Annex E

CTC advanced member of RWTÜV group

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Test report annex authorized:

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2 Measurement results, FCC Part 25, SRSP-101

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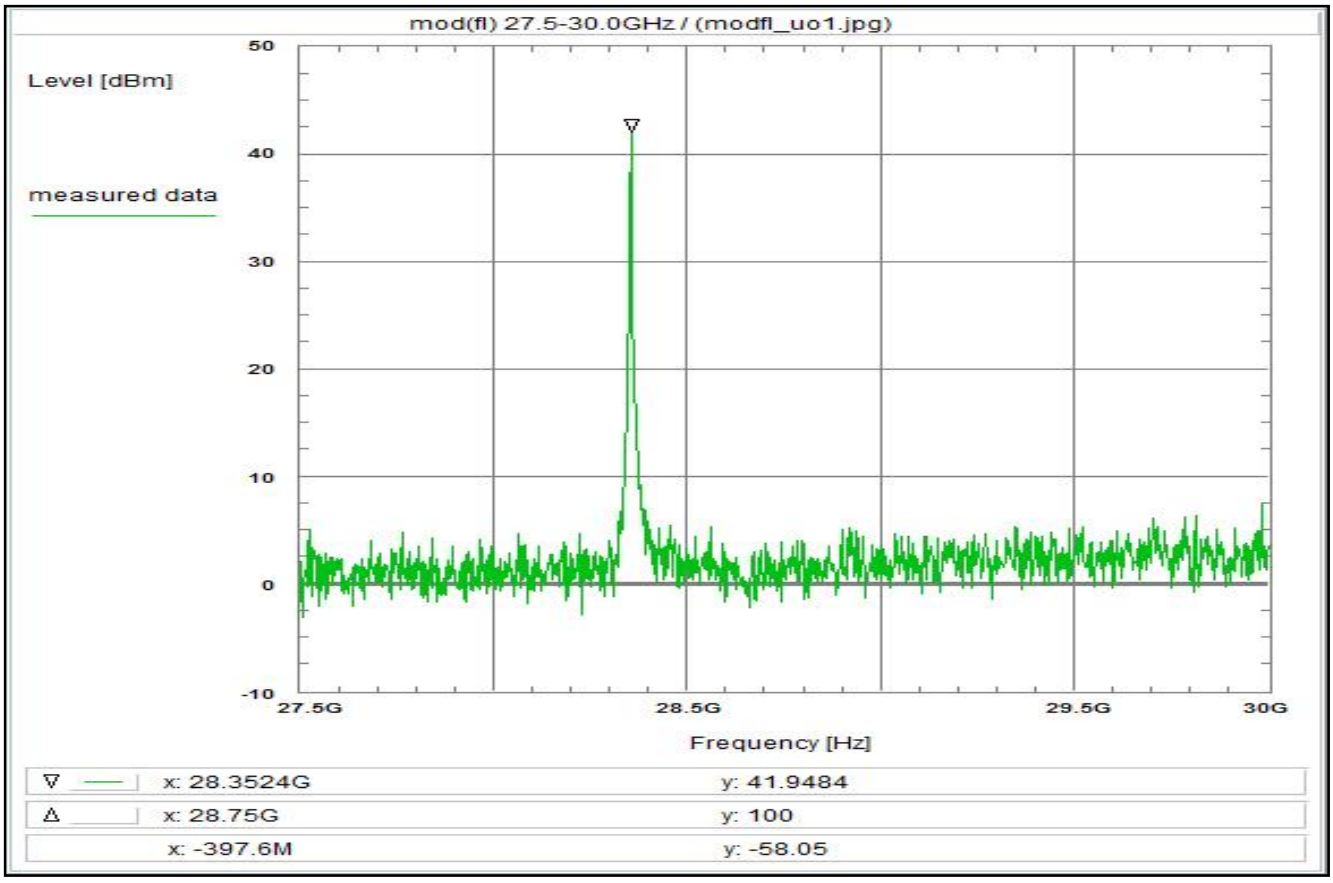
Plot No. 1



Subclause: -/- Function test
Modulated rf-carrier at the lower edge of the band (fl)
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 as close to the lower edge of the operating frequency band.

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 7.2: A031, C107, R001

Remark:

Test result: Test passed

Environment condition:

Date & Time:	Fri 29/May/2020 13:18:38	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	230	Vac

Setup of measurement equipment:

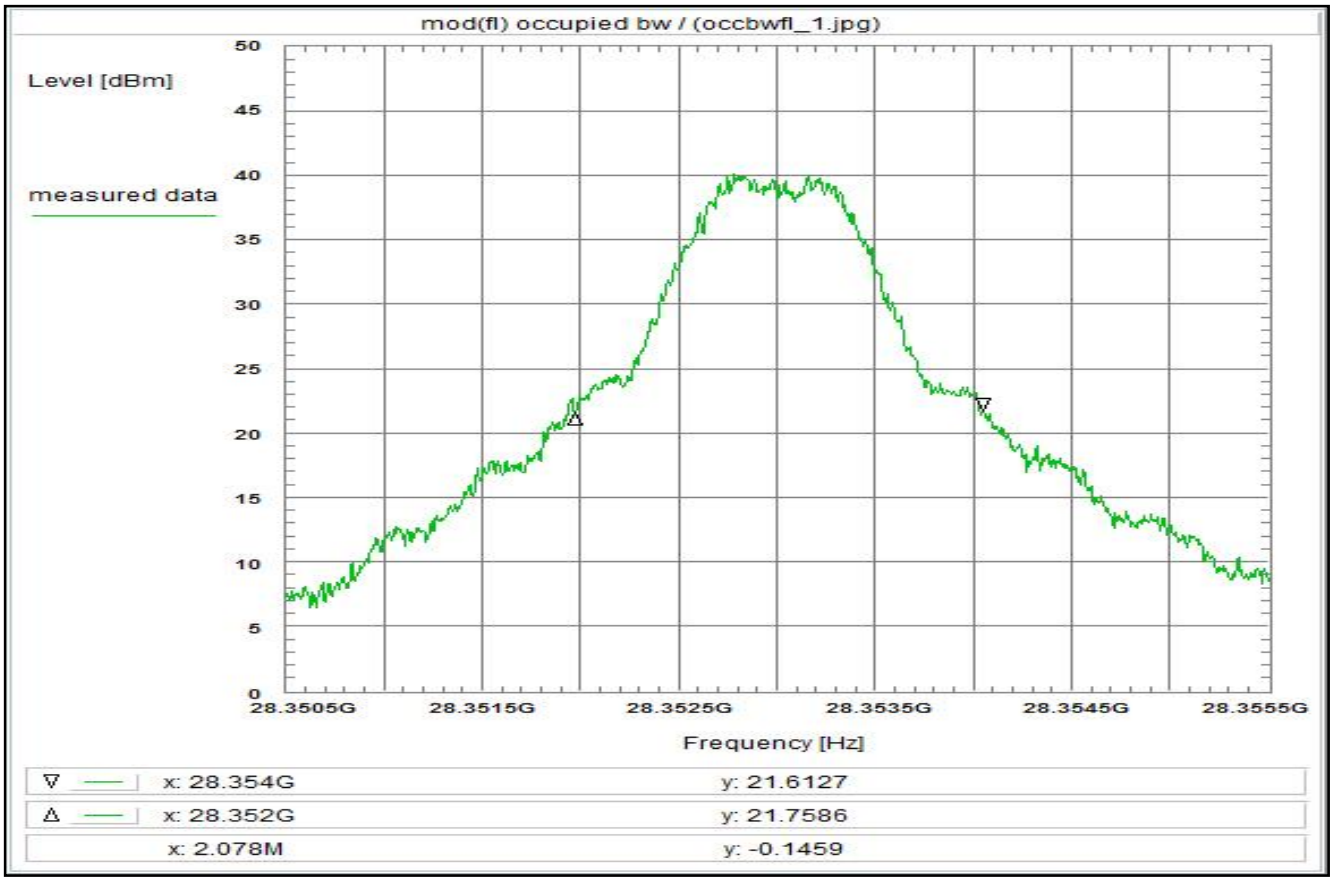
Start frequency:	27.5	GHz
Stop frequency:	30	GHz
Center frequency:	28.75	GHz
Frequency span:	2.5	GHz
Resolution-BW:	100	kHz
Video-BW:	300	kHz
Input attenuation:	20	dB
Trace-Mode:	Clear Write	
Detector-Mode:	Pos Peak	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C107)	+	5.8	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 (28.35GHz, 3.5m)	+	72.4	dB
Additional attenuation		5.2	dB
TOTAL CORRECTION:	+	67.9	dB

Remarks:
Test of general function and measurement for orientation

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 7.2: A031, C220, R001

Remark:

Test result: Test passed

Environment condition:

Date & Time:	Wed 03/Jun/2020 17:46:14	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	230	Vac

Setup of measurement equipment:

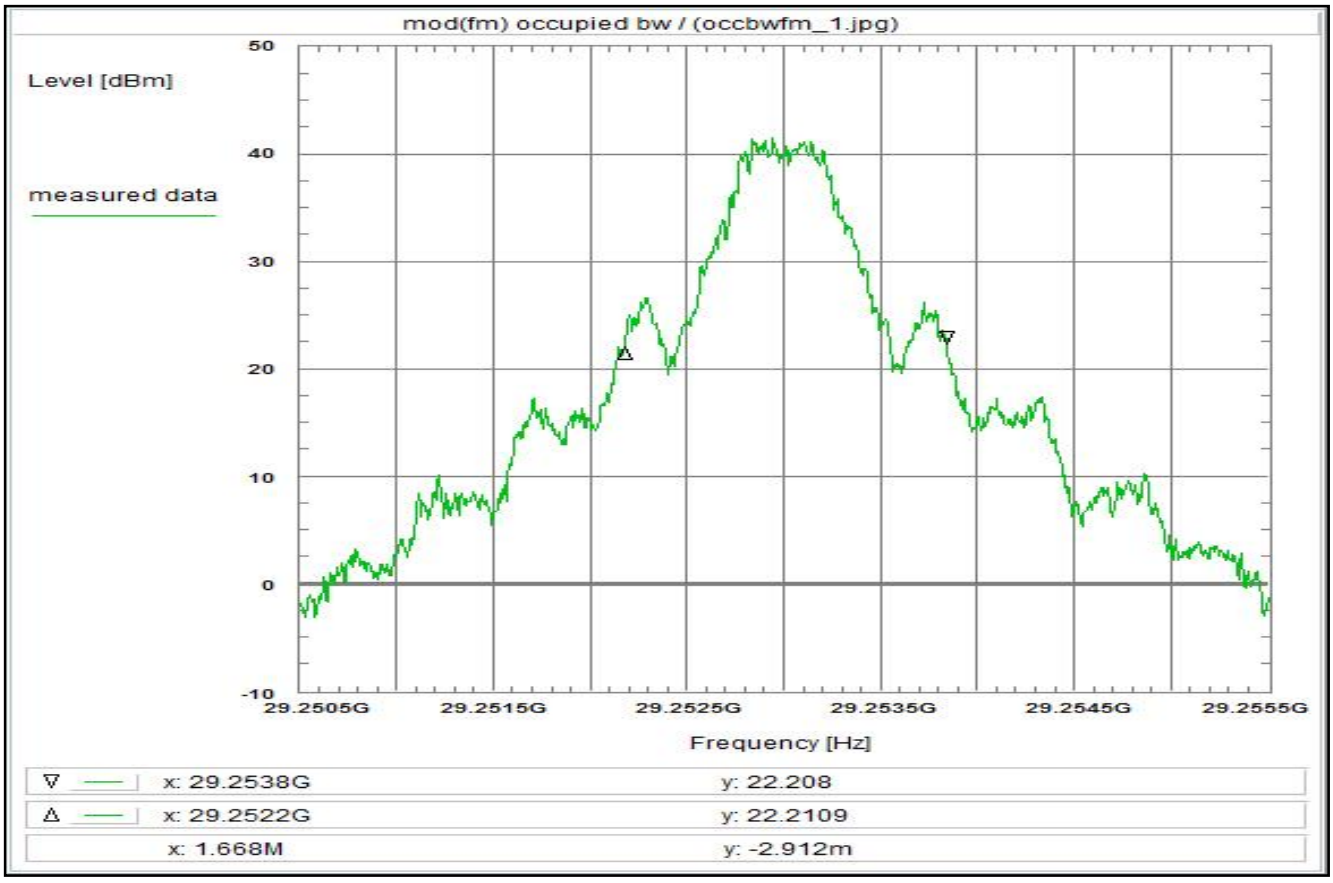
Start frequency:	28.3505	GHz
Stop frequency:	28.3555	GHz
Center frequency:	28.353	GHz
Frequency span:	5	MHz
Resolution-BW:	100	kHz
Video-BW:	300	kHz
Input attenuation:	6	dB
Trace-Mode:	Average	
Detector-Mode:	Pos Peak	

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 (28.35GHz, 3m)	+	71.0	dB
Additional attenuation	+	5.4	dB
Circular Polarization	+	3.0	dB
TOTAL CORRECTION:	+	68.1	dB

Remarks:
Determination of the occupied bandwidth. Average measurement.
The measured value is about 2 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)
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 7.2: A031, C220, R001

Remark:

Test result: Test passed

Environment condition:

Date & Time:	Wed 03/Jun/2020 17:48:33	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	230	Vac

Setup of measurement equipment:

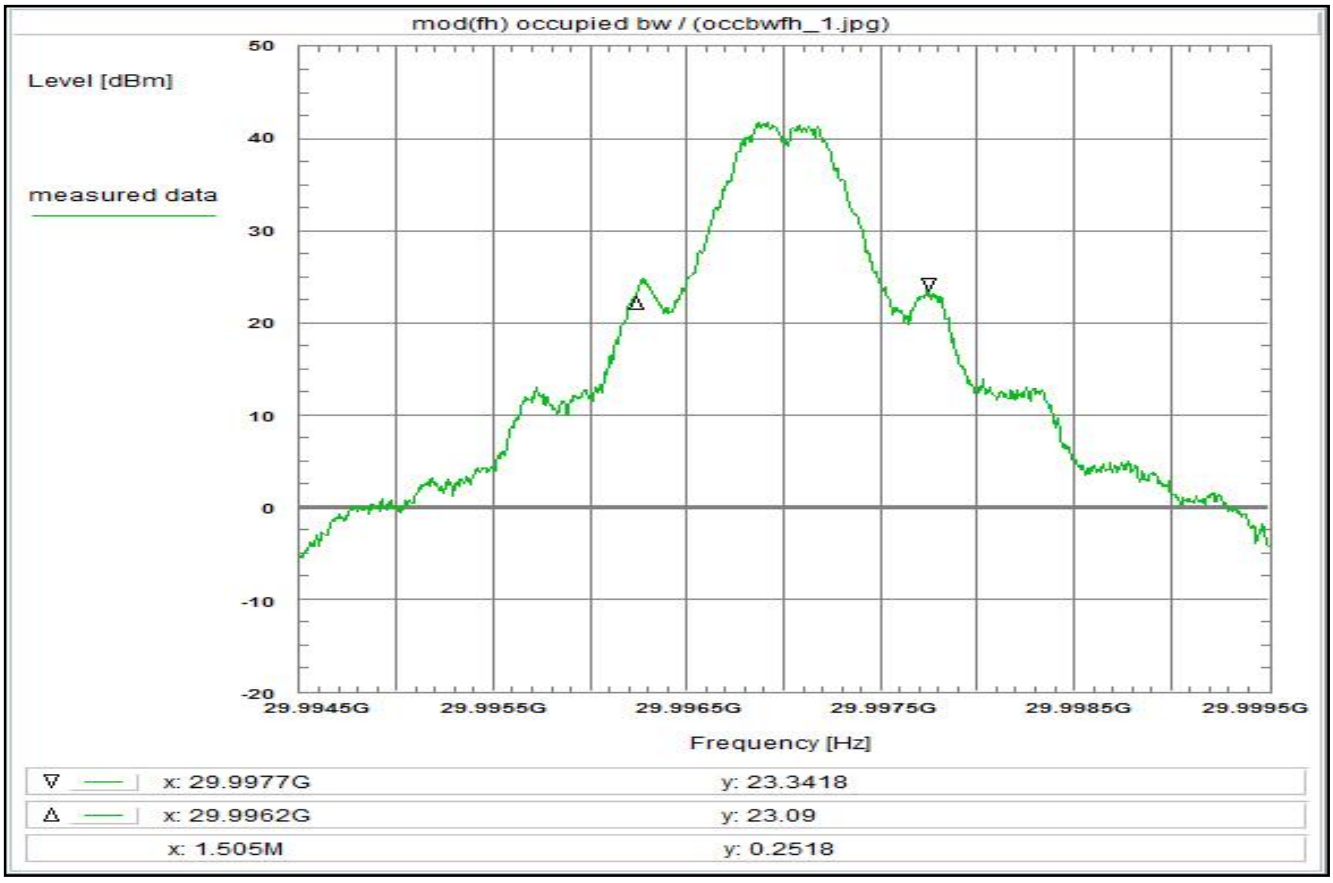
Start frequency:	29.2505	GHz
Stop frequency:	29.2555	GHz
Center frequency:	29.253	GHz
Frequency span:	5	MHz
Resolution-BW:	100	kHz
Video-BW:	300	kHz
Input attenuation:	6	dB
Trace-Mode:	Average	
Detector-Mode:	Pos Peak	

