

Annex 1: Measurement diagrams to
PARTIAL TEST REPORT
No.: 18-1-0210201T02a

According to:

FCC Regulations
Part 15.205, Part 15.209, Part 15.247

ISED-Regulations
RSS-Gen, Issue 5, RSS-247, Issue 2

for

Miele & Cie. KG

Wireless Food Probe System
(Host: HR1622-2)

Contains FCC ID: SSVNAEPI02
Contains ISED: 5669B-NAEPI02




Laboratory Accreditation and Listings	
  Deutsche Akkreditierungsstelle D-PL-12047-01-01 D-PL-12047-01-03 D-PL-12047-01-04	
Accredited EMC-Test Laboratory	
 WiFi ALLIANCE	ctia Authorized TM Test Lab Lab Code: 20011130-00
accredited according to DIN EN ISO/IEC 17025	
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1. Conducted emissions on AC-Power lines

1.01

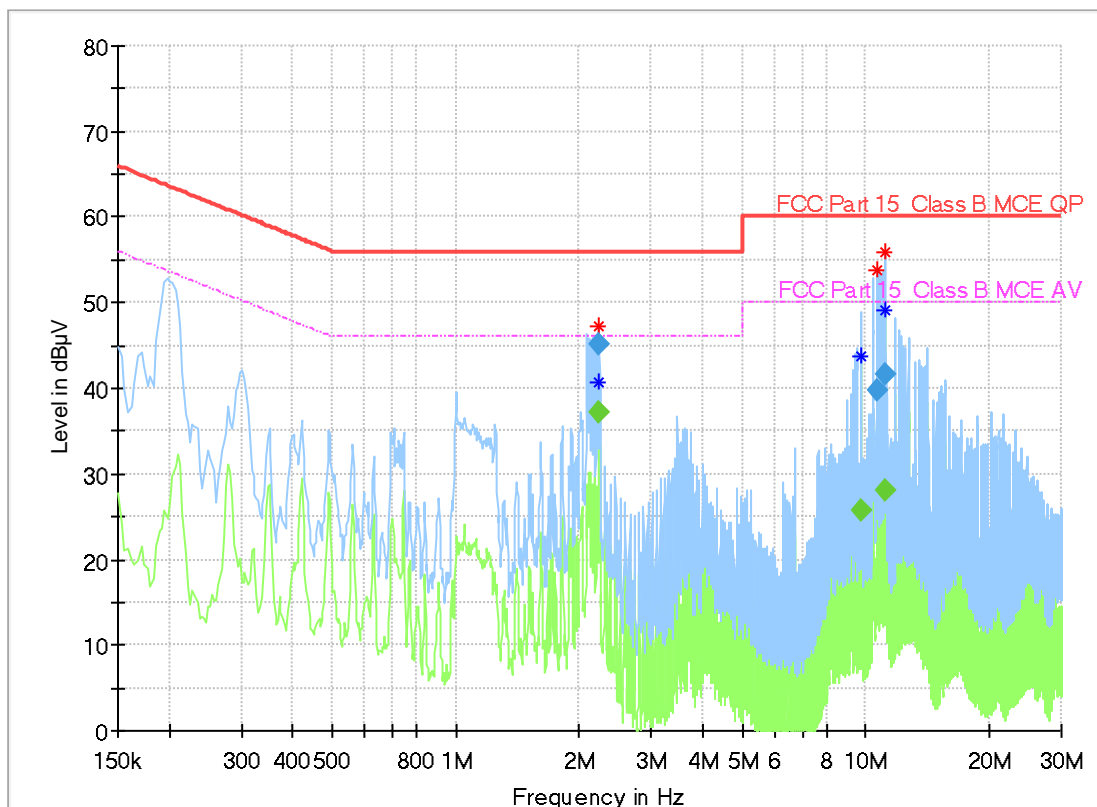
Common Information

Test Description:	Conducted Voltage Measurement Class B
Test Site & Location:	Conducted Emission, CETECOM GmbH Düsseldorf
Test Software:	R&S EMC32 v9.15
Test Specification:	FCC 15.207, RSS 247
Operating Mode:	Oven heating up
Measured on line:	120V AC N/L1/L2
Diagram details:	Shows the peak values as a sum of measured ports in maxhold mode
Environmental Conditions:	Temperature: 20.5°C; Pressure: 997hPa; Humidity: 45%
Operator:	MAh

EUT Information

Manufacturer:	Miele & Cie KG
EUT Model:	HR1622-2
HW:	Pre Production B0 Series
SW:	Pre Production B0 Series
Serial Nr.:	153703158

Full Spectrum



Frequency (MHz)	QuasiPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	PE	Corr. (dB)
2.241000	---	37.15	46.00	8.85	1000.0	9.000	N	GND	0.2
2.241000	45.09	---	56.00	10.91	1000.0	9.000	L1	GND	0.2
9.708000	---	25.82	50.00	24.18	1000.0	9.000	N	GND	0.5
10.614000	39.83	---	60.00	20.17	1000.0	9.000	N	GND	0.6
11.202000	---	27.97	50.00	22.03	1000.0	9.000	N	GND	0.6
11.202000	41.75	---	60.00	18.25	1000.0	9.000	N	GND	0.6

2. Conducted Measurements

2.1. Conducted Power

2.1.1. MSK-Data Rate WFP

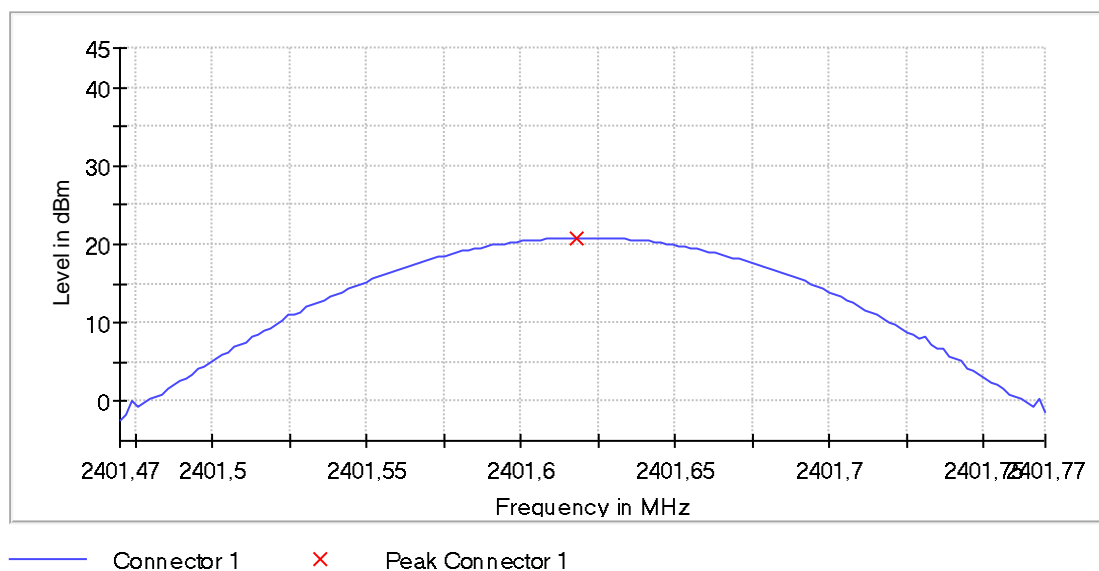
Peak output power (Sweep) (2401,62 MHz; 20,000 dBm; 133 kHz; Test Mode)

Test according to FCC title 47 part 15 §15.247(b), KDB 558074 D01 DTS Meas Guidance v04 and ANSI C63.10

Measurement uncertainty calculated in accordance with ETSI TR 100 028-1.
Expanded Combined Uncertainty of absolute Level Measurement (K=2) < 1 dB

Result

DUT Frequency (MHz)	Peak Power (dBm)	Limit Max (dBm)	Result
2401.620000	20.8	21.0	PASS



