

# Annex E



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**Test report annex authorized:**

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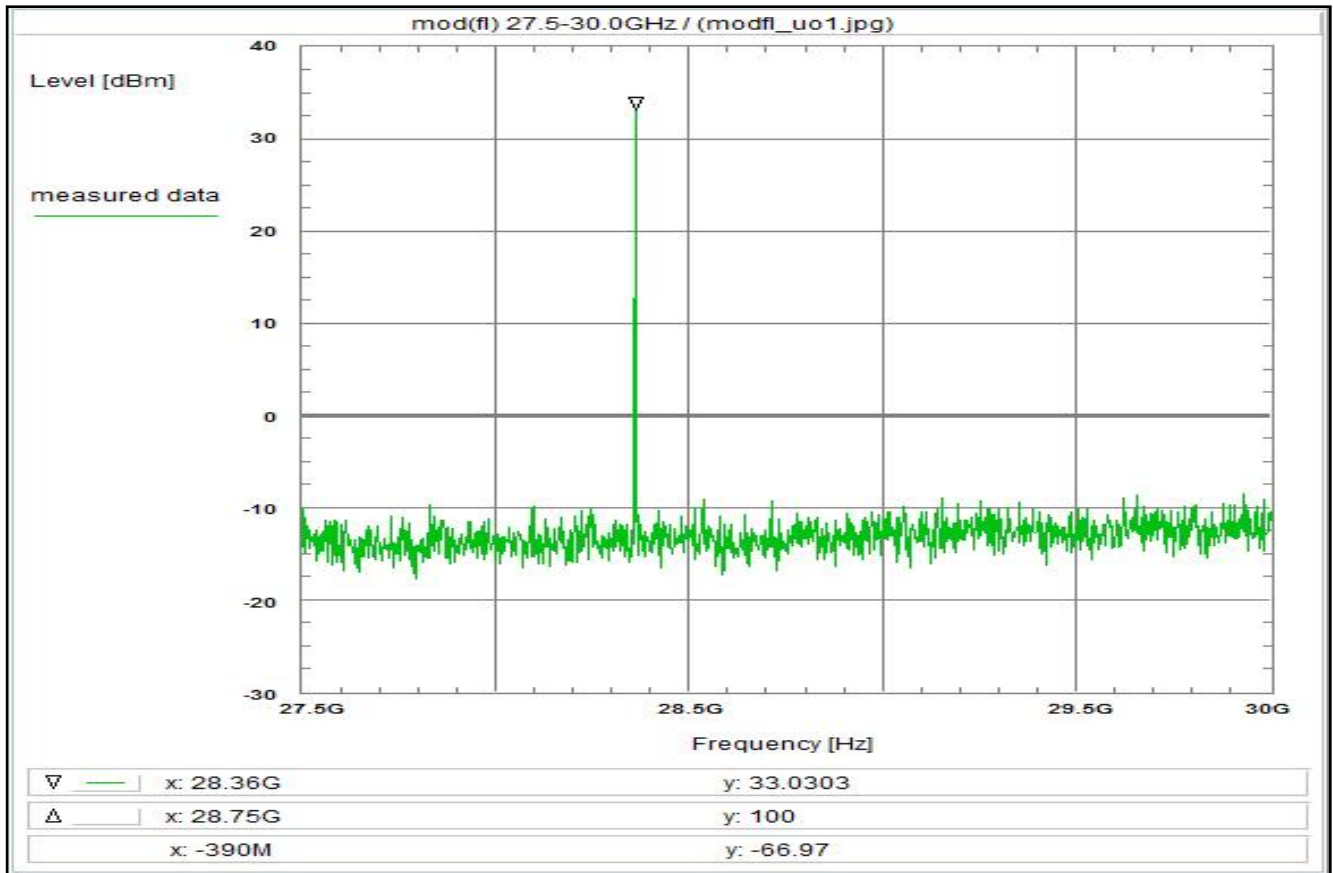
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## 2 Measurement results, FCC Part 25, SRSP-101

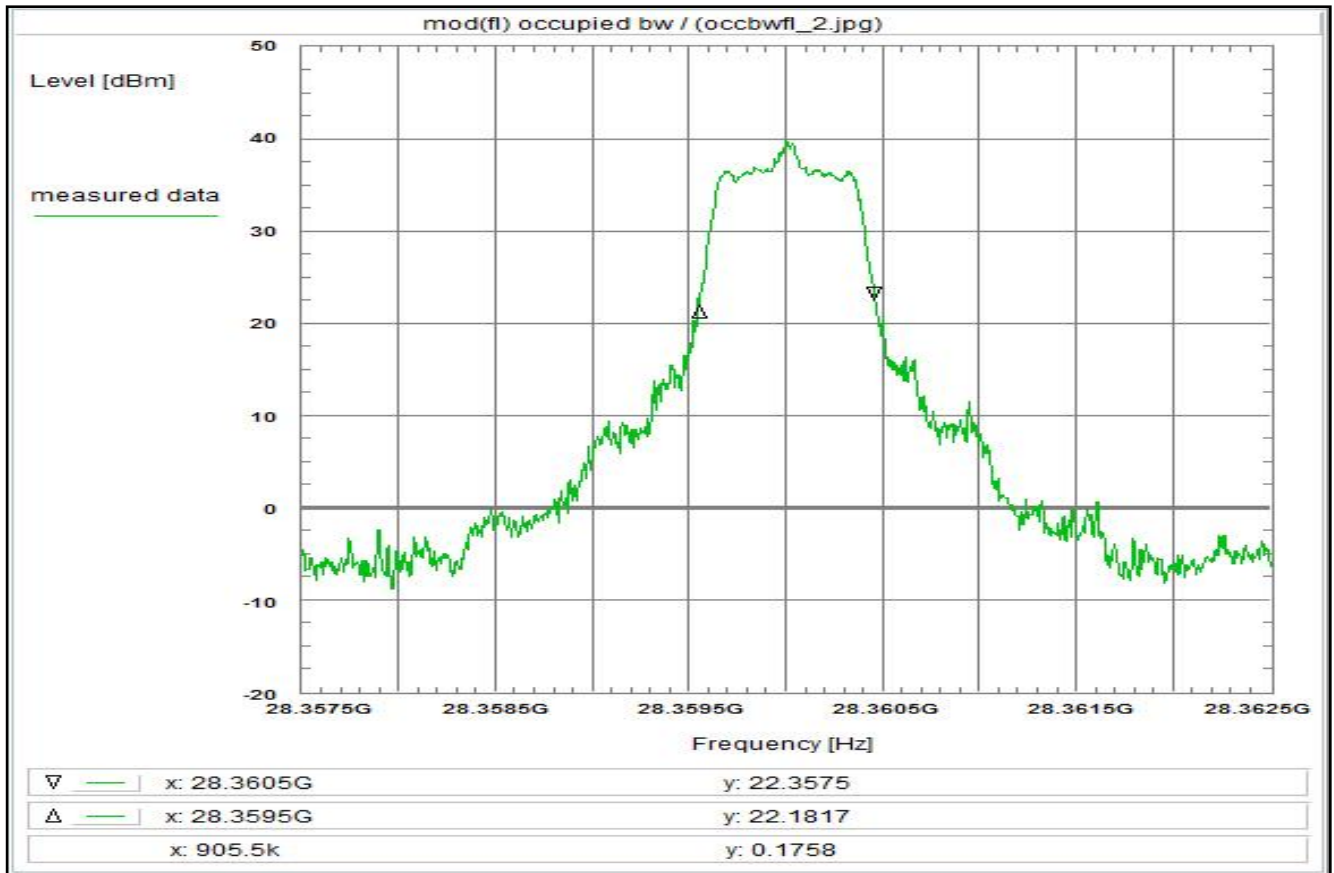
This chapter consists of 41 pages including this page.

Plot No. 1



<p><b>Subclause:</b> -/- Function test Modulated rf-carrier at the lower edge of the band (fl) Measurement within the band</p> <p><b>Limit:</b> no limits defined This test serves to verify the general function of the EUT and for orientation regarding to the spurious emissions which are expected within the band, furthermore for comparison of the actual power with the rated value at modulated carrier adjusted as close to the lower edge of the operating frequency band.</p> <p><b>Test results:</b> see plot (an explicit table was not generated)</p> <p><b>Operating condition of DUT:</b> operating condition 1, see test report chapter 6.4</p> <p><b>Test setup:</b> see test report chapter 7.2:</p> <p><b>Test equipment:</b> see test report chapter 7.3: A031, C220, R001</p> <p><b>Remark:</b></p> <p><b>Test result:</b> measurement for orientation</p>	<p><b>Environment condition:</b> Date &amp; Time: Fri 20/May/2022 14:12:25 Location: CTC advanced GmbH, Laboratory RC-SYS Temperature: 22 °C Humidity: 55 % Voltage: 230 Vac</p> <p><b>Setup of measurement equipment:</b> Start frequency: 27.5 GHz Stop frequency: 30 GHz Center frequency: 28.75 GHz Frequency span: 2.5 GHz Resolution-BW: 100 kHz Video-BW: 300 kHz Input attenuation: 6 dB Trace-Mode: Clear Write Detector-Mode: Pos Peak</p> <p><b>Correction:</b> Directional coupler + 0.0 dB Coaxial cable (C220) + 4.0 dB DUT-Antenna (on-axis) + 0.0 dBi Test antenna (A031) - 15.5 dB BW correction factor + 0.0 dB Atten. between HPA and feedhorn + 0.0 dB Freefield attenuation (28.75GHz, 5m) + 75.6 dB Circular polarization + 3.0 dB Additional Attenuation + 0.2 dB TOTAL CORRECTION: + 67.3 dB</p> <p><b>Remarks:</b> Test of general function and measurement for orientation</p>
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Plot No. 2



**Subclause:** -/- Function test  
Modulated rf-carrier at the lower edge of the band (fl)  
Determination of the occupied bandwidth

**Limit:**  
no limits defined

**Test results:**  
see plot (an explicit table was not generated)

**Operating condition of DUT:**  
operating condition 1, see test report chapter 6.4

**Test setup:**  
see test report chapter 7.2:

**Test equipment:**  
see test report chapter 7.3: A031, C220, R001

**Remark:**

**Test result:** measurement for orientation

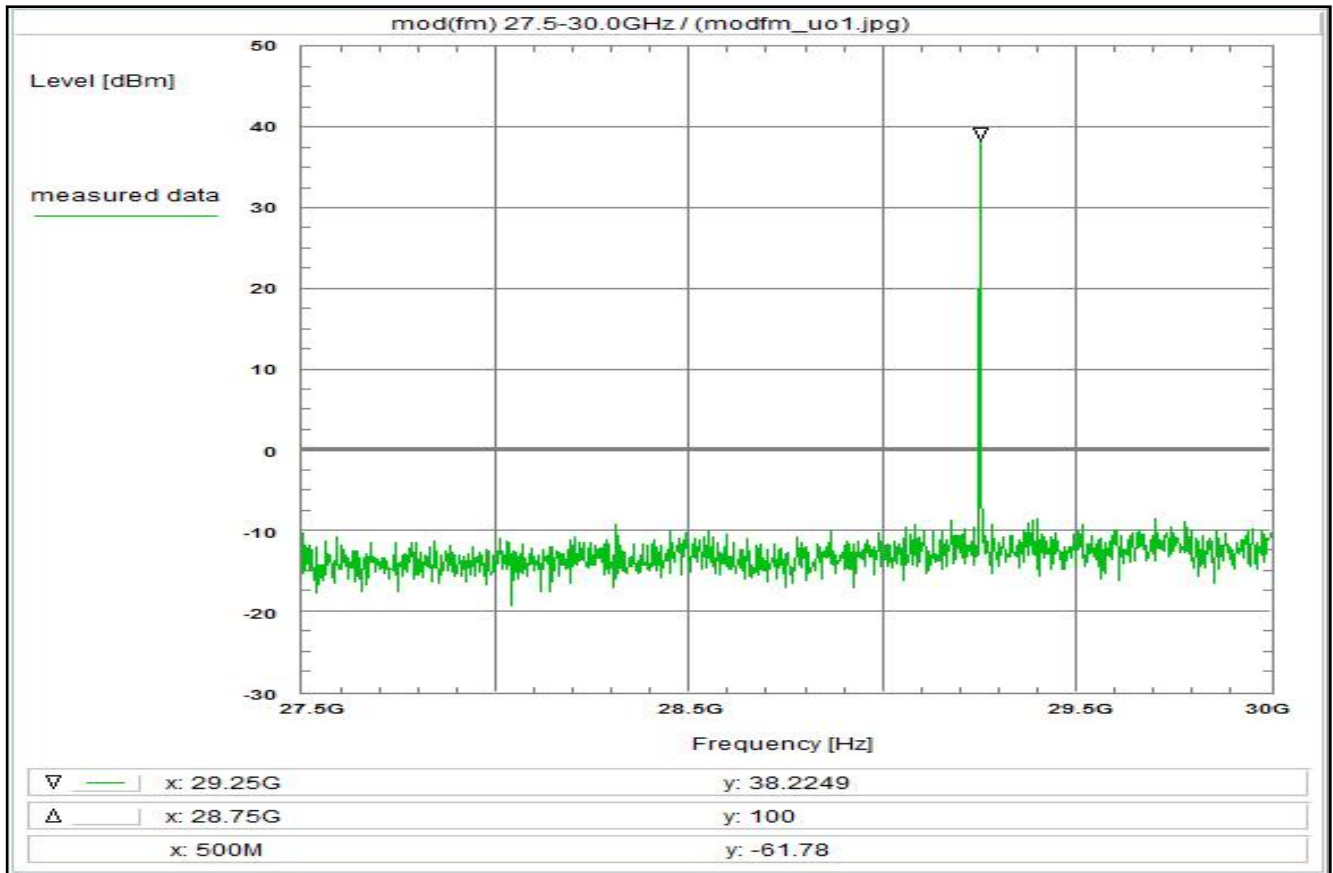
**Environment condition:**  
Date & Time: Fri 20/May/2022 15:07:38  
Location: CTC advanced GmbH, Laboratory RC-SYS  
Temperature: 22 °C  
Humidity: 55 %  
Voltage: 230 Vac

**Setup of measurement equipment:**  
Start frequency: 28.3575 GHz  
Stop frequency: 28.3625 GHz  
Center frequency: 28.36 GHz  
Frequency span: 5 MHz  
Resolution-BW: 100 kHz  
Video-BW: 300 kHz  
Input attenuation: 6 dB  
Trace-Mode: Max-Hold  
Detector-Mode: Pos Peak

**Correction:**  
Directional coupler + 0.0 dB  
Coaxial cable (C220) + 3.9 dB  
DUT-Antenna (on-axis) + 0.0 dBi  
Test antenna (A031) - 15.2 dB  
BW correction factor + 0.0 dB  
Atten. between HPA and feedhorn + 0.0 dB  
Freefield attenuation (29.99GHz, 5m) + 76.0 dB  
Circular polarization + 3.0 dB  
Additional Attenuation + 0.2 dB  
TOTAL CORRECTION: + 67.9 dB

**Remarks:**  
Determination of the occupied bandwidth. Average measurement.  
The measured value is about 0.89 MHz (delta marker)  
(according to the definition: 99% of the total mean power)  
The internal function of the analyzer was used for determination.

Plot No. 3



**Subclause:** -/- Function test  
Modulated rf-carrier in the middle of the band (fm)  
Measurement within the band

**Limit:**  
no limits defined  
This test serves to verify the general function of the EUT and for orientation regarding to the spurious emissions which are expected within the band, furthermore for comparison of the actual power with the rated value at modulated carrier adjusted in the middle of the band (EIRP).

**Test results:**  
see plot (an explicit table was not generated)

**Operating condition of DUT:**  
operating condition 1, see test report chapter 6.4

**Test setup:**  
see test report chapter 7.2:

**Test equipment:**  
see test report chapter 7.3: A031, C220, R001

**Remark:**

**Test result:** measurement for orientation

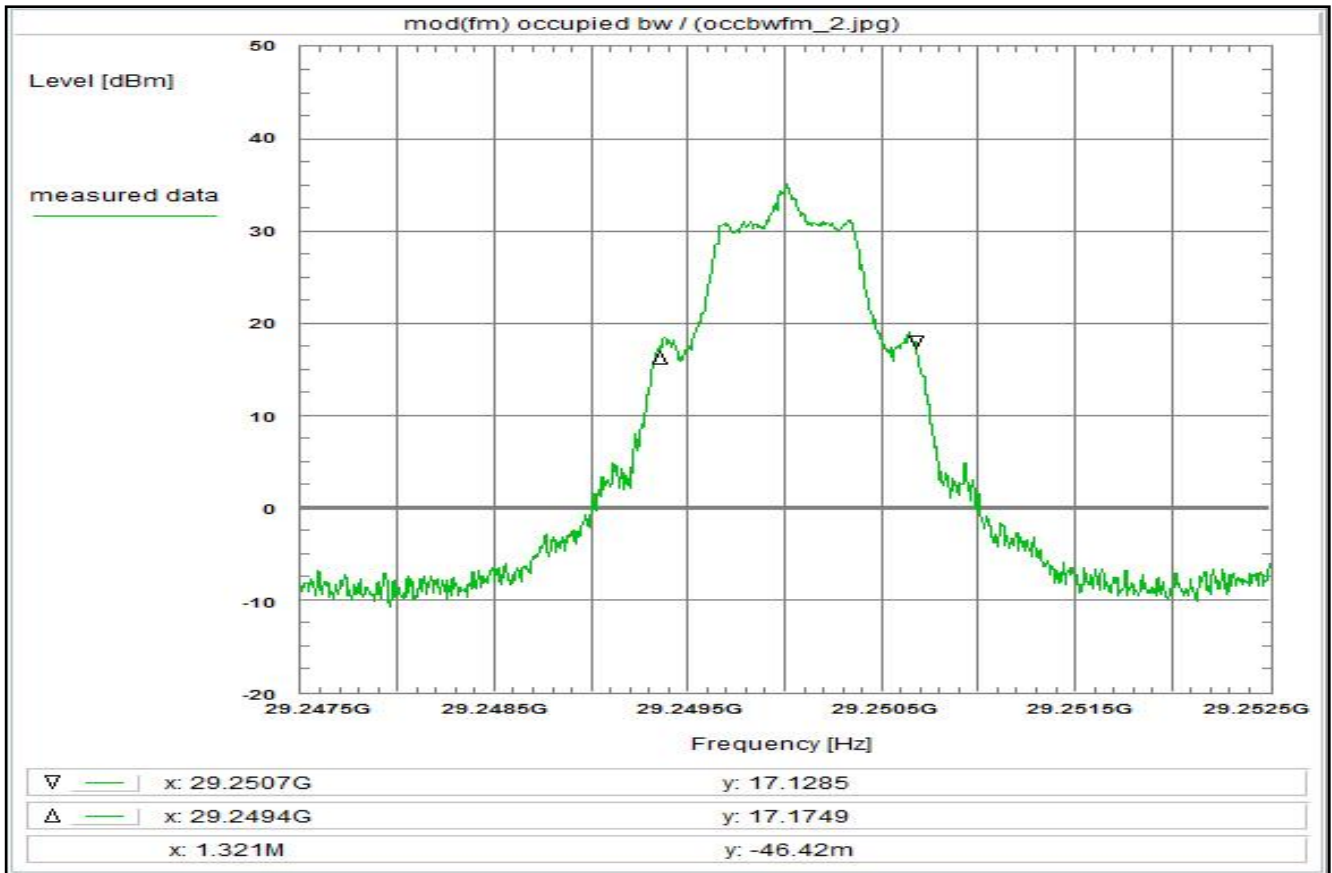
**Environment condition:**  
Date & Time: Fri 20/May/2022 14:24:04  
Location: CTC advanced GmbH, Laboratory RC-SYS  
Temperature: 22 °C  
Humidity: 55 %  
Voltage: 230 Vac

**Setup of measurement equipment:**  
Start frequency: 27.5 GHz  
Stop frequency: 30 GHz  
Center frequency: 28.75 GHz  
Frequency span: 2.5 GHz  
Resolution-BW: 100 kHz  
Video-BW: 300 kHz  
Input attenuation: 6 dB  
Trace-Mode: Clear Write  
Detector-Mode: Pos Peak

**Correction:**  
Directional coupler + 0.0 dB  
Coaxial cable (C220) + 4.0 dB  
DUT-Antenna (on-axis) + 0.0 dBi  
Test antenna (A031) - 15.5 dB  
BW correction factor + 0.0 dB  
Atten. between HPA and feedhorn + 0.0 dB  
Freefield attenuation (28.75GHz, 5m) + 75.6 dB  
Circular polarization + 3.0 dB  
Additional Attenuation + 0.2 dB  
TOTAL CORRECTION: + 67.3 dB

**Remarks:**  
Test of general function and measurement for orientation

Plot No. 4



**Subclause:** -/- Function test  
Modulated rf-carrier in the middle of the band (fm)  
Determination of the occupied bandwidth

**Limit:**  
no limits defined

**Test results:**  
see plot (an explicit table was not generated)

**Operating condition of DUT:**  
operating condition 1, see test report chapter 6.4

**Test setup:**  
see test report chapter 7.2:

**Test equipment:**  
see test report chapter 7.3: A031, C220, R001

**Remark:**

**Test result:** measurement for orientation

**Environment condition:**  
Date & Time: Fri 20/May/2022 14:58:08  
Location: CTC advanced GmbH, Laboratory RC-SYS  
Temperature: 22 °C  
Humidity: 55 %  
Voltage: 230 Vac

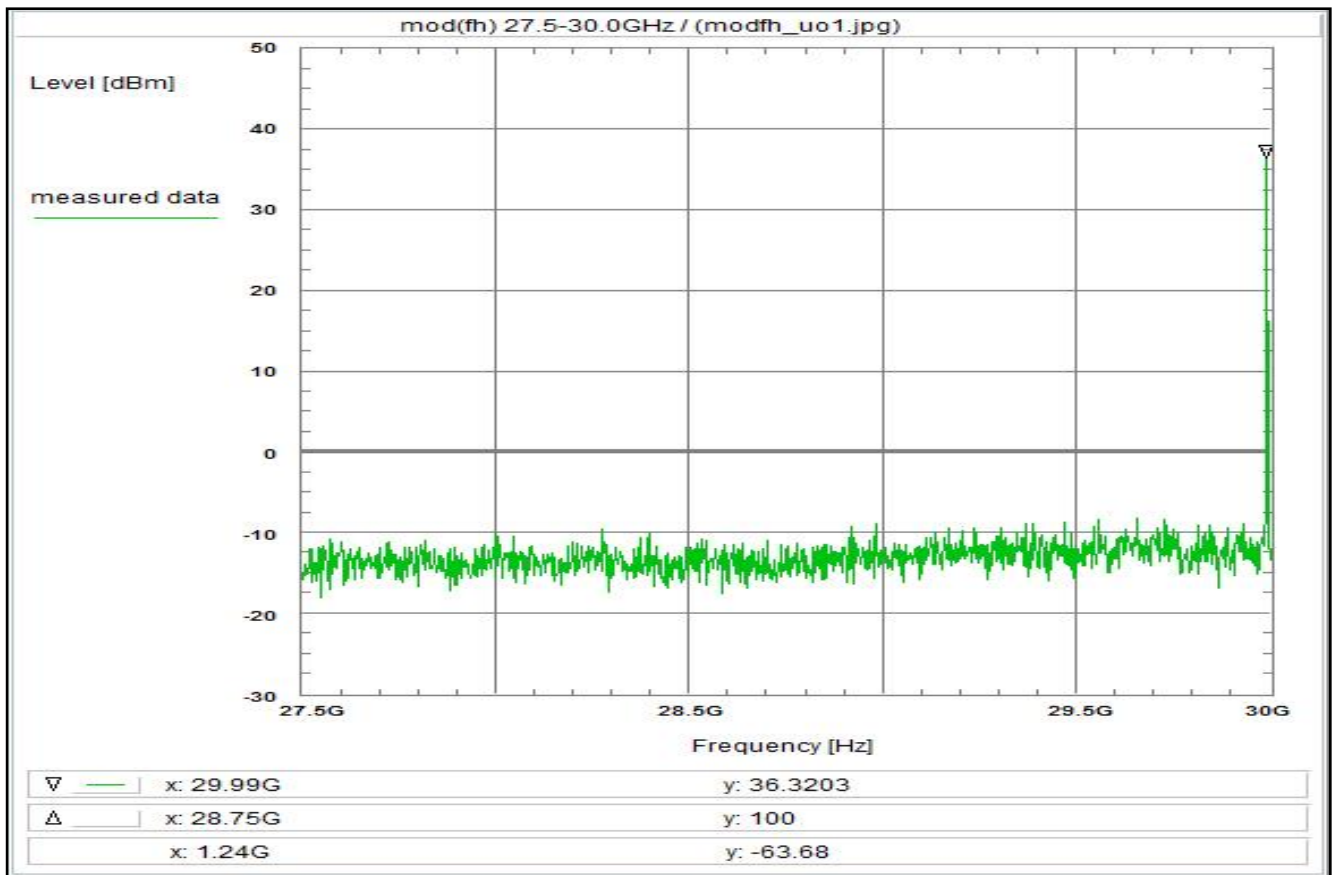
**Setup of measurement equipment:**  
Start frequency: 29.2475 GHz  
Stop frequency: 29.2525 GHz  
Center frequency: 29.25 GHz  
Frequency span: 5 MHz  
Resolution-BW: 100 kHz  
Video-BW: 300 kHz  
Input attenuation: 6 dB  
Trace-Mode: Max-Hold  
Detector-Mode: Pos Peak

**Correction:**

Directional coupler	+ 0.0 dB
Coaxial cable (C220)	+ 4.0 dB
DUT-Antenna (on-axis)	+ 0.0 dBi
Test antenna (A031)	- 15.8 dB
BW correction factor	+ 0.0 dB
Atten. between HPA and feedhorn	+ 0.0 dB
Freefield attenuation (29.99GHz, 5m)	+ 76.0 dB
Circular polarization	+ 3.0 dB
Additional Attenuation	+ 0.2 dB
<b>TOTAL CORRECTION:</b>	<b>+ 67.4 dB</b>

**Remarks:**  
Determination of the occupied bandwidth. Average measurement.  
The measured value is about 1.3 MHz (delta marker)  
(according to the definition: 99% of the total mean power)  
The internal function of the analyzer was used for determination.

