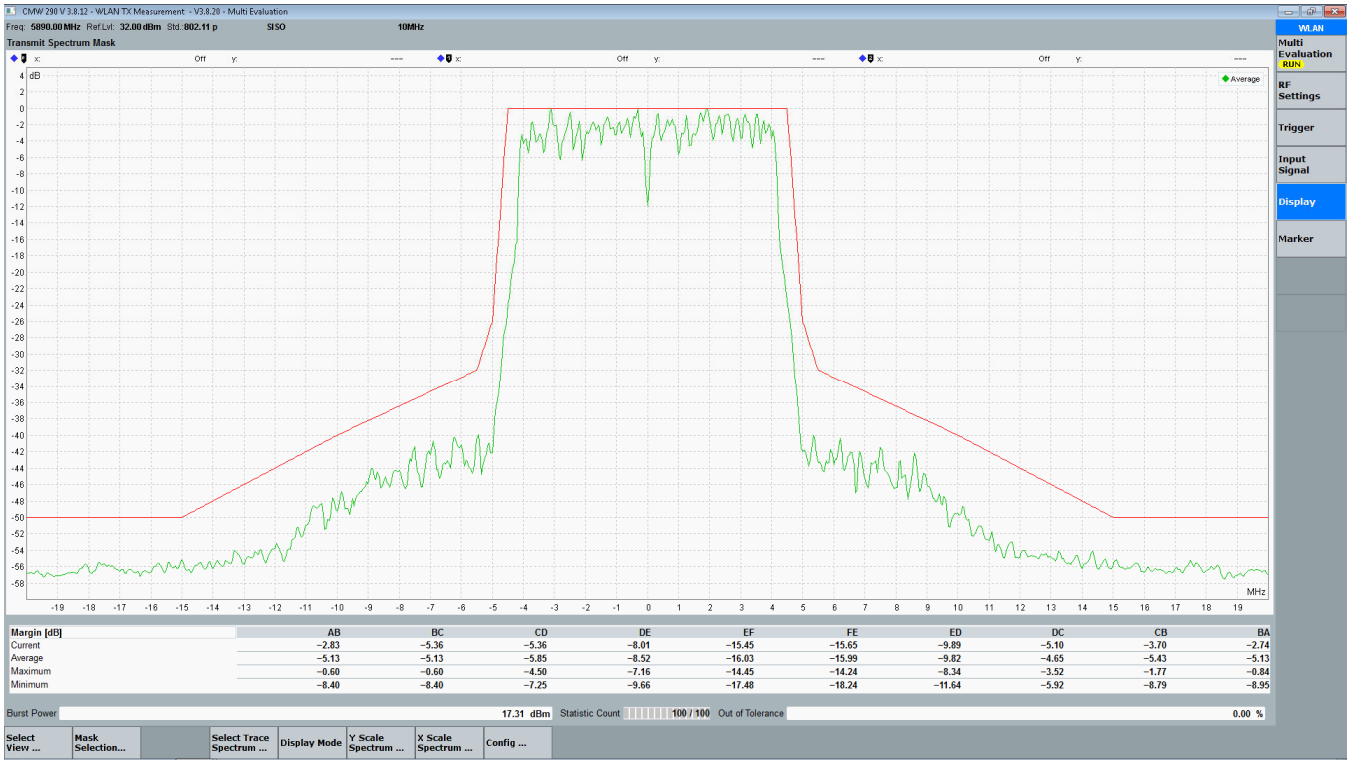
Transmitter spectrum mask within the 5 GHz ITS frequency band for 10 MHz channels SUBCLAUSE 8.10.6

Rated output power 27 dBm eirp (conducted measurement)

Measured Antenna: Secton 1, Channel 0 – data rate 27 MBps

Transmitter operating – 5890 MHz Modulated



LIMITS SUBCLAUSE 8.10.6

See page 47.

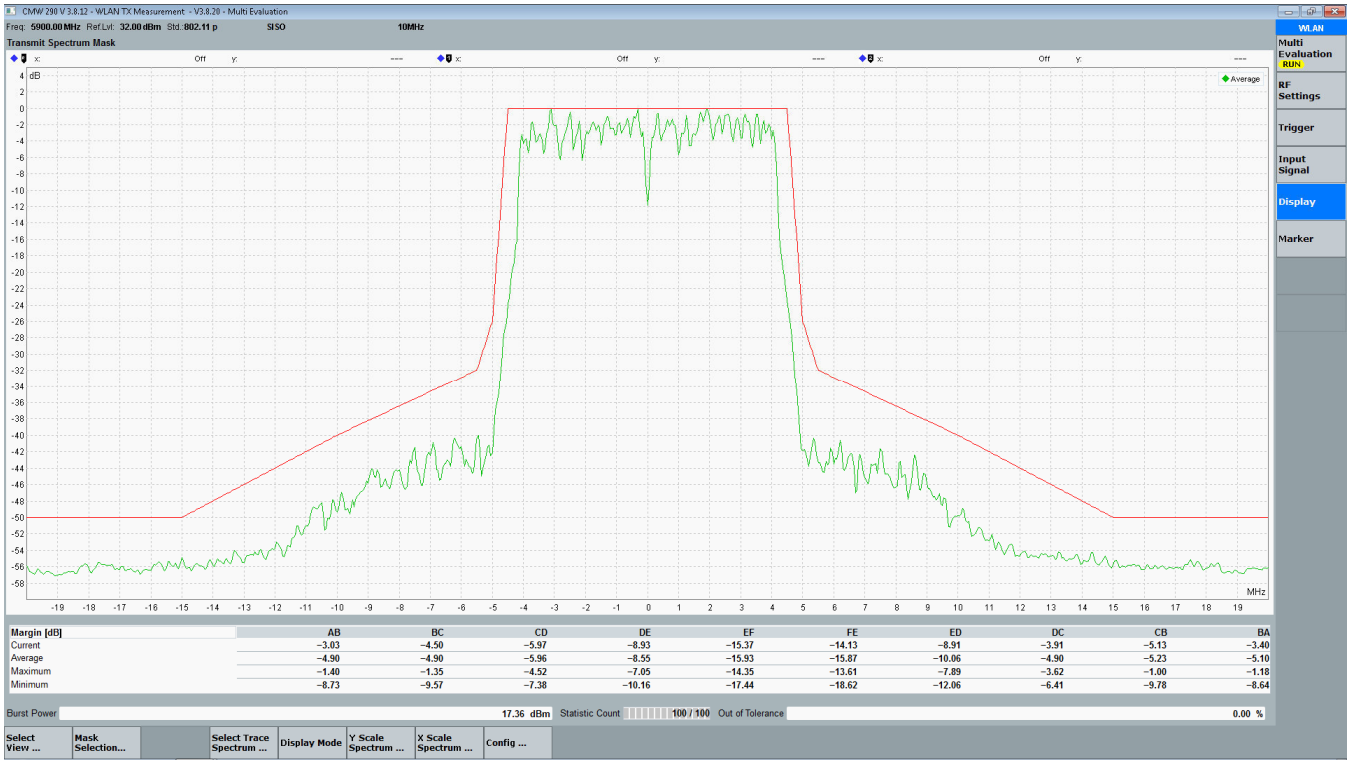
TEST EQUIPMENT USED: EMV-205

Transmitter spectrum mask within the 5 GHz ITS frequency band for 10 MHz channels SUBCLAUSE 8.10.6

Rated output power 23 dBm eirp (conducted measurement)

Measured Antenna: Secton 1, Channel 0 – data rate 27 MBps

Transmitter operating – 5900 MHz Modulated



LIMITS SUBCLAUSE 8.10.6

See page 47.

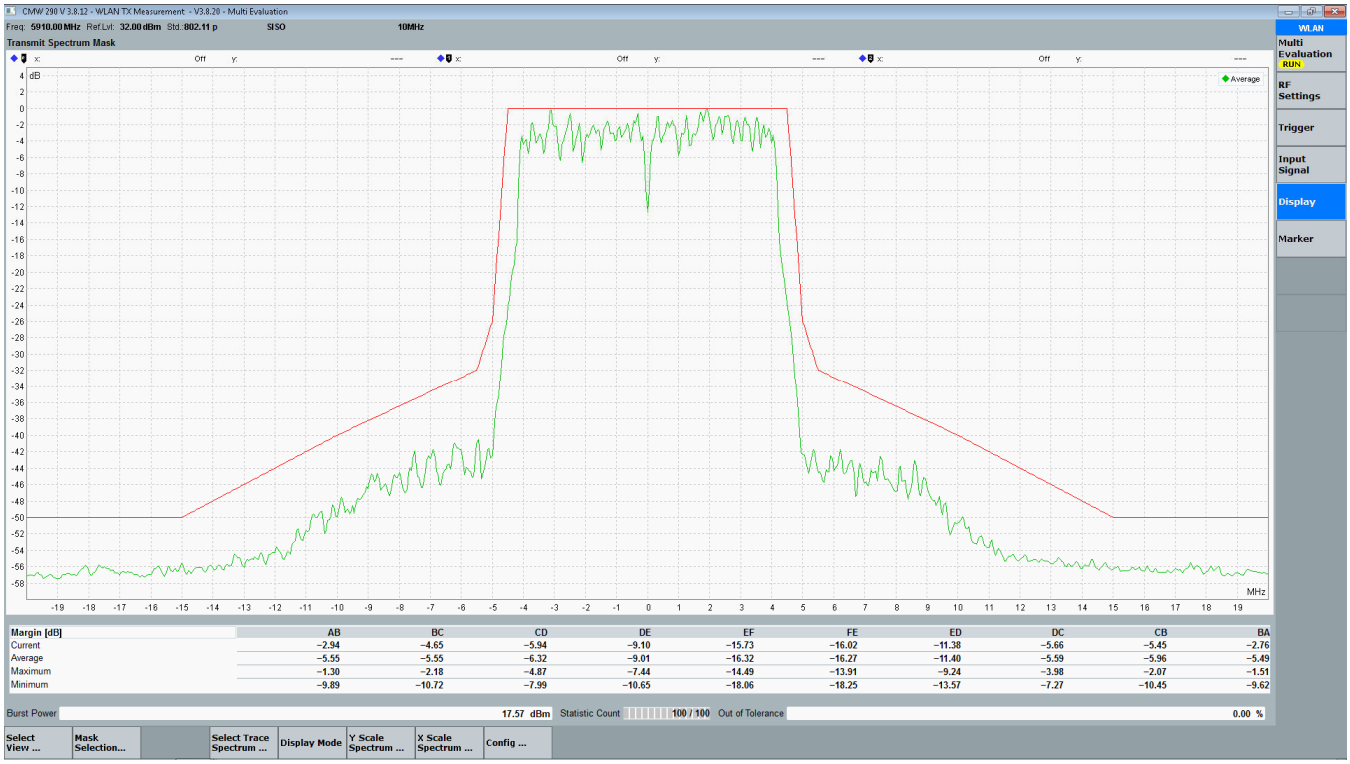
TEST EQUIPMENT USED: EMV-205

Transmitter spectrum mask within the 5 GHz ITS frequency band for 10 MHz channels SUBCLAUSE 8.10.6

Rated output power 23 dBm eirp (conducted measurement)

Measured Antenna: Secton 1, Channel 0 – data rate 27 MBps

Transmitter operating – 5910 MHz Modulated



LIMITS SUBCLAUSE 8.10.6

See page 47.

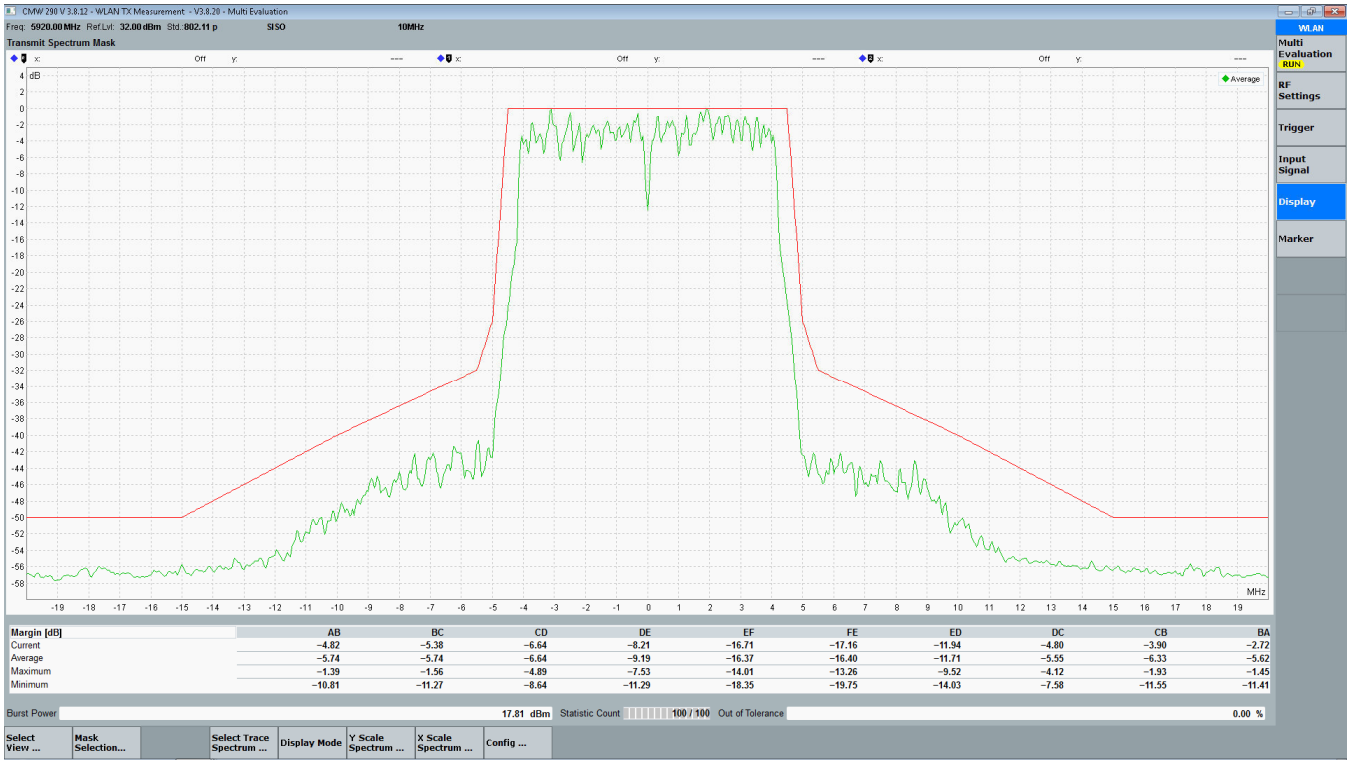
TEST EQUIPMENT USED: EMV-205

Transmitter spectrum mask within the 5 GHz ITS frequency band for 10 MHz channels SUBCLAUSE 8.10.6

Rated output power 27 dBm eirp (conducted measurement)

Measured Antenna: Secton 1, Channel 0 – data rate 27 MBps

Transmitter operating – 5920 MHz Modulated



LIMITS SUBCLAUSE 8.10.6

See page 47.