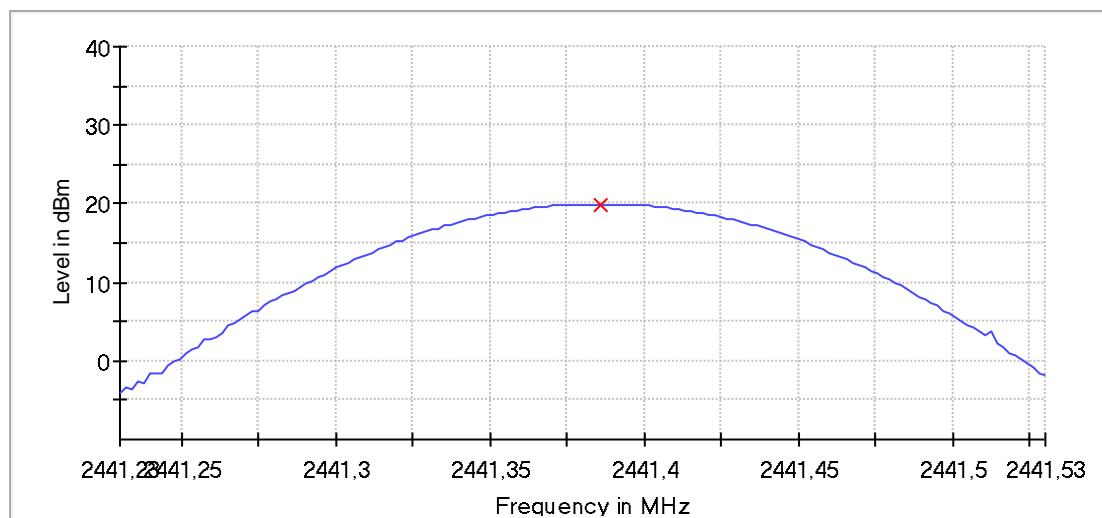
Peak output power (Sweep) (2441,38 MHz; 20,000 dBm; 133 kHz; Test Mode)

Test according to FCC title 47 part 15 §15.247(b), KDB 558074 D01 DTS Meas Guidance v04 and ANSI C63.10

Measurement uncertainty calculated in accordance with ETSI TR 100 028-1.
Expanded Combined Uncertainty of absolute Level Measurement (K=2) < 1 dB

Result

DUT Frequency (MHz)	Peak Power (dBm)	Limit Max (dBm)	Result
2441.380000	20.0	21.0	PASS



— Connector 1 × Peak Connector 1

Peak Power 1

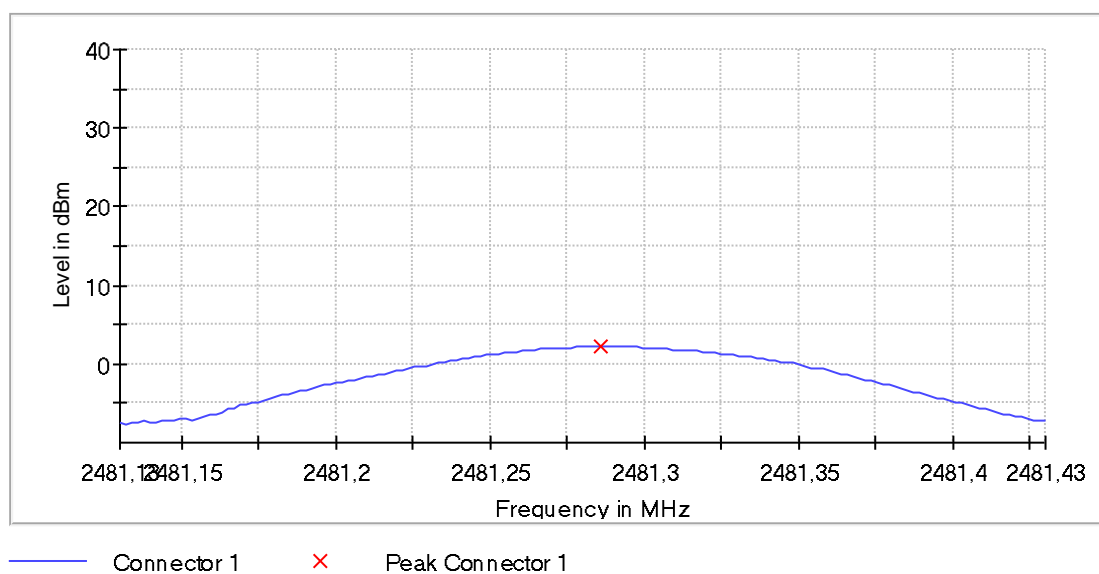
Peak output power (Sweep) (2481,28 MHz; 20,000 dBm; 133 kHz; Test Mode)

Test according to FCC title 47 part 15 §15.247(b) and ANSI C63.10

Measurement uncertainty calculated in accordance with ETSI TR 100 028-1.
Expanded Combined Uncertainty of absolute Level Measurement (K=2) < 1 dB

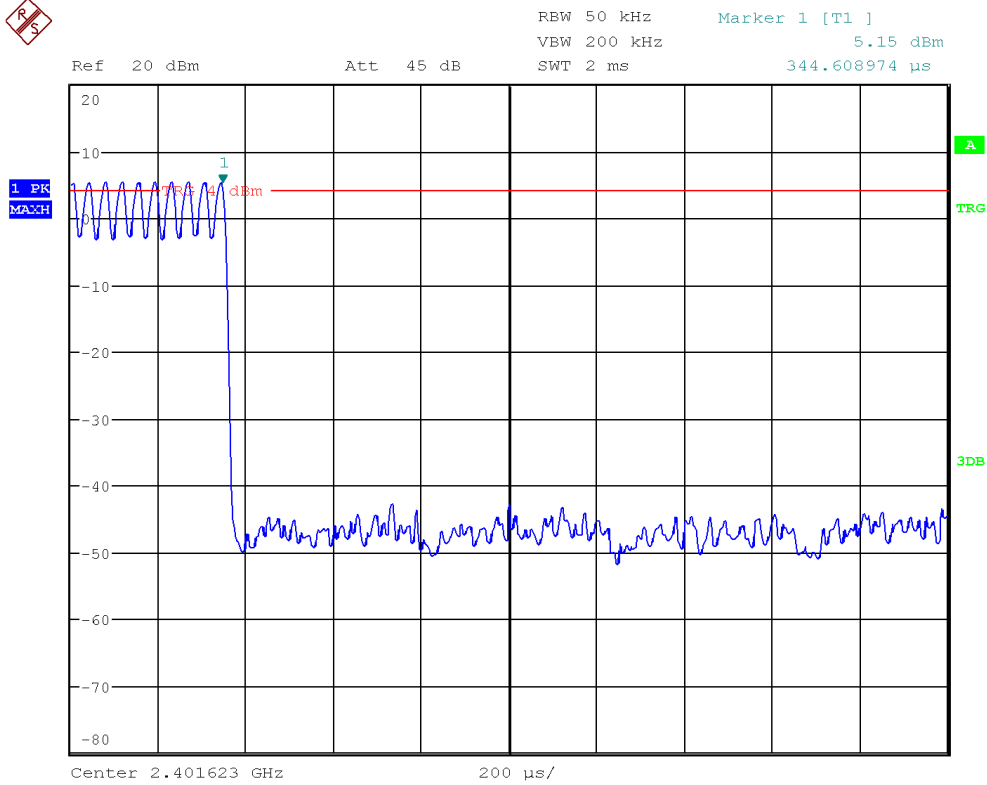
Result

DUT Frequency (MHz)	Peak Power (dBm)	Limit Max (dBm)	Result
2481.280000	2.2	21.0	PASS

