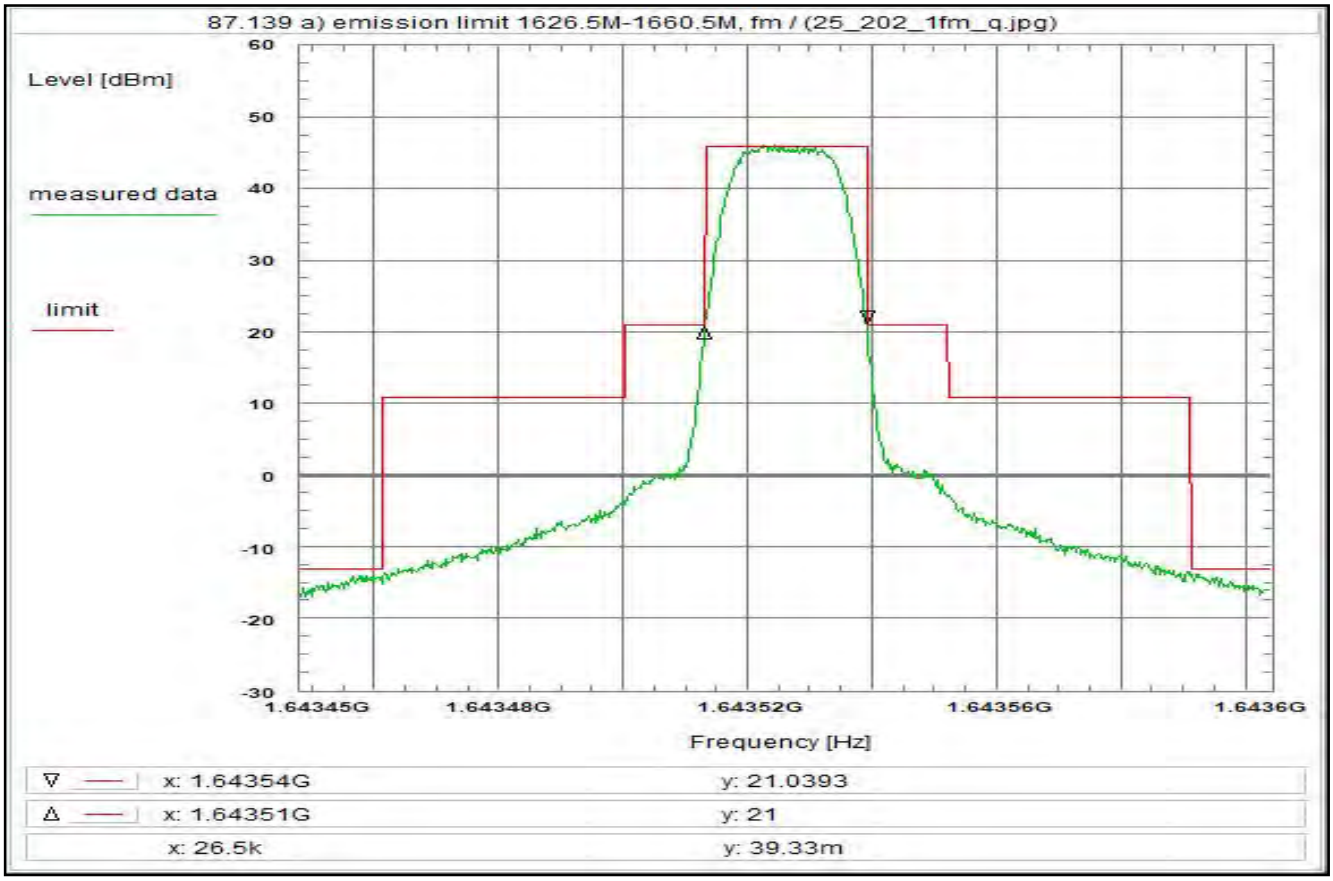
Plot No. 169



Subclause: 87.139 a) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier in the middle of the band (fm)

Limit:
Limit according to 87.139 a):
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, see test report chapter 5.4
A700S Class 6 HDR PIESD, R20T05QD

Test setup:
see test report chapter 7.2 setup 1.1hgj

Test equipment:
see test report chapter 7.2: C220, R001, U312, U311, Power Splitter

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Tue 30/Jun/2020 15:09:49	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

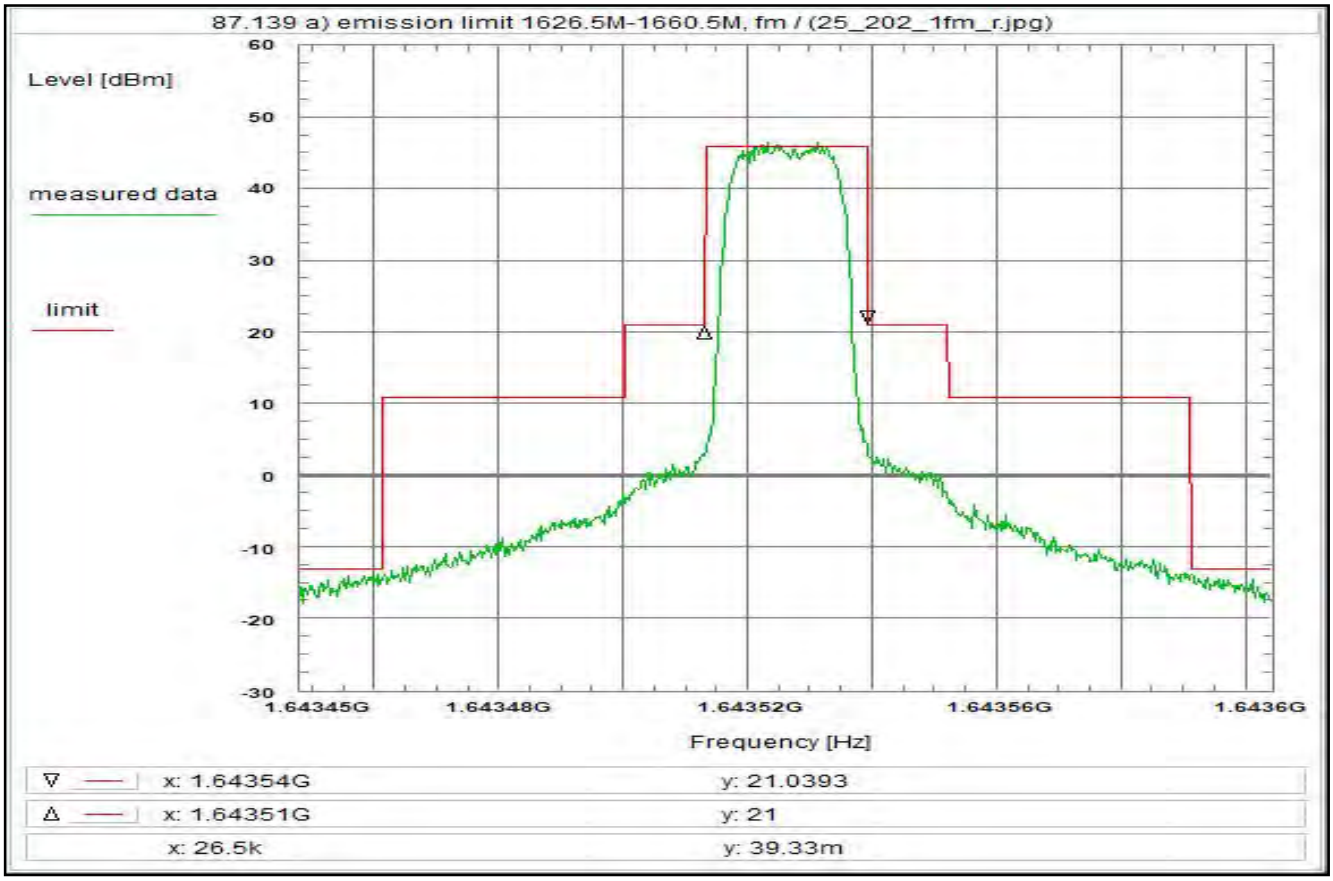
Start frequency:	1.643448	GHz
Stop frequency:	1.643604	GHz
Center frequency:	1.643526	GHz
Frequency span:	156	kHz
Resolution-BW:	3	kHz
Video-BW:	10	kHz
Input attenuation:	30	dB
Trace-Mode:	Clear Write	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	12.0	dBi
Test antenna	+	0.0	dB
BW correction factor (3k -> 4k)	+	1.2	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U312)	+	19.5	dB
Attenuation (U311)	+	9.7	dB
Power Splitter	+	6.7	dB
TOTAL CORRECTION:	+	50.0	dB

Remarks:
Carrier-on state / Carrier in the middle of the band (fm)
Reference of limit = 42 dBm, spectrum mask referenced to necessary bandwidth

Plot No. 170



Subclause: 87.139 a) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier in the middle of the band (fm)

Limit:
Limit according to 87.139 a):
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, see test report chapter 5.4
A700S Class 6 HDR PIESD, R20T05QD

Test setup:
see test report chapter 7.2 setup 1.1hgj

Test equipment:
see test report chapter 7.2: C220, R001, U312, U311, Power Splitter

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Tue 30/Jun/2020 15:11:28	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

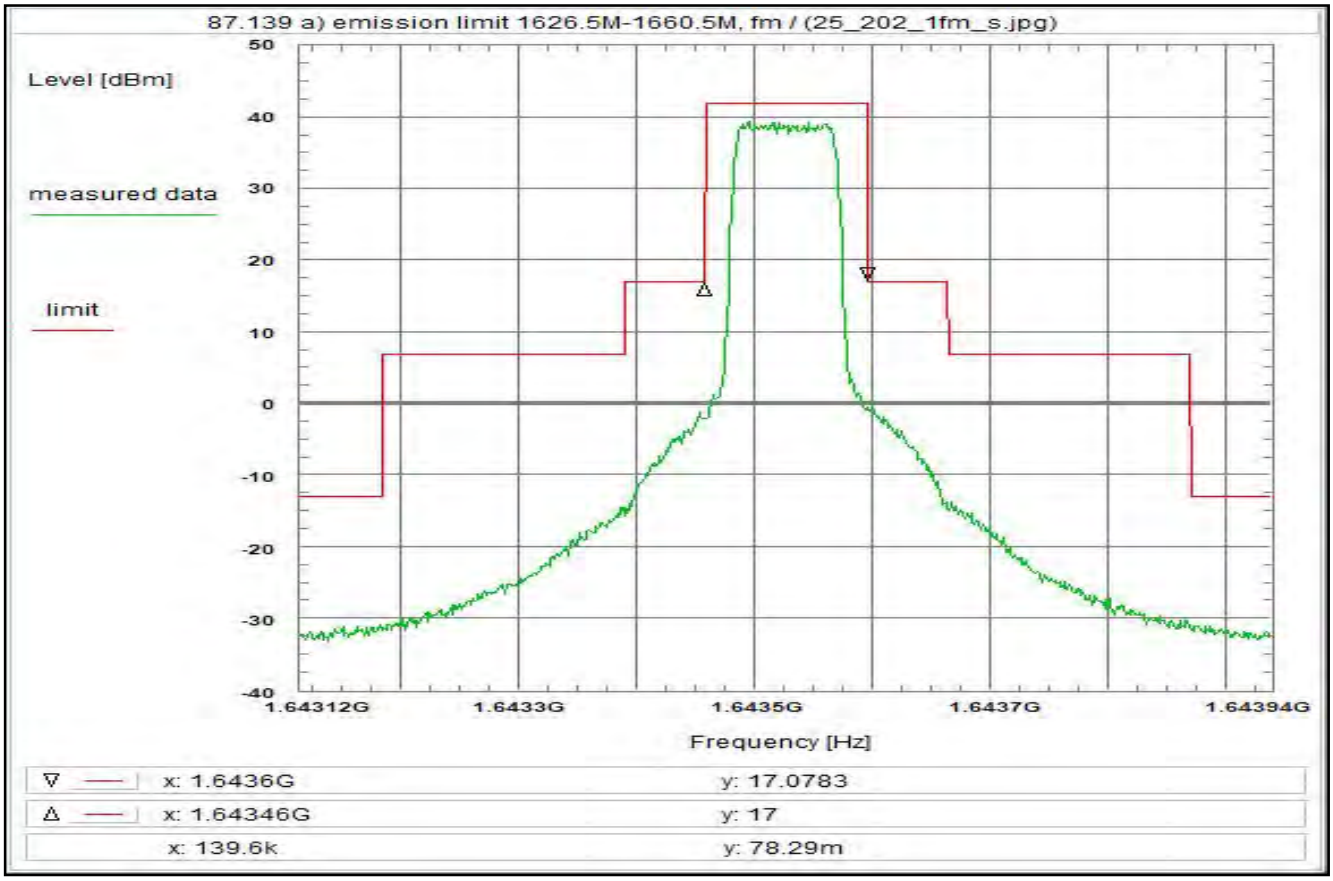
Start frequency:	1.643448	GHz
Stop frequency:	1.643604	GHz
Center frequency:	1.643526	GHz
Frequency span:	156	kHz
Resolution-BW:	1	kHz
Video-BW:	3	kHz
Input attenuation:	30	dB
Trace-Mode:	Clear Write	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	12.0	dBi
Test antenna	+	0.0	dB
BW correction factor (1k -> 4k)	+	6.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U312)	+	19.5	dB
Attenuation (U311)	+	9.7	dB
Power Splitter	+	6.7	dB
TOTAL CORRECTION:	+	54.8	dB

Remarks:
Carrier-on state / Carrier in the middle of the band (fm)
Reference of limit = 42 dBm, spectrum mask referenced to necessary bandwidth

Plot No. 171



Subclause: 87.139 a) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier in the middle of the band (fm)

Limit:
Limit according to 87.139 a):
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, see test report chapter 5.4
A700S Class 6 HDR PIESD, FR80T2.5X16

Test setup:
see test report chapter 7.2 setup 1.1hgj

Test equipment:
see test report chapter 7.2: C220, R001, U312, U311, Power Splitter

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Tue 30/Jun/2020 15:16:50	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

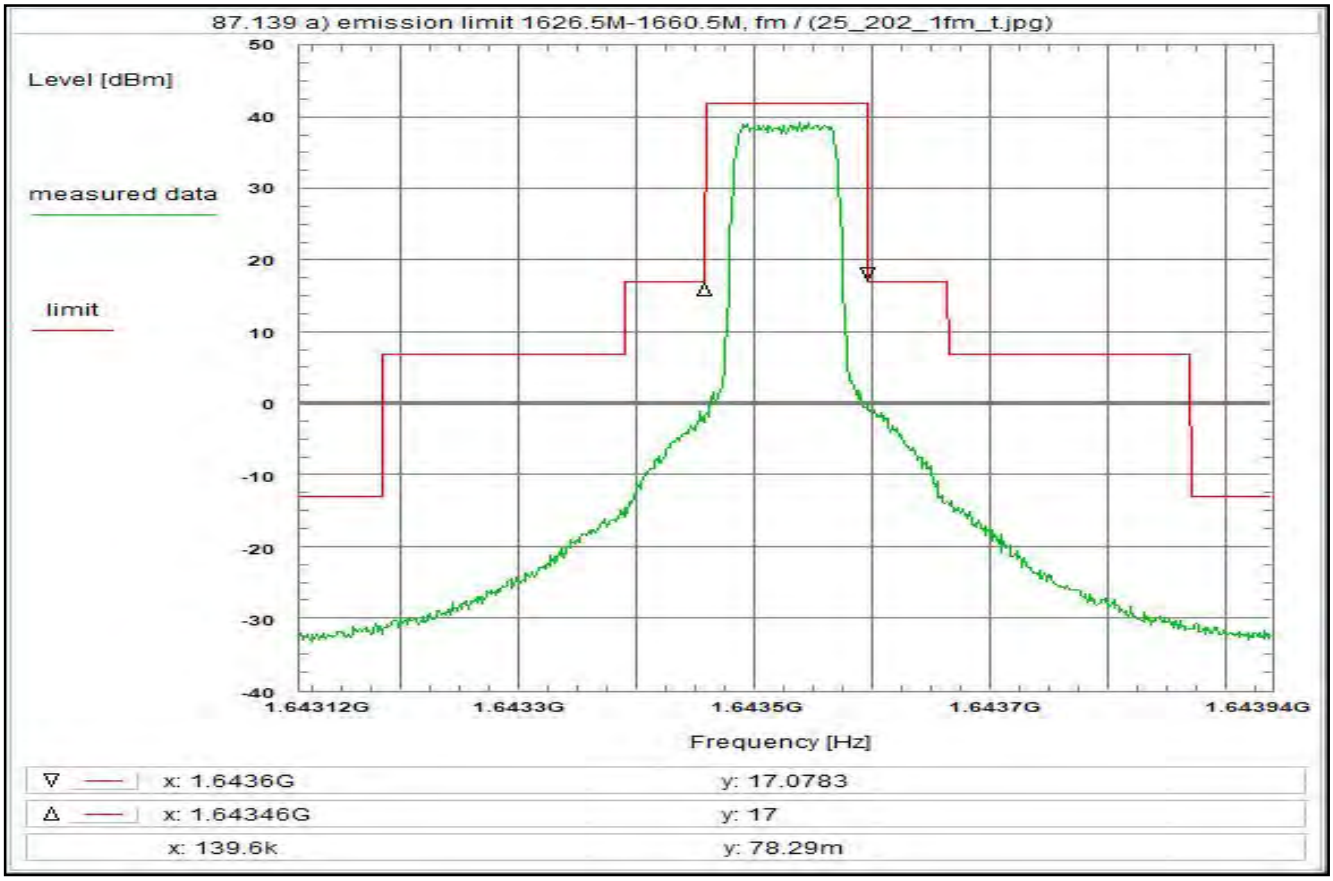
Start frequency:	1.643115	GHz
Stop frequency:	1.643937	GHz
Center frequency:	1.643526	GHz
Frequency span:	822	kHz
Resolution-BW:	3	kHz
Video-BW:	10	kHz
Input attenuation:	30	dB
Trace-Mode:	Clear Write	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	12.0	dBi
Test antenna	+	0.0	dB
BW correction factor (3k -> 4k)	+	1.2	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U312)	+	19.5	dB
Attenuation (U311)	+	9.7	dB
Power Splitter	+	6.7	dB
TOTAL CORRECTION:	+	50.0	dB

Remarks:
Carrier-on state / Carrier in the middle of the band (fm)
Reference of limit = 42 dBm, spectrum mask referenced to necessary bandwidth

Plot No. 172



Subclause: 87.139 a) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier in the middle of the band (fm)

Limit:
Limit according to 87.139 a):
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, see test report chapter 5.4
A700S Class 6 HDR PIESD, FR80T2.5X32

Test setup:
see test report chapter 7.2 setup 1.1hgj

Test equipment:
see test report chapter 7.2: C220, Power Splitter, R001, U311, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Tue 30/Jun/2020 15:19:41	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

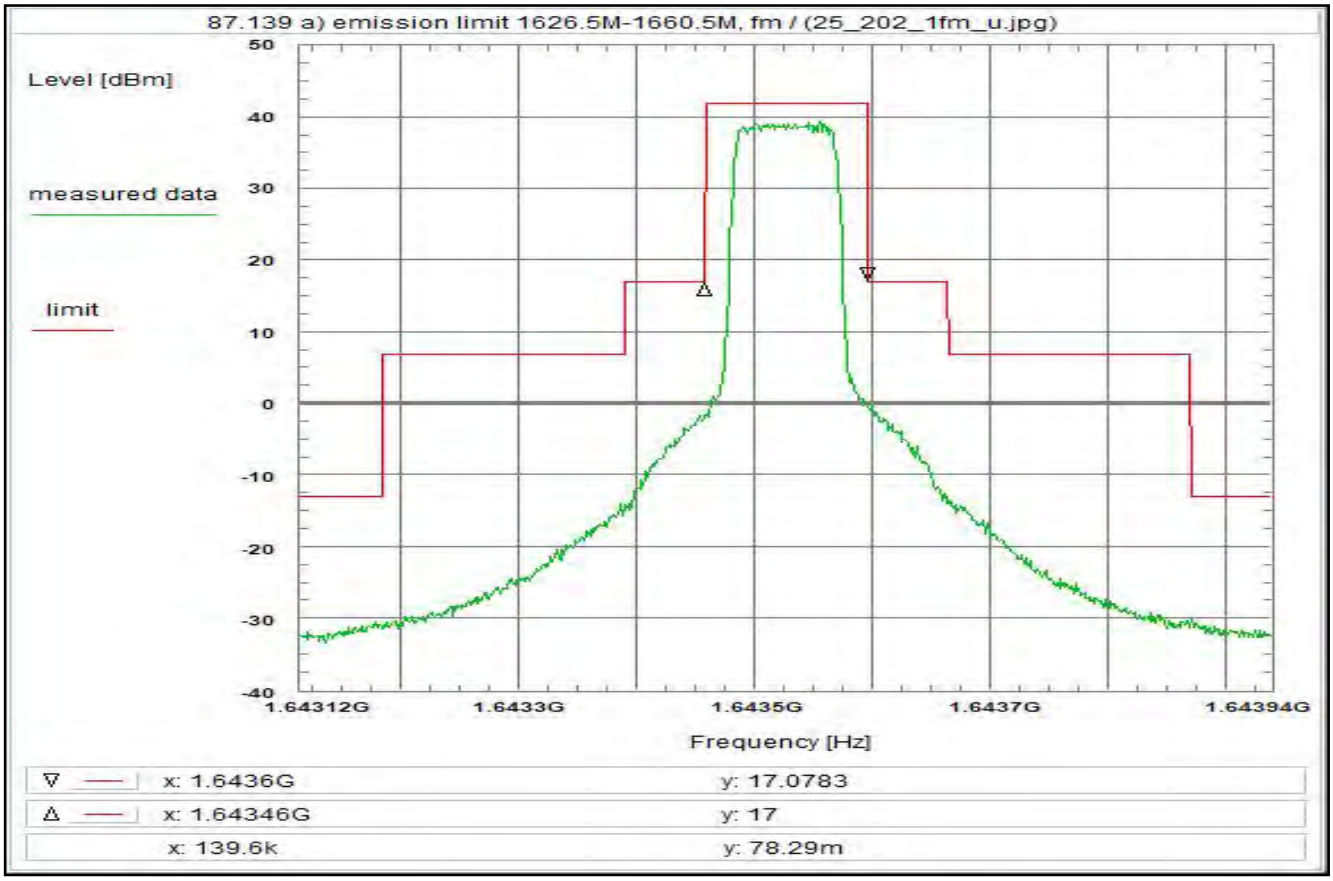
Start frequency:	1.643115	GHz
Stop frequency:	1.643937	GHz
Center frequency:	1.643526	GHz
Frequency span:	822	kHz
Resolution-BW:	3	kHz
Video-BW:	10	kHz
Input attenuation:	30	dB
Trace-Mode:	Clear Write	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	12.0	dBi
Test antenna	+	0.0	dB
BW correction factor (3k -> 4k)	+	1.2	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U312)	+	19.5	dB
Attenuation (U311)	+	9.7	dB
Power Splitter	+	6.7	dB
TOTAL CORRECTION:	+	50.0	dB

Remarks:
Carrier-on state / Carrier in the middle of the band (fm)
Reference of limit = 42 dBm, spectrum mask referenced to necessary bandwidth

Plot No. 173



Subclause: 87.139 a) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier in the middle of the band (fm)

Limit:
Limit according to 87.139 a):
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, see test report chapter 5.4
A700S Class 6 HDR PIESD, FR80T2.5X64

Test setup:
see test report chapter 7.2 setup 1.1hgj

Test equipment:
see test report chapter 7.2: C220, Power Splitter, R001, U311, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Tue 30/Jun/2020 15:21:21	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

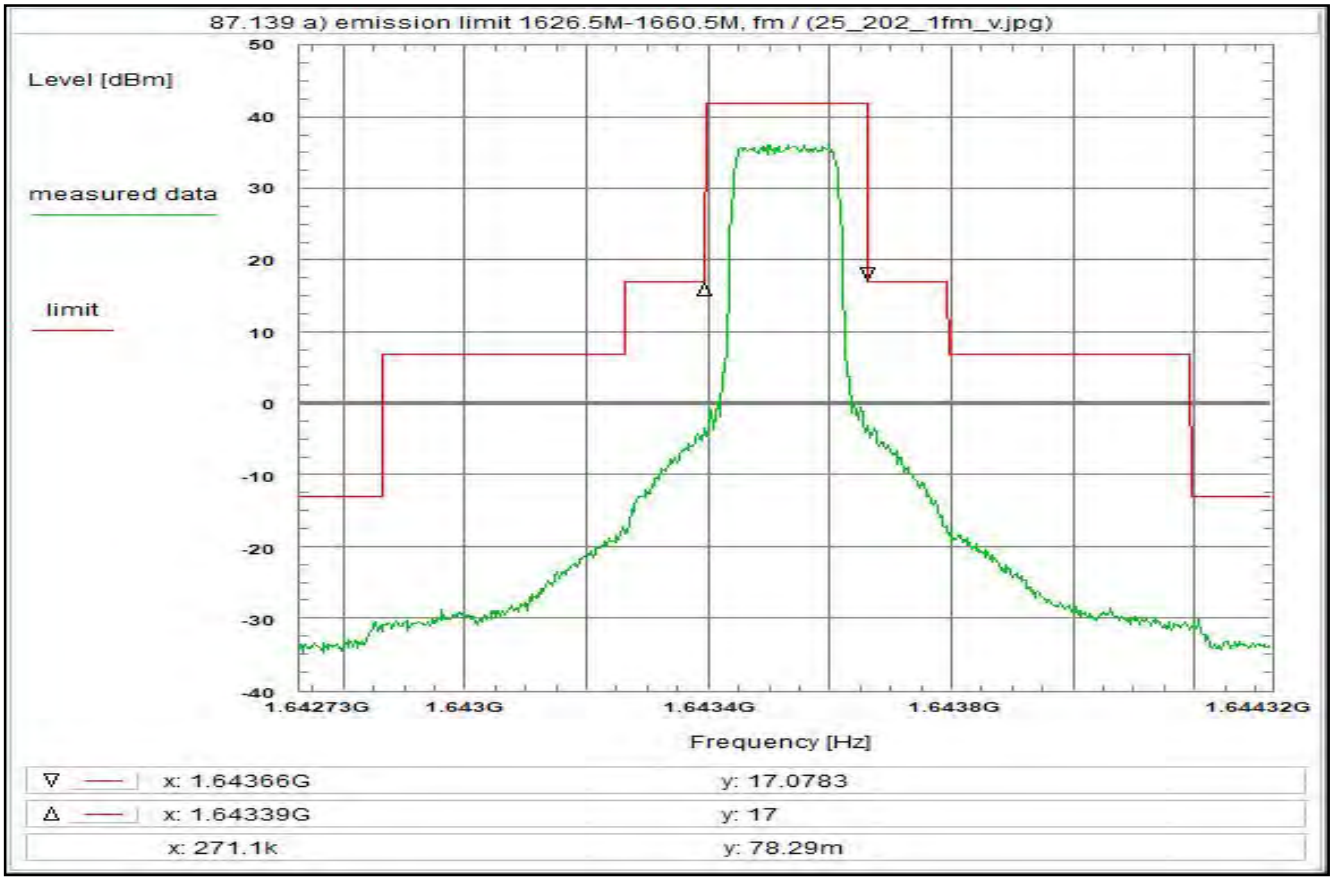
Start frequency:	1.643115	GHz
Stop frequency:	1.643937	GHz
Center frequency:	1.643526	GHz
Frequency span:	822	kHz
Resolution-BW:	3	kHz
Video-BW:	10	kHz
Input attenuation:	30	dB
Trace-Mode:	Clear Write	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	12.0	dBi
Test antenna	+	0.0	dB
BW correction factor (3k -> 4k)	+	1.2	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U312)	+	19.5	dB
Attenuation (U311)	+	9.7	dB
Power Splitter	+	6.7	dB
TOTAL CORRECTION:	+	50.0	dB

Remarks:
Carrier-on state / Carrier in the middle of the band (fm)
Reference of limit = 42 dBm, spectrum mask referenced to necessary bandwidth

Plot No. 174



Subclause: 87.139 a) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier in the middle of the band (fm)

Limit:
Limit according to 87.139 a):
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, see test report chapter 5.4
A700S Class 6 HDR PIESD, FR80T5X16

Test setup:
see test report chapter 7.2 setup 1.1hgj

Test equipment:
see test report chapter 7.2: C220, Power Splitter, R001, U311, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Tue 30/Jun/2020 15:29:07	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

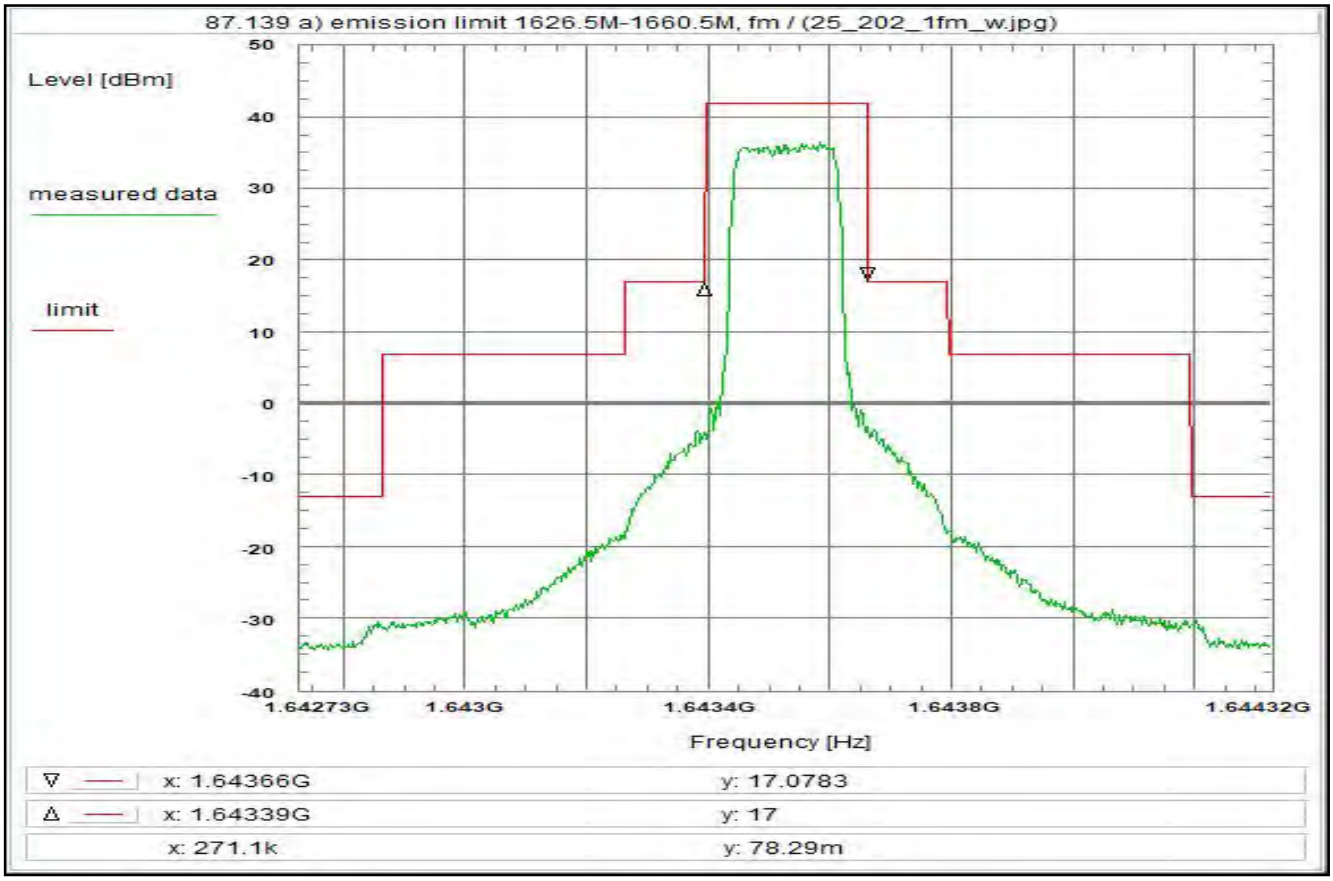
Start frequency:	1.642728	GHz
Stop frequency:	1.644324	GHz
Center frequency:	1.643526	GHz
Frequency span:	1.596	MHz
Resolution-BW:	3	kHz
Video-BW:	10	kHz
Input attenuation:	30	dB
Trace-Mode:	Clear Write	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	12.0	dBi
Test antenna	+	0.0	dB
BW correction factor (3k -> 4k)	+	1.2	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U312)	+	19.5	dB
Attenuation (U311)	+	9.7	dB
Power Splitter	+	6.7	dB
TOTAL CORRECTION:	+	50.0	dB

Remarks:
Carrier-on state / Carrier in the middle of the band (fm)
Reference of limit = 42 dBm, spectrum mask referenced to necessary bandwidth

Plot No. 175



Subclause: 87.139 a) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier in the middle of the band (fm)

Limit:
Limit according to 87.139 a):
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, see test report chapter 5.4
A700S Class 6 HDR PIESD, FR80T5X32

Test setup:
see test report chapter 7.2 setup 1.1hgj

Test equipment:
see test report chapter 7.2: C220, Power Splitter, R001, U311, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Tue 30/Jun/2020 15:30:42	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

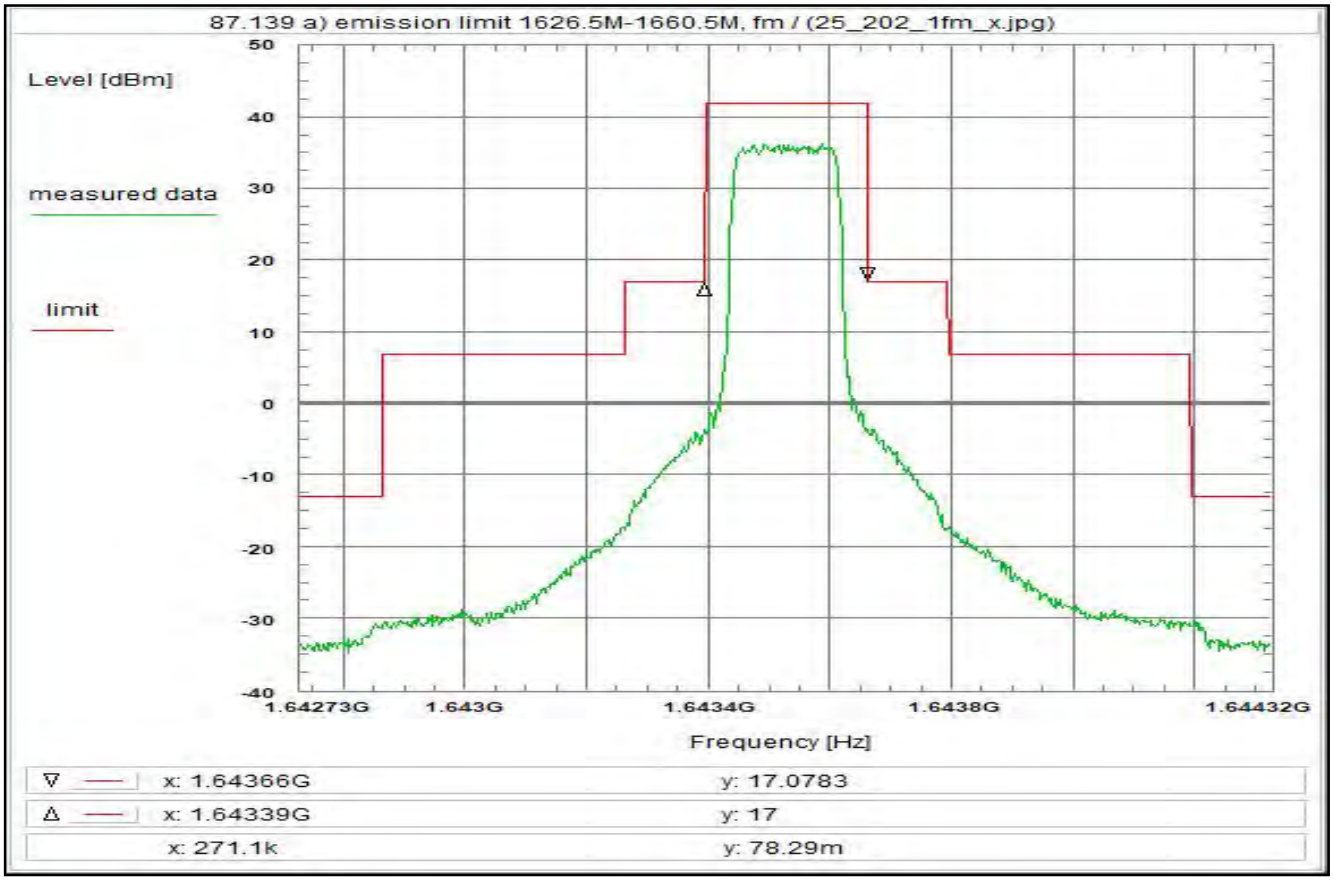
Start frequency:	1.642728	GHz
Stop frequency:	1.644324	GHz
Center frequency:	1.643526	GHz
Frequency span:	1.596	MHz
Resolution-BW:	3	kHz
Video-BW:	10	kHz
Input attenuation:	30	dB
Trace-Mode:	Clear Write	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	12.0	dBi
Test antenna	+	0.0	dB
BW correction factor (3k -> 4k)	+	1.2	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U312)	+	19.5	dB
Attenuation (U311)	+	9.7	dB
Power Splitter	+	6.7	dB
TOTAL CORRECTION:	+	50.0	dB

Remarks:
Carrier-on state / Carrier in the middle of the band (fm)
Reference of limit = 42 dBm, spectrum mask referenced to necessary bandwidth

Plot No. 176



Subclause: 87.139 a) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier in the middle of the band (fm)

Limit:
Limit according to 87.139 a):
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, see test report chapter 5.4
A700S Class 6 HDR PIESD, FR80T5X64

Test setup:
see test report chapter 7.2 setup 1.1hgj

Test equipment:
see test report chapter 7.2: C220, Power Splitter, R001, U311, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Tue 30/Jun/2020 15:31:26	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

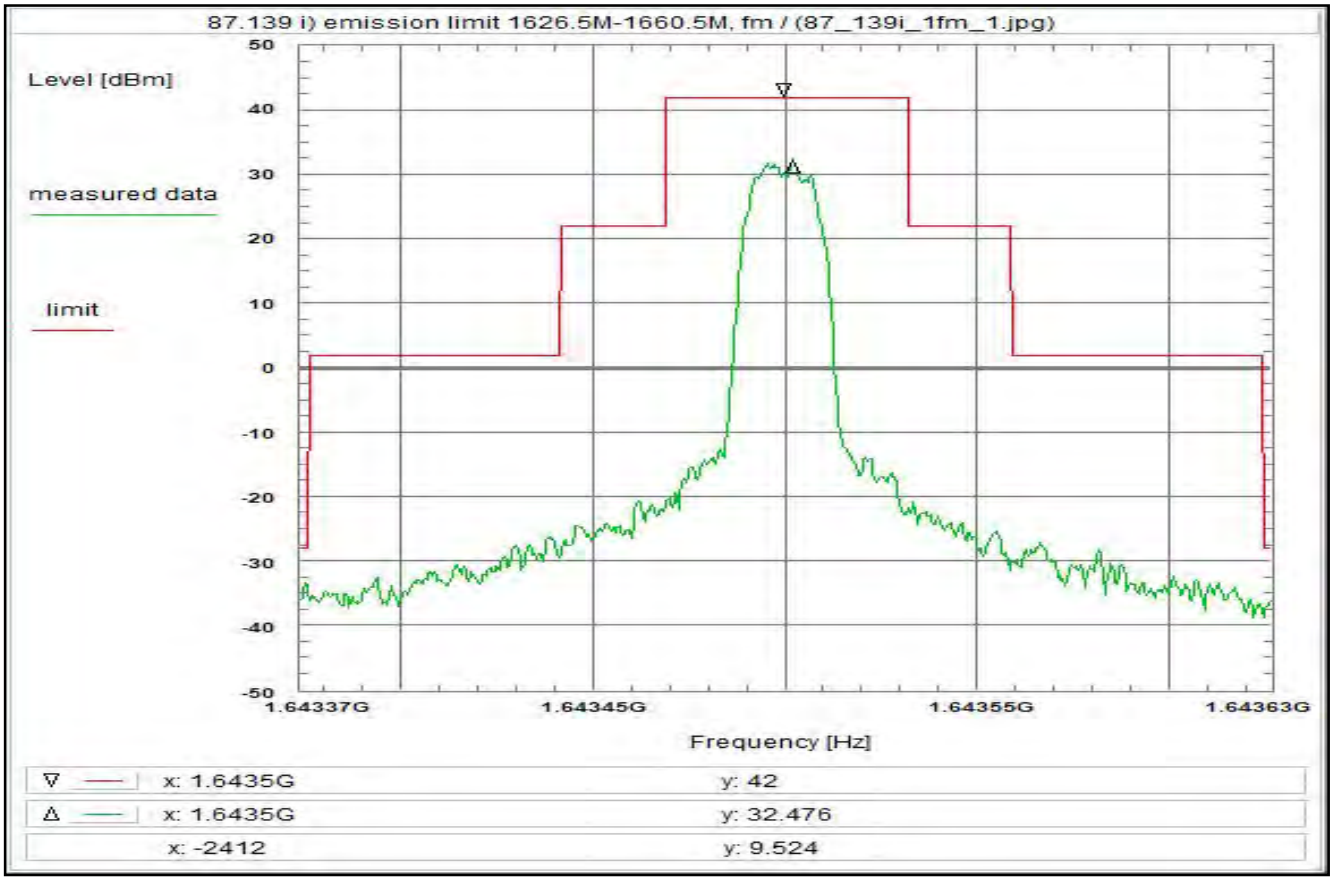
Start frequency:	1.642728	GHz
Stop frequency:	1.644324	GHz
Center frequency:	1.643526	GHz
Frequency span:	1.596	MHz
Resolution-BW:	3	kHz
Video-BW:	10	kHz
Input attenuation:	30	dB
Trace-Mode:	Clear Write	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	12.0	dBi
Test antenna	+	0.0	dB
BW correction factor (3k -> 4k)	+	1.2	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U312)	+	19.5	dB
Attenuation (U311)	+	9.7	dB
Power Splitter	+	6.7	dB
TOTAL CORRECTION:	+	50.0	dB

Remarks:
Carrier-on state / Carrier in the middle of the band (fm)
Reference of limit = 42 dBm, spectrum mask referenced to necessary bandwidth

Plot No. 177



Subclause: 87.139 i) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier in the middle of the band (fm)

Limit:
Limit according to 87.139(i)(1)
The mean power of emissions shall be attenuated
below the mean output power of the transmitter
in accordance with 87.139(i)(1).

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

Operating condition of DUT:
operating condition 1, see test report chapter 5.4
Class 6 ACD, R20T0.5QD, 16.8 ksym/s, QPSK

Test setup:
see test report chapter 7.2 setup 1.1hgj

Test equipment:
see test report chapter 7.2: C220, R001, U312, U311

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Thu 28/May/2020 15:11:54	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

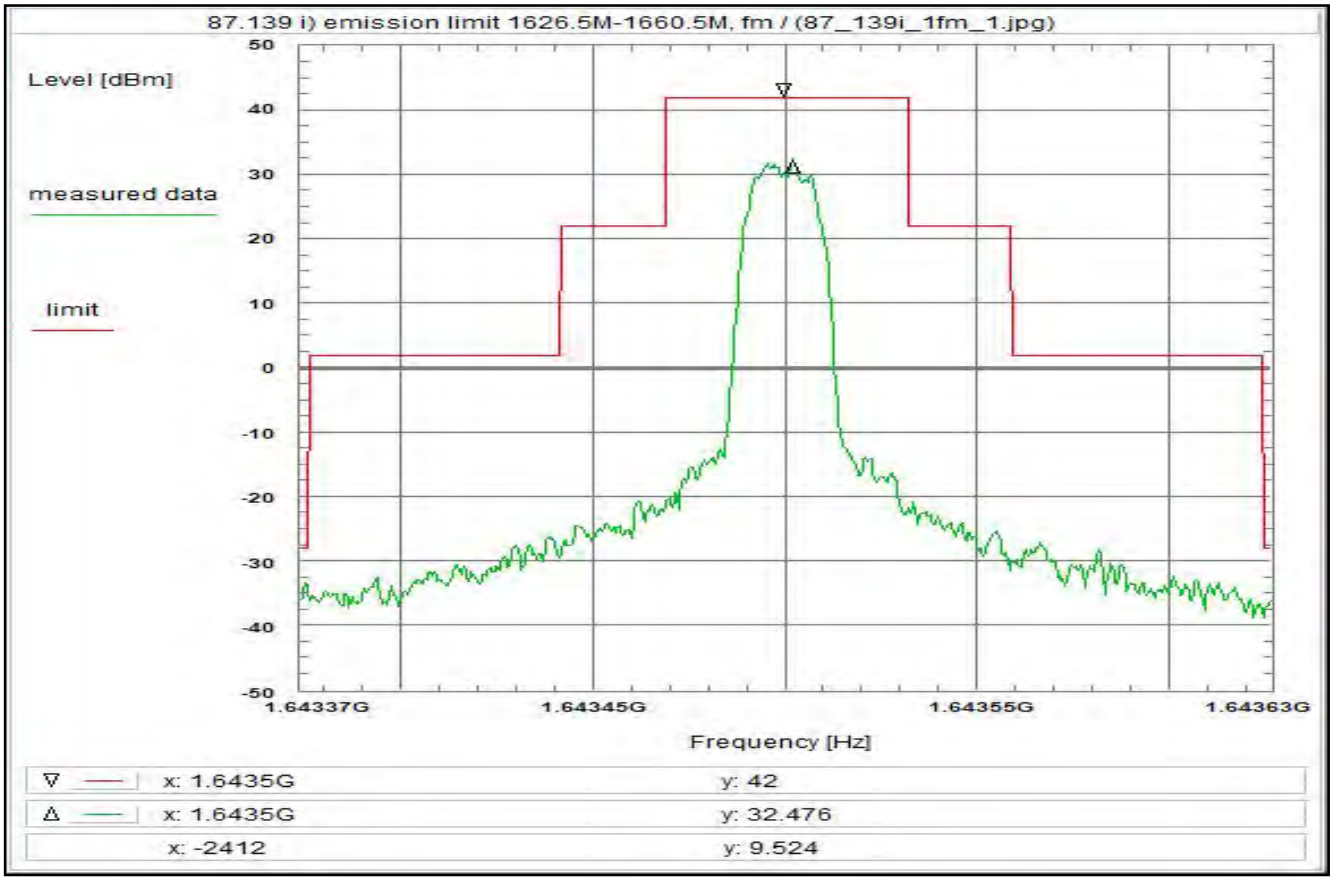
Start frequency:	1.643374	GHz
Stop frequency:	1.643626	GHz
Center frequency:	1.6435	GHz
Frequency span:	252	kHz
Resolution-BW:	3	kHz
Video-BW:	30	kHz
Input attenuation:	45	dB
Trace-Mode:	Average	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
U311+U312	+	29.3	dB
TOTAL CORRECTION:	+	30.2	dB

Remarks:
Carrier-on state / Carrier in the middle of the band (fm)
For EIRP calculation:
´worst-case´ = maximum antenna gain

Plot No. 178



Subclause: 87.139 i) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier in the middle of the band (fm)

Limit:
Limit according to 87.139(i)(1)
The mean power of emissions shall be attenuated
below the mean output power of the transmitter
in accordance with 87.139(i)(1).

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

Operating condition of DUT:
operating condition 1, see test report chapter 5.4
Class 6 ACD, R20T0.5QD, 16.8 ksym/s, QPSK

Test setup:
see test report chapter 7.2 setup 1.1hgj

Test equipment:
see test report chapter 7.2: C220, R001, U311, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Thu 28/May/2020 15:11:54	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

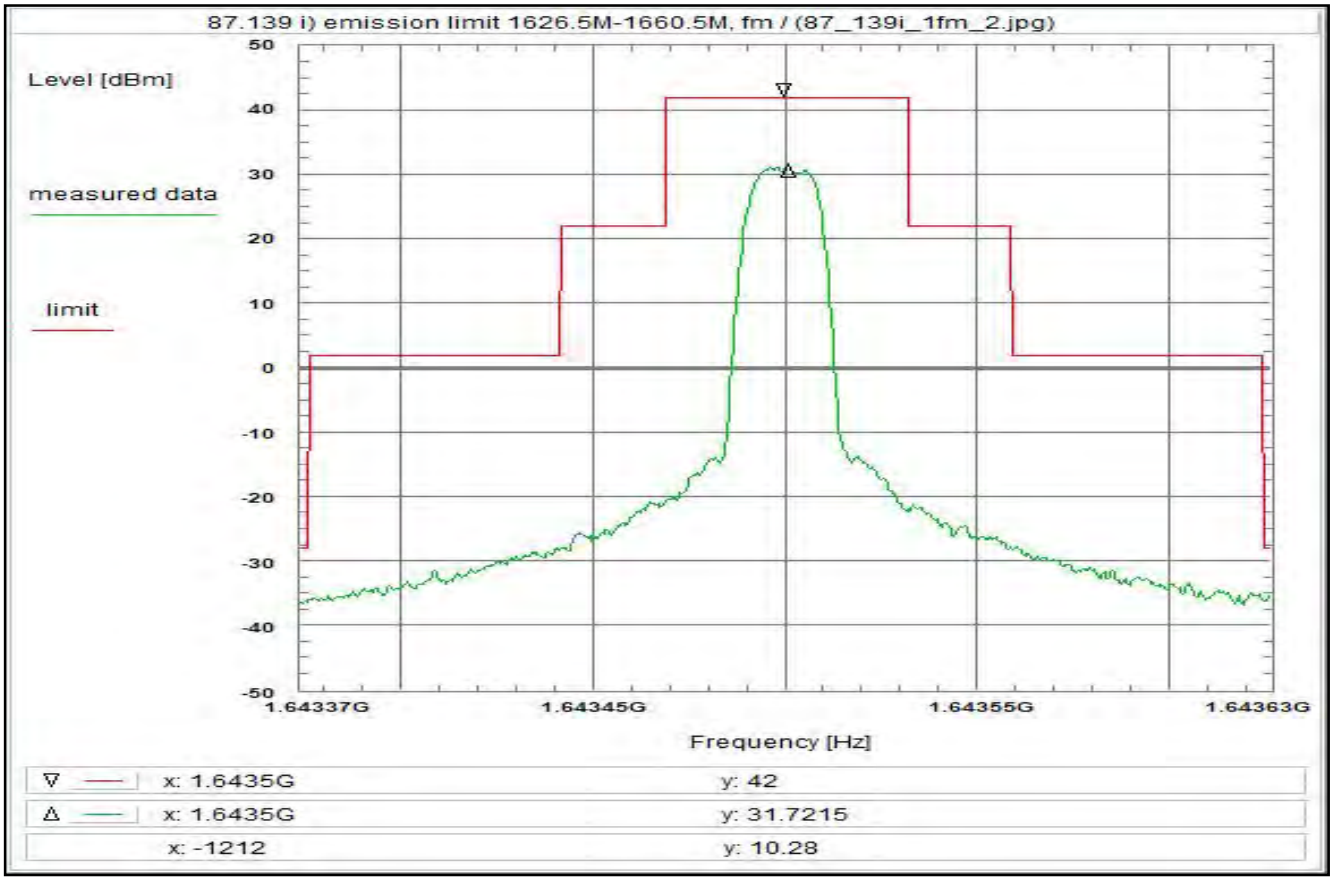
Start frequency:	1.643374	GHz
Stop frequency:	1.643626	GHz
Center frequency:	1.6435	GHz
Frequency span:	252	kHz
Resolution-BW:	3	kHz
Video-BW:	30	kHz
Input attenuation:	45	dB
Trace-Mode:	Average	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
U311+U312	+	29.3	dB
TOTAL CORRECTION:	+	30.2	dB

Remarks:
Carrier-on state / Carrier in the middle of the band (fm)
For EIRP calculation:
´worst-case´ = maximum antenna gain

Plot No. 179



Subclause: 87.139 i) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier in the middle of the band (fm)

Limit:
Limit according to 87.139(i)(1)
The mean power of emissions shall be attenuated
below the mean output power of the transmitter
in accordance with 87.139(i)(1).

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

Operating condition of DUT:
operating condition 1, see test report chapter 5.4
Class 6 HDR PIESD, R20T0.5QD, 16.8 ksym/s, QPSK

Test setup:
see test report chapter 7.2 setup 1.1hgj

Test equipment:
see test report chapter 7.2: C220, R001, U311, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Thu 28/May/2020 15:15:50	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

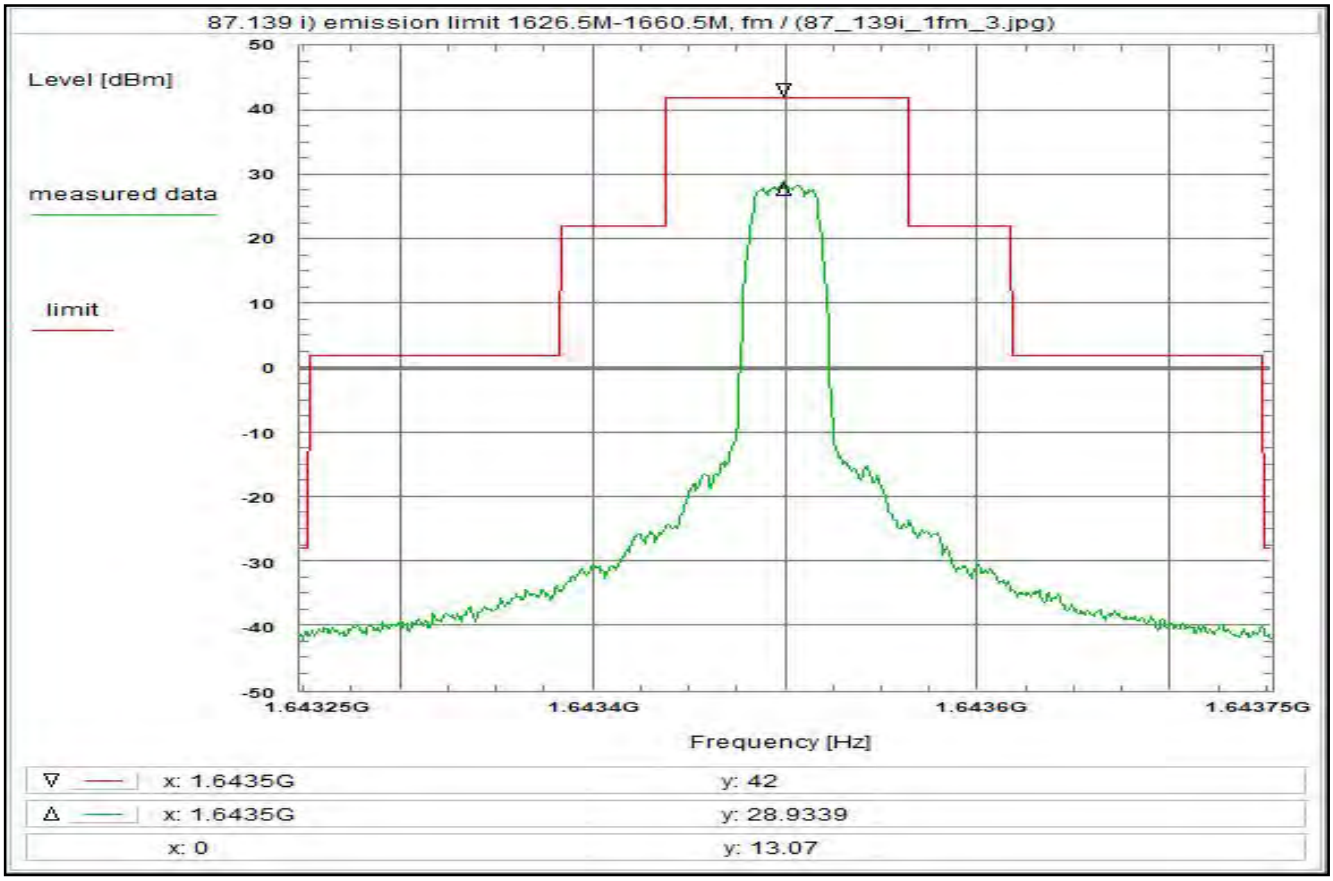
Start frequency:	1.643374	GHz
Stop frequency:	1.643626	GHz
Center frequency:	1.6435	GHz
Frequency span:	252	kHz
Resolution-BW:	3	kHz
Video-BW:	10	kHz
Input attenuation:	45	dB
Trace-Mode:	Average	
Detector-Mode:	Sample	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
U311+U312	+	29.3	dB
TOTAL CORRECTION:	+	30.2	dB

Remarks:
Carrier-on state / Carrier in the middle of the band (fm)
For EIRP calculation:
´worst-case´ = maximum antenna gain

Plot No. 180



Subclause: 87.139 i) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier in the middle of the band (fm)

Limit:
Limit according to 87.139(i)(1)
The mean power of emissions shall be attenuated
below the mean output power of the transmitter
in accordance with 87.139(i)(1).

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

Operating condition of DUT:
operating condition 1, see test report chapter 5.4
Class 6 HDR PIESD, R5T1XD/R20T1QD, 33.6 ksym/s, 16QAM

Test setup:
see test report chapter 7.2 setup 1.1hgj

Test equipment:
see test report chapter 7.2: C220, R001, U311, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Thu 28/May/2020 15:19:14	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

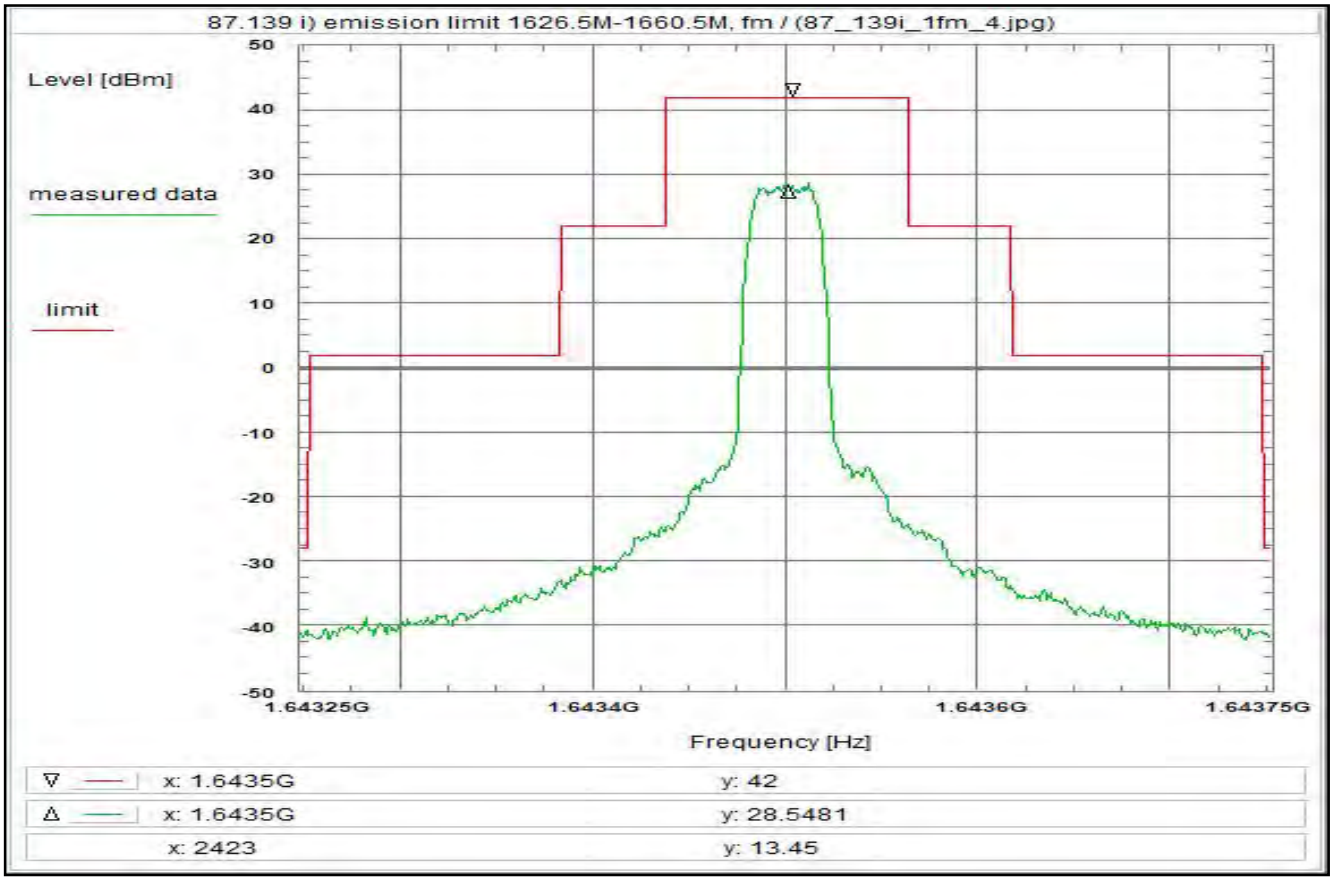
Start frequency:	1.643248	GHz
Stop frequency:	1.643752	GHz
Center frequency:	1.6435	GHz
Frequency span:	504	kHz
Resolution-BW:	3	kHz
Video-BW:	30	kHz
Input attenuation:	45	dB
Trace-Mode:	Average	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
U311+U312	+	29.3	dB
TOTAL CORRECTION:	+	30.2	dB

Remarks:
Carrier-on state / Carrier in the middle of the band (fm)
For EIRP calculation:
´worst-case´ = maximum antenna gain

Plot No. 181



Subclause: 87.139 i) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier in the middle of the band (fm)

Limit:
Limit according to 87.139(i)(1)
The mean power of emissions shall be attenuated
below the mean output power of the transmitter
in accordance with 87.139(i)(1).

