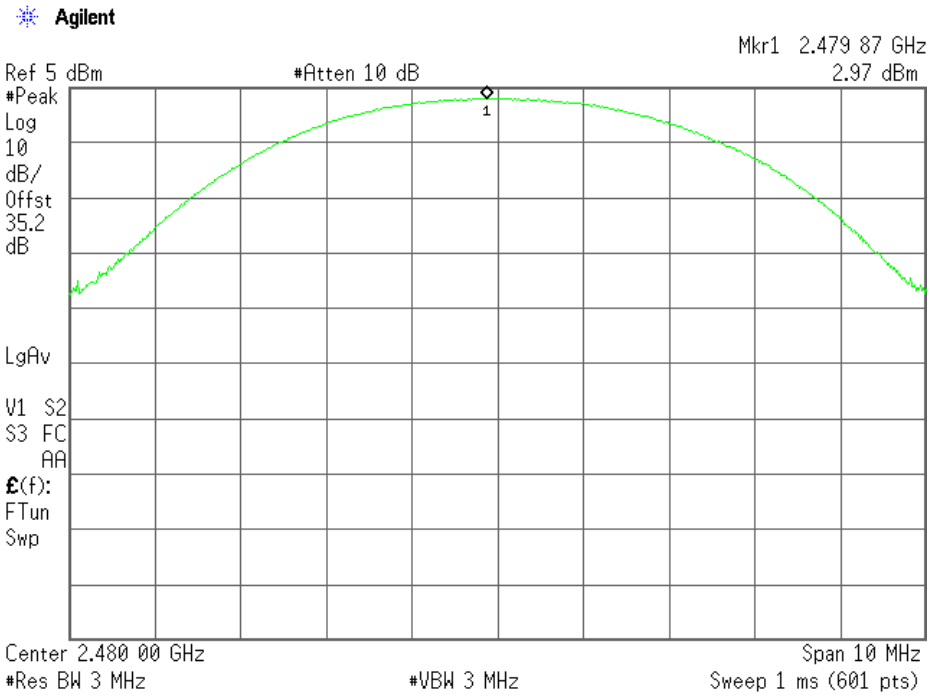
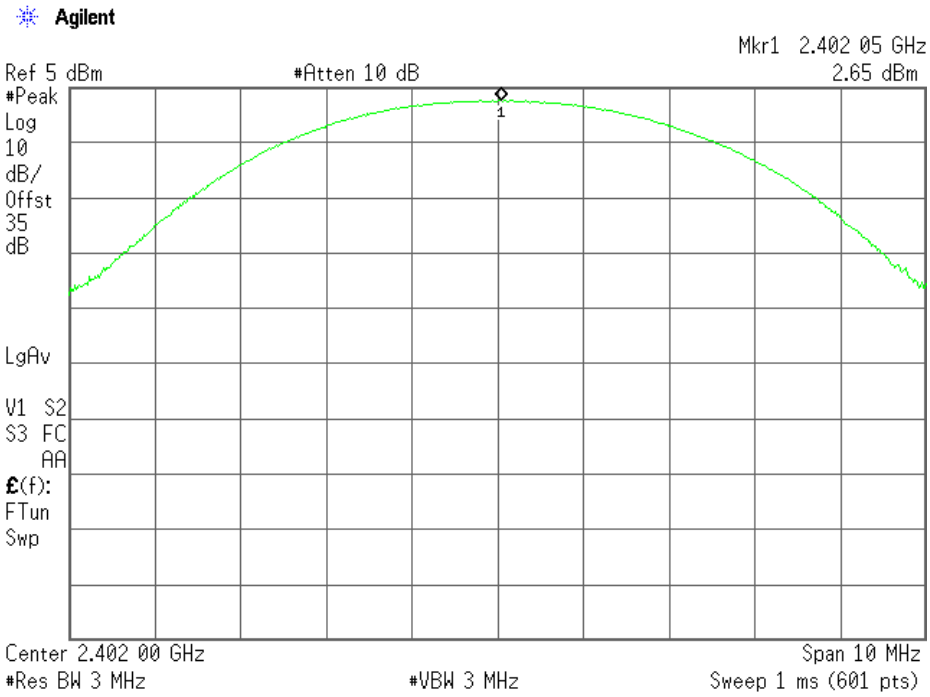
PEAK OUTPUT POWER (RADIATED).

Modulation: GFSK Highest Channel: 2480 MHz.

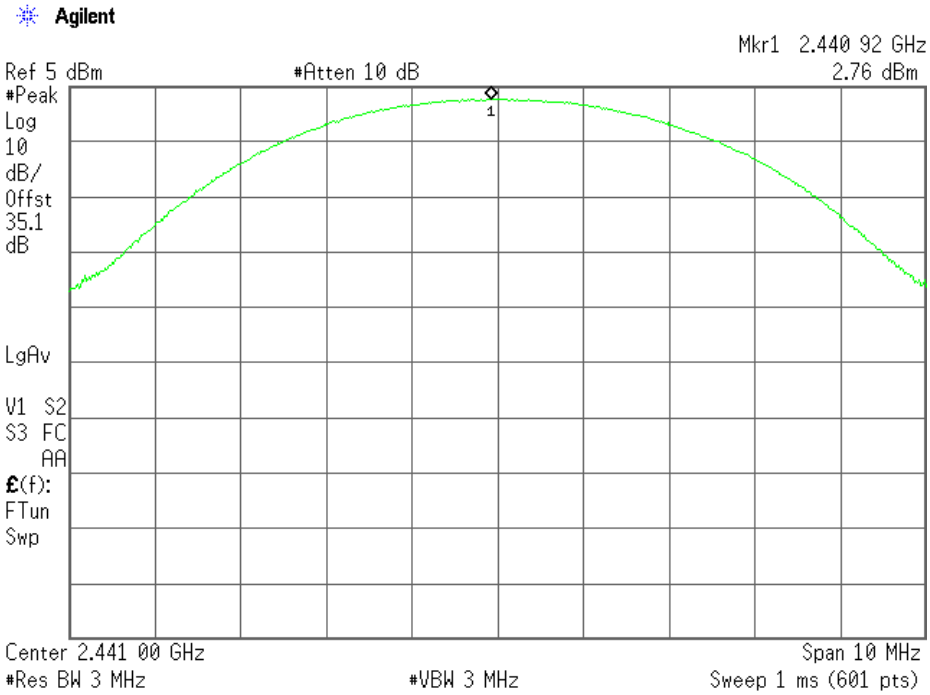


Modulation: Π/4-DQPSK Lowest Channel: 2402 MHz.



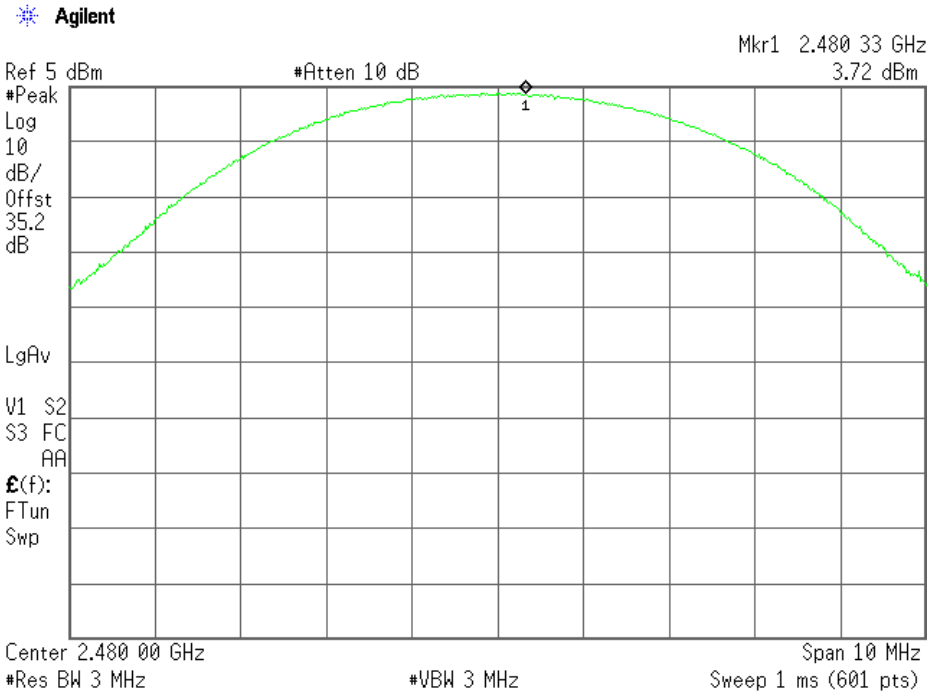
PEAK OUTPUT POWER (RADIATED).

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



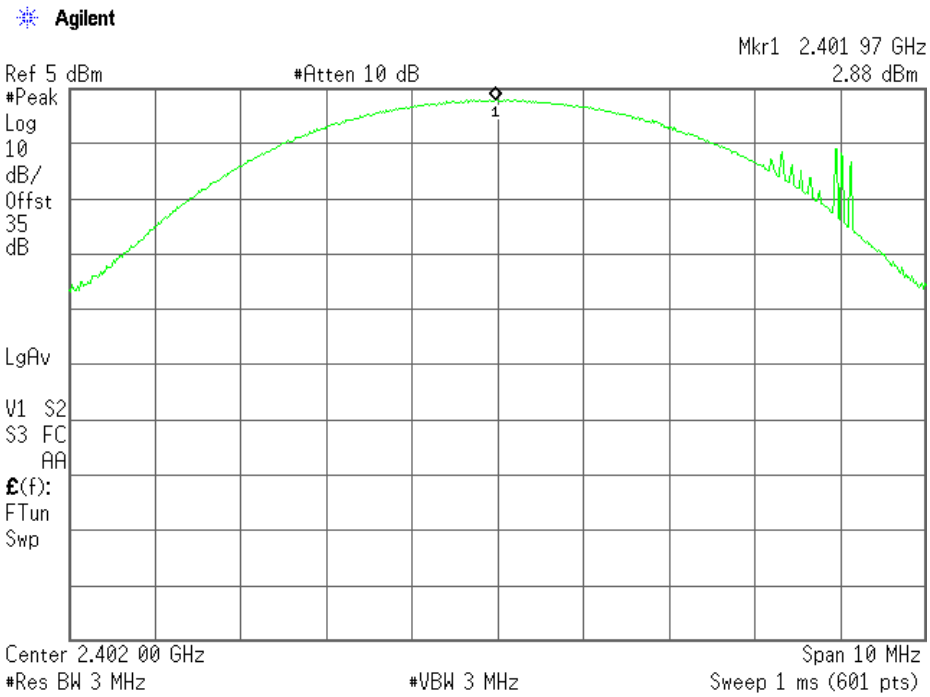
PEAK OUTPUT POWER (RADIATED).

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

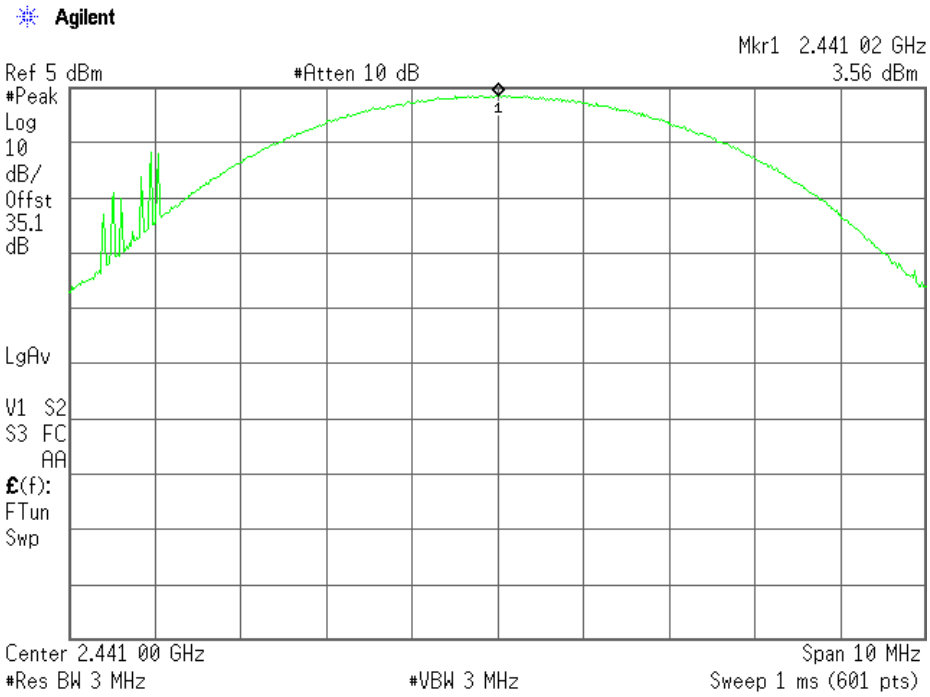


PEAK OUTPUT POWER (RADIATED).

Modulation: 8-DPSK Lowest Channel: 2402 MHz.

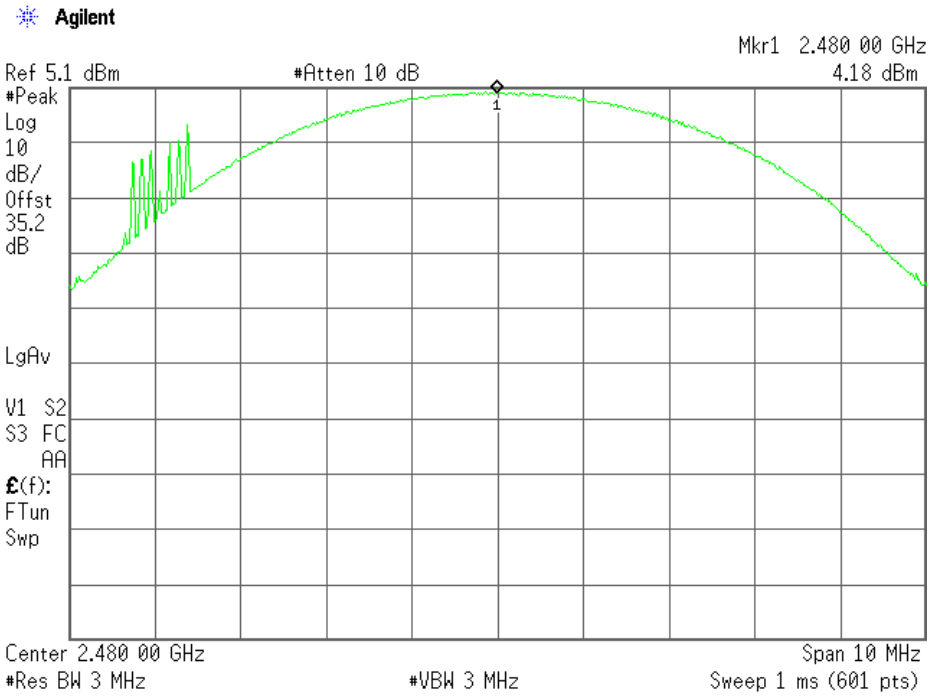


Modulation: 8-DPSK Middle Channel: 2441 MHz.