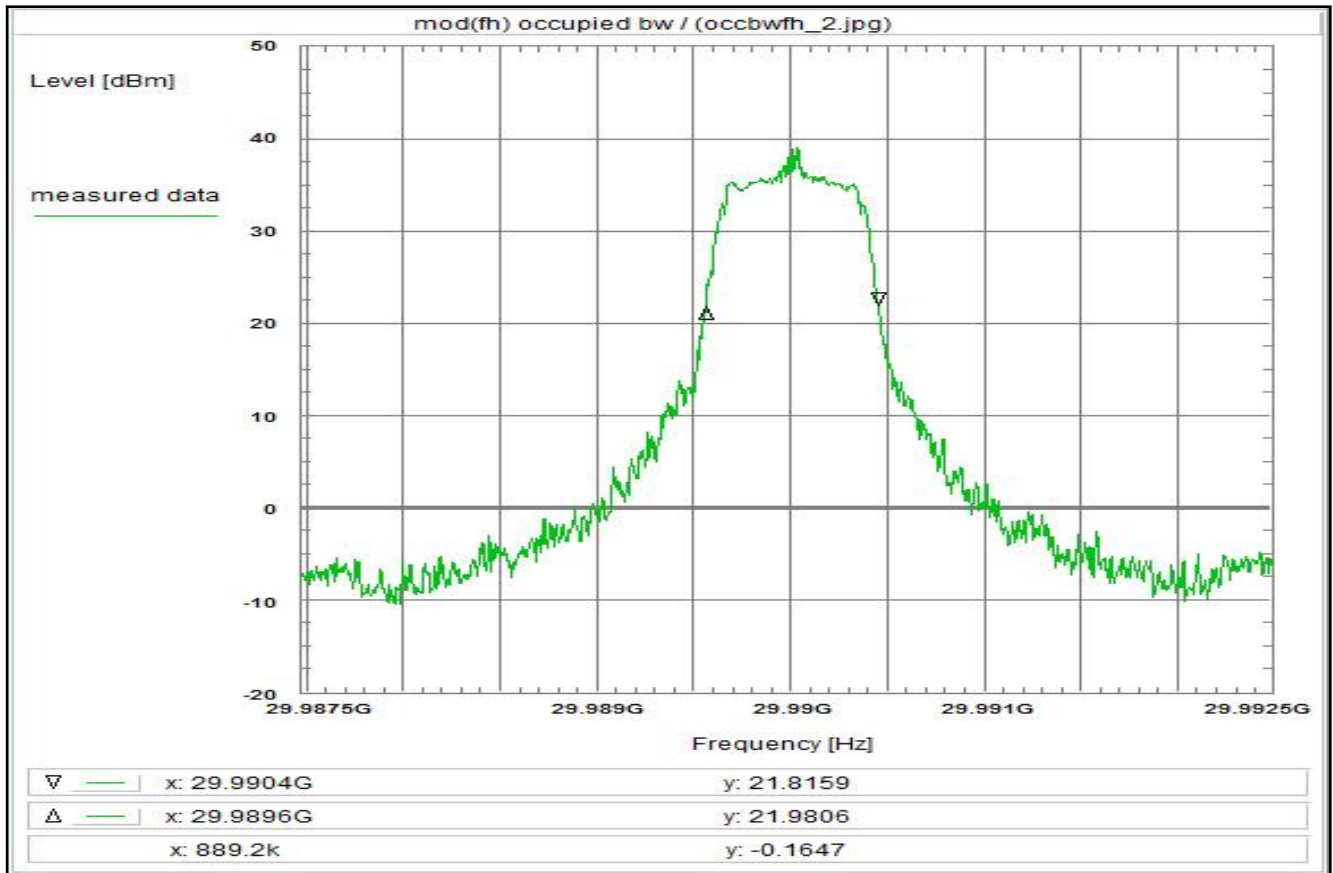
Plot No. 5



<p><b>Subclause:</b> -/- Function test Modulated rf-carrier at the upper edge of the band (fh) Measurement within the band</p> <p><b>Limit:</b> no limits defined This test serves to verify the general function of the EUT and for orientation regarding to the spurious emissions which are expected within the band, furthermore for comparison of the actual power with the rated value at modulated carrier adjusted as close to the upper edge of the operating frequency band.</p> <p><b>Test results:</b> see plot (an explicit table was not generated)</p> <p><b>Operating condition of DUT:</b> operating condition 1, see test report chapter 6.4</p> <p><b>Test setup:</b> see test report chapter 7.2:</p> <p><b>Test equipment:</b> see test report chapter 7.3: A031, C220, R001</p> <p><b>Remark:</b> measurement for orientation</p> <p><b>Test result:</b> Test passed</p>	<p><b>Environment condition:</b> Date &amp; Time: Fri 20/May/2022 14:42:00 Location: CTC advanced GmbH, Laboratory RC-SYS Temperature: 22 °C Humidity: 55 % Voltage: 230 Vac</p> <p><b>Setup of measurement equipment:</b> Start frequency: 27.5 GHz Stop frequency: 30 GHz Center frequency: 28.75 GHz Frequency span: 2.5 GHz Resolution-BW: 100 kHz Video-BW: 300 kHz Input attenuation: 6 dB Trace-Mode: Clear Write Detector-Mode: Pos Peak</p> <p><b>Correction:</b> Directional coupler + 0.0 dB Coaxial cable (C220) + 4.0 dB DUT-Antenna (on-axis) + 0.0 dBi Test antenna (A031) - 15.5 dB BW correction factor + 0.0 dB Atten. between HPA and feedhorn + 0.0 dB Freefield attenuation (35.00GHz, 5m) + 77.3 dB Circular polarization + 3.0 dB Additional Attenuation + 0.2 dB TOTAL CORRECTION: + 69.0 dB</p> <p><b>Remarks:</b> Test of general function and measurement for orientation</p>
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Plot No. 6



**Subclause:** -/- Function test  
Modulated rf-carrier at the upper edge of the band (fh)  
Determination of the occupied bandwidth

**Limit:**  
no limits defined

**Test results:**  
see plot (an explicit table was not generated)

**Operating condition of DUT:**  
operating condition 1, see test report chapter 6.4

**Test setup:**  
see test report chapter 7.2:

**Test equipment:**  
see test report chapter 7.3: A031, C220, R001

**Remark:**

**Test result:** measurement for orientation

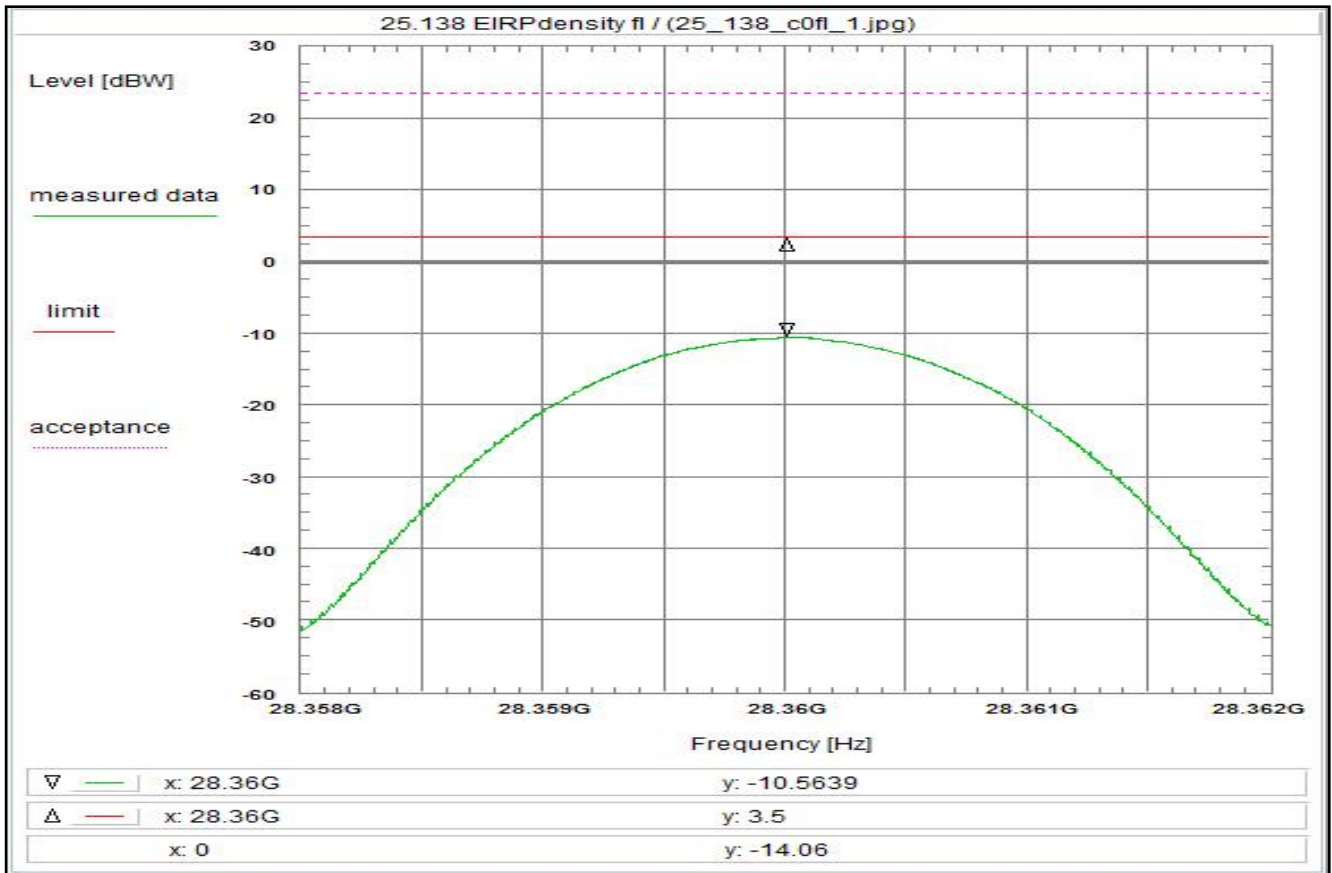
**Environment condition:**  
Date & Time: Fri 20/May/2022 15:03:38  
Location: CTC advanced GmbH, Laboratory RC-SYS  
Temperature: 22 °C  
Humidity: 55 %  
Voltage: 230 Vac

**Setup of measurement equipment:**  
Start frequency: 29.987475 GHz  
Stop frequency: 29.992475 GHz  
Center frequency: 29.989975 GHz  
Frequency span: 5 MHz  
Resolution-BW: 100 kHz  
Video-BW: 300 kHz  
Input attenuation: 6 dB  
Trace-Mode: Max-Hold  
Detector-Mode: Pos Peak

**Correction:**  
Directional coupler + 0.0 dB  
Coaxial cable (C220) + 4.1 dB  
DUT-Antenna (on-axis) + 0.0 dBi  
Test antenna (A031) - 15.8 dB  
BW correction factor + 0.0 dB  
Atten. between HPA and feedhorn + 0.0 dB  
Freefield attenuation (29.99GHz, 5m) + 76.0 dB  
Circular polarization + 3.0 dB  
Additional Attenuation + 0.2 dB  
TOTAL CORRECTION: + 67.5 dB

**Remarks:**  
Determination of the occupied bandwidth. Average measurement.  
The measured value is about 0.86 MHz (delta marker)  
(according to the definition: 99% of the total mean power)  
The internal function of the analyzer was used for determination.

Plot No. 7



**Subclause:** 25.138 Off-axis EIRP spectral density (co-, cross-polar) within the band  
Modulated rf-carrier at the lower edge of the band (fl)  
Measurement of the wanted signal within 5 ° occupied bandwidth

**Limit:**  
Limit acc. to §25.138: 32.5-25log2° dBW/MHz  
-ant.-pattern envelope: -(29-25log2° dBi)  
=>: 3.5 dBW/MHz (copolar)  
resp.: 3.5 dBW/MHz (crosspolar)

The subtraction of the terms results in a constant limit.  
The antenna gain is set to zero in the correction data for this calculation.  
§25.204(e)(3) For stations employing uplink power control, the values in paragraphs (a)(1), (2), and (4) of §25.138 may be exceeded by up to 20 dB under conditions of uplink fading due to precipitation.

**Test results:**  
see plot (an explicit table was not generated)

**Operating condition of DUT:**  
operating condition 1, see test report chapter 6.4

**Test setup:**  
see test report chapter 7.2:

**Test equipment:**  
see test report chapter 7.3: A031, C220, R001

**Remark:**

**Test result: Test passed**

**Environment condition:**

Date & Time: Fri 20/May/2022 14:22:49  
Location: CTC advanced GmbH, Laboratory RC-SYS  
Temperature: 22 °C  
Humidity: 55 %  
Voltage: 230 Vac

**Setup of measurement equipment:**

Start frequency: 28.358 GHz  
Stop frequency: 28.362 GHz  
Center frequency: 28.36 GHz  
Frequency span: 4 MHz  
Resolution-BW: 1 MHz  
Video-BW: 100 kHz  
Input attenuation: 6 dB  
Trace-Mode: Clear Write  
Detector-Mode: AVG

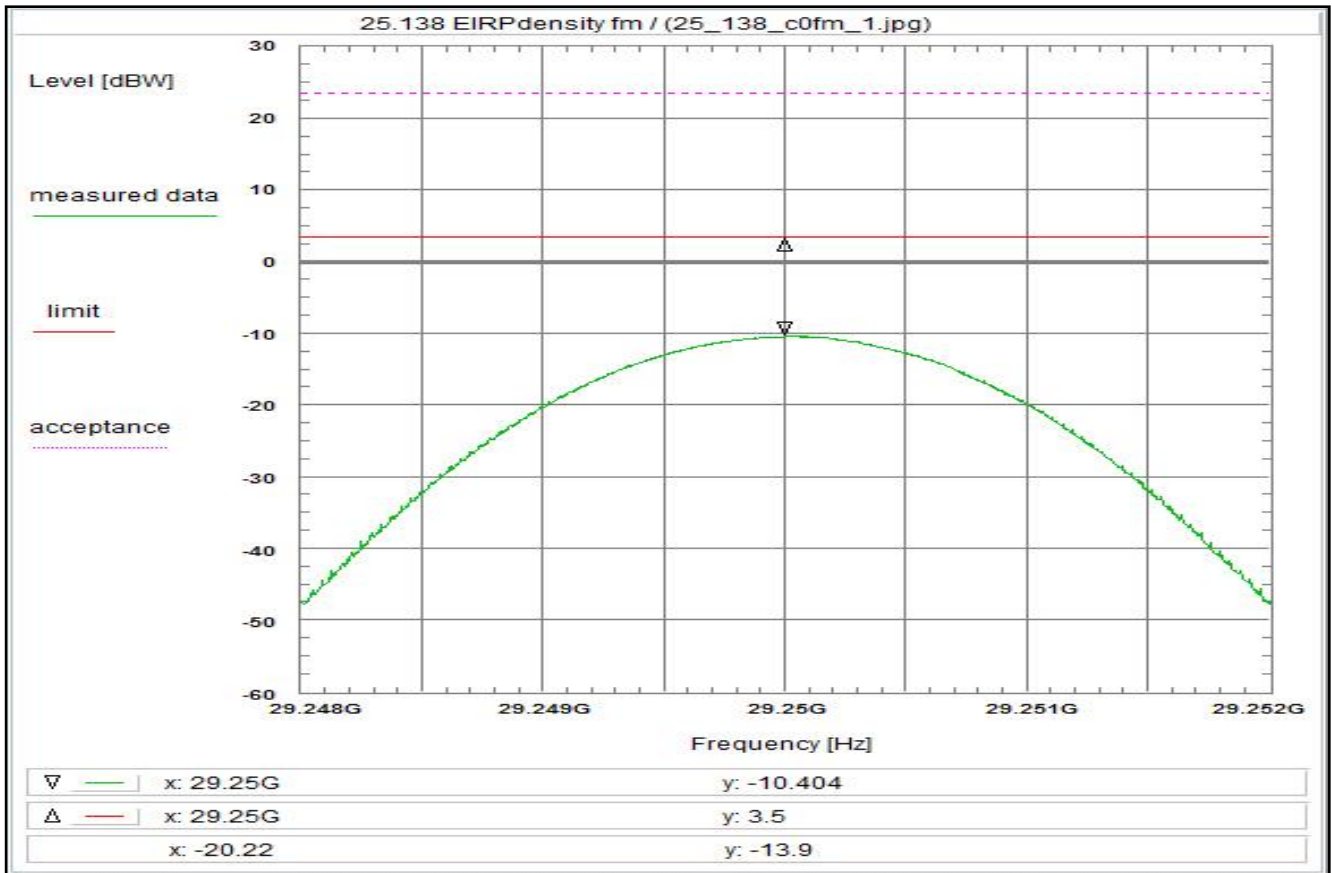
**Correction:**

Directional coupler	+ 0.0 dB
Coaxial cable (C220)	+ 3.9 dB
DUT-Antenna (see under limit)	- 21.0 dBi
Test antenna (A031)	- 15.2 dB
BW correction factor	+ 0.0 dB
Atten. between HPA and feedhorn	- 0.0 dB
Freefield attenuation (28.75GHz, 5m)	+ 75.6 dB
Circular polarization	+ 3.0 dB
Additional Attenuation	+ 0.2 dB
<b>TOTAL CORRECTION:</b>	<b>+ 46.5 dB</b>

**Remarks:**

The envelope curves for the antenna patterns ('worst case') are used for this calculation - the actual antenna patterns have to fulfill these requirements (co- and crosspolar envelope curves).  
See the separate plot after the measurement plots, too.  
Measurement with 30 kHz resolution filter and noise averaging.

Plot No. 8



**Subclause:** 25.138 Off-axis EIRP spectral density (co-, cross-polar) within the band  
Modulated rf-carrier in the middle of the band (fm)  
Measurement of the wanted signal within 5 \* occupied bandwidth

**Limit:**  
Limit acc. to §25.138: 32.5-25log2° dBW/MHz  
-ant.-pattern envelope: -(29-25log2° dBi)  
=>: 3.5 dBW/MHz (copolar)  
resp.: 3.5 dBW/MHz (crosspolar)

The subtraction of the terms results in a constant limit.  
The antenna gain is set to zero in the correction data for this calculation.  
§25.204(e)(3) For stations employing uplink power control, the values in paragraphs (a)(1), (2), and (4) of §25.138 may be exceeded by up to 20 dB under conditions of uplink fading due to precipitation.

**Test results:**  
see plot (an explicit table was not generated)

**Operating condition of DUT:**  
operating condition 1, see test report chapter 6.4

**Test setup:**  
see test report chapter 7.2:

**Test equipment:**  
see test report chapter 7.3: A031, C220, R001

**Remark:**

**Test result: Test passed**

**Environment condition:**

Date & Time: Fri 20/May/2022 14:27:12  
Location: CTC advanced GmbH, Laboratory RC-SYS  
Temperature: 22 °C  
Humidity: 55 %  
Voltage: 230 Vac

**Setup of measurement equipment:**

Start frequency: 29.248 GHz  
Stop frequency: 29.252 GHz  
Center frequency: 29.25 GHz  
Frequency span: 4 MHz  
Resolution-BW: 1 MHz  
Video-BW: 100 kHz  
Input attenuation: 6 dB  
Trace-Mode: Clear Write  
Detector-Mode: AVG

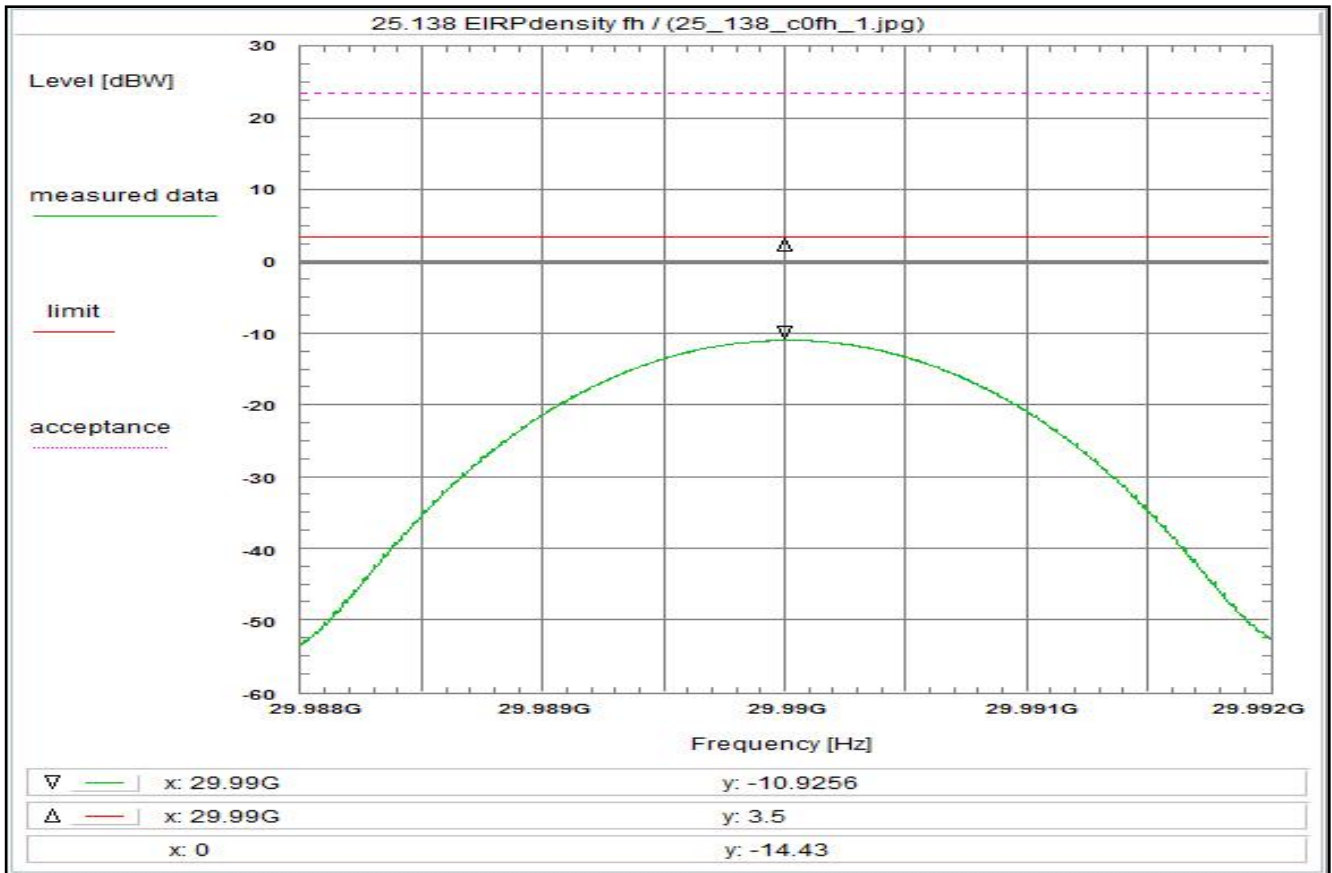
**Correction:**

Directional coupler	+ 0.0 dB
Coaxial cable (C220)	+ 4.0 dB
DUT-Antenna (see under limit)	- 21.0 dBi
Test antenna (A031)	- 15.8 dB
BW correction factor	+ 0.0 dB
Atten. between HPA and feedhorn	- 0.0 dB
Freefield attenuation (28.75GHz, 5m)	+ 75.6 dB
Circular polarization	+ 3.0 dB
Additional Attenuation	+ 0.2 dB
<b>TOTAL CORRECTION:</b>	<b>+ 46.0 dB</b>

**Remarks:**

The envelope curves for the antenna patterns ('worst case') are used for this calculation - the actual antenna patterns have to fulfill these requirements (co- and crosspolar envelope curves).  
See the separate plot after the measurement plots, too.  
Measurement with 30 kHz resolution filter and noise averaging.

Plot No. 9



**Subclause:** 25.138 Off-axis EIRP spectral density (co-, cross-polar) within the band  
Modulated rf-carrier at the upper edge of the band (fh)  
Measurement of the wanted signal within 5 \* occupied bandwidth

**Limit:**  
Limit acc. to §25.138: 32.5-25log2° dBW/MHz  
-ant.-pattern envelope: -(29-25log2° dBi)  
=>: 3.5 dBW/MHz (copolar)  
resp.: 3.5 dBW/MHz (crosspolar)  
The subtraction of the terms results in a constant limit.  
The antenna gain is set to zero in the correction data for this calculation.  
§25.204(e)(3) For stations employing uplink power control, the values in paragraphs (a)(1), (2), and (4) of §25.138 may be exceeded by up to 20 dB under conditions of uplink fading due to precipitation.

**Test results:**  
see plot (an explicit table was not generated)

**Operating condition of DUT:**  
operating condition 1, see test report chapter 6.4

**Test setup:**  
see test report chapter 7.2:

**Test equipment:**  
see test report chapter 7.3: A031, C220, R001

**Remark:**

**Test result: Test passed**

**Environment condition:**  
Date & Time: Fri 20/May/2022 14:45:53  
Location: CTC advanced GmbH, Laboratory RC-SYS  
Temperature: 22 °C  
Humidity: 55 %  
Voltage: 230 Vac

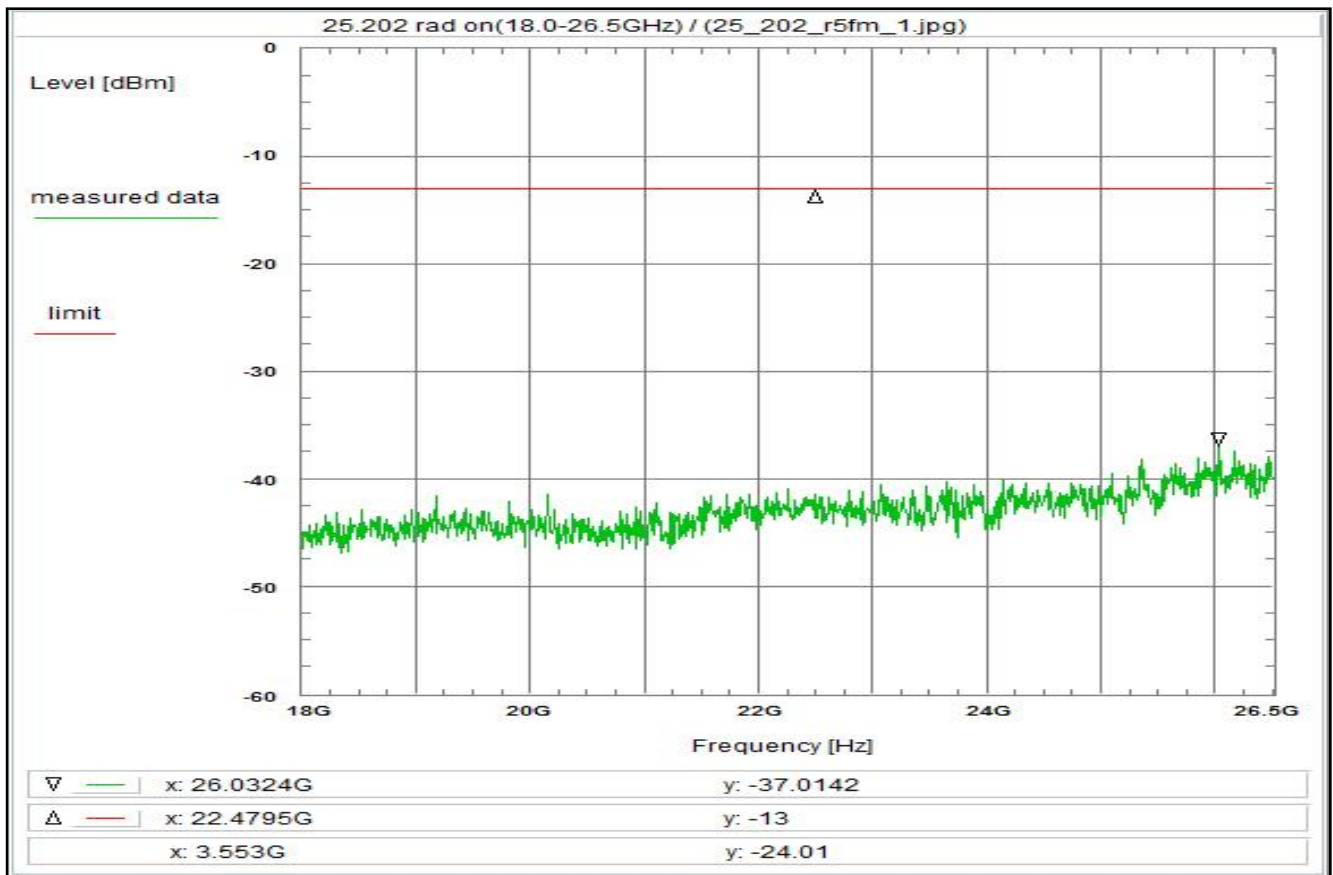
**Setup of measurement equipment:**  
Start frequency: 29.988 GHz  
Stop frequency: 29.992 GHz  
Center frequency: 29.99 GHz  
Frequency span: 4 MHz  
Resolution-BW: 1 MHz  
Video-BW: 100 kHz  
Input attenuation: 6 dB  
Trace-Mode: Clear Write  
Detector-Mode: AVG

**Correction:**

Directional coupler	+ 0.0 dB
Coaxial cable (C220)	+ 4.1 dB
DUT-Antenna (see under limit)	- 21.0 dBi
Test antenna (A031)	- 15.8 dB
BW correction factor	+ 0.0 dB
Atten. between HPA and feedhorn	- 0.0 dB
Freefield attenuation (29.99GHz, 5m)	+ 76.0 dB
Circular polarization	+ 3.0 dB
Additional Attenuation	+ 0.2 dB
<b>TOTAL CORRECTION:</b>	<b>+ 46.5 dB</b>

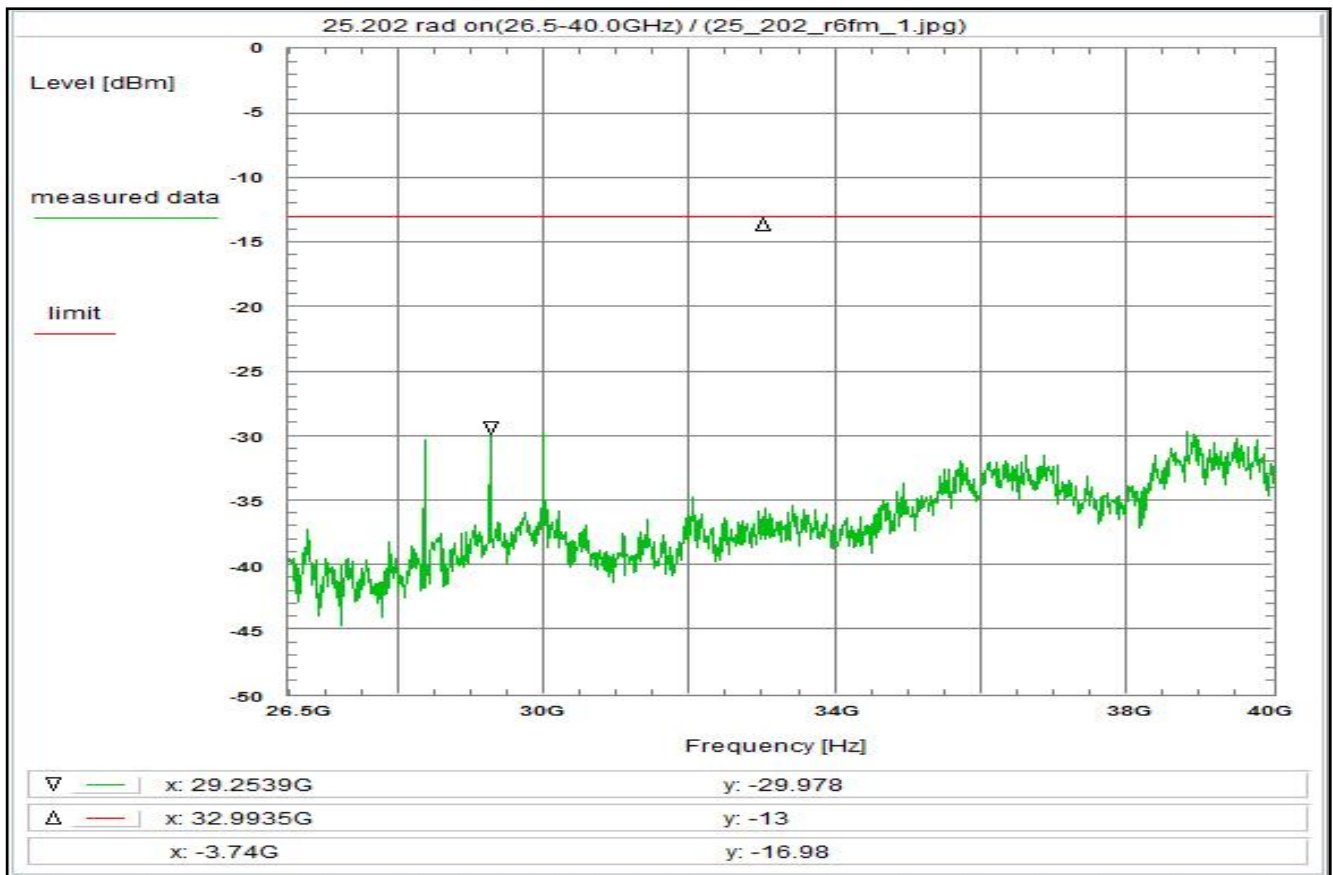
**Remarks:**  
The envelope curves for the antenna patterns ('worst case') are used for this calculation - the actual antenna patterns have to fulfill these requirements (co- and crosspolar envelope curves).  
See the separate plot after the measurement plots, too.  
Measurement with 30 kHz resolution filter and noise averaging.

