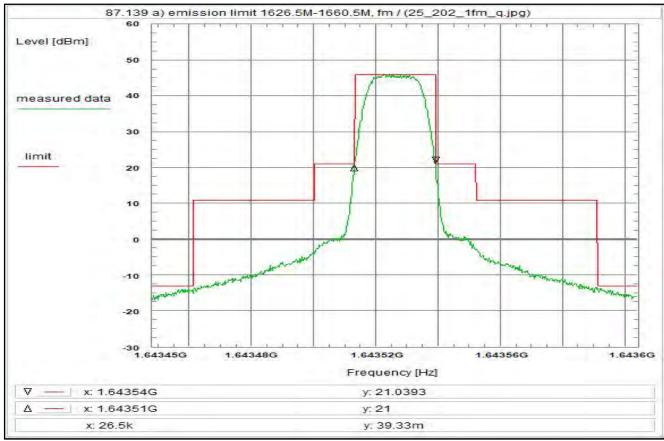


#### Plot No. 169



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

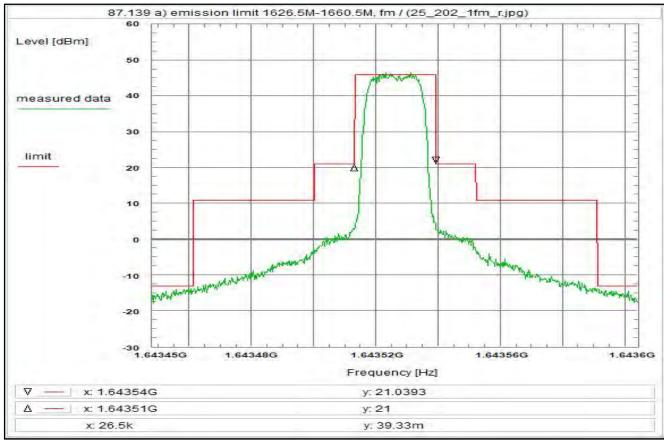
Remark:

Environment condition: Date & Time: Tue 30/Jun/2020 15:09:49 CTC advanced GmbH, Laboratory RC-SYS Location: Temperature: Humidity: 55 115 Vac / 400 Hz Voltage: Setup of measurement equipment:
Start frequency: 1.643448 GHz Stop frequency: GHz GHz kHz Center frequency: 1.643526 Frequency span: 156 Resolution-BW: kHz Video-RW 10 kHz Input attenuation: 30 dB Clear Write Detector-Mode: AVG Correction: Directional coupler + 0.0 dB 0.9 dB Coaxial cable (C220) DUT-Antenna 12.0 dBi 0.0 dB 1.2 dB Test antenna BW correction factor (3k -> 4k) Atten. between HPA and feedhorn 0.0 dB Attenuation (U312) 19.5 dB Attenuation (U311) 9.7 dB Power Splitter
TOTAL CORRECTION: 50.0 dB Carrier-on state / Carrier in the middle of the band (fm) Reference of limit = 42 dBm, spectrum mask referenced to necessary bandwidth

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#### 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 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:

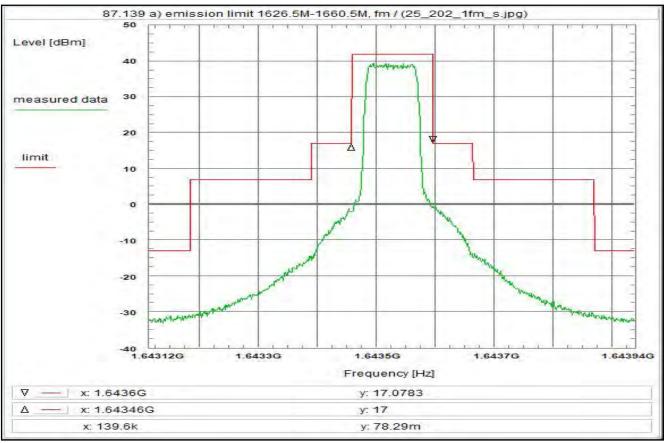
Test result: Test passed

Environment condition: Date & Time: Tue 30/Jun/2020 15:11:28 CTC advanced GmbH, Laboratory RC-SYS Location: Temperature: Humidity: 55 115 Vac / 400 Hz Voltage: Setup of measurement equipment: 1.643448 GHz Start frequency: Stop frequency: GHz GHz kHz Center frequency: 1.643526 Frequency span: 156 Resolution-BW: kHz Video-RW 3 kHz Input attenuation: 30 dB Clear Write Detector-Mode: AVG Correction: Directional coupler + 0.0 dB 0.9 dB Coaxial cable (C220) 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
TOTAL CORRECTION: 54.8 dB Carrier-on state / Carrier in the middle of the band (fm) Reference of limit = 42 dBm, spectrum mask referenced to necessary bandwidth

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#### 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:

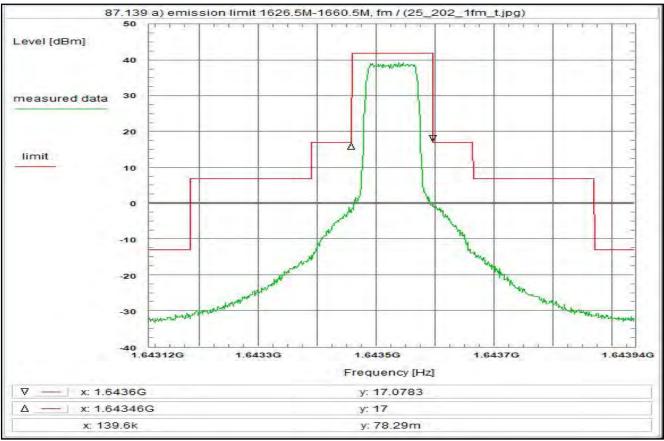
Test result: Test passed

Environment condition: Date & Time: Tue 30/Jun/2020 15:16:50 CTC advanced GmbH, Laboratory RC-SYS Location: Temperature: Humidity: 55 115 Vac / 400 Hz Voltage: Setup of measurement equipment:
Start frequency: 1.643115 GHz Stop frequency: GHz 1.643526 822 GHz kHz Center frequency: Frequency span: Resolution-BW: kHz Video-RW 10 kHz Input attenuation: 30 dB Clear Write Detector-Mode: AVG Correction: Directional coupler + 0.0 dB 0.9 dB Coaxial cable (C220) DUT-Antenna 12.0 dBi 0.0 dB 1.2 dB Test antenna BW correction factor (3k -> 4k) Atten. between HPA and feedhorn 0.0 dB Attenuation (U312) 19.5 dB Attenuation (U311) 9.7 dB Power Splitter
TOTAL CORRECTION: 50.0 dB Carrier-on state / Carrier in the middle of the band (fm) Reference of limit = 42 dBm, spectrum mask referenced to necessary bandwidth

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#### 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 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:

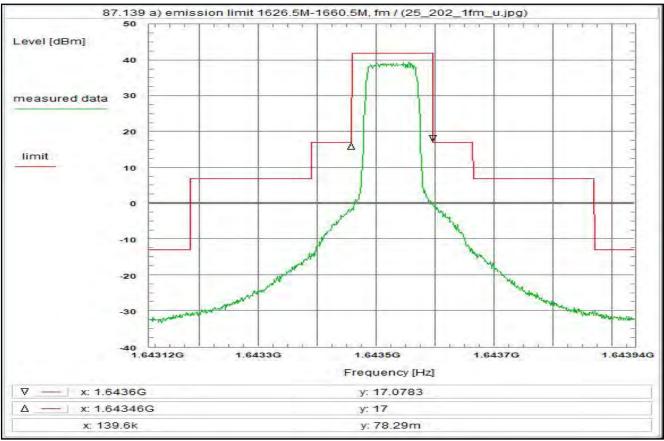
Test result: Test passed

Environment condition: Date & Time: Tue 30/Jun/2020 15:19:41 CTC advanced GmbH, Laboratory RC-SYS Location: Temperature: Humidity: 55 115 Vac / 400 Hz Voltage: Setup of measurement equipment:
Start frequency: 1.643115 GHz Stop frequency: GHz 1.643526 822 GHz kHz Center frequency: Frequency span: Resolution-BW: kHz Video-RW 10 kHz Input attenuation: 30 dB Clear Write Detector-Mode: AVG Correction: Directional coupler + 0.0 dB 0.9 dB Coaxial cable (C220) DUT-Antenna 12.0 dBi 0.0 dB 1.2 dB Test antenna BW correction factor (3k -> 4k) Atten. between HPA and feedhorn 0.0 dB Attenuation (U312) 19.5 dB Attenuation (U311) 9.7 dB Power Splitter
TOTAL CORRECTION: 50.0 dB Carrier-on state / Carrier in the middle of the band (fm) Reference of limit = 42 dBm, spectrum mask referenced to necessary bandwidth

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#### 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: -3410log(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 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:

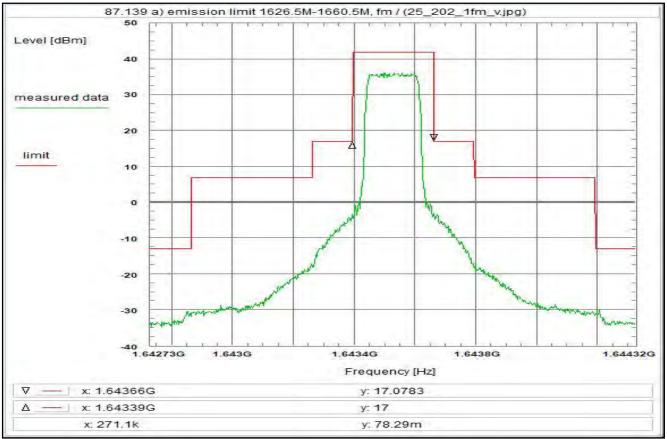
Test result: Test passed

Environment condition: Date & Time: Tue 30/Jun/2020 15:21:21 CTC advanced GmbH, Laboratory RC-SYS Location: Temperature: Humidity: 55 115 Vac / 400 Hz Voltage: Setup of measurement equipment:
Start frequency: 1.643115 GHz Stop frequency: GHz 1.643526 822 GHz kHz Center frequency: Frequency span: Resolution-BW: kHz Video-RW 10 kHz Input attenuation: 30 dB Clear Write Detector-Mode: AVG Correction: Directional coupler + 0.0 dB 0.9 dB Coaxial cable (C220) DUT-Antenna 12.0 dBi 0.0 dB 1.2 dB Test antenna BW correction factor (3k -> 4k) Atten. between HPA and feedhorn 0.0 dB Attenuation (U312) 19.5 dB Attenuation (U311) 9.7 dB Power Splitter
TOTAL CORRECTION: 50.0 dB Carrier-on state / Carrier in the middle of the band (fm) Reference of limit = 42 dBm, spectrum mask referenced to necessary bandwidth

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#### 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):
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

<u>Test equipment:</u> see test report chapter 7.2: C220, Power Splitter, R001, U311, U312

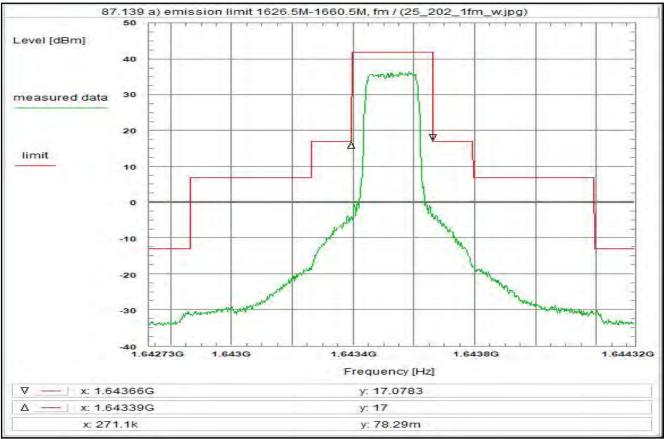
Test result: Test passed

Environment condition: Date & Time: Tue 30/Jun/2020 15:29:07 CTC advanced GmbH, Laboratory RC-SYS Location: Temperature: Humidity: 55 115 Vac / 400 Hz Voltage: Setup of measurement equipment:
Start frequency: 1.642728 GHz 1.644324 Stop frequency: GHz GHz MHz Center frequency: 1.643526 Frequency span: 1.596 Resolution-BW: kHz Video-RW 10 kHz Input attenuation: 30 dB Clear Write Detector-Mode: AVG Correction: Directional coupler + 0.0 dB 0.9 dB Coaxial cable (C220) DUT-Antenna 12.0 dBi 0.0 dB 1.2 dB Test antenna BW correction factor (3k -> 4k) Atten. between HPA and feedhorn 0.0 dB Attenuation (U312) 19.5 dB Attenuation (U311) 9.7 dB Power Splitter
TOTAL CORRECTION: 50.0 dB Carrier-on state / Carrier in the middle of the band (fm) Reference of limit = 42 dBm, spectrum mask referenced to necessary bandwidth

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#### 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:

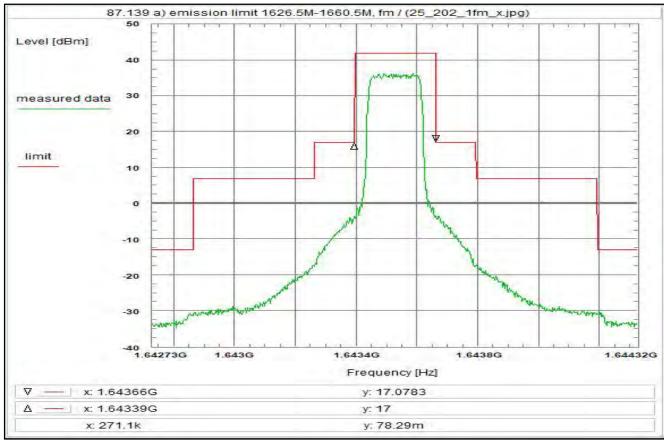
Test result: Test passed

Environment condition: Date & Time: Tue 30/Jun/2020 15:30:42 CTC advanced GmbH, Laboratory RC-SYS Location: Temperature: Humidity: 55 115 Vac / 400 Hz Voltage: Setup of measurement equipment:
Start frequency: 1.642728 GHz 1.644324 Stop frequency: GHz GHz MHz Center frequency: 1.643526 Frequency span: 1.596 Resolution-BW: kHz Video-RW 10 kHz Input attenuation: 30 dB Clear Write Detector-Mode: AVG Correction: Directional coupler + 0.0 dB 0.9 dB Coaxial cable (C220) DUT-Antenna 12.0 dBi 0.0 dB 1.2 dB Test antenna BW correction factor (3k -> 4k) Atten. between HPA and feedhom 0.0 dB Attenuation (U312) 19.5 dB Attenuation (U311) 9.7 dB Power Splitter
TOTAL CORRECTION: 50.0 dB Carrier-on state / Carrier in the middle of the band (fm) Reference of limit = 42 dBm, spectrum mask referenced to necessary bandwidth

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#### 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: -3410log(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 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:

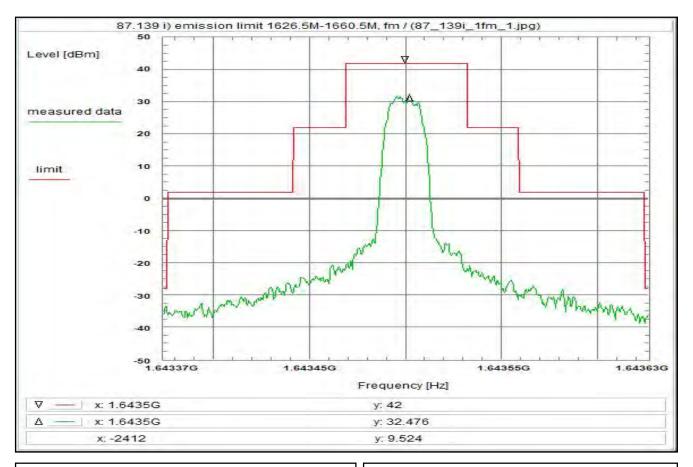
Test result: Test passed

Environment condition: Date & Time: Tue 30/Jun/2020 15:31:26 CTC advanced GmbH, Laboratory RC-SYS Location: Temperature: Humidity: 55 115 Vac / 400 Hz Voltage: Setup of measurement equipment:
Start frequency: 1.642728 GHz 1.644324 Stop frequency: GHz GHz MHz Center frequency: 1.643526 Frequency span: 1.596 Resolution-BW: kHz Video-RW 10 kHz Input attenuation: 30 dB Clear Write Detector-Mode: AVG Correction: Directional coupler + 0.0 dB 0.9 dB Coaxial cable (C220) DUT-Antenna 12.0 dBi 0.0 dB 1.2 dB Test antenna BW correction factor (3k -> 4k) Atten. between HPA and feedhorn 0.0 dB Attenuation (U312) 19.5 dB Attenuation (U311) 9.7 dB Power Splitter
TOTAL CORRECTION: 50.0 dB Carrier-on state / Carrier in the middle of the band (fm) Reference of limit = 42 dBm, spectrum mask referenced to necessary bandwidth

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#### 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

<u>Test setup:</u> see test report chapter 7.2 setup 1.1hgj

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

Remark:

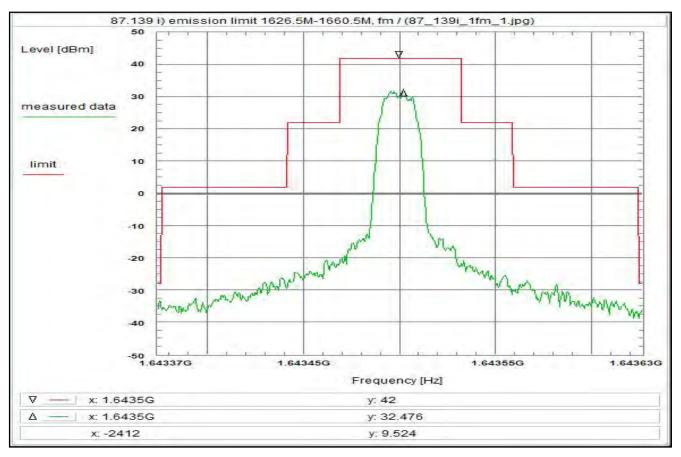
Test result: Test passed

Environment condition:
Date & Time: Thu 28/May/2020 15:11:54 CTC advanced GmbH, Laboratory RC-SYS Location: Temperature: Humidity: 55 % 115 Vac / 400 Hz Voltage: Setup of measurement equipment:
Start frequency: 1.643374 GHz Stop frequency: GHz 1.6435 252 GHz kHz Center frequency: Frequency span: Resolution-BW: kHz Video-RW 30 kHz Input attenuation: 45 dB Detector-Mode: AVG Correction: + 0.0 dB Directional coupler 0.9 dB Coaxial cable (C220) 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

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#### 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

<u>Test setup:</u> see test report chapter 7.2 setup 1.1hgj

<u>Test equipment:</u> see test report chapter 7.2: C220, R001, U311, U312

Remark:

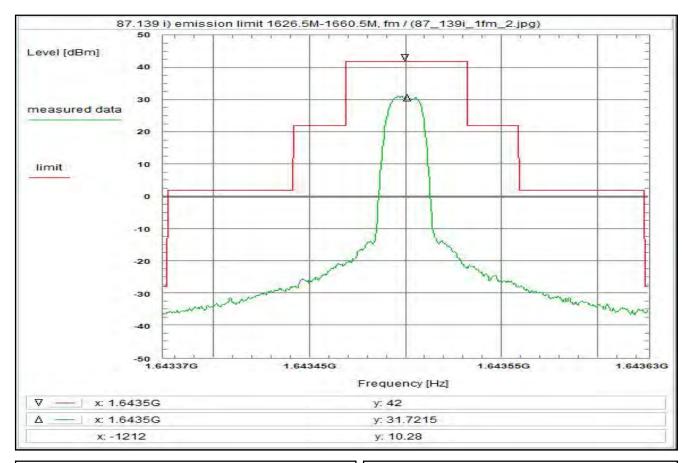
Test result: Test passed

Environment condition:
Date & Time: Thu 28/May/2020 15:11:54 CTC advanced GmbH, Laboratory RC-SYS Location: Temperature: Humidity: 55 % 115 Vac / 400 Hz Voltage: Setup of measurement equipment:
Start frequency: 1.643374 GHz Stop frequency: GHz 1.6435 252 GHz kHz Center frequency: Frequency span: Resolution-BW: kHz Video-RW 30 kHz Input attenuation: 45 dB Detector-Mode: AVG Correction: + 0.0 dB Directional coupler 0.9 dB Coaxial cable (C220) 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

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## Plot No. 179



87.139 i) Frequencies, frequency tolerance and emission limitations Subclause: 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

<u>Test setup:</u> see test report chapter 7.2 setup 1.1hgj

<u>Test equipment:</u> see test report chapter 7.2: C220, R001, U311, U312

Remark:

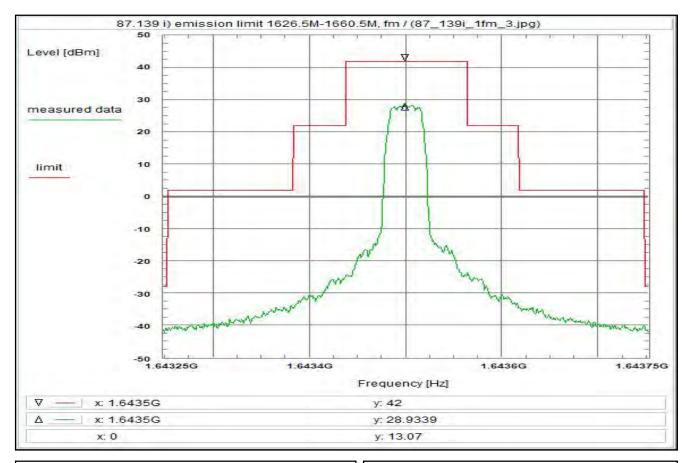
Test result: Test passed

Environment condition:
Date & Time: Thu 28/May/2020 15:15:50 CTC advanced GmbH, Laboratory RC-SYS Location: Temperature: Humidity: 55 % 115 Vac / 400 Hz Voltage: Setup of measurement equipment:
Start frequency: 1.643374 GHz Stop frequency: GHz 1.6435 GHz kHz Center frequency: Frequency span: Resolution-BW: kHz Video-RW 10 kHz Input attenuation: 45 dB Average Detector-Mode: Sample Correction: + 0.0 dB Directional coupler + 0.9 dB Coaxial cable (C220) 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

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#### Plot No. 180



87.139 i) Frequencies, frequency tolerance and emission limitations Subclause: 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

<u>Test setup:</u> see test report chapter 7.2 setup 1.1hgj

<u>Test equipment:</u> see test report chapter 7.2: C220, R001, U311, U312

Remark:

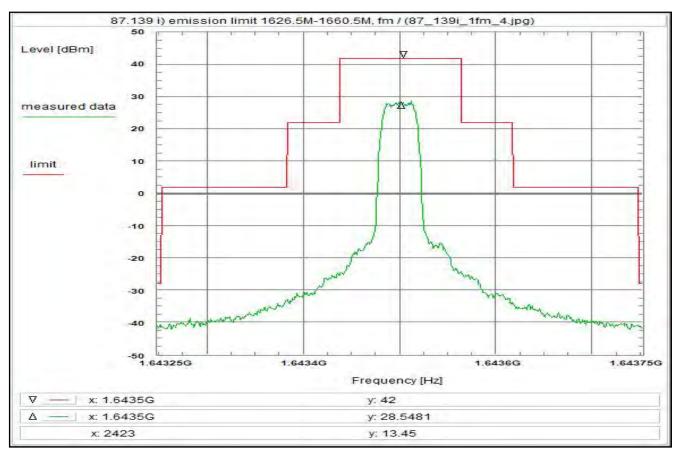
Test result: Test passed

Environment condition: Date & Time: Thu 28/May/2020 15:19:14 CTC advanced GmbH, Laboratory RC-SYS Location: Temperature: Humidity: 55 % 115 Vac / 400 Hz Voltage: Start frequency: 1.643248 GHz Stop frequency: GHz GHz kHz Center frequency: 1.6435 Frequency span: 504 Resolution-BW: kHz Video-RW 30 kHz Input attenuation: 45 dB Detector-Mode: AVG Correction: + 0.0 dB Directional coupler 0.9 dB Coaxial cable (C220) 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

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#### Plot No. 181



87.139 i) Frequencies, frequency tolerance and emission limitations Subclause: 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 <u>Test setup:</u> see test report chapter 7.2 setup 1.1hgj <u>Test equipment:</u> see test report chapter 7.2: C220, R001, U311, U312 Remark:

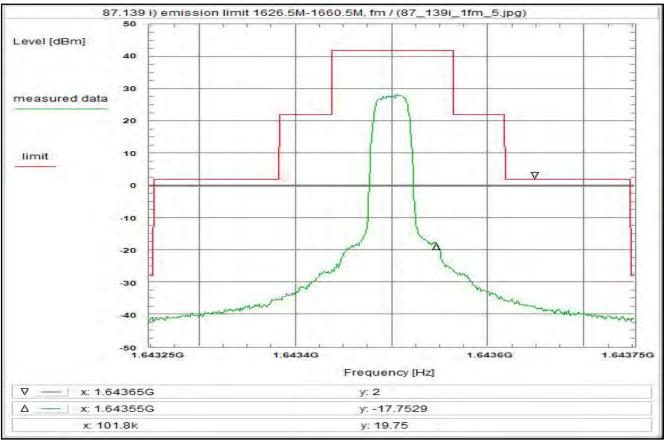
Test result: Test passed

Environment condition:
Date & Time: Thu 28/May/2020 15:25:02 CTC advanced GmbH, Laboratory RC-SYS Location: Temperature: Humidity: 55 % 115 Vac / 400 Hz Voltage: Start frequency: 1.643248 GHz Stop frequency: GHz GHz kHz Center frequency: 1.6435 Frequency span: 504 Resolution-BW: kHz Video-RW 30 kHz Input attenuation: 45 dB Detector-Mode: AVG Correction: + 0.0 dB Directional coupler 0.9 dB Coaxial cable (C220) 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