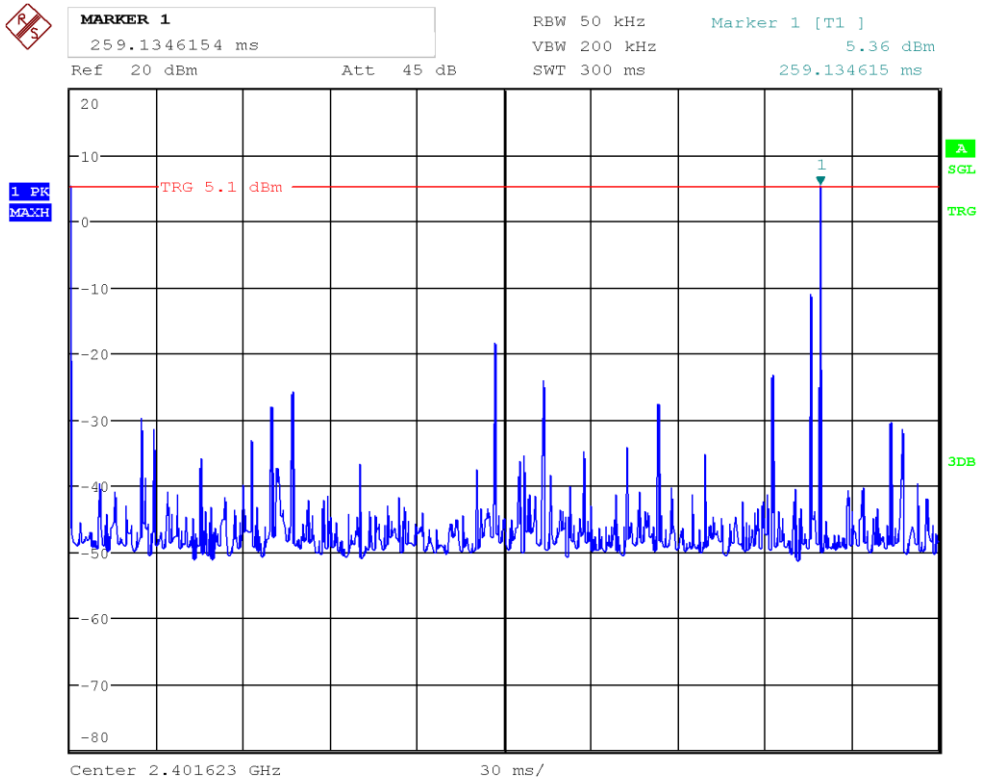


2.2. Time of Channel Occupancy

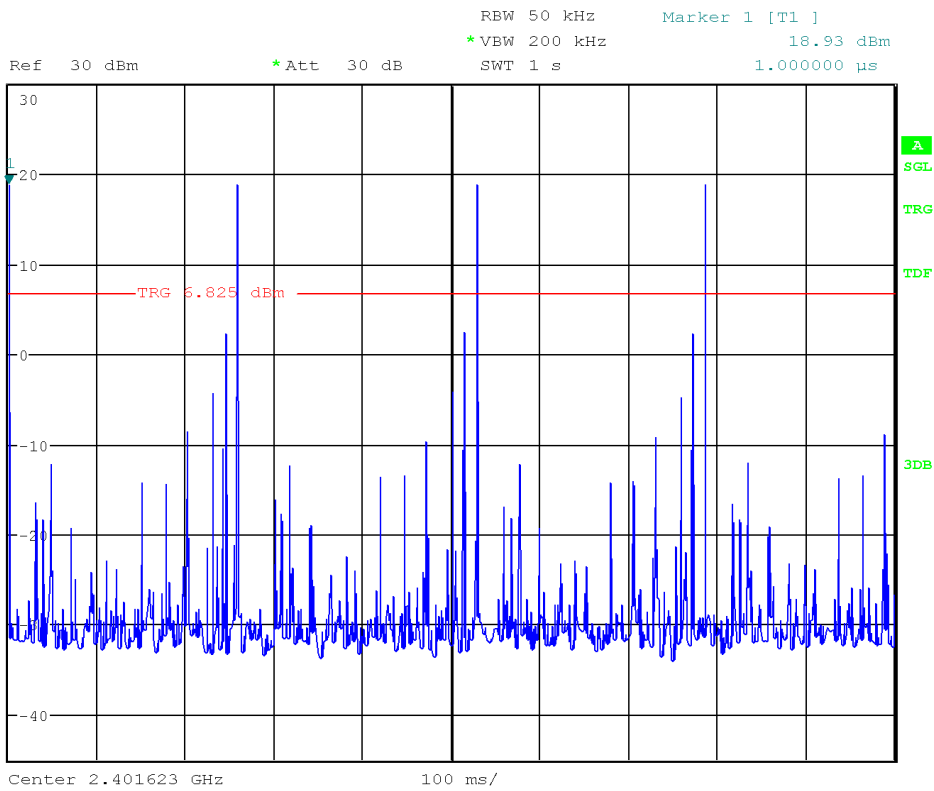
2.2.1. Low Channel



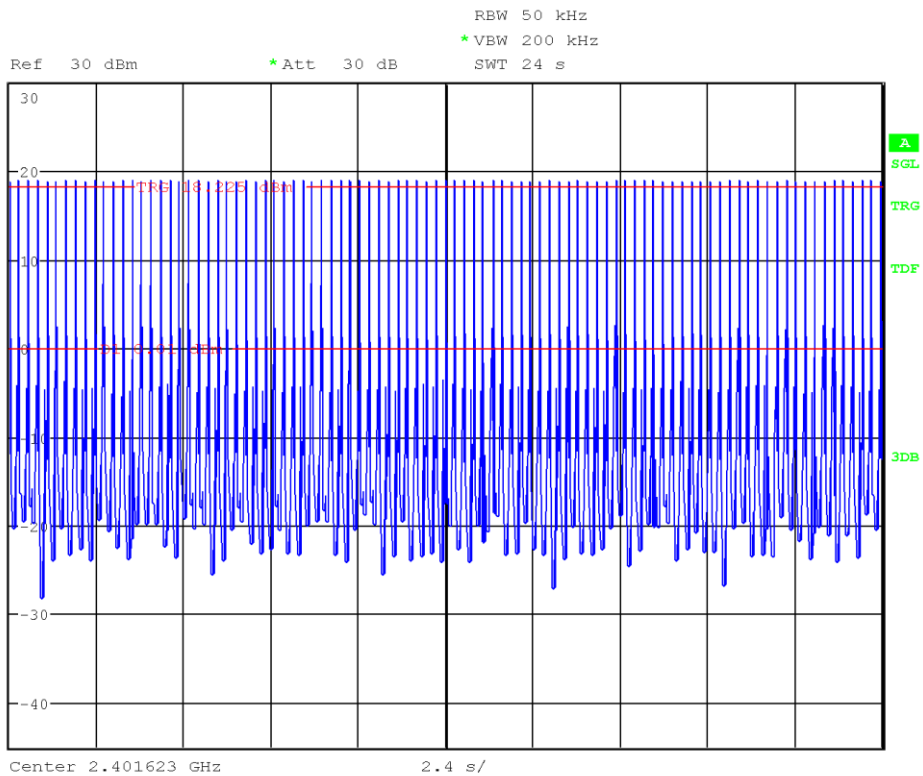
DWelltime_low Channel



DWelltime_low Channel_300ms Sweep

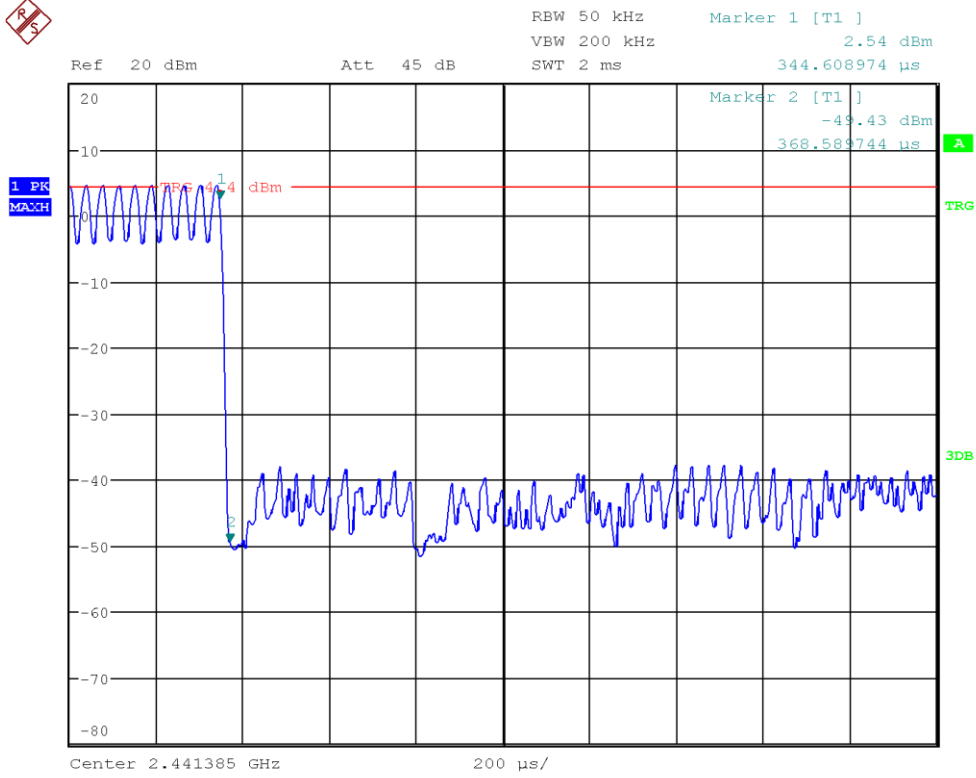


DWelltime_low_Channel_1s_Sweep

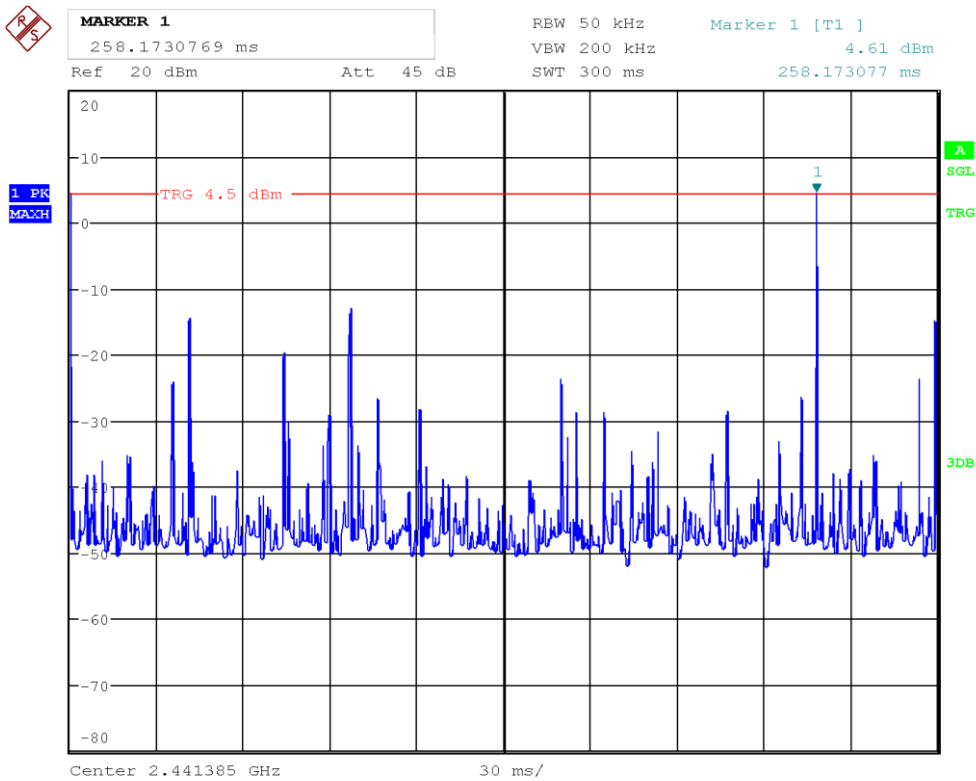


DWelltime_low_Channel_24s_Sweep

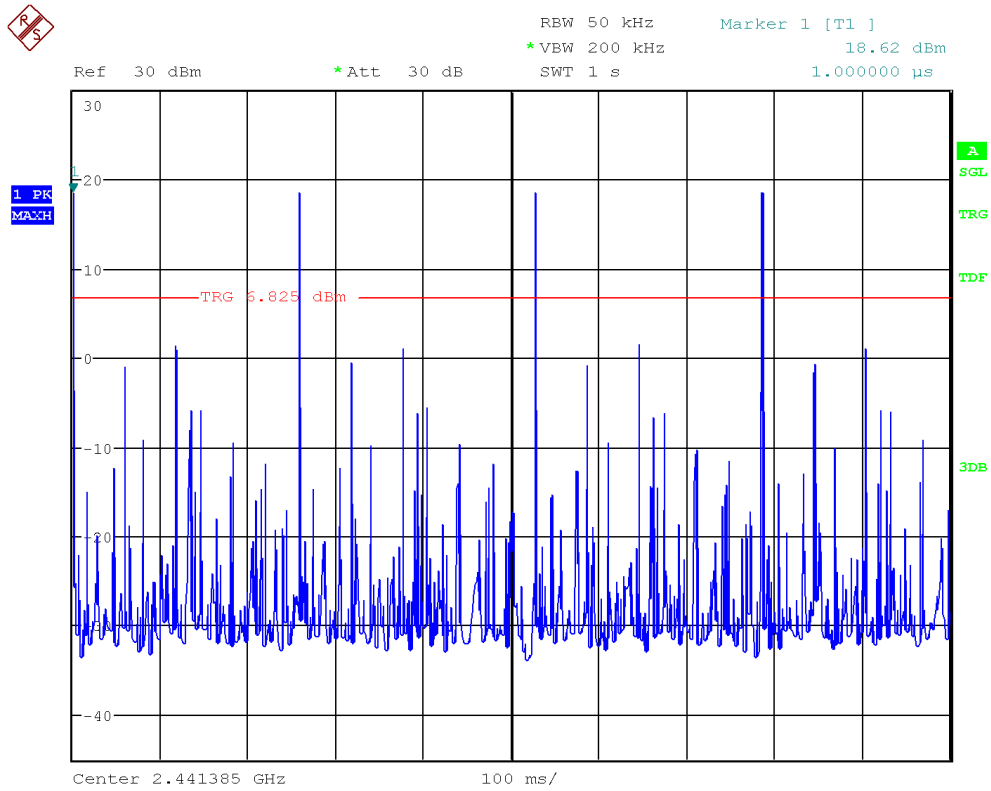
2.2.2. Mid Channel



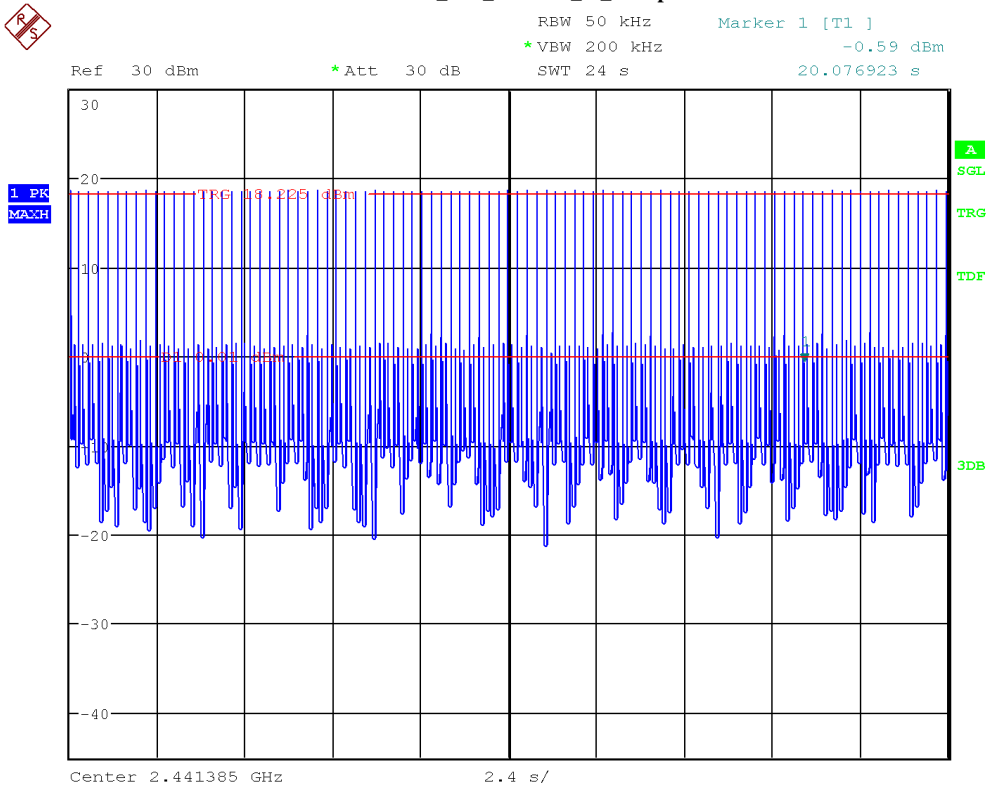
DWelltime_mid Channel



DWelltime_midChannel_300ms_Sweep

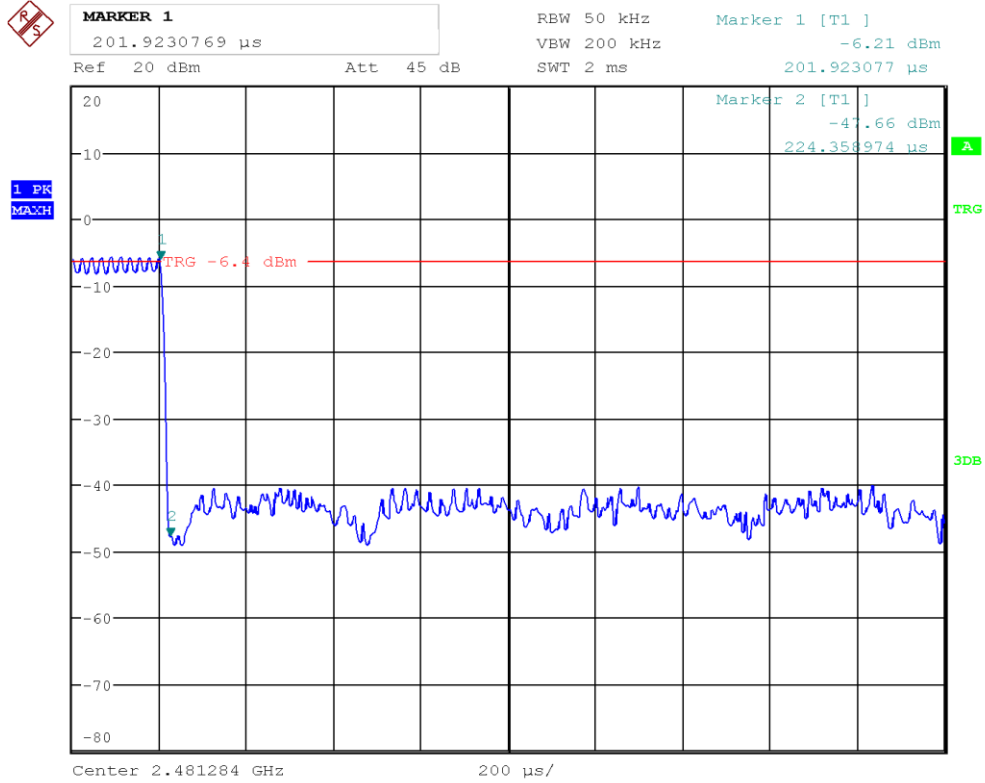


DWelltime_mid_Channel_1s_Sweep

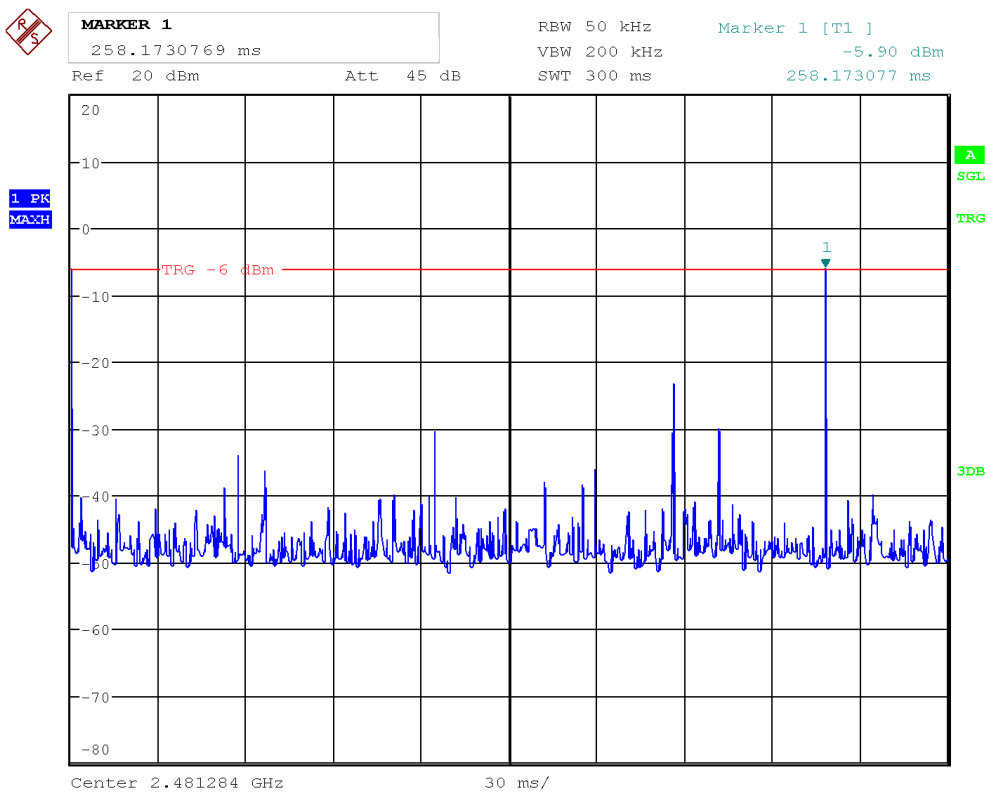


DWelltime_mid_Channel_24s_Sweep

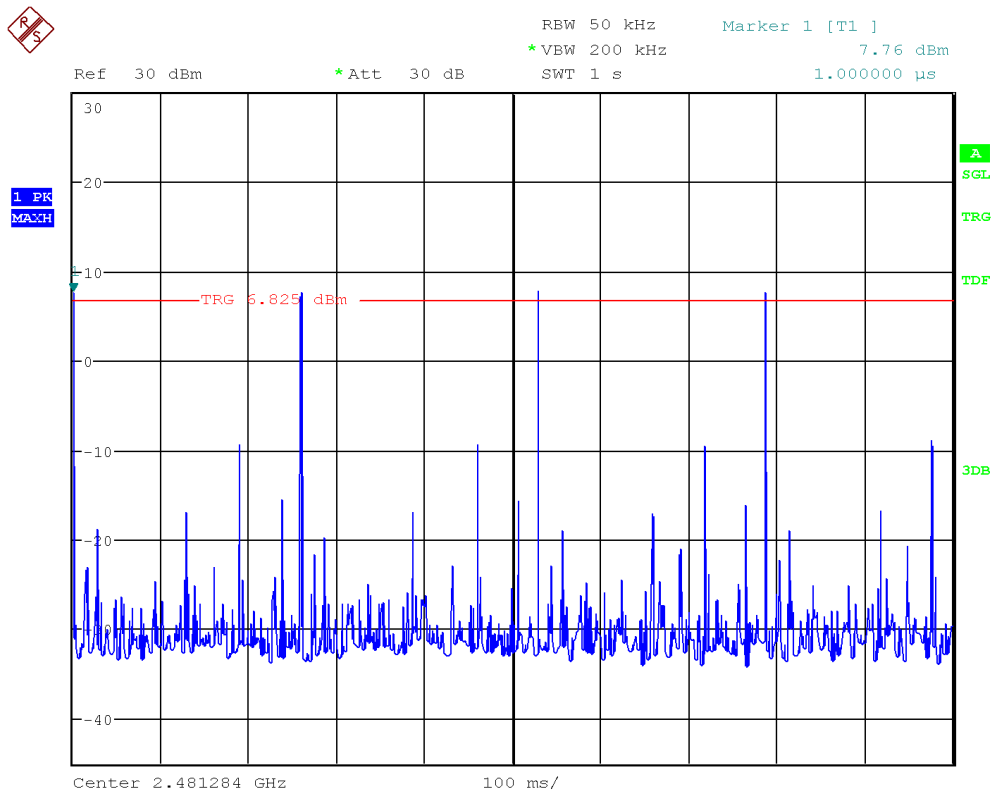
2.2.3. High Channel



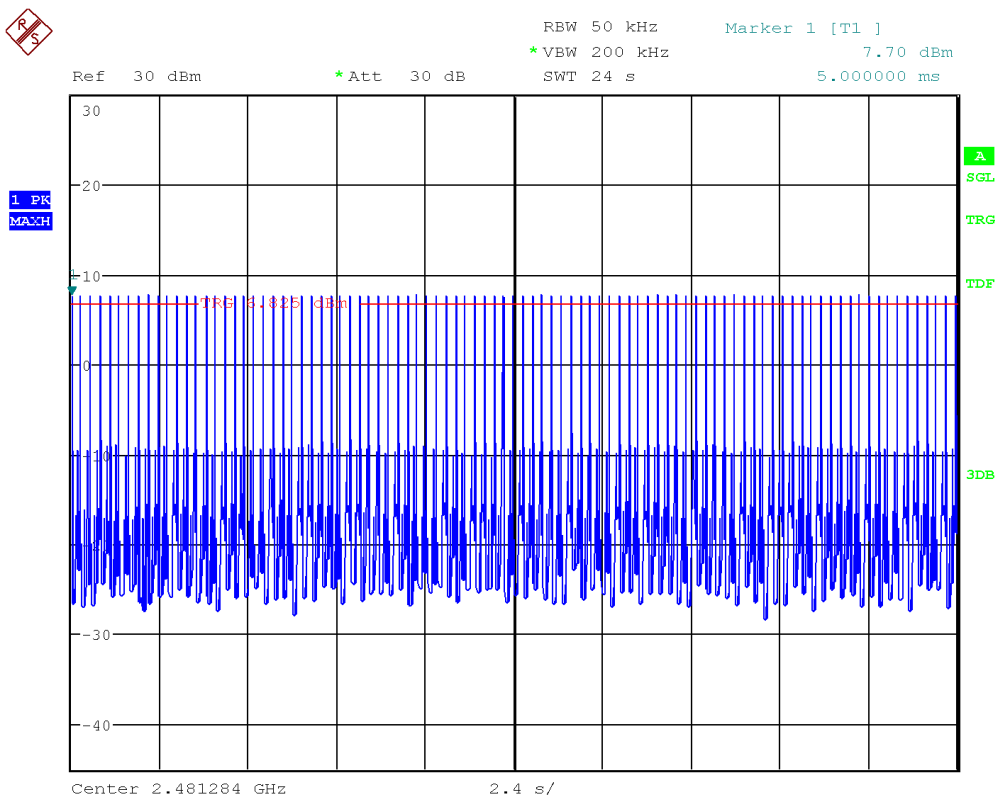
DWelltime_high Channel



