FCC LISTED, REGISTRATION NUMBER: 905266 **IC LISTED REGISTRATION NUMBER IC 4621**	**AT4 wireless, S.A.** Parque Tecnológico de Andalucía, c/ Severo Ochoa nº 2 29590 Campanillas/ Málaga/ España Tel. 952 61 91 00 - Fax 952 61 91 13 MÁLAGA, C.I.F. A29 507 456 Registro Mercantil de Málaga,Tomo 1169, Libro 82, Folio 133, Hoja MA3729

TEST REPORT

REFERENCE STANDARD:

USA FCC Part 15.247 and 15.109

NIE ..... :	28679RET.101
Approved by (name / position & signature) ..... :	A. Llamas / RF Lab. Manager .....
Elaboration date ..... :	2008-12-19
Identification of item tested ..... :	Bluetooth module
Trademark ..... :	Panasonic
Model and/or type reference ..... :	PAN1321
Serial number ..... :	Prototype
Other identification of the product ..... :	ENW89811x4CF, FCCID: T7VEBMU, IC: 216Q-EBMU
Features ..... :	Bluetooth EDR 2.9 – 4.1 Vdc supply voltage, 2.5 dBm typ. transmit power
Description ..... :	Bluetooth module with ceramic antenna
Applicant ..... :	Panasonic Electronic Devices Europe GmbH
Address ..... :	Zeppelinstrasse 19, 21337 Lüneburg, Germany
CIF/NIF/Passport ..... :	DE 811120454
Contact person:	Heino Kähler
Telephone / Fax ..... :	+49 4131899304 / +49 4131899177
e-mail: ..... :	Heino.Kaehler@eu.panasonic.com
Test samples supplier ..... :	Same as applicant
Manufacturer ..... :	Same as applicant

Test method requested .....:	See Standard
Standard .....:	USA FCC Part 15.247: Operation within the bands 902 - 928 MHz, 2400 - 2483.5 MHz, and 5725 - 5850 MHz: Section 15.247 Subclause (b). Maximum output power (radiated) and antenna gain. Section 15.247 Subclause (d). Band-edge emissions compliance (Transmitter). Section 15.247 Subclause (d). Emissions radiated (Transmitter). USA FCC Part 15.109: Receiver radiated emission.
Test procedure .....:	PEET034: Medidas radioeléctricas a equipos de radio de espectro ensanchado en la banda de 2,4 GHz.
Non-standardized test method .....:	N/A
Used instrumentation .....:	Radiated Measurements 1. Semianechoic Absorber Lined Chamber IR 11. BS. 2. Control Chamber IR 12.BC. 3. Antenna mast EM 1072 NMT. 4. Rotating table EM 1084-4. ON. 5. Multi device controller ETS 2090. 6. Bilog antenna CHASE CBL6111. 7. Antenna tripod EMCO 11968C. 8. Double-ridge Guide Horn antenna 1-18 GHz HP 11966E. 9. Double-ridge Guide Horn antenna 18-40 GHz Agilent 119665J. 10. RF pre-amplifier Miteq JS4-12002600-30-5A. 11. RF pre-amplifier Miteq AFS5-04001300-15-10P-6. 12. Spectrum analyzer R&S ESIB 26. 13. Spectrum analyzer Agilent PSA E4440A. 14. RF pre-amplifier Schaffner CPA 9231.
Report template No. .....:	FDT08_11

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Competences and guarantees

AT4 wireless is a laboratory with a measurement facility in compliance with the requirements of Section 2.948 of the FCC rules and has been added to the list of facilities whose measurements data will be accepted in conjuction with applications for Certification under Parts 15 or 18 of the Commission's Rules. Registration Number: 905266.

AT4 wireless is a laboratory with a measurement site in compliance with the requirements of RSS 212, Issue 1 (Provisional) and has been added to the list of filed sites of the Canadian Certification and Engineering Bureau. Reference File Number: IC 4621.

In order to assure the traceability to other national and international laboratories, AT4 wireless has a calibration and maintenance programme for its measurement equipment.

AT4 wireless guarantees the reliability of the data presented in this report, which is the result of the measurements and the tests performed to the item under test on the date and under the conditions stated on the report and, it is based on the knowledge and technical facilities available at AT4 wireless at the time of performance of the test.

AT4 wireless is liable to the client for the maintenance of the confidentiality of all information related to the item under test and the results of the test.

General conditions

1. This report is only referred to the item that has undergone the test.
2. This report does not constitute or imply on its own an approval of the product by the Certification Bodies or competent Authorities.
3. This document is only valid if complete; no partial reproduction can be made without previous written permission of AT4 wireless.
4. This test report cannot be used partially or in full for publicity and/or promotional purposes without previous written permission of AT4 wireless and the Accreditation Bodies.

Uncertainty

Uncertainty (factor k=2) was calculated according to the AT4 wireless internal document:

PODT000: Procedimiento para el cálculo de incertidumbres de medida.

Usage of samples

Samples undergoing test have been selected by: **the client**.

Sample M/01 is composed of the following elements:

Control Nº	Description	Model	Serial Nº	Date of reception
28679/04	Test board with Bluetooth device with integral antenna	ENW89811x4CF	Prototype	10/11/2008

1. Sample M/01 has undergone following test(s).
   Radiated tests indicated in appendix A.

Testing period

The performed test started on 2008-11-12 and finished on the same day.

The tests have been performed at AT4 wireless.

Environmental conditions

In the control chamber, the following limits were not exceeded during the test:

Temperature	Min. = 22 ºC Max. = 24 ºC
Relative humidity	Min. = 54 % Max. = 55 %
Shielding effectiveness	> 100 dB
Electric insulation	> 10 kΩ
Reference resistance to earth	< 0,5 Ω

In the semianechoic chamber (21 meters x 11 meters x 8 meters), the following limits were not exceeded during the test.

Temperature	Min. = 22 ºC Max. = 24 ºC
Relative humidity	Min. = 54 % Max. = 55 %
Air pressure	Min. = 1010 mbar Max. = 1010 mbar
Shielding effectiveness	> 100 dB
Electric insulation	> 10 kΩ
Reference resistance to earth	< 0,5 Ω
Normal site attenuation (NSA)	< ±4 dB at 10 m distance between item under test and receiver antenna, (30 MHz to 1000 MHz)
Field homogeneity	More than 75% of illuminated surface is between 0 and 6 dB (26 MHz to 1000 MHz).

Summary

Considering the results of the performed test according to standard USA FCC Parts 15.247 and 15.109, the item under test is **IN COMPLIANCE** with the requested specifications specified in the standard.

NOTE: The results presented in this Test Report apply only to the particular item under test established in page 1 of this document, as presented for test on the date(s) shown in section, "USAGE OF SAMPLES, TESTING PERIOD AND ENVIRONMENTAL CONDITIONS".

Remarks and comments

1: Test not requested.

Testing verdicts

Not applicable .....: NA

Pass.....: P

Fail .....: F

Not measured.....: NM

FCC PART 15 PARAGRAPH	VERDICT			
	NA	P	F	NM
15.247 Subclause (a) (1). 20 dB Bandwidth and Carrier frequency separation				NM[1]
15.247 Subclause (a) (1) (iii). Number of hopping channels				NM[1]
15.247 Subclause (a) (1) (iii). Time of occupancy (Dwell Time)				NM[1]
15.247 Subclause (b). Maximum peak output power (radiated) and antenna gain		P		
15.247 Subclause (c). Band-edge of radiated emissions (Transmitter)		P		
15.247 Subclause (c). Emission limitations conducted (Transmitter)				NM[1]
15.247 Subclause (c). Emission limitations radiated (Transmitter)		P		
15.109. Radiated emission limits for receiver		P		

APPENDIX A: Test result

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TEST CONDITIONS

Power supply (V):

$V_{nominal}$ = 5.0 Vdc

Type of power supply = DC voltage from USB port.

Type of antenna = Integral antenna.

Declared Gain for antenna = 2 dBi

TEST FREQUENCIES:

Lowest channel: 2402 MHz

Middle channel: 2441 MHz

Highest channel: 2480 MHz

The test set-up was made in accordance to the general provisions of ANSI C63.4: 2003.

RADIATED MEASUREMENTS

All radiated tests were performed in a semi-anechoic chamber. The measurement antenna is situated at a distance of 3 m for the frequency range 30 MHz-1000 MHz (30 MHz-1000 MHz Bilog antenna) and at a distance of 1m for the frequency range 1 GHz-25 GHz (1 GHz-18 GHz Double ridge horn antenna and 18 GHz-40 GHz horn antenna).

For radiated emissions in the range 1 GHz-25 GHz that is performed at a distance closer than the specified distance, an inverse proportionality factor of 20 dB per decade is used to normalize the measured data for determining compliance.

The equipment under test was set up on a non-conductive (wooden) platform one meter above the ground plane and the situation and orientation was varied to find the maximum radiated emission. It was also rotated 360º and the antenna height was varied from 1 to 4 meters to find the maximum radiated emission.

Measurements were made in both horizontal and vertical planes of polarization.

Section 15.247 Subclause (b). Maximum output power and antenna gain

SPECIFICATION

For frequency hopping systems operating in the 2400-2483.5 MHz band employing at least 75 hopping channels: 1 watt (30 dBm).

RESULTS

MAXIMUM PEAK OUTPUT POWER (RADIATED).

Modulation: GFSK

	Lowest frequency 2402 MHz	Middle frequency 2441 MHz	Highest frequency 2480 MHz
Correction Factor (dB)	35.0	35.1	35.2
Maximum EIRP peak power (dBm)	-4.55	-6.57	-9.97
Measurement uncertainty (dB)	±4.0		

Modulation: Π/4-DQPSK (2 Mbps)

	Lowest frequency 2402 MHz	Middle frequency 2441 MHz	Highest frequency 2480 MHz
Correction Factor (dB)	35.0	35.1	35.2
Maximum EIRP peak power (dBm)	-5.51	-7.36	-11.11
Measurement uncertainty (dB)	±4.0		

Modulation: 8-DPSK (3Mbps)

	Lowest frequency 2402 MHz	Middle frequency 2441 MHz	Highest frequency 2480 MHz
Correction Factor (dB)	35.0	35.1	35.2
Maximum EIRP peak power (dBm)	-5.36	-6.95	-10.88
Measurement uncertainty (dB)	±4.0		

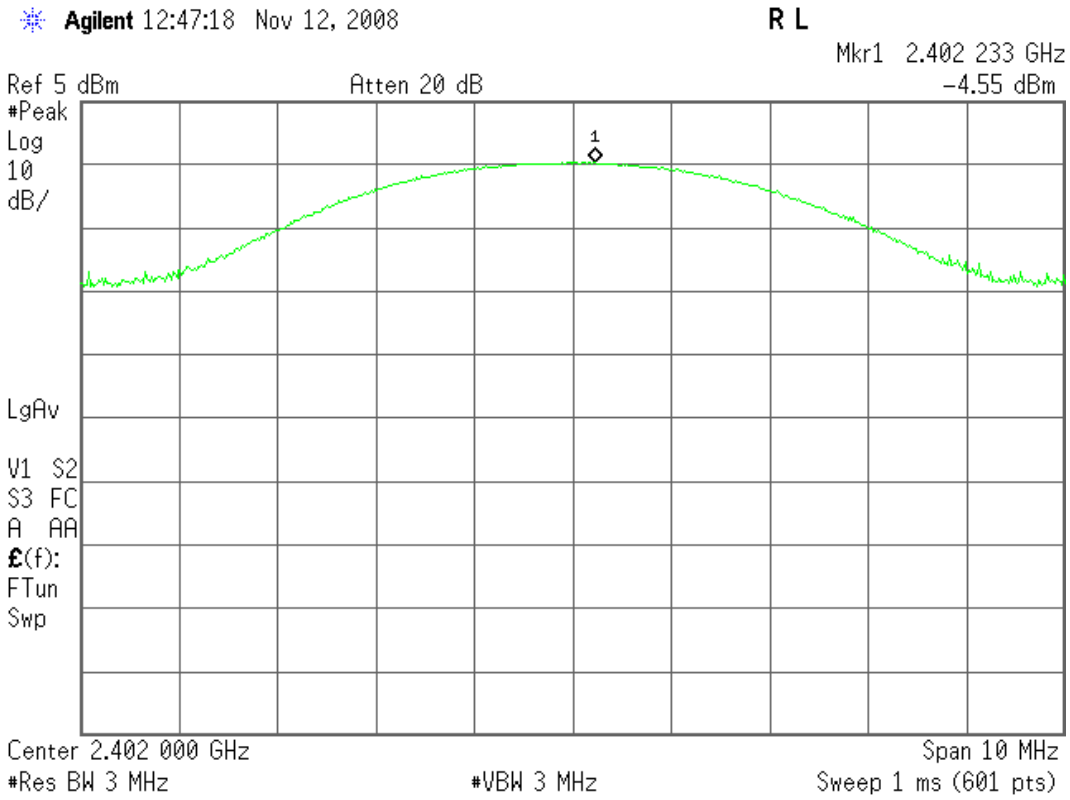
Declared antenna peak gain: 2 dBi

The maximum directional gain of the antenna is less than 6 dBi and therefore the maximum output power is not required to be reduced from the stated values.

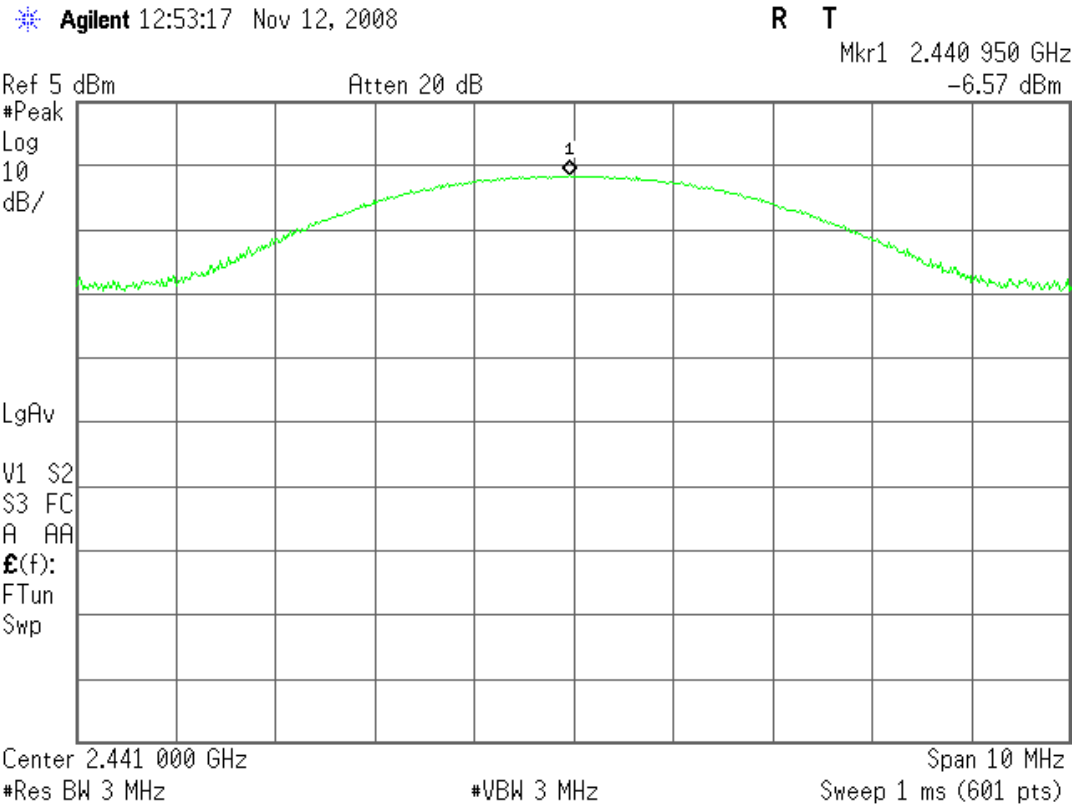
Verdict: PASS

PEAK OUTPUT POWER (RADIATED).

Modulation: GFSK Lowest Channel: 2402 MHz.