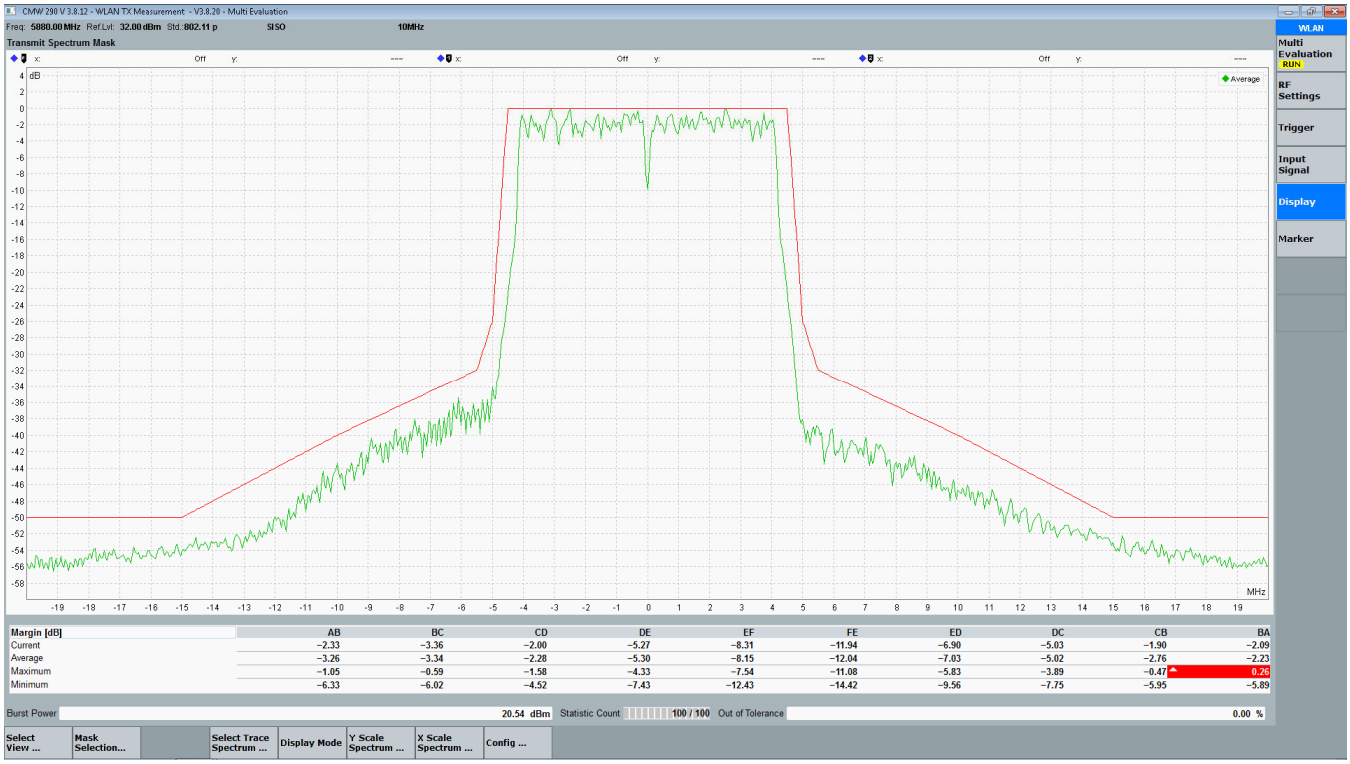
TEST EQUIPMENT USED: EMV-205

Transmitter spectrum mask within the 5 GHz ITS frequency band for 10 MHz channels SUBCLAUSE 8.10.6

Rated output power 27 dBm eirp (conducted measurement)

Measured Antenna: Secton 1, Channel 1 – data rate 27 MBps

Transmitter operating – 5880 MHz Modulated



LIMITS SUBCLAUSE 8.10.6

See page 47.

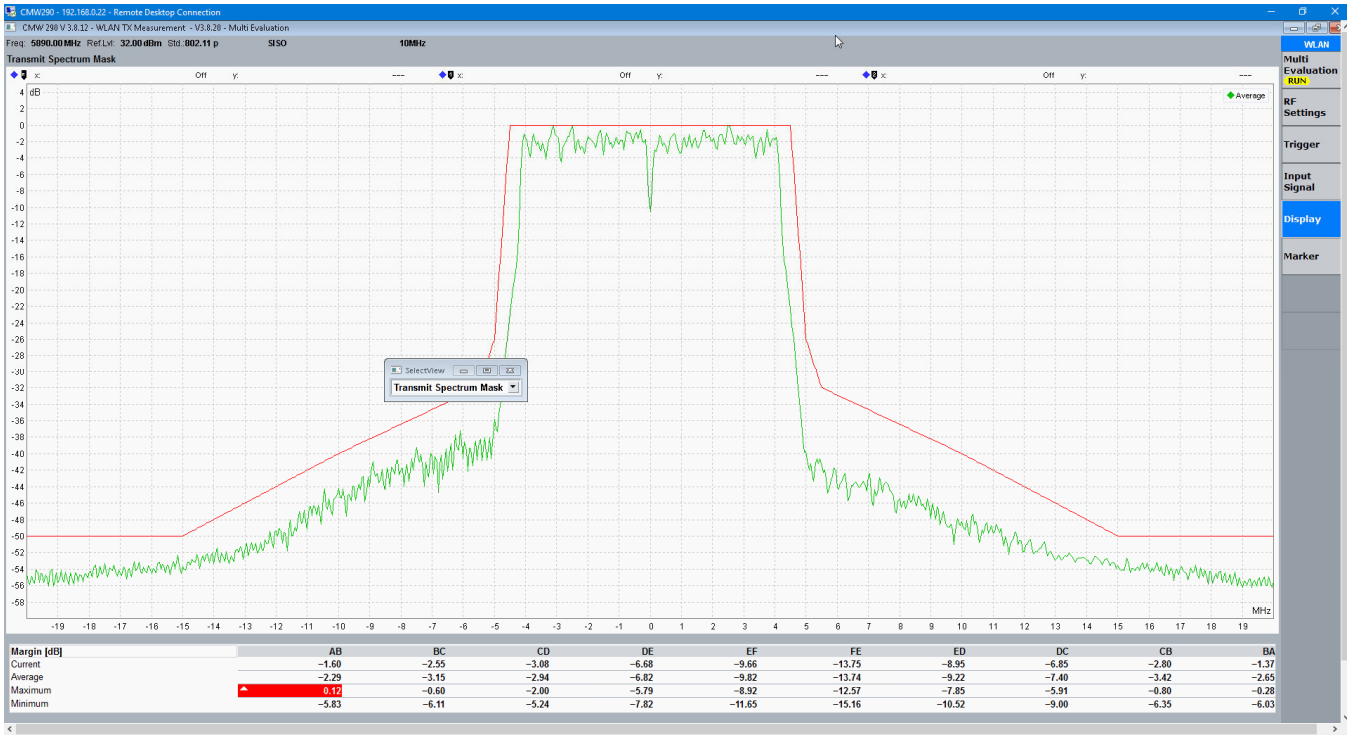
TEST EQUIPMENT USED: EMV-205

Transmitter spectrum mask within the 5 GHz ITS frequency band for 10 MHz channels SUBCLAUSE 8.10.6

Rated output power 27 dBm eirp (conducted measurement)

Measured Antenna: Secton 1, Channel 1 – data rate 27 MBps

Transmitter operating – 5890 MHz Modulated



Margin [dB]	AB	BC	CD	DE	EF	FE	ED	DC	CB	BA
Current	-1.60	-2.55	-3.08	-6.68	-9.66	-13.75	-8.95	-6.85	-2.80	-1.37
Average	-2.29	-3.15	-2.94	-6.82	-9.82	-13.74	-9.22	-7.40	-3.42	-2.65
Maximum	0.12	-0.60	-2.00	-5.79	-8.92	-12.57	-7.85	-5.91	-0.80	-0.28
Minimum	-5.83	-6.11	-5.24	-7.82	-11.65	-15.16	-10.52	-9.00	-6.35	-6.03

LIMITS SUBCLAUSE 8.10.6

See page 47.

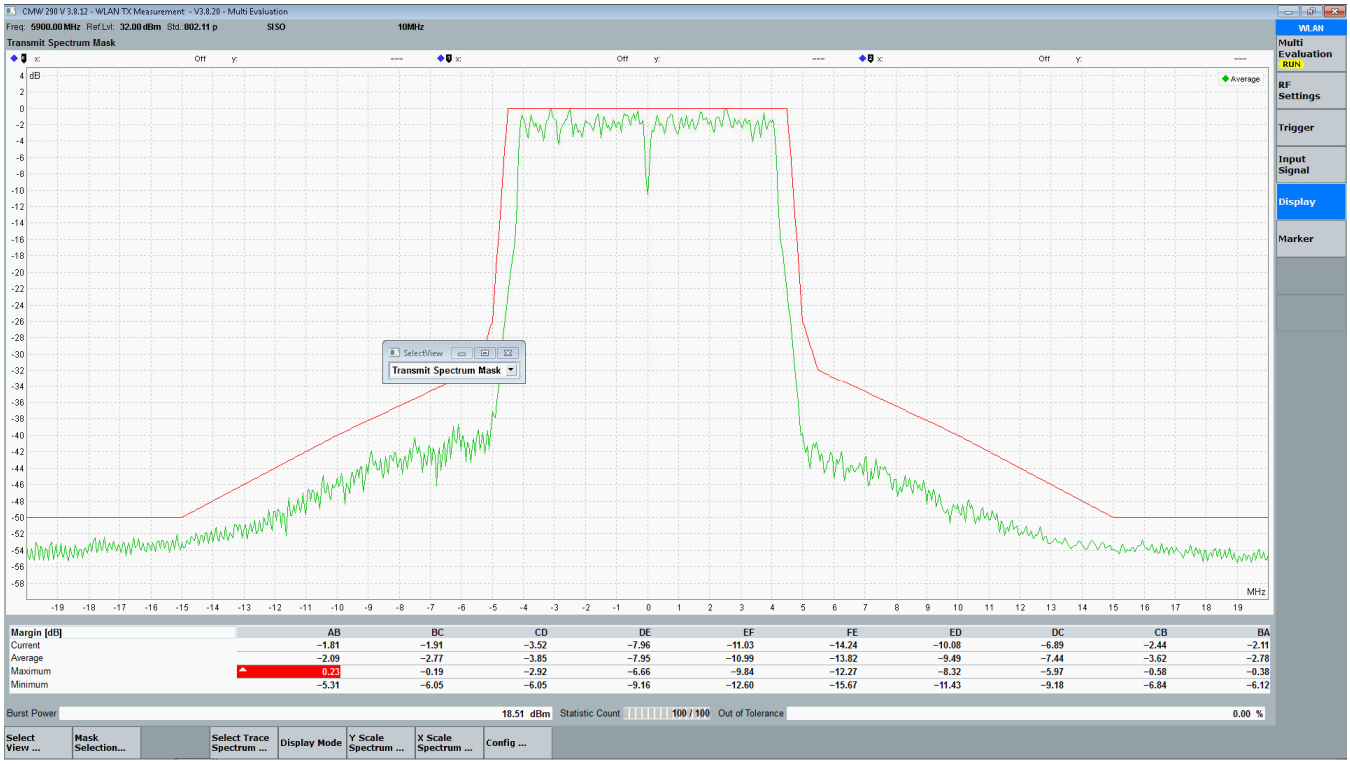
TEST EQUIPMENT USED: EMV-205

Transmitter spectrum mask within the 5 GHz ITS frequency band for 10 MHz channels SUBCLAUSE 8.10.6

Rated output power 23 dBm eirp (conducted measurement)

Measured Antenna: Secton 1, Channel 1 – data rate 27 MBps

Transmitter operating – 5900 MHz Modulated



LIMITS SUBCLAUSE 8.10.6

See page 47.

