ETS Dr.Genz Taiwan PS Co., LTD

FCC Registration No.: 930600

Industry Canada filed test laboratory Reg. No. IC 5679

A2LA Cert.No.: 2300.01

PCTRB Accredited Type Certification Test House

FCC

TEST - REPORT

FCC RULES PART 15 / SUBPART C

FCC ID: UZPCWT-7042R

Test report no.: W6M20701-7746-P-15

ETS DR.GENZ TAIWAN PS CO., LTD.
6F, NO. 58, LANE 188, RUEY-KUANG RD., NEIHU, TAIPEI 114, TAIWAN, R.O.C.
PHONE 886-2-66068877 FAX 886-2-66068879

Registration number: W6M20701-7746-P-15
FCC ID : UZPCWT-7042R

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1 General Information

1.1 Notes

The purpose of conformity testing is to increase the probability of adherence to the essential requirements or conformity specifications, as appropriate.
The complexity of the technical specifications, however, means that full and thorough testing is impractical for both technical and economic reasons.
Furthermore, there is no guarantee that a test sample which has Passed all the relevant tests conforms to a specification.
Neither is there any guarantee that such a test sample will interwork with other genuinely open systems.
The existence of the tests nevertheless provides the confidence that the test sample possesses the qualities as maintained and that is performance generally conforms to representative cases of communications equipment.

The test results of this test report relate exclusively to the item tested as specified in 1.5.
The test report may only be reproduced or published in full.
Reproduction or publication of extracts from the report requires the prior written approval of the ETS DR. GENZ TAIWAN PS CO., LTD.

Tester:

Jan 19, 2007		Jay Chaing	Jay Chaing
Date	ETS-Lab.	Name	Signature

Technical responsibility for area of testing:

Jan 19, 2007		Steven Chuang	Steven Chuang
Date	ETS	Name	Signature

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1.2 Testing laboratory

1.2.1 Location

OATS
No.5-1, Shuang Sing Village,
LiShuei Rd., Wanli Township,
Taipei County 207, Taiwan (R.O.C.)

Company
ETS DR. GENZ TAIWAN PS CO., LTD.
6F, NO. 58, LANE 188, RUEY-KUANG RD.
NEIHU, TAIPEI 114, TAIWAN R.O.C.
Tel : 886-2-66068877
Fax : 886-2-66068879

1.2.2 Details of accreditation status

Accredited testing laboratory

A2LA-registration number: 2300.01

FCC filed test laboratory Reg. No. 930600

Industry Canada filed test laboratory Reg. No. IC 5679

PCTRB Accredited Type Certification Test House

1.3 Details of approval holder

Name	: CWT CO., LTD.
Street	: 10F., NO.74.SEC.1, CHUNG-HUA RD.,
Town	: 108 TAIPEI,
Country	: TAIWAN, R.O.C.
Telephone	: +886-2-2370-0036
Fax	: +886-2-2370-0040

1.4 Application details

Date of receipt of application : Jan 09, 2007
Date of receipt of test item : Jan 11, 2007
Date of test : from Jan 12, 2007 to Jan 18, 2007

1.5 General information of Test item

Type of test item : Bluetooth Dongle
Model Number : CWT-7042R
Hardware : USB Ver1.1 Compliant
Software : btw 5.1.0.1700 later vision
Brand name : CWT
Photos : see Annex

Technical data

Frequency band : 2402 – 2483.5 MHz
Frequency (ch A) : 2.402 GHz
Frequency (ch B) : 2.441 GHz
Frequency (ch C) : 2.480 GHz

Transmitter **Unom**

Normal Mode
Power (ch A or ch 0) : Conducted: 9.17 dBm
Power (ch B or ch 39) : Conducted: 8.85 dBm
Power (ch C or ch 78) : Conducted: 7.44 dBm

EDR Mode
Power (ch A or ch 0) : Conducted: 11.55 dBm
Power (ch B or ch 39) : Conducted: 11.47 dBm
Power (ch C or ch 78) : Conducted: 9.86 dBm

Power supply adaptor : 5 VDC (power on NB)

Operation modes : duplex

Modulation Type : GFSK

Antenna Type : PCB antenna

Antenna gain : 2.95 dBi

Host device : none

Classification :

Fixed Device	☒
Mobile Device (Human Body distance ＞ 20cm)	☐
Portable Device (Human Body distance ＜ 20cm)	☐

Manufacturer: (if applicable)

Name : ./.
Street : ./.
Town : ./.
Country : ./.

Additional information : The test sample is designed as CWT-7042R device. Its pseudorandom hopping scheme, authentication, receiver parameters, synchronization procedure and other parameters are determined by CWT-7042R Specification.

1.6 Test standards

Technical standard : FCC RULES PART 15 Subpart B / SUBPART C § 15.247 : August, 2006

2 Technical test

2.1 Summary of test results

No deviations from the technical specification(s) were ascertained in the course of the tests performed. ☒

or

The deviations as specified in 3 were ascertained in the course of the tests performed. ☐

2.2 Test environment

Temperature : 23 °C
Relative humidity content : 20 ... 75 %
Air pressure : 86 ... 103 kPa

Details of power supply : 5 VDC (power on NB)

Extreme conditions parameters : test voltage : -- extreme
min :-- V
max :-- V

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2.3 Test Equipment List

No.	Test equipment	Type	Serial No.	Manufacturer	Cal. Date	Next Cal. Date
ETSTW-CE 001	EMI TEST RECEIVER	ESHS10	842121/013	R&S	2006/10/16	2007/10/15
ETSTW-CE 002	PREREULATOR MODE DC POWER SUPPLY	None	None		Function Test	
ETSTW-CE 003	AC POWER SOURCE	APS-9102	D161137	GW	Function Test	
ETSTW-CE 004	ZWEILEITER-V-NETZNACHBILDUNG TWO-LINE V-NETWORK	ESH3-Z5	840731/011	R&S	2006/10/16	2007/10/15
ETSTW-CE 005	Line-Impedance Stabilisation Network	NNBM 8126D	137	Schwarzbeck	2006/10/16	2007/10/15
ETSTW-CE 006	IMPULS-BEGRENZER PULSE LIMITER	ESH3-Z2	100226	R&S	In House Certificate	
ETSTW-CE 008	ABSORBING CLAMP	MDS 21	3469	ABSORPTIONS-MESSWANDLER-ZANGE	2005/10/24	2007/10/23
ETSTW-CE 009	TEMP.&HUMIDITY CHAMBER	GTH-225-40-1P-U	MAA0305-009	GIANT FORCE	2006/8/17	2007/8/16
ETSTW-CE 012	Dual-Phase-V-Network	NNB-2/16Z	03/10201	Telemeter	2006/6/13	2007/6/12
ETSTW-CE 013	CISPR 22 TWO BALANCED TELECOM PAIRS IMPEDANCE STABILIZATION NETWORK	FCC-TLISN-T4-02	20242	FCC	2005/12/8	2007/12/7
ETSTW-CE 014	CISPR 22 TWO BALANCED TELECOM PAIRS IMPEDANCE STABILIZATION NETWORK	FCC-TLISN-T2-02	20241	FCC	2005/12/7	2007/12/6
ETSTW-CE 015	CISPR 22 TWO BALANCED TELECOM PAIRS IMPEDANCE STABILIZATION NETWORK	FCC-TLISN-T8-02	20307	FCC	2006/11/7	2008/11/6
ETSTW-CE 016	TWO-LINE V-NETWORK	ENV216	100050	R&S	2006/11/21	2007/11/20
ETSTW-RE 002	Function Generator	33220A	MY43004982	Agilent	2005/10/14	2007/10/13
ETSTW-RE 003	EMI TEST RECEIVER	ESI 26	831438/001	R&S	2006/10/20	2007/10/19
ETSTW-RE 004	EMI TEST RECEIVER	ESI 40	832427/004	R&S	2006/10/30	2007/10/29
ETSTW-RE 005	EMI TEST RECEIVER	ESVS10	843207/020	R&S	2006/10/12	2007/10/11
ETSTW-RE 010	PROGRAMMABLE LINEAR POWER SUPPLY	LPS-305	30503070181	MOTECH	Function Test	
ETSTW-RE 011	PROGRAMMABLE LINEAR POWER SUPPLY	LPS-305	30503070165	MOTECH	Function Test	
ETSTW-RE 017	ANTENNA	HL025	352886/001	R&S	2006/5/4	2008/5/3
ETSTW-RE 018	ANTENNA	AT4560	27212	AR	2004/11/8	2007/11/7
ETSTW-RE 020	MICROWAVE HORN ANTENNA	AT4002A	306915	AR	Function Test	
ETSTW-RE 021	SWEEP GENERATOR	SWM05	835130/010	R&S	2006/10/11	2007/10/10
ETSTW-RE 027	Passive Loop Antenna	6512	34563	EMCO	2004/6/30	2007/6/29
ETSTW-RE 028	Log-Periodic DipoleArray Antenna	3148	34429	EMCO	2006/5/26	2008/5/25
ETSTW-RE 029	Biconical Antenna	3109	33524	EMCO	2006/5/26	2008/5/25
ETSTW-RE 030	Double-Ridged Waveguide Horm Antenna	3117	35224	EMCO	2006/5/3	2008/5/2
ETSTW-RE 032	Millivoltmeter	URV 55	849086/013	R&S	2006/10/11	2007/10/10
ETSTW-RE 033	4CH 1GHz 5GS/s DSO	WAVERUNNER 6100A	LCRY0604P14508	LeCroy	2006/7/27	2007/7/26
ETSTW-RE 034	Power Sensor	URV5-Z4	839313/006	R&S	2005/10/17	2007/10/16
ETSTW-RE 042	ANTENNA	HK116	100172	R&S	2007/1/13	2009/1/12
ETSTW-RE 043	ANTENNA	HL223	100166	R&S	2006/5/8	2008/5/7
ETSTW-RE 044	ANTENNA	HL050	100094	R&S	2006/5/29	2008/5/28

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ETSTW-RE 048	Triple Loop Antenna	HXYZ 9170	HXYZ 9170-134	Schwarzbeck	2005/3/22	2008/3/21
ETSTW-RE 049	TRILOG Super Broadband test Antenna	VULB 9160	9160-3185	Schwarzbeck	2005/5/19	2007/5/18
ETSTW-RE 055	SPECTRUM ANALYZER	FSU-26	200074	R&S	2006/7/28	2007/7/27
ETSTW-GSM 01	SIM Simulator	IT3	B2004-50106	ORGA	2006/7/26	2007/7/25
ETSTW-GSM 02	Universal Radio Communication Tester	CMU 200	109439	R&S	2006/10/18	2007/10/17
ETSTW-GSM 03	Agilent 8960 Test Set 1	E5515C	GB44052675	Agilent	2006/6/26	2008/6/25
ETSTW-GSM 04	Agilent 8960 Test Set 2	E5515C	GB44052665	Agilent	2006/6/29	2008/6/28
ETSTW-GSM 05	Agilent 8960 Test Set 3	E5515C	GB44052652	Agilent	2006/7/11	2008/7/10
ETSTW-GSM 06	Agilent 8960 Test Set 4	E5515C	GB44052684	Agilent	2006/7/4	2008/4/3
ETSTW-GSM 07	Agilent 8960 Test Set 5	E5515C	GB44052658	Agilent	2006/7/12	2008/7/11
ETSTW-GSM 08	Agilent 8960 Test Set 6	E5515C	GB44052666	Agilent	2006/7/6	2008/7/5
ETSTW-GSM 09	Controller PC	Dell GX 270	700F61J	Dell	Function Test	
ETSTW-GSM 10	Combiner Wessex / Anite	B4605/100	0053	Wessex / Anite	2006/9/22	2008/9/21
ETSTW-GSM 11	GSM 850,900,1800,1900 Test system	TS8950G		R&S	2004/12/03	2007/12/2
ETSTW-GSM 12	Acoustical Calibrator	4231	2463874	Brüel&Kjær	2006/7/26	2007/7/25
ETSTW-GSM 13	Conditioning Amplifier	2690--0S2	2437856	Brüel&Kjær	2006/7/26	2007/7/25
ETSTW-GSM 15	Mouth Simulator	4227	2462516	Brüel&Kjær	2006/7/26	2007/7/25
ETSTW-GSM 16	TEMP.&HUMIDITY CHAMBER	GTH-120-40-1P-U	MAA0501002	GIANT FORCE	2006/12/28	2007/12/27
ETSTW-GSM 18	AUDIO ANALYZER	UPL16	100173	R&S	2006/10/28	2007/10/27
ETSTW-GSM 23	SPLITTER	4901.19.A	None	SUHNER	Function Test	
ETSTW-GSM 24	Vibration Testing System	VS-100V	5494	Vibration	2006/12/19	2007/12/18
ETSTW-GSM 29	Microphone	4192	2458739	Brüel&Kjær	2006/7/26	2007/7/25
ETSTW-GSM 30	Ear Simulator	4195	2457416	Brüel&Kjær	2006/7/26	2007/7/25

2.4 General Test Procedure

POWER LINE CONDUCTED INTERFERENCE: The procedure used was ANSI STANDARD C63.4-2003 using a 50μH LISN (if necessary). Both lines were observed. The bandwidth of the spectrum analyzer was 10 kHz with an appropriate sweep speed.

RADIATION INTERFERENCE: The test procedure used was according to ANSI STANDARD C63.4-2003 employing a spectrum analyzer. For investigated frequency is equal to or below 1GHz, the RBW and VBW of the spectrum analyzer was 100 kHz and 100kHz respectively with an appropriate sweep speed. For investigated frequency is above 1GHz, both of RBW and VBW of the spectrum analyzer were 1 MHz with an appropriate sweep speed. The analyzer was calibrated in dB above a microvolt at the output of the antenna. The ambient. temperature of the UUT was 23°C with a humidity of 40 %.

FORMULA OF CONVERSION FACTORS: The Field Strength at 3m was established by adding the meter reading of the spectrum analyzer (which is set to read in units of dBμV) to the antenna correction factor supplied by the antenna manufacturer. The antenna correction factors are stated in terms of dB.

Example:

Freq (MHz)	METER READING + ACF + CABLE LOSS (to the receiver) = FS
33	20 dBμV + 10.36 dB + 6 dB = 36.36 dBμV/m @3m

The UUT was placed on a table 80 cm high and with dimensions of 1m by 1.5m (non metallic table) and arranged according to ANSI C63.4-2003 Section 13.1.2. The table used for radiated measurements is capable of continuous rotation. The spectrum was scanned from 30 MHz to the frequency specified as follows:

(1) If the intentional radiator operates below 10 GHz: to the tenth harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower.
(2) If the intentional radiator operates at or above 10 GHz and below 30 GHz: to the fifth harmonic of the highest fundamental frequency or to 100 GHz, whichever is lower.
(3) If the intentional radiator operates at or above 30 GHz: to the fifth harmonic of the highest fundamental frequency or to 200 GHz, whichever is lower, unless specified otherwise elsewhere in the rules.
(4) If the intentional radiator contains a digital device, regardless of whether this digital device controls the functions of the intentional radiator or the digital device is used for additional control or function purposes other than to enable the operation of the intentional radiator, the frequency range shall be investigated up to the range specified in paragraphs (a)(1)-(a)(3) of this section or the range applicable to the digital device, as shown in paragraph (b)(1) of this Section, whichever is the higher frequency range of investigation.

For hand-held devices, a exploratory test was performed with three (3) orthogonal planes to determine the highest emissions.
Measurements were made by ETS Dr. Genz Taiwan PS Co., Ltd. at the registered open field test site located No.5-1, Shuang Sing Village, LiShuei Rd., Wanli Township, Taipei County 207, Taiwan (R.O.C.). The Registration Number: 930600.

When an emission was found, the table was rotated to produce the maximum signal strength. At this point, the antenna was raised and lowered from 1m to 4m. The antenna was placed in both the horizontal and vertical planes.

When the radiated emission limits are expressed in terms of the average value of the emission, and pulsed operation is employed, the measurement field strength shall be determined by averaging over one complete pulse train, including blanking intervals, as long as the pulse train does not exceed 0.1 seconds. As an alternative (provided the transmitter operates for longer than 0.1 seconds) or in cases where the pulse train exceeds 0.1 seconds, the measured field strength shall be determined from the average absolute voltage during a 0.1 second interval during which the field strength is at its maximum value.

The formula is as follows:
Average = Peak + Duty Factor
Duty Factor = 20 log (dwell time/T)
T = 100ms when the pulse train period is over 100 ms or the period of the pulse train.

Modified Limits for peak according to 15.35 (b) = Max Permitted average Limits + 20dB

ANTENNA & GROUND:
This unit uses PCB antenna.

3 Test results (enclosure)

TEST CASE	Para. Number	Required	Test passed	Test failed
Peak Output Power	15.247(b)	☒	☒	☐
Equivalent radiated Power	15.247(b)	☒	☒	☐
Spurious Emissions radiated – Transmitter operating	15.247(c)	☒	☒	☐
Spurious Emissions conducted – Transmitter operating	15.247	☐	☐	☐
Carrier Frequency Separation	15.247(a) (1)	☒	☒	☐
Number of Hopping Frequencies	15.247(a) (1)(i)	☒	☒	☐
Time of Occupancy (Dwell Time)	15.247(a) (1)(i)	☒	☒	☐
20 dB Bandwidth	15.247(a) (1)(i)	☒	☒	☐
Band-edge Compliance of RF Emission	15.247(c)	☒	☒	☐
Radiated Emission from Digital Part And Receiver L.O.	15.109	☒	☒	☐
Power Line Conducted Emission	15.207(a)	☒	☒	☐

The follows is intended to leave blank.

3.1 Peak Output Power (transmitter)

FCC Rule: 15.247

This measurement applies to equipment with an integral antenna and to equipment with an antenna connector and equipped with an antenna as declared by the applicant.

The power was measured with modulation (declared by the applicant).

Normal mode

Test conditions		Conducted Power		
		Channel A [dBm]	**Channel B** [dBm]	**Channel C** [dBm]
T_{nom}= 23°C	V_{nom} = 5 V	9.17	8.85	7.44
Measurement uncertainty		< 3 dB		

EDR mode

Test conditions		Conducted Power		
		Channel A [dBm]	**Channel B** [dBm]	**Channel C** [dBm]
T_{nom}= 23°C	V_{nom} = 5 V	11.55	11.47	9.86
Measurement uncertainty		< 3 dB		

Test conditions		Radiated Power		
		Channel A [dBm]	**Channel B** [dBm]	**Channel C** [dBm]
T_{nom}= 23°C	V_{nom} = 5 V	--	--	--
Measurement uncertainty		< 3 dB		

Test conditions T_{nom}= 23°C, V_{nom}= 5 V Frequency[MHz]	Signal Field strength TX highest power mode dBµV/m
2480	105.73
Measurement uncertainty	< 3 dB

The diagrams for the field strength measurements are included in Appendix.

Maximum Peak Output Power

Limits:

Frequency	Number of hopping channels			
MHz	≥ 75	≥ 50	49 ≥ 25	74 ≥ 15
902-928		30 dBm	24 dBm	
2400-2483.5 MHz	30 dBm	-		21 dbm
5725-5850 MHz	30 dBm	-		

In case of employing transmitter antennas having antenna gain >dBi and using fixed poin-to point operation consider §15.247 (b)(4).

Test equipment used: ETSTW-RE 003 ETSTW-RE 004 ETSTW-RE 055

3.2 Equivalent isotropic radiated power

FCC Rule: 15.239(b), 15.35

Because using an internal antenna there are no deviations from the radiated test results according 3.1.

3.2.1 Transmitter

Integral Antenna:

At the transmitter the measurement was transacted with the modulation declared by the manufactrer and the maximum available output power of the EUT.
In this arrangement the EUT fulfils the requirements of the FCC rules § 15.247, subpart C, section b.
This unit uses an internal antenna. There is no provision for an external antenna (see photo).

3.3 RF Exposure Compliance Requirements

According to Supplement C, Edition 01-01 to OET Bulletin 65, Edition 97-01 this spread spectrum transmitter is categorically excluded from routine environmental evaluation because of the low power level, where there is a high likelihood of compliance with RF exposure standards.
The antenna used for this Bluetooth transceiver module must not be co-located or operating in conjunction with any other antenna or transmitter.

3.4 Out of Band Radiated Emissions

FCC Rule: 15.247(c) , 15.35
For out of band emissions that are close to or that exceed the 20 dB attenuation requirement described in the specification, radiated measurements were performed at a 3 m separation distance to determine whether these emissions complied with the general radiated emission requirement.
Limits:
For frequencies below 1GHz :
Max. reading – 20 dB

105.73 dBµV/m- 20 dB= 85.73 dBµV/m
Guidance on Measurement of FHSS Systems:
“If the emission is pulsed, modify the unit for continuous operation , use the settings shown above, then correct the reading by subtracting the peak-average correction factor, derived from the appropriate duty cycle calculation.” Here the correction was added to the limit instead subtracted from the reading.

Duty Cycle correction = 20 log (dwell time/100ms)
For frequencies above 1GHz (Peak measurements).
Limit = max. aver. reading-20dB +20dB(because Peak detector is used)
85.73 dBµV/m
For frequencies above 1GHz (Average measurements).
Max. reading – 20 dB - duty cycle correction:

No duty cycle correction was added to the reading

105.73 dBµV/m- 20 dB= 85.73 dBµV/m
Comments: See attached diagrams.

Test equipment used: ETSTW-RE 003 ETSTW-RE 004 ETSTW-RE 017 ETSTW-RE 021
ETSTW-RE 028 ETSTW-RE 030 ETSTW-RE 043 ETSTW-RE 044

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3.5 Transmitter Radiated Emissions in restricted Bands

FCC Rules: 15.247 (c), 15.205, 15.209, 15.35
Radiated emission measurements were performed from 30 MHz to 26000 MHz.
For radiated emission tests, the analyzer setting was as followings:
RES BW VID BW
Frequency <1 GHz 100 kHz 100 kHz (Peak measurements)
Frequency >1 GHz 1 MHz 1 MHz (Peak measurements)
1 MHz 1 MHz (Average measurements)
Limits:

For frequencies below 1GHz :

Frequency of Emission (MHz)	Field strength (microvolts/meter)	Field Strength (dB microvolts/meter)
30 – 88	100	40.0
88 – 216	150	43.5
216 – 960	200	46.0
Above 960	500	54.0

For frequencies above 1GHz (Average measurements).
Guidance on Measurement of FHSS Systems:
"If the emission is pulsed, modify the unit for continues operation , use the settings shown above, then correct the reading by subtracting the peak-average correction factor, derived from the appropriate duty cycle calculation." Here the correction was added to the limit instead subtracted from the reading.

Duty cycle correction = 20 log (dwell time/100ms)

For frequencies above 1GHz (Average measurements).

Limit – duty cycle correction

No duty cycle correction was added to the reading.

54.0dBµV/m

For frequencies above 1GHz (Peak measurements).

Limit + 20dB

54.0dBµV/m + 20 dB= 74 dBµV/m

Comments: See attached diagrams.
Test equipment used: ETSTW-RE 003 ETSTW-RE 004 ETSTW-RE 017ETSTW-RE 028 ETSTW-RE 029 ETSTW-RE 030 ETSTW-RE 042 ETSTW-RE 043 ETSTW-RE 044

3.6 Spurious emissions (tx)

Spurious emission was measured with modulation (declared by manufacturer).
In any 100 kHz bandwidth outside the frequency band in which the intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in § 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a) (see § 15.205(c))

SAMPLE CALCULATION OF LIMIT. All results will be updated by an automatic measuring system in accordance to point 2.3.
Calculation of test results:
Such factors like antenna correction, cable loss, external attenuation etc. are already included in the provided measurement results. This is done by using validated test software and calibrated test system according the accreditation requirements.

The peak and average spurious emission plots was measured with the average limits.
In the Table being listed the critical peak and average value an exhibit the compliance with the above calculated Limits.

If in the column‘s correction factor states a value then the max. Field strength in the same row is corrected by a value gained from the “Marker-Delta-Method“ or the „Duty-Cycle Correction Factor“.

Summary table with radiated data of the test plots

Low Channel

Antenna Polarization	Frequency Marker (MHz)	Corrected Reading (dBuv)	Correction Factor (dB)	Detector	Test Result (dBuV/m)	Compliance Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Azimuth (degree)
H	2370.1766	57.31	-2.12	PK	55.19	74	18.81	165	70
	2370.1766	45.36	-2.12	AV	43.24	54	10.76	165	70
	2387.1505	55.32	-2.20	PK	53.12	74	20.88	205	120
	2387.1505	44.03	-2.20	AV	41.83	54	12.17	205	120
	4840.7600	51.85	4.42	PK	56.27	74	17.73	213	188
	4840.7600	46.92	4.42	AV	51.34	54	2.66	213	188
	7207.3017	49.85	7.64	PK	57.49	85.73	28.24	166	251

Antenna Polarization	Frequency Marker (MHz)	Corrected Reading (dBuv)	Correction Factor (dB)	Detector	Test Result (dBuV/m)	Compliance Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Azimuth (degree)
V	1497.8828	34.58	14.68	PK	49.26	54	4.74	120	97
	4840.7600	45.74	4.42	PK	50.16	54	3.84	213	180
	7207.3017	44.30	7.64	PK	51.94	85.73	33.79	175	65

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Middle Channel

Antenna Polarization	Frequency Marker (MHz)	Corrected Reading (dBuv)	Correction Factor (dB)	Detector	Test Result (dBuV/m)	Compliance Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Azimuth (degree)
H	1628.1434	51.52	-7.14	PK	44.38	85.73	41.35	165	185
	2345.7904	49.96	-2.12	PK	47.84	54	6.16	207	243
	4882.6524	51.51	4.42	PK	55.93	74	18.07	203	277
	4882.6524	45.82	4.42	AV	50.24	54	3.76	203	185
	7322.5200	55.98	6.38	PK	62.36	74	11.64	251	260
	7322.5200	45.81	6.38	AV	52.19	54	1.81	251	260

Antenna Polarization	Frequency Marker (MHz)	Corrected Reading (dBuv)	Correction Factor (dB)	Detector	Test Result (dBuV/m)	Compliance Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Azimuth (degree)
V	1493.8747	32.48	14.68	PK	47.16	54	6.84	155	165
	4882.6524	46.93	4.42	PK	51.35	74	22.65	204	191
	4882.6524	41.76	4.42	AV	46.18	54	7.82	204	191
	7322.5200	47.07	6.38	PK	53.45	74	20.55	174	263
	7322.5200	35.51	6.38	AV	41.89	54	12.11	174	263

High Channel

Antenna Polarization	Frequency Marker (MHz)	Corrected Reading (dBuv)	Correction Factor (dB)	Detector	Test Result (dBuV/m)	Compliance Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Azimuth (degree)
H	1654.4177	51.97	-7.04	PK	44.93	85.73	40.80	210	85
	2496.0274	66.38	-2.15	PK	64.23	74	9.77	205	69
	2496.0274	54.33	-2.15	AV	52.18	54	1.82	205	69
	4962.8127	51.57	4.96	PK	56.53	74	17.47	173	187
	4962.8127	46.39	4.96	AV	51.35	54	2.65	173	187
	7447.7826	54.84	6.14	PK	60.98	74	13.02	151	265
	7447.7826	44.13	6.14	AV	50.27	54	3.73	151	265

Antenna Polarization	Frequency Marker (MHz)	Corrected Reading (dBuv)	Correction Factor (dB)	Detector	Test Result (dBuV/m)	Compliance Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Azimuth (degree)
V	1506.1211	55.62	-6.89	PK	48.73	54	5.27	179	90
	2496.0274	53.43	-2.15	PK	51.28	74	22.72	223	73
	2496.0274	48.87	-2.15	AV	46.72	54	7.28	223	73
	4962.8127	45.79	4.96	PK	50.75	54	3.25	201	70
	7447.7826	48.15	6.14	PK	54.29	74	19.71	154	265
	7447.7826	36.24	6.14	AV	42.38	54	11.62	154	265

Note
1. **Correction Factor = Antenna factor + Cable loss - Preamplifier**
2. **The formula of measured value as: Test Result = Corrected Reading + Correction Factor**
3. **Detector function in the form : P = Peak, QP = Quasi Peak, AV = Average**
4. **All not in the table noted test results are more than 20 dB below the relevant limits.**

All other not noted test plots do not contain significant test results in relation to the limits.

TEST RESULT (Transmitter): The unit DOES meet the FCC requirements.
Comment: see attached diagrams
Test equipment used: ETSTW-RE 003 ETSTW-RE 004 ETSTW-RE 017 ETSTW-RE 028 ETSTW-RE 029 ETSTW-RE 030 ETSTW-RE 042 ETSTW-RE 043 ETSTW-RE 044

3.7 Carrier Frequency Separation

Carrier Frequency Separation was measured with modulation (declared by manufacturer).

According to FCC rules part 15 subpart C §15.247 frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or 20 dB bandwidth of the hopping channel, whichever is greater.

Test conditions		**Channel Separation**	
		Channel 0	**Channel 0+1**
T_{nom}= 23°C	V_{nom} = 5 V	993.98797595 kHz	
Measurement uncertainty		< 10 Hz	

Test conditions		**Channel Separation**	
		Channel 39	**Channel 39+1**
T_{nom}= 23°C	V_{nom} = 5 V	1.00000000 MHz	
Measurement uncertainty		< 10 Hz	

Test conditions		**Channel Separation**	
		Channel 78	**Channel 78+1**
T_{nom}= 23°C	V_{nom} = 5 V	993.98797595 kHz	
Measurement uncertainty		< 10 Hz	

Limits:

Frequency Range MHz	Limits	
	20 dB bandwidth < 25 kHz	20 dB bandwidth > 25 kHz
902-928	25 kHz	20 dB bandwidth
2400-2483.5 5725-5850.0	25 kHz	20 dB bandwidth

Test equipment used: ETSTW-RE 003 ETSTW-RE 004 ETSTW-RE 055

Comment: see attached diagram

3.8 Number of Hopping Frequencies

According to FCC rules part 15 subpart C §15.247 frequency hopping systems operating in the 2400-2483.5 MHz band shall use at least 15 hopping frequencies. Frequency hopping systems in 5725-5850 MHz bands shall use least 75 hopping frequencies.

For frequency hopping systems operating in the 902-928 MHz band: if the 20dB bandwidth of the hopping channel is less than 250 kHz, the system shall use at least 50 hopping frequencies; if the 20dB bandwidth of the hopping channel 250 kHz or greater, the system shall use at least 25 hopping frequencies.

Test conditions		Operating Mode	Number of Channels
T_{nom}= 23°C	V_{nom}= 5 V	normal transmitting	79
T_{nom}= 23°C	V_{nom}= 5 V	Inquiry mode	32

Limits:

Frequency Range MHz	Limit			
	20dB Bandwidth		20dB Bandwidth < 250 kHz	20dB Bandwidth ≥ 250 kHz
	≤ 1MHz			
902-928 MHz			≥ 50	≥ 25
2400-2483.5	≥ 15	≥ 15		
5725-5850.0 MHz	≥ 75			

Test equipment used: ETSTW-RE 003 ETSTW-RE 004 ETSTW-RE 055

Comment: see attached diagrams

3.8.1 Pseudorandom Frequency Hopping Sequence

The generation of the hopping sequence is determined by the Bluethooth cord specification and complies with the FCC requirements.

3.8.2 Coordination of hopping sequences to other transmitters

According to the Bluetooth core specification V1.1 such a coordination is not possible. During scatternet function only one of the two hopping sequences will be used at a definite moment.

3.8.3 System Receiver Hopping Capability

According to the Bluetooth core specification. The system receivers shift frequencies in synchronization with the transmitted signals.

3.9 Time of Occupancy (Dwell Time)

Frequency hopping systems operating in the 5725-5850 MHz band shall use an average time of occupancy on any frequency not greater than 0.4 seconds within a 30 second period.

In 2400-2483,5 MHz band the average time of occupancy on any channel shall not be greater than 0,4 seconds multiplied by the number of hopping channels employed.

For frequency hopping systems operating in the 902-928 MHz band: if the 20dB bandwidth of the hopping channel is less than 250 kHz, the average time of occupancy on any frequency shall not greater than 0.4 seconds within a 20 second period; if the 20dB bandwidth of the hopping channel is 250 kHz or greater, the average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 10 second period.

Test conditions	**Operating mode**	**Measurement periode**	**Time of Occupancy**
T_{nom}= 23°C V_{nom} = 5 V Channel 0	normal transmitting-DH 1		209 ms
	normal transmitting-DH 3		293 ms
	normal transmitting-DH 5		318 ms
Measurement uncertainty	< 1 µs		

Test conditions	**Operating mode**	**Measurement periode**	**Time of Occupancy**
T_{nom}= 23°C V_{nom} = 5 V Channel 39	normal transmitting-DH 1		209 ms
	normal transmitting-DH 3		283 ms
	normal transmitting-DH 5		306 ms
Measurement uncertainty	< 1 µs		

Test conditions	**Operating mode**	**Measurement periode**	**Time of Occupancy**
T_{nom}= 23°C V_{nom} = 5 V Channel 78	normal transmitting-DH 1		209 ms
	normal transmitting-DH 3		288 ms
	normal transmitting-DH 5		298 ms
Measurement uncertainty	< 1 µs		

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Limits and measurement periods:

Frequency MHz	Number of channels	Measurement Periode	Limit
902 – 928	≥50	20 s	0,4 s
	49 ≥ 25	10 s	0,4 s
2400 – 2483,5	≥ 15	0,4 s * number of used channels	0,4 s
5725- 5850	≥ 75	30 s	0,4s

Test equipment used: ETSTW-RE 003 ETSTW-RE 004 ETSTW-RE 055

Comment: See attached diagram, which show the On-time and the number of counted events during the measurement period

3.10 20dB Bandwidth

Frequency hopping systems operating in the 5725-5850 MHz bands shall use a maximum 20dB bandwidth of 1 MHz.
The 20dB bandwidth is measured on the lowest, middle and highest hopping channel.

For frequency hopping systems operating in the 902-928 MHz band the maximum 20dB bandwidth of the hopping channel is 500 kHz.

Normal mode

Test conditions		20 dB Bandwidth		
		Channel A	Channel B	Channel C
T_{nom}= 23°C	V_{nom} = 5 V	949.89979960 kHz	949.89979960 kHz	949.89979960 kHz
Measurement uncertainty		< 10 Hz		

EDR mode

Test conditions		20 dB Bandwidth		
		Channel A	Channel B	Channel C
T_{nom}= 23°C	V_{nom} = 5 V	1.37074148 MHz	1.37074148 MHz	1.37675351 MHz
Measurement uncertainty		< 10 Hz		

Limits:

Frequency Range / MHz	Number of channels	Limit
902-928	< 50	< 250 kHz
	49 ≥ 25	500 kHz ≥ 250 kHz
2400-2483.5	≥ 15	not determined
5725-5850	75	≤ 1 MHz

Test equipment used: ETSTW-RE 003 ETSTW-RE 004 ETSTW-RE 055
Comment: see attached diagram

3.10.1 System Receiver Input Bandwidth

It is determined in the Bluetooth core specification. The value matches to the bandwidth of transmitter signal.

3.11 Band-edge Compliance of RF Emissions

According to FCC rules part 15 subpart C §15.247(c) in any 100 kHz bandwidth outside the frequency band in which the intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in § 15.209(a) is not required.

In addition radiated emission which fall in the restricted bands, as defined in section 15.205(a), must also with the radiated emission limits.

Test conditions		Attenuation at or outside band-edges **Single Frequency**	
		Lower Band-edge	Upper Band-edge
T_{nom}= 23°C	V_{nom} = 5 V	-- dB	-- dB
Measurement uncertainty		< 100 Hz	

Normal mode

Test conditions		Attenuation at or outside band-edges **Hopping Fequency**	
		Lower Band-edge	Upper Band-edge
T_{nom}= 23°C	V_{nom} = 5 V	50.93 dB	51.32 dB
Measurement uncertainty		< 100 Hz	

EDR mode

Test conditions		Attenuation at or outside band-edges **Hopping Fequency**	
		Lower Band-edge	Upper Band-edge
T_{nom}= 23°C	V_{nom} = 5 V	45.72 dB	42.59 dB
Measurement uncertainty		< 100 Hz	

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Limits:

Frequency Range / MHz	Limit
902 –928 2400 – 2483.5 5725 - 5850	- 20 dB

Test equipment used: ETSTW-RE 003 ETSTW-RE 004 ETSTW-RE 017ETSTW-RE 028
ETSTW-RE 030 ETSTW-RE 043 ETSTW-RE 044

Comment: see attached diagrams

3.12 Radiated Emissions from Receiver Section of Transceiver

FCC Rule: 15.109

Summary table with radiated data of the test plots

(RX)
Low Channel

Antenna Polarization	Frequency Marker (MHz)	Corrected Reading (dBuv)	Correction Factor (dB)	Detector	Test Result (dBuV/m)	Compliance Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Azimuth (degree)
H	168.249	13.02	15.05	PK	28.07	43.50	15.43	310	287
	468.846	20.79	19.36	PK	40.15	46.00	5.85	175	301
	1628.492	51.10	-6.89	PK	44.21	54.00	9.79	160	317
	2107.101	50.71	-3.13	PK	47.58	54.00	6.42	125	246

Antenna Polarization	Frequency Marker (MHz)	Corrected Reading (dBuv)	Correction Factor (dB)	Detector	Test Result (dBuV/m)	Compliance Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Azimuth (degree)
V	168.249	16.79	15.05	PK	31.84	43.50	11.66	165	284
	717.343	16.91	23.80	PK	40.71	46.00	5.29	315	314
	2107.101	46.14	-3.13	PK	43.01	54.00	10.99	130	251
	2371.853	43.20	2.08	PK	45.28	54.00	8.72	115	306

Middle Channel

Antenna Polarization	Frequency Marker (MHz)	Corrected Reading (dBuv)	Correction Factor (dB)	Detector	Test Result (dBuV/m)	Compliance Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Azimuth (degree)
H	468.846	20.86	19.36	PK	40.22	46.00	5.78	170	231
	1628.492	48.97	-6.89	PK	42.08	54.00	11.92	135	294
	2113.217	51.42	-3.06	PK	48.36	54.00	5.64	150	308

Antenna Polarization	Frequency Marker (MHz)	Corrected Reading (dBuv)	Correction Factor (dB)	Detector	Test Result (dBuV/m)	Compliance Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Azimuth (degree)
V	156.262	18.35	15.43	PK	33.78	43.50	9.72	180	217
	717.343	17.06	23.80	PK	40.86	46.00	5.14	310	164
	1368.026	51.23	-8.51	PK	42.72	54.00	11.28	125	304
	2347.582	40.76	2.09	PK	42.85	54.00	11.15	130	297

High Channel

Antenna Polarization	Frequency Marker (MHz)	Corrected Reading (dBuv)	Correction Factor (dB)	Detector	Test Result (dBuV/m)	Compliance Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Azimuth (degree)
H	168.249	13.08	15.05	PK	28.13	43.50	15.37	305	312
	468.846	20.80	19.36	PK	40.16	46.00	5.84	180	249
	2107.101	52.04	-3.13	PK	48.91	54.00	5.09	150	301
	2430.922	47.56	1.18	PK	48.74	54.00	5.26	125	324

Antenna Polarization	Frequency Marker (MHz)	Corrected Reading (dBuv)	Correction Factor (dB)	Detector	Test Result (dBuV/m)	Compliance Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Azimuth (degree)
V	168.249	16.02	15.05	PK	31.07	43.50	12.43	170	315
	717.343	15.58	23.80	PK	39.38	46.00	6.62	310	197
	2107.101	45.95	-3.13	PK	42.82	54.00	11.18	145	309

Note
1. **Correction Factor = Antenna factor + Cable loss - Preamplifier**
2. **The formula of measured value as: Test Result = Corrected Reading + Correction Factor**
3. **Detector function in the form : P = Peak, QP = Quasi Peak, AV = Average**
4. **All not in the table noted test results are more than 20 dB below the relevant limits.**

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Summary table with radiated data of the test plots
(Digital)

Antenna Polarization	Frequency Marker (MHz)	Corrected Reading (dBuv)	Correction Factor (dB)	Detector	Test Result (dBuV/m)	Compliance Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Azimuth (degree)
H	122.673	6.93	12.69	PK	19.62	30.00	10.38	315	270
	368.711	11.38	16.73	PK	28.11	37.00	8.89	157	21
	467.781	7.06	19.65	PK	26.71	37.00	10.29	176	35

Antenna Polarization	Frequency Marker (MHz)	Corrected Reading (dBuv)	Correction Factor (dB)	Detector	Test Result (dBuV/m)	Compliance Limit (dBuV/m)	Margin (dB)	Antenna Height (cm)	Table Azimuth (degree)
V	162.942	6.68	14.75	PK	21.43	30.00	8.57	121	172
	179.849	5.91	13.56	PK	19.47	30.00	10.53	146	153
	195.665	6.03	12.11	PK	18.14	30.00	11.86	172	162
	400.874	10.17	17.92	PK	28.09	37.00	8.91	251	175
	499.678	9.31	20.84	PK	30.15	37.00	6.85	261	243

Note
1. **Correction Factor = Antenna factor + Cable loss - Preamplifier**
2. **The formula of measured value as: Test Result = Corrected Reading + Correction Factor**
3. **Detector function in the form : P = Peak, QP = Quasi Peak, AV = Average**
4. **All not in the table noted test results are more than 20 dB below the relevant limits.**

Except for Class A digital devices, the field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values:

Frequency of Emission (MHz)	Field Strength (microvolts/meter)	Field Strength (dBmicrovolts/meter)
30 – 88	100	40.0
88 – 216	150	43.5
216 – 960	200	46.0
Above 960	500	54.0

Test equipment used: ETSTW-RE 003 ETSTW-RE 004 ETSTW-RE 017 ETSTW-RE 028 ETSTW-RE 029 ETSTW-RE 030 ETSTW-RE 042 ETSTW-RE 043 ETSTW-RE 044

Comment: see attached diagram

3.13 Power Line Conducted Emission

For an intentional radiator which is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the table bellows with this provision shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminals.

This measurement was transact first with instrumentation using an average and peak detector and a 10 kHz bandwidth. If the peak detector achieves a calculated level, the measurement is repeated by an instrumentation using a quasi-peak detector.

Frequency	Level (dBµV)	
	quasi-peak	average
150 kHz	lower limit line	Lower limit line

LISN type	Frequency Marker	Corrected Reading (dBuV)		Correction Factor	Test Result (dBuV)		Compliance Limit (dBuV)		Margin (dB)	
	MHz	QP	AV	dB	QP	AV	QP	AV	QP	AV
N	0.280	36.70	29.70	10.10	46.80	39.80	60.50	50.50	13.70	10.70
	0.400	29.90	25.30	10.10	40.00	35.40	58.00	48.00	18.00	12.60
	17.015	28.40	20.40	10.10	38.50	30.50	60.00	50.00	21.50	19.50
L1	0.200	39.00	27.40	10.10	49.10	37.50	64.00	54.00	14.90	16.50
	0.300	30.30	28.10	10.10	40.40	38.20	58.50	48.50	18.10	10.30
	0.540	28.10	24.90	10.10	38.20	35.00	56.00	46.00	17.80	11.00
	16.890	27.70	21.30	10.10	37.80	31.40	60.00	50.00	22.20	18.60

Limits:

Frequency of Emission (MHz)	Conducted Limit (dBuV)	
	Quasi Peak	Average
0.15-0.5	66 to 56	56 to 46
0.5-5	56	46
5-30	60	50

Note: 1. The formula of measured value as: Test Result = Corrected Reading + Correction Factor
2. The Correction Factor = Cable Loss + LISN Insertion Loss + Pulse Limit Loss
3. Detector function in the form : P = Peak, QP = Quasi Peak, AV = Average
4. All not in the table noted test results are more than 20 dB below the relevant limits.

Test equipment used: ETSTW-CE 001 ETSTW-CE 003 ETSTW-CE 004 ETSTW-CE 006

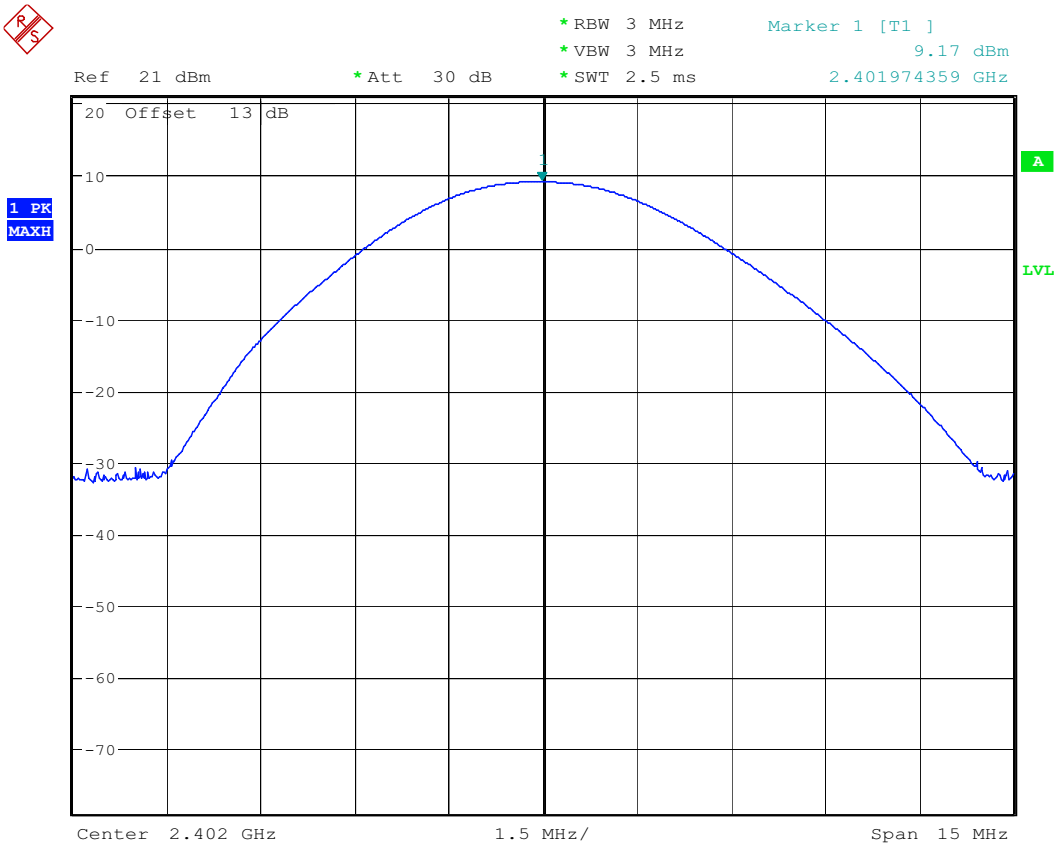
Comment: see attached diagram

Appendix

A Peak Output Power
B Spurious Emissions radiated
C Carrier Frequency Separation
D Number of Hopping Frequencies
E Time of Occupancy (Dwell Time)
F 20dB Bandwidth
G Band-edge Compliance of RF Conducted Emissions
H Radiated Emissions from Receiver Section of Transceiver
I Power Line Conducted Emission
J Pictures

Appendix A

Peak Output Power



MAX OUTPUT POWER CH0

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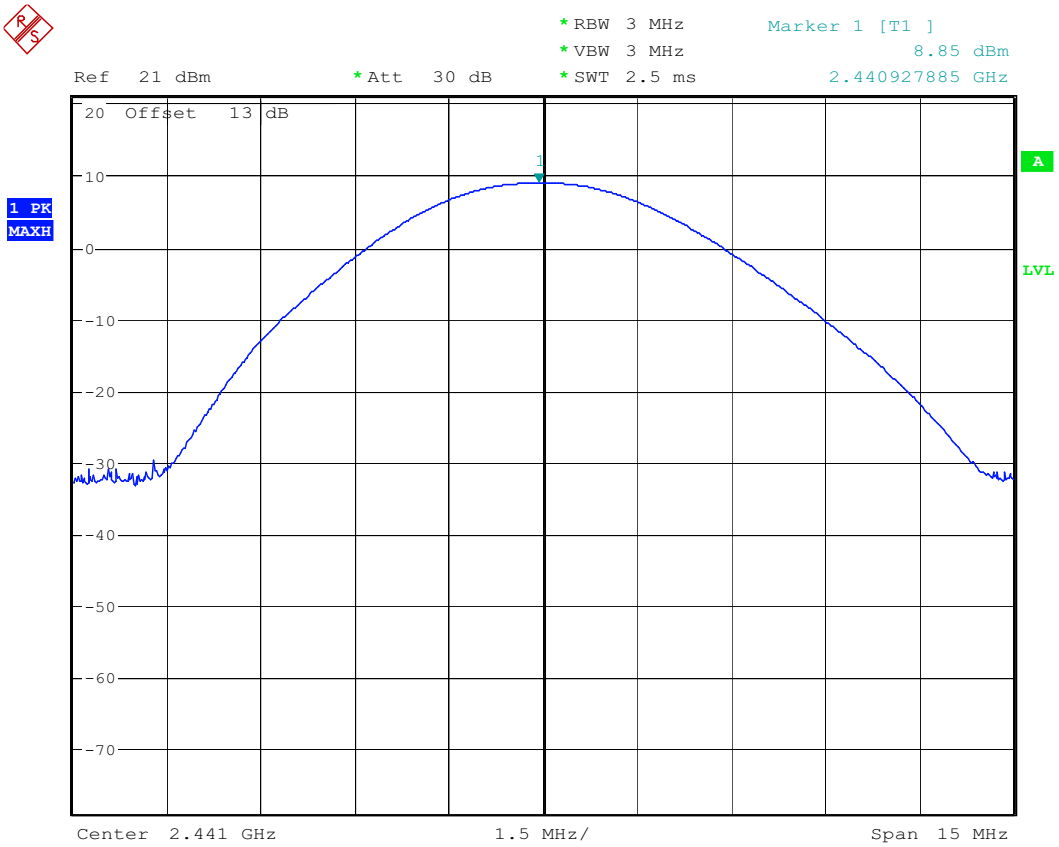

MAX OUTPUT POWER CH39

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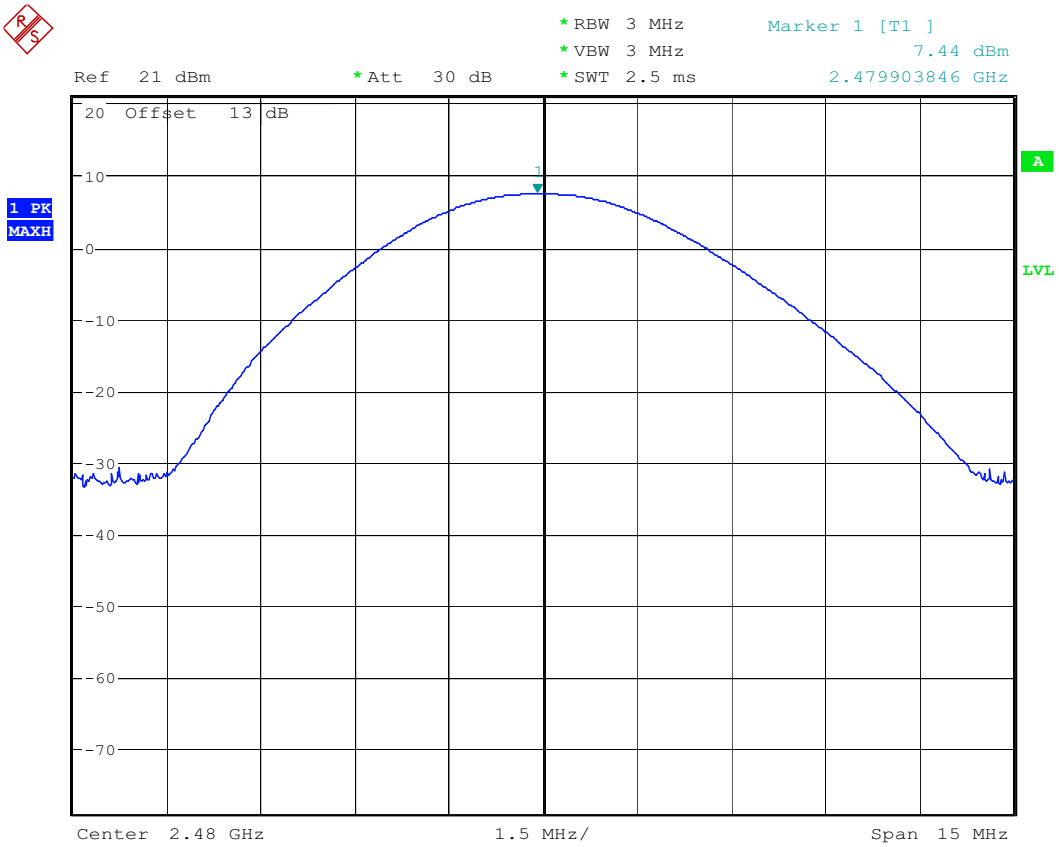

MAX OUTPUT POWER CH78

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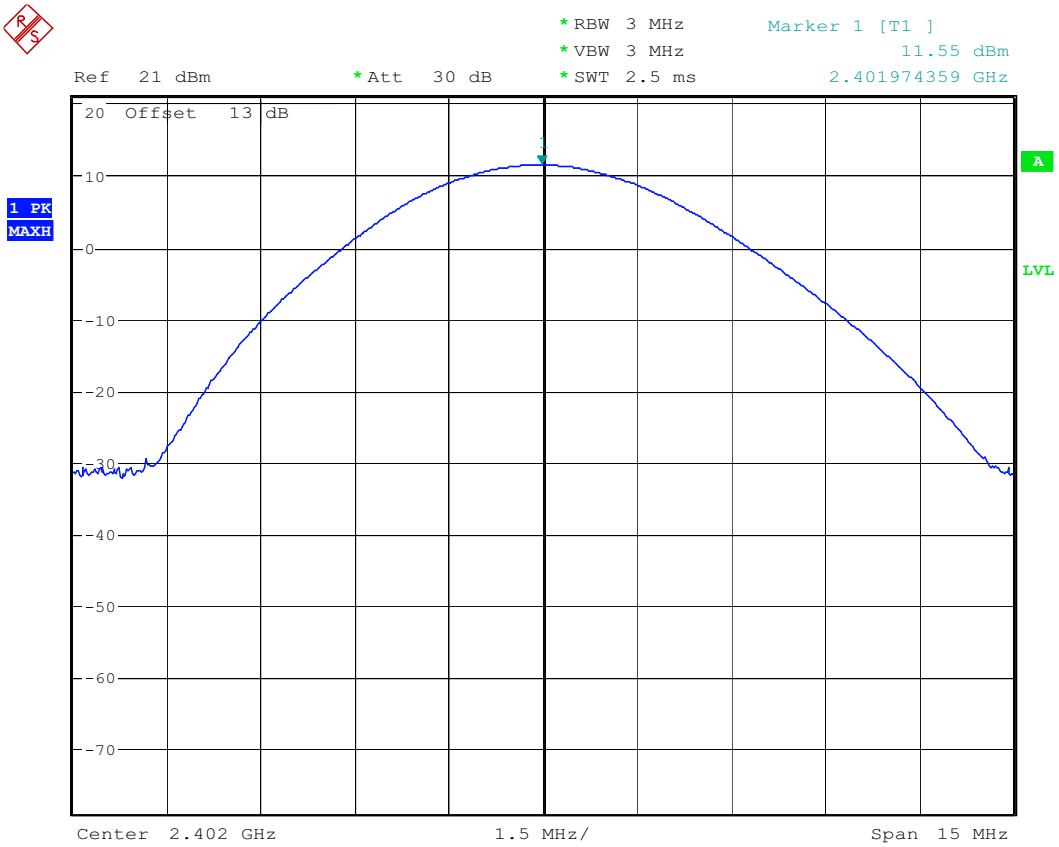

EDR MODE MAX OUTPUT POWER CH0

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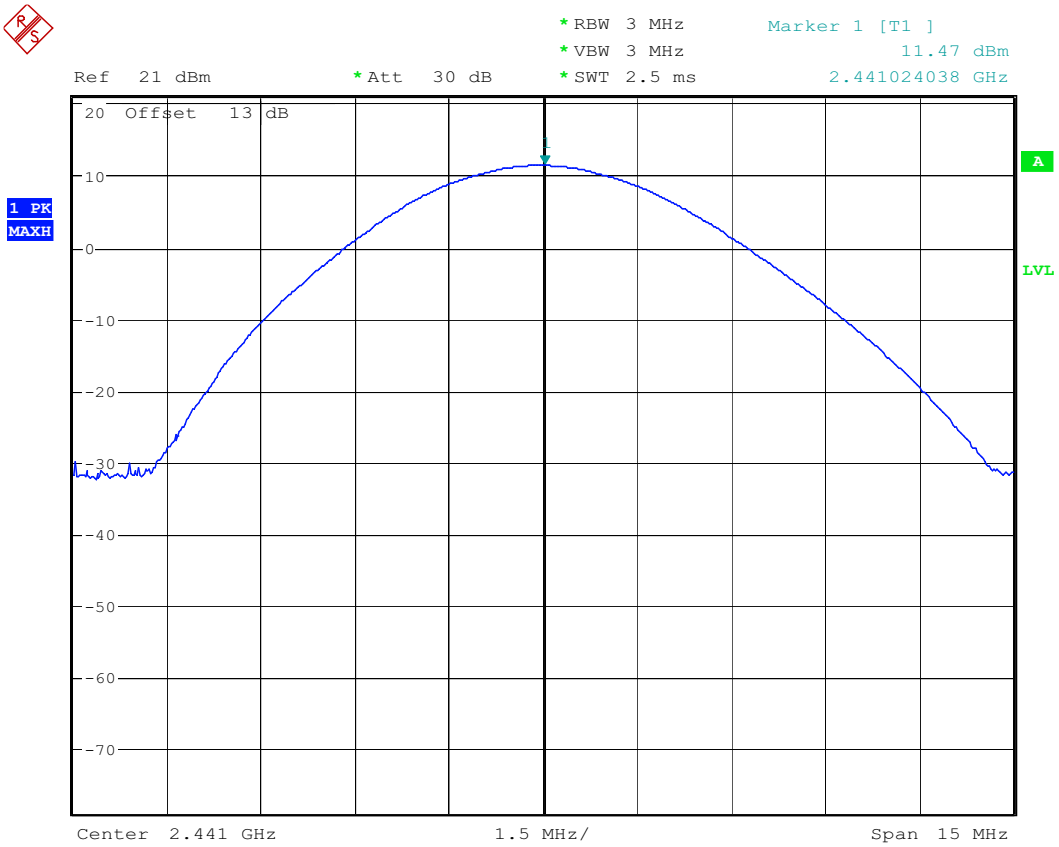

EDR MODE MAX OUTPUT POWER CH39

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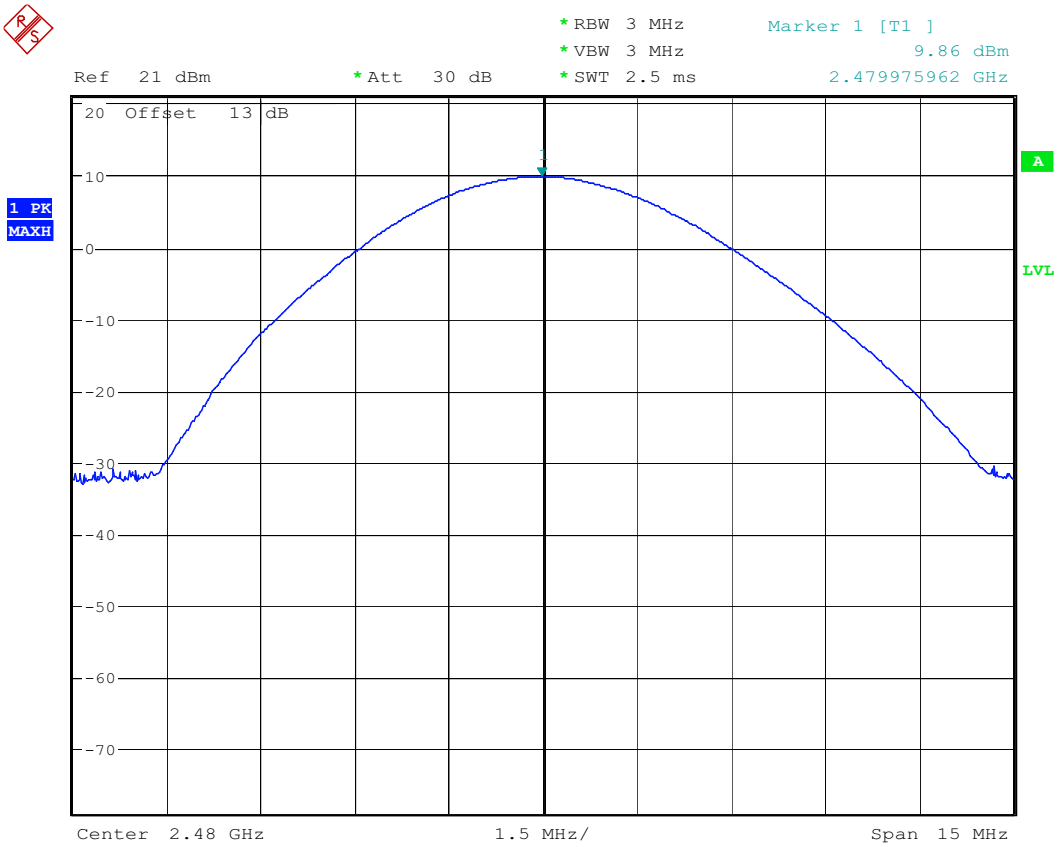


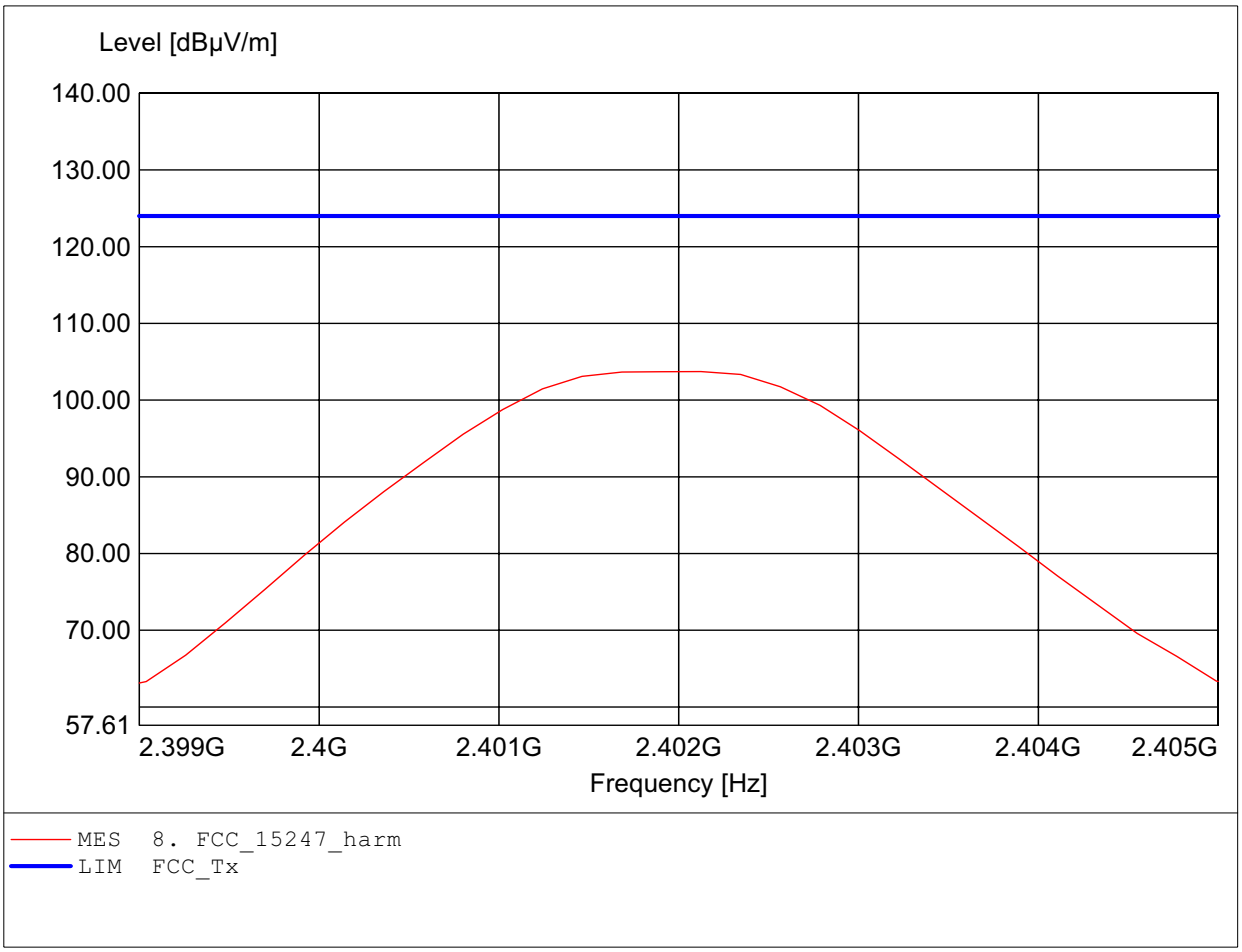
EDR MODE MAX OUTPUT POWER CH78

Date: 16.JAN.2007 20:23:25

Carrier power (Field Strength)