Plot No. 10



<p><b>Subclause:</b> 25.202) Emission limitations Modulated rf-carrier in the middle of the band (fm) Radiation coming out of DUT-cabinet(s): 18.0 GHz - 26.5 GHz</p> <p><b>Limit:</b> Limit acc. to §25.202): -13.0 dBm</p> <p><b>Test results:</b> see plot (an explicit table was not generated)</p> <p><b>Operating condition of DUT:</b> operating condition 1, see test report chapter 6.4</p> <p><b>Test setup:</b> see test report chapter 7.2:</p> <p><b>Test equipment:</b> see test report chapter 7.3: A019, C220, R001</p> <p><b>Remark:</b></p> <p><b>Test result:</b> Test passed</p>	<p><b>Environment condition:</b> Date &amp; Time: Thu 19/May/2022 17:53:03 Location: CTC advanced GmbH, Laboratory RC-SYS Temperature: 22 °C Humidity: 55 % Voltage: 230 Vac</p> <p><b>Setup of measurement equipment:</b> Start frequency: 18 GHz Stop frequency: 26.5 GHz Center frequency: 22.25 GHz Frequency span: 8.5 GHz Resolution-BW: 1 MHz Video-BW: 3 MHz Input attenuation: 10 dB Trace-Mode: Max-Hold Detector-Mode: AVG</p> <p><b>Correction:</b> Directional coupler + 0.0 dB Coaxial cable (C220) + 3.5 dB DUT-Antenna 0.0 dBi Test antenna (A019) - 19.3 dB BW correction factor + 0.0 dB Atten. between HPA and feedhorn - 0.0 dB Freefield attenuation (22.25GHz, 0.3m) + 48.9 dB TOTAL CORRECTION: + 33.1 dB</p> <p><b>Remarks:</b> Carrier-on state / Carrier in the middle of the band (fm) Measurement for orientation with a measuring antenna close to the DUT-cabinets (about 1m distance). If any critical spurious radiations are detected a measurement in an exactly defined distance will be carried out.</p>
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Plot No. 11



**Subclause:** 25.202) Emission limitations  
Modulated rf-carrier in the middle of the band (fm)  
Radiation coming out of DUT-cabinet(s): 26.5 GHz - 40.0 GHz

**Limit:**  
Limit acc. to §25.202): -13.0 dBm

**Test results:**  
see plot (an explicit table was not generated)

**Operating condition of DUT:**  
operating condition 1, see test report chapter 6.4

**Test setup:**  
see test report chapter 7.2:

**Test equipment:**  
see test report chapter 7.3: A031, C220, R001

**Remark:**

**Test result: Test passed**

**Environment condition:**  
Date & Time: Fri 20/May/2022 13:29:12  
Location: CTC advanced GmbH, Laboratory RC-SYS  
Temperature: 22 °C  
Humidity: 55 %  
Voltage: 230 Vac

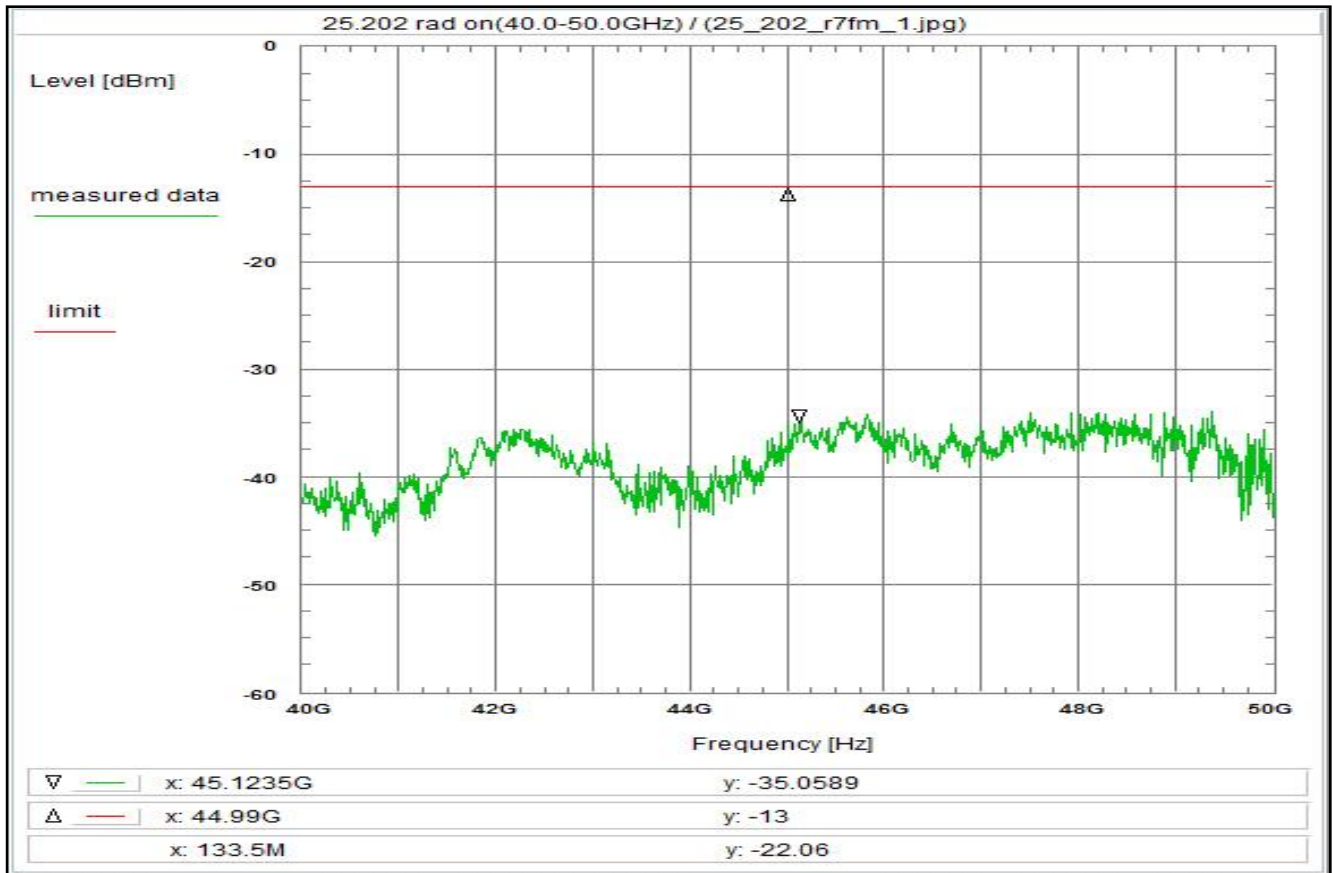
**Setup of measurement equipment:**  
Start frequency: 26.5 GHz  
Stop frequency: 40 GHz  
Center frequency: 33.25 GHz  
Frequency span: 13.5 GHz  
Resolution-BW: 1 MHz  
Video-BW: 3 MHz  
Input attenuation: 10 dB  
Trace-Mode: Max-Hold  
Detector-Mode: AVG

**Correction:**  
Directional coupler + 0.0 dB  
Coaxial cable (C220) + 4.3 dB  
DUT-Antenna 0.0 dBi  
Test antenna (A031) - 16.2 dB  
BW correction factor + 0.0 dB  
Atten. between HPA and feedhorn - 0.0 dB  
Freefield attenuation + 48.9 dB  
TOTAL CORRECTION: + 37.0 dB

**Remarks:**  
Carrier-on state / Carrier in the middle of the band (fm)  
Measurement for orientation with a measuring antenna close to the DUT-cabinets (about 1m distance).  
If any critical spurious radiations are detected a measurement in an exactly defined distance will be carried out.

low - mid - high Tx frequencies shown on plot

Plot No. 12



**Subclause:** 25.202) Emission limitations  
Modulated rf-carrier in the middle of the band (fm)  
Radiation coming out of DUT-cabinet(s): 40.0 GHz - 50.0 GHz

**Limit:**  
Limit acc. to §25.202): -13.0 dBm

**Test results:**  
see plot (an explicit table was not generated)

**Operating condition of DUT:**  
operating condition 1, see test report chapter 6.4

**Test setup:**  
see test report chapter 7.2:

**Test equipment:**  
see test report chapter 7.3: A\_50, C220, R001

**Remark:**

**Test result: Test passed**

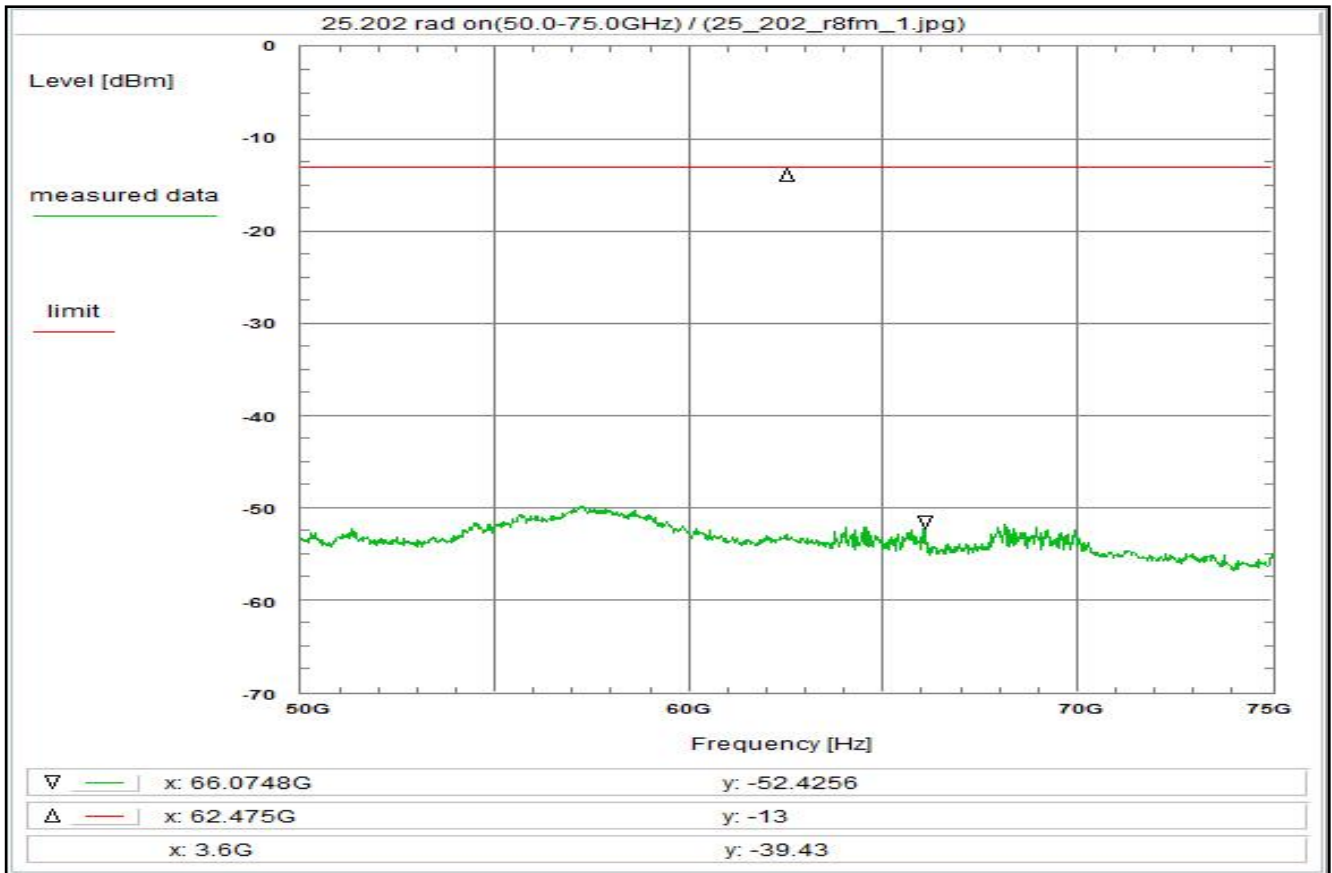
**Environment condition:**  
Date & Time: Thu 19/May/2022 17:57:19  
Location: CTC advanced GmbH, Laboratory RC-SYS  
Temperature: 22 °C  
Humidity: 55 %  
Voltage: 230 Vac

**Setup of measurement equipment:**  
Start frequency: 40 GHz  
Stop frequency: 50 GHz  
Center frequency: 45 GHz  
Frequency span: 10 GHz  
Resolution-BW: 1 MHz  
Video-BW: 3 MHz  
Input attenuation: 10 dB  
Trace-Mode: Max-Hold  
Detector-Mode: AVG

**Correction:**  
Directional coupler + 0.0 dB  
Coaxial cable (C220) + 5.2 dB  
DUT-Antenna 0.0 dBi  
Test antenna (A\_50) - 19.9 dB  
BW correction factor + 0.0 dB  
Atten. between HPA and feedhorn - 0.0 dB  
Freefield attenuation (45.00GHz, 0.1m) + 45.5 dB  
TOTAL CORRECTION: + 30.8 dB

**Remarks:**  
Carrier-on state / Carrier in the middle of the band (fm)  
Measurement for orientation with a measuring antenna close to the DUT-cabinets (about 1m distance).  
If any critical spurious radiations are detected a measurement in an exactly defined distance will be carried out.

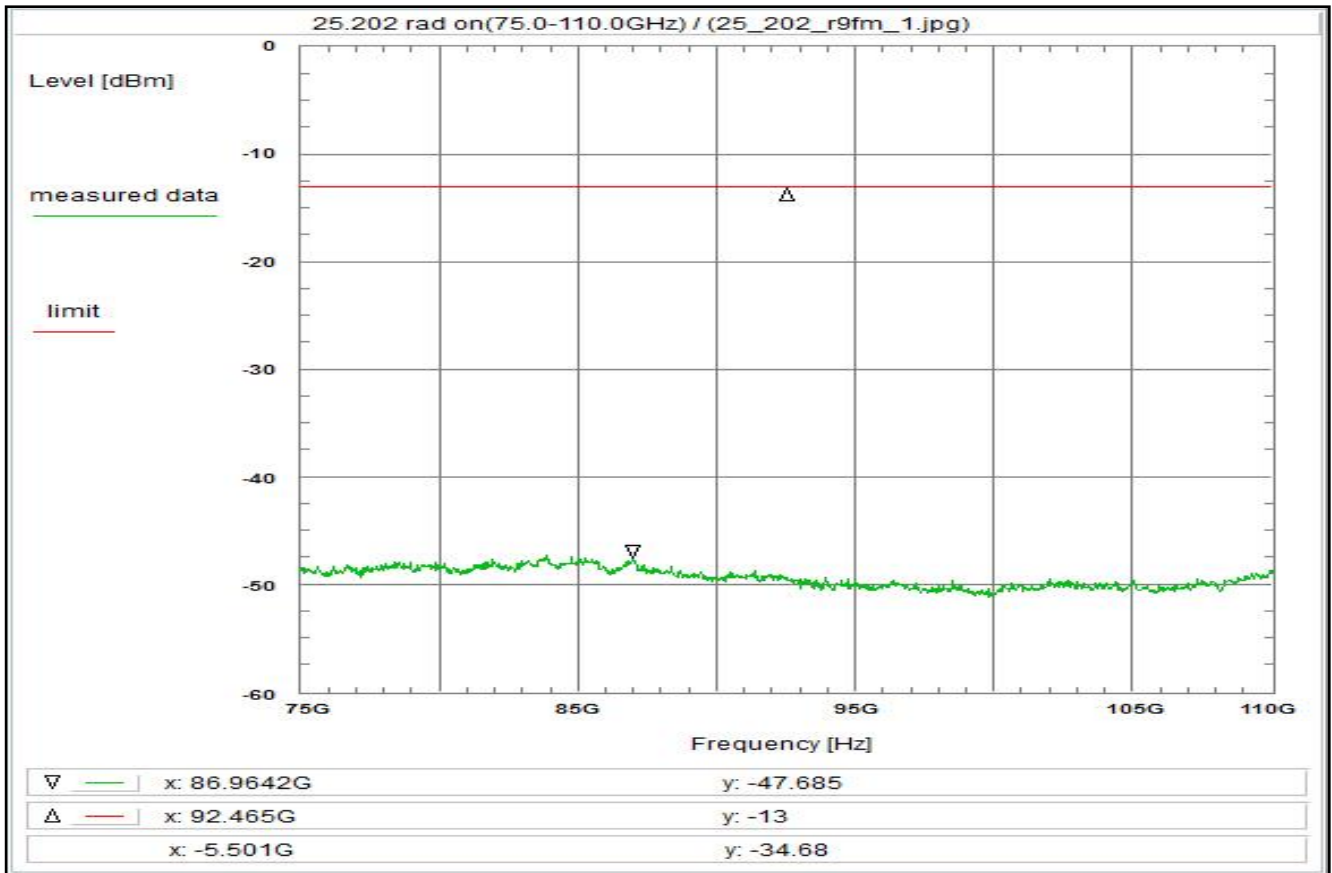
Plot No. 13



<p><b>Subclause:</b> 25.202) Emission limitations Modulated rf-carrier in the middle of the band (fm) Radiation coming out of DUT-cabinet(s): 50.0 GHz - 75.0 GHz</p> <p><b>Limit:</b> Limit acc. to §25.202): -13.0 dBm</p> <p><b>Test results:</b> see plot (an explicit table was not generated)</p> <p><b>Operating condition of DUT:</b> operating condition 1, see test report chapter 6.4</p> <p><b>Test setup:</b> see test report chapter 7.2:</p> <p><b>Test equipment:</b> see test report chapter 7.3: A025, R001, R025</p> <p><b>Remark:</b></p> <p><b>Test result:</b> Test passed</p>	<p><b>Environment condition:</b> Date &amp; Time: Thu 19/May/2022 18:11:11 Location: CTC advanced GmbH, Laboratory RC-SYS Temperature: 22 °C Humidity: 55 % Voltage: 230 Vac</p> <p><b>Setup of measurement equipment:</b> Start frequency: 50 GHz Stop frequency: 75 GHz Center frequency: 62.5 GHz Frequency span: 25 GHz Resolution-BW: 1 MHz Video-BW: 3 MHz Input attenuation: 10 dB Trace-Mode: Max-Hold Detector-Mode: AVG</p> <p><b>Correction:</b> Directional coupler + 0.0 dB Coaxial cable + 0.0 dB DUT-Antenna 0.0 dBi Test antenna (A025) - 20.0 dB BW correction factor + 0.0 dB Atten. between HPA and feedhorn - 0.0 dB Freefield attenuation (62.50GHz, 0.1m) + 48.4 dB TOTAL CORRECTION: + 28.4 dB</p> <p><b>Remarks:</b> Carrier-on state / Carrier in the middle of the band (fm) Measurement for orientation with a measuring antenna close to the DUT-cabinets (about 1m distance). If any critical spurious radiations are detected a measurement in an exactly defined distance will be carried out.</p>
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Plot No. 14



**Subclause:** 25.202) Emission limitations  
Modulated rf-carrier in the middle of the band (fm)  
Radiation coming out of DUT-cabinet(s): 75.0 GHz - 100.0 GHz

**Limit:**  
Limit acc. to §25.202): -13.0 dBm

**Test results:**  
see plot (an explicit table was not generated)

**Operating condition of DUT:**  
operating condition 1, see test report chapter 6.4

**Test setup:**  
see test report chapter 7.2:

**Test equipment:**  
see test report chapter 7.3: A028, R001, R029

**Remark:**

**Test result:** Test passed

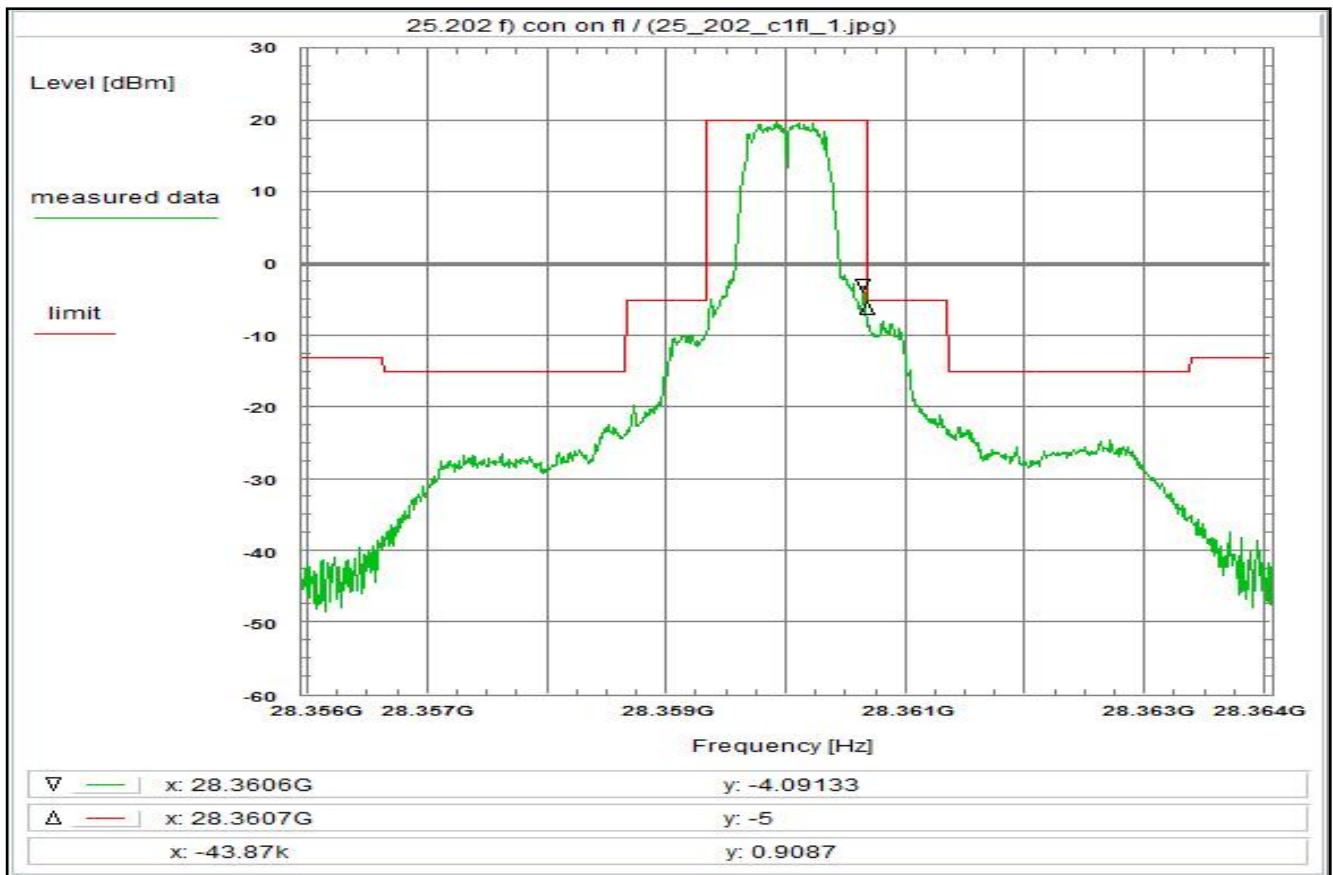
**Environment condition:**  
Date & Time: Thu 19/May/2022 18:18:16  
Location: CTC advanced GmbH, Laboratory RC-SYS  
Temperature: 22 °C  
Humidity: 55 %  
Voltage: 230 Vac

**Setup of measurement equipment:**  
Start frequency: 75 GHz  
Stop frequency: 110 GHz  
Center frequency: 92.5 GHz  
Frequency span: 35 GHz  
Resolution-BW: 1 MHz  
Video-BW: 3 MHz  
Input attenuation: 10 dB  
Trace-Mode: Max-Hold  
Detector-Mode: AVG

**Correction:**  
Directional coupler + 0.0 dB  
Coaxial cable + 0.0 dB  
DUT-Antenna 0.0 dBi  
Test antenna (A028) - 19.4 dB  
BW correction factor + 0.0 dB  
Atten. between HPA and feedhorn - 0.0 dB  
Freefield attenuation (92.50GHz, 0.1m) + 51.8 dB  
TOTAL CORRECTION: + 32.4 dB

**Remarks:**  
Carrier-on state / Carrier in the middle of the band (fm)  
Measurement for orientation with a measuring antenna close to the DUT-cabinets (about 1m distance).  
If any critical spurious radiations are detected a measurement in an exactly defined distance will be carried out.

Plot No. 15



**Subclause:** 25.202 f) Frequencies, frequency tolerance and emission limitations  
Emission limitations  
Modulated rf-carrier at the lower edge of the band (fl)

**Limit:**  
Limit acc. to §25.202 f):  
50-100% of assigned bw: -25 dBc/4 kHz  
100-250% of assigned bw: -35 dBc/4 kHz  
> 250% of assigned bw: -43+10log(Pmax) dBc/4 kHz

**Test results:**  
see plot (an explicit table was not generated)

**Operating condition of DUT:**  
operating condition 1, see test report chapter 6.4

**Test setup:**  
see test report chapter 7.2:

**Test equipment:**  
see test report chapter 7.3: A031, C220, R001

Remark:

**Test result:** Test passed

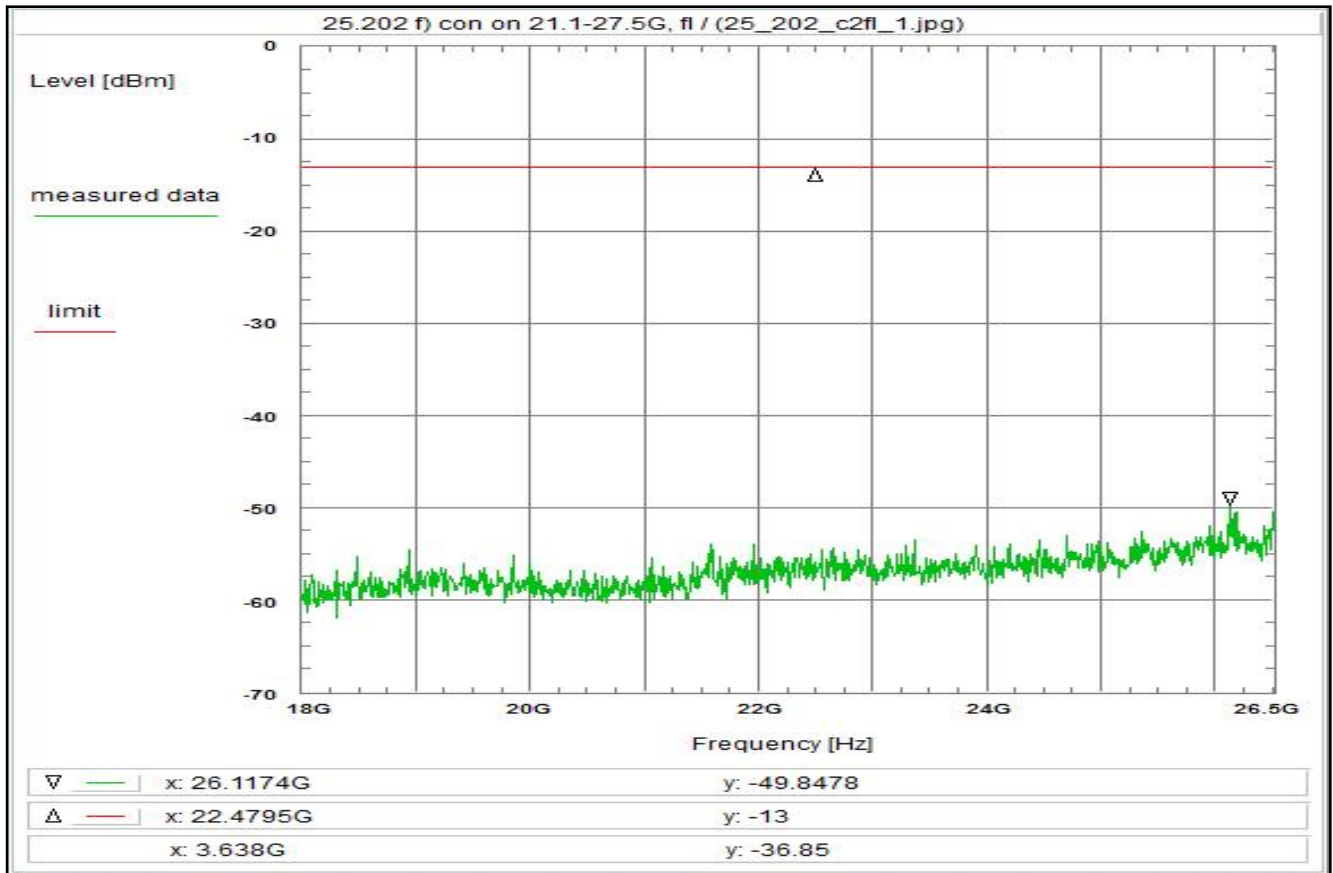
**Environment condition:**  
Date & Time: Fri 20/May/2022 14:07:08  
Location: CTC advanced GmbH, Laboratory RC-SYS  
Temperature: 22 °C  
Humidity: 55 %  
Voltage: 230 Vac

**Setup of measurement equipment:**  
Start frequency: 28.35595 GHz  
Stop frequency: 28.36405 GHz  
Center frequency: 28.36 GHz  
Frequency span: 8.1 MHz  
Resolution-BW: 10 kHz  
Video-BW: 30 kHz  
Input attenuation: 6 dB  
Trace-Mode: Max-Hold  
Detector-Mode: AVG

**Correction:**  
Directional coupler + 0.0 dB  
Coaxial cable (C220) + 3.9 dB  
DUT-Antenna 0.0 dBi  
Test antenna (A031) - 15.2 dB  
BW correction factor (10k -> 4k) - 4.0 dB  
Atten. between HPA and feedhorn - 0.0 dB  
Freefield attenuation (28.36GHz, 5m) + 75.5 dB  
Circular polarization + 3.0 dB  
Additional Attenuation + 0.2 dB  
TOTAL CORRECTION: + 63.4 dB