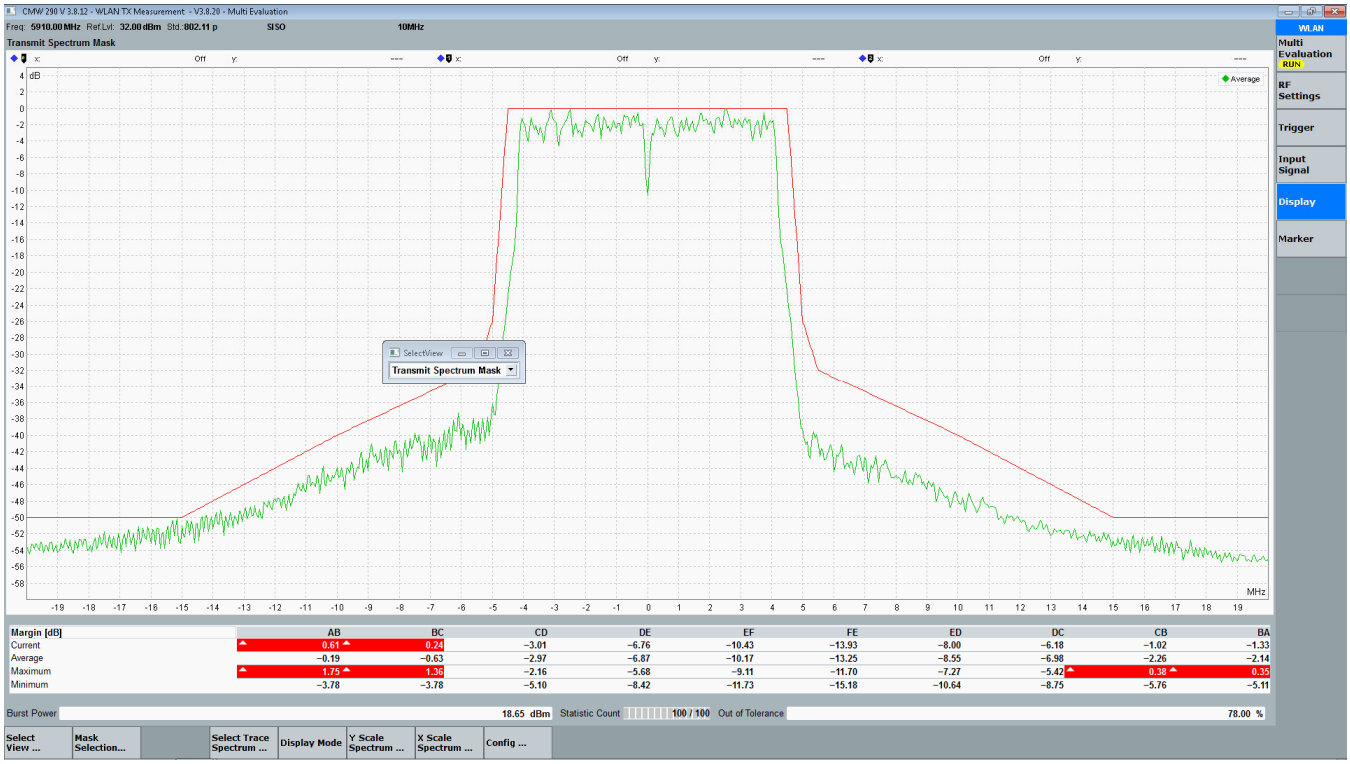
TEST EQUIPMENT USED: EMV-205

Transmitter spectrum mask within the 5 GHz ITS frequency band for 10 MHz channels SUBCLAUSE 8.10.6

Rated output power 23 dBm eirp (conducted measurement)

Measured Antenna: Secton 1, Channel 1 – data rate 27 MBps

Transmitter operating – 5910 MHz Modulated



LIMITS SUBCLAUSE 8.10.6

See page 47.

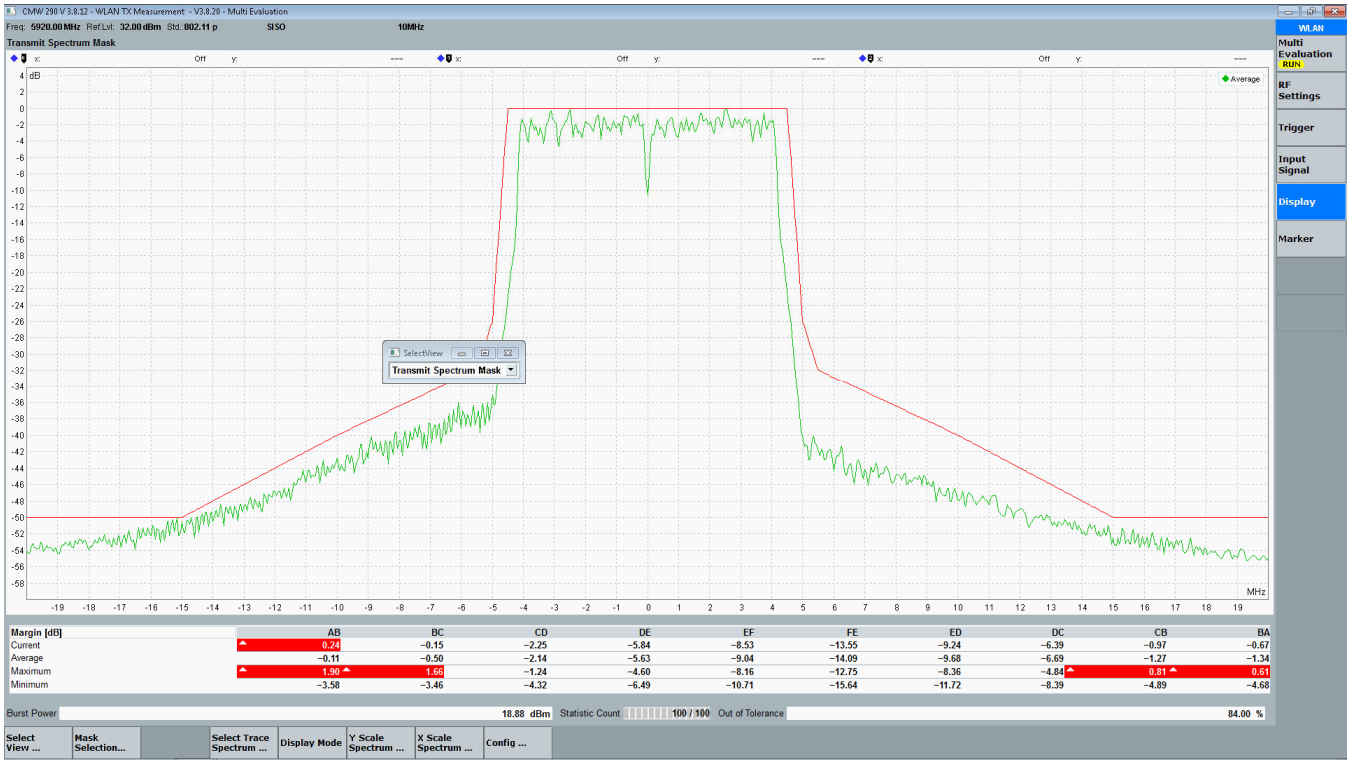
TEST EQUIPMENT USED: EMV-205

Transmitter spectrum mask within the 5 GHz ITS frequency band for 10 MHz channels SUBCLAUSE 8.10.6

Rated output power 27 dBm eirp (conducted measurement)

Measured Antenna: Secton 1, Channel 1 – data rate 27 MBps

Transmitter operating – 5920 MHz Modulated



LIMITS SUBCLAUSE 8.10.6

See page 47.

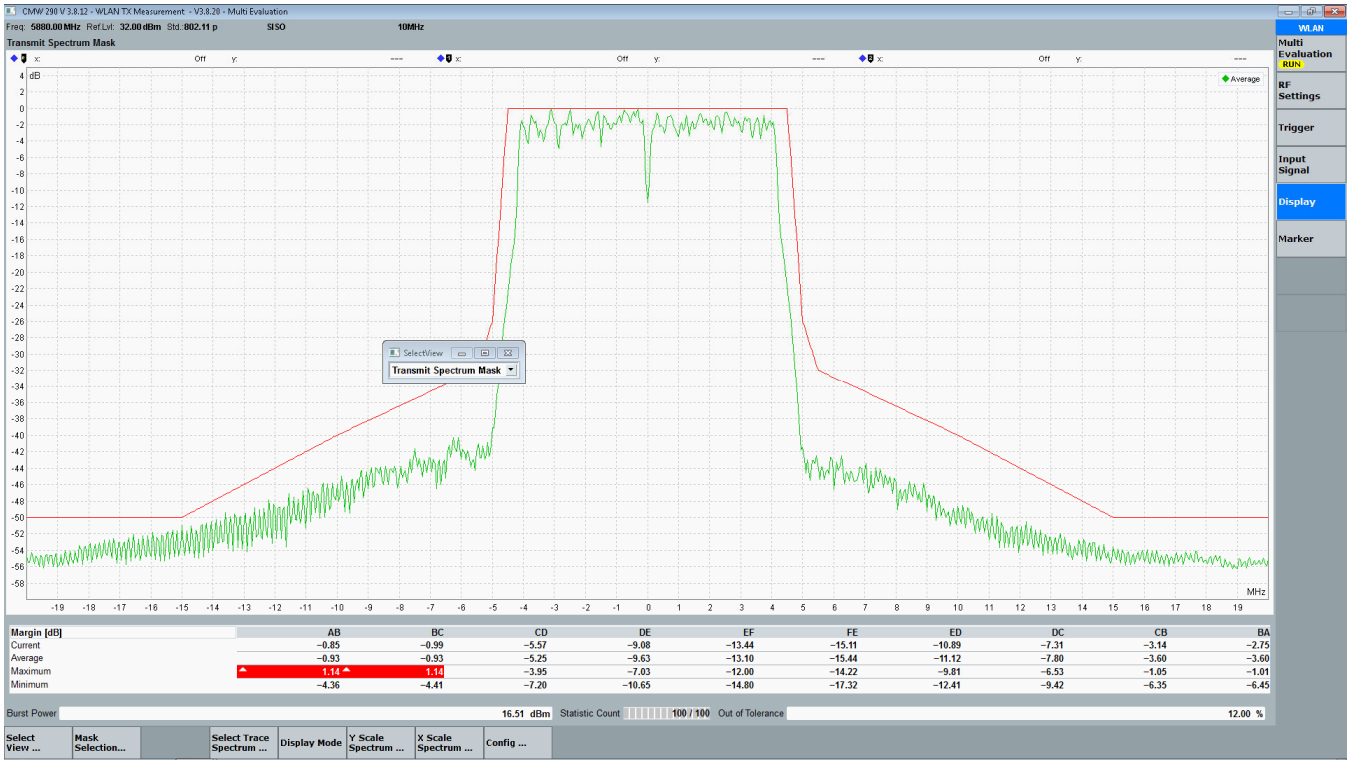
TEST EQUIPMENT USED: EMV-205

Transmitter spectrum mask within the 5 GHz ITS frequency band for 10 MHz channels SUBCLAUSE 8.10.6

Rated output power 27 dBm eirp (conducted measurement)

Measured Antenna: Secton 2, Channel 0 – data rate 27 MBps

Transmitter operating – 5880 MHz Modulated



LIMITS SUBCLAUSE 8.10.6

See page 47.

