Annex L

CTC advanced member of RWTÜV group

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Test report annex authorized:

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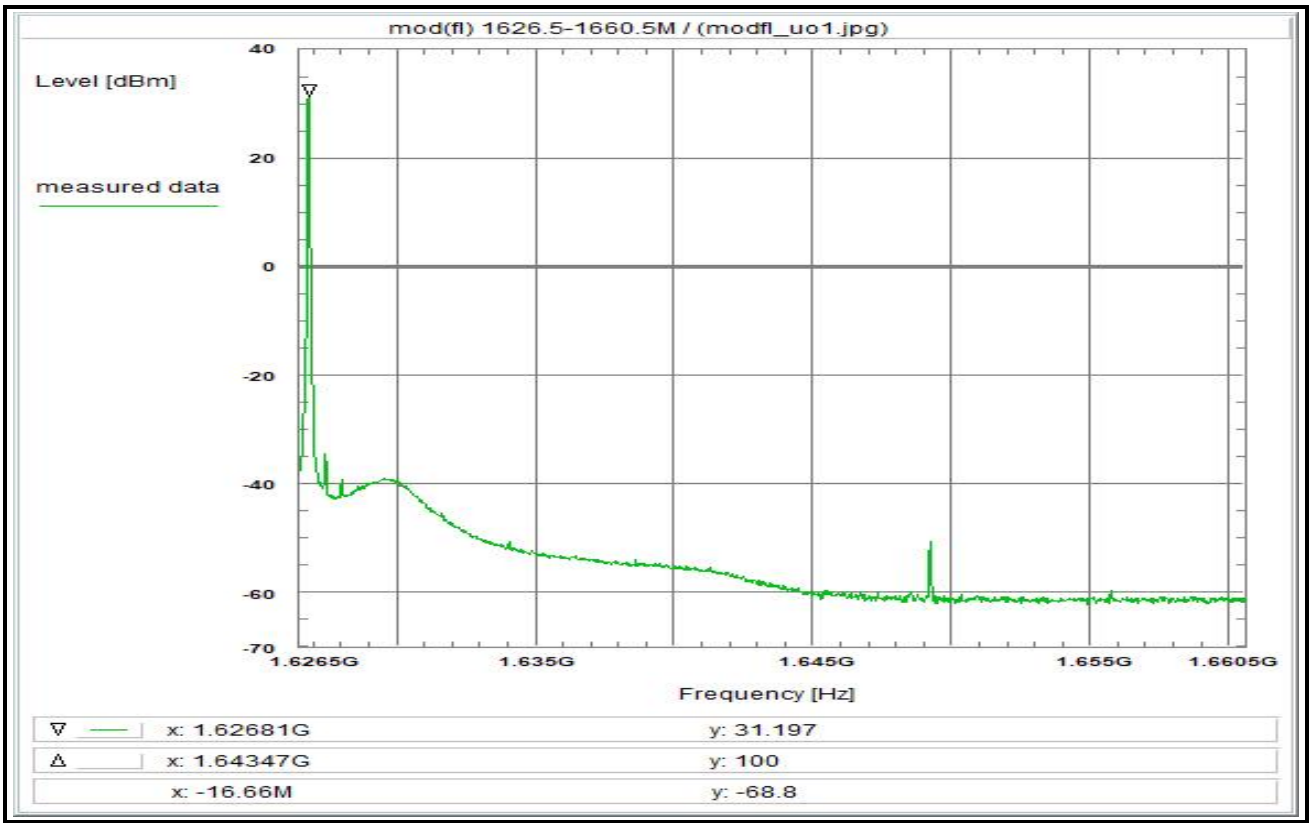
Plot No. 1 (70)



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, fl, see test report, operating conditions
modulation scheme R20T05Q

Test setup:
see test report chapter 6.x: hgj

Test equipment:
see test report chapter 6.x: C220, R001, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Thu 28/Nov/2019 11:44:07	
Location:	CTC advanced GmbH, Laboratory RCE-Sat	
Temperature:	22	°C
Humidity:	45	%
Voltage:	24	Vdc

Setup of measurement equipment:

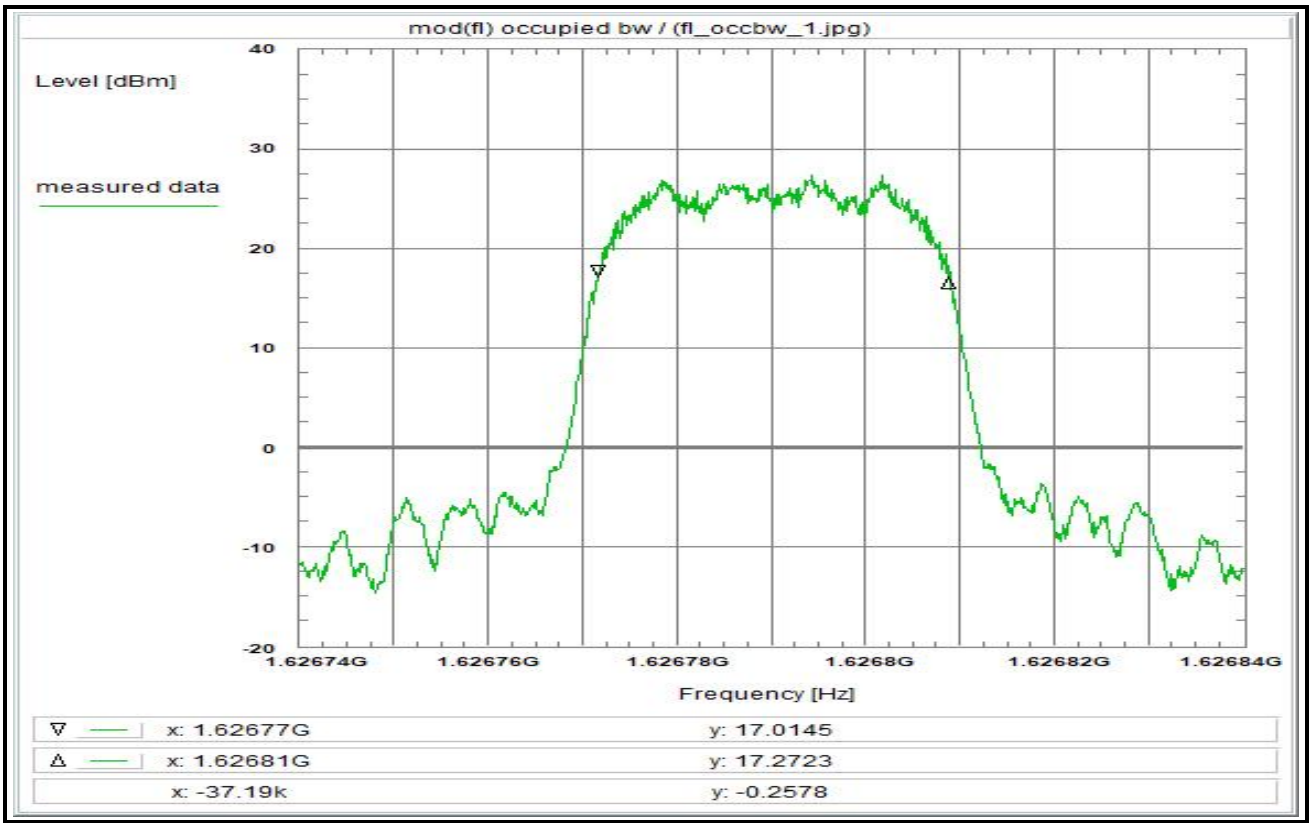
Start frequency:	1.6265	GHz
Stop frequency:	1.6605	GHz
Center frequency:	1.6435	GHz
Frequency span:	34	MHz
Resolution-BW:	30	kHz
Video-BW:	100	kHz
Input attenuation:	20	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor	+	0.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U312)	+	19.5	dB
TOTAL CORRECTION:	+	27.1	dB

Remarks:
Test of general function of the EUT and measurement for orientation.

Plot No. 2 (70)



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

Limit:
The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 % of the total mean power radiated by a given emission. (see §2.1049).

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

Operating condition of DUT:
operating condition 1, fl, see test report, operating conditions
modulation scheme R5T1X

Test setup:
see test report chapter 6.x: hgj

Test equipment:
see test report chapter 6.x: C220, R001, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Thu 28/Nov/2019 17:42:54	
Location:	CTC advanced GmbH, Laboratory RCE-Sat	
Temperature:	22	°C
Humidity:	45	%
Voltage:	24	Vdc

Setup of measurement equipment:

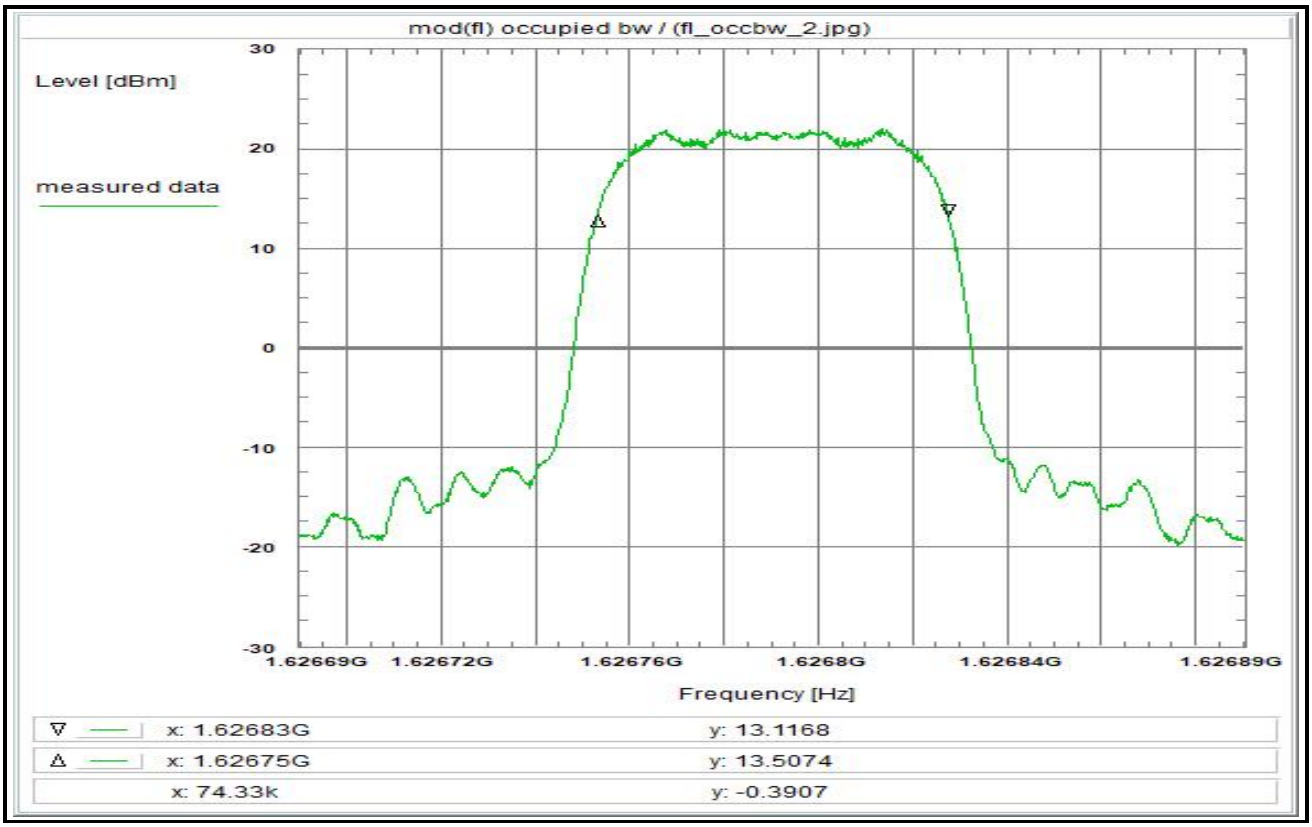
Start frequency:	1.62674	GHz
Stop frequency:	1.62684	GHz
Center frequency:	1.62679	GHz
Frequency span:	100	kHz
Resolution-BW:	1	kHz
Video-BW:	10	kHz
Input attenuation:	20	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor (1k -> 3k)	+	4.8	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U312)	+	19.5	dB
Power Splitter + Cable	+	6.7	dB
TOTAL CORRECTION:	+	31.9	dB

Remarks:
Determination of the ´occupied bandwidth´ at fl:
The measured value is about 37.2 kHz (delta marker)

Plot No. 3 (70)



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

Limit:
The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 % of the total mean power radiated by a given emission. (see §2.1049).

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

Operating condition of DUT:
operating condition 1, fl, see test report, operating conditions
modulation scheme R5T2X

Test setup:
see test report chapter 6.x: hgj

Test equipment:
see test report chapter 6.x: C220, R001, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Fri 29/Nov/2019 08:54:56	
Location:	CTC advanced GmbH, Laboratory RCE-Sat	
Temperature:	22	°C
Humidity:	45	%
Voltage:	24	Vdc

Setup of measurement equipment:

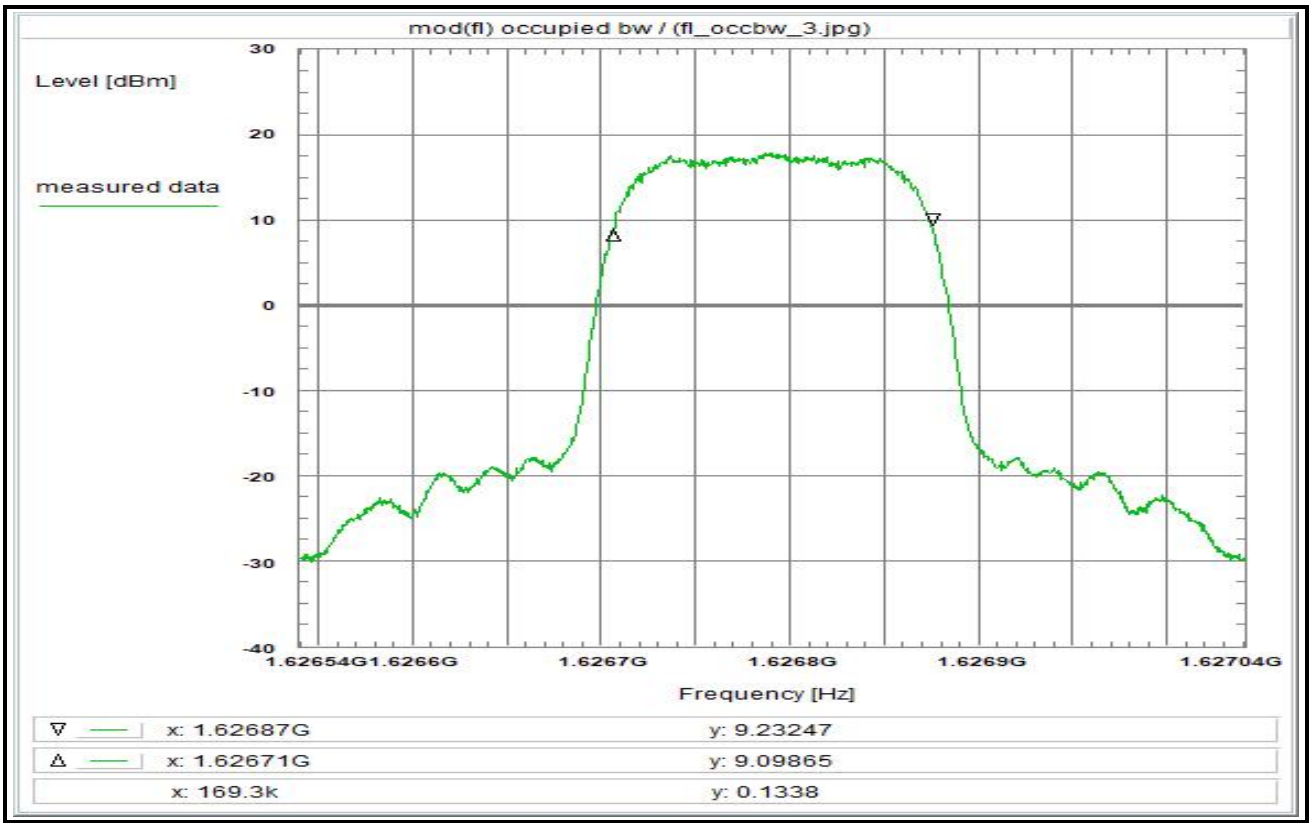
Start frequency:	1.62669	GHz
Stop frequency:	1.62689	GHz
Center frequency:	1.62679	GHz
Frequency span:	200	kHz
Resolution-BW:	3	kHz
Video-BW:	10	kHz
Input attenuation:	20	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor	+	0.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U312)	+	19.5	dB
Power Splitter + Cable	+	6.7	dB
TOTAL CORRECTION:	+	27.1	dB

Remarks:
Determination of the ´occupied bandwidth´ at fl:
The measured value is about 74.3 kHz (delta marker)

Plot No. 4 (70)



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

Limit:
The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 % of the total mean power radiated by a given emission. (see §2.1049).

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

Operating condition of DUT:
operating condition 1, fl, see test report, operating conditions
modulation scheme R5T45X

Test setup:
see test report chapter 6.x: hgj

Test equipment:
see test report chapter 6.x: C220, R001, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Fri 29/Nov/2019 08:58:07	
Location:	CTC advanced GmbH, Laboratory RCE-Sat	
Temperature:	22	°C
Humidity:	45	%
Voltage:	24	Vdc

Setup of measurement equipment:

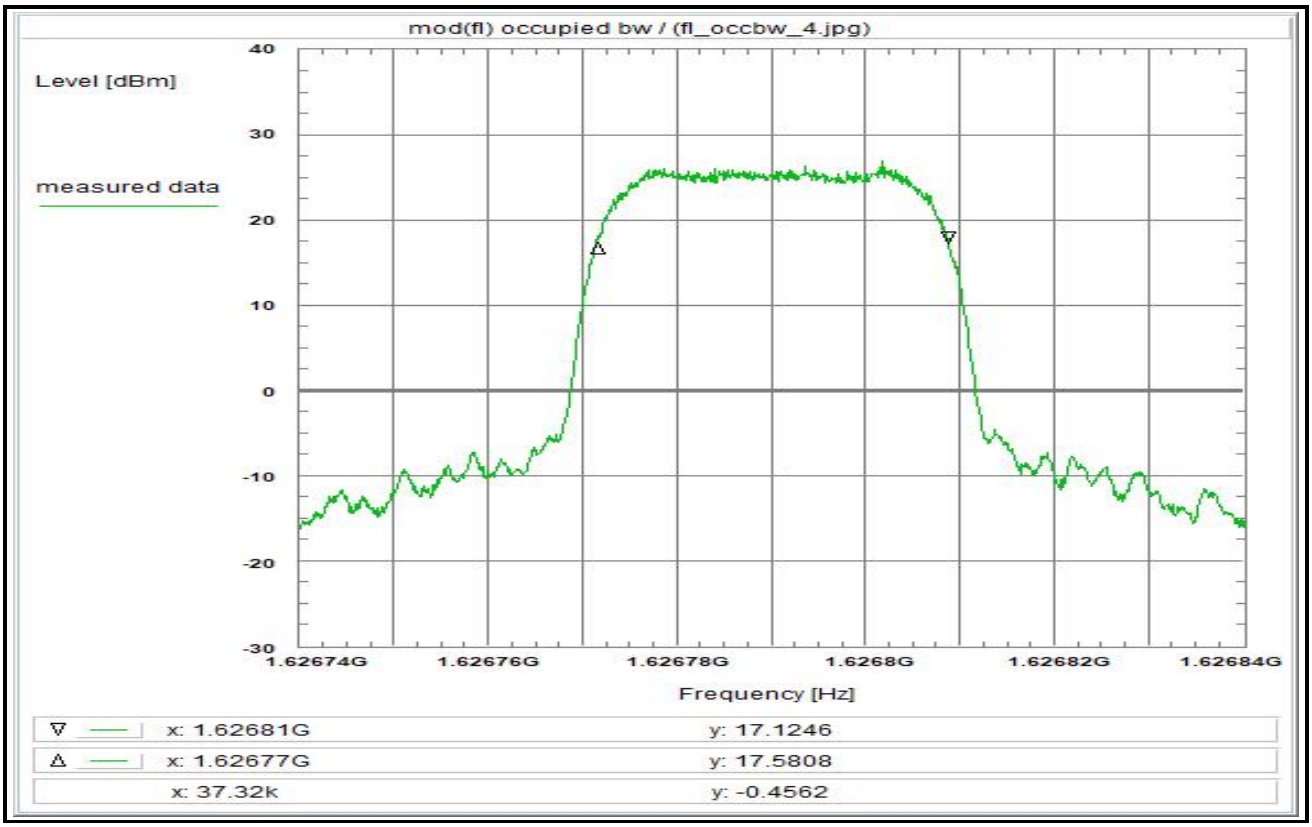
Start frequency:	1.62654	GHz
Stop frequency:	1.62704	GHz
Center frequency:	1.62679	GHz
Frequency span:	500	kHz
Resolution-BW:	10	kHz
Video-BW:	30	kHz
Input attenuation:	20	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor (10k -> 3k)	-	5.2	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U312)	+	19.5	dB
Power Splitter + Cable	+	6.7	dB
TOTAL CORRECTION:	+	21.9	dB

Remarks:
Determination of the ´occupied bandwidth´ at fl:
The measured value is about 169.3 kHz (delta marker)

Plot No. 5 (70)



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

Limit:
The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 % of the total mean power radiated by a given emission. (see §2.1049).

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

Operating condition of DUT:
operating condition 1, fl, see test report, operating conditions
modulation scheme R20T1X

Test setup:
see test report chapter 6.x: hgj

Test equipment:
see test report chapter 6.x: C220, R001, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Fri 29/Nov/2019 09:10:05	
Location:	CTC advanced GmbH, Laboratory RCE-Sat	
Temperature:	22	°C
Humidity:	45	%
Voltage:	24	Vdc

Setup of measurement equipment:

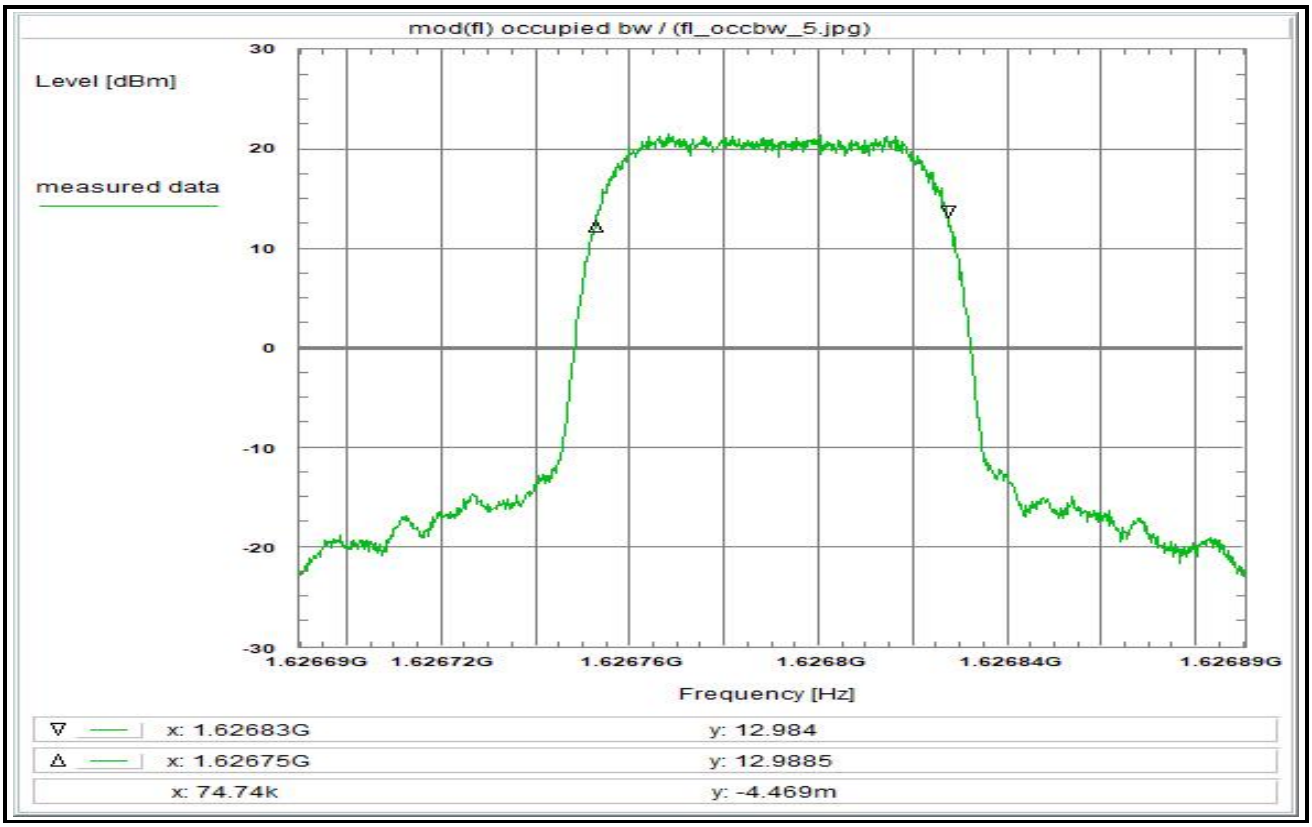
Start frequency:	1.62674	GHz
Stop frequency:	1.62684	GHz
Center frequency:	1.62679	GHz
Frequency span:	100	kHz
Resolution-BW:	1	kHz
Video-BW:	3	kHz
Input attenuation:	20	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor (1k -> 3k)	+	4.8	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U312)	+	19.5	dB
Power Splitter + Cable	+	6.7	dB
TOTAL CORRECTION:	+	31.9	dB

Remarks:
Determination of the ´occupied bandwidth´ at fl:
The measured value is about 37.3 kHz (delta marker)

Plot No. 6 (70)



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

Limit:
The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 % of the total mean power radiated by a given emission. (see §2.1049).

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

Operating condition of DUT:
operating condition 1, fl, see test report, operating conditions
modulation scheme R20T2X

Test setup:
see test report chapter 6.x: hgj

Test equipment:
see test report chapter 6.x: C220, R001, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Fri 29/Nov/2019 09:15:22
Location:	CTC advanced GmbH, Laboratory RCE-Sat
Temperature:	22 °C
Humidity:	45 %
Voltage:	24 Vdc

Setup of measurement equipment:

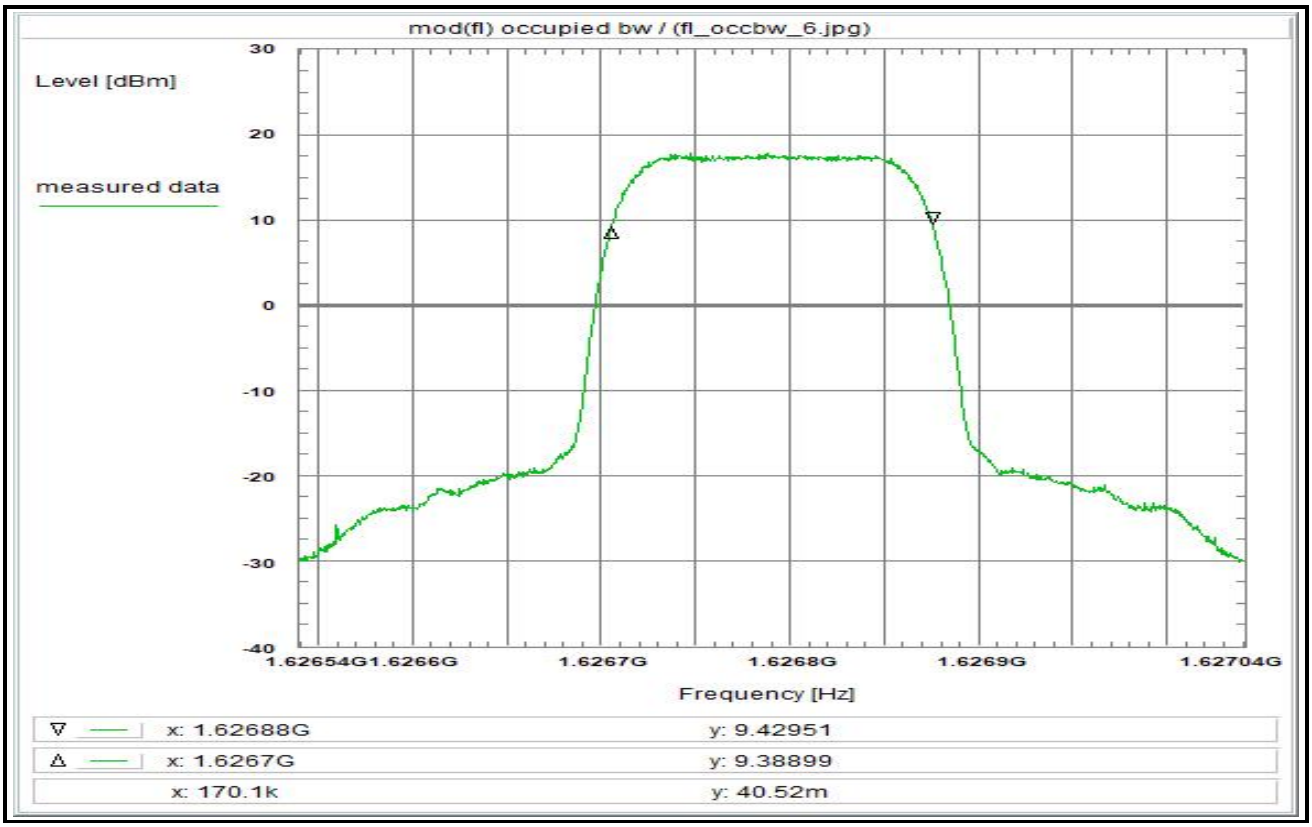
Start frequency:	1.62669	GHz
Stop frequency:	1.62689	GHz
Center frequency:	1.62679	GHz
Frequency span:	200	kHz
Resolution-BW:	3	kHz
Video-BW:	10	kHz
Input attenuation:	20	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor	+	0.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U312)	+	19.5	dB
Power Splitter + Cable	+	6.7	dB
TOTAL CORRECTION:	+	27.1	dB

Remarks:
Determination of the ´occupied bandwidth´ at fl:
The measured value is about 74.7 kHz (delta marker)

Plot No. 7 (70)



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

Limit:
The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 % of the total mean power radiated by a given emission. (see §2.1049).

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

Operating condition of DUT:
operating condition 1, fl, see test report, operating conditions
modulation scheme R20T45X

Test setup:
see test report chapter 6.x: hgj

Test equipment:
see test report chapter 6.x: C220, R001, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Fri 29/Nov/2019 09:18:20	
Location:	CTC advanced GmbH, Laboratory RCE-Sat	
Temperature:	22	°C
Humidity:	45	%
Voltage:	24	Vdc

Setup of measurement equipment:

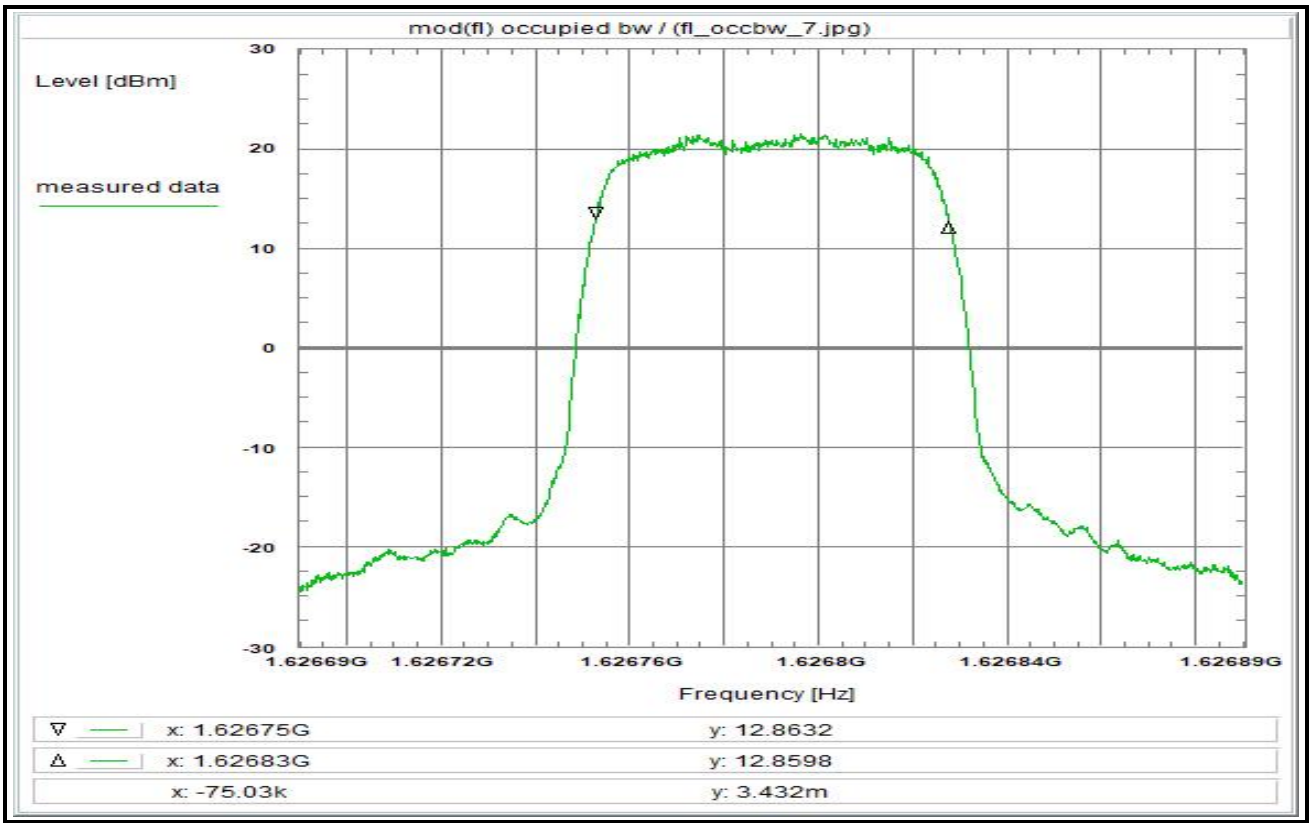
Start frequency:	1.62654	GHz
Stop frequency:	1.62704	GHz
Center frequency:	1.62679	GHz
Frequency span:	500	kHz
Resolution-BW:	10	kHz
Video-BW:	30	kHz
Input attenuation:	20	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor (10k -> 3k)	-	5.2	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U312)	+	19.5	dB
Power Splitter + Cable	+	6.7	dB
TOTAL CORRECTION:	+	21.9	dB

Remarks:
Determination of the ´occupied bandwidth´ at fl:
The measured value is about 170.1 kHz (delta marker)

Plot No. 8 (70)



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

Limit:
The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 % of the total mean power radiated by a given emission. (see §2.1049).

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

Operating condition of DUT:
operating condition 1, fl, see test report, operating conditions
modulation scheme R5T2Q

Test setup:
see test report chapter 6.x: hgj

Test equipment:
see test report chapter 6.x: C220, R001, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Fri 29/Nov/2019 09:43:14
Location:	CTC advanced GmbH, Laboratory RCE-Sat
Temperature:	22 °C
Humidity:	45 %
Voltage:	24 Vdc

Setup of measurement equipment:

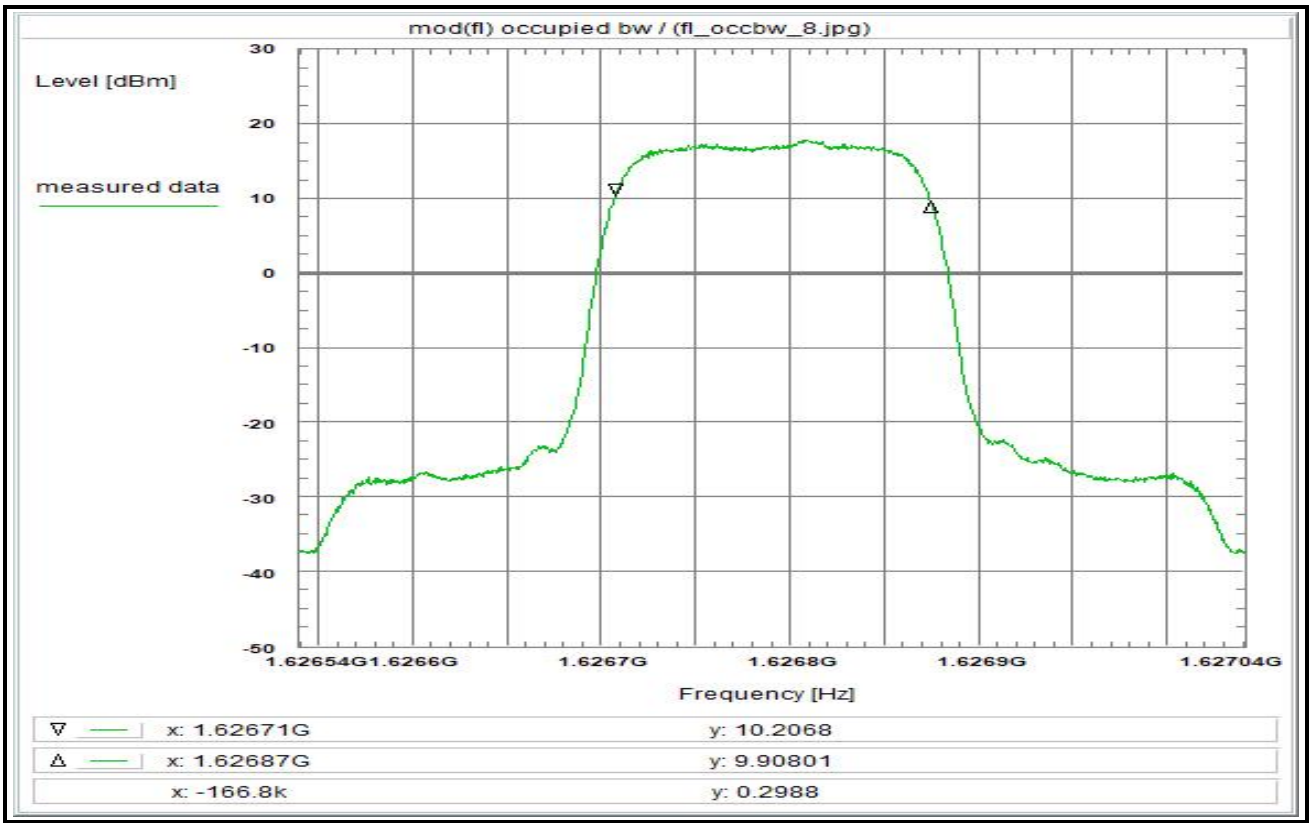
Start frequency:	1.62669	GHz
Stop frequency:	1.62689	GHz
Center frequency:	1.62679	GHz
Frequency span:	200	kHz
Resolution-BW:	3	kHz
Video-BW:	10	kHz
Input attenuation:	20	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor	+	0.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U312)	+	19.5	dB
Power Splitter + Cable	+	6.7	dB
TOTAL CORRECTION:	+	27.1	dB

Remarks:
Determination of the ´occupied bandwidth´ at fl:
The measured value is about 75 kHz (delta marker)

Plot No. 9 (70)



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

Limit:
The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 % of the total mean power radiated by a given emission. (see §2.1049).

