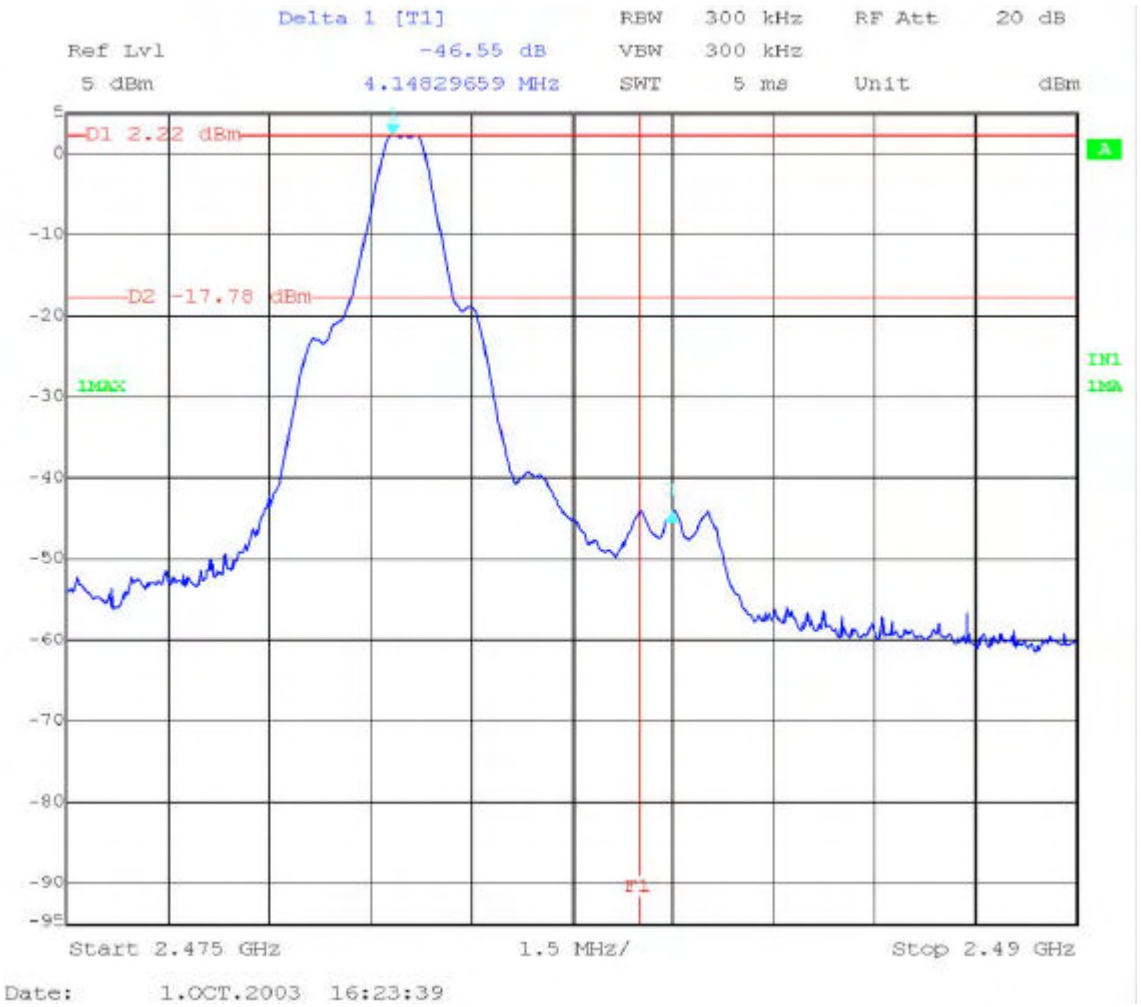
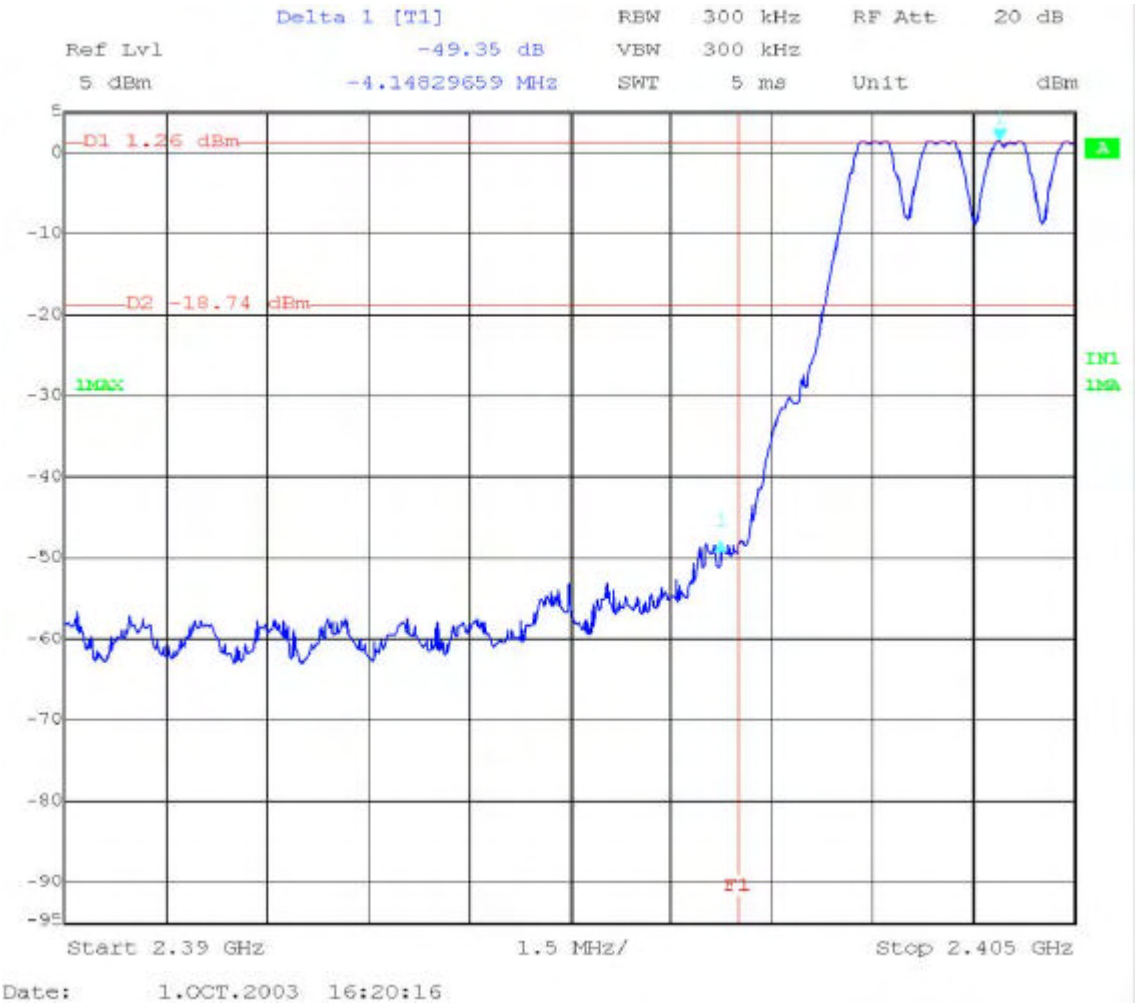
2. HIGH FREQUENCY SECTION 2480 MHz (HOPPING OFF). See next plot.



