Annex E

CTC advanced member of RWTÜV group

This test report annex is electronically signed and valid without handwriting signature. For verification of the electronic signatures, the public keys can be requested at the testing laboratory.

Test report annex authorized:

Thomas Vogler

cn=Thomas Vogler, o=CTC advanced GmbH, ou=VOG-161125, email=thomas.vogler@ctcadvanced.com, c=DE
2021.05.12 15:42:31 +02'00'

p.o.

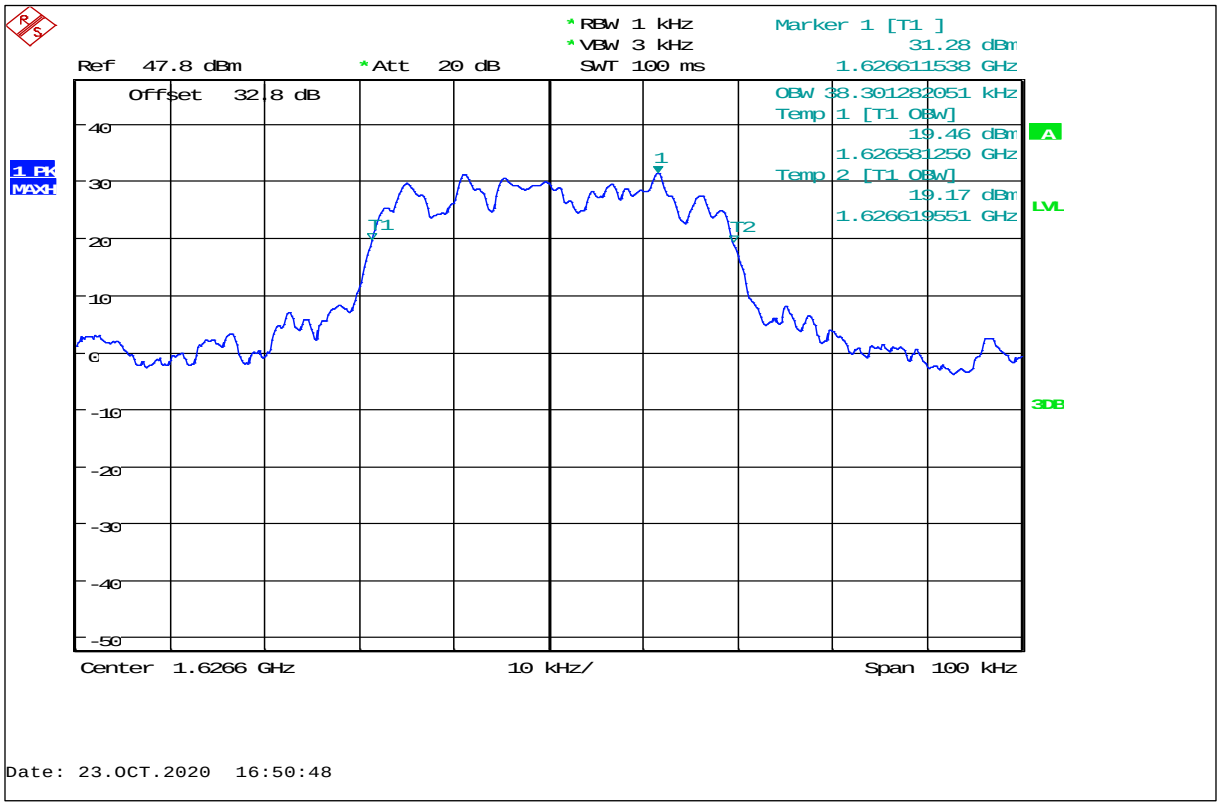
Meheza Walla
Lab Manager
Radio Communications & EMC

1 Table of contents

2 Measurement results, FCC Part 87 and FCC Part 25

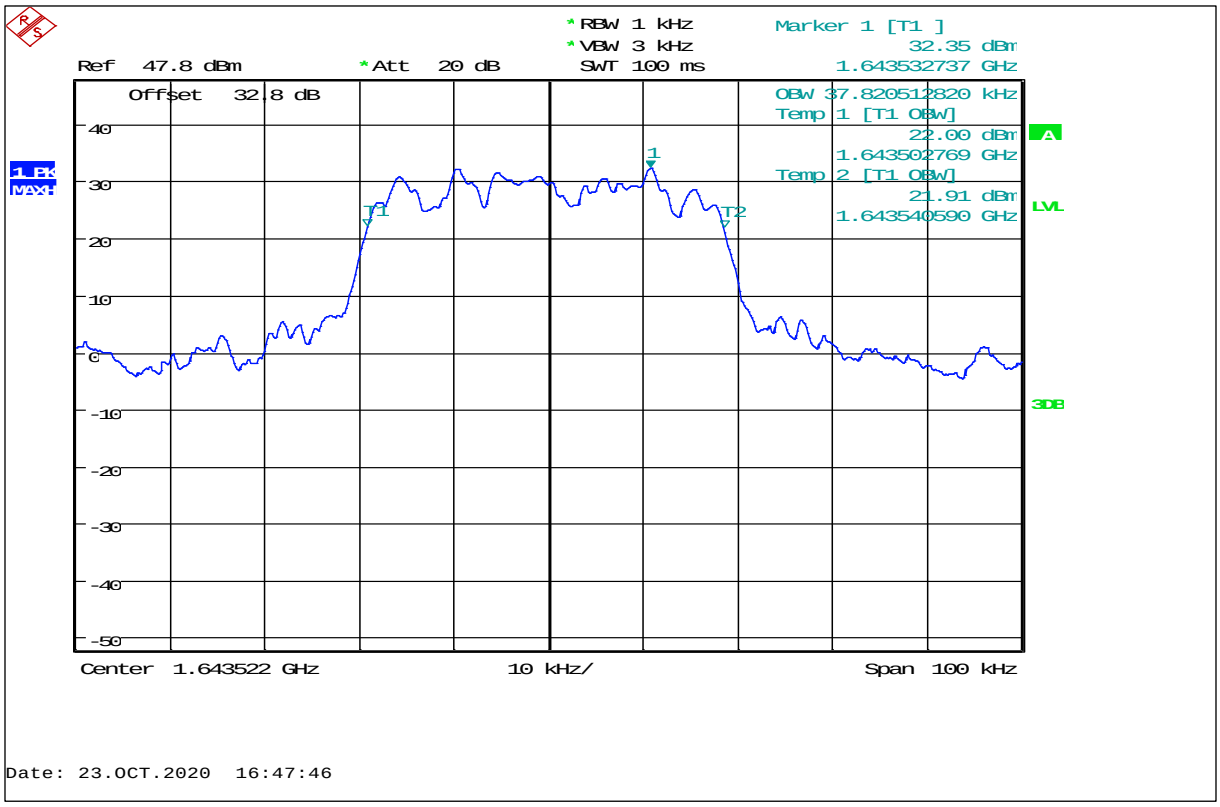
This chapter consists of 121 pages including this page.