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

Operating condition of DUT:
operating condition 1, fl, see test report, operating conditions
modulation scheme R5T45Q

Test setup:
see test report chapter 6.x: hgj

Test equipment:
see test report chapter 6.x: C220, R001, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Fri 29/Nov/2019 09:53:52	
Location:	CTC advanced GmbH, Laboratory RCE-Sat	
Temperature:	22	°C
Humidity:	45	%
Voltage:	24	Vdc

Setup of measurement equipment:

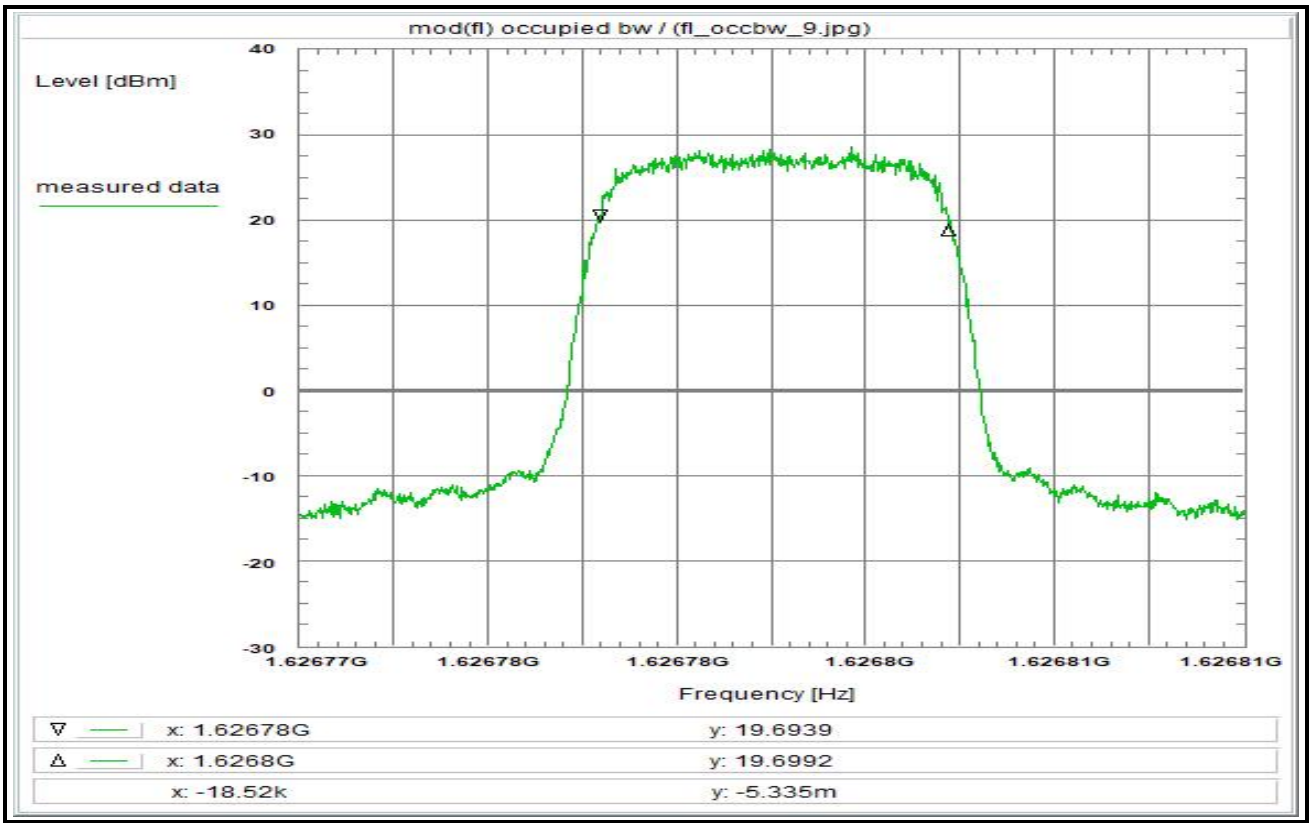
Start frequency:	1.62654	GHz
Stop frequency:	1.62704	GHz
Center frequency:	1.62679	GHz
Frequency span:	500	kHz
Resolution-BW:	10	kHz
Video-BW:	10	kHz
Input attenuation:	20	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor (10k -> 3k)	-	5.2	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U312)	+	19.5	dB
Power Splitter + Cable	+	6.7	dB
TOTAL CORRECTION:	+	21.9	dB

Remarks:
Determination of the ´occupied bandwidth´ at fl:
The measured value is about 166.8 kHz (delta marker)

Plot No. 10 (70)



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

Limit:
The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 % of the total mean power radiated by a given emission. (see §2.1049).

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

Operating condition of DUT:
operating condition 1, fl, see test report, operating conditions
modulation scheme R20T05Q

Test setup:
see test report chapter 6.x: hgj

Test equipment:
see test report chapter 6.x: C220, R001, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Fri 29/Nov/2019 09:59:08	
Location:	CTC advanced GmbH, Laboratory RCE-Sat	
Temperature:	22	°C
Humidity:	45	%
Voltage:	24	Vdc

Setup of measurement equipment:

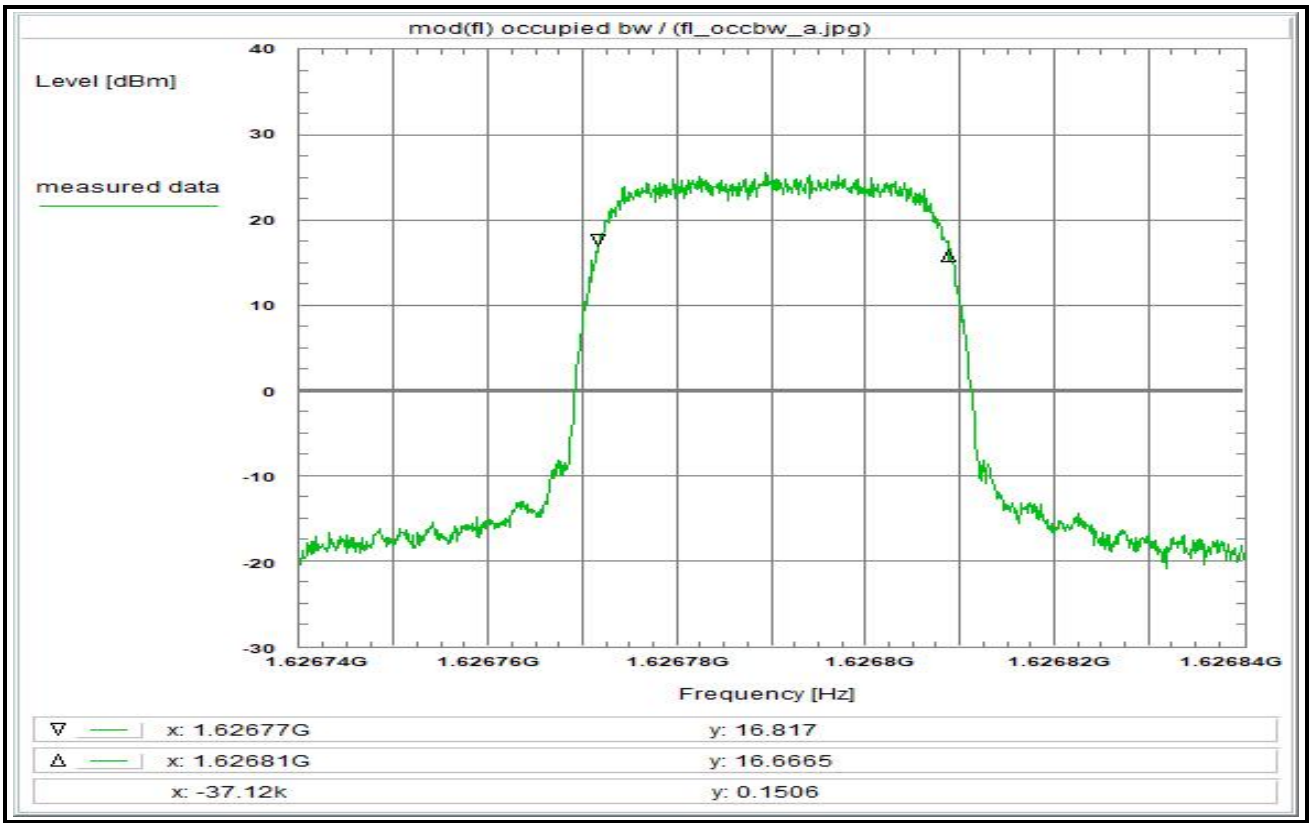
Start frequency:	1.626765	GHz
Stop frequency:	1.626815	GHz
Center frequency:	1.62679	GHz
Frequency span:	50	kHz
Resolution-BW:	1	kHz
Video-BW:	10	kHz
Input attenuation:	20	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor (1k -> 3k)	+	4.8	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U312)	+	19.5	dB
Power Splitter + Cable	+	6.7	dB
TOTAL CORRECTION:	+	31.9	dB

Remarks:
Determination of the ´occupied bandwidth´ at fl:
The measured value is about 18.5 kHz (delta marker)

Plot No. 11 (70)



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

Limit:
The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 % of the total mean power radiated by a given emission. (see §2.1049).

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

Operating condition of DUT:
operating condition 1, fl, see test report, operating conditions
modulation scheme R20T1Q

Test setup:
see test report chapter 6.x: hgj

Test equipment:
see test report chapter 6.x: C220, R001, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Fri 29/Nov/2019 10:01:53	
Location:	CTC advanced GmbH, Laboratory RCE-Sat	
Temperature:	22	°C
Humidity:	45	%
Voltage:	24	Vdc

Setup of measurement equipment:

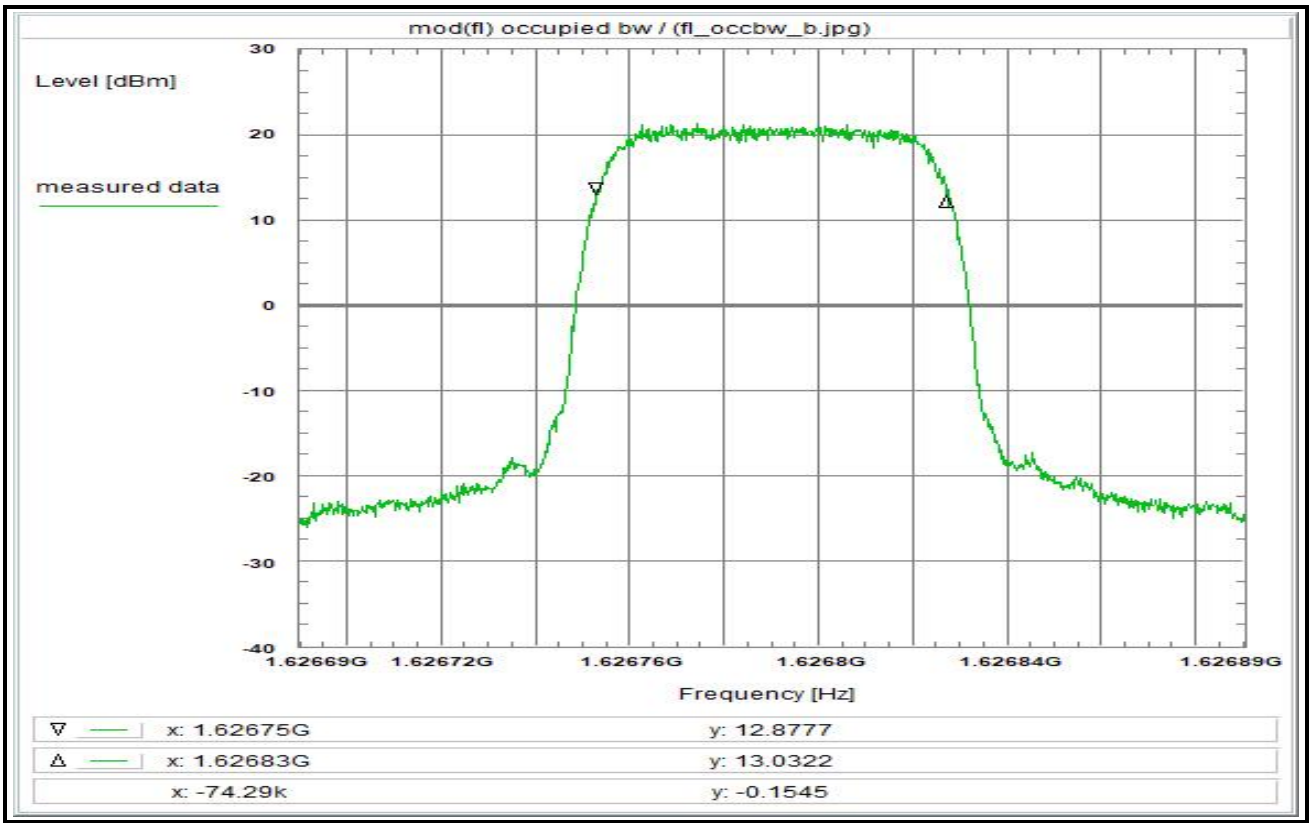
Start frequency:	1.62674	GHz
Stop frequency:	1.62684	GHz
Center frequency:	1.62679	GHz
Frequency span:	100	kHz
Resolution-BW:	1	kHz
Video-BW:	10	kHz
Input attenuation:	20	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor (1k -> 3k)	+	4.8	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U312)	+	19.5	dB
Power Splitter + Cable	+	6.7	dB
TOTAL CORRECTION:	+	31.9	dB

Remarks:
Determination of the ´occupied bandwidth´ at fl:
The measured value is about 37.1 kHz (delta marker)

Plot No. 12 (70)



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

Limit:
The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 % of the total mean power radiated by a given emission. (see §2.1049).

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

Operating condition of DUT:
operating condition 1, fl, see test report, operating conditions
modulation scheme R20T2Q

Test setup:
see test report chapter 6.x: hgj

Test equipment:
see test report chapter 6.x: C220, R001, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Fri 29/Nov/2019 10:05:27
Location:	CTC advanced GmbH, Laboratory RCE-Sat
Temperature:	22 °C
Humidity:	45 %
Voltage:	24 Vdc

Setup of measurement equipment:

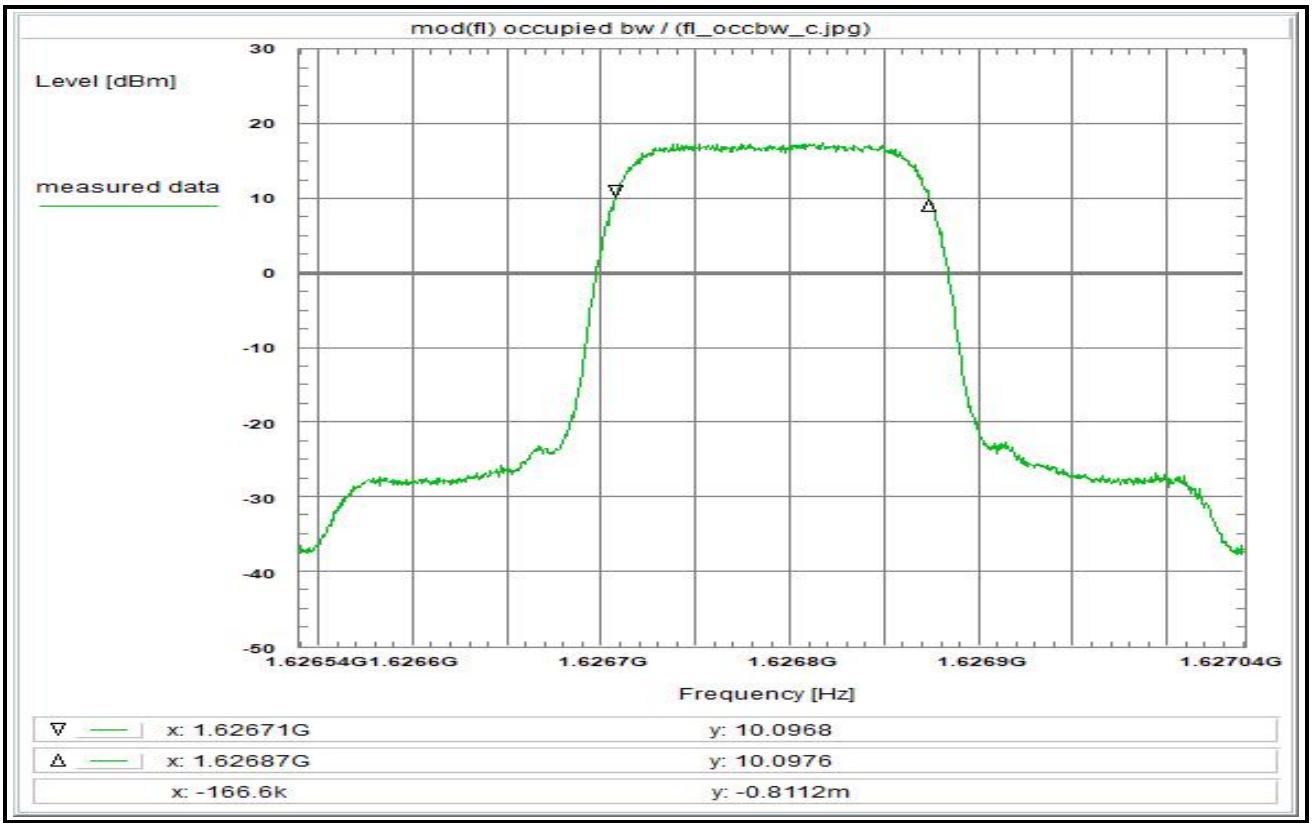
Start frequency:	1.62669	GHz
Stop frequency:	1.62689	GHz
Center frequency:	1.62679	GHz
Frequency span:	200	kHz
Resolution-BW:	3	kHz
Video-BW:	10	kHz
Input attenuation:	20	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor	+	0.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U312)	+	19.5	dB
Power Splitter + Cable	+	6.7	dB
TOTAL CORRECTION:	+	27.1	dB

Remarks:
Determination of the ´occupied bandwidth´ at fl:
The measured value is about 74.3 kHz (delta marker)

Plot No. 13 (70)



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

Limit:
The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 % of the total mean power radiated by a given emission. (see §2.1049).

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

Operating condition of DUT:
operating condition 1, fl, see test report, operating conditions
modulation scheme R20T45Q

Test setup:
see test report chapter 6.x: hgj

Test equipment:
see test report chapter 6.x: C220, R001, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Fri 29/Nov/2019 10:09:50	
Location:	CTC advanced GmbH, Laboratory RCE-Sat	
Temperature:	22	°C
Humidity:	45	%
Voltage:	24	Vdc

Setup of measurement equipment:

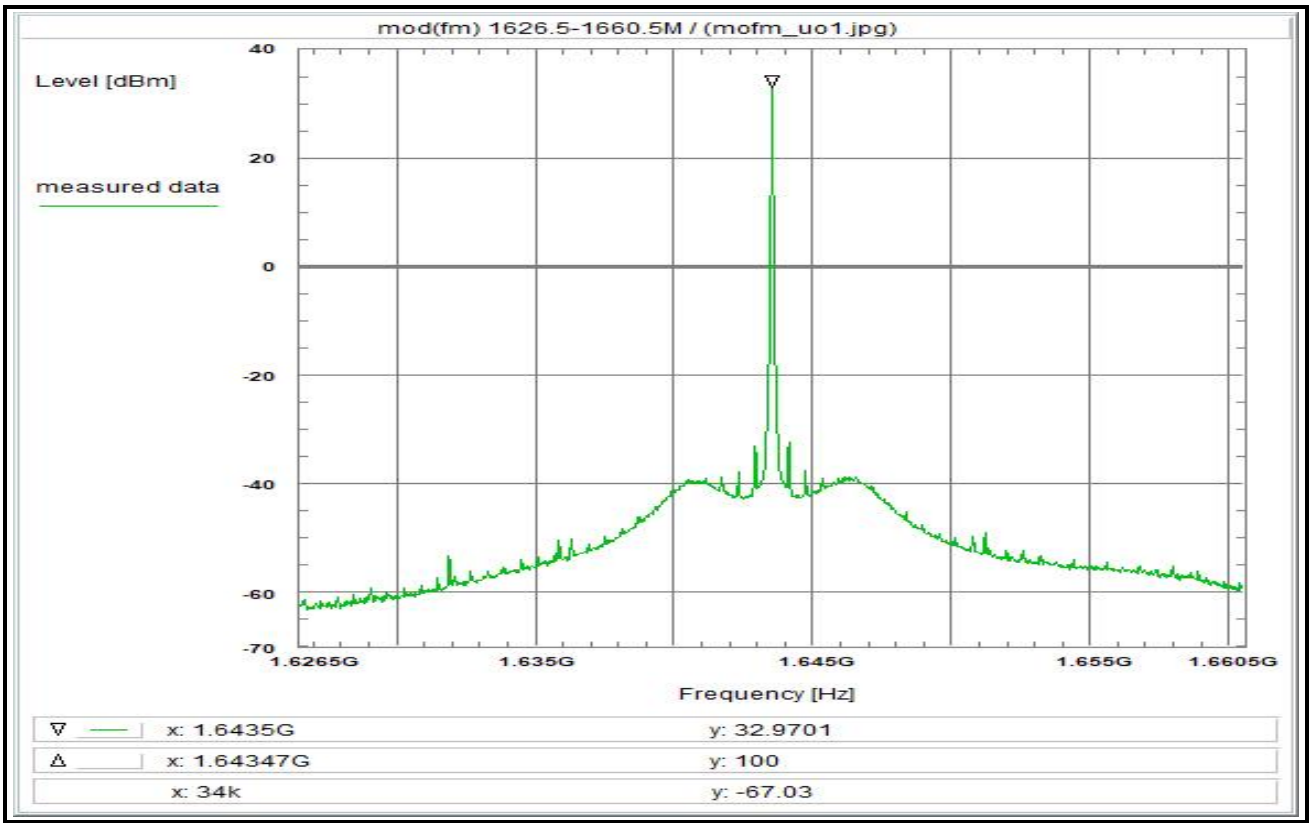
Start frequency:	1.62654	GHz
Stop frequency:	1.62704	GHz
Center frequency:	1.62679	GHz
Frequency span:	500	kHz
Resolution-BW:	10	kHz
Video-BW:	10	kHz
Input attenuation:	20	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor (10k -> 3k)	-	5.2	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U312)	+	19.5	dB
Power Splitter + Cable	+	6.7	dB
TOTAL CORRECTION:	+	21.9	dB

Remarks:
Determination of the ´occupied bandwidth´ at fl:
The measured value is about 166.6 kHz (delta marker)

Plot No. 14 (70)



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, fm, see test report, operating conditions
modulation scheme R20T05Q

Test setup:
see test report chapter 6.x: hfgj

Test equipment:
see test report chapter 6.x: C220, R001, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Thu 28/Nov/2019 11:42:30	
Location:	CTC advanced GmbH, Laboratory RCE-Sat	
Temperature:	22	°C
Humidity:	45	%
Voltage:	24	Vdc

Setup of measurement equipment:

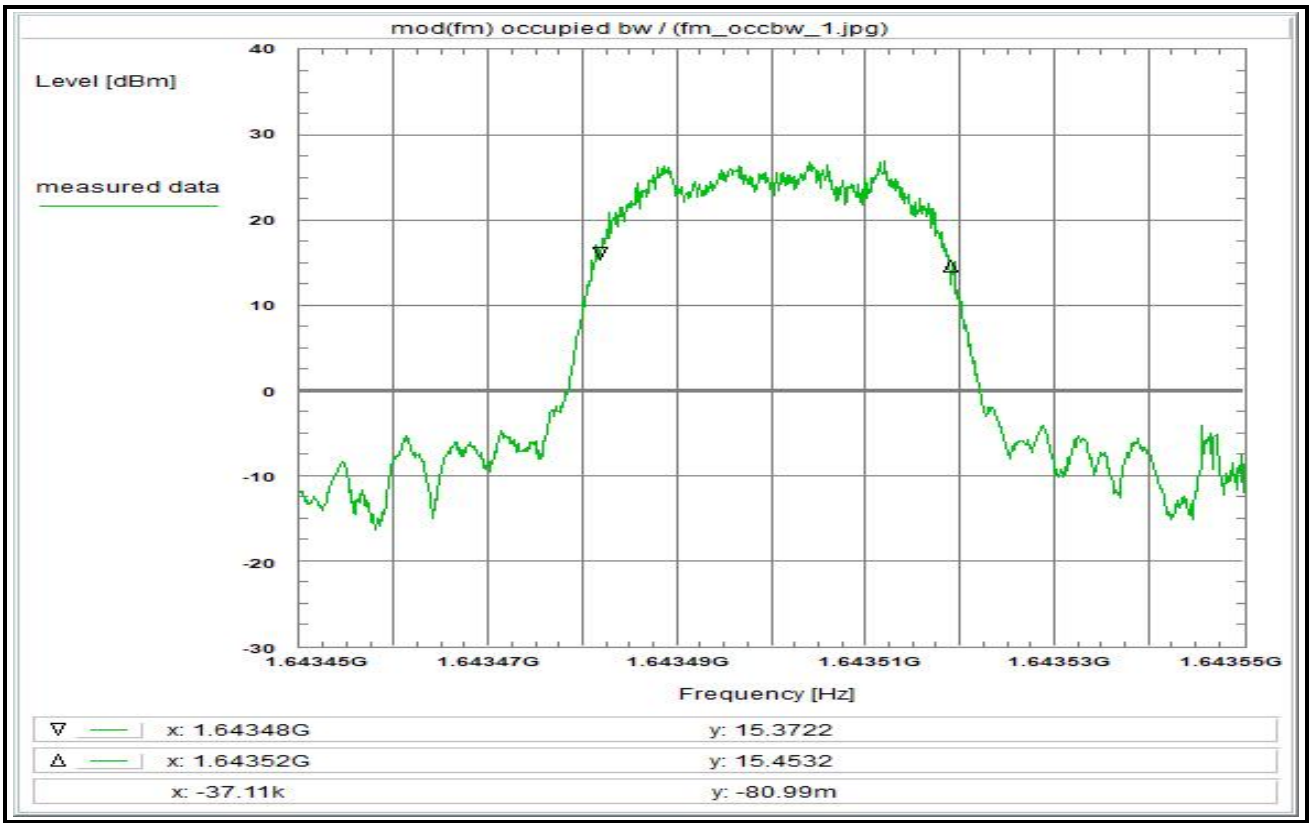
Start frequency:	1.6265	GHz
Stop frequency:	1.6605	GHz
Center frequency:	1.6435	GHz
Frequency span:	34	MHz
Resolution-BW:	30	kHz
Video-BW:	100	kHz
Input attenuation:	20	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable	+	0.9	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor	+	0.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U312)	+	19.5	dB
TOTAL CORRECTION:	+	27.1	dB

Remarks:
Test of general function of the EUT and measurement for orientation.

Plot No. 15 (70)



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

Limit:
The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 % of the total mean power radiated by a given emission. (see §2.1049).

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

Operating condition of DUT:
operating condition 1, fm, see test report, operating conditions
modulation scheme R5T1X

Test setup:
see test report chapter 6.x: hgj

Test equipment:
see test report chapter 6.x: C220, R001, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Thu 28/Nov/2019 15:59:46	
Location:	CTC advanced GmbH, Laboratory RCE-Sat	
Temperature:	22	°C
Humidity:	45	%
Voltage:	24	Vdc

Setup of measurement equipment:

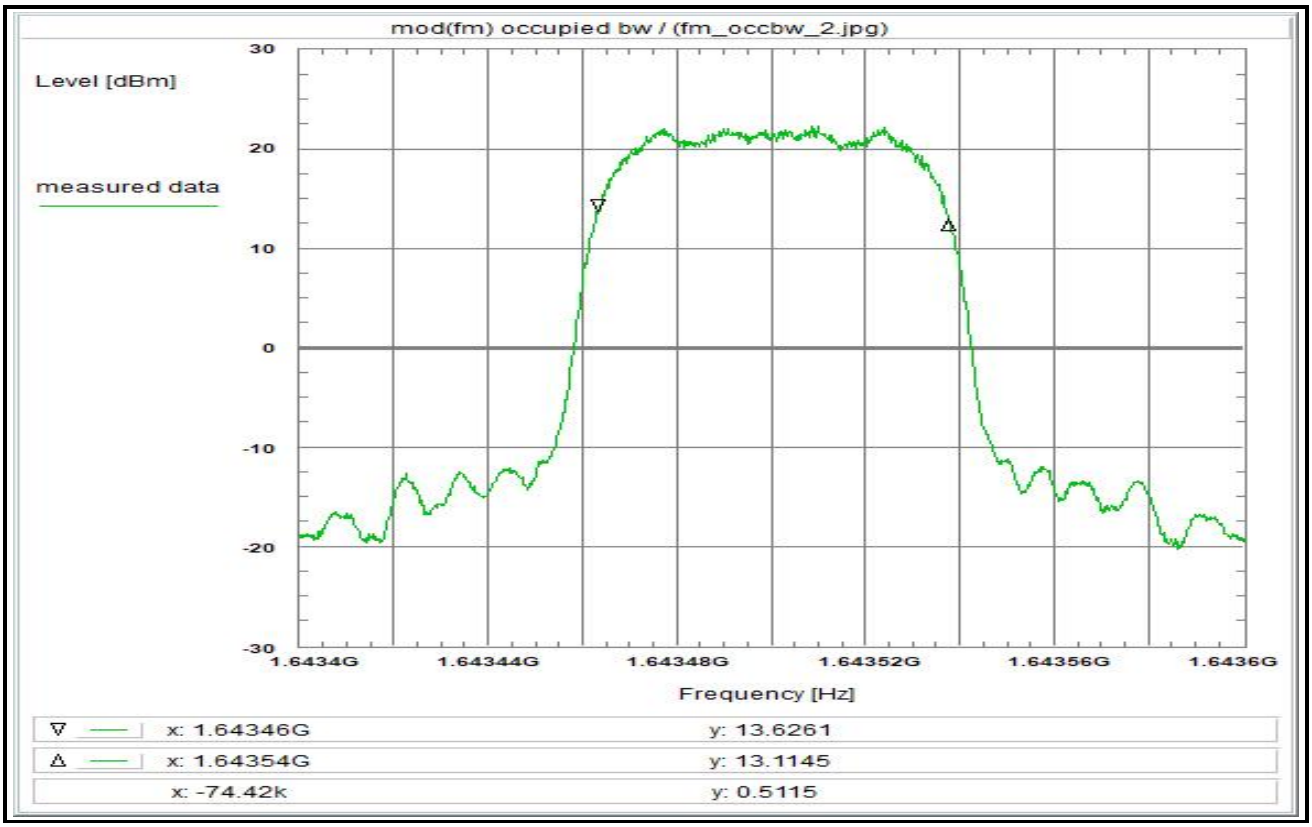
Start frequency:	1.64345	GHz
Stop frequency:	1.64355	GHz
Center frequency:	1.6435	GHz
Frequency span:	100	kHz
Resolution-BW:	1	kHz
Video-BW:	10	kHz
Input attenuation:	20	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor (1k -> 3k)	+	4.8	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U312)	+	19.5	dB
Power Splitter + Cable	+	6.7	dB
TOTAL CORRECTION:	+	31.9	dB

Remarks:
Determination of the ´occupied bandwidth´ at fm:
The measured value is about 37.1 kHz (delta marker)

Plot No. 16 (70)



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

Limit:
The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 % of the total mean power radiated by a given emission. (see §2.1049).

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

Operating condition of DUT:
operating condition 1, fm, see test report, operating conditions
modulation scheme R5T2X

Test setup:
see test report chapter 6.x: hgj

Test equipment:
see test report chapter 6.x: C220, R001, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Thu 28/Nov/2019 16:08:12	
Location:	CTC advanced GmbH, Laboratory RCE-Sat	
Temperature:	22	°C
Humidity:	45	%
Voltage:	24	Vdc

Setup of measurement equipment:

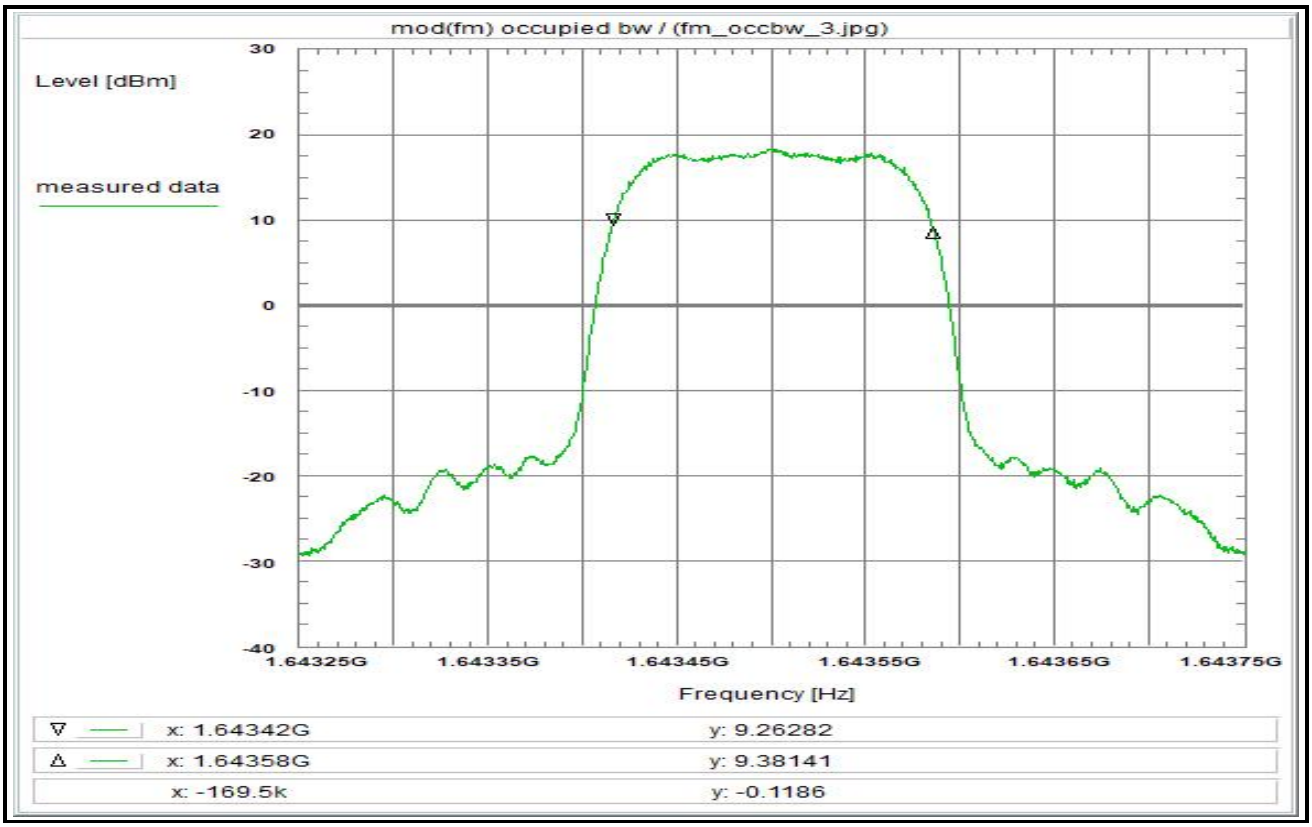
Start frequency:	1.6434	GHz
Stop frequency:	1.6436	GHz
Center frequency:	1.6435	GHz
Frequency span:	200	kHz
Resolution-BW:	3	kHz
Video-BW:	10	kHz
Input attenuation:	20	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor	+	0.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U312)	+	19.5	dB
Power Splitter + Cable	+	6.7	dB
TOTAL CORRECTION:	+	27.1	dB

Remarks:
Determination of the ´occupied bandwidth´ at fm:
The measured value is about 74.4 kHz (delta marker)

Plot No. 17 (70)



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

Limit:
The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 % of the total mean power radiated by a given emission. (see §2.1049).

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

Operating condition of DUT:
operating condition 1, fm, see test report, operating conditions
modulation scheme R5T45X

Test setup:
see test report chapter 6.x: hgj

Test equipment:
see test report chapter 6.x: C220, R001, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Thu 28/Nov/2019 16:12:23	
Location:	CTC advanced GmbH, Laboratory RCE-Sat	
Temperature:	22	°C
Humidity:	45	%
Voltage:	24	Vdc

Setup of measurement equipment:

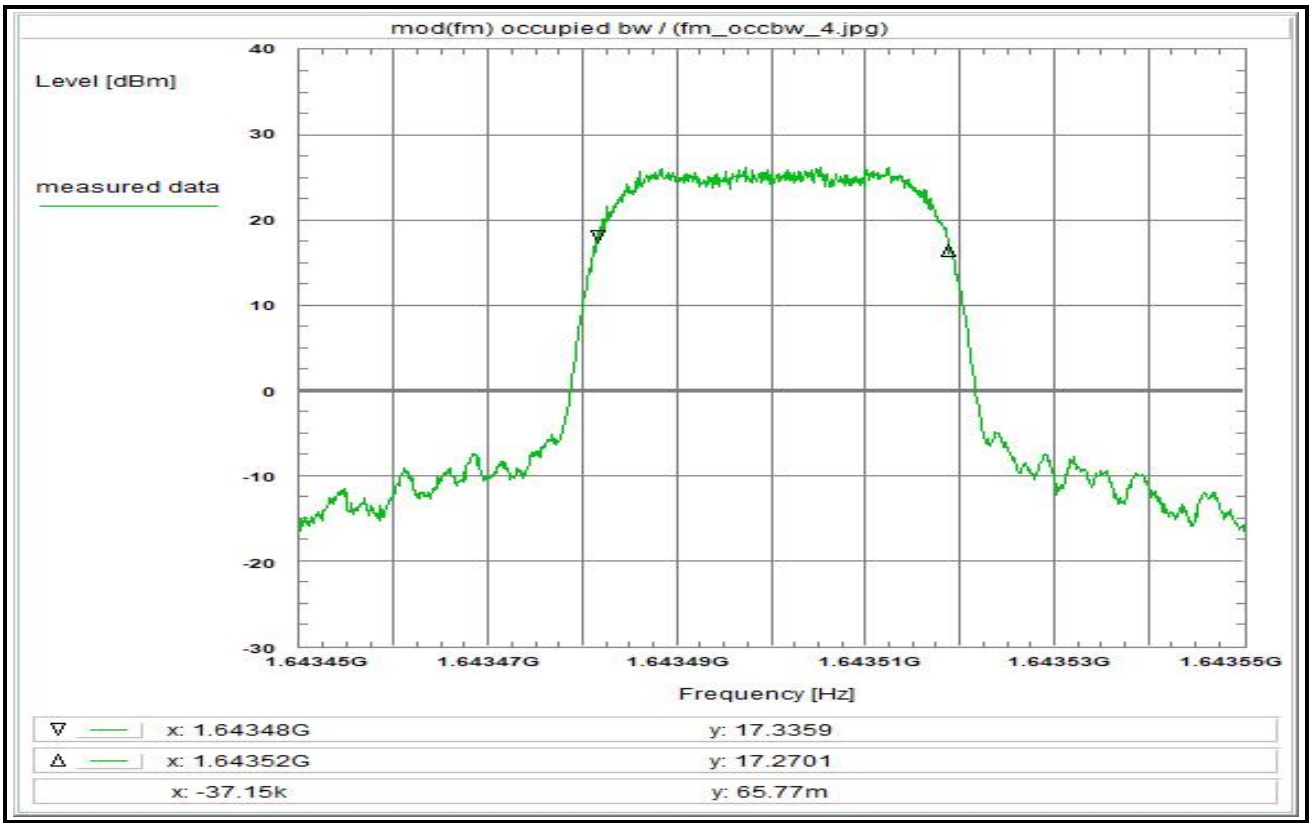
Start frequency:	1.64325	GHz
Stop frequency:	1.64375	GHz
Center frequency:	1.6435	GHz
Frequency span:	500	kHz
Resolution-BW:	10	kHz
Video-BW:	30	kHz
Input attenuation:	20	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor (10k -> 3k)	-	5.2	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U312)	+	19.5	dB
Power Splitter + Cable	+	6.7	dB
TOTAL CORRECTION:	+	21.9	dB

Remarks:
Determination of the ´occupied bandwidth´ at fm:
The measured value is about 169.5 kHz (delta marker)
Measurement with 10 kHz resolution filter and RMS detector.