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 (28.35GHz, 3m)	+	71.0	dB
Additional attenuation	+	5.4	dB
Circular Polarization	+	3.0	dB
TOTAL CORRECTION:	+	67.6	dB

Remarks:
Determination of the occupied bandwidth. Average measurement.
The measured value is about 1.66 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. 4



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 7.2: A031, C220, R001

Remark:

Test result: Test passed

Environment condition:

Date & Time:	Wed 03/Jun/2020 17:50:44	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	230	Vac

Setup of measurement equipment:

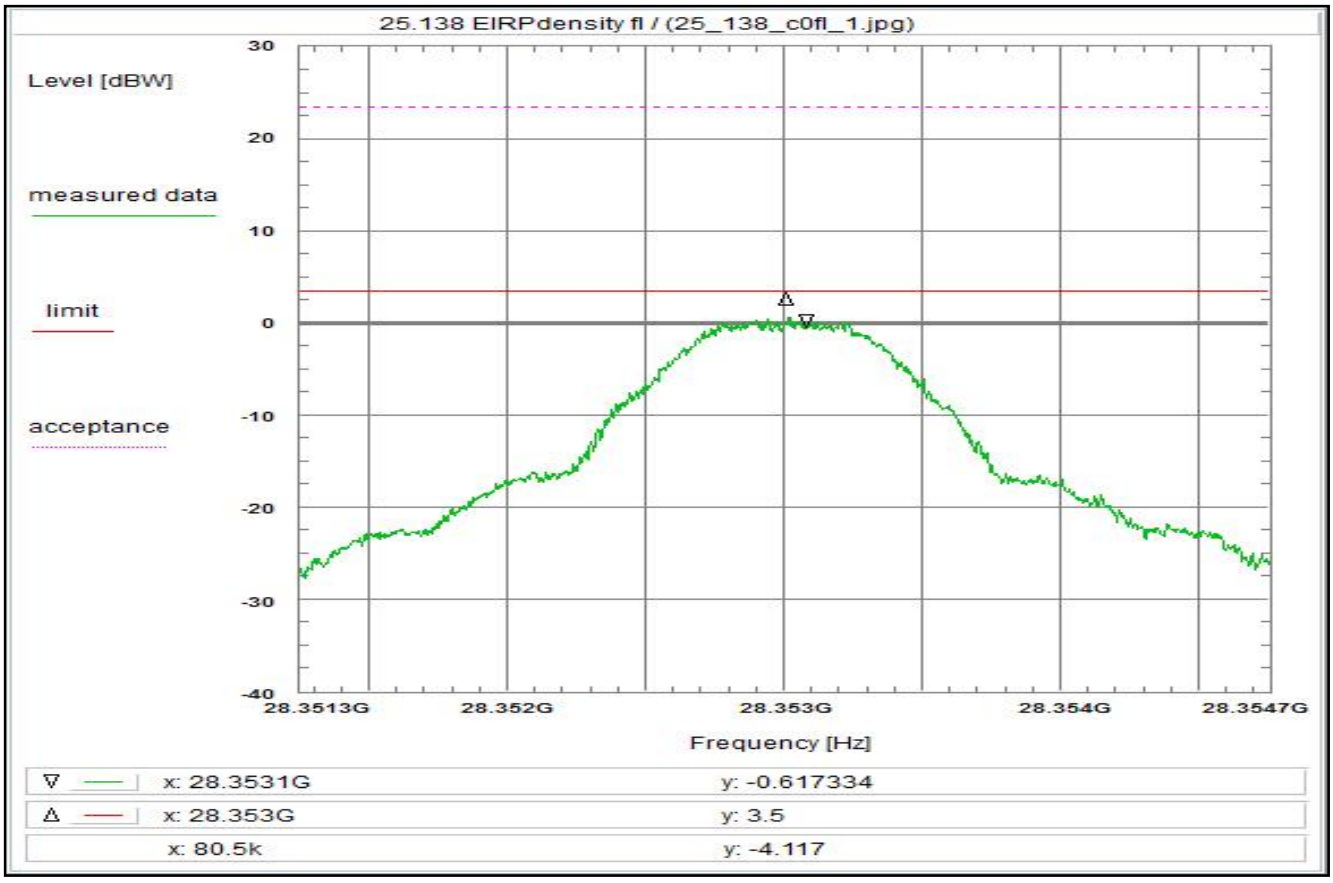
Start frequency:	29.9945	GHz
Stop frequency:	29.9995	GHz
Center frequency:	29.997	GHz
Frequency span:	5	MHz
Resolution-BW:	100	kHz
Video-BW:	300	kHz
Input attenuation:	6	dB
Trace-Mode:	Average	
Detector-Mode:	Pos Peak	

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 (28.35GHz, 3m)	+	71.0	dB
Additional attenuation	+	5.4	dB
Circular Polarization	+	3.0	dB
TOTAL CORRECTION:	+	67.7	dB

Remarks:
Determination of the occupied bandwidth. Average measurement.
The measured value is about 1.5 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



Subclause: 25.218 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 §25.218: 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 §25.218 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 7.2: A031, C220, R001

Remark:

Test result: Test passed

Environment condition:

Date & Time:	Wed 03/Jun/2020 17:01:47	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	230	Vac

Setup of measurement equipment:

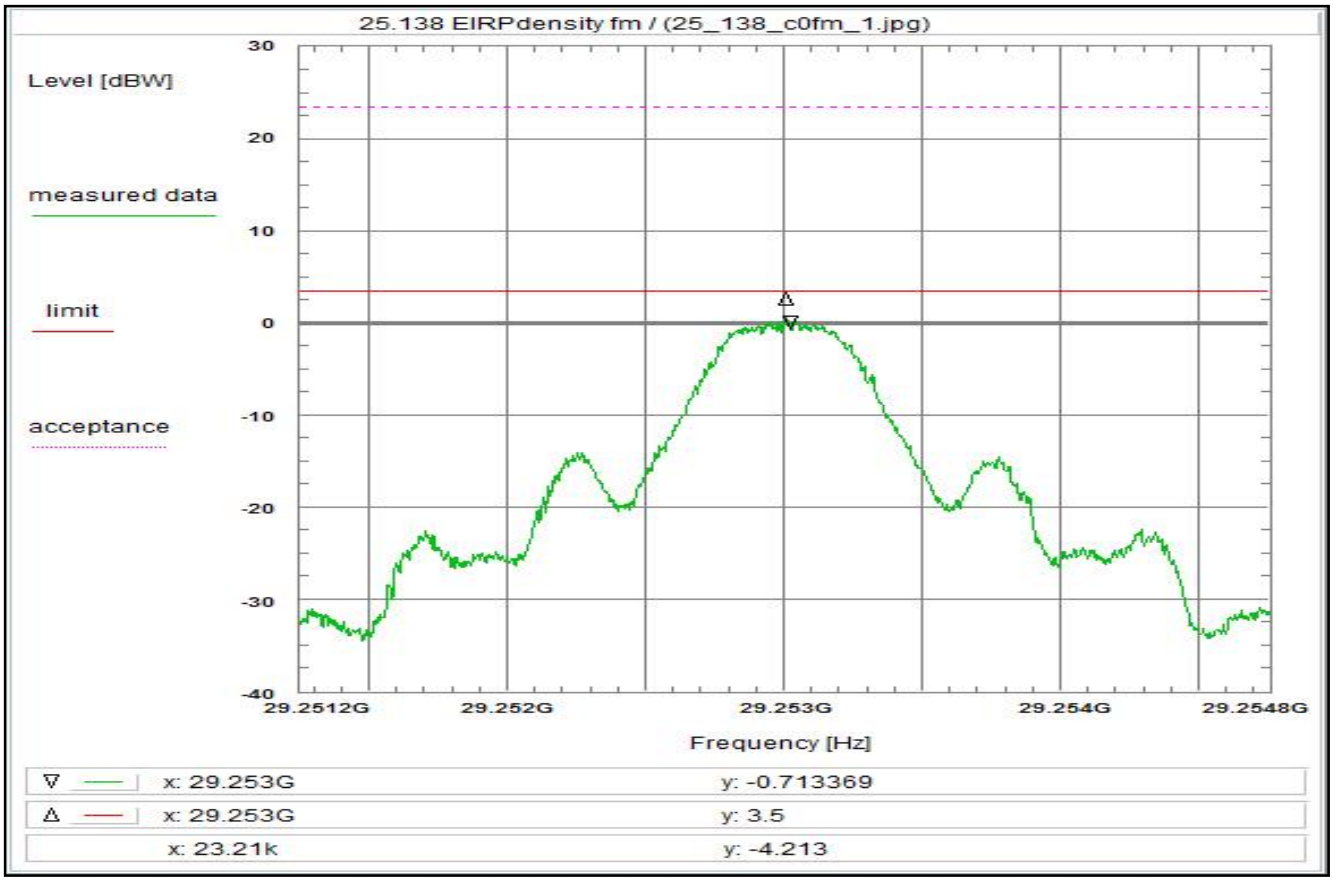
Start frequency:	28.35125	GHz
Stop frequency:	28.35475	GHz
Center frequency:	28.353	GHz
Frequency span:	3.5	MHz
Resolution-BW:	100	kHz
Video-BW:	10	kHz
Input attenuation:	6	dB
Trace-Mode:	Average	
Detector-Mode:	AVG	

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 (100k -> 1M)	+	10.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Freefield attenuation (28.35GHz, 3m)	+	71.0	dB
Additional attenuation	+	5.2	dB
Circular Polarization	+	3.0	dB
TOTAL CORRECTION:	+	56.9	dB

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. 6



Subclause: 25.218 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 §25.218: 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 §25.218 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 7.2: A031, C220, R001

Remark:

Test result: Test passed

Environment condition:

Date & Time:	Wed 03/Jun/2020 17:03:29	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	230	Vac

Setup of measurement equipment:

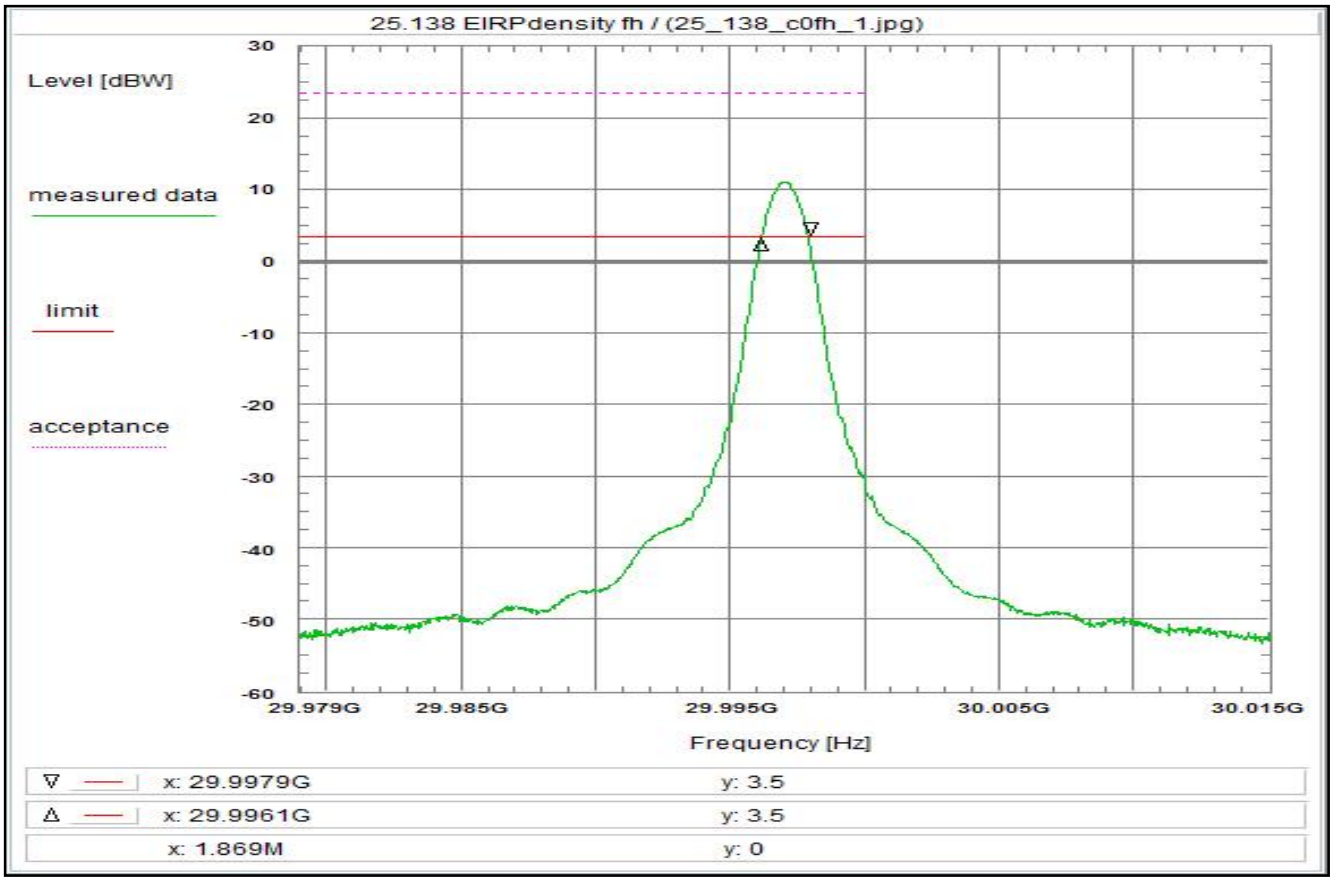
Start frequency:	29.25125	GHz
Stop frequency:	29.25475	GHz
Center frequency:	29.253	GHz
Frequency span:	3.5	MHz
Resolution-BW:	100	kHz
Video-BW:	10	kHz
Input attenuation:	6	dB
Trace-Mode:	Average	
Detector-Mode:	AVG	

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 (100k -> 1M)	+	10.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Freefield attenuation (28.35GHz, 3m)	+	71.0	dB
Additional attenuation	+	5.2	dB
Circular Polarization	+	3.0	dB
TOTAL CORRECTION:	+	56.4	dB

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. 7



Subclause: 25.218 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 §25.218: 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 §25.218 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 7.2: A031, C220, R001

Remark:

Test result: Test passed

Environment condition:

Date & Time:	Wed 03/Jun/2020 16:45:02	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	230	Vac

Setup of measurement equipment:

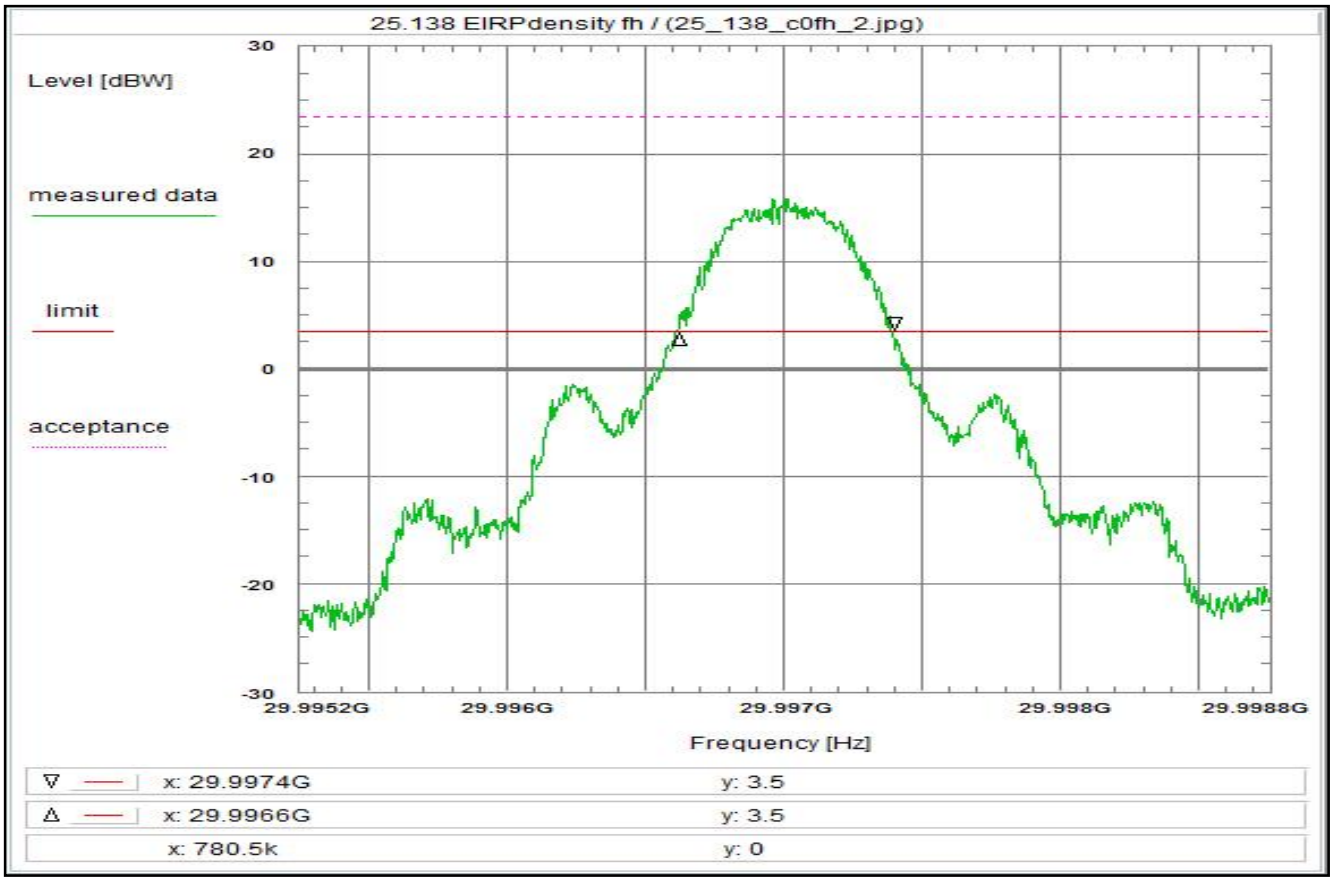
Start frequency:	29.979	GHz
Stop frequency:	30.015	GHz
Center frequency:	29.997	GHz
Frequency span:	36	MHz
Resolution-BW:	1	MHz
Video-BW:	100	kHz
Input attenuation:	6	dB
Trace-Mode:	Clear Write	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	4.1	dB
DUT-Antenna (see under limit)	+	0.0	dBi
Test antenna (A031)	-	15.9	dB
BW correction factor	+	0.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Freefield attenuation	+	72.5	dB
TOTAL CORRECTION:	+	60.7	dB

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: 25.218 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 §25.218: 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 §25.218 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 7.2: A031, C220, R001

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Wed 03/Jun/2020 16:54:22	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	230	Vac

Setup of measurement equipment:

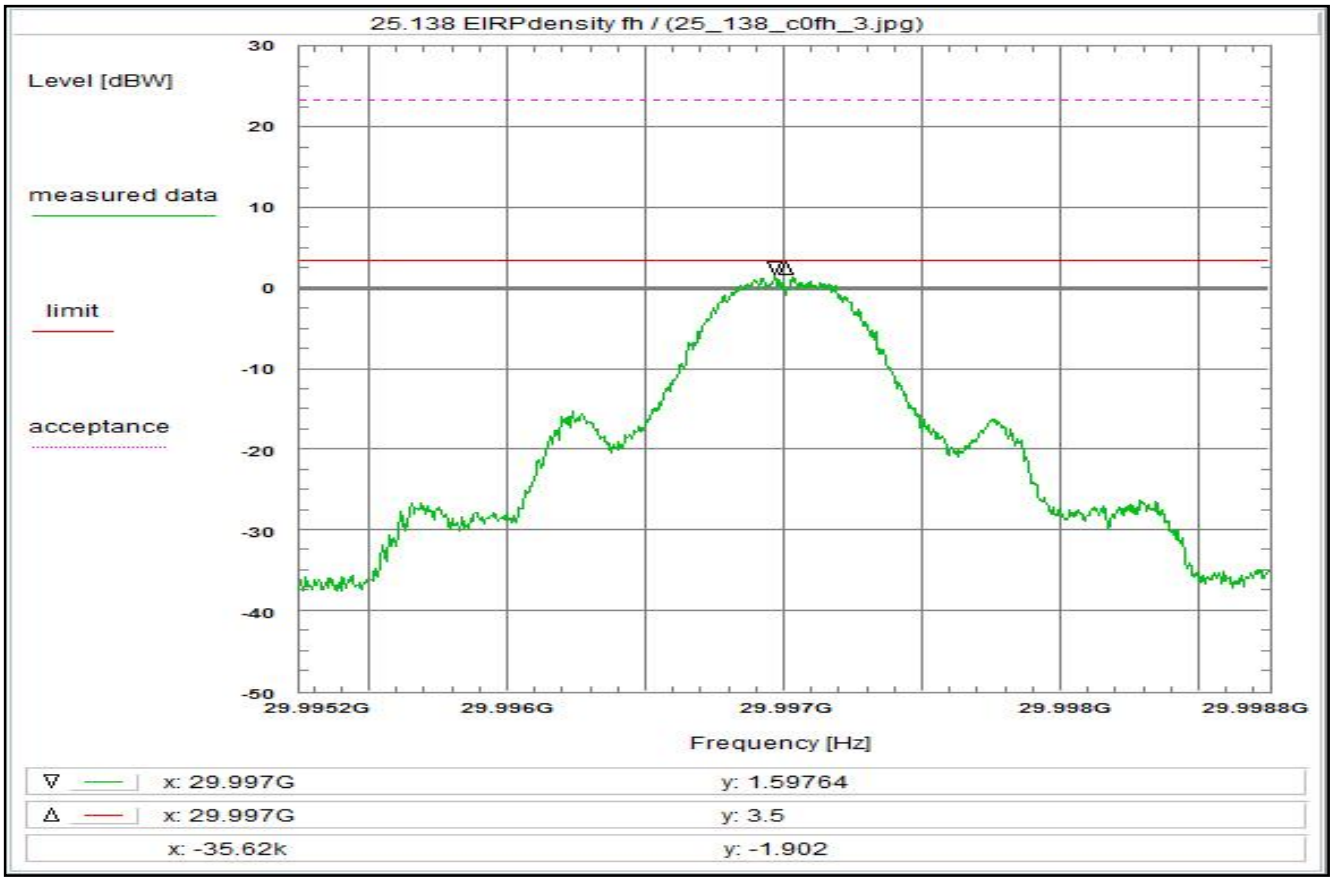
Start frequency:	29.99525	GHz
Stop frequency:	29.99875	GHz
Center frequency:	29.997	GHz
Frequency span:	3.5	MHz
Resolution-BW:	100	kHz
Video-BW:	10	kHz
Input attenuation:	6	dB
Trace-Mode:	Average	
Detector-Mode:	AVG	

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 (100k -> 1M)	+	10.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Freefield attenuation	+	72.5	dB
TOTAL CORRECTION:	+	70.8	dB

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: 25.218 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 §25.218: 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 §25.218 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 7.2: A031, C220, R001

Remark:

Test result: Test passed

Environment condition:

Date & Time:	Wed 03/Jun/2020 17:05:33	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	230	Vac

Setup of measurement equipment:

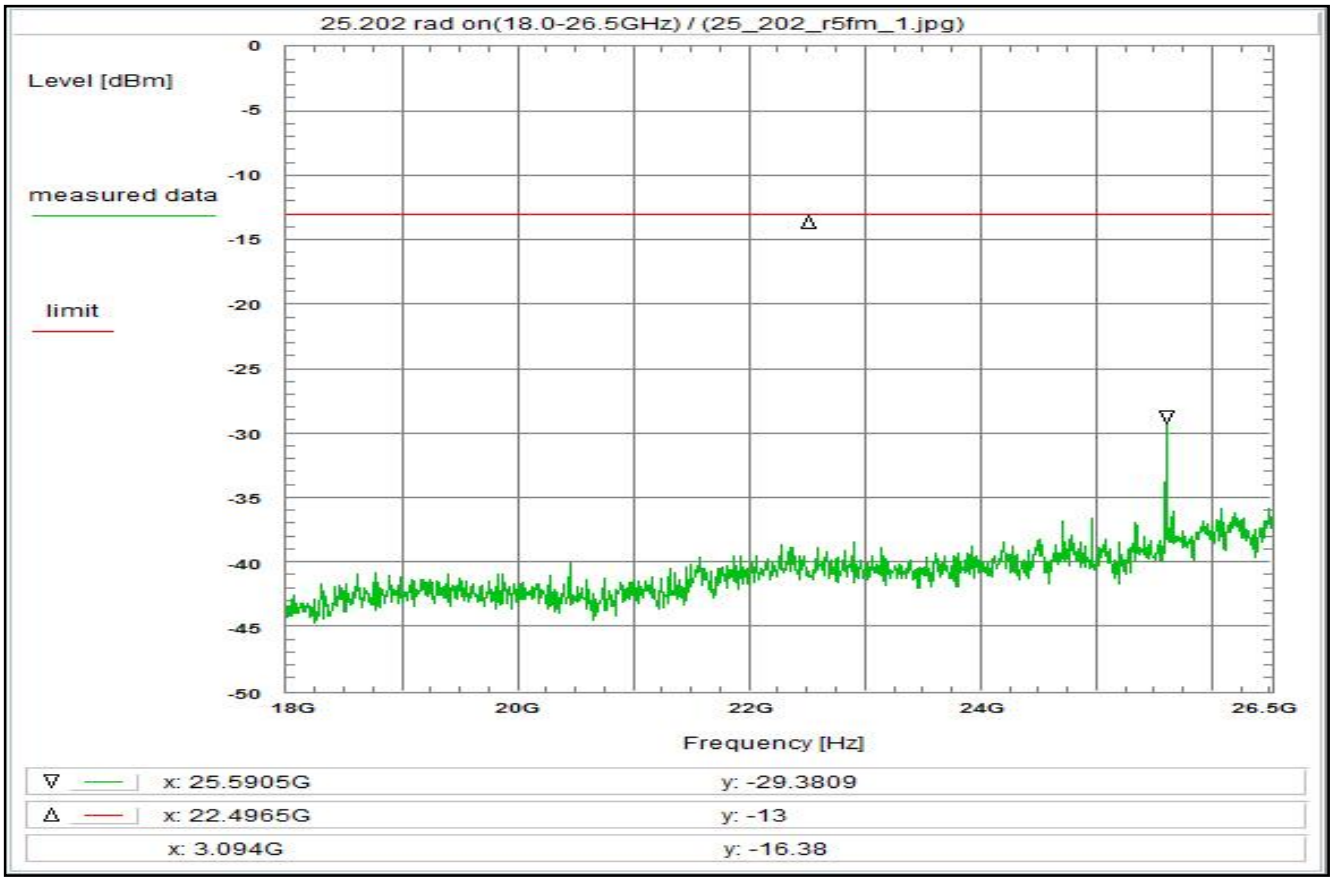
Start frequency:	29.99525	GHz
Stop frequency:	29.99875	GHz
Center frequency:	29.997	GHz
Frequency span:	3.5	MHz
Resolution-BW:	100	kHz
Video-BW:	10	kHz
Input attenuation:	6	dB
Trace-Mode:	Average	
Detector-Mode:	AVG	

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 (100k -> 1M)	+	10.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Freefield attenuation (28.35GHz, 3m)	+	71.0	dB
Additional attenuation	+	5.4	dB
Circular Polarization	+	3.0	dB
TOTAL CORRECTION:	+	56.7	dB

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



Subclause: 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

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 7.2: A019, C107, R001

Remark:

Test result: Test passed

Environment condition:

Date & Time:	Fri 29/May/2020 15:25:26	
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:	1	MHz
Video-BW:	3	MHz
Input attenuation:	10	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	AVG	

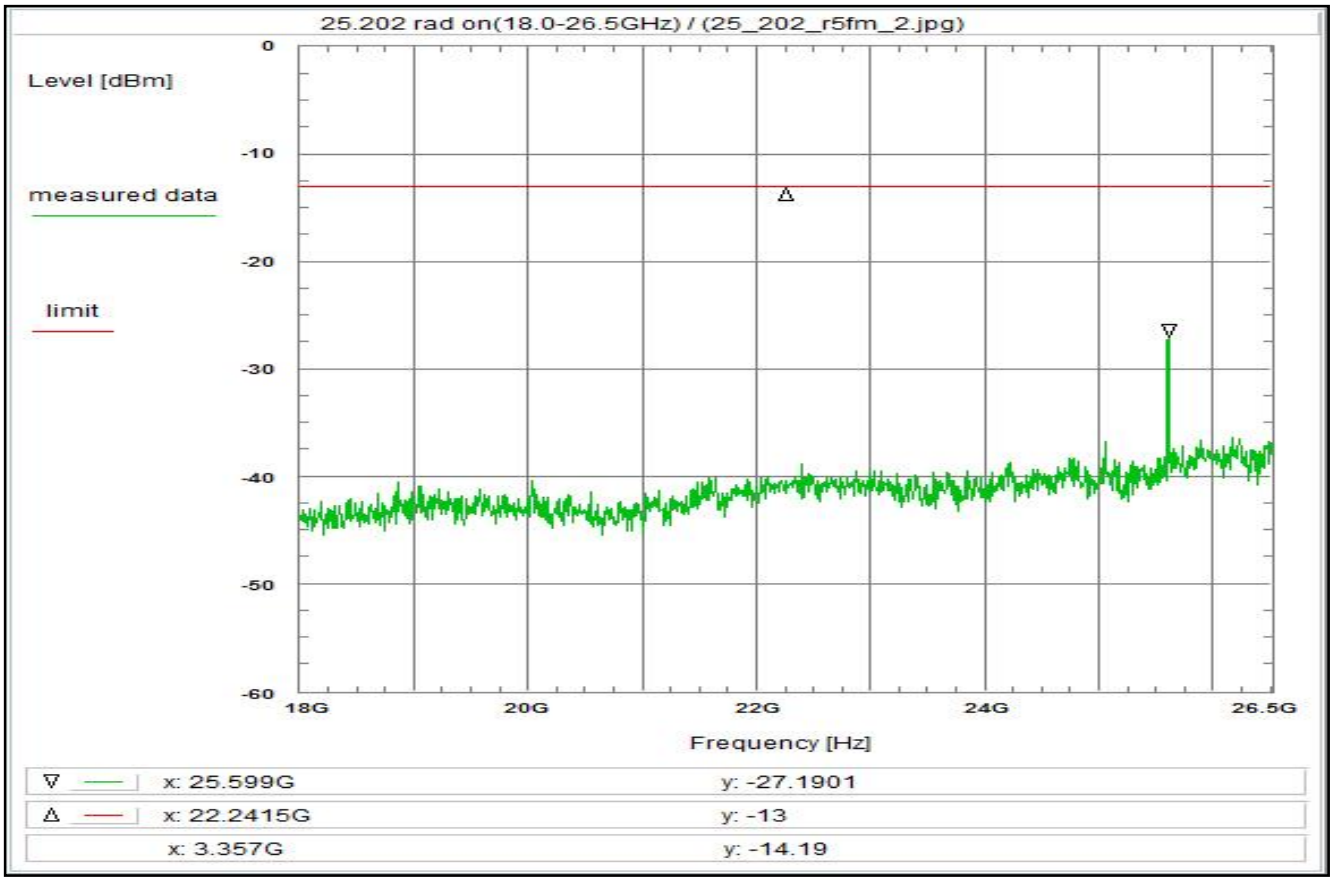
Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C107)	+	5.0	dB
DUT-Antenna (see under limit)	+	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
Additional attenuation	+	0.0	dB
Circular Polarization	+	0.0	dB
TOTAL CORRECTION:	+	34.6	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 10.3 m distance).
If any critical spurious radiations are detected a measurement
in an exactly defined distance will be carried out.