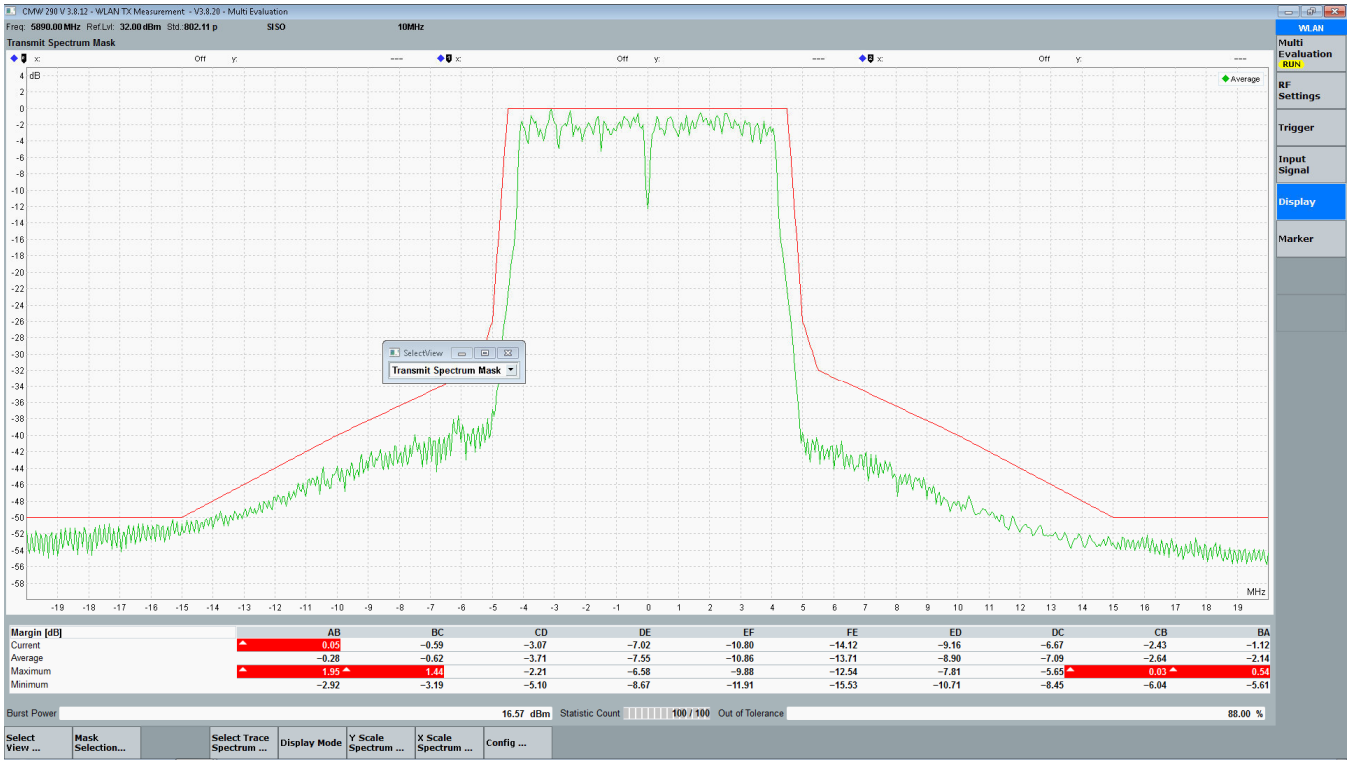
TEST EQUIPMENT USED: EMV-205

Transmitter spectrum mask within the 5 GHz ITS frequency band for 10 MHz channels SUBCLAUSE 8.10.6

Rated output power 27 dBm eirp (conducted measurement)

Measured Antenna: Secton 2, Channel 0 – data rate 27 MBps

Transmitter operating – 5890 MHz Modulated



LIMITS SUBCLAUSE 8.10.6

See page 47.

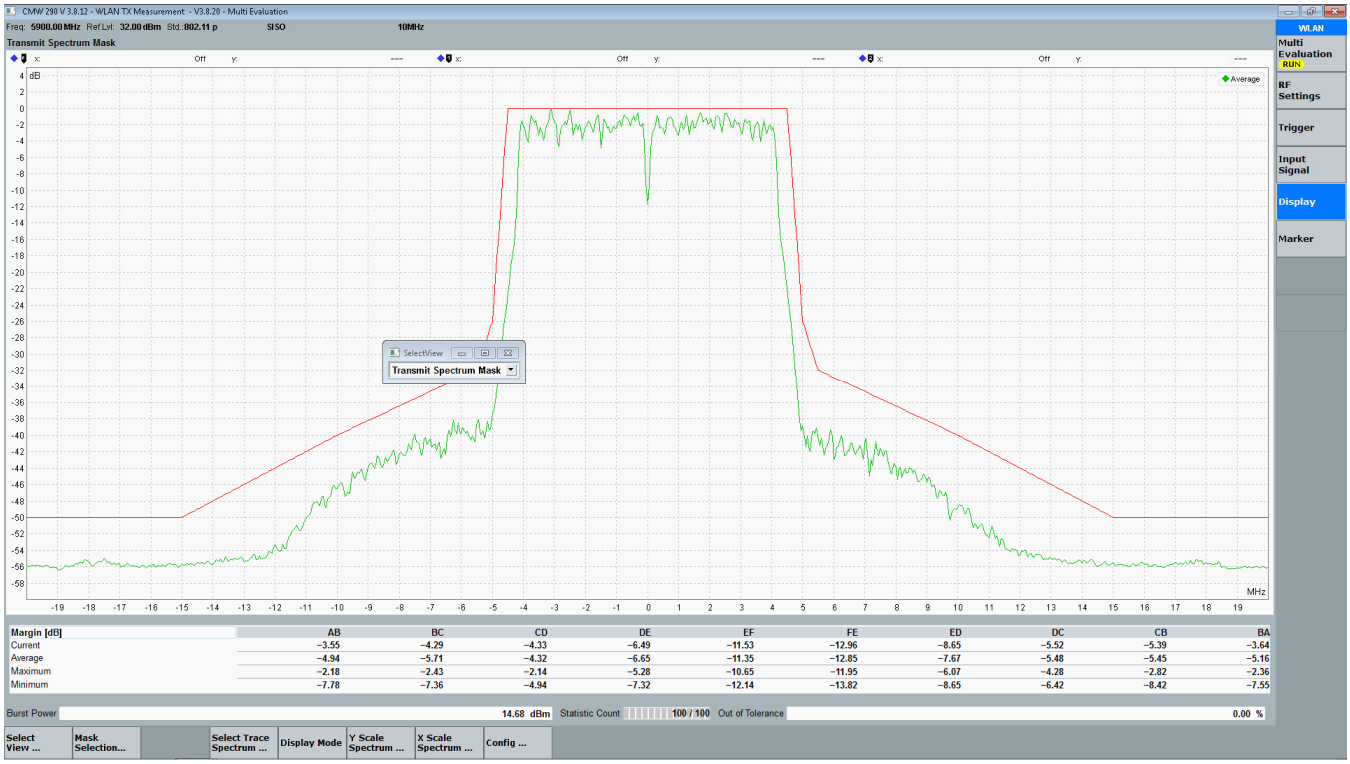
TEST EQUIPMENT USED: EMV-205

Transmitter spectrum mask within the 5 GHz ITS frequency band for 10 MHz channels SUBCLAUSE 8.10.6

Rated output power 23 dBm eirp (conducted measurement)

Measured Antenna: Secton 2, Channel 0 – data rate 27 MBps

Transmitter operating – 5900 MHz Modulated



LIMITS SUBCLAUSE 8.10.6

See page 47.

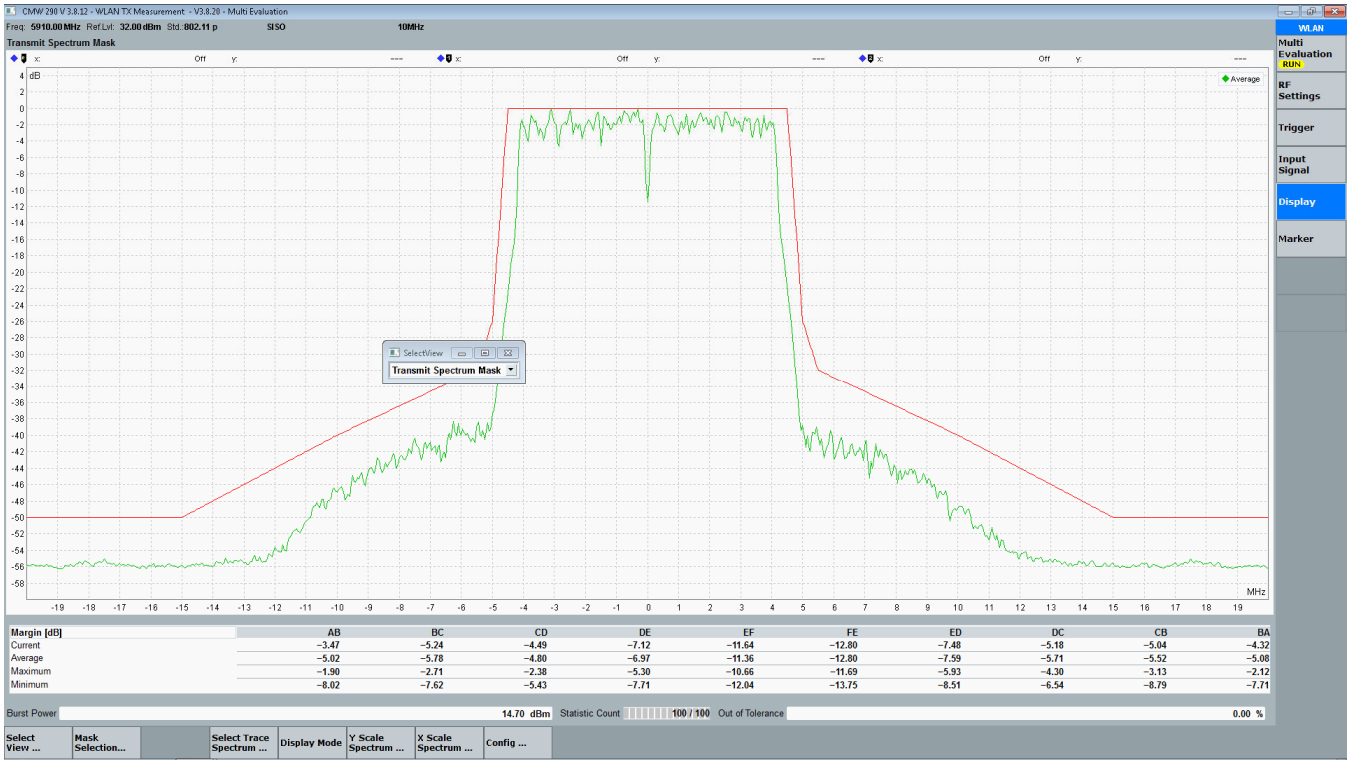
TEST EQUIPMENT USED: EMV-205

Transmitter spectrum mask within the 5 GHz ITS frequency band for 10 MHz channels SUBCLAUSE 8.10.6

Rated output power 23 dBm eirp (conducted measurement)

Measured Antenna: Secton 2, Channel 0 – data rate 27 MBps

Transmitter operating – 5910 MHz Modulated



LIMITS SUBCLAUSE 8.10.6

See page 47.

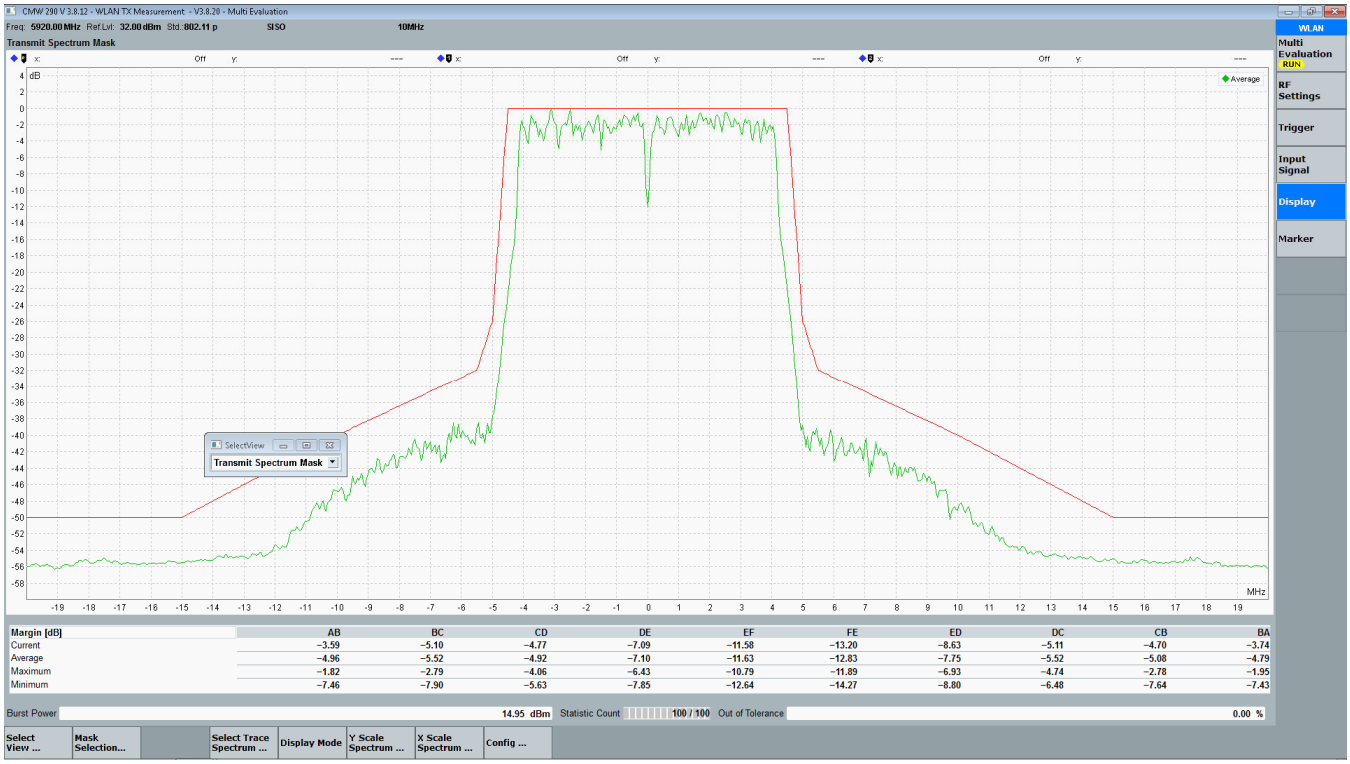
TEST EQUIPMENT USED: EMV-205

Transmitter spectrum mask within the 5 GHz ITS frequency band for 10 MHz channels SUBCLAUSE 8.10.6

Rated output power 27 dBm eirp (conducted measurement)

Measured Antenna: Secton 2, Channel 0 – data rate 27 MBps

Transmitter operating – 5920 MHz Modulated



LIMITS SUBCLAUSE 8.10.6

See page 47.