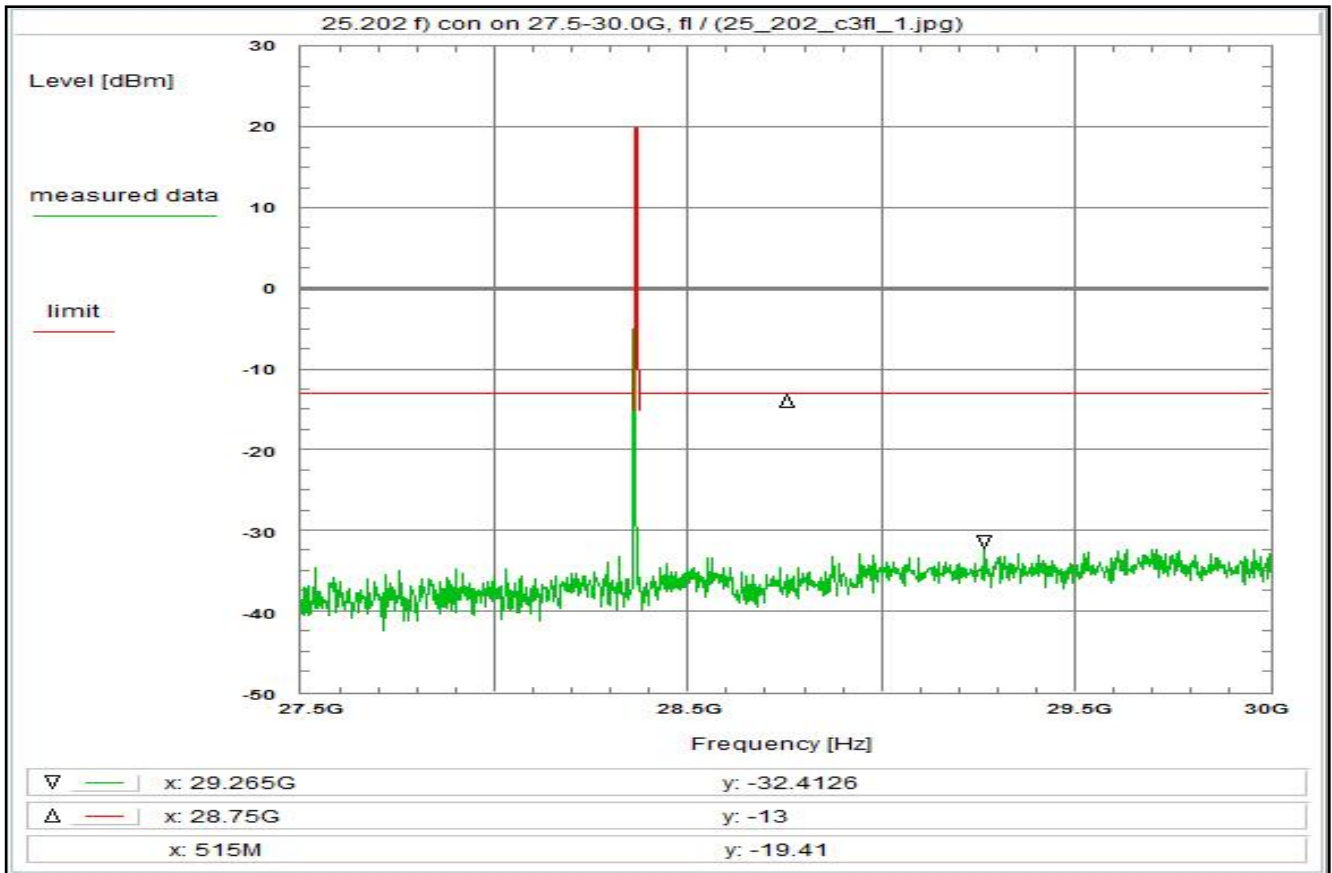
**Remarks:**  
Carrier-on state / Carrier at the lower edge of the band (fl)

Plot No. 16



<p><b>Subclause:</b> 25.202 f) Frequencies, frequency tolerance and emission limitations Emission limitations Modulated rf-carrier at the lower edge of the band (fl)</p> <p><b>Limit:</b> <u>Limit acc. to §25.202 f):</u> 50-100% of assigned bw: -25 dBc/4 kHz 100-250% of assigned bw: -35 dBc/4 kHz &gt; 250% of assigned bw: -43+10log(Pmax) dBc/4 kHz</p> <p><b>Test results:</b> see plot (an explicit table was not generated)</p> <p><b>Operating condition of DUT:</b> operating condition 1, see test report chapter 6.4</p> <p><b>Test setup:</b> see test report chapter 7.2:</p> <p><b>Test equipment:</b> see test report chapter 7.3: A019, C220, R001</p> <p>Remark:</p> <p><b>Test result: Test passed</b></p>	<p><b>Environment condition:</b> Date &amp; Time: Thu 19/May/2022 15:31:42 Location: CTC advanced GmbH, Laboratory RC-SYS Temperature: 22 °C Humidity: 55 % Voltage: 230 Vac</p> <p><b>Setup of measurement equipment:</b> Start frequency: 18 GHz Stop frequency: 26.5 GHz Center frequency: 22.25 GHz Frequency span: 8.5 GHz Resolution-BW: 100 kHz Video-BW: 300 kHz Input attenuation: 0 dB Trace-Mode: Clear Write Detector-Mode: AVG</p> <p><b>Correction:</b> Directional coupler + 0.0 dB Coaxial cable (C220) + 3.5 dB DUT-Antenna 0.0 dBi Test antenna (A019) - 19.3 dB BW correction factor (100k -&gt; 4k) - 14.0 dB Atten. between HPA and feedhorn - 0.0 dB Freefield attenuation (22.25GHz, 5m) + 73.4 dB Circular Polarization + 3.0 dB Additional attenuation + 0.2 dB <b>TOTAL CORRECTION: + 46.8 dB</b></p> <p><b>Remarks:</b> Carrier-on state / Carrier at the lower edge of the band (fl) Rather left the plot shows the cut-off of the wave guide.</p>
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Plot No. 17



**Subclause:** 25.202 f) Frequencies, frequency tolerance and emission limitations  
Emission limitations  
Modulated rf-carrier at the lower edge of the band (fl)

**Limit:**  
Limit acc. to §25.202 f):  
50-100% of assigned bw: -25 dBc/4 kHz  
100-250% of assigned bw: -35 dBc/4 kHz  
> 250% of assigned bw: -43+10log(Pmax) dBc/4 kHz

**Test results:**  
see plot (an explicit table was not generated)

**Operating condition of DUT:**  
operating condition 1, see test report chapter 6.4

**Test setup:**  
see test report chapter 7.2:

**Test equipment:**  
see test report chapter 7.3: A031, C220, R001

Remark:

**Test result:** Test passed

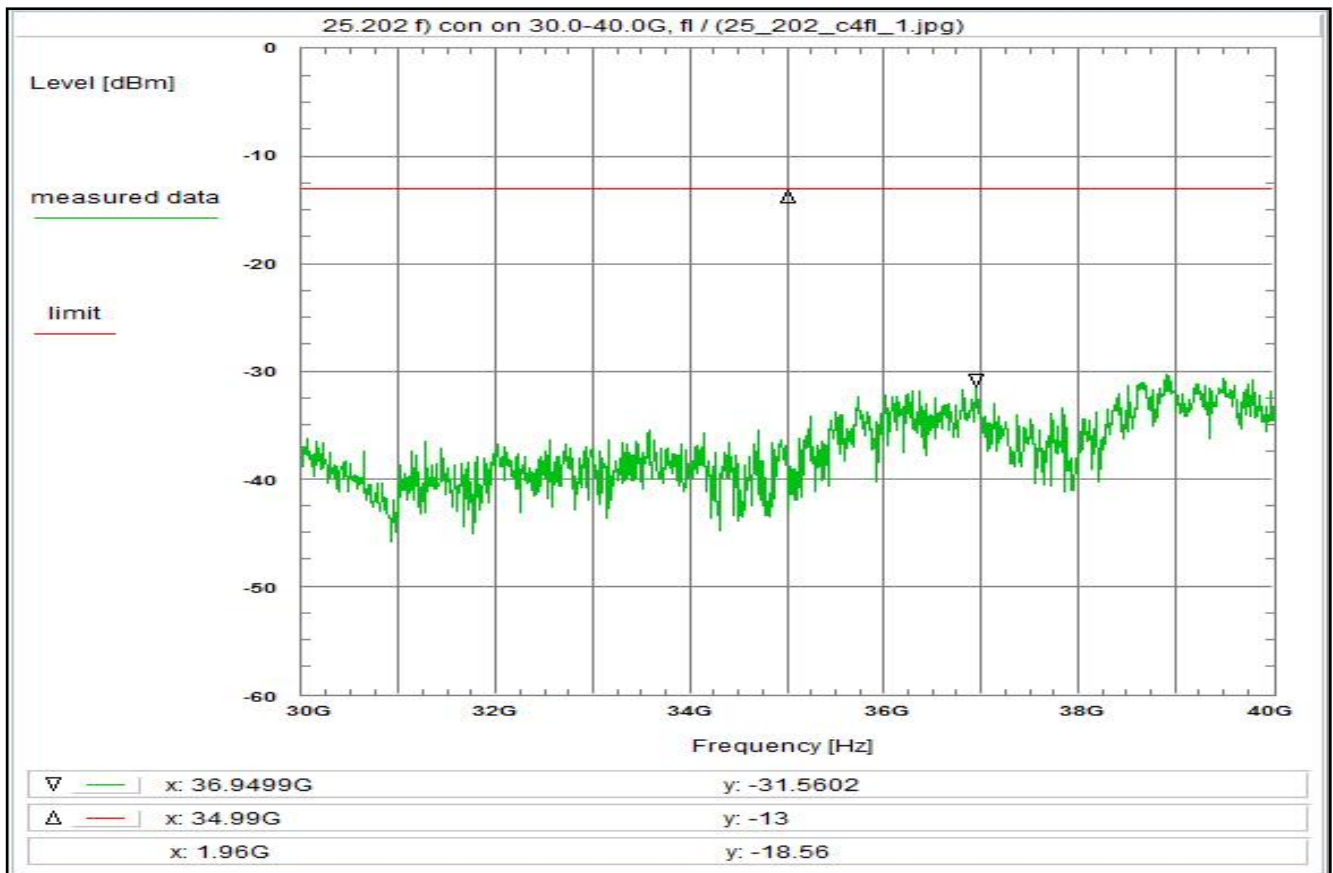
**Environment condition:**  
Date & Time: Fri 20/May/2022 14:08:37  
Location: CTC advanced GmbH, Laboratory RC-SYS  
Temperature: 22 °C  
Humidity: 55 %  
Voltage: 230 Vac

**Setup of measurement equipment:**  
Start frequency: 27.5 GHz  
Stop frequency: 30 GHz  
Center frequency: 28.75 GHz  
Frequency span: 2.5 GHz  
Resolution-BW: 100 kHz  
Video-BW: 300 kHz  
Input attenuation: 6 dB  
Trace-Mode: Max-Hold  
Detector-Mode: AVG

**Correction:**  
Directional coupler + 0.0 dB  
Coaxial cable (C220) + 4.0 dB  
DUT-Antenna 0.0 dBi  
Test antenna (A031) - 15.5 dB  
BW correction factor (100k -> 4k) - 14.0 dB  
Atten. between HPA and feedhorn - 0.0 dB  
Freefield attenuation (28.36GHz, 5m) + 75.5 dB  
Circular polarization + 3.0 dB  
Additional Attenuation + 0.2 dB  
TOTAL CORRECTION: + 53.2 dB

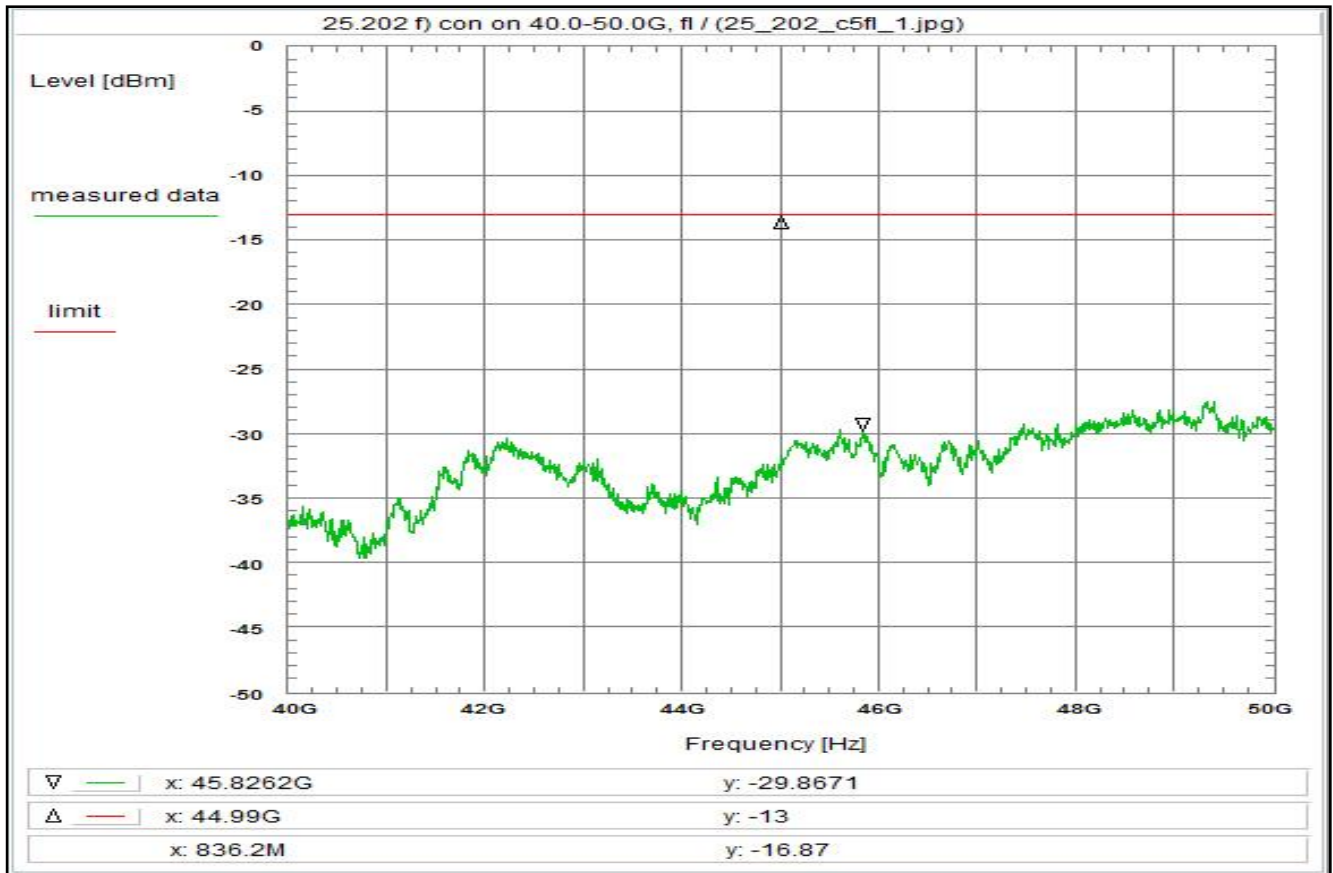
**Remarks:**  
Carrier-on state / Carrier at the lower edge of the band (fl)

Plot No. 18



<p><b>Subclause:</b> 25.202 f) Frequencies, frequency tolerance and emission limitations Emission limitations Modulated rf-carrier at the lower edge of the band (fl)</p> <p><b>Limit:</b> <u>Limit acc. to §25.202 f):</u> 50-100% of assigned bw: -25 dBc/4 kHz 100-250% of assigned bw: -35 dBc/4 kHz &gt; 250% of assigned bw: -43+10log(Pmax) dBc/4 kHz</p> <p><b>Test results:</b> see plot (an explicit table was not generated)</p> <p><b>Operating condition of DUT:</b> operating condition 1, see test report chapter 6.4</p> <p><b>Test setup:</b> see test report chapter 7.2:</p> <p><b>Test equipment:</b> see test report chapter 7.3: A031, C220, R001</p> <p>Remark:</p> <p><b>Test result:</b> Test passed</p>	<p><b>Environment condition:</b> Date &amp; Time: Fri 20/May/2022 14:10:26 Location: CTC advanced GmbH, Laboratory RC-SYS Temperature: 22 °C Humidity: 55 % Voltage: 230 Vac</p> <p><b>Setup of measurement equipment:</b> Start frequency: 30 GHz Stop frequency: 40 GHz Center frequency: 35 GHz Frequency span: 10 GHz Resolution-BW: 100 kHz Video-BW: 300 kHz Input attenuation: 6 dB Trace-Mode: Max-Hold Detector-Mode: AVG</p> <p><b>Correction:</b> Directional coupler + 0.0 dB Coaxial cable (C220) + 4.4 dB DUT-Antenna 0.0 dBi Test antenna (A031) - 16.9 dB BW correction factor (100k -&gt; 4k) - 14.0 dB Atten. between HPA and feedhorn - 0.0 dB Freefield attenuation (35.00GHz, 5m) + 77.3 dB Circular polarization + 3.0 dB Additional Attenuation + 0.2 dB TOTAL CORRECTION: + 54.0 dB</p> <p><b>Remarks:</b> Carrier-on state / Carrier at the lower edge of the band (fl)</p>
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Plot No. 19



**Subclause:** 25.202 f) Frequencies, frequency tolerance and emission limitations  
Emission limitations  
Modulated rf-carrier at the lower edge of the band (fl)

**Limit:**  
Limit acc. to §25.202 f):  
50-100% of assigned bw: -25 dBc/4 kHz  
100-250% of assigned bw: -35 dBc/4 kHz  
> 250% of assigned bw: -43+10log(Pmax) dBc/4 kHz

**Test results:**  
see plot (an explicit table was not generated)

**Operating condition of DUT:**  
operating condition 1, see test report chapter 6.4

**Test setup:**  
see test report chapter 7.2:

**Test equipment:**  
see test report chapter 7.3: A\_50, C220, R001

Remark:

**Test result: Test passed**

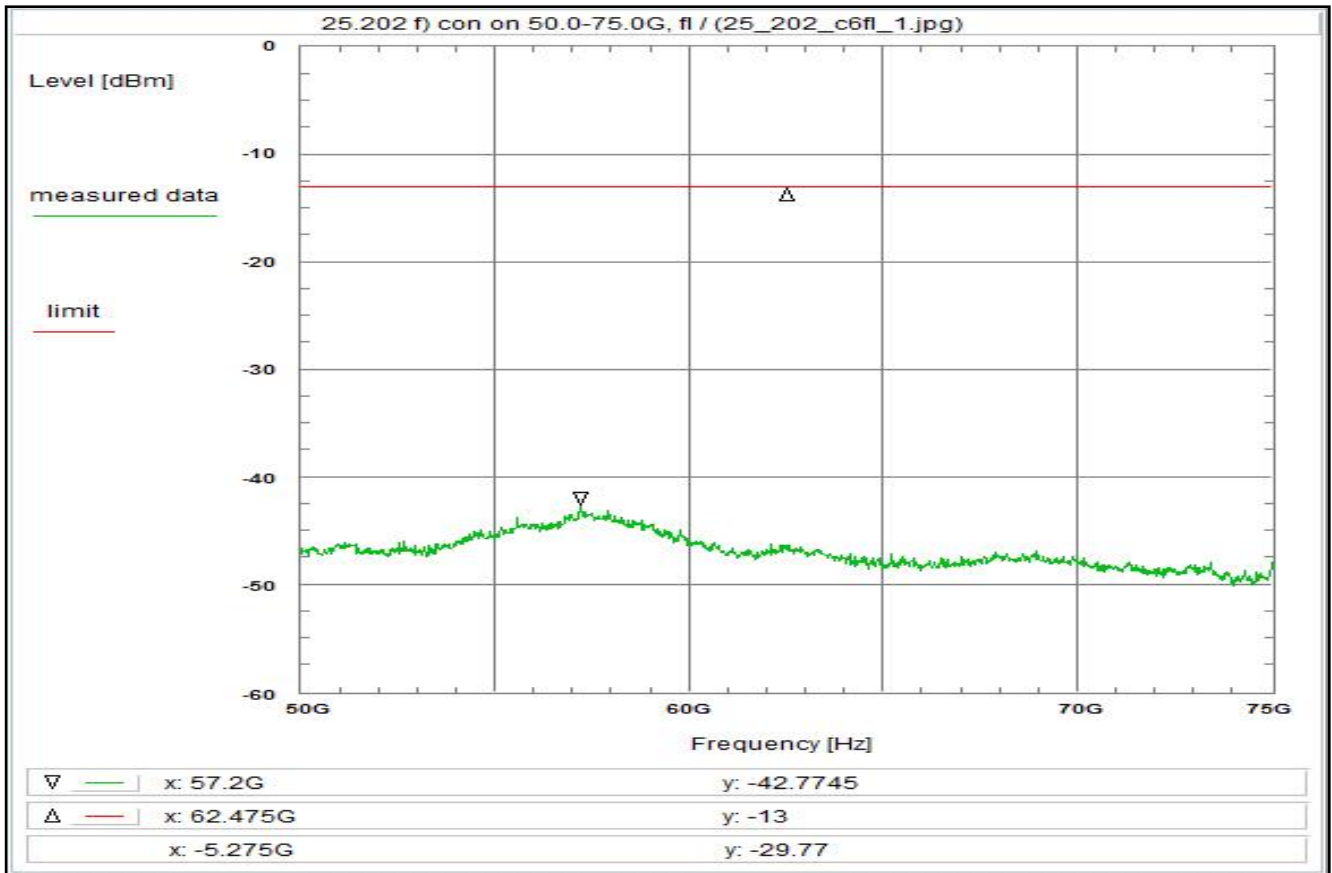
**Environment condition:**  
Date & Time: Thu 19/May/2022 15:24:38  
Location: CTC advanced GmbH, Laboratory RC-SYS  
Temperature: 22 °C  
Humidity: 55 %  
Voltage: 230 Vac

**Setup of measurement equipment:**  
Start frequency: 40 GHz  
Stop frequency: 50 GHz  
Center frequency: 45 GHz  
Frequency span: 10 GHz  
Resolution-BW: 100 kHz  
Video-BW: 300 kHz  
Input attenuation: 0 dB  
Trace-Mode: Max-Hold  
Detector-Mode: AVG

**Correction:**  
Directional coupler + 0.0 dB  
Coaxial cable (C220) + 5.2 dB  
DUT-Antenna 0.0 dBi  
Test antenna (A\_50) - 19.9 dB  
BW correction factor (100k -> 4k) - 14.0 dB  
Atten. between HPA and feedhorn - 0.0 dB  
Freefield attenuation (45.00GHz, 5m) + 79.5 dB  
Circular Polarization + 3.0 dB  
Additional attenuation + 0.2 dB  
TOTAL CORRECTION: + 54.0 dB

**Remarks:**  
Carrier-on state / Carrier at the lower edge of the band (fl)

Plot No. 20



**Subclause:** 25.202 f) Frequencies, frequency tolerance and emission limitations  
Emission limitations  
Modulated rf-carrier at the lower edge of the band (fl)

**Limit:**  
Limit acc. to §25.202 f):  
50-100% of assigned bw: -25 dBc/4 kHz  
100-250% of assigned bw: -35 dBc/4 kHz  
> 250% of assigned bw: -43+10log(Pmax) dBc/4 kHz

**Test results:**  
see plot (an explicit table was not generated)

**Operating condition of DUT:**  
operating condition 1, see test report chapter 6.4

**Test setup:**  
see test report chapter 7.2:

**Test equipment:**  
see test report chapter 7.3: A025, R001, R025

Remark:

**Test result:** Test passed

**Environment condition:**

Date & Time: Thu 19/May/2022 14:51:52  
Location: CTC advanced GmbH, Laboratory RC-SYS  
Temperature: 22 °C  
Humidity: 55 %  
Voltage: 230 Vac

**Setup of measurement equipment:**

Start frequency: 50 GHz  
Stop frequency: 75 GHz  
Center frequency: 62.5 GHz  
Frequency span: 25 GHz  
Resolution-BW: 1 MHz  
Video-BW: 3 MHz  
Input attenuation: 0 dB  
Trace-Mode: Max-Hold  
Detector-Mode: AVG

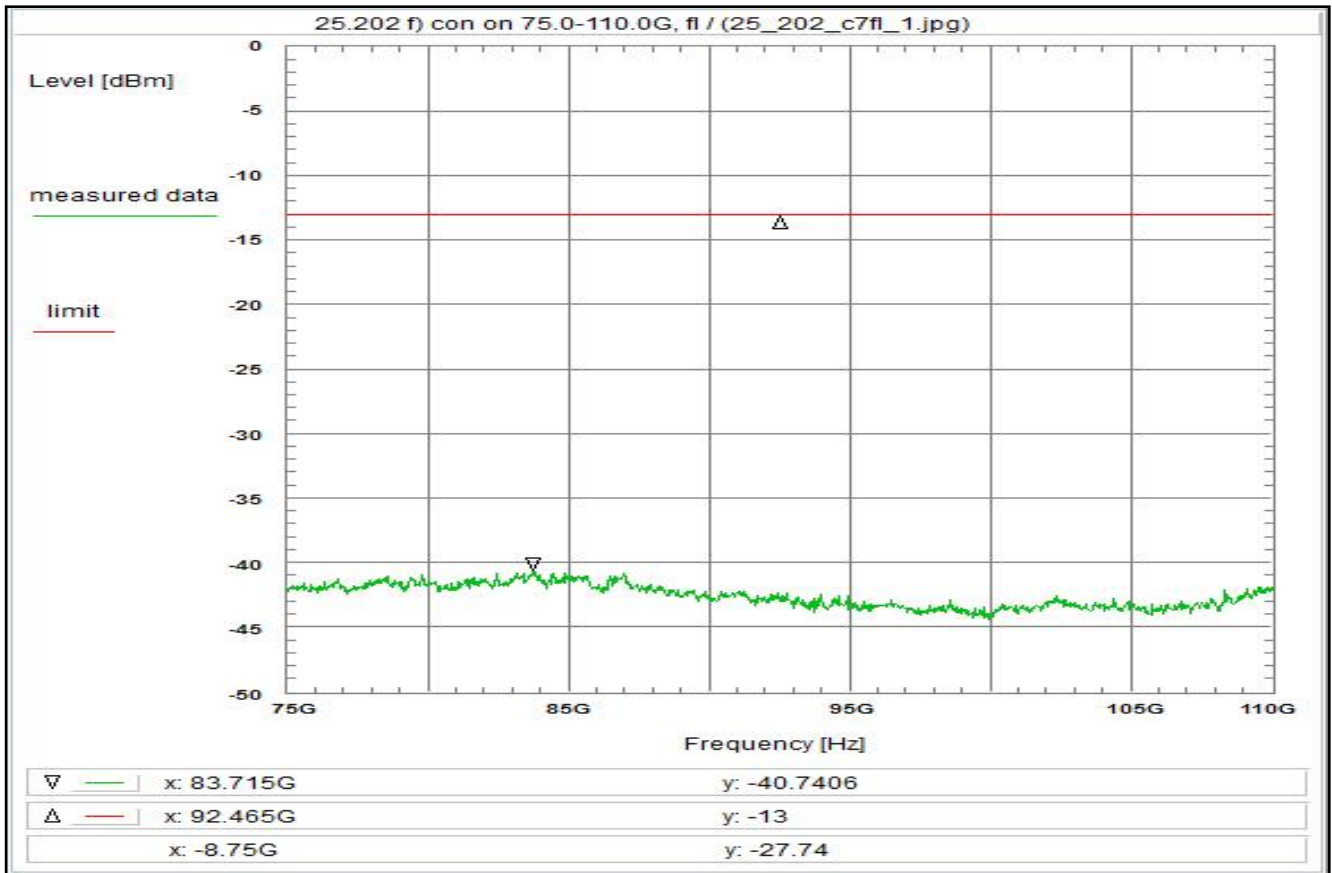
**Correction:**

Directional coupler + 0.0 dB  
Coaxial cable + 0.0 dB  
DUT-Antenna - 3.0 dBi  
Test antenna (A025) - 20.0 dB  
BW correction factor (1M -> 4k) - 24.0 dB  
Atten. between HPA and feedhorn - 0.0 dB  
Freefield attenuation + 81.2 dB  
TOTAL CORRECTION: + 34.2 dB

**Remarks:**

Carrier-on state / Carrier at the lower edge of the band (fl)

Plot No. 21



**Subclause:** 25.202 f) Frequencies, frequency tolerance and emission limitations  
Emission limitations  
Modulated rf-carrier at the lower edge of the band (fl)

**Limit:**  
Limit acc. to §25.202 f):  
50-100% of assigned bw: -25 dBc/4 kHz  
100-250% of assigned bw: -35 dBc/4 kHz  
> 250% of assigned bw: -43+10log(Pmax) dBc/4 kHz

**Test results:**  
see plot (an explicit table was not generated)

**Operating condition of DUT:**  
operating condition 1, see test report chapter 6.4

**Test setup:**  
see test report chapter 7.2:

**Test equipment:**  
see test report chapter 7.3: A028, R001, R029

Remark:

**Test result:** Test passed

**Environment condition:**

Date & Time: Thu 19/May/2022 15:03:10  
Location: CTC advanced GmbH, Laboratory RC-SYS  
Temperature: 22 °C  
Humidity: 55 %  
Voltage: 230 Vac

**Setup of measurement equipment:**

Start frequency: 75 GHz  
Stop frequency: 110 GHz  
Center frequency: 92.5 GHz  
Frequency span: 35 GHz  
Resolution-BW: 1 MHz  
Video-BW: 3 MHz  
Input attenuation: 0 dB  
Trace-Mode: Max-Hold  
Detector-Mode: AVG

