Test Report issued under the responsibility of:

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FCC TEST REPORT

FCC 47 CFR Part 15C
Industry Canada RSS-210

Frequency hopping systems operating within the 902 – 928MHz band

Report Reference No. ..... :	G0M-1109-1405 – P-15
Testing Laboratory ..... :	Eurofins Product Service GmbH
Address ..... :	Storkower Str. 38c 15526 Reichenwalde Germany
Accreditation ..... :	FCC Filed Test Laboratory, Reg.-No.: 96970 A2LA Accredited Testing Laboratory, Certificate No.: 1983.01 A2LA ACCREDITED TESTING CERT# 1983.01
Applicant's name ..... :	Panasonic Electronic Devices Europe GmbH
Address ..... :	Zeppelinstr. 28 21337 Lueneburg Germany
Test specification:	
Standard..... :	47 CFR Part 15C RSS-210, Issue 8, 2010-12 RSS-Gen, Issue 3, 2010-12 ANSI C63.4:2009
Equipment under test (EUT):	
Product description	Wireless Sensor Networks, Meter Reading, home automation
Model No.	ENW59625xxxF
Hardware version	05
Firmware / Software version	01
	FCC-ID: T7V-2580 IC: 216Q-2580
Test result	**Passed**

Possible test case verdicts:	
- neither assessed nor tested ..... :	N/N
- required by standard but not appl. to test object..... :	N/A
- required by standard but not tested..... :	N/T
- not required by standard for the test object ..... :	N/R
- test object does meet the requirement..... :	P (Pass)
- test object does not meet the requirement..... :	F (Fail)

Testing:

Date of receipt of test item ..... :	20.09.2011	
Date (s) of performance of tests ..... :	21. - 28.09.2011	
Compiled by ..... :	Christian Weber	
Tested by (+ signature)..... :	Wilfried Treffke	W. Treffke .....
Approved by (+ signature) ..... :	Toralf Jahn	.....
Date of issue ..... :	08.12.2011	
Total number of pages ..... :	106	

General remarks:

The test results presented in this report relate only to the object tested.

The results contained in this report reflect the results for this particular model and serial number. It is the responsibility of the manufacturer to ensure that all production models meet the intent of the requirements detailed within this report.

This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.

Additional comments:

Eurofins Product Service GmbH
Storkower Str. 38c, D-15526 Reichenwalde, Germany

REPORT INDEX

1 Equipment (Test item) Description:

Description	Wireless Sensor Networks, Meter Reading, home automation	
Model	ENW59625xxxF	
Serial number	MAC001C2C1B254CB520	
Hardware version	05	
Software / Firmware version	01	
FCC-ID	T7V-2580	
IC	216Q-2580	
Equipment type	Radio module	
Radio type	Transceiver	
Radio technology	custom	
Operating frequency range	902.4 - 927.6MHz	
Assigned frequency band	902 - 928MHz	
Main test frequencies	F_{LOW}	902.4MHz
	F_{MID}	914.8MHz
	F_{HIGH}	927.6MHz
Spreading	FHSS	
Modulations	FSK	
Number of channels	16 Channels / 25 hopping channels per channel 64 hopping channels at all	
Channel spacing	400kHz	
Number of antennas	2	
Antenna 1	Type	external dedicated
	Model	TB2-900D-xxxx
	Manufacturer	unspecified
	Gain	+2.0dBi (manufacturer declaration)
Antenna 2	Type	integrated ceramic chip antenna
	Model	0915AT43A0026
	Manufacturer	Johanson
	Gain	-1.0dBi (Peak Gain, manufacturer declaration)
Power supply	V_{NOM}	3.0VDC
	V_{MIN}	2.55VDC
	V_{MIN}	3.45VDC
AC/DC-Adaptor	Model	3A-061WP05 (P/N EMS060100-P5P-SZ)
	Vendor	CUI Inc.
	Input	100-240VAC / 50-60Hz / 0.3A
	Output	4-6VDC / 6W MAX

1.2 Supporting Equipment Used During Testing:

Product Type*	Device	Manufacturer	Model No.	Comments
AE	AC/DC-Adaptor	CUI Inc.	3A-061WP05	P/N EMS060100-P5P-SZ

***Note:** Use the following abbreviations:

AE : Auxiliary/Associated Equipment, or

SIM : Simulator (Not Subjected to Test)

CABL : Connecting cables

1.3 Test Modes:

Mode #	Description	
Single	General conditions:	EUT powered by laboratory power supply.
	Radio conditions:	Mode = standalone transmit Spreading = Hopping stopped (single hopping channel) Modulation = FSK Duty cycle = 49% Power level = Maximum
Hopping	General conditions:	EUT powered by laboratory power supply.
	Radio conditions:	Mode = standalone transmit Spreading = Hopping Modulation = FSK Duty cycle = 49% Power level = Maximum
Receive	General conditions:	EUT powered by laboratory power supply.
	Radio conditions:	Mode = standalone receive Spreading = Hopping Modulation = FSK Duty cycle = 49%
AC-Powerline	General conditions:	EUT powered by commercial AC/DC-Adapter
	Radio conditions:	Mode = standalone transmit Spreading = Hopping Modulation = FSK Duty cycle = 49% Power level = Maximum

1.4 Test Equipment Used During Testing

20dB Bandwidth					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Spectrum Analyzer	R&S	FSP 30	Inv. No. 0496	Aug 10	Aug 12

Number of hopping frequencies					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Spectrum Analyzer	R&S	FSP 30	Inv. No. 0496	Aug 10	Aug 12

Time of occupancy					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Spectrum Analyzer	R&S	FSP 30	Inv. No. 0496	Aug 10	Aug 12

Maximum peak conducted power					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Spectrum Analyzer	R&S	FSP 30	Inv. No. 0496	Aug 10	Aug 12

Band edge compliance					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Spectrum Analyzer	R&S	FSP 30	Inv. No. 0496	Aug 10	Aug 12

Conducted spurious emissions					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Spectrum Analyzer	R&S	FSP 30	Inv. No. 0496	Aug 10	Aug 12

Radiated spurious emissions					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
Semi-anechoic chamber	Frankonia	AC 5	Inv. No. 0583		
Spectrum Analyzer	R&S	FSIQ26	Inv. No. 0413	Apr. 11	Apr. 12
Biconical Antenna	R&S	HK 116	Inv. No. 0012	Jan 10	Jan 13
LPD Antenna	R&S	HL 223	Inv. No. 0295	Feb 11	Feb 13
LPD Antenna	R&S	HL 025	Inv. No. 0512	Feb 10	Feb 13

AC powerline conducted emissions					
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due
AMN	R&S	ESH2-Z5	Inv. No. 0288	Sep 10	Sep 12
AMN	R&S	ESH3-Z5	Inv. No. 0040	Nov 10	Nov 12
EMI Test Receiver	R&S	ESCS 30	Inv. No. 0474	Jun 11	Jun 12

1.5 Sample emission level calculation

The following is a description of terms and a sample calculation, as appears in the radiated emissions data table. The numbers used in the calculation are for example only. There is no direct correlation to the specific data taken for the product described in this document:

Reading:

This is the reading obtained on the spectrum analyzer in dBµV. Any external preamplifiers used are taken into account through internal analyzer settings.

A.F.:

This is the antenna factor for the receiving antenna. It is a conversion factor, which converts electric fields strengths to voltages, which can be measured directly on the spectrum analyzer. It is treated as a loss in dB. Cable losses have been included with the A.F. to simplify the calculations. The antenna factor is used in calculations as follows:

Reading on Analyzer (dBµV) + A.F. (dB) = Net field strength (dBµV/m)

Net:

This is the net field strength measurement (as shown above).

Limit:

This is the FCC Class B radiated emission limit (in units of dBµV/m). The FCC limits are given in units of µV/m. The following formula is used to convert the units of µV/m to dBµV/m:

Limit (dBµV/m) = 20*log (µV/m)

Margin:

This is the margin of compliance below the FCC limit. The units are given in dB. A negative margin indicates the emission was below the limit. A positive margin indicates that the emission exceeds the limit.

Example only:

Reading	+	AF	=	Net Reading	:	Net reading - FCC limit	= Margin
21.5 dBµV	+	26 dB	=	47.5 dBµV/m	:	47.5 dBµV/m - 57.0 dBµV/m	= -9.5 dB

2 Result Summary

FCC 47 CFR Part 15C, IC RSS-210				
Product Specific Standard Section	**Requirement – Test**	**Reference Method**	**Result**	**Remarks**
RSS-Gen 4.6.1	Occupied Bandwidth	RSS-Gen 4.6.1	N/A	Informational only
FCC § 15.247(a)(1)(i) IC RSS-210 § A8.1	20dB Bandwidth	Public notice DA 00-705	PASS	
FCC § 15.247(a)(1)(i) IC RSS-210 § A8.1	Number of hopping frequencies	Public notice DA 00-705	PASS	
FCC § 15.247(a)(1)(i) IC RSS-210 § A8.1	Frequency hopping channel separation	Public notice DA 00-705	PASS	
FCC § 15.247(a)(1)(i) IC RSS-210 § A8.1	Time of occupancy (Dwell time)	Public notice DA 00-705	PASS	
FCC § 15.247(b)(2) IC RSS-210 § A8.4	Maximum peak conducted power	Public notice DA 00-705	PASS	
47 CFR 15.207 RSS-Gen 7.2.4	AC power line conducted emissions	ANSI C63.4	PASS	
FCC § 15.247(d) IC RSS-210 § A8.5	Band edge compliance	Public notice DA 00-705	PASS	
FCC § 15.247(d) IC RSS-210 § A8.5	Conducted spurious emissions	Public notice DA 00-705	PASS	
FCC § 15.247(d) FCC § 15.209 IC RSS-210 A8.5 IC RSS-Gen 4.9 IC RSS-Gen 7.2.5	Transmitter radiated spurious emissions	Public notice DA 00-705 / ANSI C 63.4	PASS	
IC RSS-Gen 4.10 IC RSS-Gen 6.1	Receiver radiated spurious emissions	ANSI C 63.4	PASS	
Remarks:				

3 Test Conditions and Results

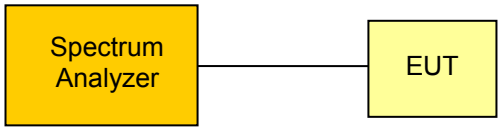
3.1 Test Conditions and Results – Occupied Bandwidth

Occupied Bandwidth acc. IC RSS-Gen	**Verdict: PASS**
Test according to measurement reference	Reference Method
	RSS-Gen 4.6.1
Test frequency range	Tested frequencies
	F_{LOW} / F_{MID} / F_{HIGH}
EUT test mode	Single

Limits

None (Informational only)

Test setup



Test procedure

1. EUT set to test mode (Communication tester is used if needed)
2. Span set to at least twice the emission spectrum
3. Resolution bandwidth set to 1% of span
4. Occupied Bandwidth (99%) measurement with spectrum analyzer built in measurement function

Test results

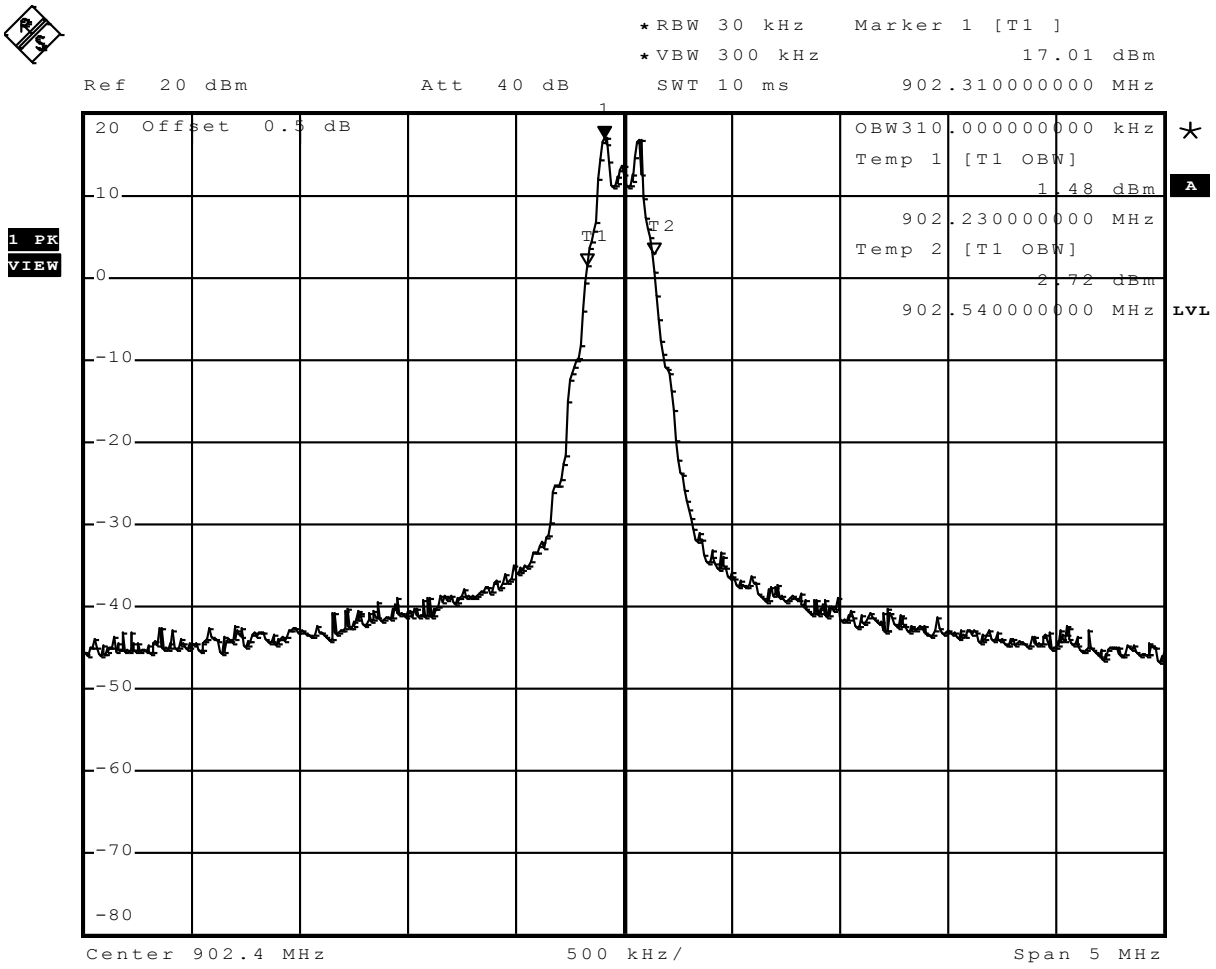
Channel	Frequency [MHz]	Occupied Bandwidth [kHz]
F_{LOW}	902.4	310
F_{MID}	914.8	300
F_{HIGH}	927.6	310

Comments:

Occupied Bandwidth - F_{LOW}

RSS Gen
Occupied Bandwidth

EUT	Radio module
Model	PAN2580
Approval Holder	Panasonic Electronic Devices Europe GmbH / Ord.: G0M-11090-1405
Temperature / Voltage	Tnom / Vnom
Test Site / Operator	Eurofins Product Service GmbH / Mr. Treffke
Test Specification	4.4.1 Occupied Bandwidth
Comment 1	Channel.: 902.4 MHz
Comment 2	A spectrum analyzer with an integrated 99% power bandwidth function is used
Comment 3	single frequency

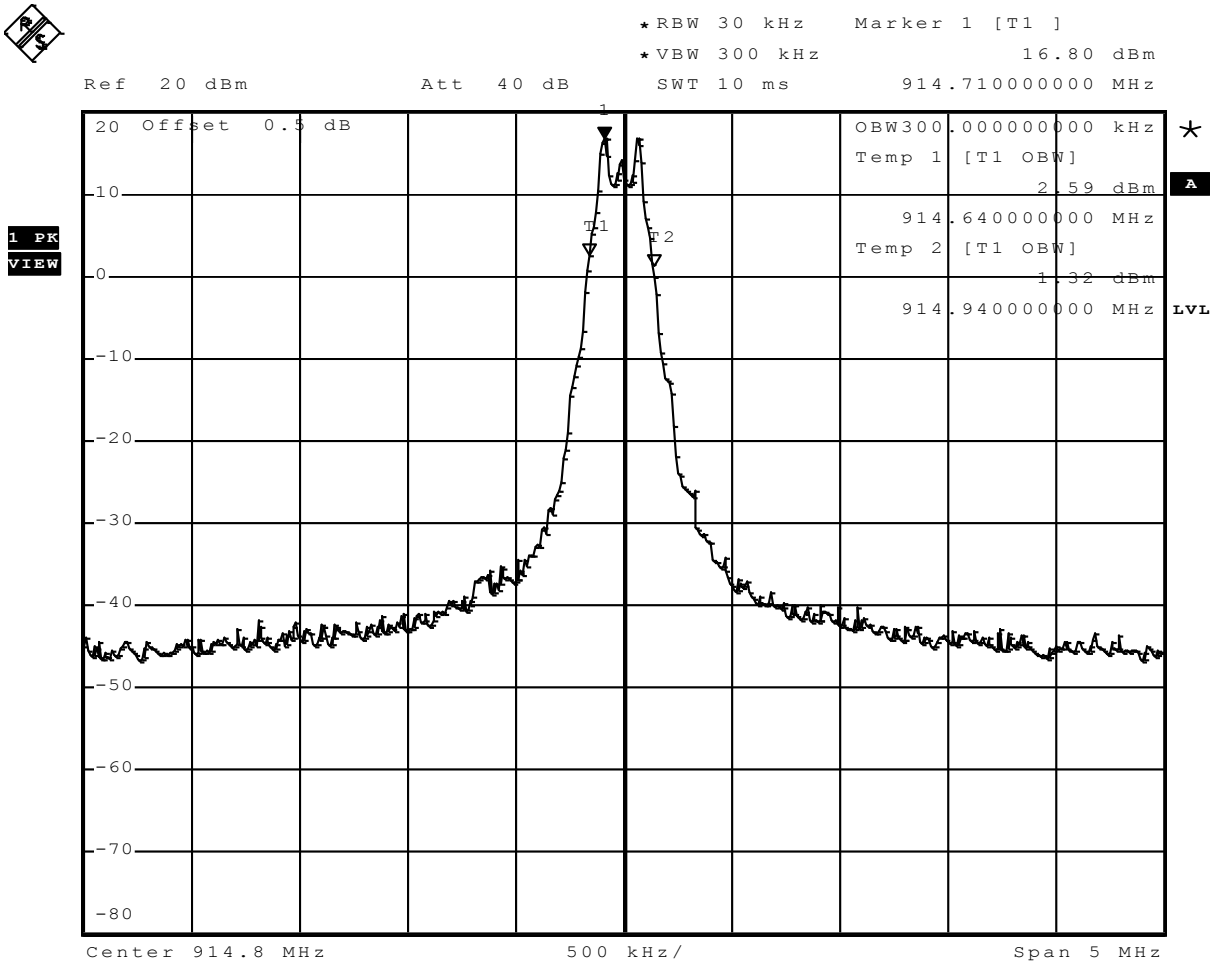


Comment: Occupied bandwidth: 310 KHz
Date: 26.SEP.2011 10:02:39

Occupied Bandwidth - F_{MID}

RSS Gen
Occupied Bandwidth

EUT	Radio module
Model	PAN2580
Approval Holder	Panasonic Electronic Devices Europe GmbH / Ord.: G0M-11090-1405
Temperature / Voltage	Tnom / Vnom
Test Site / Operator	Eurofins Product Service GmbH / Mr. Treffke
Test Specification	4.4.1 Occupied Bandwidth
Comment 1	Channel.: 914.8 MHz
Comment 2	A spectrum analyzer with an integrated 99% power bandwidth function is used
Comment 3	single frequency

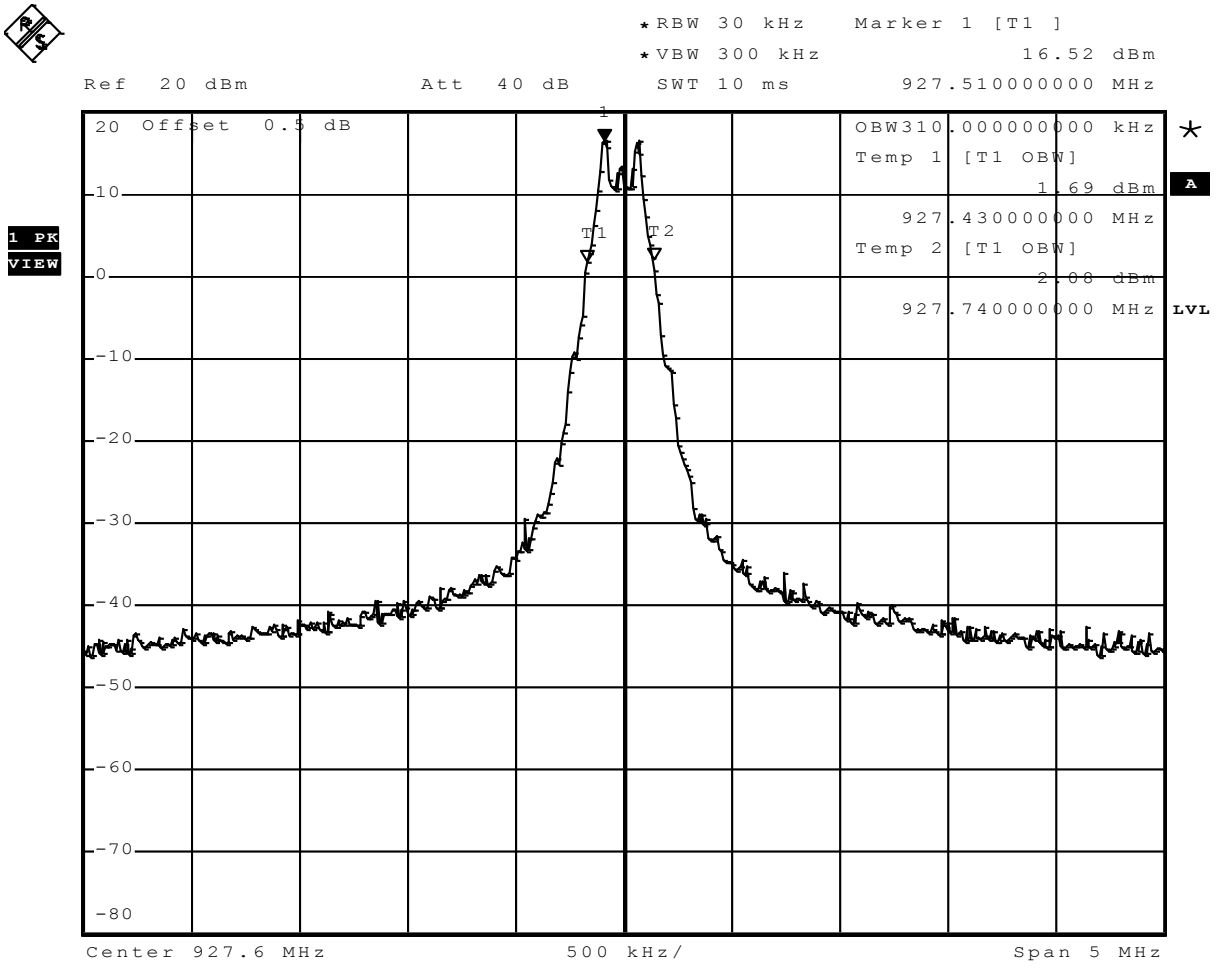


Comment: Occupied bandwidth: 300 KHz
Date: 26.SEP.2011 09:55:24

Occupied Bandwidth - F_{HIGH}

RSS Gen
Occupied Bandwidth

EUT	Radio module
Model	PAN2580
Approval Holder	Panasonic Electronic Devices Europe GmbH / Ord.: G0M-11090-1405
Temperature / Voltage	Tnom / Vnom
Test Site / Operator	Eurofins Product Service GmbH / Mr. Treffke
Test Specification	4.4.1 Occupied Bandwidth
Comment 1	Channel.: 927.6 MHz
Comment 2	A spectrum analyzer with an integrated 99% power bandwidth function is used
Comment 3	single frequency



Comment: Occupied bandwidth: 310 KHz
Date: 26.SEP.2011 09:51:20

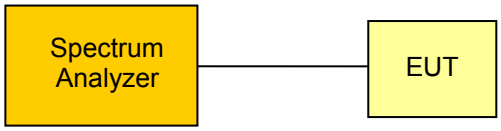
3.2 Test Conditions and Results – 20dB Bandwidth

20dB Bandwidth acc. FCC 15.247 / IC RSS-210	**Verdict: PASS**
EUT requirement rule parts and clause	Reference
	FCC 15.247(a)(1)(i) / IC RSS-210 A8.1
Test according to measurement reference	Reference Method
	FCC Public Notice DA 00-705
Test frequency range	Tested frequencies
	F_{LOW} / F_{MID} / F_{HIGH}
EUT test mode	Single

Limits

Limit	Condition
20dB BW < 250kHz	Number of hopping channels ≥ 50 Time of occupancy ≤ 0.4s within 20s
250kHz ≤ 20dB BW < 500kHz	Number of hopping channels ≥ 25 Time of occupancy ≤ 0.4s within 10s

Test setup



Test procedure

1. EUT set to test mode (Communication tester is used if needed)
2. Span set to at least twice the emission spectrum
3. Detector set to peak and max hold
4. Envelope peak value of emission spectrum is selected
5. Marker on envelope of spectrum is set to level of -20dB to the left of the peak
6. Marker on envelope of spectrum is set to level of -20dB to the right of the peak
7. 20dB Bandwidth is determined by marker frequency separation

Test results

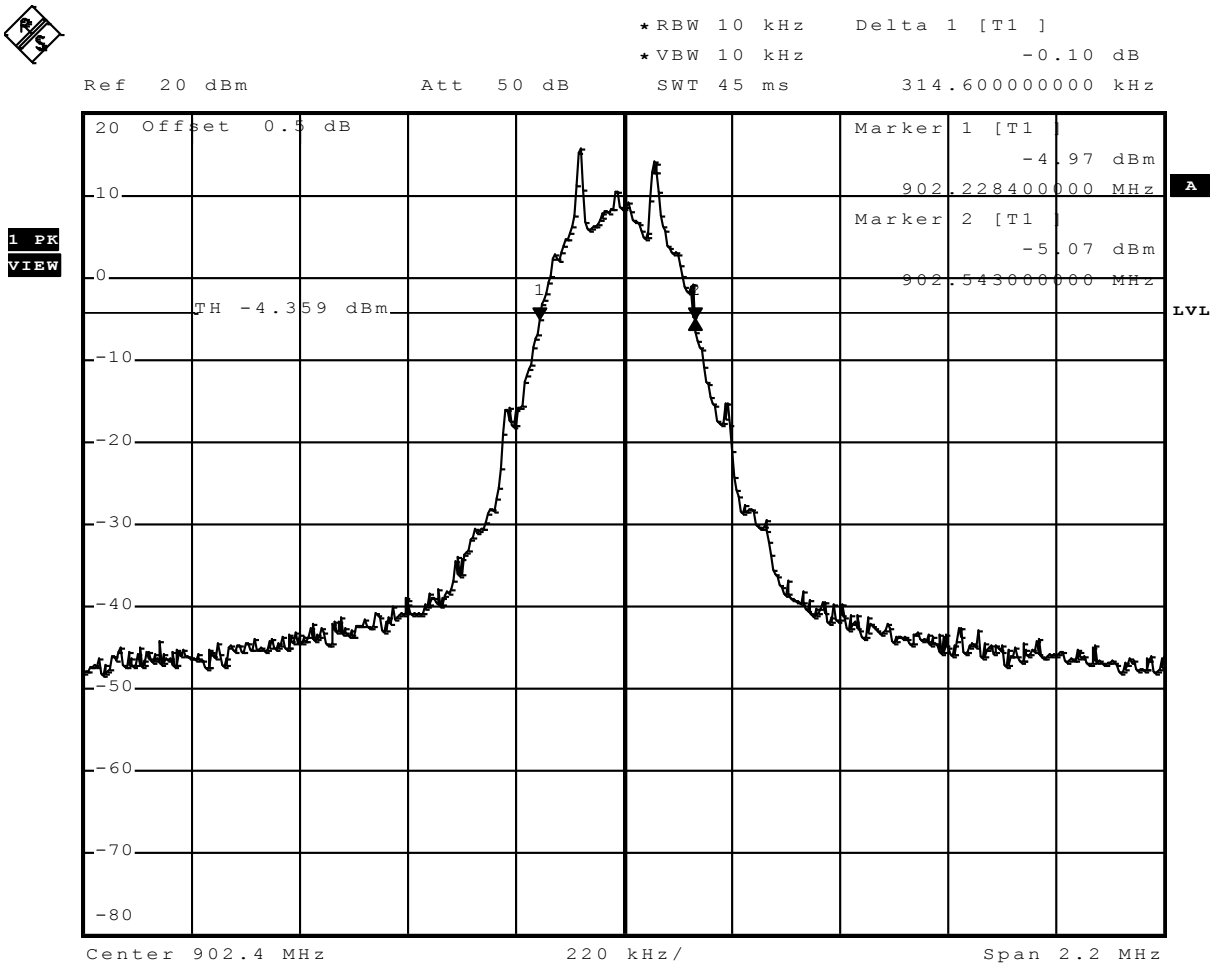
Channel	Frequency [MHz]	20dB Bandwidth [kHz]	Limit [kHz]	Result
F_{LOW}	902.4	314.6	250 ≤ BW ≤ 500	PASS
F_{MID}	914.8	314.6	250 ≤ BW ≤ 500	PASS
F_{HIGH}	927.6	323.4	250 ≤ BW ≤ 500	PASS

Comments: EUT uses only 25 hopping channels per transmission channel

20dB Bandwidth - F_{LOW}

FCC part 15.247
20 dB bandwidth

EUT	Radio module
Model	PAN2580
Approval Holder	Panasonic Electronic Devices Europe GmbH / Ord.: G0M-11090-1405
Temperature / Voltage	Tnom / Vnom
Test Site / Operator	Eurofins Product Service GmbH / Mr. Treffke
Test Specification	FCC part 15 section 247(a)
Comment 1	20 dB bandwidth
Comment 2	Channel.: 902.4 MHz
Comment 3	pass

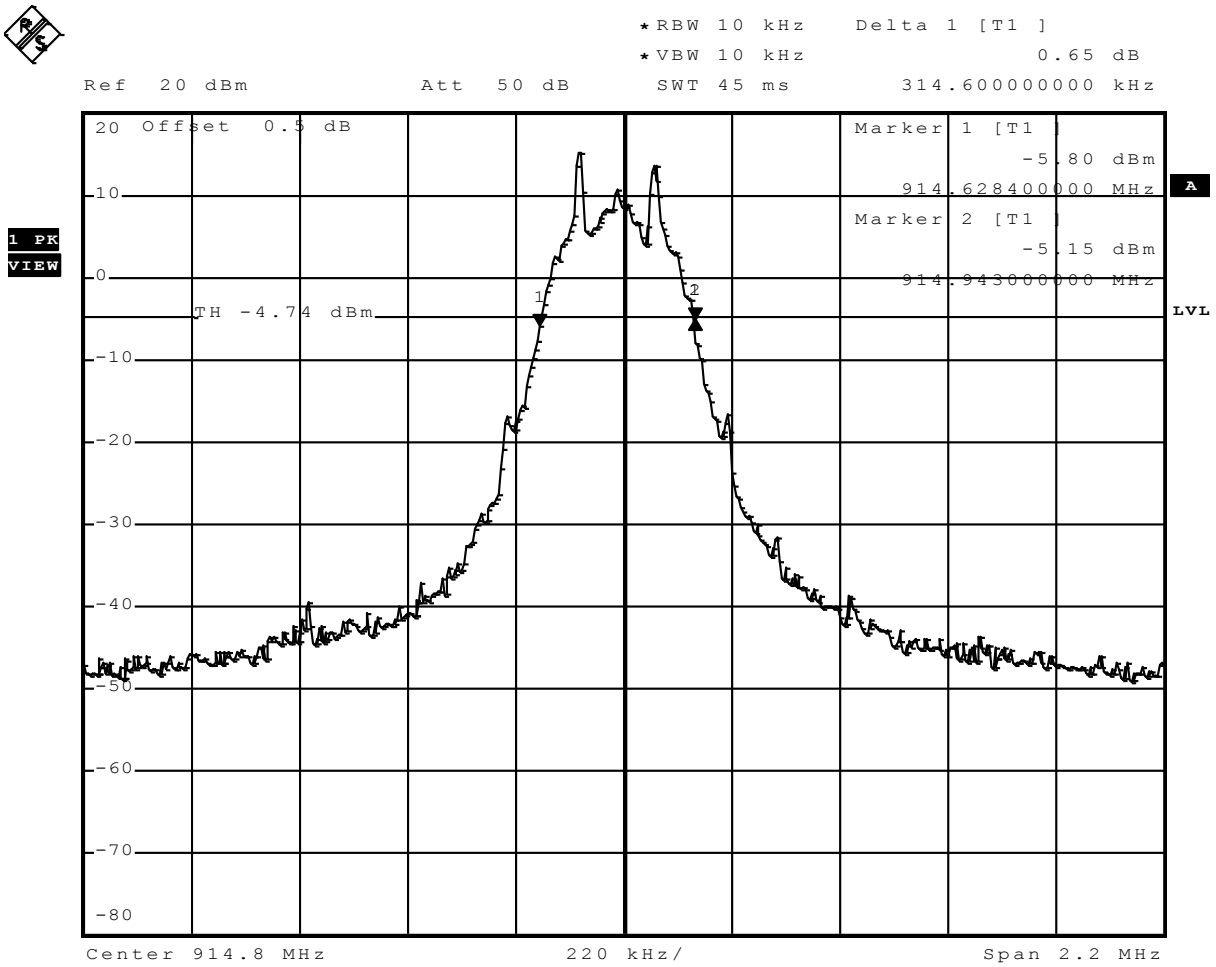


Comment: 20 dB bandwidth: 314.6 KHz
Date: 26.SEP.2011 10:01:32

20dB Bandwidth - F_{MID}

FCC part 15.247
20 dB bandwidth

EUT	Radio module
Model	PAN2580
Approval Holder	Panasonic Electronic Devices Europe GmbH / Ord.: G0M-11090-1405
Temperature / Voltage	Tnom / Vnom
Test Site / Operator	Eurofins Product Service GmbH / Mr. Treffke
Test Specification	FCC part 15 section 247(a)
Comment 1	20 dB bandwidth
Comment 2	Channel.: 914.8 MHz
Comment 3	pass

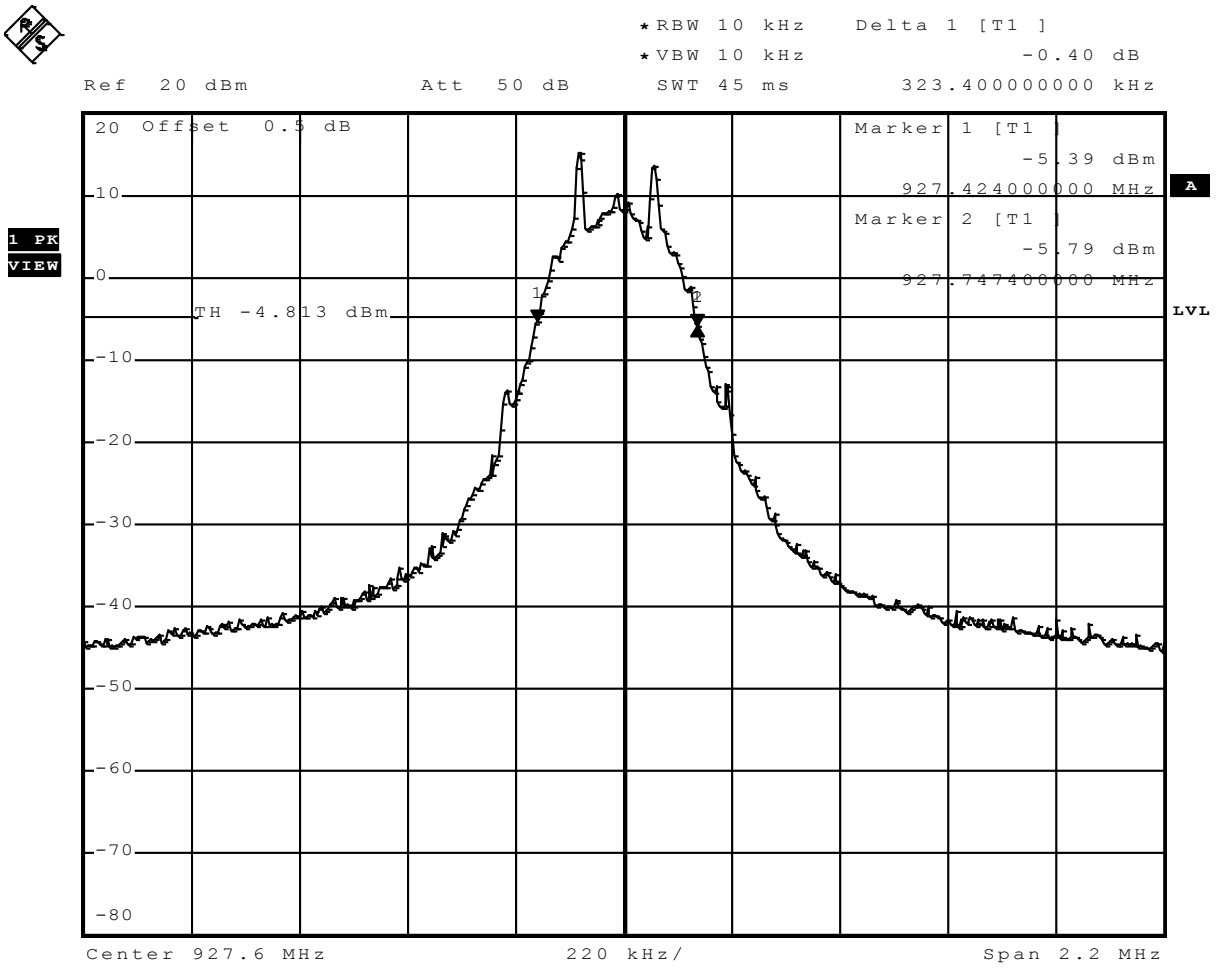


Comment: 20 dB bandwidth: 314.6 KHz
Date: 26.SEP.2011 09:57:52

20dB Bandwidth - F_{HIGH}

FCC part 15.247
20 dB bandwidth

EUT	Radio module
Model	PAN2580
Approval Holder	Panasonic Electronic Devices Europe GmbH / Ord.: G0M-11090-1405
Temperature / Voltage	Tnom / Vnom
Test Site / Operator	Eurofins Product Service GmbH / Mr. Treffke
Test Specification	FCC part 15 section 247(a)
Comment 1	20 dB bandwidth
Comment 2	Channel.: 927.6 MHz
Comment 3	pass



Comment: 20 dB bandwidth: 323.4 KHz
Date: 26.SEP.2011 09:43:53

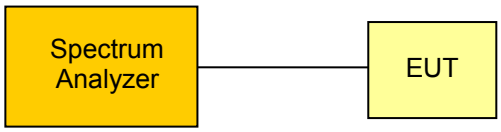
3.3 Test Conditions and Results – Number of hopping frequencies

20dB Bandwidth acc. FCC 15.247 / IC RSS-210	**Verdict: PASS**
EUT requirement rule parts and clause	Reference
	FCC 15.247(a)(1)(i) / IC RSS-210 A8.1
Test according to measurement reference	Reference Method
	FCC Public Notice DA 00-705
Test frequency range	Tested frequencies
	F_{LOW} - F_{HIGH}
EUT test mode	Hopping

Limits

Limit	Condition
Number of hopping channels ≥ 50	20dB BW < 250kHz Time of occupancy ≤ 0.4s within 20s
Number of hopping channels ≥ 25	250kHz ≤ 20dB BW < 500kHz Time of occupancy ≤ 0.4s within 10s

Test setup



Test procedure

1. EUT set to test mode (Communication tester is used if needed)
2. Span set to measurement frequency range
3. Detector set to peak and max hold
4. Resolution bandwidth is set small enough to resolve hopping channel emission spectra
5. The number of peaks is counted to determine number of hopping frequencies

Test results

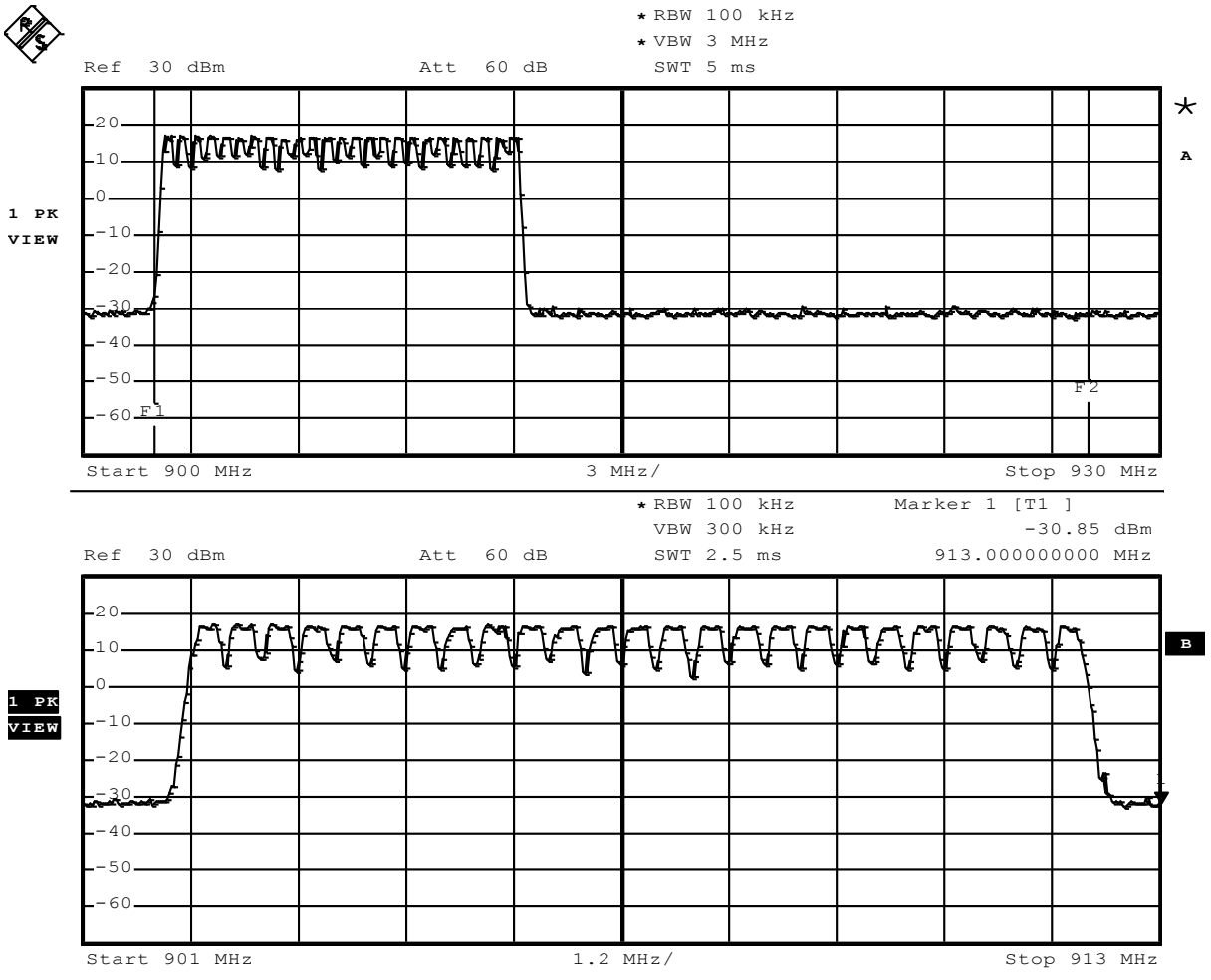
Number of hopping frequencies	Limit	Result
64	≥ 25	PASS

Comments: EUT has a minimum 20dB emission bandwidth of 314kHz. EUT has 64 hopping channels but only 25 hopping channels are used for each communication channel.