PEAK OUTPUT POWER (RADIATED).

Modulation: 8-DPSK Highest Channel: 2480 MHz.



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

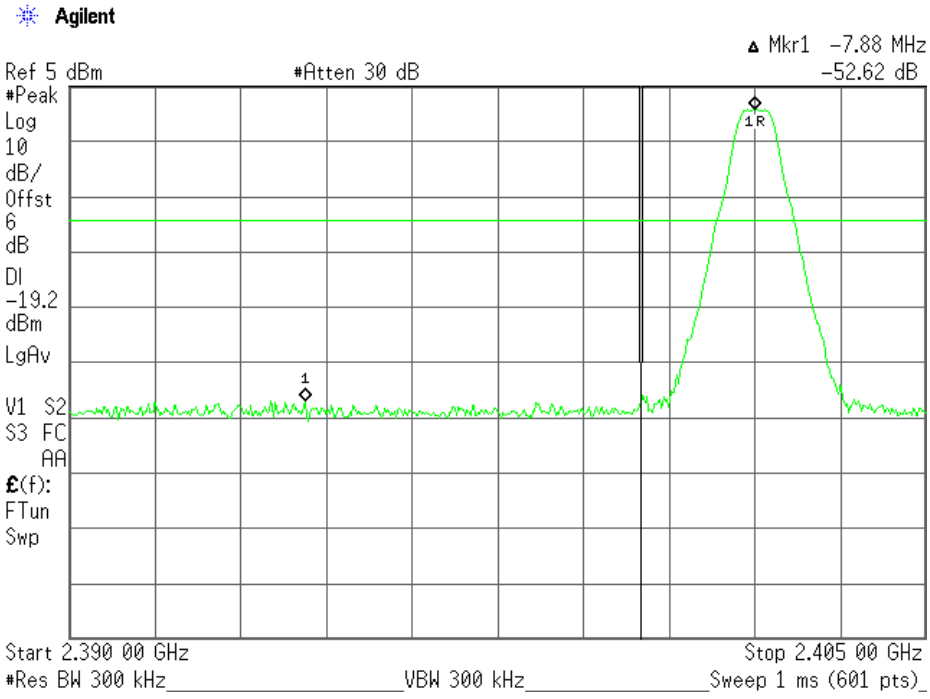
SPECIFICATION

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

RESULTS:

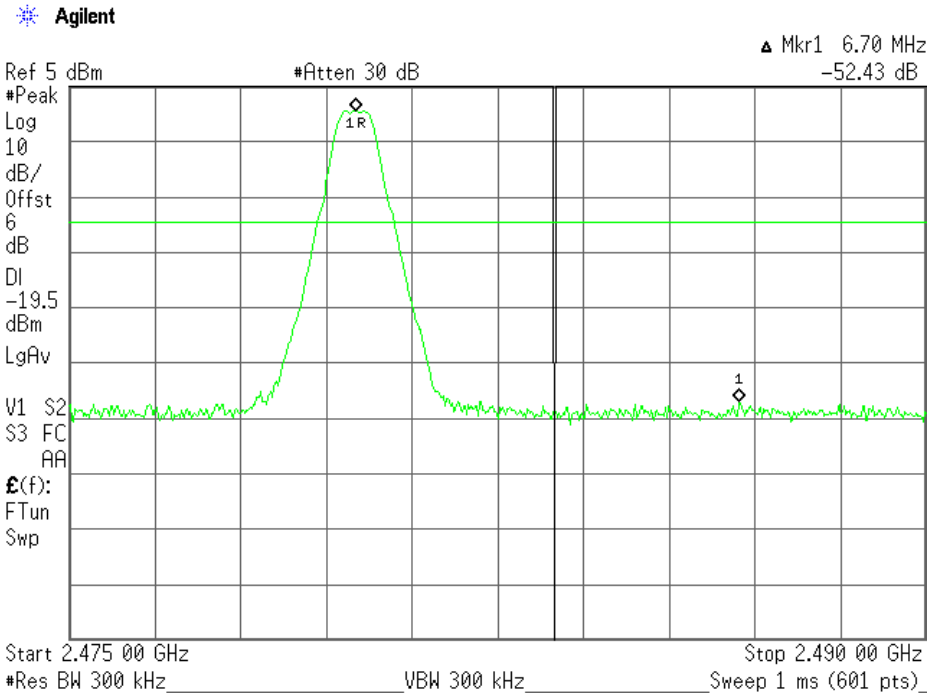
Modulation: GFSK

1. LOW FREQUENCY SECTION 2402 MHz (HOPPING OFF). See next plot.



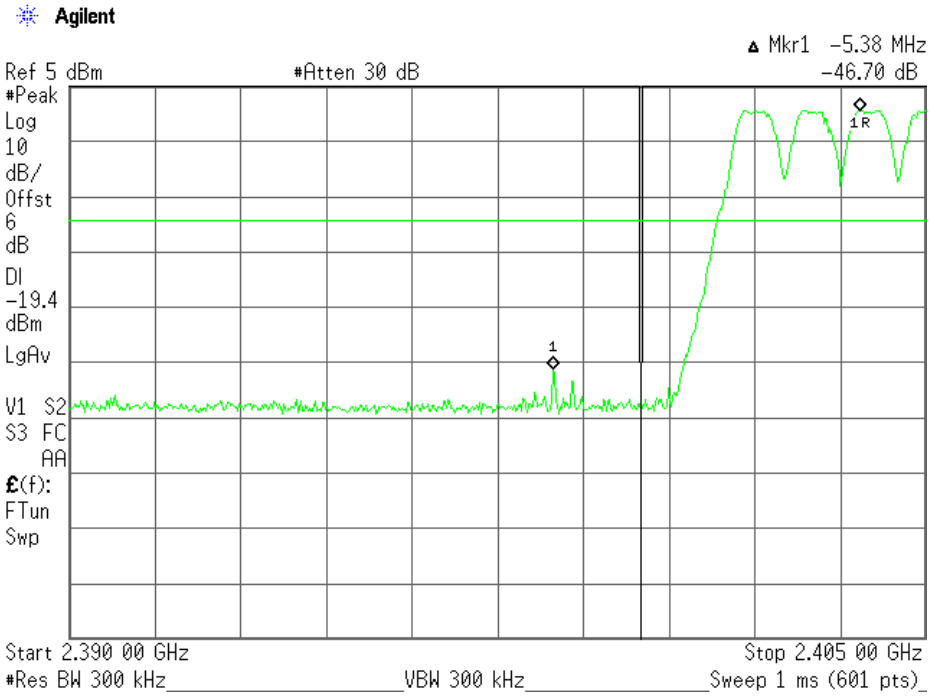
Verdict: PASS

2. HIGH FREQUENCY SECTION 2480 MHz (HOPPING OFF). See next plot.



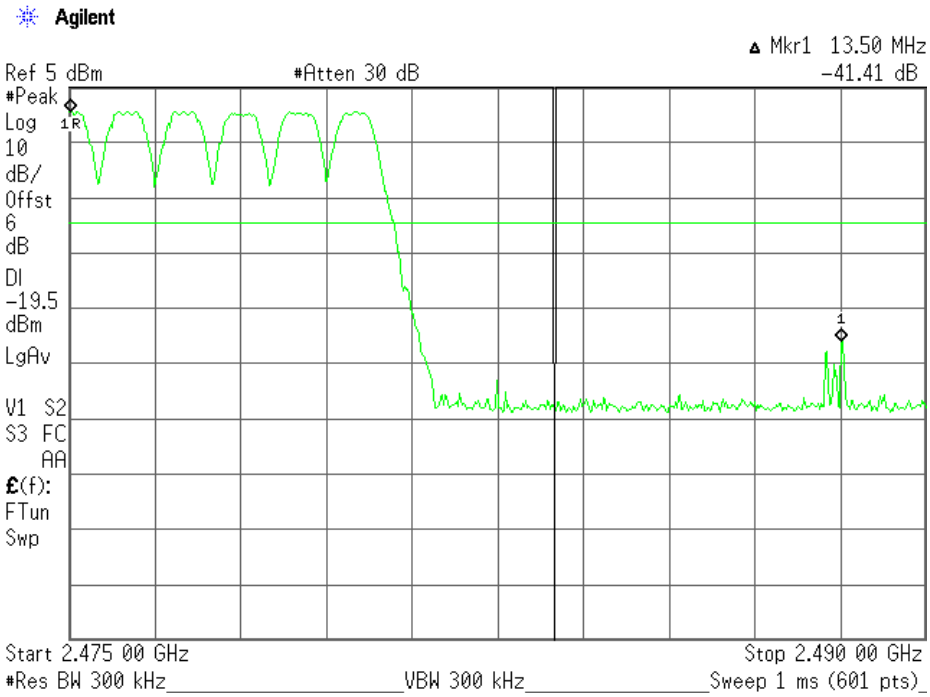
Verdict: PASS

3. LOW FREQUENCY SECTION (HOPPING ON). See next plot.



Verdict: PASS

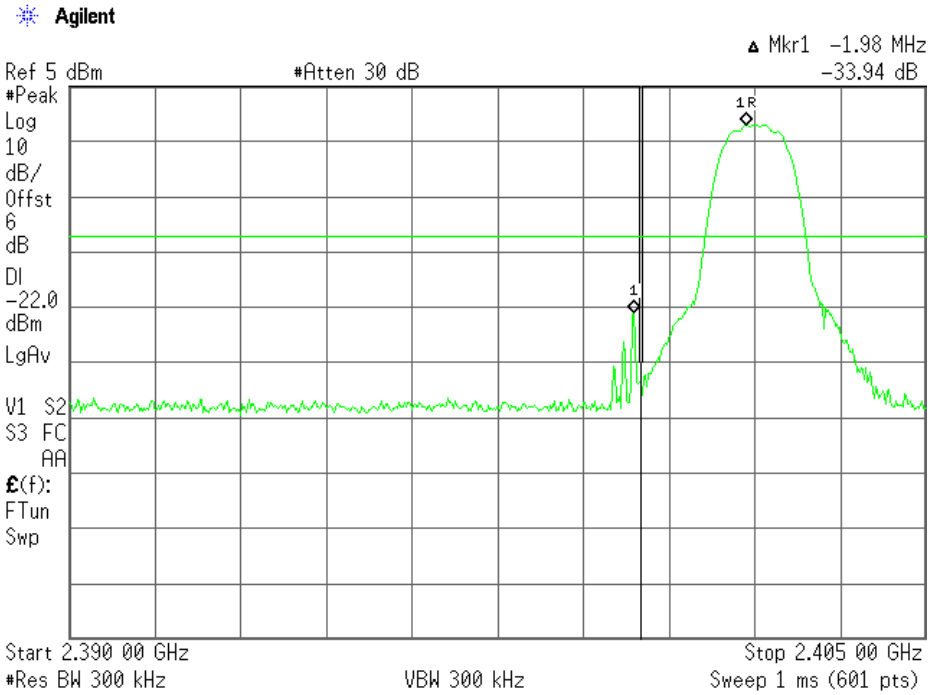
4. HIGH FREQUENCY SECTION (HOPPING ON). See next plot.