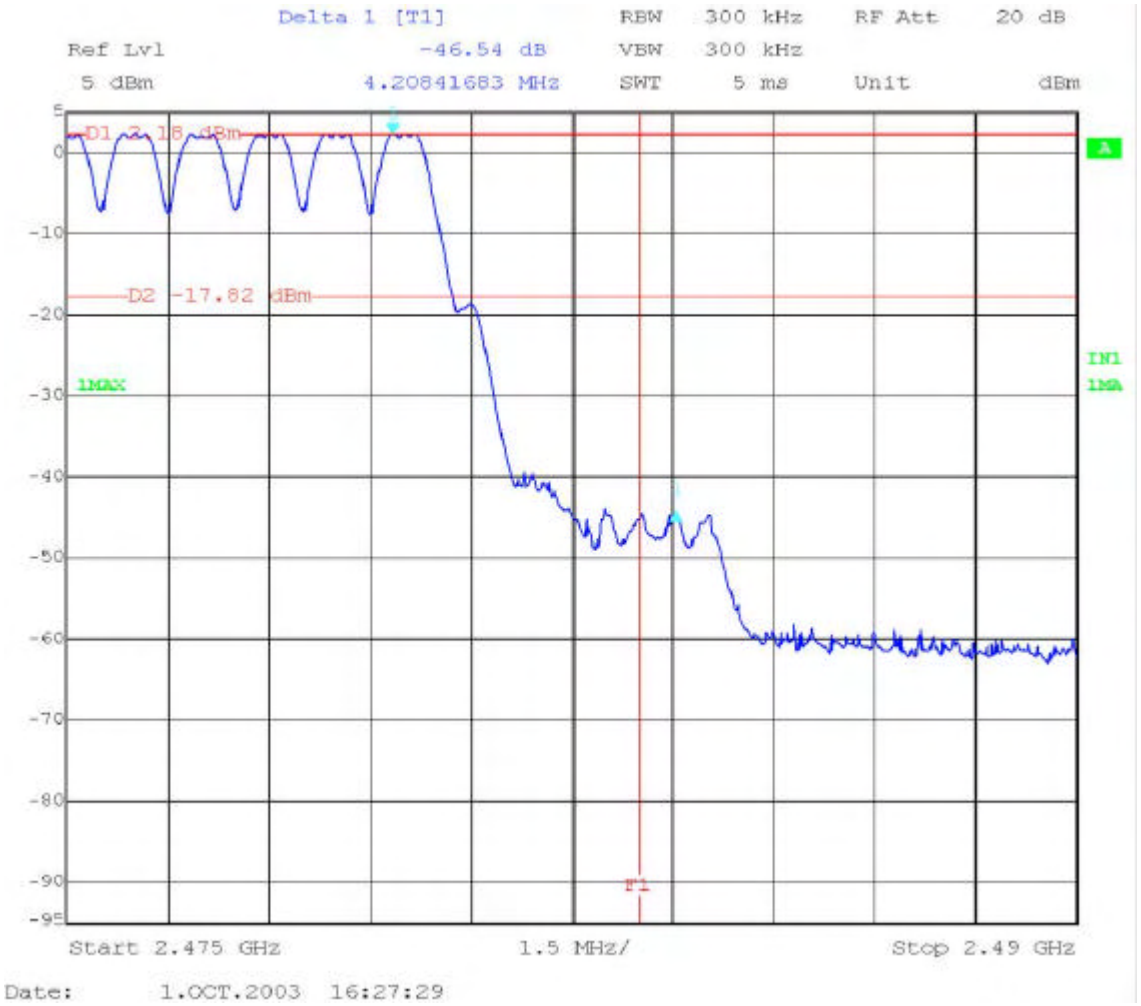
Verdict: PASS

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



Verdict: PASS

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



Verdict: PASS

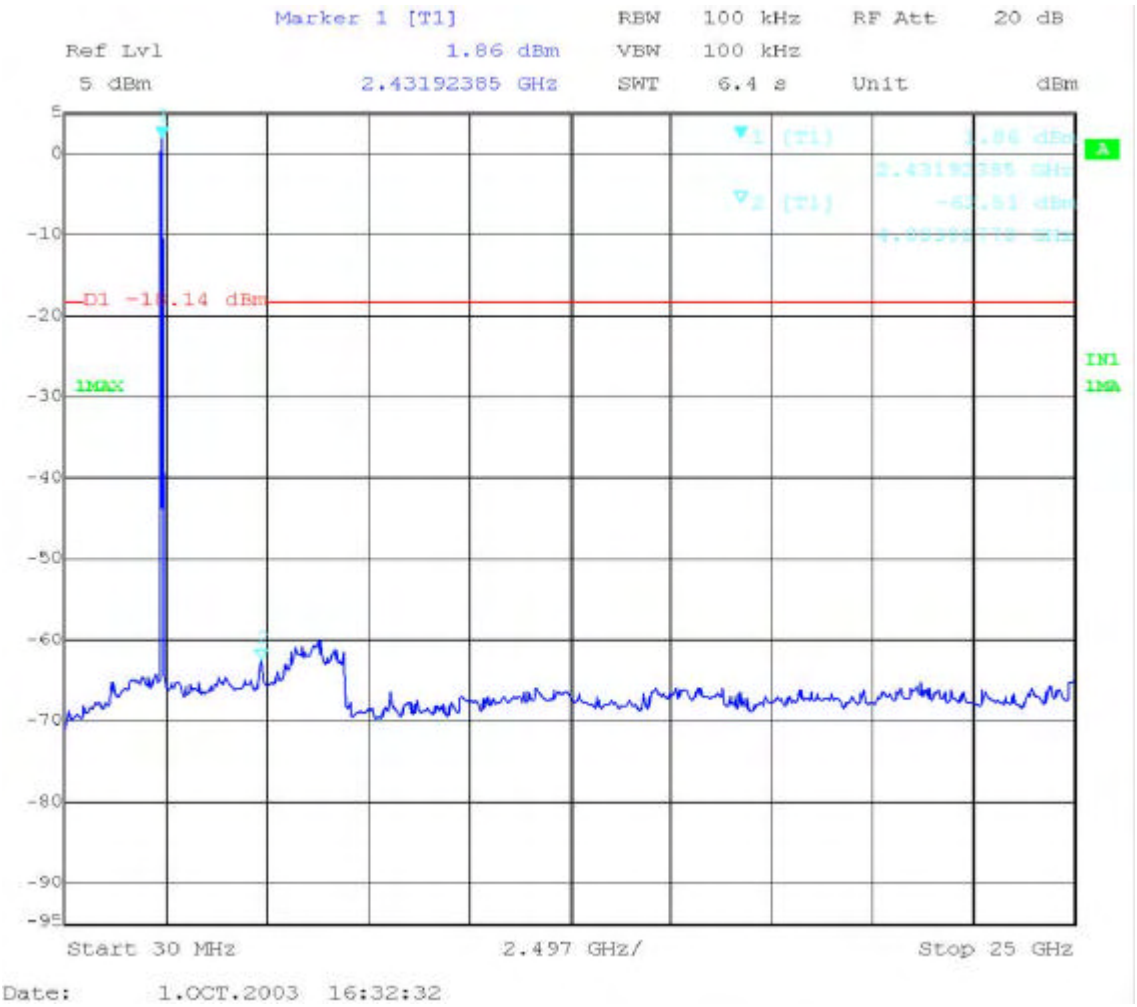
Section 15.247 Subclause (c). Emission limitations conducted (Transmitter)

SPECIFICATION

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

RESULTS:

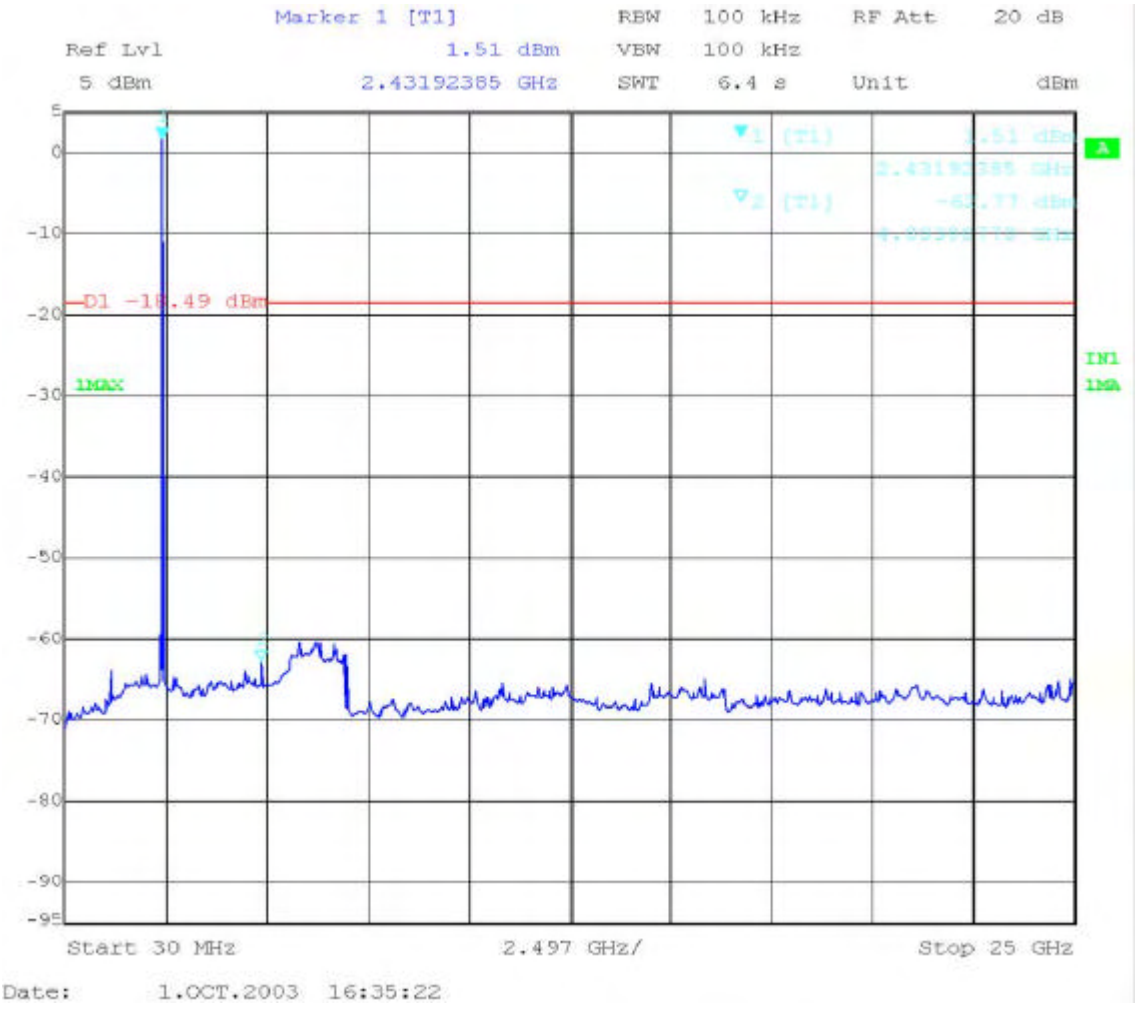
1. LOWEST CHANNEL (2402 MHz): 30 MHz-25 GHz (see next plot).



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

Verdict: PASS

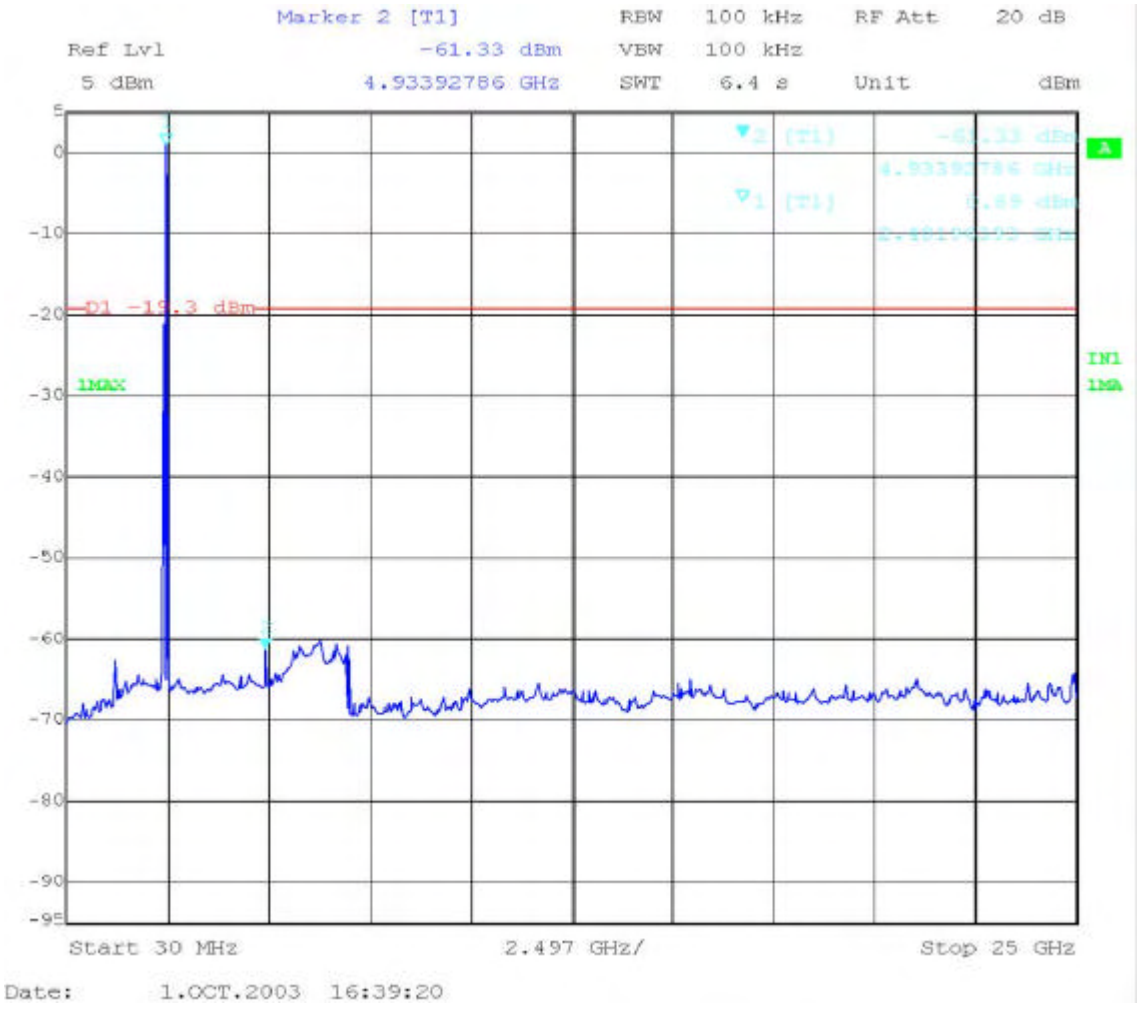
2. MIDDLE CHANNEL (2441 MHz): 30 MHz-25 GHz (see next plot).



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

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 (c). 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 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.

1. TRANSMITTER OPERATING IN CHANNEL: LOWEST (2402 MHz).

Frequency range 30 MHz-1000 MHz.

No spurious signals found.