Number of hopping frequencies - Range A

FCC part 15.247
Number of hopping frequencies

EUT	Radio module
Model	PAN2580
Approval Holder	Panasonic Electronic Devices Europe GmbH / Ord.: G0M-11090-1405
Temperature / Voltage	Tnom / Vnom
Test Site / Operator	Eurofins Product Service GmbH / Mr. Treffke
Test Specification	FCC part 15 section 247(a)
Comment 1	Number of hopping frequencies
Comment 2	SNAP Channel 0, channel range.: 1-25
Comment 3	Display A: overview, display B: zoom

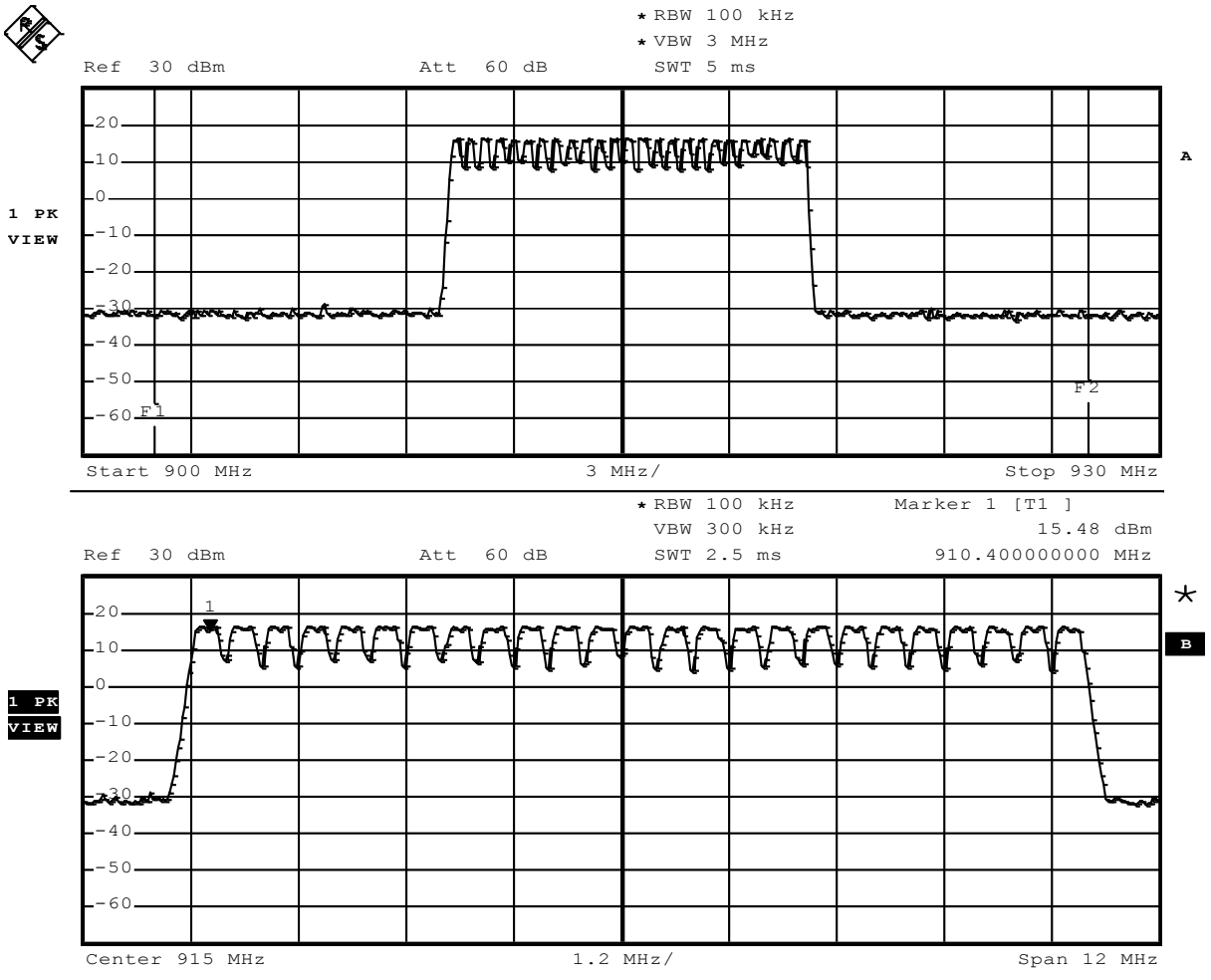


Date: 22.SEP.2011 13:03:09

Number of hopping frequencies - Range B

FCC part 15.247
Number of hopping frequencies

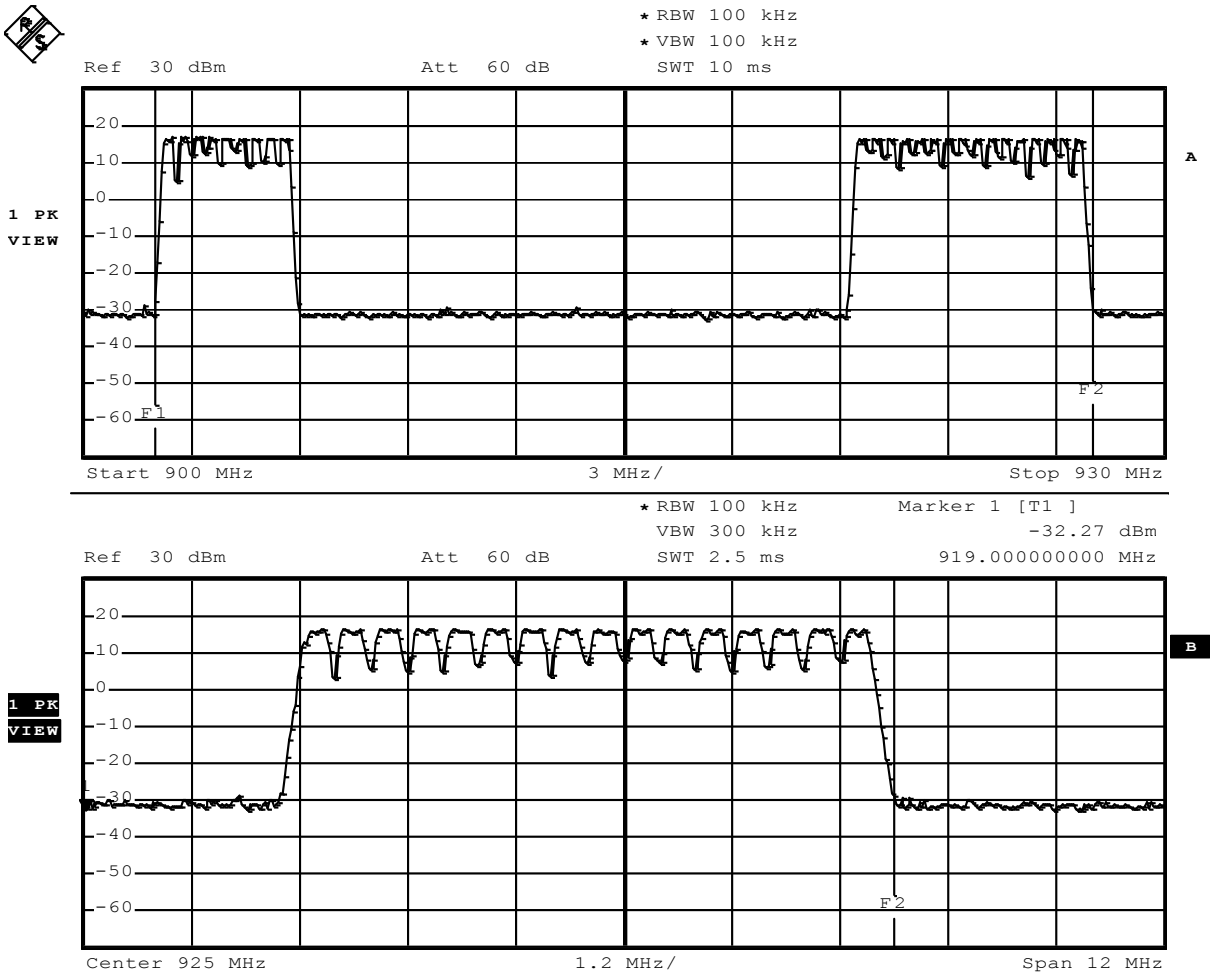
EUT	Radio module
Model	PAN2580
Approval Holder	Panasonic Electronic Devices Europe GmbH / Ord.: G0M-11090-1405
Temperature / Voltage	Tnom / Vnom
Test Site / Operator	Eurofins Product Service GmbH / Mr. Treffke
Test Specification	FCC part 15 section 247(a)
Comment 1	Number of hopping frequencies
Comment 2	SNAP Channel 5, channel range.: 21-45
Comment 3	Display A: overview, display B: zoom



Number of hopping frequencies - Range C

FCC part 15.247
Number of hopping frequencies

EUT	Radio module
Model	PAN2580
Approval Holder	Panasonic Electronic Devices Europe GmbH / Ord.: G0M-11090-1405
Temperature / Voltage	Tnom / Vnom
Test Site / Operator	Eurofins Product Service GmbH / Mr. Treffke
Test Specification	FCC part 15 section 247(a)
Comment 1	Number of hopping frequencies
Comment 2	SNAP Channel 12, channel range.: 1-9, 49-64
Comment 3	Display A: overview, display B: zoom (ch. 49-64)



Date: 22.SEP.2011 13:24:19

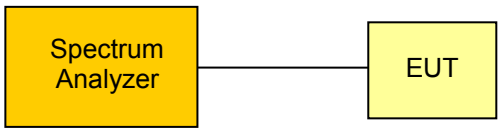
3.4 Test Conditions and Results – Frequency hopping channel separation

20dB Bandwidth acc. FCC 15.247 / IC RSS-210	**Verdict: PASS**
EUT requirement rule parts and clause	Reference
	FCC 15.247(a)(1)(i) / IC RSS-210 A8.1
Test according to measurement reference	Reference Method
	FCC Public Notice DA 00-705
Test frequency range	Tested frequencies
	921.6MHz & 922.0MHz
EUT test mode	Hopping

Limits

25kHz or 20dB Bandwidth, whichever is greater

Test setup



Test procedure

1. EUT set to test mode (Communication tester is used if needed)
2. Span set to measurement frequency range
3. Detector set to peak and max hold
4. Resolution bandwidth is set small enough to resolve hopping channel emission spectra
5. The two adjacent channel peaks are marked
6. Channel separation is determined from frequency separation of markers

Test results

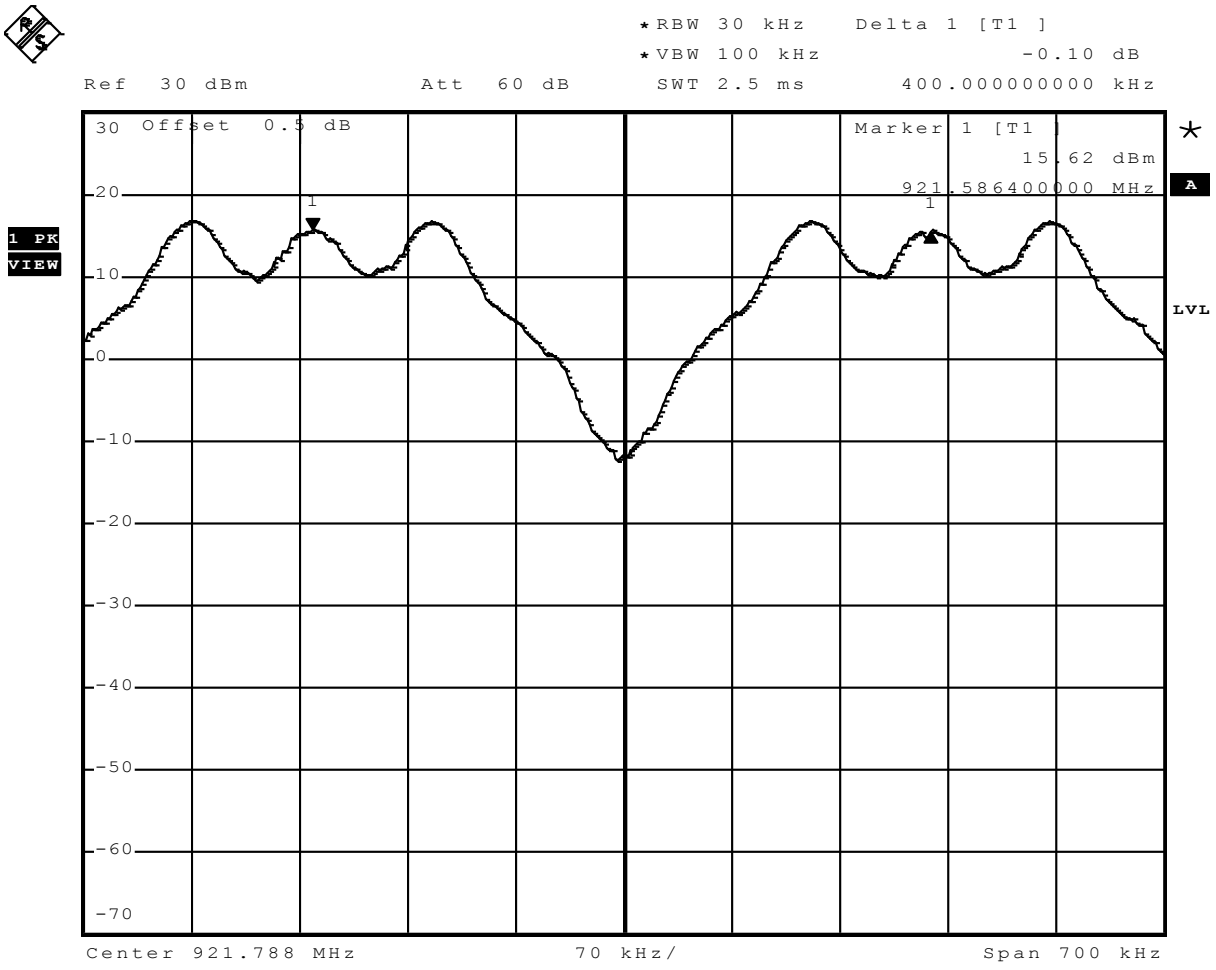
Channel separation [kHz]	Limit [kHz]	Result
400	≥ 314	PASS

Comments:

Frequency hopping channel separation

FCC part 15.247
Carrier frequency separation

EUT	Radio module
Model	PAN2580
Approval Holder	Panasonic Electronic Devices Europe GmbH / Ord.: G0M-11090-1405
Temperature / Voltage	Tnom / Vnom
Test Site / Operator	Eurofins Product Service GmbH / Mr. Treffke
Test Specification	FCC part 15 section 247(a)(1)
Comment 1	Carrier frequency separation
Comment 2	Channel.: 921.6 / 922.0 MHz
Comment 3	Hopping mode



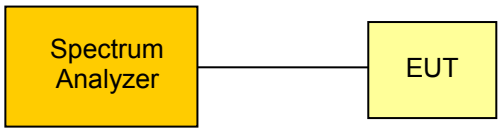
3.5 Test Conditions and Results – Time of occupancy (Dwell Time)

20dB Bandwidth acc. FCC 15.247 / IC RSS-210	**Verdict: PASS**
EUT requirement rule parts and clause	Reference
	FCC 15.247(a)(1)(i) / IC RSS-210 A8.1
Test according to measurement reference	Reference Method
	FCC Public Notice DA 00-705
Test frequency range	Tested frequencies
	915.2MHz
EUT test mode	Hopping

Limits

Limit	Condition
Time of occupancy ≤ 0.4s within 20s	20dB BW < 250kHz Number of hopping channels ≥ 50
Time of occupancy ≤ 0.4s within 10s	250kHz ≤ 20dB BW < 500kHz Number of hopping channels ≥ 25

Test setup



Test procedure

1. EUT set to test mode (Communication tester is used if needed)
2. Center frequency set to test channel center frequency
3. Span set to zero span and detector to peak and max hold
4. Resolution bandwidth is set to 100kHz and sweep time to observation period
5. Time of occupancy determined from number of peaks multiplied by single hop dwell time

Test results

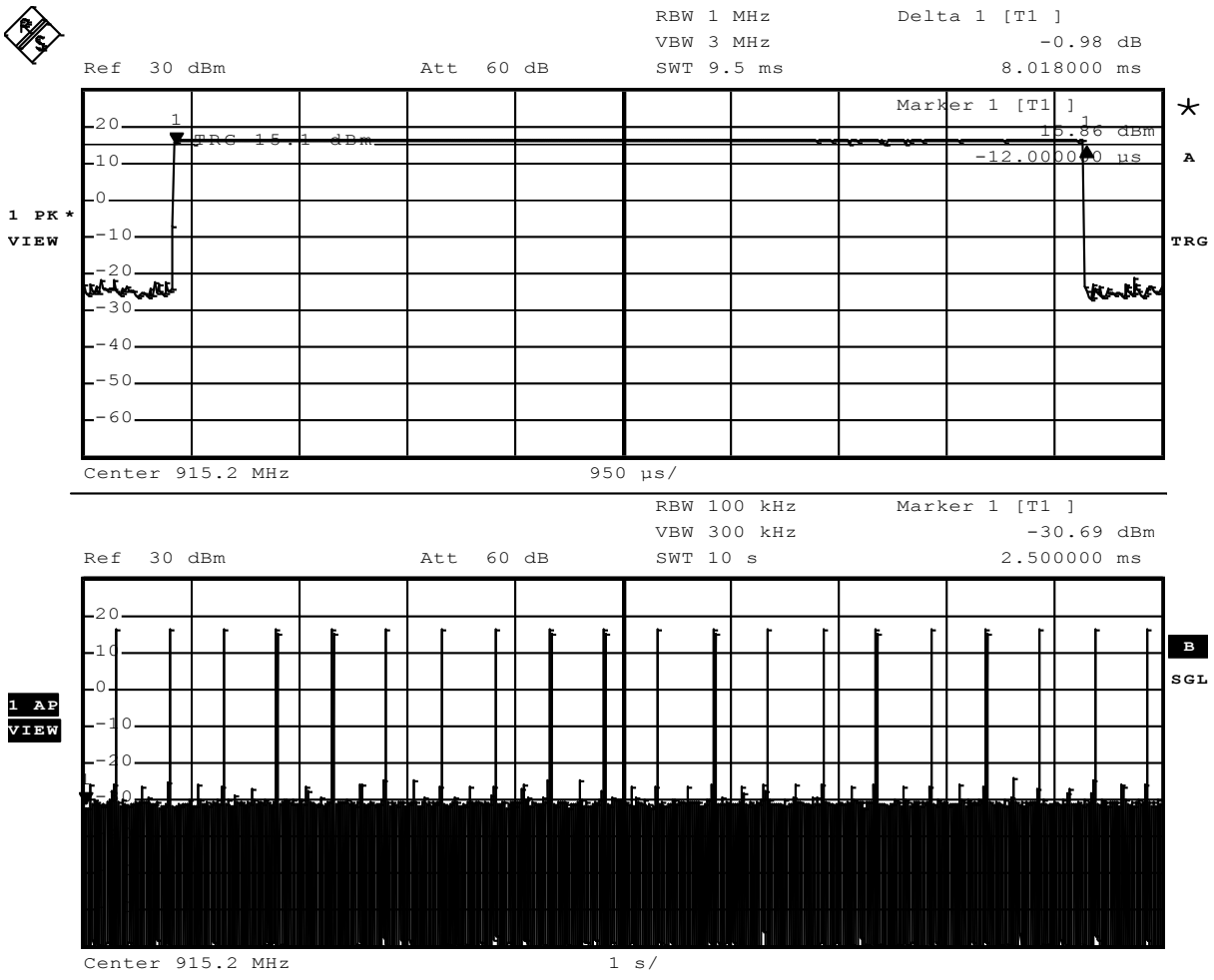
Observation period [s]	No. of hops	Dwell time/hop [s]	Time of occupancy [s]	Limit [s]	Result
10	20	0.00802	0.1604	≤ 0.4	PASS

Comments:

Time of occupancy

FCC part 15.247
Time of occupancy (dwell time)

EUT	Radio module
Model	PAN2580
Approval Holder	Panasonic Electronic Devices Europe GmbH / Ord.: G0M-11090-1405
Temperature / Voltage	Tnom / Vnom
Test Site / Operator	Eurofins Product Service GmbH / Mr. Treffke
Test Specification	FCC part 15 section 247(a)
Comment 1	Time of occupancy
Comment 2	Channel.: 915.2 MHz (Hopping mode)
Comment 3	20 events * 8.02 ms result: 160.4 ms



Date: 22.SEP.2011 13:45:28

3.6 Test Conditions and Results – Maximum peak conducted power

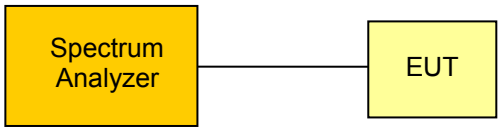
20dB Bandwidth acc. FCC 15.247 / IC RSS-210	**Verdict: PASS**
EUT requirement rule parts and clause	Reference
	FCC 15.247(b)(2) / IC RSS-210 A8.1
Test according to measurement reference	Reference Method
	FCC Public Notice DA 00-705
Test frequency range	Tested frequencies
	F_{LOW} / F_{MID} / F_{HIGH}
EUT test mode	Single

Limits

Limit	Condition
1W (30dBm)	Number of hopping channels ≥ 50
0.25W (24dBm)	50 > Number of hopping channels ≥ 25

The conducted output power limit specified above is based on the use of antennas with directional gains that do not exceed 6dBi. If transmitting antennas of directional gain greater than 6dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in the table, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6dBi.

Test setup



Test procedure

1. EUT set to test mode (Communication tester is used if needed)
2. Center frequency set to test channel center frequency
3. Span set to twice the 20dB bandwidth and detector to peak and max hold
4. Resolution bandwidth is set to 3MHz
5. Peak conducted power is determined from peak of spectrum envelope

Test results							
Channel	Frequency [MHz]	Voltage	Peak power [dbm]	Peak power [W]	Limit [dBm]	Margin [dB]	Result
F_{LOW}	902.4	3.0VDC	16.7	0.047	24	-07.30	PASS
F_{LOW}	902.4	2.55VDC	15.1	0.032	24	-08.90	PASS
F_{LOW}	902.4	3.45VDC	17.7	0.059	24	-06.30	PASS
F_{MID}	914.8	3.0VDC	16.5	0.045	24	-07.50	PASS
F_{MID}	914.8	2.55VDC	15.0	0.032	24	-09.00	PASS
F_{MID}	914.8	3.45VDC	17.5	0.056	24	-06.50	PASS
F_{HIGH}	927.6	3.0VDC	16.3	0.043	24	-07.70	PASS
F_{HIGH}	927.6	3.0VDC	14.7	0.030	24	-09.30	PASS
F_{HIGH}	927.6	3.45VDC	17.2	0.052	24	-06.80	PASS
Comments:							

3.7 Test Conditions and Results – AC power line conducted emissions

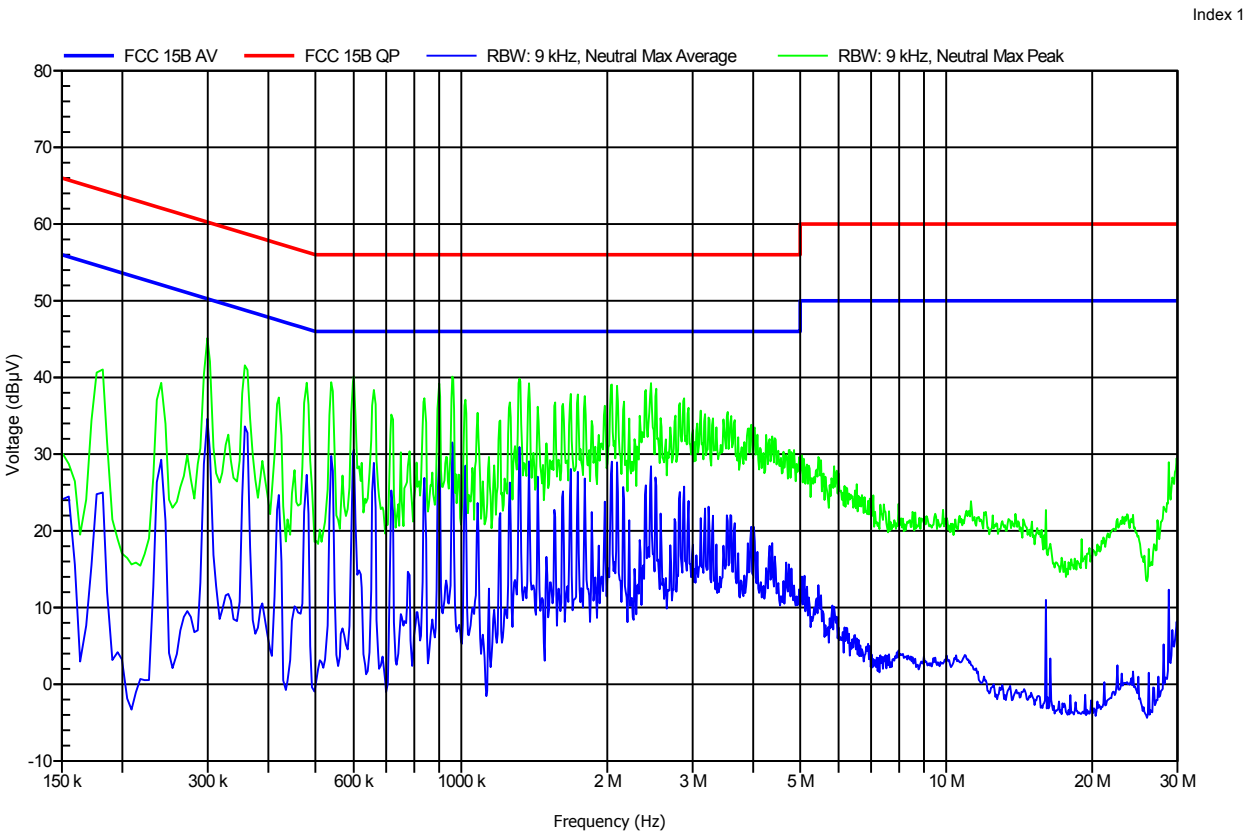
Conducted emissions acc. FCC 47 CFR 15.207 / IC RSS-Gen				**Verdict: PASS**
Test according referenced standards	Reference Method			
	ANSI C63.4			
Fully configured sample scanned over the following frequency range	Frequency range			
	0.15MHz to 30MHz			
Points of Application	Application Interface			
AC Mains	LISN			
EUT test mode	AC-Powerline			
Limits and results				
Frequency [MHz]	Quasi-Peak [dBµV]	Result	Average [dBµV]	Result
0.15 to 5	66 to 56*	PASS	56 to 46*	PASS
0.5 to 5	56	PASS	46	PASS
5 to 30	60	PASS	50	PASS
Comments: * Limit decreases linearly with the logarithm of the frequency.				

Conducted Emissions

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

Order number: G0M-1109-1405

Manufacturer:	Panasonic Electronic Devices Europe GmbH
EUT Name:	TX-modul PAN2580
Model:	MAC: 001C2C1B264CB01A
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Pflug
Test Conditions:	Tnom: 23°C, Unom: 120 VAC (AC/DC-adapter, 3V)
LISN:	ESH2-Z5 N
Mode:	TX-mode
Test Date:	28.09.2011
Note:	

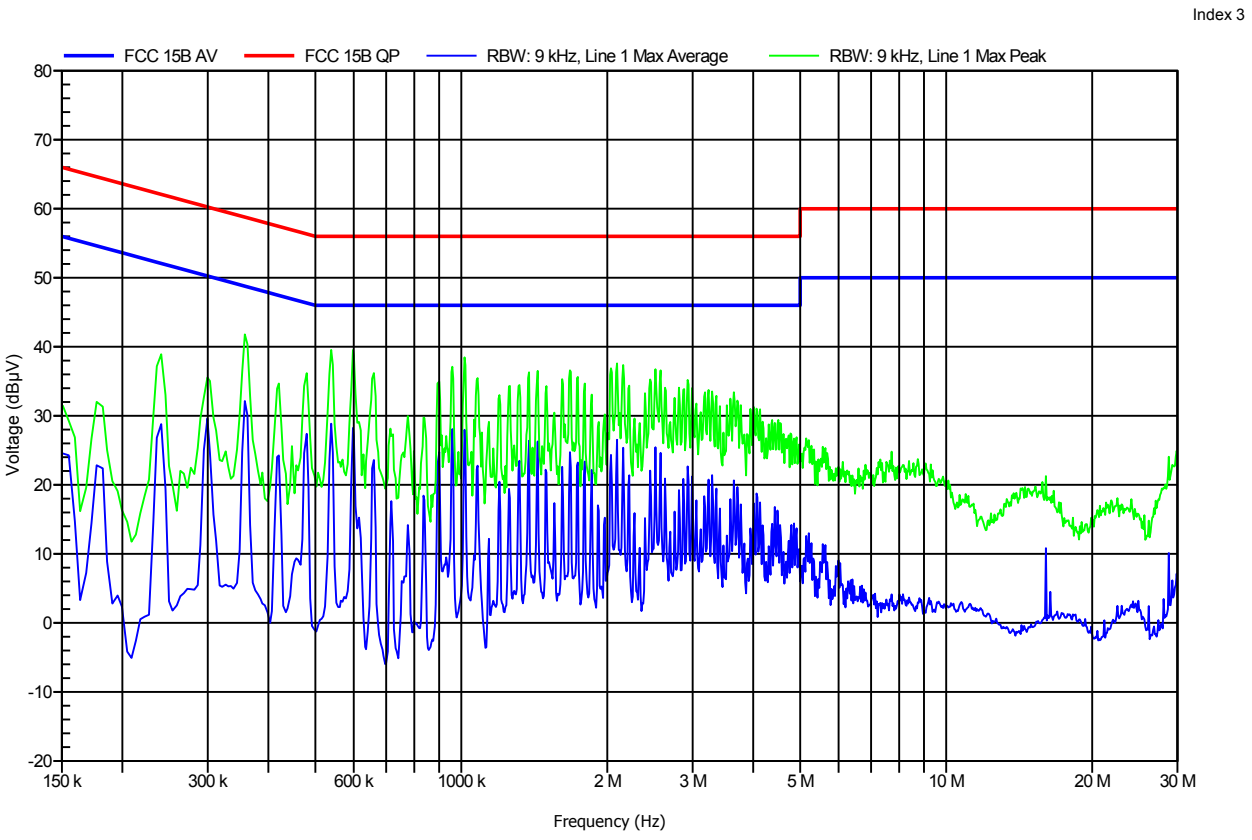


Conducted Emissions

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

Order number: G0M-1109-1405

Manufacturer:	Panasonic Electronic Devices Europe GmbH
EUT Name:	TX-modul PAN2580
Model:	MAC: 001C2C1B264CB01A
Test Site:	Eurofins Product Service GmbH
Operator:	Mr. Pflug
Test Conditions:	Tnom: 23°C, Unom: 120 VAC (AC/DC-adapter, 3V)
LISN:	ESH2-Z5 L
Mode:	TX-mode
Test Date:	28.09.2011
Note:	



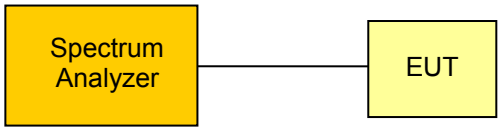
3.8 Test Conditions and Results – Band edge compliance

Band-edge compliance acc. FCC 15.247 / IC RSS-210	**Verdict: PASS**
EUT requirement rule parts and clause	Reference
	FCC 15.247(d) / IC RSS-210 A8.1
Test according to measurement reference	Reference Method
	FCC Public Notice DA 00-705
Test frequency range	Tested frequencies
	F_{LOW} / F_{MID} / F_{HIGH}
EUT test mode	Single

Limits

Limit	Condition
≤ -20dB/100kHz	Peak power measurement detector = Peak
≤ -30dB/100kHz	Peak power measurement detector = RMS

Test setup



Test procedure

1. EUT set to test mode (Communication tester is used if needed)
2. Span set around lower band edge and detector is set to peak and max hold
3. Resolution bandwidth is set to 100kHz
4. Markers are set to peak emission levels within frequency band and outside frequency band
5. Band edge attenuation is determined from level difference

Test results

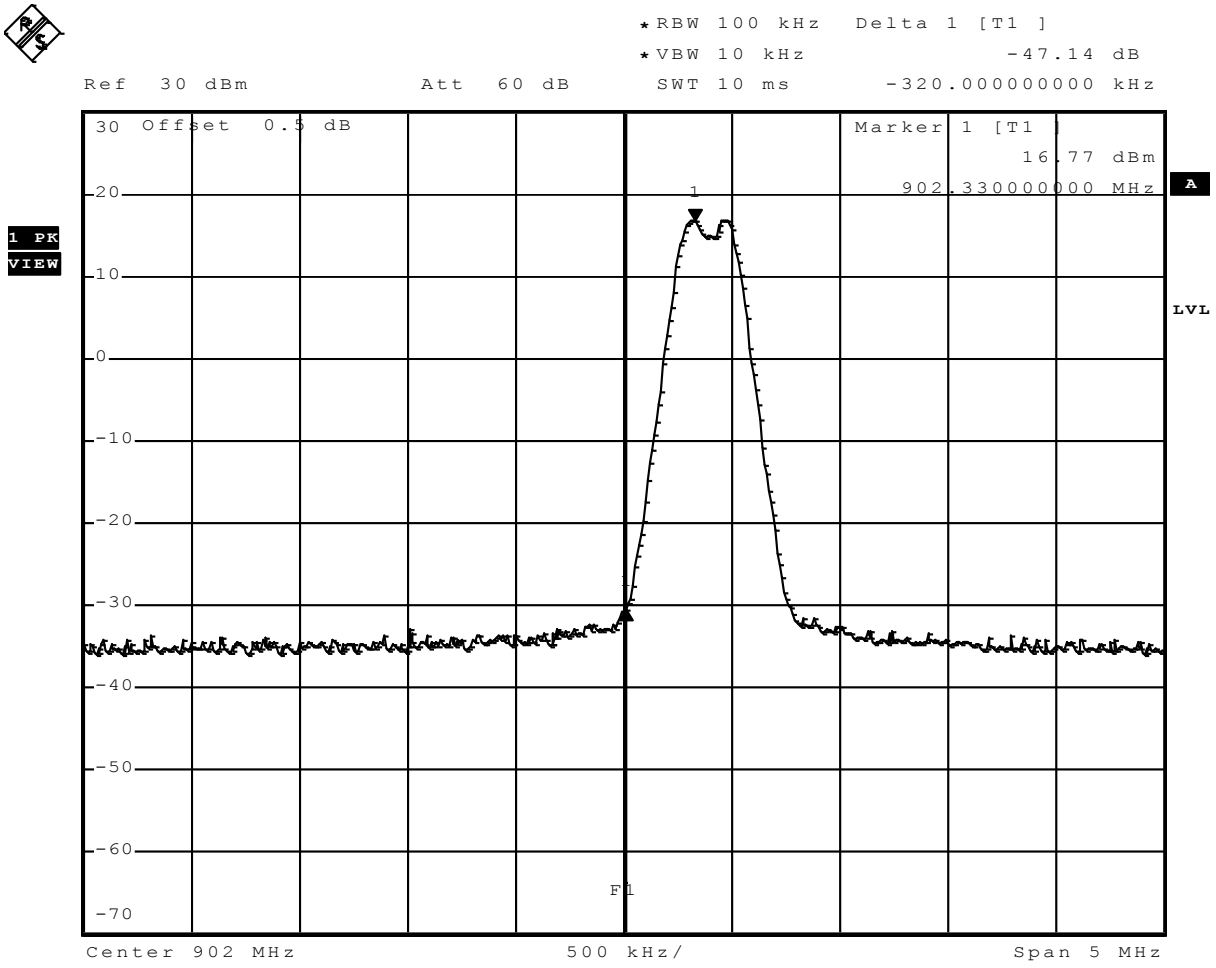
Channel	Frequency [MHz]	Mode	Level [dBc]	Limit [dBc]	Margin [dB]	Result
F_{LOW}	902.4	Single	-47.14	-20	-27.14	PASS
F_{HIGH}	902.4	Single	-40.59	-20	-20.59	PASS
F_{LOW}	902.4	Hopping	-43.22	-20	-23.22	PASS
F_{HIGH}	902.4	Hopping	-44.87	-20	-24.87	PASS

Comments:

Band-edge compliance – F_{LOW} single

FCC part 15.247
Band-edge compliance of RF conducted emissions

EUT	Radio module
Model	PAN2580
Approval Holder	Panasonic Electronic Devices Europe GmbH / Ord.: G0M-11090-1405
Temperature / Voltage	Tnom / Vnom
Test Site / Operator	Eurofins Product Service GmbH / Mr. Treffke
Test Specification	FCC part 15 section 247(c)
Comment 1	Band-edge compliance
Comment 2	Channel.: 902.4 MHz
Comment 3	Single frequency mode

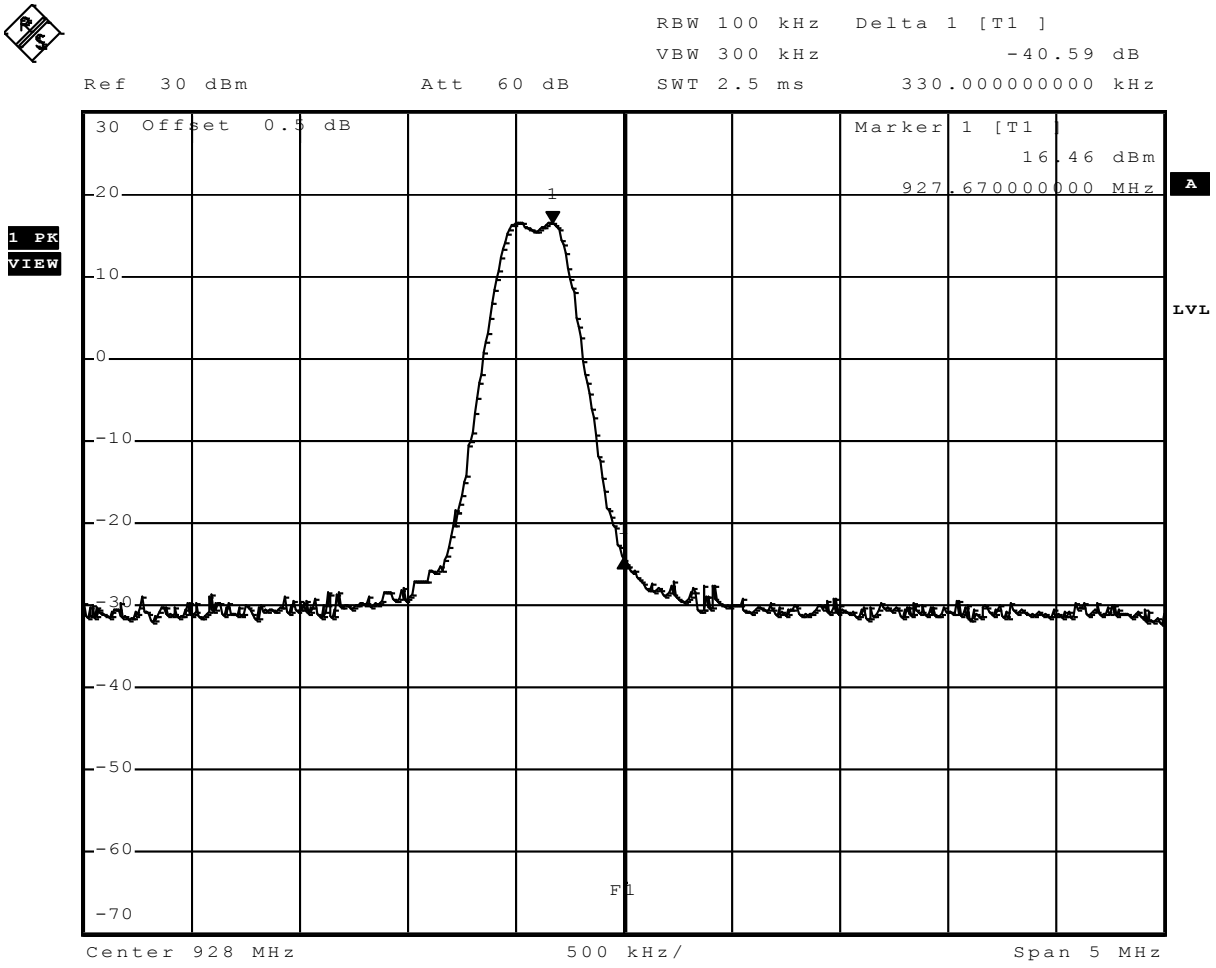


Comment: 20 dB bandwidth: 310.2 KHz
Date: 26.SEP.2011 09:16:40

Band-edge compliance – F_{HIGH} single

FCC part 15.247
Band-edge compliance of RF conducted emissions

EUT	Radio module
Model	PAN2580
Approval Holder	Panasonic Electronic Devices Europe GmbH / Ord.: G0M-11090-1405
Temperature / Voltage	Tnom / Vnom
Test Site / Operator	Eurofins Product Service GmbH / Mr. Treffke
Test Specification	FCC part 15 section 247(c)
Comment 1	Band-edge compliance
Comment 2	Channel.: 927.6 MHz
Comment 3	Single frequency mode

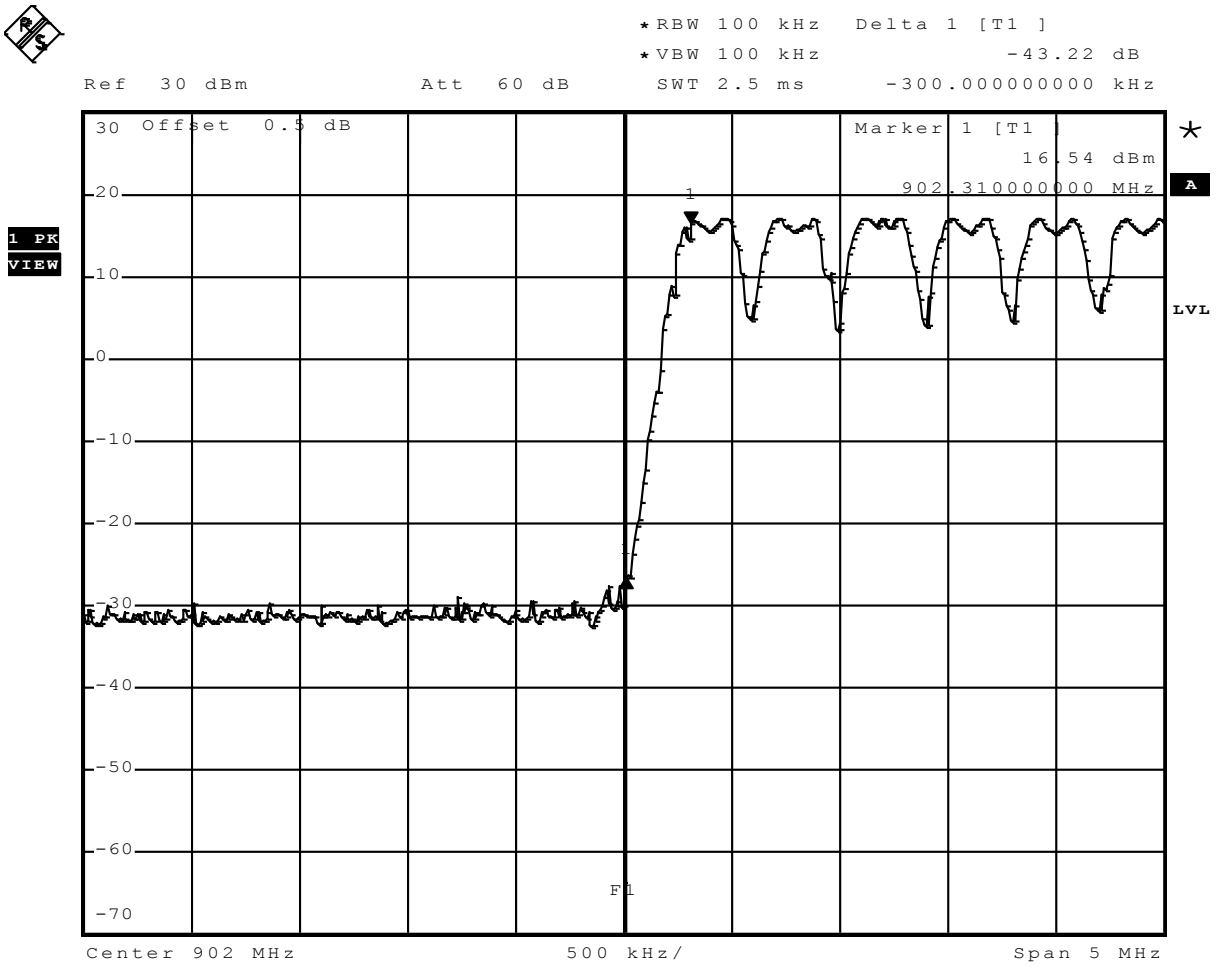


Comment: 20 dB bandwidth: 323.4 KHz
Date: 26.SEP.2011 09:47:51

Band-edge compliance – F_{LOW} hopping

FCC part 15.247
Band-edge compliance of RF conducted emissions

EUT	Radio module
Model	PAN2580
Approval Holder	Panasonic Electronic Devices Europe GmbH / Ord.: G0M-11090-1405
Temperature / Voltage	Tnom / Vnom
Test Site / Operator	Eurofins Product Service GmbH / Mr. Treffke
Test Specification	FCC part 15 section 247(c)
Comment 1	Band-edge compliance
Comment 2	Channel.: hopping
Comment 3	Hopping mode

