

Annex 1: Measurement diagrams to
PARTIAL TEST REPORT
No.: 18-1-0210201T03a

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: HR1956-2)

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

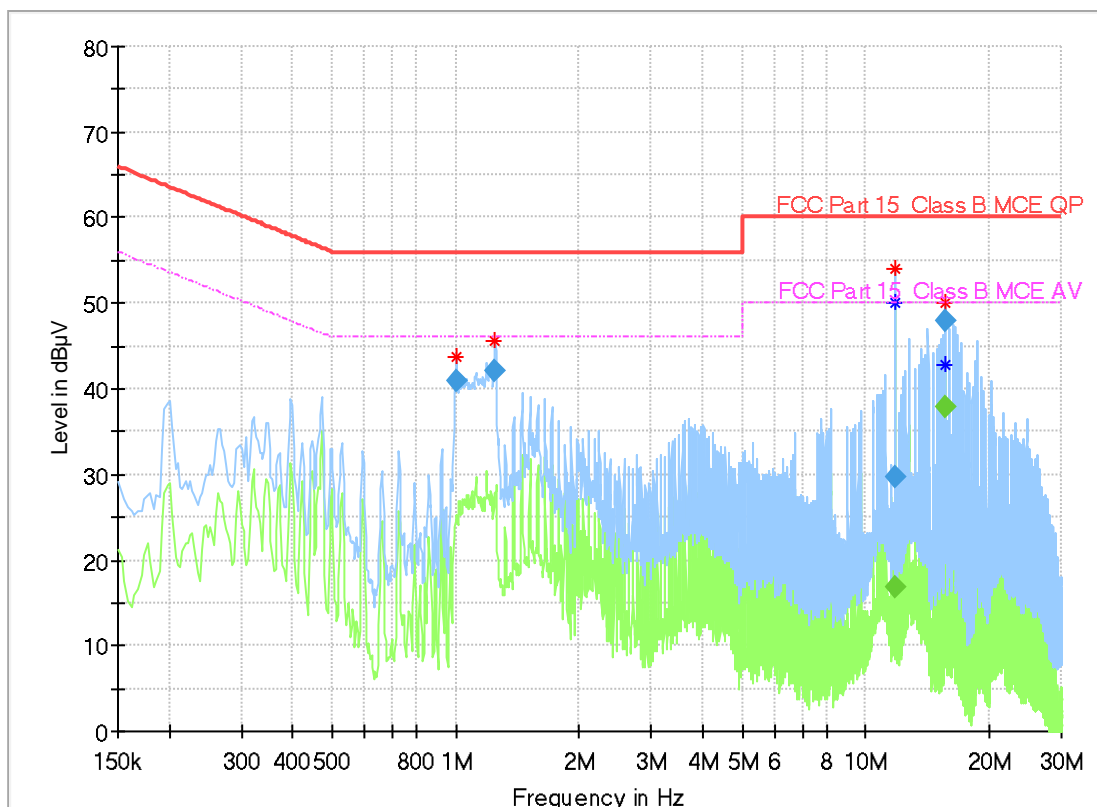
Common Information

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
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:	HR1956-2
HW:	Pre Production B0 Series
SW:	Pre Production B0 Series
Serial Nr.:	153703216

Full Spectrum



Frequency (MHz)	QuasiPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	PE	Corr. (dB)
1.002000	40.84	---	56.00	15.16	1000.0	9.000	L1	GND	0.2
1.248000	42.01	---	56.00	13.99	1000.0	9.000	N	GND	0.2
11.826000	---	16.88	50.00	33.12	1000.0	9.000	N	GND	0.7
11.826000	29.66	---	60.00	30.34	1000.0	9.000	N	GND	0.7
15.687000	47.90	---	60.00	12.10	1000.0	9.000	L1	GND	0.9
15.687000	---	37.80	50.00	12.20	1000.0	9.000	L1	GND	0.9

2. Conducted Measurements

2.1. Conducted Power

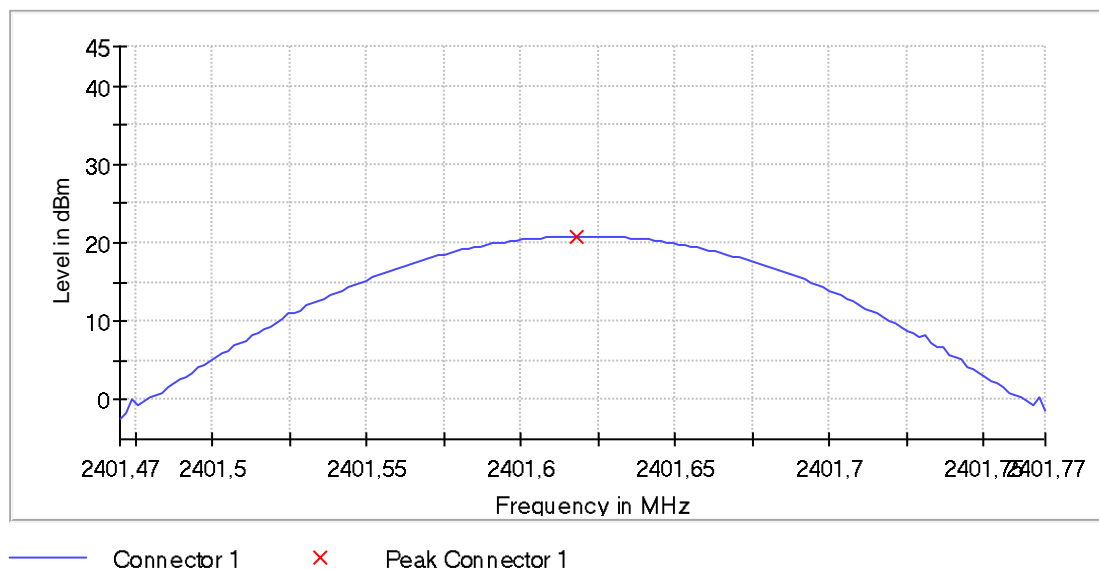
Peak output power (Sweep) (2401,62 MHz; 20,000 dBm; 133 kHz; Test Mode)

Test according to FCC title 47 part 15 §15.247(b), 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



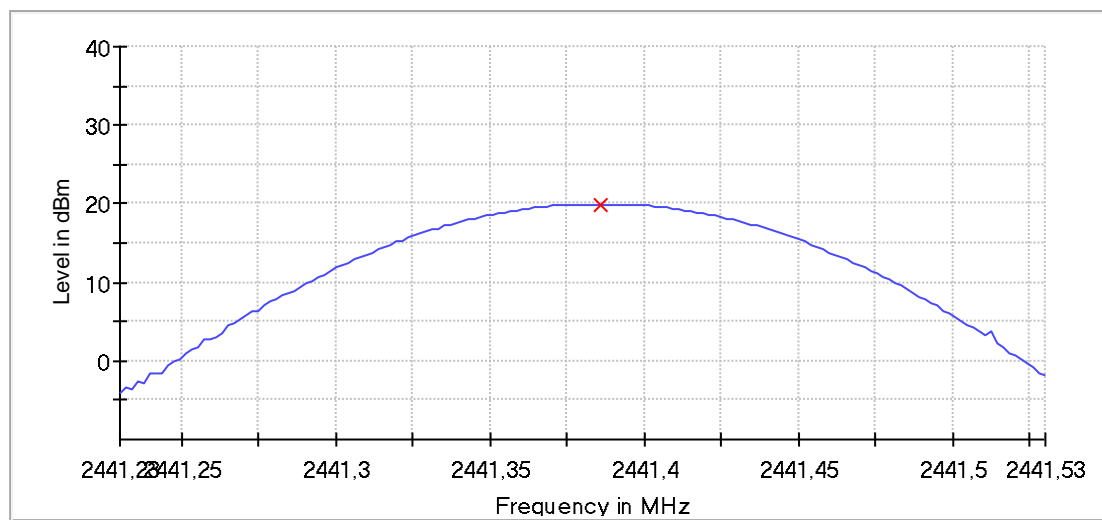
Peak output power (Sweep) (2441,38 MHz; 20,000 dBm; 133 kHz; Test Mode)

