Accredited testing-laboratory

DAR registration number: DGA-PL-176/94-D1

Federal Motor Transport Authority (KBA)
DAR registration number: KBA-P 00070-97

Recognized by the Federal Communications Commission
Anechoic chamber registration no.: 90462 (FCC)
Anechoic chamber registration no.: 3462C-1 (IC)
Certification ID: DE 0001
Accreditation ID: DE 0002

Accredited Bluetooth® Test Facility (BQTF)

Test report no.	**:**	**1-1775-01-12/09-A**
Type identification	**:**	**Dual SRR Module 865221**
		Dual SRR Module 865240
Applicant	**:**	**Philips Medizin Systeme Böblingen GmbH**
FCC ID	**:**	**PQC-SRRBV1**
IC Certification No	**:**	**3549C-SRRBV1**
Test standards	**:**	**47 CFR Part 2**
		47 CFR Part 15
		RSS – 210 Issue 7

Table of contents

1 General information

1.1 Notes

The test results of this test report relate exclusively to the test item specified in 3.1.1. The CETECOM ICT Services GmbH does not assume responsibility for any conclusions and generalisations drawn from the test results with regard to other specimens or samples of the type of the equipment represented by the test item. The test report may only be reproduced or published in full. Reproduction or publication of extracts from the report requires the prior written approval of the CETECOM ICT Services GmbH.

Test laboratory manager:

2010-09-09	**Andreas Keller**	
Date	Name	Signature

Technical responsibility for area of testing:

2010-09-09	**Stefan Bös**	
Date	Name	Signature

1.2 Testing laboratory

CETECOM ICT Services GmbH

Untertürkheimer Straße 6 - 10
66117 Saarbrücken
Germany
Phone: + 49 681 5 98 - 0
Fax: + 49 681 5 98 - 9075
e-mail: info@ICT.cetecom.de
Internet: http://www.cetecom-ict.de

State of accreditation:	**The test laboratory (area of testing) is accredited according to DIN EN ISO/IEC 17025 DAR registration number: DGA-PL-176/94-D1**
Accredited by:	**Federal Motor Transport Authority (KBA) DAR registration number: KBA-P 00070-97**

Testing location, if different from CETECOM ICT Services GmbH:

Name :
Street :
Town :
Country :
Phone :
Fax :

1.3 Details of applicant

Name:	**Philips Medizin Systeme Böblingen GmbH**
Street:	**Hewlett-Packard-Strasse 2**
Town:	**71034 Böblingen**
Country:	**Germany**
Telephone:	**+49 (0) 7031 463-2840**
Fax:	**+49 (0) 7031 463-2442**
Contact:	**Mr. Markus Stacha**
E-mail:	**markus.stacha@philips.com**
Telephone:	**+49 (0) 7031 463-2840**

1.4 Application details

Date of receipt of order:	**2009-11-18**
Date of receipt of test item:	**2009-11-17**
Date of start test:	**2009-12-18**
Date of end test	**2010-06-23**
Persons(s) who have been present during the test:	**-/-**

2 Test standard/s

47 CFR Part 2	**2009-10**	**Title 47 of the Code of Federal Regulations; Chapter I-Federal Communications Commission Frequency allocations and radio treaty matters; general rules and regulations**
47 CFR Part 15	**2009-10**	**Title 47 of the Code of Federal Regulations; Chapter I-Federal Communications Commission Subchapter A - general, Part 15-Radio frequency devices Subchapter B—Unintentional Radiators Subchapter C—Intentional Radiators**
RSS - 210 Issue 7	**2007-06**	**Spectrum Management and Telecommunications - Radio Standards Specification Low-power Licence-exempt Radiocommunication Devices (All Frequency Bands): Category I Equipment**

3 Technical tests

3.1 Details of manufacturer

Name:	**Philips Medizin Systeme Böblingen GmbH**
Street:	**Hewlett-Packard-Strasse 2**
Town:	**71034 Böblingen**
Country:	**Germany**

3.1.1 Test item

Kind of test item	:	**Components of the IntelliVue Cableless Measurement System**
Type identification	:	**Short Range Radio Module intended for Dual SRR Module 865221 (former name: IntelliVue CL Transmitter) Product Number 865221 Serial Number DE932Y0078 Hardware Status 0940 Software Status A.00.30 Dual SRR Module 865240 (former name: 865240 Patient Monitor) Product Number 865240 Serial Number DE008W0250 Hardware Status 0818 Software Status 0.12**
Frequency Band [MHz]	:	**ISM 2400 – 2483.5**
Type of Modulation	:	**OQPSK**
Number of channels	:	**16**
Antenna	:	**Integrated chip antenna Dual SRR Module 865221 Integrated chip antenna Dual SRR Module 865240**
Power Supply	:	**Dual SRR Module 865221: 3.6V Li Ion Battery Dual SRR Module 865240 230V/110V AC Mains Power**
OperatingTemperature Range	:	**0 °C to 40 °C**

Dual SRR Module 865221 (Radio 1) Max. power radiated (EIRP): -1.0 dBm (0.79 mW)
Dual SRR Module 865221 (Radio 2) Max. power radiated (EIRP): 1.1 dBm (1.29 mW)

Dual SRR Module 865240 (Port1) Max. power radiated (EIRP): -0.4 dBm (0.91 mW)
Dual SRR Module 865240 (Port2) Max. power radiated (EIRP): -2.0 dBm (0.63 mW)

FCC ID: PQC-SRRBV1
IC: 3549C-SRRBV1

SAR/RF Exposure Statement:

According to the FCC and IC regulations SAR/RF exposure tests are not required because the maximum radiated output power of the Short Range Radio module is 1.29 mW. This value is far below the SAR/RF exposure limit of 25 mW (60/F[GHz]).

3.1.2 Additional EUT information For IC Canada (appendix 2)

IC Registration Number:	**3549C-SRRBV1**
Model Name:	**Dual SRR Module 865221** **Dual SRR Module 865240**
Manufacturer (complete Address):	**Philips Medizin Systeme Böblingen GmbH** **Hewlett-Packard-Strasse 2** **71034 Böblingen** **Germany**
Tested to Radio Standards Specification (RSS) No.:	**RSS-210 Issue 7**
Open Area Test Site Industry Canada Number:	**IC 3462C-1**
Frequency Range (or fixed frequency) [MHz]:	**2400 – 2483.5 MHz**
RF: Power [W] (max):	**Rad. (Radio 2) EIRP: 1.3mW** **Rad. (Radio 1) EIRP: 0.8mW**
Antenna Type:	**Integrated chip antenna** **(Dual SRR Module 865221)** **Integrated chip antenna** **(Dual SRR Module 865240)**
Occupied Bandwidth (99% BW) [kHz]:	**see test report 1-0384-01-03/08-C**
Type of Modulation:	**OQPSK**
Emission Designator (TRC-43):	**see test report 1-0384-01-03/08-C**
Transmitter Spurious (worst case) [dBµV/m in 3m]:	**50 (noise floor)**
Receiver Spurious (worst case) [dBµV/m in 3m]:	**50 (noise floor)**

ATTESTATION:

I attest that the testing was performed or supervised by me; that the test measurements were made in accordance with the above-mentioned departmental standard(s), and that the radio equipment identified in this application has been subject to all the applicable test conditions specified in the departmental standards and all of the requirements of the standards have been met.

Signature: 

Testing manager: Andreas Keller Date: 2010-09-09

3.1.3 Extreme conditions testing values

Description	Shortcut	Unit	Value
Nominal Temperature	T_{nom}	°C	**22**
Nominal Humidity	H_{nom}	%	**48**
Nominal Power Source	V_{nom}	V	**3.6 DC / 230 AC**

Type of power source: **Dual SRR Module 865221: 3.6V Li Ion Battery**
Patient Monitor 865240 230V/110V AC Mains Power

4 Summary of Measurement Results and list of all performed test cases

☒ **No deviations from the technical specifications were ascertained**

☐ There were deviations from the technical specifications ascertained

TC identifier	Description	verdict	date	Remark
RF-Testing	FCC Part 15 §15.247 - CANADA RSS-210 FCC Part 15 - Radio frequency devices Subchapter B - Unintentional Radiators Subchapter C - Intentional Radiators	Passed	2010-09-09	-/-

Test Specification Clause	Test Case	pass	fail	Not applicable	Not performed
None	Antenna Gain			Yes	
§15.247(a1)	Carrier frequency separation			Yes	
§15.247(a1)	Number of hopping channels			Yes	
§15.247(a)(1)(iii)	Time of occupancy (dwell time)			Yes	
§15.247(e)	Power Spectral density (Hybrid system in Inquiry mode/Page scan)			Yes	
§15.247(a)(1)	Spectrum Bandwidth of a FHSS System / 20dB Bandwith			Yes	
§ 15.247 (b)(1)	Maximum output power (conducted)			Yes	
§ 15.247 (b)(1)	Max. peak output power (radiated)	Yes			
§ 15.247 (d)	Band-edge compliance of conducted emissions			Yes	
§ 15.205	Band-edge compliance of radiated emissions	Yes			
§ 15.247 (d)	Spurious Emission - conducted (Transmitter)			Yes	
§ 15.247 (d)	Spurious Emission - radiated (Transmitter) >30 MHz	Yes			
§ 15.109	Spurious Emissions - radiated (Receiver)	Yes			
§ 15.209	Spurious Emissions - radiated (Transmitter) <30 MHz	Yes			
§ 15.107/207	Conducted Emissions <30 MHz	Yes			

5 RF measurement testing

5.1 Description of test set-up

5.1.1 Radiated measurements

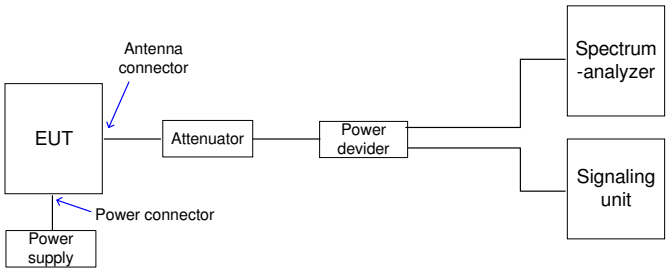
The radiated measurements are performed in vertical and horizontal plane in the frequency range from 9 kHz to 25 GHz in semi-anechoic chambers. The EUT is positioned on a non-conductive support with a height of 0.80 m above a conductive ground plane that covers the whole chamber. The receiving antennas are confirmed with specifications ANSI C63.2-1996 clause 15 and ANSI C63.4-2003 clause 4.1.5. 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 C63-4-2003 clause 4.2.
Antennas are confirmed with ANSI C63.2-1996 item 15.

9 kHz - 150 kHz: Quasi Peak measurement, 200 Hz Bandwidth, active loop antenna.
150 kHz - 30 MHz: Quasi Peak measurement, 9 kHz Bandwidth, active loop antenna.
30 MHz - 1GHz: Quasi Peak measurement, 120 kHz Bandwidth, tri-log antenna
>1GHz: Average, RBW 1MHz, VBW 10 Hz, waveguide horn

All measurements are done in accordance with the Filing and Measurement Guidelines for Frequency Hopping Spread Spectrum Systems DA 00-705 and Appendix A “BLUETOOTH APPROVALS”
The EUT is powered by an external power supply with nominal voltage. The signalling is performed from outside the chamber with a signalling unit (CMU200 or other) by air link using signalling antenna.

5.1.2 Conducted measurements

n.a.
The EUT’s RF signal is coupled out by the antenna connector which is supplied by the manufacturer. The signal is first 10dB attenuated before it is power divided (~6dB loss per branch). One of the signal paths is connected to the communication base Station (CMU200 or other), the other one is connected to the spectrum analyzer. The specific losses for both signal paths are first checked within a calibration. The measurement readings on the signalling unit/spectrum analyzer are corrected by the specific test set-up loss. The attenuator, power divider, signalling unit and the spectrum analyzer are impedance matched on 50 Ohm.



5.2 Referenced documents

Test report Single Short Range Radio Module: 1-1775-01-08B_09

Tests documented in this report are delta tests compared to those documented in test report 1-1775-01-08B_09

5.3 Additional comments

Test samples with 100% duty cycle

From the manufacturer declared normal use duty cycle = 17.024%

5.4 Antenna gain

5.4.1 Dual SRR Module 865221

The antenna gain of the complete system is calculated by the difference of radiated power in EIRP and the conducted power of the module.

Transmitter 1 (Radio 2), 0dBm/modulated, RBW=VBW=3MHz

	low channel 2405 MHz	mid channel 2445 MHz	high channel 2480 MHz
Conducted power [dBm]	-3.6	-2.9	-2.8
Radiated power [dBm]	1.1	1.0	0.1
Gain [dBi] Calculated	4.7	3.9	2.9

Transmitter 2 (Radio 1), 0dBm/modulated, RBW=VBW=3MHz

	low channel 2405 MHz	mid channel 2445 MHz	high channel 2480 MHz
Conducted power [dBm]	-3.6	-2.9	-2.8
Radiated power [dBm]	-1.0	-1.5	-1.7
Gain [dBi] Calculated	2.6	1.4	1.1

5.4.2 Dual SRR Module 865240

The antenna gain of the complete system is calculated by the difference of radiated power in EIRP and the conducted power of the module.

Transmitter Port1, 0dBm/modulated, RBW=VBW=3MHz

	low channel 2405 MHz	mid channel 2445 MHz	high channel 2480 MHz
Conducted power [dBm]	-3.6	-2.9	-2.8
Radiated power [dBm]	-0.4	-1.2	-1.2
Gain [dBi] Calculated	3.2	1.7	1.6

Transmitter Port2, 0dBm/modulated, RBW=VBW=3MHz

	low channel 2405 MHz	mid channel 2445 MHz	high channel 2480 MHz
Conducted power [dBm]	-3.6	-2.9	-2.8
Radiated power [dBm]	-2.7	-2.2	-2.0
Gain [dBi] Calculated	0.9	0.7	0.8

5.5 Carrier frequency separation §15.247(a)(1)

Not applicable

5.6 Number of hopping channels §15.247(a)(1)

Not applicable

5.7 Time of occupancy (dwell time) §15.247(a)(1)(iii)

Not applicable

5.8 Power Spectral density (Hybrid system in Inquiry mode/Page scan) §15.247(e)

Not applicable

5.9 Spectrum Bandwidth of a FHSS System / 20dB Bandwidth §15.247(a)(1)

Not applicable

5.10 Maximum output power (conducted) § 15.247 (b)(1)

Not applicable

5.11 Max. peak output power (radiated) § 15.247 (b)(1)

5.11.1 Dual SRR Module 865221

Transmitter 1 (Radio 2), 0dBm/modulated

Results:

Test conditions		Max. peak output power EIRP [dBm]		
Frequency [MHz]		2405	2445	2480
T_{nom}	V_{nom}	1.1	1.0	0.1
Measurement uncertainty		±3dB		

Transmitter 2 (Radio 1), 0dBm/modulated

Results:

Test conditions		Max. peak output power EIRP [dBm]		
Frequency [MHz]		2405	2445	2480
T_{nom}	V_{nom}	-1.0	-1.5	-1.7
Measurement uncertainty		±3dB		

RBW / VBW: 3 MHz
Measured at a distance of 3m

Limits:

Under normal test conditions only, for frequency range 2400-2483.5 MHz	Max. 1.0 Watt

5.11.2 Dual SRR Module 865240

Transmitter Port1, 0dBm/modulated

Results:

Test conditions		Max. peak output power EIRP [dBm]		
Frequency [MHz]		2405	2445	2480
T_{nom}	V_{nom}	-0.4	-1.2	-1.2
Measurement uncertainty		±3dB		

Transmitter Port2, 0dBm/modulated

Results:

Test conditions		Max. peak output power EIRP [dBm]		
Frequency [MHz]		2405	2445	2480
T_{nom}	V_{nom}	-2.7	-2.2	-2.0
Measurement uncertainty		±3dB		

RBW / VBW: 3 MHz
Measured at a distance of 3m

Limits:

Under normal test conditions only, for frequency range 2400-2483.5 MHz	Max. 1.0 Watt

5.12 Band-edge compliance of conducted emissions §15.247 (d)

Not applicable

Results:

SZENARIO	DELTA VALUE [DB]
hopping off, lowest frequency	
hopping on, lowest frequency	
hopping off, highest frequency	
hopping on, highest frequency	
Measurement uncertainty	±1.5dB

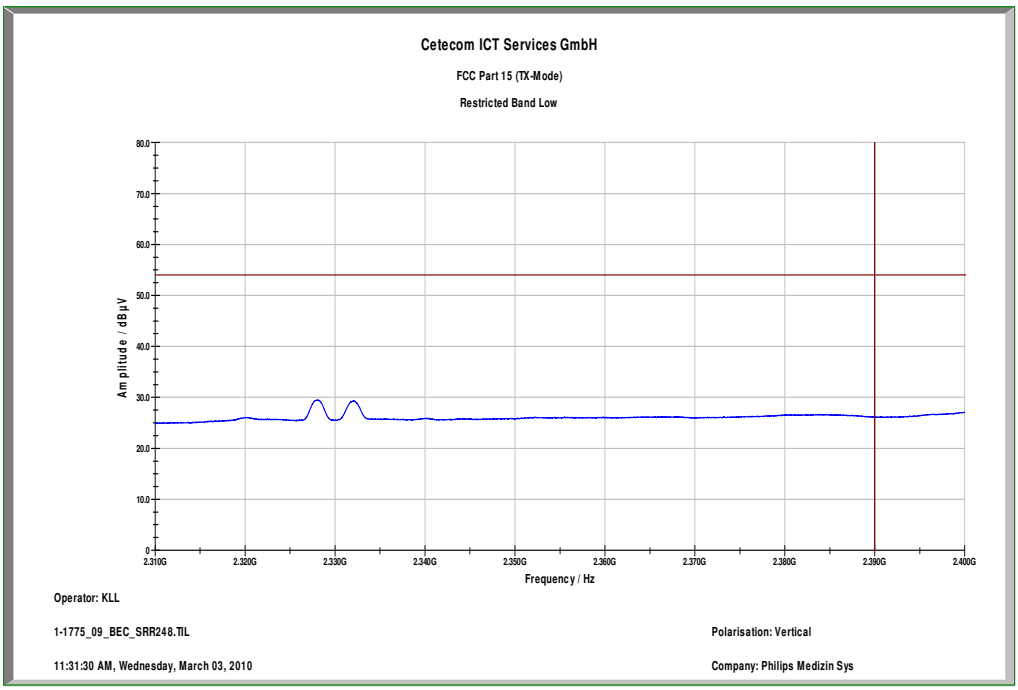
Limits:

Under normal test conditions only	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 5.205(c)).

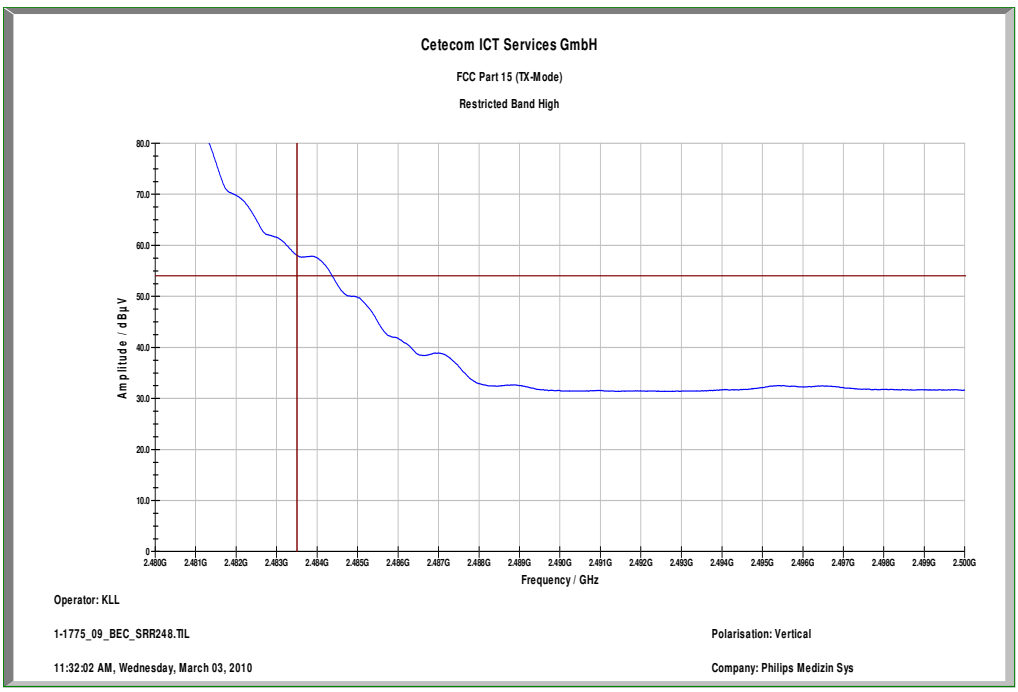
5.13 Band-edge compliance of radiated emissions §15.205

5.13.1 Dual SRR Module 865221

Plot 1: Restricted band low (transmitter 1 -Radio 2)

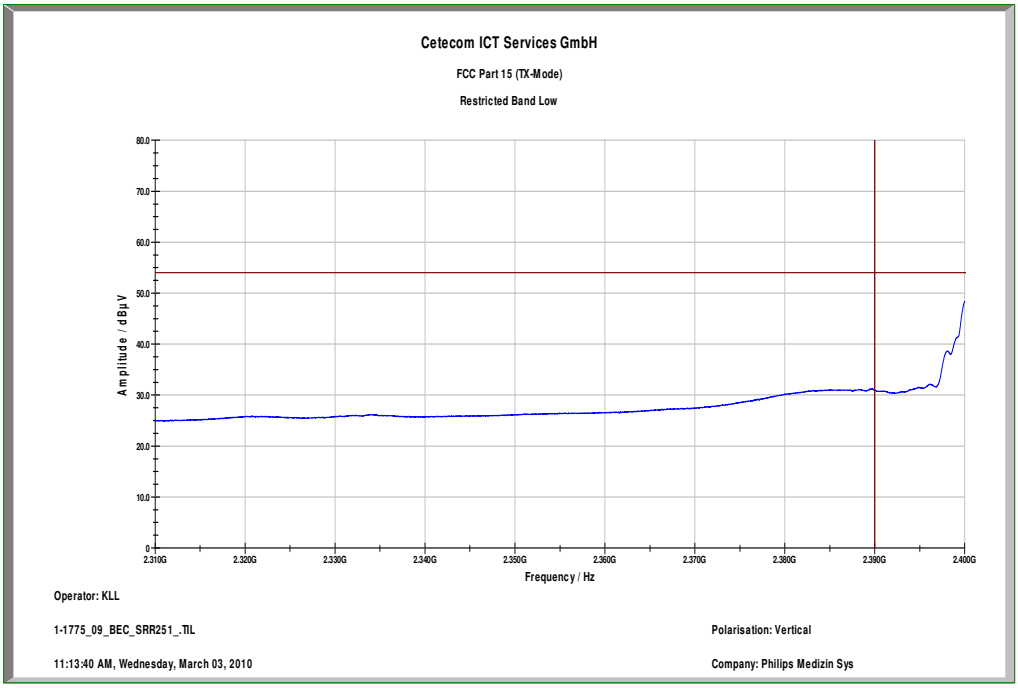


Plot 2: Restricted band high (transmitter 1 -Radio 2)

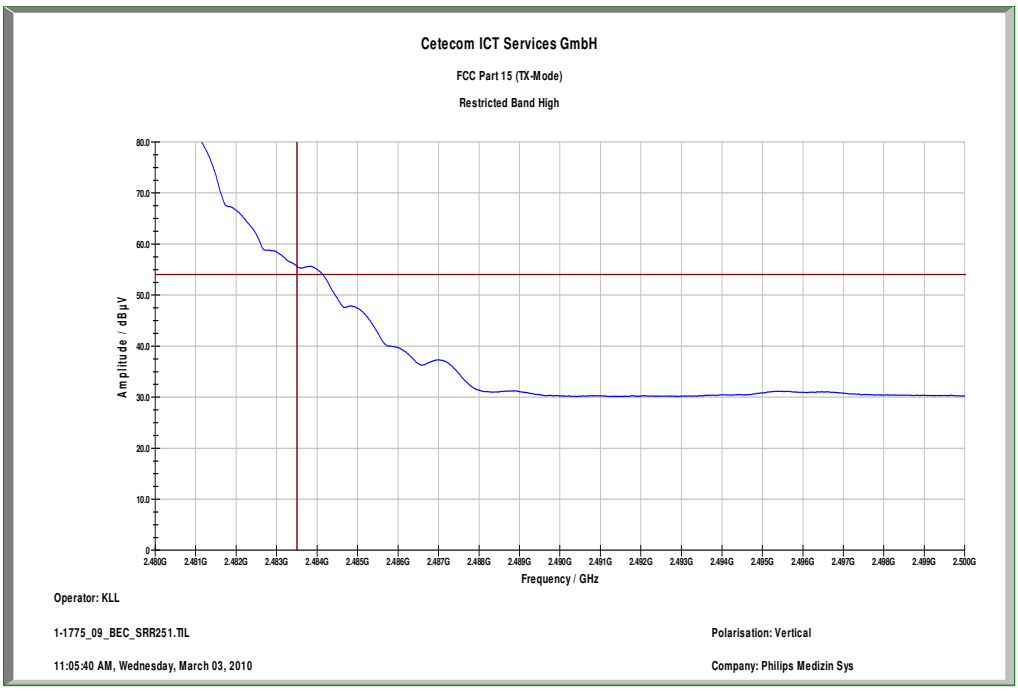


From the manufacturer declared normal use duty cycle = 17.024%
Duty cycle correction factor = 20*log (TX_time@100ms/100ms) = -15.38dB
Highest value in the restricted band = 42.6dBuV/m

Plot 3: Restricted band low (transmitter 1 -Radio 1)



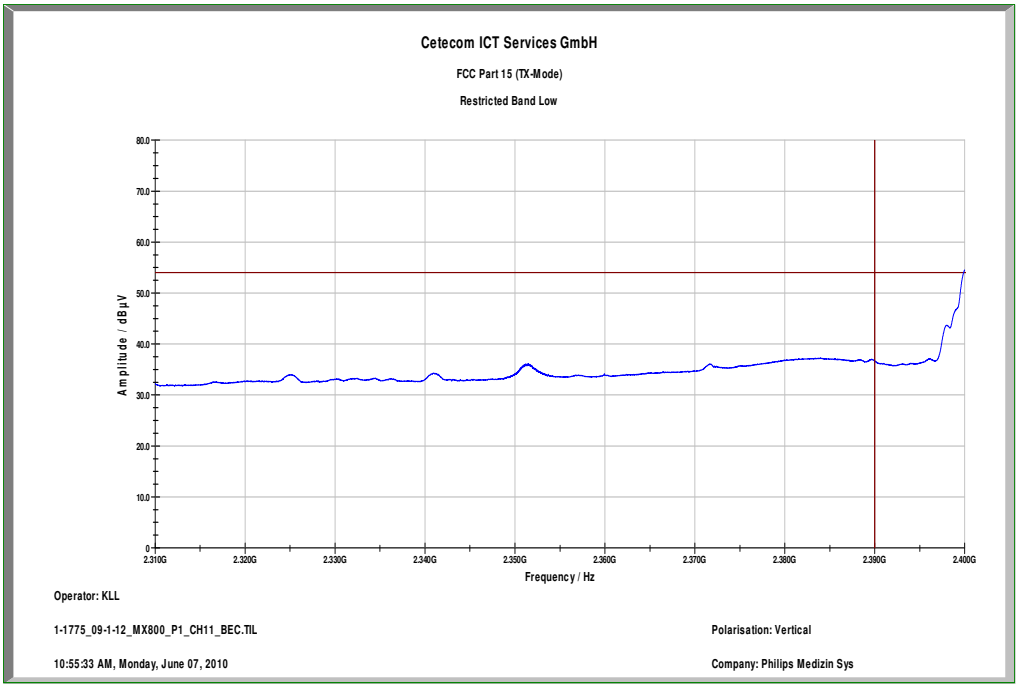
Plot 4: Restricted band high (transmitter 1 -Radio 1)



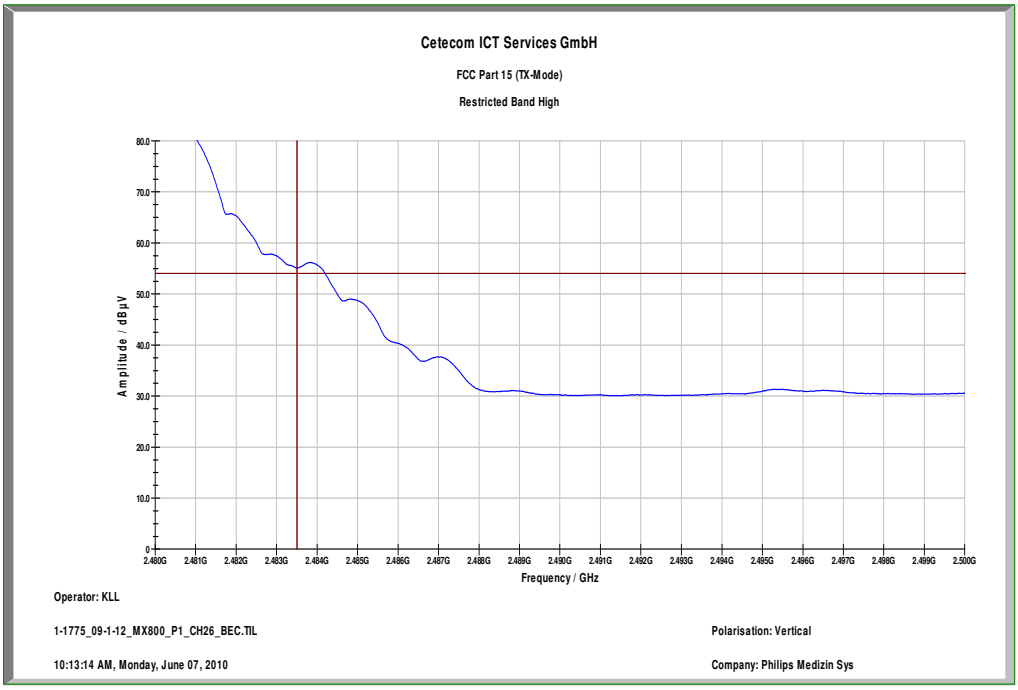
From the manufacturer declared normal use duty cycle = 17.024%
Duty cycle correction factor = 20*log (TX_time@100ms/100ms) = -15.38dB
Highest value in the restricted band = 40.4dBuV/m

5.13.2 Dual SRR Module 865240

Plot 1: Restricted band low (Transmitter Port1)

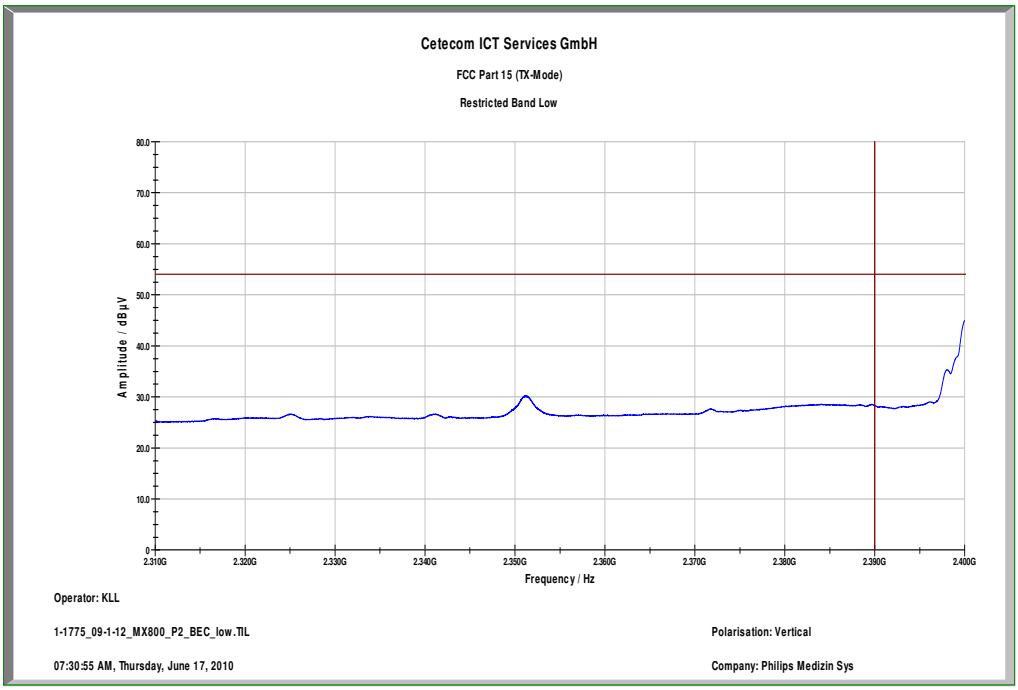


Plot 2: Restricted band high (Transmitter Port1)

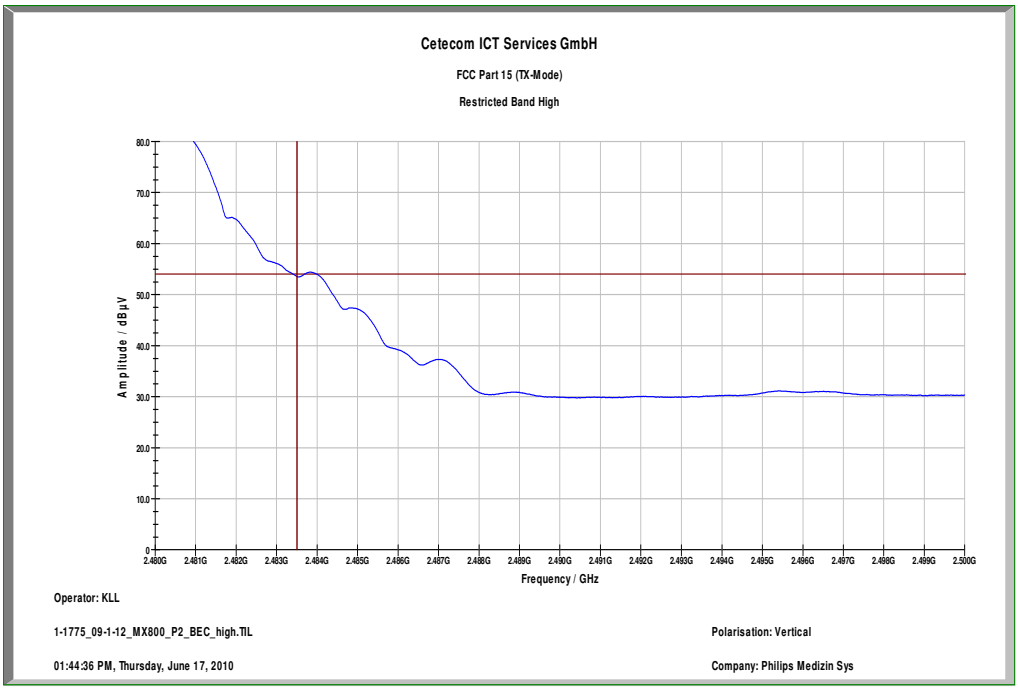


From the manufacturer declared normal use duty cycle = 17.024%
Duty cycle correction factor = 20*log (TX_time@100ms/100ms) = -15.38dB
Highest value in the restricted band = 41.1dBuV/m

Plot 3: Restricted band low (transmitter Port2)



Plot 4: Restricted band high (transmitter Port2)



From the manufacturer declared normal use duty cycle = 17.024%
Duty cycle correction factor = 20*log (TX_time@100ms/100ms) = -15.38dB
Highest value in the restricted band = 41.3dBuV/m

5.14 Spurious Emissions - conducted (Transmitter) § 15.247 (c)(1)

Not applicable

Result & Limits:

Emission Limitation					
f [MHz]		amplitude of emission [dBm]	limit max. allowed emission power	actual attenuation below frequency of operation [dB]	results
2402			30 dBm		Operating frequency
			-20 dBc		
2441			30 dBm		Operating frequency
			-20 dBc		
2480			30 dBm		Operating frequency
			-20 dBc		
Measurement uncertainty			± 3dB		

F < 1 GHz: RBW: 100 kHz VBW: 100 kHz
F > 1 GHz: RBW: 1 MHz VBW: 1 MHz

Under normal test conditions only	In any 100 kHz bandwidth outside the frequency band at least 20dB below the highest level of the desired power. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

Note: For emissions that fall into restricted bands you find the radiated emissions later in the report.

