-B
Serial number:	5195897
Test description:	FCC part 15 class B @ 10 m
Operating condition:	RX
Operator name:	Hennemann
Comment:	3,6 V battery powered



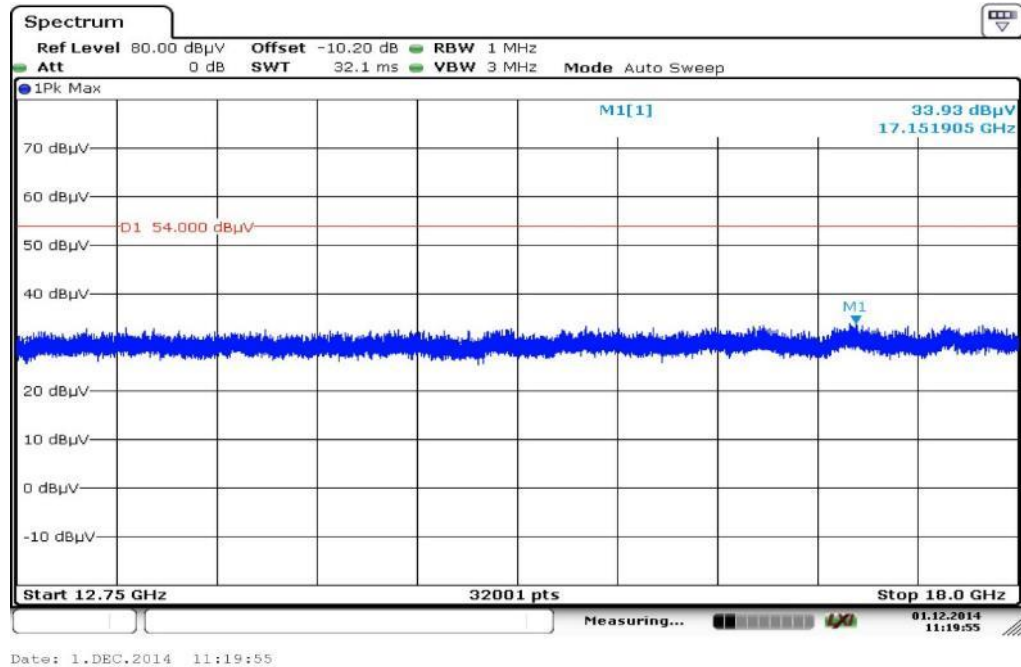
Final Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
36.981000	11.14	30.00	18.86	1000.0	120.000	101.0	V	271	13.9
41.082750	11.24	30.00	18.76	1000.0	120.000	101.0	V	180	14.0
46.347300	10.59	30.00	19.41	1000.0	120.000	170.0	V	90	13.5
651.528000	18.43	36.00	17.57	1000.0	120.000	170.0	V	115	21.1
772.207200	20.08	36.00	15.92	1000.0	120.000	170.0	V	205	22.7
863.883750	21.13	36.00	14.87	1000.0	120.000	170.0	H	295	23.6

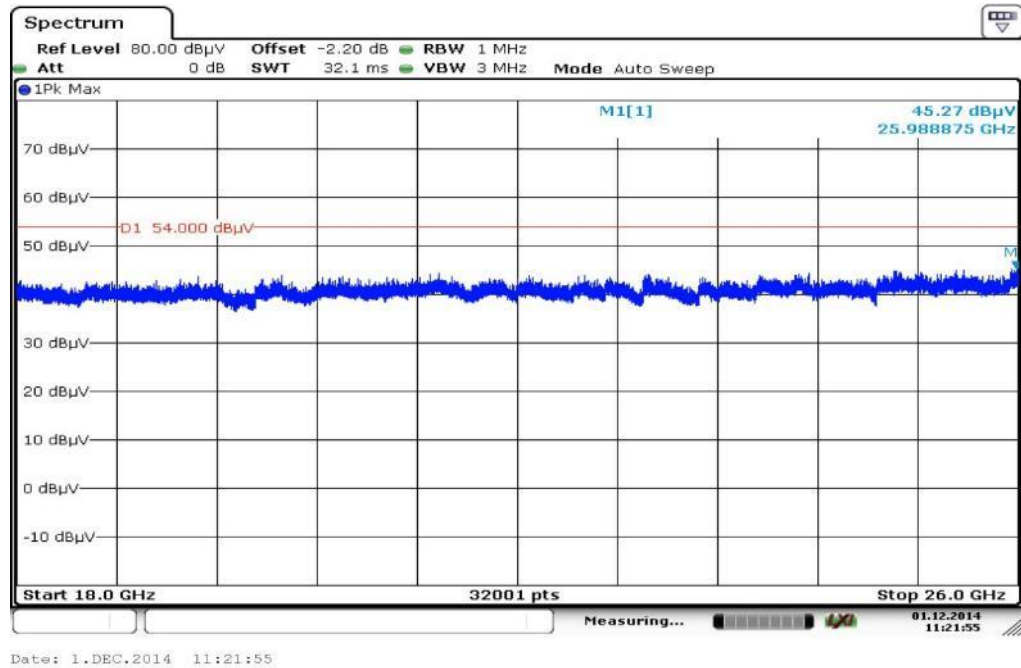
Plot 3: Receiver mode (1 GHz – 12.75 GHz)