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

Operating condition of DUT:
operating condition 1, see test report chapter 5.4
Class 6 ACD, R5T1XD/R20T1QD, 33.6 ksym/s, 16QAM

Test setup:
see test report chapter 7.2 setup 1.1hgj

Test equipment:
see test report chapter 7.2: C220, R001, U311, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Thu 28/May/2020 15:25:02	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

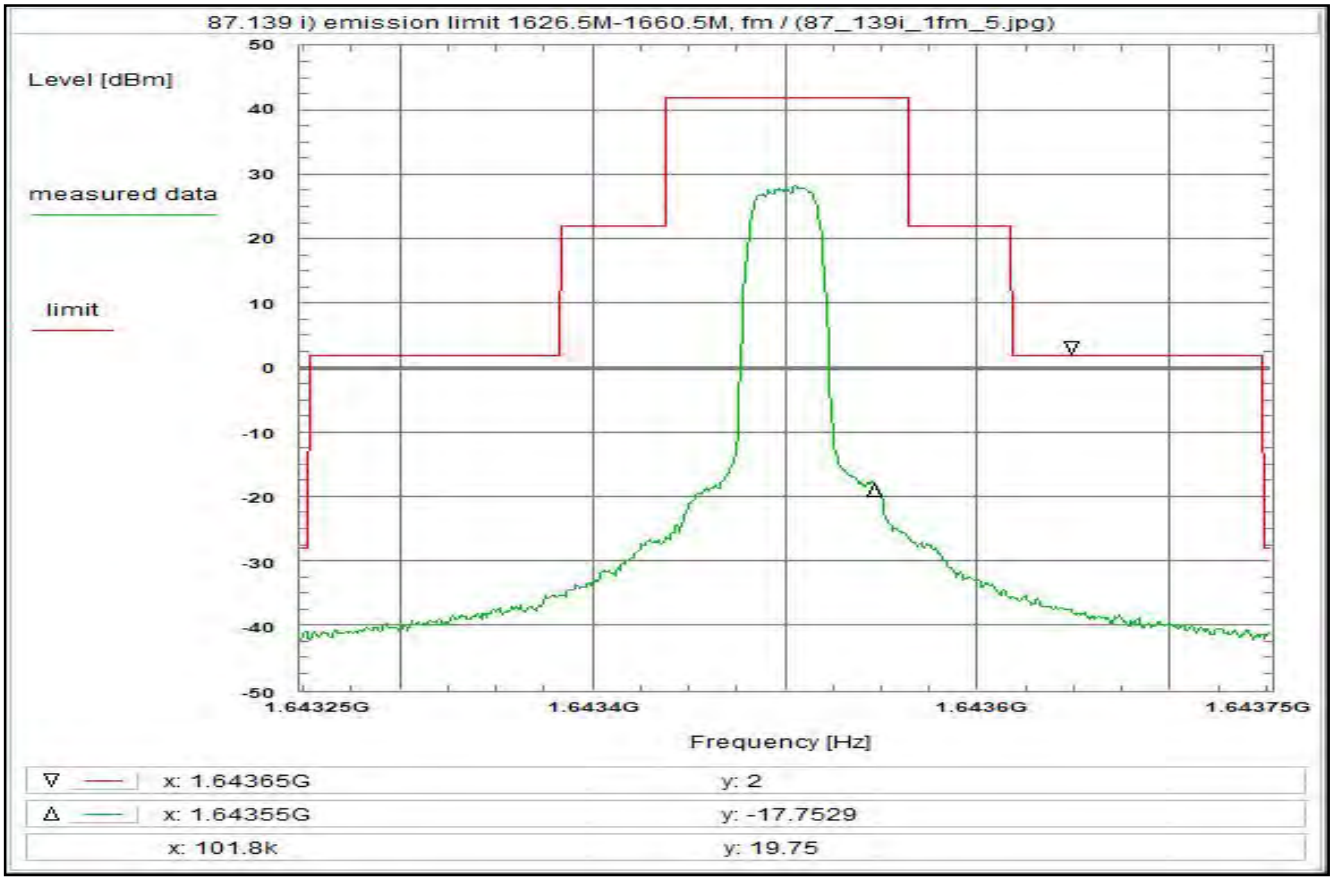
Start frequency:	1.643248	GHz
Stop frequency:	1.643752	GHz
Center frequency:	1.6435	GHz
Frequency span:	504	kHz
Resolution-BW:	3	kHz
Video-BW:	30	kHz
Input attenuation:	45	dB
Trace-Mode:	Average	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
U311+U312	+	29.3	dB
TOTAL CORRECTION:	+	30.2	dB

Remarks:
Carrier-on state / Carrier in the middle of the band (fm)
For EIRP calculation:
´worst-case´ = maximum antenna gain

Plot No. 182



Subclause: 87.139 i) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier in the middle of the band (fm)

Limit:
Limit according to 87.139(i)(1)
The mean power of emissions shall be attenuated
below the mean output power of the transmitter
in accordance with 87.139(i)(1).

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

Operating condition of DUT:
operating condition 1, see test report chapter 5.4
Class 6 ACD, R20T1QD/R80T1Q, 33.6 ksym/s, QPSK

Test setup:
see test report chapter 7.2 setup 1.1hgj

Test equipment:
see test report chapter 7.2: C220, R001, U311, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Thu 28/May/2020 15:28:09	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

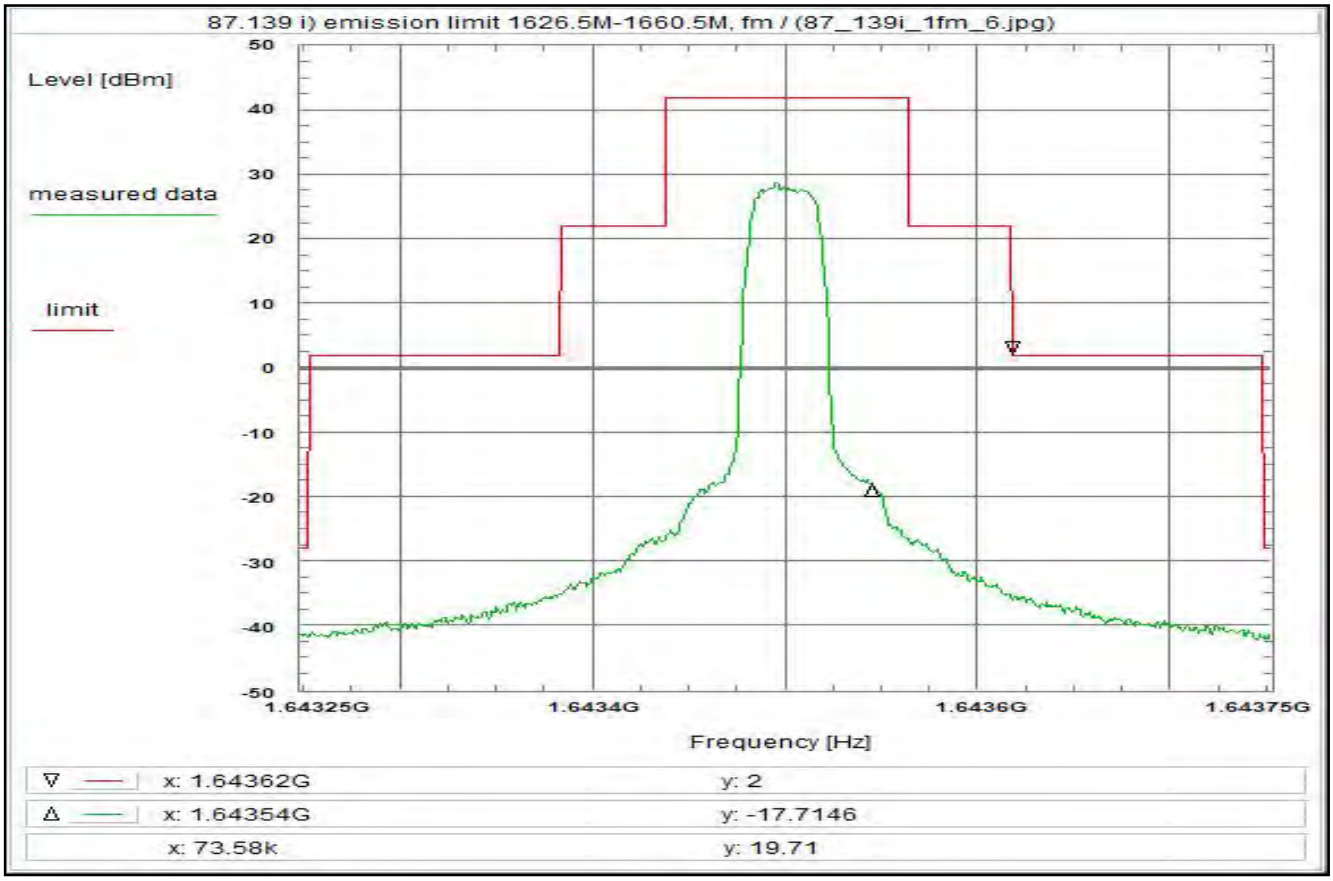
Start frequency:	1.643248	GHz
Stop frequency:	1.643752	GHz
Center frequency:	1.6435	GHz
Frequency span:	504	kHz
Resolution-BW:	3	kHz
Video-BW:	30	kHz
Input attenuation:	45	dB
Trace-Mode:	Average	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
U311+U312	+	29.3	dB
TOTAL CORRECTION:	+	30.2	dB

Remarks:
Carrier-on state / Carrier in the middle of the band (fm)
For EIRP calculation:
´worst-case´ = maximum antenna gain

Plot No. 183



Subclause: 87.139 i) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier in the middle of the band (fm)

Limit:
Limit according to 87.139(i)(1)
The mean power of emissions shall be attenuated
below the mean output power of the transmitter
in accordance with 87.139(i)(1).

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

Operating condition of DUT:
operating condition 1, see test report chapter 5.4
Class 6 HDR PIESD, R20T1QD/R80T1Q, 33.6 ksym/s, QPSK

Test setup:
see test report chapter 7.2 setup 1.1hgj

Test equipment:
see test report chapter 7.2: C220, R001, U311, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Thu 28/May/2020 15:31:01	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

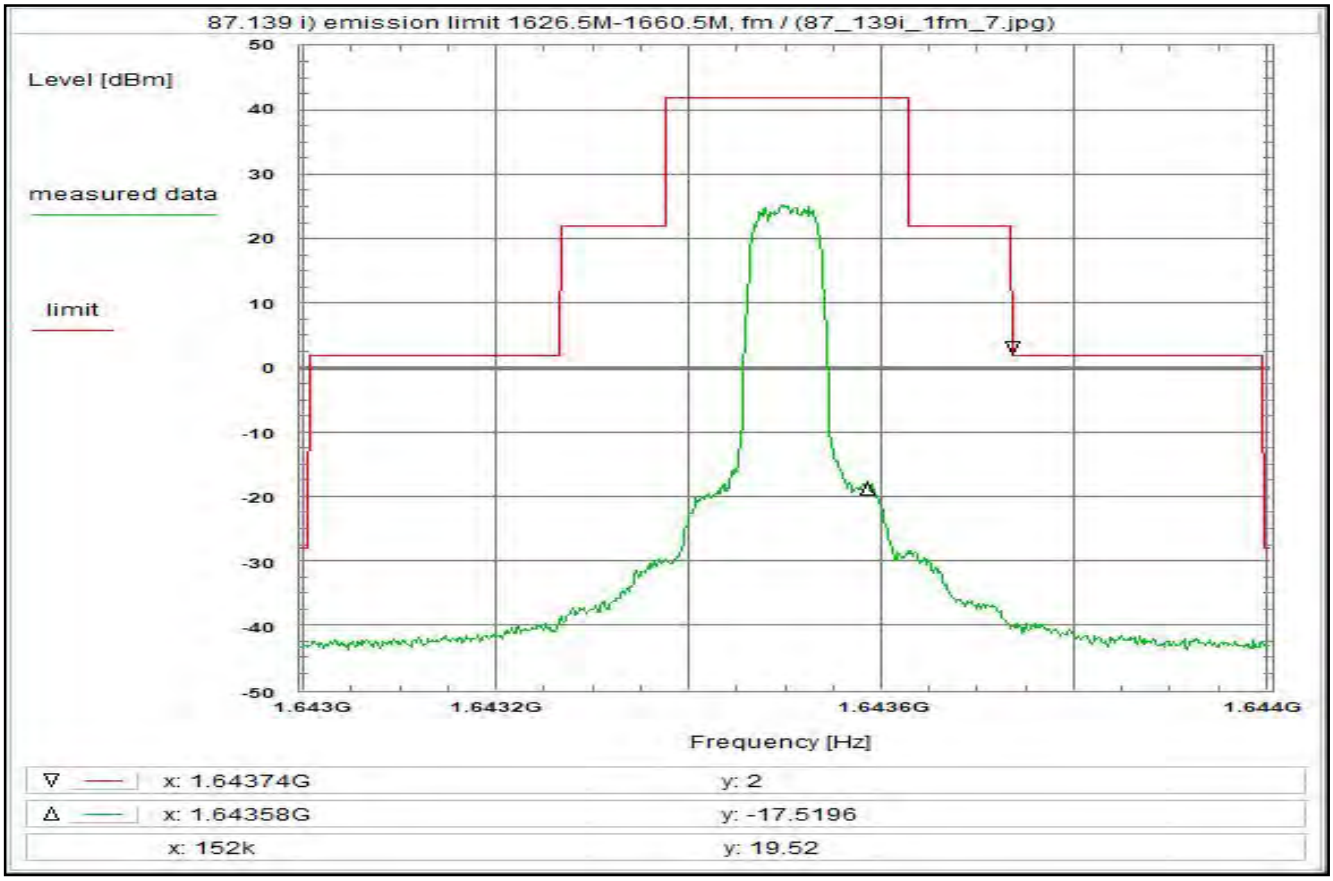
Start frequency:	1.643248	GHz
Stop frequency:	1.643752	GHz
Center frequency:	1.6435	GHz
Frequency span:	504	kHz
Resolution-BW:	3	kHz
Video-BW:	30	kHz
Input attenuation:	45	dB
Trace-Mode:	Average	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
U311+U312	+	29.3	dB
TOTAL CORRECTION:	+	30.2	dB

Remarks:
Carrier-on state / Carrier in the middle of the band (fm)
For EIRP calculation:
´worst-case´ = maximum antenna gain

Plot No. 184



Subclause: 87.139 i) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier in the middle of the band (fm)

Limit:
Limit according to 87.139(i)(1)
The mean power of emissions shall be attenuated
below the mean output power of the transmitter
in accordance with 87.139(i)(1).

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

Operating condition of DUT:
operating condition 1, see test report chapter 5.4
Class 6 HDR PIESD, R5T2XD/R20T2XD, 67.2 ksym/s, 16QAM

Test setup:
see test report chapter 7.2 setup 1.1hgj

Test equipment:
see test report chapter 7.2: C220, R001, U311, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Thu 28/May/2020 15:35:48	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

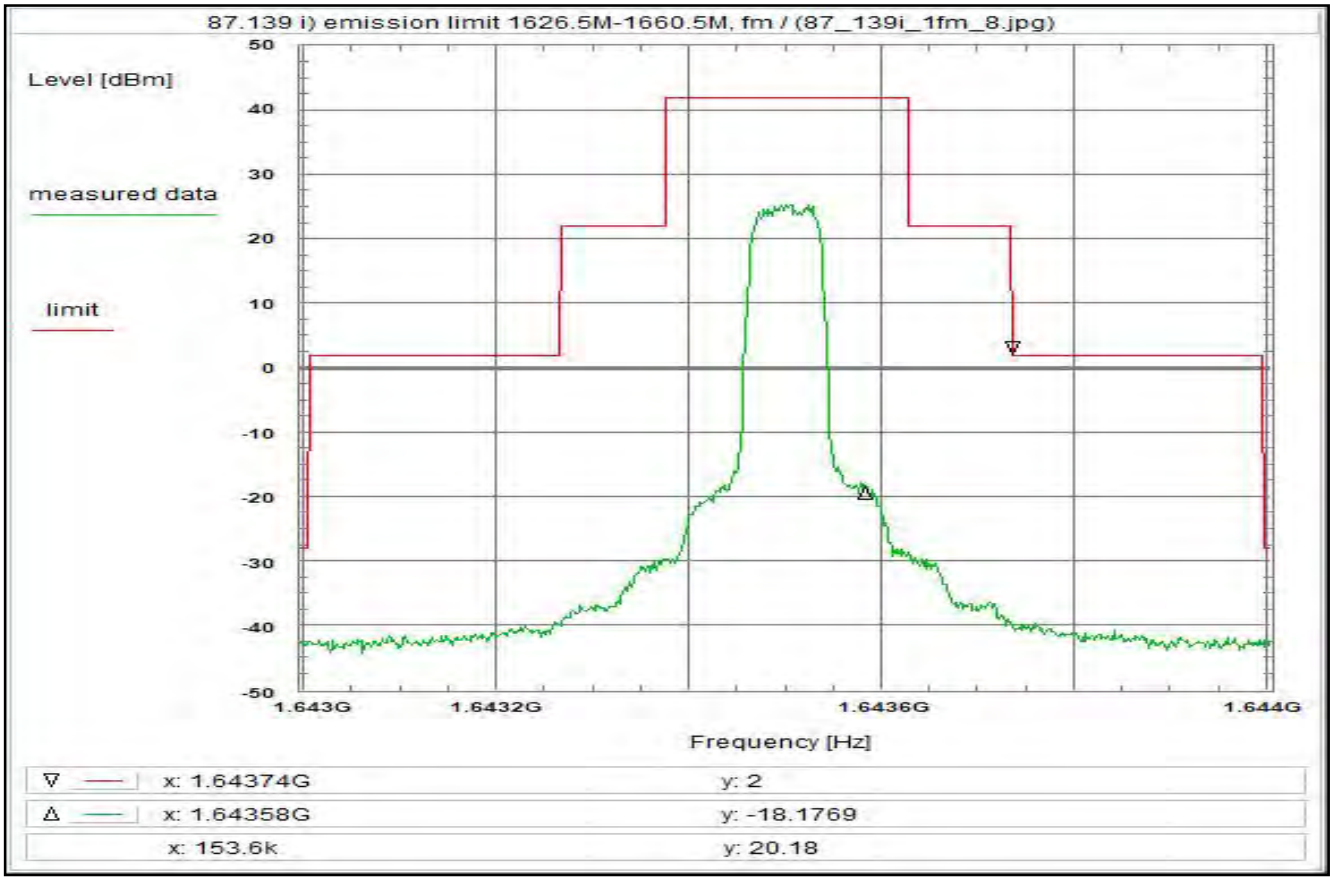
Start frequency:	1.642996	GHz
Stop frequency:	1.644004	GHz
Center frequency:	1.6435	GHz
Frequency span:	1.008	MHz
Resolution-BW:	3	kHz
Video-BW:	30	kHz
Input attenuation:	45	dB
Trace-Mode:	Average	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
U311+U312	+	29.3	dB
TOTAL CORRECTION:	+	30.2	dB

Remarks:
Carrier-on state / Carrier in the middle of the band (fm)
For EIRP calculation:
´worst-case´ = maximum antenna gain

Plot No. 185



Subclause: 87.139 i) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier in the middle of the band (fm)

Limit:
Limit according to 87.139(i)(1)
The mean power of emissions shall be attenuated
below the mean output power of the transmitter
in accordance with 87.139(i)(1).

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

Operating condition of DUT:
operating condition 1, see test report chapter 5.4
Class 6 ACD, R5T2XD/R20T2XD, 67.2 ksym/s, 16QAM

Test setup:
see test report chapter 7.2 setup 1.1hgj

Test equipment:
see test report chapter 7.2: C220, R001, U311, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Thu 28/May/2020 15:39:02	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

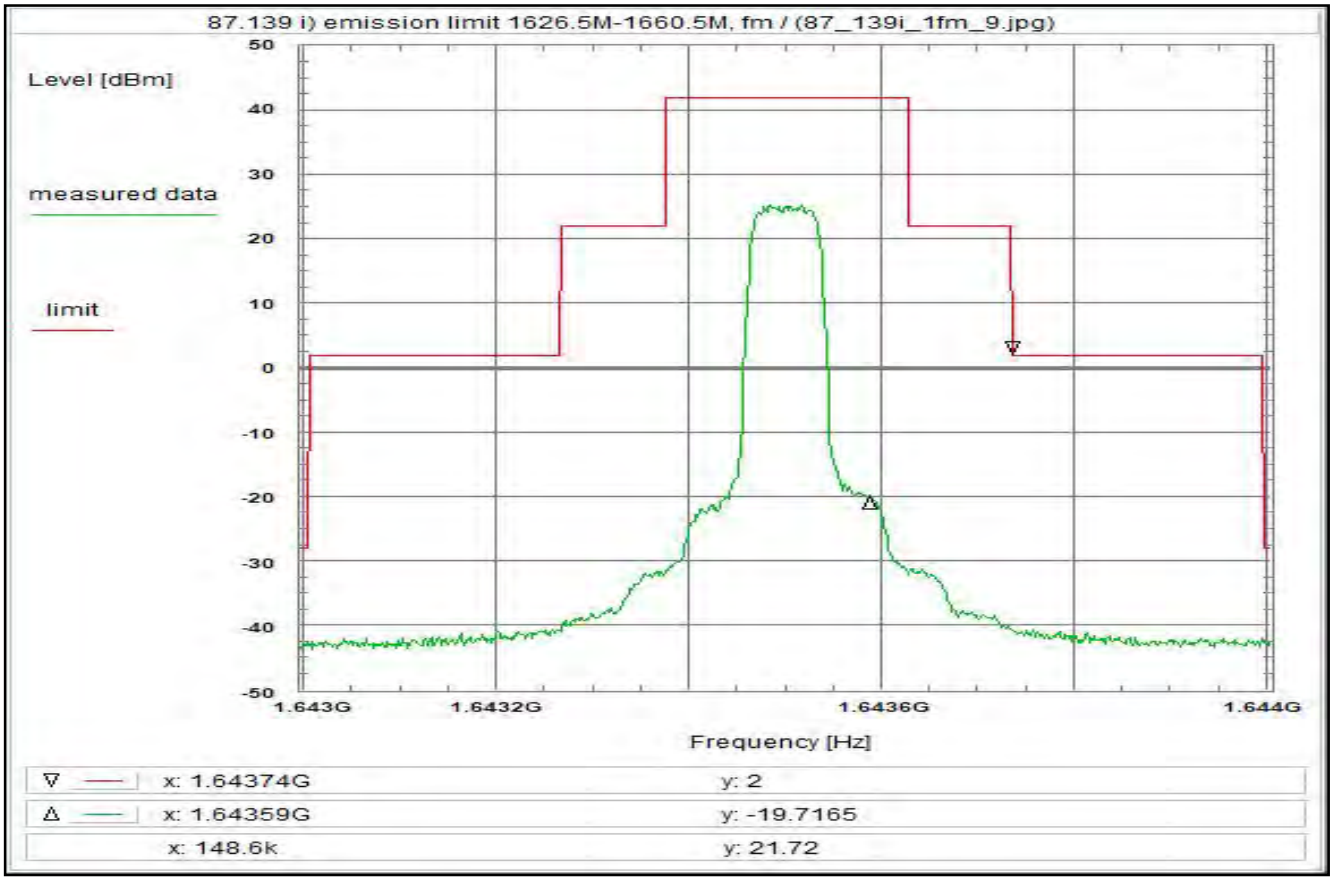
Start frequency:	1.642996	GHz
Stop frequency:	1.644004	GHz
Center frequency:	1.6435	GHz
Frequency span:	1.008	MHz
Resolution-BW:	3	kHz
Video-BW:	30	kHz
Input attenuation:	45	dB
Trace-Mode:	Average	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
U311+U312	+	29.3	dB
TOTAL CORRECTION:	+	30.2	dB

Remarks:
Carrier-on state / Carrier in the middle of the band (fm)
For EIRP calculation:
´worst-case´ = maximum antenna gain

Plot No. 186



Subclause: 87.139 i) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier in the middle of the band (fm)

Limit:
Limit according to 87.139(i)(1)
The mean power of emissions shall be attenuated
below the mean output power of the transmitter
in accordance with 87.139(i)(1).

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

Operating condition of DUT:
operating condition 1, see test report chapter 5.4
Class 6 ACD, R5T2QD/R20T2QD, 67.2 ksym/s, QPSK

Test setup:
see test report chapter 7.2 setup 1.1hgj

Test equipment:
see test report chapter 7.2: C220, R001, U311, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Thu 28/May/2020 15:49:22	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

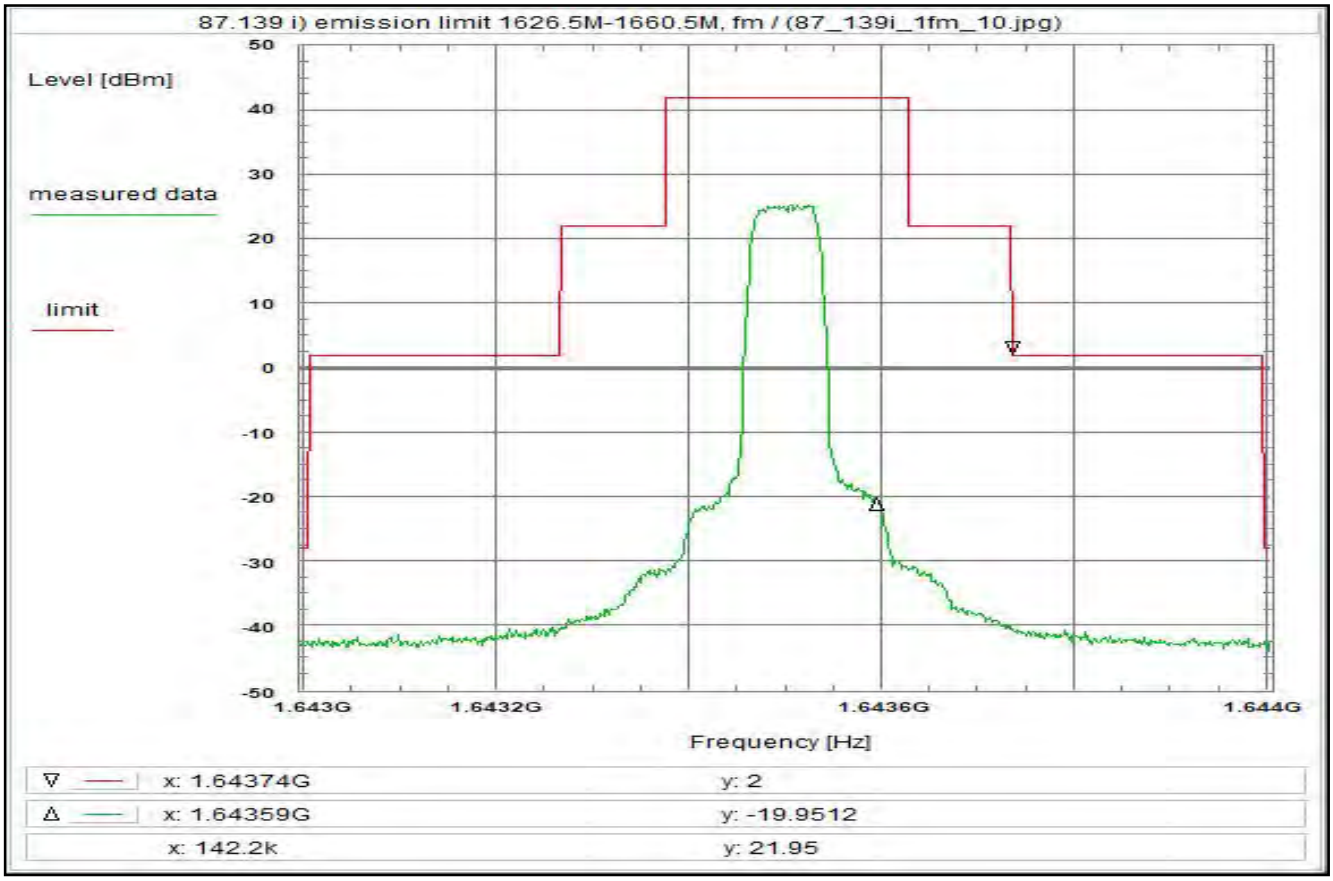
Start frequency:	1.642996	GHz
Stop frequency:	1.644004	GHz
Center frequency:	1.6435	GHz
Frequency span:	1.008	MHz
Resolution-BW:	3	kHz
Video-BW:	30	kHz
Input attenuation:	45	dB
Trace-Mode:	Average	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
U311+U312	+	29.3	dB
TOTAL CORRECTION:	+	30.2	dB

Remarks:
Carrier-on state / Carrier in the middle of the band (fm)
For EIRP calculation:
´worst-case´ = maximum antenna gain

Plot No. 187



Subclause: 87.139 i) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier in the middle of the band (fm)

Limit:
Limit according to 87.139(i)(1)
The mean power of emissions shall be attenuated
below the mean output power of the transmitter
in accordance with 87.139(i)(1).

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

Operating condition of DUT:
operating condition 1, see test report chapter 5.4
Class 6 HDR PIESD, R5T2QD/R20T2QD, 67.2 ksym/s, QPSK

Test setup:
see test report chapter 7.2 setup 1.1hgj

Test equipment:
see test report chapter 7.2: C220, R001, U311, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Thu 28/May/2020 15:52:43	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

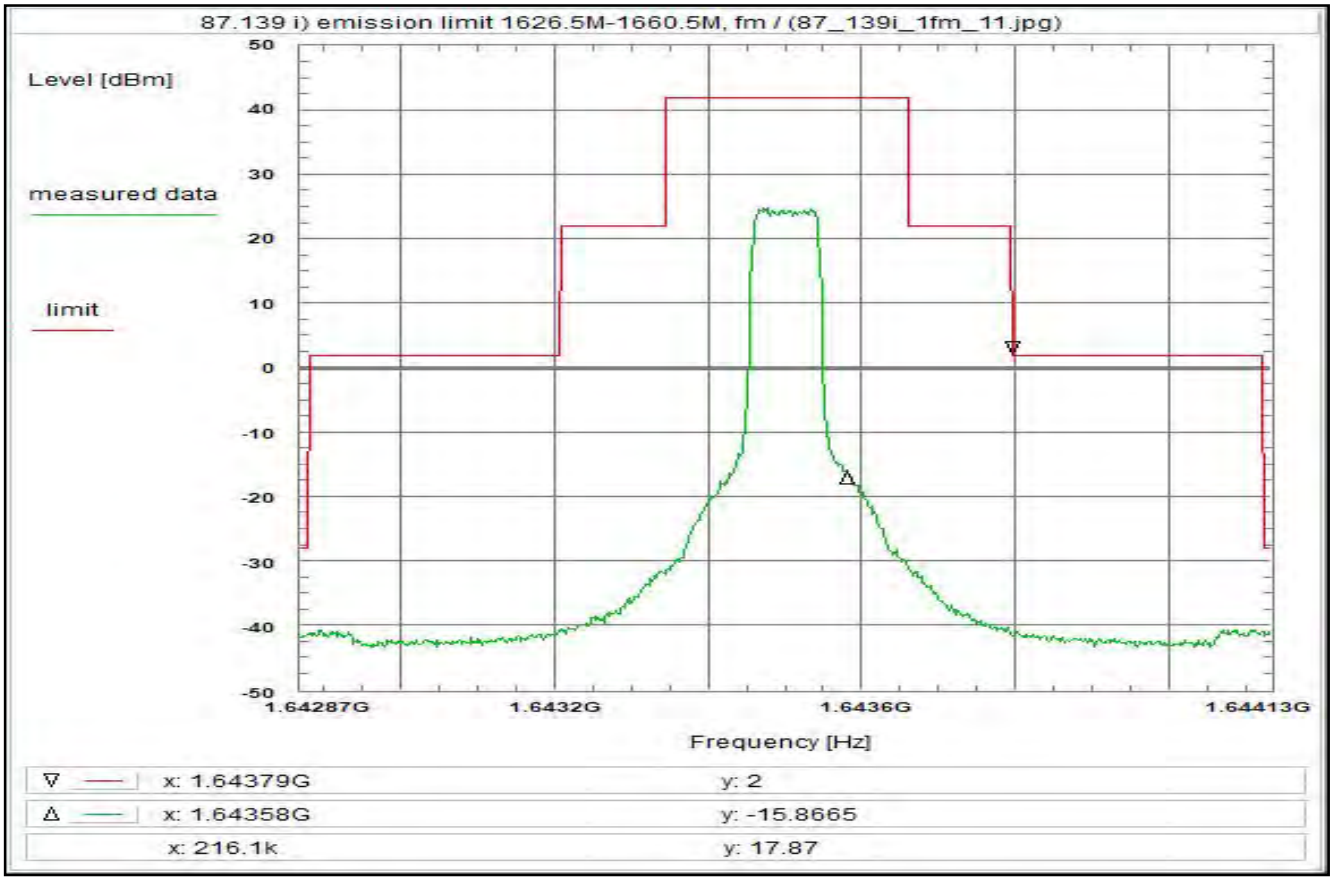
Start frequency:	1.642996	GHz
Stop frequency:	1.644004	GHz
Center frequency:	1.6435	GHz
Frequency span:	1.008	MHz
Resolution-BW:	3	kHz
Video-BW:	30	kHz
Input attenuation:	45	dB
Trace-Mode:	Average	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
U311+U312	+	29.3	dB
TOTAL CORRECTION:	+	30.2	dB

Remarks:
Carrier-on state / Carrier in the middle of the band (fm)
For EIRP calculation:
´worst-case´ = maximum antenna gain

Plot No. 188



Subclause: 87.139 i) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier in the middle of the band (fm)

Limit:
Limit according to 87.139(i)(1)
The mean power of emissions shall be attenuated
below the mean output power of the transmitter
in accordance with 87.139(i)(1).

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

Operating condition of DUT:
operating condition 1, see test report chapter 5.4
Class 6 HDR PIESD, FR80T2.5X16, 84 ksym/s, 16QAM

Test setup:
see test report chapter 7.2 setup 1.1hgj

Test equipment:
see test report chapter 7.2: C220, R001, U311, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Thu 28/May/2020 15:58:07	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

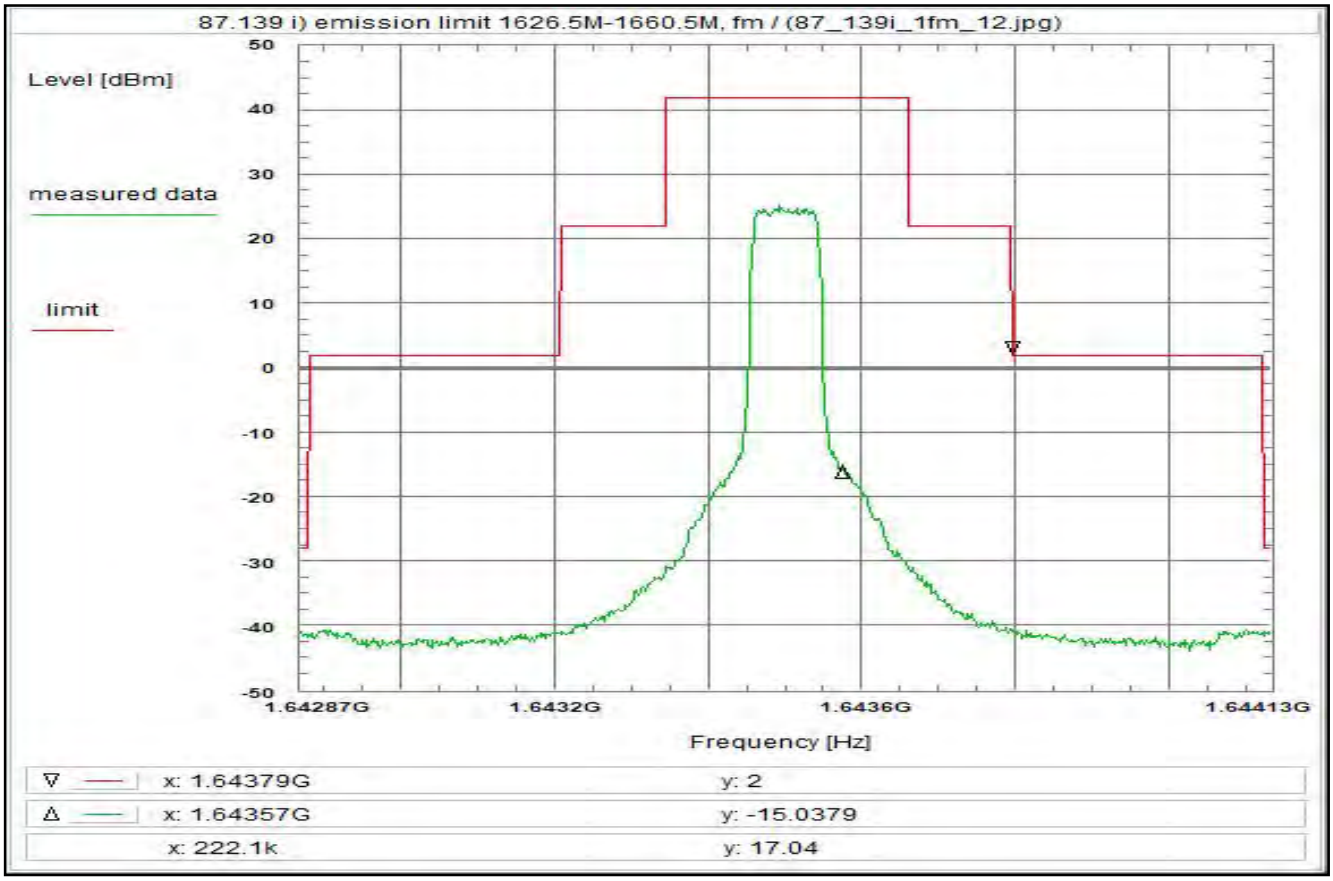
Start frequency:	1.64287	GHz
Stop frequency:	1.64413	GHz
Center frequency:	1.6435	GHz
Frequency span:	1.26	MHz
Resolution-BW:	3	kHz
Video-BW:	30	kHz
Input attenuation:	45	dB
Trace-Mode:	Average	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
U311+U312	+	29.3	dB
TOTAL CORRECTION:	+	30.2	dB

Remarks:
Carrier-on state / Carrier in the middle of the band (fm)
For EIRP calculation:
´worst-case´ = maximum antenna gain

Plot No. 189



Subclause: 87.139 i) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier in the middle of the band (fm)

Limit:
Limit according to 87.139(i)(1)
The mean power of emissions shall be attenuated
below the mean output power of the transmitter
in accordance with 87.139(i)(1).

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

Operating condition of DUT:
operating condition 1, see test report chapter 5.4
Class 6 HDR PIESD, FR80T2.5X32, 84 ksym/s, 32QAM

Test setup:
see test report chapter 7.2 setup 1.1hgj

Test equipment:
see test report chapter 7.2: C220, R001, U311, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Thu 28/May/2020 16:01:01	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

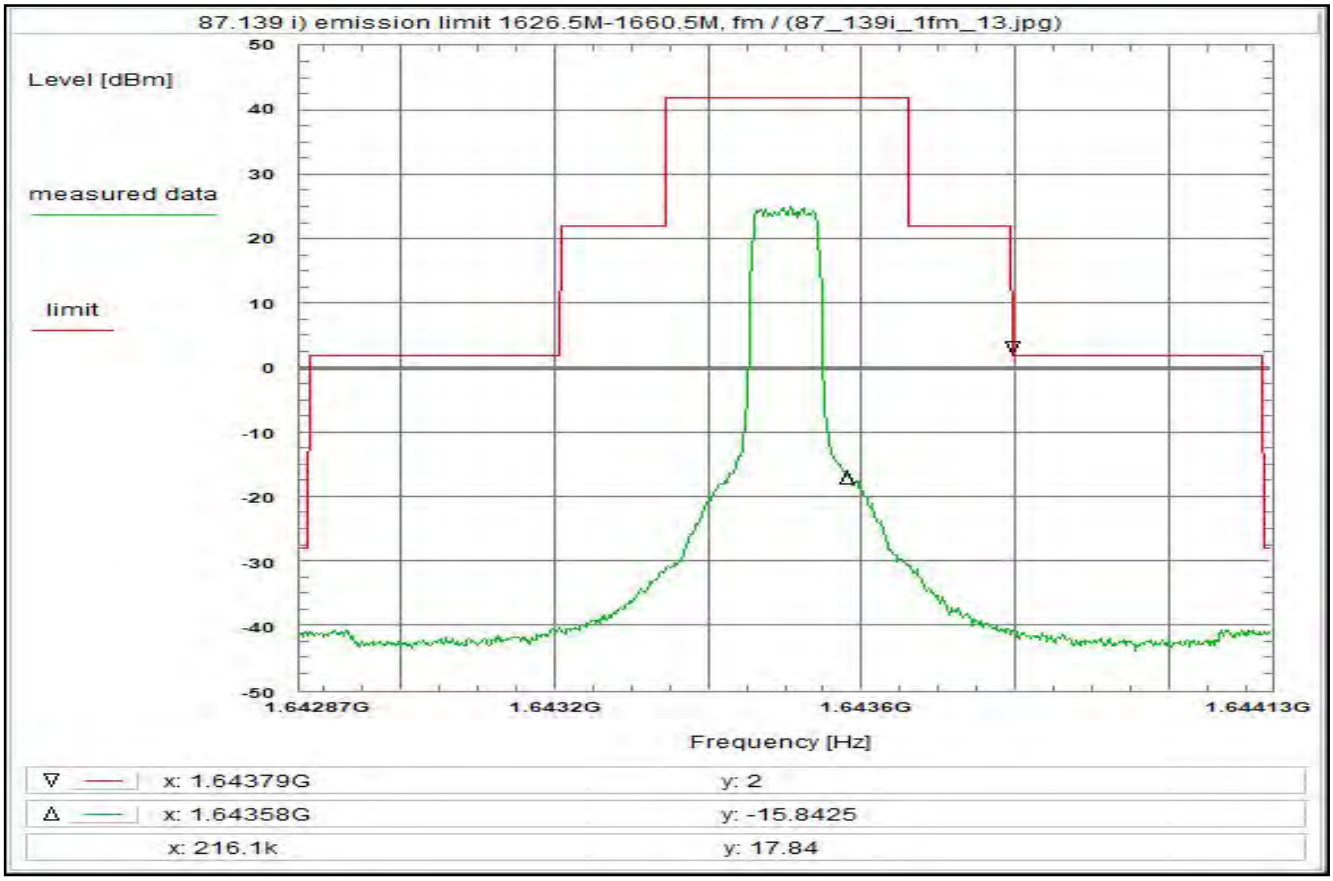
Start frequency:	1.64287	GHz
Stop frequency:	1.64413	GHz
Center frequency:	1.6435	GHz
Frequency span:	1.26	MHz
Resolution-BW:	3	kHz
Video-BW:	30	kHz
Input attenuation:	45	dB
Trace-Mode:	Average	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
U311+U312	+	29.3	dB
TOTAL CORRECTION:	+	30.2	dB

Remarks:
Carrier-on state / Carrier in the middle of the band (fm)
For EIRP calculation:
´worst-case´ = maximum antenna gain

Plot No. 190



Subclause: 87.139 i) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier in the middle of the band (fm)

Limit:
Limit according to 87.139(i)(1)
The mean power of emissions shall be attenuated
below the mean output power of the transmitter
in accordance with 87.139(i)(1).

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

Operating condition of DUT:
operating condition 1, see test report chapter 5.4
Class 6 HDR PIESD, FR80T2.5X64, 84 ksym/s, 64QAM

Test setup:
see test report chapter 7.2 setup 1.1hgj

Test equipment:
see test report chapter 7.2: C220, R001, U311, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Thu 28/May/2020 16:04:27	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

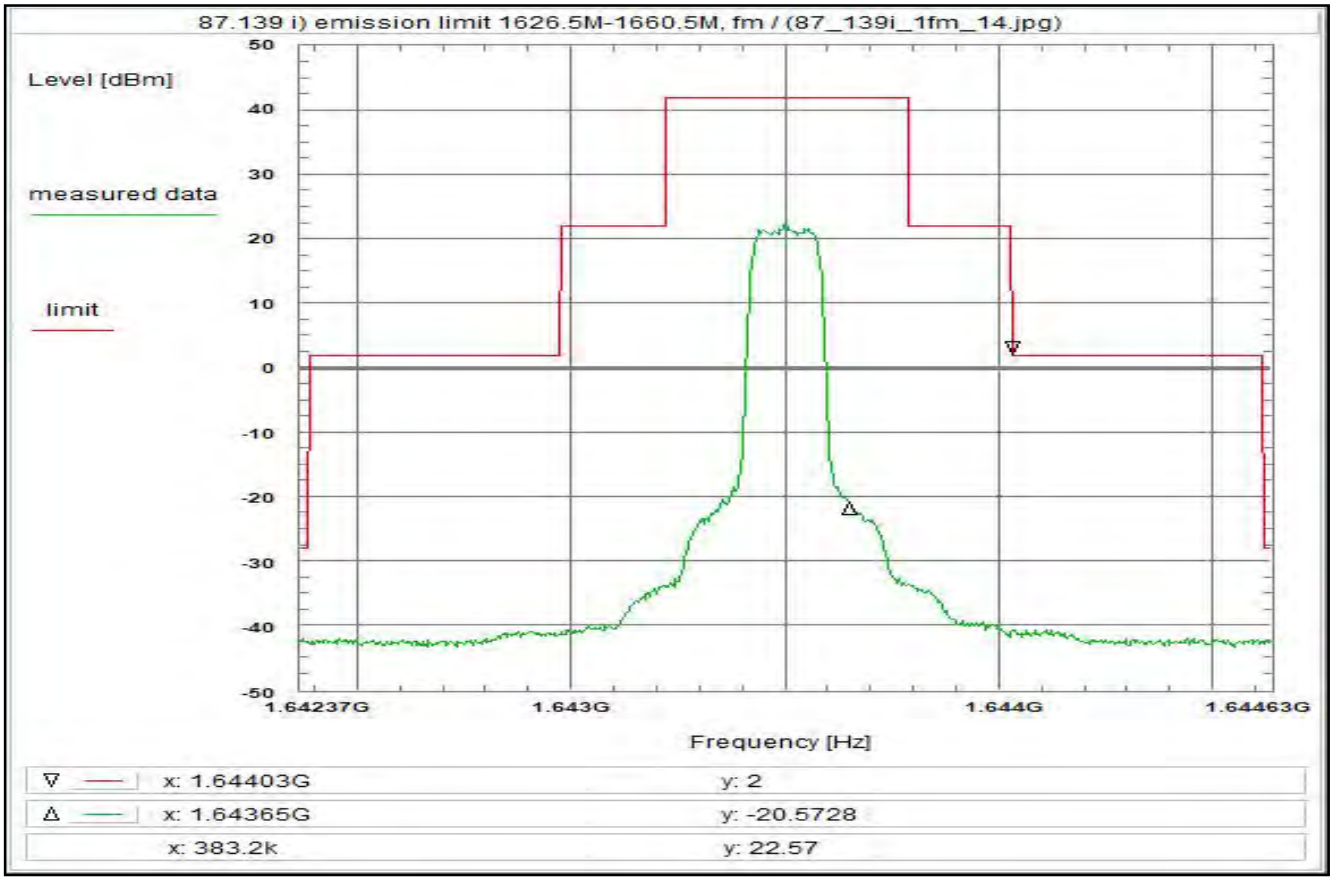
Start frequency:	1.64287	GHz
Stop frequency:	1.64413	GHz
Center frequency:	1.6435	GHz
Frequency span:	1.26	MHz
Resolution-BW:	3	kHz
Video-BW:	30	kHz
Input attenuation:	45	dB
Trace-Mode:	Average	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
U311+U312	+	29.3	dB
TOTAL CORRECTION:	+	30.2	dB

Remarks:
Carrier-on state / Carrier in the middle of the band (fm)
For EIRP calculation:
´worst-case´ = maximum antenna gain

Plot No. 191



Subclause: 87.139 i) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier in the middle of the band (fm)

Limit:
Limit according to 87.139(i)(1)
The mean power of emissions shall be attenuated
below the mean output power of the transmitter
in accordance with 87.139(i)(1).

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

Operating condition of DUT:
operating condition 1, see test report chapter 5.4
Class 6 HDR PIESD, R5T4.5XD/R20T4.5XD, 151.2 ksym/s, 16QAM

Test setup:
see test report chapter 7.2 setup 1.1hgj

Test equipment:
see test report chapter 7.2: C220, R001, U311, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Thu 28/May/2020 16:08:56	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

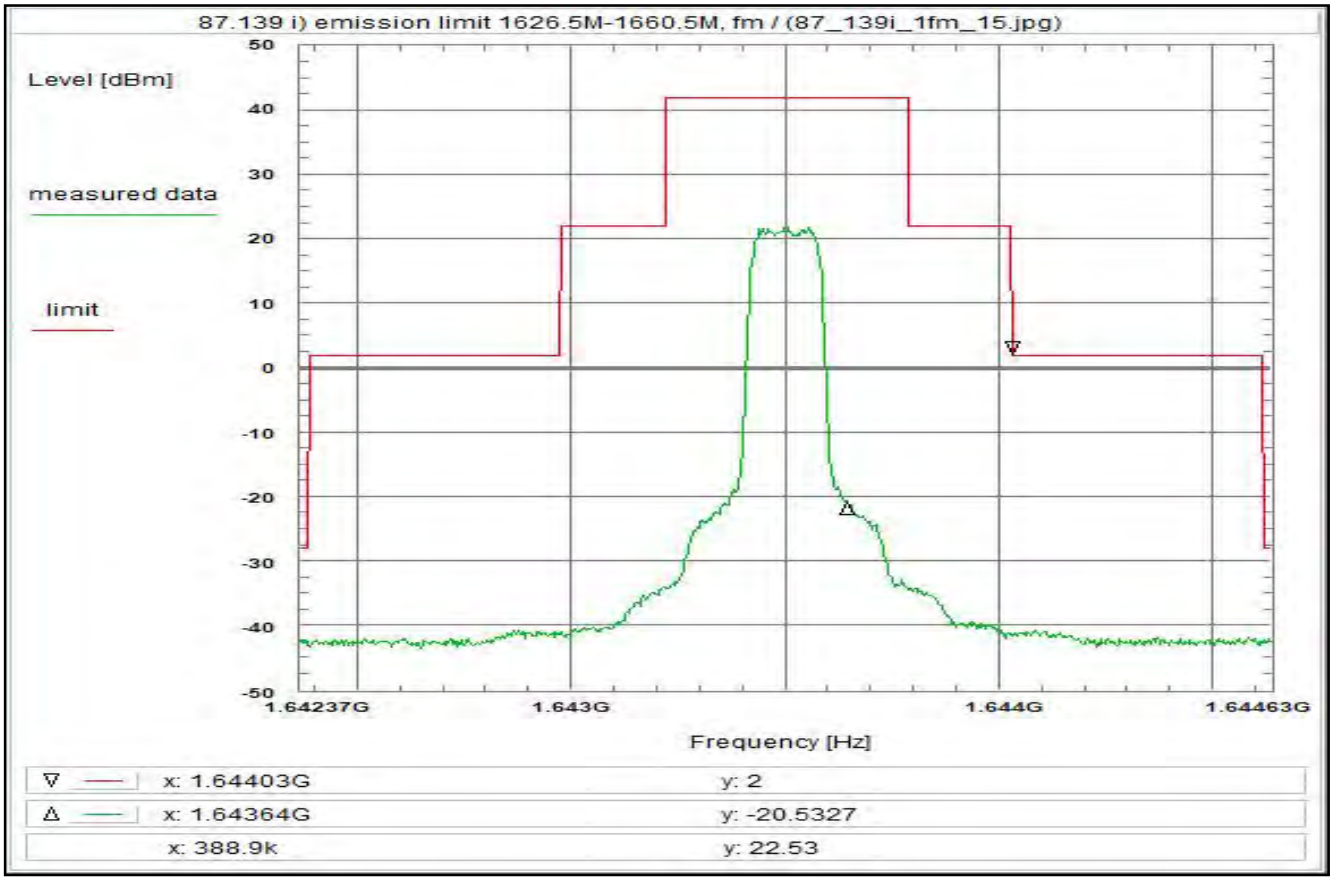
Start frequency:	1.642366	GHz
Stop frequency:	1.644634	GHz
Center frequency:	1.6435	GHz
Frequency span:	2.268	MHz
Resolution-BW:	3	kHz
Video-BW:	30	kHz
Input attenuation:	45	dB
Trace-Mode:	Average	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
U311+U312	+	29.3	dB
TOTAL CORRECTION:	+	30.2	dB

Remarks:
Carrier-on state / Carrier in the middle of the band (fm)
For EIRP calculation:
´worst-case´ = maximum antenna gain

Plot No. 192



Subclause: 87.139 i) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier in the middle of the band (fm)

Limit:
Limit according to 87.139(i)(1)
The mean power of emissions shall be attenuated
below the mean output power of the transmitter
in accordance with 87.139(i)(1).

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

Operating condition of DUT:
operating condition 1, see test report chapter 5.4
Class 6 ACD, R5T4.5XD/R20T4.5XD, 151.2 ksym/s, 16QAM

Test setup:
see test report chapter 7.2 setup 1.1hgj

Test equipment:
see test report chapter 7.2: C220, R001, U311, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Thu 28/May/2020 16:12:37	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

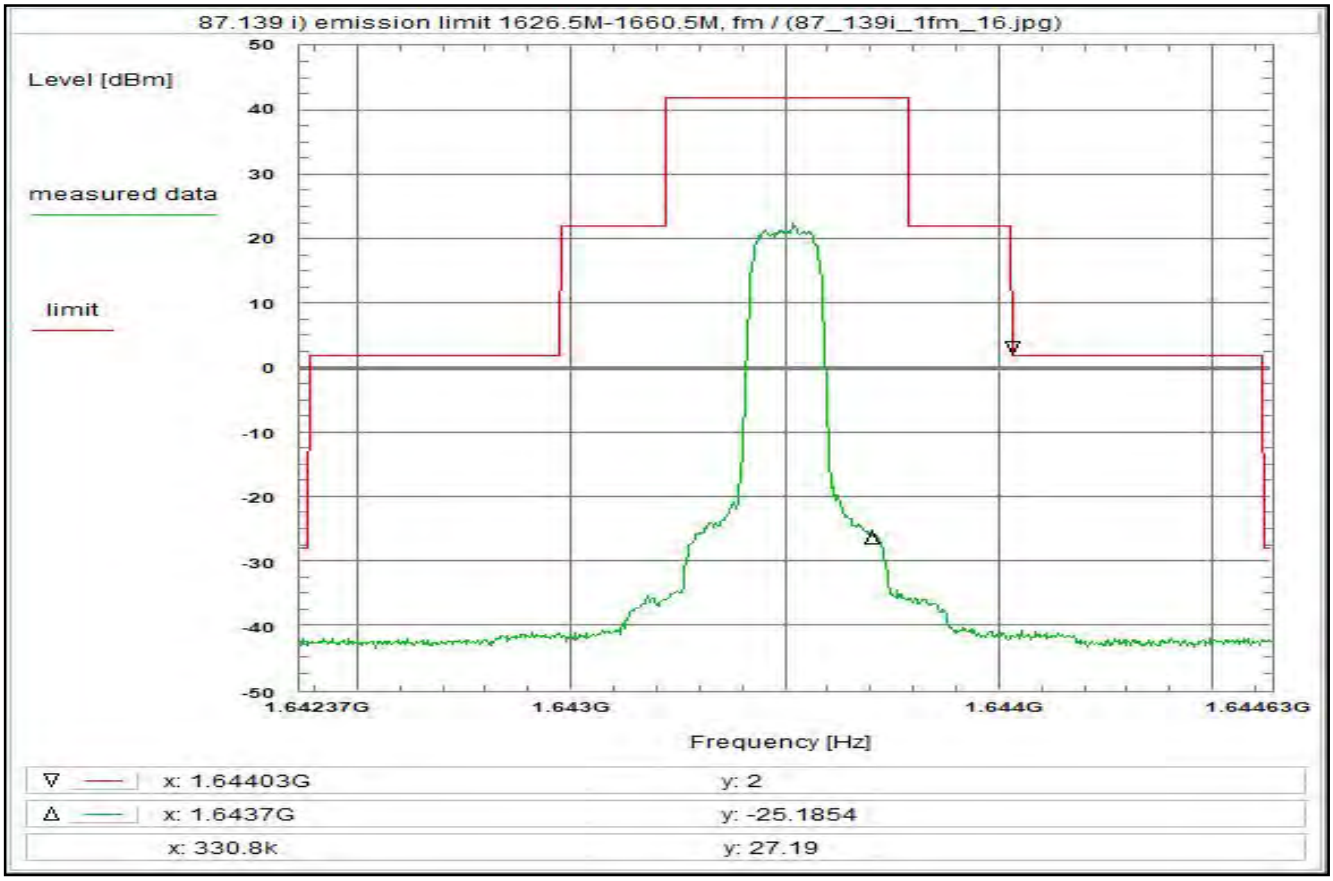
Start frequency:	1.642366	GHz
Stop frequency:	1.644634	GHz
Center frequency:	1.6435	GHz
Frequency span:	2.268	MHz
Resolution-BW:	3	kHz
Video-BW:	30	kHz
Input attenuation:	45	dB
Trace-Mode:	Average	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
U311+U312	+	29.3	dB
TOTAL CORRECTION:	+	30.2	dB

Remarks:
Carrier-on state / Carrier in the middle of the band (fm)
For EIRP calculation:
´worst-case´ = maximum antenna gain

Plot No. 193



Subclause: 87.139 i) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier in the middle of the band (fm)

Limit:
Limit according to 87.139(i)(1)
The mean power of emissions shall be attenuated
below the mean output power of the transmitter
in accordance with 87.139(i)(1).

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

Operating condition of DUT:
operating condition 1, see test report chapter 5.4
Class 6 ACD, R5T4.5QD/R20T4.5QD, 151.2 ksym/s, QPSK

Test setup:
see test report chapter 7.2 setup 1.1hgj

Test equipment:
see test report chapter 7.2: C220, R001, U311, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Thu 28/May/2020 16:17:02	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

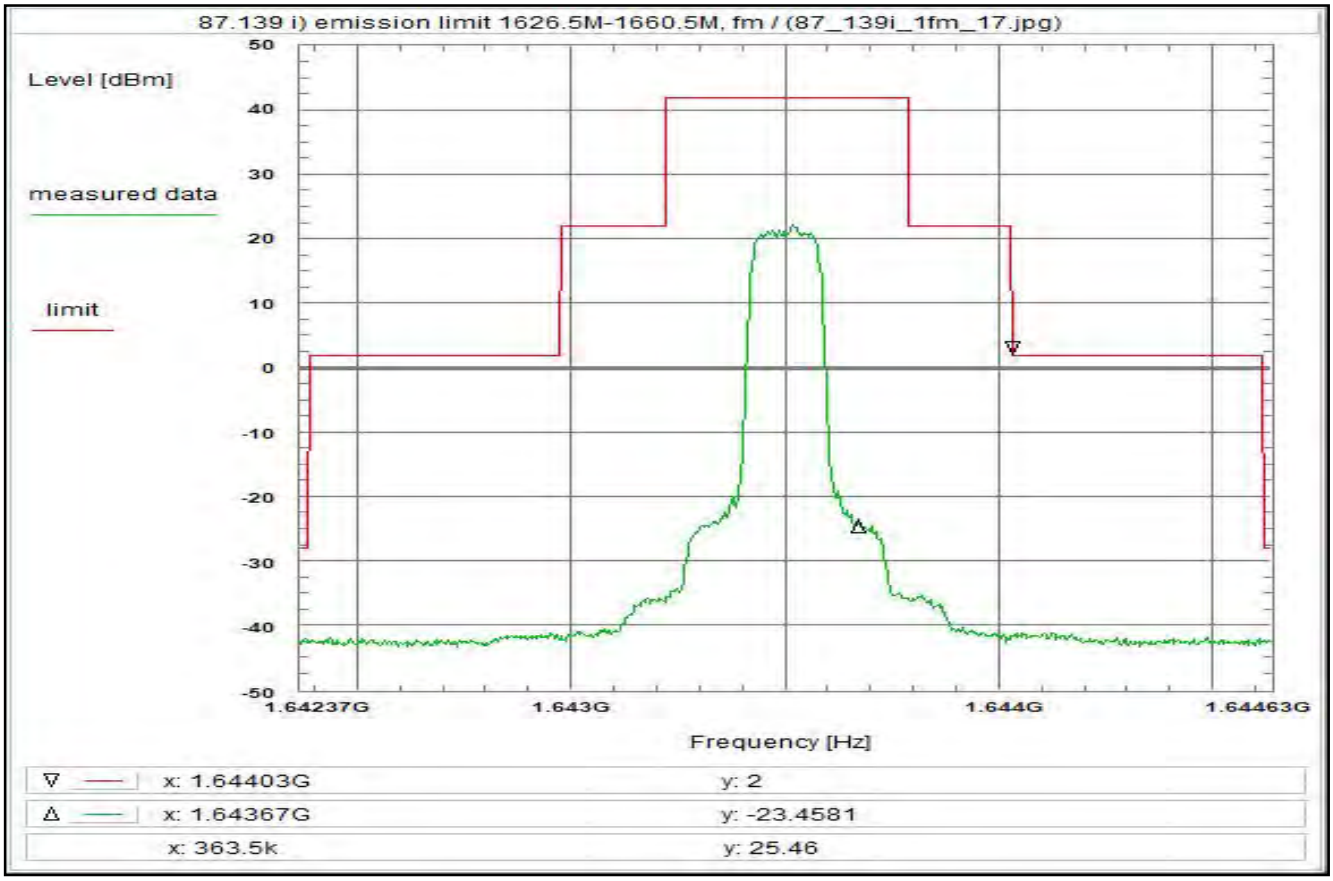
Start frequency:	1.642366	GHz
Stop frequency:	1.644634	GHz
Center frequency:	1.6435	GHz
Frequency span:	2.268	MHz
Resolution-BW:	3	kHz
Video-BW:	30	kHz
Input attenuation:	45	dB
Trace-Mode:	Average	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
U311+U312	+	29.3	dB
TOTAL CORRECTION:	+	30.2	dB

Remarks:
Carrier-on state / Carrier in the middle of the band (fm)
For EIRP calculation:
´worst-case´ = maximum antenna gain

Plot No. 194



Subclause: 87.139 i) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier in the middle of the band (fm)

Limit:
Limit according to 87.139(i)(1)
The mean power of emissions shall be attenuated
below the mean output power of the transmitter
in accordance with 87.139(i)(1).