5.15 Spurious Emissions > 30 MHz- radiated (Transmitter) § 15.247 (c)(1)

5.15.1 Dual SRR Module 865221

Transmitter 1 (Radio 2), 0dBm/modulated

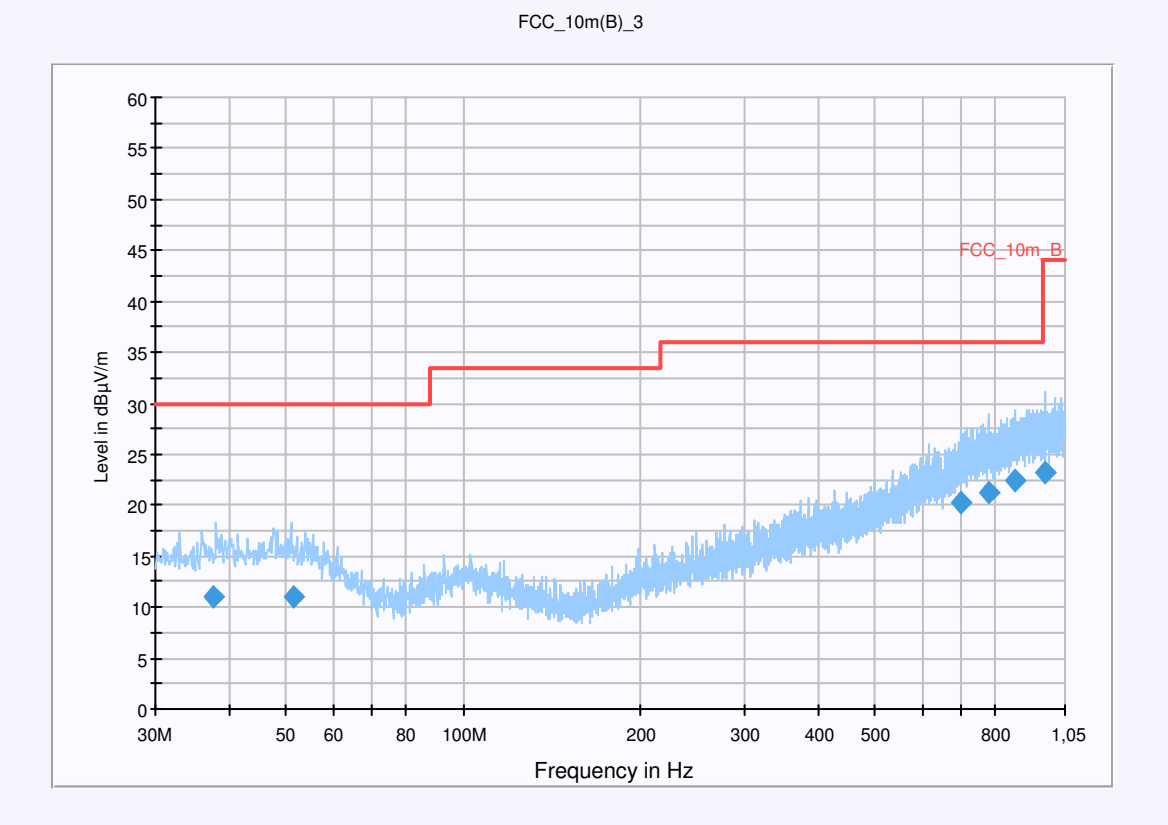
Plot 1: 0.03 - 1 GHz vertical (lowest channel) Halle F

EUT:	Philips Medizin Systeme Dual SRR Module 865221
Serial Number:	PN: 865221 SN: DE932Y0078
Test Description:	FCC Part 15 subpart C @ 10 m
Operating Conditions:	ID Radio 2 TX CH 11
Operator Name:	Klos
Comment:	powered with battery

Scan Setup: STAN_Fin [EMI radiated]

Hardware Setup:	Electric Field (NOS)
Level Unit:	dBµV/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
30 MHz - 1.05 GHz	QuasiPeak	120 kHz	15 s	Receiver



Final Result 1

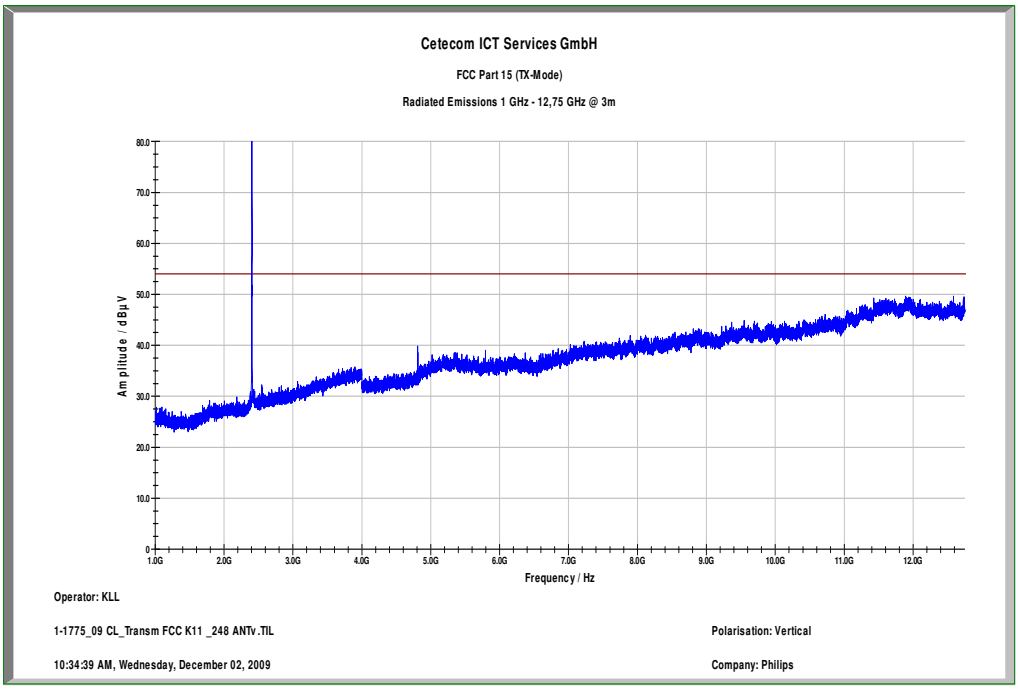
Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Antenna height (cm)	Polarity	Turntable position (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
37.544850	11.0	15000.000	120.000	105.0	V	-7.0	13.4	19.0	30.0	
51.359850	10.9	15000.000	120.000	120.0	V	134.0	13.4	19.1	30.0	
700.039350	20.3	15000.000	120.000	220.0	V	317.0	23.0	15.7	36.0	
779.557050	21.3	15000.000	120.000	220.0	V	22.0	24.2	14.7	36.0	
865.104750	22.5	15000.000	120.000	220.0	H	309.0	25.3	13.5	36.0	
971.629800	23.3	15000.000	120.000	220.0	H	1.0	26.0	20.7	44.0	

Hardware Setup: **EMI radiated\Electric Field (NOS) - [EMI radiated]**

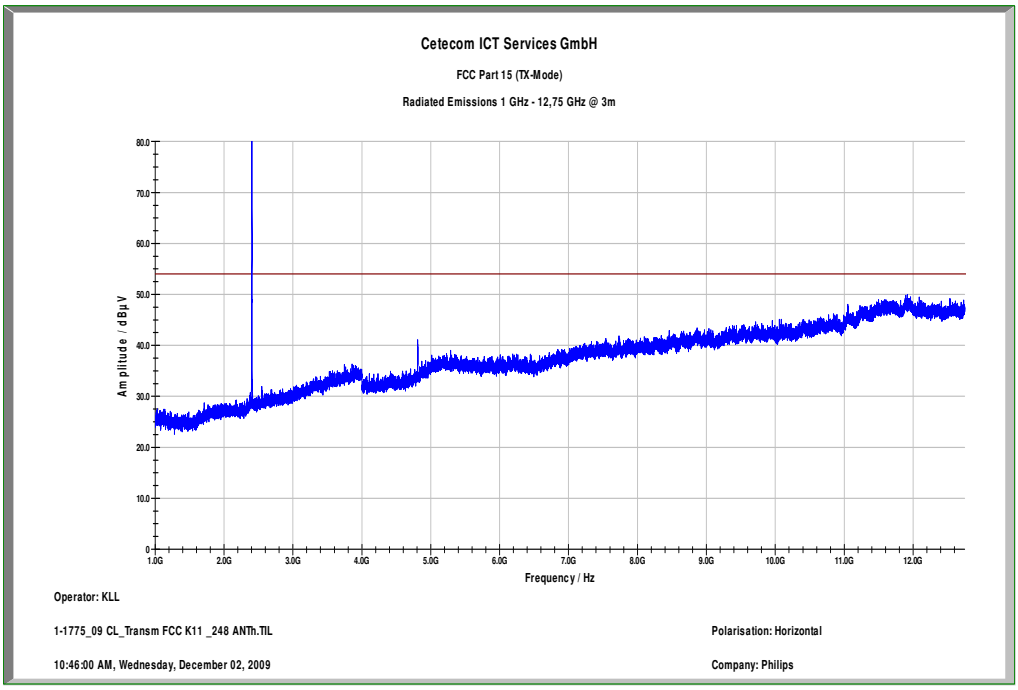
Subrange 1	
Frequency Range:	30 MHz - 2 GHz
Receiver:	Receiver [ESCI 3] @ GPIB0 (ADR 20), SN 100083/003, FW 4.32
Signal Path:	without Notch FW 1.0
Antenna:	VULB 9163 SN 9163-295, FW --- Correction Table (vertical): VULP6113 Correction Table (horizontal): VULP6113 Correction Table: Cable_EN_1GHz (0909)
Antenna Tower:	Tower [EMCO 2090 Antenna Tower] @ GPIB0 (ADR 8), FW REV 3.12
Turntable:	Turntable [EMCO Turntable] @ GPIB0 (ADR 9), FW REV 3.12

EMC 32 Version 8.10.00

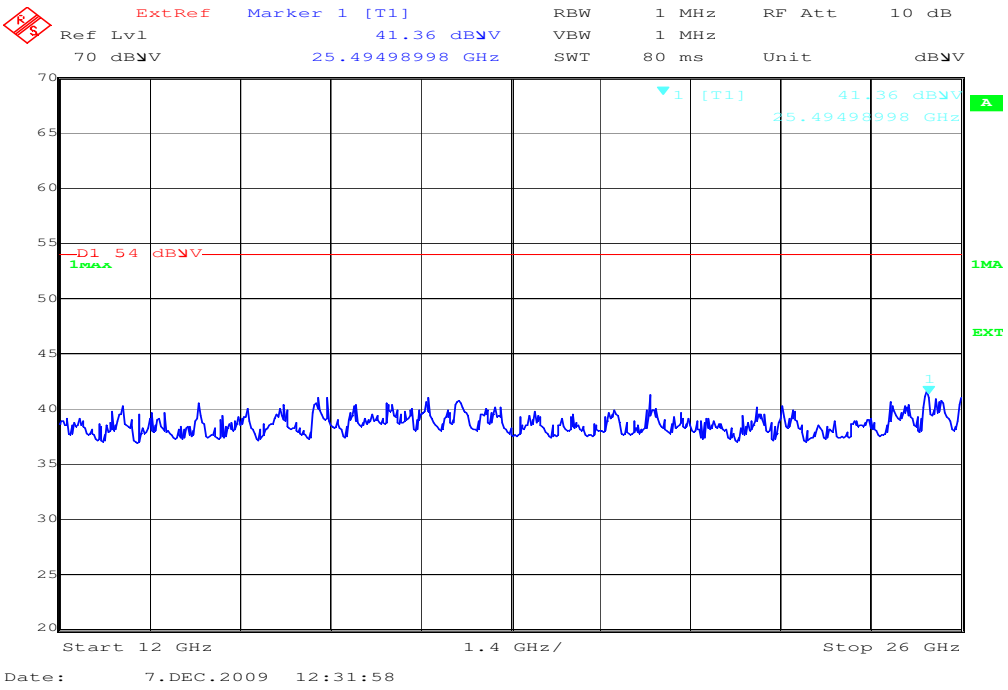
Plot 2: 1 -13 GHz vertical (lowest channel)



Plot 3: 1 -13 GHz horizontal (lowest channel)



Plot 4: 12 - 25 GHz vertical/horizontal (valid for all channels)



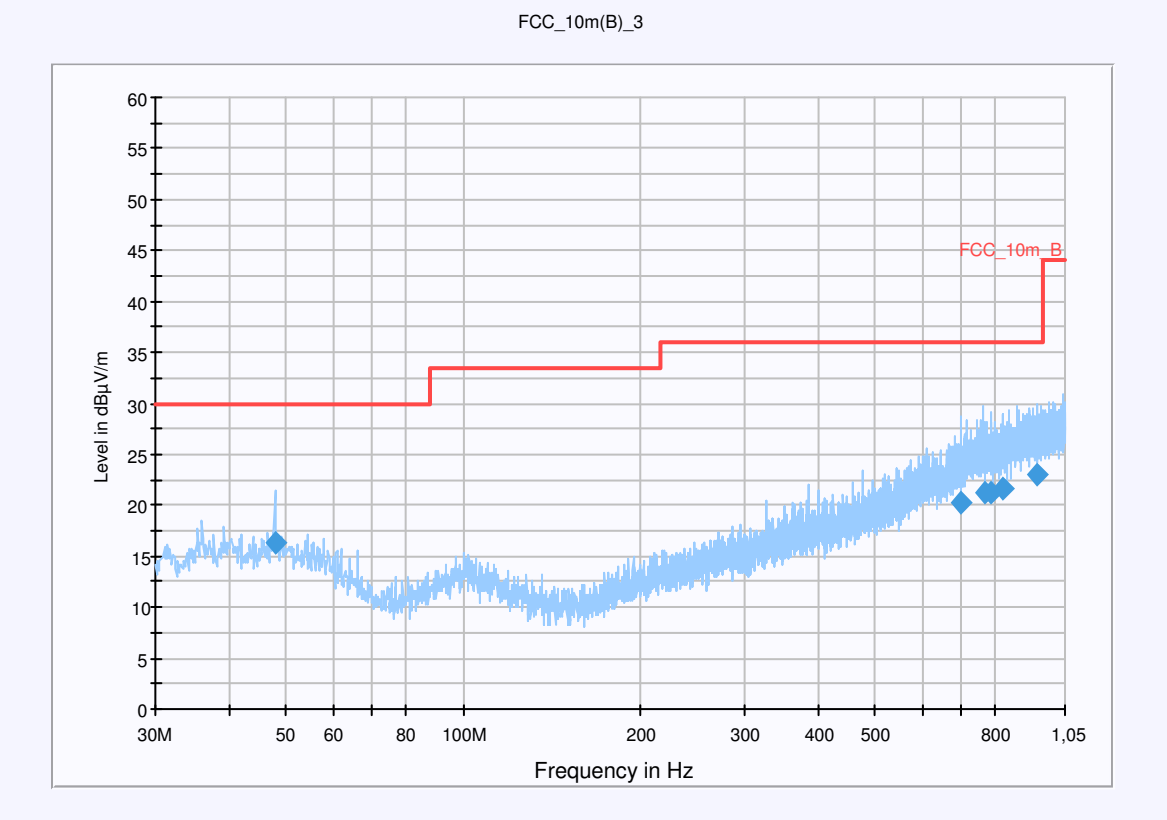
Plot 5: 0.03 - 1 GHz vertical (middle channel) Halle F

EUT:	Philips Medizin Systeme Dual SRR Module 865221
Serial Number:	PN: 865221 SN: DE932Y0078
Test Description:	FCC Part 15 subpart C @ 10 m
Operating Conditions:	ID Radio 2 TX CH 19
Operator Name:	Klos
Comment:	powered with battery

Scan Setup: STAN_Fin [EMI radiated]

Hardware Setup:	Electric Field (NOS)
Level Unit:	dBµV/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
30 MHz - 1.05 GHz	QuasiPeak	120 kHz	15 s	Receiver



Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Antenna height (cm)	Polarity	Turntable position (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
47.831250	16.4	15000.000	120.000	220.0	V	77.0	13.5	13.6	30.0	
700.964850	20.3	15000.000	120.000	192.0	V	52.0	23.0	15.7	36.0	
764.675850	21.2	15000.000	120.000	209.0	H	226.0	24.2	14.8	36.0	
783.820500	21.2	15000.000	120.000	143.0	V	272.0	24.3	14.8	36.0	
823.498950	21.6	15000.000	120.000	220.0	V	19.0	24.7	14.4	36.0	
944.642100	23.1	15000.000	120.000	153.0	V	304.0	25.8	12.9	36.0	

Hardware Setup: **EMI radiated\Electric Field (NOS) - [EMI radiated]**

Subrange 1	
Frequency Range:	30 MHz - 2 GHz
Receiver:	Receiver [ESCI 3] @ GPIB0 (ADR 20), SN 100083/003, FW 4.32
Signal Path:	without Notch FW 1.0
Antenna:	VULB 9163 SN 9163-295, FW --- Correction Table (vertical): VULP6113 Correction Table (horizontal): VULP6113 Correction Table: Cable_EN_1GHz (0909)
Antenna Tower:	Tower [EMCO 2090 Antenna Tower] @ GPIB0 (ADR 8), FW REV 3.12
Turntable:	Turntable [EMCO Turntable] @ GPIB0 (ADR 9), FW REV 3.12

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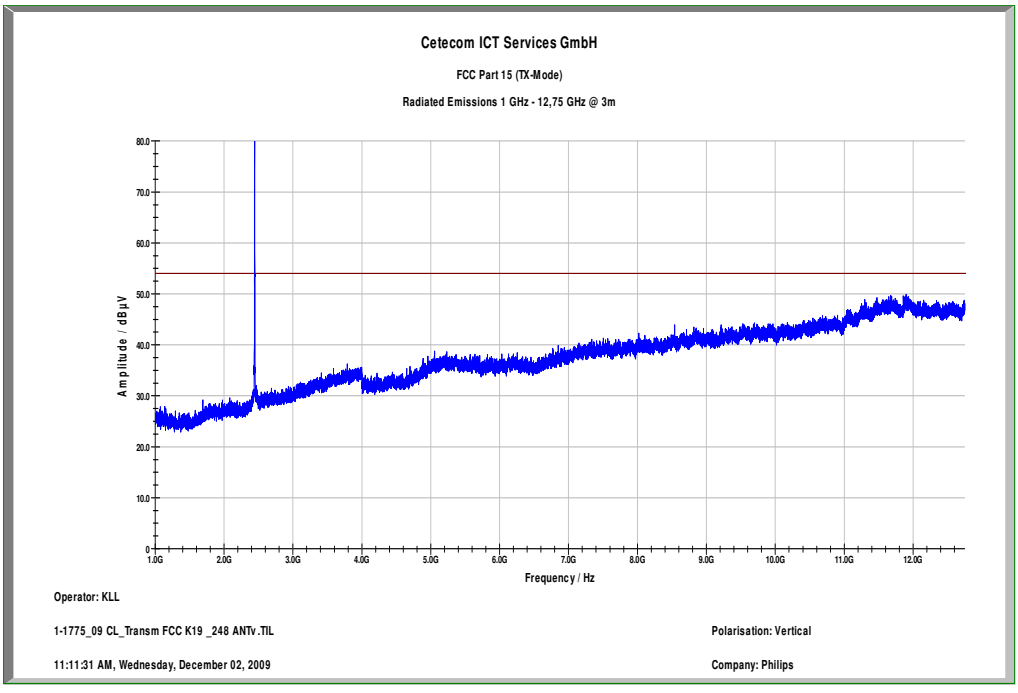
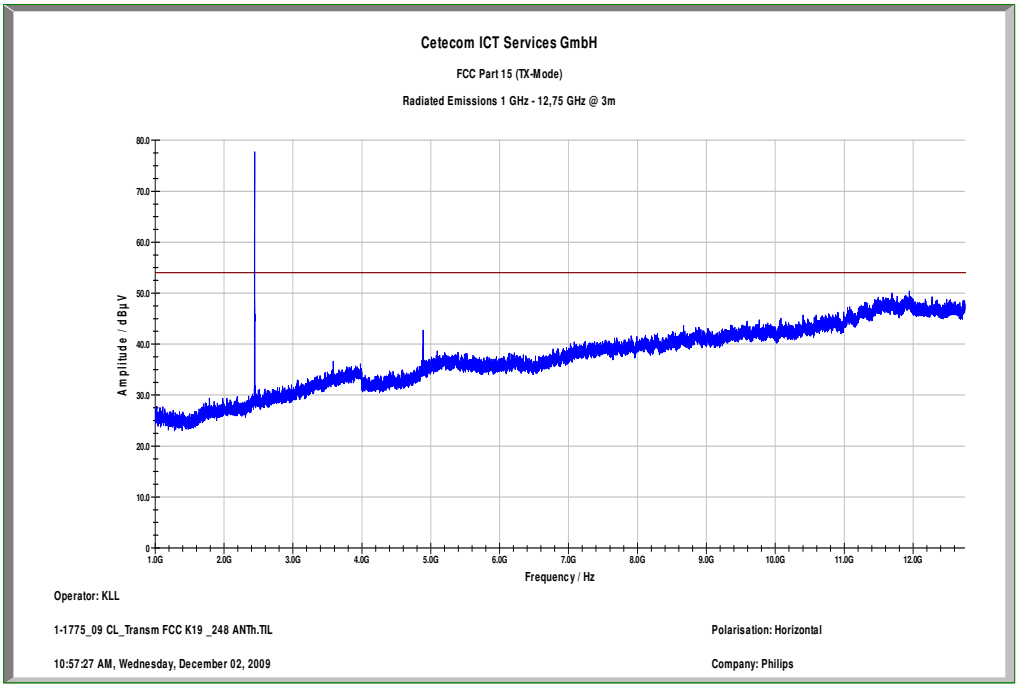
Plot 6: 1 -13 GHz vertical (middle channel)



Plot 7: 1 -13 GHz horizontal (middle channel)



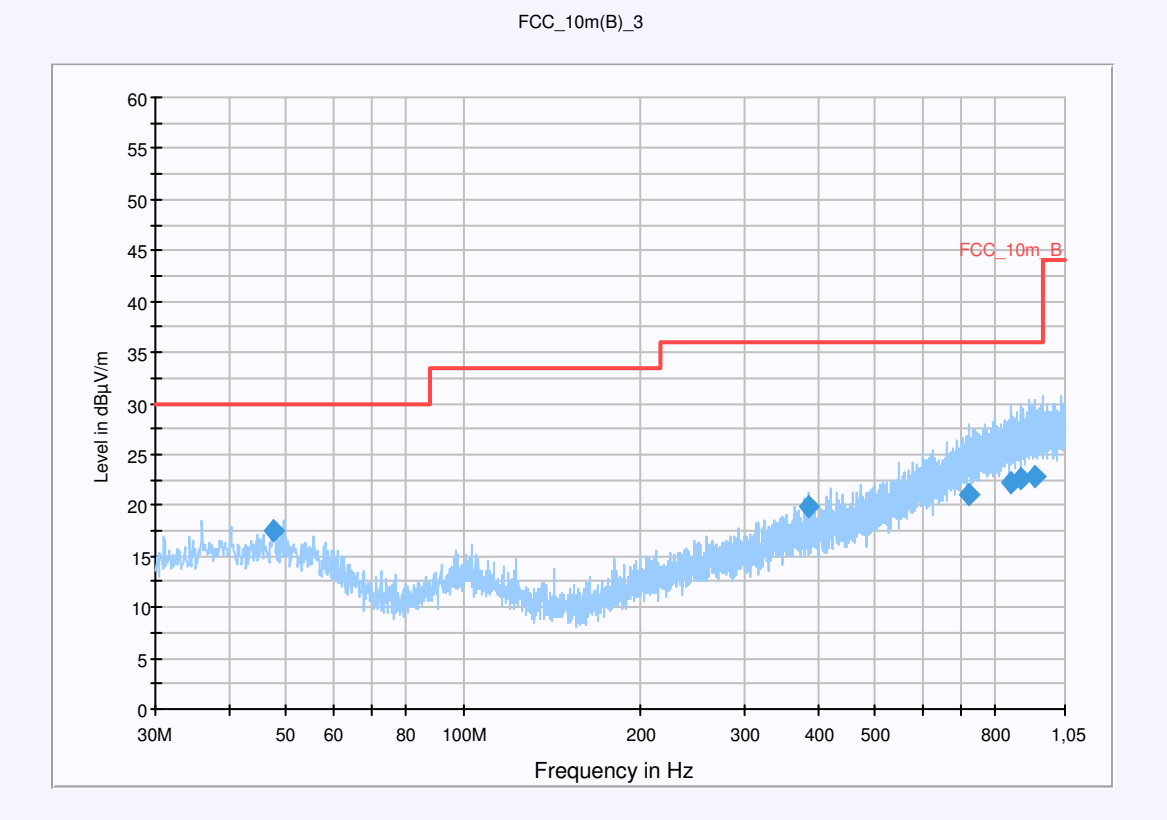
Plot 8: 0.03 - 1 GHz vertical (highest channel) Halle F

EUT:	Philips Medizin Systeme Dual SRR Module 865221
Serial Number:	PN: 865221 SN: DE932Y0078
Test Description:	FCC Part 15 subpart C @ 10 m
Operating Conditions:	ID Radio 2 TX CH 26
Operator Name:	Klos
Comment:	powered with battery

Scan Setup: STAN_Fin [EMI radiated]

Hardware Setup:	Electric Field (NOS)
Level Unit:	dBµV/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
30 MHz - 1.05 GHz	QuasiPeak	120 kHz	15 s	Receiver



Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Antenna height (cm)	Polarity	Turntable position (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
47.803350	17.6	15000.000	120.000	150.0	V	14.0	13.5	12.4	30.0	
384.468600	19.9	15000.000	120.000	106.0	V	323.0	17.0	16.1	36.0	
720.571950	21.1	15000.000	120.000	220.0	V	28.0	23.5	14.9	36.0	
853.102800	22.2	15000.000	120.000	220.0	H	285.0	25.1	13.8	36.0	
882.982950	22.7	15000.000	120.000	182.0	H	52.0	25.5	13.3	36.0	
936.311550	22.8	15000.000	120.000	153.0	H	160.0	25.8	13.2	36.0	

Hardware Setup: **EMI radiated\Electric Field (NOS) - [EMI radiated]**

Subrange 1	
Frequency Range:	30 MHz - 2 GHz
Receiver:	Receiver [ESCI 3] @ GPIB0 (ADR 20), SN 100083/003, FW 4.32
Signal Path:	without Notch FW 1.0
Antenna:	VULB 9163 SN 9163-295, FW --- Correction Table (vertical): VULP6113 Correction Table (horizontal): VULP6113 Correction Table: Cable_EN_1GHz (0909)
Antenna Tower:	Tower [EMCO 2090 Antenna Tower] @ GPIB0 (ADR 8), FW REV 3.12
Turntable:	Turntable [EMCO Turntable] @ GPIB0 (ADR 9), FW REV 3.12

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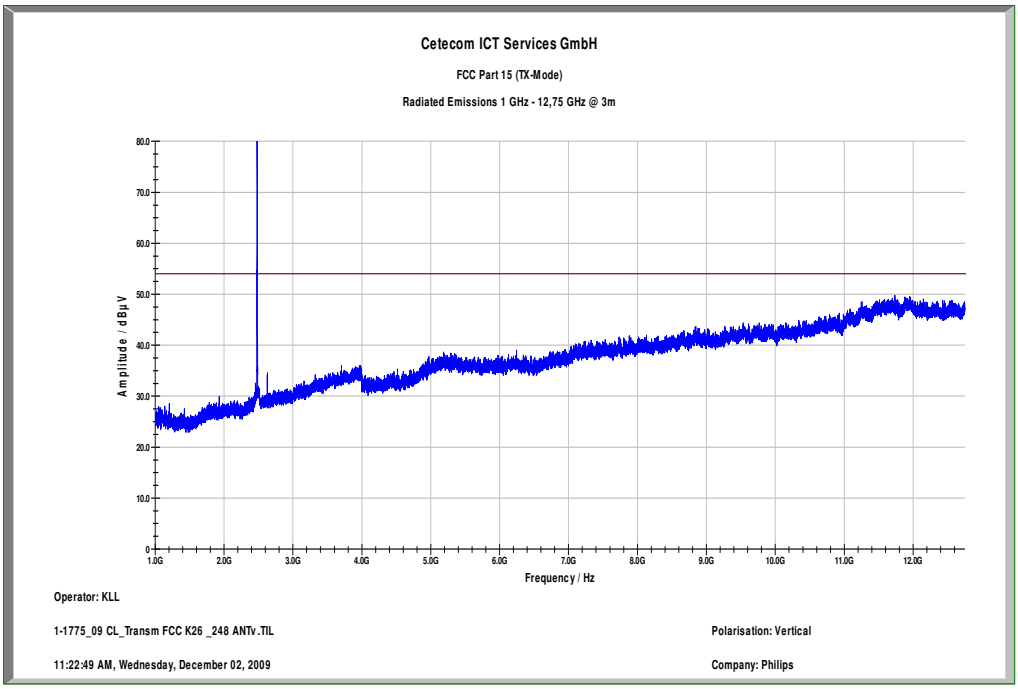
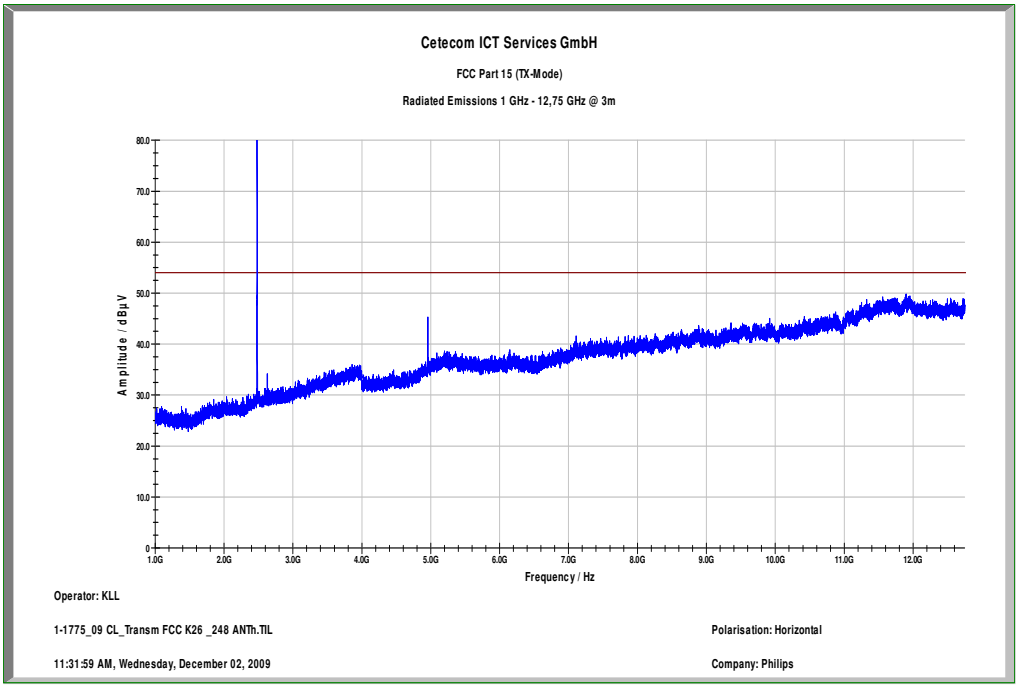
Plot 9: 1 -13 GHz vertical (highest channel)



Plot 10: 1 -13 GHz horizontal (highest channel)



Transmitter 2 (Radio 1), 0dBm/modulated

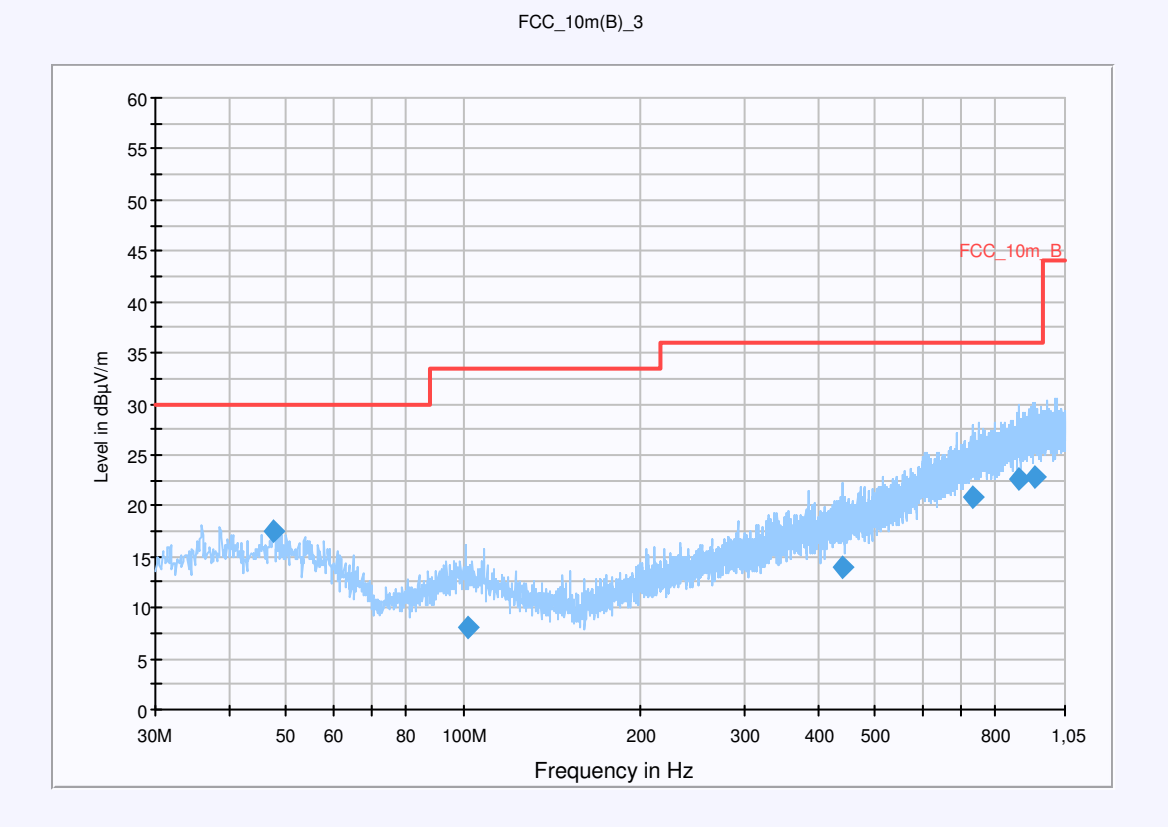
Plot 1: 0.03 - 1 GHz vertical (lowest channel) Halle F

EUT:	Philips Medizin Systeme Dual SRR Module 865221
Serial Number:	PN: 865221 SN: DE932Y0078
Test Description:	FCC Part 15 subpart C @ 10 m
Operating Conditions:	ID Radio 1 TX CH 11
Operator Name:	Klos
Comment:	powered with battery

Scan Setup: STAN_Fin [EMI radiated]

Hardware Setup:	Electric Field (NOS)
Level Unit:	dBµV/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
30 MHz - 1.05 GHz	QuasiPeak	120 kHz	15 s	Receiver



Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Antenna height (cm)	Polarity	Turntable position (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
47.802150	17.6	15000.000	120.000	141.0	V	258.0	13.5	12.4	30.0	
101.484900	8.1	15000.000	120.000	105.0	V	142.0	12.2	25.4	33.5	
440.636550	13.9	15000.000	120.000	182.0	H	220.0	17.9	22.1	36.0	
734.140050	20.9	15000.000	120.000	162.0	H	113.0	23.8	15.1	36.0	
878.388000	22.7	15000.000	120.000	220.0	H	316.0	25.4	13.3	36.0	
931.201650	22.8	15000.000	120.000	159.0	V	124.0	25.8	13.2	36.0	

Hardware Setup: **EMI radiated\Electric Field (NOS) - [EMI radiated]**

Subrange 1	
Frequency Range:	30 MHz - 2 GHz
Receiver:	Receiver [ESCI 3] @ GPIB0 (ADR 20), SN 100083/003, FW 4.32
Signal Path:	without Notch FW 1.0
Antenna:	VULB 9163 SN 9163-295, FW --- Correction Table (vertical): VULP6113 Correction Table (horizontal): VULP6113 Correction Table: Cable_EN_1GHz (0909)
Antenna Tower:	Tower [EMCO 2090 Antenna Tower] @ GPIB0 (ADR 8), FW REV 3.12
Turntable:	Turntable [EMCO Turntable] @ GPIB0 (ADR 9), FW REV 3.12

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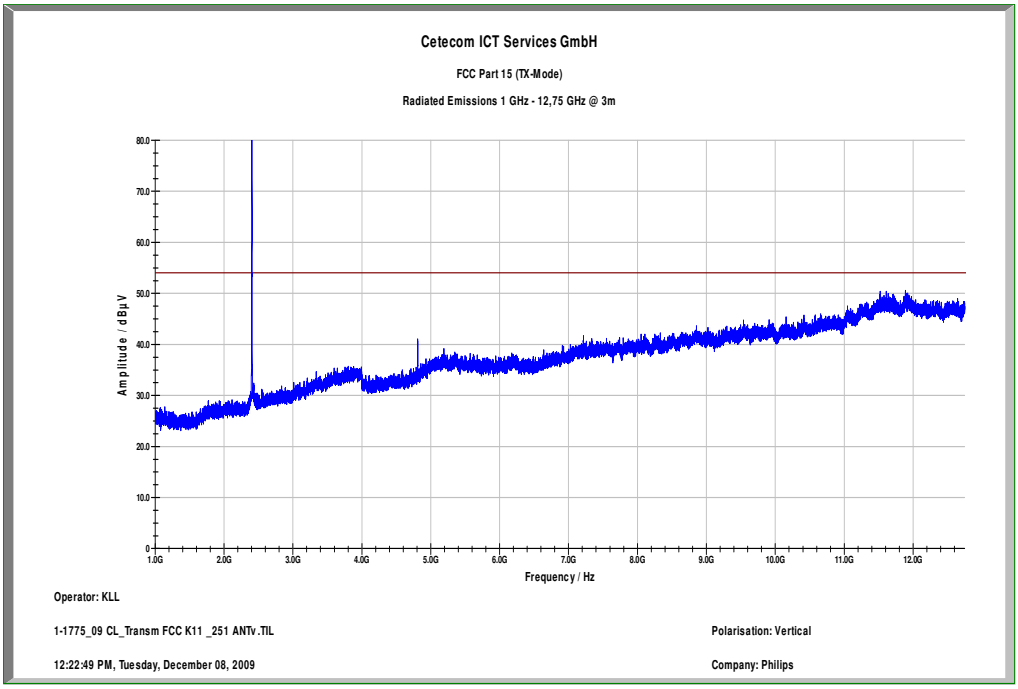
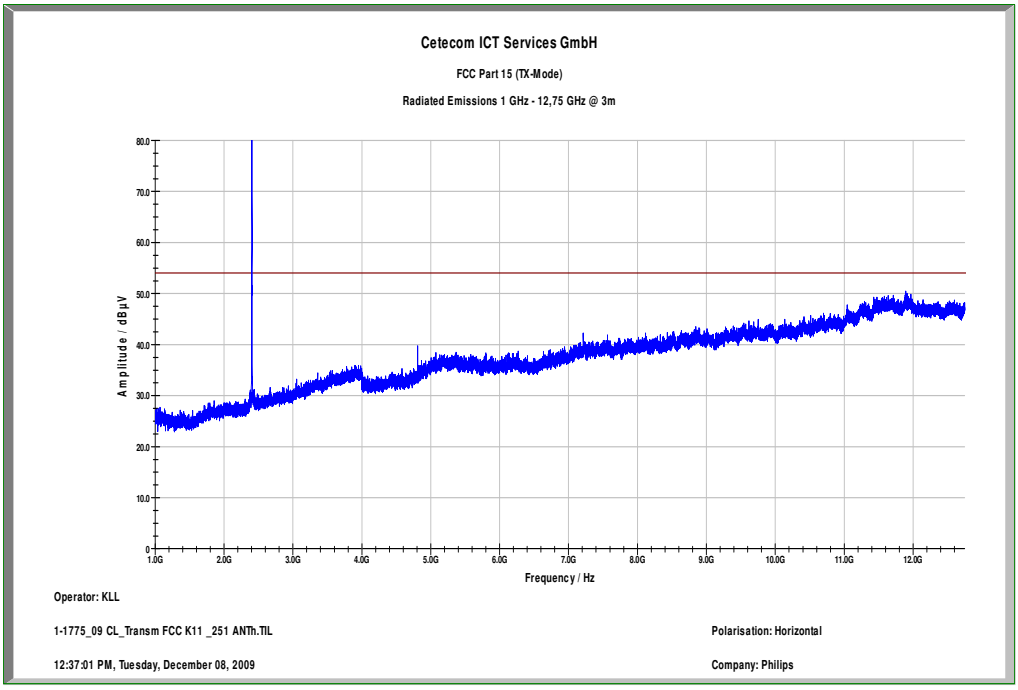
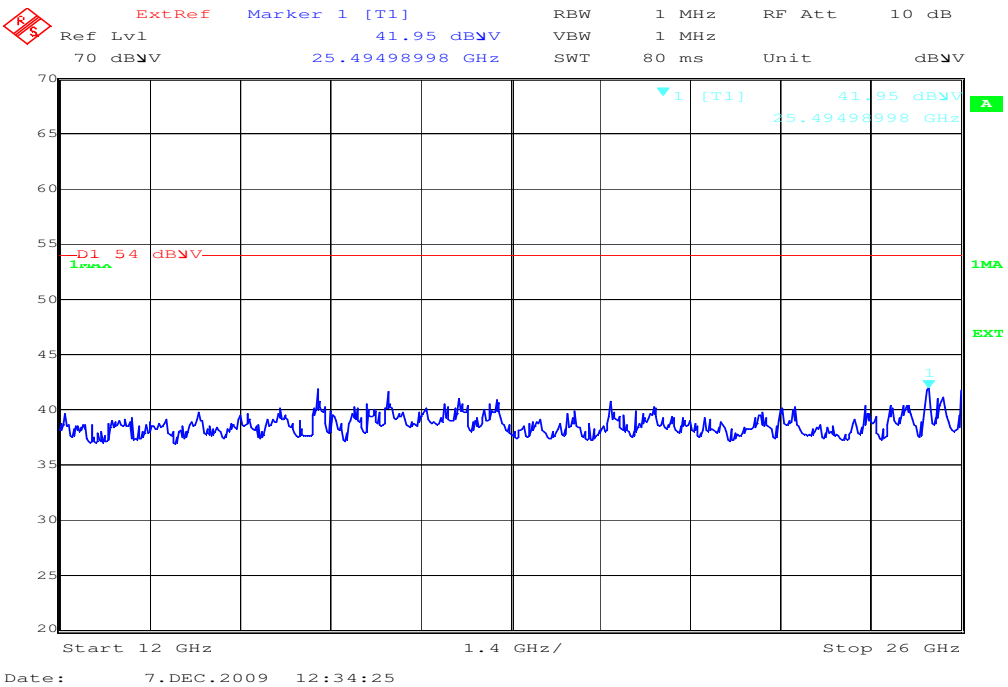
Plot 2: 1 -13 GHz vertical (lowest channel)