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## Plot No. 182



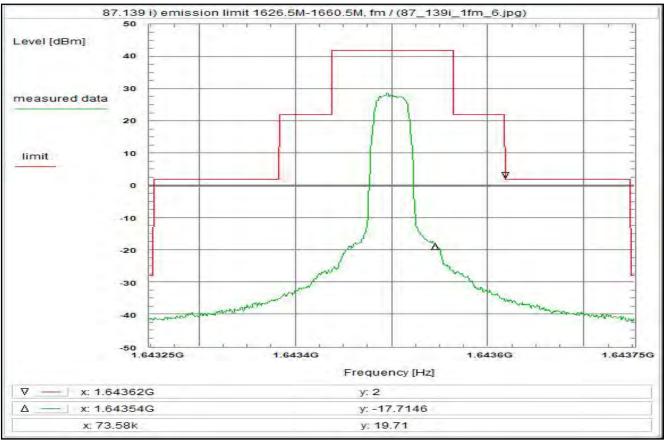
87.139 i) Frequencies, frequency tolerance and emission limitations Subclause: Emission limitations Modulated rf-carrier in the middle of the band (fm) Limit: Limit according to 87.139(i)(1) The mean power of emissions shall be attenuated below the mean output power of the transmitter in accordance with 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 <u>Test setup:</u> see test report chapter 7.2 setup 1.1hgj <u>Test equipment:</u> 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 CTC advanced GmbH, Laboratory RC-SYS Location: Temperature: Humidity: 55 % 115 Vac / 400 Hz Voltage: Start frequency: 1.643248 GHz Stop frequency: GHz GHz kHz Center frequency: 1.6435 Frequency span: 504 Resolution-BW: kHz Video-RW: 30 kHz Input attenuation: 45 dB Detector-Mode: AVG Correction: + 0.0 dB Directional coupler + 0.9 dB Coaxial cable (C220) 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

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#### Plot No. 183



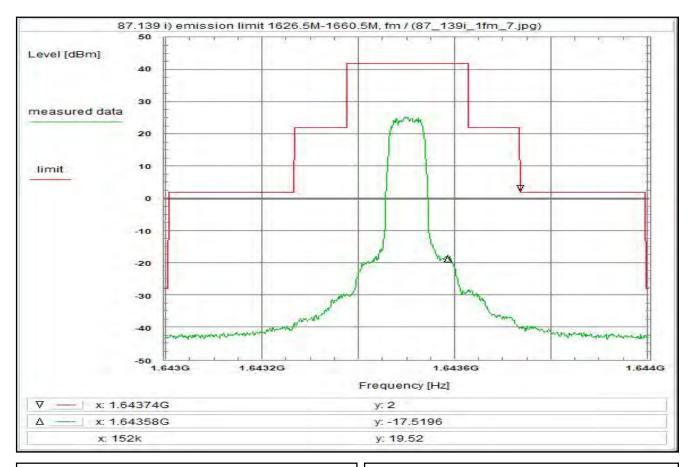
87.139 i) Frequencies, frequency tolerance and emission limitations Subclause: Emission limitations Modulated rf-carrier in the middle of the band (fm) Limit: Limit according to 87.139(i)(1) The mean power of emissions shall be attenuated below the mean output power of the transmitter in accordance with 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 <u>Test setup:</u> see test report chapter 7.2 setup 1.1hgj <u>Test equipment:</u> 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 CTC advanced GmbH, Laboratory RC-SYS Location: Temperature: Humidity: 55 % 115 Vac / 400 Hz Voltage: Start frequency: 1.643248 GHz Stop frequency: GHz GHz kHz Center frequency: 1.6435 Frequency span: 504 Resolution-BW: kHz Video-RW 30 kHz Input attenuation: 45 dB Detector-Mode: AVG Correction: + 0.0 dB Directional coupler + 0.9 dB Coaxial cable (C220) 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

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#### Plot No. 184



87.139 i) Frequencies, frequency tolerance and emission limitations Subclause: 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

<u>Test setup:</u> see test report chapter 7.2 setup 1.1hgj

<u>Test equipment:</u> see test report chapter 7.2: C220, R001, U311, U312

Remark:

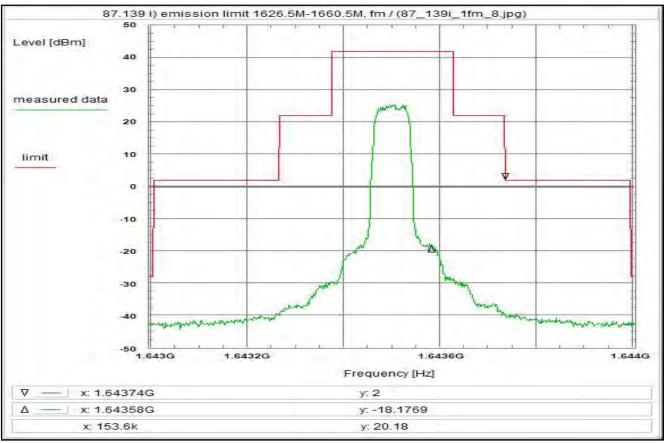
Test result: Test passed

Environment condition:
Date & Time: Thu 28/May/2020 15:35:48 CTC advanced GmbH, Laboratory RC-SYS Location: Temperature: Humidity: 55 % 115 Vac / 400 Hz Voltage: Start frequency: 1.642996 GHz 1.644004 Stop frequency: GHz 1.6435 GHz MHz Center frequency: Frequency span: Resolution-BW: kHz Video-RW 30 kHz Input attenuation: 45 dB Detector-Mode: AVG Correction: + 0.0 dB Directional coupler + 0.9 dB Coaxial cable (C220) 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

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#### Plot No. 185



87.139 i) Frequencies, frequency tolerance and emission limitations Subclause: 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 <u>Test setup:</u> see test report chapter 7.2 setup 1.1hgj <u>Test equipment:</u> see test report chapter 7.2: C220, R001, U311, U312 Remark:

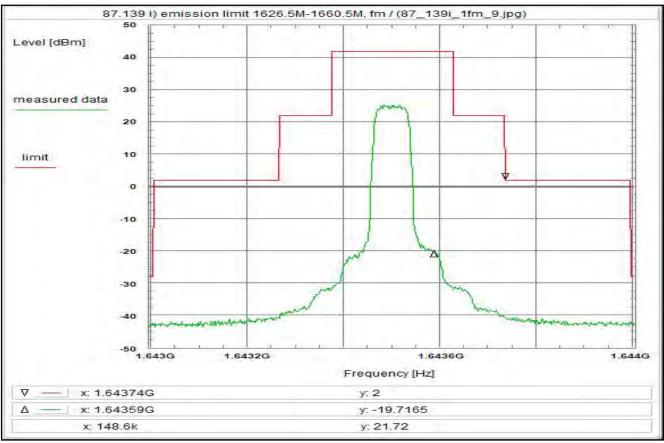
Environment condition:
Date & Time: Thu 28/May/2020 15:39:02 CTC advanced GmbH, Laboratory RC-SYS Location: Temperature: Humidity: 55 % 115 Vac / 400 Hz Voltage: Start frequency: 1.642996 GHz Stop frequency: GHz 1.6435 GHz MHz Center frequency: Frequency span: Resolution-BW: kHz Video-RW 30 kHz Input attenuation: 45 dB Detector-Mode: AVG Correction: + 0.0 dB Directional coupler + 0.9 dB Coaxial cable (C220) 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

Test result: Test passed

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#### Plot No. 186



87.139 i) Frequencies, frequency tolerance and emission limitations Subclause: 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 <u>Test setup:</u> see test report chapter 7.2 setup 1.1hgj <u>Test equipment:</u> see test report chapter 7.2: C220, R001, U311, U312 Remark:

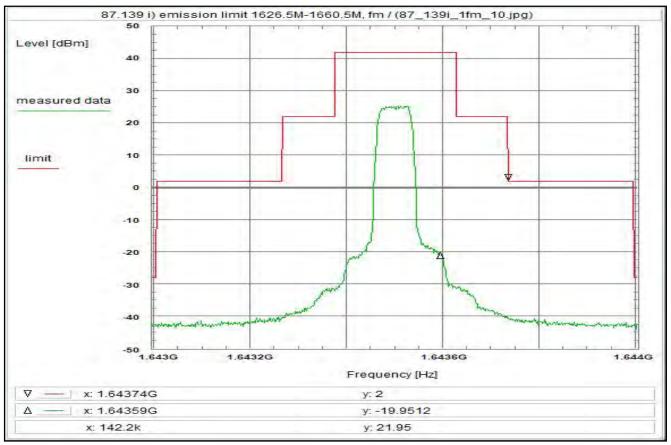
Test result: Test passed

Environment condition:
Date & Time: Thu 28/May/2020 15:49:22 CTC advanced GmbH, Laboratory RC-SYS Location: Temperature: Humidity: 55 % 115 Vac / 400 Hz Voltage: Start frequency: 1.642996 GHz Stop frequency: GHz 1.6435 GHz MHz Center frequency: Frequency span: Resolution-BW: kHz Video-RW: 30 kHz Input attenuation: 45 dB Detector-Mode: AVG Correction: + 0.0 dB Directional coupler + 0.9 dB Coaxial cable (C220) 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

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#### Plot No. 187



87.139 i) Frequencies, frequency tolerance and emission limitations Subclause: 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 <u>Test setup:</u> see test report chapter 7.2 setup 1.1hgj <u>Test equipment:</u> see test report chapter 7.2: C220, R001, U311, U312 Remark:

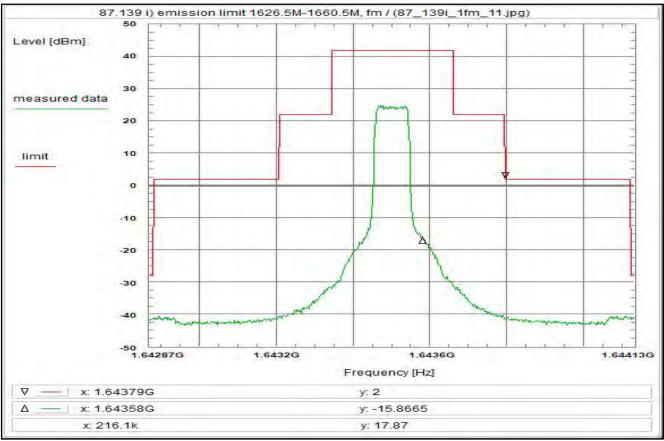
Test result: Test passed

Environment condition:
Date & Time: Thu 28/May/2020 15:52:43 CTC advanced GmbH, Laboratory RC-SYS Location: Temperature: Humidity: 55 % 115 Vac / 400 Hz Voltage: Start frequency: 1.642996 GHz 1.644004 GHz Stop frequency: 1.6435 GHz MHz Center frequency: Frequency span: Resolution-BW: kHz Video-RW 30 kHz Input attenuation: 45 dB Detector-Mode: AVG Correction: + 0.0 dB Directional coupler + 0.9 dB Coaxial cable (C220) 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

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#### Plot No. 188



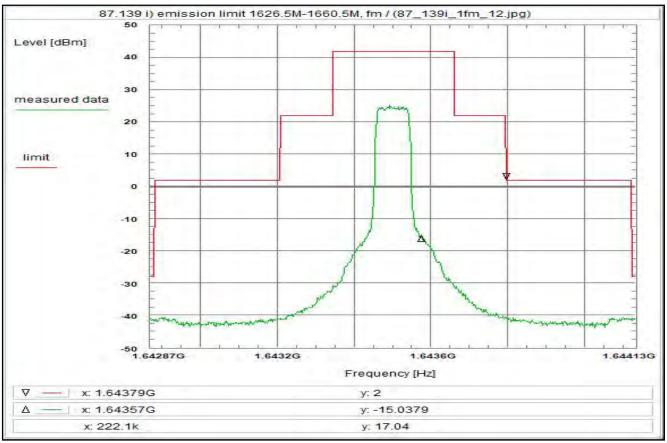
87.139 i) Frequencies, frequency tolerance and emission limitations Subclause: Emission limitations Modulated rf-carrier in the middle of the band (fm) Limit: Limit according to 87.139(i)(1) The mean power of emissions shall be attenuated below the mean output power of the transmitter in accordance with 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 <u>Test setup:</u> see test report chapter 7.2 setup 1.1hgj <u>Test equipment:</u> 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 CTC advanced GmbH, Laboratory RC-SYS Location: Temperature: Humidity: 55 % 115 Vac / 400 Hz Voltage: Start frequency: 1.64287 GHz Stop frequency: 1.6435 GHz MHz Center frequency: Frequency span: Resolution-BW: kHz Video-RW: 30 kHz Input attenuation: 45 dB Detector-Mode: AVG Correction: + 0.0 dB Directional coupler + 0.9 dB Coaxial cable (C220) 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

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## Plot No. 189



Environment condition:
Date & Time:

87.139 i) Frequencies, frequency tolerance and emission limitations Subclause: 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 <u>Test setup:</u> see test report chapter 7.2 setup 1.1hgj <u>Test equipment:</u> see test report chapter 7.2: C220, R001, U311, U312 Remark:

CTC advanced GmbH, Laboratory RC-SYS Location: Temperature: Humidity: 55 % 115 Vac / 400 Hz Voltage: Setup of measurement equipment:
Start frequency: 1.64287 GHz Stop frequency: 1.6435 GHz MHz Center frequency: Frequency span: Resolution-BW: kHz Video-RW 30 kHz Input attenuation: 45 dB Detector-Mode: AVG Correction: + 0.0 dB Directional coupler + 0.9 dB Coaxial cable (C220) 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

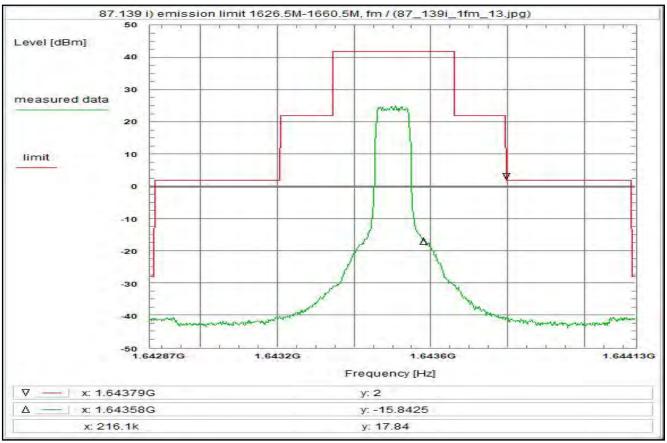
Thu 28/May/2020 16:01:01

Test result: Test passed

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#### Plot No. 190



87.139 i) Frequencies, frequency tolerance and emission limitations Subclause: 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 <u>Test setup:</u> see test report chapter 7.2 setup 1.1hgj <u>Test equipment:</u> see test report chapter 7.2: C220, R001, U311, U312 Remark:

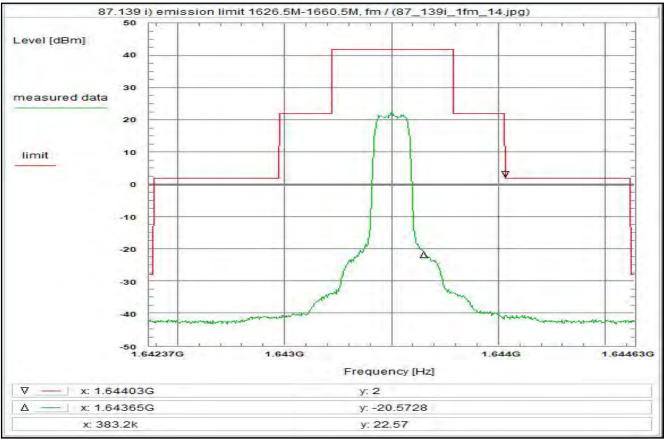
Test result: Test passed

Environment condition:
Date & Time: Thu 28/May/2020 16:04:27 CTC advanced GmbH, Laboratory RC-SYS Location: Temperature: Humidity: 55 % 115 Vac / 400 Hz Voltage: Start frequency: 1.64287 GHz Stop frequency: 1.6435 GHz MHz Center frequency: Frequency span: Resolution-BW: kHz Video-RW: 30 kHz Input attenuation: 45 dB Detector-Mode: AVG Correction: + 0.0 dB Directional coupler + 0.9 dB Coaxial cable (C220) 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

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#### Plot No. 191



87.139 i) Frequencies, frequency tolerance and emission limitations Subclause: 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 <u>Test setup:</u> see test report chapter 7.2 setup 1.1hgj <u>Test equipment:</u> see test report chapter 7.2: C220, R001, U311, U312 Remark:

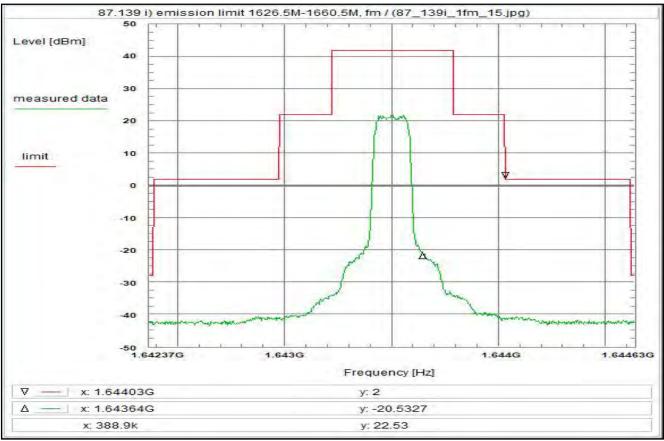
Test result: Test passed

Environment condition: Date & Time: Thu 28/May/2020 16:08:56 CTC advanced GmbH, Laboratory RC-SYS Location: Temperature: Humidity: 55 % 115 Vac / 400 Hz Voltage: Setup of measurement equipment:
Start frequency: 1.642366 GHz 1.644634 GHz Stop frequency: 1.6435 2.268 GHz MHz Center frequency: Frequency span: Resolution-BW: kHz Video-RW 30 kHz Input attenuation: 45 dB Detector-Mode: AVG Correction: + 0.0 dB Directional coupler + 0.9 dB Coaxial cable (C220) 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

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# Plot No. 192



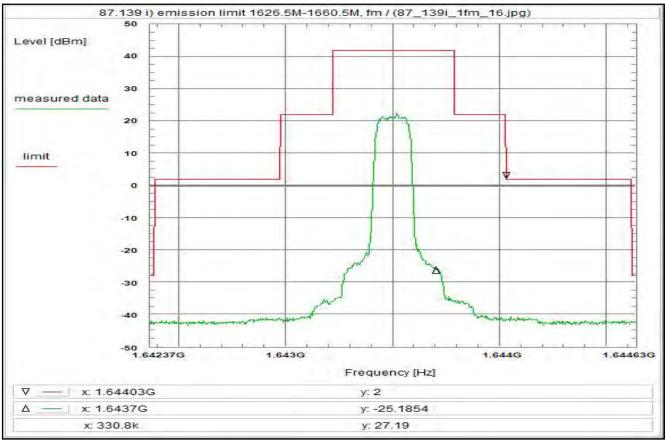
<u>Subclause:</u> 87.139 i) Frequencies, frequency tolerance and emission limitations Emission limitations				
Modulated rf-carrier in the middle of the band (fm)				
<u>Limit:</u>				
Limit according to 87.139(i)(1) The mean power of emissions shall be attenuated				
below the mean output power of the 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				
<u>Test setup:</u> see test report chapter 7.2 setup 1.1hgj				
Test equipment:				
see test report chapter 7.2: C220, R001, U311, U312				
Remark:				
<u>Test result:</u> Test passed				

Environment condition:					
Date & Time:					
Location:		Thu 28/May/2020 16:12:37			
Temperature:	CTC advanced GmbH, Laboratory RC-SYS				
	55 55				
Humidity:			/ 400		
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:		kHz			
Input attenuation:	45	dB			
Trace-Mode:	Average				
Detector-Mode:	AVG				
Dottotto: mode:	7.1.0				
Correction:					
Directional coupler	+	0.0	dB		
Coaxial cable (C220)	+	0.9	dB		
DUT-Antenna `	+	0.0	dBi		
U311+U312	+	29.3	dB		
TOTAL CORRECTION:	+				
Remarks:					
Carrier-on state / Carrier in the middle of the band (fm)					
For EIRP calculation:					
'worst-case' = maximum antenna gain					

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## Plot No. 193



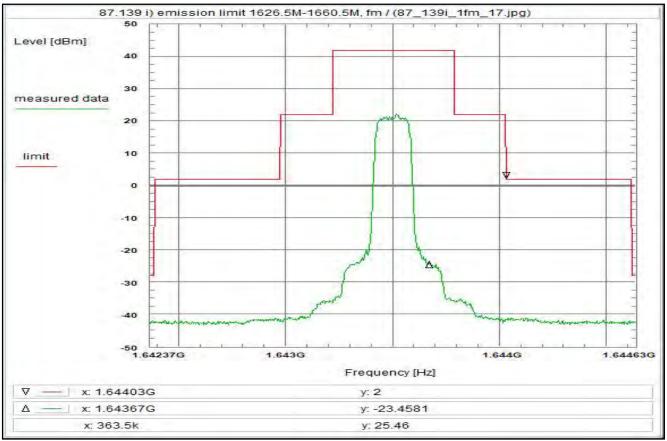
87.139 i) Frequencies, frequency tolerance and emission limitations Subclause: Emission limitations Modulated rf-carrier in the middle of the band (fm) Limit: Limit according to 87.139(i)(1) The mean power of emissions shall be attenuated below the mean output power of the transmitter in accordance with 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 <u>Test setup:</u> see test report chapter 7.2 setup 1.1hgj <u>Test equipment:</u> 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 CTC advanced GmbH, Laboratory RC-SYS Location: Temperature: Humidity: 55 % 115 Vac / 400 Hz Voltage: Setup of measurement equipment:
Start frequency: 1.642366 GHz 1.644634 GHz Stop frequency: 1.6435 2.268 GHz MHz Center frequency: Frequency span: Resolution-BW: kHz Video-RW 30 kHz Input attenuation: 45 dB Detector-Mode: AVG Correction: + 0.0 dB Directional coupler + 0.9 dB Coaxial cable (C220) 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

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## Plot No. 194



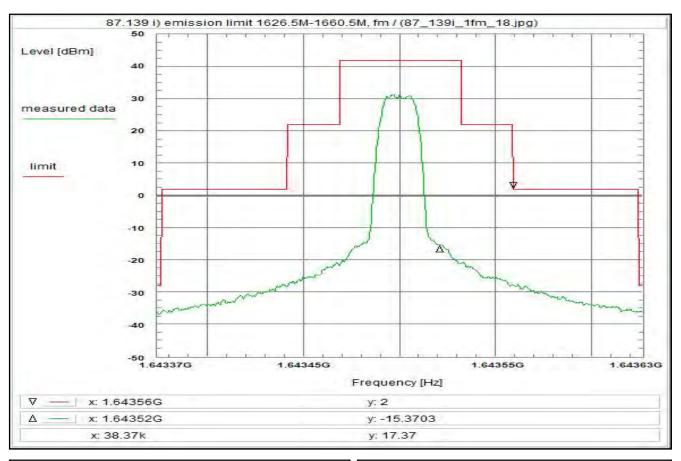
87.139 i) Frequencies, frequency tolerance and emission limitations Subclause: Emission limitations Modulated rf-carrier in the middle of the band (fm) Limit: Limit according to 87.139(i)(1) The mean power of emissions shall be attenuated below the mean output power of the transmitter in accordance with 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 <u>Test setup:</u> see test report chapter 7.2 setup 1.1hgj <u>Test equipment:</u> 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 CTC advanced GmbH, Laboratory RC-SYS Location: Temperature: Humidity: 55 % 115 Vac / 400 Hz Voltage: Setup of measurement equipment:
Start frequency: 1.642366 GHz 1.644634 GHz Stop frequency: 1.6435 2.268 GHz MHz Center frequency: Frequency span: Resolution-BW: kHz Video-RW 30 kHz Input attenuation: 45 dB Detector-Mode: AVG Correction: + 0.0 dB Directional coupler + 0.9 dB Coaxial cable (C220) 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

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#### Plot No. 195



87.139 i) Frequencies, frequency tolerance and emission limitations Subclause: 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

<u>Test setup:</u> see test report chapter 7.2 setup 1.1hgj

<u>Test equipment:</u> see test report chapter 7.2: C220, R001, U311, U312

Remark:

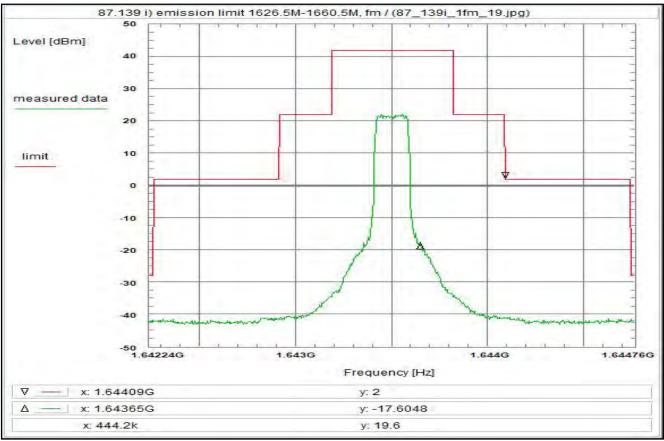
Test result: Test passed

Environment condition:
Date & Time: Thu 28/May/2020 16:27:40 CTC advanced GmbH, Laboratory RC-SYS Location: Temperature: Humidity: 55 % 115 Vac / 400 Hz Voltage: Setup of measurement equipment:
Start frequency: 1.643374 GHz GHz Stop frequency: 1.6435 252 GHz kHz Center frequency: Frequency span: Resolution-BW: kHz Video-RW: 30 kHz Input attenuation: 45 dB Detector-Mode: AVG Correction: + 0.0 dB Directional coupler + 0.9 dB Coaxial cable (C220) 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

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## Plot No. 196



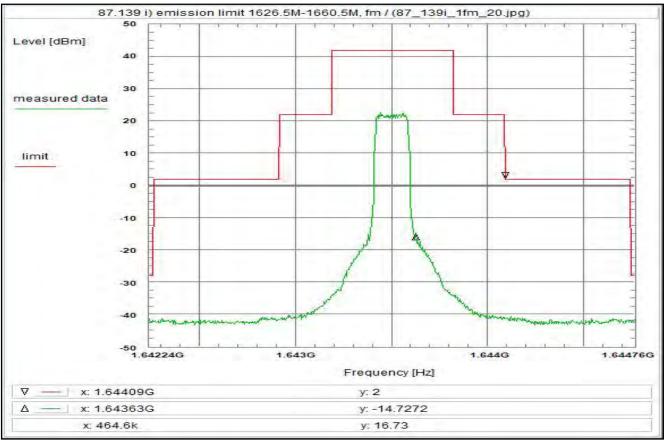
87.139 i) Frequencies, frequency tolerance and emission limitations Subclause: Emission limitations Modulated rf-carrier in the middle of the band (fm) Limit: Limit according to 87.139(i)(1) The mean power of emissions shall be attenuated below the mean output power of the transmitter in accordance with 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 <u>Test setup:</u> see test report chapter 7.2 setup 1.1hgj <u>Test equipment:</u> 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 CTC advanced GmbH, Laboratory RC-SYS Location: Temperature: Humidity: 55 % 115 Vac / 400 Hz Voltage: Start frequency: 1.64224 GHz GHz Stop frequency: 1.6435 GHz MHz Center frequency: Frequency span: Resolution-BW: kHz Video-RW: 30 kHz Input attenuation: 45 dB Detector-Mode: AVG Correction: + 0.0 dB Directional coupler + 0.9 dB Coaxial cable (C220) 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