TEST EQUIPMENT USED: EMV-205

4.5 Receiver spurious emissions SUBCLAUSE 15.209

LIMITS SUBCLAUSE 15.209

Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
0.009–0.490	2400/F(kHz)	300
0.490–1.705	24000/F(kHz)	30
1.705–30.0	30	30
30–88	100**	3
88–216	150**	3
216–960	200**	3
Above 960	500	3

Receiver spurious emissions **SUBCLAUSE 15.209**

radiated measurement

Measured Antenna: Secton 1 receiving on 5880 MHz, Secton 2 receiving on 5900 MHz

Receivers operating

Frequency [MHz]	Final Result QP [dBµV/m]
30,18	38,5

LIMITS **SUBCLAUSE 15.209**

See page 78.

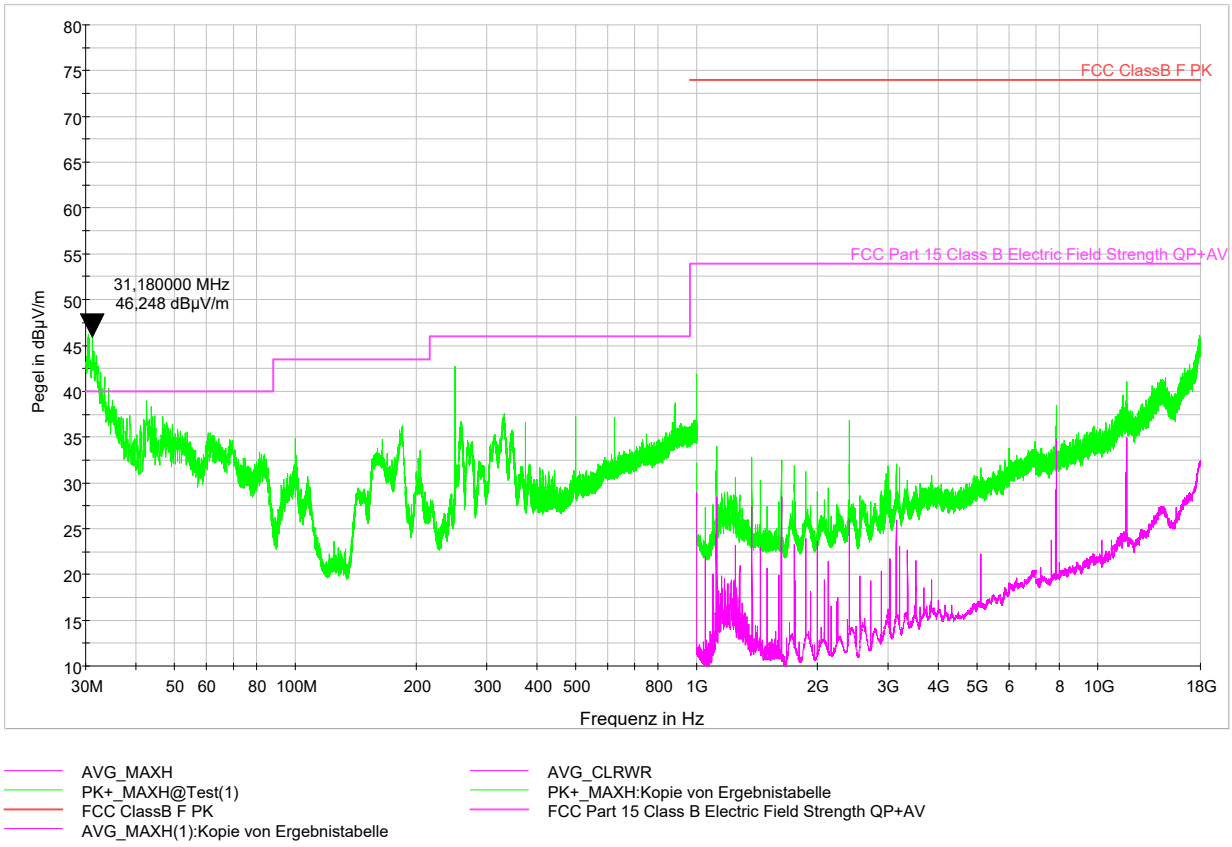
TEST EQUIPMENT USED: EMV-100; EMV-101; EMV-102; EMV-103; EMV-110; EMV-111; EMV-112; EMV-200; EMV-202

Receiver spurious emissions **SUBCLAUSE 15.209**

radiated measurement

Measured Antenna: Secton 1 receiving on 5890 MHz, Secton 2 receiving on 5910 MHz

Receivers operating



Frequency [MHz]	Final Result QP [dBµV/m]
30,43	38,4
42,64	37,5

LIMITS **SUBCLAUSE 15.209**

See page 78.

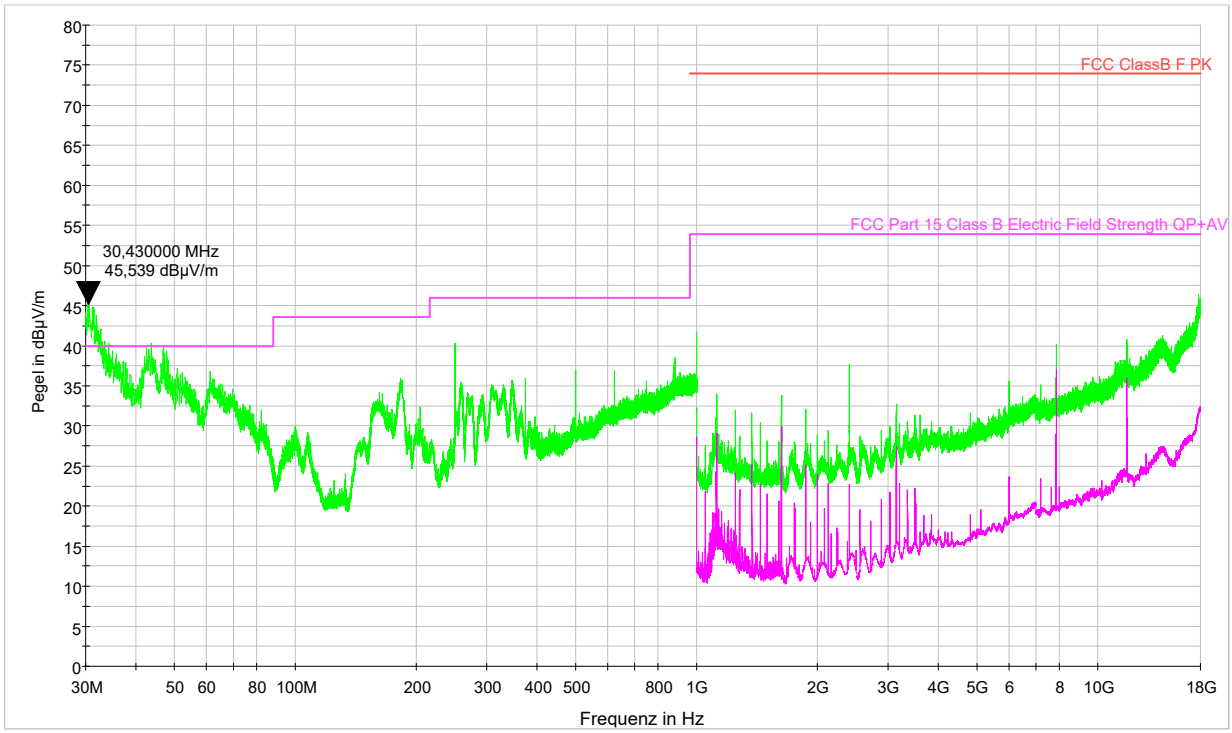
TEST EQUIPMENT USED: EMV-100; EMV-101; EMV-102; EMV-103; EMV-110; EMV-111; EMV-112; EMV-200; EMV-202

Receiver spurious emissions **SUBCLAUSE 15.209**

radiated measurement

Measured Antenna: Secton 1 receiving on 5900 MHz, Secton 2 receiving on 5920 MHz

Receivers operating



Frequency [MHz]	Final Result QP [dBµV/m]
30,4	38,7
41,53	35,6

LIMITS **SUBCLAUSE 15.209**

See page 78.

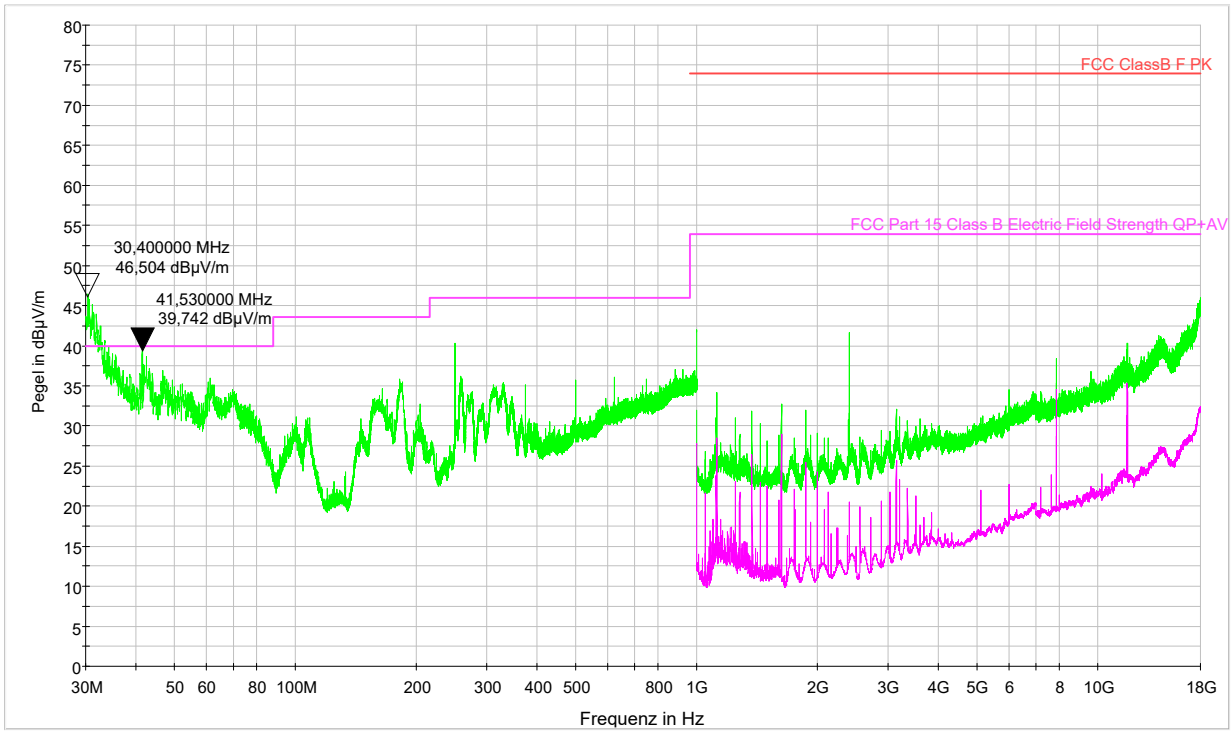
TEST EQUIPMENT USED: EMV-100; EMV-101; EMV-102; EMV-103; EMV-110; EMV-111; EMV-112; EMV-200; EMV-202

Receiver spurious emissions **SUBCLAUSE 15.209**

radiated measurement

Measured Antenna: Secton 1 receiving on 5910 MHz, Secton 2 receiving on 5880 MHz

Receivers operating



Frequency [MHz]	Final Result QP [dBµV/m]
30,4	38,7
41,53	35,6

LIMITS **SUBCLAUSE 15.209**

See page 78.