Carrier frequency visible due to radiated measurement

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): 18.0 GHz - 26.5 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 7.2: R001, C107, A019

Remark:

Test result: Test passed

Environment condition:

Date & Time:	Fri 29/May/2020 15:27:56	
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:	1	MHz
Video-BW:	3	MHz
Input attenuation:	10	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	AVG	

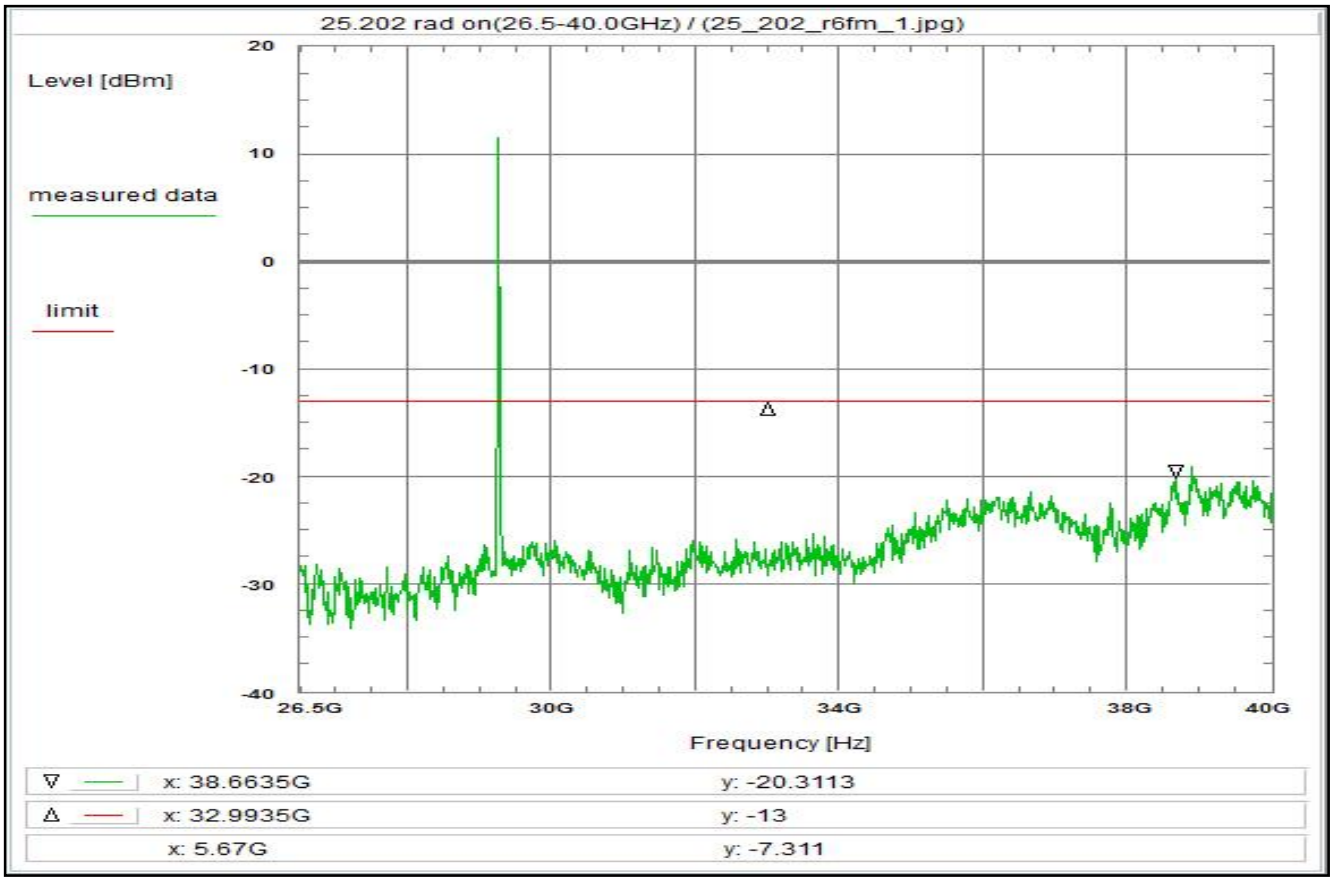
Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C107)	+	5.0	dB
DUT-Antenna (see under limit)	+	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
Additional attenuation	+	0.0	dB
Circular Polarization	+	0.0	dB
TOTAL CORRECTION:	+	34.6	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.

Carrier frequency visible due to radiated measurement

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): 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 7.2: A031, C107, R001

Remark:

Test result: Test passed

Environment condition:

Date & Time:	Fri 29/May/2020 14:07:23	
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	

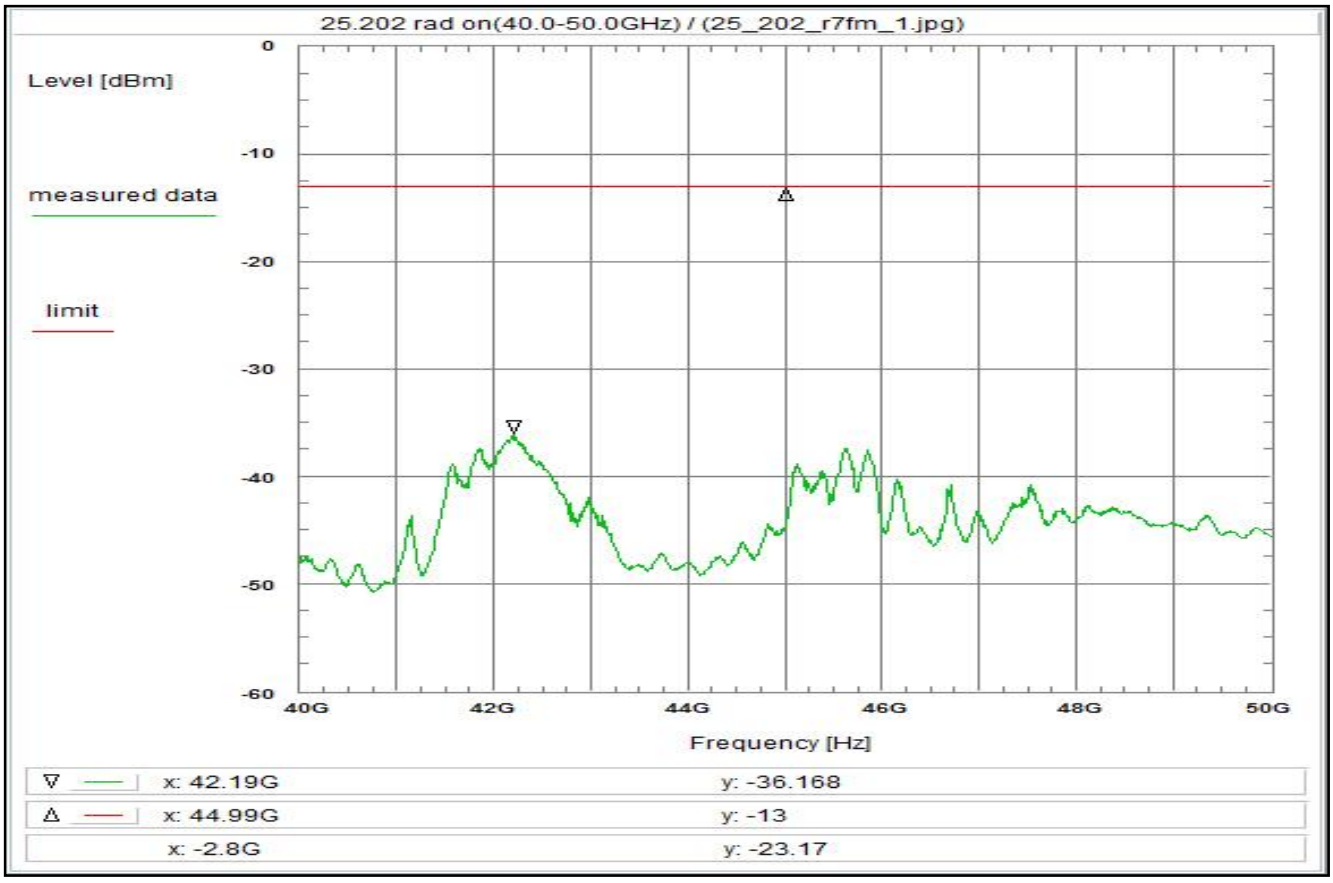
Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C107)	+	6.3	dB
DUT-Antenna (see under limit)	+	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 (33.25GHz, 0.2m)	+	48.9	dB
Additional attenuation	+	5.2	dB
Circular Polarization	+	3.0	dB
TOTAL CORRECTION:	+	47.2	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 0.2 m distance).
If any critical spurious radiations are detected a measurement
in an exactly defined distance will be carried out.

Carrier frequency visible due to radiated measurement

Plot No. 13



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 7.2: A023, C107, R001

Remark:

Test result: Test passed

Environment condition:

Date & Time:	Fri 29/May/2020 15:34:22	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	230	Vac

Setup of measurement equipment:

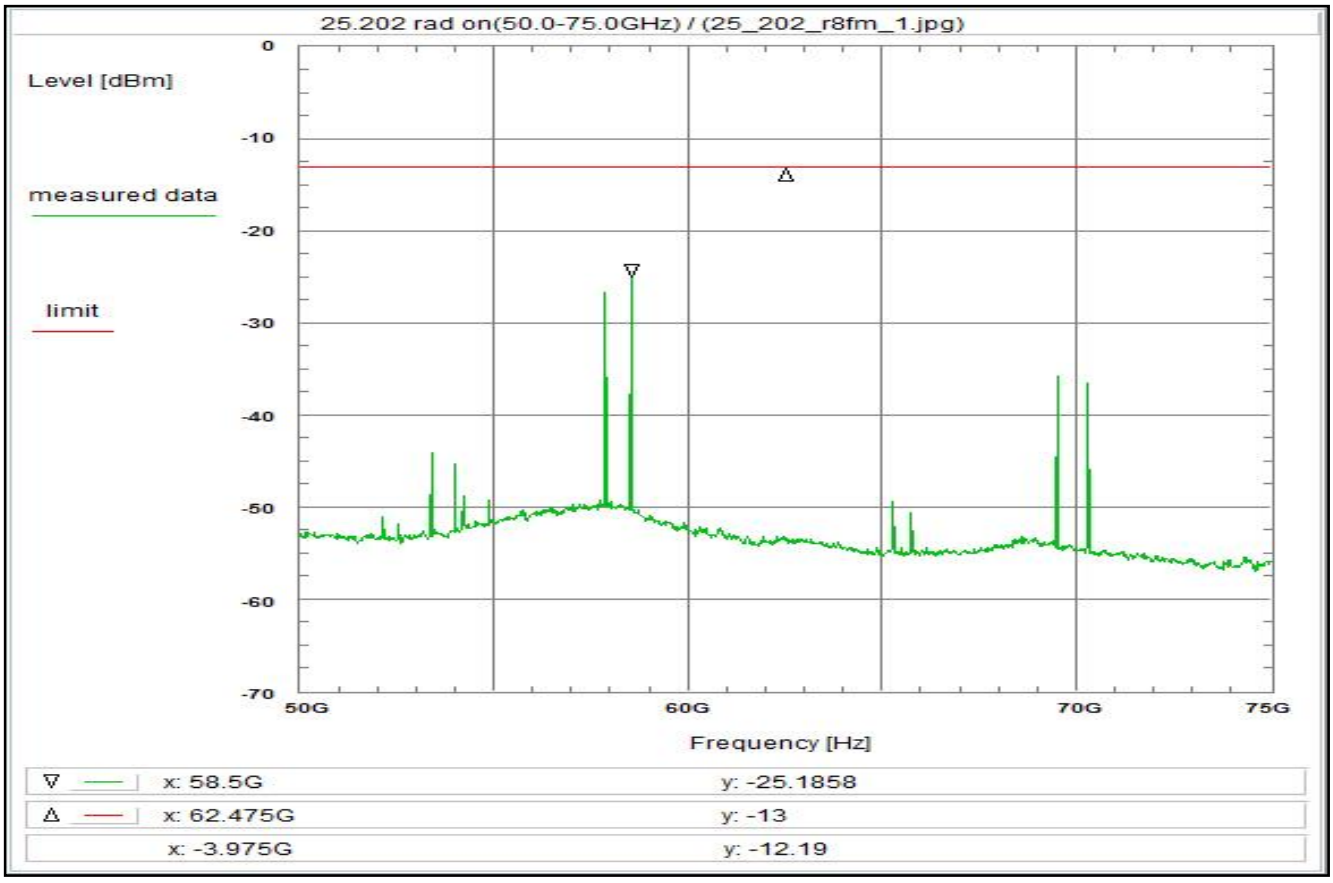
Start frequency:	40	GHz
Stop frequency:	50	GHz
Center frequency:	45	GHz
Frequency span:	10	GHz
Resolution-BW:	1	MHz
Video-BW:	3	MHz
Input attenuation:	10	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C107)	+	7.4	dB
DUT-Antenna (see under limit)	+	0.0	dBi
Test antenna (A023)	-	18.9	dB
BW correction factor	+	0.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Freefield attenuation (45.00GHz, 0.1m)	+	45.5	dB
Additional attenuation	+	0.0	dB
Circular Polarization	+	0.0	dB
TOTAL CORRECTION:	+	34.0	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 0.1m distance).
If any critical spurious radiations are detected a measurement
in an exactly defined distance will be carried out.

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): 50.0 GHz - 75.0 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 7.2: A025, C107, R001, R025

Remark:

Test result: Test passed

Environment condition:

Date & Time:	Fri 29/May/2020 16:15:03	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	230	Vac

Setup of measurement equipment:

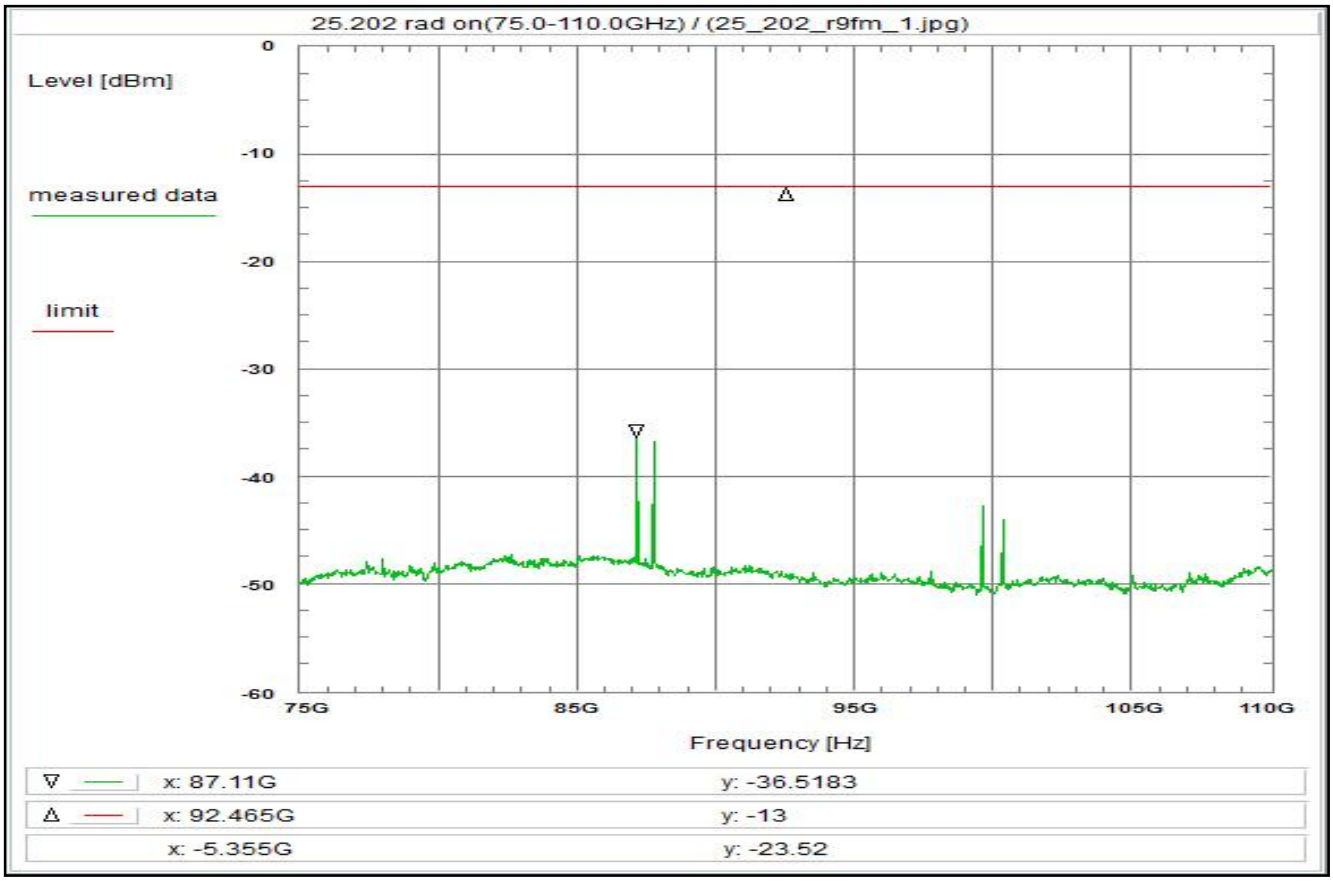
Start frequency:	50	GHz
Stop frequency:	75	GHz
Center frequency:	62.5	GHz
Frequency span:	25	GHz
Resolution-BW:	1	MHz
Video-BW:	3	MHz
Input attenuation:	10	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable	+	0.0	dB
DUT-Antenna	+	0.0	dBi
Test antenna (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