Plot No. 18 (70)



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

Limit:
The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 % of the total mean power radiated by a given emission. (see §2.1049).

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

Operating condition of DUT:
operating condition 1, fm, see test report, operating conditions
modulation scheme R20T1X

Test setup:
see test report chapter 6.x: hgj

Test equipment:
see test report chapter 6.x: C220, R001, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Thu 28/Nov/2019 16:18:07	
Location:	CTC advanced GmbH, Laboratory RCE-Sat	
Temperature:	22	°C
Humidity:	45	%
Voltage:	24	Vdc

Setup of measurement equipment:

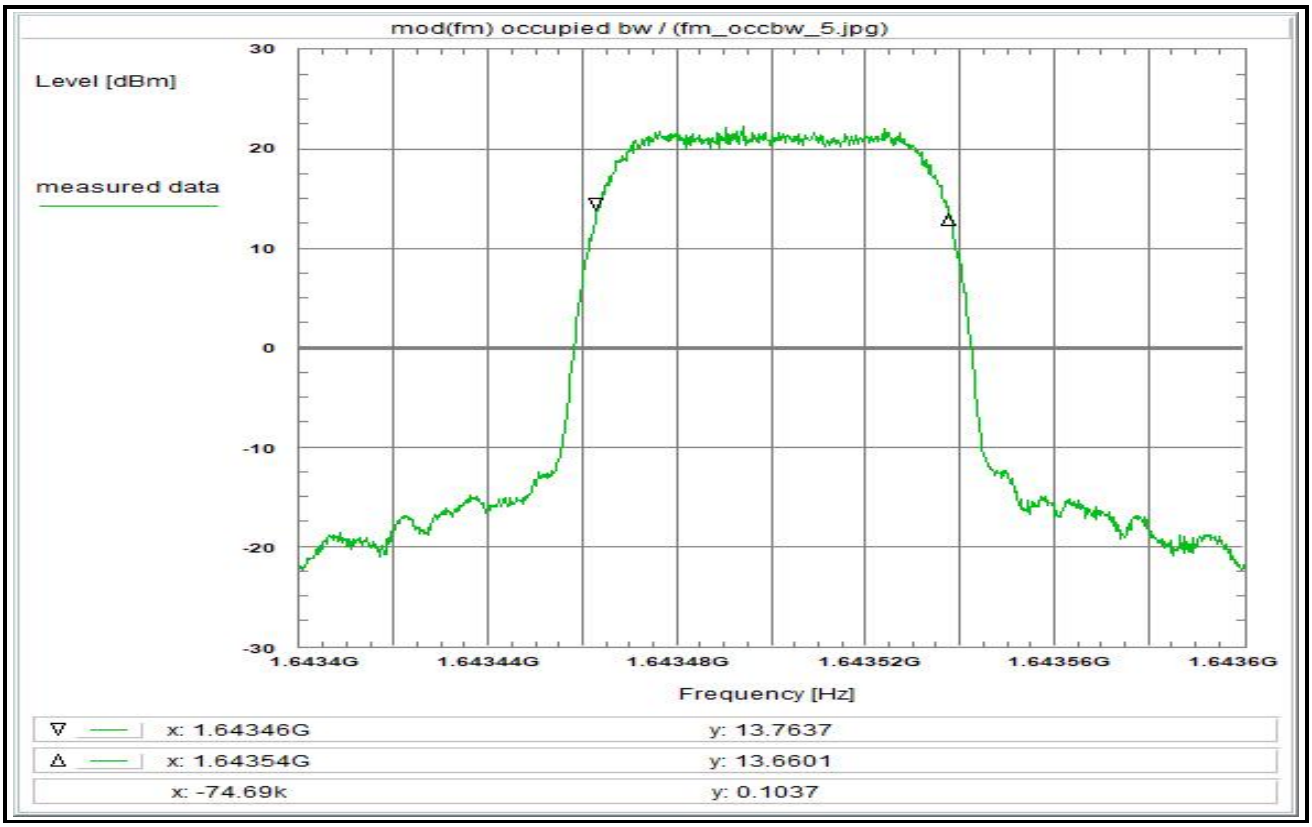
Start frequency:	1.64345	GHz
Stop frequency:	1.64355	GHz
Center frequency:	1.6435	GHz
Frequency span:	100	kHz
Resolution-BW:	1	kHz
Video-BW:	3	kHz
Input attenuation:	20	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor (1k -> 3k)	+	4.8	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U312)	+	19.5	dB
Power Splitter + Cable	+	6.7	dB
TOTAL CORRECTION:	+	31.9	dB

Remarks:
Determination of the ´occupied bandwidth´ at fm:
The measured value is about 37.2 kHz (delta marker)

Plot No. 19 (70)



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

Limit:
The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 % of the total mean power radiated by a given emission. (see §2.1049).

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

Operating condition of DUT:
operating condition 1, fm, see test report, operating conditions
modulation scheme R20T2X

Test setup:
see test report chapter 6.x: hgj

Test equipment:
see test report chapter 6.x: C220, R001, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Thu 28/Nov/2019 16:27:08	
Location:	CTC advanced GmbH, Laboratory RCE-Sat	
Temperature:	22	°C
Humidity:	45	%
Voltage:	24	Vdc

Setup of measurement equipment:

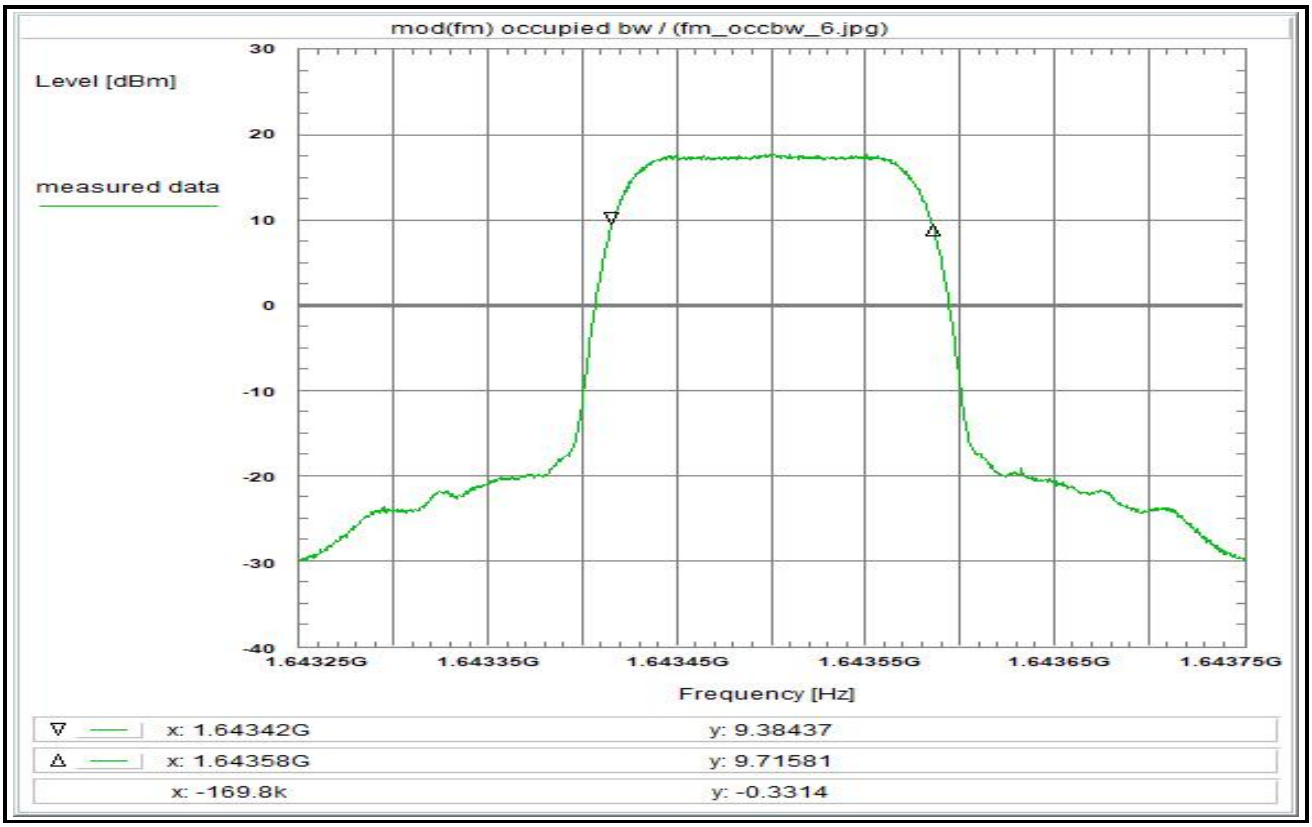
Start frequency:	1.6434	GHz
Stop frequency:	1.6436	GHz
Center frequency:	1.6435	GHz
Frequency span:	200	kHz
Resolution-BW:	3	kHz
Video-BW:	3	kHz
Input attenuation:	20	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor	+	0.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U312)	+	19.5	dB
Power Splitter + Cable	+	6.7	dB
TOTAL CORRECTION:	+	27.1	dB

Remarks:
Determination of the ´occupied bandwidth´ at fm:
The measured value is about 74.7 kHz (delta marker)

Plot No. 20 (70)



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

Limit:
The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 % of the total mean power radiated by a given emission. (see §2.1049).

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

Operating condition of DUT:
operating condition 1, fm, see test report, operating conditions
modulation scheme R20T45X

Test setup:
see test report chapter 6.x: hgj

Test equipment:
see test report chapter 6.x: C220, R001, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Thu 28/Nov/2019 16:38:53	
Location:	CTC advanced GmbH, Laboratory RCE-Sat	
Temperature:	22	°C
Humidity:	45	%
Voltage:	24	Vdc

Setup of measurement equipment:

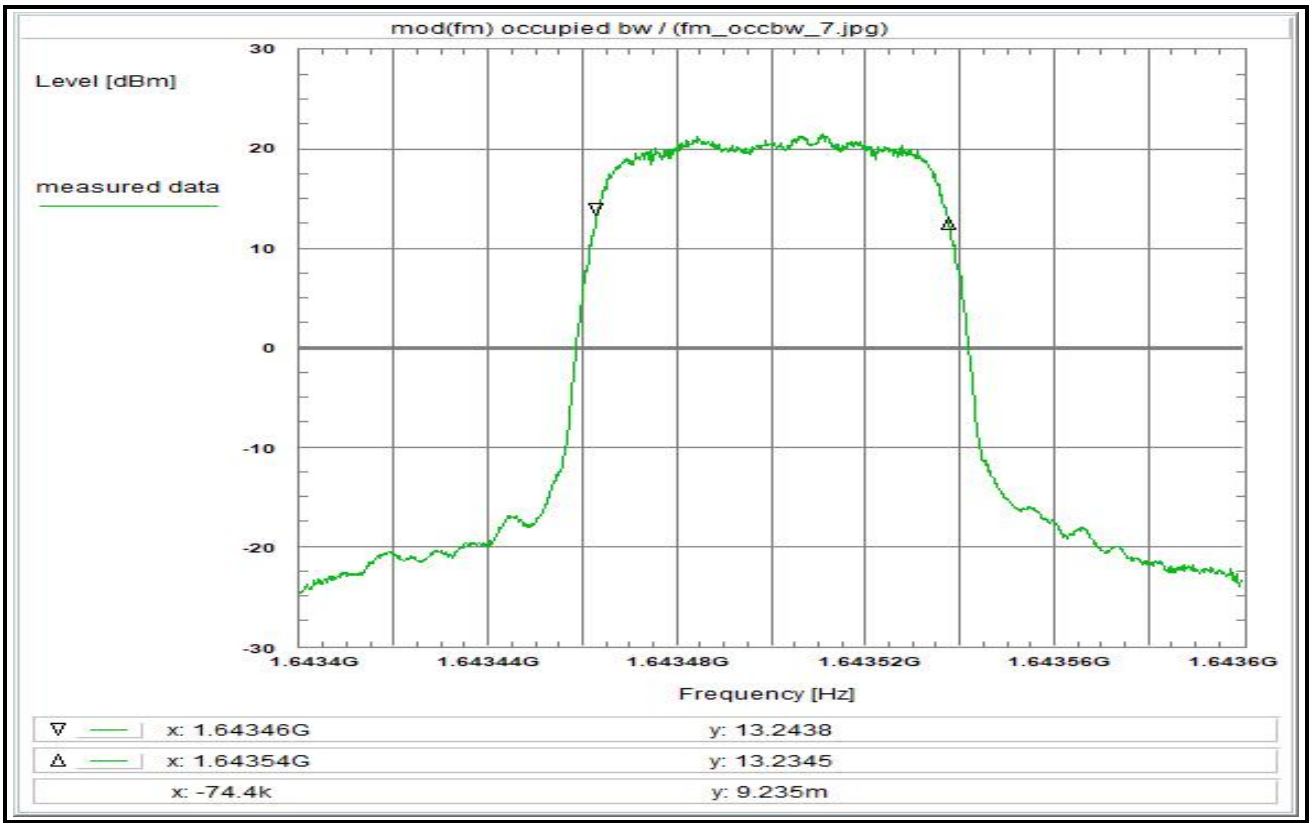
Start frequency:	1.64325	GHz
Stop frequency:	1.64375	GHz
Center frequency:	1.6435	GHz
Frequency span:	500	kHz
Resolution-BW:	10	kHz
Video-BW:	1	kHz
Input attenuation:	20	dB
Trace-Mode:	Average	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor (10k -> 3k)	-	5.2	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U312)	+	19.5	dB
Power Splitter + Cable	+	6.7	dB
TOTAL CORRECTION:	+	21.9	dB

Remarks:
Determination of the ´occupied bandwidth´ at fm:
The measured value is about 169.8 kHz (delta marker)

Plot No. 21 (70)



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

Limit:
The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 % of the total mean power radiated by a given emission. (see §2.1049).

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

Operating condition of DUT:
operating condition 1, fm, see test report, operating conditions
modulation scheme R5T2Q

Test setup:
see test report chapter 6.x: hgj

Test equipment:
see test report chapter 6.x: C220, R001, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Thu 28/Nov/2019 16:46:10	
Location:	CTC advanced GmbH, Laboratory RCE-Sat	
Temperature:	22	°C
Humidity:	45	%
Voltage:	24	Vdc

Setup of measurement equipment:

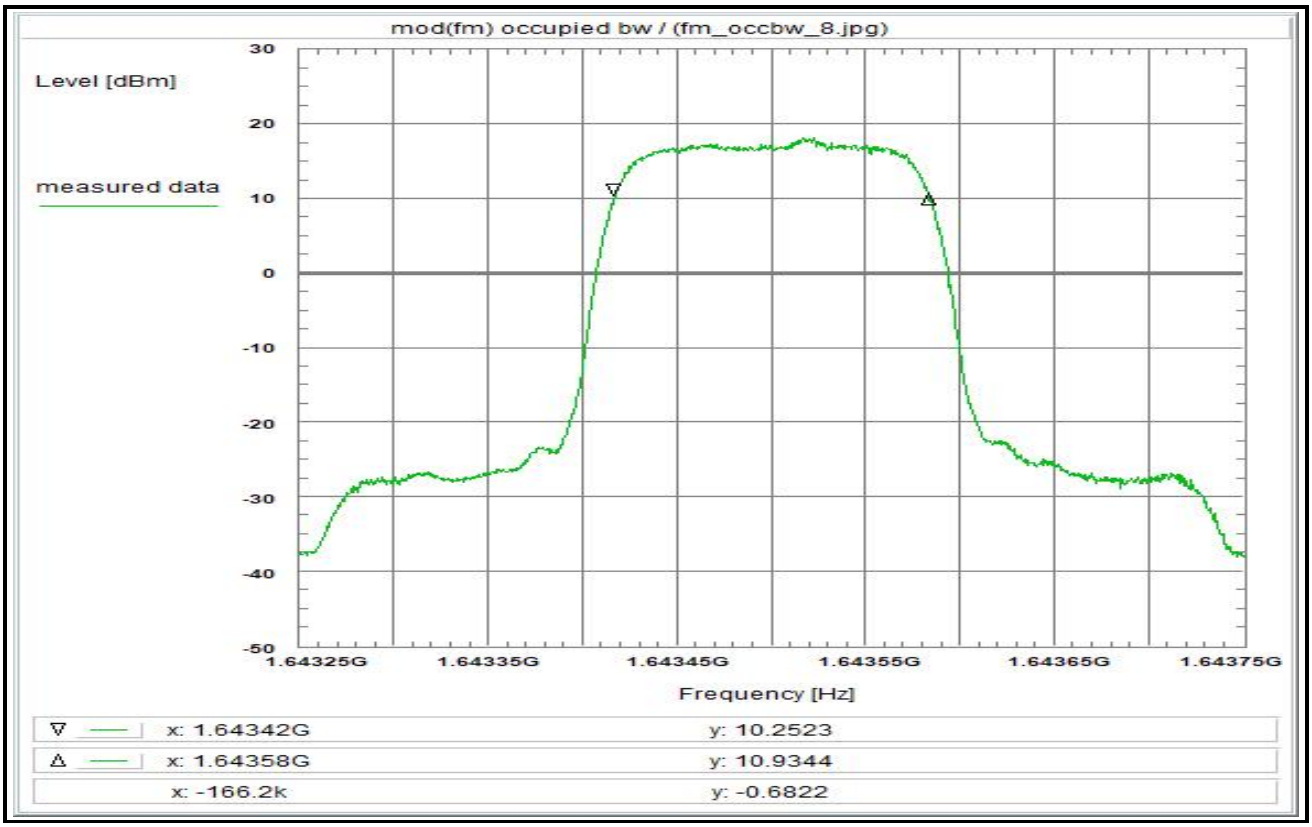
Start frequency:	1.6434	GHz
Stop frequency:	1.6436	GHz
Center frequency:	1.6435	GHz
Frequency span:	200	kHz
Resolution-BW:	3	kHz
Video-BW:	300	Hz
Input attenuation:	20	dB
Trace-Mode:	Average	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor	+	0.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U312)	+	19.5	dB
Power Splitter + Cable	+	6.7	dB
TOTAL CORRECTION:	+	27.1	dB

Remarks:
Determination of the ´occupied bandwidth´ at fm:
The measured value is about 74.4 kHz (delta marker)

Plot No. 22 (70)



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

Limit:
The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 % of the total mean power radiated by a given emission. (see §2.1049).

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

Operating condition of DUT:
operating condition 1, fm, see test report, operating conditions
modulation scheme R5T45Q

Test setup:
see test report chapter 6.x: hgj

Test equipment:
see test report chapter 6.x: C220, R001, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Thu 28/Nov/2019 16:50:00	
Location:	CTC advanced GmbH, Laboratory RCE-Sat	
Temperature:	22	°C
Humidity:	45	%
Voltage:	24	Vdc

Setup of measurement equipment:

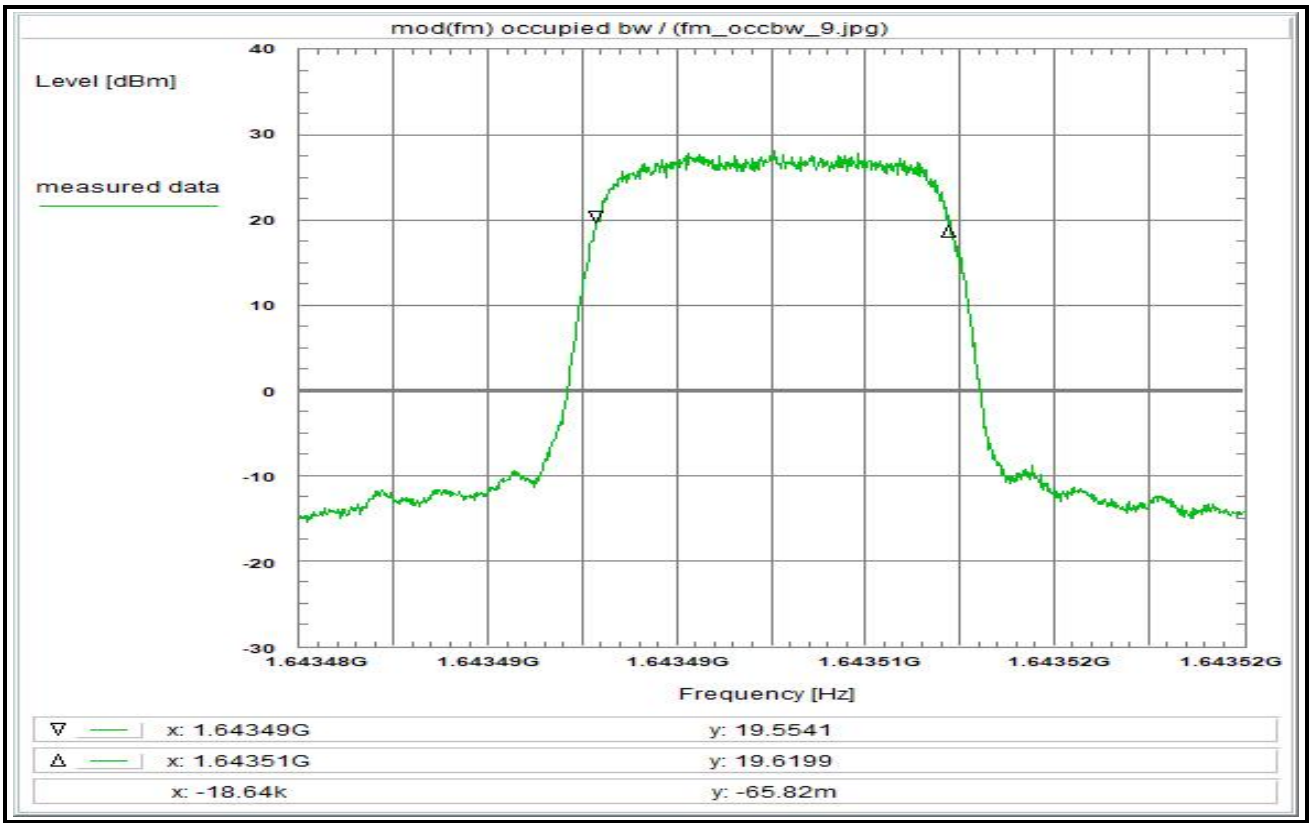
Start frequency:	1.64325	GHz
Stop frequency:	1.64375	GHz
Center frequency:	1.6435	GHz
Frequency span:	500	kHz
Resolution-BW:	10	kHz
Video-BW:	1	kHz
Input attenuation:	20	dB
Trace-Mode:	Average	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor (10k -> 3k)	-	5.2	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U312)	+	19.5	dB
Power Splitter + Cable	+	6.7	dB
TOTAL CORRECTION:	+	21.9	dB

Remarks:
Determination of the ´occupied bandwidth´ at fm:
The measured value is about 166.2 kHz (delta marker)

Plot No. 23 (70)



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

Limit:
The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 % of the total mean power radiated by a given emission. (see §2.1049).

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

Operating condition of DUT:
operating condition 1, fm, see test report, operating conditions
modulation scheme R20T05Q

Test setup:
see test report chapter 6.x: hgj

Test equipment:
see test report chapter 6.x: C220, R001, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Thu 28/Nov/2019 16:56:31	
Location:	CTC advanced GmbH, Laboratory RCE-Sat	
Temperature:	22	°C
Humidity:	45	%
Voltage:	24	Vdc

Setup of measurement equipment:

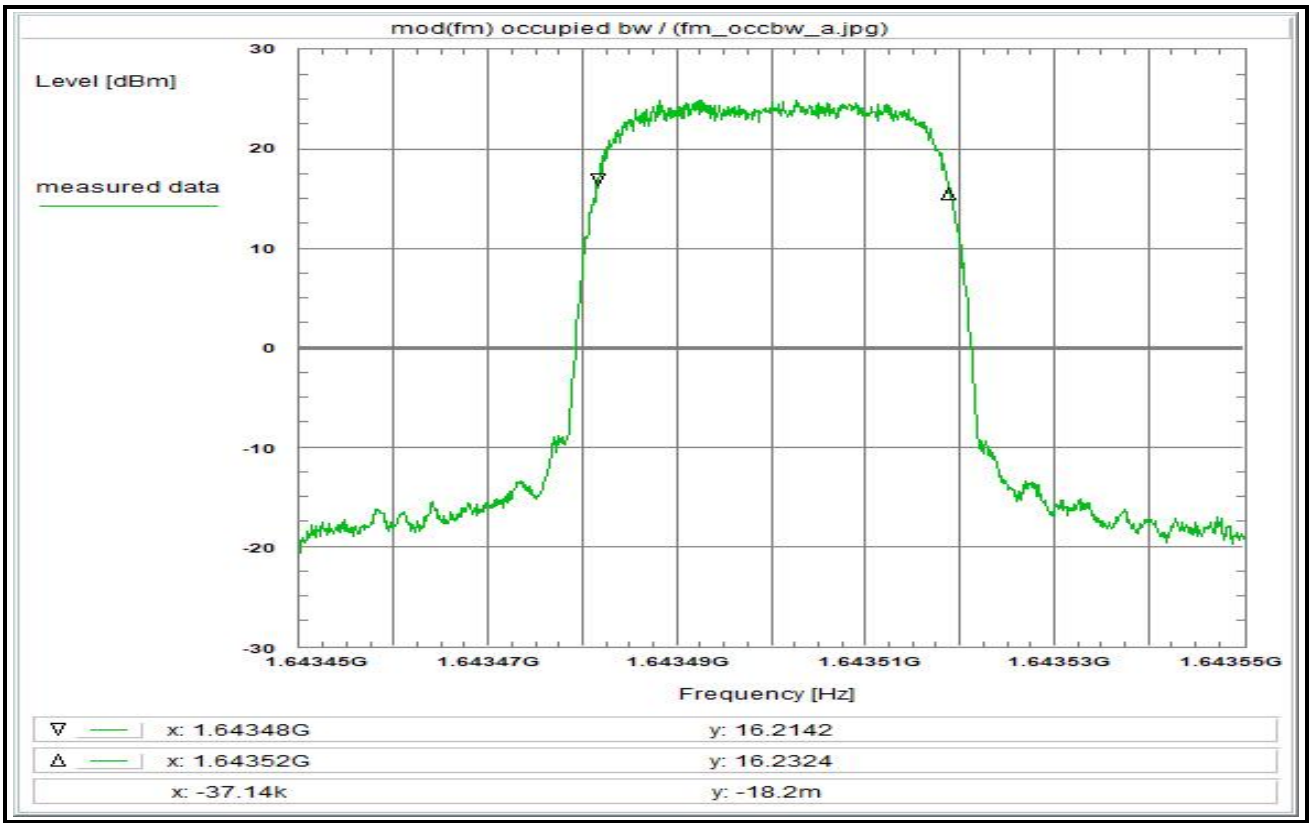
Start frequency:	1.643475	GHz
Stop frequency:	1.643525	GHz
Center frequency:	1.6435	GHz
Frequency span:	50	kHz
Resolution-BW:	1	kHz
Video-BW:	100	Hz
Input attenuation:	20	dB
Trace-Mode:	Average	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor (1k -> 3k)	+	4.8	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U312)	+	19.5	dB
Power Splitter + Cable	+	6.7	dB
TOTAL CORRECTION:	+	31.9	dB

Remarks:
Determination of the ´occupied bandwidth´ at fm:
The measured value is about 18.6 kHz (delta marker)

Plot No. 24 (70)



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

Limit:
The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 % of the total mean power radiated by a given emission. (see §2.1049).

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

Operating condition of DUT:
operating condition 1, fm, see test report, operating conditions
modulation scheme R20T1Q

Test setup:
see test report chapter 6.x: hgj

Test equipment:
see test report chapter 6.x: C220, R001, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Thu 28/Nov/2019 17:00:27	
Location:	CTC advanced GmbH, Laboratory RCE-Sat	
Temperature:	22	°C
Humidity:	45	%
Voltage:	24	Vdc

Setup of measurement equipment:

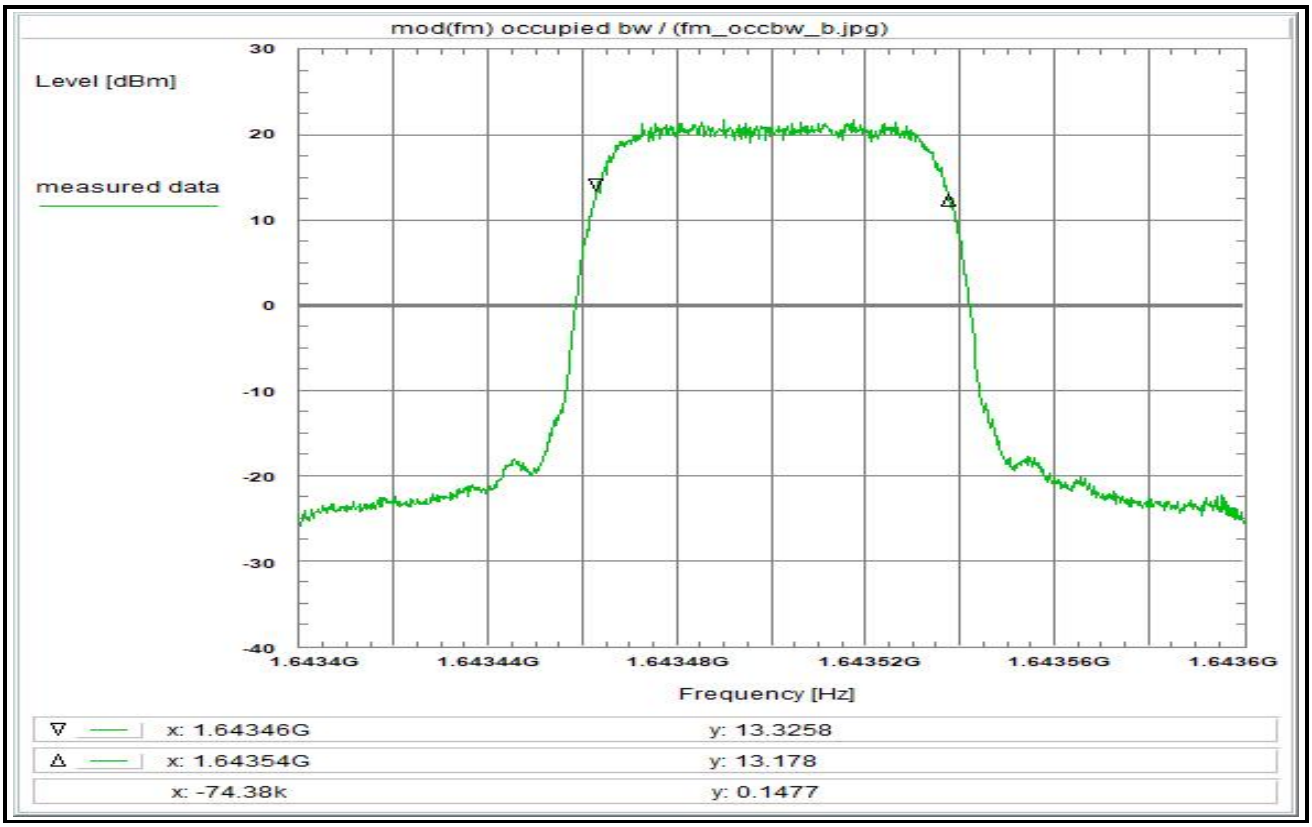
Start frequency:	1.64345	GHz
Stop frequency:	1.64355	GHz
Center frequency:	1.6435	GHz
Frequency span:	100	kHz
Resolution-BW:	1	kHz
Video-BW:	100	Hz
Input attenuation:	20	dB
Trace-Mode:	Average	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor (1k -> 3k)	+	4.8	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U312)	+	19.5	dB
Power Splitter + Cable	+	6.7	dB
TOTAL CORRECTION:	+	31.9	dB

Remarks:
Determination of the ´occupied bandwidth´ at fm:
The measured value is about 37.1 kHz (delta marker)

Plot No. 25 (70)



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

Limit:
The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 % of the total mean power radiated by a given emission. (see §2.1049).

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

Operating condition of DUT:
operating condition 1, fm, see test report, operating conditions
modulation scheme R20T2Q

Test setup:
see test report chapter 6.x: hgj

Test equipment:
see test report chapter 6.x: C220, R001, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Thu 28/Nov/2019 17:04:22	
Location:	CTC advanced GmbH, Laboratory RCE-Sat	
Temperature:	22	°C
Humidity:	45	%
Voltage:	24	Vdc

Setup of measurement equipment:

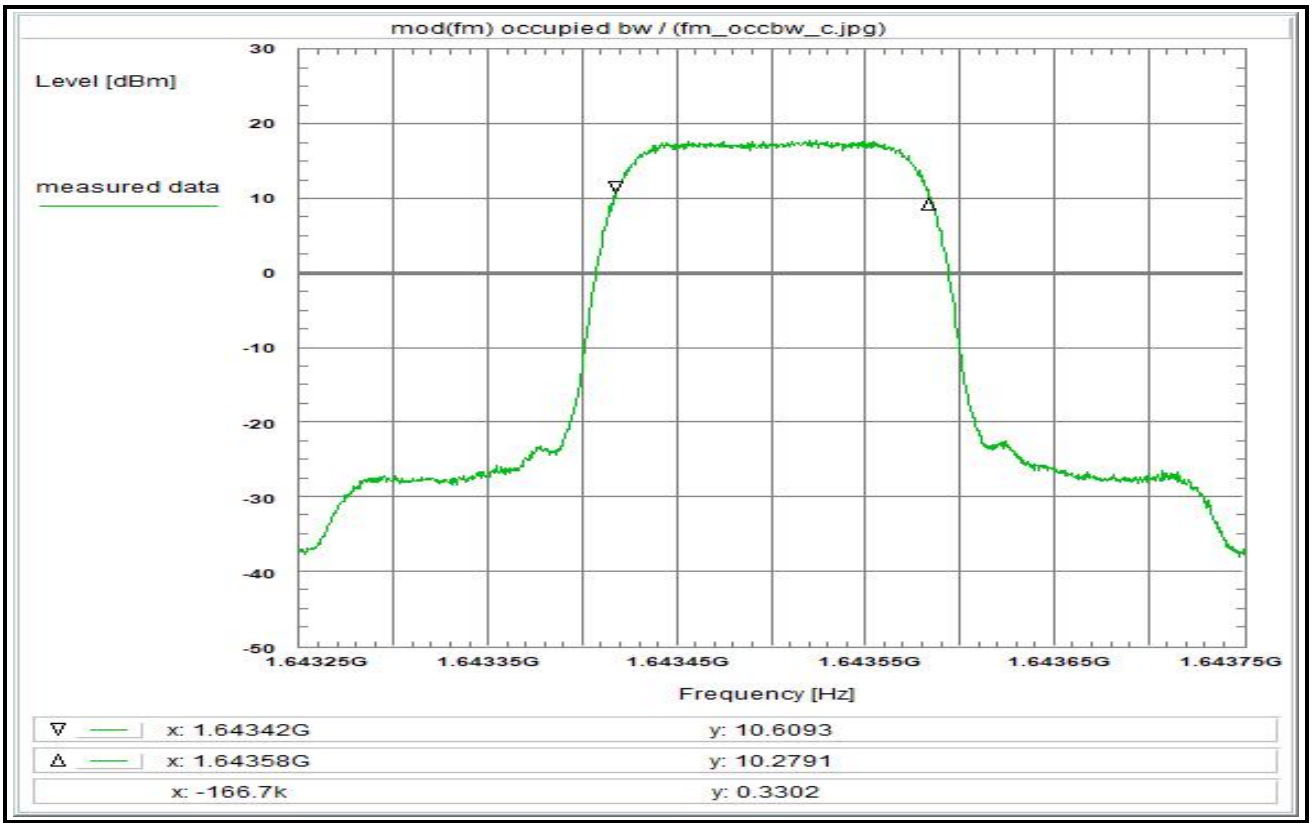
Start frequency:	1.6434	GHz
Stop frequency:	1.6436	GHz
Center frequency:	1.6435	GHz
Frequency span:	200	kHz
Resolution-BW:	3	kHz
Video-BW:	300	Hz
Input attenuation:	20	dB
Trace-Mode:	Average	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor	+	0.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U312)	+	19.5	dB
Power Splitter + Cable	+	6.7	dB
TOTAL CORRECTION:	+	27.1	dB

Remarks:
Determination of the ´occupied bandwidth´ at fm:
The measured value is about 74.4 kHz (delta marker)

Plot No. 26 (70)



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

Limit:
The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 % of the total mean power radiated by a given emission. (see §2.1049).

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

Operating condition of DUT:
operating condition 1, fm, see test report, operating conditions
modulation scheme R20T45Q

Test setup:
see test report chapter 6.x: hgj

Test equipment:
see test report chapter 6.x: C220, R001, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Thu 28/Nov/2019 17:09:56	
Location:	CTC advanced GmbH, Laboratory RCE-Sat	
Temperature:	22	°C
Humidity:	45	%
Voltage:	24	Vdc

Setup of measurement equipment:

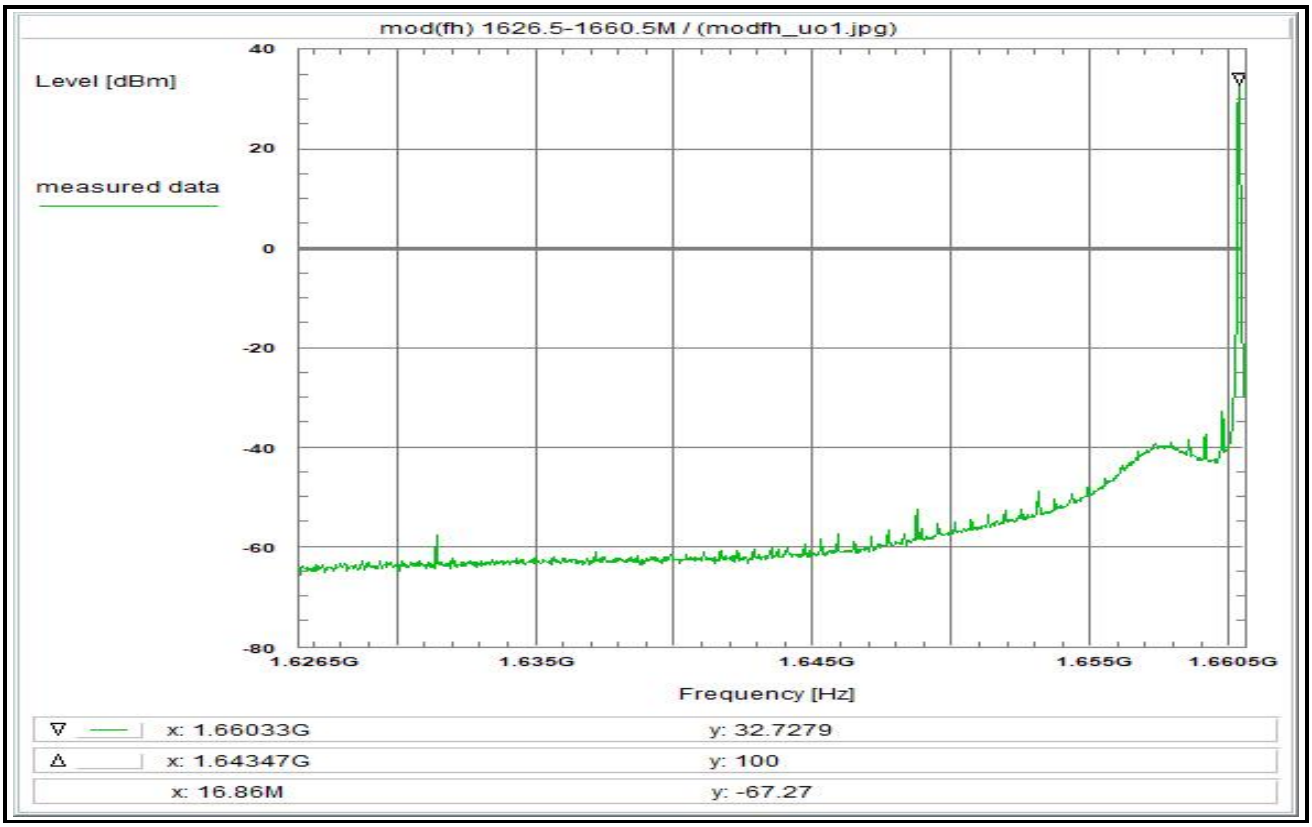
Start frequency:	1.64325	GHz
Stop frequency:	1.64375	GHz
Center frequency:	1.6435	GHz
Frequency span:	500	kHz
Resolution-BW:	10	kHz
Video-BW:	1	kHz
Input attenuation:	20	dB
Trace-Mode:	Average	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor (10k -> 3k)	-	5.2	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U312)	+	19.5	dB
Power Splitter + Cable	+	6.7	dB
TOTAL CORRECTION:	+	21.9	dB

Remarks:
Determination of the ´occupied bandwidth´ at fm:
The measured value is about 166.7 kHz (delta marker)

Plot No. 27 (70)



Subclause: -/- Function test
Modulated rf-carrier at the upper edge of the band (fh)
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 upper edge of the operating frequency band.