FCC RULES PART 15, SUBPART C / LP0002

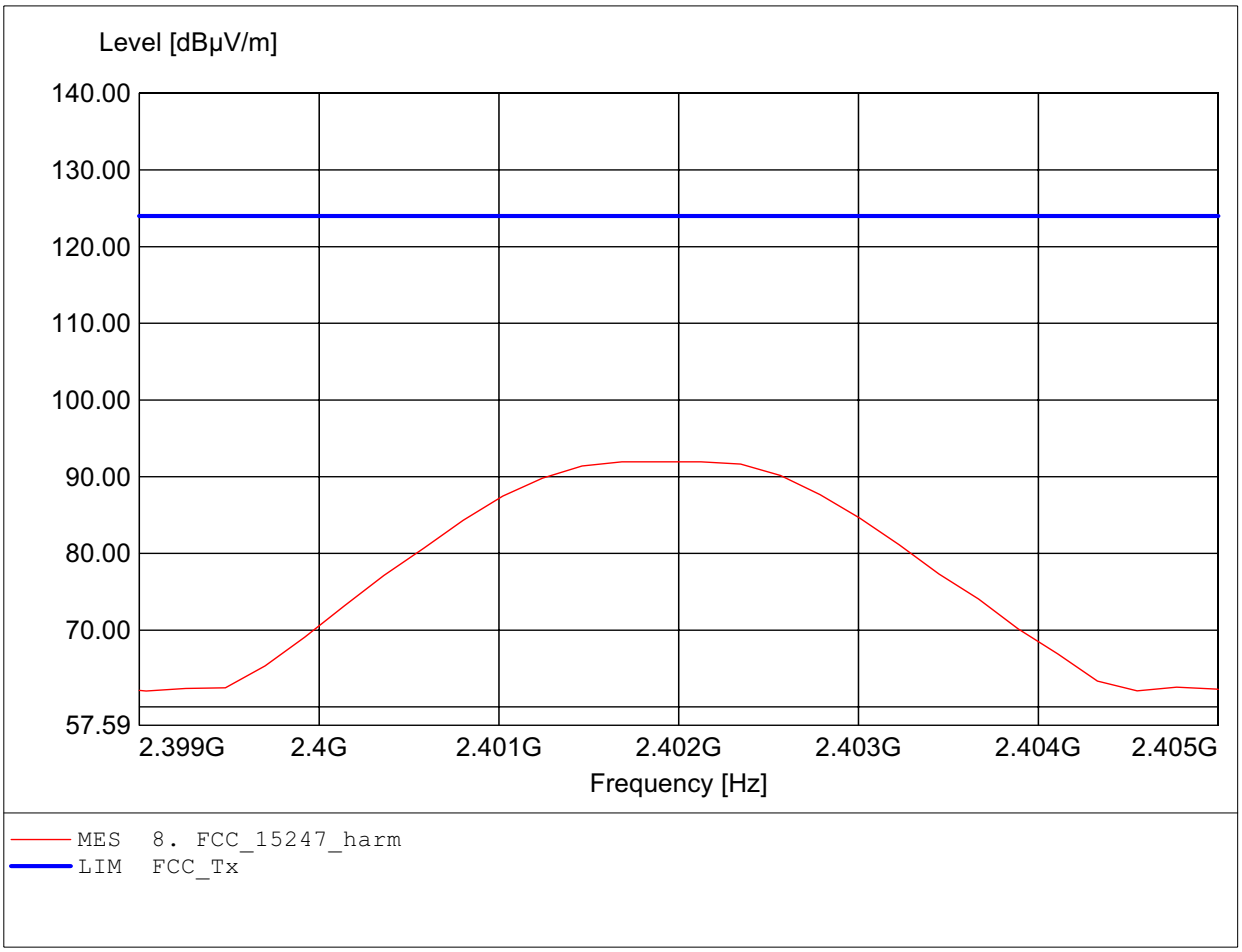
```
Order Number :          W6M20701-7746          ( low channel )
Test Site / Operator: ETS / Charles
Temperature::          Temp.: 23.9°C
                       according to §15.247
Comment 1:             Dist.: 3m, Ant.: HL025
                       Freq: 2.402GHz, Emax: 103.73dBµV/m, RBW: 1MHz
```



Carrier power (Field Strength)

FCC RULES PART 15, SUBPART C / LP0002

```
Order Number :          W6M20701-7746          ( low channel )
Test Site / Operator: ETS / Charles
Temperature::          Temp.: 23.9°C
                       according to §15.247
Comment 1:             Dist.: 3m, Ant.: HL025
                       Freq: 2.402GHz, Emax: 91.95dBµV/m, RBW: 1MHz
```



Carrier power (Field Strength)

FCC RULES PART 15, SUBPART C / LP0002

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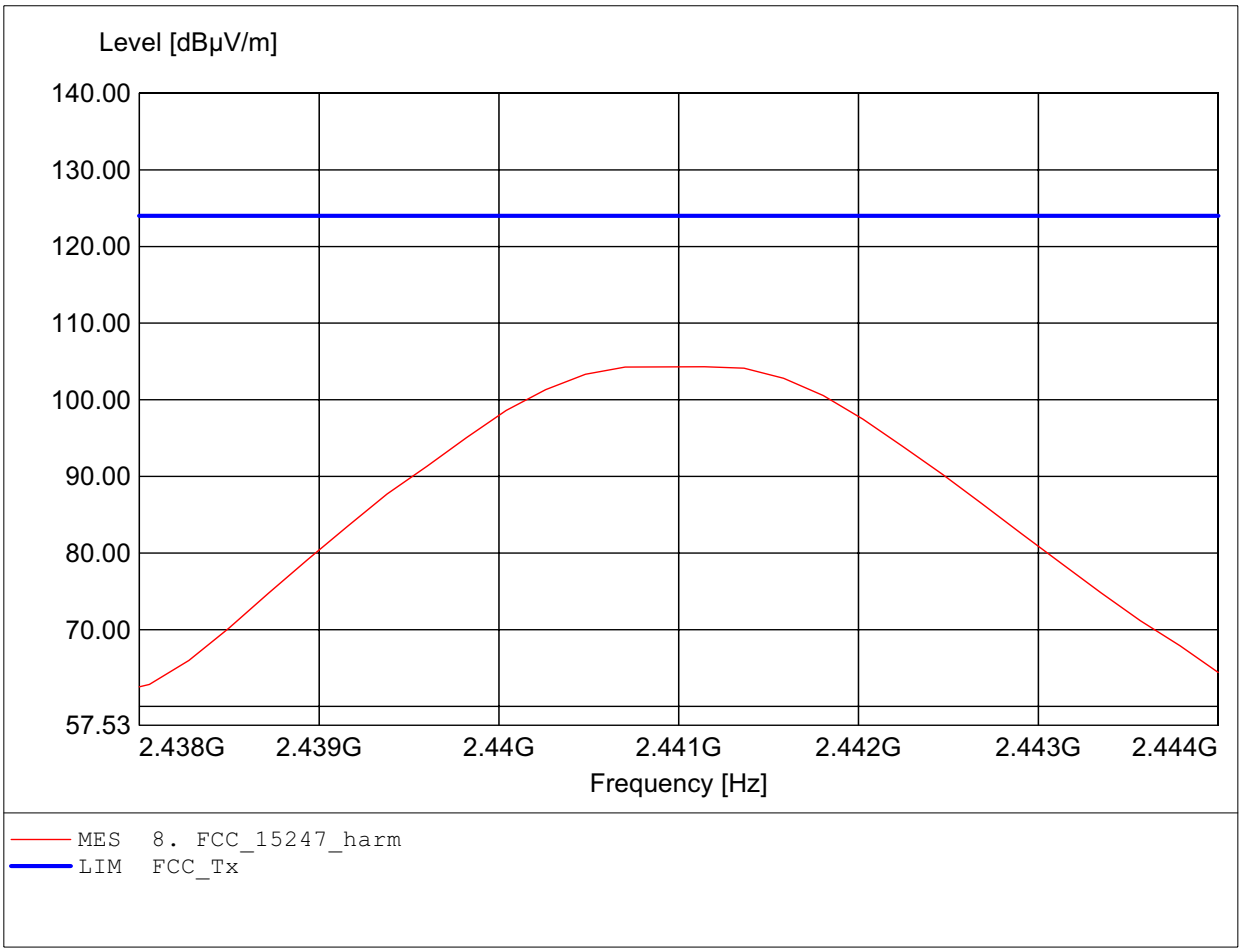
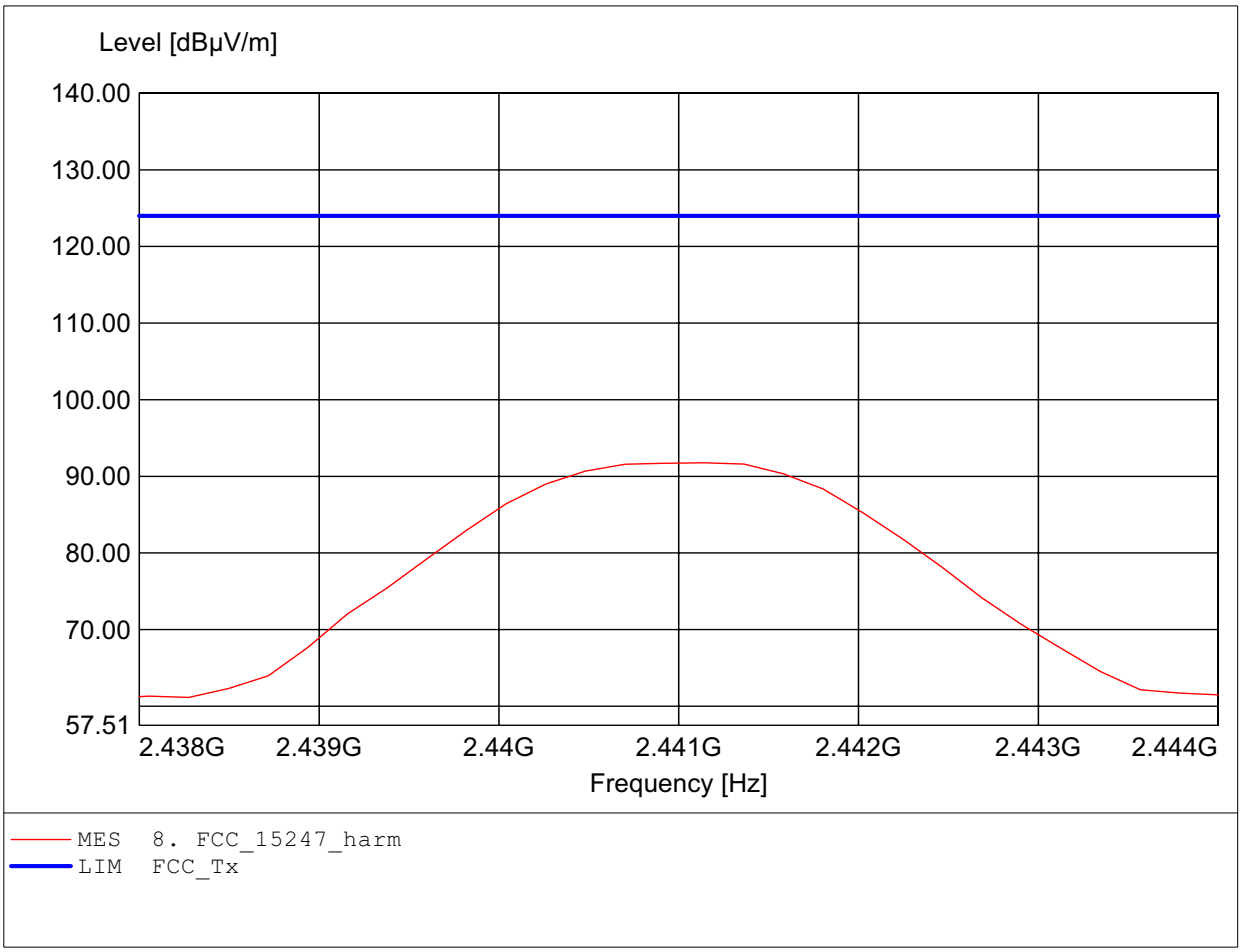
Order Number :          W6M20701-7746          ( middle channel )
Test Site / Operator: ETS / Charles
Temperature::          Temp.: 23.9°C
                       according to §15.247
Comment 1:             Dist.: 3m, Ant.: HL025
                       Freq: 2.441GHz, Emax: 104.31dBµV/m, RBW: 1MHz
```



Carrier power (Field Strength)

FCC RULES PART 15, SUBPART C / LP0002

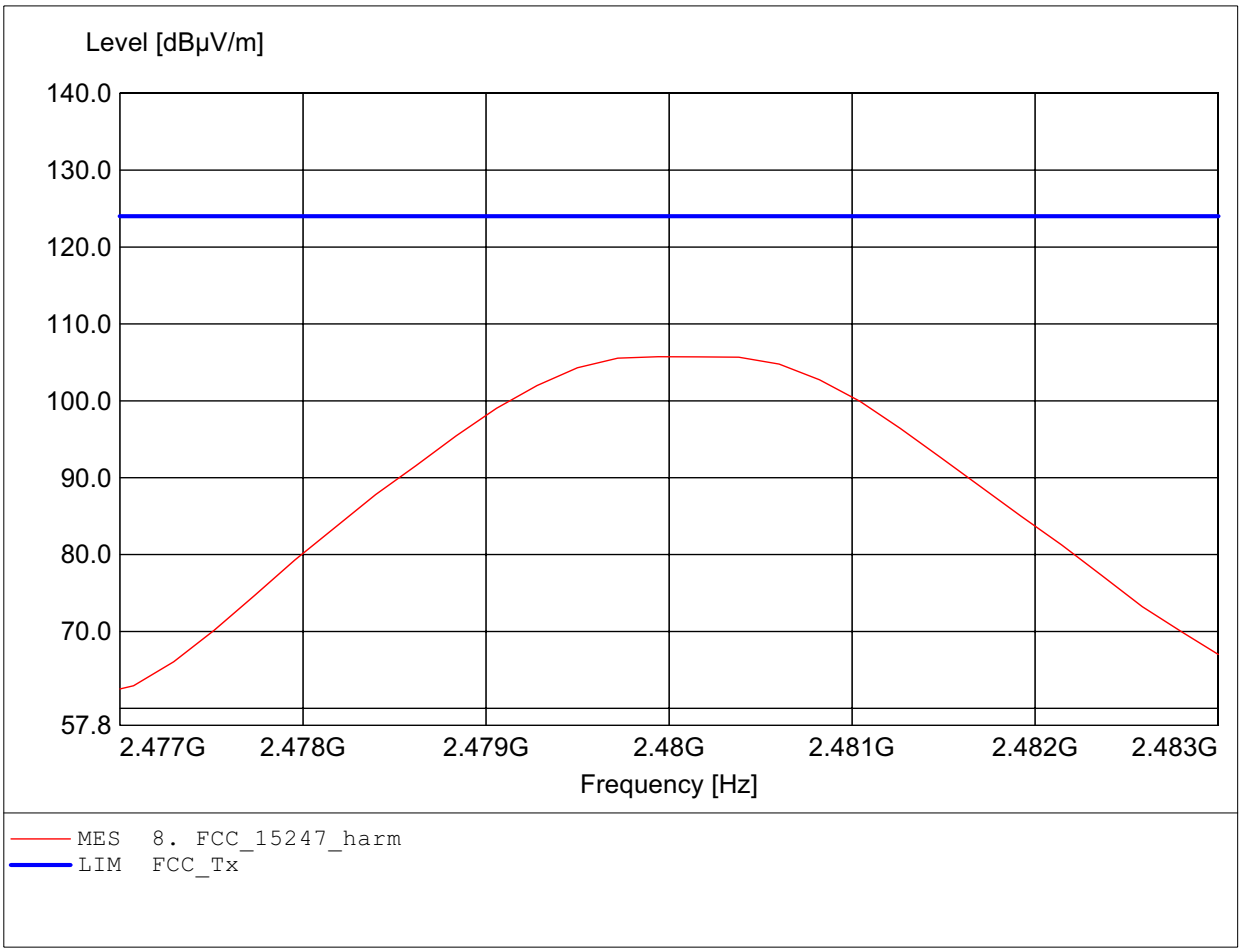
```
Order Number :          W6M20701-7746          ( middle channel )
Test Site / Operator: ETS / Charles
Temperature::          Temp.: 23.9°C
                       according to §15.247
Comment 1:             Dist.: 3m, Ant.: HL025
                       Freq: 2.441GHz, Emax: 91.78dBµV/m, RBW: 1MHz
```



Carrier power (Field Strength)

FCC RULES PART 15, SUBPART C / LP0002

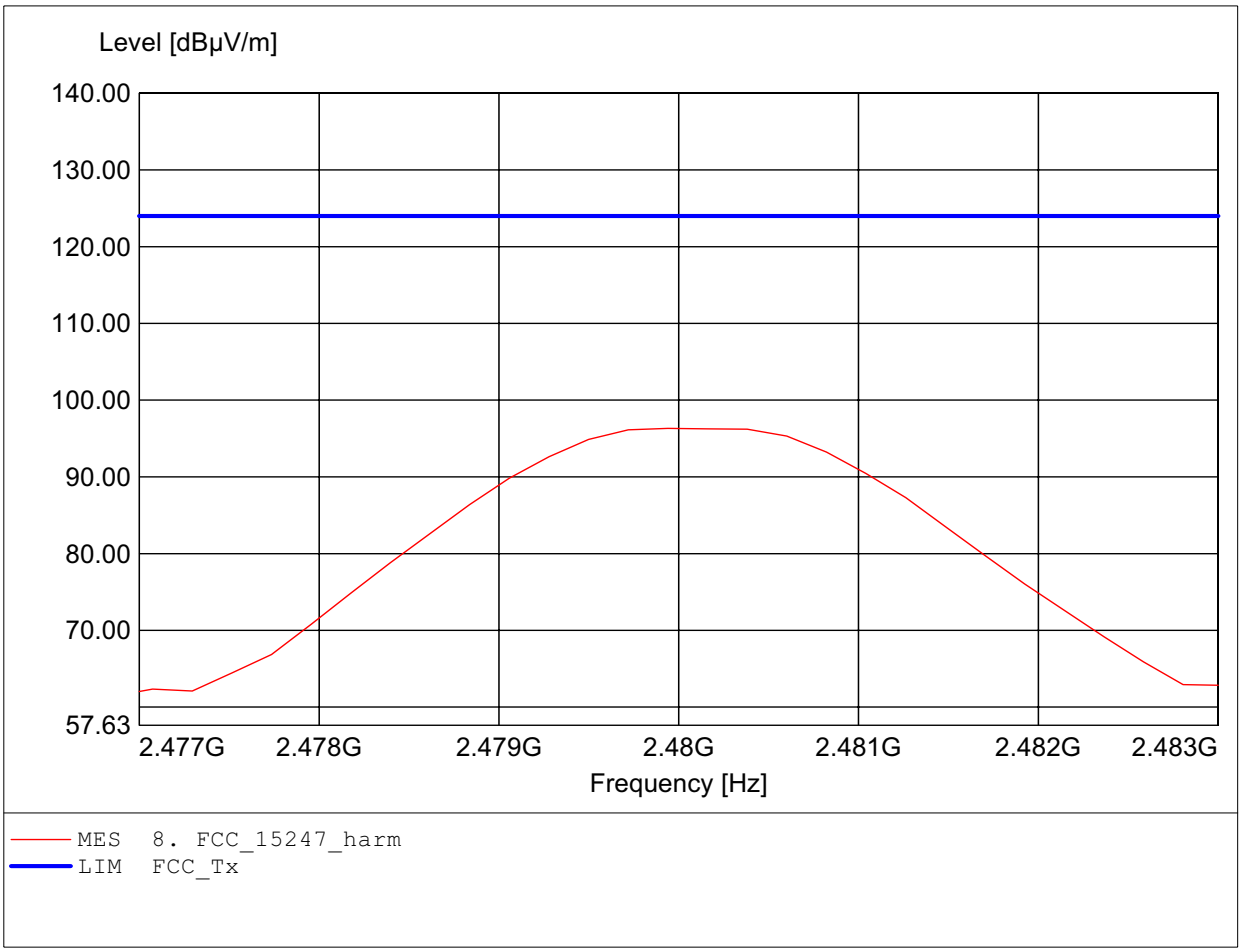
```
Order Number :          W6M20701-7746          ( high channel )
Test Site / Operator: ETS / Charles
Temperature::          Temp.: 23.9°C
                       according to §15.247
Comment 1:             Dist.: 3m, Ant.: HL025
                       Freq: 2.480GHz, Emax: 105.73dBµV/m, RBW: 1MHz
```



Carrier power (Field Strength)

FCC RULES PART 15, SUBPART C / LP0002