Verdict: PASS

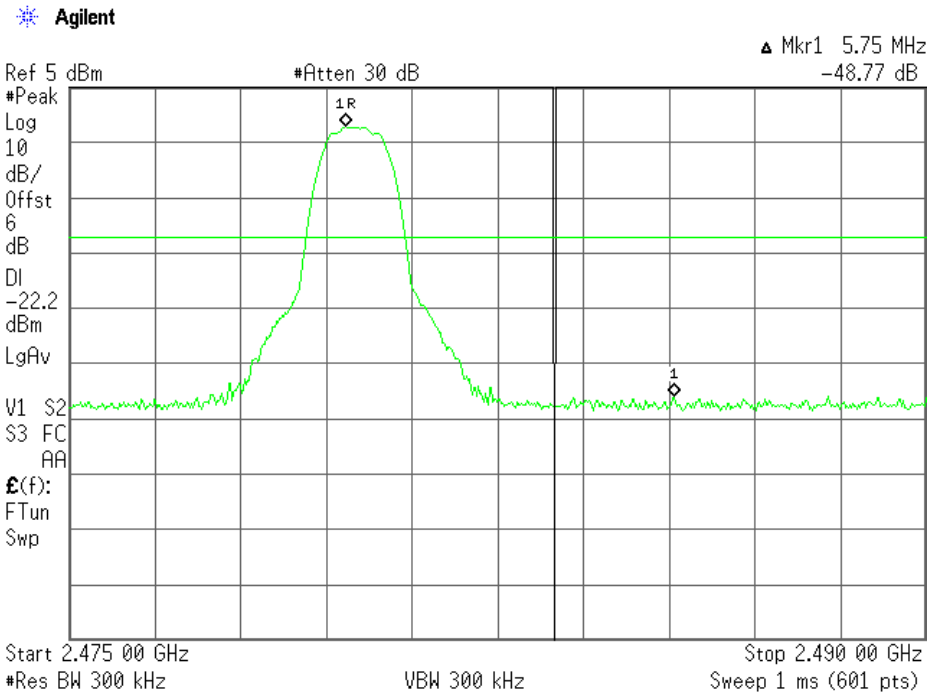
Modulation: Π/4-**DQPSK**

1. LOW FREQUENCY SECTION 2402 MHz (HOPPING OFF). See next plot.



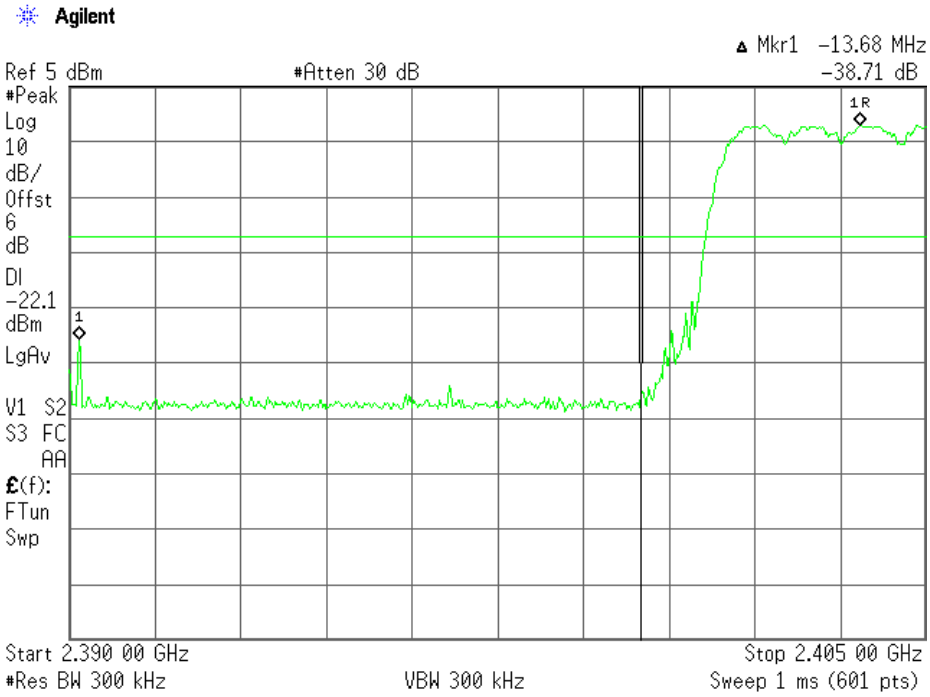
Verdict: PASS

2. HIGH FREQUENCY SECTION 2480 MHz (HOPPING OFF). See next plot.



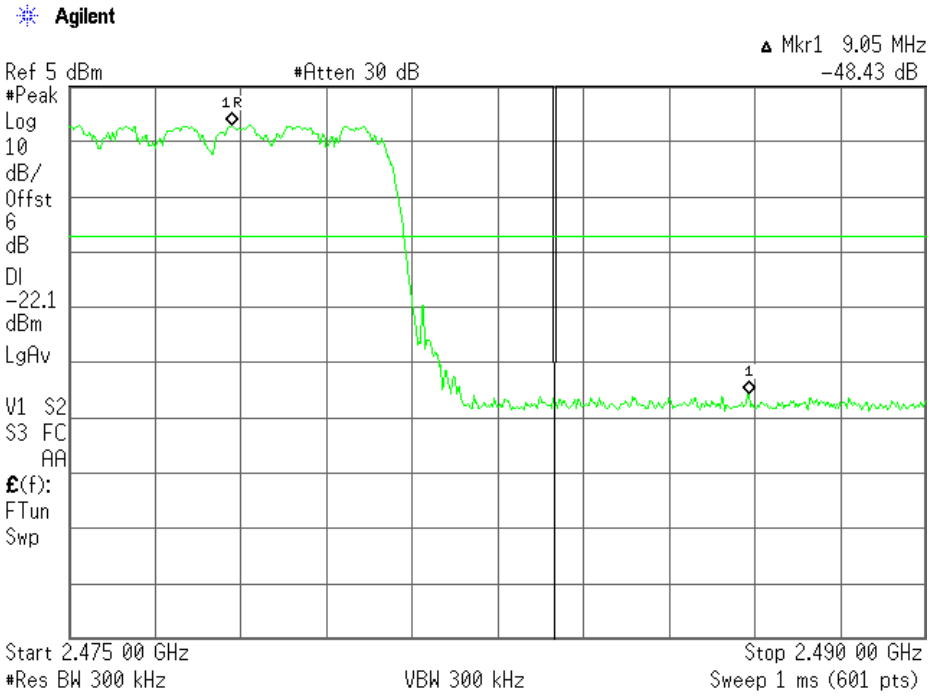
Verdict: PASS

3. LOW FREQUENCY SECTION (HOPPING ON). See next plot.



Verdict: PASS

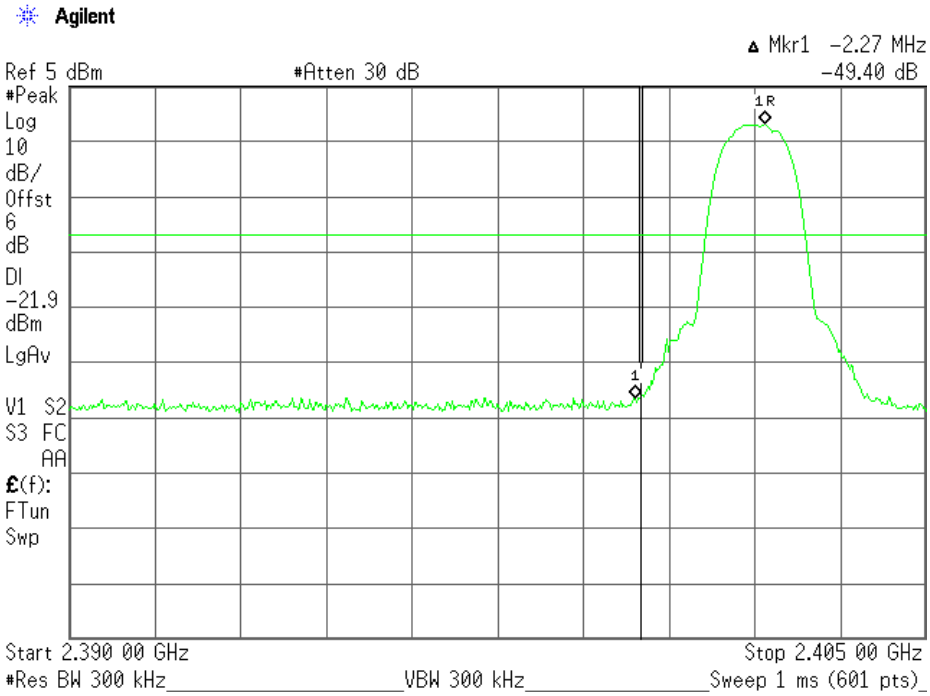
4. HIGH FREQUENCY SECTION (HOPPING ON). See next plot.



Verdict: PASS

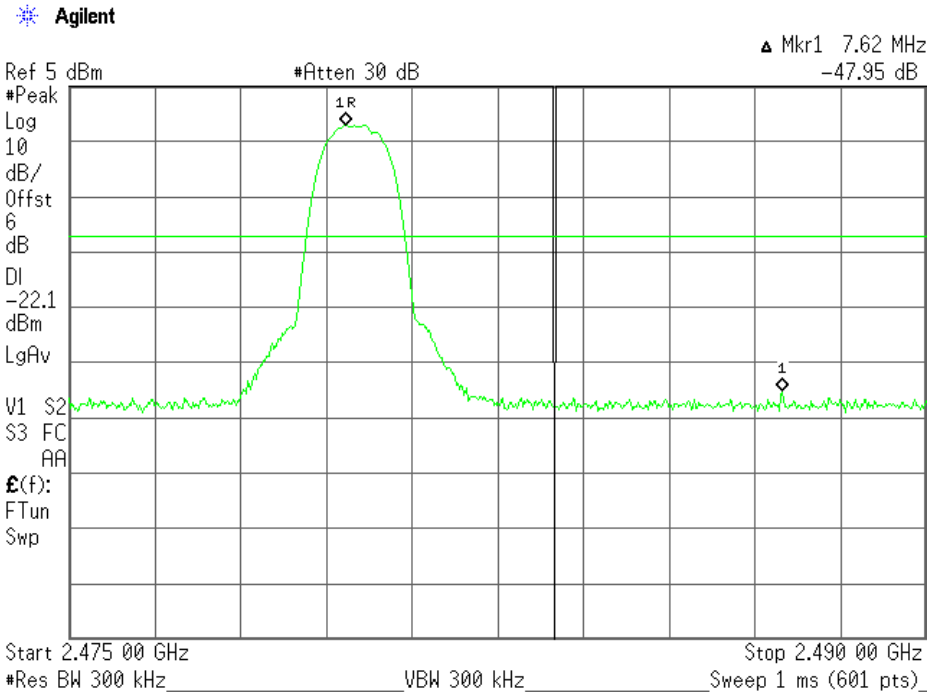
Modulation: 8-DPSK

1. LOW FREQUENCY SECTION 2402 MHz (HOPPING OFF). See next plot.



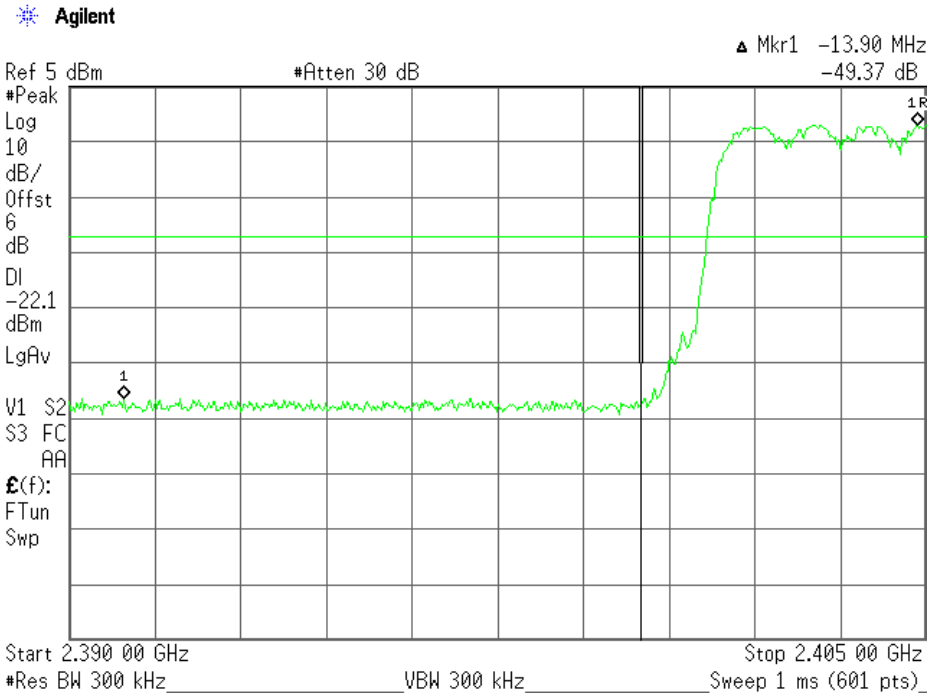
Verdict: PASS

2. HIGH FREQUENCY SECTION 2480 MHz (HOPPING OFF). See next plot.



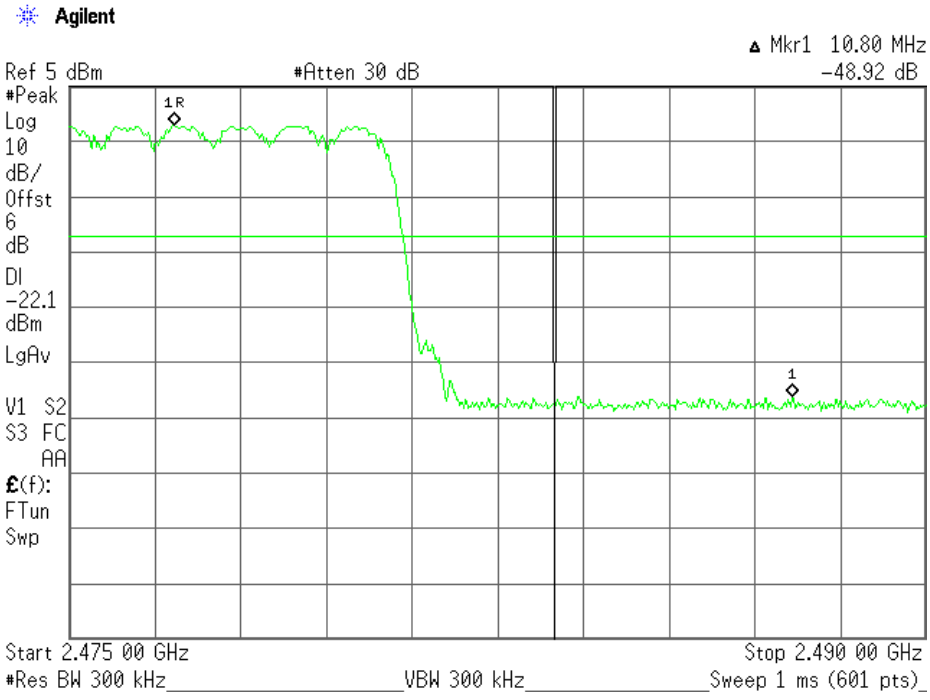
Verdict: PASS

3. LOW FREQUENCY SECTION (HOPPING ON). See next plot.



Verdict: PASS

4. HIGH FREQUENCY SECTION (HOPPING ON). See next plot.



Verdict: PASS

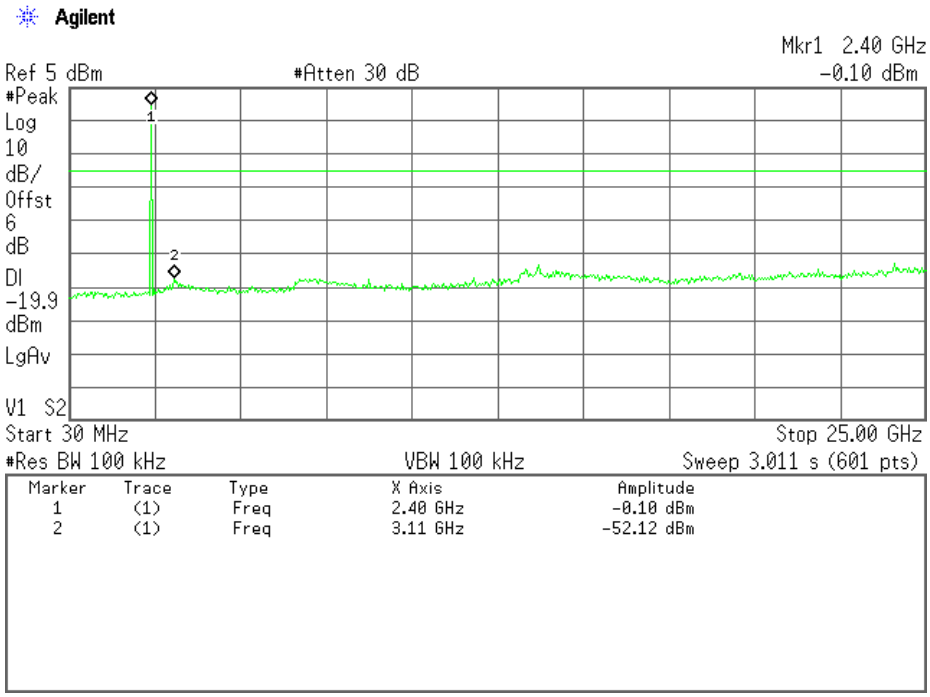
SPECIFICATION

In any 100 kHz bandwidths outside the frequency band in which the intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power.

RESULTS:

Modulation: GFSK

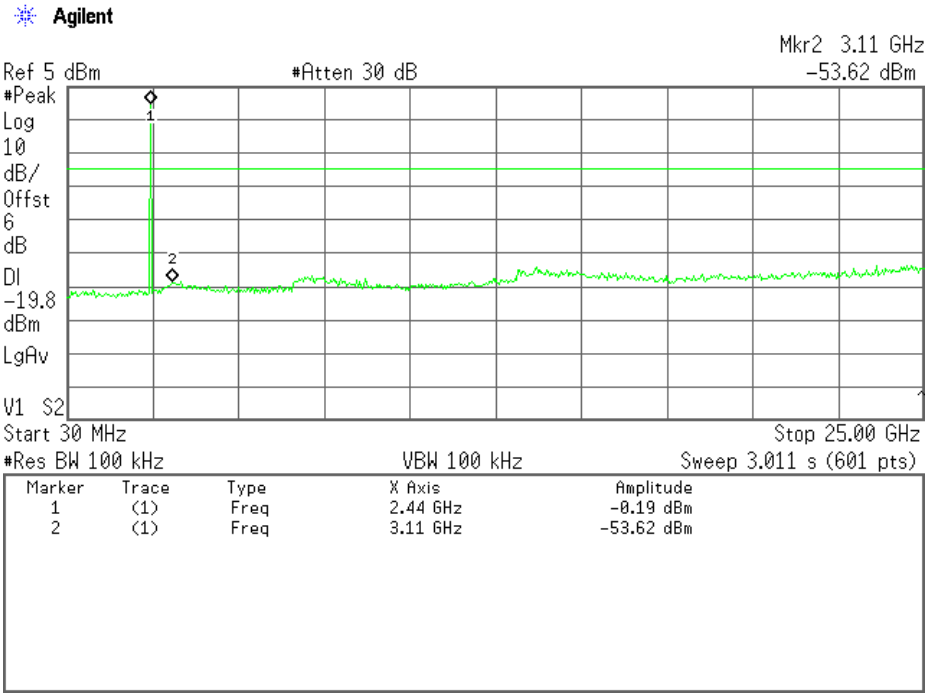
1. LOWEST CHANNEL (2402 MHz): 30 MHz-25 GHz (see next plot).