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

Operating condition of DUT:
operating condition 1, fh, see test report, operating conditions
modulation scheme R20T05Q

Test setup:
see test report chapter 6.x: hgj

Test equipment:
see test report chapter 6.x: C220, R001, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Thu 28/Nov/2019 11:46:50	
Location:	CTC advanced GmbH, Laboratory RCE-Sat	
Temperature:	22	°C
Humidity:	45	%
Voltage:	24	Vdc

Setup of measurement equipment:

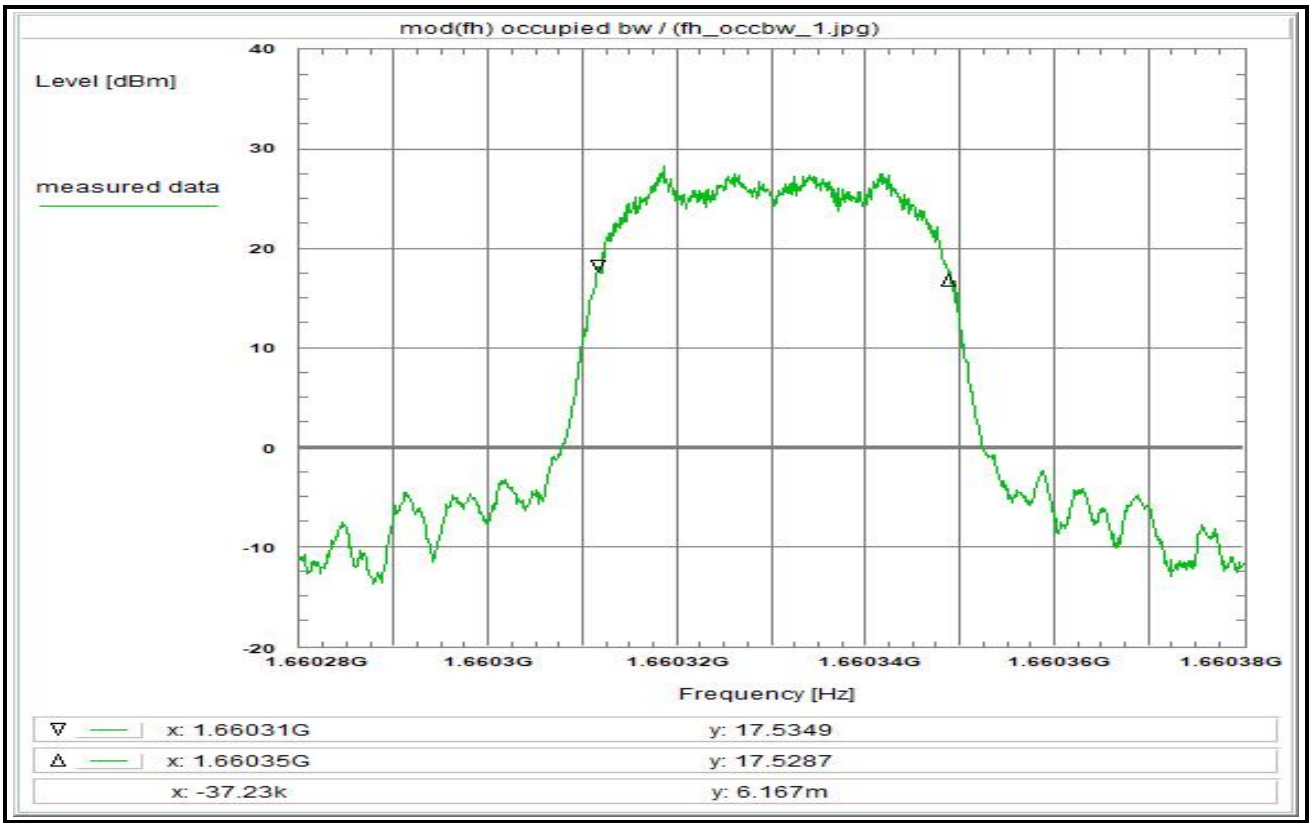
Start frequency:	1.6265	GHz
Stop frequency:	1.6605	GHz
Center frequency:	1.6435	GHz
Frequency span:	34	MHz
Resolution-BW:	30	kHz
Video-BW:	100	kHz
Input attenuation:	20	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable	+	0.9	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor	+	0.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U312)	+	19.5	dB
TOTAL CORRECTION:	+	27.1	dB

Remarks:
Test of general function of the EUT and measurement for orientation.

Plot No. 28 (70)



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

Limit:
The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 % of the total mean power radiated by a given emission. (see §2.1049).

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

Operating condition of DUT:
operating condition 1, fh, see test report, operating conditions
modulation scheme R5T1X

Test setup:
see test report chapter 6.x: hgj

Test equipment:
see test report chapter 6.x: C220, R001, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Fri 29/Nov/2019 10:21:26	
Location:	CTC advanced GmbH, Laboratory RCE-Sat	
Temperature:	22	°C
Humidity:	45	%
Voltage:	24	Vdc

Setup of measurement equipment:

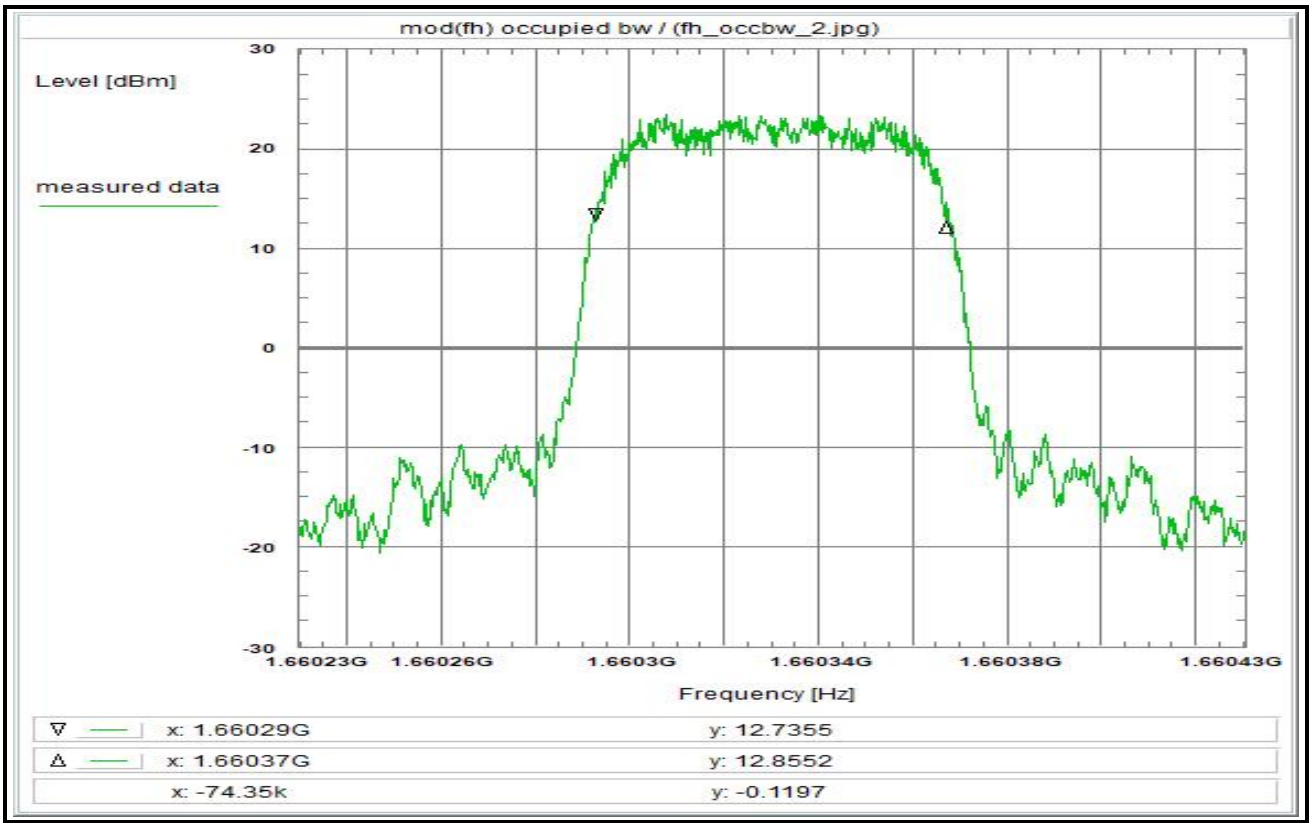
Start frequency:	1.66028	GHz
Stop frequency:	1.66038	GHz
Center frequency:	1.66033	GHz
Frequency span:	100	kHz
Resolution-BW:	1	kHz
Video-BW:	10	kHz
Input attenuation:	20	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor (1k -> 3k)	+	4.8	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U312)	+	19.5	dB
Power Splitter + Cable	+	6.7	dB
TOTAL CORRECTION:	+	31.9	dB

Remarks:
Determination of the ´occupied bandwidth´ at fh:
The measured value is about 37.2 kHz (delta marker)

Plot No. 29 (70)



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

Limit:
The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 % of the total mean power radiated by a given emission. (see §2.1049).

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

Operating condition of DUT:
operating condition 1, fh, see test report, operating conditions
modulation scheme R5T2X

Test setup:
see test report chapter 6.x: hgj

Test equipment:
see test report chapter 6.x: C220, R001, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Fri 29/Nov/2019 10:34:04
Location:	CTC advanced GmbH, Laboratory RCE-Sat
Temperature:	22 °C
Humidity:	45 %
Voltage:	24 Vdc

Setup of measurement equipment:

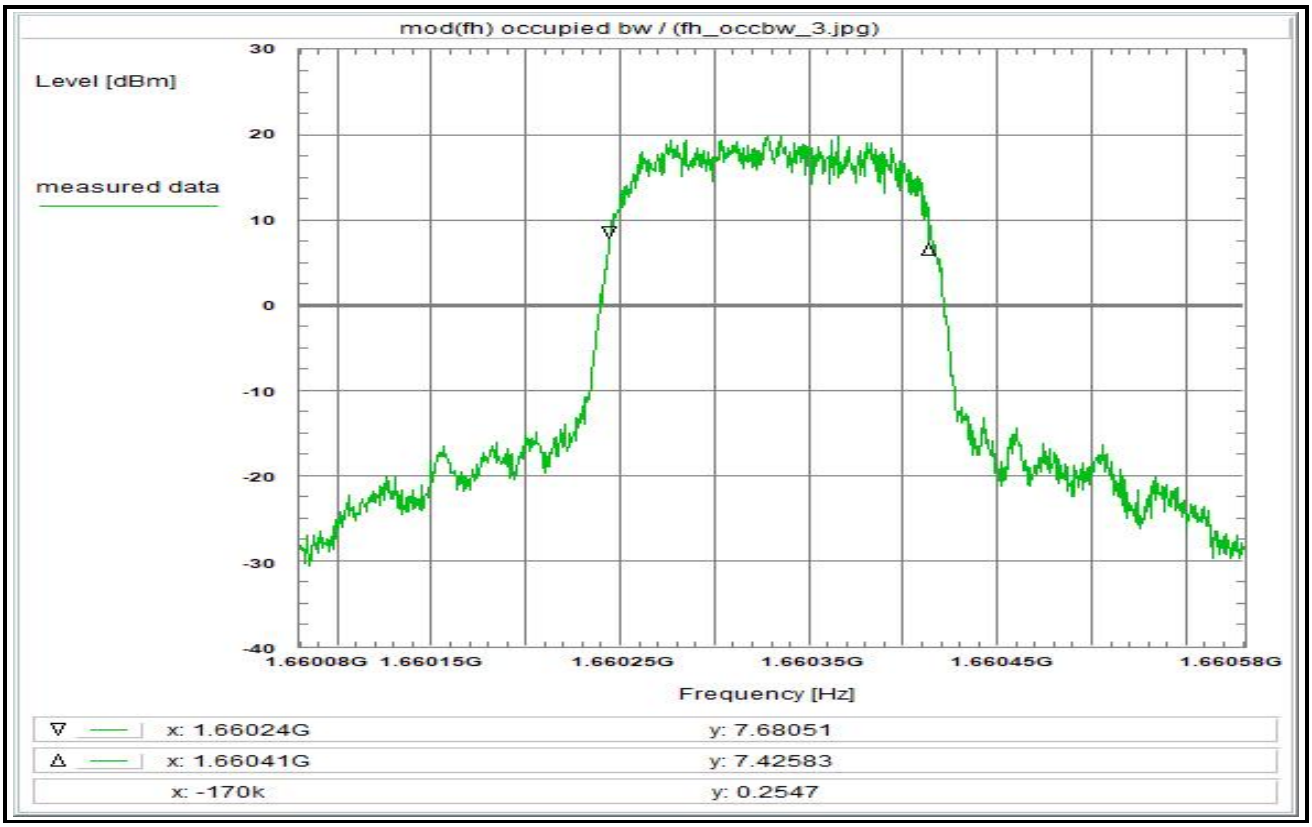
Start frequency:	1.66023	GHz
Stop frequency:	1.66043	GHz
Center frequency:	1.66033	GHz
Frequency span:	200	kHz
Resolution-BW:	1	kHz
Video-BW:	10	kHz
Input attenuation:	20	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor (1k -> 3k)	+	4.8	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U312)	+	19.5	dB
Power Splitter + Cable	+	6.7	dB
TOTAL CORRECTION:	+	31.9	dB

Remarks:
Determination of the ´occupied bandwidth´ at fh:
The measured value is about 74.4 kHz (delta marker)

Plot No. 30 (70)



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

Limit:
The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 % of the total mean power radiated by a given emission. (see §2.1049).

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

Operating condition of DUT:
operating condition 1, fh, see test report, operating conditions
modulation scheme R5T45X

Test setup:
see test report chapter 6.x: hgj

Test equipment:
see test report chapter 6.x: C220, R001, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Fri 29/Nov/2019 10:39:02	
Location:	CTC advanced GmbH, Laboratory RCE-Sat	
Temperature:	22	°C
Humidity:	45	%
Voltage:	24	Vdc

Setup of measurement equipment:

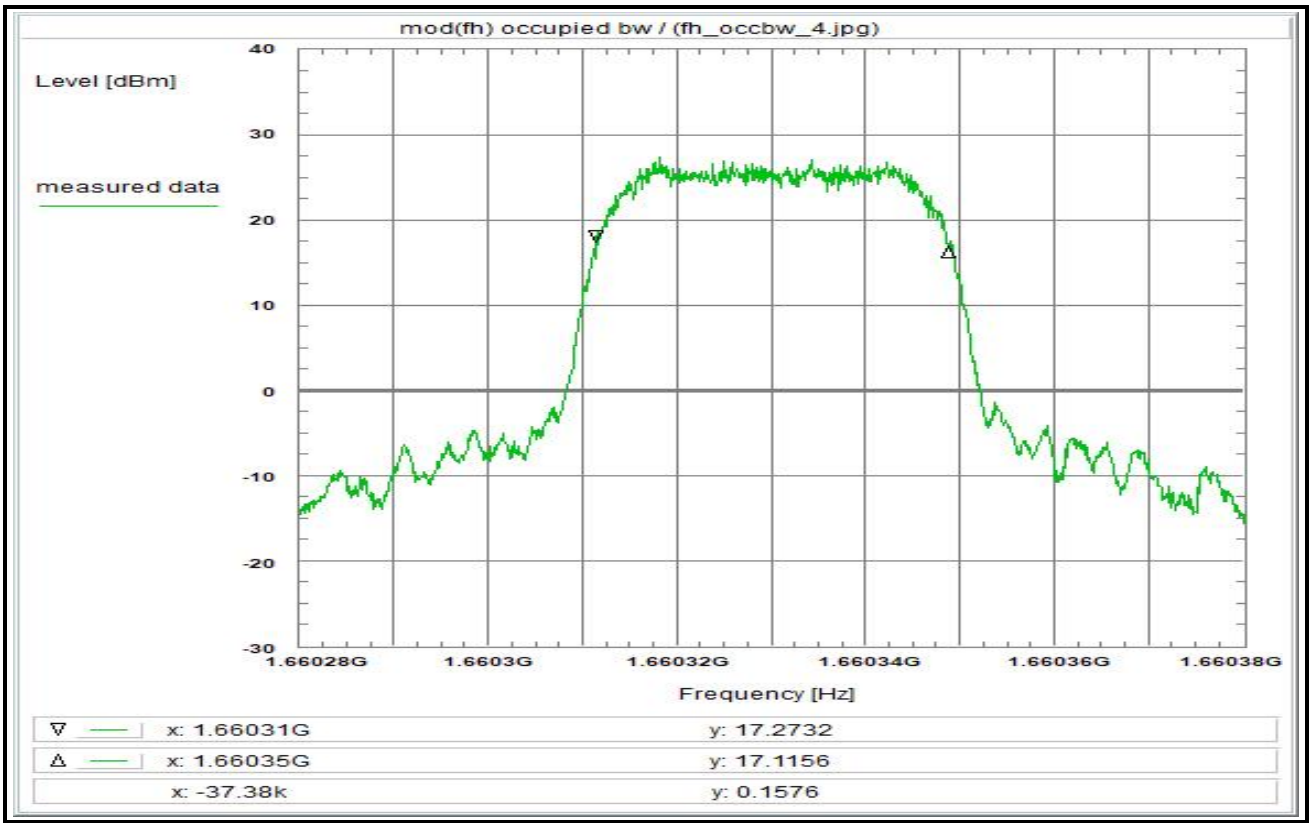
Start frequency:	1.66008	GHz
Stop frequency:	1.66058	GHz
Center frequency:	1.66033	GHz
Frequency span:	500	kHz
Resolution-BW:	1	kHz
Video-BW:	10	kHz
Input attenuation:	20	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor (1k -> 3k)	+	4.8	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U312)	+	19.5	dB
Power Splitter + Cable	+	6.7	dB
TOTAL CORRECTION:	+	31.9	dB

Remarks:
Determination of the ´occupied bandwidth´ at fh:
The measured value is about 169.5 kHz (delta marker)

Plot No. 31 (70)



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

Limit:
The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 % of the total mean power radiated by a given emission. (see §2.1049).

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

Operating condition of DUT:
operating condition 1, fh, see test report, operating conditions
modulation scheme R20T1X

Test setup:
see test report chapter 6.x: hgj

Test equipment:
see test report chapter 6.x: C220, R001, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Fri 29/Nov/2019 10:43:48	
Location:	CTC advanced GmbH, Laboratory RCE-Sat	
Temperature:	22	°C
Humidity:	45	%
Voltage:	24	Vdc

Setup of measurement equipment:

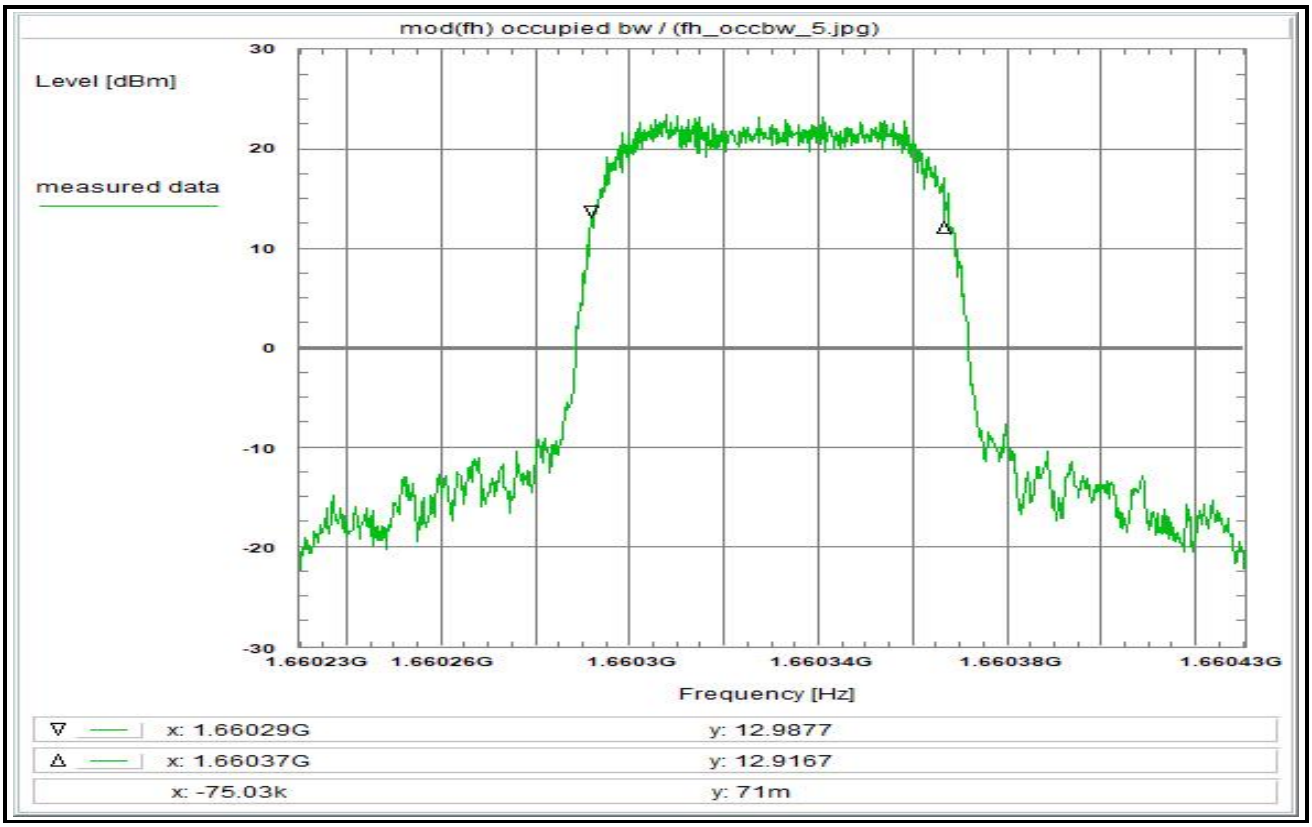
Start frequency:	1.66028	GHz
Stop frequency:	1.66038	GHz
Center frequency:	1.66033	GHz
Frequency span:	100	kHz
Resolution-BW:	1	kHz
Video-BW:	10	kHz
Input attenuation:	20	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor (1k -> 3k)	+	4.8	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U312)	+	19.5	dB
Power Splitter + Cable	+	6.7	dB
TOTAL CORRECTION:	+	31.9	dB

Remarks:
Determination of the ´occupied bandwidth´ at fh:
The measured value is about 37.3 kHz (delta marker)

Plot No. 32 (70)



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

Limit:
The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 % of the total mean power radiated by a given emission. (see §2.1049).

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

Operating condition of DUT:
operating condition 1, fh, see test report, operating conditions
modulation scheme R20T2X

Test setup:
see test report chapter 6.x: hgj

Test equipment:
see test report chapter 6.x: C220, R001, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Fri 29/Nov/2019 10:48:06
Location:	CTC advanced GmbH, Laboratory RCE-Sat
Temperature:	22 °C
Humidity:	45 %
Voltage:	24 Vdc

Setup of measurement equipment:

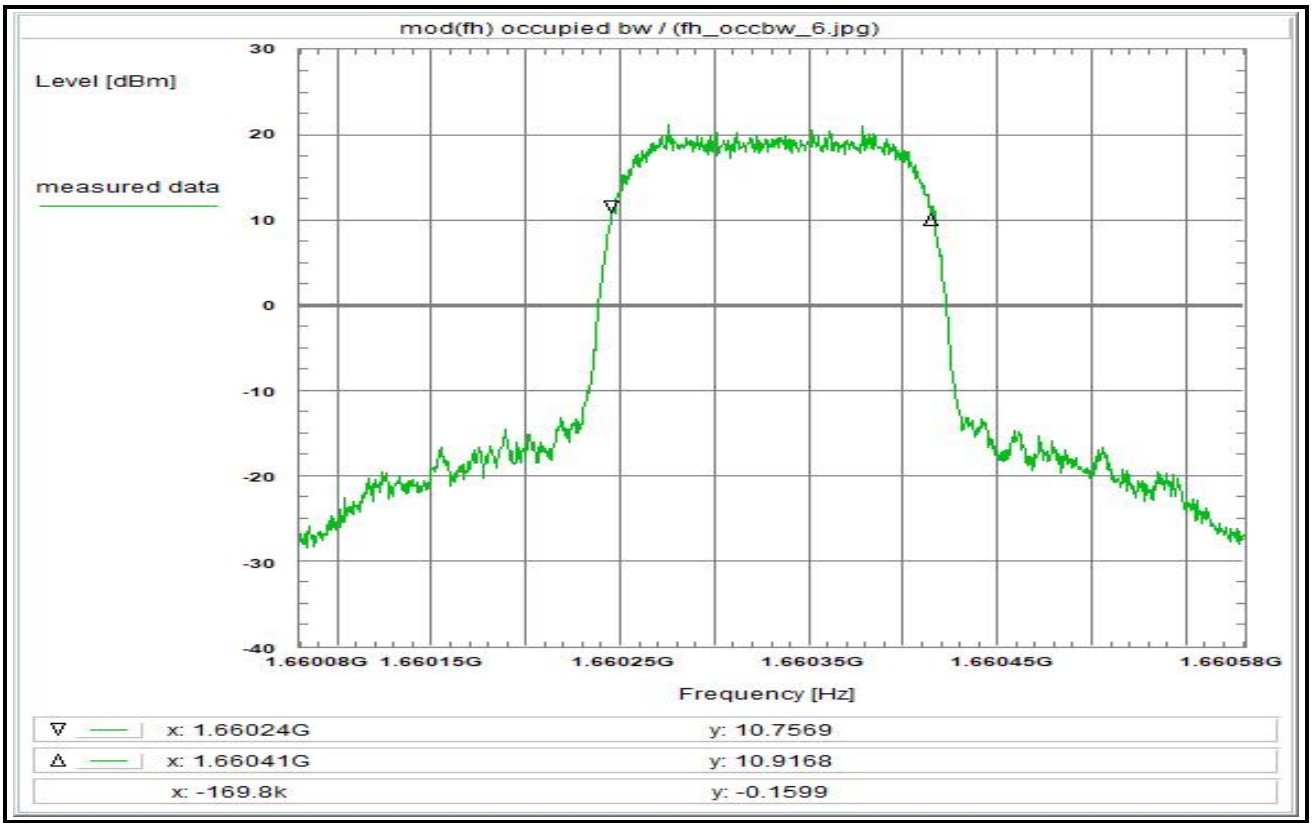
Start frequency:	1.66023	GHz
Stop frequency:	1.66043	GHz
Center frequency:	1.66033	GHz
Frequency span:	200	kHz
Resolution-BW:	1	kHz
Video-BW:	10	kHz
Input attenuation:	20	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor (1k -> 3k)	+	4.8	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U312)	+	19.5	dB
Power Splitter + Cable	+	6.7	dB
TOTAL CORRECTION:	+	31.9	dB

Remarks:
Determination of the ´occupied bandwidth´ at fh:
The measured value is about 74.8 kHz (delta marker)

Plot No. 33 (70)



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

Limit:
The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 % of the total mean power radiated by a given emission. (see §2.1049).

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

Operating condition of DUT:
operating condition 1, fh, see test report, operating conditions
modulation scheme R20T45X

Test setup:
see test report chapter 6.x: hgj

Test equipment:
see test report chapter 6.x: C220, R001, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Fri 29/Nov/2019 10:54:16	
Location:	CTC advanced GmbH, Laboratory RCE-Sat	
Temperature:	22	°C
Humidity:	45	%
Voltage:	24	Vdc

Setup of measurement equipment:

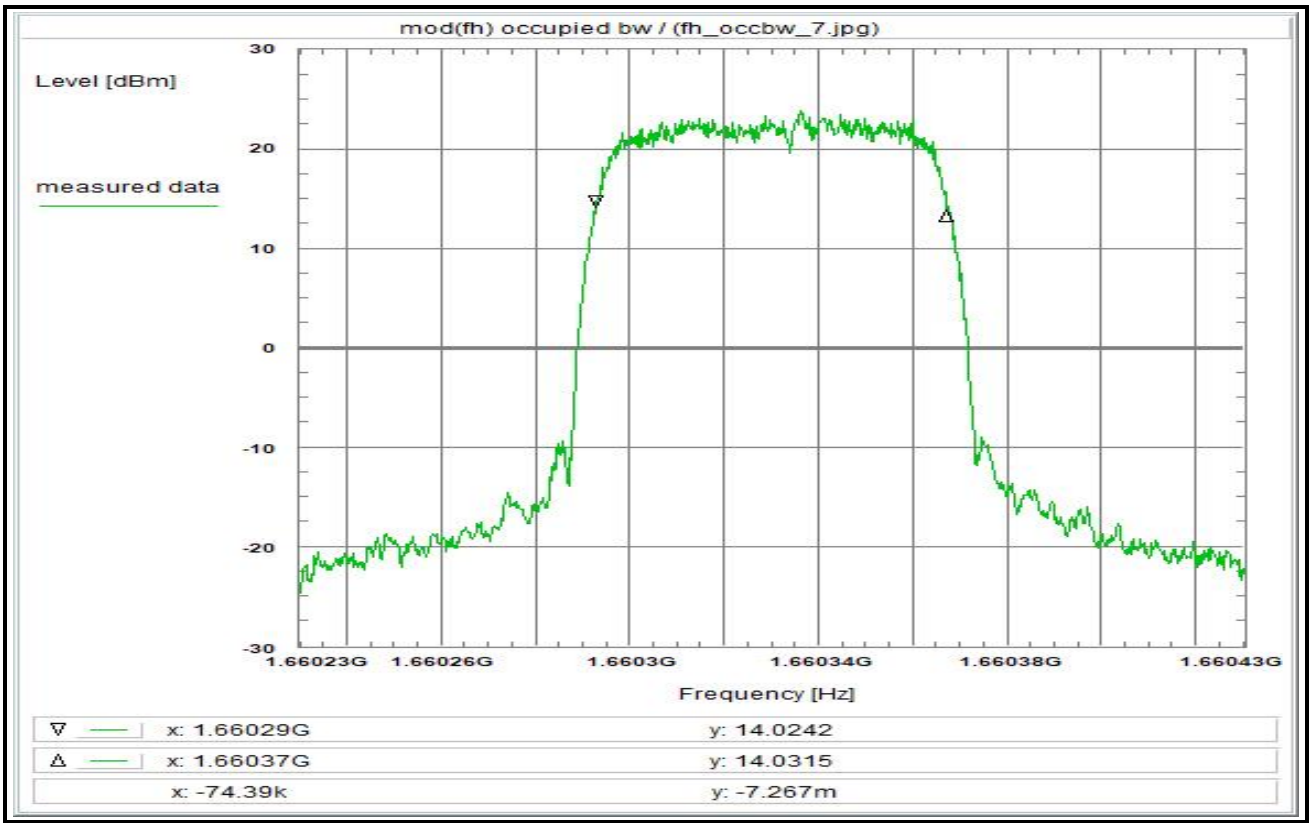
Start frequency:	1.66008	GHz
Stop frequency:	1.66058	GHz
Center frequency:	1.66033	GHz
Frequency span:	500	kHz
Resolution-BW:	1	kHz
Video-BW:	10	kHz
Input attenuation:	20	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor (1k -> 3k)	+	4.8	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U312)	+	19.5	dB
Power Splitter + Cable	+	6.7	dB
TOTAL CORRECTION:	+	31.9	dB

Remarks:
Determination of the ´occupied bandwidth´ at fh:
The measured value is about 169.7 kHz (delta marker)

Plot No. 34 (70)



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

Limit:
The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 % of the total mean power radiated by a given emission. (see §2.1049).

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

Operating condition of DUT:
operating condition 1, fh, see test report, operating conditions
modulation scheme R5T2Q

Test setup:
see test report chapter 6.x: hgj

Test equipment:
see test report chapter 6.x: C220, R001, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Fri 29/Nov/2019 11:05:36	
Location:	CTC advanced GmbH, Laboratory RCE-Sat	
Temperature:	22	°C
Humidity:	45	%
Voltage:	24	Vdc

Setup of measurement equipment:

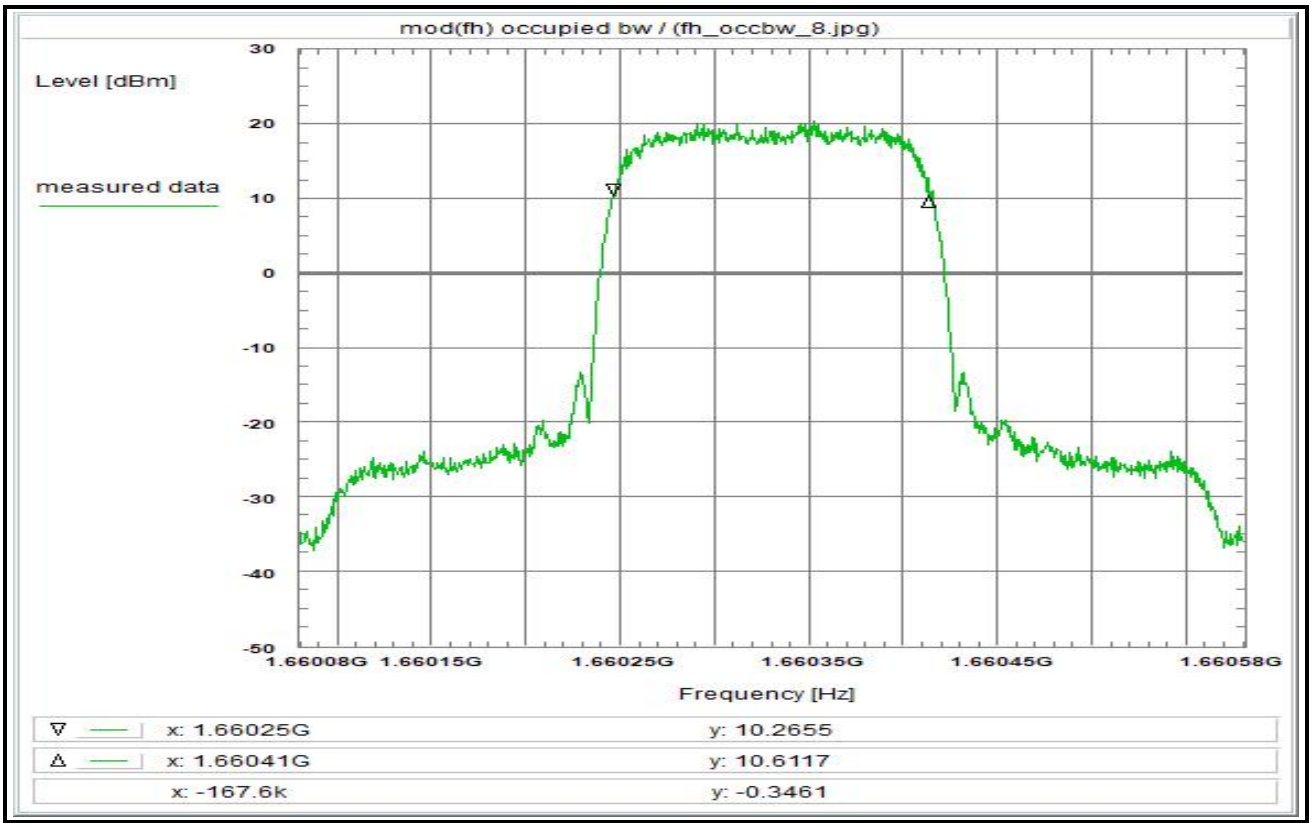
Start frequency:	1.66023	GHz
Stop frequency:	1.66043	GHz
Center frequency:	1.66033	GHz
Frequency span:	200	kHz
Resolution-BW:	1	kHz
Video-BW:	10	kHz
Input attenuation:	20	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor (1k -> 3k)	+	4.8	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U312)	+	19.5	dB
Power Splitter + Cable	+	6.7	dB
TOTAL CORRECTION:	+	31.9	dB

Remarks:
Determination of the ´occupied bandwidth´ at fh:
The measured value is about 74.5 kHz (delta marker)

Plot No. 35 (70)



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

Limit:
The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 % of the total mean power radiated by a given emission. (see §2.1049).