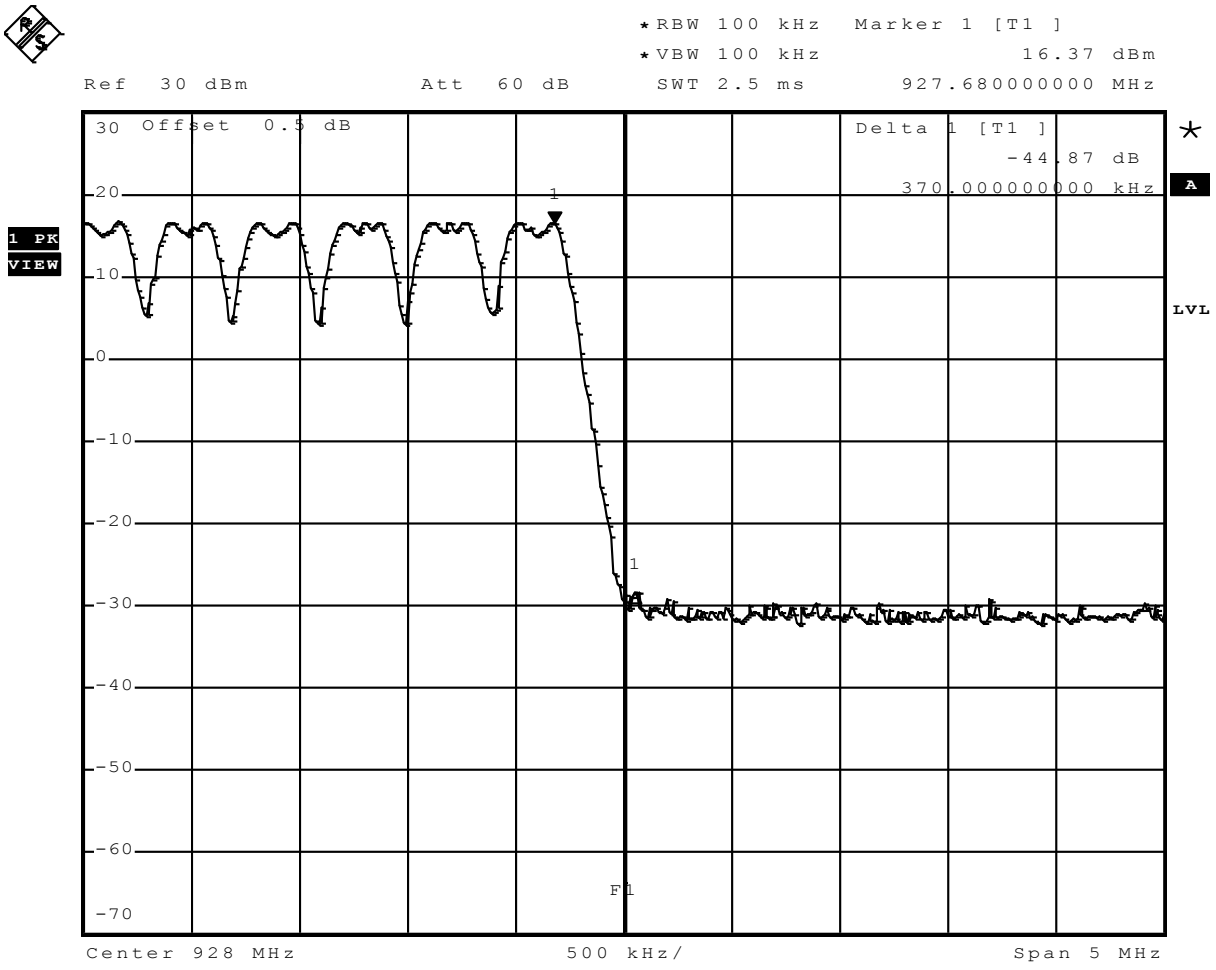


Date: 22.SEP.2011 11:35:40

Band-edge compliance – F_{HIGH} hopping

FCC part 15.247
Band-edge compliance of RF conducted emissions

EUT	Radio module
Model	PAN2580
Approval Holder	Panasonic Electronic Devices Europe GmbH / Ord.: G0M-11090-1405
Temperature / Voltage	Tnom / Vnom
Test Site / Operator	Eurofins Product Service GmbH / Mr. Treffke
Test Specification	FCC part 15 section 247(c)
Comment 1	Band-edge compliance
Comment 2	Channel.: hopping
Comment 3	Hopping mode



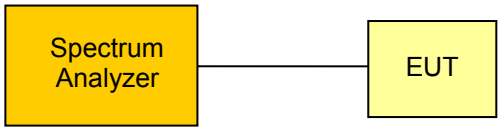
3.9 Test Conditions and Results – Conducted spurious emissions

Conducted spurious emissions acc. FCC 15.247 / IC RSS-210	**Verdict: PASS**
EUT requirement rule parts and clause	Reference
	FCC 15.247(d) / IC RSS-210 A8.1
Test according to measurement reference	Reference Method
	FCC Public Notice DA 00-705
Test frequency range	Tested frequencies
	10MHz – 10th Harmonic
EUT test mode	Single

Limits

Limit	Condition
≤ -20dB/100kHz	Peak power measurement detector = Peak
≤ -30dB/100kHz	Peak power measurement detector = RMS

Test setup



Test procedure

1. EUT set to test mode (Communication tester is used if needed)
2. Span it set according to measurement range
3. Resolution bandwidth is set to 100kHz and detector to peak and max hold
4. Markers are set to peak emission levels within frequency band
5. Emission level is determined by second marker on emission peak
6. Attenuation is determined from level difference

Test results

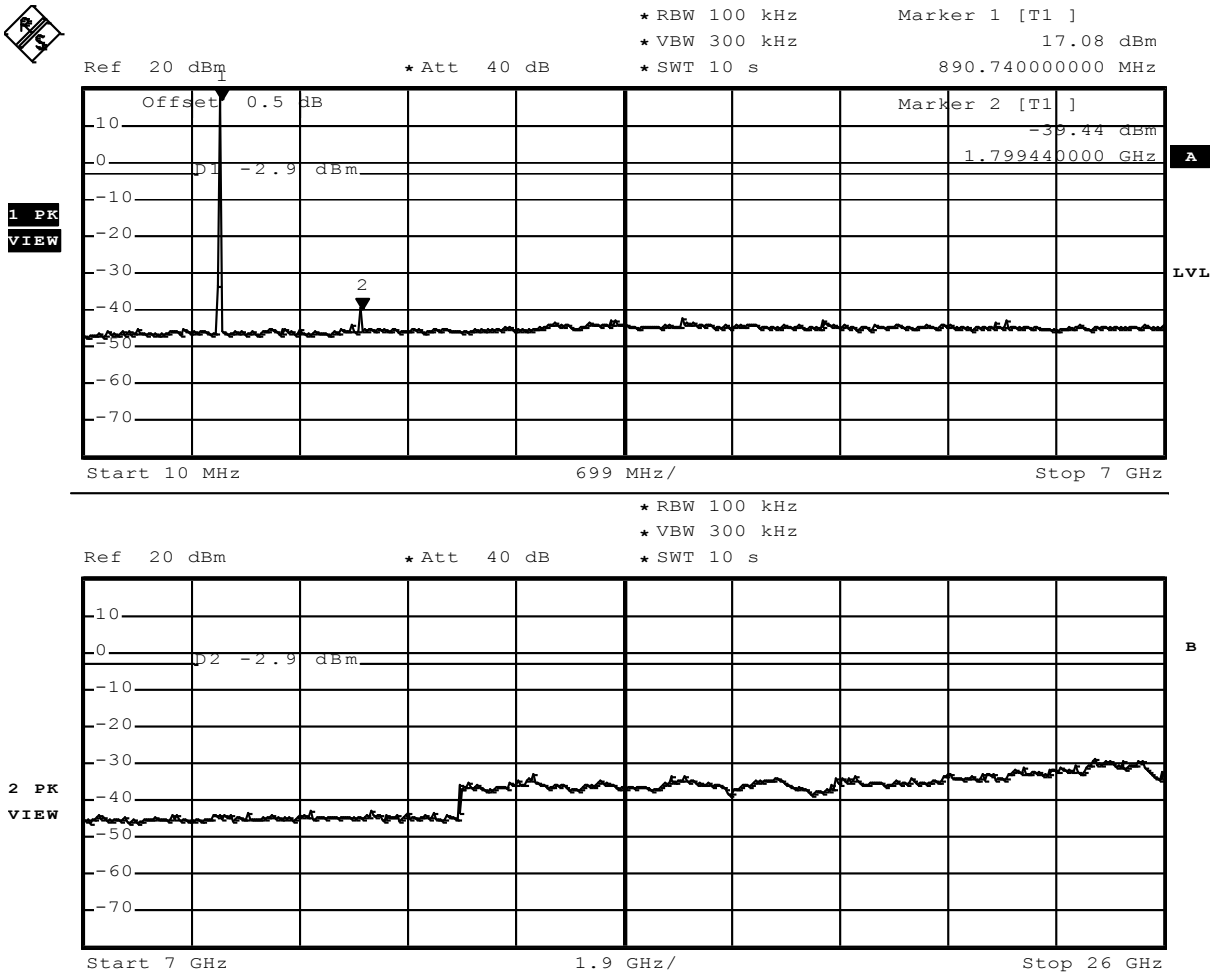
Channel	Frequency [MHz]	Emission [MHz]	Emission Level [dbm]	Peak power [dBm]	Limit [dBm]	Margin [dB]	Result
F_{LOW}	902.4	1799.4	-39.44	17.1	-2.9	-36.54	PASS
F_{MID}	914.8	1827.40	-39.95	16.8	-3.2	-36.75	PASS
F_{HIGH}	927.6	1855.36	-40.89	16.5	-3.5	-37.39	PASS

Comments:

Conducted spurious emissions – F_{LOW}

FCC part 15.247 (d)
Spurious Emissions

EUT	Radio module
Model	PAN2580
Approval Holder	Panasonic Electronic Devices Europe GmbH / Ord.: G0M-11090-1405
Temperature / Voltage	Tnom / Vnom
Test Site / Operator	Eurofins Product Service GmbH / Mr. Treffke
Test Specification	FCC part 15.247 (d)
Comment 1	Spurious Emissions conducted
Comment 2	Channel : 902.4 MHz
Comment 3	pass

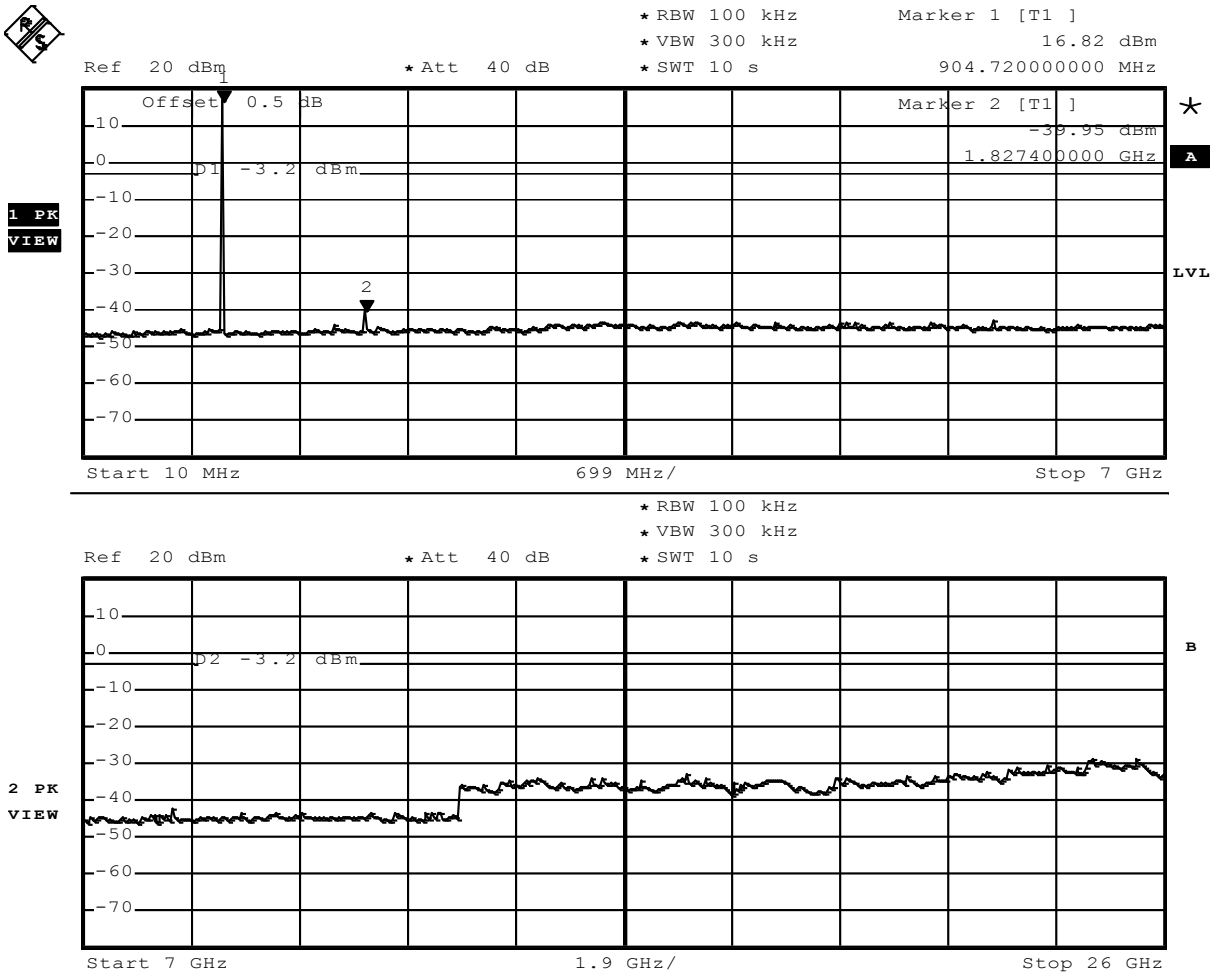


Date: 26.SEP.2011 10:25:16

Conducted spurious emissions – F_{MID}

FCC part 15.247 (d)
Spurious Emissions

EUT	Radio module
Model	PAN2580
Approval Holder	Panasonic Electronic Devices Europe GmbH / Ord.: G0M-11090-1405
Temperature / Voltage	Tnom / Vnom
Test Site / Operator	Eurofins Product Service GmbH / Mr. Treffke
Test Specification	FCC part 15.247 (d)
Comment 1	Spurious Emissions conducted
Comment 2	Channel : 914.8 MHz
Comment 3	pass

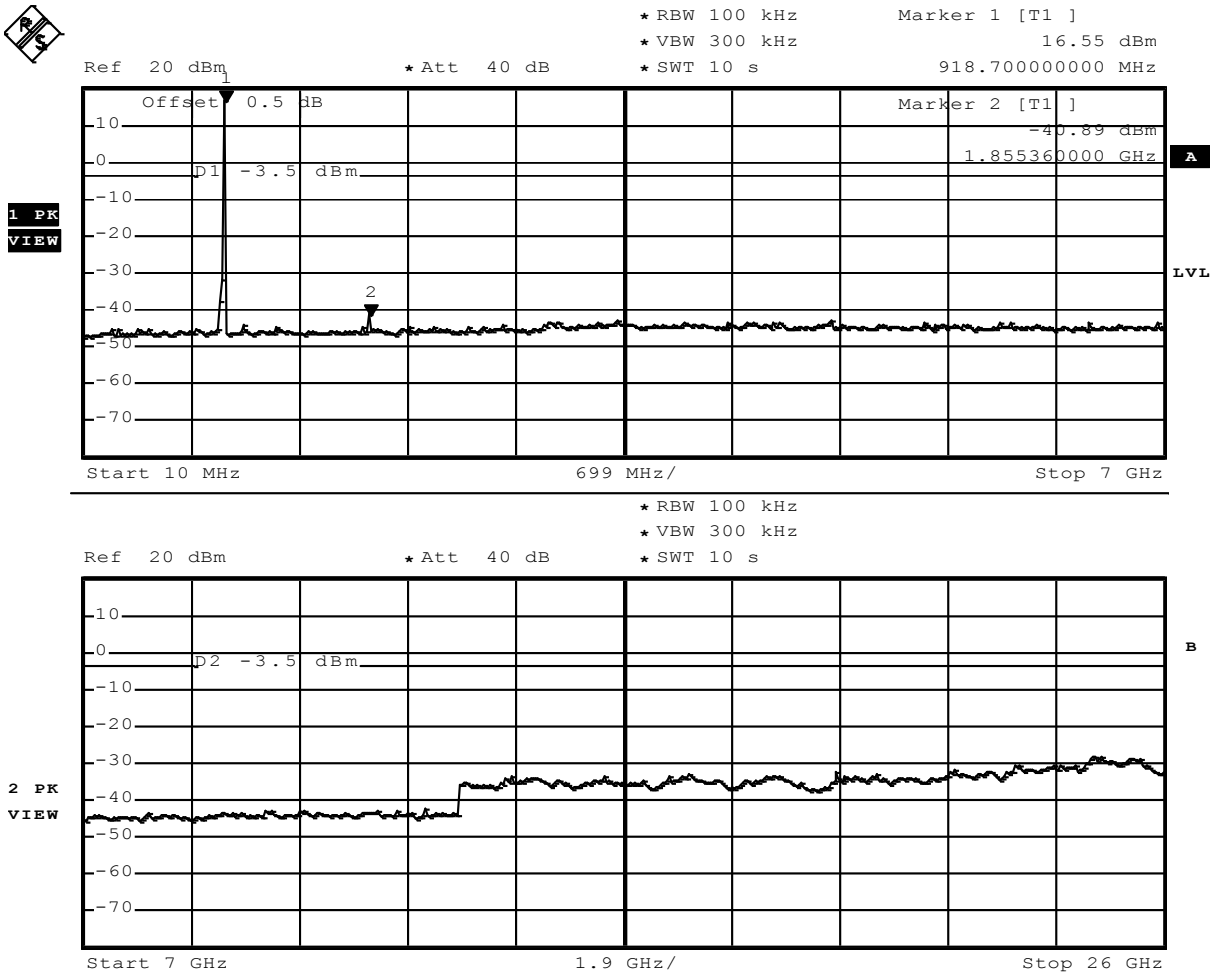


Date: 26.SEP.2011 10:18:51

Conducted spurious emissions – F_{HIGH}

FCC part 15.247 (d)
Spurious Emissions

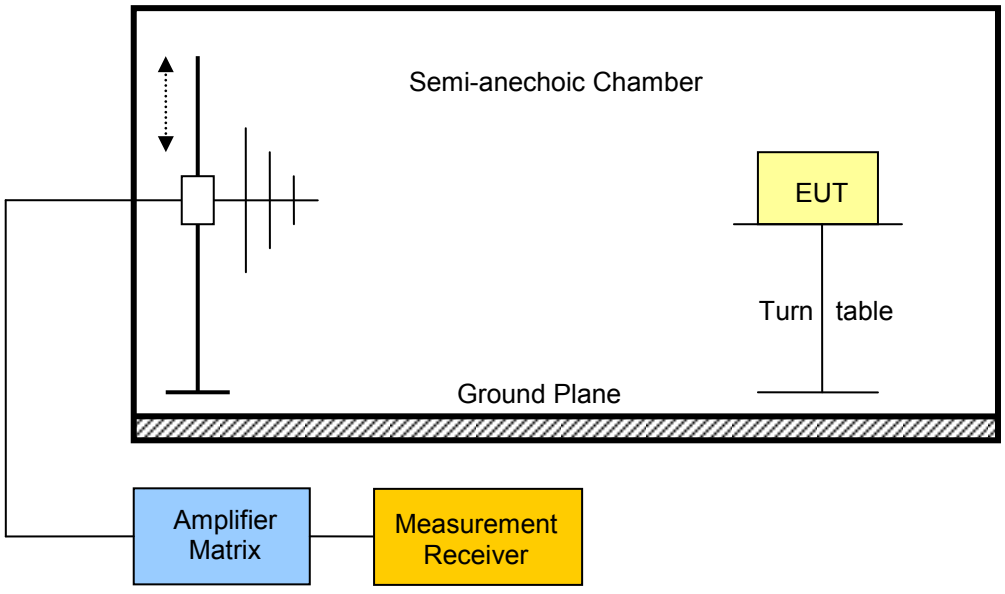
EUT	Radio module
Model	PAN2580
Approval Holder	Panasonic Electronic Devices Europe GmbH / Ord.: G0M-11090-1405
Temperature / Voltage	Tnom / Vnom
Test Site / Operator	Eurofins Product Service GmbH / Mr. Treffke
Test Specification	FCC part 15.247 (d)
Comment 1	Spurious Emissions conducted
Comment 2	Channel : 927.6 MHz
Comment 3	pass



Date: 26.SEP.2011 10:34:14

3.10 Test Conditions and Results – Transmitter radiated emissions

Transmitter radiated emissions acc. FCC 47 CFR 15.247 / IC RSS-210				**Verdict: PASS**
Test according referenced standards		Reference Method		
		FCC 15.247(d) / IC RSS-210 A8.5		
Test according to measurement reference		Reference Method		
		FCC Public Notice DA 00-705 / ANSI C63.4		
Test frequency range		Tested frequencies		
		30MHz – 10th Harmonic		
EUT test mode		Single		
Limits				
Frequency range [MHz]	Detector	Limit [µV/m]	Limit [dBµV/m]	Limit Distance [m]
30 – 88	Quasi-Peak	100	40	3
88 – 216	Quasi-Peak	150	43.5	3
216 – 960	Quasi-Peak	200	46	3
960 – 1000	Quasi-Peak	500	54	3
> 1000	Average	500	54	3
Radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)). When average radiated emission measurements are specified, including average emission measurements below 1000 MHz, there also is a limit on the peak level of the radio frequency emissions. The limit on peak radio frequency emissions is 20 dB above the maximum permitted average emission limit applicable to the equipment under test.				
Test setup				



Test procedure
1. EUT set to test mode (Communication tester is used if needed) 2. Span it set according to measurement range 3. Resolution bandwidth below 1GHz is set according to CISPR 16 with peak/quasi-peak detector and RBW of 1MHz with peak/average detector is used above 1GHz 4. Markers are set to peak emission levels within restricted bands

Test results – Internal Antenna

Channel	Frequency [MHz]	Emission [MHz]	Level [dbµV/m]	Detector	Pol.	Limit [dbµV/m]	Limit distance [m]*	Margin [dB]
F_{LOW}	902.4	2707	51.7	pk	v	74.00	3	-22.30
F_{LOW}	902.4	2707	57.2	pk	h	74.00	3	-16.80
F_{LOW}	902.4	2707	51.4	avg	h	54.00	3	-02.60
F_{MID}	914.8	2743	50.8	pk	v	74.00	3	-23.20
F_{MID}	914.8	2744	45.4	avg	v	54.00	3	-08.60
F_{MID}	914.8	2743	58.5	pk	h	74.00	3	-15.50
F_{MID}	914.8	2744	53.5	avg	h	54.00	3	-00.50
F_{HIGH}	927.6	2786	57.8	pk	h	74.00	3	-16.20
F_{HIGH}	927.6	2783	52.0	avg	h	54.00	3	-02.00

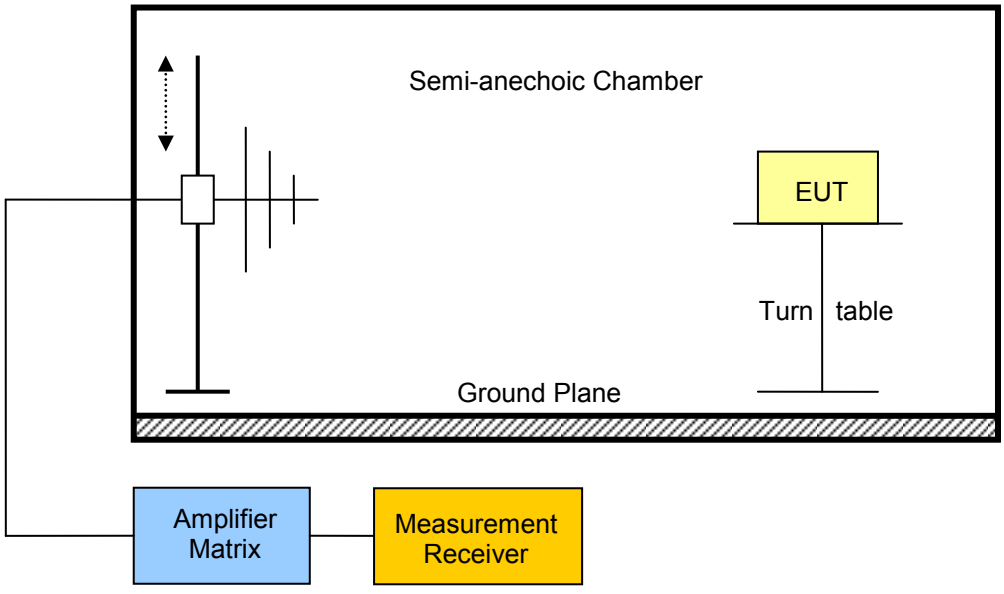
Test results – External Antenna

Channel	Frequency [MHz]	Emission [MHz]	Level [dbµV/m]	Detector	Pol.	Limit [dbµV/m]	Limit distance [m]*	Margin [dB]
F_{LOW}	902.4	2707	51.9	pk	v	74.00	3	-22.10
F_{LOW}	902.4	2707	57.1	pk	h	74.00	3	-16.90
F_{LOW}	902.4	2707	51.3	avg	h	54.00	3	-02.70
F_{MID}	914.8	2743	50.9	pk	v	74.00	3	-23.10
F_{MID}	914.8	2743	57.2	pk	h	74.00	3	-16.80
F_{MID}	914.8	2744	49.7	avg	h	54.00	3	-04.30
F_{HIGH}	927.6	1854	50.8	pk	v	74.00	3	-23.20
F_{HIGH}	927.6	1854	51.2	pk	h	74.00	3	-22.80

Comments: * Physical distance between EUT and measurement antenna.

3.11 Test Conditions and Results – Receiver radiated emissions

Receiver radiated emissions acc. IC RSS-210				**Verdict: PASS**
Test according referenced standards	Reference Method			
	IC RSS-210 A8.5			
Test according to measurement reference	Reference Method			
	ANSI C63.4			
Test frequency range	Tested frequencies			
	30MHz – 3th Harmonic			
EUT test mode	Receive			
Limits				
Frequency range [MHz]	Detector	Limit [µV/m]	Limit [dBµV/m]	Limit Distance [m]
30 – 88	Quasi-Peak	100	40	3
88 – 216	Quasi-Peak	150	43.5	3
216 – 960	Quasi-Peak	200	46	3
960 – 1000	Quasi-Peak	500	54	3
> 1000	Average	500	54	3
Test setup				



Test procedure
1. EUT set to receive mode (Communication tester is used if needed) 2. Span it set according to measurement range 3. Resolution bandwidth below 1GHz is set according to CISPR 16 with peak/quasi-peak detector and RBW of 1MHz with peak/average detector is used above 1GHz 4. Markers are set to peak emission levels

Test results

Channel	Frequency [MHz]	Emission [MHz]	Emission Level [dbµV/m]	Emission Level [µV/m]	Det.	Limit [µV/m]	Margin [µV/m]
F_{MID}	914.8	3988	42.79**	137.880	pk	500.00	-362.12

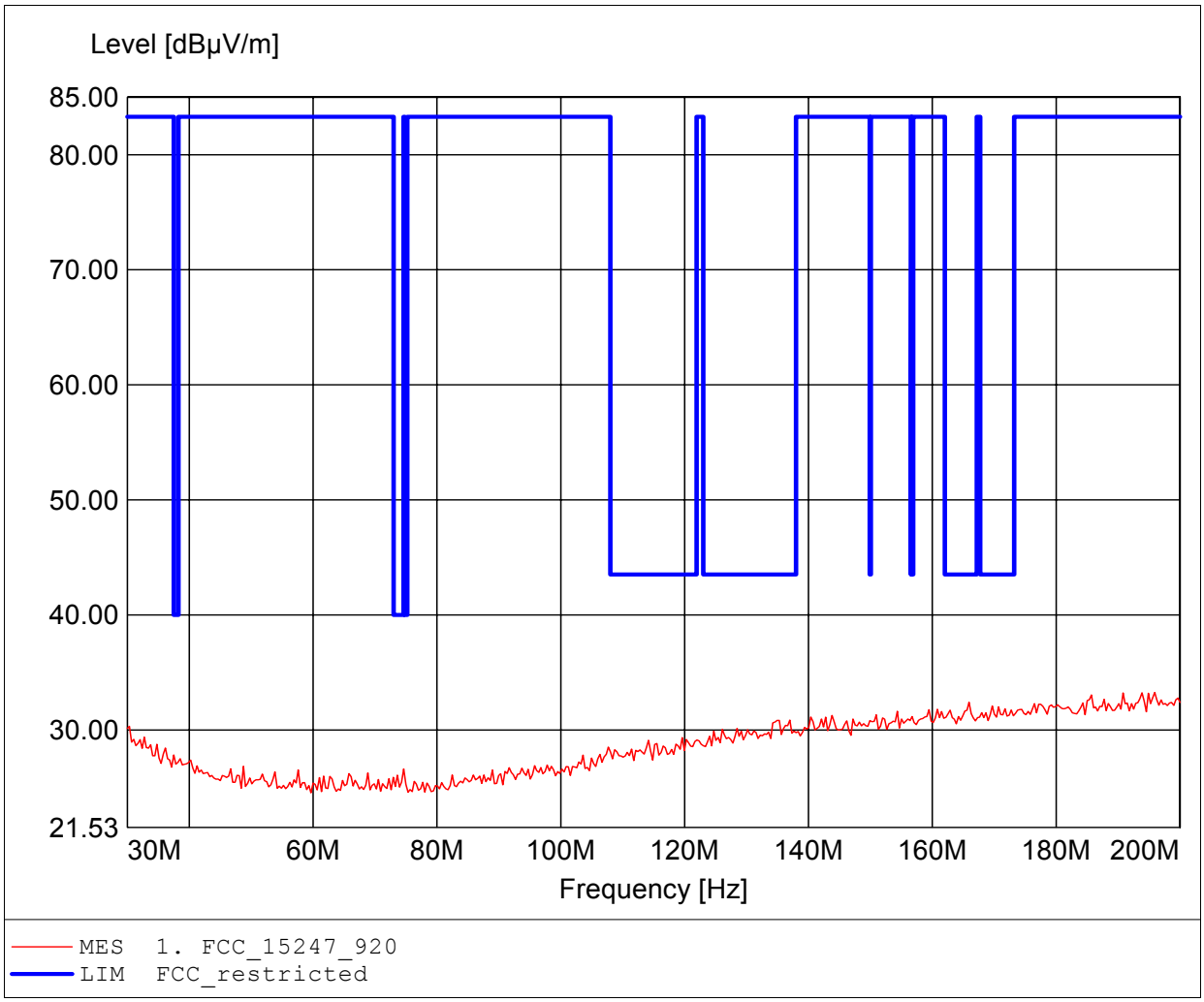
Comments:
* Physical distance between EUT and measurement antenna.
** Emission level corresponds to ambient noise floor

ANNEX A Transmitter radiated spurious emissions

Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

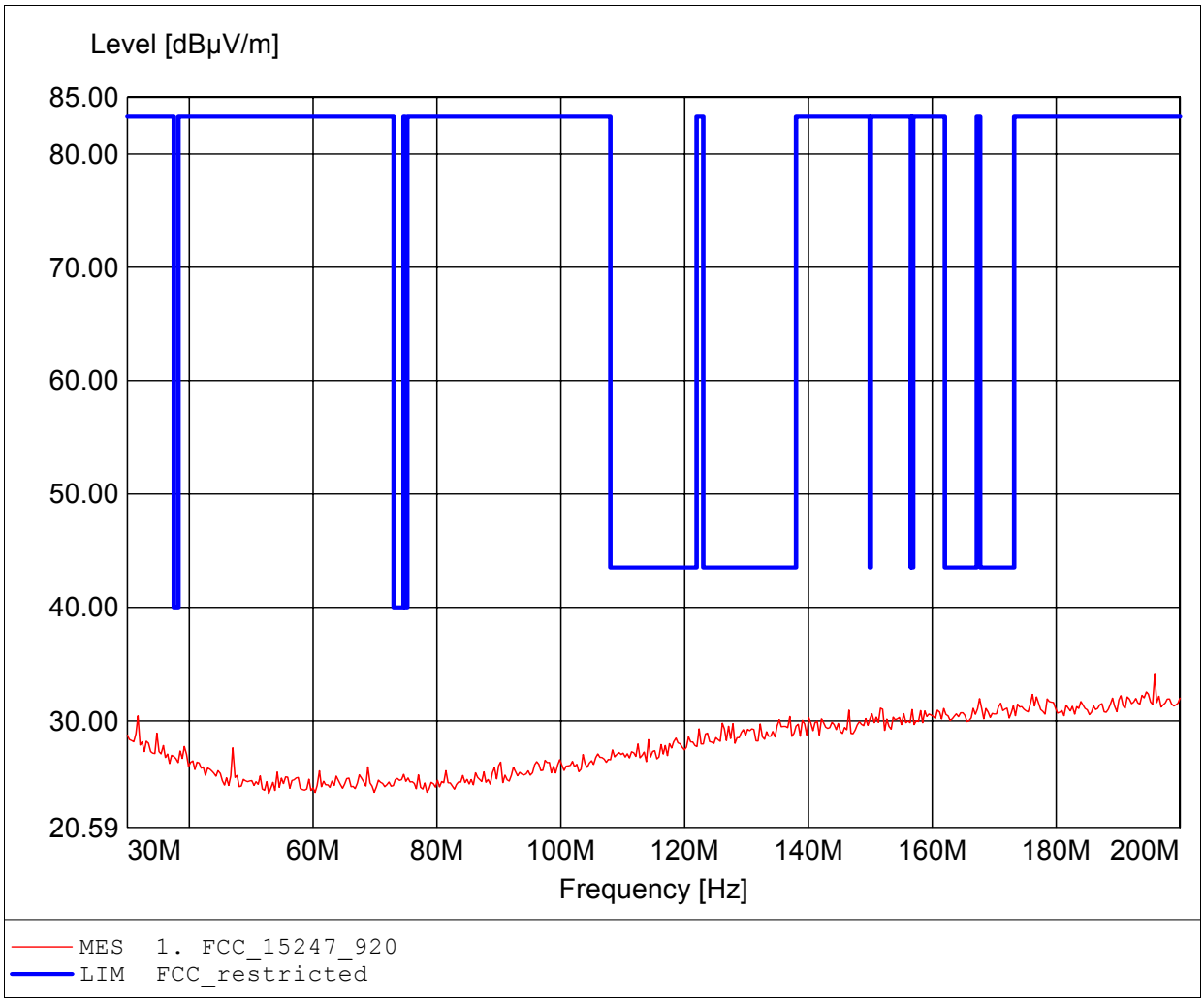
Approval Holder:	Panasonic Electronic Devices Europe GmbH / G0M-1109-1405
EUT:	Radio Module
Model:	PAN 2580 with internal ceramic antenna / Tx 902.4 MHz
Test Site / Operator:	Eurofins Product Service GmbH / Mr. Treffke
Test Condition:	Tnom.: 24°C / Vnom: 3.0 V DC
Test Specification:	according to §15.247
Comment 1:	Dist.: 3m, Ant.: HK 116
Comment 2:	Freq: 195.912MHz, Emax: 33.26dBµV/m, RBW: 100kHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

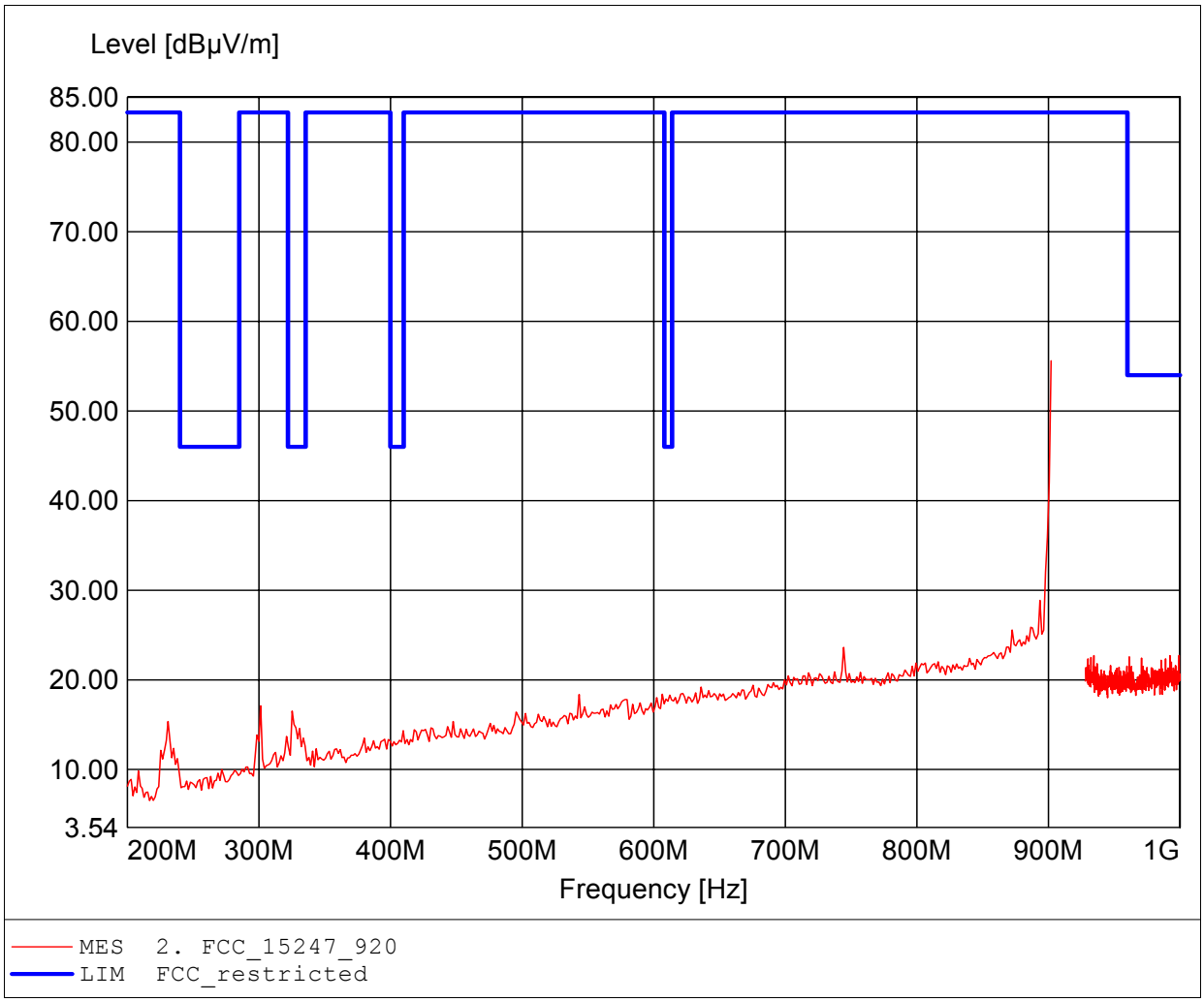
Approval Holder:	Panasonic Electronic Devices Europe GmbH / G0M-1109-1405
EUT:	Radio Module
Model:	PAN 2580 with internal ceramic antenna / Tx 902.4 MHz
Test Site / Operator:	Eurofins Product Service GmbH / Mr. Treffke
Test Condition:	Tnom.: 24°C / Vnom: 3.0 V DC
Test Specification:	according to §15.247
Comment 1:	Dist.: 3m, Ant.: HK 116
Comment 2:	Freq: 195.912MHz, Emax: 34.09dBµV/m, RBW: 100kHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

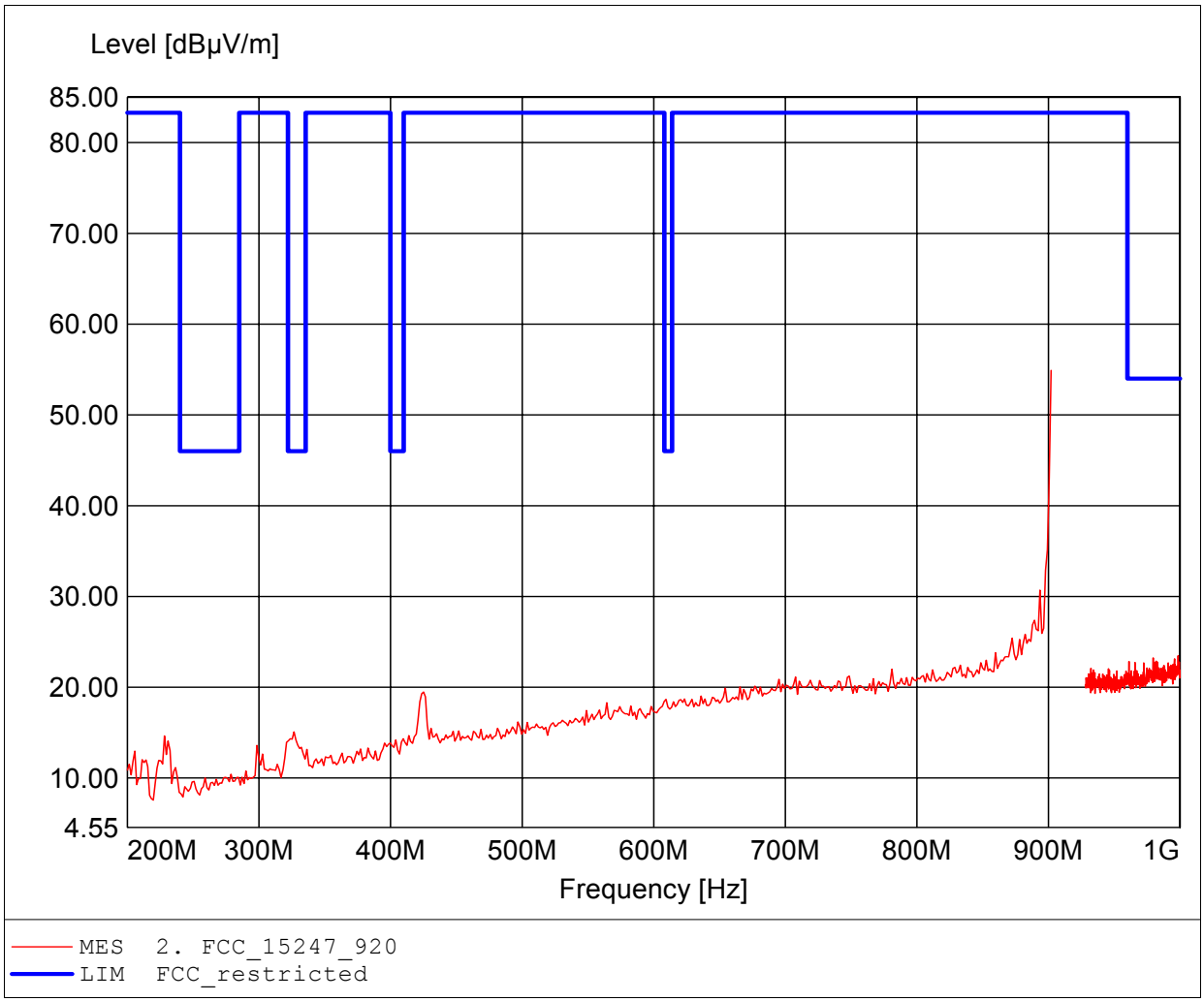
Approval Holder:	Panasonic Electronic Devices Europe GmbH / G0M-1109-1405
EUT:	Radio Module
Model:	PAN 2580 with internal ceramic antenna / Tx 902.4 MHz
Test Site / Operator:	Eurofins Product Service GmbH / Mr. Treffke
Test Condition:	Tnom.: 24°C / Vnom: 3.0 V DC
Test Specification:	according to §15.247
Comment 1:	Dist.: 3m, Ant.: HL 223, amplif.
Comment 2:	Freq: 902.000MHz, Emax: 55.60dBµV/m, RBW: 100kHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