```
Order Number :          W6M20701-7746          ( high channel )
Test Site / Operator:   ETS / Charles
Temperature::           Temp.: 23.9°C
                        according to §15.247
Comment 1:              Dist.: 3m, Ant.: HL025
                        Freq: 2.480GHz, Emax: 96.33dBµV/m, RBW: 1MHz
```



Appendix B

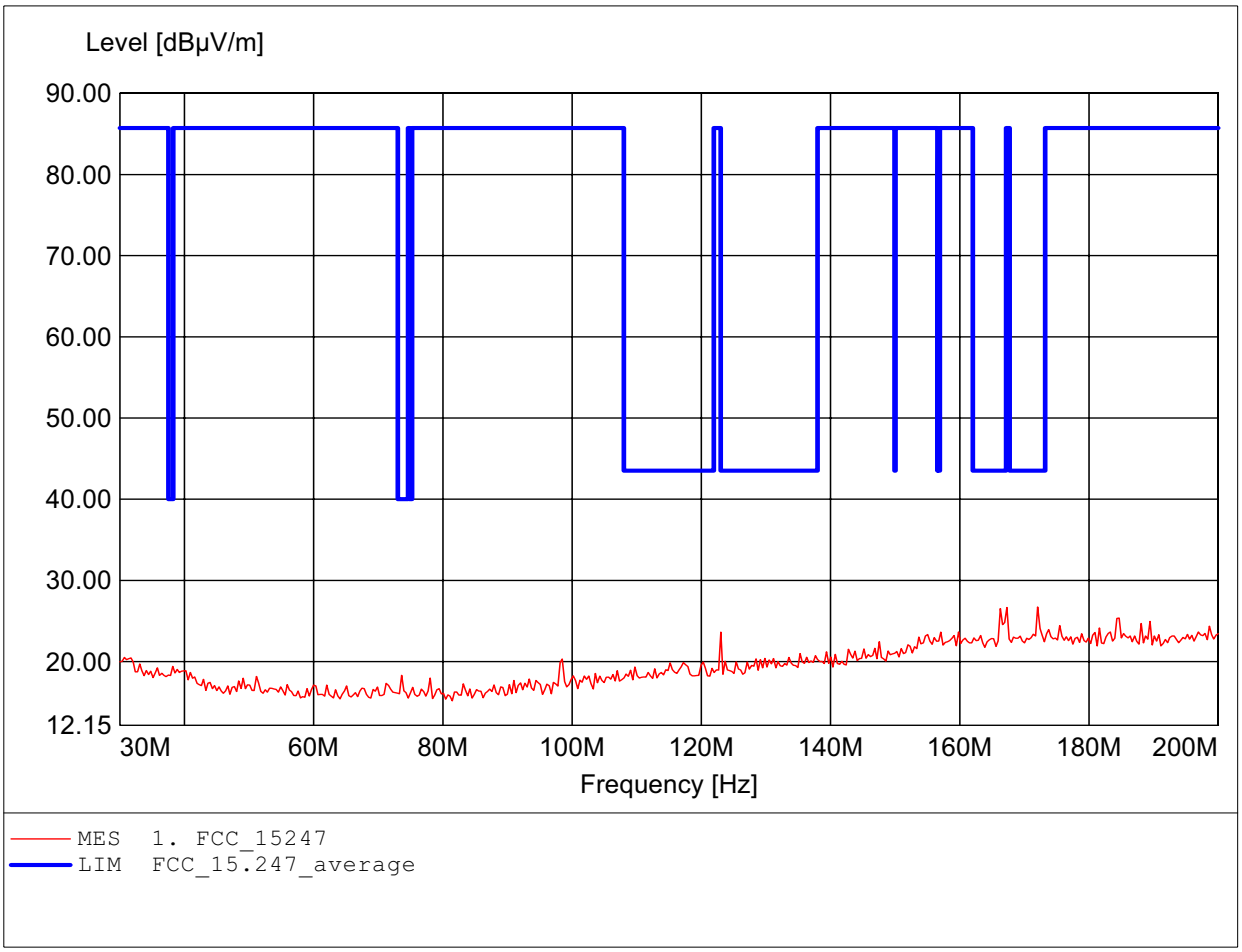
Spurious Emissions radiated

The measurement diagrams plots attached below are preliminary wideband scan with a peak detector and for reference only. The final test results are listed on section 3.6

Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C / LP0002

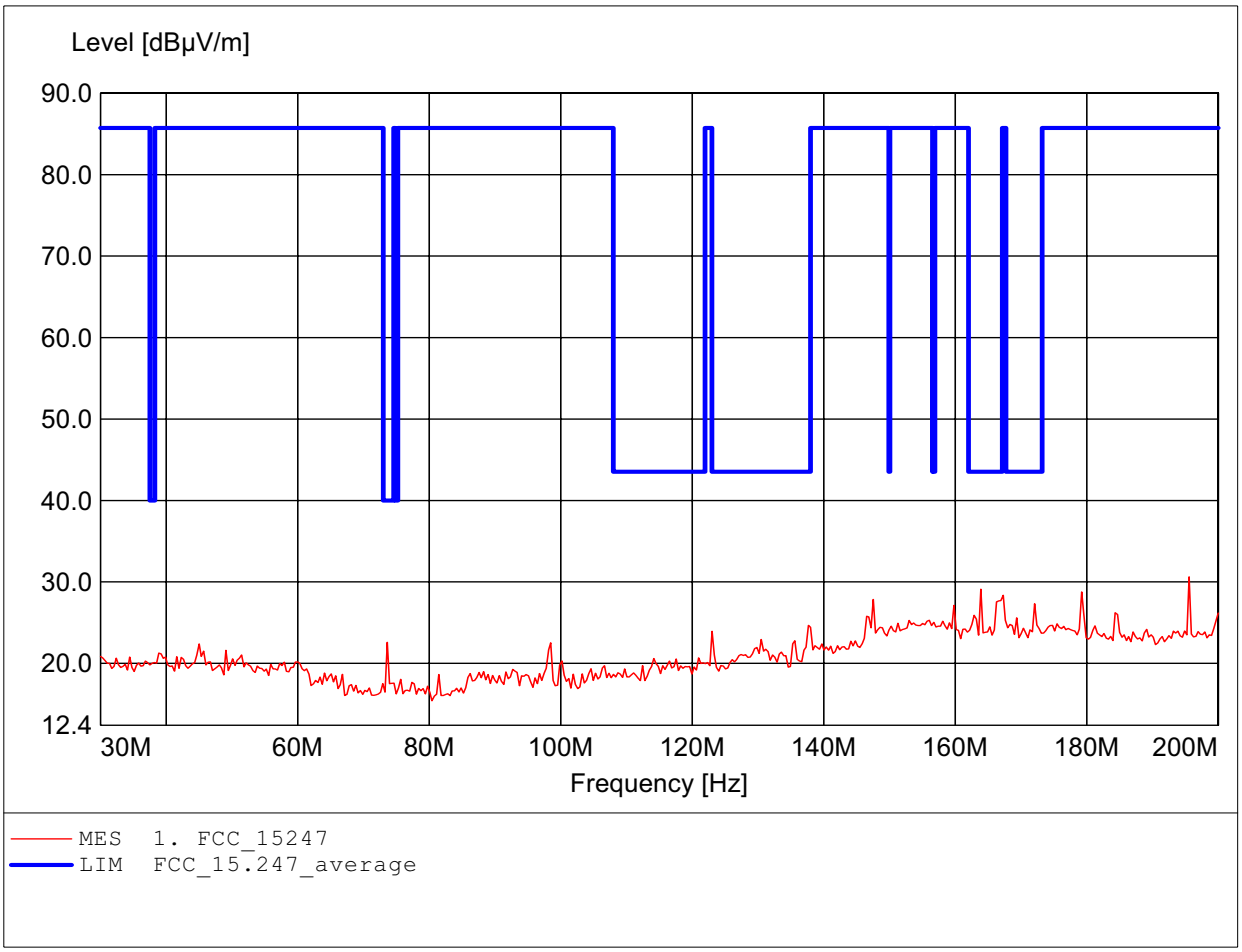
Order Number : W6M20701-7746 (low channel)
Test Site / Operator: ETS / Charles
Temperature:: Temp.: 23.9°C
according to §15.247
Comment 1: Dist.: 3m, Ant.: HK 116
Freq: 172.064MHz, Emax: 26.70dBµV/m, RBW: 100kHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C / LP0002

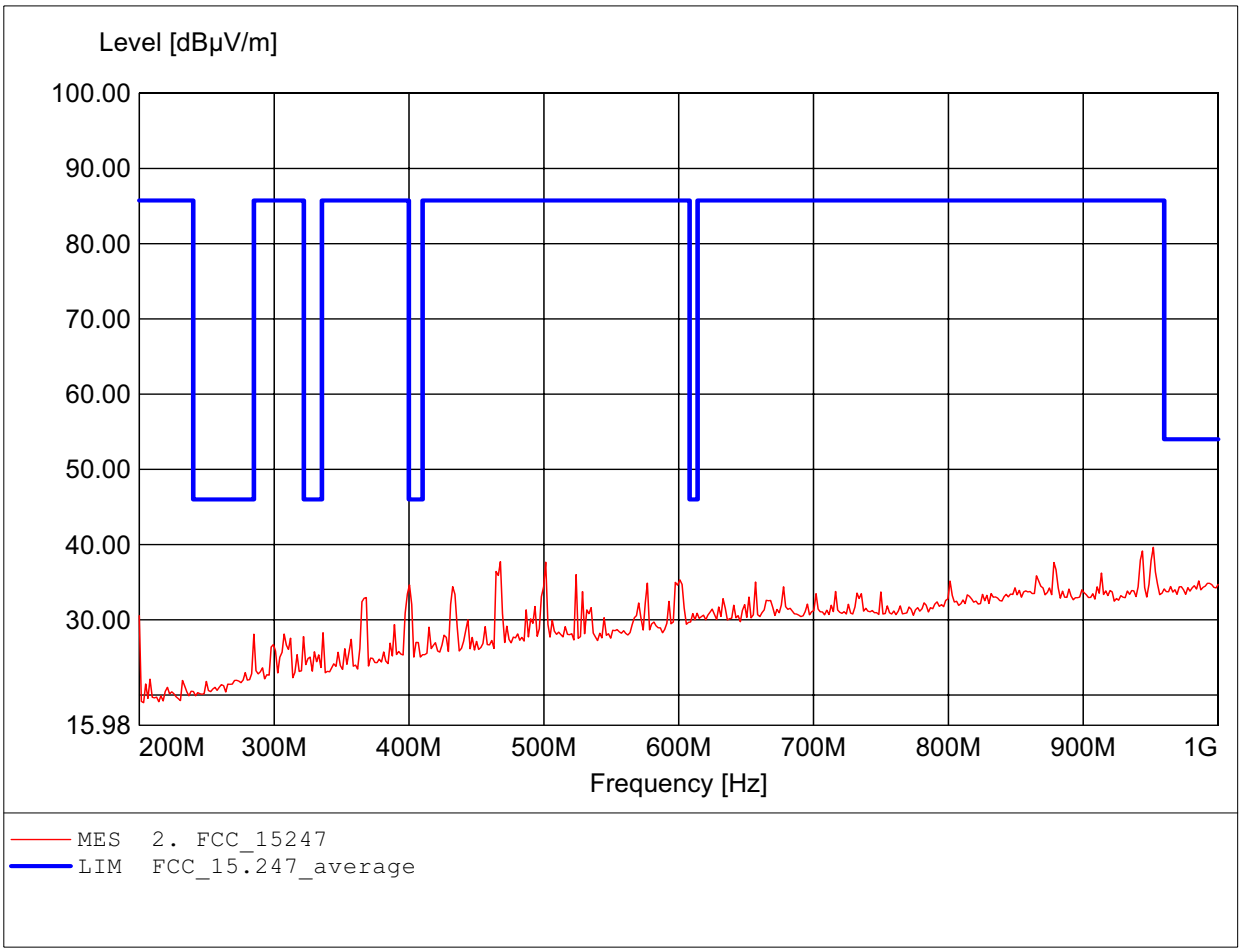
```
Order Number :          W6M20701-7746          ( low channel )
Test Site / Operator:   ETS / Charles
Temperature::           Temp.: 23.9°C
                        according to §15.247
Comment 1:              Dist.: 3m, Ant.: HK 116
                        Freq: 195.571MHz, Emax: 30.61dBµV/m, RBW: 100kHz
```



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C / LP0002

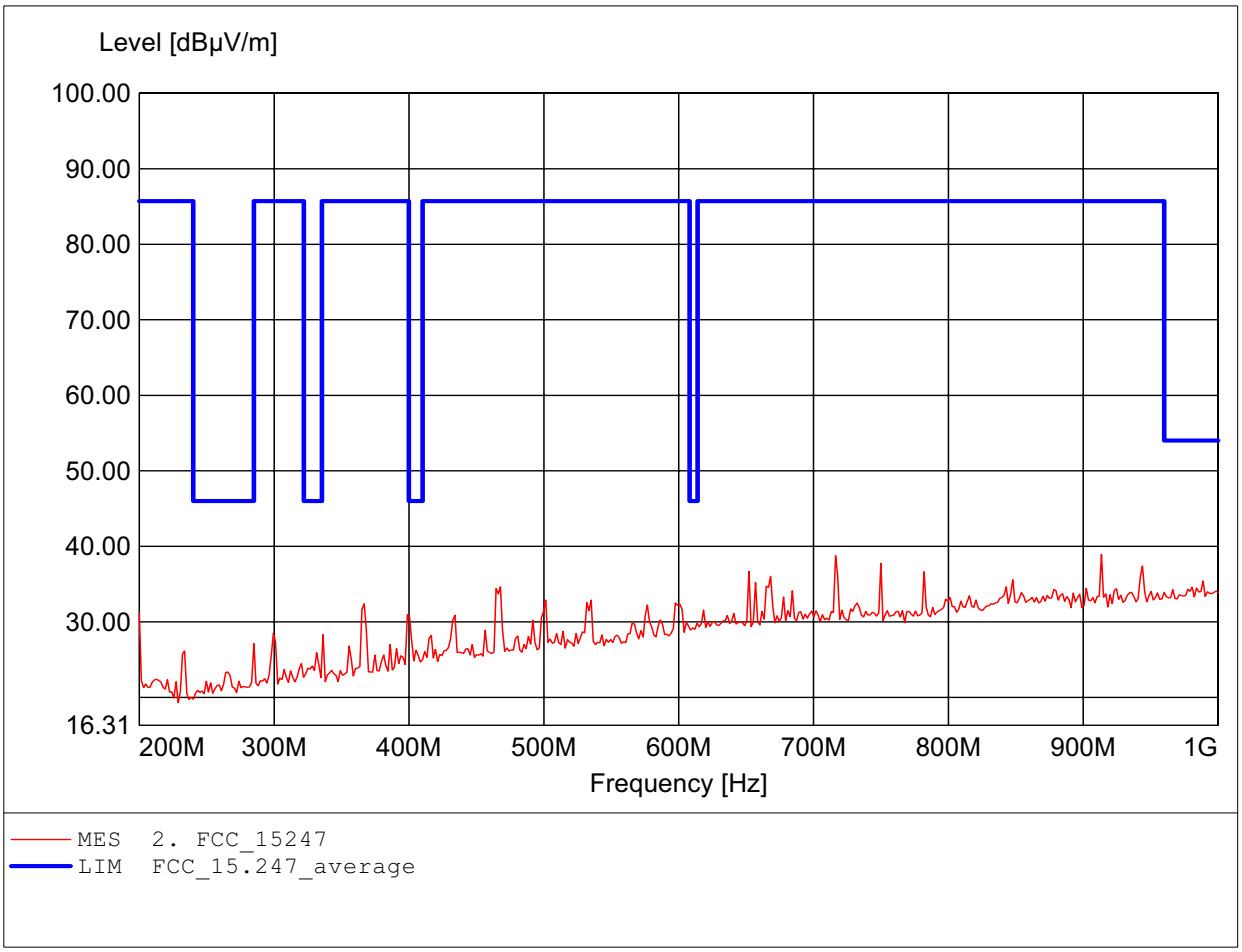
```
Order Number :          W6M20701-7746          ( low channel )
Test Site / Operator:   ETS / Charles
Temperature::           Temp.: 23.9°C
                        according to §15.247
Comment 1:              Dist.: 3m, Ant.: HL 223,
                        Freq: 951.904MHz, Emax: 39.64dBµV/m, RBW: 100kHz
```



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C / LP0002

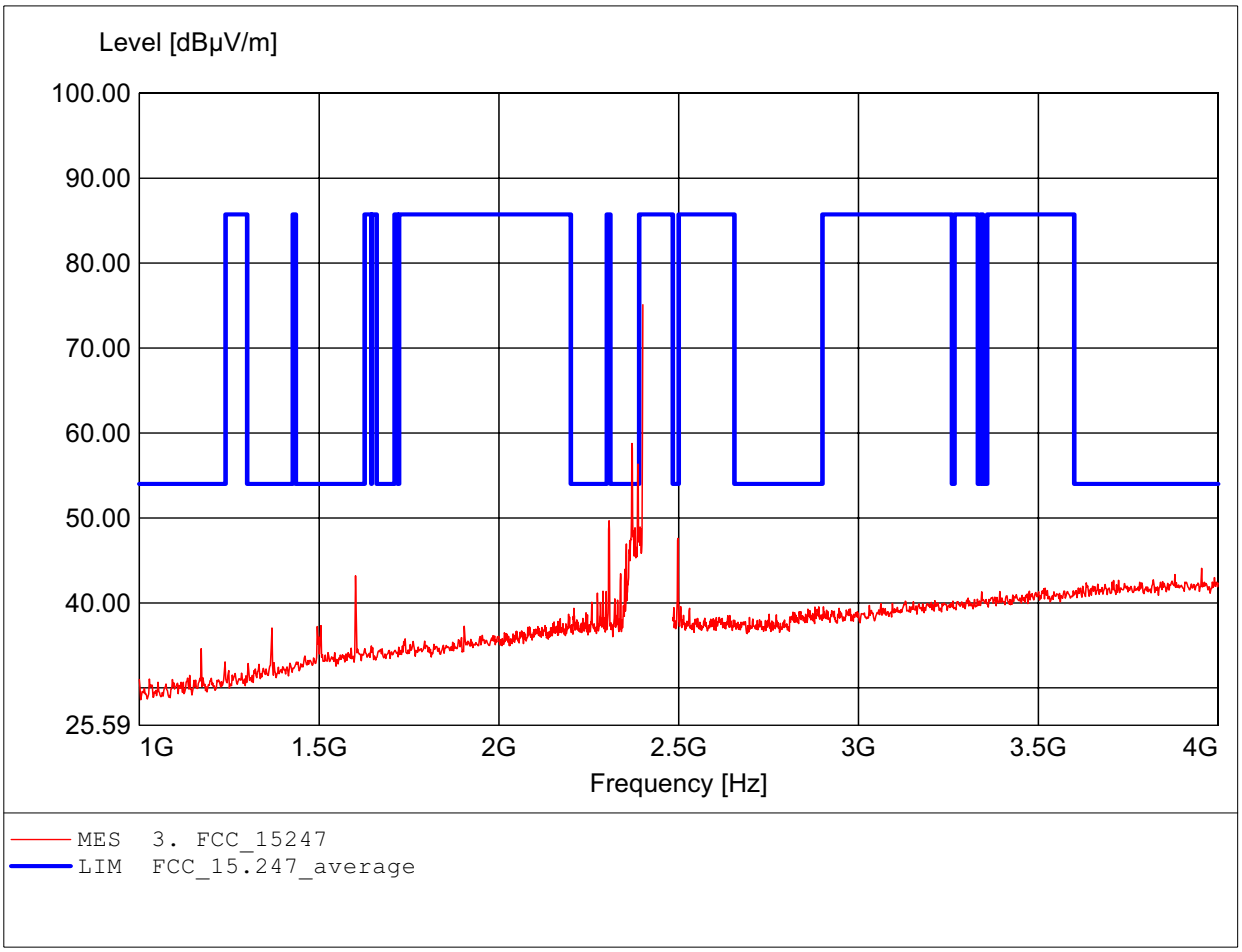
Order Number :	W6M20701-7746	(low channel)
Test Site / Operator:	ETS / Charles	
Temperature::	Temp.: 23.9°C	
	according to §15.247	
Comment 1:	Dist.: 3m, Ant.: HL 223,	
	Freq: 913.427MHz, Emax: 38.91dBµV/m, RBW: 100kHz	



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C / LP0002

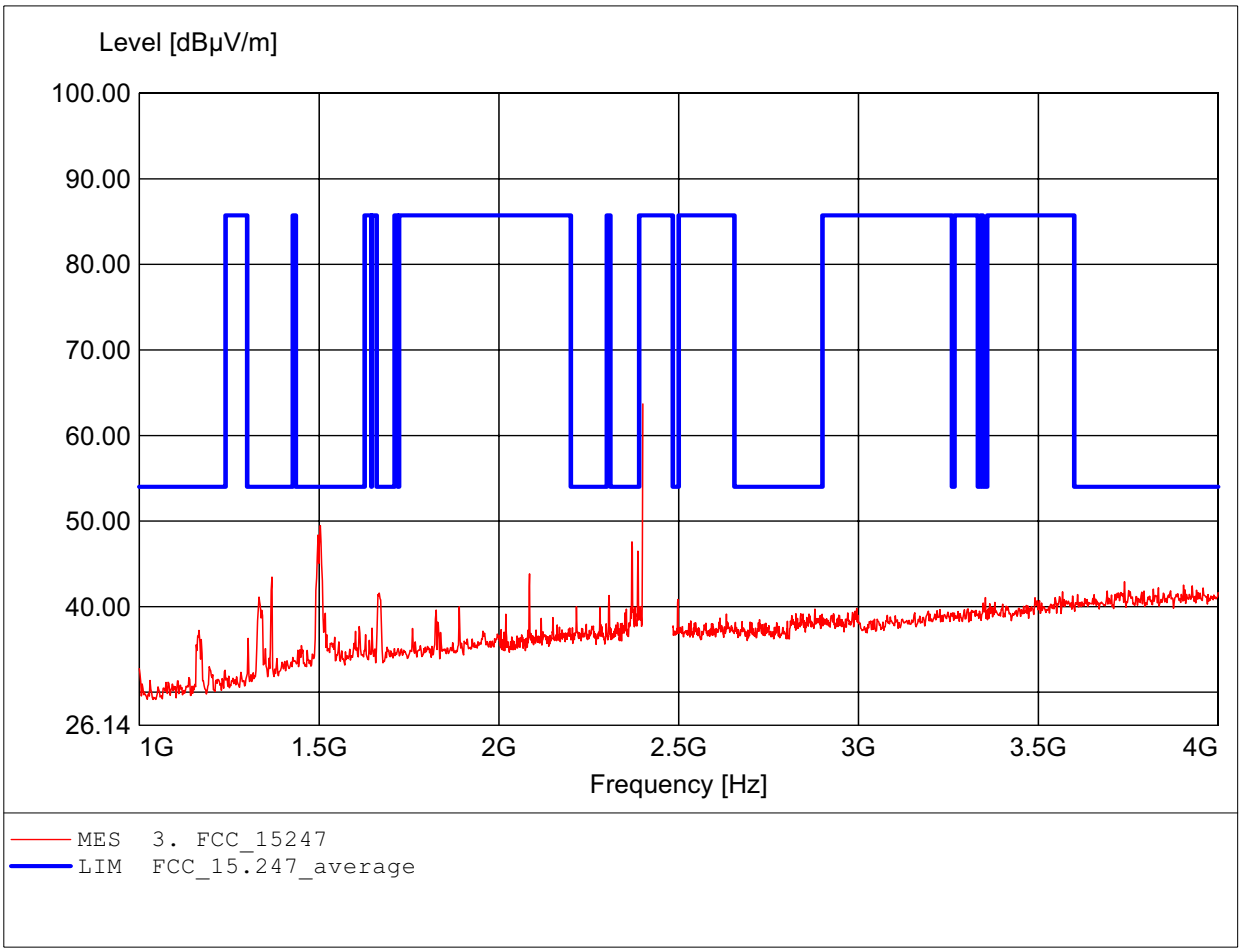
```
Order Number :          W6M20701-7746          ( low channel )
Test Site / Operator: ETS / Charles
Temperature::          Temp.: 23.9°C
                       according to §15.247, peak detector
Comment 1:             Dist.: 3m, Ant.: HL025, amplif.
                       Freq: 2.400GHz, Emax: 75.10dBµV/m, RBW: 1MHz
```



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C / LP0002

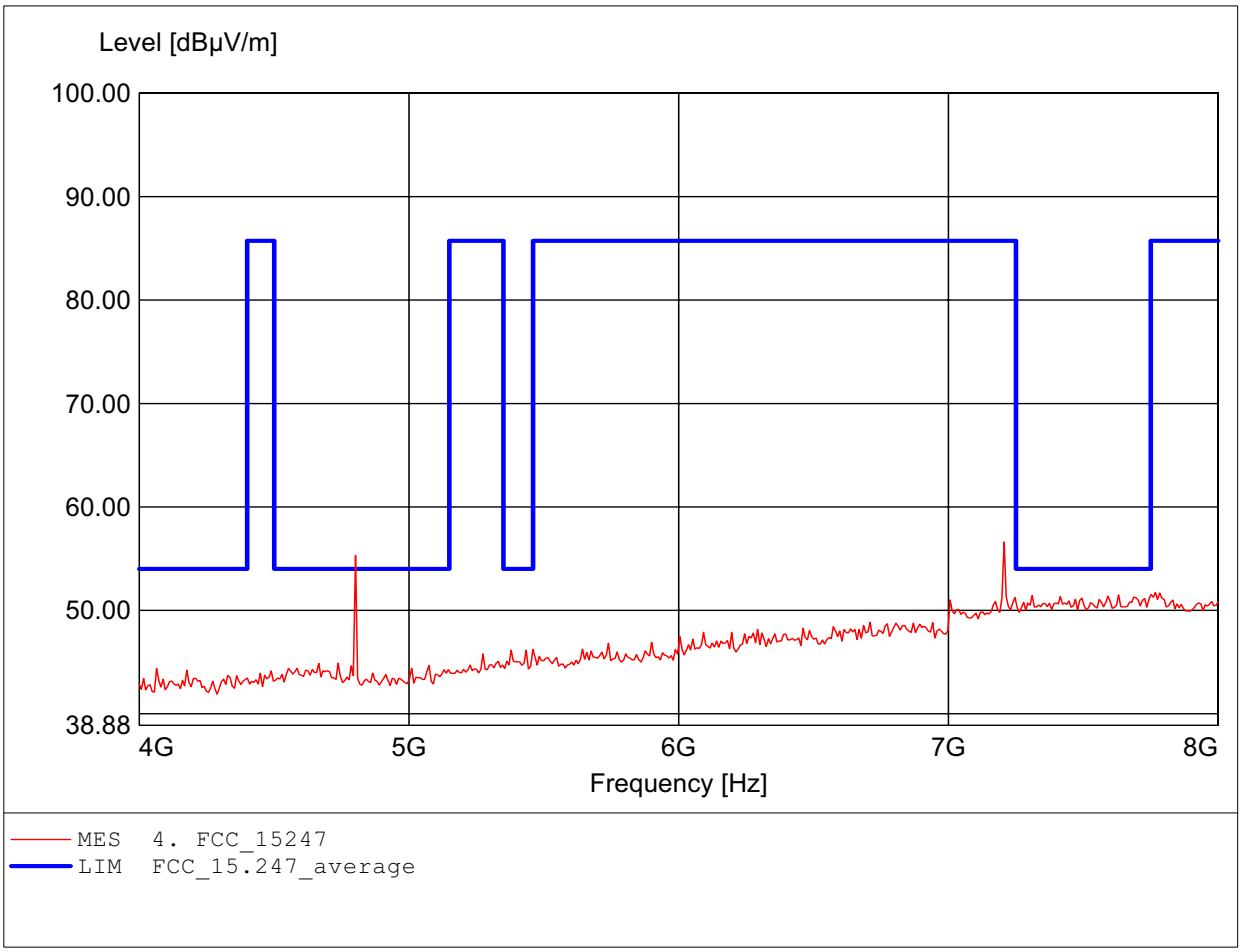
```
Order Number :          W6M20701-7746          ( low channel )
Test Site / Operator:   ETS / Charles
Temperature::           Temp.: 23.9°C
                        according to §15.247, peak detector
Comment 1:              Dist.: 3m, Ant.: HL025, amplif.
                        Freq: 2.400GHz, Emax: 63.69dBµV/m, RBW: 1MHz
```



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C / LP0002

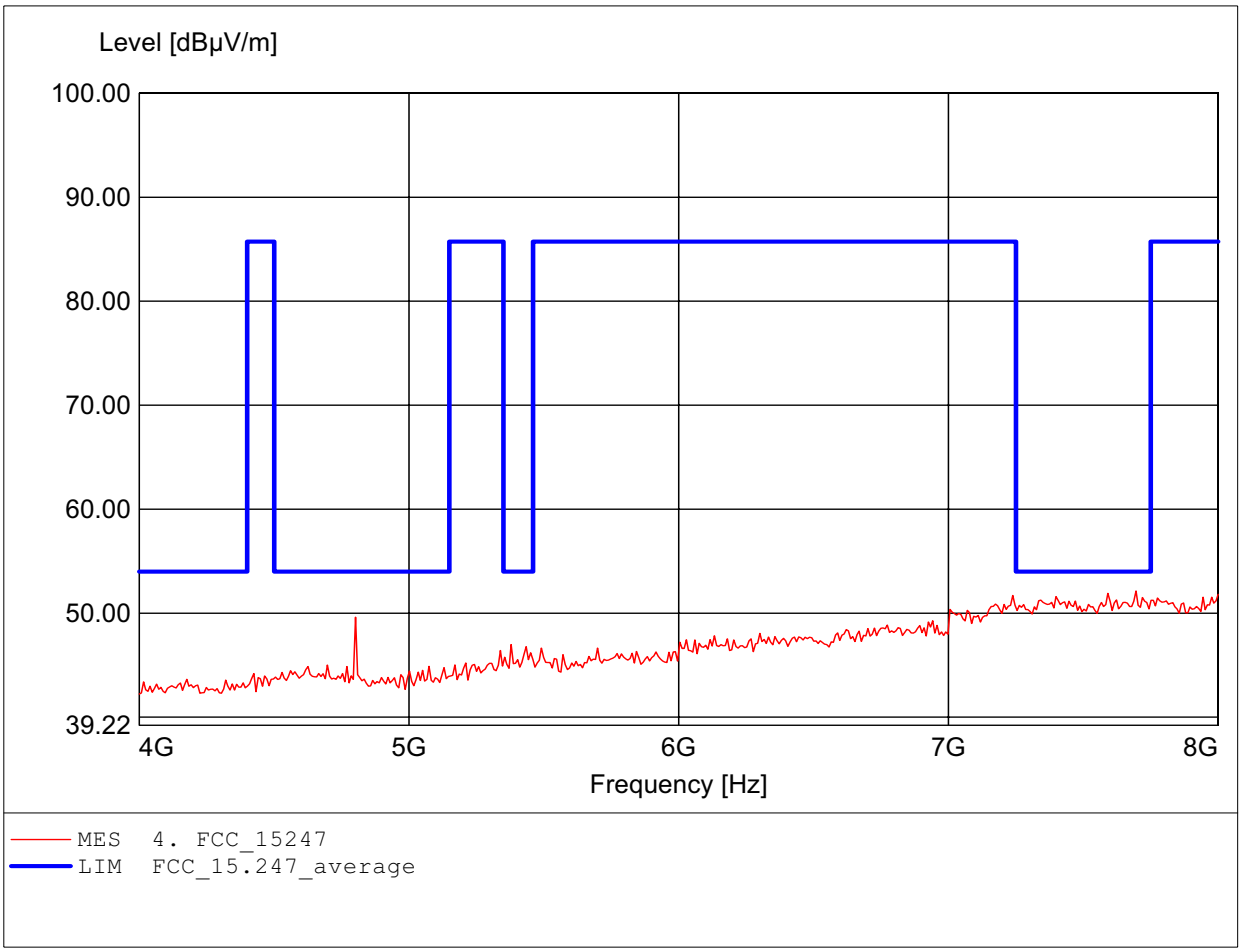
```
Order Number :          W6M20701-7746          ( low channel )
Test Site / Operator:   ETS / Charles
Temperature::           Temp.: 23.9°C
                        according to §15.247, peak detector
Comment 1:              Dist.: 3m, Ant.: HL025, ampl.+HP.
                        Freq: 7.206GHz, Emax: 56.60dBµV/m, RBW: 1MHz
```



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C / LP0002

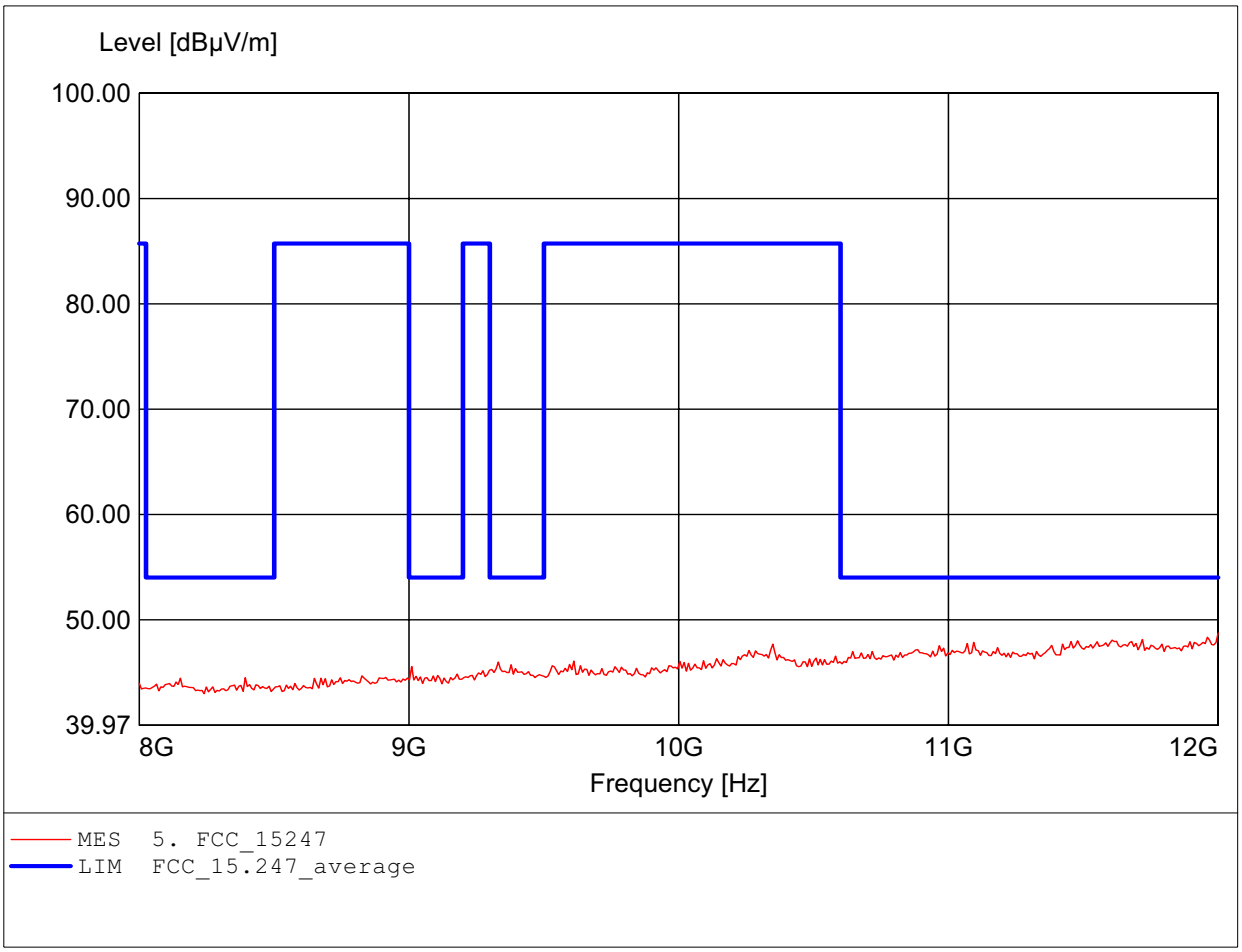
```
Order Number :          W6M20701-7746          ( low channel )
Test Site / Operator:   ETS / Charles
Temperature::           Temp.: 23.9°C
                        according to §15.247, peak detector
Comment 1:              Dist.: 3m, Ant.: HL025, ampl.+HP.
                        Freq: 7.695GHz, Emax: 52.13dBµV/m, RBW: 1MHz
```



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C / LP0002

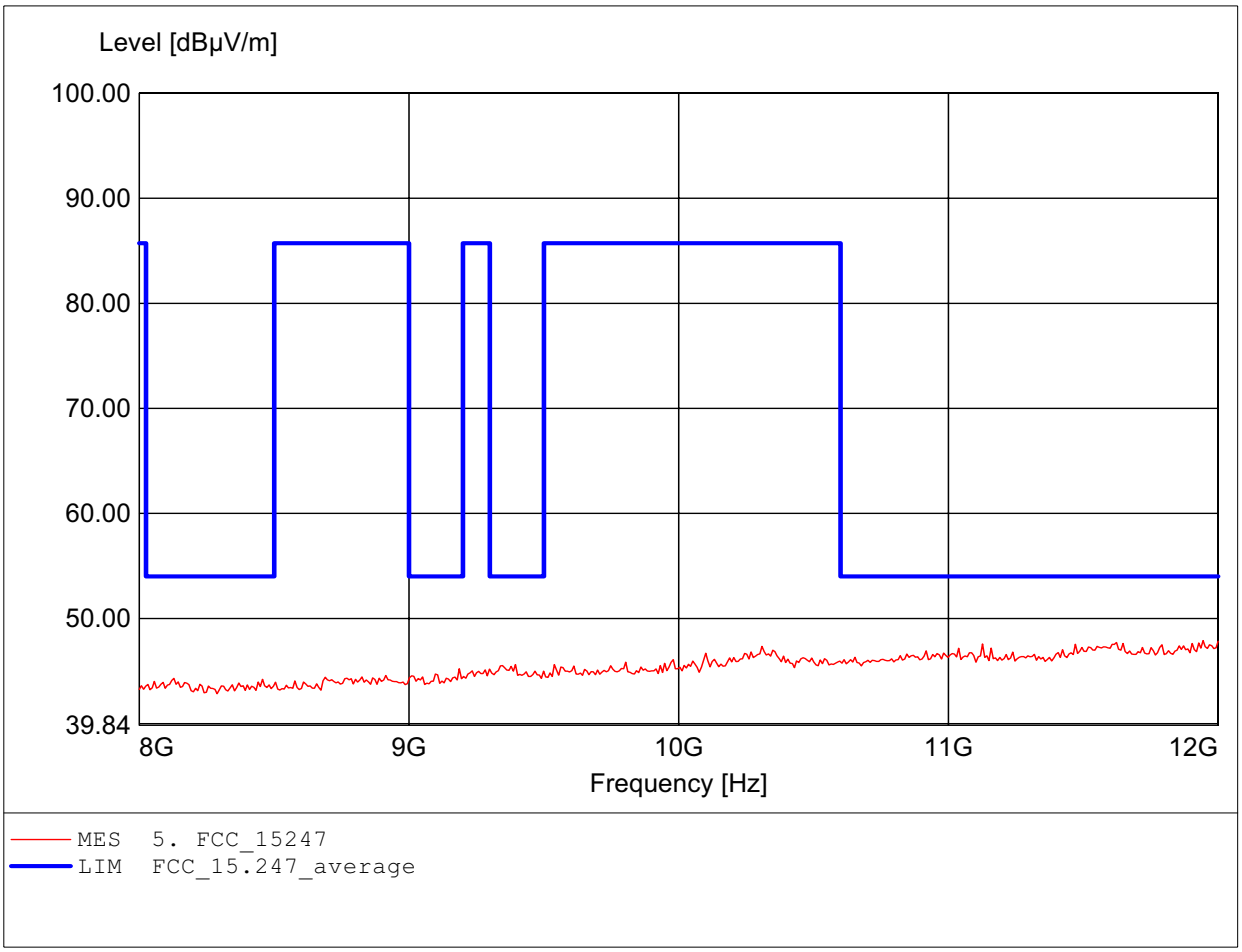
```
Order Number :          W6M20701-7746          ( low channel )
Test Site / Operator: ETS / Charles
Temperature::          Temp.: 23.9°C
                       according to §15.247, peak detector
Comment 1:             Dist.: 3m, Ant.: HL025, ampl.+HP.
                       Freq: 12.000GHz, Emax: 48.73dBµV/m, RBW: 1MHz
```



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C / LP0002

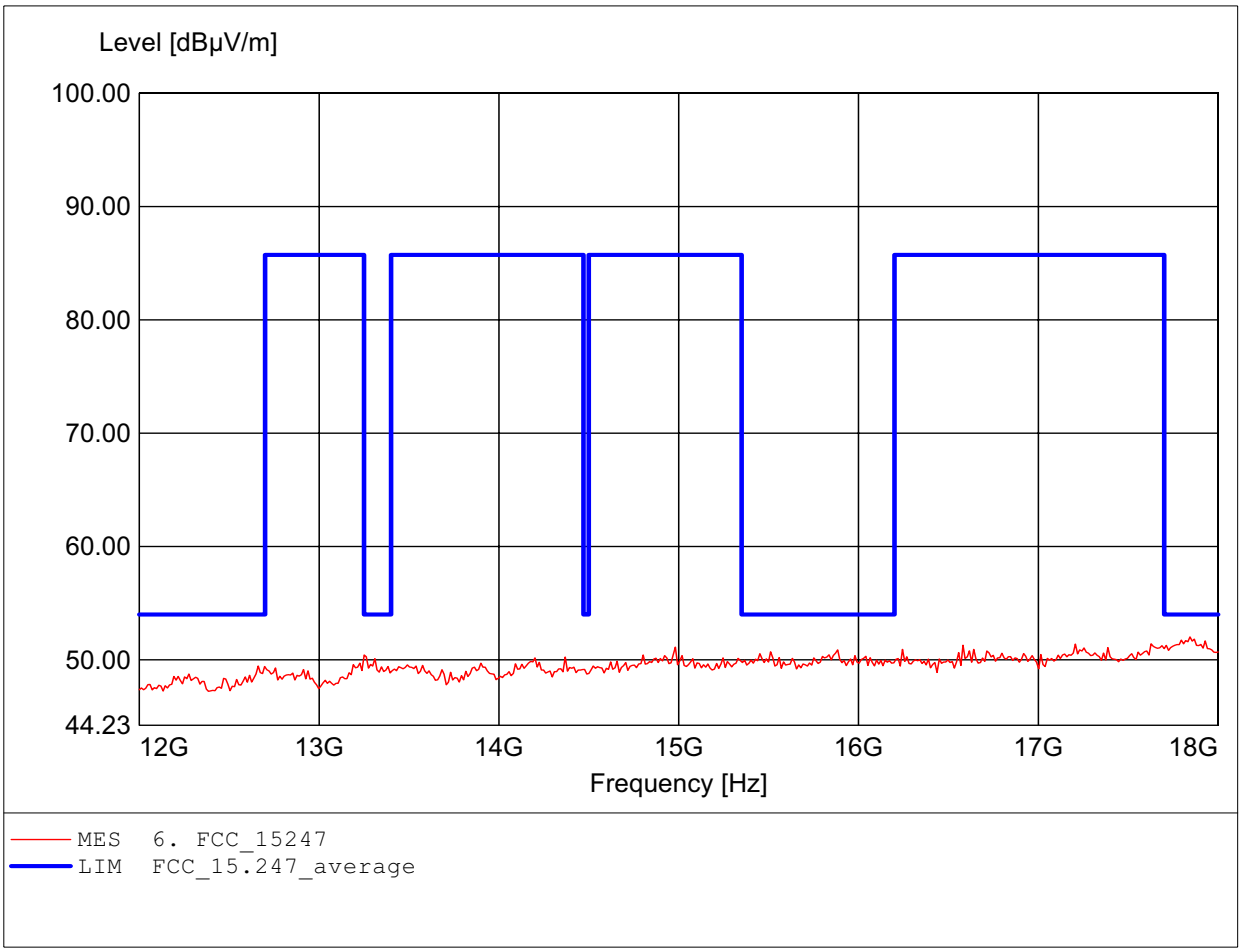
```
Order Number :          W6M20701-7746          ( low channel )
Test Site / Operator: ETS / Charles
Temperature::          Temp.: 23.9°C
                       according to §15.247, peak detector
Comment 1:             Dist.: 3m, Ant.: HL025, ampl.+HP.
                       Freq: 11.944GHz, Emax: 47.89dBµV/m, RBW: 1MHz
```



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C / LP0002

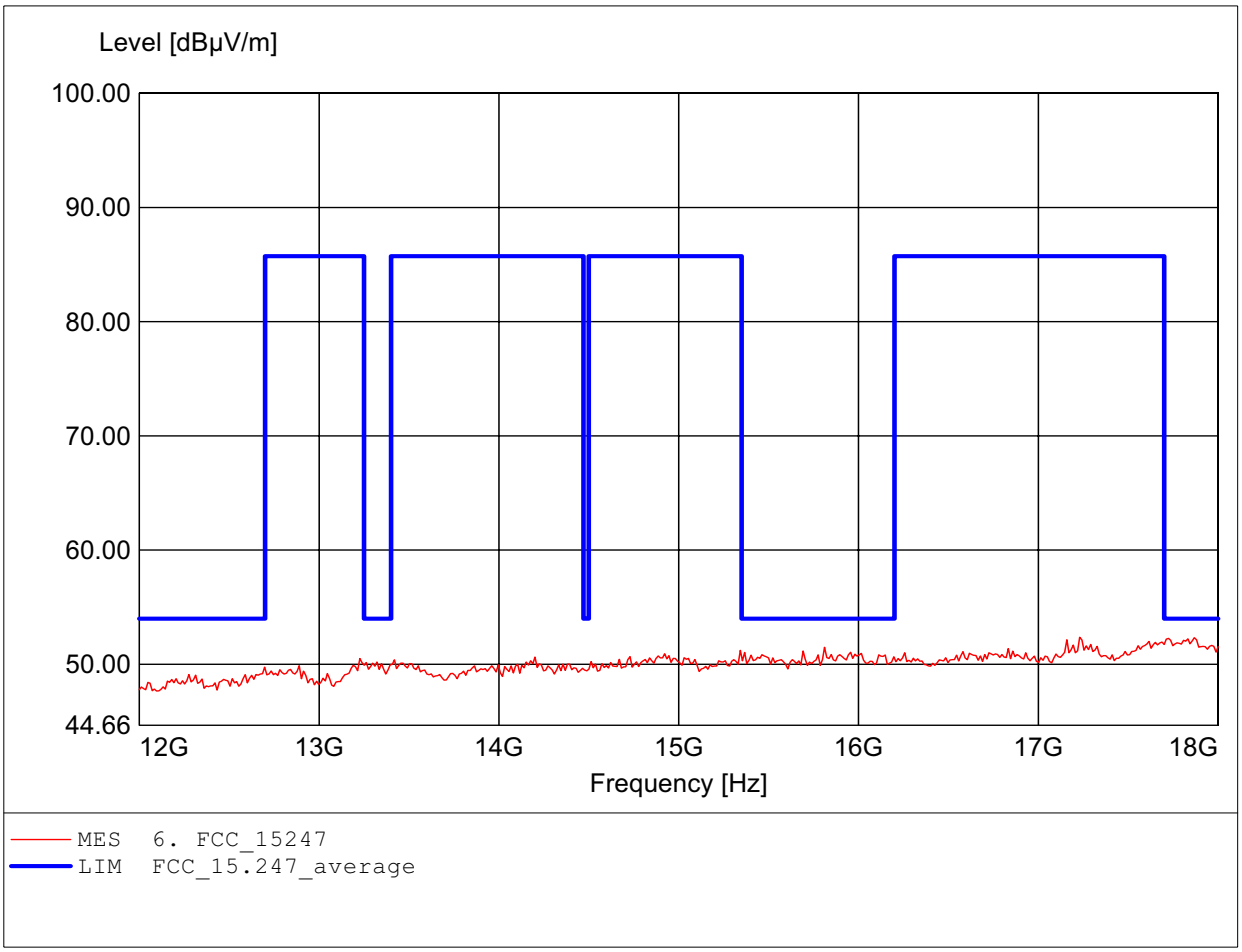
```
Order Number :          W6M20701-7746          ( low channel )
Test Site / Operator: ETS / Charles
Temperature::          Temp.: 23.9°C
                       according to §15.247, peak detector
Comment 1:             Dist.: 3m, Ant.: HL025, ampl.+HP.
                       Freq: 17.844GHz, Emax: 52.03dBµV/m, RBW: 1MHz
```



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C / LP0002

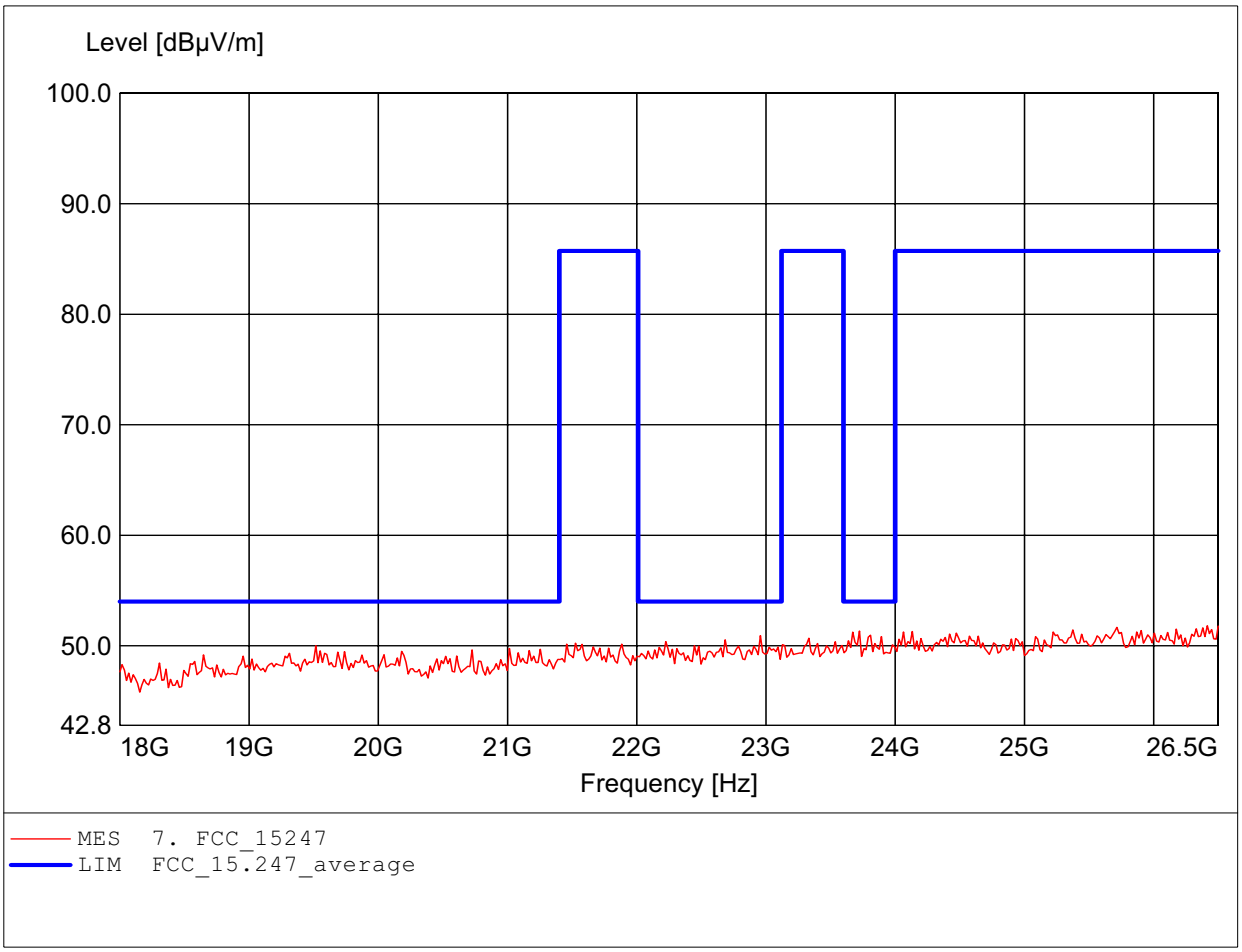
```
Order Number :          W6M20701-7746          ( low channel )
Test Site / Operator: ETS / Charles
Temperature::          Temp.: 23.9°C
                       according to §15.247, peak detector
Comment 1:             Dist.: 3m, Ant.: HL025, ampl.+HP.
                       Freq: 17.230GHz, Emax: 52.37dBµV/m, RBW: 1MHz
```



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C / LP0002

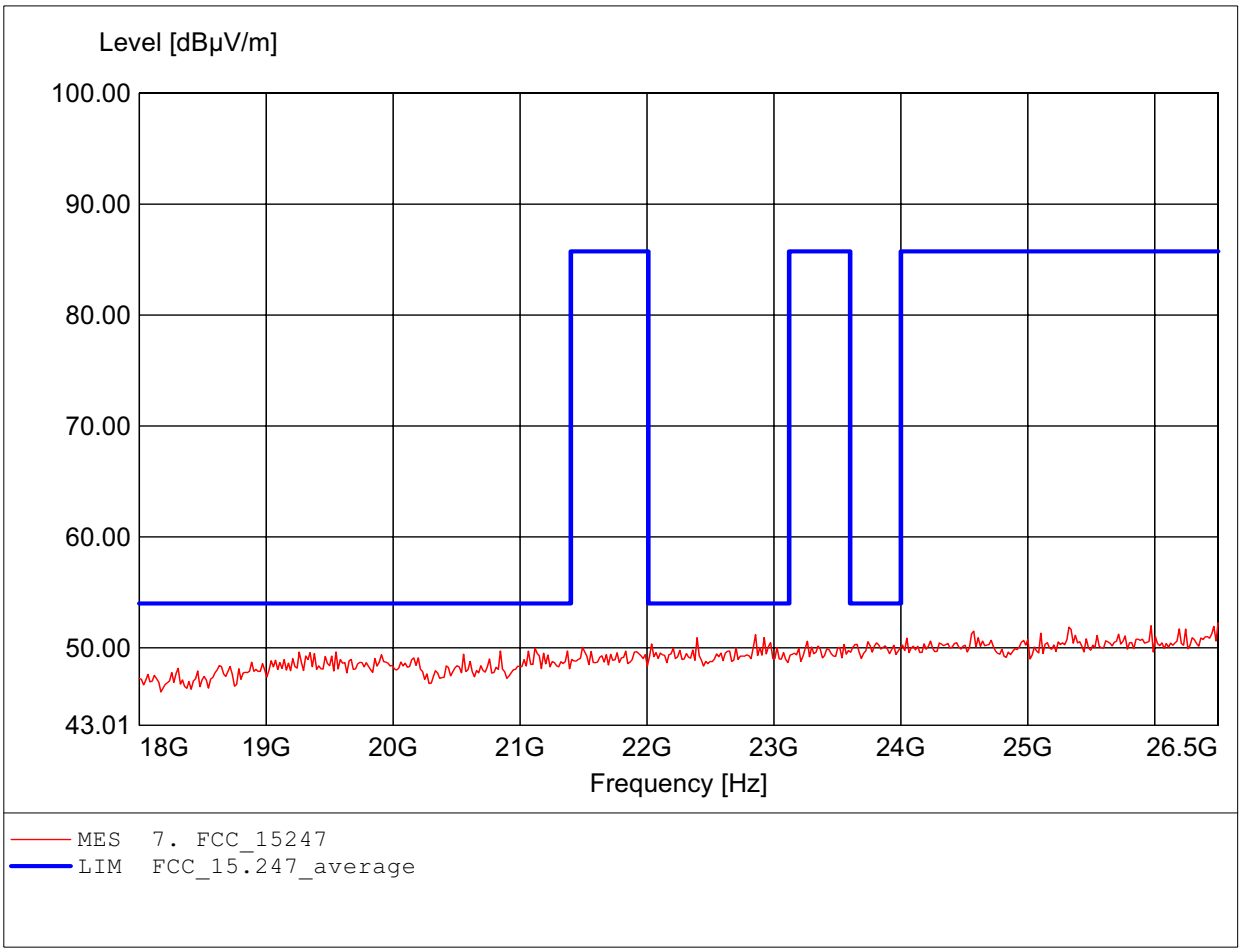
```
Order Number :          W6M20701-7746          ( low channel )
Test Site / Operator: ETS / Charles
Temperature::          Temp.: 23.9°C
                       according to §15.247, peak detector
Comment 1:             Dist.: 3m, Ant.: HL025, amplif.
                       Freq: 26.415GHz, Emax: 51.81dBµV/m, RBW: 1MHz
```



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C / LP0002

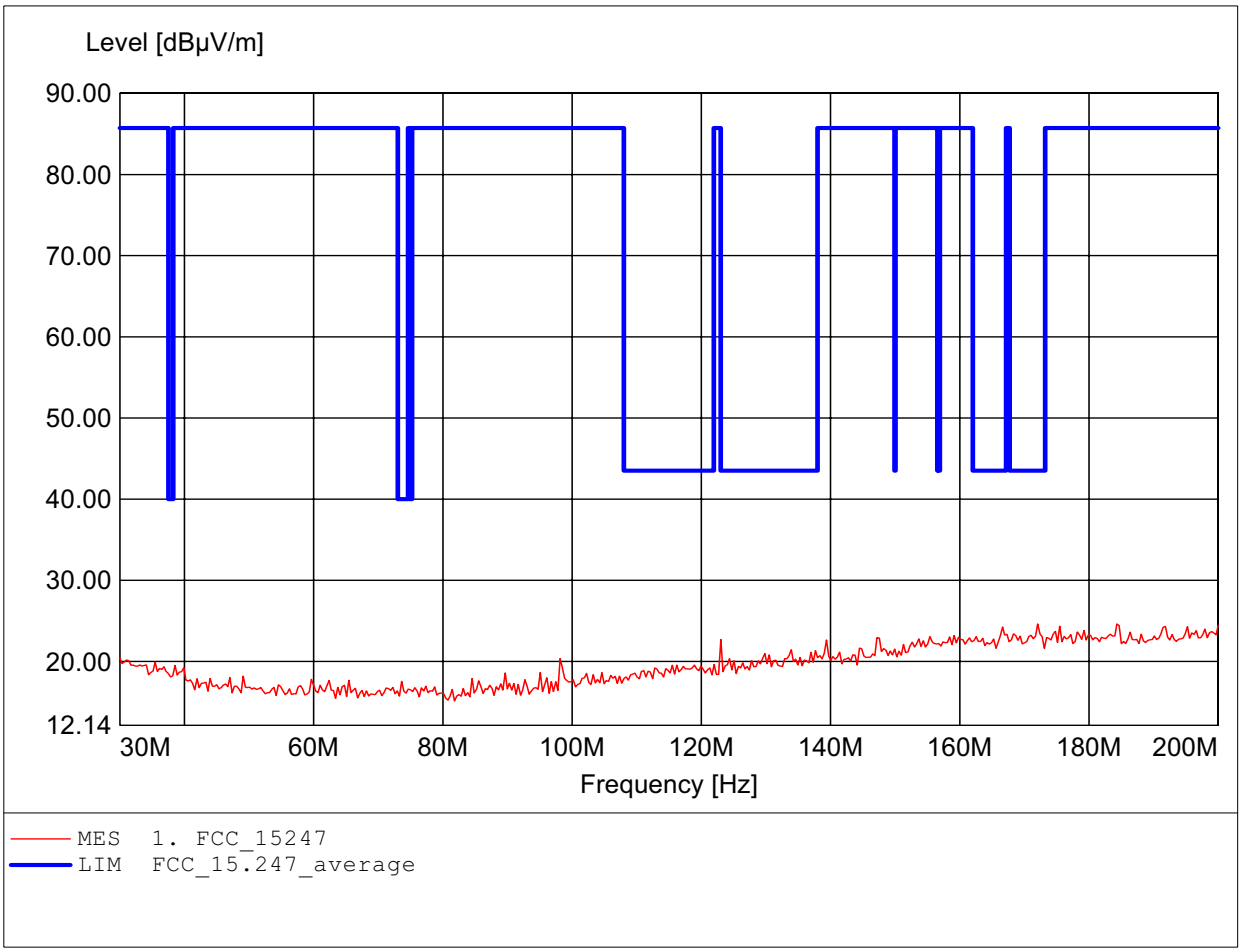
```
Order Number :          W6M20701-7746          ( low channel )
Test Site / Operator:   ETS / Charles
Temperature::           Temp.: 23.9°C
                        according to §15.247, peak detector
Comment 1:              Dist.: 3m, Ant.: HL025, amplif.
                        Freq: 26.500GHz, Emax: 52.26dBµV/m, RBW: 1MHz
```



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C / LP0002

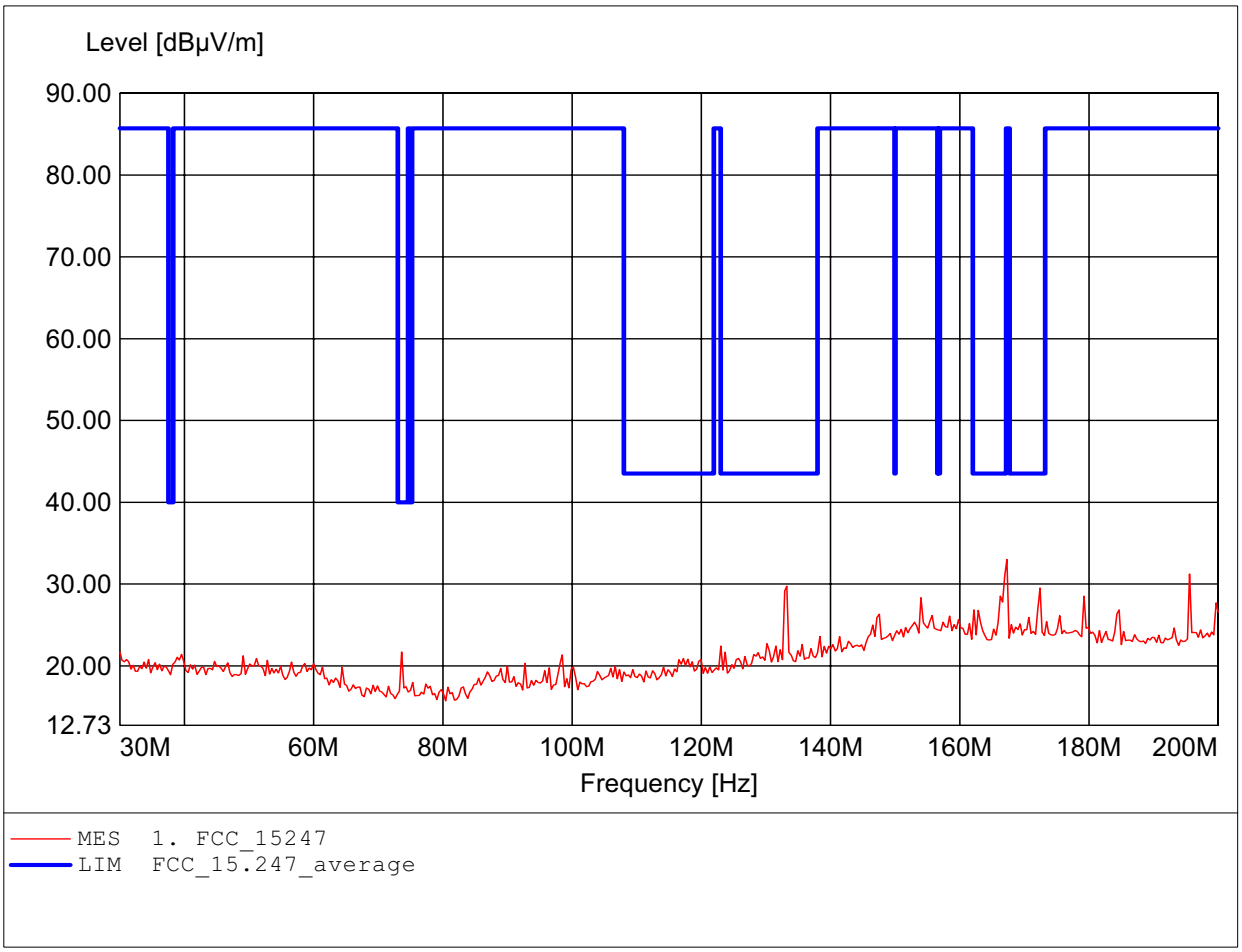
Order Number :	W6M20701-7746	(middle channel)
Test Site / Operator:	ETS / Charles	
Temperature::	Temp.: 23.9°C	
	according to §15.247	
Comment 1:	Dist.: 3m, Ant.: HK 116	
	Freq: 184.329MHz, Emax: 24.61dBµV/m, RBW: 100kHz	



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C / LP0002

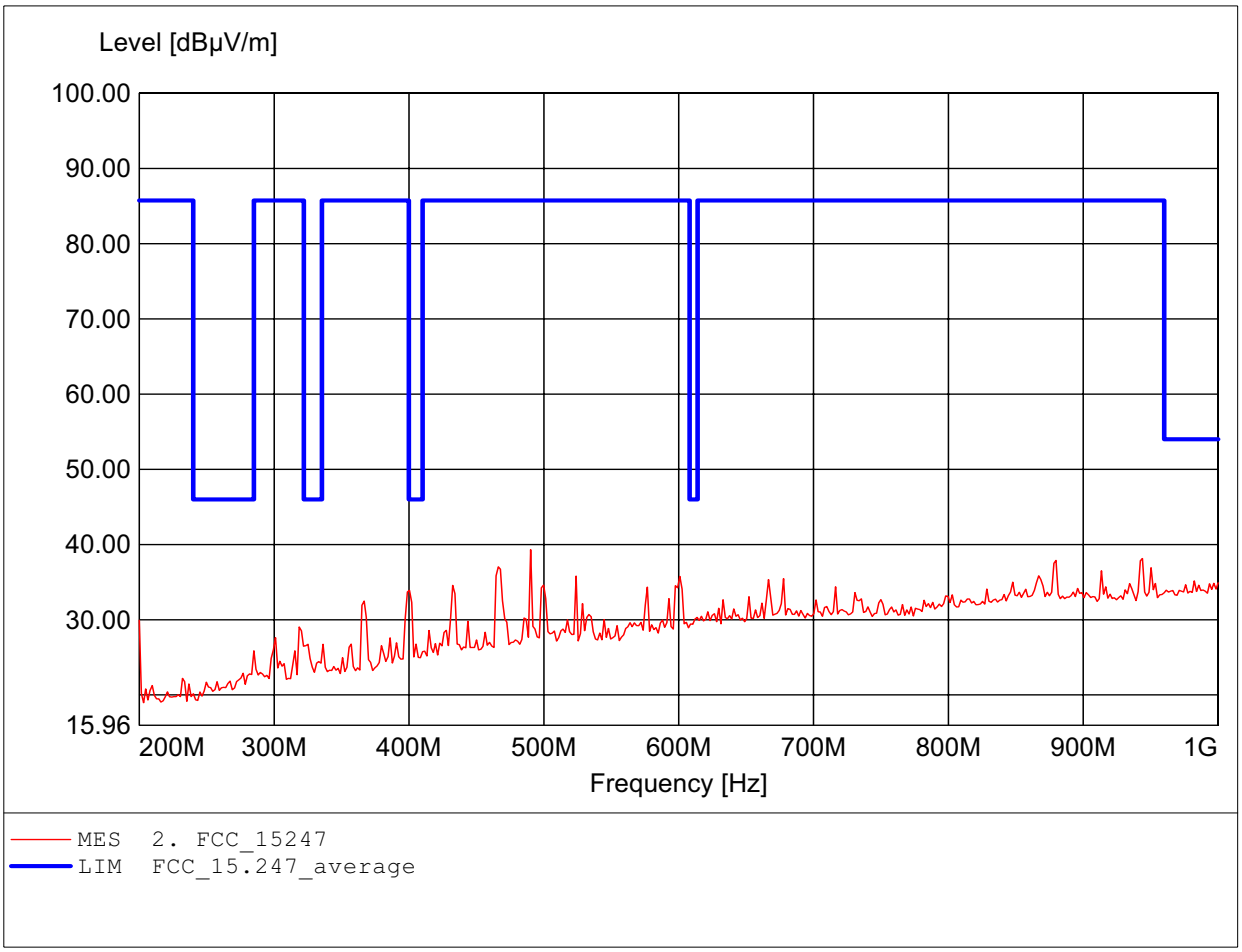
Order Number : W6M20701-7746 (middle channel)
Test Site / Operator: ETS / Charles
Temperature:: Temp.: 23.9°C
according to §15.247
Comment 1: Dist.: 3m, Ant.: HK 116
Freq: 167.295MHz, Emax: 33.01dBµV/m, RBW: 100kHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C / LP0002

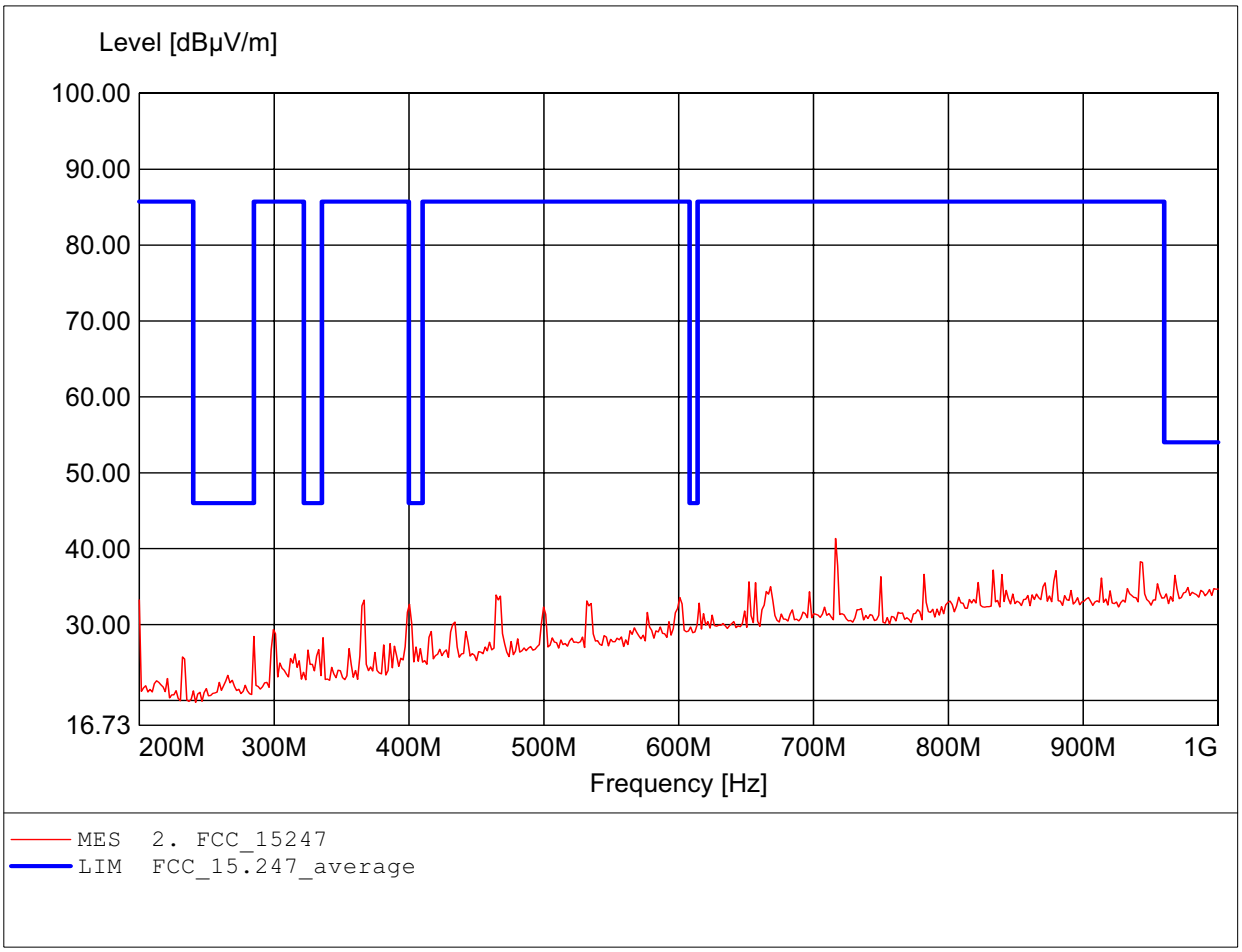
Order Number :	W6M20701-7746	(middle channel)
Test Site / Operator:	ETS / Charles	
Temperature::	Temp.: 23.9°C	
	according to §15.247	
Comment 1:	Dist.: 3m, Ant.: HL 223,	
	Freq: 490.180MHz, Emax: 39.31dBµV/m, RBW: 100kHz	



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C / LP0002

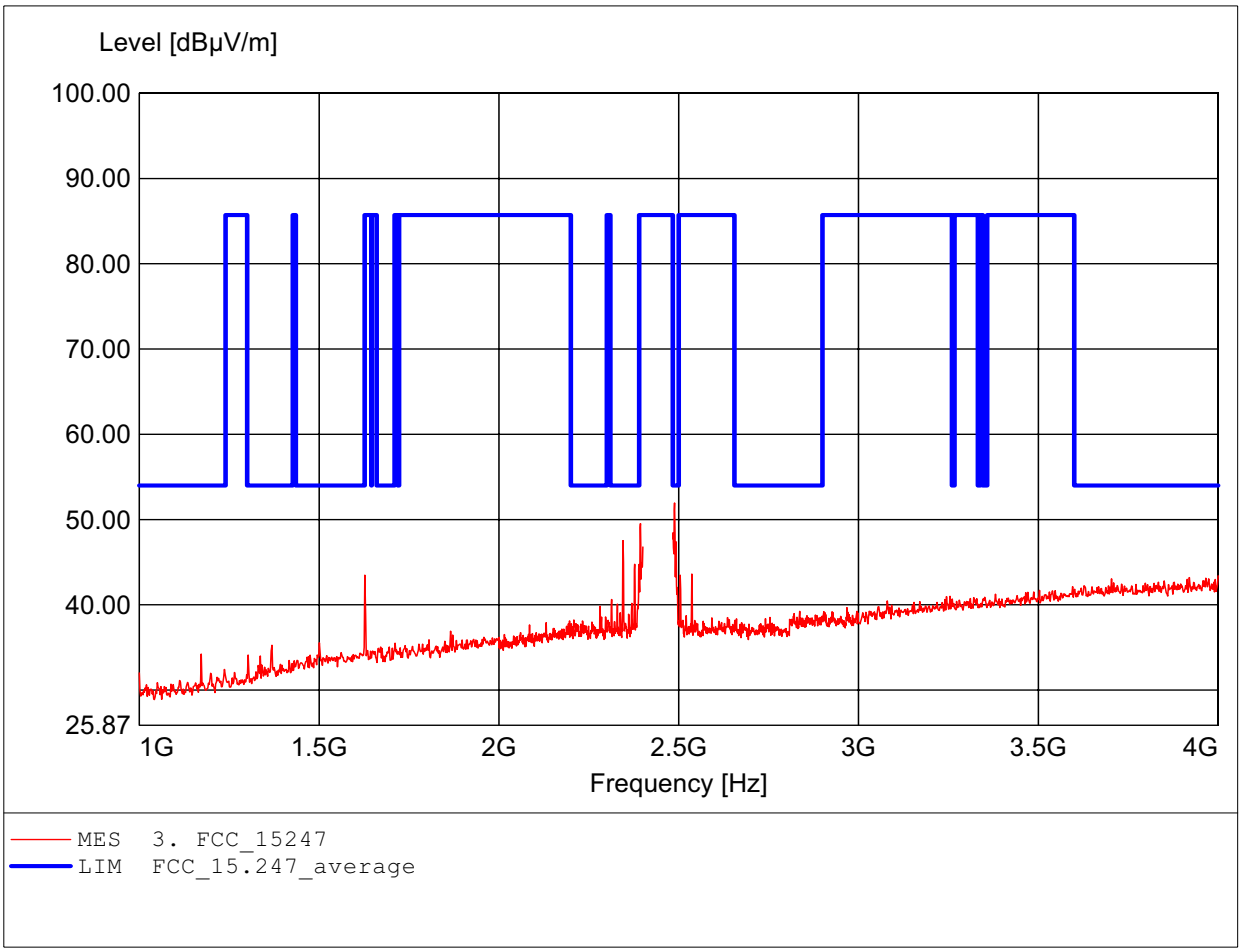
Order Number :	W6M20701-7746	(middle channel)
Test Site / Operator:	ETS / Charles	
Temperature::	Temp.: 23.9°C	
	according to §15.247	
Comment 1:	Dist.: 3m, Ant.: HL 223,	
	Freq: 716.232MHz, Emax: 41.33dBµV/m, RBW: 100kHz	



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C / LP0002

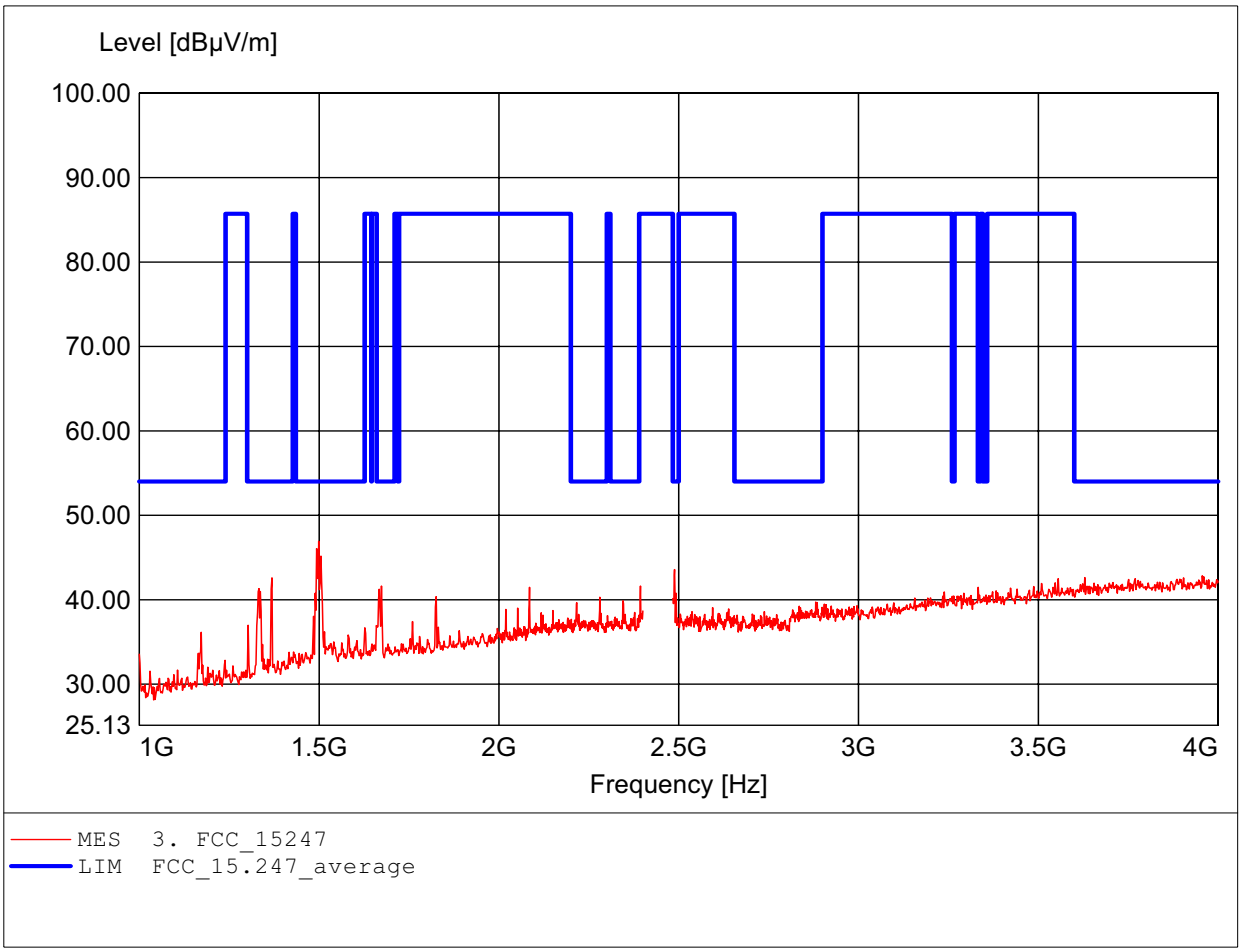
Order Number : W6M20701-7746 (middle channel)
Test Site / Operator: ETS / Charles
Temperature:: Temp.: 23.9°C
according to §15.247, peak detector
Comment 1: Dist.: 3m, Ant.: HL025, amplif.
Freq: 2.489GHz, Emax: 51.94dBµV/m, RBW: 1MHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C / LP0002

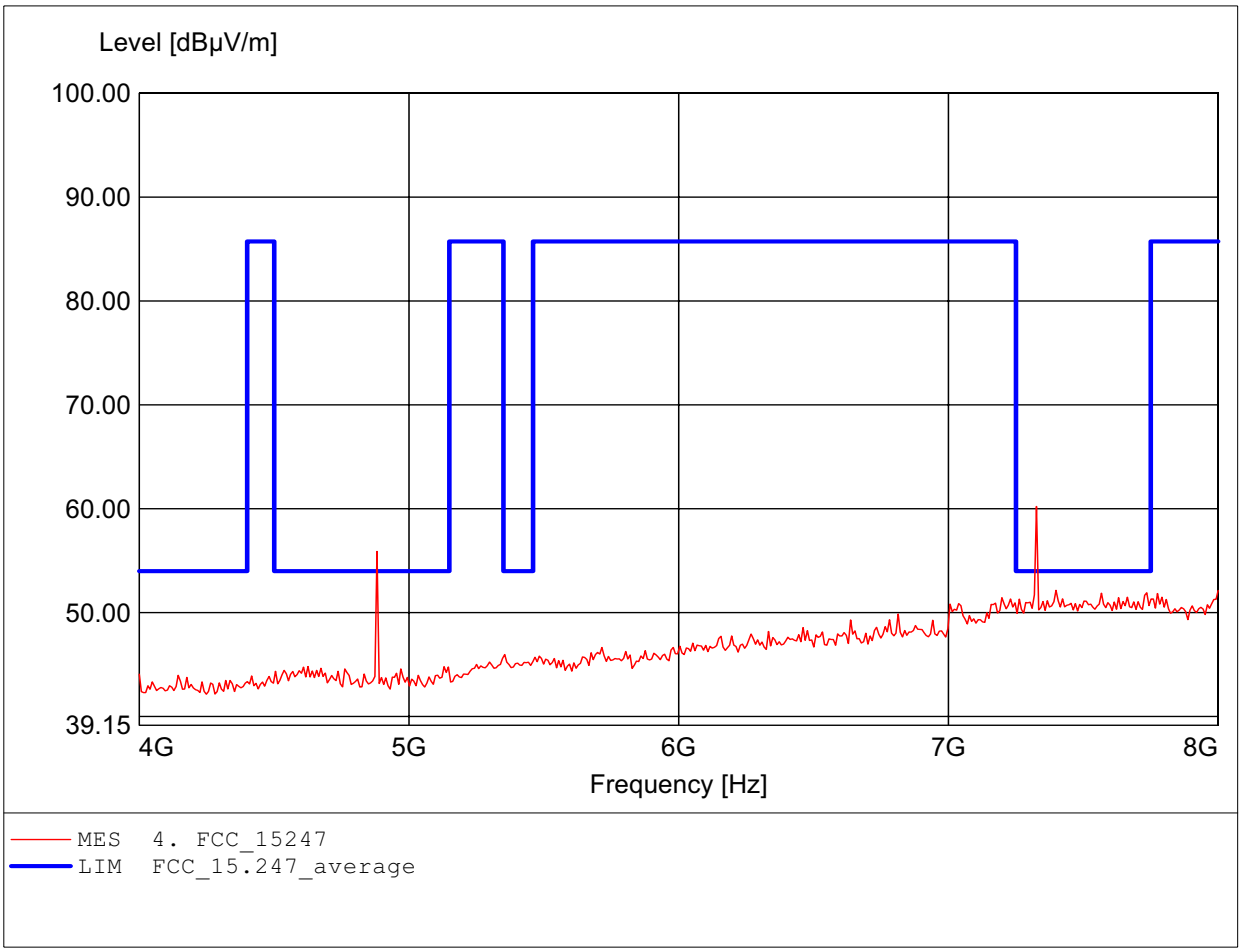
```
Order Number :          W6M20701-7746          ( middle channel )
Test Site / Operator:   ETS / Charles
Temperature::           Temp.: 23.9°C
                        according to §15.247, peak detector
Comment 1:              Dist.: 3m, Ant.: HL025, amplif.
                        Freq: 1.499GHz, Emax: 46.93dBµV/m, RBW: 1MHz
```



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C / LP0002

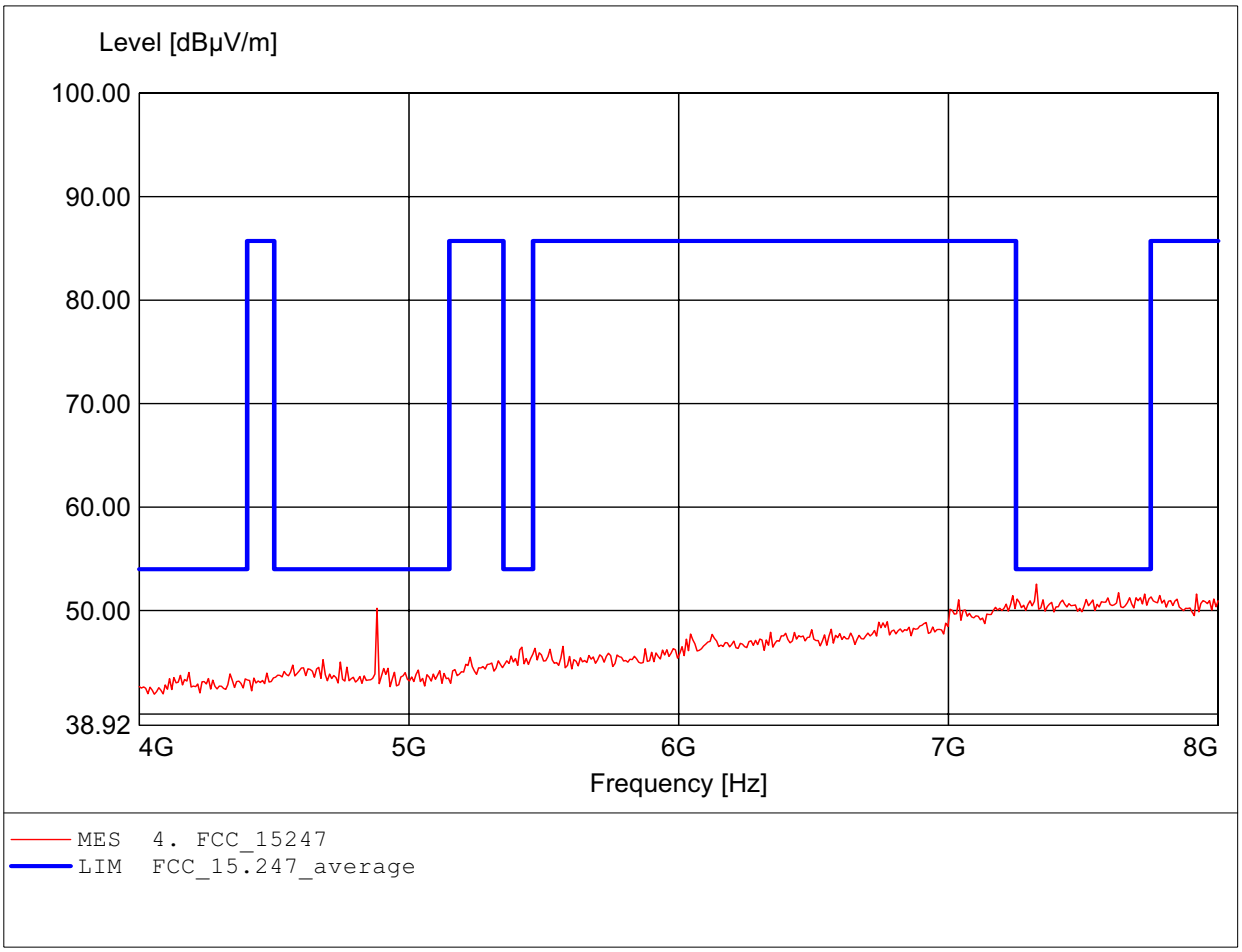
```
Order Number :          W6M20701-7746          ( middle channel )