**Correction:**

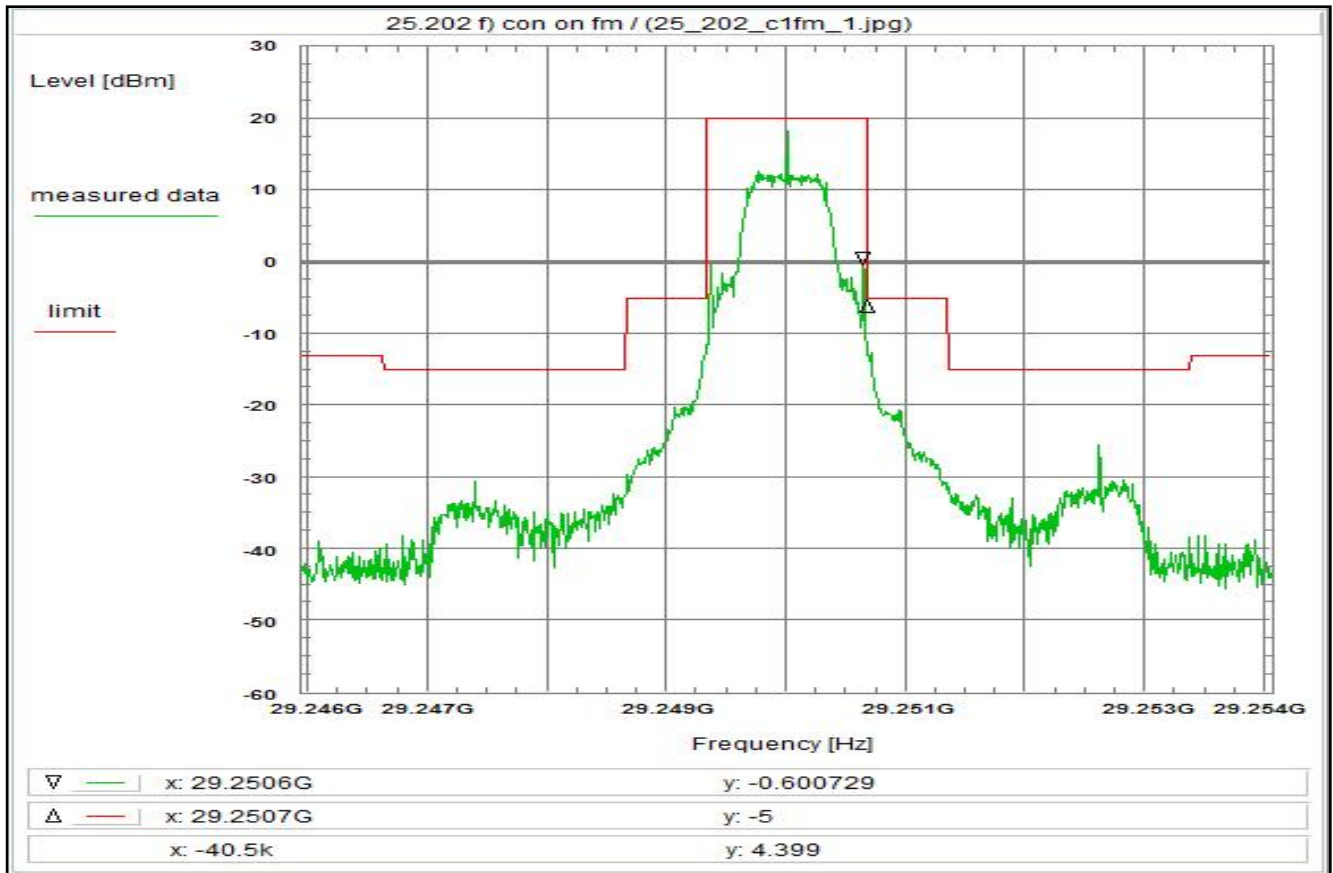
Directional coupler + 0.0 dB  
Coaxial cable + 0.0 dB  
DUT-Antenna - 3.0 dBi  
Test antenna (A028) - 19.4 dB  
BW correction factor (1M -> 4k) - 24.0 dB  
Atten. between HPA and feedhorn - 0.0 dB  
Freefield attenuation (92.50GHz, 5m) + 85.7 dB  
TOTAL CORRECTION: + 39.3 dB

**Remarks:**

Carrier-on state / Carrier at the lower edge of the band (fl)



Plot No. 22



**Subclause:** 25.202 f) Frequencies, frequency tolerance and emission limitations  
Emission limitations  
Modulated rf-carrier in the middle of the band (fm)

**Limit:**  
Limit acc. to §25.202 f):  
50-100% of assigned bw: -25 dBc/4 kHz  
100-250% of assigned bw: -35 dBc/4 kHz  
> 250% of assigned bw: -43+10log(Pmax) dBc/4 kHz

**Test results:**  
see plot (an explicit table was not generated)

**Operating condition of DUT:**  
operating condition 1, see test report chapter 6.4

**Test setup:**  
see test report chapter 7.2:

**Test equipment:**  
see test report chapter 7.3: A031, C220, R001

Remark:

**Test result:** Test passed

**Environment condition:**

Date & Time: Fri 20/May/2022 14:52:01  
Location: CTC advanced GmbH, Laboratory RC-SYS  
Temperature: 22 °C  
Humidity: 55 %  
Voltage: 230 Vac

**Setup of measurement equipment:**

Start frequency: 29.24595 GHz  
Stop frequency: 29.25405 GHz  
Center frequency: 29.25 GHz  
Frequency span: 8.1 MHz  
Resolution-BW: 10 kHz  
Video-BW: 30 kHz  
Input attenuation: 6 dB  
Trace-Mode: Clear Write  
Detector-Mode: AVG

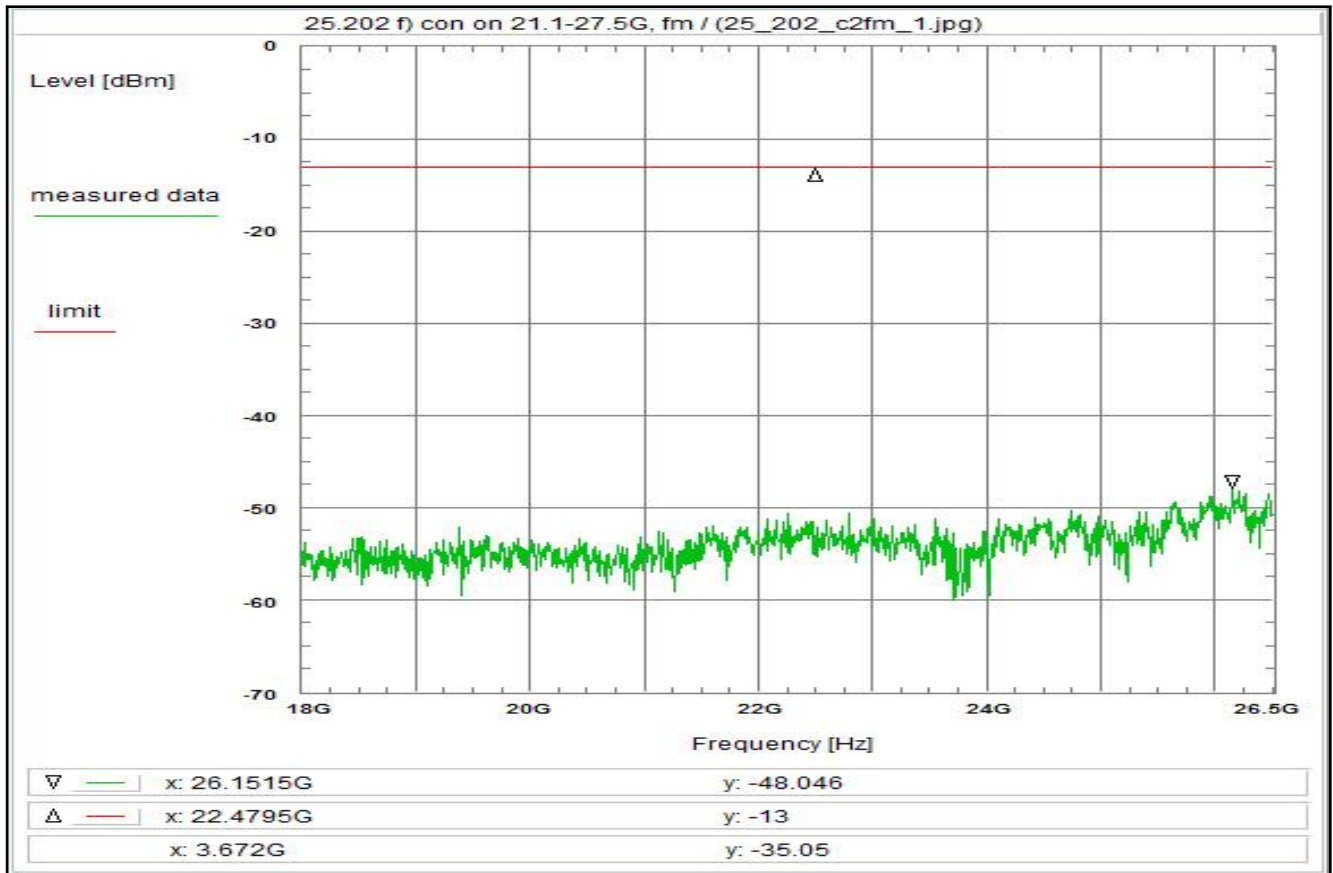
**Correction:**

Directional coupler	+ 0.0 dB
Coaxial cable (C220)	+ 4.0 dB
DUT-Antenna (see under limit)	+ 0.0 dBi
Test antenna (A031)	- 15.8 dB
BW correction factor (10k -> 4k)	- 4.0 dB
Atten. between HPA and feedhorn	- 0.0 dB
Freefield attenuation (29.99GHz, 5m)	+ 76.0 dB
Circular polarization	+ 3.0 dB
Additional Attenuation	+ 0.2 dB
<b>TOTAL CORRECTION:</b>	<b>+ 63.4 dB</b>

**Remarks:**

Carrier-on state / Carrier in the middle of the band (fm)

Plot No. 23



**Subclause:** 25.202 f) Frequencies, frequency tolerance and emission limitations  
Emission limitations  
Modulated rf-carrier in the middle of the band (fm)

**Limit:**  
Limit acc. to §25.202 f):  
50-100% of assigned bw: -25 dBc/4 kHz  
100-250% of assigned bw: -35 dBc/4 kHz  
> 250% of assigned bw: -43+10log(Pmax) dBc/4 kHz

**Test results:**  
see plot (an explicit table was not generated)

**Operating condition of DUT:**  
operating condition 1, see test report chapter 6.4

**Test setup:**  
see test report chapter 7.2:

**Test equipment:**  
see test report chapter 7.3: A021, C220, R001

**Remark:**

**Test result: Test passed**

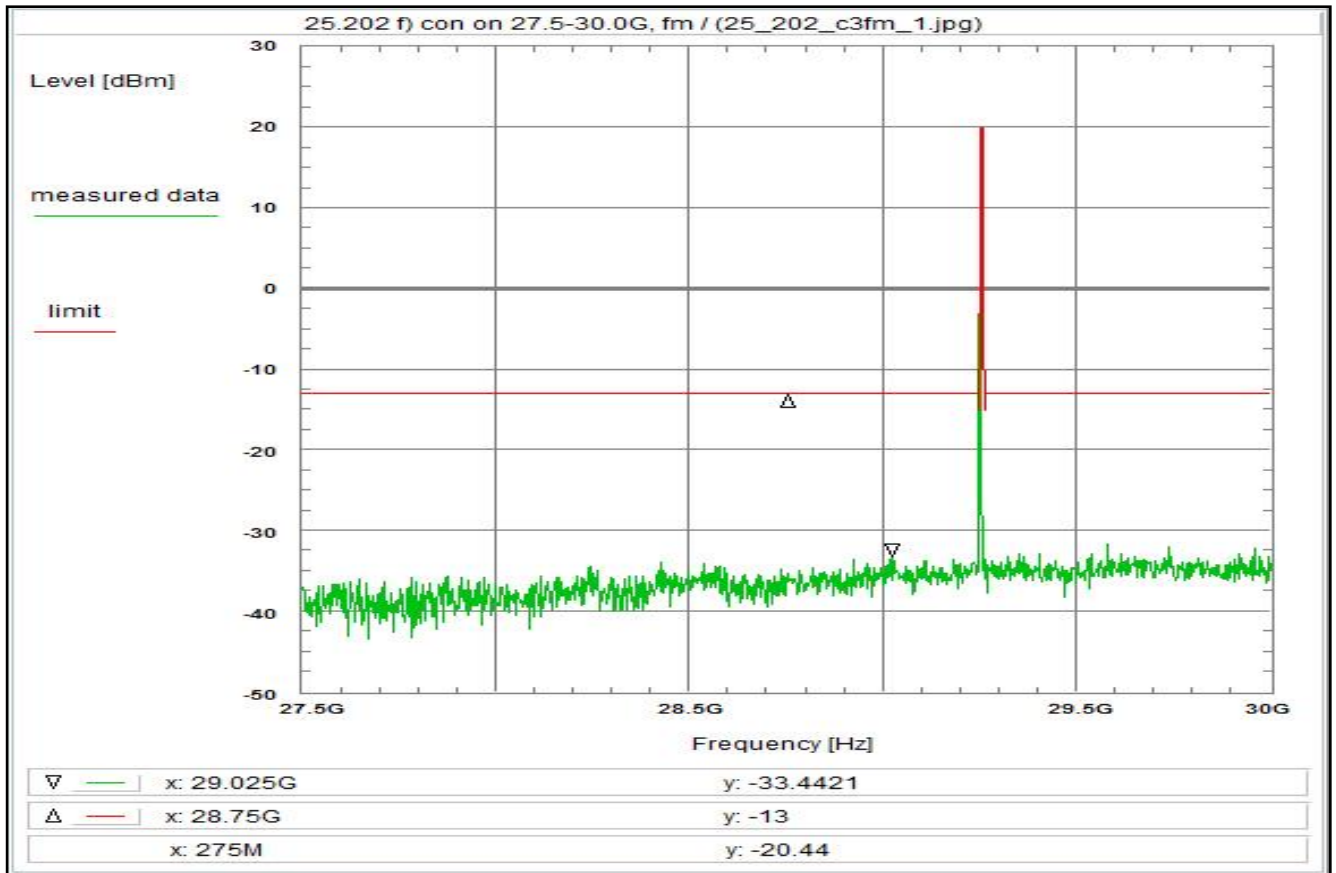
**Environment condition:**  
Date & Time: Thu 19/May/2022 15:35:32  
Location: CTC advanced GmbH, Laboratory RC-SYS  
Temperature: 22 °C  
Humidity: 55 %  
Voltage: 230 Vac

**Setup of measurement equipment:**  
Start frequency: 18 GHz  
Stop frequency: 26.5 GHz  
Center frequency: 22.25 GHz  
Frequency span: 8.5 GHz  
Resolution-BW: 100 kHz  
Video-BW: 300 kHz  
Input attenuation: 0 dB  
Trace-Mode: Max-Hold  
Detector-Mode: AVG

**Correction:**  
Directional coupler + 0.0 dB  
Coaxial cable (C220) + 3.5 dB  
DUT-Antenna 0.0 dBi  
Test antenna (A019) - 19.3 dB  
BW correction factor (100k -> 4k) - 14.0 dB  
Atten. between HPA and feedhorn - 0.0 dB  
Freefield attenuation (22.25GHz, 5m) + 73.4 dB  
Circular Polarization + 3.0 dB  
Additional attenuation + 0.2 dB  
TOTAL CORRECTION: + 46.8 dB

**Remarks:**  
Carrier-on state / Carrier in the middle of the band (fm)  
Rather left the plot shows the cut-off of the wave guide.

Plot No. 24



**Subclause:** 25.202 f) Frequencies, frequency tolerance and emission limitations  
Emission limitations  
Modulated rf-carrier in the middle of the band (fm)

**Limit:**  
Limit acc. to §25.202 f):  
50-100% of assigned bw: -25 dBc/4 kHz  
100-250% of assigned bw: -35 dBc/4 kHz  
> 250% of assigned bw: -43+10log(Pmax) dBc/4 kHz

**Test results:**  
see plot (an explicit table was not generated)

**Operating condition of DUT:**  
operating condition 1, see test report chapter 6.4

**Test setup:**  
see test report chapter 7.2:

**Test equipment:**  
see test report chapter 7.3: A031, C220, R001

Remark:

**Test result:** Test passed

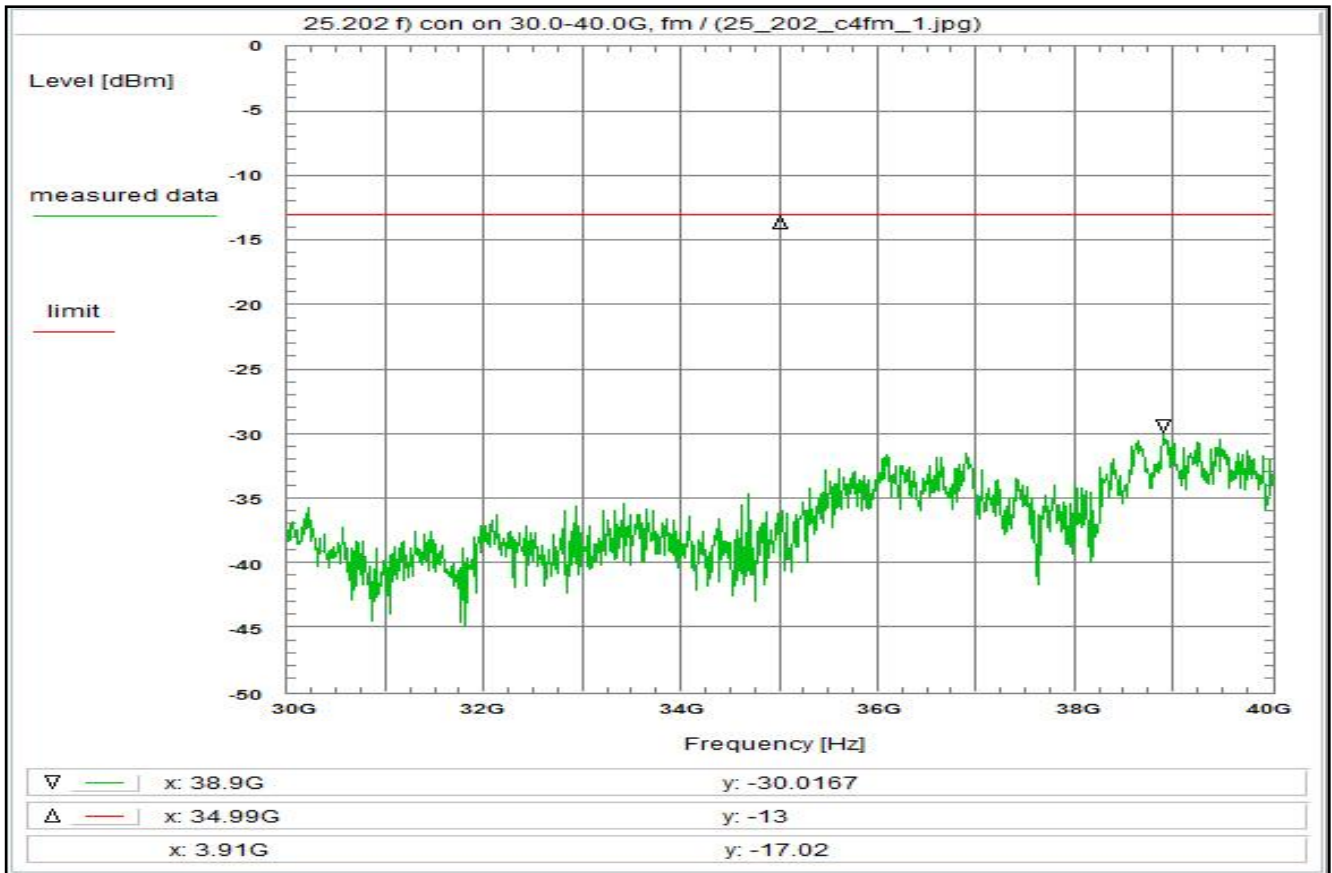
**Environment condition:**  
Date & Time: Fri 20/May/2022 14:33:12  
Location: CTC advanced GmbH, Laboratory RC-SYS  
Temperature: 22 °C  
Humidity: 55 %  
Voltage: 230 Vac

**Setup of measurement equipment:**  
Start frequency: 27.5 GHz  
Stop frequency: 30 GHz  
Center frequency: 28.75 GHz  
Frequency span: 2.5 GHz  
Resolution-BW: 100 kHz  
Video-BW: 300 kHz  
Input attenuation: 6 dB  
Trace-Mode: Max-Hold  
Detector-Mode: AVG

**Correction:**  
Directional coupler + 0.0 dB  
Coaxial cable (C220) + 4.0 dB  
DUT-Antenna (see under limit) + 0.0 dBi  
Test antenna (A031) - 15.5 dB  
BW correction factor (100k -> 4k) - 14.0 dB  
Atten. between HPA and feedhorn - 0.0 dB  
Freefield attenuation (28.75GHz, 5m) + 75.6 dB  
Circular polarization + 3.0 dB  
Additional Attenuation + 0.2 dB  
TOTAL CORRECTION: + 53.3 dB

**Remarks:**  
Carrier-on state / Carrier in the middle of the band (fm)

Plot No. 25



**Subclause:** 25.202 f) Frequencies, frequency tolerance and emission limitations  
Emission limitations  
Modulated rf-carrier in the middle of the band (fm)

**Limit:**  
Limit acc. to §25.202 f):  
50-100% of assigned bw: -25 dBc/4 kHz  
100-250% of assigned bw: -35 dBc/4 kHz  
> 250% of assigned bw: -43+10log(Pmax) dBc/4 kHz

**Test results:**  
see plot (an explicit table was not generated)

**Operating condition of DUT:**  
operating condition 1, see test report chapter 6.4

**Test setup:**  
see test report chapter 7.2:

**Test equipment:**  
see test report chapter 7.3: A031, C220, R001

Remark:

**Test result:** Test passed

**Environment condition:**

Date & Time: Fri 20/May/2022 14:35:28  
Location: CTC advanced GmbH, Laboratory RC-SYS  
Temperature: 22 °C  
Humidity: 55 %  
Voltage: 230 Vac

**Setup of measurement equipment:**

Start frequency: 30 GHz  
Stop frequency: 40 GHz  
Center frequency: 35 GHz  
Frequency span: 10 GHz  
Resolution-BW: 100 kHz  
Video-BW: 300 kHz  
Input attenuation: 6 dB  
Trace-Mode: Max-Hold  
Detector-Mode: AVG

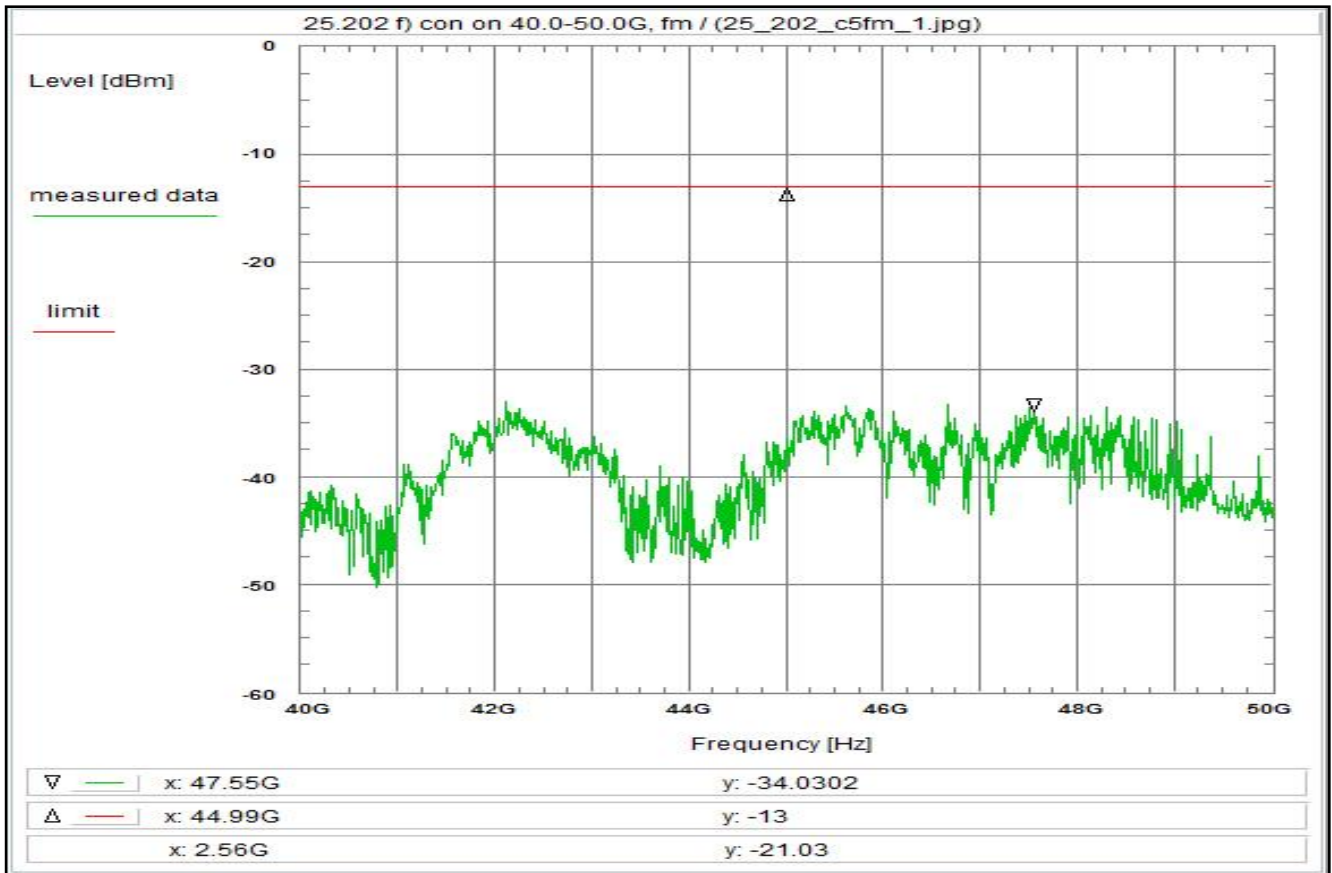
**Correction:**

Directional coupler + 0.0 dB  
Coaxial cable (C220) + 4.4 dB  
DUT-Antenna (see under limit) + 0.0 dBi  
Test antenna (A031) - 16.9 dB  
BW correction factor (100k -> 4k) - 14.0 dB  
Atten. between HPA and feedhorn - 0.0 dB  
Freefield attenuation (35.00GHz, 5m) + 77.3 dB  
Circular polarization + 3.0 dB  
Additional Attenuation + 0.2 dB  
TOTAL CORRECTION: + 54.0 dB

**Remarks:**

Carrier-on state / Carrier in the middle of the band (fm)

Plot No. 26



**Subclause:** 25.202 f) Frequencies, frequency tolerance and emission limitations  
Emission limitations  
Modulated rf-carrier in the middle of the band (fm)

**Limit:**  
Limit acc. to §25.202 f):  
50-100% of assigned bw: -25 dBc/4 kHz  
100-250% of assigned bw: -35 dBc/4 kHz  
> 250% of assigned bw: -43+10log(Pmax) dBc/4 kHz

**Test results:**  
see plot (an explicit table was not generated)

**Operating condition of DUT:**  
operating condition 1, see test report chapter 6.4

**Test setup:**  
see test report chapter 7.2:

**Test equipment:**  
see test report chapter 7.3: A\_50, C220, R001

Remark:

**Test result: Test passed**

**Environment condition:**

Date & Time: Thu 19/May/2022 15:23:03  
Location: CTC advanced GmbH, Laboratory RC-SYS  
Temperature: 22 °C  
Humidity: 55 %  
Voltage: 230 Vac

**Setup of measurement equipment:**

Start frequency: 40 GHz  
Stop frequency: 50 GHz  
Center frequency: 45 GHz  
Frequency span: 10 GHz  
Resolution-BW: 100 kHz  
Video-BW: 300 kHz  
Input attenuation: 0 dB  
Trace-Mode: Max-Hold  
Detector-Mode: AVG