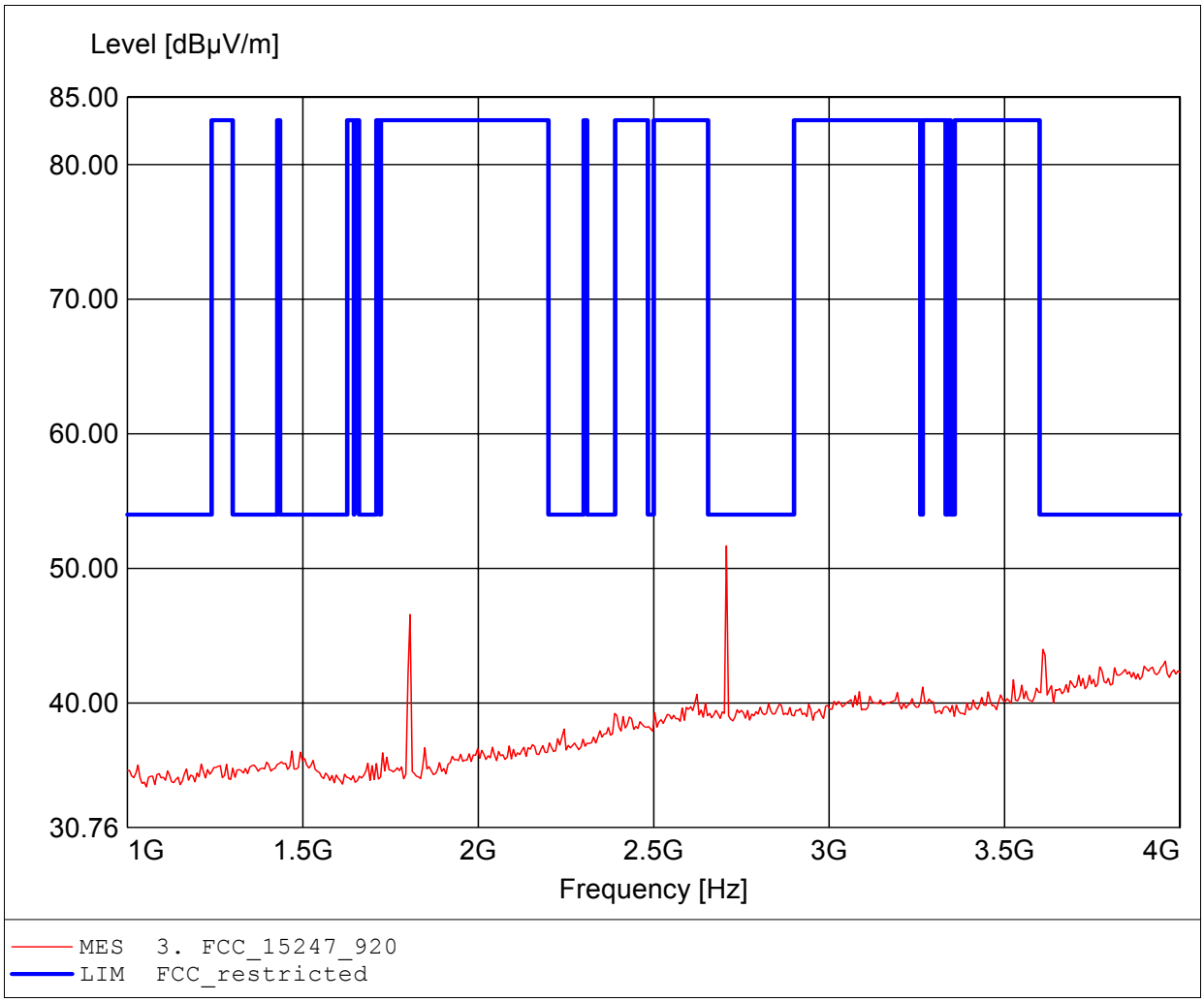
Approval Holder:	Panasonic Electronic Devices Europe GmbH / G0M-1109-1405
EUT:	Radio Module
Model:	PAN 2580 with internal ceramic antenna / Tx 902.4 MHz
Test Site / Operator:	Eurofins Product Service GmbH / Mr. Treffke
Test Condition:	Tnom.: 24°C / Vnom: 3.0 V DC
Test Specification:	according to §15.247
Comment 1:	Dist.: 3m, Ant.: HL 223, amplif.
Comment 2:	Freq: 902.000MHz, Emax: 54.91dBµV/m, RBW: 100kHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

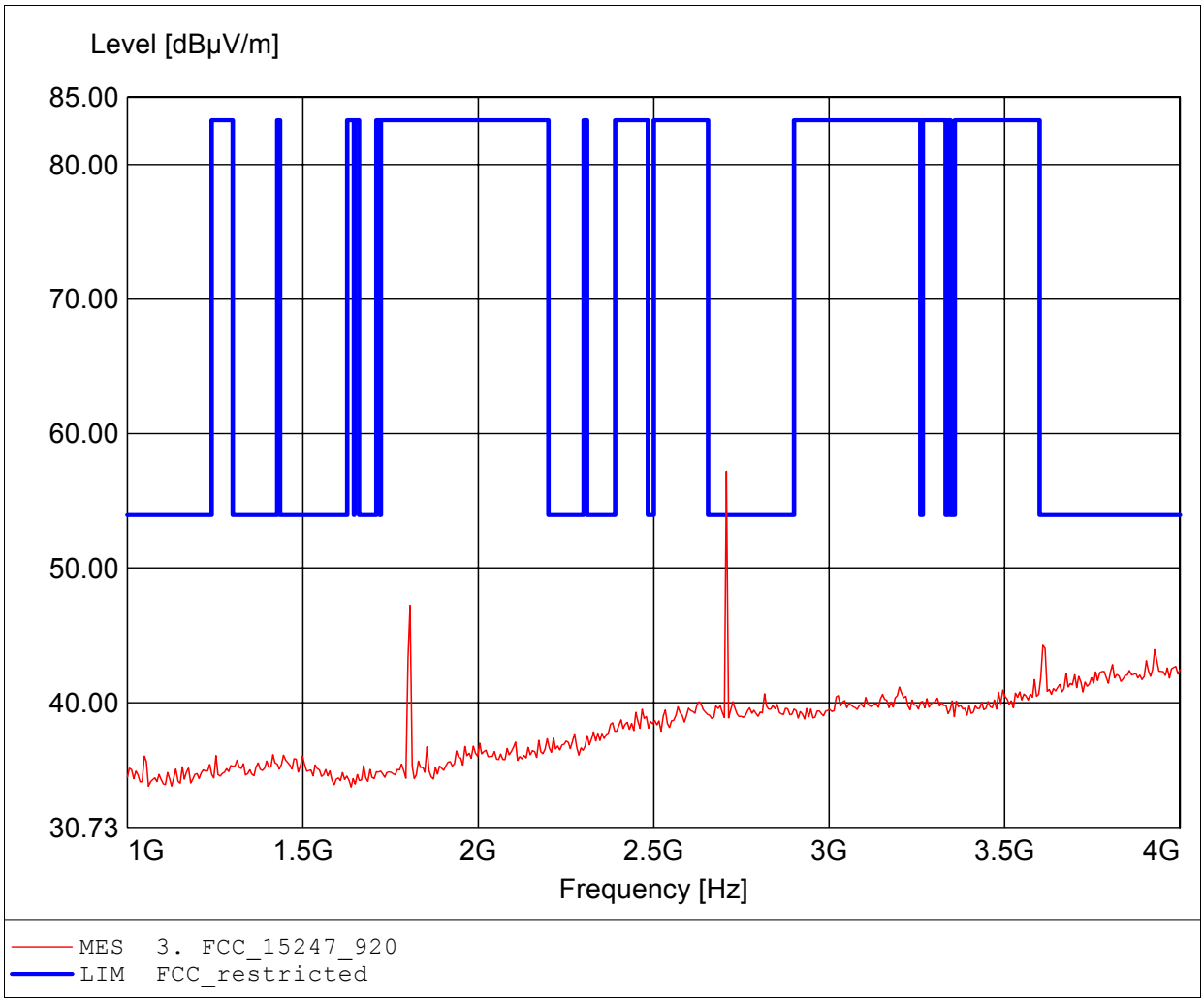
Approval Holder:	Panasonic Electronic Devices Europe GmbH / G0M-1109-1405
EUT:	Radio Module
Model:	PAN 2580 with internal ceramic antenna / Tx 902.4 MHz
Test Site / Operator:	Eurofins Product Service GmbH / Mr. Treffke
Test Condition:	Tnom.: 24°C / Vnom: 3.0 V DC
Test Specification:	according to §15.247, peak detector
Comment 1:	Dist.: 3m, Ant.: BBHA9120D, amplif.
Comment 2:	Freq: 2.707GHz, Emax: 51.68dBµV/m, RBW: 1MHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

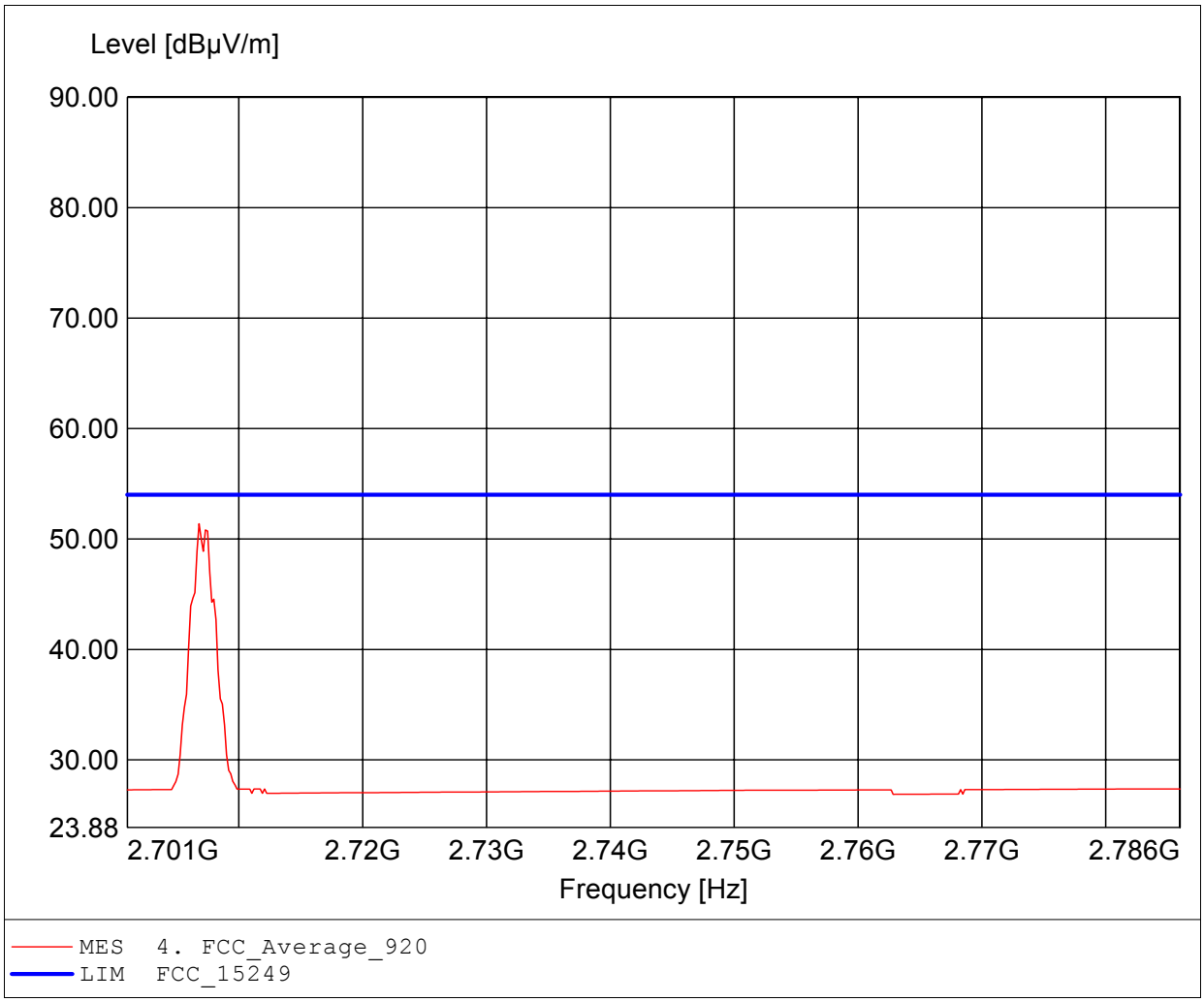
Approval Holder:	Panasonic Electronic Devices Europe GmbH / G0M-1109-1405
EUT:	Radio Module
Model:	PAN 2580 with internal ceramic antenna / Tx 902.4 MHz
Test Site / Operator:	Eurofins Product Service GmbH / Mr. Treffke
Test Condition:	Tnom.: 24°C / Vnom: 3.0 V DC
Test Specification:	according to §15.247, peak detector
Comment 1:	Dist.: 3m, Ant.: BBHA9120D, amplif.
Comment 2:	Freq: 2.707GHz, Emax: 57.20dBµV/m, RBW: 1MHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

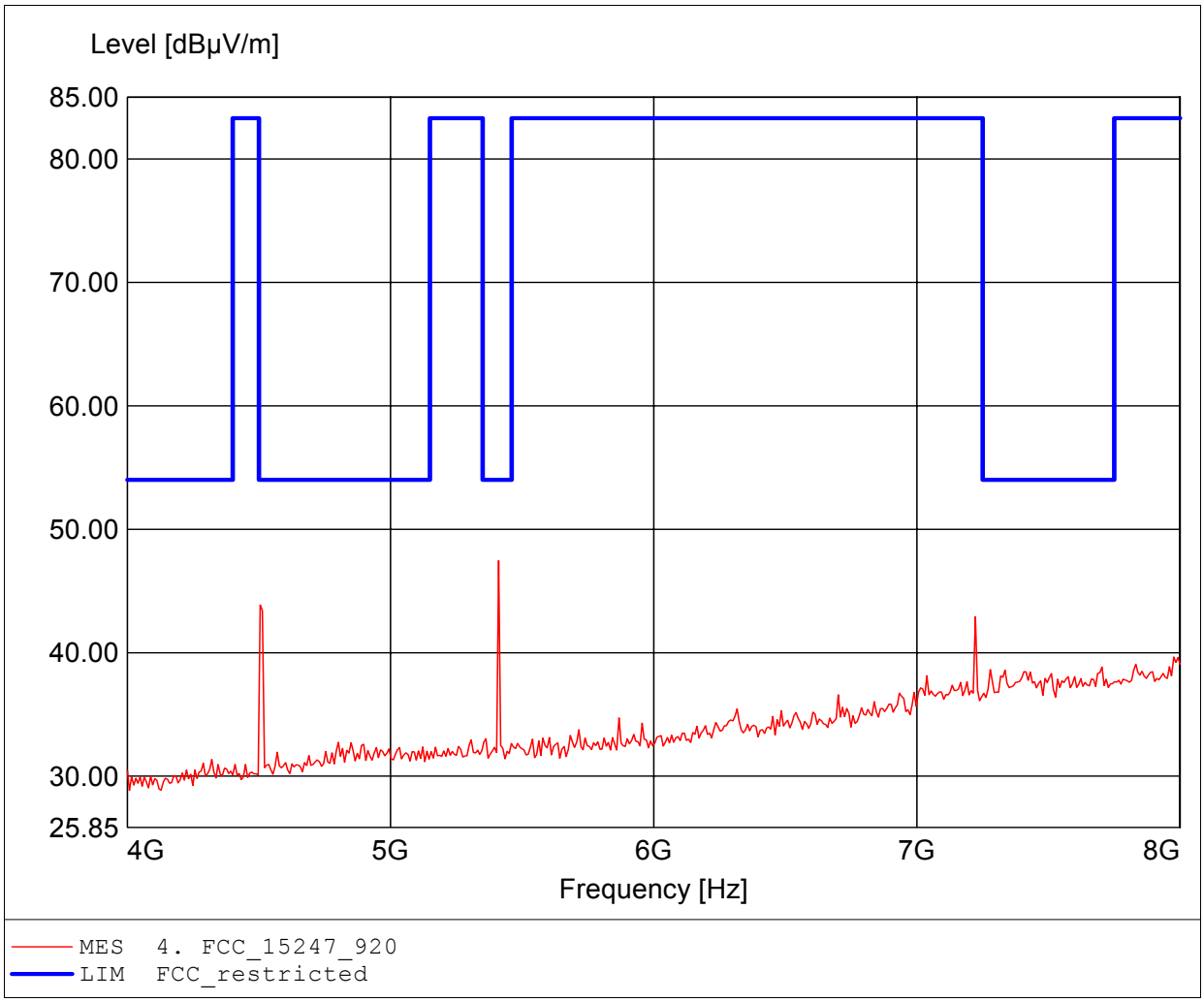
Approval Holder:	Panasonic Electronic Devices Europe GmbH / G0M-1109-1405
EUT:	Radio Module
Model:	PAN 2580 with internal ceramic antenna / Tx 902.4 MHz
Test Site / Operator:	Eurofins Product Service GmbH / Mr. Treffke
Test Condition:	Tnom.: 24°C / Vnom: 3.0 V DC
Test Specification:	according to §15.247, average detector
Comment 1:	Dist.: 3m, Ant.: BBHA9120D, ampl.+HP.
Comment 2:	Freq: 2.707GHz, Emax: 51.38dBµV/m, RBW: 1MHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

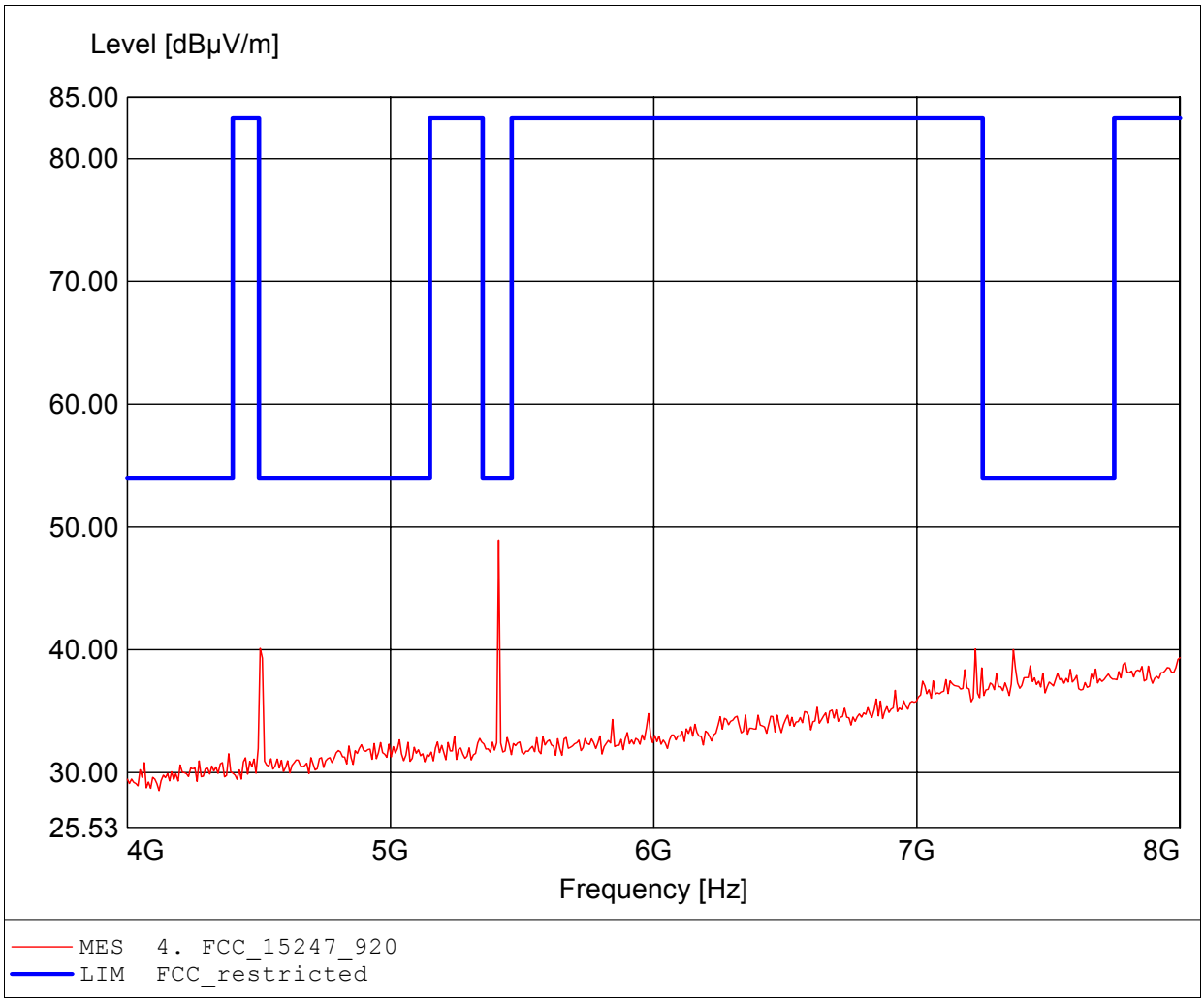
Approval Holder:	Panasonic Electronic Devices Europe GmbH / G0M-1109-1405
EUT:	Radio Module
Model:	PAN 2580 with internal ceramic antenna / Tx 902.4 MHz
Test Site / Operator:	Eurofins Product Service GmbH / Mr. Treffke
Test Condition:	Tnom.: 24°C / Vnom: 3.0 V DC
Test Specification:	according to §15.247, peak detector
Comment 1:	Dist.: 3m, Ant.: BBHA9120D, ampl.+HP.
Comment 2:	Freq: 5.411GHz, Emax: 47.45dBµV/m, RBW: 1MHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

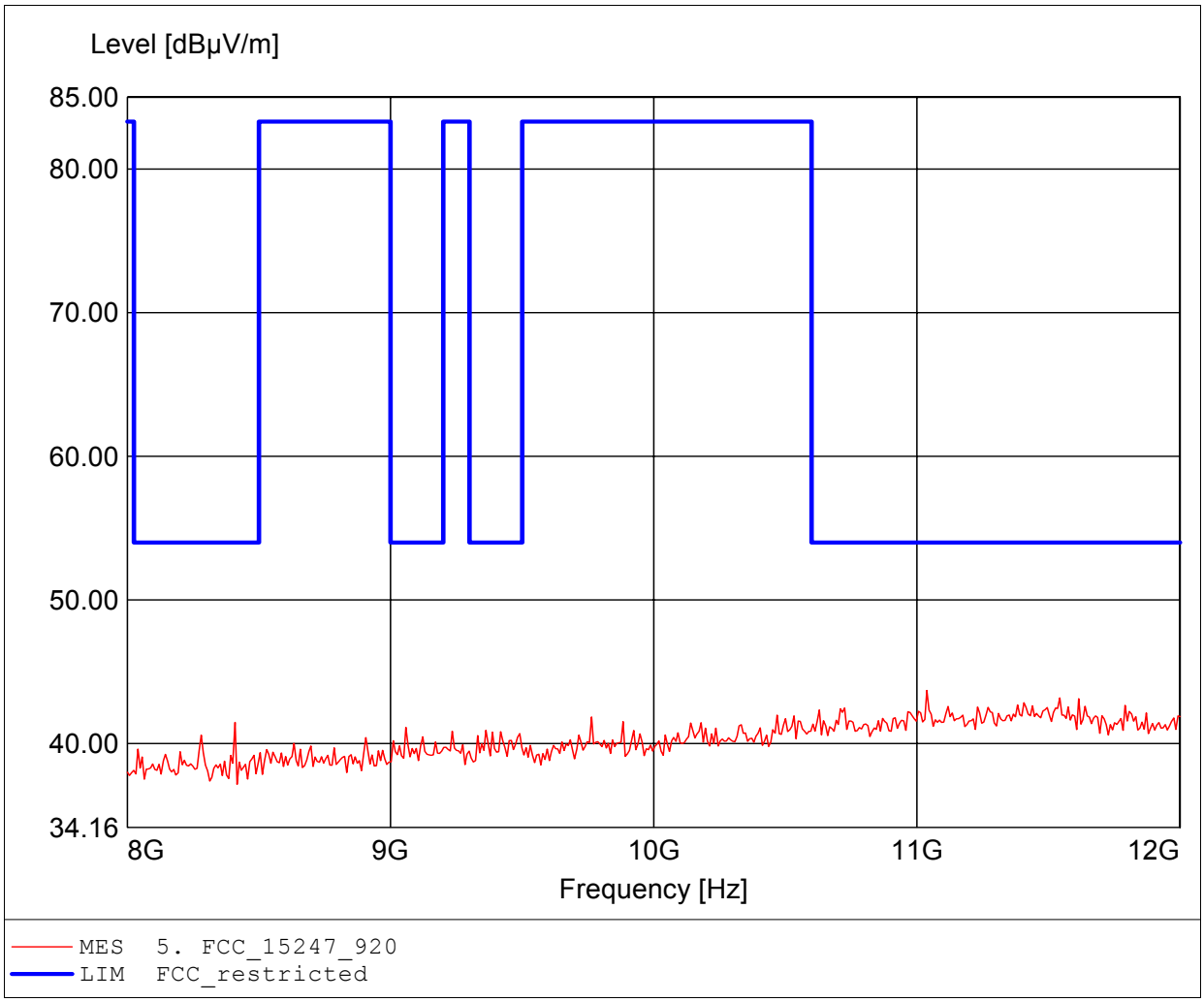
Approval Holder:	Panasonic Electronic Devices Europe GmbH / G0M-1109-1405
EUT:	Radio Module
Model:	PAN 2580 with internal ceramic antenna / Tx 902.4 MHz
Test Site / Operator:	Eurofins Product Service GmbH / Mr. Treffke
Test Condition:	Tnom.: 24°C / Vnom: 3.0 V DC
Test Specification:	according to §15.247, peak detector
Comment 1:	Dist.: 3m, Ant.: BBHA9120D, ampl.+HP.
Comment 2:	Freq: 5.411GHz, Emax: 48.94dBµV/m, RBW: 1MHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

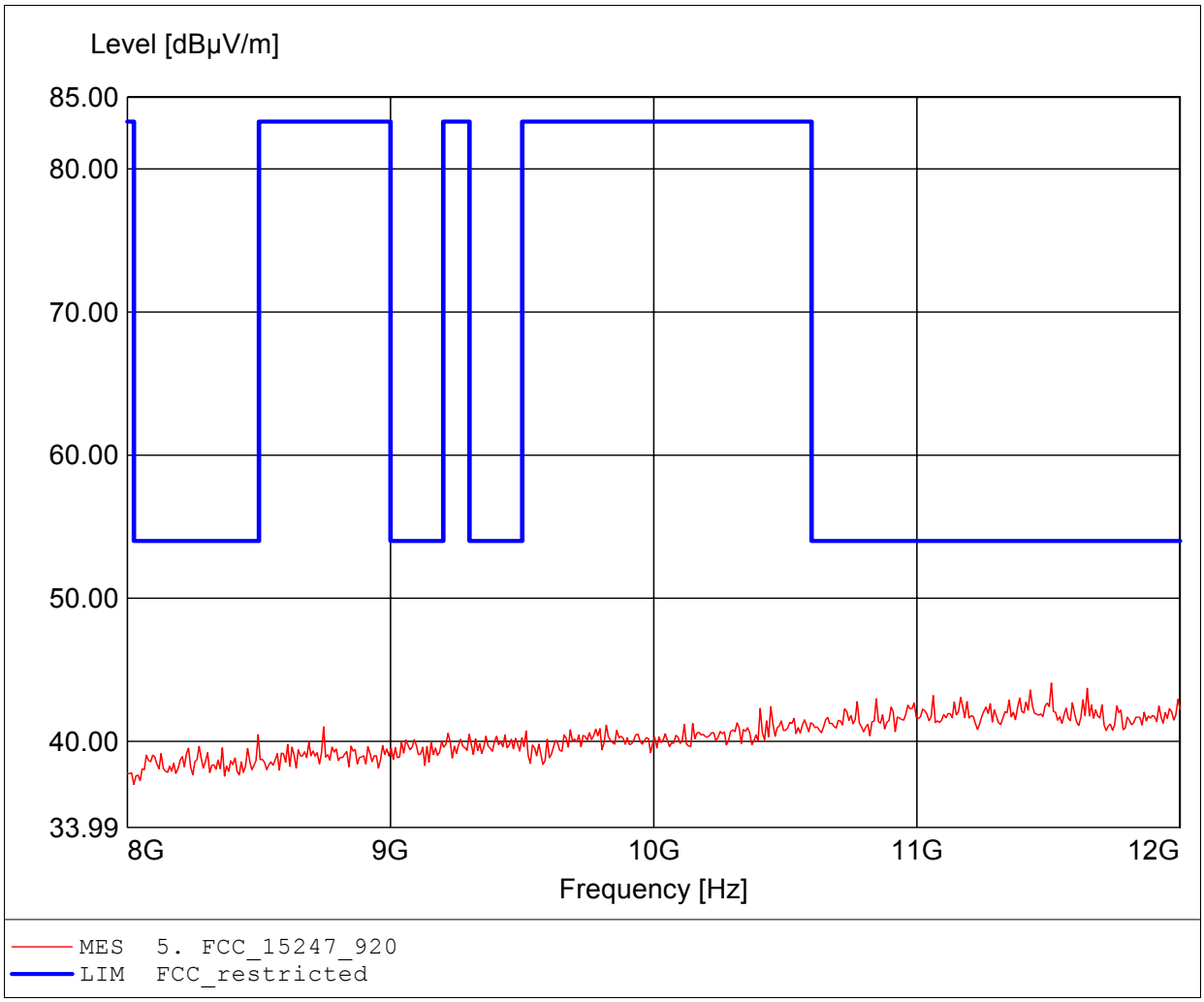
Approval Holder:	Panasonic Electronic Devices Europe GmbH / G0M-1109-1405
EUT:	Radio Module
Model:	PAN 2580 with internal ceramic antenna / Tx 902.4 MHz
Test Site / Operator:	Eurofins Product Service GmbH / Mr. Treffke
Test Condition:	Tnom.: 24°C / Vnom: 3.0 V DC
Test Specification:	according to §15.247, peak detector
Comment 1:	Dist.: 3m, Ant.: BBHA9120D, ampl.+HP.
Comment 2:	Freq: 11.038GHz, Emax: 43.69dBµV/m, RBW: 1MHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

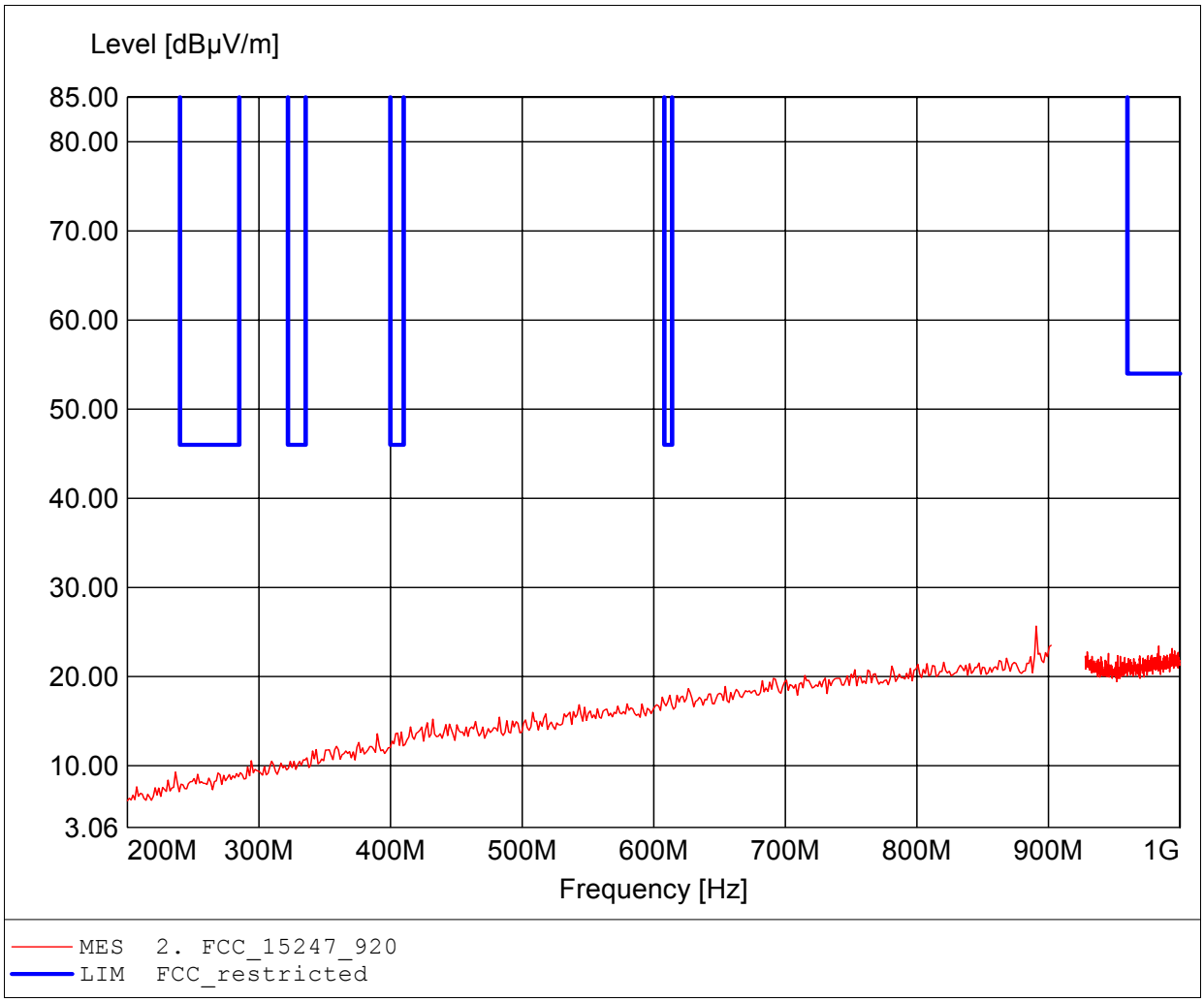
Approval Holder:	Panasonic Electronic Devices Europe GmbH / G0M-1109-1405
EUT:	Radio Module
Model:	PAN 2580 with internal ceramic antenna / Tx 902.4 MHz
Test Site / Operator:	Eurofins Product Service GmbH / Mr. Treffke
Test Condition:	Tnom.: 24°C / Vnom: 3.0 V DC
Test Specification:	according to §15.247, peak detector
Comment 1:	Dist.: 3m, Ant.: BBHA9120D, ampl.+HP.
Comment 2:	Freq: 11.511GHz, Emax: 44.07dBµV/m, RBW: 1MHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

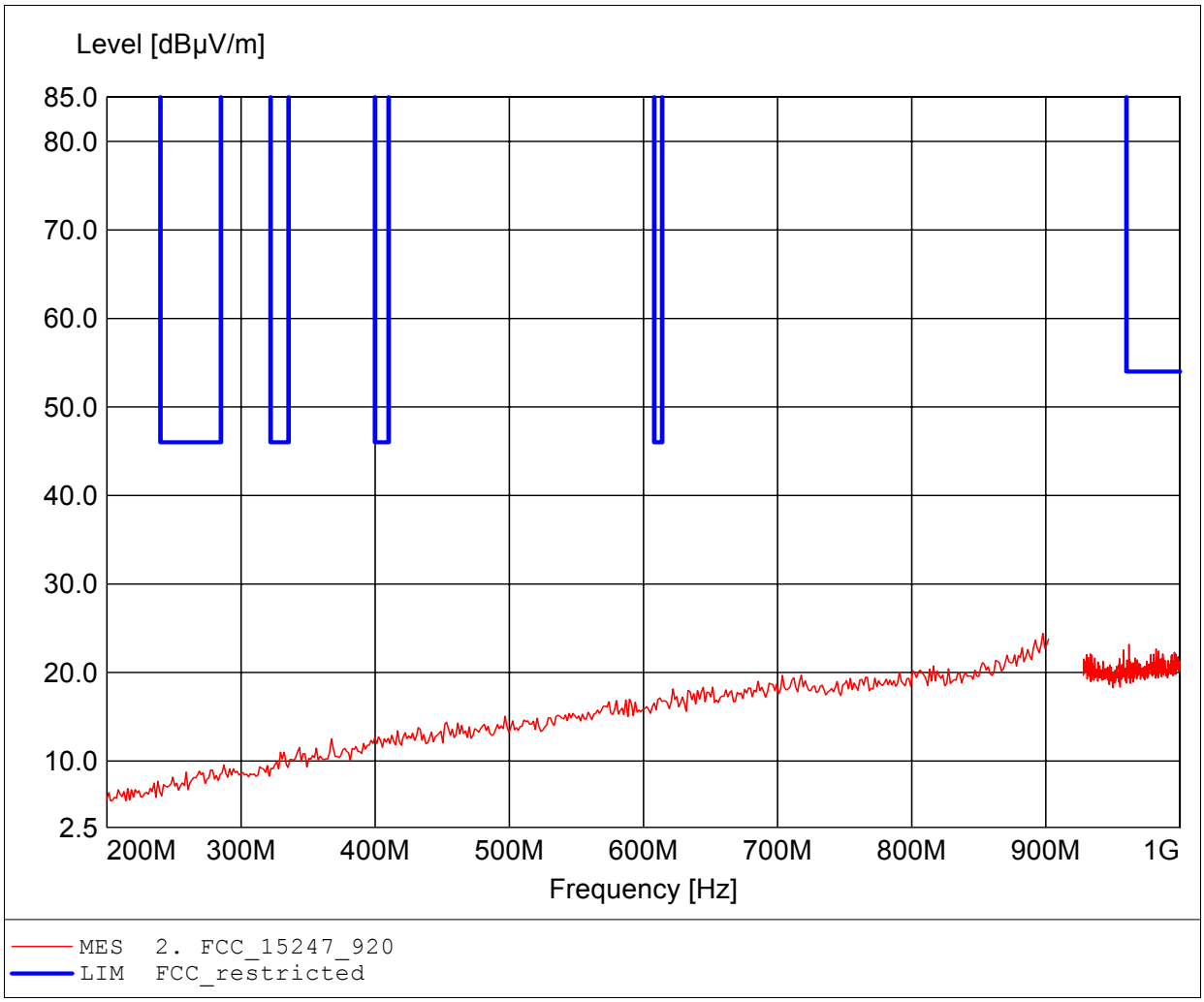
Approval Holder:	Panasonic Electronic Devices Europe GmbH / G0M-1109-1405
EUT:	Radio Module
Model:	PAN 2580 with internal ceramic antenna / Tx 914.8 MHz
Test Site / Operator:	Eurofins Product Service GmbH / Mr. Treffke
Test Condition:	Tnom.: 24°C / Vnom: 3.0 V DC
Test Specification:	according to §15.247
Comment 1:	Dist.: 3m, Ant.: HL 223, amplif.
Comment 2:	Freq: 890.745MHz, Emax: 25.66dBµV/m, RBW: 100kHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

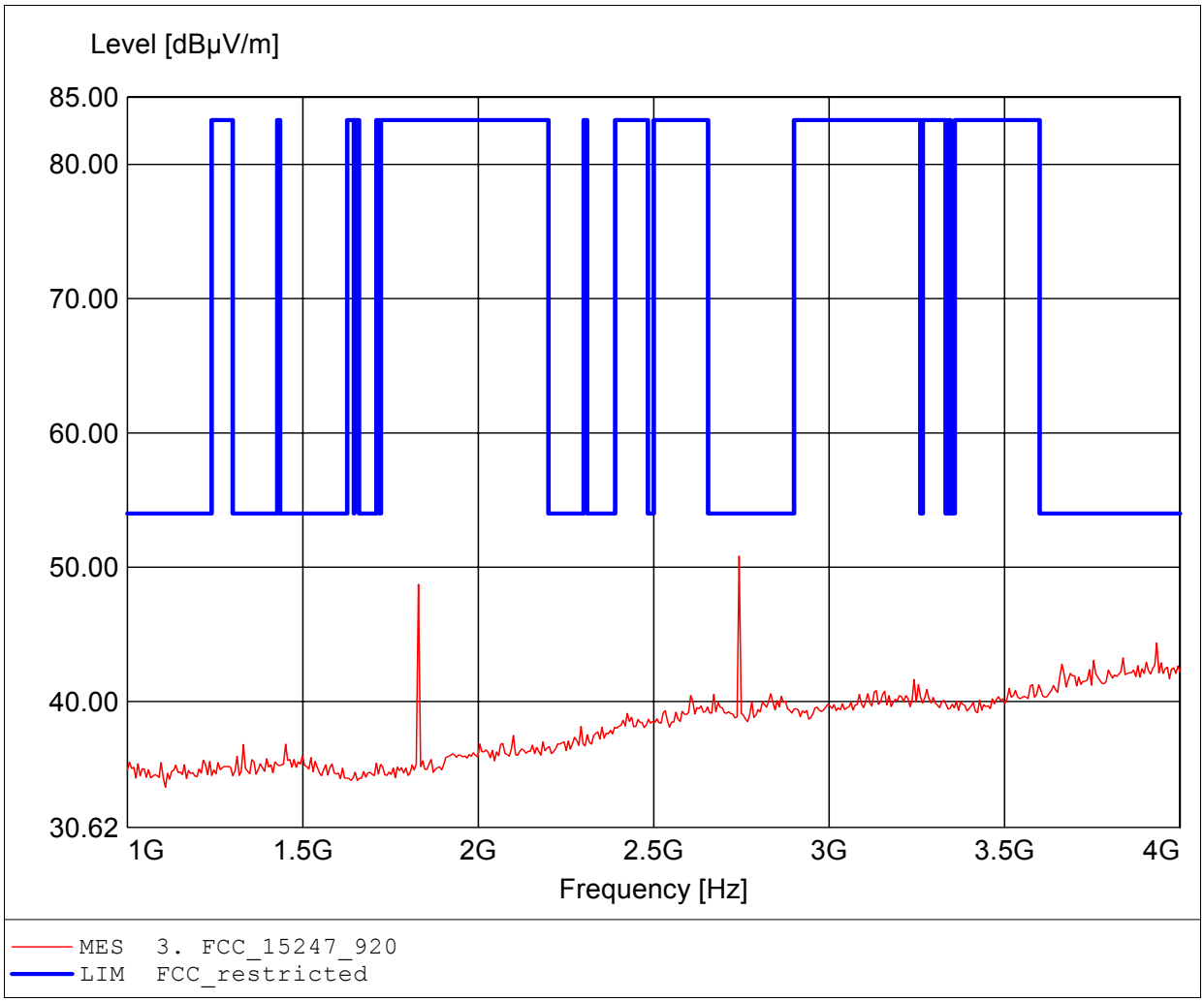
Approval Holder:	Panasonic Electronic Devices Europe GmbH / G0M-1109-1405
EUT:	Radio Module
Model:	PAN 2580 with internal ceramic antenna / Tx 914.8 MHz
Test Site / Operator:	Eurofins Product Service GmbH / Mr. Treffke
Test Condition:	Tnom.: 24°C / Vnom: 3.0 V DC
Test Specification:	according to §15.247
Comment 1:	Dist.: 3m, Ant.: HL 223, amplif.
Comment 2:	Freq: 897.780MHz, Emax: 24.43dBµV/m, RBW: 100kHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