Plot 3: 1 -13 GHz horizontal (lowest channel)



Plot 4: 12 - 25 GHz vertical/horizontal (valid for all channels)



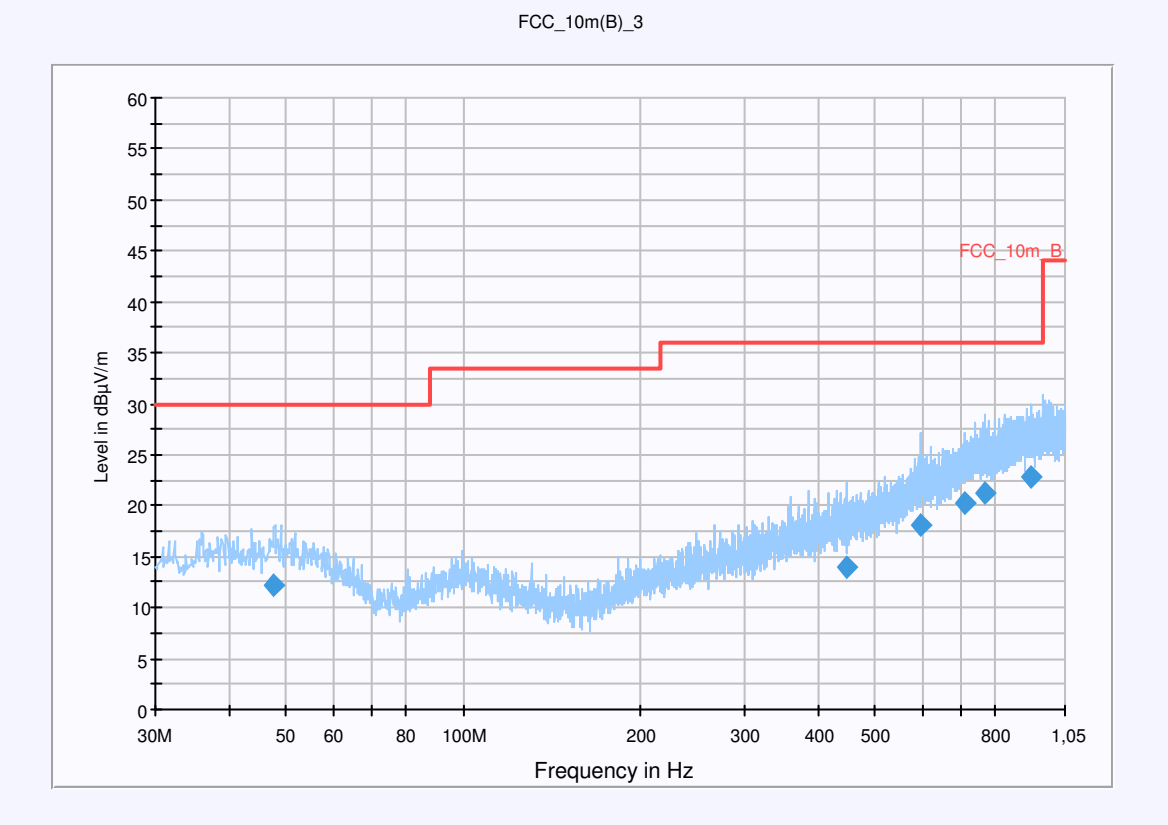
Plot 5: 0.03 - 1 GHz vertical (middle channel) Halle F

EUT:	Philips Medizin Systeme Dual SRR Module 865221
Serial Number:	PN: 865221 SN: DE932Y0078
Test Description:	FCC Part 15 subpart C @ 10 m
Operating Conditions:	ID Radio 1 TX CH 19
Operator Name:	Klos
Comment:	powered with battery

Scan Setup: STAN_Fin [EMI radiated]

Hardware Setup:	Electric Field (NOS)
Level Unit:	dBµV/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
30 MHz - 1.05 GHz	QuasiPeak	120 kHz	15 s	Receiver



Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Antenna height (cm)	Polarity	Turntable position (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
47.634600	12.1	15000.000	120.000	141.0	V	14.0	13.5	17.9	30.0	
446.259900	14.0	15000.000	120.000	220.0	V	1.0	18.0	22.0	36.0	
598.457850	18.0	15000.000	120.000	148.0	V	52.0	21.4	18.0	36.0	
707.784900	20.3	15000.000	120.000	98.0	H	235.0	23.2	15.7	36.0	
765.242100	21.3	15000.000	120.000	220.0	V	122.0	24.2	14.7	36.0	
916.707000	22.9	15000.000	120.000	220.0	H	165.0	25.8	13.1	36.0	

Hardware Setup: **EMI radiated\Electric Field (NOS) - [EMI radiated]**

Subrange 1	
Frequency Range:	30 MHz - 2 GHz
Receiver:	Receiver [ESCI 3] @ GPIB0 (ADR 20), SN 100083/003, FW 4.32
Signal Path:	without Notch FW 1.0
Antenna:	VULB 9163 SN 9163-295, FW --- Correction Table (vertical): VULP6113 Correction Table (horizontal): VULP6113 Correction Table: Cable_EN_1GHz (0909)
Antenna Tower:	Tower [EMCO 2090 Antenna Tower] @ GPIB0 (ADR 8), FW REV 3.12
Turntable:	Turntable [EMCO Turntable] @ GPIB0 (ADR 9), FW REV 3.12

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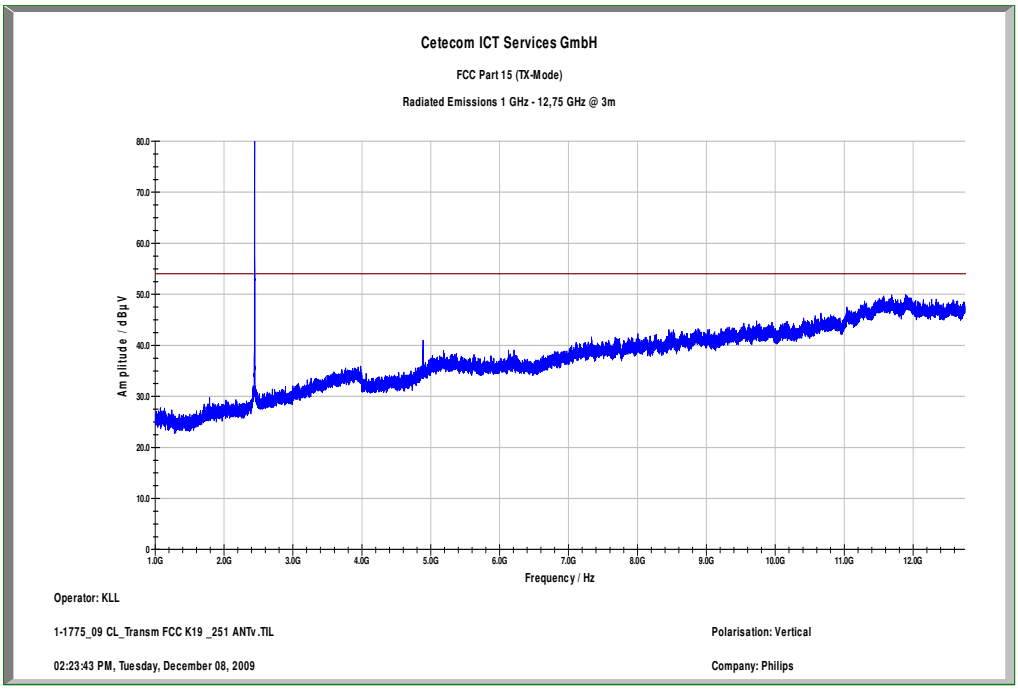
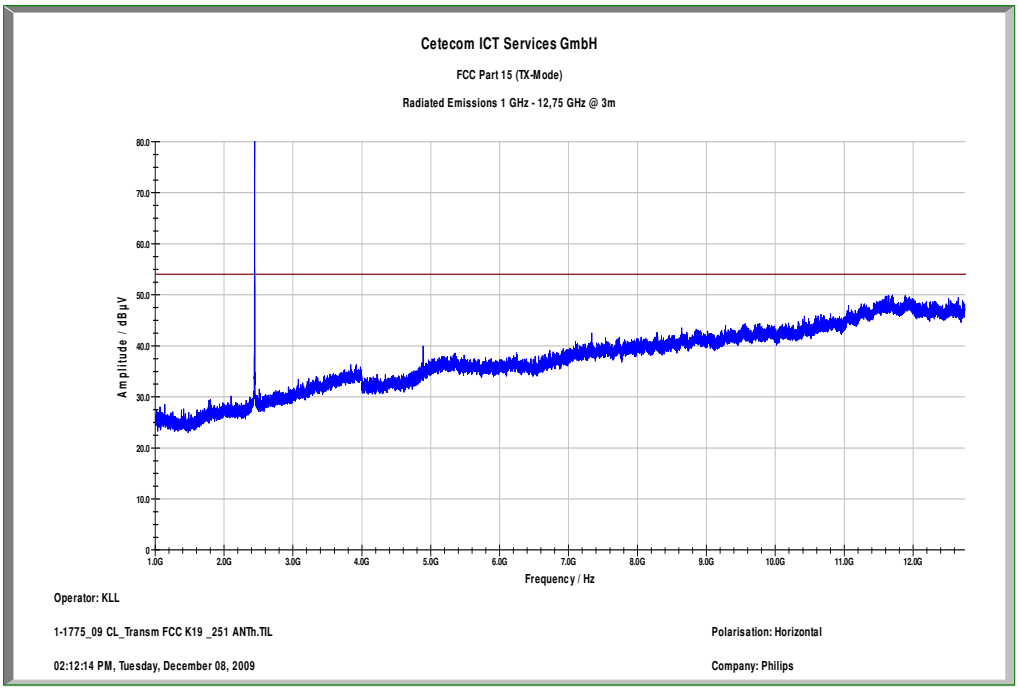
Plot 6: 1 -13 GHz vertical (middle channel)



Plot 7: 1 -13 GHz horizontal (middle channel)



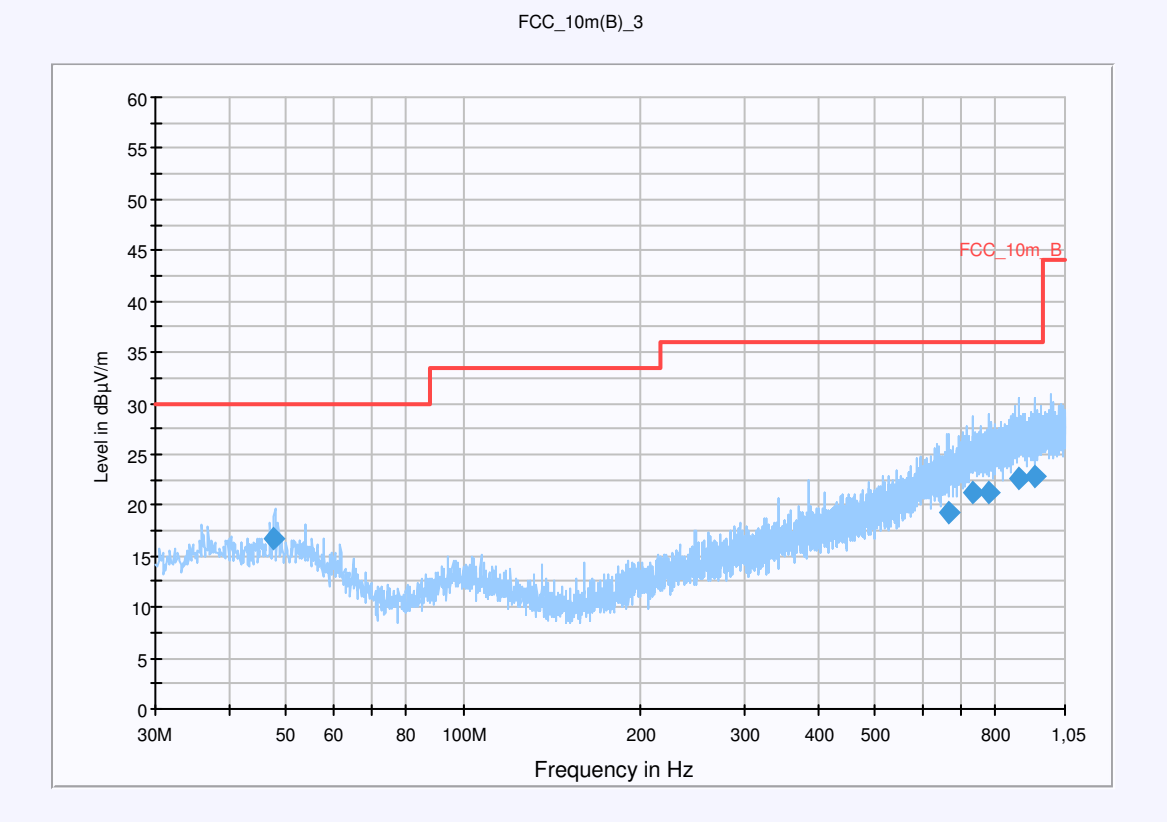
Plot 8: 0.03 - 1 GHz vertical (highest channel) Halle F

EUT:	Philips Medizin Systeme Dual SRR Module 865221
Serial Number:	PN: 865221 SN: DE932Y0078
Test Description:	FCC Part 15 subpart C @ 10 m
Operating Conditions:	ID Radio 1 TX CH 26
Operator Name:	Klos
Comment:	powered with battery

Scan Setup: STAN_Fin [EMI radiated]

Hardware Setup:	Electric Field (NOS)
Level Unit:	dBµV/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
30 MHz - 1.05 GHz	QuasiPeak	120 kHz	15 s	Receiver



Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Antenna height (cm)	Polarity	Turntable position (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
47.775300	16.7	15000.000	120.000	98.0	V	249.0	13.5	13.3	30.0	
665.286150	19.2	15000.000	120.000	203.0	V	262.0	22.1	16.8	36.0	
734.110050	21.3	15000.000	120.000	187.0	V	6.0	23.8	14.7	36.0	
778.887750	21.2	15000.000	120.000	220.0	H	119.0	24.2	14.8	36.0	
877.762950	22.7	15000.000	120.000	220.0	V	50.0	25.4	13.3	36.0	
931.719450	22.9	15000.000	120.000	220.0	V	134.0	25.8	13.1	36.0	

Hardware Setup: **EMI radiated\Electric Field (NOS) - [EMI radiated]**

Subrange 1	
Frequency Range:	30 MHz - 2 GHz
Receiver:	Receiver [ESCI 3] @ GPIB0 (ADR 20), SN 100083/003, FW 4.32
Signal Path:	without Notch FW 1.0
Antenna:	VULB 9163 SN 9163-295, FW --- Correction Table (vertical): VULP6113 Correction Table (horizontal): VULP6113 Correction Table: Cable_EN_1GHz (0909)
Antenna Tower:	Tower [EMCO 2090 Antenna Tower] @ GPIB0 (ADR 8), FW REV 3.12
Turntable:	Turntable [EMCO Turntable] @ GPIB0 (ADR 9), FW REV 3.12

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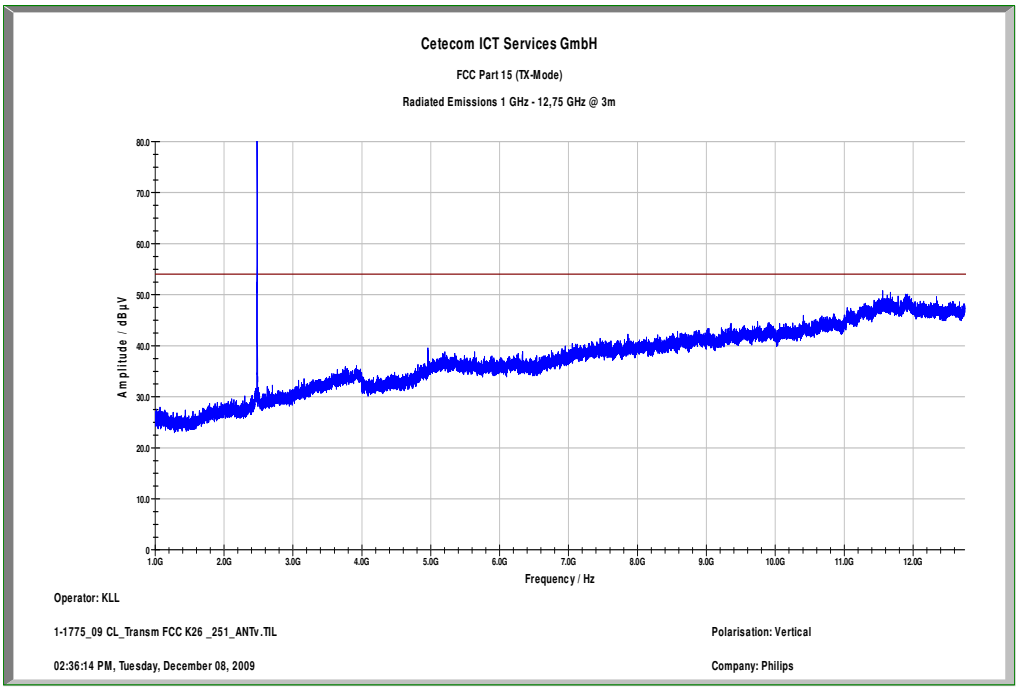
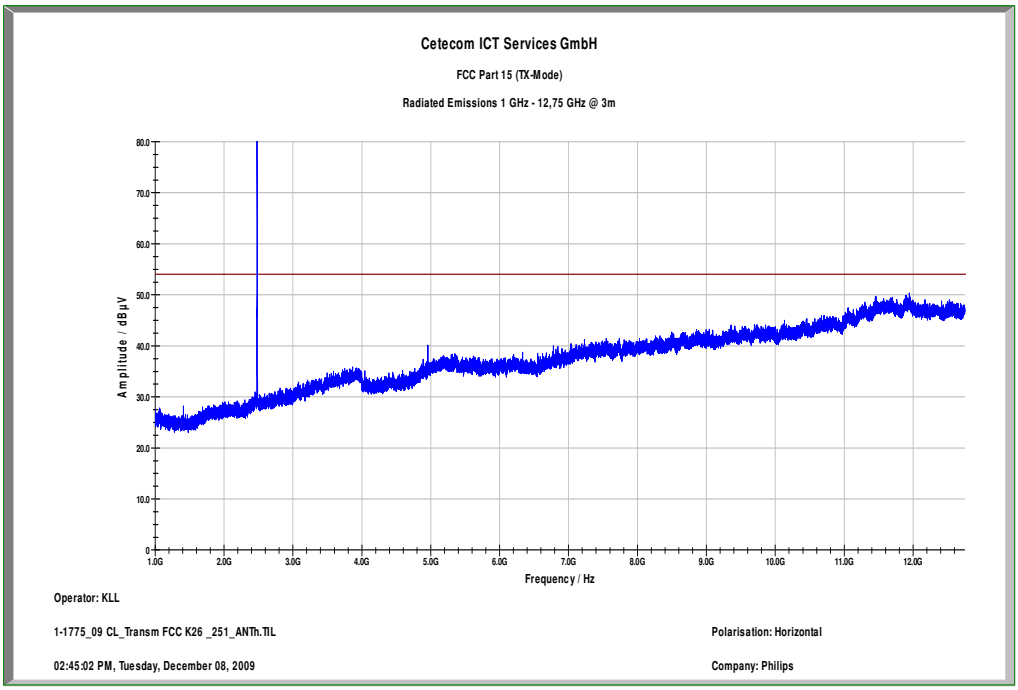
Plot 9: 1 -13 GHz vertical (highest channel)



Plot 10: 1 -13 GHz horizontal (highest channel)



Transmitter 1 (Radio 2), 0dBm/modulated

Results:

SPURIOUS EMISSIONS LEVEL (dBµV/m)								
2405 MHz			2445 MHz			2480 MHz		
F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]
4809.1	PK	51.6 (h)	4891.0	PK	49.9 (h)	4960.9	PK	48.3 (h)
Measurement uncertainty			±3 dB					

f < 1 GHz : RBW/VBW: 100 kHz f ≥ 1GHz : RBW: 1 MHz/VBW: 10 Hz

Transmitter 2 (Radio 1), 0dBm/modulated

Results:

SPURIOUS EMISSIONS LEVEL (dBµV/m)								
2405 MHz			2445 MHz			2480 MHz		
F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]
4809.6	PK	41.4 (v)	4890.0	PK	42.4 (v)	4960.1	PK	41.2 (h)
7216.5	PK	45.1 (v)	7336.8	PK	43.4 (v)			
Measurement uncertainty			±3 dB					

f < 1 GHz : RBW/VBW: 100 kHz f ≥ 1GHz : RBW: 1 MHz/VBW: 10 Hz

(v) = measurement antenna vertical
(h) = measurement antenna horizontal

Azimuth scan DUT position 0° and 90°

Limits: § 15.247 (c)

In any 100 kHz bandwidth outside the frequency band at least 20dB below the highest level of the desired power. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

Limits: § 15.209

Frequency [MHz]	Field strength [µV/m]	Measurement distance (m)
30 - 88	100 (40 dBµV/m)	3
88 - 216	150 (43.5 dBµV/m)	3
216 - 960	200 (46 dBµV/m)	3
above 960	500 (54 dBµV/m)	3

5.15.2 Dual SRR Module 865240

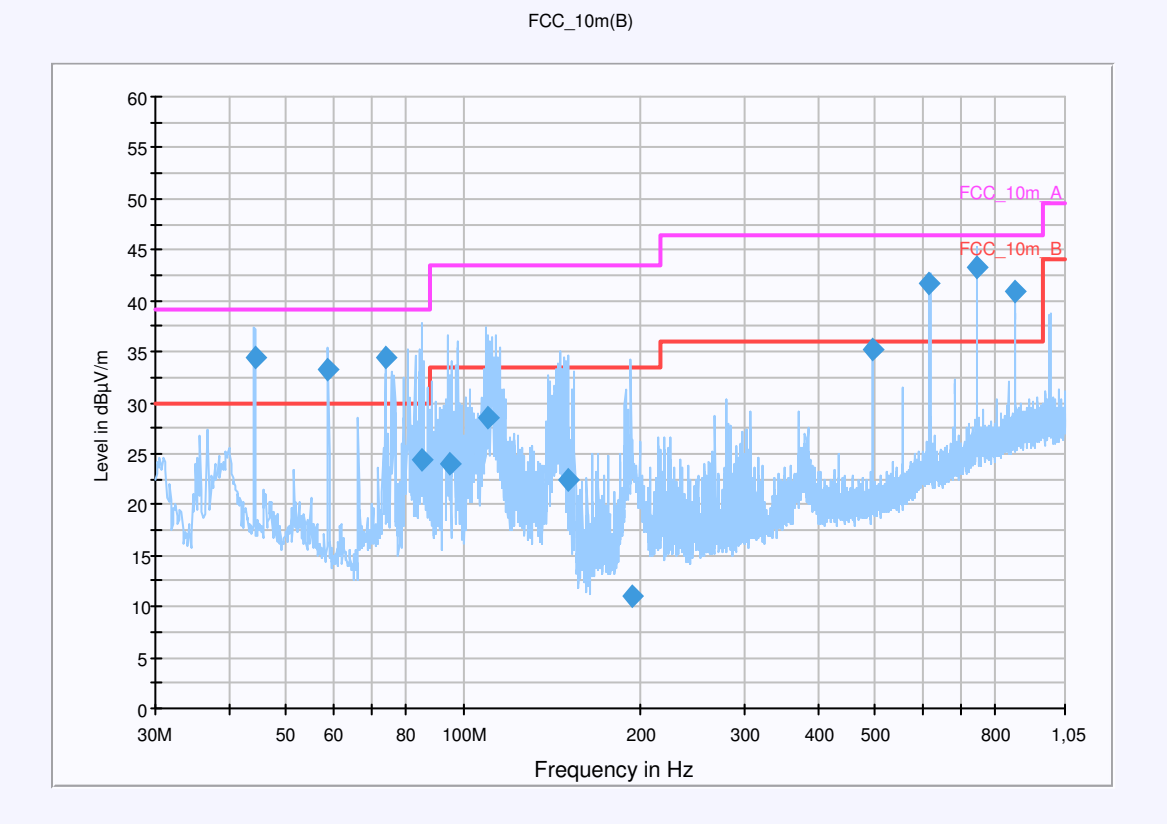
Plot 1: 0.03 - 1 GHz (lowest channel), Transmitter Port1

EUT:	Dual SRR Module 865240
Serial Number:	DE008W0250
Test Description:	FCC Part 15 subpart C @ 10 m
Operating Conditions:	SRR Modul 1 - TX CH 11
Operator Name:	Langer
Comment:	AC 115 V / 60 Hz

Scan Setup: STAN_Fin [EMI radiated]

Hardware Setup:	Electric Field (NOS)
Level Unit:	dBµV/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
30 MHz - 1.05 GHz	QuasiPeak	120 kHz	15 s	Receiver



Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Antenna height (cm)	Polarity	Turntable position (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
44.205750	34.3	15000.000	120.000	100.0	V	321.0	13.3	-4.3	30.0	
58.999650	33.3	15000.000	120.000	177.0	V	-5.0	11.9	-3.3	30.0	
73.730250	34.5	15000.000	120.000	400.0	V	5.0	9.2	-4.5	30.0	
84.744750	24.4	15000.000	120.000	354.0	V	122.0	9.8	5.6	30.0	
94.536750	24.1	15000.000	120.000	263.0	V	108.0	11.2	9.4	33.5	
109.756650	28.5	15000.000	120.000	400.0	V	190.0	11.0	5.0	33.5	
150.232650	22.5	15000.000	120.000	100.0	V	42.0	8.9	11.0	33.5	
192.858450	11.1	15000.000	120.000	100.0	V	236.0	11.2	22.4	33.5	
494.976150	35.2	15000.000	120.000	156.0	H	170.0	18.6	0.8	36.0	
618.711450	41.8	15000.000	120.000	117.0	H	183.0	20.9	-5.8	36.0	
742.629300	43.3	15000.000	120.000	106.0	H	176.0	23.4	-7.3	36.0	
866.253450	40.9	15000.000	120.000	100.0	H	167.0	24.8	-4.9	36.0	

Hardware Setup: **EMI radiated\Electric Field (NOS) - [EMI radiated]**

Subrange 1	
Frequency Range:	30 MHz - 2 GHz
Receiver:	Receiver [ESCI 3] @ GPIB0 (ADR 20), SN 100083/003, FW 4.32
Signal Path:	without Notch FW 1.0
Antenna:	VULB 9163 SN 9163-295, FW --- Correction Table (vertical): VULP6113 Correction Table (horizontal): VULP6113 Correction Table: Cable_EN_1GHz (0909)
Antenna Tower:	Tower [EMCO 2090 Antenna Tower] @ GPIB0 (ADR 8), FW REV 3.12
Turntable:	Turntable [EMCO Turntable] @ GPIB0 (ADR 9), FW REV 3.12

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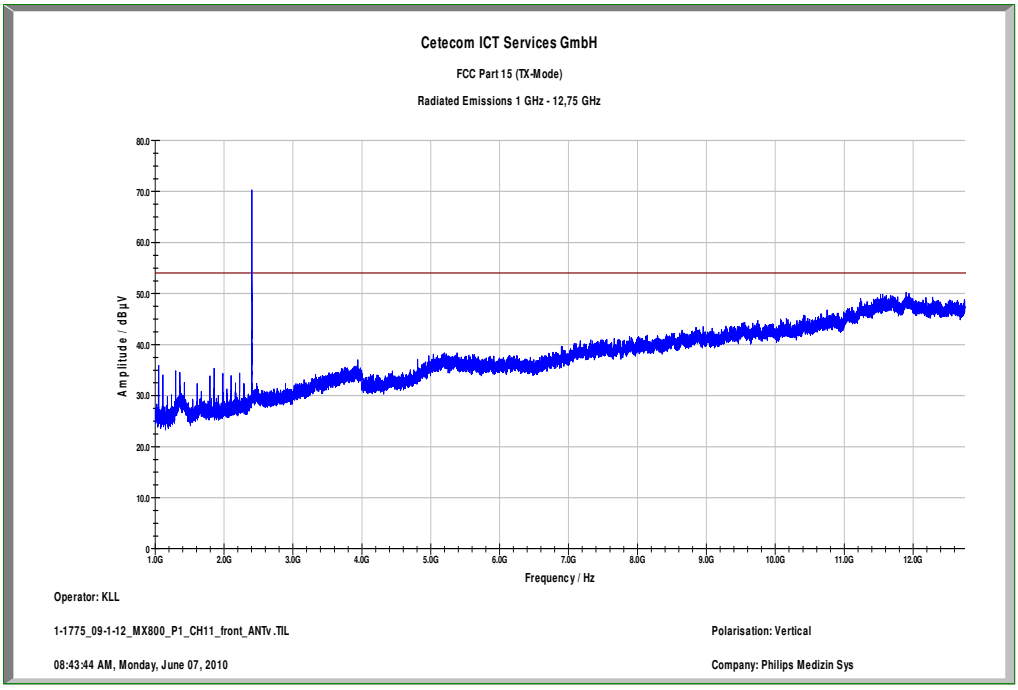
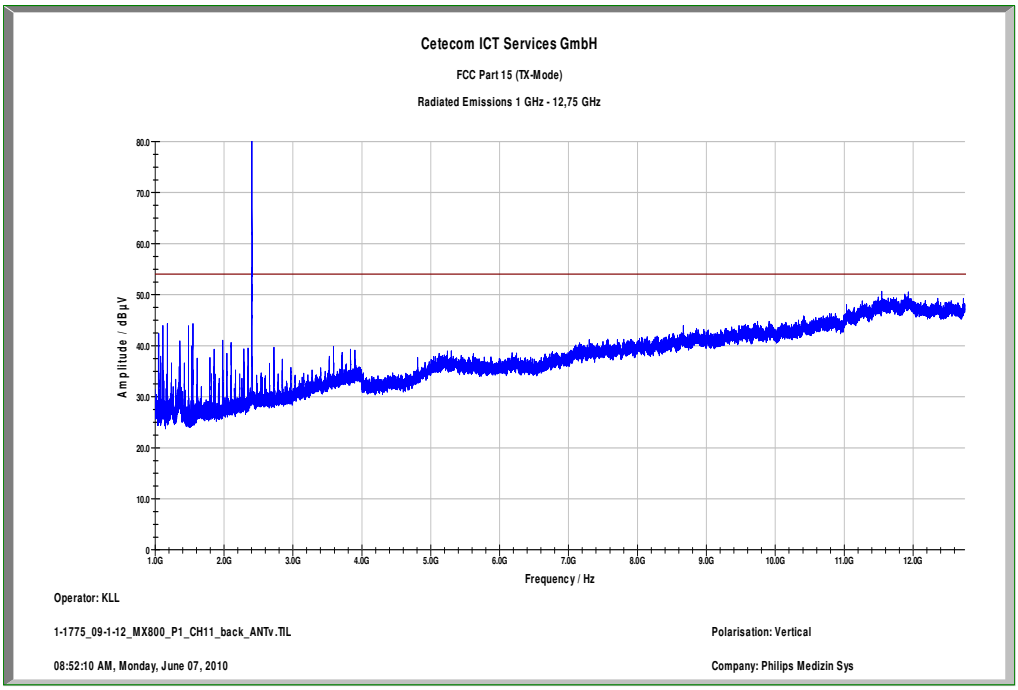
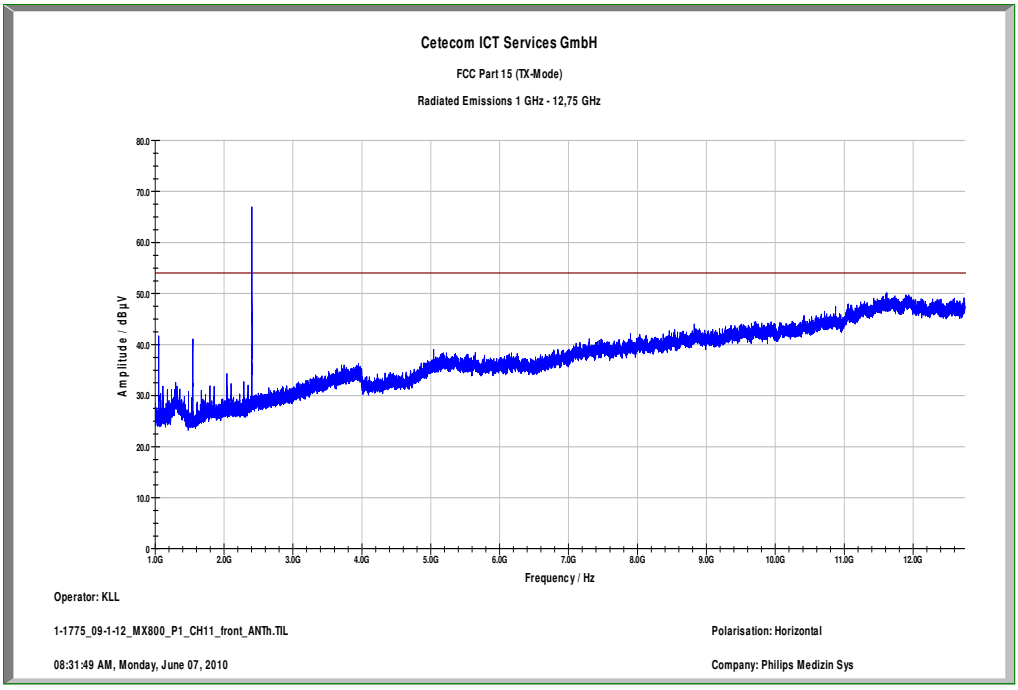
Plot 2: 1 -12.75 GHz vertical (lowest channel), front side, Transmitter Port1



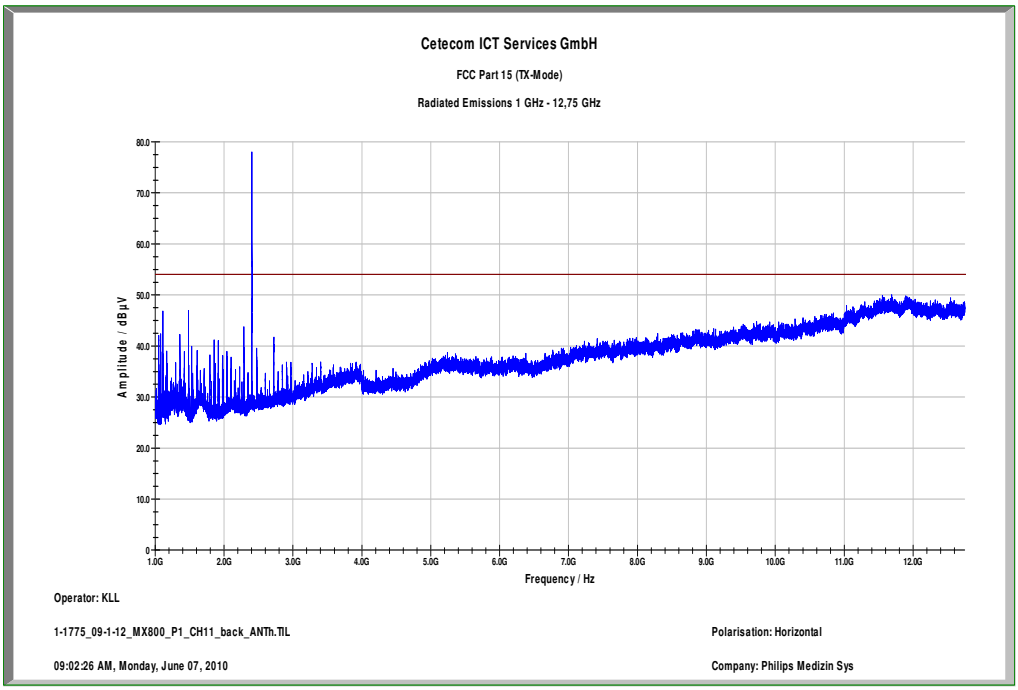
Plot 3: 1 -12.75 GHz vertical (lowest channel), back side, Transmitter Port1



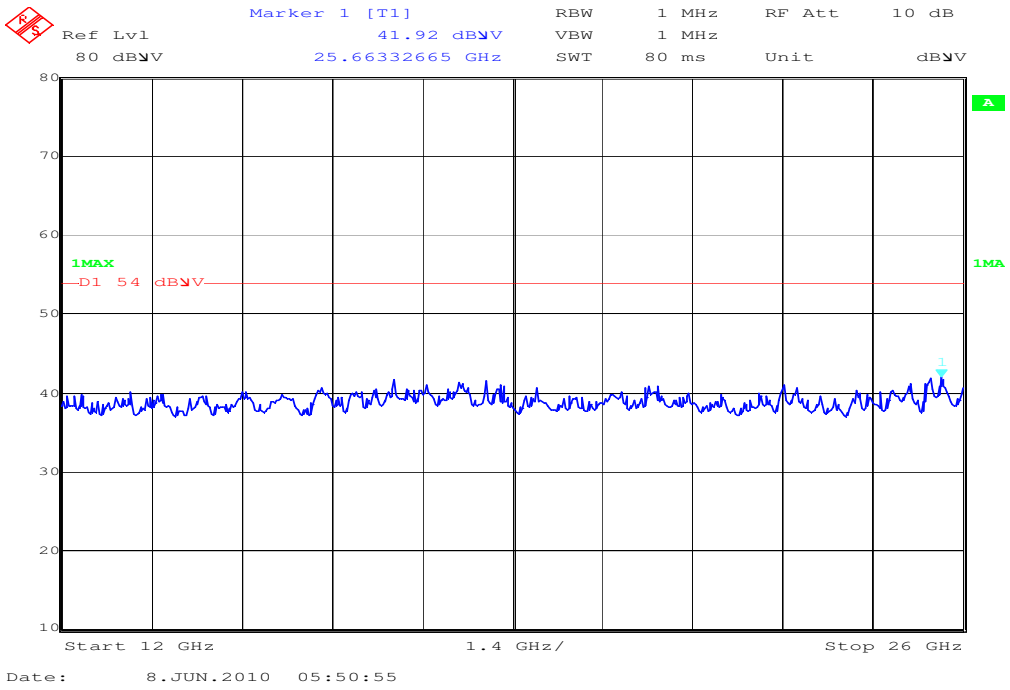
Plot 4: 1 -12.75 GHz horizontal (lowest channel), front side, Transmitter Port1



Plot 5: 1 -12.75 GHz horizontal (lowest channel), back side, Transmitter Port1



Plot 6: 12 - 26 GHz vertical/horizontal (valid for all channels), Transmitter Port1