Note: The peak above the limit is the carrier frequency.

Verdict: PASS

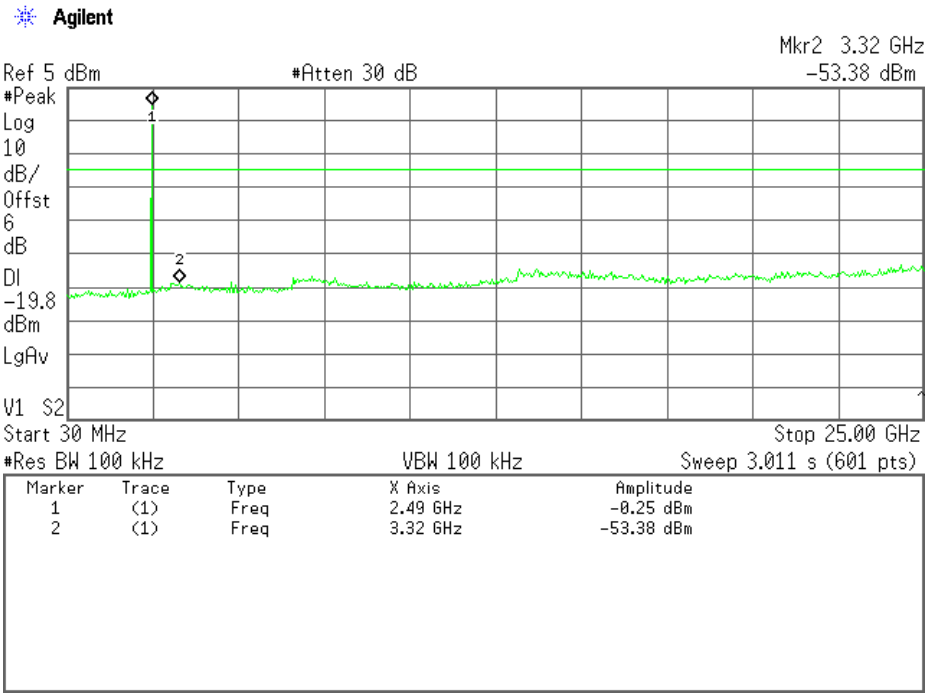
2. MIDDLE CHANNEL (2441 MHz): 30 MHz-25 GHz (see next plot).



Note: The peak above the limits is the carrier frequency.

Verdict: PASS

3. HIGH CHANNEL (2480 MHz): 30 MHz-25 GHz (see next plot).

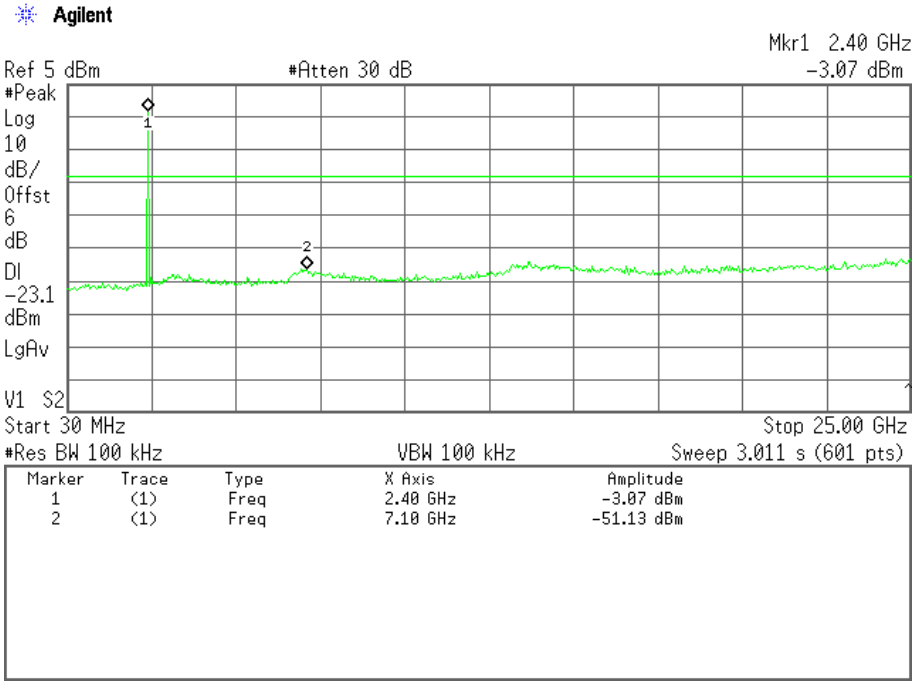


Note: The peak above the limits is the carrier frequency.

Verdict: PASS

Modulation: Π/4-**DQPSK**

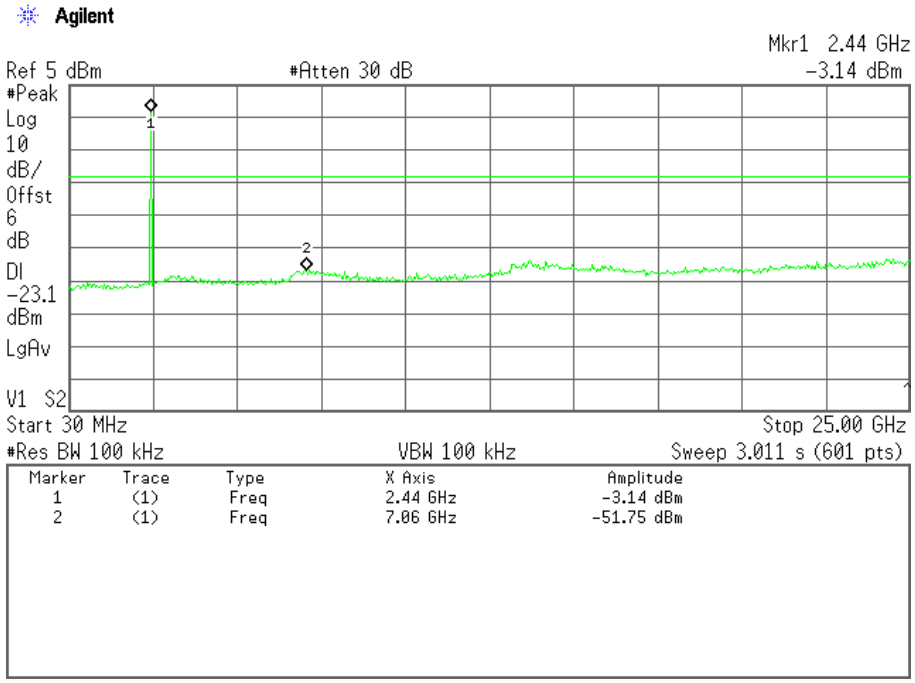
1. LOWEST CHANNEL (2402 MHz): 30 MHz-25 GHz (see next plot).



Note: The peak above the limits is the carrier frequency.

Verdict: PASS

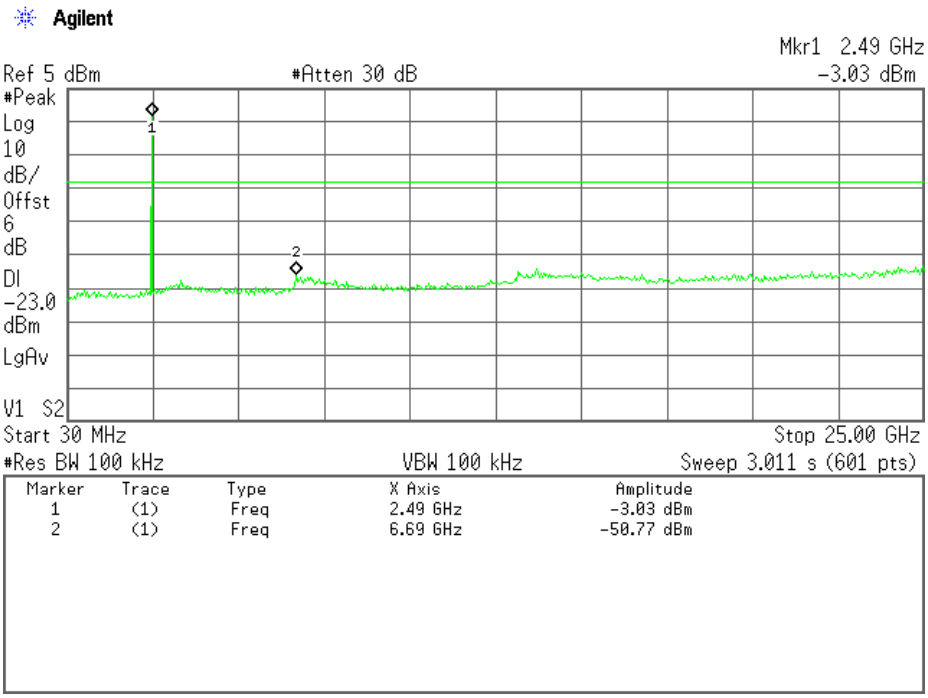
2. MIDDLE CHANNEL (2441 MHz): 30 MHz-25 GHz (see next plot).



Note: The peaks above the limits are the carrier frequencies.

Verdict: PASS

3. HIGH CHANNEL (2480 MHz): 30 MHz-25 GHz (see next plot).

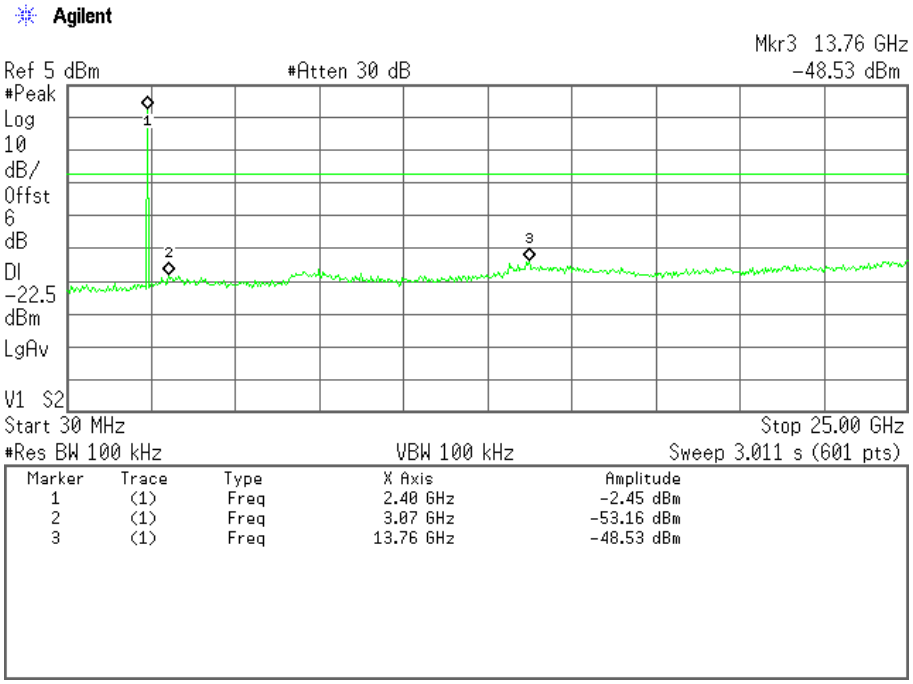


Note: The peak above the limit is the carrier frequency.

Verdict: PASS

Modulation: 8-DPSK

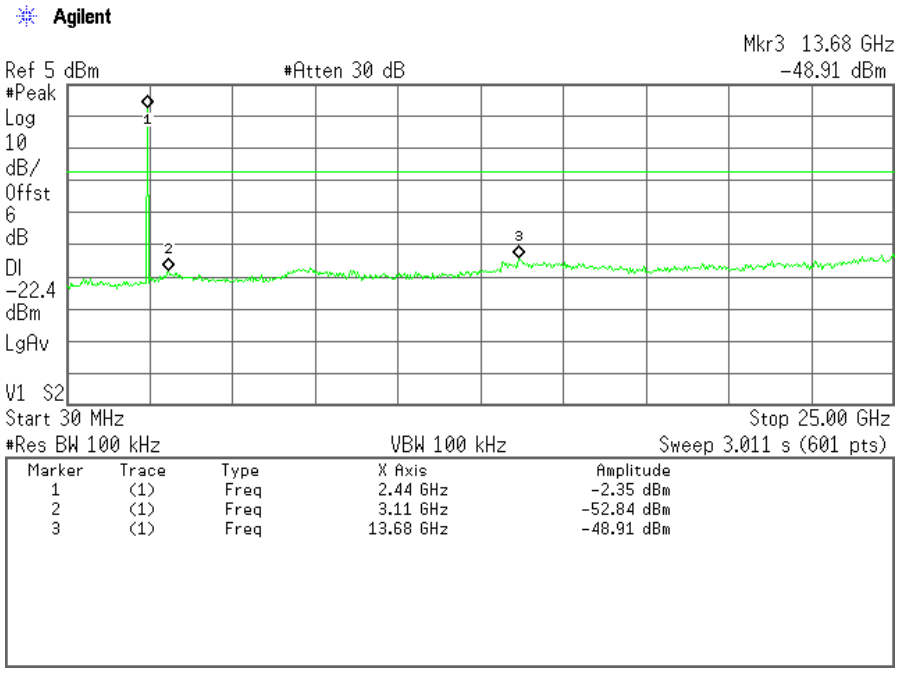
1. LOWEST CHANNEL (2402 MHz): 30 MHz-25 GHz (see next plot).



Note: The peak above the limits is the carrier frequency.