Plot 4: Receiver mode (12.75 GHz – 18 GHz)



Plot 5: Receiver mode (18 GHz – 26 GHz)



11 Test equipment and ancillaries used for tests

Typically, the calibrations of the test apparatus are commissioned to and performed by an accredited calibration laboratory. The calibration intervals are determined in accordance with the DIN EN ISO/IEC 17025. In addition to the external calibrations, the laboratory executes comparison measurements with other calibrated test systems or effective verifications. Weekly chamber inspections and range calibrations are performed. Where possible, rf-generating and signalling equipment as well as measuring receivers and analyzers are connected to an external high-precision 10 MHz reference (GPS-based or rubidium frequency standard).

In order to simplify the identification of the equipment used at some special tests, some items of test equipment and ancillaries can be provided with an identifier or number in the equipment list below (Lab/Item).

No.	Lab / Item	Equipment	Type	Manufact.	Serial No.	INV. No Cetecom	Kind of Calibration	Last Calibration	Next Calibration
1	n. a.	DC power supply, 60Vdc, 50A, 1200 W	6032A	HP Meßtechnik	2818A03450	300001040	Ve	12.01.2012	12.01.2015
2	n. a.	Double-Ridged Waveguide Horn Antenna 1-18.0GHz	3115	EMCO	8812-3088	300001032	vKII	08.05.2013	08.05.2015
3	n. a.	Anechoic chamber	FAC 3/5m	MWB / TDK	87400/02	300000996	ev		
4	n. a.	Switch / Control Unit	3488A	HP Meßtechnik	*	300000199	ne		
5	90	Active Loop Antenna 10 kHz to 30 MHz	6502	Kontron Psychotech	8905-2342	300000256	k	13.06.2013	13.06.2015
6	90	Amplifier	js42-00502650-28-5a	Parzich GMBH	928979	300003143	ne		
7	90	Band Reject filter	WRCG2400/2483-2375/2505-50/10SS	Wainwright	11	300003351	ev		
8	90	Highpass Filter	WHKX7.0/18G-8SS	Wainwright	18	300003789	ne		
9	90	TRILOG Broadband Test-Antenna 30 MHz - 3 GHz	VULB9163	Schwarzbeck	371	300003854	vKII	29.10.2014	29.10.2017
10	90	MXE EMI Receiver 20 Hz bis 26,5 GHz	N9038A	Agilent Technologies	MY51210197	300004405	k	13.03.2014	13.03.2015
11	90	4U RF Switch Platform	L4491A	Agilent Technologies	MY50000037	300004509	ne		
12	11b	Microwave System Amplifier, 0.5-26.5 GHz	83017A	HP Meßtechnik	00419	300002268	ev		
13	A026	Std. Gain Horn Antenna 12.4 to 18.0 GHz	639	Narda	8402	300000787	k	22.07.2013	22.07.2015
14	A029	Std. Gain Horn Antenna 18.0 to 26.5 GHz	638	Narda	8205	300002442	k	19.07.2013	19.07.2015
15	A029	Signal Analyzer 40 GHz	FSV40	R&S	101042	300004517	k	21.01.2014	21.01.2015

Agenda: Kind of Calibration

k	calibration / calibrated	EK	limited calibration
ne	not required (k, ev, izw, zw not required)	zw	cyclical maintenance (external cyclical maintenance)
ev	periodic self verification	izw	internal cyclical maintenance
Ve	long-term stability recognized	g	blocked for accredited testing
vKII	Attention: extended calibration interval		
NK!	Attention: not calibrated	*)	next calibration ordered / currently in progress

12 Observations

No observations except those reported with the single test cases have been made.