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

Operating condition of DUT:
operating condition 1, see test report chapter 5.4
Class 6 HDR PIESD, R5T4.5QD/R20T4.5QD, 151.2 ksym/s, QPSK

Test setup:
see test report chapter 7.2 setup 1.1hgj

Test equipment:
see test report chapter 7.2: C220, R001, U311, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Thu 28/May/2020 16:20:55	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

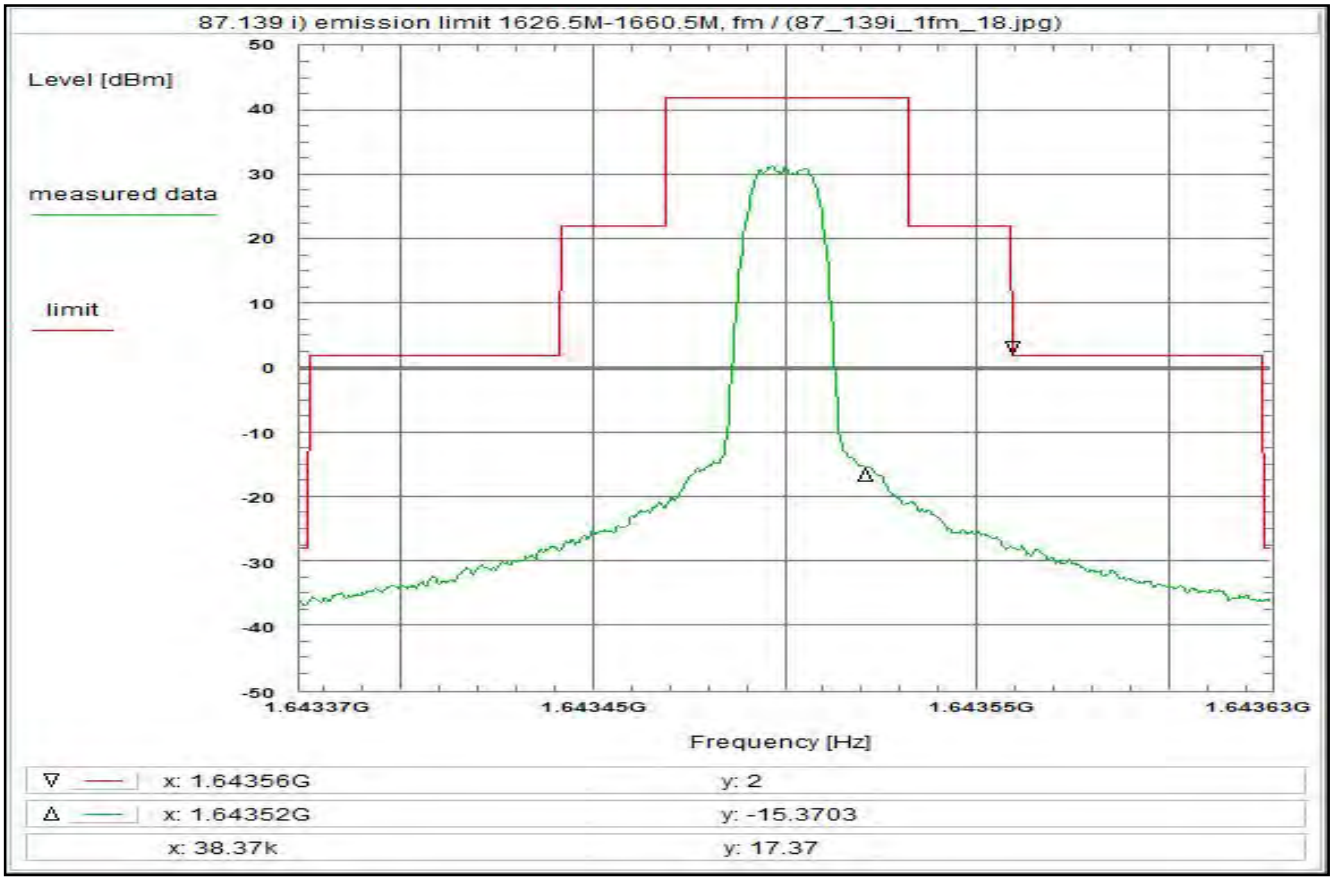
Start frequency:	1.642366	GHz
Stop frequency:	1.644634	GHz
Center frequency:	1.6435	GHz
Frequency span:	2.268	MHz
Resolution-BW:	3	kHz
Video-BW:	30	kHz
Input attenuation:	45	dB
Trace-Mode:	Average	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
U311+U312	+	29.3	dB
TOTAL CORRECTION:	+	30.2	dB

Remarks:
Carrier-on state / Carrier in the middle of the band (fm)
For EIRP calculation:
´worst-case´ = maximum antenna gain

Plot No. 195



Subclause: 87.139 i) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier in the middle of the band (fm)

Limit:
Limit according to 87.139(i)(1)
The mean power of emissions shall be attenuated
below the mean output power of the transmitter
in accordance with 87.139(i)(1).

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

Operating condition of DUT:
operating condition 1, see test report chapter 5.4
Class 6 HDR PIESD, R20T0.5QD, 16.8 ksym/s, QPSK

Test setup:
see test report chapter 7.2 setup 1.1hgj

Test equipment:
see test report chapter 7.2: C220, R001, U311, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Thu 28/May/2020 16:27:40	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

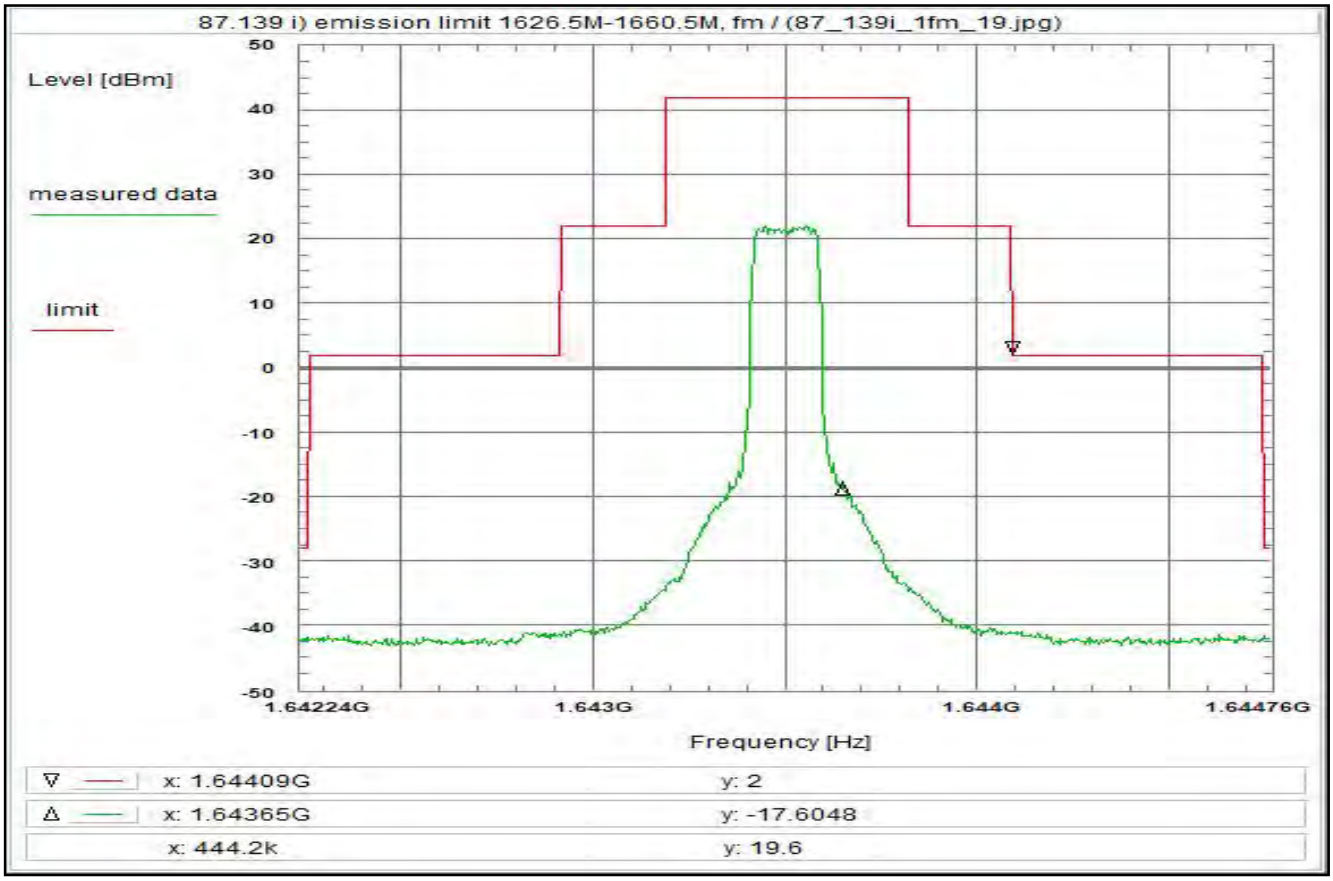
Start frequency:	1.643374	GHz
Stop frequency:	1.643626	GHz
Center frequency:	1.6435	GHz
Frequency span:	252	kHz
Resolution-BW:	3	kHz
Video-BW:	30	kHz
Input attenuation:	45	dB
Trace-Mode:	Average	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
U311+U312	+	29.3	dB
TOTAL CORRECTION:	+	30.2	dB

Remarks:
Carrier-on state / Carrier in the middle of the band (fm)
For EIRP calculation:
´worst-case´ = maximum antenna gain

Plot No. 196



Subclause: 87.139 i) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier in the middle of the band (fm)

Limit:
Limit according to 87.139(i)(1)
The mean power of emissions shall be attenuated
below the mean output power of the transmitter
in accordance with 87.139(i)(1).

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

Operating condition of DUT:
operating condition 1, see test report chapter 5.4
Class 6 HDR PIESD, FR80T5X16, 168 ksym/s, 16QAM

Test setup:
see test report chapter 7.2 setup 1.1hgj

Test equipment:
see test report chapter 7.2: C220, R001, U311, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Thu 28/May/2020 16:31:54	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

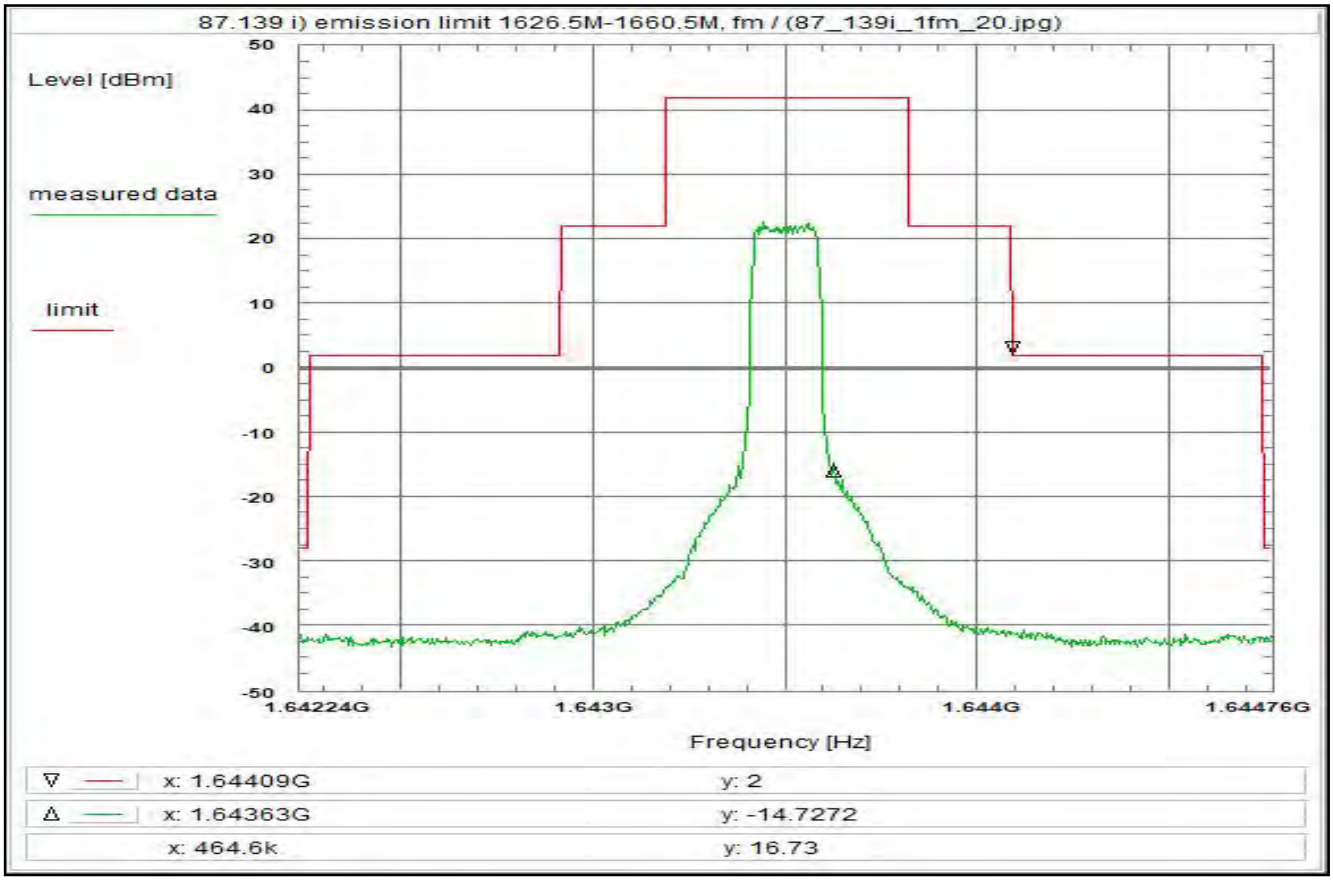
Start frequency:	1.64224	GHz
Stop frequency:	1.64476	GHz
Center frequency:	1.6435	GHz
Frequency span:	2.52	MHz
Resolution-BW:	3	kHz
Video-BW:	30	kHz
Input attenuation:	45	dB
Trace-Mode:	Average	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
U311+U312	+	29.3	dB
TOTAL CORRECTION:	+	30.2	dB

Remarks:
Carrier-on state / Carrier in the middle of the band (fm)
For EIRP calculation:
´worst-case´ = maximum antenna gain

Plot No. 197



Subclause: 87.139 i) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier in the middle of the band (fm)

Limit:
Limit according to 87.139(i)(1)
The mean power of emissions shall be attenuated
below the mean output power of the transmitter
in accordance with 87.139(i)(1).

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

Operating condition of DUT:
operating condition 1, see test report chapter 5.4
Class 6 HDR PIESD, FR80T5X32, 168 ksym/s, 32QAM

Test setup:
see test report chapter 7.2 setup 1.1hgj

Test equipment:
see test report chapter 7.2: C220, R001, U311, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Thu 28/May/2020 16:35:05	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

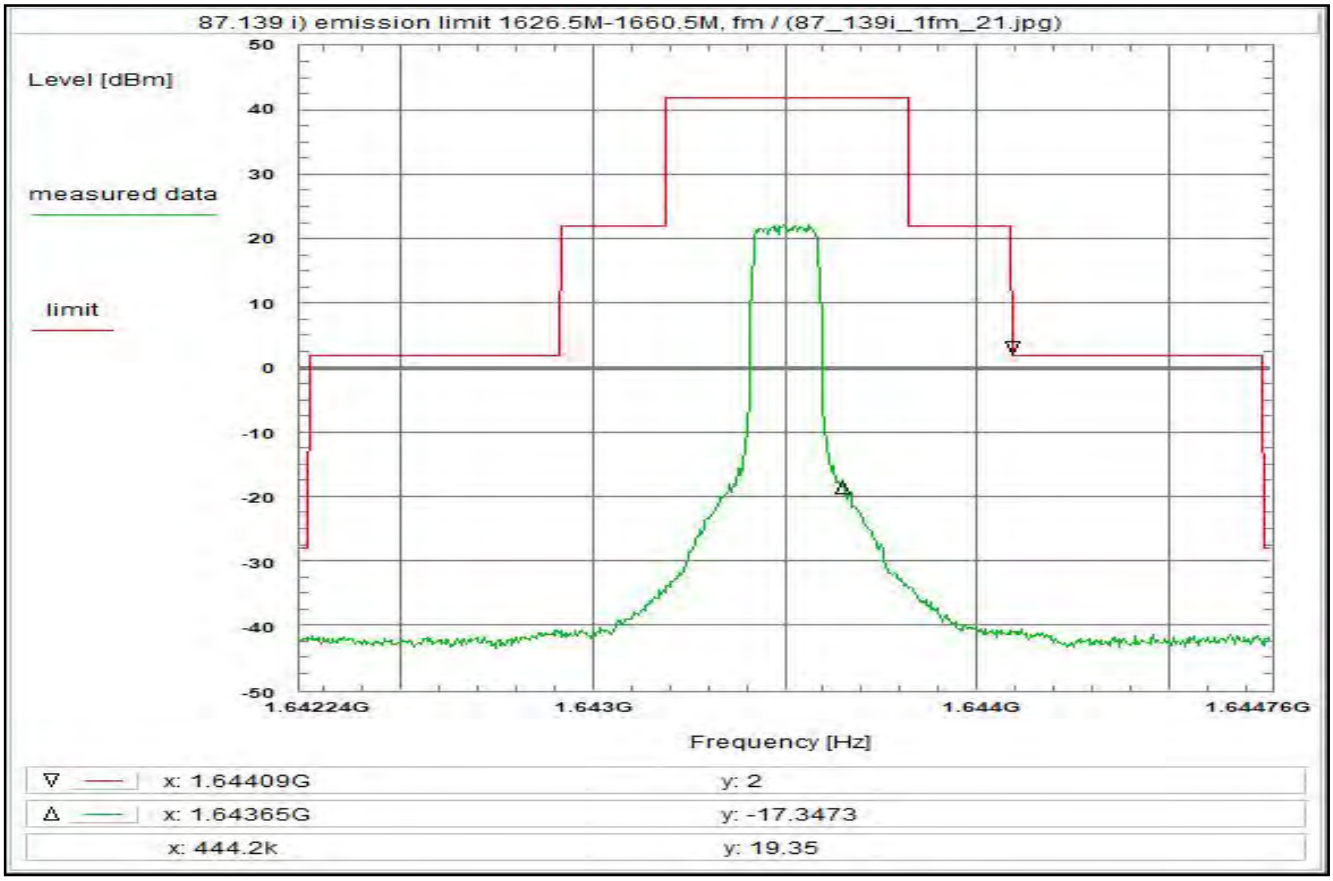
Start frequency:	1.64224	GHz
Stop frequency:	1.64476	GHz
Center frequency:	1.6435	GHz
Frequency span:	2.52	MHz
Resolution-BW:	3	kHz
Video-BW:	30	kHz
Input attenuation:	45	dB
Trace-Mode:	Average	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
U311+U312	+	29.3	dB
TOTAL CORRECTION:	+	30.2	dB

Remarks:
Carrier-on state / Carrier in the middle of the band (fm)
For EIRP calculation:
´worst-case´ = maximum antenna gain

Plot No. 198



Subclause: 87.139 i) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier in the middle of the band (fm)

Limit:
Limit according to 87.139(i)(1)
The mean power of emissions shall be attenuated
below the mean output power of the transmitter
in accordance with 87.139(i)(1).

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

Operating condition of DUT:
operating condition 1, see test report chapter 5.4
Class 6 HDR PIESD, FR80T5X64, 168 ksym/s, 64QAM

Test setup:
see test report chapter 7.2 setup 1.1hgj

Test equipment:
see test report chapter 7.2: C220, R001, U311, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Thu 28/May/2020 16:38:00	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

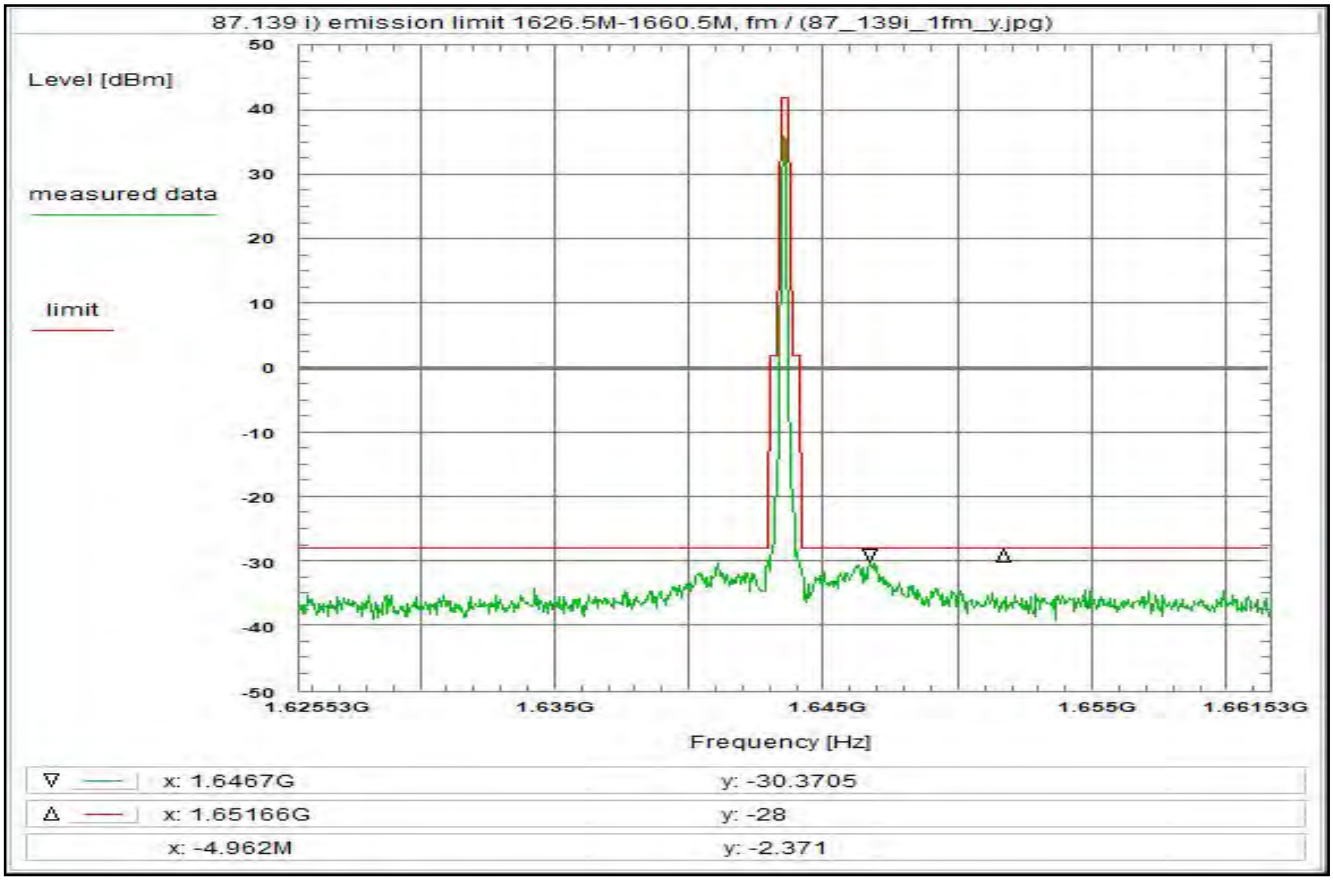
Start frequency:	1.64224	GHz
Stop frequency:	1.64476	GHz
Center frequency:	1.6435	GHz
Frequency span:	2.52	MHz
Resolution-BW:	3	kHz
Video-BW:	30	kHz
Input attenuation:	45	dB
Trace-Mode:	Average	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
U311+U312	+	29.3	dB
TOTAL CORRECTION:	+	30.2	dB

Remarks:
Carrier-on state / Carrier in the middle of the band (fm)
For EIRP calculation:
´worst-case´ = maximum antenna gain

Plot No. 199



Subclause: 87.139 i) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier in the middle of the band (fm)

Limit:
Limit according to 87.139(i)(1)
The mean power of emissions shall be attenuated
below the mean output power of the transmitter
in accordance with 87.139(i)(1).

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

Operating condition of DUT:
operating condition 1, see test report chapter 5.4
A700S worst case modulation, whole band

Test setup:
test report chapter 7.2 setup 1.1hgj

Test equipment:
see test report chapter 7.2: C220, R001, U312, U311, Power Splitter

Remark:

Test result: Test passed

Environment condition:

Date & Time:	Thu 09/Jul/2020 11:31:28	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

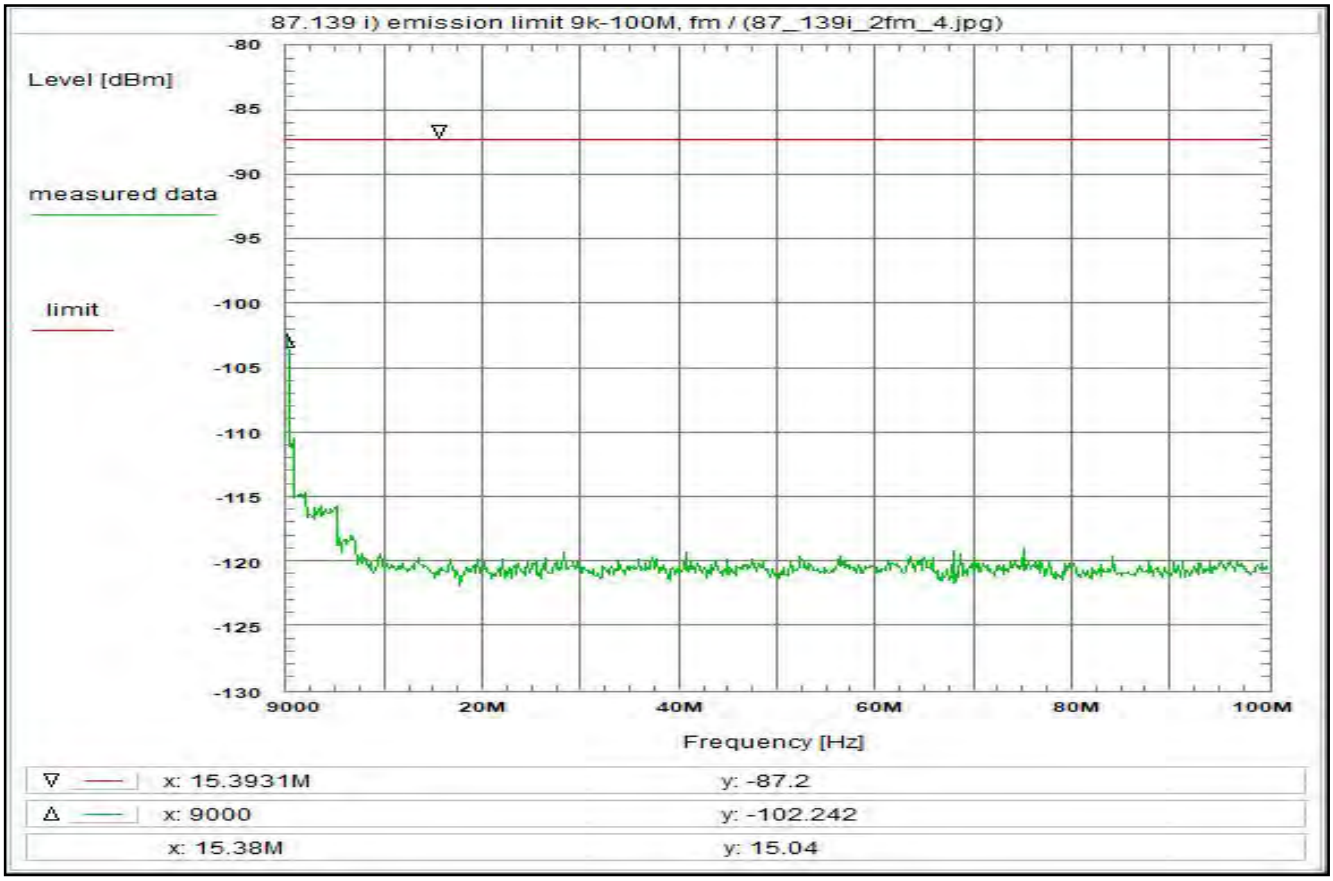
Start frequency:	1.625526	GHz
Stop frequency:	1.661526	GHz
Center frequency:	1.643526	GHz
Frequency span:	36	MHz
Resolution-BW:	3	kHz
Video-BW:	30	kHz
Input attenuation:	30	dB
Trace-Mode:	Clear Write	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	12.0	dBi
Test antenna	+	0.0	dB
BW correction factor (3k -> 4k)	+	1.2	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U312)	+	19.5	dB
Attenuation (U311)	+	9.7	dB
Power Splitter	+	6.7	dB
TOTAL CORRECTION:	+	50.0	dB

Remarks:
Carrier-on state / Carrier in the middle of the band (fm)
For EIRP calculation:
´worst-case´ = maximum antenna gain

Plot No. 200



Subclause: 87.139 i) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier in the middle of the band (fm)

Limit:
Limit according to 87.139(i)(1)
The mean power of emissions shall be attenuated
below the mean output power of the transmitter
in accordance with 87.139(i)(1).

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

Operating condition of DUT:
operating condition 1, see test report chapter 5.4
CLASS 6 ACD, R20T4.5XD

Test setup:
see test report chapter 7.2 setup 1.1higj

Test equipment:
see test report chapter 7.2: BNCo, C220, R001

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Fri 29/May/2020 10:16:06	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

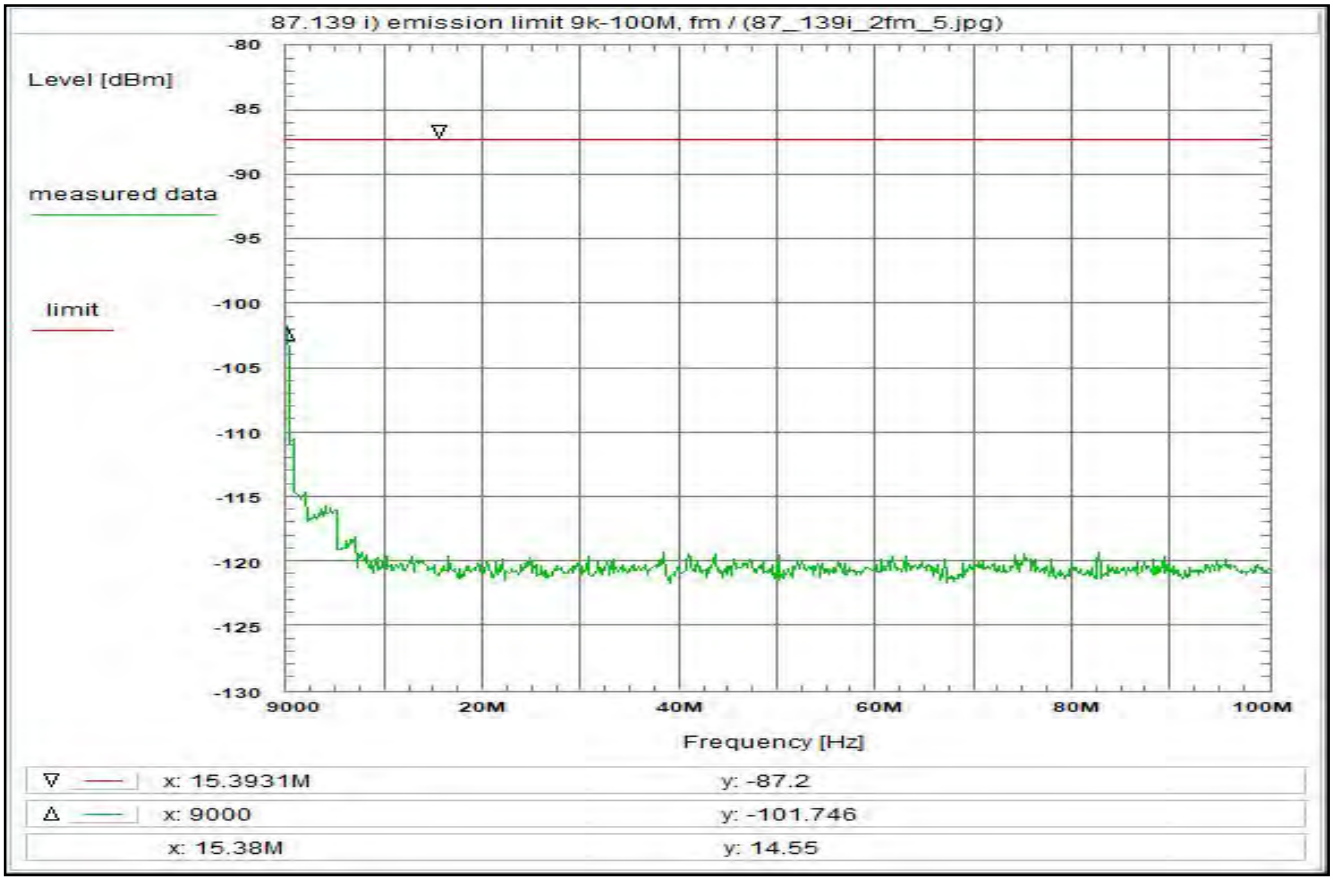
Start frequency:	9	kHz
Stop frequency:	100	MHz
Center frequency:	50.0045	MHz
Frequency span:	99.991	MHz
Resolution-BW:	3	kHz
Video-BW:	10	kHz
Input attenuation:	0	dB
Trace-Mode:	Clear Write	
Detector-Mode:	Pos Peak	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.2	dB
BW correction factor (3k -> 4k)	+	1.2	dBi
Atten. between HPA and feedhorn	-	0.0	dB
(BNCo)	+	7.8	dB
TOTAL CORRECTION:	+	9.2	dB

Remarks:
Carrier-on state / Carrier in the middle of the band (fm)
For EIRP calculation:
´worst-case´ = maximum antenna gain

Plot No. 201



Subclause: 87.139 i) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier in the middle of the band (fm)

Limit:
Limit according to 87.139(i)(1)
The mean power of emissions shall be attenuated
below the mean output power of the transmitter
in accordance with 87.139(i)(1).

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

Operating condition of DUT:
operating condition 1, see test report chapter 5.4
CLASS 6 HDR PIESD, R20T4.5XD

Test setup:
see test report chapter 7.2 setup 1.1higj

Test equipment:
see test report chapter 7.2: BNCo, C220, R001

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Fri 29/May/2020 10:16:55	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

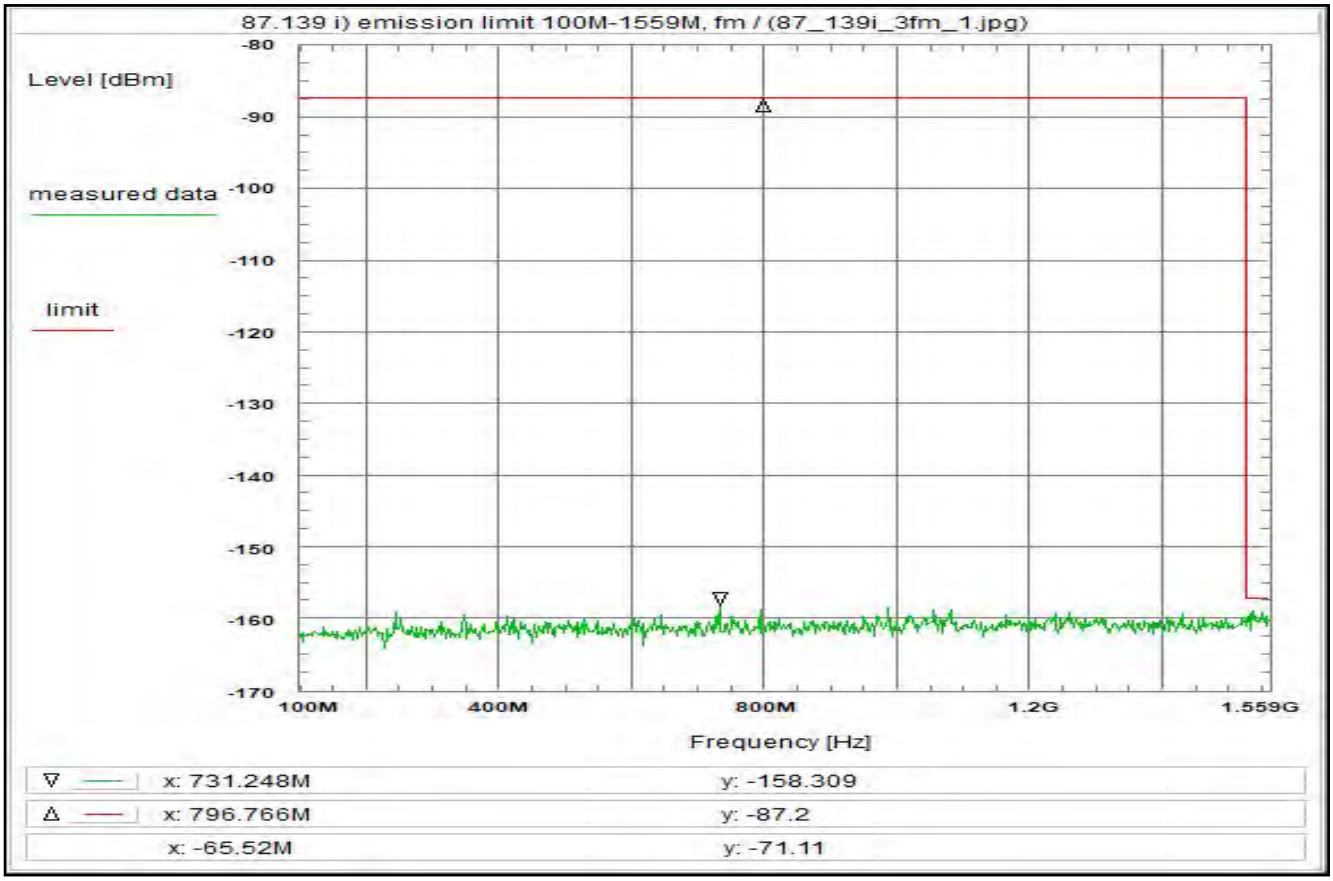
Start frequency:	9	kHz
Stop frequency:	100	MHz
Center frequency:	50.0045	MHz
Frequency span:	99.991	MHz
Resolution-BW:	3	kHz
Video-BW:	10	kHz
Input attenuation:	0	dB
Trace-Mode:	Clear Write	
Detector-Mode:	Pos Peak	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.2	dB
BW correction factor (3k -> 4k)	+	1.2	dBi
Atten. between HPA and feedhorn	-	0.0	dB
(BNCo)	+	7.8	dB
TOTAL CORRECTION:	+	9.2	dB

Remarks:
Carrier-on state / Carrier in the middle of the band (fm)
For EIRP calculation:
´worst-case´ = maximum antenna gain

Plot No. 202



Subclause: 87.139 i) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier in the middle of the band (fm)

Limit:
Limit according to 87.139(i)(1)
The mean power of emissions shall be attenuated
below the mean output power of the transmitter
in accordance with 87.139(i)(1).

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

Operating condition of DUT:
operating condition 1, see test report chapter 5.4
Class 6 ACD, R20T4.5XD

Test setup:
see test report chapter 7.2 setup 1.1higj

Test equipment:
see test report chapter 7.2: BNCo, C220, R001

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Thu 04/Jun/2020 16:52:31	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

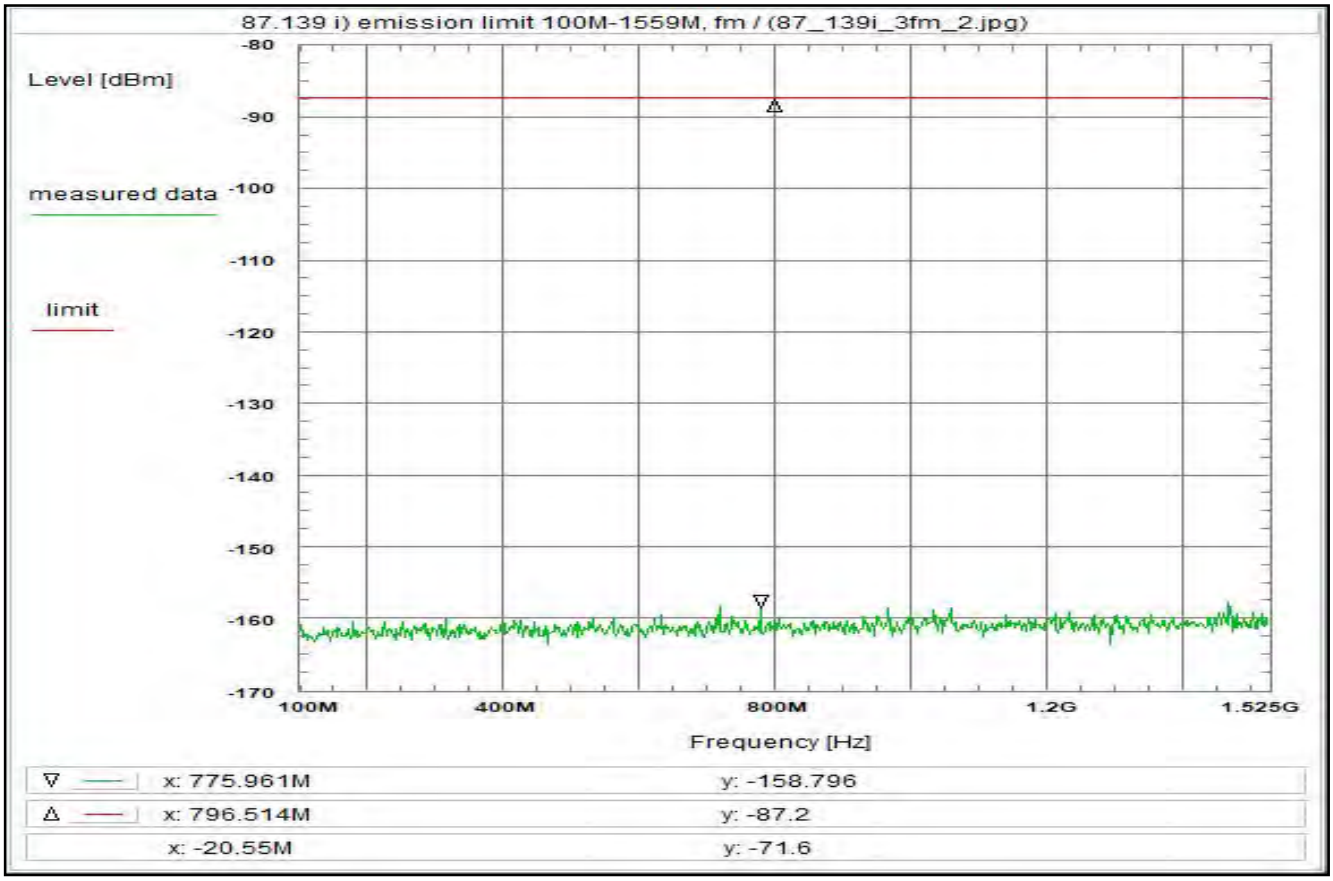
Start frequency:	100	MHz
Stop frequency:	1.559	GHz
Center frequency:	829.5	MHz
Frequency span:	1.459	GHz
Resolution-BW:	3	kHz
Video-BW:	10	kHz
Input attenuation:	0	dB
Trace-Mode:	Clear Write	
Detector-Mode:	Normal	

Correction:

Directional coupler (DPLX)	-	80.0	dB
Coaxial cable (C220)	+	0.6	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor (3k -> 4k)	+	1.2	dB
Atten. between HPA and feedhorn	-	0.0	dB
additional attenuation	+	0.0	dB
(BNCo)	+	10.1	dB
TOTAL CORRECTION:	-	-68.1	dB

Remarks:
Carrier-on state / Carrier in the middle of the band (fm)
For EIRP calculation:
´worst-case´ = maximum antenna gain

Plot No. 203



Subclause: 87.139 i) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier in the middle of the band (fm)

Limit:
Limit according to 87.139(i)(1)
The mean power of emissions shall be attenuated
below the mean output power of the transmitter
in accordance with 87.139(i)(1).

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

Operating condition of DUT:
operating condition 1, see test report chapter 5.4
Class 6 ACD, R20T4.5XD

Test setup:
see test report chapter 7.2 setup 1.1higj

Test equipment:
see test report chapter 7.2: BNCo, C220, R001

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Thu 04/Jun/2020 16:55:51	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

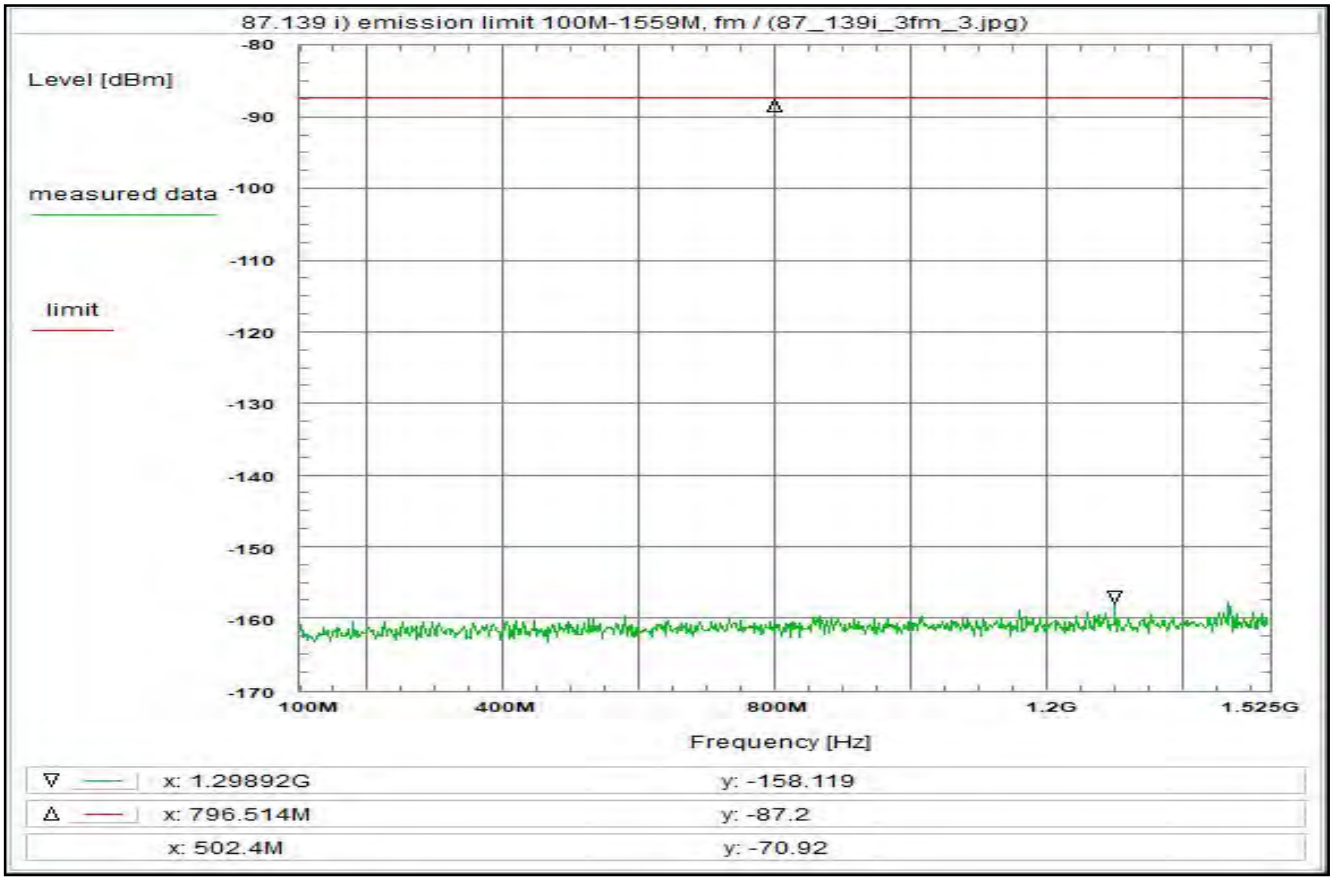
Start frequency:	100	MHz
Stop frequency:	1.524999	GHz
Center frequency:	812.4995	MHz
Frequency span:	1.424999	GHz
Resolution-BW:	3	kHz
Video-BW:	10	kHz
Input attenuation:	0	dB
Trace-Mode:	Clear Write	
Detector-Mode:	Normal	

Correction:

Directional coupler (DPLX)	-	80.0	dB
Coaxial cable (C220)	+	0.6	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor (3k -> 4k)	+	1.2	dB
Atten. between HPA and feedhorn	-	0.0	dB
additional attenuation	+	0.0	dB
(BNCo)	+	10.1	dB
TOTAL CORRECTION:	-	-68.1	dB

Remarks:
Carrier-on state / Carrier in the middle of the band (fm)
For EIRP calculation:
´worst-case´ = maximum antenna gain

Plot No. 204



Subclause: 87.139 i) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier in the middle of the band (fm)

Limit:
Limit according to 87.139(i)(1)
The mean power of emissions shall be attenuated
below the mean output power of the transmitter
in accordance with 87.139(i)(1).

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

Operating condition of DUT:
operating condition 1, see test report chapter 5.4
Class 6 HDR PIESD, R20T4.5XD

Test setup:
see test report chapter 7.2 setup 1.1higj

Test equipment:
see test report chapter 7.2 BNCo, C220, R001

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Thu 04/Jun/2020 16:58:07	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

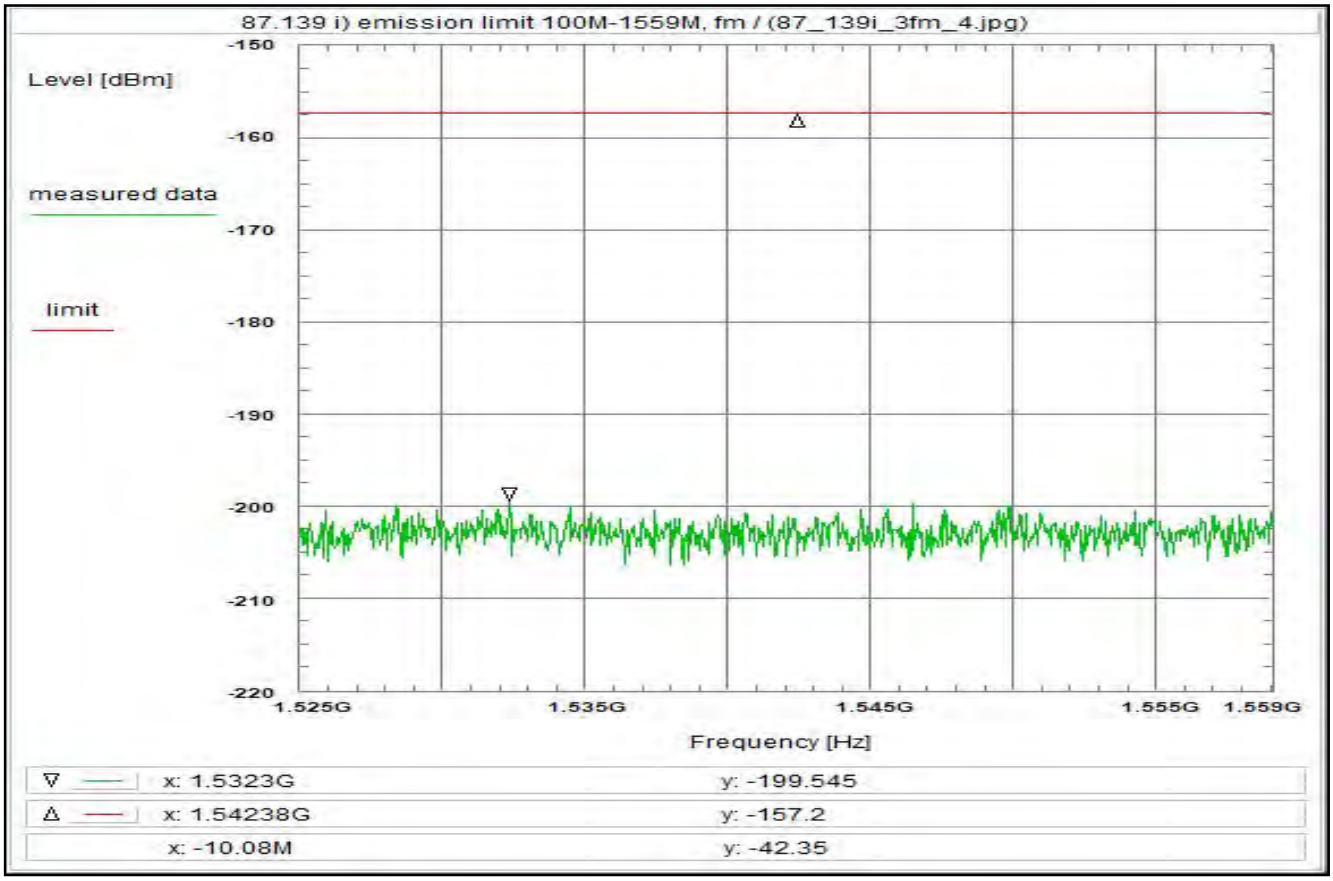
Start frequency:	100	MHz
Stop frequency:	1.524999	GHz
Center frequency:	812.4995	MHz
Frequency span:	1.424999	GHz
Resolution-BW:	3	kHz
Video-BW:	10	kHz
Input attenuation:	0	dB
Trace-Mode:	Clear Write	
Detector-Mode:	Normal	

Correction:

Directional coupler (DPLX)	-	80.0	dB
Coaxial cable (C220)	+	0.6	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor (3k -> 4k)	+	1.2	dB
Atten. between HPA and feedhorn	-	0.0	dB
additional attenuation	+	0.0	dB
(BNCo)	+	10.1	dB
TOTAL CORRECTION:	-	-68.1	dB

Remarks:
Carrier-on state / Carrier in the middle of the band (fm)
For EIRP calculation:
´worst-case´ = maximum antenna gain

Plot No. 205



Subclause: 87.139 i) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier in the middle of the band (fm)

Limit:
Limit according to 87.139(i)(1)
The mean power of emissions shall be attenuated
below the mean output power of the transmitter
in accordance with 87.139(i)(1).

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

Operating condition of DUT:
operating condition 1, see test report chapter 5.4
Class 6 HDR PIESD, R20T4.5XD

Test setup:
see test report chapter 7.2 setup 1.1higj

Test equipment:
see test report chapter 7.2 BNCo, C220, R001

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Thu 04/Jun/2020 16:59:24	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

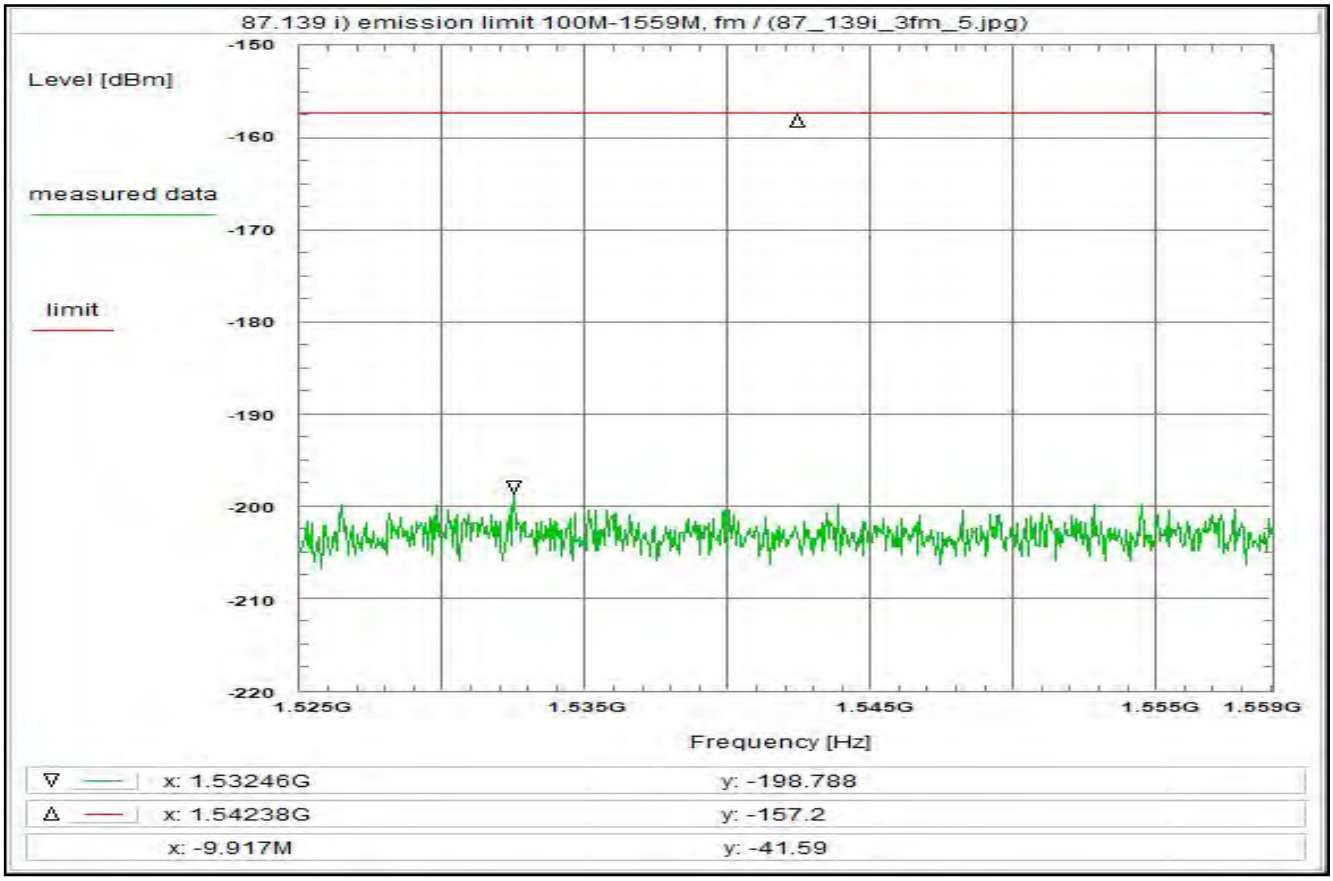
Start frequency:	1.525	GHz
Stop frequency:	1.559	GHz
Center frequency:	1.542	GHz
Frequency span:	34	MHz
Resolution-BW:	3	kHz
Video-BW:	10	kHz
Input attenuation:	0	dB
Trace-Mode:	Clear Write	
Detector-Mode:	Normal	

Correction:

Directional coupler (DPLX)	-	120.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor (3k -> 4k)	+	1.2	dB
Atten. between HPA and feedhorn	-	0.0	dB
additional attenuation	+	0.0	dB
(BNCo)	+	10.2	dB
TOTAL CORRECTION:	-	-107.7	dB

Remarks:
Carrier-on state / Carrier in the middle of the band (fm)
For EIRP calculation:
´worst-case´ = maximum antenna gain

Plot No. 206



Subclause: 87.139 i) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier in the middle of the band (fm)

Limit:
Limit according to 87.139(i)(1)
The mean power of emissions shall be attenuated
below the mean output power of the transmitter
in accordance with 87.139(i)(1).

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

Operating condition of DUT:
operating condition 1, see test report chapter 5.4
Class 6 ACD, R20T4.5XD

Test setup:
see test report chapter 7.2 setup 1.1higj

Test equipment:
see test report chapter 7.2 BNCo, C220, R001

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Thu 04/Jun/2020 16:59:50	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

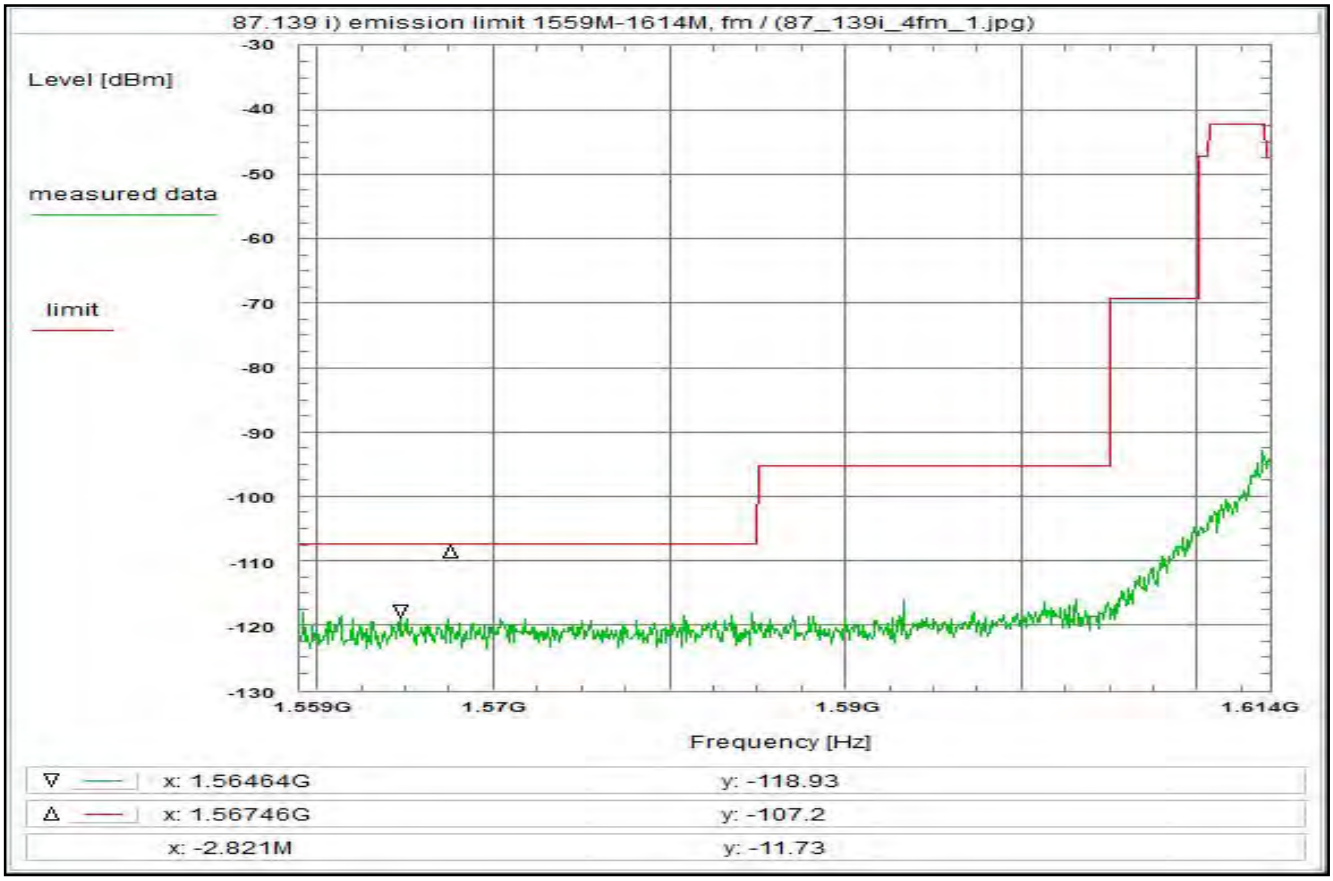
Start frequency:	1.525	GHz
Stop frequency:	1.559	GHz
Center frequency:	1.542	GHz
Frequency span:	34	MHz
Resolution-BW:	3	kHz
Video-BW:	10	kHz
Input attenuation:	0	dB
Trace-Mode:	Clear Write	
Detector-Mode:	Normal	

Correction:

Directional coupler (DPLX)	-	120.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor (3k -> 4k)	+	1.2	dB
Atten. between HPA and feedhorn	-	0.0	dB
additional attenuation	+	0.0	dB
(BNCo)	+	10.2	dB
TOTAL CORRECTION:	-	-107.7	dB

Remarks:
Carrier-on state / Carrier in the middle of the band (fm)
For EIRP calculation:
´worst-case´ = maximum antenna gain

Plot No. 207



Subclause: 87.139 i) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier in the middle of the band (fm)

Limit:
Limit according to 87.139(i)(1)
The mean power of emissions shall be attenuated
below the mean output power of the transmitter
in accordance with 87.139(i)(1).