Plot No. 1



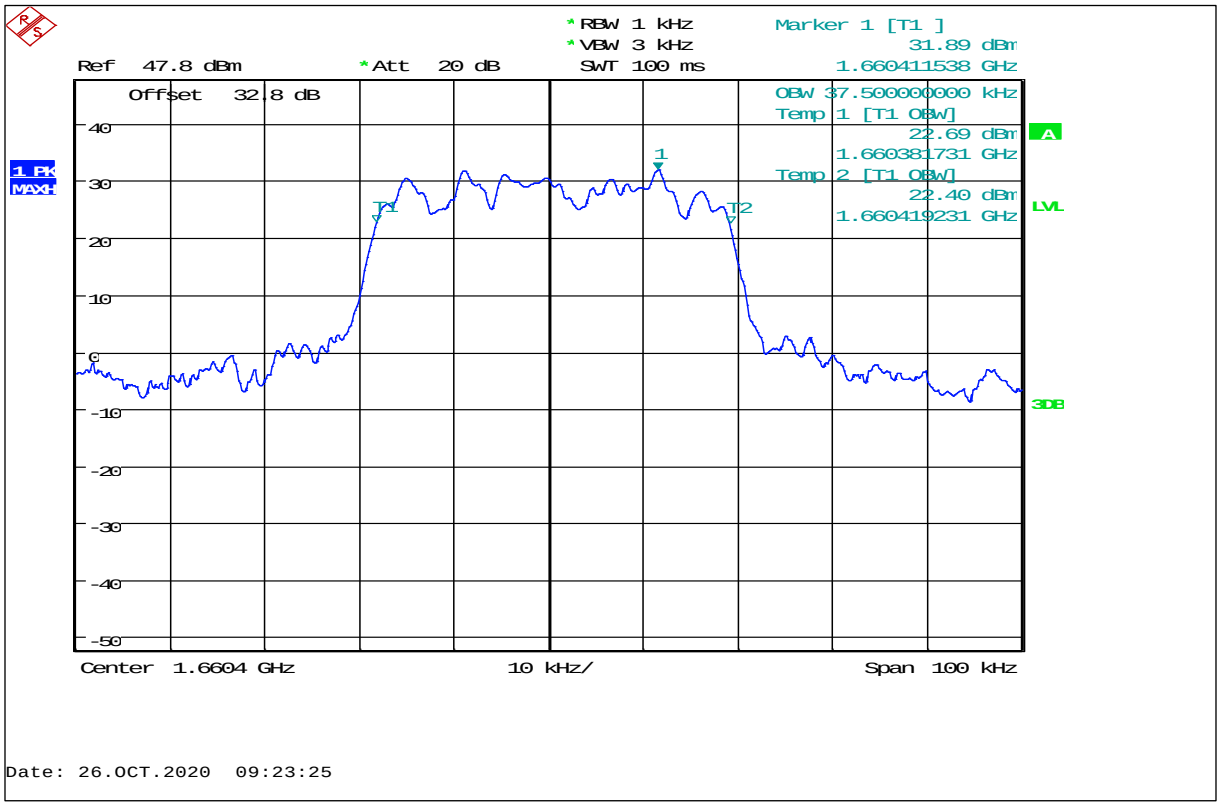
OBW, Low Channel, R5T1XD

Plot No. 2



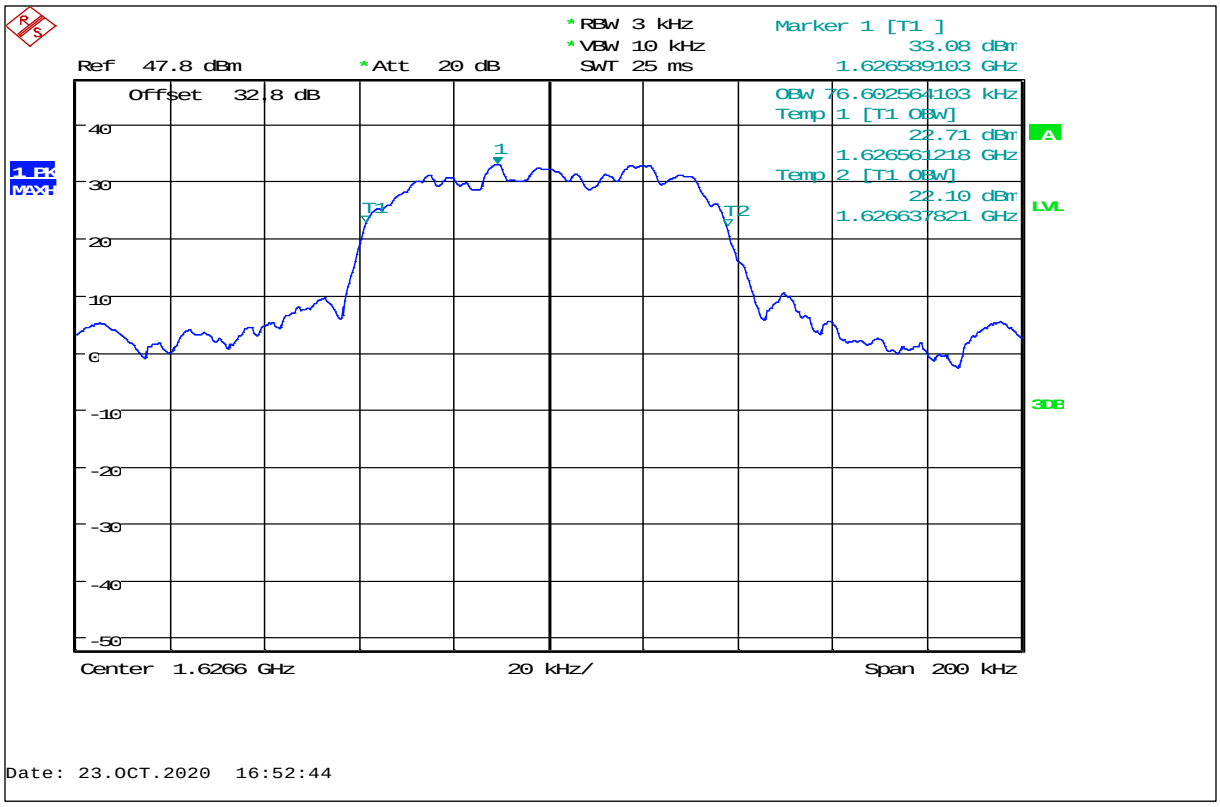
OBW, Middle Channel, R5T1XD

Plot No. 3



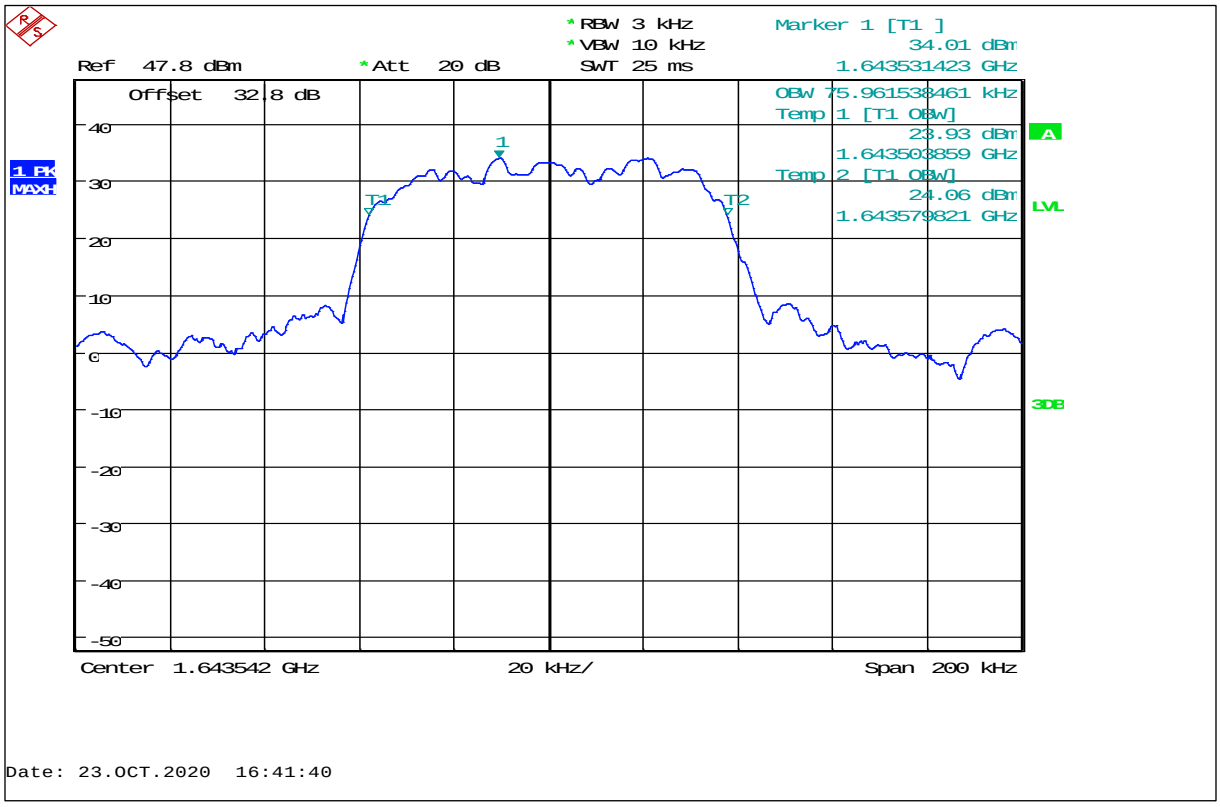
OBW, High Channel, R5T1XD

Plot No. 4



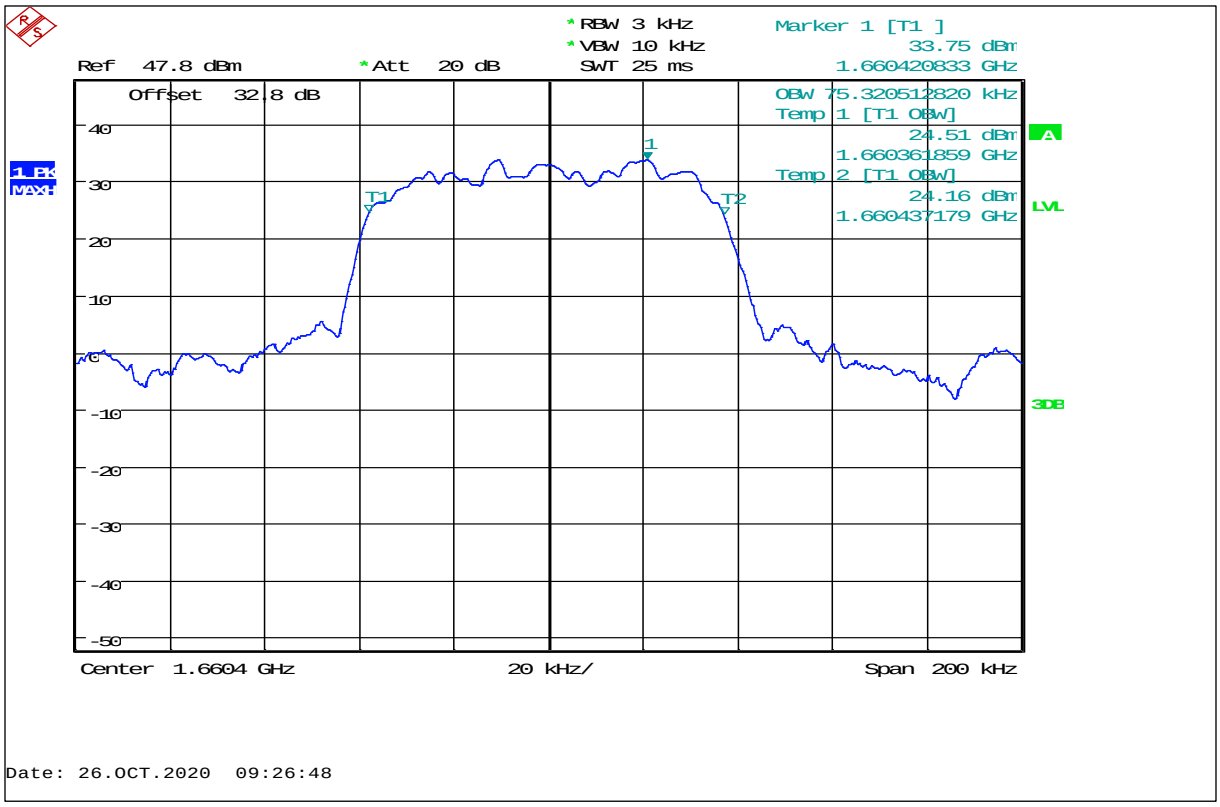
OBW, Low Channel, R5T2XD

Plot No. 5



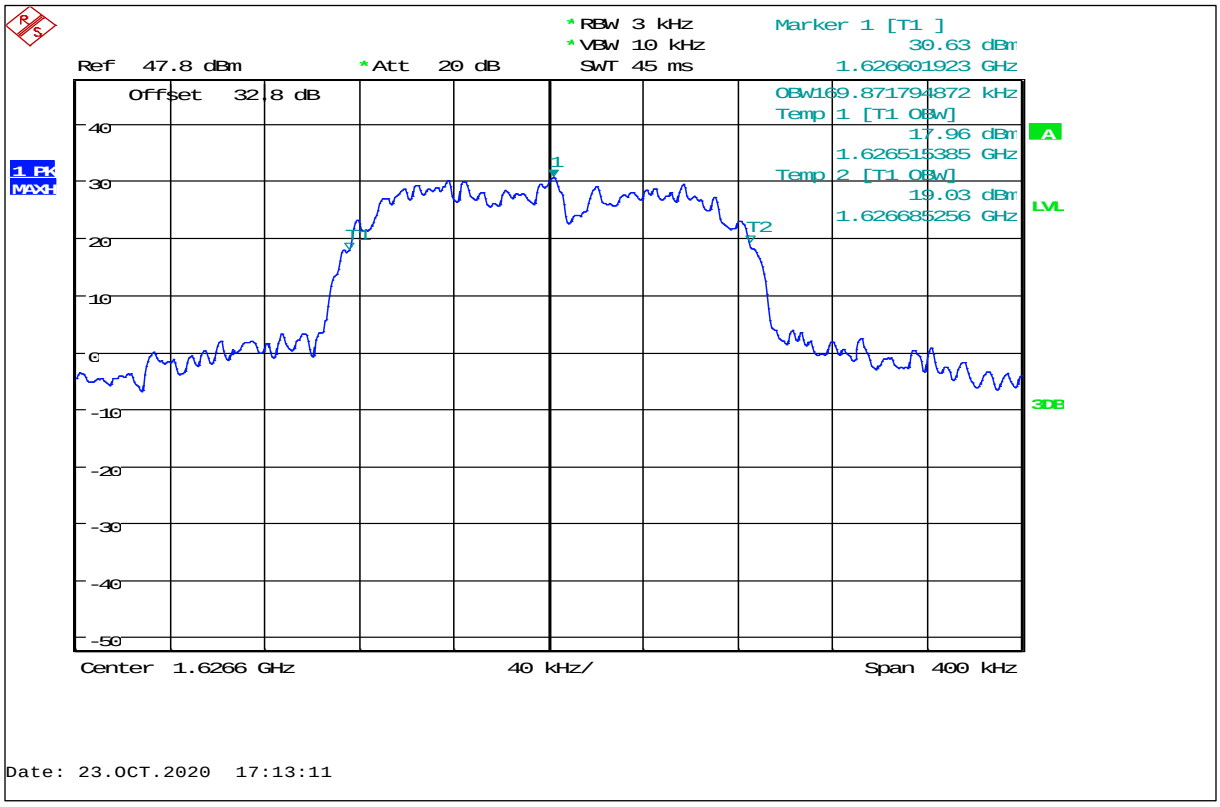
OBW, Middle Channel, R5T2XD

Plot No. 6



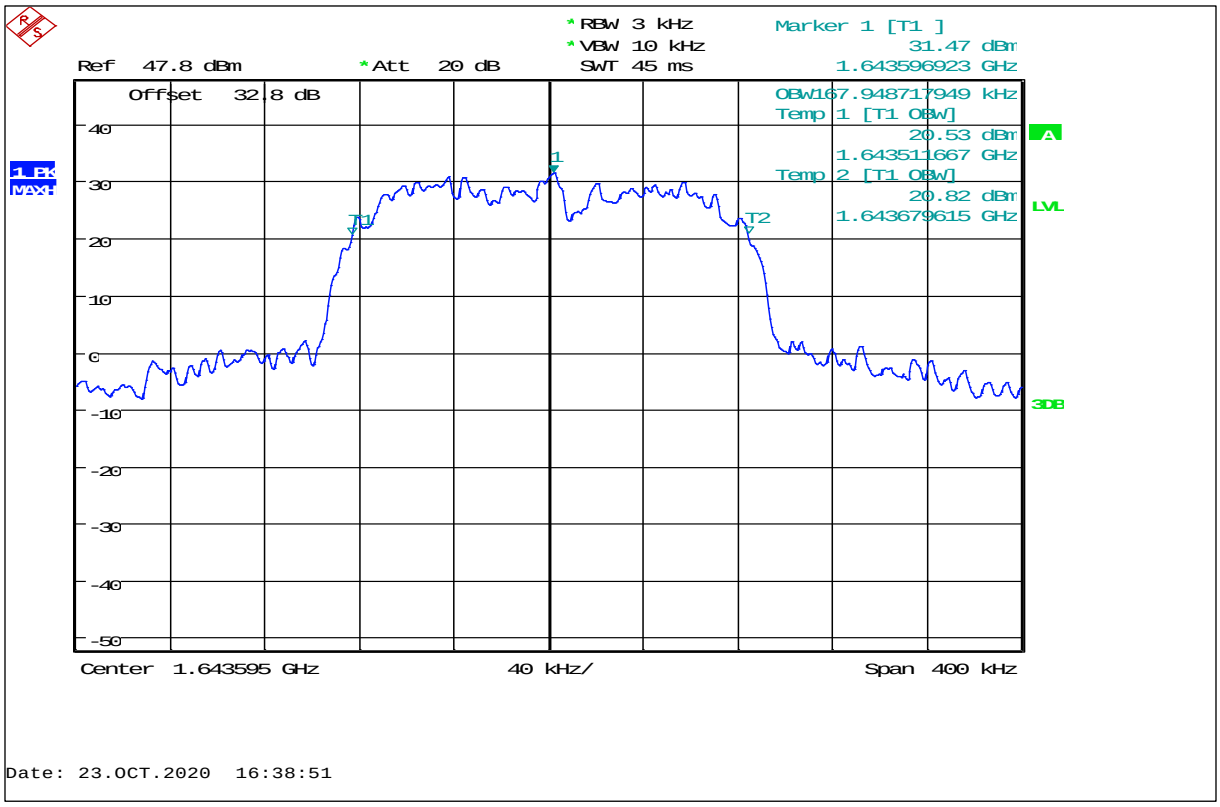
OBW, High Channel, R5T2XD

Plot No. 7



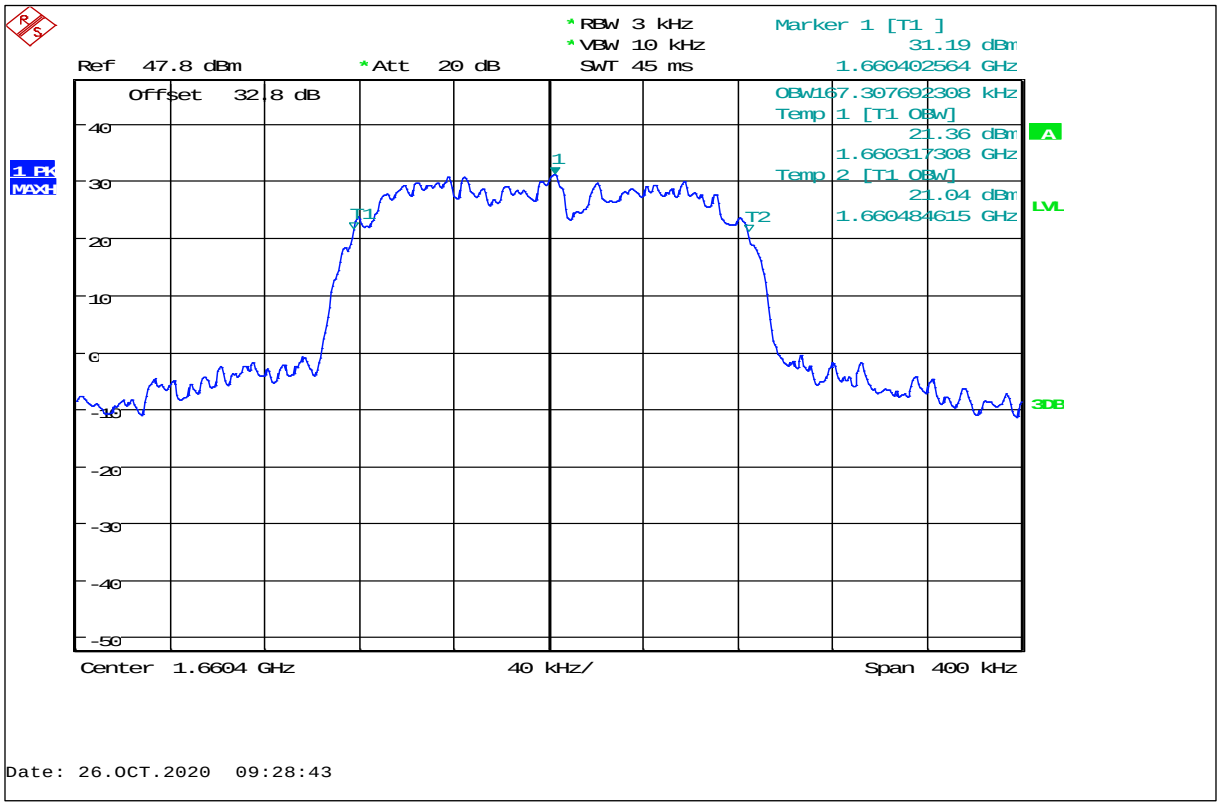
OBW, Low Channel, R5T4.5XD

Plot No. 8



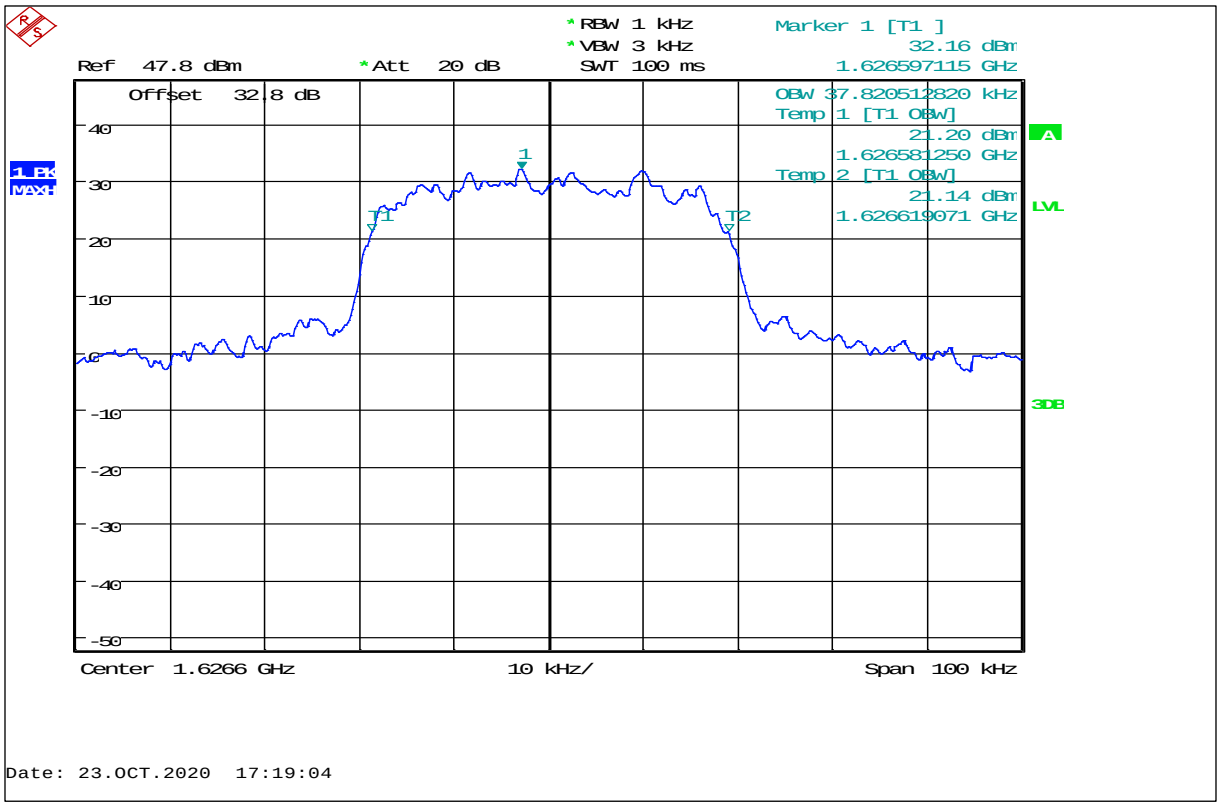
OBW, Middle Channel, R5T4.5XD

Plot No. 9



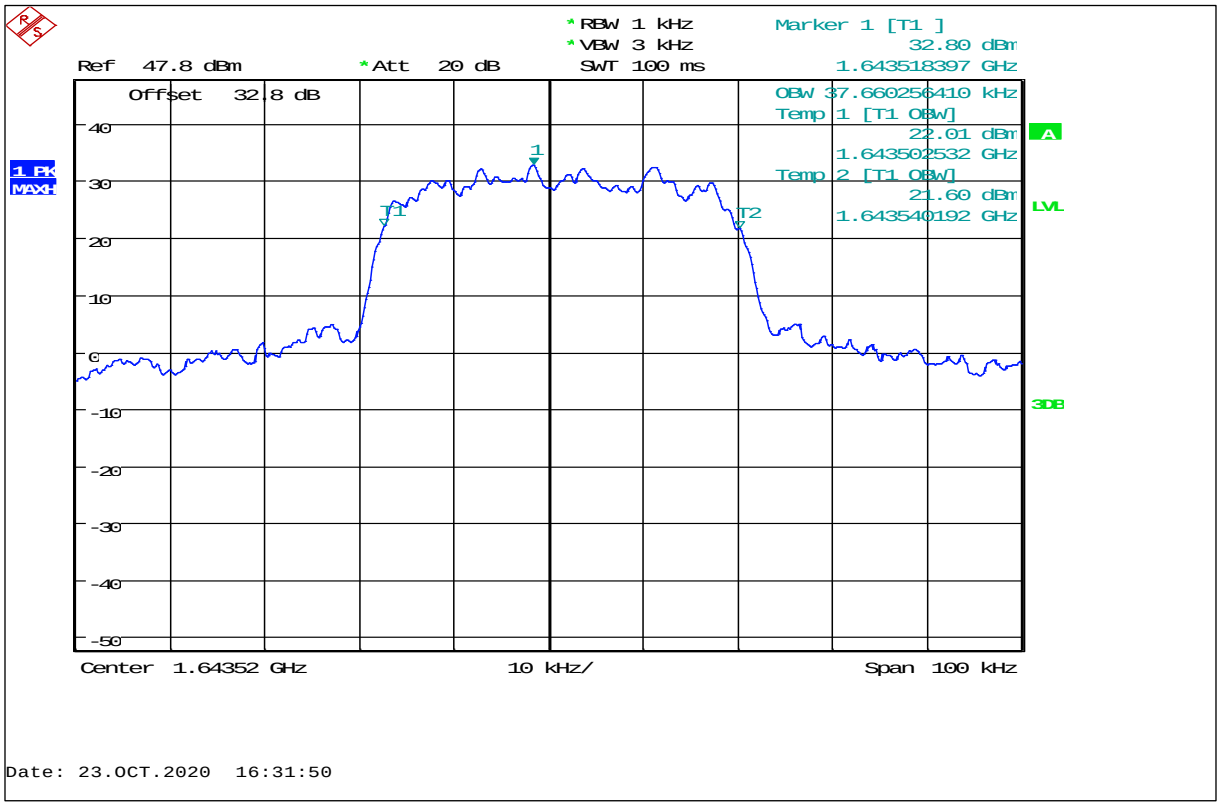
OBW, High Channel, R5T4.5XD

Plot No. 10



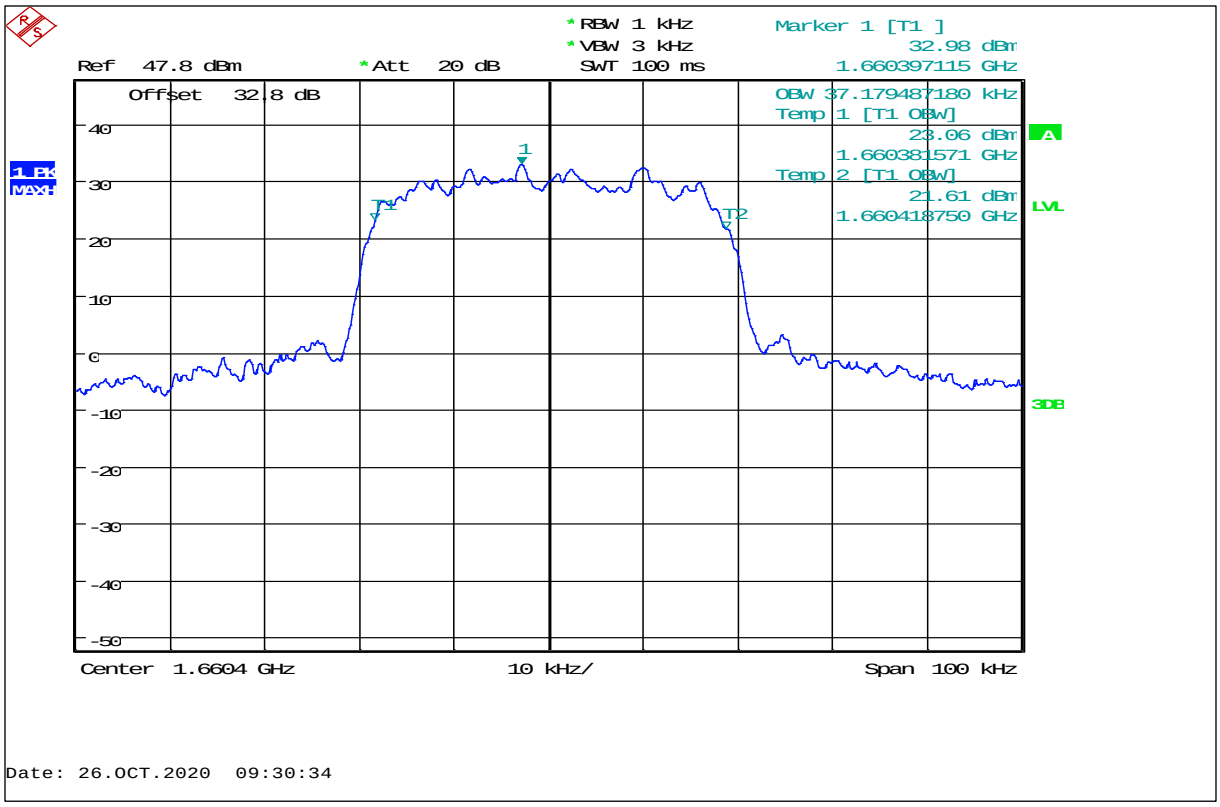
OBW, Low Channel, R20T1XD

Plot No. 11



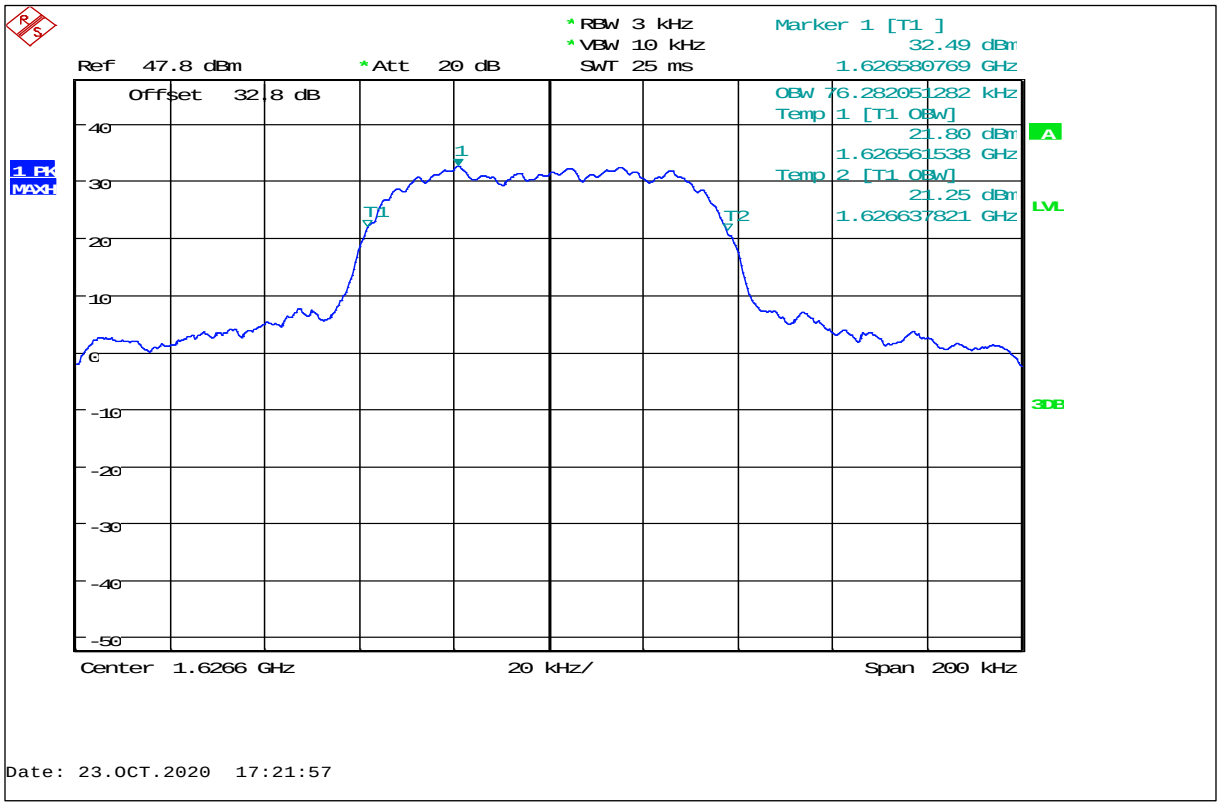
OBW, Middle Channel, R20T1XD

Plot No. 12



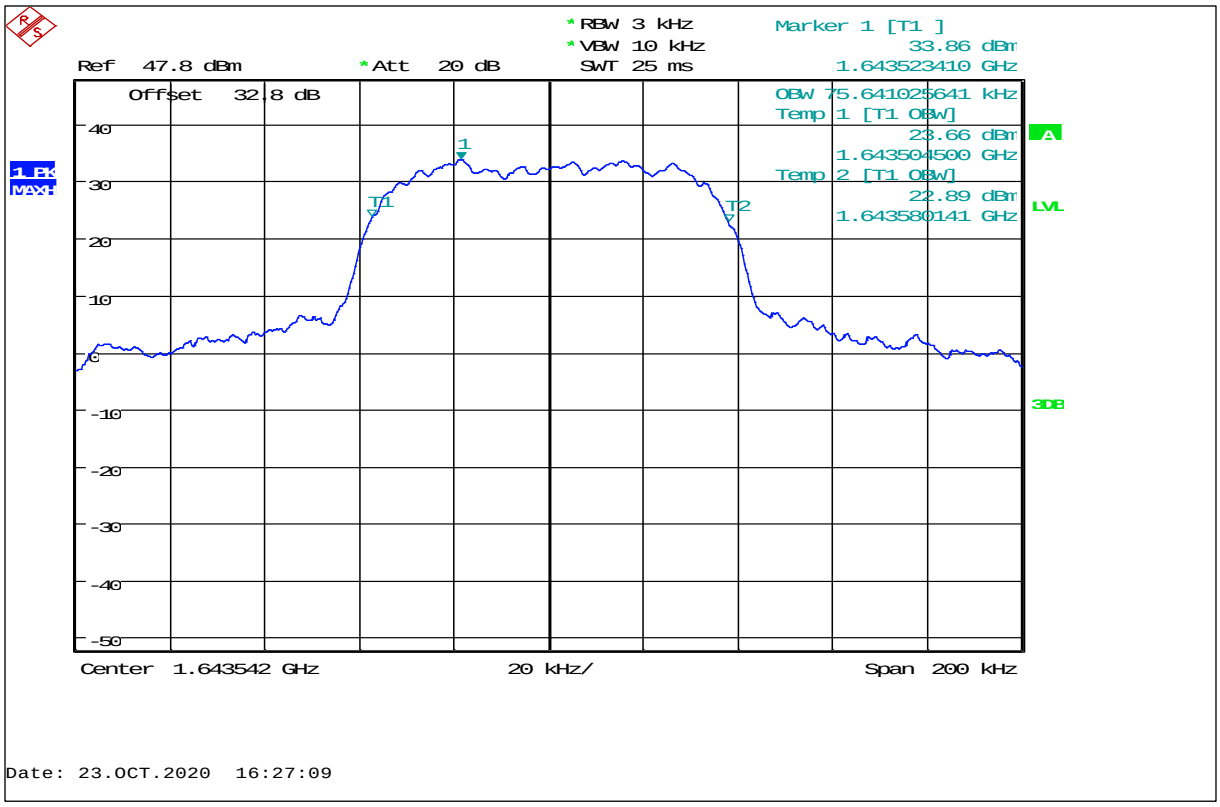
OBW, High Channel, R20T1XD

Plot No. 13



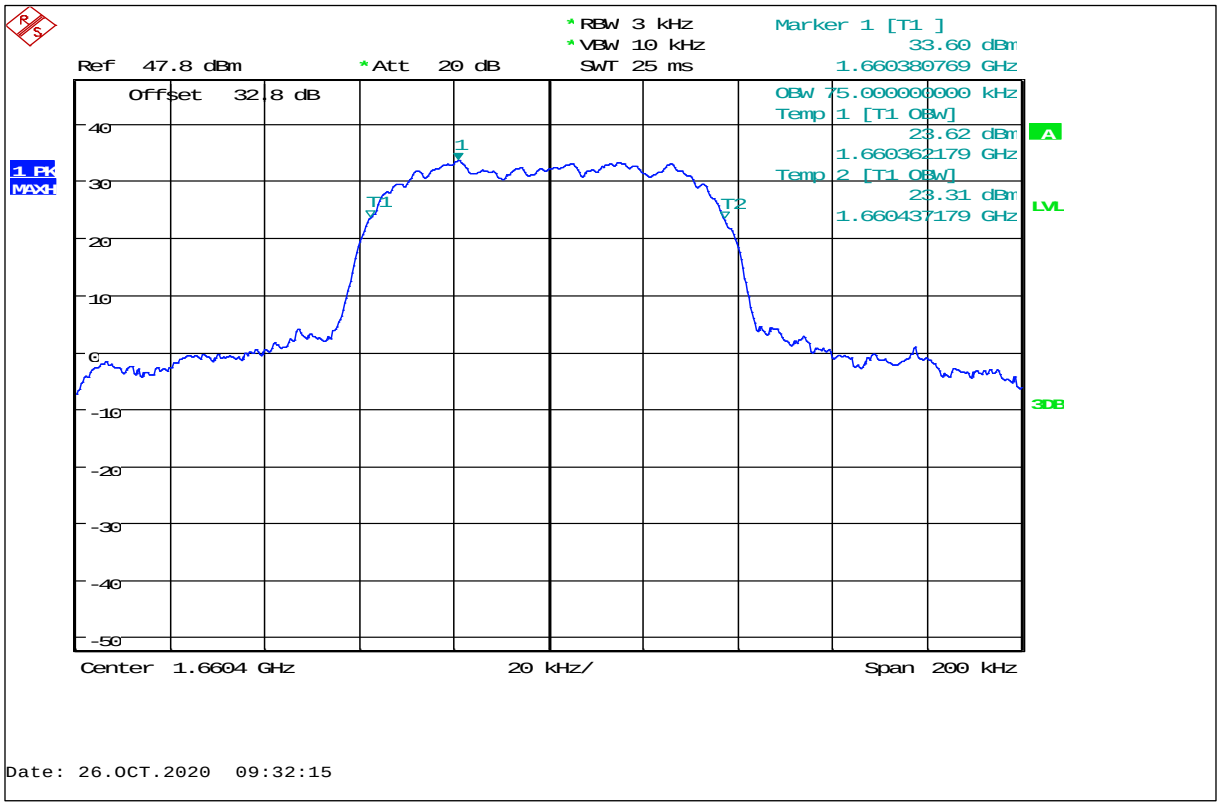
OBW, Low Channel, R20T2XD

Plot No. 14



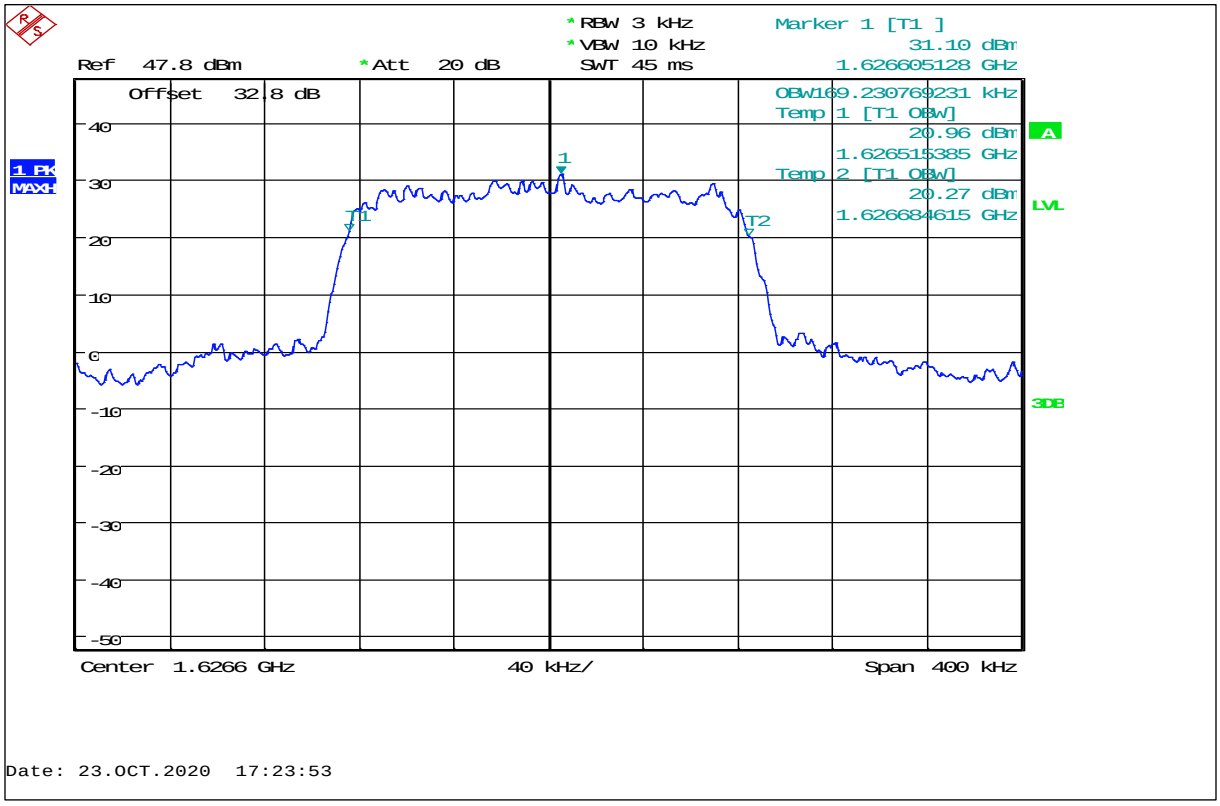
OBW, Middle Channel, R20T2XD

Plot No. 15



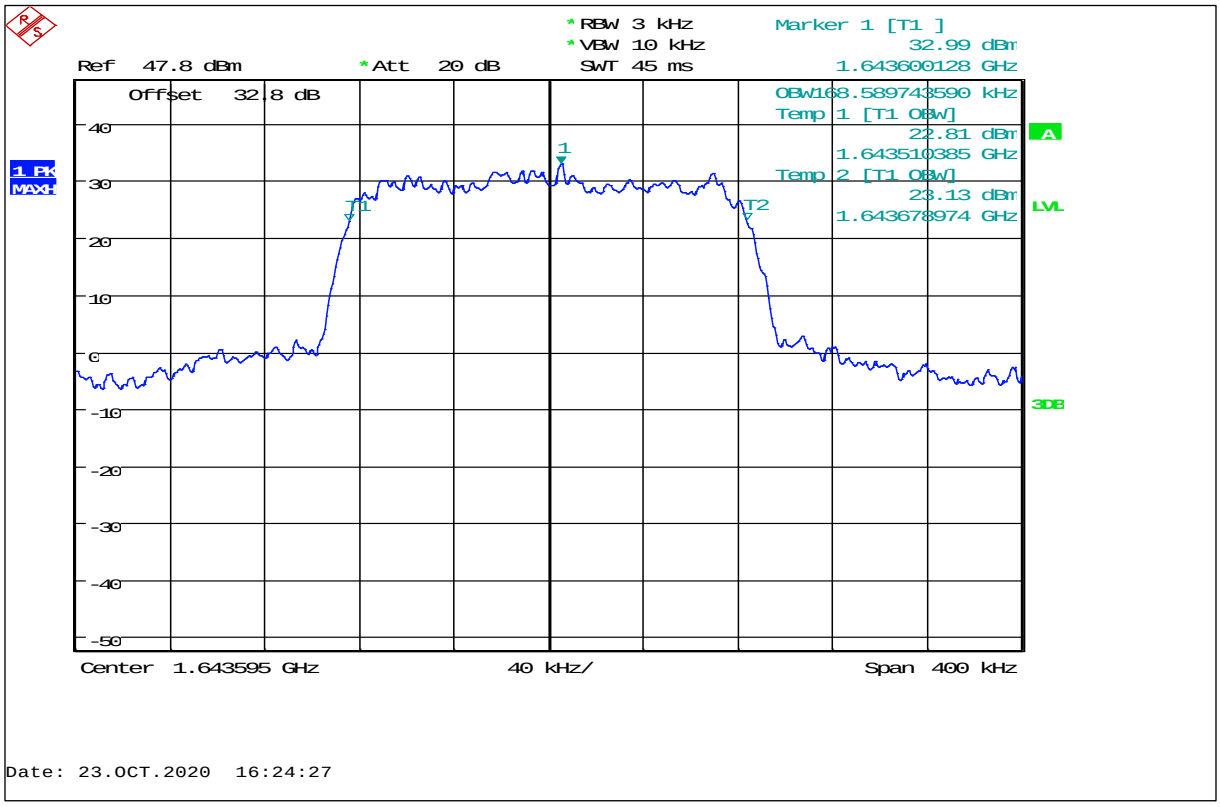
OBW, High Channel, R20T2XD

Plot No. 16



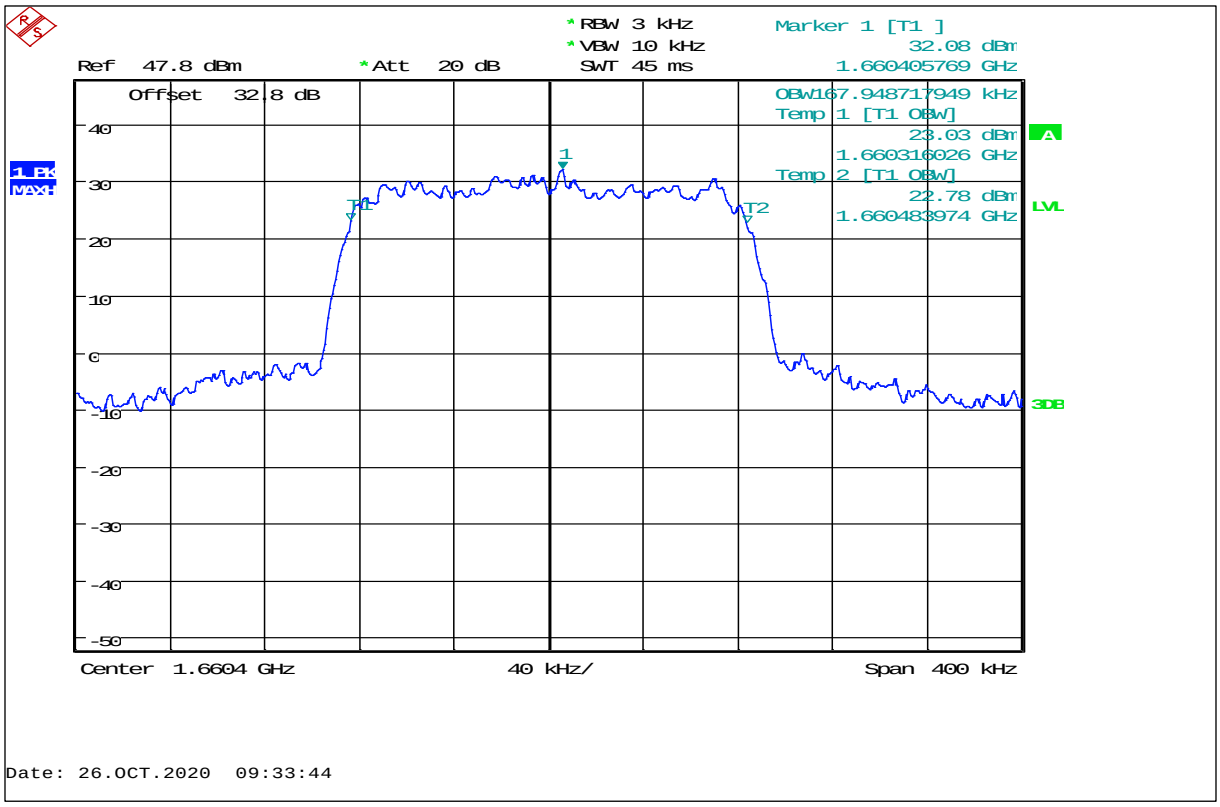
OBW, Low Channel, R20T4.5XD

Plot No. 17



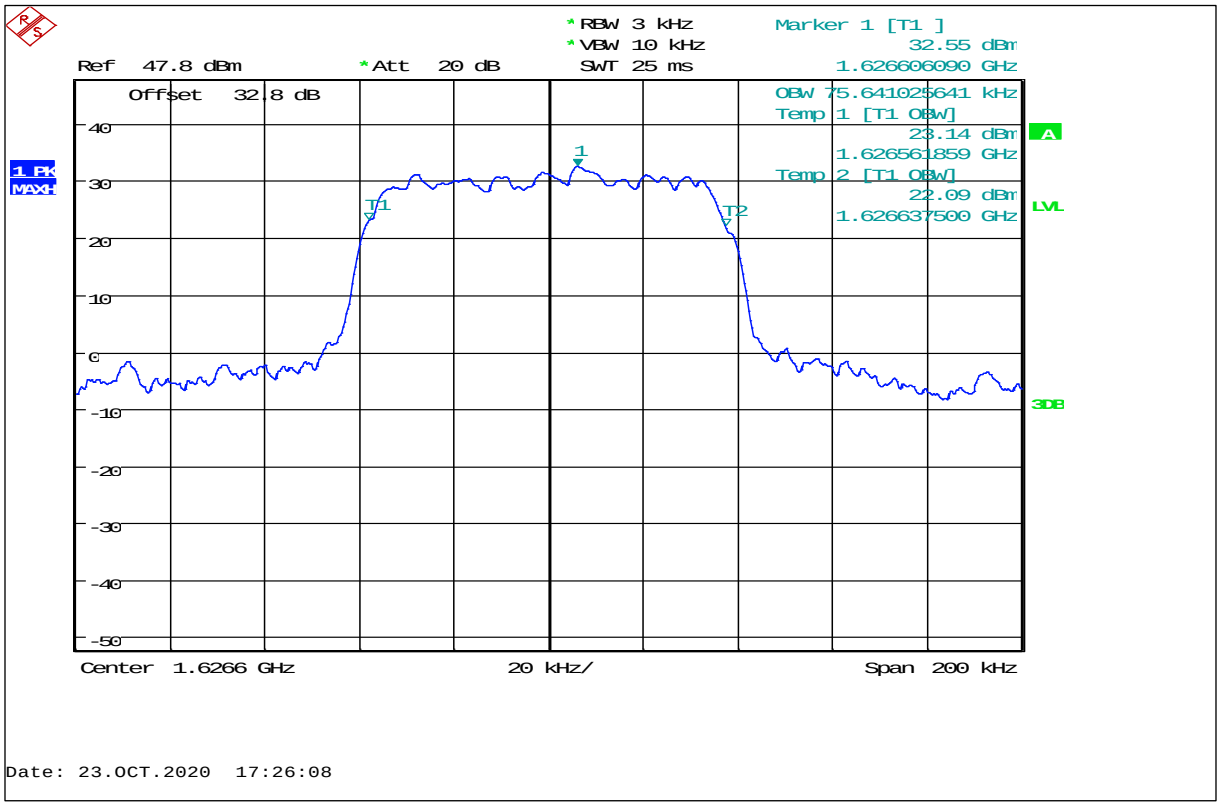
OBW, Middle Channel, R20T4.5XD

Plot No. 18



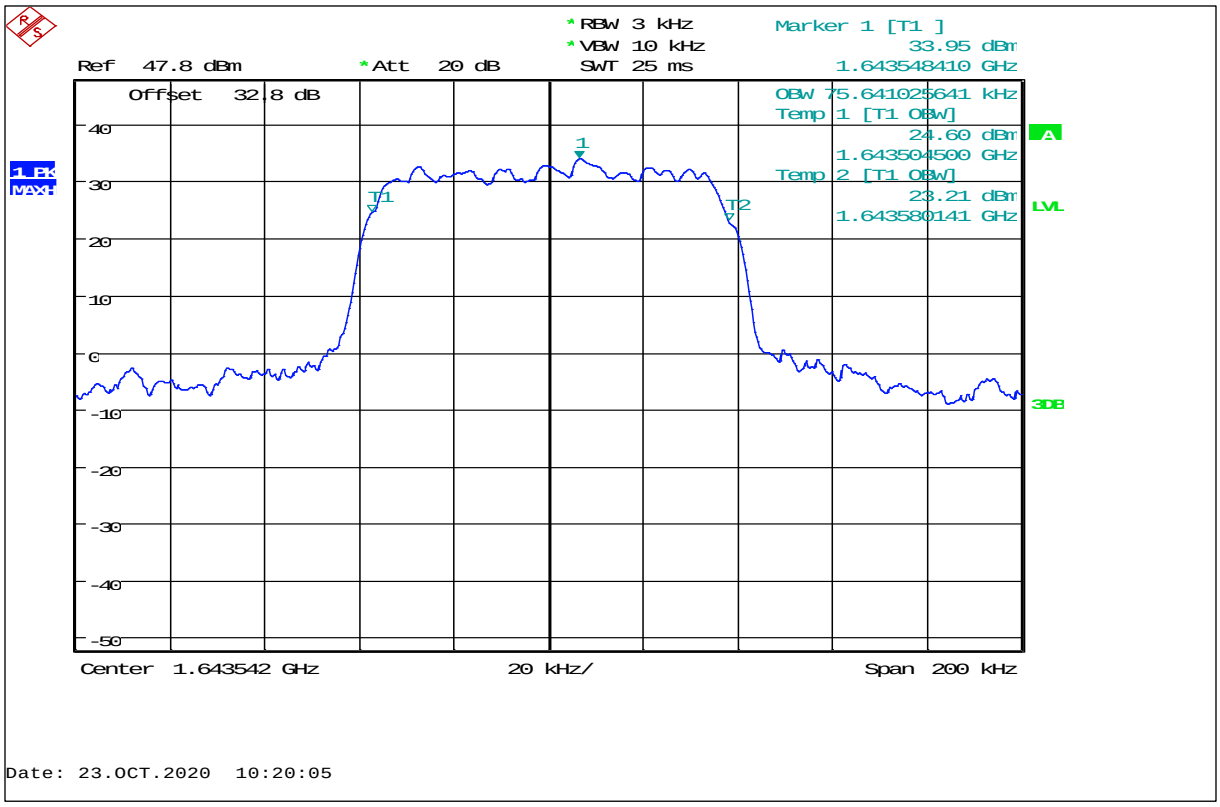
OBW, High Channel, R20T4.5XD

Plot No. 19



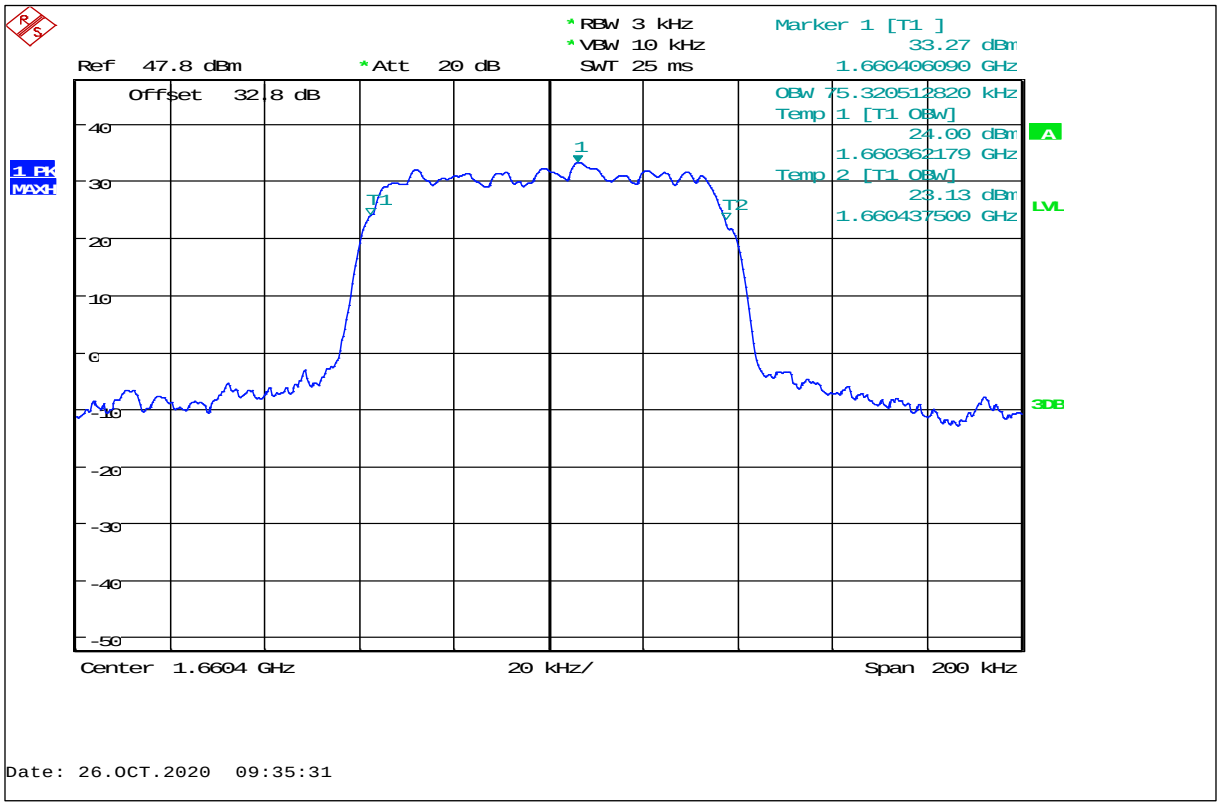
OBW, Low Channel, R5T2QD

Plot No. 20



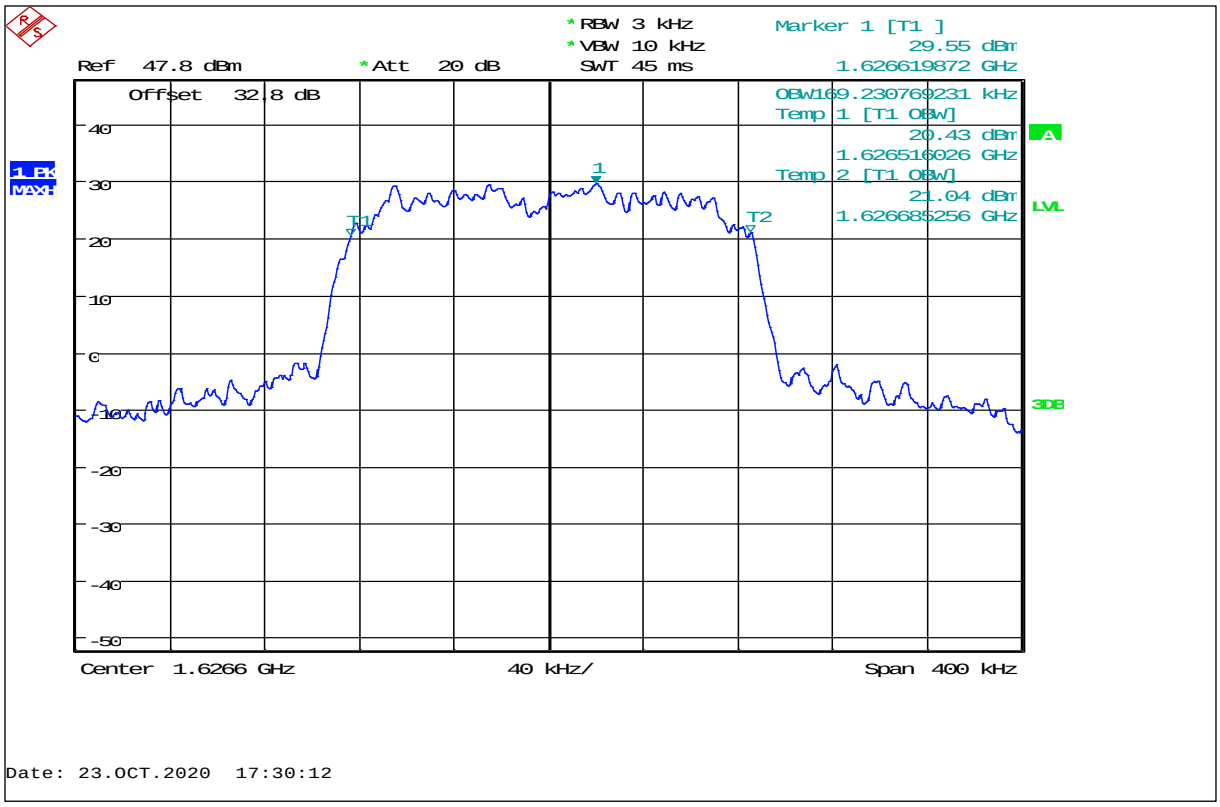
OBW, Middle Channel, R5T2QD

Plot No. 21



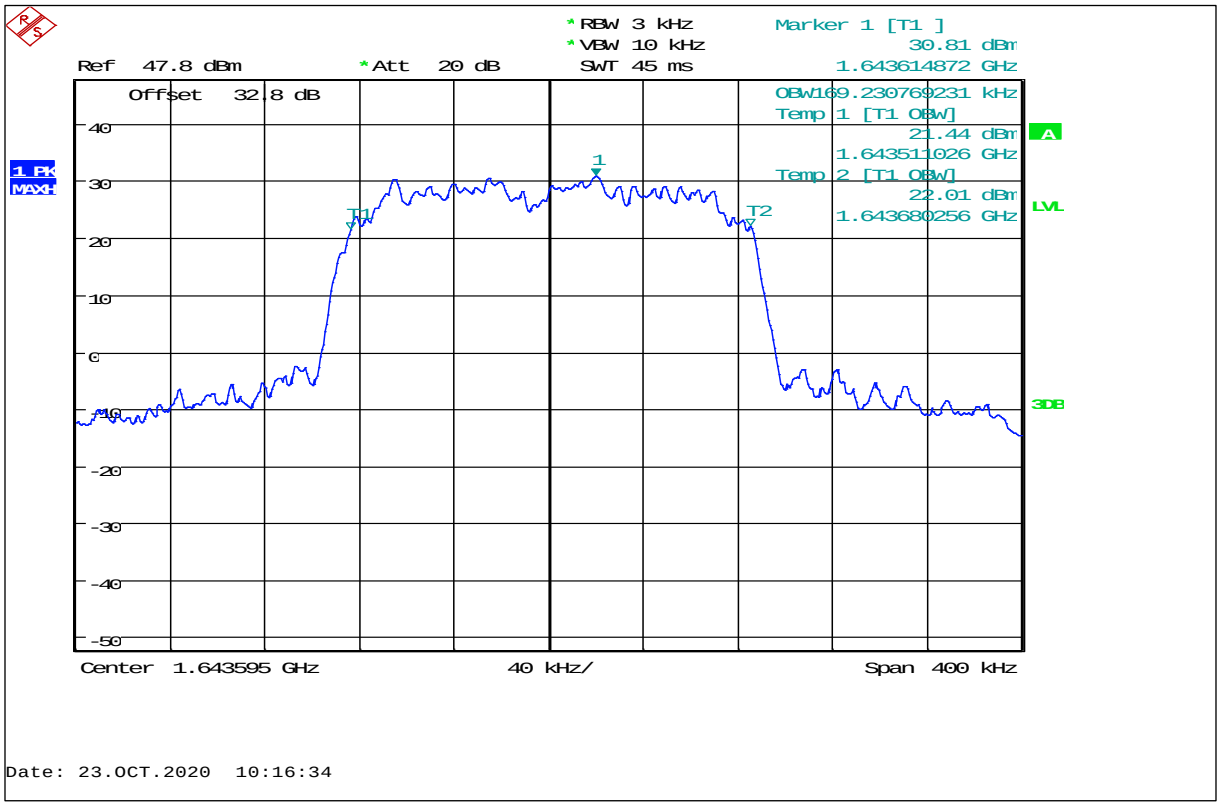
OBW, High Channel, R5T2QD

Plot No. 22