Test according to FCC title 47 part 15 §15.247(b), 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

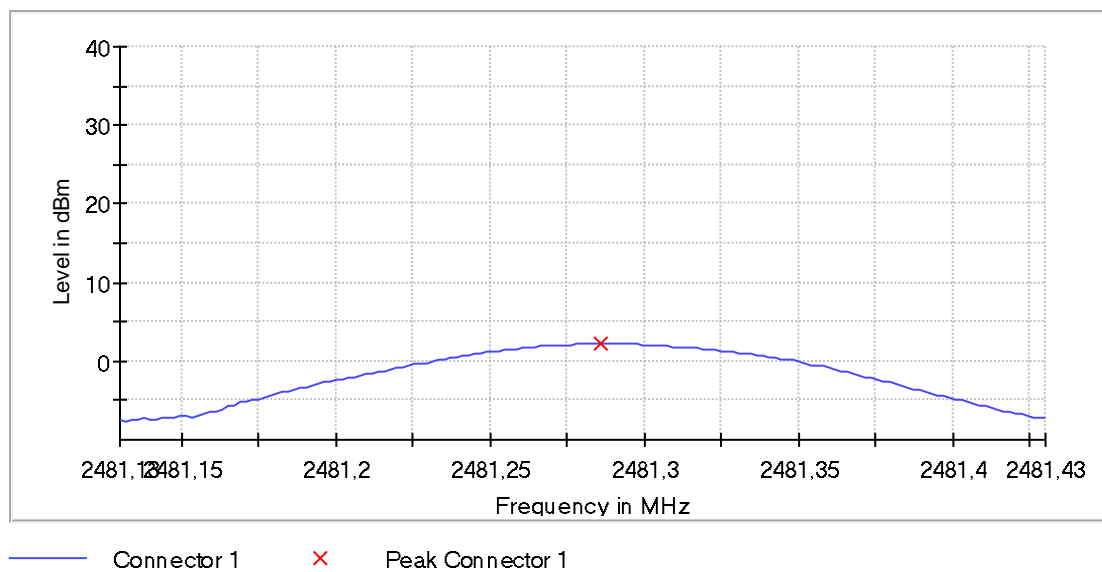
Peak output power (Sweep) (2481,28 MHz; 20,000 dBm; 133 kHz; Test Mode)