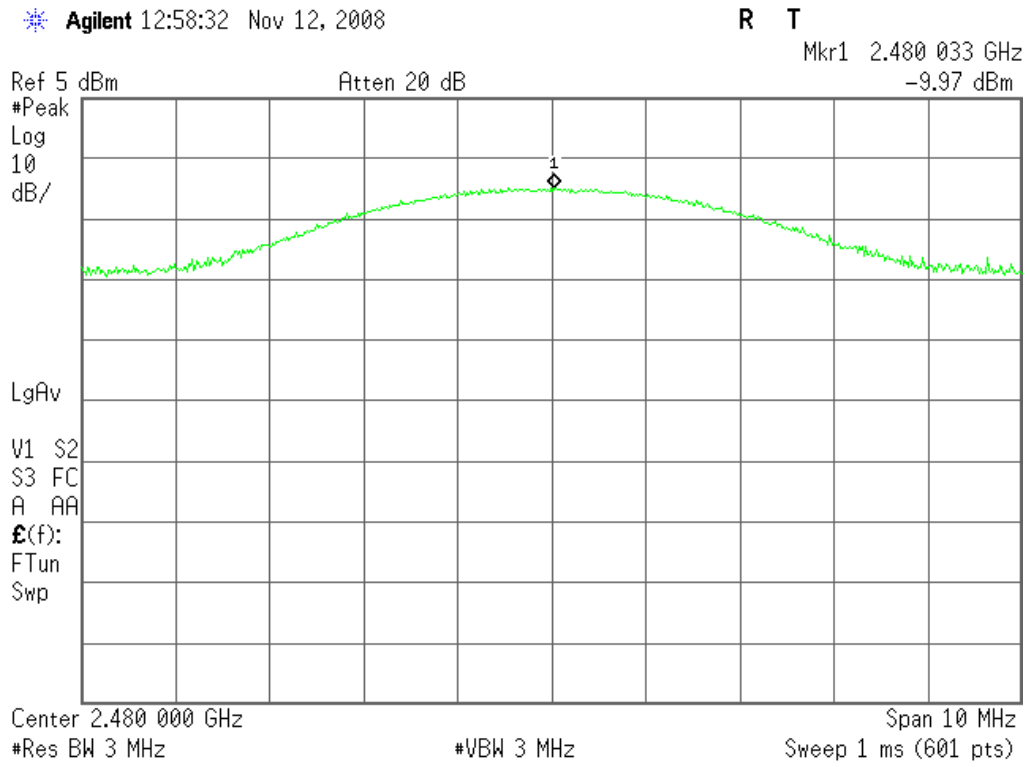


Modulation: GFSK Middle Channel: 2441 MHz.

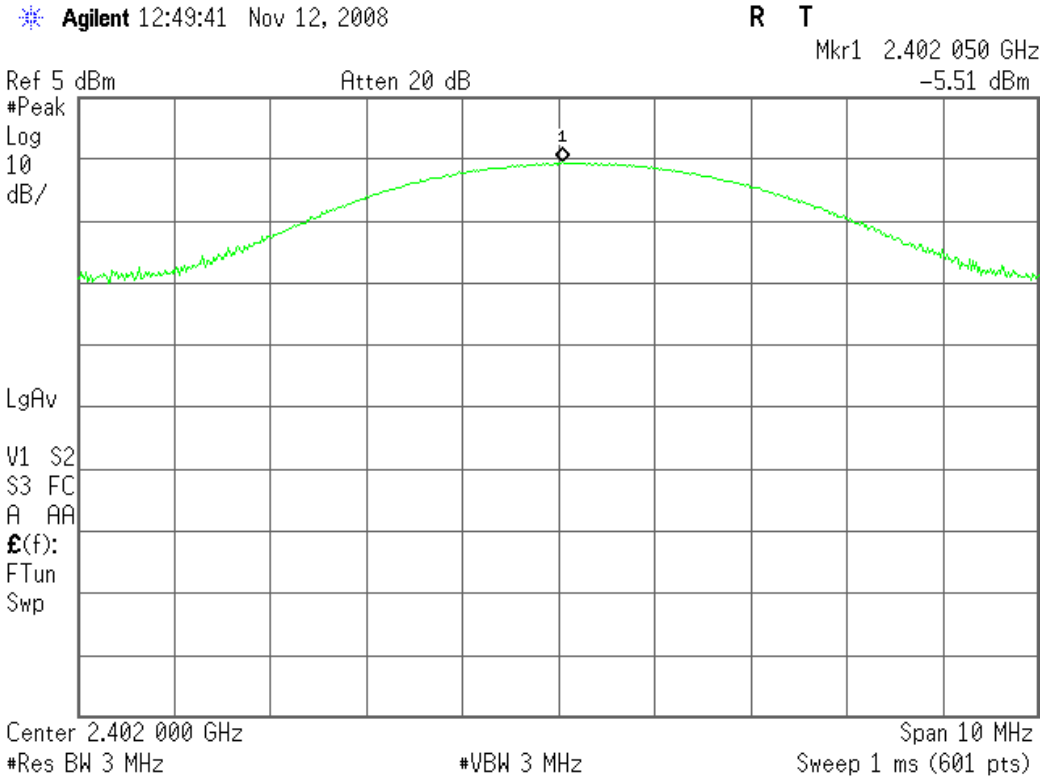


PEAK OUTPUT POWER (RADIATED).

Modulation: GFSK Highest Channel: 2480 MHz.

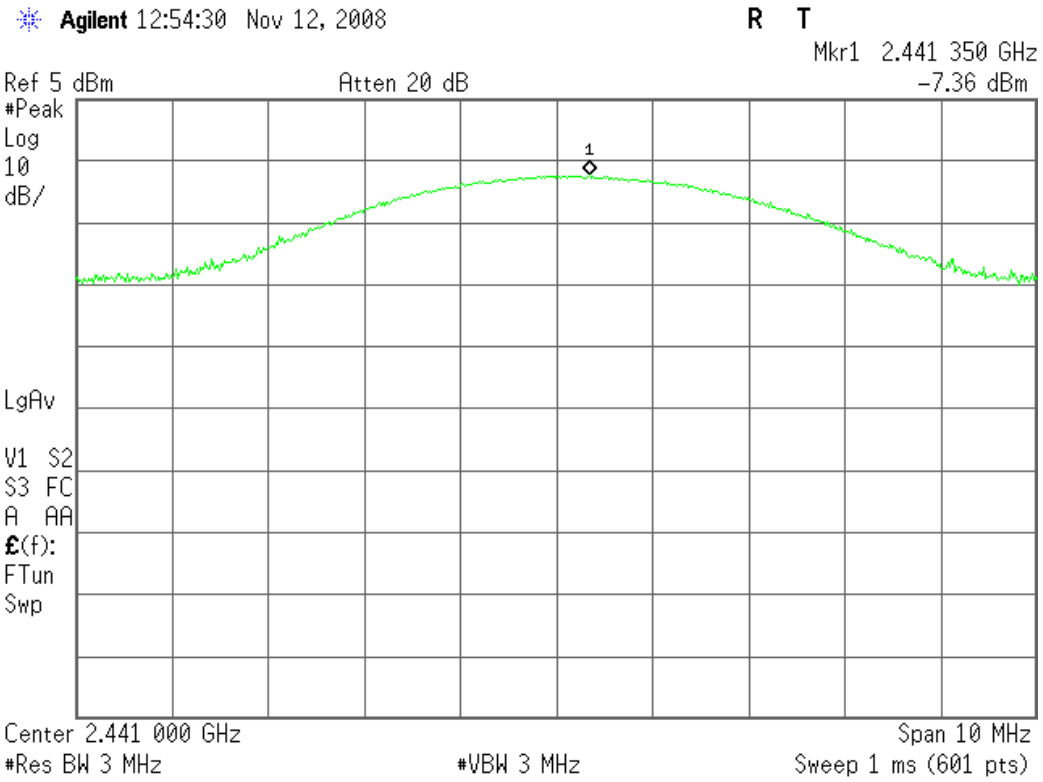


Modulation: Π/4-DQPSK Lowest Channel: 2402 MHz.



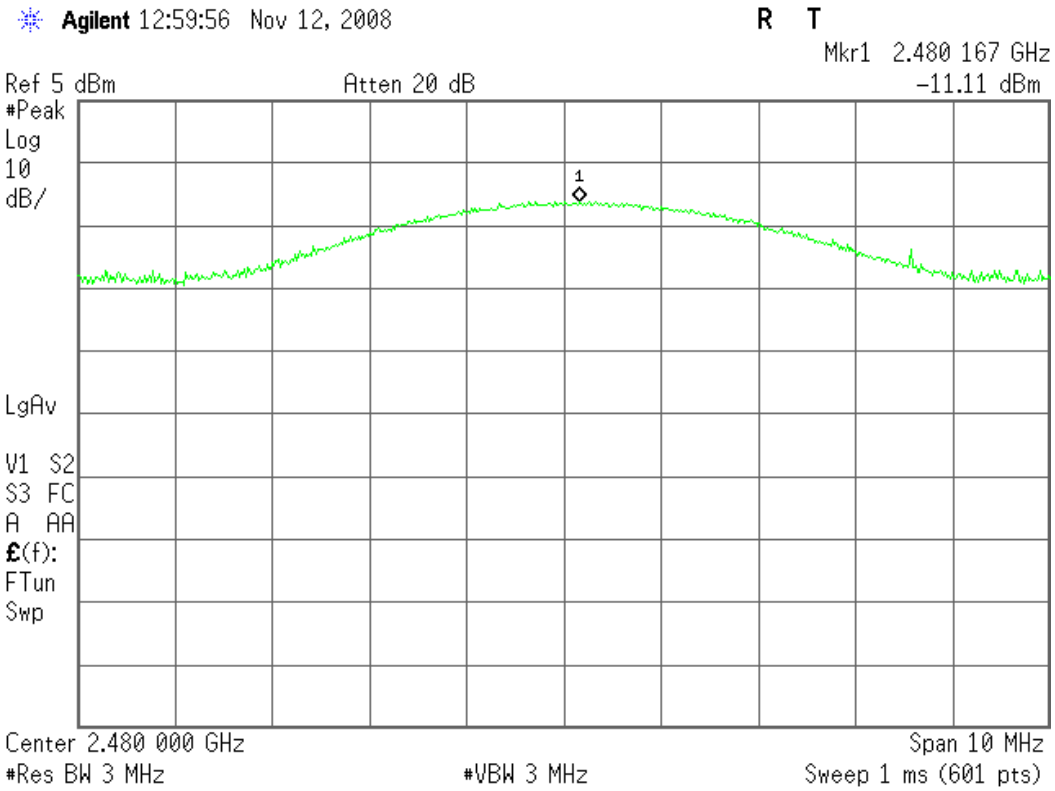
PEAK OUTPUT POWER (RADIATED).

Modulation: Π/4-DQPSK Middle Channel: 2441 MHz.



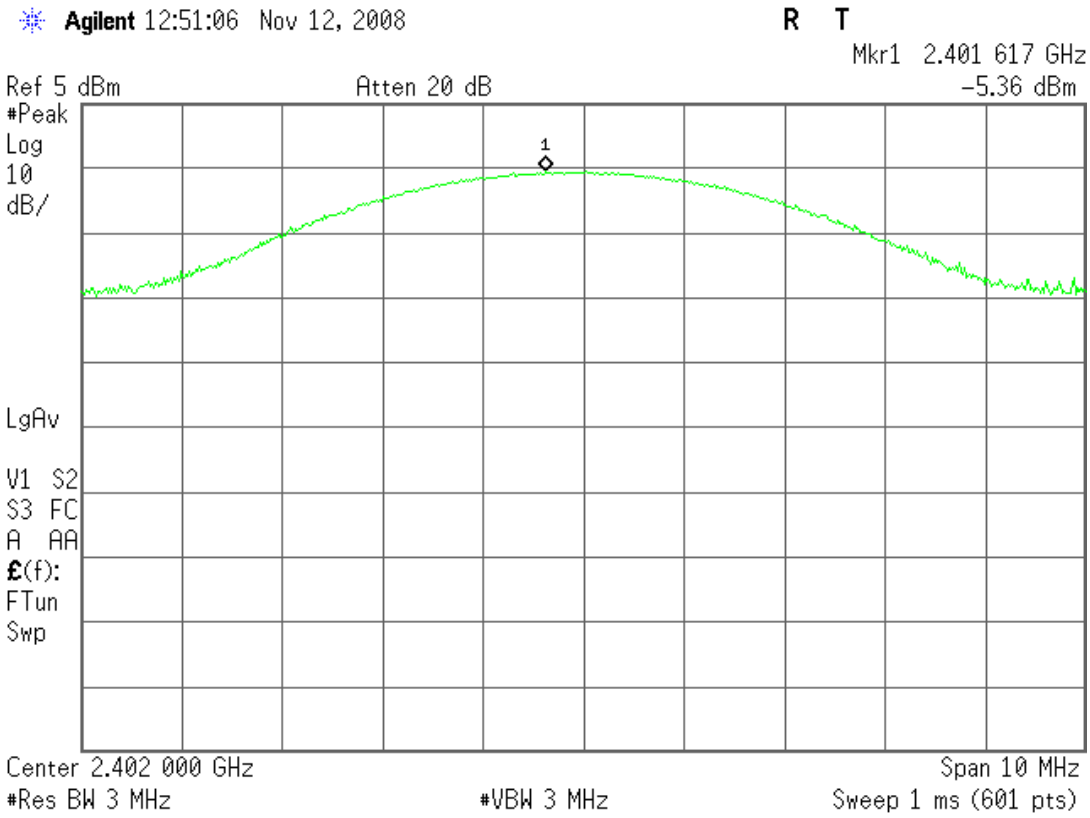
PEAK OUTPUT POWER (RADIATED).

Modulation: Π/4-DQPSK Highest Channel: 2480 MHz.

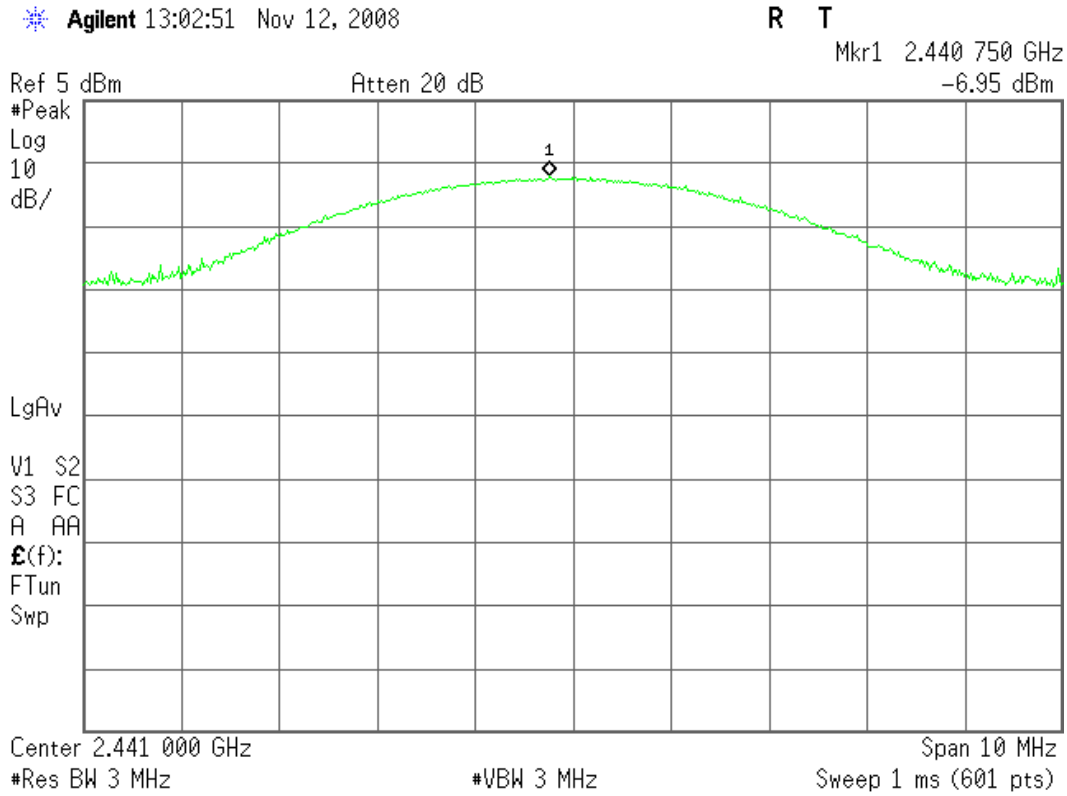


PEAK OUTPUT POWER (RADIATED).

Modulation: 8-DPSK Lowest Channel: 2402 MHz.

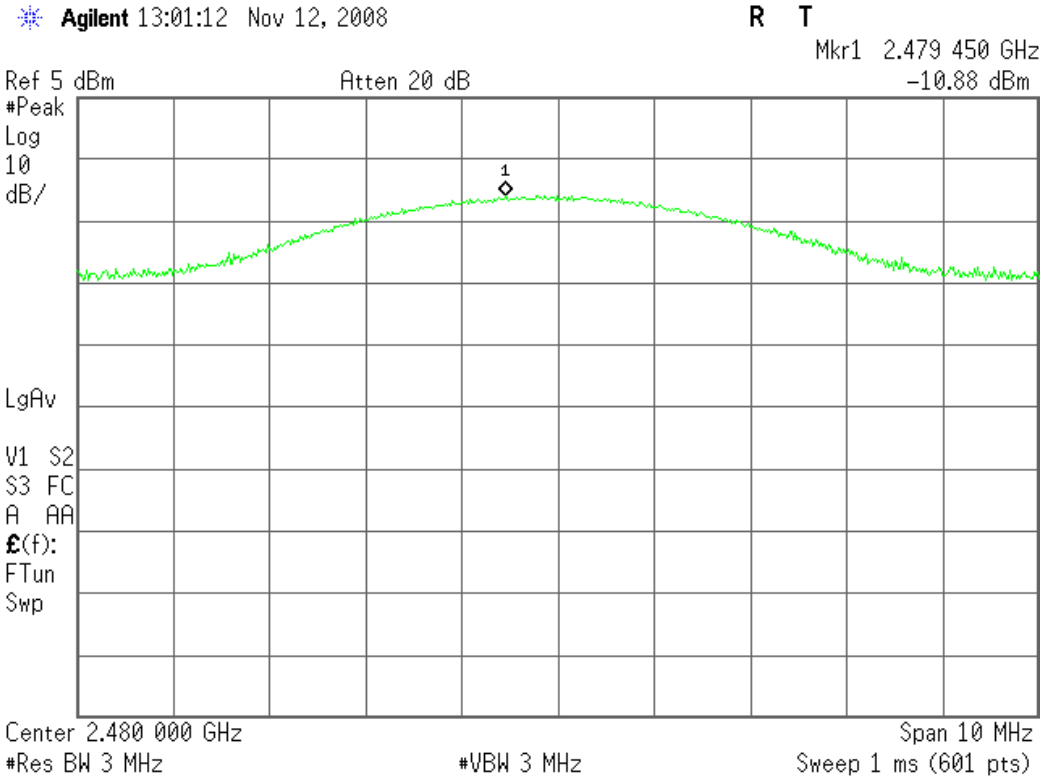


Modulation: 8-DPSK Middle Channel: 2441 MHz.