Verdict: PASS

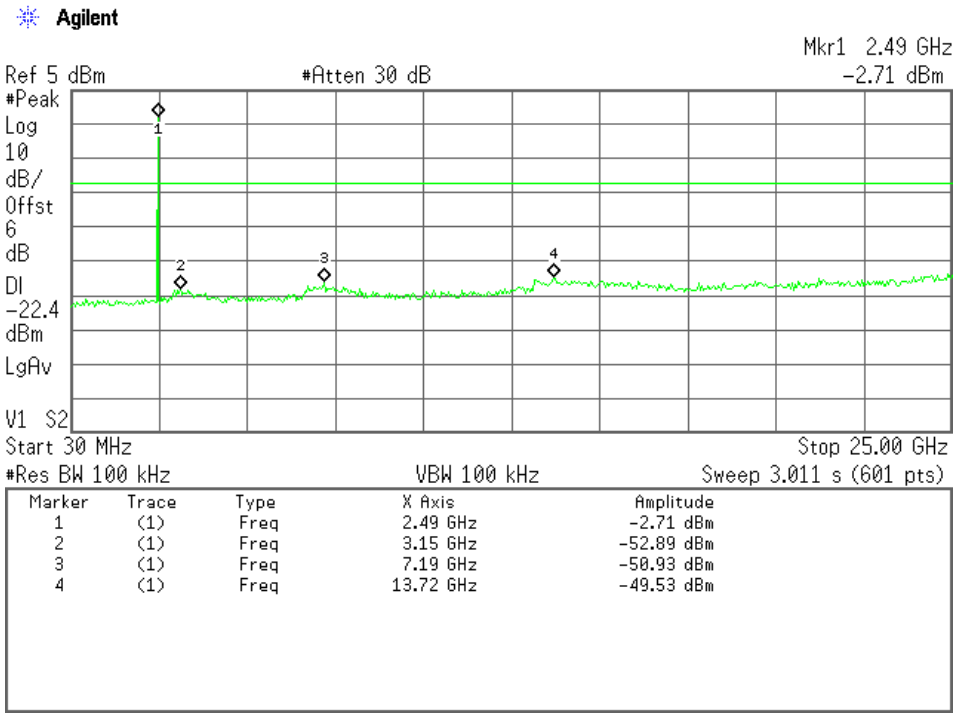
2. MIDDLE CHANNEL (2441 MHz): 30 MHz-25 GHz (see next plot).



Note: The peaks above the limit are the carrier frequencies.

Verdict: PASS

3. HIGH CHANNEL (2480 MHz): 30 MHz-25 GHz (see next plot).



Note: The peak above the limit is the carrier frequency.

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 orientation of the equipment under test 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.

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

Frequency range 30 MHz-1000 MHz.

Note: All emissions detected below 1 GHz do not depend on neither selected channel nor the modulation mode.

Spurious levels closest to limit:

Spurious frequency (MHz)	Polarization	Detector	Emission Level (dBµV/m)	Uncertainty (dB)
33.8877	V	Quasi-peak	35.77	±3.8 dB
74.7094	V	Quasi-peak	32.19	±3.8 dB
94.1483	V	Quasi-peak	29.50	±3.8 dB
442.1042	H	Quasi-peak	28.68	±3.8 dB
545.1303	V	Quasi-peak	28.57	±3.8 dB
572.3447	H	Quasi-peak	27.90	±3.8 dB
597.6152	H	Quasi-peak	32.76	±3.8 dB
624.8297	H	Quasi-peak	29.63	±3.8 dB
755.0701	H	Quasi-peak	32.25	±3.8 dB
780.3407	H	Quasi-peak	33.46	±3.8 dB
805.6112	H	Quasi-peak	37.44	±3.8 dB
832.8256	H	Quasi-peak	35.41	±3.8 dB

Frequency range 1 GHz-25 GHz.

1. CHANNEL: LOWEST (2402 MHz).
No spurious signals were found in all the range for the three modulation modes.

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

2. CHANNEL: MIDDLE (2441 MHz).
No spurious signals were found in all the range for the three modulation modes.

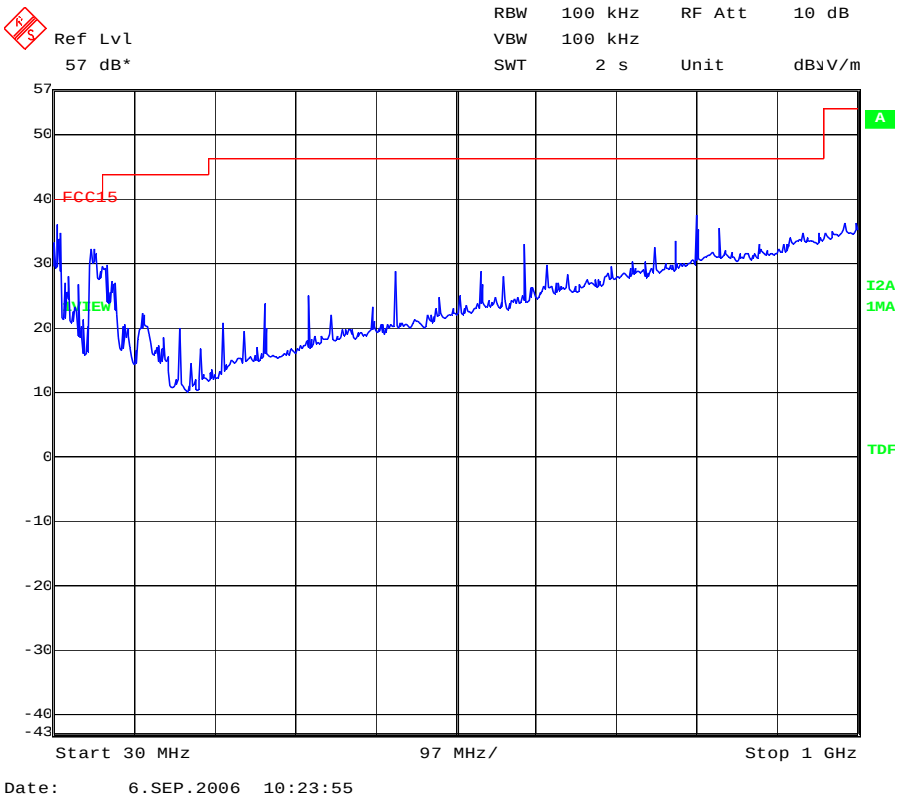
Additionally, no spurious signals were found inside the restricted bands 2310-2390 MHz and 2483.5-2500 MHz and at the harmonic frequencies.

3. CHANNEL: HIGHEST (2480 MHz).
No spurious signals were found in all the range for the three modulation modes.

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

Verdict: PASS

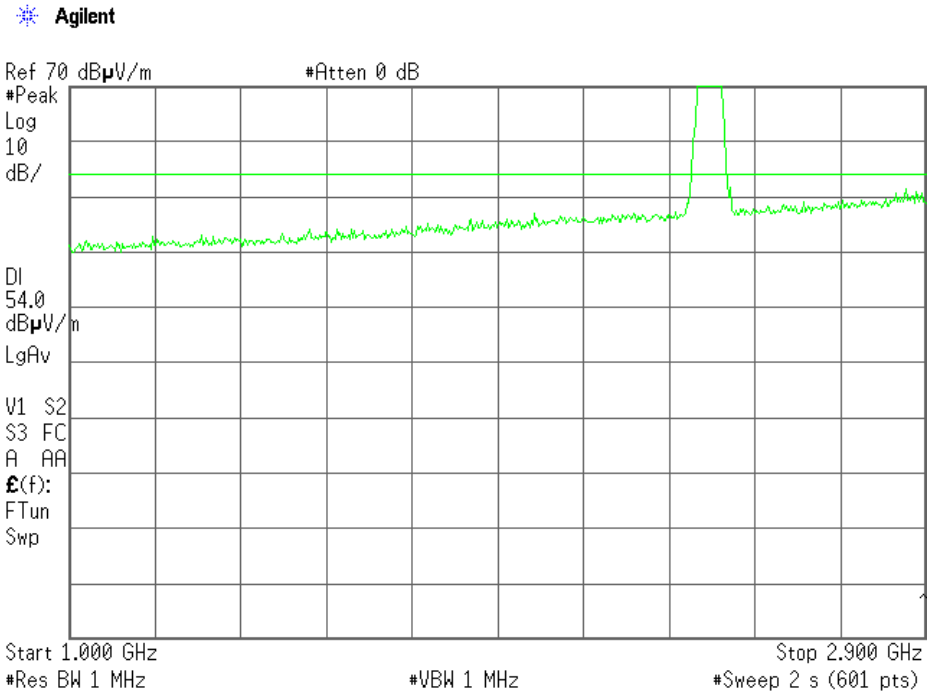
FREQUENCY RANGE 30 MHz-1000 MHz.



(This plot is valid for all three channels).

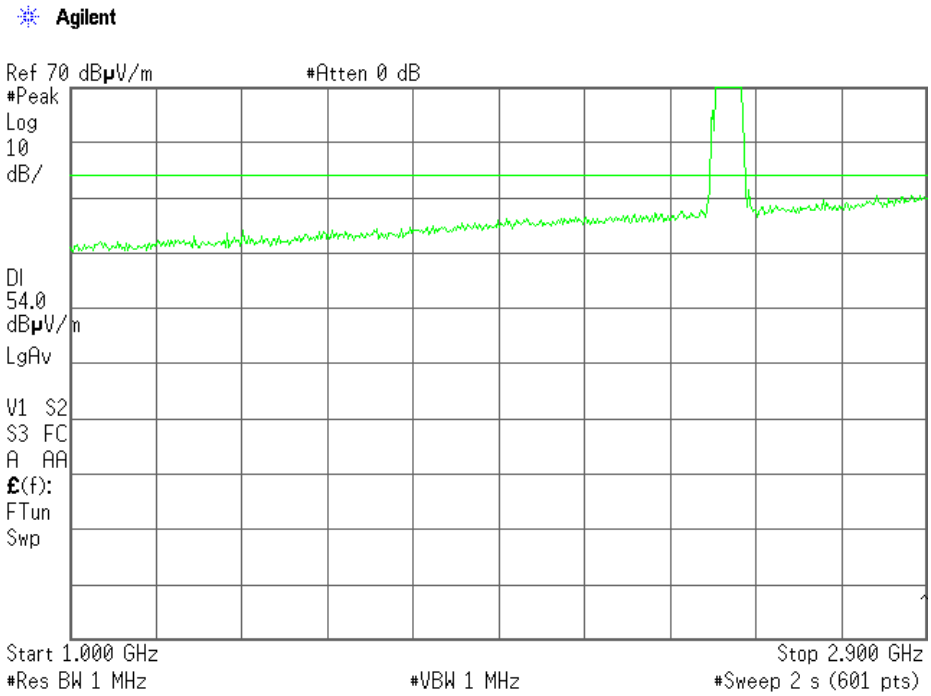
FREQUENCY RANGE 1 GHz to 2.9 GHz.

CHANNEL: Lowest (2402 MHz).



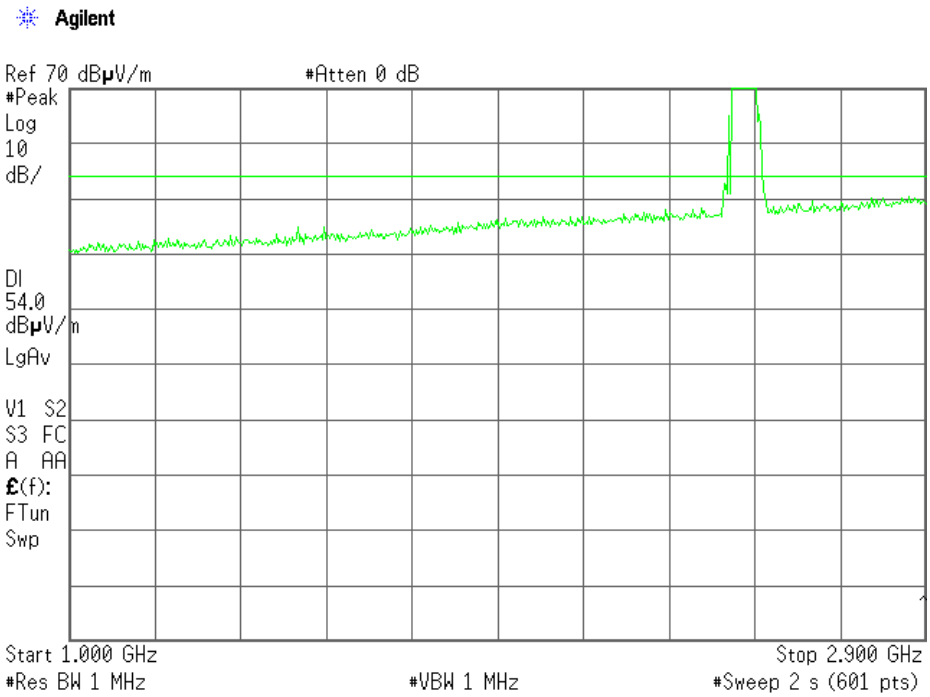
Note: The peak above the limit is the carrier frequency.

CHANNEL: Middle (2441 MHz).



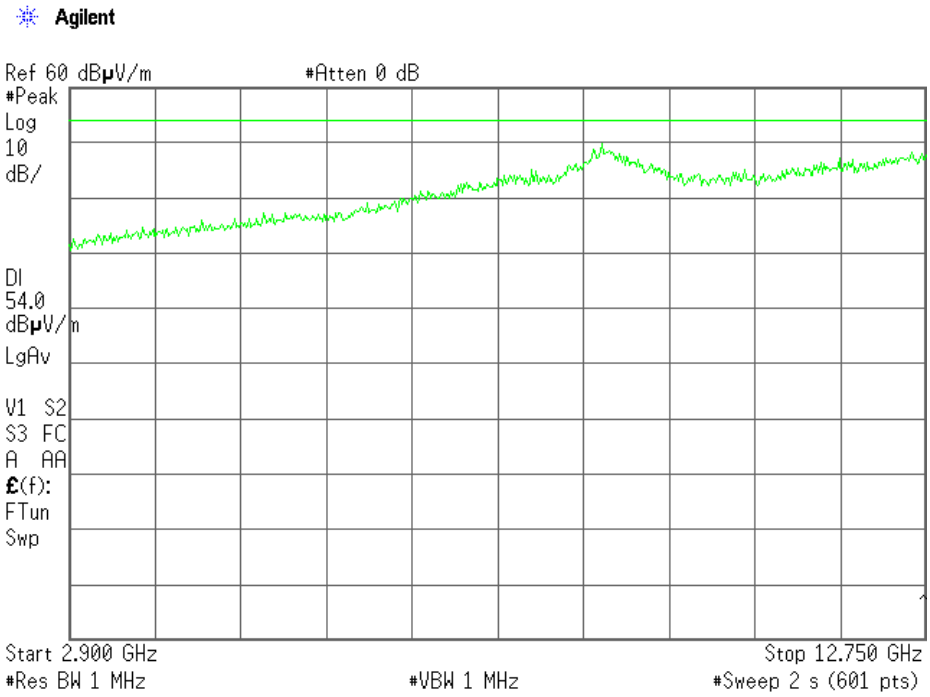
Note: The peak above the limit is the carrier frequency.

CHANNEL: Highest (2480 MHz).