Frequency range 1 GHz-25 GHz.

Spurious frequency (MHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
1201.52101	Horizontal	Peak	36.20	±4.0
1201. 52101	Horizontal	Average	34.66	±4.0

No spurious signals found at the harmonics frequencies and inside the restricted bands 2310-2390 MHz and 2483.5-2500 MHz

Verdict: PASS.

2. TRANSMITTER OPERATING IN CHANNEL: MIDDLE (2441 MHz).

Frequency range 30 MHz-1000 MHz.

No spurious signals found.

Frequency range 1 GHz-25 GHz.

Spurious frequency (MHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
1220.84168	Horizontal	Peak	37.48	±4.0
1220.84168	Horizontal	Average	35.81	±4.0

No spurious signals found at the harmonics frequencies and inside the restricted bands 2310-2390 MHz and 2483.5-2500 MHz

Verdict: PASS.

3. TRANSMITTER OPERATING IN CHANNEL: HIGHEST (2480 MHz).

Frequency range 30 MHz-1000 MHz.

No spurious signals found.

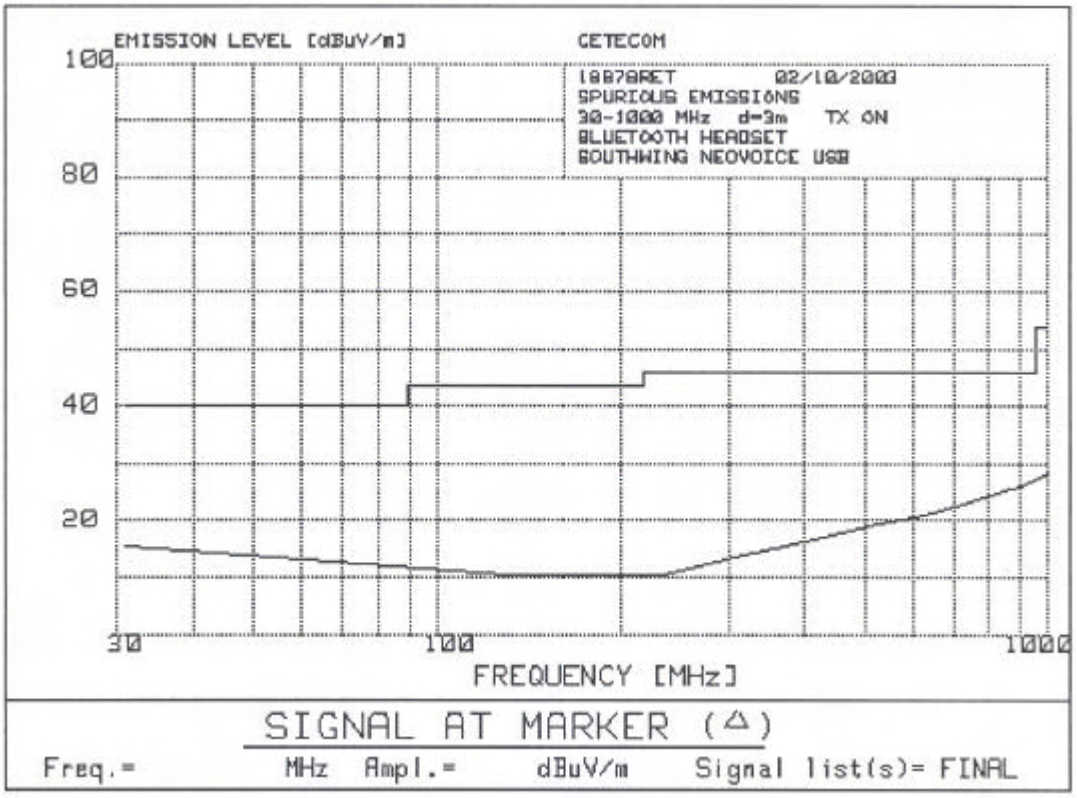
Frequency range 1 GHz-25 GHz.

Spurious frequency (MHz)	Polarization	Detector	Emission Level (dBµV/m)	Measurement Uncertainty (dB)
1239.87976	Horizontal	Peak	37.69	±4.0
1239.87976	Horizontal	Average	36.53	±4.0

No spurious signals found at the harmonics frequencies and inside the restricted bands 2310-2390 MHz and 2483.5-2500 MHz

Verdict: PASS.

FREQUENCY RANGE 30 MHz-1000 MHz.

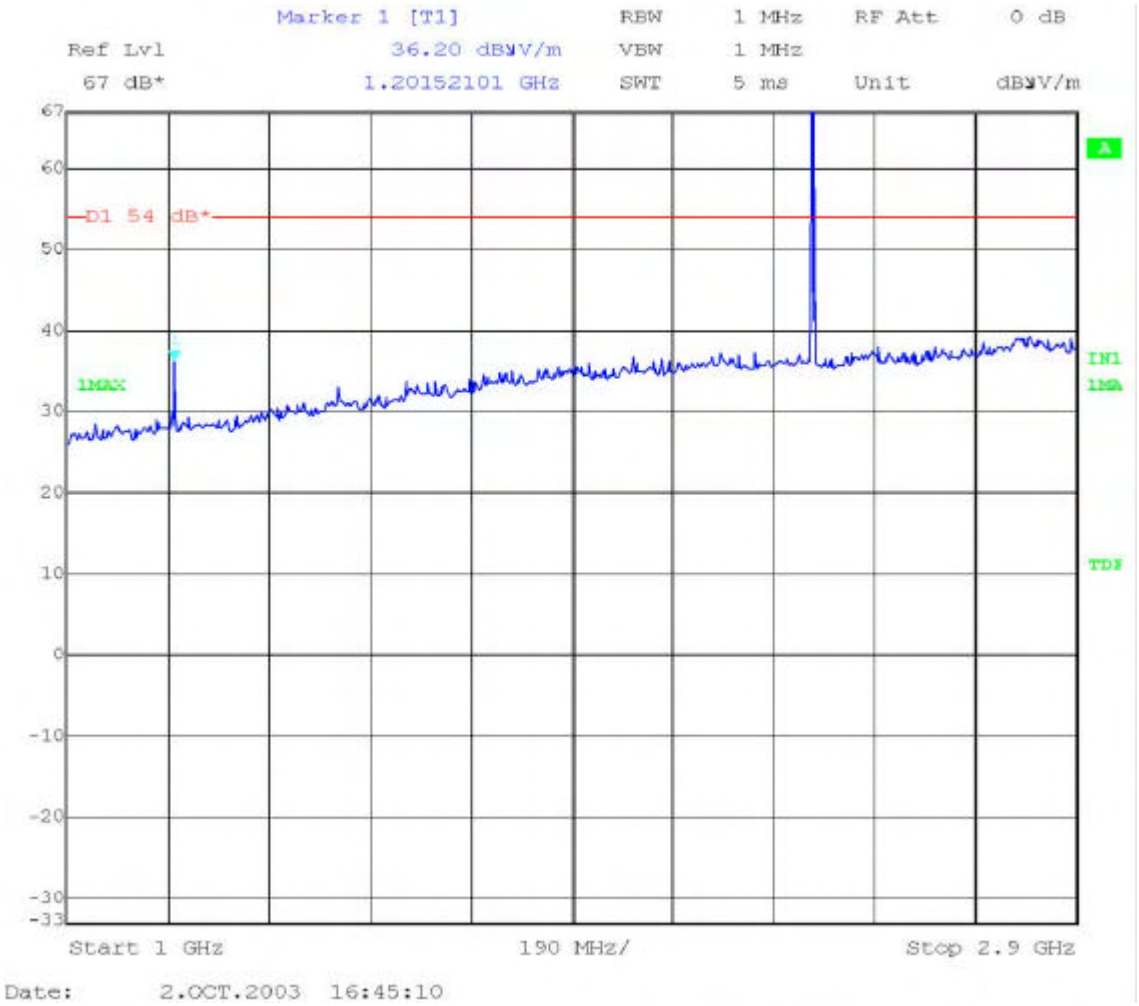


Resolution bandwidth = 100 kHz.
Video bandwidith = 100 kHz.

(This plot is valid for all three channels).

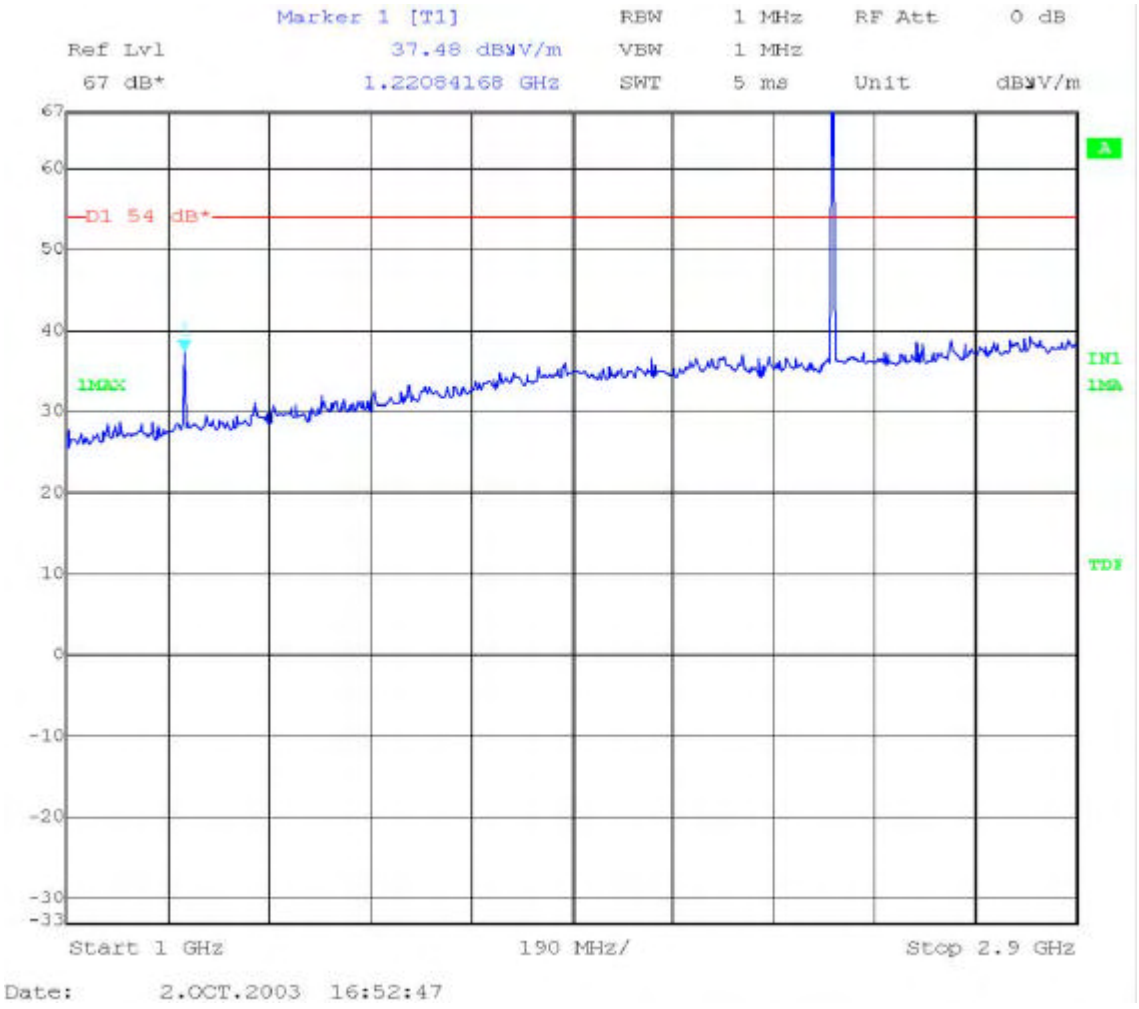
FREQUENCY RANGE 1 GHz to 2.9 GHz.