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#### Plot No. 197



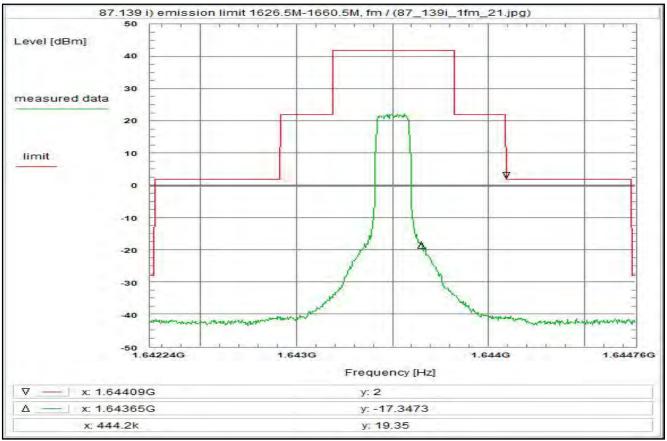
87.139 i) Frequencies, frequency tolerance and emission limitations Subclause: Emission limitations Modulated rf-carrier in the middle of the band (fm) Limit: Limit according to 87.139(i)(1) The mean power of emissions shall be attenuated below the mean output power of the transmitter in accordance with 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 <u>Test setup:</u> see test report chapter 7.2 setup 1.1hgj <u>Test equipment:</u> 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 CTC advanced GmbH, Laboratory RC-SYS Location: Temperature: Humidity: 55 % 115 Vac / 400 Hz Voltage: Setup of measurement equipment: Start frequency: 1.64224 GHz GHz Stop frequency: 1.6435 GHz MHz Center frequency: Frequency span: Resolution-BW: kHz Video-RW: 30 kHz Input attenuation: 45 dB Detector-Mode: AVG Correction: + 0.0 dB Directional coupler 0.9 dB Coaxial cable (C220) 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

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#### Plot No. 198



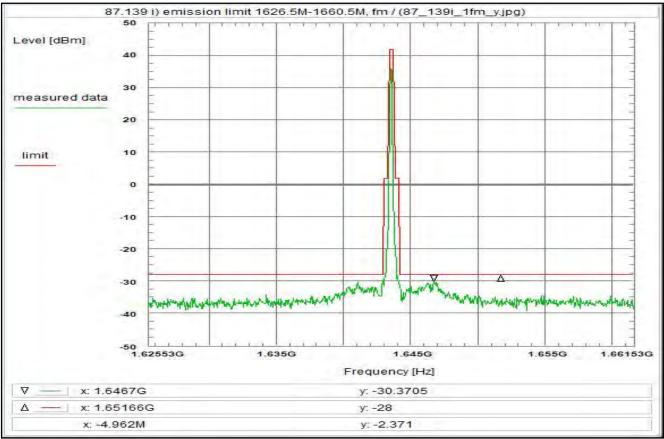
87.139 i) Frequencies, frequency tolerance and emission limitations Subclause: Emission limitations Modulated rf-carrier in the middle of the band (fm) Limit: Limit according to 87.139(i)(1) The mean power of emissions shall be attenuated below the mean output power of the transmitter in accordance with 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 <u>Test setup:</u> see test report chapter 7.2 setup 1.1hgj <u>Test equipment:</u> 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 CTC advanced GmbH, Laboratory RC-SYS Location: Temperature: Humidity: 55 % 115 Vac / 400 Hz Voltage: Setup of measurement equipment: Start frequency: 1.64224 GHz GHz Stop frequency: 1.6435 GHz MHz Center frequency: Frequency span: Resolution-BW: kHz Video-RW: 30 kHz Input attenuation: 45 dB Detector-Mode: AVG Correction: + 0.0 dB Directional coupler + 0.9 dB Coaxial cable (C220) 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

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#### Plot No. 199



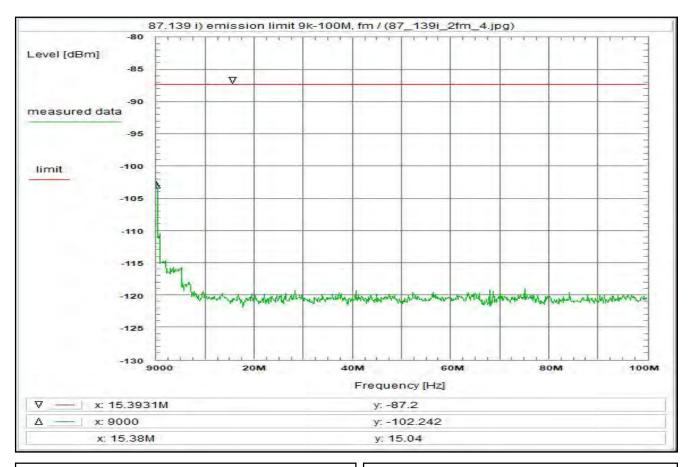
Subclause: 87.139 i) Frequencies, frequency tolerance and emission limitations Emission limitations Modulated rf-carrier in the middle of the band (fm) Limit: Limit according to 87.139(i)(1) The mean power of emissions shall be attenuated below the mean output power of the transmitter in accordance with 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 <u>Test setup:</u> test report chapter 7.2 setup 1.1hgj <u>Test equipment:</u> 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 CTC advanced GmbH, Laboratory RC-SYS Location: Temperature: Humidity: 55 % 115 Vac / 400 Hz Voltage: Setup of measurement equipment: Start frequency: 1. 1.625526 GHz Stop frequency: GHz GHz MHz Center frequency: 1.643526 Frequency span: 36 Resolution-BW: kHz Video-RW 30 kHz Input attenuation: 30 dB Trace-Mode: Clear Write Detector-Mode: AVG Correction: + 0.0 dB Directional coupler 0.9 dB Coaxial cable (C220) DUT-Antenna 12.0 dBi + 0.0 dB + 1.2 dB Test antenna BW correction factor (3k -> 4k) Atten. between HPA and feedhorn 0.0 dB Attenuation (U312) 19.5 dB Attenuation (U311) 9.7 dB Power Splitter
TOTAL CORRECTION: 50.0 dB Carrier-on state / Carrier in the middle of the band (fm) For EIRP calculation:
'worst-case' = maximum antenna gain

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## Plot No. 200



87.139 i) Frequencies, frequency tolerance and emission limitations Subclause: 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

<u>Test setup:</u> see test report chapter 7.2 setup 1.1higj

<u>Test equipment:</u> see test report chapter 7.2: BNCo, C220, R001

Remark:

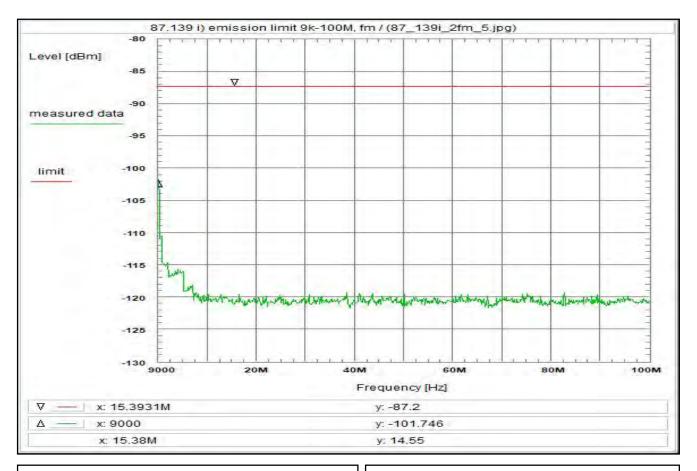
Test result: Test passed

Environment condition:
Date & Time: Fri 29/May/2020 10:16:06 CTC advanced GmbH, Laboratory RC-SYS Location: Temperature: Humidity: 55 % 115 Vac / 400 Hz Voltage: Setup of measurement equipment: Start frequency: 9 kHz 100 MHz Stop frequency: 50.0045 MHz 99.991 MHz Center frequency: Frequency span: Resolution-BW: kHz Video-RW: 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) Atten. between HPA and feedhorn 0.0 dB 7.8 dB TOTAL CORRECTION: Remarks: Carrier-on state / Carrier in the middle of the band (fm) For EIRP calculation: 'worst-case' = maximum antenna gain

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## Plot No. 201



87.139 i) Frequencies, frequency tolerance and emission limitations Subclause: 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

<u>Test setup:</u> see test report chapter 7.2 setup 1.1higj

<u>Test equipment:</u> see test report chapter 7.2: BNCo, C220, R001

Remark:

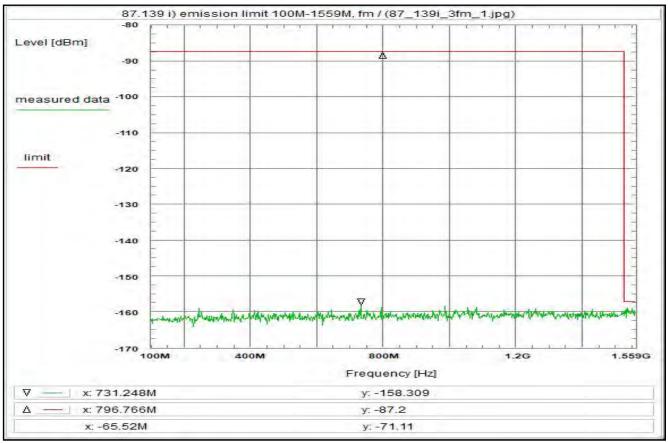
Test result: Test passed

Environment condition:
Date & Time: Fri 29/May/2020 10:16:55 CTC advanced GmbH, Laboratory RC-SYS Location: Temperature: Humidity: 55 % 115 Vac / 400 Hz Voltage: Setup of measurement equipment: Start frequency: 9 kHz 100 MHz Stop frequency: 50.0045 MHz 99.991 MHz Center frequency: Frequency span: Resolution-BW: kHz Video-RW: 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) Atten. between HPA and feedhorn - 0.0 dB 7.8 dB TOTAL CORRECTION: Remarks: Carrier-on state / Carrier in the middle of the band (fm) For EIRP calculation: 'worst-case' = maximum antenna gain

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## Plot No. 202



87.139 i) Frequencies, frequency tolerance and emission limitations Subclause: 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). 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

<u>Test setup:</u> see test report chapter 7.2 setup 1.1higj

<u>Test equipment:</u> see test report chapter 7.2: BNCo, C220, R001

Remark:

Test result: Test passed

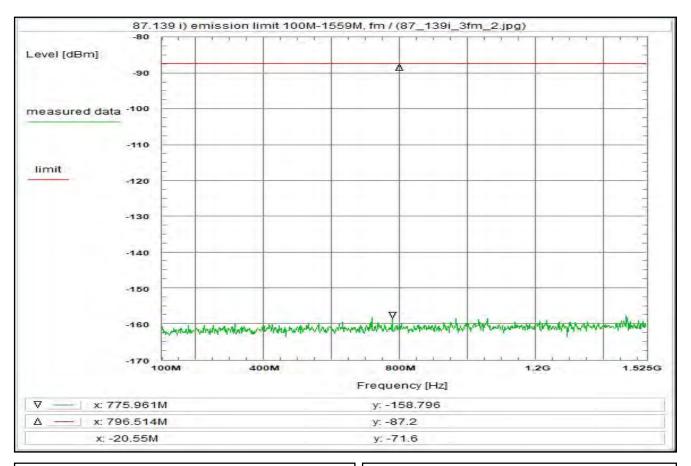
Environment condition:
Date & Time: Thu 04/Jun/2020 16:52:31 CTC advanced GmbH, Laboratory RC-SYS Location: Temperature: Humidity: 55 % 115 Vac / 400 Hz Voltage: Setup of measurement equipment: Start frequency: 100 MHz 1.559 Stop frequency: 829.5 1.459 MHz GHz Center frequency: Frequency span: Resolution-BW: kHz Video-RW: 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 dB 1.2 dB Test antenna BW correction factor (3k -> 4k) Atten. between HPA and feedhorn 0.0 dB 0.0 dB additional attenuation 10.1 dB (BNCo) TOTAL CORRECTION: Remarks: Carrier-on state / Carrier in the middle of the band (fm) For EIRP calculation:

'worst-case' = maximum antenna gain

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#### 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).

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

<u>Test setup:</u> see test report chapter 7.2 setup 1.1higj

<u>Test equipment:</u> see test report chapter 7.2: BNCo, C220, R001

Remark:

Test result: Test passed

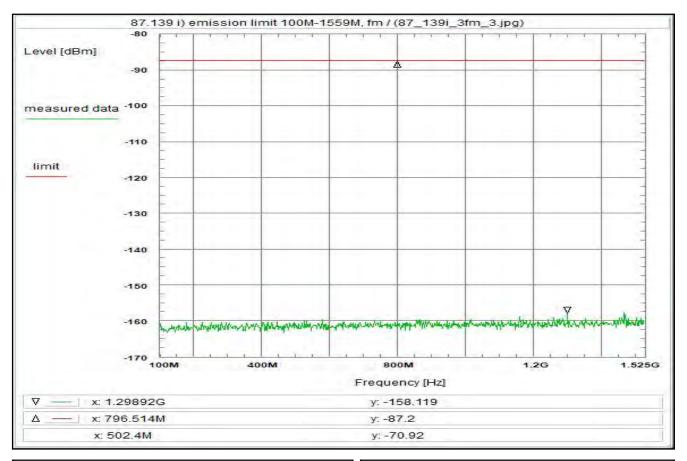
Environment condition:
Date & Time: Thu 04/Jun/2020 16:55:51 CTC advanced GmbH, Laboratory RC-SYS Location: Temperature: Humidity: 55 % 115 Vac / 400 Hz Voltage: Setup of measurement equipment: Start frequency: 100 MHz 1.524999 Stop frequency: 812.4995 1.424999 MHz GHz Center frequency: Frequency span: Resolution-BW: kHz Video-RW: 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 dB 1.2 dB Test antenna BW correction factor (3k -> 4k) Atten. between HPA and feedhorn 0.0 dB 0.0 dB additional attenuation (BNCo) 10.1 dB TOTAL CORRECTION: Remarks: Carrier-on state / Carrier in the middle of the band (fm) For EIRP calculation:

'worst-case' = maximum antenna gain

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#### Plot No. 204



87.139 i) Frequencies, frequency tolerance and emission limitations Subclause: 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

<u>Test setup:</u> see test report chapter 7.2 setup 1.1higj

<u>Test equipment:</u> see test report chapter 7.2 BNCo, C220, R001

Remark:

Test result: Test passed

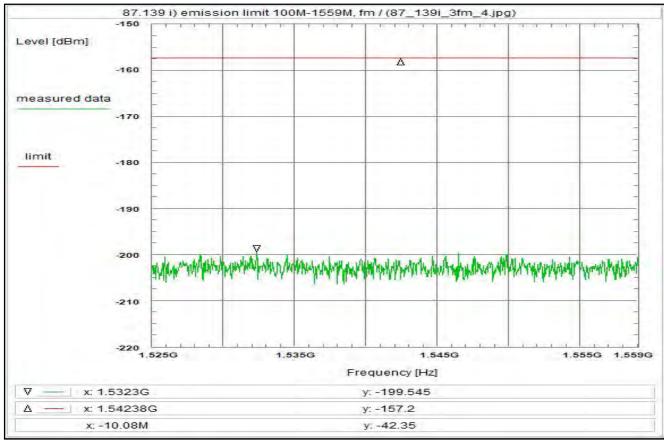
Environment condition:
Date & Time: Thu 04/Jun/2020 16:58:07 CTC advanced GmbH, Laboratory RC-SYS Location: Temperature: Humidity: 55 % 115 Vac / 400 Hz Voltage: Setup of measurement equipment: Start frequency: 100 MHz 1.524999 Stop frequency: 812.4995 1.424999 Center frequency: MHz GHz Frequency span: Resolution-BW: kHz Video-RW: 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 dB 1.2 dB Test antenna BW correction factor (3k -> 4k) Atten. between HPA and feedhorn 0.0 dB 0.0 dB additional attenuation (BNCo) 10.1 dB TOTAL CORRECTION: Remarks: Carrier-on state / Carrier in the middle of the band (fm) For EIRP calculation:

'worst-case' = maximum antenna gain

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## Plot No. 205



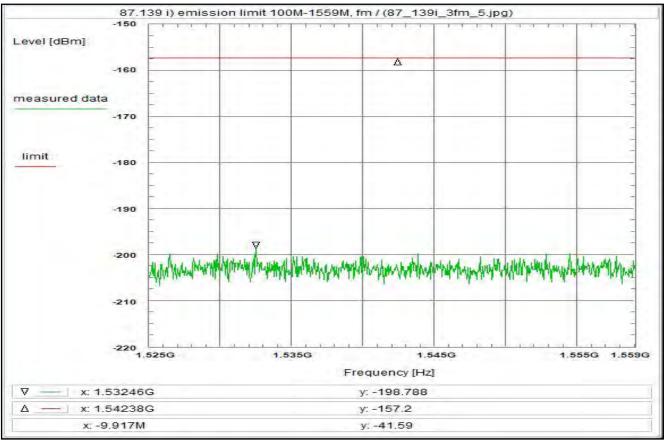
Subclause: 87.139 i) Frequencies, frequency tolerance and emission limitations Emission limitations Modulated rf-carrier in the middle of the band (fm)				
Limit: Limit according to 87.139(i)(1) The mean power of emissions shall be attenuated below the mean output power of the transmitter in accordance 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		
Location:	CTC advanced GmbH, Laboratory RC-SYS		
Temperature:	22		
Humidity:	55		
Voltage:	115	Vac / 400 Hz	
Setup of measurement eq			
Start frequency:		6 GHz	
Stop frequency:		GHz	
Center frequency:		. GHz	
Frequency span:		MHz	
Resolution-BW:		B kHz	
Video-BW:		) kHz	
Input attenuation:	0	- 45	
Trace-Mode:	Clear Write		
Detector-Mode:	Normal		
Correction:			
Directional coupler (DPLX		- 120.0 dB	
Coaxial cable (C220)	+	0.0 02	
DUT-Antenna	+		
Test antenna	+		
BW correction factor (3k -			
Atten. between HPA and f			
additional attenuation	+		
(BNCo)	+	. 0.2 0.5	
TOTAL CORRECTION:	-	107.7 dB	
Remarks: Carrier-on state / Carrier in For EIRP calculation: 'worst-case' = maximum a		he band (fm)	

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## Plot No. 206



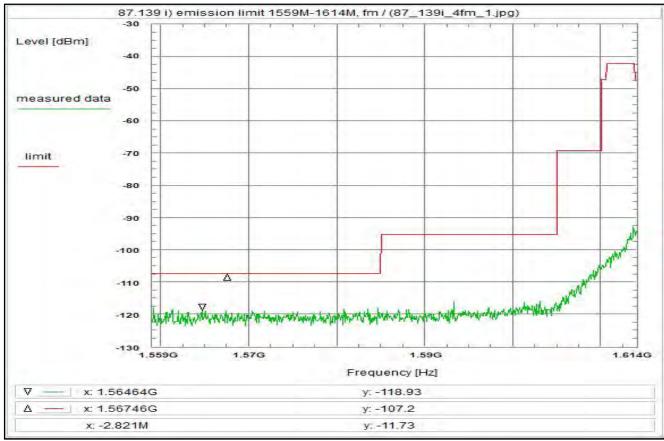
Subclause: 87.139 i) Frequencies, frequency tolerance and emission limitations Emission limitations Modulated rf-carrier in the middle of the band (fm)				
Limit: Limit according to 87.139(i)(1) The mean power of emissions shall be attenuated below the mean output power of the transmitter in accordance 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:				
<u>Test result:</u> Test passed				

Environment condition:			
Date & Time: Thu 04/Jun/2020 16:59:50			
Location: CTC advanced GmbH, Laboratory RC-SYS			
Temperature:	22		
Humidity:	55		
Voltage:	115	Vac / 400 Hz	
0.1 (			
Setup of measurement equency:	1.525	GHz	
Stop frequency:		GHz	
Center frequency:	1.542		
Frequency span:		MHz	
Resolution-BW:		kHz	
Video-BW:		kHz	
Input attenuation:	0		
Trace-Mode:	Clear Write	45	
Detector-Mode:	Normal		
Dottottoi mouo.	. 10		
Correction:			
Directional coupler (DPLX)	-		
Coaxial cable (C220)	+	*** *=	
DUT-Antenna	+	0.0 45.	
Test antenna	+		
BW correction factor (3k ->			
Atten. between HPA and fe			
additional attenuation	+		
(BNCo) TOTAL CORRECTION:	+		
TOTAL CORRECTION.	-	-101.1 UB	
Remarks:			
Carrier-on state / Carrier in	the middle of the	ne band (fm)	
For EIRP calculation:			
'worst-case' = maximum a	ntenna gain		

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## Plot No. 207



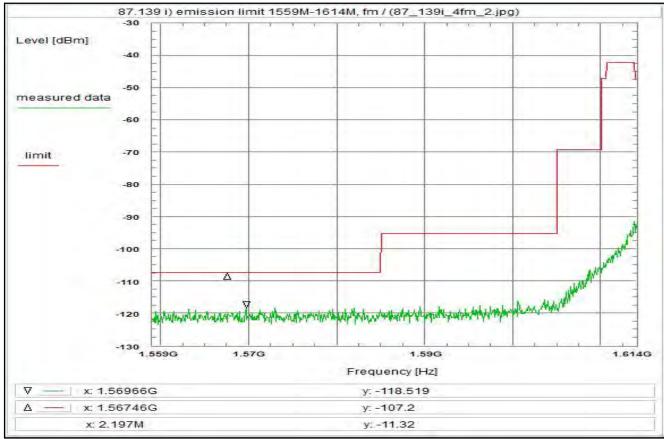
33 - 23 - 33
Subclause: 87.139 i) Frequencies, frequency tolerance and emission limitations Emission limitations
Modulated rf-carrier in the middle of the band (fm)  Limit:
Limit according to 87.139(i)(1) The mean power of emissions shall be attenuated below the mean output power of the transmitter in 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 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			

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## Plot No. 208



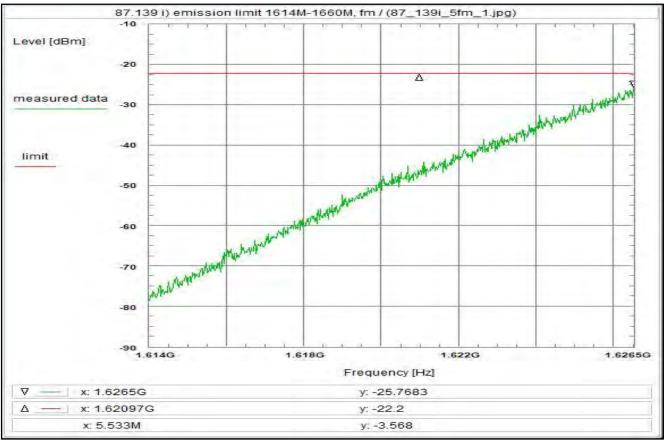
ı	
•	
	Subclause: 87.139 i) Frequencies, frequency tolerance and emission limitations Emission limitations Modulated rf-carrier in the middle of the band (fm)
	Limit: Limit according to 87.139(i)(1) The mean power of emissions shall be attenuated below the mean output power of the transmitter in accordance 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:
	<u>Test result:</u> Test passed

Temperature: 22	0.16:46:57 GmbH, Laboratory RC-SYS °C %		
	% Vac / 400 Hz		
Setup of measurement equipment:         1.559           Start frequency:         1.614           Center frequency:         1.5865           Frequency span:         55           Resolution-BW:         1           Video-BW:         3	GHz GHz GHz MHz kHz kHz		
Input attenuation: 0 Trace-Mode: Clear Write	dB		
Detector-Mode: Normal			
Correction:         Directional coupler (DPLX)         -           Coaxial cable (C220)         +           DUT-Antenna         +           Test antenna         +           BW correction factor (1k -> 1M)         +           Atten. between HPA and feedhorn additional attenuation         +           (BNCo)         +           TOTAL CORRECTION:         -	0.9 dB 0.0 dBi 0.0 dB 30.0 dB 0.0 dB 0.0 dB 12.6 dB		
Remarks: Carrier-on state / Carrier in the middle of the band (fm) For EIRP calculation: 'worst-case' = maximum antenna gain			

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#### 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 <u>Test equipment:</u> see test report chapter 7.2 BNCo, C220, R001 Remark: Test result: Test passed

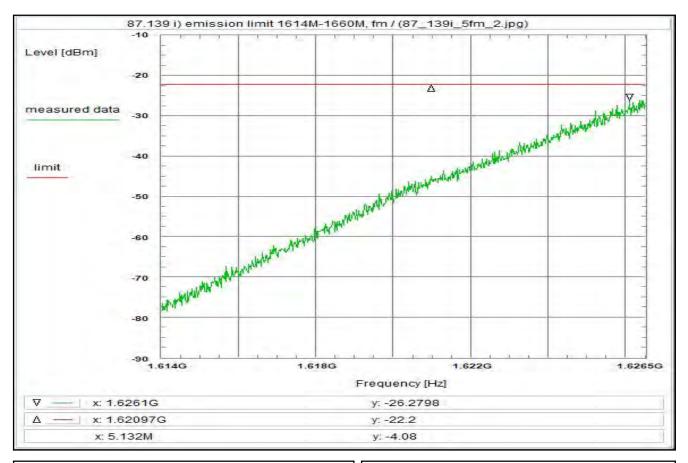
Environment condition:
Date & Time: Thu 04/Jun/2020 15:35:40 CTC advanced GmbH, Laboratory RC-SYS Location: Temperature: Humidity: 55 % 115 Vac / 400 Hz Voltage: Setup of measurement equipment: Start frequency: 1.614 GHz Stop frequency: 1.6265 GHz GHz MHz Center frequency: 1.62025 Frequency span: 12.5 Resolution-BW: 500 Hz 2 kHz 0 dB Video-RW: Input attenuation: Trace-Mode: Clear Write Detector-Mode: Normal Correction: Directional coupler + 0.0 dB + 0.9 dB Coaxial cable (C220) DUT-Antenna 0.0 dB 1.2 dB Test antenna BW correction factor (3k -> 4k) Atten. between HPA and feedhorn 0.0 dB additional attenuation 0.0 dB (BNCo) 64.9 dB TOTAL CORRECTION: Remarks: Carrier-on state / Carrier in the middle of the band (fm) For EIRP calculation:

'worst-case' = maximum antenna gain

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#### 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

<u>Test equipment:</u> see test report chapter 7.2 BNCo, C220, R001

Remark:

Test result: Test passed

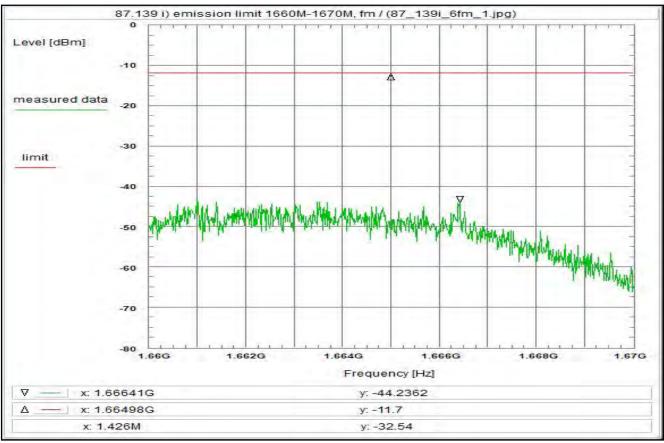
Environment condition: Date & Time: Thu 04/Jun/2020 15:36:35 CTC advanced GmbH, Laboratory RC-SYS Location: Temperature: Humidity: 55 % 115 Vac / 400 Hz Voltage: Setup of measurement equipment: Start frequency: 1.614 GHz Stop frequency: 1.6265 GHz GHz MHz Center frequency: 1.62025 Frequency span: 12.5 Resolution-BW: 500 Hz 2 kHz 0 dB Video-RW Input attenuation: Trace-Mode: Clear Write Detector-Mode: Normal Correction: Directional coupler + 0.0 dB + 0.9 dB Coaxial cable (C220) DUT-Antenna 0.0 dB 1.2 dB Test antenna BW correction factor (3k -> 4k) Atten. between HPA and feedhorn 0.0 dB additional attenuation 0.0 dB (BNCo) 64.9 dB TOTAL CORRECTION: Remarks: Carrier-on state / Carrier in the middle of the band (fm) For EIRP calculation:

'worst-case' = maximum antenna gain

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#### Plot No. 211



87.139 i) Frequencies, frequency tolerance and emission limitations Subclause: 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 <u>Test setup:</u> see test report chapter 7.2 setup 1.1higj <u>Test equipment:</u> see test report chapter 7.2 BNCo, C220, R001 Remark: Test result: Test passed

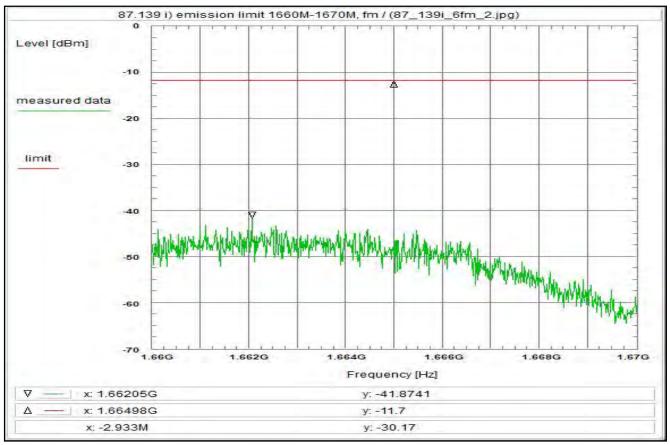
Environment condition:
Date & Time: Thu 04/Jun/2020 14:49:32 CTC advanced GmbH, Laboratory RC-SYS Location: Temperature: 55 % Humidity: 115 Vac / 400 Hz Voltage: Setup of measurement equipment: Start frequency: 1.66 GHz Stop frequency: 1.665 GHz 10 MHz Center frequency: Frequency span: Resolution-BW: kHz Video-RW: 10 kHz Input attenuation: 10 dB Trace-Mode: Clear Write Detector-Mode: Normal Correction: + 0.0 dB Directional coupler + 0.9 dB Coaxial cable (C220) DUT-Antenna 0.0 dB 8.2 dB Test antenna BW correction factor (3k -> 20k) Atten. between HPA and feedhom 0.0 dB + 0.0 dB additional attenuation (BNCo) 26.8 dB TOTAL CORRECTION: Remarks: Carrier-on state / Carrier in the middle of the band (fm) For EIRP calculation:

'worst-case' = maximum antenna gain

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#### Plot No. 212



87.139 i) Frequencies, frequency tolerance and emission limitations Subclause: 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 <u>Test equipment:</u> see test report chapter 7.2 BNCo, C220, R001 Remark:

Test result: Test passed

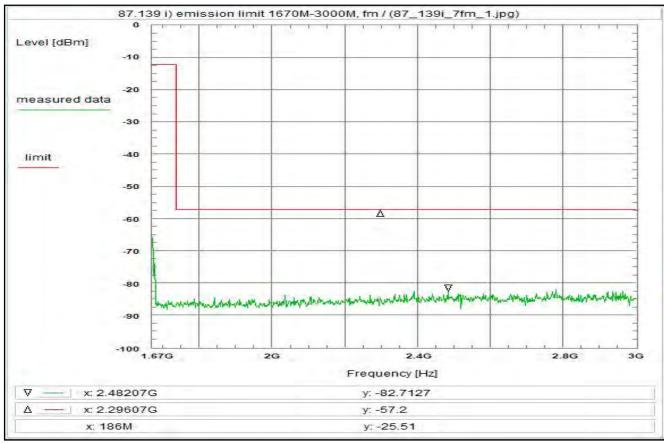
Environment condition:
Date & Time: Thu 04/Jun/2020 14:50:33 CTC advanced GmbH, Laboratory RC-SYS Location: Temperature: 55 % Humidity: 115 Vac / 400 Hz Voltage: Setup of measurement equipment: Start frequency: 1.66 GHz Stop frequency: 1.665 GHz 10 MHz Center frequency: Frequency span: Resolution-BW: kHz Video-RW· 10 kHz Input attenuation: 10 dB Trace-Mode: Clear Write Detector-Mode: Normal Correction: + 0.0 dB Directional coupler + 0.9 dB Coaxial cable (C220) DUT-Antenna 0.0 dB 8.2 dB Test antenna BW correction factor (3k -> 20k) Atten. between HPA and feedhorn 0.0 dB additional attenuation + 0.0 dB (BNCo) 26.8 dB TOTAL CORRECTION: Remarks: Carrier-on state / Carrier in the middle of the band (fm) For EIRP calculation:

'worst-case' = maximum antenna gain

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## Plot No. 213



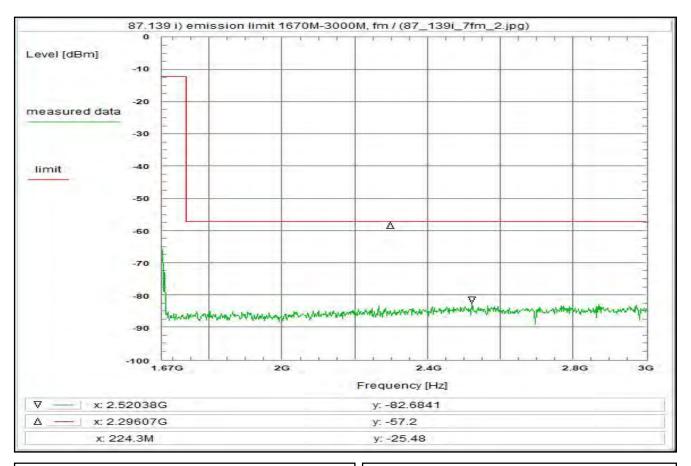
Subclause: 87.139 i) Frequencies, frequency tolerance and emission limitations Emission limitations Modulated rf-carrier in the middle of the band (fm)
Limit: Limit according to 87.139(i)(1) The mean power of emissions shall be attenuated below the mean output power of the transmitter in accordance with 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		
Center frequency:	2.335		
Frequency span:		GHz	
Resolution-BW:		kHz	
Video-BW:	10	kHz	
Input attenuation:	10	dB	
	ar Write		
Detector-Mode:	Normal		
Correction:			
Directional coupler	+	0.0	
Coaxial cable (C220)	+	1.1	
DUT-Antenna	+	0.0	
Test antenna	+		
BW correction factor (3k -> 4k)	+		
Atten. between HPA and feedhorn	-	0.0	
additional attenuation	+	0.0	
(BNCo)	+		
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			

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#### Plot No. 214



87.139 i) Frequencies, frequency tolerance and emission limitations Subclause: 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

<u>Test setup:</u> see test report chapter 7.2 setup 1.1higj

<u>Test equipment:</u> see test report chapter 7.2: BNCo, C220, R001

Remark:

Test result: Test passed

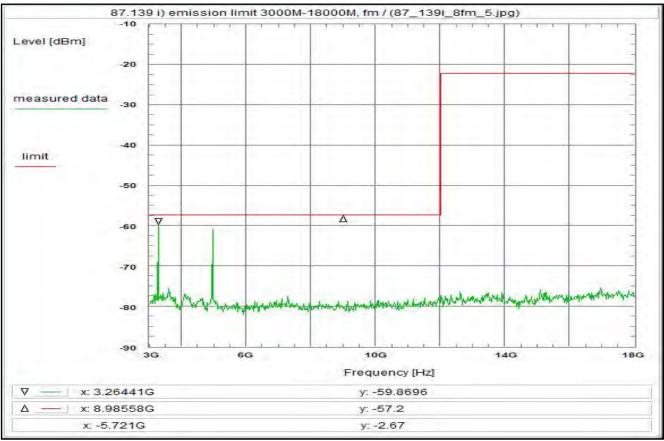
Environment condition:
Date & Time: Thu 04/Jun/2020 14:46:51 CTC advanced GmbH, Laboratory RC-SYS Location: Temperature: Humidity: 55 % 115 Vac / 400 Hz Voltage: Setup of measurement equipment: Start frequency: 1.67 GHz Stop frequency: 2.335 GHz 1.33 GHz Center frequency: Frequency span: Resolution-BW: kHz Video-RW: 10 kHz Input attenuation: 10 dB Trace-Mode: Clear Write Detector-Mode: Normal Correction: Directional coupler + 0.0 dB Coaxial cable (C220) 1.1 DUT-Antenna 0.0 dBi 0.0 dB 1.2 dB Test antenna BW correction factor (3k -> 4k) Atten. between HPA and feedhorn 0.0 dB additional attenuation 0.0 dB (BNCo) 10.2 dB TOTAL CORRECTION: Remarks: Carrier-on state / Carrier in the middle of the band (fm) For EIRP calculation:

'worst-case' = maximum antenna gain

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## Plot No. 215



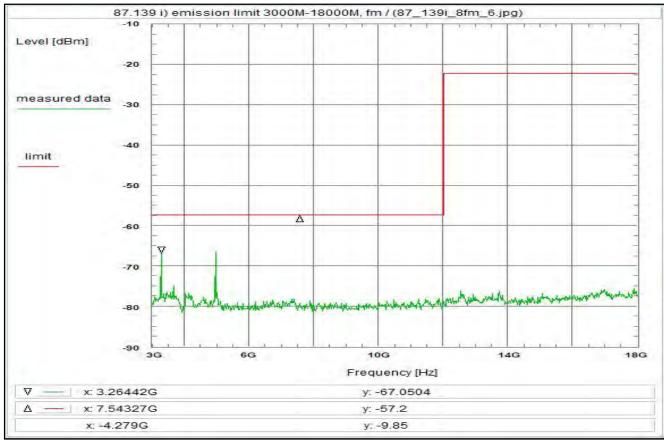
Subclause: 87.139 a) Frequencies, frequency tolerance and emission limitations Emission limitations Modulated rf-carrier in the middle of the band (fm)
Limit: Limit according to 87.139 a): 50-100% of assigned bw: -25dBc/4kHz 100-250% of assigned bw: -35dBc/4kHz > 250% of assigned bw: -43+10log(Pmax)dBc/4kHz = -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
<u>Test setup:</u> see test report chapter 7.2 setup 1.1higj
<u>Test equipment:</u> see test report chapter 7.2: C220, R001, U312, HPF
Remark:
<u>Test result:</u> 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 equip	ment:		
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 ->			
Atten. between HPA and fee	dhorn -	0.0	
(HPF)	+	20.6	dB
TOTAL CORRECTION:	+	18.9	dB
Remarks:			
Carrier-on state / Carrier in tl	ne middle of the	e band	(fm)
For EIRP calculation:			
'worst-case' = maximum ant	enna gain		

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#### Plot No. 216



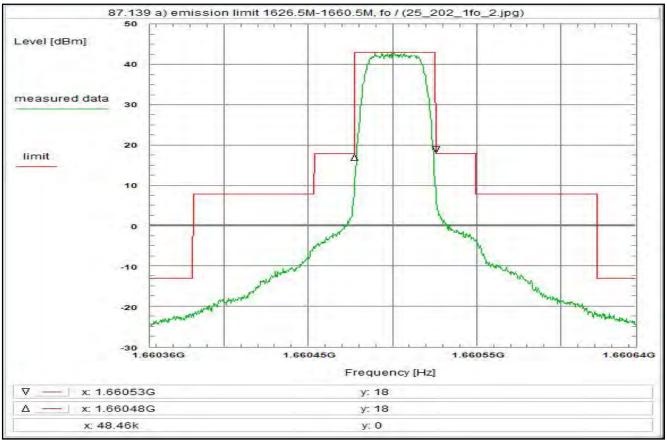
Subclause: 87.139 a) Frequencies, frequency tolerance and emission limitations Emission limitations Modulated rf-carrier in the middle of the band (fm) Limit: Limit according to 87.139 a): 50-100% of assigned bw: -25dBc/4kHz 100-250% of assigned bw: -35dBc/4kHz > 250% of assigned bw: -43+10log(Pmax)dBc/4kHz = -43 dBW The mean power of emissions shall be attenuated below the mean output power of the transmitter in accordance with the above schedule. 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 <u>Test setup:</u> see test report chapter 7.2 setup 1.1higj <u>Test equipment:</u> 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 CTC advanced GmbH, Laboratory RC-SYS Location: Temperature: Humidity: 55 % 115 Vac / 400 Hz Voltage: Setup of measurement equipment: Start frequency: 3 GHz Stop frequency: 10.5 GHz 15 GHz Center frequency: Frequency span: Resolution-BW: 10 kHz Video-RW 30 kHz Input attenuation: dB Max-Hold Detector-Mode: Pos Peak Correction: Directional coupler + 0.0 dB 2.3 dB Coaxial cable (C220) 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 20.6 dB (HPF) 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

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#### Plot No. 217



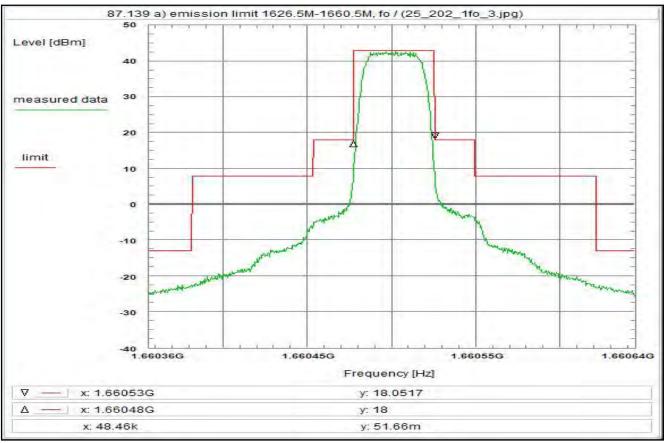
Subclause: 87.139 a) Frequencies, frequency tolerance and emission limitations Emission limitations Modulated rf-carrier in the middle of the band (fo) Limit: Limit according to 87.139 a):
Limit according to 87.139 a):
50-100% of assigned bw: -25dBc/4kHz
100-250% of assigned bw: -35dBc/4kHz
> 250% of 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 <u>Test equipment:</u> see test report chapter 7.2: C220, Power Splitter, R001, U311, U312 Test result: Test passed

Environment condition: Date & Time: Tue 30/Jun/2020 11:31:20 CTC advanced GmbH, Laboratory RC-SYS Location: Temperature: 55 % 115 Vac / 400 Hz Humidity: Voltage: Setup of measurement equipment: Start frequency: 1. 1.660356 GHz 1.660644 Stop frequency: GHz GHz kHz Center frequency: Frequency span: 288 Resolution-BW: kHz Video-RW: 10 kHz Input attenuation: 30 dB Clear Write Detector-Mode: AVG Correction: Directional coupler 0.0 dB 0.9 dB Coaxial cable (C220) DUT-Antenna 12.0 dBi 0.0 dB 1.2 dB Test antenna BW correction factor (3k -> 4k) Atten. between HPA and feedhorn 0.0 dB Attenuation (U312) 19.5 dB 9.7 dB Attenuation (U311) Power Splitter
TOTAL CORRECTION: 50.0 dB Carrier-on state / Carrier at the upper edge of the band (fo) Reference of limit = 42 dBm, spectrum mask referenced to necessary bandwidth

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#### Plot No. 218



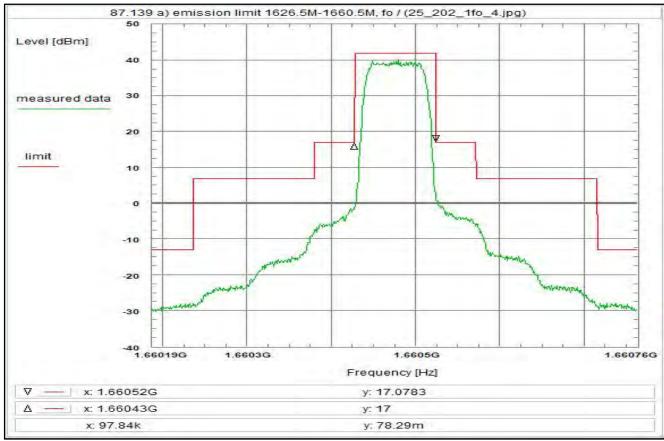
Subclause: 87.139 a) Frequencies, frequency tolerance and emission limitations Emission limitations Modulated rf-carrier in the middle of the band (fo) Limit: Limit according to 87.139 a):
Limit according to 87.139 a):
50-100% of assigned bw: -25dBc/4kHz
100-250% of assigned bw: -35dBc/4kHz
> 250% of 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 <u>Test equipment:</u> see test report chapter 7.2: C220, Power Splitter, R001, U311, U312 Test result: Test passed

Environment condition: Date & Time: Tue 30/Jun/2020 11:32:54 CTC advanced GmbH, Laboratory RC-SYS Location: Temperature: Humidity: 55 115 Vac / 400 Hz Voltage: Setup of measurement equipment: Start frequency: 1. 1.660356 GHz 1.660644 Stop frequency: GHz GHz kHz Center frequency: 1.6605 Frequency span: 288 Resolution-BW: kHz Video-RW 10 kHz Input attenuation: 30 dB Clear Write Detector-Mode: AVG Correction: Directional coupler + 0.0 dB 0.9 dB Coaxial cable (C220) DUT-Antenna 12.0 dBi 0.0 dB 1.2 dB Test antenna BW correction factor (3k -> 4k) Atten. between HPA and feedhorn 0.0 dB Attenuation (U312) 19.5 dB Attenuation (U311) 9.7 dB Power Splitter
TOTAL CORRECTION: 50.0 dB Carrier-on state / Carrier at the upper edge of the band (fo) Reference of limit = 42 dBm, spectrum mask referenced to necessary bandwidth

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#### Plot No. 219



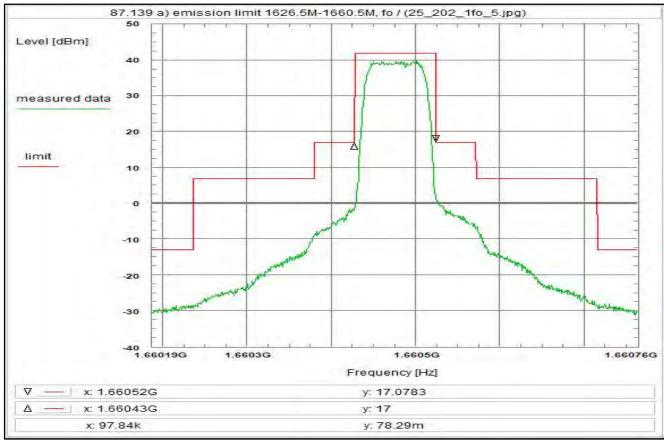
Subclause: 87.139 a) Frequencies, frequency tolerance and emission limitations Emission limitations Modulated rf-carrier in the middle of the band (fo) Limit: Limit according to 87.139 a):
50-100% of assigned bw: -25dBc/4kHz
100-250% of assigned bw: -35dBc/4kHz
> 250% of assigned bw: -43+10log(Pmax)dBc/4kHz = -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 <u>Test equipment:</u> see test report chapter 7.2: C220, R001, U312, U311, Power Splitter Test result: Test passed

Environment condition: Date & Time: Tue 30/Jun/2020 11:34:59 CTC advanced GmbH, Laboratory RC-SYS Location: Temperature: Humidity: 55 115 Vac / 400 Hz Voltage: Setup of measurement equipment: Start frequency: 1. 1.660187 GHz 1.660763 Stop frequency: GHz GHz kHz Center frequency: 1.660475 Frequency span: 576 Resolution-BW: kHz Video-RW: 10 kHz Input attenuation: 30 dB Clear Write Detector-Mode: AVG Correction: Directional coupler + 0.0 dB 0.9 dB Coaxial cable (C220) DUT-Antenna 12.0 dBi 0.0 dB 1.2 dB Test antenna BW correction factor (3k -> 4k) Atten. between HPA and feedhorn 0.0 dB Attenuation (U312) 19.5 dB 9.7 dB Attenuation (U311) Power Splitter
TOTAL CORRECTION: 50.0 dB Carrier-on state / Carrier at the upper edge of the band (fo) Reference of limit = 42 dBm, spectrum mask referenced to necessary bandwidth

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# Plot No. 220



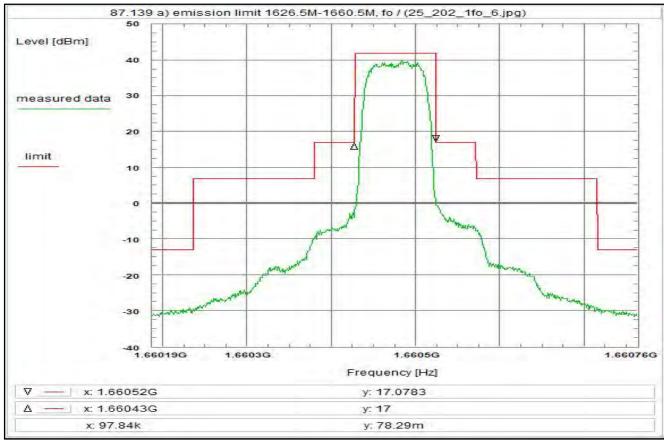
Subclause: 87.139 a) Frequencies, frequency tolerance and emission limitations Emission limitations Modulated rf-carrier in the middle of the band (fo)
Limit: Limit according to 87.139 a): 50-100% of assigned bw: -25dBc/4kHz 100-250% of assigned bw: -35dBc/4kHz > 250% of assigned bw: -43+10log(Pmax)dBc/4kHz = -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	
Voltage. 115 Vac / 400 112	
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	
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	
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# Plot No. 221



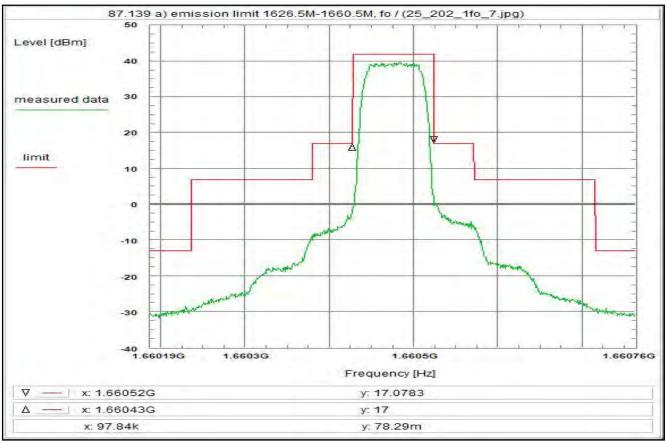
ı	
	Subclause: 87.139 a) Frequencies, frequency tolerance and emission limitations Emission limitations Modulated rf-carrier in the middle of the band (fo)
	Limit: Limit according to 87.139 a): 50-100% of assigned bw: -25dBc/4kHz 100-250% of assigned bw: -35dBc/4kHz > 250% of assigned bw: -43+10log(Pmax)dBc/4kHz = -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
I	Remark:
	Test result: Test passed

Environment condition:					
Date & Time:	Tue 30/Jun/2020				
Location: CTC advanced GmbH, Laboratory RC-SYS					
Temperature:	22				
Humidity:	55				
Voltage:	115	Vac / 400 Hz			
Setup of measurement e					
Start frequency:	1.660187				
Stop frequency:	1.660763				
Center frequency:	1.660475				
Frequency span:		kHz			
Resolution-BW:		kHz			
Video-BW:		kHz			
Input attenuation:	30				
Trace-Mode:	Clear Write				
Detector-Mode:	AVG				
Correction:					
Directional coupler	+	0.0 45			
Coaxial cable (C220)	+				
DUT-Antenna	+				
Test antenna	+				
BW correction factor (3k Atten. between HPA and	-> 4k) +				
Attenuation (U312)		0.0 dB 19.5 dB			
Attenuation (U311)	+				
Power Splitter	+				
TOTAL CORRECTION:					
TOTAL CONTILOTION.		30.0 db			
Remarks:	-4 46	of the sheet (fr)			
Carrier-on state / Carrier Reference of limit = 42 d		sk referenced to necessary bandwidth			
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### Plot No. 222



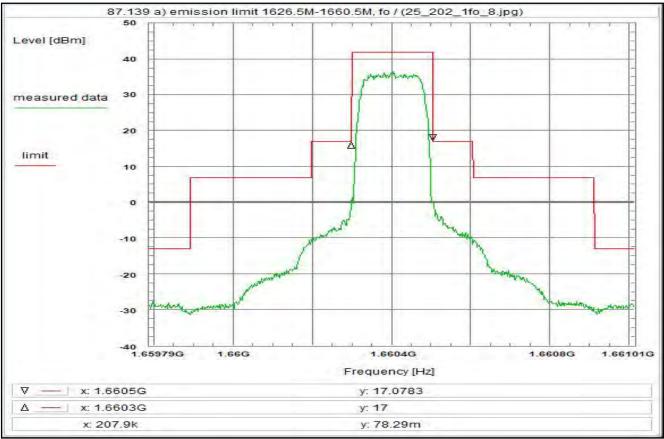
Subclause: 87.139 a) Frequencies, frequency tolerance and emission limitations Emission limitations Modulated rf-carrier in the middle of the band (fo) Limit: Limit according to 87.139 a):
Limit according to 87.139 a):
50-100% of assigned bw: -25dBc/4kHz
100-250% of assigned bw: -35dBc/4kHz
> 250% of 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 <u>Test equipment:</u> see test report chapter 7.2: C220, Power Splitter, R001, U311, U312 Test result: Test passed