Test Site / Operator:   ETS / Charles
Temperature::           Temp.: 23.9°C
                        according to §15.247, peak detector
Comment 1:              Dist.: 3m, Ant.: HL025, ampl.+HP.
                        Freq: 7.327GHz, Emax: 60.22dBµV/m, RBW: 1MHz
```



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C / LP0002

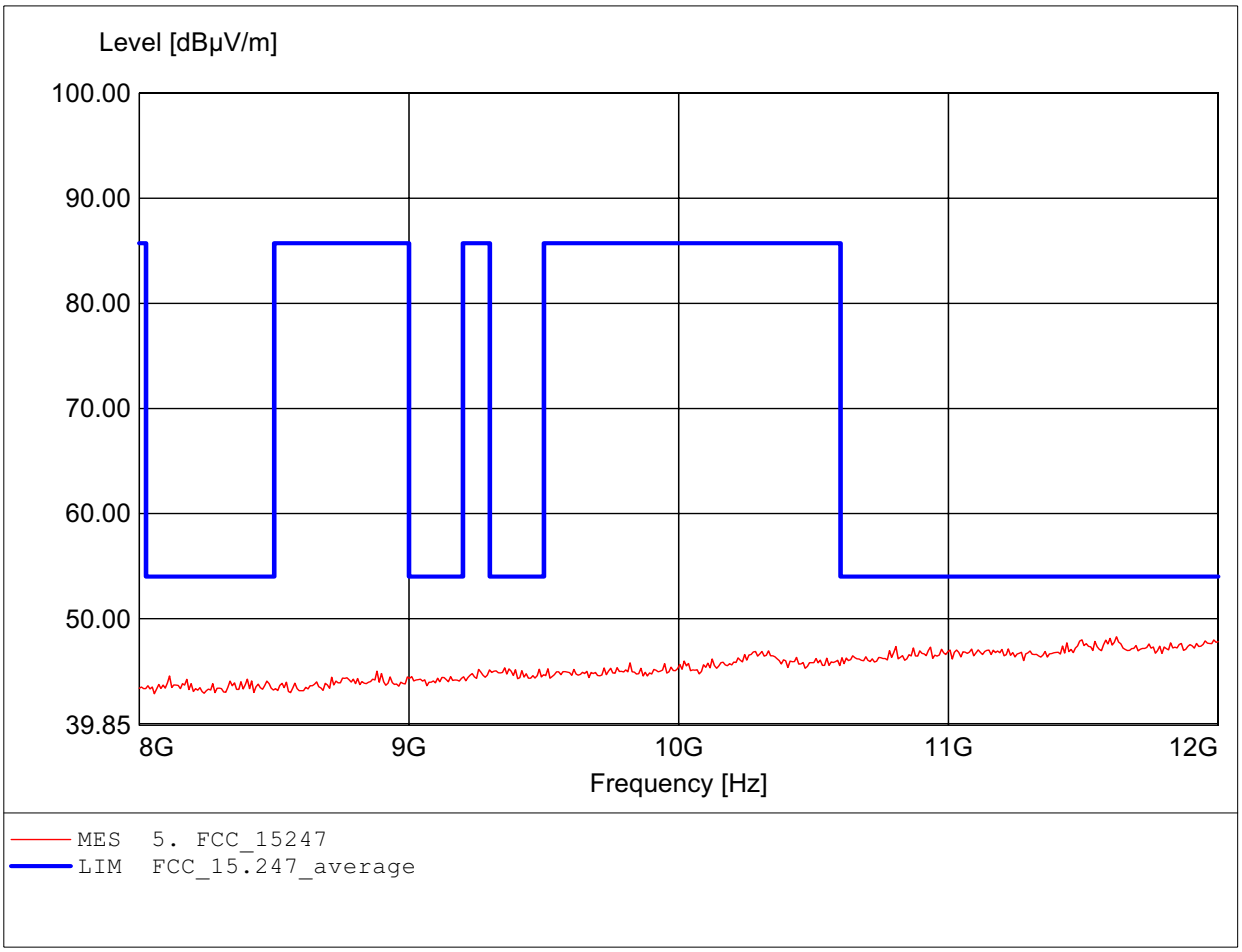
```
Order Number :          W6M20701-7746          ( middle channel )
Test Site / Operator: ETS / Charles
Temperature::          Temp.: 23.9°C
                       according to §15.247, peak detector
Comment 1:             Dist.: 3m, Ant.: HL025, ampl.+HP.
                       Freq: 7.327GHz, Emax: 52.56dBµV/m, RBW: 1MHz
```



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C / LP0002

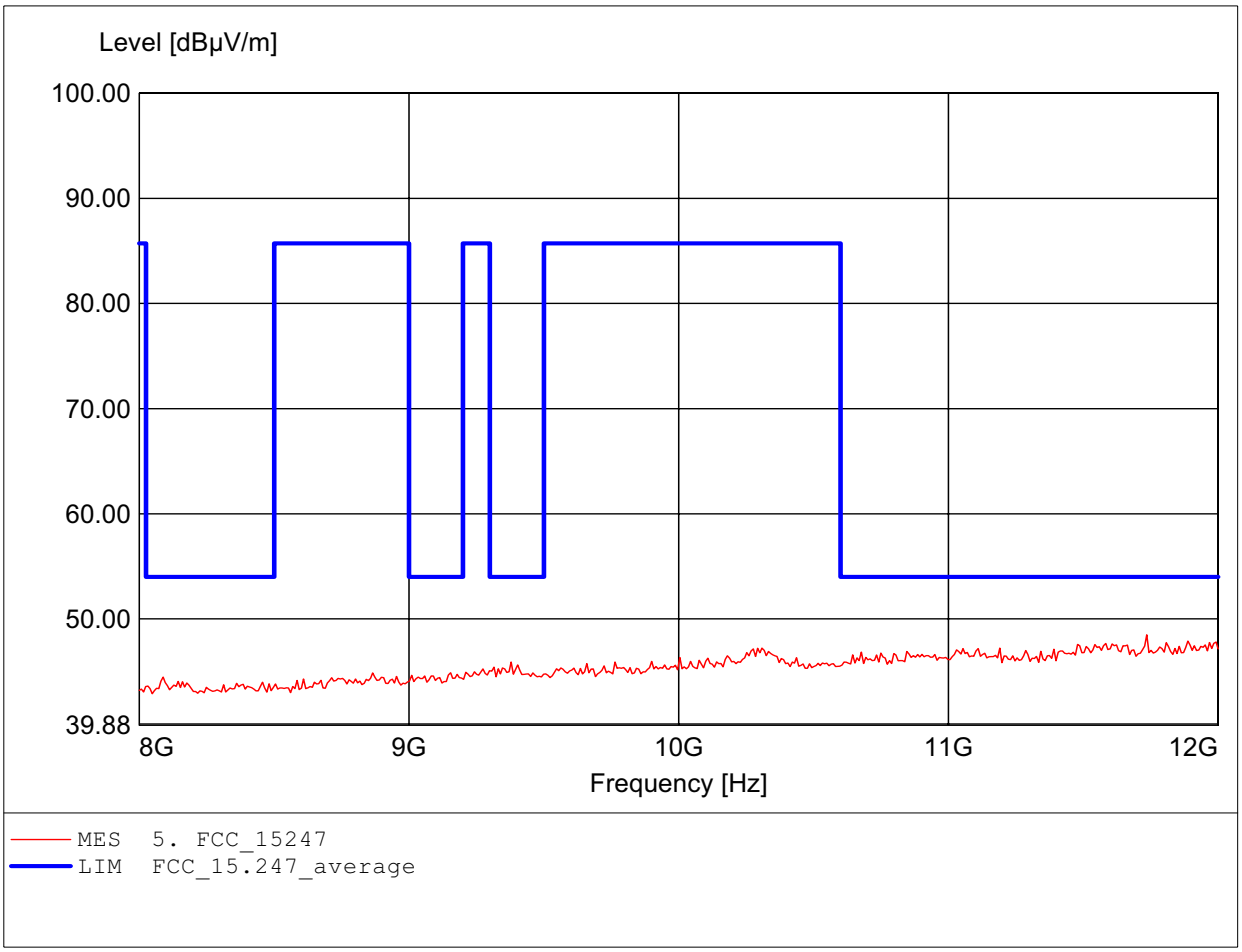
```
Order Number :          W6M20701-7746          ( middle channel )
Test Site / Operator: ETS / Charles
Temperature::          Temp.: 23.9°C
                       according to §15.247, peak detector
Comment 1:             Dist.: 3m, Ant.: HL025, ampl.+HP.
                       Freq: 11.623GHz, Emax: 48.27dBµV/m, RBW: 1MHz
```



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C / LP0002

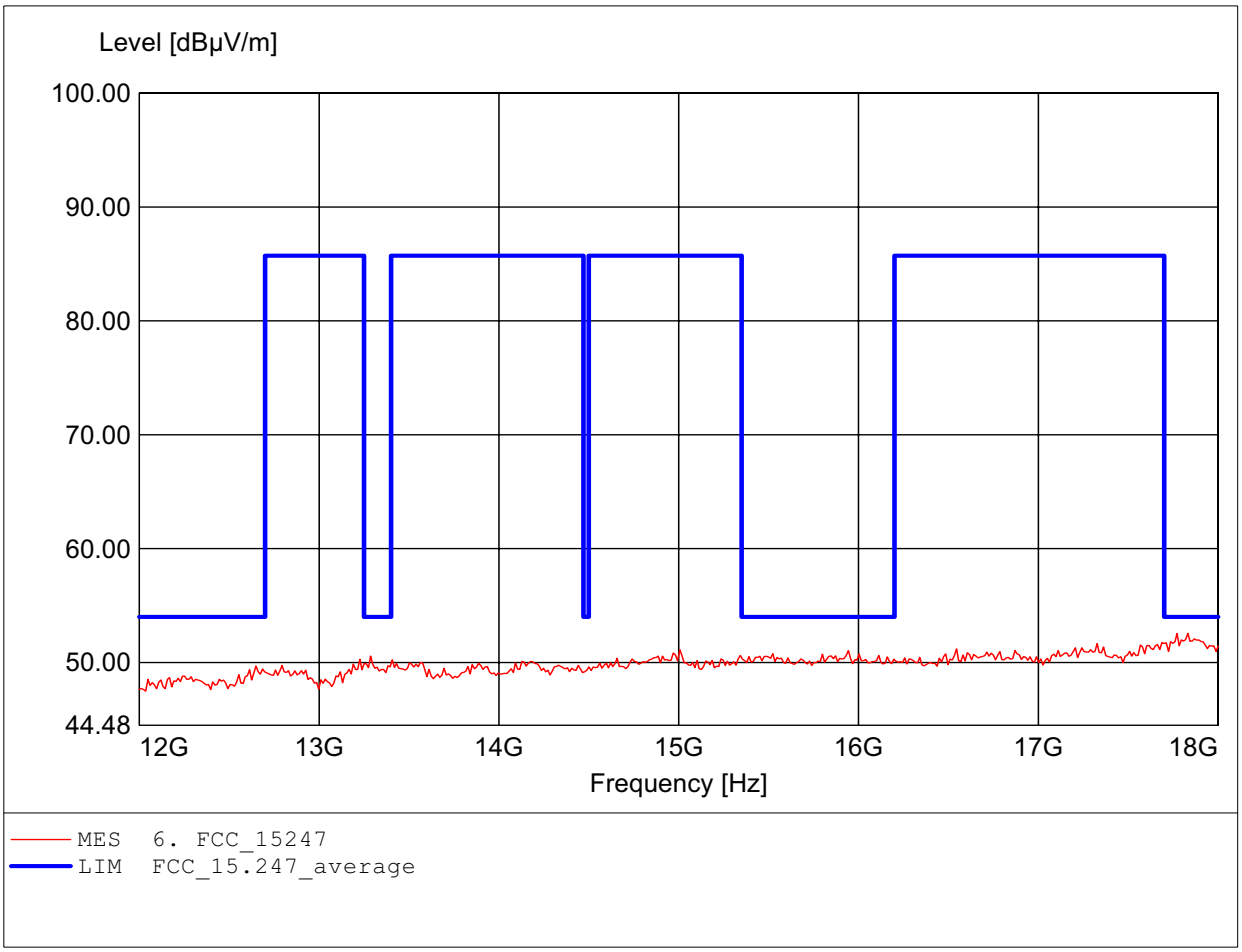
```
Order Number :          W6M20701-7746          ( middle channel )
Test Site / Operator: ETS / Charles
Temperature::          Temp.: 23.9°C
                       according to §15.247, peak detector
Comment 1:             Dist.: 3m, Ant.: HL025, ampl.+HP.
                       Freq: 11.735GHz, Emax: 48.49dBµV/m, RBW: 1MHz
```



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C / LP0002

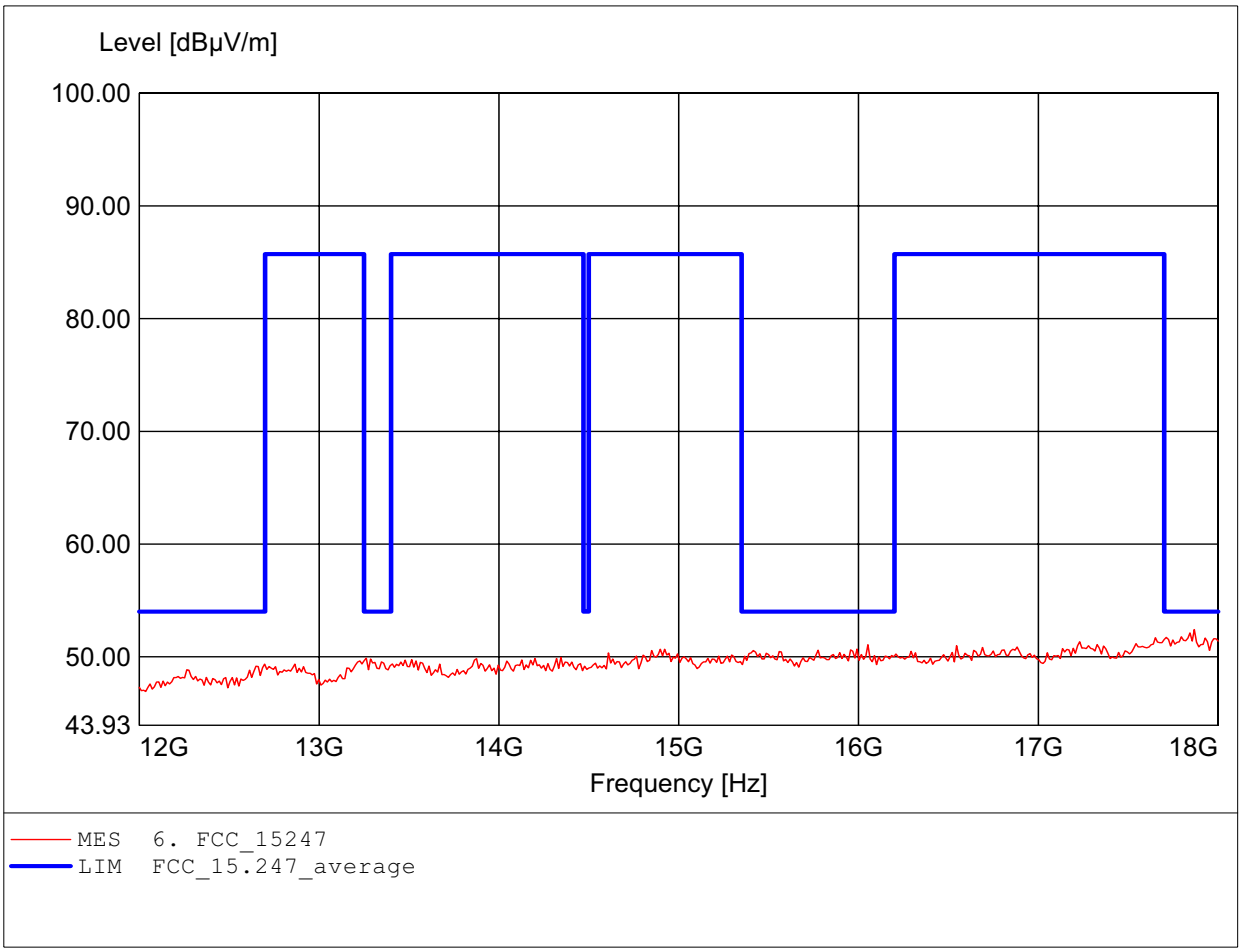
```
Order Number :          W6M20701-7746          ( middle channel )
Test Site / Operator: ETS / Charles
Temperature::          Temp.: 23.9°C
                       according to §15.247, peak detector
Comment 1:             Dist.: 3m, Ant.: HL025, ampl.+HP.
                       Freq: 17.832GHz, Emax: 52.56dBµV/m, RBW: 1MHz
```



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C / LP0002

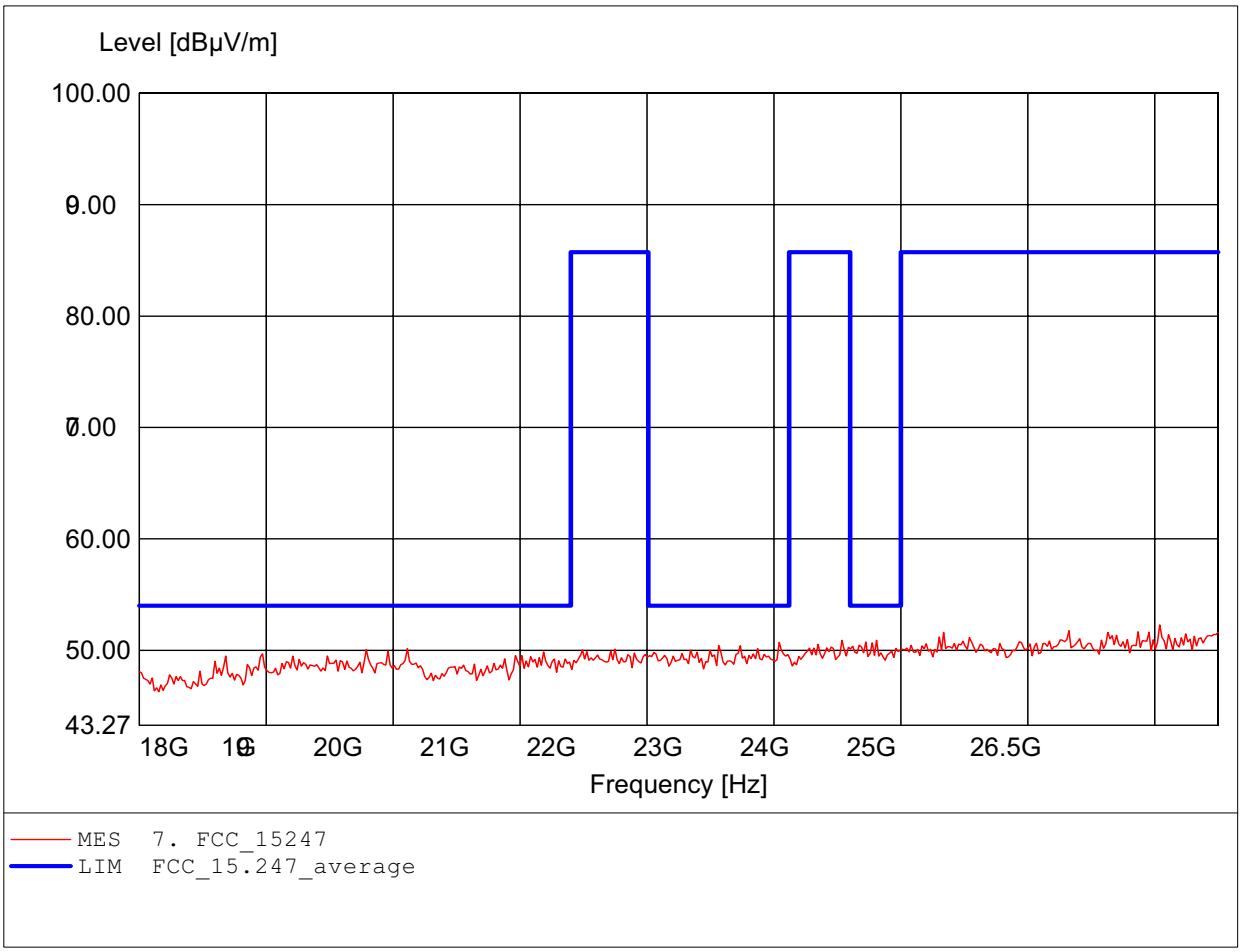
```
Order Number :          W6M20701-7746          ( middle channel )
Test Site / Operator: ETS / Charles
Temperature::          Temp.: 23.9°C
                       according to §15.247, peak detector
Comment 1:             Dist.: 3m, Ant.: HL025, ampl.+HP.
                       Freq: 17.868GHz, Emax: 52.42dBµV/m, RBW: 1MHz
```



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C / LP0002

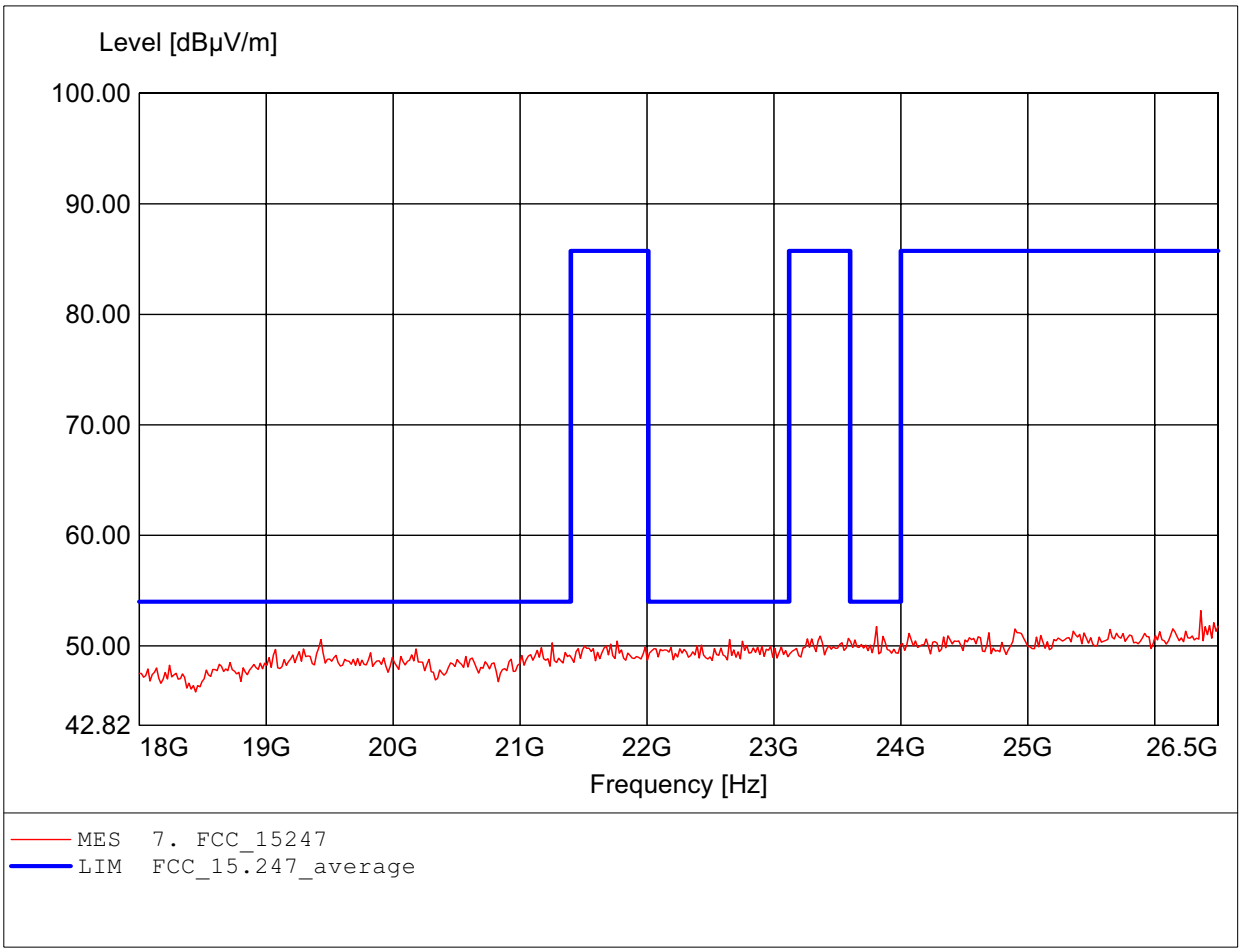
```
Order Number :          W6M20701-7746          ( middle channel )
Test Site / Operator: ETS / Charles
Temperature::          Temp.: 23.9°C
                       according to §15.247, peak detector
Comment 1:             Dist.: 3m, Ant.: HL025, amplif.
                       Freq: 26.040GHz, Emax: 52.28dBµV/m, RBW: 1MHz
```



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C / LP0002

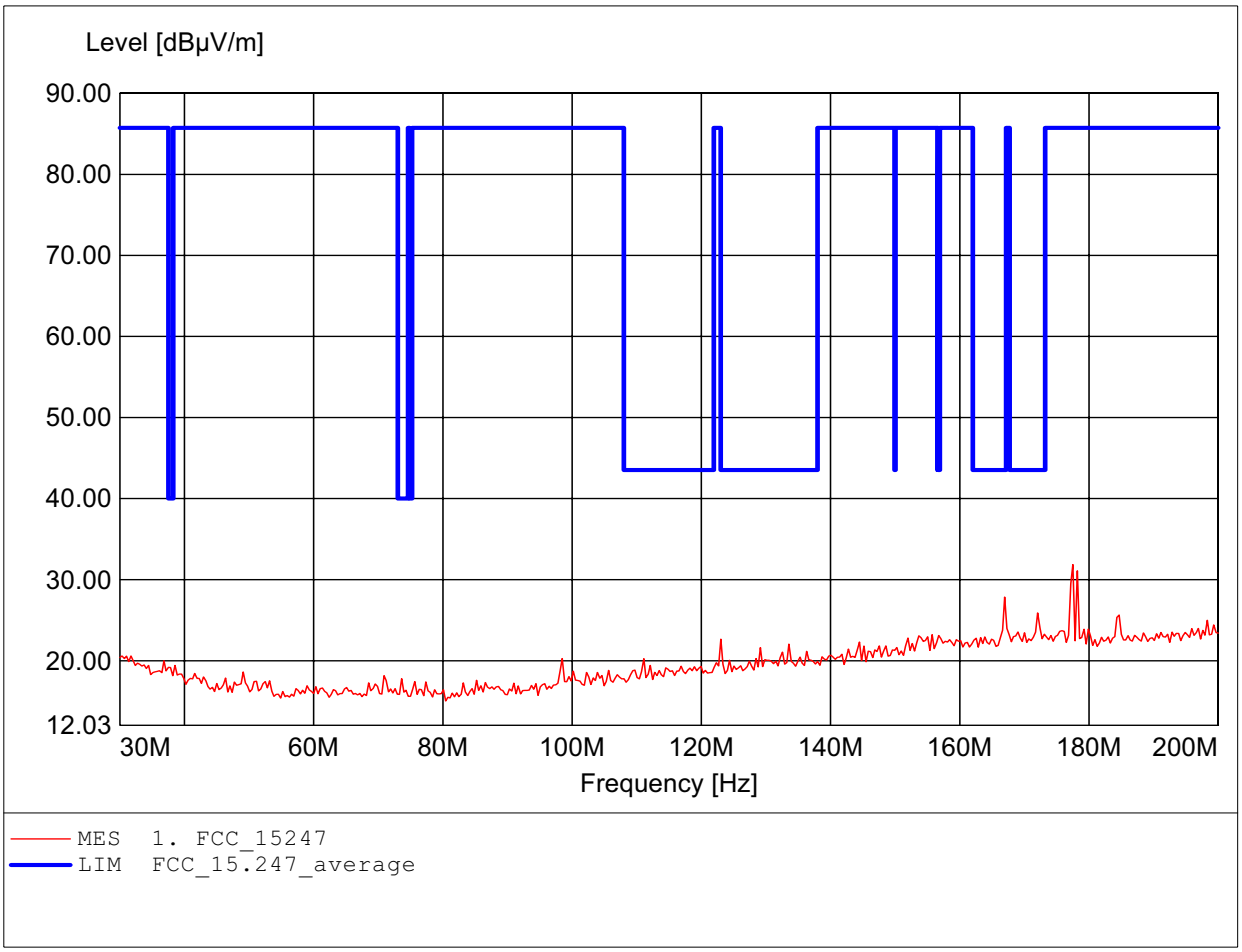
Order Number :	W6M20701-7746	(middle channel)
Test Site / Operator:	ETS / Charles	
Temperature::	Temp.: 23.9°C	
	according to §15.247, peak detector	
Comment 1:	Dist.: 3m, Ant.: HL025, amplif.	
	Freq: 26.364GHz, Emax: 53.18dBµV/m, RBW: 1MHz	



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C / LP0002

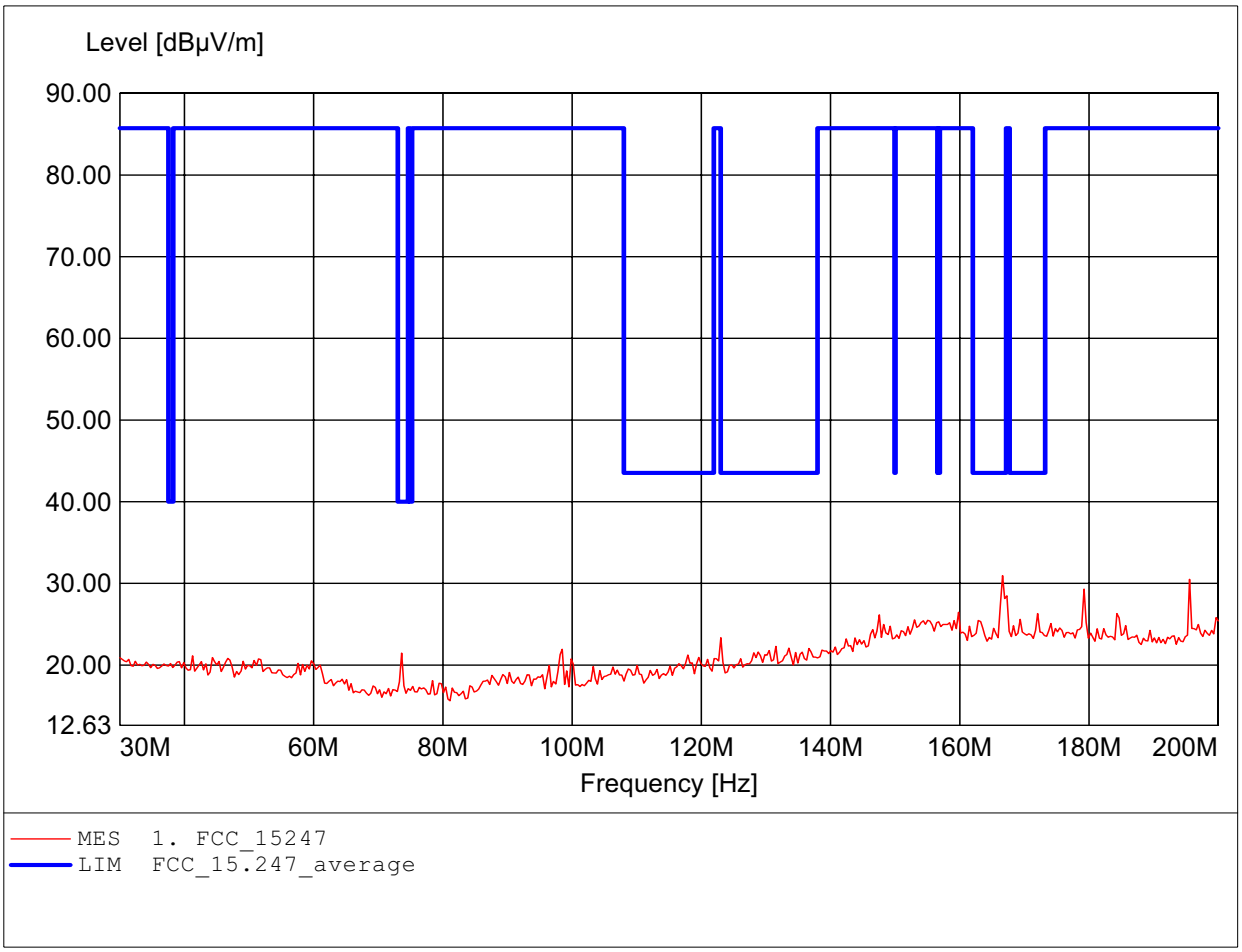
Order Number :	W6M20701-7746	(high channel)
Test Site / Operator:	ETS / Charles	
Temperature::	Temp.: 23.9°C	
	according to §15.247	
Comment 1:	Dist.: 3m, Ant.: HK 116	
	Freq: 177.515MHz, Emax: 31.86dBµV/m, RBW: 100kHz	



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C / LP0002

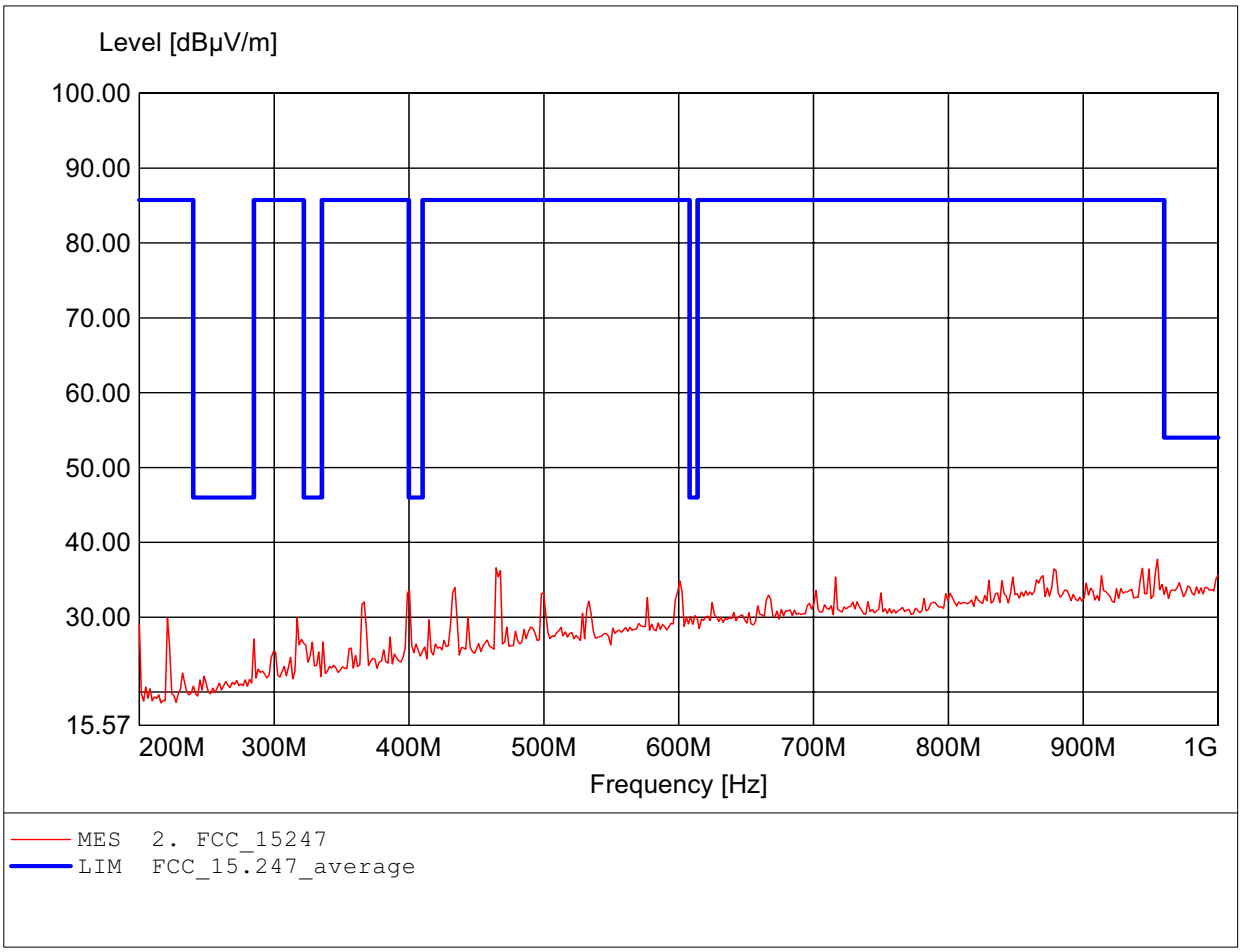
Order Number : W6M20701-7746 (high channel)
Test Site / Operator: ETS / Charles
Temperature:: Temp.: 23.9°C
according to §15.247
Comment 1: Dist.: 3m, Ant.: HK 116
Freq: 166.613MHz, Emax: 30.95dBµV/m, RBW: 100kHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C / LP0002

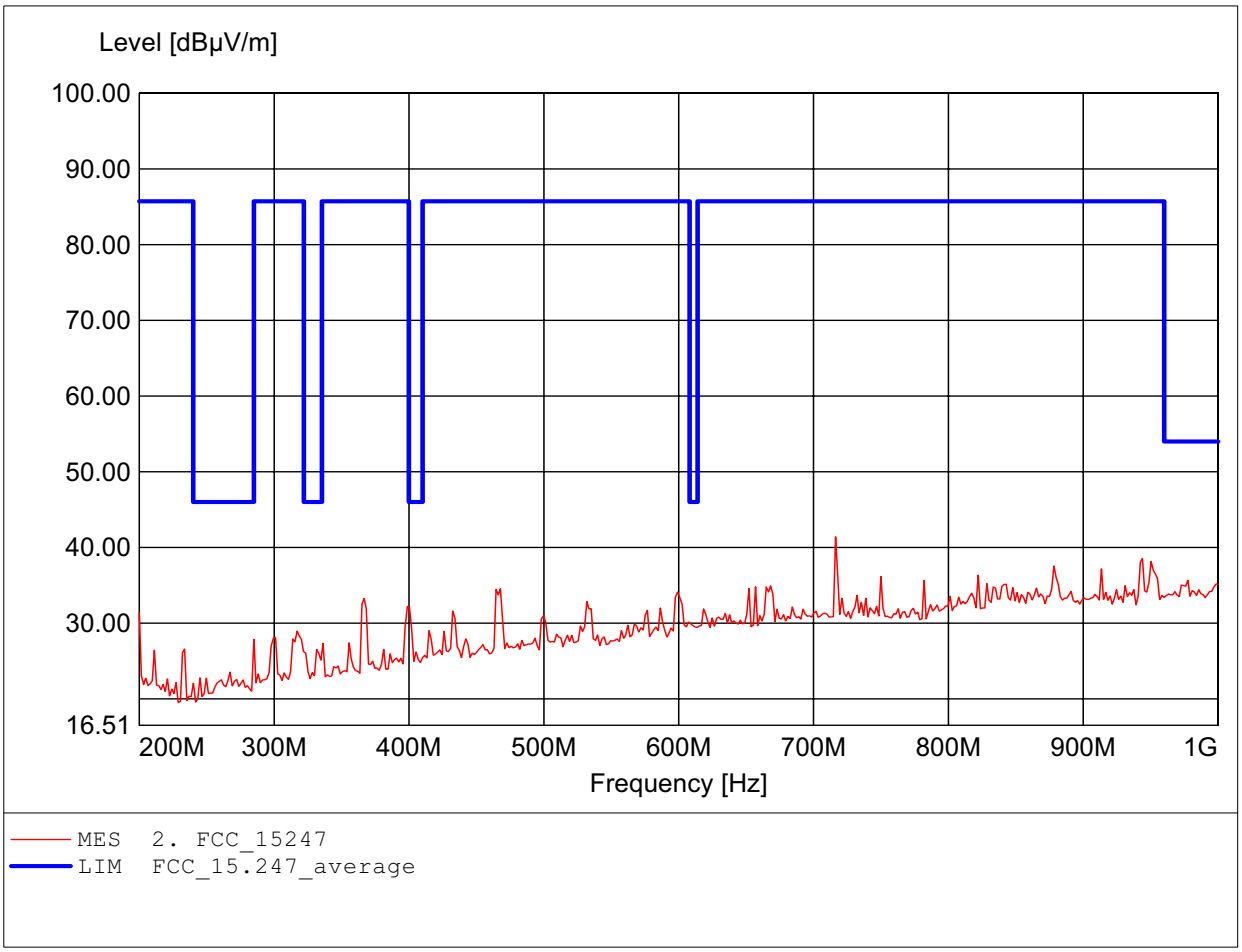
```
Order Number :          W6M20701-7746          ( high channel )
Test Site / Operator:   ETS / Charles
Temperature::           Temp.: 23.9°C
                        according to §15.247
Comment 1:              Dist.: 3m, Ant.: HL 223,
                        Freq: 955.110MHz, Emax: 37.74dBµV/m, RBW: 100kHz
```



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C / LP0002

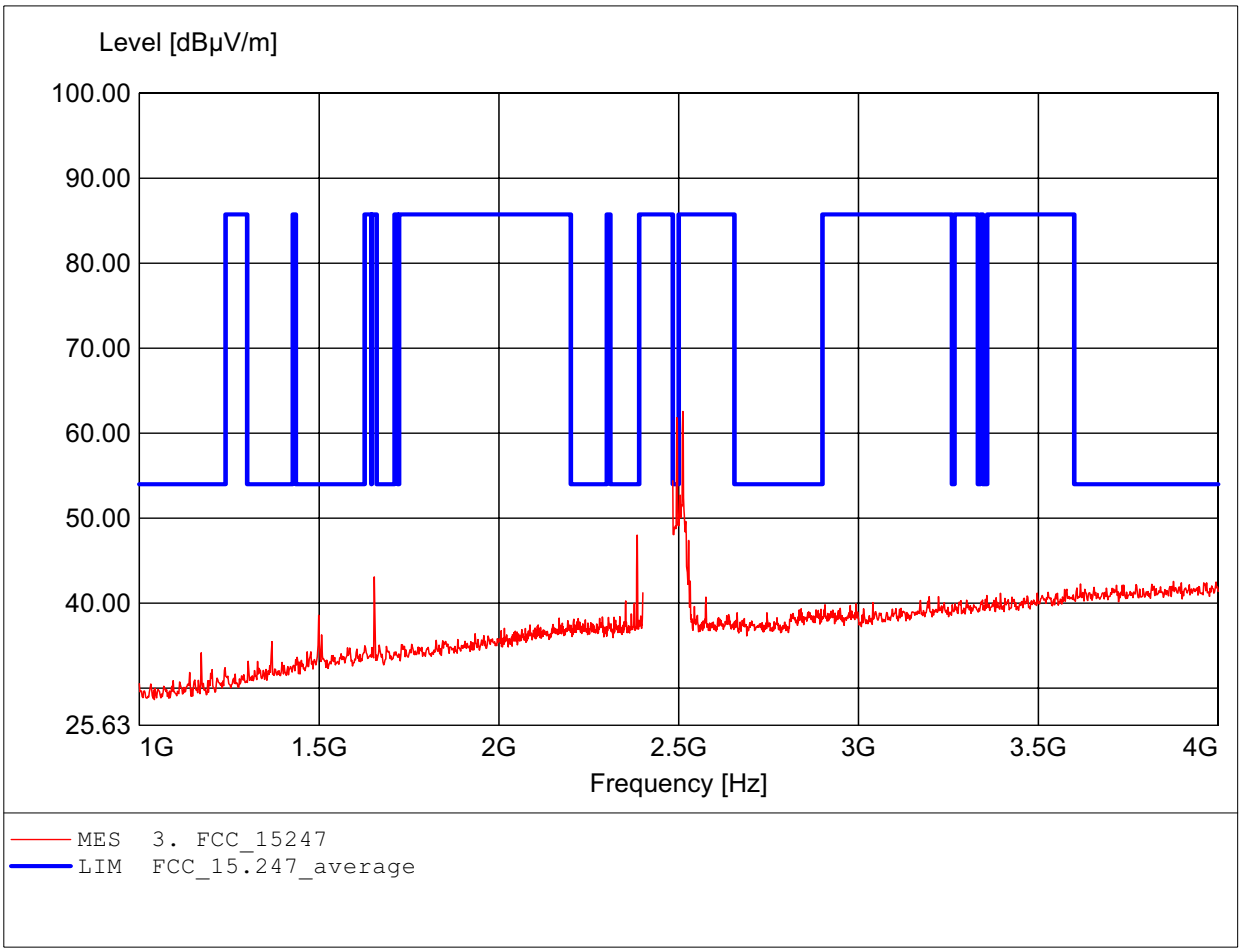
Order Number :	W6M20701-7746	(high channel)
Test Site / Operator:	ETS / Charles	
Temperature::	Temp.: 23.9°C	
	according to §15.247	
Comment 1:	Dist.: 3m, Ant.: HL 223,	
	Freq: 716.232MHz, Emax: 41.39dBµV/m, RBW: 100kHz	



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C / LP0002

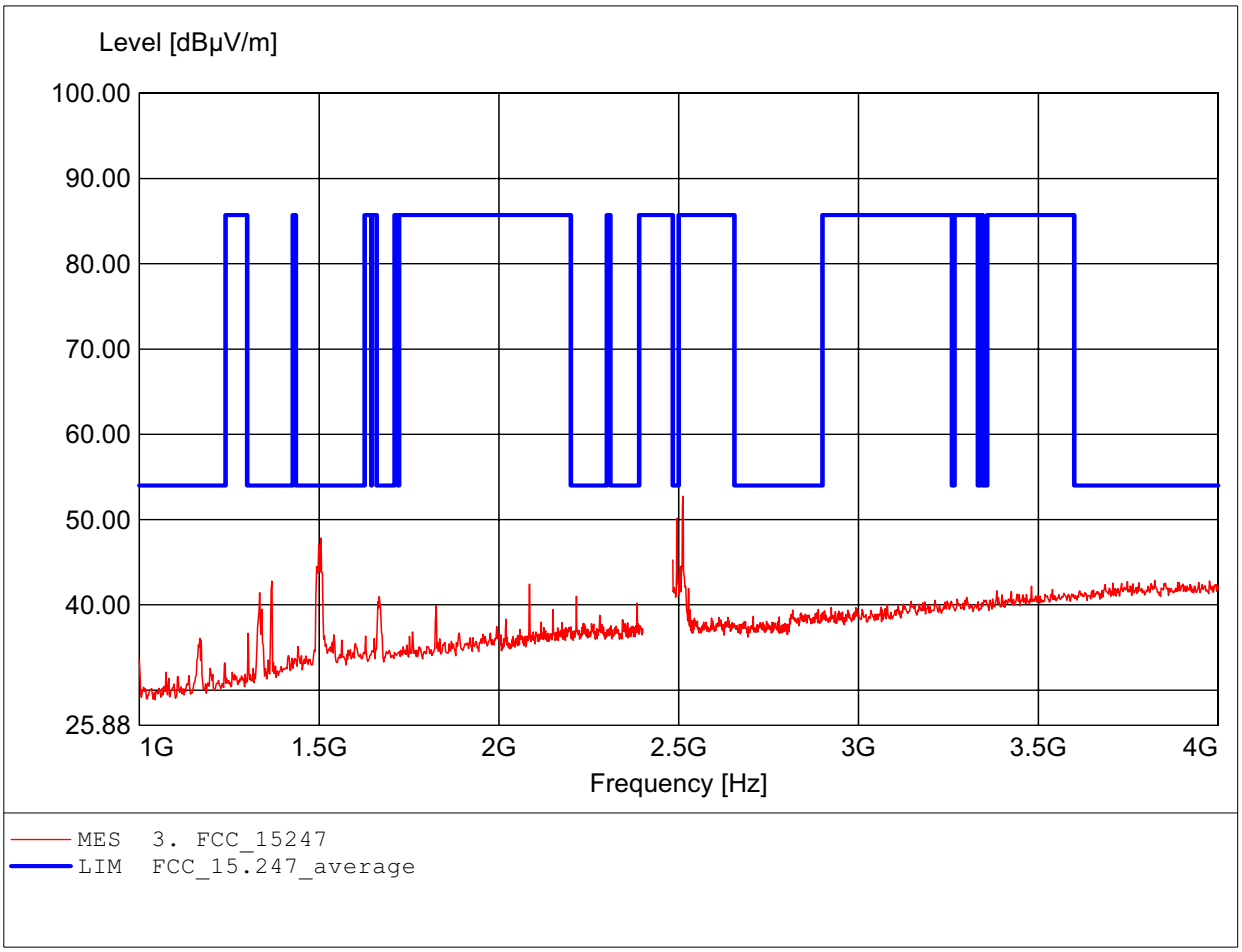
```
Order Number :          W6M20701-7746          ( high channel )
Test Site / Operator:   ETS / Charles
Temperature::           Temp.: 23.9°C
                        according to §15.247, peak detector
Comment 1:              Dist.: 3m, Ant.: HL025, amplif.
                        Freq: 2.511GHz, Emax: 62.57dBµV/m, RBW: 1MHz
```



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C / LP0002

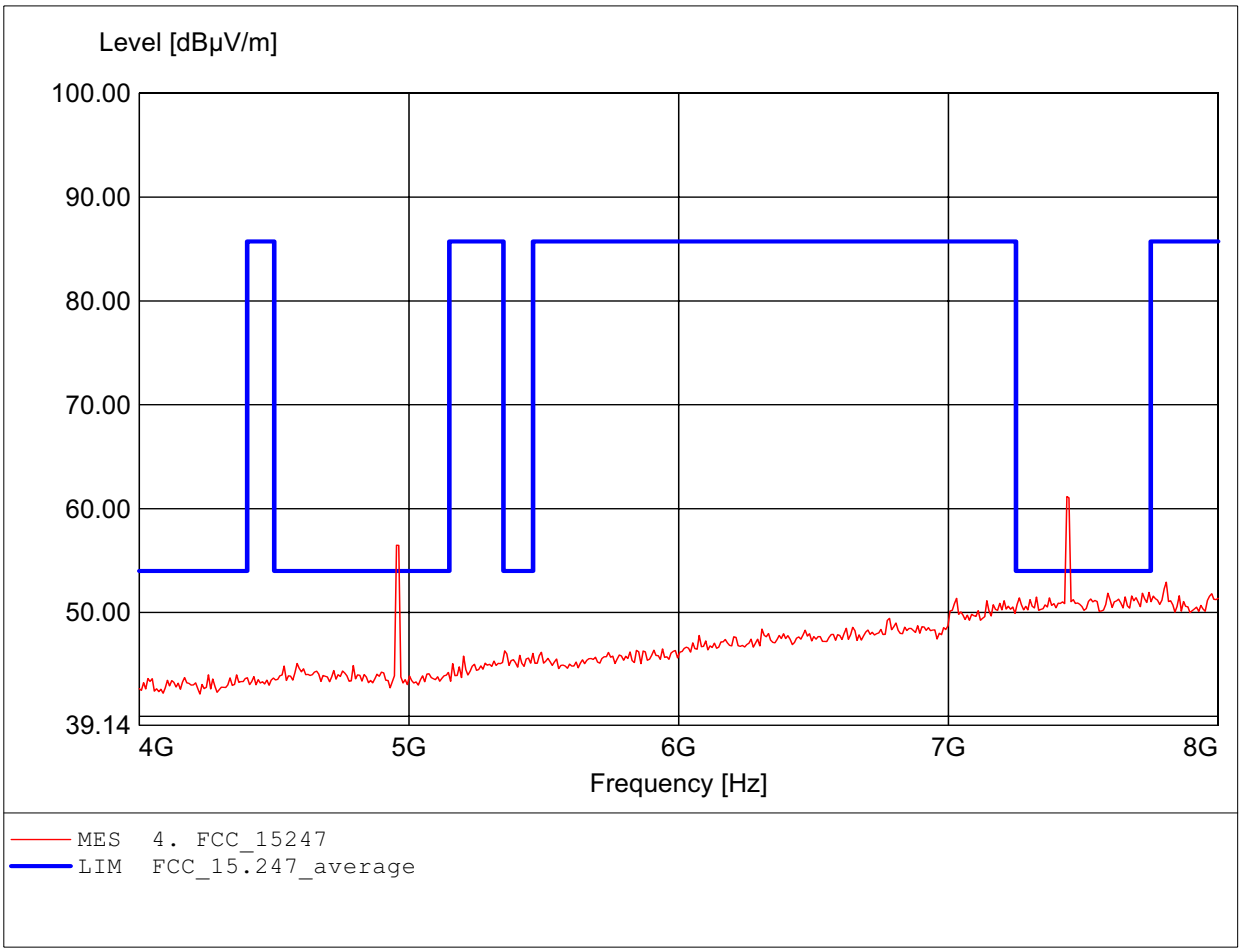
```
Order Number :          W6M20701-7746          ( high channel )
Test Site / Operator:   ETS / Charles
Temperature::           Temp.: 23.9°C
                        according to §15.247, peak detector
Comment 1:              Dist.: 3m, Ant.: HL025, amplif.
                        Freq: 2.511GHz, Emax: 52.74dBµV/m, RBW: 1MHz
```



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C / LP0002

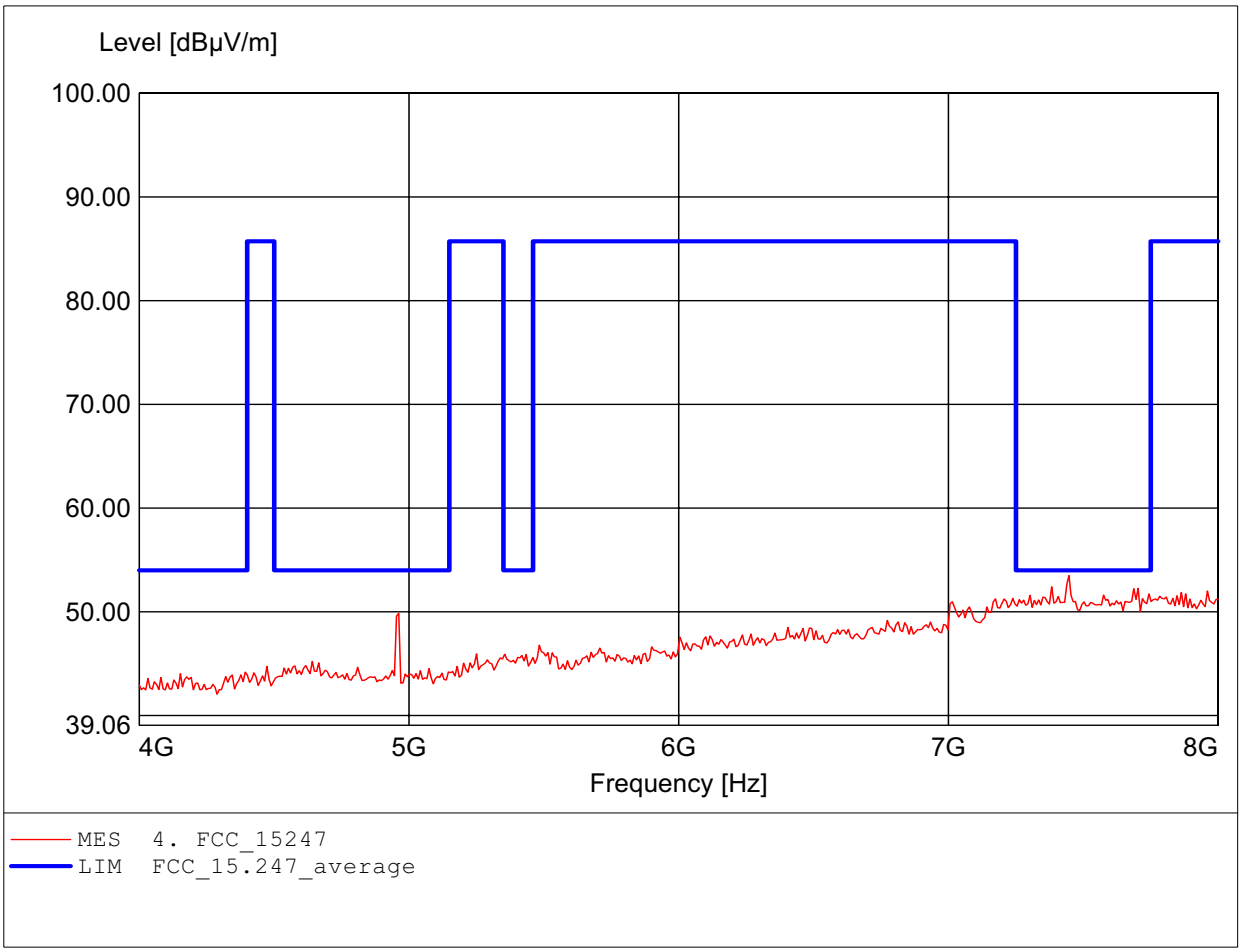
```
Order Number :          W6M20701-7746          ( high channel )
Test Site / Operator: ETS / Charles
Temperature::          Temp.: 23.9°C
                       according to §15.247, peak detector
Comment 1:             Dist.: 3m, Ant.: HL025, ampl.+HP.
                       Freq: 7.439GHz, Emax: 61.17dBµV/m, RBW: 1MHz
```



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C / LP0002

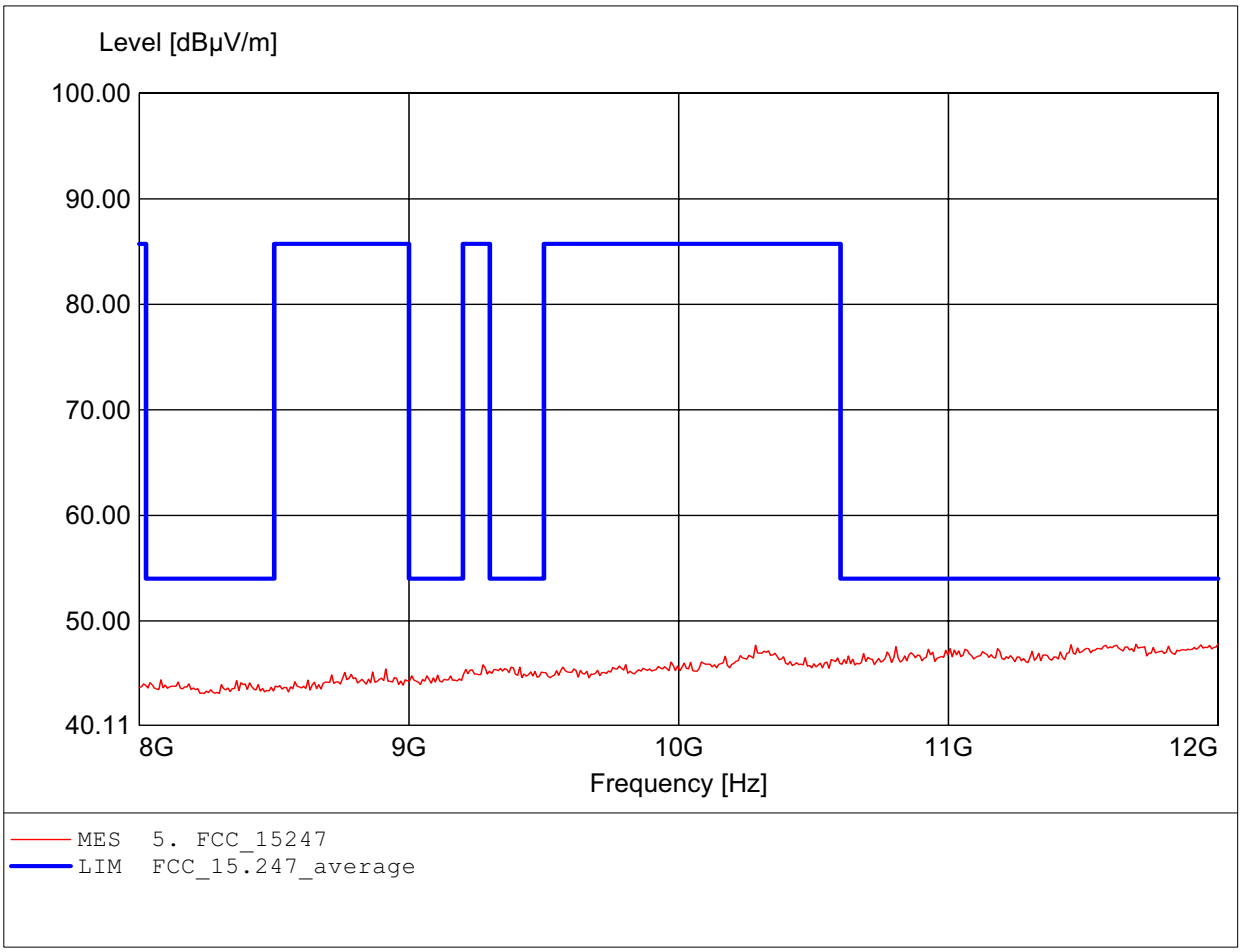
```
Order Number :          W6M20701-7746          ( high channel )
Test Site / Operator: ETS / Charles
Temperature::          Temp.: 23.9°C
                       according to §15.247, peak detector
Comment 1:             Dist.: 3m, Ant.: HL025, ampl.+HP.
                       Freq: 7.447GHz, Emax: 53.49dBµV/m, RBW: 1MHz
```



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C / LP0002

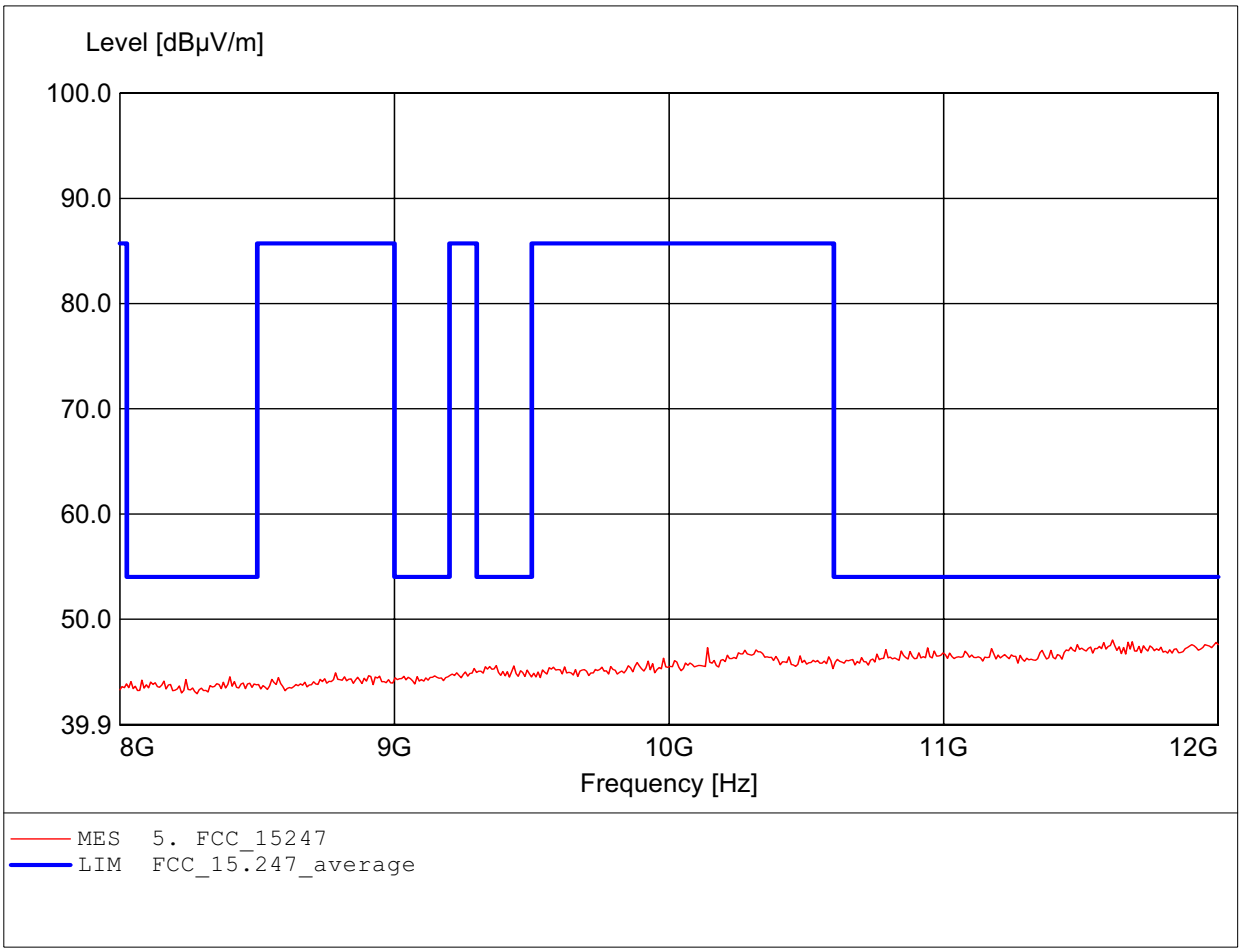
```
Order Number :          W6M20701-7746          ( high channel )
Test Site / Operator: ETS / Charles
Temperature::          Temp.: 23.9°C
                       according to §15.247, peak detector
Comment 1:             Dist.: 3m, Ant.: HL025, ampl.+HP.
                       Freq: 12.000GHz, Emax: 47.84dBµV/m, RBW: 1MHz
```



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C / LP0002

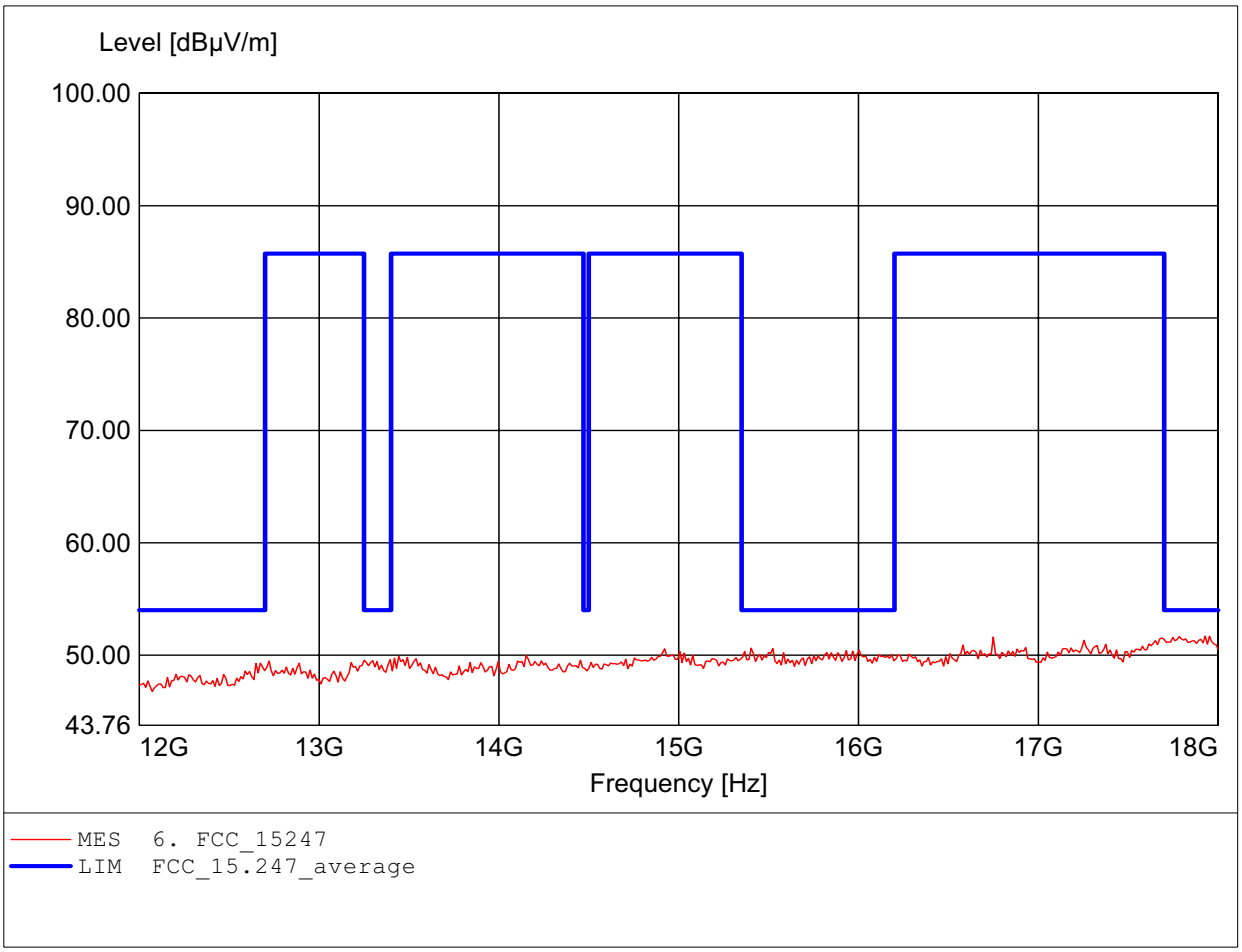
```
Order Number :          W6M20701-7746          ( high channel )
Test Site / Operator: ETS / Charles
Temperature::          Temp.: 23.9°C
                       according to §15.247, peak detector
Comment 1:             Dist.: 3m, Ant.: HL025, ampl.+HP.
                       Freq: 11.615GHz, Emax: 48.02dBµV/m, RBW: 1MHz
```



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C / LP0002

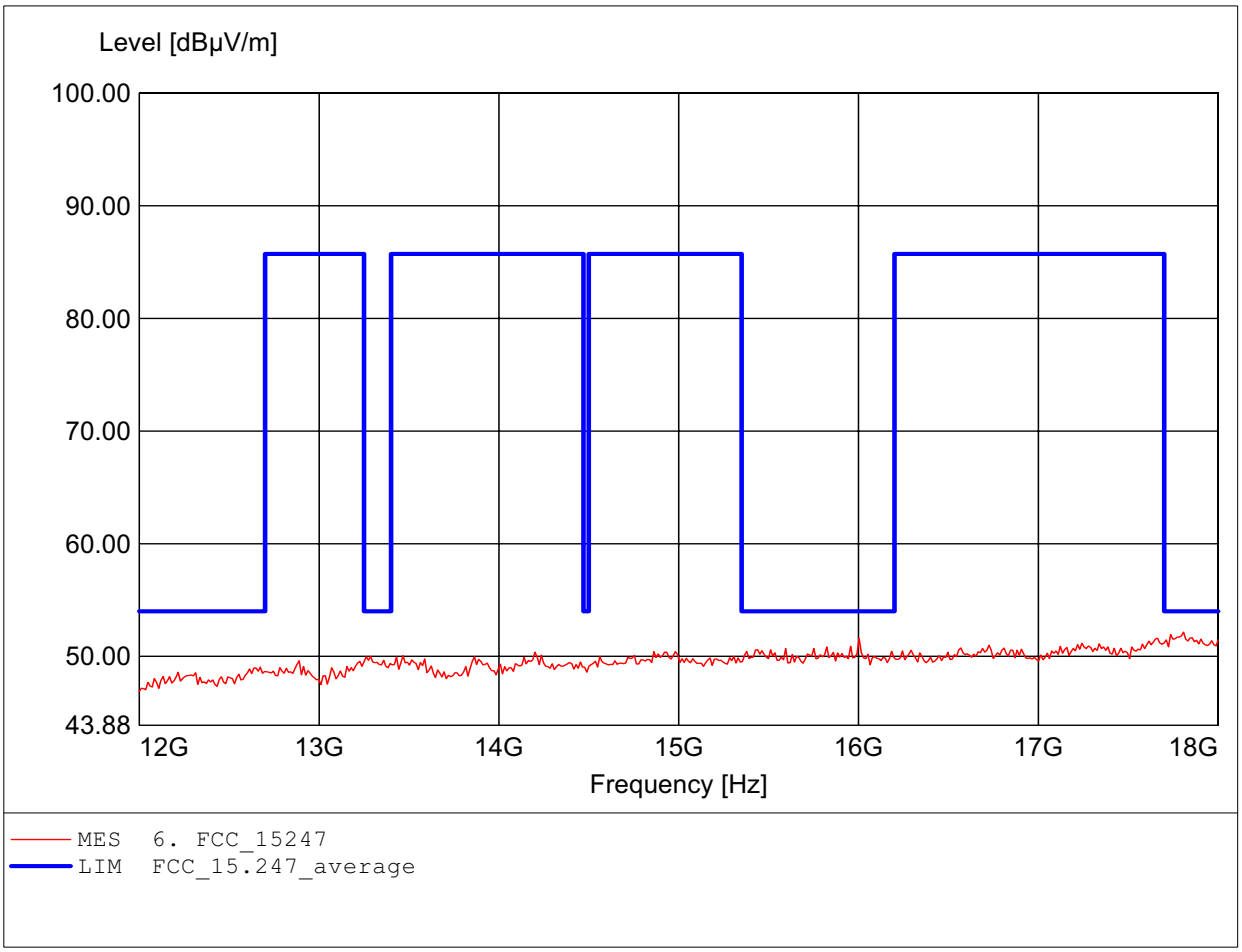
```
Order Number :          W6M20701-7746          ( high channel )
Test Site / Operator: ETS / Charles
Temperature::          Temp.: 23.9°C
                       according to §15.247, peak detector
Comment 1:             Dist.: 3m, Ant.: HL025, ampl.+HP.
                       Freq: 17.928GHz, Emax: 51.69dBµV/m, RBW: 1MHz
```



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C / LP0002

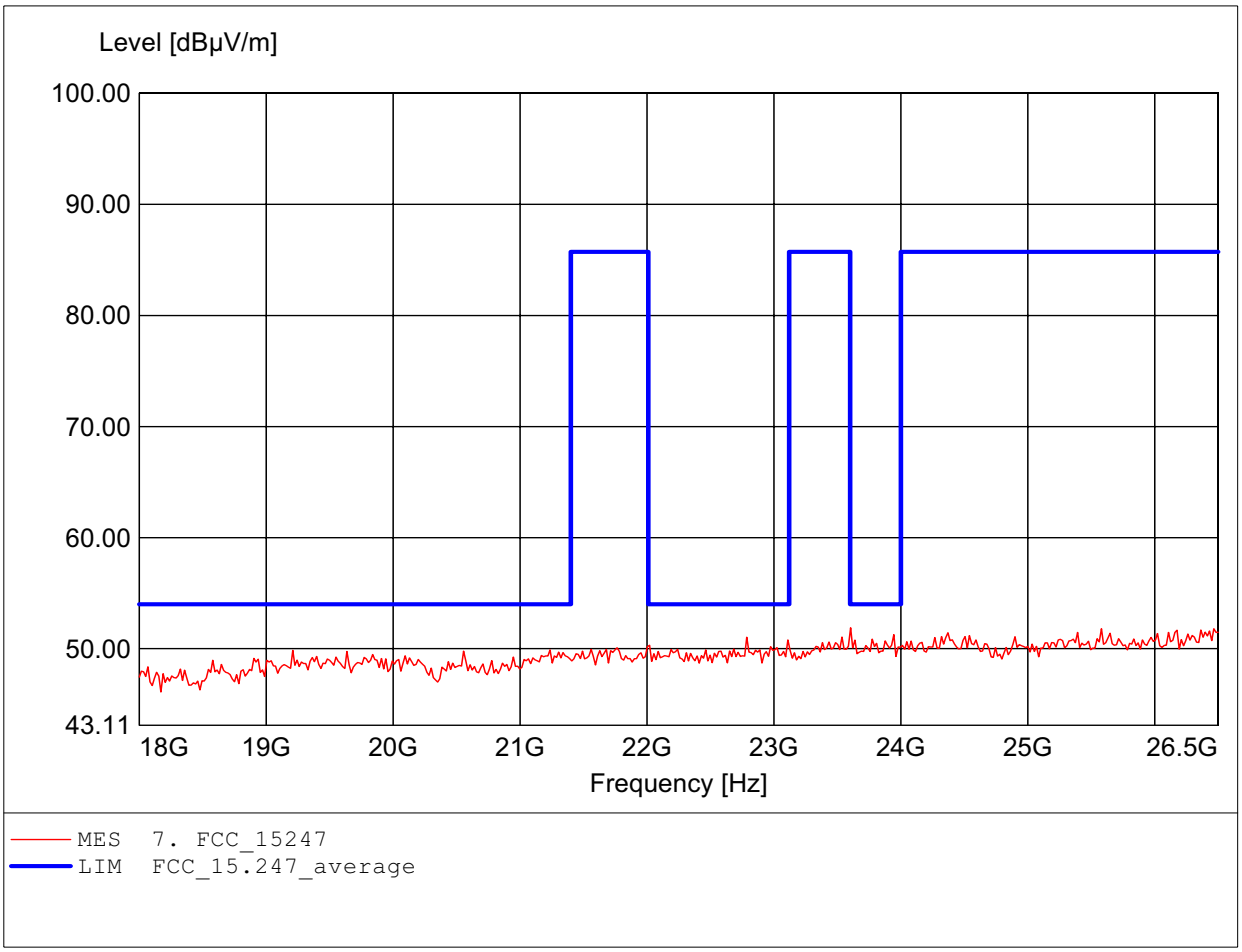
```
Order Number :          W6M20701-7746          ( high channel )
Test Site / Operator: ETS / Charles
Temperature::          Temp.: 23.9°C
                       according to §15.247, peak detector
Comment 1:             Dist.: 3m, Ant.: HL025, ampl.+HP.
                       Freq: 17.808GHz, Emax: 52.15dBµV/m, RBW: 1MHz
```



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C / LP0002

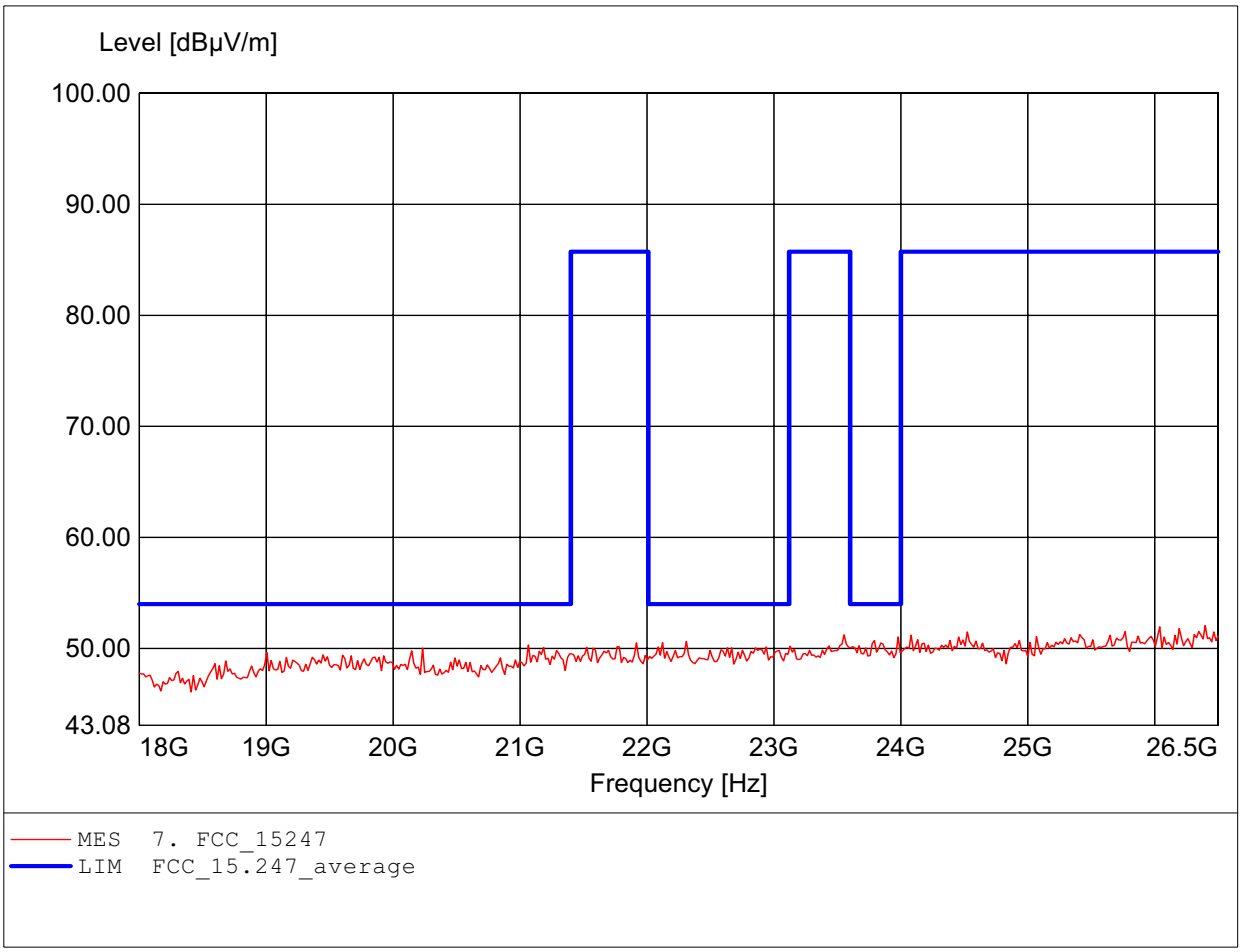
```
Order Number :          W6M20701-7746          ( high channel )
Test Site / Operator: ETS / Charles
Temperature::          Temp.: 23.9°C
                       according to §15.247, peak detector
Comment 1:             Dist.: 3m, Ant.: HL025, amplif.
                       Freq: 23.604GHz, Emax: 51.88dBµV/m, RBW: 1MHz
```



Spurious emissions Field Strength

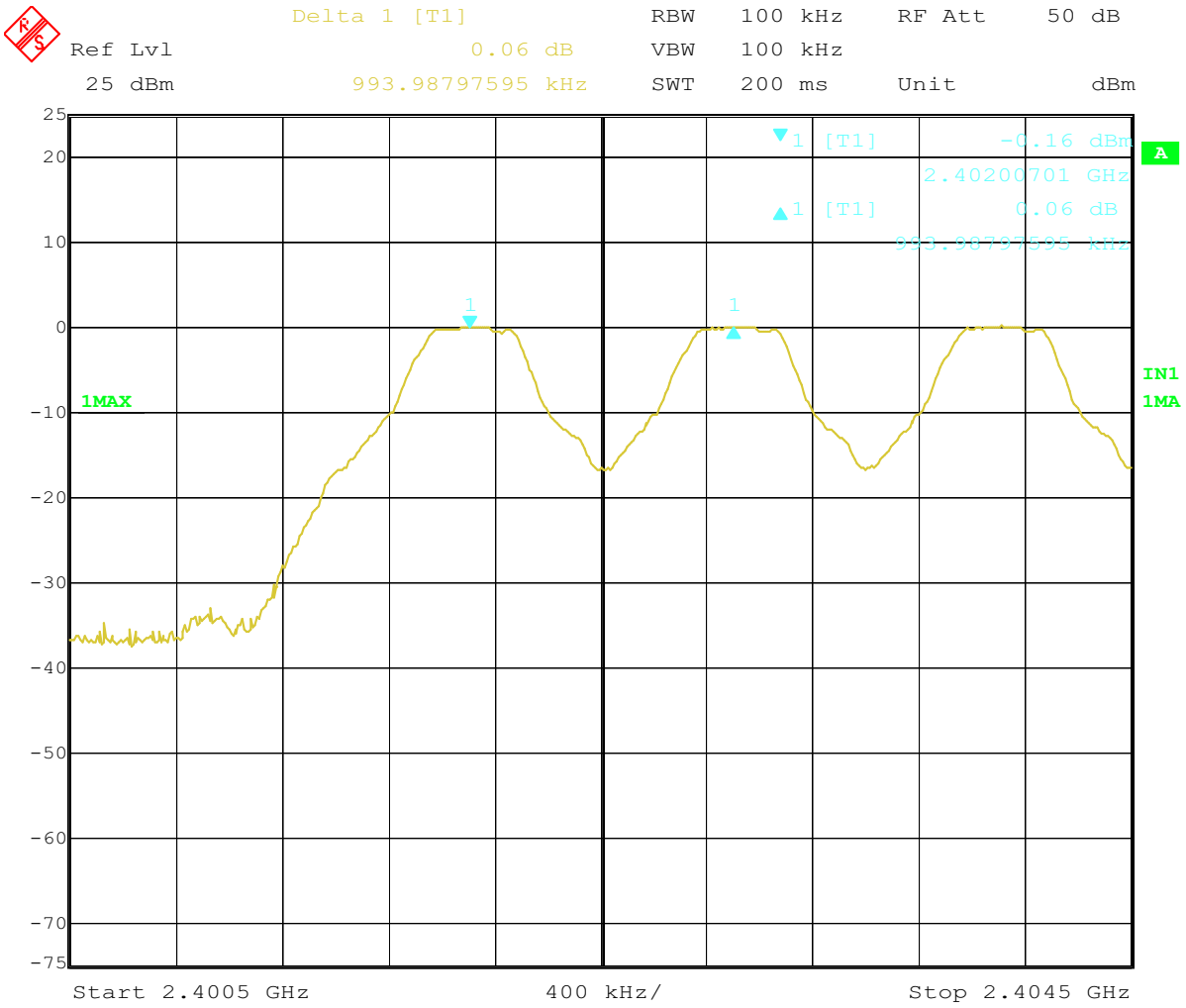
FCC RULES PART 15, SUBPART C / LP0002