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

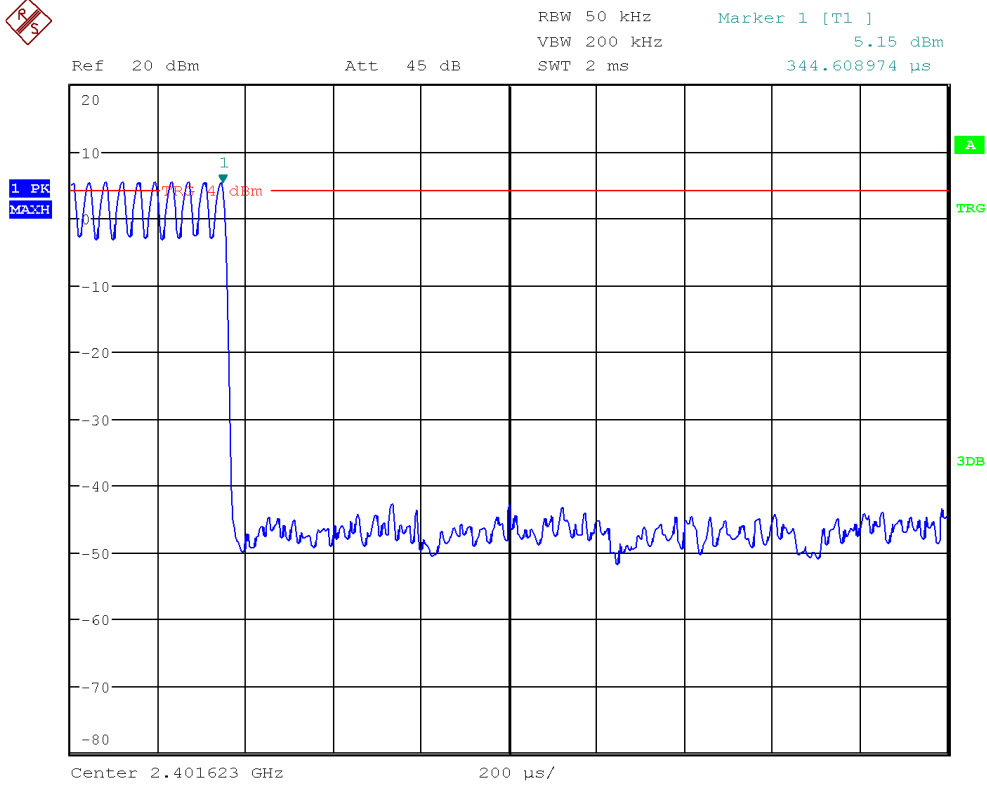
Result

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

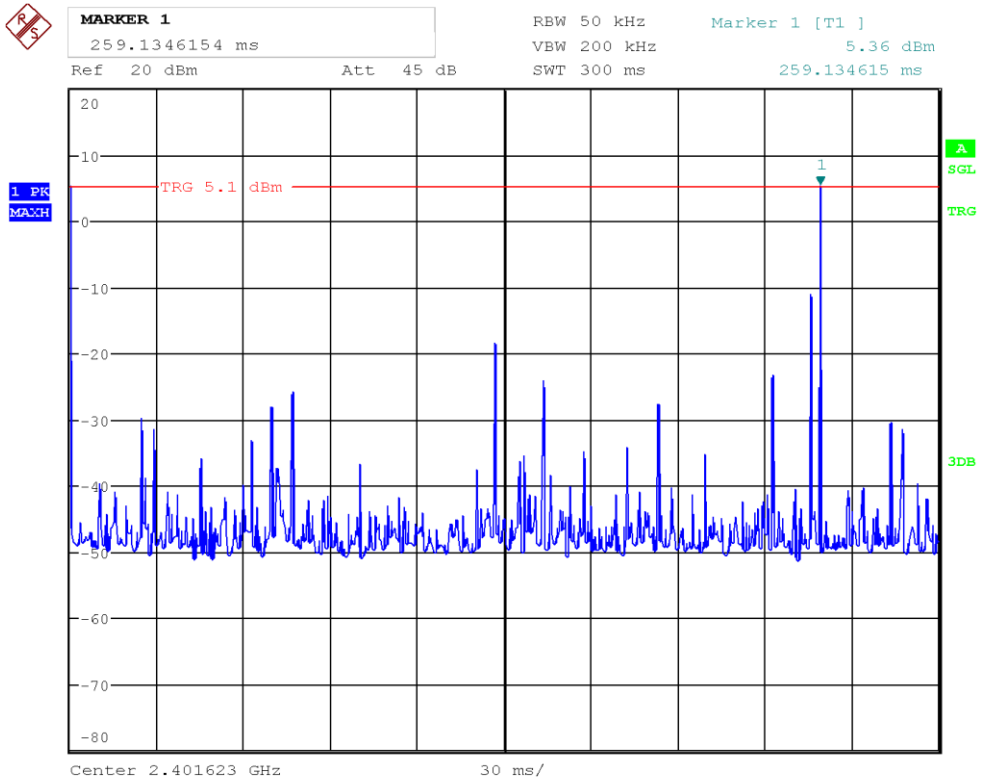


2.2. Time of Channel Occupancy

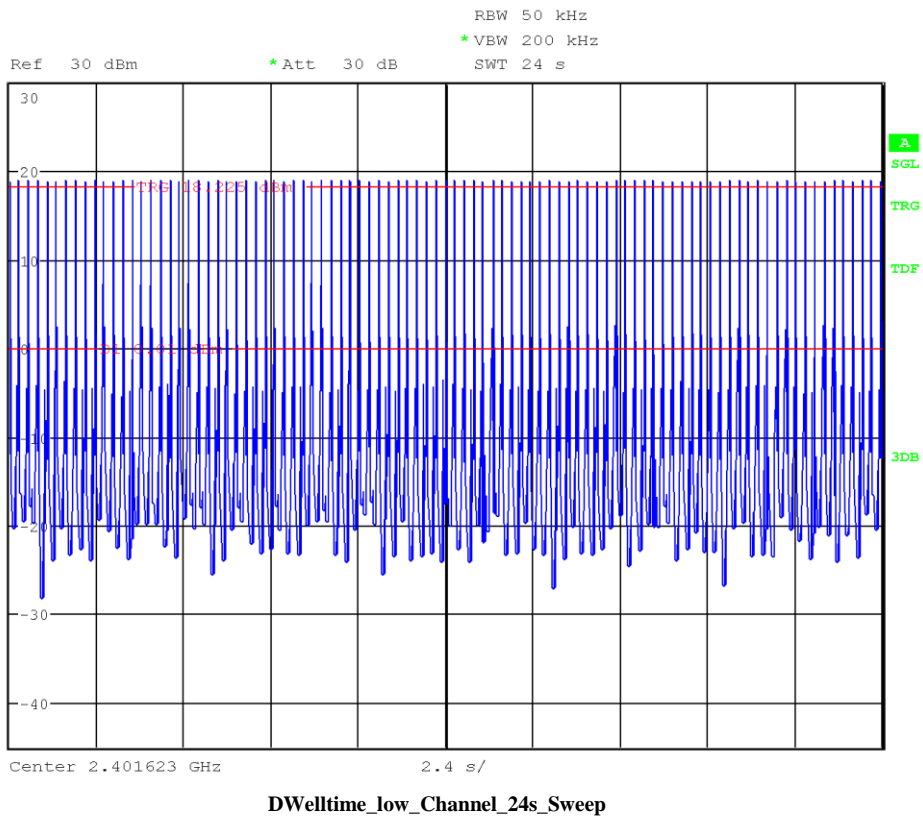
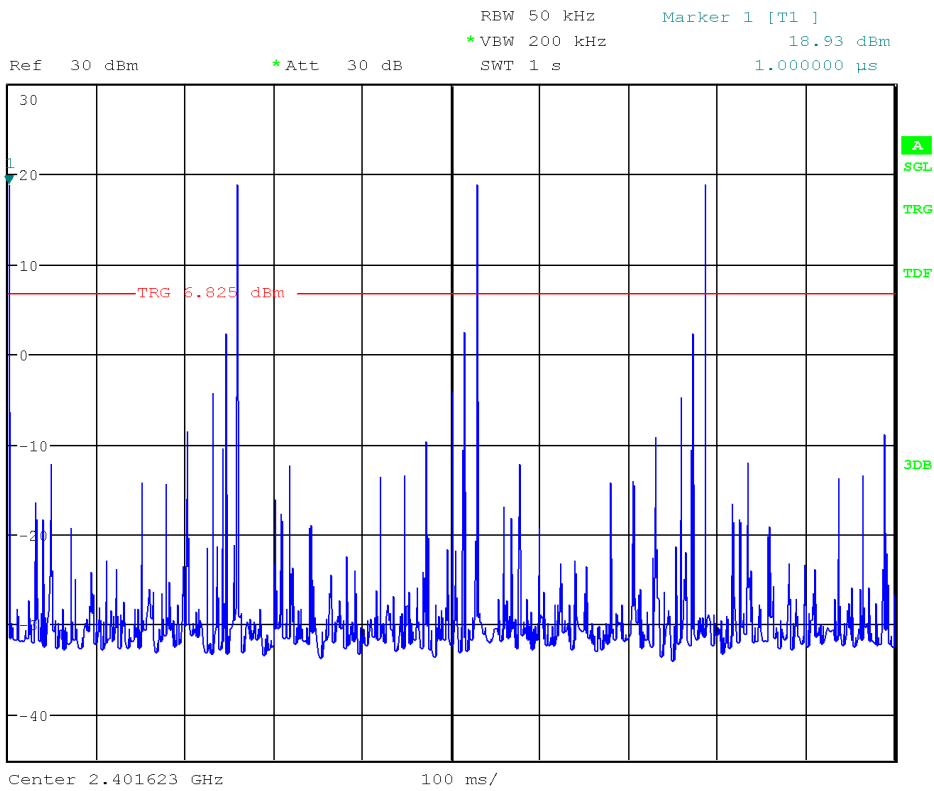
2.2.1. Low Channel