PEAK OUTPUT POWER (RADIATED).

Modulation: 8-DPSK Highest Channel: 2480 MHz.



Section 15.247 Subclause (d). Band-edge emissions compliance (Transmitter)

SPECIFICATION:

Emissions outside the frequency band in which the intentional radiator is operating shall be at least 20 dB below the highest level of the desired power.

RESULTS:

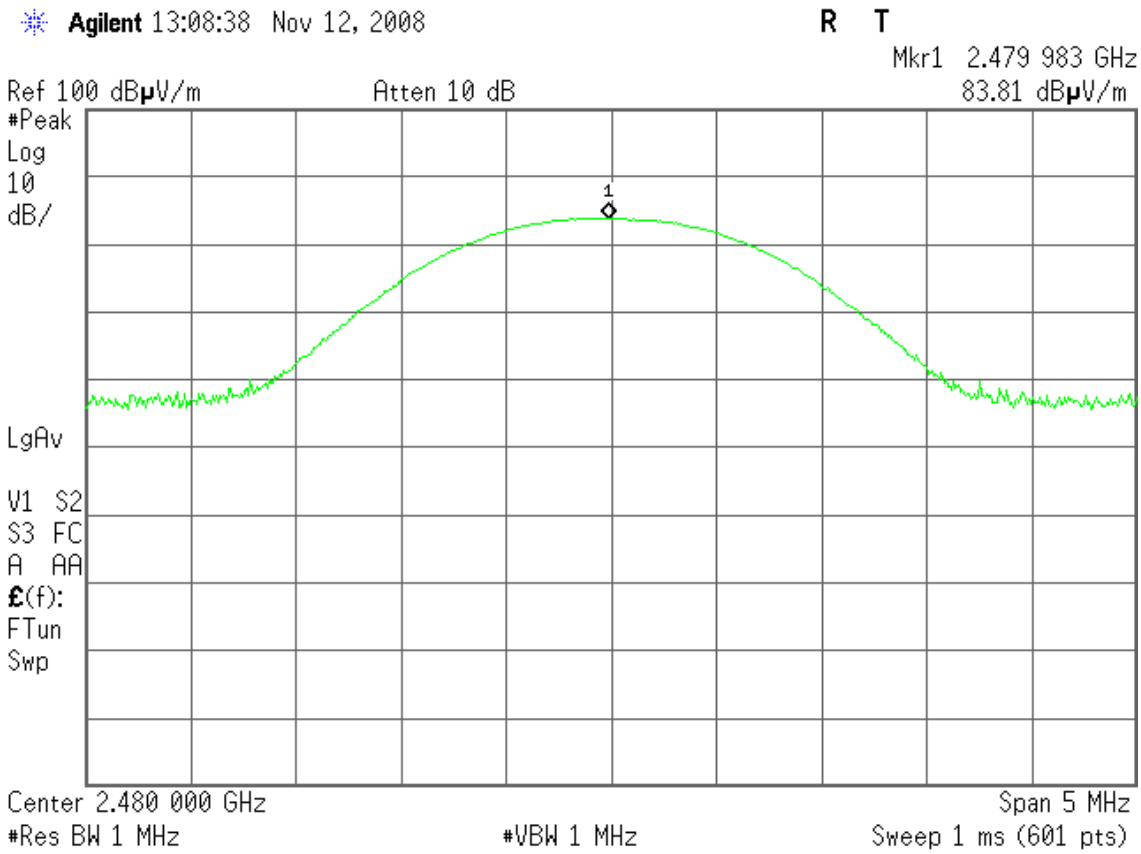
Band-edge compliance of radiated emissions

Maximum peak and average field strength of fundamental emission at 3 m distance

HIGHEST CHANNEL (2480 MHz):

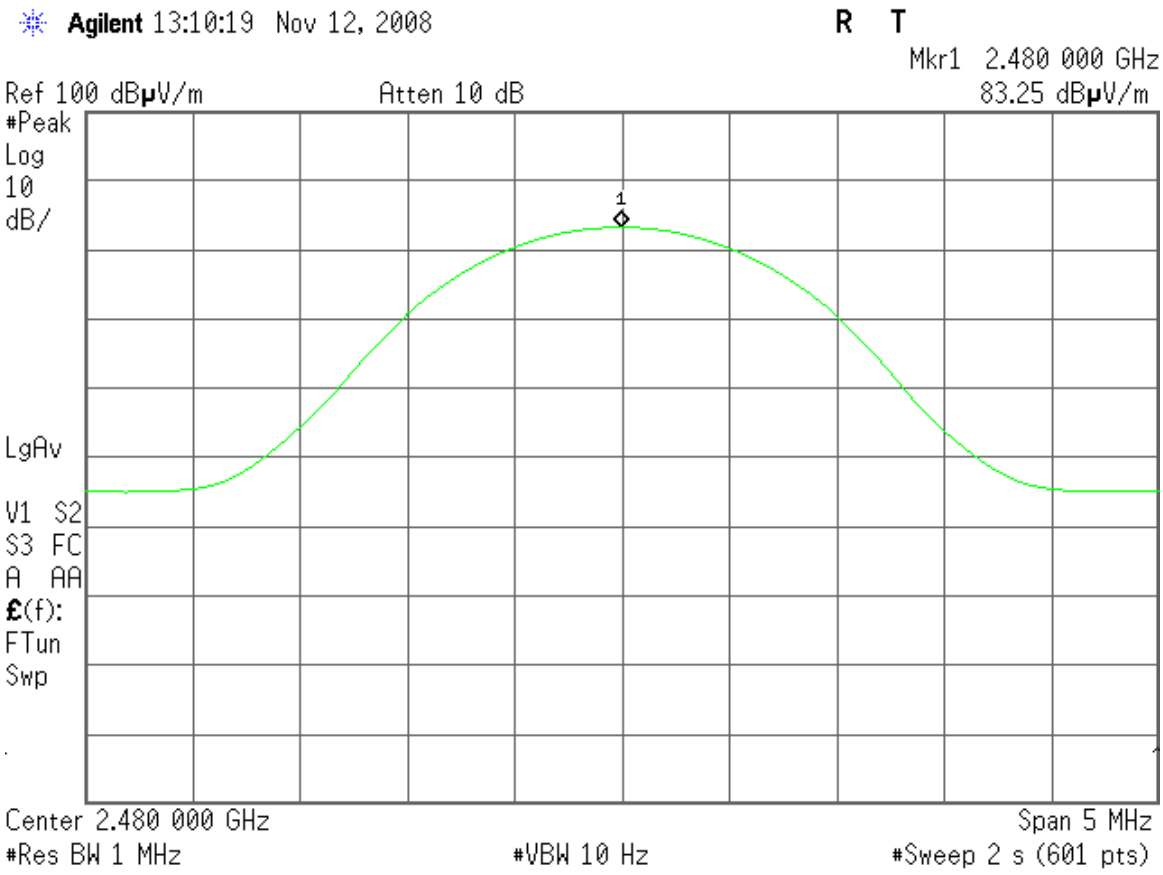
Modulation: GFSK

Maximum field strength at 3 m. Peak value.



Note: The correction factor is already included in the spectrum analyzer as a transducer factor so that the marker shows directly the field strength level.

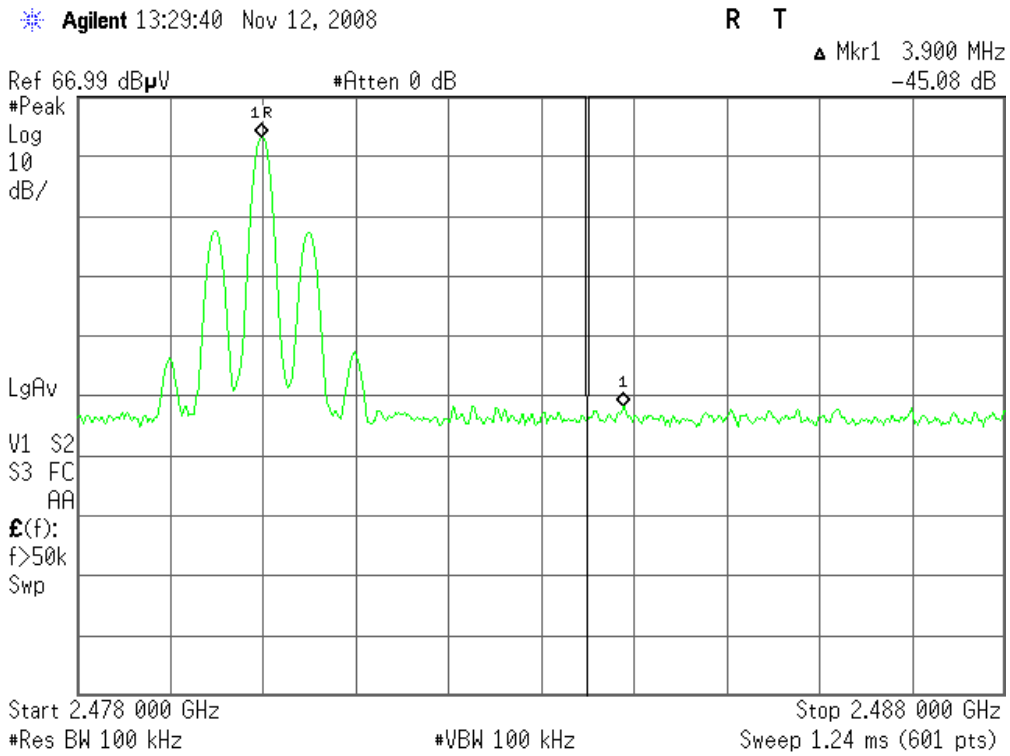
Maximum field strength at 3 m. Average value.



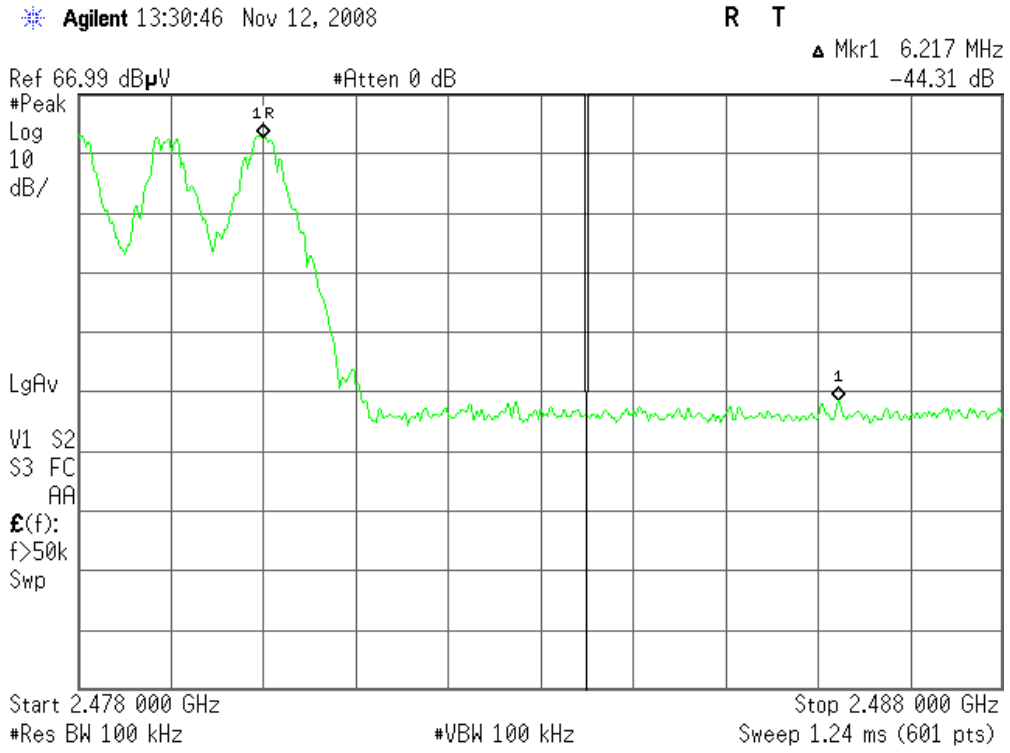
Note: The correction factor is already included in the spectrum analyzer as a transducer factor so that the marker shows directly the field strength level.

BAND-EDGE COMPLIANCE. RADIATED. Marker-Delta Method.

Single carrier



Hopping mode



Note: No correction is applied for this relative measurement.

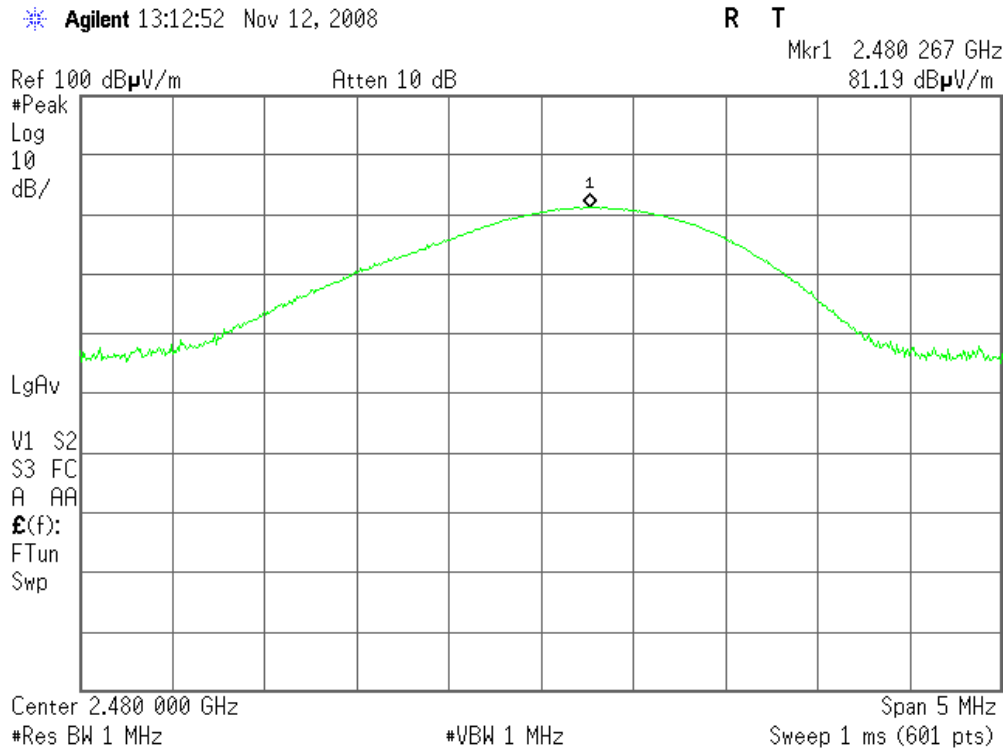
Fundamental max. average value 3 m	Delta value	Calculated value 3 m	Limit
83.25 dBµV/m	45.08 dB (single carrier) 44.31 dB (hopping mode)	38.17 dBµV/m (single carrier) 38.94 dBµV/m (hopping mode)	54 dBµV/m

Fundamental max. Peak value 3 m	Delta value	Calculated value 3 m	Limit
83.81 dBµV/m	45.08 dB (single carrier) 44.31 dB (hopping mode)	38.73 dBµV/m (single carrier) 39.50 dBµV/m (hopping mode)	74 dBµV/m

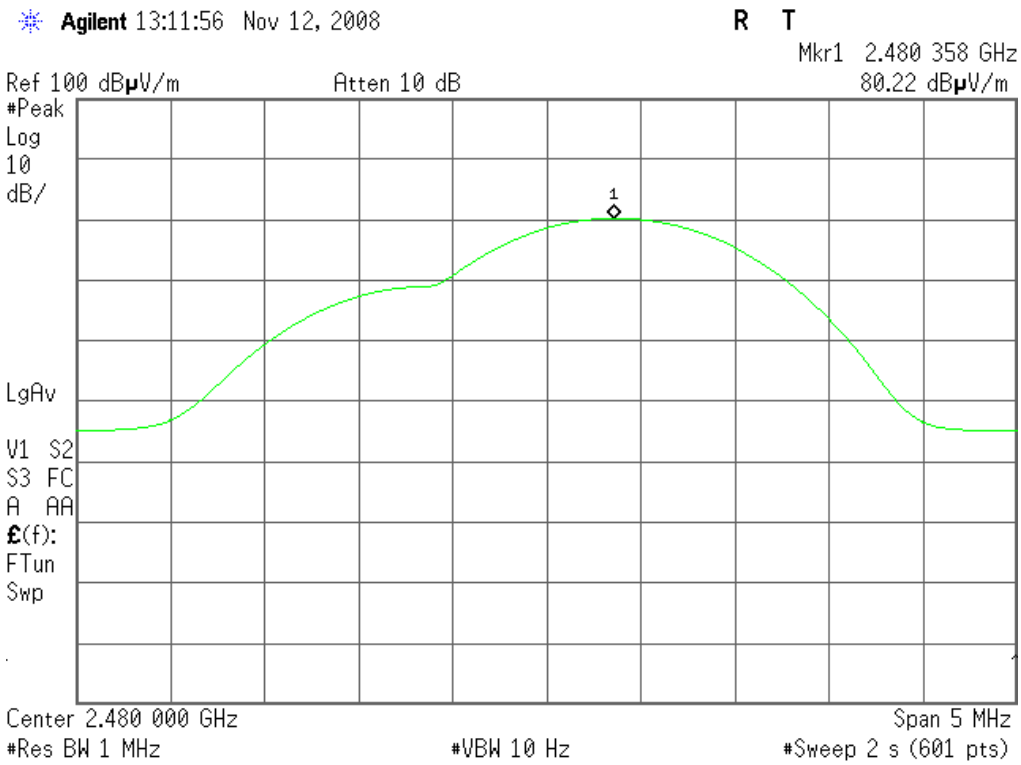
Verdict: PASS

Modulation: Π/4-DQPSK

Maximum field strength at 3 m. Peak value.