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

Operating condition of DUT:
operating condition 1, see test report chapter 5.4
Class 6 HDR PIESD, R20T4.5XD

Test setup:
see test report chapter 7.2 setup 1.1higj

Test equipment:
see test report chapter 7.2 BNCo, C220, R001

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Thu 04/Jun/2020 16:45:03	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

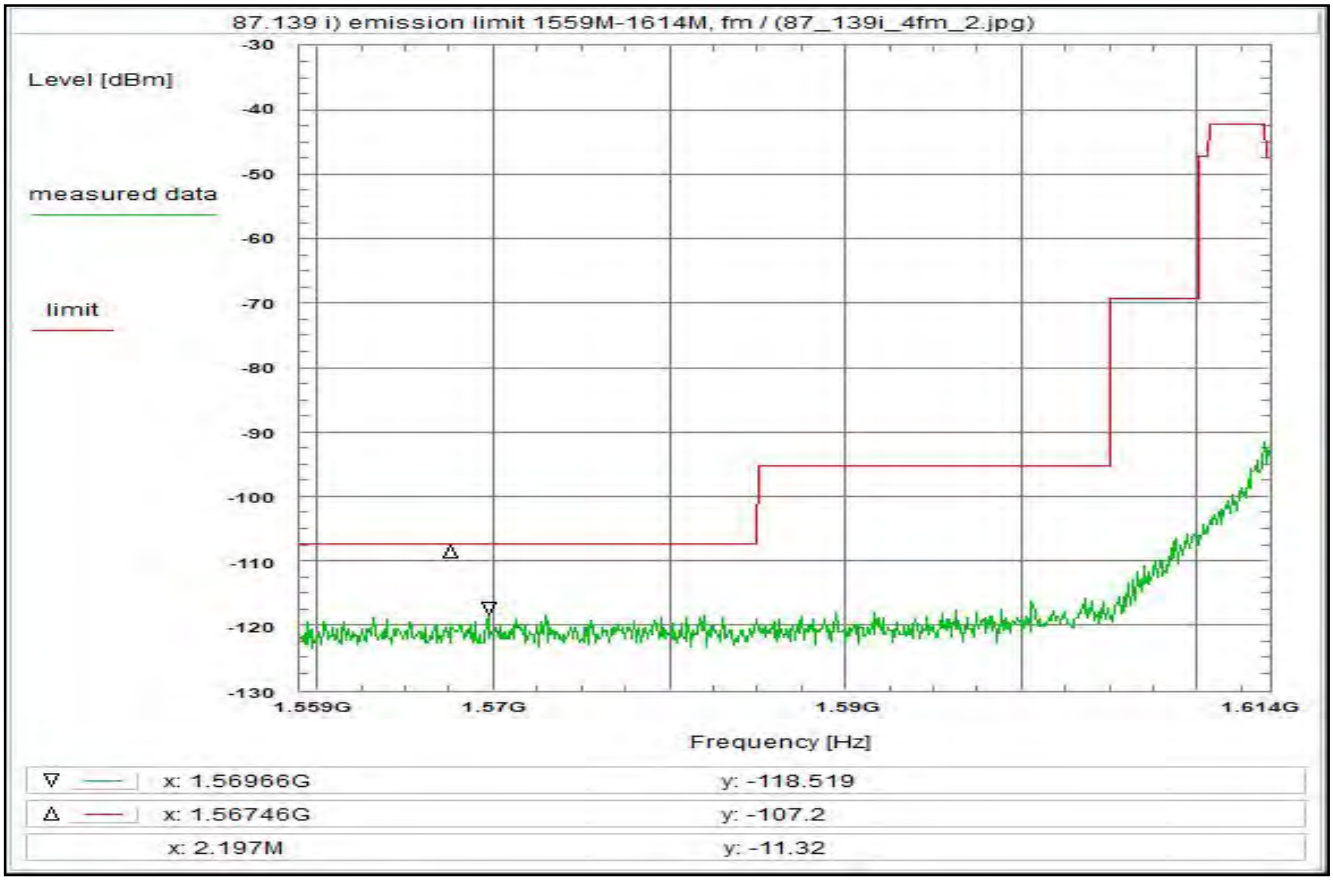
Start frequency:	1.559	GHz
Stop frequency:	1.614	GHz
Center frequency:	1.5865	GHz
Frequency span:	55	MHz
Resolution-BW:	1	kHz
Video-BW:	3	kHz
Input attenuation:	0	dB
Trace-Mode:	Clear Write	
Detector-Mode:	Normal	

Correction:

Directional coupler (DPLX)	-	62.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor (1k -> 1M)	+	30.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
additional attenuation	+	0.0	dB
(BNCo)	+	12.6	dB
TOTAL CORRECTION:	-	-18.5	dB

Remarks:
Carrier-on state / Carrier in the middle of the band (fm)
For EIRP calculation:
´worst-case´ = maximum antenna gain

Plot No. 208



Subclause: 87.139 i) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier in the middle of the band (fm)

Limit:
Limit according to 87.139(i)(1)
The mean power of emissions shall be attenuated
below the mean output power of the transmitter
in accordance with 87.139(i)(1).

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

Operating condition of DUT:
operating condition 1, see test report chapter 5.4
Class 6 ACD, R20T4.5XD

Test setup:
see test report chapter 7.2 setup 1.1higj

Test equipment:
see test report chapter 7.2 BNCo, C220, R001

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Thu 04/Jun/2020 16:46:57	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

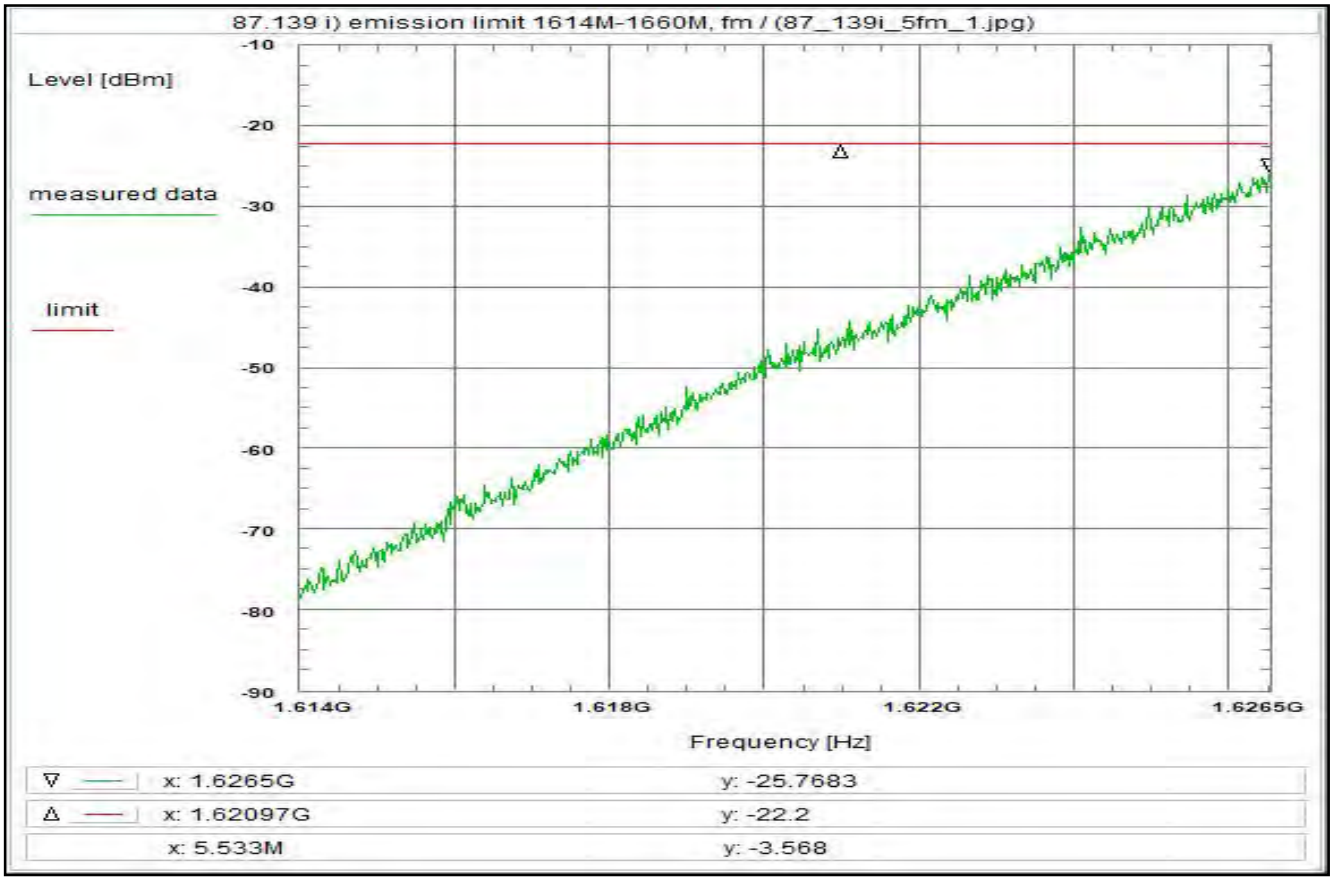
Start frequency:	1.559	GHz
Stop frequency:	1.614	GHz
Center frequency:	1.5865	GHz
Frequency span:	55	MHz
Resolution-BW:	1	kHz
Video-BW:	3	kHz
Input attenuation:	0	dB
Trace-Mode:	Clear Write	
Detector-Mode:	Normal	

Correction:

Directional coupler (DPLX)	-	62.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor (1k -> 1M)	+	30.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
additional attenuation	+	0.0	dB
(BNCo)	+	12.6	dB
TOTAL CORRECTION:	-	-18.5	dB

Remarks:
Carrier-on state / Carrier in the middle of the band (fm)
For EIRP calculation:
´worst-case´ = maximum antenna gain

Plot No. 209



Subclause: 87.139 i) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier in the middle of the band (fm)

Limit:
Limit according to 87.139(i)(1)
The mean power of emissions shall be attenuated
below the mean output power of the transmitter
in accordance with 87.139(i)(1).

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

Operating condition of DUT:
operating condition 1, see test report chapter 5.4
Class 6 ACD, R20T4.5XD

Test setup:
see test report chapter 7.2 setup 1.1higj

Test equipment:
see test report chapter 7.2 BNCo, C220, R001

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Thu 04/Jun/2020 15:35:40	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

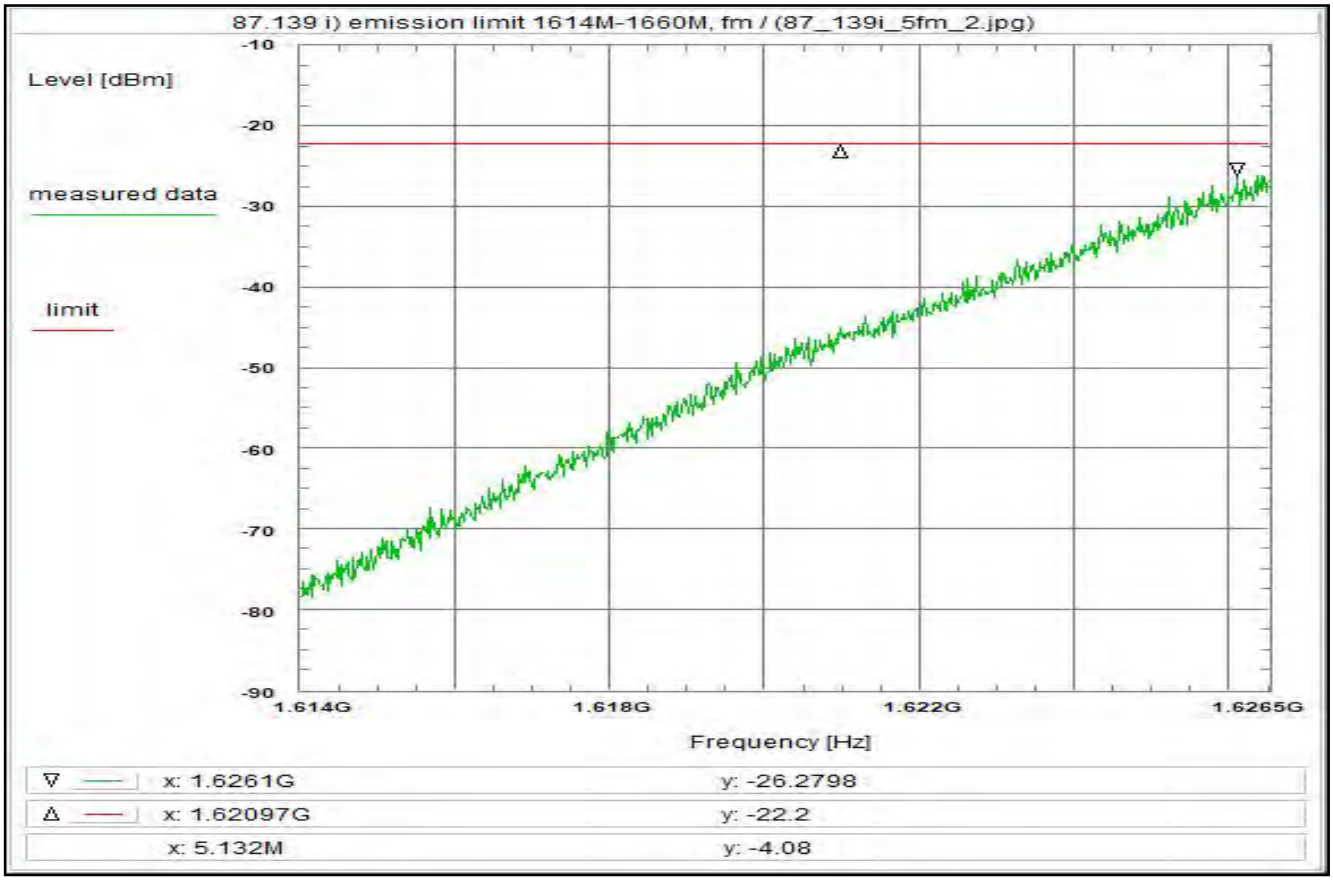
Start frequency:	1.614	GHz
Stop frequency:	1.6265	GHz
Center frequency:	1.62025	GHz
Frequency span:	12.5	MHz
Resolution-BW:	500	Hz
Video-BW:	2	kHz
Input attenuation:	0	dB
Trace-Mode:	Clear Write	
Detector-Mode:	Normal	

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 (3k -> 4k)	+	1.2	dB
Atten. between HPA and feedhorn	-	0.0	dB
additional attenuation	+	0.0	dB
(BNCo)	+	64.9	dB
TOTAL CORRECTION:	+	67.0	dB

Remarks:
Carrier-on state / Carrier in the middle of the band (fm)
For EIRP calculation:
´worst-case´ = maximum antenna gain

Plot No. 210



Subclause: 87.139 i) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier in the middle of the band (fm)

Limit:
Limit according to 87.139(i)(1)
The mean power of emissions shall be attenuated
below the mean output power of the transmitter
in accordance with 87.139(i)(1).

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

Operating condition of DUT:
operating condition 1, see test report chapter 5.4
Class 6 HDR PIESD, R20T4.5XD

Test setup:
see test report chapter 7.2 setup 1.1higj

Test equipment:
see test report chapter 7.2 BNCo, C220, R001

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Thu 04/Jun/2020 15:36:35	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

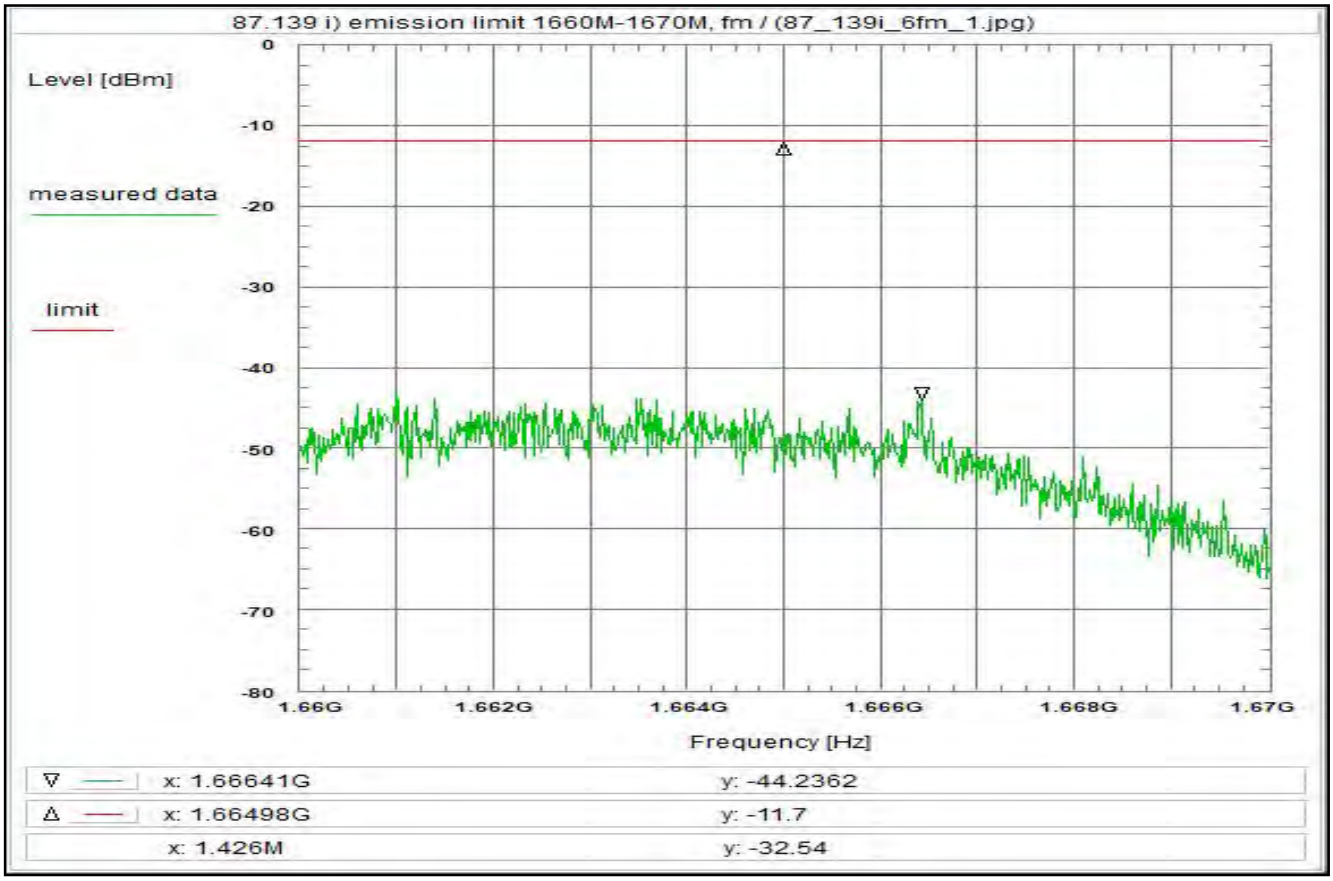
Start frequency:	1.614	GHz
Stop frequency:	1.6265	GHz
Center frequency:	1.62025	GHz
Frequency span:	12.5	MHz
Resolution-BW:	500	Hz
Video-BW:	2	kHz
Input attenuation:	0	dB
Trace-Mode:	Clear Write	
Detector-Mode:	Normal	

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 (3k -> 4k)	+	1.2	dB
Atten. between HPA and feedhorn	-	0.0	dB
additional attenuation	+	0.0	dB
(BNCo)	+	64.9	dB
TOTAL CORRECTION:	+	67.0	dB

Remarks:
Carrier-on state / Carrier in the middle of the band (fm)
For EIRP calculation:
´worst-case´ = maximum antenna gain

Plot No. 211



Subclause: 87.139 i) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier in the middle of the band (fm)

Limit:
Limit according to 87.139(i)(1)
The mean power of emissions shall be attenuated
below the mean output power of the transmitter
in accordance with 87.139(i)(1).

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

Operating condition of DUT:
operating condition 1, see test report chapter 5.4
Class 6 HDR PIESD, R20T4.5XD

Test setup:
see test report chapter 7.2 setup 1.1higj

Test equipment:
see test report chapter 7.2 BNCo, C220, R001

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Thu 04/Jun/2020 14:49:32	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

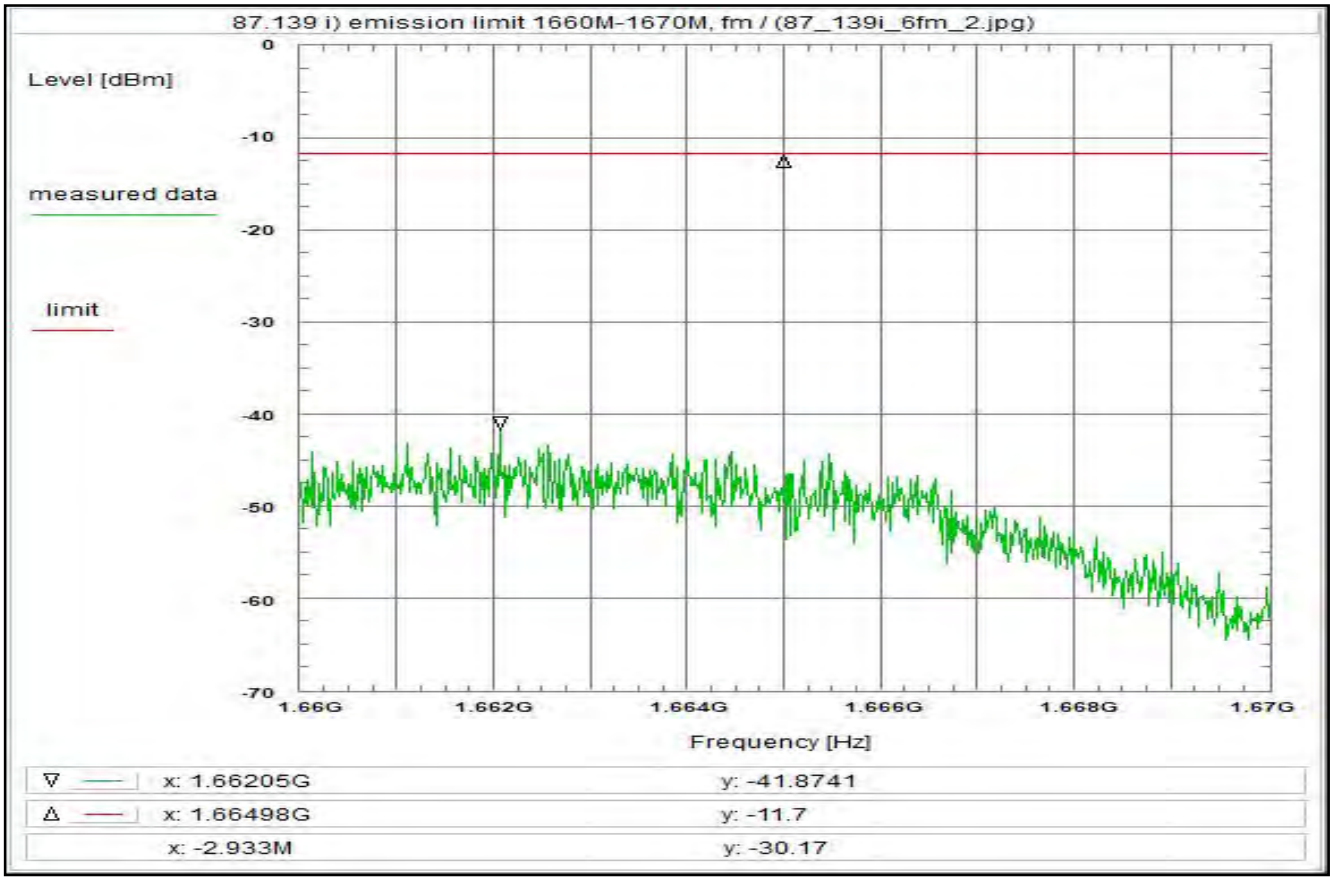
Start frequency:	1.66	GHz
Stop frequency:	1.67	GHz
Center frequency:	1.665	GHz
Frequency span:	10	MHz
Resolution-BW:	3	kHz
Video-BW:	10	kHz
Input attenuation:	10	dB
Trace-Mode:	Clear Write	
Detector-Mode:	Normal	

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 (3k -> 20k)	+	8.2	dB
Atten. between HPA and feedhorn	-	0.0	dB
additional attenuation	+	0.0	dB
(BNCo)	+	26.8	dB
TOTAL CORRECTION:	+	35.9	dB

Remarks:
Carrier-on state / Carrier in the middle of the band (fm)
For EIRP calculation:
´worst-case´ = maximum antenna gain

Plot No. 212



Subclause: 87.139 i) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier in the middle of the band (fm)

Limit:
Limit according to 87.139(i)(1)
The mean power of emissions shall be attenuated
below the mean output power of the transmitter
in accordance with 87.139(i)(1).

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

Operating condition of DUT:
operating condition 1, see test report chapter 5.4
Class 6 ACD, R20T4.5XD

Test setup:
see test report chapter 7.2 setup 1.1higj

Test equipment:
see test report chapter 7.2 BNCo, C220, R001

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Thu 04/Jun/2020 14:50:33	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

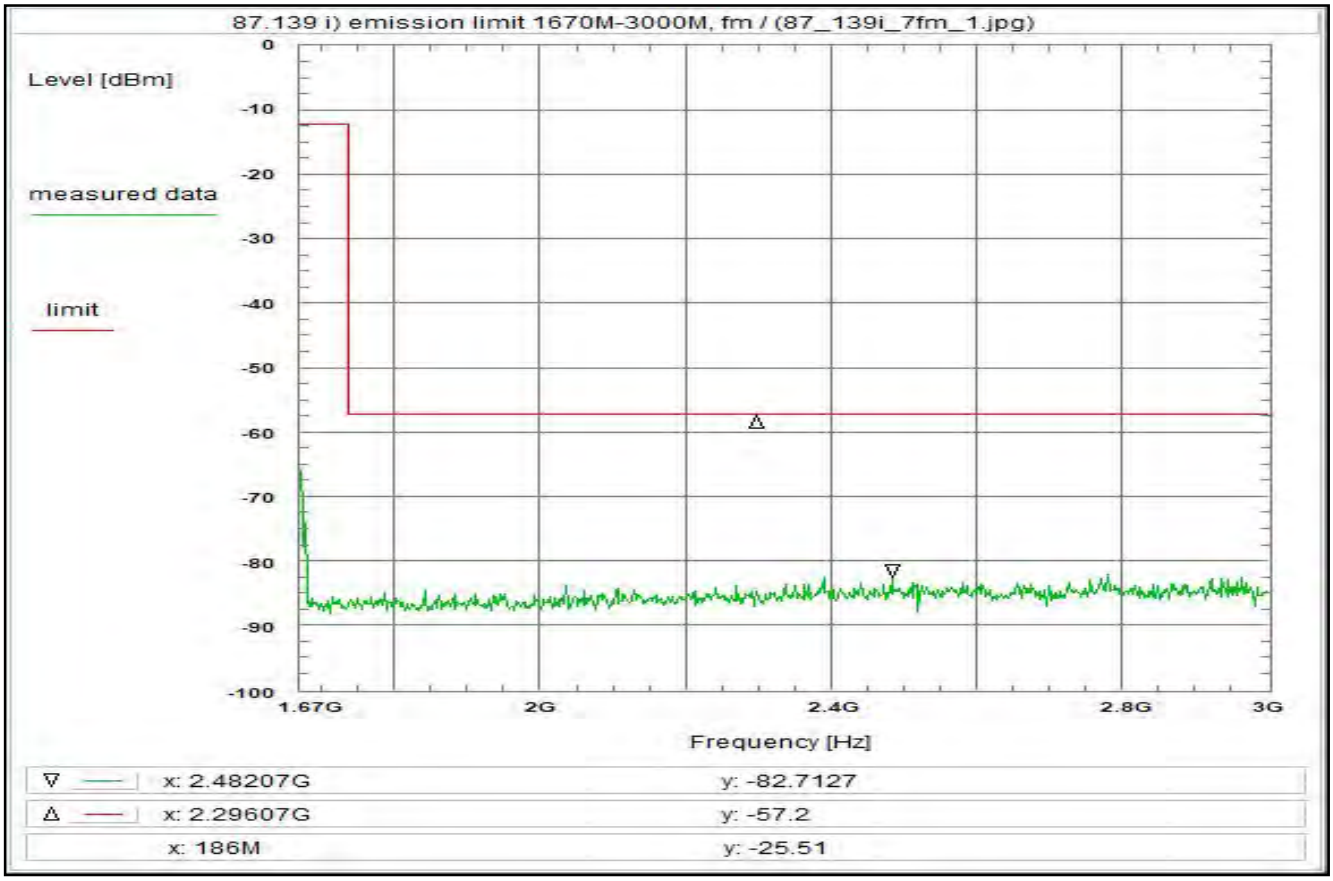
Start frequency:	1.66	GHz
Stop frequency:	1.67	GHz
Center frequency:	1.665	GHz
Frequency span:	10	MHz
Resolution-BW:	3	kHz
Video-BW:	10	kHz
Input attenuation:	10	dB
Trace-Mode:	Clear Write	
Detector-Mode:	Normal	

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 (3k -> 20k)	+	8.2	dB
Atten. between HPA and feedhorn	-	0.0	dB
additional attenuation	+	0.0	dB
(BNCo)	+	26.8	dB
TOTAL CORRECTION:	+	35.9	dB

Remarks:
Carrier-on state / Carrier in the middle of the band (fm)
For EIRP calculation:
´worst-case´ = maximum antenna gain

Plot No. 213



Subclause: 87.139 i) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier in the middle of the band (fm)

Limit:
Limit according to 87.139(i)(1)
The mean power of emissions shall be attenuated
below the mean output power of the transmitter
in accordance with 87.139(i)(1).

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

Operating condition of DUT:
operating condition 1, see test report chapter 5.4
Class 6 ACD, R20T4.5XD

Test setup:
see test report chapter 7.2 setup 1.1higj

Test equipment:
see test report chapter 7.2: BNCo, C220, R001

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Thu 04/Jun/2020 14:44:15	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

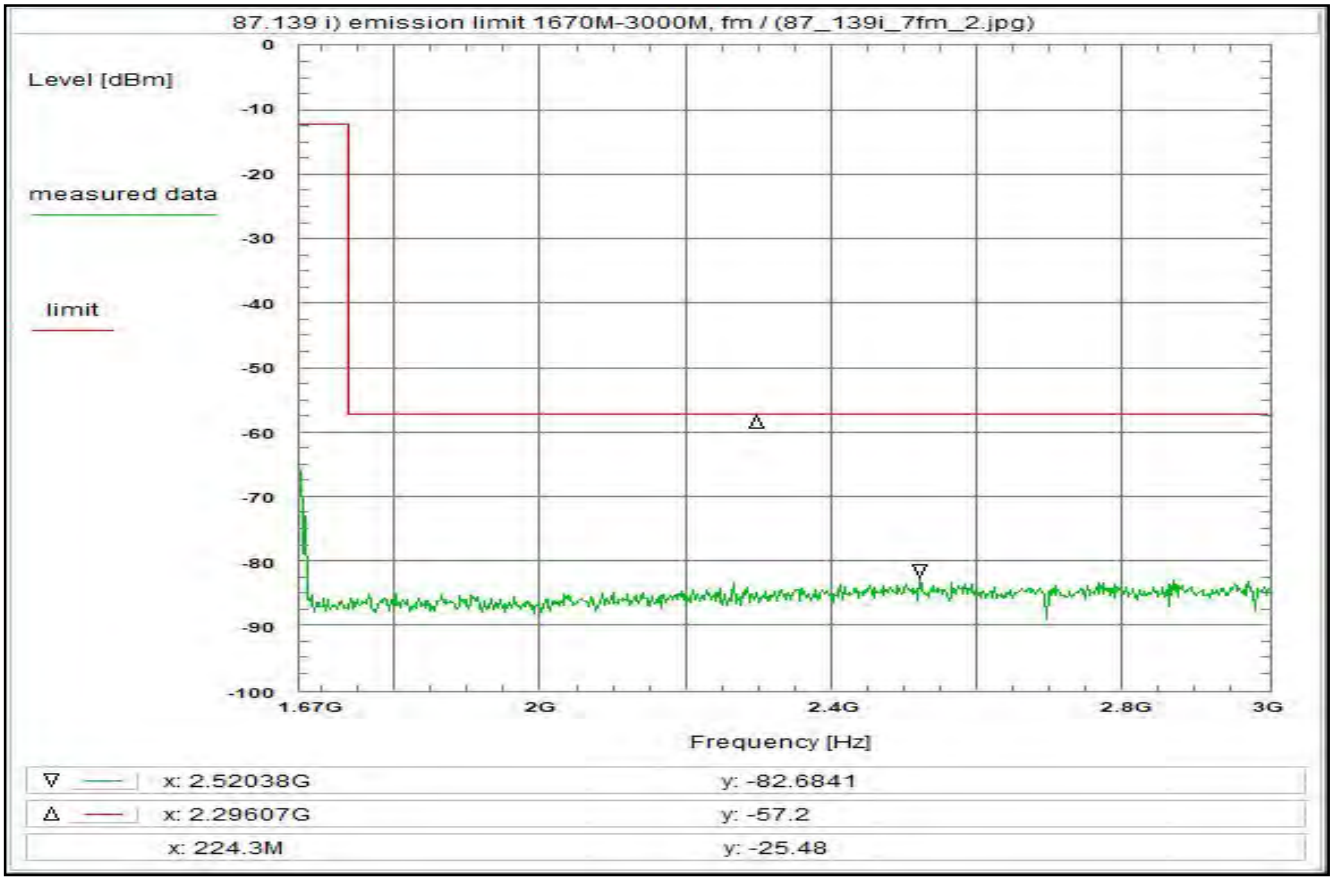
Start frequency:	1.67	GHz
Stop frequency:	3	GHz
Center frequency:	2.335	GHz
Frequency span:	1.33	GHz
Resolution-BW:	3	kHz
Video-BW:	10	kHz
Input attenuation:	10	dB
Trace-Mode:	Clear Write	
Detector-Mode:	Normal	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	1.1	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor (3k -> 4k)	+	1.2	dB
Atten. between HPA and feedhorn	-	0.0	dB
additional attenuation	+	0.0	dB
(BNCo)	+	10.2	dB
TOTAL CORRECTION:	+	12.5	dB

Remarks:
Carrier-on state / Carrier in the middle of the band (fm)
For EIRP calculation:
´worst-case´ = maximum antenna gain

Plot No. 214



Subclause: 87.139 i) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier in the middle of the band (fm)

Limit:
Limit according to 87.139(i)(1)
The mean power of emissions shall be attenuated
below the mean output power of the transmitter
in accordance with 87.139(i)(1).

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

Operating condition of DUT:
operating condition 1, see test report chapter 5.4
Class 6 HDR PIESD, R20T4.5XD

Test setup:
see test report chapter 7.2 setup 1.1higj

Test equipment:
see test report chapter 7.2: BNCo, C220, R001

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Thu 04/Jun/2020 14:46:51	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

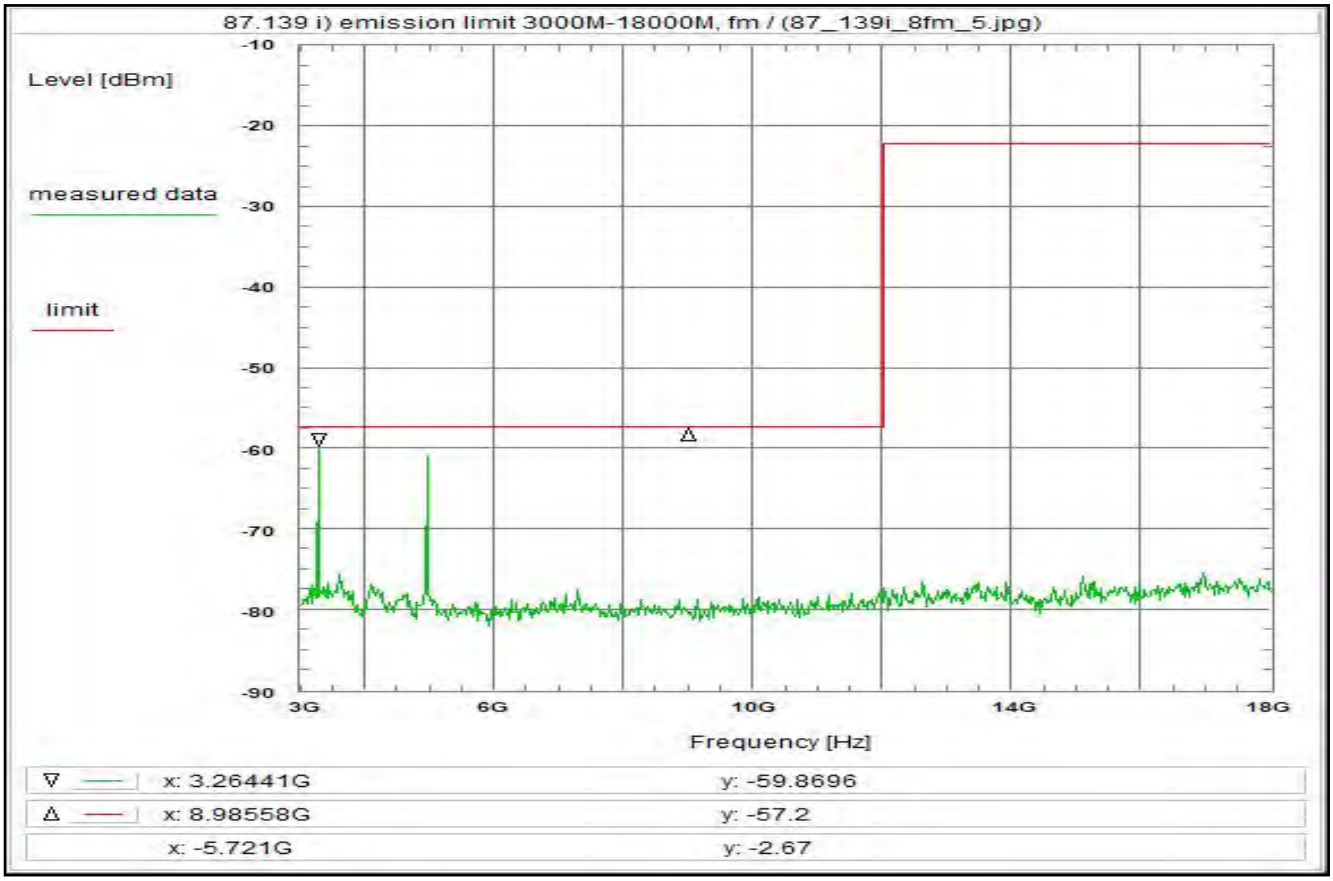
Start frequency:	1.67	GHz
Stop frequency:	3	GHz
Center frequency:	2.335	GHz
Frequency span:	1.33	GHz
Resolution-BW:	3	kHz
Video-BW:	10	kHz
Input attenuation:	10	dB
Trace-Mode:	Clear Write	
Detector-Mode:	Normal	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	1.1	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor (3k -> 4k)	+	1.2	dB
Atten. between HPA and feedhorn	-	0.0	dB
additional attenuation	+	0.0	dB
(BNCo)	+	10.2	dB
TOTAL CORRECTION:	+	12.5	dB

Remarks:
Carrier-on state / Carrier in the middle of the band (fm)
For EIRP calculation:
´worst-case´ = maximum antenna gain

Plot No. 215



Subclause: 87.139 a) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier in the middle of the band (fm)

Limit:
Limit according to 87.139 a):
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, see test report chapter 5.4
A700S Class 6 ACD, R20T4.5XD

Test setup:
see test report chapter 7.2 setup 1.1higj

Test equipment:
see test report chapter 7.2: C220, R001, U312, HPF

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Mon 29/Jun/2020 15:36:32	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

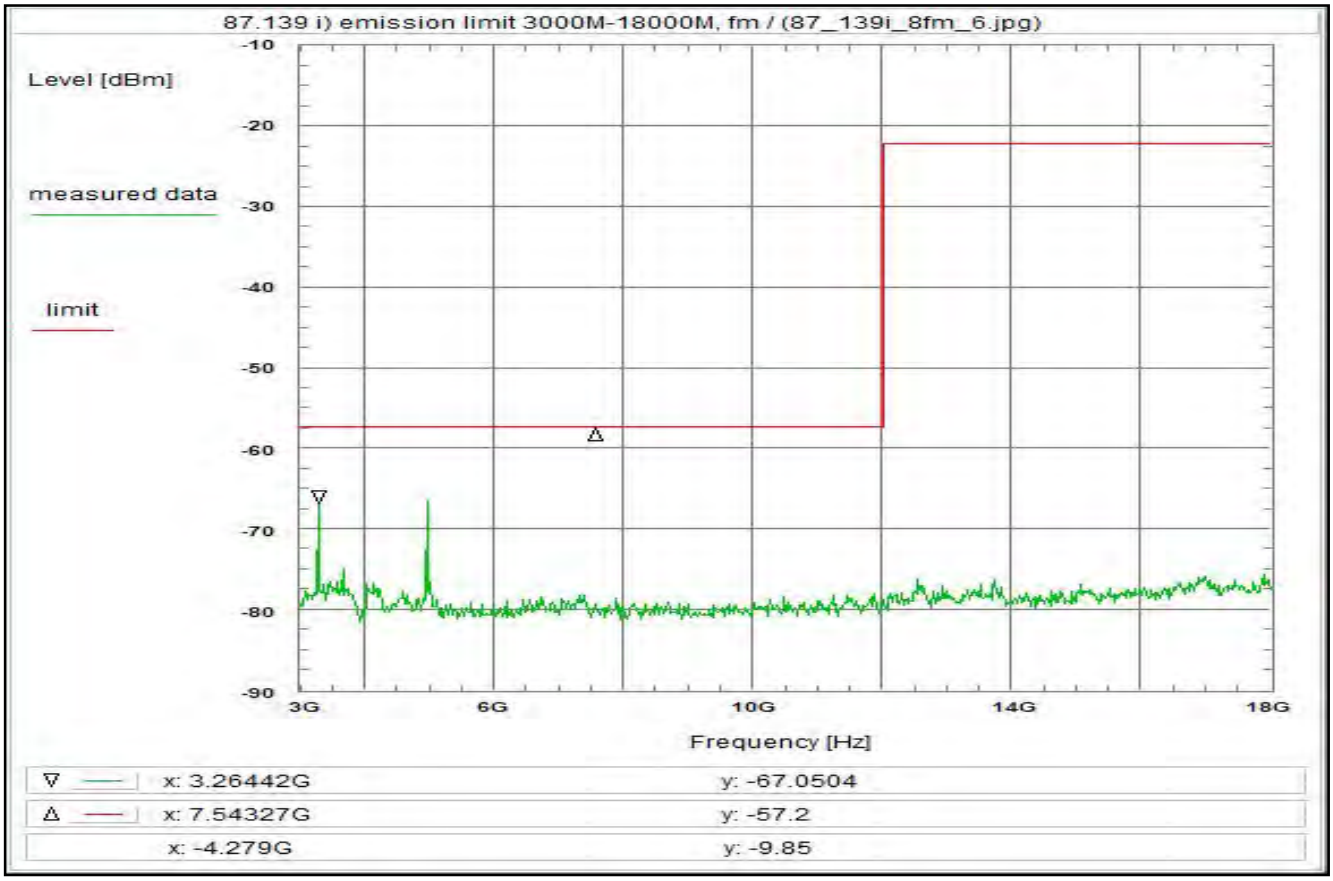
Start frequency:	3	GHz
Stop frequency:	18	GHz
Center frequency:	10.5	GHz
Frequency span:	15	GHz
Resolution-BW:	10	kHz
Video-BW:	30	kHz
Input attenuation:	5	dB
Trace-Mode:	Clear Write	
Detector-Mode:	Pos Peak	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	2.3	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
(HPF)	+	20.6	dB
TOTAL CORRECTION:	+	18.9	dB

Remarks:
Carrier-on state / Carrier in the middle of the band (fm)
For EIRP calculation:
'worst-case' = maximum antenna gain

Plot No. 216



Subclause: 87.139 a) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier in the middle of the band (fm)

Limit:
Limit according to 87.139 a):
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, see test report chapter 5.4
A700S Class 6 ACD, R20T4.5XD

Test setup:
see test report chapter 7.2 setup 1.1higj

Test equipment:
see test report chapter 7.2: C220, R001, U312, HPF

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Mon 29/Jun/2020 15:42:23	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

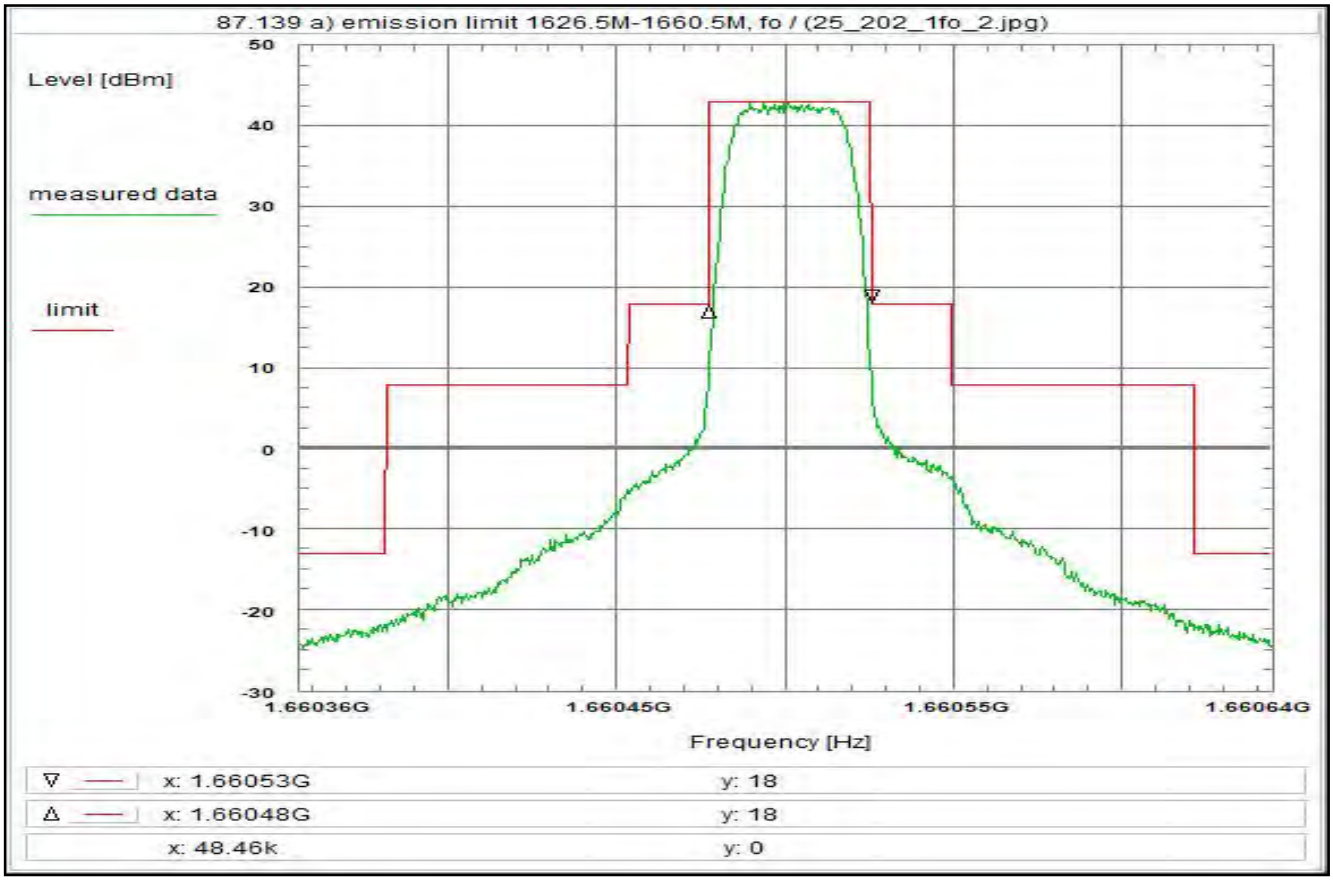
Start frequency:	3	GHz
Stop frequency:	18	GHz
Center frequency:	10.5	GHz
Frequency span:	15	GHz
Resolution-BW:	10	kHz
Video-BW:	30	kHz
Input attenuation:	5	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	Pos Peak	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	2.3	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
(HPF)	+	20.6	dB
TOTAL CORRECTION:	+	18.9	dB

Remarks:
Carrier-on state / Carrier in the middle of the band (fm)
For EIRP calculation:
'worst-case' = maximum antenna gain

Plot No. 217



Subclause: 87.139 a) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier in the middle of the band (fo)

Limit:
Limit according to 87.139 a):
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, see test report chapter 5.4
A700S Class 6 ACD, R20T1XD

Test setup:
see test report chapter 7.2 setup 1.1hgj

Test equipment:
see test report chapter 7.2: C220, Power Splitter, R001, U311, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Tue 30/Jun/2020 11:31:20	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

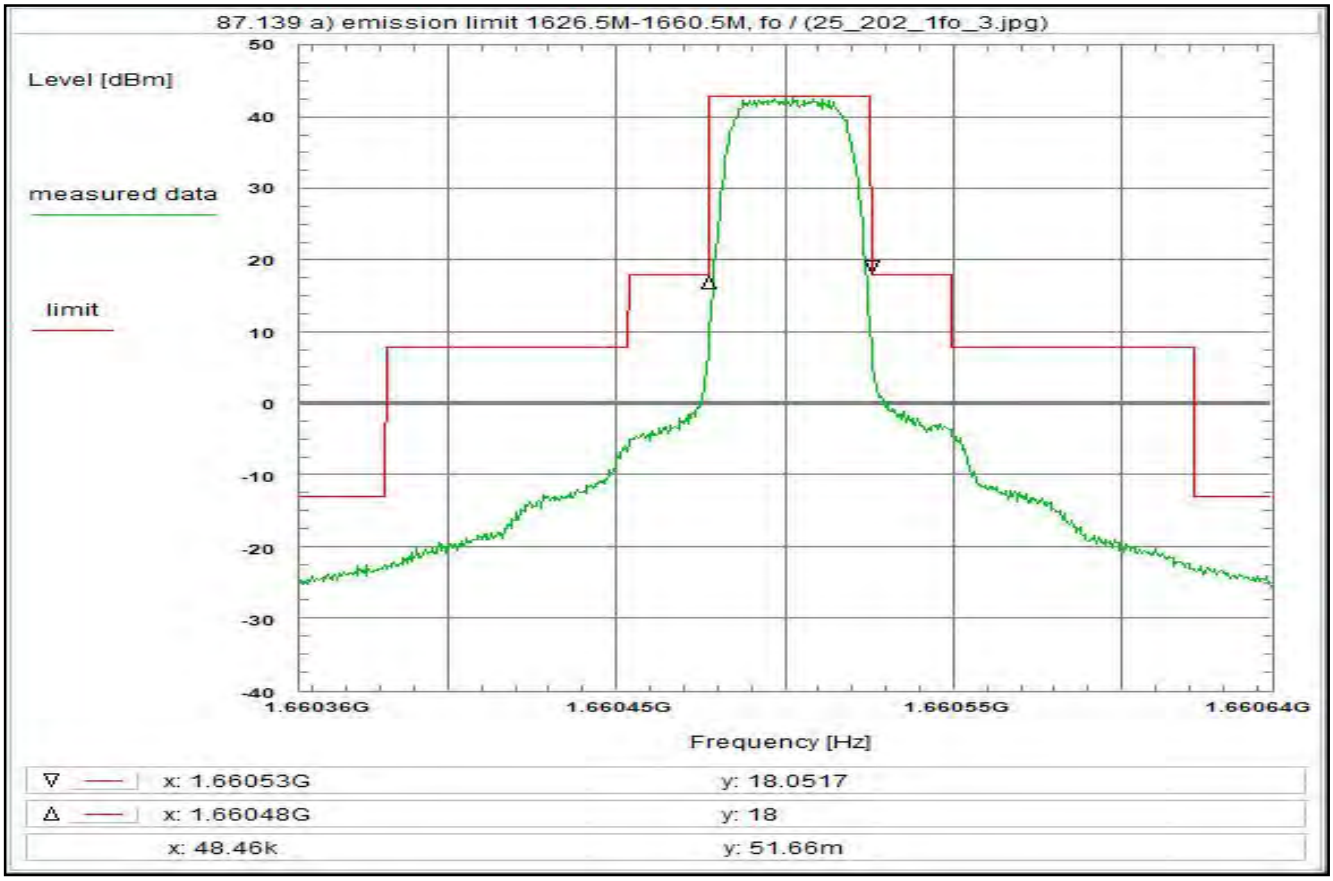
Start frequency:	1.660356	GHz
Stop frequency:	1.660644	GHz
Center frequency:	1.6605	GHz
Frequency span:	288	kHz
Resolution-BW:	3	kHz
Video-BW:	10	kHz
Input attenuation:	30	dB
Trace-Mode:	Clear Write	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	12.0	dBi
Test antenna	+	0.0	dB
BW correction factor (3k -> 4k)	+	1.2	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U312)	+	19.5	dB
Attenuation (U311)	+	9.7	dB
Power Splitter	+	6.7	dB
TOTAL CORRECTION:	+	50.0	dB

Remarks:
Carrier-on state / Carrier at the upper edge of the band (fo)
Reference of limit = 42 dBm, spectrum mask referenced to necessary bandwidth

Plot No. 218



Subclause: 87.139 a) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier in the middle of the band (fo)

Limit:
Limit according to 87.139 a):
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, see test report chapter 5.4
A700S Class 6 ACD, R20T1QD

Test setup:
see test report chapter 7.2 setup 1.1hgj

Test equipment:
see test report chapter 7.2: C220, Power Splitter, R001, U311, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Tue 30/Jun/2020 11:32:54	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

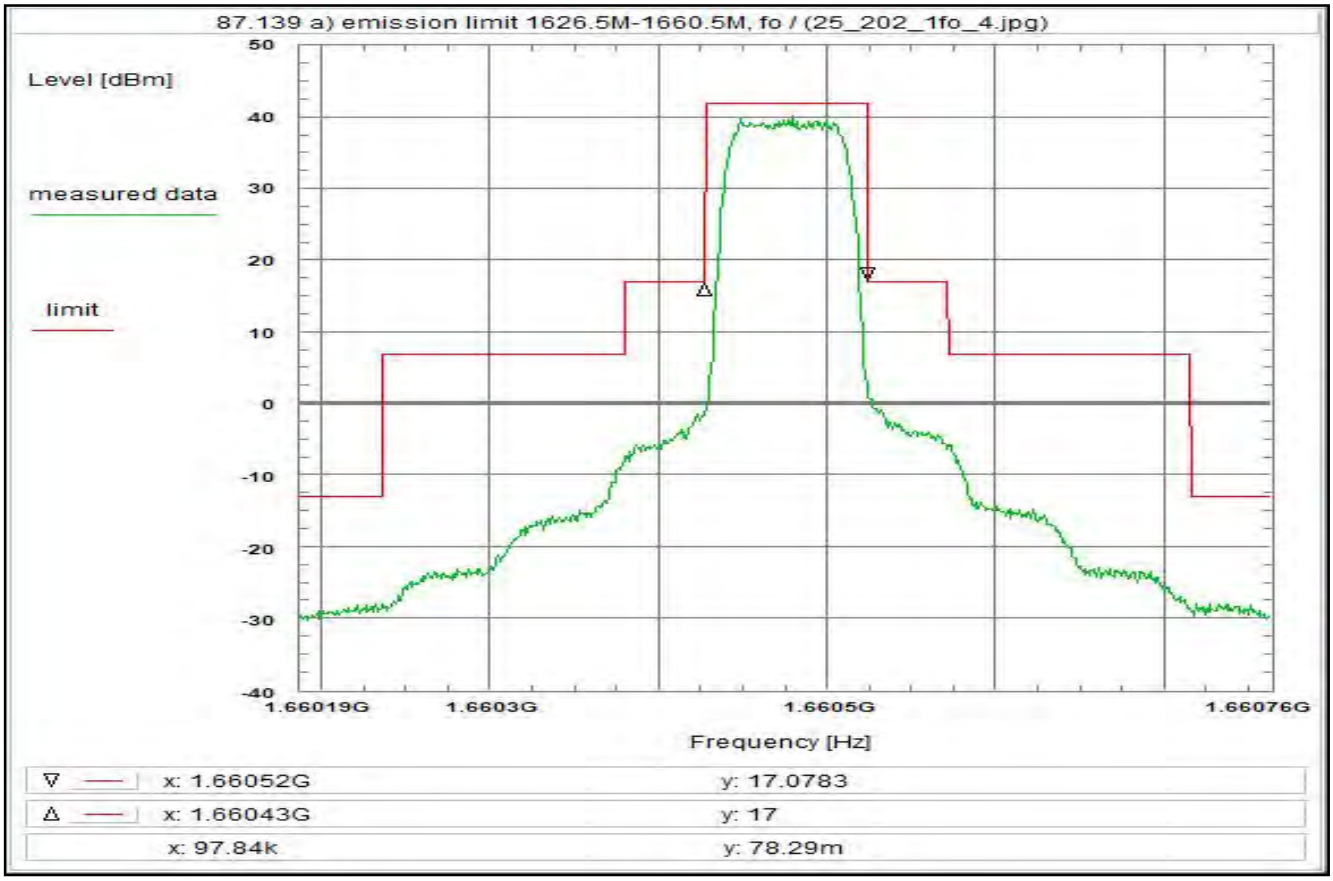
Start frequency:	1.660356	GHz
Stop frequency:	1.660644	GHz
Center frequency:	1.6605	GHz
Frequency span:	288	kHz
Resolution-BW:	3	kHz
Video-BW:	10	kHz
Input attenuation:	30	dB
Trace-Mode:	Clear Write	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	12.0	dBi
Test antenna	+	0.0	dB
BW correction factor (3k -> 4k)	+	1.2	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U312)	+	19.5	dB
Attenuation (U311)	+	9.7	dB
Power Splitter	+	6.7	dB
TOTAL CORRECTION:	+	50.0	dB

Remarks:
Carrier-on state / Carrier at the upper edge of the band (fo)
Reference of limit = 42 dBm, spectrum mask referenced to necessary bandwidth

Plot No. 219



Subclause: 87.139 a) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier in the middle of the band (fo)

Limit:
Limit according to 87.139 a):
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, see test report chapter 5.4
A700S Class 6 ACD, R5T2XD

Test setup:
see test report chapter 7.2 setup 1.1hgj

Test equipment:
see test report chapter 7.2: C220, R001, U312, U311, Power Splitter

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Tue 30/Jun/2020 11:34:59	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

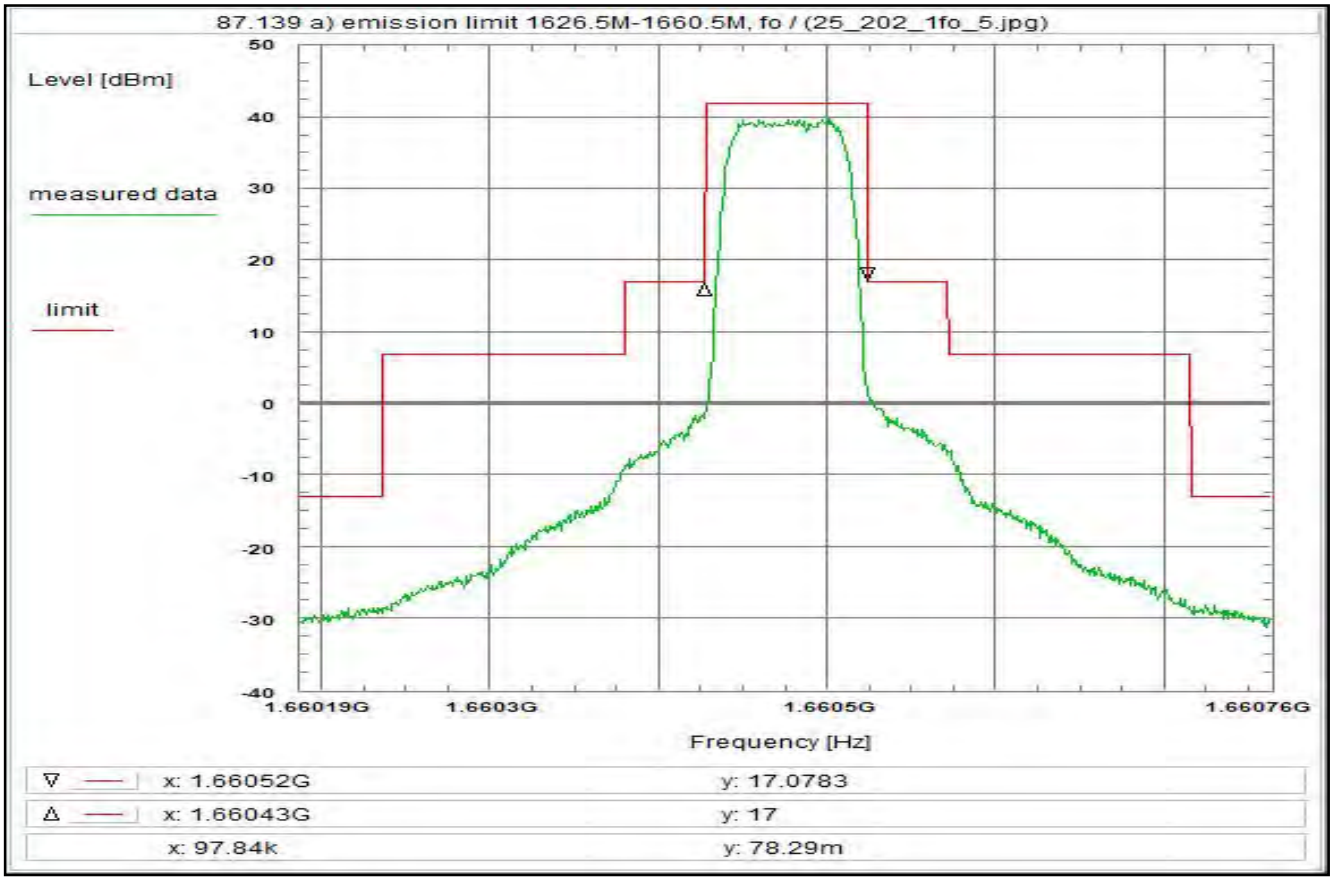
Start frequency:	1.660187	GHz
Stop frequency:	1.660763	GHz
Center frequency:	1.660475	GHz
Frequency span:	576	kHz
Resolution-BW:	3	kHz
Video-BW:	10	kHz
Input attenuation:	30	dB
Trace-Mode:	Clear Write	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	12.0	dBi
Test antenna	+	0.0	dB
BW correction factor (3k -> 4k)	+	1.2	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U312)	+	19.5	dB
Attenuation (U311)	+	9.7	dB
Power Splitter	+	6.7	dB
TOTAL CORRECTION:	+	50.0	dB