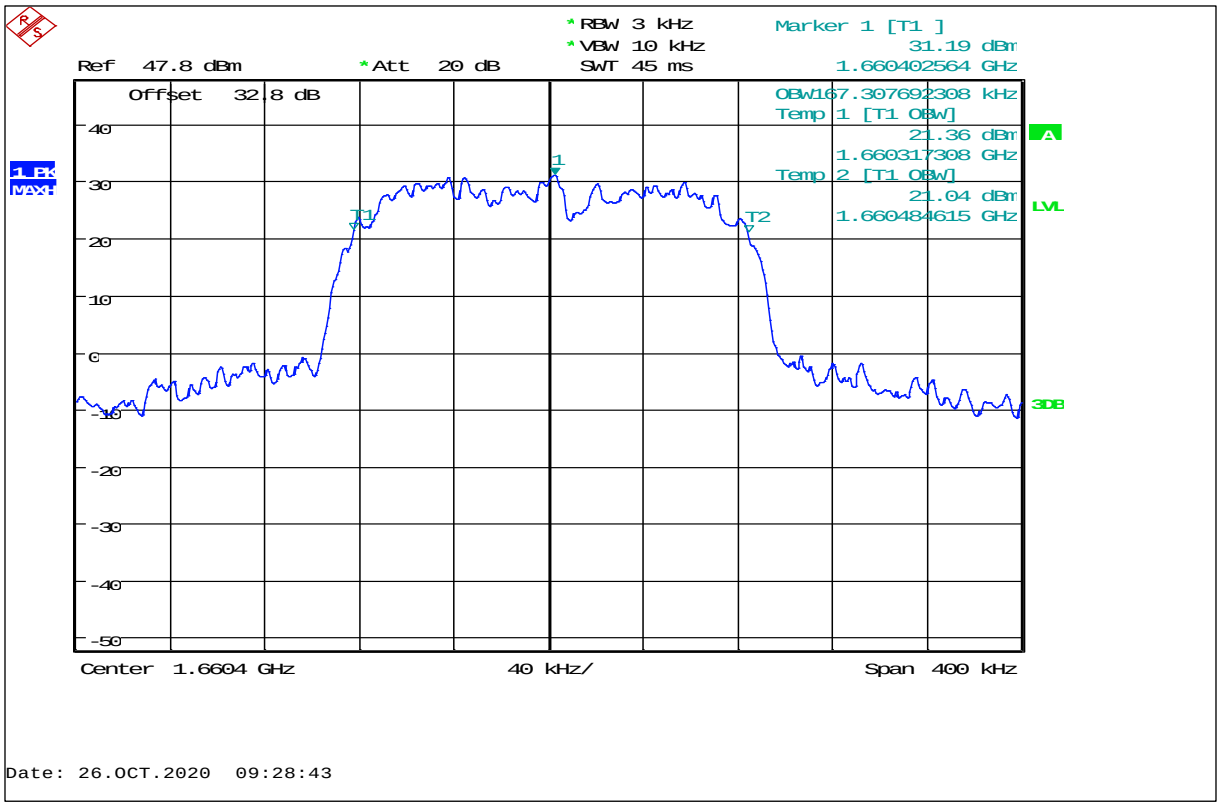
OBW, Low Channel, R5T4.5QD

Plot No. 23



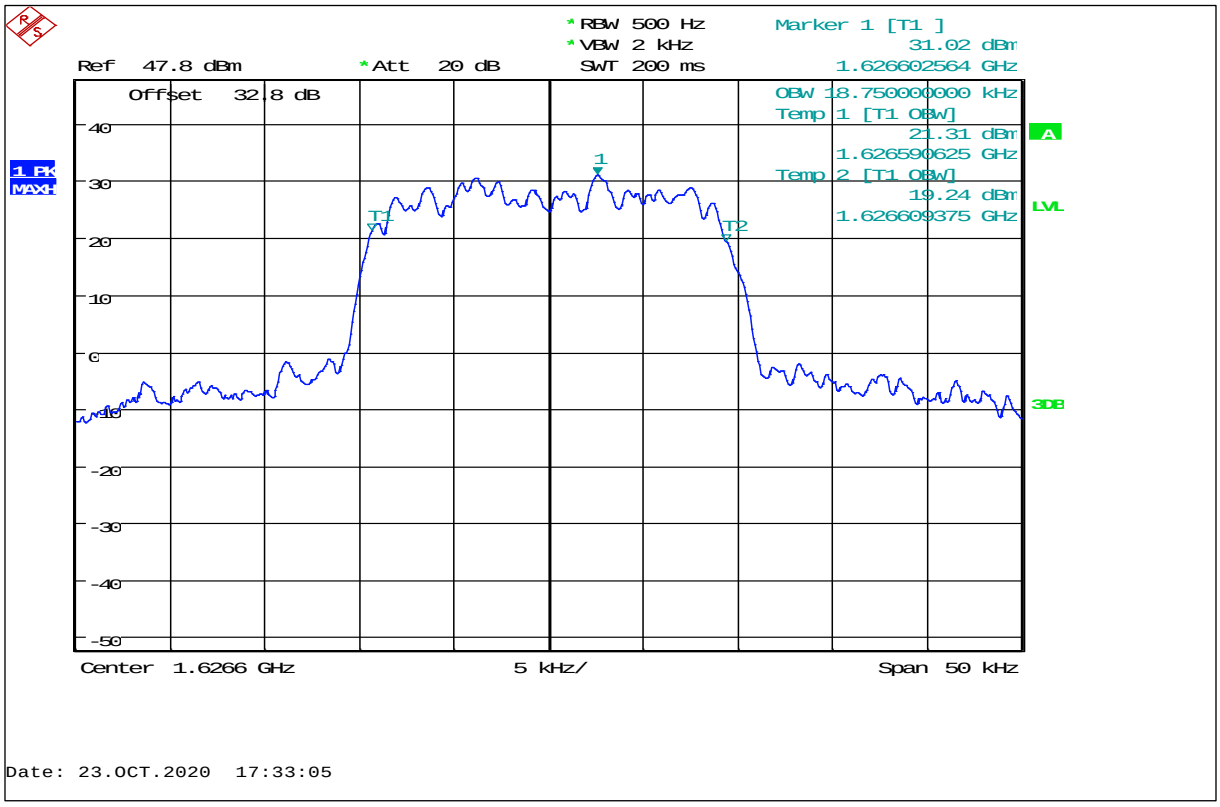
OBW, Middle Channel, R5T4.5QD

Plot No. 24



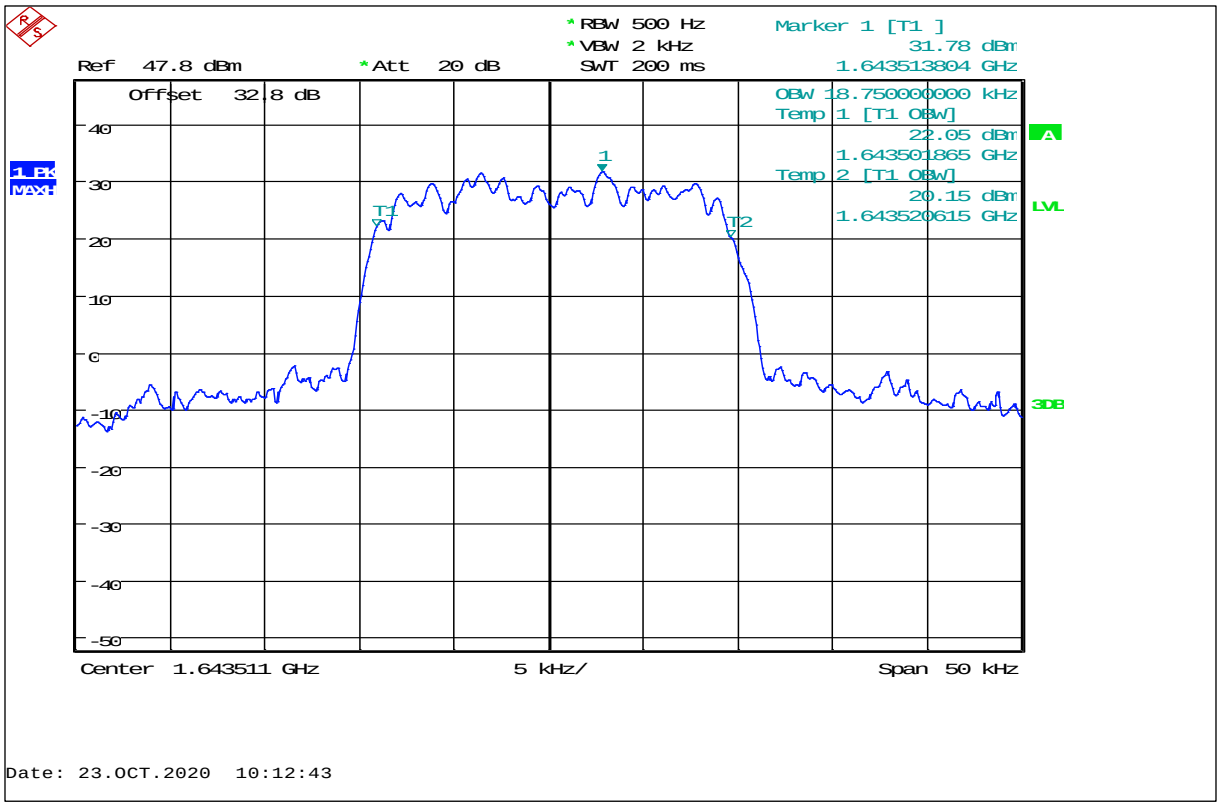
OBW, High Channel, R5T4.5QD

Plot No. 25



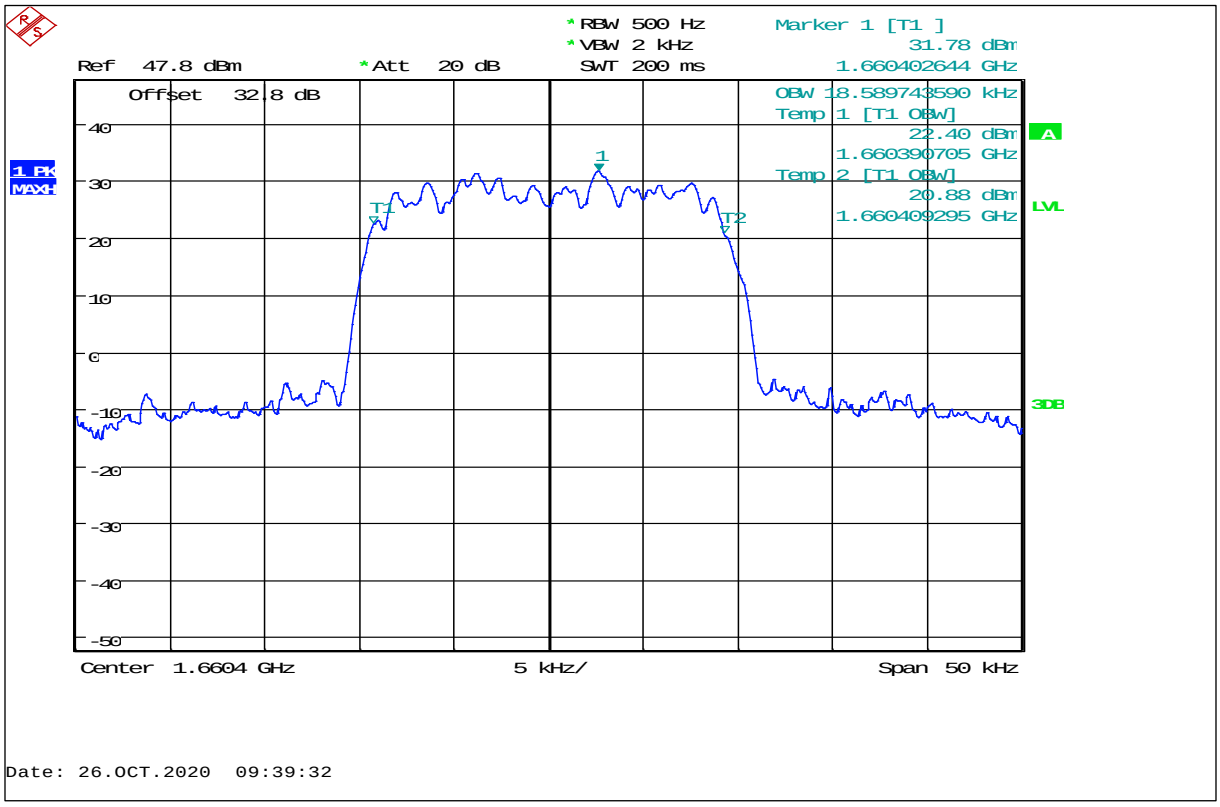
OBW, Low Channel, R20T0.5QD

Plot No. 26



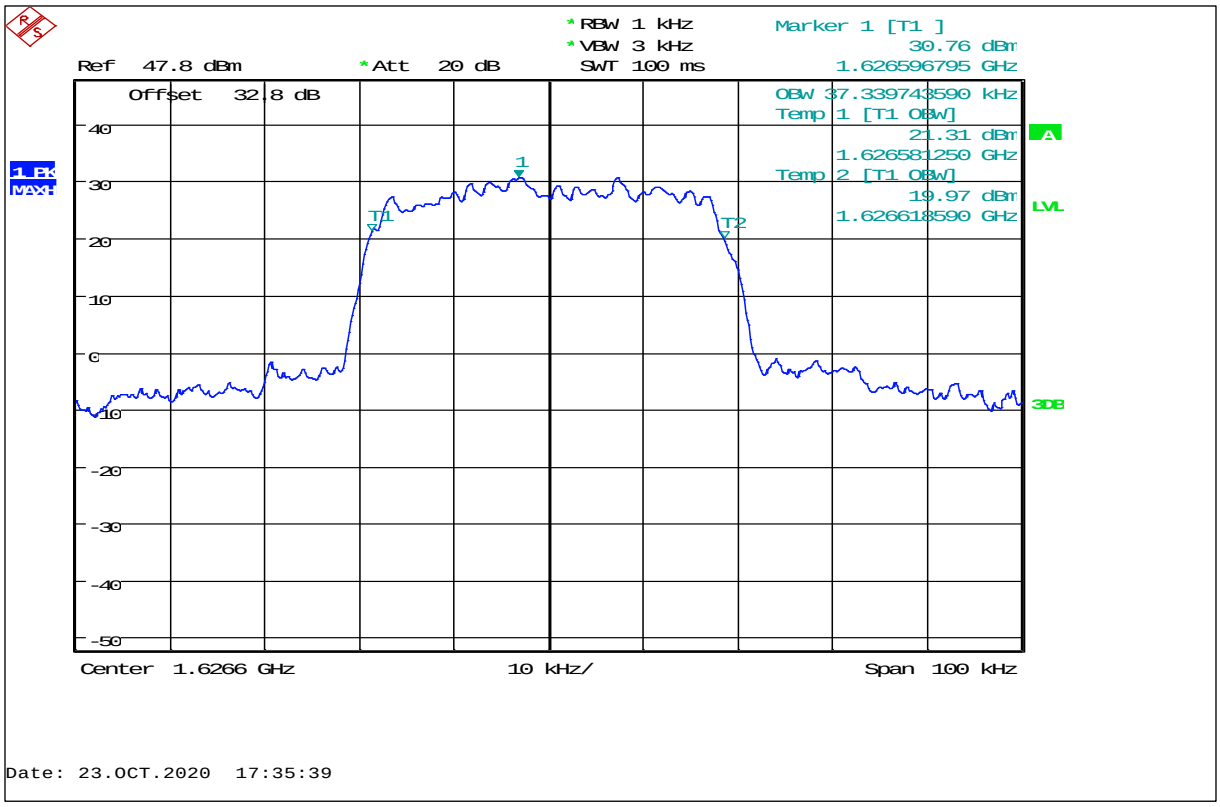
OBW, Middle Channel, R20T0.5QD

Plot No. 27



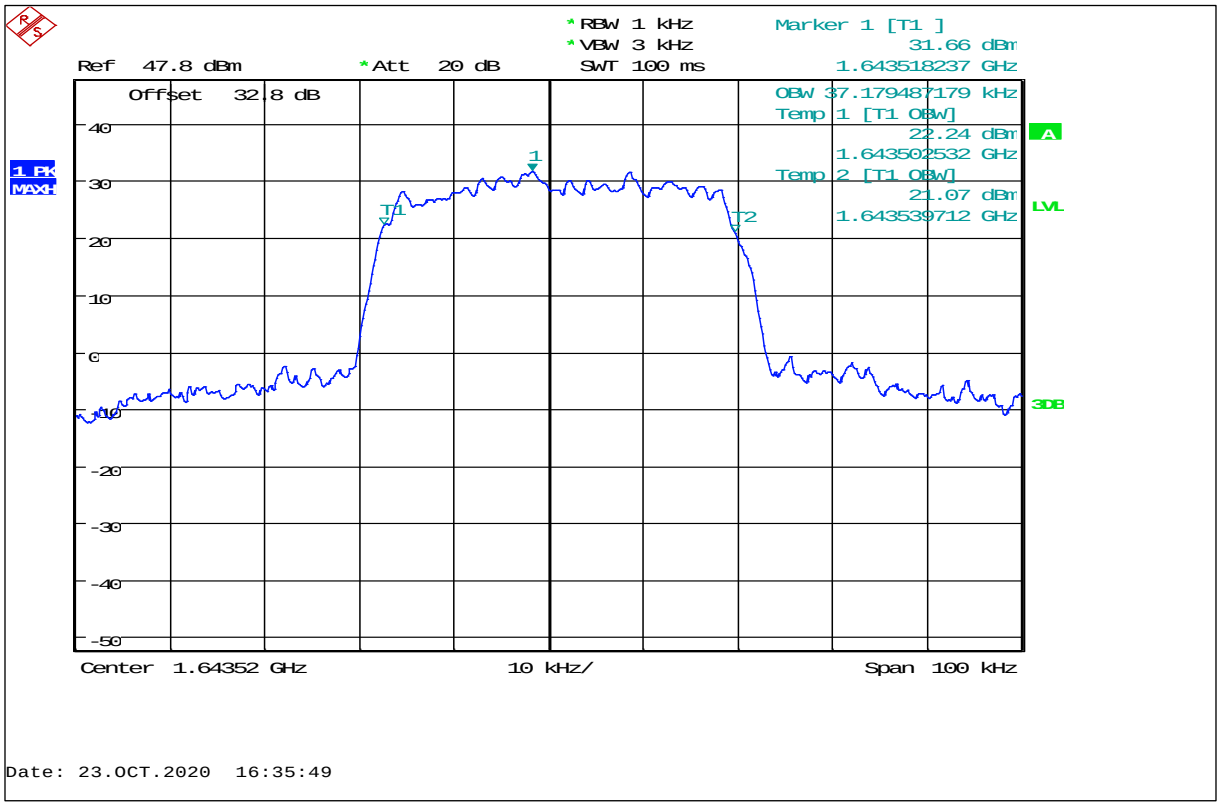
OBW, High Channel, R20T0.5QD

Plot No. 28



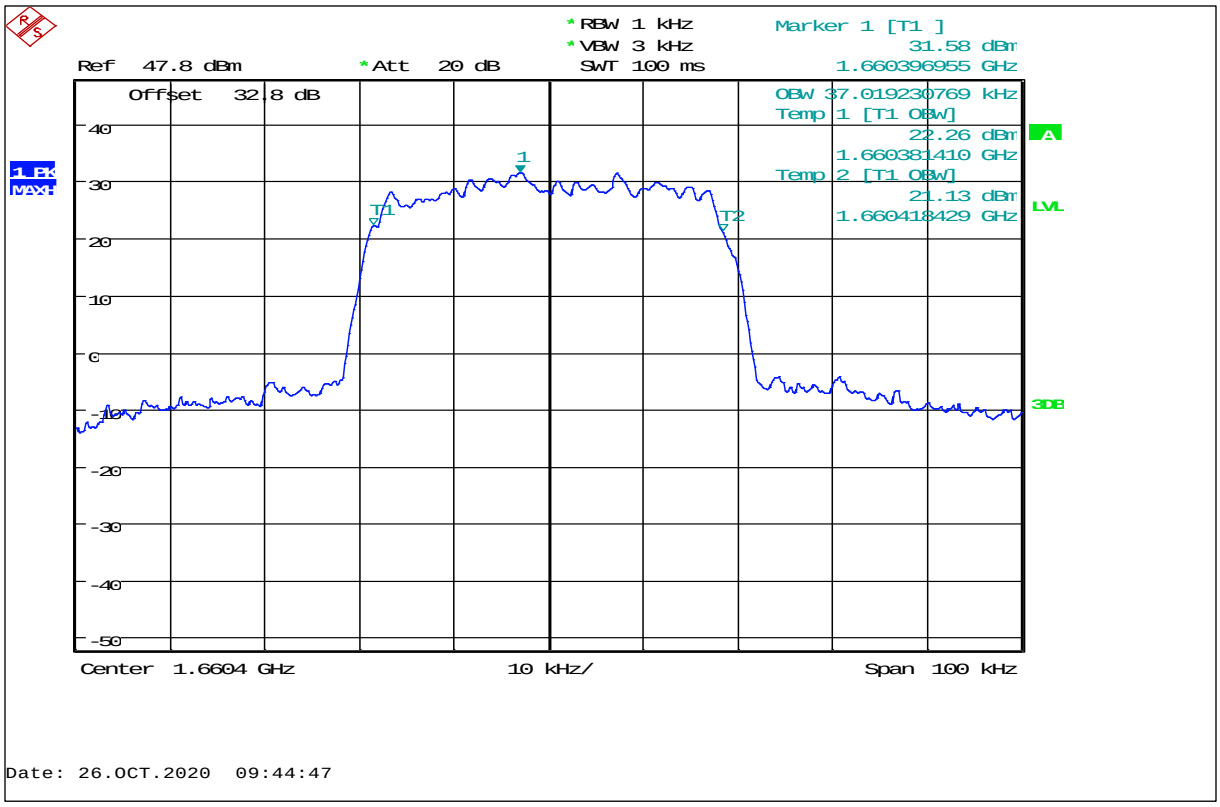
OBW, Low Channel, R20T1QD

Plot No. 29



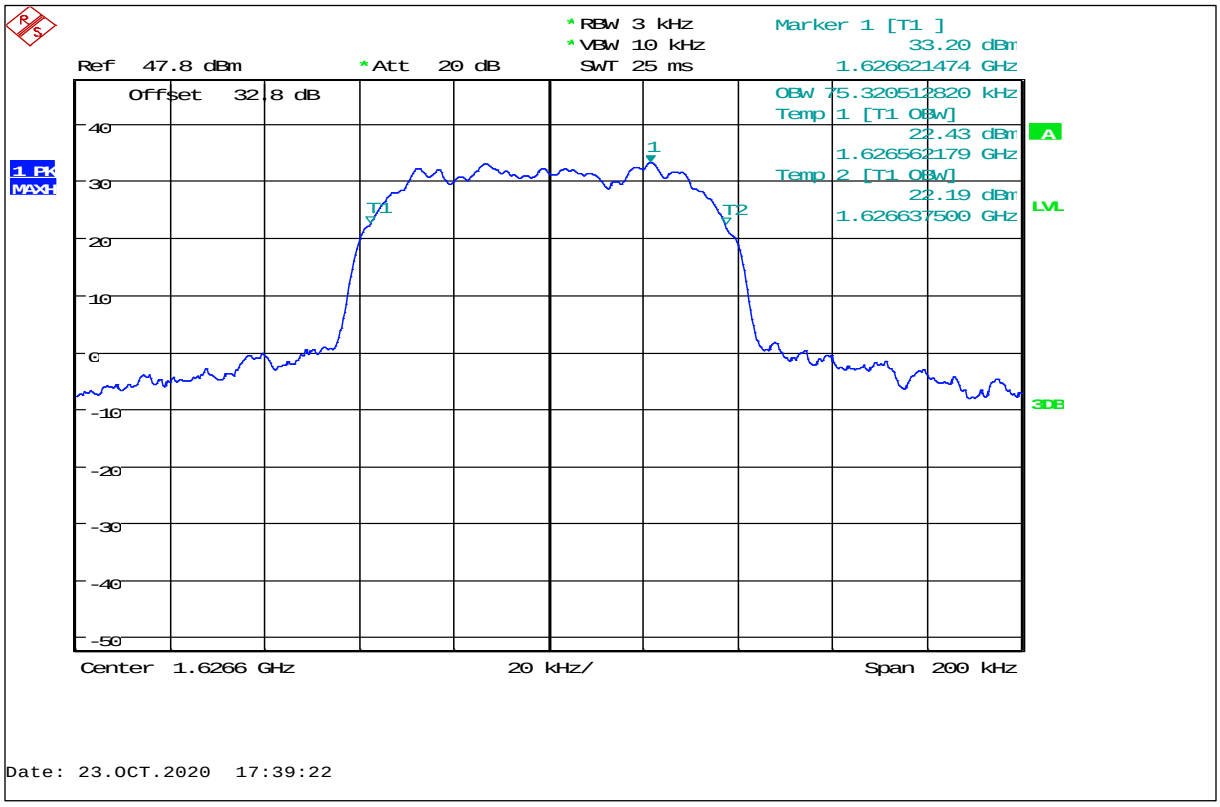
OBW, Middle Channel, R20T1QD

Plot No. 30



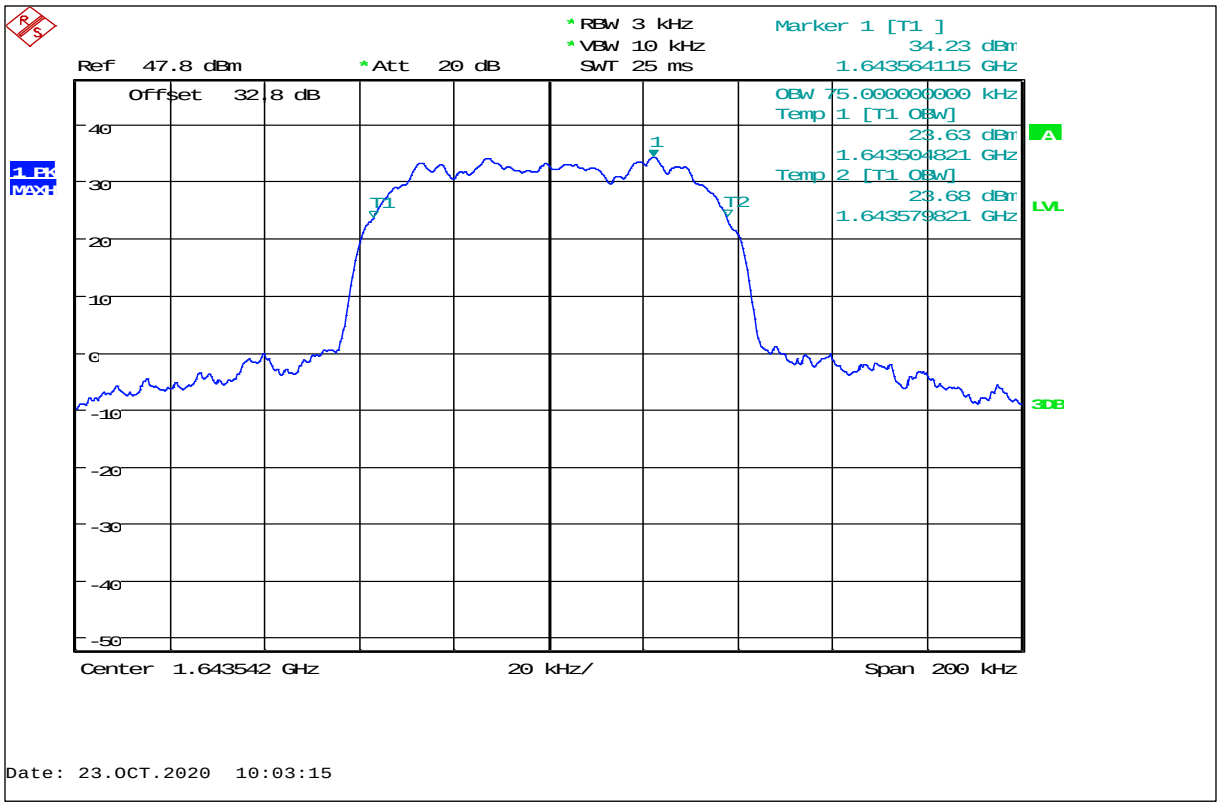
OBW, High Channel, R20T1QD

Plot No. 31



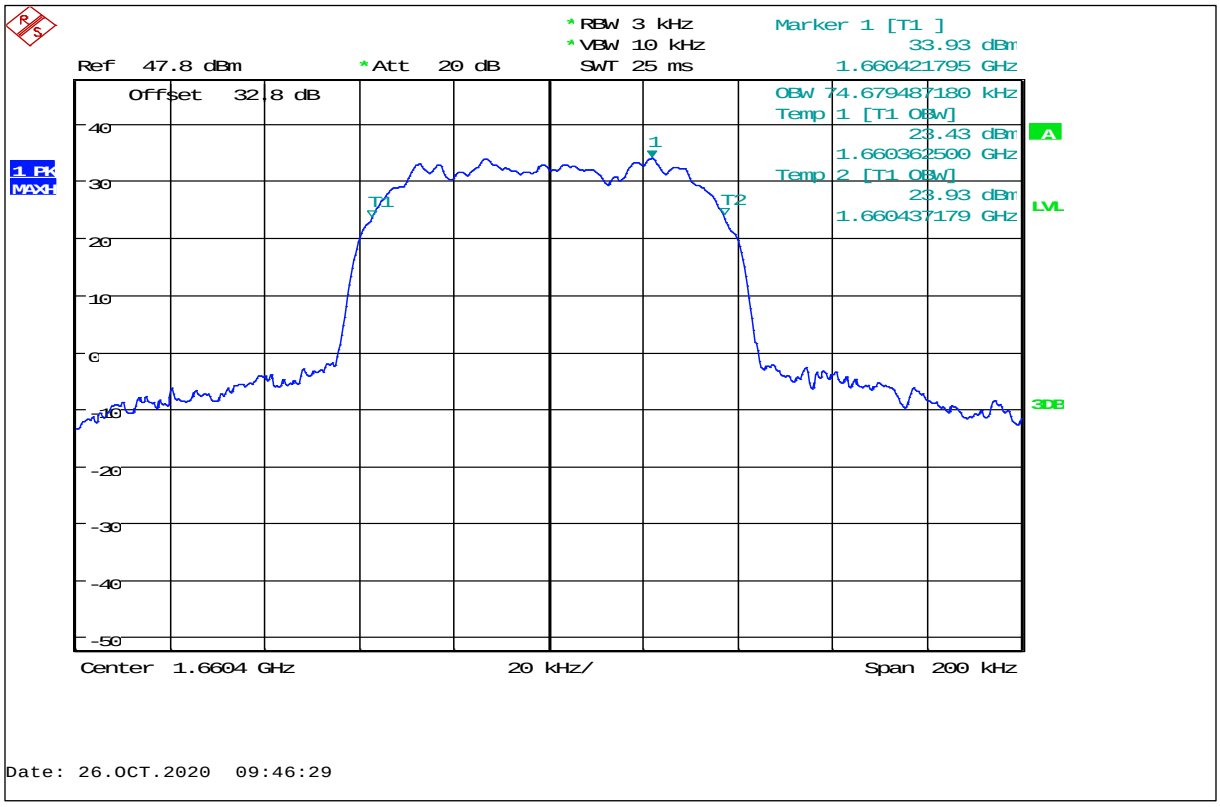
OBW, Low Channel, R20T2QD

Plot No. 32



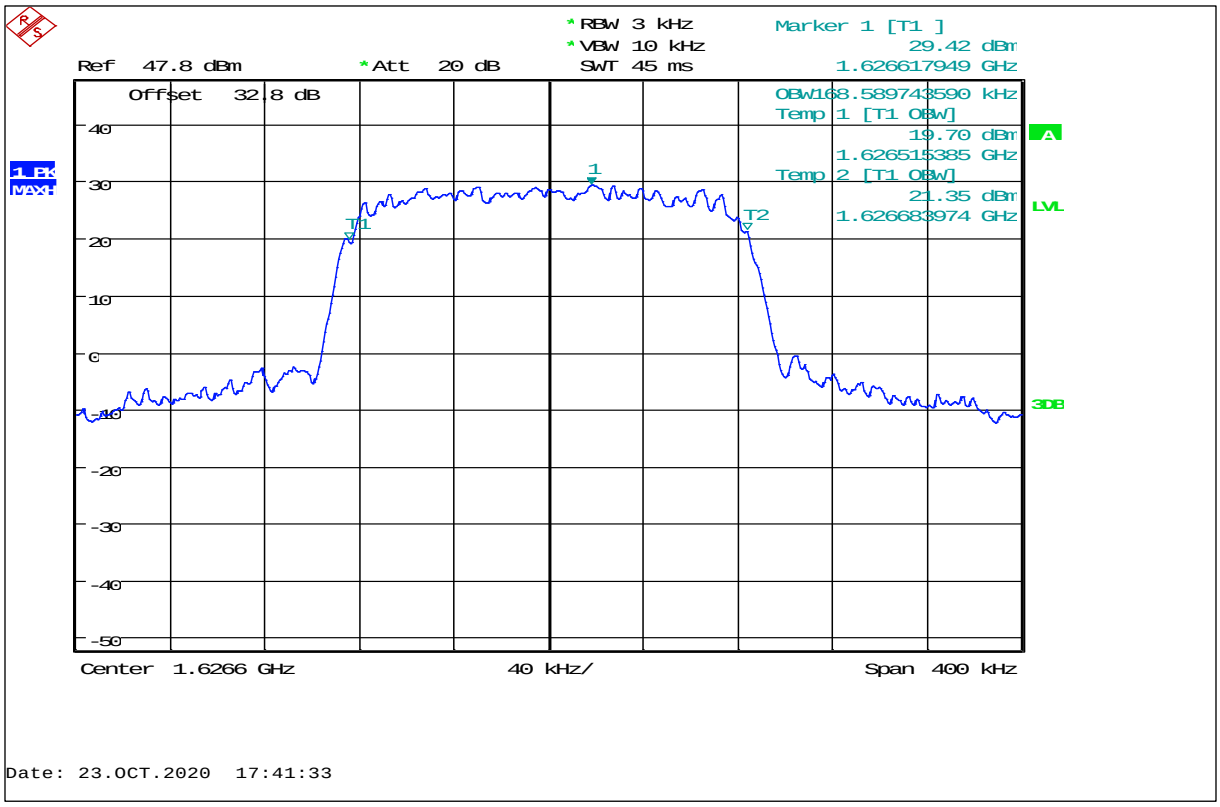
OBW, Middle Channel, R20T2QD

Plot No. 33



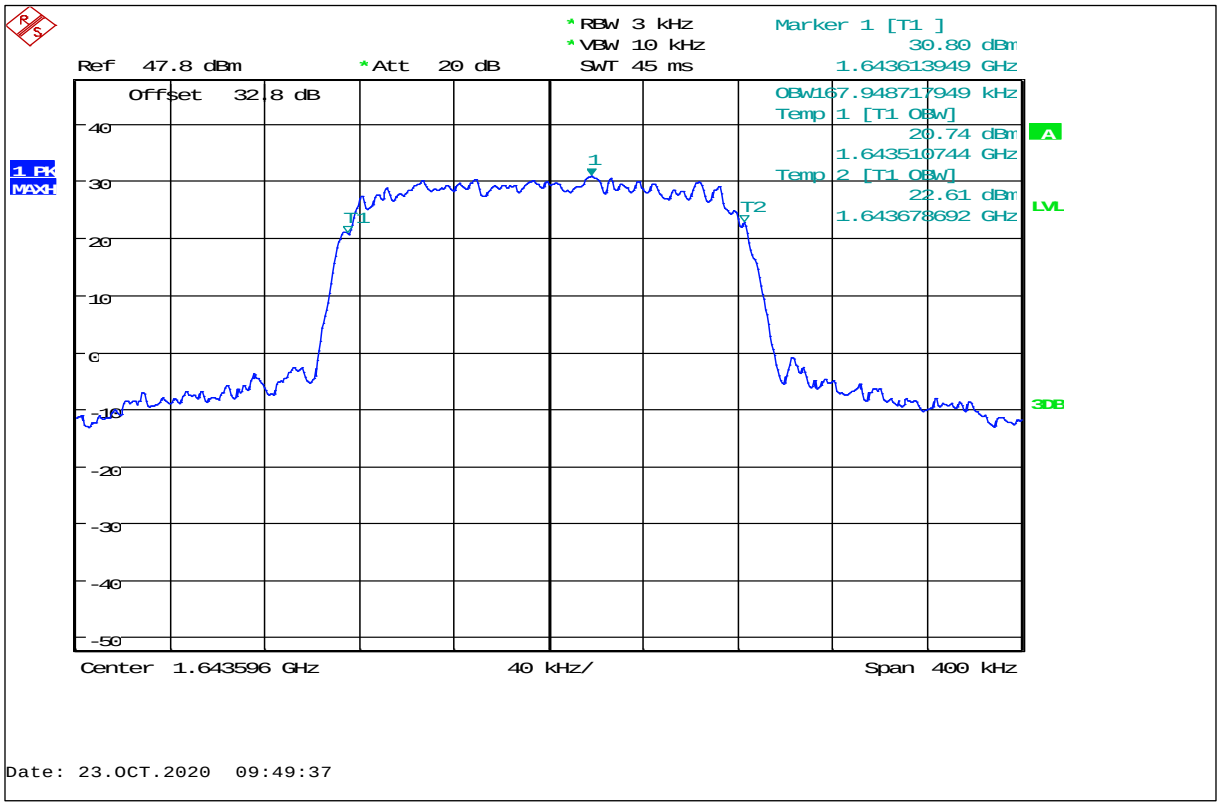
OBW, High Channel, R20T2QD

Plot No. 34



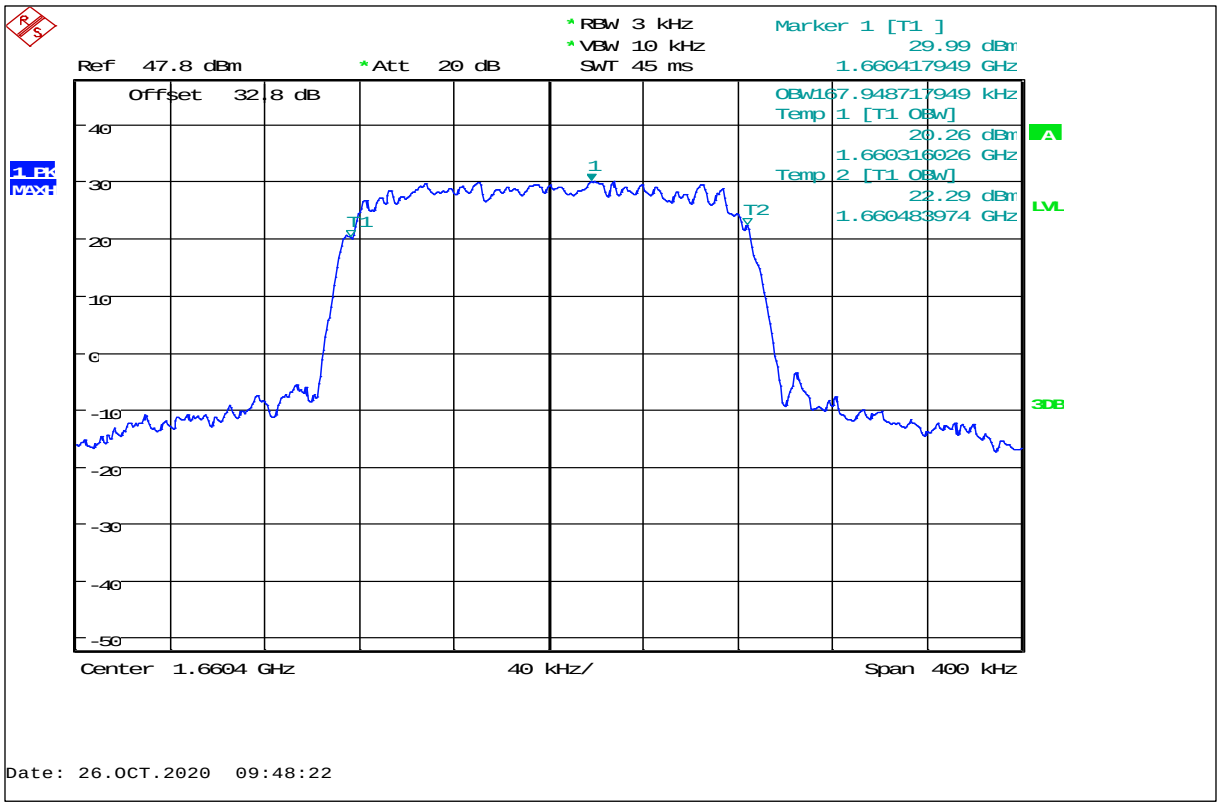
OBW, Low Channel, R20T4.5QD

Plot No. 35



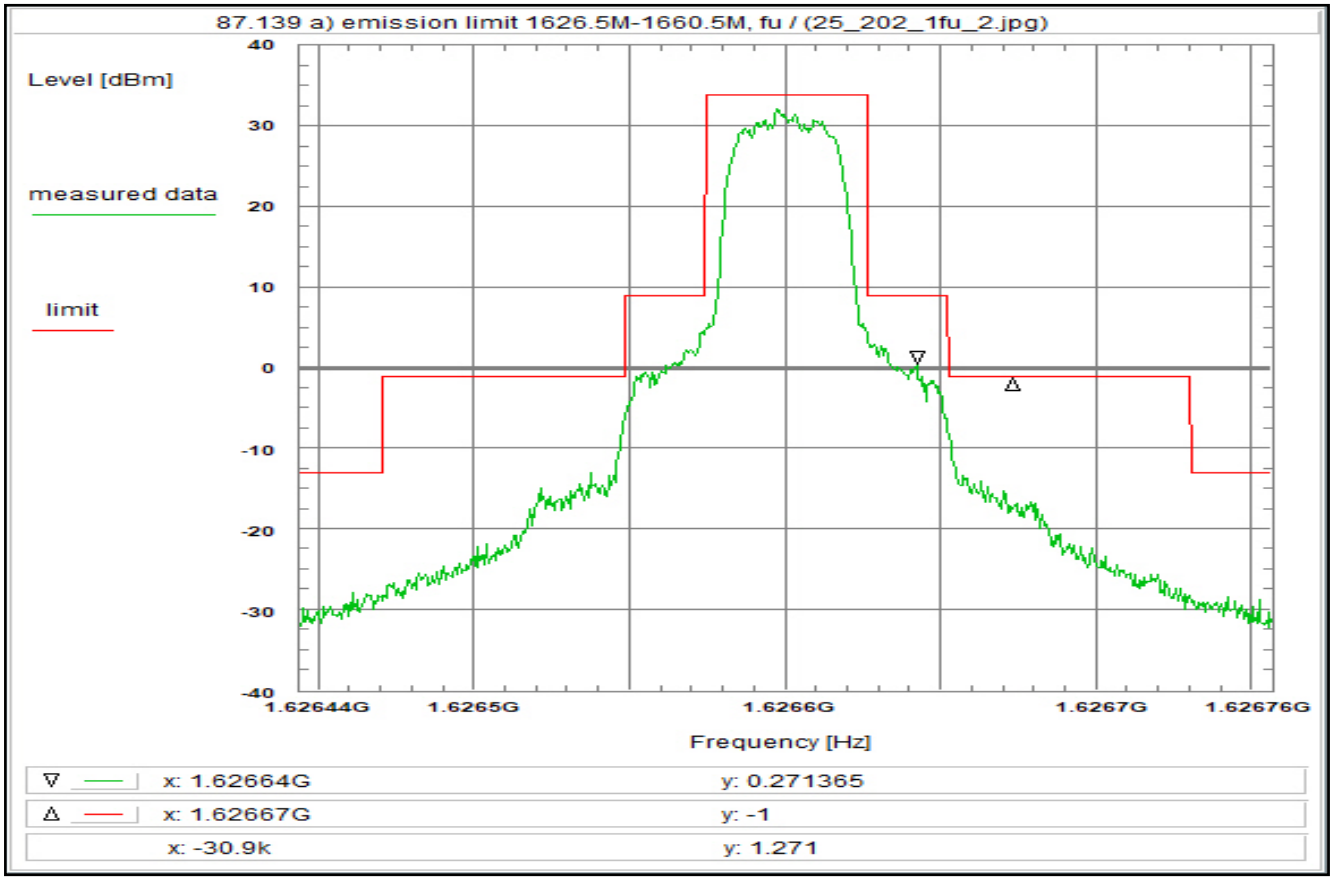
OBW, Middle Channel, R20T4.5QD

Plot No. 36



OBW, High Channel, R20T4.5QD

Plot No. 37



Subclause: 87.139 a) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier at the lower edge of the band (fl)

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 6.4
fl, R20T1XD

Test setup:
see test report chapter 8.2

Test equipment:
see test report chapter 8.1-8.2: C220, R001, U330

Remark:

Test result: Test passed

Environment condition:

Date & Time:	Tue 27/Oct/2020 14:32:50	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	28	V DC

Setup of measurement equipment:

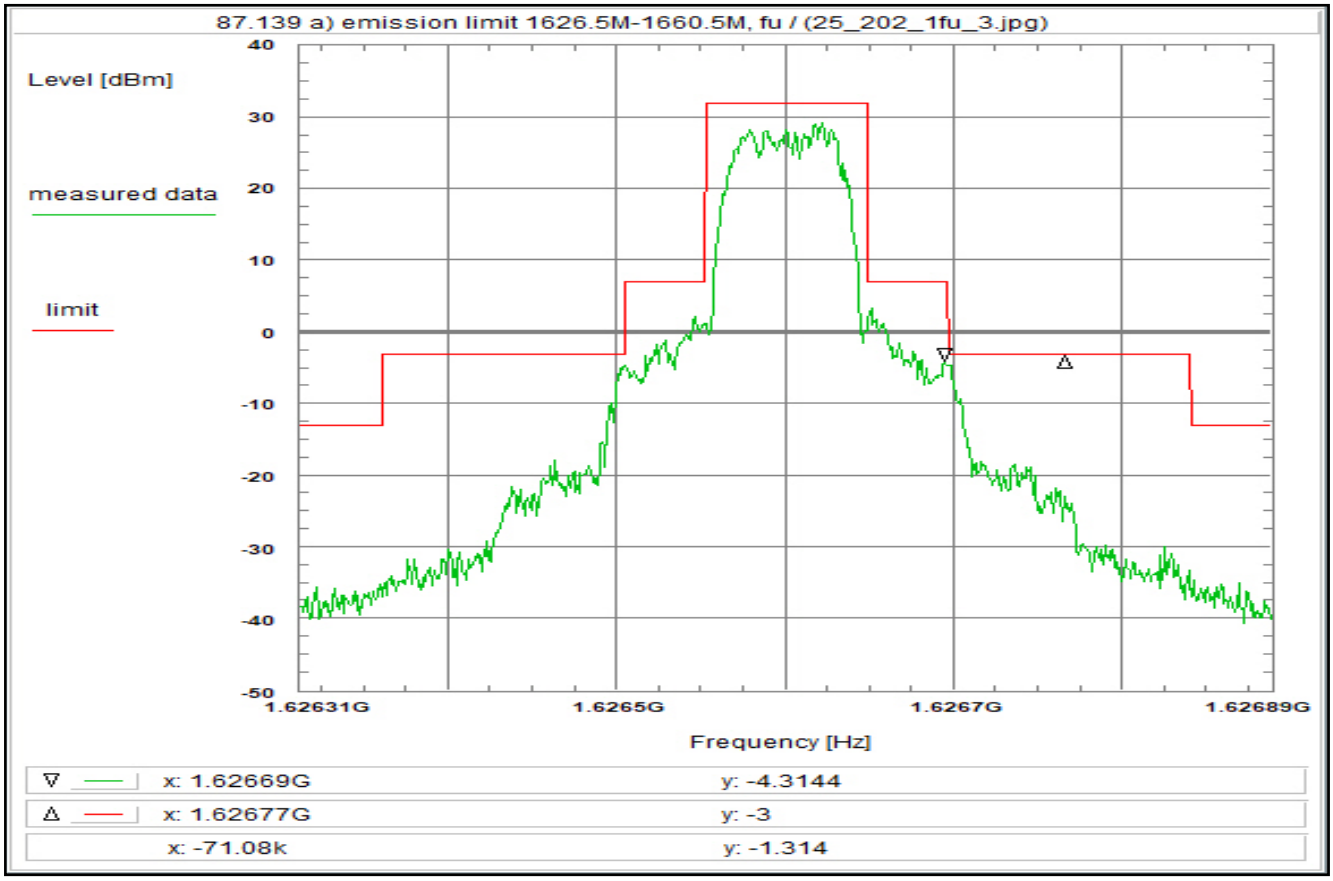
Start frequency:	1.626444	GHz