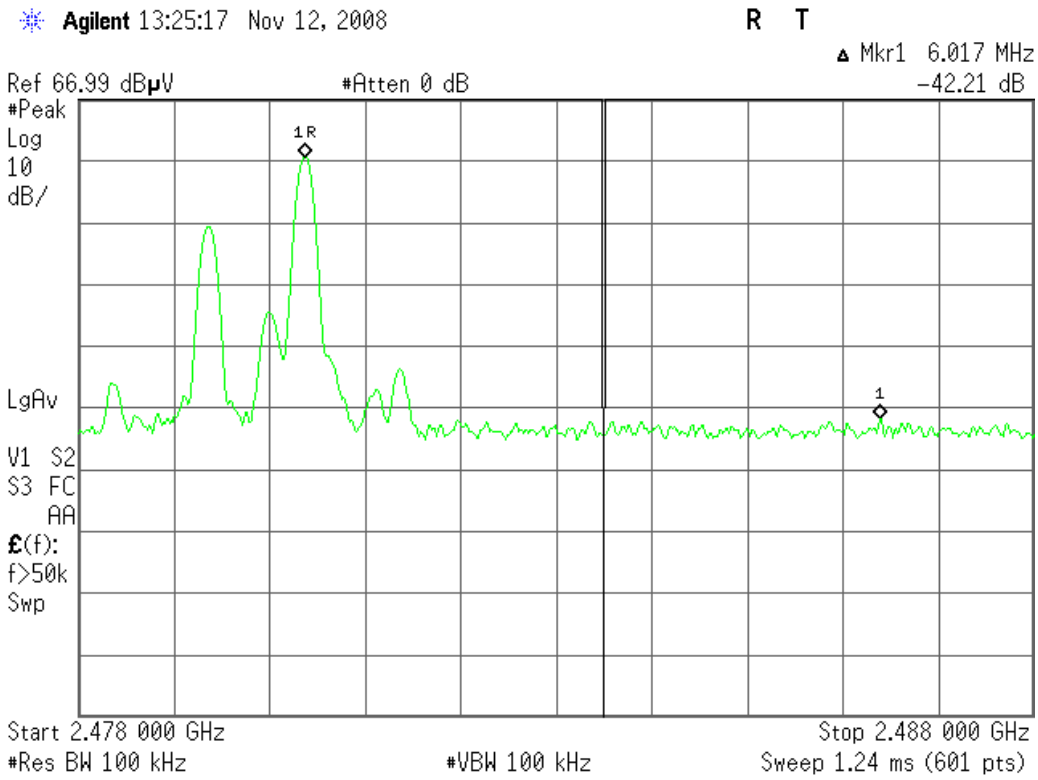
Maximum field strength at 3 m. Average value.



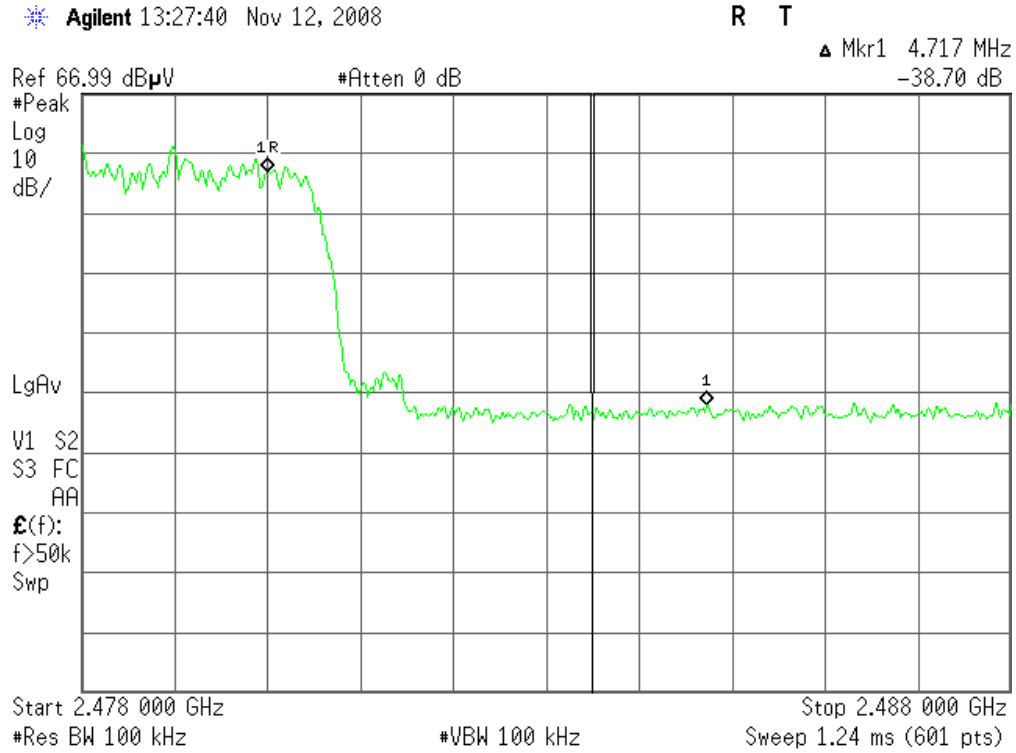
Note: The correction factor is already included in the spectrum analyzer as a transducer factor so that the marker shows directly the field strength level.

BAND-EDGE COMPLIANCE. RADIATED. Marker-Delta Method.

Single carrier



Hopping mode



Note: No correction is applied for this relative measurement.

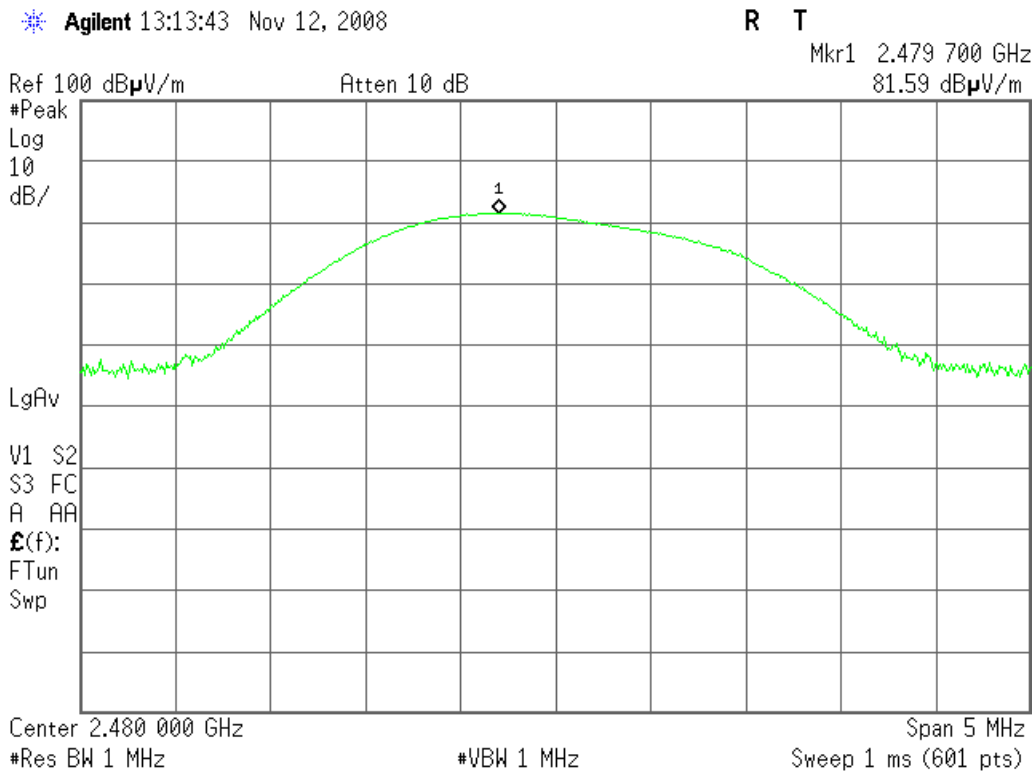
Fundamental max. average value 3 m	Delta value	Calculated value 3 m	Limit
80.22 dBµV/m	42.21 dB (single carrier) 38.70 dB (hopping mode)	38.01 dBµV/m (single carrier) 41.52 dBµV/m (hopping mode)	54 dBµV/m

Fundamental max. Peak value 3 m	Delta value	Calculated value 3 m	Limit
81.19 dBµV/m	42.21 dB (single carrier) 38.70 dB (hopping mode)	38.98 dBµV/m (single carrier) 42.49 dBµV/m (hopping mode)	74 dBµV/m

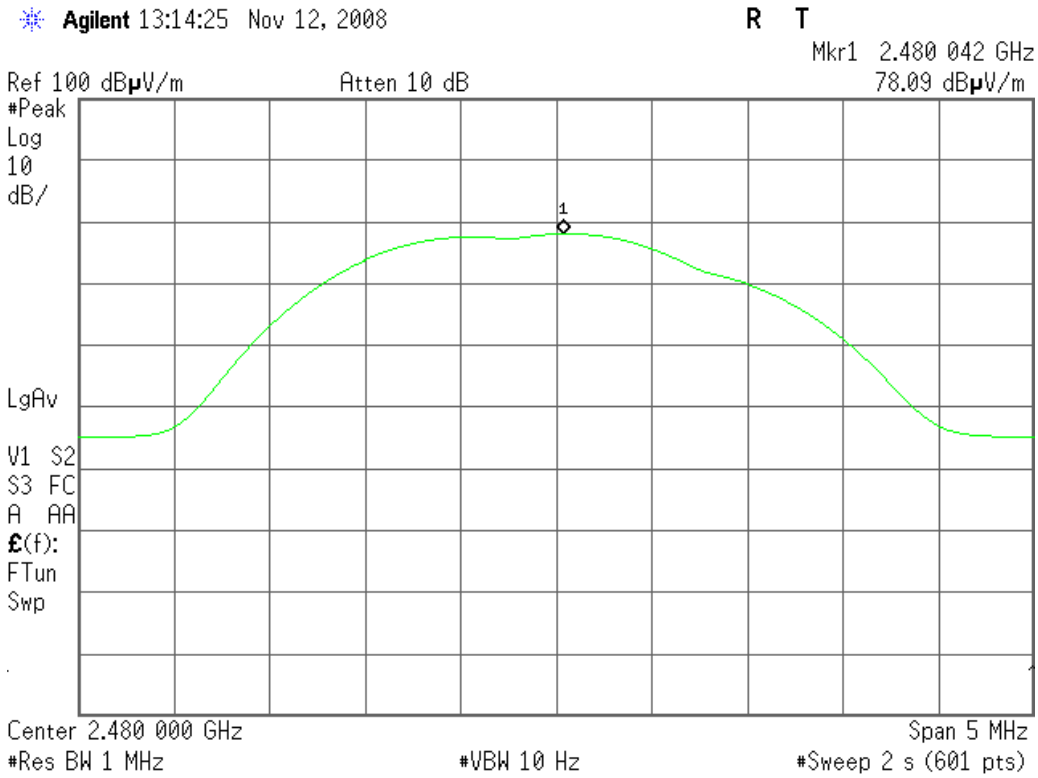
Verdict: PASS

Modulation: 8-DPSK

Maximum field strength at 3 m. Peak value.



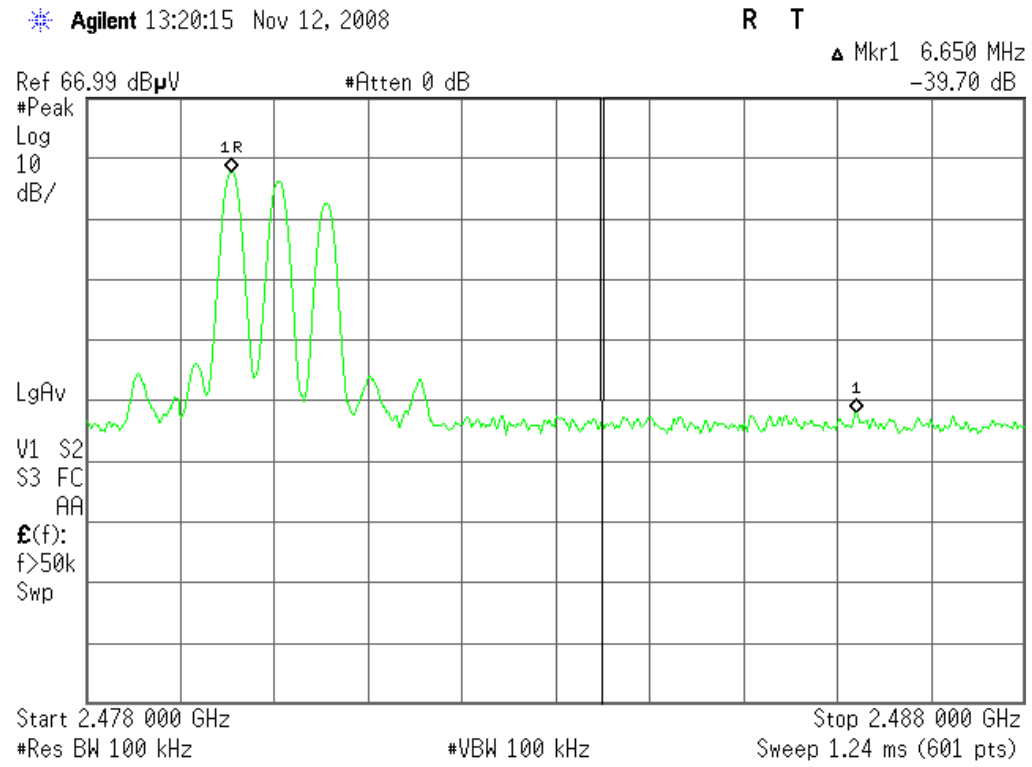
Maximum field strength at 3 m. Average value.



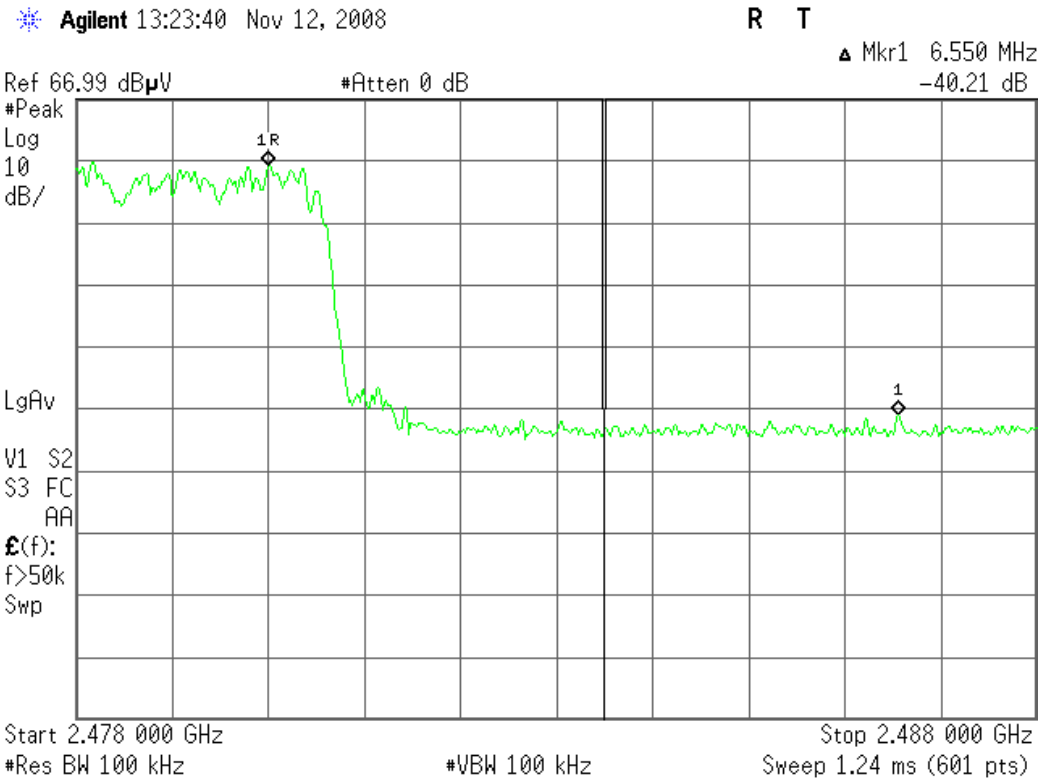
Note: The correction factor is already included in the spectrum analyzer as a transducer factor so that the marker shows directly the field strength level.