DWelltime_high Channel_300ms_Sweep



DWelltime_highChannel_1s_Sweep



DWelltime_highChannel_24s_Sweep

3. Radiated Field Strength Measurements

3.1. Radiated Field Strength Emissions - 9kHz to 30MHz

2.01

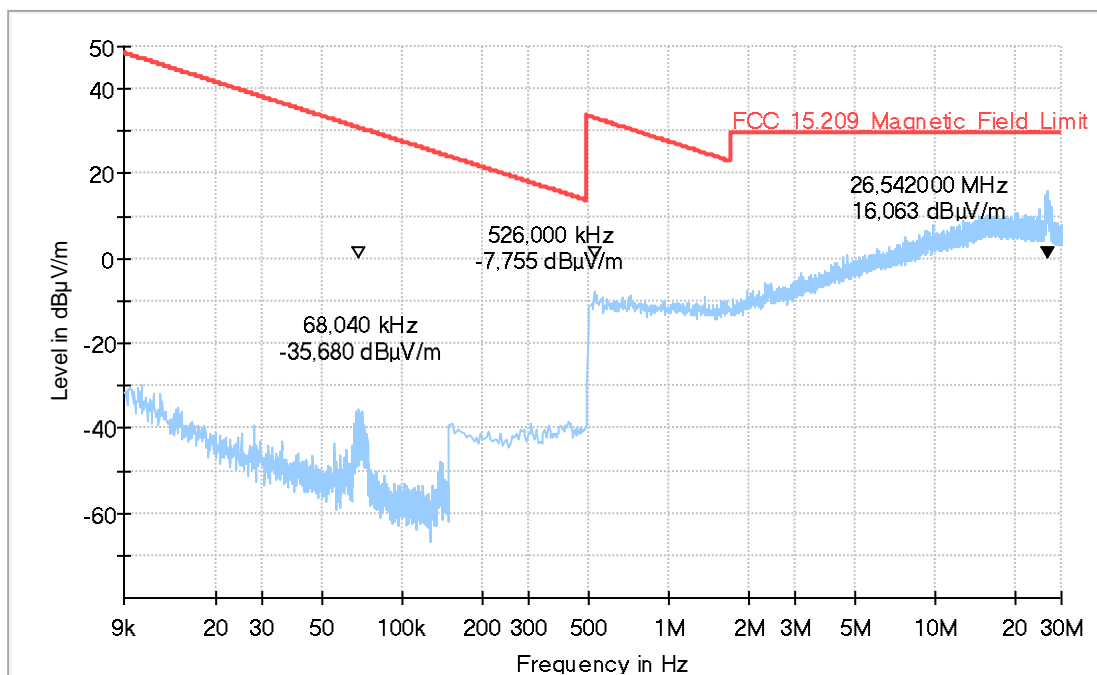
Common Information

Test description:	Magnetic Field Strength Measurement related to 30/300 m distance
Test site and distance:	Ref.-Nr. 441 Semi Anechoic Room (SAR) with 3 m measurement distance
Test Location	Cetecom GmbH Düsseldorf
Version of Testsoftware:	EMC32 V9.25.0
Rec. antenna (pre-scan):	height 1.00 m, parallel and 90° to EUT polarisation
Test specification:	FCC 15.205 § 15.209; RSS-Gen: Issue 5
Operator:	MAh
Operating conditions:	Oven heating up, TX-on, Ch low
Power during tests:	120V AC

EUT Information

Manufacturer:	Miele & Cie KG
EUT Model:	HR1622-2