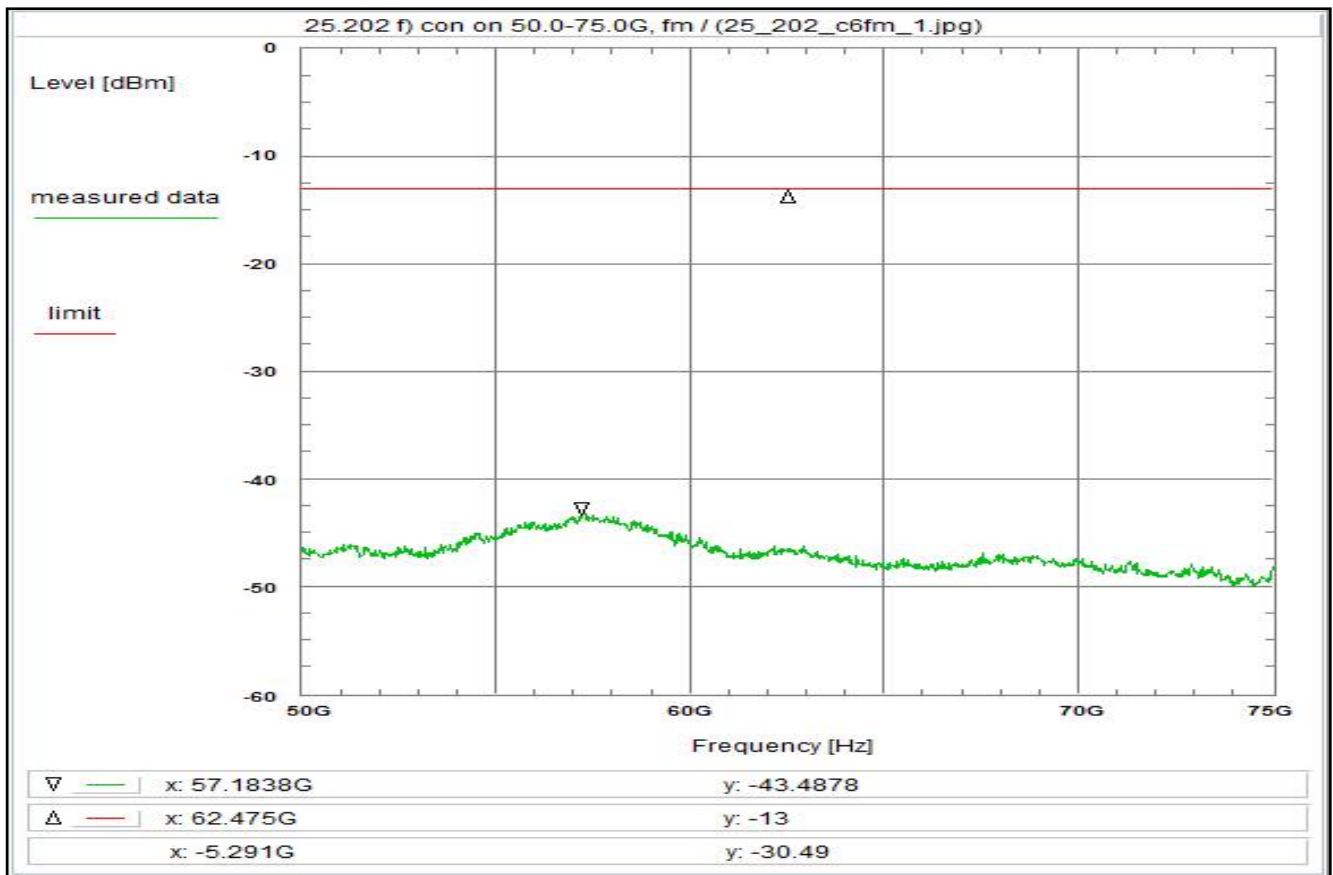
**Correction:**

Directional coupler + 0.0 dB  
Coaxial cable (C220) + 5.2 dB  
DUT-Antenna 0.0 dBi  
Test antenna (A\_50) - 19.9 dB  
BW correction factor (100k -> 4k) - 14.0 dB  
Atten. between HPA and feedhorn - 0.0 dB  
Freefield attenuation (45.00GHz, 5m) + 79.5 dB  
Circular Polarization + 3.0 dB  
Additional attenuation + 0.2 dB  
TOTAL CORRECTION: + 54.0 dB

**Remarks:**

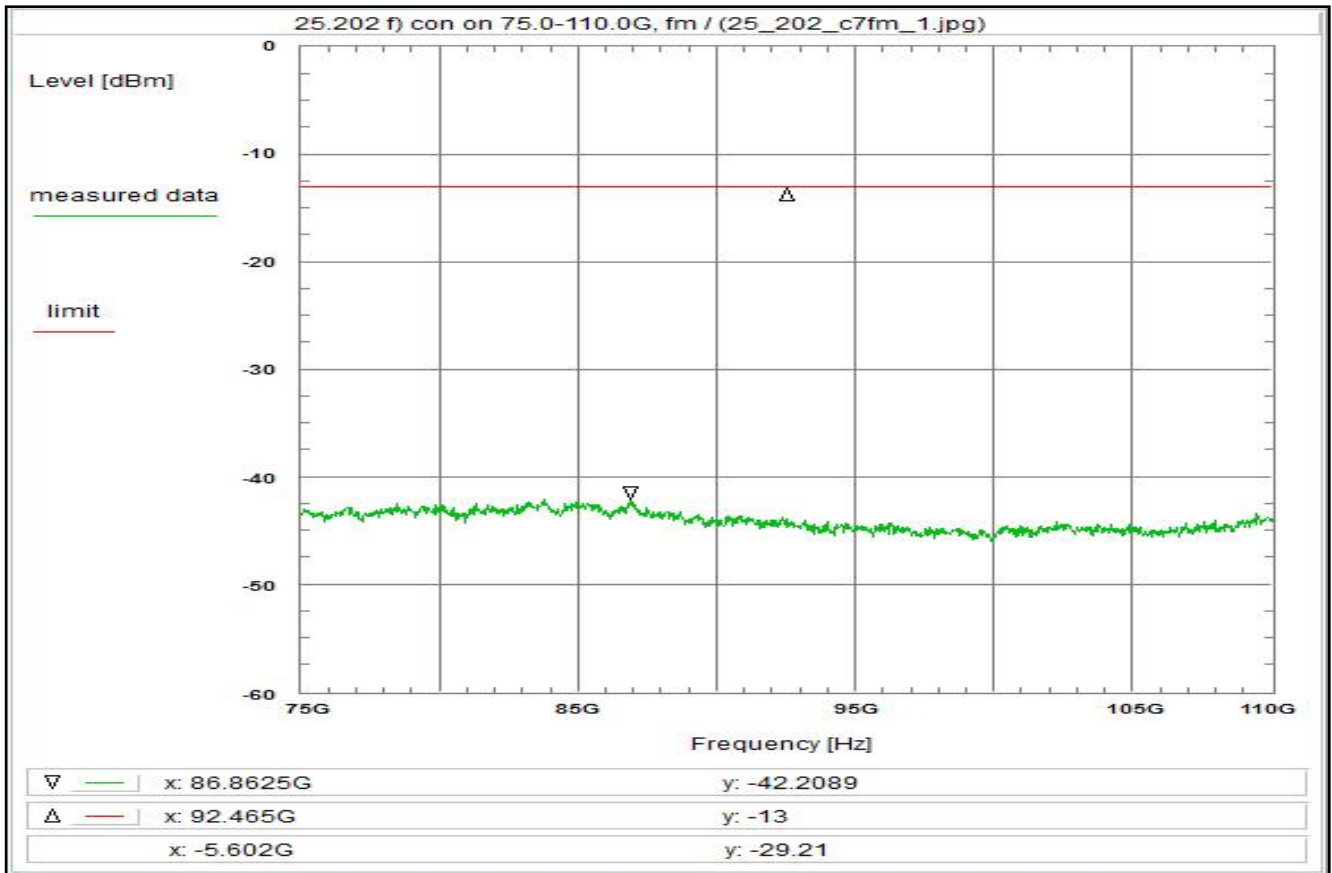
Carrier-on state / Carrier in the middle of the band (fm)

Plot No. 27



<p><b>Subclause:</b> 25.202 f) Frequencies, frequency tolerance and emission limitations Emission limitations Modulated rf-carrier in the middle of the band (fm)</p> <p><b>Limit:</b> <u>Limit acc. to §25.202 f):</u> 50-100% of assigned bw: -25 dBc/4 kHz 100-250% of assigned bw: -35 dBc/4 kHz &gt; 250% of assigned bw: -43+10log(Pmax) dBc/4 kHz</p> <p><b>Test results:</b> see plot (an explicit table was not generated)</p> <p><b>Operating condition of DUT:</b> operating condition 1, see test report chapter 6.4</p> <p><b>Test setup:</b> see test report chapter 7.2:</p> <p><b>Test equipment:</b> see test report chapter 7.3: A025, R001, R025</p> <p>Remark:</p> <p><b>Test result:</b> Test passed</p>	<p><b>Environment condition:</b> Date &amp; Time: Thu 19/May/2022 14:49:13 Location: CTC advanced GmbH, Laboratory RC-SYS Temperature: 22 °C Humidity: 55 % Voltage: 230 Vac</p> <p><b>Setup of measurement equipment:</b> Start frequency: 50 GHz Stop frequency: 75 GHz Center frequency: 62.5 GHz Frequency span: 25 GHz Resolution-BW: 1 MHz Video-BW: 3 MHz Input attenuation: 0 dB Trace-Mode: Max-Hold Detector-Mode: AVG</p> <p><b>Correction:</b> Directional coupler + 0.0 dB Coaxial cable + 0.0 dB DUT-Antenna - 3.0 dBi Test antenna (A025) - 20.0 dB BW correction factor (1M -&gt; 4k) - 24.0 dB Atten. between HPA and feedhorn - 0.0 dB Freefield attenuation + 81.2 dB TOTAL CORRECTION: + 34.2 dB</p> <p><b>Remarks:</b> Carrier-on state / Carrier in the middle of the band (fm)</p>
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Plot No. 28



**Subclause:** 25.202 f) Frequencies, frequency tolerance and emission limitations  
Emission limitations  
Modulated rf-carrier in the middle of the band (fm)

**Limit:**  
Limit acc. to §25.202 f):  
50-100% of assigned bw: -25 dBc/4 kHz  
100-250% of assigned bw: -35 dBc/4 kHz  
> 250% of assigned bw: -43+10log(Pmax) dBc/4 kHz

**Test results:**  
see plot (an explicit table was not generated)

**Operating condition of DUT:**  
operating condition 1, see test report chapter 6.4

**Test setup:**  
see test report chapter 7.2:

**Test equipment:**  
see test report chapter 7.3: A028, R001, R029

Remark:

**Test result:** Test passed

**Environment condition:**

Date & Time: Thu 19/May/2022 15:01:42  
Location: CTC advanced GmbH, Laboratory RC-SYS  
Temperature: 22 °C  
Humidity: 55 %  
Voltage: 230 Vac

**Setup of measurement equipment:**

Start frequency: 75 GHz  
Stop frequency: 110 GHz  
Center frequency: 92.5 GHz  
Frequency span: 35 GHz  
Resolution-BW: 100 kHz  
Video-BW: 300 kHz  
Input attenuation: 0 dB  
Trace-Mode: Clear Write  
Detector-Mode: AVG

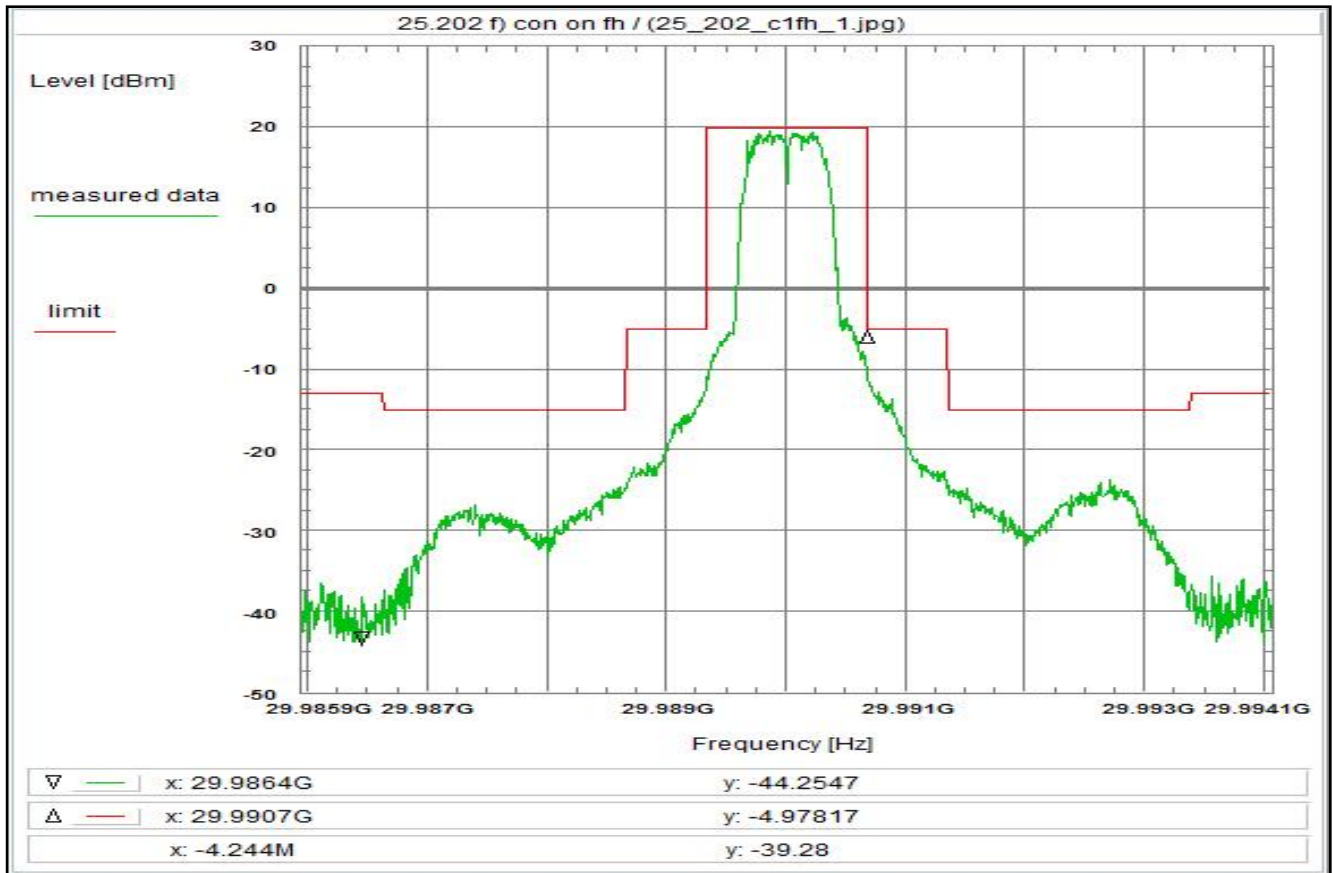
**Correction:**

Directional coupler + 0.0 dB  
Coaxial cable + 0.0 dB  
DUT-Antenna - 3.0 dBi  
Test antenna (A028) - 19.4 dB  
BW correction factor (100k -> 4k) - 14.0 dB  
Atten. between HPA and feedhorn - 0.0 dB  
Freefield attenuation (92.50GHz, 5m) + 85.7 dB  
TOTAL CORRECTION: + 49.3 dB

**Remarks:**

Carrier-on state / Carrier in the middle of the band (fm)

Plot No. 29



**Subclause:** 25.202 f) Frequencies, frequency tolerance and emission limitations  
Emission limitations  
Modulated rf-carrier at the upper edge of the band (fh)

**Limit:**  
Limit acc. to §25.202 f):  
50-100% of assigned bw: -25 dBc/4 kHz  
100-250% of assigned bw: -35 dBc/4 kHz  
> 250% of assigned bw: -43+10log(Pmax) dBc/4 kHz

**Test results:**  
see plot (an explicit table was not generated)

**Operating condition of DUT:**  
operating condition 1, see test report chapter 6.4

**Test setup:**  
see test report chapter 7.2:

**Test equipment:**  
see test report chapter 7.3: A031, C220, R001

Remark:

**Test result:** Test passed

**Environment condition:**  
Date & Time: Fri 20/May/2022 14:38:25  
Location: CTC advanced GmbH, Laboratory RC-SYS  
Temperature: 22 °C  
Humidity: 55 %  
Voltage: 230 Vac

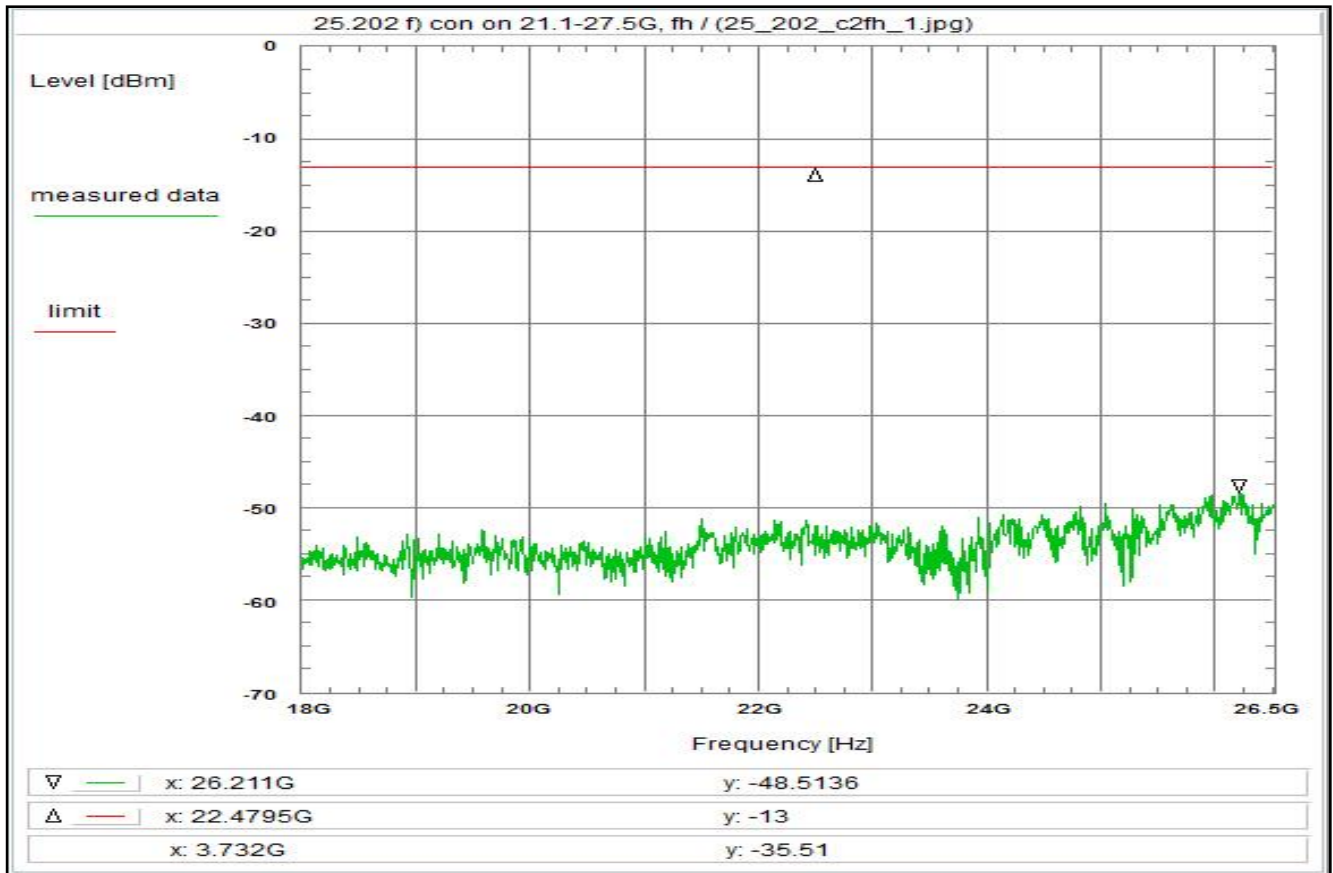
**Setup of measurement equipment:**  
Start frequency: 29.98595 GHz  
Stop frequency: 29.99405 GHz  
Center frequency: 29.99 GHz  
Frequency span: 8.1 MHz  
Resolution-BW: 10 kHz  
Video-BW: 30 kHz  
Input attenuation: 6 dB  
Trace-Mode: Clear Write  
Detector-Mode: AVG

**Correction:**  
Directional coupler + 0.0 dB  
Coaxial cable (C220) + 4.1 dB  
DUT-Antenna (see under limit) + 0.0 dBi  
Test antenna (A031) - 15.8 dB  
BW correction factor (10k -> 4k) - 4.0 dB  
Atten. between HPA and feedhorn - 0.0 dB  
Freefield attenuation (29.99GHz, 5m) + 76.0 dB  
Circular polarization + 3.0 dB  
Additional Attenuation + 0.2 dB  
**TOTAL CORRECTION: + 63.5 dB**

**Remarks:**  
Carrier-on state / Carrier at the upper edge of the band (fh)

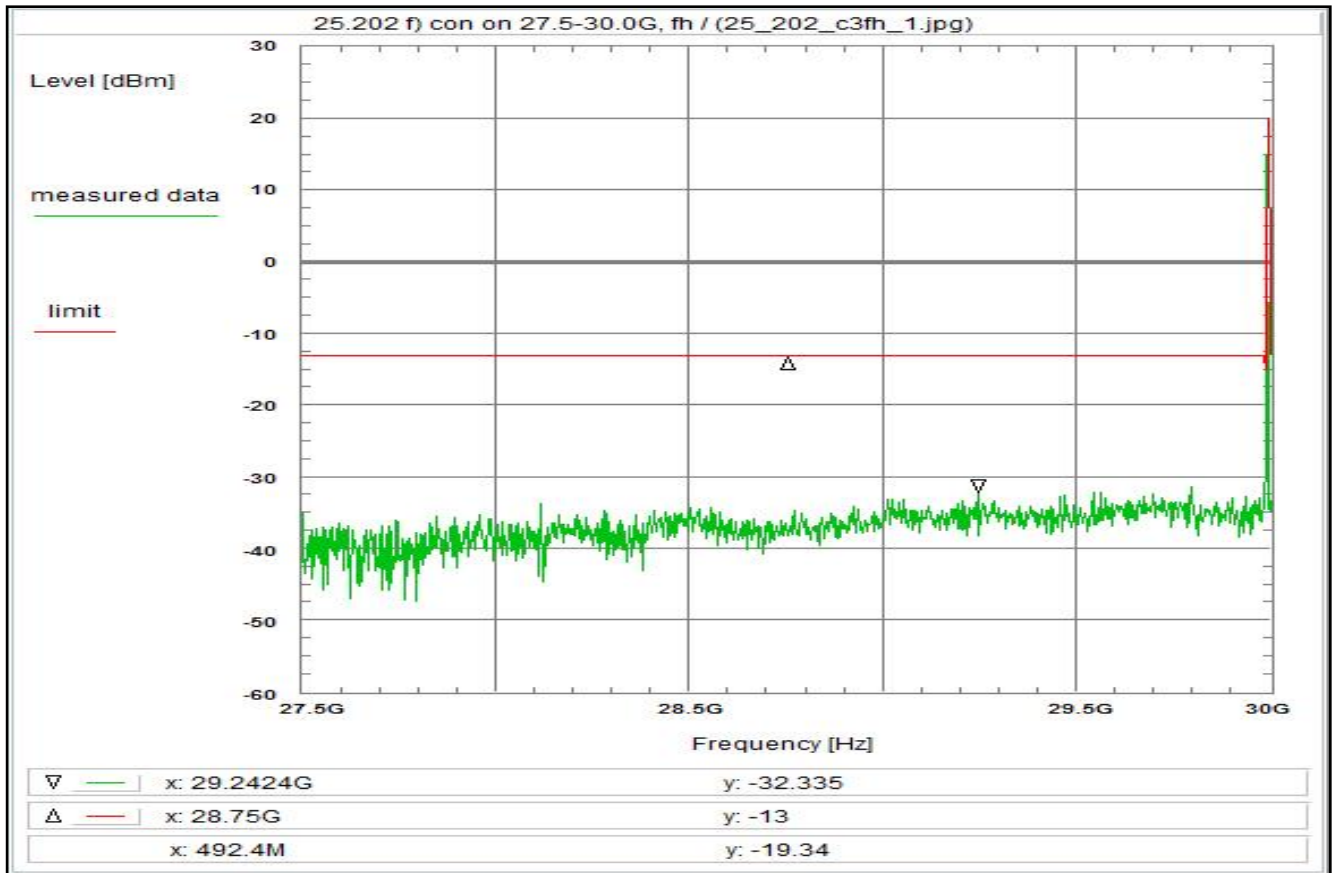


Plot No. 30



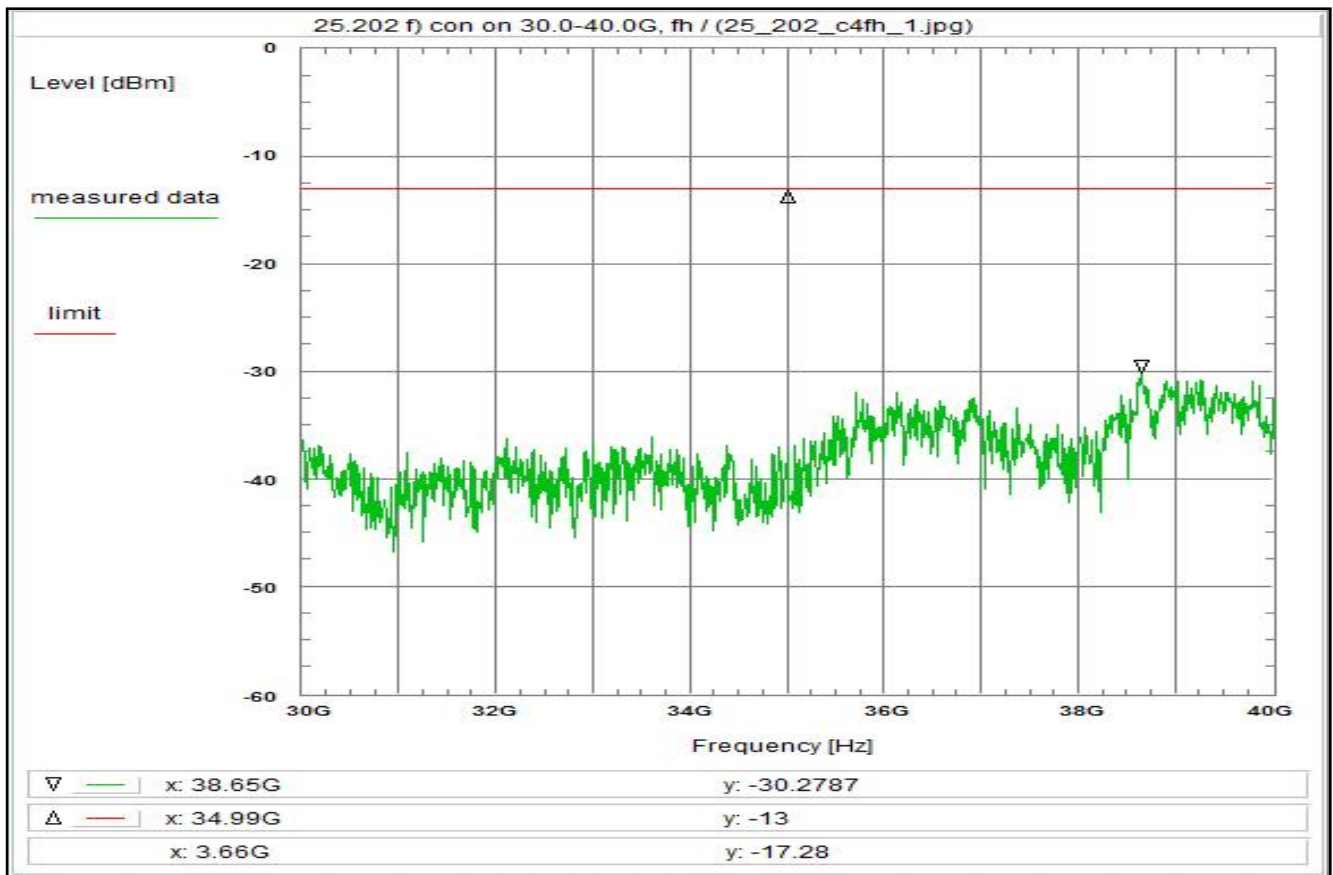
<p><b>Subclause:</b> 25.202 f) Frequencies, frequency tolerance and emission limitations Emission limitations Modulated rf-carrier at the upper edge of the band (fh)</p> <p><b>Limit:</b> Limit acc. to §25.202 f): 50-100% of assigned bw: -25 dBc/4 kHz 100-250% of assigned bw: -35 dBc/4 kHz &gt; 250% of assigned bw: -43+10log(Pmax) dBc/4 kHz</p> <p><b>Test results:</b> see plot (an explicit table was not generated)</p> <p><b>Operating condition of DUT:</b> operating condition 1, see test report chapter 6.4</p> <p><b>Test setup:</b> see test report chapter 7.2:</p> <p><b>Test equipment:</b> see test report chapter 7.3: A019, C220, R001</p> <p>Remark:</p> <p><b>Test result:</b> Test passed</p>	<p><b>Environment condition:</b> Date &amp; Time: Thu 19/May/2022 15:38:46 Location: CTC advanced GmbH, Laboratory RC-SYS Temperature: 22 °C Humidity: 55 % Voltage: 230 Vac</p> <p><b>Setup of measurement equipment:</b> Start frequency: 18 GHz Stop frequency: 26.5 GHz Center frequency: 22.25 GHz Frequency span: 8.5 GHz Resolution-BW: 100 kHz Video-BW: 300 kHz Input attenuation: 0 dB Trace-Mode: Max-Hold Detector-Mode: AVG</p> <p><b>Correction:</b> Directional coupler + 0.0 dB Coaxial cable (C220) + 3.5 dB DUT-Antenna 0.0 dBi Test antenna (A019) - 19.3 dB BW correction factor (100k -&gt; 4k) - 14.0 dB Atten. between HPA and feedhorn - 0.0 dB Freefield attenuation (22.25GHz, 5m) + 73.4 dB Circular Polarization + 3.0 dB Additional attenuation + 0.2 dB TOTAL CORRECTION: + 46.8 dB</p> <p><b>Remarks:</b> Carrier-on state / Carrier at the upper edge of the band (fh) Rather left the plot shows the cut-off of the wave guide.</p>
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Plot No. 31