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

Operating condition of DUT:
operating condition 1, fh, see test report, operating conditions
modulation scheme R5T45Q

Test setup:
see test report chapter 6.x: hgj

Test equipment:
see test report chapter 6.x: C220, R001, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Fri 29/Nov/2019 11:13:29	
Location:	CTC advanced GmbH, Laboratory RCE-Sat	
Temperature:	22	°C
Humidity:	45	%
Voltage:	24	Vdc

Setup of measurement equipment:

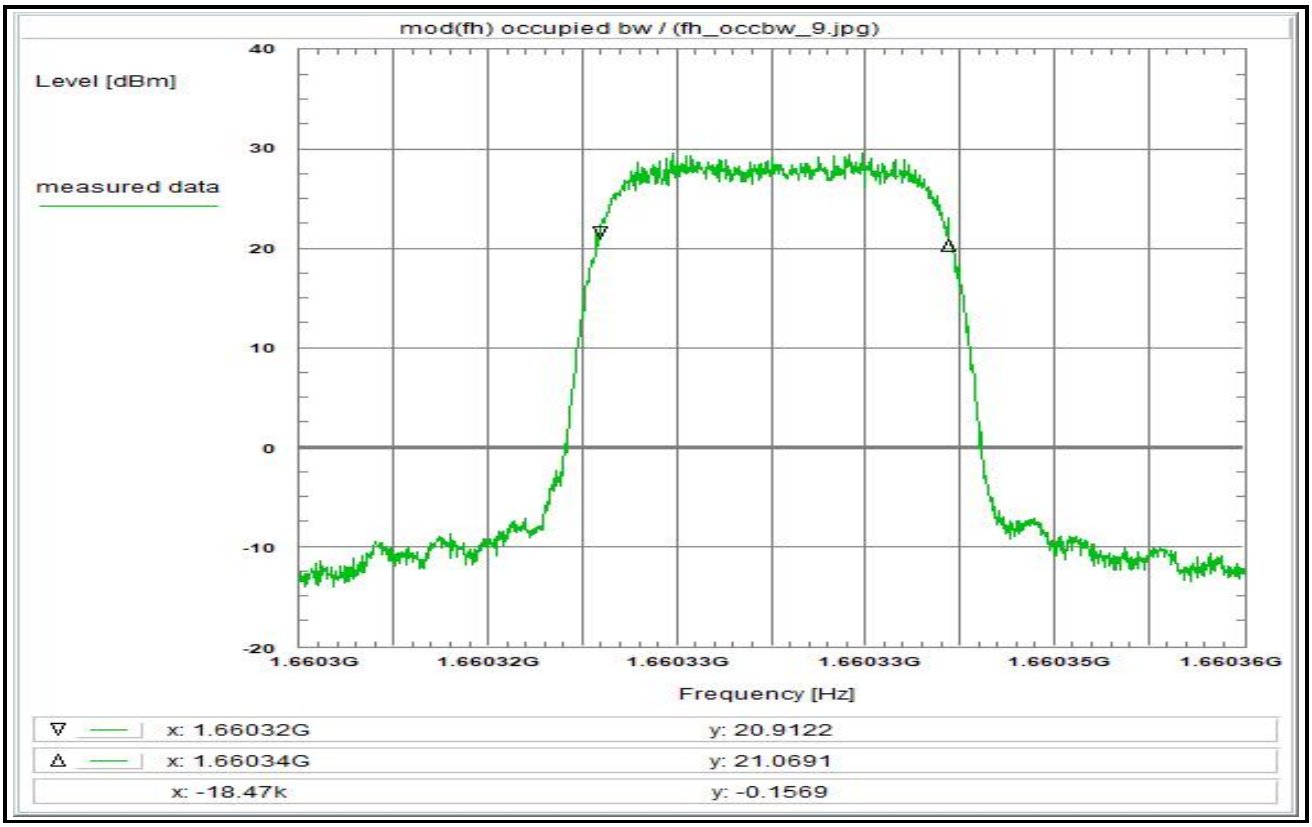
Start frequency:	1.66008	GHz
Stop frequency:	1.66058	GHz
Center frequency:	1.66033	GHz
Frequency span:	500	kHz
Resolution-BW:	1	kHz
Video-BW:	10	kHz
Input attenuation:	20	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor (1k -> 3k)	+	4.8	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U312)	+	19.5	dB
Power Splitter + Cable	+	6.7	dB
TOTAL CORRECTION:	+	31.9	dB

Remarks:
Determination of the ´occupied bandwidth´ at fh:
The measured value is about 166.6 kHz (delta marker)

Plot No. 36 (70)



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

Limit:
The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 % of the total mean power radiated by a given emission. (see §2.1049).

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

Operating condition of DUT:
operating condition 1, fh, see test report, operating conditions
modulation scheme R20T05Q

Test setup:
see test report chapter 6.x: hgj

Test equipment:
see test report chapter 6.x: C220, R001, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Fri 29/Nov/2019 11:18:27	
Location:	CTC advanced GmbH, Laboratory RCE-Sat	
Temperature:	22	°C
Humidity:	45	%
Voltage:	24	Vdc

Setup of measurement equipment:

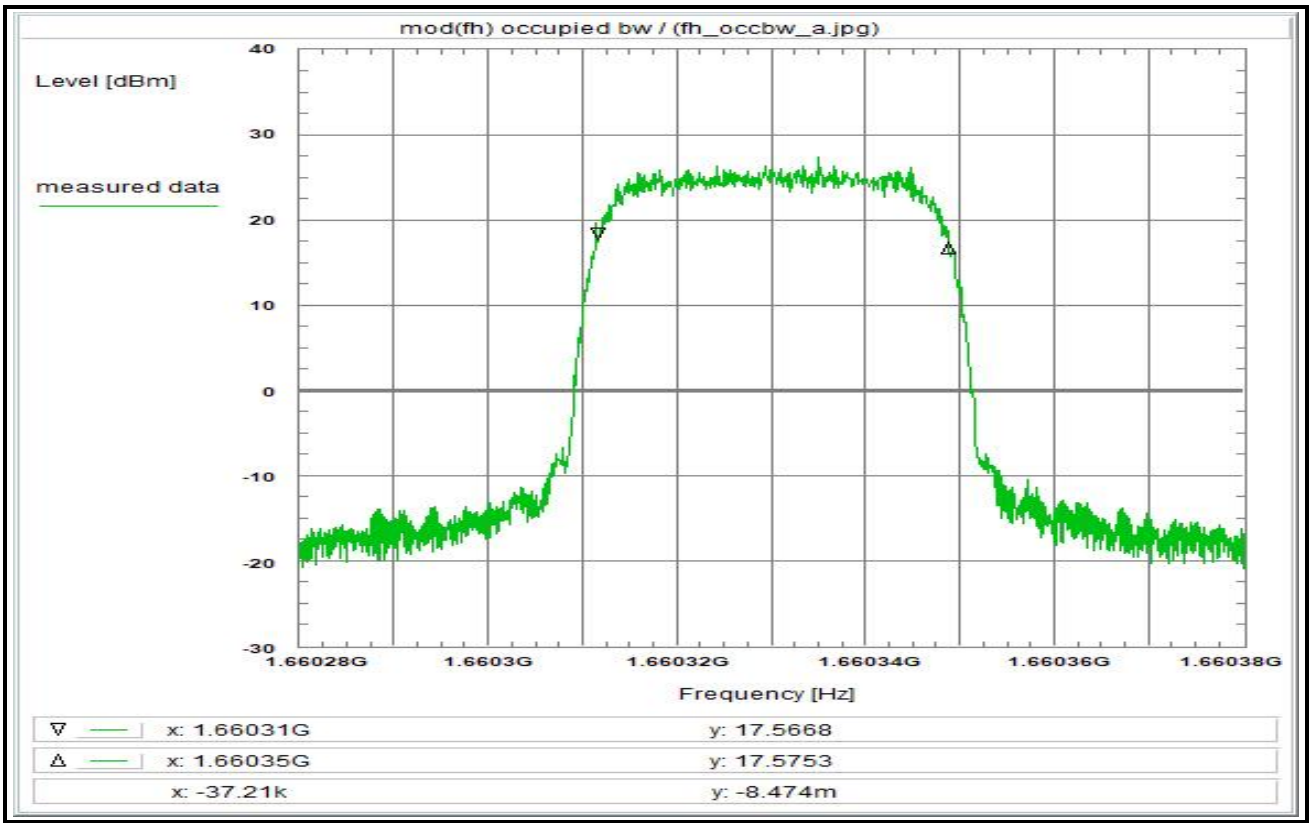
Start frequency:	1.660305	GHz
Stop frequency:	1.660355	GHz
Center frequency:	1.66033	GHz
Frequency span:	50	kHz
Resolution-BW:	1	kHz
Video-BW:	10	kHz
Input attenuation:	20	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor (1k -> 3k)	+	4.8	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U312)	+	19.5	dB
Power Splitter + Cable	+	6.7	dB
TOTAL CORRECTION:	+	31.9	dB

Remarks:
Determination of the ´occupied bandwidth´ at fh:
The measured value is about 18.5 kHz (delta marker)

Plot No. 37 (70)



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

Limit:
The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 % of the total mean power radiated by a given emission. (see §2.1049).

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

Operating condition of DUT:
operating condition 1, fh, see test report, operating conditions
modulation scheme R20T1Q

Test setup:
see test report chapter 6.x: hgj

Test equipment:
see test report chapter 6.x: C220, R001, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Fri 29/Nov/2019 11:23:41	
Location:	CTC advanced GmbH, Laboratory RCE-Sat	
Temperature:	22	°C
Humidity:	45	%
Voltage:	24	Vdc

Setup of measurement equipment:

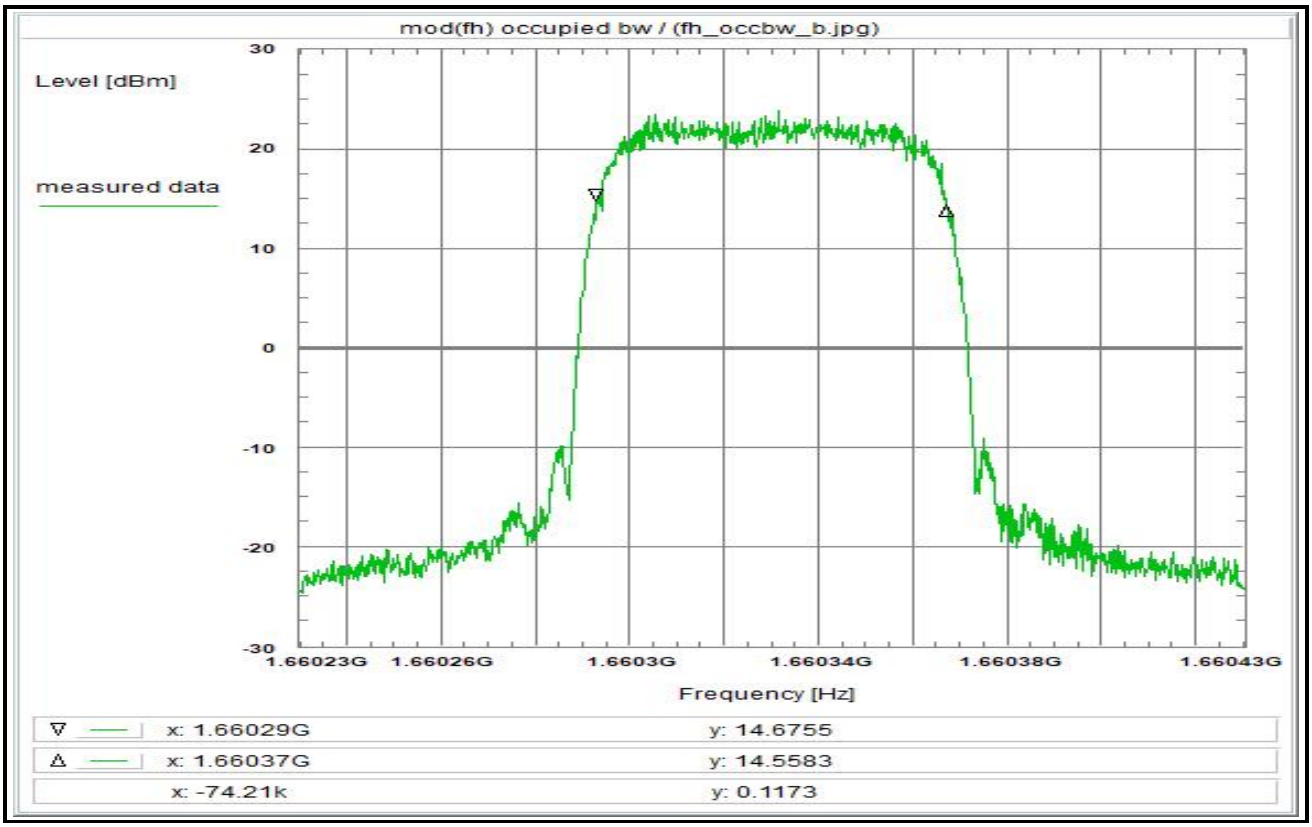
Start frequency:	1.66028	GHz
Stop frequency:	1.66038	GHz
Center frequency:	1.66033	GHz
Frequency span:	100	kHz
Resolution-BW:	1	kHz
Video-BW:	10	kHz
Input attenuation:	20	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor (1k -> 3k)	+	4.8	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U312)	+	19.5	dB
Power Splitter + Cable	+	6.7	dB
TOTAL CORRECTION:	+	31.9	dB

Remarks:
Determination of the ´occupied bandwidth´ at fh:
The measured value is about 37.1 kHz (delta marker)

Plot No. 38 (70)



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

Limit:
The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 % of the total mean power radiated by a given emission. (see §2.1049).

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

Operating condition of DUT:
operating condition 1, fh, see test report, operating conditions
modulation scheme R20T2Q

Test setup:
see test report chapter 6.x: hgj

Test equipment:
see test report chapter 6.x: C220, R001, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Fri 29/Nov/2019 11:31:07
Location:	CTC advanced GmbH, Laboratory RCE-Sat
Temperature:	22 °C
Humidity:	45 %
Voltage:	24 Vdc

Setup of measurement equipment:

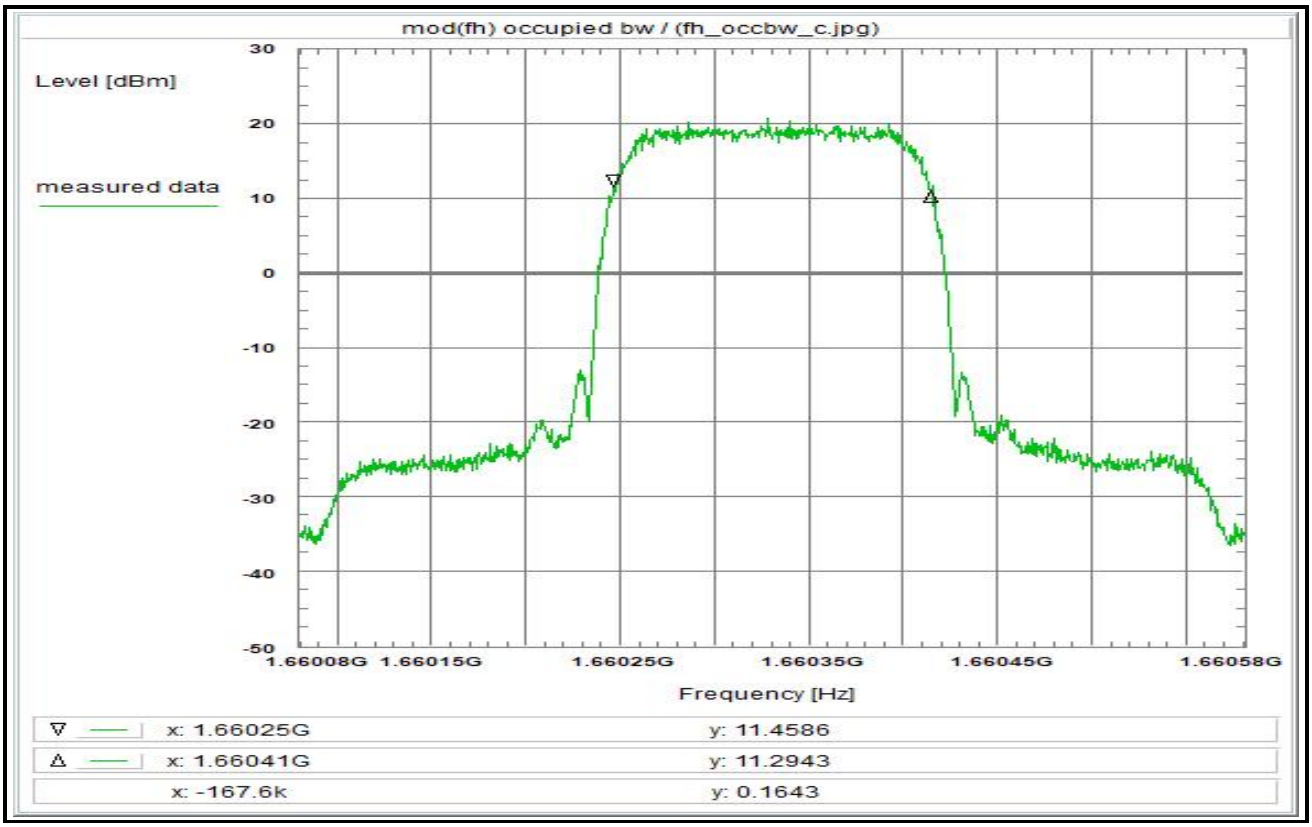
Start frequency:	1.66023	GHz
Stop frequency:	1.66043	GHz
Center frequency:	1.66033	GHz
Frequency span:	200	kHz
Resolution-BW:	1	kHz
Video-BW:	10	kHz
Input attenuation:	20	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor (1k -> 3k)	+	4.8	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U312)	+	19.5	dB
Power Splitter + Cable	+	6.7	dB
TOTAL CORRECTION:	+	31.9	dB

Remarks:
Determination of the ´occupied bandwidth´ at fh:
The measured value is about 74.2 kHz (delta marker)

Plot No. 39 (70)



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

Limit:
The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 % of the total mean power radiated by a given emission. (see §2.1049).

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

Operating condition of DUT:
operating condition 1, fh, see test report, operating conditions
modulation scheme R20T45Q

Test setup:
see test report chapter 6.x: hgj

Test equipment:
see test report chapter 6.x: C220, R001, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Fri 29/Nov/2019 11:36:34	
Location:	CTC advanced GmbH, Laboratory RCE-Sat	
Temperature:	22	°C
Humidity:	45	%
Voltage:	24	Vdc

Setup of measurement equipment:

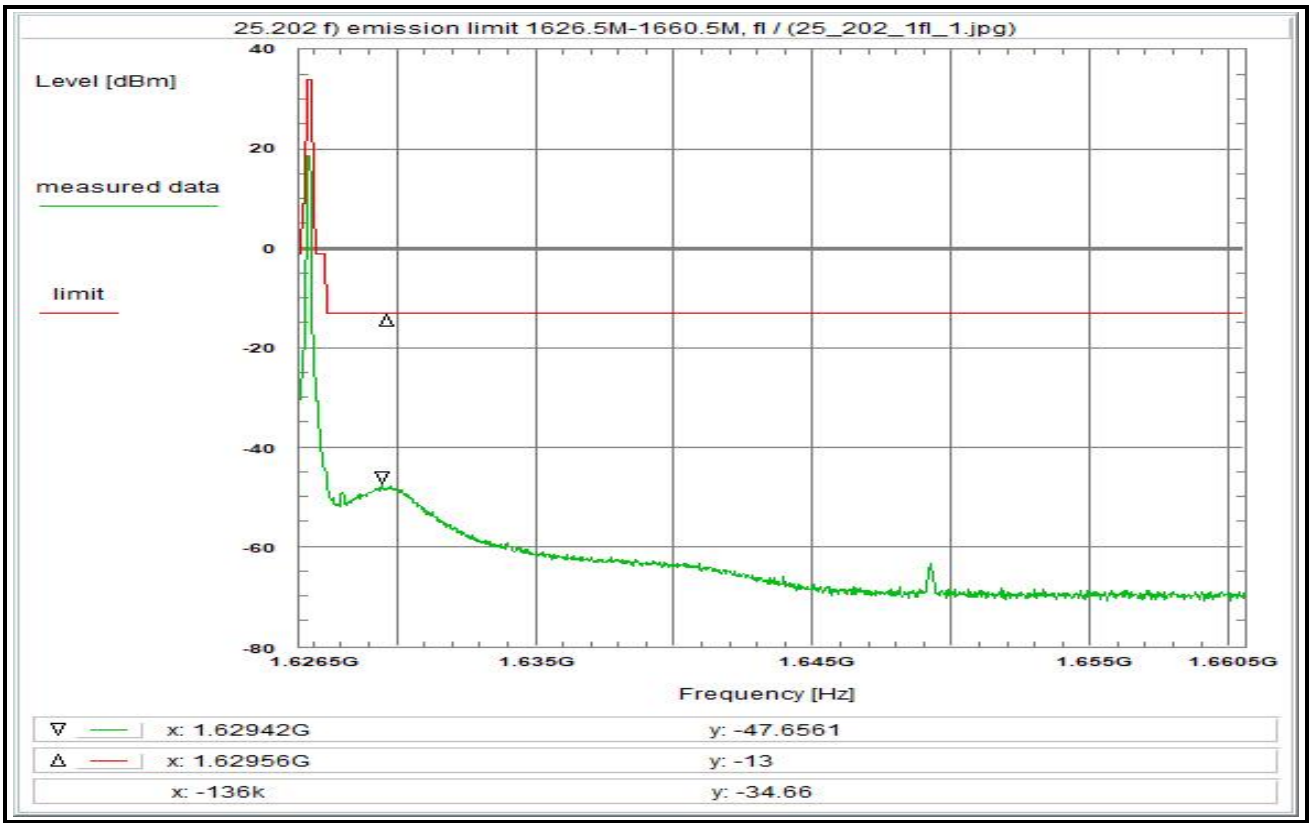
Start frequency:	1.66008	GHz
Stop frequency:	1.66058	GHz
Center frequency:	1.66033	GHz
Frequency span:	500	kHz
Resolution-BW:	1	kHz
Video-BW:	10	kHz
Input attenuation:	20	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor (1k -> 3k)	+	4.8	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U312)	+	19.5	dB
Power Splitter + Cable	+	6.7	dB
TOTAL CORRECTION:	+	31.9	dB

Remarks:
Determination of the ´occupied bandwidth´ at fh:
The measured value is about 166.9 kHz (delta marker)

Plot No. 40 (70)



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 according to 25.202 f):
50-100% of assigned bw: -25dBc/4kHz
100-250% of assigned bw: -35dBc/4kHz
> 250% of assigned bw: -43+10log(Pmax)dBc/4kHz = -43 dBW
The mean power of emissions shall be attenuated
below the mean output power of the transmitter
in accordance with the above schedule.

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

Operating condition of DUT:
operating condition 1, fl, see test report, operating conditions
modulation scheme R20T45X

Test setup:
see test report chapter 6.x: hgj

Test equipment:
see test report chapter 6.x: C220, R001, U312

Remark:
see next plot

Test result: **Test passed**

Environment condition:

Date & Time:	Fri 29/Nov/2019 12:24:55	
Location:	CTC advanced GmbH, Laboratory RCE-Sat	
Temperature:	22	°C
Humidity:	45	%
Voltage:	24	Vdc

Setup of measurement equipment:

Start frequency:	1.6265	GHz
Stop frequency:	1.6605	GHz
Center frequency:	1.6435	GHz
Frequency span:	34	MHz
Resolution-BW:	10	kHz
Video-BW:	30	kHz
Input attenuation:	20	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	AVG	

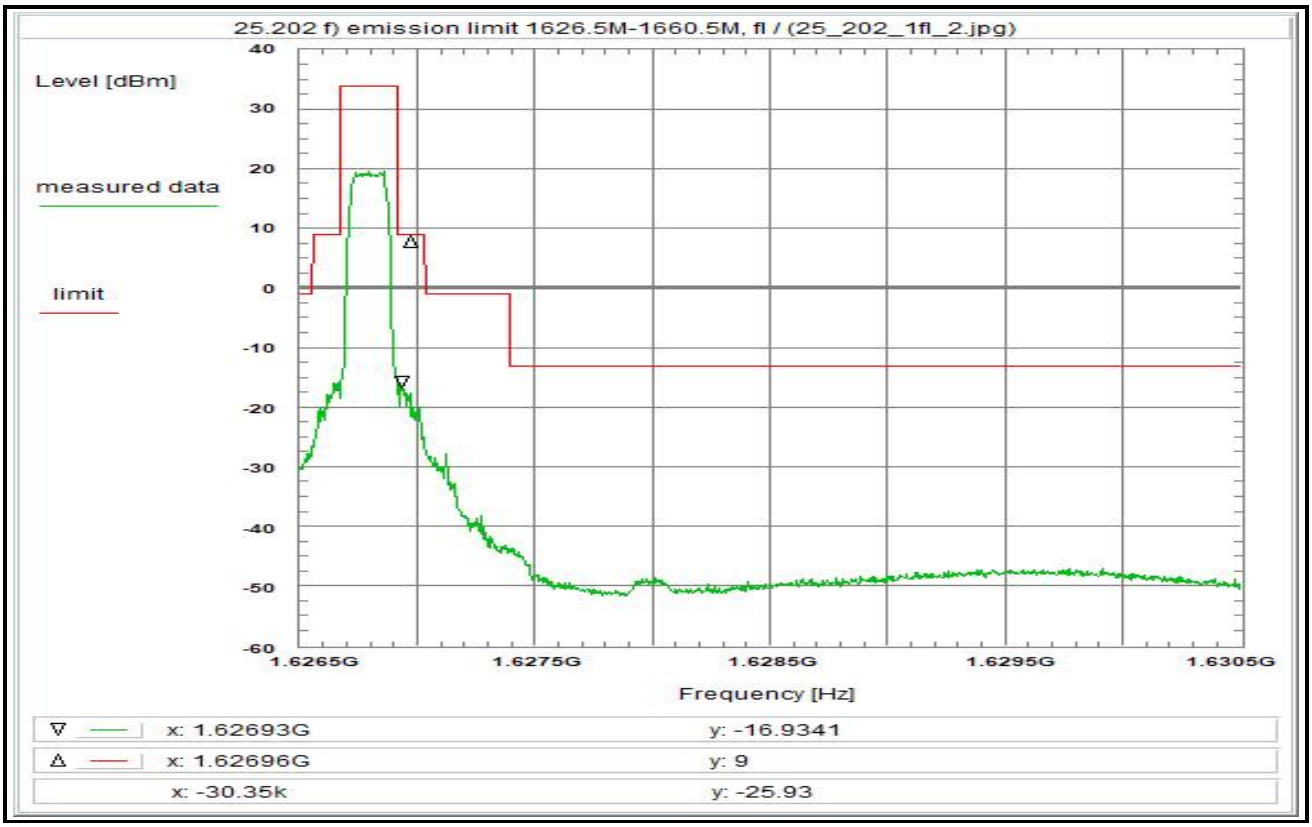
Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor (10k -> 4k)	-	4.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U312)	+	19.5	dB
Power Splitter + Cable	+	6.7	dB
TOTAL CORRECTION:	+	23.1	dB

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

Mask based on 240 kHz bandwidth and Pout = 34 dBm.

Plot No. 41 (70)



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 according to 25.202 f):
50-100% of assigned bw: -25dBc/4kHz
100-250% of assigned bw: -35dBc/4kHz
> 250% of assigned bw: -43+10log(Pmax)dBc/4kHz = -43 dBW
The mean power of emissions shall be attenuated
below the mean output power of the transmitter
in accordance with the above schedule.

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

Operating condition of DUT:
operating condition 1, fl, see test report, operating conditions
modulation scheme R20T45X

Test setup:
see test report chapter 6.x: hgj

Test equipment:
see test report chapter 6.x: C220, R001, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Fri 29/Nov/2019 12:26:34	
Location:	CTC advanced GmbH, Laboratory RCE-Sat	
Temperature:	22	°C
Humidity:	45	%
Voltage:	24	Vdc

Setup of measurement equipment:

Start frequency:	1.6265	GHz
Stop frequency:	1.6305	GHz
Center frequency:	1.6285	GHz
Frequency span:	4	MHz
Resolution-BW:	10	kHz
Video-BW:	30	kHz
Input attenuation:	20	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	AVG	

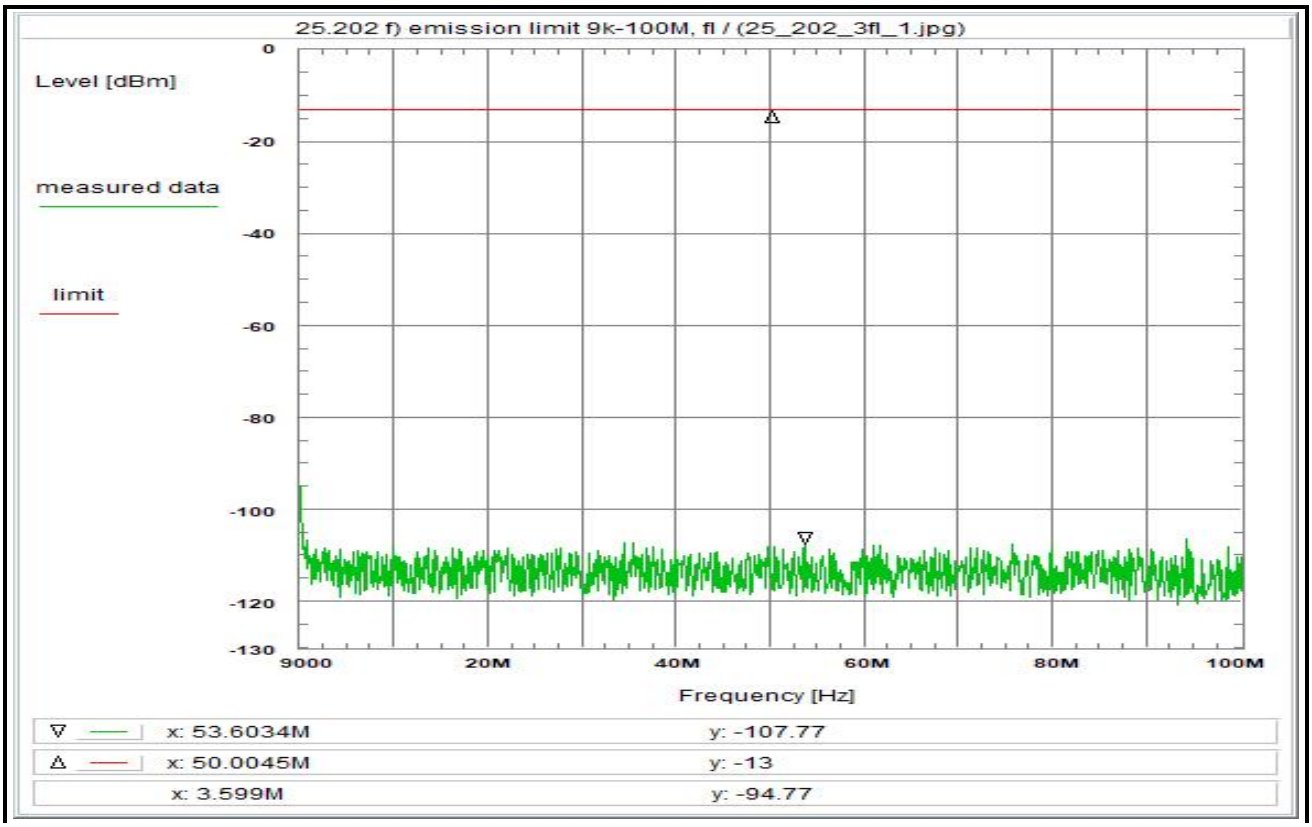
Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor (10k -> 4k)	-	4.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U312)	+	19.5	dB
Power Splitter + Cable	+	6.7	dB
TOTAL CORRECTION:	+	23.1	dB

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

Mask based on 240 kHz bandwidth and Pout = 34 dBm.

Plot No. 42 (70)



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 according to 25.202 f):
50-100% of assigned bw: -25dBc/4kHz
100-250% of assigned bw: -35dBc/4kHz
> 250% of assigned bw: -43+10log(Pmax)dBc/4kHz = -43 dBW
The mean power of emissions shall be attenuated
below the mean output power of the transmitter
in accordance with the above schedule.

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

Operating condition of DUT:
operating condition 1, fl, see test report, operating conditions
modulation scheme R20T45X

Test setup:
see test report chapter 6.x: hfgj

Test equipment:
see test report chapter 6.x: C220, FCob, R001

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Thu 28/Nov/2019 10:38:01
Location:	CTC advanced GmbH, Laboratory RCE-Sat
Temperature:	22 °C
Humidity:	45 %
Voltage:	24 Vdc

Setup of measurement equipment:

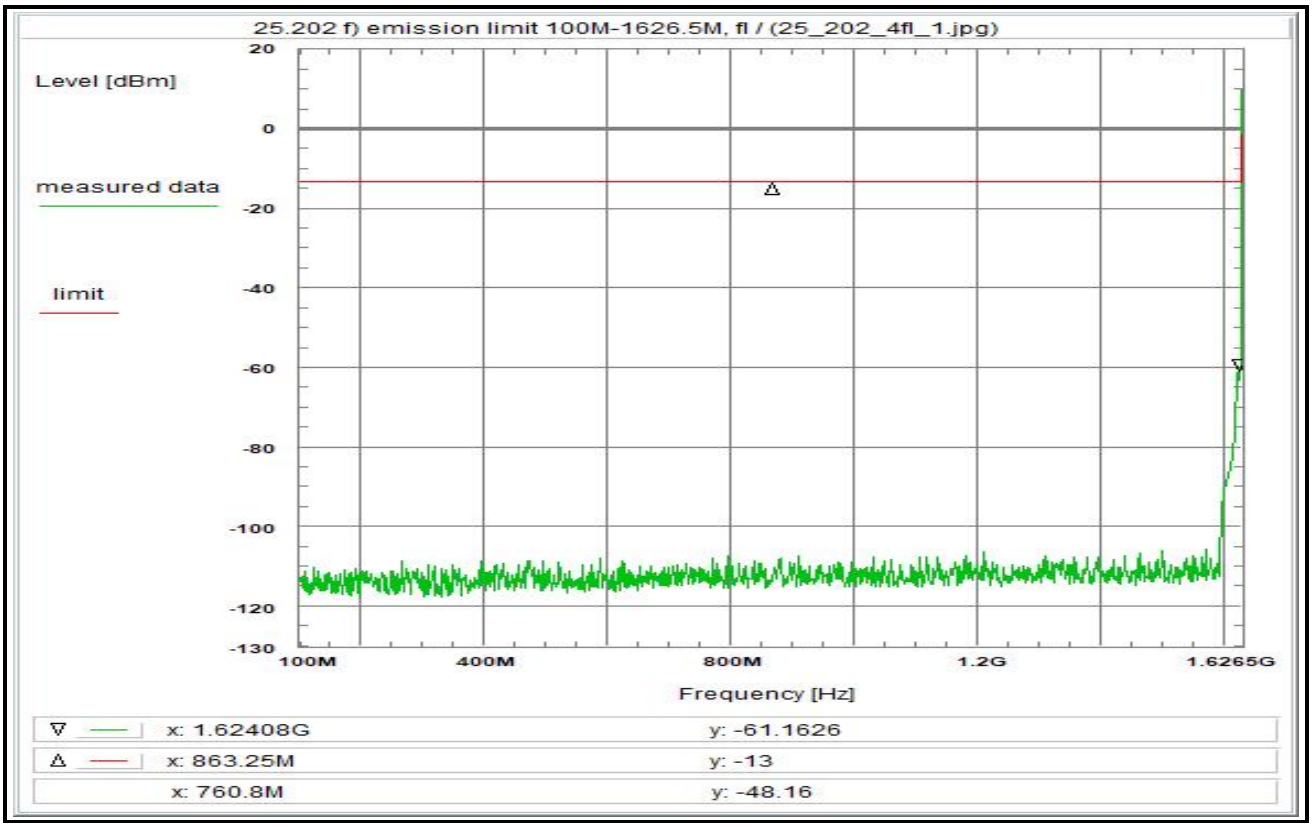
Start frequency:	9	kHz
Stop frequency:	100	MHz
Center frequency:	50.0045	MHz
Frequency span:	99.991	MHz
Resolution-BW:	1	kHz
Video-BW:	3	kHz
Input attenuation:	6	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.2	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor (1k -> 4k)	+	6.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Bandstopfilter + Cable (FCob)	+	10.1	dB
TOTAL CORRECTION:	+	16.3	dB

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

Plot No. 43 (70)



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 according to 25.202 f):
50-100% of assigned bw: -25dBc/4kHz
100-250% of assigned bw: -35dBc/4kHz
> 250% of assigned bw: -43+10log(Pmax)dBc/4kHz = -43 dBW
The mean power of emissions shall be attenuated
below the mean output power of the transmitter
in accordance with the above schedule.

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

Operating condition of DUT:
operating condition 1, fl, see test report, operating conditions
modulation scheme R20T45X

Test setup:
see test report chapter 6.x: hfgj

Test equipment:
see test report chapter 6.x: C220, FCob, R001

Remark:
see next plot

Test result: **Test passed**

Environment condition:

Date & Time:	Thu 28/Nov/2019 10:29:37	
Location:	CTC advanced GmbH, Laboratory RCE-Sat	
Temperature:	22	°C
Humidity:	45	%
Voltage:	24	Vdc

Setup of measurement equipment:

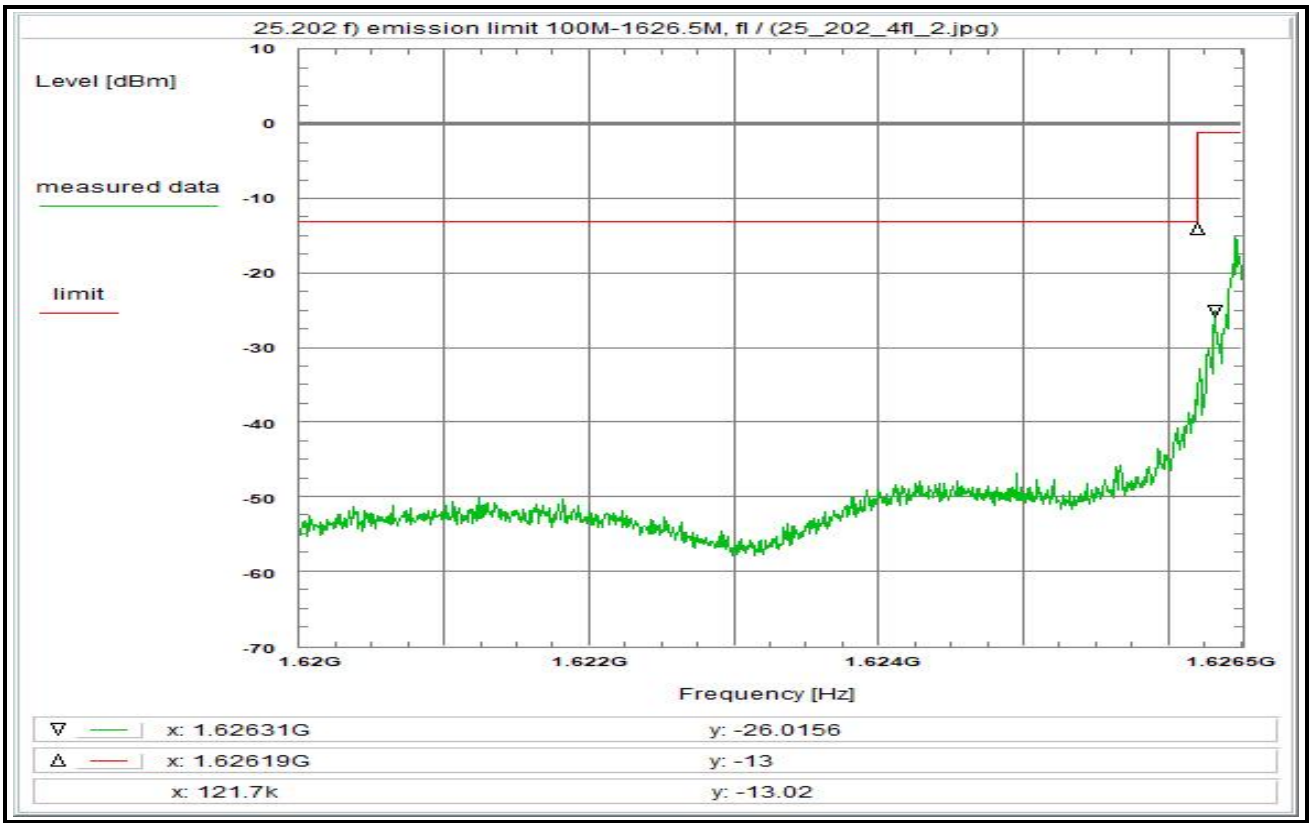
Start frequency:	100	MHz
Stop frequency:	1.6265	GHz
Center frequency:	863.25	MHz
Frequency span:	1.5265	GHz
Resolution-BW:	10	kHz
Video-BW:	30	kHz
Input attenuation:	6	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.6	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor (10k -> 4k)	-	4.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Bandstopfilter + Cable (FCob)	+	10.5	dB
TOTAL CORRECTION:	+	7.1	dB

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

Plot No. 44 (70)



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 according to 25.202 f):
50-100% of assigned bw: -25dBc/4kHz
100-250% of assigned bw: -35dBc/4kHz
> 250% of assigned bw: -43+10log(Pmax)dBc/4kHz = -43 dBW
The mean power of emissions shall be attenuated
below the mean output power of the transmitter
in accordance with the above schedule.