```
Order Number :          W6M20701-7746          ( high channel )
Test Site / Operator: ETS / Charles
Temperature::          Temp.: 23.9°C
                       according to §15.247, peak detector
Comment 1:             Dist.: 3m, Ant.: HL025, amplif.
                       Freq: 26.398GHz, Emax: 52.07dBµV/m, RBW: 1MHz
```

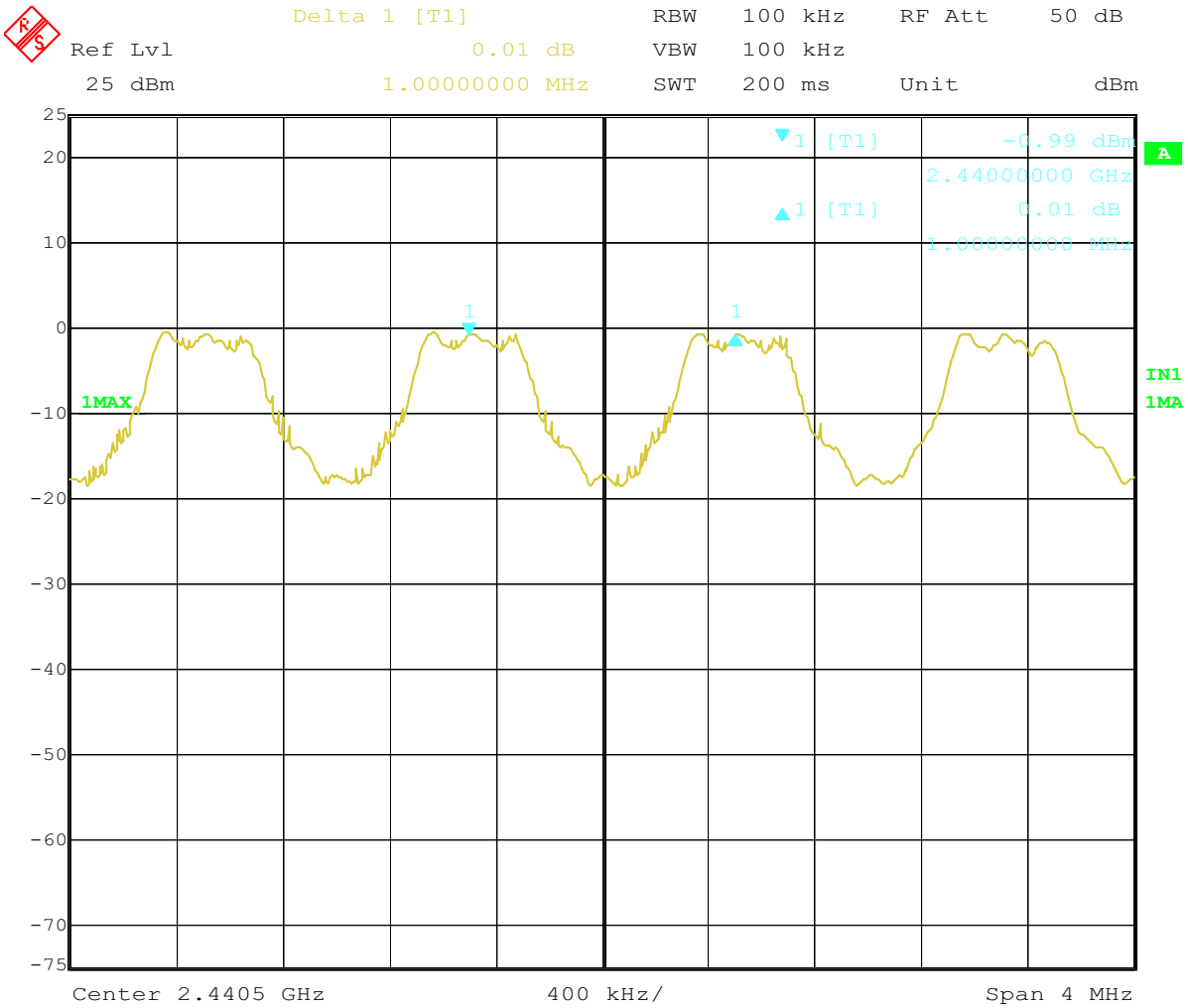


Appendix C

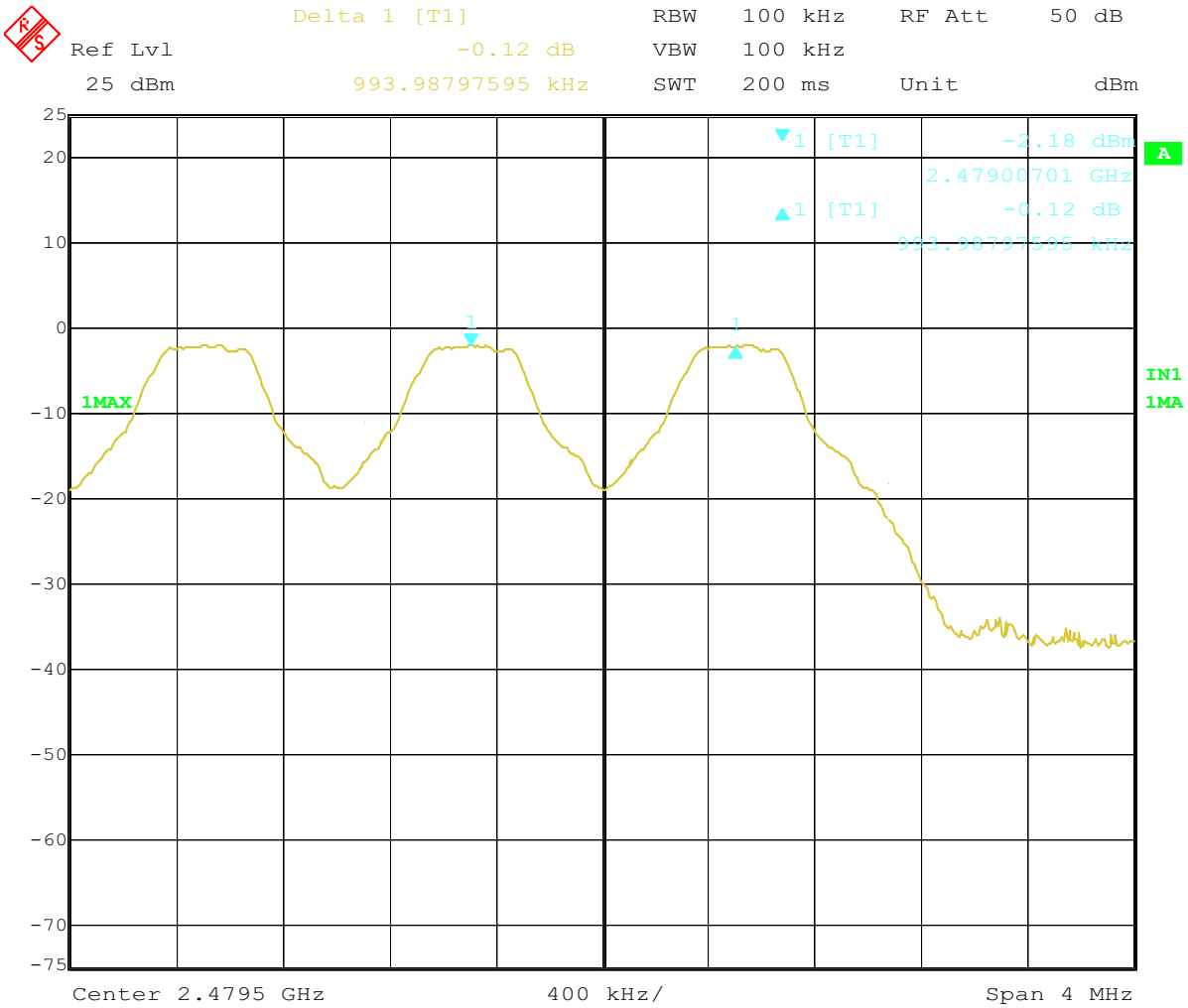
Carrier Frequency Separation



Title: Frequency Separation Ch0 & Ch1
Date: 6.JAN.2007 15:15:58



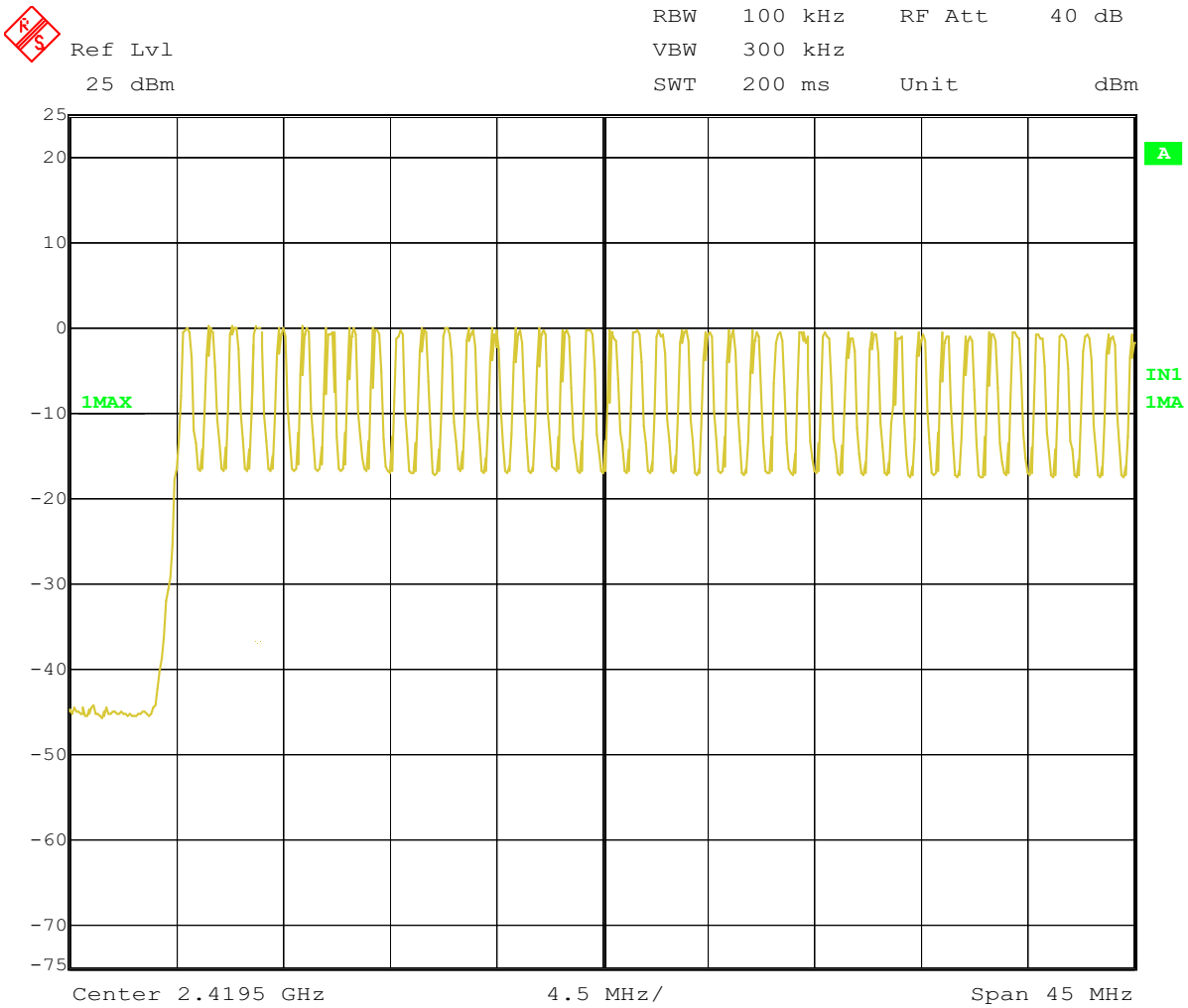
Title: Frequency Separation Ch38 & Ch39
Date: 6.JAN.2007 15:13:05



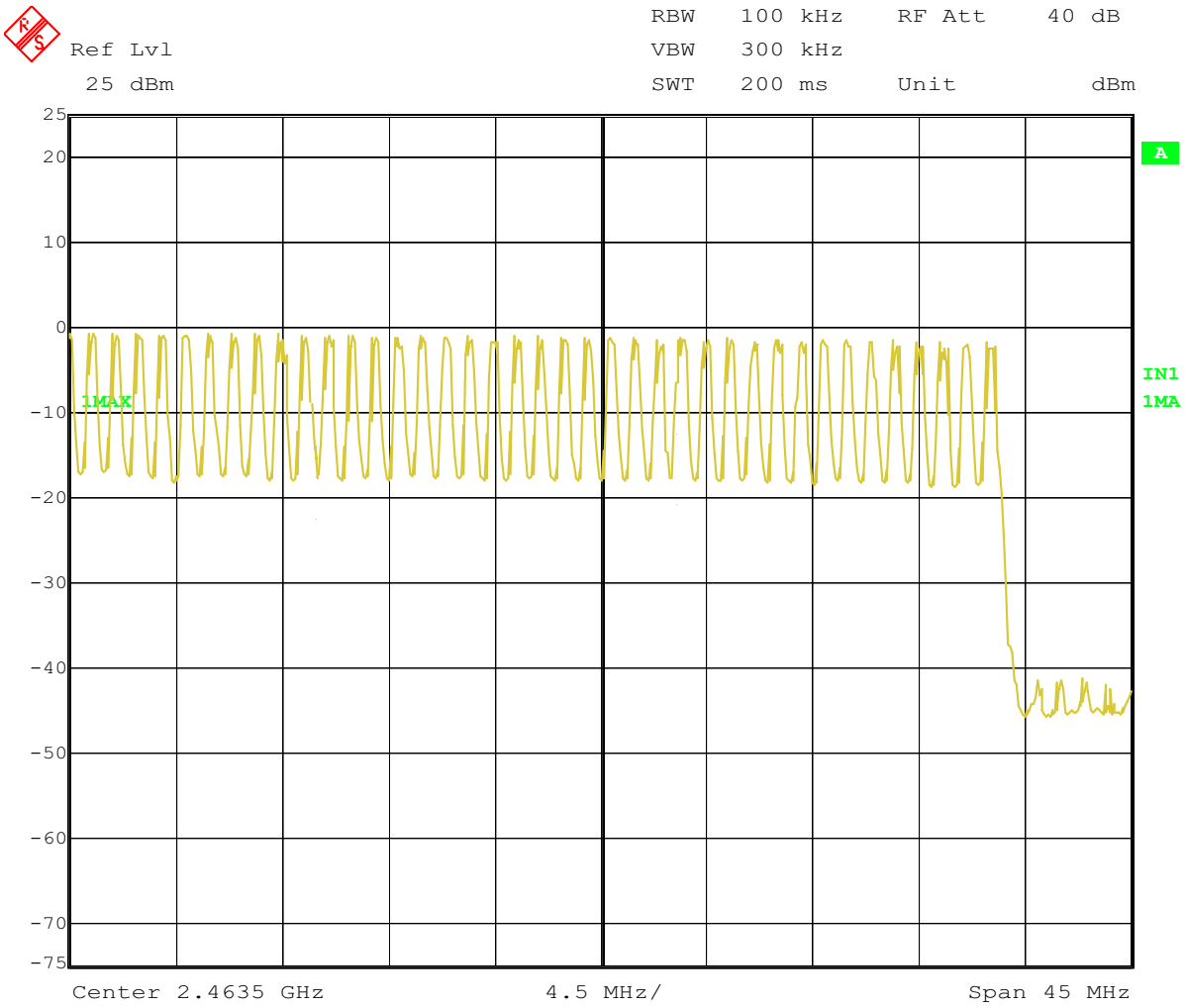
Title: Frequency Separation Ch77 & Ch78
Date: 6.JAN.2007 15:17:07

Appendix D

Number of Hopping Frequencies



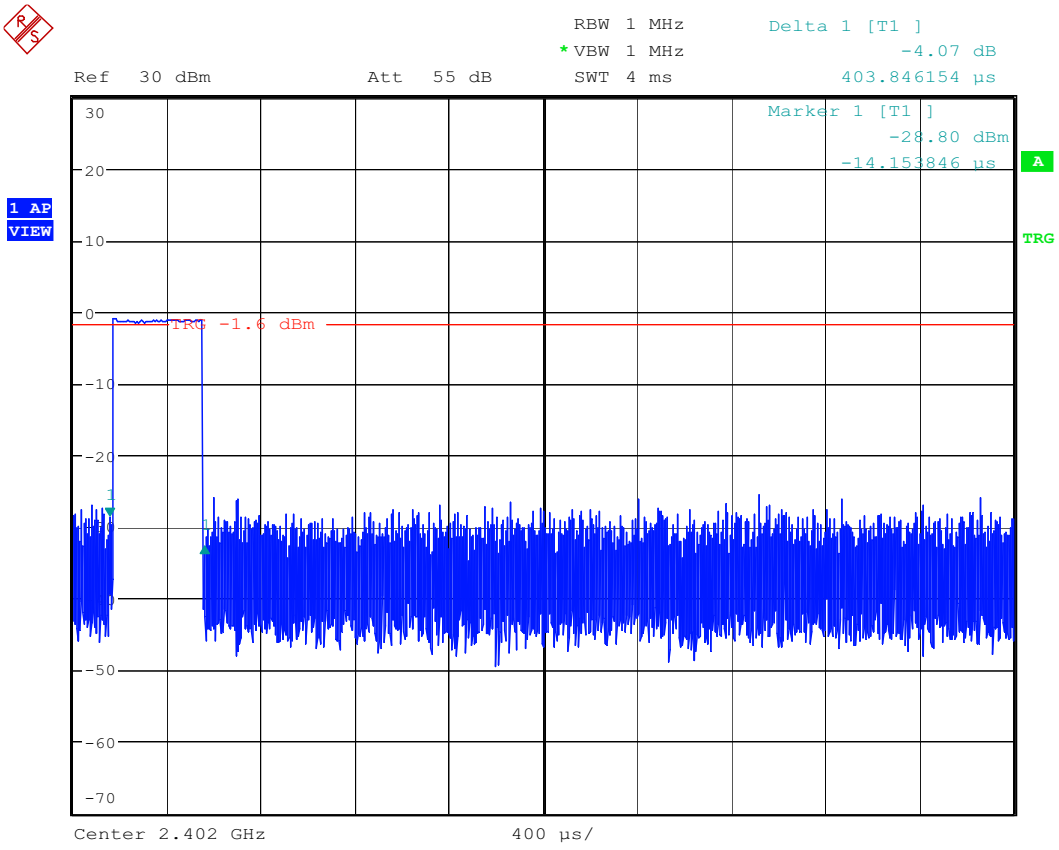
Title: Number of hopping frequencies Ch. 0-38
Date: 6.JAN.2007 14:55:27



Title: Number of hopping frequencies Ch. 38-79
Date: 6.JAN.2007 15:06:42

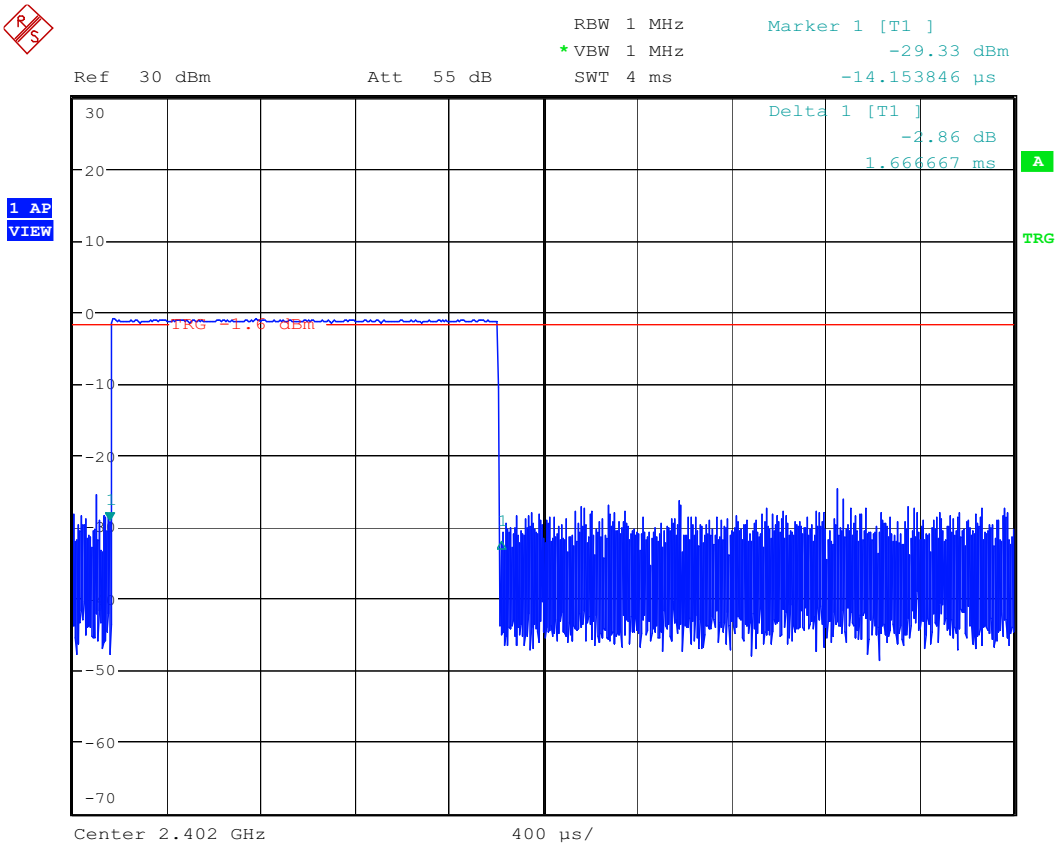
Appendix E

Time of Occupancy (Dwell Time)



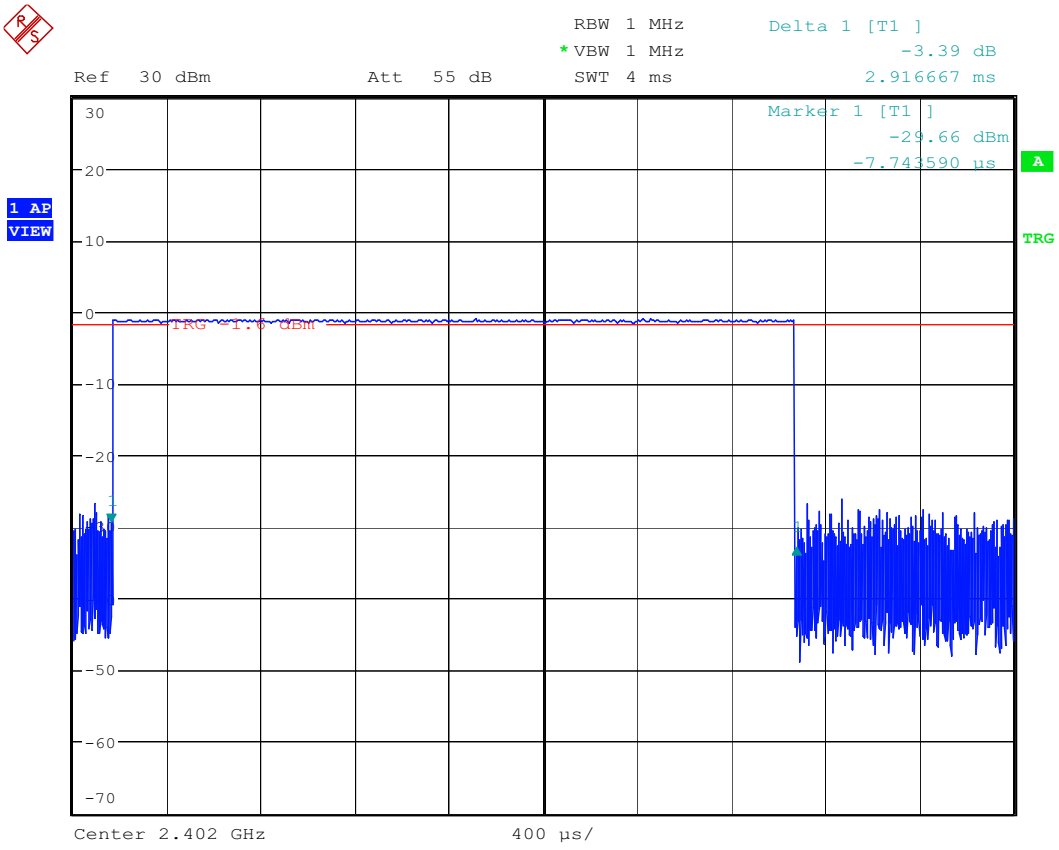
DELL TIME DH1 CH0 (403us*520event=209ms)

Date: 16.JAN.2007 16:31:22



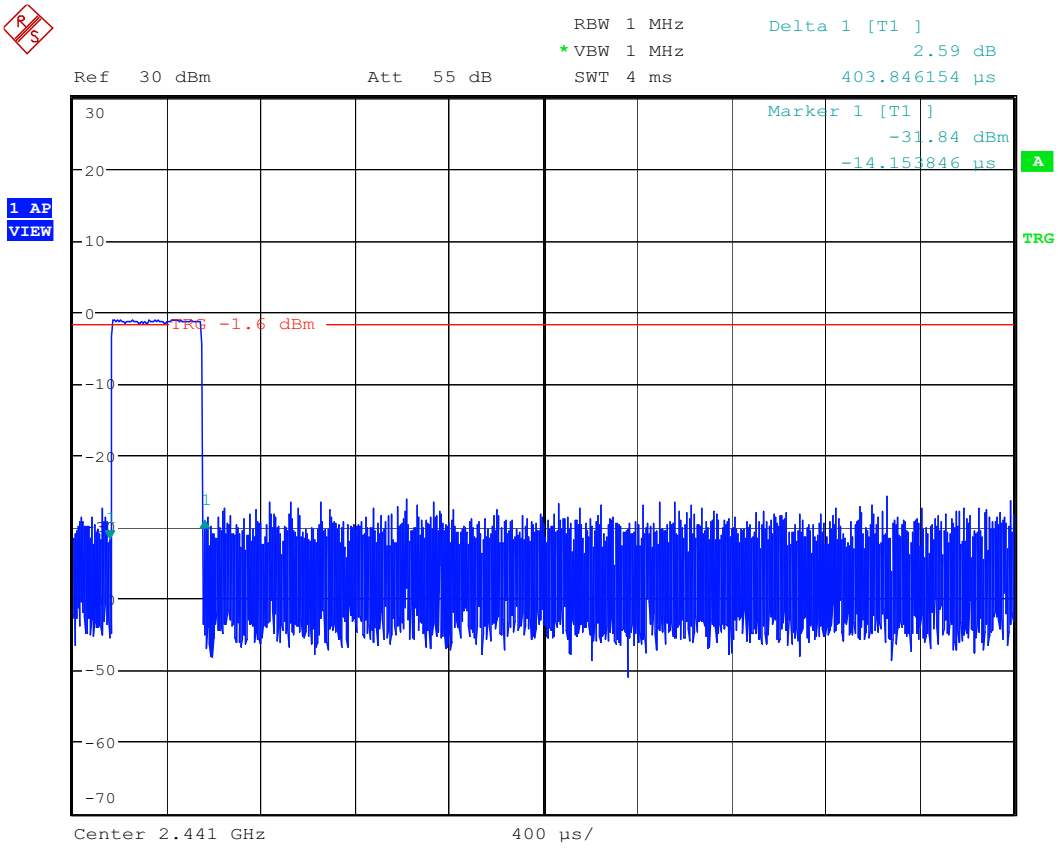
DELL TIME DH3 CH0 (1.666ms*176event=293ms))

Date: 16.JAN.2007 16:30:25



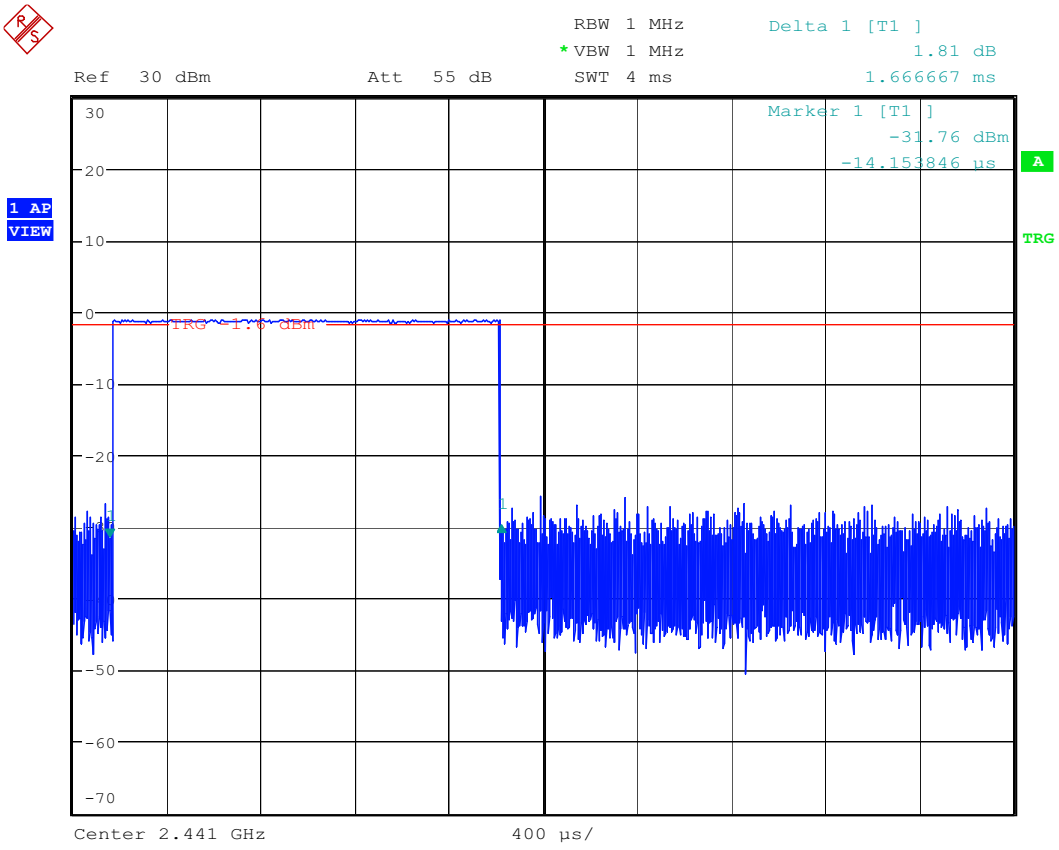
DELL TIME DH5 CH0 (2.923ms*109event=318ms)

Date: 16.JAN.2007 16:28:34



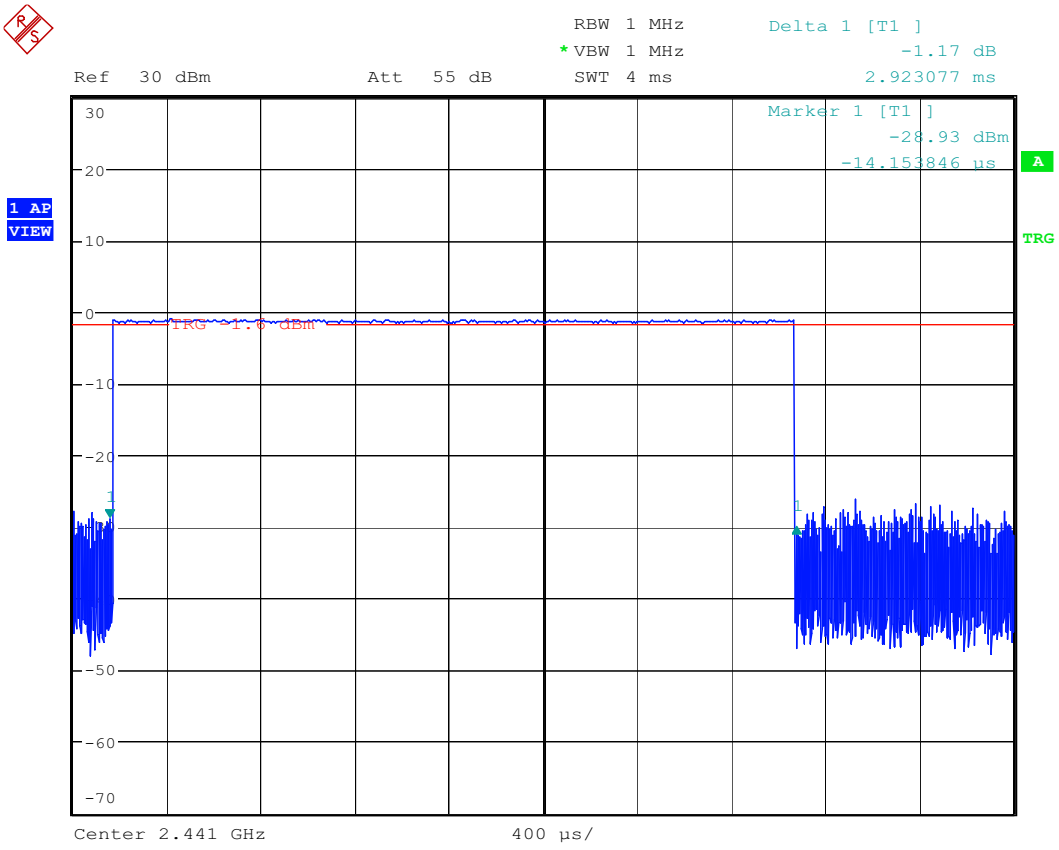
DELL TIME DH1 CH39(403us*518event=209ms)

Date: 16.JAN.2007 16:31:55



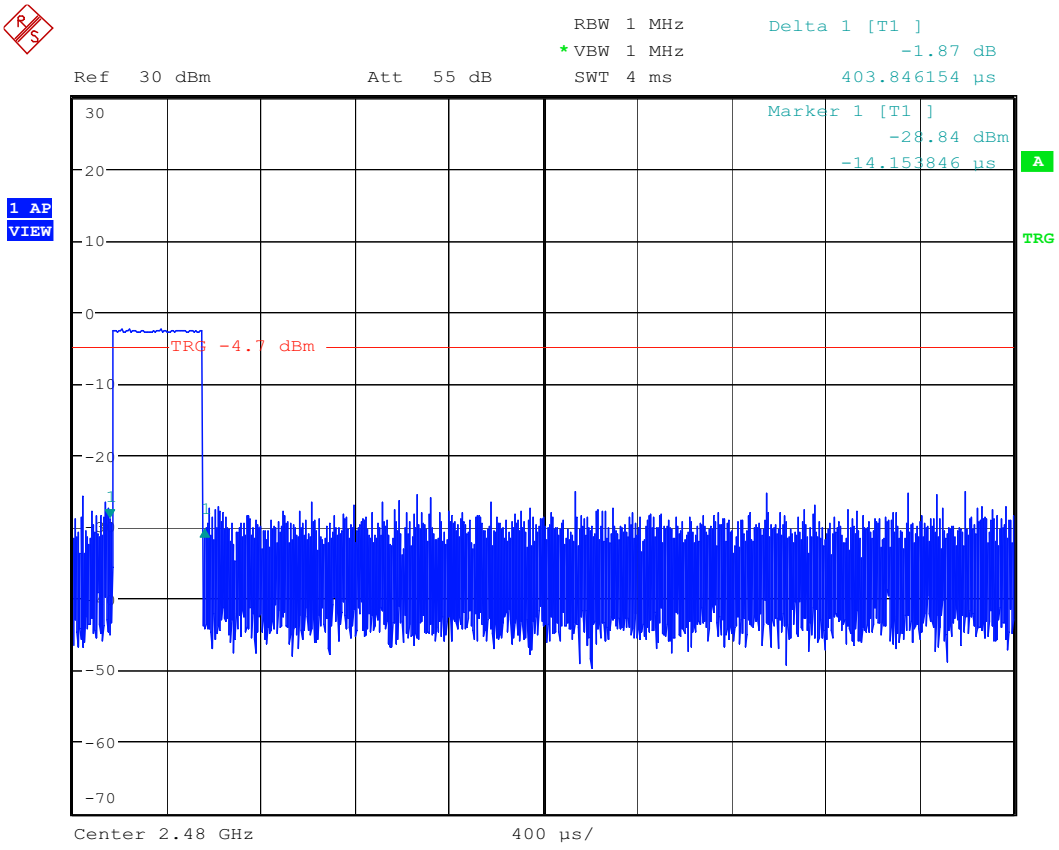
DELL TIME DH3 CH39 (1.666ms*170event=283ms)

Date: 16.JAN.2007 16:32:33



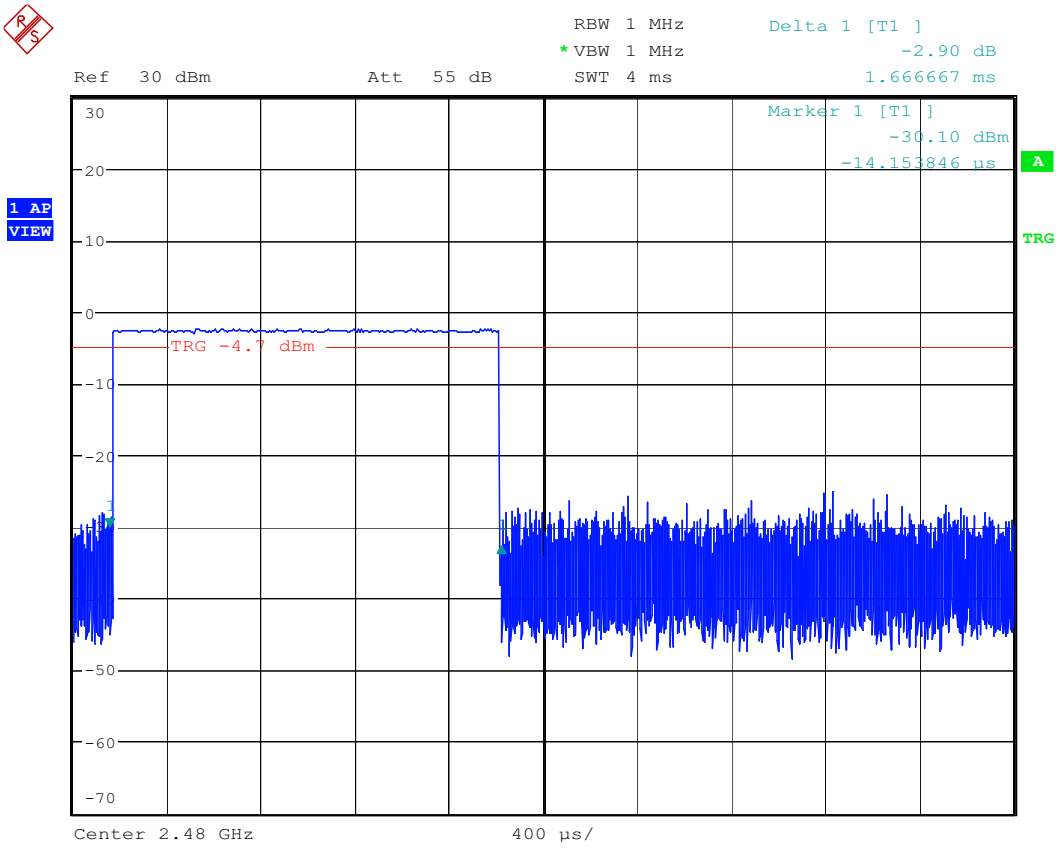
DELL TIME DH5 CH39 (2.923ms*105event=306ms)

Date: 16.JAN.2007 16:33:18



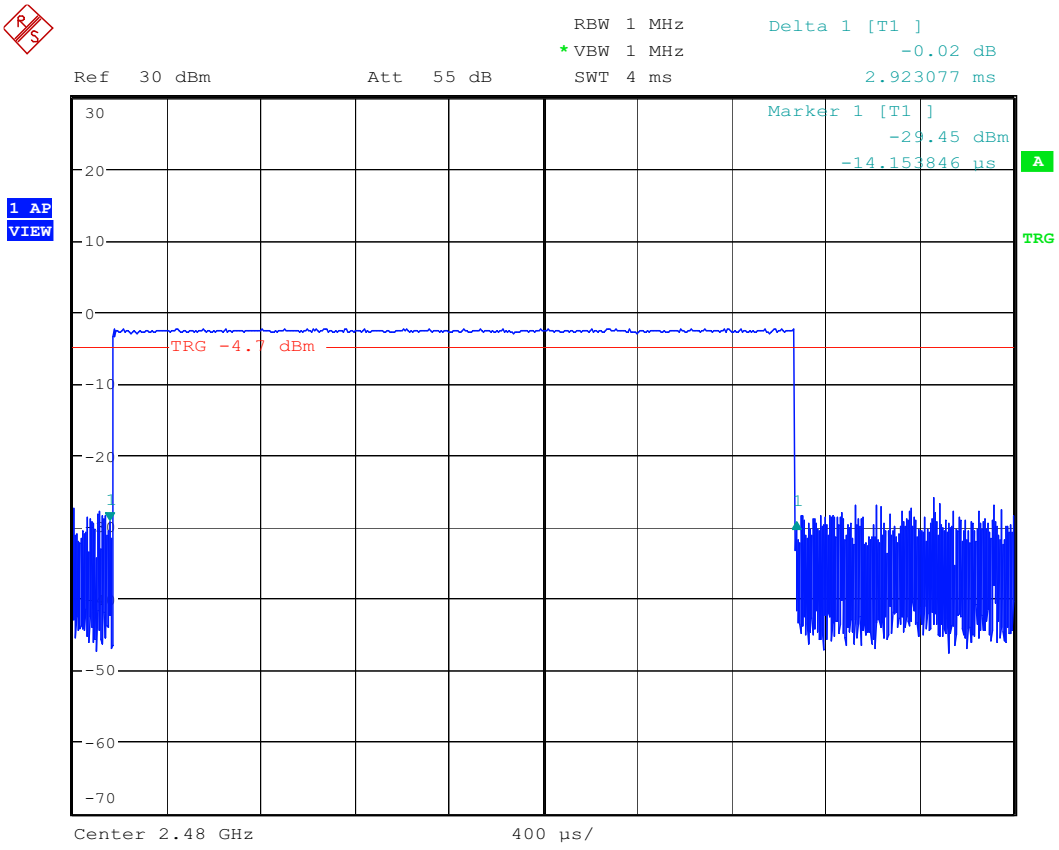
DELL TIME DH1 CH78(403us*519event=209ms)

Date: 16.JAN.2007 17:47:09



DELL TIME DH3 CH78(1.666ms*173event=288ms)

Date: 16.JAN.2007 17:45:20

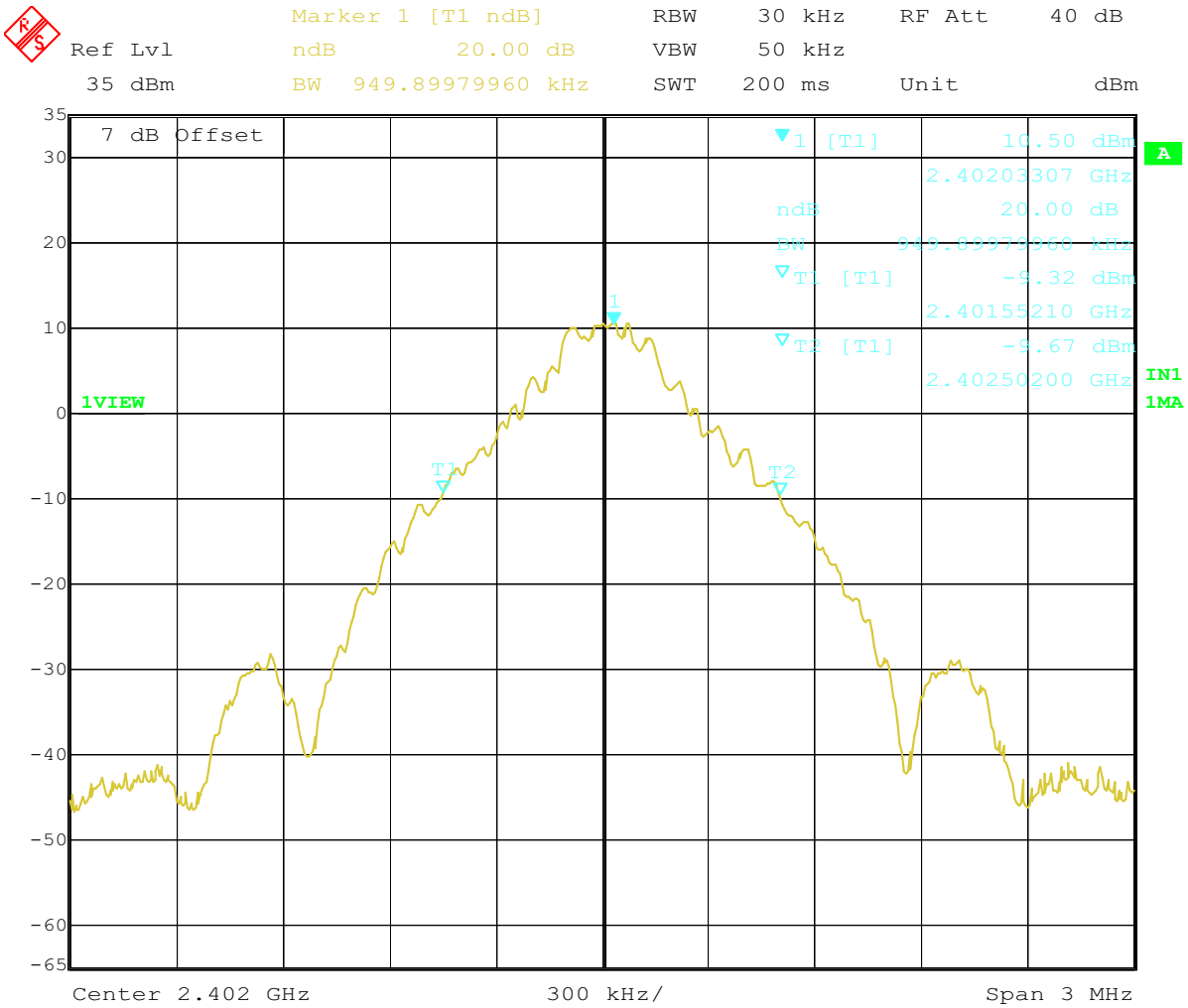


DELL TIME DH5 CH78(2.923ms*102event=298ms)

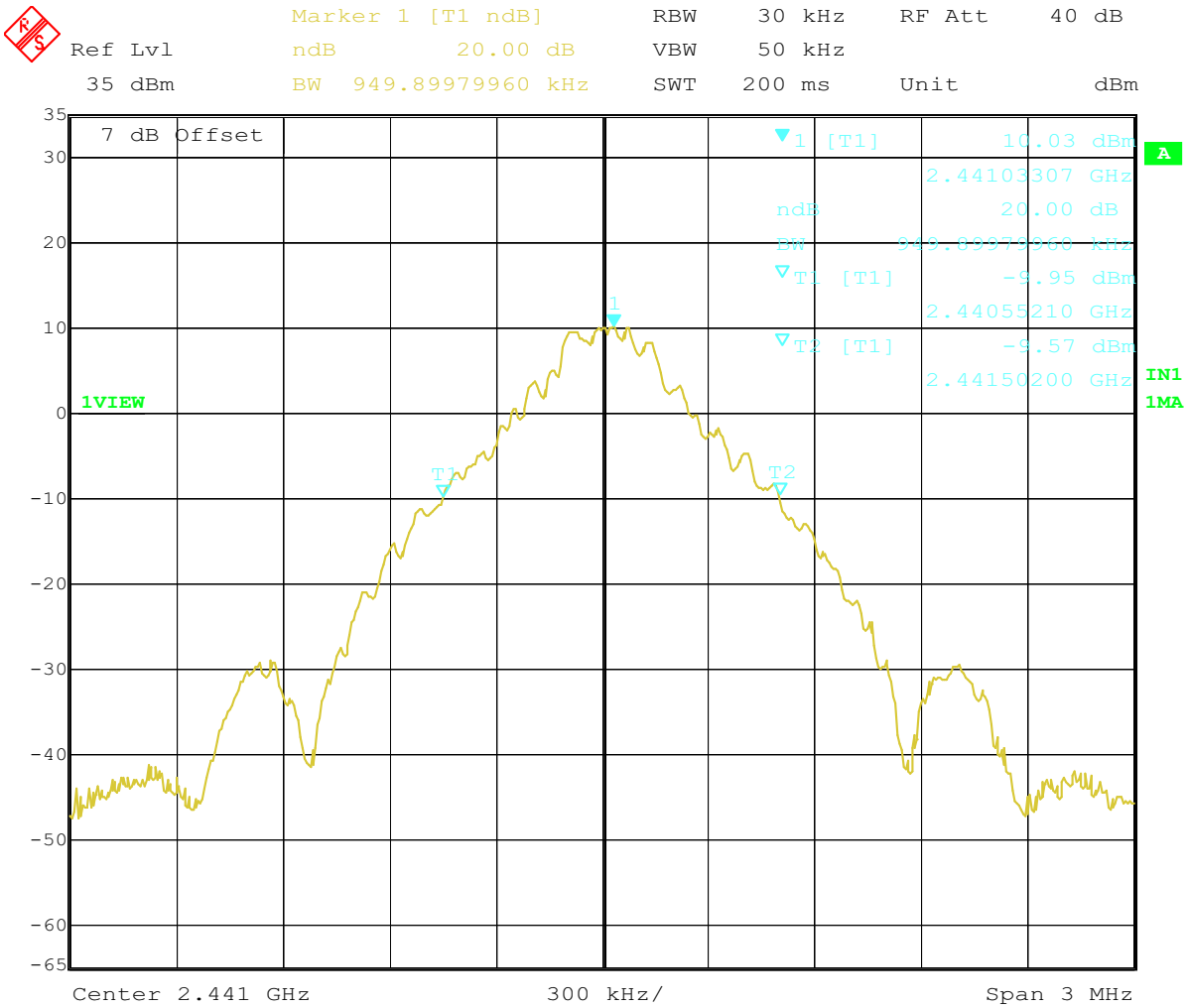
Date: 16.JAN.2007 16:36:02

Appendix F

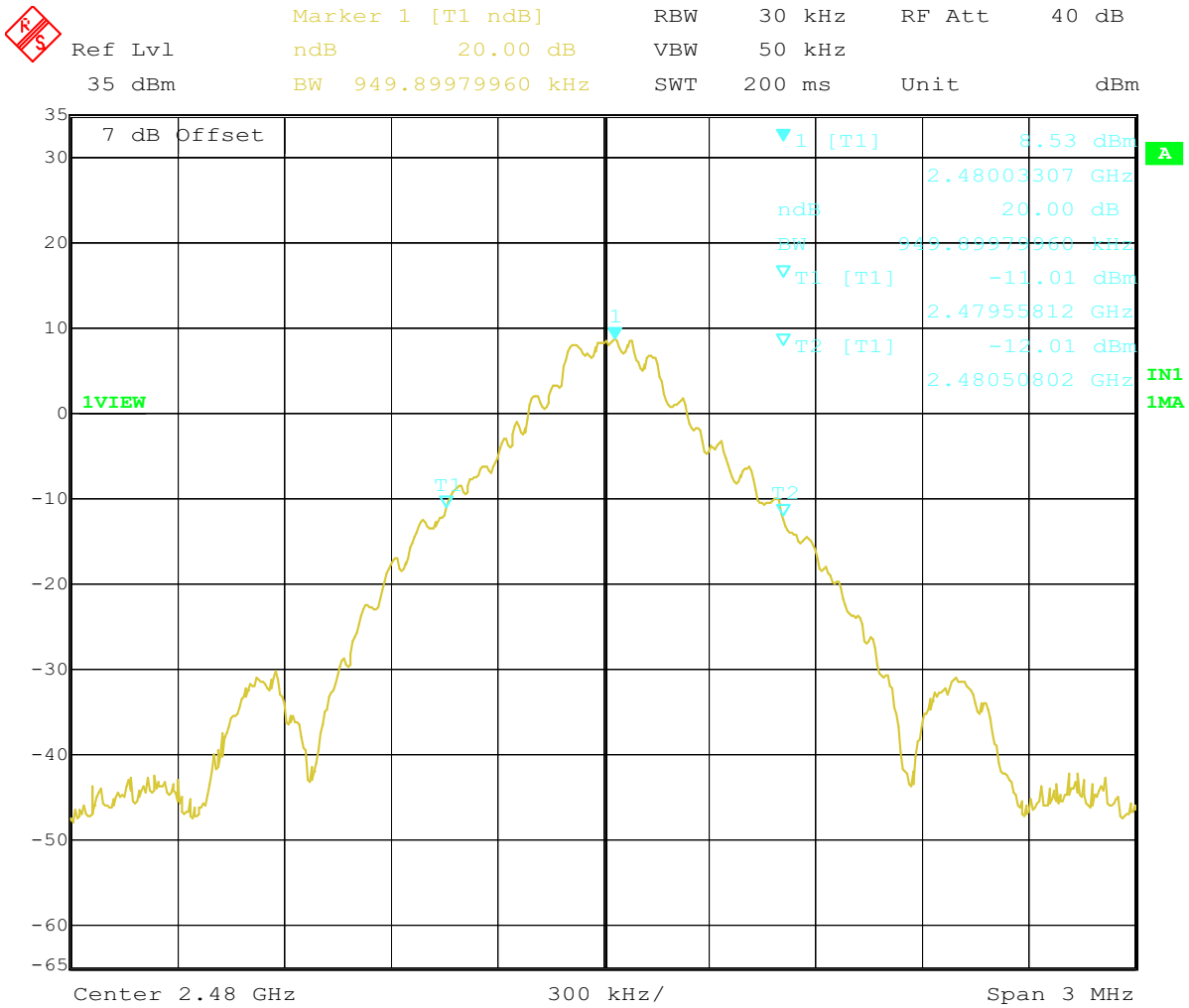
20dB Bandwidth



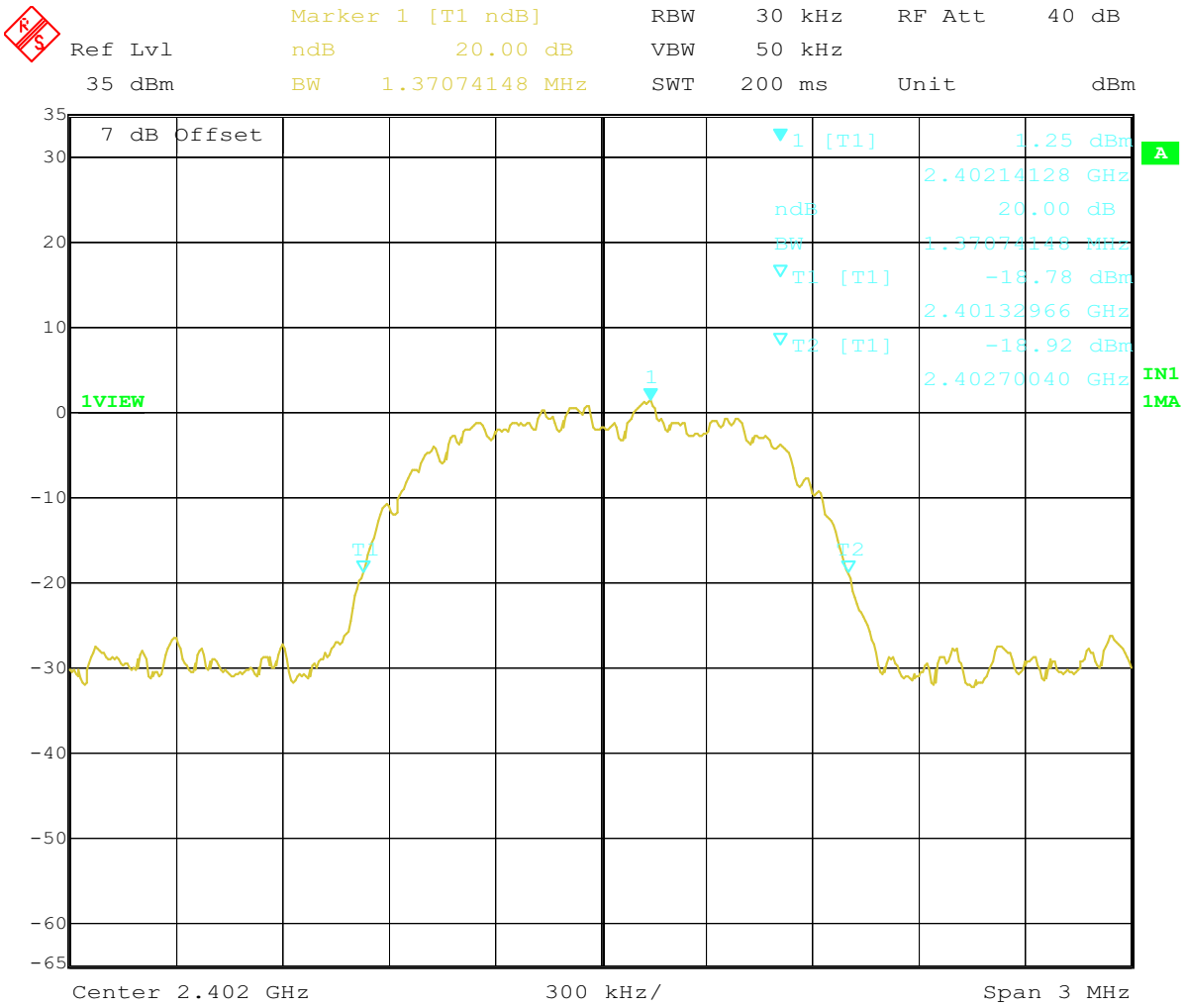
Title: -20 dB Bandwidth Ch.: 0
Date: 6.JAN.2007 13:11:59



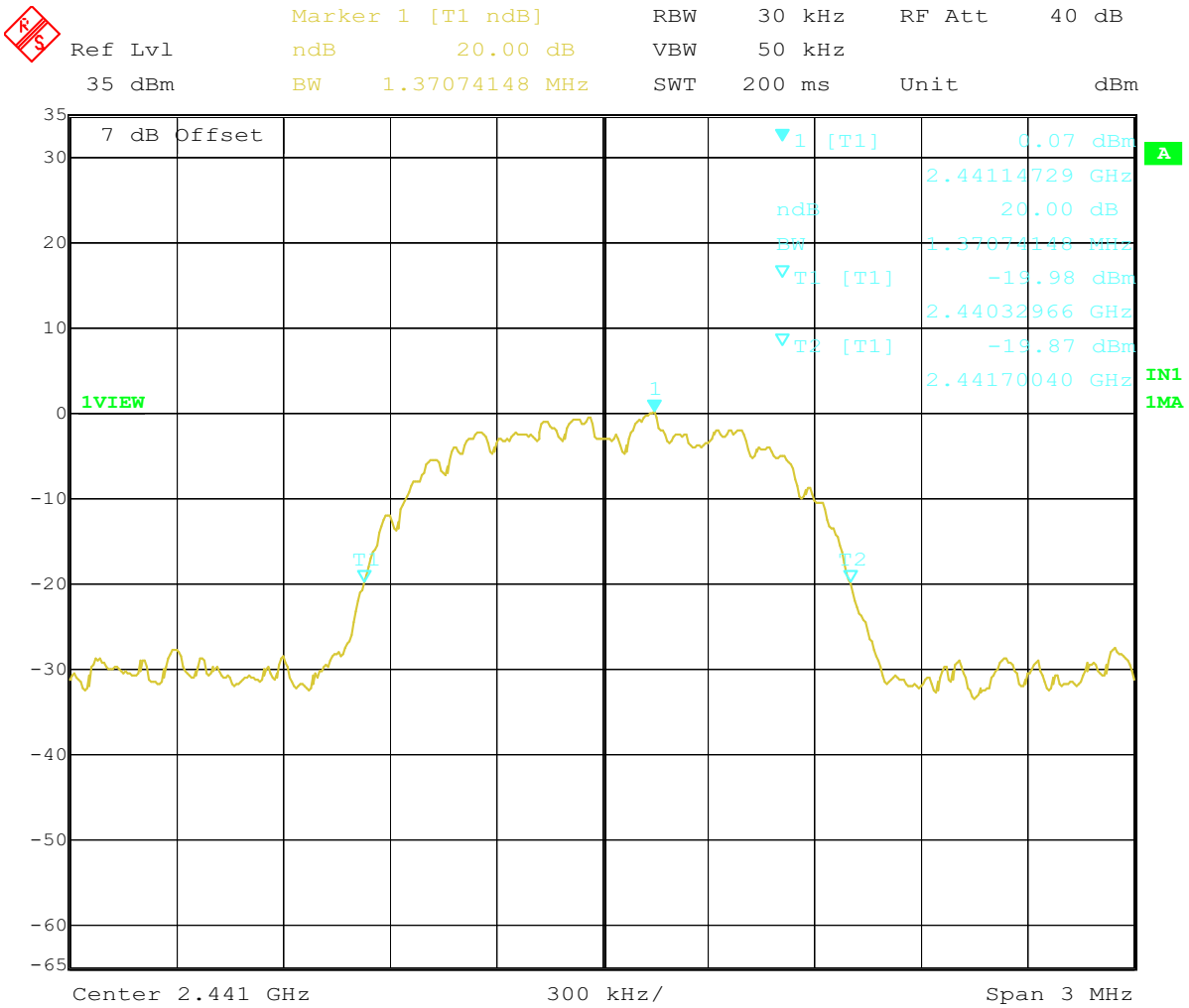
Title: -20 dB Bandwidth Ch.: 39
Date: 6.JAN.2007 13:55:15



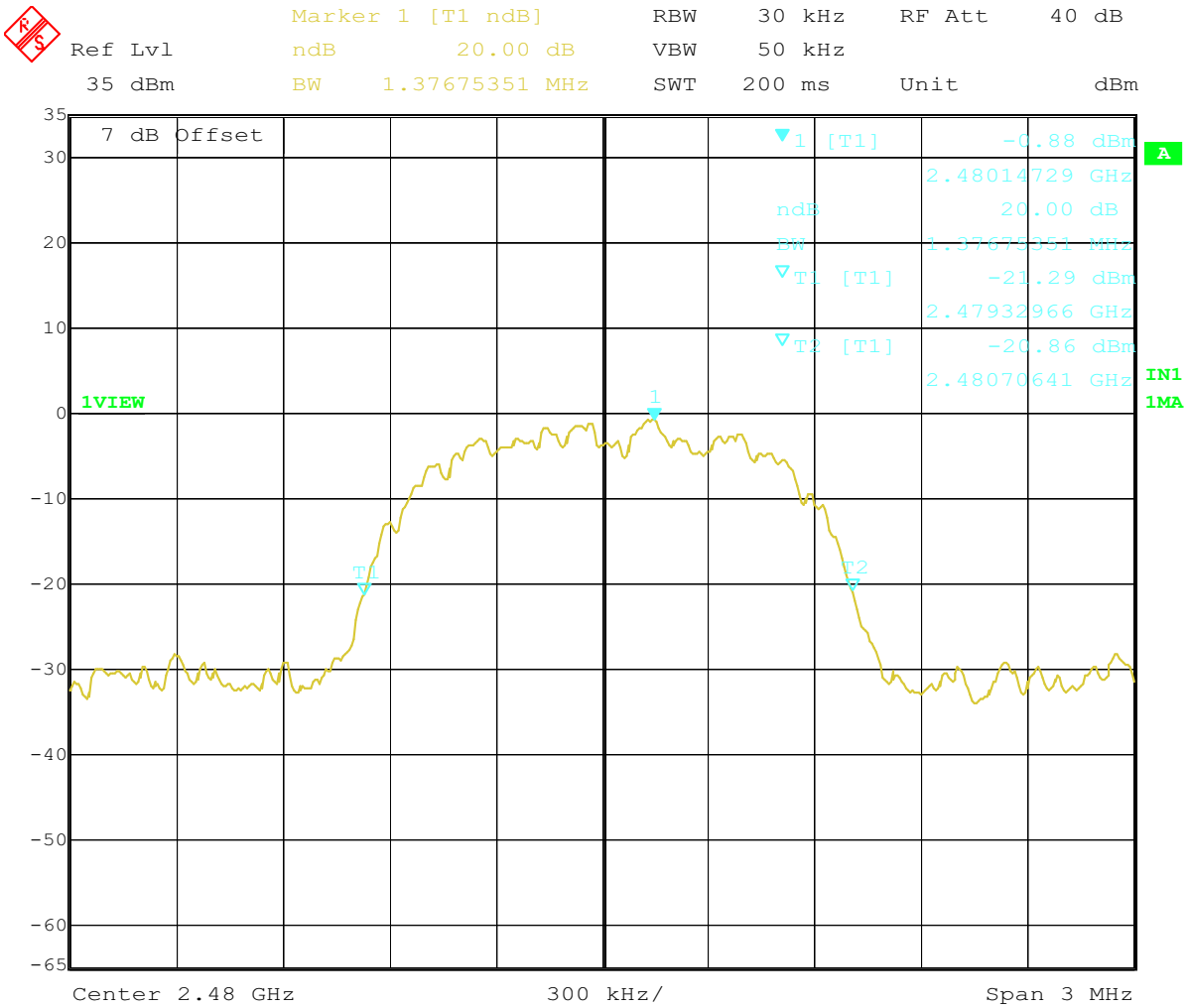
Title: -20 dB Bandwidth Ch.:78
Date: 6.JAN.2007 13:30:18



Title: EDR Mode -20 dB Bandwidth Ch.: 0
Date: 6.JAN.2007 15:42:57



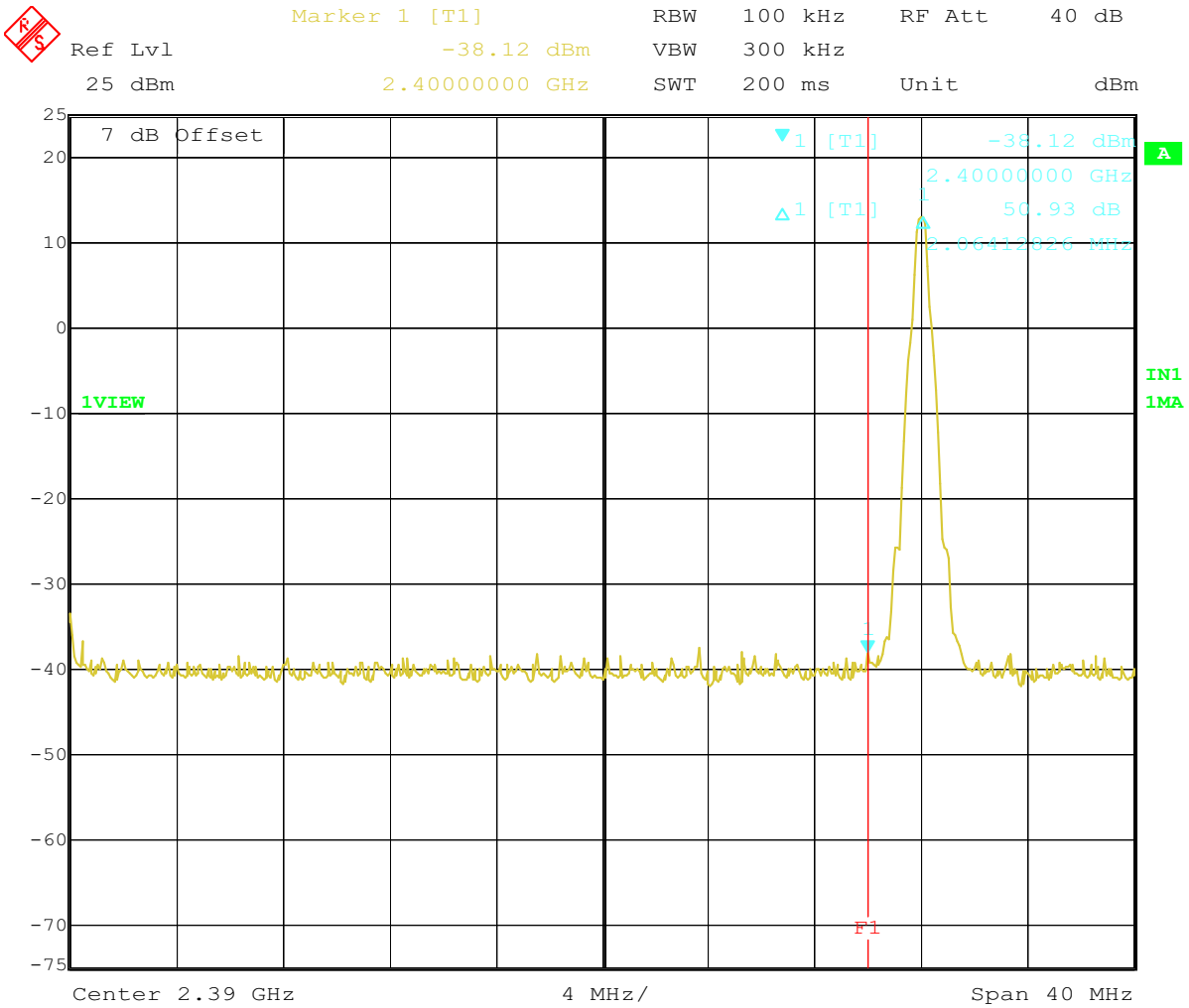
Title: EDR Mode -20 dB Bandwidth Ch.: 39
Date: 6.JAN.2007 15:37:21



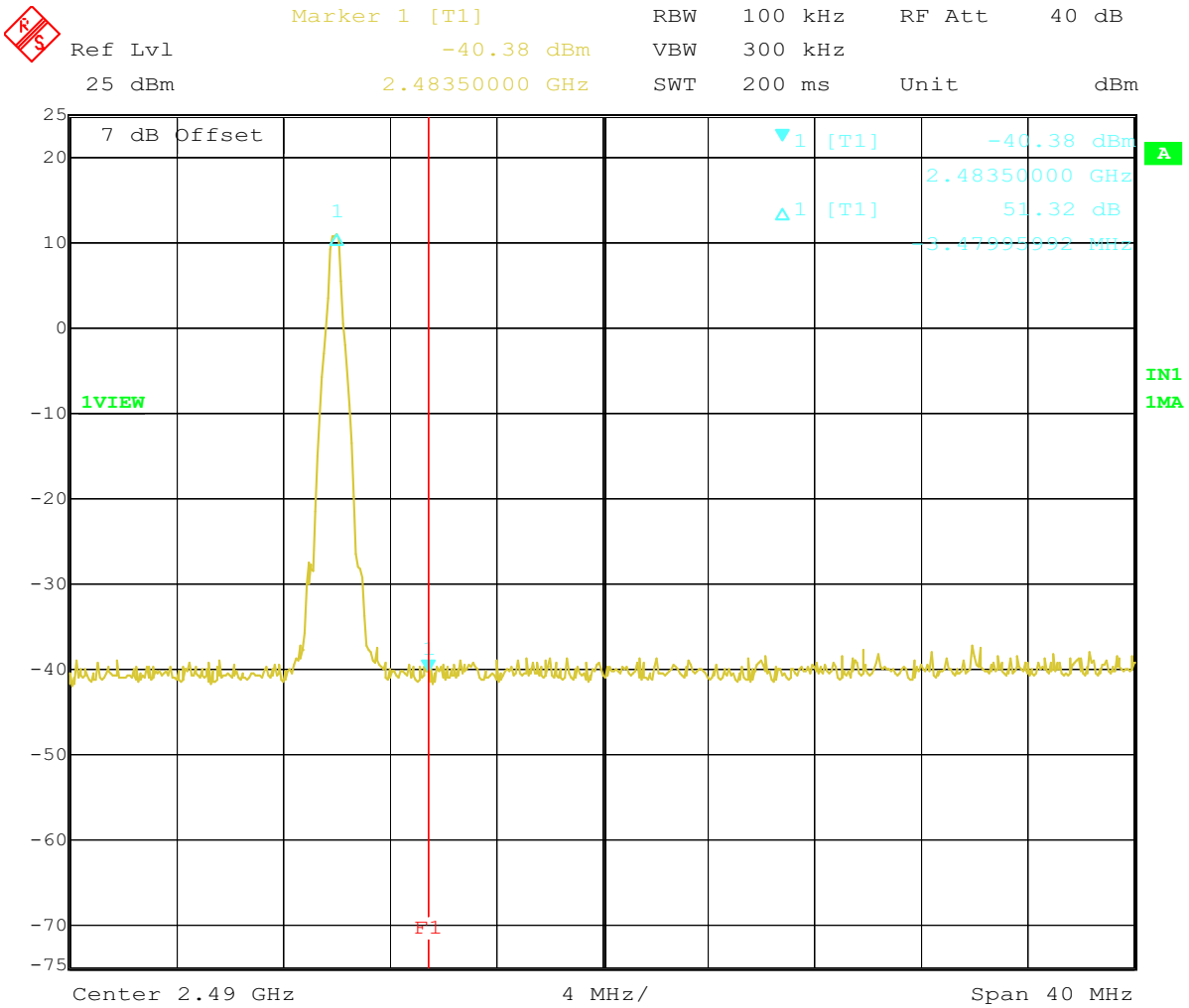
Title: EDR Mode -20 dB Bandwidth Ch.: 78
Date: 6.JAN.2007 15:51:41

Appendix G

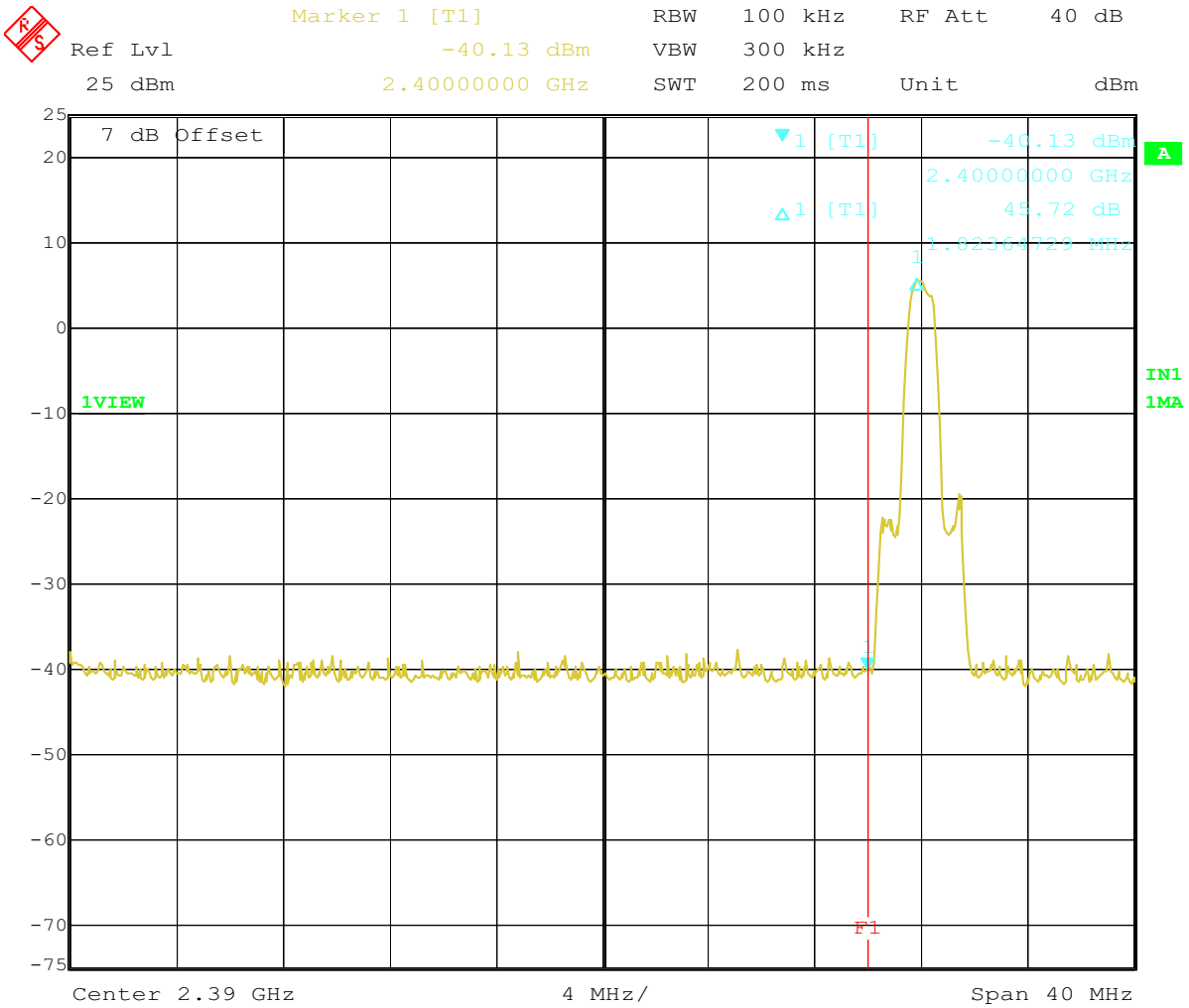
Band-edge Compliance of RF Conducted Emissions



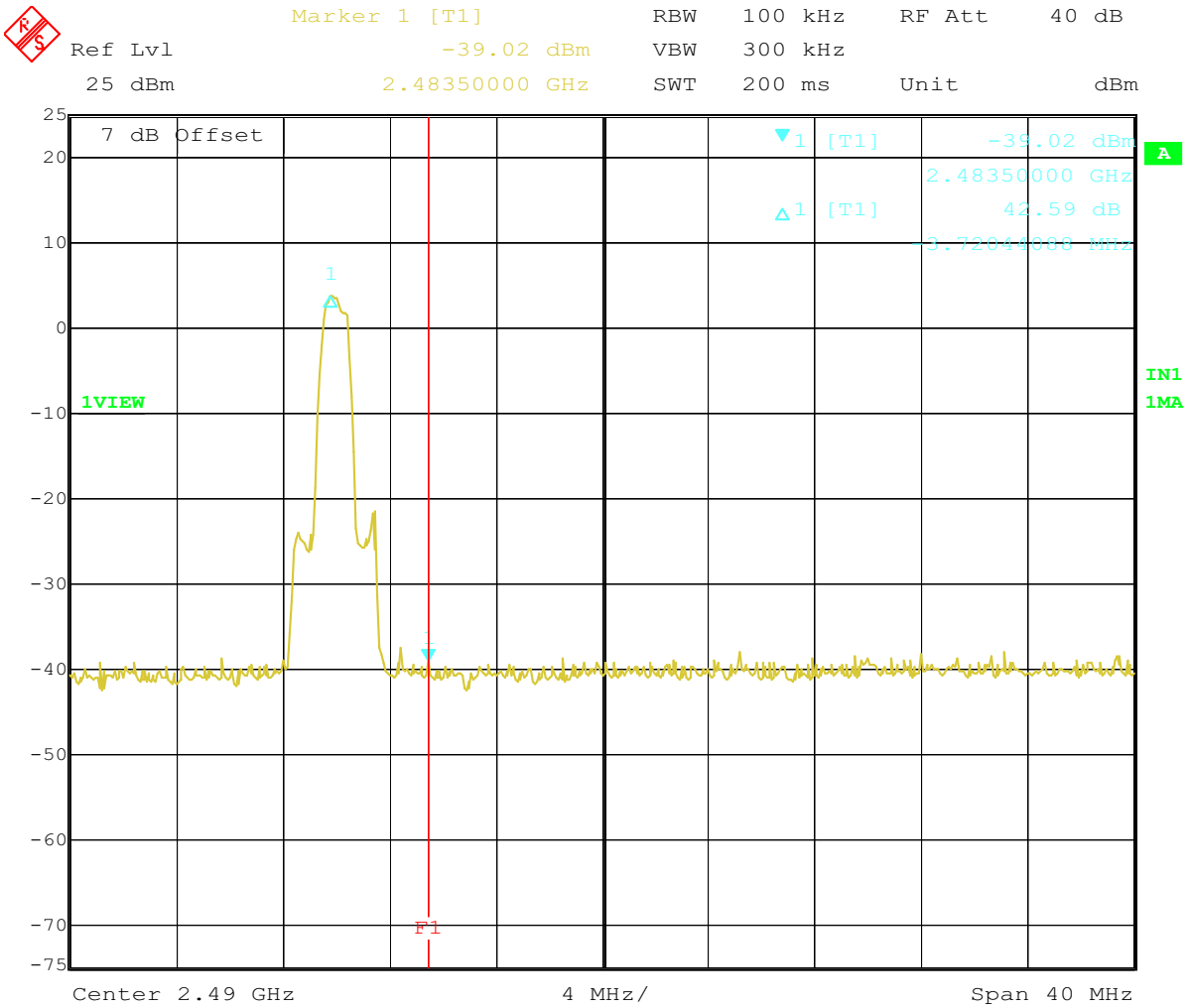
Title: Band edge compliance CH0
Date: 6.JAN.2007 13:13:06



Title: Band edge compliance CH78
Date: 6.JAN.2007 13:31:25



Title: EDR Mode Band edge compliance CH0
Date: 6.JAN.2007 15:43:45



Title: EDR Mode Bandedge compliance CH78
Date: 6.JAN.2007 15:23:44

Appendix H

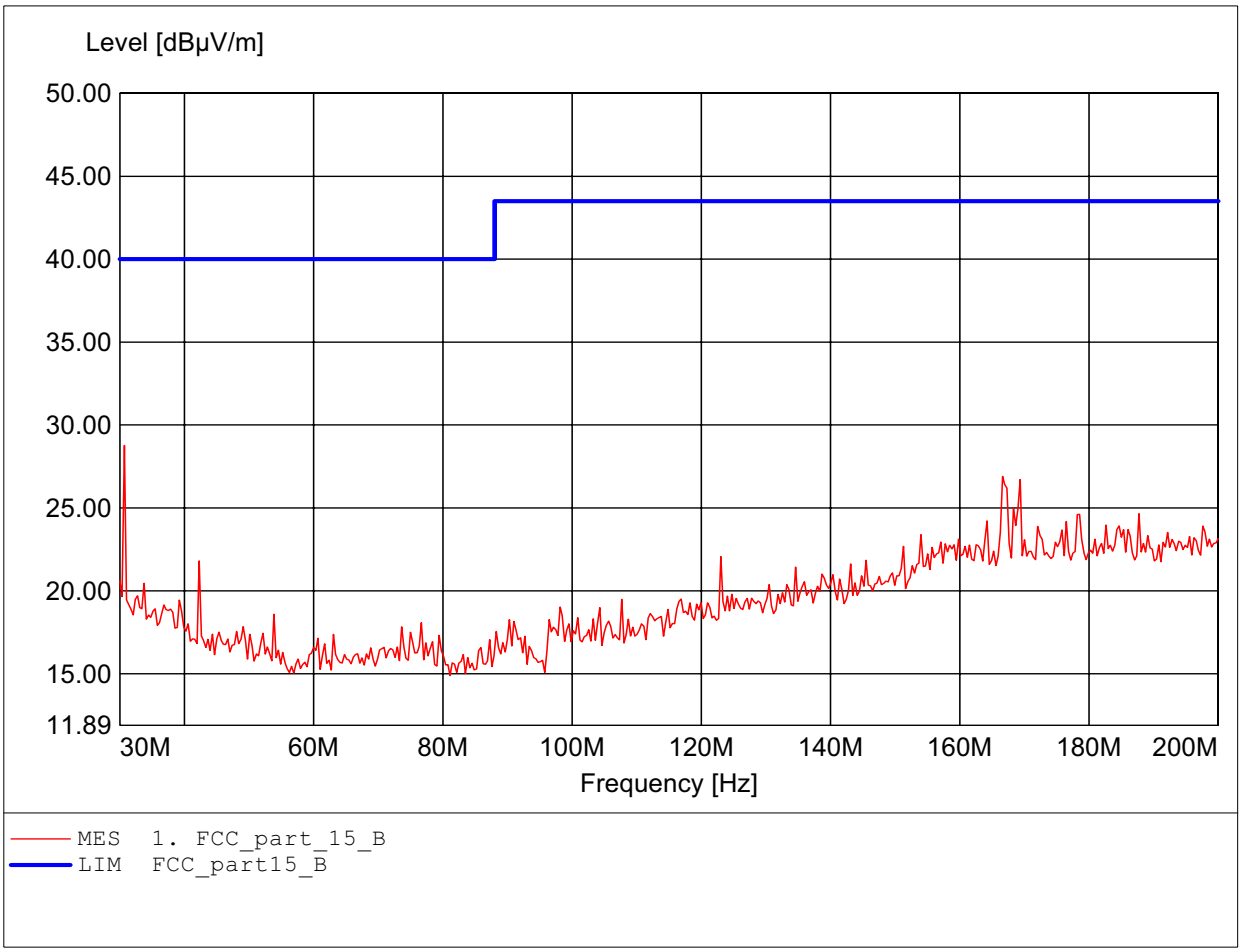
Radiated Emissions from Receiver Section of Transceiver

The measurement diagrams plots attached below are preliminary wideband scan with a peak detector and for reference only. The final test results are listed on section 3.12

Field Strength under normal conditions

FCC RULES PART 15, SUBPART B

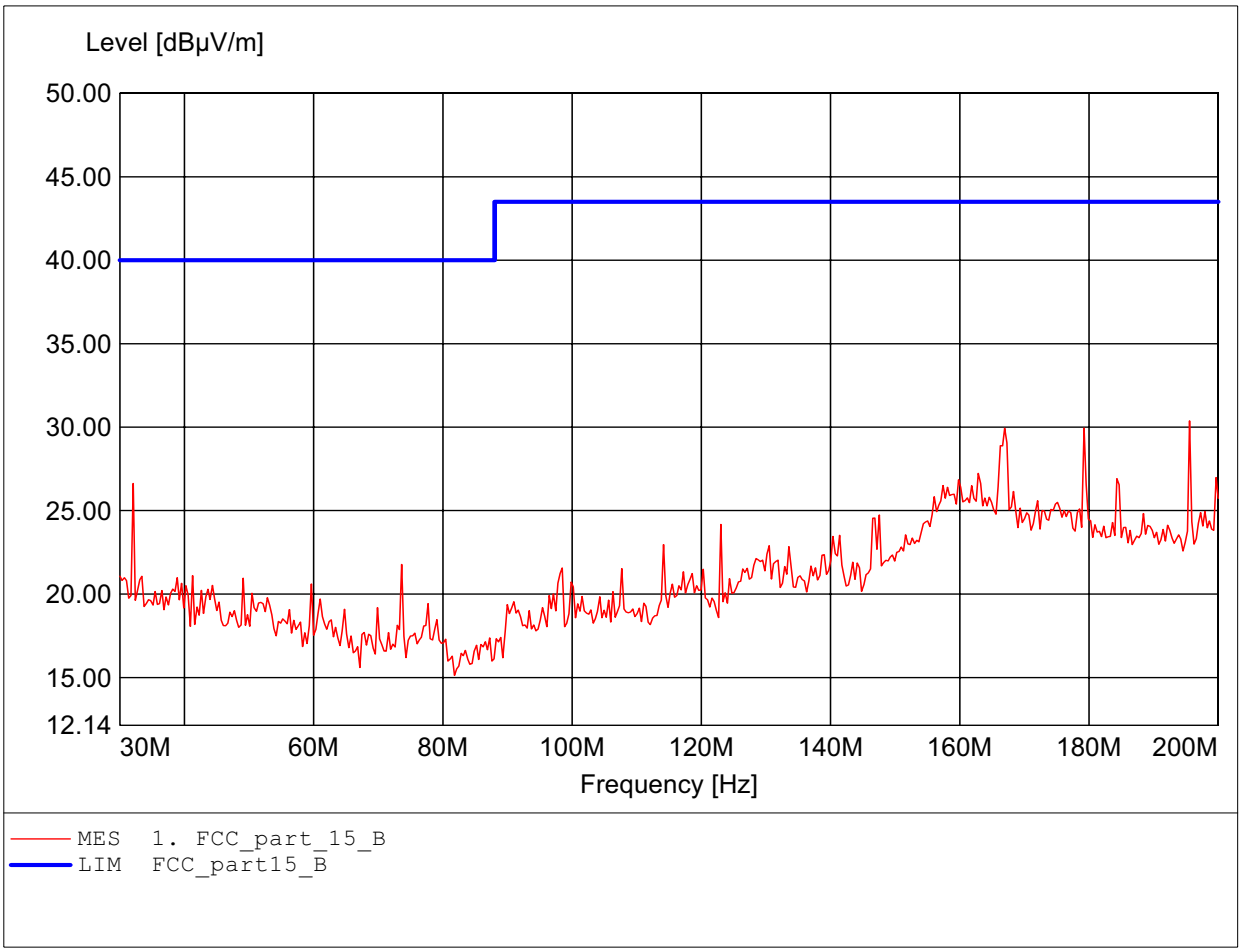
```
Order Number :          W6M20701-7746          ( low channel )
Test Site / Operator:   ETS / Charles
Temperature::           Temp.: 23.9°C
                        according to subpart B
Comment 1:              Dist.: 3m, Ant.: HK 116
                        Freq:30.681MHz Emax:28.76dBµV/m RBW: 100 kHz
```



Field Strength under normal conditions

FCC RULES PART 15, SUBPART B

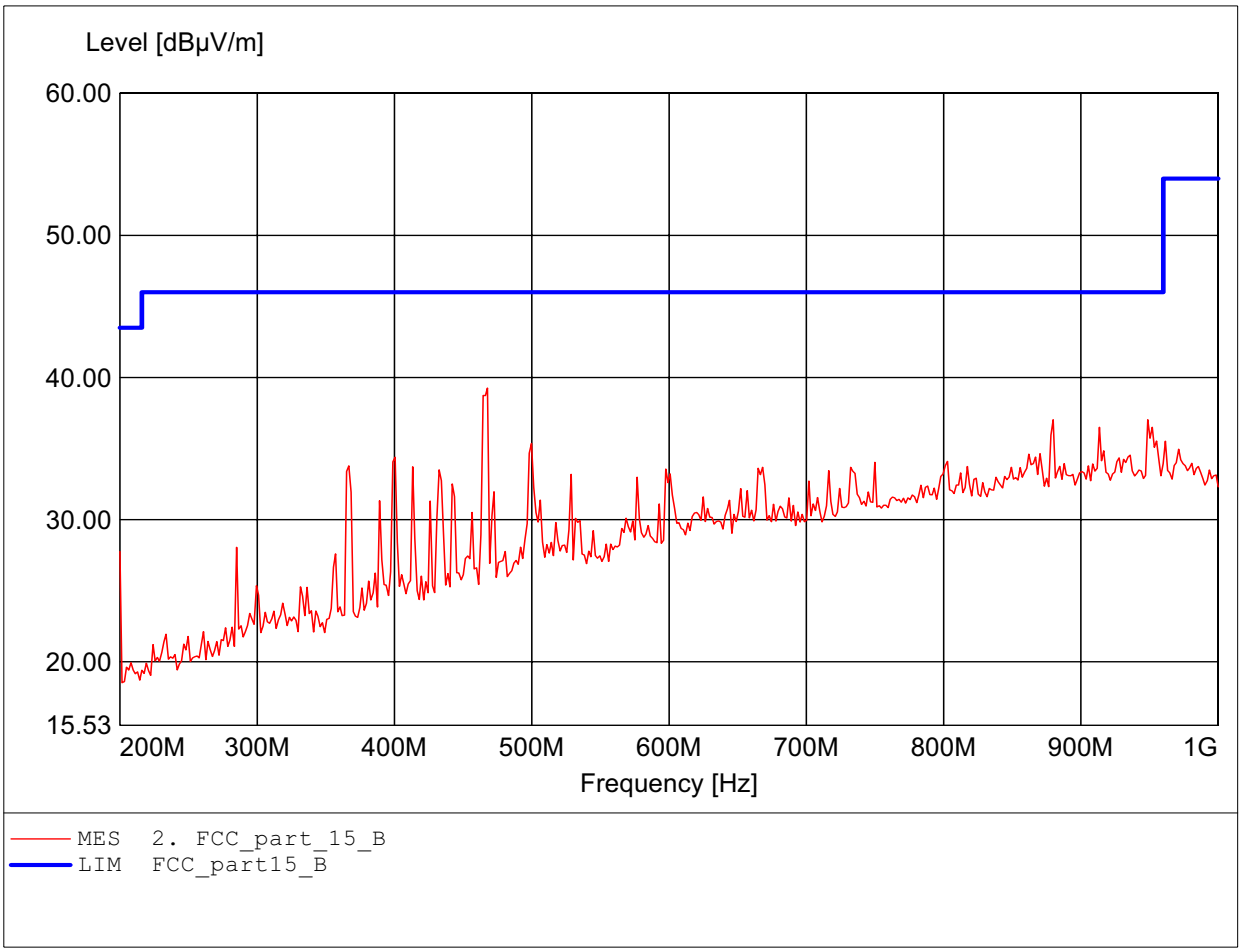
Order Number :	W6M20701-7746	(low channel)
Test Site / Operator:	ETS / Charles	
Temperature::	Temp.: 23.9°C	
	according to subpart B	
Comment 1:	Dist.: 3m, Ant.: HK 116	
	Freq:195.571MHz Emax:30.38dBµV/m RBW: 100 kHz	



Field Strength under normal conditions

FCC RULES PART 15, SUBPART B

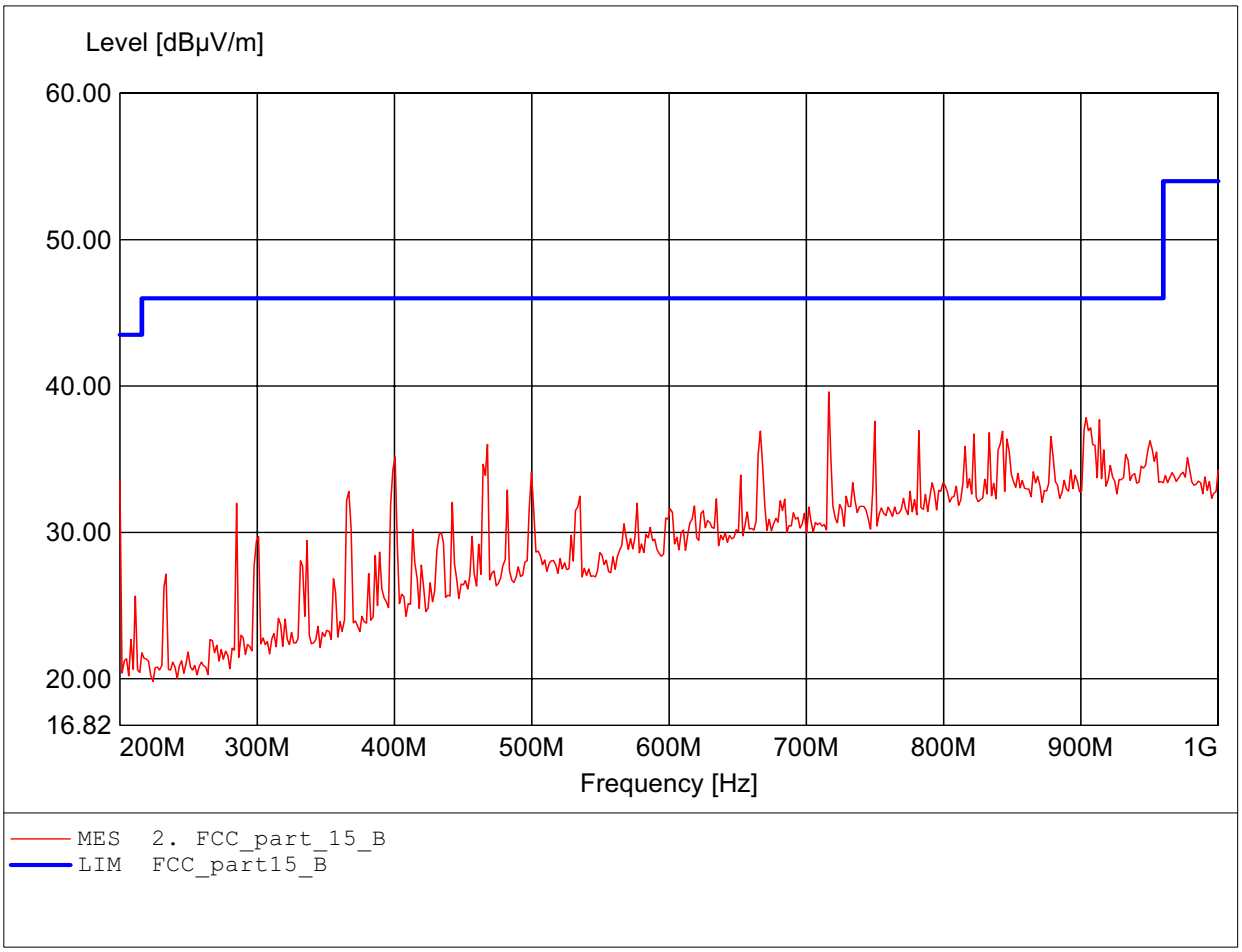
```
Order Number :          W6M20701-7746          ( low channel )
Test Site / Operator: ETS / Charles
Temperature::          Temp.: 23.9°C
                       according to subpart B
Comment 1:             Dist.: 3m, Ant.: HL 223, ampl.
                       Freq:467.735MHz Emax:39.26dBµV/m RBW: 100 kHz
```



Field Strength under normal conditions

FCC RULES PART 15, SUBPART B

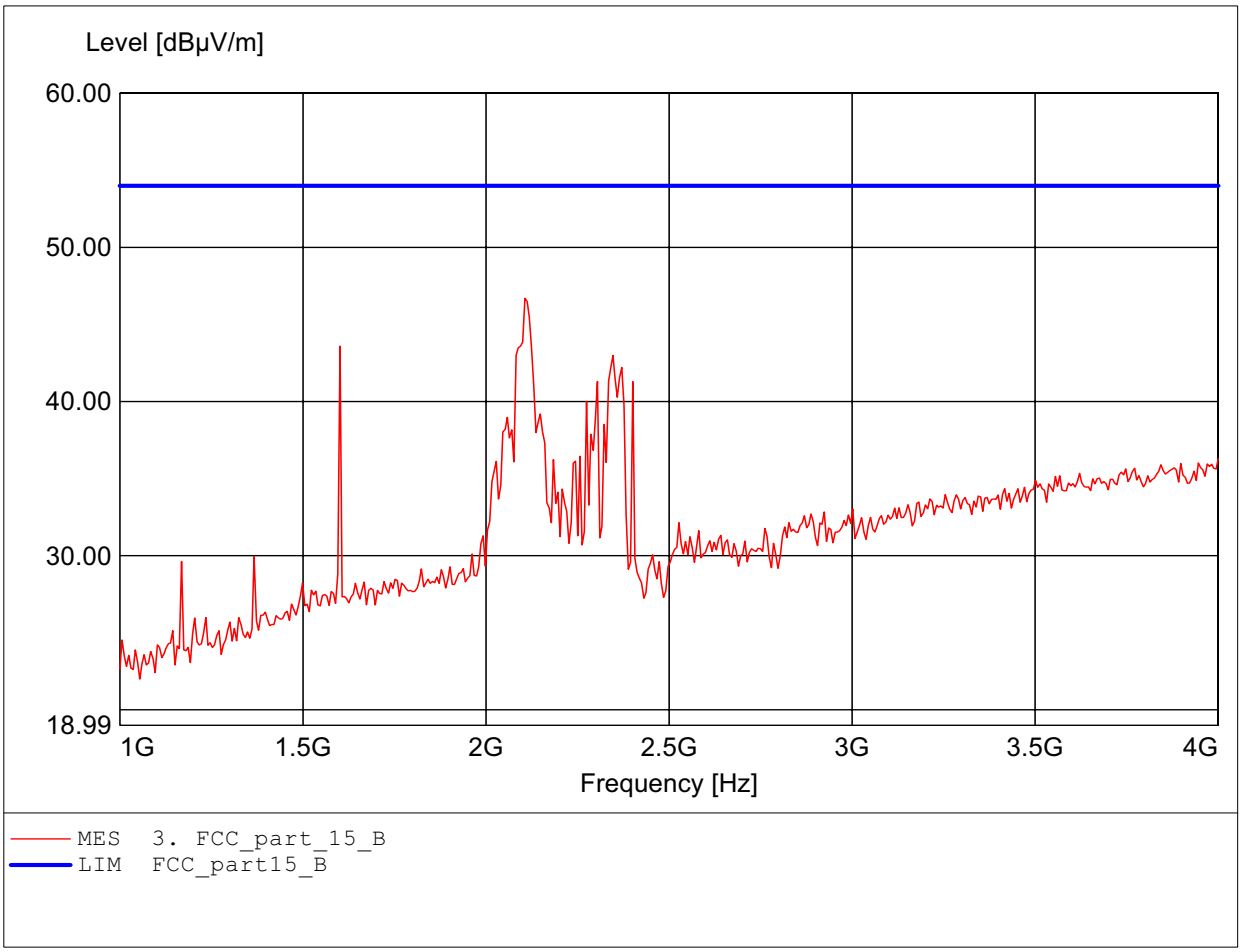
Order Number :	W6M20701-7746	(low channel)
Test Site / Operator:	ETS / Charles	
Temperature::	Temp.: 23.9°C	
	according to subpart B	
Comment 1:	Dist.: 3m, Ant.: HL 223, ampl.	
	Freq:716.232MHz Emax:39.60dBµV/m RBW: 100 kHz	



Field Strength under normal conditions

FCC RULES PART 15, SUBPART B