Remarks:
Carrier-on state / Carrier at the upper edge of the band (fo)
Reference of limit = 42 dBm, spectrum mask referenced to necessary bandwidth

Plot No. 220



Subclause: 87.139 a) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier in the middle of the band (fo)

Limit:
Limit according to 87.139 a):
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, see test report chapter 5.4
A700S Class 6 ACD, R20T2XD

Test setup:
see test report chapter 7.2 setup 1.1hgj

Test equipment:
see test report chapter 7.2: C220, Power Splitter, R001, U311, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Tue 30/Jun/2020 11:36:07	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

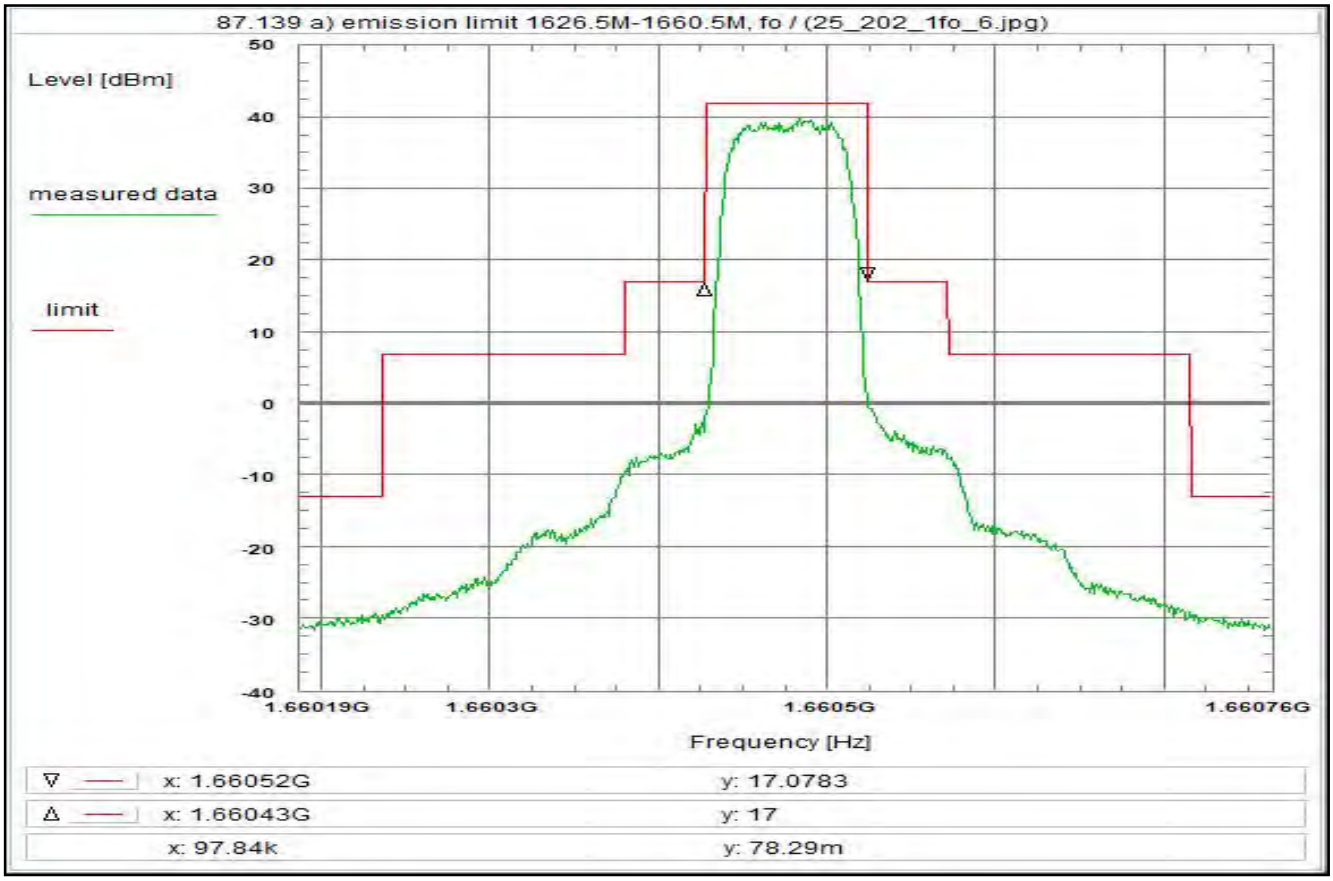
Start frequency:	1.660187	GHz
Stop frequency:	1.660763	GHz
Center frequency:	1.660475	GHz
Frequency span:	576	kHz
Resolution-BW:	3	kHz
Video-BW:	10	kHz
Input attenuation:	30	dB
Trace-Mode:	Clear Write	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	12.0	dBi
Test antenna	+	0.0	dB
BW correction factor (3k -> 4k)	+	1.2	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U312)	+	19.5	dB
Attenuation (U311)	+	9.7	dB
Power Splitter	+	6.7	dB
TOTAL CORRECTION:	+	50.0	dB

Remarks:
Carrier-on state / Carrier at the upper edge of the band (fo)
Reference of limit = 42 dBm, spectrum mask referenced to necessary bandwidth

Plot No. 221



Subclause: 87.139 a) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier in the middle of the band (fo)

Limit:
Limit according to 87.139 a):
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, see test report chapter 5.4
A700S Class 6 ACD, R5T2QD

Test setup:
see test report chapter 7.2 setup 1.1hgj

Test equipment:
see test report chapter 7.2: C220, Power Splitter, R001, U311, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Tue 30/Jun/2020 11:39:30	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

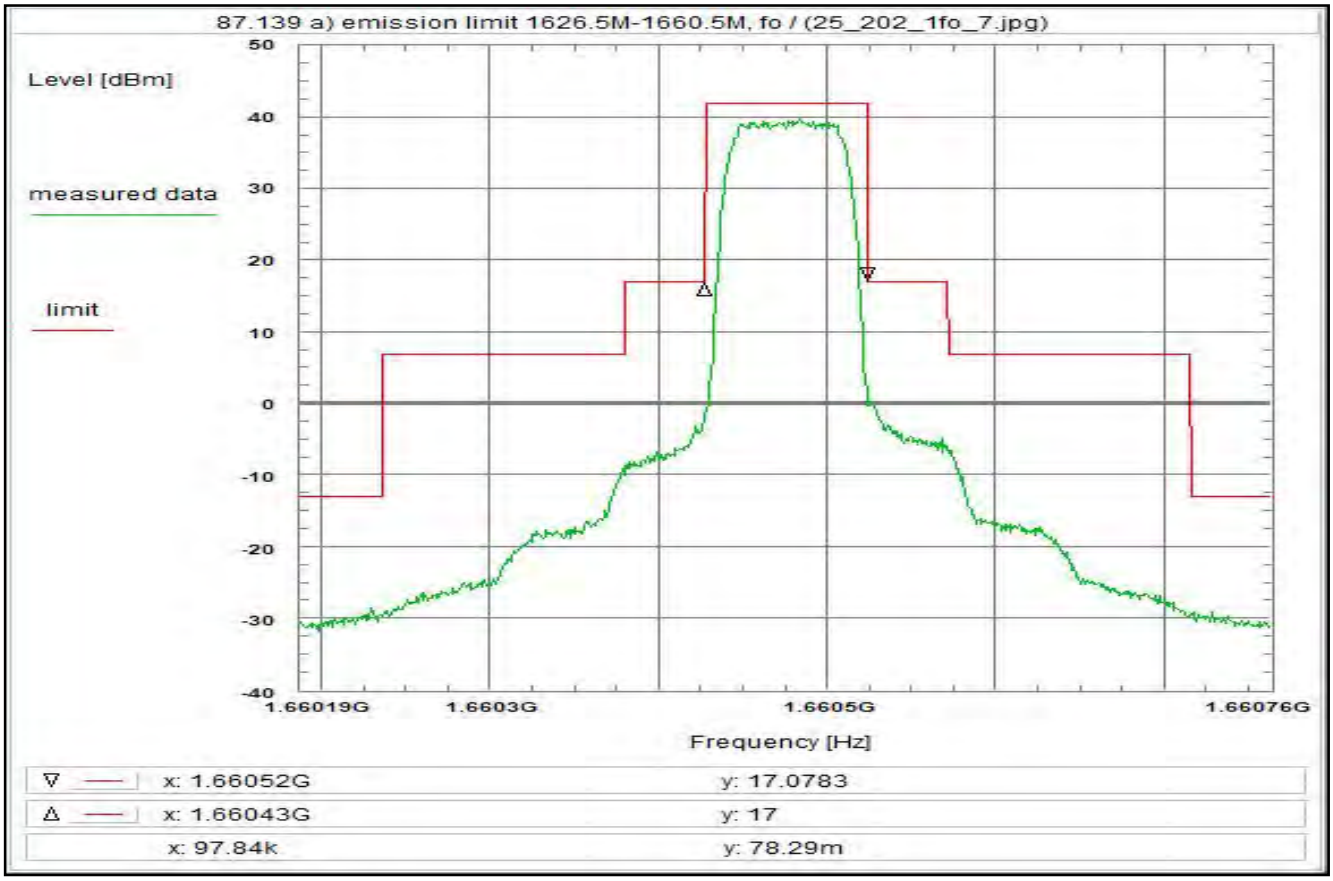
Start frequency:	1.660187	GHz
Stop frequency:	1.660763	GHz
Center frequency:	1.660475	GHz
Frequency span:	576	kHz
Resolution-BW:	3	kHz
Video-BW:	10	kHz
Input attenuation:	30	dB
Trace-Mode:	Clear Write	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	12.0	dBi
Test antenna	+	0.0	dB
BW correction factor (3k -> 4k)	+	1.2	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U312)	+	19.5	dB
Attenuation (U311)	+	9.7	dB
Power Splitter	+	6.7	dB
TOTAL CORRECTION:	+	50.0	dB

Remarks:
Carrier-on state / Carrier at the upper edge of the band (fo)
Reference of limit = 42 dBm, spectrum mask referenced to necessary bandwidth

Plot No. 222



Subclause: 87.139 a) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier in the middle of the band (fo)

Limit:
Limit according to 87.139 a):
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, see test report chapter 5.4
A700S Class 6 ACD, R20T2QD

Test setup:
see test report chapter 7.2 setup 1.1hgj

Test equipment:
see test report chapter 7.2: C220, Power Splitter, R001, U311, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Tue 30/Jun/2020 11:41:07	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

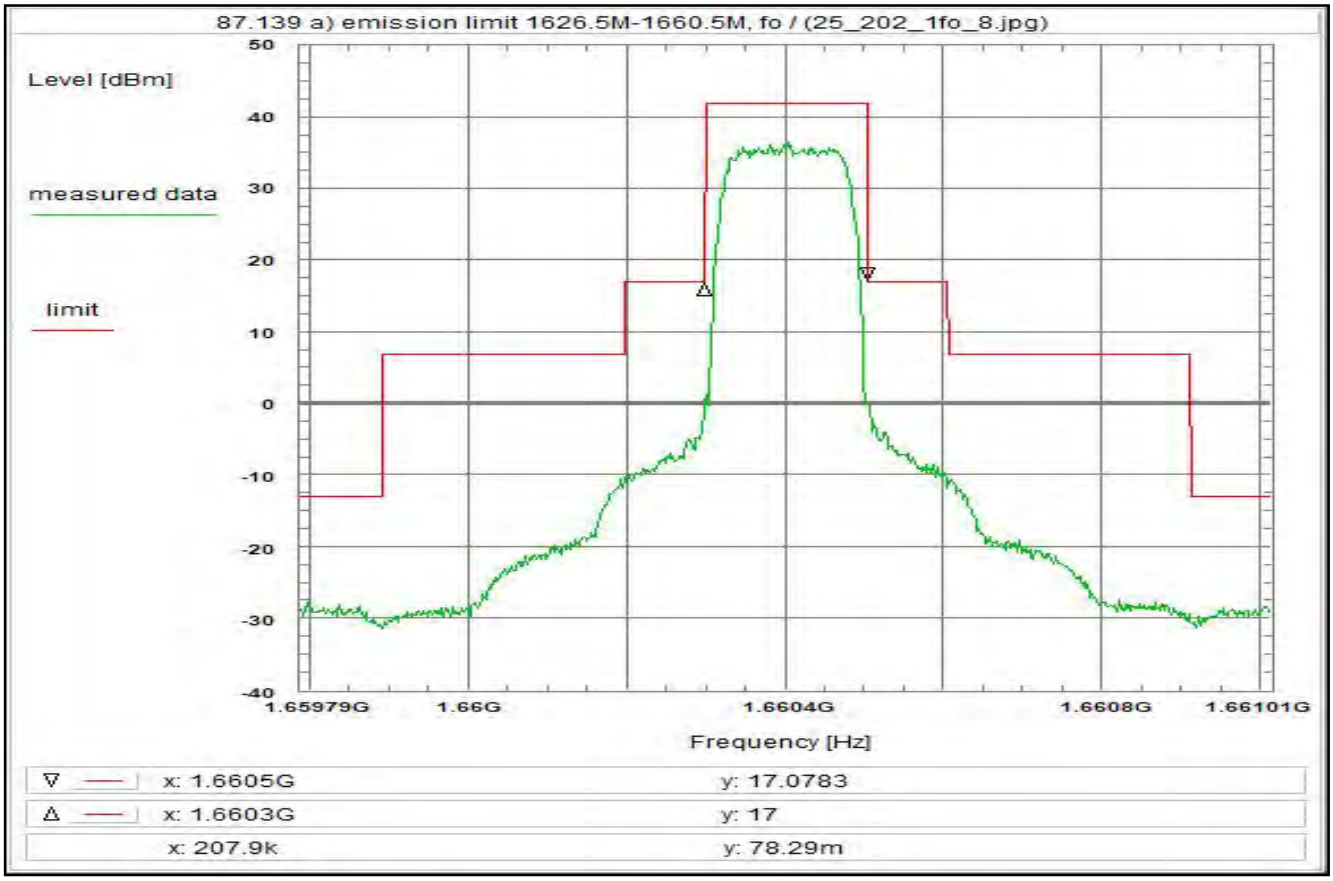
Start frequency:	1.660187	GHz
Stop frequency:	1.660763	GHz
Center frequency:	1.660475	GHz
Frequency span:	576	kHz
Resolution-BW:	3	kHz
Video-BW:	10	kHz
Input attenuation:	30	dB
Trace-Mode:	Clear Write	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	12.0	dBi
Test antenna	+	0.0	dB
BW correction factor (3k -> 4k)	+	1.2	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U312)	+	19.5	dB
Attenuation (U311)	+	9.7	dB
Power Splitter	+	6.7	dB
TOTAL CORRECTION:	+	50.0	dB

Remarks:
Carrier-on state / Carrier at the upper edge of the band (fo)
Reference of limit = 42 dBm, spectrum mask referenced to necessary bandwidth

Plot No. 223



Subclause: 87.139 a) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier in the middle of the band (fo)

Limit:
Limit according to 87.139 a):
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, see test report chapter 5.4
A700S Class 6 ACD, R5T4.5XD

Test setup:
see test report chapter 7.2 setup 1.1hgj

Test equipment:
see test report chapter 7.2: C220, R001, U312, U311, Power Splitter

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Tue 30/Jun/2020 11:44:35	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

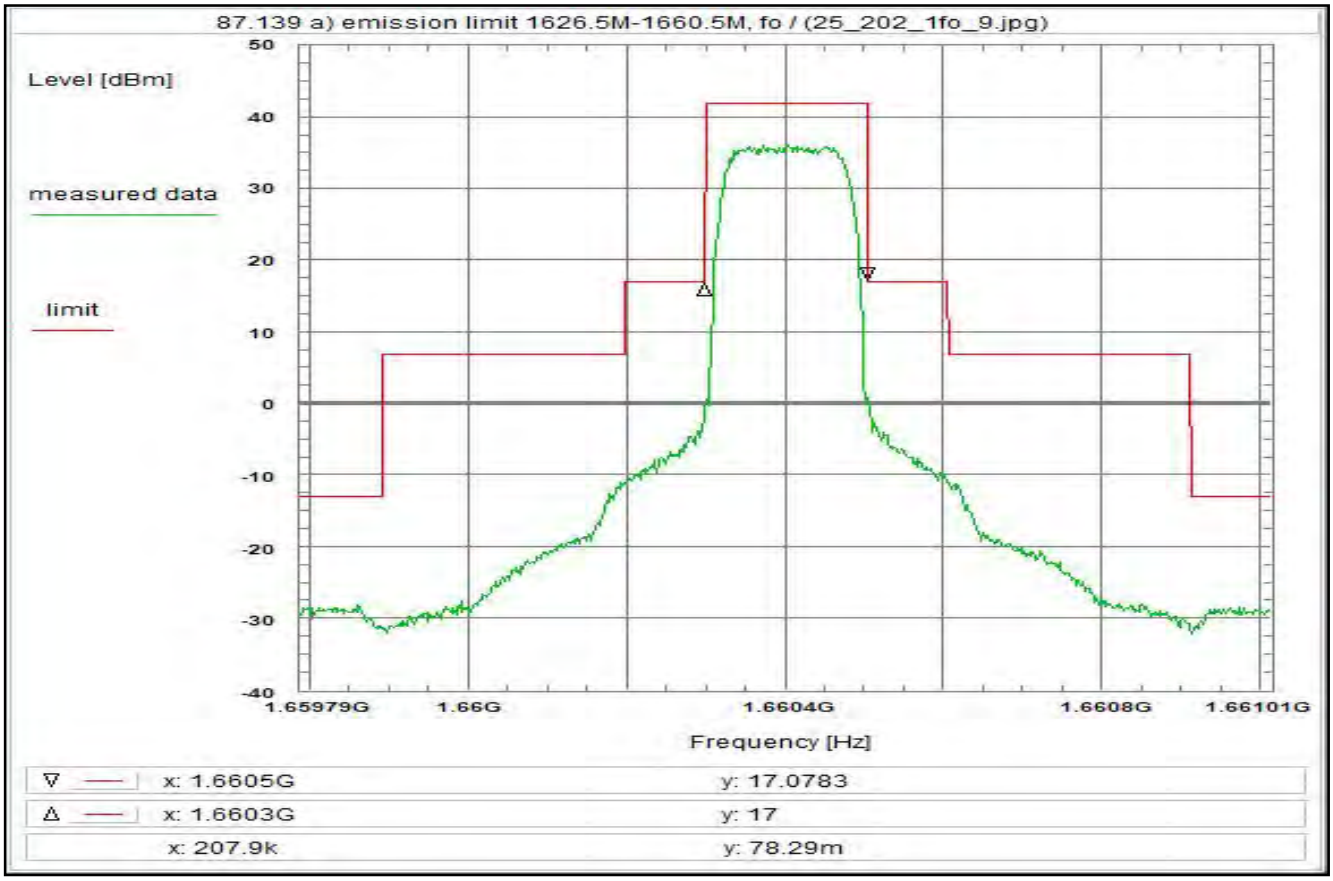
Start frequency:	1.659788	GHz
Stop frequency:	1.661012	GHz
Center frequency:	1.6604	GHz
Frequency span:	1.224	MHz
Resolution-BW:	3	kHz
Video-BW:	10	kHz
Input attenuation:	30	dB
Trace-Mode:	Clear Write	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	12.0	dBi
Test antenna	+	0.0	dB
BW correction factor (3k -> 4k)	+	1.2	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U312)	+	19.5	dB
Attenuation (U311)	+	9.7	dB
Power Splitter	+	6.7	dB
TOTAL CORRECTION:	+	50.0	dB

Remarks:
Carrier-on state / Carrier at the upper edge of the band (fo)
Reference of limit = 42 dBm, spectrum mask referenced to necessary bandwidth

Plot No. 224



Subclause: 87.139 a) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier in the middle of the band (fo)

Limit:
Limit according to 87.139 a):
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, see test report chapter 5.4
A700S Class 6 ACD, R20T4.5XD

Test setup:
see test report chapter 7.2 setup 1.1hgj

Test equipment:
see test report chapter 7.2: C220, Power Splitter, R001, U311, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Tue 30/Jun/2020 11:46:59	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

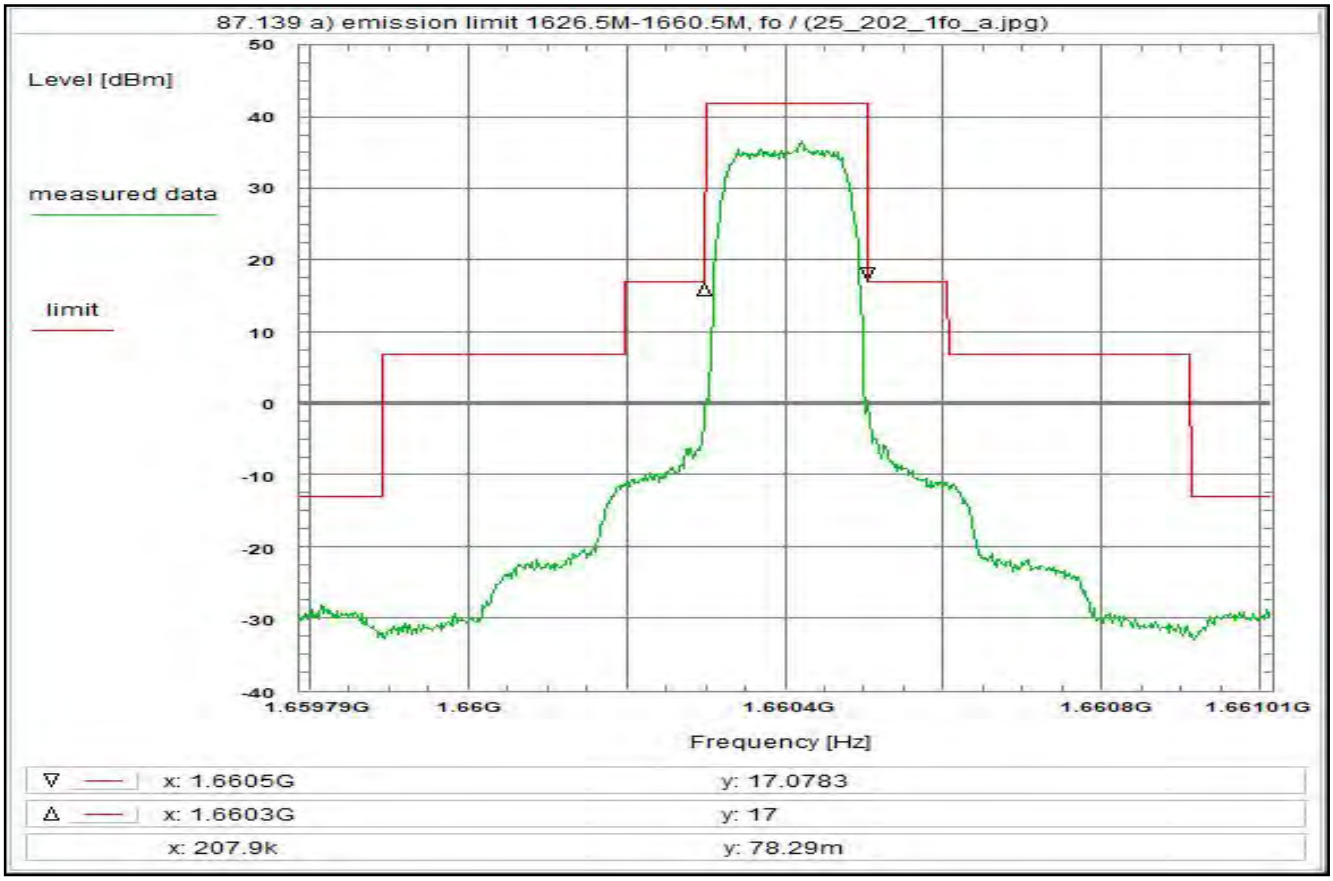
Start frequency:	1.659788	GHz
Stop frequency:	1.661012	GHz
Center frequency:	1.6604	GHz
Frequency span:	1.224	MHz
Resolution-BW:	3	kHz
Video-BW:	10	kHz
Input attenuation:	30	dB
Trace-Mode:	Clear Write	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	12.0	dBi
Test antenna	+	0.0	dB
BW correction factor (3k -> 4k)	+	1.2	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U312)	+	19.5	dB
Attenuation (U311)	+	9.7	dB
Power Splitter	+	6.7	dB
TOTAL CORRECTION:	+	50.0	dB

Remarks:
Carrier-on state / Carrier at the upper edge of the band (fo)
Reference of limit = 42 dBm, spectrum mask referenced to necessary bandwidth

Plot No. 225



Subclause: 87.139 a) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier in the middle of the band (fo)

Limit:
Limit according to 87.139 a):
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, see test report chapter 5.4
A700S Class 6 ACD, R5T4.5XQD

Test setup:
see test report chapter 7.2 setup 1.1hgj

Test equipment:
see test report chapter 7.2: C220, Power Splitter, R001, U311, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Tue 30/Jun/2020 11:48:29	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

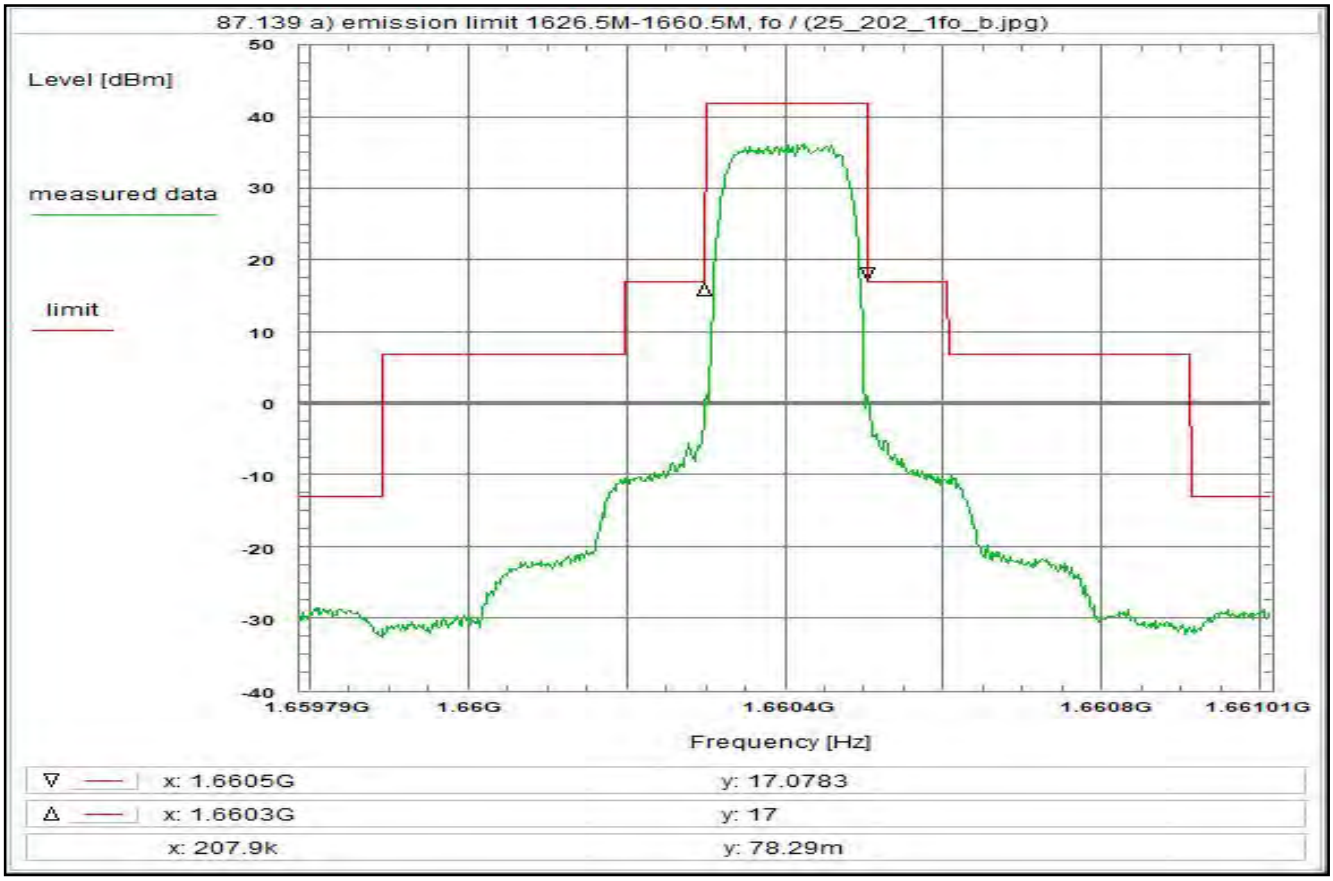
Start frequency:	1.659788	GHz
Stop frequency:	1.661012	GHz
Center frequency:	1.6604	GHz
Frequency span:	1.224	MHz
Resolution-BW:	3	kHz
Video-BW:	10	kHz
Input attenuation:	30	dB
Trace-Mode:	Clear Write	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	12.0	dBi
Test antenna	+	0.0	dB
BW correction factor (3k -> 4k)	+	1.2	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U312)	+	19.5	dB
Attenuation (U311)	+	9.7	dB
Power Splitter	+	6.7	dB
TOTAL CORRECTION:	+	50.0	dB

Remarks:
Carrier-on state / Carrier at the upper edge of the band (fo)
Reference of limit = 42 dBm, spectrum mask referenced to necessary bandwidth

Plot No. 226



Subclause: 87.139 a) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier in the middle of the band (fo)

Limit:
Limit according to 87.139 a):
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, see test report chapter 5.4
A700S Class 6 ACD, R20T4.5QD

Test setup:
see test report chapter 7.2 setup 1.1hgj

Test equipment:
see test report chapter 7.2: C220, Power Splitter, R001, U311, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Tue 30/Jun/2020 11:50:09	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

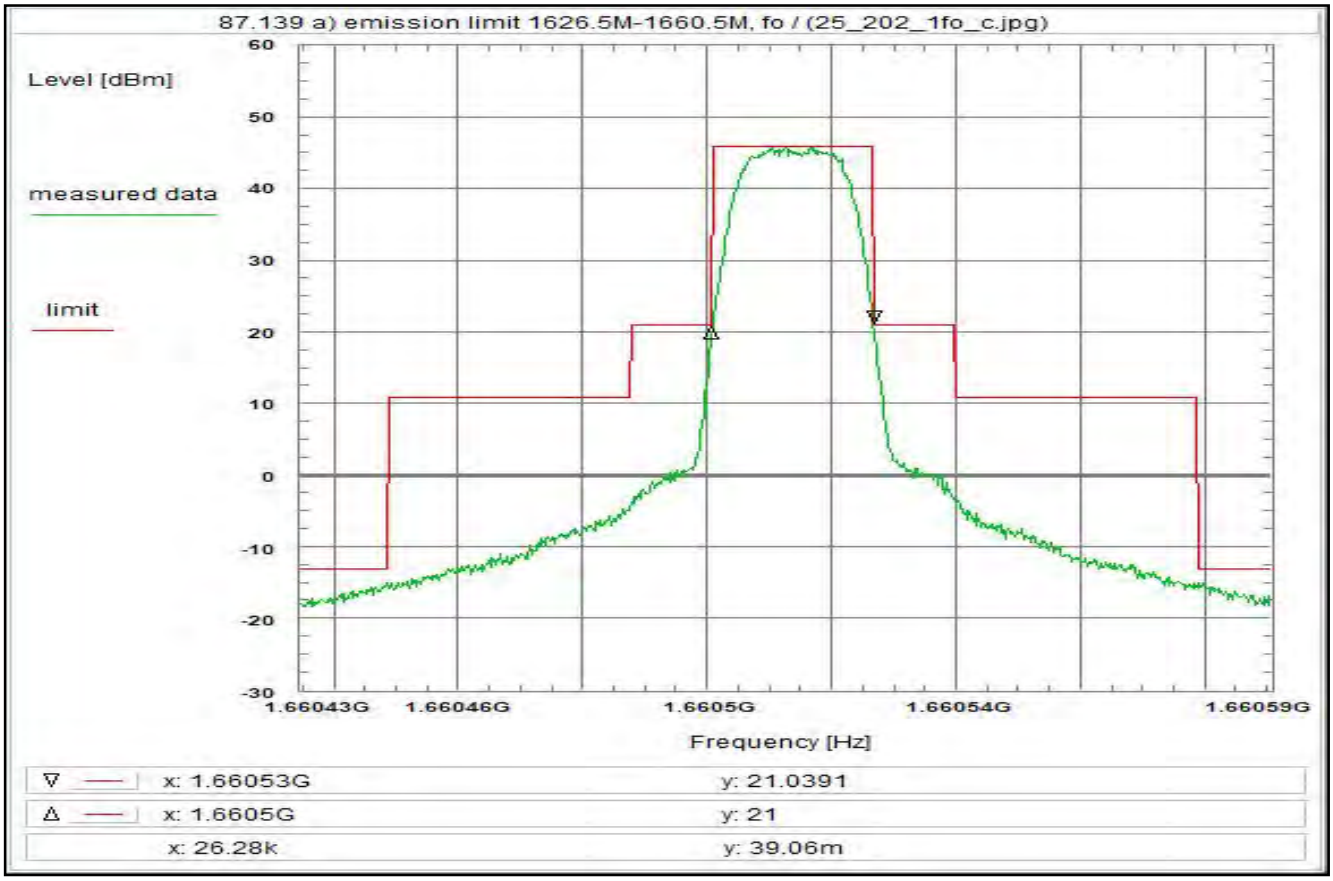
Start frequency:	1.659788	GHz
Stop frequency:	1.661012	GHz
Center frequency:	1.6604	GHz
Frequency span:	1.224	MHz
Resolution-BW:	3	kHz
Video-BW:	10	kHz
Input attenuation:	30	dB
Trace-Mode:	Clear Write	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	12.0	dBi
Test antenna	+	0.0	dB
BW correction factor (3k -> 4k)	+	1.2	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U312)	+	19.5	dB
Attenuation (U311)	+	9.7	dB
Power Splitter	+	6.7	dB
TOTAL CORRECTION:	+	50.0	dB

Remarks:
Carrier-on state / Carrier at the upper edge of the band (fo)
Reference of limit = 42 dBm, spectrum mask referenced to necessary bandwidth

Plot No. 227



Subclause: 87.139 a) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier in the middle of the band (fo)

Limit:
Limit according to 87.139 a):
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, see test report chapter 5.4
A700S Class 6 ACD, R20T405QD

Test setup:
see test report chapter 7.2 setup 1.1hgj

Test equipment:
see test report chapter 7.2: C220, R001, U312, U311, Power Splitter

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Tue 30/Jun/2020 11:52:03	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

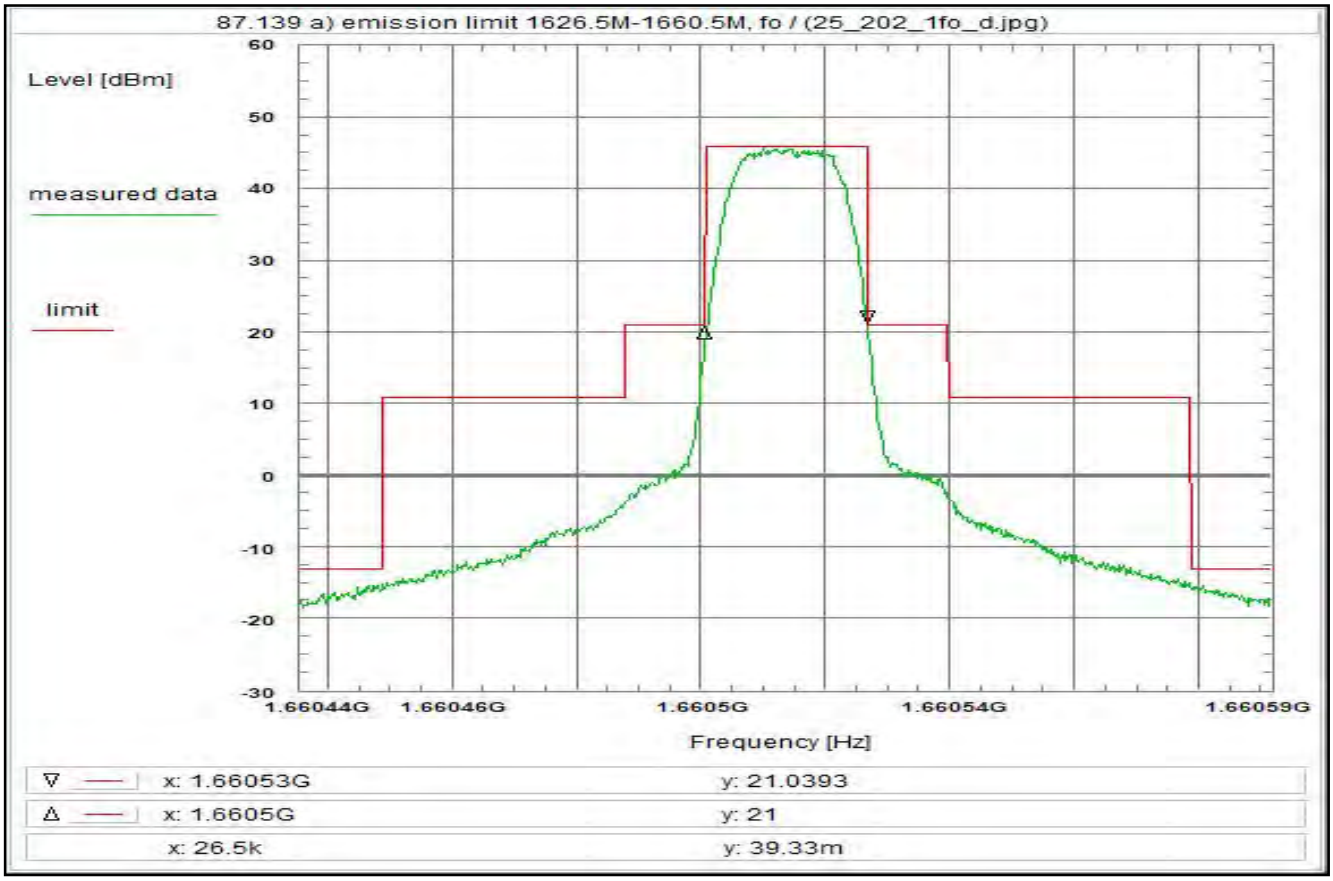
Start frequency:	1.6604345	GHz
Stop frequency:	1.6605905	GHz
Center frequency:	1.6605125	GHz
Frequency span:	156	kHz
Resolution-BW:	3	kHz
Video-BW:	10	kHz
Input attenuation:	30	dB
Trace-Mode:	Clear Write	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	12.0	dBi
Test antenna	+	0.0	dB
BW correction factor (3k -> 4k)	+	1.2	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U312)	+	19.5	dB
Attenuation (U311)	+	9.7	dB
Power Splitter	+	6.7	dB
TOTAL CORRECTION:	+	50.0	dB

Remarks:
Carrier-on state / Carrier at the upper edge of the band (fo)
Reference of limit = 42 dBm, spectrum mask referenced to necessary bandwidth

Plot No. 228



Subclause: 87.139 a) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier in the middle of the band (fo)

Limit:
Limit according to 87.139 a):
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, see test report chapter 5.4
A700S Class 6 ACD, R20T405QD

Test setup:
see test report chapter 7.2 setup 1.1hgj

Test equipment:
see test report chapter 7.2: C220, R001, U312, U311, Power Splitter

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Tue 30/Jun/2020 11:54:23	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

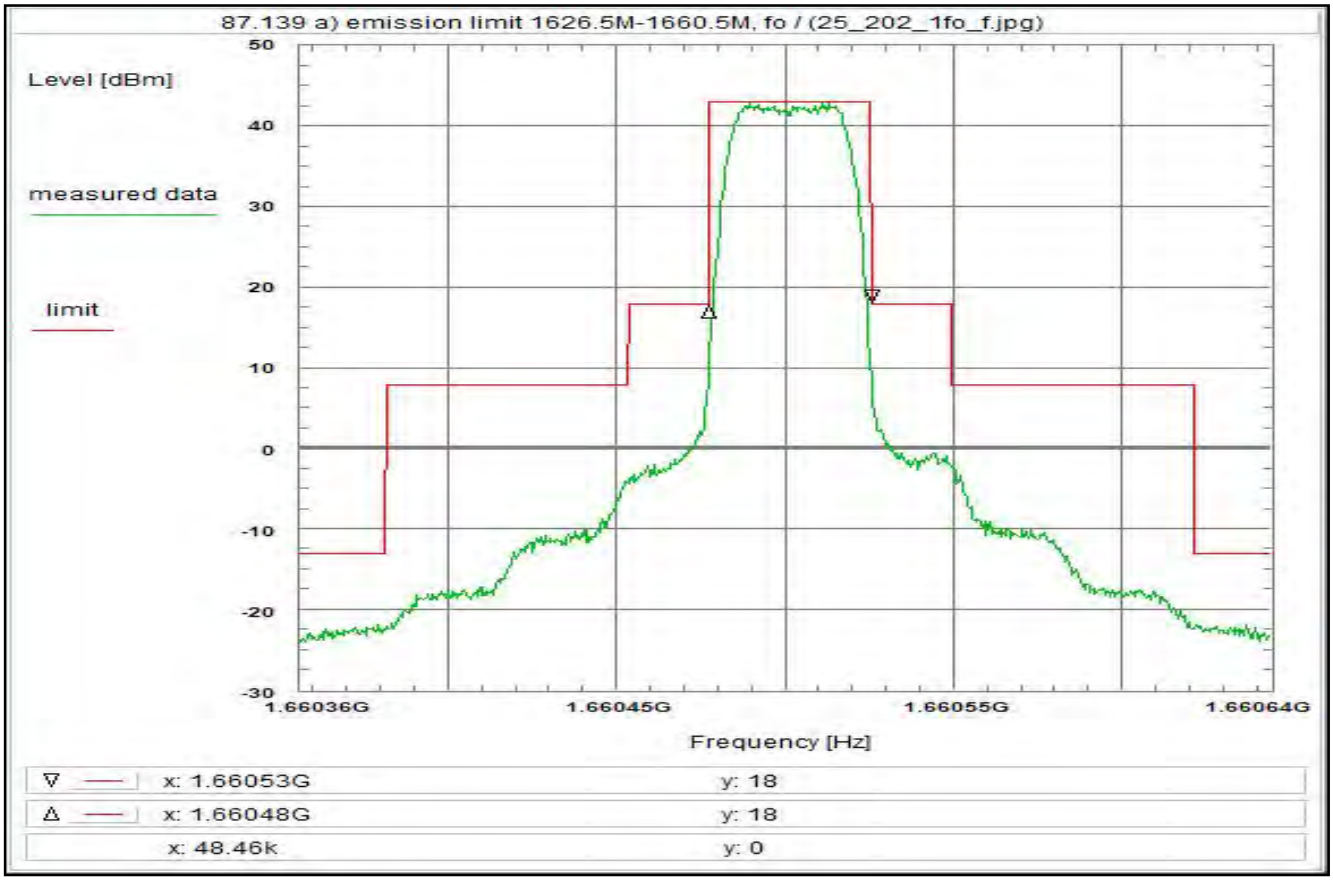
Start frequency:	1.6604355	GHz
Stop frequency:	1.6605915	GHz
Center frequency:	1.6605135	GHz
Frequency span:	156	kHz
Resolution-BW:	3	kHz
Video-BW:	10	kHz
Input attenuation:	30	dB
Trace-Mode:	Clear Write	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	12.0	dBi
Test antenna	+	0.0	dB
BW correction factor (3k -> 4k)	+	1.2	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U312)	+	19.5	dB
Attenuation (U311)	+	9.7	dB
Power Splitter	+	6.7	dB
TOTAL CORRECTION:	+	50.0	dB

Remarks:
Carrier-on state / Carrier at the upper edge of the band (fo)
Reference of limit = 42 dBm, spectrum mask referenced to necessary bandwidth

Plot No. 229



Subclause: 87.139 a) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier in the middle of the band (fo)

Limit:
Limit according to 87.139 a):
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, see test report chapter 5.4
A700S Class 6 HDR PIESD, R5T1XD

Test setup:
see test report chapter 7.2 setup 1.1hgj

Test equipment:
see test report chapter 7.2: C220, R001, U312, U311, Power Splitter

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Wed 01/Jul/2020 10:05:46	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

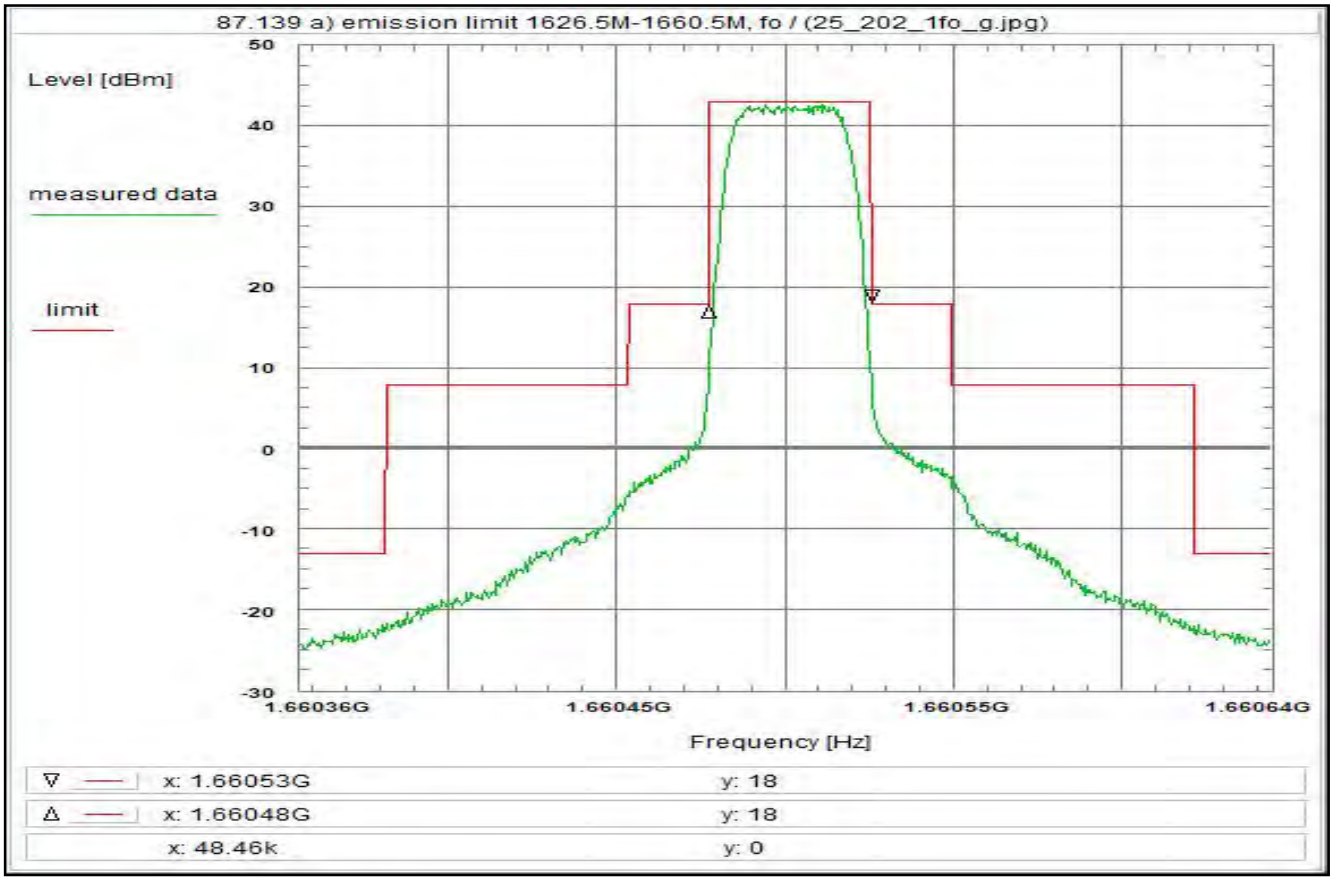
Start frequency:	1.660356	GHz
Stop frequency:	1.660644	GHz
Center frequency:	1.6605	GHz
Frequency span:	288	kHz
Resolution-BW:	3	kHz
Video-BW:	10	kHz
Input attenuation:	30	dB
Trace-Mode:	Clear Write	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	12.0	dBi
Test antenna	+	0.0	dB
BW correction factor (3k -> 4k)	+	1.2	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U312)	+	19.5	dB
Attenuation (U311)	+	9.7	dB
Power Splitter	+	6.7	dB
TOTAL CORRECTION:	+	50.0	dB

Remarks:
Carrier-on state / Carrier at the upper edge of the band (fo)
Reference of limit = 42 dBm, spectrum mask referenced to necessary bandwidth

Plot No. 230



Subclause: 87.139 a) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier in the middle of the band (fo)

Limit:
Limit according to 87.139 a):
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, see test report chapter 5.4
A700S Class 6 HDR PIESD, R20T1XD

Test setup:
see test report chapter 7.2 setup 1.1hgj

Test equipment:
see test report chapter 7.2: C220, Power Splitter, R001, U311, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Wed 01/Jul/2020 10:06:38	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

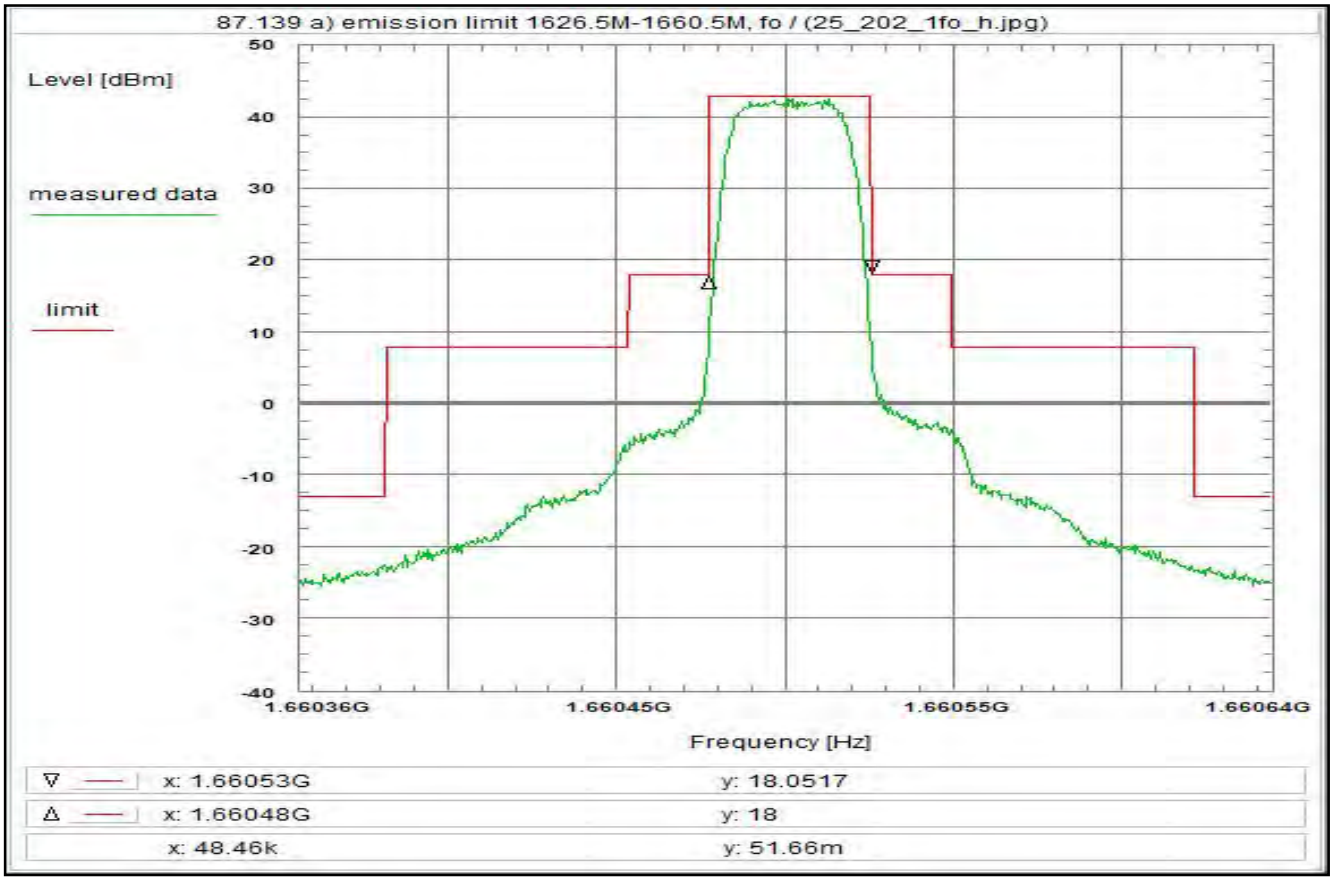
Start frequency:	1.660356	GHz
Stop frequency:	1.660644	GHz
Center frequency:	1.6605	GHz
Frequency span:	288	kHz
Resolution-BW:	3	kHz
Video-BW:	10	kHz
Input attenuation:	30	dB
Trace-Mode:	Clear Write	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	12.0	dBi
Test antenna	+	0.0	dB
BW correction factor (3k -> 4k)	+	1.2	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U312)	+	19.5	dB
Attenuation (U311)	+	9.7	dB
Power Splitter	+	6.7	dB
TOTAL CORRECTION:	+	50.0	dB

Remarks:
Carrier-on state / Carrier at the upper edge of the band (fo)
Reference of limit = 42 dBm, spectrum mask referenced to necessary bandwidth

Plot No. 231



Subclause: 87.139 a) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier in the middle of the band (fo)

Limit:
Limit according to 87.139 a):
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, see test report chapter 5.4
A700S Class 6 HDR PIESD, R20T1QD

Test setup:
see test report chapter 7.2 setup 1.1hgj

Test equipment:
see test report chapter 7.2: C220, Power Splitter, R001, U311, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Wed 01/Jul/2020 10:07:23	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

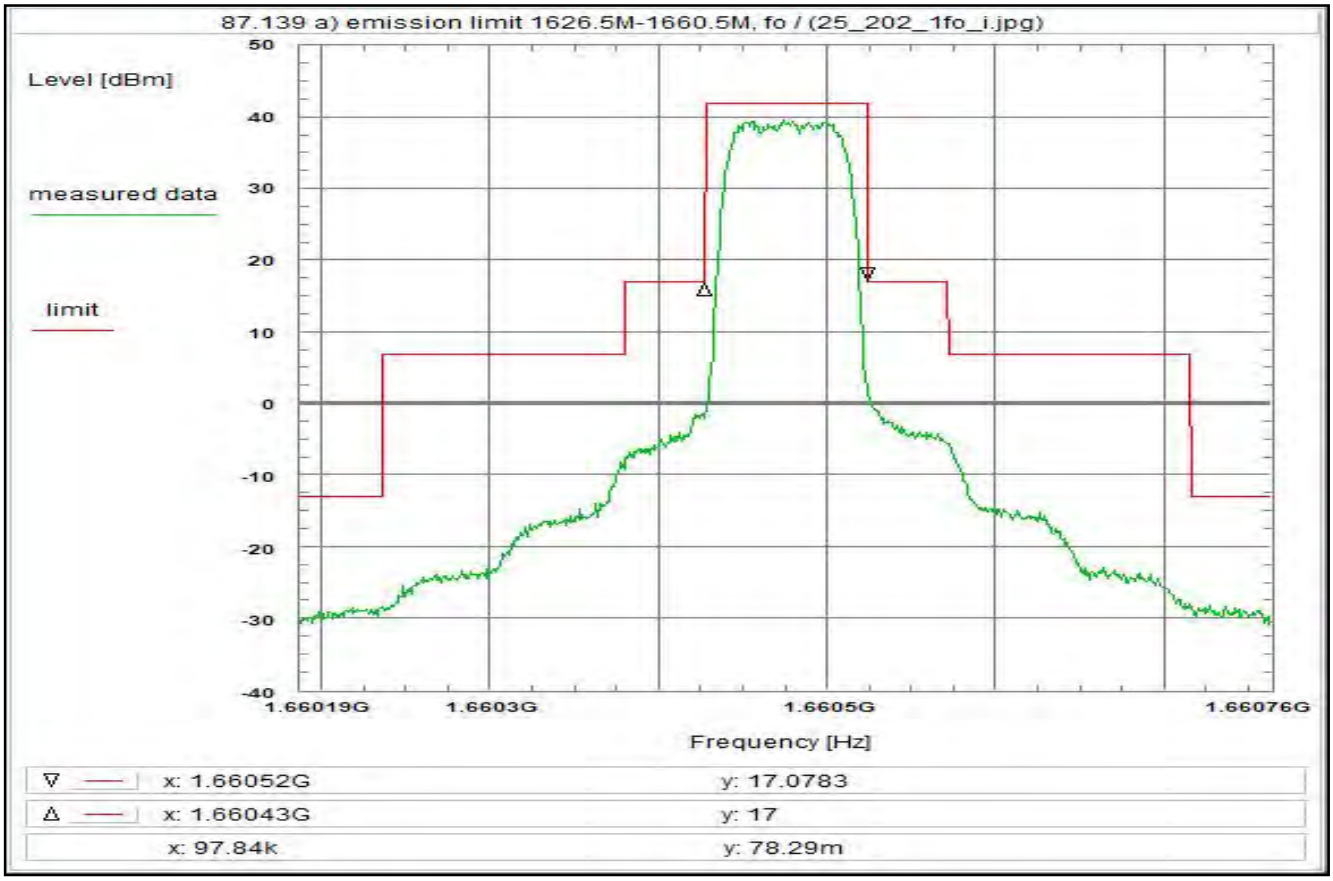
Start frequency:	1.660356	GHz
Stop frequency:	1.660644	GHz
Center frequency:	1.6605	GHz
Frequency span:	288	kHz
Resolution-BW:	3	kHz
Video-BW:	10	kHz
Input attenuation:	30	dB
Trace-Mode:	Clear Write	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	12.0	dBi
Test antenna	+	0.0	dB
BW correction factor (3k -> 4k)	+	1.2	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U312)	+	19.5	dB
Attenuation (U311)	+	9.7	dB
Power Splitter	+	6.7	dB
TOTAL CORRECTION:	+	50.0	dB

Remarks:
Carrier-on state / Carrier at the upper edge of the band (fo)
Reference of limit = 42 dBm, spectrum mask referenced to necessary bandwidth

Plot No. 232



Subclause: 87.139 a) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier in the middle of the band (fo)

Limit:
Limit according to 87.139 a):
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, see test report chapter 5.4
A700S Class 6 HDR PIESD, R5T2XD

Test setup:
see test report chapter 7.2 setup 1.1hgj

Test equipment:
see test report chapter 7.2: C220, R001, U312, U311, Power Splitter

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Wed 01/Jul/2020 10:13:14	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