BAND-EDGE COMPLIANCE. RADIATED. Marker-Delta Method.

Single carrier



Hopping mode



Note: No correction is applied for this relative measurement.

Fundamental max. average value 3 m	Delta value	Calculated value 3 m	Limit
78.09 dBµV/m	39.70 dB (single carrier) 40.21 dB (hopping mode)	38.39 dBµV/m (single carrier) 37.88 dBµV/m (hopping mode)	54 dBµV/m

Fundamental max. Peak value 3 m	Delta value	Calculated value 3 m	Limit
81.59 dBµV/m	39.70 dB (single carrier) 40.21 dB (hopping mode)	41.89 dBµV/m (single carrier) 41.38 dBµV/m (hopping mode)	74 dBµV/m

Verdict: PASS

Section 15.247 Subclause (d). Emission limitations radiated (Transmitter)

SPECIFICATION

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)):

Frequency Range (MHz)	Field strength (µV/m)	Field strength (dBµV/m)	Measurement distance (m)
0.009-0.490	2400/F(kHz)	-	300
0.490-1.705	24000/F(kHz)	-	300
1.705 - 30.0	30	-	30
30 - 88	100	40	3
88 - 216	150	43.5	3
216 - 960	200	46	3
960 - 25000	500	54	3

The emission limits shown in the above table are based on measurements employing CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.

For average radiated emission measurements above 1000 MHz, there is also a limit corresponding to 20 dB above the indicated values in the table is specified when measuring with peak detector function.

RESULTS:

The situation and orientation was varied to find the maximum radiated emission. It was also rotated 360º and the antenna height was varied from 1 to 4 meters to find the maximum radiated emission.

Measurements were made in both horizontal and vertical planes of polarization.

All tests were performed in a semi-anechoic chamber at a distance of 3 m for the frequency range 30 MHz-1000 MHz and at distance of 1m for the frequency range 1 GHz-25 GHz.

The field strength is calculated by adding correction factor to the measured level from the spectrum analyzer. This correction factor includes antenna factor, cable loss and pre-amplifiers gain.

The equipment transmits continuously in the selected channel so it is not necessary a duty cycle correction factor.

Frequency range 30 MHz-1000 MHz.

No spurious signals found in all the range for all modulation modes.

Frequency range 1 GHz-25 GHz

Modulation: GFSK

1. CHANNEL: LOWEST (2402 MHz).

Spurious frequency (MHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
4803.998	V	Peak	53.08	± 4.0
4803.998	V	Average	40.75	± 4.0

2. CHANNEL: MIDDLE (2441 MHz).

Spurious frequency (MHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
4881.882	V	Peak	51.83	± 4.0
4881.882	V	Average	39.65	± 4.0

3. CHANNEL: HIGHEST (2480 MHz).

Spurious frequency (MHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
4960.005	V	Peak	45.57	± 4.0
4960.005	V	Average	35.36	± 4.0

Additionally, no spurious signals were found inside the restricted bands 2310-2390 MHz and 2483.5-2500 MHz for the three operating channels.

Verdict: PASS

Modulation: Π/4-DQPSK

1. CHANNEL: LOWEST (2402 MHz).

Spurious frequency (MHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
4803.988	V	Peak	47.53	± 4.0
4803.988	V	Average	35.36	± 4.0

2. CHANNEL: MIDDLE (2441 MHz).

Spurious frequency (MHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
4882.052	V	Peak	48.07	± 4.0
4882.052	V	Average	35.89	± 4.0

3. CHANNEL: HIGHEST (2480 MHz).

Spurious frequency (MHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
4960.008	V	Peak	42.80	± 4.0
4960.008	V	Average	30.69	± 4.0

Additionally, no spurious signals were found inside the restricted bands 2310-2390 MHz and 2483.5-2500 MHz for the three operating channels.

Verdict: PASS

Modulation: 8-DPSK

1. CHANNEL: LOWEST (2402 MHz).

Spurious frequency (MHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
4803.991	V	Peak	47.80	± 4.0
4803.991	V	Average	35.57	± 4.0

2. CHANNEL: MIDDLE (2441 MHz).

Spurious frequency (MHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
4882.063	V	Peak	47.80	± 4.0
4882.063	V	Average	35.87	± 4.0

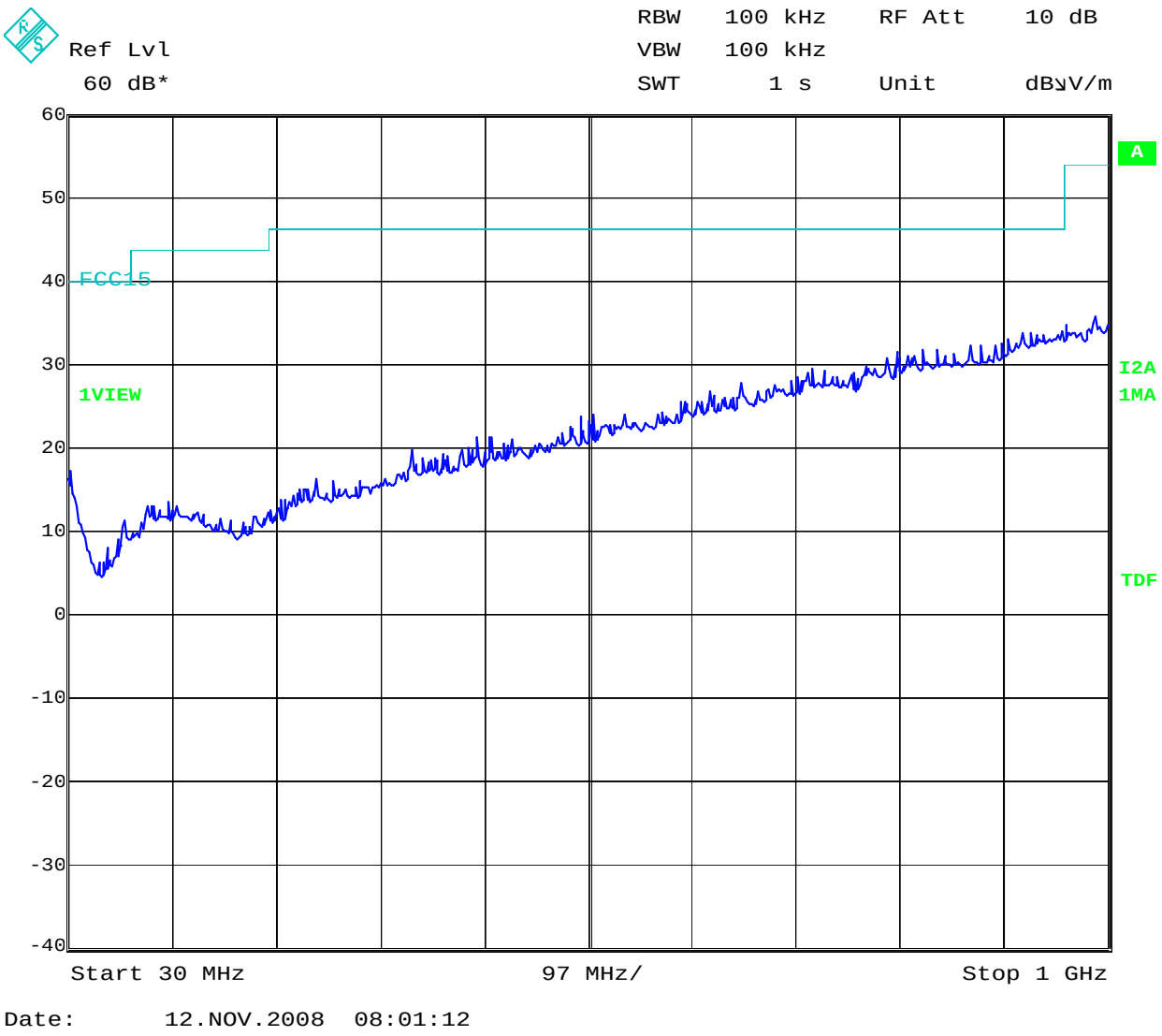
3. CHANNEL: HIGHEST (2480 MHz).

Spurious frequency (MHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
4960.031	V	Peak	42.89	± 4.0
4960.031	V	Average	31.07	± 4.0

Additionally, no spurious signals were found inside the restricted bands 2310-2390 MHz and 2483.5-2500 MHz for the three operating channels.

Verdict: PASS

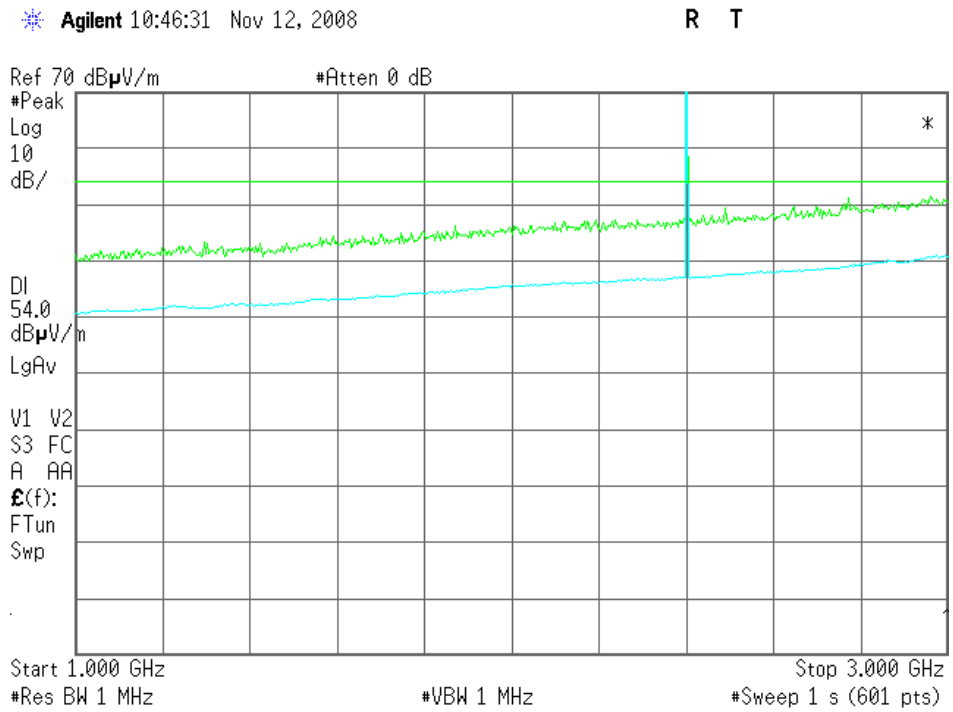
FREQUENCY RANGE 30 MHz-1000 MHz.



(This plot is valid for all three channels and all modulation modes).

FREQUENCY RANGE 1 GHz to 3 GHz.

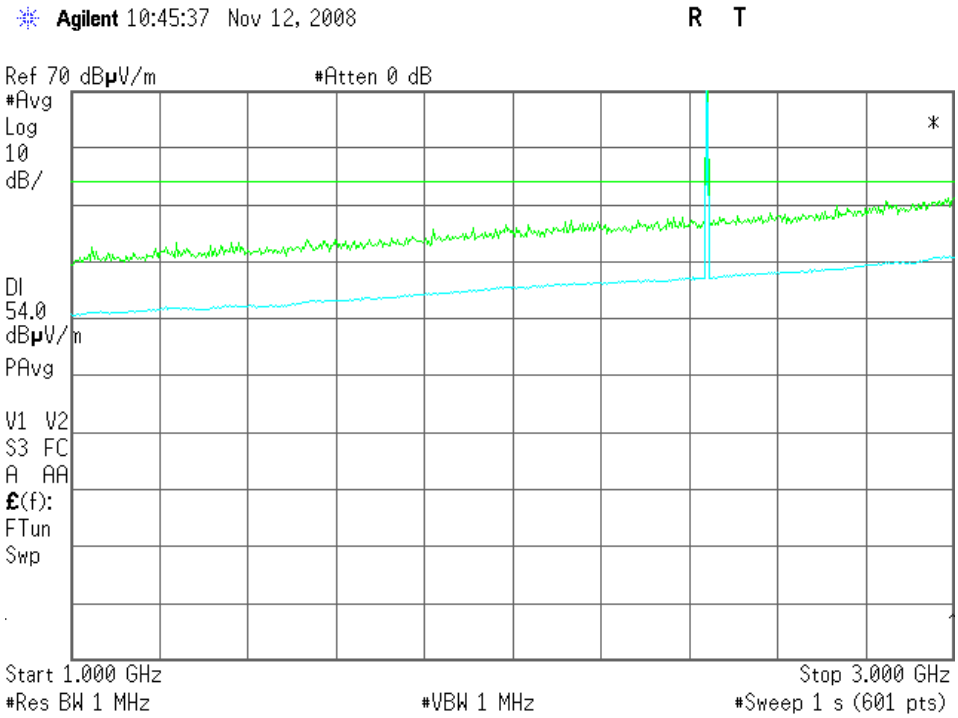
CHANNEL: Lowest (2402 MHz).



Note: The peak shown in the plot is the carrier frequency.

(This plot is valid for all modulation modes).

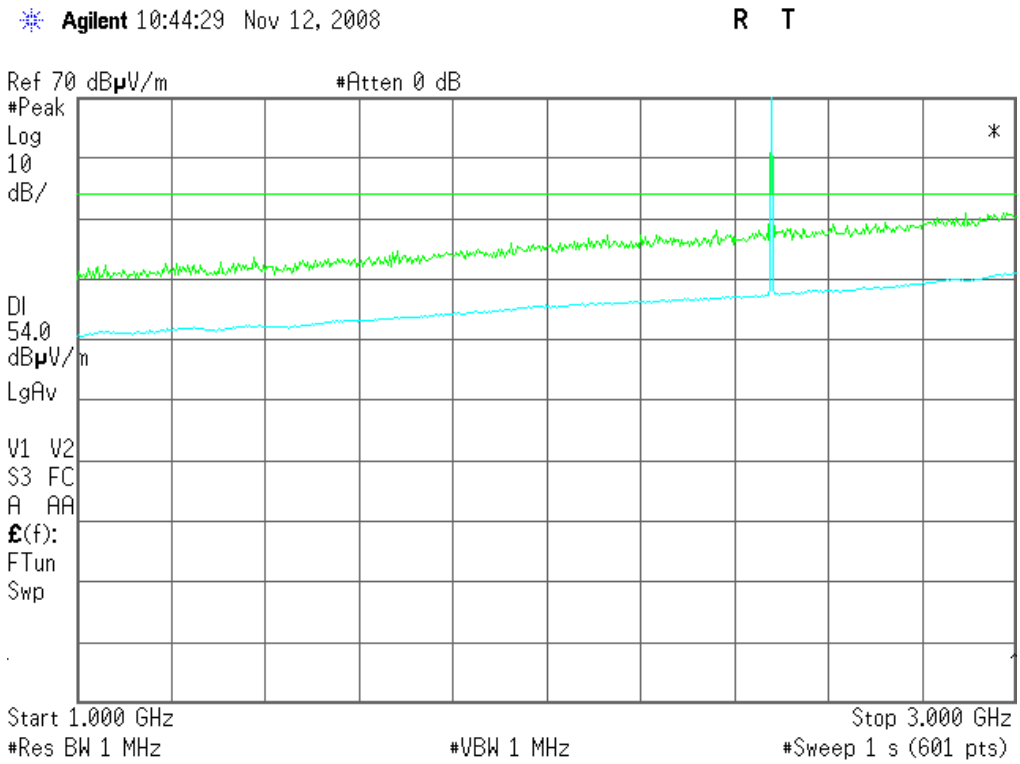
CHANNEL: Middle (2441 MHz).



Note: The peak shown in the plot is the carrier frequency.

(This plot is valid for all modulation modes).

CHANNEL: Highest (2480 MHz).