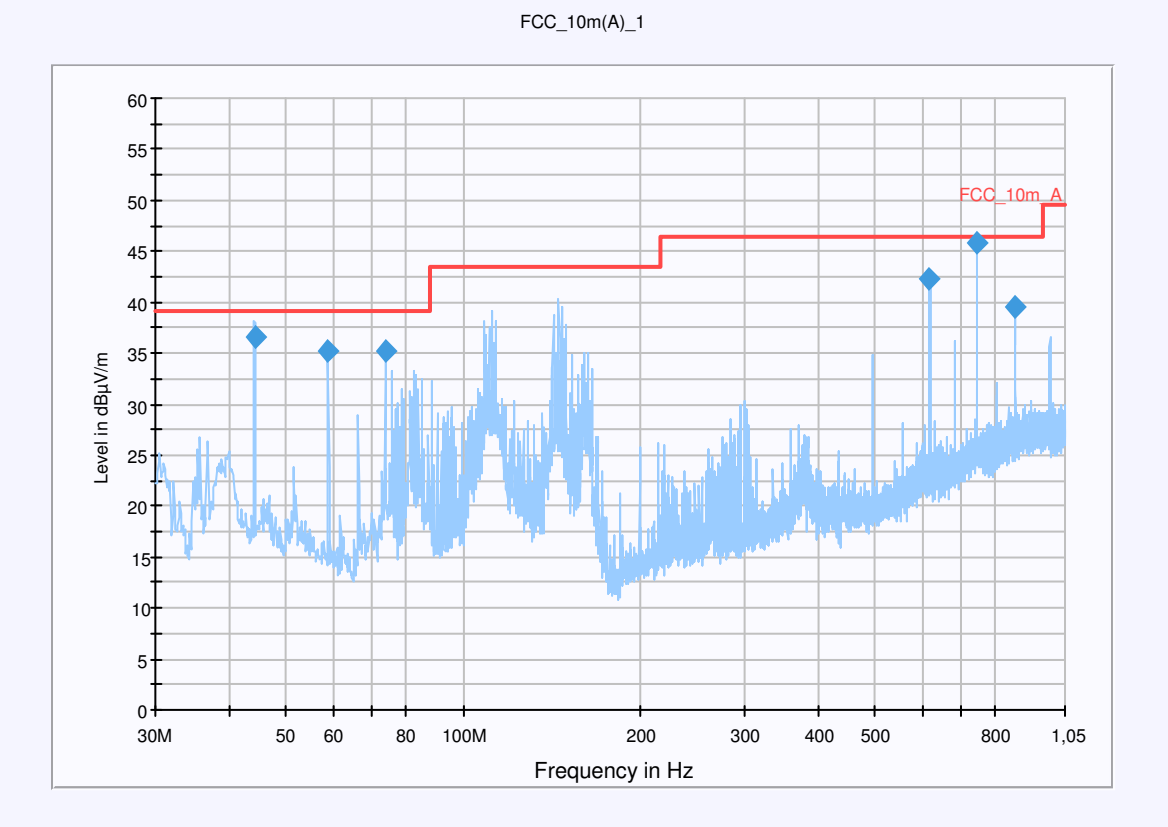
Plot 7: 0.03 - 1 GHz (middle channel), Transmitter Port1

EUT:	Dual SRR Module 865240
Serial Number:	DE008W0250
Test Description:	FCC Part 15 subpart C @ 10 m
Operating Conditions:	SRR Modul 1 - TX CH 19
Operator Name:	Langer
Comment:	AC 115 V / 60 Hz

Scan Setup: STAN_Fin [EMI radiated]

Hardware Setup:	Electric Field (NOS)
Level Unit:	dBµV/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
30 MHz - 1.05 GHz	QuasiPeak	120 kHz	15 s	Receiver



Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Antenna height (cm)	Polarity	Turntable position (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
44.266200	36.6	15000.000	120.000	100.0	V	7.0	13.3	2.5	39.1	
58.979850	35.3	15000.000	120.000	272.0	V	35.0	11.9	3.8	39.1	
73.719450	35.2	15000.000	120.000	360.0	V	114.0	9.2	3.9	39.1	
618.792450	42.2	15000.000	120.000	111.0	H	180.0	20.9	4.2	46.4	
742.361550	45.9	15000.000	120.000	100.0	H	177.0	23.4	0.5	46.4	
866.208300	39.5	15000.000	120.000	278.0	H	170.0	24.8	6.9	46.4	

Hardware Setup: **EMI radiated\Electric Field (NOS) - [EMI radiated]**

Subrange 1	
Frequency Range:	30 MHz - 2 GHz
Receiver:	Receiver [ESCI 3] @ GPIB0 (ADR 20), SN 100083/003, FW 4.32
Signal Path:	without Notch FW 1.0
Antenna:	VULB 9163 SN 9163-295, FW --- Correction Table (vertical): VULP6113 Correction Table (horizontal): VULP6113 Correction Table: Cable_EN_1GHz (0909)
Antenna Tower:	Tower [EMCO 2090 Antenna Tower] @ GPIB0 (ADR 8), FW REV 3.12
Turntable:	Turntable [EMCO Turntable] @ GPIB0 (ADR 9), FW REV 3.12

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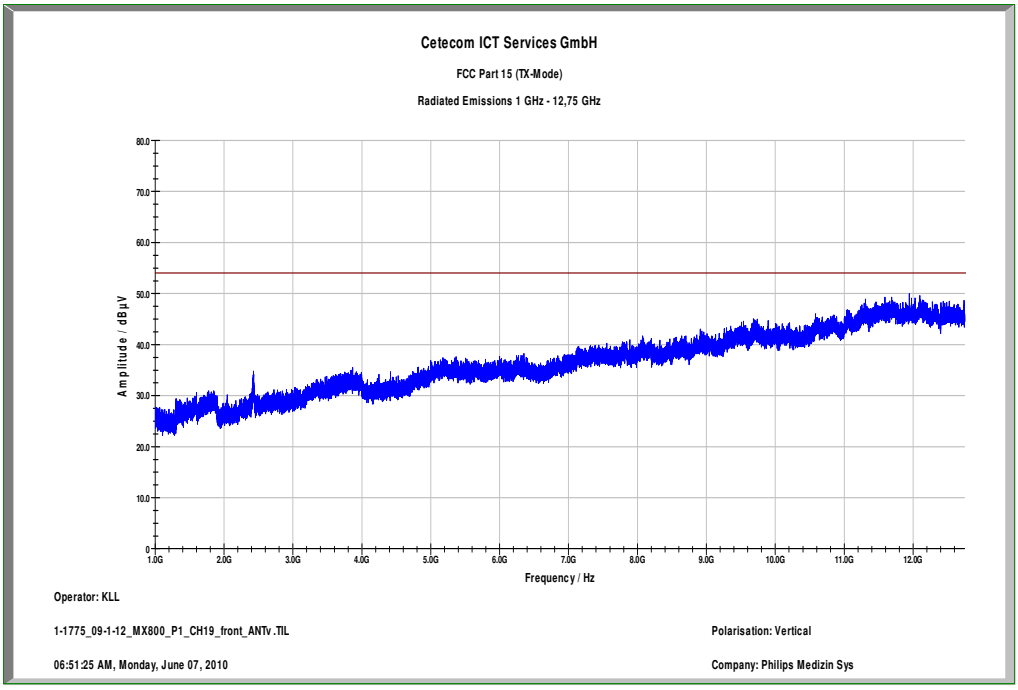
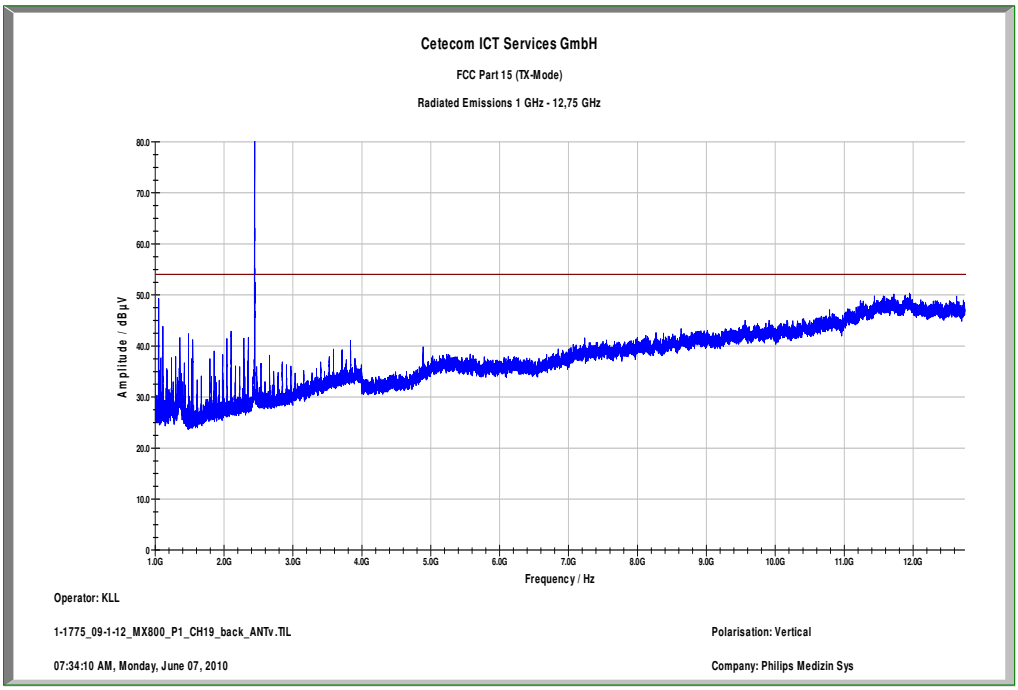
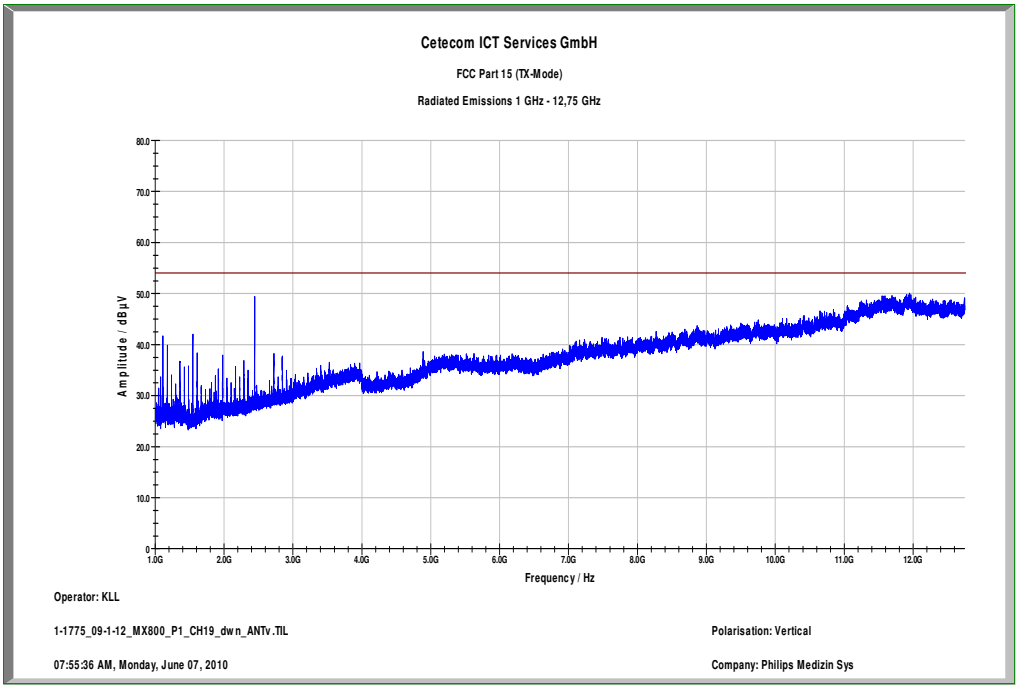
Plot 8: 1 - 12.75 GHz vertical (middle channel), front side, Transmitter Port1



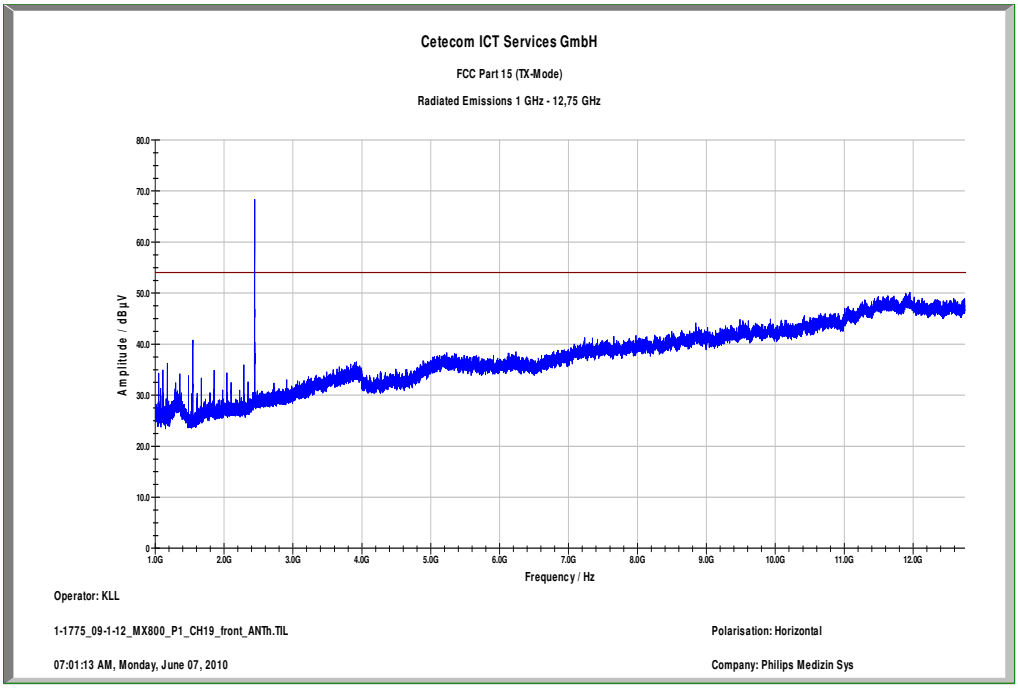
Plot 9: 1 - 12.75 GHz vertical (middle channel), back side, Transmitter Port1



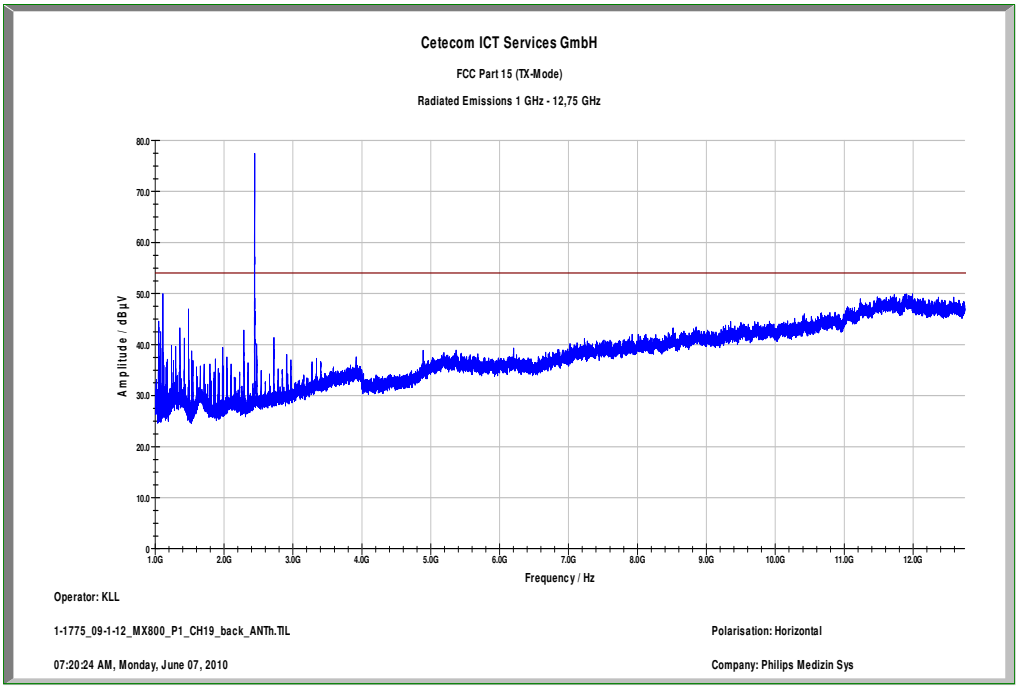
Plot 10: 1 - 12.75 GHz vertical (middle channel), laid on the monitor side, Transmitter Port1



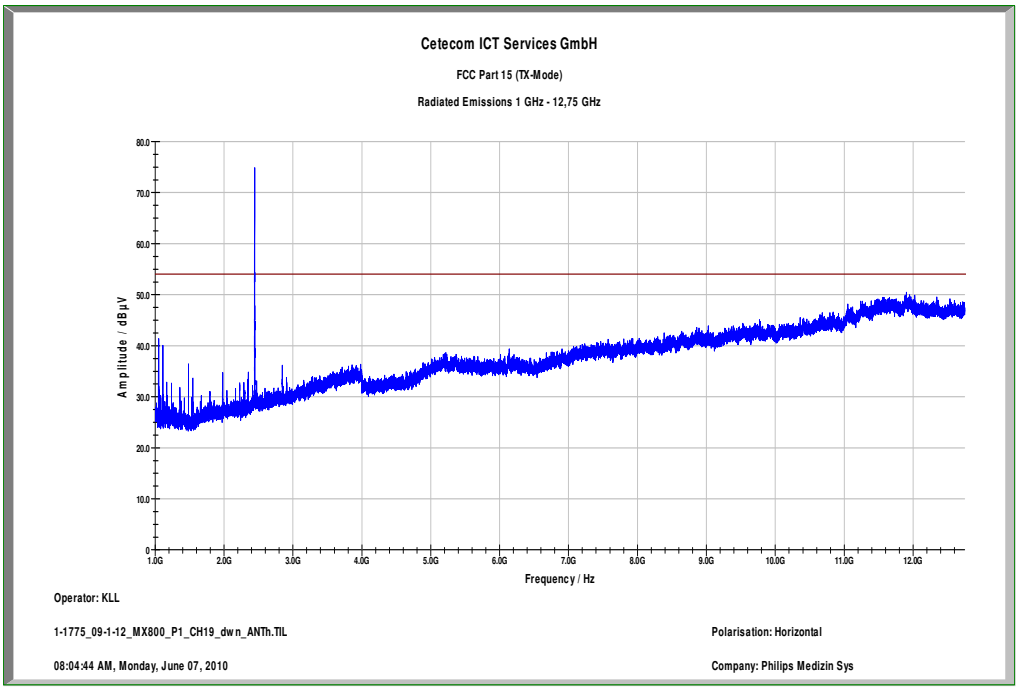
Plot 11: 1 - 12.75 GHz horizontal (middle channel), front side, Transmitter Port1



Plot 12: 1 - 12.75 GHz horizontal (middle channel), back side, Transmitter Port1



Plot 13: 1 - 12.75 GHz horizontal (middle channel), laid on the monitor side, Transmitter Port1



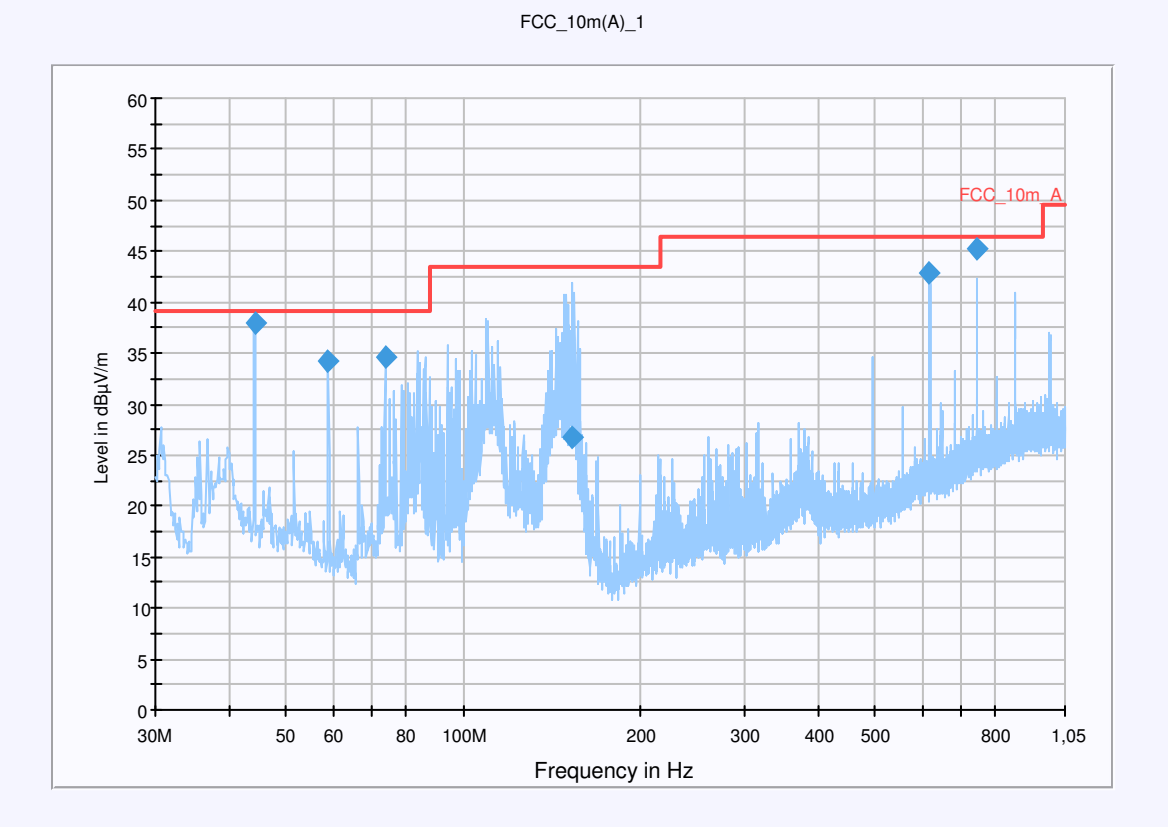
Plot 14: 0.03 - 1 GHz (highest channel), Transmitter Port1

EUT:	Dual SRR Module 865240
Serial Number:	DE008W0250
Test Description:	FCC Part 15 subpart C @ 10 m
Operating Conditions:	SRR Modul 1 - TX CH 26
Operator Name:	Langer
Comment:	AC 115 V / 60 Hz

Scan Setup: STAN_Fin [EMI radiated]

Hardware Setup:	Electric Field (NOS)
Level Unit:	dBµV/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
30 MHz - 1.05 GHz	QuasiPeak	120 kHz	15 s	Receiver



Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Antenna height (cm)	Polarity	Turntable position (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
44.244000	38.0	15000.000	120.000	100.0	V	1.0	13.3	1.1	39.1	
59.002500	34.3	15000.000	120.000	154.0	V	83.0	11.9	4.8	39.1	
73.739700	34.7	15000.000	120.000	353.0	V	7.0	9.2	4.4	39.1	
152.908650	26.8	15000.000	120.000	110.0	V	-4.0	9.0	16.7	43.5	
618.730050	43.0	15000.000	120.000	110.0	H	176.0	20.9	3.4	46.4	
742.567800	45.3	15000.000	120.000	100.0	H	173.0	23.4	1.1	46.4	

Hardware Setup: **EMI radiated\Electric Field (NOS) - [EMI radiated]**

	Subrange 1
Frequency Range:	30 MHz - 2 GHz
Receiver:	Receiver [ESCI 3] @ GPIB0 (ADR 20), SN 100083/003, FW 4.32
Signal Path:	without Notch FW 1.0
Antenna:	VULB 9163 SN 9163-295, FW --- Correction Table (vertical): VULP6113 Correction Table (horizontal): VULP6113 Correction Table: Cable_EN_1GHz (0909)
Antenna Tower:	Tower [EMCO 2090 Antenna Tower] @ GPIB0 (ADR 8), FW REV 3.12
Turntable:	Turntable [EMCO Turntable] @ GPIB0 (ADR 9), FW REV 3.12

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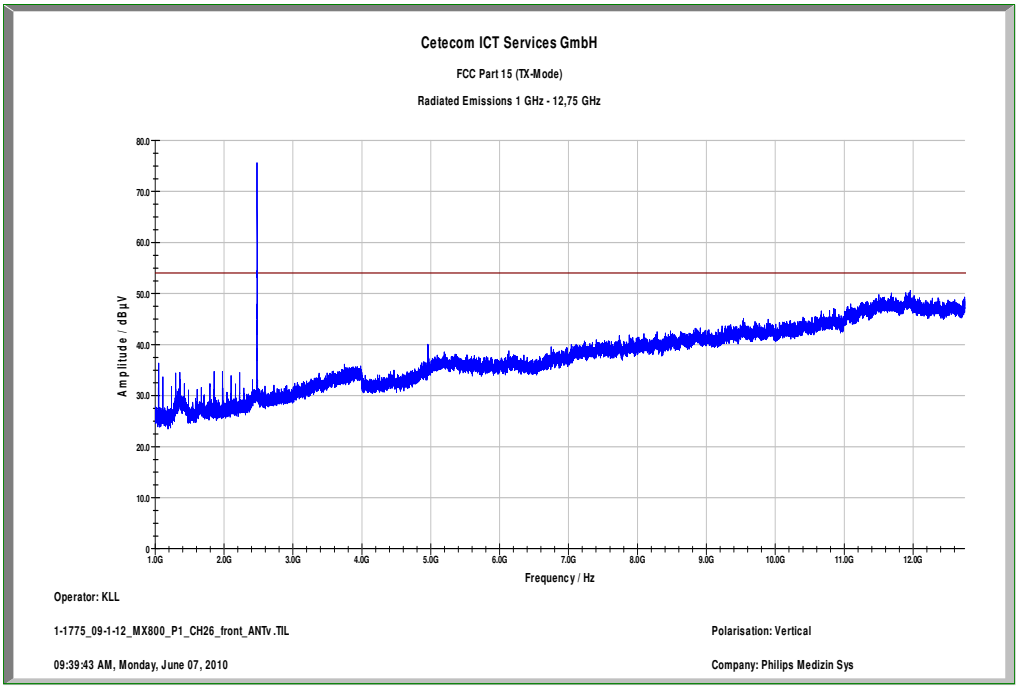
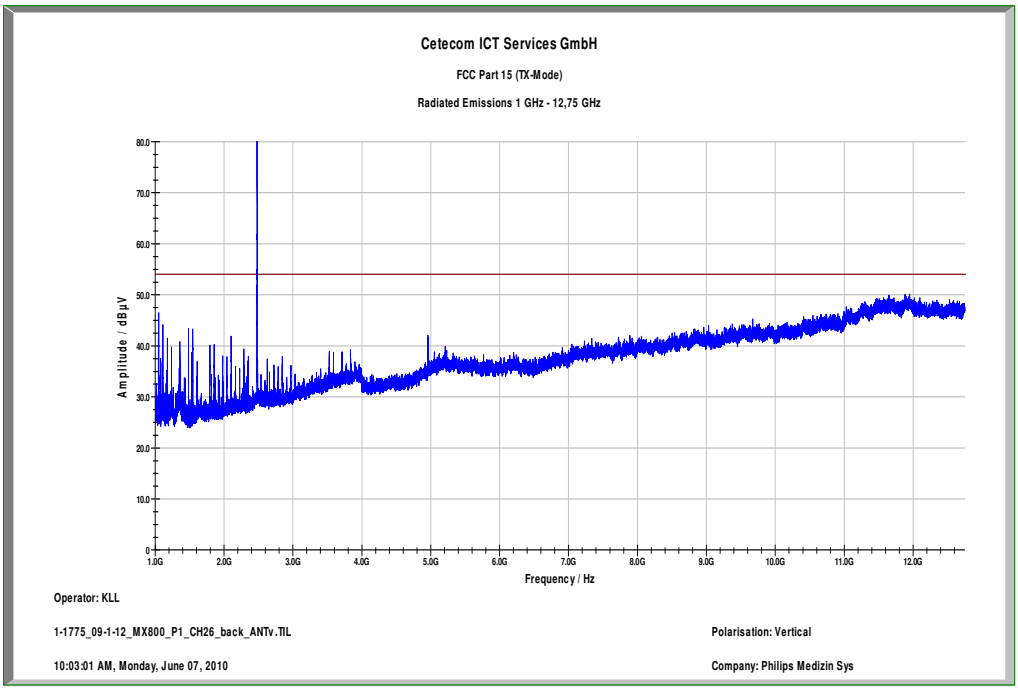
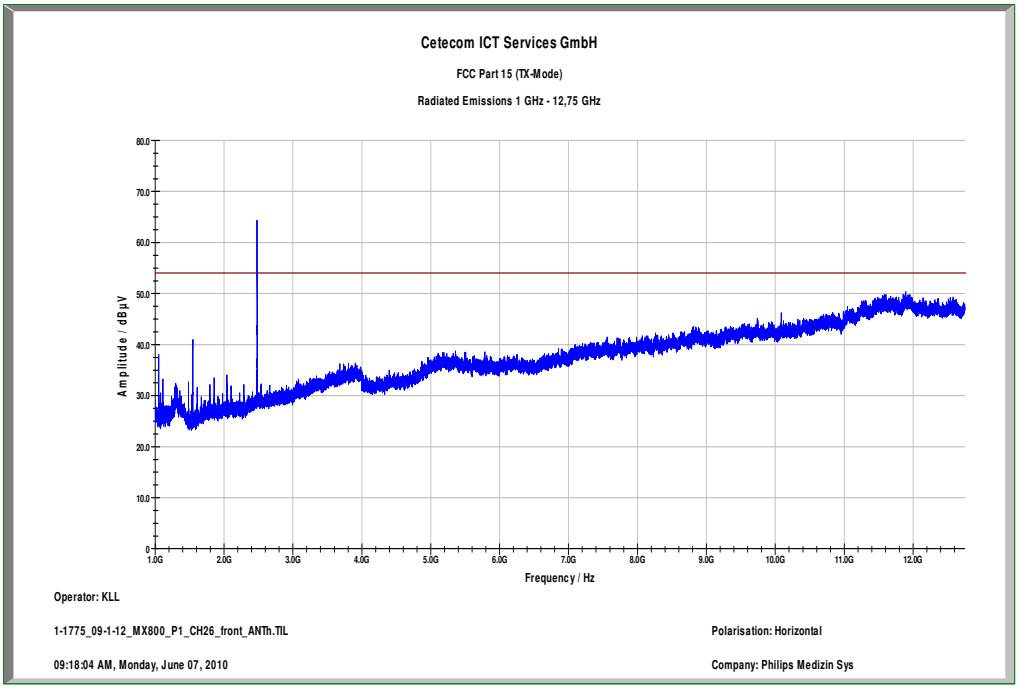
Plot 15: 1 - 12.75 GHz vertical (highest channel), front side, Transmitter Port1



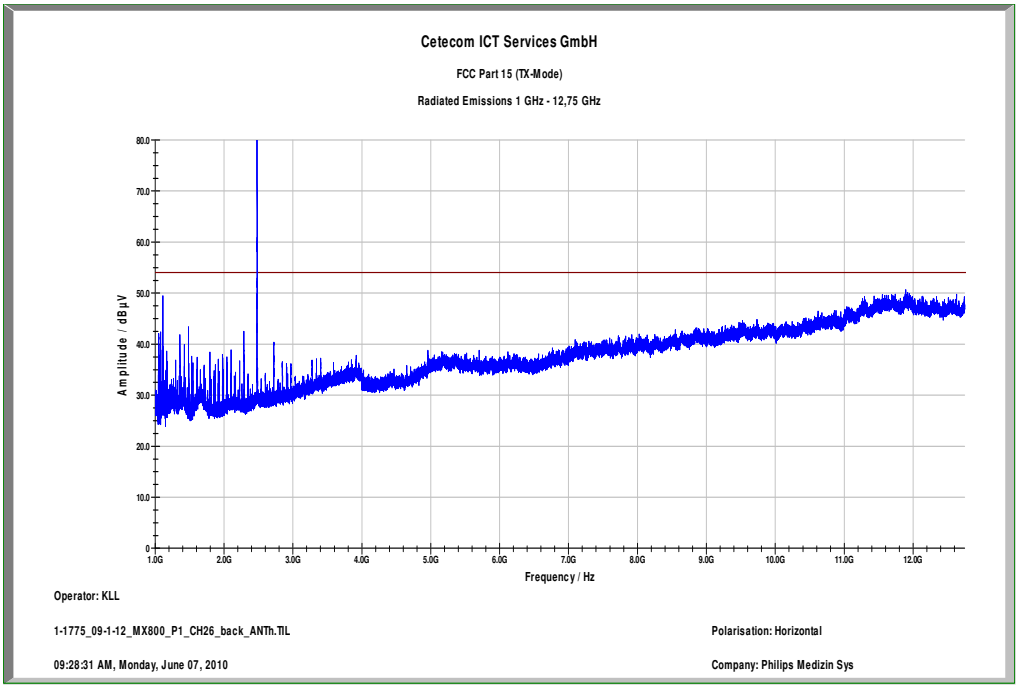
Plot 16: 1 - 12.75 GHz vertical (highest channel), back side, Transmitter Port1



Plot 17: 1 - 12.75 GHz horizontal (highest channel), front side, Transmitter Port1



Plot 18: 1 - 12.75 GHz horizontal (highest channel), back side, Transmitter Port1



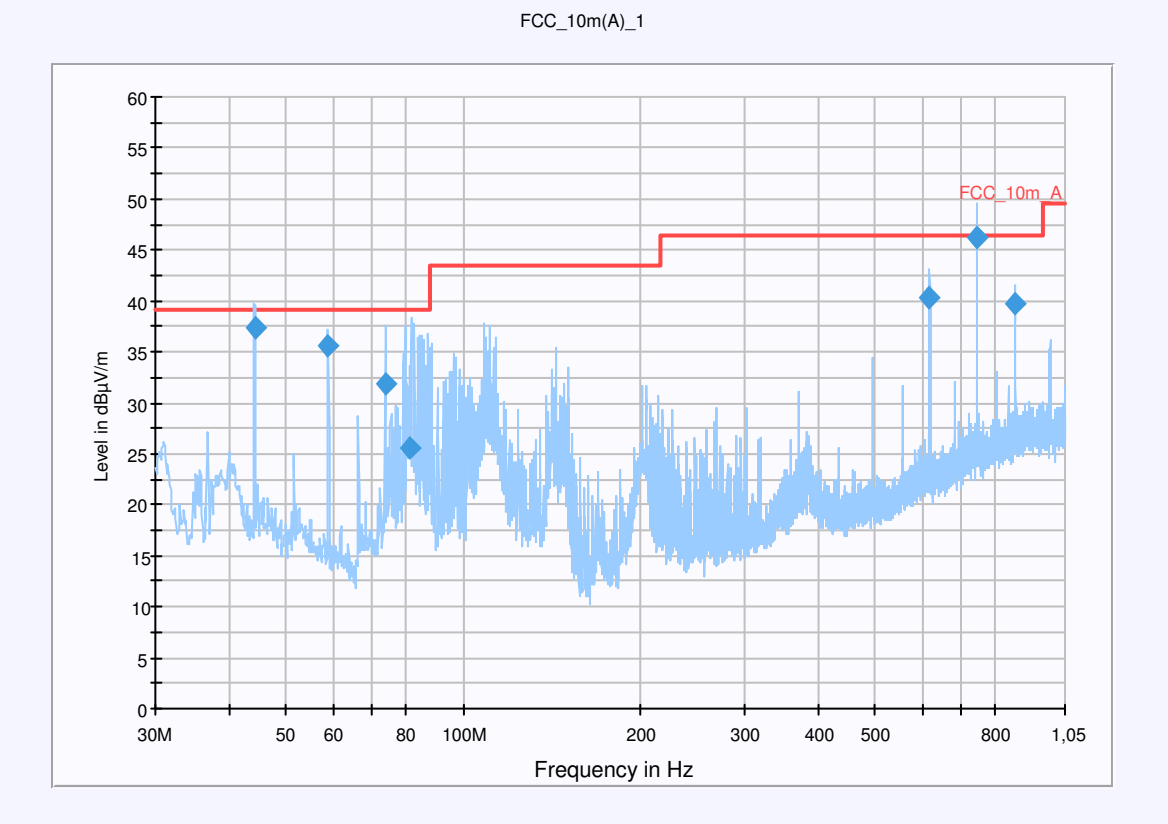
Plot 19: 0.03 - 1 GHz (lowest channel), Transmitter Port2

EUT:	Dual SRR Module 865240
Serial Number:	DE008W0250
Test Description:	FCC Part 15 subpart C @ 10 m
Operating Conditions:	Modul 2 TX CH 11
Operator Name:	Langer
Comment:	AC 115 V / 60 Hz

Scan Setup: STAN_Fin [EMI radiated]

Hardware Setup:	Electric Field (NOS)
Level Unit:	dBµV/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
30 MHz - 1.05 GHz	QuasiPeak	120 kHz	15 s	Receiver



Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Antenna height (cm)	Polarity	Turntable position (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
44.259600	37.4	15000.000	120.000	98.0	V	285.0	13.3	1.7	39.1	
58.978500	35.5	15000.000	120.000	139.0	V	222.0	11.9	3.6	39.1	
73.716300	31.8	15000.000	120.000	366.0	V	50.0	9.2	7.3	39.1	
81.027750	25.6	15000.000	120.000	198.0	V	181.0	9.2	13.5	39.1	
618.652200	40.2	15000.000	120.000	116.0	H	171.0	20.9	6.2	46.4	
742.525800	46.3	15000.000	120.000	98.0	H	176.0	23.4	0.1	46.4	
866.366700	39.7	15000.000	120.000	105.0	H	172.0	24.8	6.7	46.4	

Hardware Setup: **EMI radiated\Electric Field (NOS) - [EMI radiated]**

Subrange 1	
Frequency Range:	30 MHz - 2 GHz
Receiver:	Receiver [ESCI 3] @ GPIB0 (ADR 20), SN 100083/003, FW 4.32
Signal Path:	without Notch FW 1.0
Antenna:	VULB 9163 SN 9163-295, FW --- Correction Table (vertical): VULP6113 Correction Table (horizontal): VULP6113 Correction Table: Cable_EN_1GHz (0909)
Antenna Tower:	Tower [EMCO 2090 Antenna Tower] @ GPIB0 (ADR 8), FW REV 3.12
Turntable:	Turntable [EMCO Turntable] @ GPIB0 (ADR 9), FW REV 3.12