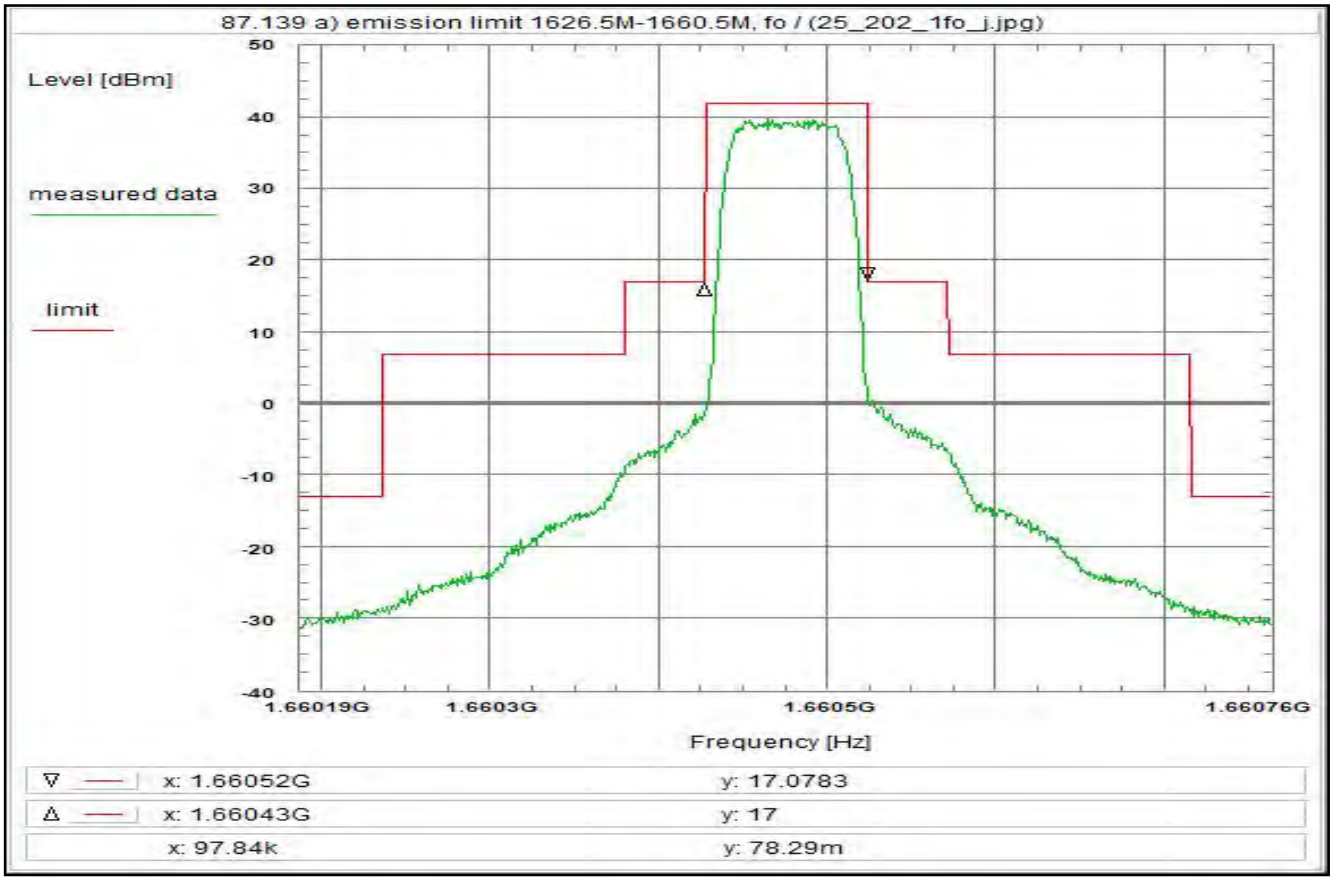
Start frequency:	1.660187	GHz
Stop frequency:	1.660763	GHz
Center frequency:	1.660475	GHz
Frequency span:	576	kHz
Resolution-BW:	3	kHz
Video-BW:	10	kHz
Input attenuation:	30	dB
Trace-Mode:	Clear Write	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	12.0	dBi
Test antenna	+	0.0	dB
BW correction factor (3k -> 4k)	+	1.2	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U312)	+	19.5	dB
Attenuation (U311)	+	9.7	dB
Power Splitter	+	6.7	dB
TOTAL CORRECTION:	+	50.0	dB

Remarks:
Carrier-on state / Carrier at the upper edge of the band (fo)
Reference of limit = 42 dBm, spectrum mask referenced to necessary bandwidth

Plot No. 233



Subclause: 87.139 a) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier in the middle of the band (fo)

Limit:
Limit according to 87.139 a):
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, see test report chapter 5.4
A700S Class 6 HDR PIESD, R20T2XD

Test setup:
see test report chapter 7.2 setup 1.1hgj

Test equipment:
see test report chapter 7.2: C220, Power Splitter, R001, U311, U312

Remark:

Test result: Test passed

Environment condition:

Date & Time:	Wed 01/Jul/2020 10:14:46	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

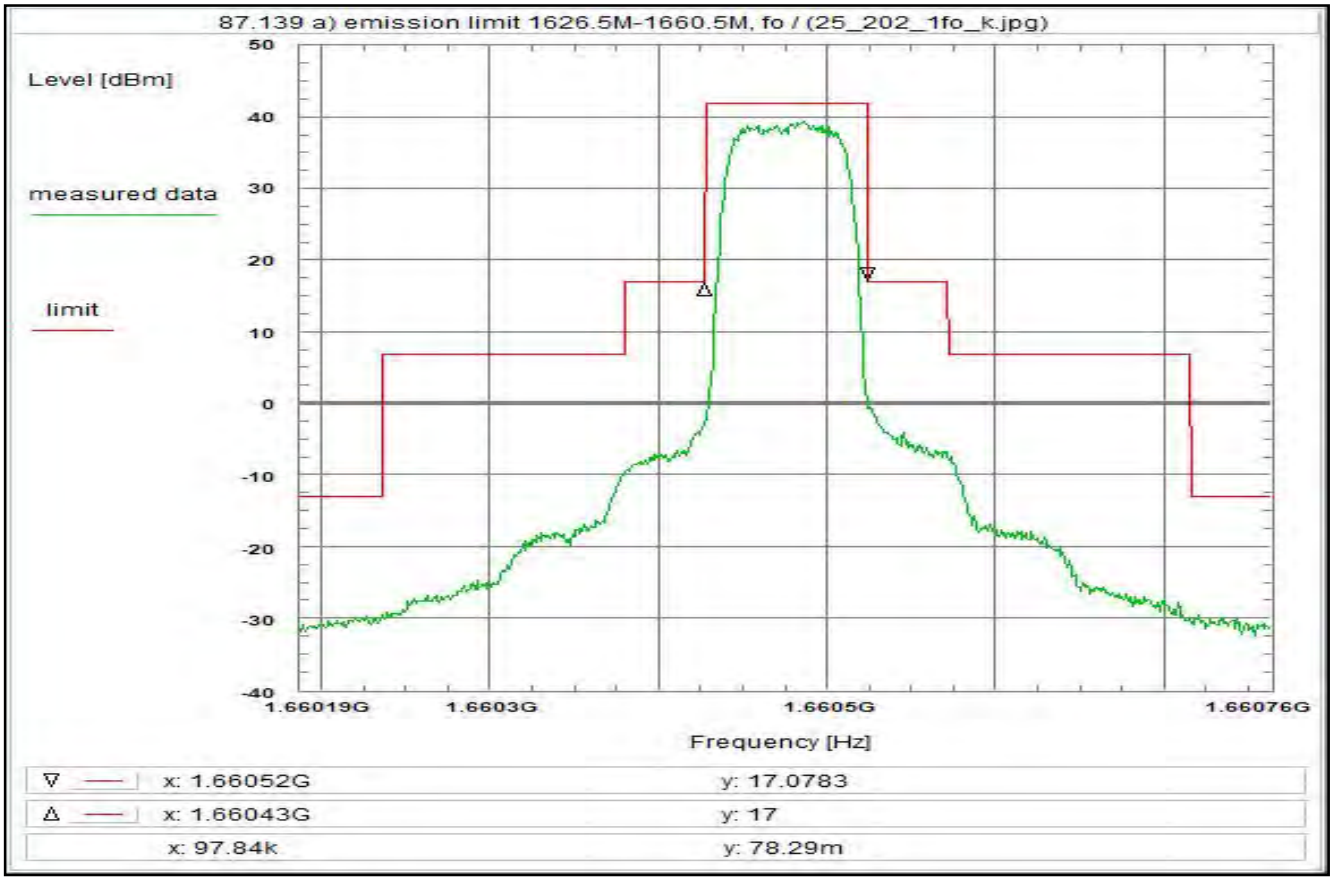
Start frequency:	1.660187	GHz
Stop frequency:	1.660763	GHz
Center frequency:	1.660475	GHz
Frequency span:	576	kHz
Resolution-BW:	3	kHz
Video-BW:	10	kHz
Input attenuation:	30	dB
Trace-Mode:	Clear Write	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	12.0	dBi
Test antenna	+	0.0	dB
BW correction factor (3k -> 4k)	+	1.2	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U312)	+	19.5	dB
Attenuation (U311)	+	9.7	dB
Power Splitter	+	6.7	dB
TOTAL CORRECTION:	+	50.0	dB

Remarks:
Carrier-on state / Carrier at the upper edge of the band (fo)
Reference of limit = 42 dBm, spectrum mask referenced to necessary bandwidth

Plot No. 234



Subclause: 87.139 a) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier in the middle of the band (fo)

Limit:
Limit according to 87.139 a):
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, see test report chapter 5.4
A700S Class 6 HDR PIESD, R5T2QD

Test setup:
see test report chapter 7.2 setup 1.1hgj

Test equipment:
see test report chapter 7.2: C220, Power Splitter, R001, U311, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Wed 01/Jul/2020 10:21:21	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

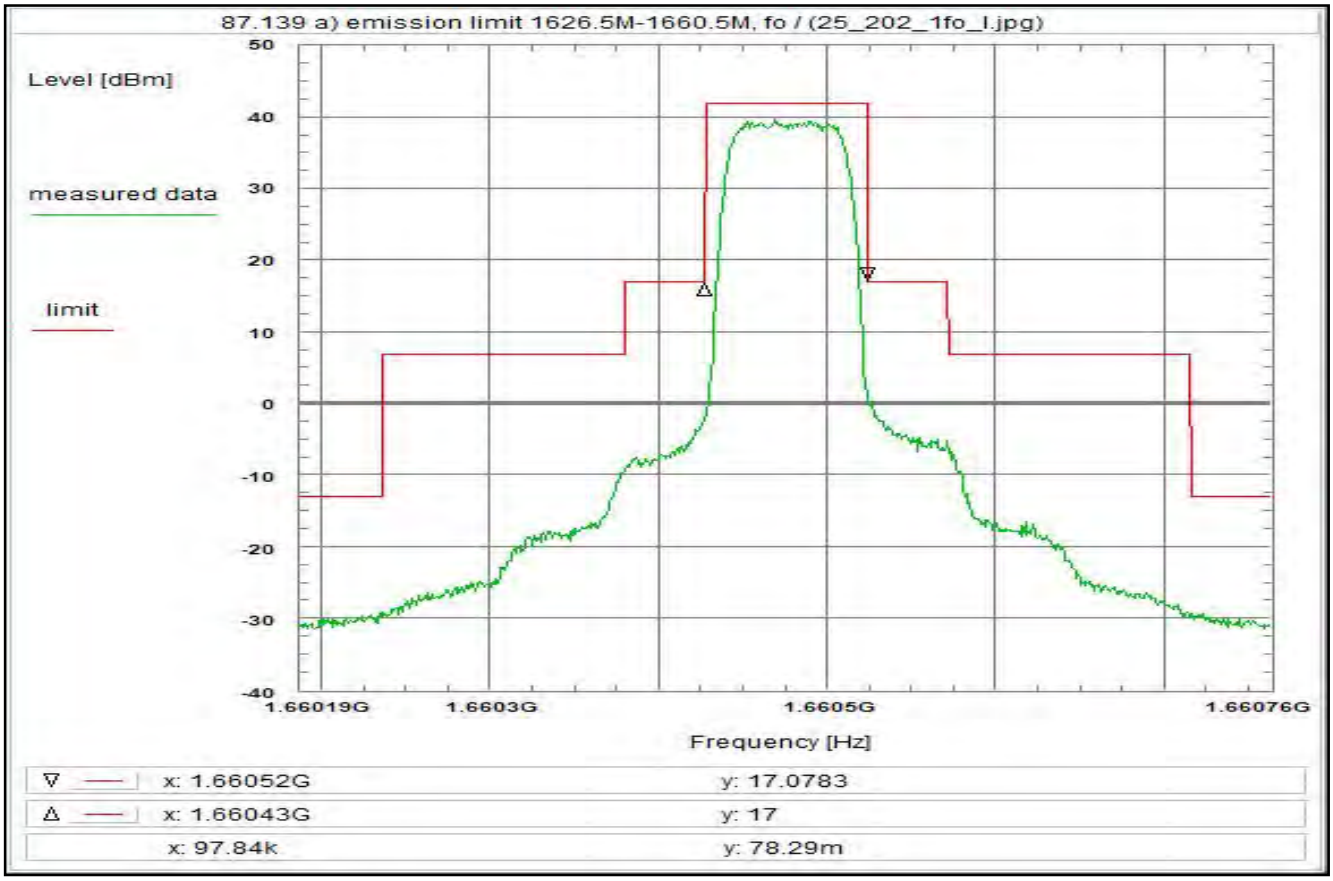
Start frequency:	1.660187	GHz
Stop frequency:	1.660763	GHz
Center frequency:	1.660475	GHz
Frequency span:	576	kHz
Resolution-BW:	3	kHz
Video-BW:	10	kHz
Input attenuation:	30	dB
Trace-Mode:	Clear Write	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	12.0	dBi
Test antenna	+	0.0	dB
BW correction factor (3k -> 4k)	+	1.2	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U312)	+	19.5	dB
Attenuation (U311)	+	9.7	dB
Power Splitter	+	6.7	dB
TOTAL CORRECTION:	+	50.0	dB

Remarks:
Carrier-on state / Carrier at the upper edge of the band (fo)
Reference of limit = 42 dBm, spectrum mask referenced to necessary bandwidth

Plot No. 235



Subclause: 87.139 a) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier in the middle of the band (fo)

Limit:
Limit according to 87.139 a):
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, see test report chapter 5.4
A700S Class 6 HDR PIESD, R20T2QD

Test setup:
see test report chapter 7.2 setup 1.1hgj

Test equipment:
see test report chapter 7.2: C220, Power Splitter, R001, U311, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Wed 01/Jul/2020 10:22:27	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

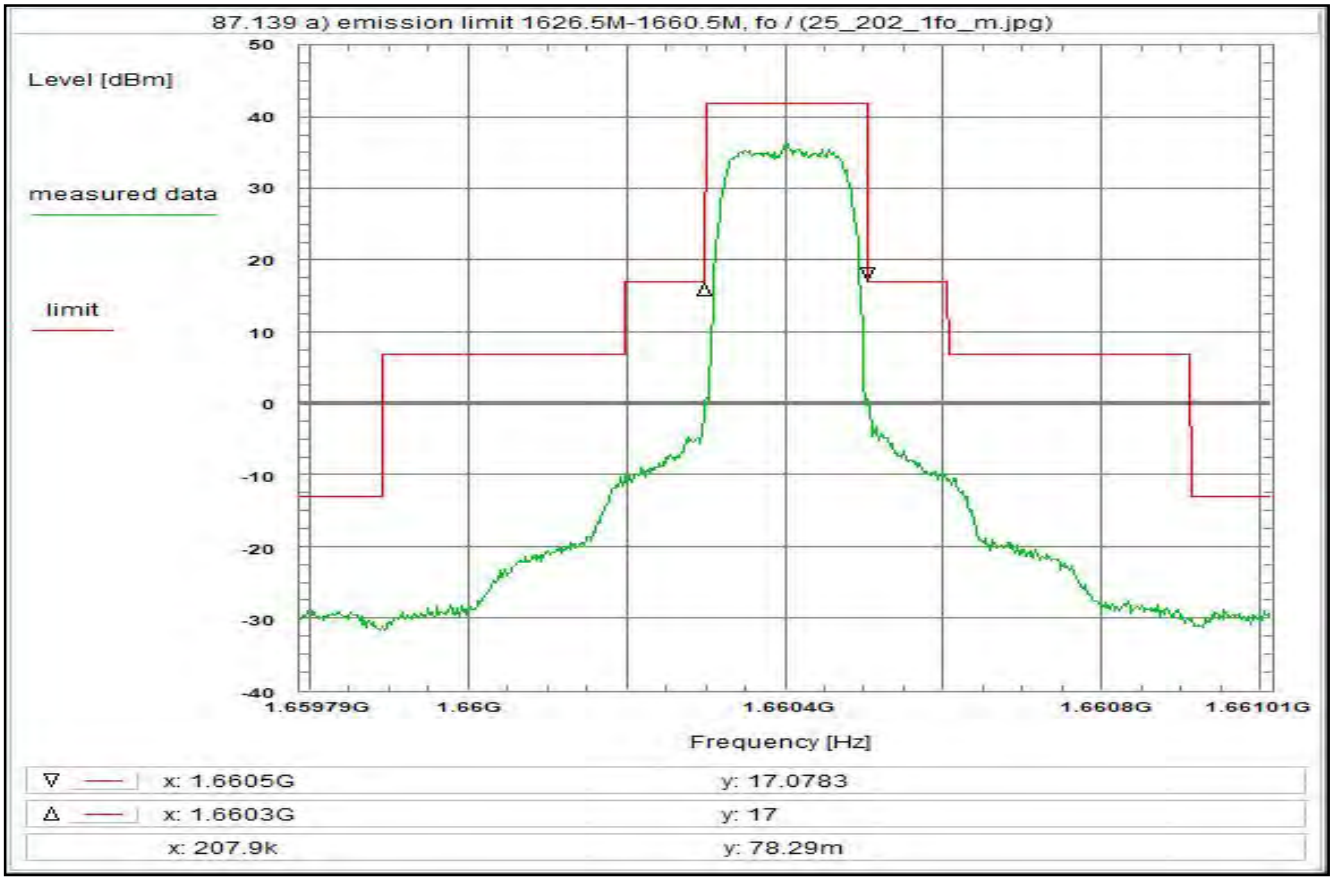
Start frequency:	1.660187	GHz
Stop frequency:	1.660763	GHz
Center frequency:	1.660475	GHz
Frequency span:	576	kHz
Resolution-BW:	3	kHz
Video-BW:	10	kHz
Input attenuation:	30	dB
Trace-Mode:	Clear Write	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	12.0	dBi
Test antenna	+	0.0	dB
BW correction factor (3k -> 4k)	+	1.2	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U312)	+	19.5	dB
Attenuation (U311)	+	9.7	dB
Power Splitter	+	6.7	dB
TOTAL CORRECTION:	+	50.0	dB

Remarks:
Carrier-on state / Carrier at the upper edge of the band (fo)
Reference of limit = 42 dBm, spectrum mask referenced to necessary bandwidth

Plot No. 236



Subclause: 87.139 a) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier in the middle of the band (fo)

Limit:
Limit according to 87.139 a):
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, see test report chapter 5.4
A700S Class 6 HDR PIESD, R5T4.5XD

Test setup:
see test report chapter 7.2 setup 1.1hgj

Test equipment:
see test report chapter 7.2: C220, R001, U312, U311, Power Splitter

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Wed 01/Jul/2020 10:25:16	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

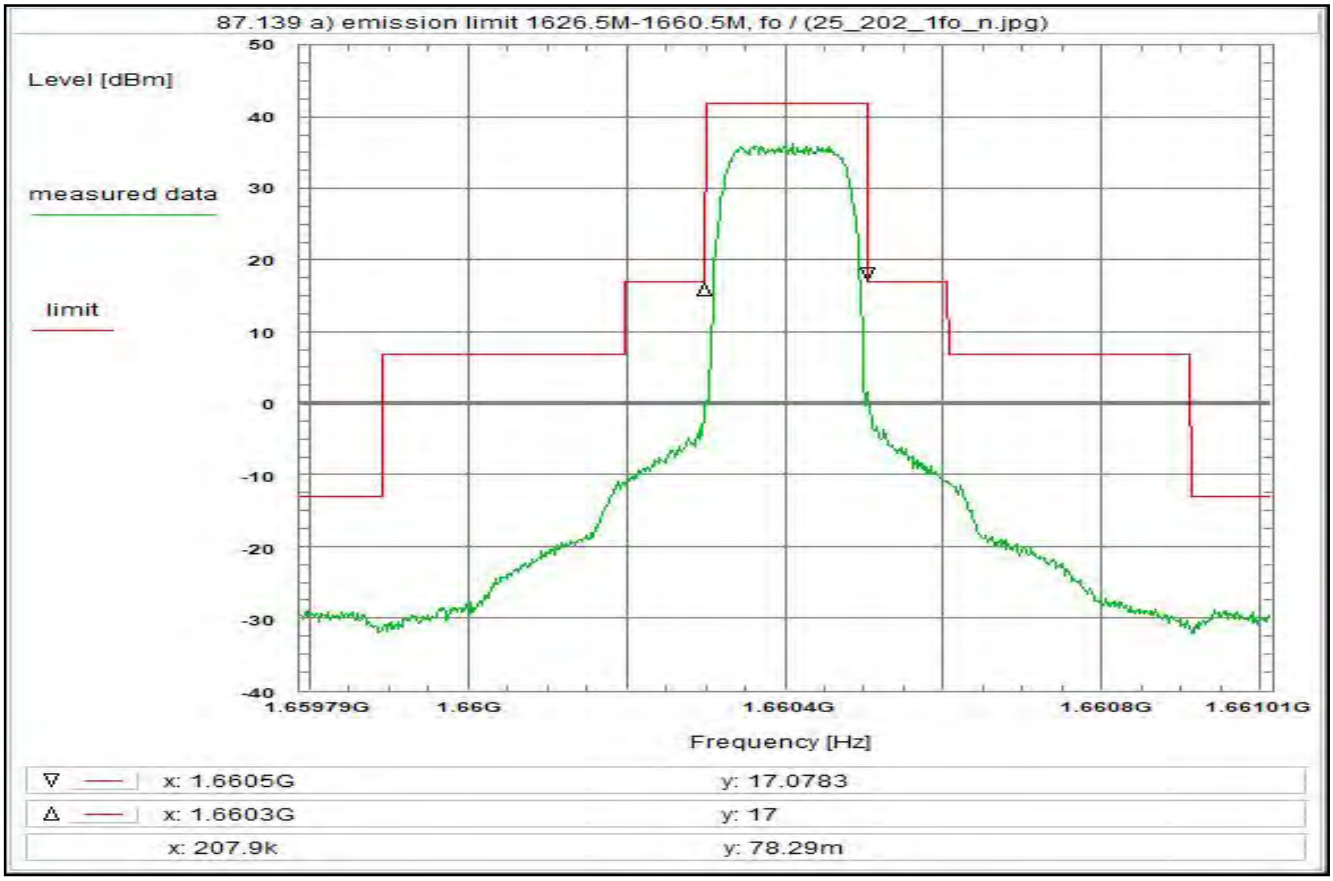
Start frequency:	1.659788	GHz
Stop frequency:	1.661012	GHz
Center frequency:	1.6604	GHz
Frequency span:	1.224	MHz
Resolution-BW:	3	kHz
Video-BW:	10	kHz
Input attenuation:	30	dB
Trace-Mode:	Clear Write	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	12.0	dBi
Test antenna	+	0.0	dB
BW correction factor (3k -> 4k)	+	1.2	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U312)	+	19.5	dB
Attenuation (U311)	+	9.7	dB
Power Splitter	+	6.7	dB
TOTAL CORRECTION:	+	50.0	dB

Remarks:
Carrier-on state / Carrier at the upper edge of the band (fo)
Reference of limit = 42 dBm, spectrum mask referenced to necessary bandwidth

Plot No. 237



Subclause: 87.139 a) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier in the middle of the band (fo)

Limit:
Limit according to 87.139 a):
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, see test report chapter 5.4
A700S Class 6 HDR PIESD, R20T4.5XD

Test setup:
see test report chapter 7.2 setup 1.1hgj

Test equipment:
see test report chapter 7.2: C220, Power Splitter, R001, U311, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Wed 01/Jul/2020 10:27:52	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

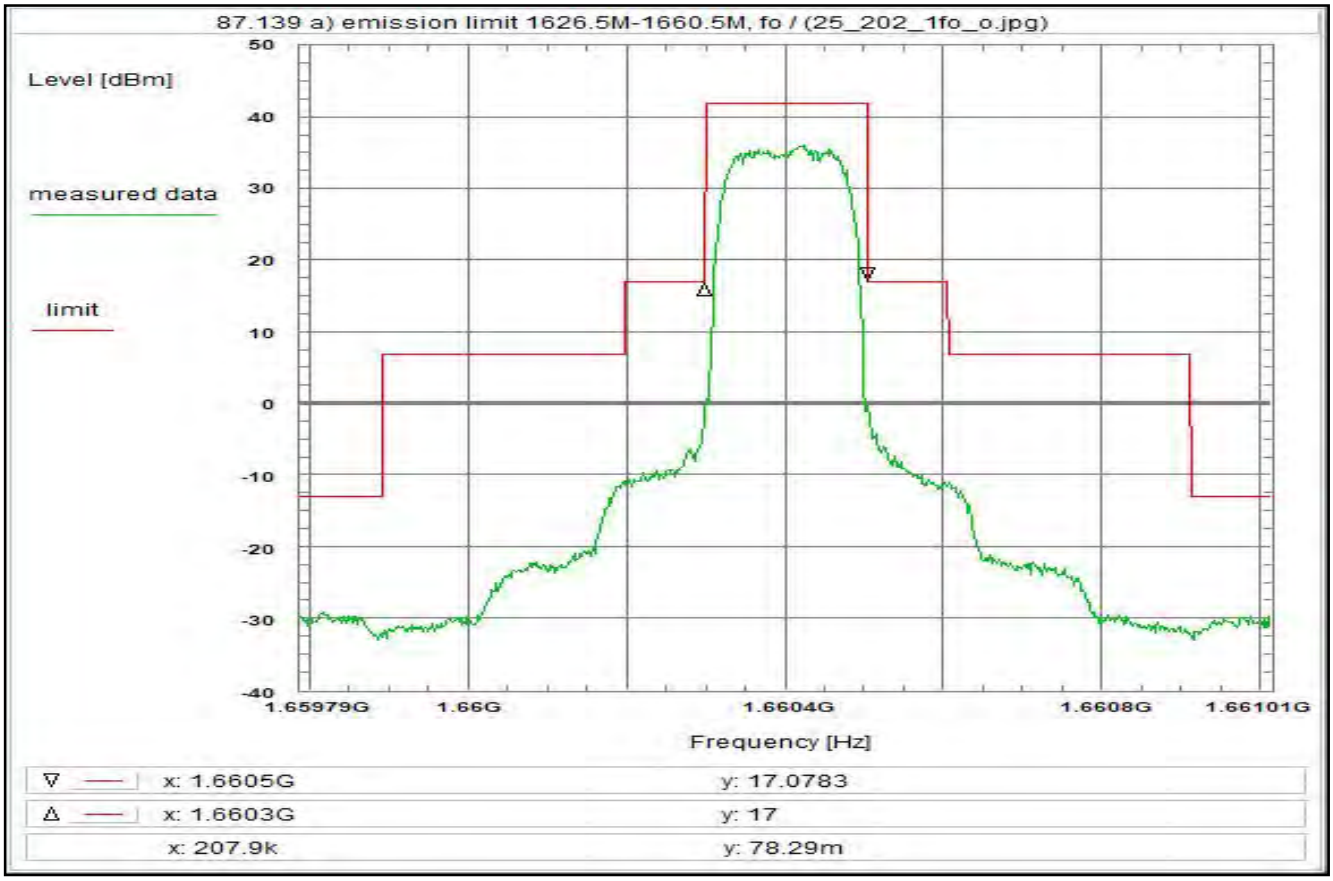
Start frequency:	1.659788	GHz
Stop frequency:	1.661012	GHz
Center frequency:	1.6604	GHz
Frequency span:	1.224	MHz
Resolution-BW:	3	kHz
Video-BW:	10	kHz
Input attenuation:	30	dB
Trace-Mode:	Clear Write	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	12.0	dBi
Test antenna	+	0.0	dB
BW correction factor (3k -> 4k)	+	1.2	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U312)	+	19.5	dB
Attenuation (U311)	+	9.7	dB
Power Splitter	+	6.7	dB
TOTAL CORRECTION:	+	50.0	dB

Remarks:
Carrier-on state / Carrier at the upper edge of the band (fo)
Reference of limit = 42 dBm, spectrum mask referenced to necessary bandwidth

Plot No. 238



Subclause: 87.139 a) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier in the middle of the band (fo)

Limit:
Limit according to 87.139 a):
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, see test report chapter 5.4
A700S Class 6 HDR PIESD, R5T4.5XD

Test setup:
see test report chapter 7.2 setup 1.1hgj

Test equipment:
see test report chapter 7.2: C220, Power Splitter, R001, U311, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Wed 01/Jul/2020 10:29:39	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

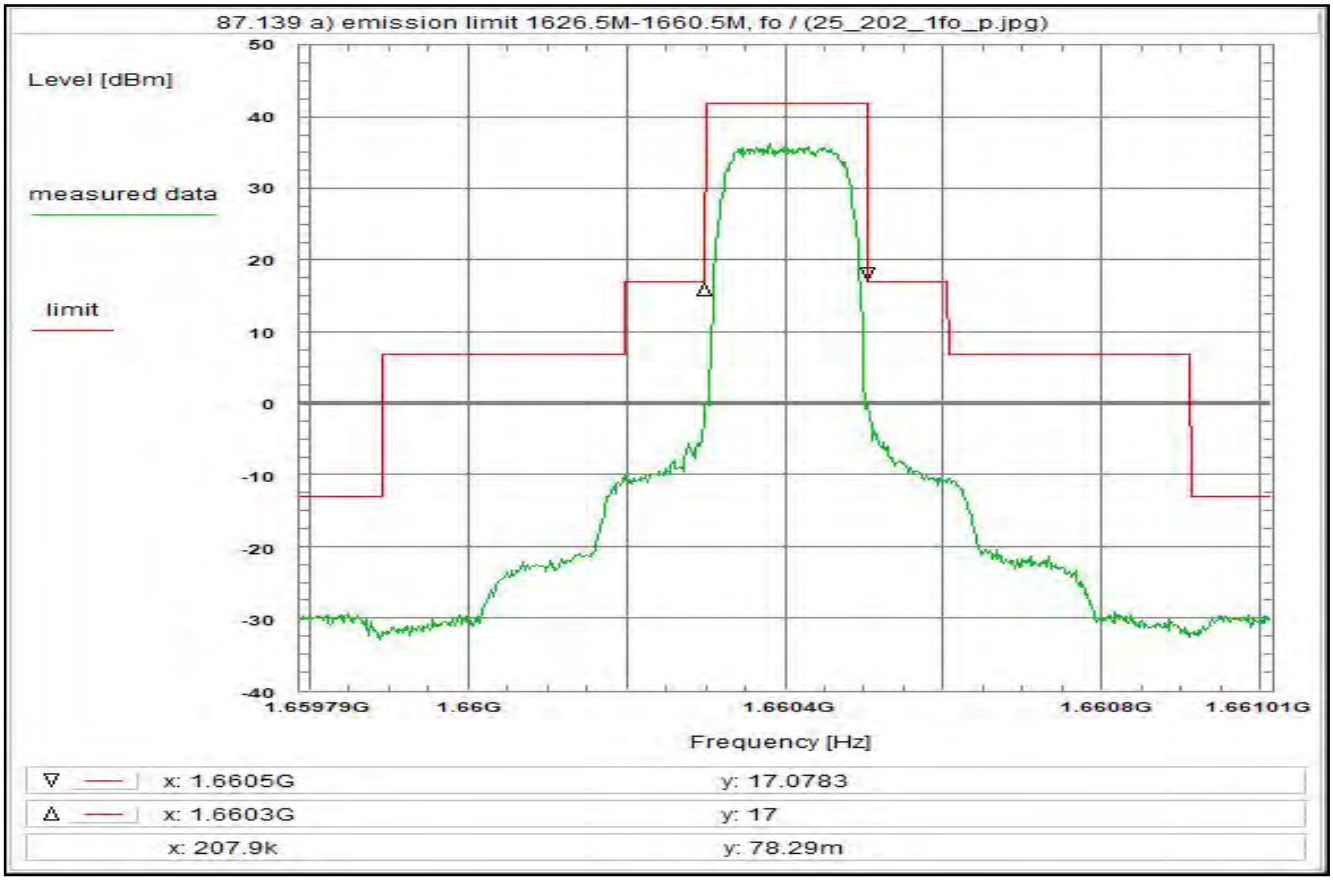
Start frequency:	1.659788	GHz
Stop frequency:	1.661012	GHz
Center frequency:	1.6604	GHz
Frequency span:	1.224	MHz
Resolution-BW:	3	kHz
Video-BW:	10	kHz
Input attenuation:	30	dB
Trace-Mode:	Clear Write	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	12.0	dBi
Test antenna	+	0.0	dB
BW correction factor (3k -> 4k)	+	1.2	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U312)	+	19.5	dB
Attenuation (U311)	+	9.7	dB
Power Splitter	+	6.7	dB
TOTAL CORRECTION:	+	50.0	dB

Remarks:
Carrier-on state / Carrier at the upper edge of the band (fo)
Reference of limit = 42 dBm, spectrum mask referenced to necessary bandwidth

Plot No. 239



Subclause: 87.139 a) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier in the middle of the band (fo)

Limit:
Limit according to 87.139 a):
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, see test report chapter 5.4
A700S Class 6 HDR PIESD, R20T4.5XD

Test setup:
see test report chapter 7.2 setup 1.1hgj

Test equipment:
see test report chapter 7.2: C220, Power Splitter, R001, U311, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Wed 01/Jul/2020 10:31:40	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

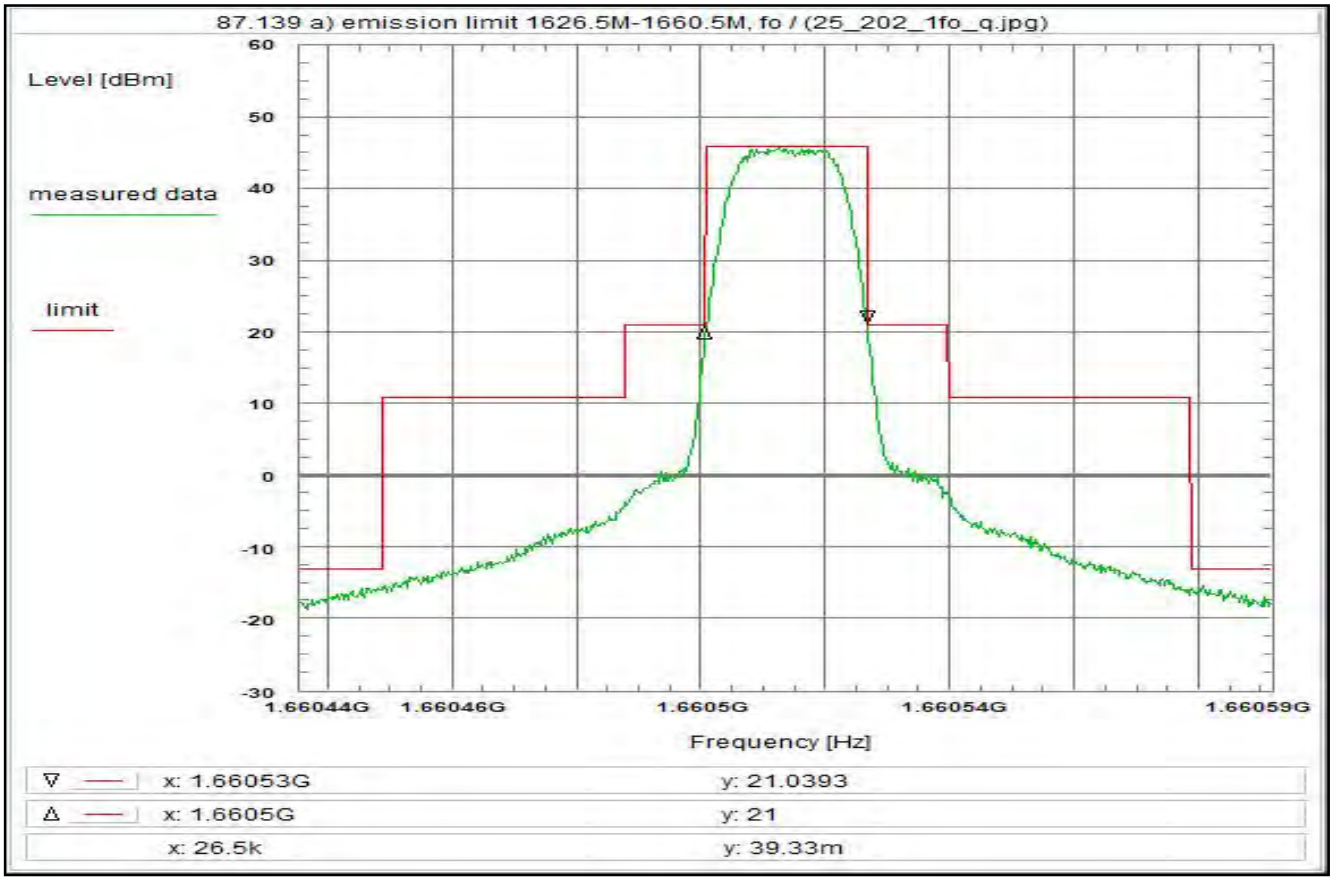
Start frequency:	1.659788	GHz
Stop frequency:	1.661012	GHz
Center frequency:	1.6604	GHz
Frequency span:	1.224	MHz
Resolution-BW:	3	kHz
Video-BW:	10	kHz
Input attenuation:	30	dB
Trace-Mode:	Clear Write	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	12.0	dBi
Test antenna	+	0.0	dB
BW correction factor (3k -> 4k)	+	1.2	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U312)	+	19.5	dB
Attenuation (U311)	+	9.7	dB
Power Splitter	+	6.7	dB
TOTAL CORRECTION:	+	50.0	dB

Remarks:
Carrier-on state / Carrier at the upper edge of the band (fo)
Reference of limit = 42 dBm, spectrum mask referenced to necessary bandwidth

Plot No. 240



Subclause: 87.139 a) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier in the middle of the band (fo)

Limit:
Limit according to 87.139 a):
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, see test report chapter 5.4
A700S Class 6 HDR PIESD, R20T05XD

Test setup:
see test report chapter 7.2 setup 1.1hgj

Test equipment:
see test report chapter 7.2: C220, R001, U312, U311, Power Splitter

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Wed 01/Jul/2020 10:35:14	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

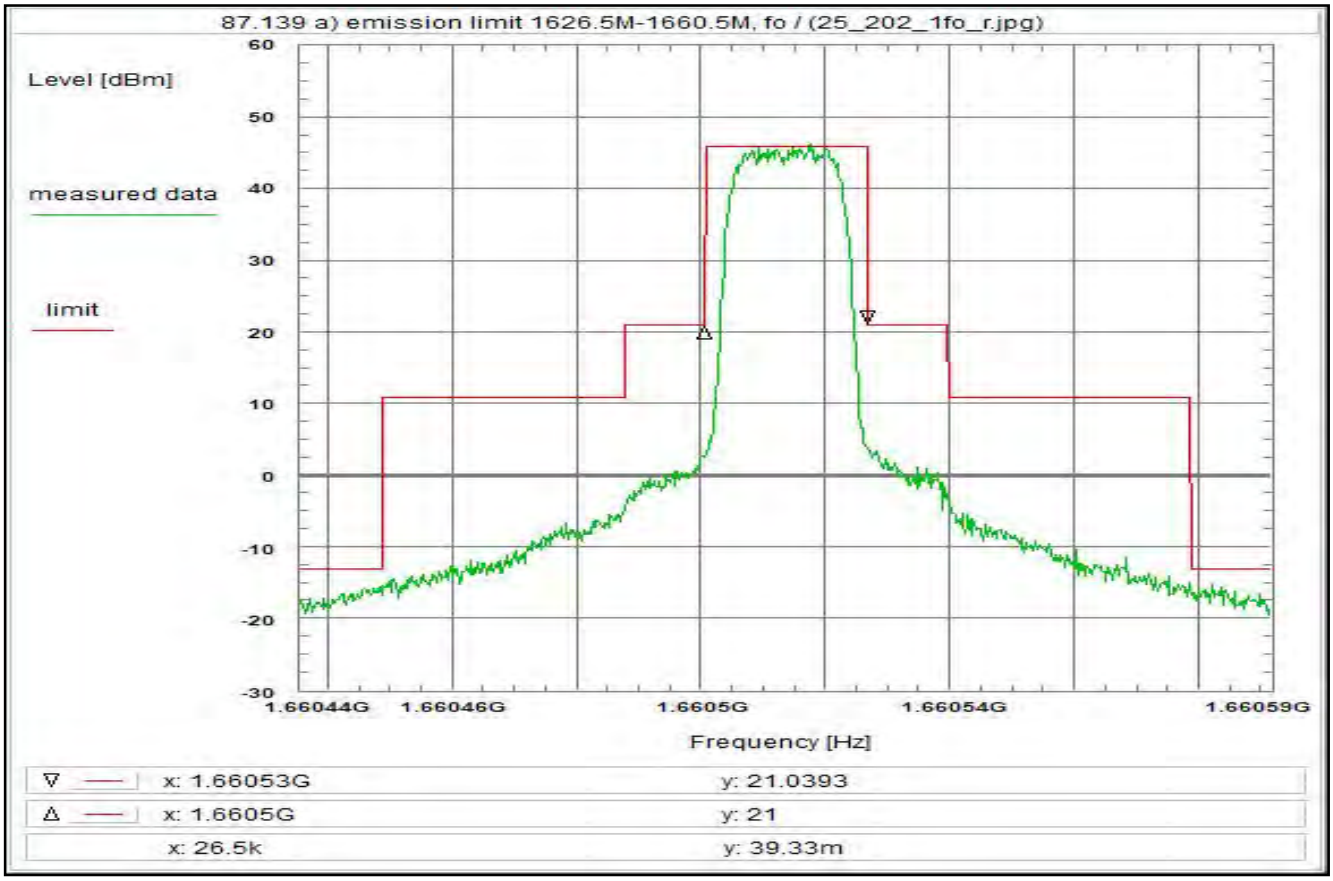
Start frequency:	1.6604355	GHz
Stop frequency:	1.6605915	GHz
Center frequency:	1.6605135	GHz
Frequency span:	156	kHz
Resolution-BW:	3	kHz
Video-BW:	10	kHz
Input attenuation:	30	dB
Trace-Mode:	Clear Write	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	12.0	dBi
Test antenna	+	0.0	dB
BW correction factor (3k -> 4k)	+	1.2	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U312)	+	19.5	dB
Attenuation (U311)	+	9.7	dB
Power Splitter	+	6.7	dB
TOTAL CORRECTION:	+	50.0	dB

Remarks:
Carrier-on state / Carrier at the upper edge of the band (fo)
Reference of limit = 42 dBm, spectrum mask referenced to necessary bandwidth

Plot No. 241



Subclause: 87.139 a) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier in the middle of the band (fo)

Limit:
Limit according to 87.139 a):
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, see test report chapter 5.4
A700S Class 6 HDR PIESD, R20T05XD

Test setup:
see test report chapter 7.2 setup 1.1hgj

Test equipment:
see test report chapter 7.2: C220, Power Splitter, R001, U311, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Wed 01/Jul/2020 10:36:47	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

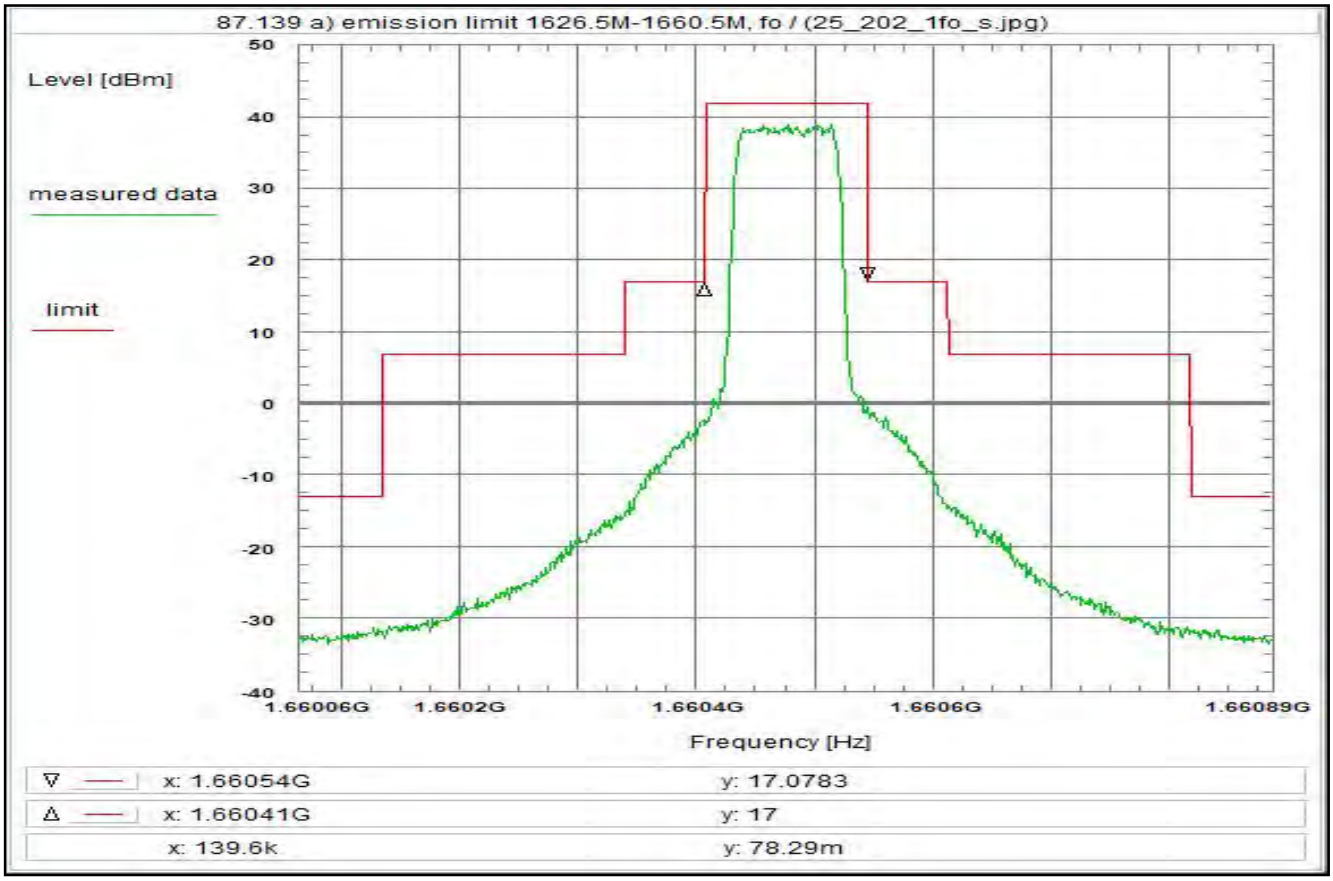
Start frequency:	1.6604355	GHz
Stop frequency:	1.6605915	GHz
Center frequency:	1.6605135	GHz
Frequency span:	156	kHz
Resolution-BW:	1	kHz
Video-BW:	3	kHz
Input attenuation:	30	dB
Trace-Mode:	Clear Write	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	12.0	dBi
Test antenna	+	0.0	dB
BW correction factor (1k -> 4k)	+	6.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U312)	+	19.5	dB
Attenuation (U311)	+	9.7	dB
Power Splitter	+	6.7	dB
TOTAL CORRECTION:	+	54.8	dB

Remarks:
Carrier-on state / Carrier at the upper edge of the band (fo)
Reference of limit = 42 dBm, spectrum mask referenced to necessary bandwidth

Plot No. 242



Subclause: 87.139 a) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier in the middle of the band (fo)

Limit:
Limit according to 87.139 a):
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, see test report chapter 5.4
A700S Class 6 HDR PIESD, FR80T2.5X16

Test setup:
see test report chapter 7.2 setup 1.1hgj

Test equipment:
see test report chapter 7.2: C220, R001, U312, U311, Power Splitter

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Wed 01/Jul/2020 10:38:56	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

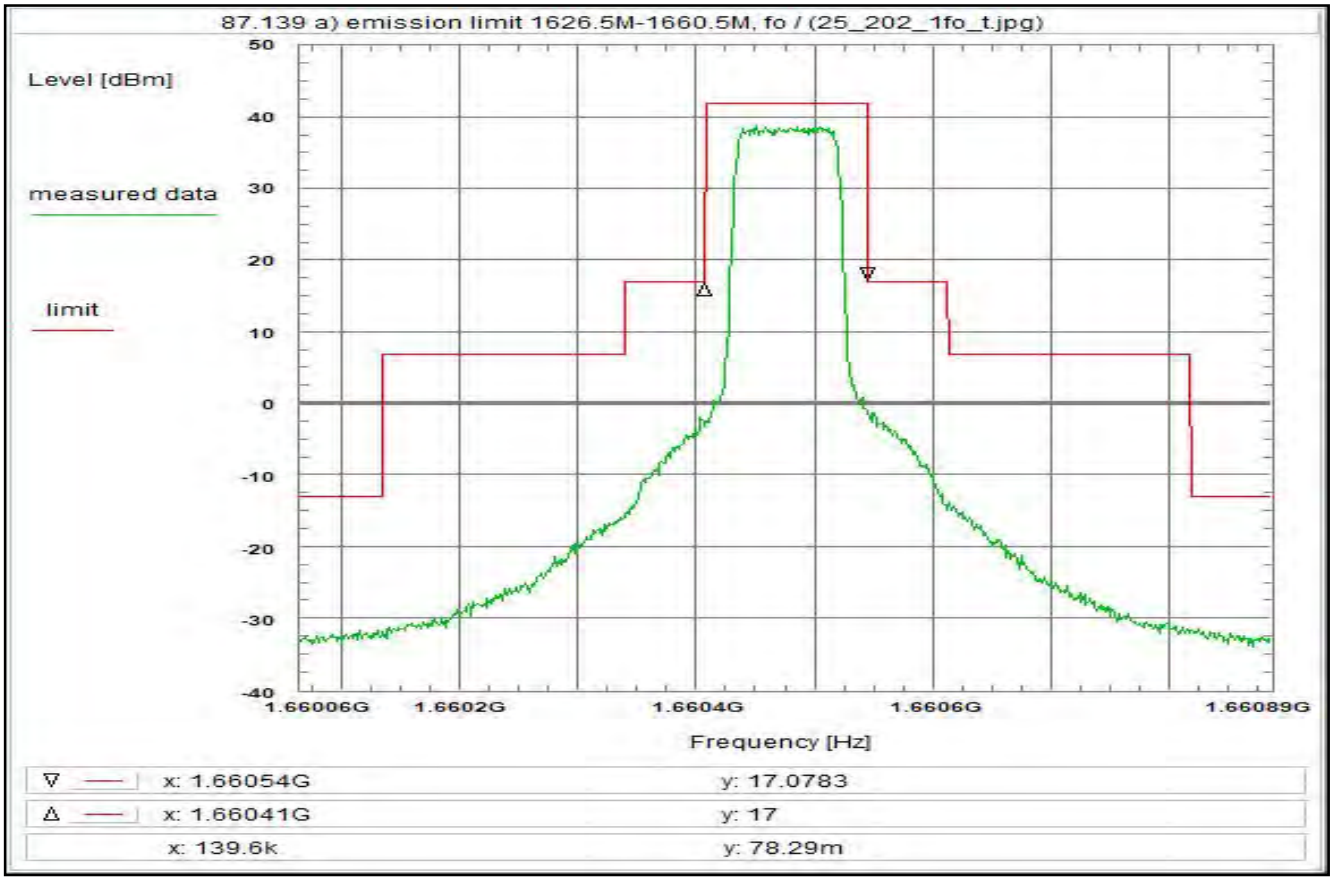
Start frequency:	1.660064	GHz
Stop frequency:	1.660886	GHz
Center frequency:	1.660475	GHz
Frequency span:	822	kHz
Resolution-BW:	3	kHz
Video-BW:	10	kHz
Input attenuation:	30	dB
Trace-Mode:	Clear Write	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	12.0	dBi
Test antenna	+	0.0	dB
BW correction factor (3k -> 4k)	+	1.2	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U312)	+	19.5	dB
Attenuation (U311)	+	9.7	dB
Power Splitter	+	6.7	dB
TOTAL CORRECTION:	+	50.0	dB

Remarks:
Carrier-on state / Carrier at the upper edge of the band (fo)
Reference of limit = 42 dBm, spectrum mask referenced to necessary bandwidth

Plot No. 243



Subclause: 87.139 a) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier in the middle of the band (fo)

Limit:
Limit according to 87.139 a):
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, see test report chapter 5.4
A700S Class 6 HDR PIESD, FR80T2.5X32

Test setup:
see test report chapter 7.2 setup 1.1hgj

Test equipment:
see test report chapter 7.2: C220, Power Splitter, R001, U311, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Wed 01/Jul/2020 10:39:50	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

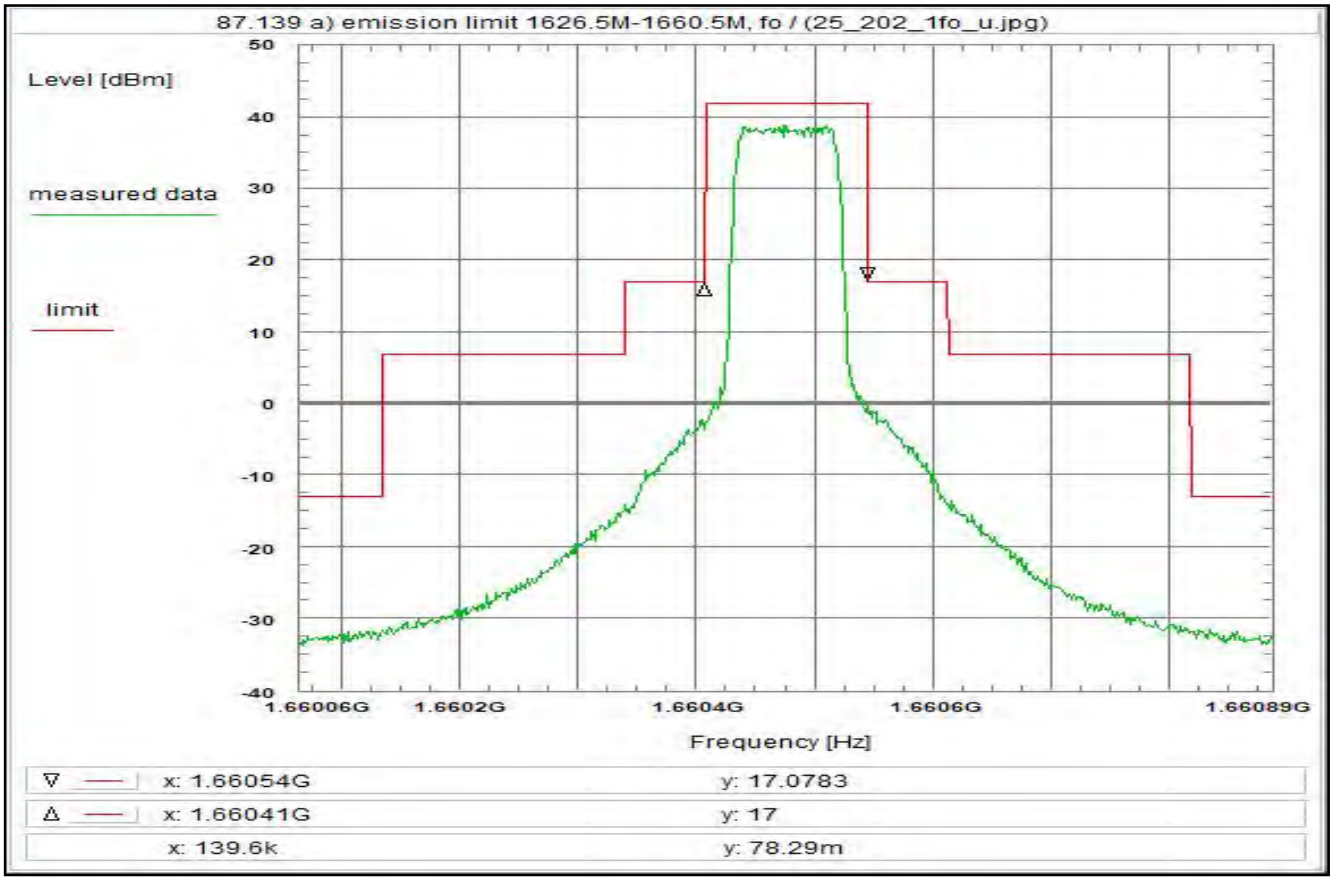
Start frequency:	1.660064	GHz
Stop frequency:	1.660886	GHz
Center frequency:	1.660475	GHz
Frequency span:	822	kHz
Resolution-BW:	3	kHz
Video-BW:	10	kHz
Input attenuation:	30	dB
Trace-Mode:	Clear Write	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	12.0	dBi
Test antenna	+	0.0	dB
BW correction factor (3k -> 4k)	+	1.2	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U312)	+	19.5	dB
Attenuation (U311)	+	9.7	dB
Power Splitter	+	6.7	dB
TOTAL CORRECTION:	+	50.0	dB

Remarks:
Carrier-on state / Carrier at the upper edge of the band (fo)
Reference of limit = 42 dBm, spectrum mask referenced to necessary bandwidth

Plot No. 244



Subclause: 87.139 a) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier in the middle of the band (fo)

Limit:
Limit according to 87.139 a):
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, see test report chapter 5.4
A700S Class 6 HDR PIESD, FR80T2.5X64

Test setup:
see test report chapter 7.2 setup 1.1hgj

Test equipment:
see test report chapter 7.2: C220, Power Splitter, R001, U311, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Wed 01/Jul/2020 10:42:05	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

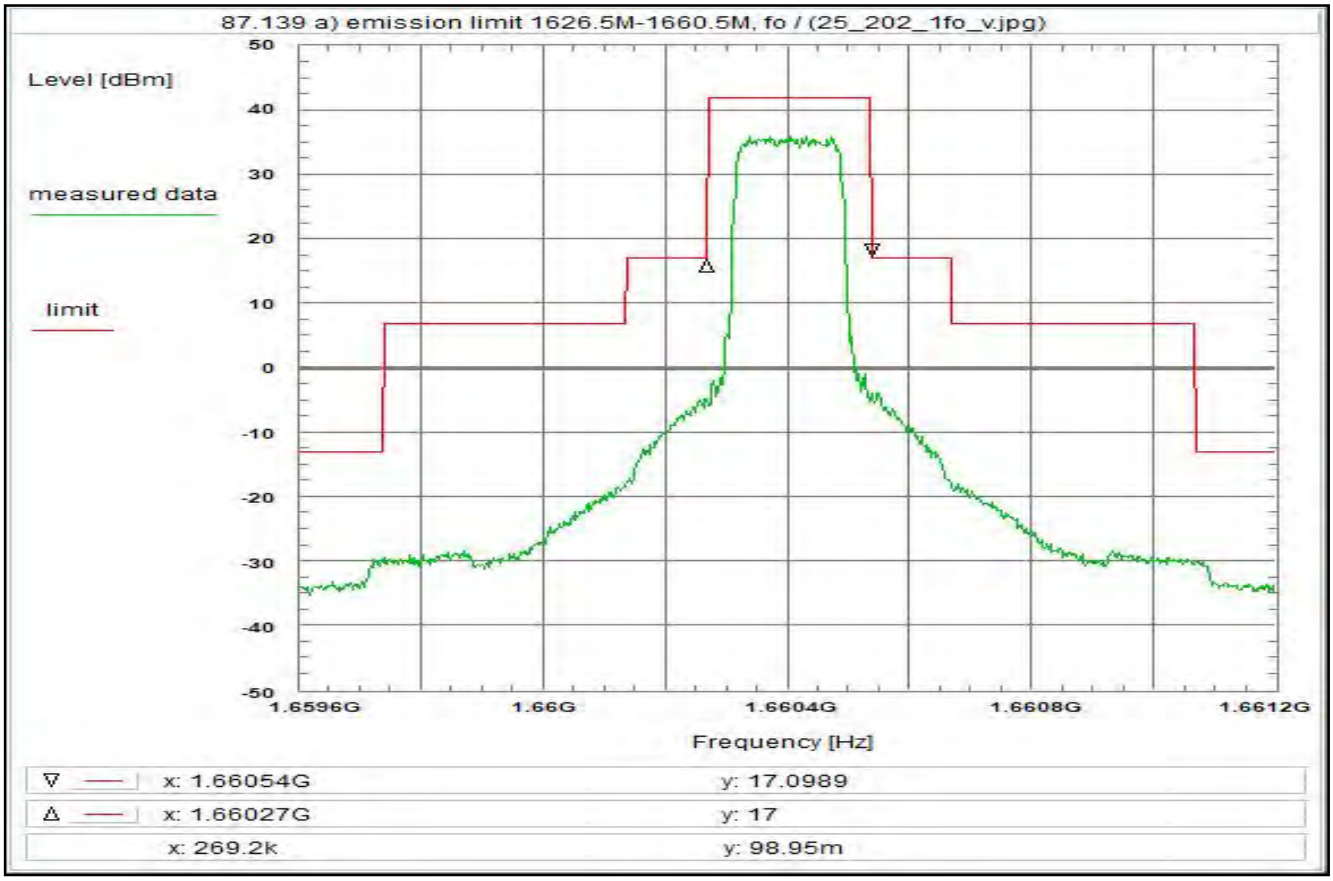
Start frequency:	1.660064	GHz
Stop frequency:	1.660886	GHz
Center frequency:	1.660475	GHz
Frequency span:	822	kHz
Resolution-BW:	3	kHz
Video-BW:	10	kHz
Input attenuation:	30	dB
Trace-Mode:	Clear Write	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	12.0	dBi
Test antenna	+	0.0	dB
BW correction factor (3k -> 4k)	+	1.2	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U312)	+	19.5	dB
Attenuation (U311)	+	9.7	dB
Power Splitter	+	6.7	dB
TOTAL CORRECTION:	+	50.0	dB

Remarks:
Carrier-on state / Carrier at the upper edge of the band (fo)
Reference of limit = 42 dBm, spectrum mask referenced to necessary bandwidth

Plot No. 245



Subclause: 87.139 a) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier in the middle of the band (fo)

Limit:
Limit according to 87.139 a):
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, see test report chapter 5.4
A700S Class 6 HDR PIESD, FR80T5X16

Test setup:
see test report chapter 7.2 setup 1.1hgj

Test equipment:
see test report chapter 7.2: C220, R001, U312, U311, Power Splitter

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Wed 01/Jul/2020 10:45:16	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