CHANNEL: Lowest (2402 MHz).



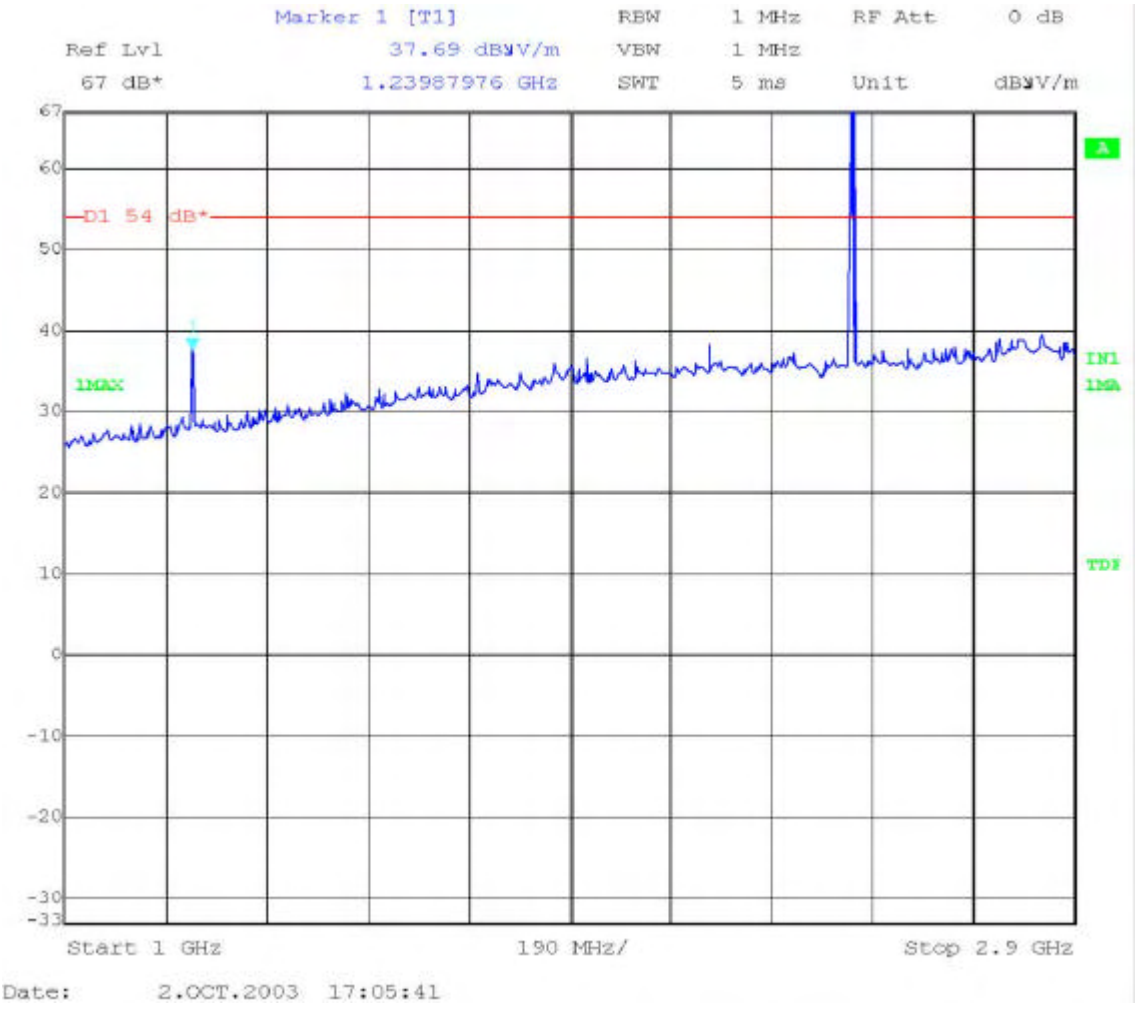
Note: The peak above the limit is the carrier frequency.

CHANNEL: Middle (2441 MHz).



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

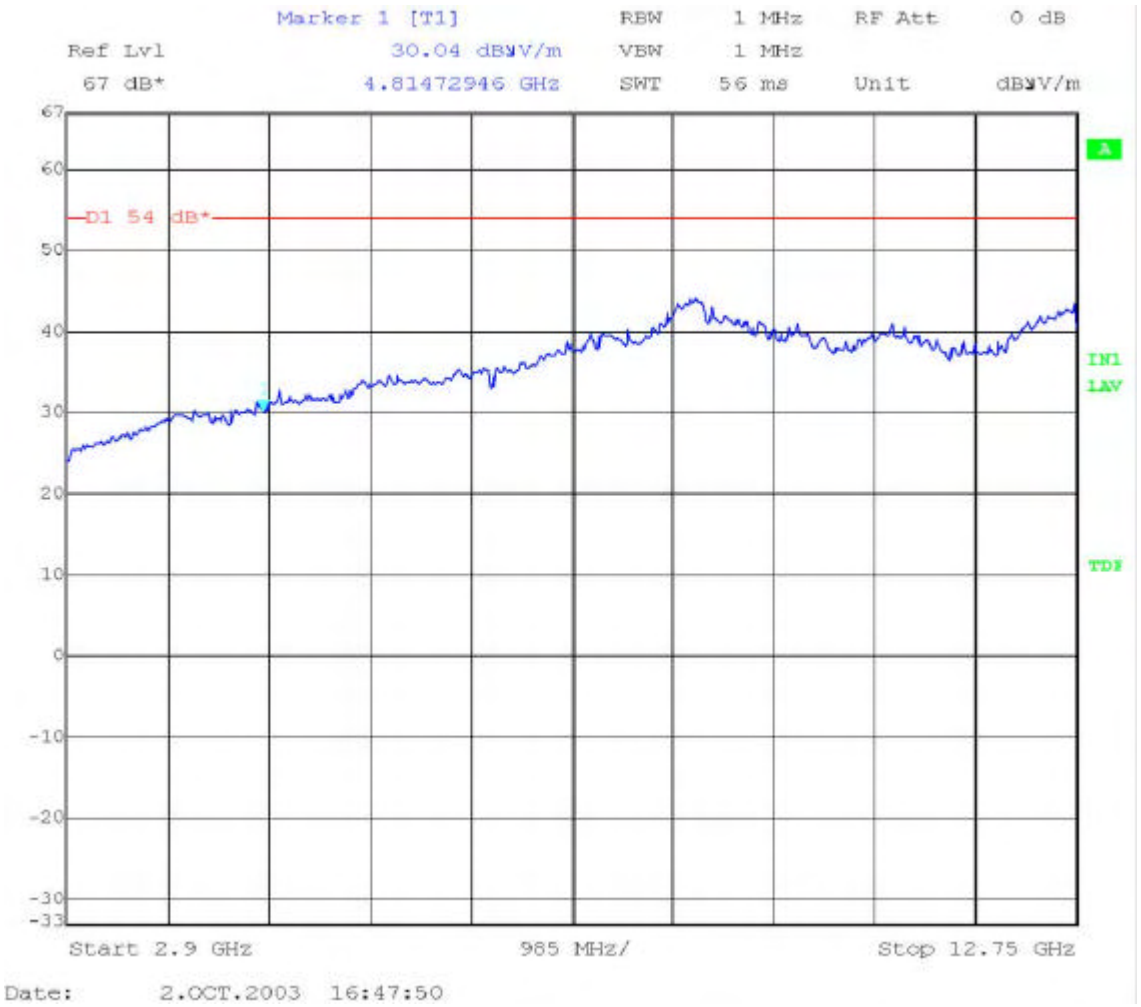
CHANNEL: Highest (2480 MHz).



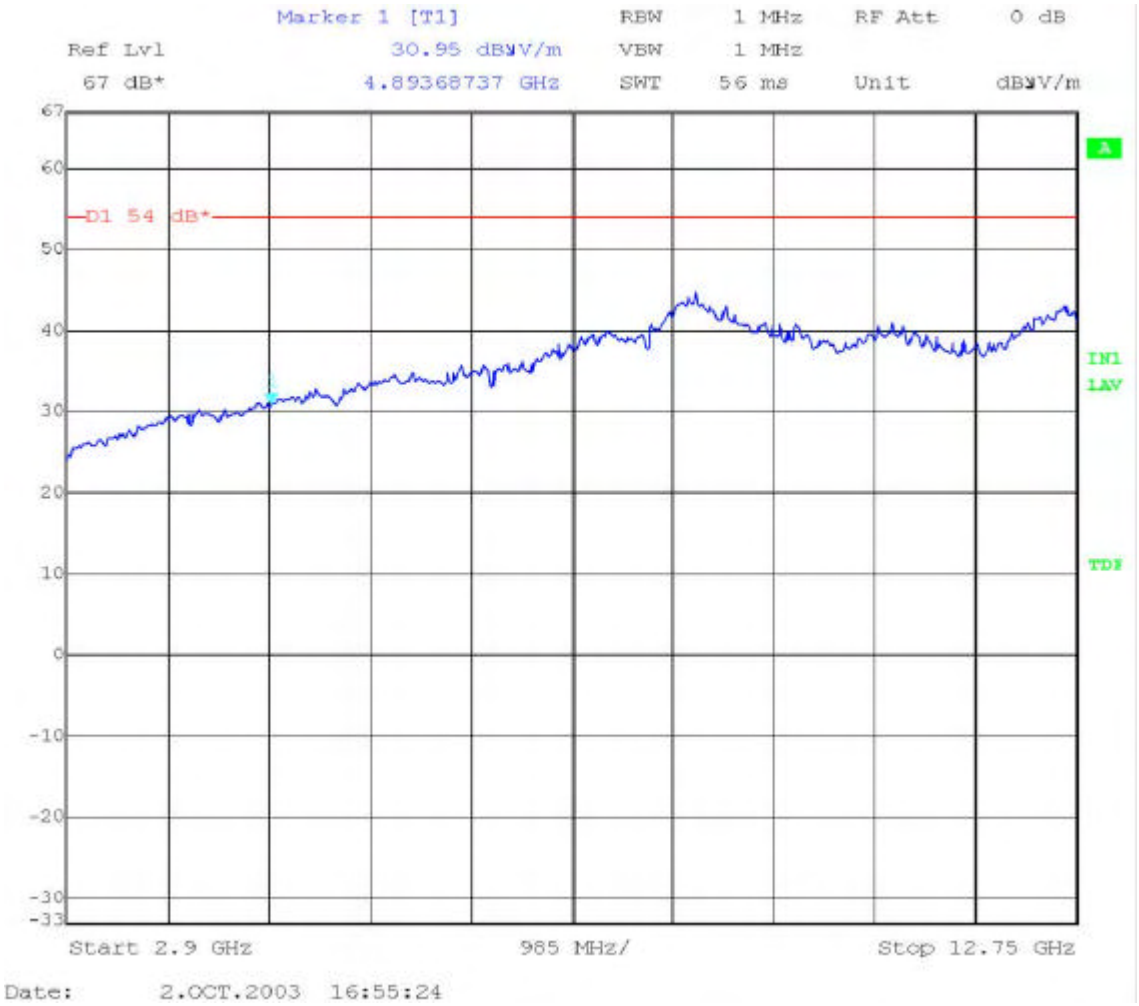
Note: The peak above the limit is the carrier frequency.