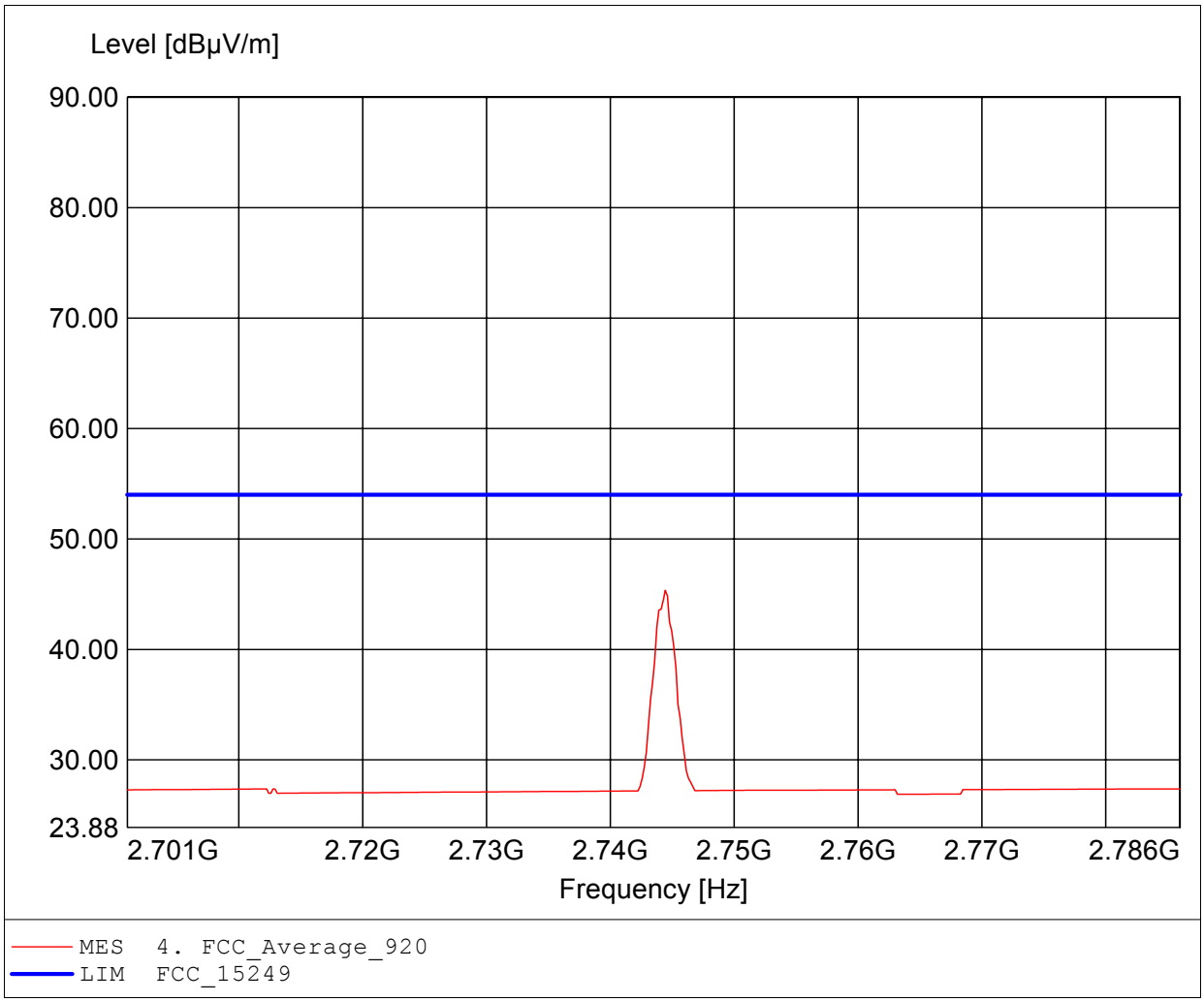
Approval Holder:	Panasonic Electronic Devices Europe GmbH / G0M-1109-1405
EUT:	Radio Module
Model:	PAN 2580 with internal ceramic antenna / Tx 914.8 MHz
Test Site / Operator:	Eurofins Product Service GmbH / Mr. Treffke
Test Condition:	Tnom.: 24°C / Vnom: 3.0 V DC
Test Specification:	according to §15.247, peak detector
Comment 1:	Dist.: 3m, Ant.: BBHA9120D, amplif.
Comment 2:	Freq: 2.743GHz, Emax: 50.83dBµV/m, RBW: 1MHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

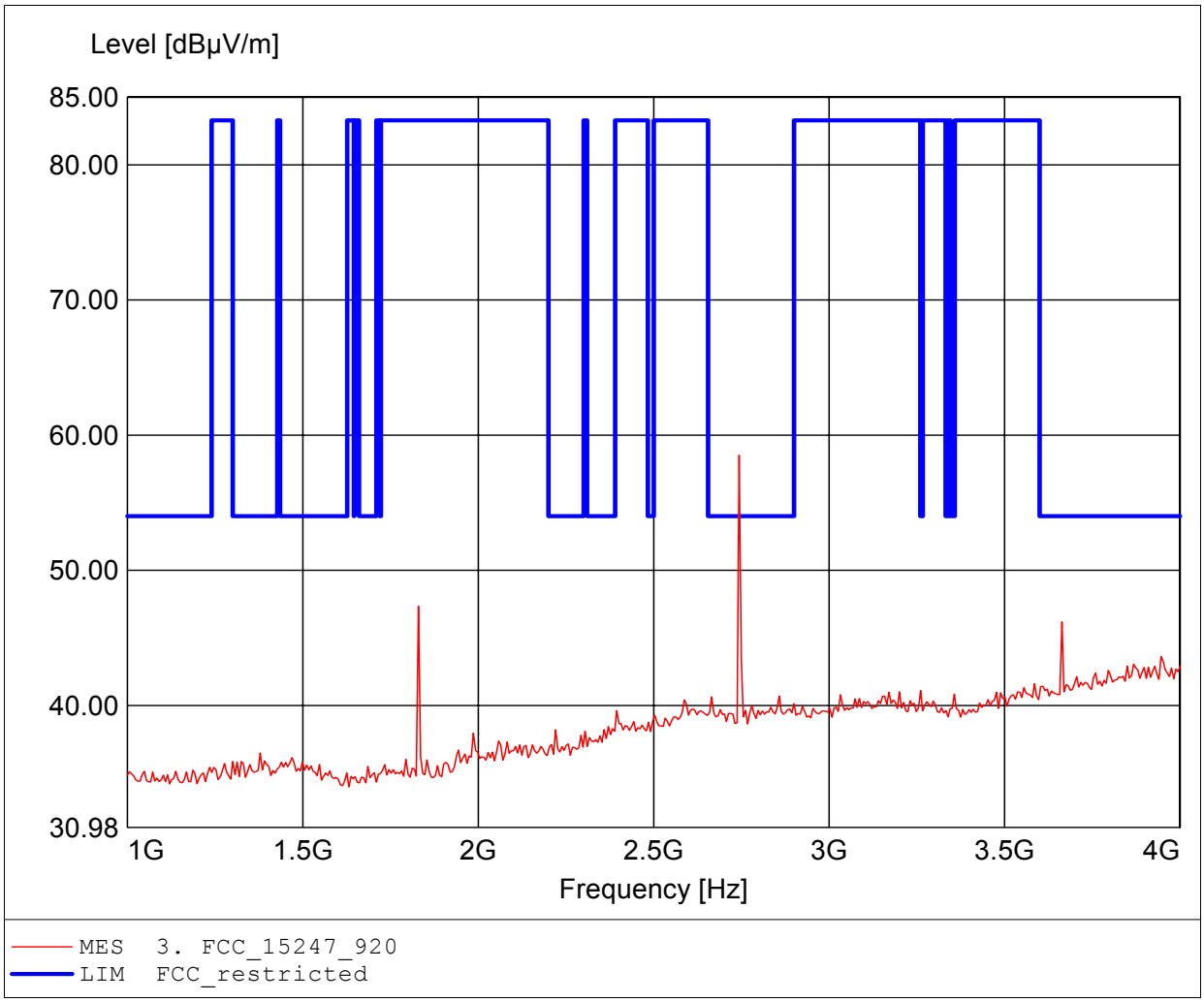
Approval Holder:	Panasonic Electronic Devices Europe GmbH / G0M-1109-1405
EUT:	Radio Module
Model:	PAN 2580 with internal ceramic antenna / Tx 914.8 MHz
Test Site / Operator:	Eurofins Product Service GmbH / Mr. Treffke
Test Condition:	Tnom.: 24°C / Vnom: 3.0 V DC
Test Specification:	according to §15.247, average detector
Comment 1:	Dist.: 3m, Ant.: BBHA9120D, ampl.+HP.
Comment 2:	Freq: 2.744GHz, Emax: 45.36dBµV/m, RBW: 1MHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

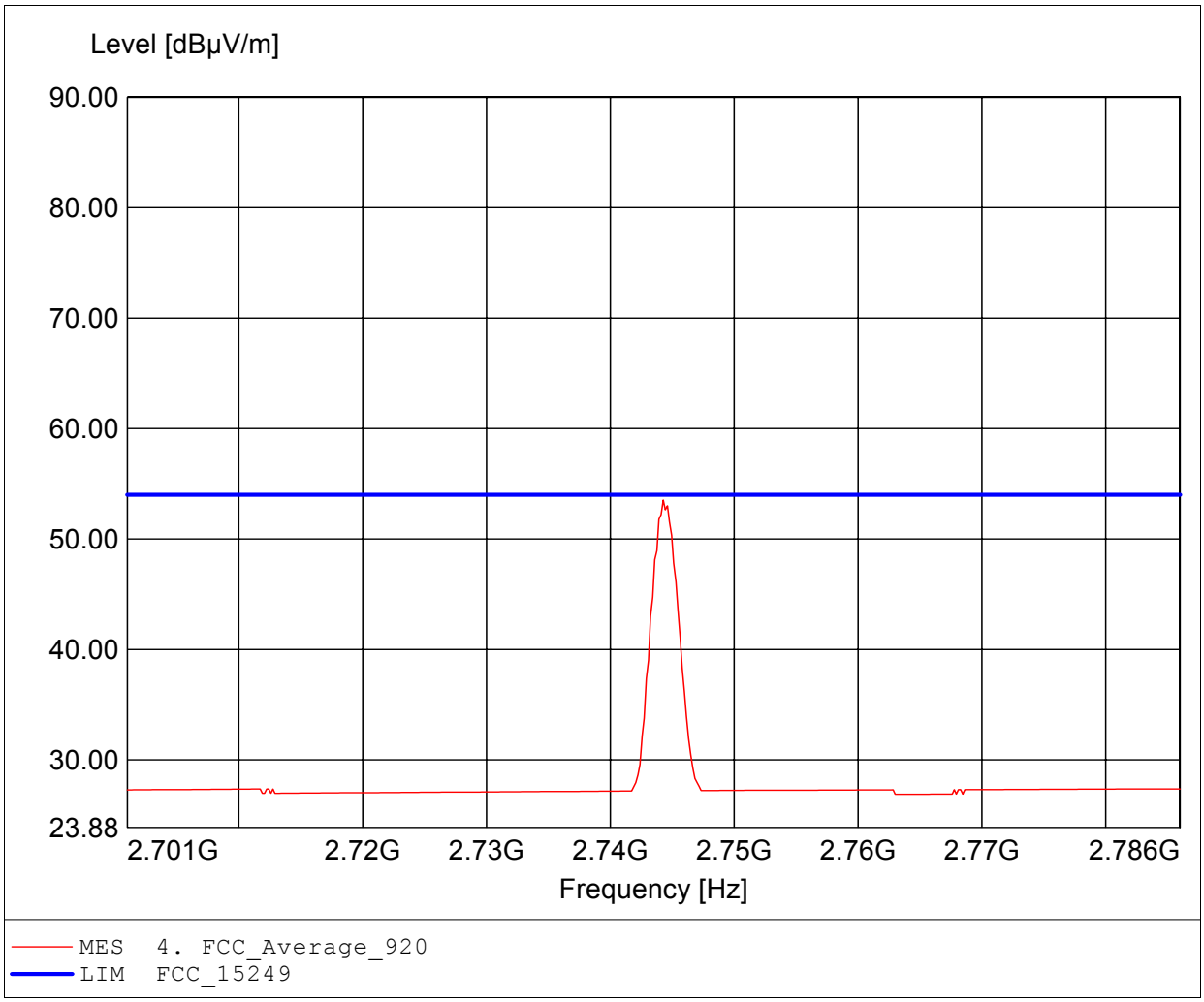
Approval Holder:	Panasonic Electronic Devices Europe GmbH / G0M-1109-1405
EUT:	Radio Module
Model:	PAN 2580 with internal ceramic antenna / Tx 914.8 MHz
Test Site / Operator:	Eurofins Product Service GmbH / Mr. Treffke
Test Condition:	Tnom.: 24°C / Vnom: 3.0 V DC
Test Specification:	according to §15.247, peak detector
Comment 1:	Dist.: 3m, Ant.: BBHA9120D, amplif.
Comment 2:	Freq: 2.743GHz, Emax: 58.51dBµV/m, RBW: 1MHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

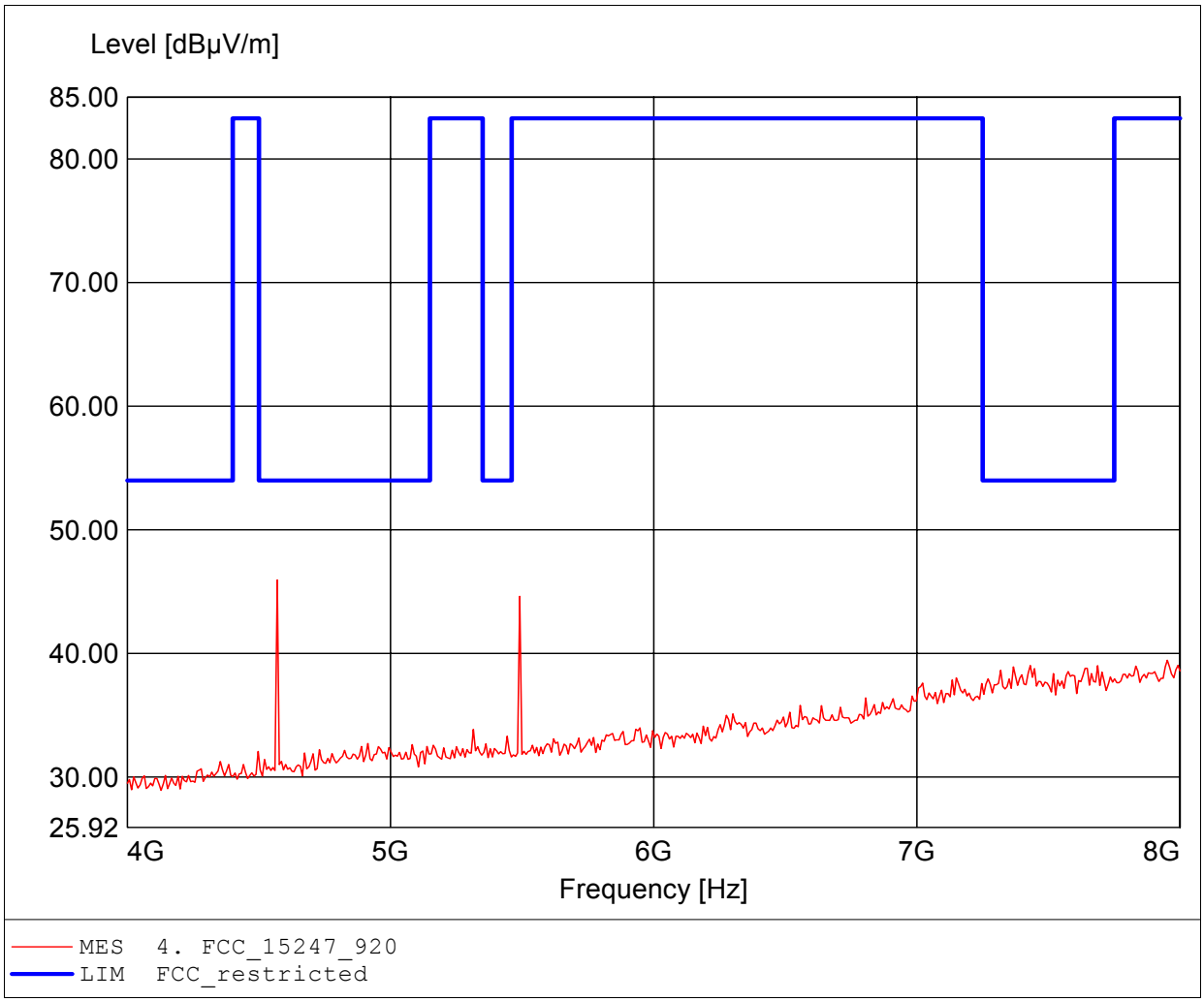
Approval Holder:	Panasonic Electronic Devices Europe GmbH / G0M-1109-1405
EUT:	Radio Module
Model:	PAN 2580 with internal ceramic antenna / Tx 914.8 MHz
Test Site / Operator:	Eurofins Product Service GmbH / Mr. Treffke
Test Condition:	Tnom.: 24°C / Vnom: 3.0 V DC
Test Specification:	according to §15.247, average detector
Comment 1:	Dist.: 3m, Ant.: BBHA9120D, ampl.+HP.
Comment 2:	Freq: 2.744GHz, Emax: 53.53dBµV/m, RBW: 1MHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

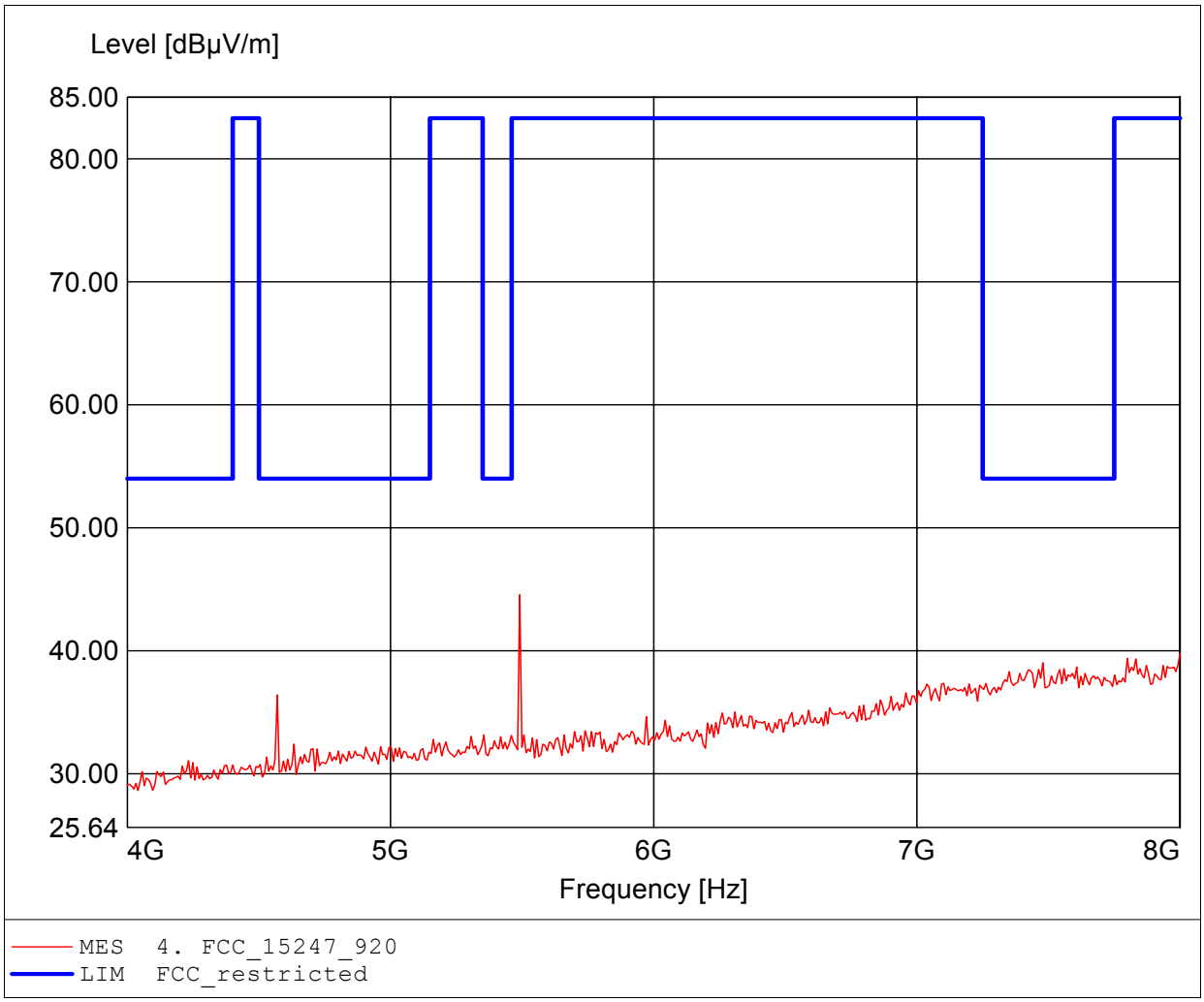
Approval Holder:	Panasonic Electronic Devices Europe GmbH / G0M-1109-1405
EUT:	Radio Module
Model:	PAN 2580 with internal ceramic antenna / Tx 914.8 MHz
Test Site / Operator:	Eurofins Product Service GmbH / Mr. Treffke
Test Condition:	Tnom.: 24°C / Vnom: 3.0 V DC
Test Specification:	according to §15.247, peak detector
Comment 1:	Dist.: 3m, Ant.: BBHA9120D, ampl.+HP.
Comment 2:	Freq: 4.569GHz, Emax: 45.93dBµV/m, RBW: 1MHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

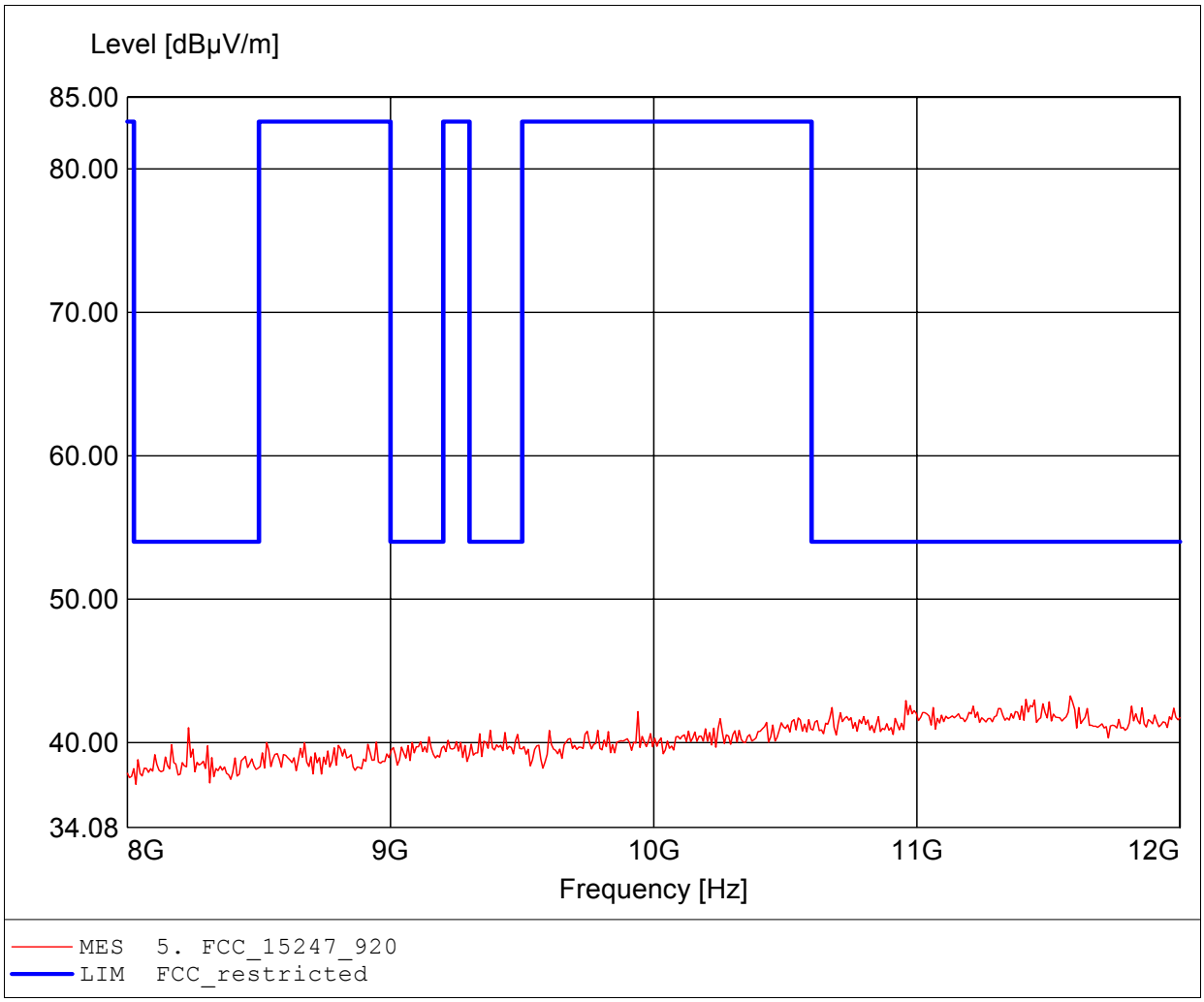
Approval Holder:	Panasonic Electronic Devices Europe GmbH / G0M-1109-1405
EUT:	Radio Module
Model:	PAN 2580 with internal ceramic antenna / Tx 914.8 MHz
Test Site / Operator:	Eurofins Product Service GmbH / Mr. Treffke
Test Condition:	Tnom.: 24°C / Vnom: 3.0 V DC
Test Specification:	according to §15.247, peak detector
Comment 1:	Dist.: 3m, Ant.: BBHA9120D, ampl.+HP.
Comment 2:	Freq: 5.491GHz, Emax: 44.55dBµV/m, RBW: 1MHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

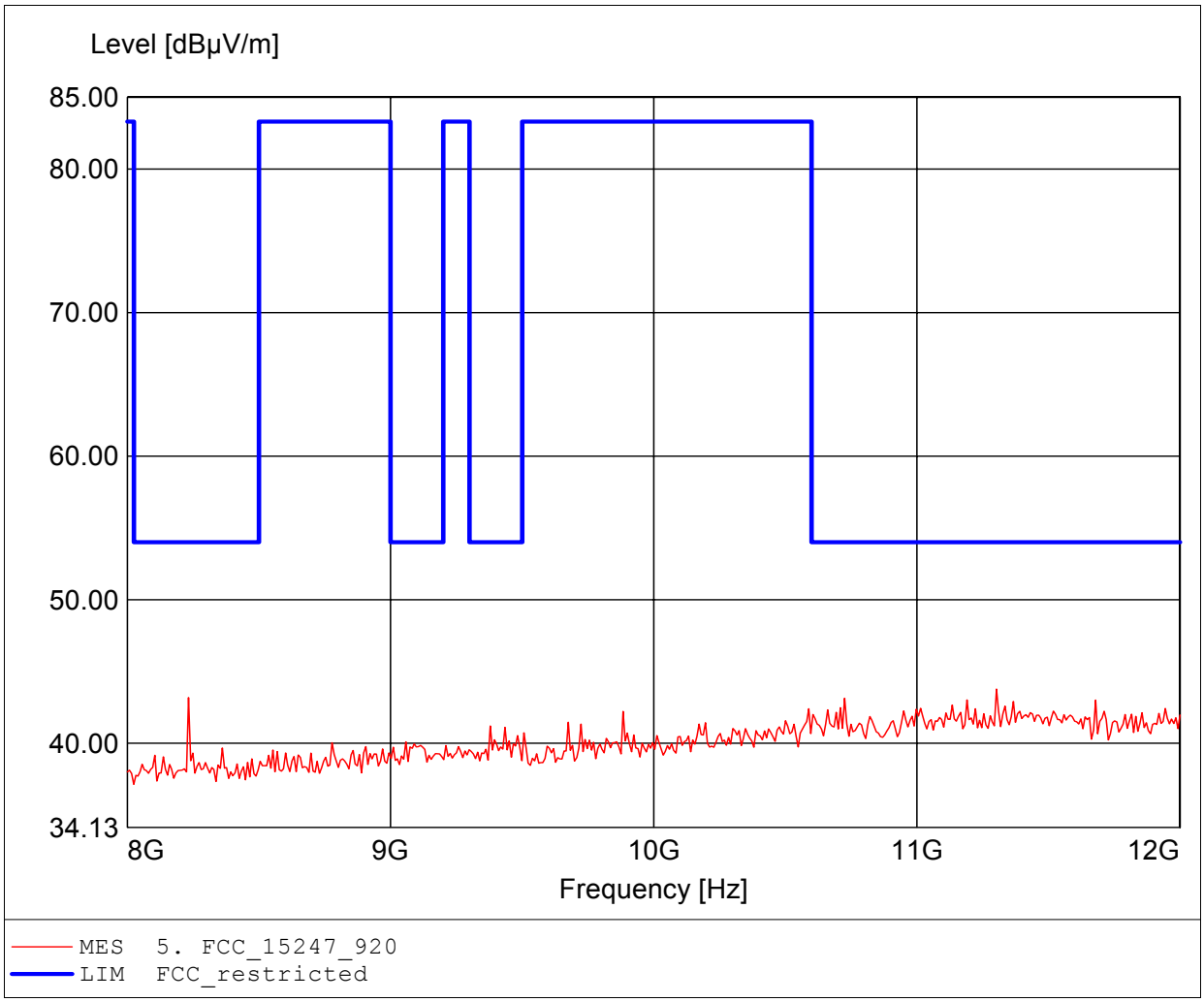
Approval Holder:	Panasonic Electronic Devices Europe GmbH / G0M-1109-1405
EUT:	Radio Module
Model:	PAN 2580 with internal ceramic antenna / Tx 914.8 MHz
Test Site / Operator:	Eurofins Product Service GmbH / Mr. Treffke
Test Condition:	Tnom.: 24°C / Vnom: 3.0 V DC
Test Specification:	according to §15.247, peak detector
Comment 1:	Dist.: 3m, Ant.: BBHA9120D, ampl.+HP.
Comment 2:	Freq: 11.583GHz, Emax: 43.25dBµV/m, RBW: 1MHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

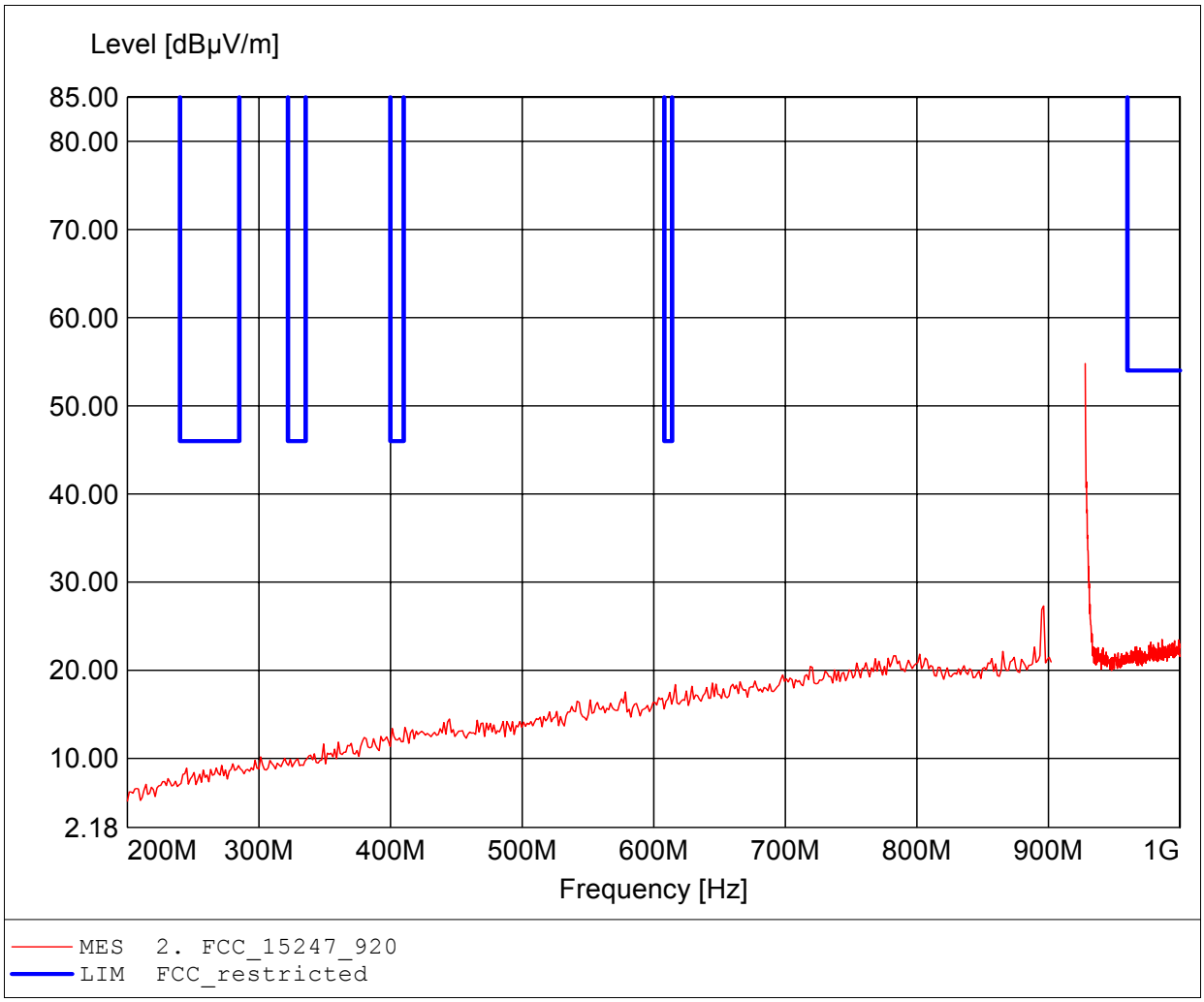
Approval Holder:	Panasonic Electronic Devices Europe GmbH / G0M-1109-1405
EUT:	Radio Module
Model:	PAN 2580 with internal ceramic antenna / Tx 914.8 MHz
Test Site / Operator:	Eurofins Product Service GmbH / Mr. Treffke
Test Condition:	Tnom.: 24°C / Vnom: 3.0 V DC
Test Specification:	according to §15.247, peak detector
Comment 1:	Dist.: 3m, Ant.: BBHA9120D, ampl.+HP.
Comment 2:	Freq: 11.303GHz, Emax: 43.77dBµV/m, RBW: 1MHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

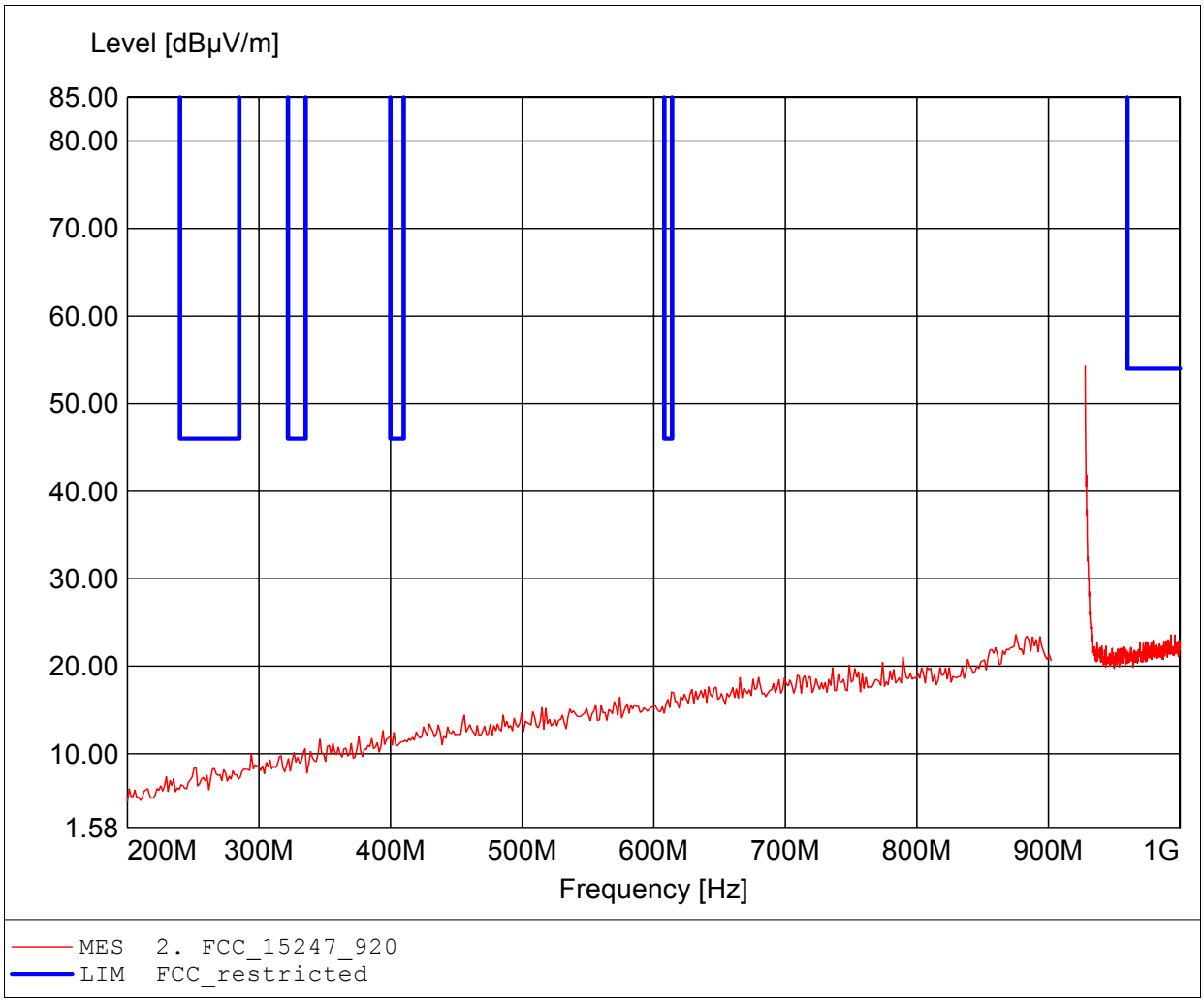
Approval Holder:	Panasonic Electronic Devices Europe GmbH / G0M-1109-1405
EUT:	Radio Module
Model:	PAN 2580 with internal ceramic antenna / Tx 927.6 MHz
Test Site / Operator:	Eurofins Product Service GmbH / Mr. Treffke
Test Condition:	Tnom.: 24°C / Vnom: 3.0 V DC
Test Specification:	according to §15.247
Comment 1:	Dist.: 3m, Ant.: HL 223, amplif.
Comment 2:	Freq: 928.000MHz, Emax: 54.80dBµV/m, RBW: 100kHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

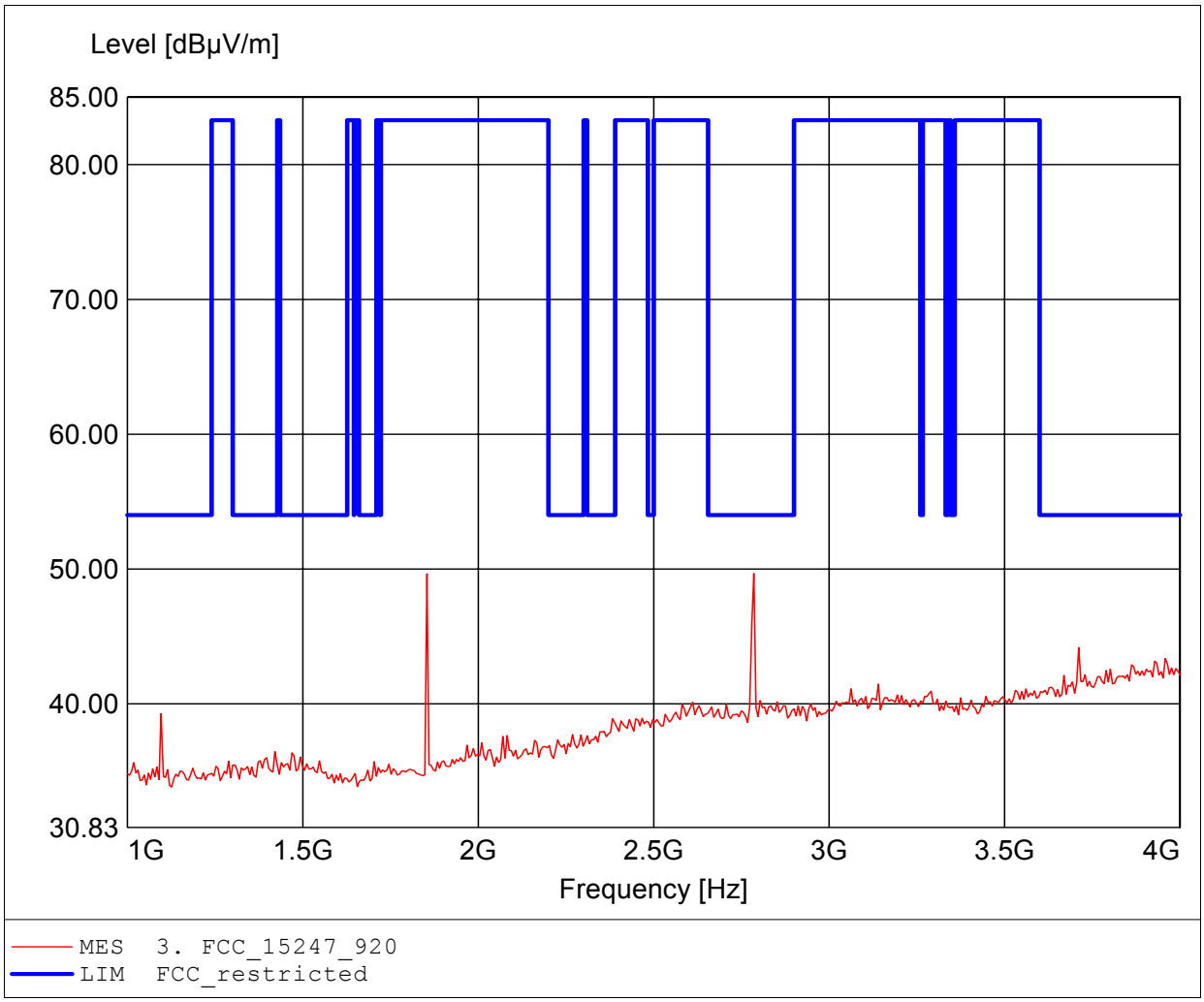
Approval Holder:	Panasonic Electronic Devices Europe GmbH / G0M-1109-1405
EUT:	Radio Module
Model:	PAN 2580 with internal ceramic antenna / Tx 927.6 MHz
Test Site / Operator:	Eurofins Product Service GmbH / Mr. Treffke
Test Condition:	Tnom.: 24°C / Vnom: 3.0 V DC
Test Specification:	according to §15.247
Comment 1:	Dist.: 3m, Ant.: HL 223, amplif.
Comment 2:	Freq: 928.000MHz, Emax: 54.30dBµV/m, RBW: 100kHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

Approval Holder:	Panasonic Electronic Devices Europe GmbH / G0M-1109-1405
EUT:	Radio Module
Model:	PAN 2580 with internal ceramic antenna / Tx 927.6 MHz
Test Site / Operator:	Eurofins Product Service GmbH / Mr. Treffke
Test Condition:	Tnom.: 24°C / Vnom: 3.0 V DC
Test Specification:	according to §15.247, peak detector
Comment 1:	Dist.: 3m, Ant.: BBHA9120D, amplif.
Comment 2:	Freq: 2.786GHz, Emax: 49.66dBµV/m, RBW: 1MHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