HW:	Pre Production B0 Series
SW:	Pre Production B0 Series
Serial Nr.:	153703158

Full Spectrum



◆ Preview Result 1-PK+ [Preview Result 1.Result 1]

3.2. Radiated Field Strength Emissions - 30MHz to 1GHz

3.01

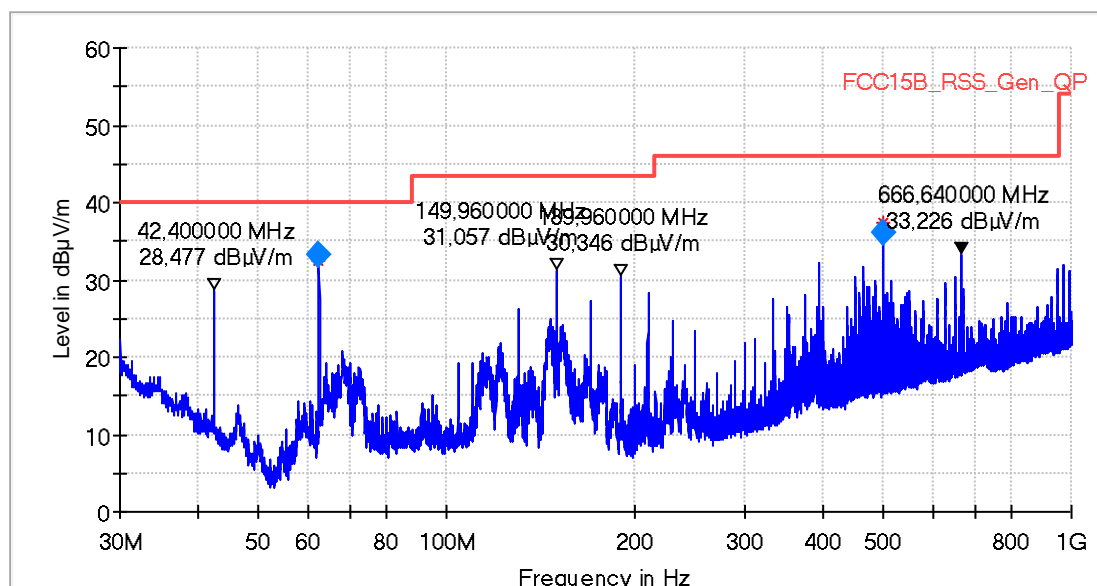
Common Information

Test description:	Electric Field Strength Measurement
Test site and distance:	Ref.-Nr. xxx Semi Anechoic Chamber 2 (SAC5) with 3m measurement distance
Test location:	CETECOM GmbH Düsseldorf
Version of Testsoftware:	EMC32 V9.25.0
Test specification:	FCC15.109, class B; RSS-Gen.: Issue 5
Measured sides of EUT:	front, right, rear, left
Environmental Conditions:	Temperature: 20.5°C; Pressure: 997hPa; Humidity: 45%
Operator:	MAh
Operating conditions:	Oven heating up, TX-on, Ch low,
Power during tests:	120V AC

EUT Information

Manufacturer:	Miele & Cie KG