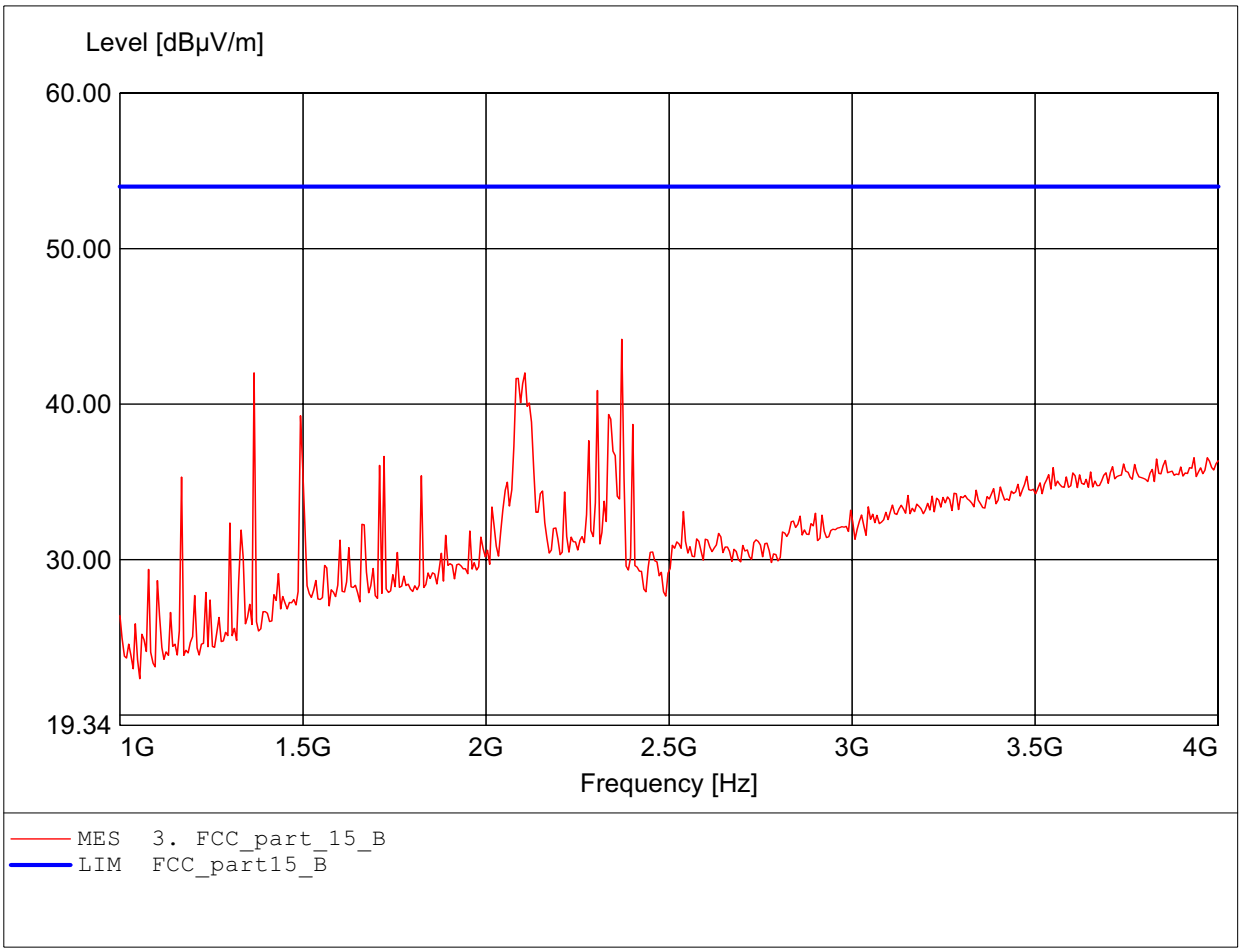
Order Number :	W6M20701-7746	(low channel)
Test Site / Operator:	ETS / Charles	
Temperature::	Temp.: 23.9°C	
	according to subpart B	
Comment 1:	Dist.: 3m, Ant.: HL25, ampl.	
	Freq:2.106GHz Emax:46.69dBµV/m RBW: 1 MHz	



Field Strength under normal conditions

FCC RULES PART 15, SUBPART B

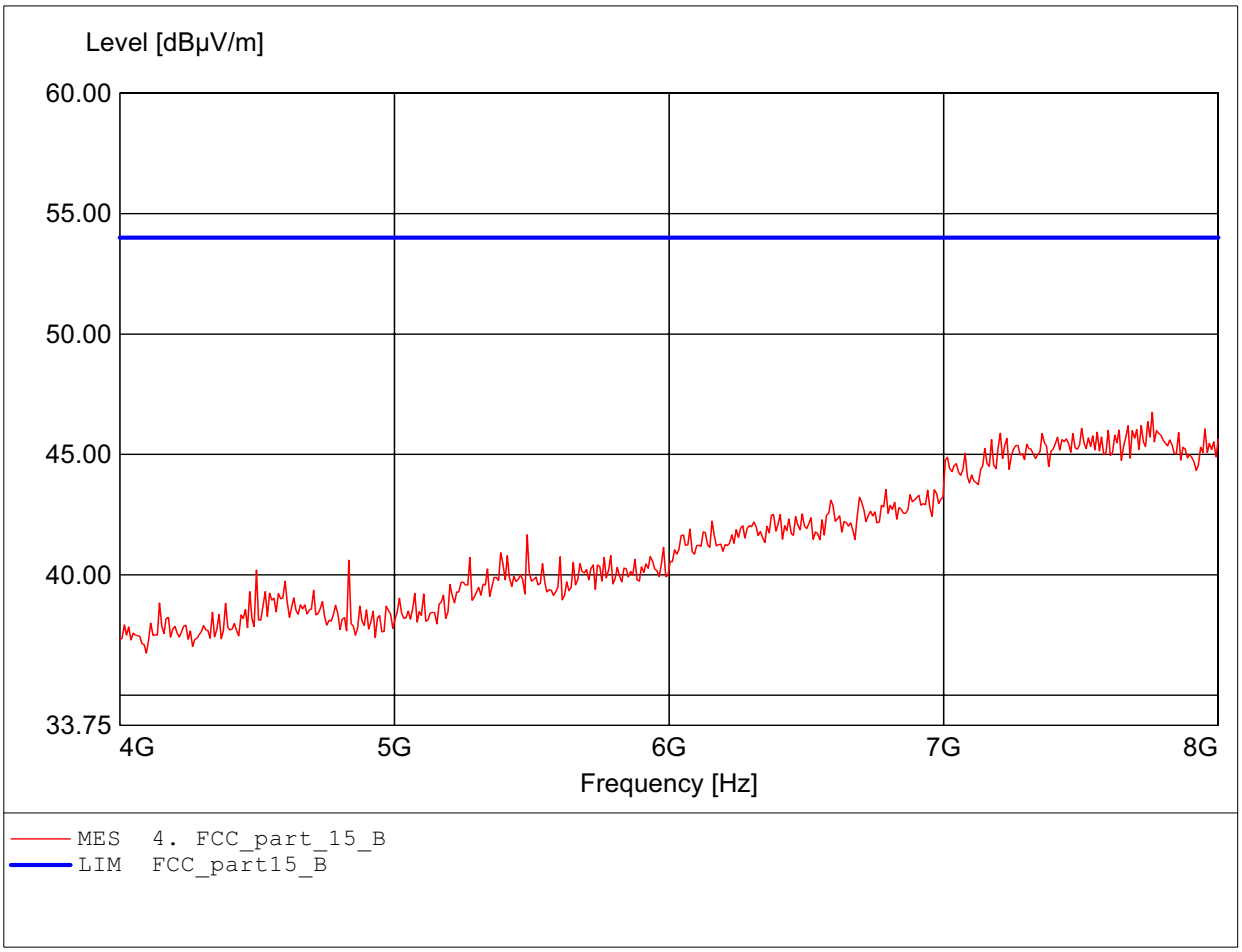
```
Order Number :          W6M20701-7746          ( low channel )
Test Site / Operator: ETS / Charles
Temperature::          Temp.: 23.9°C
                       according to subpart B
Comment 1:             Dist.: 3m, Ant.: HL25, ampl.
                       Freq:2.371GHz Emax:44.17dBµV/m RBW: 1 MHz
```



Field Strength under normal conditions

FCC RULES PART 15, SUBPART B

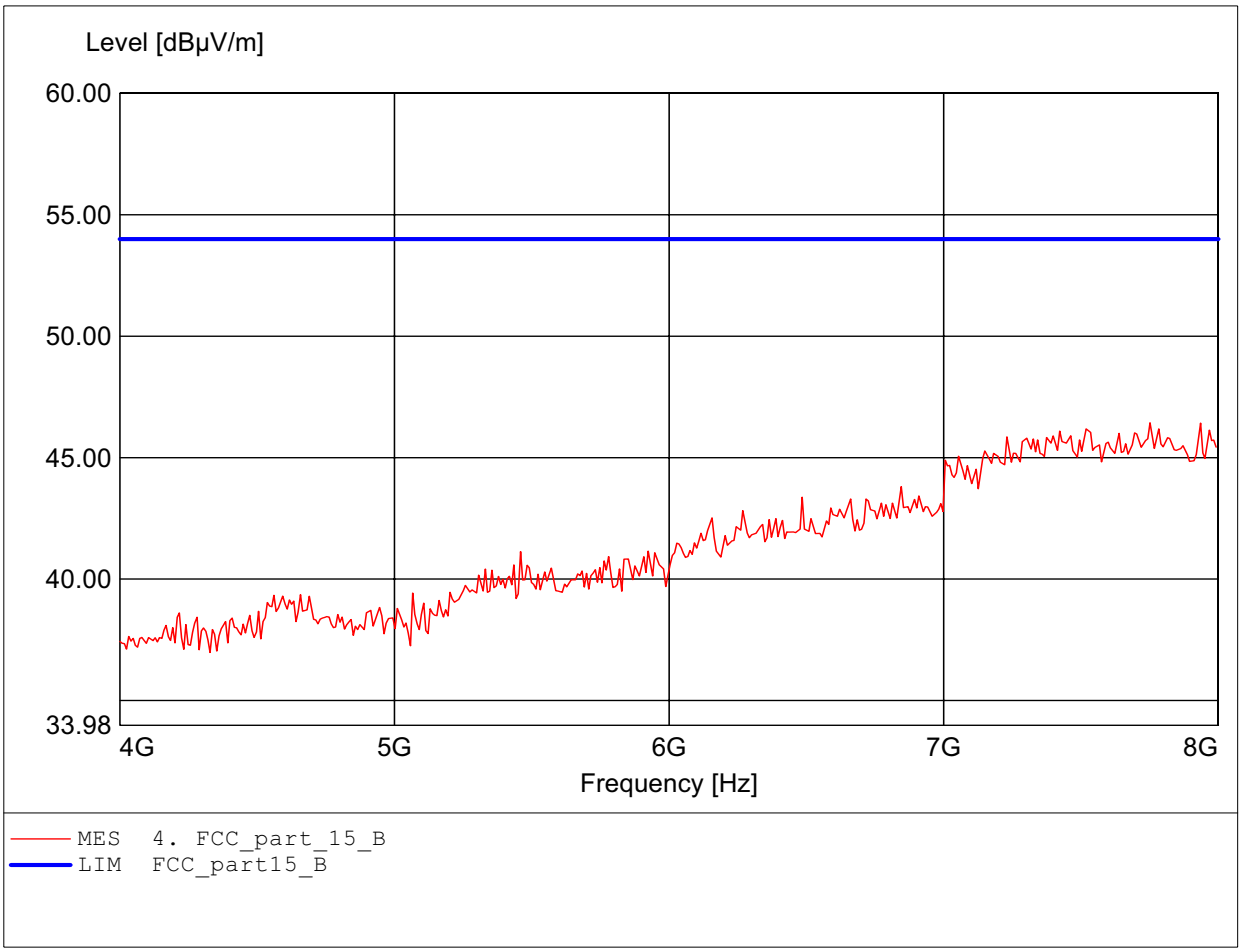
Order Number :	W6M20701-7746	(low channel)
Test Site / Operator:	ETS / Charles	
Temperature::	Temp.: 23.9°C	
	according to subpart B	
Comment 1:	Dist.: 3m, Ant.: HL25, ampl.	
	Freq:7.760GHz Emax:46.75dBµV/m RBW: 1 MHz	



Field Strength under normal conditions

FCC RULES PART 15, SUBPART B

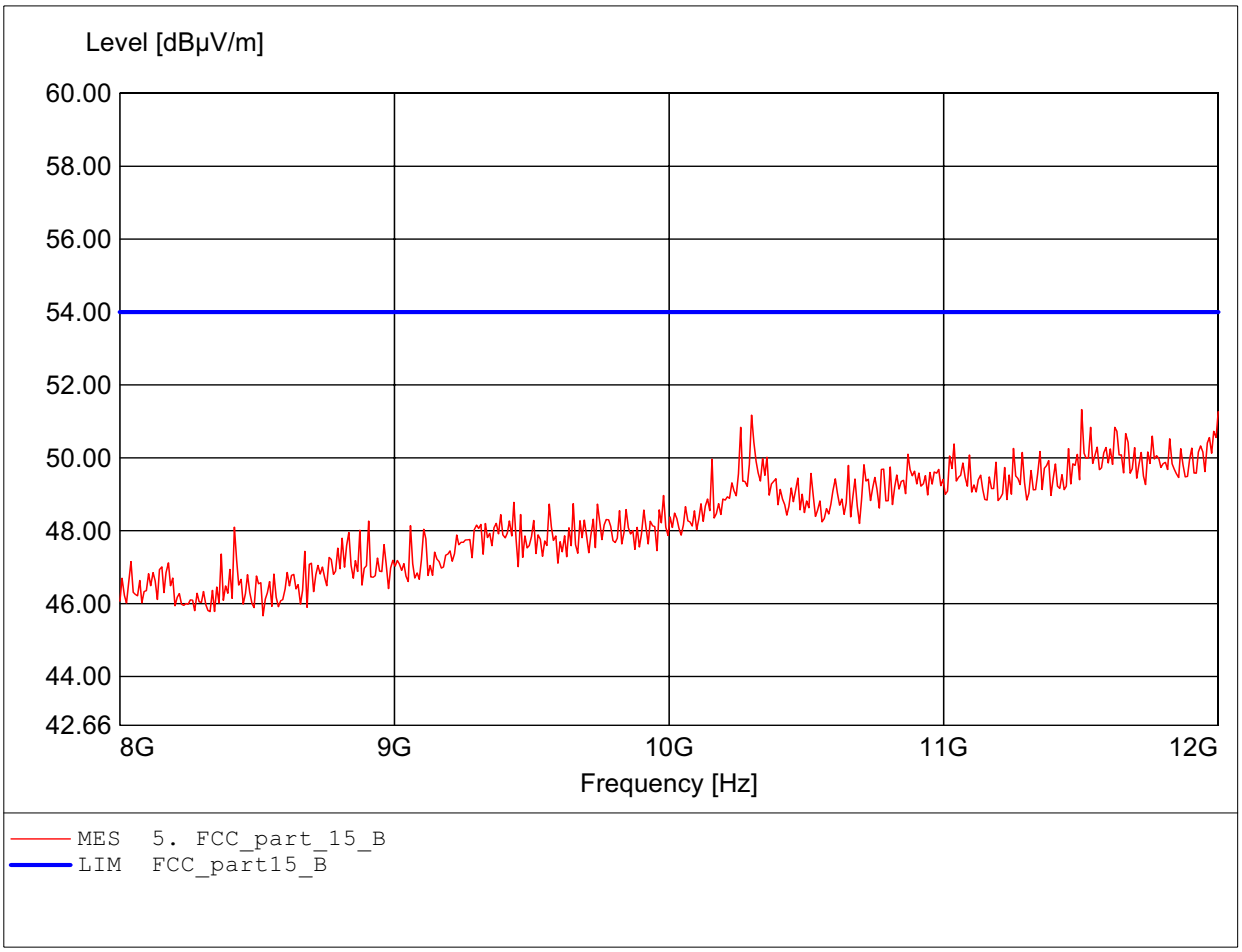
Order Number :	W6M20701-7746	(low channel)
Test Site / Operator:	ETS / Charles	
Temperature::	Temp.: 23.9°C	
	according to subpart B	
Comment 1:	Dist.: 3m, Ant.: HL25, ampl.	
	Freq:7.752GHz Emax:46.43dBµV/m RBW: 1 MHz	



Field Strength under normal conditions

FCC RULES PART 15, SUBPART B

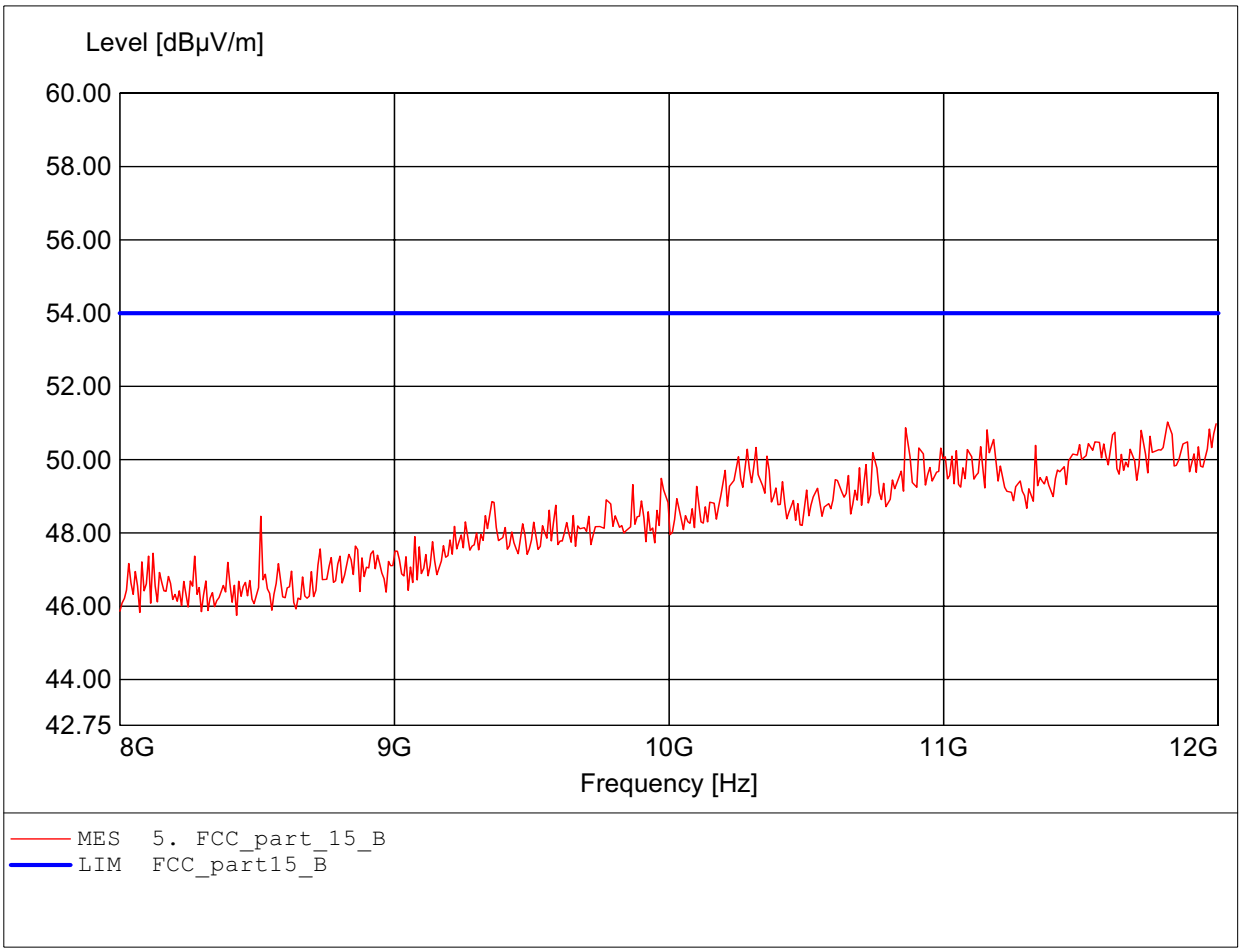
```
Order Number :        W6M20701-7746          ( low channel )
Test Site / Operator: ETS / Charles
Temperature::         Temp.: 23.9°C
                      according to subpart B
Comment 1:            Dist.: 3m, Ant.: HL25, ampl.
                      Freq:11.503GHz Emax:51.32dBµV/m RBW: 1 MHz
```



Field Strength under normal conditions

FCC RULES PART 15, SUBPART B

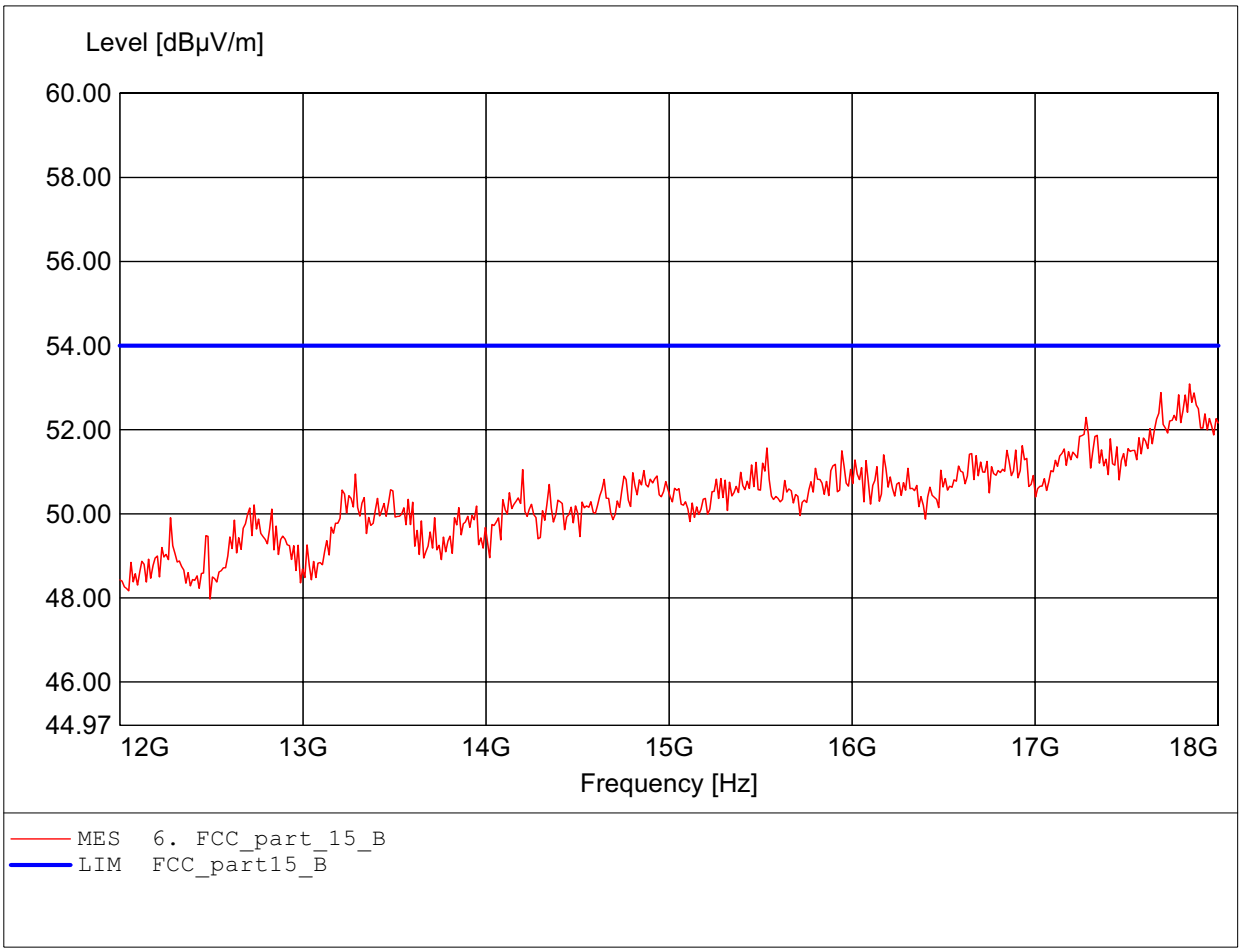
```
Order Number :          W6M20701-7746          ( low channel )
Test Site / Operator: ETS / Charles
Temperature::          Temp.: 23.9°C
                       according to subpart B
Comment 1:             Dist.: 3m, Ant.: HL25, ampl.
                       Freq:11.816GHz Emax:51.03dBµV/m RBW: 1 MHz
```



Field Strength under normal conditions

FCC RULES PART 15, SUBPART B

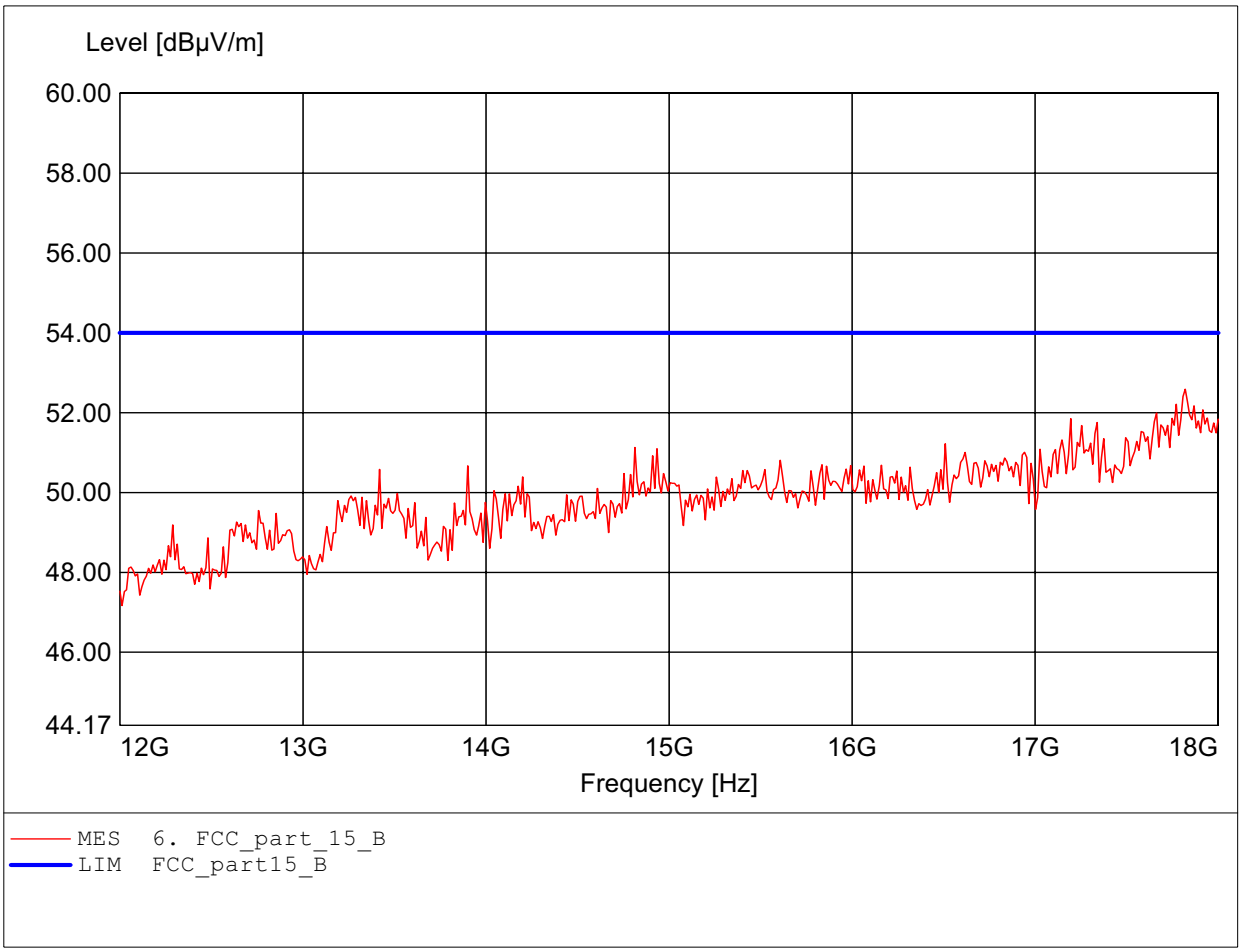
```
Order Number :          W6M20701-7746          ( low channel )
Test Site / Operator: ETS / Charles
Temperature::          Temp.: 23.9°C
                       according to subpart B
Comment 1:             Dist.: 3m, Ant.: HL25, ampl.
                       Freq:17.844GHz Emax:53.09dBµV/m RBW: 1 MHz
```



Field Strength under normal conditions

FCC RULES PART 15, SUBPART B

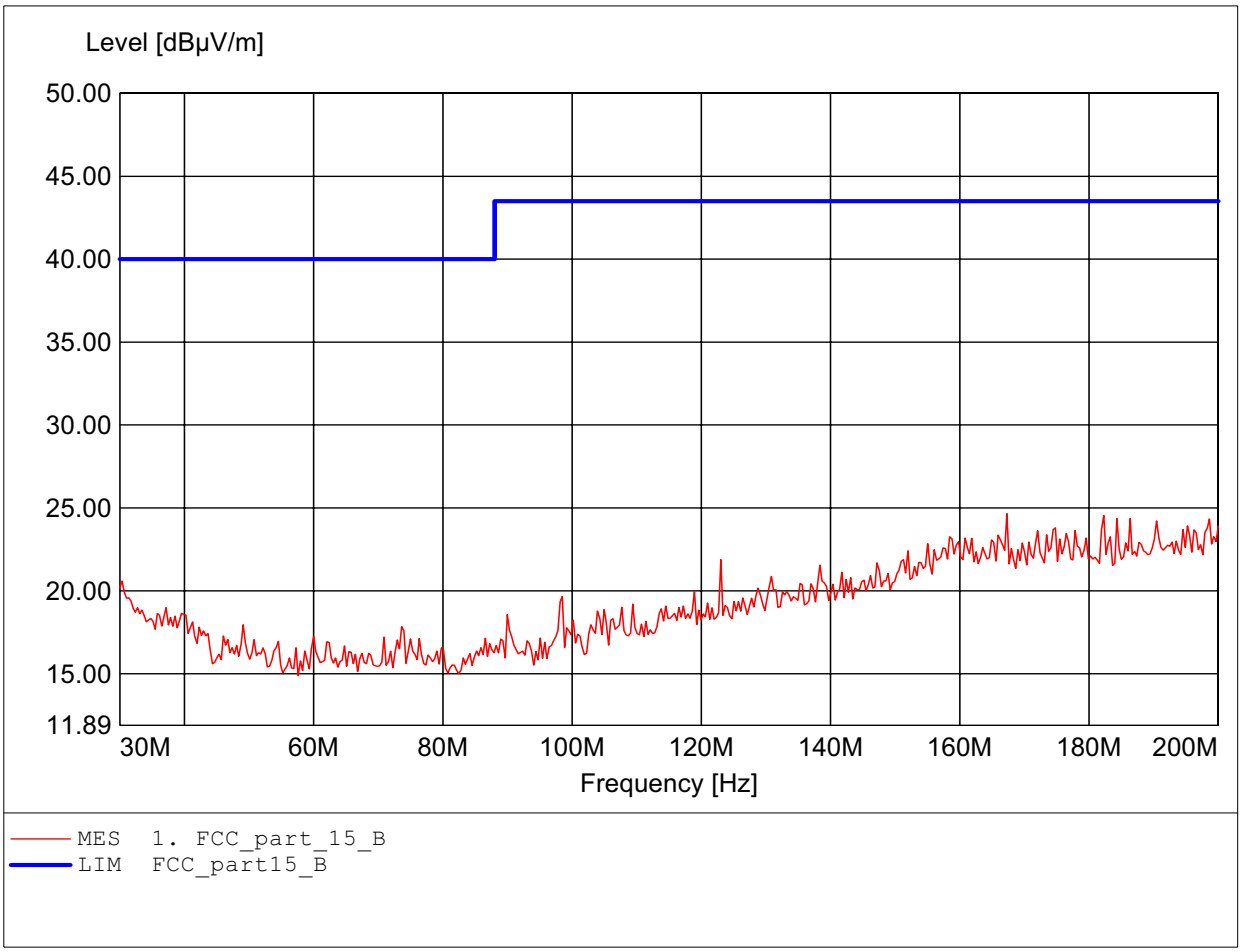
```
Order Number :          W6M20701-7746          ( low channel )
Test Site / Operator:   ETS / Charles
Temperature::           Temp.: 23.9°C
                        according to subpart B
Comment 1:              Dist.: 3m, Ant.: HL25, ampl.
                        Freq:17.820GHz Emax:52.59dBµV/m RBW: 1 MHz
```



Field Strength under normal conditions

FCC RULES PART 15, SUBPART B

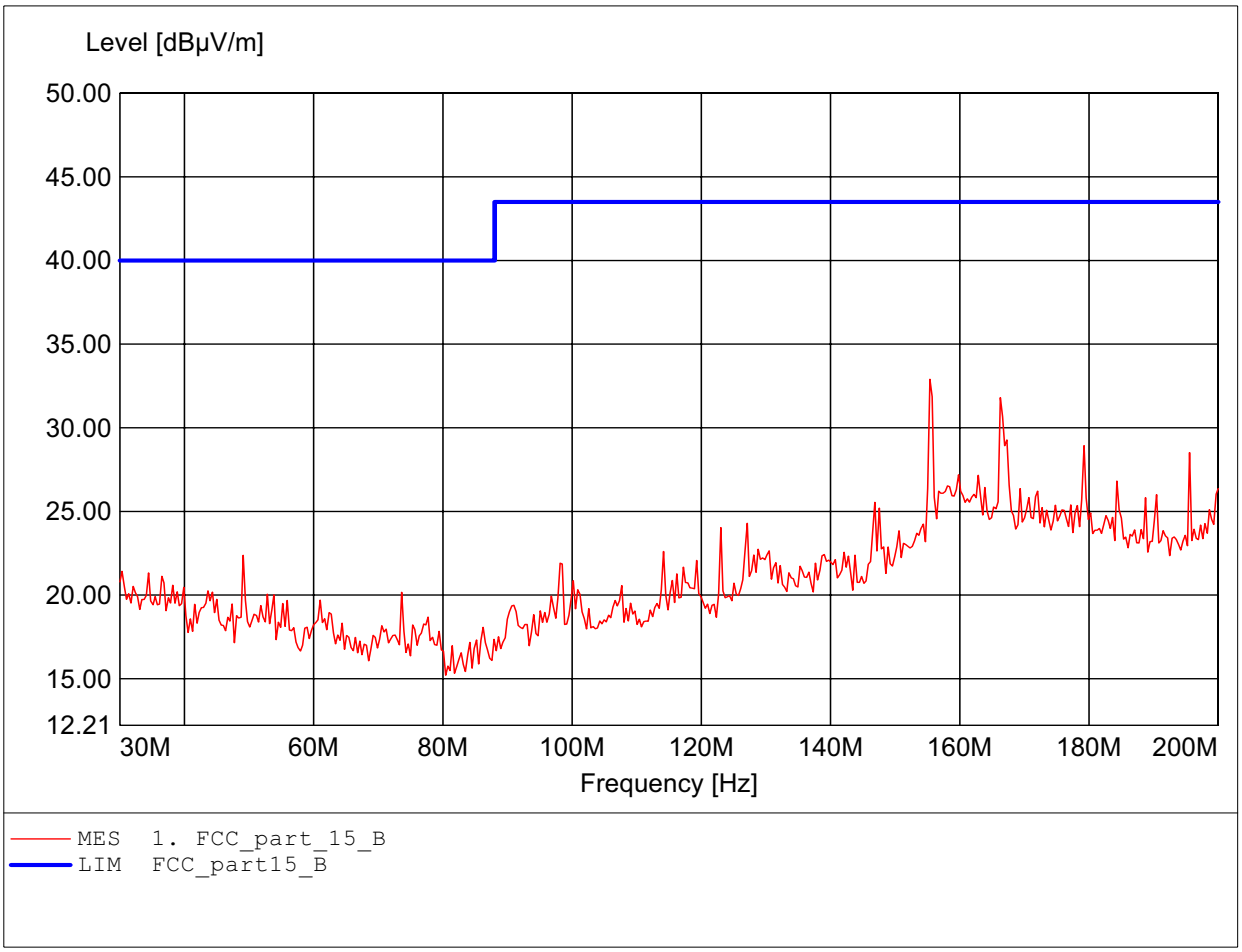
```
Order Number :          W6M20701-7746          ( middle channel )
Test Site / Operator:   ETS / Charles
Temperature::           Temp.: 23.9°C
                        according to subpart B
Comment 1:              Dist.: 3m, Ant.: HK 116
                        Freq:167.295MHz Emax:24.65dBµV/m RBW: 100 kHz
```



Field Strength under normal conditions

FCC RULES PART 15, SUBPART B

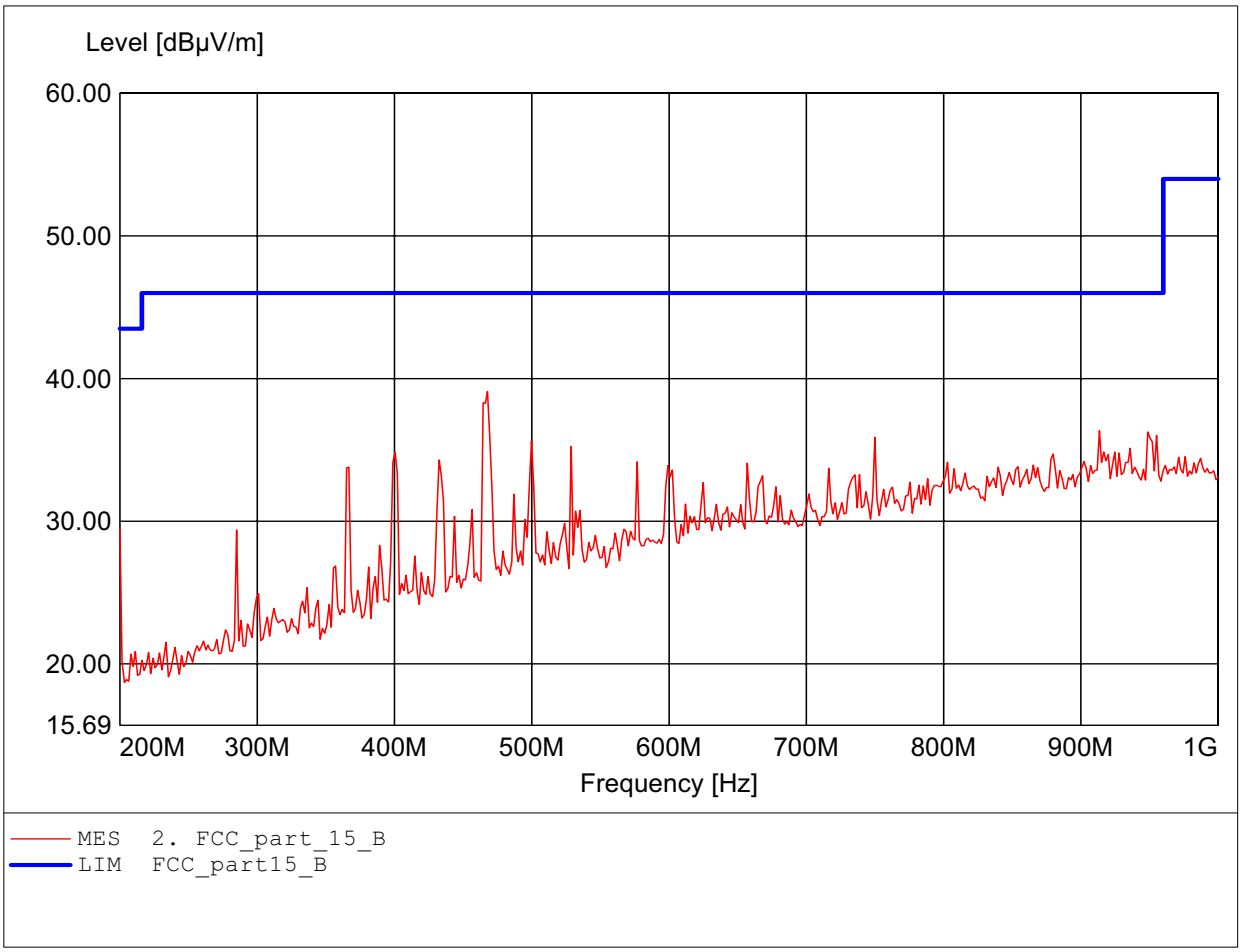
Order Number : W6M20701-7746 (middle channel)
Test Site / Operator: ETS / Charles
Temperature:: Temp.: 23.9°C
according to subpart B
Comment 1: Dist.: 3m, Ant.: HK 116
Freq:155.371MHz Emax:32.89dBµV/m RBW: 100 kHz



Field Strength under normal conditions

FCC RULES PART 15, SUBPART B

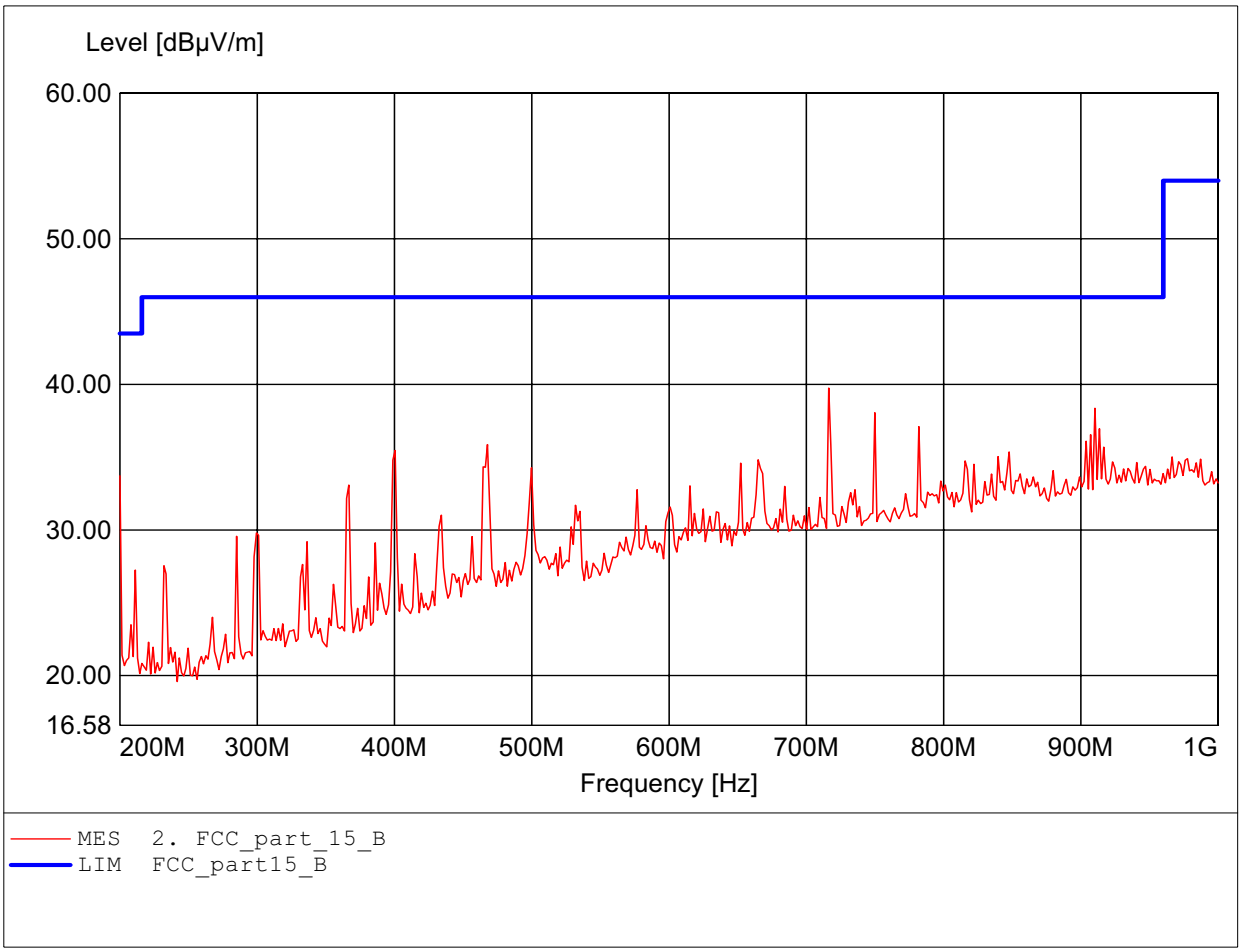
```
Order Number :          W6M20701-7746          ( middle channel )
Test Site / Operator: ETS / Charles
Temperature::          Temp.: 23.9°C
                       according to subpart B
Comment 1:             Dist.: 3m, Ant.: HL 223, ampl.
                       Freq:467.735MHz Emax:39.11dBµV/m RBW: 100 kHz
```



Field Strength under normal conditions

FCC RULES PART 15, SUBPART B

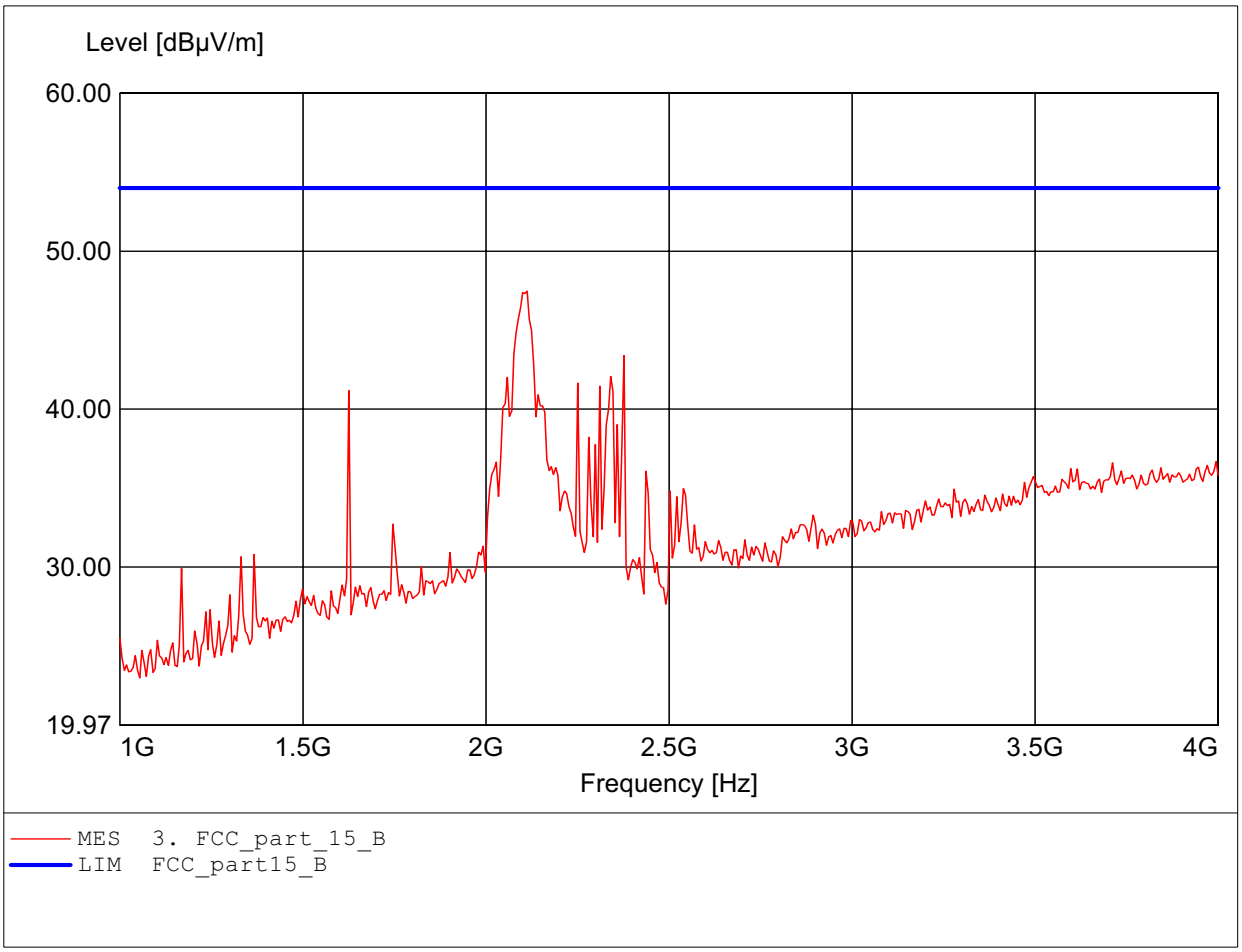
```
Order Number :          W6M20701-7746          ( middle channel )
Test Site / Operator: ETS / Charles
Temperature::          Temp.: 23.9°C
                       according to subpart B
Comment 1:             Dist.: 3m, Ant.: HL 223, ampl.
                       Freq:716.232MHz Emax:39.75dBµV/m RBW: 100 kHz
```



Field Strength under normal conditions

FCC RULES PART 15, SUBPART B

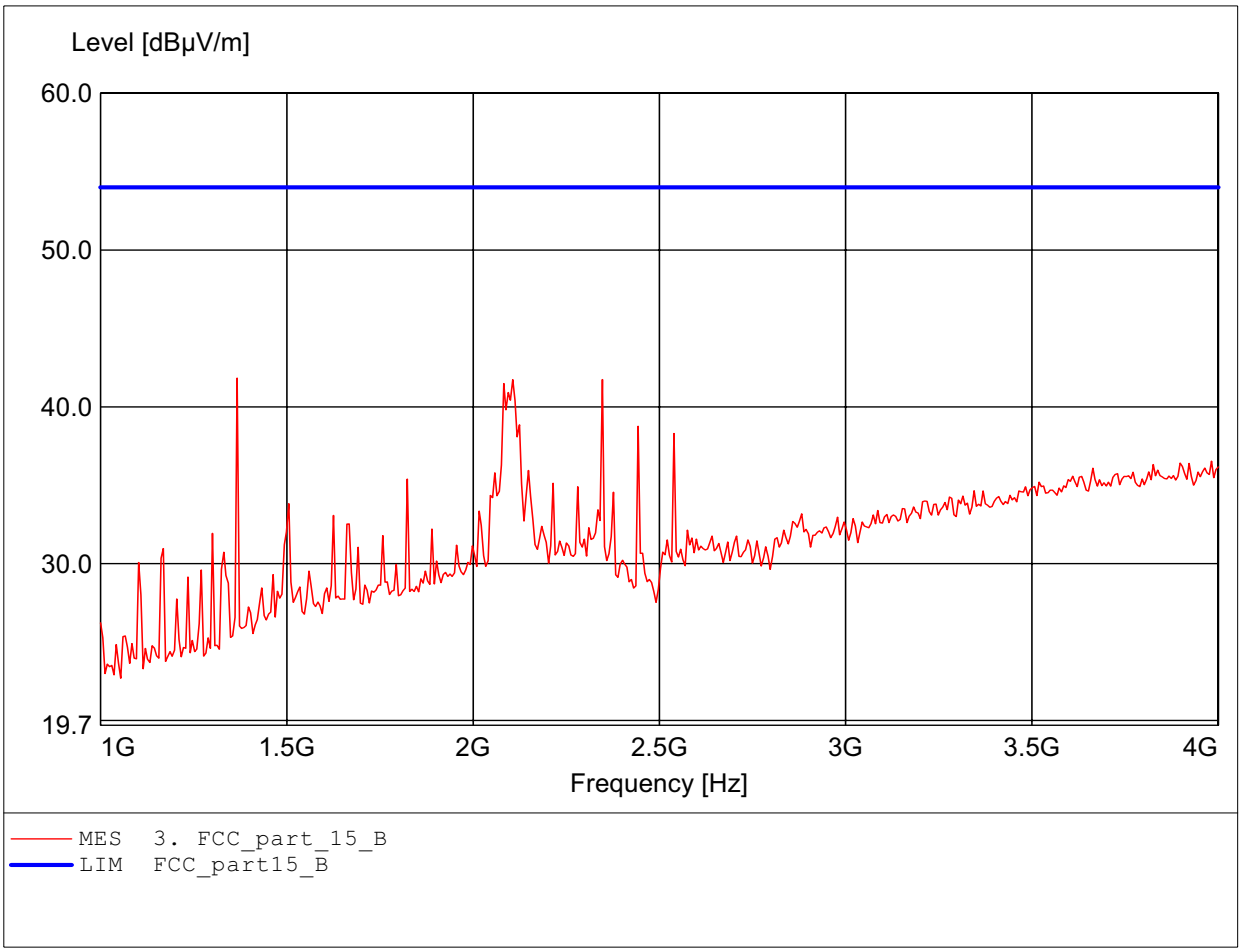
```
Order Number :          W6M20701-7746          ( middle channel )
Test Site / Operator: ETS / Charles
Temperature::          Temp.: 23.9°C
                       according to subpart B
Comment 1:             Dist.: 3m, Ant.: HL25, ampl.
                       Freq:2.112GHz Emax:47.47dBµV/m RBW: 1 MHz