FREQUENCY RANGE 2.9 GHz to 12.75 GHz.

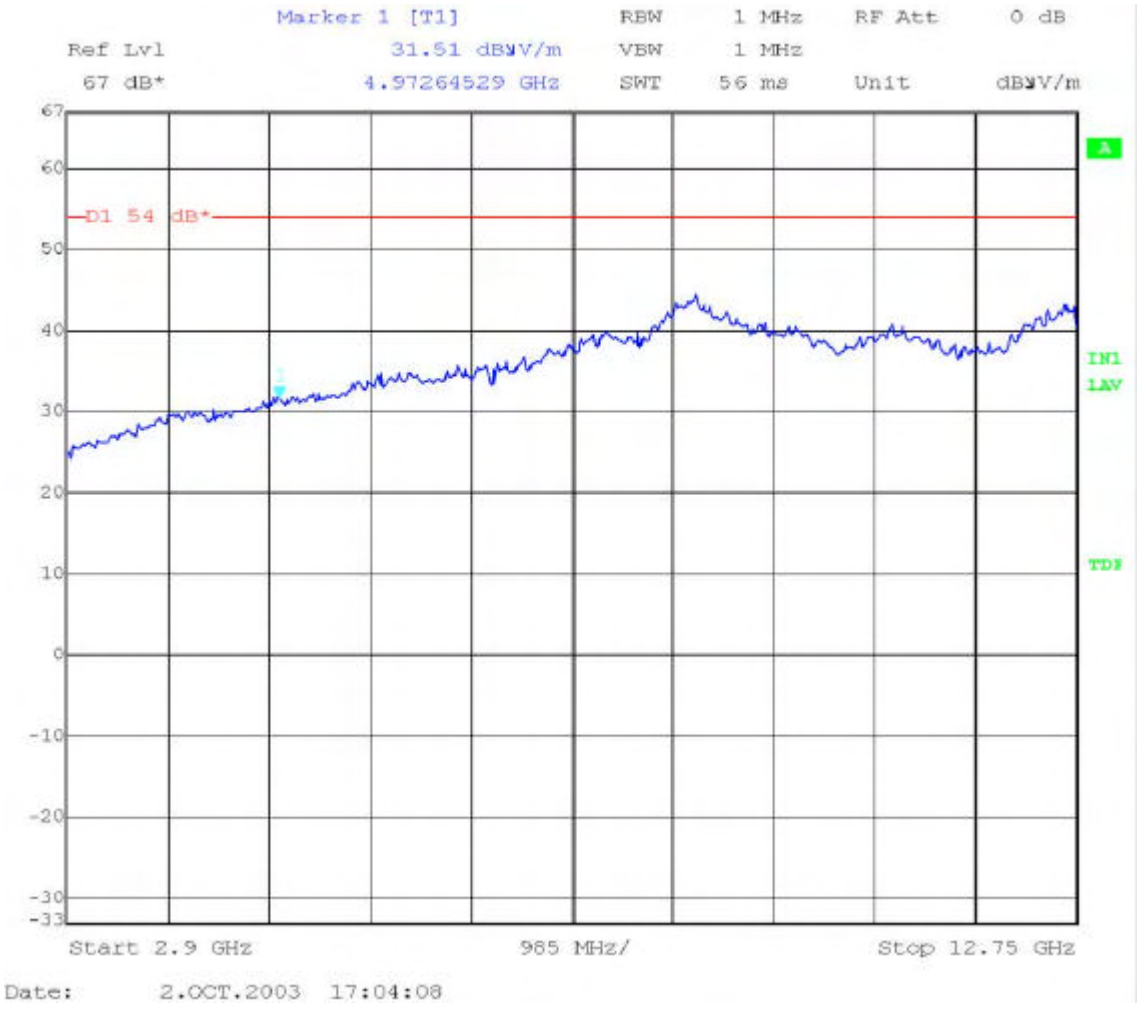
CHANNEL: Lowest (2402 MHz).



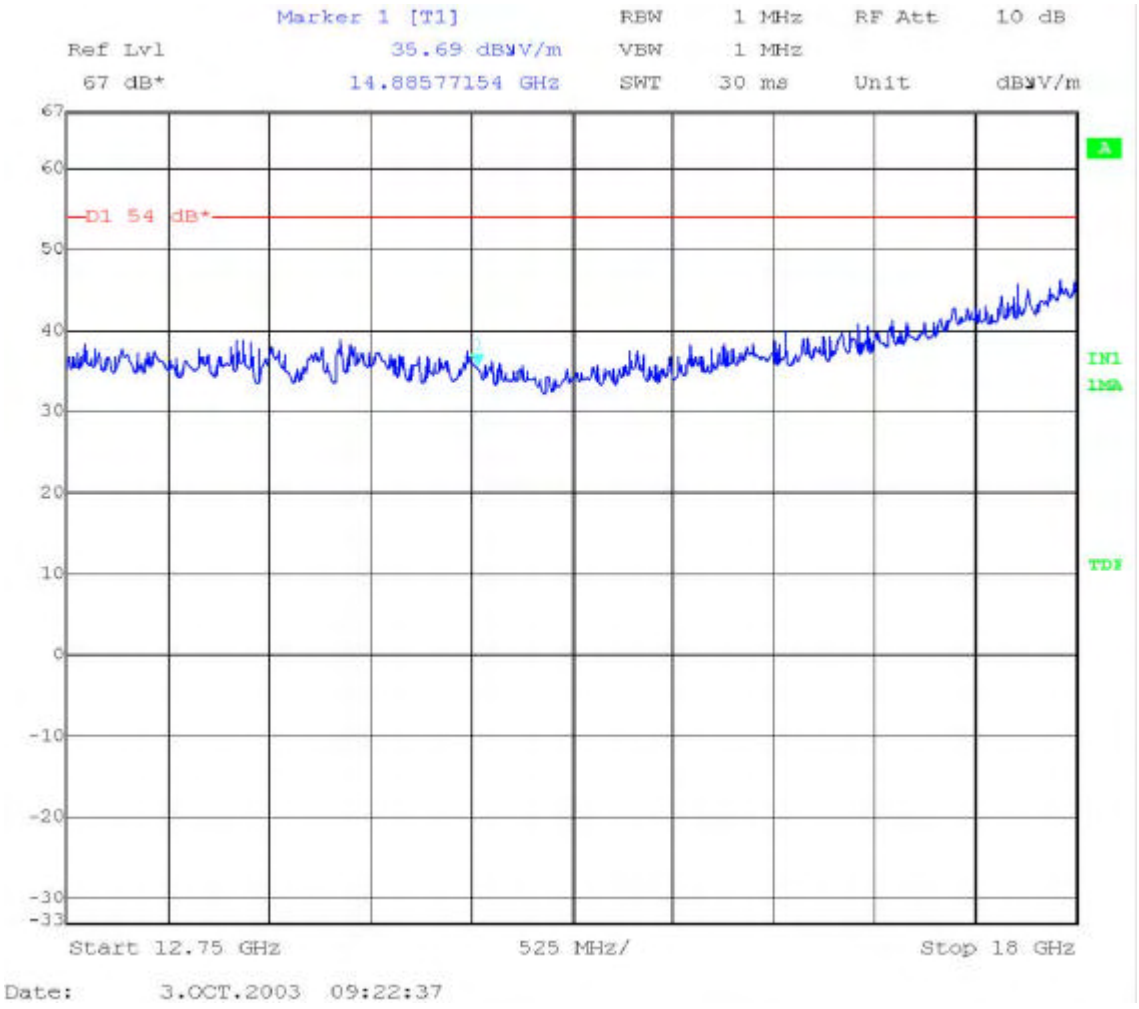
CHANNEL: Middle (2441 MHz).



CHANNEL: Highest (2480 MHz).

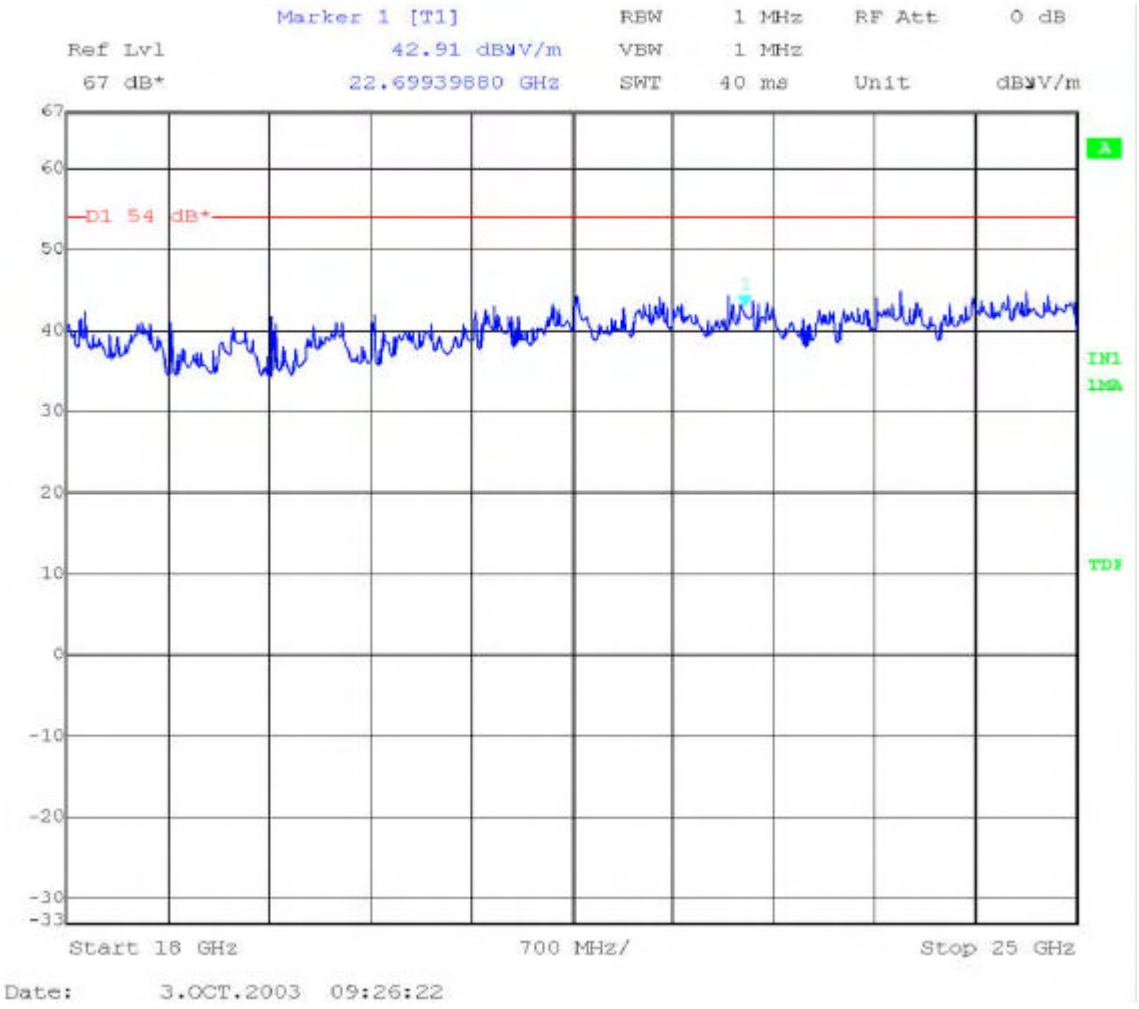


FREQUENCY RANGE 12.75 GHz to 18 GHz.