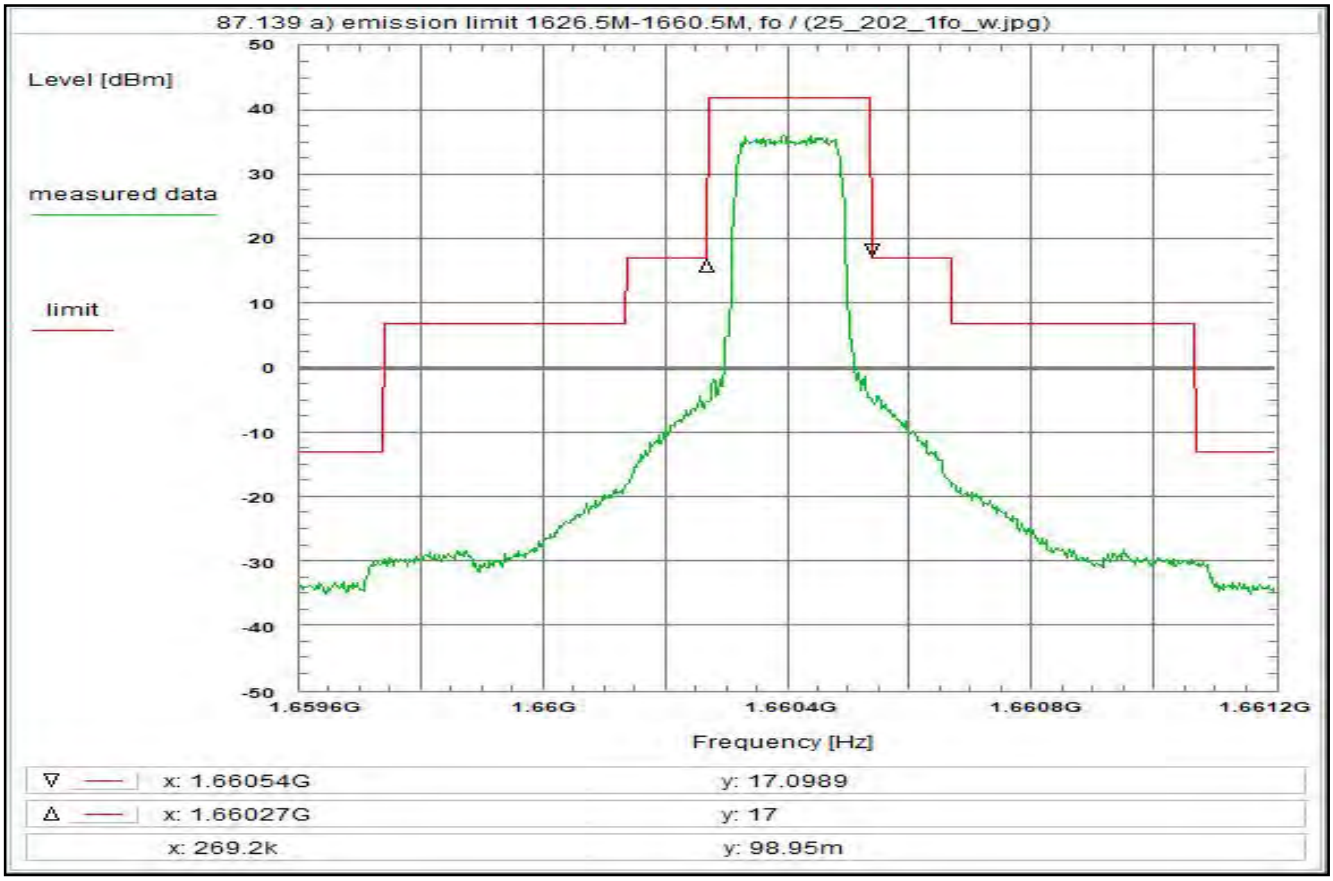
Start frequency:	1.659602	GHz
Stop frequency:	1.661198	GHz
Center frequency:	1.6604	GHz
Frequency span:	1.596	MHz
Resolution-BW:	3	kHz
Video-BW:	10	kHz
Input attenuation:	30	dB
Trace-Mode:	Clear Write	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	12.0	dBi
Test antenna	+	0.0	dB
BW correction factor (3k -> 4k)	+	1.2	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U312)	+	19.5	dB
Attenuation (U311)	+	9.7	dB
Power Splitter	+	6.7	dB
TOTAL CORRECTION:	+	50.0	dB

Remarks:
Carrier-on state / Carrier at the upper edge of the band (fo)
Reference of limit = 42 dBm, spectrum mask referenced to necessary bandwidth

Plot No. 246



Subclause: 87.139 a) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier in the middle of the band (fo)

Limit:
Limit according to 87.139 a):
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, see test report chapter 5.4
A700S Class 6 HDR PIESD, FR80T5X32

Test setup:
see test report chapter 7.2 setup 1.1hgj

Test equipment:
see test report chapter 7.2: C220, Power Splitter, R001, U311, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Wed 01/Jul/2020 10:46:04	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

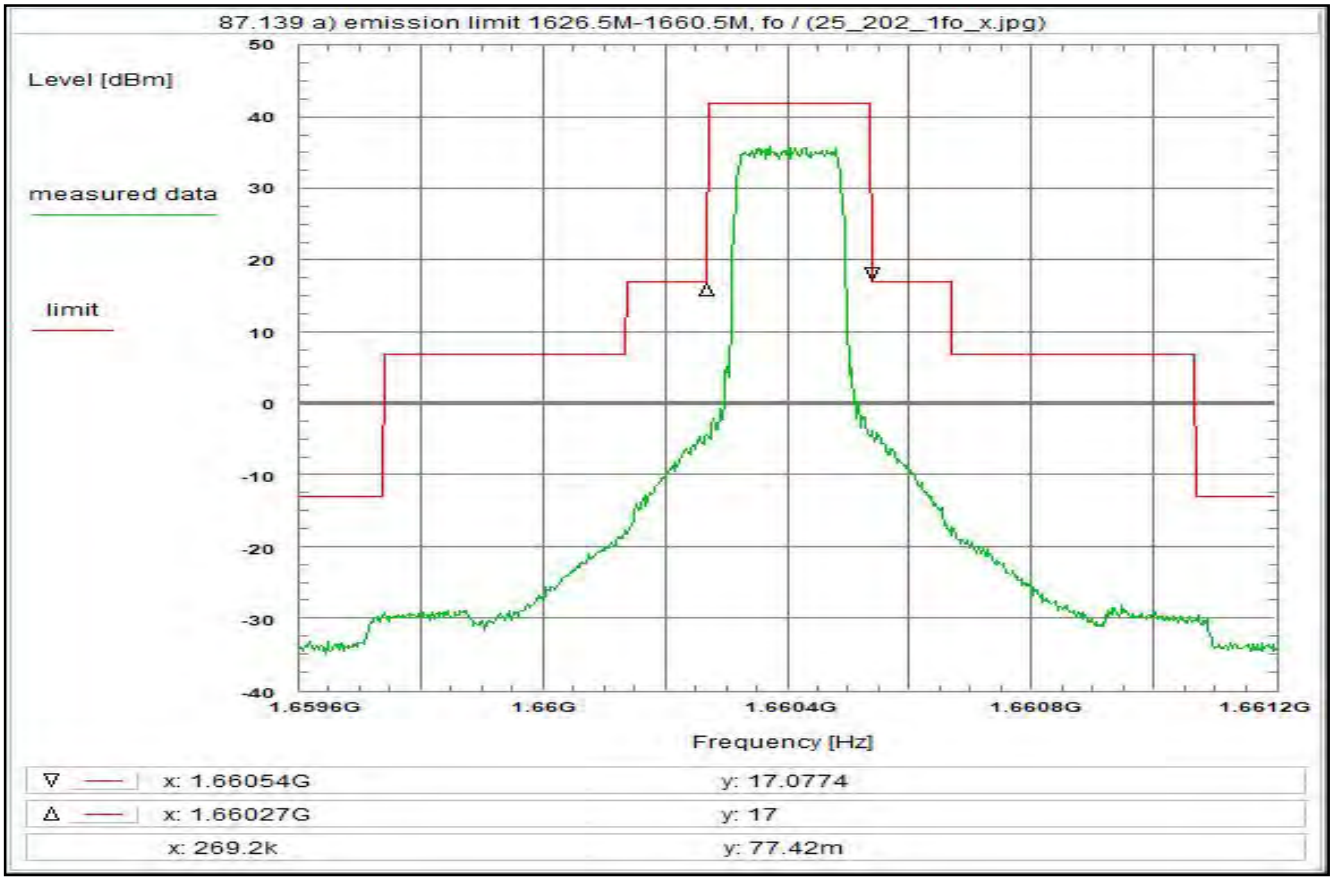
Start frequency:	1.659602	GHz
Stop frequency:	1.661198	GHz
Center frequency:	1.6604	GHz
Frequency span:	1.596	MHz
Resolution-BW:	3	kHz
Video-BW:	10	kHz
Input attenuation:	30	dB
Trace-Mode:	Clear Write	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	12.0	dBi
Test antenna	+	0.0	dB
BW correction factor (3k -> 4k)	+	1.2	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U312)	+	19.5	dB
Attenuation (U311)	+	9.7	dB
Power Splitter	+	6.7	dB
TOTAL CORRECTION:	+	50.0	dB

Remarks:
Carrier-on state / Carrier at the upper edge of the band (fo)
Reference of limit = 42 dBm, spectrum mask referenced to necessary bandwidth

Plot No. 247



Subclause: 87.139 a) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier in the middle of the band (fo)

Limit:
Limit according to 87.139 a):
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, see test report chapter 5.4
A700S Class 6 HDR PIESD, FR80T5X64

Test setup:
see test report chapter 7.2 setup 1.1hgj

Test equipment:
see test report chapter 7.2: C220, Power Splitter, R001, U311, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Wed 01/Jul/2020 10:49:13	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

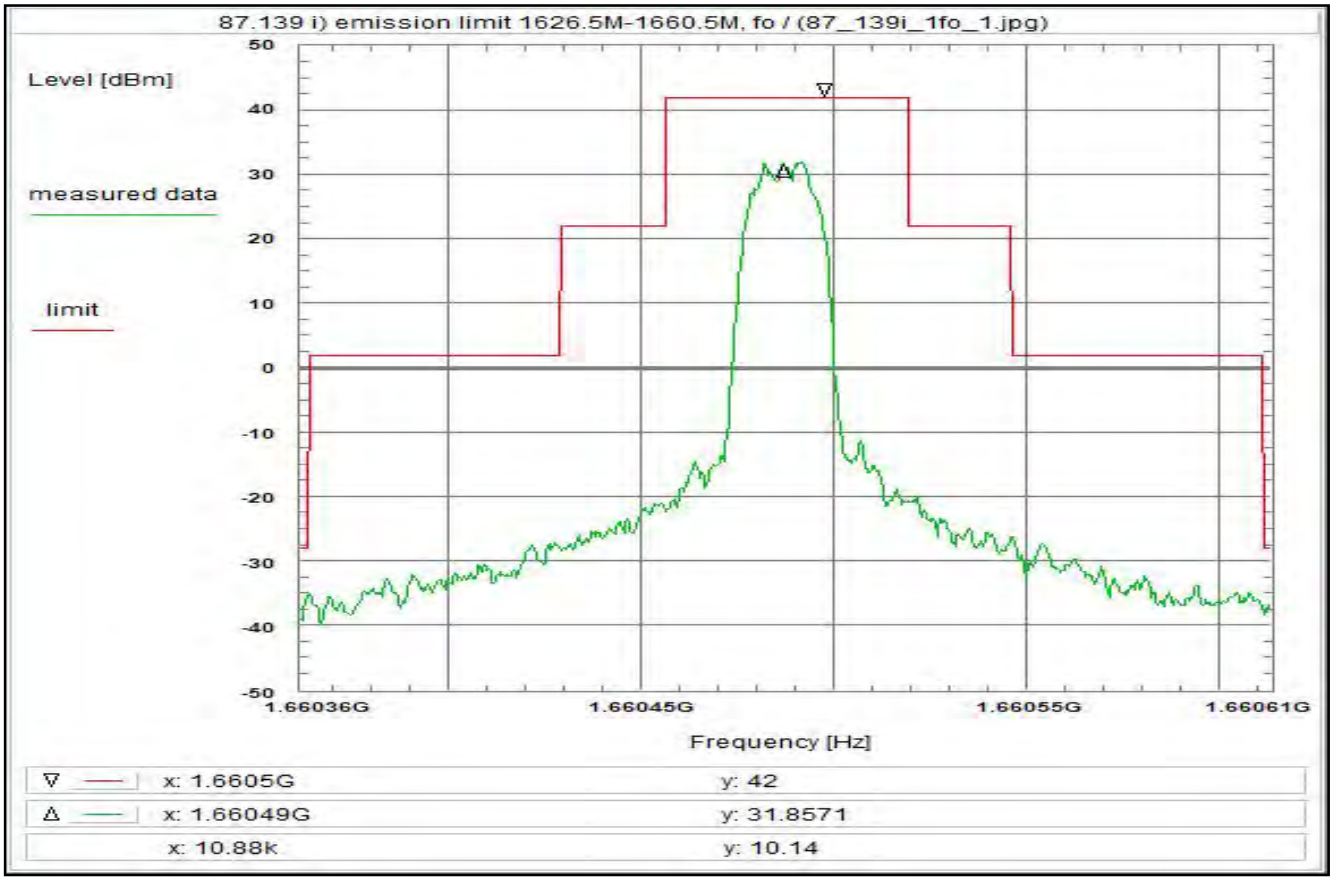
Start frequency:	1.659602	GHz
Stop frequency:	1.661198	GHz
Center frequency:	1.6604	GHz
Frequency span:	1.596	MHz
Resolution-BW:	3	kHz
Video-BW:	10	kHz
Input attenuation:	30	dB
Trace-Mode:	Clear Write	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	12.0	dBi
Test antenna	+	0.0	dB
BW correction factor (3k -> 4k)	+	1.2	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U312)	+	19.5	dB
Attenuation (U311)	+	9.7	dB
Power Splitter	+	6.7	dB
TOTAL CORRECTION:	+	50.0	dB

Remarks:
Carrier-on state / Carrier at the upper edge of the band (fo)
Reference of limit = 42 dBm, spectrum mask referenced to necessary bandwidth

Plot No. 248



Subclause: 87.139 i) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier at the upper edge of the band (fo)

Limit:
Limit according to 87.139(i)(1)
The mean power of emissions shall be attenuated
below the mean output power of the transmitter
in accordance with 87.139(i)(1).

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

Operating condition of DUT:
operating condition 1, see test report chapter 5.4
Class 6 ACD, R20T0.5QD, 16.8 ksym/s, QPSK

Test setup:
see test report chapter 7.2 setup 1.1hgj

Test equipment:
see test report chapter 7.2: C220, R001, U311, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Thu 28/May/2020 15:13:33	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

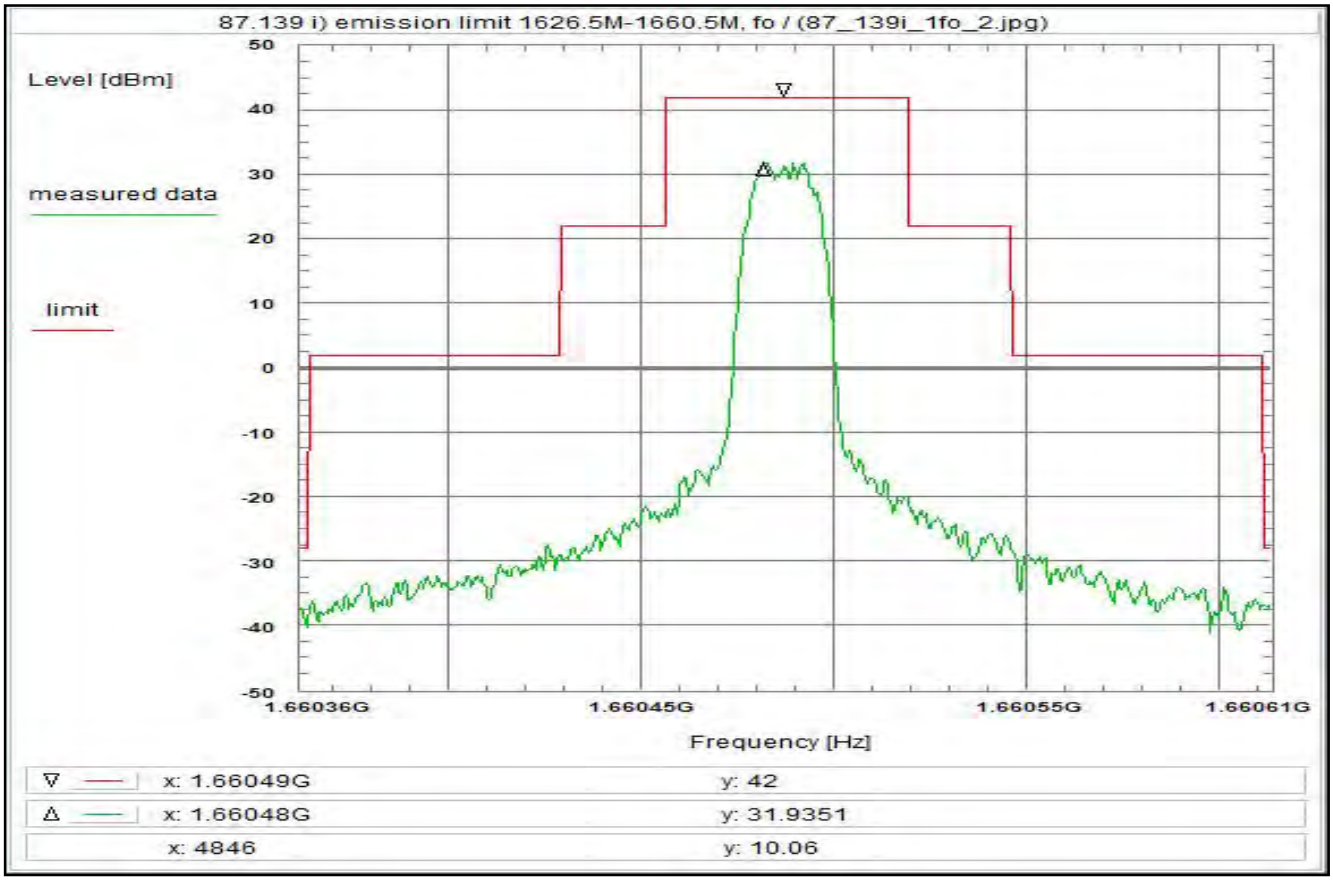
Start frequency:	1.6603615	GHz
Stop frequency:	1.6606135	GHz
Center frequency:	1.6604875	GHz
Frequency span:	252	kHz
Resolution-BW:	3	kHz
Video-BW:	30	kHz
Input attenuation:	45	dB
Trace-Mode:	Average	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
U311+U312	+	29.3	dB
TOTAL CORRECTION:	+	30.2	dB

Remarks:
Carrier-on state / Carrier at the upper edge of the band (fo)
For EIRP calculation:
´worst-case´ = maximum antenna gain

Plot No. 249



Subclause: 87.139 i) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier at the upper edge of the band (fo)

Limit:
Limit according to 87.139(i)(1)
The mean power of emissions shall be attenuated
below the mean output power of the transmitter
in accordance with 87.139(i)(1).

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

Operating condition of DUT:
operating condition 1, see test report chapter 5.4
Class 6 HDR PIESD, R20T0.5QD, 16.8 ksym/s, QPSK

Test setup:
see test report chapter 7.2 setup 1.1hgj

Test equipment:
see test report chapter 7.2: C220, R001, U311, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Thu 28/May/2020 15:14:41	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

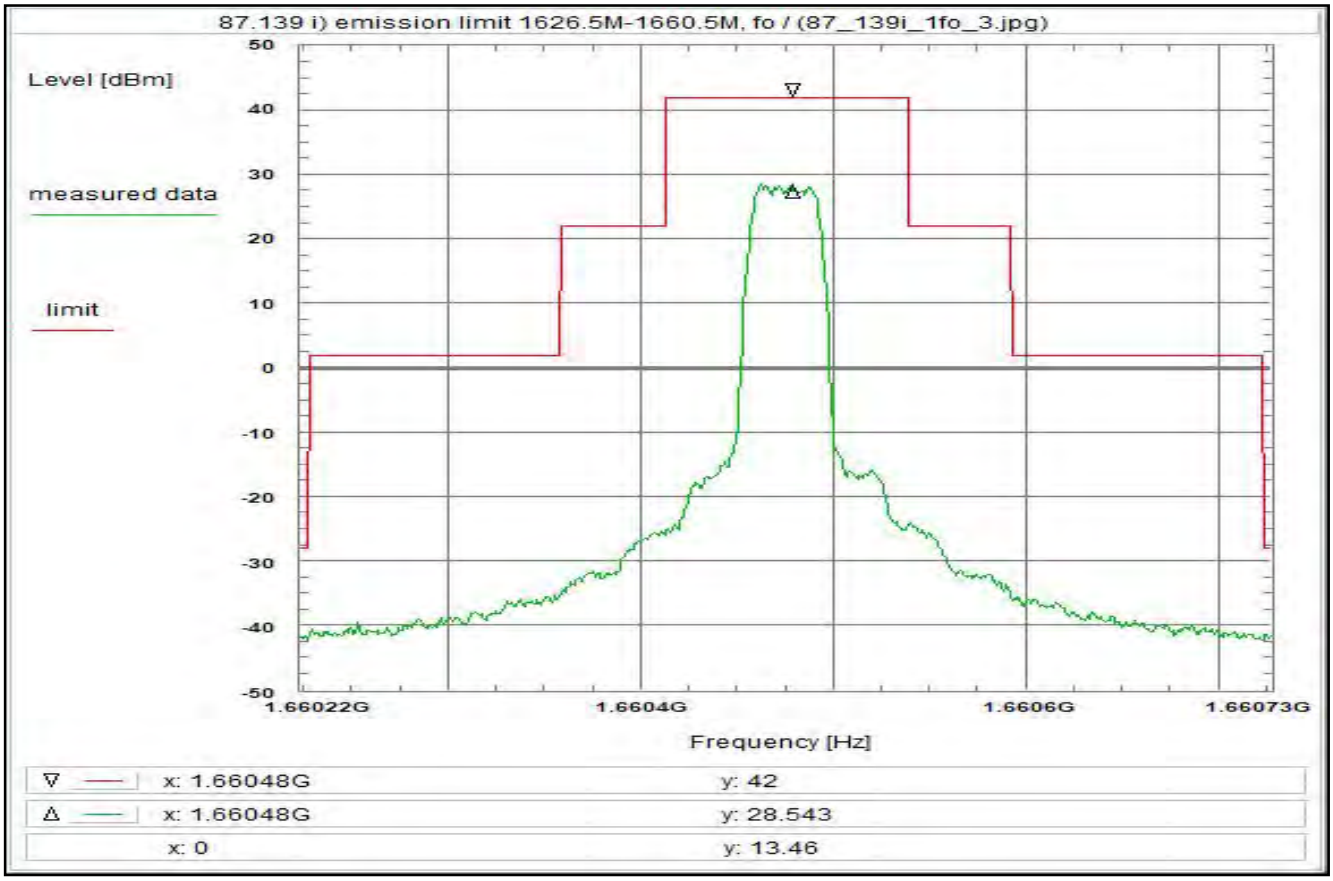
Start frequency:	1.6603615	GHz
Stop frequency:	1.6606135	GHz
Center frequency:	1.6604875	GHz
Frequency span:	252	kHz
Resolution-BW:	3	kHz
Video-BW:	30	kHz
Input attenuation:	45	dB
Trace-Mode:	Average	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
U311+U312	+	29.3	dB
TOTAL CORRECTION:	+	30.2	dB

Remarks:
Carrier-on state / Carrier at the upper edge of the band (fo)
For EIRP calculation:
´worst-case´ = maximum antenna gain

Plot No. 250



Subclause: 87.139 i) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier at the upper edge of the band (fo)

Limit:
Limit according to 87.139(i)(1)
The mean power of emissions shall be attenuated
below the mean output power of the transmitter
in accordance with 87.139(i)(1).

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

Operating condition of DUT:
operating condition 1, see test report chapter 5.4
Class 6 HDR PIESD, R5T1XD/R20T1XD, 33.6 ksym/s, 16QAM

Test setup:
see test report chapter 7.2 setup 1.1hgj

Test equipment:
see test report chapter 7.2: C220, R001, U311, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Thu 28/May/2020 15:20:17	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

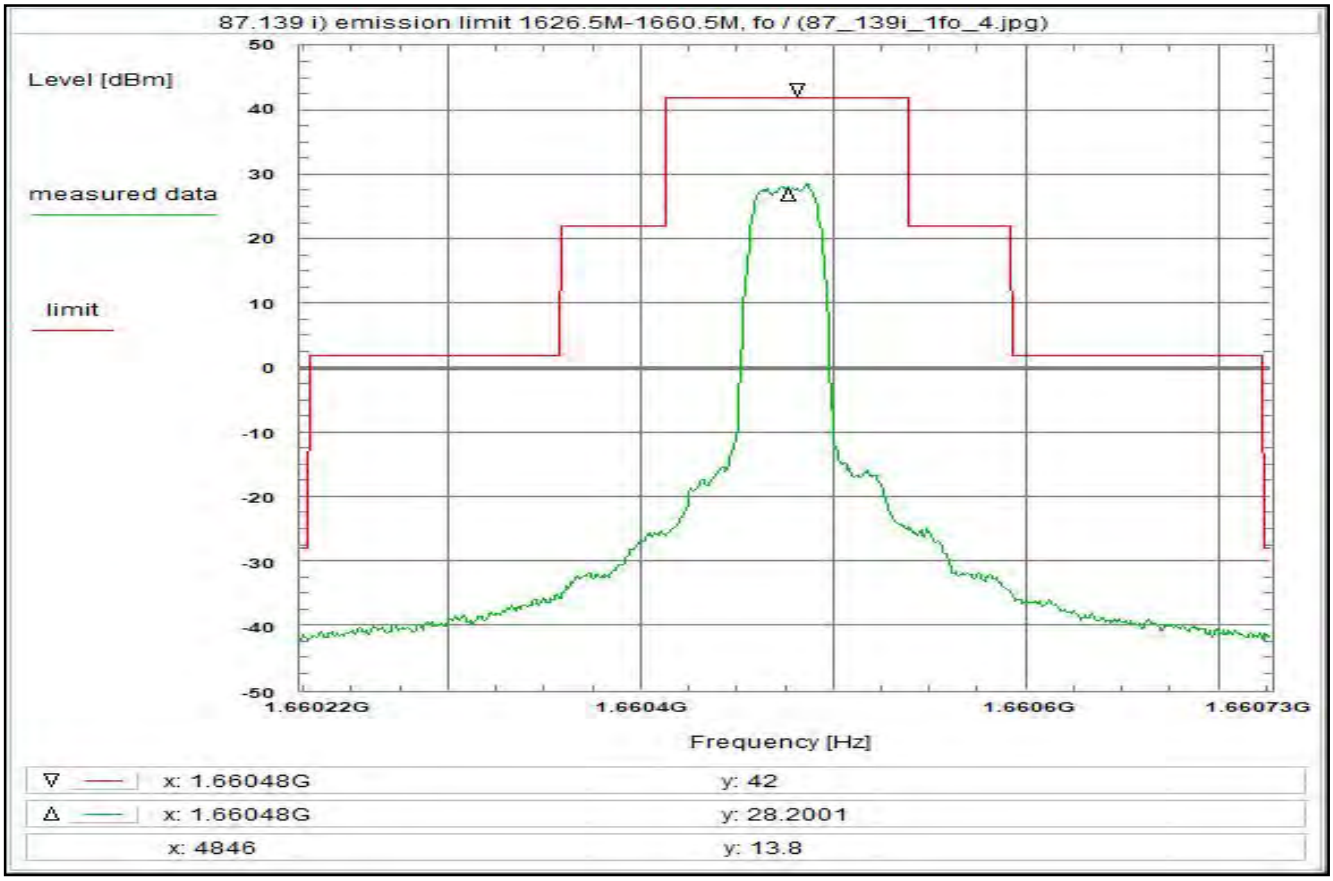
Start frequency:	1.660223	GHz
Stop frequency:	1.660727	GHz
Center frequency:	1.660475	GHz
Frequency span:	504	kHz
Resolution-BW:	3	kHz
Video-BW:	30	kHz
Input attenuation:	45	dB
Trace-Mode:	Average	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
U311+U312	+	29.3	dB
TOTAL CORRECTION:	+	30.2	dB

Remarks:
Carrier-on state / Carrier at the upper edge of the band (fo)
For EIRP calculation:
´worst-case´ = maximum antenna gain

Plot No. 251



Subclause: 87.139 i) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier at the upper edge of the band (fo)

Limit:
Limit according to 87.139(i)(1)
The mean power of emissions shall be attenuated
below the mean output power of the transmitter
in accordance with 87.139(i)(1).

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

Operating condition of DUT:
operating condition 1, see test report chapter 5.4
Class 6 ACD, R5T1XD/R20T1XD, 33.6 ksym/s, 16QAM

Test setup:
see test report chapter 7.2 setup 1.1hgj

Test equipment:
see test report chapter 7.2: C220, R001, U311, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Thu 28/May/2020 15:24:26	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

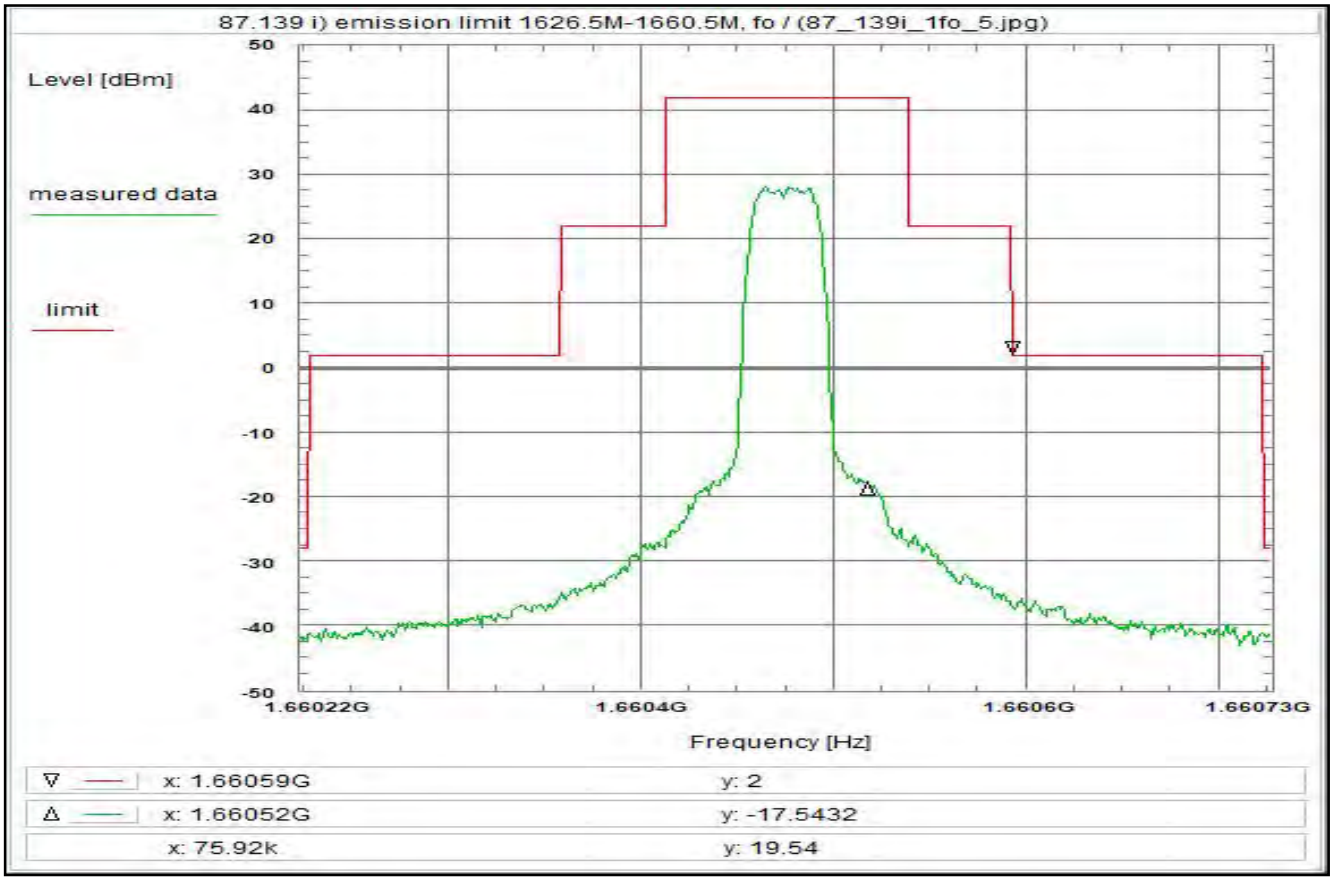
Start frequency:	1.660223	GHz
Stop frequency:	1.660727	GHz
Center frequency:	1.660475	GHz
Frequency span:	504	kHz
Resolution-BW:	3	kHz
Video-BW:	30	kHz
Input attenuation:	45	dB
Trace-Mode:	Average	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
U311+U312	+	29.3	dB
TOTAL CORRECTION:	+	30.2	dB

Remarks:
Carrier-on state / Carrier at the upper edge of the band (fo)
For EIRP calculation:
´worst-case´ = maximum antenna gain

Plot No. 252



Subclause: 87.139 i) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier at the upper edge of the band (fo)

Limit:
Limit according to 87.139(i)(1)
The mean power of emissions shall be attenuated
below the mean output power of the transmitter
in accordance with 87.139(i)(1).

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

Operating condition of DUT:
operating condition 1, see test report chapter 5.4
Class 6 ACD, R20T1QD/R80T1Q, 33.6 ksym/s, QPSK

Test setup:
see test report chapter 7.2 setup 1.1hgj

Test equipment:
see test report chapter 7.2: C220, R001, U311, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Thu 28/May/2020 15:28:37	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

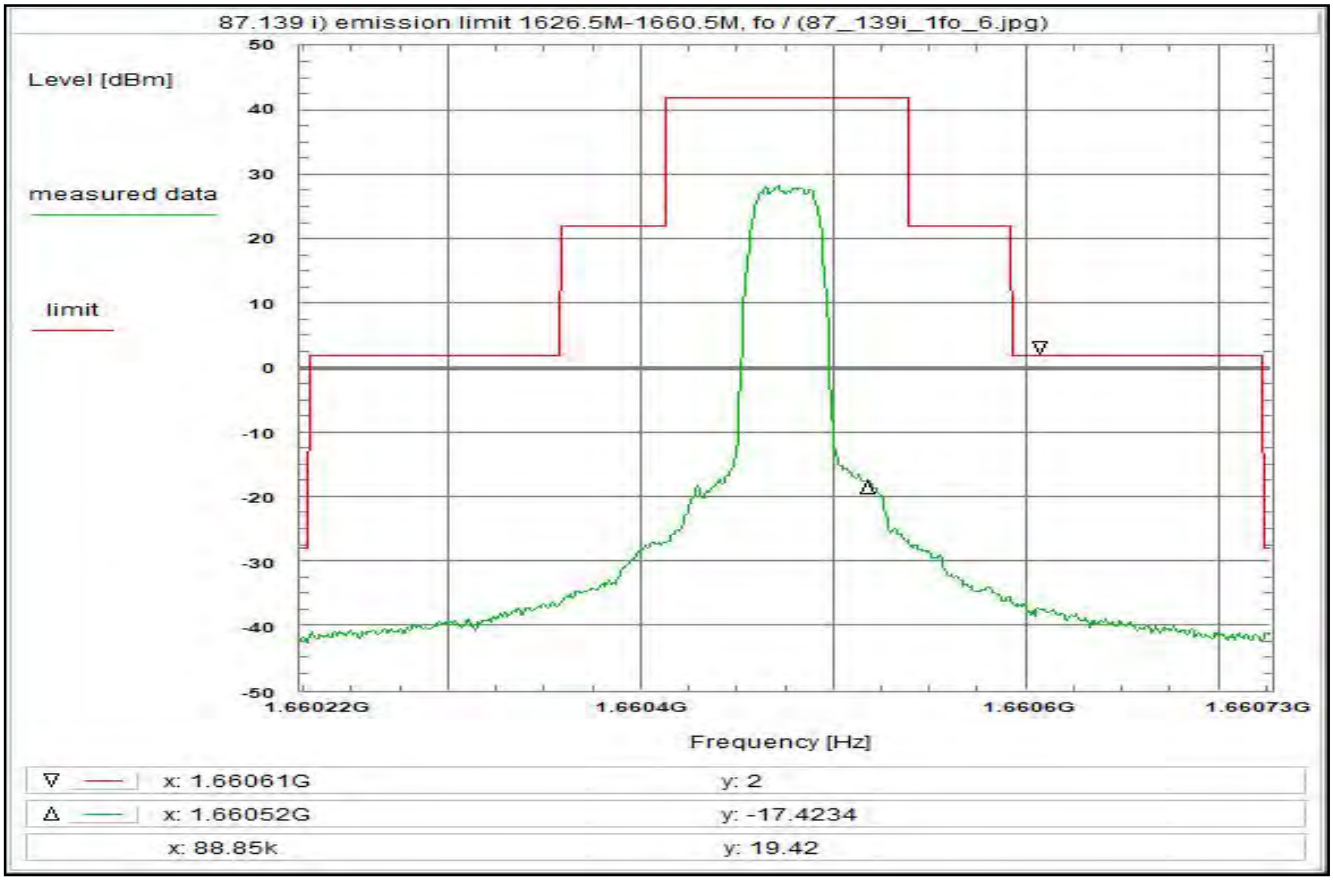
Start frequency:	1.660223	GHz
Stop frequency:	1.660727	GHz
Center frequency:	1.660475	GHz
Frequency span:	504	kHz
Resolution-BW:	3	kHz
Video-BW:	30	kHz
Input attenuation:	45	dB
Trace-Mode:	Average	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
U311+U312	+	29.3	dB
TOTAL CORRECTION:	+	30.2	dB

Remarks:
Carrier-on state / Carrier at the upper edge of the band (fo)
For EIRP calculation:
´worst-case´ = maximum antenna gain

Plot No. 253



Subclause: 87.139 i) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier at the upper edge of the band (fo)

Limit:
Limit according to 87.139(i)(1)
The mean power of emissions shall be attenuated
below the mean output power of the transmitter
in accordance with 87.139(i)(1).

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

Operating condition of DUT:
operating condition 1, see test report chapter 5.4
Class 6 HDR PIESD, R20T1QD/R80T1Q, 33.6 ksym/s, QPSK

Test setup:
see test report chapter 7.2 setup 1.1hgj

Test equipment:
see test report chapter 7.2: C220, R001, U311, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Thu 28/May/2020 15:30:22	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

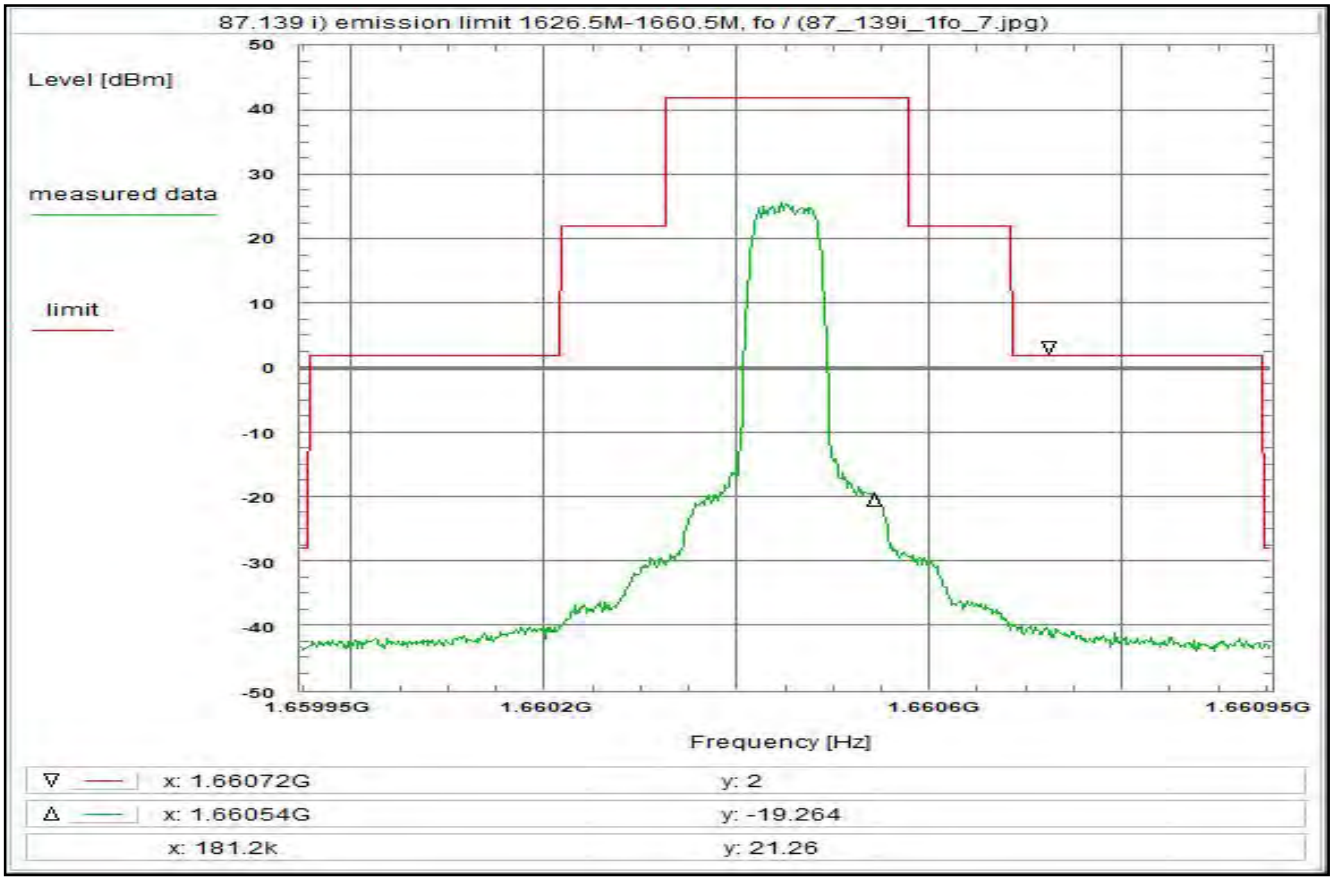
Start frequency:	1.660223	GHz
Stop frequency:	1.660727	GHz
Center frequency:	1.660475	GHz
Frequency span:	504	kHz
Resolution-BW:	3	kHz
Video-BW:	30	kHz
Input attenuation:	45	dB
Trace-Mode:	Average	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
U311+U312	+	29.3	dB
TOTAL CORRECTION:	+	30.2	dB

Remarks:
Carrier-on state / Carrier at the upper edge of the band (fo)
For EIRP calculation:
´worst-case´ = maximum antenna gain

Plot No. 254



Subclause: 87.139 i) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier at the upper edge of the band (fo)

Limit:
Limit according to 87.139(i)(1)
The mean power of emissions shall be attenuated
below the mean output power of the transmitter
in accordance with 87.139(i)(1).

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

Operating condition of DUT:
operating condition 1, see test report chapter 5.4
Class 6 HDR PIESD, R5T2XD/R20T2XD, 67.2 ksym/s, 16QAM

Test setup:
see test report chapter 7.2 setup 1.1hgj

Test equipment:
see test report chapter 7.2: C220, R001, U311, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Thu 28/May/2020 15:36:33	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

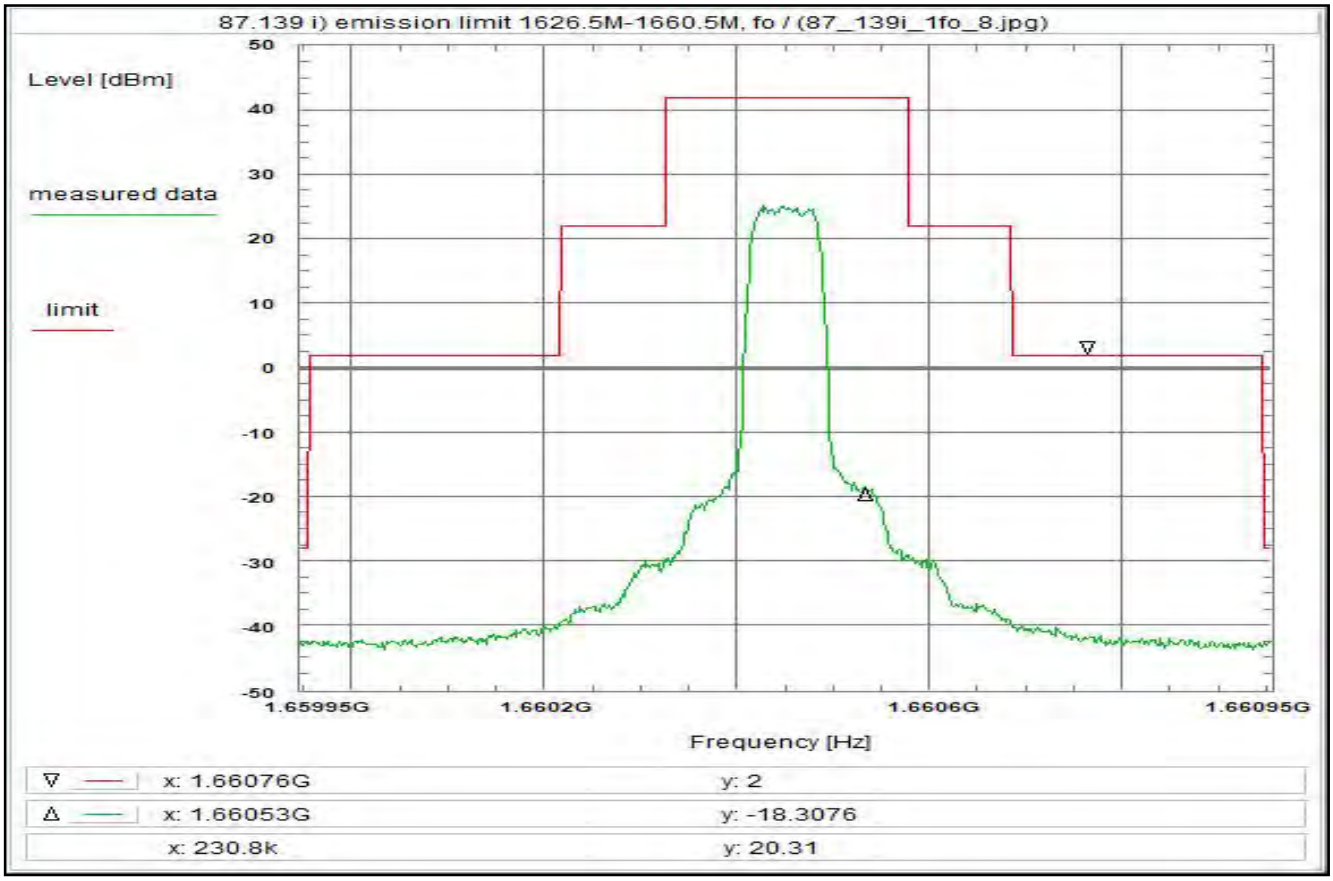
Start frequency:	1.659946	GHz
Stop frequency:	1.660954	GHz
Center frequency:	1.66045	GHz
Frequency span:	1.008	MHz
Resolution-BW:	3	kHz
Video-BW:	30	kHz
Input attenuation:	45	dB
Trace-Mode:	Average	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
U311+U312	+	29.3	dB
TOTAL CORRECTION:	+	30.2	dB

Remarks:
Carrier-on state / Carrier at the upper edge of the band (fo)
For EIRP calculation:
´worst-case´ = maximum antenna gain

Plot No. 255



Subclause: 87.139 i) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier at the upper edge of the band (fo)

Limit:
Limit according to 87.139(i)(1)
The mean power of emissions shall be attenuated
below the mean output power of the transmitter
in accordance with 87.139(i)(1).

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

Operating condition of DUT:
operating condition 1, see test report chapter 5.4
Class 6 ACD, R5T2XD/R20T2XD, 67.2 ksym/s, 16QAM

Test setup:
see test report chapter 7.2 setup 1.1hgj

Test equipment:
see test report chapter 7.2: C220, R001, U311, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Thu 28/May/2020 15:38:13	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

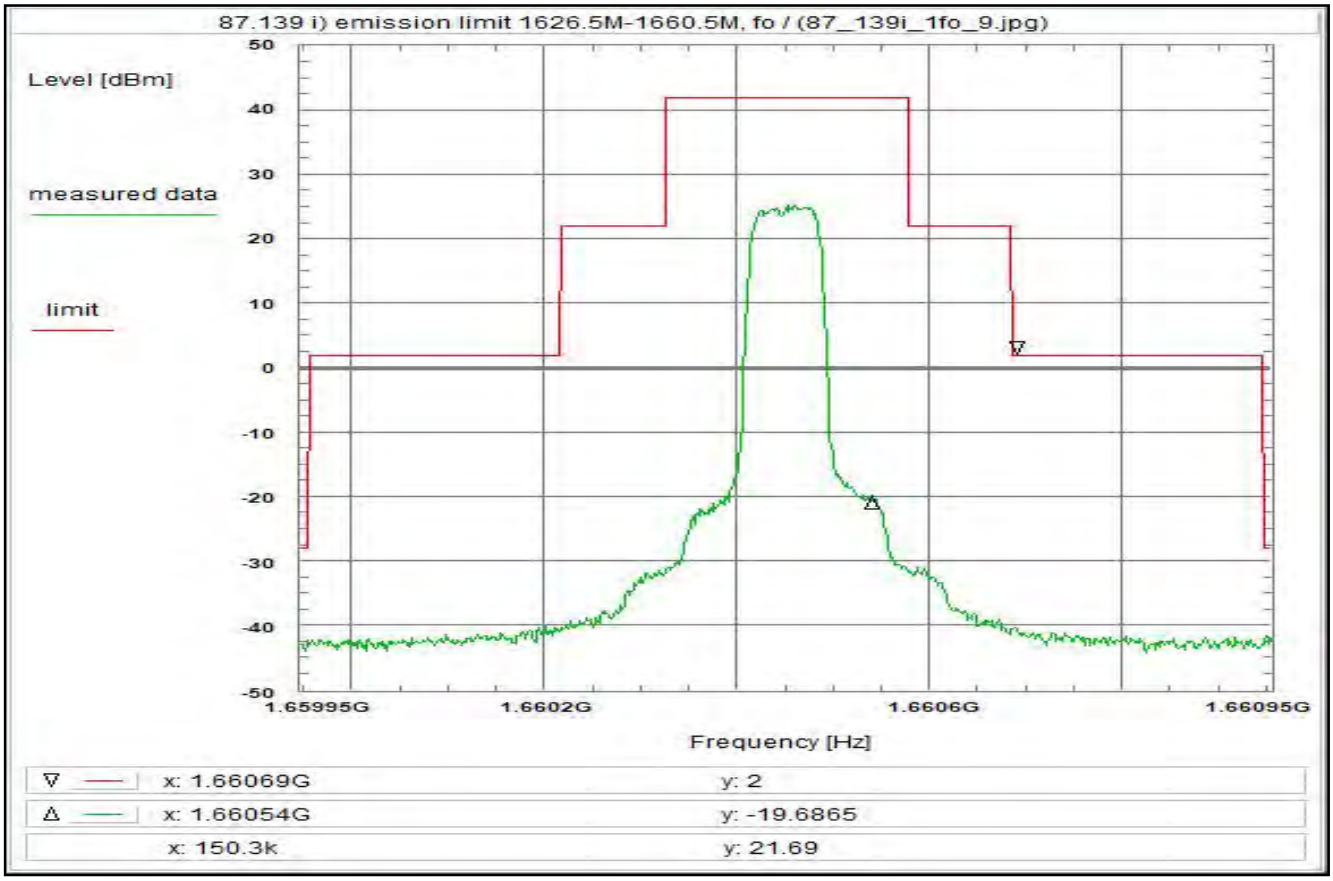
Start frequency:	1.659946	GHz
Stop frequency:	1.660954	GHz
Center frequency:	1.66045	GHz
Frequency span:	1.008	MHz
Resolution-BW:	3	kHz
Video-BW:	30	kHz
Input attenuation:	45	dB
Trace-Mode:	Average	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
U311+U312	+	29.3	dB
TOTAL CORRECTION:	+	30.2	dB

Remarks:
Carrier-on state / Carrier at the upper edge of the band (fo)
For EIRP calculation:
´worst-case´ = maximum antenna gain

Plot No. 256



Subclause: 87.139 i) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier at the upper edge of the band (fo)

Limit:
Limit according to 87.139(i)(1)
The mean power of emissions shall be attenuated
below the mean output power of the transmitter
in accordance with 87.139(i)(1).

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

Operating condition of DUT:
operating condition 1, see test report chapter 5.4
Class 6 ACD, R5T2QD/R20T2XQD, 67.2 ksym/s, QPSK

Test setup:
see test report chapter 7.2 setup 1.1hgj

Test equipment:
see test report chapter 7.2: C220, R001, U311, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Thu 28/May/2020 15:49:56	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

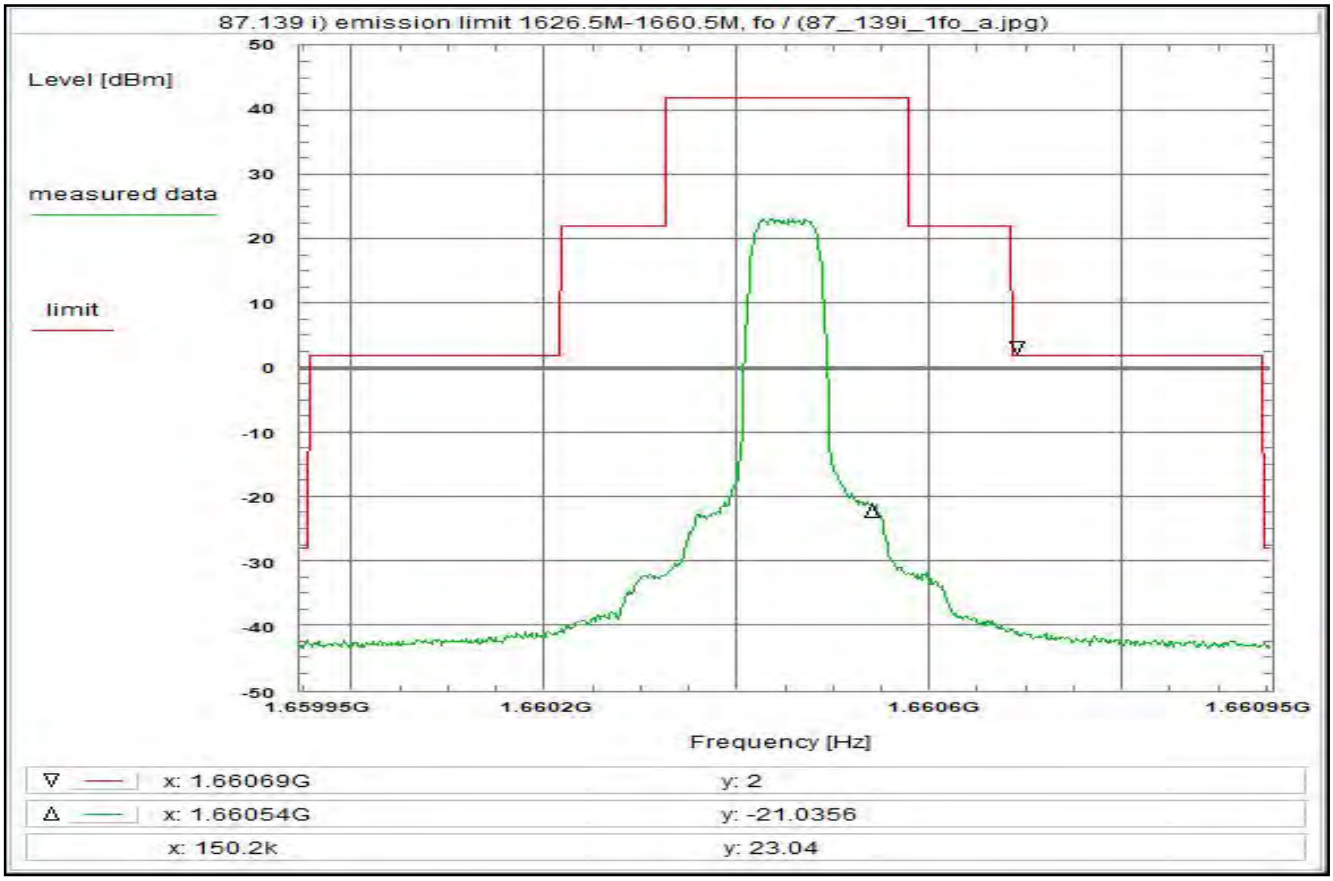
Start frequency:	1.659946	GHz
Stop frequency:	1.660954	GHz
Center frequency:	1.66045	GHz
Frequency span:	1.008	MHz
Resolution-BW:	3	kHz
Video-BW:	30	kHz
Input attenuation:	45	dB
Trace-Mode:	Average	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
U311+U312	+	29.3	dB
TOTAL CORRECTION:	+	30.2	dB

Remarks:
Carrier-on state / Carrier at the upper edge of the band (fo)
For EIRP calculation:
´worst-case´ = maximum antenna gain

Plot No. 257



Subclause: 87.139 i) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier at the upper edge of the band (fo)

Limit:
Limit according to 87.139(i)(1)
The mean power of emissions shall be attenuated
below the mean output power of the transmitter
in accordance with 87.139(i)(1).

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

Operating condition of DUT:
operating condition 1, see test report chapter 5.4
Class 6 HDR PIESD, R5T2QD/R20T2QD, 67.2 ksym/s, QPSK

Test setup:
see test report chapter 7.2 setup 1.1hgj

Test equipment:
see test report chapter 7.2: C220, R001, U311, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Thu 28/May/2020 15:52:05	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

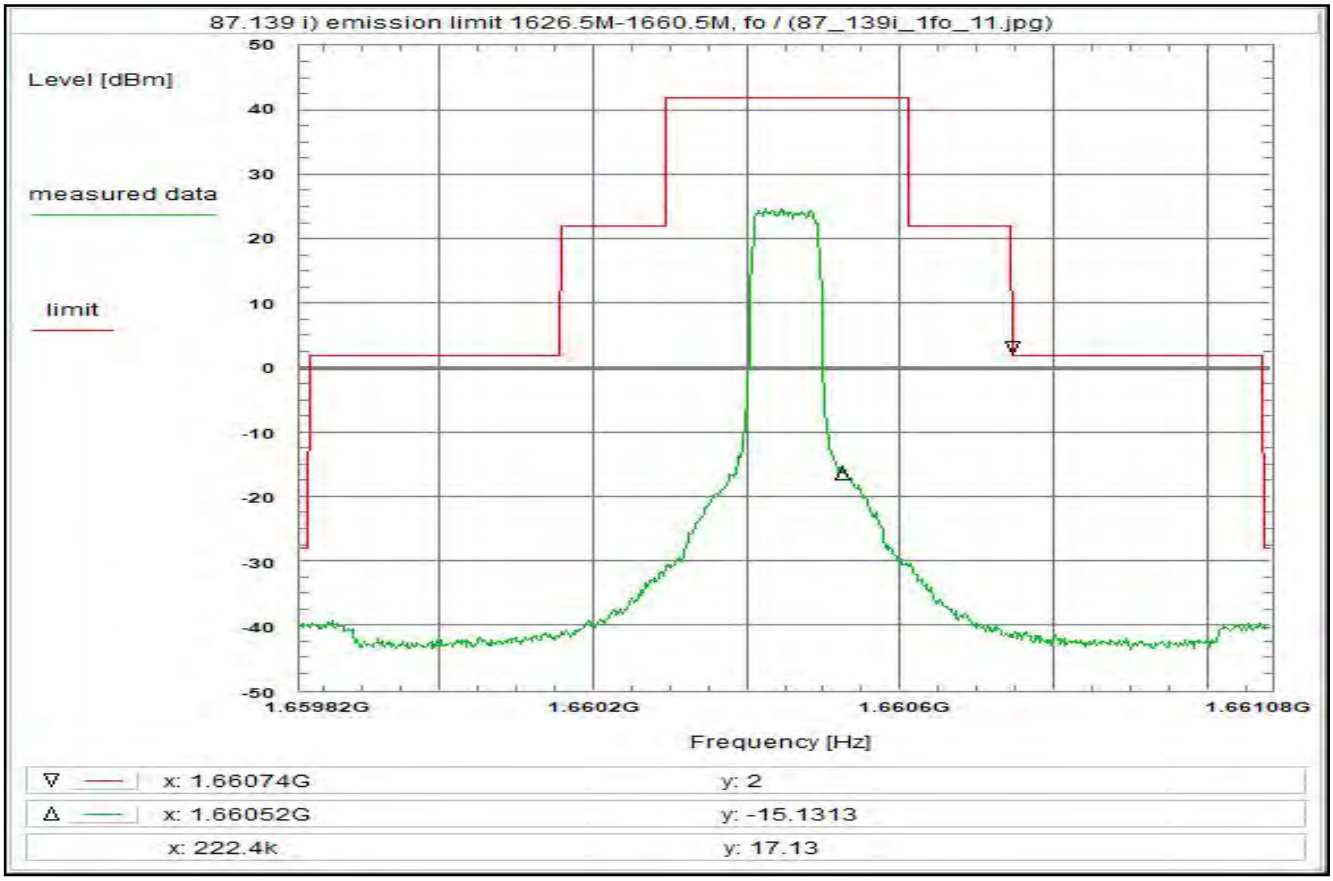
Start frequency:	1.659946	GHz
Stop frequency:	1.660954	GHz
Center frequency:	1.66045	GHz
Frequency span:	1.008	MHz
Resolution-BW:	3	kHz
Video-BW:	30	kHz
Input attenuation:	45	dB
Trace-Mode:	Average	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
U311+U312	+	29.3	dB
TOTAL CORRECTION:	+	30.2	dB

Remarks:
Carrier-on state / Carrier at the upper edge of the band (fo)
For EIRP calculation:
´worst-case´ = maximum antenna gain

Plot No. 258



Subclause: 87.139 i) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier at the upper edge of the band (fo)

Limit:
Limit according to 87.139(i)(1)
The mean power of emissions shall be attenuated
below the mean output power of the transmitter
in accordance with 87.139(i)(1).