Stop frequency:	1.626756	GHz
Center frequency:	1.6266	GHz
Frequency span:	312	kHz
Resolution-BW:	3	kHz
Video-BW:	10	kHz
Input attenuation:	20	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor (3k -> 4k)	+	1.2	dB
Atten. between HPA and feedhorn (U330)	-	0.0	dB
	+	31.9	dB
TOTAL CORRECTION:	+	34.0	dB

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

Plot No. 38



Subclause: 87.139 a) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier at the lower edge of the band (fl)

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 6.4
fl, R5T2XD

Test setup:
see test report chapter 8.2

Test equipment:
see test report chapter 8.1-8.2: C220, R001, U330

Remark:

Test result: Test passed

Environment condition:

Date & Time:	Tue 27/Oct/2020 14:39:29	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	28	V DC

Setup of measurement equipment:

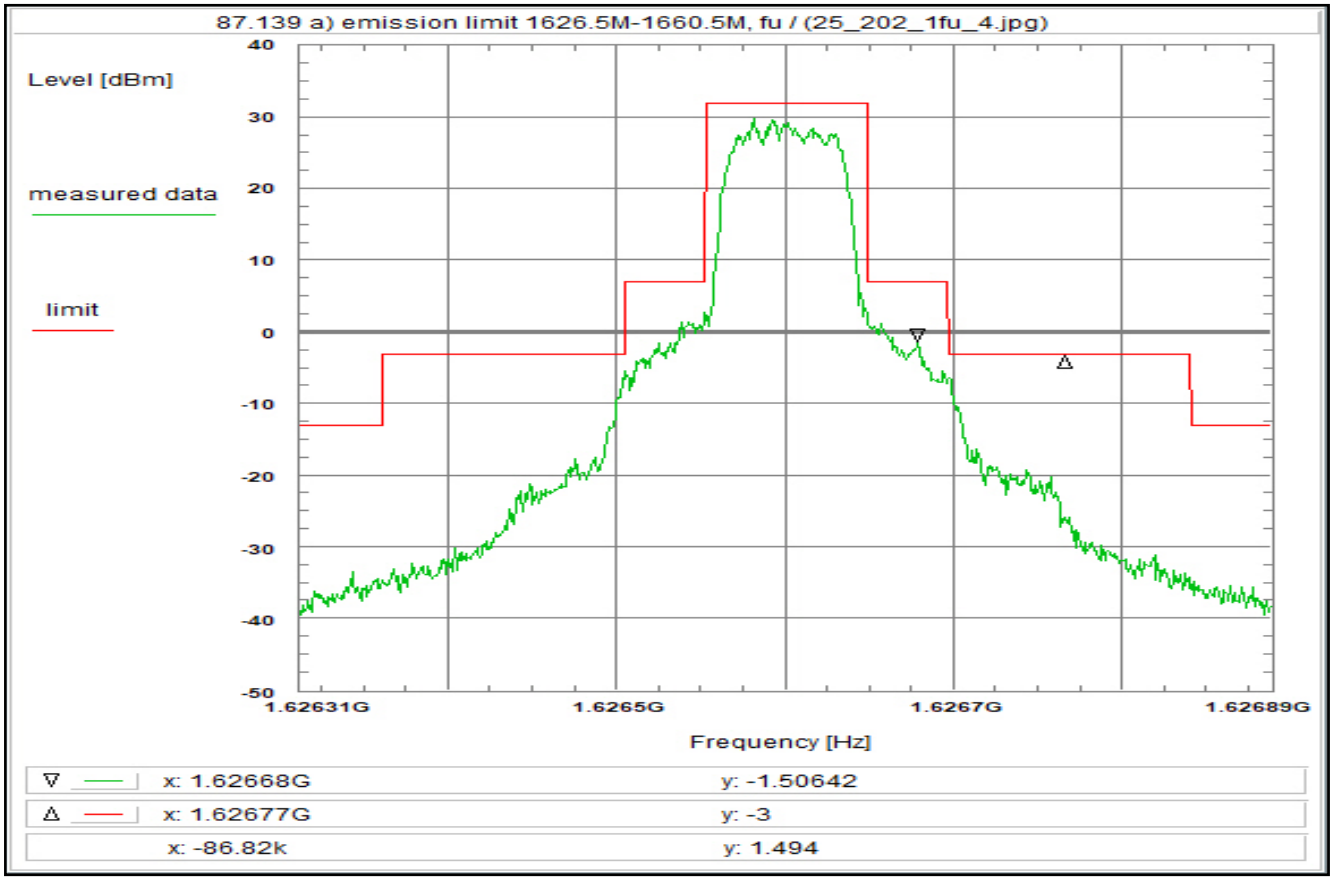
Start frequency:	1.626312	GHz
Stop frequency:	1.626888	GHz
Center frequency:	1.6266	GHz
Frequency span:	576	kHz
Resolution-BW:	3	kHz
Video-BW:	10	kHz
Input attenuation:	20	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor (3k -> 4k)	+	1.2	dB
Atten. between HPA and feedhorn	-	0.0	dB
(U330)	+	31.9	dB
TOTAL CORRECTION:	+	34.0	dB

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

Plot No. 39



Subclause: 87.139 a) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier at the lower edge of the band (fl)

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 6.4
fl, R20T2XD

Test setup:
see test report chapter 8.2

Test equipment:
see test report chapter 8.1-8.2: C220, R001, U330

Remark:

Test result: Test passed

Environment condition:

Date & Time:	Tue 27/Oct/2020 14:40:33	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	28	V DC

Setup of measurement equipment:

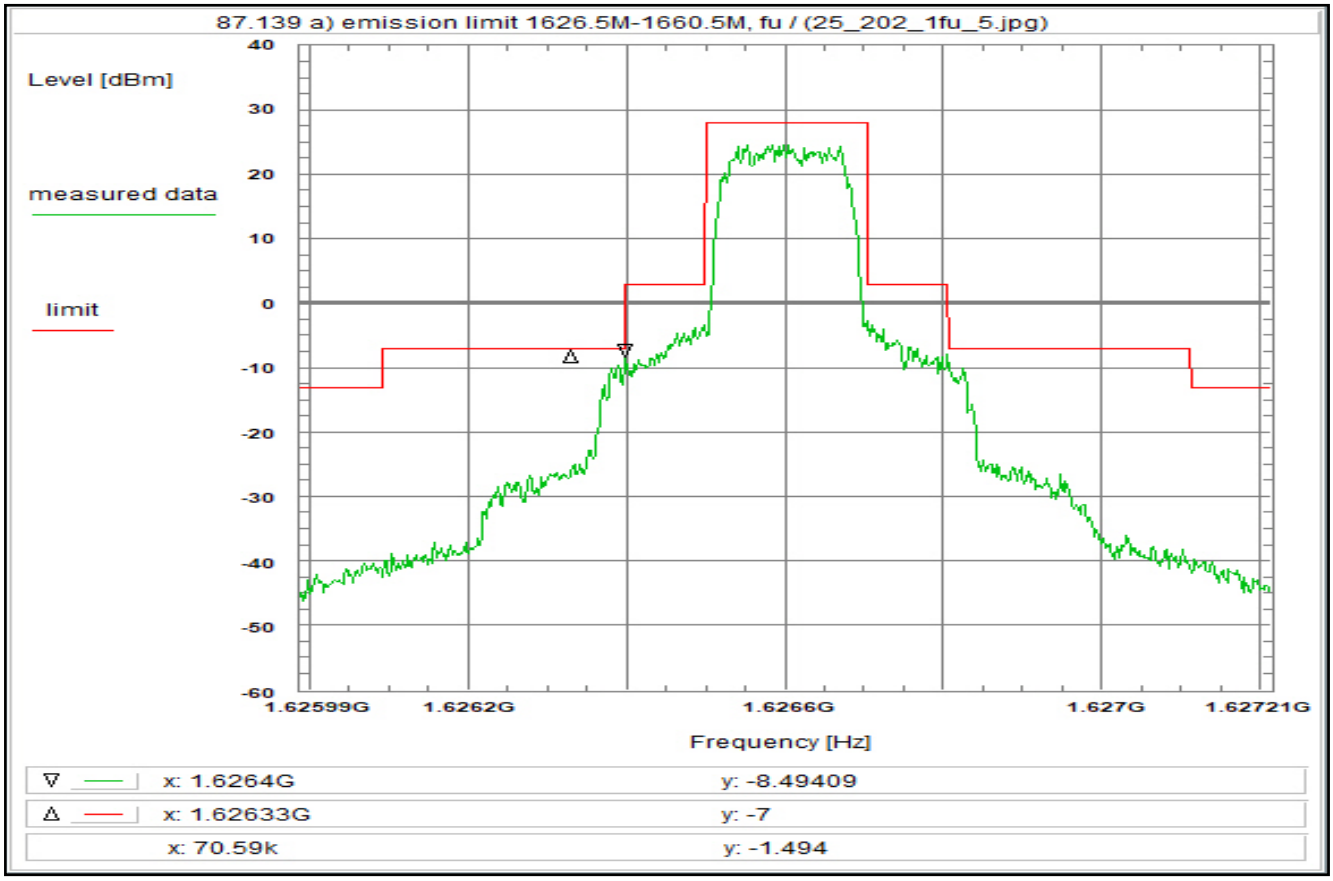
Start frequency:	1.626312	GHz
Stop frequency:	1.626888	GHz
Center frequency:	1.6266	GHz
Frequency span:	576	kHz
Resolution-BW:	3	kHz
Video-BW:	10	kHz
Input attenuation:	20	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor (3k -> 4k)	+	1.2	dB
Atten. between HPA and feedhorn	-	0.0	dB
(U330)	+	31.9	dB
TOTAL CORRECTION:	+	34.0	dB

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

Plot No. 40



Subclause: 87.139 a) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier at the lower edge of the band (fl)

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 6.4
fl, R20T45XD

Test setup:
see test report chapter 8.2

Test equipment:
see test report chapter 8.1-8.2: C220, R001, U330

Remark:

Test result: Test passed

Environment condition:

Date & Time:	Tue 27/Oct/2020 14:47:19	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	28	V DC

Setup of measurement equipment:

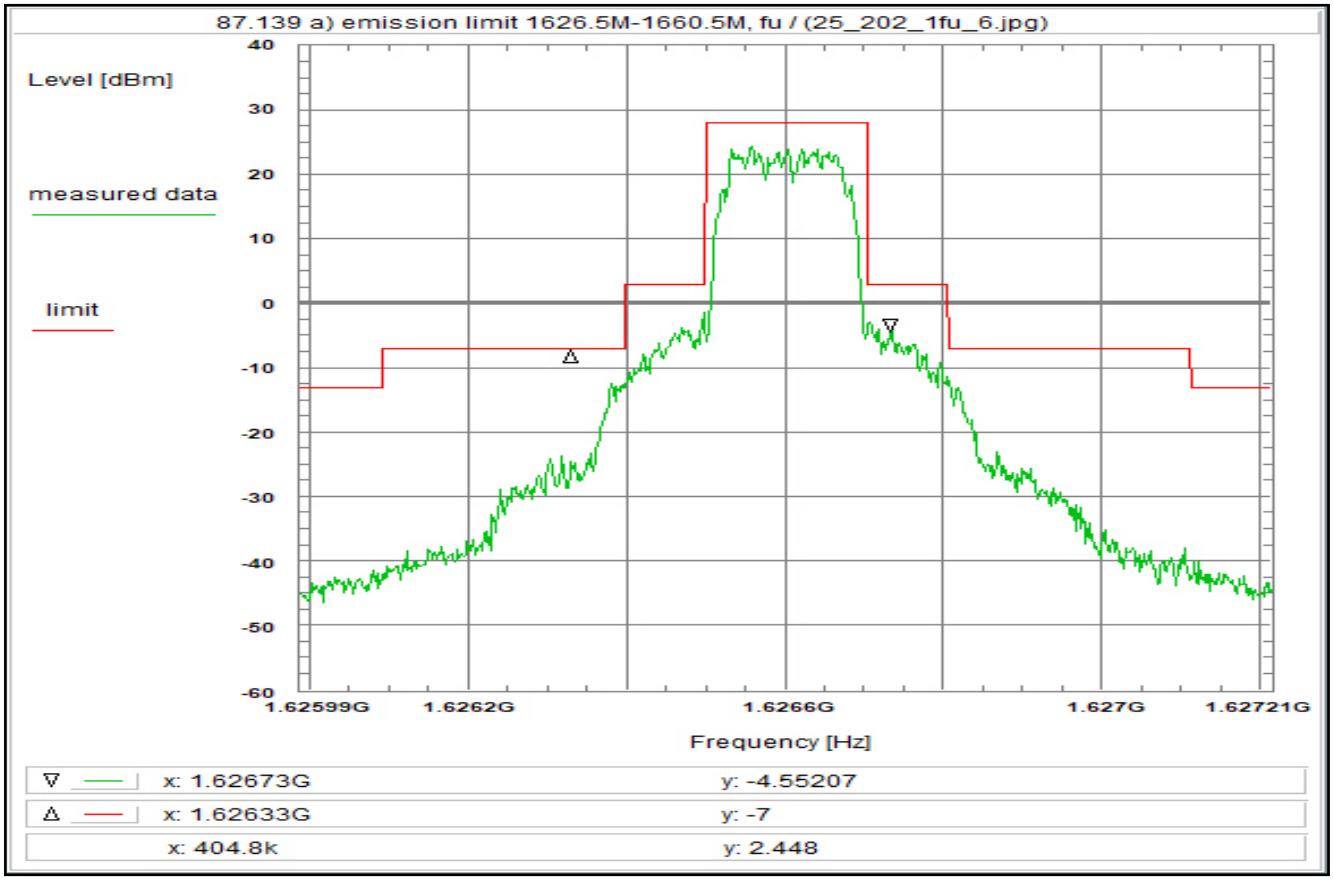
Start frequency:	1.625988	GHz
Stop frequency:	1.627212	GHz
Center frequency:	1.6266	GHz
Frequency span:	1.224	MHz
Resolution-BW:	3	kHz
Video-BW:	10	kHz
Input attenuation:	20	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor (3k -> 4k)	+	1.2	dB
Atten. between HPA and feedhorn	-	0.0	dB
(U330)	+	31.9	dB
TOTAL CORRECTION:	+	34.0	dB

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

Plot No. 41



Subclause: 87.139 a) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier at the lower edge of the band (fl)

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 6.4
fl, R5T45XD

Test setup:
see test report chapter 8.2

Test equipment:
see test report chapter 8.1-8.2: C220, R001, U330

Remark:

Test result: Test passed

Environment condition:

Date & Time:	Tue 27/Oct/2020 14:49:07	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	28	V DC

Setup of measurement equipment:

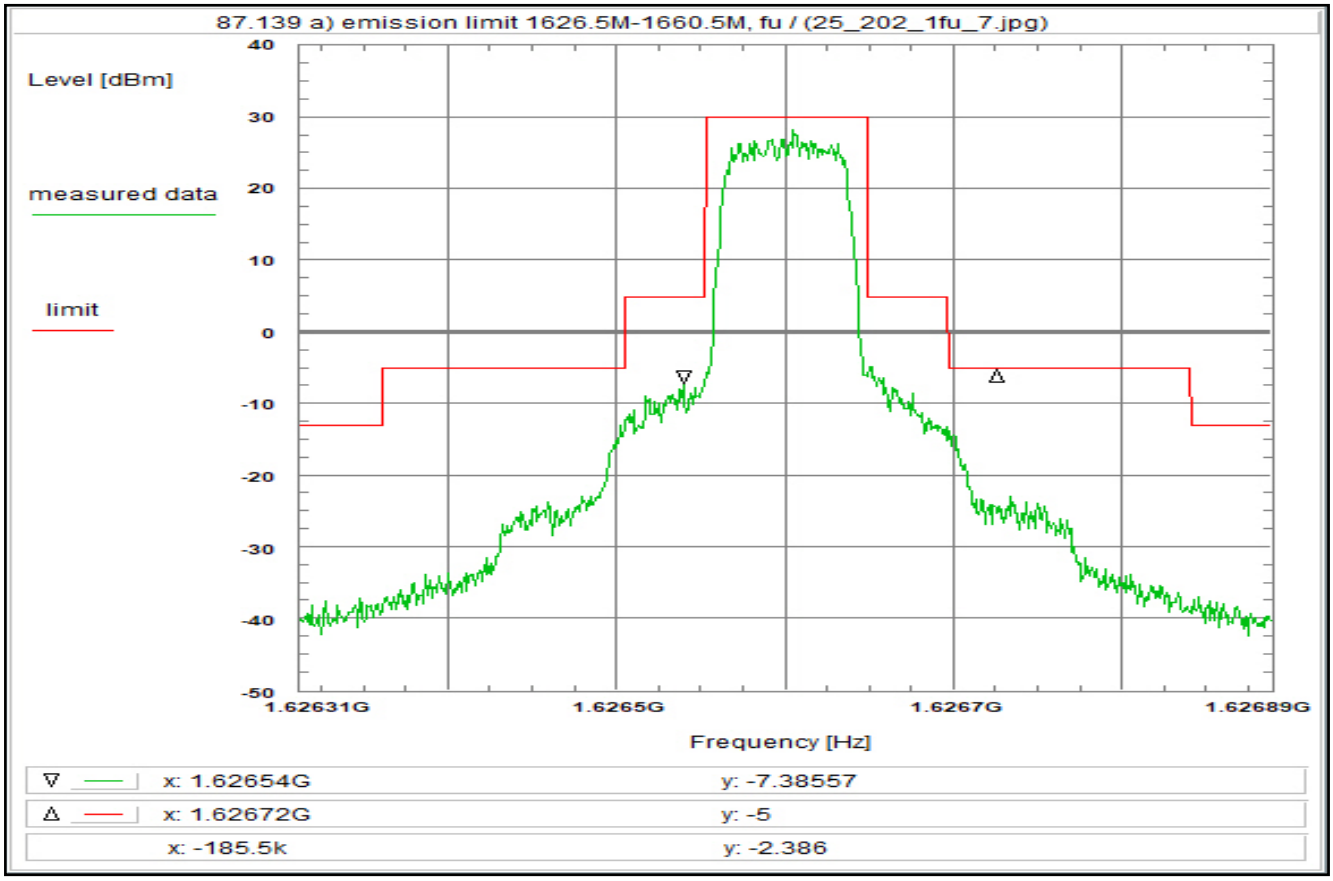
Start frequency:	1.625988	GHz
Stop frequency:	1.627212	GHz
Center frequency:	1.6266	GHz
Frequency span:	1.224	MHz
Resolution-BW:	3	kHz
Video-BW:	10	kHz
Input attenuation:	20	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor (3k -> 4k)	+	1.2	dB
Atten. between HPA and feedhorn	-	0.0	dB
(U330)	+	31.9	dB
TOTAL CORRECTION:	+	34.0	dB

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

Plot No. 42



Subclause: 87.139 a) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier at the lower edge of the band (fl)

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 6.4
fl, R5T2QD

Test setup:
see test report chapter 8.2

Test equipment:
see test report chapter 8.1-8.2: C220, R001, U330

Remark:

Test result: Test passed

Environment condition:

Date & Time:	Tue 27/Oct/2020 14:53:43	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	28	V DC

Setup of measurement equipment:

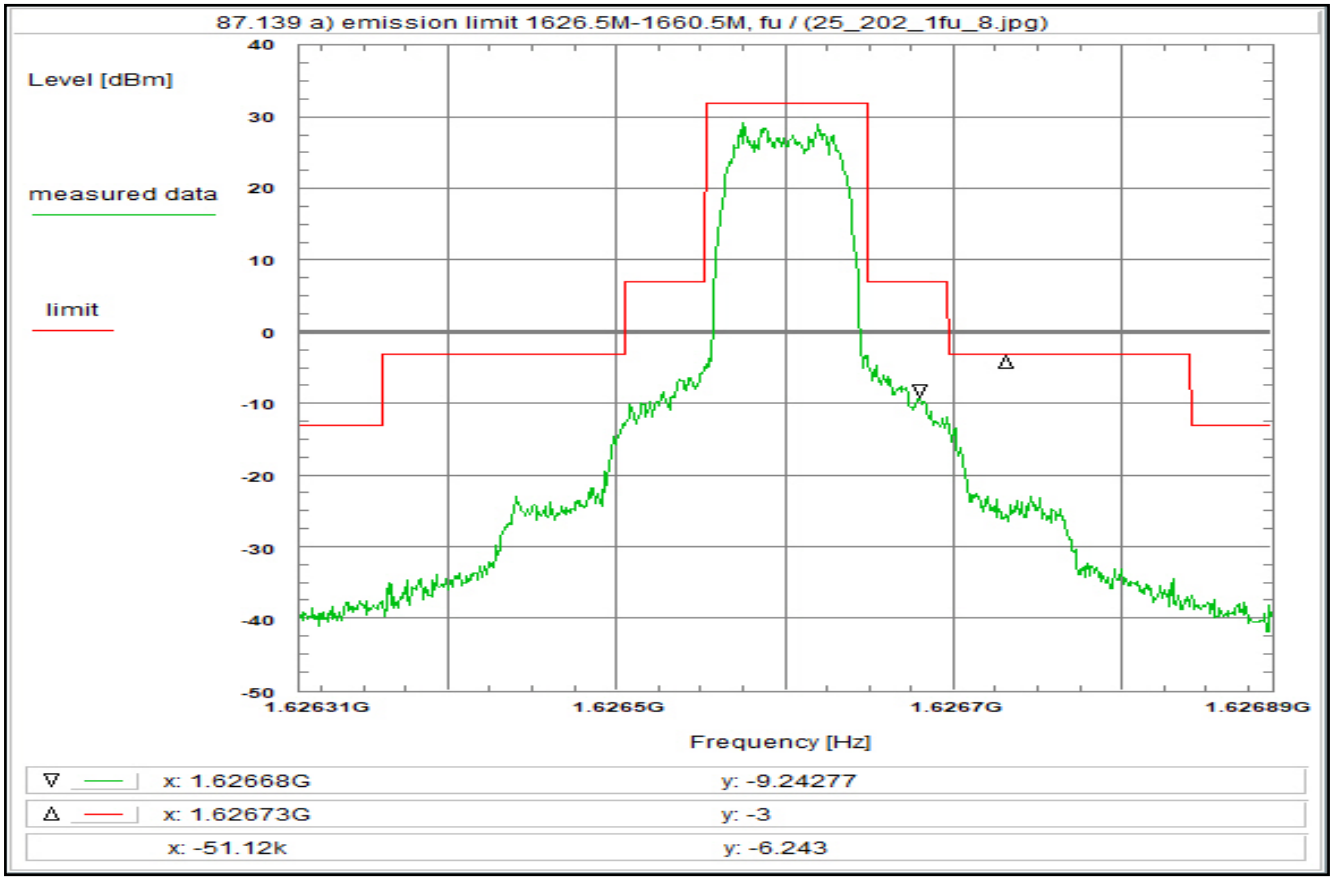
Start frequency:	1.626312	GHz
Stop frequency:	1.626888	GHz
Center frequency:	1.6266	GHz
Frequency span:	576	kHz
Resolution-BW:	3	kHz
Video-BW:	10	kHz
Input attenuation:	20	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor (3k -> 4k)	+	1.2	dB
Atten. between HPA and feedhorn	-	0.0	dB
(U330)	+	31.9	dB
TOTAL CORRECTION:	+	34.0	dB

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

Plot No. 43



Subclause: 87.139 a) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier at the lower edge of the band (fl)

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 6.4
fl, R20T2QD

Test setup:
see test report chapter 8.2

Test equipment:
see test report chapter 8.1-8.2: R001

Remark:

Test result: Test passed

Environment condition:

Date & Time:	Tue 27/Oct/2020 14:56:14	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	28	V DC

Setup of measurement equipment:

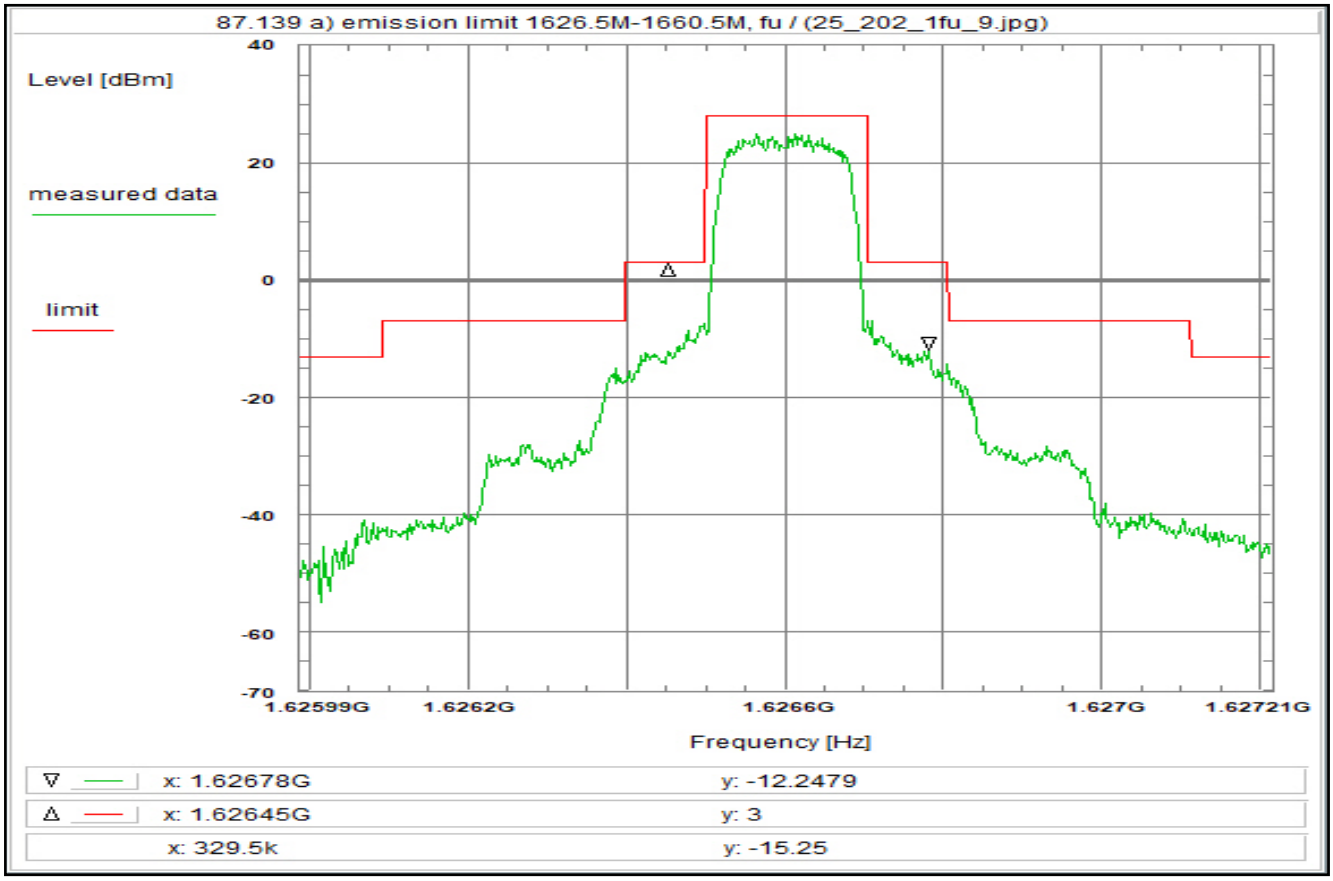
Start frequency:	1.626312	GHz
Stop frequency:	1.626888	GHz
Center frequency:	1.6266	GHz
Frequency span:	576	kHz
Resolution-BW:	3	kHz
Video-BW:	10	kHz
Input attenuation:	20	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor (3k -> 4k)	+	1.2	dB
Atten. between HPA and feedhorn	-	0.0	dB
(U330)	+	31.9	dB
TOTAL CORRECTION:	+	34.0	dB

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

Plot No. 44



Subclause: 87.139 a) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier at the lower edge of the band (fl)

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 6.4
fl, R20T45QD

Test setup:
see test report chapter 8.2

Test equipment:
see test report chapter 8.1-8.2: C220, R001, U330

Remark:

Test result: Test passed

Environment condition:

Date & Time:	Tue 27/Oct/2020 14:59:53	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	28	V DC

Setup of measurement equipment:

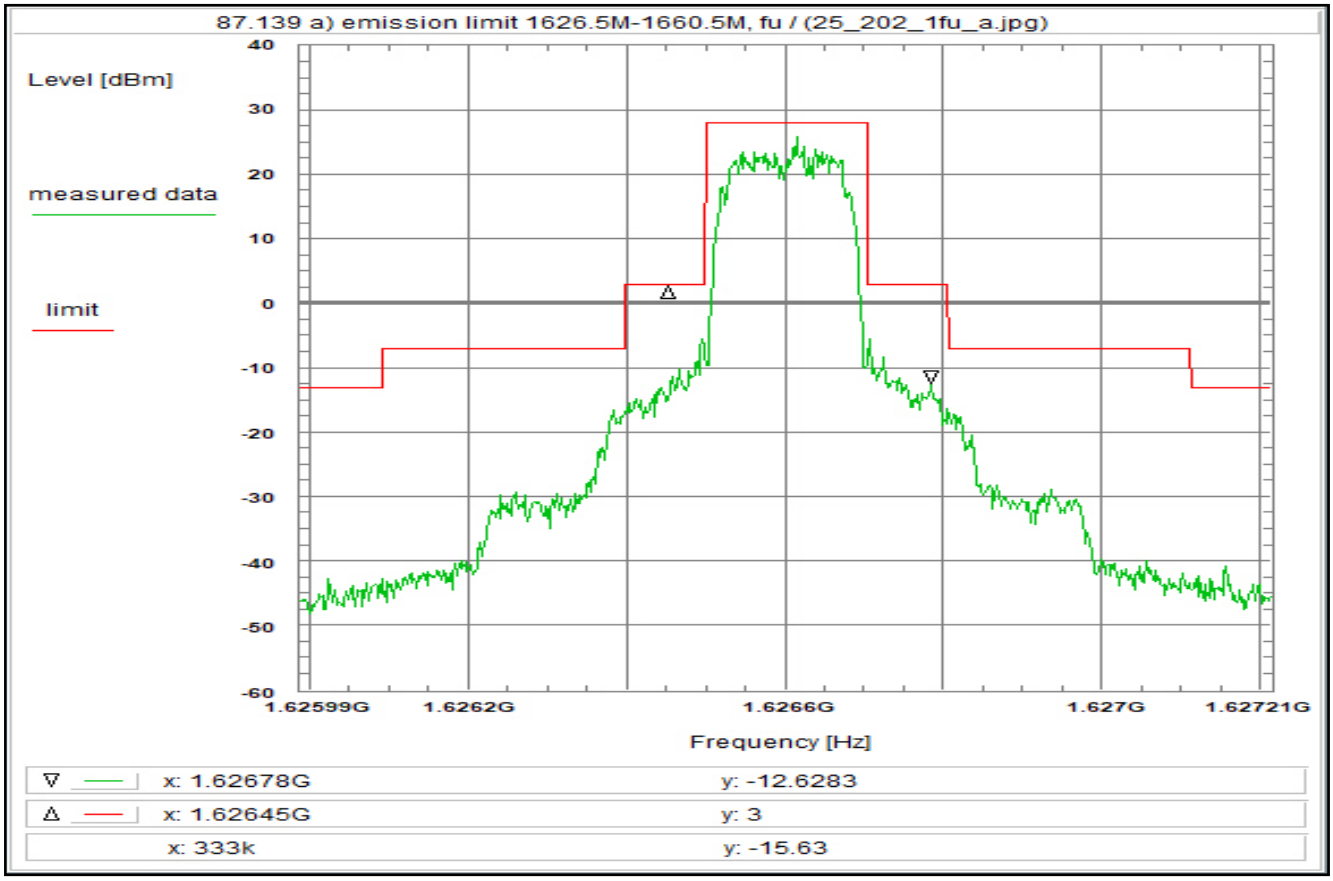
Start frequency:	1.625988	GHz
Stop frequency:	1.627212	GHz
Center frequency:	1.6266	GHz
Frequency span:	1.224	MHz
Resolution-BW:	3	kHz
Video-BW:	10	kHz
Input attenuation:	20	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor (3k -> 4k)	+	1.2	dB
Atten. between HPA and feedhorn	-	0.0	dB
(U330)	+	31.9	dB
TOTAL CORRECTION:	+	34.0	dB

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

Plot No. 45



Subclause: 87.139 a) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier at the lower edge of the band (fl)

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 6.4
fl, R5T45QD

Test setup:
see test report chapter 8.2

Test equipment:
see test report chapter 8.1-8.2: C220, R001, U330

Remark:

Test result: Test passed

Environment condition:

Date & Time:	Tue 27/Oct/2020 15:01:59	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	28	V DC

Setup of measurement equipment:

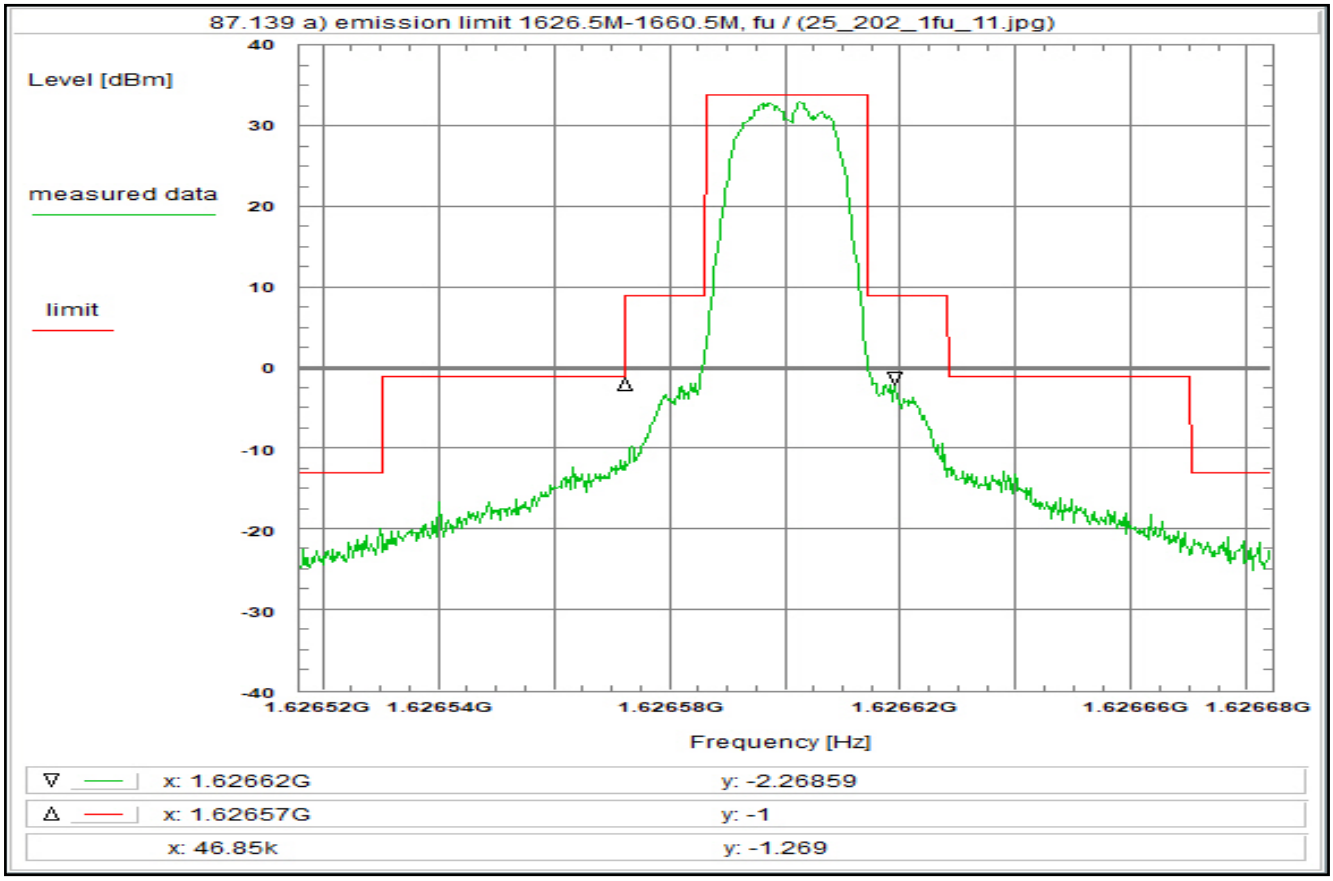
Start frequency:	1.625988	GHz
Stop frequency:	1.627212	GHz
Center frequency:	1.6266	GHz
Frequency span:	1.224	MHz
Resolution-BW:	3	kHz
Video-BW:	10	kHz
Input attenuation:	20	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor (3k -> 4k)	+	1.2	dB
Atten. between HPA and feedhorn (U330)	-	0.0	dB
	+	31.9	dB
TOTAL CORRECTION:	+	34.0	dB

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

Plot No. 46



Subclause: 87.139 a) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier at the lower edge of the band (fl)

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 6.4
fl, R20T0.5QD

Test setup:
see test report chapter 8.2

Test equipment:
see test report chapter 8.1-8.2: C220, R001, U330

Remark:

Test result: Test passed

Environment condition:

Date & Time:	Tue 27/Oct/2020 15:08:56	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	28	V DC

Setup of measurement equipment:

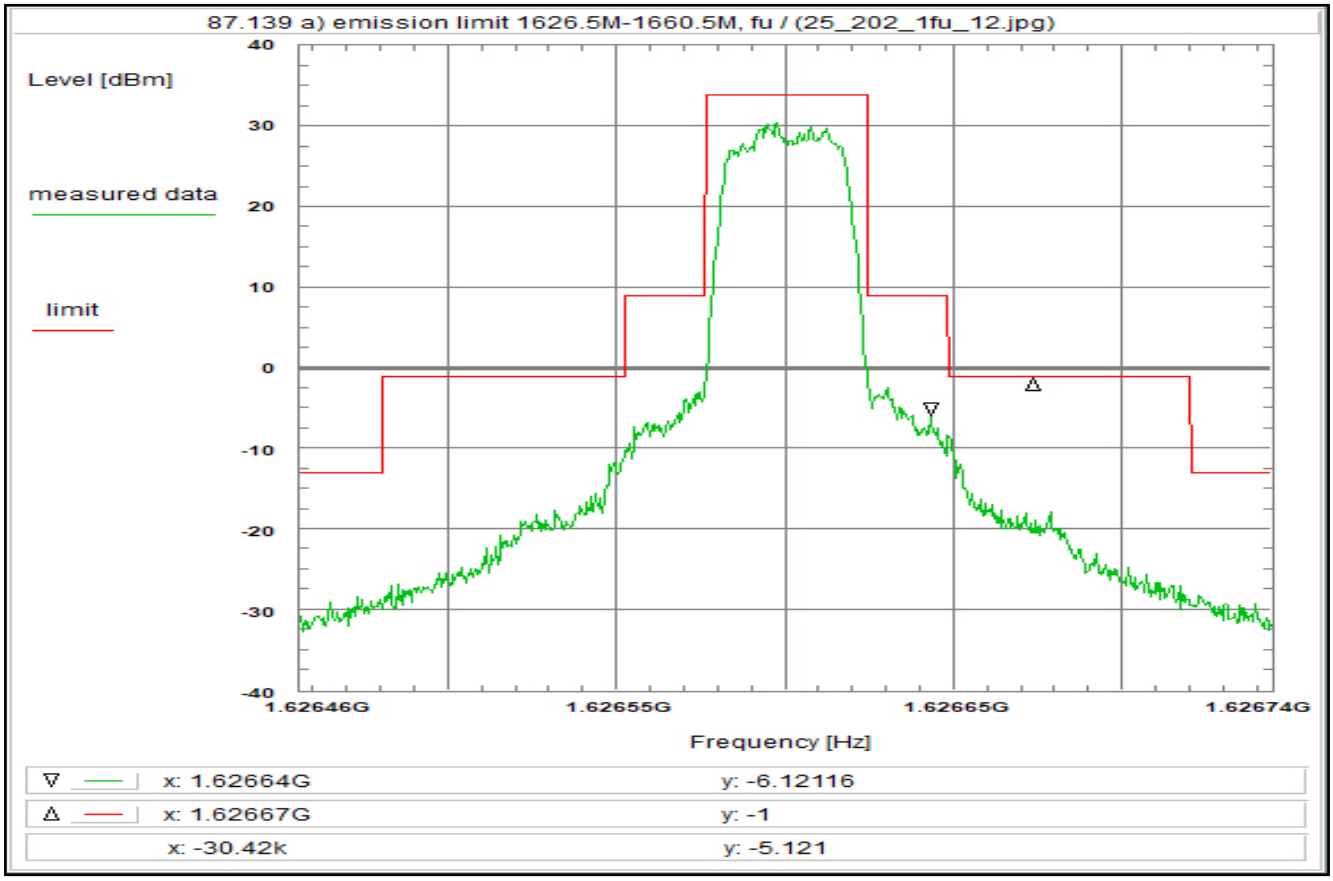
Start frequency:	1.626516	GHz
Stop frequency:	1.626684	GHz
Center frequency:	1.6266	GHz
Frequency span:	168	kHz
Resolution-BW:	3	kHz
Video-BW:	10	kHz
Input attenuation:	20	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor (3k -> 4k)	+	1.2	dB
Atten. between HPA and feedhorn	-	0.0	dB
(U330)	+	31.9	dB
TOTAL CORRECTION:	+	34.0	dB

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

Plot No. 47



Subclause: 87.139 a) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier at the lower edge of the band (fl)

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 6.4
fl, R20T1QD

Test setup:
see test report chapter 8.2

Test equipment:
see test report chapter 8.1-8.2: C220, R001, U330

Remark:

Test result: Test passed

Environment condition:

Date & Time:	Tue 27/Oct/2020 15:12:44	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	28	V DC

Setup of measurement equipment:

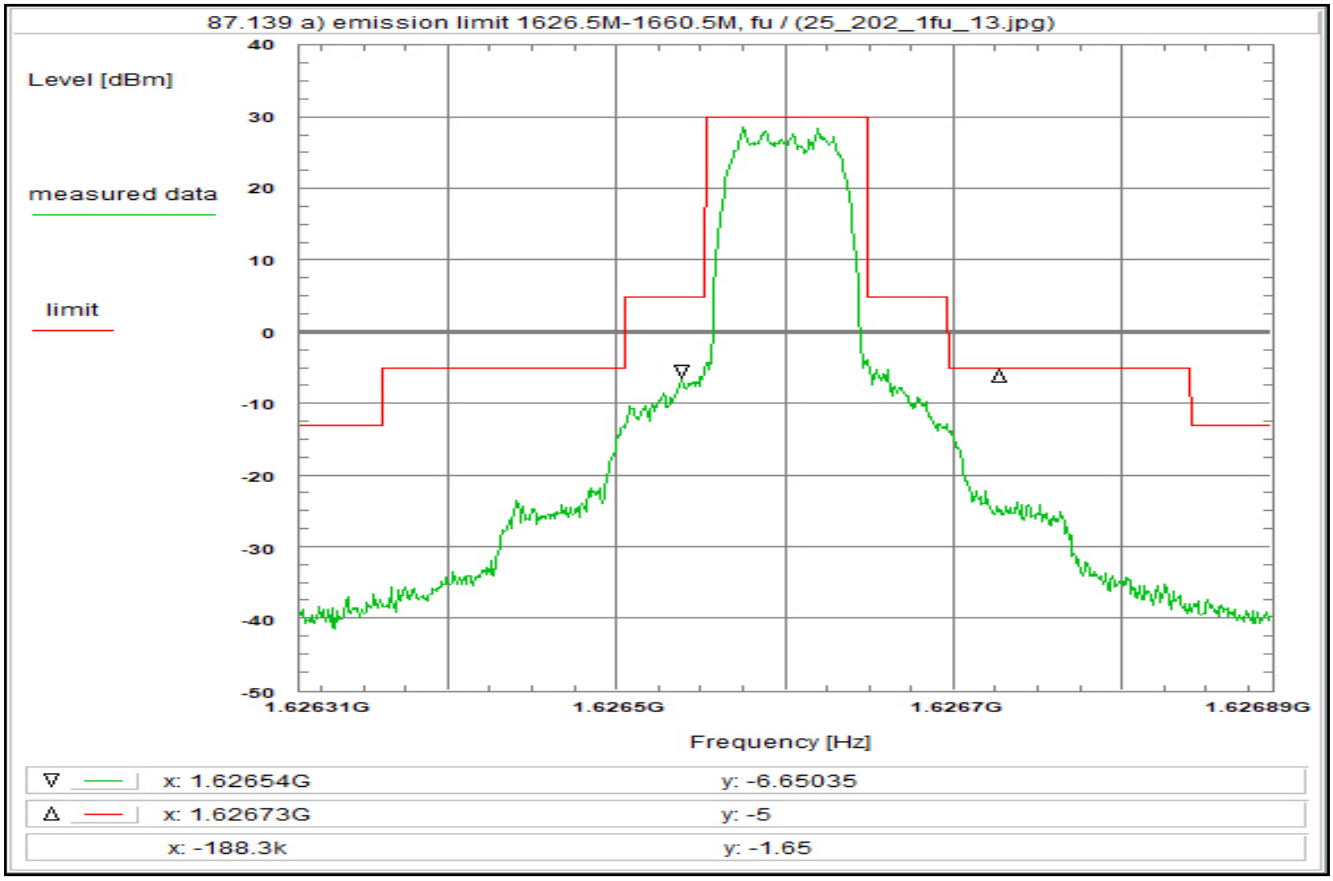
Start frequency:	1.626456	GHz
Stop frequency:	1.626744	GHz
Center frequency:	1.6266	GHz
Frequency span:	288	kHz
Resolution-BW:	3	kHz
Video-BW:	10	kHz
Input attenuation:	20	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor (3k -> 4k)	+	1.2	dB
Atten. between HPA and feedhorn	-	0.0	dB
(U330)	+	31.9	dB
TOTAL CORRECTION:	+	34.0	dB

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

Plot No. 48



Subclause: 87.139 a) Frequencies, frequency tolerance and emission limitations
Emission limitations
Modulated rf-carrier at the lower edge of the band (fl)

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 6.4
fl, R20T2QD

Test setup:
see test report chapter 8.2

Test equipment:
see test report chapter 8.1-8.2: C220, R001, U330

Remark:

Test result: Test passed

Environment condition:

Date & Time:	Tue 27/Oct/2020 15:15:48	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	28	V DC

Setup of measurement equipment:

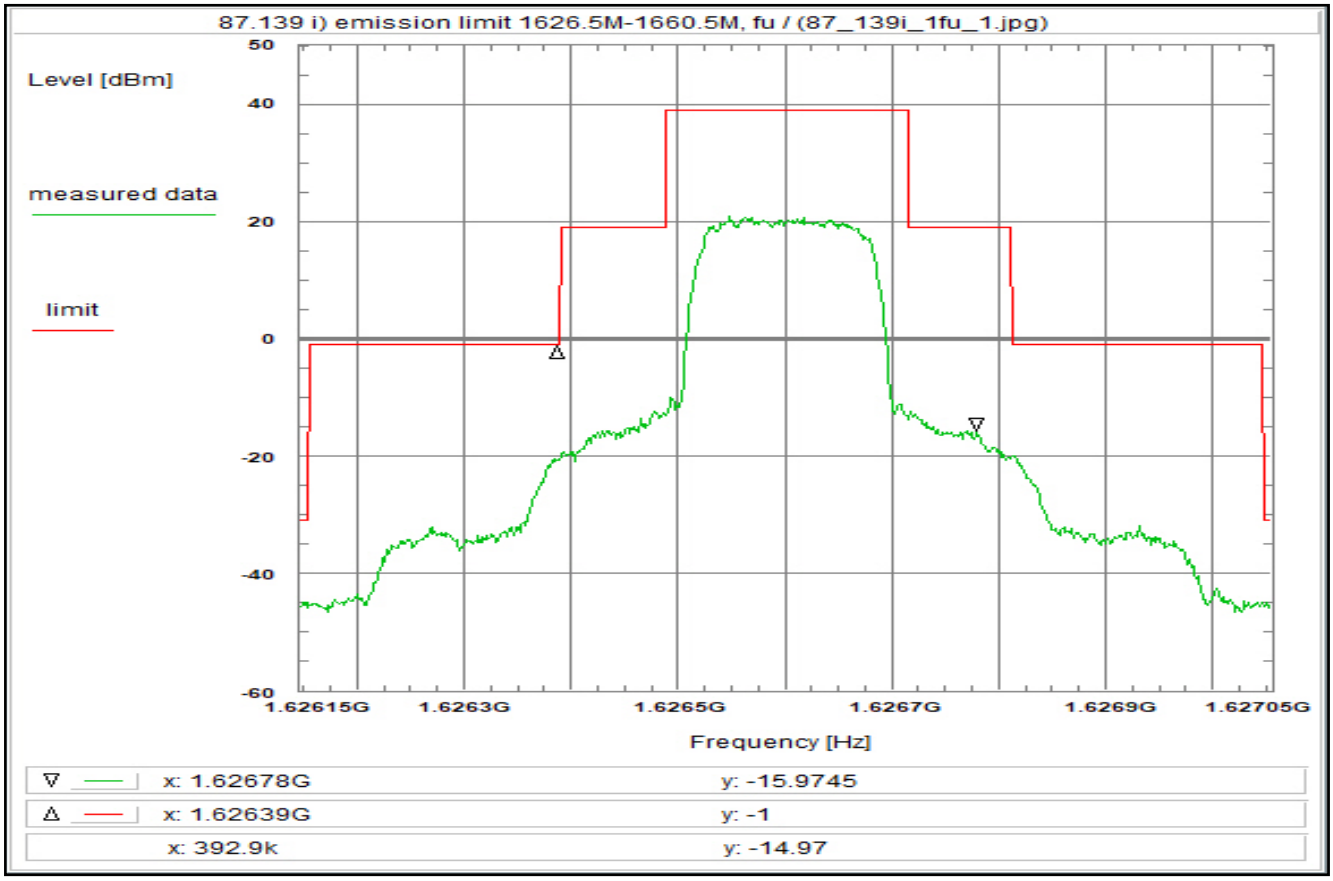
Start frequency:	1.626312	GHz
Stop frequency:	1.626888	GHz
Center frequency:	1.6266	GHz
Frequency span:	576	kHz
Resolution-BW:	3	kHz
Video-BW:	10	kHz
Input attenuation:	20	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor (3k -> 4k)	+	1.2	dB
Atten. between HPA and feedhorn	-	0.0	dB
(U330)	+	31.9	dB
TOTAL CORRECTION:	+	34.0	dB

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

Plot No. 49



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

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 6.4
fl, R20T45QD

Test setup:
see test report chapter 8.2

Test equipment:
see test report chapter 8.1-8.2: C220, R001, U330

Remark:

Test result: Test passed

Environment condition:

Date & Time:	Wed 28/Oct/2020 14:08:15	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	28	V DC

Setup of measurement equipment:

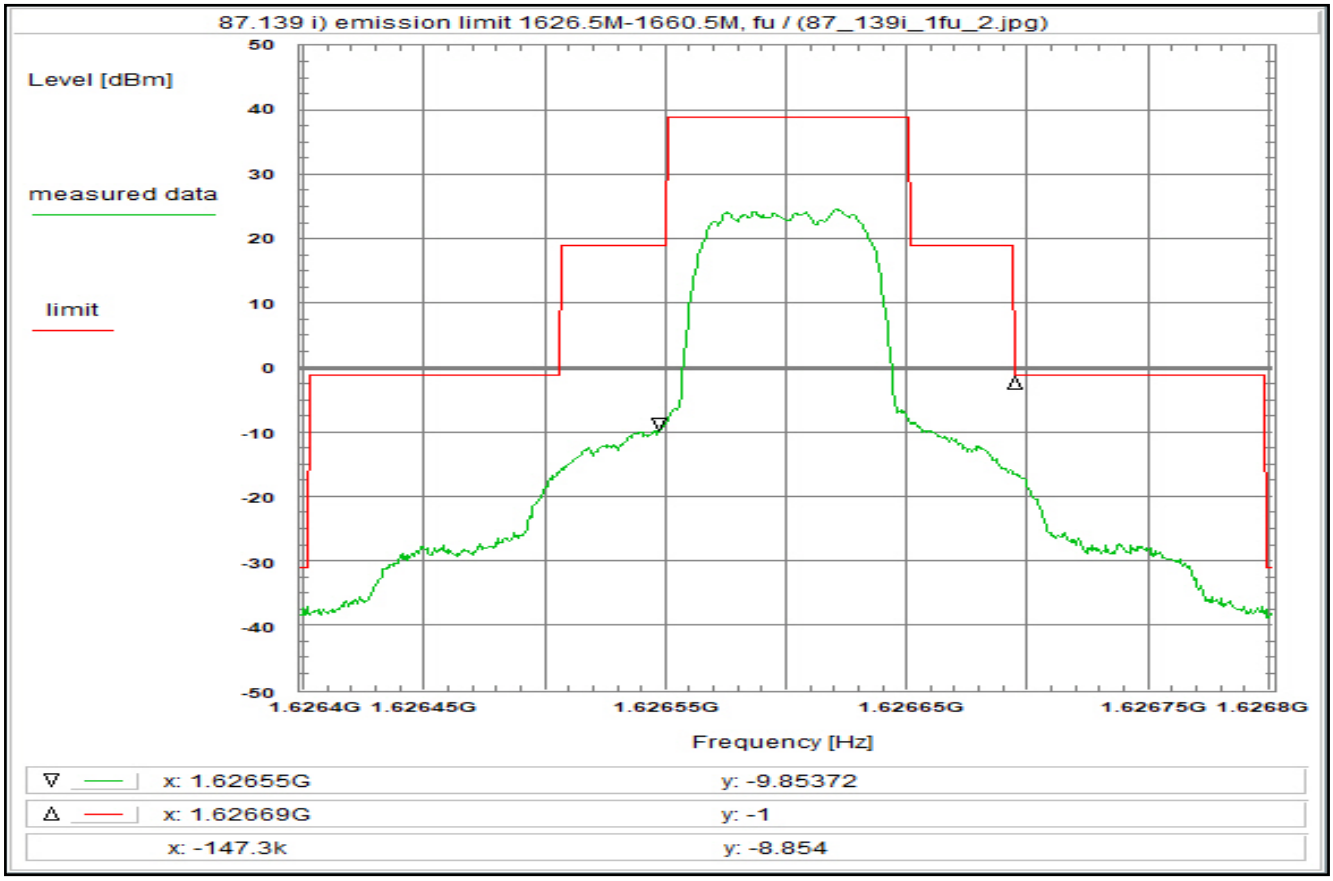
Start frequency:	1.6261464	GHz
Stop frequency:	1.6270536	GHz
Center frequency:	1.6266	GHz
Frequency span:	907.2	kHz
Resolution-BW:	3	kHz
Video-BW:	10	kHz
Input attenuation:	0	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor (3k -> 4k)	+	1.2	dB
Atten. between HPA and feedhorn	-	0.0	dB
Freefield attenuation (U330)	+	31.9	dB
TOTAL CORRECTION:	+	34.0	dB

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

Plot No. 50



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

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 6.4
fl, R20T2QD

Test setup:
see test report chapter 8.2

Test equipment:
see test report chapter 8.1-8.2: C220, R001, U330

Remark:

Test result: Test passed

Environment condition:

Date & Time:	Wed 28/Oct/2020 14:19:54	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	28	V DC

Setup of measurement equipment:

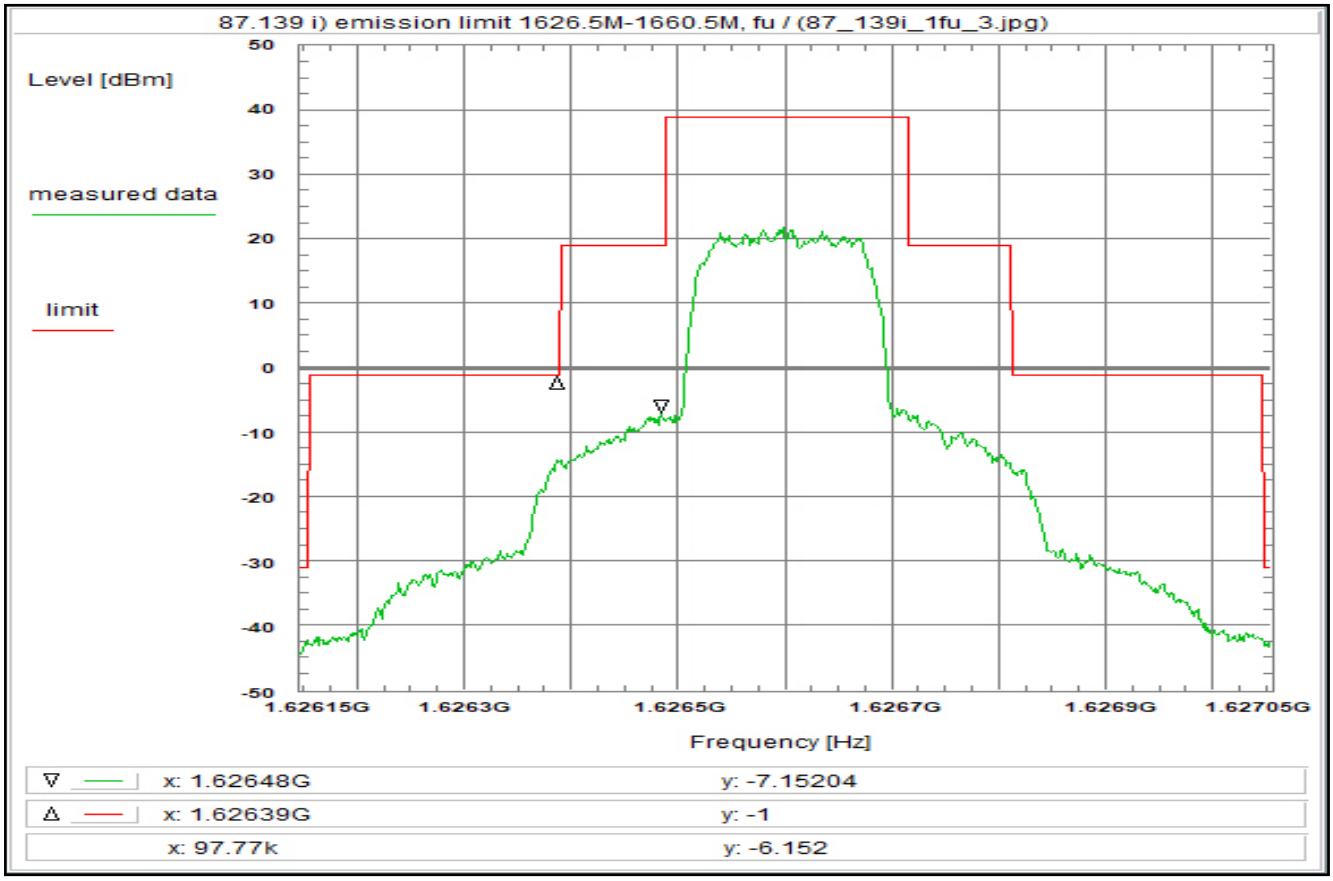
Start frequency:	1.6263984	GHz
Stop frequency:	1.6268016	GHz
Center frequency:	1.6266	GHz
Frequency span:	403.2	kHz
Resolution-BW:	3	kHz
Video-BW:	10	kHz
Input attenuation:	0	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor (3k -> 4k)	+	1.2	dB
Atten. between HPA and feedhorn	-	0.0	dB
Freefield attenuation (U330)	+	31.9	dB
TOTAL CORRECTION:	+	34.0	dB

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

Plot No. 51



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

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 6.4
fl, R20T45XD

Test setup:
see test report chapter 8.2

Test equipment:
see test report chapter 8.1-8.2: C220, R001, U330

Remark:

Test result: Test passed

Environment condition:

Date & Time:	Wed 28/Oct/2020 14:23:26	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	28	V DC

Setup of measurement equipment:

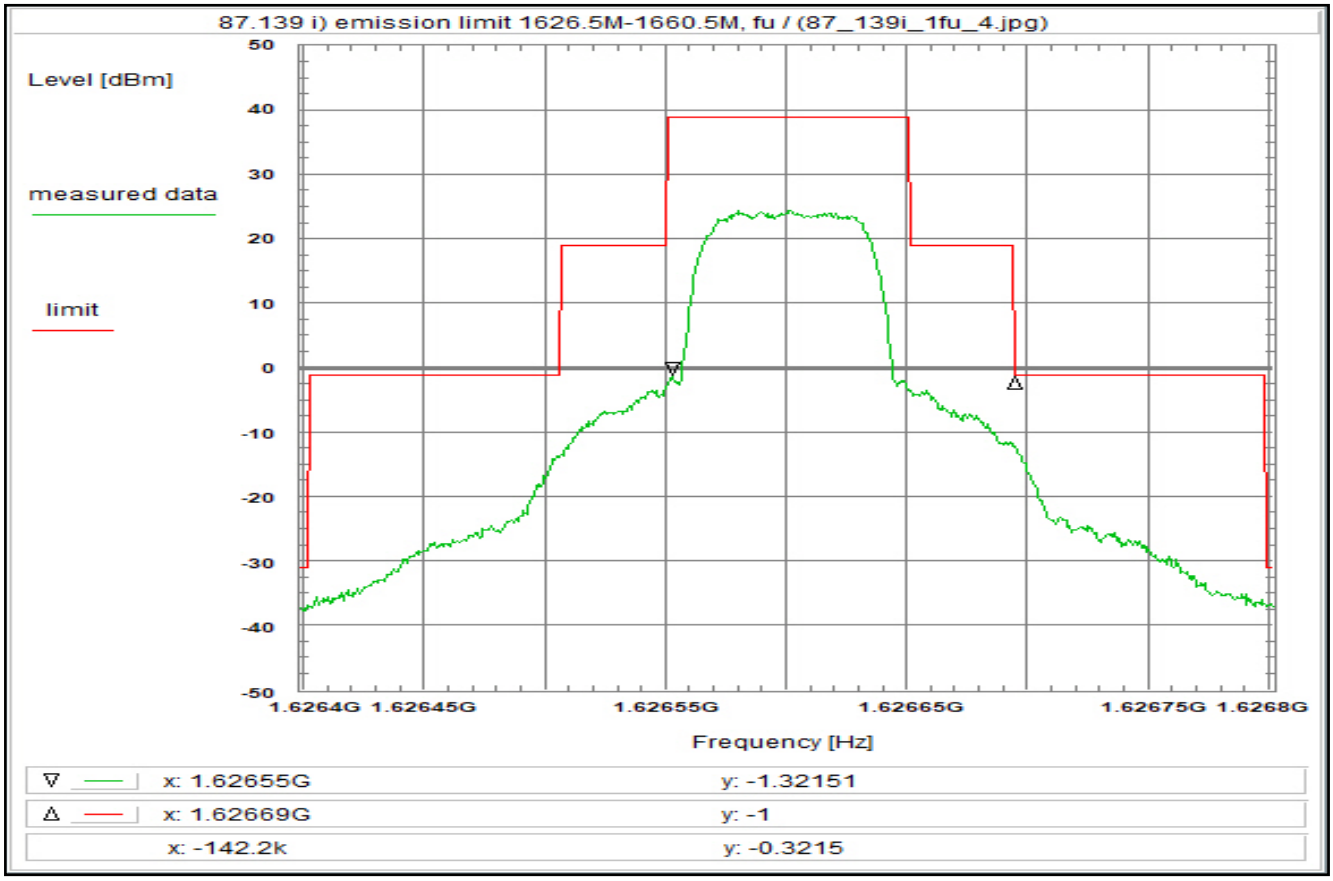
Start frequency:	1.6261464	GHz
Stop frequency:	1.6270536	GHz
Center frequency:	1.6266	GHz
Frequency span:	907.2	kHz
Resolution-BW:	3	kHz
Video-BW:	10	kHz
Input attenuation:	0	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor (3k -> 4k)	+	1.2	dB
Atten. between HPA and feedhorn	-	0.0	dB
Freefield attenuation (U330)	+	31.9	dB
TOTAL CORRECTION:	+	34.0	dB

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

Plot No. 52



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

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 6.4
fl, R20T2XD

Test setup:
see test report chapter 8.2

Test equipment:
see test report chapter 8.1-8.2: C220, R001, U330

Remark:

Test result: Test passed

Environment condition:

Date & Time:	Wed 28/Oct/2020 14:25:07	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	28	V DC

Setup of measurement equipment:

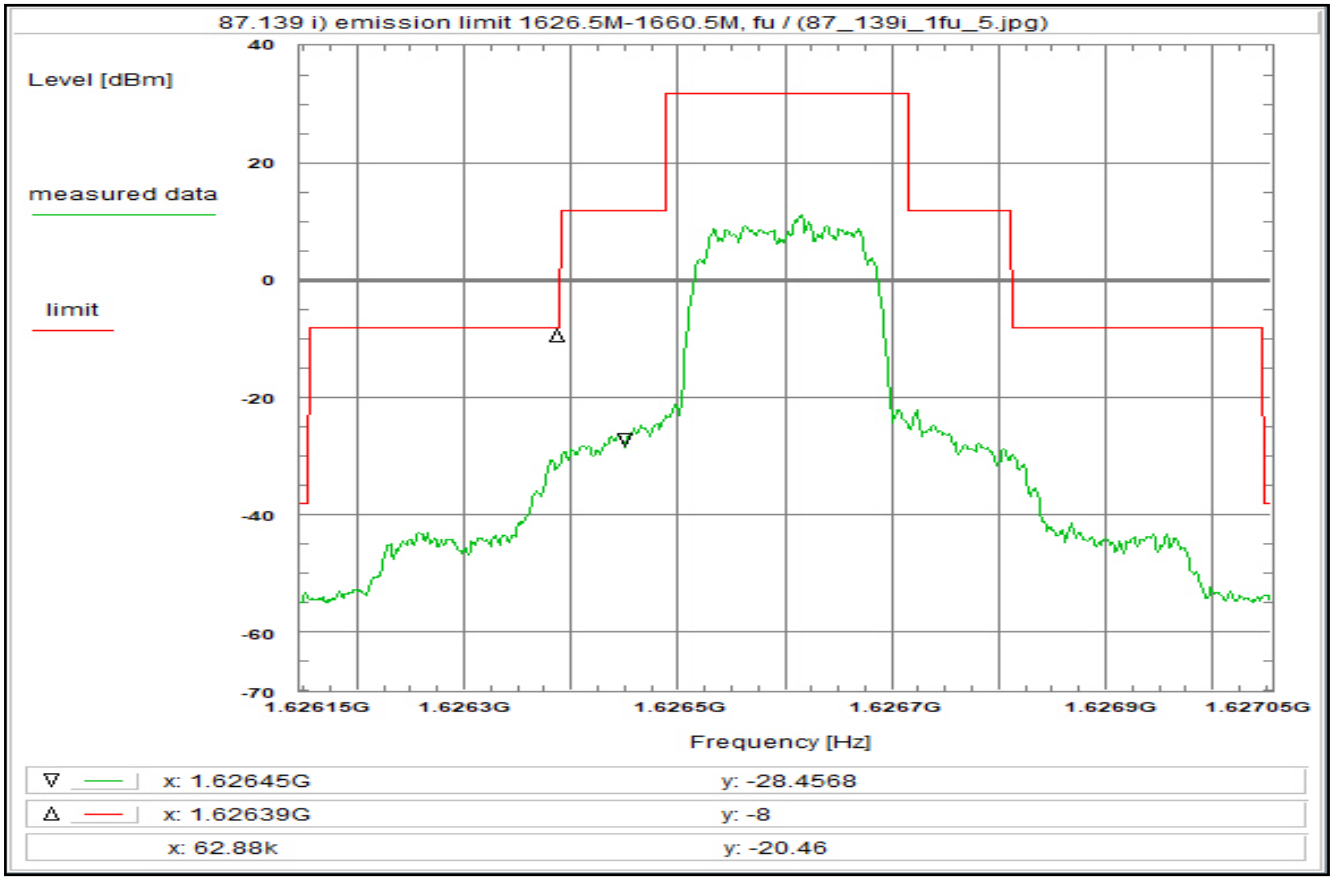
Start frequency:	1.6263984	GHz
Stop frequency:	1.6268016	GHz
Center frequency:	1.6266	GHz
Frequency span:	403.2	kHz
Resolution-BW:	3	kHz
Video-BW:	10	kHz
Input attenuation:	0	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor (3k -> 4k)	+	1.2	dB
Atten. between HPA and feedhorn	-	0.0	dB
Freefield attenuation (U330)	+	31.9	dB
TOTAL CORRECTION:	+	34.0	dB

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

Plot No. 53



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

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 6.4
fl, R5T45QD

Test setup:
see test report chapter 8.2

Test equipment:
see test report chapter 8.1-8.2: C220, R001, U330

Remark:

Test result: Test passed

Environment condition:

Date & Time:	Wed 28/Oct/2020 14:31:17	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	28	V DC

Setup of measurement equipment:

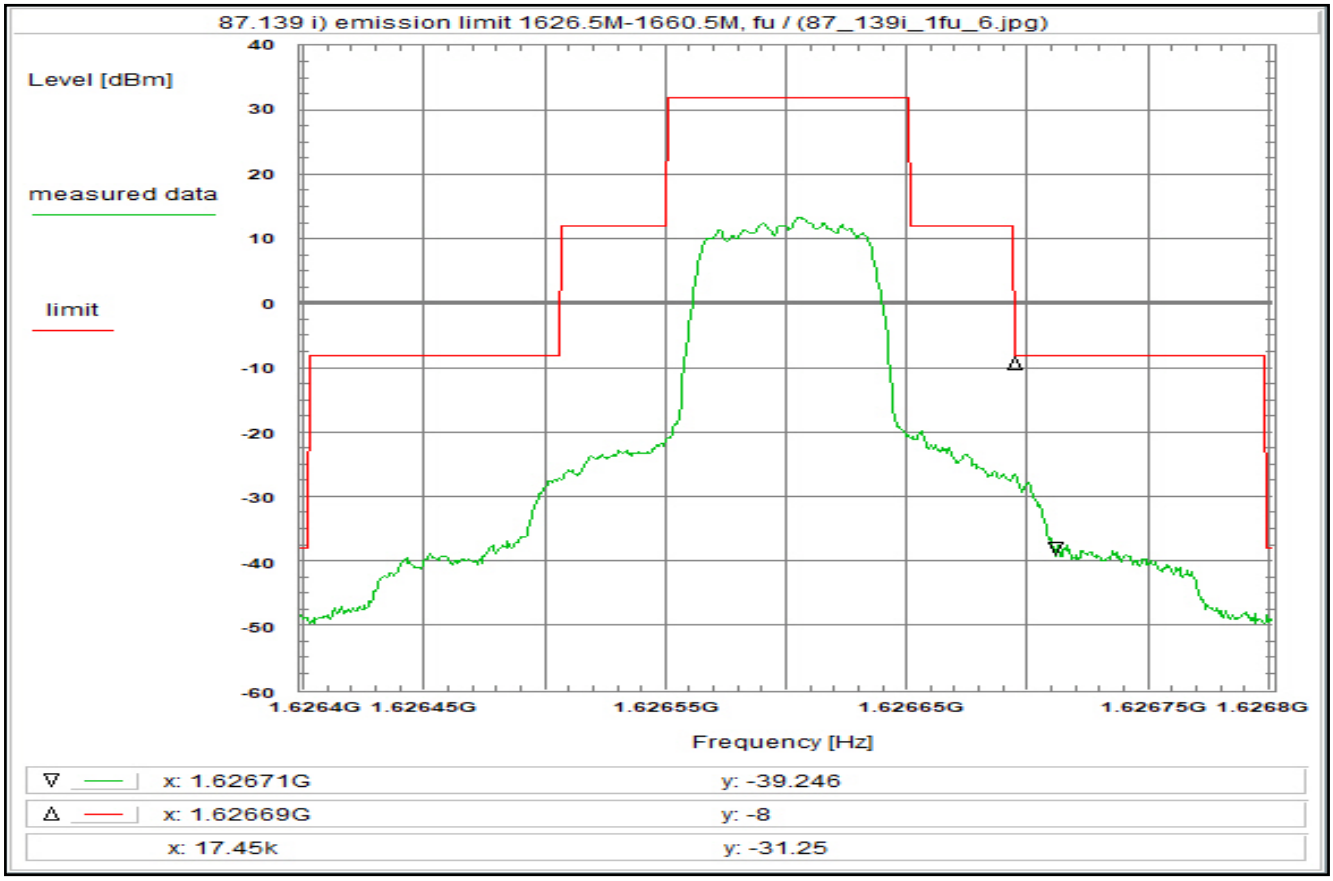
Start frequency:	1.6261464	GHz
Stop frequency:	1.6270536	GHz
Center frequency:	1.6266	GHz
Frequency span:	907.2	kHz
Resolution-BW:	3	kHz
Video-BW:	10	kHz
Input attenuation:	0	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor (3k -> 4k)	+	1.2	dB
Atten. between HPA and feedhorn	-	0.0	dB
Freefield attenuation (U330)	+	31.9	dB
TOTAL CORRECTION:	+	34.0	dB

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

Plot No. 54



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

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 6.4
fl, R5T2QD

Test setup:
see test report chapter 8.2

Test equipment:
see test report chapter 8.1-8.2: C220, R001, U330

Remark:

Test result: Test passed

Environment condition:

Date & Time:	Wed 28/Oct/2020 14:33:53	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	28	V DC

Setup of measurement equipment:

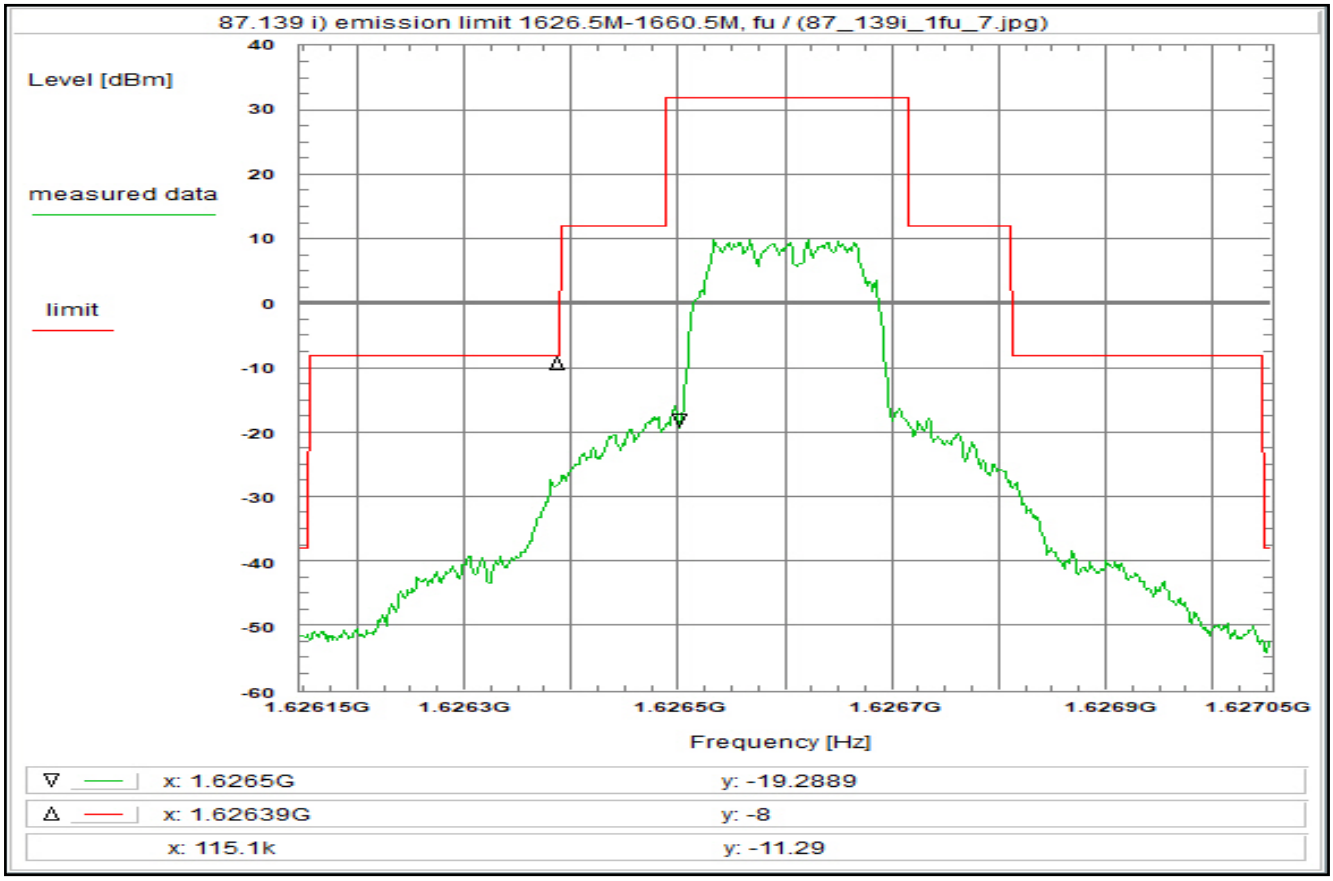
Start frequency:	1.6263984	GHz
Stop frequency:	1.6268016	GHz
Center frequency:	1.6266	GHz
Frequency span:	403.2	kHz
Resolution-BW:	3	kHz
Video-BW:	10	kHz
Input attenuation:	0	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor (3k -> 4k)	+	1.2	dB
Atten. between HPA and feedhorn	-	0.0	dB
Freefield attenuation (U330)	+	31.9	dB
TOTAL CORRECTION:	+	34.0	dB

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

Plot No. 55



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

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 6.4
fl, R5T45XD

Test setup:
see test report chapter 8.2

Test equipment:
see test report chapter 8.1-8.2: C220, R001, U330

Remark:

Test result: Test passed

Environment condition:

Date & Time:	Wed 28/Oct/2020 14:37:30	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	28	V DC

Setup of measurement equipment:

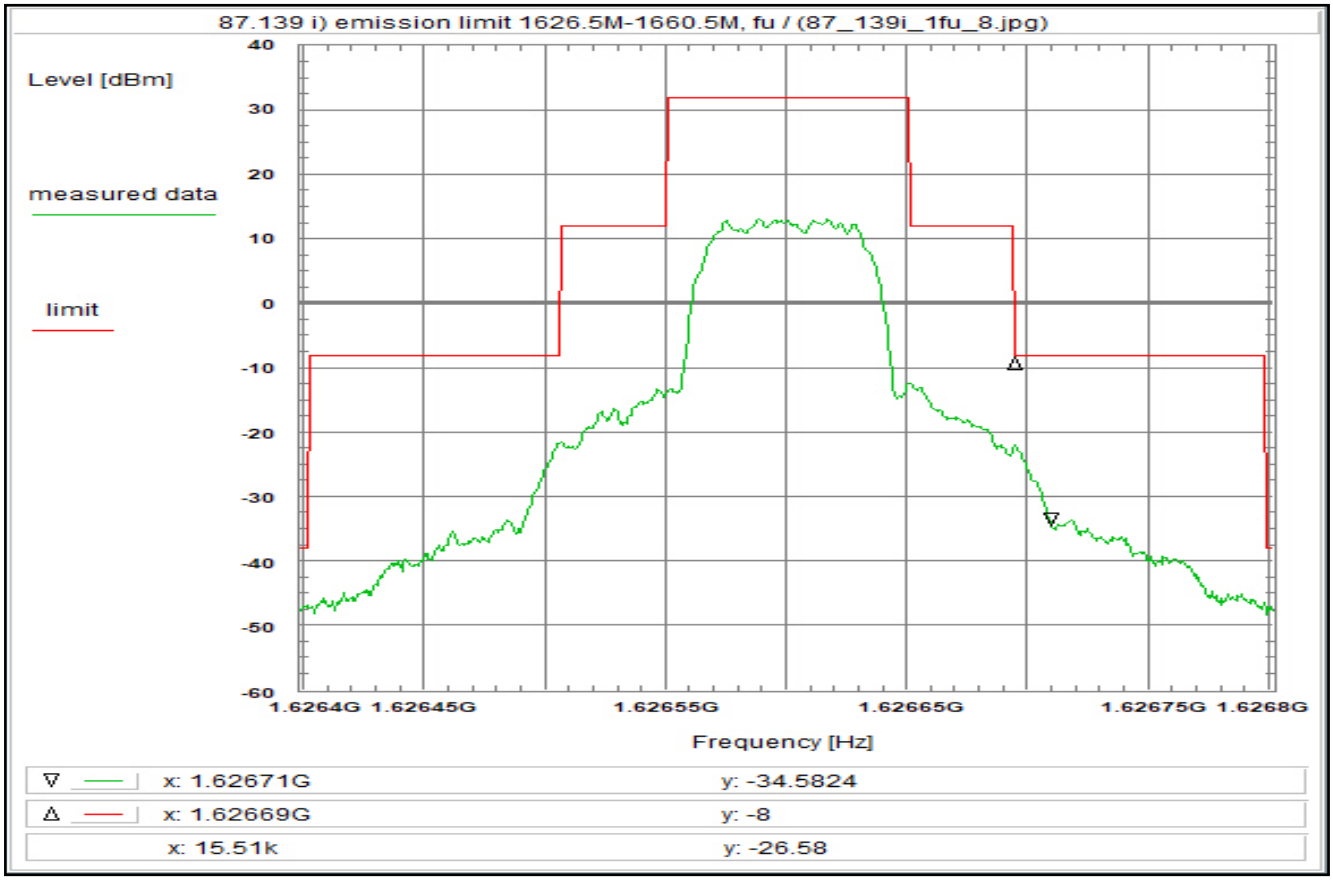
Start frequency:	1.6261464	GHz
Stop frequency:	1.6270536	GHz
Center frequency:	1.6266	GHz
Frequency span:	907.2	kHz
Resolution-BW:	3	kHz
Video-BW:	10	kHz
Input attenuation:	0	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor (3k -> 4k)	+	1.2	dB
Atten. between HPA and feedhorn	-	0.0	dB
Freefield attenuation (U330)	+	31.9	dB
TOTAL CORRECTION:	+	34.0	dB

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

Plot No. 56



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

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 6.4
fl, R5T2XD

Test setup:
see test report chapter 8.2

Test equipment:
see test report chapter 8.1-8.2: C220, R001, U330

Remark:

Test result: Test passed

Environment condition:

Date & Time:	Wed 28/Oct/2020 14:41:01	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	28	V DC

Setup of measurement equipment:

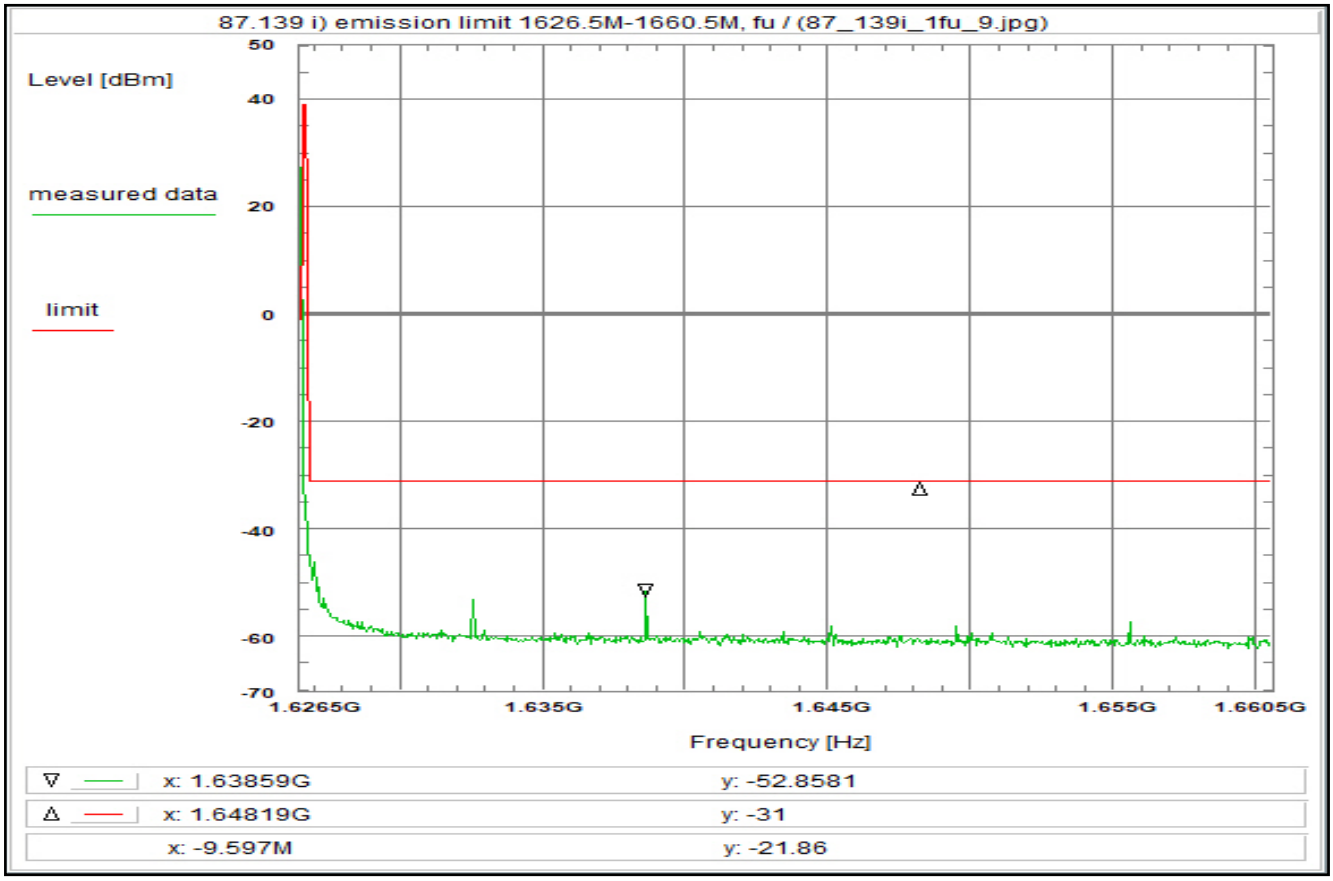
Start frequency:	1.6263984	GHz
Stop frequency:	1.6268016	GHz
Center frequency:	1.6266	GHz
Frequency span:	403.2	kHz
Resolution-BW:	3	kHz
Video-BW:	10	kHz
Input attenuation:	0	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	AVG	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor (3k -> 4k)	+	1.2	dB
Atten. between HPA and feedhorn	-	0.0	dB
Freefield attenuation (U330)	+	31.9	dB
TOTAL CORRECTION:	+	34.0	dB

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

Plot No. 57



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

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 6.4
fl, R5T1X

Test setup:
see test report chapter 8.2

Test equipment:
see test report chapter 8.1-8.2: C220, R001, U330

Remark:

Test result: Test passed

Environment condition:

Date & Time:	Thu 05/Nov/2020 09:17:12	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	28	V DC

Setup of measurement equipment:

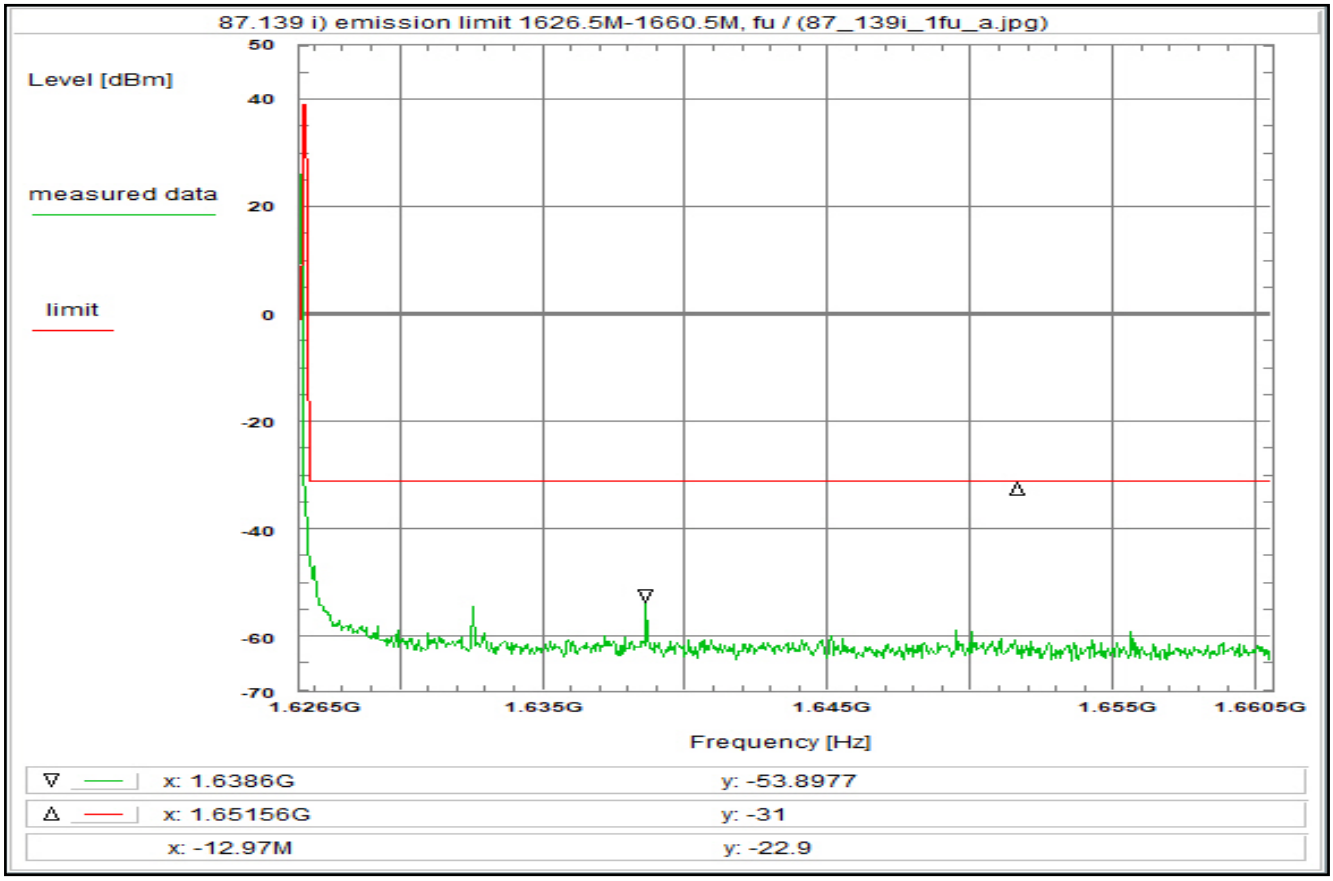
Start frequency:	1.6265	GHz
Stop frequency:	1.6605	GHz
Center frequency:	1.6435	GHz
Frequency span:	34	MHz
Resolution-BW:	3	kHz
Video-BW:	10	kHz
Input attenuation:	0	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	RMS	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor (3k -> 4k)	+	1.2	dB
Atten. between HPA and feedhorn	-	0.0	dB
(U330)	+	31.9	dB
TOTAL CORRECTION:	+	34.0	dB

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

Plot No. 58



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

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 6.4
fl, R20T1XD

Test setup:
see test report chapter 8.2

Test equipment:
see test report chapter 8.1-8.2: C220, R001, U330

Remark:

Test result: Test passed

Environment condition:

Date & Time:	Thu 05/Nov/2020 09:18:33	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	28	V DC

Setup of measurement equipment:

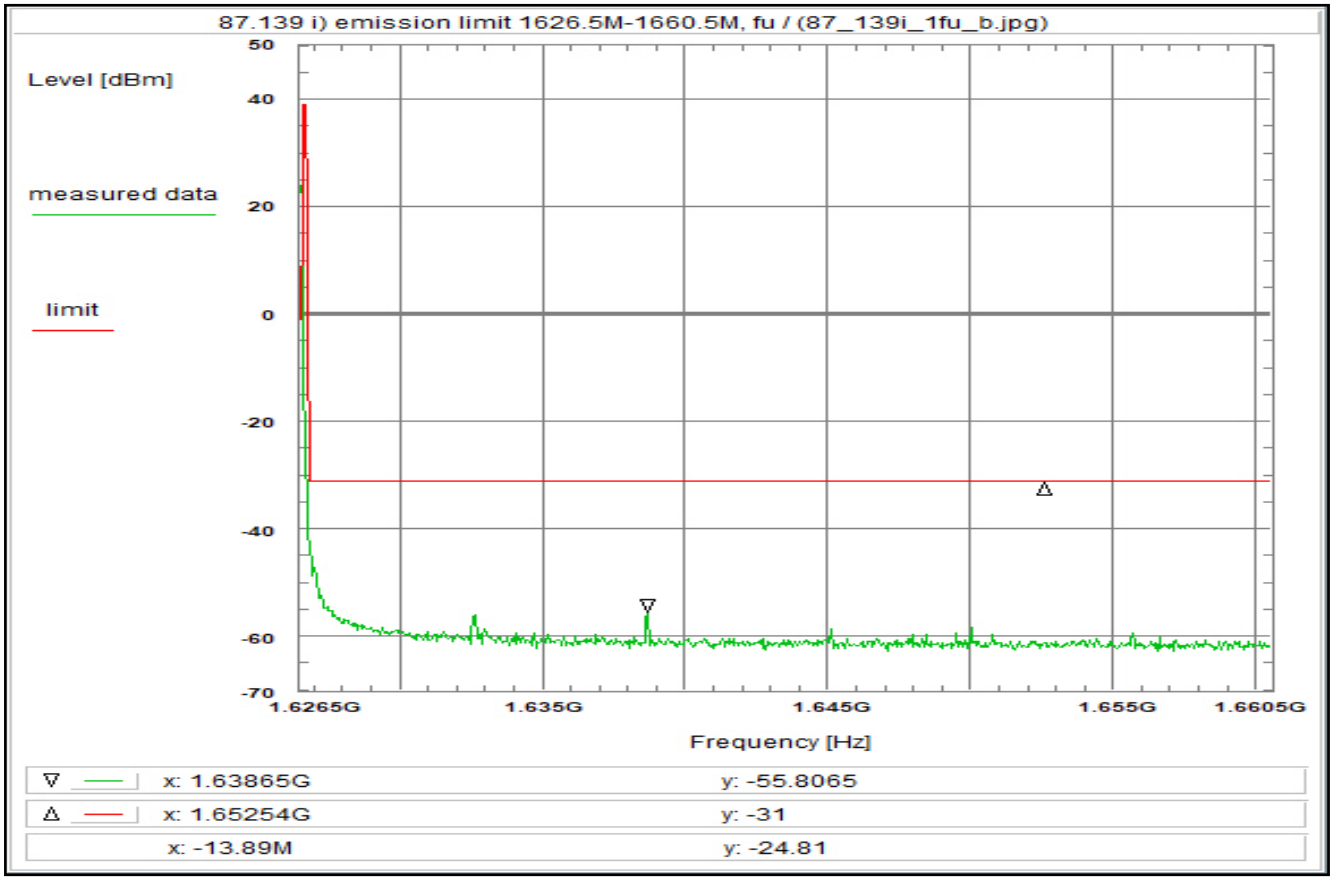
Start frequency:	1.6265	GHz
Stop frequency:	1.6605	GHz
Center frequency:	1.6435	GHz
Frequency span:	34	MHz
Resolution-BW:	3	kHz
Video-BW:	10	kHz
Input attenuation:	0	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	RMS	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor (3k -> 4k)	+	1.2	dB
Atten. between HPA and feedhorn	-	0.0	dB
(U330)	+	31.9	dB
TOTAL CORRECTION:	+	34.0	dB

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

Plot No. 59



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

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 6.4
fl, R20T05QD

Test setup:
see test report chapter 8.2

Test equipment:
see test report chapter 8.1-8.2: C220, R001, U330

Remark:

Test result: Test passed

Environment condition:

Date & Time:	Thu 05/Nov/2020 09:20:25	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	28	V DC

Setup of measurement equipment:

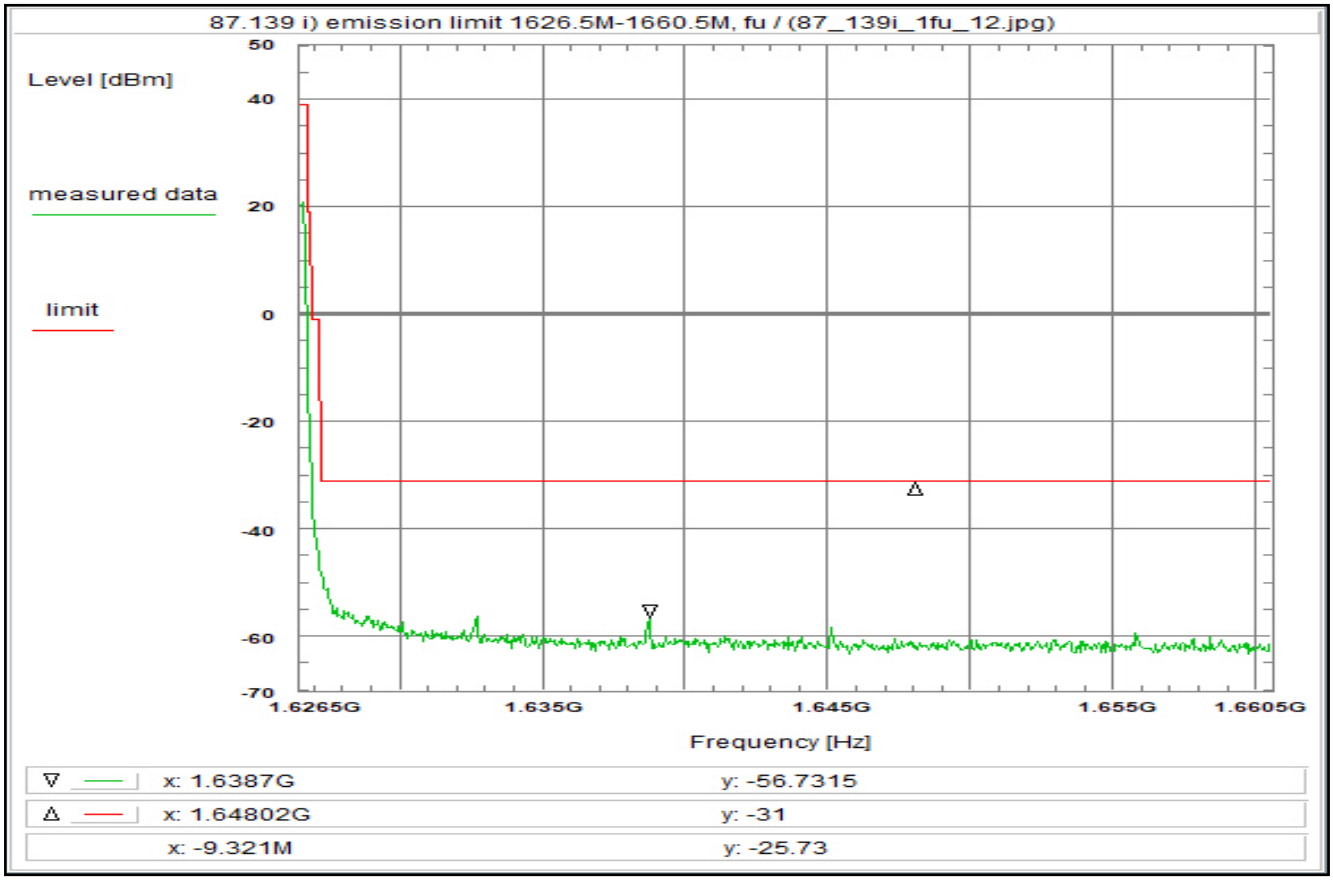
Start frequency:	1.6265	GHz
Stop frequency:	1.6605	GHz
Center frequency:	1.6435	GHz
Frequency span:	34	MHz
Resolution-BW:	3	kHz
Video-BW:	10	kHz
Input attenuation:	0	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	RMS	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor (3k -> 4k)	+	1.2	dB
Atten. between HPA and feedhorn	-	0.0	dB
(U330)	+	31.9	dB
TOTAL CORRECTION:	+	34.0	dB

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

Plot No. 60



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

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 6.4
fl, R20T1QD

Test setup:
see test report chapter 8.2

Test equipment:
see test report chapter 8.1-8.2: R001

Remark:

Test result: Test passed

Environment condition:

Date & Time:	Thu 05/Nov/2020 09:23:57	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	28	V DC

Setup of measurement equipment:

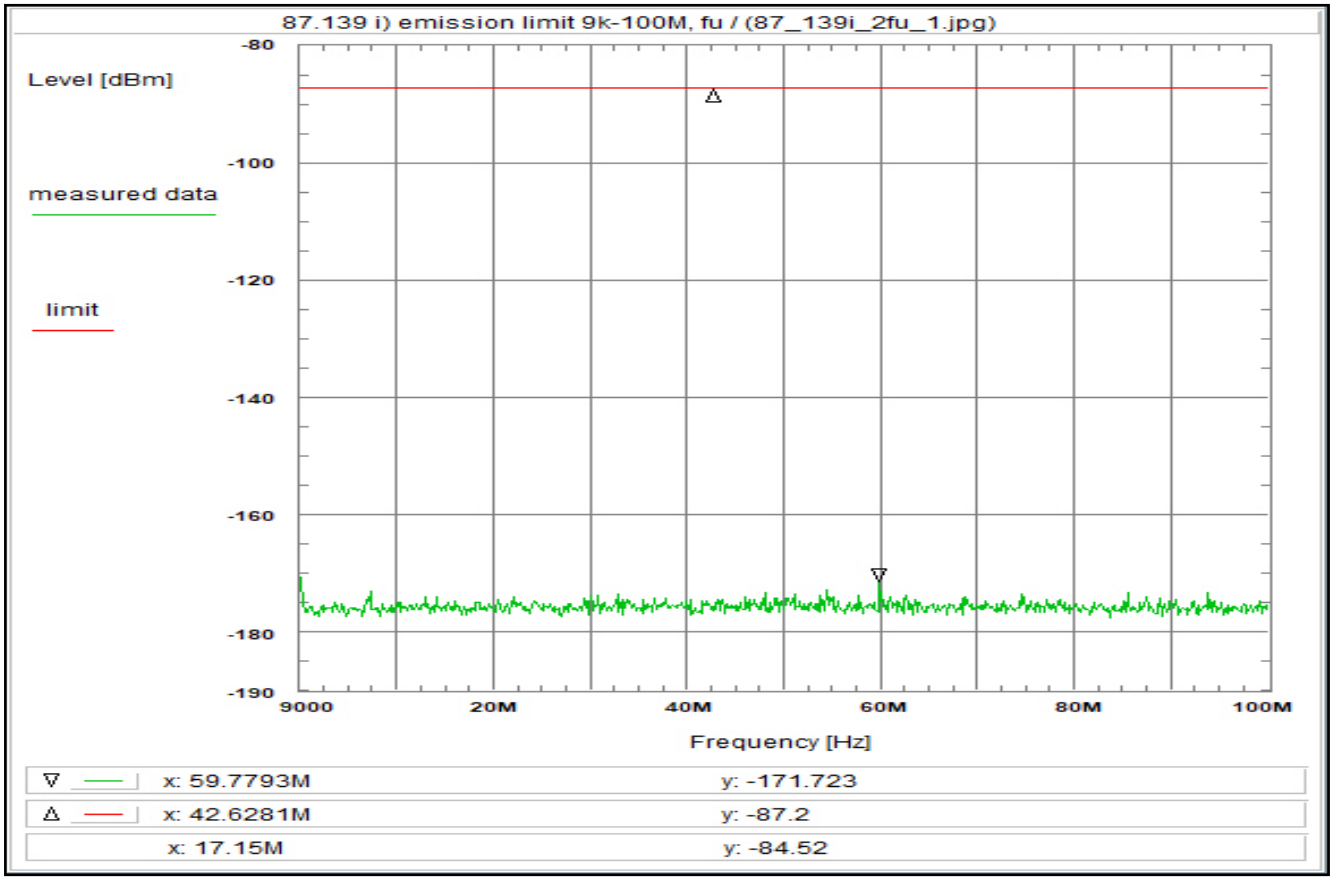
Start frequency:	1.6265	GHz
Stop frequency:	1.6605	GHz
Center frequency:	1.6435	GHz
Frequency span:	34	MHz
Resolution-BW:	3	kHz
Video-BW:	30	kHz
Input attenuation:	0	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	RMS	

Correction:

Directional coupler	+	0.0	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor (3k -> 4k)	+	1.2	dB
Atten. between HPA and feedhorn (U330)	-	0.0	dB
	+	31.9	dB
TOTAL CORRECTION:	+	34.0	dB

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

Plot No. 61



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

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 6.4
fl, valid for all modulations

Test setup:
see test report chapter 8.2

Test equipment:
see test report chapter 8.1-8.2: C220, R001, U331, W_RE

Remark:

Test result: Test passed

Environment condition:

Date & Time:	Thu 29/Oct/2020 13:32:55	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	28	V DC

Setup of measurement equipment:

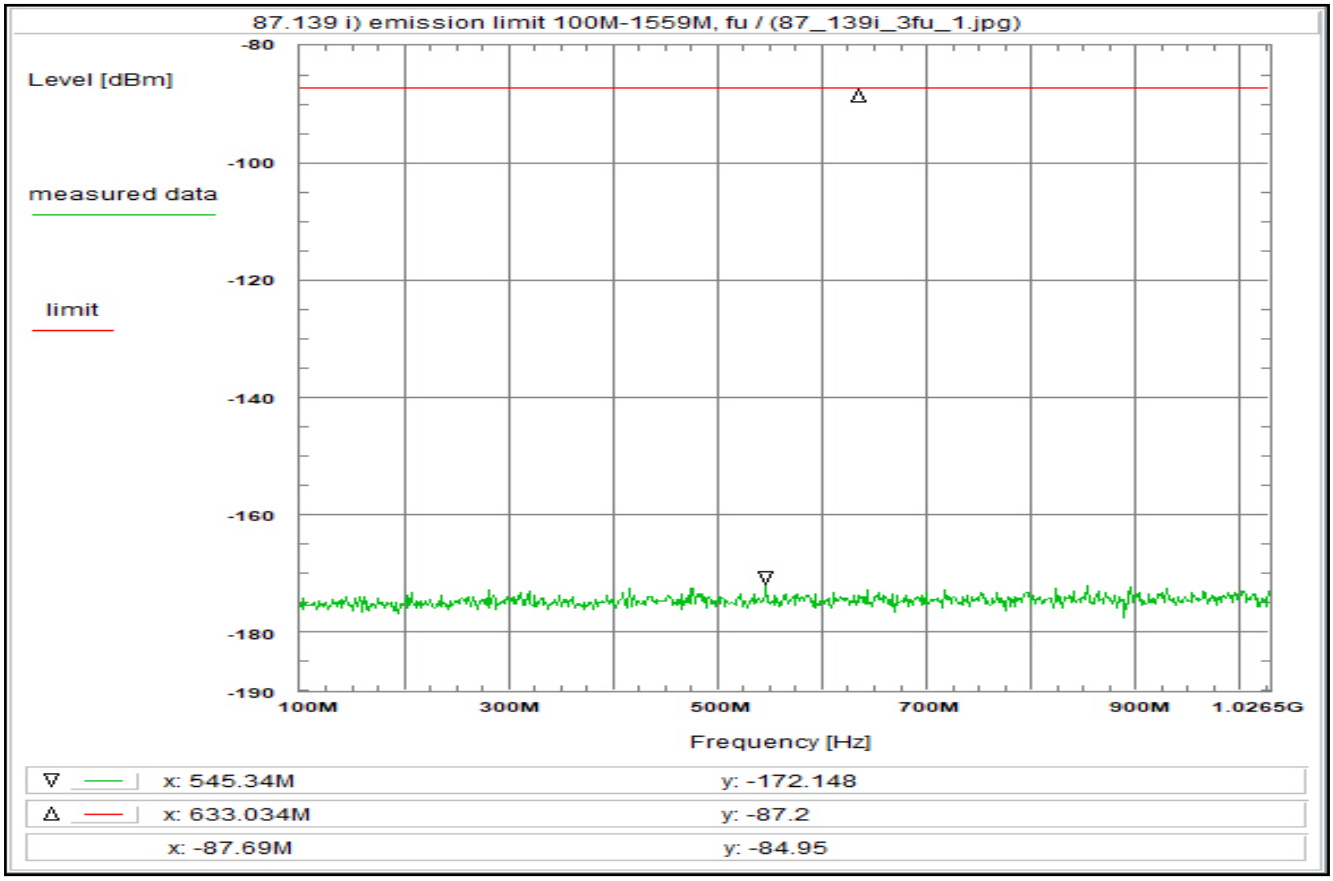
Start frequency:	9	kHz
Stop frequency:	100	MHz
Center frequency:	50.0045	MHz
Frequency span:	99.991	MHz
Resolution-BW:	3	kHz
Video-BW:	10	kHz
Input attenuation:	0	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	Pos Peak	

Correction:

W_RE	120.0	dB	
Coaxial cable (C220)	+	0.2	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor (3k -> 4k)	+	1.2	dB
Atten. between HPA and feedhorn	-	0.0	dB
(U331)	+	31.4	dB
TOTAL CORRECTION:	-	-87.2	dB

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

Plot No. 62



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

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 6.4
fl, valid for all modulations

Test setup:
see test report chapter 8.2

Test equipment:
see test report chapter 8.1-8.2: C220, R001, U331, W_RE

Remark:

Test result: Test passed

Environment condition:

Date & Time:	Thu 29/Oct/2020 13:48:31	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	28	V DC

Setup of measurement equipment:

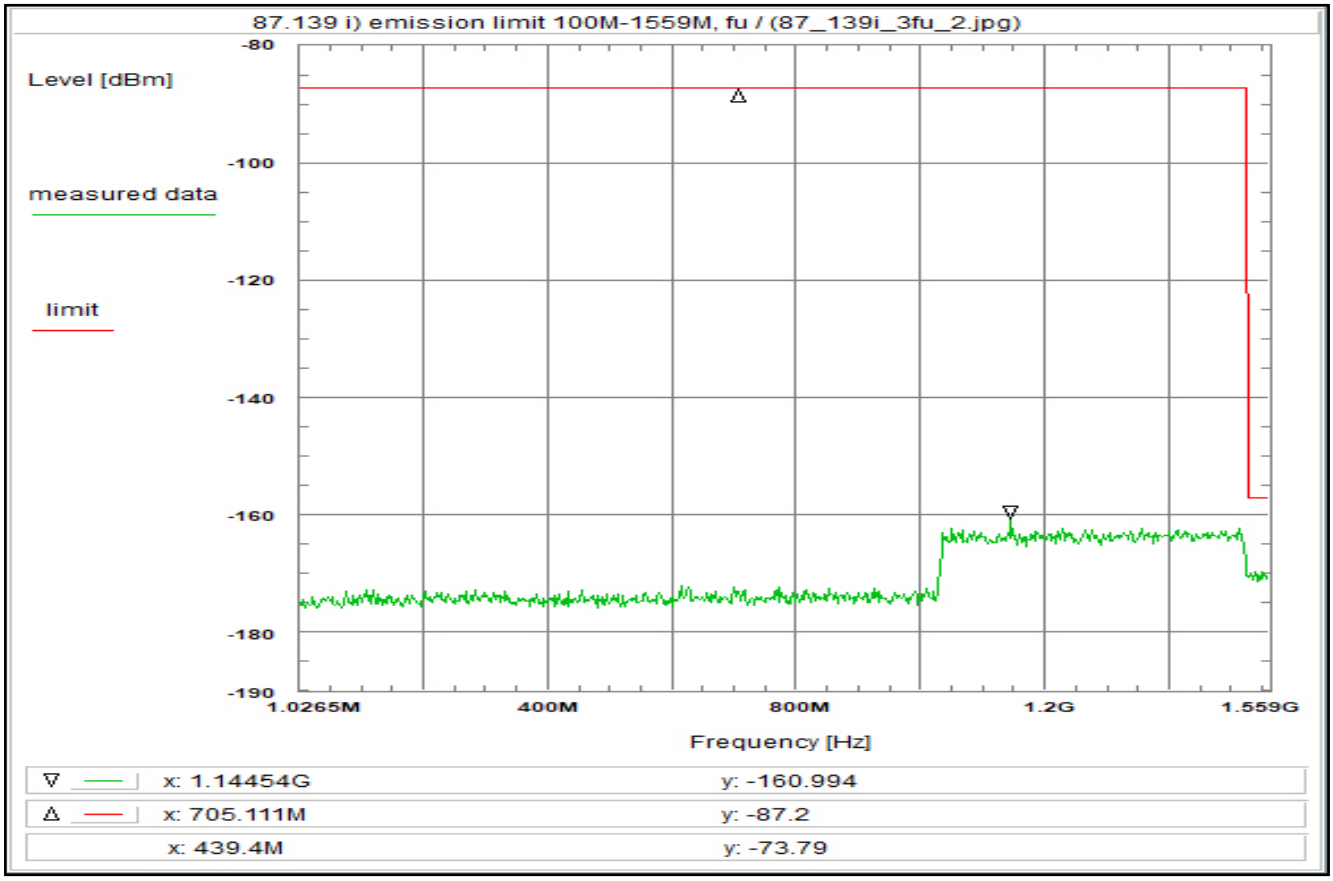
Start frequency:	100	MHz
Stop frequency:	1.0265	GHz
Center frequency:	563.25	MHz
Frequency span:	926.5	MHz
Resolution-BW:	3	kHz
Video-BW:	10	kHz
Input attenuation:	0	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	Pos Peak	

Correction:

W_RE	116.7	dB	
Coaxial cable (C220)	+	0.5	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor (3k -> 4k)	+	1.2	dB
Atten. between HPA and feedhorn	-	0.0	dB
(U331)	+	31.7	dB
TOTAL CORRECTION:	-	-83.3	dB

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

Plot No. 63



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

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 6.4
fl, valid for all modulations

Test setup:
see test report chapter 8.2

Test equipment:
see test report chapter 8.1-8.2: C220, R001, U331, W_RE

Remark:

Test result: Test passed

Environment condition:

Date & Time:	Thu 29/Oct/2020 13:58:07	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	28	V DC

Setup of measurement equipment:

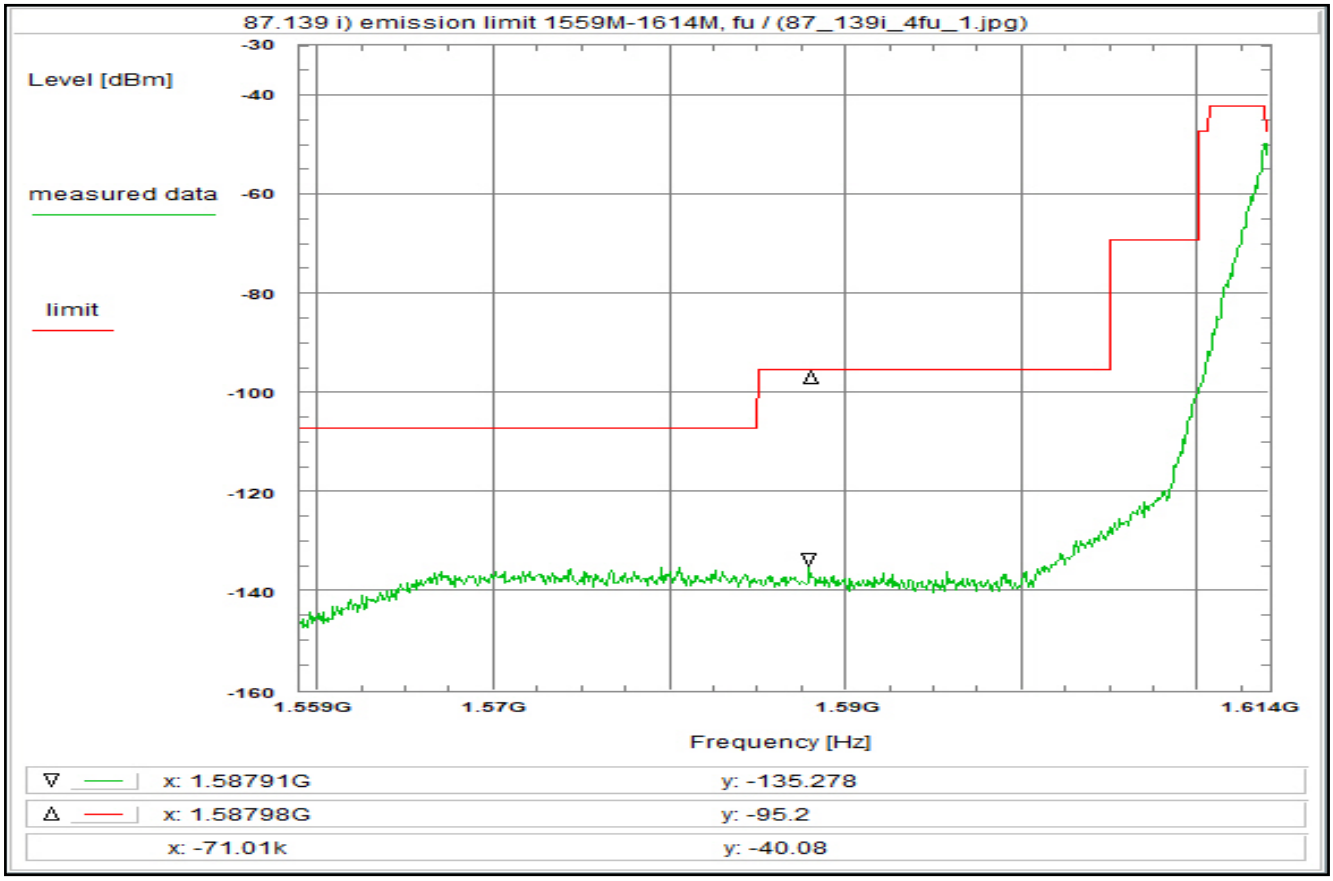
Start frequency:	1.0265	MHz
Stop frequency:	1.559	GHz
Center frequency:	780.01325	MHz
Frequency span:	1.5579735	GHz
Resolution-BW:	3	kHz
Video-BW:	10	kHz
Input attenuation:	0	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	Pos Peak	

Correction:

W_RE	115.7	dB	
Coaxial cable (C220)	+	0.6	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor (3k -> 4k)	+	1.2	dB
Atten. between HPA and feedhorn	-	0.0	dB
(U331)	+	31.8	dB
TOTAL CORRECTION:	-	-82.1	dB

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

Plot No. 64



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

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 6.4
fl, valid for all modulations

Test setup:
see test report chapter 8.2

Test equipment:
see test report chapter 8.1-8.2: C220, R001, U331, W_RE

Remark:

Test result: Test passed

Environment condition:

Date & Time:	Thu 29/Oct/2020 13:59:51	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	28	V DC

Setup of measurement equipment:

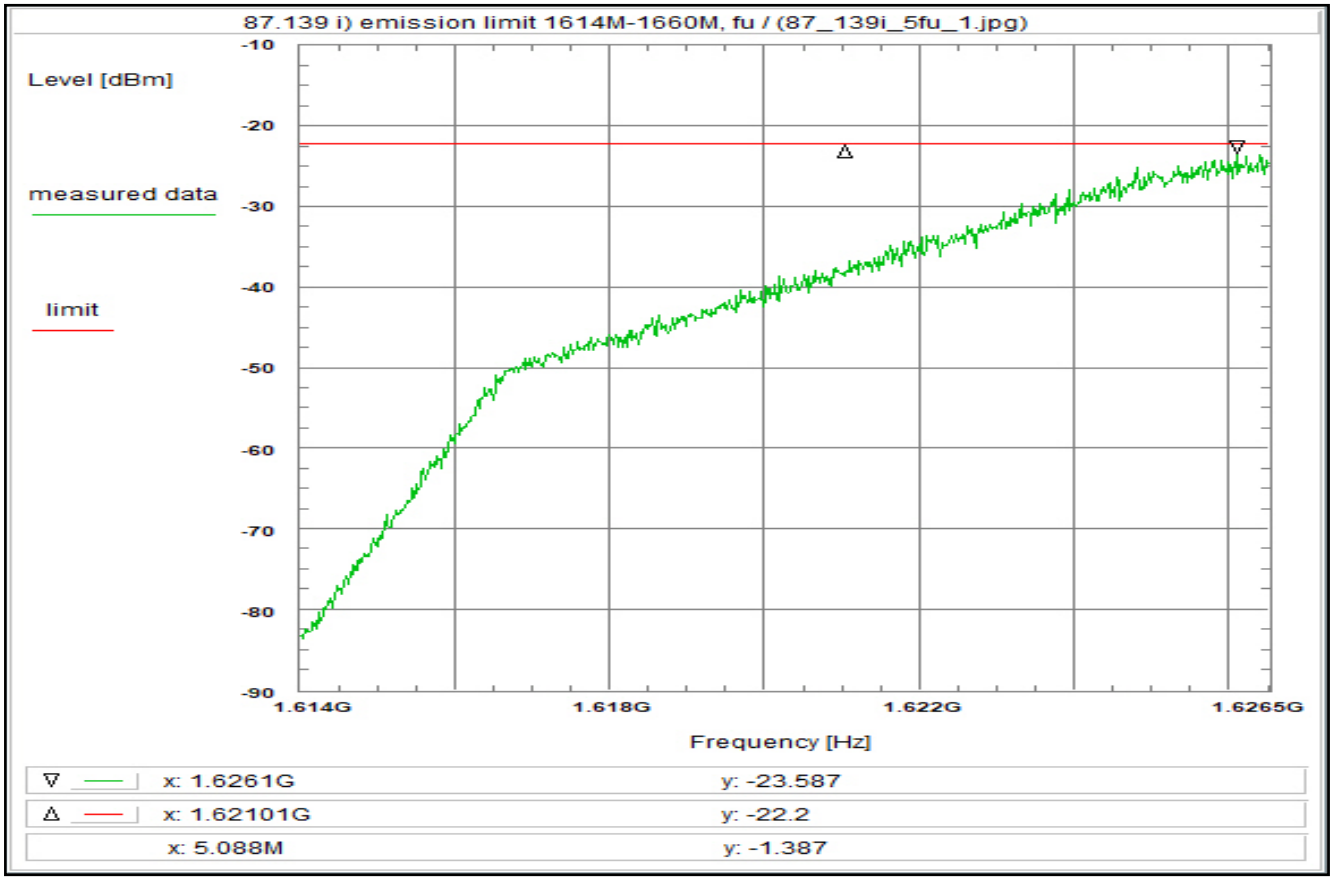
Start frequency:	1.559	GHz
Stop frequency:	1.614	GHz
Center frequency:	1.5865	GHz
Frequency span:	55	MHz
Resolution-BW:	3	kHz
Video-BW:	10	kHz
Input attenuation:	0	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	Pos Peak	

Correction:

W_RE	104.1	dB	
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor (3k -> 1M)	+	25.2	dB
Atten. between HPA and feedhorn	-	0.0	dB
(U331)	+	32.6	dB
TOTAL CORRECTION:	-	-45.4	dB

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

Plot No. 65



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

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 6.4
fl, valid for all modulations

Test setup:
see test report chapter 8.2

Test equipment:
see test report chapter 8.1-8.2: C220, R001, U331, W_RE

Remark:

Test result: Test passed

Environment condition:

Date & Time:	Thu 29/Oct/2020 14:07:18	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	28	V DC

Setup of measurement equipment:

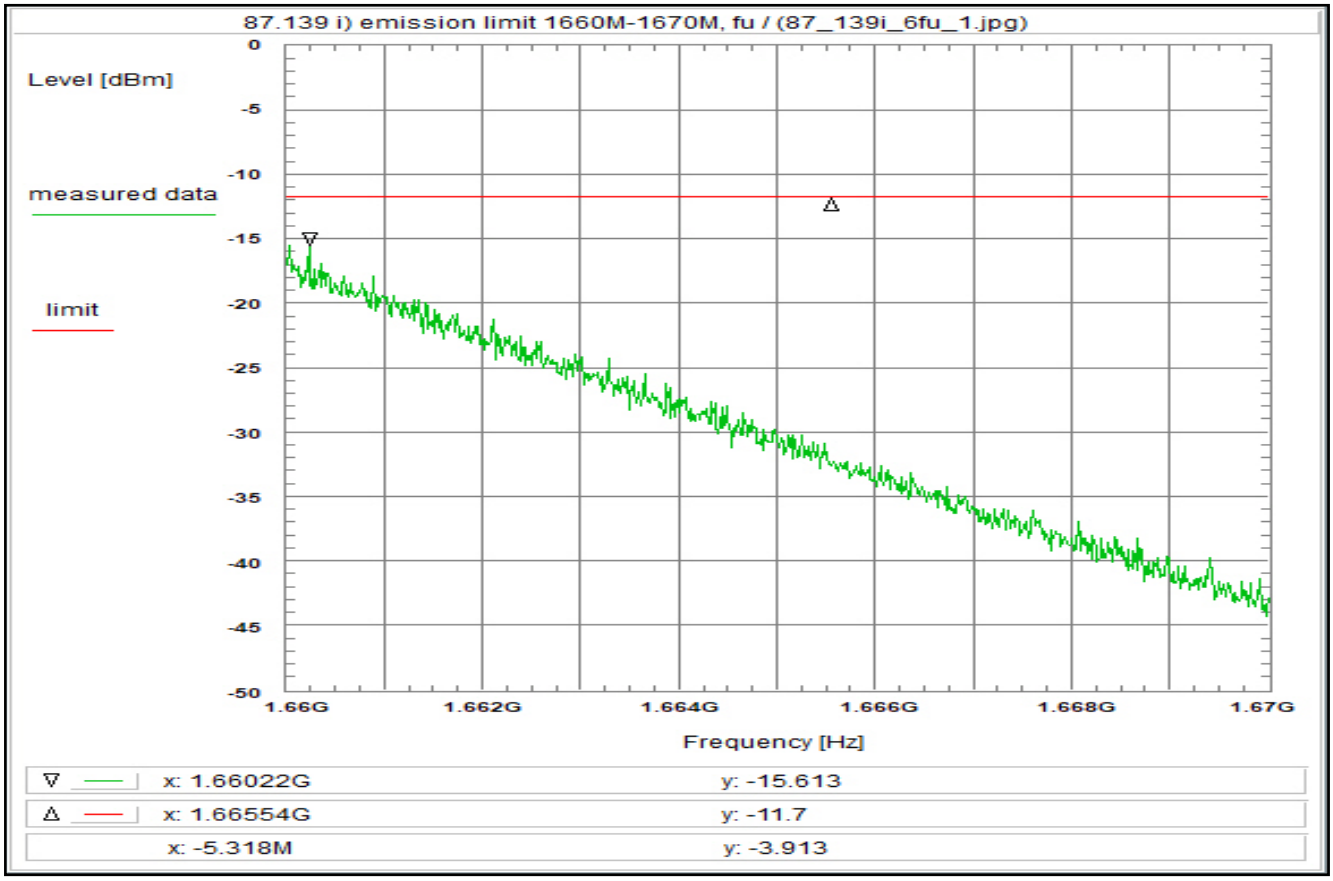
Start frequency:	1.614	GHz
Stop frequency:	1.6265	GHz
Center frequency:	1.62025	GHz
Frequency span:	12.5	MHz
Resolution-BW:	500	Hz
Video-BW:	2	kHz
Input attenuation:	0	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	AVG	

Correction:

W_RE	47.8	dB	
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor (500 -> 4k)	+	9.0	dB
Atten. between HPA and feedhorn	-	0.0	dB
(U331)	+	56.6	dB
TOTAL CORRECTION:	+	18.7	dB

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

Plot No. 66



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

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 6.4
fl, valid for all modulations

Test setup:
see test report chapter 8.2

Test equipment:
see test report chapter 8.1-8.2: C220, R001, U331, W_RE

Remark:

Test result: Test passed

Environment condition:

Date & Time:	Thu 29/Oct/2020 14:08:40	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	28	V DC

Setup of measurement equipment:

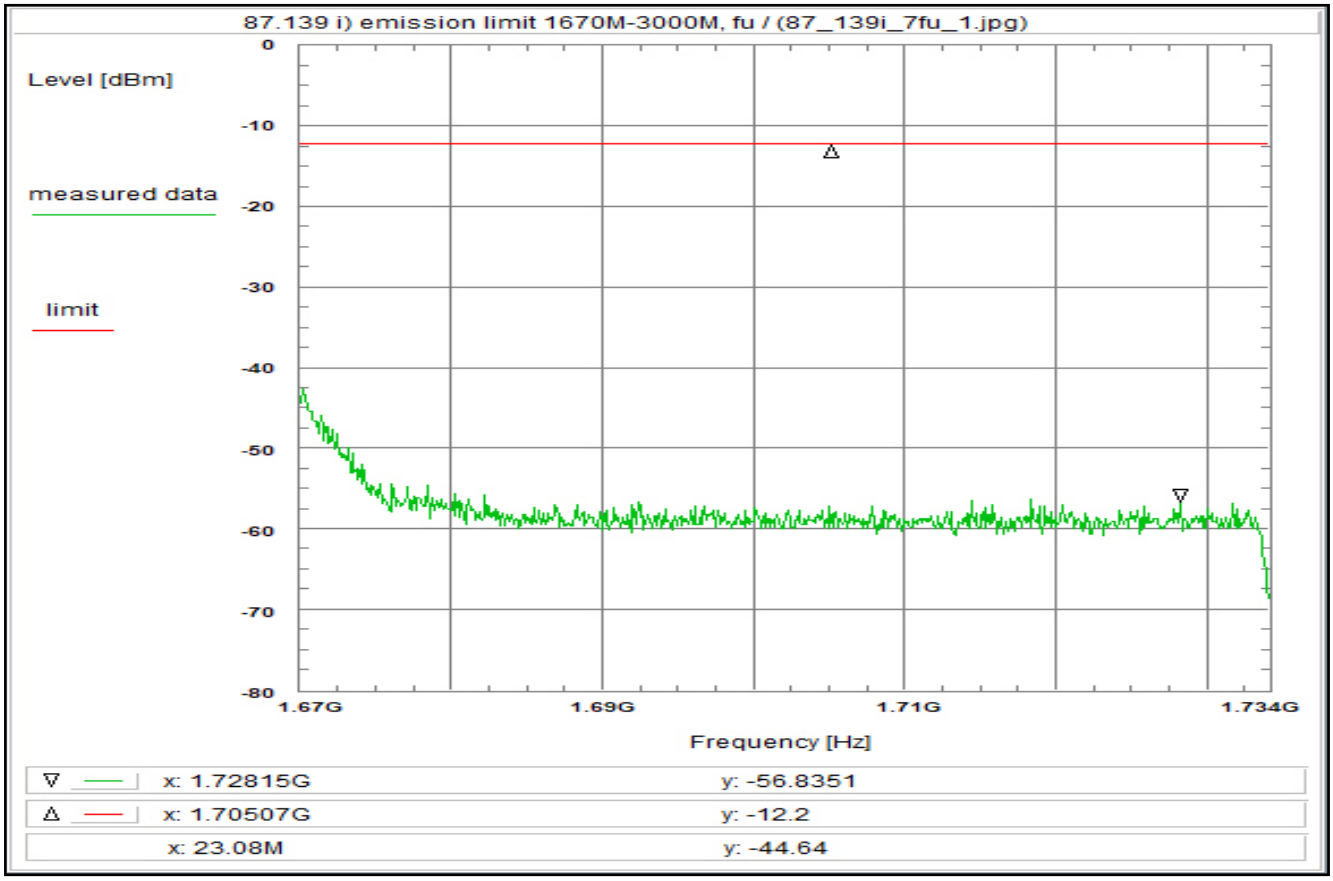
Start frequency:	1.66	GHz
Stop frequency:	1.67	GHz
Center frequency:	1.665	GHz
Frequency span:	10	MHz
Resolution-BW:	3	kHz
Video-BW:	10	kHz
Input attenuation:	0	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	AVG	

Correction:

W_RE	4.5	dB	
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor (3k -> 20k)	+	8.2	dB
Atten. between HPA and feedhorn (U331)	-	0.0	dB
	+	72.8	dB
TOTAL CORRECTION:	+	77.4	dB

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

Plot No. 67



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

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 6.4
fl, valid for all modulations

Test setup:
see test report chapter 8.2

Test equipment:
see test report chapter 8.1-8.2: C220, R001, U331, W_RE

Remark:

Test result: Test passed

Environment condition:

Date & Time:	Thu 29/Oct/2020 14:18:27	
Location:	CTC advanced GmbH, Laboratory RC-SYS	
Temperature:	22	°C
Humidity:	55	%
Voltage:	28	V DC

Setup of measurement equipment:

Start frequency:	1.67	GHz
Stop frequency:	1.734	GHz
Center frequency:	1.702	GHz
Frequency span:	64	MHz
Resolution-BW:	3	kHz
Video-BW:	10	kHz
Input attenuation:	0	dB
Trace-Mode:	Max-Hold	
Detector-Mode:	Pos Peak	

Correction:

W_RE		4.5	dB
Coaxial cable (C220)	+	0.9	dB
DUT-Antenna	+	0.0	dBi
Test antenna	+	0.0	dB
BW correction factor (3k -> 4k)	+	1.2	dB
Atten. between HPA and feedhorn	-	0.0	dB
(U331)	+	35.5	dB
TOTAL CORRECTION:	+	33.1	dB

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