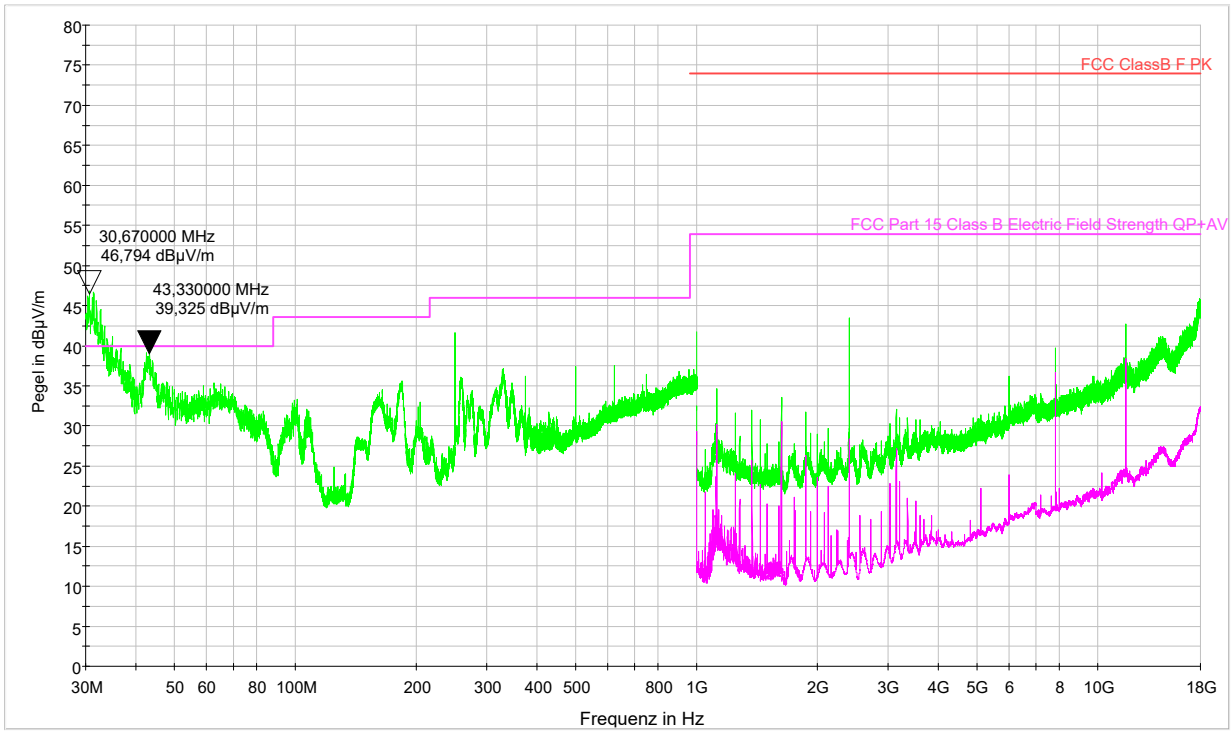
TEST EQUIPMENT USED: EMV-100; EMV-101; EMV-102; EMV-103; EMV-110; EMV-111; EMV-112; EMV-200; EMV-202

Receiver spurious emissions **SUBCLAUSE 15.209**

radiated measurement

Measured Antenna: Secton 1 receiving on 5920 MHz, Secton 2 receiving on 5890 MHz

Receivers operating



AVG_MAXH
PK+_MAXH@Test(1)
FCC ClassB F PK
AVG_MAXH(1):Kopie von Ergebnistabelle
AVG_CLRWR
PK+_MAXH:Kopie von Ergebnistabelle
FCC Part 15 Class B Electric Field Strength QP+AV

Frequency [MHz]	Final Result QP [dBµV/m]
30,67	38,9
43,33	34,56

LIMITS **SUBCLAUSE 15.209**

See page 78.

TEST EQUIPMENT USED: EMV-100; EMV-101; EMV-102; EMV-103; EMV-110; EMV-111; EMV-112; EMV-200; EMV-202

4.6 Receiver selectivity **SUBCLAUSE 8.11.2**

Conducted measurement

Adjacent channel rejection – higher adjacent channel

Measured Antenna: Secton 1, Channel 0

Test conditions	Adjacent channel rejection ratio (dB)						
	5860 MHz	5870 MHz	5880 MHz	5890 MHz	5900 MHz	5910 MHz	5920 MHz
BPSK 1/2			51	47	49	51	50
BPSK 3/4			49	47	48	50	49
QPSK 1/2			48	46	47	49	48
QPSK 3/4			46	44	45	47	45
16-QAM 1/2			43	40	41	43	42
16-QAM 3/4			40	38	39	40	38
64-QAM 2/3			36	34	35	35	35
64-QAM 3/4			35	33	33	34	34
Measurement uncertainty	± 1 dB						

LIMIT **SUBCLAUSE 8.11.2**

TABLE 12 Type 1 Receiver Performance Requirements[A]

Data Rate, Mbits/s	Minimum Sensitivity, dBm	Adjacent Channel Rejection, dB	Alternate Adjacent Channel Rejection, dB
3	-85	18	34
4.5	-84	17	33
6	-82	16	32
9	-80	15	31
12	-77	13	29
18	-70	11	27
24	-69	8	24
27	-67	4	20

[A] From IEEE 802.11a. Copyright 1999 IEEE. All rights reserved.

Measuring equipment used: EMV-100; NT-313/1; EMV-205; NT-429; Second radio as normal source

Receiver selectivity **SUBCLAUSE 8.11.2**

Conducted measurement

Adjacent channel rejection – lower adjacent channel

Measured Antenna: Secton 1, Channel 0

Test conditions	Adjacent channel rejection ratio (dB)						
	5860 MHz	5870 MHz	5880 MHz	5890 MHz	5900 MHz	5910 MHz	5920 MHz
BPSK 1/2			52	48	50	52	49
BPSK 3/4			50	48	49	51	48
QPSK 1/2			49	47	49	50	48
QPSK 3/4			47	45	46	48	45
16-QAM 1/2			44	41	43	44	42
16-QAM 3/4			41	39	40	41	38
64-QAM 2/3			37	35	36	36	35
64-QAM 3/4			35	34	35	35	34
Measurement uncertainty	± 1 dB						

LIMIT **SUBCLAUSE 8.11.2**

TABLE 12 Type 1 Receiver Performance Requirements[A]

Data Rate, Mbits/s	Minimum Sensitivity, dBm	Adjacent Channel Rejection, dB	Alternate Adjacent Channel Rejection, dB
3	-85	18	34
4.5	-84	17	33
6	-82	16	32
9	-80	15	31
12	-77	13	29
18	-70	11	27
24	-69	8	24
27	-67	4	20

[A] From IEEE 802.11a. Copyright 1999 IEEE. All rights reserved.

Measuring equipment used: EMV-100; NT-313/1; EMV-205; NT-429; Second radio as normal source

Receiver selectivity **SUBCLAUSE 8.11.2**

Conducted measurement

Adjacent channel rejection – higher adjacent channel

Measured Antenna: Secton 1, Channel 1

Test conditions	Adjacent channel rejection ratio (dB)						
	5860 MHz	5870 MHz	5880 MHz	5890 MHz	5900 MHz	5910 MHz	5920 MHz
BPSK 1/2			50	48	49	51	49
BPSK 3/4			49	47	49	50	48
QPSK 1/2			48	48	50	49	47
QPSK 3/4			46	45	46	47	45
16-QAM 1/2			43	41	42	43	42
16-QAM 3/4			40	39	39	40	38
64-QAM 2/3			35	35	35	35	35
64-QAM 3/4			34	34	34	34	34
Measurement uncertainty	± 1 dB						

LIMIT **SUBCLAUSE 8.11.2**

TABLE 12 Type 1 Receiver Performance Requirements[A]

Data Rate, Mbits/s	Minimum Sensitivity, dBm	Adjacent Channel Rejection, dB	Alternate Adjacent Channel Rejection, dB
3	-85	18	34
4.5	-84	17	33
6	-82	16	32
9	-80	15	31
12	-77	13	29
18	-70	11	27
24	-69	8	24
27	-67	4	20

[A] From IEEE 802.11a. Copyright 1999 IEEE. All rights reserved.

Measuring equipment used: EMV-100; NT-313/1; EMV-205; NT-429; Second radio as normal source

Receiver selectivity **SUBCLAUSE 8.11.2**

Conducted measurement

Adjacent channel rejection – lower adjacent channel

Measured Antenna: Secton 1, Channel 1

Test conditions	Adjacent channel rejection ratio (dB)						
	5860 MHz	5870 MHz	5880 MHz	5890 MHz	5900 MHz	5910 MHz	5920 MHz
BPSK 1/2			50	48	49	51	49
BPSK 3/4			50	48	49	51	49
QPSK 1/2			49	48	50	50	48
QPSK 3/4			47	45	46	48	46
16-QAM 1/2			44	41	42	44	42
16-QAM 3/4			40	39	39	41	39
64-QAM 2/3			36	35	35	36	35
64-QAM 3/4			35	34	34	35	35
Measurement uncertainty	± 1 dB						

LIMIT **SUBCLAUSE 8.11.2**

TABLE 12 Type 1 Receiver Performance Requirements[A]

Data Rate, Mbits/s	Minimum Sensitivity, dBm	Adjacent Channel Rejection, dB	Alternate Adjacent Channel Rejection, dB
3	-85	18	34
4.5	-84	17	33
6	-82	16	32
9	-80	15	31
12	-77	13	29
18	-70	11	27
24	-69	8	24
27	-67	4	20

[A] From IEEE 802.11a. Copyright 1999 IEEE. All rights reserved.

Measuring equipment used: EMV-100; NT-313/1; EMV-205; NT-429; Second radio as normal source

Receiver selectivity **SUBCLAUSE 8.11.2**

Conducted measurement

Adjacent channel rejection – higher adjacent channel

Measured Antenna: Secton 2, Channel 0

Test conditions	Adjacent channel rejection ratio (dB)						
	5860 MHz	5870 MHz	5880 MHz	5890 MHz	5900 MHz	5910 MHz	5920 MHz
BPSK 1/2			50	48	50	49	49
BPSK 3/4			49	47	49	48	49
QPSK 1/2			49	47	48	47	49
QPSK 3/4			46	44	46	45	46
16-QAM 1/2			43	41	42	45	43
16-QAM 3/4			41	39	40	39	40
64-QAM 2/3			37	35	36	35	36
64-QAM 3/4			35	33	35	34	34
Measurement uncertainty	± 1 dB						

LIMIT **SUBCLAUSE 8.11.2**

TABLE 12 Type 1 Receiver Performance Requirements[A]

Data Rate, Mbits/s	Minimum Sensitivity, dBm	Adjacent Channel Rejection, dB	Alternate Adjacent Channel Rejection, dB
3	-85	18	34
4.5	-84	17	33
6	-82	16	32
9	-80	15	31
12	-77	13	29
18	-70	11	27
24	-69	8	24
27	-67	4	20

[A] From IEEE 802.11a. Copyright 1999 IEEE. All rights reserved.

Measuring equipment used: EMV-100; NT-313/1; EMV-205; NT-429; Second radio as normal source

Receiver selectivity **SUBCLAUSE 8.11.2**

Conducted measurement

Adjacent channel rejection – lower adjacent channel

Measured Antenna: Secton 2, Channel 0

Test conditions	Adjacent channel rejection ratio (dB)						
	5860 MHz	5870 MHz	5880 MHz	5890 MHz	5900 MHz	5910 MHz	5920 MHz
BPSK 1/2			50	48	50	49	49
BPSK 3/4			50	48	50	48	48
QPSK 1/2			50	47	49	48	48
QPSK 3/4			47	45	46	45	45
16-QAM 1/2			44	42	43	46	42
16-QAM 3/4			42	40	41	40	40
64-QAM 2/3			38	36	37	36	36
64-QAM 3/4			36	34	35	34	34
Measurement uncertainty	± 1 dB						

LIMIT **SUBCLAUSE 8.11.2**

TABLE 12 Type 1 Receiver Performance Requirements[A]

Data Rate, Mbits/s	Minimum Sensitivity, dBm	Adjacent Channel Rejection, dB	Alternate Adjacent Channel Rejection, dB
3	-85	18	34
4.5	-84	17	33
6	-82	16	32
9	-80	15	31
12	-77	13	29
18	-70	11	27
24	-69	8	24
27	-67	4	20

[A] From IEEE 802.11a. Copyright 1999 IEEE. All rights reserved.

Measuring equipment used: EMV-100; NT-313/1; EMV-205; NT-429; Second radio as normal source

4.7 Receiver selectivity SUBCLAUSE 8.11.3

Conducted measurement

Alternate channel rejection – higher alternate channel

Measured Antenna: Secton 1, Channel 0

Test conditions	Alternate channel rejection ratio (dB)						
	5860 MHz	5870 MHz	5880 MHz	5890 MHz	5900 MHz	5910 MHz	5920 MHz
BPSK 1/2			56	53	54	57	56
BPSK 3/4			54	52	54	56	55
QPSK 1/2			53	51	53	55	54
QPSK 3/4			51	49	50	53	52
16-QAM 1/2			48	45	47	49	49
16-QAM 3/4			45	43	44	47	46
64-QAM 2/3			41	39	40	42	42
64-QAM 3/4			40	38	39	41	41
Measurement uncertainty	± 1 dB						

LIMIT **SUBCLAUSE 8.11.3**

TABLE 12 Type 1 Receiver Performance Requirements[A]

Data Rate, Mbits/s	Minimum Sensitivity, dBm	Adjacent Channel Rejection, dB	Alternate Adjacent Channel Rejection, dB
3	-85	18	34
4.5	-84	17	33
6	-82	16	32
9	-80	15	31
12	-77	13	29
18	-70	11	27
24	-69	8	24
27	-67	4	20

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Measuring equipment used: EMV-100; NT-313/1; EMV-205; NT-429; Second radio as normal source

Receiver selectivity **SUBCLAUSE 8.11.3**

Conducted measurement

Alternate channel rejection – lower alternate channel

Measured Antenna: Secton 1, Channel 0

Test conditions	Alternate channel rejection ratio (dB)						
	5860 MHz	5870 MHz	5880 MHz	5890 MHz	5900 MHz	5910 MHz	5920 MHz
BPSK 1/2			57	55	56	57	55
BPSK 3/4			56	54	55	57	55
QPSK 1/2			55	53	54	56	54
QPSK 3/4			53	51	52	53	51
16-QAM 1/2			50	47	48	50	48
16-QAM 3/4			47	45	46	47	45
64-QAM 2/3			43	41	42	43	41
64-QAM 3/4			42	40	40	42	40
Measurement uncertainty	± 1 dB						

LIMIT **SUBCLAUSE 8.11.3**

TABLE 12 Type 1 Receiver Performance Requirements[A]

Data Rate, Mbits/s	Minimum Sensitivity, dBm	Adjacent Channel Rejection, dB	Alternate Adjacent Channel Rejection, dB
3	-85	18	34
4.5	-84	17	33
6	-82	16	32
9	-80	15	31
12	-77	13	29
18	-70	11	27
24	-69	8	24
27	-67	4	20