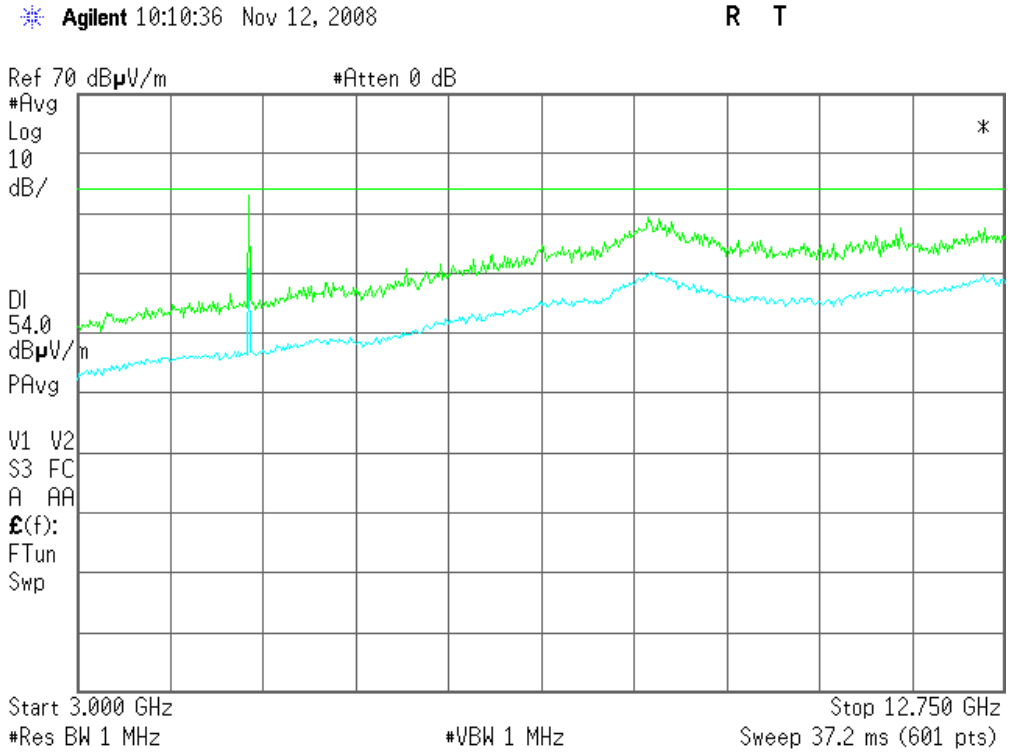
Note: The peak shown in the plot is the carrier frequency.

(This plot is valid for all modulation modes).

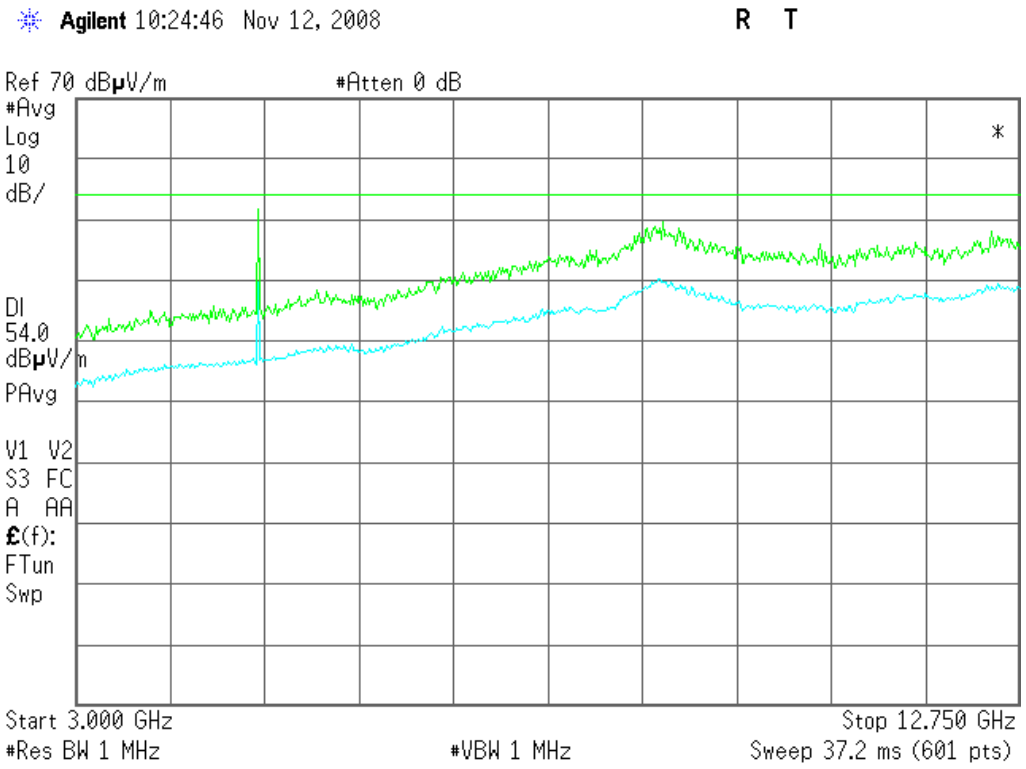
FREQUENCY RANGE 3 GHz to 12.75 GHz.

Modulation: GFSK

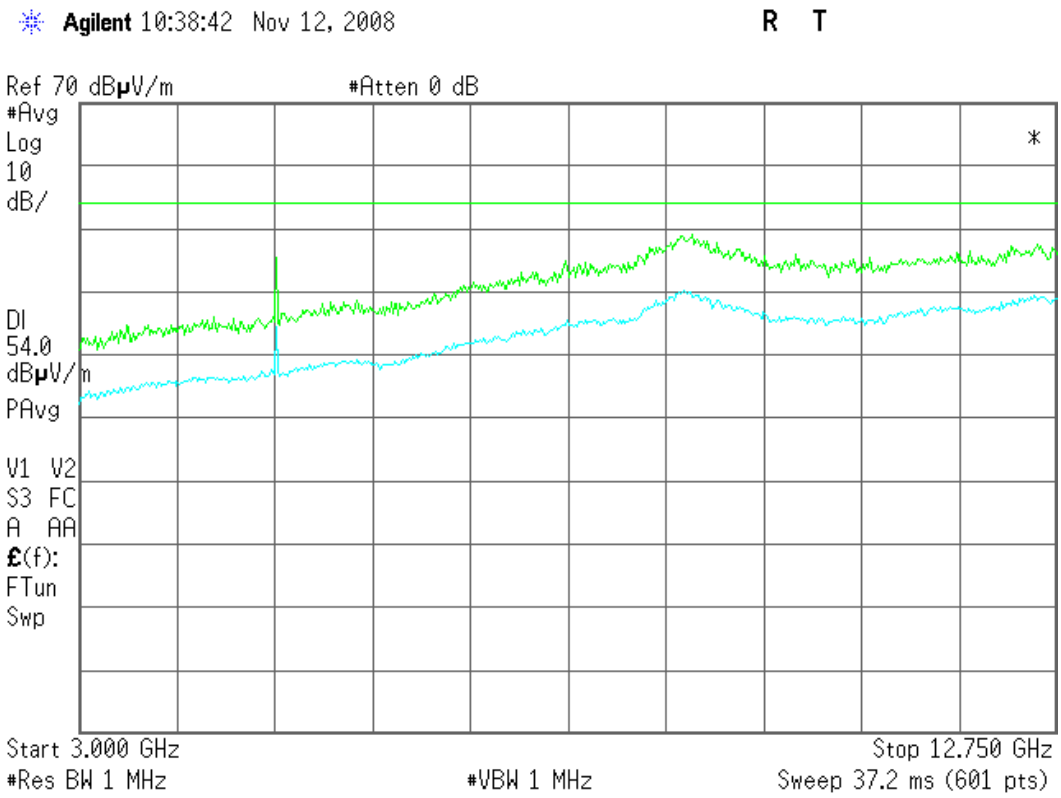
CHANNEL: Lowest (2402 MHz).



CHANNEL: Middle (2441 MHz).

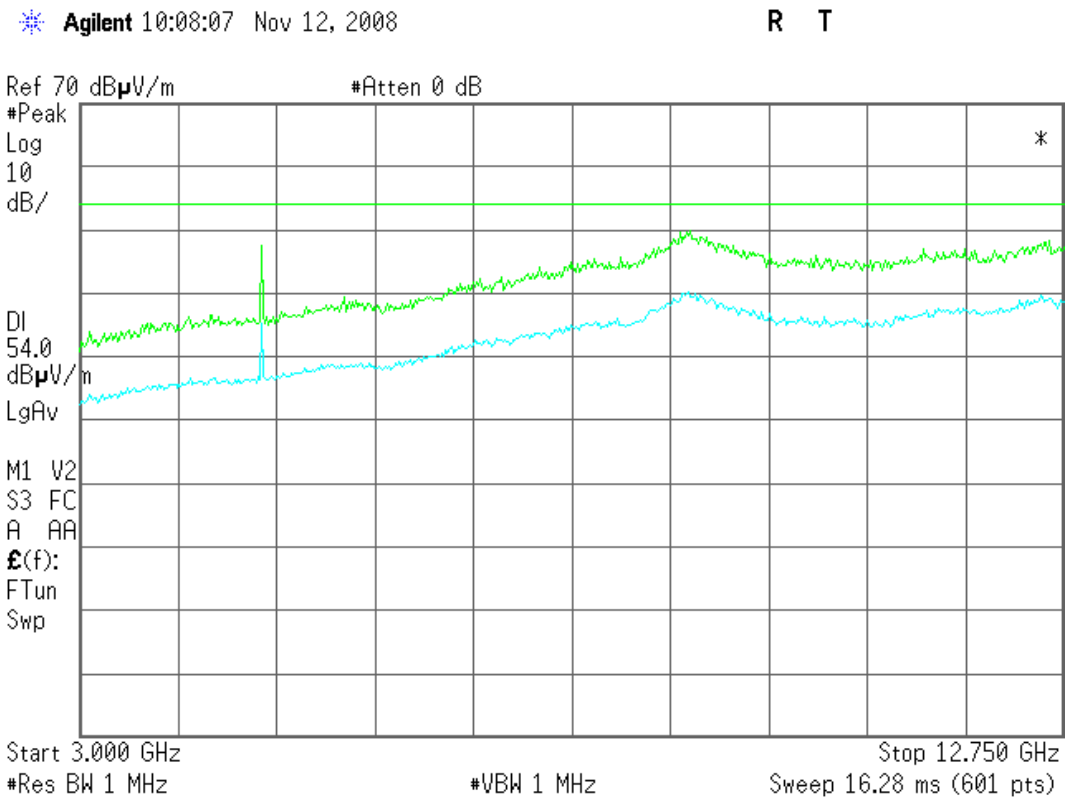


CHANNEL: Highest (2480 MHz).

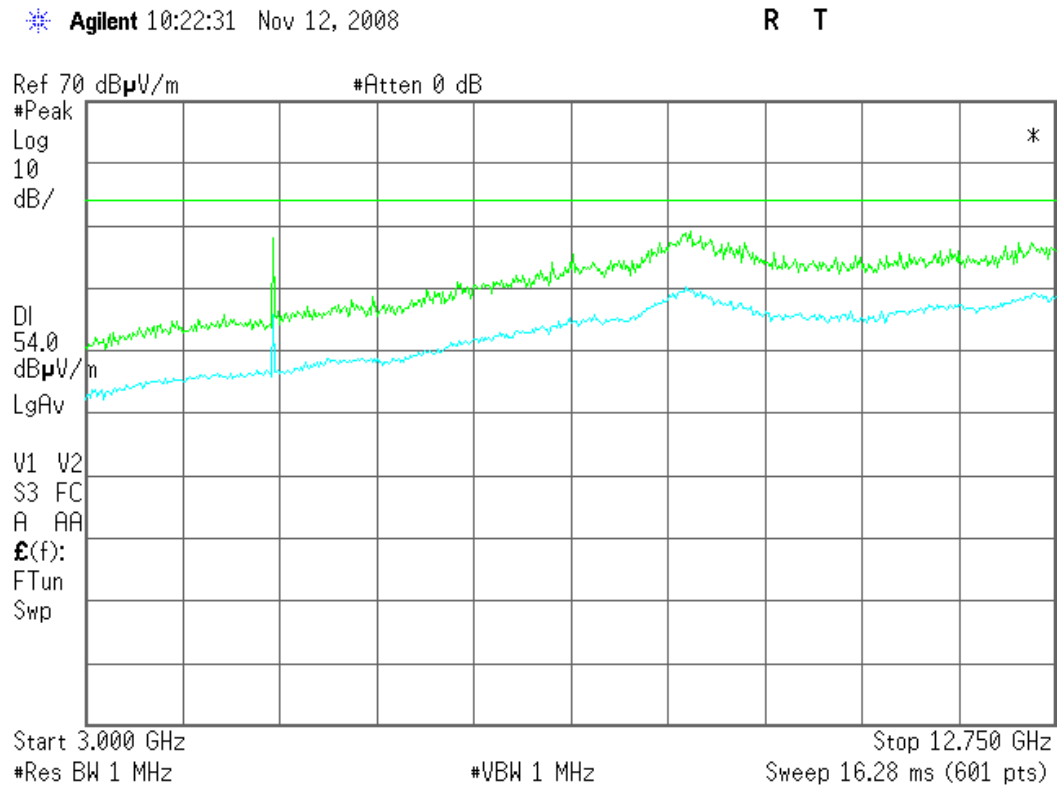


Modulation: Π/4-DQPSK

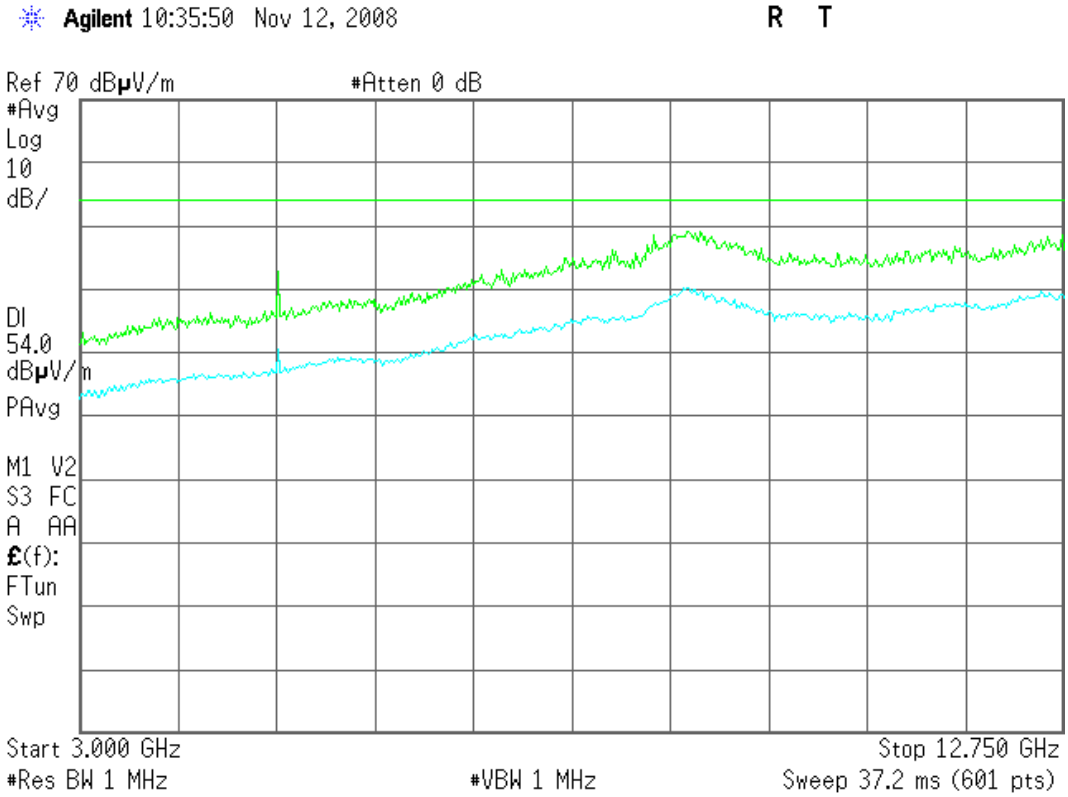
CHANNEL: Lowest (2402 MHz).



CHANNEL: Middle (2441 MHz).

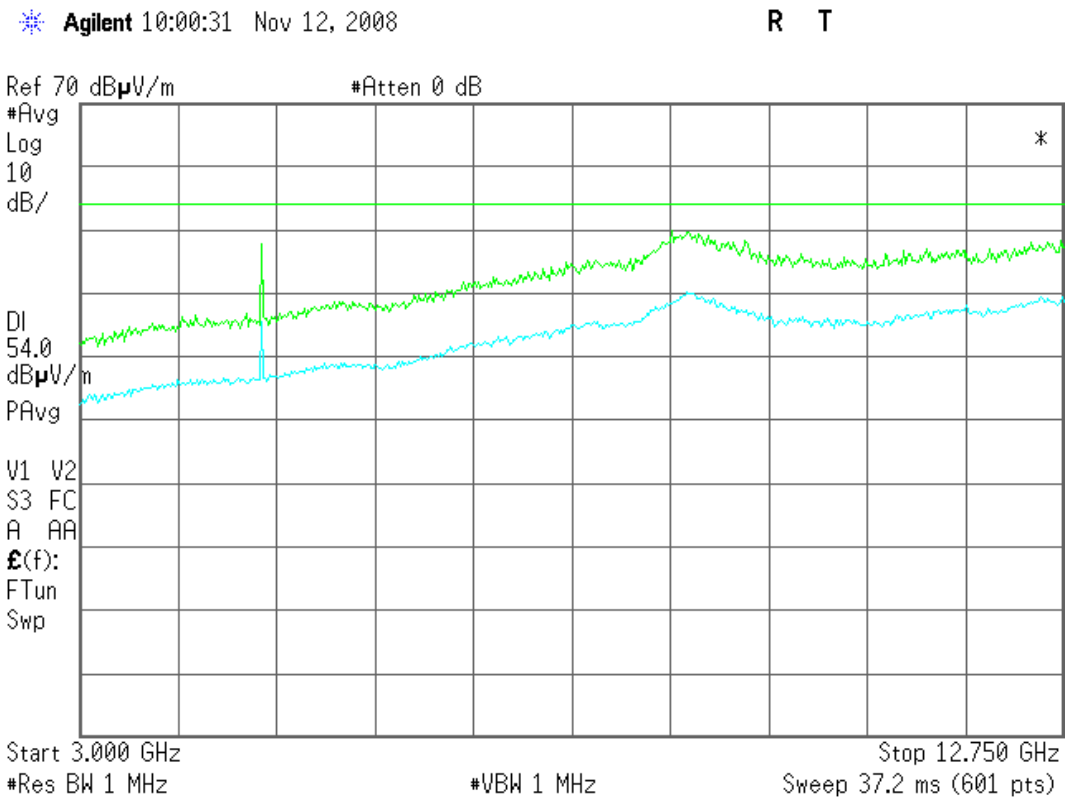


CHANNEL: Highest (2480 MHz).