(This plot is valid for all three channels).

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 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 strenght 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.

Frequency range 30 MHz-1000 MHz.

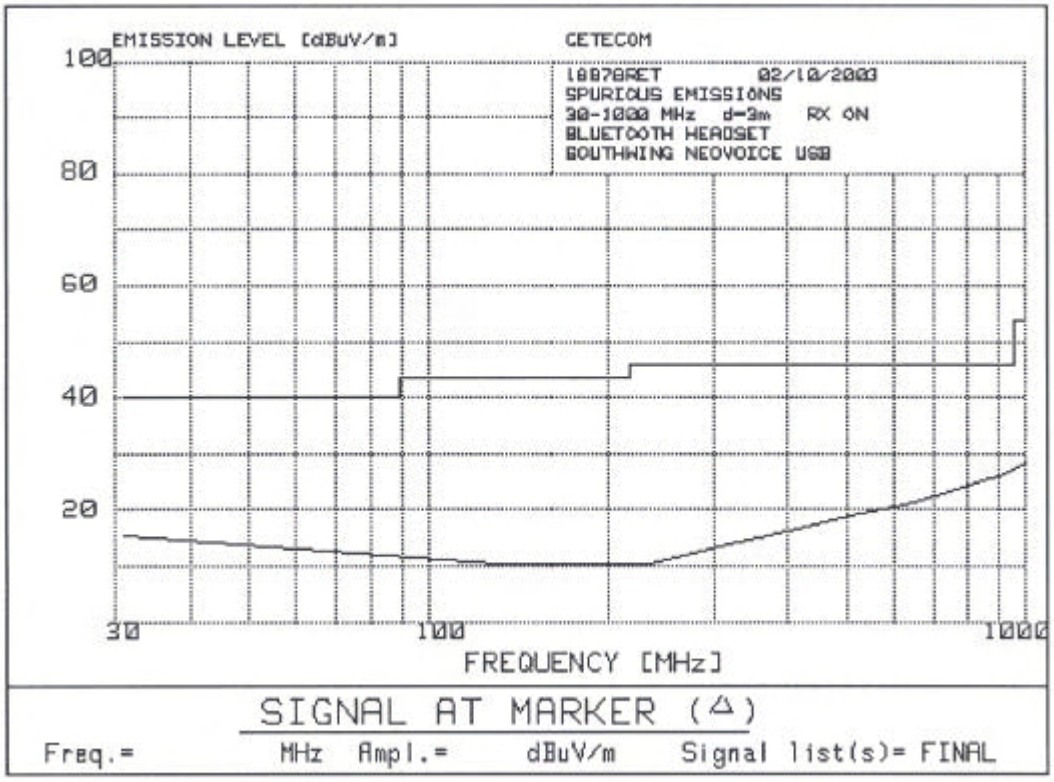
No spurious signals found.

Frequency range 1 GHz-25 GHz.

No spurious signals found.

Verdict: PASS

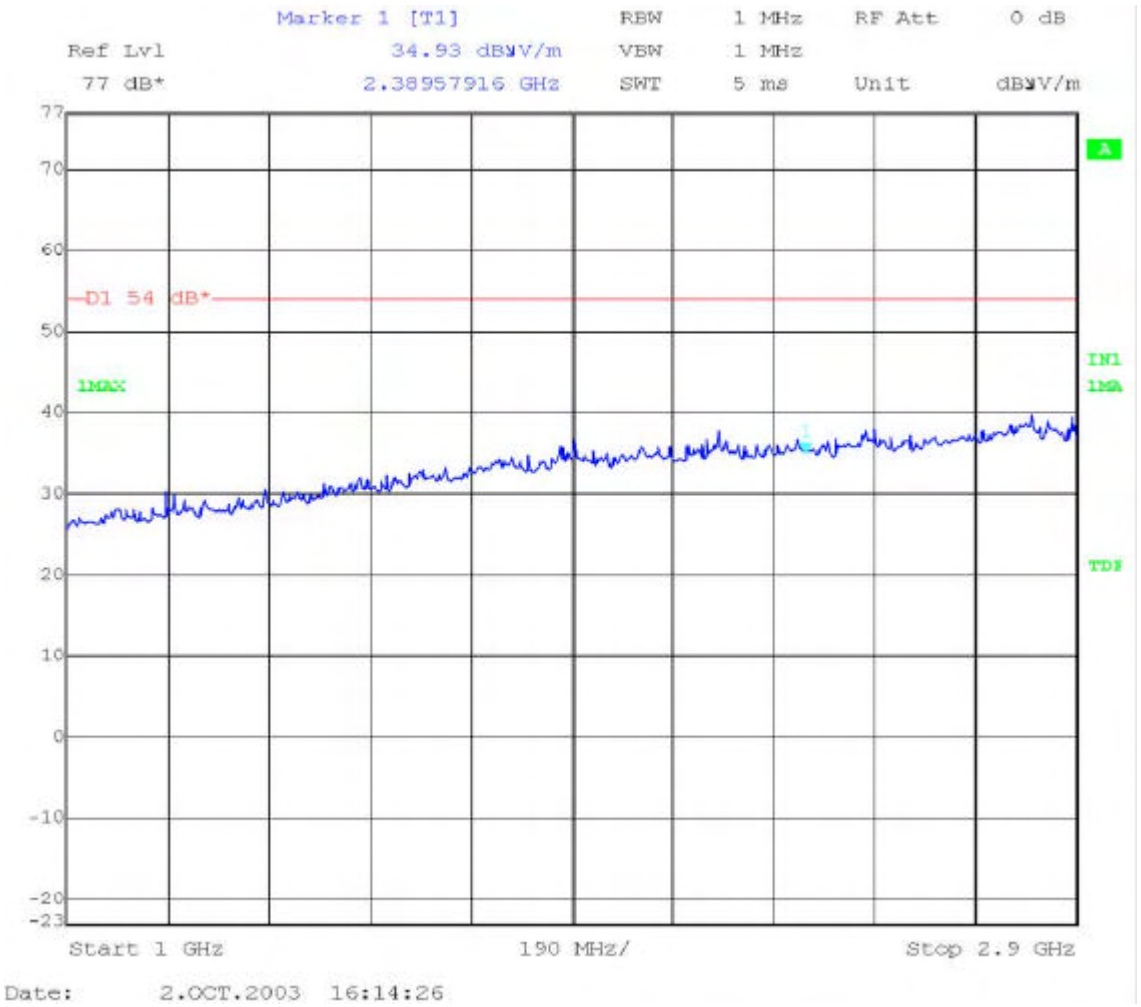
FREQUENCY RANGE 30 MHz-1000 MHz.



Resolution bandwidth = 100 kHz.
Video bandwidith = 100 kHz.

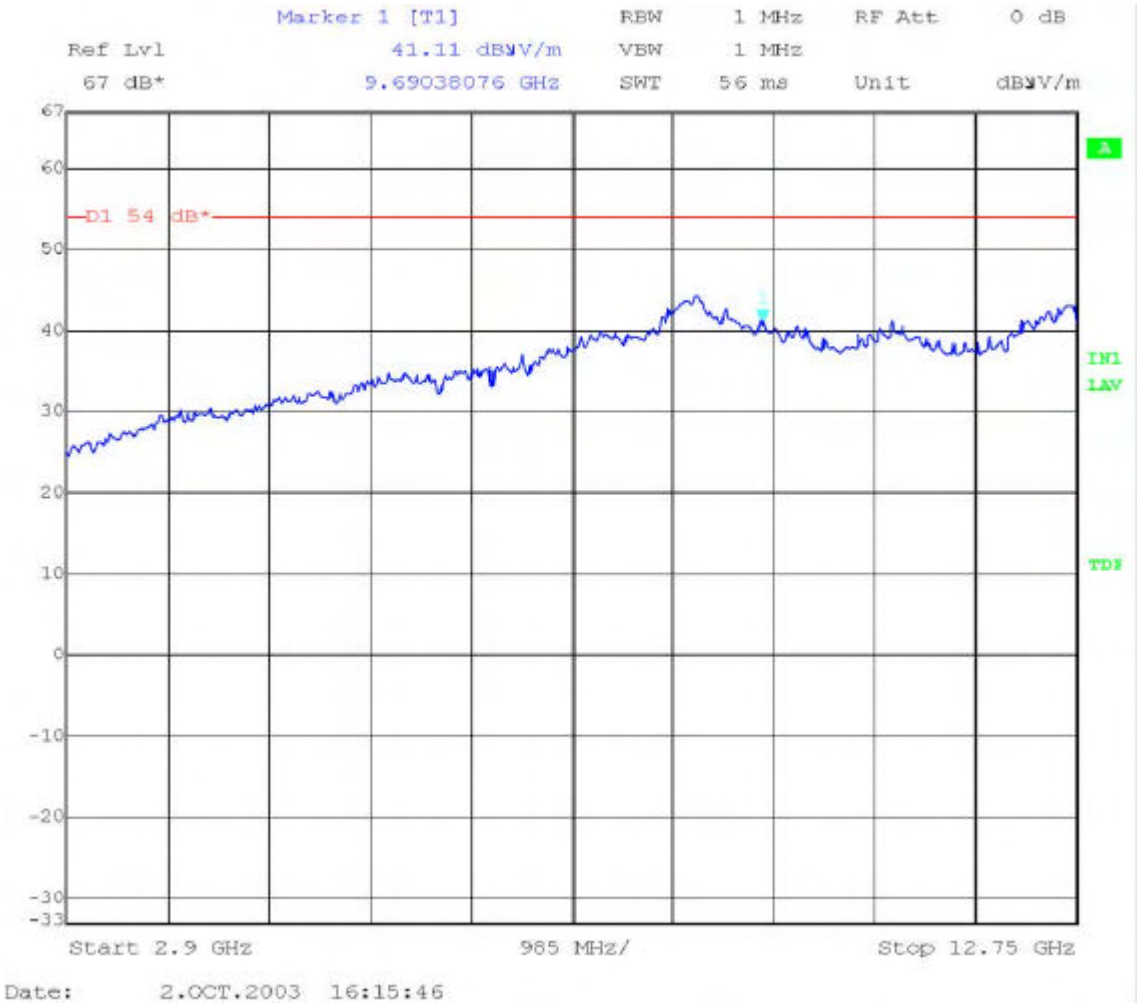
(This plot is valid for all three channels).

FREQUENCY RANGE 1 GHz-2.9 GHz.