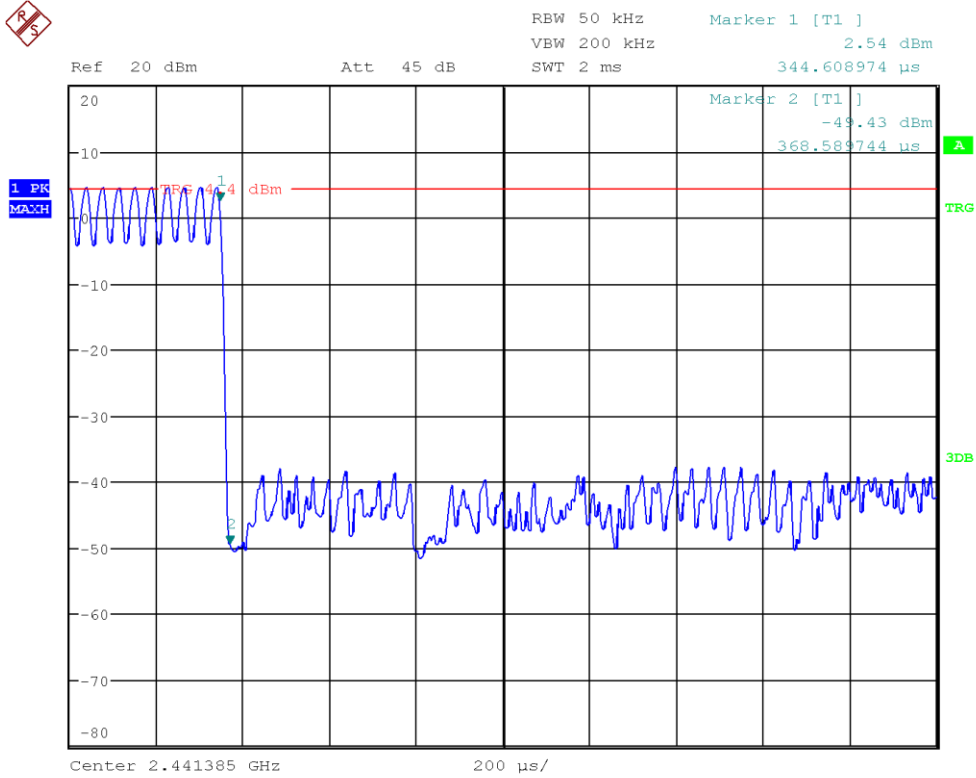
DWelltime_low Channel



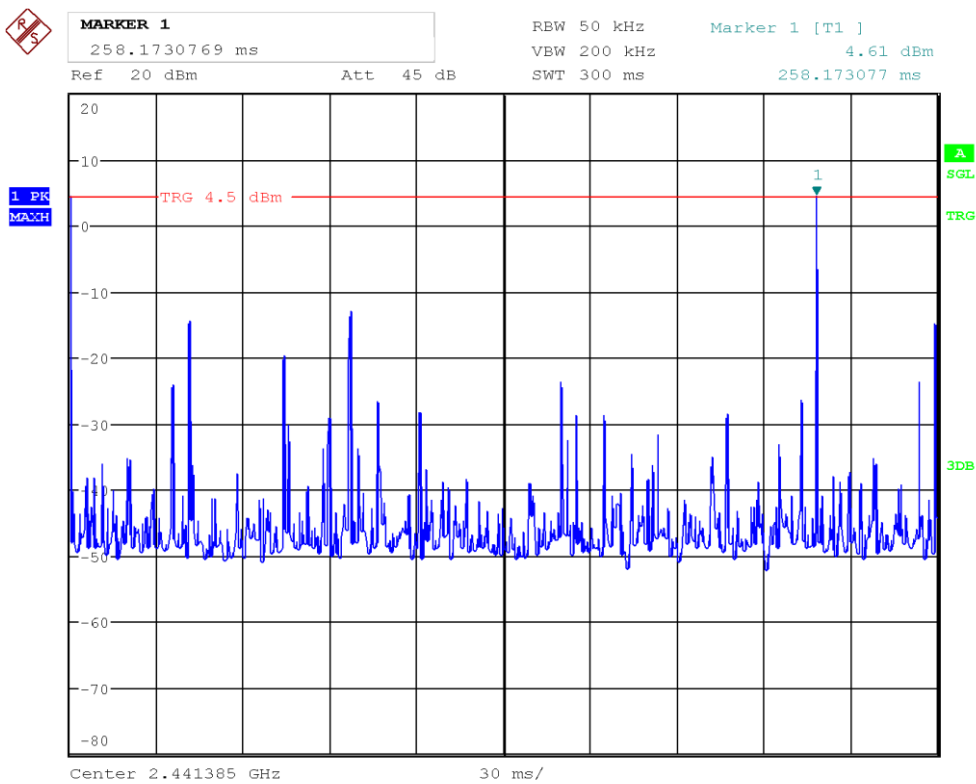
DWelltime_low Channel_300ms Sweep



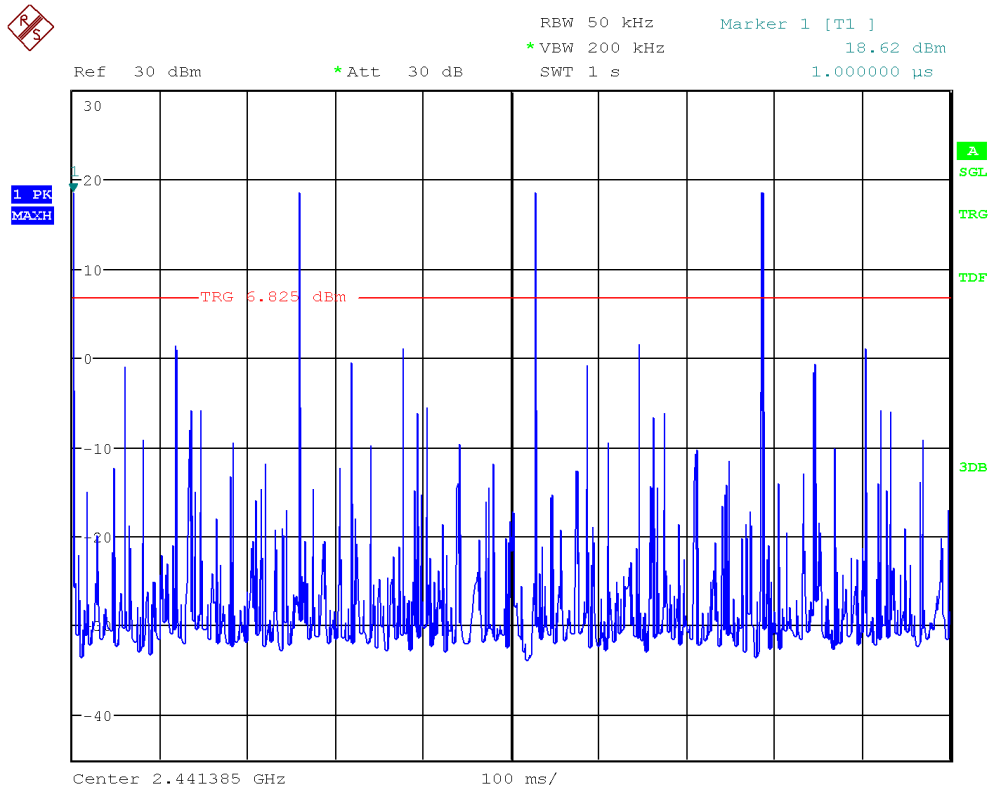
2.2.2. Mid Channel



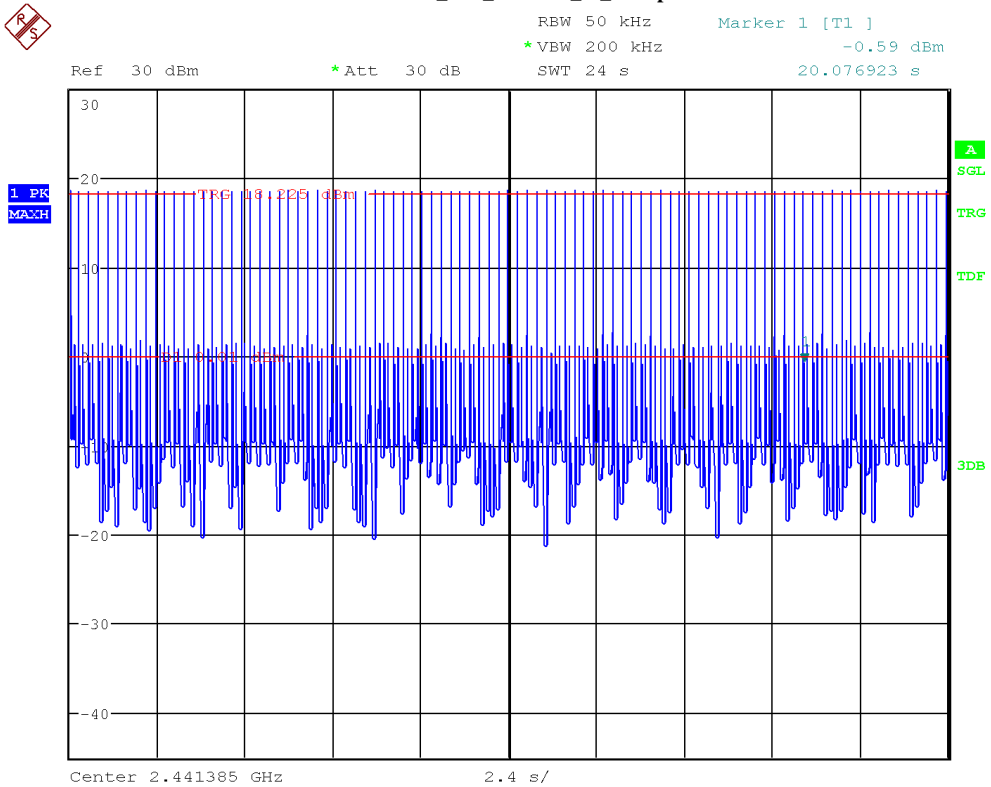
DWelltime_mid Channel



DWelltime_midChannel_300ms_Sweep

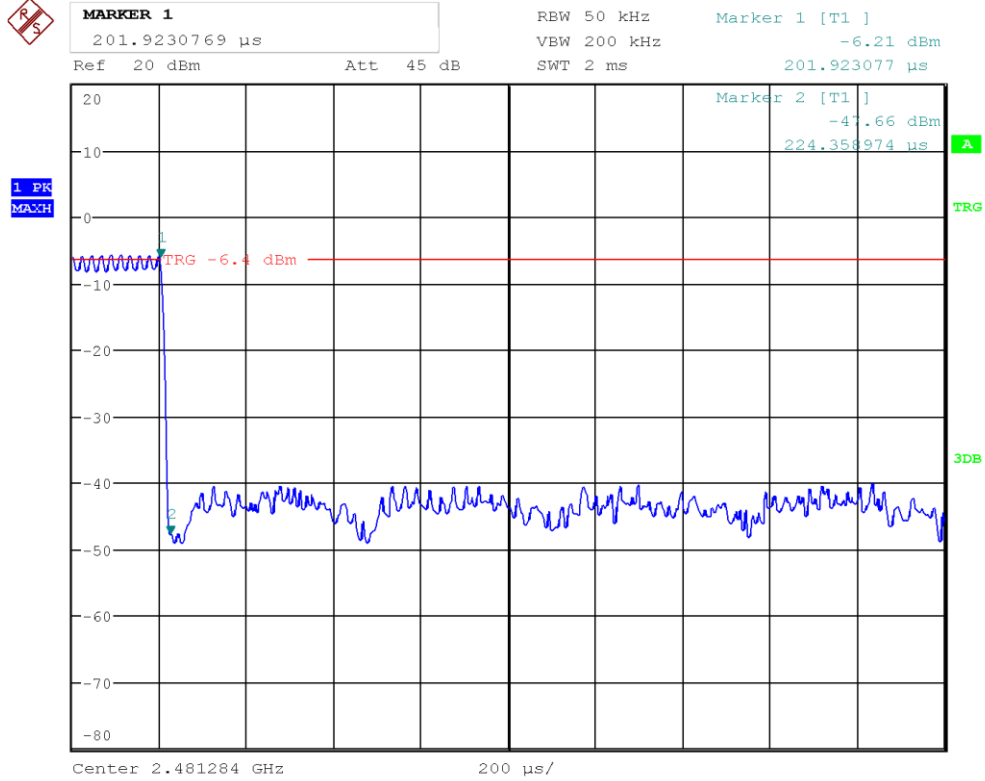


DWelltime_mid_Channel_1s_Sweep

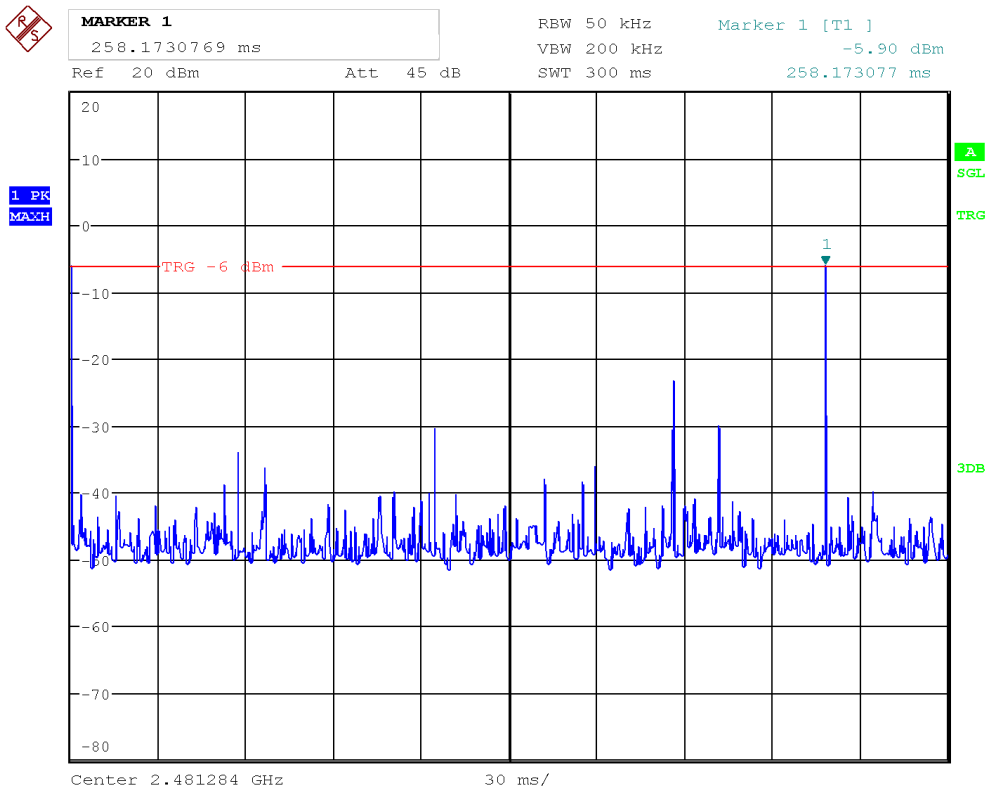


DWelltime_mid_Channel_24s_Sweep

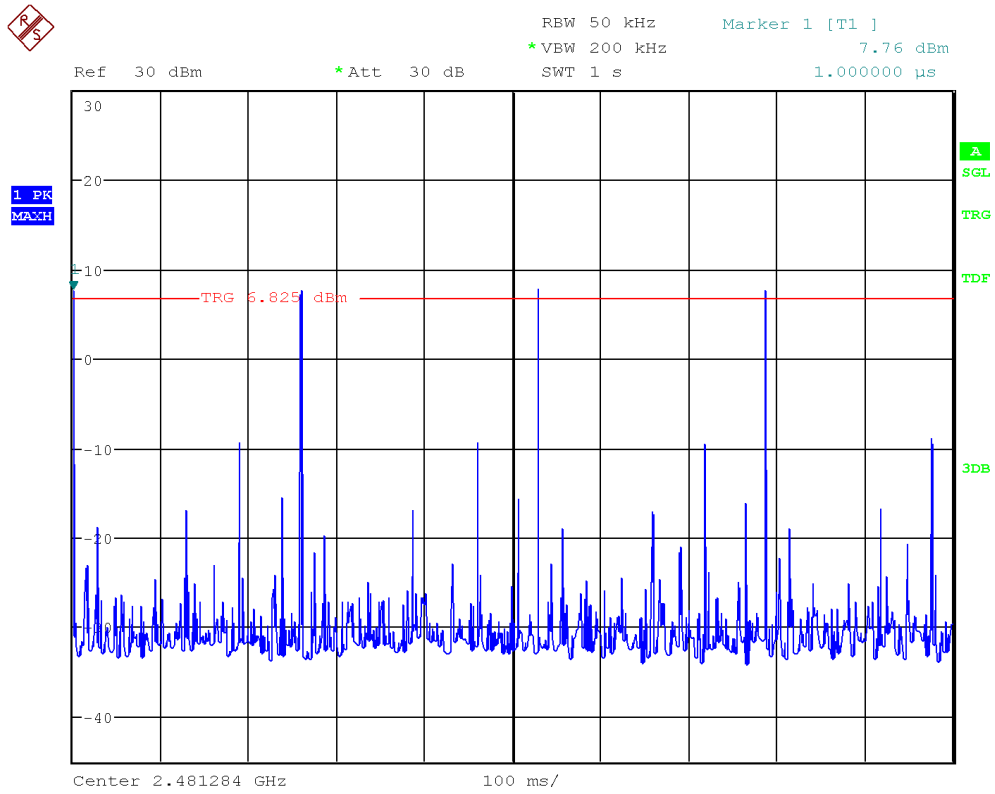
2.2.3. High Channel