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 0.1m 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) 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 7.2: A028, R001, R029

Remark:

Test result: Test passed

Environment condition:

Date & Time:	Fri 29/May/2020 16:20:19	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	230	Vac

Setup of measurement equipment:

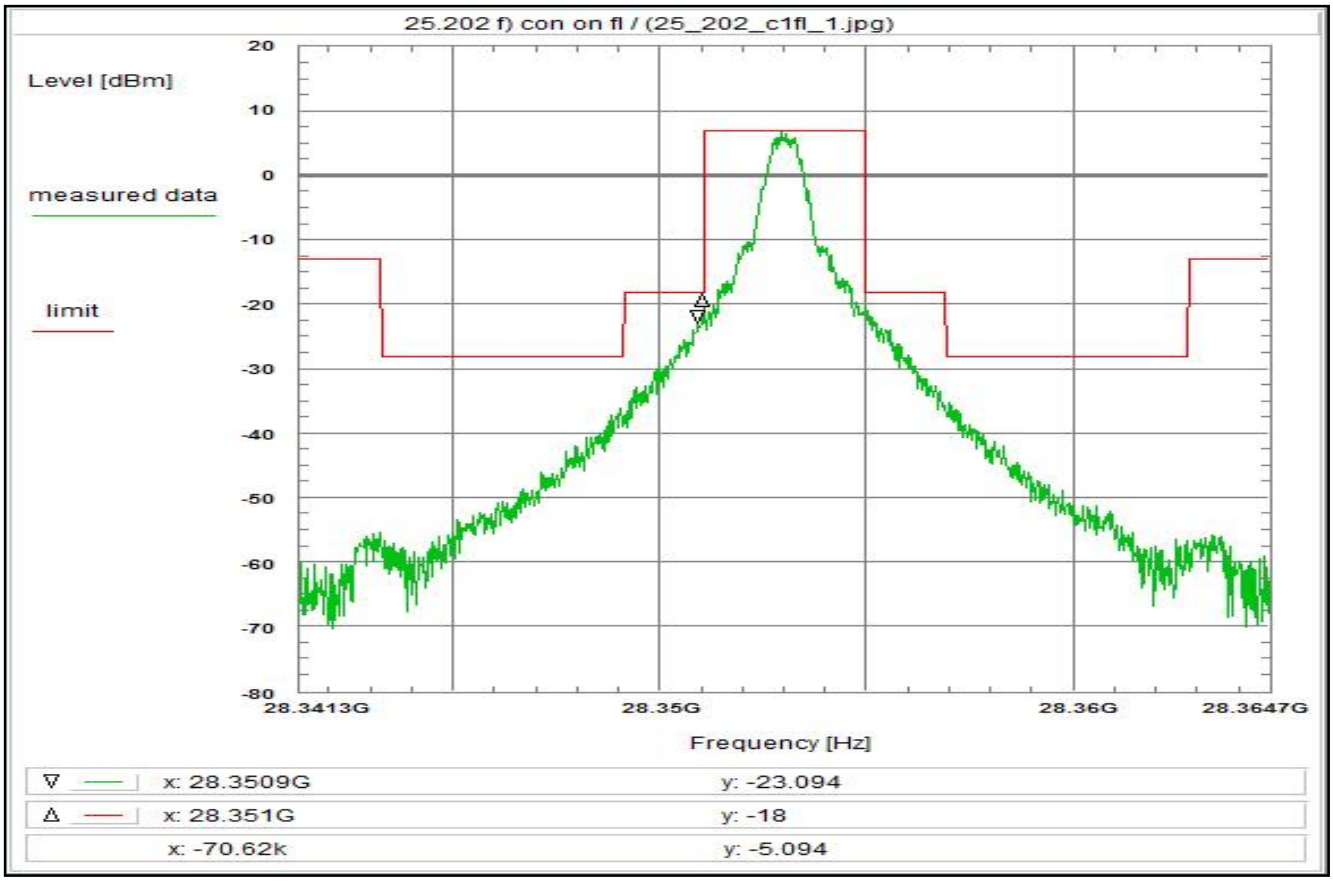
Start frequency:	75	GHz
Stop frequency:	110	GHz
Center frequency:	92.5	GHz
Frequency span:	35	GHz
Resolution-BW:	1	MHz
Video-BW:	3	MHz
Input attenuation:	10	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	AVG	

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 0.1m distance).
If any critical spurious radiations are detected a measurement
in an exactly defined distance will be carried out.

Plot No. 16



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 7.2: A031, C220, R001

Remark:

Test result: Test passed

Environment condition:

Date & Time:	Wed 03/Jun/2020 17:26:40	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	230	Vac

Setup of measurement equipment:

Start frequency:	28.3413	GHz
Stop frequency:	28.3647	GHz
Center frequency:	28.353	GHz
Frequency span:	23.4	MHz
Resolution-BW:	10	kHz
Video-BW:	30	kHz
Input attenuation:	6	dB
Trace-Mode:	Average	
Detector-Mode:	AVG	

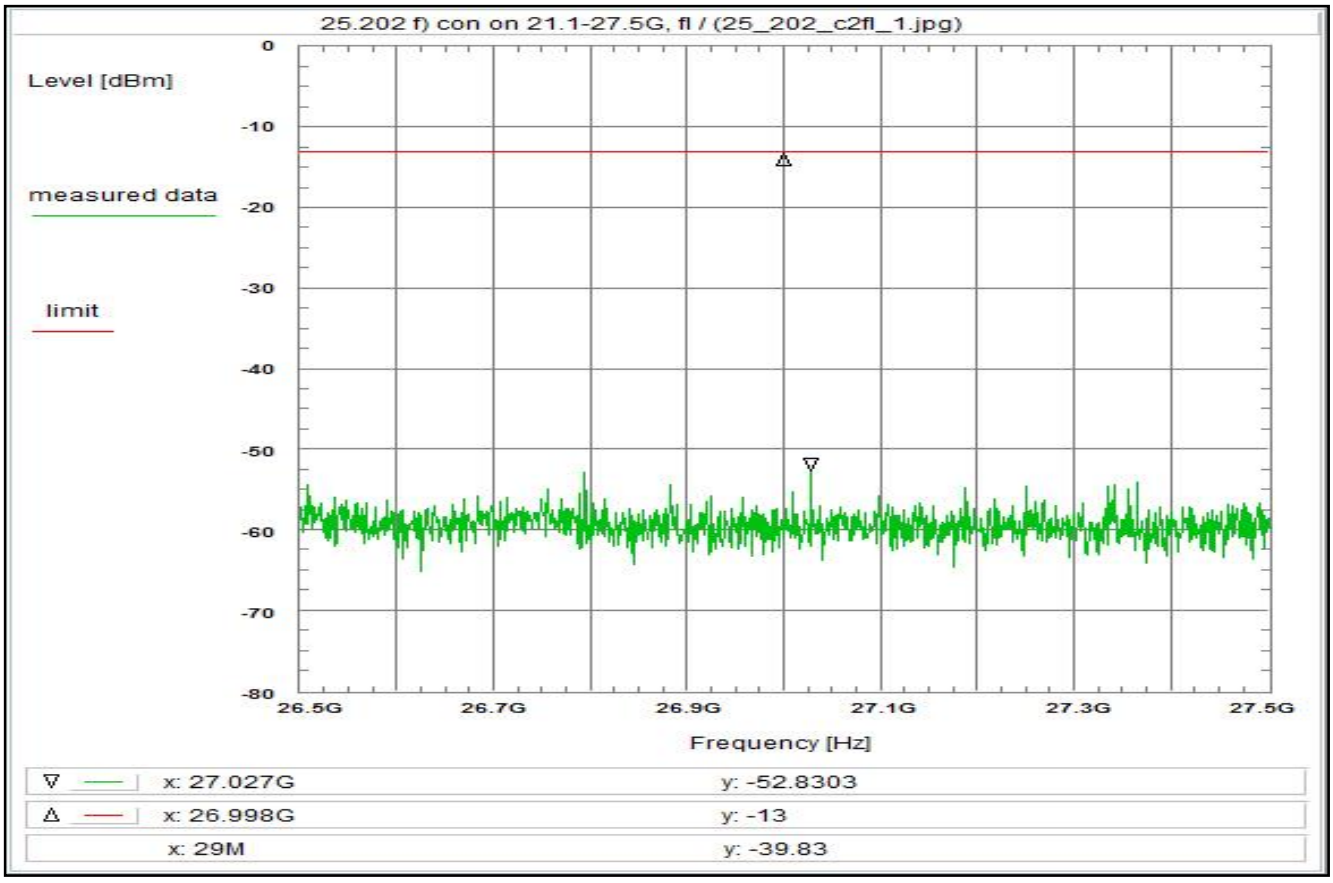
Correction:

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 (10k -> 4k)	-	4.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Freefield attenuation (28.35GHz, 3m)	+	71.0	dB
Additional attenuation	+	5.4	dB
Circular Polarization	+	3.0	dB
TOTAL CORRECTION:	+	43.1	dB

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

Note: This measurement is defined for conducted set-up.
Therefore antenna gain has been subtracted.
The limit is adjusted accordingly.

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 7.2: A031, C220, R001

Remark:

Test result: Test passed

Environment condition:

Date & Time:	Wed 03/Jun/2020 17:38:55	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	230	Vac

Setup of measurement equipment:

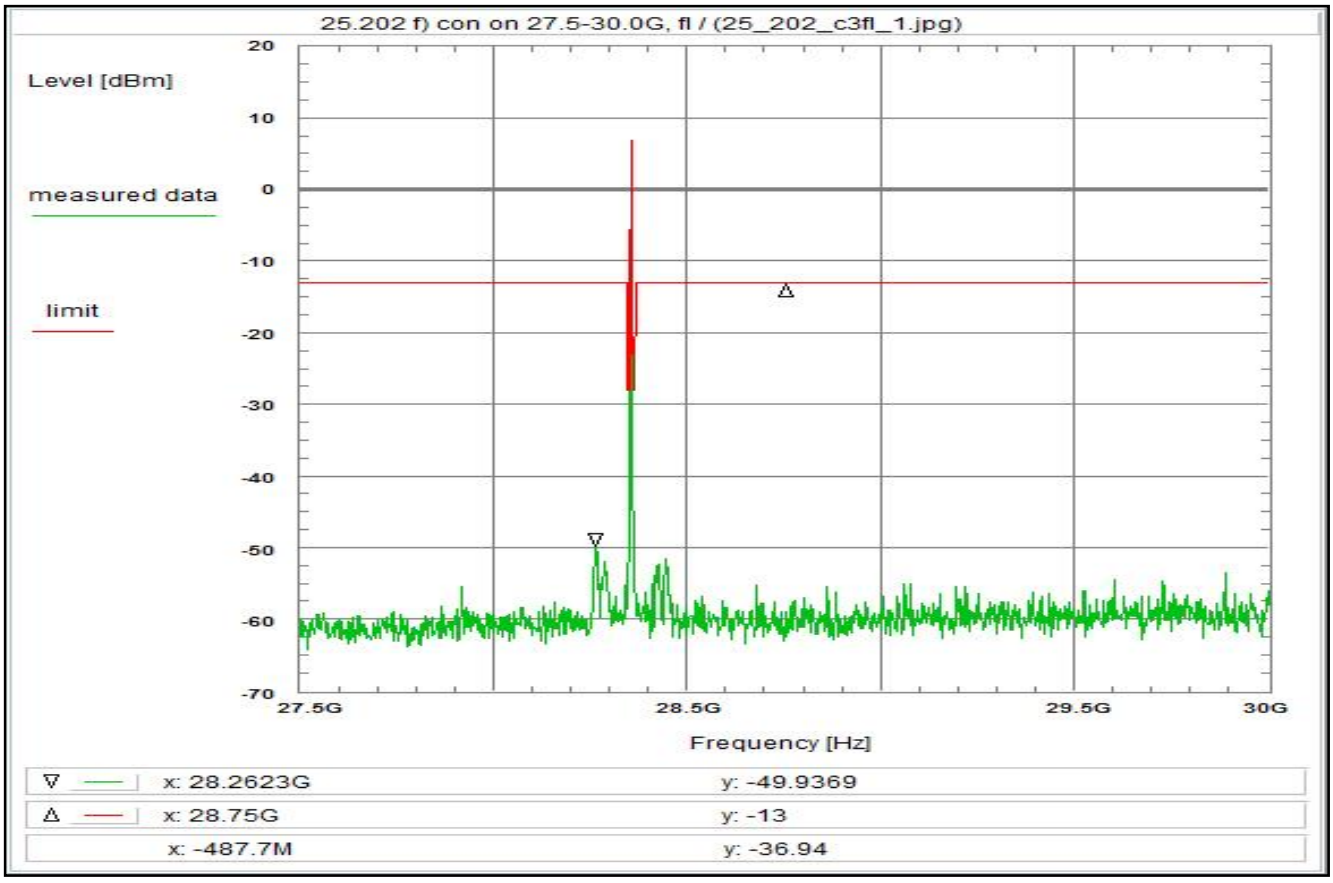
Start frequency:	26.5	GHz
Stop frequency:	27.5	GHz
Center frequency:	27	GHz
Frequency span:	1	GHz
Resolution-BW:	100	kHz
Video-BW:	300	kHz
Input attenuation:	6	dB
Trace-Mode:	Clear Write	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	3.9	dB
DUT-Antenna (see under limit)	-	21.0	dBi
Test antenna (A031)	-	15.0	dB
BW correction factor (100k -> 4k)	-	14.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Freefield attenuation (28.35GHz, 3m)	+	71.0	dB
Additional attenuation	+	5.4	dB
Circular Polarization	+	3.0	dB
TOTAL CORRECTION:	+	33.3	dB

Remarks:
Carrier-on state / Carrier at the lower edge of the band (fl)
Rather left the plot shows the cut-off of the wave guide.

Plot No. 18



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 7.2: A031, C220, R001

Remark:

Test result: Test passed

Environment condition:

Date & Time:	Wed 03/Jun/2020 17:24:20	
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:	AVG	

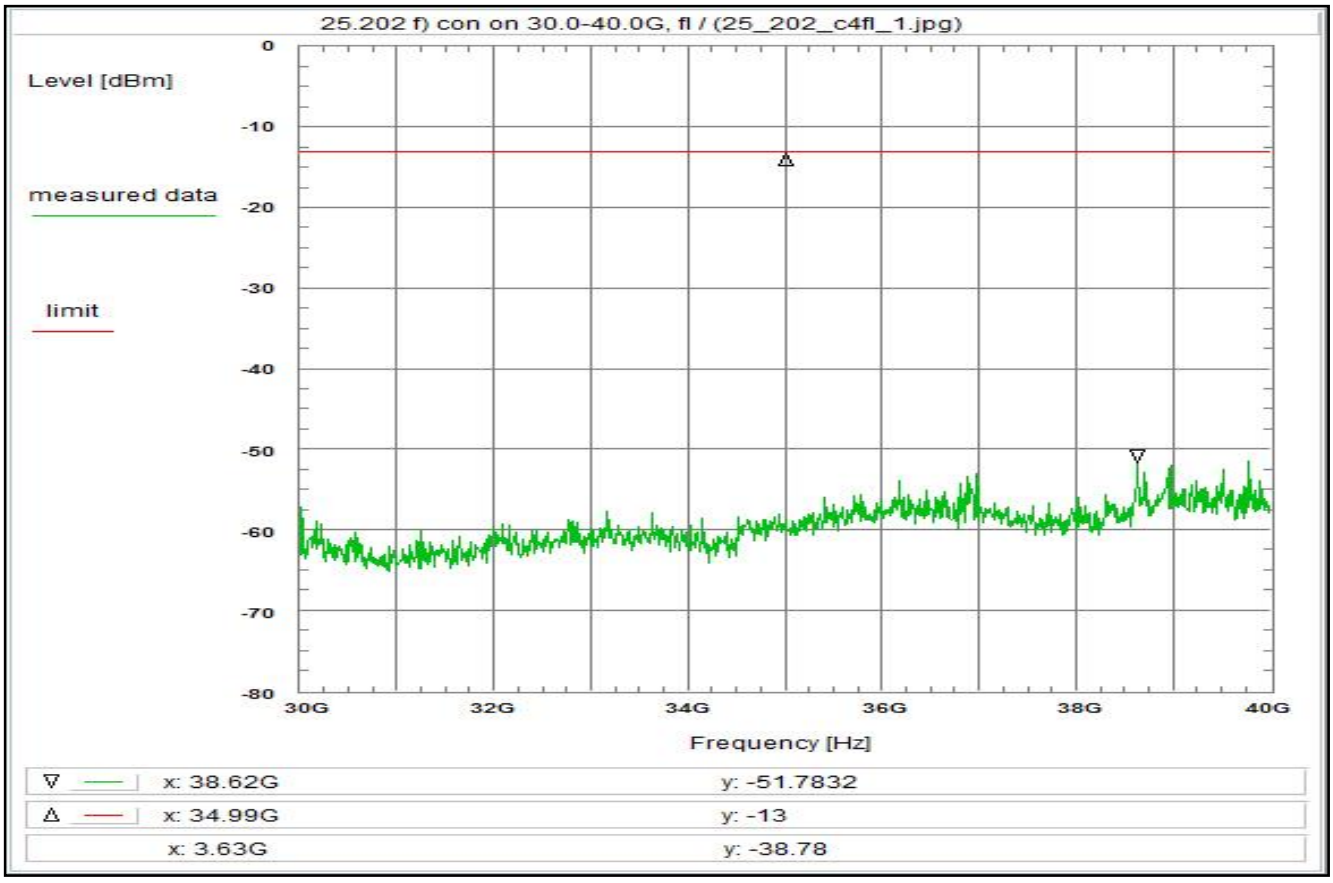
Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	4.0	dB
DUT-Antenna (see under limit)	-	21.0	dBi
Test antenna (A031)	-	15.5	dB
BW correction factor (100k -> 4k)	-	14.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Freefield attenuation (28.35GHz, 3m)	+	71.0	dB
Additional attenuation	+	5.4	dB
Circular Polarization	+	3.0	dB
TOTAL CORRECTION:	+	32.9	dB

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

Note: This measurement is defined for conducted set-up.
Therefore antenna gain has been subtracted.
The limit is adjusted accordingly.