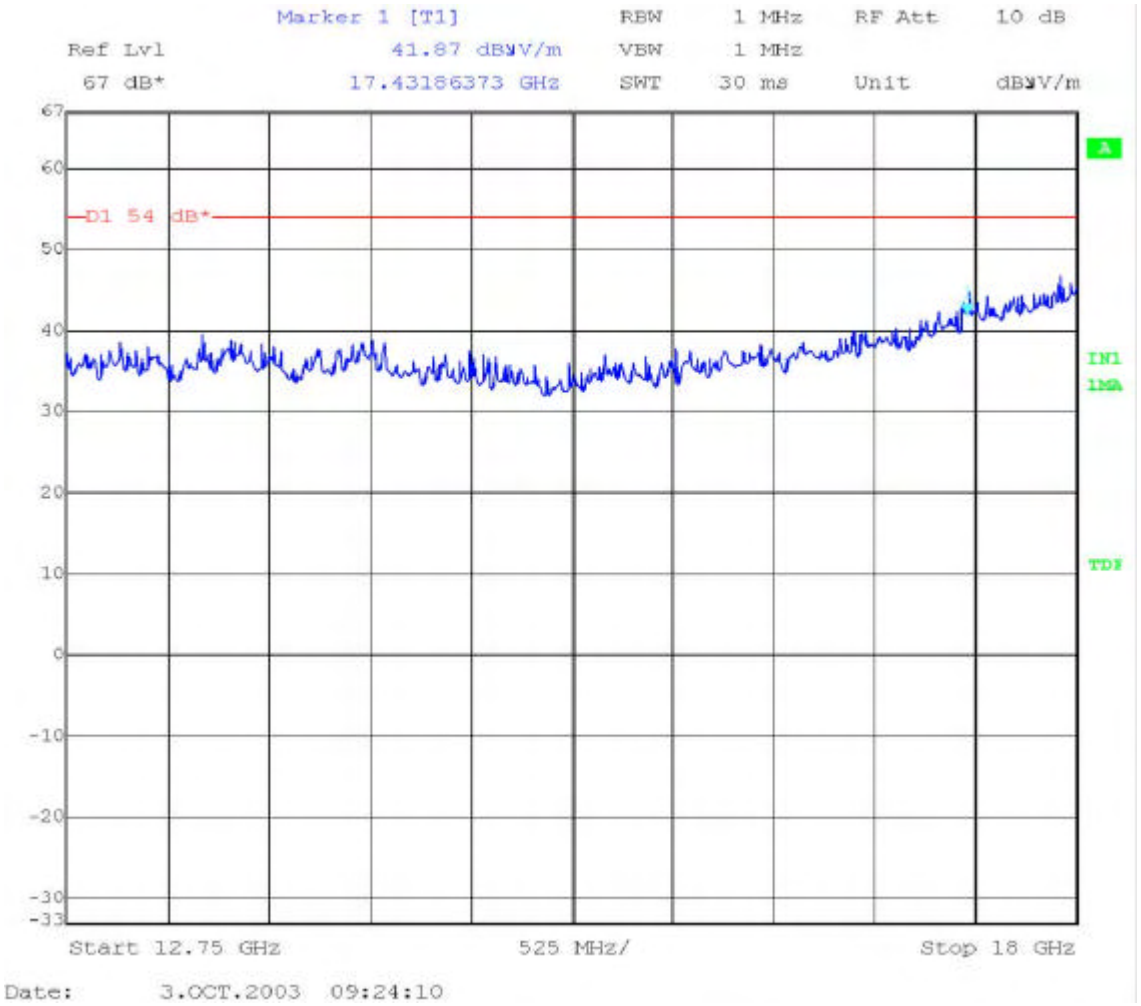
(This plot is valid for all three channels).

FREQUENCY RANGE 2.9 GHz-12.75 GHz.



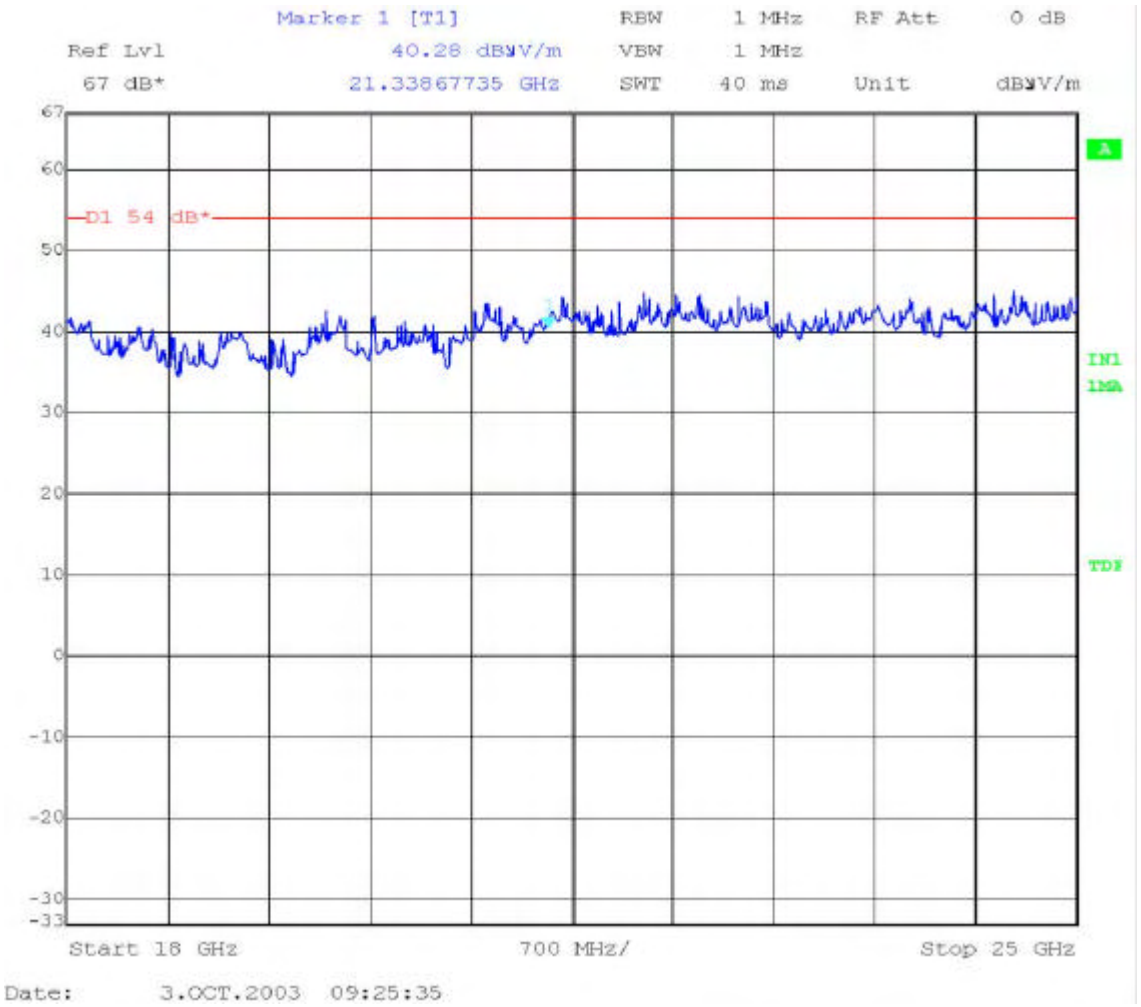
(This plot is valid for all three channels).

FREQUENCY RANGE 12.75 GHz-18 GHz.



(This plot is valid for all three channels).

FREQUENCY RANGE 18 GHz-25 GHz.



(This plot is valid for all three channels).

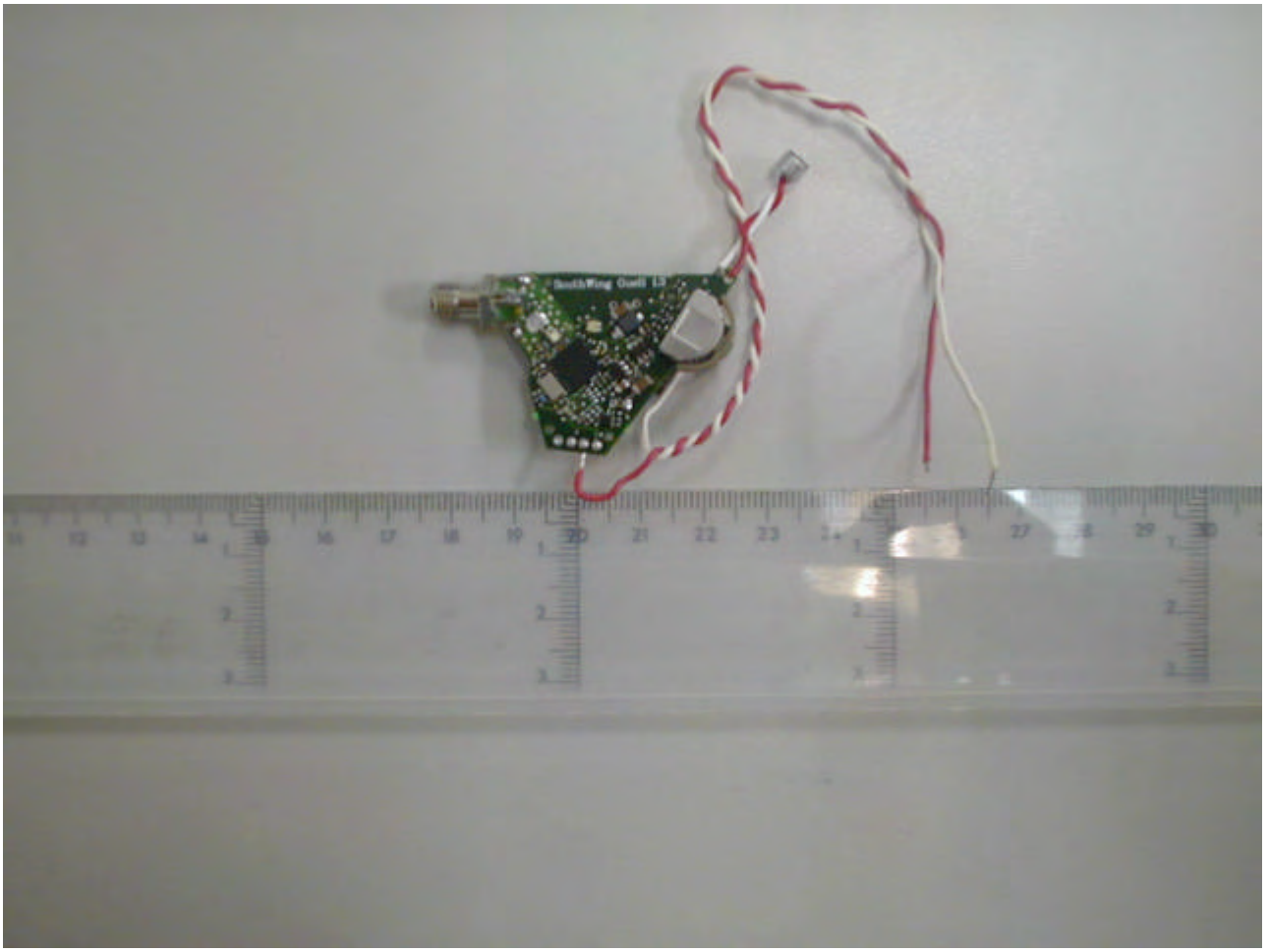
ANNEX B

PHOTOGRAPHS
(Number of photographs: 6)