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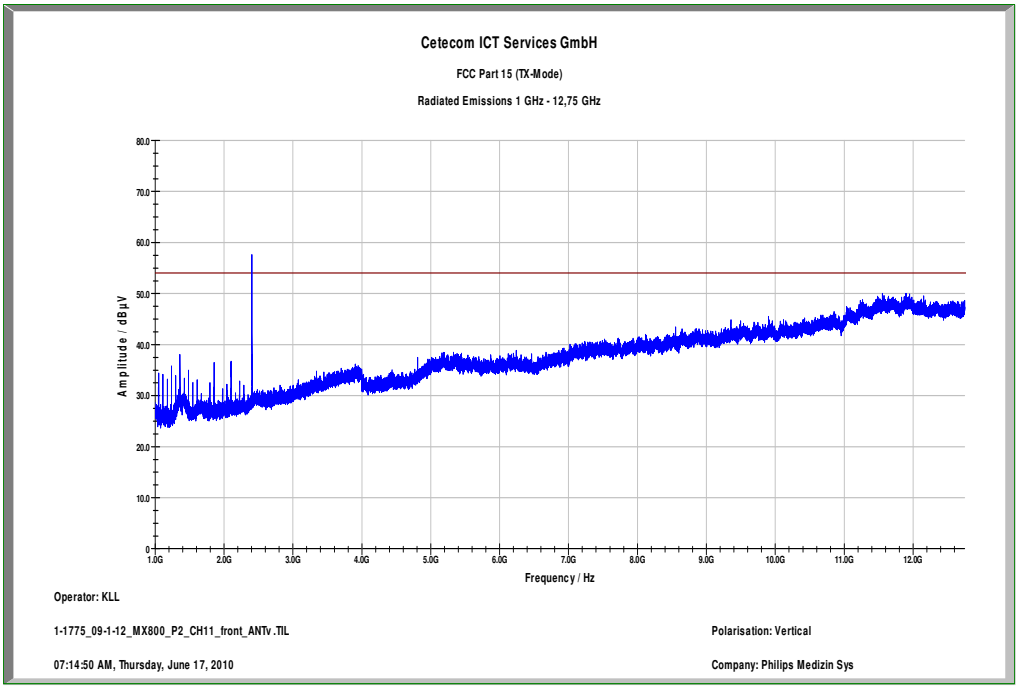
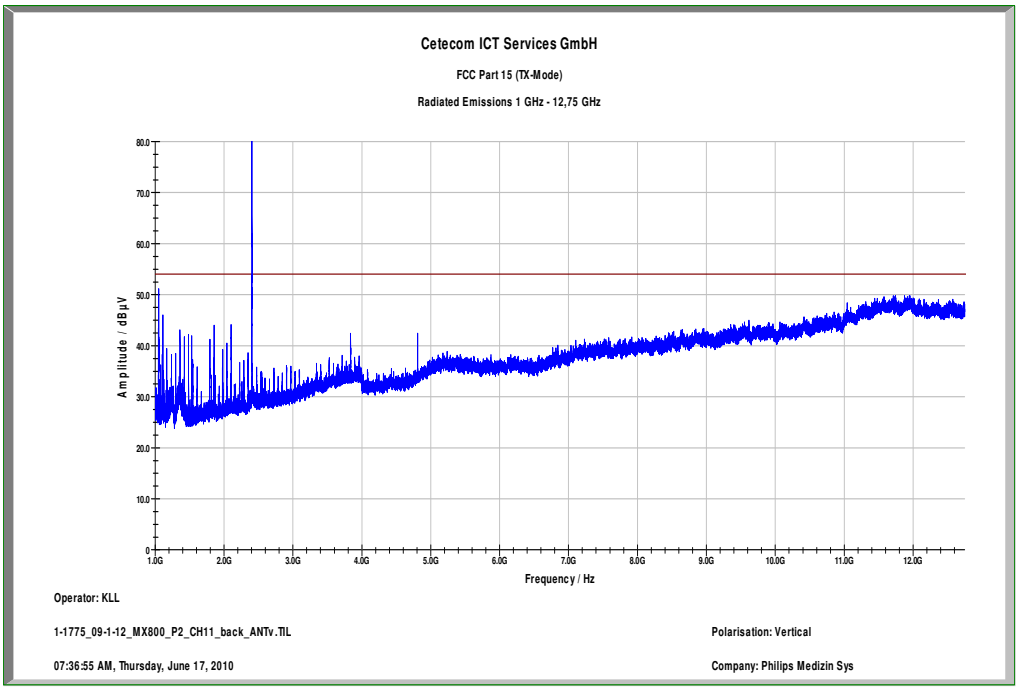
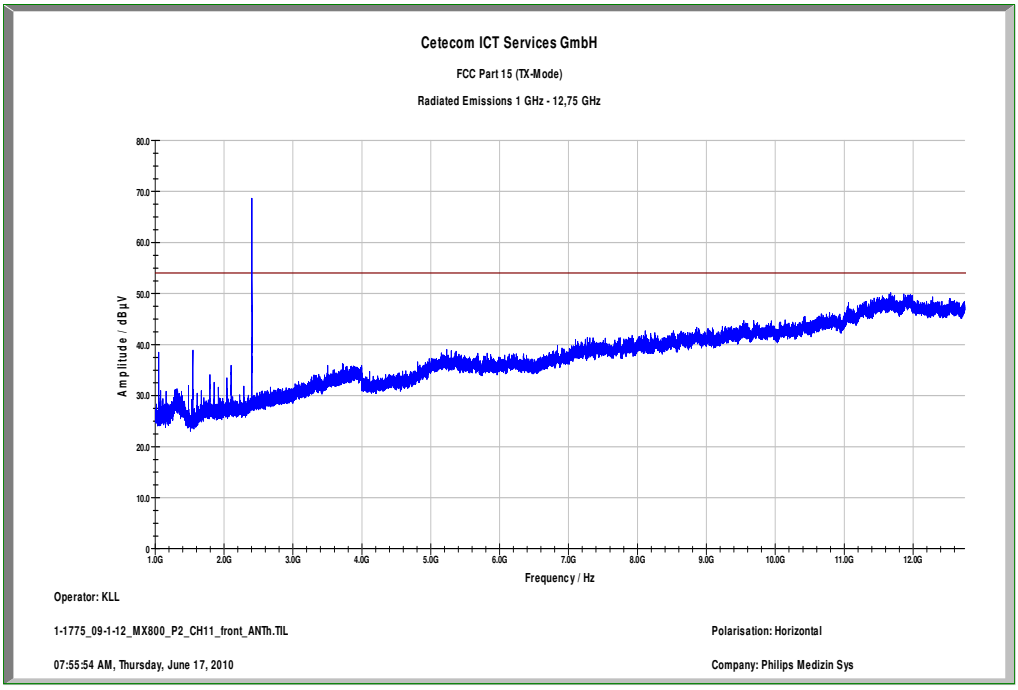
Plot 20: 1 - 12.75 GHz vertical (lowest channel), front side, Transmitter Port2



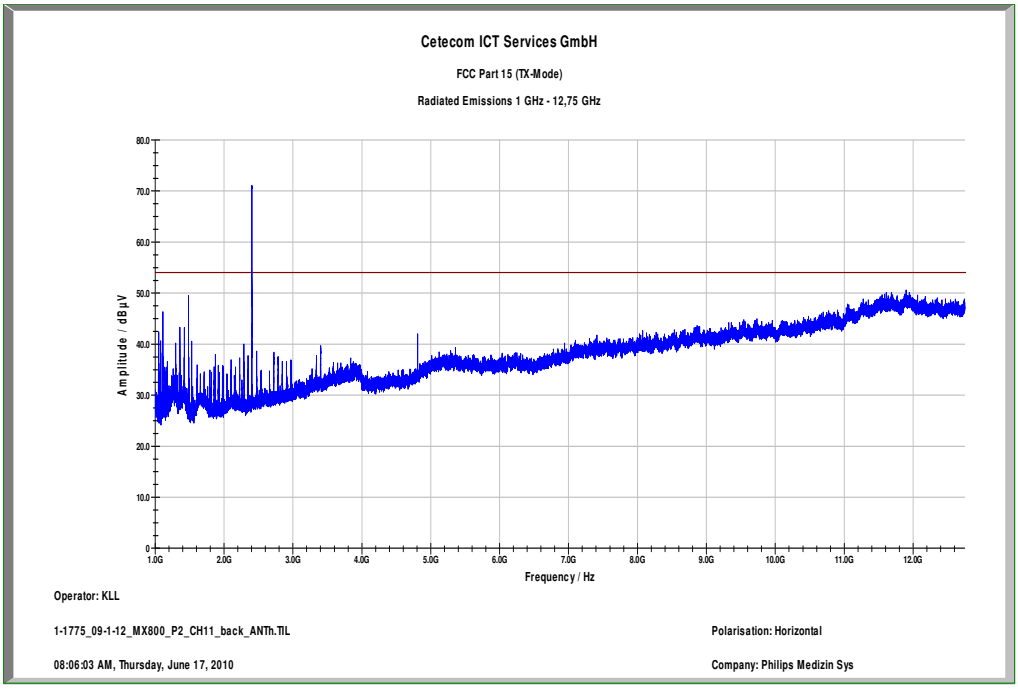
Plot 21: 1 - 12.75 GHz vertical (lowest channel), back side, Transmitter Port2



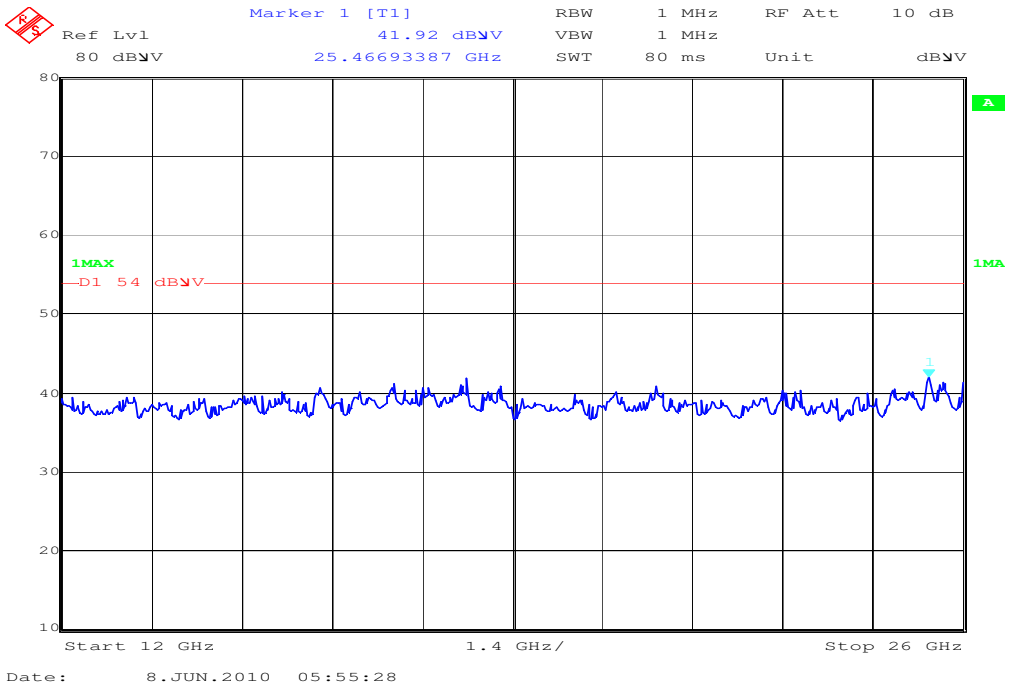
Plot 22: 1 - 12.75 GHz horizontal (lowest channel), front side, Transmitter Port2



Plot 23: 1 - 12.75 GHz horizontal (lowest channel), back side, Transmitter Port2



Plot 24: 12 - 26 GHz vertical/horizontal (valid for all channels), Transmitter Port2



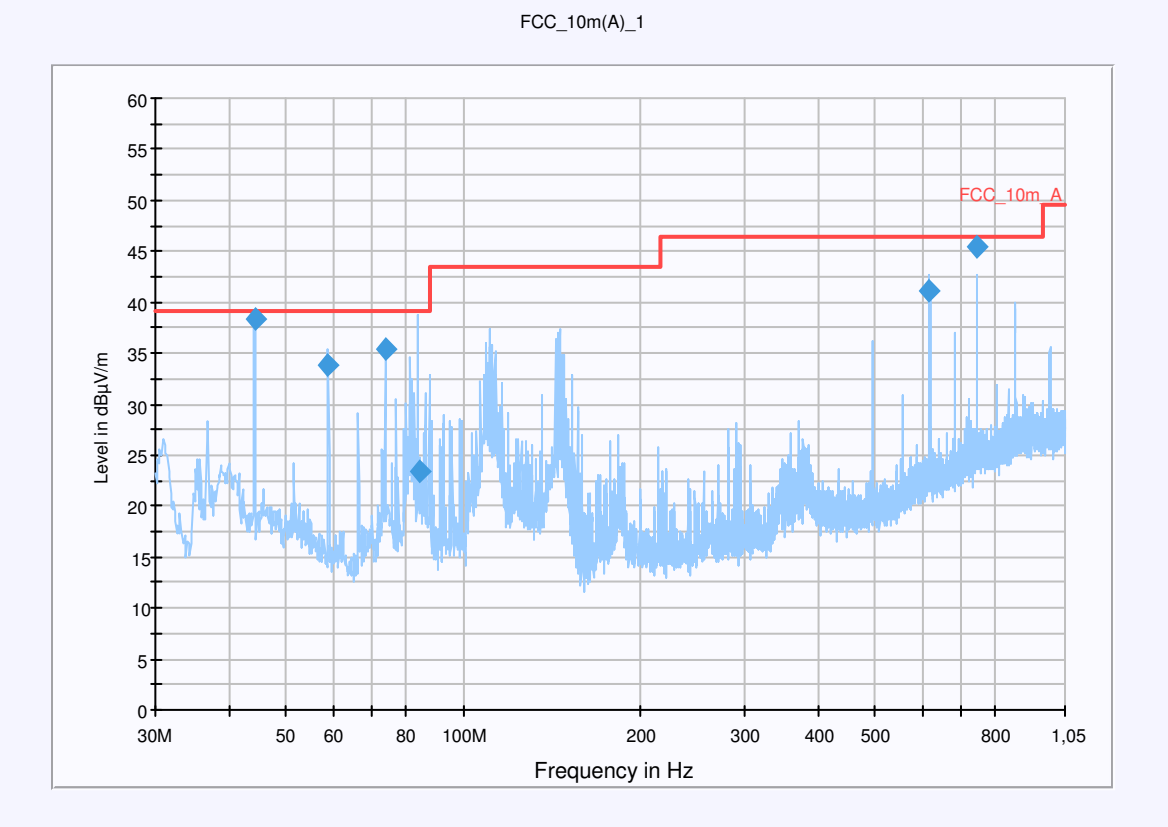
Plot 25: 0.03 - 1 GHz (middle channel), Transmitter Port2

EUT:	Dual SRR Module 865240
Serial Number:	DE008W0250
Test Description:	FCC Part 15 subpart C @ 10 m
Operating Conditions:	SRR Modul 2 - TX CH 19
Operator Name:	Langer
Comment:	AC 115 V / 60 Hz

Scan Setup: STAN_Fin [EMI radiated]

Hardware Setup:	Electric Field (NOS)
Level Unit:	dBµV/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
30 MHz - 1.05 GHz	QuasiPeak	120 kHz	15 s	Receiver



Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Antenna height (cm)	Polarity	Turntable position (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
44.241450	38.3	15000.000	120.000	98.0	V	-3.0	13.3	0.8	39.1	
59.010000	33.8	15000.000	120.000	166.0	V	6.0	11.9	5.3	39.1	
73.725000	35.4	15000.000	120.000	374.0	V	89.0	9.2	3.7	39.1	
84.359250	23.5	15000.000	120.000	200.0	V	102.0	9.7	15.6	39.1	
618.676350	41.1	15000.000	120.000	108.0	H	171.0	20.9	5.3	46.4	
742.482750	45.4	15000.000	120.000	135.0	H	168.0	23.4	1.0	46.4	

Hardware Setup: **EMI radiated\Electric Field (NOS) - [EMI radiated]**

Subrange 1	
Frequency Range:	30 MHz - 2 GHz
Receiver:	Receiver [ESCI 3] @ GPIB0 (ADR 20), SN 100083/003, FW 4.32
Signal Path:	without Notch FW 1.0
Antenna:	VULB 9163 SN 9163-295, FW --- Correction Table (vertical): VULP6113 Correction Table (horizontal): VULP6113 Correction Table: Cable_EN_1GHz (0909)
Antenna Tower:	Tower [EMCO 2090 Antenna Tower] @ GPIB0 (ADR 8), FW REV 3.12
Turntable:	Turntable [EMCO Turntable] @ GPIB0 (ADR 9), FW REV 3.12

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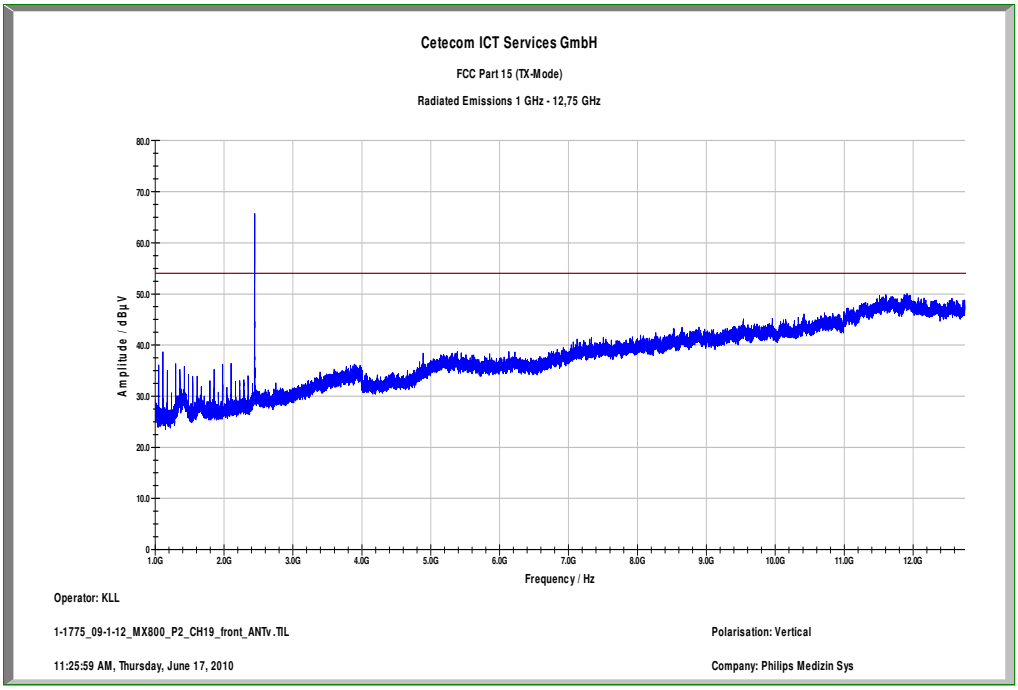
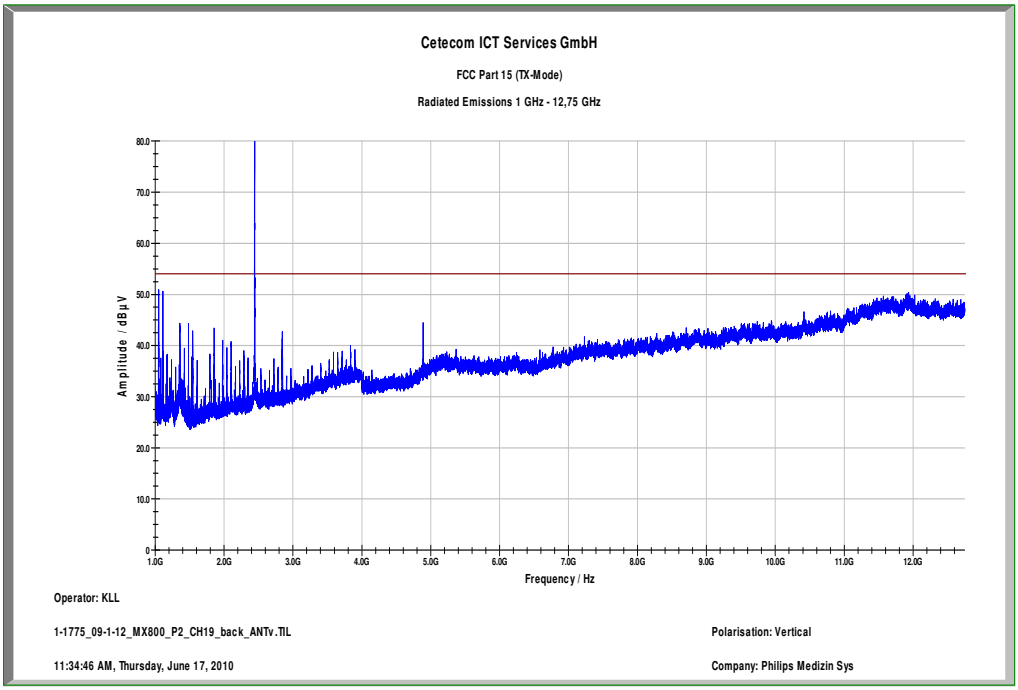
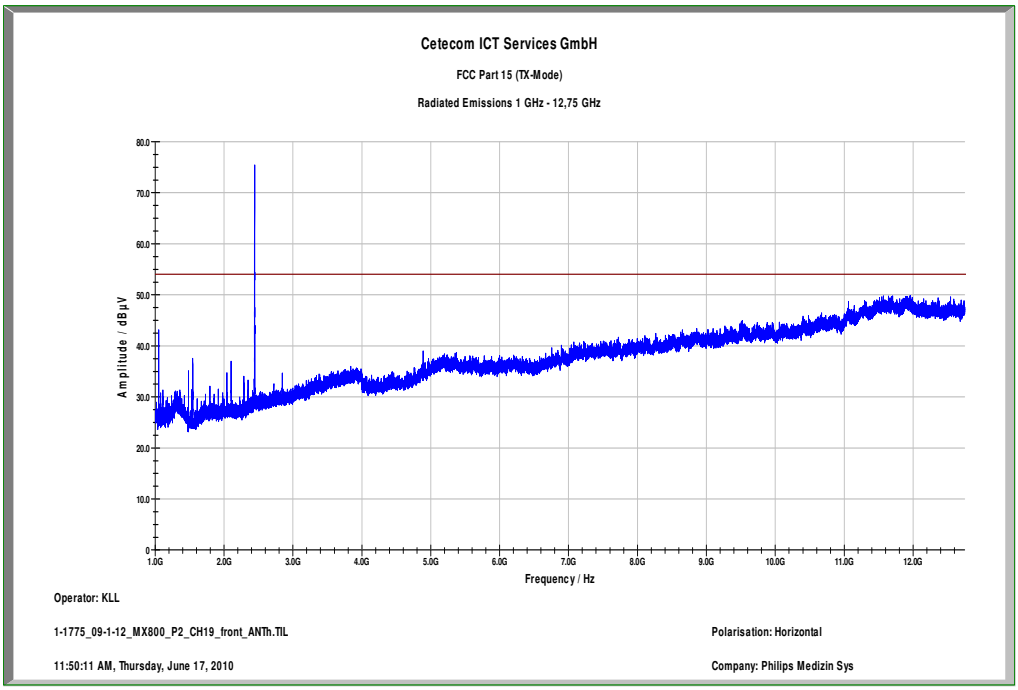
Plot 26: 1 -12.75 GHz vertical (middle channel), front side, Transmitter Port2



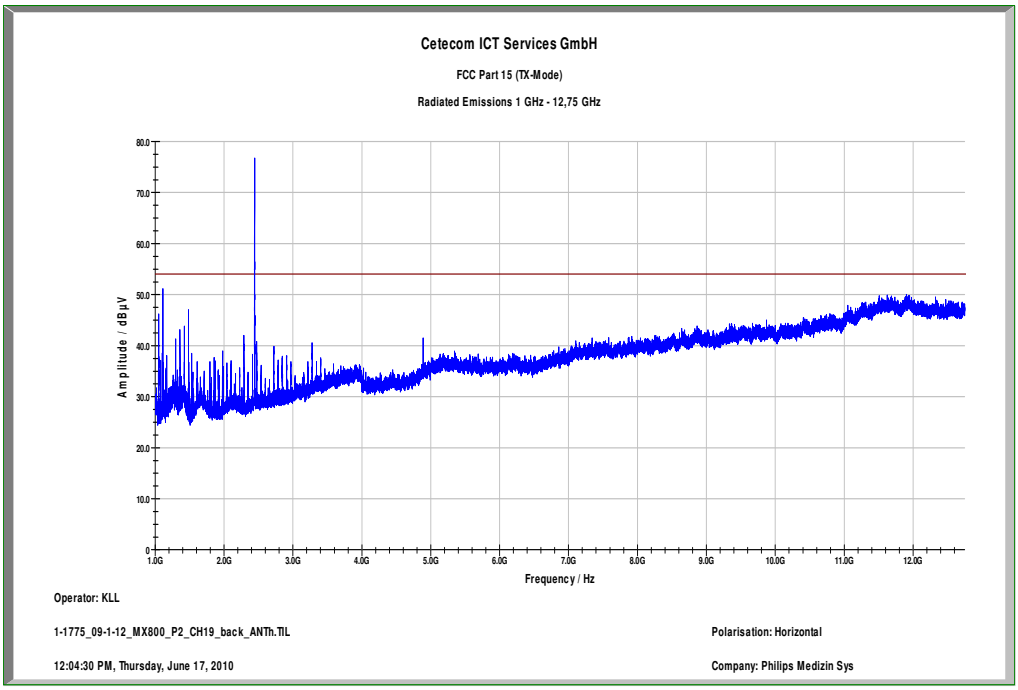
Plot 27: 1 -12.75 GHz vertical (middle channel), back side, Transmitter Port2



Plot 28: 1 -12.75 GHz horizontal (middle channel), front side, Transmitter Port2



Plot 29: 1 -12.75 GHz horizontal (middle channel), back side, Transmitter Port2



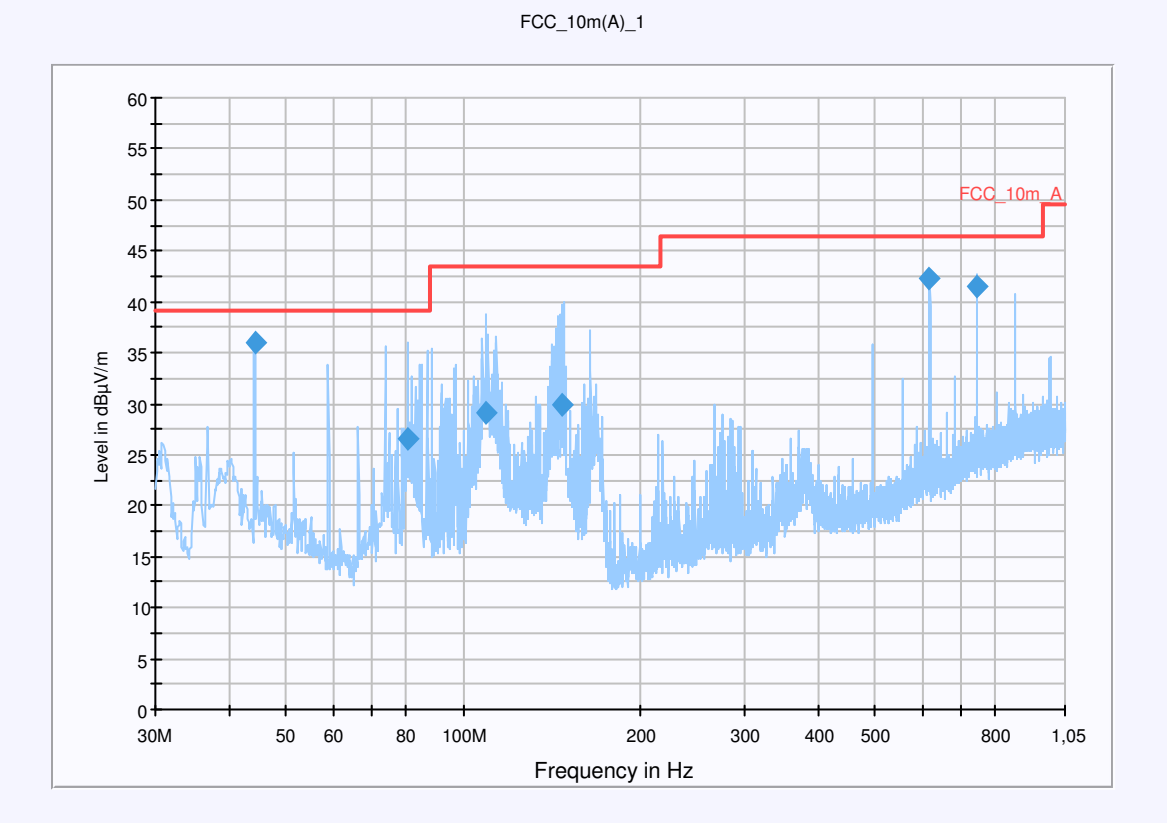
Plot 30: 0.03 - 1 GHz (highest channel), Transmitter Port2

EUT:	Dual SRR Module 865240
Serial Number:	DE008W0250
Test Description:	FCC Part 15 subpart C @ 10 m
Operating Conditions:	SRR Modul 2 - TX CH 26
Operator Name:	Langer
Comment:	AC 115 V / 60 Hz

Scan Setup: STAN_Fin [EMI radiated]

Hardware Setup:	Electric Field (NOS)
Level Unit:	dBµV/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
30 MHz - 1.05 GHz	QuasiPeak	120 kHz	15 s	Receiver



Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Antenna height (cm)	Polarity	Turntable position (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
44.219550	36.0	15000.000	120.000	100.0	V	134.0	13.3	3.1	39.1	
80.643600	26.5	15000.000	120.000	200.0	V	146.0	9.2	12.6	39.1	
108.895200	29.2	15000.000	120.000	110.0	V	50.0	11.1	14.3	43.5	
146.516100	29.9	15000.000	120.000	200.0	V	6.0	8.8	13.6	43.5	
618.711300	42.4	15000.000	120.000	117.0	H	180.0	20.9	4.0	46.4	
742.653600	41.4	15000.000	120.000	315.0	H	171.0	23.4	5.0	46.4	

Hardware Setup: **EMI radiated\Electric Field (NOS) - [EMI radiated]**

Subrange 1	
Frequency Range:	30 MHz - 2 GHz
Receiver:	Receiver [ESCI 3] @ GPIB0 (ADR 20), SN 100083/003, FW 4.32
Signal Path:	without Notch FW 1.0
Antenna:	VULB 9163 SN 9163-295, FW --- Correction Table (vertical): VULP6113 Correction Table (horizontal): VULP6113 Correction Table: Cable_EN_1GHz (0909)
Antenna Tower:	Tower [EMCO 2090 Antenna Tower] @ GPIB0 (ADR 8), FW REV 3.12
Turntable:	Turntable [EMCO Turntable] @ GPIB0 (ADR 9), FW REV 3.12

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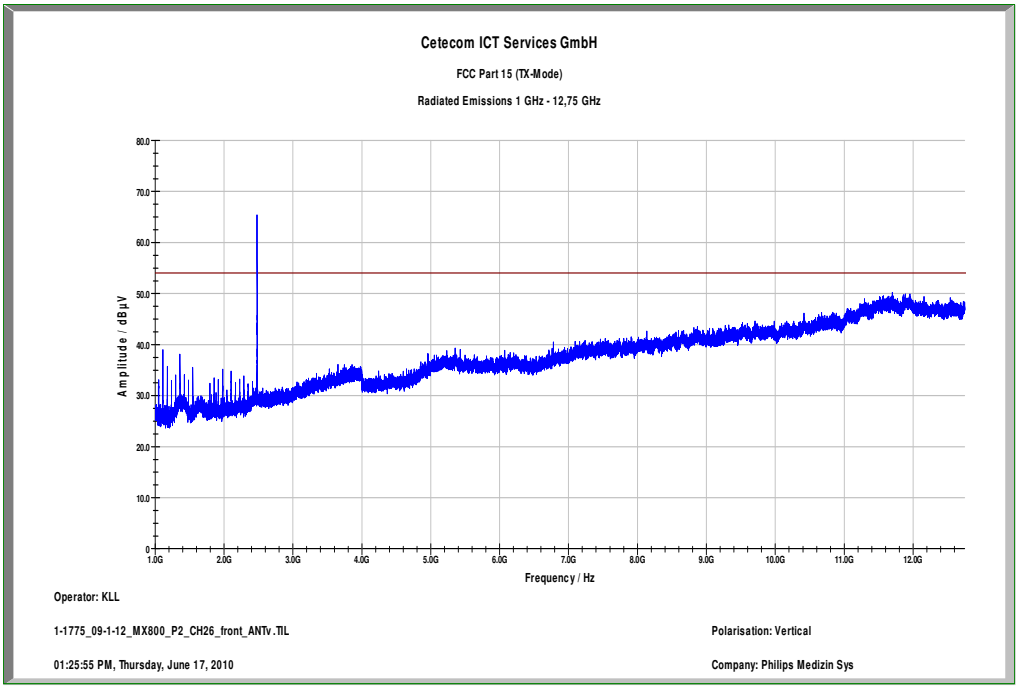
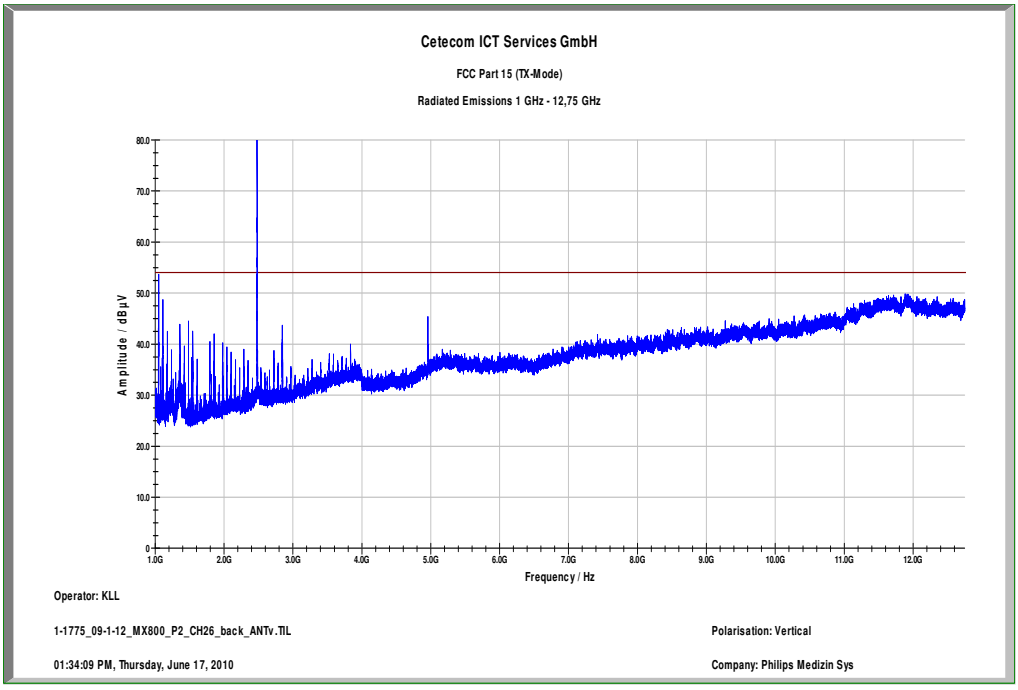
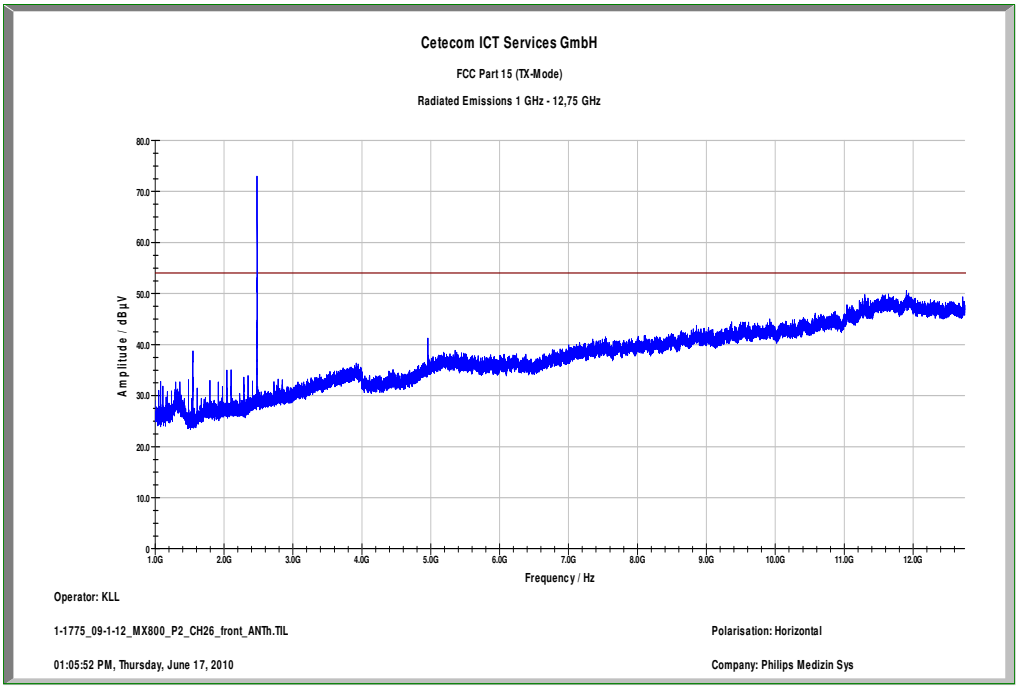
Plot 31: 1 - 12.75 GHz vertical (highest channel), front side, Transmitter Port2



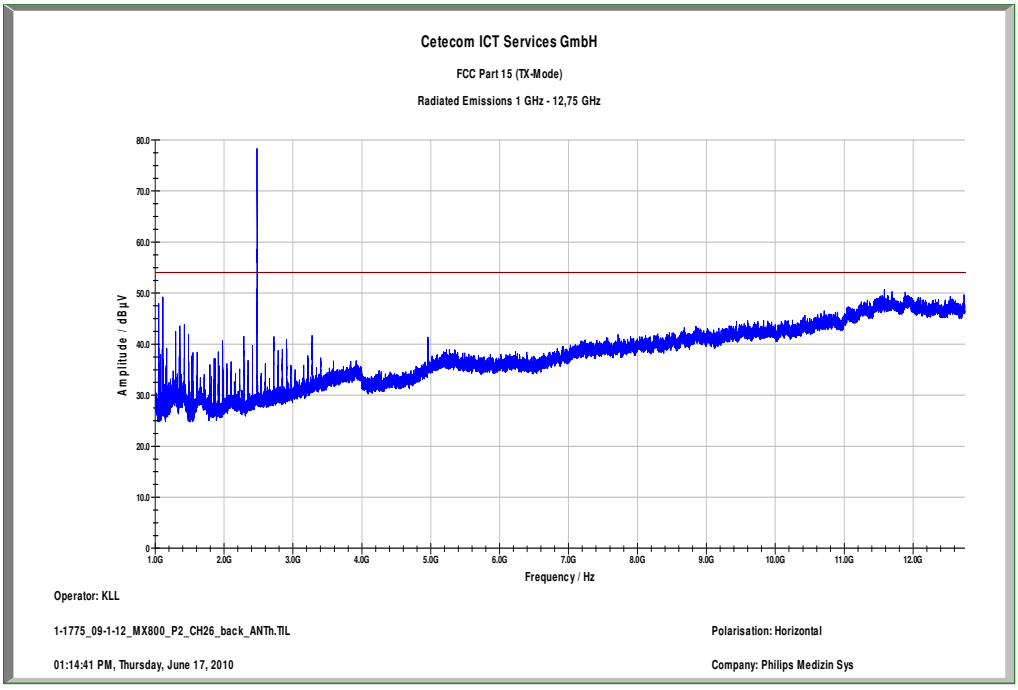
Plot 32: 1 - 12.75 GHz vertical (highest channel), back side, Transmitter Port2



Plot 33: 1 - 12.75 GHz horizontal (highest channel), front side, Transmitter Port2