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 7.2: A031, C220, R001

Remark:

Test result: Test passed

Environment condition:

Date & Time:	Wed 03/Jun/2020 17:39:54	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	230	Vac

Setup of measurement equipment:

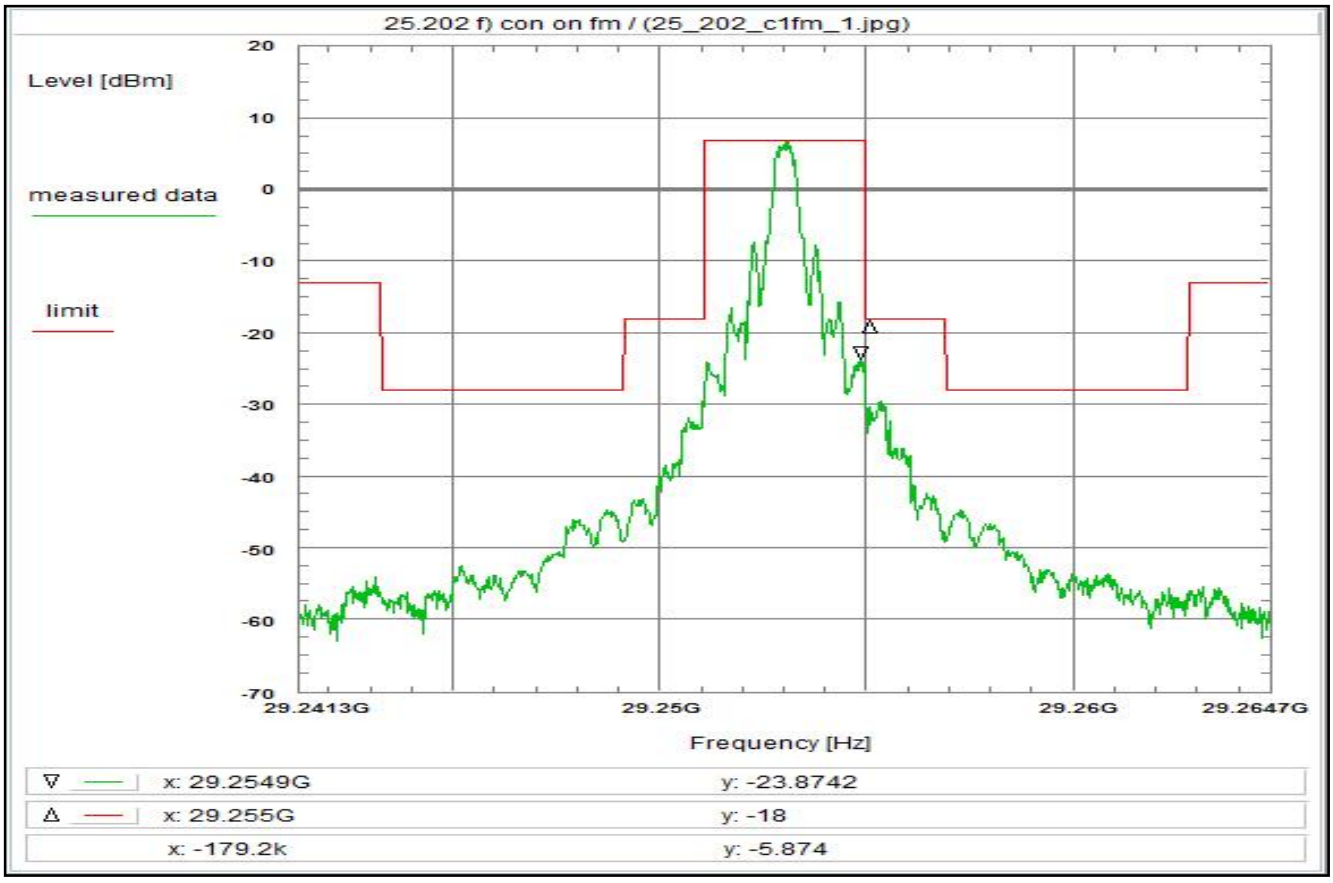
Start frequency:	30	GHz
Stop frequency:	40	GHz
Center frequency:	35	GHz
Frequency span:	10	GHz
Resolution-BW:	100	kHz
Video-BW:	300	kHz
Input attenuation:	6	dB
Trace-Mode:	Clear Write	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	4.4	dB
DUT-Antenna (see under limit)	-	21.0	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 (28.35GHz, 3m)	+	71.0	dB
Additional attenuation	+	5.4	dB
Circular Polarization	+	3.0	dB
TOTAL CORRECTION:	+	31.9	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 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 7.2: A031, C220, R001

Remark:

Test result: Test passed

Environment condition:

Date & Time:	Wed 03/Jun/2020 17:20:54	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	230	Vac

Setup of measurement equipment:

Start frequency:	29.2413	GHz
Stop frequency:	29.2647	GHz
Center frequency:	29.253	GHz
Frequency span:	23.4	MHz
Resolution-BW:	10	kHz
Video-BW:	30	kHz
Input attenuation:	6	dB
Trace-Mode:	Average	
Detector-Mode:	AVG	

Correction:

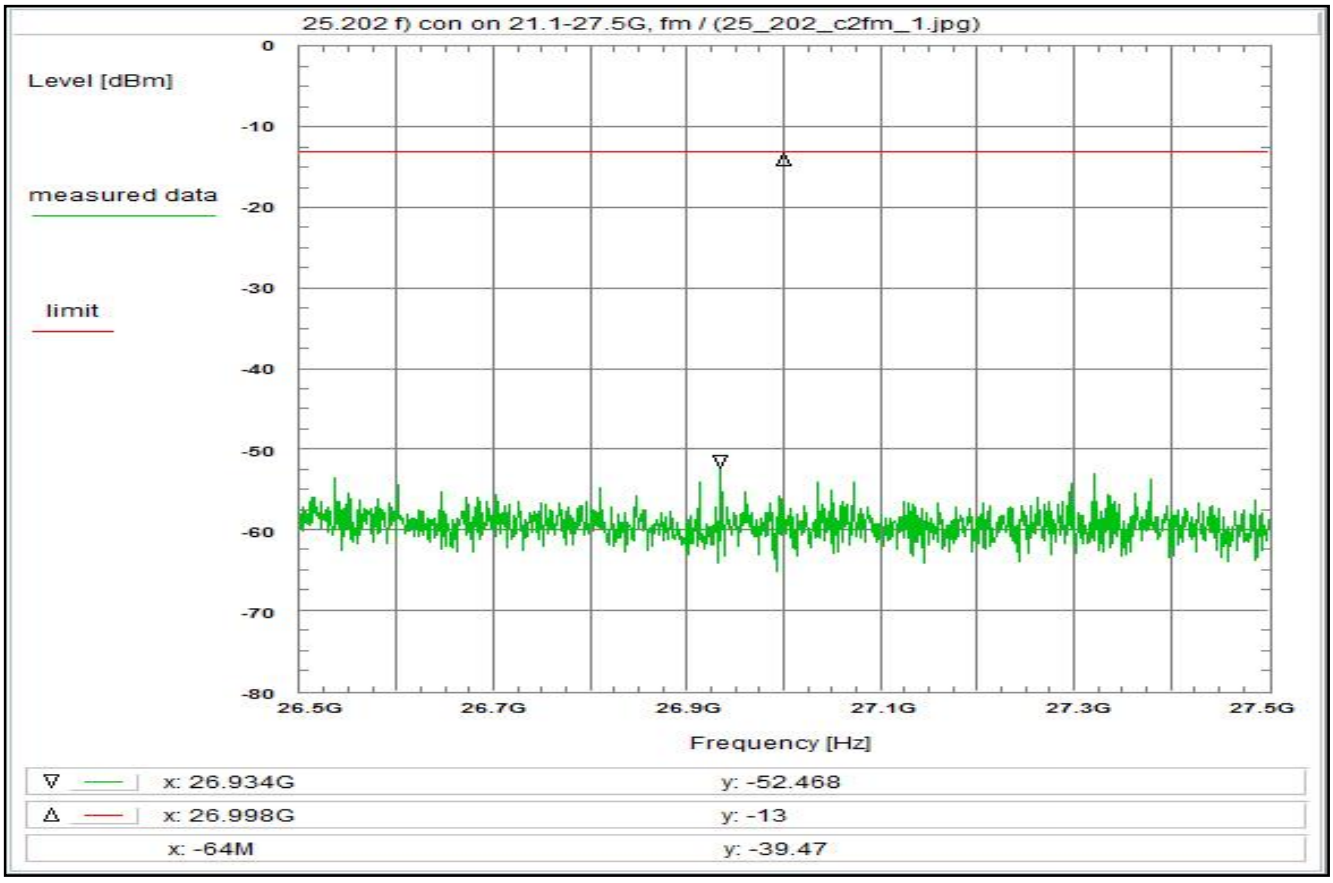
Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	4.0	dB
DUT-Antenna (see under limit)	-	21.0	dBi
Test antenna (A031)	-	15.8	dB
BW correction factor (10k -> 4k)	-	4.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Freefield attenuation (28.35GHz, 3m)	+	71.0	dB
Additional attenuation	+	5.4	dB
Circular Polarization	+	3.0	dB
TOTAL CORRECTION:	+	42.6	dB

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

Note: This measurement is defined for conducted set-up.
Therefore antenna gain has been subtracted

Note: This measurement is defined for conducted set-up.
Therefore antenna gain has been subtracted.
The limit is adjusted accordingly.

Plot No. 21



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 7.2: A031, C220, R001

Remark:

Test result: Test passed

Environment condition:

Date & Time:	Wed 03/Jun/2020 17:37:47	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	230	Vac

Setup of measurement equipment:

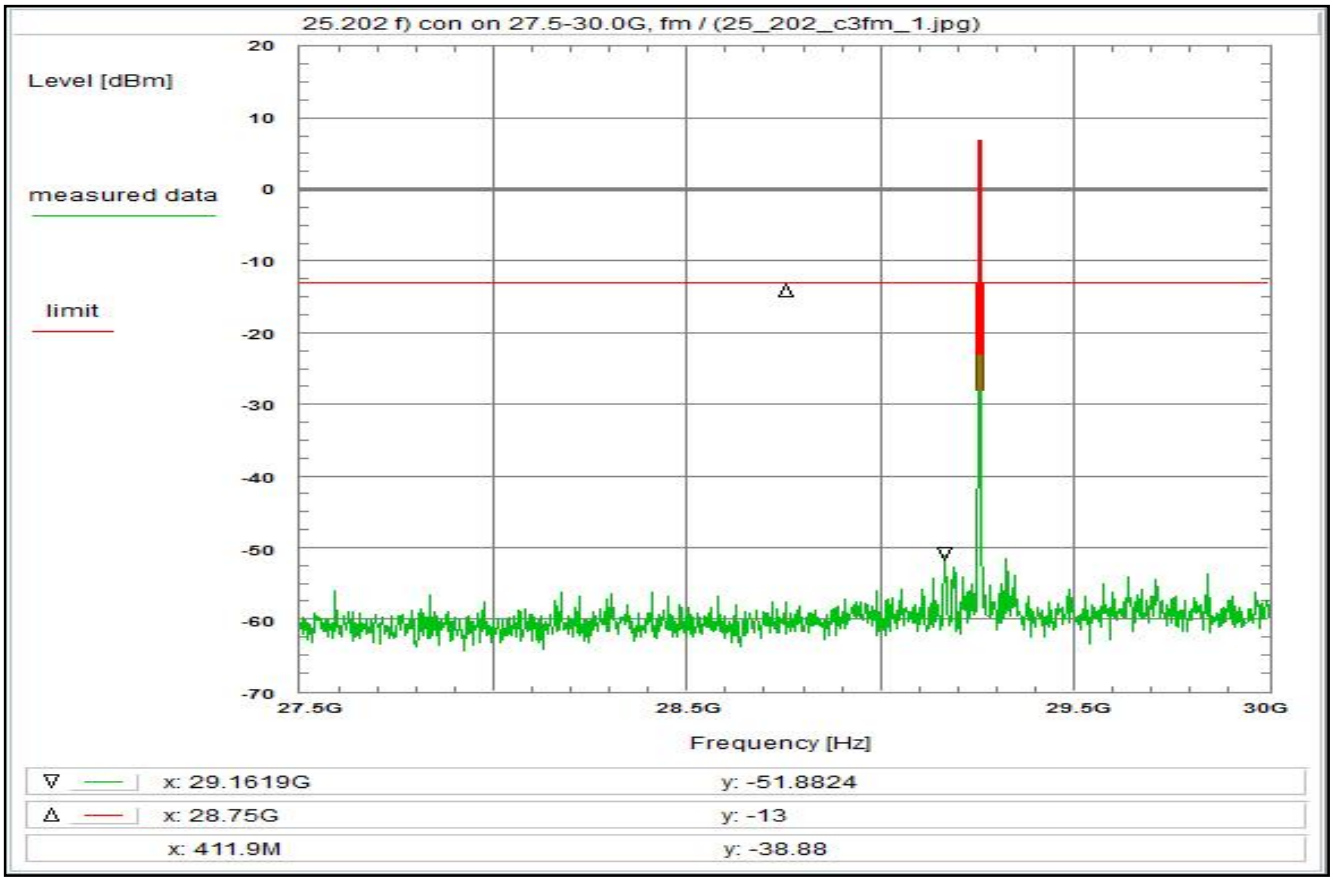
Start frequency:	26.5	GHz
Stop frequency:	27.5	GHz
Center frequency:	27	GHz
Frequency span:	1	GHz
Resolution-BW:	100	kHz
Video-BW:	300	kHz
Input attenuation:	6	dB
Trace-Mode:	Clear Write	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	3.9	dB
DUT-Antenna (see under limit)	-	21.0	dBi
Test antenna (A031)	-	15.0	dB
BW correction factor (100k -> 4k)	-	14.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Freefield attenuation (28.35GHz, 3m)	+	71.0	dB
Additional attenuation	+	5.4	dB
Circular Polarization	+	3.0	dB
TOTAL CORRECTION:	+	33.3	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. 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 7.2: A031, C220, R001

Remark:

Test result: Test passed

Environment condition:

Date & Time:	Wed 03/Jun/2020 17:22:49	
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:	AVG	