Annex A Document history

Version	Applied changes	Date of release
	Initial release	2014-12-15
A	Updated model name	2015-01-23

Annex B Further information**Glossary**

AVG	-	Average
DUT	-	Device under test
EMC	-	Electromagnetic Compatibility
EN	-	European Standard
EUT	-	Equipment under test
ETSI	-	European Telecommunications Standard Institute
FCC	-	Federal Communication Commission
FCC ID	-	Company Identifier at FCC
HW	-	Hardware
IC	-	Industry Canada
Inv. No.	-	Inventory number
N/A	-	Not applicable
PP	-	Positive peak
QP	-	Quasi peak
S/N	-	Serial number
SW	-	Software

Annex C Accreditation Certificate

Front side of certificate

Back side of certificate



Deutsche Akkreditierungsstelle GmbH

Befähigung gemäß § 8 Absatz 1 AkkStelleG i.V.m. § 1 Absatz 1 AkkStelleGBV
 Unterzeichnerin der Multilateralen Abkommen
 von EA, ILAC und IAF zur gegenseitigen Anerkennung

Akkreditierung



Die Deutsche Akkreditierungsstelle GmbH bestätigt hiermit, dass das Prüflaboratorium

CETECOM ICT Services GmbH
 Untertürkheimer Straße 6-10, 66117 Saarbrücken

die Kompetenz nach DIN EN ISO/IEC 17025:2005 besitzt, Prüfungen in folgenden Bereichen durchzuführen:

Drahtgebundene Kommunikation einschließlich xDSL
 VoIP und DECT
 Akustik
 Funk einschließlich WLAN
 Short Range Devices (SRD)
 RFID
 WiMax und Richtfunk
 Mobilfunk (GSM / DCs, Over the Air (OTA) Performance)
 Elektromagnetische Verträglichkeit (EMV) einschließlich Automotive
 Produktsicherheit
 SAR und Hearing Aid Compatibility (HAC)
 Umweltsimulation
 Smart Card Terminals
 Bluetooth
 Wi-Fi Services

Die Akkreditierungsurkunde gilt nur in Verbindung mit dem Beschluss vom 07.03.2014 mit der
 Akkreditierungsnummer D-PL-12076-01 und ist gültig 17.01.2018. Sie besteht aus diesem Deckblatt, der
 Rückseite des Deckblatts und der folgenden Anlage mit insgesamt 77 Seiten.

Registrierungsnummer der Urkunde: D-PL-12076-01-00

Frankfurt am Main, 07.03.2014

Date of issue of the Certificate

Im Auftrag (Platz für Unterschrift)
 Akkreditierungsstelle

Deutsche Akkreditierungsstelle GmbH

Standort Berlin
 Spittelmarkt 10
 10117 Berlin

Standort Frankfurt am Main
 Gartenstraße 6
 60594 Frankfurt am Main

Standort Braunschweig
 Bundesallee 100
 38115 Braunschweig

Die auszugsweise Veröffentlichung der Akkreditierungsurkunde bedarf der vorherigen schriftlichen
 Zustimmung der Deutsche Akkreditierungsstelle GmbH (DAkkS). Ausgenommen davon ist die separate
 Weiterverbreitung des Deckblatts durch die umseitig genannte Konformitätsbewertungsstelle in
 unveränderter Form.

Es darf nicht der Anschein erweckt werden, dass sich die Akkreditierung auch auf Bereiche erstreckt,
 die über den durch die DAkkS bestätigten Akkreditierungsbereich hinausgehen.

Die Akkreditierung erfolgte gemäß dem Gesetz über die Akkreditierungsstelle (AkkStelleG) vom
 31. Juli 2009 (BGBl. I S. 2625) sowie der Verordnung (EG) Nr. 765/2008 des Europäischen Parlaments
 und des Rates vom 9. Juli 2008 über die Vorschriften für die Akkreditierung und Marktüberwachung
 im Zusammenhang mit der Vermarktung von Produkten (Abbl. L 218 vom 9. Juli 2008, S. 30).
 Die DAkkS ist Unterzeichnerin der Multilateralen Abkommen zur gegenseitigen Anerkennung der
 Prüfungen in operation für Akkreditierung (EA), des Internationalen Accreditation Forum (IAF) und
 der International Laboratory Accreditation Cooperation (ILAC). Die Unterzeichner dieser Abkommen
 erkennen ihre Akkreditierungen gegenseitig an.

Der aktuelle Stand der Mitgliedschaft kann folgenden Webseiten entnommen werden:
 EA: www.european-accreditation.org
 IAF: www.iaf.org
 ILAC: www.ilac.org

Note:

The current certificate including annex is published on our website (see link below) or may be received from CETECOM ICT Services on request.

<http://www.cetecom.com/eu/de/cetecom-group/europa/deutschland-saarbruecken/akkreditierungen.html>