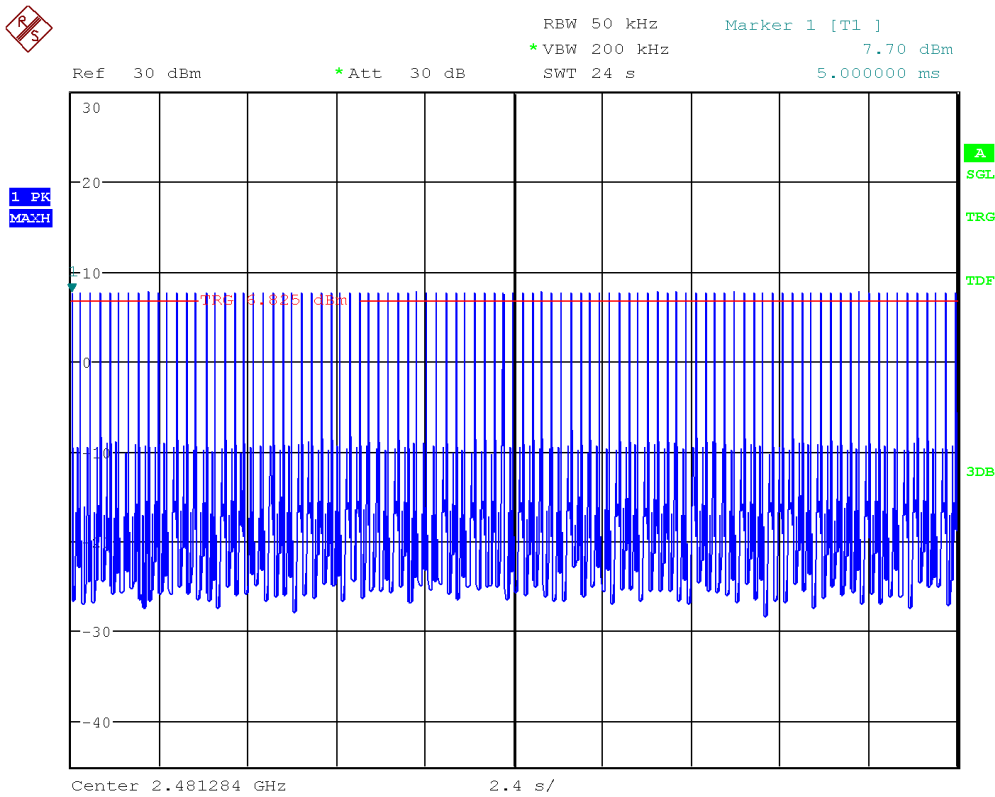
DWelltime_high Channel



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

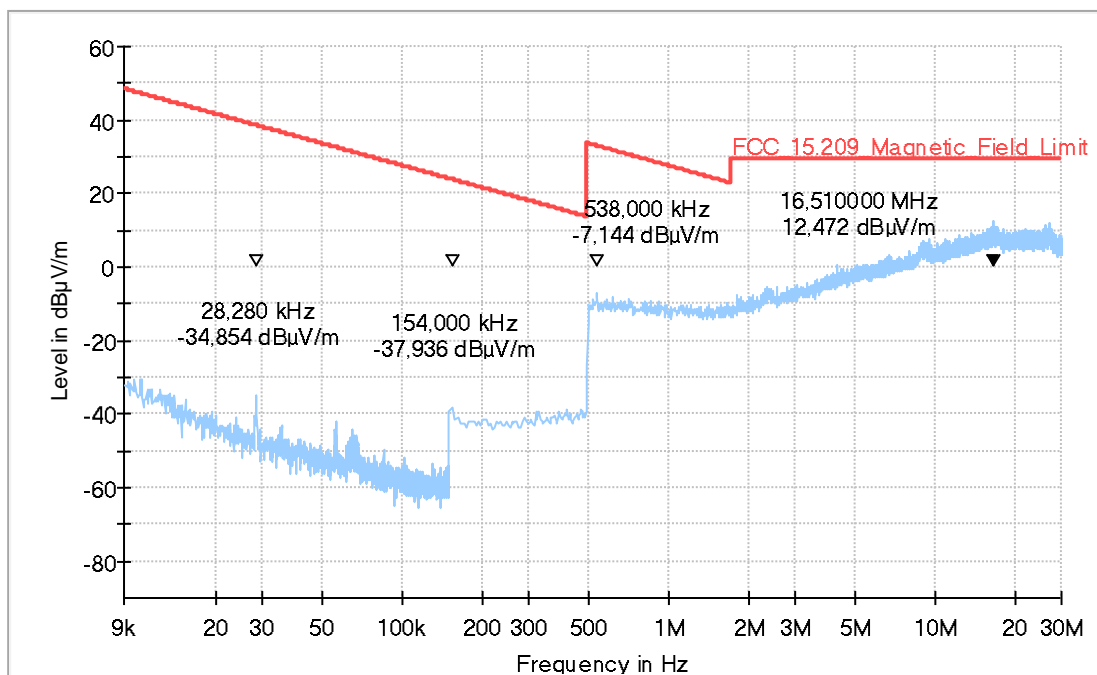
Common Information

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:	HR1956-2
HW:	Pre Production B0 Series
SW:	Pre Production B0 Series
Serial Nr.:	153703216

Full Spectrum



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

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

3.01

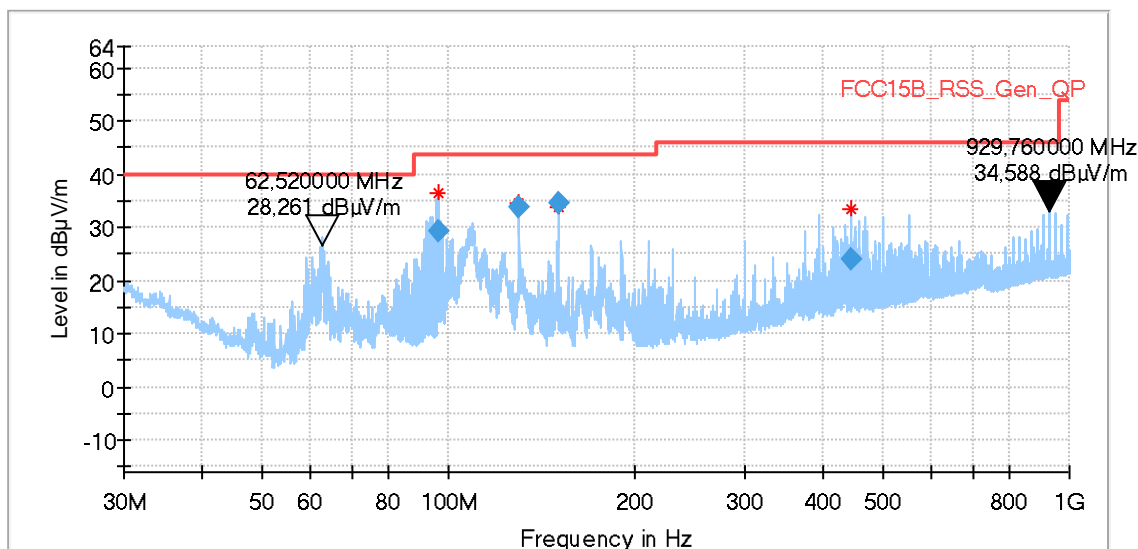
Common Information

Test description:	Electric Field Strength Measurement
Test site and distance:	Ref.-Nr. 441 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:	HR1956-2
HW:	Pre Production B0 Series
SW:	Pre Production B0 Series
Serial Nr.:	153703216

Full Spectrum



◆ Preview Result 1-PK+ [Preview Result 1.Result1]

Final Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
96.348000	29.23	43.50	14.27	120.000	100.0	V	80.0	11.3
129.992000	33.80	43.50	9.70	120.000	104.0	V	23.0	11.5
149.992000	34.55	43.50	8.95	120.000	100.0	V	272.0	10.0
444.000000	24.05	46.00	21.95	120.000	113.0	V	355.0	16.3