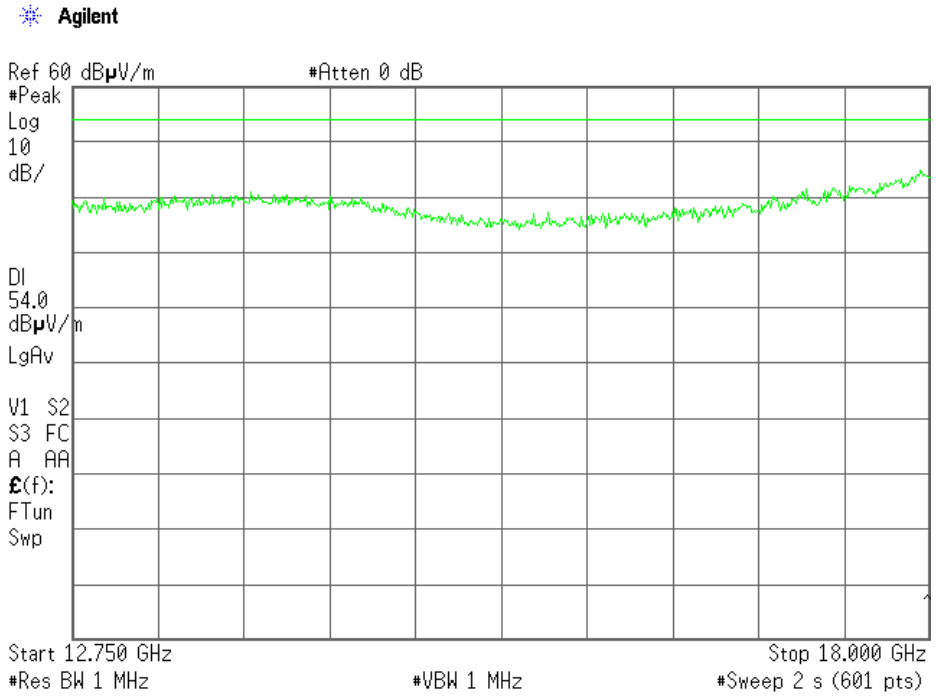
Note: The peak above the limit is the carrier frequency.

FREQUENCY RANGE 2.9 GHz to 12.75 GHz.



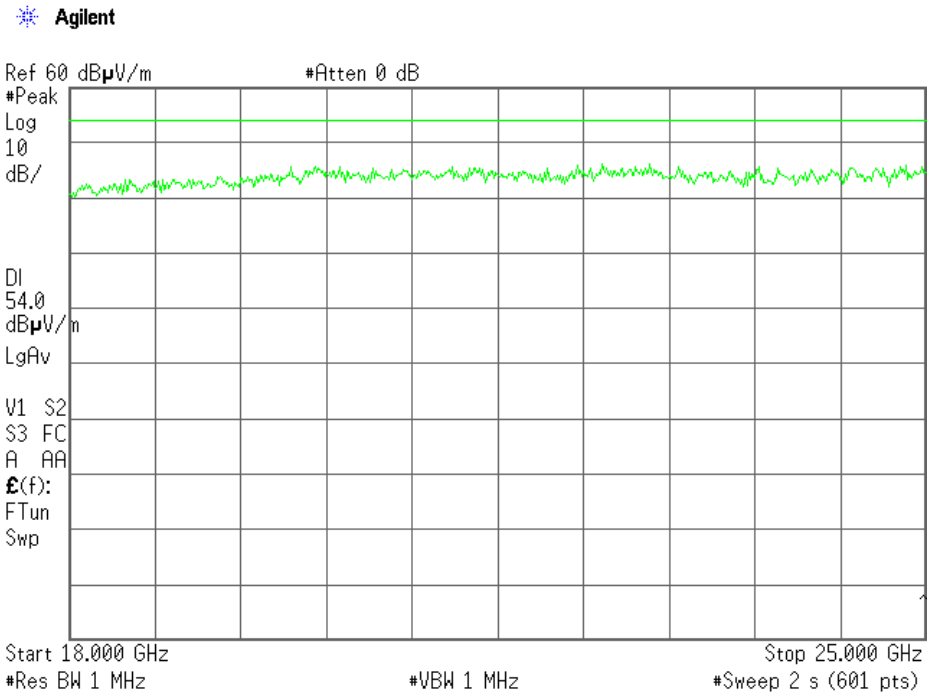
(This plot is valid for all three channels)

FREQUENCY RANGE 12.75 GHz to 18 GHz.



(This plot is valid for all three channels).

FREQUENCY RANGE 18 GHz to 25 GHz.



(This plot is valid for all three channels).

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 orientation of the equipment under test 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.

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.

Spurious levels closest to limit:

Spurious frequency (MHz)	Polarization	Detector	Emission Level (dBµV/m)	Uncertainty (dB)
33.8817	V	Quasi-peak	35.83	±3.8 dB
78.5972	V	Quasi-peak	33.98	±3.8 dB
86.3705	V	Quasi-peak	30.18	±3.8 dB
442.104	H	Quasi-peak	28.67	±3.8 dB
545.1303	V	Quasi-peak	27.68	±3.8 dB
572.3447	H	Quasi-peak	27.67	±3.8 dB
597.61523	H	Quasi-peak	32.01	±3.8 dB
624.8297	H	Quasi-peak	28.93	±3.8 dB
727.8557	H	Quasi-peak	30.53	±3.8 dB
755.0701	H	Quasi-peak	31.82	±3.8 dB
780.3407	H	Quasi-peak	33.66	±3.8 dB
805.6112	H	Quasi-peak	33.83	±3.8 dB
832.8256	H	Quasi-peak	33.86	±3.8 dB

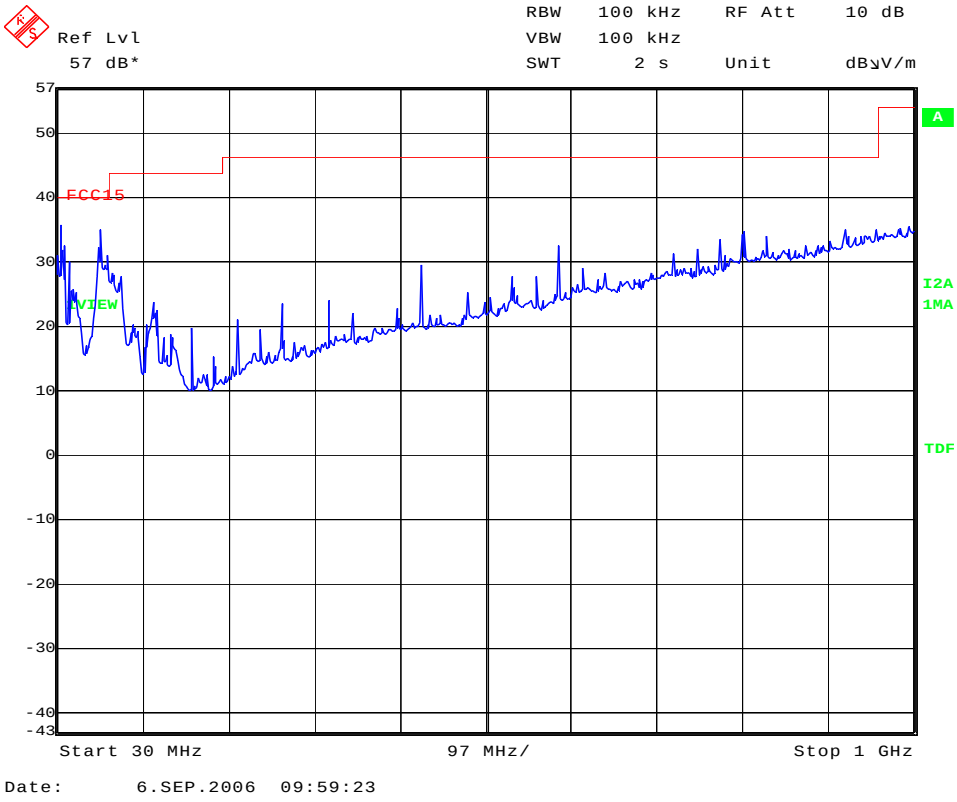
Frequency range 1 GHz-25 GHz.

No spurious signals were found in all the range.

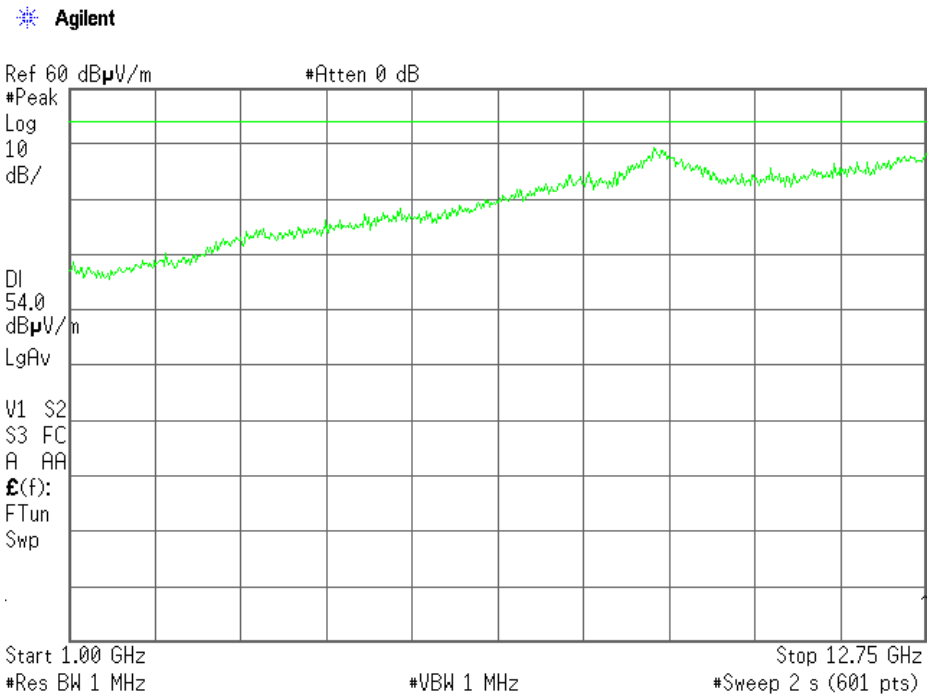
Additionally, no spurious signals were found inside the restricted bands 2310-2390 MHz and 2483.5-2500 MHz.

Verdict: PASS.

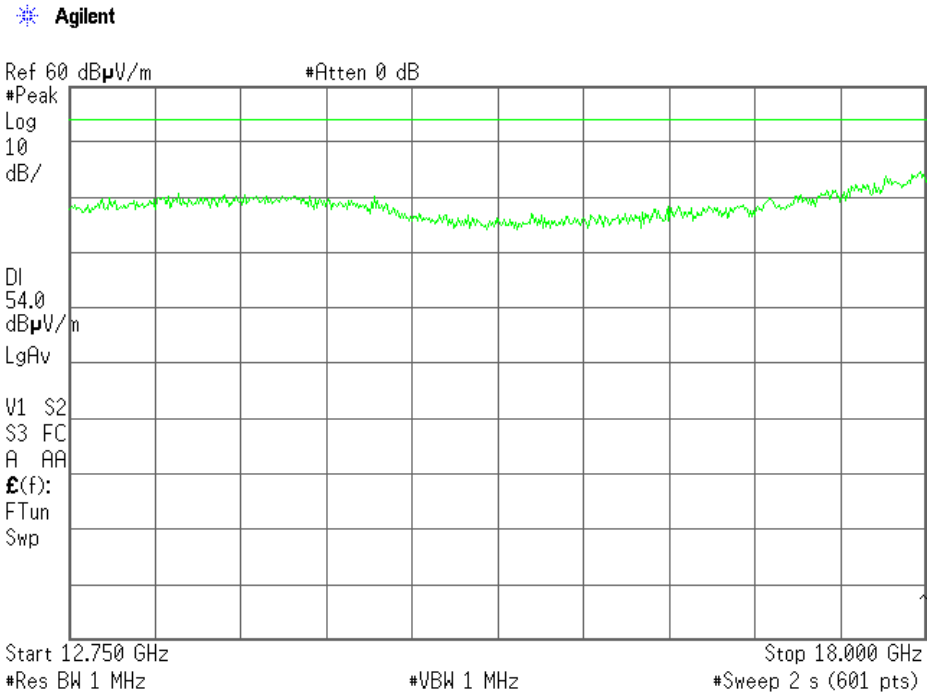
FREQUENCY RANGE 30 MHz-1000 MHz.



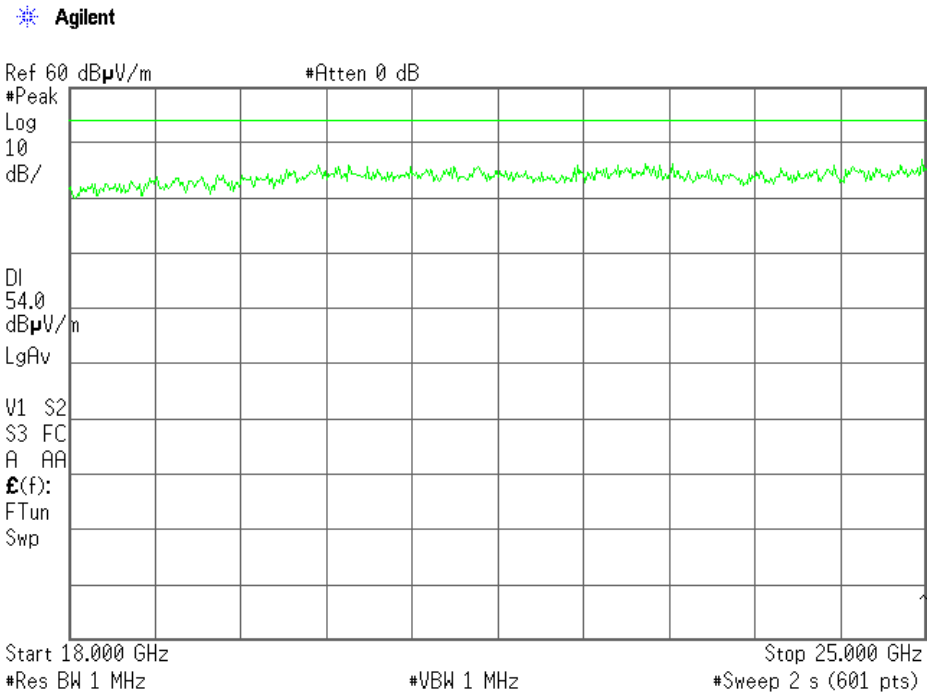
FREQUENCY RANGE 1 GHz-12.75 GHz.



FREQUENCY RANGE 12.75 GHz-18 GHz.



FREQUENCY RANGE 18 GHz-25 GHz.



ANNEX B

MEASURING RESULTS FOR

ELECTROMAGNETIC EMISSION

Report No: 24838RET.101

For the sample under test, named S/01, and that was formed by the elements described in the clause “Identification of the tested item/items” of this test report.

INDEX:

* * *

1. - CONTINUOUS CONDUCTED EMISSION, POWER LEADS ON THE SAMPLE S/01

LIMITS OF INTERFERENCE

The applied limit for continuous conducted emissions in power leads, according with the requirements of FCC Rules and Regulations 47 CFR Part 15, Subpart B in the frequency range 0,15 to 30 MHz, for Class B equipment was:

Frequency range (MHz)	Limit (dBµV)	
	Quasi-peak	Average
0,15 to 0,5	66-56	56-46
0,5 to 5	56	46
5 to 30	60	50

TEST METHOD

According to Part 15, Subpart B of FCC Rules.