```



Field Strength under normal conditions

FCC RULES PART 15, SUBPART B

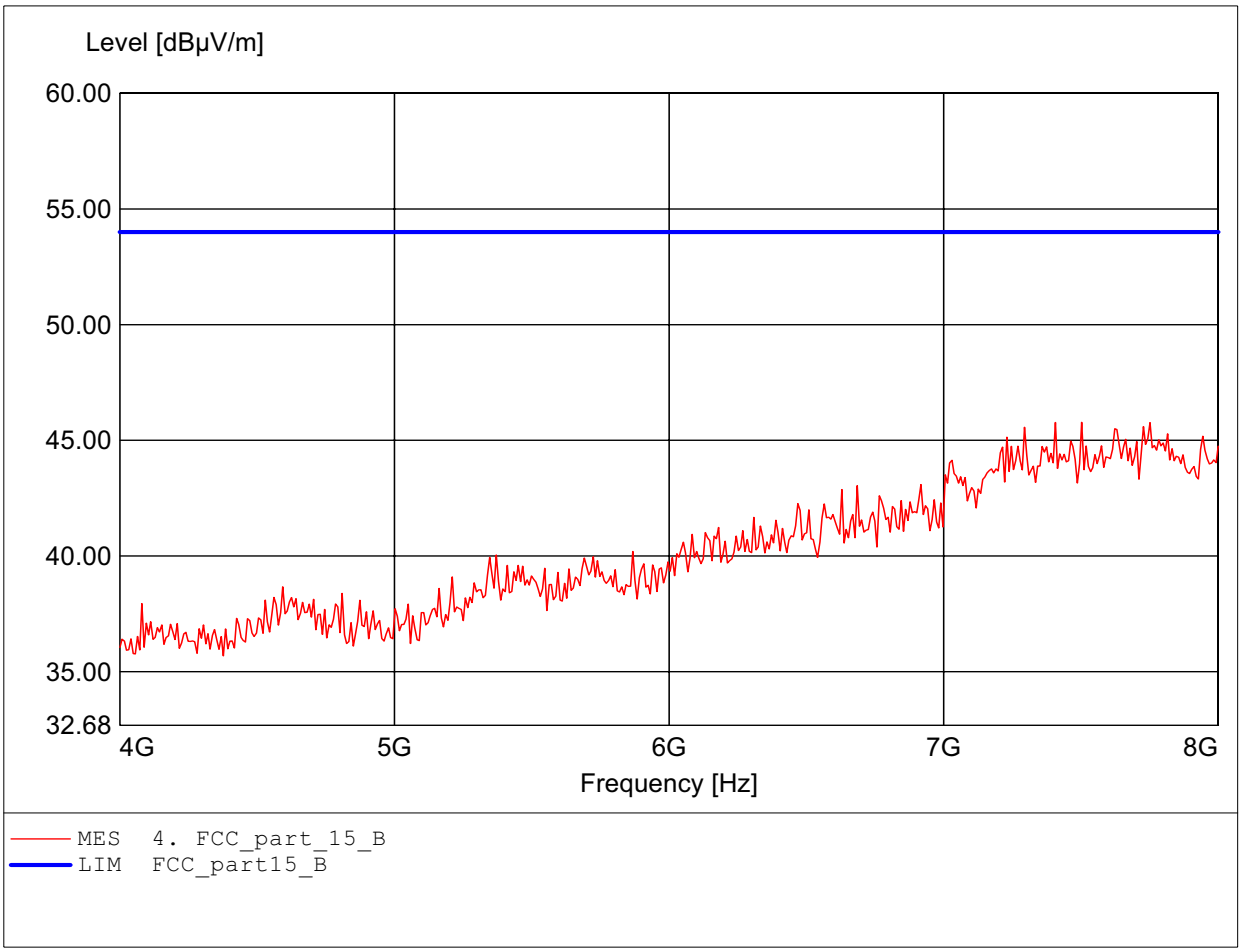
```
Order Number :          W6M20701-7746          ( middle channel )
Test Site / Operator: ETS / Charles
Temperature::          Temp.: 23.9°C
                       according to subpart B
Comment 1:             Dist.: 3m, Ant.: HL25, ampl.
                       Freq:1.367GHz Emax:41.83dBµV/m RBW: 1 MHz
```



Field Strength under normal conditions

FCC RULES PART 15, SUBPART B

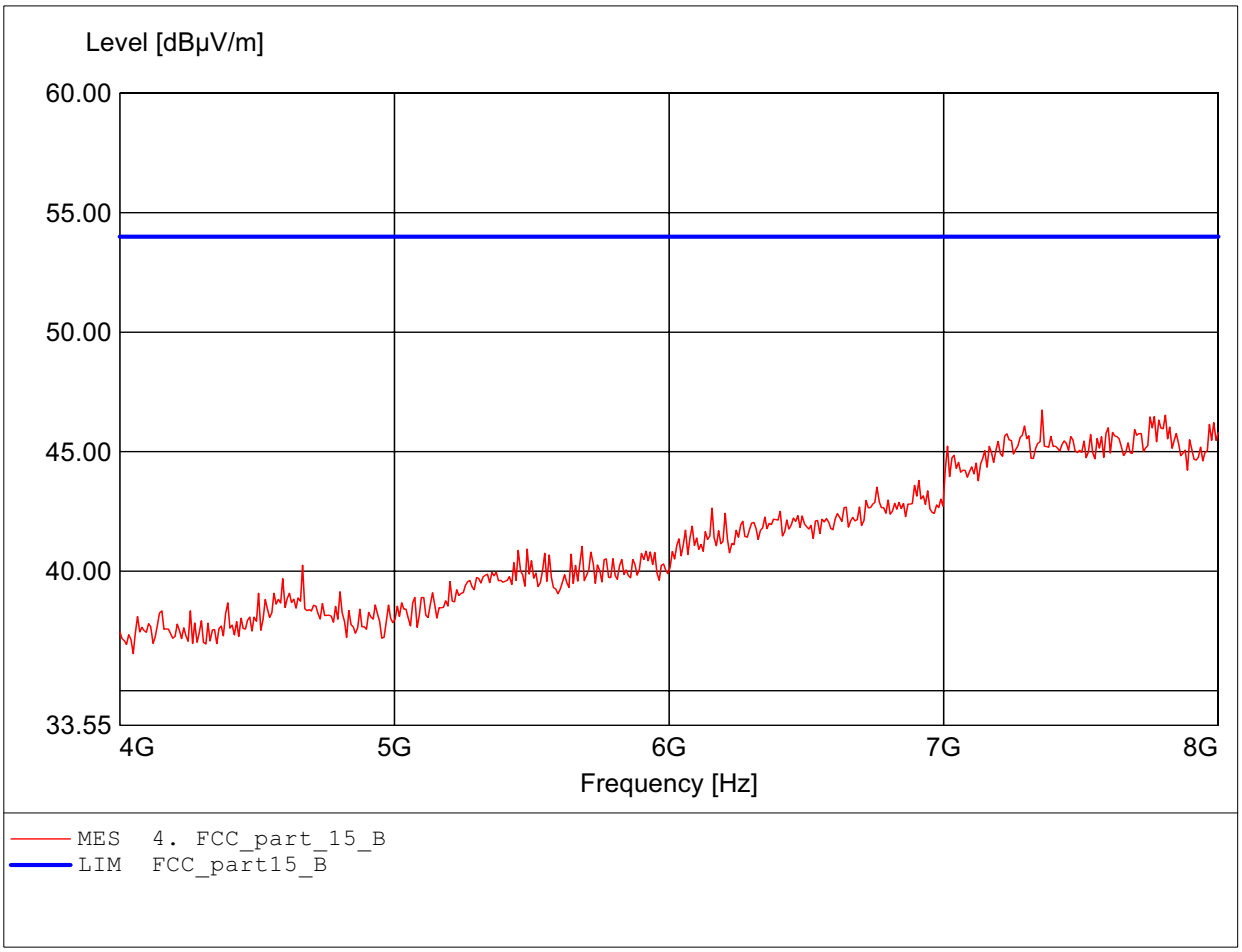
```
Order Number :          W6M20701-7746          ( middle channel )
Test Site / Operator: ETS / Charles
Temperature::          Temp.: 23.9°C
                       according to subpart B
Comment 1:             Dist.: 3m, Ant.: HL25, ampl.
                       Freq:7.503GHz Emax:45.78dBµV/m RBW: 1 MHz
```



Field Strength under normal conditions

FCC RULES PART 15, SUBPART B

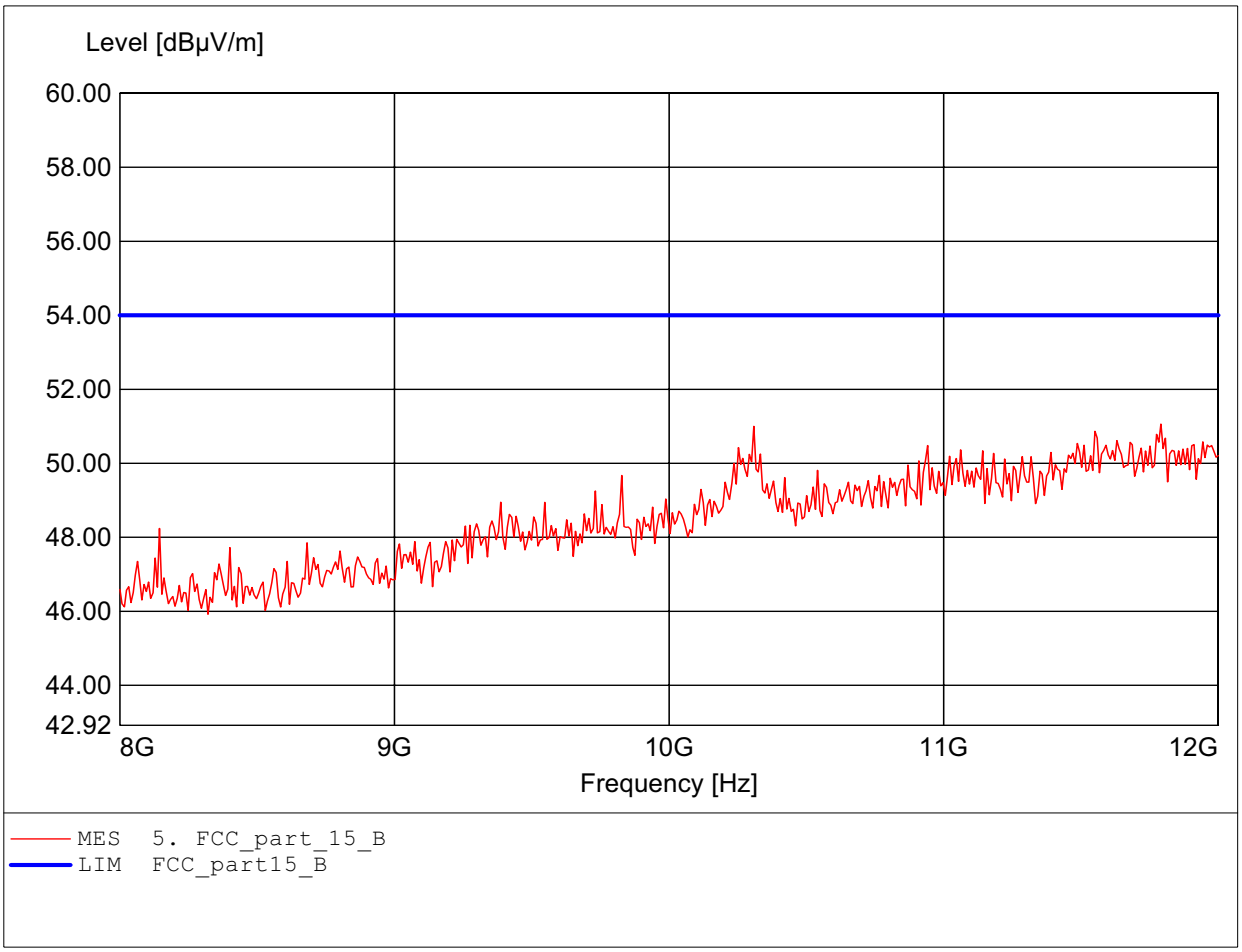
Order Number : W6M20701-7746 (middle channel)
Test Site / Operator: ETS / Charles
Temperature:: Temp.: 23.9°C
according to subpart B
Comment 1: Dist.: 3m, Ant.: HL25, ampl.
Freq:7.359GHz Emax:46.74dBµV/m RBW: 1 MHz



Field Strength under normal conditions

FCC RULES PART 15, SUBPART B

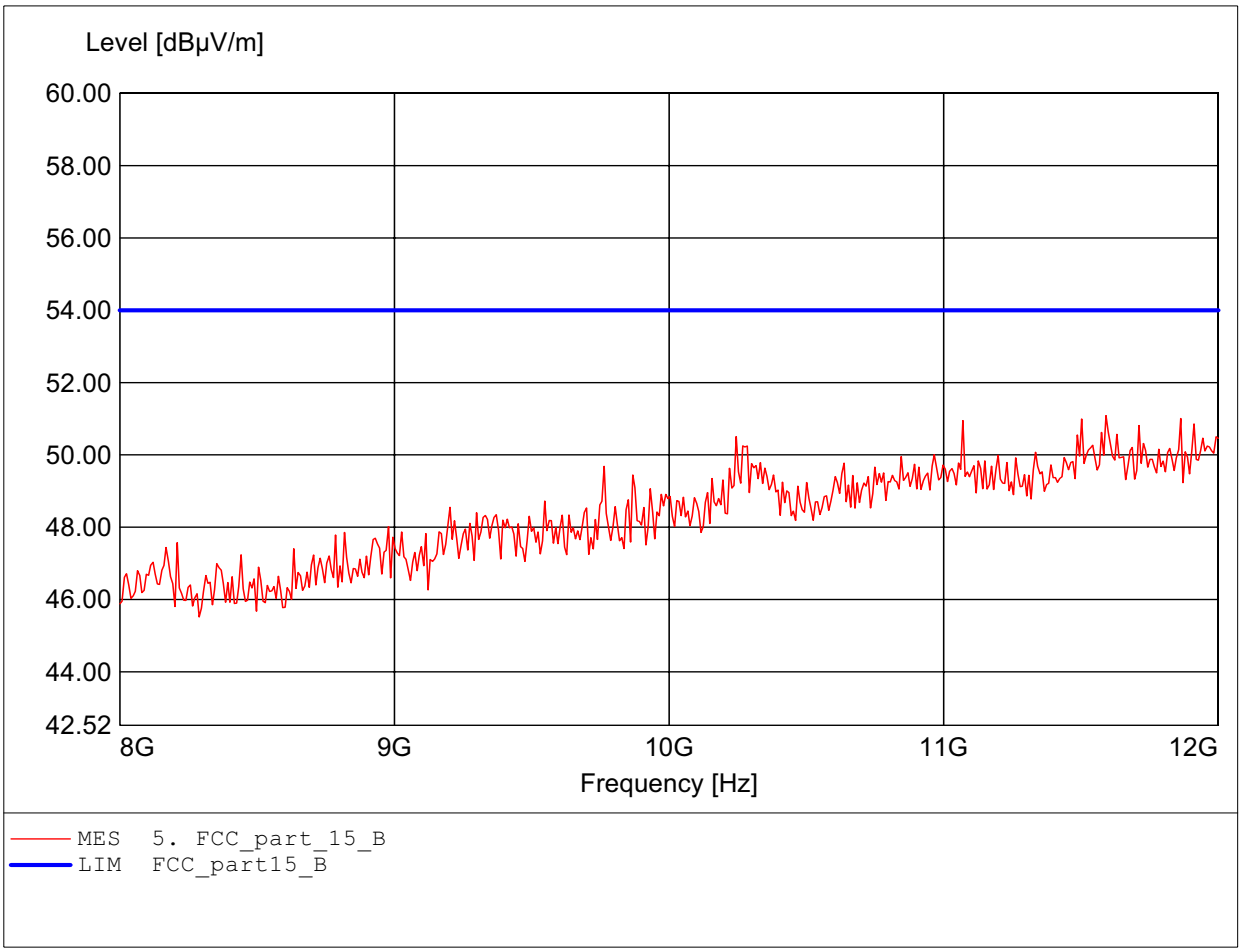
```
Order Number :          W6M20701-7746          ( middle channel )
Test Site / Operator: ETS / Charles
Temperature::          Temp.: 23.9°C
                       according to subpart B
Comment 1:             Dist.: 3m, Ant.: HL25, ampl.
                       Freq:11.792GHz Emax:51.06dBµV/m RBW: 1 MHz
```



Field Strength under normal conditions

FCC RULES PART 15, SUBPART B

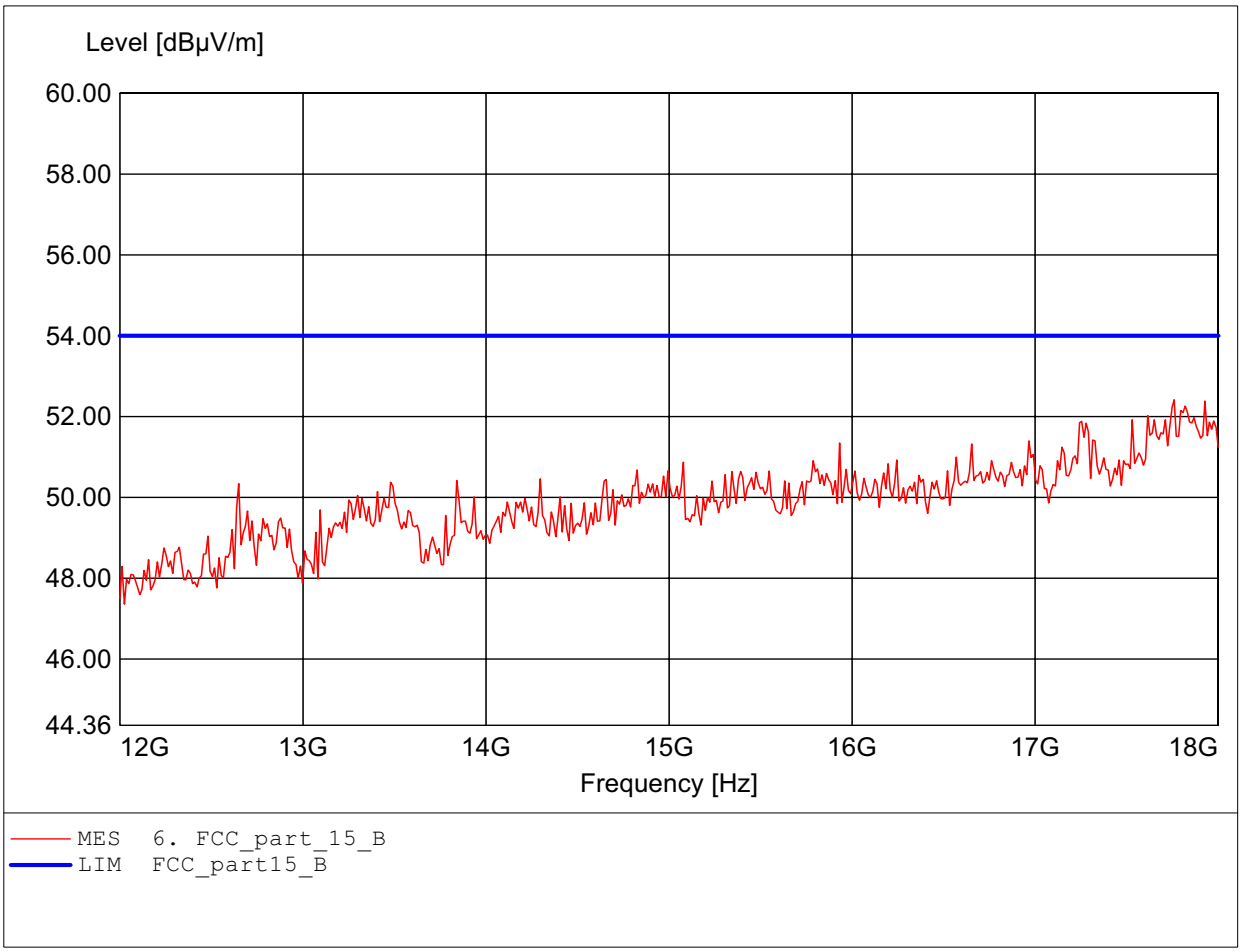
```
Order Number :          W6M20701-7746          ( middle channel )
Test Site / Operator: ETS / Charles
Temperature::          Temp.: 23.9°C
                       according to subpart B
Comment 1:             Dist.: 3m, Ant.: HL25, ampl.
                       Freq:11.591GHz Emax:51.09dBµV/m RBW: 1 MHz
```



Field Strength under normal conditions

FCC RULES PART 15, SUBPART B

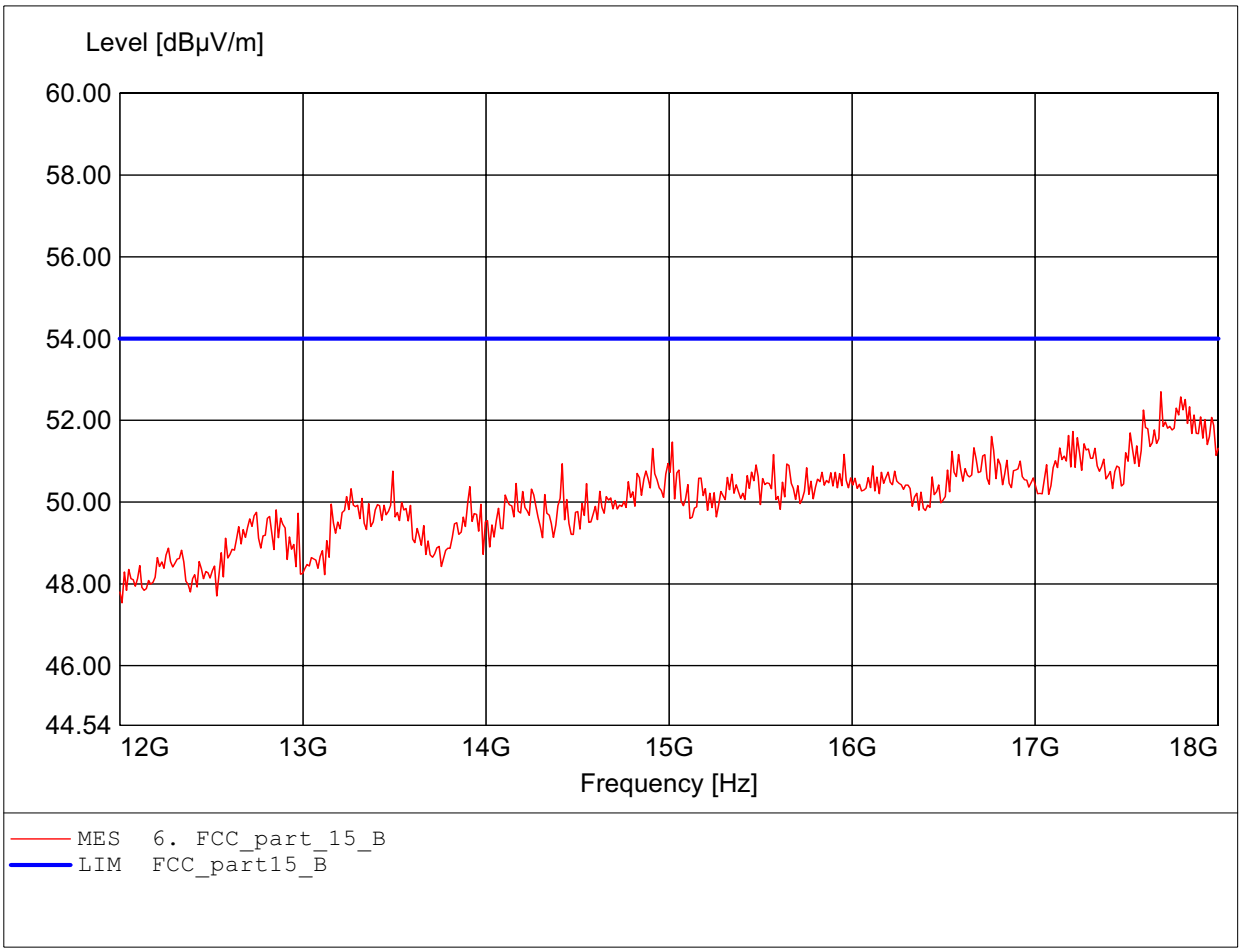
```
Order Number :          W6M20701-7746          ( middle channel )
Test Site / Operator:   ETS / Charles
Temperature::           Temp.: 23.9°C
                        according to subpart B
Comment 1:              Dist.: 3m, Ant.: HL25, ampl.
                        Freq:17.760GHz Emax:52.42dBµV/m RBW: 1 MHz
```



Field Strength under normal conditions

FCC RULES PART 15, SUBPART B

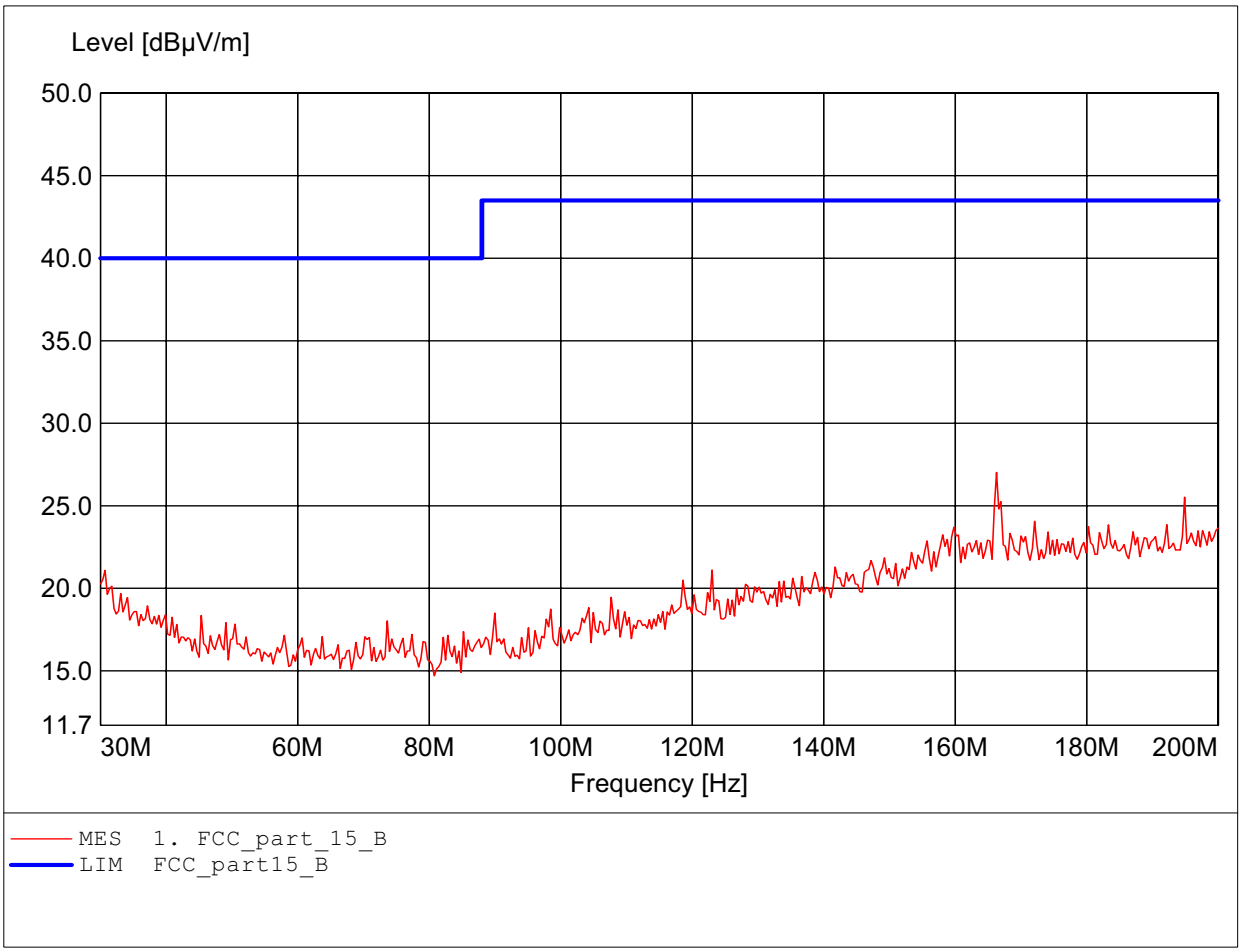
```
Order Number :          W6M20701-7746          ( middle channel )
Test Site / Operator: ETS / Charles
Temperature::          Temp.: 23.9°C
                       according to subpart B
Comment 1:             Dist.: 3m, Ant.: HL25, ampl.
                       Freq:17.687GHz Emax:52.70dBµV/m RBW: 1 MHz
```



Field Strength under normal conditions

FCC RULES PART 15, SUBPART B

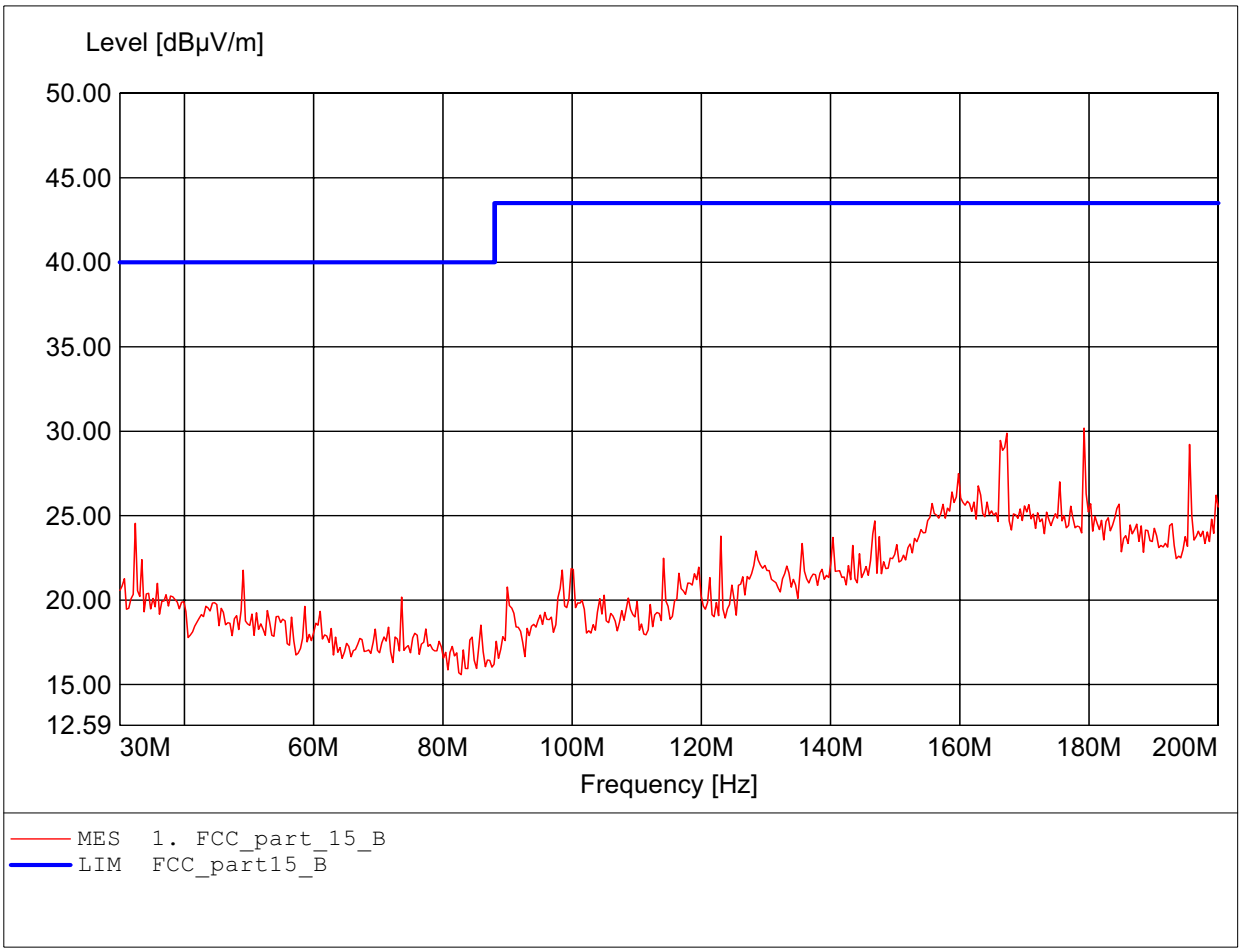
```
Order Number :          W6M20701-7746          ( high channel )
Test Site / Operator:   ETS / Charles
Temperature::           Temp.: 23.9°C
                        according to subpart B
Comment 1:              Dist.: 3m, Ant.: HK 116
                        Freq:166.273MHz Emax:27.02dBµV/m RBW: 100 kHz
```



Field Strength under normal conditions

FCC RULES PART 15, SUBPART B

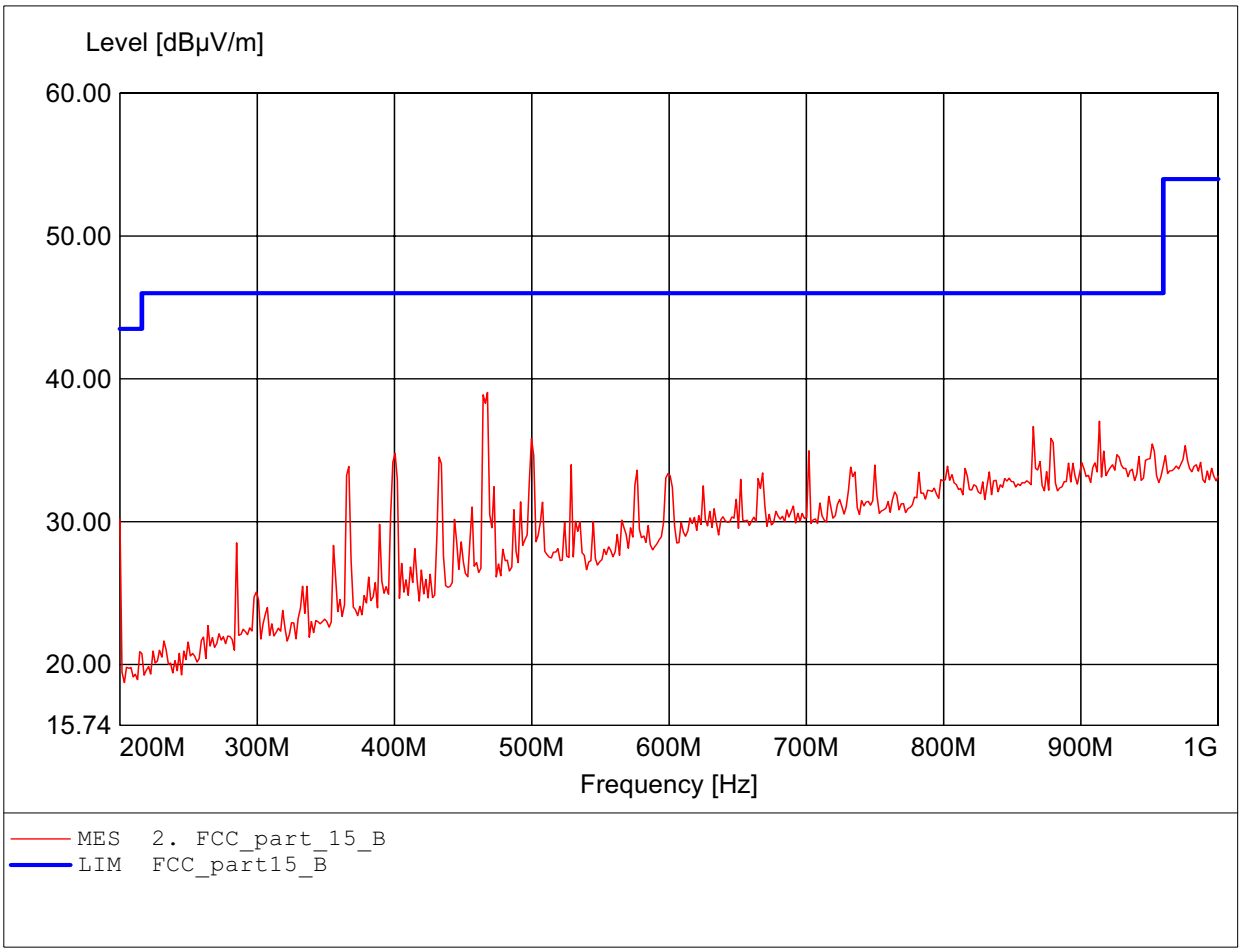
```
Order Number :          W6M20701-7746          ( high channel )
Test Site / Operator:   ETS / Charles
Temperature::           Temp.: 23.9°C
                        according to subpart B
Comment 1:              Dist.: 3m, Ant.: HK 116
                        Freq:179.218MHz Emax:30.18dBµV/m RBW: 100 kHz
```



Field Strength under normal conditions

FCC RULES PART 15, SUBPART B

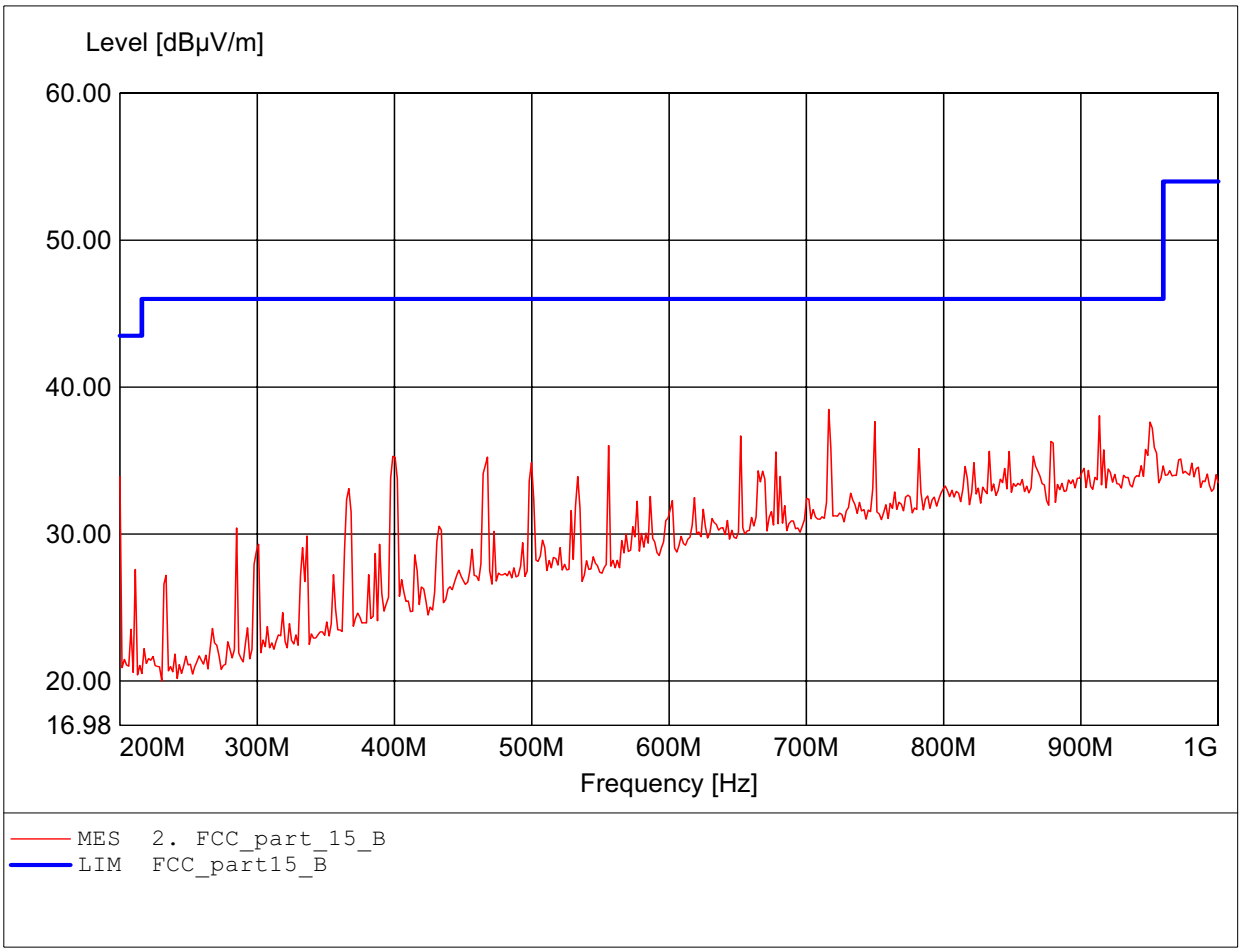
```
Order Number :          W6M20701-7746          ( high channel )
Test Site / Operator: ETS / Charles
Temperature::          Temp.: 23.9°C
                       according to subpart B
Comment 1:             Dist.: 3m, Ant.: HL 223, ampl.
                       Freq:467.735MHz Emax:39.05dBµV/m RBW: 100 kHz
```



Field Strength under normal conditions

FCC RULES PART 15, SUBPART B

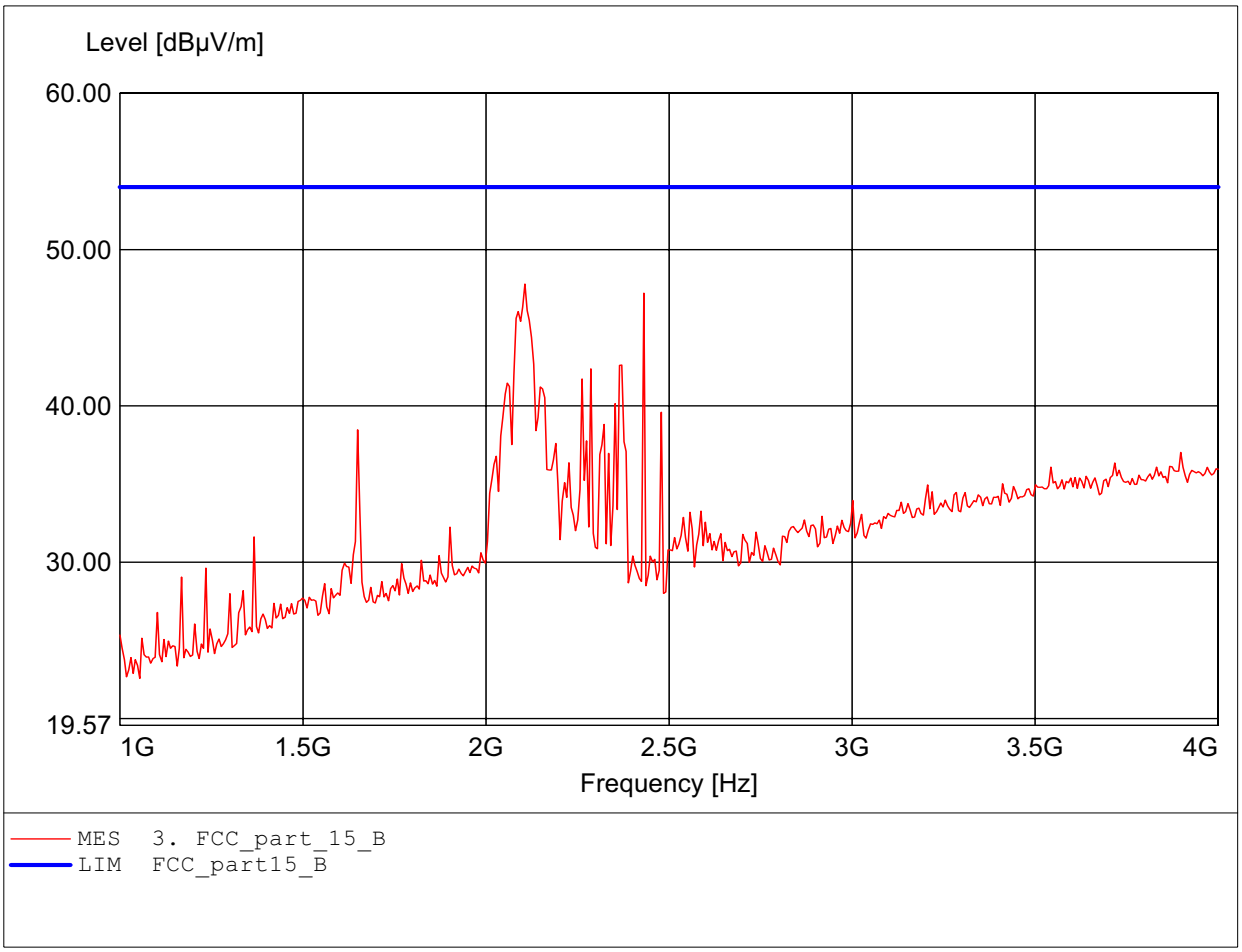
Order Number :	W6M20701-7746	(high channel)
Test Site / Operator:	ETS / Charles	
Temperature::	Temp.: 23.9°C	
	according to subpart B	
Comment 1:	Dist.: 3m, Ant.: HL 223, ampl.	
	Freq:716.232MHz Emax:38.49dBµV/m RBW: 100 kHz	



Field Strength under normal conditions

FCC RULES PART 15, SUBPART B

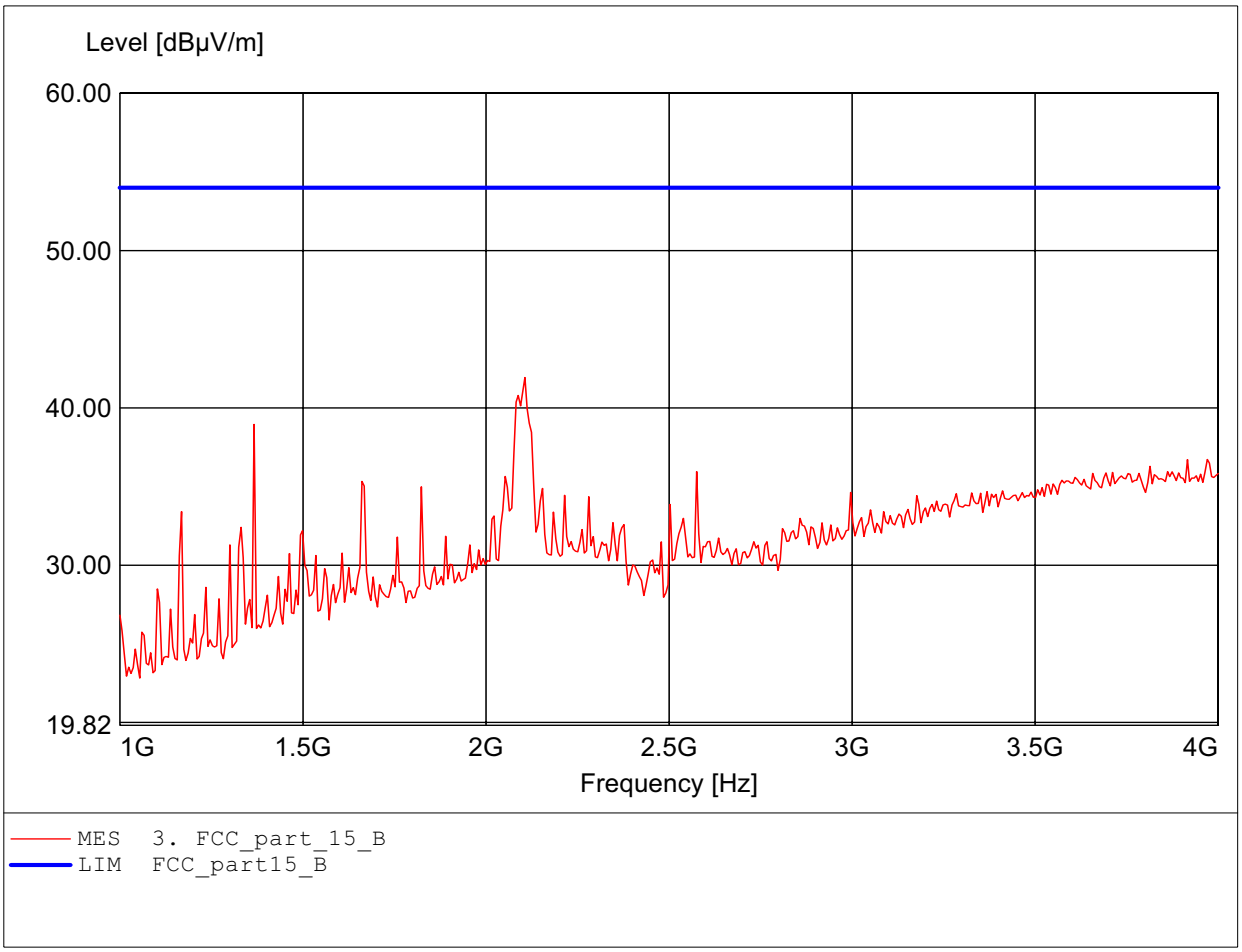
```
Order Number :          W6M20701-7746          ( high channel )
Test Site / Operator: ETS / Charles
Temperature::          Temp.: 23.9°C
                       according to subpart B
Comment 1:             Dist.: 3m, Ant.: HL25, ampl.
                       Freq:2.106GHz Emax:47.80dBµV/m RBW: 1 MHz
```



Field Strength under normal conditions

FCC RULES PART 15, SUBPART B