EUT Model:	HR1622-2
HW:	Pre Production B0 Series
SW:	Pre Production B0 Series
Serial Nr.:	153703158

Full Spectrum



3.3. Radiated Field Strength Emissions - 1GHz to 18GHz

4.01a

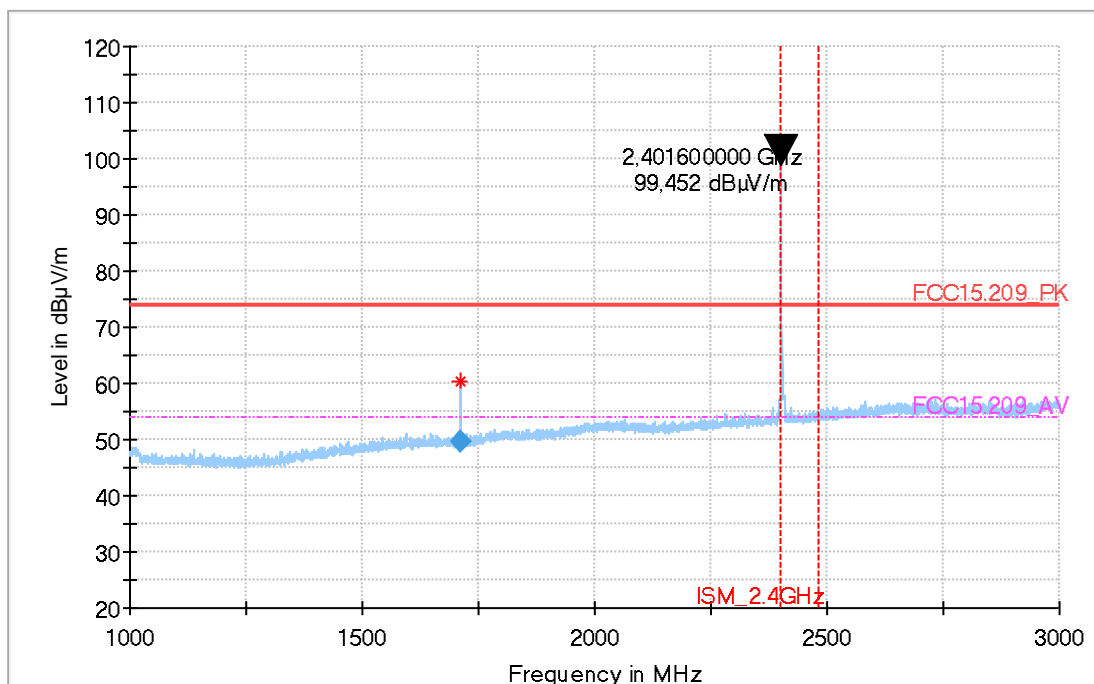
Common Information

Test description:	Electric Field Strength Measurement
Test site and distance:	Ref.-Nr. xxx Semi Anechoic Chamber 2 (SAC5) with 3m measurement distance
Test location:	CETECOM GmbH Düsseldorf
Version of Testsoftware:	EMC32 V9.25.0
Test specification:	FCC15.209 / RSS-Gen Issue 5
Measured sides of EUT:	front, right, rear, left Height 100-250
Used filter:	none up to 3GHz / High Pass from 3GHz
Environmental Conditions:	Temperature: 20.5°C; Pressure: 997hPa; Humidity: 45%
Operator:	MAh
Operating conditions:	Oven heating up, TX-on, Ch low,
Power during tests:	120V AC