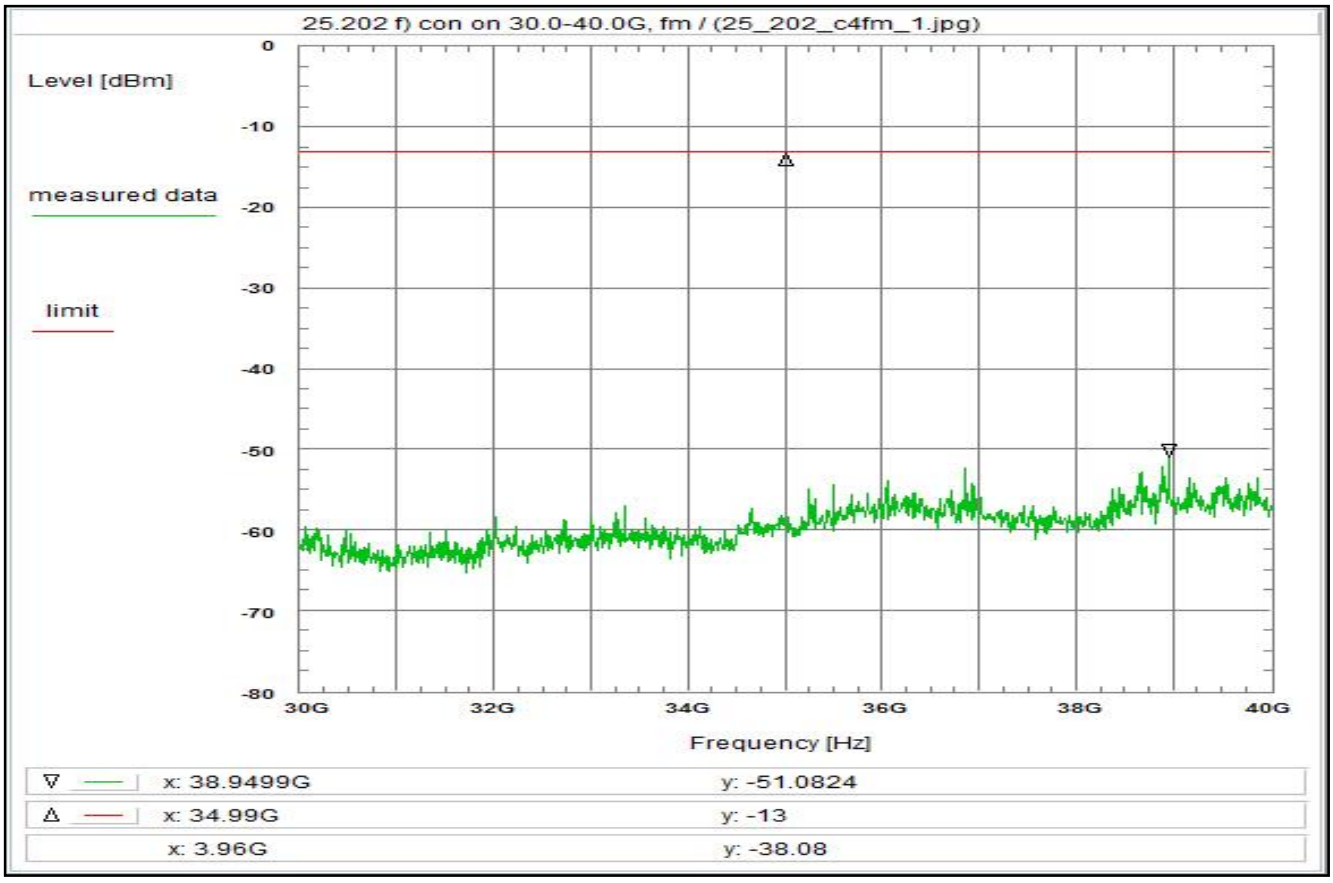
Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	4.0	dB
DUT-Antenna (see under limit)	-	21.0	dBi
Test antenna (A031)	-	15.5	dB
BW correction factor (100k -> 4k)	-	14.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Freefield attenuation (28.35GHz, 3m)	+	71.0	dB
Additional attenuation	+	5.4	dB
Circular Polarization	+	3.0	dB
TOTAL CORRECTION:	+	32.9	dB

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

Note: This measurement is defined for conducted set-up.
Therefore antenna gain has been subtracted.
The limit is adjusted accordingly.

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 7.2: R001, C220, A031

Remark:

Test result: Test passed

Environment condition:

Date & Time:	Wed 03/Jun/2020 17:29:34	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	230	Vac

Setup of measurement equipment:

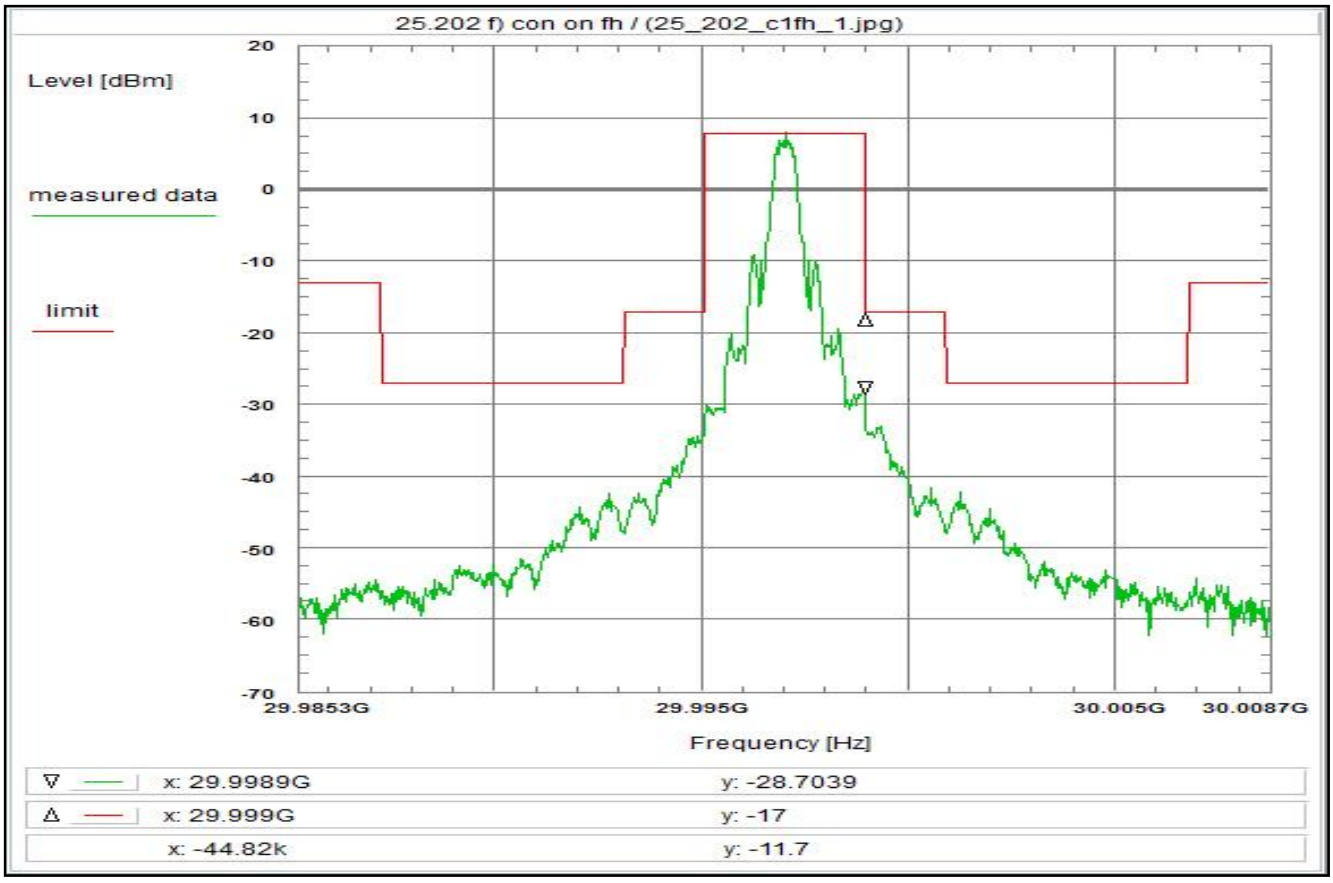
Start frequency:	30	GHz
Stop frequency:	40	GHz
Center frequency:	35	GHz
Frequency span:	10	GHz
Resolution-BW:	100	kHz
Video-BW:	300	kHz
Input attenuation:	6	dB
Trace-Mode:	Clear Write	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	4.4	dB
DUT-Antenna (see under limit)	-	21.0	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 (28.35GHz, 3m)	+	71.0	dB
Additional attenuation	+	5.4	dB
Circular Polarization	+	3.0	dB
TOTAL CORRECTION:	+	31.9	dB

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

Plot No. 24



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 7.2: A031, C220, R001

Remark:

Test result: Test passed

Environment condition:

Date & Time:	Wed 03/Jun/2020 17:16:33	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	230	Vac

Setup of measurement equipment:

Start frequency:	29.9853	GHz
Stop frequency:	30.0087	GHz
Center frequency:	29.997	GHz
Frequency span:	23.4	MHz
Resolution-BW:	10	kHz
Video-BW:	30	kHz
Input attenuation:	6	dB
Trace-Mode:	Average	
Detector-Mode:	AVG	

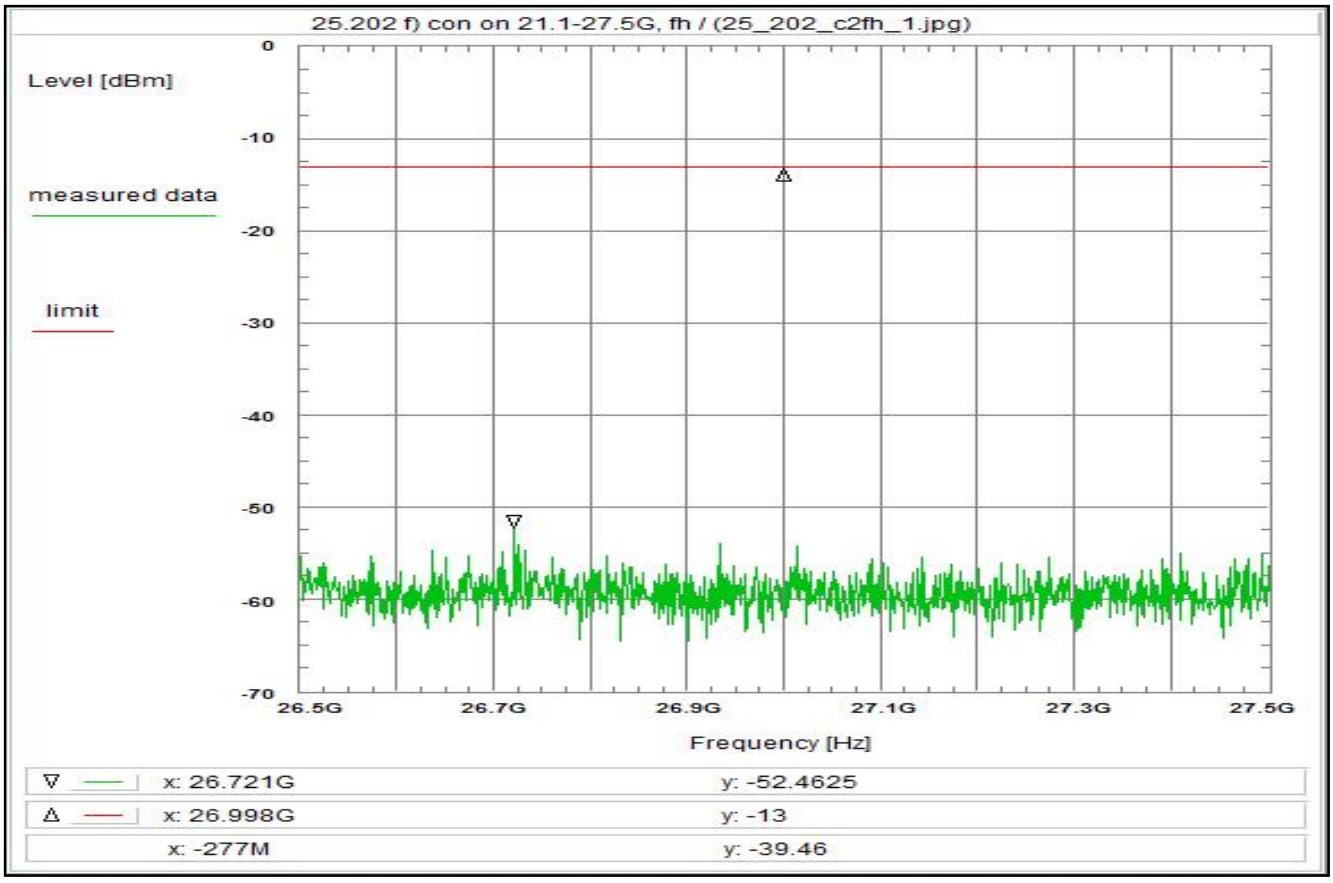
Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	4.1	dB
DUT-Antenna (see under limit)	-	21.0	dBi
Test antenna (A031)	-	15.9	dB
BW correction factor (10k -> 4k)	-	4.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Freefield attenuation (28.35GHz, 3m)	+	71.0	dB
Additional attenuation	+	5.4	dB
Circular Polarization	+	3.0	dB
TOTAL CORRECTION:	+	42.6	dB

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

Note: This measurement is defined for conducted set-up.
Therefore antenna gain has been subtracted.
The limit is adjusted accordingly.

Plot No. 25



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 7.2: A031, C220, R001

Remark:

Test result: Test passed

Environment condition:

Date & Time:	Wed 03/Jun/2020 17:35:14	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	230	Vac

Setup of measurement equipment:

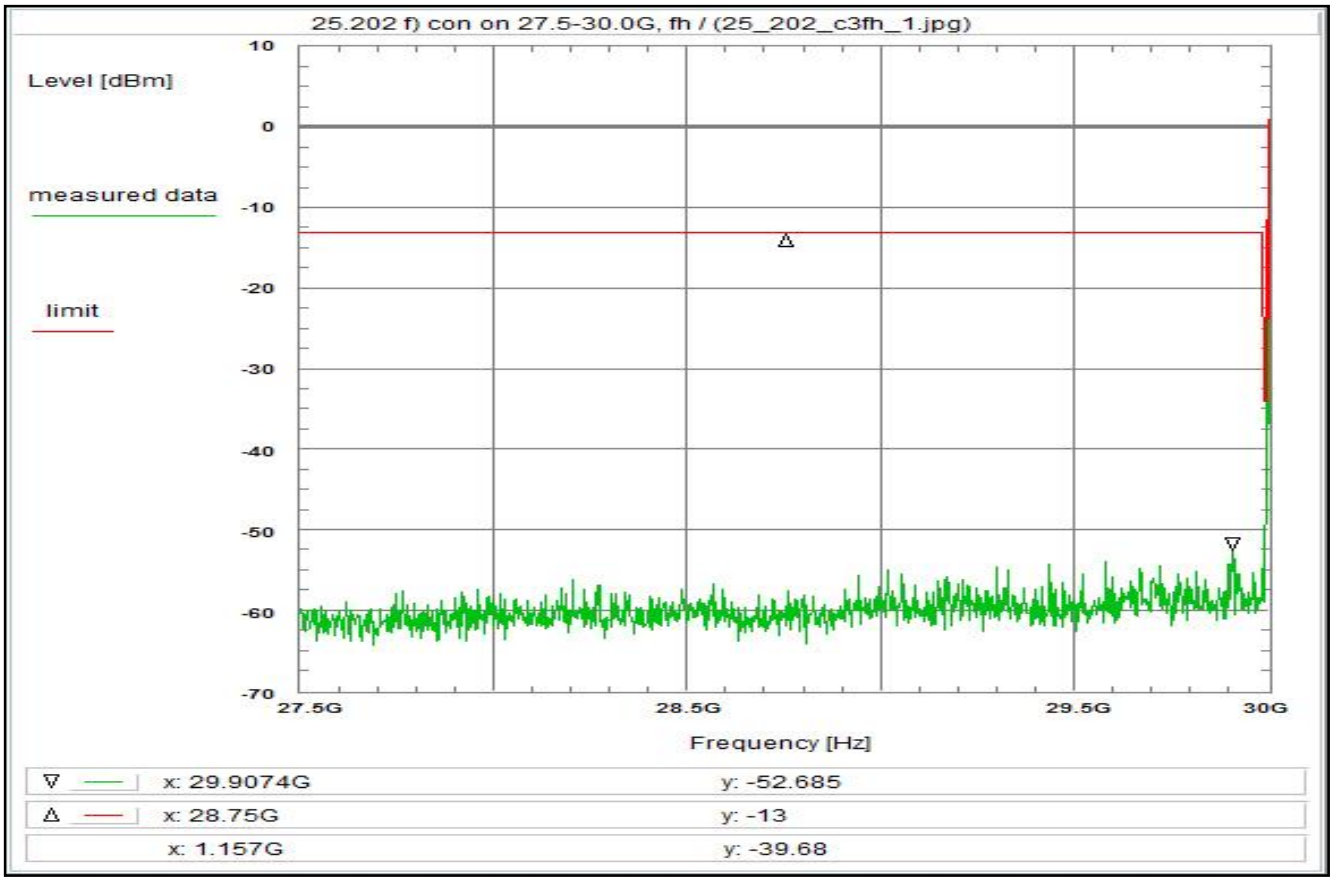
Start frequency:	26.5	GHz
Stop frequency:	27.5	GHz
Center frequency:	27	GHz
Frequency span:	1	GHz
Resolution-BW:	100	kHz
Video-BW:	300	kHz
Input attenuation:	6	dB
Trace-Mode:	Clear Write	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	3.9	dB
DUT-Antenna (see under limit)	-	21.0	dBi
Test antenna (A031)	-	15.0	dB
BW correction factor (100k -> 4k)	-	14.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Freefield attenuation (28.35GHz, 3m)	+	71.0	dB
Additional attenuation	+	5.4	dB
Circular Polarization	+	3.0	dB
TOTAL CORRECTION:	+	33.3	dB

Remarks:
Carrier-on state / Carrier at the upper edge of the band (fh)
Rather left the plot shows the cut-off of the wave guide.