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

4.01a

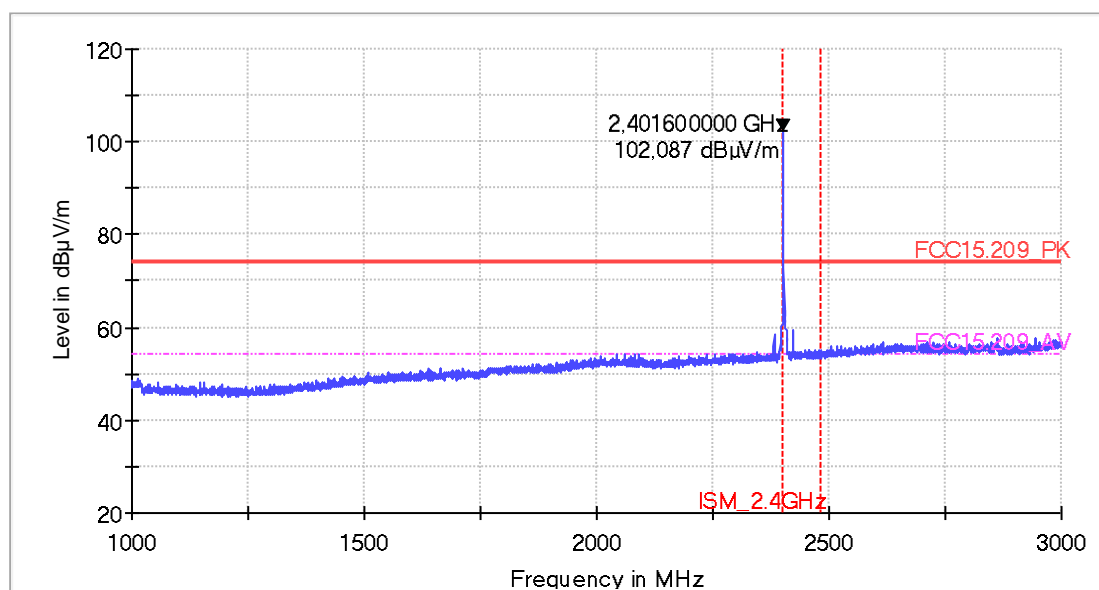
Common Information

Test description:	Electric Field Strength Measurement
Test site and distance:	Ref.-Nr. 441 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:	HR1956-2
HW:	Pre Production B0 Series
SW:	Pre Production B0 Series
Serial Nr.:	153703216

Full Spectrum



4.01b

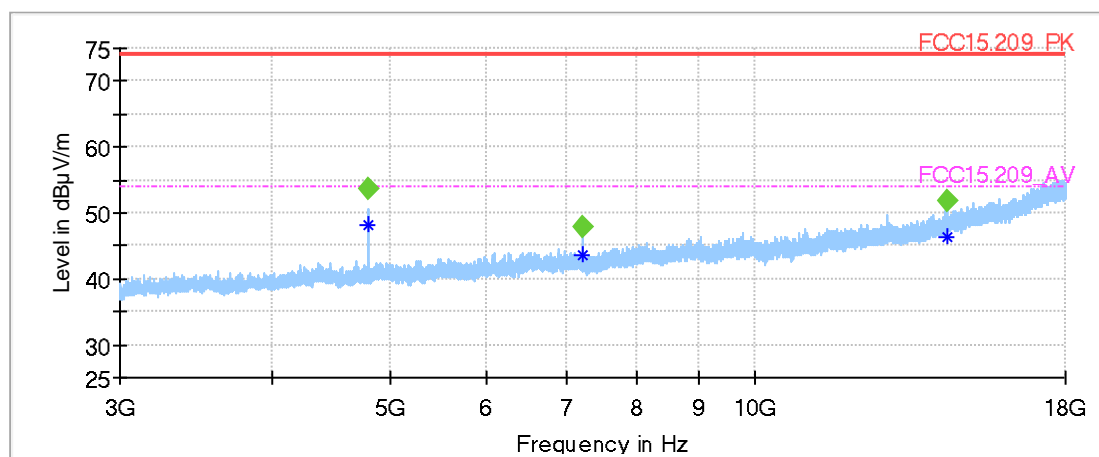
Common Information

Test description:	Electric Field Strength Measurement
Test site and distance:	Ref.-Nr. 441 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:	HR1956-2
HW:	Pre Production B0 Series
SW:	Pre Production B0 Series
Serial Nr.:	153703216

Full Spectrum



- * Preview Result 2-AVG [Preview Result 2.Result2]
- Preview Result 1-PK+ [Preview Result 1.Result1]
- Critical_Freqs AVG [Critical_Freqs.Result5]
- ◆ Critical_Freqs PK+ [Critical_Freqs.Result:4]
- ◆ FCC15.209_PK [..\02 EMI FCC\FCC_Part15\FCC_Part15.209\]

Final Result

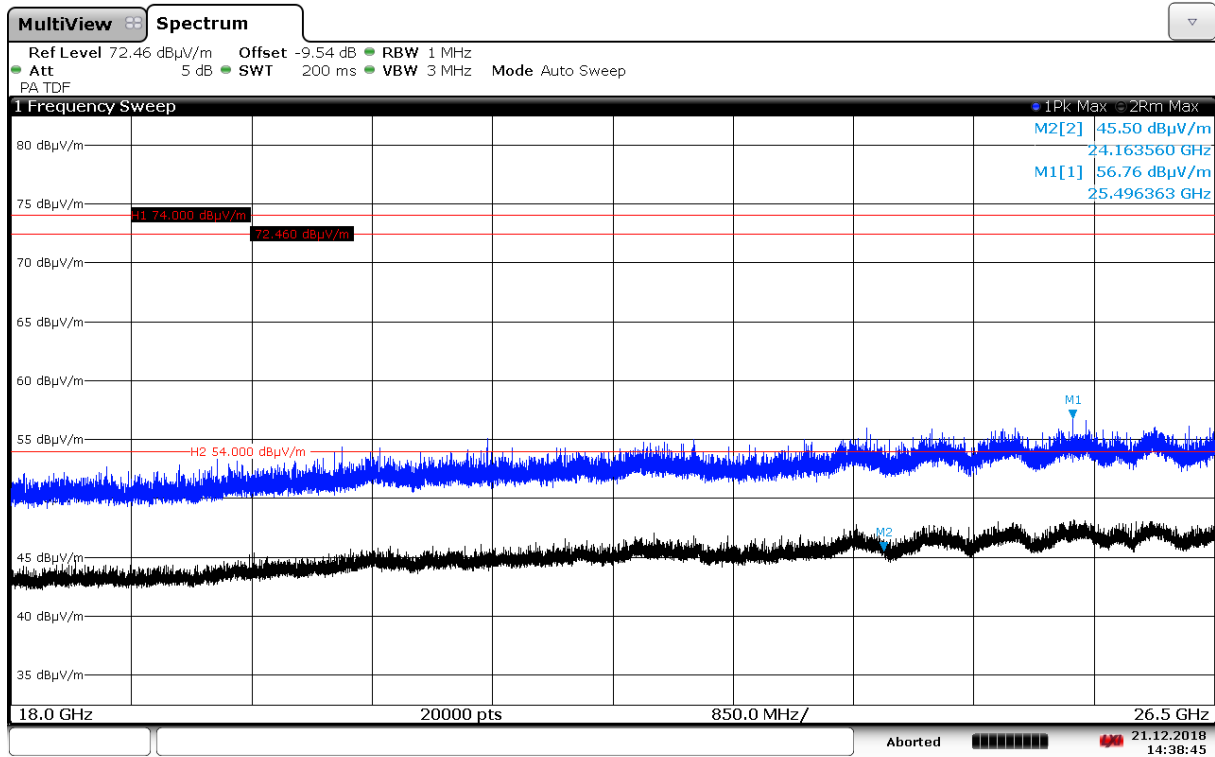
Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Azimuth (deg)	Corr. (dB)
4803.233333	53.70	74.00	20,3	100.0	1000.000	-35.0	-15.5
7204.855000	48.00	74.00	26,00	100.0	1000.000	110.0	-10.9
14409.695000	51.91	74.00	22,09	100.0	1000.000	0.0	3.9