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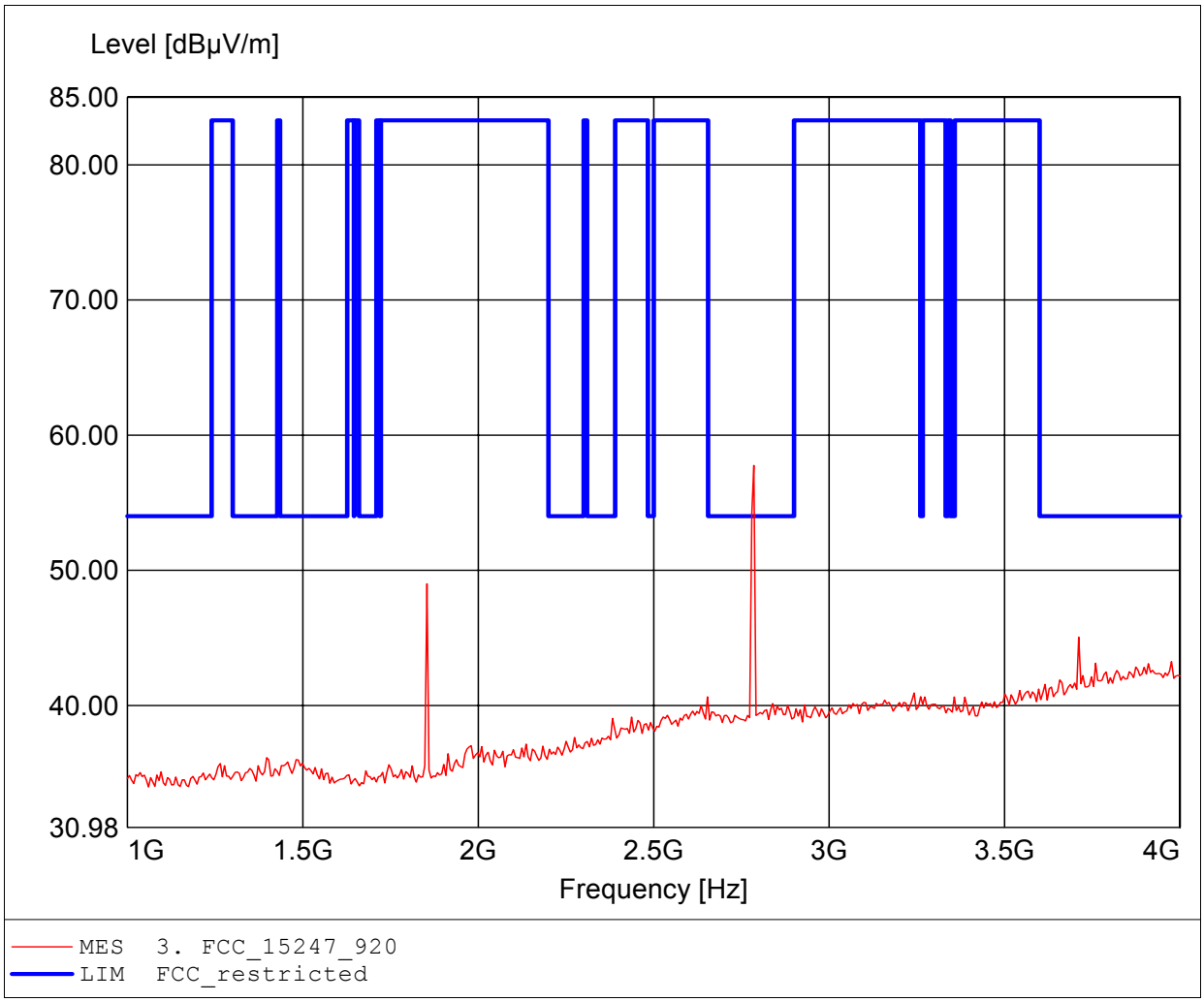
EUT:	Radio Module
Model:	PAN 2580 with internal ceramic antenna / Tx 927.6 MHz
Test Site / Operator:	Eurofins Product Service GmbH / Mr. Treffke
Test Condition:	Tnom.: 24°C / Vnom: 3.0 V DC
Test Specification:	according to §15.247, peak detector
Comment 1:	Dist.: 3m, Ant.: BBHA9120D, amplif.
Comment 2:	Freq: 2.786GHz, Emax: 57.76dBµV/m, RBW: 1MHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

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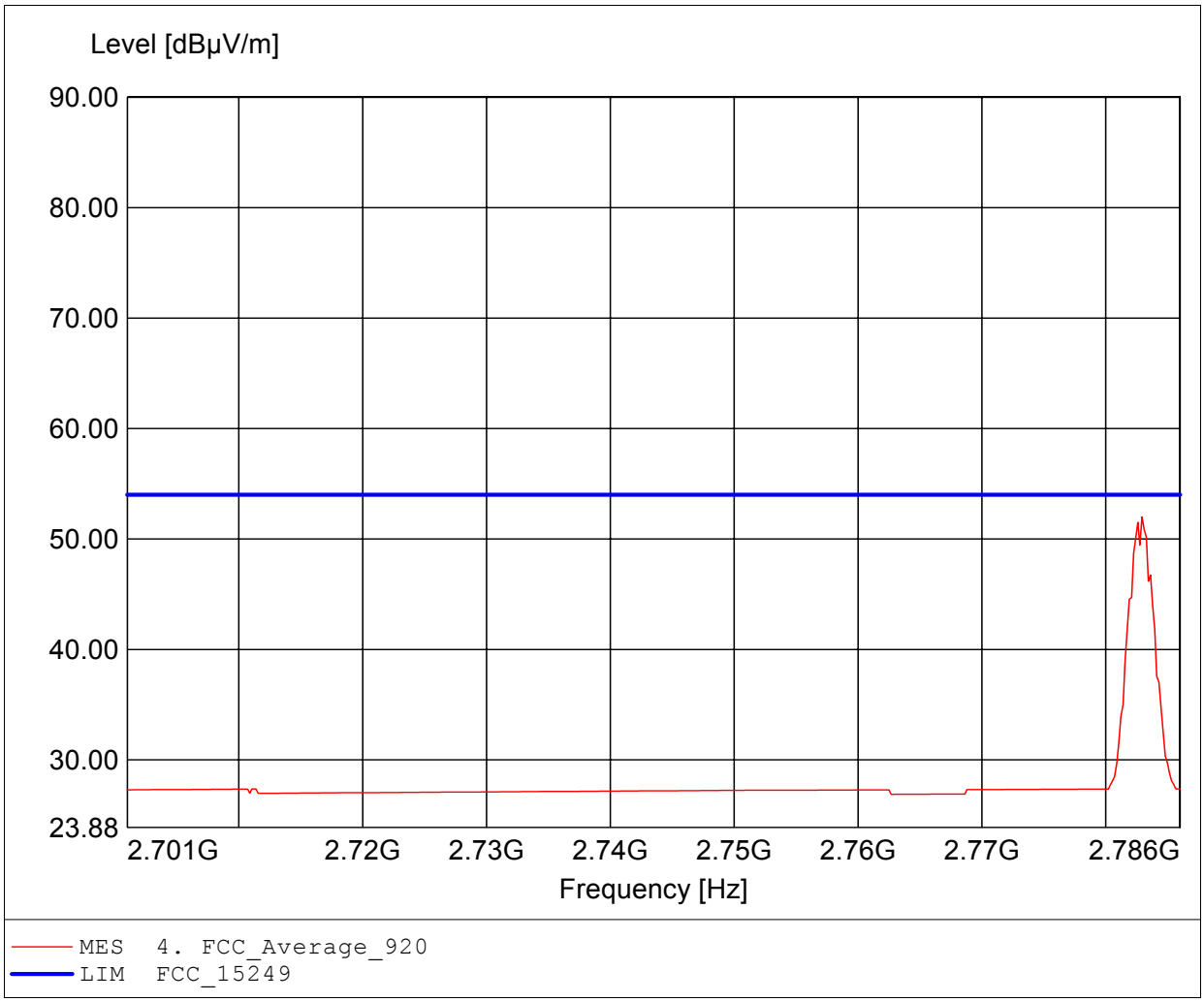
EUT:	Radio Module
Model:	PAN 2580 with internal ceramic antenna / Tx 927.6 MHz
Test Site / Operator:	Eurofins Product Service GmbH / Mr. Treffke
Test Condition:	Tnom.: 24°C / Vnom: 3.0 V DC
Test Specification:	according to §15.247, average detector
Comment 1:	Dist.: 3m, Ant.: BBHA9120D, ampl.+HP.
Comment 2:	Freq: 2.783GHz, Emax: 51.99dBµV/m, RBW: 1MHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

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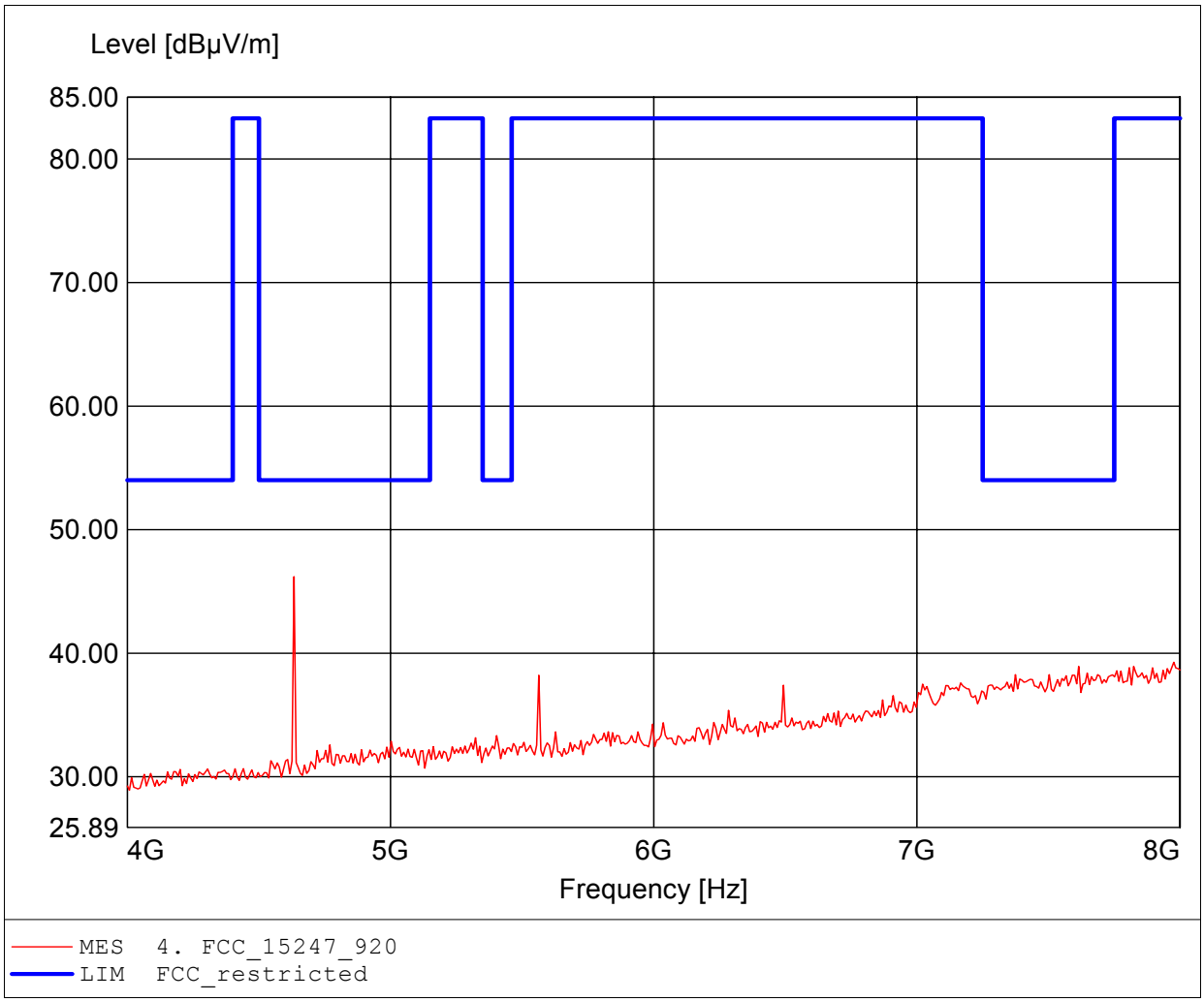
EUT:	Radio Module
Model:	PAN 2580 with internal ceramic antenna / Tx 927.6 MHz
Test Site / Operator:	Eurofins Product Service GmbH / Mr. Treffke
Test Condition:	Tnom.: 24°C / Vnom: 3.0 V DC
Test Specification:	according to §15.247, peak detector
Comment 1:	Dist.: 3m, Ant.: BBHA9120D, ampl.+HP.
Comment 2:	Freq: 4.633GHz, Emax: 46.19dBµV/m, RBW: 1MHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

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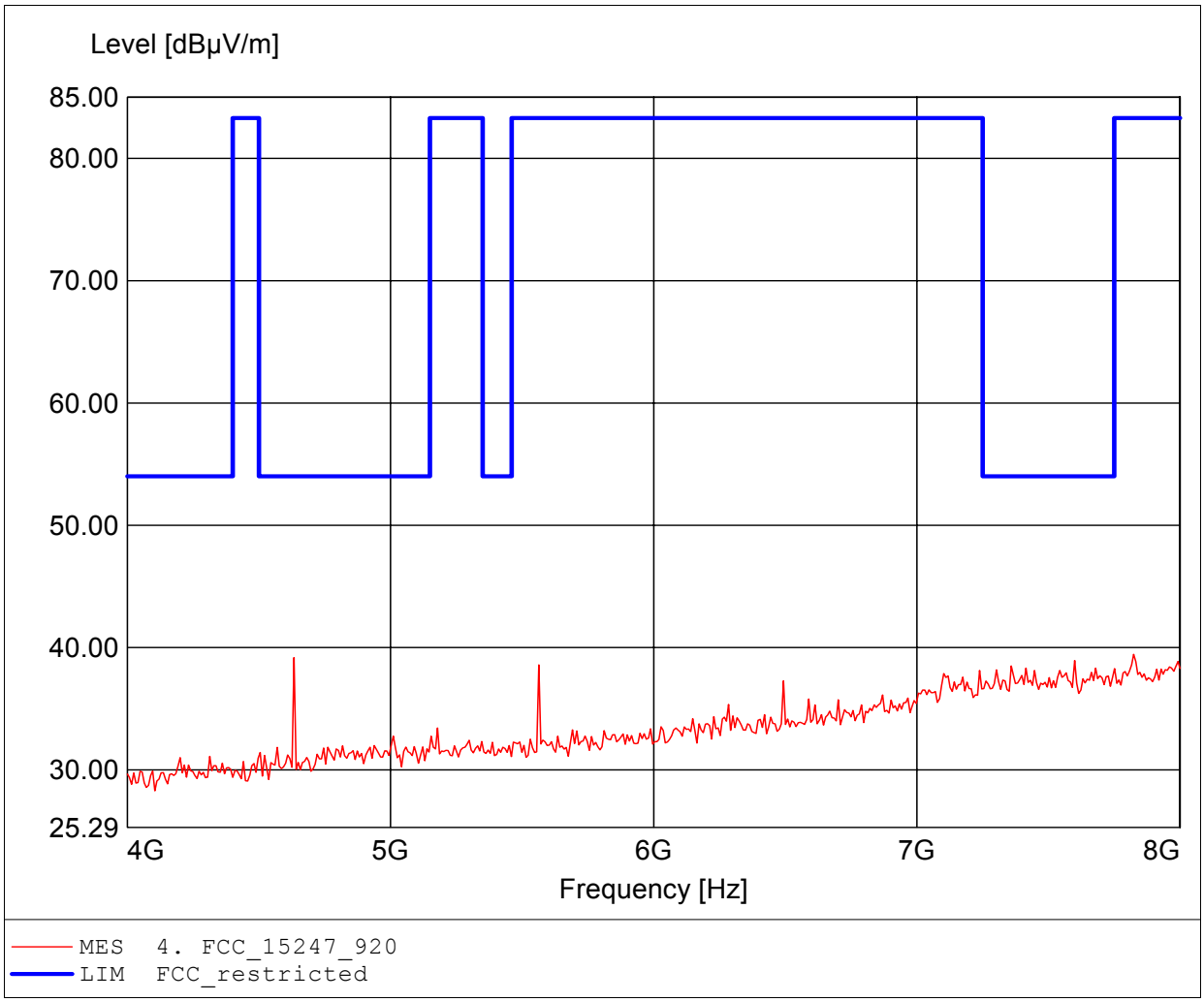
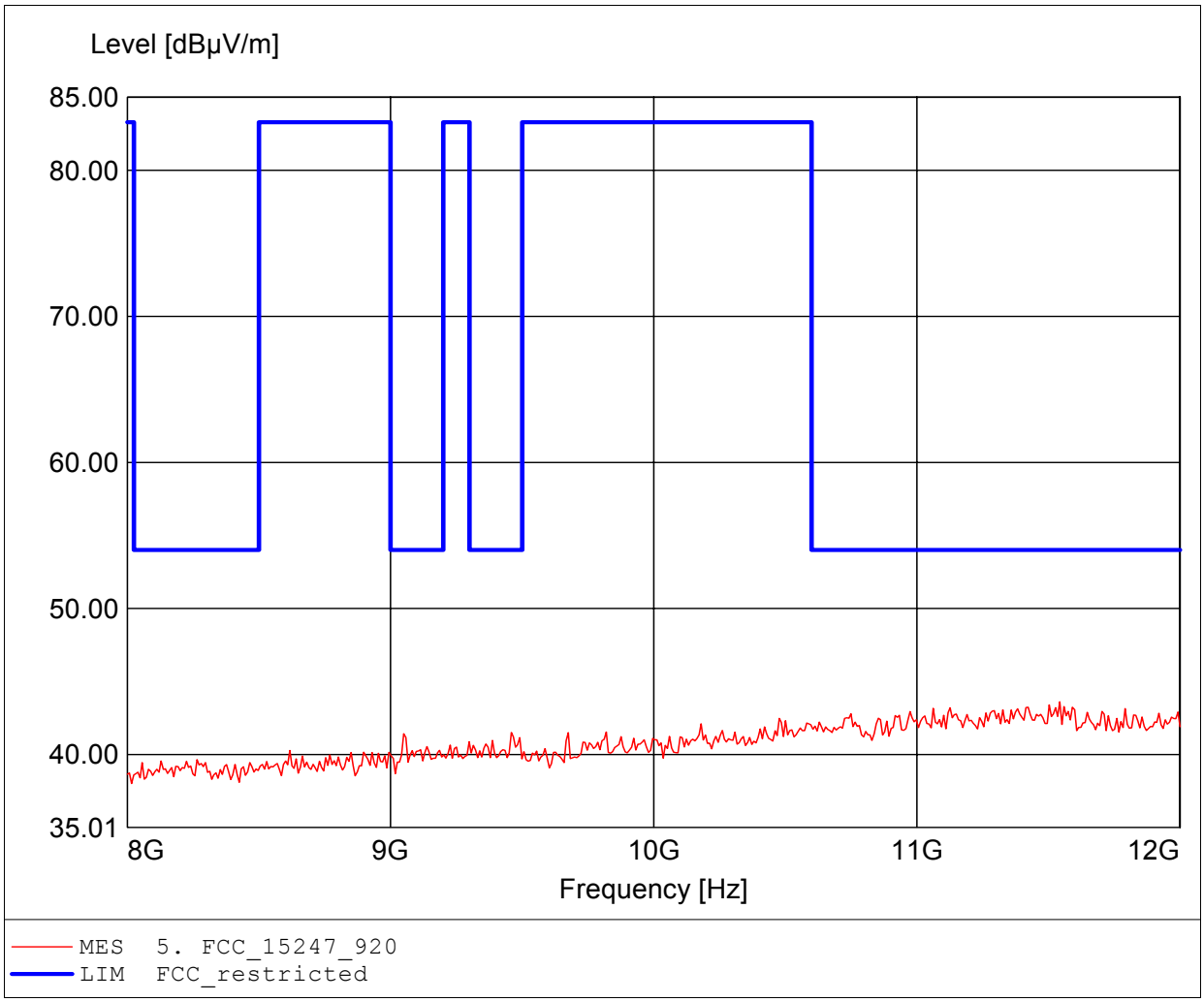
EUT:	Radio Module
Model:	PAN 2580 with internal ceramic antenna / Tx 927.6 MHz
Test Site / Operator:	Eurofins Product Service GmbH / Mr. Treffke
Test Condition:	Tnom.: 24°C / Vnom: 3.0 V DC
Test Specification:	according to §15.247, peak detector
Comment 1:	Dist.: 3m, Ant.: BBHA9120D, ampl.+HP.
Comment 2:	Freq: 7.824GHz, Emax: 39.45dBµV/m, RBW: 1MHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

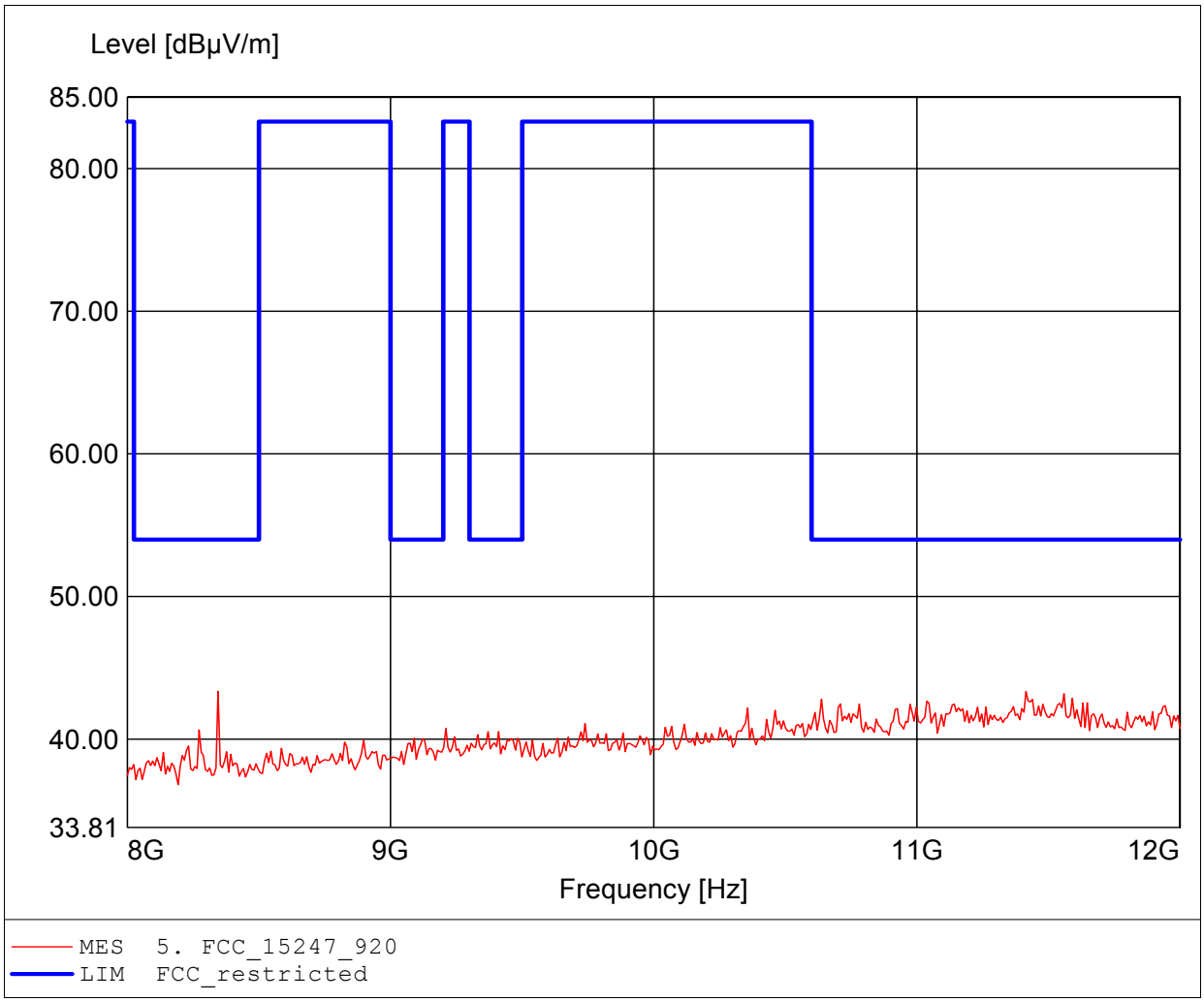
Approval Holder:	Panasonic Electronic Devices Europe GmbH / G0M-1109-1405
EUT:	Radio Module
Model:	PAN 2580 with internal ceramic antenna / Tx 927.6 MHz
Test Site / Operator:	Eurofins Product Service GmbH / Mr. Treffke
Test Condition:	Tnom.: 24°C / Vnom: 3.0 V DC
Test Specification:	according to §15.247, peak detector
Comment 1:	Dist.: 3m, Ant.: BBHA9120D, ampl.+HP.
Comment 2:	Freq: 11.543GHz, Emax: 43.62dBµV/m, RBW: 1MHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

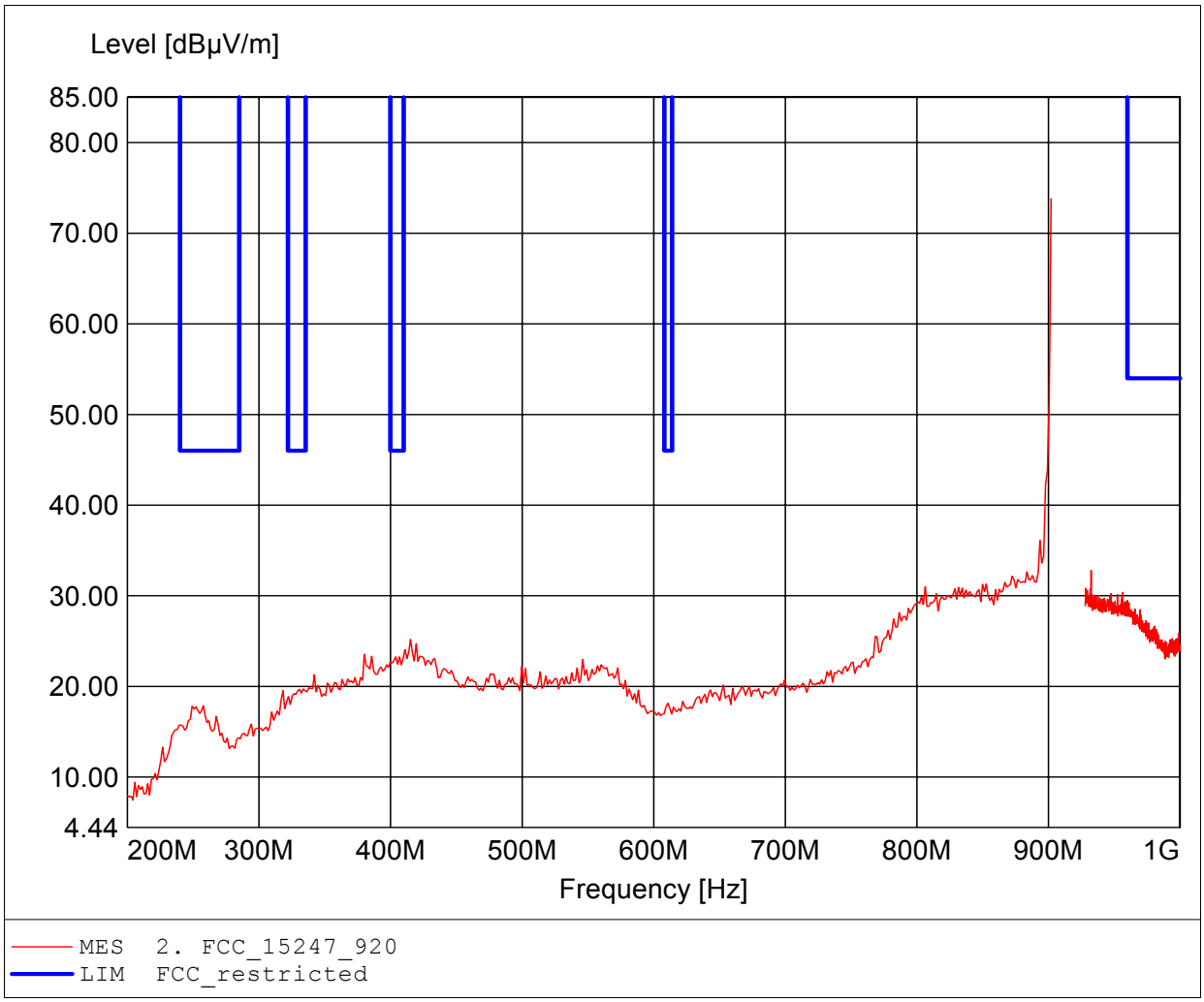
Approval Holder:	Panasonic Electronic Devices Europe GmbH / G0M-1109-1405
EUT:	Radio Module
Model:	PAN 2580 with internal ceramic antenna / Tx 927.6 MHz
Test Site / Operator:	Eurofins Product Service GmbH / Mr. Treffke
Test Condition:	Tnom.: 24°C / Vnom: 3.0 V DC
Test Specification:	according to §15.247, peak detector
Comment 1:	Dist.: 3m, Ant.: BBHA9120D, ampl.+HP.
Comment 2:	Freq: 8.345GHz, Emax: 43.34dBµV/m, RBW: 1MHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

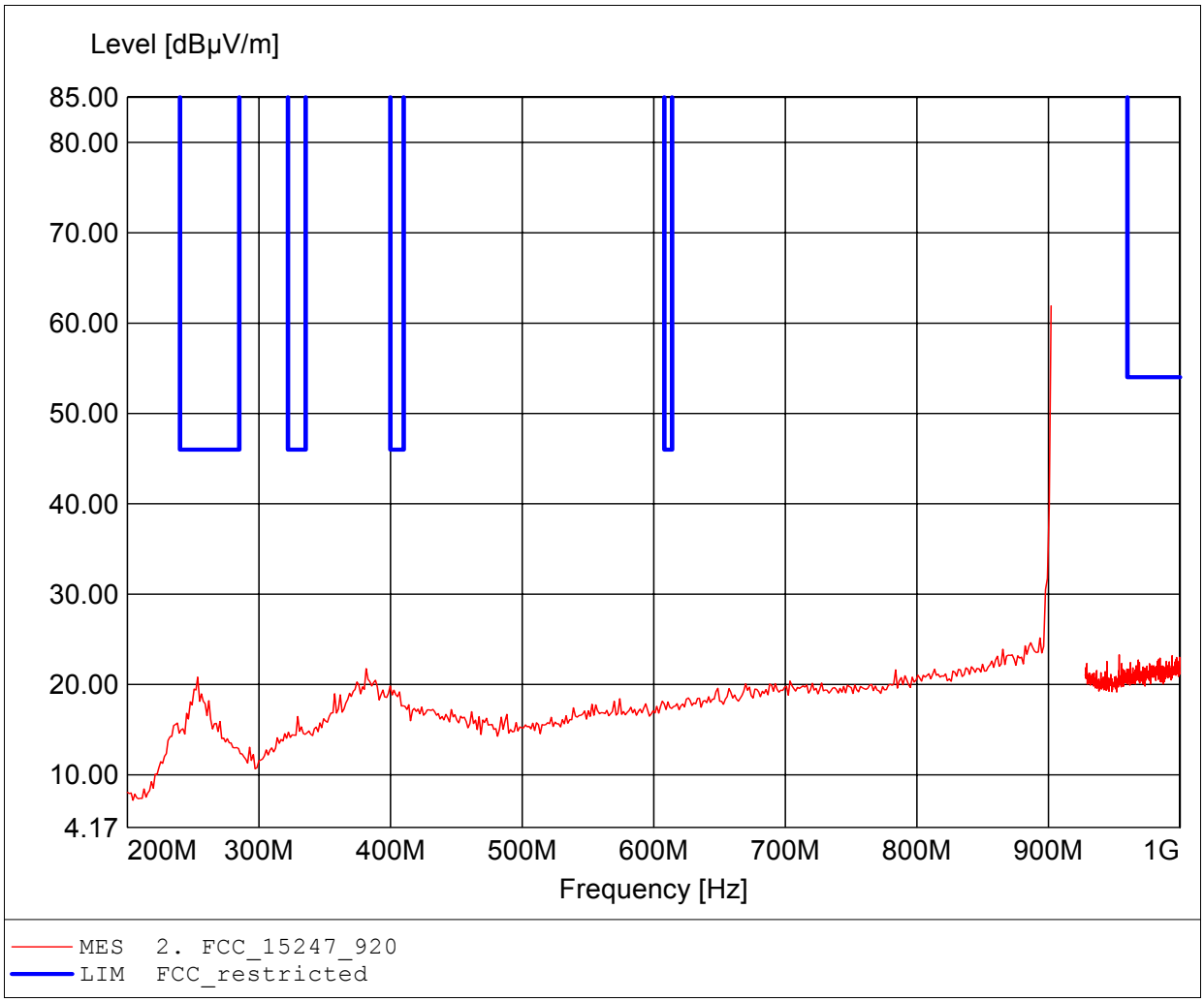
Approval Holder:	Panasonic Electronic Devices Europe GmbH / G0M-1109-1405
EUT:	Radio Module
Model:	PAN 2580 with external antenna / Tx 902.4 MHz
Test Site / Operator:	Eurofins Product Service GmbH / Mr. Treffke
Test Condition:	Tnom.: 24°C / Vnom: 3.0 V DC
Test Specification:	according to §15.247
Comment 1:	Dist.: 3m, Ant.: HL 223, amplif.
Comment 2:	Freq: 902.000MHz, Emax: 73.80dBµV/m, RBW: 100kHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

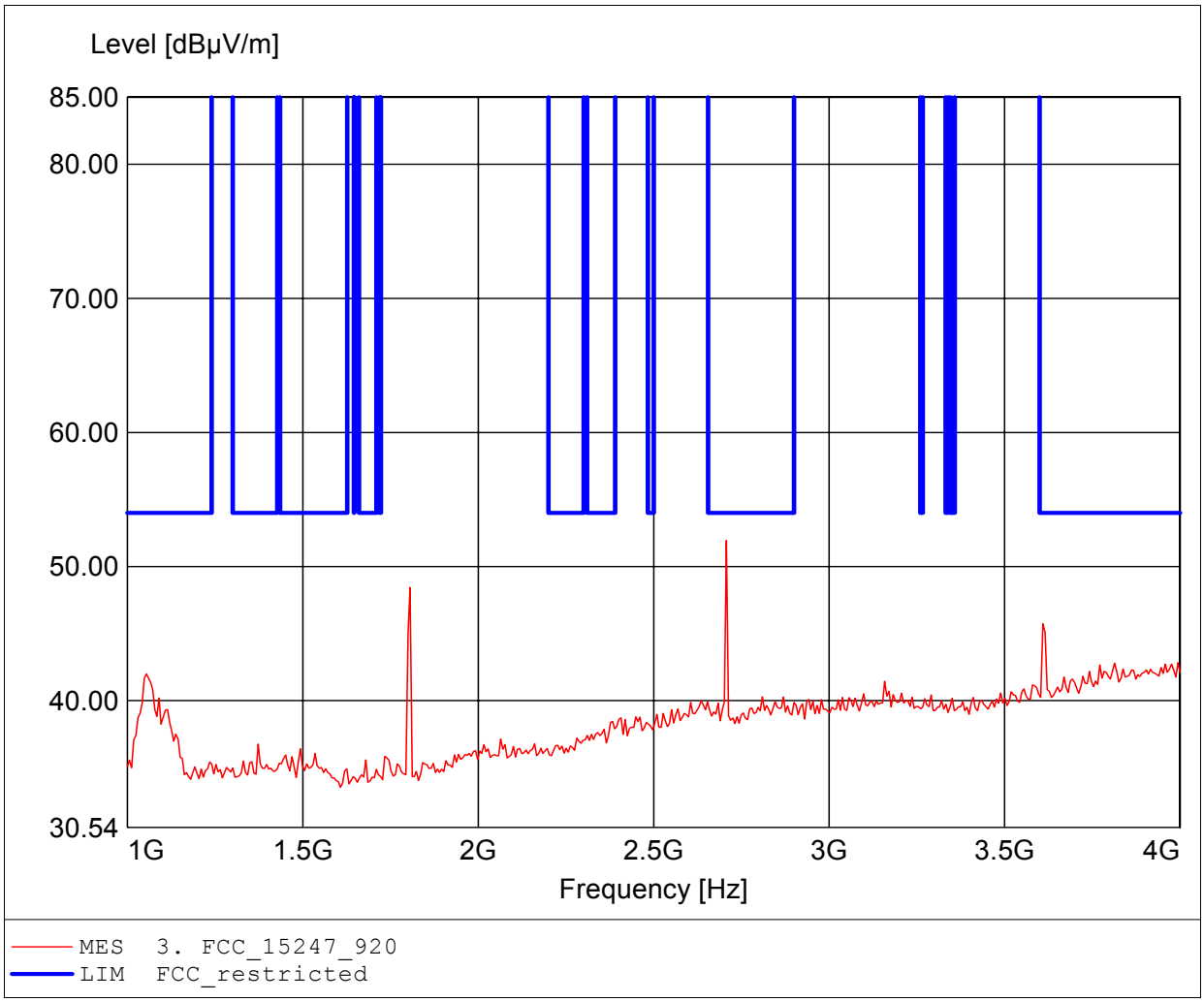
Approval Holder:	Panasonic Electronic Devices Europe GmbH / G0M-1109-1405
EUT:	Radio Module
Model:	PAN 2580 with external antenna / Tx 902.4 MHz
Test Site / Operator:	Eurofins Product Service GmbH / Mr. Treffke
Test Condition:	Tnom.: 24°C / Vnom: 3.0 V DC
Test Specification:	according to §15.247
Comment 1:	Dist.: 3m, Ant.: HL 223, amplif.
Comment 2:	Freq: 902.000MHz, Emax: 61.91dBµV/m, RBW: 100kHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

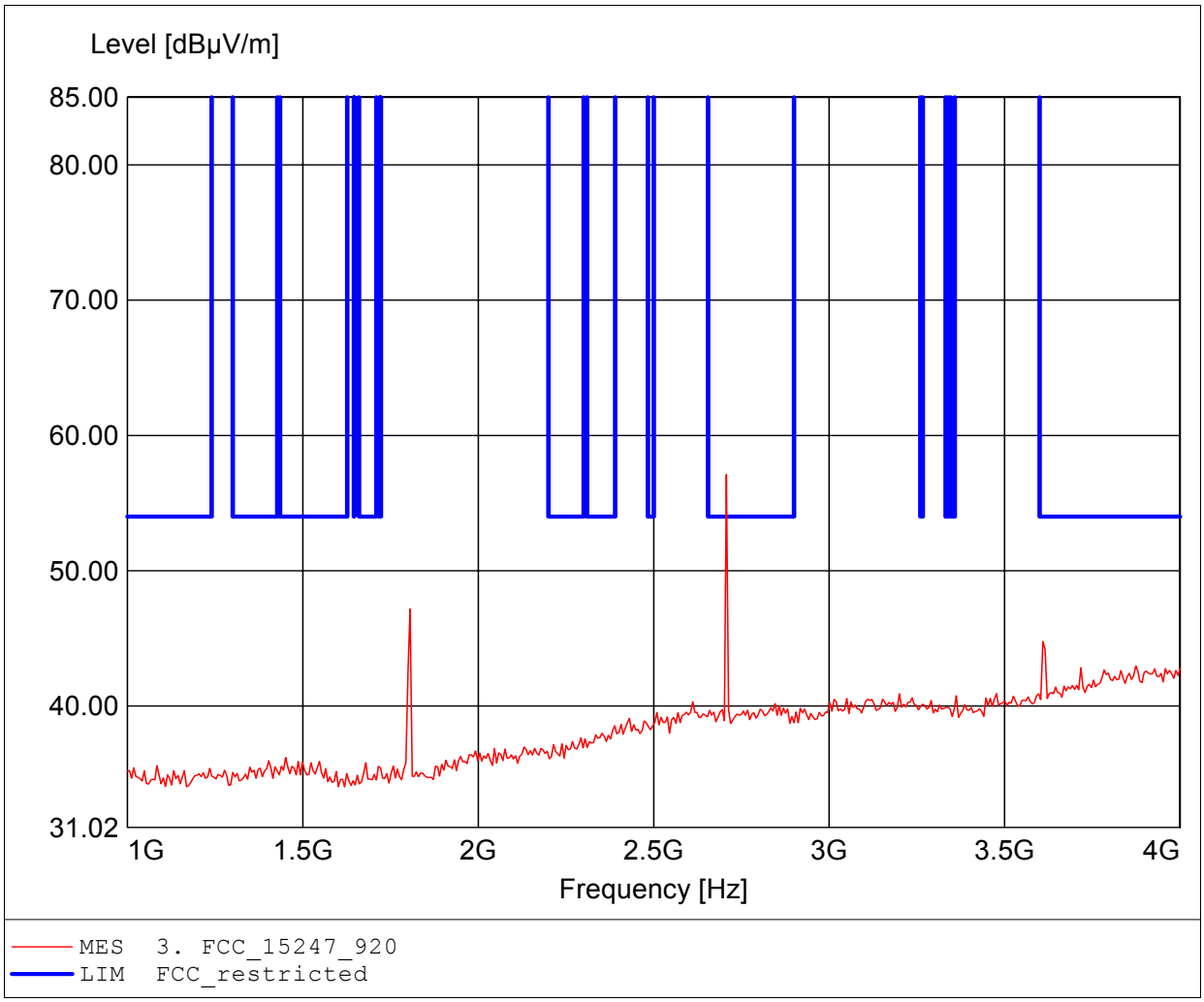
Approval Holder:	Panasonic Electronic Devices Europe GmbH / G0M-1109-1405
EUT:	Radio Module
Model:	PAN 2580 with external antenna / Tx 902.4 MHz
Test Site / Operator:	Eurofins Product Service GmbH / Mr. Treffke
Test Condition:	Tnom.: 24°C / Vnom: 3.0 V DC
Test Specification:	according to §15.247, peak detector
Comment 1:	Dist.: 3m, Ant.: BBHA9120D, amplif.
Comment 2:	Freq: 2.707GHz, Emax: 51.94dBµV/m, RBW: 1MHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

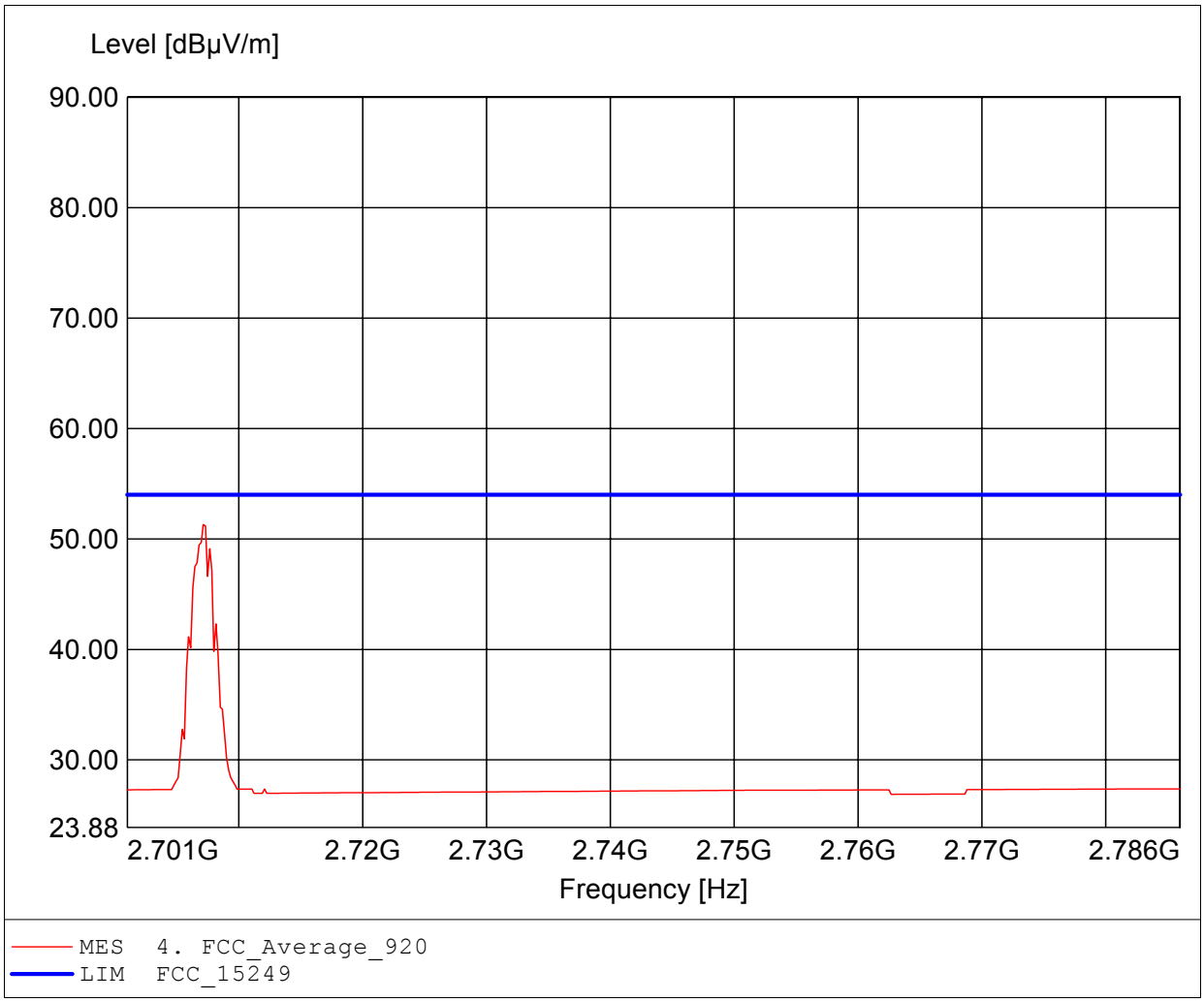
Approval Holder:	Panasonic Electronic Devices Europe GmbH / G0M-1109-1405
EUT:	Radio Module
Model:	PAN 2580 with external antenna / Tx 902.4 MHz
Test Site / Operator:	Eurofins Product Service GmbH / Mr. Treffke
Test Condition:	Tnom.: 24°C / Vnom: 3.0 V DC
Test Specification:	according to §15.247, peak detector
Comment 1:	Dist.: 3m, Ant.: BBHA9120D, amplif.
Comment 2:	Freq: 2.707GHz, Emax: 57.10dBµV/m, RBW: 1MHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