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Measuring equipment used: EMV-100; NT-313/1; EMV-205; NT-429; Second radio as normal source

Receiver selectivity **SUBCLAUSE 8.11.3**

Conducted measurement

Alternate channel rejection – higher alternate channel

Measured Antenna: Secton 1, Channel 1

Test conditions	Alternate channel rejection ratio (dB)						
	5860 MHz	5870 MHz	5880 MHz	5890 MHz	5900 MHz	5910 MHz	5920 MHz
BPSK 1/2			56	54	54	56	55
BPSK 3/4			55	53	53	55	54
QPSK 1/2			54	54	54	54	53
QPSK 3/4			52	50	50	52	51
16-QAM 1/2			48	46	46	48	48
16-QAM 3/4			45	44	44	46	45
64-QAM 2/3			41	40	40	41	41
64-QAM 3/4			40	39	39	40	40
Measurement uncertainty	± 1 dB						

LIMIT **SUBCLAUSE 8.11.3**

TABLE 12 Type 1 Receiver Performance Requirements[A]

Data Rate, Mbits/s	Minimum Sensitivity, dBm	Adjacent Channel Rejection, dB	Alternate Adjacent Channel Rejection, dB
3	-85	18	34
4.5	-84	17	33
6	-82	16	32
9	-80	15	31
12	-77	13	29
18	-70	11	27
24	-69	8	24
27	-67	4	20

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Measuring equipment used: EMV-100; NT-313/1; EMV-205; NT-429; Second radio as normal source

Receiver selectivity **SUBCLAUSE 8.11.3**

Conducted measurement

Alternate channel rejection – lower alternate channel

Measured Antenna: Secton 1, Channel 1

Test conditions	Alternate channel rejection ratio (dB)						
	5860 MHz	5870 MHz	5880 MHz	5890 MHz	5900 MHz	5910 MHz	5920 MHz
BPSK 1/2			56	55	55	57	56
BPSK 3/4			56	54	54	56	55
QPSK 1/2			55	55	56	55	54
QPSK 3/4			52	51	51	53	52
16-QAM 1/2			49	47	47	50	49
16-QAM 3/4			46	45	45	46	45
64-QAM 2/3			42	41	41	42	42
64-QAM 3/4			41	39	40	40	40
Measurement uncertainty	± 1 dB						

LIMIT **SUBCLAUSE 8.11.3**

TABLE 12 Type 1 Receiver Performance Requirements[A]

Data Rate, Mbits/s	Minimum Sensitivity, dBm	Adjacent Channel Rejection, dB	Alternate Adjacent Channel Rejection, dB
3	-85	18	34
4.5	-84	17	33
6	-82	16	32
9	-80	15	31
12	-77	13	29
18	-70	11	27
24	-69	8	24
27	-67	4	20

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Measuring equipment used: EMV-100; NT-313/1; EMV-205; NT-429; Second radio as normal source

Receiver selectivity **SUBCLAUSE 8.11.3**

Conducted measurement

Alternate channel rejection – higher alternate channel

Measured Antenna: Secton 2, Channel 0

Test conditions	Alternate channel rejection ratio (dB)						
	5860 MHz	5870 MHz	5880 MHz	5890 MHz	5900 MHz	5910 MHz	5920 MHz
BPSK 1/2			55	53	55	56	56
BPSK 3/4			54	52	54	55	56
QPSK 1/2			54	52	54	54	55
QPSK 3/4			51	50	51	52	53
16-QAM 1/2			48	46	47	50	49
16-QAM 3/4			46	44	45	45	46
64-QAM 2/3			42	40	41	41	43
64-QAM 3/4			40	39	40	40	42
Measurement uncertainty	± 1 dB						

LIMIT **SUBCLAUSE 8.11.3**

TABLE 12 Type 1 Receiver Performance Requirements[A]

Data Rate, Mbits/s	Minimum Sensitivity, dBm	Adjacent Channel Rejection, dB	Alternate Adjacent Channel Rejection, dB
3	-85	18	34
4.5	-84	17	33
6	-82	16	32
9	-80	15	31
12	-77	13	29
18	-70	11	27
24	-69	8	24
27	-67	4	20

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Measuring equipment used: EMV-100; NT-313/1; EMV-205; NT-429; Second radio as normal source

Receiver selectivity **SUBCLAUSE 8.11.3**

Conducted measurement

Alternate channel rejection – lower alternate channel

Measured Antenna: Secton 1, Channel 1

Test conditions	Alternate channel rejection ratio (dB)						
	5860 MHz	5870 MHz	5880 MHz	5890 MHz	5900 MHz	5910 MHz	5920 MHz
BPSK 1/2			57	55	56	55	55
BPSK 3/4			57	54	55	55	55
QPSK 1/2			56	54	55	54	54
QPSK 3/4			53	51	52	52	52
16-QAM 1/2			49	47	49	50	49
16-QAM 3/4			48	46	47	46	46
64-QAM 2/3			44	42	43	42	42
64-QAM 3/4			42	40	41	40	41
Measurement uncertainty	± 1 dB						

LIMIT **SUBCLAUSE 8.11.3**

TABLE 12 Type 1 Receiver Performance Requirements[A]

Data Rate, Mbits/s	Minimum Sensitivity, dBm	Adjacent Channel Rejection, dB	Alternate Adjacent Channel Rejection, dB
3	-85	18	34
4.5	-84	17	33
6	-82	16	32
9	-80	15	31
12	-77	13	29
18	-70	11	27
24	-69	8	24
27	-67	4	20

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Measuring equipment used: EMV-100; NT-313/1; EMV-205; NT-429; Second radio as normal source

4.8 Receiver sensitivity **SUBCLAUSE 8.11.1**

Conducted measurement

Measured Antenna: Secton 1, Channel 0

Test conditions	Sensitivity (dBm)						
	5860 MHz	5870 MHz	5880 MHz	5890 MHz	5900 MHz	5910 MHz	5920 MHz
BPSK 1/2			-90	-89	-89	-90	-91
BPSK 3/4			-89	-89	-89	-90	-91
QPSK 1/2			-88	-88	-88	-89	-90
QPSK 3/4			-86	-85	-86	-87	-88
16-QAM 1/2			-83	-82	-82	-83	-84
16-QAM 3/4			-80	-80	-80	-81	-82
64-QAM 2/3			-76	-75	-75	-76	-78
64-QAM 3/4			-75	-74	-74	-75	-76
Measurement uncertainty	± 1 dB						

LIMIT **SUBCLAUSE 8.11.1**

TABLE 12 Type 1 Receiver Performance Requirements[A]

Data Rate, Mbits/s	Minimum Sensitivity, dBm	Adjacent Channel Rejection, dB	Alternate Adjacent Channel Rejection, dB
3	-85	18	34
4.5	-84	17	33
6	-82	16	32
9	-80	15	31
12	-77	13	29
18	-70	11	27
24	-69	8	24
27	-67	4	20

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Measuring equipment used: EMV-100; EMV-205; NT-429; Second radio as normal source

Receiver sensitivity **SUBCLAUSE 8.11.1**

Conducted measurement

Measured Antenna: Secton 1, Channel 1

Test conditions	Sensitivity (dBm)						
	5860 MHz	5870 MHz	5880 MHz	5890 MHz	5900 MHz	5910 MHz	5920 MHz
BPSK 1/2			-91	-90	-90	-91	-92
BPSK 3/4			-90	-89	-89	-90	-92
QPSK 1/2			-89	-88	-88	-89	-90
QPSK 3/4			-87	-86	-86	-87	-88
16-QAM 1/2			-84	-83	-83	-84	-85
16-QAM 3/4			-81	-80	-80	-81	-82
64-QAM 2/3			-77	-76	-76	-77	-78
64-QAM 3/4			-75	-75	-74	-75	-77
Measurement uncertainty	± 1 dB						

LIMIT **SUBCLAUSE 8.11.1**

TABLE 12 Type 1 Receiver Performance Requirements[A]

Data Rate, Mbits/s	Minimum Sensitivity, dBm	Adjacent Channel Rejection, dB	Alternate Adjacent Channel Rejection, dB
3	-85	18	34
4.5	-84	17	33
6	-82	16	32
9	-80	15	31
12	-77	13	29
18	-70	11	27
24	-69	8	24
27	-67	4	20

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Measuring equipment used: EMV-100; EMV-205; NT-429; Second radio as normal source

Receiver sensitivity **SUBCLAUSE 8.11.1**

Conducted measurement

Measured Antenna: Secton 2, Channel 0

Test conditions	Sensitivity (dBm)						
	5860 MHz	5870 MHz	5880 MHz	5890 MHz	5900 MHz	5910 MHz	5920 MHz
BPSK 1/2			-89	-88	-88	-89	-90
BPSK 3/4			-88	-88	-88	-89	-89
QPSK 1/2			-88	-87	-87	-88	-89
QPSK 3/4			-85	-85	-85	-86	-87
16-QAM 1/2			-82	-82	-82	-82	-83
16-QAM 3/4			-79	-79	-79	-80	-81
64-QAM 2/3			-75	-75	-75	-76	-77
64-QAM 3/4			-74	-74	-73	-72	-75
Measurement uncertainty	± 1 dB						

LIMIT **SUBCLAUSE 8.11.1**

TABLE 12 Type 1 Receiver Performance Requirements[A]

Data Rate, Mbits/s	Minimum Sensitivity, dBm	Adjacent Channel Rejection, dB	Alternate Adjacent Channel Rejection, dB
3	-85	18	34
4.5	-84	17	33
6	-82	16	32
9	-80	15	31
12	-77	13	29
18	-70	11	27
24	-69	8	24
27	-67	4	20

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Measuring equipment used: EMV-100; EMV-205; NT-429; Second radio as normal source

Appendix 1
Test equipment used

☐	Anechoic Chamber with 3m measurement distance	NT-100
☐	Stripline according to ISO 11452-5	NT-108
☐	MA4000 - Antenna mast 1 - 4 m height	NT-110/1
☐	DS - Turntable 0 - 400 ° Azimuth	NT-111/1
☐	CO3000 Controller Mast+Turntable	NT-112/1
☐	HUF-Z3 - Log. Per. Antenna 200 - 1000 MHz	NT-121
☐	FMZB1513 - Loop Antenna 9 kHz - 30 MHz	NT-122/1
☐	HFH-Z6 - Rod Antenna 9 kHz - 30 MHz	NT-123
☐	3121C - Dipole Antenna 28 - 1000 MHz	NT-124
☐	3115 - Horn Antenna 1 - 18 GHz (immunity)	NT-125
☐	3116 - Horn Antenna 18 - 40 GHz	NT-126
☐	SAS-200/543 - Bicon. Antenna 20 MHz - 300 MHz	NT-127
☐	AT-1080 - Log. Per. Antenna 80 - 1000 MHz	NT-128
☐	HK-116 - bicon. Antenna 20 MHz - 300 MHz	NT-129
☐	HK-116 - bicon. Antenna 20 MHz - 300 MHz	NT-130
☐	3146 - Log. Per. Antenna 200 – 1000 MHz	NT-131
☐	VULB 9163 Trilog Antenna 30 – 3000 MHz	NT-131/1
☐	Loop Antenna H-Field	NT-132
☐	Horn Antenna 500 MHz - 2900 MHz	NT-133
☐	Horn Antenna 500 MHz - 6000 MHz	NT-133/1
☐	Log. per. Antenna 800 MHz - 2500 MHz	NT-134
☐	Log. per. Antenna 800 MHz - 2500 MHz	NT-135
☐	BiConiLog Antenna 26 MHz – 2000 MHz	NT-137
☐	Conical Dipol Antenna PCD8250	NT-138
☐	HF 906 - Horn Antenna 1 - 18 GHz (emission)	NT-139
☐	HZ-1 Antenna tripod	NT-150
☐	BN 1500 Antenna tripod	NT-151
☐	Ant. tripod for EN61000-4-3 Model TP1000A	NT-156
☐	Power quality analyzer Fluke 1760 (complete set)	NT-160 - NT-173
☐	Spectrumanalyzer – FSP7 9 kHz – 7 GHz	NT-200
☐	ESCI - Test receiver 9 kHz - 7 GHz	NT-203/1
☐	ESR – Test receiver 20 Hz – 26,5 GHz	NT-207/1
☐	Digital Radio Tester CMW500	NT-208/1
☐	Noise-gen., ITU-R 559-2 20 Hz – 20 kHz	NT-209
☐	CMTA - Radiocommunication analyzer ; 0,1 - 1000 MHz	NT-210
☐	3271 - Spectrum analyzer 100 Hz - 26,5 GHz	NT-211
☐	Digital Radio Tester Aeroflex 3920	NT-212/1
☐	Mixer M28HW 26,5 GHz - 40 GHz	NT-214
☐	RubiSource T&M Timing reference	NT-216
☐	Radiocommunicationanalyzer SWR 1180 MD	NT-217
☐	Mixer M19HWD 40 GHz – 60 GHz	NT-218
☐	Mixer M12HWD 60 GHz – 90 GHz	NT-219
☐	DSO9104 Digital scope	NT-220/1
☐	TPS 2014 Digital scope	NT-222
☐	Artificial Ear according to IEC 60318	NT-224
☐	1 kHz Sound calibrator	NT-225
☐	SRM-3006 Spectrumanalyzer	NT-233/1a
☐	E-field probe SRM 75 MHz – 3 GHz	NT-234
☐	Field Meter NBM-500 incl. E- and H-Field probes	NT-240a-e
☐	Magnetometer HP-01	NT-241/1
☐	EFA-3 H-field- / E-field probe	NT-243
☐	EHP-50F H-field- / E-field probe	NT-243/1
☐	Field Meter EMR-200 100 kHz – 3 GHz	NT-244
☐	E-field probe 100 kHz – 3 GHz	NT-245
☐	H-field probe 300 kHz – 30 MHz	NT-246