EUT Information

Manufacturer:	Miele & Cie KG
EUT Model:	HR1622-2
HW:	Pre Production B0 Series
SW:	Pre Production B0 Series
Serial Nr.:	153703158

Full Spectrum



- * Preview Result 2-AVG [Preview Result 2.Result 2]
- Preview Result 1-PK+ [Preview Result 1.Result 1]
- Critical_Freqs AVG [Critical_Freqs.Result 5]
- Critical_Freqs PK+ [Critical_Freqs.Result 4]
- ◆ FCC15.209_PK [..\02 EMI FCC\FCC_Part15\FCC_Part15.209]

Final Result Peak

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Corr. (dB)
1711.800000	49.72	74.00	24.28	100.0	1000.000	400.0	31.2

Final Result Average

Frequency (MHz)	MaxPeak (dBµV/m)	DC (dB)	Avg (dBµV/m)	Limit (dBµV/m)	Margin (dB)
1711,800	49,72	28,76	20,96	54	33,04

4.01b

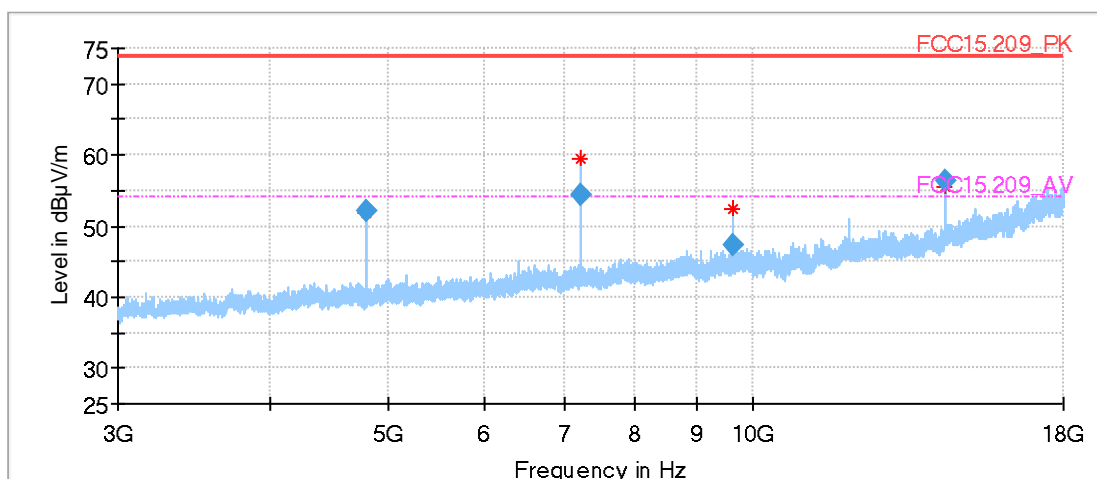
Common Information

Test description:	Electric Field Strength Measurement
Test site and distance:	Ref.-Nr. xxx Semi Anechoic Chamber 2 (SAC5) with 3m measurement distance
Test location:	CETECOM GmbH Düsseldorf
Version of Testsoftware:	EMC32 V9.25.0
Test specification:	FCC15.209 / RSS-Gen Issue 5
Measured sides of EUT:	front, right, rear, left
Used filter:	none up to 3GHz / High Pass from 3GHz
Environmental Conditions:	Temperature: 20.5°C; Pressure: 997hPa; Humidity: 45%
Operator:	MAh
Operating conditions:	Oven heating up, TX-on, Ch low,
Power during tests:	120V AC

EUT Information

Manufacturer:	Miele & Cie KG
EUT Model:	HR1622-2
HW:	Pre Production B0 Series
SW:	Pre Production B0 Series
Serial Nr.:	153703158

Full Spectrum



- * Preview Result 2-AVG [Preview Result 2.Result 2]
- Preview Result 1-PK+ [Preview Result 1.Result 1]
- - - Critical_Freqs AVG [Critical_Freqs.Result 5]
- ◆ Critical_Freqs PK+ [Critical_Freqs.Result 4]

Final Result Peak

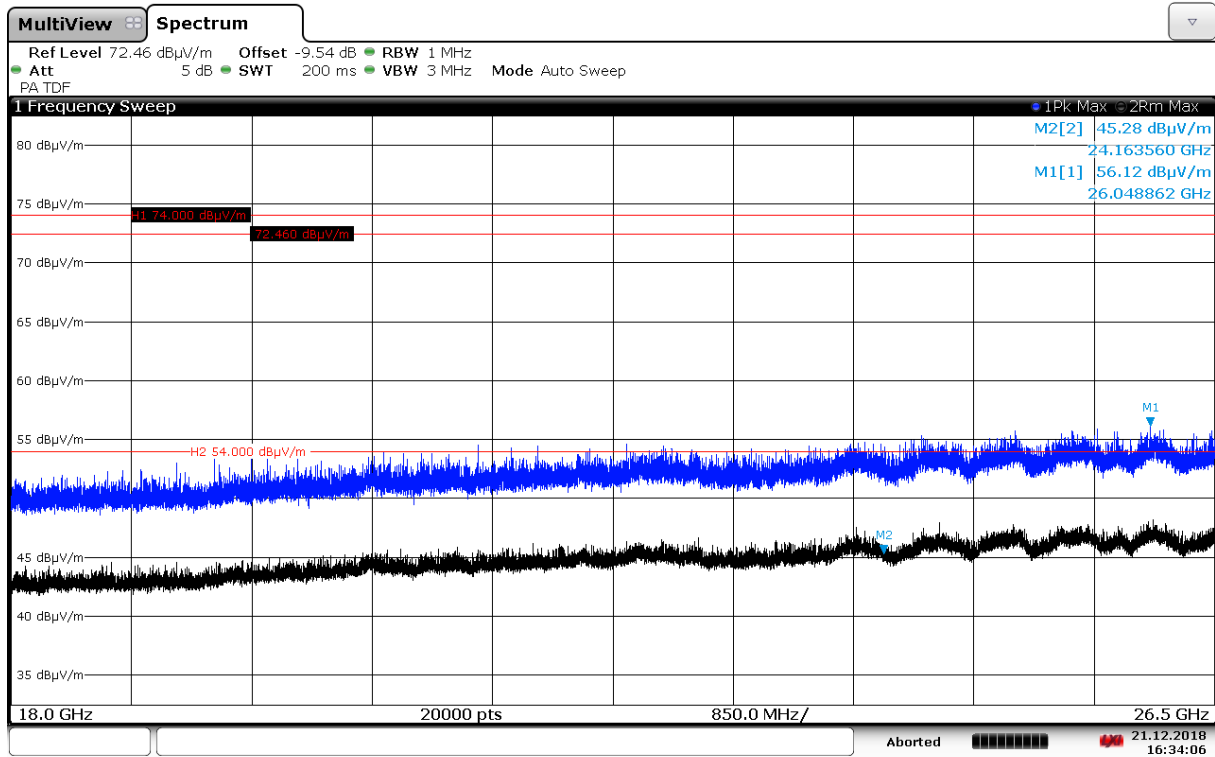
Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Corr. (dB)
4803.235000	52.21	74.00	21.79	100.0	1000.000	138.0	-15.5
7204.848333	54.33	74.00	19.67	100.0	1000.000	112.0	-10.9
9606.475000	47.40	74.00	26.60	100.0	1000.000	142.0	-6.0
14409.703333	56.45	74.00	17.55	100.0	1000.000	100.0	3.9

Final Result Average

Frequency (MHz)	MaxPeak (dBµV/m)	DC (dB)	Avg (dBµV/m)	Limit (dBµV/m)	Margin (dB)
4803.235	52.21	28.76	23,45	54.00	30,55
7204.848	54.33	28.76	25,57	54.00	28,43
9606.475	47.40	28.76	18,64	54.00	35,36
14409.703	56.45	28.76	27,69	54.00	26,31