Report No.: 18878RET.101

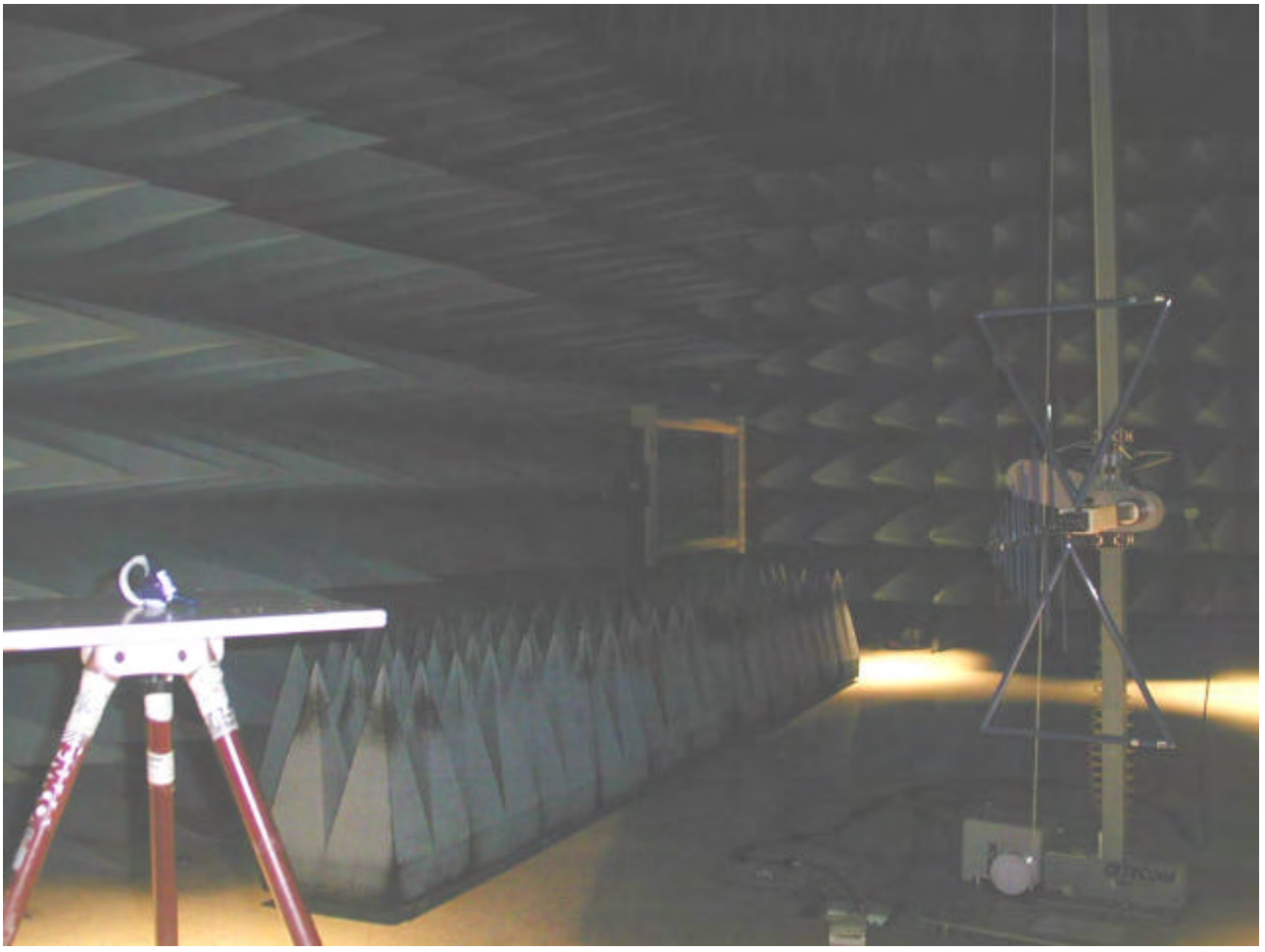
1. Equipment (external view)

2. Equipment (internal view) for conducted measurements.

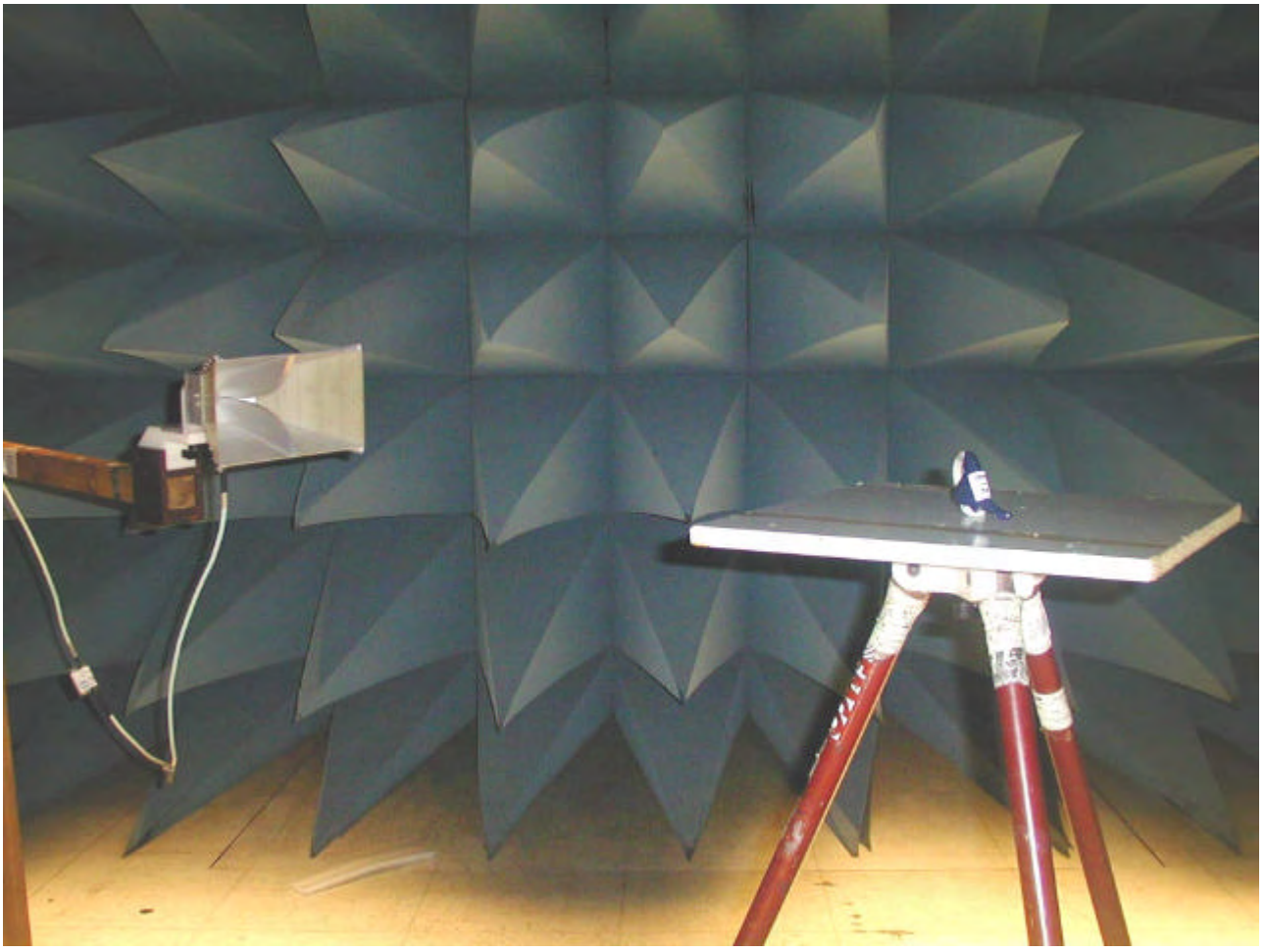
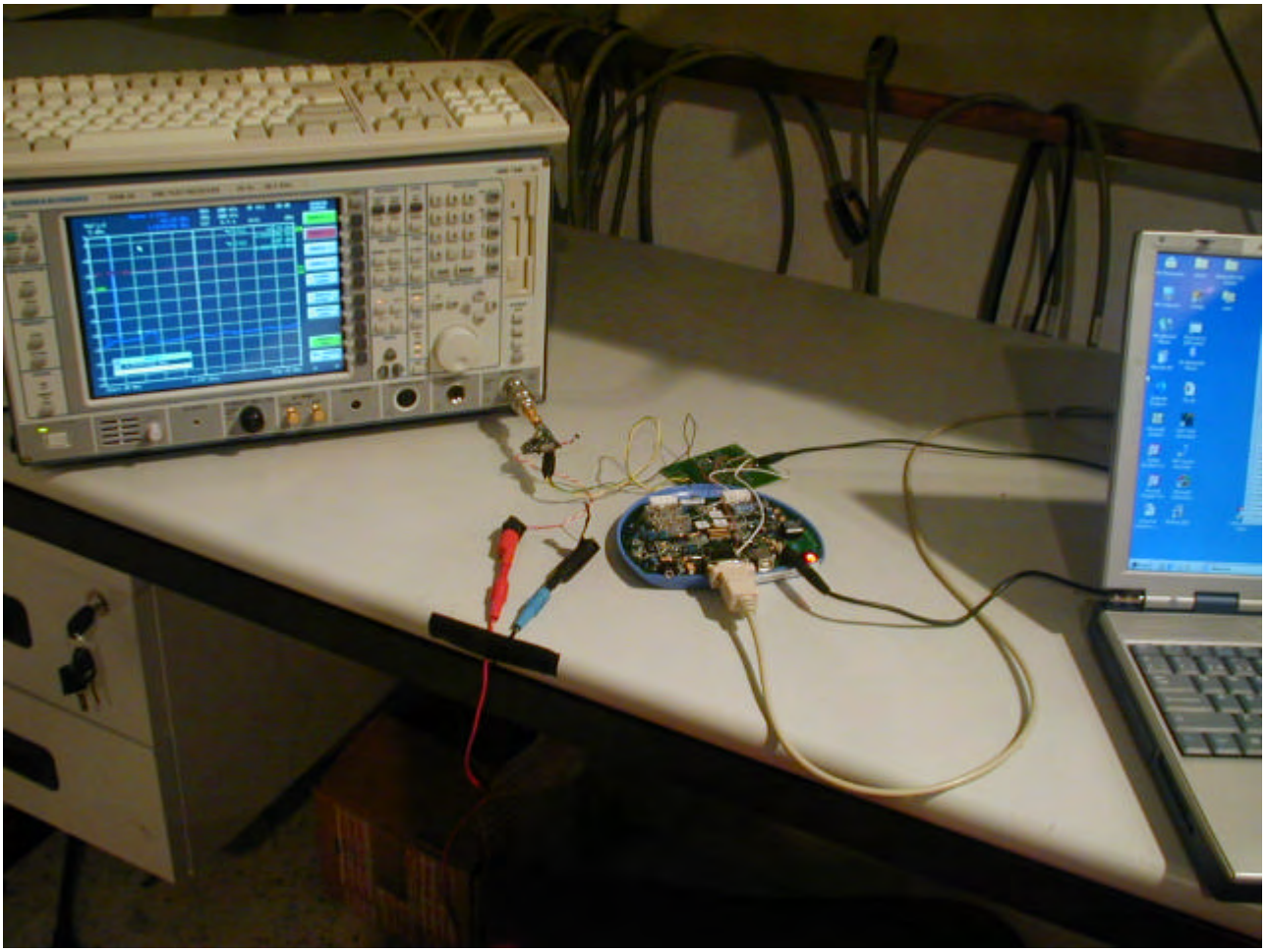


3. General test set-up for radiated measurements.

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



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



6. Test set-up for RF conducted measurements.