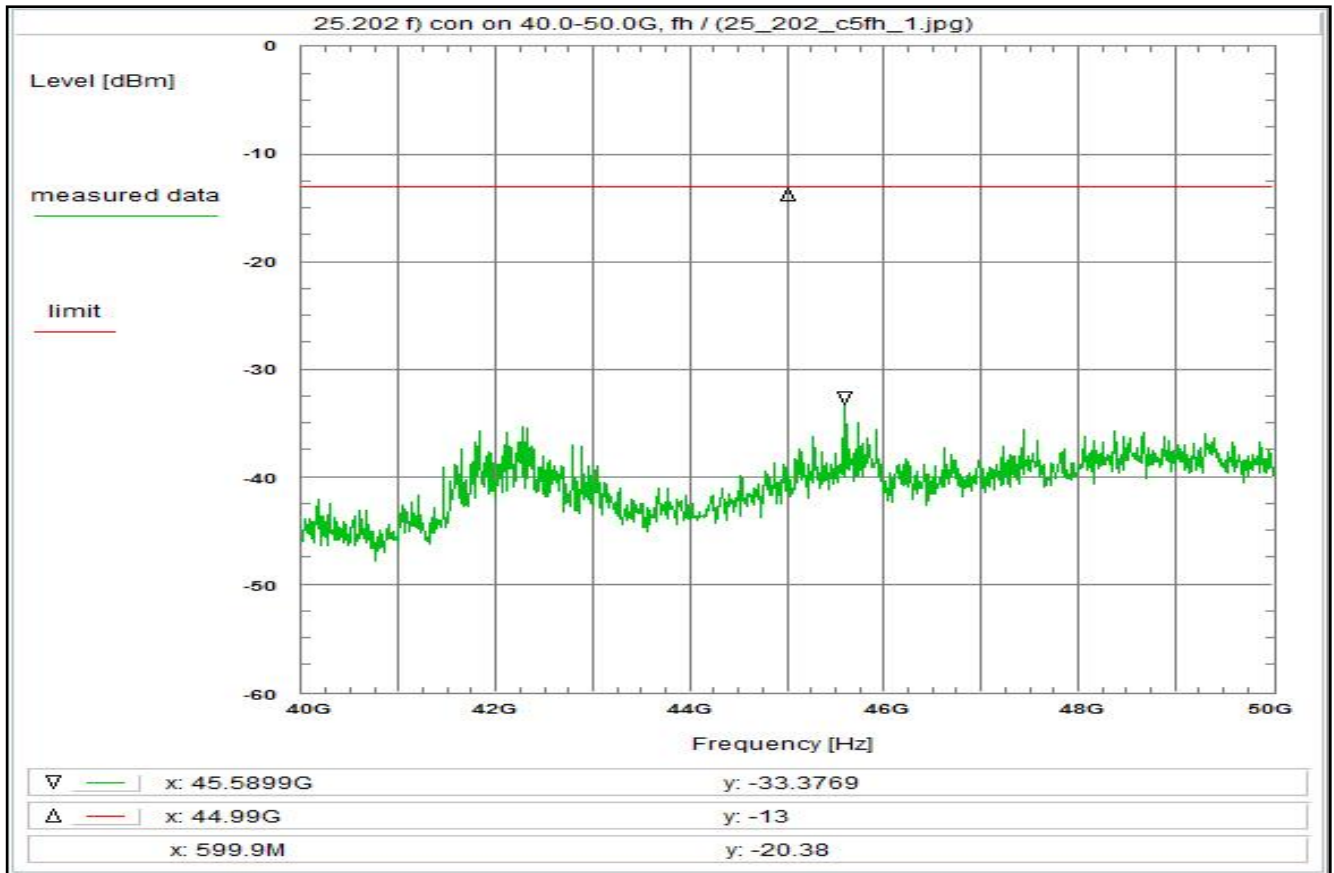
<p><b>Subclause:</b> 25.202 f) Frequencies, frequency tolerance and emission limitations Emission limitations Modulated rf-carrier at the upper edge of the band (fh)</p> <p><b>Limit:</b> <u>Limit acc. to §25.202 f):</u> 50-100% of assigned bw: -25 dBc/4 kHz 100-250% of assigned bw: -35 dBc/4 kHz &gt; 250% of assigned bw: -43+10log(Pmax) dBc/4 kHz</p> <p><b>Test results:</b> see plot (an explicit table was not generated)</p> <p><b>Operating condition of DUT:</b> operating condition 1, see test report chapter 6.4</p> <p><b>Test setup:</b> see test report chapter 7.2:</p> <p><b>Test equipment:</b> see test report chapter 7.3: A031, C220, R001</p> <p>Remark:</p> <p><b>Test result:</b> Test passed</p>	<p><b>Environment condition:</b> Date &amp; Time: Fri 20/May/2022 14:39:18 Location: CTC advanced GmbH, Laboratory RC-SYS Temperature: 22 °C Humidity: 55 % Voltage: 230 Vac</p> <p><b>Setup of measurement equipment:</b> Start frequency: 27.5 GHz Stop frequency: 30 GHz Center frequency: 28.75 GHz Frequency span: 2.5 GHz Resolution-BW: 100 kHz Video-BW: 300 kHz Input attenuation: 6 dB Trace-Mode: Max-Hold Detector-Mode: AVG</p> <p><b>Correction:</b> Directional coupler + 0.0 dB Coaxial cable (C220) + 4.0 dB DUT-Antenna (see under limit) + 0.0 dBi Test antenna (A031) - 15.5 dB BW correction factor (100k -&gt; 4k) - 14.0 dB Atten. between HPA and feedhorn - 0.0 dB Freefield attenuation (29.99GHz, 5m) + 76.0 dB Circular polarization + 3.0 dB Additional Attenuation + 0.2 dB TOTAL CORRECTION: + 53.7 dB</p> <p><b>Remarks:</b> Carrier-on state / Carrier at the upper edge of the band (fh)</p>
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Plot No. 32



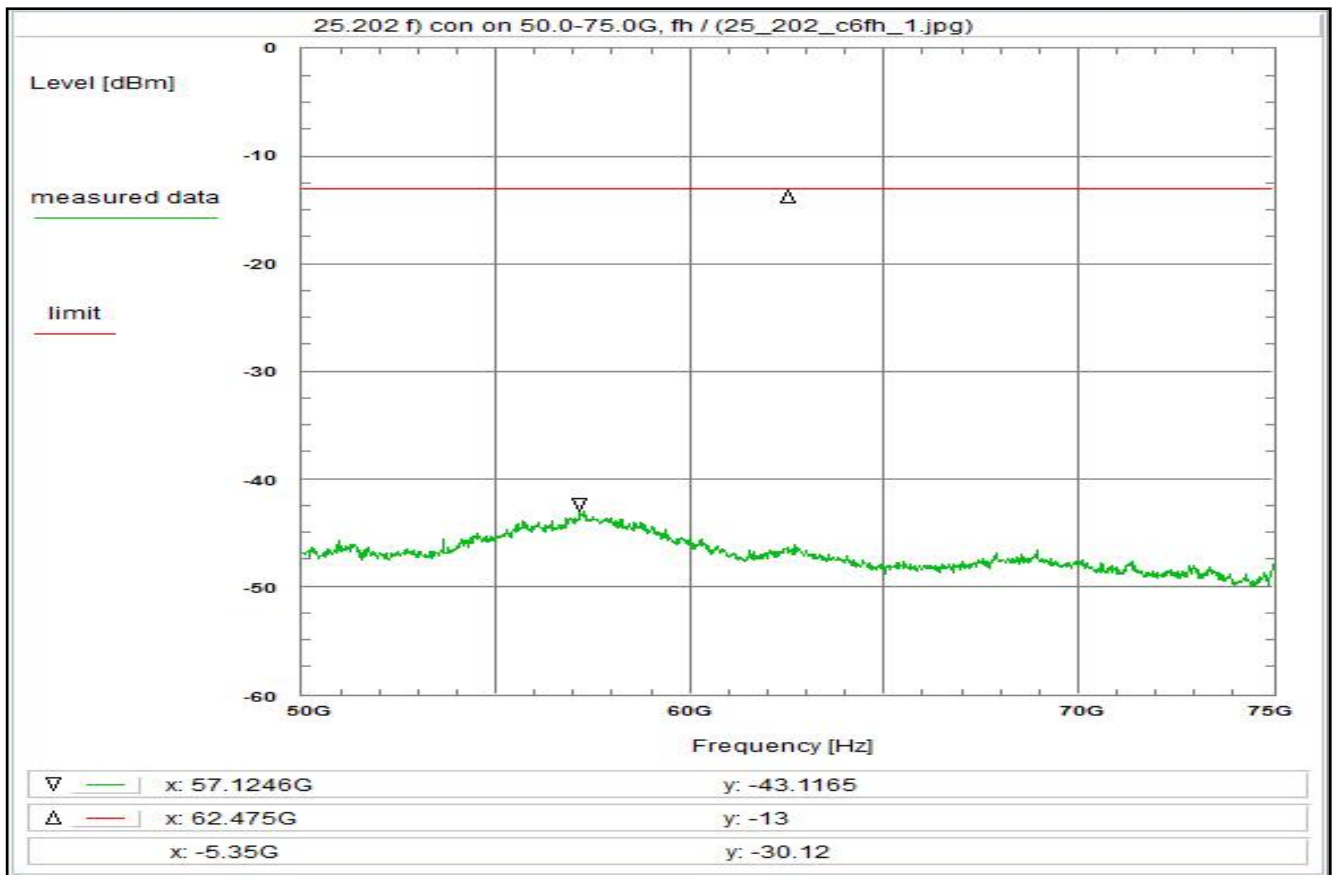
<p><b>Subclause:</b> 25.202 f) Frequencies, frequency tolerance and emission limitations Emission limitations Modulated rf-carrier at the upper edge of the band (fh)</p> <p><b>Limit:</b> <u>Limit acc. to §25.202 f):</u> 50-100% of assigned bw: -25 dBc/4 kHz 100-250% of assigned bw: -35 dBc/4 kHz &gt; 250% of assigned bw: -43+10log(Pmax) dBc/4 kHz</p> <p><b>Test results:</b> see plot (an explicit table was not generated)</p> <p><b>Operating condition of DUT:</b> operating condition 1, see test report chapter 6.4</p> <p><b>Test setup:</b> see test report chapter 7.2:</p> <p><b>Test equipment:</b> see test report chapter 7.3: A031, C220, R001</p> <p>Remark:</p> <p><b>Test result:</b> Test passed</p>	<p><b>Environment condition:</b> Date &amp; Time: Fri 20/May/2022 14:40:39 Location: CTC advanced GmbH, Laboratory RC-SYS Temperature: 22 °C Humidity: 55 % Voltage: 230 Vac</p> <p><b>Setup of measurement equipment:</b> Start frequency: 30 GHz Stop frequency: 40 GHz Center frequency: 35 GHz Frequency span: 10 GHz Resolution-BW: 100 kHz Video-BW: 300 kHz Input attenuation: 6 dB Trace-Mode: Max-Hold Detector-Mode: AVG</p> <p><b>Correction:</b> Directional coupler + 0.0 dB Coaxial cable (C220) + 4.4 dB DUT-Antenna (see under limit) + 0.0 dBi Test antenna (A031) - 16.9 dB BW correction factor (100k -&gt; 4k) - 14.0 dB Atten. between HPA and feedhorn - 0.0 dB Freefield attenuation (35.00GHz, 5m) + 77.3 dB Circular polarization + 3.0 dB Additional Attenuation + 0.2 dB <b>TOTAL CORRECTION:</b> + 54.0 dB</p> <p><b>Remarks:</b> Carrier-on state / Carrier at the upper edge of the band (fh)</p>
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Plot No. 33



<p><b>Subclause:</b> 25.202 f) Frequencies, frequency tolerance and emission limitations Emission limitations Modulated rf-carrier at the upper edge of the band (fh)</p> <p><b>Limit:</b> <u>Limit acc. to §25.202 f):</u> 50-100% of assigned bw: -25 dBc/4 kHz 100-250% of assigned bw: -35 dBc/4 kHz &gt; 250% of assigned bw: -43+10log(Pmax) dBc/4 kHz</p> <p><b>Test results:</b> see plot (an explicit table was not generated)</p> <p><b>Operating condition of DUT:</b> operating condition 1, see test report chapter 6.4</p> <p><b>Test setup:</b> see test report chapter 7.2:</p> <p><b>Test equipment:</b> see test report chapter 7.3: A_50, C220, R001</p> <p>Remark:</p> <p><b>Test result:</b> Test passed</p>	<p><b>Environment condition:</b> Date &amp; Time: Thu 19/May/2022 15:20:57 Location: CTC advanced GmbH, Laboratory RC-SYS Temperature: 22 °C Humidity: 55 % Voltage: 230 Vac</p> <p><b>Setup of measurement equipment:</b> Start frequency: 40 GHz Stop frequency: 50 GHz Center frequency: 45 GHz Frequency span: 10 GHz Resolution-BW: 100 kHz Video-BW: 300 kHz Input attenuation: 0 dB Trace-Mode: Clear Write Detector-Mode: AVG</p> <p><b>Correction:</b> Directional coupler + 0.0 dB Coaxial cable (C220) + 5.2 dB DUT-Antenna 0.0 dBi Test antenna (A_50) - 19.9 dB BW correction factor (100k -&gt; 4k) - 14.0 dB Atten. between HPA and feedhorn - 0.0 dB Freefield attenuation (45.00GHz, 5m) + 79.5 dB Circular Polarization + 3.0 dB Additional attenuation + 0.2 dB TOTAL CORRECTION: + 54.0 dB</p> <p><b>Remarks:</b> Carrier-on state / Carrier at the upper edge of the band (fh)</p>
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Plot No. 34



**Subclause:** 25.202 f) Frequencies, frequency tolerance and emission limitations  
Emission limitations  
Modulated rf-carrier at the upper edge of the band (fh)

**Limit:**  
Limit acc. to §25.202 f):  
50-100% of assigned bw: -25 dBc/4 kHz  
100-250% of assigned bw: -35 dBc/4 kHz  
> 250% of assigned bw: -43+10log(Pmax) dBc/4 kHz

**Test results:**  
see plot (an explicit table was not generated)

**Operating condition of DUT:**  
operating condition 1, see test report chapter 6.4

**Test setup:**  
see test report chapter 7.2:

**Test equipment:**  
see test report chapter 7.3: A025, R001, R025

Remark:

**Test result: Test passed**

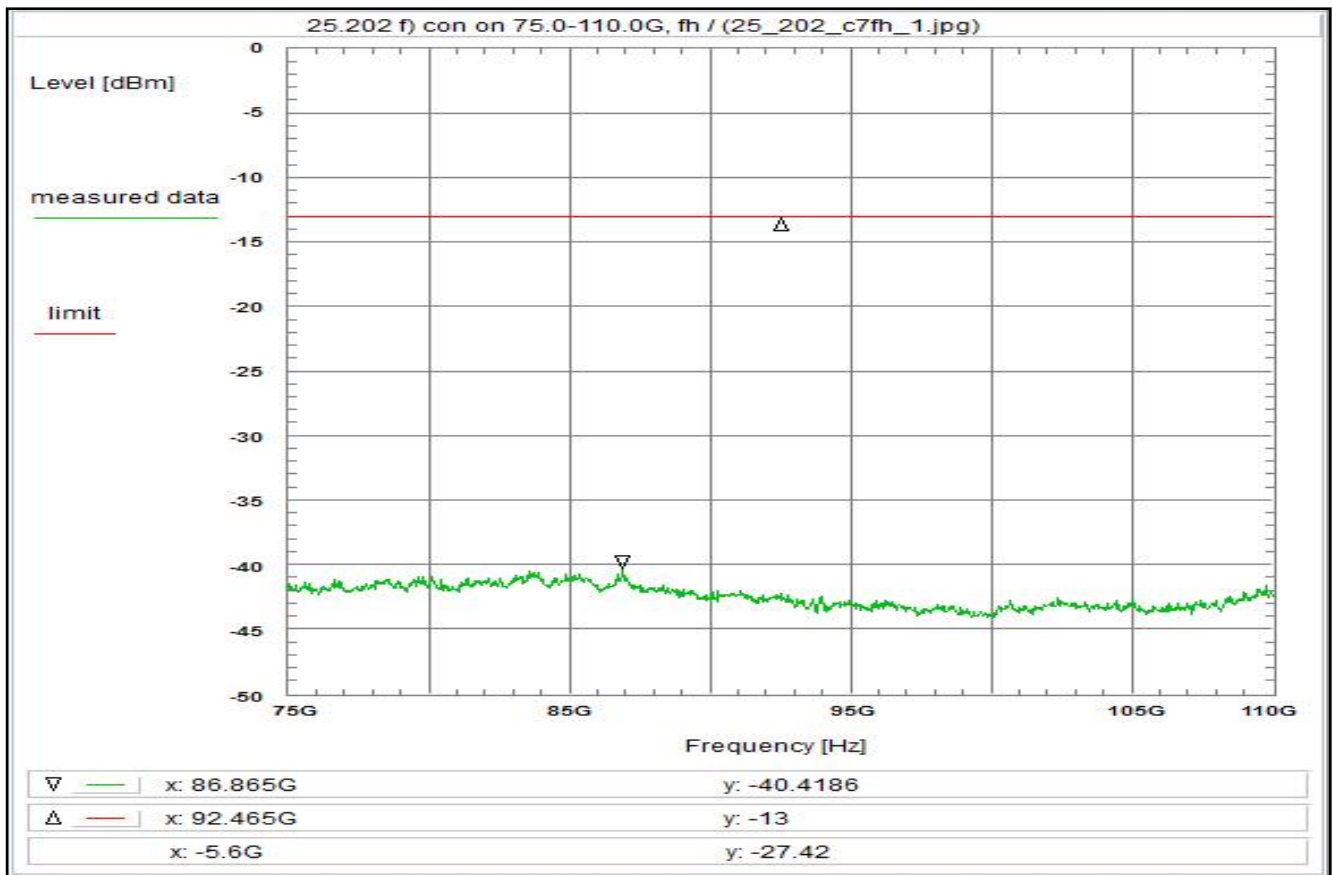
**Environment condition:**  
Date & Time: Thu 19/May/2022 14:53:45  
Location: CTC advanced GmbH, Laboratory RC-SYS  
Temperature: 22 °C  
Humidity: 55 %  
Voltage: 230 Vac

**Setup of measurement equipment:**  
Start frequency: 50 GHz  
Stop frequency: 75 GHz  
Center frequency: 62.5 GHz  
Frequency span: 25 GHz  
Resolution-BW: 1 MHz  
Video-BW: 3 MHz  
Input attenuation: 0 dB  
Trace-Mode: Max-Hold  
Detector-Mode: AVG

**Correction:**  
Directional coupler + 0.0 dB  
Coaxial cable + 0.0 dB  
DUT-Antenna - 3.0 dBi  
Test antenna (A025) - 20.0 dB  
BW correction factor (1M -> 4k) - 24.0 dB  
Atten. between HPA and feedhorn - 0.0 dB  
Freefield attenuation + 81.2 dB  
TOTAL CORRECTION: + 34.2 dB

**Remarks:**  
Carrier-on state / Carrier at the upper edge of the band (fh)

Plot No. 35



**Subclause:** 25.202 f) Frequencies, frequency tolerance and emission limitations  
Emission limitations  
Modulated rf-carrier at the upper edge of the band (fh)

**Limit:**  
Limit acc. to §25.202 f):  
50-100% of assigned bw: -25 dBc/4 kHz  
100-250% of assigned bw: -35 dBc/4 kHz  
> 250% of assigned bw: -43+10log(Pmax) dBc/4 kHz

**Test results:**  
see plot (an explicit table was not generated)

**Operating condition of DUT:**  
operating condition 1, see test report chapter 6.4

**Test setup:**  
see test report chapter 7.2:

**Test equipment:**  
see test report chapter 7.3: A028, R001, R029

**Remark:**

**Test result: Test passed**

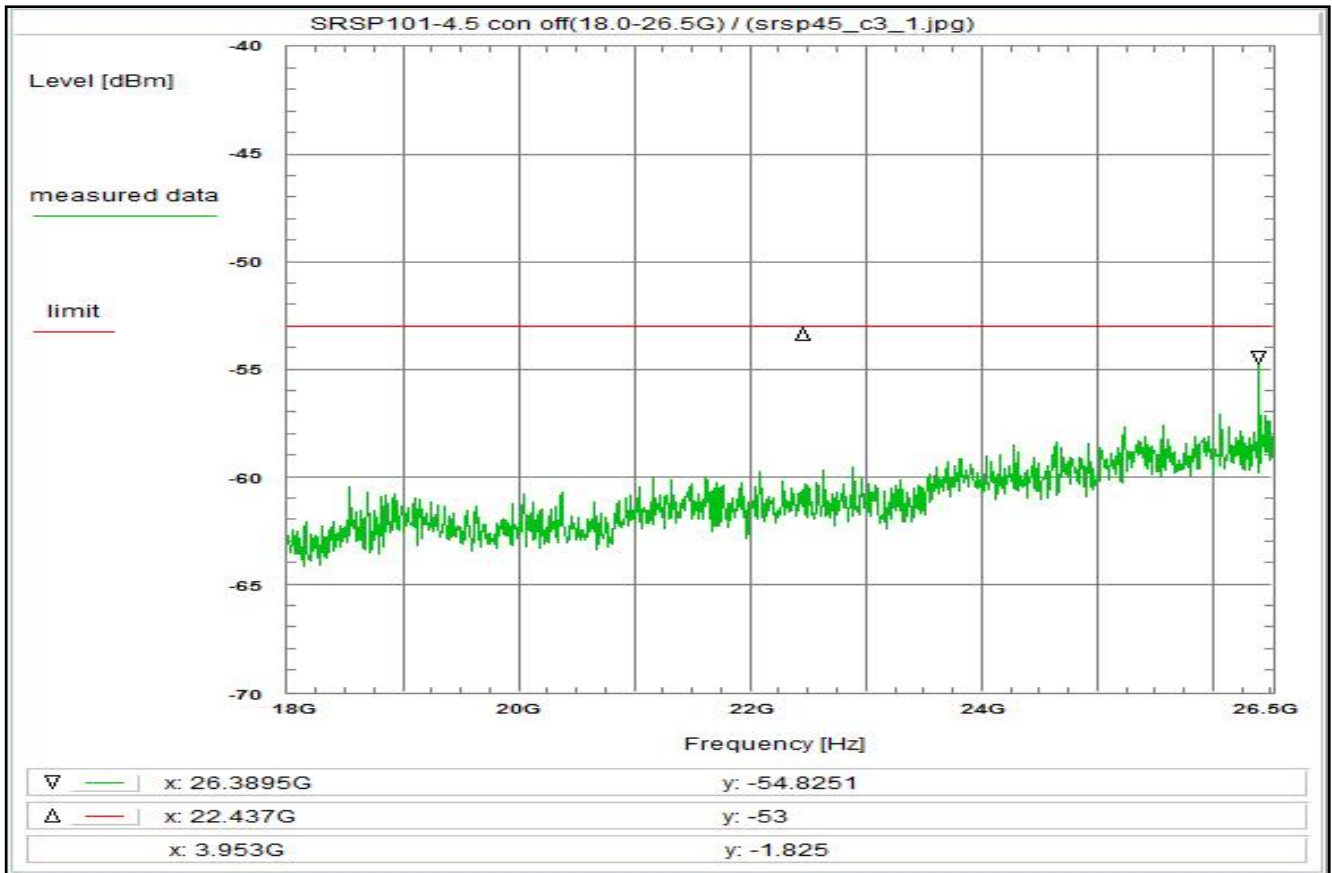
**Environment condition:**  
Date & Time: Thu 19/May/2022 15:00:43  
Location: CTC advanced GmbH, Laboratory RC-SYS  
Temperature: 22 °C  
Humidity: 55 %  
Voltage: 230 Vac

**Setup of measurement equipment:**  
Start frequency: 75 GHz  
Stop frequency: 110 GHz  
Center frequency: 92.5 GHz  
Frequency span: 35 GHz  
Resolution-BW: 1 MHz  
Video-BW: 3 MHz  
Input attenuation: 0 dB  
Trace-Mode: Max-Hold  
Detector-Mode: AVG

**Correction:**  
Directional coupler + 0.0 dB  
Coaxial cable + 0.0 dB  
DUT-Antenna - 3.0 dBi  
Test antenna (A028) - 19.4 dB  
BW correction factor (1M -> 4k) - 24.0 dB  
Atten. between HPA and feedhorn - 0.0 dB  
Freefield attenuation (92.50GHz, 5m) + 85.7 dB  
TOTAL CORRECTION: + 39.3 dB

**Remarks:**  
Carrier-on state / Carrier at the upper edge of the band (fh)

Plot No. 36



**Subclause:** SRSP-101, 4.5 Receiver spurious emissions  
Conducted emissions: 12.0 GHz - 18.0 GHz

**Limit:**  
Limit acc. to SRSP-101, 4.5: -53.0 dBm

**Test results:**  
see plot (an explicit table was not generated)

**Operating condition of DUT:**  
operating condition 1, see test report chapter 6.4

**Test setup:**  
see test report chapter 7.2:

**Test equipment:**  
see test report chapter 7.3: A019, C220, R001

**Remark:**

**Test result: Test passed**

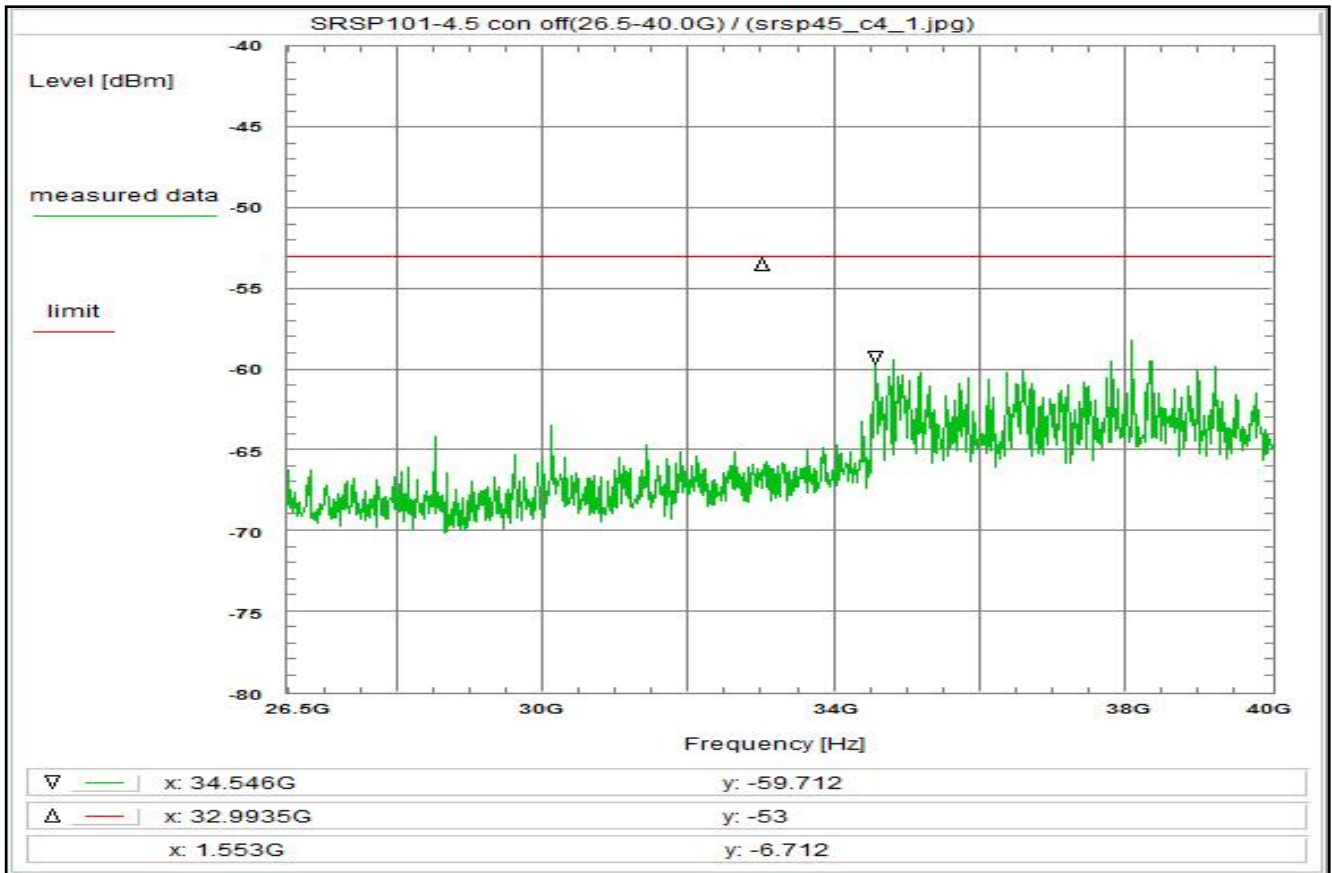
**Environment condition:**  
Date & Time: Tue 24/May/2022 13:13:41  
Location: CTC advanced GmbH, Laboratory RC-SYS  
Temperature: 22 °C  
Humidity: 55 %  
Voltage: 230 Vac

**Setup of measurement equipment:**  
Start frequency: 18 GHz  
Stop frequency: 26.5 GHz  
Center frequency: 22.25 GHz  
Frequency span: 8.5 GHz  
Resolution-BW: 100 kHz  
Video-BW: 300 kHz  
Input attenuation: 0 dB  
Trace-Mode: Max-Hold  
Detector-Mode: Pos Peak

**Correction:**  
Directional coupler + 0.0 dB  
Coaxial cable (C220) + 3.5 dB  
DUT-Antenna + 0.0 dBi  
Test antenna (A019) - 19.3 dB  
BW correction factor (100k -> 1M) + 0.0 dB  
Atten. between HPA and feedhorn - 0.0 dB  
Freefield attenuation (22.25GHz, 0.2m) + 45.4 dB  
TOTAL CORRECTION: + 29.6 dB

**Remarks:**  
Carrier-off state / Receiver spurious emissions

Plot No. 37



**Subclause:** SRSP-101, 4.5 Receiver spurious emissions  
Conducted emissions: 12.0 GHz - 18.0 GHz

**Limit:**  
Limit acc. to SRSP-101, 4.5: -53.0 dBm

**Test results:**  
see plot (an explicit table was not generated)

**Operating condition of DUT:**  
operating condition 1, see test report chapter 6.4

**Test setup:**  
see test report chapter 7.2:

**Test equipment:**  
see test report chapter 7.3: A031, C220, R001

**Remark:**

**Test result: Test passed**

**Environment condition:**  
Date & Time: Tue 24/May/2022 13:22:36  
Location: CTC advanced GmbH, Laboratory RC-SYS  
Temperature: 22 °C  
Humidity: 55 %  
Voltage: 230 Vac