Plot 34: 1 - 12.75 GHz horizontal (highest channel), back side, Transmitter Port2



Transmitter Port1 (0dB/modulated)

Results:

SPURIOUS EMISSIONS LEVEL (dBµV/m)								
2405 MHz			2445 MHz			2480 MHz		
F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]
1051.6	Pk	41.2 (v)	1051.7	Pk	43.1 (v)	1051.6	Pk	42.8 (v)
1485.1	Pk	44.6 (h)	1113.1	Pk	38.3 (h)	1113.7	Pk	48.0 (h)
1546.9	Pk	46.4 (h)	1484.8	Pk	46.5 (h)	1485.1	Pk	44.5 (h)
4810.0	Pk	39.6 (v)	1546.9	Pk	45.3 (h)	1546.9	Pk	46.4 (h)
			2104.0	Pk	40.5 (v)	2103.4	Pk	40.0 (v)
			4890.0	Pk	43.3 (v)	4960.0	Pk	43.8 (v)
Measurement uncertainty			±3 dB					

f < 1 GHz : RBW/VBW: 100 kHz f ≥ 1GHz : RBW/VBW: 1 MHz/10Hz

Transmitter Port2 (0dB/modulated)

Results:

SPURIOUS EMISSIONS LEVEL (dBµV/m)								
2405 MHz			2445 MHz			2480 MHz		
F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]	F [MHz]	Detector	Level [dBµV/m]
1051.6	Pk	48.9	1051.7	Pk	48.3	1051.6		46.8
1113.1	Pk	48.0	1113.1	Pk	48.0	1113.7		50.6
1361.2	Pk	44.0	1484.8	Pk	44.5	1485.1		44.0
1484.9	Pk	48.5	1547.1	Pk	45.5	1547.0		43.9
4810.0	Pk	48.3	2103.7	Pk	39.5	4960.0		49.6
			4890.0	Pk	48.2			
Measurement uncertainty			±3 dB					

f < 1 GHz : RBW/VBW: 100 kHz f ≥ 1GHz : RBW/VBW: 1 MHz/10 Hz

(v) = measurement antenna vertical
(h) = measurement antenna horizontal

Limits: § 15.247 (c)

In any 100 kHz bandwidth outside the frequency band at least 20dB below the highest level of the desired power. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

Limits: § 15.209

Frequency [MHz]	Field strength [µV/m]	Measurement distance (m)
30 - 88	100 (40 dBµV/m)	3
88 - 216	150 (43.5 dBµV/m)	3
216 - 960	200 (46 dBµV/m)	3
above 960	500 (54 dBµV/m)	3

5.16 Spurious Emissions - radiated (Receiver) § 15.109

5.16.1 Dual SRR Module 865221

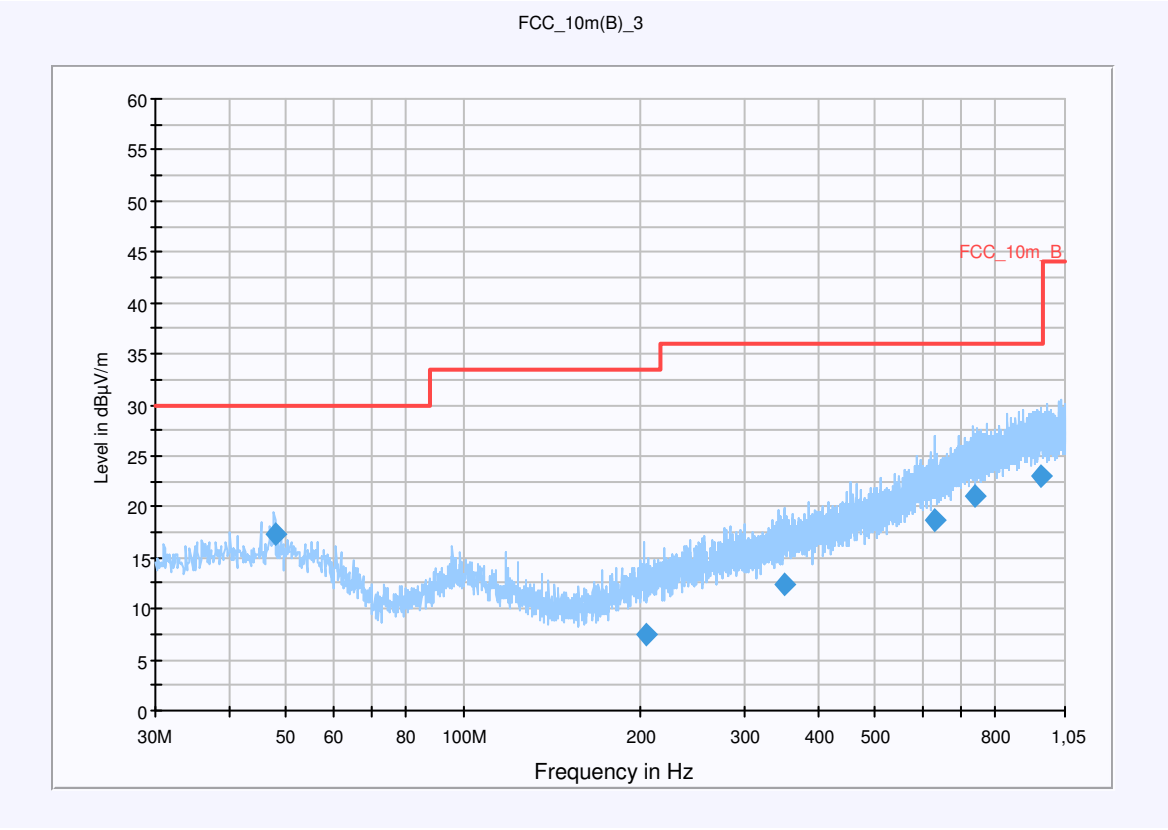
Plot 1: 0.03 - 1 GHz, idle (Radio 2)

EUT:	Philips Medizin Systeme Dual SRR Module 865221
Serial Number:	PN: 865221 SN: DE932Y0078
Test Description:	FCC Part 15 subpart B class B @ 10 m
Operating Conditions:	ID Radio 2 RX
Operator Name:	Klos
Comment:	powered with battery

Scan Setup: STAN_Fin [EMI radiated]

Hardware Setup:	Electric Field (NOS)
Level Unit:	dBµV/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
30 MHz - 1.05 GHz	QuasiPeak	120 kHz	15 s	Receiver



Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Antenna height (cm)	Polarity	Turntable position (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
47.807550	17.4	15000.000	120.000	130.0	V	60.0	13.5	12.6	30.0	
203.692500	7.5	15000.000	120.000	142.0	V	180.0	12.1	26.0	33.5	
351.932100	12.3	15000.000	120.000	134.0	H	69.0	16.5	23.7	36.0	
632.273700	18.7	15000.000	120.000	220.0	V	31.0	21.6	17.3	36.0	
735.667800	21.0	15000.000	120.000	135.0	H	259.0	23.8	15.0	36.0	
954.084900	23.1	15000.000	120.000	220.0	H	22.0	25.9	12.9	36.0	

Hardware Setup: **EMI radiated\Electric Field (NOS) - [EMI radiated]**

Subrange 1	
Frequency Range:	30 MHz - 2 GHz
Receiver:	Receiver [ESCI 3] @ GPIB0 (ADR 20), SN 100083/003, FW 4.32
Signal Path:	without Notch FW 1.0
Antenna:	VULB 9163 SN 9163-295, FW --- Correction Table (vertical): VULP6113 Correction Table (horizontal): VULP6113 Correction Table: Cable_EN_1GHz (0909)
Antenna Tower:	Tower [EMCO 2090 Antenna Tower] @ GPIB0 (ADR 8), FW REV 3.12
Turntable:	Turntable [EMCO Turntable] @ GPIB0 (ADR 9), FW REV 3.12

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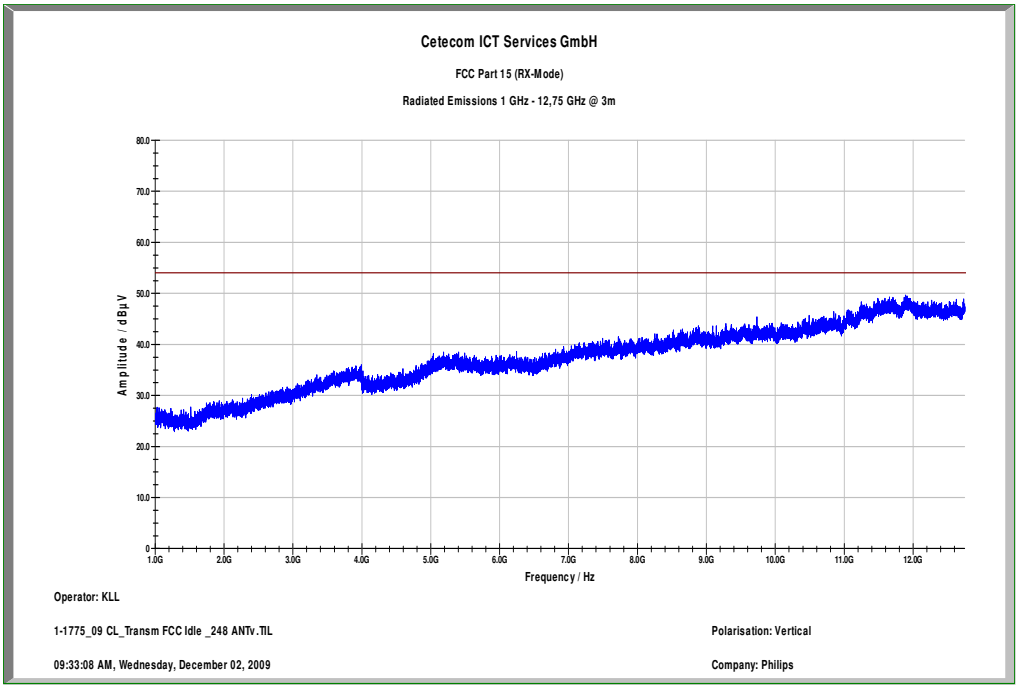
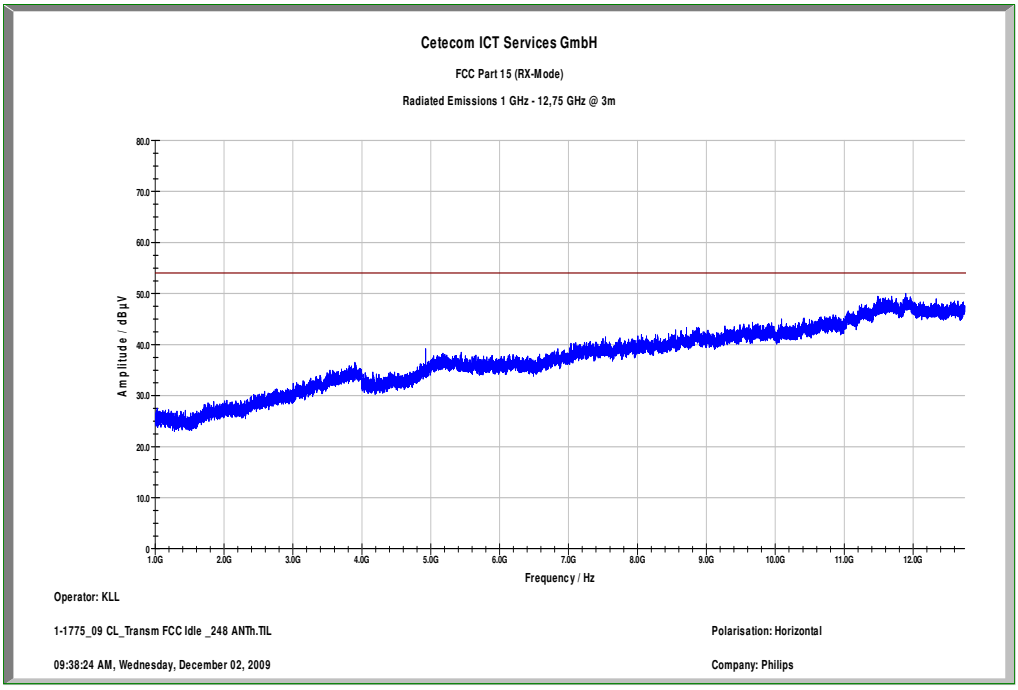
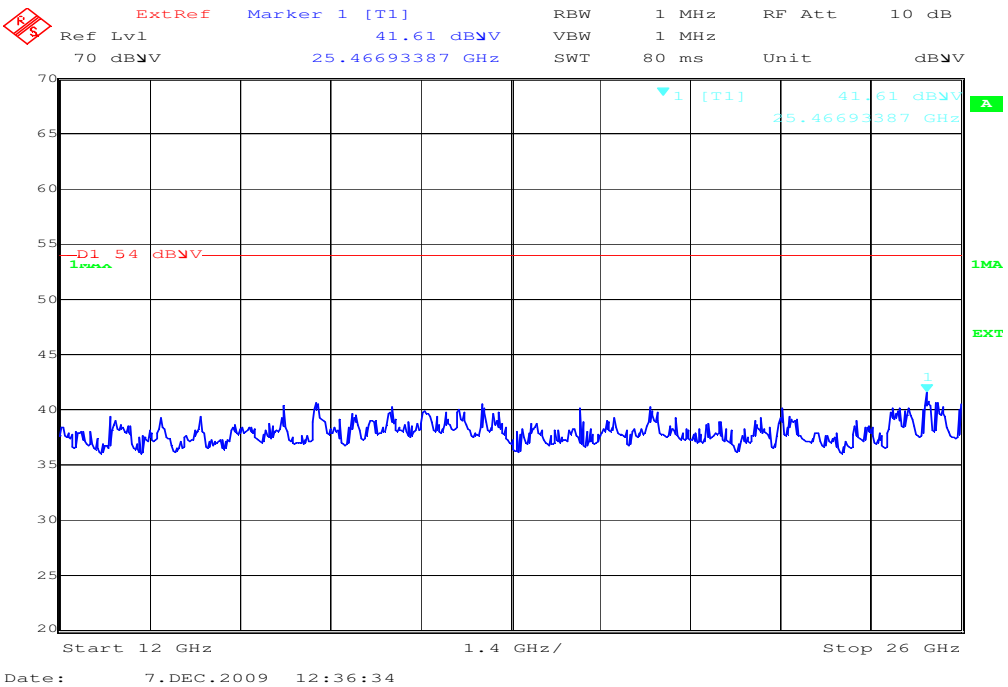
Plot 2: 1 – 12.75 GHz vertical idle (Radio 2)



Plot 3: 1 -12.75 GHz horizontal idle (Radio 2)



Plot 4: 12 - 26 GHz vertical/horizontal (max hold)



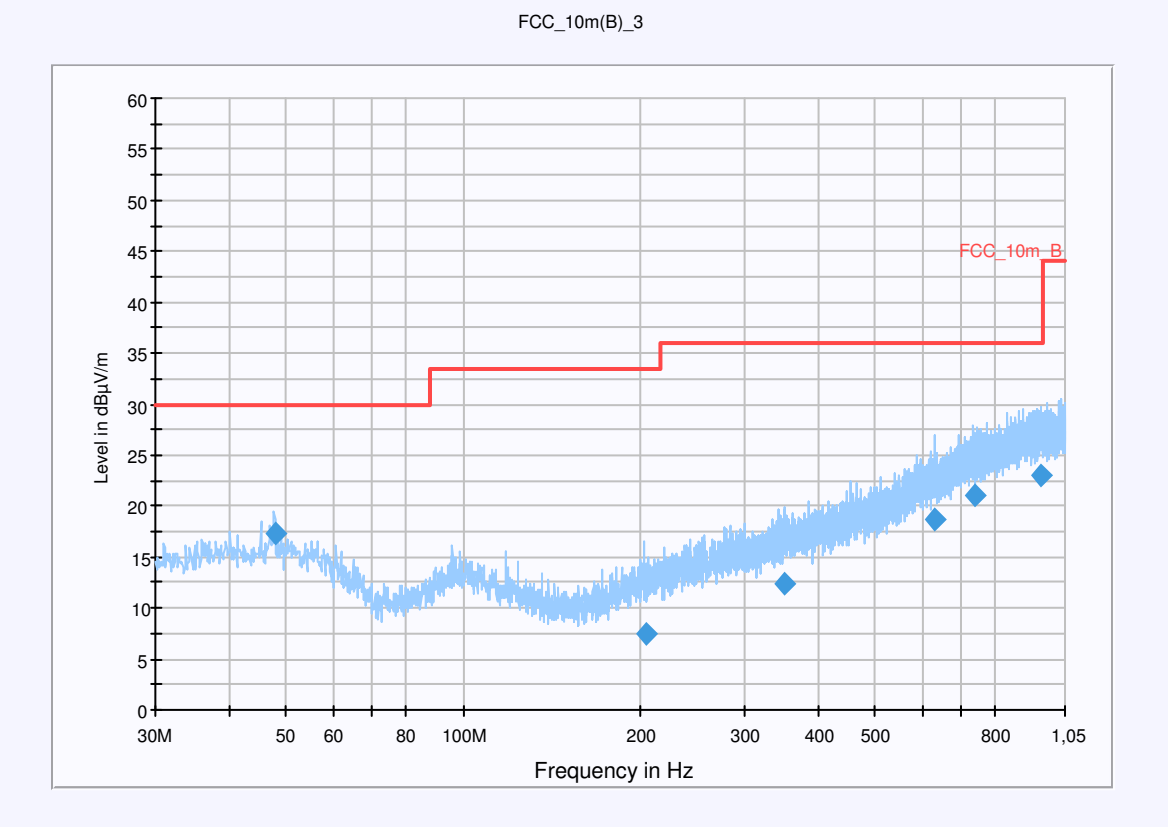
Plot 5: 0.03 - 1 GHz idle (Radio 1)

EUT:	Philips Medizin Systeme Dual SRR Module 865221
Serial Number:	PN: 865221 SN: DE932Y0078
Test Description:	FCC Part 15 subpart B class B @ 10 m
Operating Conditions:	ID Radio 2 RX
Operator Name:	Klos
Comment:	powered with battery

Scan Setup: STAN_Fin [EMI radiated]

Hardware Setup:	Electric Field (NOS)
Level Unit:	dBµV/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
30 MHz - 1.05 GHz	QuasiPeak	120 kHz	15 s	Receiver



Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Antenna height (cm)	Polarity	Turntable position (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
47.807550	17.4	15000.000	120.000	130.0	V	60.0	13.5	12.6	30.0	
203.692500	7.5	15000.000	120.000	142.0	V	180.0	12.1	26.0	33.5	
351.932100	12.3	15000.000	120.000	134.0	H	69.0	16.5	23.7	36.0	
632.273700	18.7	15000.000	120.000	220.0	V	31.0	21.6	17.3	36.0	
735.667800	21.0	15000.000	120.000	135.0	H	259.0	23.8	15.0	36.0	
954.084900	23.1	15000.000	120.000	220.0	H	22.0	25.9	12.9	36.0	

Hardware Setup: **EMI radiated\Electric Field (NOS) - [EMI radiated]**

Subrange 1	
Frequency Range:	30 MHz - 2 GHz
Receiver:	Receiver [ESCI 3] @ GPIB0 (ADR 20), SN 100083/003, FW 4.32
Signal Path:	without Notch FW 1.0
Antenna:	VULB 9163 SN 9163-295, FW --- Correction Table (vertical): VULP6113 Correction Table (horizontal): VULP6113 Correction Table: Cable_EN_1GHz (0909)
Antenna Tower:	Tower [EMCO 2090 Antenna Tower] @ GPIB0 (ADR 8), FW REV 3.12
Turntable:	Turntable [EMCO Turntable] @ GPIB0 (ADR 9), FW REV 3.12

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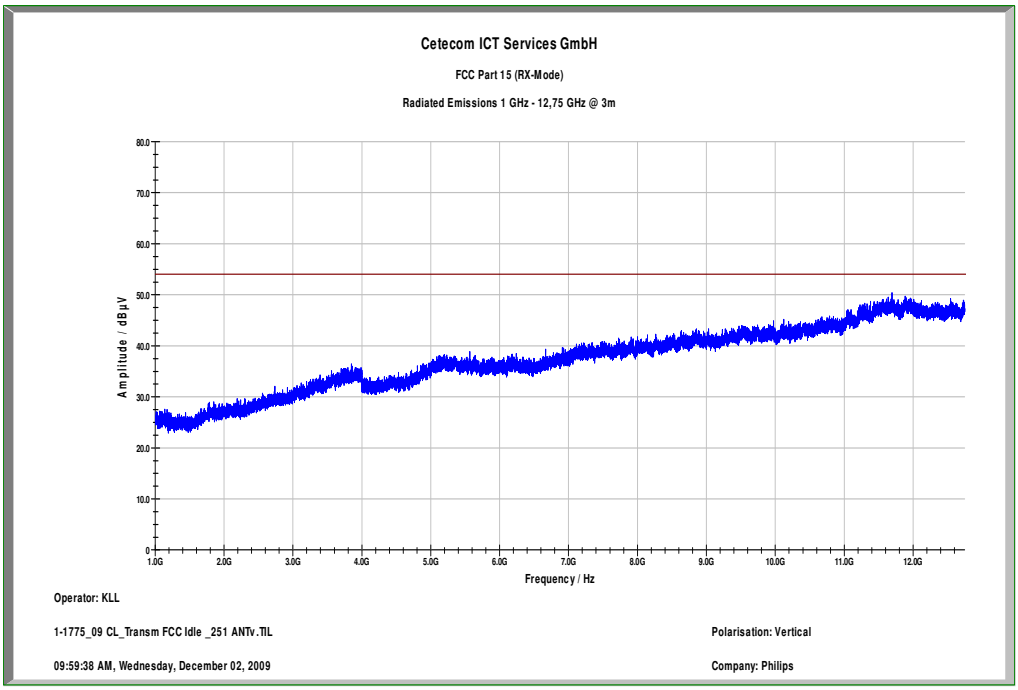
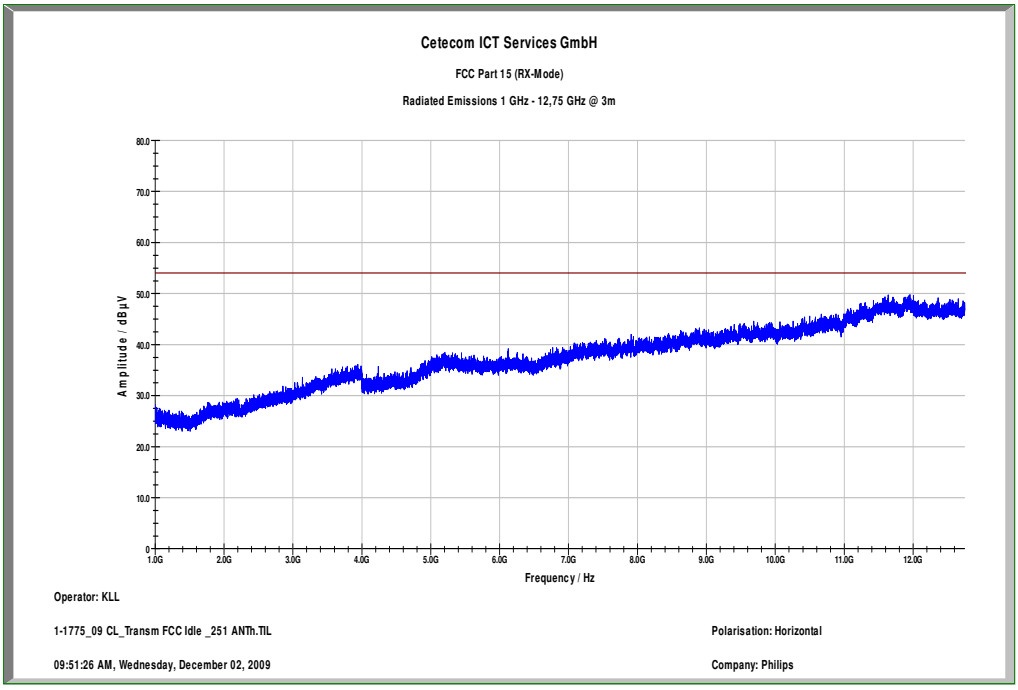
Plot 6: 1 -12-75 GHz vertical idle (Radio 1)



Plot 7: 1 -12.75 GHz horizontal idle (Radio 1)



Results:

Spurious Emissions level [dBµV/m]		
f[MHz]	Detector	Level [dBµV/m]
No critical peaks detected		
Measurement uncertainty		±3 dB

f < 1 GHz: RBW/VBW: 100 kHz f ≥ 1GHz : RBW/VBW: 1 MHz
See above plots

(v) = measurement antenna vertical
(h) = measurement antenna horizontal

Azimuth scan DUT position 0° and 90°

Measurement distance see table

Limits: **§ 15.109**

Frequency (MHz)	Field strength (µV/m)	Measurement distance (m)
30 - 88	100 (40 dBµV/m)	3
88 - 216	150 (43.5 dBµV/m)	3
216 - 960	200 (46 dBµV/m)	3
above 960	500 (54 dBµV/m)	3

5.16.2 Dual SRR Module 865240

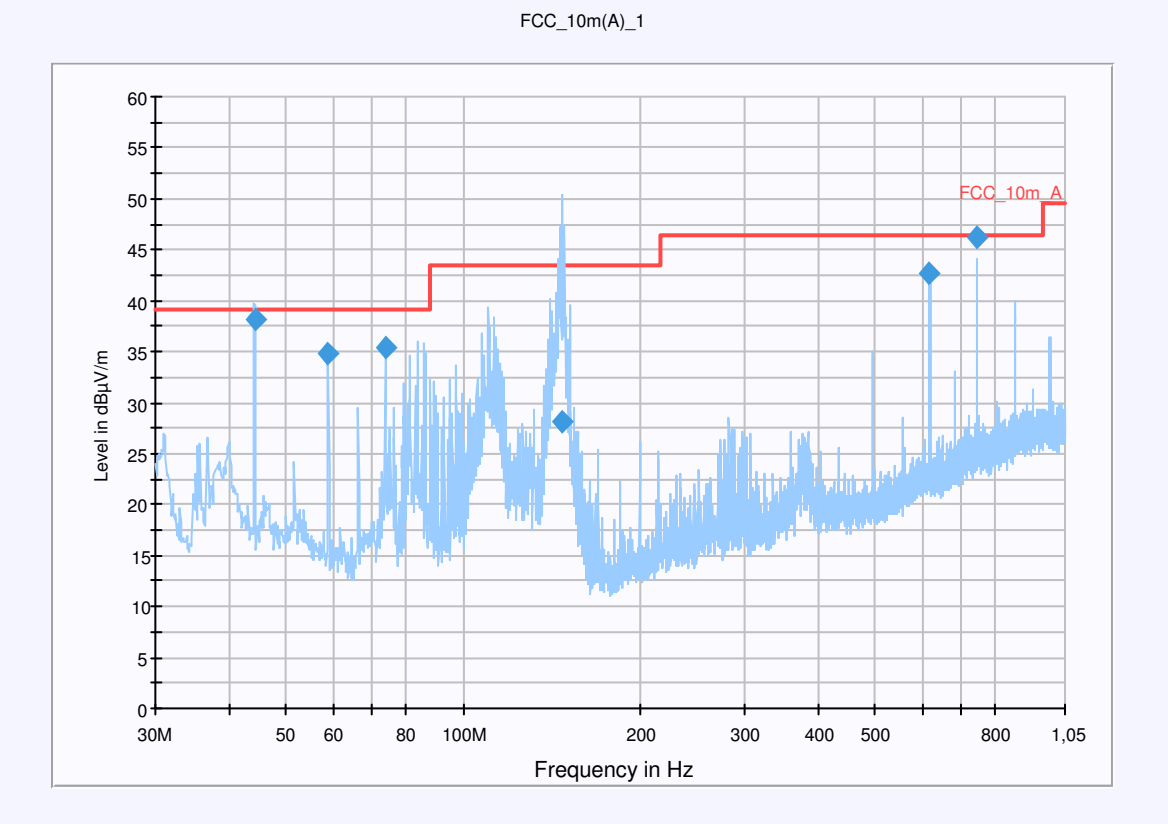
Plot 1: 0.03 - 1 GHz (idle), Transmitter Port1

EUT:	Dual SRR Module 865240
Serial Number:	DE008W0250
Test Description:	FCC Part 15 subpart B class A @ 10 m
Operating Conditions:	SRR Module 1 - RX
Operator Name:	Langer
Comment:	AC 115 V / 60 Hz

Scan Setup: STAN_Fin [EMI radiated]

Hardware Setup:	Electric Field (NOS)
Level Unit:	dBµV/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
30 MHz - 1.05 GHz	QuasiPeak	120 kHz	15 s	Receiver



Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Antenna height (cm)	Polarity	Turntable position (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
44.231250	38.2	15000.000	120.000	98.0	V	-5.0	13.3	0.9	39.1	
58.972500	34.9	15000.000	120.000	160.0	V	-5.0	11.9	4.2	39.1	
73.732200	35.3	15000.000	120.000	400.0	V	-5.0	9.2	3.8	39.1	
146.835300	28.2	15000.000	120.000	105.0	V	201.0	8.8	15.3	43.5	
618.774600	42.6	15000.000	120.000	116.0	H	169.0	20.9	3.8	46.4	
742.393500	46.2	15000.000	120.000	300.0	H	180.0	23.4	0.2	46.4	

Hardware Setup: **EMI radiated\Electric Field (NOS) - [EMI radiated]**

Subrange 1	
Frequency Range:	30 MHz - 2 GHz
Receiver:	Receiver [ESCI 3] @ GPIB0 (ADR 20), SN 100083/003, FW 4.32
Signal Path:	without Notch FW 1.0
Antenna:	VULB 9163 SN 9163-295, FW --- Correction Table (vertical): VULP6113 Correction Table (horizontal): VULP6113 Correction Table: Cable_EN_1GHz (0909)
Antenna Tower:	Tower [EMCO 2090 Antenna Tower] @ GPIB0 (ADR 8), FW REV 3.12
Turntable:	Turntable [EMCO Turntable] @ GPIB0 (ADR 9), FW REV 3.12

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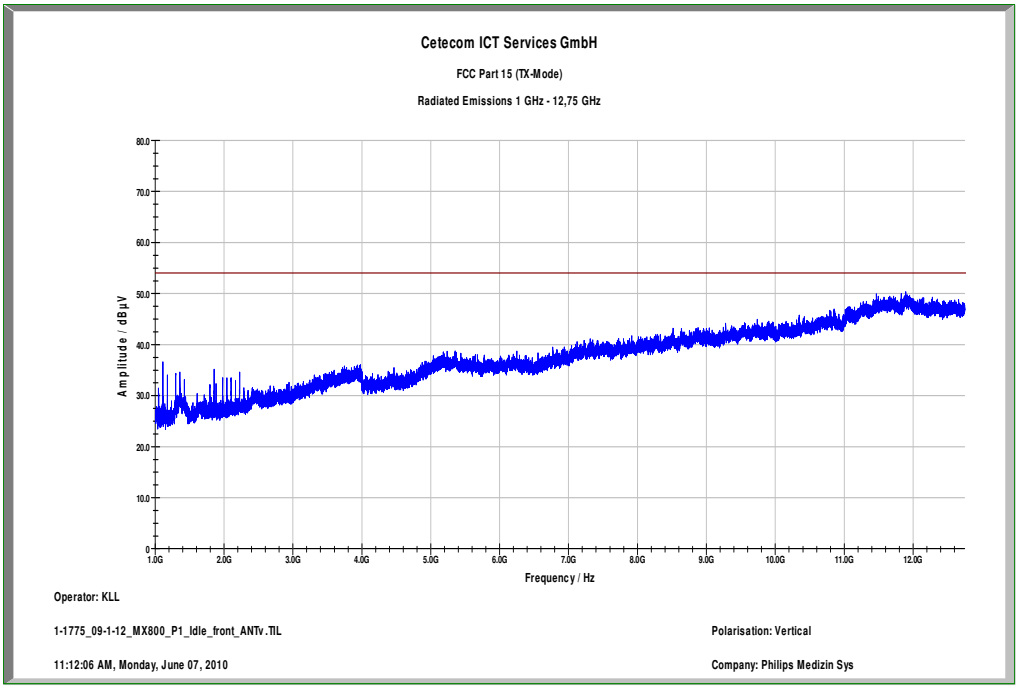
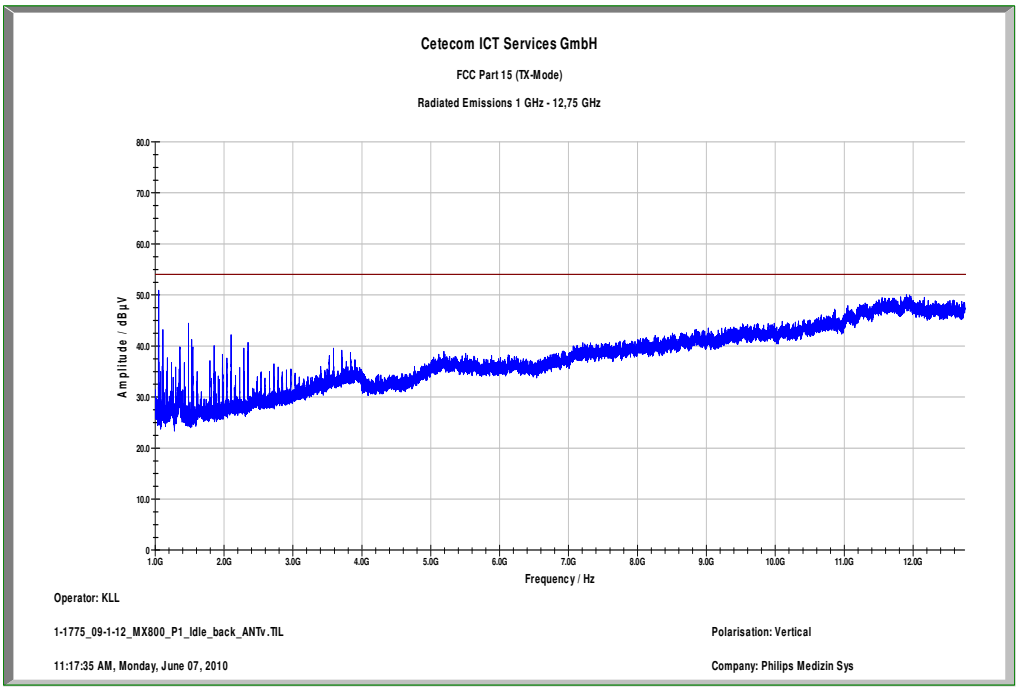
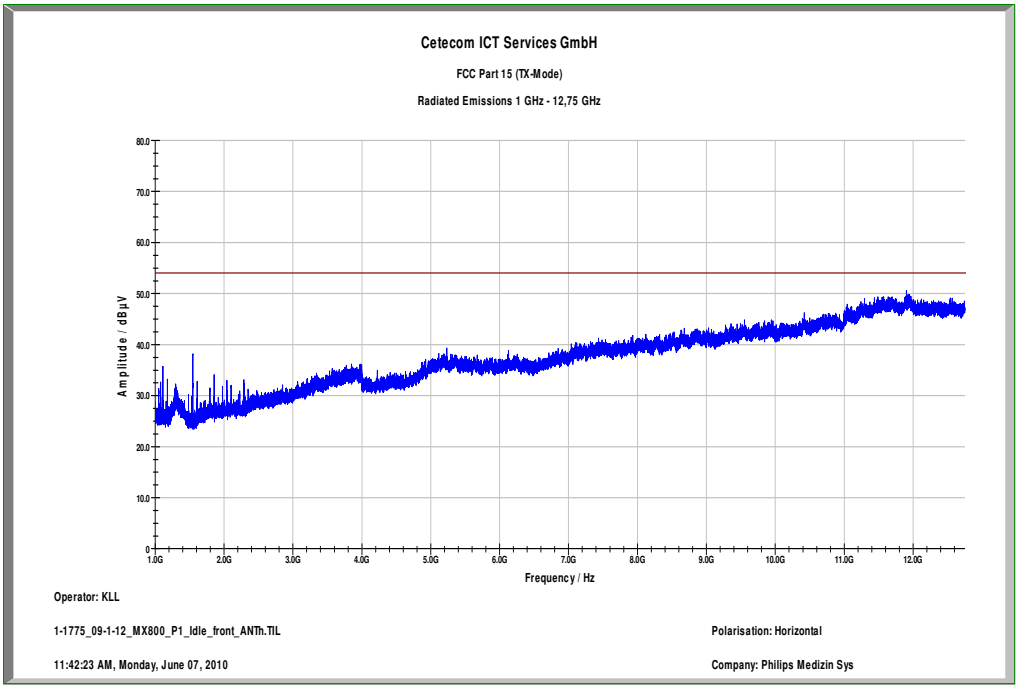
Plot 2: 1 -12.75 GHz vertical (idle), front side, Transmitter Port1



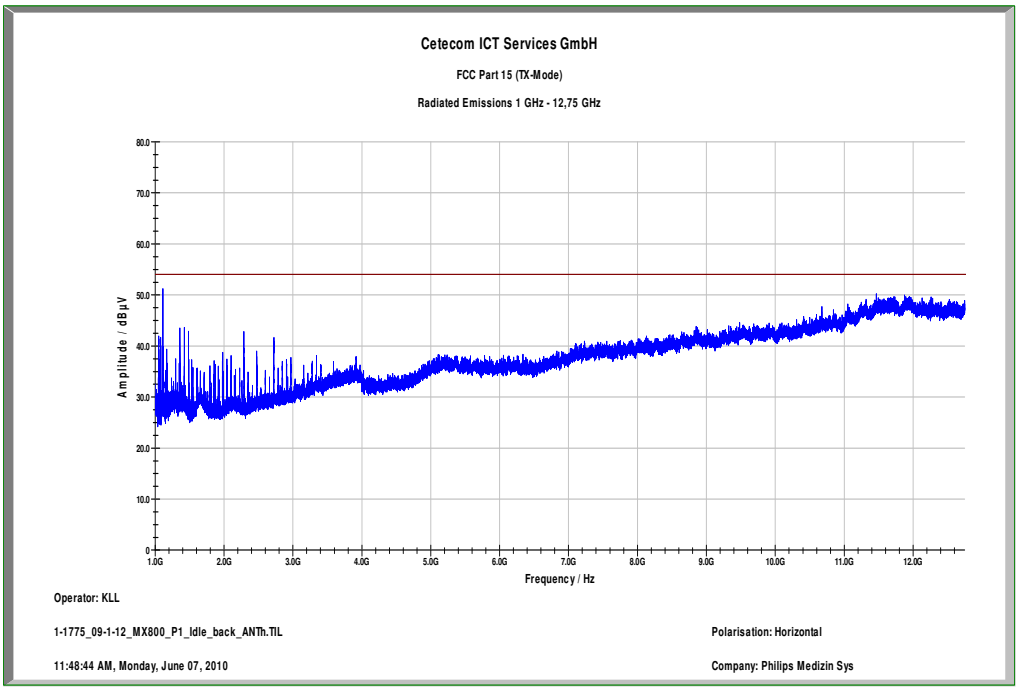
Plot 3: 1 -12.75 GHz vertical (idle), back side, Transmitter Port1