3.4. Radiated Field Strength Emissions - 18GHz to 26.5GHz

4.01c



16:34:06 21.12.2018

3.5. Radiated Band-Edge Measurements

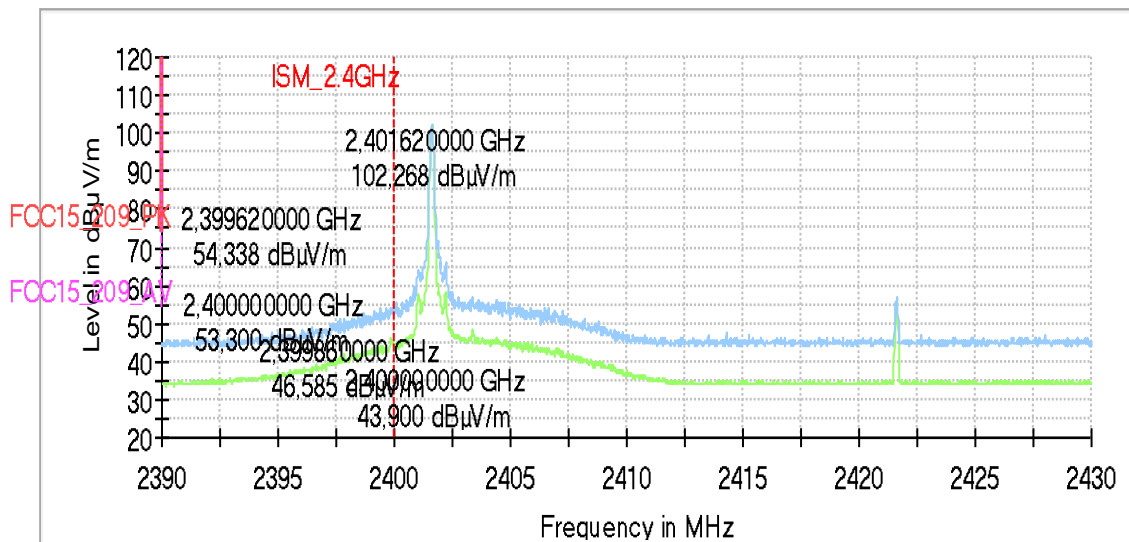
3.5.1. Low Channel 2402.5 MHz (2.4 GHz ISM: left band edge)

9.01a

Common Information

Test description:	Band-Edge Electric Field Strength Measurement related to 3m distance
Test site and distance:	Ref.-Nr. xxxx Semi Anechoic Chamber (SAC5) with 3m measurement distance
Test Location:	CETECOM GmbH Düsseldorf
Version of Testsoftware:	EMC32 V10.0.0
Test specification:	FCC15.209 / RSS-Gen Issue 5
Distance correction:	none
Operating Mode:	Channel low, Non Hopping Mode on
Used filter:	none
Power during test:	120V AC 60 Hz
Measured side(s):	front, right, rear, left
Operator:	MAh

Full Spectrum



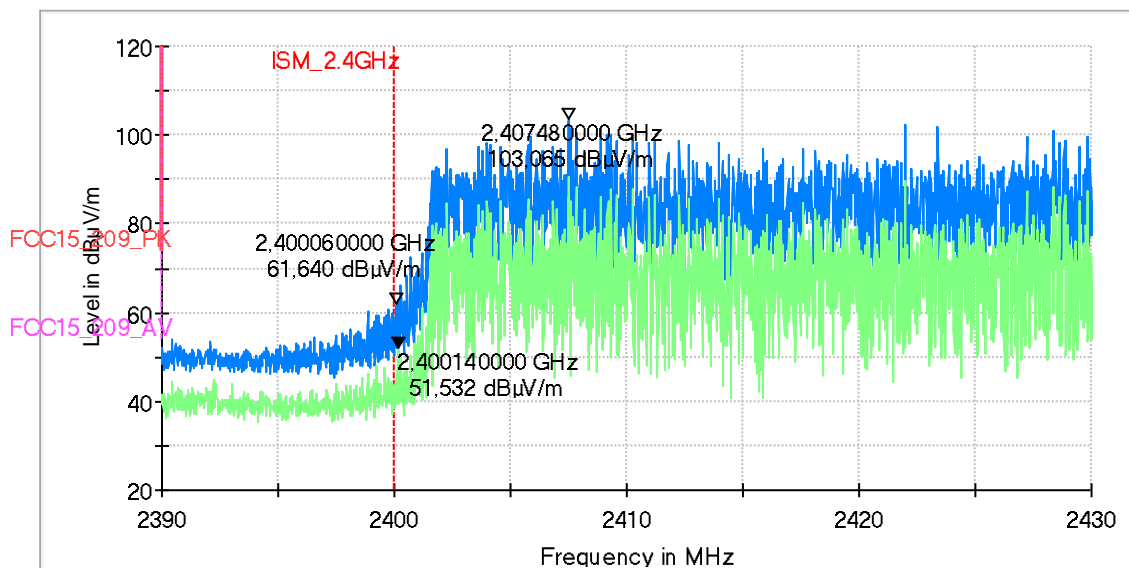
- * Preview Result 2-AVG [Preview Result 2.Result 2]
- Preview Result 1-PK+ [Preview Result 1.Result 1]
- Critical_Freqs AVG [Critical_Freqs.Result 5]
- - - Critical_Freqs PK+ [Critical_Freqs.Result 4]
- ◆ FCC15_209_PK [..\02 EMI FCC\FCC_Part15\FCC_Part15.209\]
- ◆ FCC15_209_AV [..\02 EMI FCC\FCC_Part15\FCC_Part15.209\]

9.02a

Common Information

Test description:	Band-Edge Electric Field Strength Measurement related to 3m distance
Test site and distance:	Ref.-Nr. xxxx Semi Anechoic Chamber (SAC5) with 3m measurement distance
Test Location:	CETECOM GmbH Düsseldorf
Version of Testsoftware:	EMC32 V10.0.0
Test specification:	FCC15.209 / RSS-Gen Issue 5
Distance correction:	none
Operating Mode:	Channel low, Hopping Mode on
Used filter:	none
Power during test:	120V AC 60 Hz
Measured side(s):	front, right, rear, left
Operator:	MAh

Full Spectrum



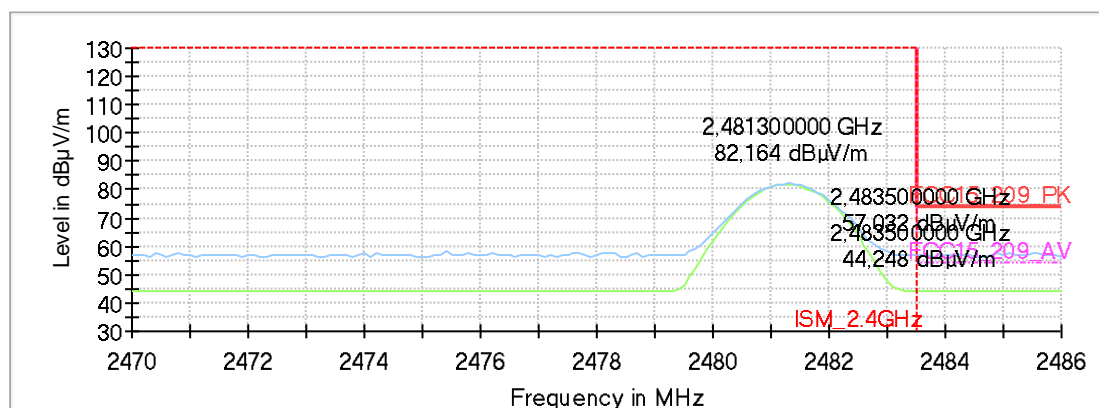
3.5.2. High Channel 2471.5 MHz (2.4 GHz ISM: right band edge)

9.01b

Common Information

Test description:	Band-Edge Electric Field Strength Measurement related to 3m distance
Test site and distance:	Ref.-Nr. xxxx Semi Anechoic Chamber (SAC5) with 3m measurement distance
Test Location:	CETECOM GmbH Düsseldorf
Version of Testsoftware:	EMC32 V10.0.0
Test specification:	FCC15.209 / RSS-Gen Issue 5
Distance correction:	none
Operating Mode:	Channel high, non Hopping Mode on,
Used filter:	none
Power during test:	120V AC 60 Hz
Measured side(s):	front, right, rear, left
Operator:	MAh

Full Spectrum



- * Preview Result 2-AVG [Preview Result 2.Result 2]
- Preview Result 1-PK+ [Preview Result 1.Result 1]
- Critical_Freqs AVG [Critical_Freqs.Result 5]
- Critical_Freqs PK+ [Critical_Freqs.Result: 4]
- ◆ FCC15_209_PK [..\02 EMI FCC\FCC_Part15\FCC_Part15.209\]
- ◆ FCC15_209_AV [..\02 EMI FCC\FCC_Part15\FCC_Part15.209\]

9.02b

Common Information

Test description:	Band-Edge Electric Field Strength Measurement related to 3m distance
Test site and distance:	Ref.-Nr. xxxx Semi Anechoic Chamber (SAC5) with 3m measurement distance
Test Location:	CETECOM GmbH Düsseldorf
Version of Testsoftware:	EMC32 V10.0.0
Test specification:	FCC15.209 / RSS-Gen Issue 5
Distance correction:	none
Operating Mode:	Channel high, Hopping Mode on,
Used filter:	none
Power during test:	120V AC 60 Hz
Measured side(s):	front, right, rear, left
Operator:	MAh

Full Spectrum