Division:
Industry & Energy

Department: FG

Test report number:
INE-AT/FG-21/126

Date: 18.08.2021

Appendix 1 (continued)
Test equipment used

☐	E-field probe 3 MHz – 18 GHz	NT-247
☐	H-field probe 27 MHz – 1 GHz	NT-248
☐	ELT-400 1 Hz – 400 kHz	NT-249
☐	MDS 21 - Absorbing clamp 30 - 1000 MHz	NT-250
☐	FCC-203I EM Injection clamp	NT-251
☐	FCC-203I-DCN Ferrite decoupling network	NT-252
☐	PR50 Current Probe	NT-253
☐	i310s Current Probe	NT-254/1
☐	Fluke 87 V True RMS Multimeter	NT-260
☐	Model 2000 Digital Multimeter	NT-261
☐	Fluke 87 V Digital Multimeter	NT-262/1
☐	ESH2-Z5-U1 Artificial mains network 4x25A	NT-300
☐	ESH3-Z5-U1 Artificial mains network 2x10A	NT-301
☐	ESH3-Z6-U1 Artificial mains network 1x100A	NT-302
☐	ESH3-Z6-U1 Artificial mains network 1x100A	NT-302a
☐	EZ10 T-Artificial Network	NT-305
☐	SMG - Signal generator 0,1 - 1000 MHz	NT-310
☐	SMA100A - Signal generator 9 kHz - 6 GHz	NT-310/1
☐	RefRad Reference generator	NT-312
☐	SMP 02 Signal generator 10 MHz - 20 GHz	NT-313
☐	40 MHz Arbitrary Generator TGA1241	NT-315
☐	Artificial mains network NSLK 8127-PLC	NT-316
☐	PSURGE 4.1 Surge generator	NT-324
☐	IMU4000 Immunity test system	NT-325/1
☐	VCS 500-M6 Surge-Generator	NT-326
☐	Oscillatory Wave Simulator incl. Coupling networks	NT-328a+b+c
☐	BTA-250 - RF-Amplifier 9 kHz - 220 MHz / 250 W	NT-330
☐	T82-50 RF-Amplifier 2 GHz – 8 GHz	NT-331
☐	500W1000M7 - RF-Amplifier 80 - 1000 MHz / 500 W	NT-332
☐	AS0102-65R - RF-Amplifier 1 GHz - 2 GHz	NT-333
☐	APA01 – RF-Amplifier 0,5 GHz – 2,5 GHz	NT-334
☐	Preamplifier 1 GHz - 4 GHz	NT-335
☐	Preamplifier for GPS MKU 152 A	NT-336
☐	Preamplifier 1 GHz – 18 GHz	NT-337/1
☐	DC Block 10 MHz – 18 GHz Model 8048	NT-338
☐	2-97201 Electronic load	NT-341
☐	TSX3510P - Power supply 0-30 V / 0 - 10 A	NT-344
☐	TSX3510P - Power supply 0-30 V / 0 - 10 A	NT-345
☐	VDS 200 Mobil-impuls-generator	NT-350
☐	LD 200 Mobil-impuls-generator	NT-351
☐	MPG 200 Mobil-Impuls-Generators	NT-352
☐	EFT 200 Mobil-impuls-generator	NT-353
☐	AN 200 S1 Artificial Network	NT-354
☐	FP-EFT 32M 3 ph. Coupling filter (Burst)	NT-400/1
☐	PHE 4500 - Mains impedance network	NT-401
☐	IP 6.2 Coupling filter for data lines (Surge)	NT-403
☐	TK 9421 High Power Volt. Probe 150 kHz - 30 MHz	NT-409
☐	ESH2-Z3 - Probe 9 kHz - 30 MHz	NT-410
☐	IP 4 - Capacitive clamp (Burst)	NT-411
☐	Highpass-Filter 100 MHz – 3 GHz	NT-412
☐	Highpass-Filter 600 MHz – 4 GHz	NT-413
☐	Highpass-Filter 1250 MHz – 4 GHz	NT-414
☐	Highpass-Filter 1800 MHz – 16 GHz	NT-415

Appendix 1 (continued)
Test equipment used

☐	RF-Attenuator 10 dB DC – 18 GHz / 50 W	NT-417/1
☐	RF-Attenuator 6 dB DC – 18 GHz / 50 W	NT-418
☐	RF-Attenuator 3 dB DC – 18 GHz / 50 W	NT-419
☐	RF-Attenuator 20 dB DC - 1000 MHz / 25 W	NT-421
☐	RF-Attenuator 30 dB DC - 1000 MHz / 1 W	NT-423
☐	RF-Attenuator 30 dB	NT-424
☐	RF-Attenuator 6 dB DC - 1000 MHz / 1 W	NT-425
☐	RF-Attenuator 6 dB DC - 1000 MHz / 1 W	NT-426
☐	RF-Attenuator 6 dB	NT-428
☐	RF-Attenuator 0 dB - 81 dB	NT-429
☐	WRU 27 - Band blocking 27 MHz	NT-430
☐	WHJ450C9 AA - High pass 450 MHz	NT-431
☐	WHJ250C9 AA - High pass 250 MHz	NT-432
☐	RF-Load 150 W	NT-433
☐	Impedance transducer 1:4 ; 1:9 ; 1:16	NT-435
☐	RF-Attenuator DC – 18 GHz 6 dB	NT-436
☐	RF-Attenuator DC – 18 GHz 6 dB	NT-437
☐	RF-Attenuator DC – 18 GHz 10 dB	NT-438
☐	RF-Attenuator DC – 18 GHz 20 dB	NT-439
☐	I+P 7780 Directional coupler 100 - 2000 MHz	NT-440
☐	ESH3-Z2 - Pulse limiter 9 kHz - 30 MHz	NT-441
☐	Power Divider 6 dB/1 W/50 Ohm	NT-443
☐	Directional coupler 0,1 MHz – 70 MHz	NT-444
☐	Directional coupler 0,1 MHz – 70 MHz	NT-445
☐	Tube imitations according to EN 55015	NT-450
☐	FCC-801-M3-16A Coupling decoupling network	NT-458
☐	FCC-801-M2-50A Coupling decoupling network	NT-459
☐	FCC-801-M5-25 Coupling decoupling network	NT-460
☐	FCC-801-AF10 Coupling decoupling network	NT-461
☐	FCC-801-S25 Coupling decoupling network	NT-462
☐	FCC-801-T4 Coupling decoupling network	NT-463
☐	FCC-801-C1 Coupling decoupling network	NT-464
☐	SW 9605 - Current probe 150 kHz – 30 MHz	NT-465/1
☐	95242-1 – Current probe 1 MHz – 400 MHz	NT-468
☐	94106-1L-1 – Current probe 100 kHz – 450 MHz	NT-471
☐	WHKX12-2700-3000-18000 3 GHz Highpass filter	NT-472
☐	WHKX10-3870-4500-18000 4,5 GHz Highpass filter	NT-473
☐	GA 1240 Power amplifier according to EN 61000-4-16	NT-480
☐	Coupling networks according to EN 61000-4-16	NT-481 - NT-483
☐	Van der Hoofden Test Head	NT-484
☐	WRCJV12-5820-5850-5950-5980 5,9 GHz Band Reject Filter	NT-490
☐	WHKX10-5670-6300-18000 6 GHz Highpass filter	NT-491
☐	WHK12-935-1000-7000 1 GHz Highpass filter	NT-492
☐	EMC Video/Audiosystem	NT-511/1
☐	ES-K1 Version 1.71 SP2 Test software	NT-520
☐	EMC32 Version 10.60.20 Test software	NT-520/1
☐	SRM-TS Version 1.3 software for SRM-3000	NT-522
☐	SRM-TS Version 1.3.1 software for SRM-3006	NT-522/1
☐	Spitzenberger und Spies Test software V4.1	NT-525
☐	Vertical coupling plane (ESD)	NT-531
☐	Test cable #4 for EN 61000-4-6	NT-553
☐	Test cable #3 for conducted emission	NT-554
☐	Test cable #5+#6 ESD-cable (2x470k)	NT-555 + NT-556
☐	Test cable #8 Sucoflex 104EA	NT-559
☐	Test cable #9 (for outdoor measurements)	NT-580
☐	Test cable #10 (for outdoor measurements)	NT-581
☐	Test cable #13 Sucoflex 104PE	NT-584
☐	Test cable #21 for SRM-3000	NT-592
☐	Shield chamber	NT-600
☐	Climatic chamber	M-1200

Appendix 1 (continued)
Test equipment used

☐	Anechoic Chamber 3 m / 5 m measuring distance	EMV-100
☐	Turntabel 6 m diameter	EMV-101
☐	Antenna mast + controller	EMV-102+ EMV-103
☐	EMC Video/Audiosystem	EMV-104
☐	EMC Software EMC32 Version 10.60.20	EMV-105
☐	Hornantenna 1 – 18 GHz HF 907	EMV-110
☐	Antennapre.amp. 1 – 18 GHz ERZ-LNA0200-1800-30-2	EMV-111
☐	Trilog Antenna 30-3000 MHz VULB9163	EMV-112
☐	Monopol 9 kHz – 30 MHz VAMP 9243	EMV-113
☐	Antennapre.amp 18 – 40 GHz BBV 9721	EMV-114
☐	Hornantenna 200 – 2000 MHz AH-220	EMV-115
☐	DC Artificial Network PVDC 8300	EMV-150
☐	AC Artificial Network NNLK 8121 RC	EMV-151
☐	EMI Receiver ESW44	EMV-200/1
☐	Signalgenerator 9 kHz – 40 GHz N5173B	EMV-201
☐	GPS Frequency normal B-88	EMV-202
☐	DC Power supply N5745A	EMV-203
☐	Spektrum Analyzator FSV40	EMV-205
☐	Thd Multimeter Model 2015	EMV-206
☐	Poweramplifier PAS15000	EMV- 207/abc
☐	Inrush Current Source	EMV- 208/abc
☐	Arb.-generator Sycore	EMV-209
☐	Harmonics/Flicker analyzer ARS 16/3	EMV-210
☐	Power Supply Regatron AC	EMV-214
☐	Power Supply Regatron DC	EMV-215
☐	Harmonics/Flicker analyser Zimmer	EMV-216
☐	Flicker Impedanz Newtons4th 753	EMV-218
☐	Comemso	EMV-219
☐	HF- Ampflifier 9 kHz-225 MHz BBL200	EMV-300/1
☐	HF- Amplifier 80 -1000 MHz BBA150	EMV-301
☐	HF- Amplifier 0,8 - 6 GHz BBA150	EMV-302
☐	High Power Ant. 20-200 MHz HPBA-2510	EMV-303/1
☐	Log.per Antenna 80-2700 MHz STLP 9128 E special	EMV-304
☐	Log.per Antenna 0,7 – 9 GHz STLP9149	EMV-305
☐	HF- Ampflifier 9 kHz-250 MHz BBA150 (low noise)	EMV-306
☐	ISO11451-2 TLS 10 kHz – 30 MHz	EMV-307
☐	Load Dump Generator LD 200N	EMV-350
☐	Ultra Compact Symulator UCS 200N100	EMV-351
☐	Automotive Power fail module PFM 200N100.1	EMV-352
☐	Voltage Drop Symulator VDS 200Q100	EMV-353
☐	Arb. Generator AutoWave	EMV-354
☐	Ultra Compact Symulator UCS 500N7	EMV-355
☐	Coupling decoupling network CNI 503B7 / 32 A	EMV-356
☐	Coupling decoupling network CNI 503B7 / 63 A	EMV-357
☐	Telecom Surge Generator TSurge 7	EMV-358
☐	Coupling decoupling network CNI 508N2	EMV-359
☐	Coupling decoupling network CNV 504N2.2	EMV-360
☐	Immunity generator NSG4060/NSG4060-1	EMV-361
☐	Coupling network CDND M316-2	EMV-362
☐	Coupling network CT419-5	EMV-363
☐	ESD Generator NSG 437	EMV-364
☐	Pulse Limiter VTSD 9561-F BNC	EMV-405
☐	Transient emission BSM200N40+BS200N100	EMV- 450+451
☐	Cap. Coupling Clamp HFK	EMV-455
☐	Mag. Field System MS100N+MC26100+MC2630	EMV- 456-458

Division:
Industry & Energy

Department: FG

Test report number:
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Appendix 1 (continued)
Test equipment used

☐	Coupling network CDN M2-100A	EMV-459
☐	Coupling network CDN M3-32A	EMV-460
☐	Coupling network CDN M5-100A	EMV-461
☐	Current Clamp CIP 9136A	EMV-462
☐	DC Artificial Network HV-AN 150	EMV- 464+465
☐	Coupling Clamp EM 101	EMV-466
☐	Decoupling Clamp FTC 101	EMV-467
☐	Power attenuator 10 dB / 250 Watt	EMV-469/2