Environment condition: Date & Time: Tue 30/Jun/2020 11:41:07 CTC advanced GmbH, Laboratory RC-SYS Location: Temperature: Humidity: 55 115 Vac / 400 Hz Voltage: Setup of measurement equipment: Start frequency: 1. 1.660187 GHz 1.660763 Stop frequency: GHz kHz Center frequency: 1.660475 Frequency span: 576 Resolution-BW: kHz Video-RW 10 kHz Input attenuation: 30 dB Clear Write Detector-Mode: AVG Correction: Directional coupler + 0.0 dB 0.9 dB Coaxial cable (C220) DUT-Antenna 12.0 dBi 0.0 dB 1.2 dB Test antenna BW correction factor (3k -> 4k) Atten. between HPA and feedhom 0.0 dB 19.5 dB Attenuation (U312) Attenuation (U311) 9.7 dB Power Splitter
TOTAL CORRECTION: 50.0 dB Carrier-on state / Carrier at the upper edge of the band (fo) Reference of limit = 42 dBm, spectrum mask referenced to necessary bandwidth

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#### Plot No. 223



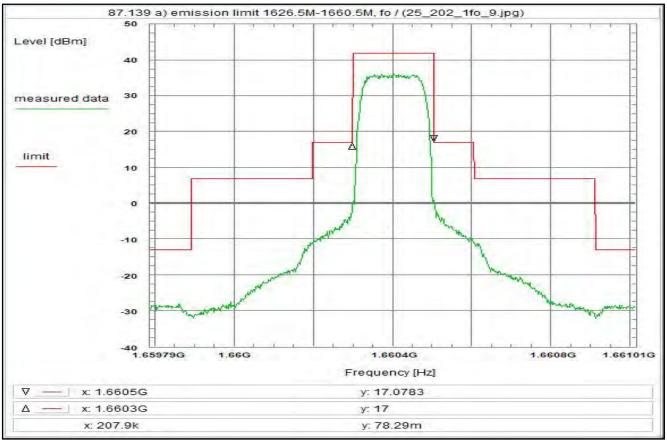
Subclause: 87.139 a) Frequencies, frequency tolerance and emission limitations Emission limitations Modulated rf-carrier in the middle of the band (fo) Limit: Limit according to 87.139 a):
Limit according to 87.139 a):
50-100% of assigned bw: -25dBc/4kHz
100-250% of assigned bw: -35dBc/4kHz
> 250% of 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 <u>Test equipment:</u> see test report chapter 7.2: C220, R001, U312, U311, Power Splitter Test result: Test passed

Environment condition: Date & Time: Tue 30/Jun/2020 11:44:35 CTC advanced GmbH, Laboratory RC-SYS Location: Temperature: Humidity: 55 115 Vac / 400 Hz Voltage: Setup of measurement equipment: Start frequency: 1. 1.659788 GHz Stop frequency: 1.661012 GHz 1.6604 1.224 GHz MHz Center frequency: Frequency span: Resolution-BW: kHz Video-RW 10 kHz Input attenuation: 30 dB Clear Write Detector-Mode: AVG Correction: Directional coupler + 0.0 dB 0.9 dB Coaxial cable (C220) DUT-Antenna 12.0 dBi 0.0 dB 1.2 dB Test antenna BW correction factor (3k -> 4k) Atten. between HPA and feedhorn 0.0 dB Attenuation (U312) 19.5 dB Attenuation (U311) 9.7 dB Power Splitter
TOTAL CORRECTION: 50.0 dB Carrier-on state / Carrier at the upper edge of the band (fo) Reference of limit = 42 dBm, spectrum mask referenced to necessary bandwidth

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#### Plot No. 224



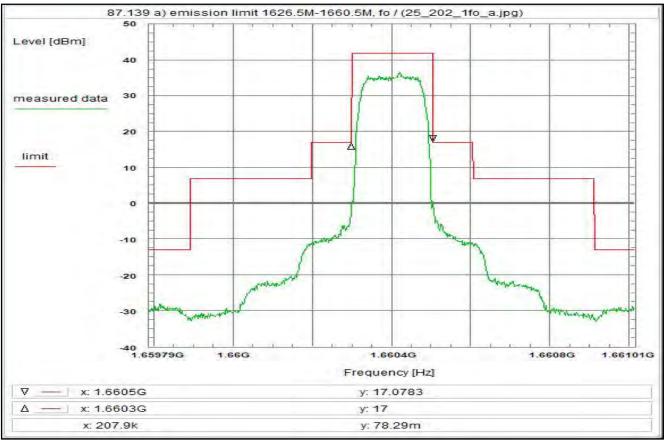
Subclause: 87.139 a) Frequencies, frequency tolerance and emission limitations Emission limitations Modulated rf-carrier in the middle of the band (fo) Limit: Limit according to 87.139 a):
Limit according to 87.139 a):
50-100% of assigned bw: -25dBc/4kHz
100-250% of assigned bw: -35dBc/4kHz
> 250% of 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 <u>Test equipment:</u> see test report chapter 7.2: C220, Power Splitter, R001, U311, U312 Test result: Test passed

Environment condition: Date & Time: Tue 30/Jun/2020 11:46:59 CTC advanced GmbH, Laboratory RC-SYS Location: Temperature: Humidity: 55 115 Vac / 400 Hz Voltage: Setup of measurement equipment: Start frequency: 1. 1.659788 GHz Stop frequency: 1.661012 GHz 1.6604 1.224 GHz MHz Center frequency: Frequency span: Resolution-BW: kHz Video-RW 10 kHz Input attenuation: 30 dB Clear Write Detector-Mode: AVG Correction: Directional coupler + 0.0 dB 0.9 dB Coaxial cable (C220) DUT-Antenna 12.0 dBi 0.0 dB 1.2 dB Test antenna BW correction factor (3k -> 4k) Atten. between HPA and feedhorn 0.0 dB Attenuation (U312) 19.5 dB 9.7 dB Attenuation (U311) Power Splitter
TOTAL CORRECTION: 50.0 dB Carrier-on state / Carrier at the upper edge of the band (fo) Reference of limit = 42 dBm, spectrum mask referenced to necessary bandwidth

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# Plot No. 225



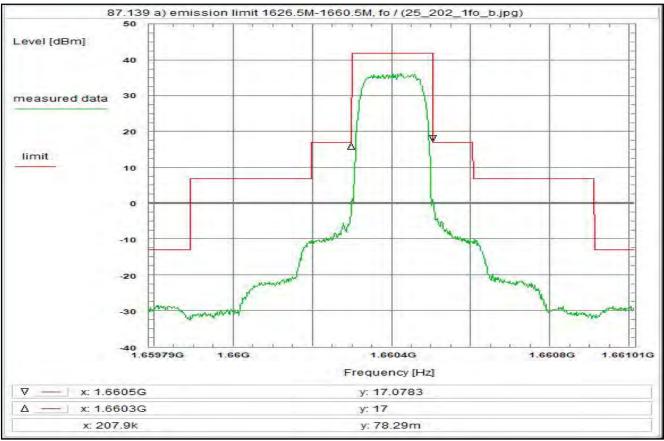
<u>Subclause:</u> 8	7.139 a)Frequencies, frequency tolerance and emission limitations Emission limitations Modulated rf-carrier in the middle of the band (fo)
100-250% of assigned 250% of assigned The mean power of below the mean of	87.139 a): ned bw: -25dBc/4kHz ned bw: -35dBc/4kHz de bw: -35dBc/4kHz ed bw: -43+10log(Pmax)dBc/4kHz = -43 dBW of emissions shall be attenuated utput power of the transmitter t the above schedule.
Test results: see plot (an explic	it table was not generated)
Operating condition operating condition A700S Class 6 AC	n 1, see test report chapter 5.4
Test setup: see test report cha	apter 7.2 setup 1.1hgj
Test equipment: see test report cha	apter 7.2: C220, Power Splitter, R001, U311, U312
Remark:	
Test result: 1	est passed

Temperature:	ced ( 22	GmbH, Laboratory RC-SYS °C
Humidity:	55	
Voltage:	115	Vac / 400 Hz
Frequency'span: 1.2 Resolution-BW: Video-BW: Input attenuation: Trace-Mode: Clear W	012 604 224 3 10 30	GHz GHz MHz kHz kHz
Correction: Directional coupler Coaxial cable (C220) DUT-Antenna Test antenna BW correction factor (3k -> 4k) Atten. between HPA and feedhorn Attenuation (U312) Attenuation (U311) Power Splitter TOTAL CORRECTION:	+ + + + + + + + +	0.9 dB 12.0 dBi 0.0 dB 1.2 dB 0.0 dB 19.5 dB 9.7 dB 6.7 dB
Remarks: Carrier-on state / Carrier at the upper e Reference of limit = 42 dBm, spectrum		

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#### 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):

Limit according to 87.139 a):

50-100% of assigned bw: -25dBc/4kHz

100-250% of assigned bw: -35dBc/4kHz

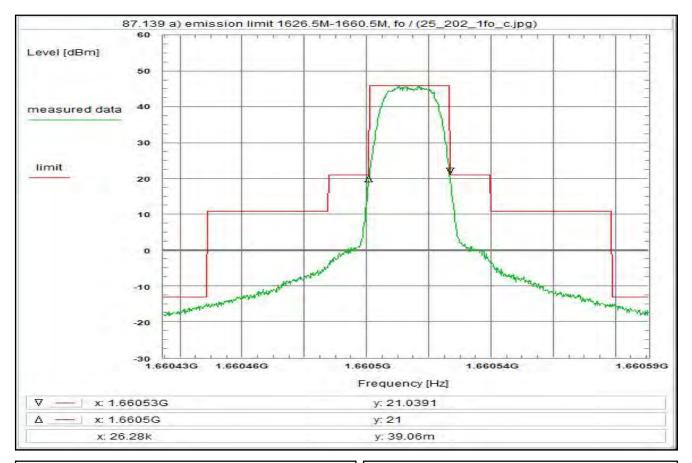
> 250% of assigned bw: -43+10log(Pmax)dBc/4kHz = -43 dBW The mean power of emissions shall be attenuated below the mean output power of the transmitter in accordance with the above schedule. Test results: see plot (an explicit table was not generated) Operating condition of DUT: operating condition 1, see test report chapter 5.4 A700S Class 6 ACD, R20T4.5QD Test setup: see test report chapter 7.2 setup 1.1hgj <u>Test equipment:</u> see test report chapter 7.2: C220, Power Splitter, R001, U311, U312 Test result: Test passed

Environment condition: Date & Time: Tue 30/Jun/2020 11:50:09 CTC advanced GmbH, Laboratory RC-SYS Location: Temperature: Humidity: 55 115 Vac / 400 Hz Voltage: Setup of measurement equipment: Start frequency: 1. 1.659788 GHz Stop frequency: 1.661012 GHz 1.6604 1.224 GHz MHz Center frequency: Frequency span: Resolution-BW: kHz Video-RW 10 kHz Input attenuation: 30 dB Clear Write Detector-Mode: AVG Correction: Directional coupler + 0.0 dB 0.9 dB Coaxial cable (C220) DUT-Antenna 12.0 dBi 0.0 dB 1.2 dB Test antenna BW correction factor (3k -> 4k) Atten. between HPA and feedhorn 0.0 dB Attenuation (U312) 19.5 dB Attenuation (U311) 9.7 dB Power Splitter
TOTAL CORRECTION: 50.0 dB Carrier-on state / Carrier at the upper edge of the band (fo) Reference of limit = 42 dBm, spectrum mask referenced to necessary bandwidth

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#### 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):
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

<u>Test equipment:</u> see test report chapter 7.2: C220, R001, U312, U311, Power Splitter

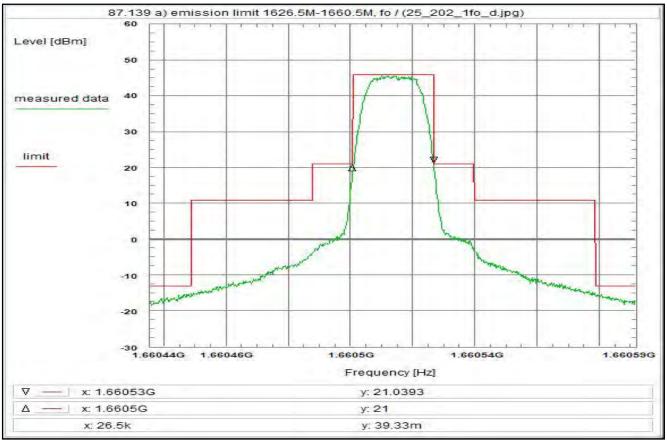
Test result: Test passed

Environment condition: Date & Time: Tue 30/Jun/2020 11:52:03 CTC advanced GmbH, Laboratory RC-SYS Location: Temperature: 55 % 115 Vac / 400 Hz Humidity: Voltage: Start frequency: 1.6604345 GHz 1.6605905 Stop frequency: GHz GHz kHz Center frequency: 1.6605125 Frequency span: 156 Resolution-BW: kHz Video-RW 10 kHz Input attenuation: 30 dB Clear Write Detector-Mode: AVG Correction: Directional coupler + 0.0 dB 0.9 dB Coaxial cable (C220) DUT-Antenna 12.0 dBi 0.0 dB 1.2 dB Test antenna BW correction factor (3k -> 4k) Atten. between HPA and feedhorn 0.0 dB Attenuation (U312) 19.5 dB Attenuation (U311) 9.7 dB Power Splitter
TOTAL CORRECTION: 50.0 dB Carrier-on state / Carrier at the upper edge of the band (fo) Reference of limit = 42 dBm, spectrum mask referenced to necessary bandwidth

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### 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):

100-250% of assigned bw: -25dBc/4kHz

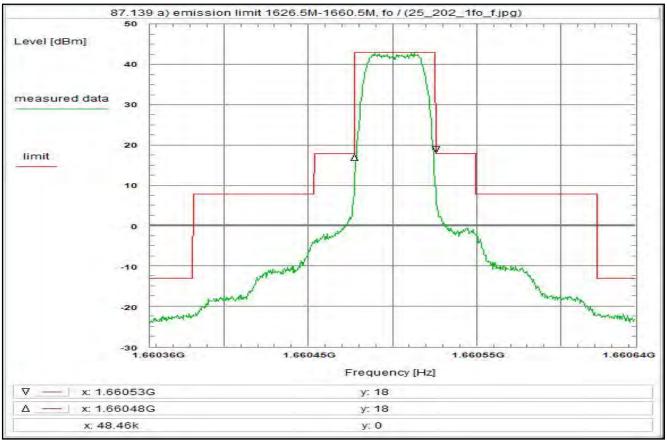
250% of assigned bw: -43+10log(Pmax)dBc/4kHz = -43 dBW The mean power of emissions shall be attenuated below the mean output power of the transmitter in accordance with the above schedule. Test results: see plot (an explicit table was not generated) Operating condition of DUT: operating condition 1, see test report chapter 5.4 A700S Class 6 ACD, R20T405QD Test setup: see test report chapter 7.2 setup 1.1hgj <u>Test equipment:</u> see test report chapter 7.2: C220, R001, U312, U311, Power Splitter Test result: Test passed

Environment condition: Date & Time: Tue 30/Jun/2020 11:54:23 CTC advanced GmbH, Laboratory RC-SYS Location: Temperature: Humidity: 55 % 115 Vac / 400 Hz Voltage: Start frequency: 1.6604355 GHz 1.6605915 Stop frequency: GHz kHz Center frequency: 1.6605135 Frequency span: 156 Resolution-BW: kHz Video-RW 10 kHz Input attenuation: 30 dB Clear Write Detector-Mode: AVG Correction: Directional coupler + 0.0 dB 0.9 dB Coaxial cable (C220) DUT-Antenna 12.0 dBi 0.0 dB 1.2 dB Test antenna BW correction factor (3k -> 4k) Atten. between HPA and feedhorn 0.0 dB Attenuation (U312) 19.5 dB Attenuation (U311) 9.7 dB Power Splitter
TOTAL CORRECTION: 50.0 dB Carrier-on state / Carrier at the upper edge of the band (fo) Reference of limit = 42 dBm, spectrum mask referenced to necessary bandwidth

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### 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: -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

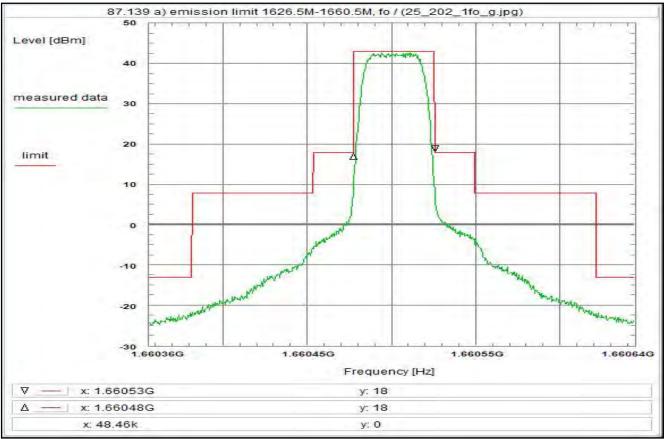
Remark:

Environment condition: Date & Time: Wed 01/Jul/2020 10:05:46 CTC advanced GmbH, Laboratory RC-SYS Location: Temperature: 55 % 115 Vac / 400 Hz Humidity: Voltage: Setup of measurement equipment: Start frequency: 1. 1.660356 GHz 1.660644 Stop frequency: GHz GHz kHz Center frequency: 1.6605 Frequency span: 288 Resolution-BW: kHz Video-RW: 10 kHz Input attenuation: 30 dB Clear Write Detector-Mode: AVG Correction: Directional coupler 0.0 dB Coaxial cable (C220) 0.9 dB DUT-Antenna 12.0 dBi 0.0 dB 1.2 dB Test antenna BW correction factor (3k -> 4k) Atten. between HPA and feedhorn 0.0 dB Attenuation (U312) 19.5 dB 9.7 dB Attenuation (U311) Power Splitter
TOTAL CORRECTION: 50.0 dB Carrier-on state / Carrier at the upper edge of the band (fo) Reference of limit = 42 dBm, spectrum mask referenced to necessary bandwidth

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#### 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:

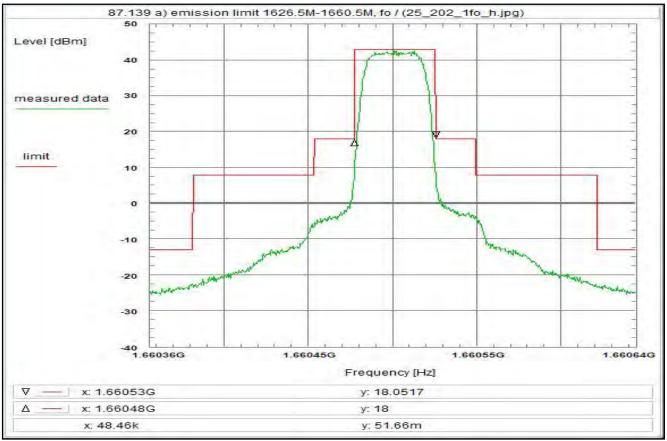
Test result: Test passed

Environment condition: Date & Time: Wed 01/Jul/2020 10:06:38 CTC advanced GmbH, Laboratory RC-SYS Location: Temperature: Humidity: 55 115 Vac / 400 Hz Voltage: Setup of measurement equipment: Start frequency: 1. 1.660356 GHz 1.660644 Stop frequency: GHz GHz kHz Center frequency: Frequency span: 288 Resolution-BW: kHz Video-RW: 10 kHz Input attenuation: 30 dB Clear Write Detector-Mode: AVG Correction: Directional coupler 0.0 dB 0.9 dB Coaxial cable (C220) DUT-Antenna 12.0 dBi 0.0 dB 1.2 dB Test antenna BW correction factor (3k -> 4k) Atten. between HPA and feedhorn 0.0 dB Attenuation (U312) 19.5 dB 9.7 dB Attenuation (U311) Power Splitter
TOTAL CORRECTION: 50.0 dB Carrier-on state / Carrier at the upper edge of the band (fo) Reference of limit = 42 dBm, spectrum mask referenced to necessary bandwidth

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#### 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: -35dBc/4kHz
> 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 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:

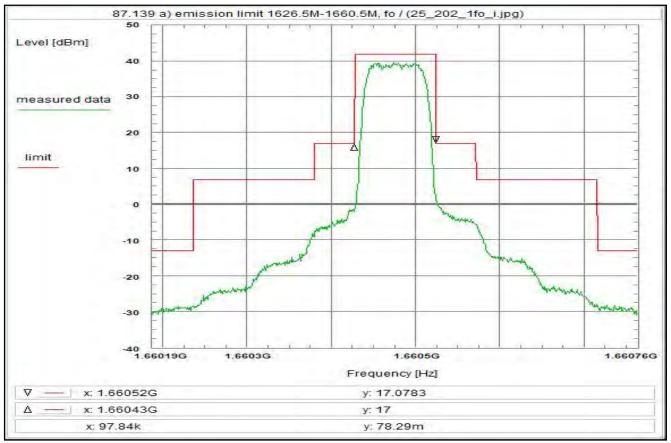
Test result: Test passed

Environment condition: Date & Time: Wed 01/Jul/2020 10:07:23 CTC advanced GmbH, Laboratory RC-SYS Location: Temperature: Humidity: 55 115 Vac / 400 Hz Voltage: Setup of measurement equipment: Start frequency: 1. 1.660356 GHz 1.660644 Stop frequency: GHz GHz kHz Center frequency: 1.6605 Frequency span: 288 Resolution-BW: kHz Video-RW: 10 kHz Input attenuation: 30 dB Clear Write Detector-Mode: AVG Correction: Directional coupler 0.0 dB 0.9 dB Coaxial cable (C220) DUT-Antenna 12.0 dBi 0.0 dB 1.2 dB Test antenna BW correction factor (3k -> 4k) Atten. between HPA and feedhorn 0.0 dB 19.5 dB Attenuation (U312) Attenuation (U311) 9.7 dB Power Splitter
TOTAL CORRECTION: 50.0 dB Carrier-on state / Carrier at the upper edge of the band (fo) Reference of limit = 42 dBm, spectrum mask referenced to necessary bandwidth

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#### 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
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 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:

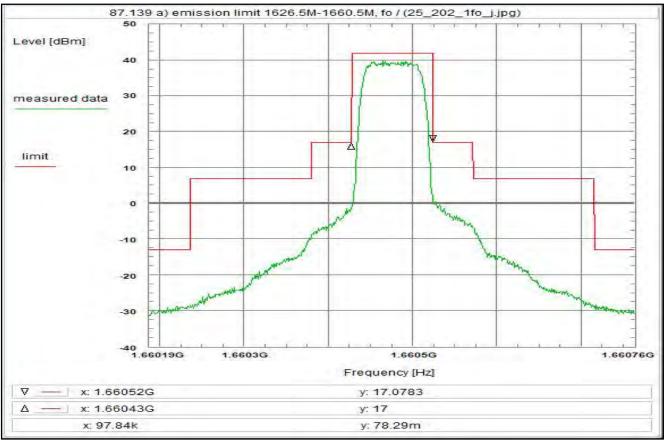
Test result: Test passed

Environment condition: Date & Time: Wed 01/Jul/2020 10:13:14 CTC advanced GmbH, Laboratory RC-SYS Location: Temperature: Humidity: 55 115 Vac / 400 Hz Voltage: Setup of measurement equipment: Start frequency: 1. 1.660187 GHz 1.660763 Stop frequency: GHz GHz kHz Center frequency: 1.660475 Frequency span: 576 Resolution-BW: kHz Video-RW: 10 kHz Input attenuation: 30 dB Clear Write Detector-Mode: AVG Correction: Directional coupler + 0.0 dB 0.9 dB Coaxial cable (C220) DUT-Antenna 12.0 dBi 0.0 dB 1.2 dB Test antenna BW correction factor (3k -> 4k) Atten. between HPA and feedhorn 0.0 dB Attenuation (U312) 19.5 dB 9.7 dB Attenuation (U311) Power Splitter
TOTAL CORRECTION: 50.0 dB Carrier-on state / Carrier at the upper edge of the band (fo) Reference of limit = 42 dBm, spectrum mask referenced to necessary bandwidth

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# Plot No. 233



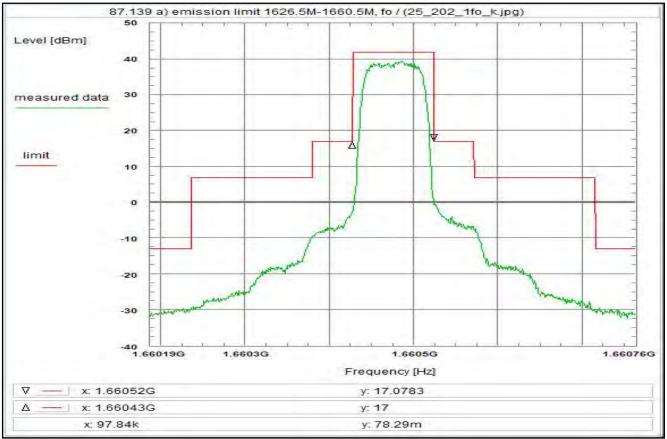
Subclause: 87.139 a) Frequencies, frequency tolerance and emission limitations Emission limitations Modulated rf-carrier in the middle of the band (fo)
Limit: Limit according to 87.139 a): 50-100% of assigned bw: -25dBc/4kHz 100-250% of assigned bw: -35dBc/4kHz > 250% of assigned bw: -43+10log(Pmax)dBc/4kHz = -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		•
Humidity:	55	%	
Voltage:	115	Vac /	400 Hz
Setup of measurement e			
Start frequency:	1.660187	GHz	
Stop frequency:	1.660763	GHz	
Center frequency:	1.660475	GHz	
Frequency span:	576		
Resolution-BW:		kHz	
Video-BW:	10		
Input attenuation:	30	dB	
Trace-Mode:	Clear Write		
Detector-Mode:	AVG		
Correction:			
Directional coupler	+		
Coaxial cable (C220)	+		dB
DUT-Antenna	+		
Test antenna	+		dB
BW correction factor (3k			dB
Atten. between HPA and	feedhorn -		dB
Attenuation (U312)	+		-
Attenuation (U311)	+		dB
Power Splitter	+		dB
TOTAL CORRECTION:	+	50.0	dB
Remarks:			1.00
Carrier-on state / Carrier			
Reference of limit = 42 di	sm, spectrum mas	k retere	enced to necessary bandwidth