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

Operating condition of DUT:
operating condition 1, fl, see test report, operating conditions
modulation scheme R20T45X

Test setup:
see test report chapter 6.x: hfgj

Test equipment:
see test report chapter 6.x: C220, FCob, R001

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Thu 28/Nov/2019 10:35:41
Location:	CTC advanced GmbH, Laboratory RCE-Sat
Temperature:	22 °C
Humidity:	45 %
Voltage:	24 Vdc

Setup of measurement equipment:

Start frequency:	1.62	GHz
Stop frequency:	1.6265	GHz
Center frequency:	1.62325	GHz
Frequency span:	6.5	MHz
Resolution-BW:	10	kHz
Video-BW:	30	kHz
Input attenuation:	6	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	AVG	

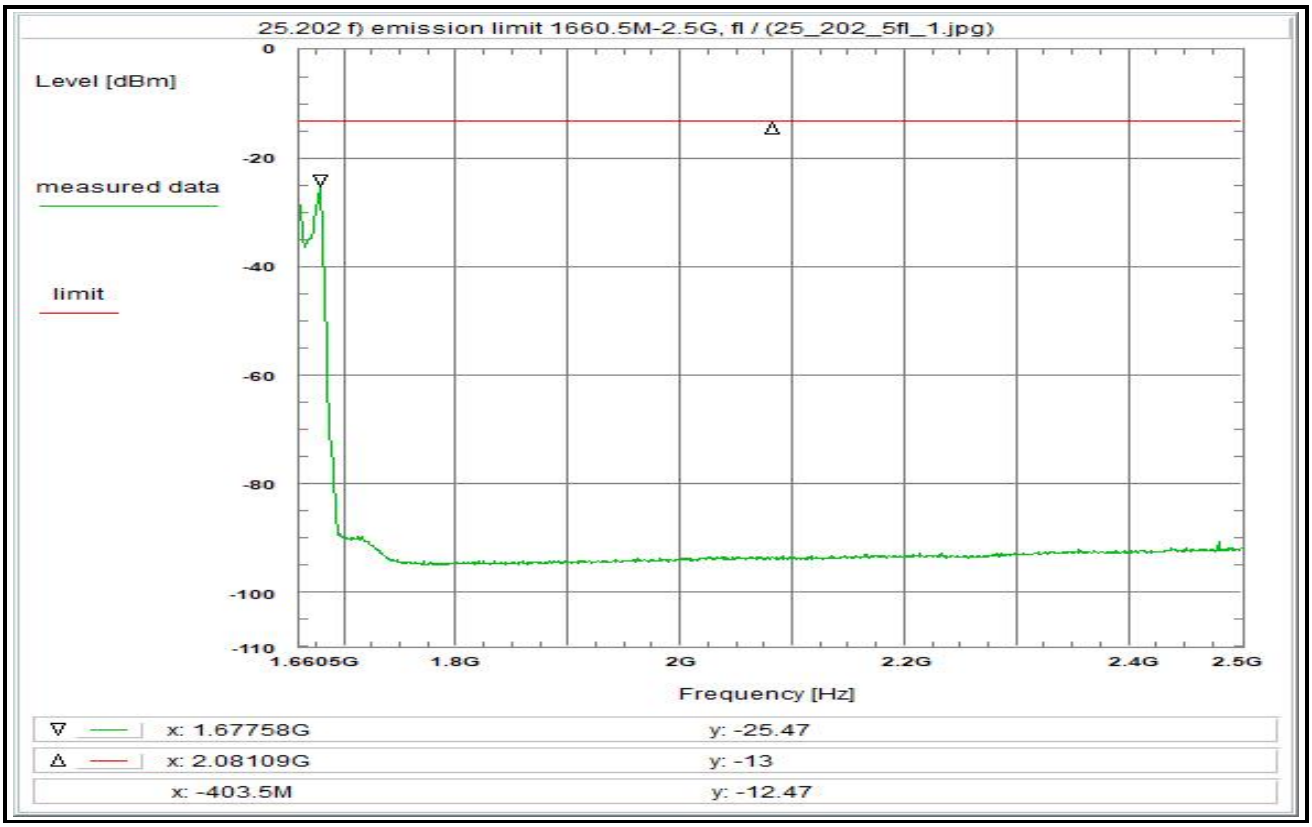
Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor (10k -> 4k)	-	4.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Bandstopfilter + Cable (FCob)	+	13.3	dB
TOTAL CORRECTION:	+	10.2	dB

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

Mask based on 240 kHz bandwidth and Pout = 34 dBm.

Plot No. 45 (70)



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 according to 25.202 f):
50-100% of assigned bw: -25dBc/4kHz
100-250% of assigned bw: -35dBc/4kHz
> 250% of assigned bw: -43+10log(Pmax)dBc/4kHz = -43 dBW
The mean power of emissions shall be attenuated
below the mean output power of the transmitter
in accordance with the above schedule.

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

Operating condition of DUT:
operating condition 1, fl, see test report, operating conditions
modulation scheme R20T45X

Test setup:
see test report chapter 6.x: hfgj

Test equipment:
see test report chapter 6.x: C220, FCob, R001

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Wed 27/Nov/2019 15:00:42
Location:	CTC advanced GmbH, Laboratory RCE-Sat
Temperature:	22 °C
Humidity:	45 %
Voltage:	24 Vdc

Setup of measurement equipment:

Start frequency:	1.6605	GHz
Stop frequency:	2.5	GHz
Center frequency:	2.08025	GHz
Frequency span:	839.5	MHz
Resolution-BW:	10	kHz
Video-BW:	30	kHz
Input attenuation:	10	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	AVG	

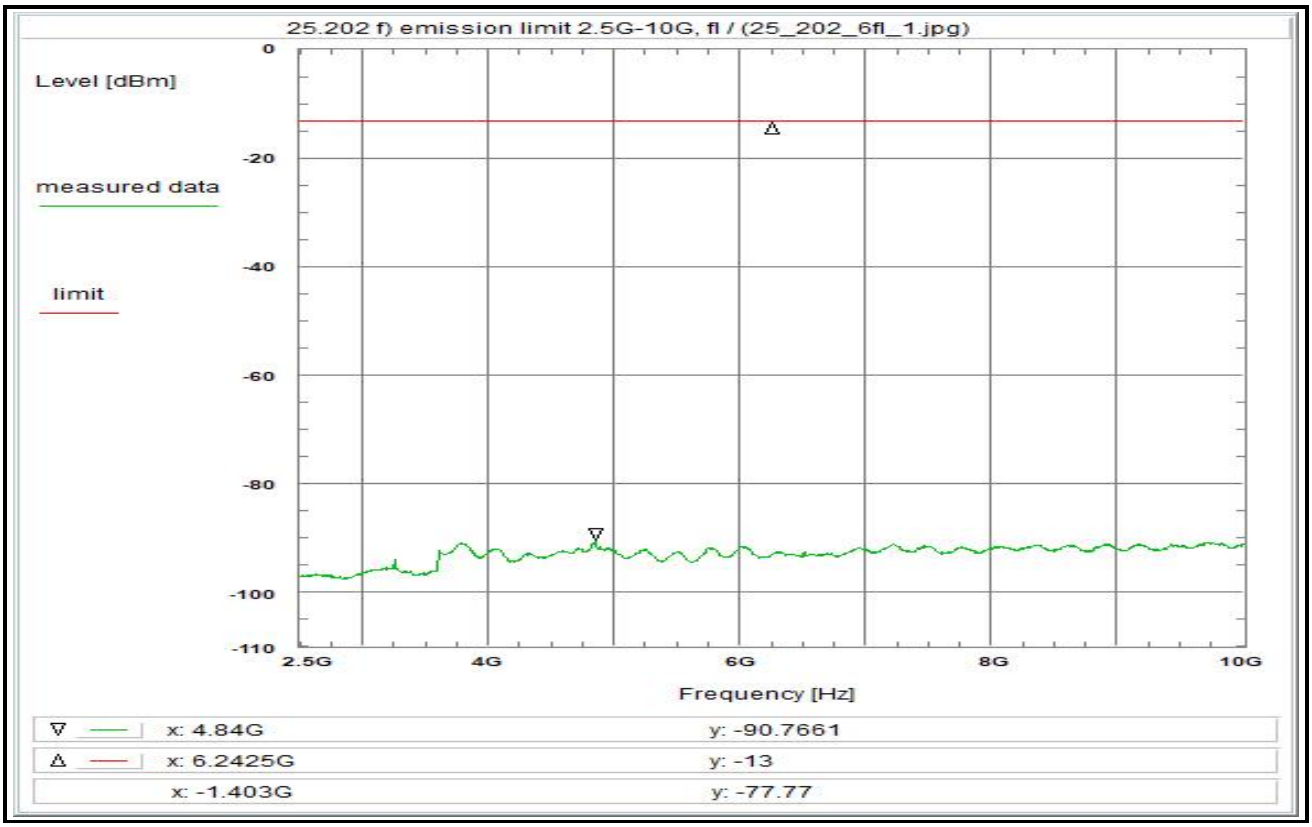
Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	1.0	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor (10k -> 4k)	-	4.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Bandstopfilter + Cable (FCob)	+	12.9	dB
TOTAL CORRECTION:	+	9.9	dB

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

Graph shows frequency response of bandstop filter

Plot No. 46 (70)



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 according to 25.202 f):
50-100% of assigned bw: -25dBc/4kHz
100-250% of assigned bw: -35dBc/4kHz
> 250% of assigned bw: -43+10log(Pmax)dBc/4kHz = -43 dBW
The mean power of emissions shall be attenuated
below the mean output power of the transmitter
in accordance with the above schedule.

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

Operating condition of DUT:
operating condition 1, fl, see test report, operating conditions
modulation scheme R20T45X

Test setup:
see test report chapter 6.x: hfgj

Test equipment:
see test report chapter 6.x: C220, FHPF, R001

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Wed 27/Nov/2019 14:36:16	
Location:	CTC advanced GmbH, Laboratory RCE-Sat	
Temperature:	22	°C
Humidity:	45	%
Voltage:	24	Vdc

Setup of measurement equipment:

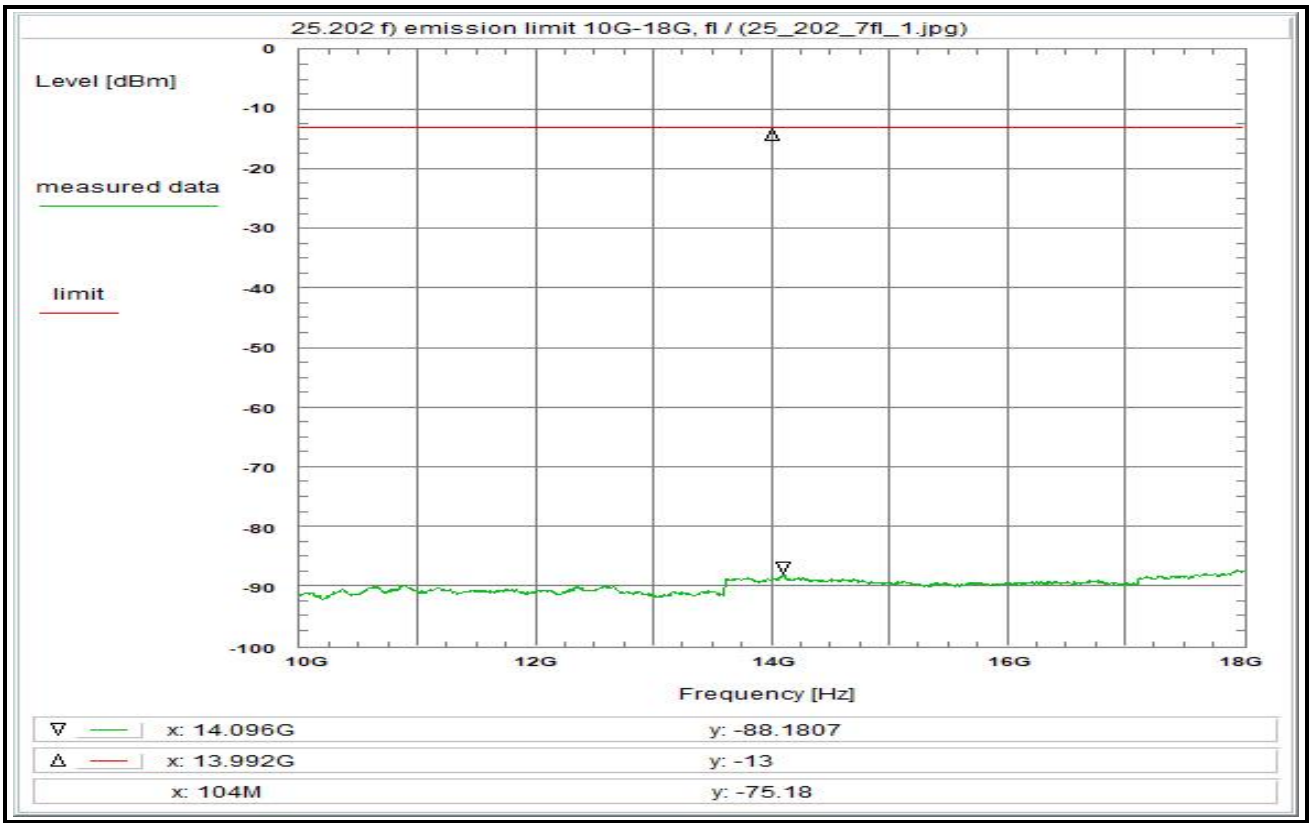
Start frequency:	2.5	GHz
Stop frequency:	10	GHz
Center frequency:	6.25	GHz
Frequency span:	7.5	GHz
Resolution-BW:	100	kHz
Video-BW:	300	kHz
Input attenuation:	6	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	1.7	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor (100k -> 4k)	-	14.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Atten. + High Pass + cable(FHPF)	+	11.4	dB
TOTAL CORRECTION:	-	0.9	dB

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

Plot No. 47 (70)



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 according to 25.202 f):
50-100% of assigned bw: -25dBc/4kHz
100-250% of assigned bw: -35dBc/4kHz
> 250% of assigned bw: -43+10log(Pmax)dBc/4kHz = -43 dBW
The mean power of emissions shall be attenuated
below the mean output power of the transmitter
in accordance with the above schedule.

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

Operating condition of DUT:
operating condition 1, fl, see test report, operating conditions
modulation scheme R20T45X

Test setup:
see test report chapter 6.x: hfgj

Test equipment:
see test report chapter 6.x: C220, FHPF, R001

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Wed 27/Nov/2019 14:37:41	
Location:	CTC advanced GmbH, Laboratory RCE-Sat	
Temperature:	22	°C
Humidity:	45	%
Voltage:	24	Vdc

Setup of measurement equipment:

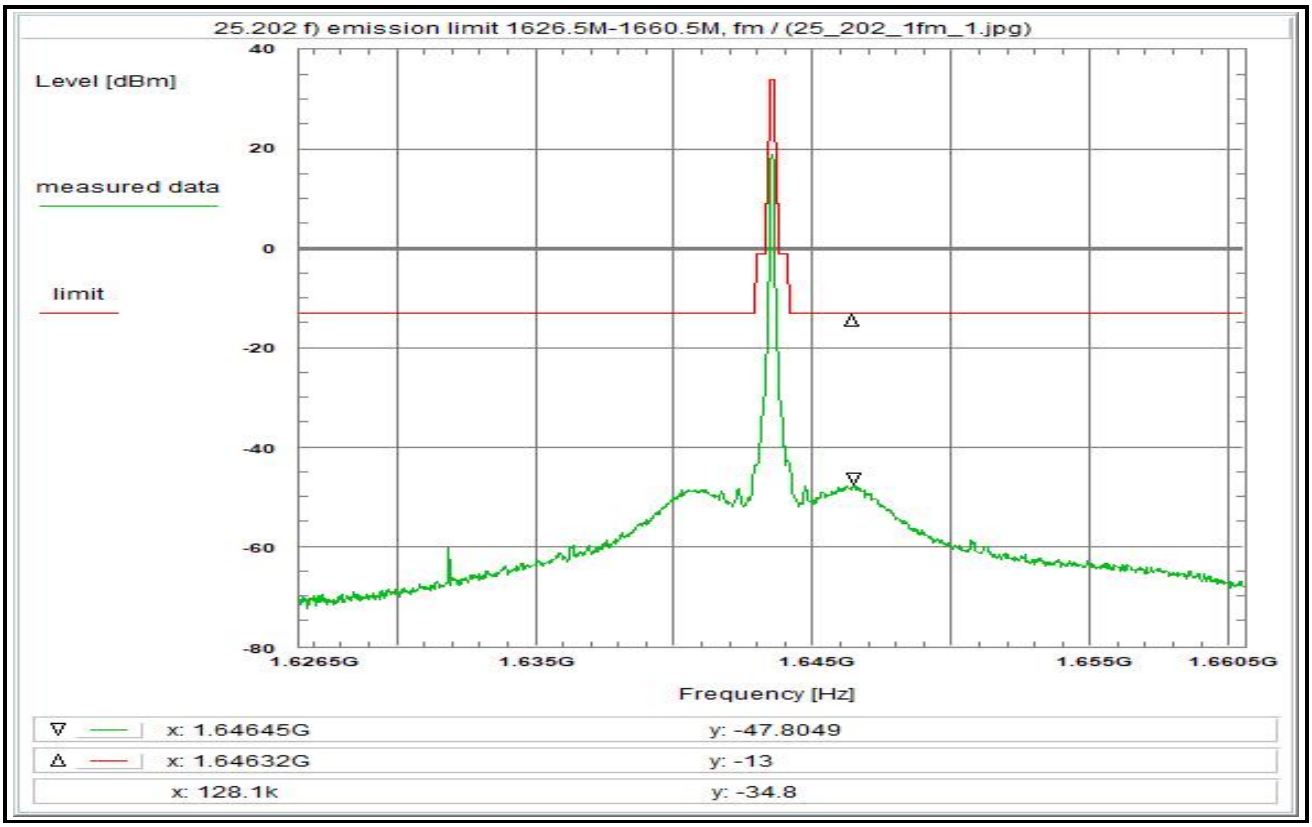
Start frequency:	10	GHz
Stop frequency:	18	GHz
Center frequency:	14	GHz
Frequency span:	8	GHz
Resolution-BW:	100	kHz
Video-BW:	300	kHz
Input attenuation:	6	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	2.7	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor (100k -> 4k)	-	14.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Atten. + High Pass + cable(FHPF)	+	12.5	dB
TOTAL CORRECTION:	+	1.2	dB

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

Plot No. 48 (70)



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

Limit:
Limit according to 25.202 f):
50-100% of assigned bw: -25dBc/4kHz
100-250% of assigned bw: -35dBc/4kHz
> 250% of assigned bw: -43+10log(Pmax)dBc/4kHz = -43 dBW
The mean power of emissions shall be attenuated
below the mean output power of the transmitter
in accordance with the above schedule.

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

Operating condition of DUT:
operating condition 1, fm, see test report, operating conditions
modulation scheme R20T45X

Test setup:
see test report chapter 6.x: hgj

Test equipment:
see test report chapter 6.x: C220, R001, U312

Remark:
see next plot

Test result: **Test passed**

Environment condition:

Date & Time:	Fri 29/Nov/2019 12:16:32	
Location:	CTC advanced GmbH, Laboratory RCE-Sat	
Temperature:	22	°C
Humidity:	45	%
Voltage:	24	Vdc

Setup of measurement equipment:

Start frequency:	1.6265	GHz
Stop frequency:	1.6605	GHz
Center frequency:	1.6435	GHz
Frequency span:	34	MHz
Resolution-BW:	10	kHz
Video-BW:	30	kHz
Input attenuation:	20	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	AVG	

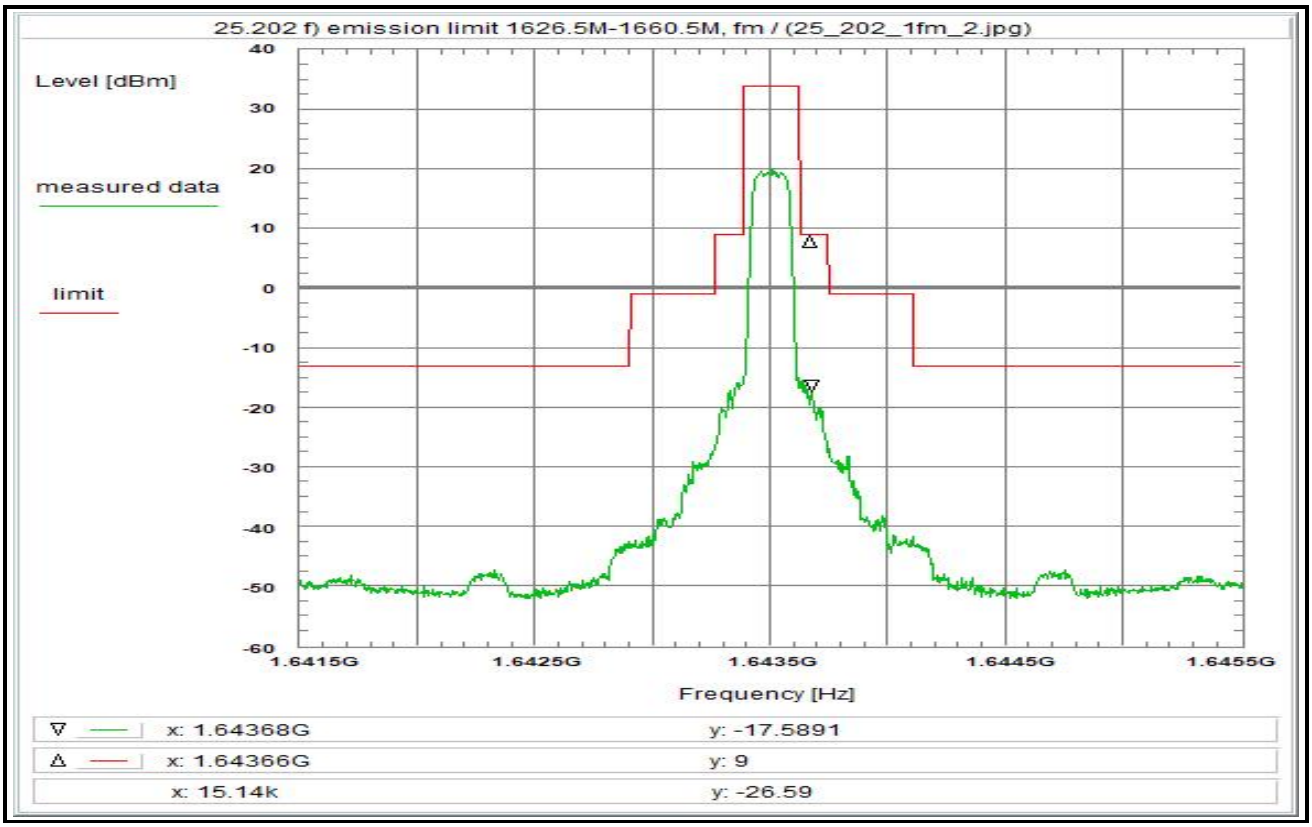
Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor (10k -> 4k)	-	4.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U312)	+	19.5	dB
Power Splitter + Cable	+	6.7	dB
TOTAL CORRECTION:	+	23.1	dB

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

Mask based on 240 kHz bandwidth and Pout = 34 dBm.

Plot No. 49 (70)



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

Limit:
Limit according to 25.202 f):
50-100% of assigned bw: -25dBc/4kHz
100-250% of assigned bw: -35dBc/4kHz
> 250% of assigned bw: -43+10log(Pmax)dBc/4kHz = -43 dBW
The mean power of emissions shall be attenuated
below the mean output power of the transmitter
in accordance with the above schedule.

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

Operating condition of DUT:
operating condition 1, fm, see test report, operating conditions
modulation scheme R20T45X

Test setup:
see test report chapter 6.x: hgj

Test equipment:
see test report chapter 6.x: C220, R001, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Fri 29/Nov/2019 12:19:25	
Location:	CTC advanced GmbH, Laboratory RCE-Sat	
Temperature:	22	°C
Humidity:	45	%
Voltage:	24	Vdc

Setup of measurement equipment:

Start frequency:	1.6415	GHz
Stop frequency:	1.6455	GHz
Center frequency:	1.6435	GHz
Frequency span:	4	MHz
Resolution-BW:	10	kHz
Video-BW:	30	kHz
Input attenuation:	20	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	AVG	

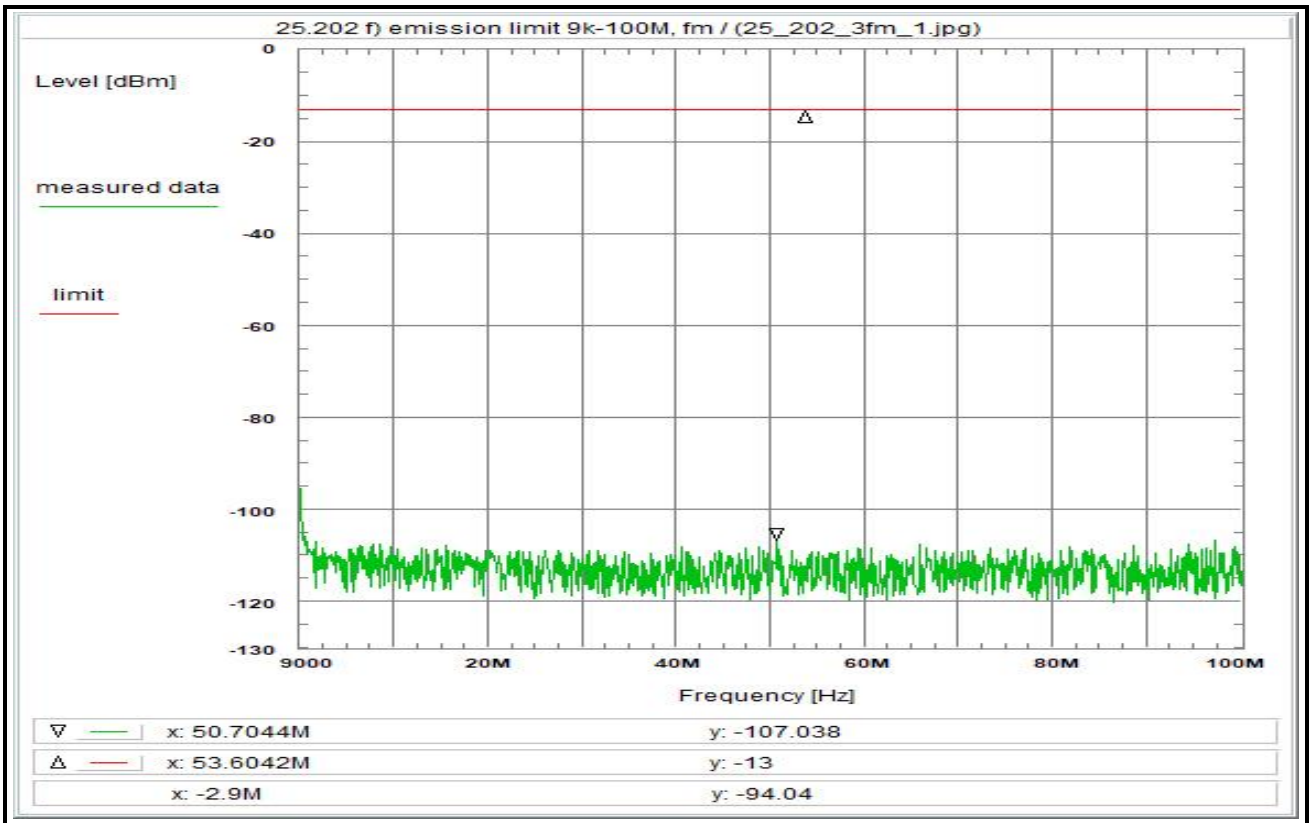
Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor (10k -> 4k)	-	4.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U312)	+	19.5	dB
Power Splitter + Cable	+	6.7	dB
TOTAL CORRECTION:	+	23.1	dB

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

Mask based on 240 kHz bandwidth and Pout = 34 dBm.

Plot No. 50 (70)



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

Limit:
Limit according to 25.202 f):
50-100% of assigned bw: -25dBc/4kHz
100-250% of assigned bw: -35dBc/4kHz
> 250% of assigned bw: -43+10log(Pmax)dBc/4kHz = -43 dBW
The mean power of emissions shall be attenuated
below the mean output power of the transmitter
in accordance with the above schedule.

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

Operating condition of DUT:
operating condition 1, fm, see test report, operating conditions
modulation scheme R20T45X

Test setup:
see test report chapter 6.x: hfgj

Test equipment:
see test report chapter 6.x: C220, FCob, R001

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Thu 28/Nov/2019 10:23:05	
Location:	CTC advanced GmbH, Laboratory RCE-Sat	
Temperature:	22	°C
Humidity:	45	%
Voltage:	24	Vdc

Setup of measurement equipment:

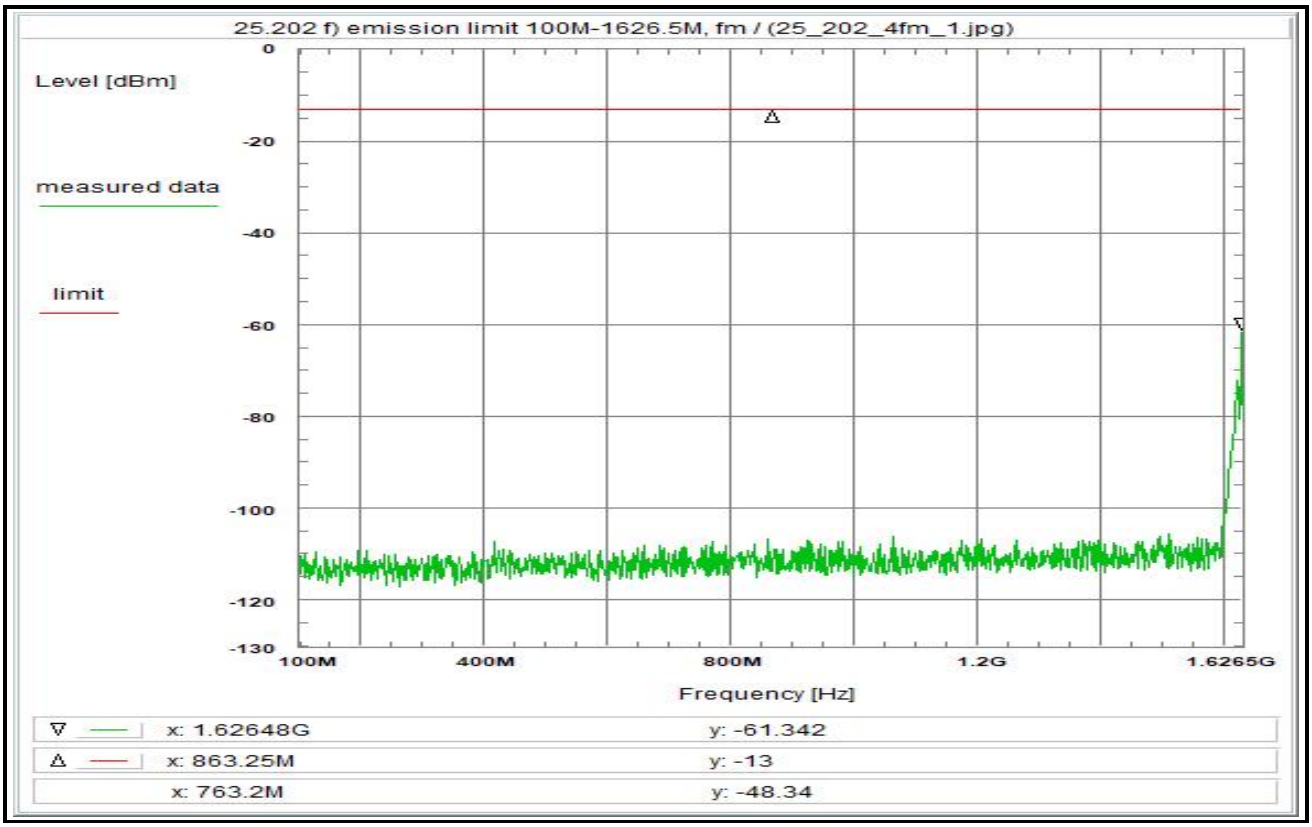
Start frequency:	9	kHz
Stop frequency:	100	MHz
Center frequency:	50.0045	MHz
Frequency span:	99.991	MHz
Resolution-BW:	1	kHz
Video-BW:	3	kHz
Input attenuation:	6	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.2	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor (1k -> 4k)	+	6.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Bandstopfilter + Cable (FCob)	+	10.1	dB
TOTAL CORRECTION:	+	16.3	dB

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

Plot No. 51 (70)



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

Limit:
Limit according to 25.202 f):
50-100% of assigned bw: -25dBc/4kHz
100-250% of assigned bw: -35dBc/4kHz
> 250% of assigned bw: -43+10log(Pmax)dBc/4kHz = -43 dBW
The mean power of emissions shall be attenuated
below the mean output power of the transmitter
in accordance with the above schedule.

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

Operating condition of DUT:
operating condition 1, fm, see test report, operating conditions
modulation scheme R20T45X

Test setup:
see test report chapter 6.x: hfgj

Test equipment:
see test report chapter 6.x: C220, FCob, R001

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Thu 28/Nov/2019 10:25:32
Location:	CTC advanced GmbH, Laboratory RCE-Sat
Temperature:	22 °C
Humidity:	45 %
Voltage:	24 Vdc

Setup of measurement equipment:

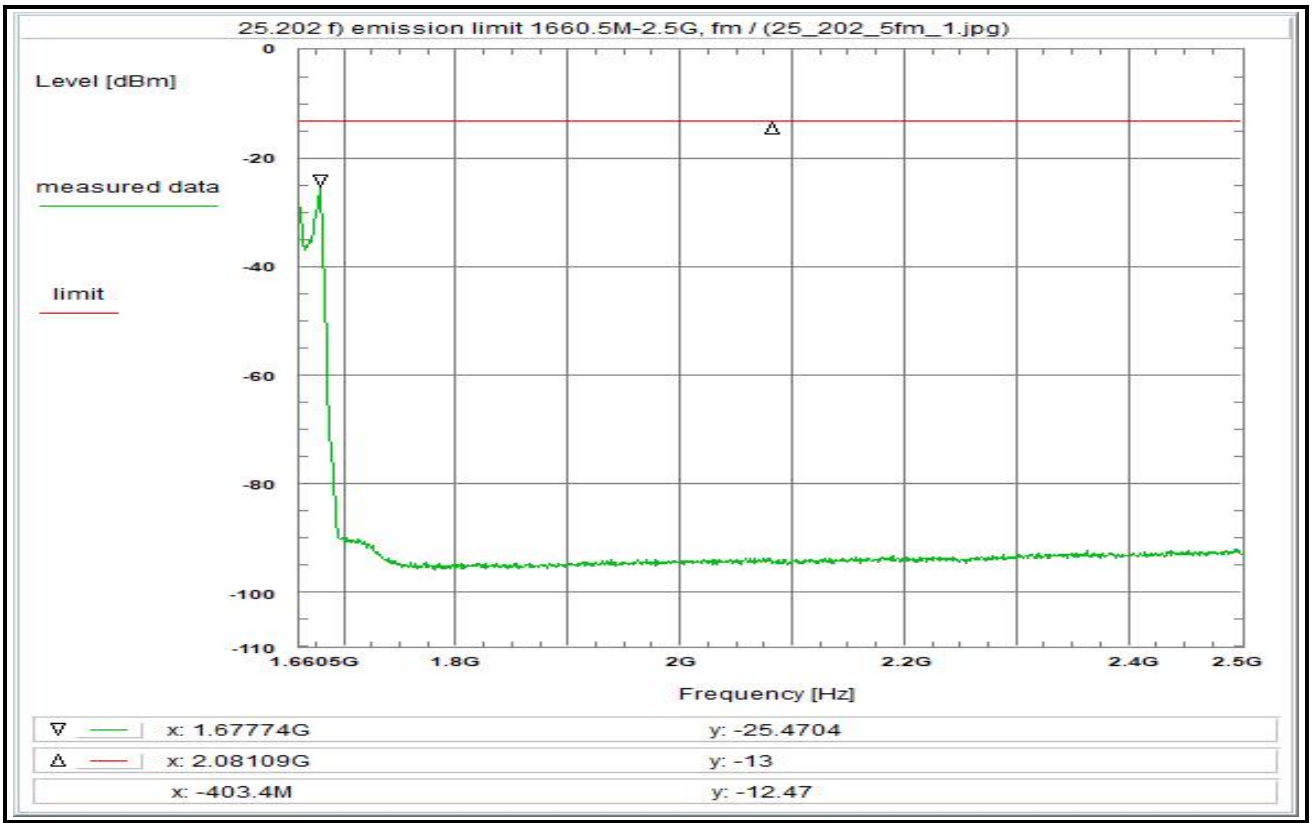
Start frequency:	100	MHz
Stop frequency:	1.6265	GHz
Center frequency:	863.25	MHz
Frequency span:	1.5265	GHz
Resolution-BW:	10	kHz
Video-BW:	30	kHz
Input attenuation:	6	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.6	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor (10k -> 4k)	-	4.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Bandstopfilter + Cable (FCob)	+	10.5	dB
TOTAL CORRECTION:	+	7.1	dB

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

Plot No. 52 (70)



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

Limit:
Limit according to 25.202 f):
50-100% of assigned bw: -25dBc/4kHz
100-250% of assigned bw: -35dBc/4kHz
> 250% of assigned bw: -43+10log(Pmax)dBc/4kHz = -43 dBW
The mean power of emissions shall be attenuated
below the mean output power of the transmitter
in accordance with the above schedule.