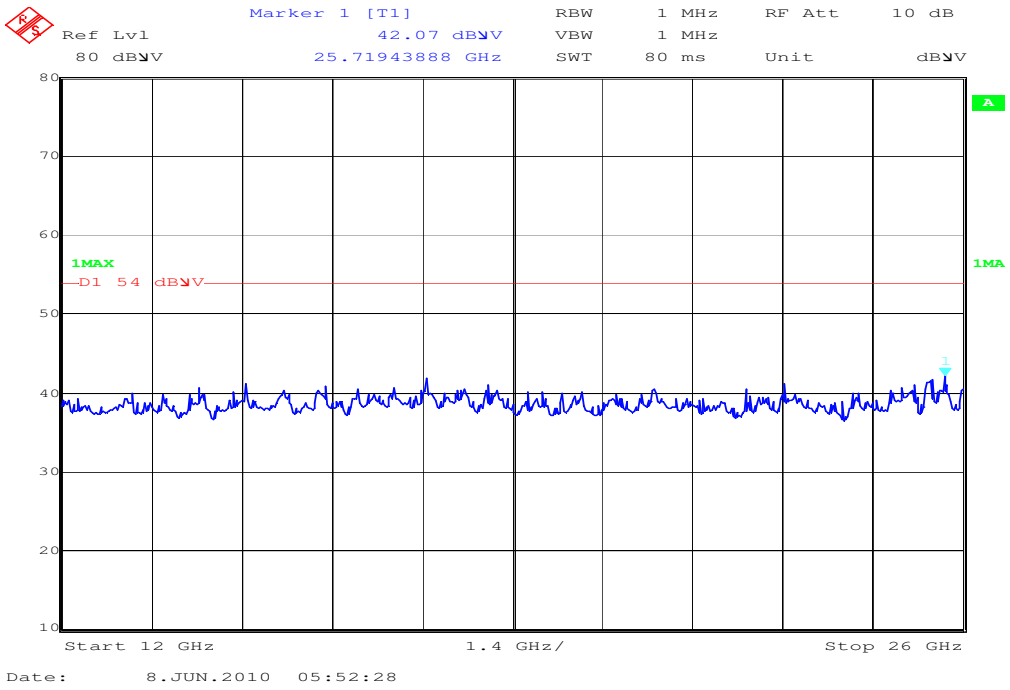
Plot 4: 1 - 12.75 GHz horizontal (idle), back side, Transmitter Port1



Plot 5: 1 - 12.75 GHz horizontal (idle), back side, Transmitter Port1



Plot 6: 12 - 26 GHz vertical/horizontal (max hold), Transmitter Port1



Plot 7: 0.03 - 1 GHz (idle), Transmitter Port2

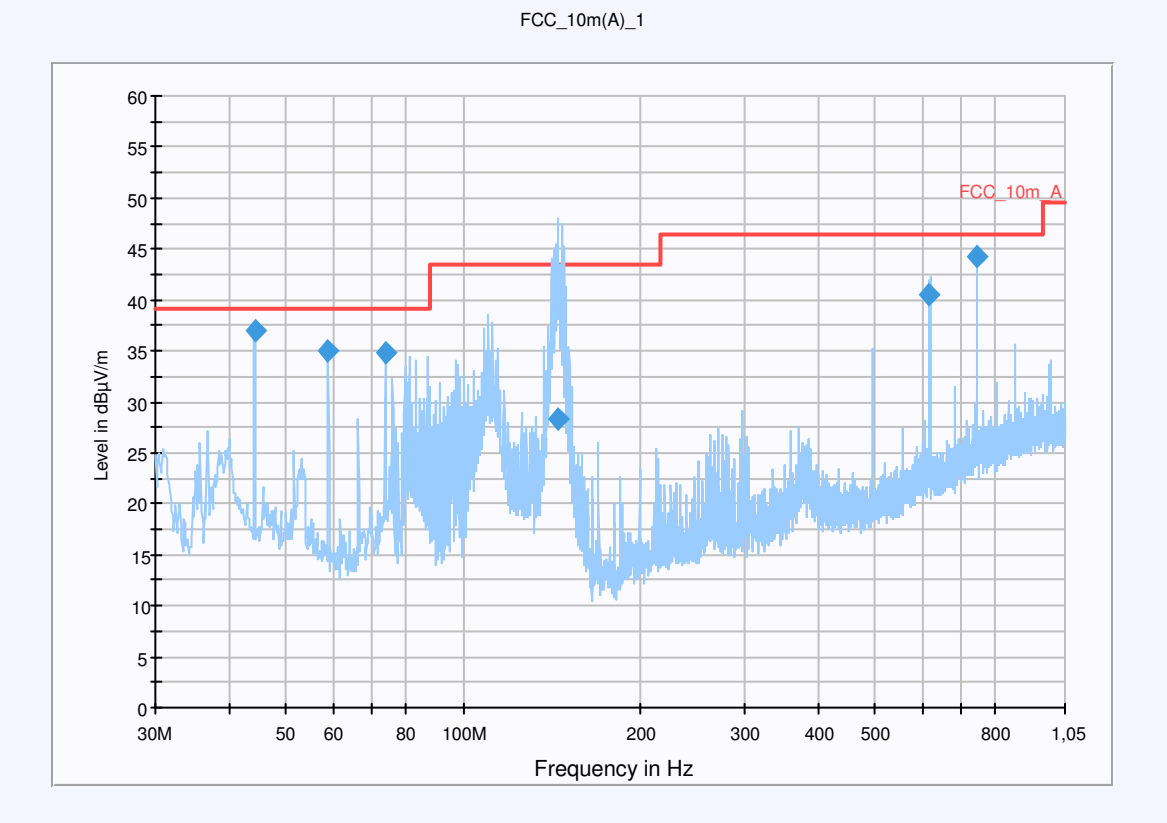
Common Information

EUT:	Dual SRR Module 865240
Serial Number:	DE008W0250
Test Description:	FCC Part 15 subpart B class A @ 10 m
Operating Conditions:	SRR Module 2 - RX
Operator Name:	Langer
Comment:	AC 115 V / 60 Hz

Scan Setup: STAN_Fin [EMI radiated]

Hardware Setup:	Electric Field (NOS)
Level Unit:	dBµV/m

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
30 MHz - 1.05 GHz	QuasiPeak	120 kHz	15 s	Receiver



Final Result 1

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time (ms)	Bandwidth (kHz)	Antenna height (cm)	Polarity	Turntable position (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
44.235750	37.1	15000.000	120.000	98.0	V	304.0	13.3	2.0	39.1	
58.992300	35.0	15000.000	120.000	109.0	V	2.0	11.9	4.1	39.1	
73.741350	34.9	15000.000	120.000	360.0	V	-1.0	9.2	4.2	39.1	
144.447450	28.3	15000.000	120.000	117.0	V	149.0	8.8	15.2	43.5	
618.642450	40.5	15000.000	120.000	109.0	H	174.0	20.9	5.9	46.4	
742.475250	44.2	15000.000	120.000	98.0	H	173.0	23.4	2.2	46.4	

Hardware Setup: **EMI radiated\Electric Field (NOS) - [EMI radiated]**

	Subrange 1
Frequency Range:	30 MHz - 2 GHz
Receiver:	Receiver [ESCI 3] @ GPIB0 (ADR 20), SN 100083/003, FW 4.32
Signal Path:	without Notch FW 1.0
Antenna:	VULB 9163 SN 9163-295, FW --- Correction Table (vertical): VULP6113 Correction Table (horizontal): VULP6113 Correction Table: Cable_EN_1GHz (0909)
Antenna Tower:	Tower [EMCO 2090 Antenna Tower] @ GPIB0 (ADR 8), FW REV 3.12
Turntable:	Turntable [EMCO Turntable] @ GPIB0 (ADR 9), FW REV 3.12

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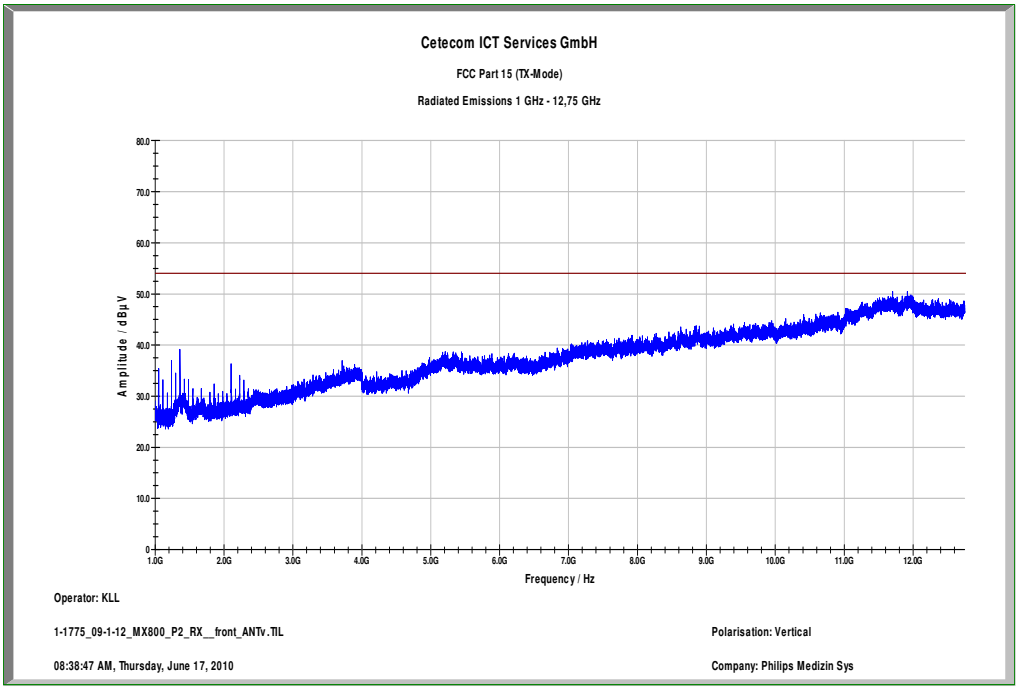
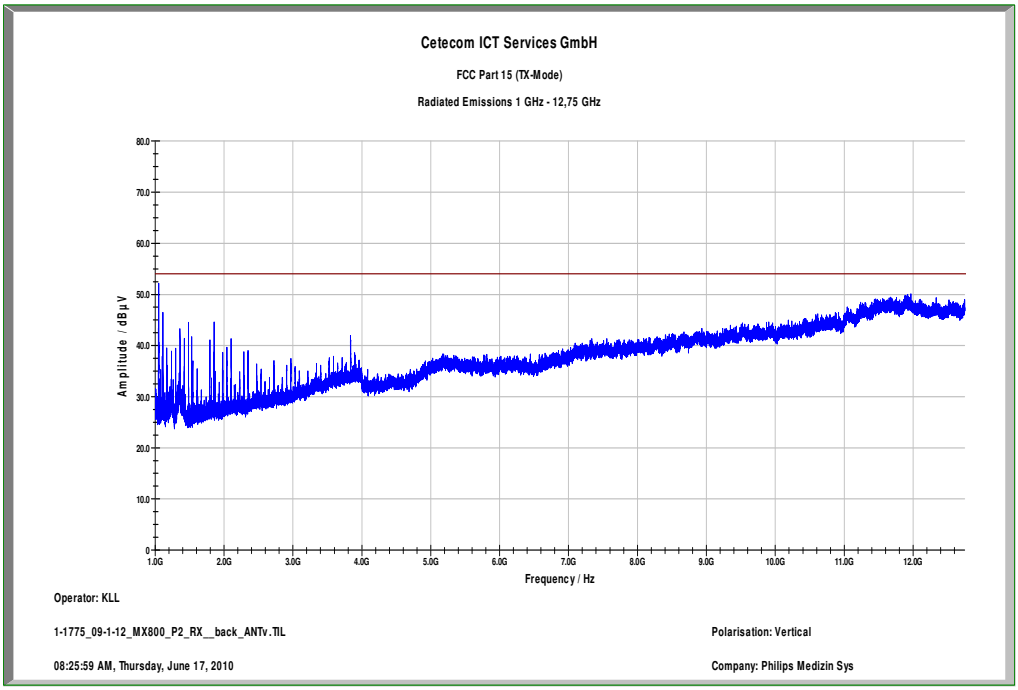
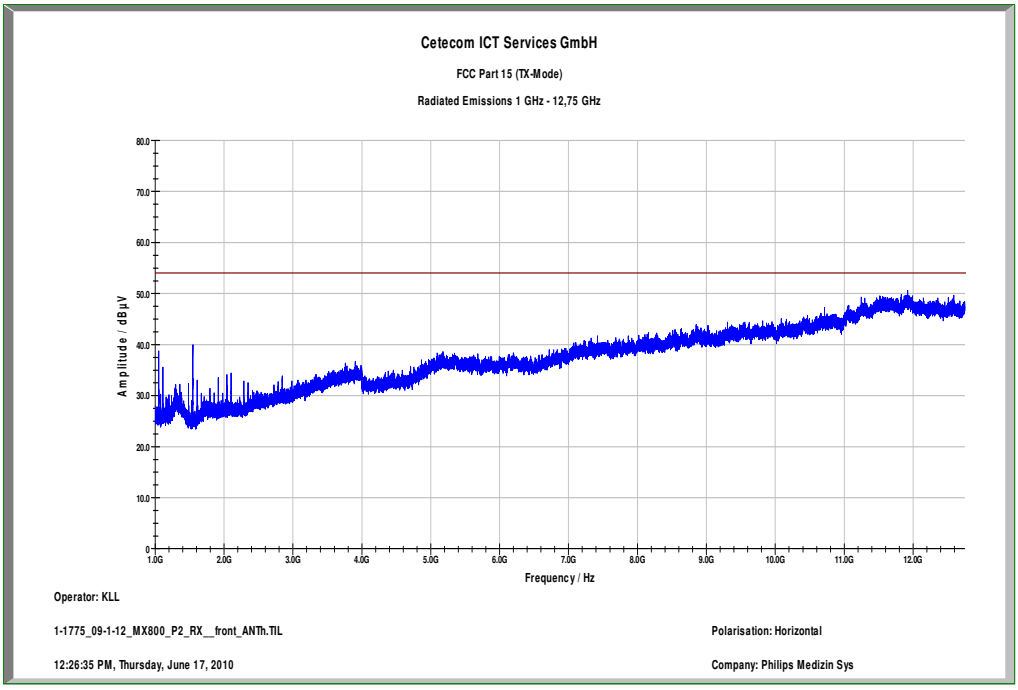
Plot 8: 1 - 12.75 GHz vertical (idle), front side, Transmitter Port2



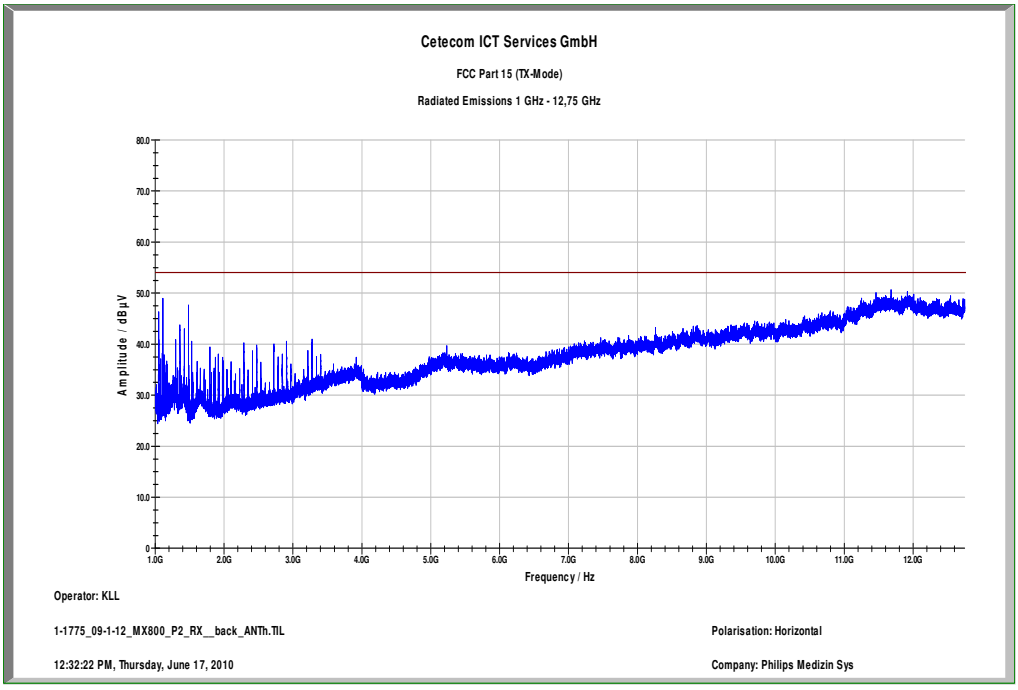
Plot 9: 1 - 12.75 GHz vertical (idle), back side, Transmitter Port2



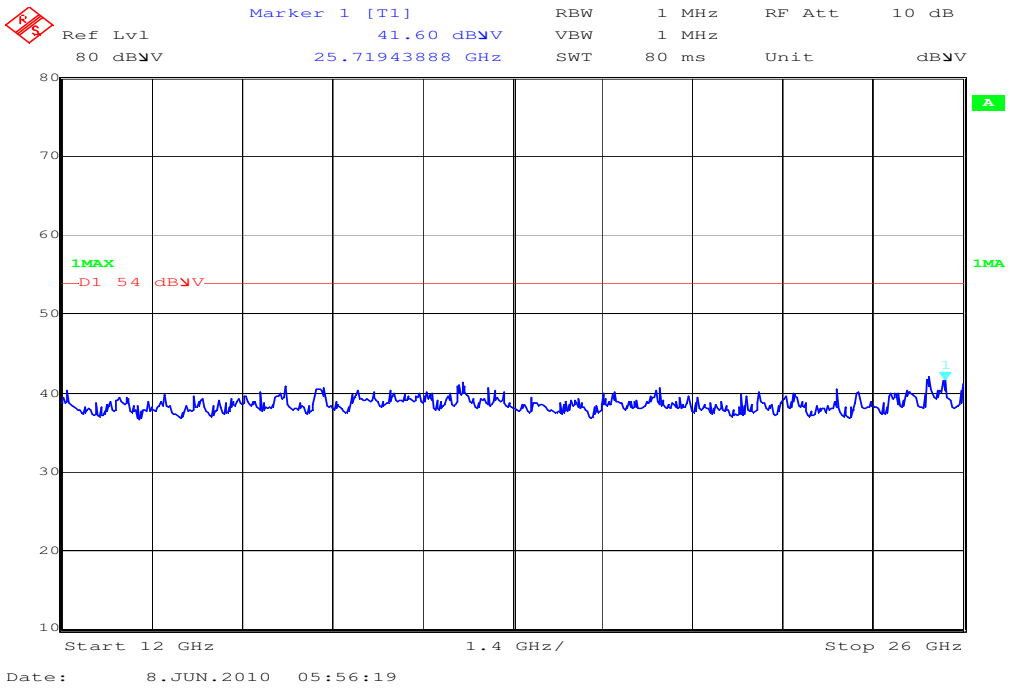
Plot 10: 1 - 12.75 GHz horizontal (idle), back side, Transmitter Port2



Plot 11: 1 - 12.75 GHz horizontal (idle), back side, Transmitter Port2



Plot 12: 12 - 26 GHz vertical/horizontal (max hold), Transmitter Port2



Transmitter Port1

Results:

Spurious Emissions level [dBµV/m]		
f[MHz]	Detector	Level [dBµV/m]
1051.6	Pk	45.7 (v)
1113.7	Pk	48.5 (h)
1361.2	Pk	46.5 (h)
1485.0	Pk	44.8 (v)
2103.4	Pk	40.0 (v)
Measurement uncertainty	±3 dB	

f < 1 GHz: RBW/VBW: 100 kHz f ≥ 1GHz : RBW/VBW: 1 MHz/10Hz
See above plots

Transmitter Port2

Results:

Spurious Emissions level [dBµV/m]		
f[MHz]	Detector	Level [dBµV/m]
1052.1	Pk	49.9
1113.7	Pk	48.1
1361.2	Pk	43.6
1484.8	Pk	42.6
Measurement uncertainty	±3 dB	

f < 1 GHz: RBW/VBW: 100 kHz f ≥ 1GHz : RBW/VBW: 1 MHz/10Hz
See above plots

(v) = measurement antenna vertical
(h) = measurement antenna horizontal

Measurement distance see table

Limits: § 15.109

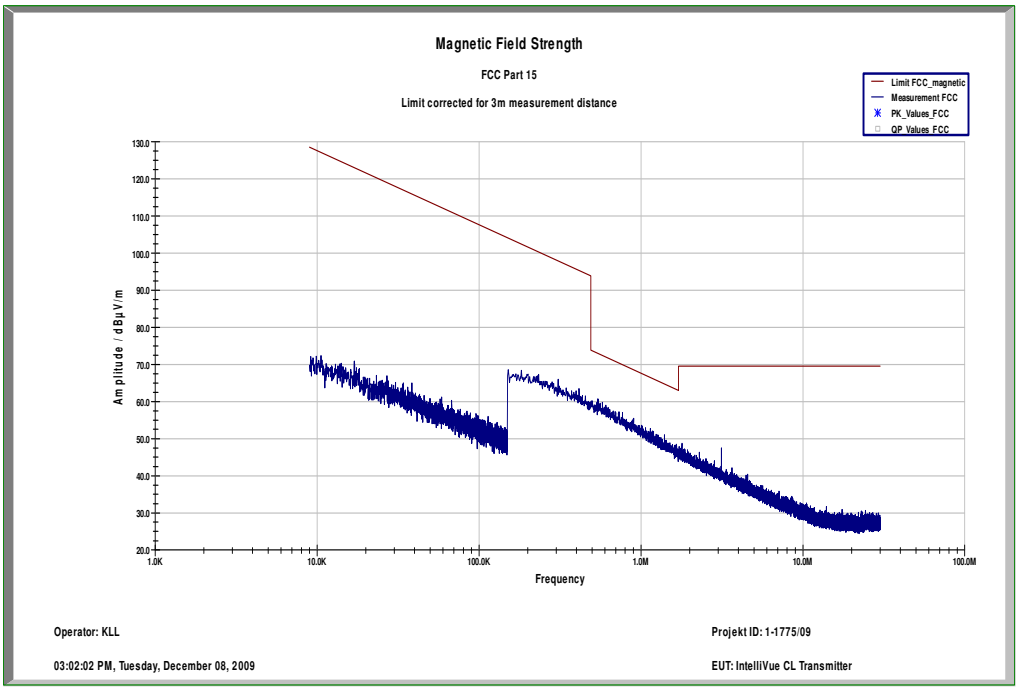
Frequency (MHz)	Field strength (µV/m)	Measurement distance (m)
30 - 88	100 (40 dBµV/m)	3
88 - 216	150 (43.5 dBµV/m)	3
216 - 960	200 (46 dBµV/m)	3
above 960	500 (54 dBµV/m)	3

5.17 Spurious Emissions < 30 MHz – Transmitter and Receiver radiated § 15.209

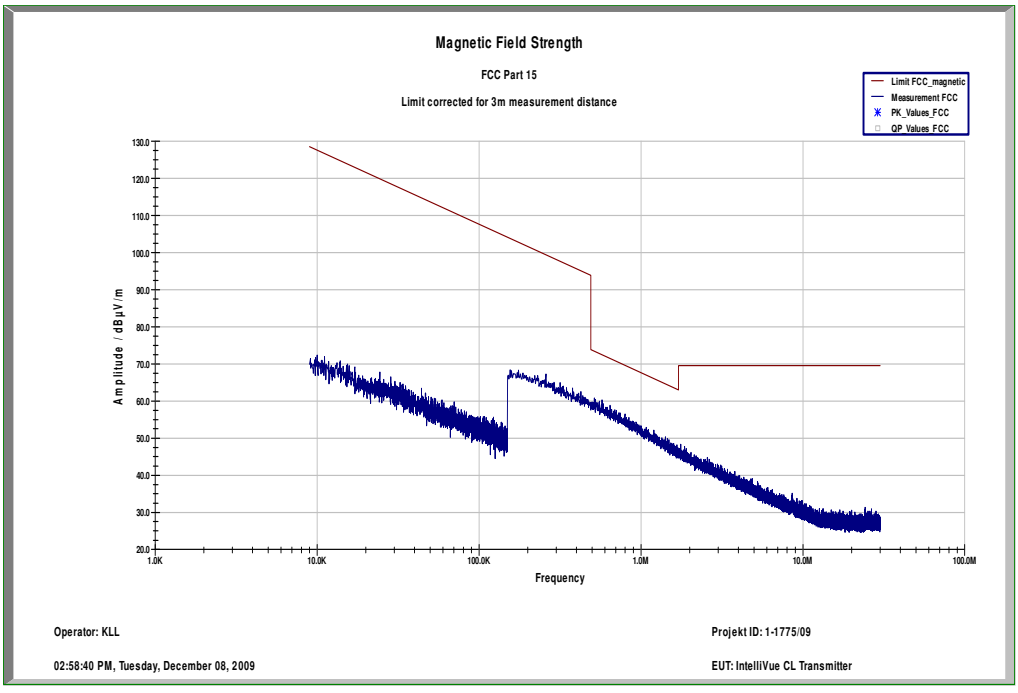
5.17.1 Dual SRR Module 865221

Measured at 10 m distance.
Values recalculated with 40 dB/decade according to FCC rules.

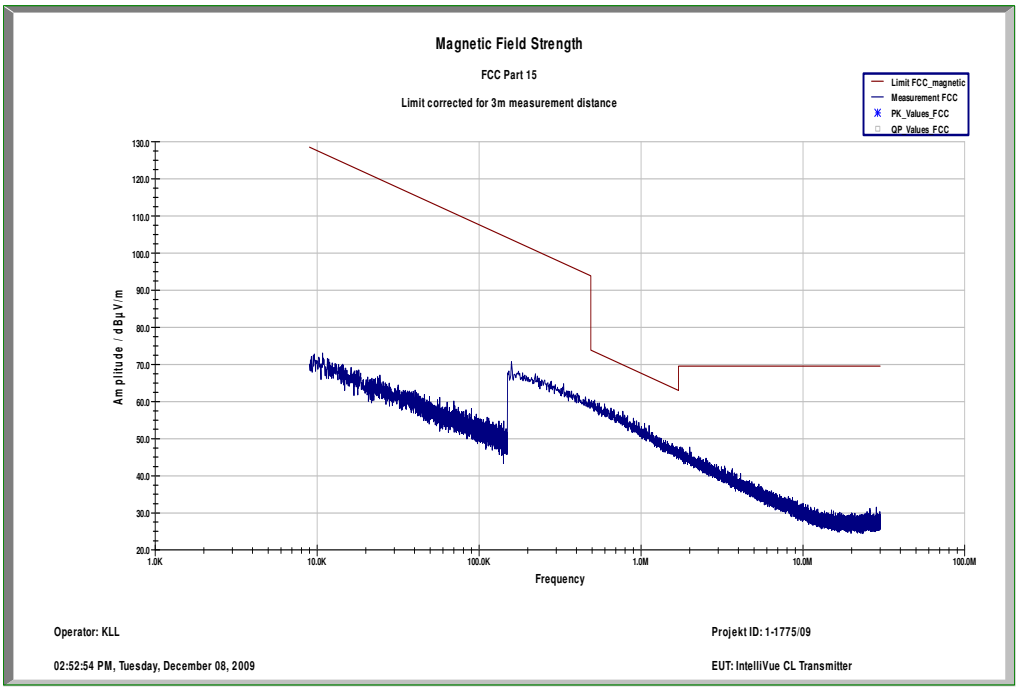
Plot 1: Transmitter 1 (Radio 2), transmitter operation (middle channel), position 0°



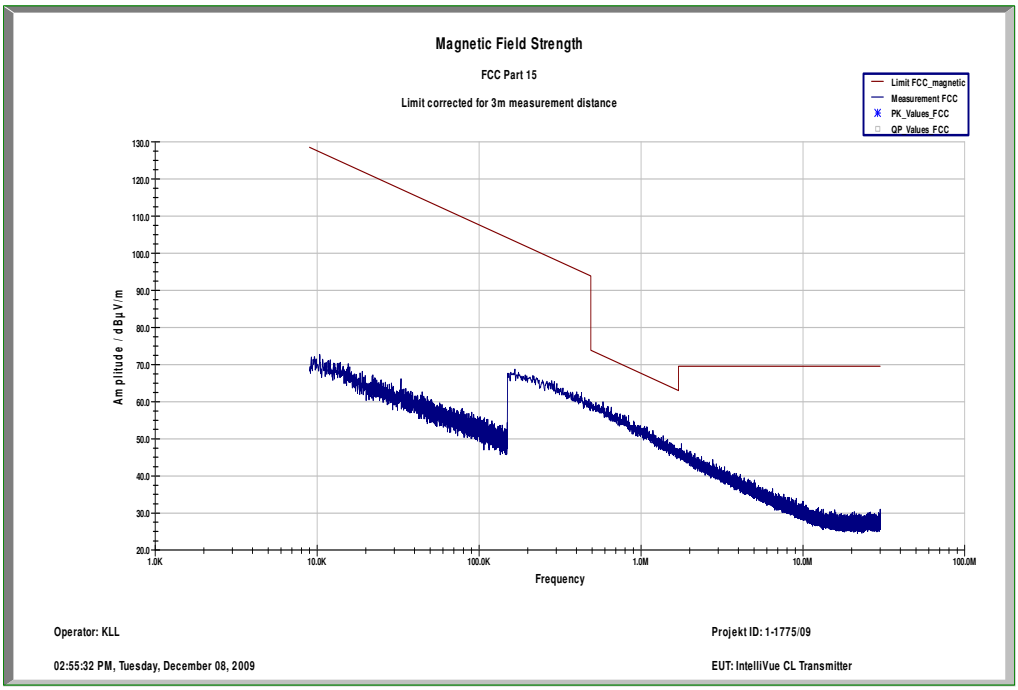
Plot 2: Transmitter 1 (Radio 2), transmitter operation (middle channel), position 90°



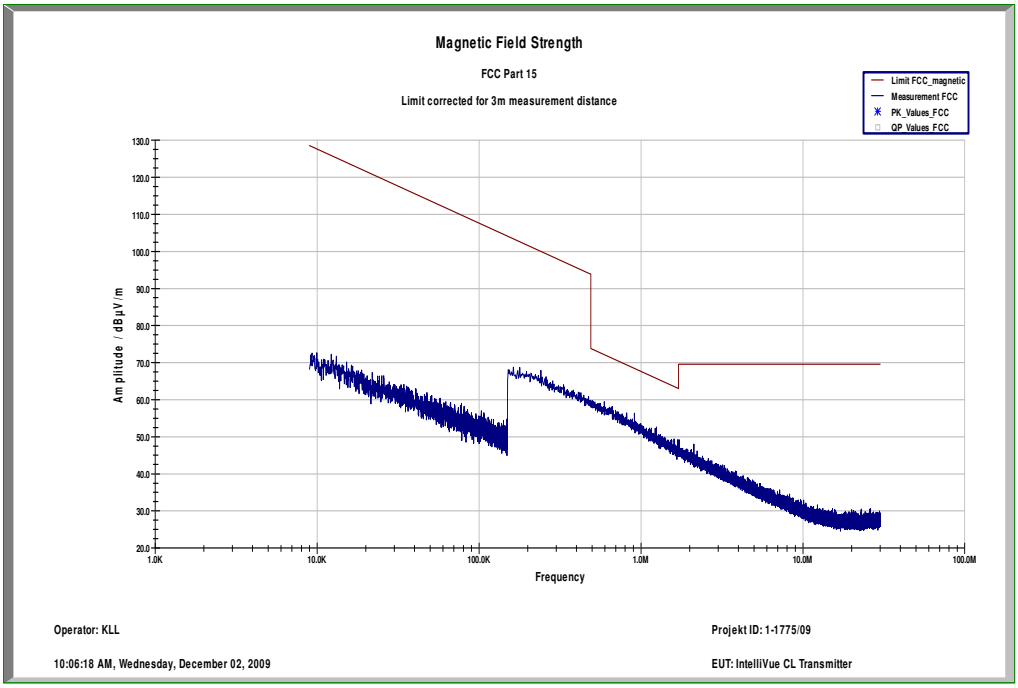
Plot 3: Transmitter 1 (Radio 1), transmitter operation (middle channel), position 0°



Plot 4: Transmitter 1 (Radio 1), transmitter operation (middle channel), position 90°



Plot 5: Idle mode (worst case)



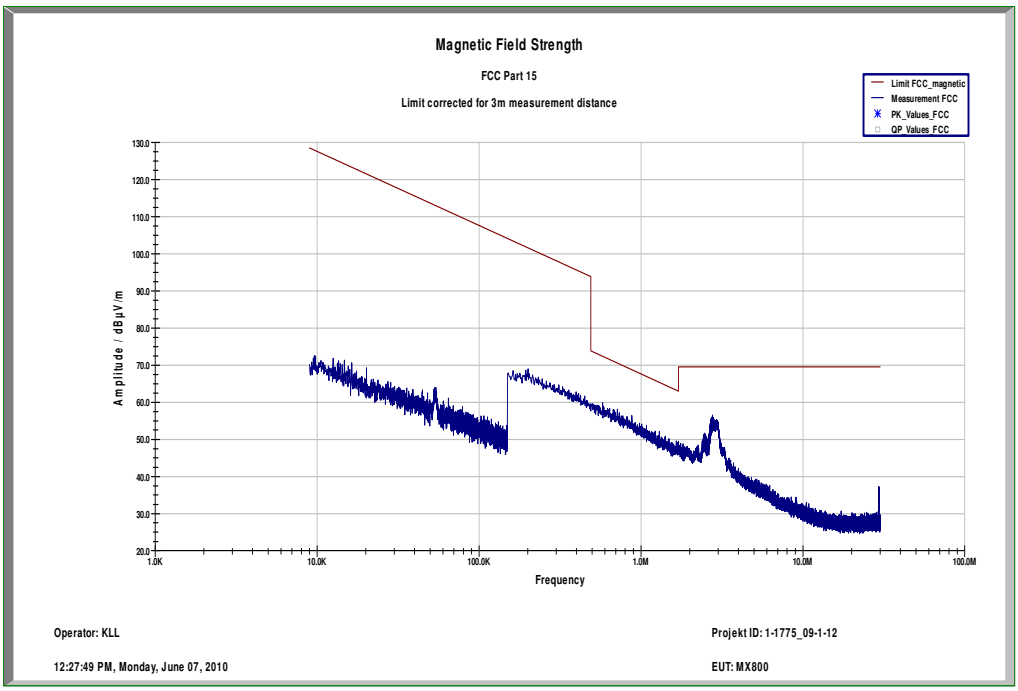
Limits:

Frequency (MHz)	Field strength (µV/m)	Measurement distance (m)
0.009 – 0.490	2400/F(kHz)	300
0.490 – 1.705	24000/F(kHz)	30
1.705 – 30.0	30 / 29.5 dBµV/m	30

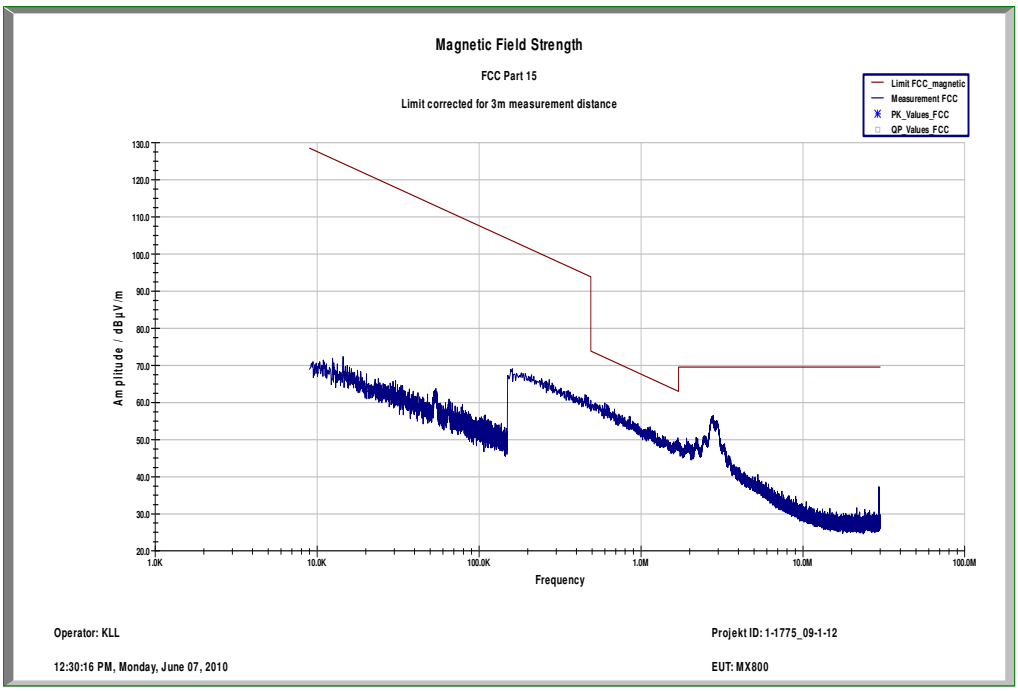
5.17.2 Dual SRR Module 865240

Measured at 10 m distance.
Values recalculated with 40 dB/decade according to FCC rules.