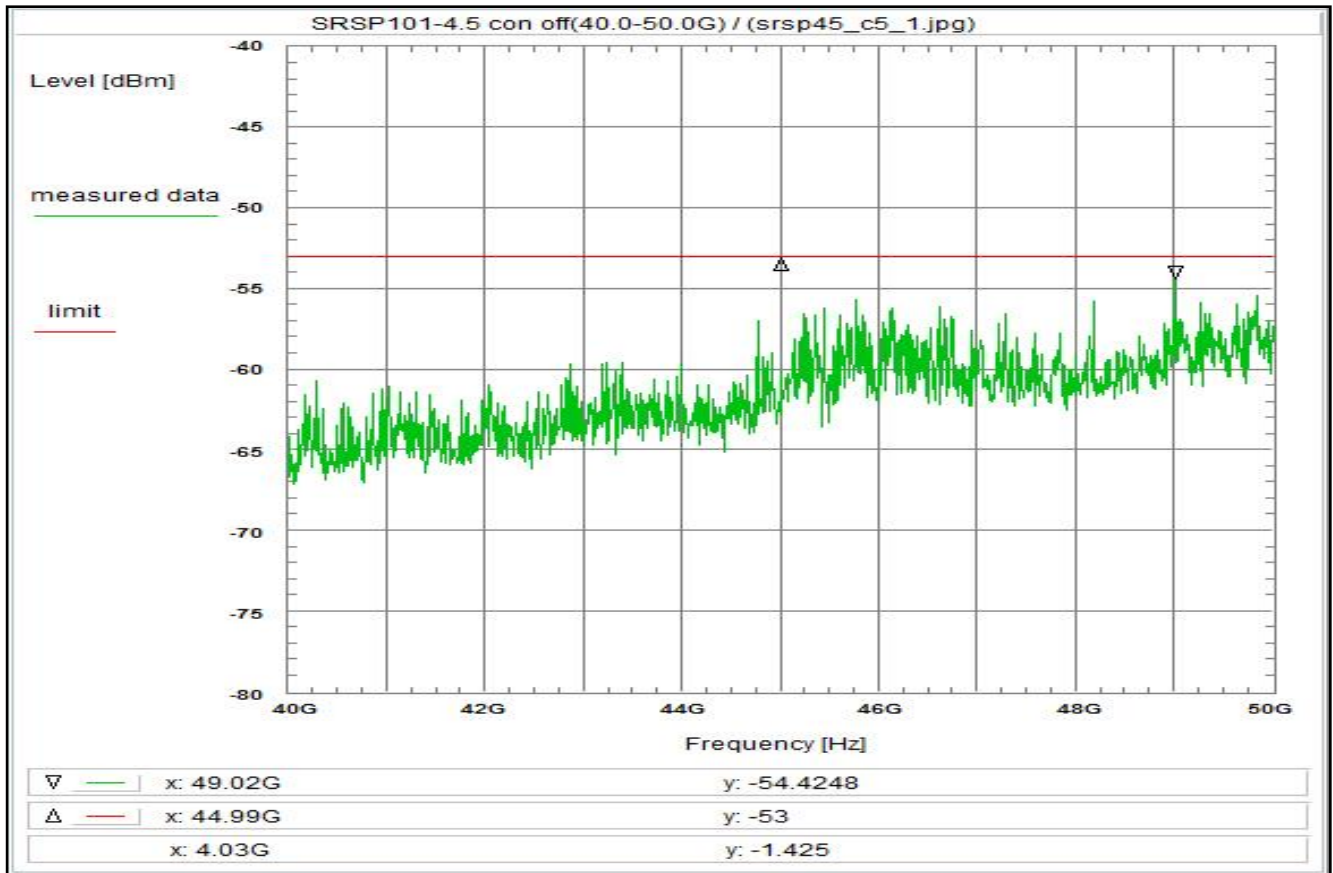
**Setup of measurement equipment:**  
Start frequency: 26.5 GHz  
Stop frequency: 40 GHz  
Center frequency: 33.25 GHz  
Frequency span: 13.5 GHz  
Resolution-BW: 100 kHz  
Video-BW: 300 kHz  
Input attenuation: 0 dB  
Trace-Mode: Average  
Detector-Mode: Sample

**Correction:**  
Directional coupler + 0.0 dB  
Coaxial cable (C220) + 4.3 dB  
DUT-Antenna + 0.0 dBi  
Test antenna (A031) - 16.2 dB  
BW correction factor (100k -> 1M) + 10.0 dB  
Atten. between HPA and feedhorn - 0.0 dB  
Freefield attenuation (33.25GHz, 0.1m) + 42.9 dB  
TOTAL CORRECTION: + 41.0 dB

**Remarks:**  
Carrier-off state / Receiver spurious emissions

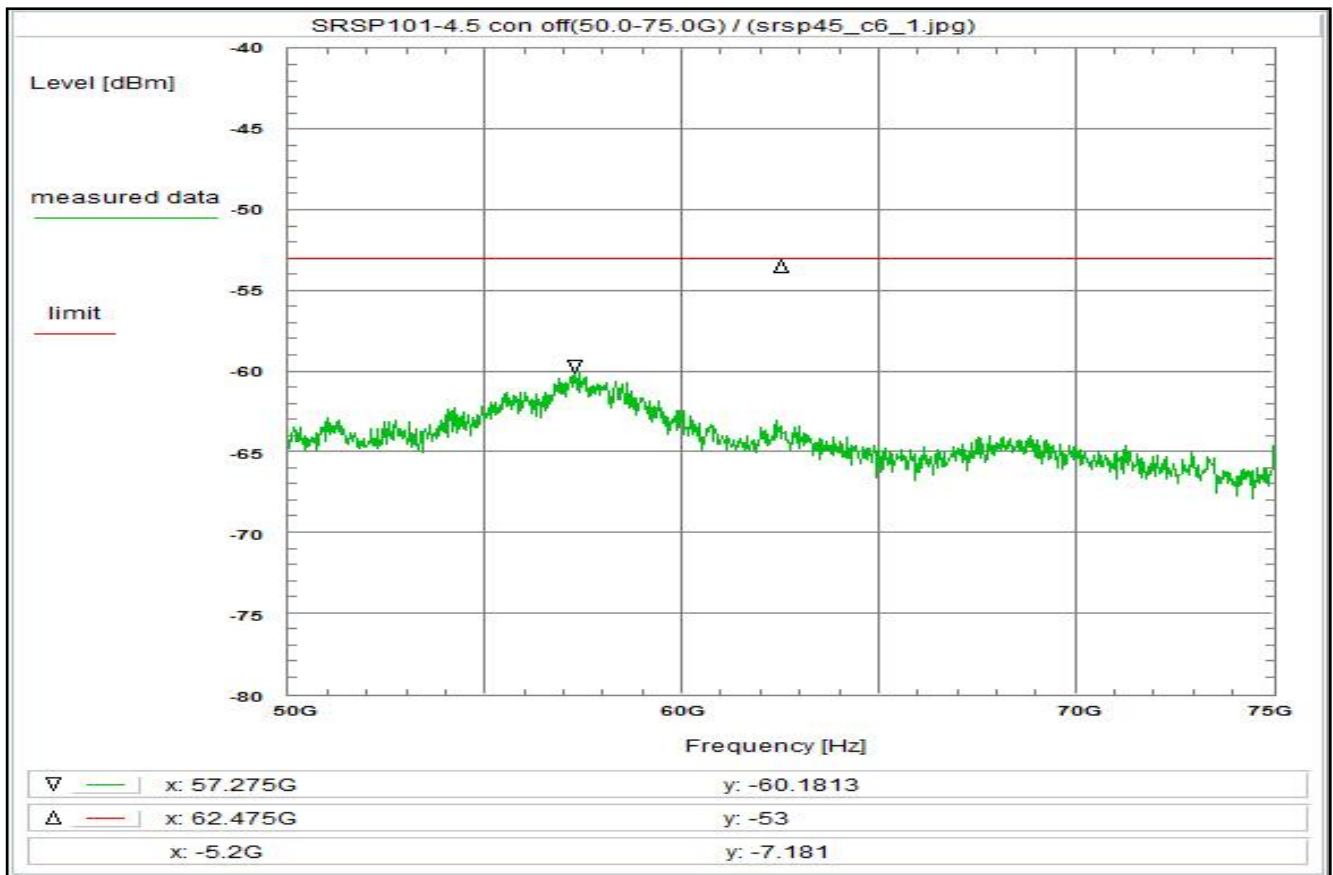


Plot No. 38



<p><b>Subclause:</b> SRSP-101, 4.5 Receiver spurious emissions Conducted emissions: 12.0 GHz - 18.0 GHz</p> <p><b>Limit:</b> Limit acc. to SRSP-101, 4.5: -53.0 dBm</p> <p><b>Test results:</b> see plot (an explicit table was not generated)</p> <p><b>Operating condition of DUT:</b> operating condition 1, see test report chapter 6.4</p> <p><b>Test setup:</b> see test report chapter 7.2:</p> <p><b>Test equipment:</b> see test report chapter 7.3: A_50, C220, R001,</p> <p><b>Remark:</b></p> <p><b>Test result:</b> Test passed</p>	<p><b>Environment condition:</b> Date &amp; Time: Tue 24/May/2022 13:25:44 Location: CTC advanced GmbH, Laboratory RC-SYS Temperature: 22 °C Humidity: 55 % Voltage: 230 Vac</p> <p><b>Setup of measurement equipment:</b> Start frequency: 40 GHz Stop frequency: 50 GHz Center frequency: 45 GHz Frequency span: 10 GHz Resolution-BW: 100 kHz Video-BW: 300 kHz Input attenuation: 0 dB Trace-Mode: Average Detector-Mode: Sample</p> <p><b>Correction:</b> Directional coupler + 0.0 dB Coaxial cable (C220) + 5.2 dB DUT-Antenna + 0.0 dBi Test antenna (A_50) - 19.9 dB BW correction factor (100k -&gt; 1M) + 10.0 dB Atten. between HPA and feedhorn - 0.0 dB Freefield attenuation (45.00GHz, 0.1m) + 45.5 dB TOTAL CORRECTION: + 40.8 dB</p> <p><b>Remarks:</b> Carrier-off state / Receiver spurious emissions</p>
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Plot No. 39



**Subclause:** SRSP-101, 4.5 Receiver spurious emissions  
Conducted emissions: 12.0 GHz - 18.0 GHz

**Limit:**  
Limit acc. to SRSP-101, 4.5: -53.0 dBm

**Test results:**  
see plot (an explicit table was not generated)

**Operating condition of DUT:**  
operating condition 1, see test report chapter 6.4

**Test setup:**  
see test report chapter 7.2:

**Test equipment:**  
see test report chapter 7.3: A025, R001, R025

**Remark:**

**Test result: Test passed**

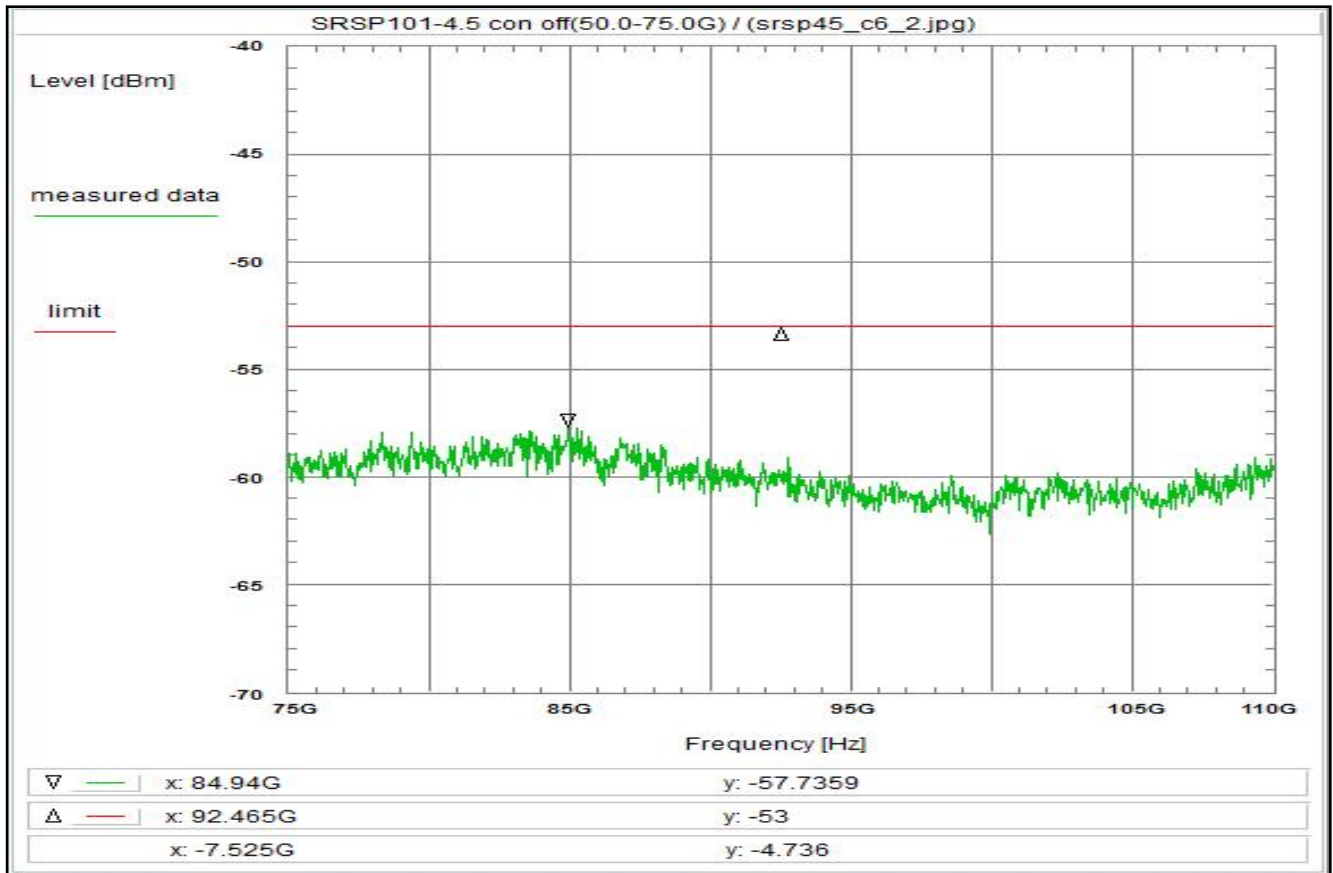
**Environment condition:**  
Date & Time: Tue 24/May/2022 13:35:02  
Location: CTC advanced GmbH, Laboratory RC-SYS  
Temperature: 22 °C  
Humidity: 55 %  
Voltage: 230 Vac

**Setup of measurement equipment:**  
Start frequency: 50 GHz  
Stop frequency: 75 GHz  
Center frequency: 62.5 GHz  
Frequency span: 25 GHz  
Resolution-BW: 100 kHz  
Video-BW: 300 kHz  
Input attenuation: 0 dB  
Trace-Mode: Average  
Detector-Mode: Sample

**Correction:**  
Directional coupler + 0.0 dB  
Coaxial cable + 0.0 dB  
DUT-Antenna + 0.0 dBi  
Test antenna (A025) - 20.0 dB  
BW correction factor (100k -> 1M) + 10.0 dB  
Atten. between HPA and feedhorn - 0.0 dB  
Freefield attenuation (62.50GHz, 0.05m) + 42.3 dB  
TOTAL CORRECTION: + 32.3 dB

**Remarks:**  
Carrier-off state / Receiver spurious emissions

Plot No. 40



**Subclause:** SRSP-101, 4.5 Receiver spurious emissions  
Conducted emissions: 12.0 GHz - 18.0 GHz

**Limit:**  
Limit acc. to SRSP-101, 4.5: -53.0 dBm

**Test results:**  
see plot (an explicit table was not generated)

**Operating condition of DUT:**  
operating condition 1, see test report chapter 6.4

**Test setup:**  
see test report chapter 7.2:

**Test equipment:**  
see test report chapter 7.3: A028, R001, R029

**Remark:**

**Test result: Test passed**

**Environment condition:**  
Date & Time: Tue 24/May/2022 13:39:24  
Location: CTC advanced GmbH, Laboratory RC-SYS  
Temperature: 22 °C  
Humidity: 55 %  
Voltage: 230 Vac

**Setup of measurement equipment:**  
Start frequency: 75 GHz  
Stop frequency: 110 GHz  
Center frequency: 92.5 GHz  
Frequency span: 35 GHz  
Resolution-BW: 100 kHz  
Video-BW: 300 kHz  
Input attenuation: 0 dB  
Trace-Mode: Average  
Detector-Mode: Sample

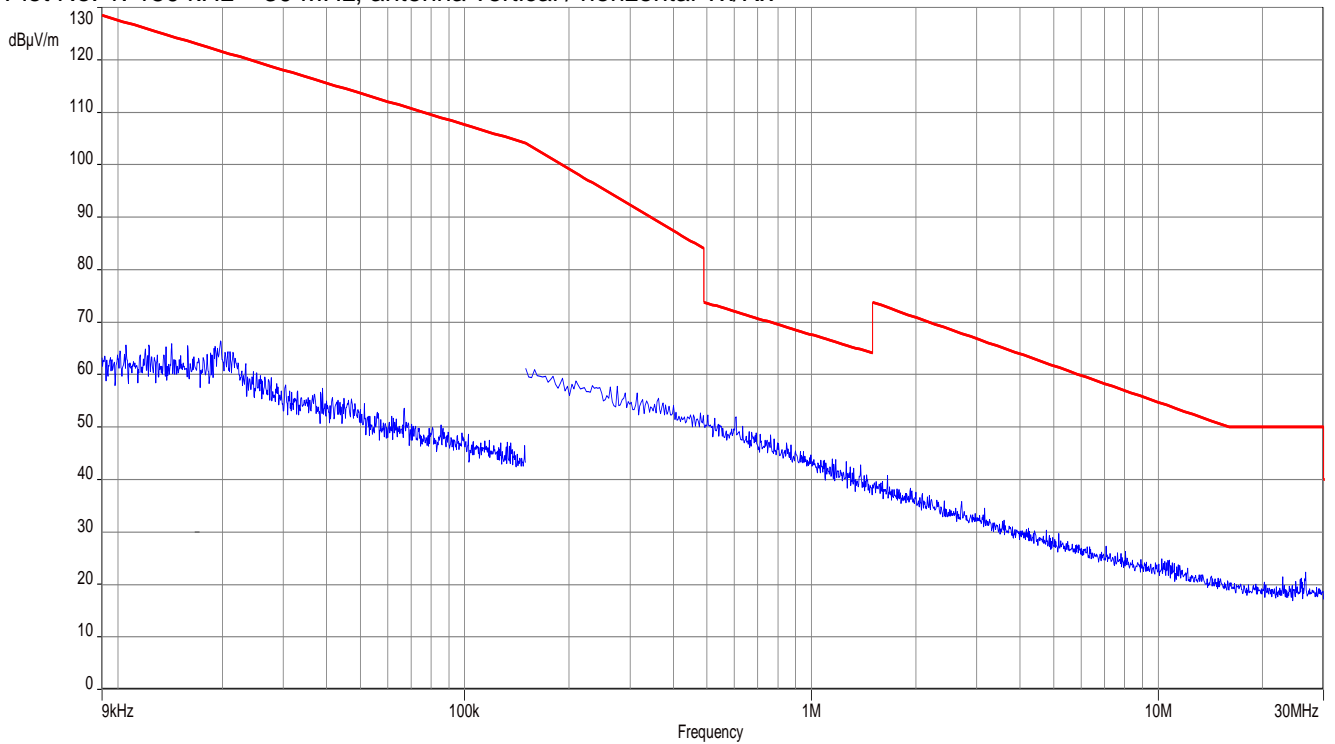
**Correction:**  
Directional coupler + 0.0 dB  
Coaxial cable + 0.0 dB  
DUT-Antenna + 0.0 dBi  
Test antenna (A028) - 19.4 dB  
BW correction factor (100k -> 1M) + 10.0 dB  
Atten. between HPA and feedhorn - 0.0 dB  
Freefield attenuation (92.50GHz, 0.05m) + 45.7 dB  
TOTAL CORRECTION: + 36.3 dB

**Remarks:**  
Carrier-off state / Receiver spurious emissions

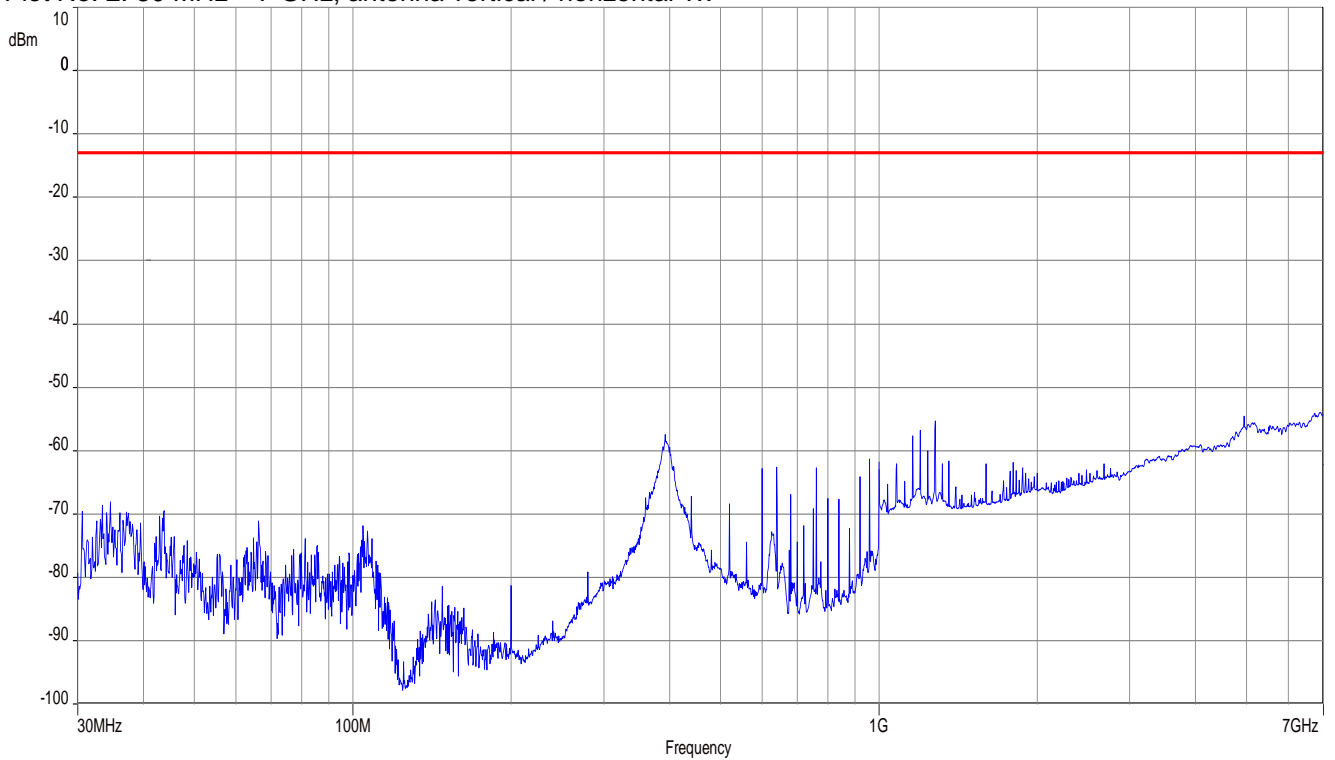
### **3 Measurement results, Spurious emissions 30MHz - 18 GHz**

This Chapter 3 consists of 3 pages including this page.

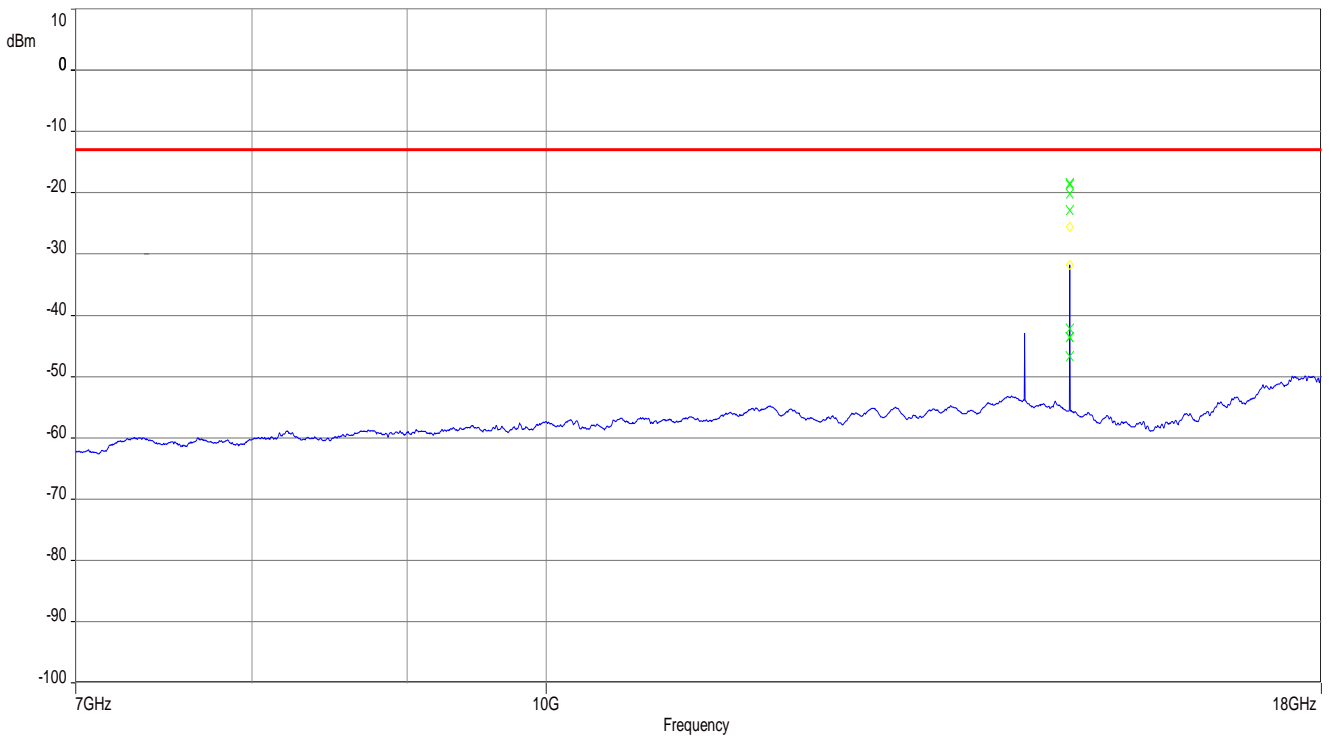
Plot No. 1: 150 kHz – 30 MHz, antenna vertical / horizontal Tx/Rx



Plot No. 2: 30 MHz – 7 GHz, antenna vertical / horizontal Tx

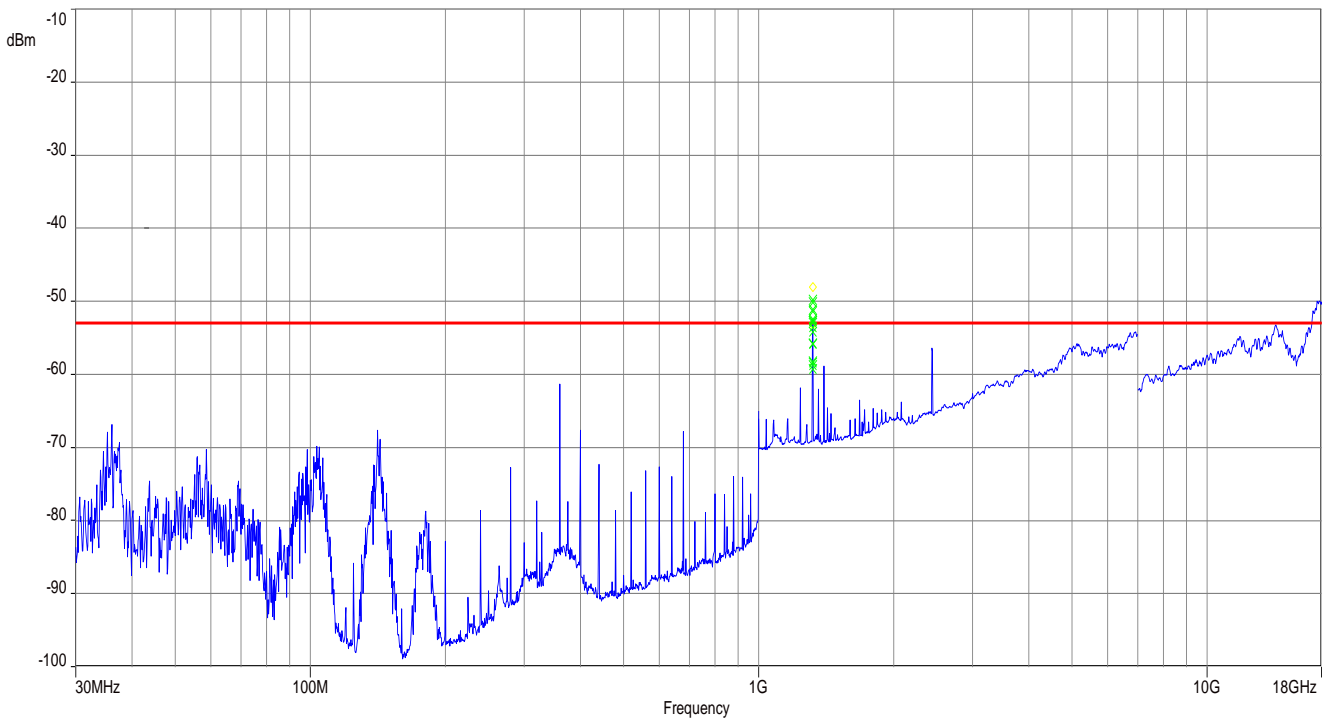


Plot No. 3: 7 – 18 GHz, antenna vertical / horizontal Tx



Worst case: -18.5 dBm RMS @ 14.875 GHz

Plot No. 4: 30 MHz – 18 GHz, antenna vertical / horizontal Rx RSP-101



Worst case RMS value: -53.5 dBm at 1320 MHz

Note: Noise floor only at frequencies above 10 GHz

## **4 Measurement results, FCC Part 15B**

This Chapter 3 consists of 1 pages including this page.

**Refer to test report 1-3566\_21-01-06.pdf**

## 5 Document history

Version	Applied changes	Date of release
	Initial release - DRAFT	2022-06-01
	Initial release	2022-06-21