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

Operating condition of DUT:
operating condition 1, fm, see test report, operating conditions
modulation scheme R20T45X

Test setup:
see test report chapter 6.x: hfgj

Test equipment:
see test report chapter 6.x: C220, FCob, R001

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Wed 27/Nov/2019 15:01:58	
Location:	CTC advanced GmbH, Laboratory RCE-Sat	
Temperature:	22	°C
Humidity:	45	%
Voltage:	24	Vdc

Setup of measurement equipment:

Start frequency:	1.6605	GHz
Stop frequency:	2.5	GHz
Center frequency:	2.08025	GHz
Frequency span:	839.5	MHz
Resolution-BW:	10	kHz
Video-BW:	30	kHz
Input attenuation:	10	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	AVG	

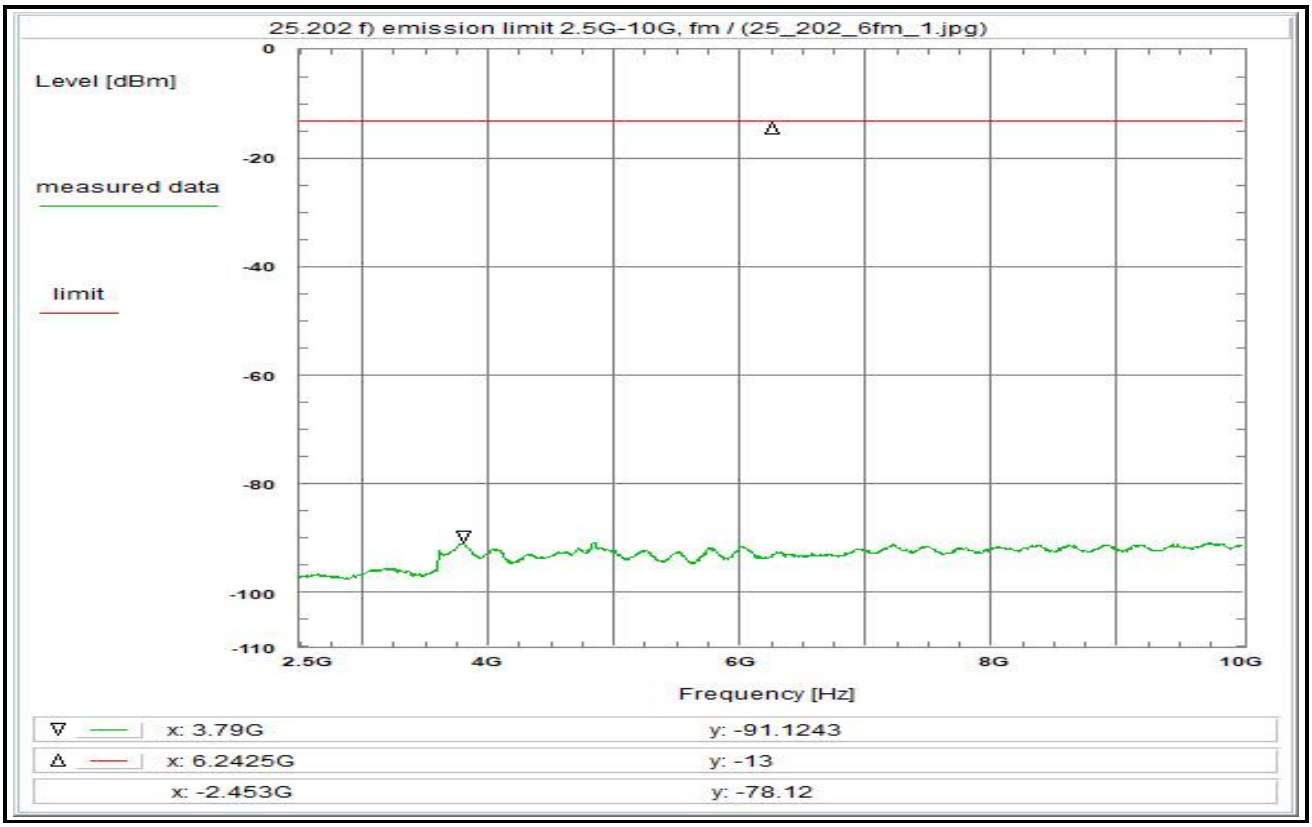
Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	1.0	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor (10k -> 4k)	-	4.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Bandstopfilter + Cable (FCob)	+	12.9	dB
TOTAL CORRECTION:	+	9.9	dB

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

Graph shows frequency response of bandstop filter

Plot No. 53 (70)



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

Limit:
Limit according to 25.202 f):
50-100% of assigned bw: -25dBc/4kHz
100-250% of assigned bw: -35dBc/4kHz
> 250% of assigned bw: -43+10log(Pmax)dBc/4kHz = -43 dBW
The mean power of emissions shall be attenuated
below the mean output power of the transmitter
in accordance with the above schedule.

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

Operating condition of DUT:
operating condition 1, fm, see test report, operating conditions
modulation scheme R20T45X

Test setup:
see test report chapter 6.x: hfgj

Test equipment:
see test report chapter 6.x: C220, FHPF, R001

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Wed 27/Nov/2019 13:57:43
Location:	CTC advanced GmbH, Laboratory RCE-Sat
Temperature:	22 °C
Humidity:	45 %
Voltage:	24 Vdc

Setup of measurement equipment:

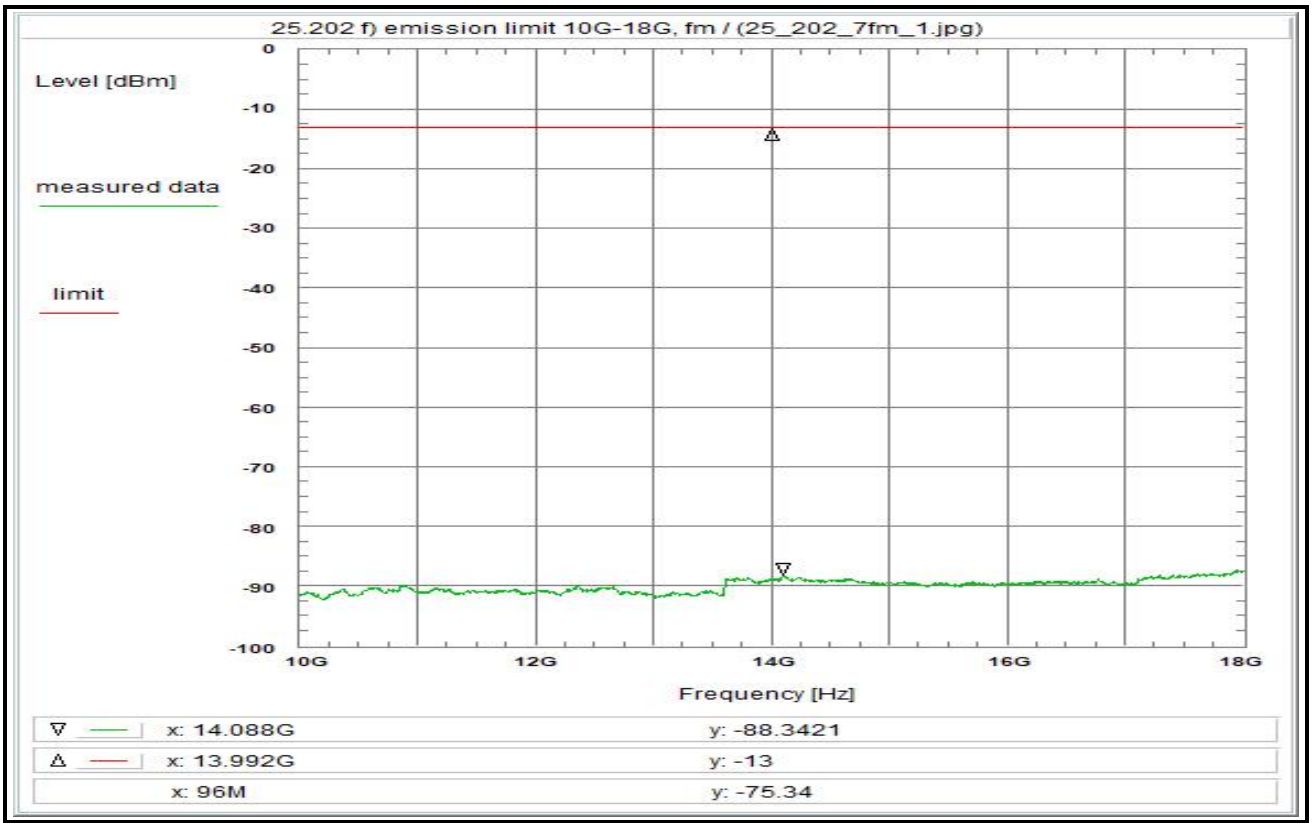
Start frequency:	2.5	GHz
Stop frequency:	10	GHz
Center frequency:	6.25	GHz
Frequency span:	7.5	GHz
Resolution-BW:	100	kHz
Video-BW:	300	kHz
Input attenuation:	6	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	1.7	dB
DUT-Antenna (on-axis)	+	6.0	dBi
Test antenna	+	0.0	dB
BW correction factor (100k -> 4k)	-	14.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Atten. + High Pass + cable (FHPF)	+	11.4	dB
TOTAL CORRECTION:	+	5.1	dB

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

Plot No. 54 (70)



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

Limit:
Limit according to 25.202 f):
50-100% of assigned bw: -25dBc/4kHz
100-250% of assigned bw: -35dBc/4kHz
> 250% of assigned bw: -43+10log(Pmax)dBc/4kHz = -43 dBW
The mean power of emissions shall be attenuated
below the mean output power of the transmitter
in accordance with the above schedule.

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

Operating condition of DUT:
operating condition 1, fm, see test report, operating conditions
modulation scheme R20T45X

Test setup:
see test report chapter 6.x: hfgj

Test equipment:
see test report chapter 6.x: C220, FHPF, R001

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Wed 27/Nov/2019 14:34:25	
Location:	CTC advanced GmbH, Laboratory RCE-Sat	
Temperature:	22	°C
Humidity:	45	%
Voltage:	24	Vdc

Setup of measurement equipment:

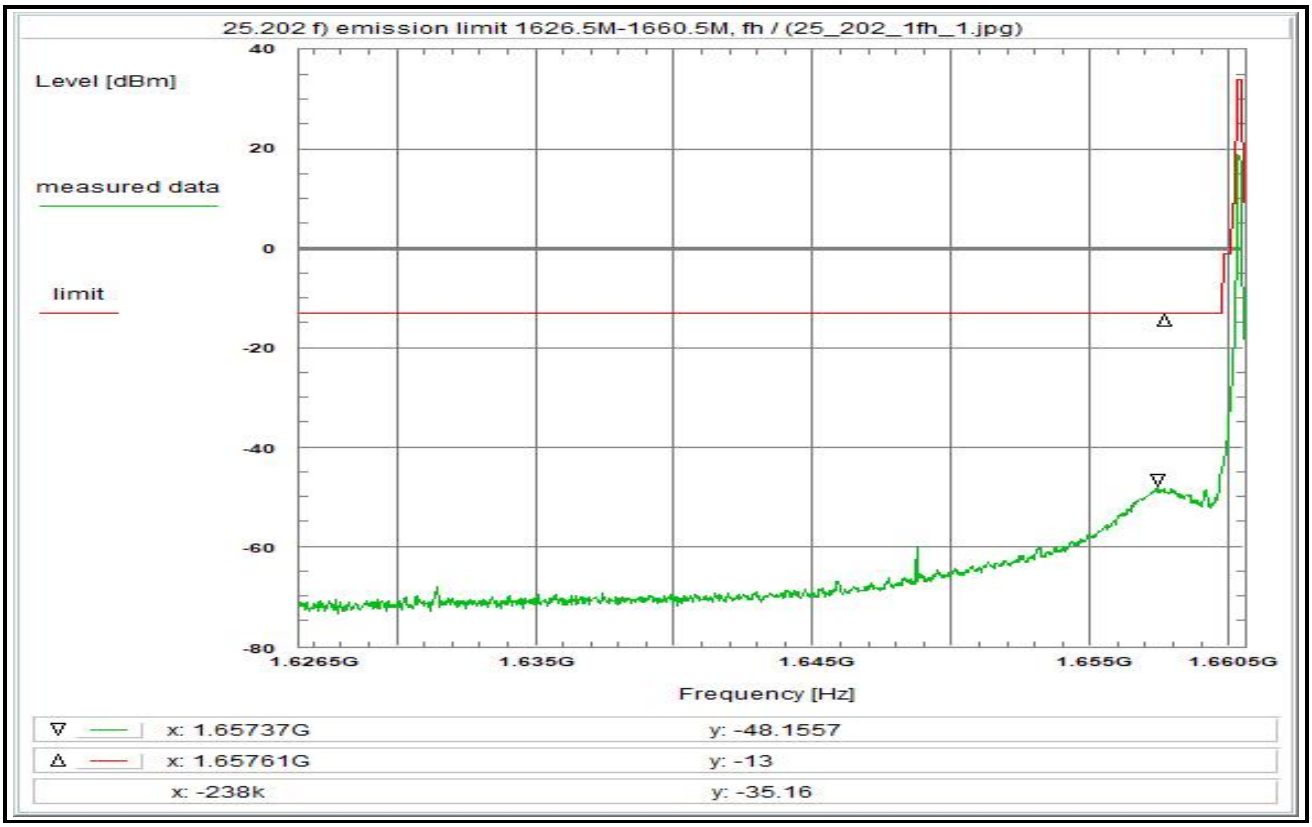
Start frequency:	10	GHz
Stop frequency:	18	GHz
Center frequency:	14	GHz
Frequency span:	8	GHz
Resolution-BW:	100	kHz
Video-BW:	300	kHz
Input attenuation:	6	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	2.7	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor (100k -> 4k)	-	14.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Atten. + High Pass + cable(FHPF)	+	12.5	dB
TOTAL CORRECTION:	+	1.2	dB

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

Plot No. 55 (70)



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 according to 25.202 f):
50-100% of assigned bw: -25dBc/4kHz
100-250% of assigned bw: -35dBc/4kHz
> 250% of assigned bw: -43+10log(Pmax)dBc/4kHz = -43 dBW
The mean power of emissions shall be attenuated
below the mean output power of the transmitter
in accordance with the above schedule.

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

Operating condition of DUT:
operating condition 1, fh, see test report, operating conditions
modulation scheme R20T45X

Test setup:
see test report chapter 6.x: hgj

Test equipment:
see test report chapter 6.x: C220, R001, U312

Remark:
see next plot

Test result: **Test passed**

Environment condition:

Date & Time:	Fri 29/Nov/2019 12:29:16	
Location:	CTC advanced GmbH, Laboratory RCE-Sat	
Temperature:	22	°C
Humidity:	45	%
Voltage:	24	Vdc

Setup of measurement equipment:

Start frequency:	1.6265	GHz
Stop frequency:	1.6605	GHz
Center frequency:	1.6435	GHz
Frequency span:	34	MHz
Resolution-BW:	10	kHz
Video-BW:	30	kHz
Input attenuation:	20	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	AVG	

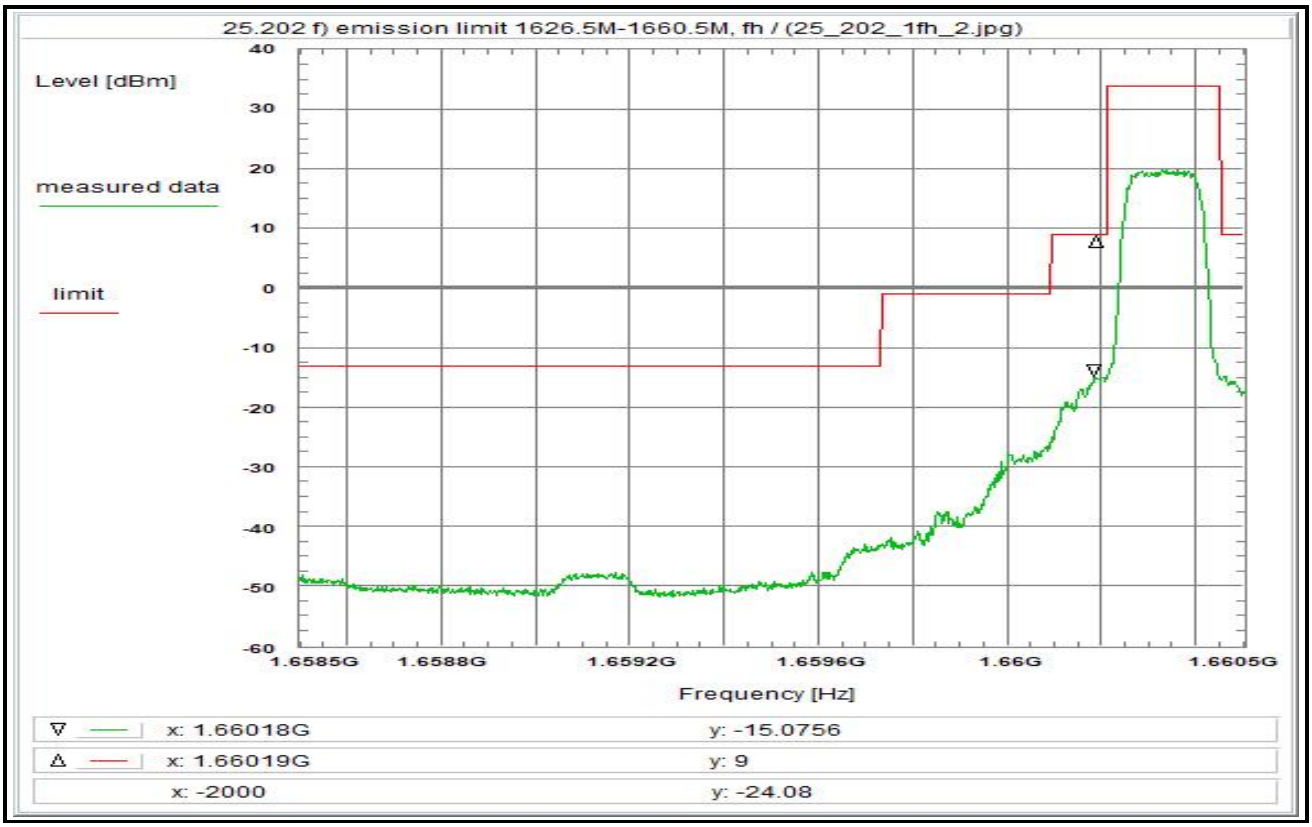
Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor (10k -> 4k)	-	4.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U312)	+	19.5	dB
Power Splitter + Cable	+	6.7	dB
TOTAL CORRECTION:	+	23.1	dB

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

Mask based on 240 kHz bandwidth and Pout = 34 dBm.

Plot No. 56 (70)



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 according to 25.202 f):
50-100% of assigned bw: -25dBc/4kHz
100-250% of assigned bw: -35dBc/4kHz
> 250% of assigned bw: -43+10log(Pmax)dBc/4kHz = -43 dBW
The mean power of emissions shall be attenuated
below the mean output power of the transmitter
in accordance with the above schedule.

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

Operating condition of DUT:
operating condition 1, fh, see test report, operating conditions
modulation scheme R20T45X

Test setup:
see test report chapter 6.x: hgj

Test equipment:
see test report chapter 6.x: C220, R001, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Fri 29/Nov/2019 12:14:17
Location:	CTC advanced GmbH, Laboratory RCE-Sat
Temperature:	22 °C
Humidity:	45 %
Voltage:	24 Vdc

Setup of measurement equipment:

Start frequency:	1.6585	GHz
Stop frequency:	1.6605	GHz
Center frequency:	1.6595	GHz
Frequency span:	2	MHz
Resolution-BW:	10	kHz
Video-BW:	30	kHz
Input attenuation:	20	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	AVG	

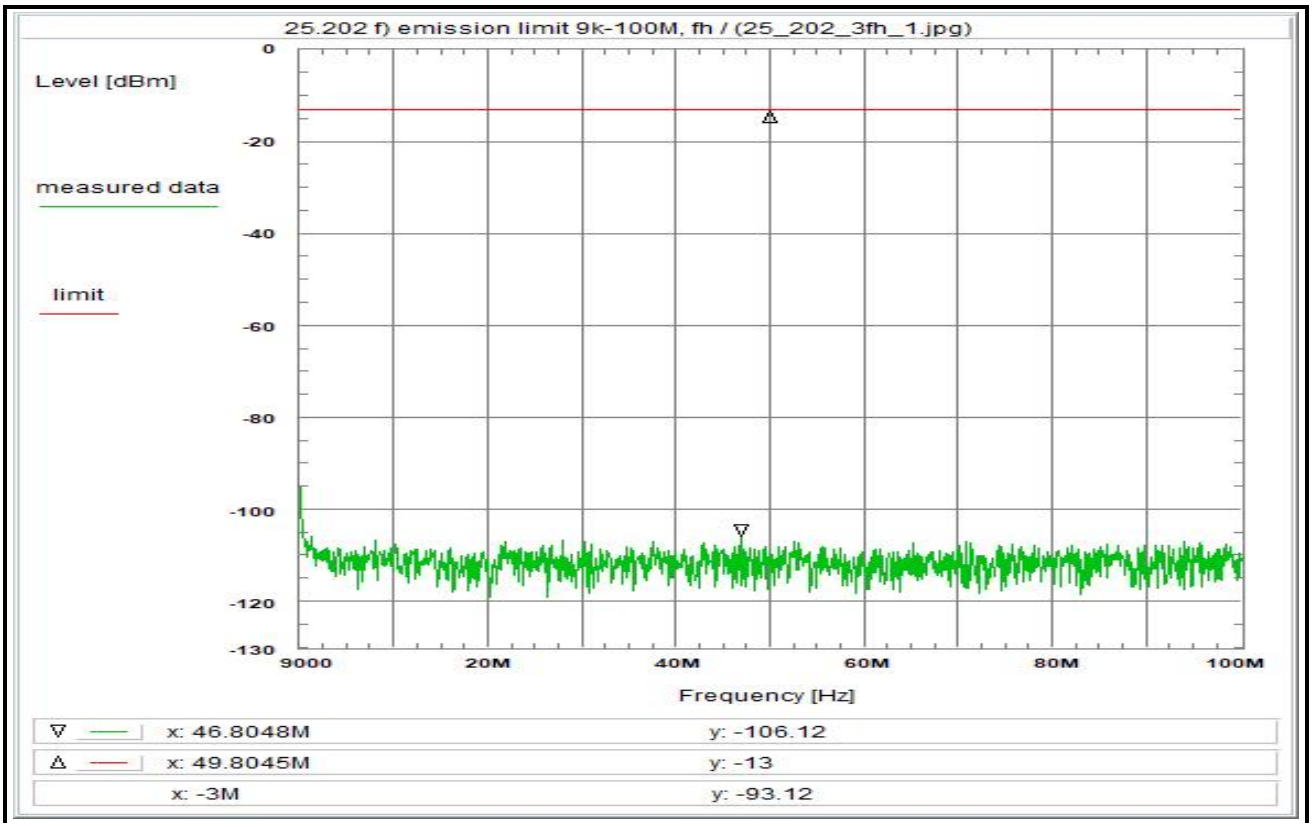
Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor (10k -> 4k)	-	4.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U312)	+	19.5	dB
Power Splitter + Cable	+	6.7	dB
TOTAL CORRECTION:	+	23.1	dB

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

Mask based on 240 kHz bandwidth and Pout = 34 dBm.

Plot No. 57 (70)



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 according to 25.202 f):
50-100% of assigned bw: -25dBc/4kHz
100-250% of assigned bw: -35dBc/4kHz
> 250% of assigned bw: -43+10log(Pmax)dBc/4kHz = -43 dBW
The mean power of emissions shall be attenuated
below the mean output power of the transmitter
in accordance with the above schedule.

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

Operating condition of DUT:
operating condition 1, fh, see test report, operating conditions
modulation scheme R20T45X

Test setup:
see test report chapter 6.x: hfgj

Test equipment:
see test report chapter 6.x: C220, FCob, R001

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Thu 28/Nov/2019 10:16:38	
Location:	CTC advanced GmbH, Laboratory RCE-Sat	
Temperature:	22	°C
Humidity:	45	%
Voltage:	24	Vdc

Setup of measurement equipment:

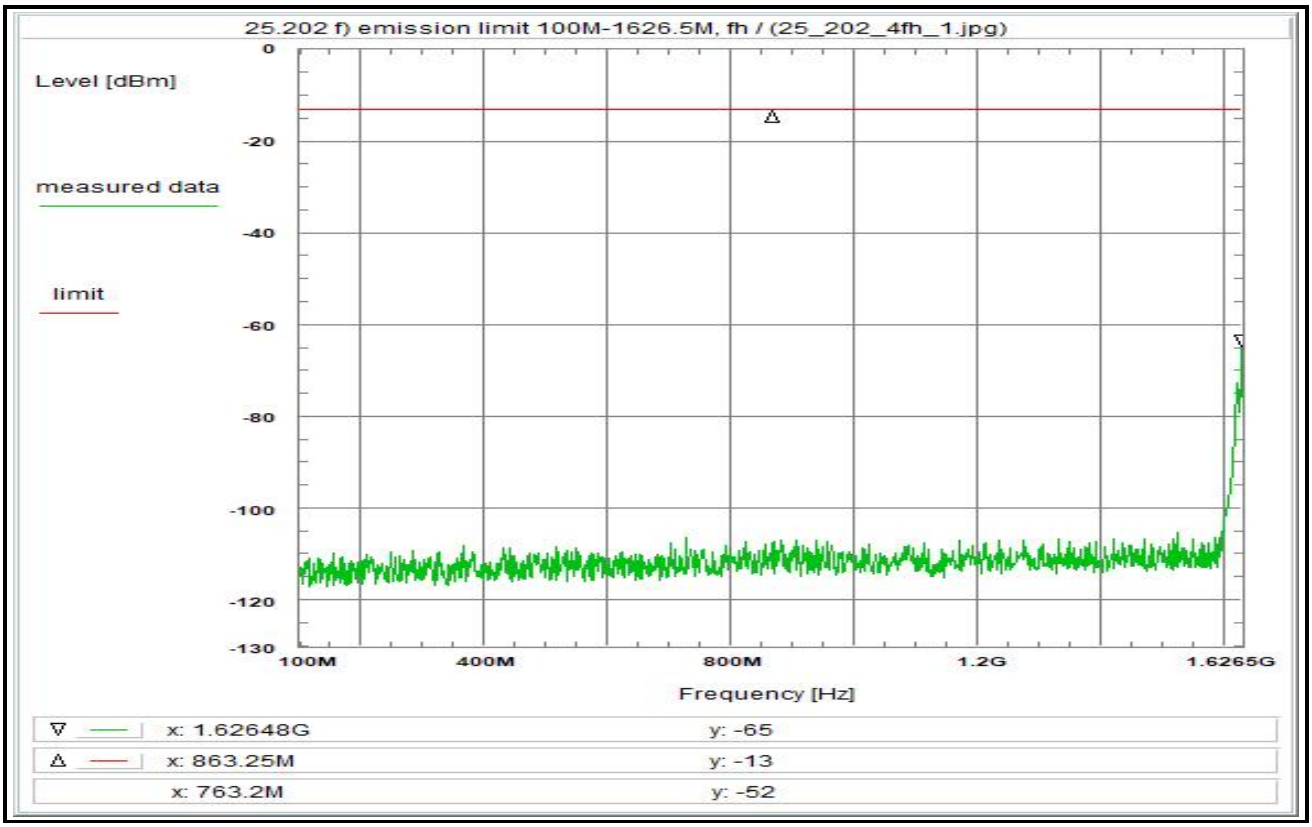
Start frequency:	9	kHz
Stop frequency:	100	MHz
Center frequency:	50.0045	MHz
Frequency span:	99.991	MHz
Resolution-BW:	1	kHz
Video-BW:	3	kHz
Input attenuation:	6	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.2	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor (1k -> 4k)	+	6.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Bandstopfilter + Cable (FCob)	+	10.1	dB
TOTAL CORRECTION:	+	16.3	dB

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

Plot No. 58 (70)



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 according to 25.202 f):
50-100% of assigned bw: -25dBc/4kHz
100-250% of assigned bw: -35dBc/4kHz
> 250% of assigned bw: -43+10log(Pmax)dBc/4kHz = -43 dBW
The mean power of emissions shall be attenuated
below the mean output power of the transmitter
in accordance with the above schedule.

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

Operating condition of DUT:
operating condition 1, fh, see test report, operating conditions
modulation scheme R20T45X

Test setup:
see test report chapter 6.x: hfgj

Test equipment:
see test report chapter 6.x: C220, FCob, R001

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Thu 28/Nov/2019 09:57:55	
Location:	CTC advanced GmbH, Laboratory RCE-Sat	
Temperature:	22	°C
Humidity:	45	%
Voltage:	24	Vdc

Setup of measurement equipment:

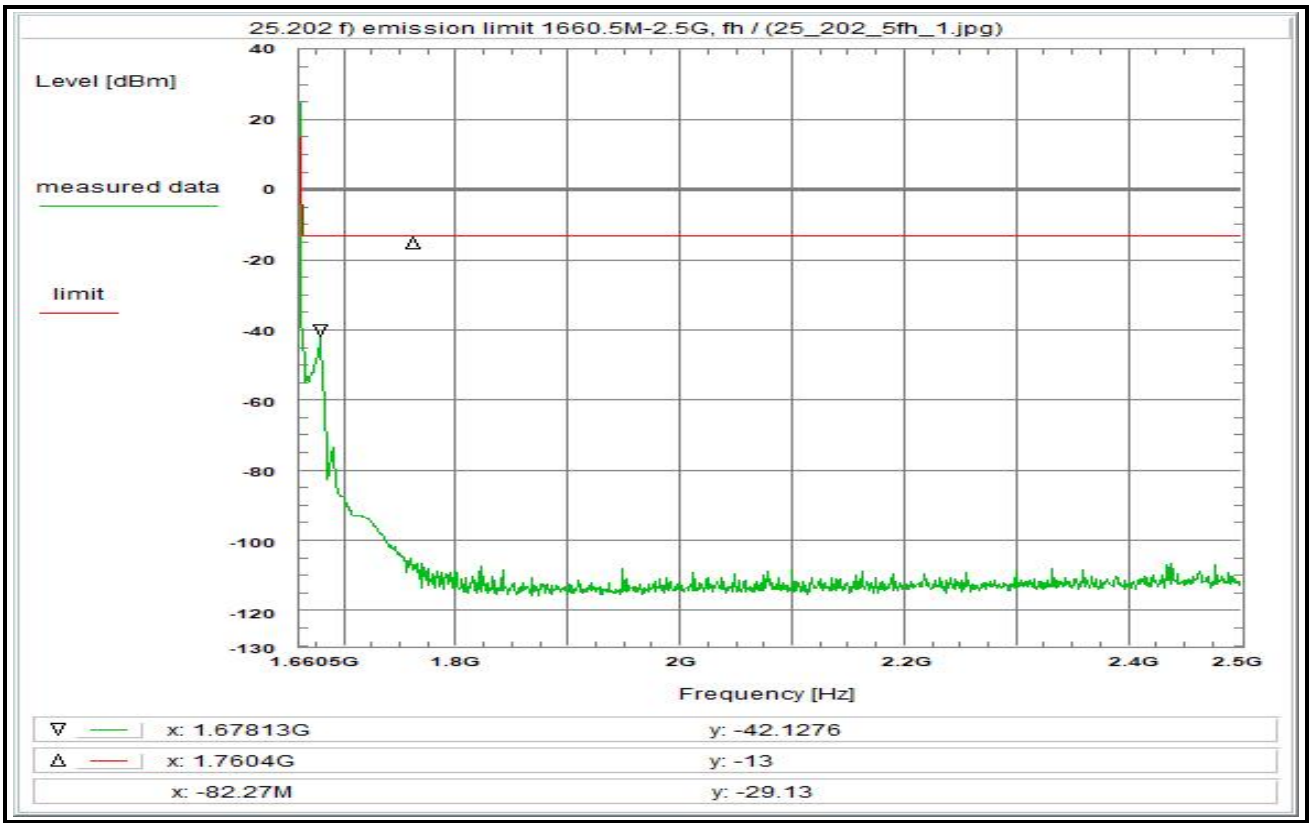
Start frequency:	100	MHz
Stop frequency:	1.6265	GHz
Center frequency:	863.25	MHz
Frequency span:	1.5265	GHz
Resolution-BW:	10	kHz
Video-BW:	30	kHz
Input attenuation:	6	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.6	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor (10k -> 4k)	-	4.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Bandstopfilter + Cable (FCob)	+	10.5	dB
TOTAL CORRECTION:	+	7.1	dB

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

Plot No. 59 (70)



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 according to 25.202 f):
50-100% of assigned bw: -25dBc/4kHz
100-250% of assigned bw: -35dBc/4kHz
> 250% of assigned bw: -43+10log(Pmax)dBc/4kHz = -43 dBW
The mean power of emissions shall be attenuated
below the mean output power of the transmitter
in accordance with the above schedule.

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

Operating condition of DUT:
operating condition 1, fh, see test report, operating conditions
modulation scheme R20T45X

Test setup:
see test report chapter 6.x: hfgj

Test equipment:
see test report chapter 6.x: C220, FCob, R001

Remark:
see next plot

Test result: **Test passed**

Environment condition:

Date & Time:	Thu 28/Nov/2019 09:30:02	
Location:	CTC advanced GmbH, Laboratory RCE-Sat	
Temperature:	22	°C
Humidity:	45	%
Voltage:	24	Vdc

Setup of measurement equipment:

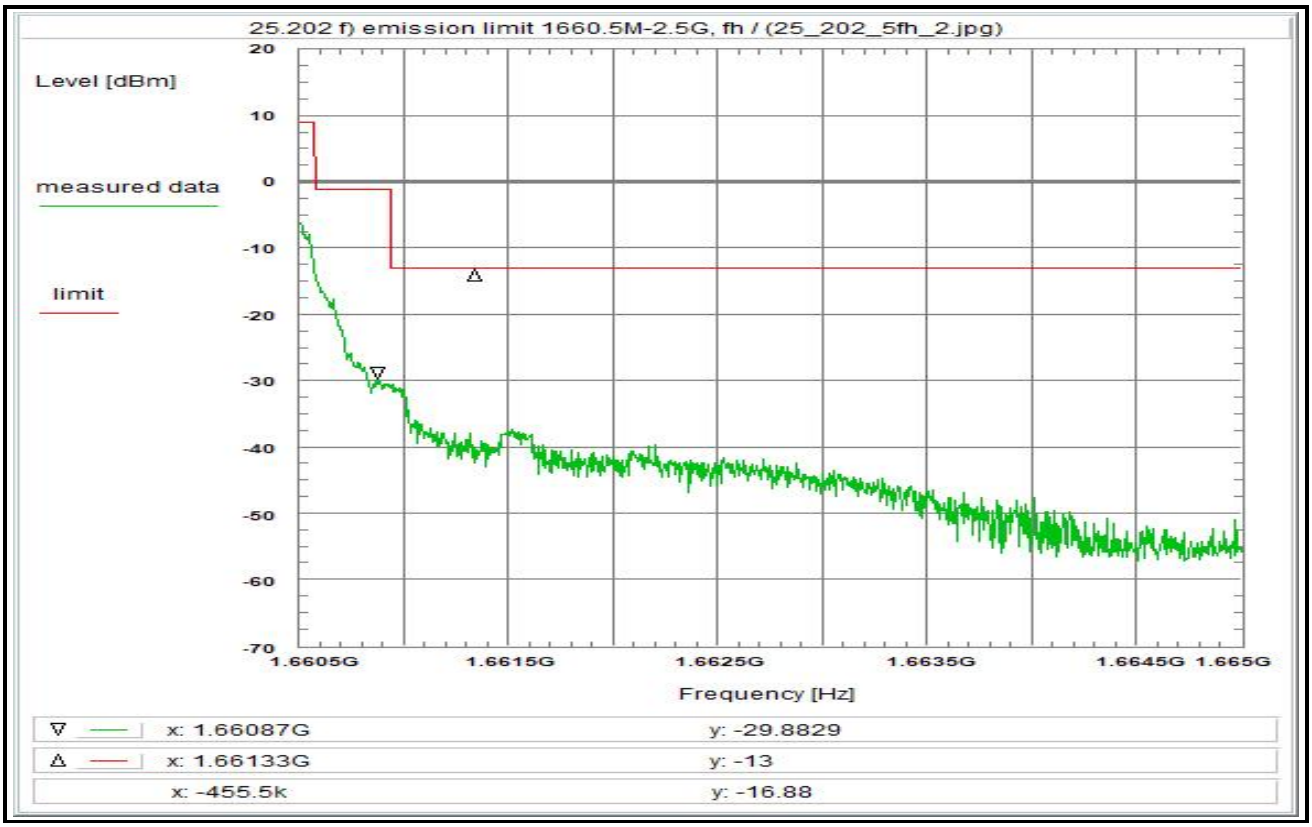
Start frequency:	1.6605	GHz
Stop frequency:	2.5	GHz
Center frequency:	2.08025	GHz
Frequency span:	839.5	MHz
Resolution-BW:	10	kHz
Video-BW:	30	kHz
Input attenuation:	6	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	1.0	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor (10k -> 4k)	-	4.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Bandstopfilter + Cable (FCob)	+	12.9	dB
TOTAL CORRECTION:	+	9.9	dB

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

Plot No. 60 (70)



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 according to 25.202 f):
50-100% of assigned bw: -25dBc/4kHz
100-250% of assigned bw: -35dBc/4kHz
> 250% of assigned bw: -43+10log(Pmax)dBc/4kHz = -43 dBW
The mean power of emissions shall be attenuated
below the mean output power of the transmitter
in accordance with the above schedule.

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

Operating condition of DUT:
operating condition 1, fh, see test report, operating conditions
modulation scheme R20T45X

Test setup:
see test report chapter 6.x: hfgj

Test equipment:
see test report chapter 6.x: C220, FCob, R001

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Thu 28/Nov/2019 09:34:31	
Location:	CTC advanced GmbH, Laboratory RCE-Sat	
Temperature:	22	°C
Humidity:	45	%
Voltage:	24	Vdc

Setup of measurement equipment:

Start frequency:	1.6605	GHz
Stop frequency:	1.665	GHz
Center frequency:	1.66275	GHz
Frequency span:	4.5	MHz
Resolution-BW:	10	kHz
Video-BW:	30	kHz
Input attenuation:	6	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	AVG	

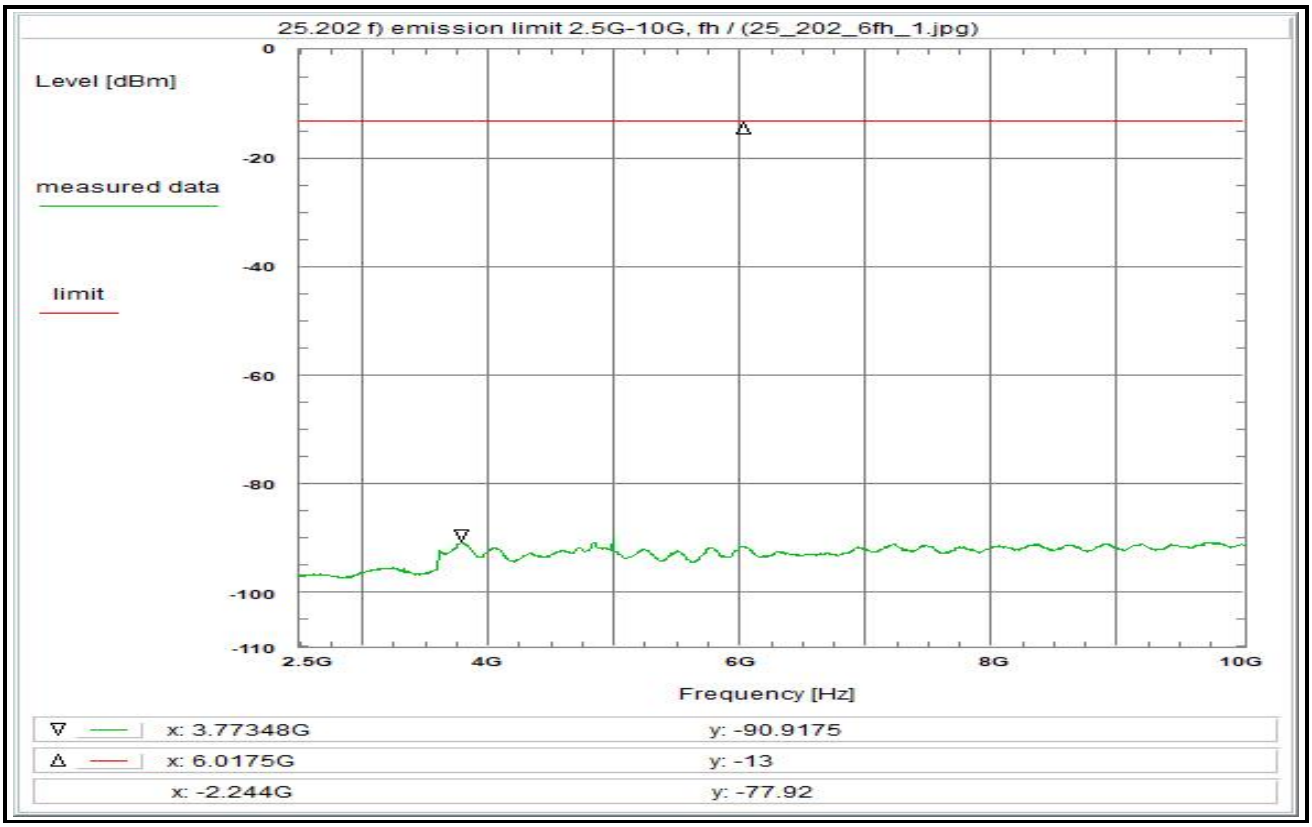
Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor (10k -> 4k)	-	4.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Bandstopfilter + Cable (FCob)	+	63.2	dB
TOTAL CORRECTION:	+	60.1	dB

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

Mask based on 240 kHz bandwidth and Pout = 34 dBm.