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#### 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 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:

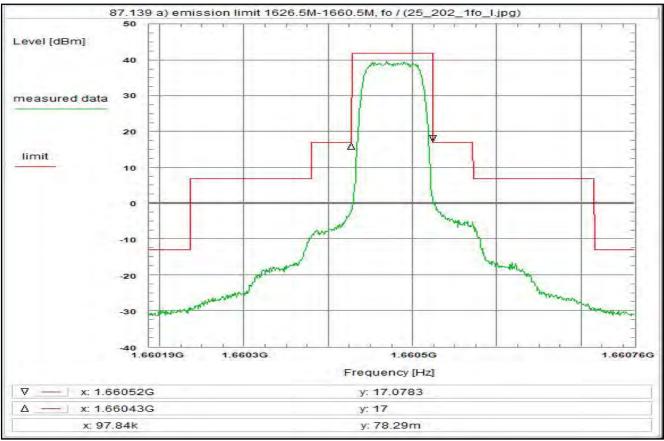
Test result: Test passed

Environment condition: Date & Time: Wed 01/Jul/2020 10:21:21 CTC advanced GmbH, Laboratory RC-SYS Location: Temperature: Humidity: 55 115 Vac / 400 Hz Voltage: Setup of measurement equipment: Start frequency: 1. 1.660187 GHz 1.660763 Stop frequency: GHz GHz kHz Center frequency: 1.660475 Frequency span: 576 Resolution-BW: kHz Video-RW 10 kHz Input attenuation: 30 dB Clear Write Detector-Mode: AVG Correction: Directional coupler + 0.0 dB 0.9 dB Coaxial cable (C220) DUT-Antenna 12.0 dBi 0.0 dB 1.2 dB Test antenna BW correction factor (3k -> 4k) Atten. between HPA and feedhorn 0.0 dB Attenuation (U312) 19.5 dB Attenuation (U311) 9.7 dB Power Splitter
TOTAL CORRECTION: 50.0 dB Carrier-on state / Carrier at the upper edge of the band (fo) Reference of limit = 42 dBm, spectrum mask referenced to necessary bandwidth

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# Plot No. 235



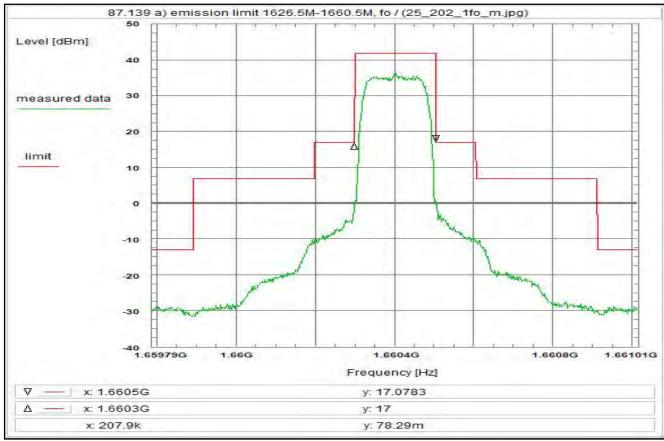
Subclause: 87.139 a) Frequencies, frequency tolerance and emission limitations Emission limitations Modulated rf-carrier in the middle of the band (fo)
Limit: Limit according to 87.139 a): 50-100% of assigned bw: -25dBc/4kHz 100-250% of assigned bw: -35dBc/4kHz > 250% of assigned bw: -43+10log(Pmax)dBc/4kHz = -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

ı	Environment condition:			
ı	Date & Time:	Wed 01/Jul/2020	10.22	·27
1	Location:			Laboratory RC-SYS
ı	Temperature:	22		Edibolatory 110 010
ı	Humidity:	55	-	
ı	Voltage:			400 Hz
1	voltage.	110	v ac i	400 HZ
ı	Setup of measurement eq	uinment.		
ı	Start frequency:	1.660187	GHz	
ı	Stop frequency:	1.660763		
ı	Center frequency:	1.660475		
ı	Frequency span:		kHz	
ı	Resolution-BW:		kHz	
ı				
ı	Video-BW:		kHz	
1	Input attenuation:	30	dB	
ı	Trace-Mode:	Clear Write		
ı	Detector-Mode:	AVG		
ı	Correction:			
ı	Directional coupler	+	0.0	dB
ı	Coaxial cable (C220)	+		dB
ı	DUT-Antenna	+		
ı		+		
ı	Test antenna BW correction factor (3k -			dB dB
ı	Atten, between HPA and f			dB
ı				
ı	Attenuation (U312)	+		-
ı	Attenuation (U311)	+		dB
ı	Power Splitter	+		
ı	TOTAL CORRECTION:	+	50.0	dВ
1	Remarks:			
ı	Carrier-on state / Carrier a	at the upper edge	of the I	pand (fo)
1				enced to necessary bandwidth
ı		,		,
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# Plot No. 236



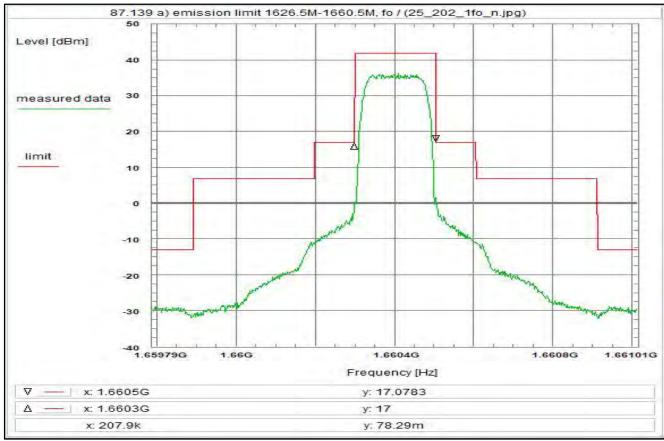
Subclause: 87.139 a) Frequencies, frequency tolerance and emission limitations Emission limitations Modulated rf-carrier in the middle of the band (fo)
Limit. Limit according to 87.139 a): 50-100% of assigned bw: -25dBc/4kHz 100-250% of assigned bw: -35dBc/4kHz > 250% of assigned bw: -43+10log(Pmax)dBc/4kHz = -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	i:16	
Location: CTC advanced GmbH, Laboratory RC-SYS				
Temperature:	22	°C	•	
Humidity:	55	%		
Voltage:	115	Vac /	400 Hz	
Setup of measurement e				
Start frequency:	1.659788			
Stop frequency:	1.661012			
Center frequency:	1.6604			
Frequency span:	1.224	MHz		
Resolution-BW:	3			
Video-BW:	10			
Input attenuation:	30	dB		
Trace-Mode:	Clear Write			
Detector-Mode:	AVG			
Correction:				
Directional coupler	+			
Coaxial cable (C220)	+			
DUT-Antenna	+			
Test antenna	+			
BW correction factor (3k	-> 4k) +			
Atten. between HPA and	l feedhorn -			
Attenuation (U312)		19.5		
Attenuation (U311)	+			
Power Splitter	+	6.7		
TOTAL CORRECTION:	+	50.0	dB	
Remarks:				
Carrier-on state / Carrier				
Reference of limit = 42 d	Bm, spectrum mas	k reter	enced to necessary bandwidth	

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# Plot No. 237



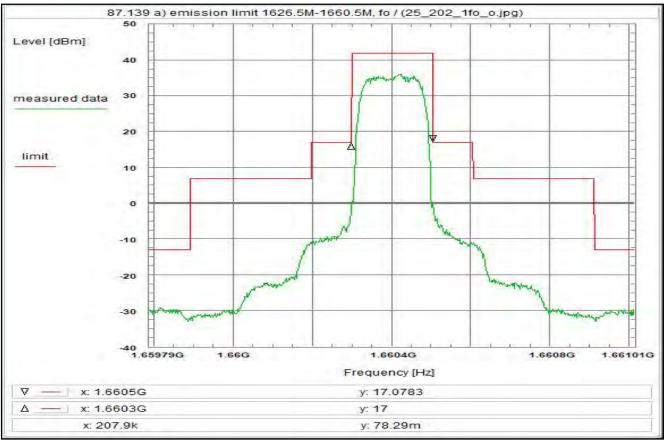
Subclause: 87.139 a) Frequencies, frequency tolerance and emission limitations Emission limitations Modulated rf-carrier in the middle of the band (fo)
Limit. Limit according to 87.139 a): 50-100% of assigned bw: -25dBc/4kHz 100-250% of assigned bw: -35dBc/4kHz > 250% of assigned bw: -43+10log(Pmax)dBc/4kHz = -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		zabolatory ito or o		
Humidity:	55	-			
Voltage:			400 Hz		
voltage.	113	v ac i	400 FIZ		
Cotum of management of	win mont				
Setup of measurement e	1.659788	OII-			
Start frequency:					
Stop frequency:	1.661012				
Center frequency:	1.6604				
Frequency span:	1.224				
Resolution-BW:	3				
Video-BW:	10				
Input attenuation:	30	dΒ			
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	dB				
Attenuation (U312)	+	0.0 19.5			
Attenuation (U311)	+		dB		
Power Splitter	+		dB		
TOTAL CORRECTION:	+				
TOTAL CONTRECTION.	·	50.0	db		
Remarks:					
Carrier-on state / Carrier	at the upper edge	of the I	pand (fo)		
			enced to necessary bandwidth		
TROIGIOIOG OF IIITIIR 12 de	om, opoolium muo		bridge to ricocodary buridwidth		
1					

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# Plot No. 238



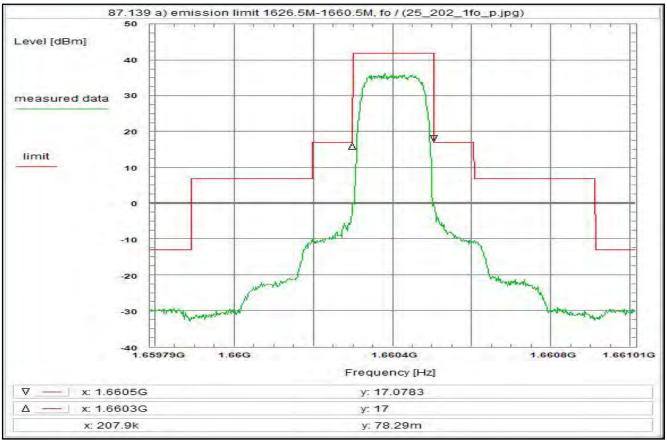
Subclause:	87.139 a) Frequencies, frequency tolerance and emission limitations Emission limitations Modulated rf-carrier in the middle of the band (fo)
100-250% of assign > 250% of assign The mean power below the mean of	p. 87.139 a);  ned bw: -25dBc/4kHz  gned bw: -35dBc/4kHz  ed bw: -43+10log(Pmax)dBc/4kHz = -43 dBW  of emissions shall be attenuated  output power of the transmitter  th the above schedule.
Test results: see plot (an expli	cit table was not generated)
	on of <u>DUT:</u> on 1, see test report chapter 5.4 DR PIESD, R5T4.5XD
Test setup: see test report ch	apter 7.2 setup 1.1hgj
Test equipment: see test report ch	papter 7.2: C220, Power Splitter, R001, U311, U312
Remark:	
Test result:	Test passed

Location: Temperature: Humidity: Voltage:	22 55	SmbH, °C	Laboratory RC-SYS
Humidity: Voltage:	55	°C	
Voltage:			•
v	445	%	
	115	Vac /	400 Hz
Setup of measurement ed			
Start frequency:	1.659788		
Stop frequency:	1.661012		
Center frequency:	1.6604		
Frequency span:	1.224	MHz	
Resolution-BW:	3		
Video-BW:	10	kHz	
Input attenuation:	30	dB	
Trace-Mode:	Clear Write		
Detector-Mode:	AVG		
Correction:			
Directional coupler	+		
Coaxial cable (C220)	+		
DUT-Antenna	+	12.0	dBi
Test antenna	+		
BW correction factor (3k -	> 4k) +	1.2	dB
Atten. between HPA and	feedhorn -		
Attenuation (U312)	+	19.5	dB
Attenuation (U311)	+		
Power Splitter	+	6.7	
TOTAL CORRECTION:	+	50.0	dB
Remarks:			
Carrier-on state / Carrier a			
Reference of limit = 42 dB	m, spectrum mas	k refer	enced to necessary bandwidth

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#### 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 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:

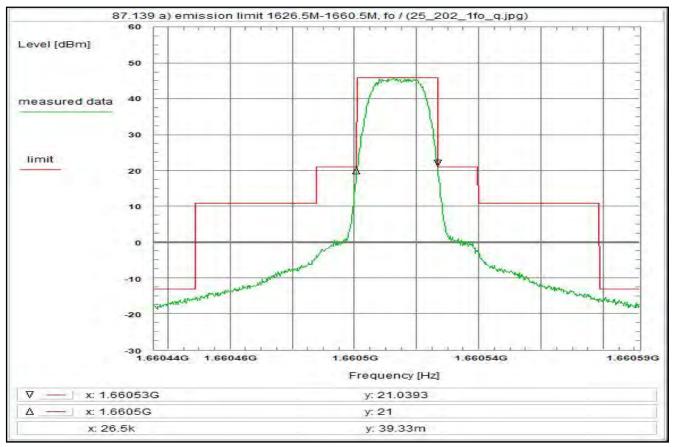
Test result: Test passed

Environment condition: Date & Time: Wed 01/Jul/2020 10:31:40 CTC advanced GmbH, Laboratory RC-SYS Location: Temperature: Humidity: 55 115 Vac / 400 Hz Voltage: Setup of measurement equipment: Start frequency: 1. 1.659788 GHz Stop frequency: 1.661012 GHz 1.6604 1.224 GHz MHz Center frequency: Frequency span: Resolution-BW: kHz Video-RW 10 kHz Input attenuation: 30 dB Clear Write Detector-Mode: AVG Correction: Directional coupler + 0.0 dB 0.9 dB Coaxial cable (C220) DUT-Antenna 12.0 dBi 0.0 dB 1.2 dB Test antenna BW correction factor (3k -> 4k) Atten. between HPA and feedhorn 0.0 dB Attenuation (U312) 19.5 dB 9.7 dB Attenuation (U311) Power Splitter
TOTAL CORRECTION: 50.0 dB Carrier-on state / Carrier at the upper edge of the band (fo) Reference of limit = 42 dBm, spectrum mask referenced to necessary bandwidth

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#### 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: -35dBc/4kHz
> 250% of assigned bw: -35dBc/4kHz
| 35dBc/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 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:

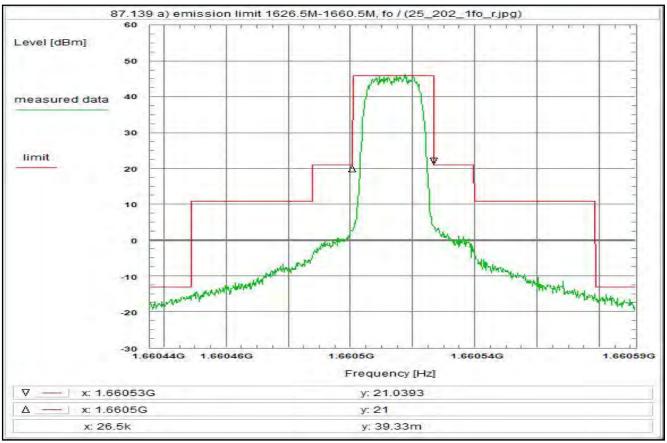
Test result: Test passed

Environment condition: Date & Time: Wed 01/Jul/2020 10:35:14 CTC advanced GmbH, Laboratory RC-SYS Location: Temperature: Humidity: 55 % 115 Vac / 400 Hz Voltage: Start frequency: 1.6604355 GHz 1.6605915 Stop frequency: GHz GHz kHz Center frequency: 1.6605135 Frequency span: 156 Resolution-BW: kHz Video-RW 10 kHz Input attenuation: 30 dB Clear Write Detector-Mode: AVG Correction: Directional coupler + 0.0 dB 0.9 dB Coaxial cable (C220) DUT-Antenna 12.0 dBi 0.0 dB 1.2 dB Test antenna BW correction factor (3k -> 4k) Atten. between HPA and feedhorn 0.0 dB Attenuation (U312) 19.5 dB Attenuation (U311) 9.7 dB Power Splitter
TOTAL CORRECTION: 50.0 dB Carrier-on state / Carrier at the upper edge of the band (fo) Reference of limit = 42 dBm, spectrum mask referenced to necessary bandwidth

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#### 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 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:

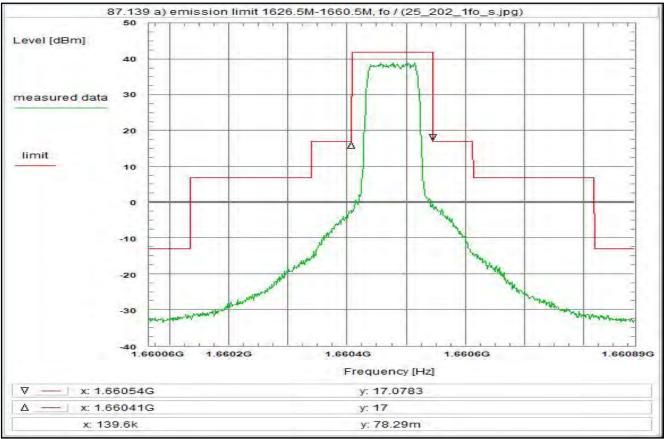
Test result: Test passed

Environment condition: Date & Time: Wed 01/Jul/2020 10:36:47 CTC advanced GmbH, Laboratory RC-SYS Location: Temperature: Humidity: 55 % 115 Vac / 400 Hz Voltage: Setup of measurement equipment:
Start frequency: 1.6604355 GHz Start frequency: 1.6605915 Stop frequency: GHz GHz kHz Center frequency: 1.6605135 Frequency span: 156 Resolution-BW: kHz Video-RW: 3 kHz Input attenuation: 30 dB 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 6.0 BW correction factor (1k -> 4k) dB Atten. between HPA and feedhorn 0.0 dB Attenuation (U312) 19.5 dB Attenuation (U311) 9.7 dB Power Splitter
TOTAL CORRECTION: 54.8 dB Carrier-on state / Carrier at the upper edge of the band (fo) Reference of limit = 42 dBm, spectrum mask referenced to necessary bandwidth

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#### 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: -35dBc/4kHz
> 250% of assigned bw: -35dBc/4kHz
in accordance with the above 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:

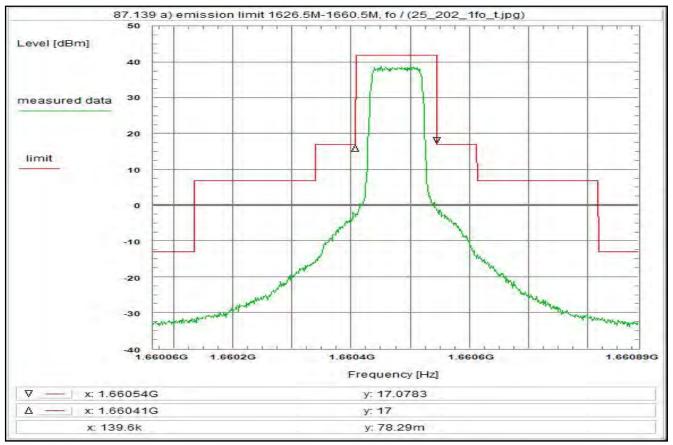
Test result: Test passed

Environment condition: Date & Time: Wed 01/Jul/2020 10:38:56 CTC advanced GmbH, Laboratory RC-SYS Location: Temperature: Humidity: 55 115 Vac / 400 Hz Voltage: Setup of measurement equipment: Start frequency: 1. 1.660064 GHz 1.660886 Stop frequency: GHz 1.660475 822 GHz kHz Center frequency: Frequency span: Resolution-BW: kHz Video-RW: 10 kHz Input attenuation: 30 dB Clear Write Detector-Mode: AVG Correction: Directional coupler + 0.0 dB 0.9 dB Coaxial cable (C220) DUT-Antenna 12.0 dBi 0.0 dB 1.2 dB Test antenna BW correction factor (3k -> 4k) Atten. between HPA and feedhorn 0.0 dB Attenuation (U312) 19.5 dB Attenuation (U311) 9.7 dB Power Splitter
TOTAL CORRECTION: 50.0 dB Carrier-on state / Carrier at the upper edge of the band (fo) Reference of limit = 42 dBm, spectrum mask referenced to necessary bandwidth

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#### 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: -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 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:

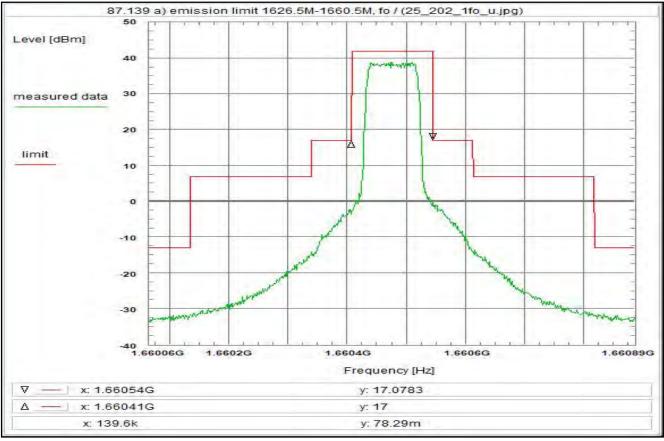
Test result: Test passed

Environment condition: Date & Time: Wed 01/Jul/2020 10:39:50 CTC advanced GmbH, Laboratory RC-SYS Location: Temperature: Humidity: 55 115 Vac / 400 Hz Voltage: Setup of measurement equipment: Start frequency: 1. 1.660064 GHz 1.660886 Stop frequency: GHz 1.660475 822 GHz kHz Center frequency: Frequency span: Resolution-BW: kHz Video-RW: 10 kHz Input attenuation: 30 dB Clear Write Detector-Mode: AVG Correction: Directional coupler + 0.0 dB 0.9 dB Coaxial cable (C220) DUT-Antenna 12.0 dBi 0.0 dB 1.2 dB Test antenna BW correction factor (3k -> 4k) Atten. between HPA and feedhorn 0.0 dB Attenuation (U312) 19.5 dB Attenuation (U311) 9.7 dB Power Splitter
TOTAL CORRECTION: 50.0 dB Carrier-on state / Carrier at the upper edge of the band (fo) Reference of limit = 42 dBm, spectrum mask referenced to necessary bandwidth

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#### 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:

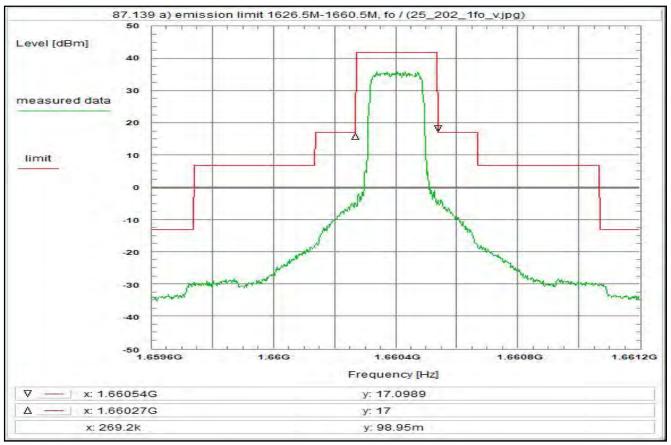
Test result: Test passed

Environment condition: Date & Time: Wed 01/Jul/2020 10:42:05 CTC advanced GmbH, Laboratory RC-SYS Location: Temperature: Humidity: 55 115 Vac / 400 Hz Voltage: Setup of measurement equipment: Start frequency: 1. 1.660064 GHz 1.660886 Stop frequency: GHz 1.660475 822 GHz kHz Center frequency: Frequency span: Resolution-BW: kHz Video-RW 10 kHz Input attenuation: 30 dB Clear Write Detector-Mode: AVG Correction: Directional coupler + 0.0 dB 0.9 dB Coaxial cable (C220) DUT-Antenna 12.0 dBi 0.0 dB 1.2 dB Test antenna BW correction factor (3k -> 4k) Atten. between HPA and feedhorn 0.0 dB Attenuation (U312) 19.5 dB Attenuation (U311) 9.7 dB Power Splitter
TOTAL CORRECTION: 50.0 dB Carrier-on state / Carrier at the upper edge of the band (fo) Reference of limit = 42 dBm, spectrum mask referenced to necessary bandwidth

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#### 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:

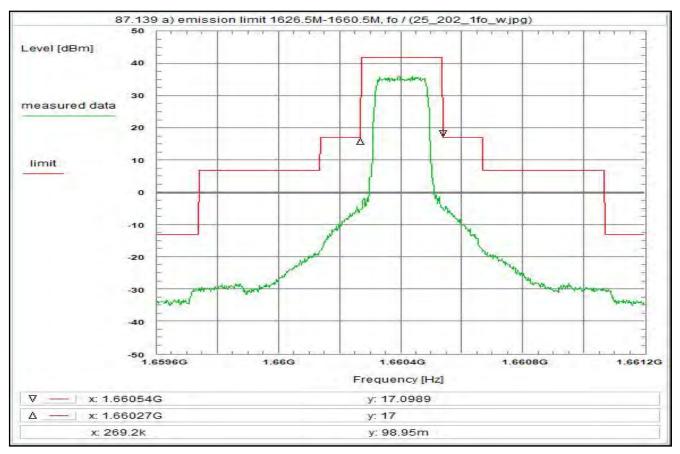
Test result: Test passed

Environment condition: Date & Time: Wed 01/Jul/2020 10:45:16 CTC advanced GmbH, Laboratory RC-SYS Location: Temperature: Humidity: 55 115 Vac / 400 Hz Voltage: Setup of measurement equipment: Start frequency: 1. 1.659602 GHz Stop frequency: 1.661198 GHz GHz MHz Center frequency: 1.6604 Frequency span: 1.596 Resolution-BW: kHz Video-RW 10 kHz Input attenuation: 30 dB Clear Write Detector-Mode: AVG Correction: Directional coupler + 0.0 dB 0.9 dB Coaxial cable (C220) DUT-Antenna 12.0 dBi 0.0 dB 1.2 dB Test antenna BW correction factor (3k -> 4k) Atten. between HPA and feedhorn 0.0 dB 19.5 dB Attenuation (U312) Attenuation (U311) 9.7 dB Power Splitter
TOTAL CORRECTION: 50.0 dB Carrier-on state / Carrier at the upper edge of the band (fo) Reference of limit = 42 dBm, spectrum mask referenced to necessary bandwidth

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#### 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: -35dBc/4kHz
> 250% of assigned bw: -43+f0log(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:

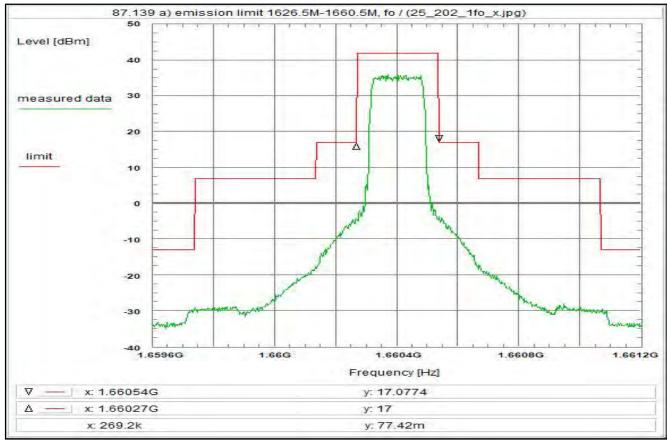
Test result: Test passed

Environment condition: Date & Time: Wed 01/Jul/2020 10:46:04 CTC advanced GmbH, Laboratory RC-SYS Location: Temperature: Humidity: 55 115 Vac / 400 Hz Voltage: Setup of measurement equipment: Start frequency: 1. 1.659602 GHz Stop frequency: 1.661198 GHz GHz MHz Center frequency: 1.6604 Frequency span: 1.596 Resolution-BW: kHz Video-RW 10 kHz Input attenuation: 30 dB Clear Write Detector-Mode: AVG Correction: Directional coupler + 0.0 dB 0.9 dB Coaxial cable (C220) DUT-Antenna 12.0 dBi 0.0 dB 1.2 dB Test antenna BW correction factor (3k -> 4k) Atten. between HPA and feedhorn 0.0 dB 19.5 dB Attenuation (U312) Attenuation (U311) 9.7 dB Power Splitter
TOTAL CORRECTION: 50.0 dB Carrier-on state / Carrier at the upper edge of the band (fo) Reference of limit = 42 dBm, spectrum mask referenced to necessary bandwidth

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## 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:

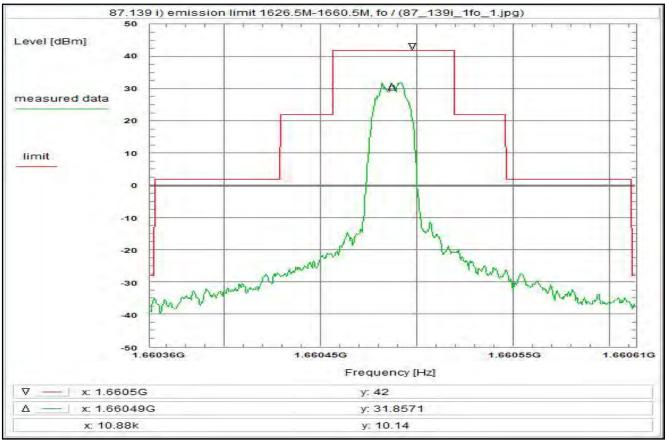
Test result: Test passed

Date & Time:  Location:  CTC advanced GmbH, Laboratory RC-SYS  Temperature:  22 ° C  Humidity:  55 %  Voltage:  115 Vac / 400 Hz   Setup of measurement equipment: Start frequency:  1.661198 GHz Center frequency:  1.661198 GHz Center frequency:  1.6604 GHz Frequency:  1.6614 GHz Frequency:  1.6604 GHz Frequency:  1.6604 GHz Frequency:  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  4 0.0 dB Coaxial cable (C220)  4 0.9 dB DUT-Antenna  1 2.0 dBi Test antenna  4 0.0 dB BW correction factor (3k -> 4k)  Atten. between HPA and feedhorn  0 0 dB Atten. between HPA and feedhorn  1 0 dB Atten. dB Att	Facility and the second		
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           Coxial 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	Environment condition:  Data & Time:  Wed 04/1/1/202	0.10.40.13	
Temperature:			
Humidity:   55   %   Voltage:   115   Vac / 400 Hz			
Voltage:			
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           Coxial 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 feedhom         - 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)			
Start frequency: 1.659602   GHz	vollage.	V407 100 112	
Stop frequency:	Setup of measurement equipment:		
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)         Attenue band (fo)	Start frequency: 1.659602	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 Attenuation (U311) + 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)	Stop frequency: 1.661198	GHz	
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)			
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)	Frequency span: 1.596	MHz	
Input attenuation: 30 dB   Trace-Mode: Clear Write			
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)	Video-BW: 10	kHz	
Detector-Mode: AVG		dB	
Correction:  Directional coupler			
Directional coupler	Detector-Mode: AVG		
Directional coupler			
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)		0.0 10	
DUT-Antenna + 12.0 dBi  Test antenna + 0.0 dB  BW correction factor (3k → 4k) + 1.2 dB  Atten. between HPA and feedhom - 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)			
Test antenna			
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)			
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)			
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)			
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)			
Power Splitter + 6.7 dB TOTAL CORRECTION: + 50.0 dB  Remarks: Carrier-on state / Carrier at the upper edge of the band (fo)			
TOTAL CORRECTION: + 50.0 dB  Remarks: Carrier-on state / Carrier at the upper edge of the band (fo)			
Remarks: Carrier-on state / Carrier at the upper edge of the band (fo)			
Carrier-on state / Carrier at the upper edge of the band (fo)	TOTAL CORRECTION: +	50.0 dB	
Carrier-on state / Carrier at the upper edge of the band (fo)	Remarks:		
		of the hand (fo)	
	12 42 11, 0 0 0 1 1111	and the second s	

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#### Plot No. 248



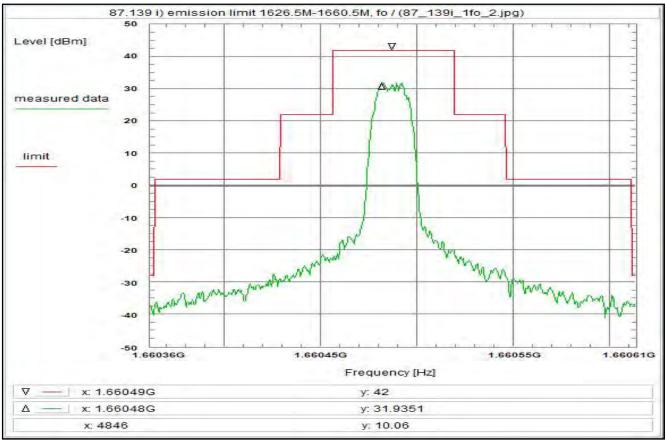
87.139 i) Frequencies, frequency tolerance and emission limitations Subclause: Emission limitations Modulated rf-carrier at the upper edge of the band (fo) Limit: Limit according to 87.139(i)(1) The mean power of emissions shall be attenuated below the mean output power of the transmitter in accordance 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 <u>Test setup:</u> see test report chapter 7.2 setup 1.1hgj <u>Test equipment:</u> 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 CTC advanced GmbH, Laboratory RC-SYS Location: Temperature: Humidity: 55 % 115 Vac / 400 Hz Voltage: Setup of measurement equipment:
Start frequency: 1.6603615 GHz 1.6606135 Stop frequency: GHz 1.6604875 252 GHz kHz Center frequency: Frequency span: Resolution-BW: kHz Video-RW 30 kHz 45 Input attenuation: dB Detector-Mode: AVG Correction: Directional coupler + 0.0 dB 0.9 dB Coaxial cable (C220) U311+U312 29.3 dB TOTAL CORRECTION: 30.2 dB  $\label{eq:Remarks:} \underline{\text{Remarks:}}$  Carrier-on state / Carrier at the upper edge of the band (fo) For EIRP calculation: 'worst-case' = maximum antenna gain

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#### Plot No. 249



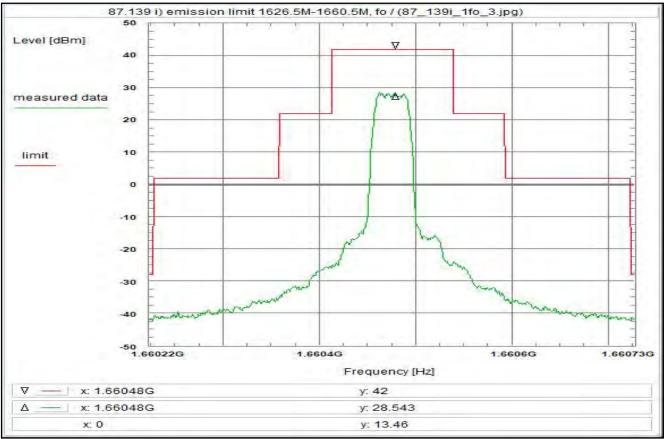
Subclause: 87.139 i) Frequencies, frequency tolerance and emission limitations Emission limitations Modulated rf-carrier at the upper edge of the band (fo) Limit: Limit according to 87.139(i)(1) The mean power of emissions shall be attenuated below the mean output power of the transmitter in accordance 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 <u>Test setup:</u> see test report chapter 7.2 setup 1.1hgj <u>Test equipment:</u> 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 CTC advanced GmbH, Laboratory RC-SYS Location: Temperature: Humidity: 55 % 115 Vac / 400 Hz Voltage: Setup of measurement equipment:
Start frequency: 1.6603615 GHz 1.6606135 Stop frequency: 1.6604875 252 GHz kHz Center frequency: Frequency span: Resolution-BW: kHz Video-RW 30 kHz Input attenuation: 45 dB Detector-Mode: AVG Correction: Directional coupler + 0.0 dB + 0.9 dB Coaxial cable (C220) U311+U312 29.3 dB TOTAL CORRECTION: 30.2 dB  $\label{eq:Remarks:} \underline{\text{Remarks:}}$  Carrier-on state / Carrier at the upper edge of the band (fo) For EIRP calculation: 'worst-case' = maximum antenna gain

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#### Plot No. 250



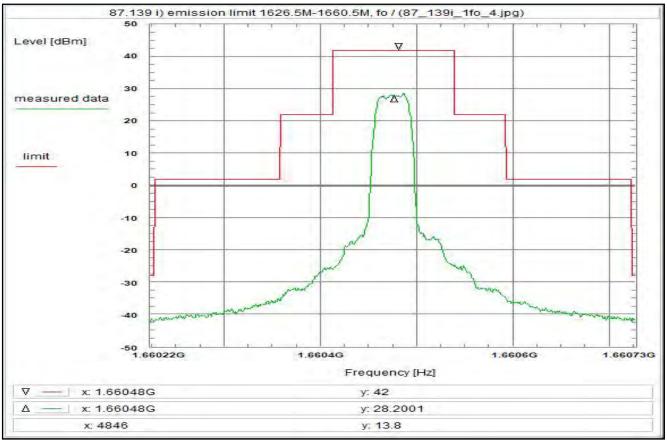
87.139 i) Frequencies, frequency tolerance and emission limitations Subclause: Emission limitations Modulated rf-carrier at the upper edge of the band (fo) Limit: Limit according to 87.139(i)(1) The mean power of emissions shall be attenuated below the mean output power of the transmitter in accordance 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 <u>Test setup:</u> see test report chapter 7.2 setup 1.1hgj <u>Test equipment:</u> 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 CTC advanced GmbH, Laboratory RC-SYS Location: Temperature: Humidity: 55 % 115 Vac / 400 Hz Voltage: Setup of measurement equipment: Start frequency: 1. 1.660223 GHz 1.660727 Stop frequency: GHz 1.660475 GHz 504 kHz Center frequency: Frequency span: Resolution-BW: kHz Video-RW 30 kHz Input attenuation: 45 dB Detector-Mode: AVG Correction: + 0.0 dB Directional coupler 0.9 dB Coaxial cable (C220) U311+U312 29.3 dB TOTAL CORRECTION: 30.2 dB  $\label{eq:Remarks:} \underline{\text{Remarks:}}$  Carrier-on state / Carrier at the upper edge of the band (fo) For EIRP calculation: 'worst-case' = maximum antenna gain

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#### Plot No. 251



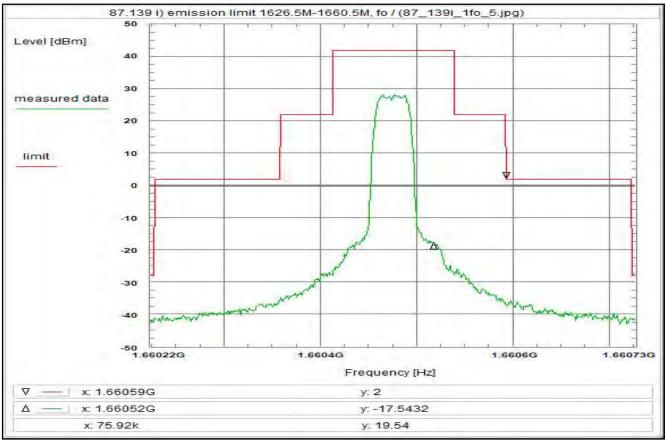
87.139 i) Frequencies, frequency tolerance and emission limitations Subclause: Emission limitations Modulated rf-carrier at the upper edge of the band (fo) Limit: Limit according to 87.139(i)(1) The mean power of emissions shall be attenuated below the mean output power of the transmitter in accordance 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 <u>Test setup:</u> see test report chapter 7.2 setup 1.1hgj <u>Test equipment:</u> 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 CTC advanced GmbH, Laboratory RC-SYS Location: Temperature: Humidity: 55 % 115 Vac / 400 Hz Voltage: Setup of measurement equipment: Start frequency: 1. 1.660223 GHz 1.660727 Stop frequency: GHz 1.660475 GHz 504 kHz Center frequency: Frequency span: Resolution-BW: kHz Video-RW 30 kHz Input attenuation: 45 dB Detector-Mode: AVG Correction: + 0.0 dB Directional coupler + 0.9 dB Coaxial cable (C220) U311+U312 29.3 dB TOTAL CORRECTION: 30.2 dB  $\label{eq:Remarks:} \underline{\text{Remarks:}}$  Carrier-on state / Carrier at the upper edge of the band (fo) For EIRP calculation: 'worst-case' = maximum antenna gain

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#### Plot No. 252



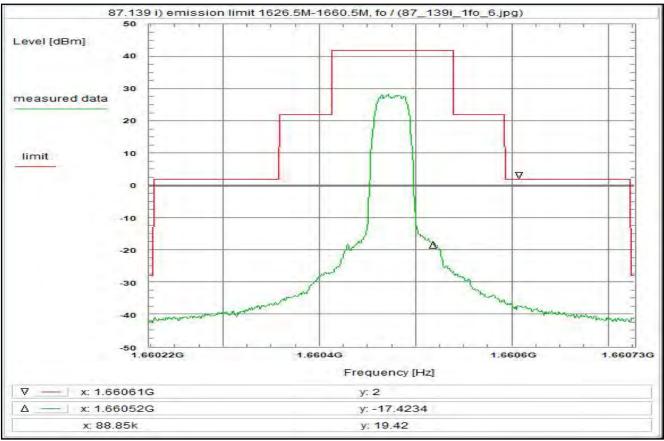
87.139 i) Frequencies, frequency tolerance and emission limitations Subclause: Emission limitations Modulated rf-carrier at the upper edge of the band (fo) Limit: Limit according to 87.139(i)(1) The mean power of emissions shall be attenuated below the mean output power of the transmitter in accordance 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 <u>Test setup:</u> see test report chapter 7.2 setup 1.1hgj <u>Test equipment:</u> 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 CTC advanced GmbH, Laboratory RC-SYS Location: Temperature: Humidity: 55 % 115 Vac / 400 Hz Voltage: Setup of measurement equipment: Start frequency: 1. 1.660223 GHz 1.660727 Stop frequency: GHz 1.660475 GHz 504 kHz Center frequency: Frequency span: Resolution-BW: kHz Video-RW 30 kHz Input attenuation: 45 dB Detector-Mode: AVG Correction: + 0.0 dB Directional coupler 0.9 dB Coaxial cable (C220) U311+U312 29.3 dB TOTAL CORRECTION: 30.2 dB  $\frac{Remarks:}{\text{Carrier-on state / Carrier at the upper edge of the band (fo)}}$ For EIRP calculation: 'worst-case' = maximum antenna gain

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#### Plot No. 253



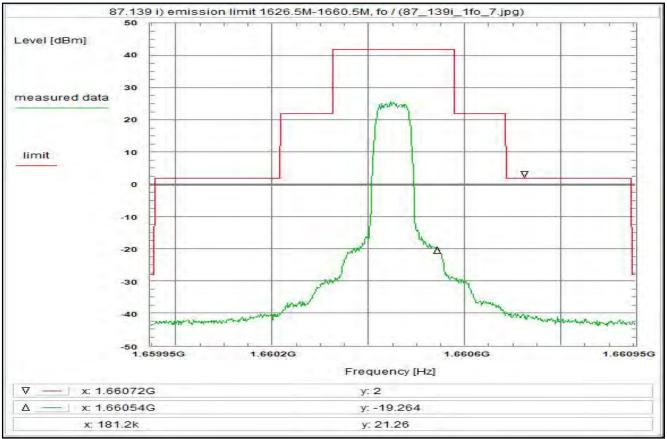
87.139 i) Frequencies, frequency tolerance and emission limitations Subclause: Emission limitations Modulated rf-carrier at the upper edge of the band (fo) Limit: Limit according to 87.139(i)(1) The mean power of emissions shall be attenuated below the mean output power of the transmitter in accordance 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 <u>Test setup:</u> see test report chapter 7.2 setup 1.1hgj <u>Test equipment:</u> 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 CTC advanced GmbH, Laboratory RC-SYS Location: Temperature: Humidity: 55 % 115 Vac / 400 Hz Voltage: Setup of measurement equipment: Start frequency: 1.6 1.660223 GHz 1.660727 Stop frequency: GHz 1.660475 GHz 504 kHz Center frequency: Frequency span: Resolution-BW: kHz Video-RW 30 kHz Input attenuation: 45 dB Detector-Mode: AVG Correction: + 0.0 dB Directional coupler + 0.9 dB Coaxial cable (C220) U311+U312 29.3 dB TOTAL CORRECTION: 30.2 dB  $\label{eq:Remarks:} \underline{\text{Remarks:}}$  Carrier-on state / Carrier at the upper edge of the band (fo) For EIRP calculation: 'worst-case' = maximum antenna gain

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#### Plot No. 254



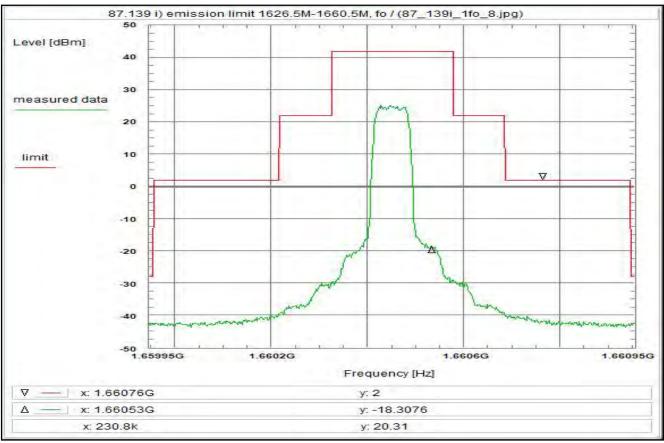
87.139 i) Frequencies, frequency tolerance and emission limitations Subclause: Emission limitations Modulated rf-carrier at the upper edge of the band (fo) Limit: Limit according to 87.139(i)(1) The mean power of emissions shall be attenuated below the mean output power of the transmitter in accordance 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 <u>Test setup:</u> see test report chapter 7.2 setup 1.1hgj <u>Test equipment:</u> 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 CTC advanced GmbH, Laboratory RC-SYS Location: Temperature: Humidity: 55 % 115 Vac / 400 Hz Voltage: Setup of measurement equipment: Start frequency: 1. 1.659946 GHz 1.660954 Stop frequency: GHz 1.66045 GHz MHz Center frequency: Frequency span: Resolution-BW: kHz Video-RW 30 kHz Input attenuation: 45 dB Detector-Mode: AVG Correction: + 0.0 dB Directional coupler + 0.9 dB Coaxial cable (C220) U311+U312 29.3 dB TOTAL CORRECTION: 30.2 dB  $\label{eq:Remarks:} \underline{\text{Remarks:}}$  Carrier-on state / Carrier at the upper edge of the band (fo) For EIRP calculation: 'worst-case' = maximum antenna gain

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#### Plot No. 255



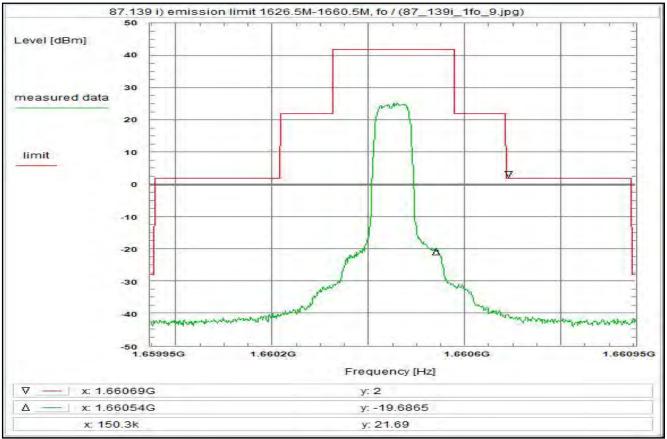
87.139 i) Frequencies, frequency tolerance and emission limitations Subclause: Emission limitations Modulated rf-carrier at the upper edge of the band (fo) Limit: Limit according to 87.139(i)(1) The mean power of emissions shall be attenuated below the mean output power of the transmitter in accordance 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 <u>Test setup:</u> see test report chapter 7.2 setup 1.1hgj <u>Test equipment:</u> 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 CTC advanced GmbH, Laboratory RC-SYS Location: Temperature: Humidity: 55 % 115 Vac / 400 Hz Voltage: Setup of measurement equipment: Start frequency: 1.6 1.659946 GHz 1.660954 Stop frequency: GHz 1.66045 GHz MHz Center frequency: Frequency span: Resolution-BW: kHz Video-RW 30 kHz Input attenuation: 45 dB Detector-Mode: AVG Correction: + 0.0 dB Directional coupler + 0.9 dB Coaxial cable (C220) U311+U312 29.3 dB TOTAL CORRECTION: 30.2 dB  $\label{eq:Remarks:} \underline{\text{Remarks:}}$  Carrier-on state / Carrier at the upper edge of the band (fo) For EIRP calculation: 'worst-case' = maximum antenna gain

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#### 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

See test report chapter 7.2 setup 1.1r

<u>Test equipment:</u> see test report chapter 7.2: C220, R001, U311, U312

Remark:

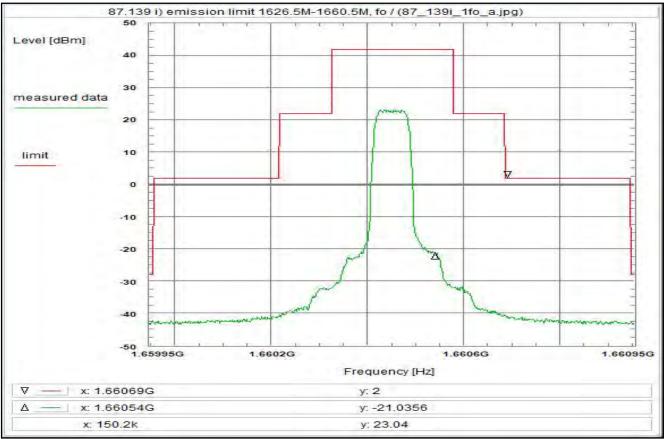
Test result: Test passed

Environment condition:
Date & Time: Thu 28/May/2020 15:49:56 CTC advanced GmbH, Laboratory RC-SYS Location: Temperature: Humidity: 55 % 115 Vac / 400 Hz Voltage: Setup of measurement equipment: Start frequency: 1. 1.659946 GHz 1.660954 Stop frequency: GHz GHz MHz Center frequency: 1.66045 1.008 Frequency span: Resolution-BW: kHz Video-RW 30 kHz Input attenuation: 45 dB Detector-Mode: AVG Correction: + 0.0 dB Directional coupler + 0.9 dB Coaxial cable (C220) U311+U312 29.3 dB TOTAL CORRECTION: 30.2 dB  $\label{eq:Remarks:} \underline{\text{Remarks:}}$  Carrier-on state / Carrier at the upper edge of the band (fo) For EIRP calculation: 'worst-case' = maximum antenna gain

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#### Plot No. 257



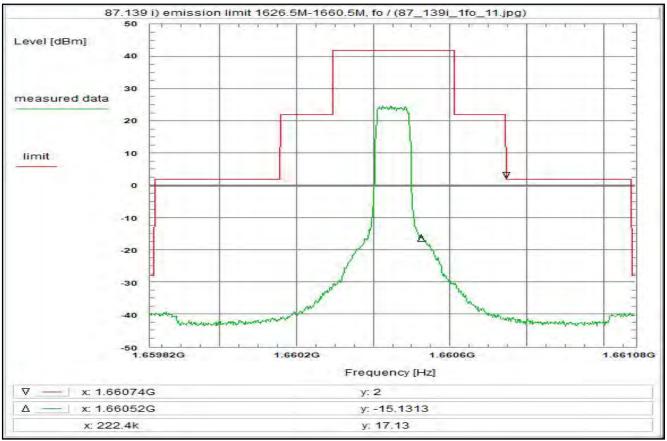
87.139 i) Frequencies, frequency tolerance and emission limitations Subclause: Emission limitations Modulated rf-carrier at the upper edge of the band (fo) Limit: Limit according to 87.139(i)(1) The mean power of emissions shall be attenuated below the mean output power of the transmitter in accordance 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 <u>Test setup:</u> see test report chapter 7.2 setup 1.1hgj <u>Test equipment:</u> 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 CTC advanced GmbH, Laboratory RC-SYS Location: Temperature: Humidity: 55 % 115 Vac / 400 Hz Voltage: Setup of measurement equipment: Start frequency: 1.6 1.659946 GHz 1.660954 Stop frequency: 1.66045 GHz MHz Center frequency: Frequency span: Resolution-BW: kHz Video-RW 30 kHz Input attenuation: 45 dB Detector-Mode: AVG Correction: + 0.0 dB Directional coupler + 0.9 dB Coaxial cable (C220) U311+U312 29.3 dB TOTAL CORRECTION: 30.2 dB  $\frac{Remarks:}{\text{Carrier-on state / Carrier at the upper edge of the band (fo)}}$ For EIRP calculation: 'worst-case' = maximum antenna gain