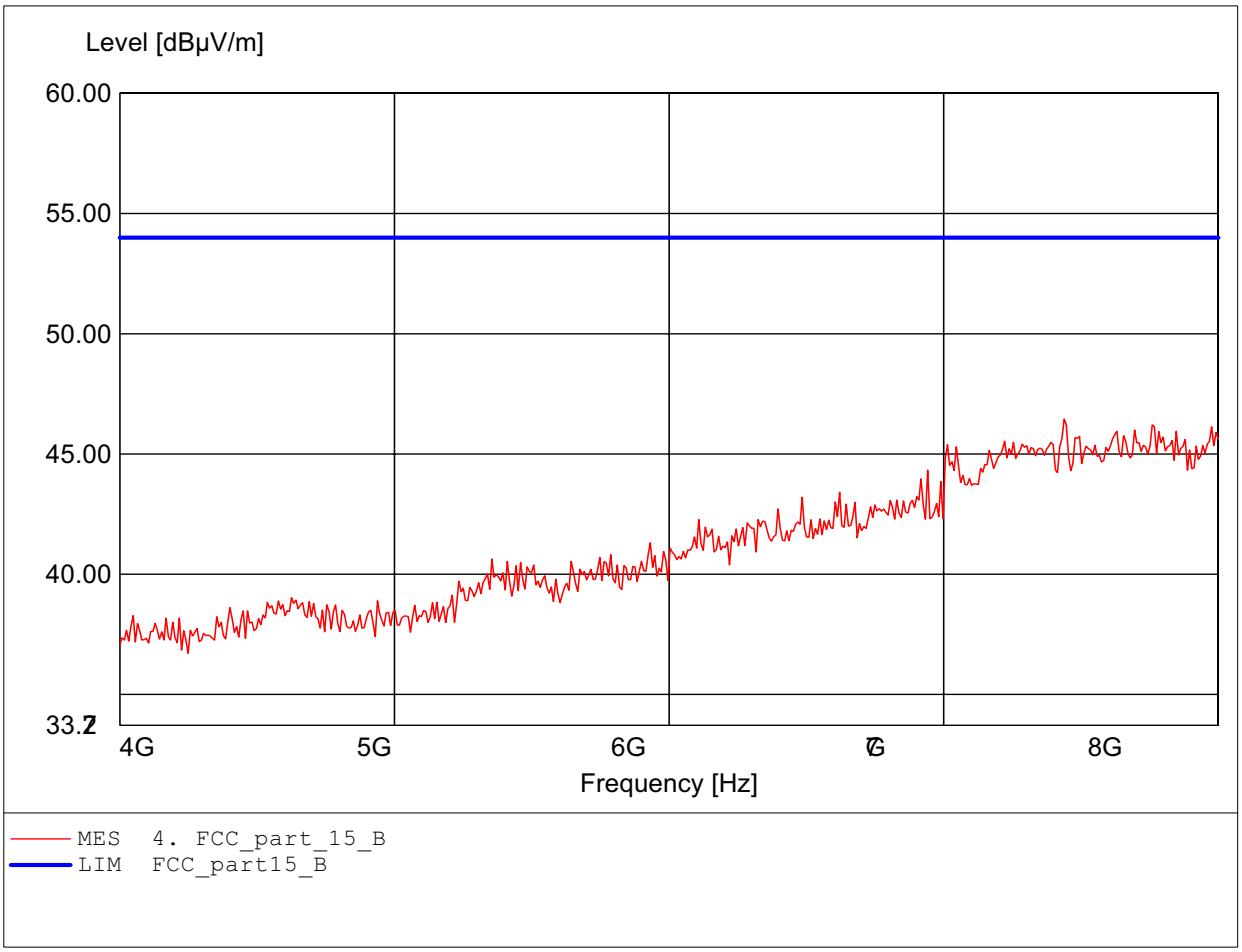
```
Order Number :          W6M20701-7746          ( high channel )
Test Site / Operator: ETS / Charles
Temperature::          Temp.: 23.9°C
                       according to subpart B
Comment 1:             Dist.: 3m, Ant.: HL25, ampl.
                       Freq:2.106GHz Emax:41.93dBµV/m RBW: 1 MHz
```



Field Strength under normal conditions

FCC RULES PART 15, SUBPART B

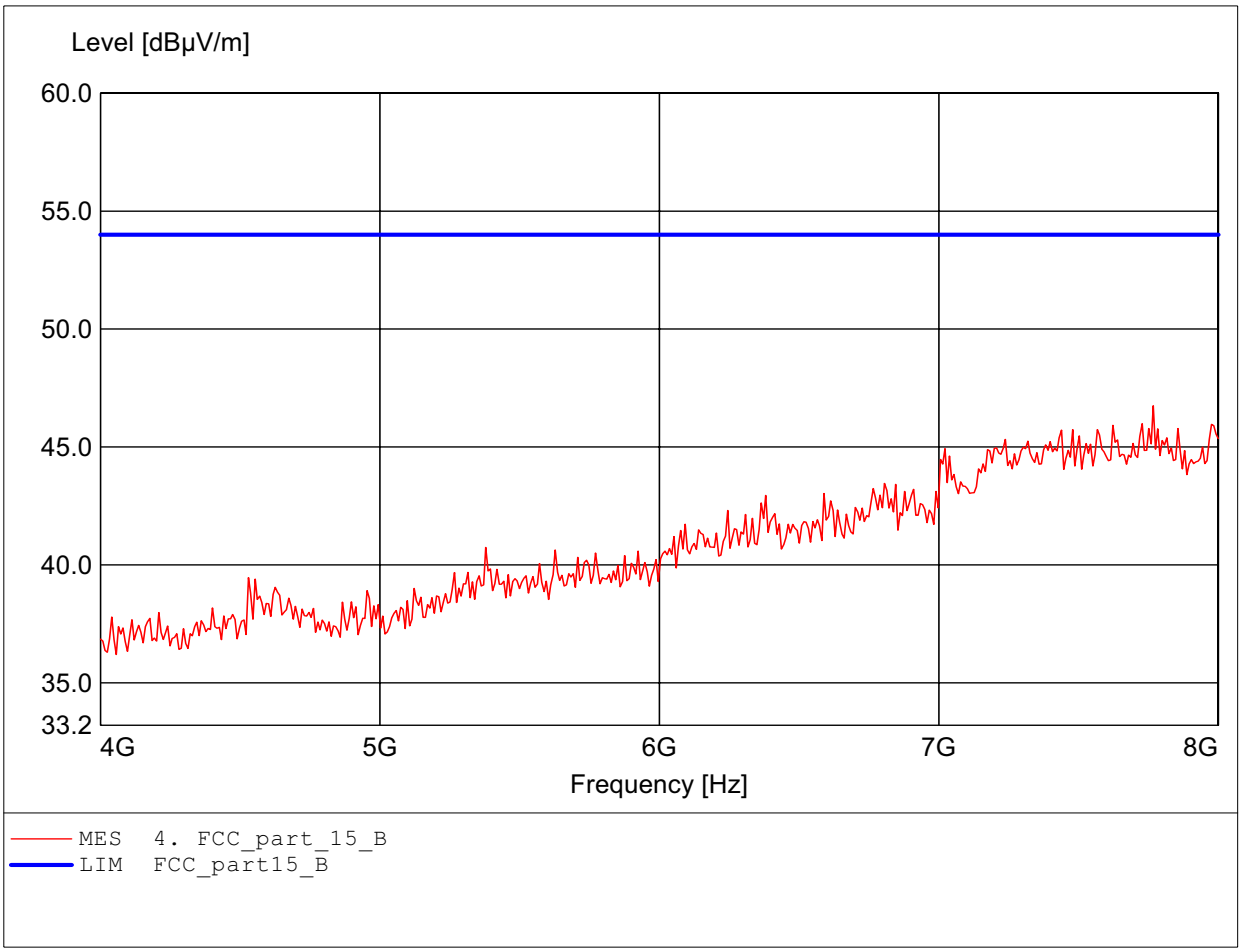
```
Order Number :        W6M20701-7746          ( high channel )
Test Site / Operator: ETS / Charles
Temperature::         Temp.: 23.9°C
                      according to subpart B
Comment 1:            Dist.: 3m, Ant.: HL25, ampl.
                      Freq:7.439GHz Emax:46.46dBµV/m RBW: 1 MHz
```



Field Strength under normal conditions

FCC RULES PART 15, SUBPART B

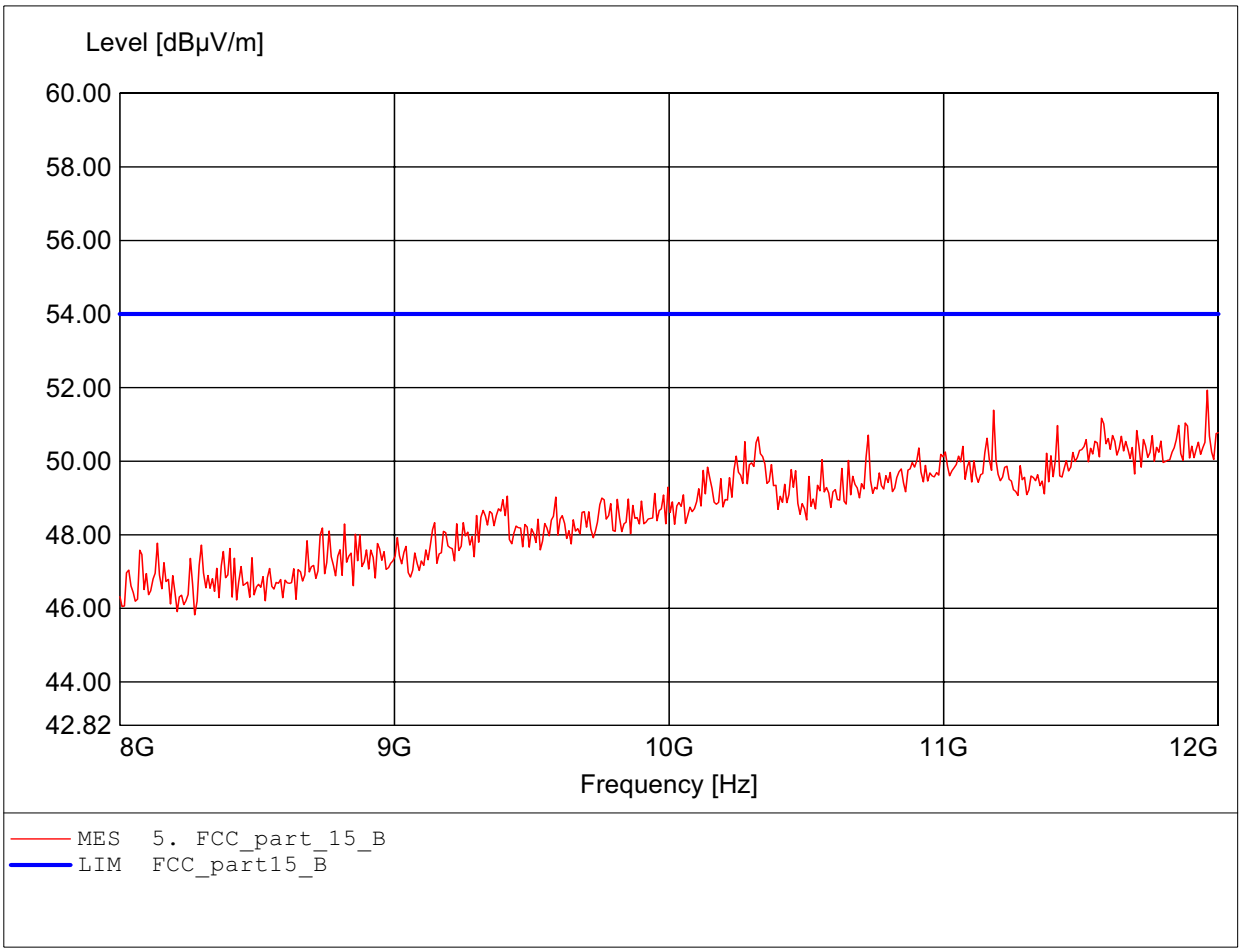
Order Number :	W6M20701-7746	(high channel)
Test Site / Operator:	ETS / Charles	
Temperature::	Temp.: 23.9°C	
	according to subpart B	
Comment 1:	Dist.: 3m, Ant.: HL25, ampl.	
	Freq:7.768GHz Emax:46.74dBµV/m RBW: 1 MHz	



Field Strength under normal conditions

FCC RULES PART 15, SUBPART B

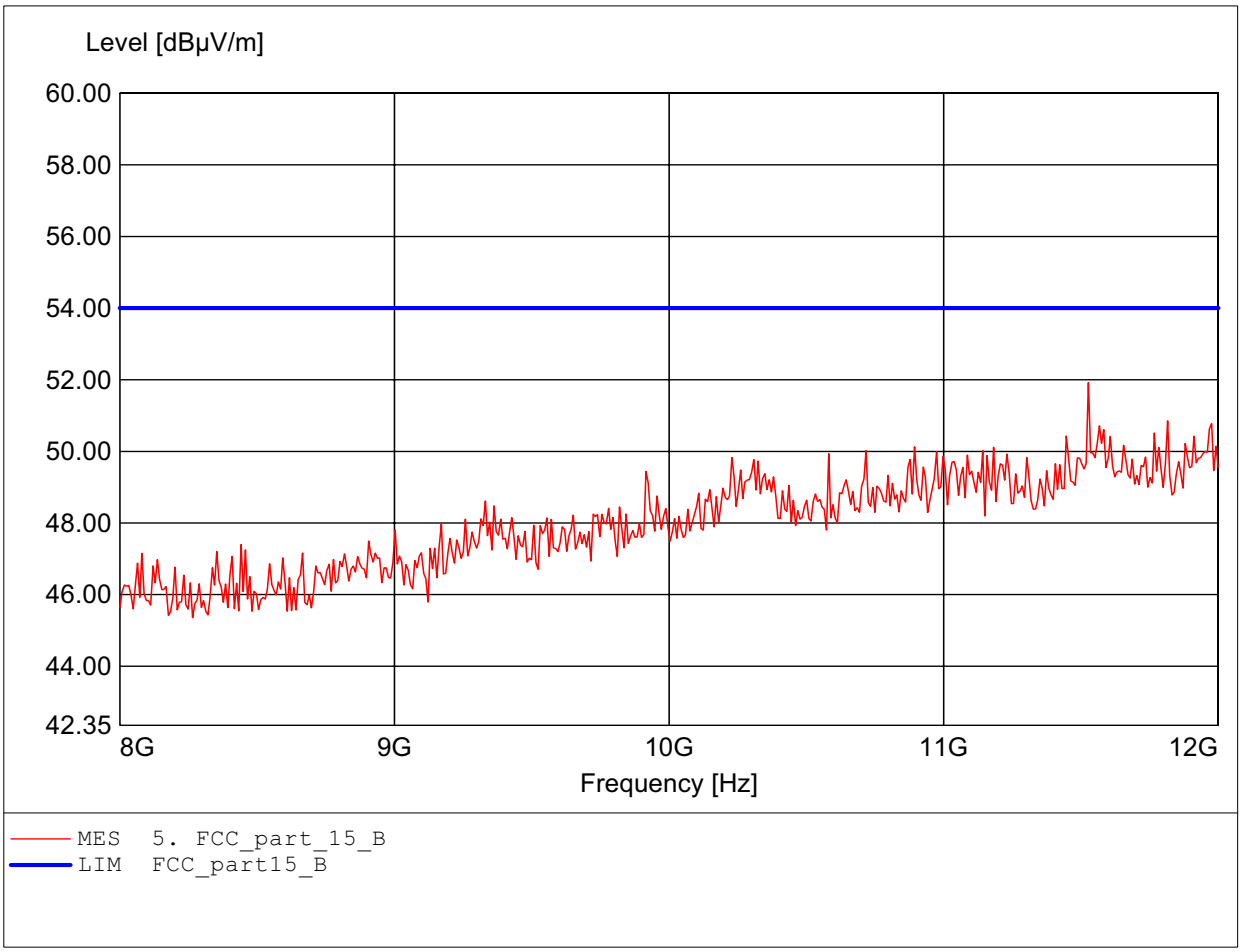
```
Order Number :          W6M20701-7746          ( high channel )
Test Site / Operator: ETS / Charles
Temperature::          Temp.: 23.9°C
                       according to subpart B
Comment 1:             Dist.: 3m, Ant.: HL25, ampl.
                       Freq:11.960GHz Emax:51.93dBµV/m RBW: 1 MHz
```



Field Strength under normal conditions

FCC RULES PART 15, SUBPART B

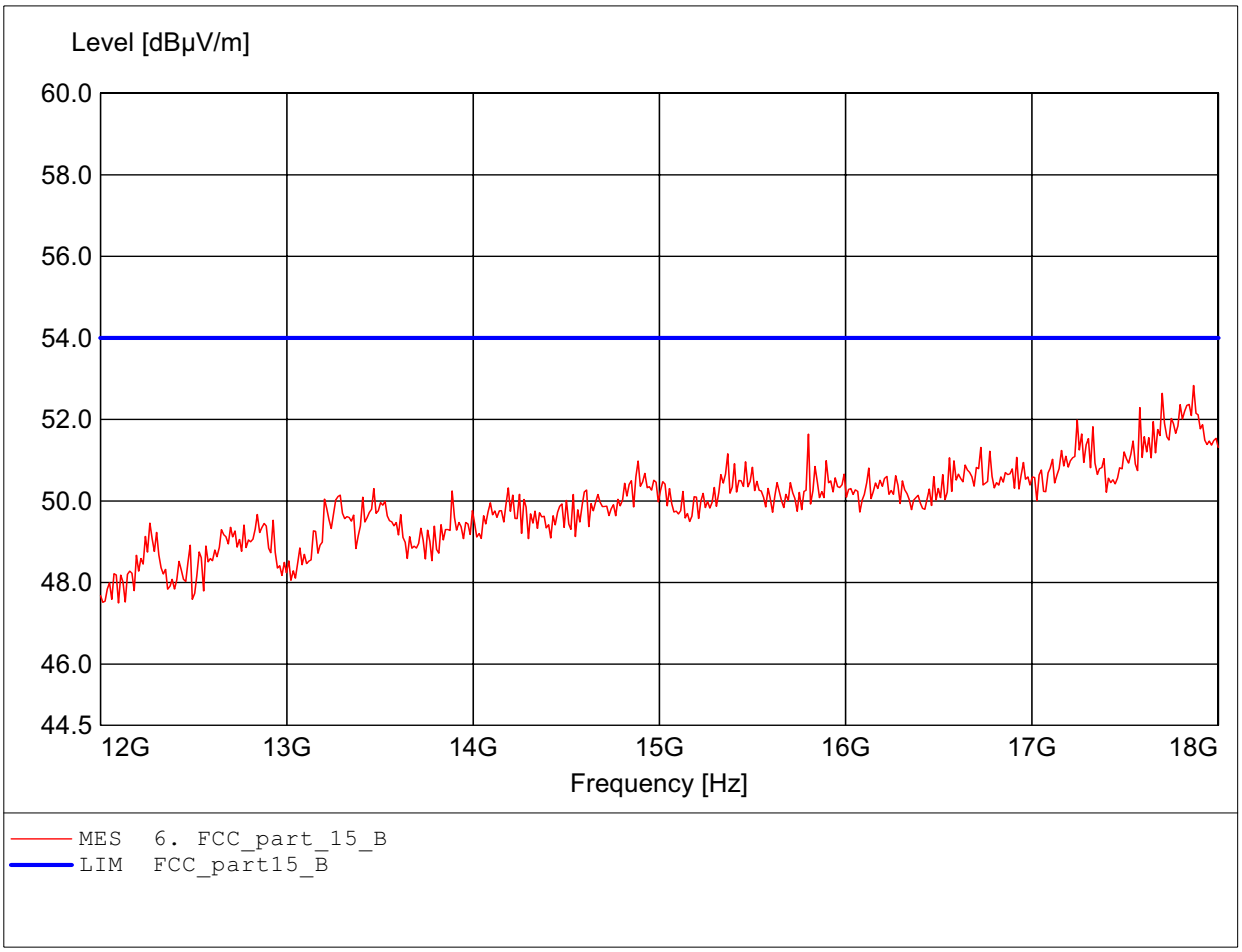
```
Order Number :          W6M20701-7746          ( high channel )
Test Site / Operator: ETS / Charles
Temperature::          Temp.: 23.9°C
                       according to subpart B
Comment 1:             Dist.: 3m, Ant.: HL25, ampl.
                       Freq:11.527GHz Emax:51.92dBµV/m RBW: 1 MHz
```



Field Strength under normal conditions

FCC RULES PART 15, SUBPART B

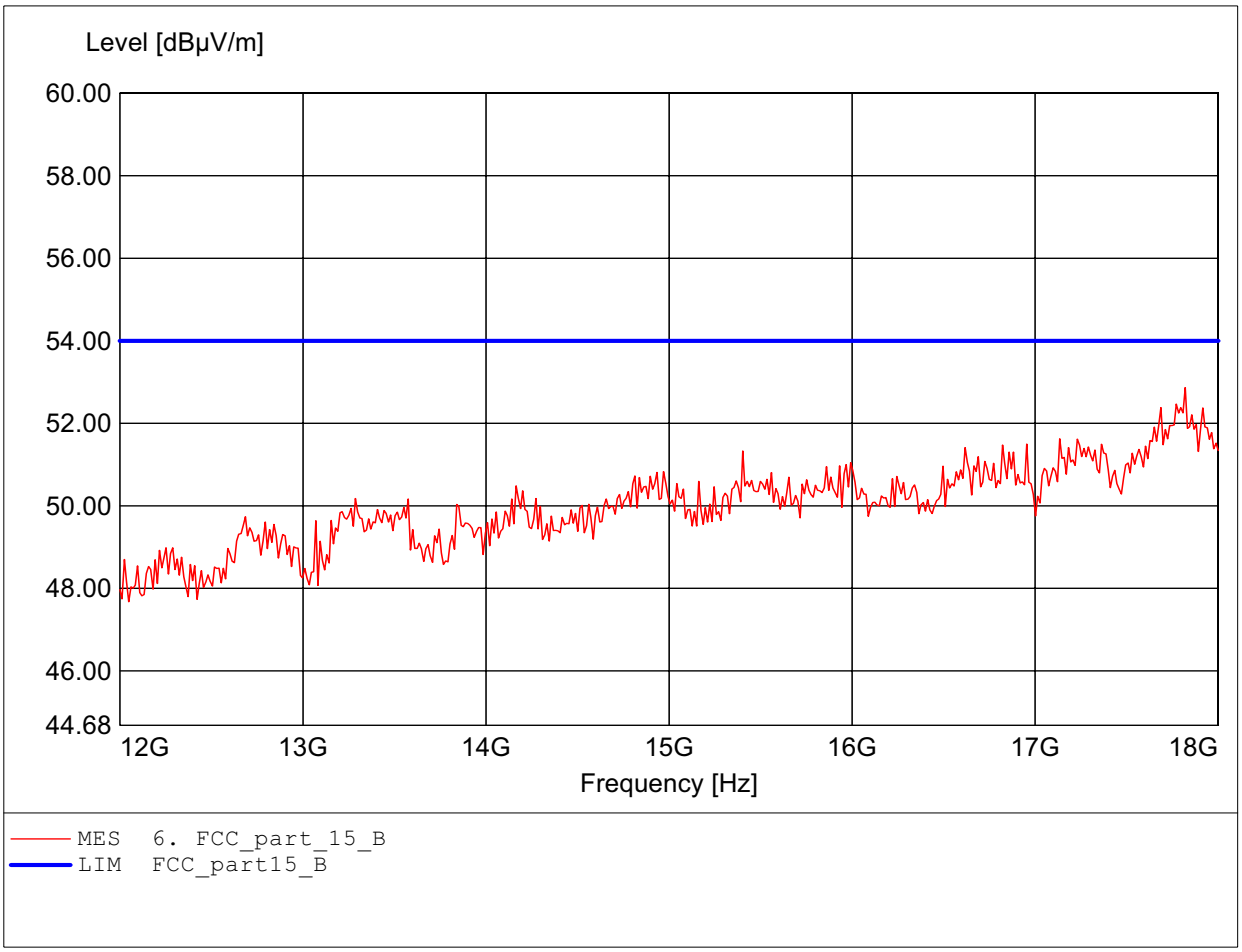
```
Order Number :          W6M20701-7746          ( high channel )
Test Site / Operator:   ETS / Charles
Temperature::           Temp.: 23.9°C
                        according to subpart B
Comment 1:              Dist.: 3m, Ant.: HL25, ampl.
                        Freq:17.868GHz Emax:52.83dBµV/m RBW: 1 MHz
```



Field Strength under normal conditions

FCC RULES PART 15, SUBPART B

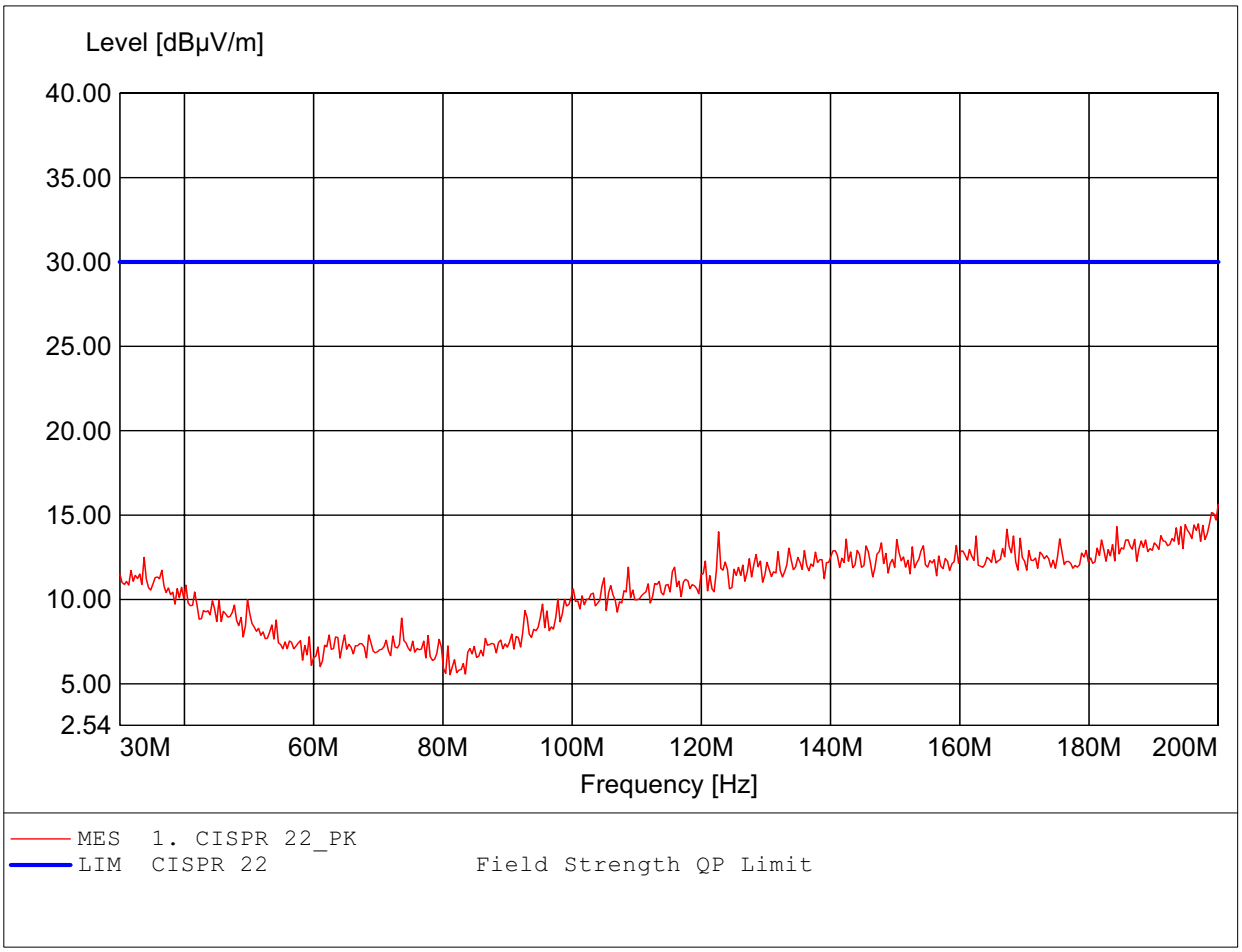
```
Order Number :          W6M20701-7746          ( high channel )
Test Site / Operator:   ETS / Charles
Temperature::           Temp.: 23.9°C
                        according to subpart B
Comment 1:              Dist.: 3m, Ant.: HL25, ampl.
                        Freq:17.820GHz Emax:52.87dBµV/m RBW: 1 MHz
```



Spurious emissions under normal conditions

in accordance to the CISPR 22

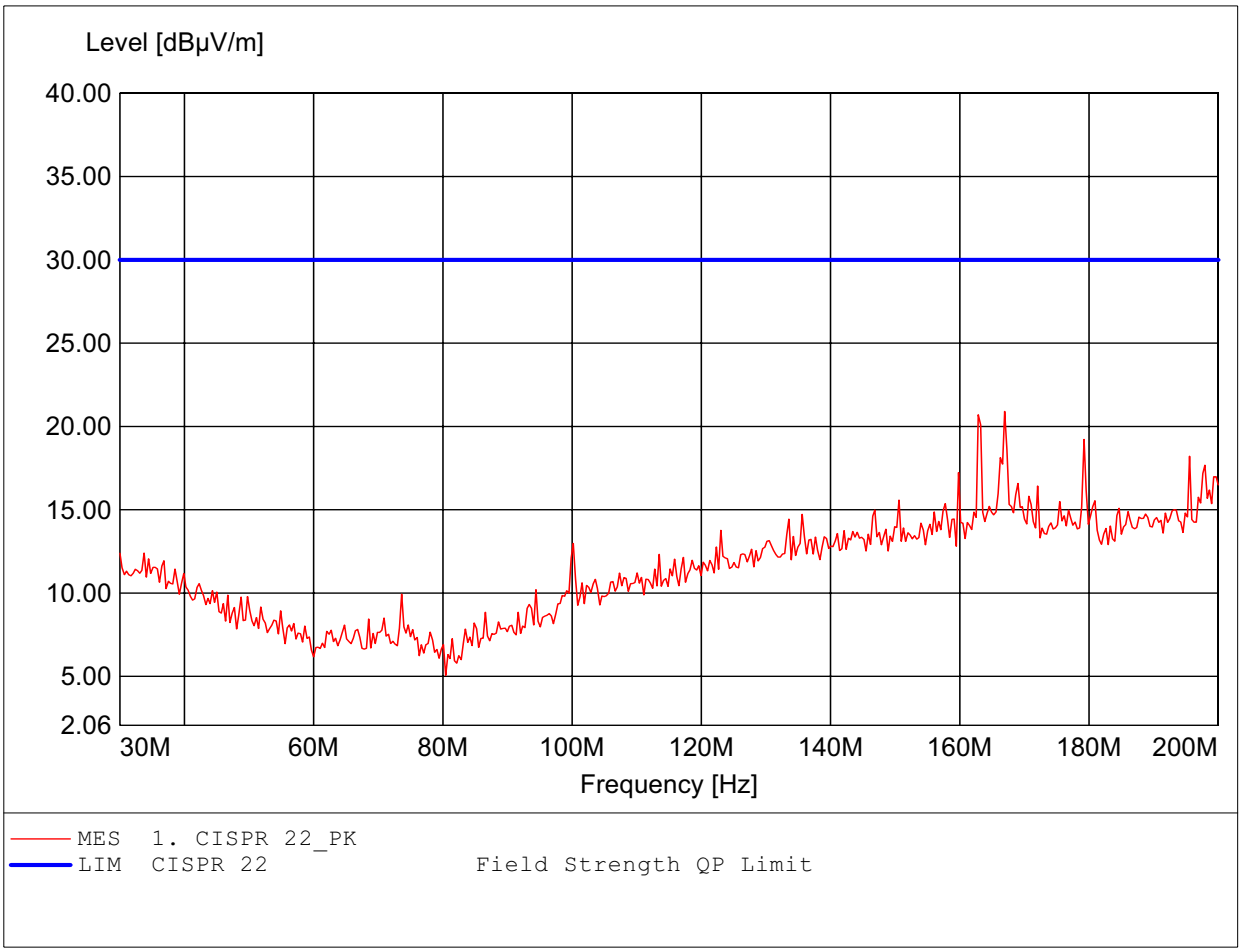
```
Order Number:          W6M20701-7746
Test Site / Operator:  ETS / Jay Chaing
Temperature:           Temp.: 23.9°C
Tcest Specification:   Fully Anechoic Chamber
Comment 1:             Dist.: 3m, Ant.: HK 116 , Peak detector
                       Freq:200.000MHz Emax:15.64dBµV/m RBW: 100 kHz
```



Spurious emissions under normal conditions

in accordance to the CISPR 22

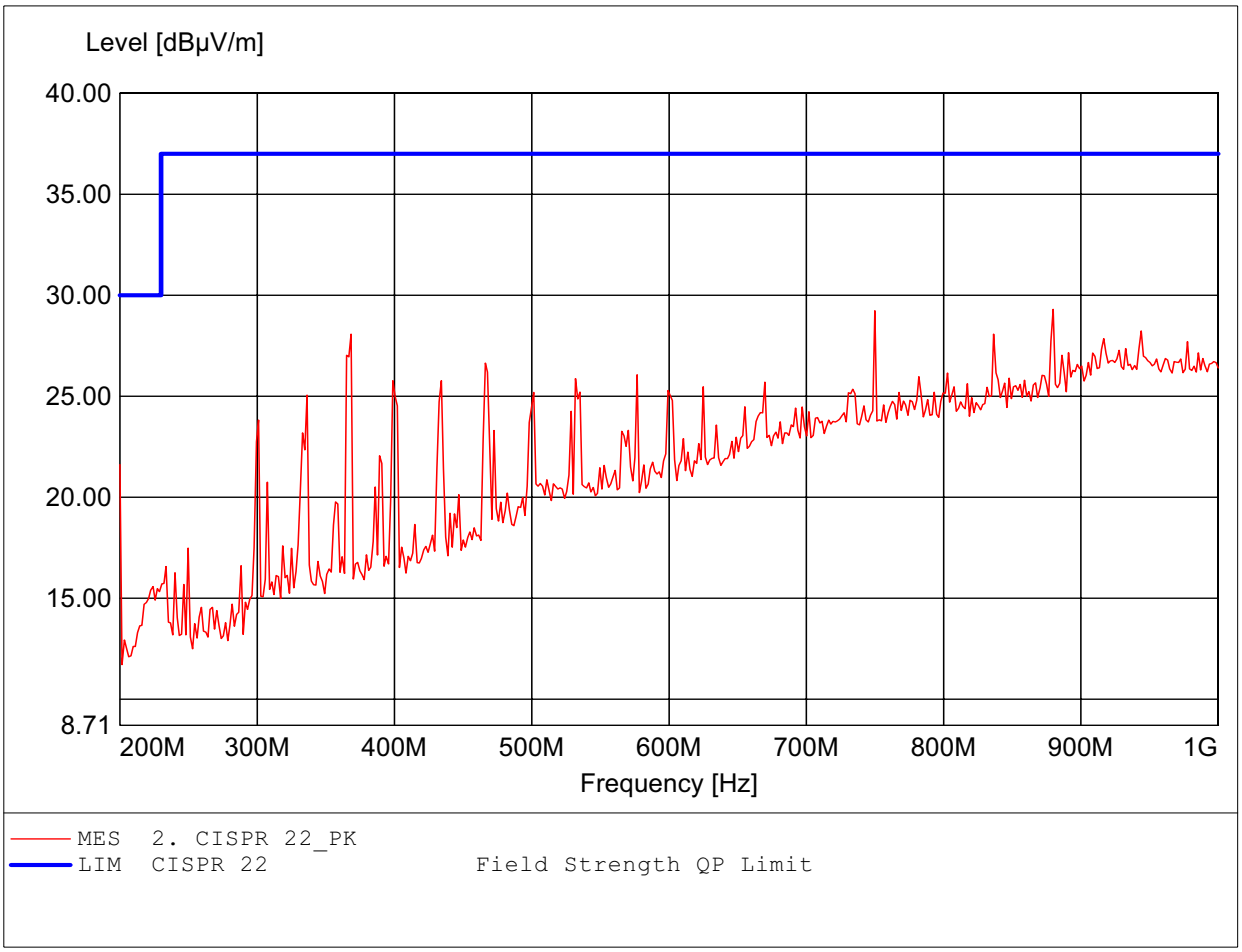
Order Number: W6M20701-7746
Test Site / Operator: ETS / Jay Chaing
Temperature: Temp.: 23.9°C
Tcest Specification: Fully Anechoic Chamber
Comment 1: Dist.: 3m, Ant.: HK 116 , Peak detector
Freq:166.954MHz Emax:20.90dBµV/m RBW: 100 kHz



Spurious emissions under normal conditions

in accordance to the CISPR 22

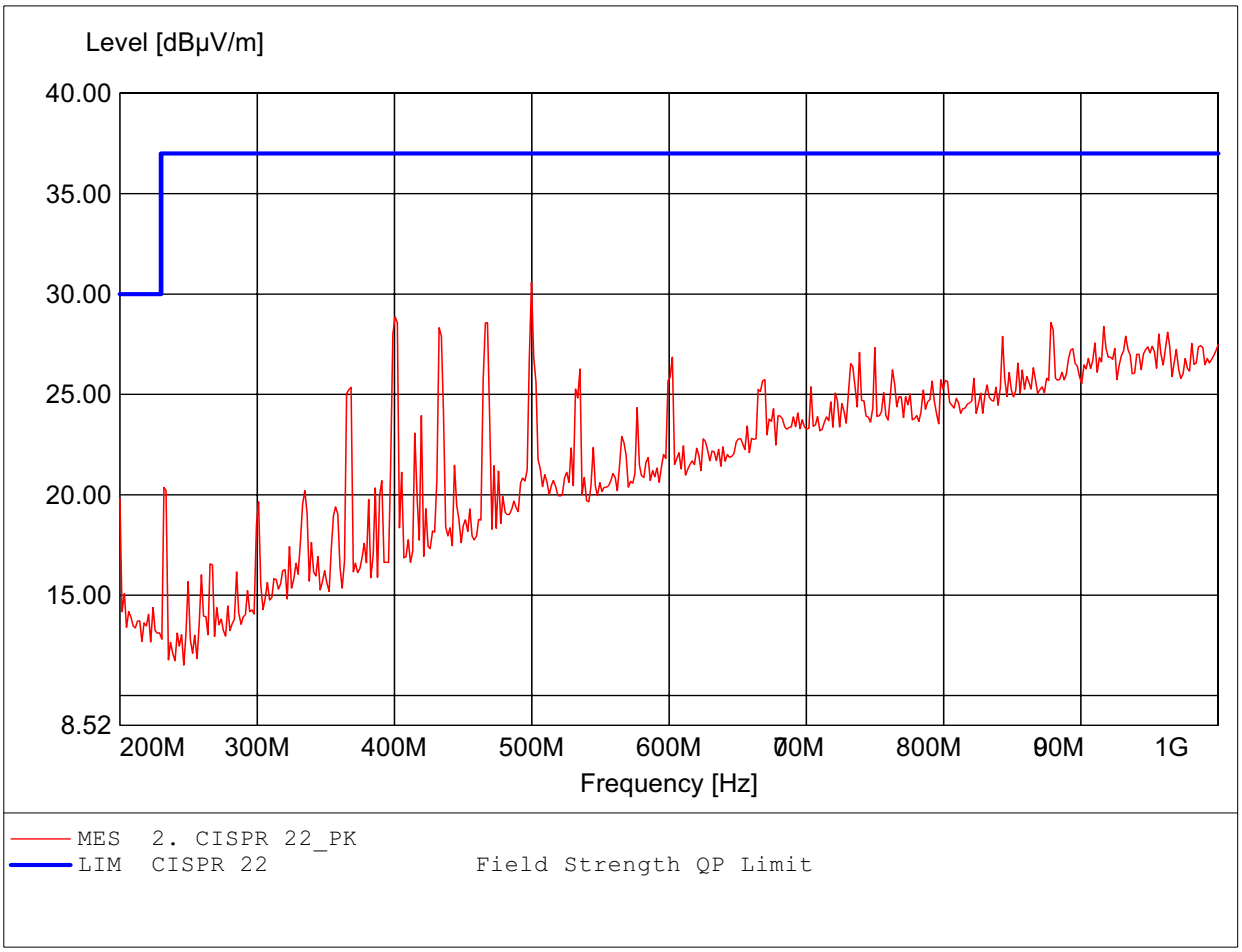
```
Order Number:          W6M20701-7746
Test Site / Operator:  ETS / Jay Chaing
Temperature:           Temp.: 23.9°C
Tcest Specification:   Fully Anechoic Chamber
Comment 1:             Dist.: 3m, Ant.: HL 223 , Peak detector
                       Freq:879.760MHz Emax:29.30dBµV/m RBW: 100 kHz
```



Spurious emissions under normal conditions

in accordance to the CISPR 22

Order Number: W6M20701-7746
Test Site / Operator: ETS / Jay Chaing
Temperature: Temp.: 23.9°C
Tcest Specification: Fully Anechoic Chamber
Comment 1: Dist.: 3m, Ant.: HL 223 , Peak detector
Freq:499.800MHz Emax:30.60dBµV/m RBW: 100 kHz



Appendix I

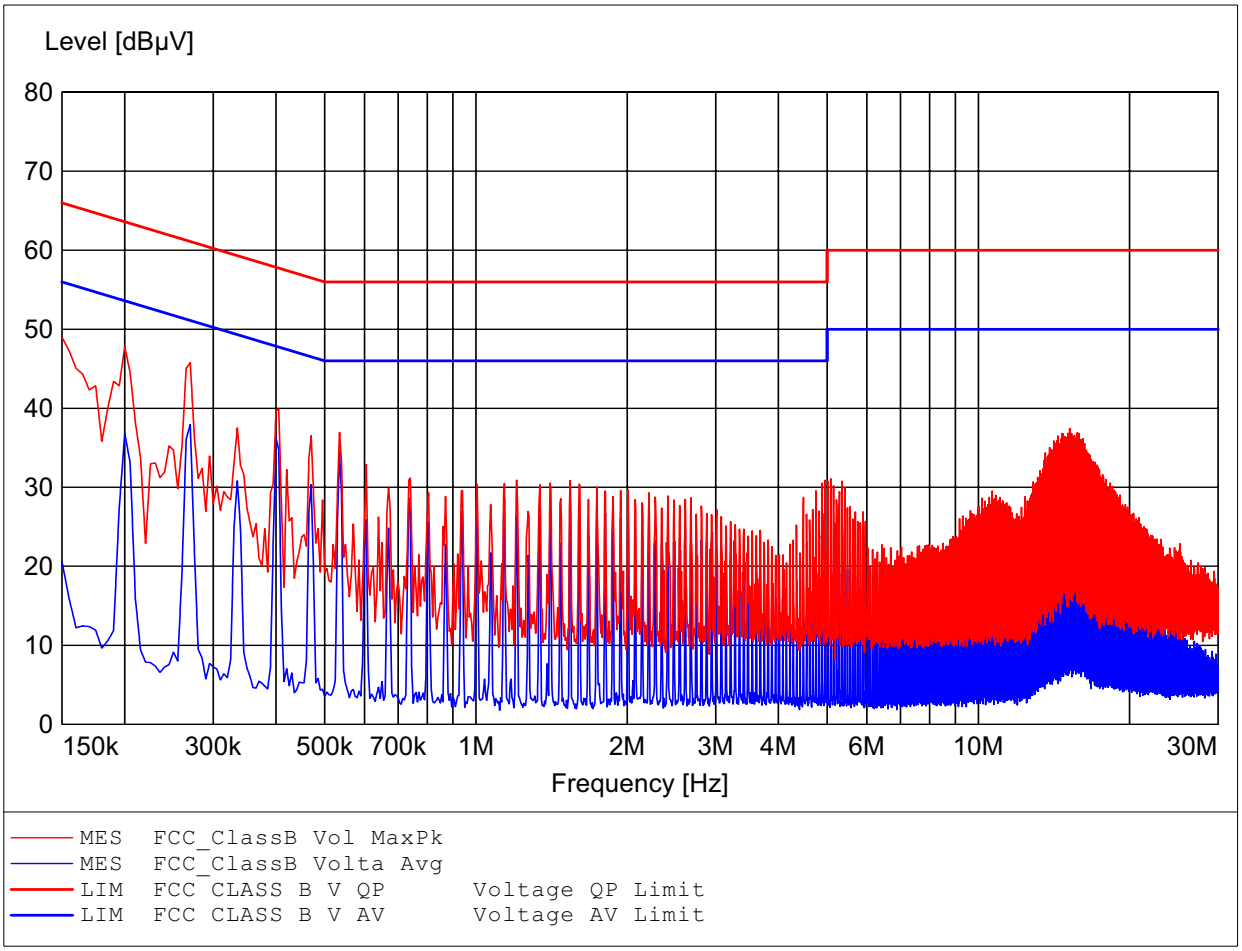
Power Line Conducted Emission

The measurement diagrams plots attached below are preliminary wideband scan with a quasi peak and average detector for reference only. The final test results are listed on section 3.13

EMI voltage test in the ac-mains according to FCC PART 15

CLASS B

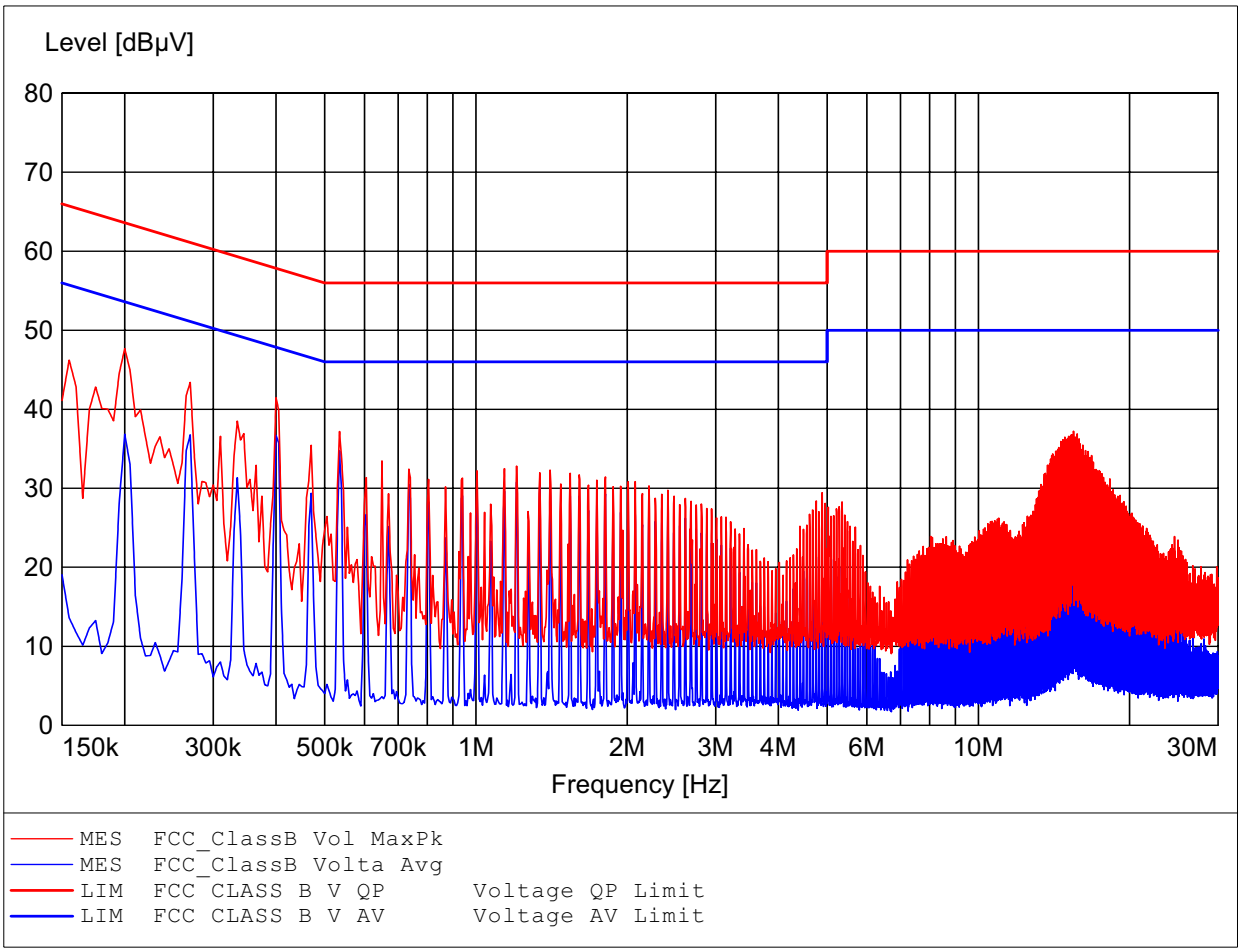
Order Number: W6M20701-7746
Operating Condition: Tnom: 23.9°C
Test Site: ETS
Operator: Catey
Test Specification: V-network: ESH3-Z5 N



EMI voltage test in the ac-mains according to FCC PART 15

CLASS B

Order Number: W6M20701-7746
Operating Condition: Tnom: 23.9°C
Test Site: ETS
Operator: Catey
Test Specification: V-network: ESH3-Z5 L1



Appendix J

Pictures