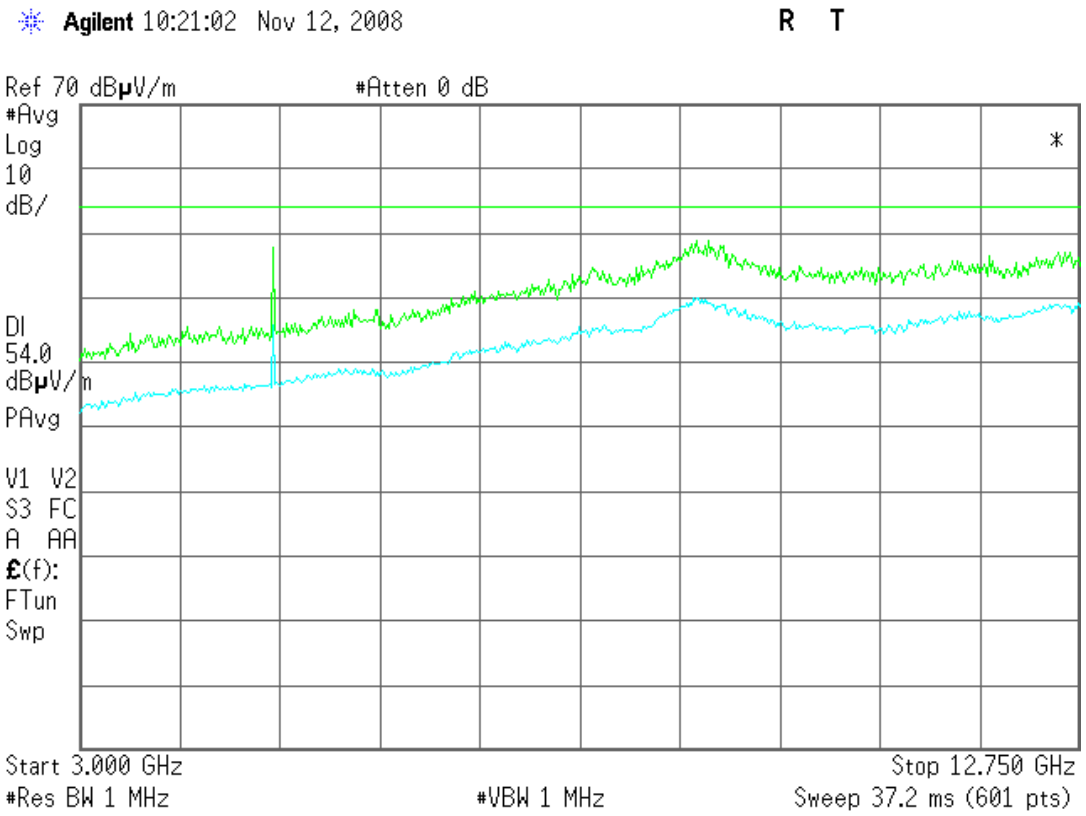


Modulation: 8-DPSK

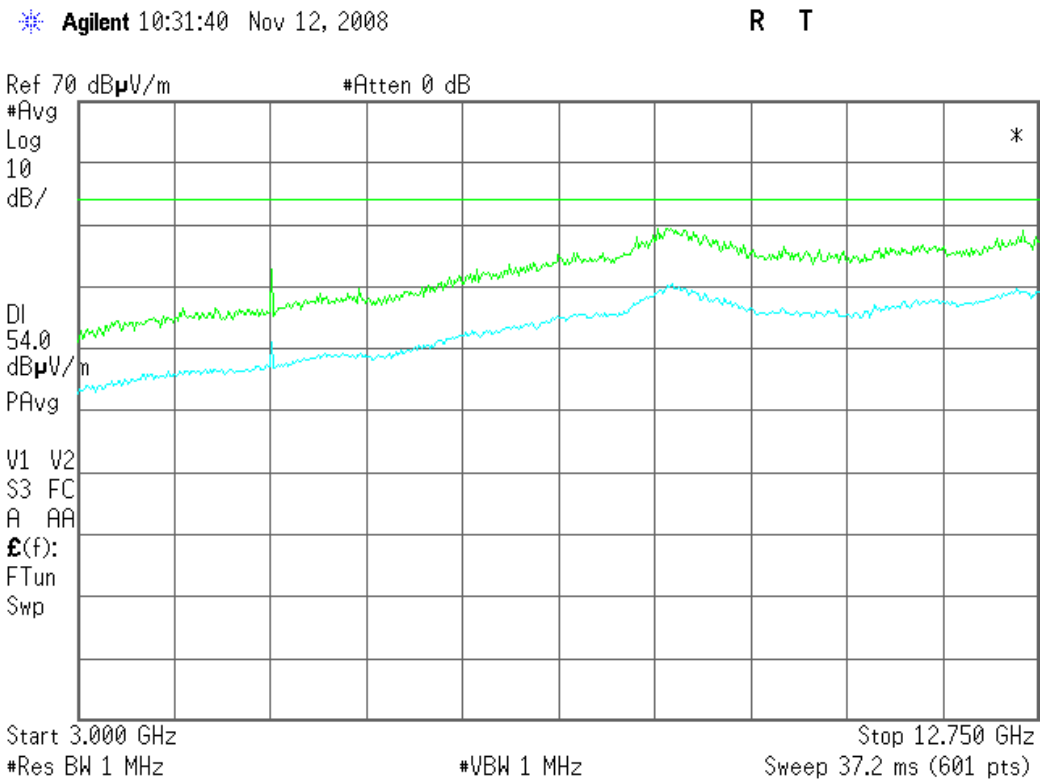
CHANNEL: Lowest (2402 MHz).



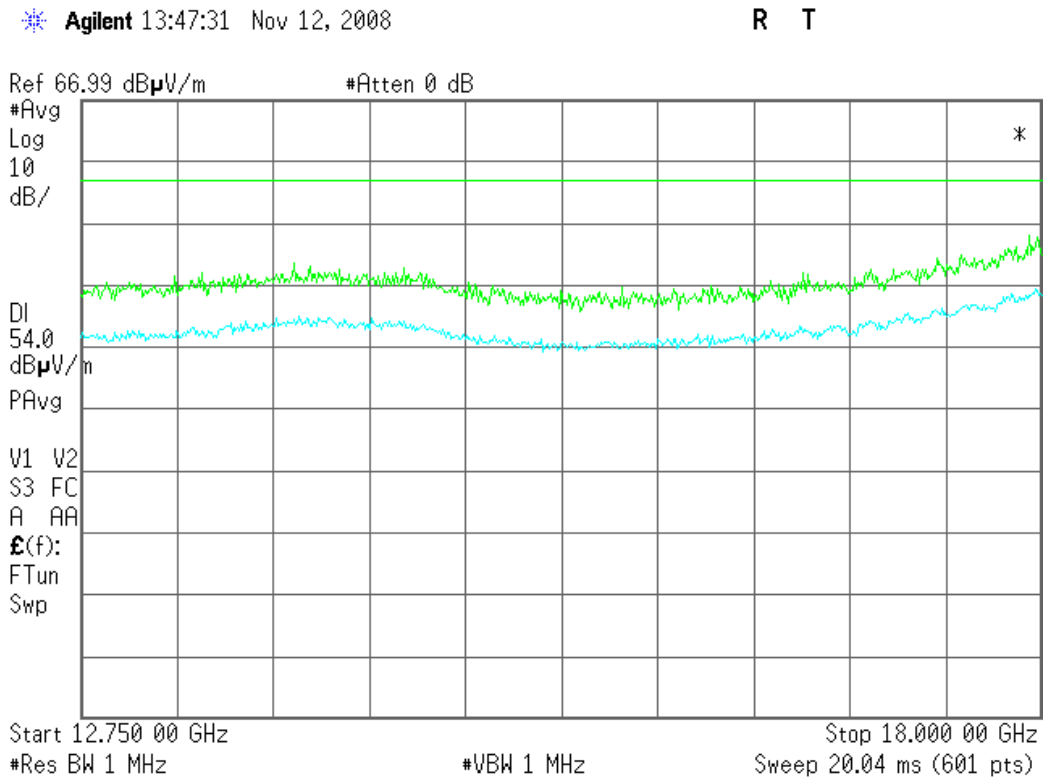
CHANNEL: Middle (2441 MHz).



CHANNEL: Highest (2480 MHz).

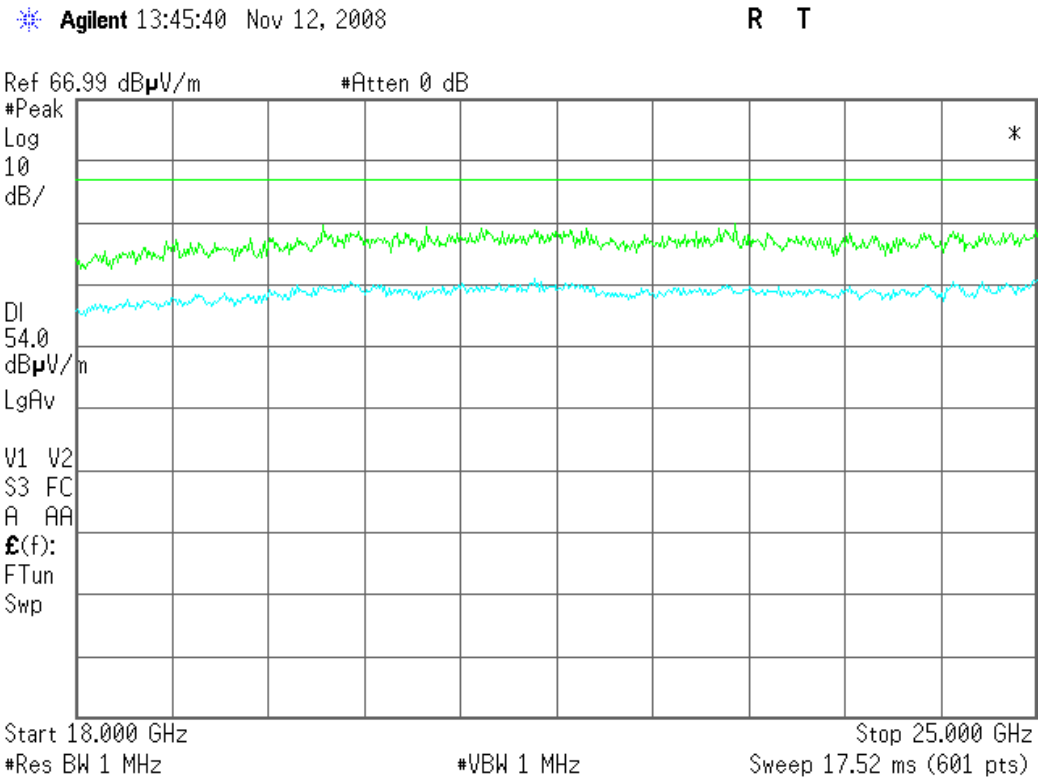


FREQUENCY RANGE 12.75 GHz to 18 GHz.



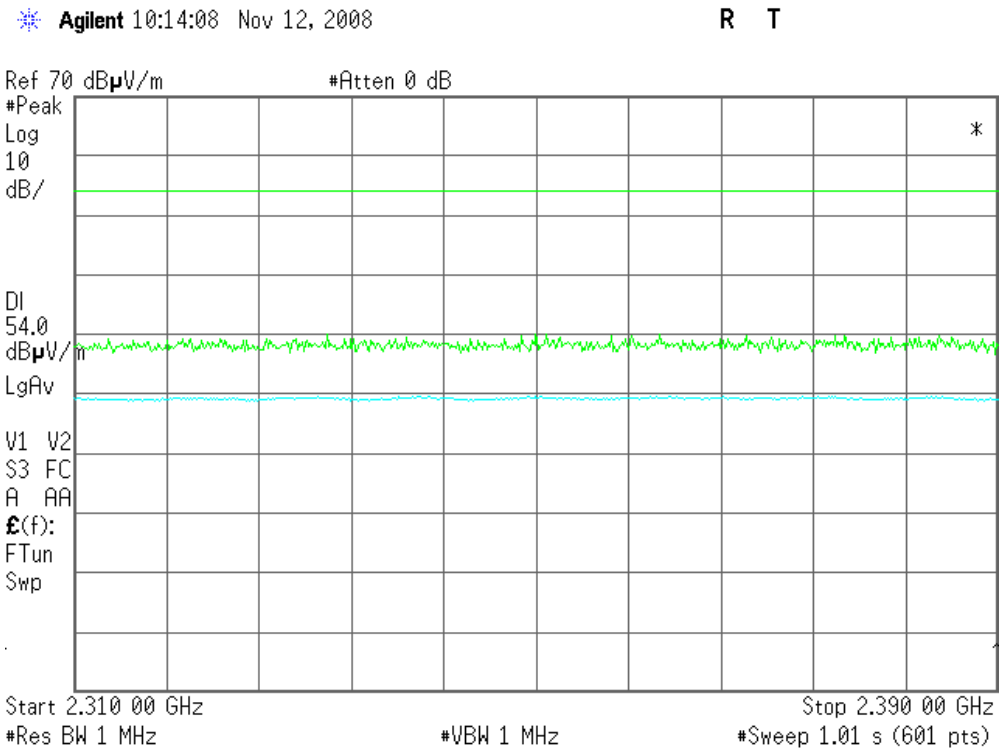
(This plot is valid for all three channels and all modulation modes).

FREQUENCY RANGE 18 GHz to 25 GHz.



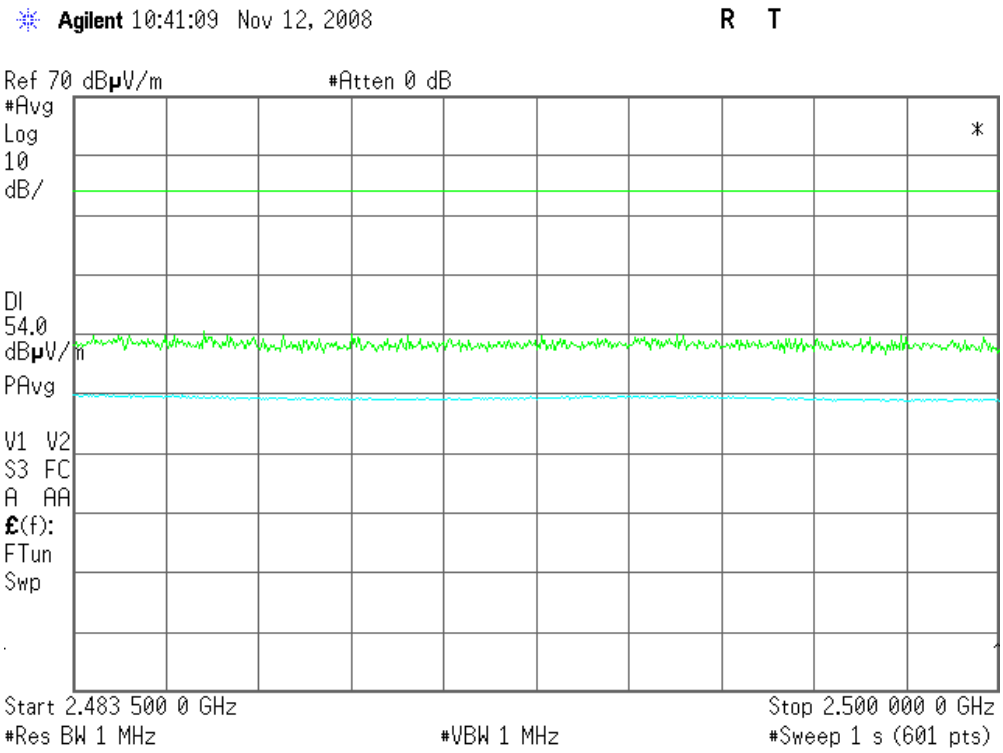
(This plot is valid for all three channels and all modulation modes).

FREQUENCY RANGE 2.31 GHz to 2.39 GHz. (RESTRICTED BAND)



(This plot is valid for all three channels and all modulation modes).

FREQUENCY RANGE 2.4835 GHz to 2.5 GHz. (RESTRICTED BAND)



(This plot is valid for all three channels and all modulation modes).