Plot No. 61 (70)



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 according to 25.202 f):
50-100% of assigned bw: -25dBc/4kHz
100-250% of assigned bw: -35dBc/4kHz
> 250% of assigned bw: -43+10log(Pmax)dBc/4kHz = -43 dBW
The mean power of emissions shall be attenuated
below the mean output power of the transmitter
in accordance with the above schedule.

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

Operating condition of DUT:
operating condition 1, fh, see test report, operating conditions
modulation scheme R20T45X

Test setup:
see test report chapter 6.x: hfgj

Test equipment:
see test report chapter 6.x: C220, FHPF, R001

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Wed 27/Nov/2019 14:29:38	
Location:	CTC advanced GmbH, Laboratory RCE-Sat	
Temperature:	22	°C
Humidity:	55	%
Voltage:	24	Vdc

Setup of measurement equipment:

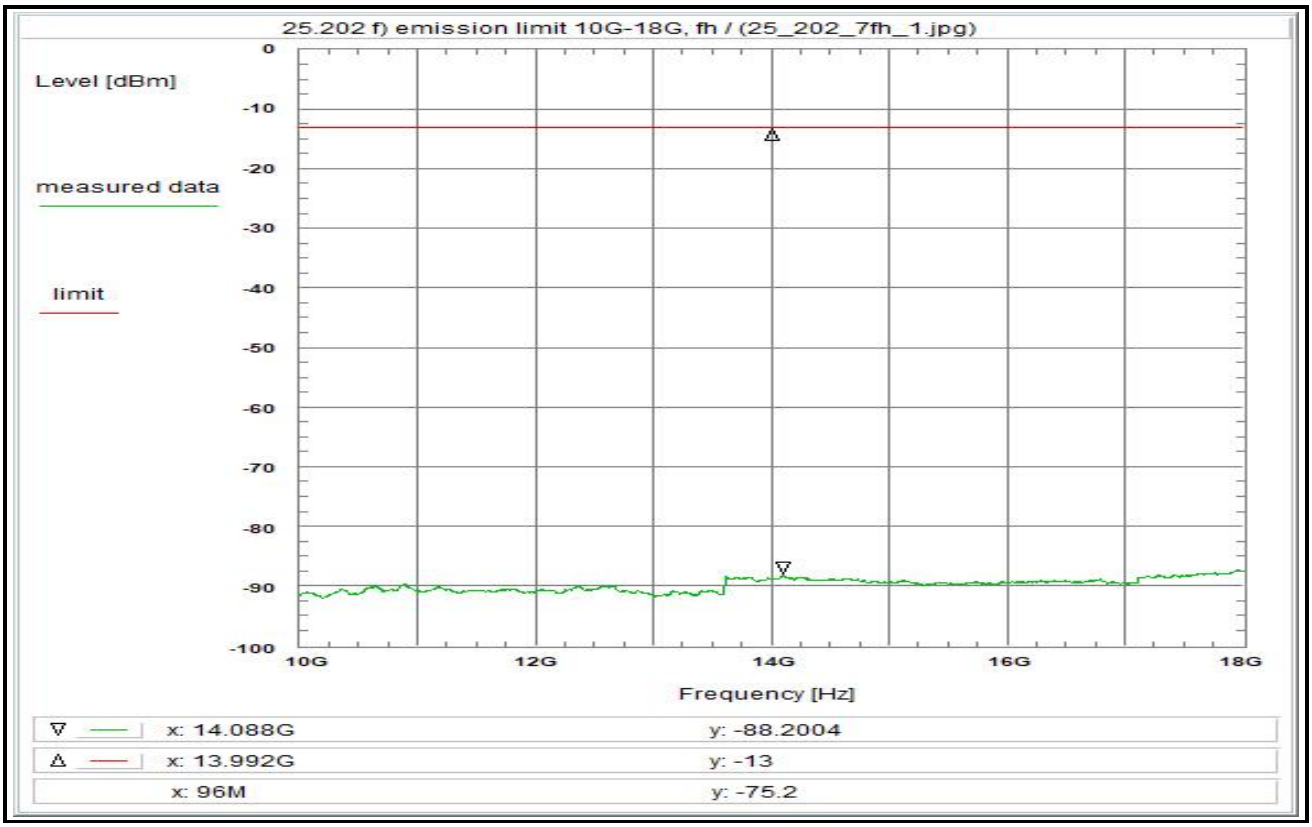
Start frequency:	2.5	GHz
Stop frequency:	10	GHz
Center frequency:	6.25	GHz
Frequency span:	7.5	GHz
Resolution-BW:	100	kHz
Video-BW:	300	kHz
Input attenuation:	6	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	1.7	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor (100k -> 4k)	-	14.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Atten. + High Pass + cable (FHPF)	+	11.4	dB
TOTAL CORRECTION:	-	0.9	dB

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

Plot No. 62 (70)



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 according to 25.202 f):
50-100% of assigned bw: -25dBc/4kHz
100-250% of assigned bw: -35dBc/4kHz
> 250% of assigned bw: -43+10log(Pmax)dBc/4kHz = -43 dBW
The mean power of emissions shall be attenuated
below the mean output power of the transmitter
in accordance with the above schedule.

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

Operating condition of DUT:
operating condition 1, fh, see test report, operating conditions
modulation scheme R20T45X

Test setup:
see test report chapter 6.x: hfgj

Test equipment:
see test report chapter 6.x: C220, FHPF, R001

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Wed 27/Nov/2019 14:31:44	
Location:	CTC advanced GmbH, Laboratory RCE-Sat	
Temperature:	22	°C
Humidity:	45	%
Voltage:	24	Vdc

Setup of measurement equipment:

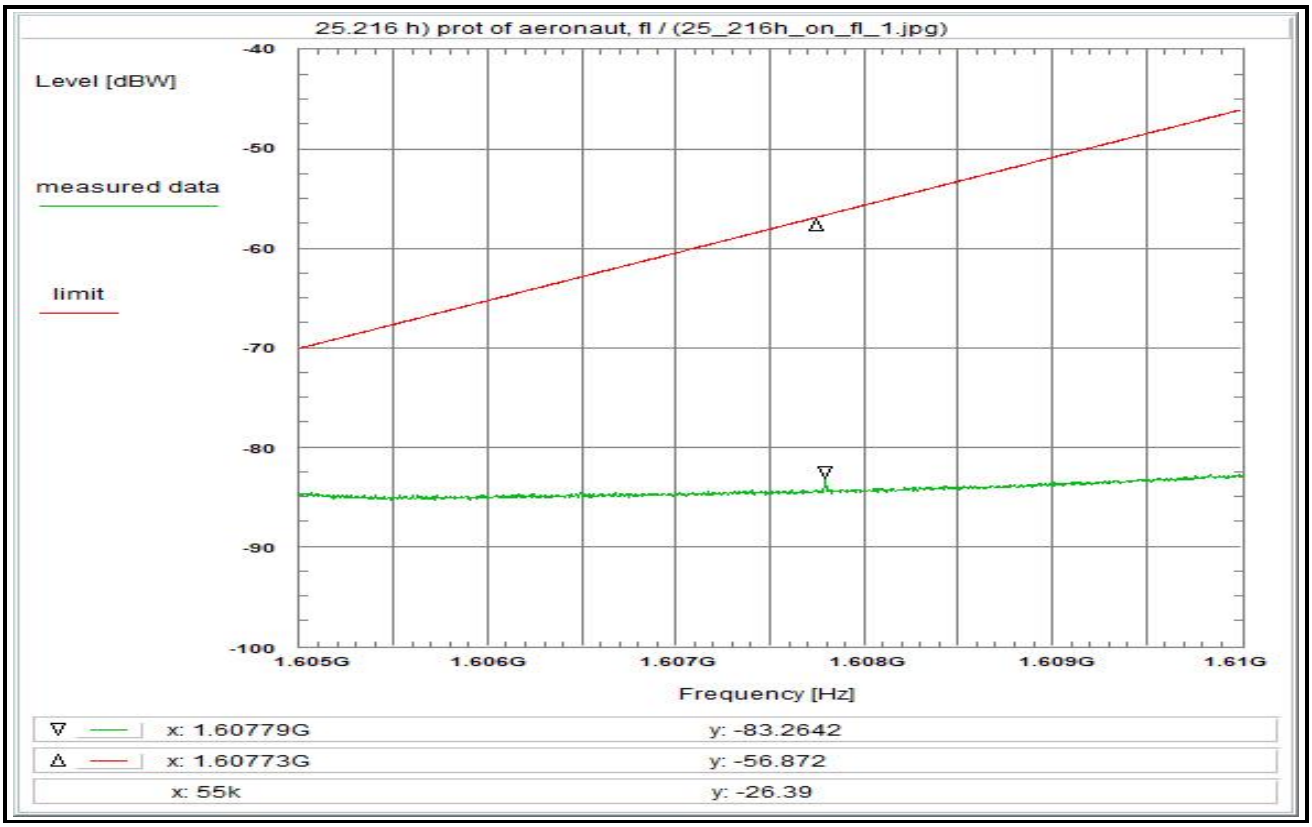
Start frequency:	10	GHz
Stop frequency:	18	GHz
Center frequency:	14	GHz
Frequency span:	8	GHz
Resolution-BW:	100	kHz
Video-BW:	300	kHz
Input attenuation:	6	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	2.7	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor (100k -> 4k)	-	14.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Atten. + High Pass + cable(FHPF)	+	12.5	dB
TOTAL CORRECTION:	+	1.2	dB

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

Plot No. 63 (70)



Subclause: 25.216 h) Protection of aeronautical radionavigation-satellite service
Carrier-on state, modulated carrier at the lower edge of the band (fl)
Conducted measurement at the antenna-connector

Limit:
Limit according to 25.216 h):
1605.0 - 1610MHz: -70 to -46dBW/1MHz)linear interpolated)
The EIRP, averaged over any two-millisecond active transmission interval from the MESs in the carrier-on state shall not exceed the limits above.

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

Operating condition of DUT:
operating condition 1, fl, see test report, operating conditions
modulation scheme R20T45X

Test setup:
see test report chapter 6.x: hgj

Test equipment:
see test report chapter 6.x: C220, R001, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Fri 29/Nov/2019 13:26:18	
Location:	CTC advanced GmbH, Laboratory RCE-Sat	
Temperature:	22	°C
Humidity:	45	%
Voltage:	24	Vdc

Setup of measurement equipment:

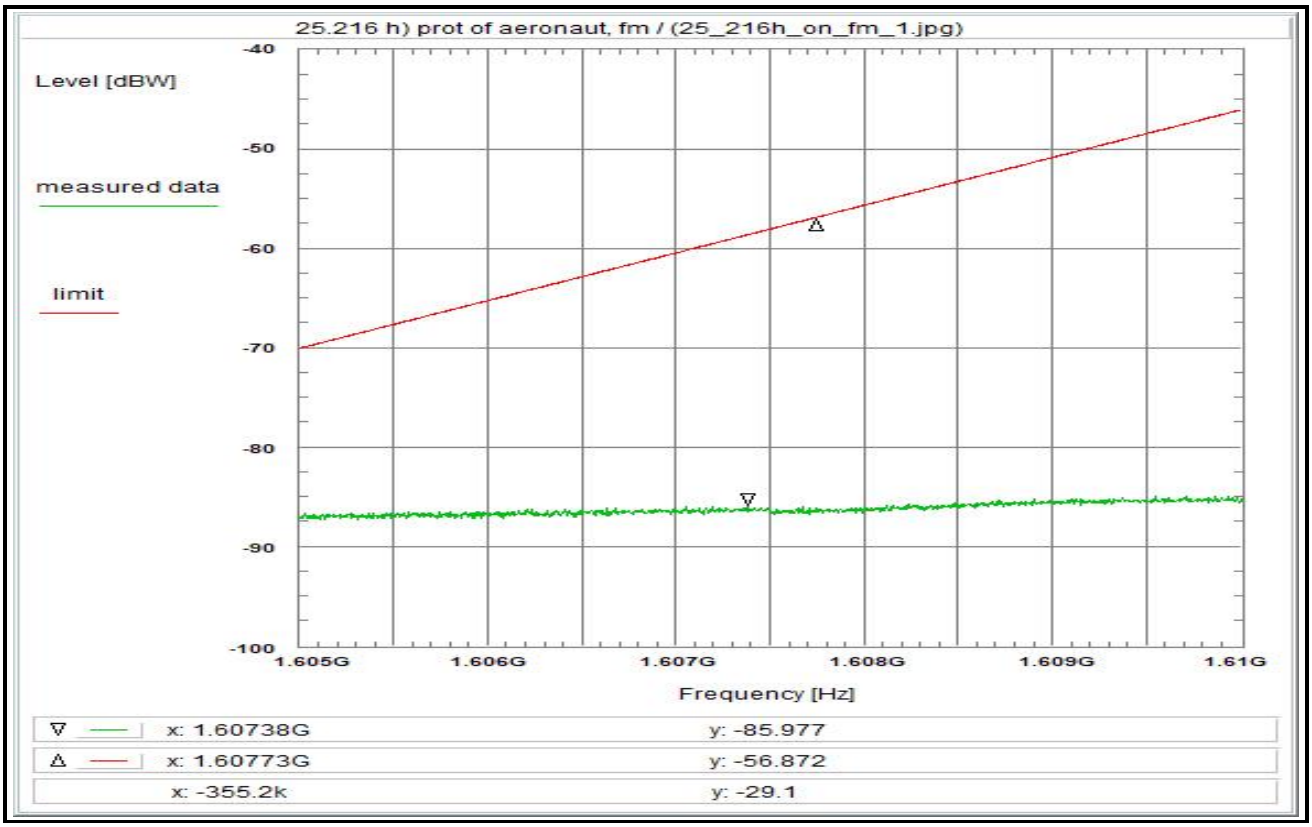
Start frequency:	1.605	GHz
Stop frequency:	1.61	GHz
Center frequency:	1.6075	GHz
Frequency span:	5	MHz
Resolution-BW:	1	MHz
Video-BW:	3	MHz
Input attenuation:	10	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna (on-axis)	+	6.0	dBi
Test antenna	+	0.0	dB
BW correction factor	+	0.0	dB
Atten. between HPA and feedhorn	+	0.0	dB
Attenuation (U312)	+	19.5	dB
Power Splitter + Cable	+	6.7	dB
TOTAL CORRECTION:	+	33.1	dB

Remarks:
Carrier-on state / Carrier at the lower edge of the band (fl)
Measurement with 1 MHz resolution/video filter and RMS detector.
For EIRP calculation:
´worst-case´ = maximum antenna gain

Plot No. 64 (70)



Subclause: 25.216 h) Protection of aeronautical radionavigation-satellite service
Carrier-on state, modulated carrier in the middle of the band (fm)
Conducted measurement at the antenna-connector

Limit:
Limit according to 25.216 h):

1605.0 - 1610MHz: -70 to -46dBW/1MHz)linear interpolated)
The EIRP, averaged over any two-millisecond active transmission interval from the MESs in the carrier-on state shall not exceed the limits above.

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

Operating condition of DUT:
operating condition 1, fm, see test report, operating conditions
modulation scheme R20T45X

Test setup:
see test report chapter 6.x: hgj

Test equipment:
see test report chapter 6.x: C220, R001, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Fri 29/Nov/2019 13:24:54	
Location:	CTC advanced GmbH, Laboratory RCE-Sat	
Temperature:	22	°C
Humidity:	45	%
Voltage:	24	Vdc

Setup of measurement equipment:

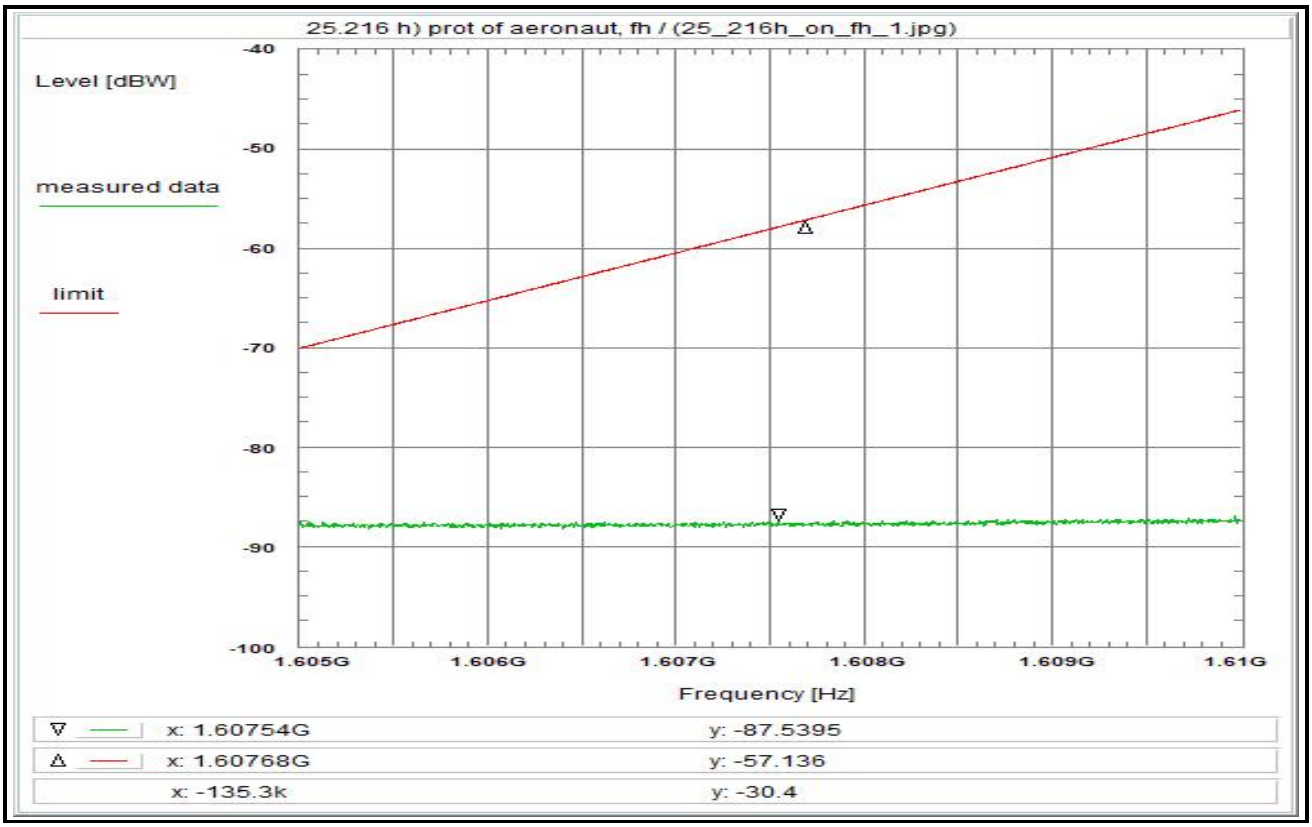
Start frequency:	1.605	GHz
Stop frequency:	1.61	GHz
Center frequency:	1.6075	GHz
Frequency span:	5	MHz
Resolution-BW:	1	MHz
Video-BW:	3	MHz
Input attenuation:	10	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna (on-axis)	+	6.0	dBi
Test antenna	+	0.0	dB
BW correction factor	+	0.0	dB
Atten. between HPA and feedhorn	+	0.0	dB
Attenuation (U312)	+	19.5	dB
Power Splitter + Cable	+	6.7	dB
TOTAL CORRECTION:	+	33.1	dB

Remarks:
Carrier-on state / Carrier in the middle of the band (fm)
Measurement with 1 MHz resolution/video filter and RMS detector.
For EIRP calculation:
´worst-case´ = maximum antenna gain

Plot No. 65 (70)



Subclause: 25.216 h) Protection of aeronautical radionavigation-satellite service
Carrier-on state, modulated carrier at the upper edge of the band (fh)
Conducted measurement at the antenna-connector

Limit:
Limit according to 25.216 h):

1605.0 - 1610MHz: -70 to -46dBW/1MHz)linear interpolated)
The EIRP, averaged over any two-millisecond active transmission interval from the MESs in the carrier-on state shall not exceed the limits above.

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

Operating condition of DUT:
operating condition 1, fh, see test report, operating conditions
modulation scheme R20T45X

Test setup:
see test report chapter 6.x: hgj

Test equipment:
see test report chapter 6.x: C220, R001, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Fri 29/Nov/2019 13:19:15
Location:	CTC advanced GmbH, Laboratory RCE-Sat
Temperature:	22 °C
Humidity:	45 %
Voltage:	24 Vdc

Setup of measurement equipment:

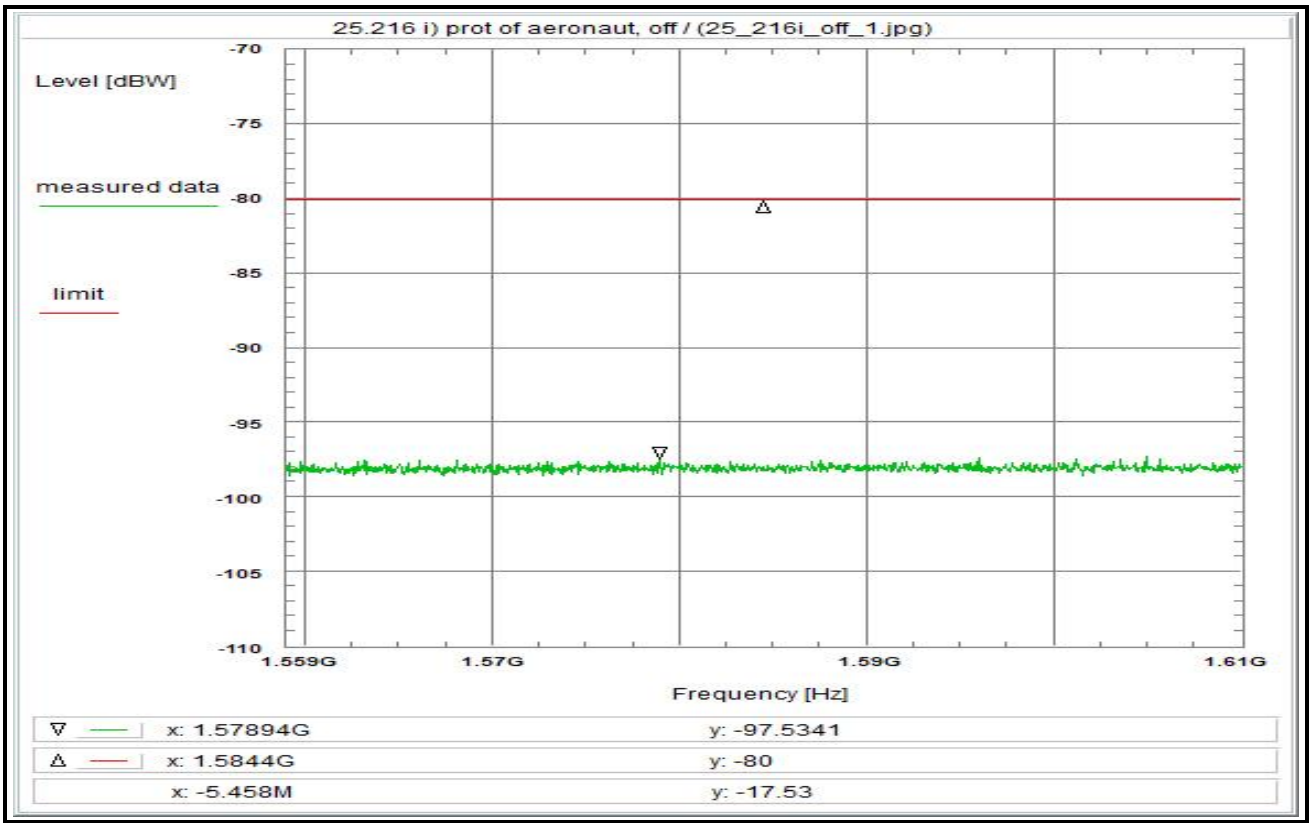
Start frequency:	1.605	GHz
Stop frequency:	1.61	GHz
Center frequency:	1.6075	GHz
Frequency span:	5	MHz
Resolution-BW:	1	MHz
Video-BW:	3	MHz
Input attenuation:	10	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna (on-axis)	+	6.0	dBi
Test antenna	+	0.0	dB
BW correction factor	+	0.0	dB
Atten. between HPA and feedhorn	+	0.0	dB
Attenuation (U312)	+	19.5	dB
Power Splitter + Cable	+	6.7	dB
TOTAL CORRECTION:	+	33.1	dB

Remarks:
Carrier-on state / Carrier at the upper edge of the band (fh)
Measurement with 1 MHz resolution/video filter and RMS detector.
For EIRP calculation:
´worst-case´ = maximum antenna gain

Plot No. 66 (70)



Subclause: 25.216 i) Protection of aeronautical radionavigation-satellite service
Carrier-off state, conducted measurement at the antenna-connector

Limit:
Limit according to 25.216 i): -80dBW/1MHz

The EIRP, averaged over any two-millisecond active transmission interval from the MESs in the carrier-off state shall not exceed the limit above.

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

Operating condition of DUT:
operating condition 2, see test report, operating conditions

Test setup:
see test report chapter 6.x: hgj

Test equipment:
see test report chapter 6.x: C220, R001, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Fri 29/Nov/2019 13:27:50	
Location:	CTC advanced GmbH, Laboratory RCE-Sat	
Temperature:	22	°C
Humidity:	45	%
Voltage:	24	Vdc

Setup of measurement equipment:

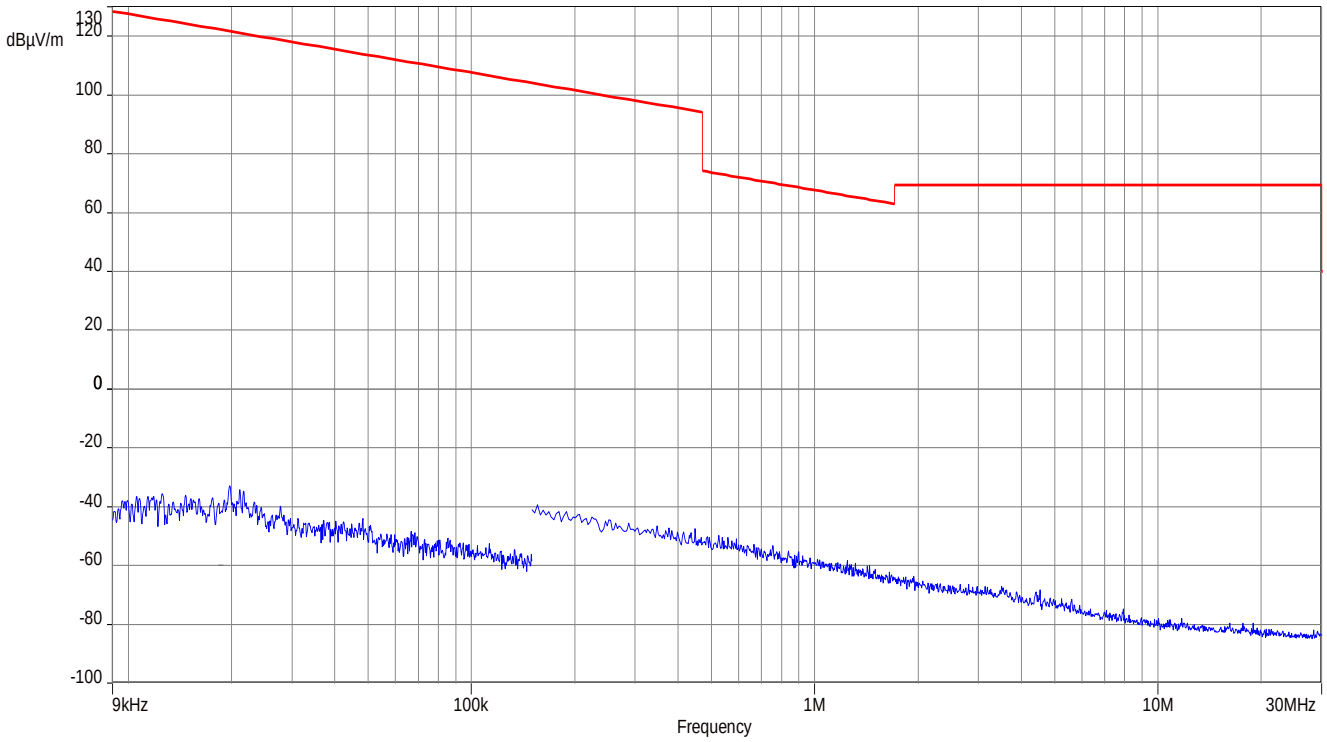
Start frequency:	1.559	GHz
Stop frequency:	1.61	GHz
Center frequency:	1.5845	GHz
Frequency span:	51	MHz
Resolution-BW:	1	MHz
Video-BW:	3	MHz
Input attenuation:	6	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna (on-axis)	+	6.0	dBi
Test antenna	+	0.0	dB
BW correction factor	+	0.0	dB
Atten. between HPA and feedhorn	+	0.0	dB
Attenuation (U312)	+	19.5	dB
Power Splitter + Cable	+	6.7	dB
TOTAL CORRECTION:	+	33.1	dB

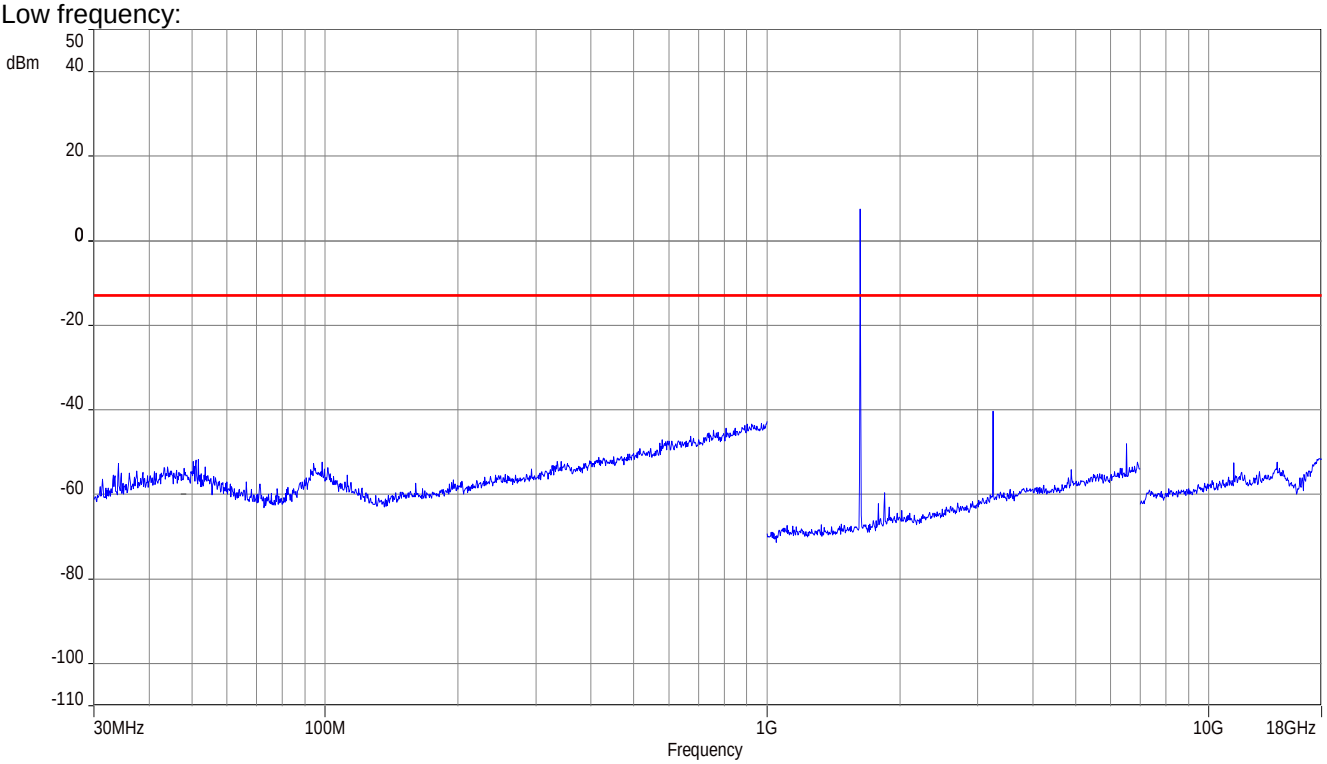
Remarks:
Carrier-off state.
Measurement with 1 MHz resolution filter and RMS detector.
For EIRP calculation:
´worst-case´ = maximum antenna gain

Plot No. 67 (70)



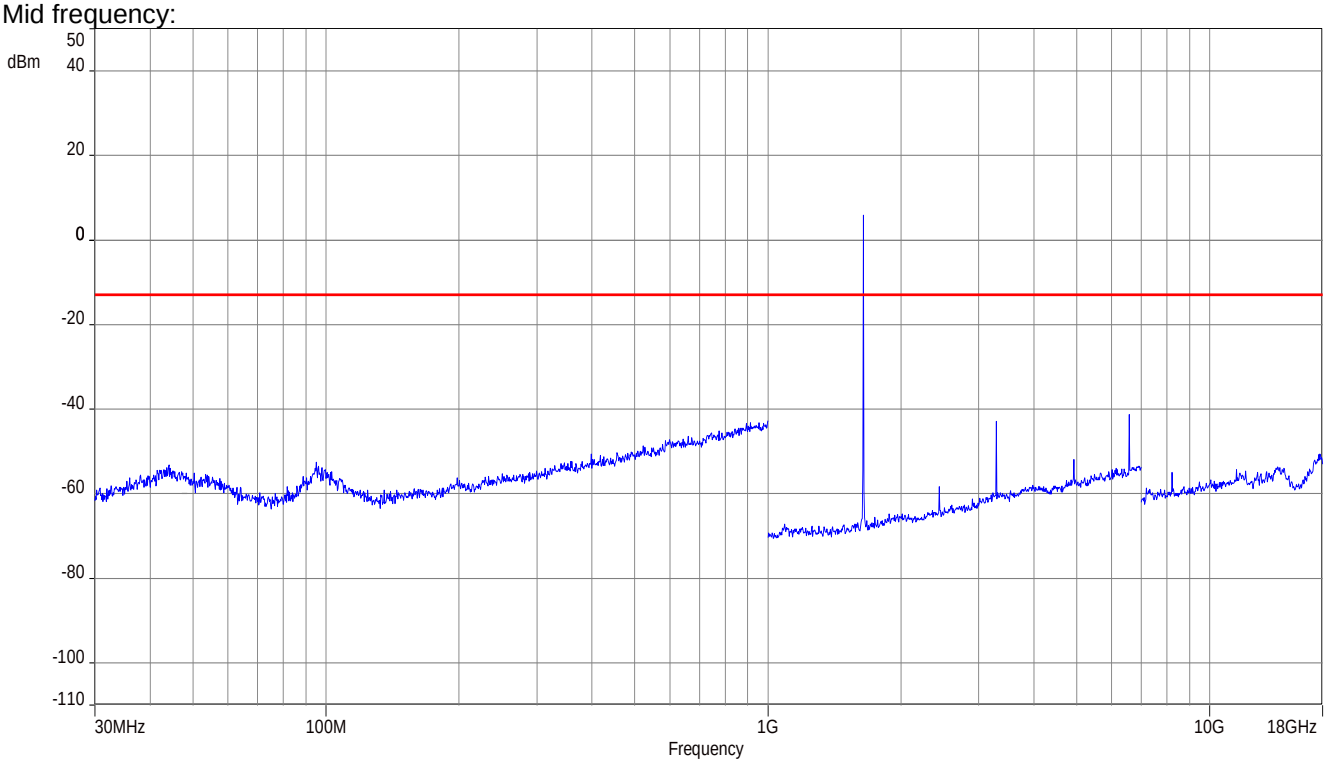
Plot No. 68 (70)

Low frequency:



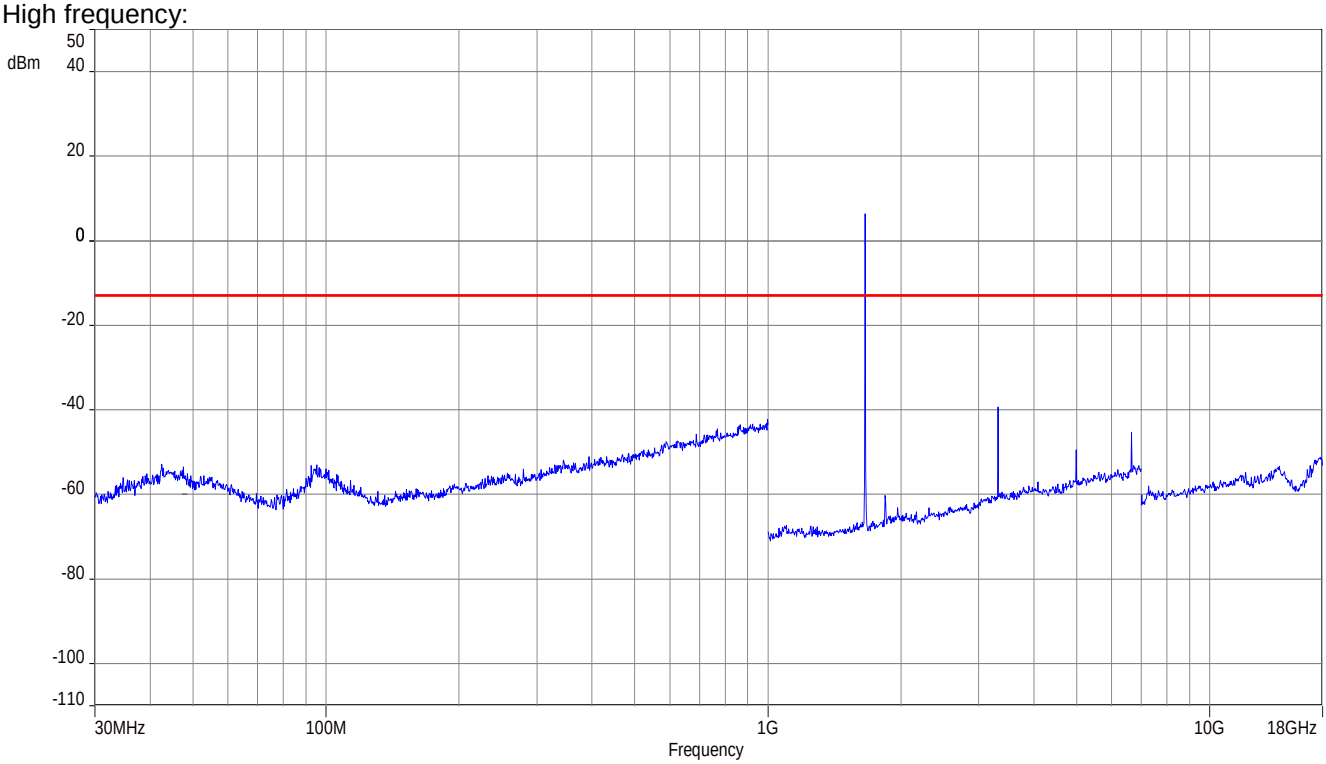
Plot No. 69 (70)

Mid frequency:



Plot No. 70 (70)

High frequency:



Document history

Version	Applied changes	Date of release
	Initial release	2020-01-06