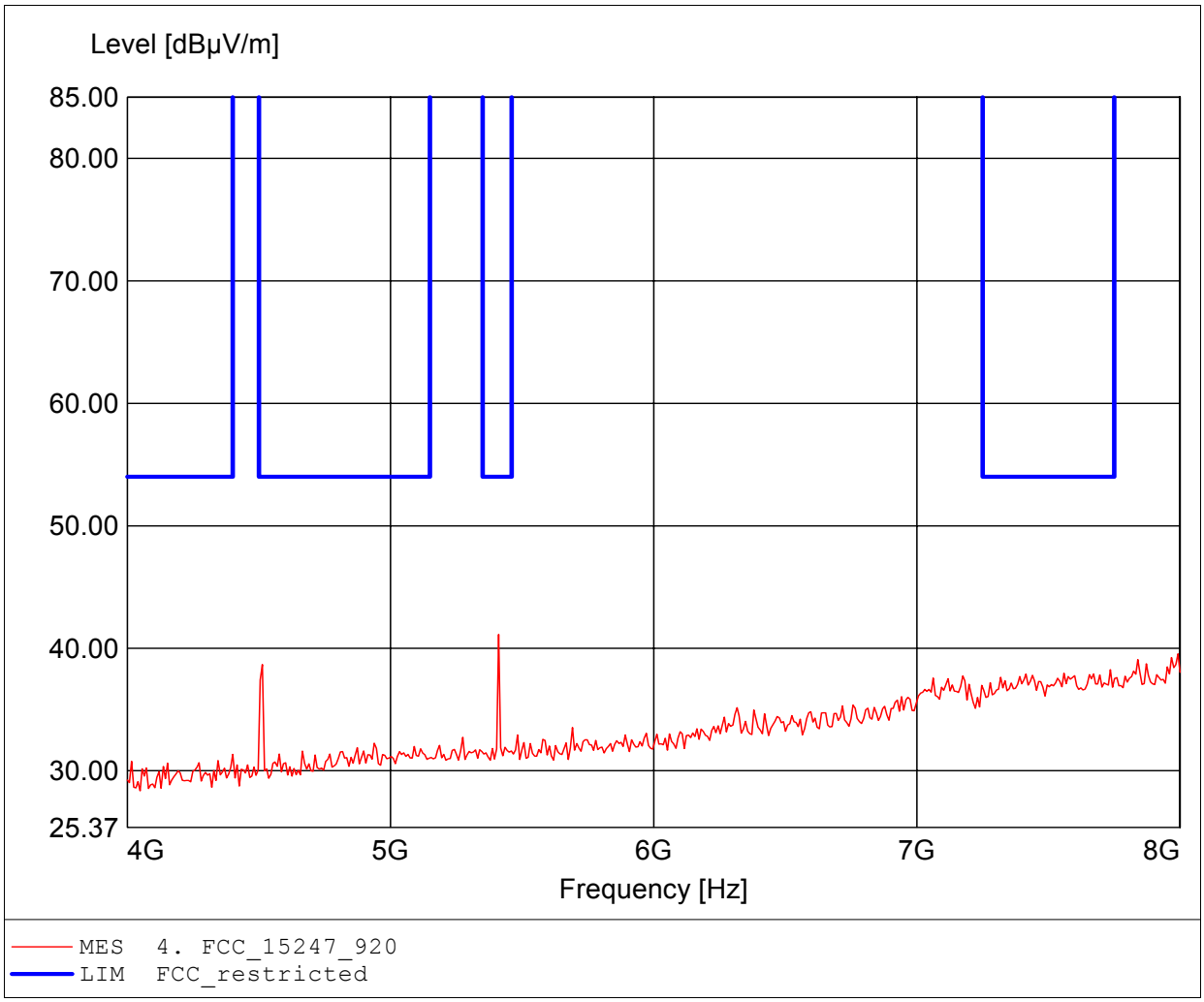
Approval Holder:	Panasonic Electronic Devices Europe GmbH / G0M-1109-1405
EUT:	Radio Module
Model:	PAN 2580 with internal ceramic antenna / Tx 902.4 MHz
Test Site / Operator:	Eurofins Product Service GmbH / Mr. Treffke
Test Condition:	Tnom.: 24°C / Vnom: 3.0 V DC
Test Specification:	according to §15.247, average detector
Comment 1:	Dist.: 3m, Ant.: BBHA9120D, ampl.+HP.
Comment 2:	Freq: 2.707GHz, Emax: 51.31dBµV/m, RBW: 1MHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

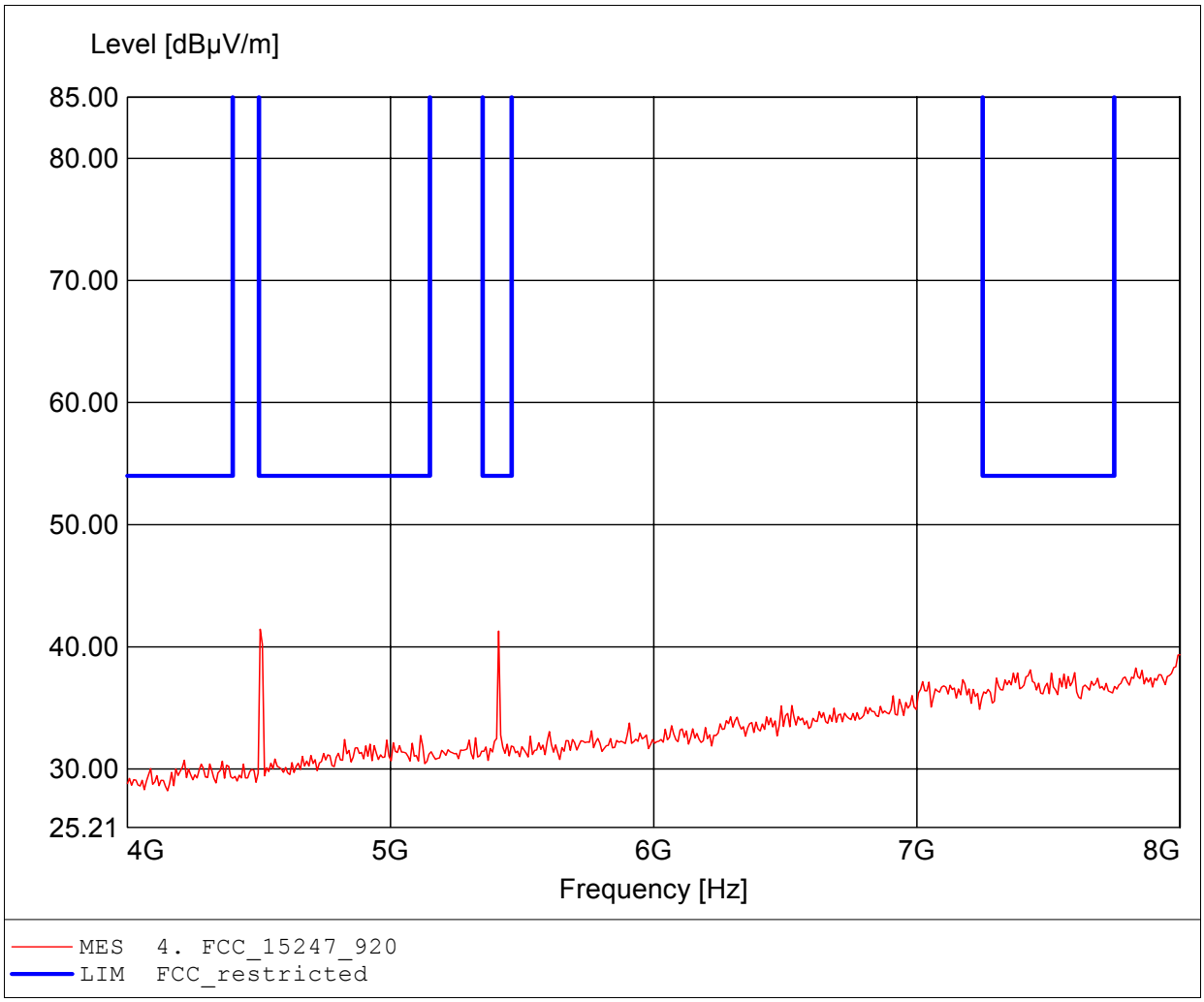
Approval Holder:	Panasonic Electronic Devices Europe GmbH / G0M-1109-1405
EUT:	Radio Module
Model:	PAN 2580 with external antenna / Tx 902.4 MHz
Test Site / Operator:	Eurofins Product Service GmbH / Mr. Treffke
Test Condition:	Tnom.: 24°C / Vnom: 3.0 V DC
Test Specification:	according to §15.247, peak detector
Comment 1:	Dist.: 3m, Ant.: BBHA9120D, ampl.+HP.
Comment 2:	Freq: 5.411GHz, Emax: 41.13dBµV/m, RBW: 1MHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

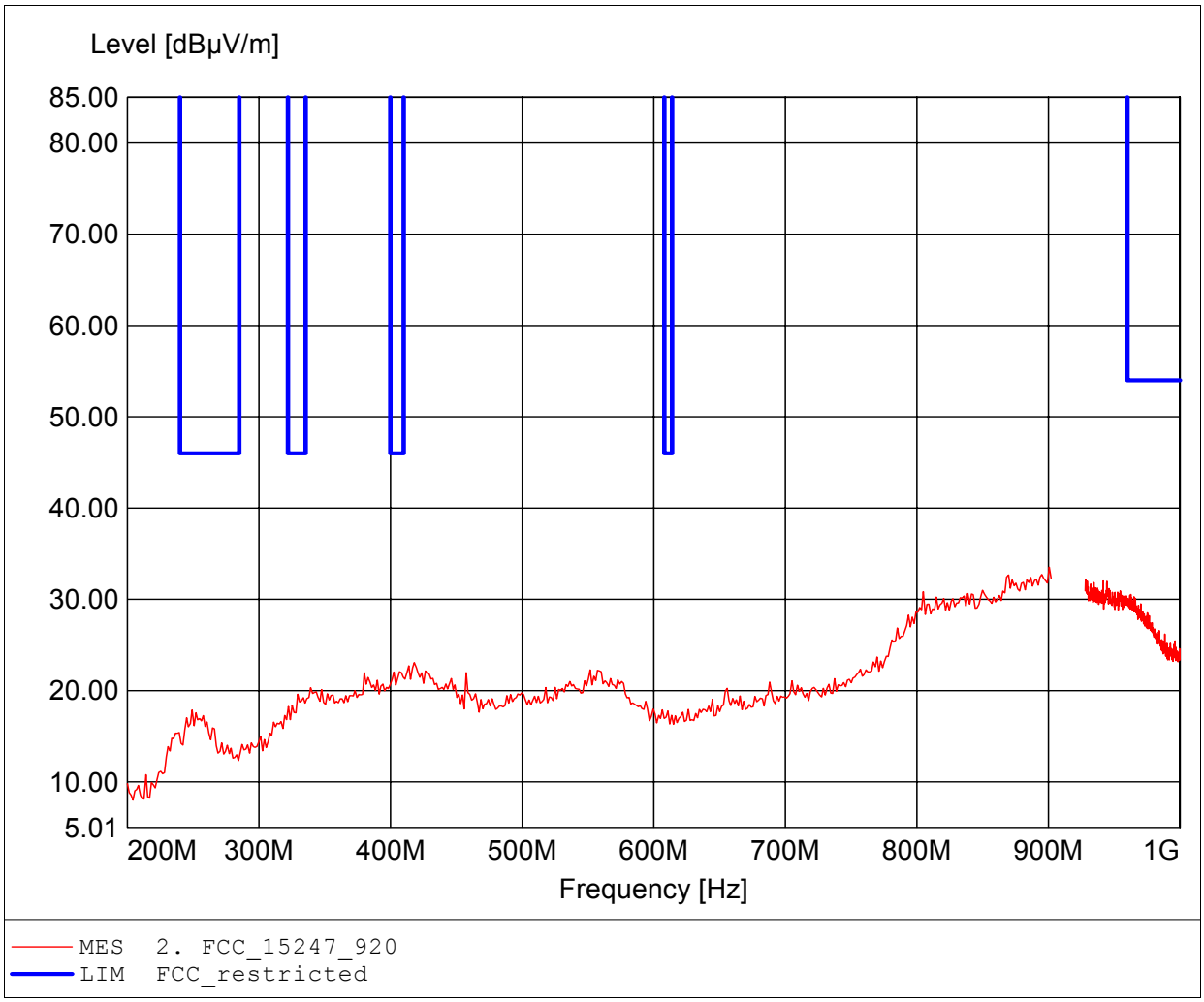
Approval Holder:	Panasonic Electronic Devices Europe GmbH / G0M-1109-1405
EUT:	Radio Module
Model:	PAN 2580 with external antenna / Tx 902.4 MHz
Test Site / Operator:	Eurofins Product Service GmbH / Mr. Treffke
Test Condition:	Tnom.: 24°C / Vnom: 3.0 V DC
Test Specification:	according to §15.247, peak detector
Comment 1:	Dist.: 3m, Ant.: BBHA9120D, ampl.+HP.
Comment 2:	Freq: 4.505GHz, Emax: 41.43dBµV/m, RBW: 1MHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

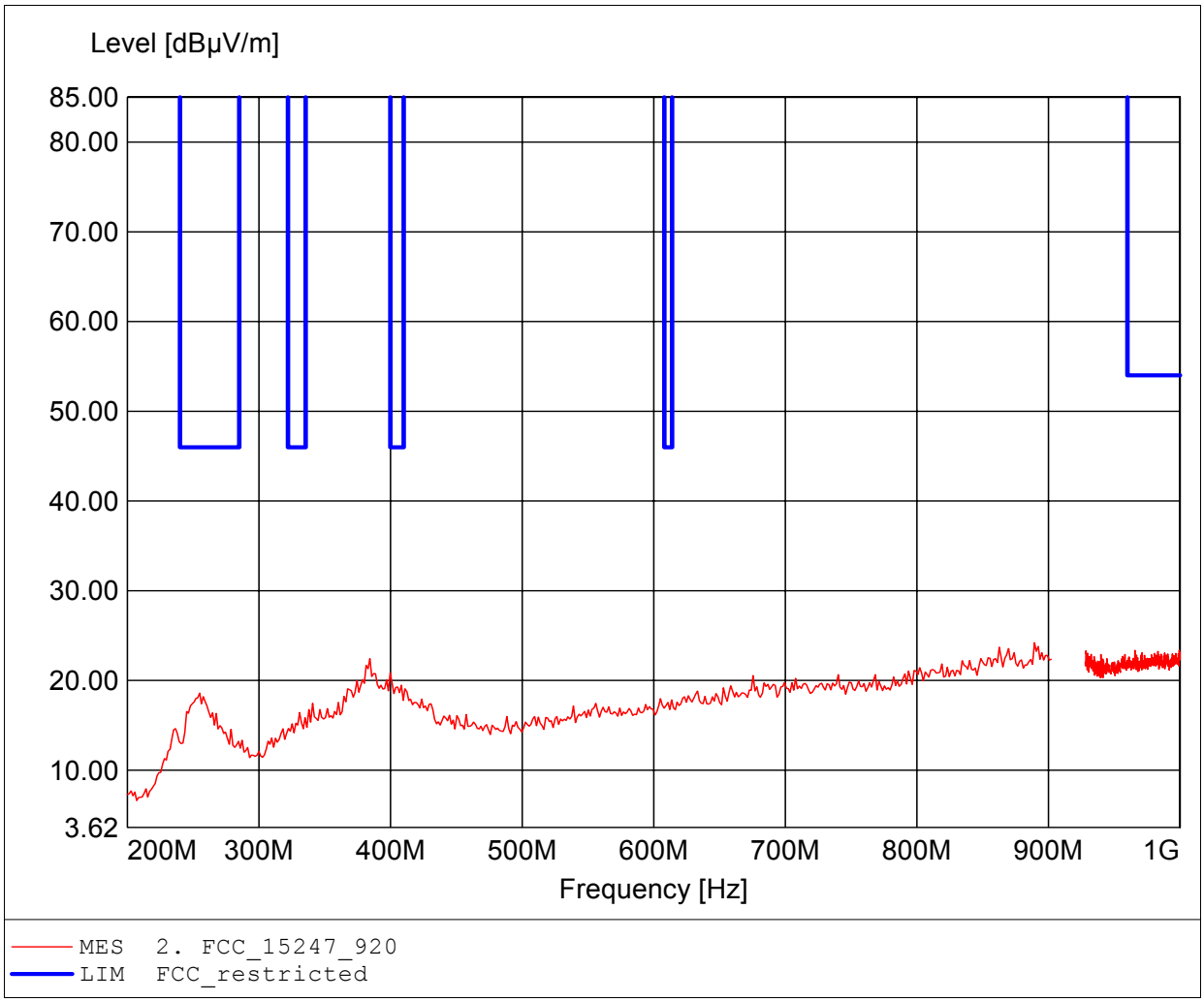
Approval Holder:	Panasonic Electronic Devices Europe GmbH / G0M-1109-1405
EUT:	Radio Module
Model:	PAN 2580 with external antenna / Tx 914.8 MHz
Test Site / Operator:	Eurofins Product Service GmbH / Mr. Treffke
Test Condition:	Tnom.: 24°C / Vnom: 3.0 V DC
Test Specification:	according to §15.247
Comment 1:	Dist.: 3m, Ant.: HL 223, amplif.
Comment 2:	Freq: 900.593MHz, Emax: 33.51dBµV/m, RBW: 100kHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

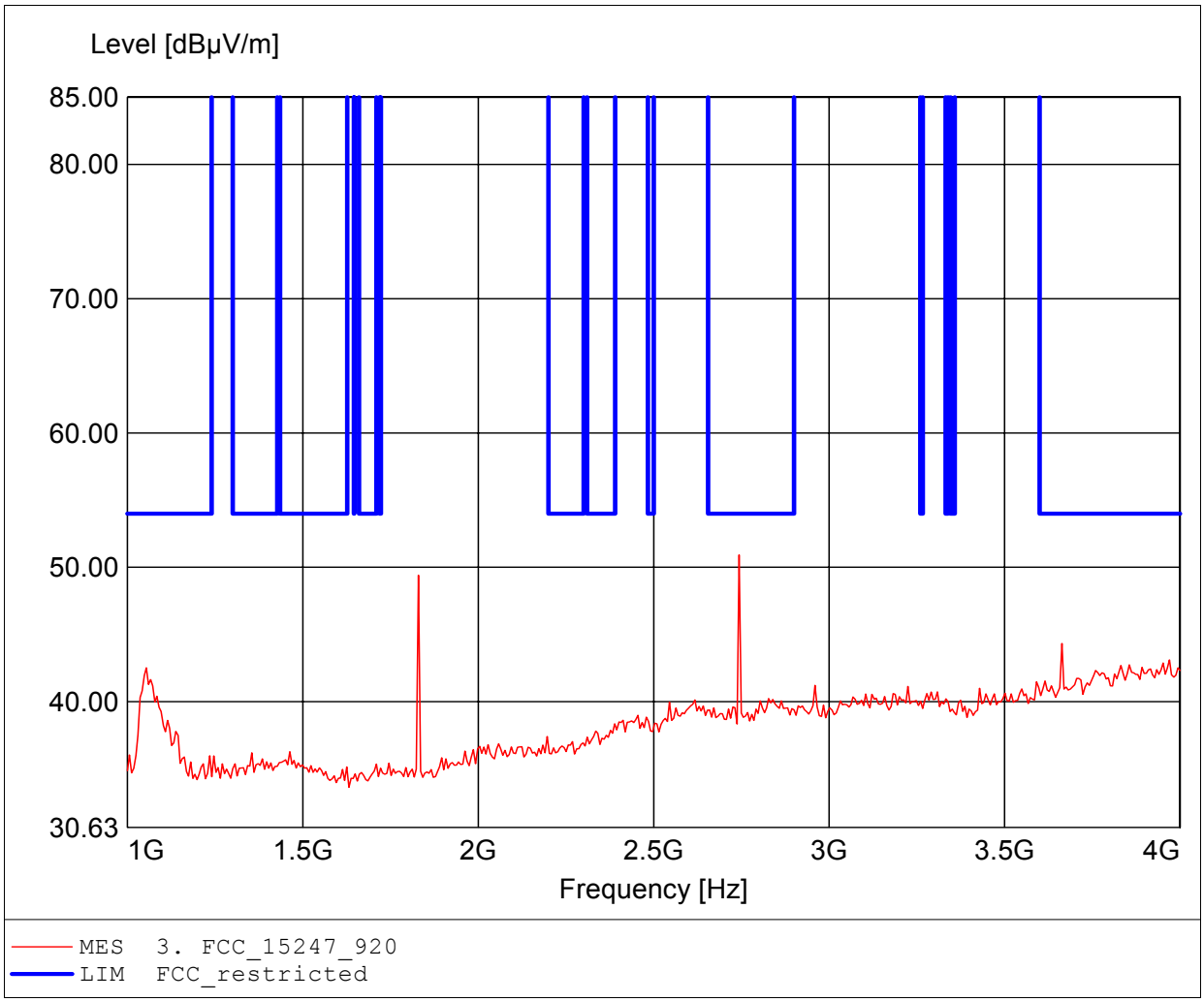
Approval Holder:	Panasonic Electronic Devices Europe GmbH / G0M-1109-1405
EUT:	Radio Module
Model:	PAN 2580 with external antenna / Tx 914.8 MHz
Test Site / Operator:	Eurofins Product Service GmbH / Mr. Treffke
Test Condition:	Tnom.: 24°C / Vnom: 3.0 V DC
Test Specification:	according to §15.247
Comment 1:	Dist.: 3m, Ant.: HL 223, amplif.
Comment 2:	Freq: 889.339MHz, Emax: 24.21dBµV/m, RBW: 100kHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

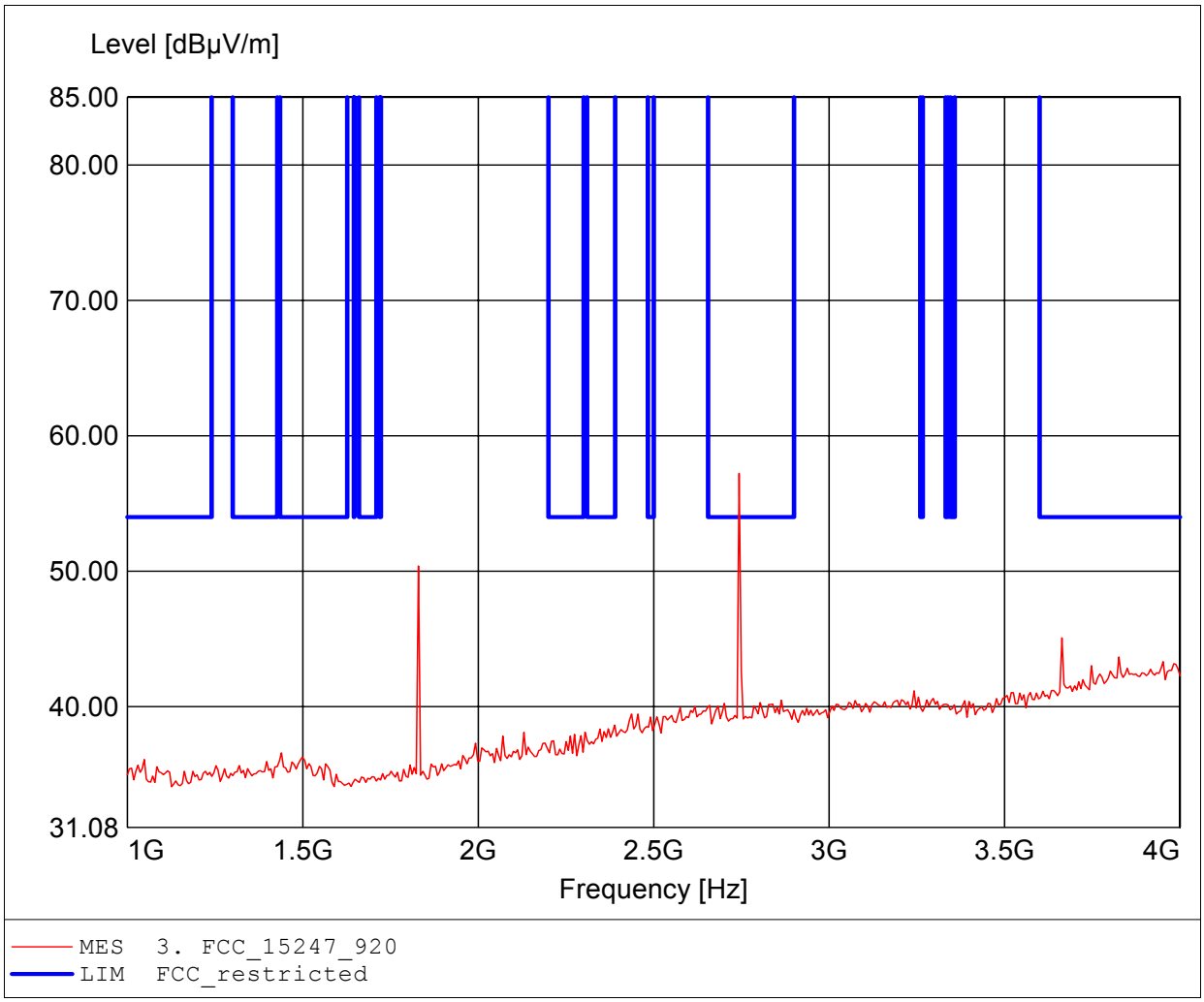
Approval Holder:	Panasonic Electronic Devices Europe GmbH / G0M-1109-1405
EUT:	Radio Module
Model:	PAN 2580 with external antenna / Tx 914.8 MHz
Test Site / Operator:	Eurofins Product Service GmbH / Mr. Treffke
Test Condition:	Tnom.: 24°C / Vnom: 3.0 V DC
Test Specification:	according to §15.247, peak detector
Comment 1:	Dist.: 3m, Ant.: BBHA9120D, amplif.
Comment 2:	Freq: 2.743GHz, Emax: 50.92dBµV/m, RBW: 1MHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

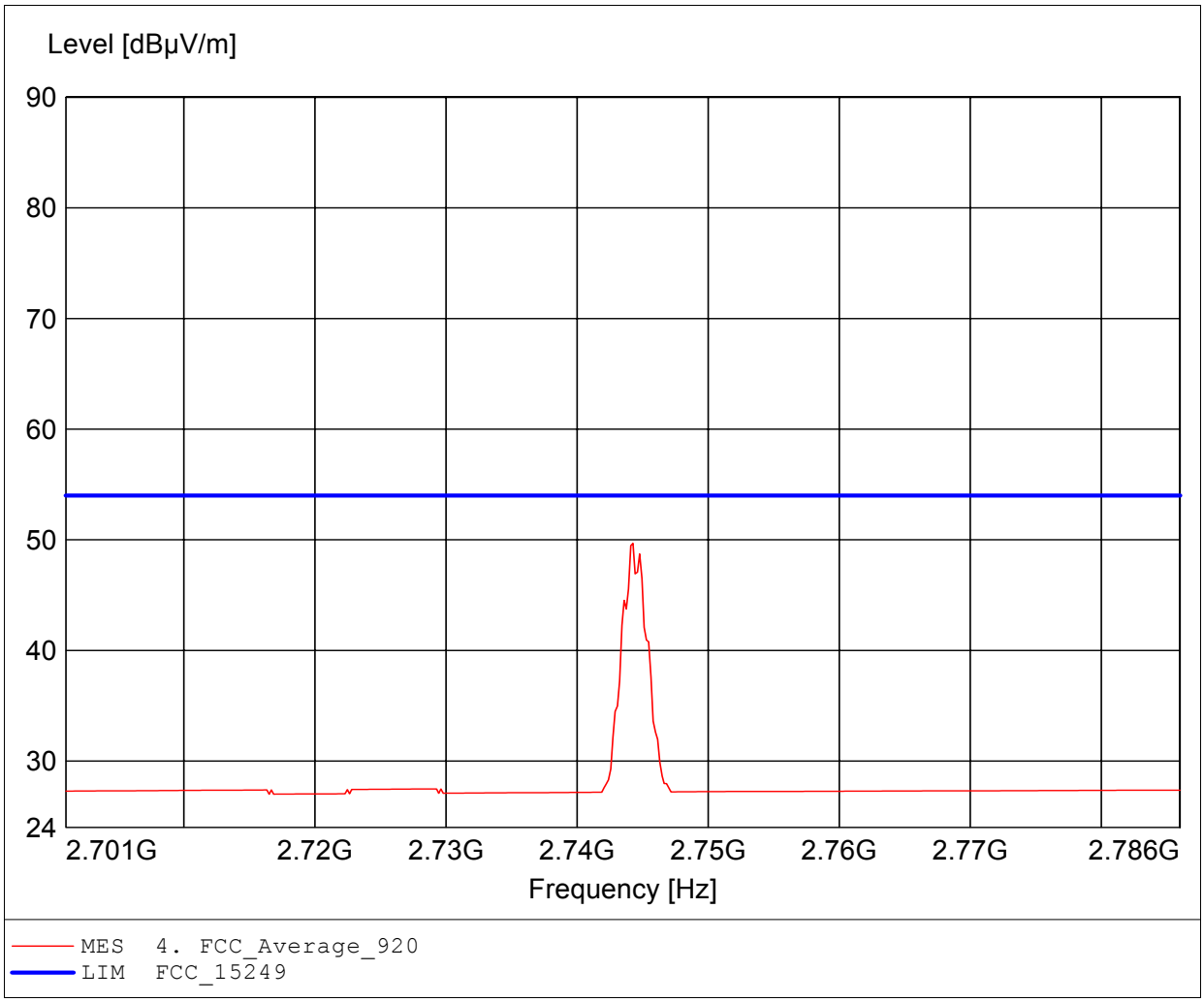
Approval Holder:	Panasonic Electronic Devices Europe GmbH / G0M-1109-1405
EUT:	Radio Module
Model:	PAN 2580 with external antenna / Tx 914.8 MHz
Test Site / Operator:	Eurofins Product Service GmbH / Mr. Treffke
Test Condition:	Tnom.: 24°C / Vnom: 3.0 V DC
Test Specification:	according to §15.247, peak detector
Comment 1:	Dist.: 3m, Ant.: BBHA9120D, amplif.
Comment 2:	Freq: 2.743GHz, Emax: 57.22dBµV/m, RBW: 1MHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

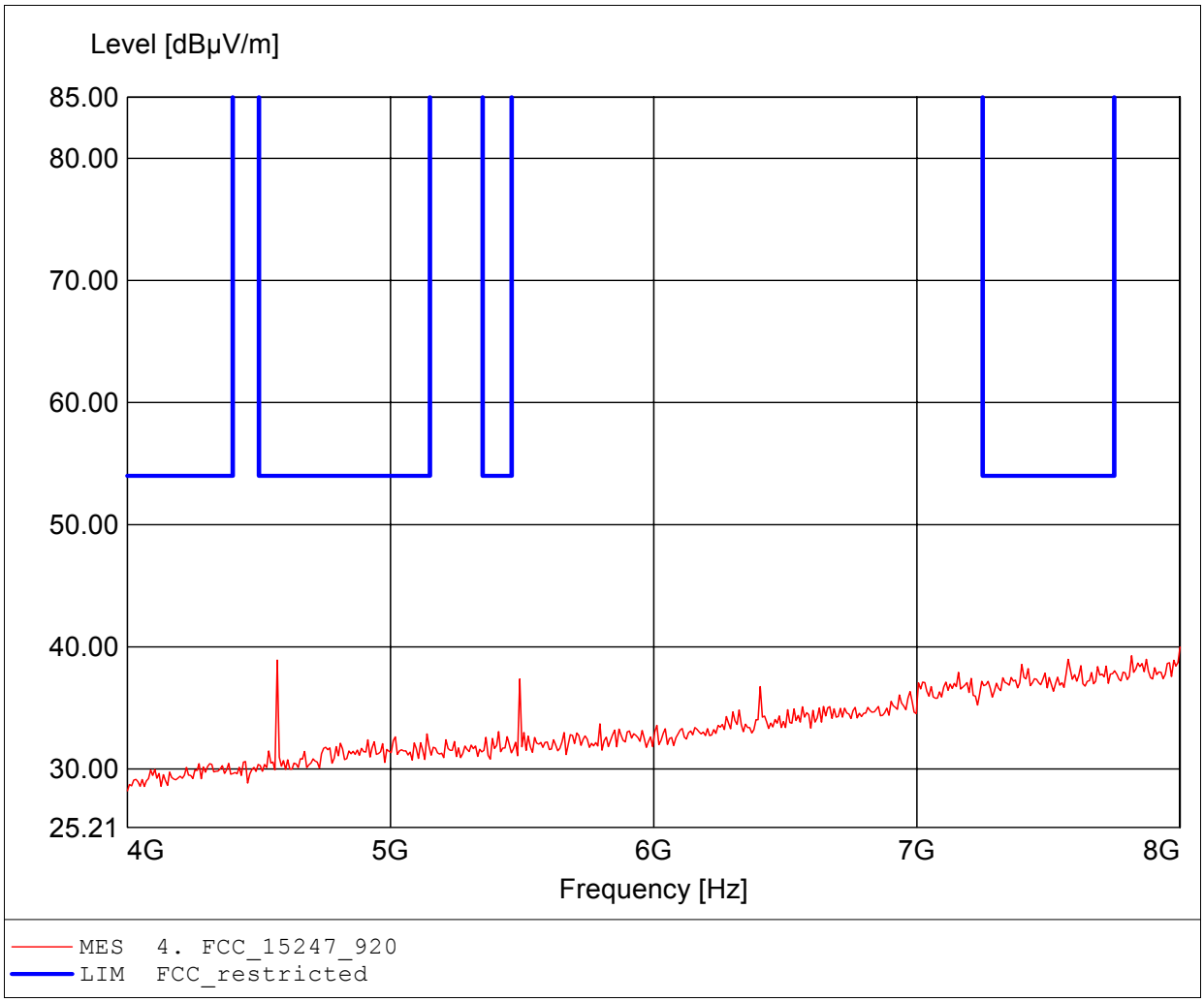
Approval Holder:	Panasonic Electronic Devices Europe GmbH / G0M-1109-1405
EUT:	Radio Module
Model:	PAN 2580 with external antenna / Tx 902.4 MHz
Test Site / Operator:	Eurofins Product Service GmbH / Mr. Treffke
Test Condition:	Tnom.: 24°C / Vnom: 3.0 V DC
Test Specification:	according to §15.247, average detector
Comment 1:	Dist.: 3m, Ant.: BBHA9120D, ampl.+HP.
Comment 2:	Freq: 2.744GHz, Emax: 49.68dBµV/m, RBW: 1MHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

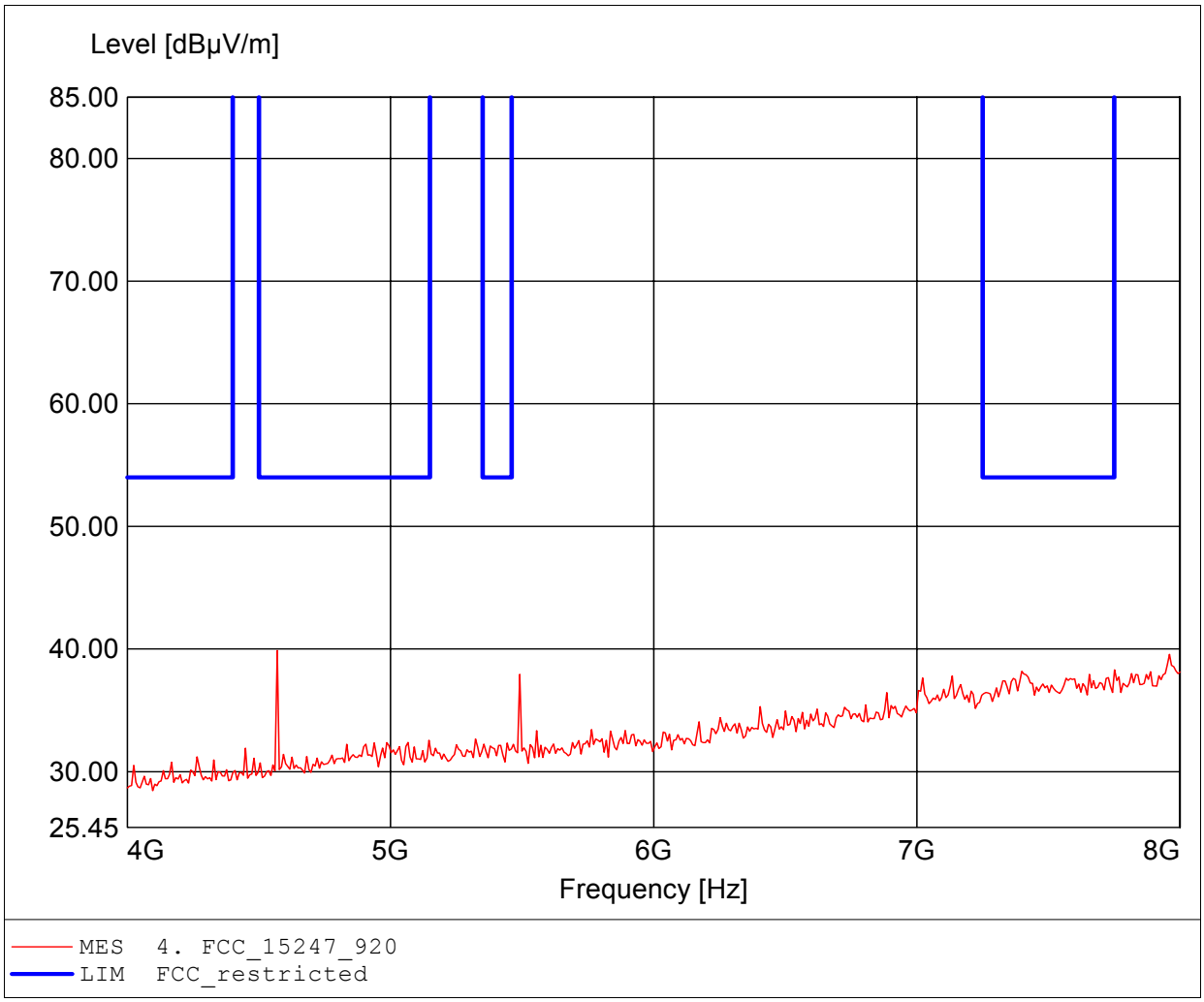
Approval Holder:	Panasonic Electronic Devices Europe GmbH / G0M-1109-1405
EUT:	Radio Module
Model:	PAN 2580 with external antenna / Tx 914.8 MHz
Test Site / Operator:	Eurofins Product Service GmbH / Mr. Treffke
Test Condition:	Tnom.: 24°C / Vnom: 3.0 V DC
Test Specification:	according to §15.247, peak detector
Comment 1:	Dist.: 3m, Ant.: BBHA9120D, ampl.+HP.
Comment 2:	Freq: 8.000GHz, Emax: 39.97dBµV/m, RBW: 1MHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

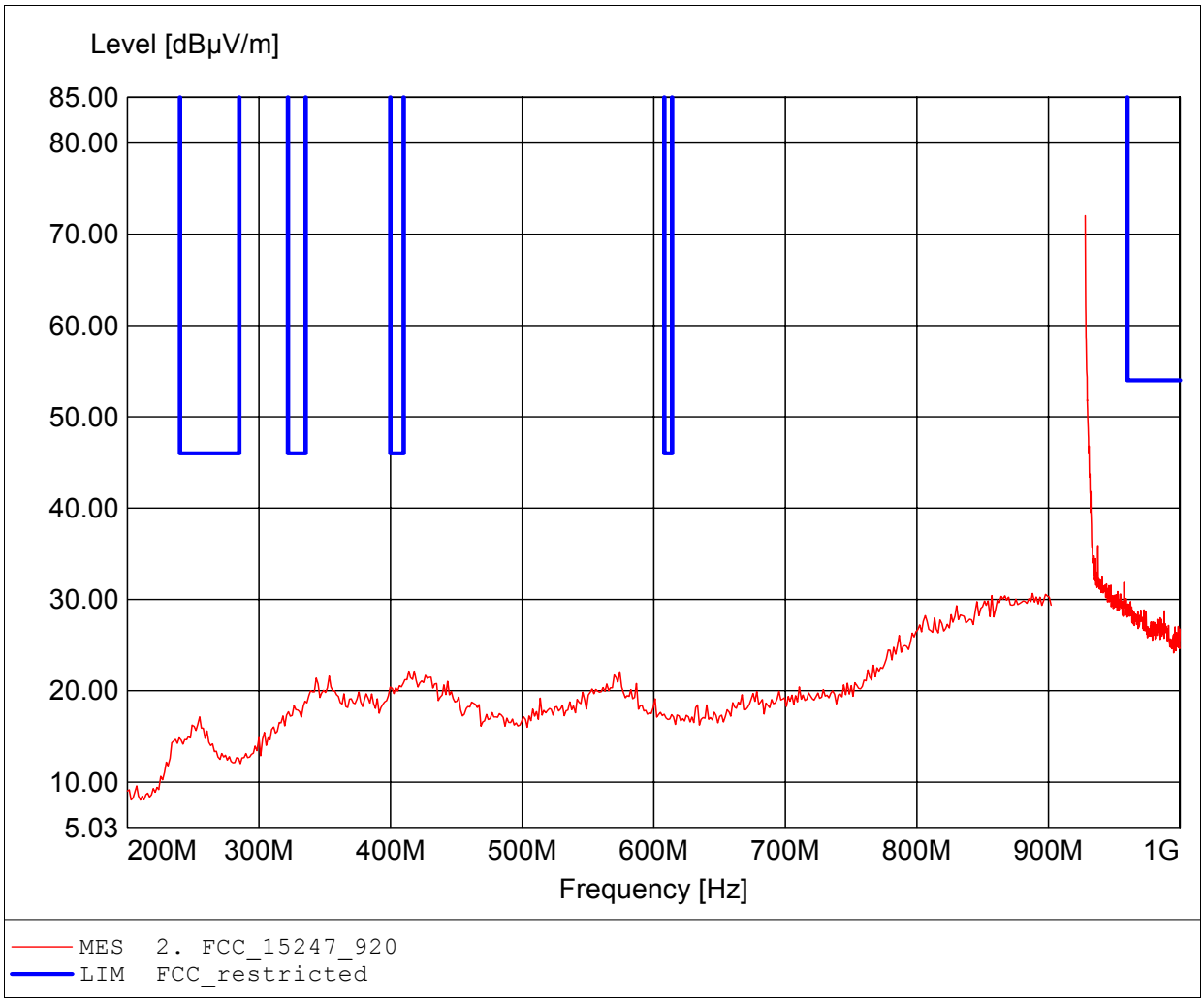
Approval Holder:	Panasonic Electronic Devices Europe GmbH / G0M-1109-1405
EUT:	Radio Module
Model:	PAN 2580 with external antenna / Tx 914.8 MHz
Test Site / Operator:	Eurofins Product Service GmbH / Mr. Treffke
Test Condition:	Tnom.: 24°C / Vnom: 3.0 V DC
Test Specification:	according to §15.247, peak detector
Comment 1:	Dist.: 3m, Ant.: BBHA9120D, ampl.+HP.
Comment 2:	Freq: 4.569GHz, Emax: 39.88dBµV/m, RBW: 1MHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