Final Result Average

Frequency (MHz)	MaxPeak (dBµV/m)	DC (dB)	Avg (dBµV/m)	Limit (dBµV/m)	Margin (dB)
4803.233	55.51	28,76	24,94	54,00	29,06
7204.855	54.33	28,76	19,24	54,00	34,76
14409.695	61.60	28,76	23,15	54,00	30,85

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

4.01c



14:38:46 21.12.2018

3.5. Radiated Band-Edge Measurements

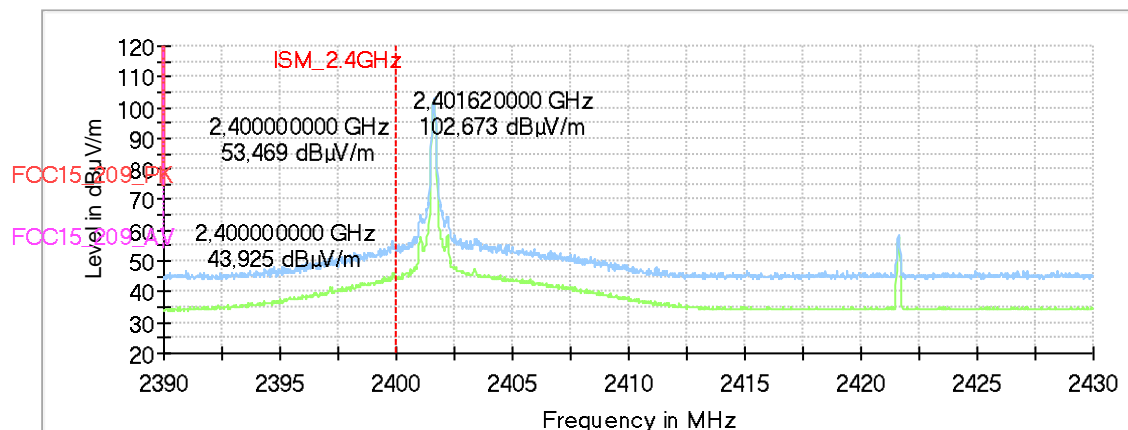
3.5.1. Low Channel 2402.5 MHz (2.4 GHz ISM: left band edge)

9.01a

Common Information

Test description:	Band-Edge Electric Field Strength Measurement related to 3m distance
Test site and distance:	Ref.-Nr. 441x 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

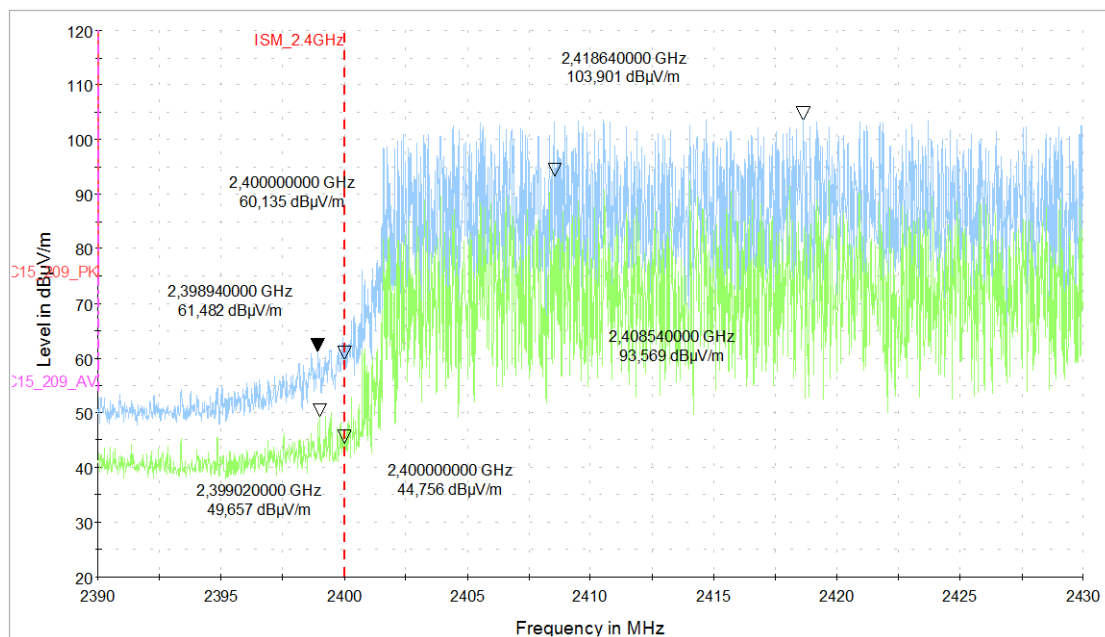


- * Preview Result 2-AVG [Preview Result 2.Result 2]
- Preview Result 1-PK+ [Preview Result 1.Result 1]
- Critical_Freqs AVG [Critical_Freqs.Result 5]
- - - Critical_Freqs PK+ [Critical_Freqs.Result 4]
- ◆ FCC15_209_PK [..\02 EMI FCC\FCC_Part15\FCC_Part15.209\]
- ◆ FCC15_209_AV [..\02 EMI FCC\FCC_Part15\FCC_Part15.209\]

9.02a

Common Information

Test description:	Band-Edge Electric Field Strength Measurement related to 3m distance
Test site and distance:	Ref.-Nr. 441x 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



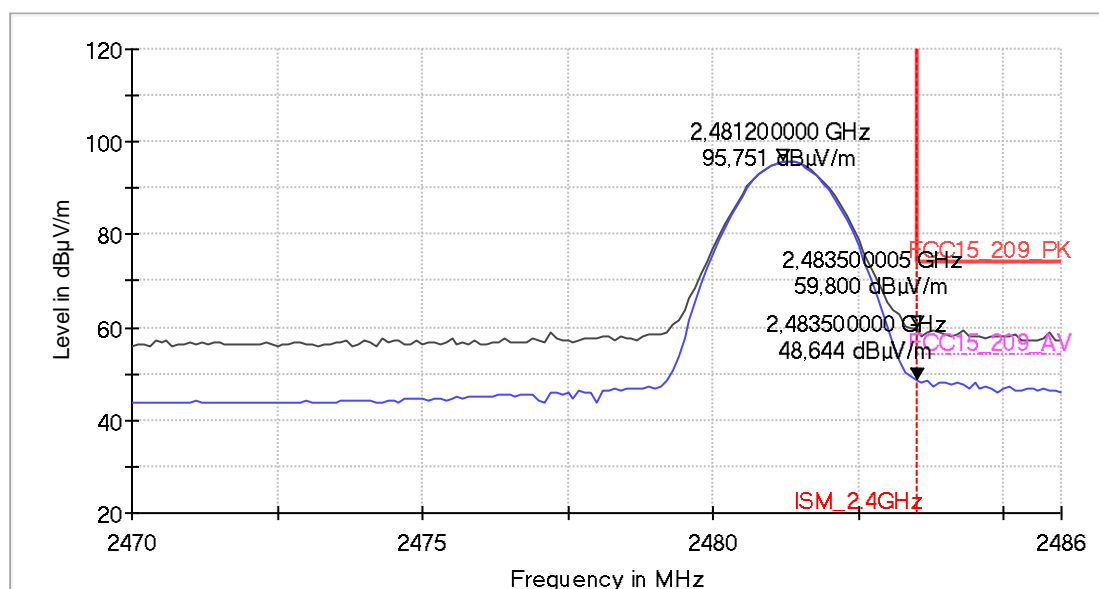
3.5.2. High Channel 2471.5 MHz (2.4 GHz ISM: right band edge)

9.01b

Common Information

Test description:	Band-Edge Electric Field Strength Measurement related to 3m distance
Test site and distance:	Ref.-Nr. 441x 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



9.02b

Common Information

Test description:	Band-Edge Electric Field Strength Measurement related to 3m distance
Test site and distance:	Ref.-Nr. 441x 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