Section 15.109. Receiver spurious radiation

SPECIFICATION

The field strength shall not exceed the following values:

Frequency Range (MHz)	Field strength (μV/m)	Field strength (dBμV/m)	Measurement distance (m)
0.009-0.490	2400/F(kHz)	-	300
0.490-1.705	24000/F(kHz)	-	300
1.705 - 30.0	30	-	30
30 - 88	100	40	3
88 - 216	150	43.5	3
216 - 960	200	46	3
960 - 25000	500	54	3

The emission limits shown in the above table are based on measurements employing CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.

For average radiated emission measurements above 1000 MHz, there is also a limit corresponding to 20 dB above the indicated values in the table is specified when measuring with peak detector function.

RESULTS:

The situation and orientation was varied to find the maximum radiated emission. It was also rotated 360º and the antenna height was varied from 1 to 4 meters to find the maximum radiated emission.

Measurements were made in both horizontal and vertical planes of polarization.

All tests were performed in a semi-anechoic chamber at a distance of 3 m for the frequency range 30 MHz-1000 MHz and at distance of 1m for the frequency range 1 GHz-25 GHz.

The field strength is calculated by adding correction factor to the measured level from the spectrum analyser. This correction factor includes antenna factor, cable loss and pre-amplifiers gain.

Note: It is not possible to select individual receiving channels in the equipment under test. The equipment under test is set in inquiry scan mode with the receiver open and scanning through receiving channels.

Frequency range 30 MHz-1000 MHz.

No spurious signals were detected in all the range.

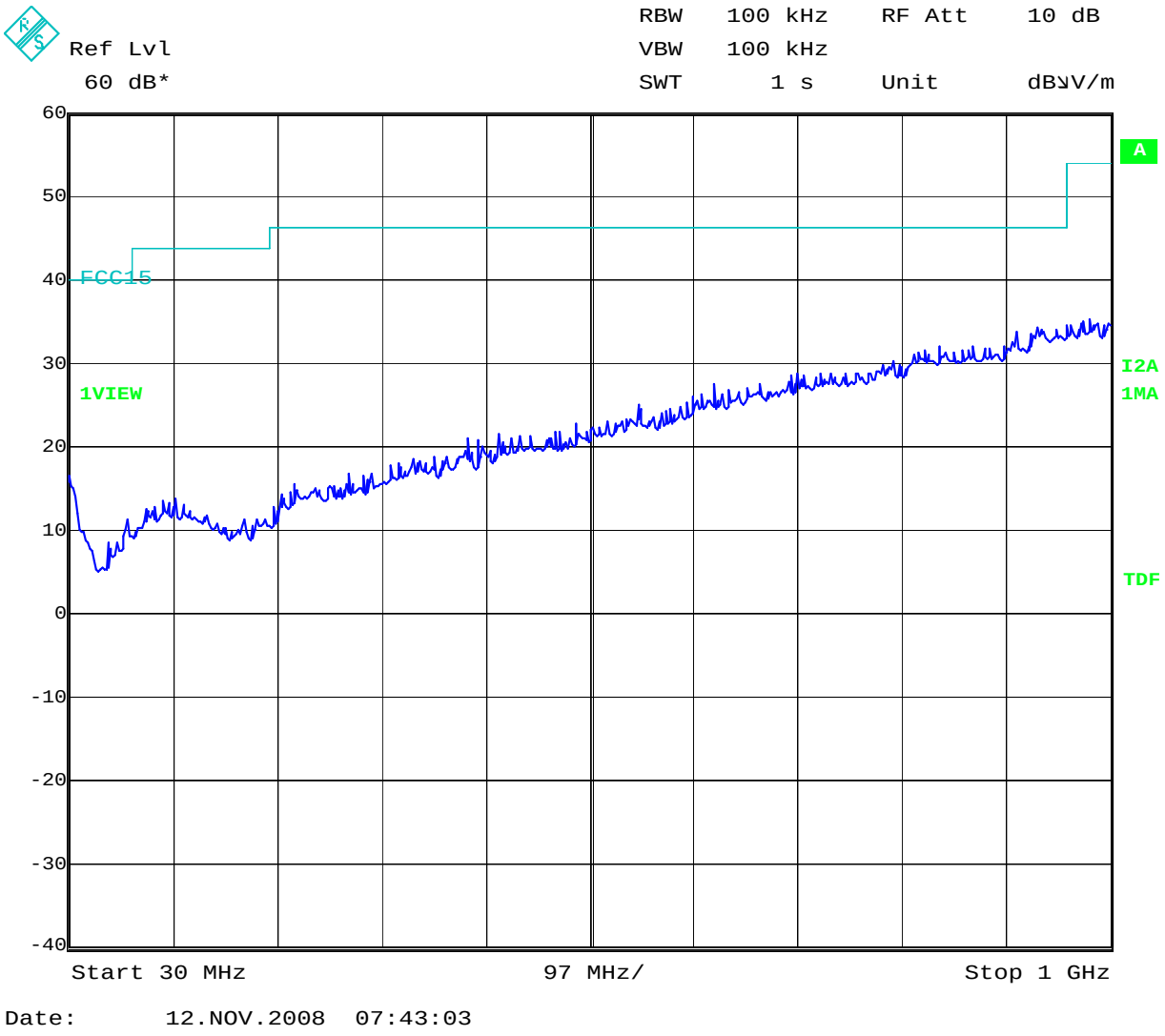
Frequency range 1 GHz-25 GHz.

No spurious signals were detected in all the range.

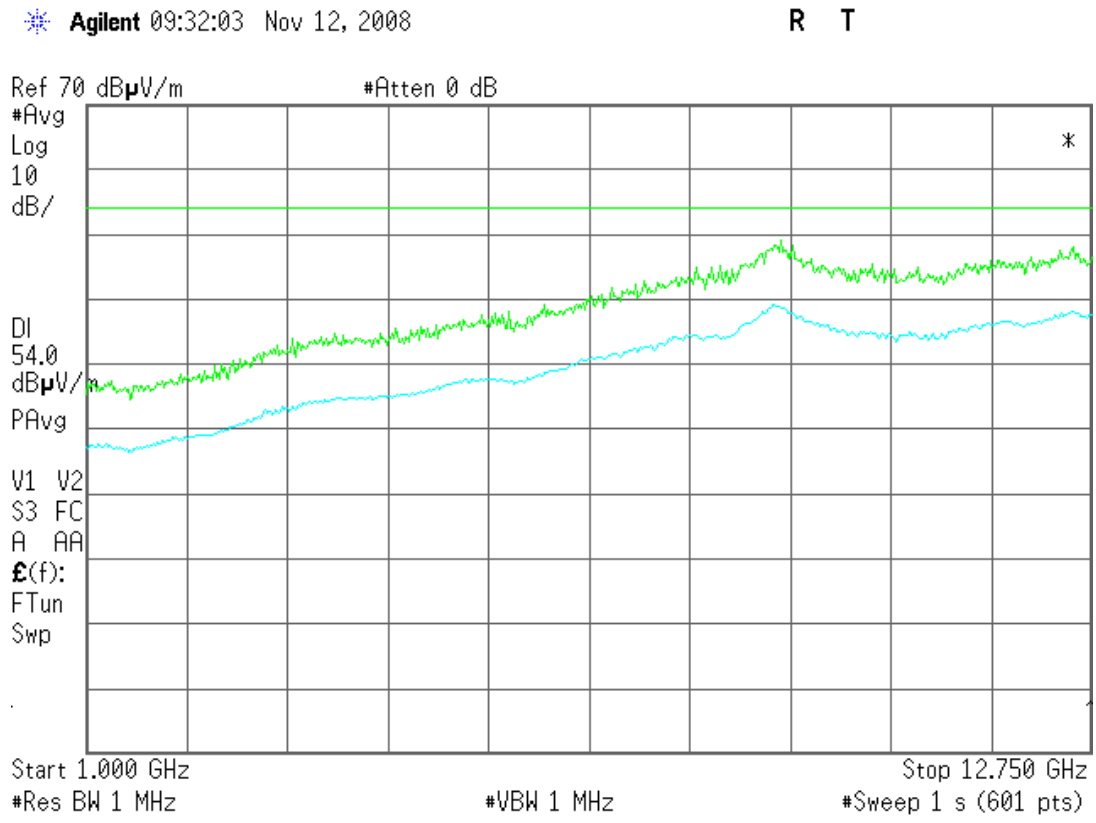
Additionally, no spurious signals were found inside the restricted bands 2310-2390 MHz and 2483.5-2500 MHz.

Verdict: PASS.

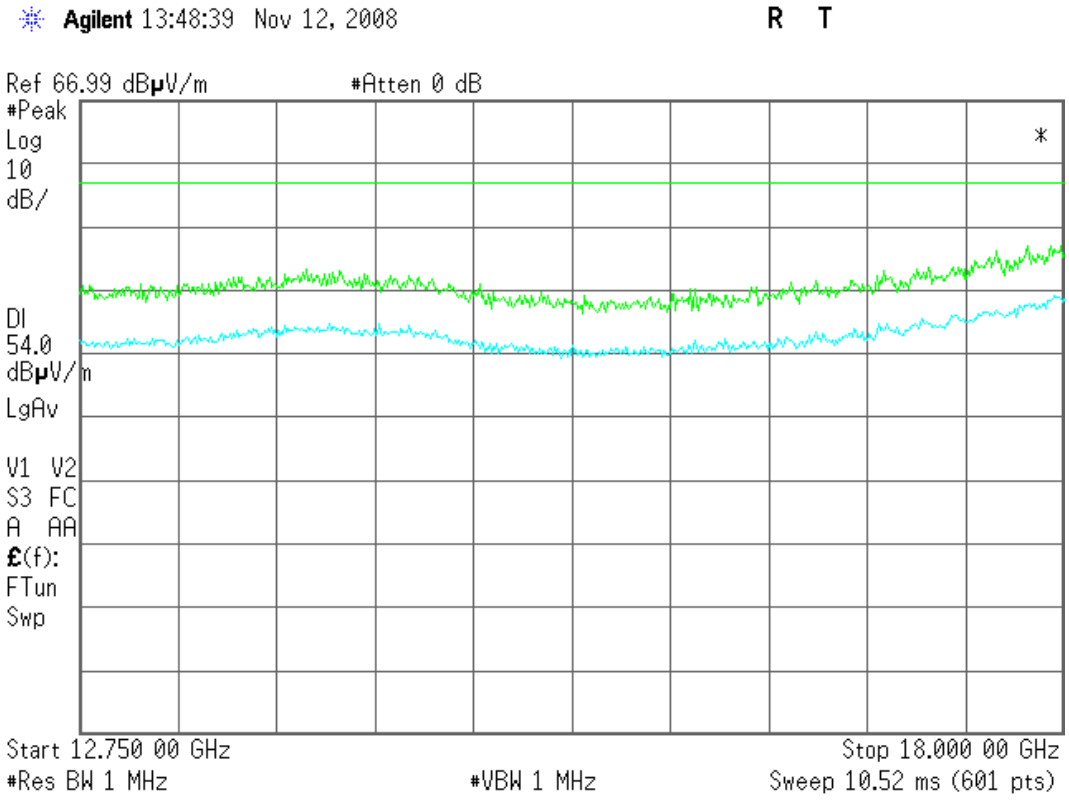
FREQUENCY RANGE 30 MHz-1000 MHz.



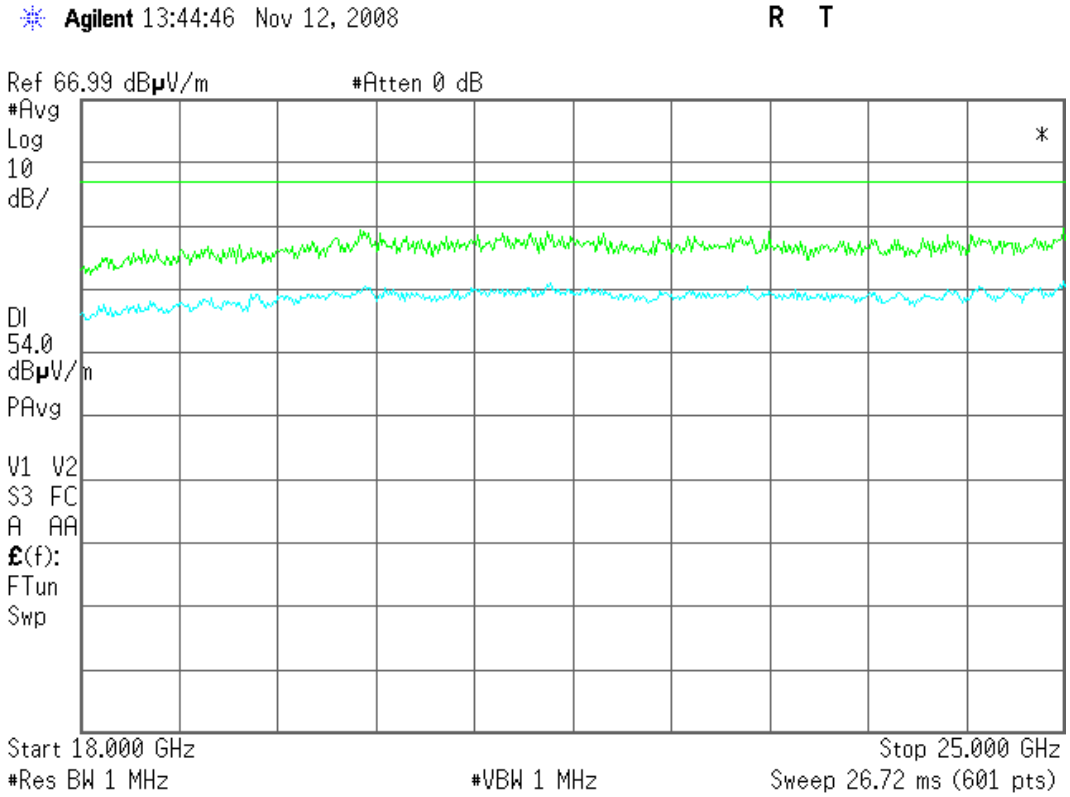
FREQUENCY RANGE 1 GHz-12.75 GHz.



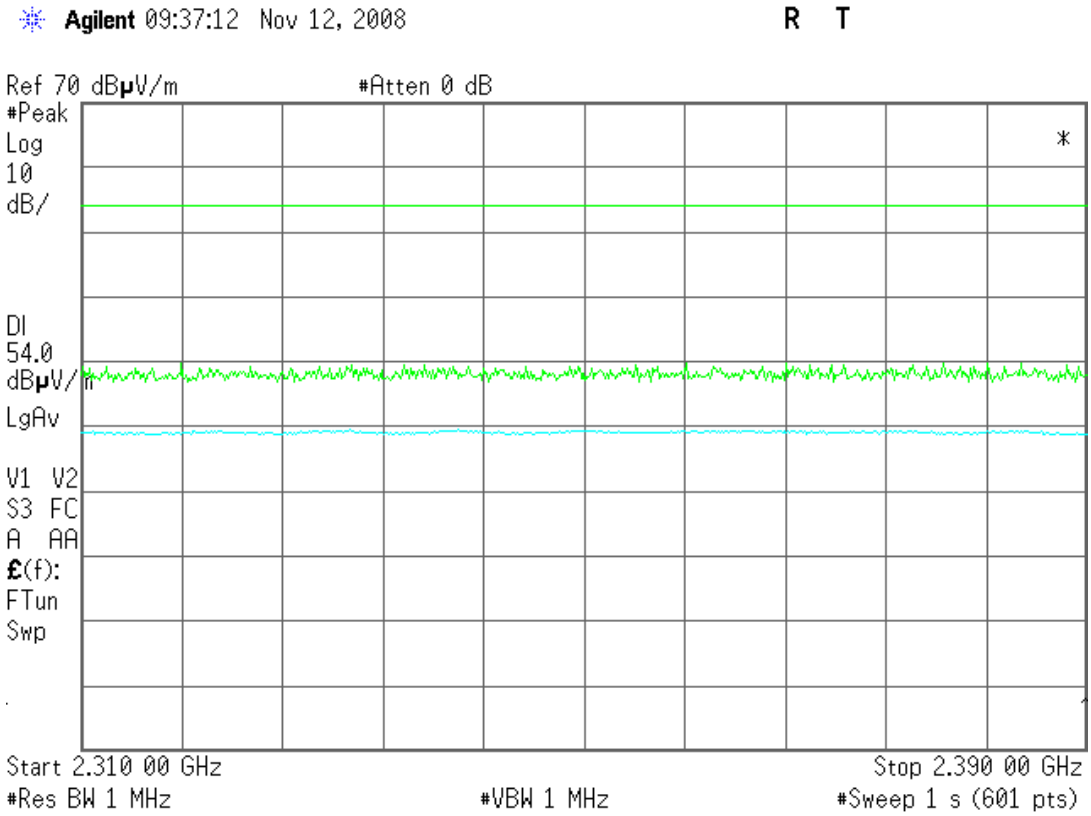
FREQUENCY RANGE 12.75 GHz-18 GHz.



FREQUENCY RANGE 18 GHz-25 GHz.



FREQUENCY RANGE 2.31 GHz to 2.39 GHz. (RESTRICTED BAND)



FREQUENCY RANGE 2.4835 GHz to 2.5 GHz. (RESTRICTED BAND)