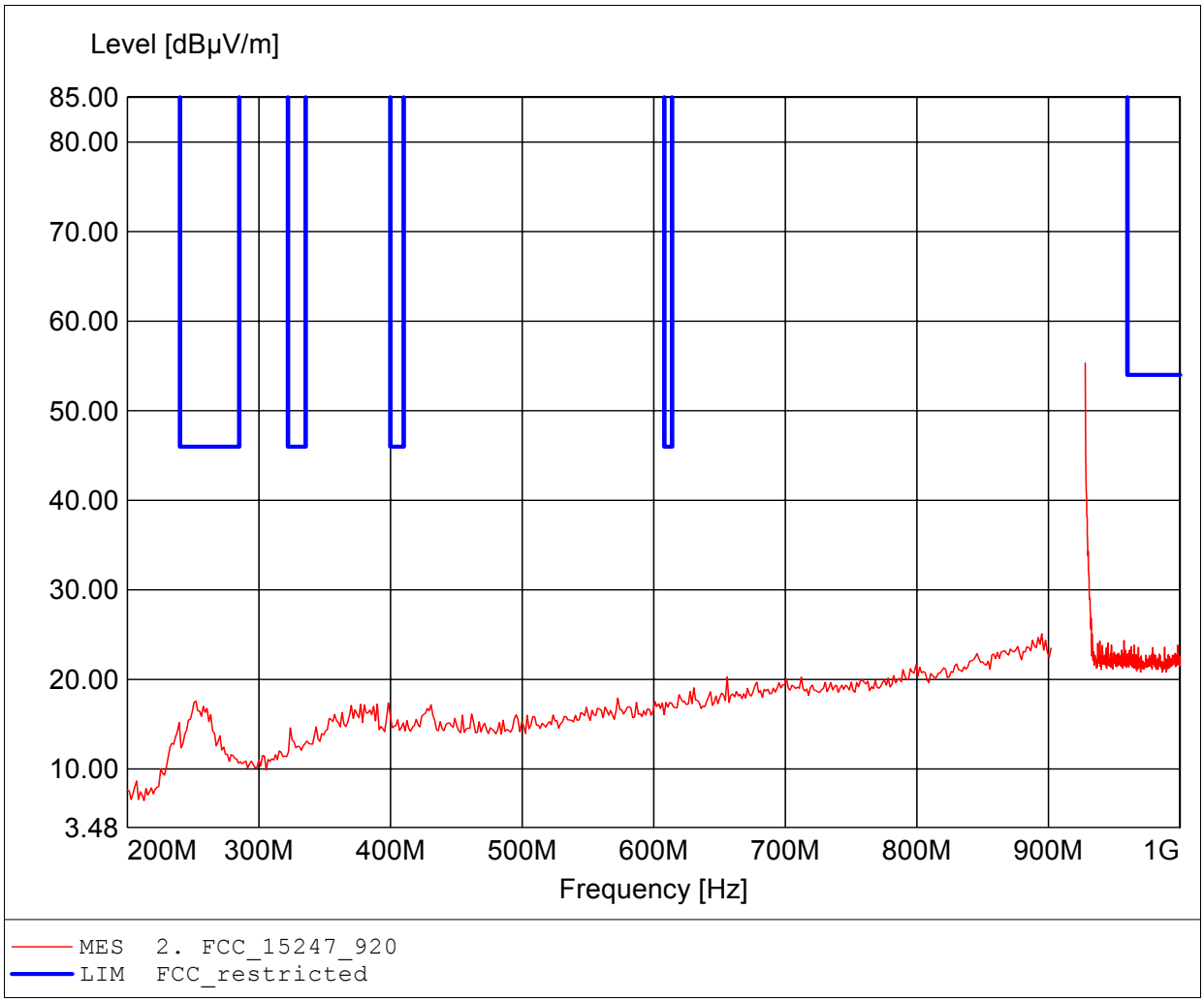
Approval Holder:	Panasonic Electronic Devices Europe GmbH / G0M-1109-1405
EUT:	Radio Module
Model:	PAN 2580 with external antenna / Tx 927.6 MHz
Test Site / Operator:	Eurofins Product Service GmbH / Mr. Treffke
Test Condition:	Tnom.: 24°C / Vnom: 3.0 V DC
Test Specification:	according to §15.247
Comment 1:	Dist.: 3m, Ant.: HL 223, amplif.
Comment 2:	Freq: 928.000MHz, Emax: 72.05dBµV/m, RBW: 100kHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

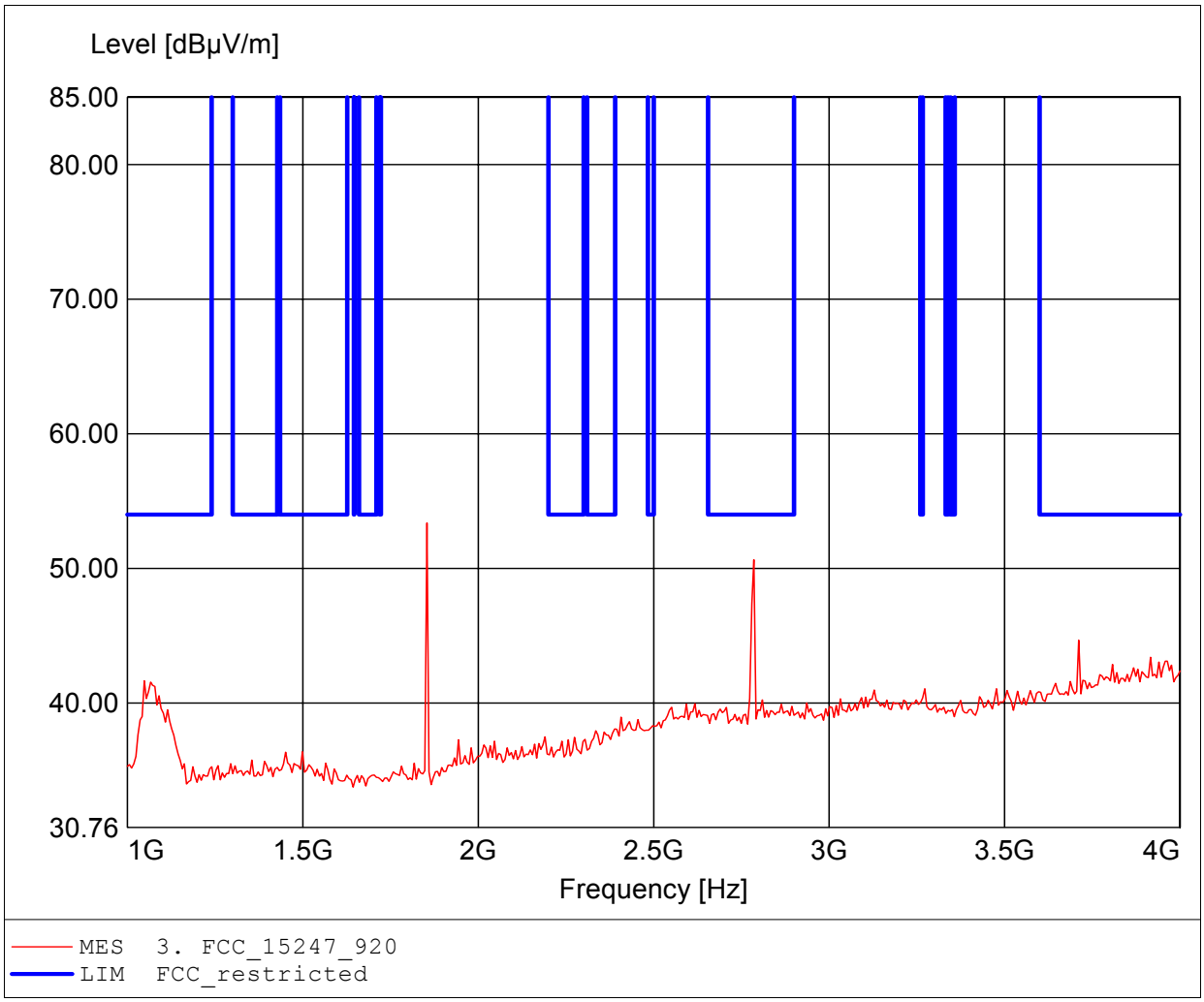
Approval Holder:	Panasonic Electronic Devices Europe GmbH / G0M-1109-1405
EUT:	Radio Module
Model:	PAN 2580 with external antenna / Tx 927.6 MHz
Test Site / Operator:	Eurofins Product Service GmbH / Mr. Treffke
Test Condition:	Tnom.: 24°C / Vnom: 3.0 V DC
Test Specification:	according to §15.247
Comment 1:	Dist.: 3m, Ant.: HL 223, amplif.
Comment 2:	Freq: 928.000MHz, Emax: 55.34dBµV/m, RBW: 100kHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

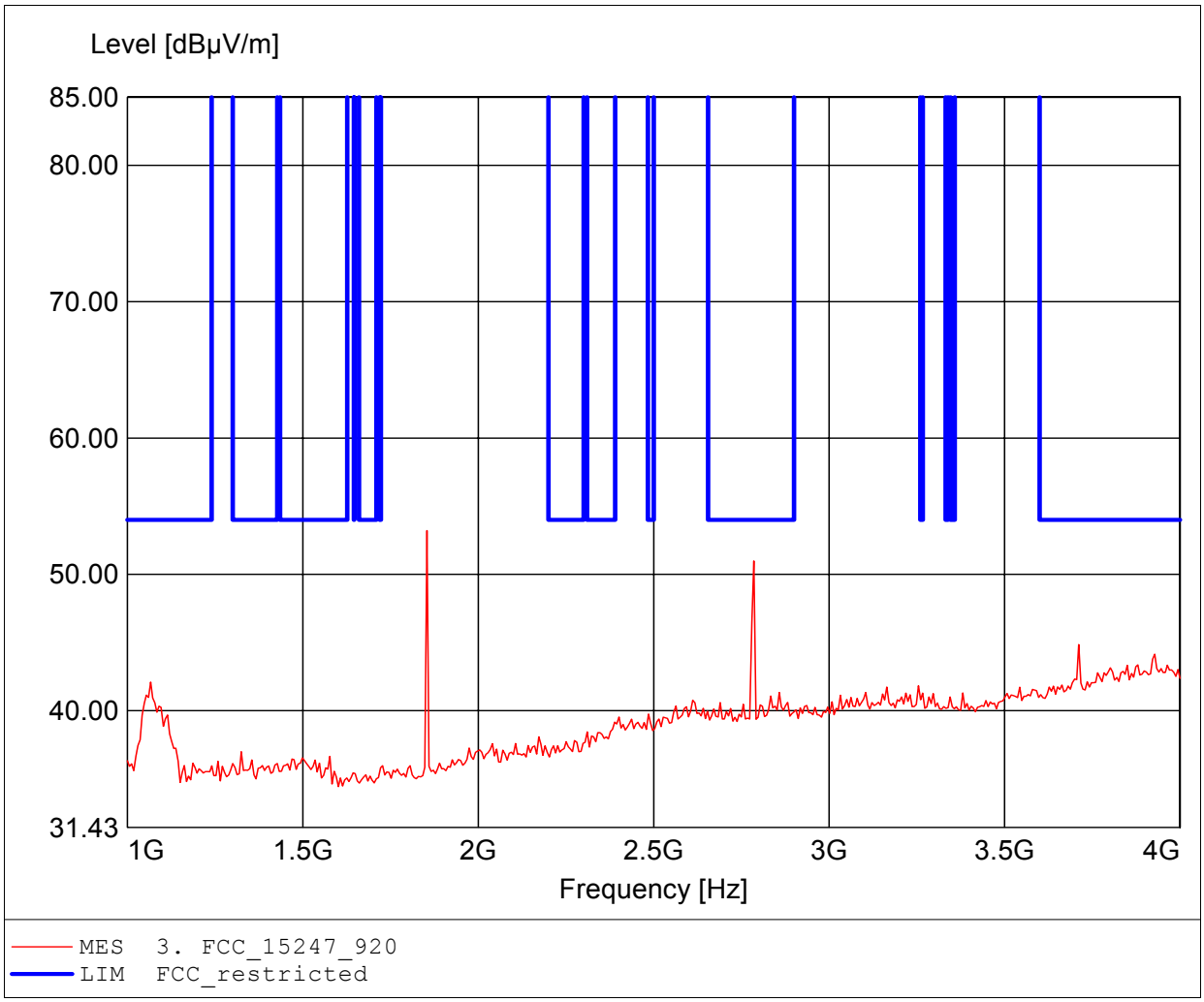
Approval Holder:	Panasonic Electronic Devices Europe GmbH / G0M-1109-1405
EUT:	Radio Module
Model:	PAN 2580 with external antenna / Tx 927.6 MHz
Test Site / Operator:	Eurofins Product Service GmbH / Mr. Treffke
Test Condition:	Tnom.: 24°C / Vnom: 3.0 V DC
Test Specification:	according to §15.247, peak detector
Comment 1:	Dist.: 3m, Ant.: BBHA9120D, amplif.
Comment 2:	Freq: 1.854GHz, Emax: 53.38dBµV/m, RBW: 1MHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

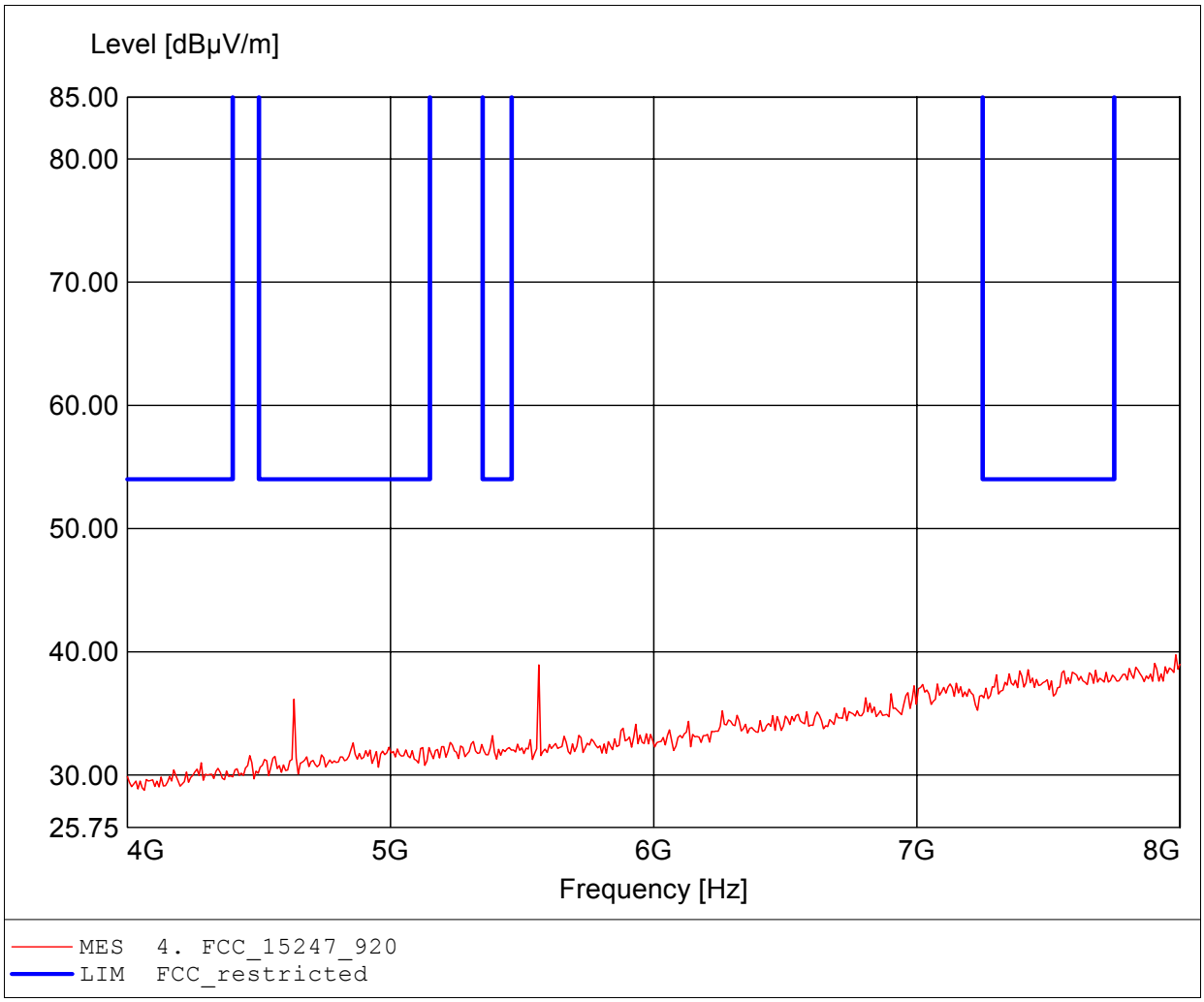
Approval Holder:	Panasonic Electronic Devices Europe GmbH / G0M-1109-1405
EUT:	Radio Module
Model:	PAN 2580 with external antenna / Tx 927.6 MHz
Test Site / Operator:	Eurofins Product Service GmbH / Mr. Treffke
Test Condition:	Tnom.: 24°C / Vnom: 3.0 V DC
Test Specification:	according to §15.247, peak detector
Comment 1:	Dist.: 3m, Ant.: BBHA9120D, amplif.
Comment 2:	Freq: 1.854GHz, Emax: 53.21dBµV/m, RBW: 1MHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

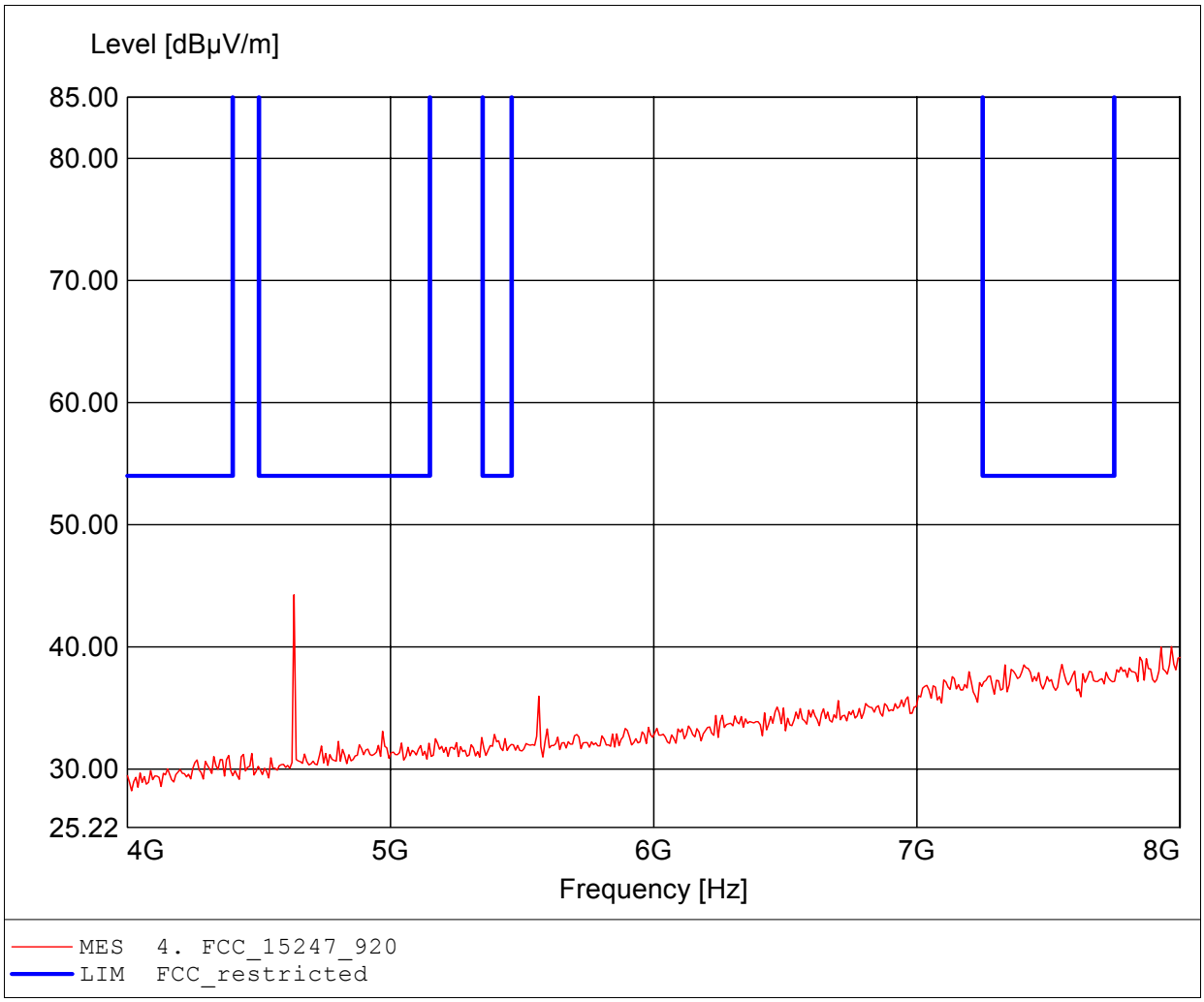
Approval Holder:	Panasonic Electronic Devices Europe GmbH / G0M-1109-1405
EUT:	Radio Module
Model:	PAN 2580 with external antenna / Tx 927.6 MHz
Test Site / Operator:	Eurofins Product Service GmbH / Mr. Treffke
Test Condition:	Tnom.: 24°C / Vnom: 3.0 V DC
Test Specification:	according to §15.247, peak detector
Comment 1:	Dist.: 3m, Ant.: BBHA9120D, ampl.+HP.
Comment 2:	Freq: 7.984GHz, Emax: 39.76dBµV/m, RBW: 1MHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

Approval Holder:	Panasonic Electronic Devices Europe GmbH / G0M-1109-1405
EUT:	Radio Module
Model:	PAN 2580 with external antenna / Tx 927.6 MHz
Test Site / Operator:	Eurofins Product Service GmbH / Mr. Treffke
Test Condition:	Tnom.: 24°C / Vnom: 3.0 V DC
Test Specification:	according to §15.247, peak detector
Comment 1:	Dist.: 3m, Ant.: BBHA9120D, ampl.+HP.
Comment 2:	Freq: 4.633GHz, Emax: 44.26dBµV/m, RBW: 1MHz

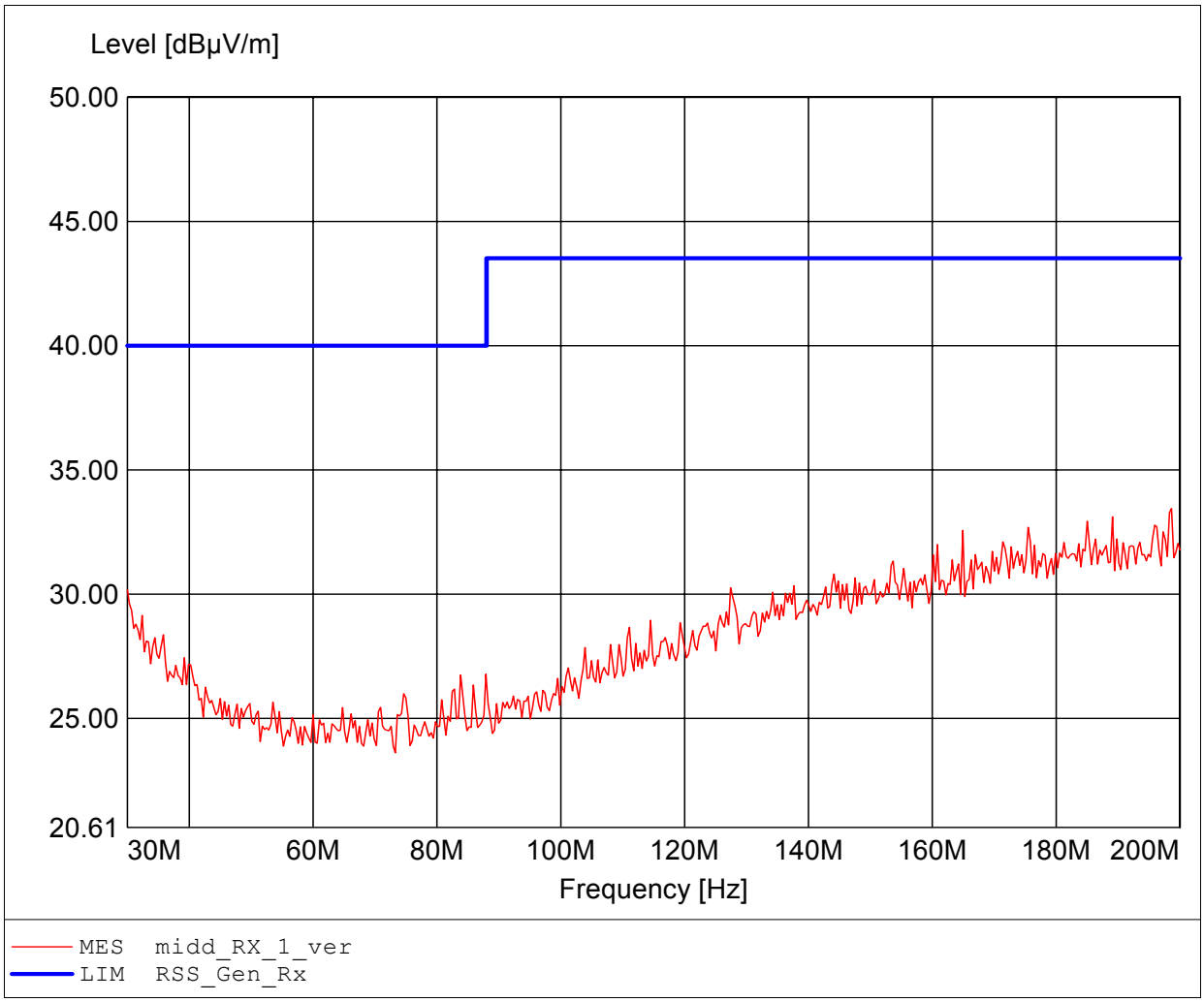


ANNEX B Receiver radiated spurious emissions

Field Strength under normal conditions

Standards Industry Canada, RSS-GEN

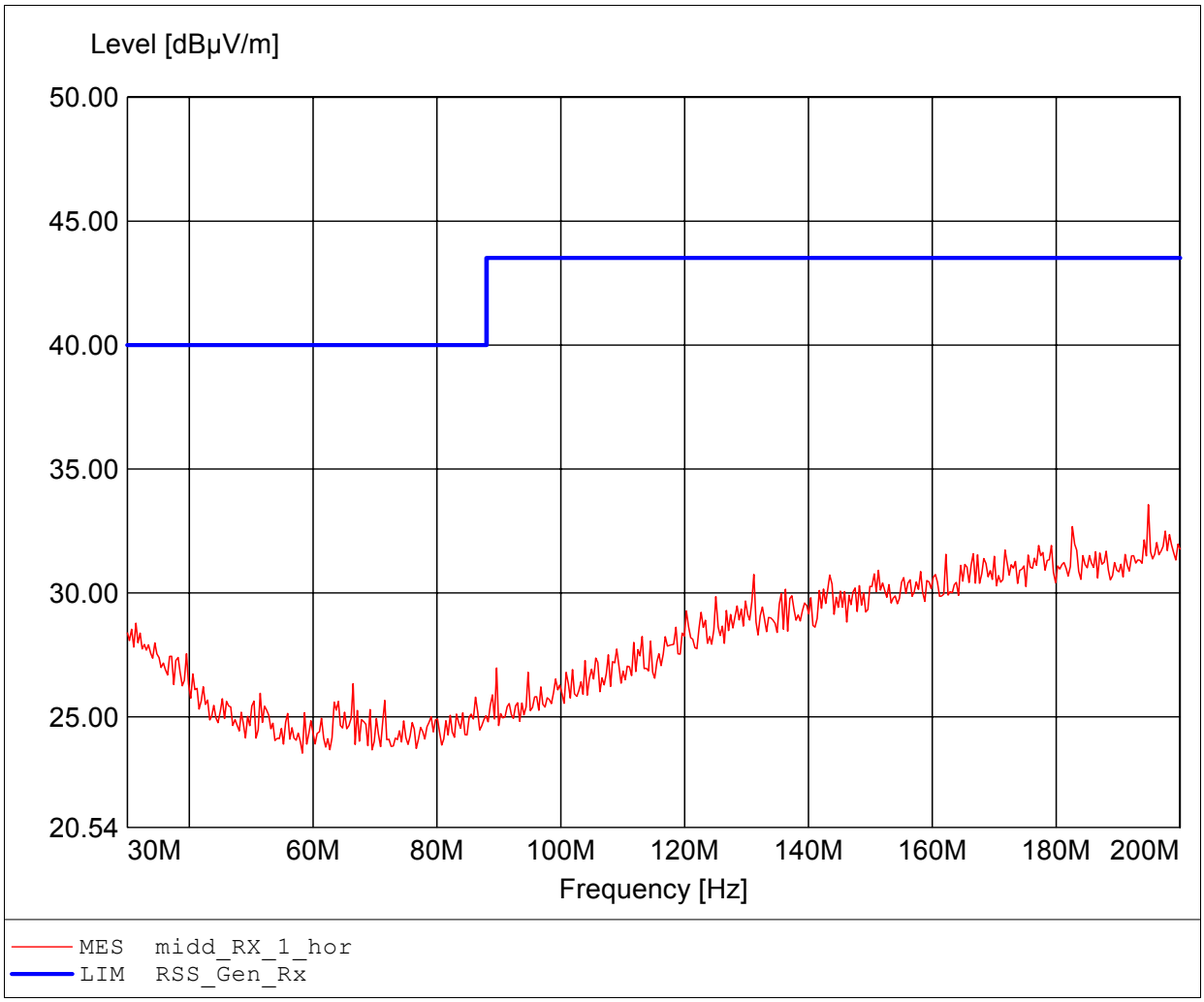
Approval Holder:	Panasonic Electronic Devices Europe GmbH / G0M-1109-1405
EUT:	Radio Module
Model:	PAN 2580 with internal ceramic antenna / Rx mode
Test Site / Operator:	Eurofins Product Service GmbH / Mr. Treffke
Test Condition:	Tnom.: 24°C / Vnom: 3.0 V DC
Test Specification:	Freq. / CH: midd
Comment 1:	Dist.: 3m, Ant.: HK 116
Comment 2:	Freq:198.637MHz Emax:33.44dBµV/m RBW: 100 kHz



Field Strength under normal conditions

Standards Industry Canada, RSS-GEN

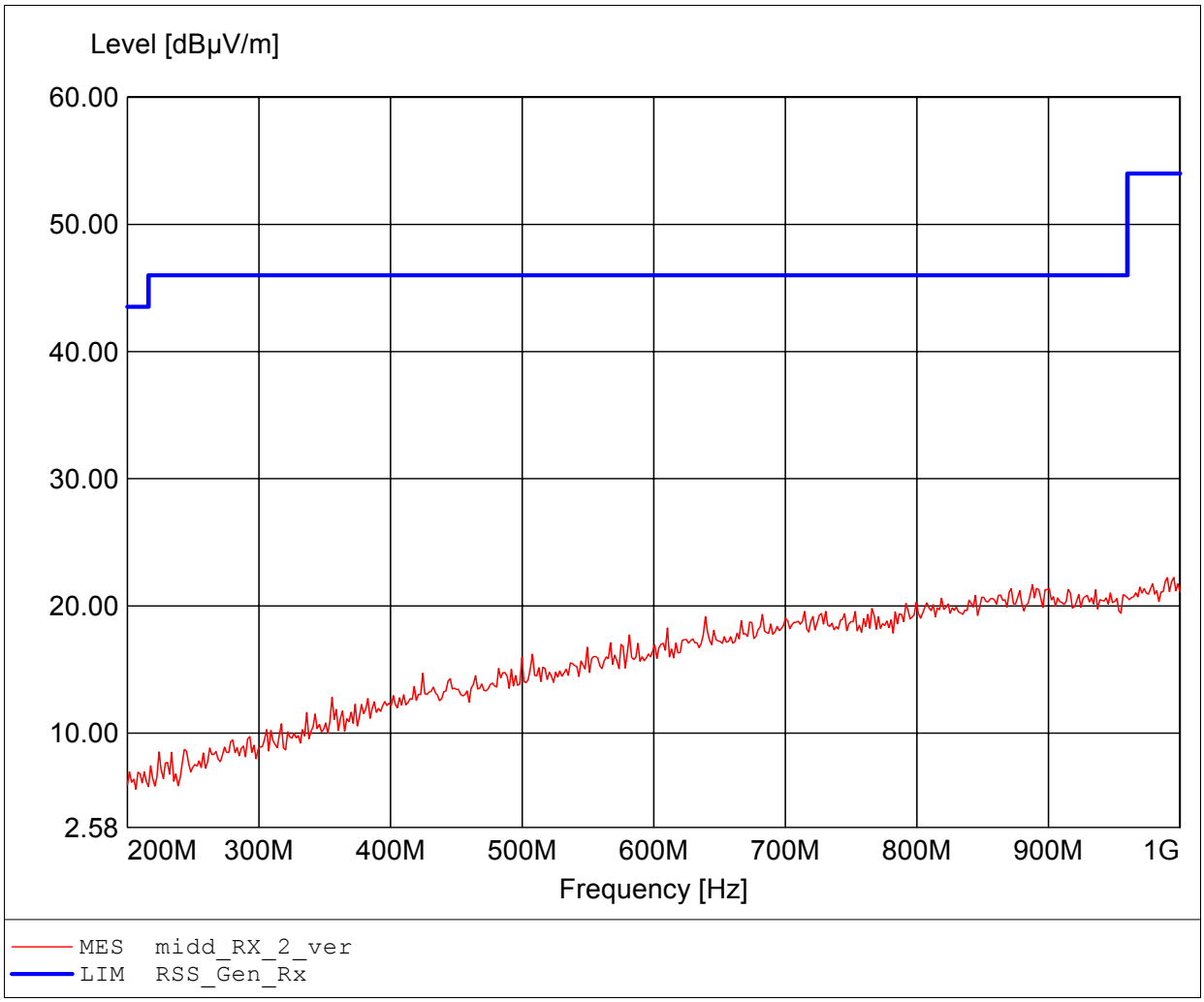
Approval Holder:	Panasonic Electronic Devices Europe GmbH / G0M-1109-1405
EUT:	Radio Module
Model:	PAN 2580 with internal ceramic antenna / Rx mode
Test Site / Operator:	Eurofins Product Service GmbH / Mr. Treffke
Test Condition:	Tnom.: 24°C / Vnom: 3.0 V DC
Test Specification:	Freq. / CH: midd
Comment 1:	Dist.: 3m, Ant.: HK 116
Comment 2:	Freq:194.890MHz Emax:33.56dBµV/m RBW: 100 kHz



Field Strength under normal conditions

Standards Industry Canada, RSS-GEN

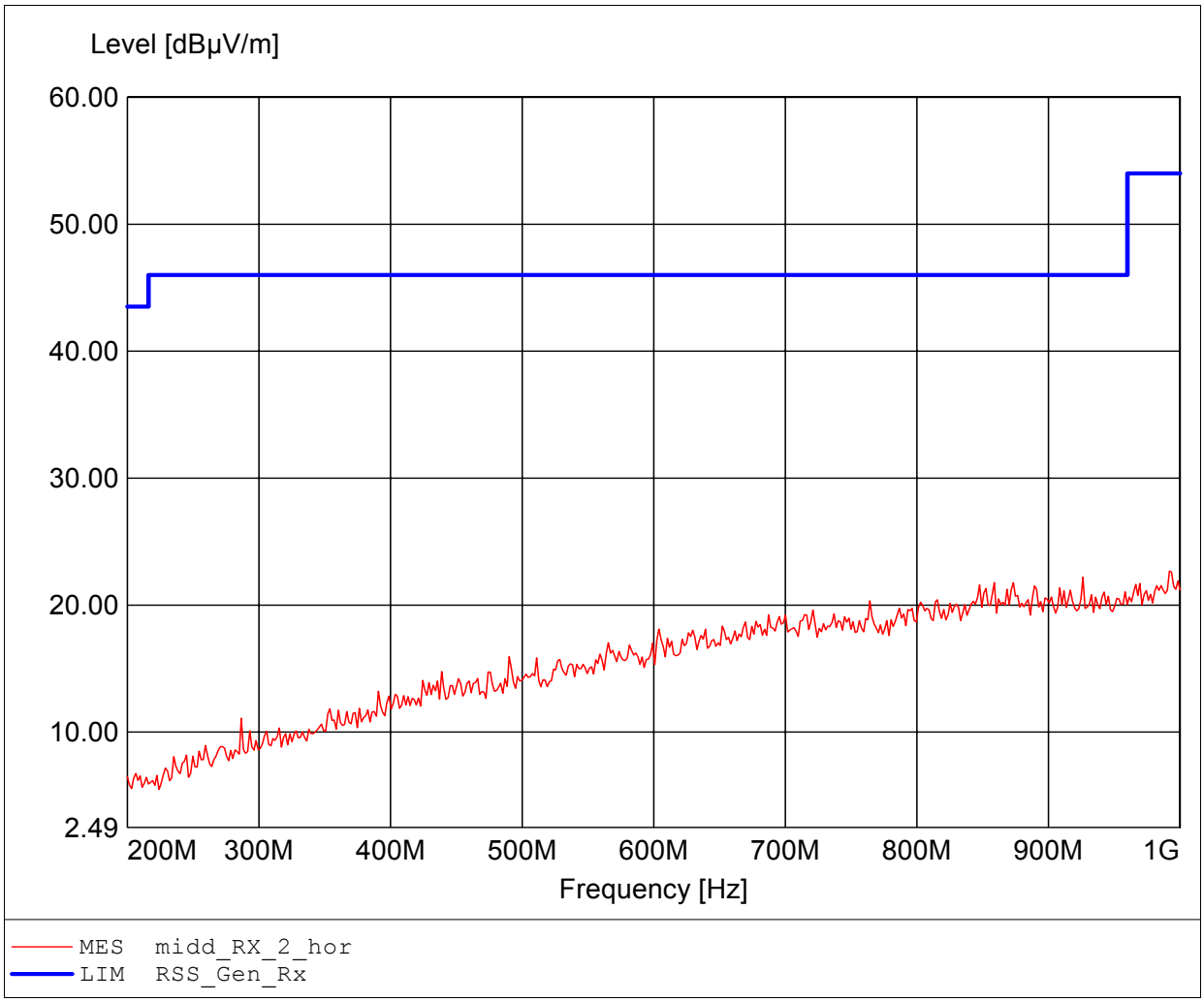
Approval Holder:	Panasonic Electronic Devices Europe GmbH / G0M-1109-1405
EUT:	Radio Module
Model:	PAN 2580 with internal ceramic antenna / Rx mode
Test Site / Operator:	Eurofins Product Service GmbH / Mr. Treffke
Test Condition:	Tnom.: 24°C / Vnom: 3.0 V DC
Test Specification:	Freq. / CH: midd
Comment 1:	Dist.: 3m, Ant.: HL 223, ampl.
Comment 2:	Freq:995.190MHz Emax:22.24dBµV/m RBW: 100 kHz



Field Strength under normal conditions

Standards Industry Canada, RSS-GEN

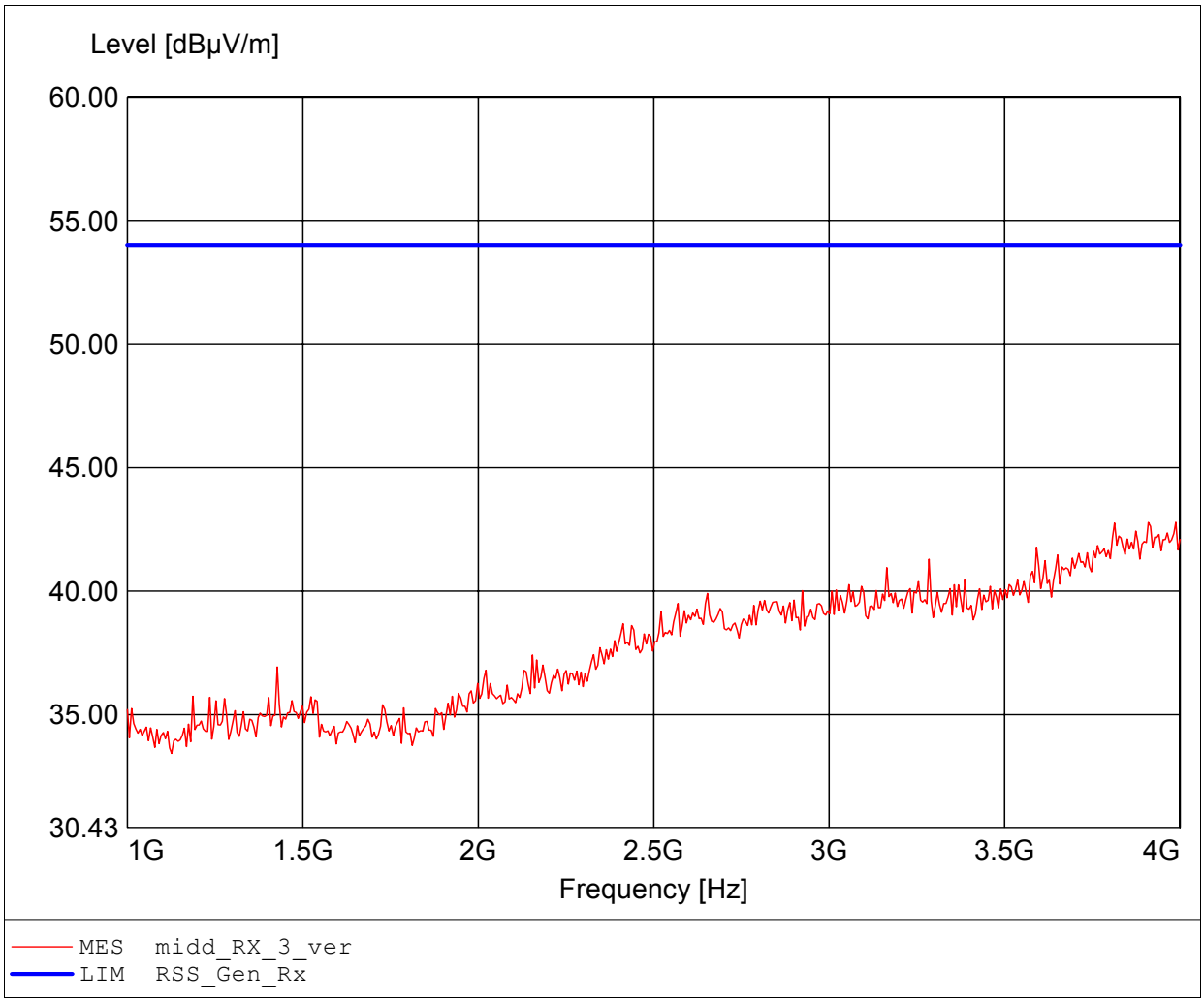
Approval Holder:	Panasonic Electronic Devices Europe GmbH / G0M-1109-1405
EUT:	Radio Module
Model:	PAN 2580 with internal ceramic antenna / Rx mode
Test Site / Operator:	Eurofins Product Service GmbH / Mr. Treffke
Test Condition:	Tnom.: 24°C / Vnom: 3.0 V DC
Test Specification:	Freq. / CH: midd
Comment 1:	Dist.: 3m, Ant.: HL 223, ampl.
Comment 2:	Freq:991.984MHz Emax:22.68dBµV/m RBW: 100 kHz



Field Strength under normal conditions

Standards Industry Canada, RSS-GEN

Approval Holder:	Panasonic Electronic Devices Europe GmbH / G0M-1109-1405
EUT:	Radio Module
Model:	PAN 2580 with internal ceramic antenna / Rx mode
Test Site / Operator:	Eurofins Product Service GmbH / Mr. Treffke
Test Condition:	Tnom.: 24°C / Vnom: 3.0 V DC
Test Specification:	Freq. / CH: midd
Comment 1:	Dist.: 3m, Ant.: HL025, ampl.
Comment 2:	Freq:3.988GHz Emax:42.79dBµV/m RBW: 1 MHz



Field Strength under normal conditions

Standards Industry Canada, RSS-GEN

Approval Holder:	Panasonic Electronic Devices Europe GmbH / G0M-1109-1405
EUT:	Radio Module
Model:	PAN 2580 with internal ceramic antenna / Rx mode
Test Site / Operator:	Eurofins Product Service GmbH / Mr. Treffke
Test Condition:	Tnom.: 24°C / Vnom: 3.0 V DC
Test Specification:	Freq. / CH: midd
Comment 1:	Dist.: 3m, Ant.: HL025, ampl.
Comment 2:	Freq:3.922GHz Emax:42.78dBµV/m RBW: 1 MHz