Plot No. 26



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 7.2: A031, C220, R001

Remark:

Test result: Test passed

Environment condition:

Date & Time:	Wed 03/Jun/2020 17:09:50	
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:	AVG	

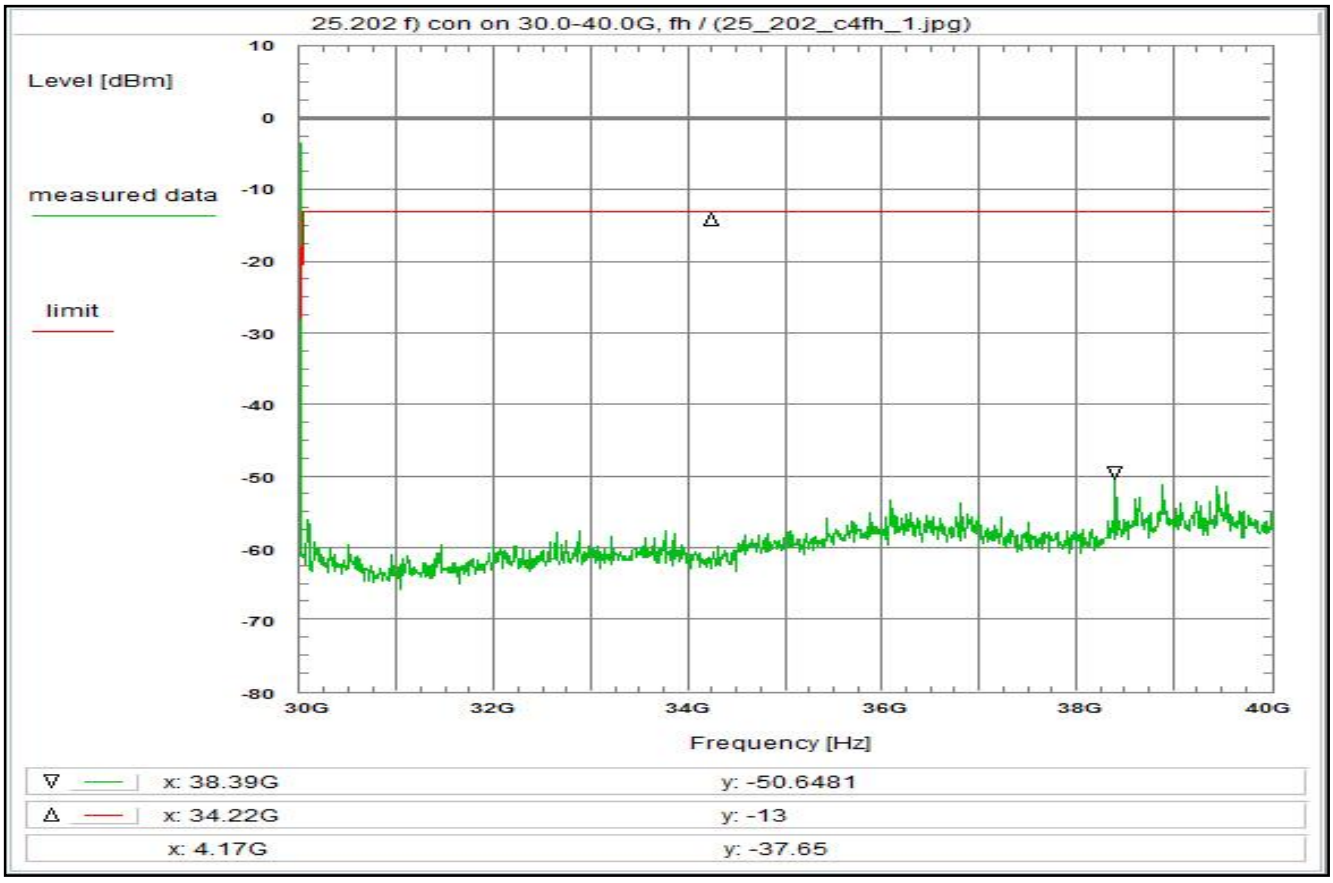
Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	4.0	dB
DUT-Antenna (see under limit)	-	21.0	dBi
Test antenna (A031)	-	15.5	dB
BW correction factor (100k -> 4k)	-	14.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Freefield attenuation (28.35GHz, 3m)	+	71.0	dB
Additional attenuation	+	5.4	dB
Circular Polarization	+	3.0	dB
TOTAL CORRECTION:	+	32.9	dB

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

Note: This measurement is defined for conducted set-up.
Therefore antenna gain has been subtracted.
The limit is adjusted accordingly.

Plot No. 27



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 7.2: A031, C220, R001

Remark:

Test result: Test passed

Environment condition:

Date & Time:	Wed 03/Jun/2020 17:32:30	
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:	Clear Write	
Detector-Mode:	AVG	

Correction:

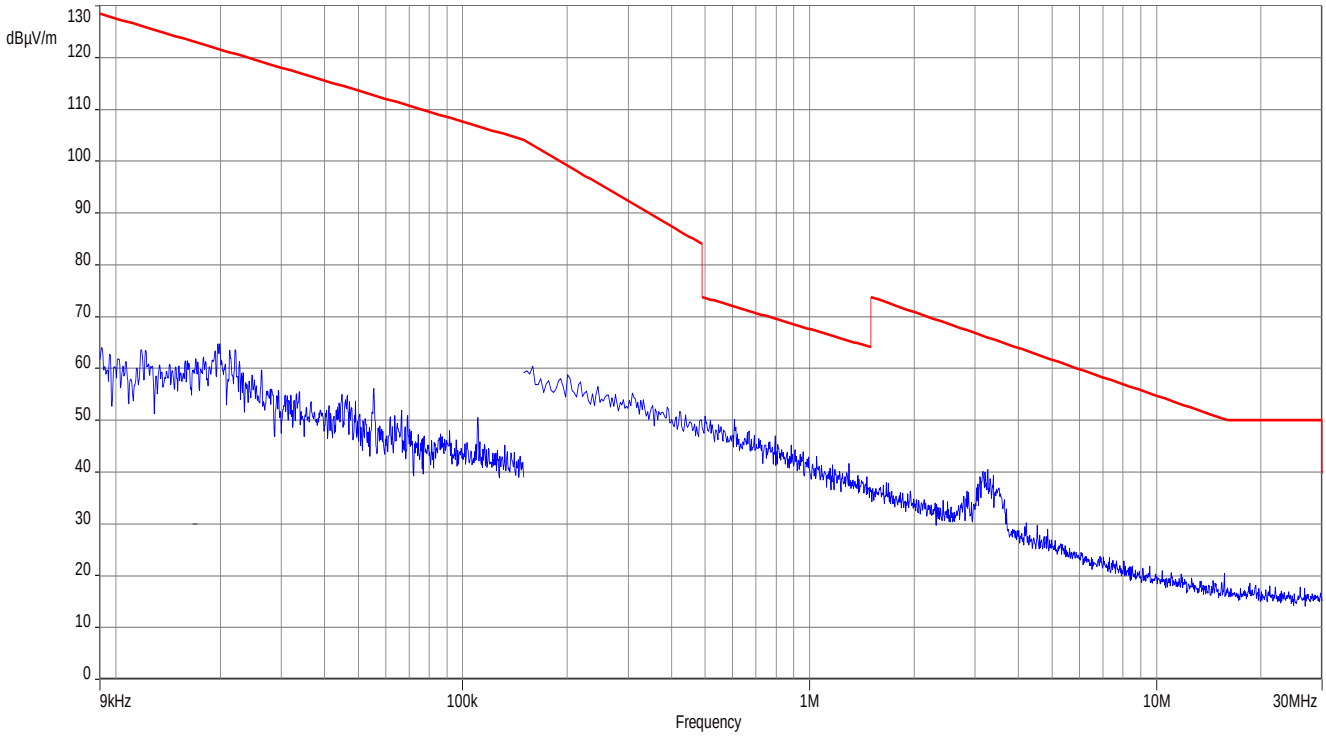
Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	4.4	dB
DUT-Antenna (see under limit)	-	21.0	dBi
Test antenna (A031)	-	16.9	dB
BW correction factor (100k -> 4k)	-	14.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Freefield attenuation (28.35GHz, 3m)	+	71.0	dB
Additional attenuation	+	5.4	dB
Circular Polarization	+	3.0	dB
TOTAL CORRECTION:	+	31.9	dB

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

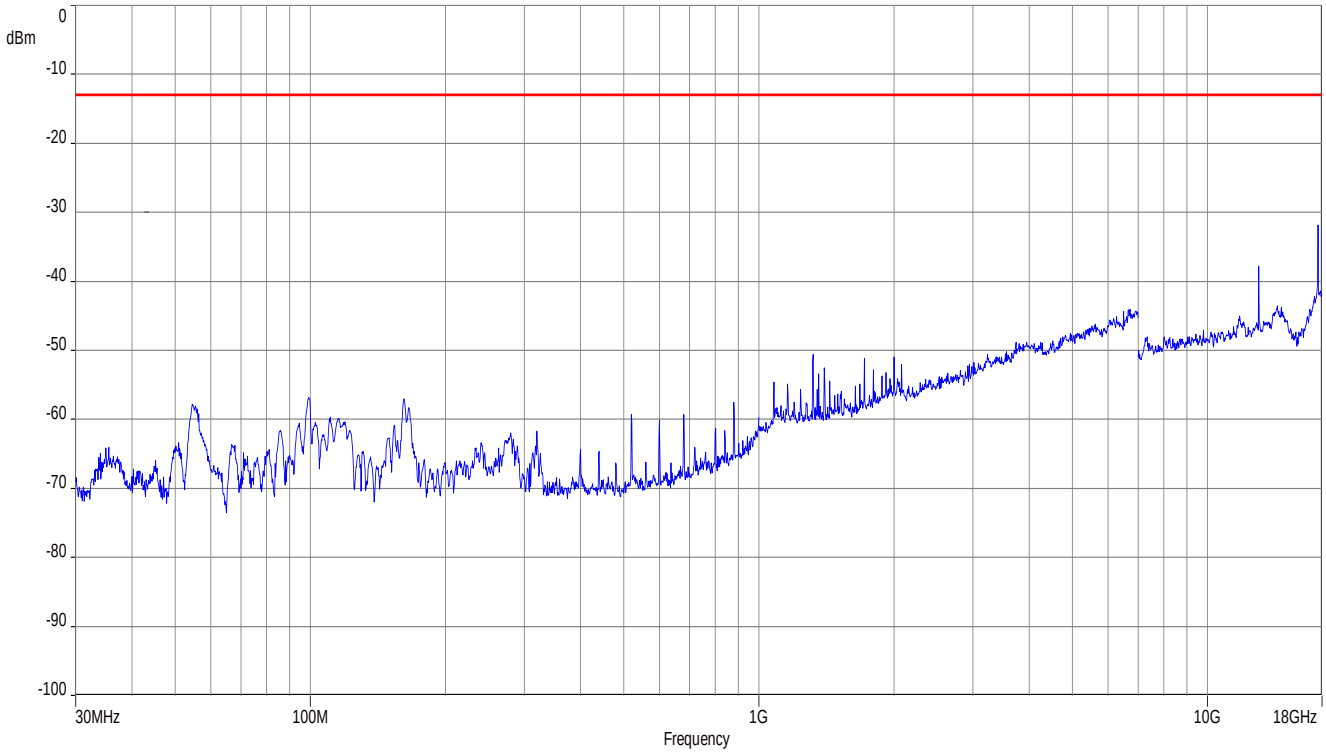
3 Measurement results, Spurious emissions 30MHz - 18 GHz

This Chapter 3 consists of 3 pages including this page.

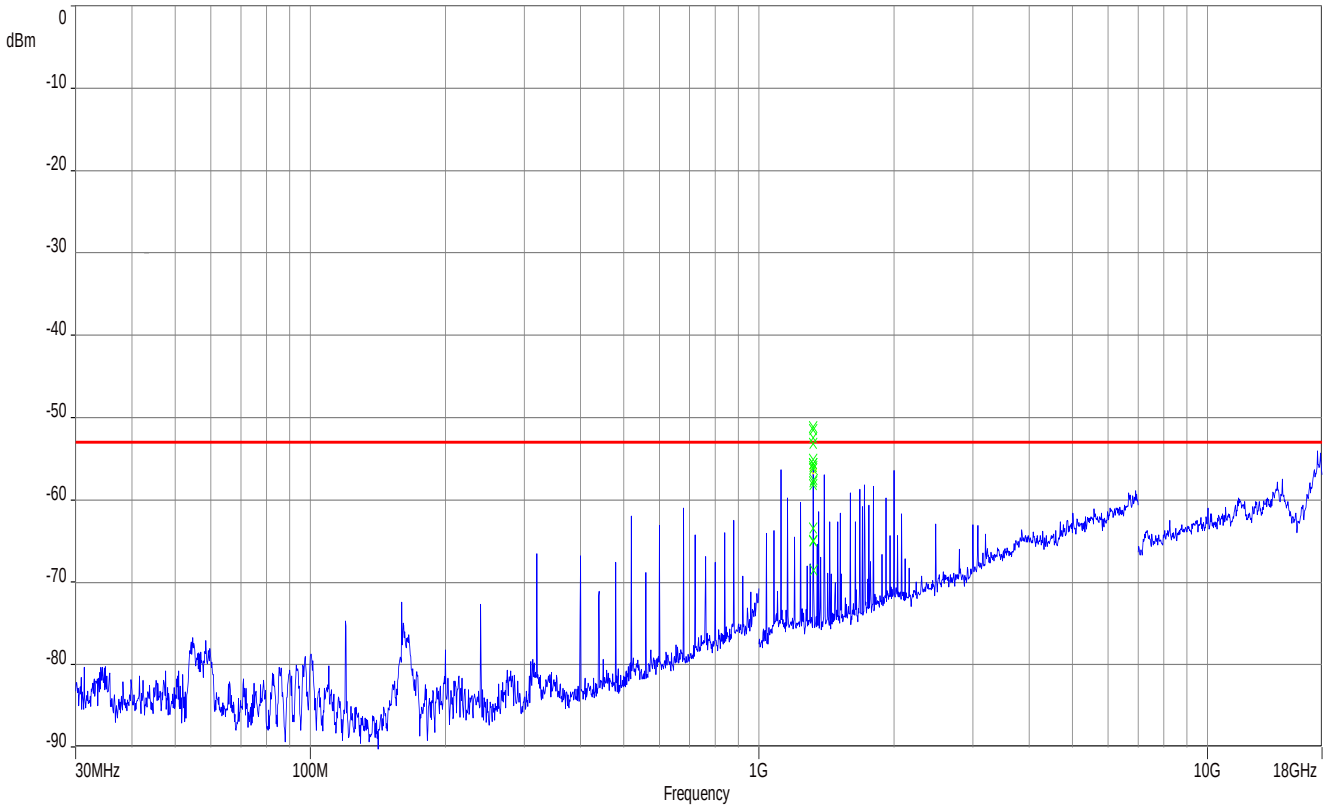
Plot No. 1: 150 kHz – 30 MHz, antenna vertical / horizontal Tx/Rx



Plot No. 2: 30 MHz – 18 GHz, antenna vertical / horizontal Tx



Plot No. 3: 30 MHz – 18 GHz, antenna vertical / horizontal Rx RSP-101



4 Measurement results, FCC Part 15B

This Chapter 3 consists of 1 pages including this page.

Refer to test report 1-0037_20-02-08.pdf

5 Document history

Version	Applied changes	Date of release
	Initial release - DRAFT	2021-05-07
	Initial release	2022-01-19