OPERATING MODES OF EUT

Different tested operating modes (OM)

- OM#02: EUT ON. Transmission mode.

TEST RESULTS

CCmmnnxx: CC, Conduction condition; mm: sample number; nn: operation mode; xx: wire.

- OM#02.

CDmmnnxx	Description	Result
CC01020N	Interference voltage on Neutral wire	PASS
CC0102L1	Interference voltage on phase wire	PASS

2. - GRAPH RESULTS

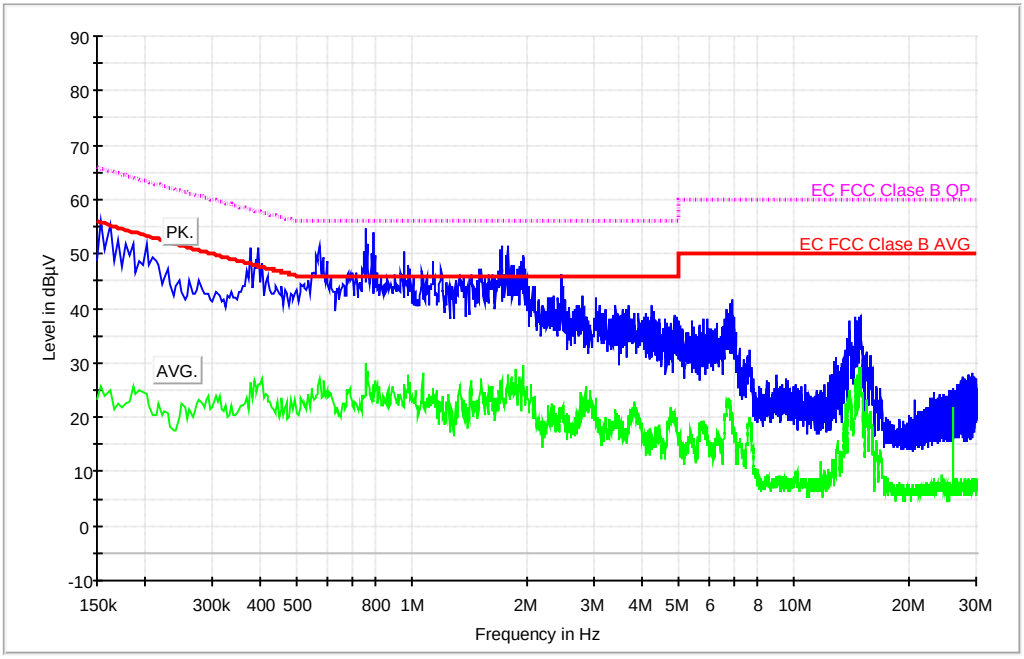
See next pages.

EMC32 Report

Test Information

Proyecto:	24838iem.002
Empresa:	Infineon
Muestra:	M/01
Modo operacion:	MO#02
Fecha:	2006-10-03 09:27
Setup:	EMI conducted
Mode:	EUT ON. Bluetooth transmition mode. Neutral wire noise.

EC FCC Clase B ESIB26 CC



Max PK

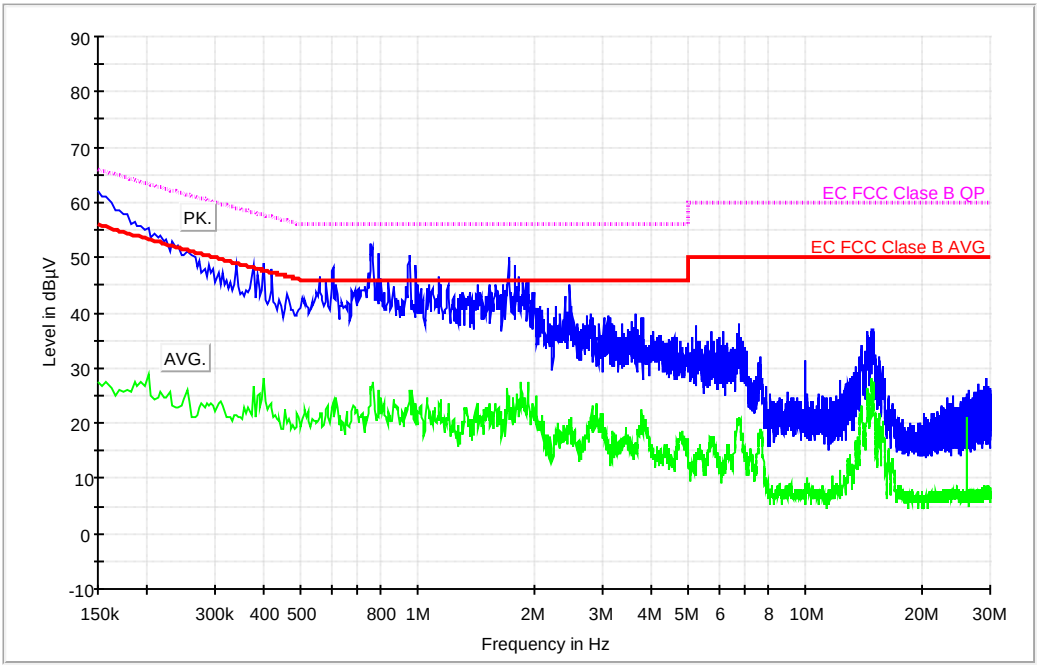
Frequency (MHz)	MaxPeak-ClearWrite (dBµV)	Average-ClearWrite (dBµV)
0.154000	56.1	25.7
0.378000	51.3	26.3
0.398000	51.1	25.9
0.574000	51.5	27.0
0.758000	54.5	30.1
0.766000	51.8	28.6
0.794000	53.9	25.9
0.802000	49.8	26.6
0.954000	50.5	26.0
1.714000	51.4	26.7
1.774000	50.6	26.2
1.790000	51.5	24.6
1.954000	49.3	28.4
1.962000	49.8	29.7

EMC32 Report

Test Information

Proyecto:	24838iem.002
Empresa:	Infineon
Muestra:	M/01
Modo operacion:	MO#02
Fecha:	2006-10-03 09:28
Setup:	EMI conducted
Mode:	EUT ON. Bluetooth transmition mode. Phase wire noise.

EC FCC Clase B ESIB26 CC



Max PK

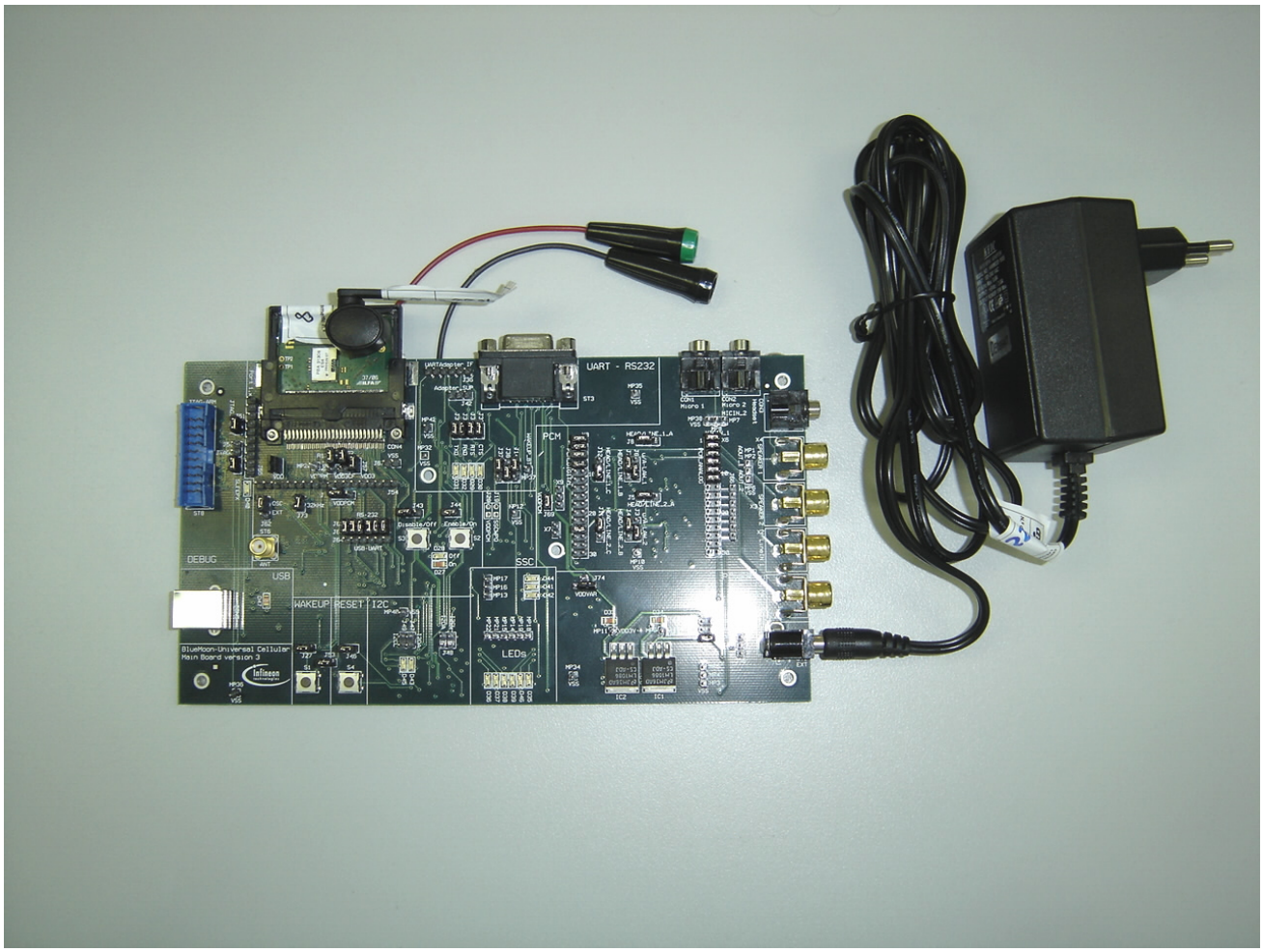
Frequency (MHz)	MaxPeak-ClearWrite (dBµV)	Average-ClearWrite (dBµV)
0.150000	61.9	27.5
0.402000	49.2	28.3
0.422000	48.0	22.9
0.606000	48.2	23.8
0.758000	52.6	26.9
0.794000	50.9	26.2
0.958000	50.3	25.9
0.994000	48.6	23.4
1.142000	46.7	23.5
1.594000	45.2	22.6
1.726000	50.2	24.3
1.786000	48.7	22.4
1.938000	45.9	25.1
2.478000	45.1	19.4

ANNEX C

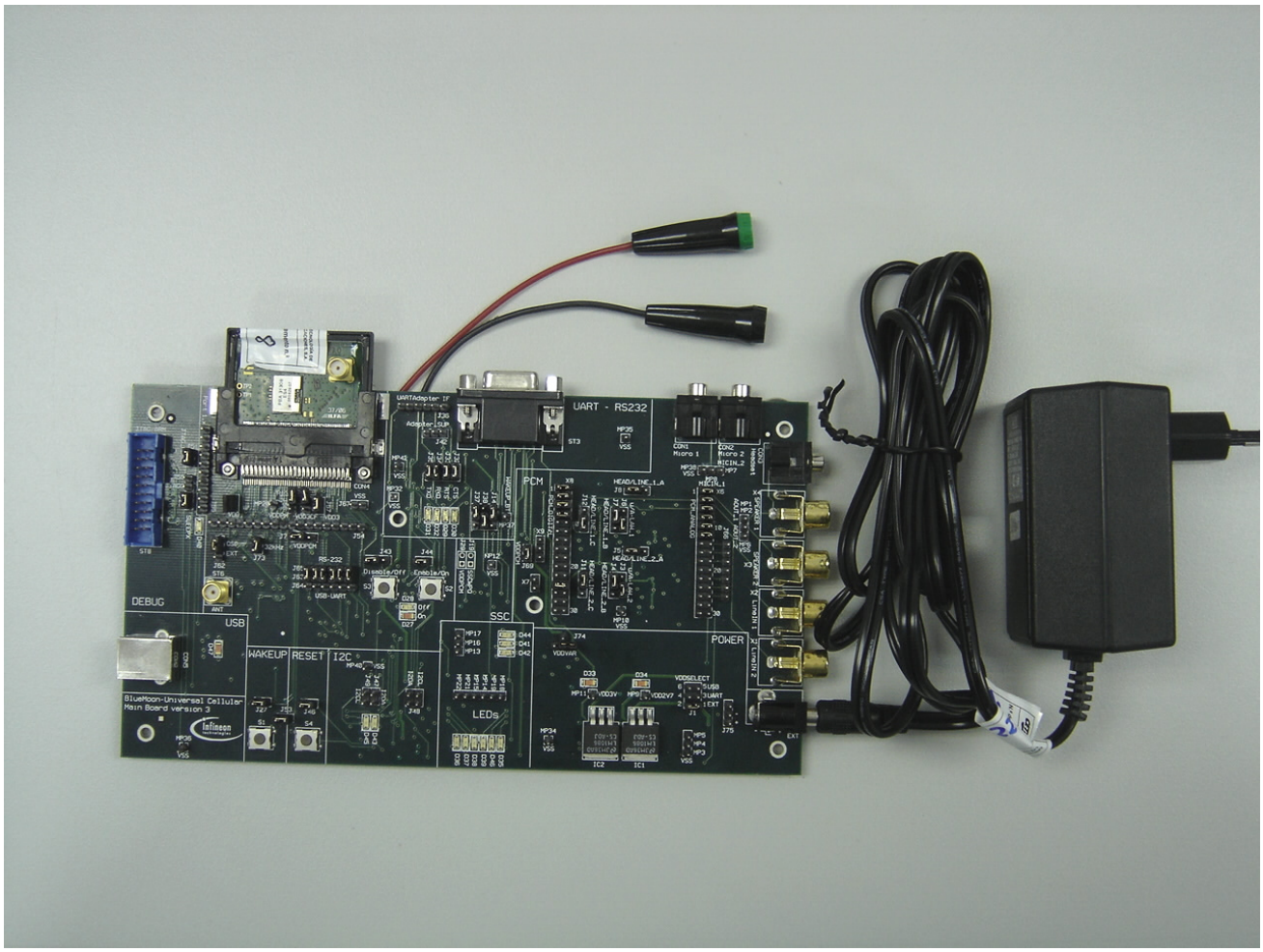
PHOTOGRAPHS
(Number of photographs: 7)