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#### Plot No. 258



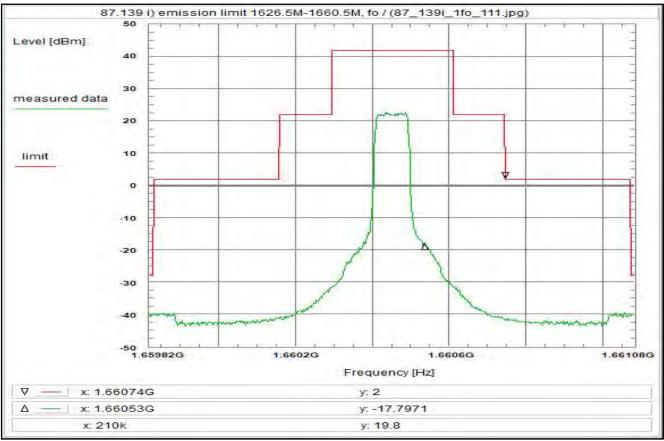
87.139 i) Frequencies, frequency tolerance and emission limitations Subclause: Emission limitations Modulated rf-carrier at the upper edge of the band (fo) Limit: Limit according to 87.139(i)(1) The mean power of emissions shall be attenuated below the mean output power of the transmitter in accordance 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 <u>Test setup:</u> see test report chapter 7.2 setup 1.1hgj <u>Test equipment:</u> 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 CTC advanced GmbH, Laboratory RC-SYS Location: Temperature: Humidity: 55 % 115 Vac / 400 Hz Voltage: Setup of measurement equipment:
Start frequency: 1.65982 GHz Stop frequency: 1.66045 GHz MHz Center frequency: Frequency span: Resolution-BW: kHz Video-RW 30 kHz Input attenuation: 45 dB Detector-Mode: AVG Correction: + 0.0 dB Directional coupler + 0.9 dB Coaxial cable (C220) U311+U312 29.3 dB TOTAL CORRECTION: 30.2 dB  $\label{eq:Remarks:} \underline{\text{Remarks:}}$  Carrier-on state / Carrier at the upper edge of the band (fo) For EIRP calculation: 'worst-case' = maximum antenna gain

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#### Plot No. 259



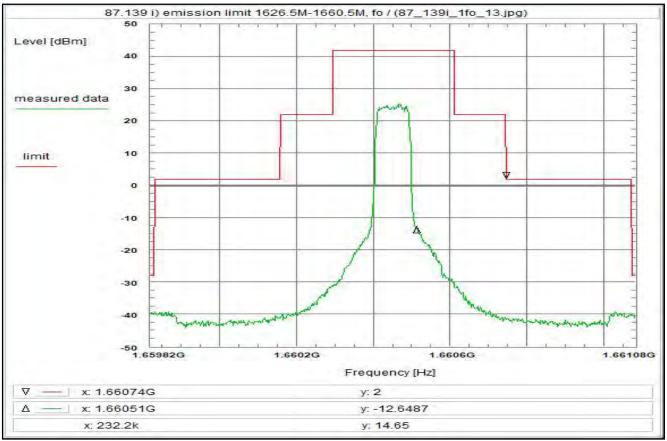
87.139 i) Frequencies, frequency tolerance and emission limitations Subclause: Emission limitations Modulated rf-carrier at the upper edge of the band (fo) Limit: Limit according to 87.139(i)(1) The mean power of emissions shall be attenuated below the mean output power of the transmitter in accordance 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 <u>Test setup:</u> see test report chapter 7.2 setup 1.1hgj <u>Test equipment:</u> 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 CTC advanced GmbH, Laboratory RC-SYS Location: Temperature: Humidity: 55 % 115 Vac / 400 Hz Voltage: Setup of measurement equipment:
Start frequency: 1.65982 GHz Stop frequency: 1.66045 GHz MHz Center frequency: Frequency span: Resolution-BW: kHz Video-RW 30 kHz Input attenuation: 45 dB Detector-Mode: AVG Correction: + 0.0 dB Directional coupler + 0.9 dB Coaxial cable (C220) U311+U312 29.3 dB TOTAL CORRECTION: 30.2 dB  $\label{eq:Remarks:} \underline{\text{Remarks:}}$  Carrier-on state / Carrier at the upper edge of the band (fo) For EIRP calculation: 'worst-case' = maximum antenna gain

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## Plot No. 260



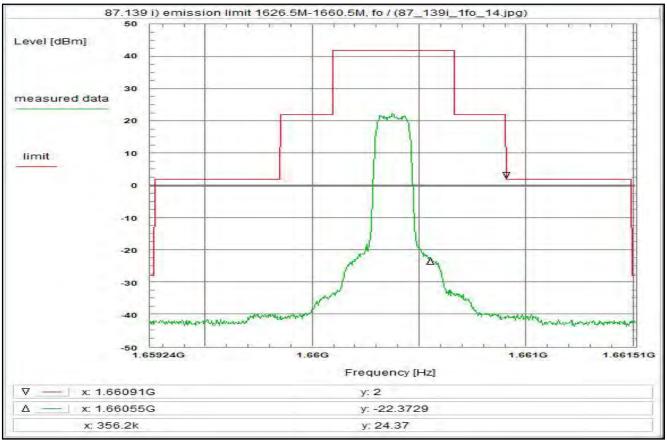
87.139 i) Frequencies, frequency tolerance and emission limitations Subclause: Emission limitations Modulated rf-carrier at the upper edge of the band (fo) Limit: Limit according to 87.139(i)(1) The mean power of emissions shall be attenuated below the mean output power of the transmitter in accordance 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 <u>Test setup:</u> see test report chapter 7.2 setup 1.1hgj <u>Test equipment:</u> 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 CTC advanced GmbH, Laboratory RC-SYS Location: Temperature: Humidity: 55 % 115 Vac / 400 Hz Voltage: Setup of measurement equipment:
Start frequency: 1.65982 GHz Stop frequency: 1.66045 GHz MHz Center frequency: Frequency span: Resolution-BW: kHz Video-RW 30 kHz Input attenuation: 45 dB Detector-Mode: AVG Correction: + 0.0 dB Directional coupler + 0.9 dB Coaxial cable (C220) U311+U312 29.3 dB TOTAL CORRECTION: 30.2 dB  $\label{eq:Remarks:} \underline{\text{Remarks:}}$  Carrier-on state / Carrier at the upper edge of the band (fo) For EIRP calculation: 'worst-case' = maximum antenna gain

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## Plot No. 261



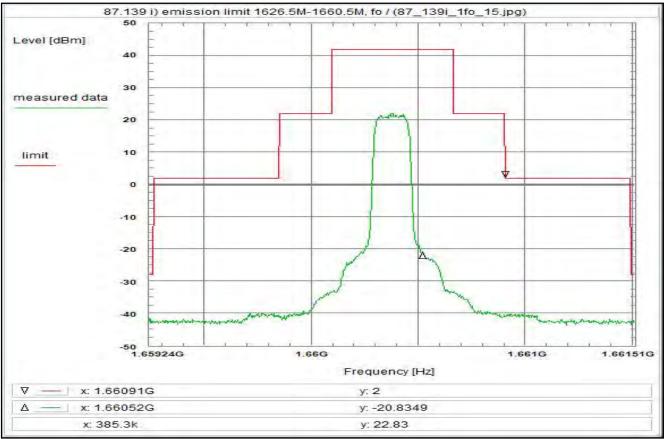
87.139 i) Frequencies, frequency tolerance and emission limitations Subclause: Emission limitations Modulated rf-carrier at the upper edge of the band (fo) Limit: Limit according to 87.139(i)(1) The mean power of emissions shall be attenuated below the mean output power of the transmitter in accordance 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 <u>Test setup:</u> see test report chapter 7.2 setup 1.1hgj <u>Test equipment:</u> 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 CTC advanced GmbH, Laboratory RC-SYS Location: Temperature: Humidity: 55 % 115 Vac / 400 Hz Voltage: Setup of measurement equipment: Start frequency: 1. 1.659241 GHz 1.661509 Stop frequency: GHz GHz MHz Center frequency: 1.660375 Frequency span: 2.268 Resolution-BW: kHz Video-RW 30 kHz Input attenuation: 45 dB Detector-Mode: AVG Correction: + 0.0 dB Directional coupler + 0.9 dB Coaxial cable (C220) U311+U312 29.3 dB TOTAL CORRECTION: 30.2 dB  $\label{eq:Remarks:} \underline{\text{Remarks:}}$  Carrier-on state / Carrier at the upper edge of the band (fo) For EIRP calculation: 'worst-case' = maximum antenna gain

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## Plot No. 262



87.139 i) Frequencies, frequency tolerance and emission limitations Subclause: 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 <u>Test setup:</u> see test report chapter 7.2 setup 1.1hgj <u>Test equipment:</u> see test report chapter 7.2: C220, R001, U311, U312 Remark:

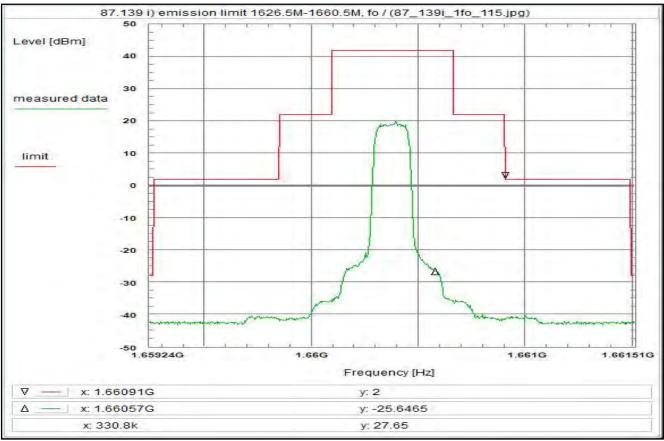
Test result: Test passed

Environment condition:
Date & Time: Thu 28/May/2020 16:13:29 CTC advanced GmbH, Laboratory RC-SYS Location: Temperature: Humidity: 55 % 115 Vac / 400 Hz Voltage: Setup of measurement equipment: Start frequency: 1. 1.659241 GHz 1.661509 Stop frequency: GHz GHz MHz Center frequency: 1.660375 Frequency span: 2.268 Resolution-BW: kHz Video-RW 30 kHz Input attenuation: 45 dB Detector-Mode: AVG Correction: + 0.0 dB Directional coupler + 0.9 dB Coaxial cable (C220) U311+U312 29.3 dB TOTAL CORRECTION: 30.2 dB  $\label{eq:Remarks:} \underline{\text{Remarks:}}$  Carrier-on state / Carrier at the upper edge of the band (fo) For EIRP calculation: 'worst-case' = maximum antenna gain

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## Plot No. 263



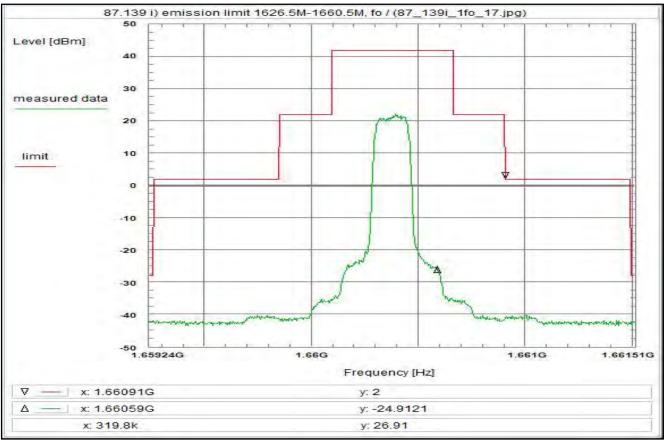
87.139 i) Frequencies, frequency tolerance and emission limitations Subclause: Emission limitations Modulated rf-carrier at the upper edge of the band (fo) Limit: Limit according to 87.139(i)(1) The mean power of emissions shall be attenuated below the mean output power of the transmitter in accordance 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 <u>Test setup:</u> see test report chapter 7.2 setup 1.1hgj <u>Test equipment:</u> 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 CTC advanced GmbH, Laboratory RC-SYS Location: Temperature: Humidity: 55 % 115 Vac / 400 Hz Voltage: Setup of measurement equipment: Start frequency: 1.6 1.659241 GHz 1.661509 Stop frequency: GHz GHz MHz Center frequency: 1.660375 Frequency span: 2.268 Resolution-BW: kHz Video-RW 30 kHz Input attenuation: 45 dB Detector-Mode: AVG Correction: + 0.0 dB Directional coupler + 0.9 dB Coaxial cable (C220) U311+U312 29.3 dB TOTAL CORRECTION: 30.2 dB  $\label{eq:Remarks:} \underline{\text{Remarks:}}$  Carrier-on state / Carrier at the upper edge of the band (fo) For EIRP calculation: 'worst-case' = maximum antenna gain

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## Plot No. 264



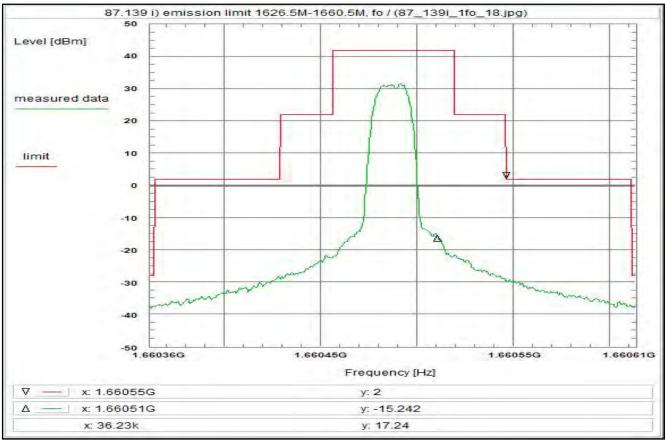
87.139 i) Frequencies, frequency tolerance and emission limitations Subclause: Emission limitations Modulated rf-carrier at the upper edge of the band (fo) Limit: Limit according to 87.139(i)(1) The mean power of emissions shall be attenuated below the mean output power of the transmitter in accordance 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 <u>Test setup:</u> see test report chapter 7.2 setup 1.1hgj <u>Test equipment:</u> 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 CTC advanced GmbH, Laboratory RC-SYS Location: Temperature: Humidity: 55 % 115 Vac / 400 Hz Voltage: Setup of measurement equipment: Start frequency: 1. 1.659241 GHz 1.661509 Stop frequency: GHz GHz MHz Center frequency: 1.660375 Frequency span: 2.268 Resolution-BW: kHz Video-RW 30 kHz Input attenuation: 45 dB Detector-Mode: AVG Correction: + 0.0 dB Directional coupler + 0.9 dB Coaxial cable (C220) U311+U312 29.3 dB TOTAL CORRECTION: 30.2 dB  $\frac{Remarks:}{\text{Carrier-on state / Carrier at the upper edge of the band (fo)}}$ For EIRP calculation: 'worst-case' = maximum antenna gain

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## Plot No. 265



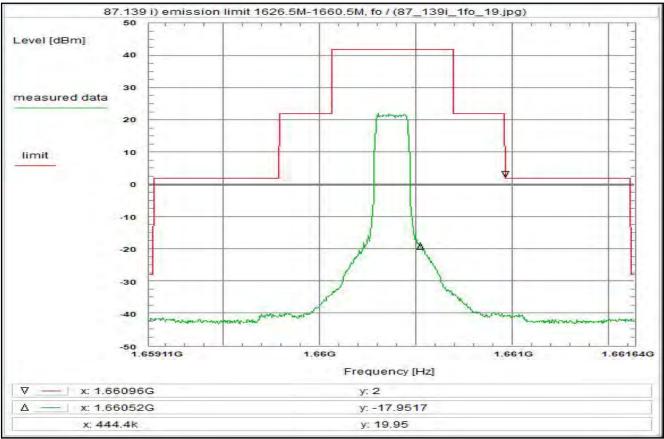
87.139 i) Frequencies, frequency tolerance and emission limitations Subclause: Emission limitations Modulated rf-carrier at the upper edge of the band (fo) Limit: Limit according to 87.139(i)(1) The mean power of emissions shall be attenuated below the mean output power of the transmitter in accordance 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 <u>Test setup:</u> see test report chapter 7.2 setup 1.1hgj <u>Test equipment:</u> 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 CTC advanced GmbH, Laboratory RC-SYS Location: Temperature: Humidity: 55 % 115 Vac / 400 Hz Voltage: Setup of measurement equipment:
Start frequency: 1.6603615 GHz 1.6606135 GHz Stop frequency: 1.6604875 252 GHz kHz Center frequency: Frequency span: Resolution-BW: kHz Video-RW 30 kHz Input attenuation: 45 dB Detector-Mode: AVG Correction: + 0.0 dB Directional coupler + 0.9 dB Coaxial cable (C220) U311+U312 29.3 dB TOTAL CORRECTION: 30.2 dB  $\label{eq:Remarks:} \underline{\text{Remarks:}}$  Carrier-on state / Carrier at the upper edge of the band (fo) For EIRP calculation: 'worst-case' = maximum antenna gain

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## 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

<u>Test setup:</u> see test report chapter 7.2 setup 1.1hgj

<u>Test equipment:</u> see test report chapter 7.2: C220, R001, U311, U312

Remark:

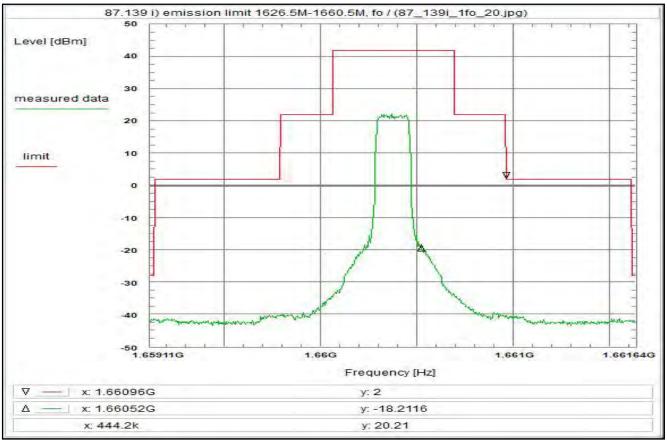
Test result: Test passed

Environment condition:
Date & Time: Thu 28/May/2020 16:33:03 CTC advanced GmbH, Laboratory RC-SYS Location: Temperature: Humidity: 55 % 115 Vac / 400 Hz Voltage: Setup of measurement equipment: Start frequency: 1. 1.659115 GHz 1.661635 GHz Stop frequency: 1.660375 GHz MHz Center frequency: Frequency span: Resolution-BW: kHz Video-RW 30 kHz Input attenuation: 45 dB Detector-Mode: AVG Correction: + 0.0 dB Directional coupler + 0.9 dB Coaxial cable (C220) U311+U312 29.3 dB TOTAL CORRECTION: 30.2 dB  $\label{eq:Remarks:} \underline{\text{Remarks:}}$  Carrier-on state / Carrier at the upper edge of the band (fo) For EIRP calculation: 'worst-case' = maximum antenna gain

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## Plot No. 267



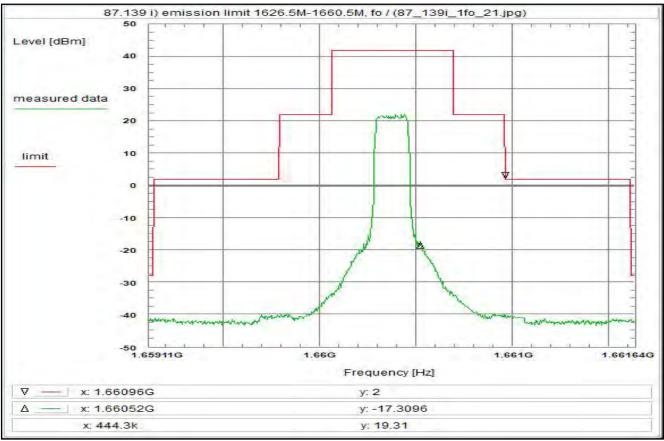
Subclause: 87.139 i) Frequencies, frequency tolerance and emission limitations Emission limitations Modulated rf-carrier at the upper edge of the band (fo) Limit: Limit according to 87.139(i)(1) The mean power of emissions shall be attenuated below the mean output power of the transmitter in accordance 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 <u>Test setup:</u> see test report chapter 7.2 setup 1.1hgj <u>Test equipment:</u> 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 CTC advanced GmbH, Laboratory RC-SYS Location: Temperature: Humidity: 55 % 115 Vac / 400 Hz Voltage: Setup of measurement equipment: Start frequency: 1. 1.659115 GHz 1.661635 GHz Stop frequency: 1.660375 GHz MHz Center frequency: Frequency span: Resolution-BW: kHz Video-RW 30 kHz Input attenuation: 45 dB Detector-Mode: AVG Correction: + 0.0 dB Directional coupler + 0.9 dB Coaxial cable (C220) U311+U312 29.3 dB TOTAL CORRECTION: 30.2 dB  $\label{eq:Remarks:} \underline{\text{Remarks:}}$  Carrier-on state / Carrier at the upper edge of the band (fo) For EIRP calculation: 'worst-case' = maximum antenna gain

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## Plot No. 268



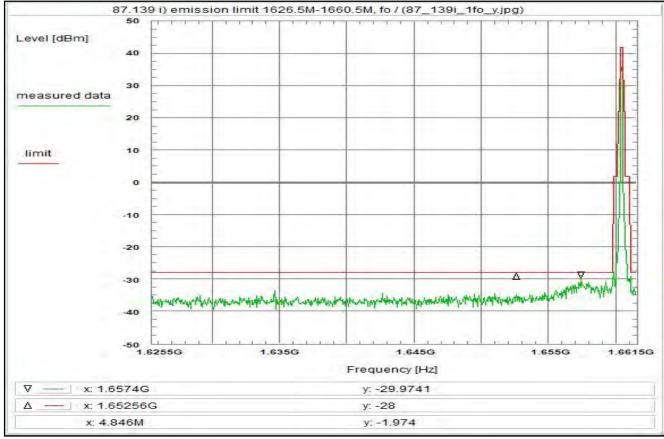
Subclause: 87.139 i) Frequencies, frequency tolerance and emission limitations Emission limitations Modulated rf-carrier at the upper edge of the band (fo) Limit: Limit according to 87.139(i)(1) The mean power of emissions shall be attenuated below the mean output power of the transmitter in accordance 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 <u>Test setup:</u> see test report chapter 7.2 setup 1.1hgj <u>Test equipment:</u> 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 CTC advanced GmbH, Laboratory RC-SYS Location: Temperature: Humidity: 55 % 115 Vac / 400 Hz Voltage: Setup of measurement equipment: Start frequency: 1. 1.659115 GHz 1.661635 GHz Stop frequency: 1.660375 GHz MHz Center frequency: Frequency span: Resolution-BW: kHz Video-RW 30 kHz Input attenuation: 45 dB Detector-Mode: AVG Correction: + 0.0 dB Directional coupler + 0.9 dB Coaxial cable (C220) U311+U312 29.3 dB TOTAL CORRECTION: 30.2 dB  $\label{eq:Remarks:} \underline{\text{Remarks:}}$  Carrier-on state / Carrier at the upper edge of the band (fo) For EIRP calculation: 'worst-case' = maximum antenna gain

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#### 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 <u>Test setup:</u> test report chapter 7.2 setup 1.1hgj <u>Test equipment:</u> 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 CTC advanced GmbH, Laboratory RC-SYS Location: Temperature: Humidity: 55 % 115 Vac / 400 Hz Voltage: Setup of measurement equipment: Start frequency: 1.6255 GHz Stop frequency: 1.6615 GHz MHz Center frequency: 1.6435 Frequency span: 36 Resolution-BW: kHz Video-RW: 30 kHz Input attenuation: 30 dB Trace-Mode: Clear Write Detector-Mode: AVG Correction: + 0.0 dB Directional coupler Coaxial cable (C220) + 0.9 dB DUT-Antenna 12.0 dBi + 0.0 dB + 1.2 dB Test antenna BW correction factor (3k -> 4k) Atten. between HPA and feedhorn 0.0 dB Attenuation (U312) 19.5 dB Attenuation (U311) 9.7 dB Power Splitter
TOTAL CORRECTION: 50.0 dB Carrier-on state / Carrier at the upper edge of the band (fo) For EIRP calculation: 'worst-case' = maximum antenna gain

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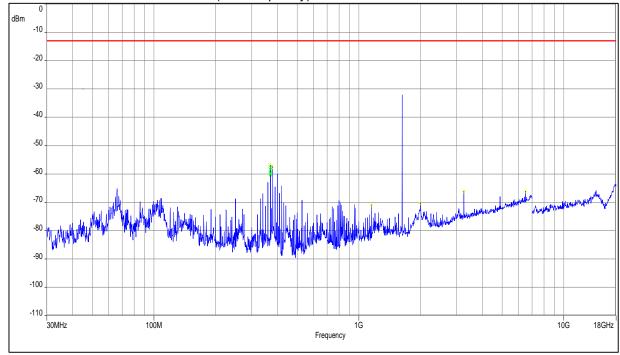
# 3 Measurement results, Spurious emissions 30MHz - 18 GHz

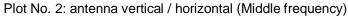
This Chapter 3 consists of 3 pages including this page.

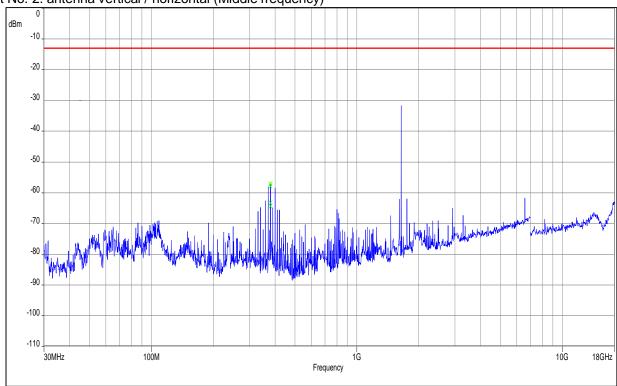
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Plot No. 1: antenna vertical / horizontal (Low frequency)



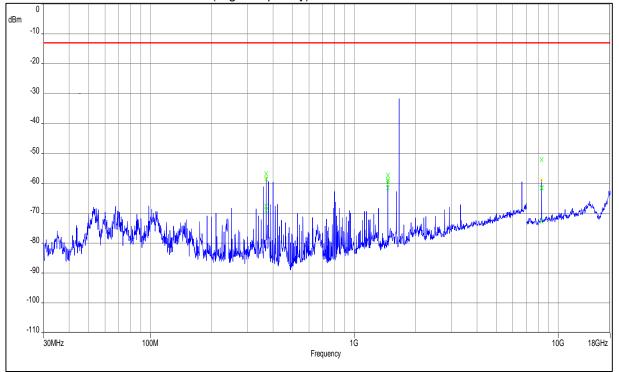




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Plot No. 3: antenna vertical / horizontal (High frequency)



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# 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

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# 5 Document history

Version	Applied changes	Date of release
	Initial release - DRAFT	2020-06-26
	Draft version 2	2020-07-03
	final release	2021-04-29

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