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

Operating condition of DUT:
operating condition 1, see test report chapter 5.4
Class 6 HDR PIESD, FR80T2.5X16, 84 ksym/s, 16QAM

Test setup:
see test report chapter 7.2 setup 1.1hgj

Test equipment:
see test report chapter 7.2: C220, R001, U311, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Thu 28/May/2020 15:59:07	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

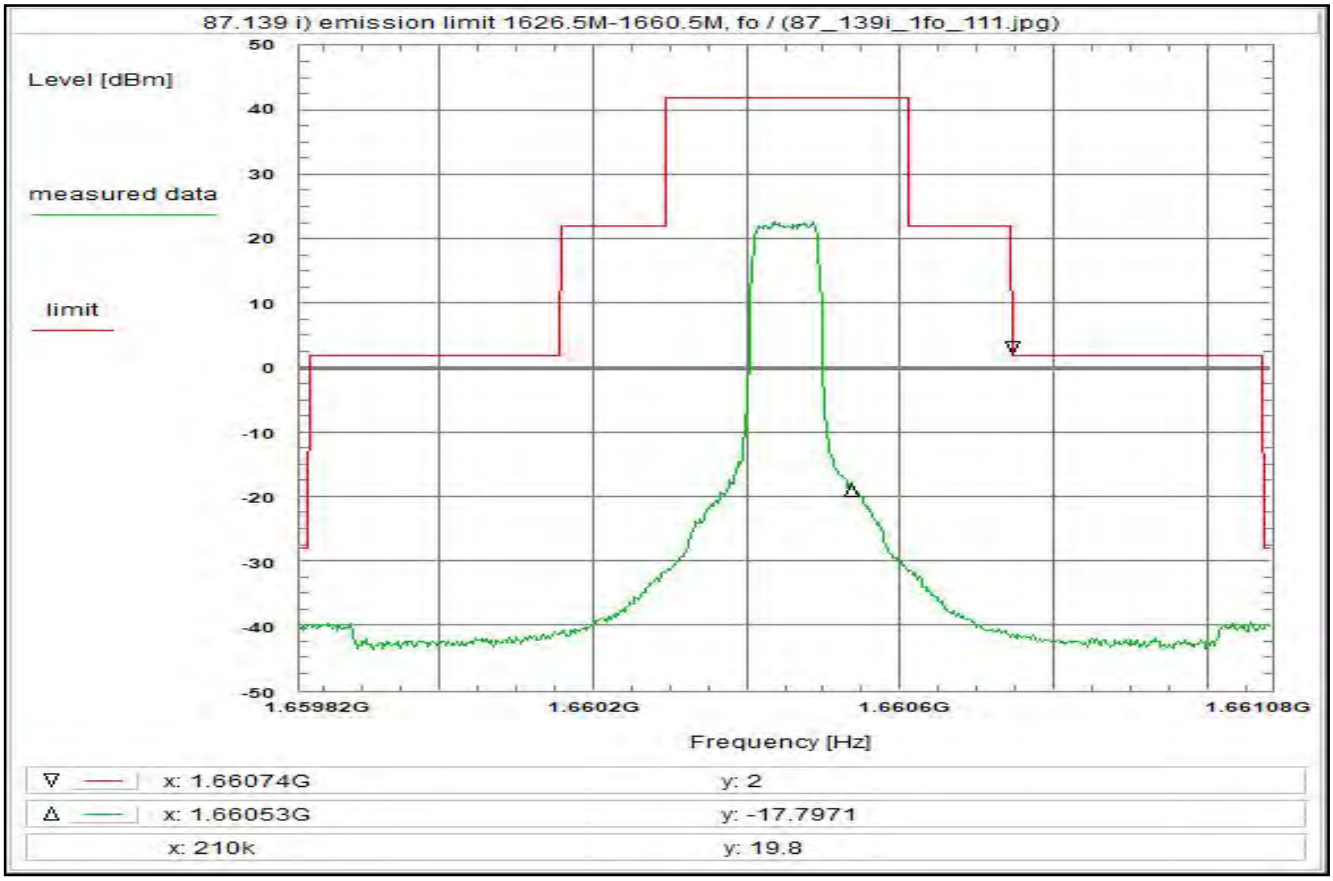
Start frequency:	1.65982	GHz
Stop frequency:	1.66108	GHz
Center frequency:	1.66045	GHz
Frequency span:	1.26	MHz
Resolution-BW:	3	kHz
Video-BW:	30	kHz
Input attenuation:	45	dB
Trace-Mode:	Average	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
U311+U312	+	29.3	dB
TOTAL CORRECTION:	+	30.2	dB

Remarks:
Carrier-on state / Carrier at the upper edge of the band (fo)
For EIRP calculation:
´worst-case´ = maximum antenna gain

Plot No. 259



Subclause: 87.139 i) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier at the upper edge of the band (fo)

Limit:
Limit according to 87.139(i)(1)
The mean power of emissions shall be attenuated
below the mean output power of the transmitter
in accordance with 87.139(i)(1).

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

Operating condition of DUT:
operating condition 1, see test report chapter 5.4
Class 6 HDR PIESD, FR80T2.5X32, 84 ksym/s, 32QAM

Test setup:
see test report chapter 7.2 setup 1.1hgj

Test equipment:
see test report chapter 7.2: C220, R001, U311, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Thu 28/May/2020 16:00:11	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

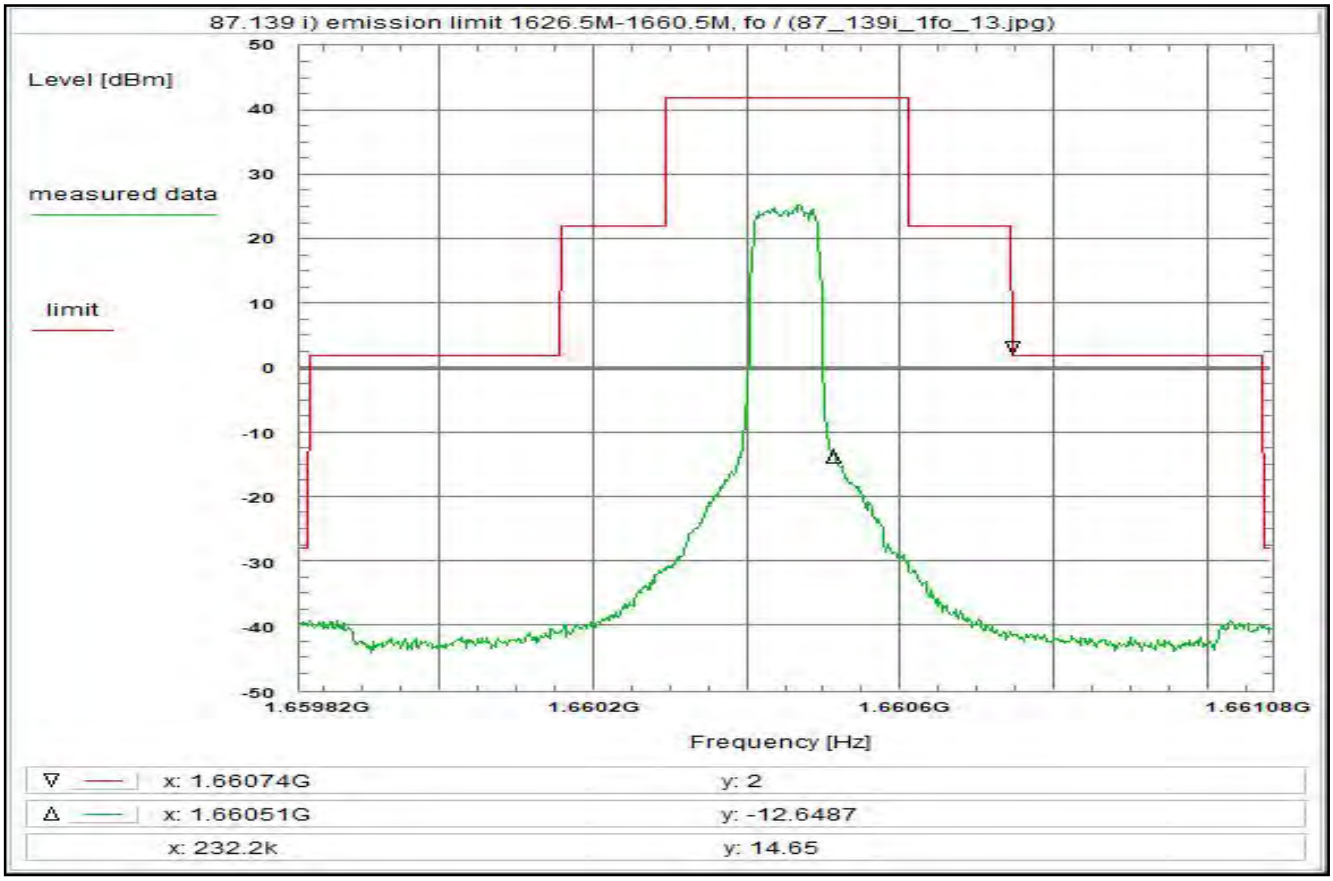
Start frequency:	1.65982	GHz
Stop frequency:	1.66108	GHz
Center frequency:	1.66045	GHz
Frequency span:	1.26	MHz
Resolution-BW:	3	kHz
Video-BW:	30	kHz
Input attenuation:	45	dB
Trace-Mode:	Average	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
U311+U312	+	29.3	dB
TOTAL CORRECTION:	+	30.2	dB

Remarks:
Carrier-on state / Carrier at the upper edge of the band (fo)
For EIRP calculation:
´worst-case´ = maximum antenna gain

Plot No. 260



Subclause: 87.139 i) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier at the upper edge of the band (fo)

Limit:
Limit according to 87.139(i)(1)
The mean power of emissions shall be attenuated
below the mean output power of the transmitter
in accordance with 87.139(i)(1).

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

Operating condition of DUT:
operating condition 1, see test report chapter 5.4
Class 6 HDR PIESD, FR80T2.5X64, 84 ksym/s, 64QAM

Test setup:
see test report chapter 7.2 setup 1.1hgj

Test equipment:
see test report chapter 7.2: C220, R001, U311, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Thu 28/May/2020 16:05:16	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

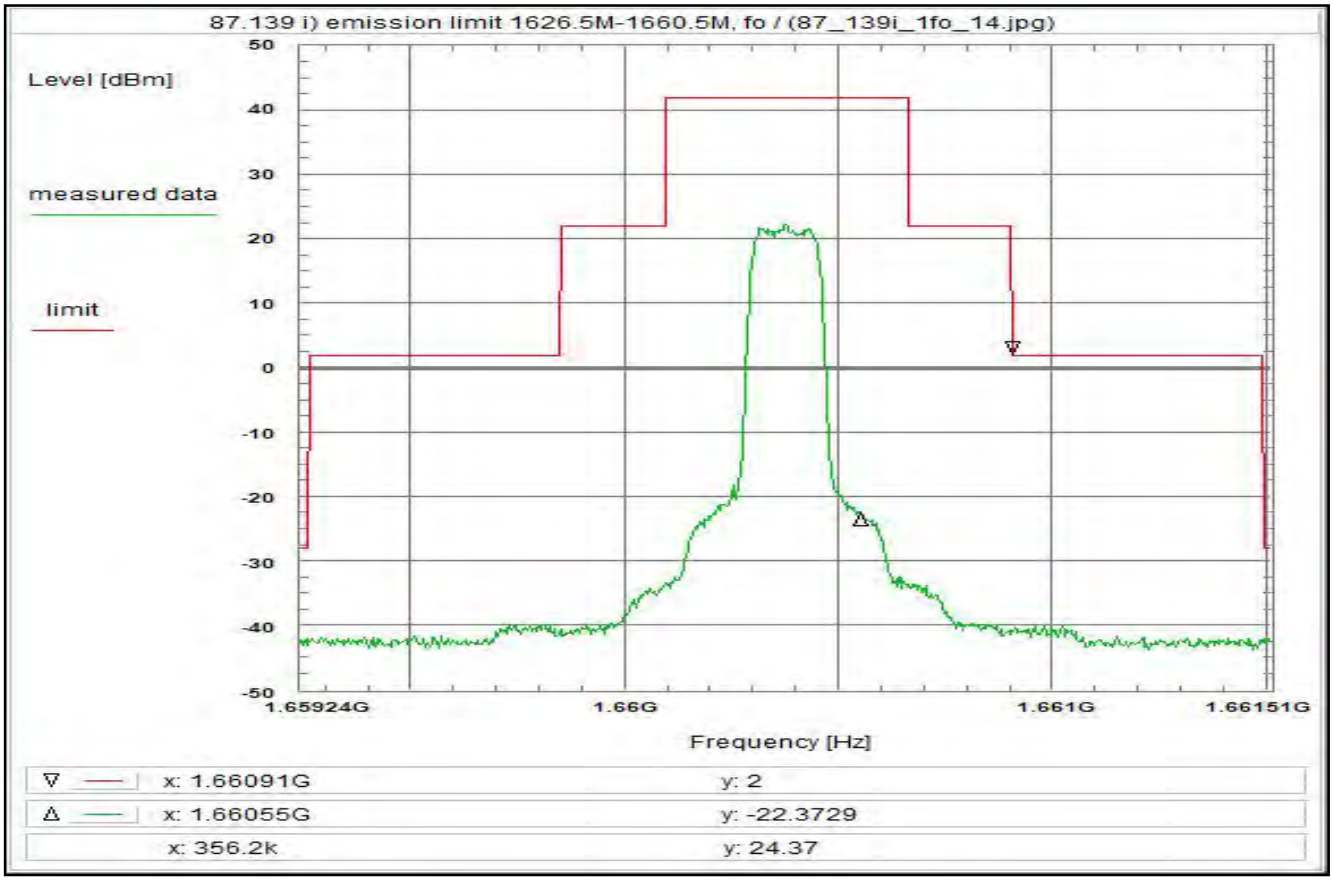
Start frequency:	1.65982	GHz
Stop frequency:	1.66108	GHz
Center frequency:	1.66045	GHz
Frequency span:	1.26	MHz
Resolution-BW:	3	kHz
Video-BW:	30	kHz
Input attenuation:	45	dB
Trace-Mode:	Average	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
U311+U312	+	29.3	dB
TOTAL CORRECTION:	+	30.2	dB

Remarks:
Carrier-on state / Carrier at the upper edge of the band (fo)
For EIRP calculation:
´worst-case´ = maximum antenna gain

Plot No. 261



Subclause: 87.139 i) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier at the upper edge of the band (fo)

Limit:
Limit according to 87.139(i)(1)
The mean power of emissions shall be attenuated
below the mean output power of the transmitter
in accordance with 87.139(i)(1).

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

Operating condition of DUT:
operating condition 1, see test report chapter 5.4
Class 6 HDR PIESD, R5T4.5XD/R20T4.5XD, 151.2 ksym/s, 16QAM

Test setup:
see test report chapter 7.2 setup 1.1hgj

Test equipment:
see test report chapter 7.2: C220, R001, U311, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Thu 28/May/2020 16:07:43	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

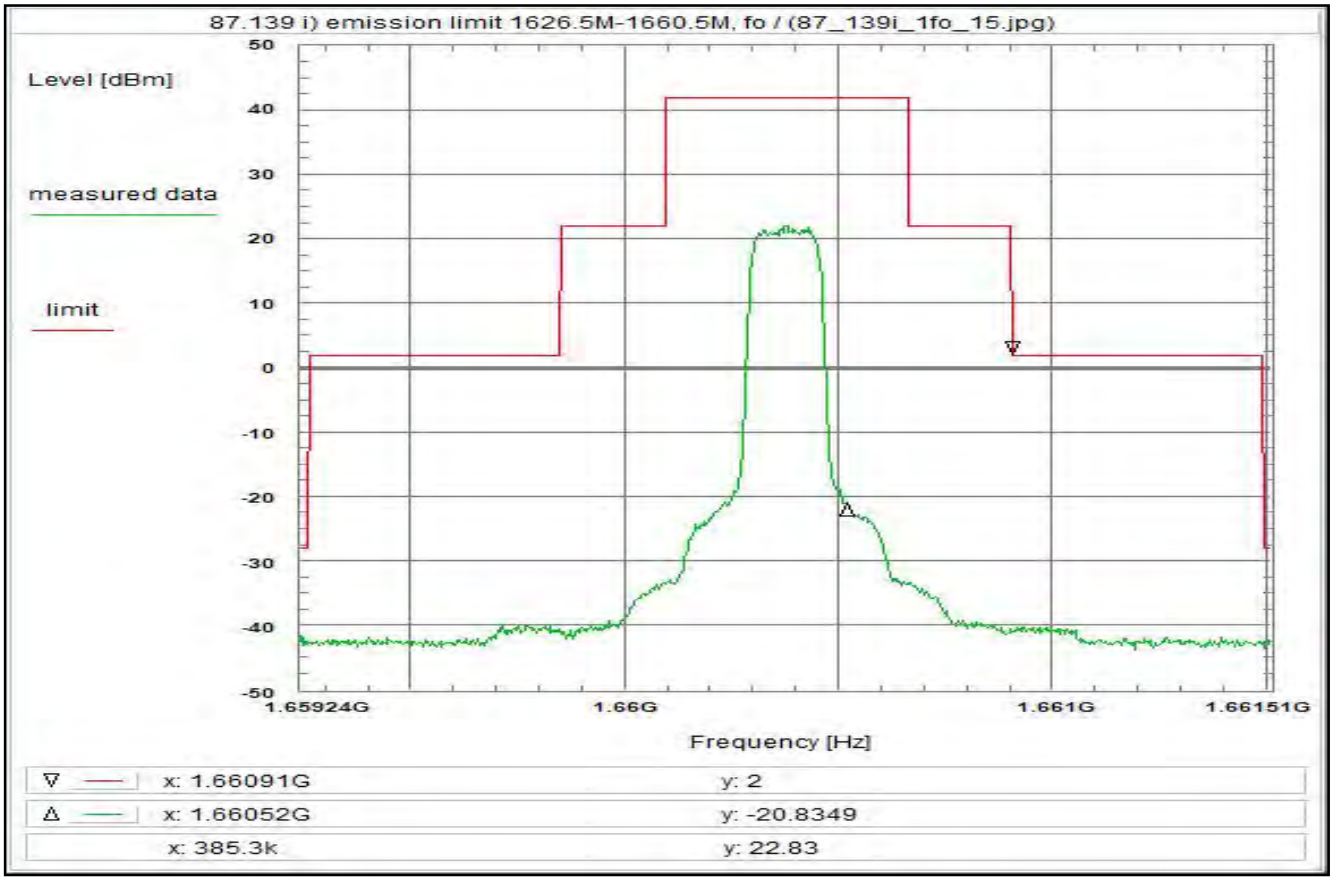
Start frequency:	1.659241	GHz
Stop frequency:	1.661509	GHz
Center frequency:	1.660375	GHz
Frequency span:	2.268	MHz
Resolution-BW:	3	kHz
Video-BW:	30	kHz
Input attenuation:	45	dB
Trace-Mode:	Average	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
U311+U312	+	29.3	dB
TOTAL CORRECTION:	+	30.2	dB

Remarks:
Carrier-on state / Carrier at the upper edge of the band (fo)
For EIRP calculation:
´worst-case´ = maximum antenna gain

Plot No. 262



Subclause: 87.139 i) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier at the upper edge of the band (fo)

Limit:
Limit according to 87.139(i)(1)
The mean power of emissions shall be attenuated
below the mean output power of the transmitter
in accordance with 87.139(i)(1).

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

Operating condition of DUT:
operating condition 1, see test report chapter 5.4
Class 6 ACD, R5T4.5XD/R20T4.5XD, 151.2 ksym/s, 16QAM

Test setup:
see test report chapter 7.2 setup 1.1hgj

Test equipment:
see test report chapter 7.2: C220, R001, U311, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Thu 28/May/2020 16:13:29	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

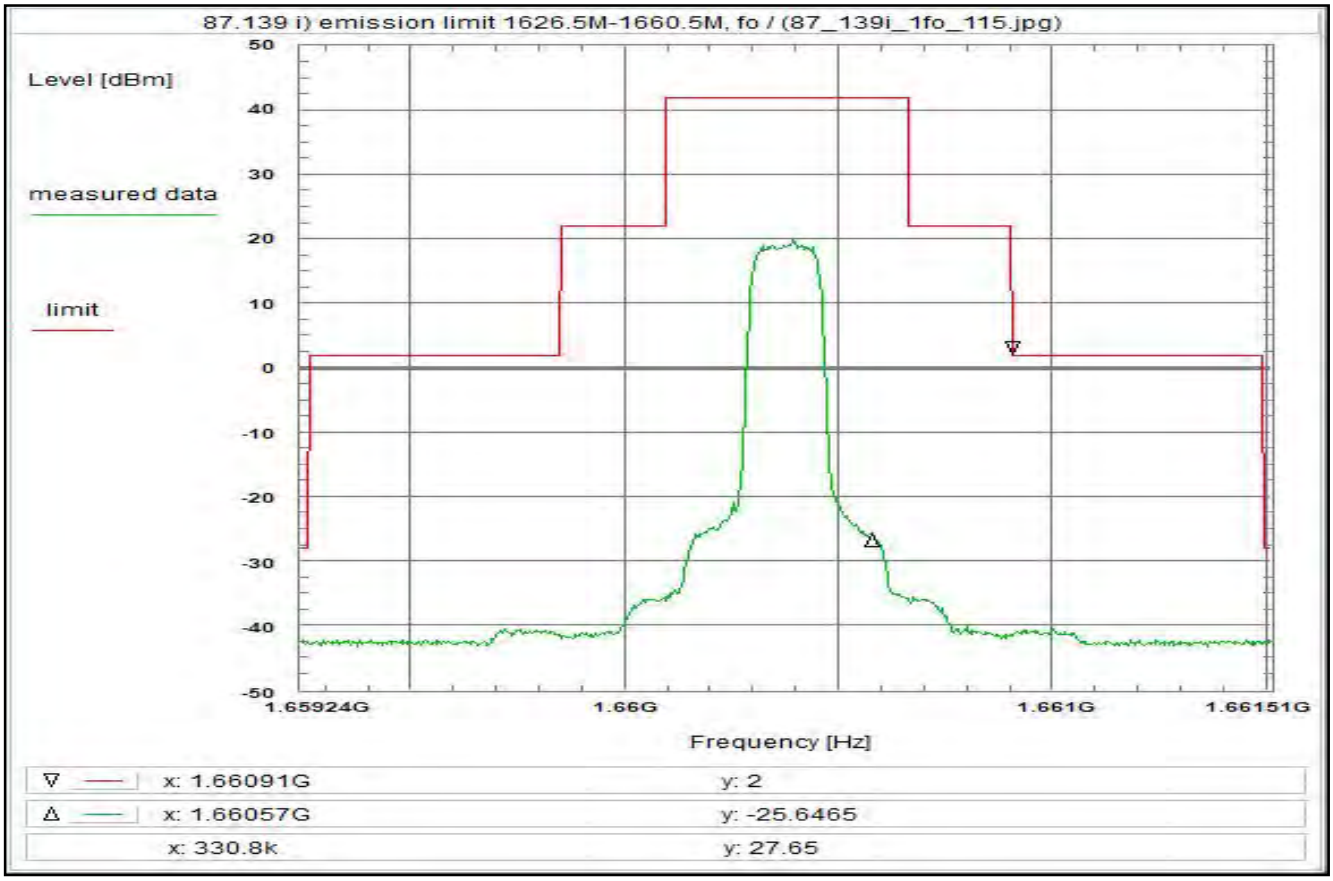
Start frequency:	1.659241	GHz
Stop frequency:	1.661509	GHz
Center frequency:	1.660375	GHz
Frequency span:	2.268	MHz
Resolution-BW:	3	kHz
Video-BW:	30	kHz
Input attenuation:	45	dB
Trace-Mode:	Average	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
U311+U312	+	29.3	dB
TOTAL CORRECTION:	+	30.2	dB

Remarks:
Carrier-on state / Carrier at the upper edge of the band (fo)
For EIRP calculation:
´worst-case´ = maximum antenna gain

Plot No. 263



Subclause: 87.139 i) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier at the upper edge of the band (fo)

Limit:
Limit according to 87.139(i)(1)
The mean power of emissions shall be attenuated
below the mean output power of the transmitter
in accordance with 87.139(i)(1).

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

Operating condition of DUT:
operating condition 1, see test report chapter 5.4
Class 6 ACD, R5T4.5QD/R20T4.5QD, 151.2 ksym/s, QPSK

Test setup:
see test report chapter 7.2 setup 1.1hgj

Test equipment:
see test report chapter 7.2: C220, R001, U311, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Thu 28/May/2020 16:15:49	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

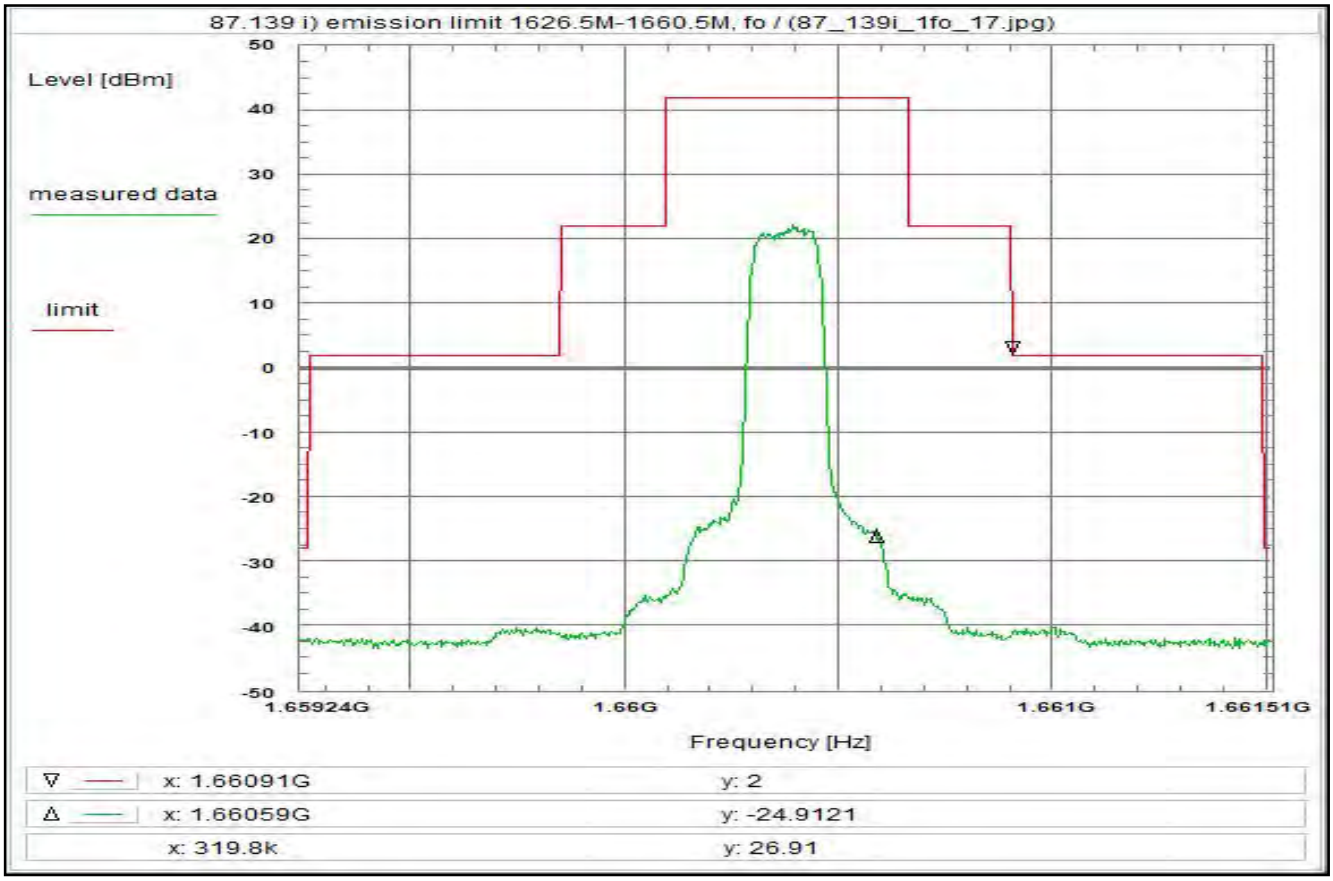
Start frequency:	1.659241	GHz
Stop frequency:	1.661509	GHz
Center frequency:	1.660375	GHz
Frequency span:	2.268	MHz
Resolution-BW:	3	kHz
Video-BW:	30	kHz
Input attenuation:	45	dB
Trace-Mode:	Average	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
U311+U312	+	29.3	dB
TOTAL CORRECTION:	+	30.2	dB

Remarks:
Carrier-on state / Carrier at the upper edge of the band (fo)
For EIRP calculation:
´worst-case´ = maximum antenna gain

Plot No. 264



Subclause: 87.139 i) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier at the upper edge of the band (fo)

Limit:
Limit according to 87.139(i)(1)
The mean power of emissions shall be attenuated
below the mean output power of the transmitter
in accordance with 87.139(i)(1).

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

Operating condition of DUT:
operating condition 1, see test report chapter 5.4
Class 6 HDR PIESD, R5T4.5QD/R20T4.5QD, 151.2 ksym/s, QPSK

Test setup:
see test report chapter 7.2 setup 1.1hgj

Test equipment:
see test report chapter 7.2: C220, R001, U311, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Thu 28/May/2020 16:22:01	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

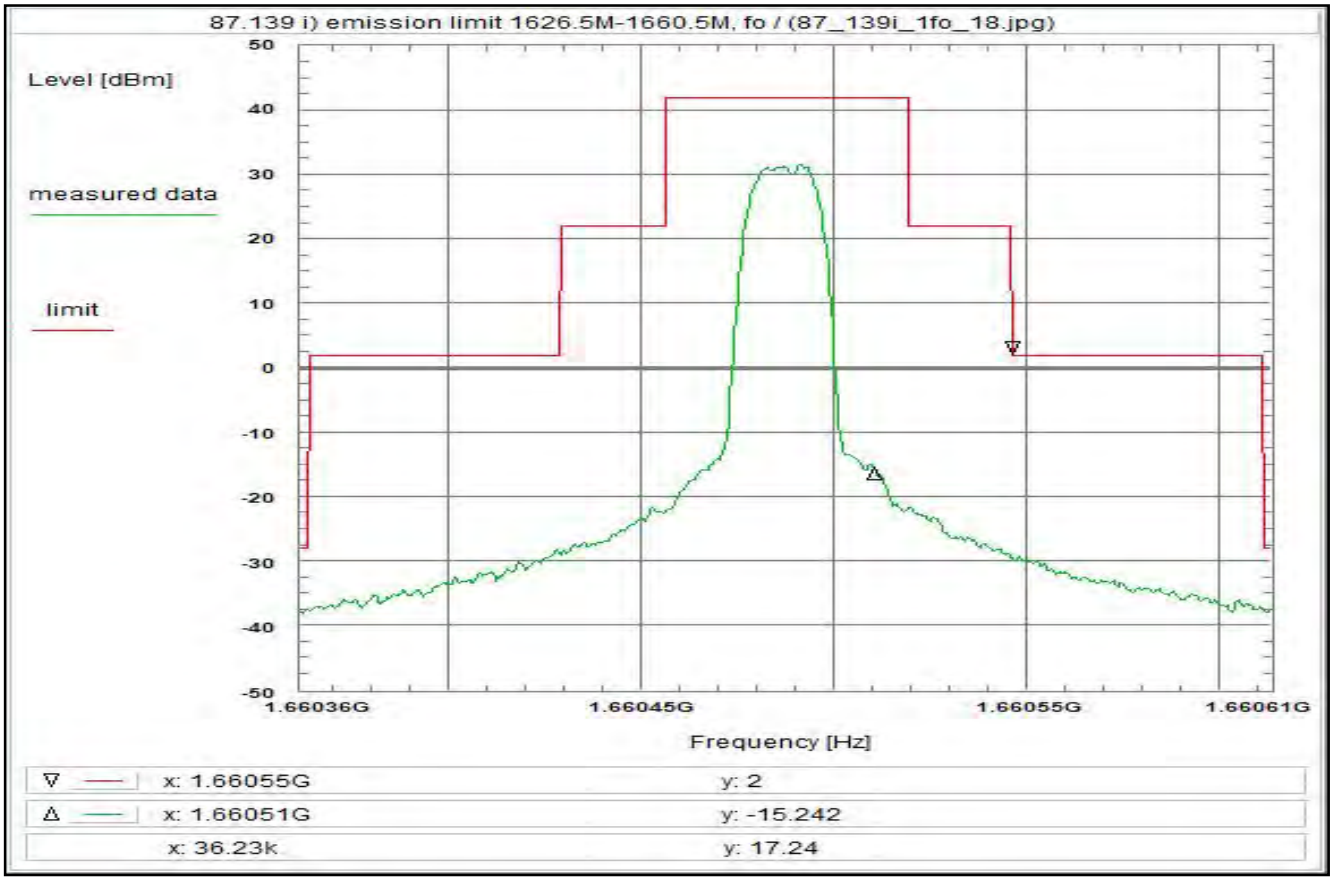
Start frequency:	1.659241	GHz
Stop frequency:	1.661509	GHz
Center frequency:	1.660375	GHz
Frequency span:	2.268	MHz
Resolution-BW:	3	kHz
Video-BW:	30	kHz
Input attenuation:	45	dB
Trace-Mode:	Average	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
U311+U312	+	29.3	dB
TOTAL CORRECTION:	+	30.2	dB

Remarks:
Carrier-on state / Carrier at the upper edge of the band (fo)
For EIRP calculation:
´worst-case´ = maximum antenna gain

Plot No. 265



Subclause: 87.139 i) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier at the upper edge of the band (fo)

Limit:
Limit according to 87.139(i)(1)
The mean power of emissions shall be attenuated
below the mean output power of the transmitter
in accordance with 87.139(i)(1).

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

Operating condition of DUT:
operating condition 1, see test report chapter 5.4
Class 6 HDR PIESD, R20T0.5QD, 16.8 ksym/s, QPSK

Test setup:
see test report chapter 7.2 setup 1.1hgj

Test equipment:
see test report chapter 7.2: C220, R001, U311, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Thu 28/May/2020 16:26:59	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

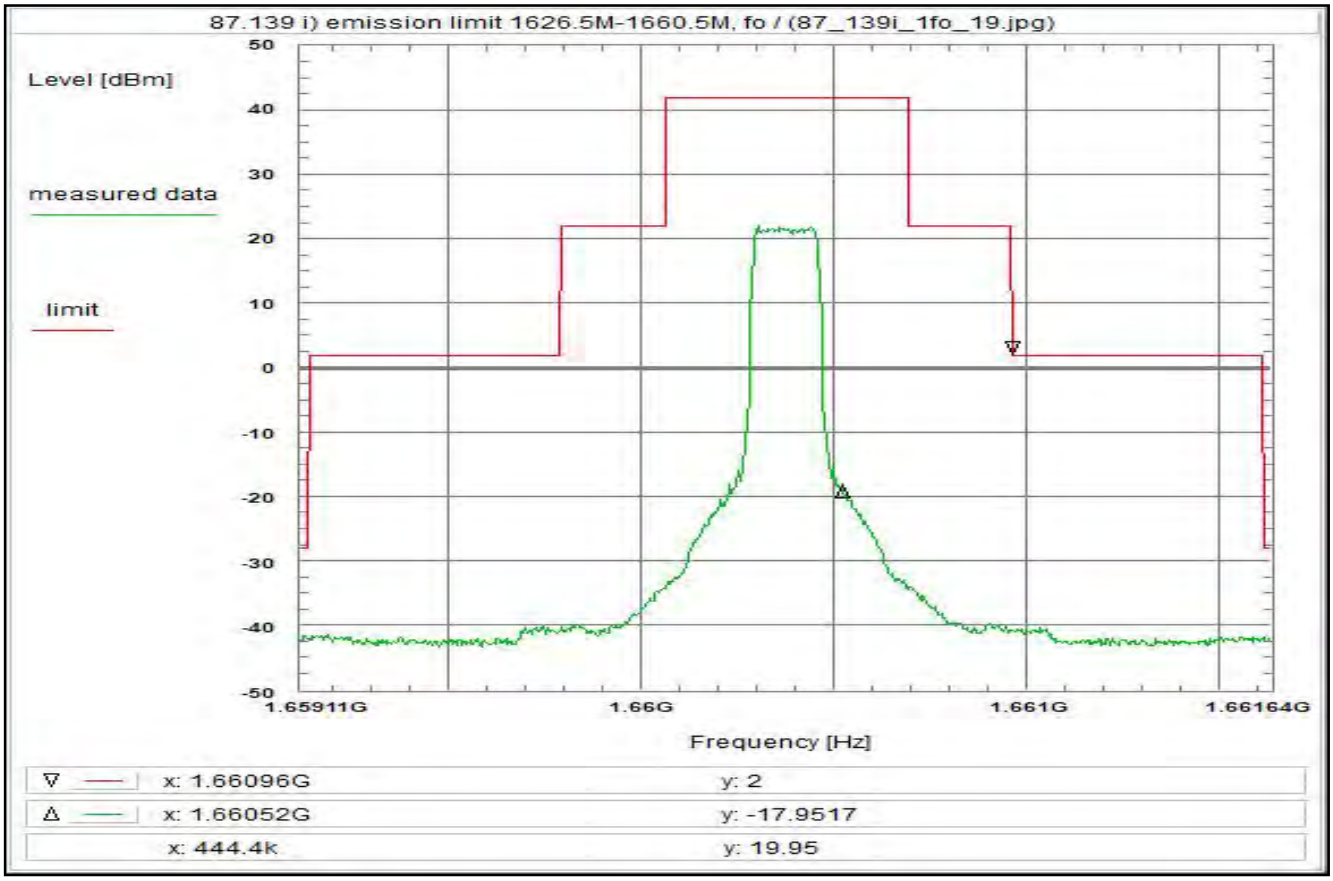
Start frequency:	1.6603615	GHz
Stop frequency:	1.6606135	GHz
Center frequency:	1.6604875	GHz
Frequency span:	252	kHz
Resolution-BW:	3	kHz
Video-BW:	30	kHz
Input attenuation:	45	dB
Trace-Mode:	Average	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
U311+U312	+	29.3	dB
TOTAL CORRECTION:	+	30.2	dB

Remarks:
Carrier-on state / Carrier at the upper edge of the band (fo)
For EIRP calculation:
´worst-case´ = maximum antenna gain

Plot No. 266



Subclause: 87.139 i) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier at the upper edge of the band (fo)

Limit:
Limit according to 87.139(i)(1)
The mean power of emissions shall be attenuated
below the mean output power of the transmitter
in accordance with 87.139(i)(1).

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

Operating condition of DUT:
operating condition 1, see test report chapter 5.4
Class 6 HDR PIESD, FR80T5X16, 168 ksym/s, 16QAM

Test setup:
see test report chapter 7.2 setup 1.1hgj

Test equipment:
see test report chapter 7.2: C220, R001, U311, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Thu 28/May/2020 16:33:03	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

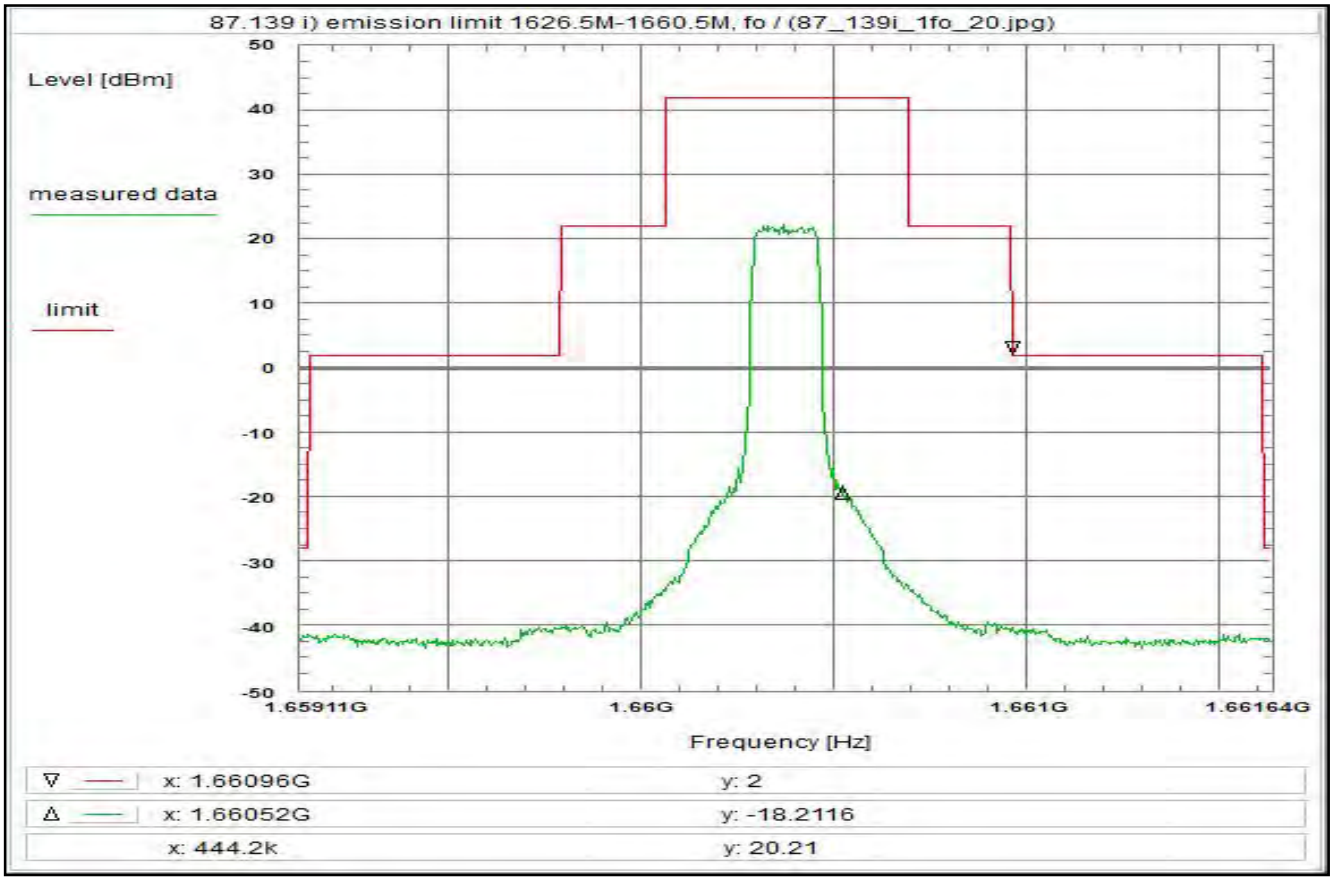
Start frequency:	1.659115	GHz
Stop frequency:	1.661635	GHz
Center frequency:	1.660375	GHz
Frequency span:	2.52	MHz
Resolution-BW:	3	kHz
Video-BW:	30	kHz
Input attenuation:	45	dB
Trace-Mode:	Average	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
U311+U312	+	29.3	dB
TOTAL CORRECTION:	+	30.2	dB

Remarks:
Carrier-on state / Carrier at the upper edge of the band (fo)
For EIRP calculation:
´worst-case´ = maximum antenna gain

Plot No. 267



Subclause: 87.139 i) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier at the upper edge of the band (fo)

Limit:
Limit according to 87.139(i)(1)
The mean power of emissions shall be attenuated
below the mean output power of the transmitter
in accordance with 87.139(i)(1).

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

Operating condition of DUT:
operating condition 1, see test report chapter 5.4
Class 6 HDR PIESD, FR80T5X32, 168 ksym/s, 32QAM

Test setup:
see test report chapter 7.2 setup 1.1hgj

Test equipment:
see test report chapter 7.2: C220, R001, U311, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Thu 28/May/2020 16:34:14	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

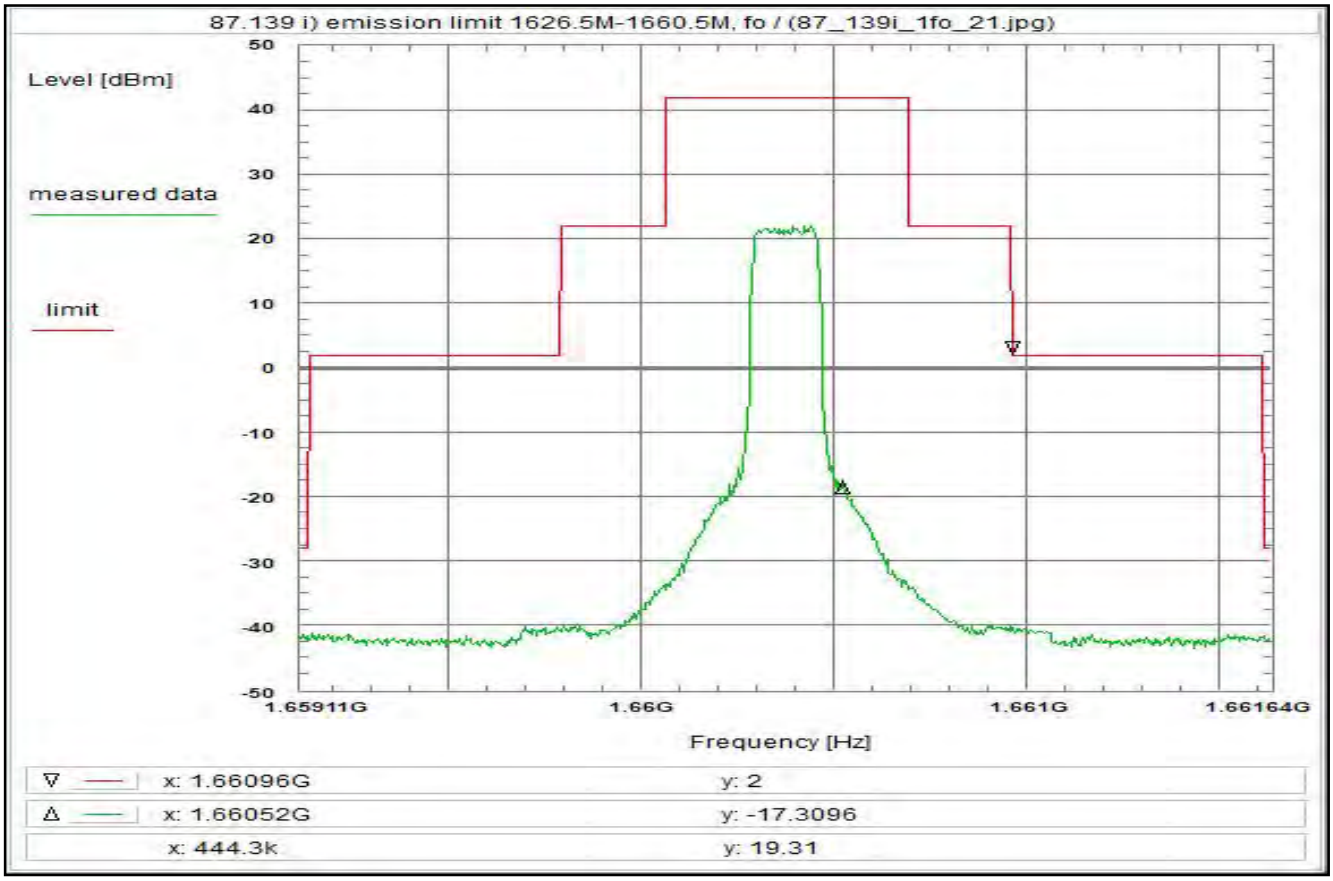
Start frequency:	1.659115	GHz
Stop frequency:	1.661635	GHz
Center frequency:	1.660375	GHz
Frequency span:	2.52	MHz
Resolution-BW:	3	kHz
Video-BW:	30	kHz
Input attenuation:	45	dB
Trace-Mode:	Average	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
U311+U312	+	29.3	dB
TOTAL CORRECTION:	+	30.2	dB

Remarks:
Carrier-on state / Carrier at the upper edge of the band (fo)
For EIRP calculation:
´worst-case´ = maximum antenna gain

Plot No. 268



Subclause: 87.139 i) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier at the upper edge of the band (fo)

Limit:
Limit according to 87.139(i)(1)
The mean power of emissions shall be attenuated
below the mean output power of the transmitter
in accordance with 87.139(i)(1).

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

Operating condition of DUT:
operating condition 1, see test report chapter 5.4
Class 6 HDR PIESD, FR80T5X64, 168 ksym/s, 64QAM

Test setup:
see test report chapter 7.2 setup 1.1hgj

Test equipment:
see test report chapter 7.2: C220, R001, U311, U312

Remark:

Test result: **Test passed**

Environment condition:

Date & Time:	Thu 28/May/2020 16:38:44	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

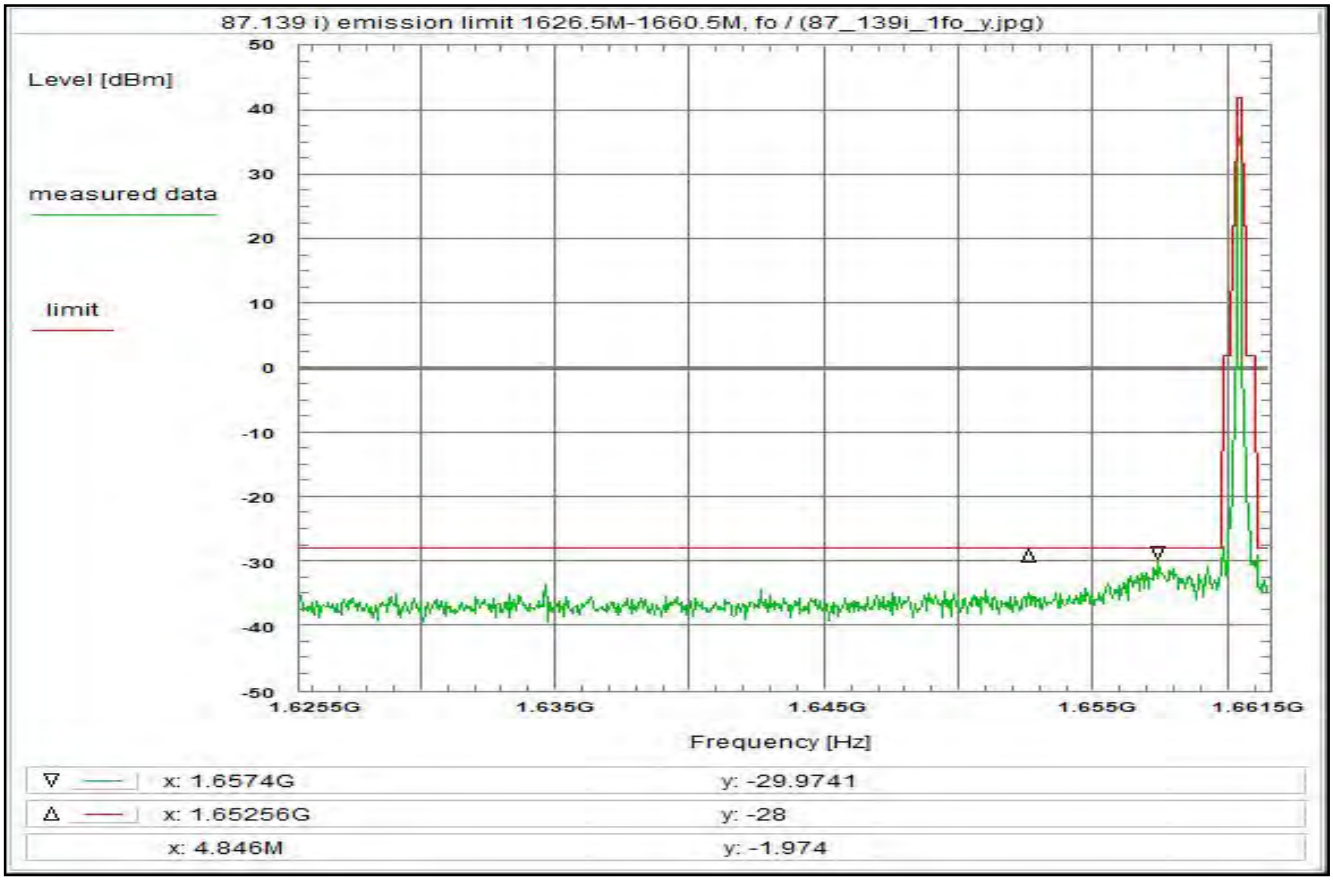
Start frequency:	1.659115	GHz
Stop frequency:	1.661635	GHz
Center frequency:	1.660375	GHz
Frequency span:	2.52	MHz
Resolution-BW:	3	kHz
Video-BW:	30	kHz
Input attenuation:	45	dB
Trace-Mode:	Average	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
U311+U312	+	29.3	dB
TOTAL CORRECTION:	+	30.2	dB

Remarks:
Carrier-on state / Carrier at the upper edge of the band (fo)
For EIRP calculation:
´worst-case´ = maximum antenna gain

Plot No. 269



Subclause: 87.139 i) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier at the upper edge of the band (fo)

Limit:
Limit according to 87.139(i)(1)
The mean power of emissions shall be attenuated
below the mean output power of the transmitter
in accordance with 87.139(i)(1).

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

Operating condition of DUT:
operating condition 1, see test report chapter 5.4
A700S worst case modulation, whole band

Test setup:
test report chapter 7.2 setup 1.1hgj

Test equipment:
see test report chapter 7.2: C220, R001, U312, U311, Power Splitter

Remark:

Test result: Test passed

Environment condition:

Date & Time:	Thu 09/Jul/2020 11:29:44	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	115	Vac / 400 Hz

Setup of measurement equipment:

Start frequency:	1.6255	GHz
Stop frequency:	1.6615	GHz
Center frequency:	1.6435	GHz
Frequency span:	36	MHz
Resolution-BW:	3	kHz
Video-BW:	30	kHz
Input attenuation:	30	dB
Trace-Mode:	Clear Write	
Detector-Mode:	AVG	

Correction:

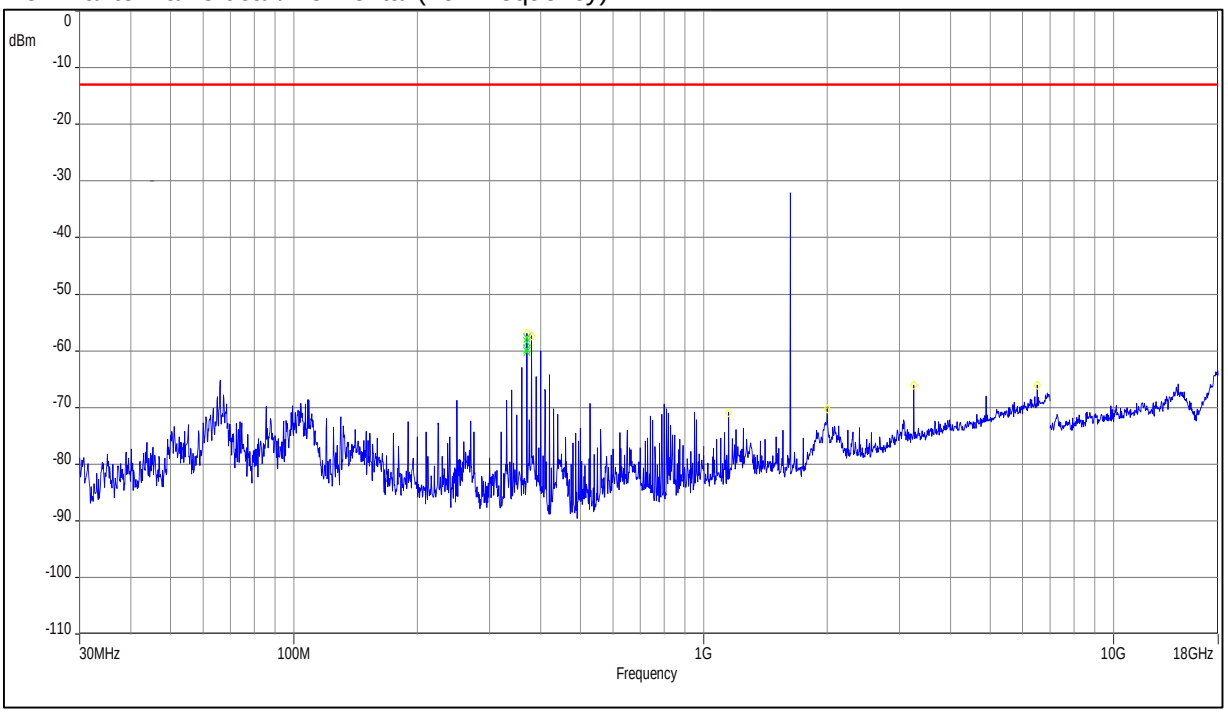
Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	12.0	dBi
Test antenna	+	0.0	dB
BW correction factor (3k -> 4k)	+	1.2	dB
Atten. between HPA and feedhorn	-	0.0	dB
Attenuation (U312)	+	19.5	dB
Attenuation (U311)	+	9.7	dB
Power Splitter	+	6.7	dB
TOTAL CORRECTION:	+	50.0	dB

Remarks:
Carrier-on state / Carrier at the upper edge of the band (fo)
For EIRP calculation:
´worst-case´ = maximum antenna gain

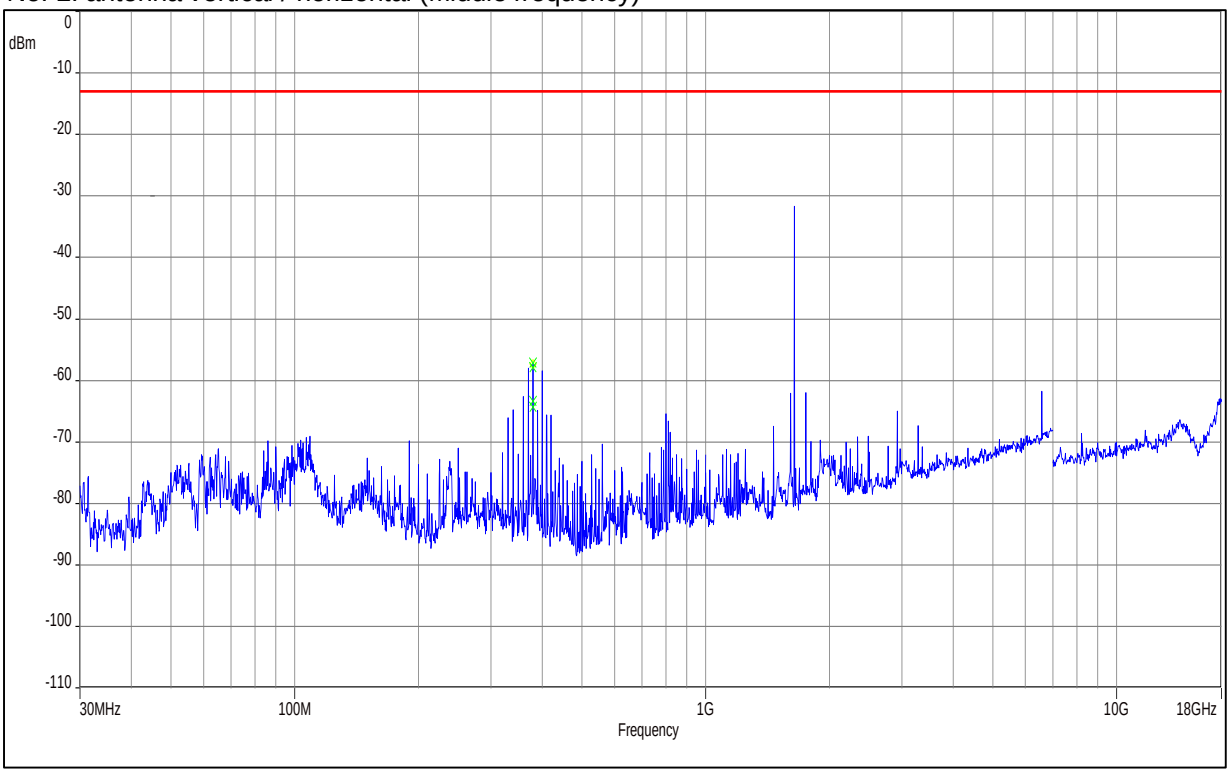
3 Measurement results, Spurious emissions 30MHz - 18 GHz

This Chapter 3 consists of 3 pages including this page.

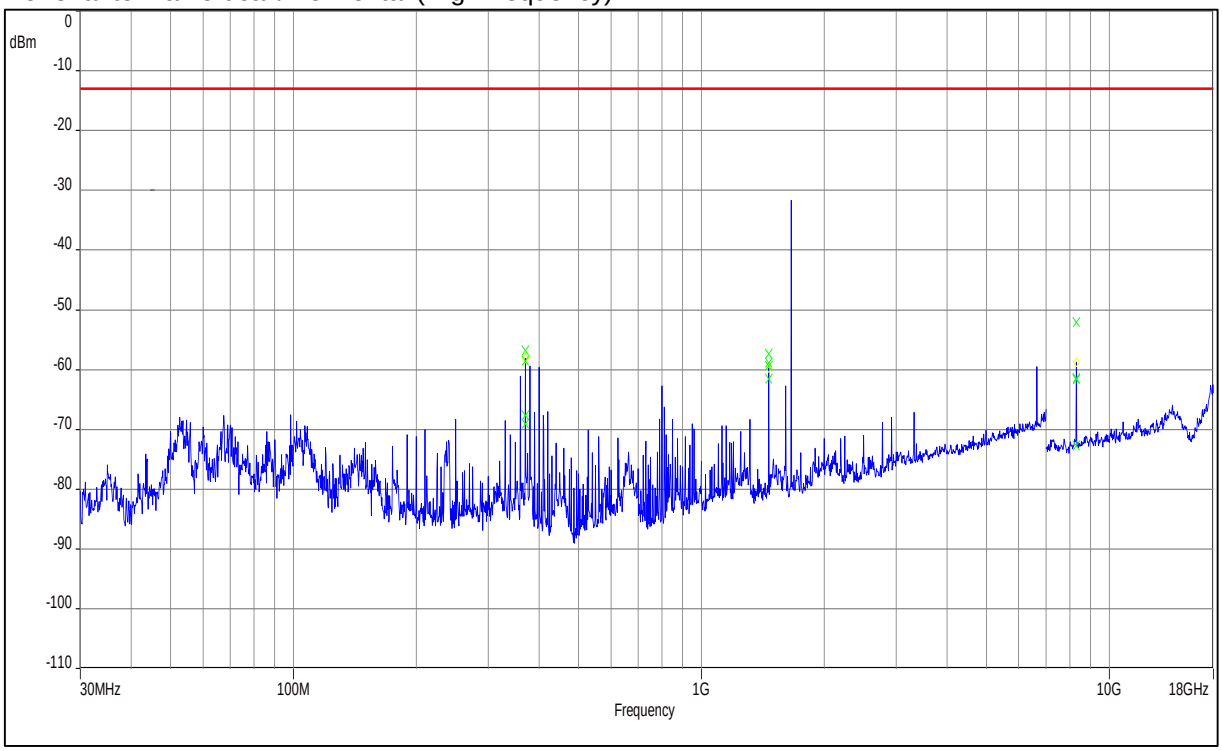
Plot No. 1: antenna vertical / horizontal (Low frequency)



Plot No. 2: antenna vertical / horizontal (Middle frequency)



Plot No. 3: antenna vertical / horizontal (High frequency)



4 Measurement results, FCC Part 15B

This Chapter 4 consists of 1 pages including this page.

Refer to test report 1-9547_19-02-03.pdf

5 Document history

Version	Applied changes	Date of release
	Initial release - DRAFT	2020-06-26
	Draft version 2	2020-07-03
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