Report No.: 24838RET.101

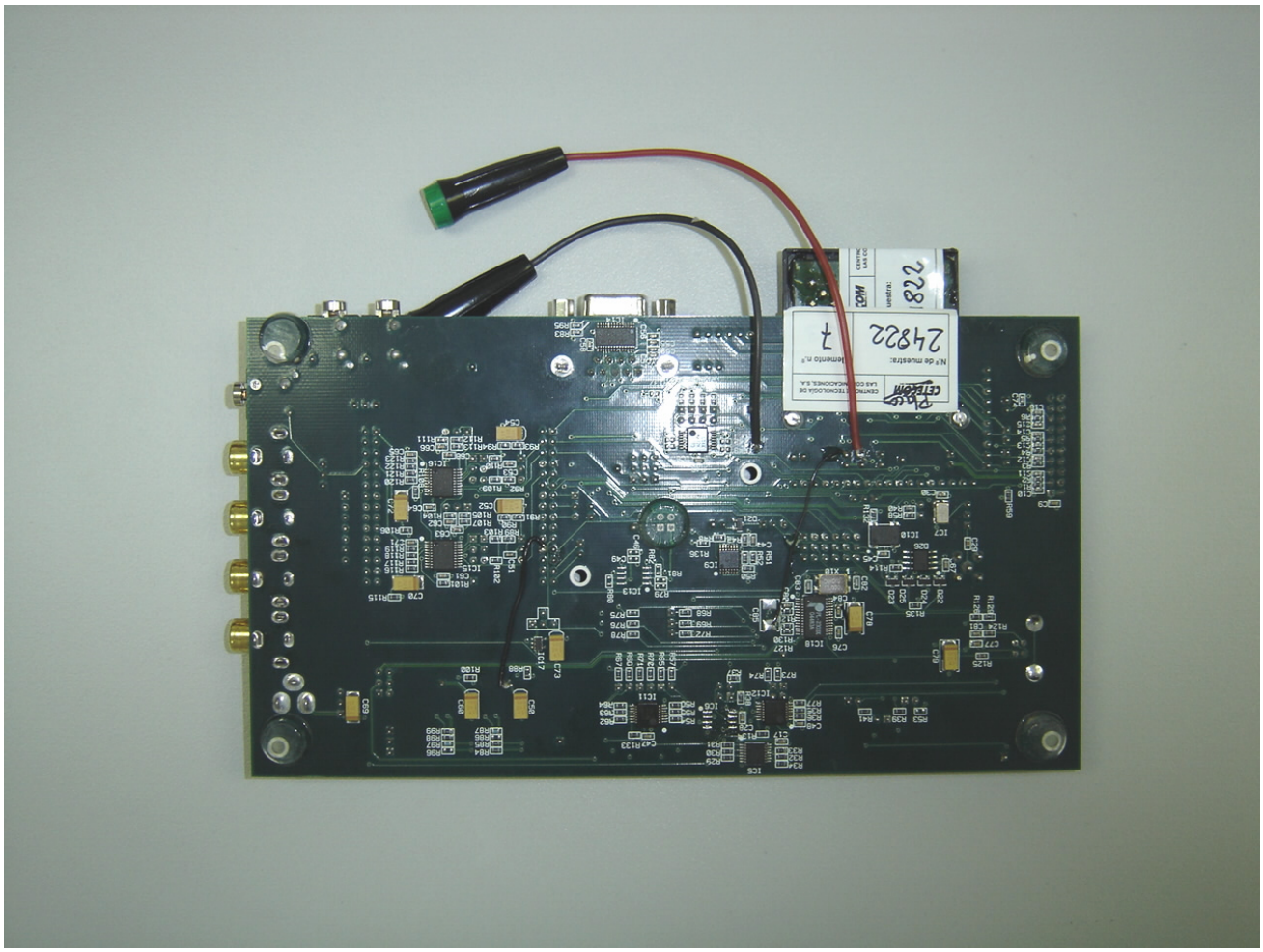
1. Equipment for radiated measurements with the evaluation board (front view)



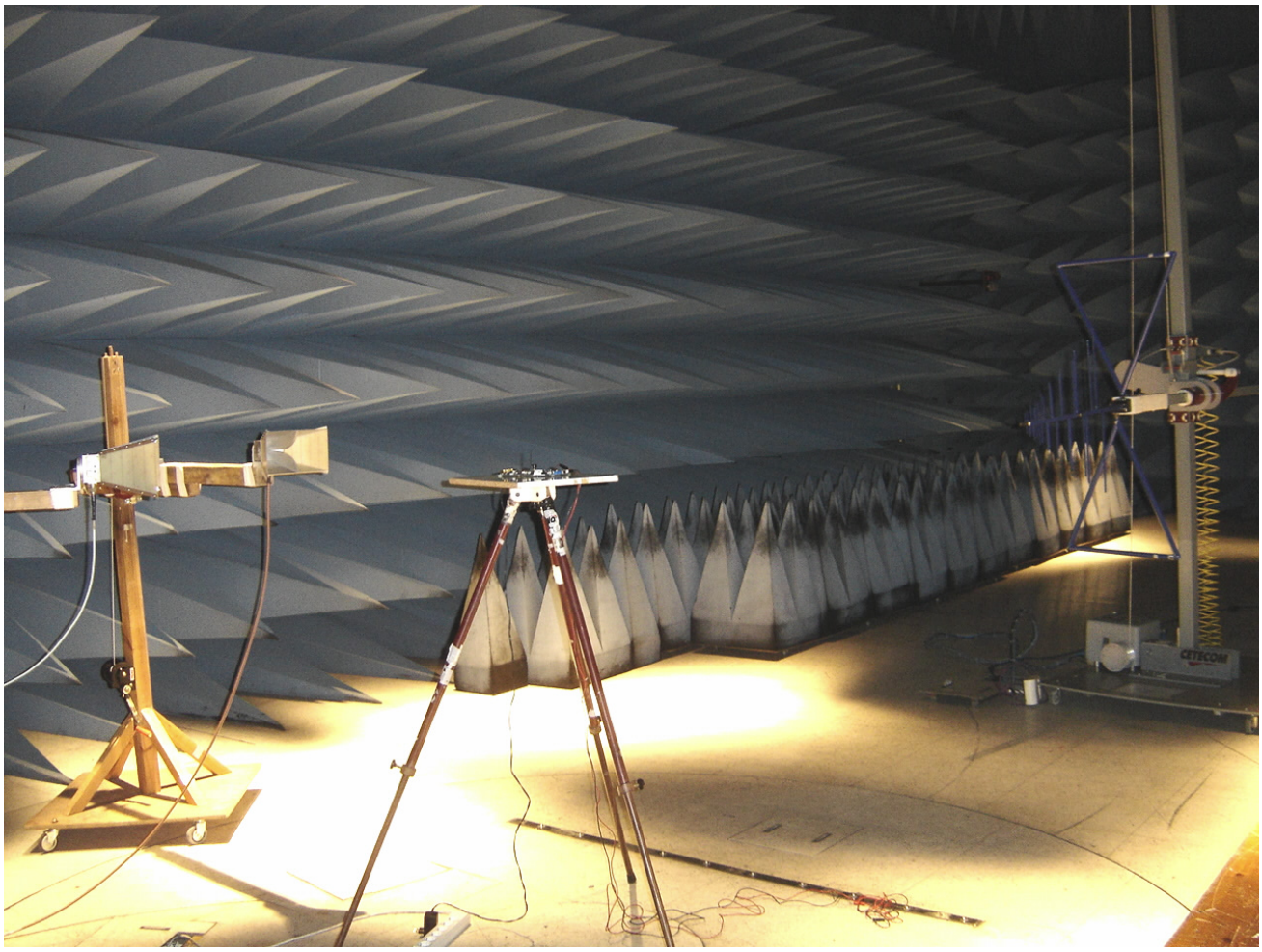
2. Equipment for conducted measurements with the evaluation board (front view)



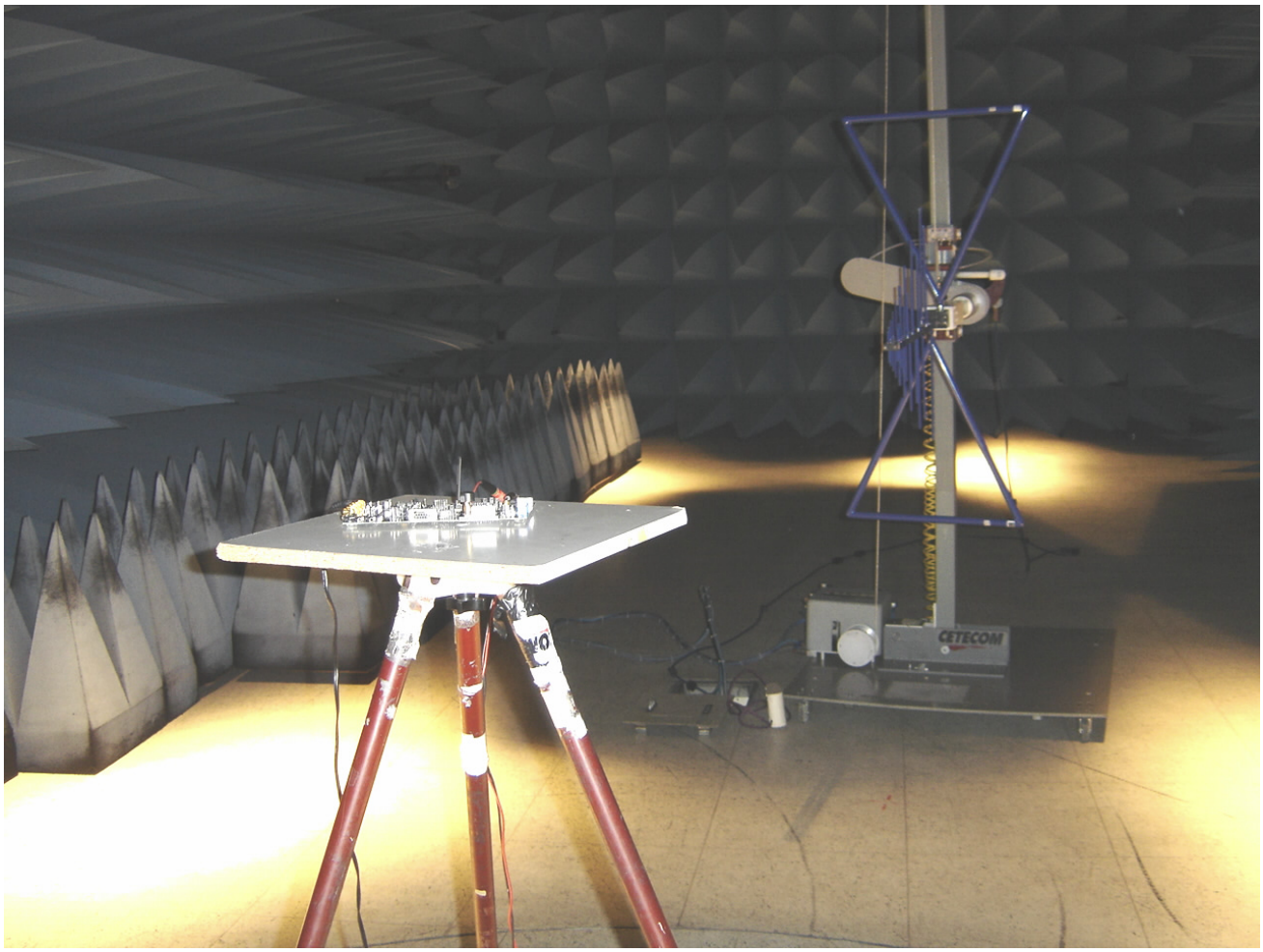
3. Equipment with the evaluation board (back view)



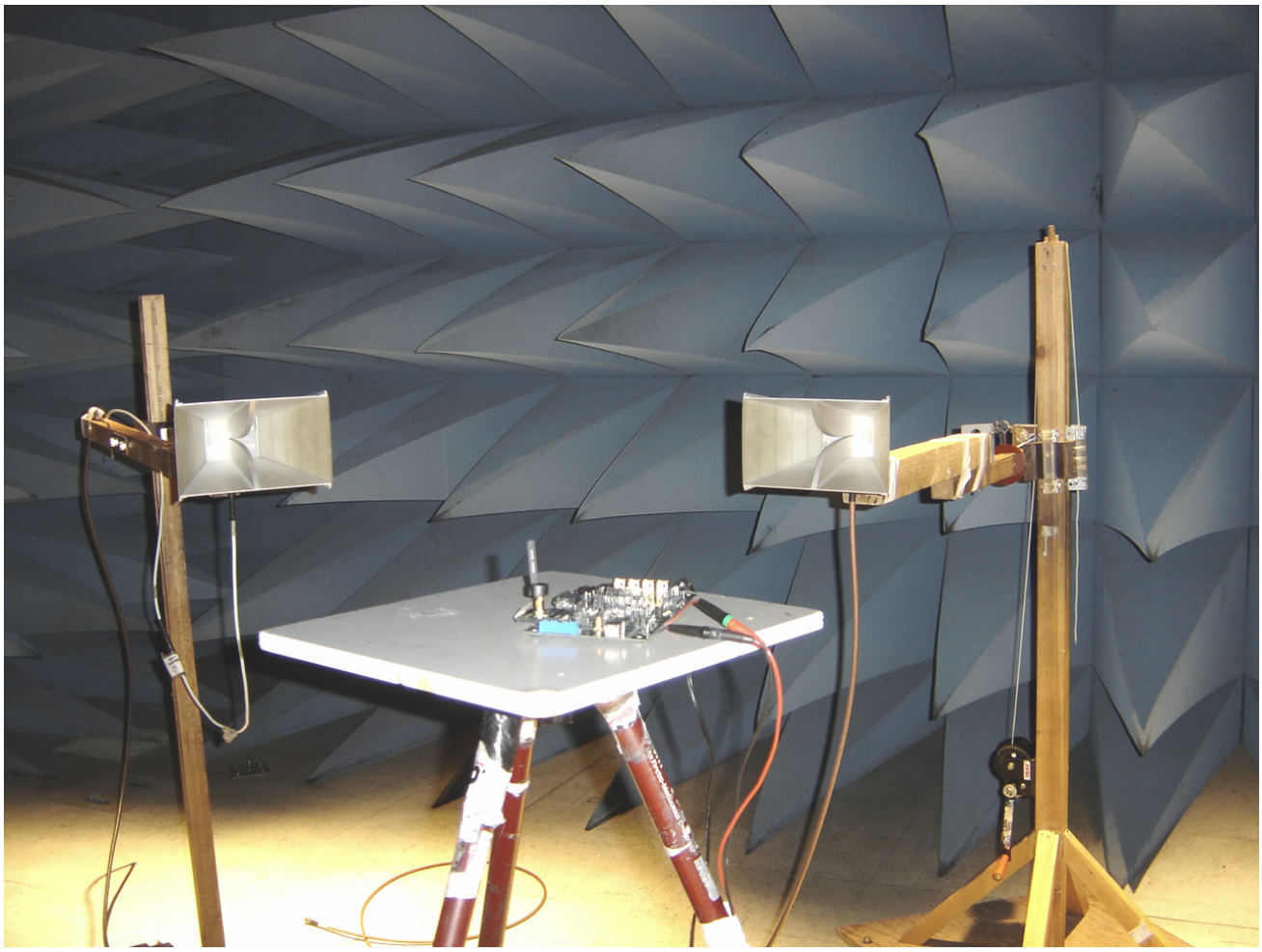
4. General test set-up for radiated measurements.



5. Test set-up for radiated measurements below 1 GHz.



6. Test set-up for radiated measurements above 1 GHz.



7. Test set-up for RF conducted measurements.