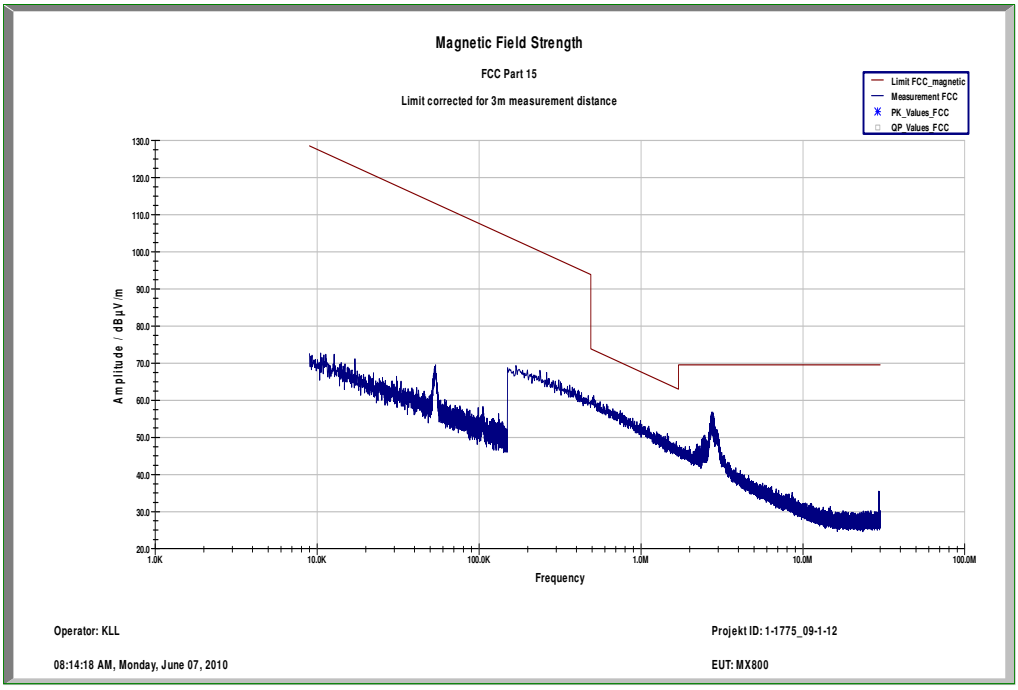
Plot 1: Transmitter Port1 operation (middle channel), front side



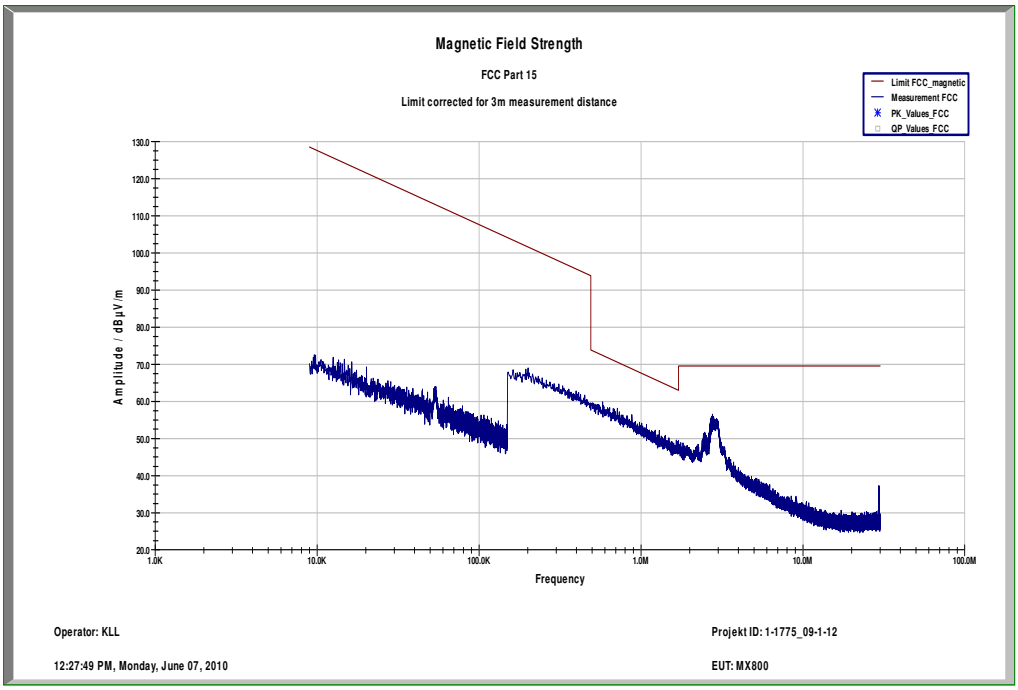
Plot 2: Transmitter Port1 operation (middle channel), back side laid on the monitor side



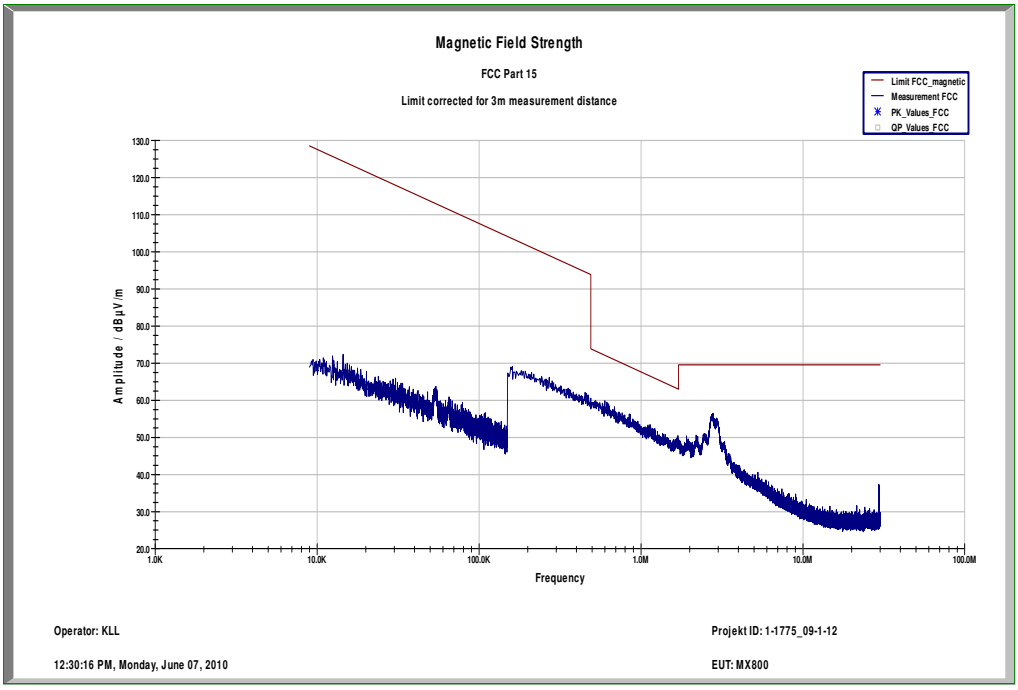
Plot 3: Transmitter Port1 operation (middle channel), laid on the monitor side



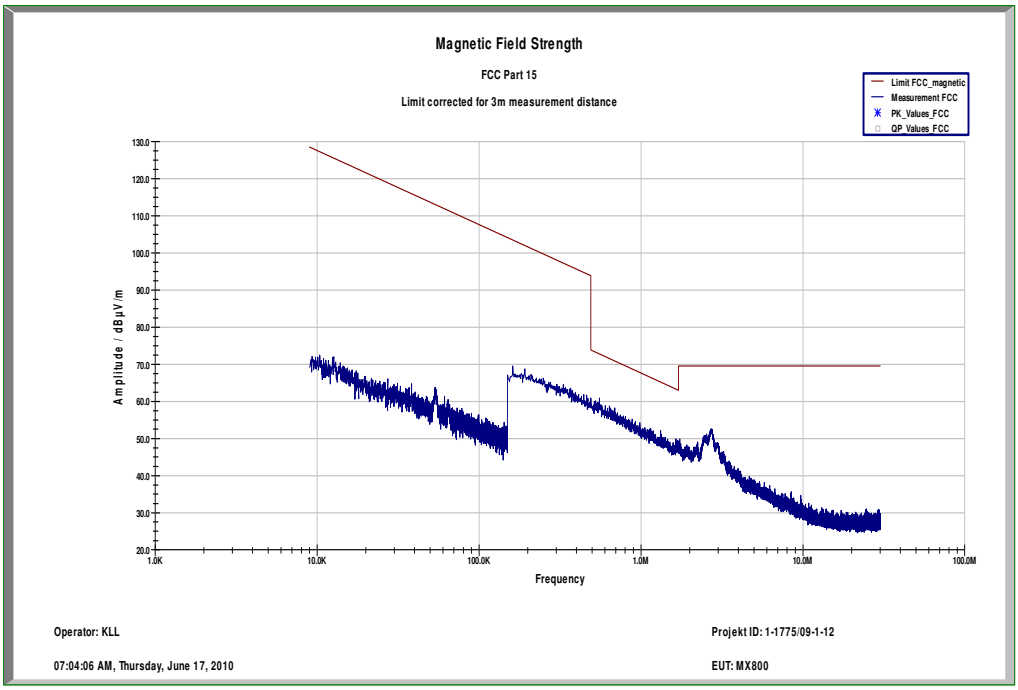
Plot 4: Idle mode, Transmitter Port1, front side



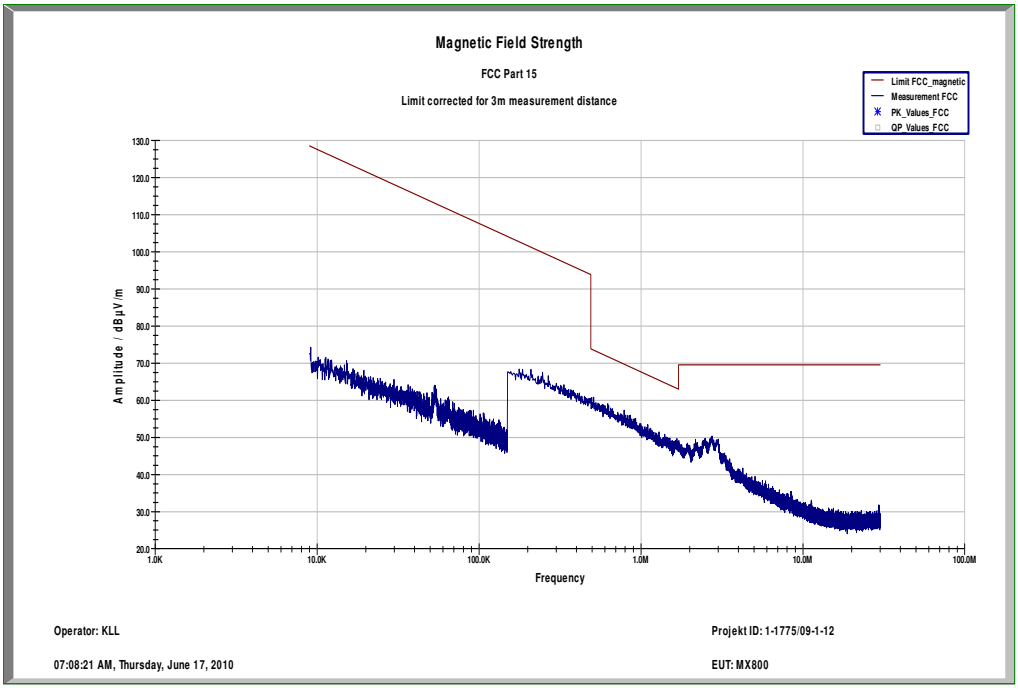
Plot 5: Idle mode, Transmitter Port1, back side



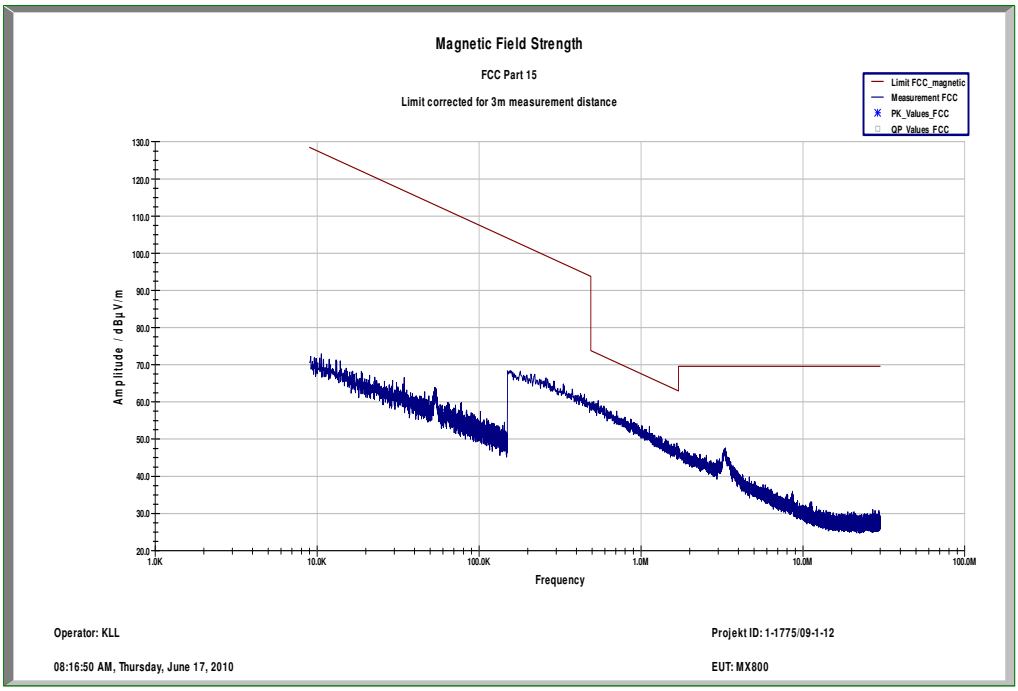
Plot 6: Transmitter Port2 operation (middle channel), front side



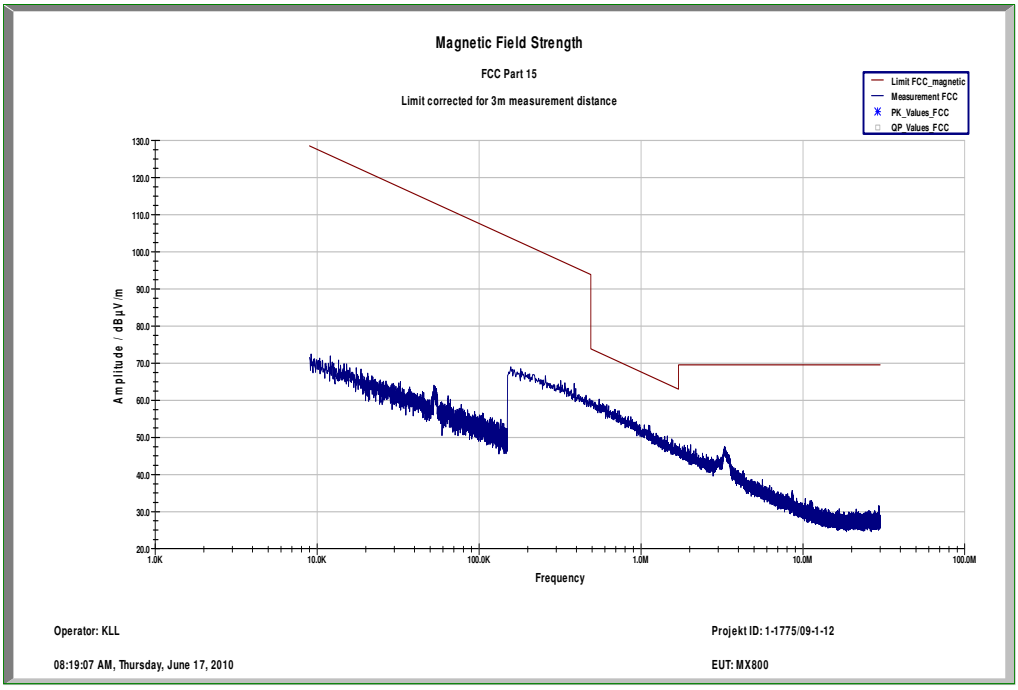
Plot 7: Transmitter Port2 operation (middle channel), back side laid on the monitor side



Plot 8: Idle mode, Transmitter Port2, front side



Plot 9: Idle mode, Transmitter Port2, back side



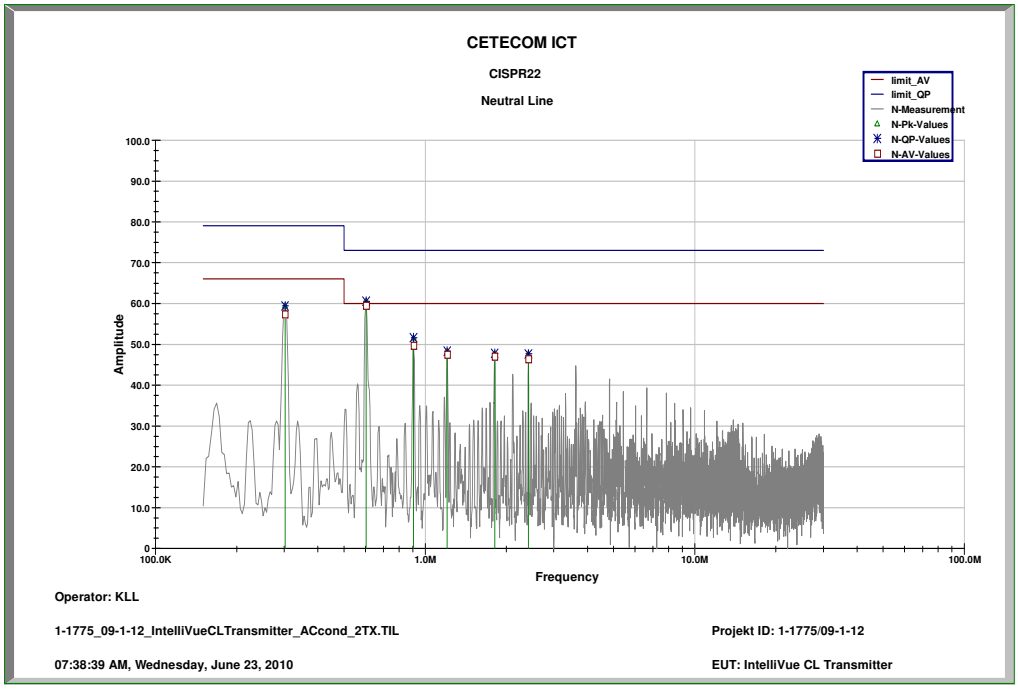
Limits:

Frequency (MHz)	Field strength (µV/m)	Measurement distance (m)
0.009 – 0.490	2400/F(kHz)	300
0.490 – 1.705	24000/F(kHz)	30
1.705 – 30.0	30 / 29.5 dBµV/m	30

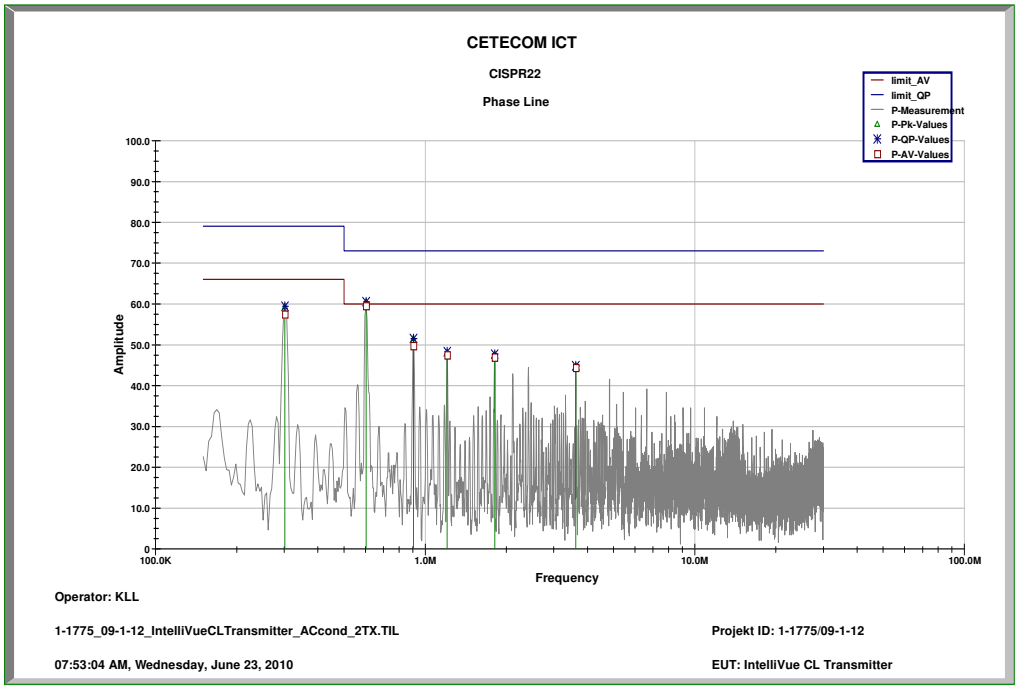
5.18 Conducted Emissions <30 MHz § 15.107/207

5.18.1 Dual SRR Module 865221

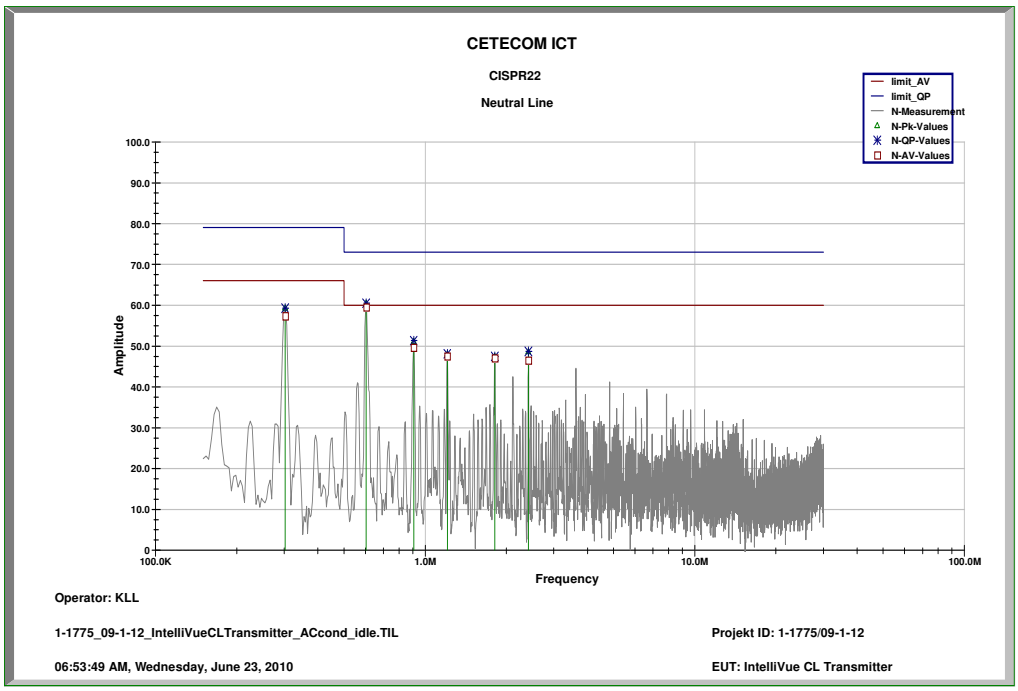
Plot 1: TX mode, transmitter 1 low channel, transmitter 2 high channel, neutral line



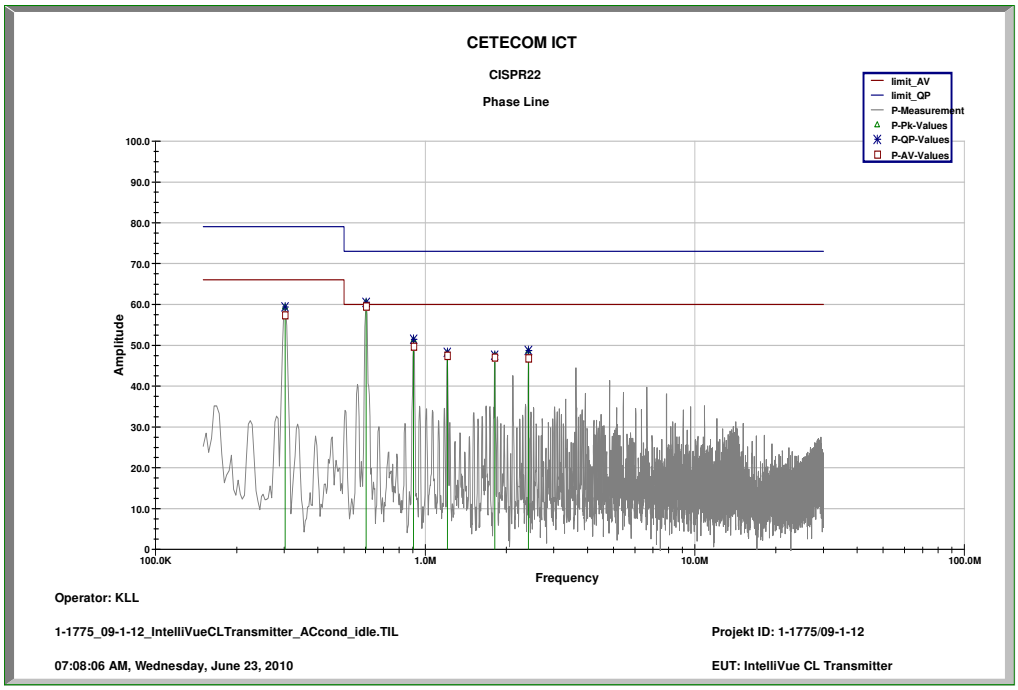
Plot 2: TX mode, transmitter 1 low channel, transmitter 2 high channel, phase line



Plot 3: RX mode, neutral line



Plot 4: RX mode, phase line

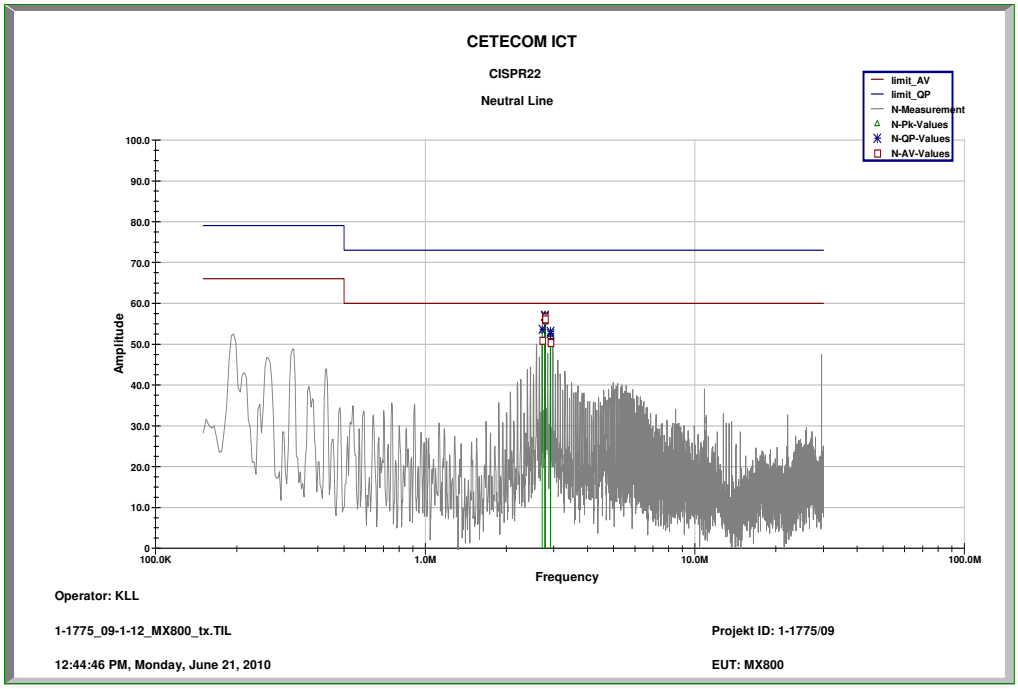


Limits:

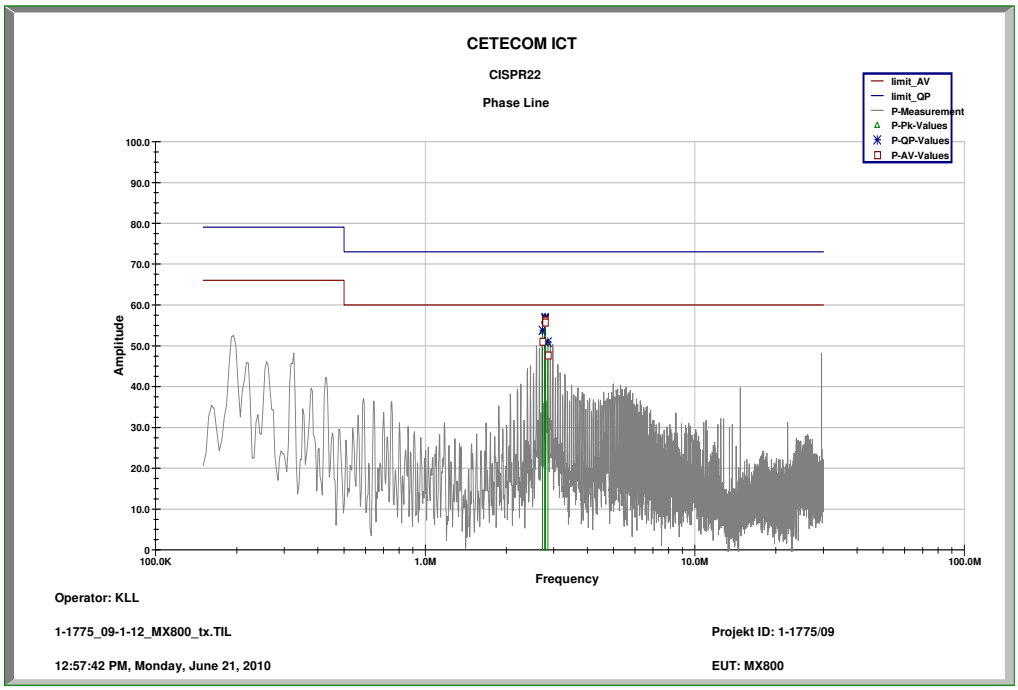
Under normal test conditions only	See plots

5.18.2 Dual SRR Module 865240

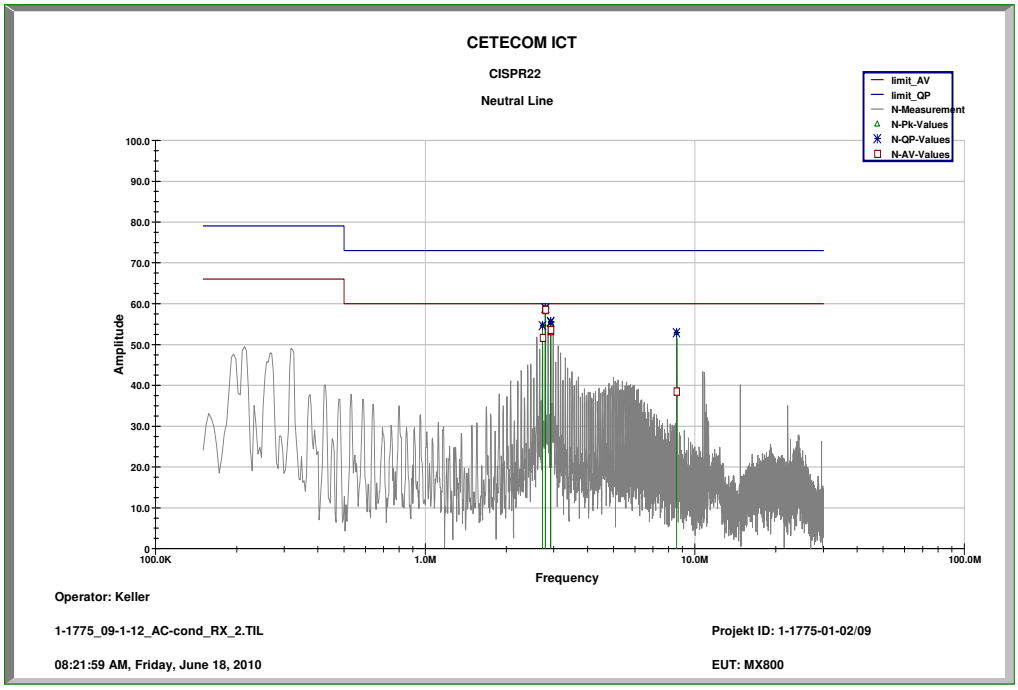
Plot 1: TX mode, transmitter 1 low channel, transmitter 2 high channel, neutral line



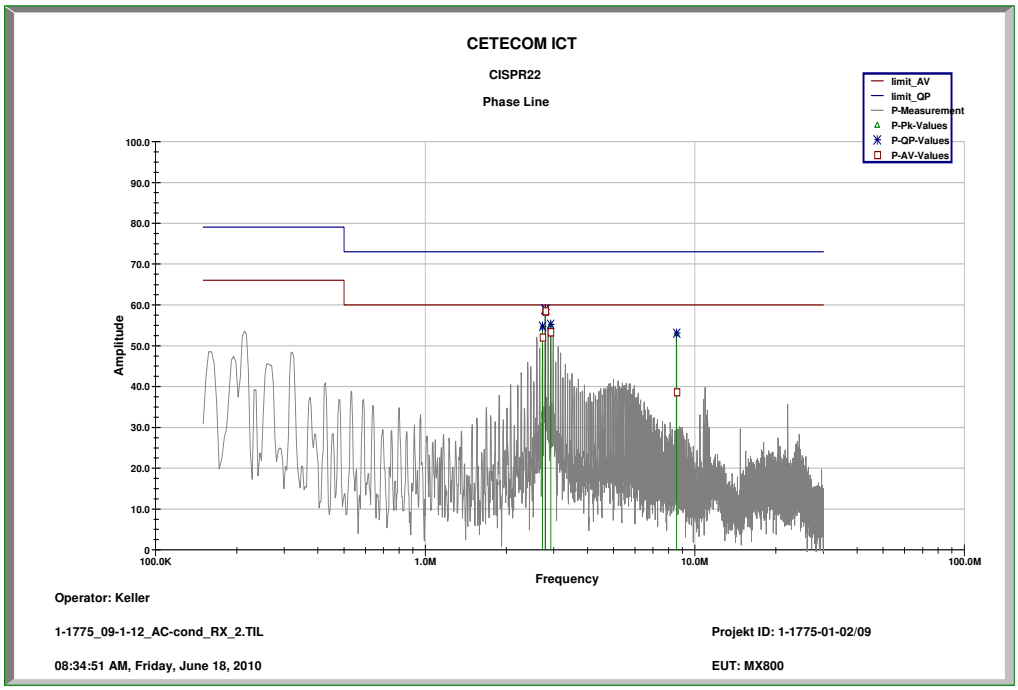
Plot 2: TX mode, transmitter 1 low channel, transmitter 2 high channel, phase line



Plot 3: RX mode, neutral line



Plot 4: RX mode, phase line



Limits:

Under normal test conditions only	See plots

6 Test equipment and ancillaries used for tests

To simplify the identification on each page of the test equipment used, on each page of the test report, each item of test equipment and ancillaries such as cables are identified (numbered) by the Test Laboratory, below.

All reported calibration intervals are calibrations according to the EN/ISO/IEC 17025 standard. These calibrations were performed from an accredited external calibration laboratory.
Additional to these calibrations the laboratory performed comparison measurements with other calibrated systems and performed a weekly chamber inspection.
All used devices are connected with a 10 MHz external reference.
According to the manufacturers' instruction is it possible to establish a calibration interval for the FSP unit of 24 month, if the device has an external 10 MHz reference.

Anechoic chamber F:

No	Equipment/Type	Manuf.	Serial Nr.	Inv. No. Cetecom	Last Calibration	Frequency (months)	Next Calibration
1	Control Computer	F+W	FW0502032	300003303	-/-	-/-	-/-
2	Trilog Antenna VULB 9163	Schwarzbeck	295	300003787	-/-	-/-	-/-
3	Amplifier - 0518C-138	Veritech Micro-wave Inc.	-/-	-/-	-/-	-/-	-/-
4	Switch - 3488A	HP		300000368	-/-	-/-	-/-
5	EMI Test receiver - ESCI	R&S	100083	300003312	01.06.2009	24	01.06.2011
6	Turntable Controller - 1061 3M	EMCO	1218	300000661	-/-	-/-	-/-
7	Tower Controller 1051 Controller	EMCO	1262	300000625	-/-	-/-	-/-
8	Tower - 1051	EMCO	1262	300000625	-/-	-/-	-/-
10	Ultra Notch-Filter Rejected band Ch. 62	WRCD	9	-/-	-/-	-/-	-/-

Climatic Box:

No	Equipment/Type	Manuf.	Serial Nr.	Inv. No. Cetecom	Last Calibration	Frequency (months)	Next Calibration
1	Climatic box VT 4002	Heraeus Vötsch	58566046820010	300003019	28.05.2009	24	28.05.2011
2	Climatic box CTS T-40/50	CTS	064023	300003540	04.06.2009	24	04.06.2011

SRD Laboratory Room 002:

No	Equipment/Type	Manuf.	Serial Nr.	Inv. No. Cetecom	Last Calibration	Frequency (months)	Next Calibration
1	System Controller PSM 12	R&S	835259/007	300002681-00xx	n.a.		
2	Memory Extension PSM-K10	R&S	To 1	300002681	n.a.		
3	Operating Software PSM-B2	R&S	To 1	300002681	n.a.		
4	19'' Monitor		22759020-ED	300002681	n.a.		
5	Mouse		LZE 0095/6639	300002681	n.a.		
6	Keyboard		G00013834L461	300002681	n.a.		
7	Spectrum Analyser FSIQ 26	R&S	835540/018	300002681-0005			
8	Tracking Generator FSIQ-B10	R&S	835107/015	300002681	s.No.7		
10	RF-Generator SMIQ03 (B1 Signal)	R&S	835541/056	300002681-0002	26.08.2008	36	26.08.2011
11	Modulation Coder SMIQ-B20	R&S	To 10	300002681	s.No.10		
12	Data Generator SMIQ-B11	R&S	To 10	300002681	s.No.10		

13	RF Rear Connection SMIQ-B19	R&S	To 10	300002681	s.No.10		
14	Broadband horn antenna (1-18 GHz)	EMCO	9107-3696	300001604			
15	Broadband horn antenna (1-18 GHz)	EMCO	9107-3697	300001605	21.08.2008	24	21.08.2010
16	Std gain horn antenna (18- 26.5 GHz)	Narda	Model no. 638	300000486	n.a.		
17	Std gain horn antenna (18- 26.5 GHz)	Narda	Model no. 638	300000487	n.a.		
18	Sleeve dipole antenna Model 3126-880	ETS-Lindgren	00040887	3000000	n.a.		
19	Fast CPU SM-B50	R&S	To 10	300002681	s.No.10		
20	FM Modulator SM-B5	R&S	835676/033	300002681	s.No.10		
21	RF-Generator SMIQ03 (B2 Signal)	R&S	835541/055	300002681-0001	25.08.2008	36	25.08.2011
22	Modulation Coder SMIQ-B20	R&S	To 21	300002681	s.No.21		
23	Data Generator SMIQ-B11	R&S	To 21	300002681	s.No.21		
24	RF Rear Connection SMIQ-B19	R&S	To 21	300002681	s.No.21		
25	Fast CPU SM-B50	R&S	To 21	300002681	s.No.21		
26	FM Modulator SM-B5	R&S	836061/022	300002681	s.No.21		
27	RF-Generator SMP03 (B3 Signal)	R&S	835133/011	300002681-0003	26.08.2008	36	26.08.2011
28	Attenuator SMP-B15	R&S	835136/014	300002681	S.No.27		
29	RF Rear Connection SMP-B19	R&S	834745/007	300002681	S.No.27		
30	Power Meter NRVD	R&S	835430/044	300002681-0004	26.08.2008	24	26.08.2010
31	Power Sensor NRVD-Z1	R&S	833894/012	300002681-0013	26.08.2008	24	26.08.2010
32	Power Sensor NRVD-Z1	R&S	833894/011	300002681-0010	26.08.2008	24	26.08.2010
33	Rubidium Standard RUB	R&S		300002681-0009	27.08.2008	24	27.08.2010
34	Switching and Signal Conditioning Unit SSCU	R&S	338864/003	300002681-0006	Verified with path compensation		
35	Laser Printer HP Deskjet 2100	HP	N/A	300002681-0011	n.a.		
36	19'' Rack	R&S	11138363000004	300002681	n.a.		
37	RF-cable set	R&S	N/A	300002681	n.a.		
39	IEEE-cables	R&S	N/A	300002681	n.a.		
40	Sampling System FSIQ-B70	R&S	835355/009	300002681	s.No.7		
41	RSP programmable attenuator	R&S	834500/010	300002681-0007	26.08.2008	24	26.08.2010
42	Signalling Unit	R&S	838312/011	300002681	n.a.		
43	NGPE programmable Power Supply for EUT	R&S	192.033.41	300002681			
44	Power Splitter 6005-3	Inmet Corp.	none	300002841	n.a.		
45	SMA Cables SPS-1151-985-SPS	Insulated Wire	different	different	n.a.		
46	CBT32 with EDR Signaling Unit	R&S					
47	Coupling unit	Narda	N/A	--	n.a.		
48	2xSwitch Matrix PSU	R&S	872584/021	300001329	n.a.		
49	RF-cable set	R&S	N/A	different	n.a.		
50	IEEE-cables	R&S	N/A	--	n.a.		

Note: 3000002681-00xx inventoried as a system