

6.2 Maximum peak power and band edges emissions (CSSS)

Test site: semi-anechoic chamber (foam) open test site
 semi-anechoic chamber (ferrites)

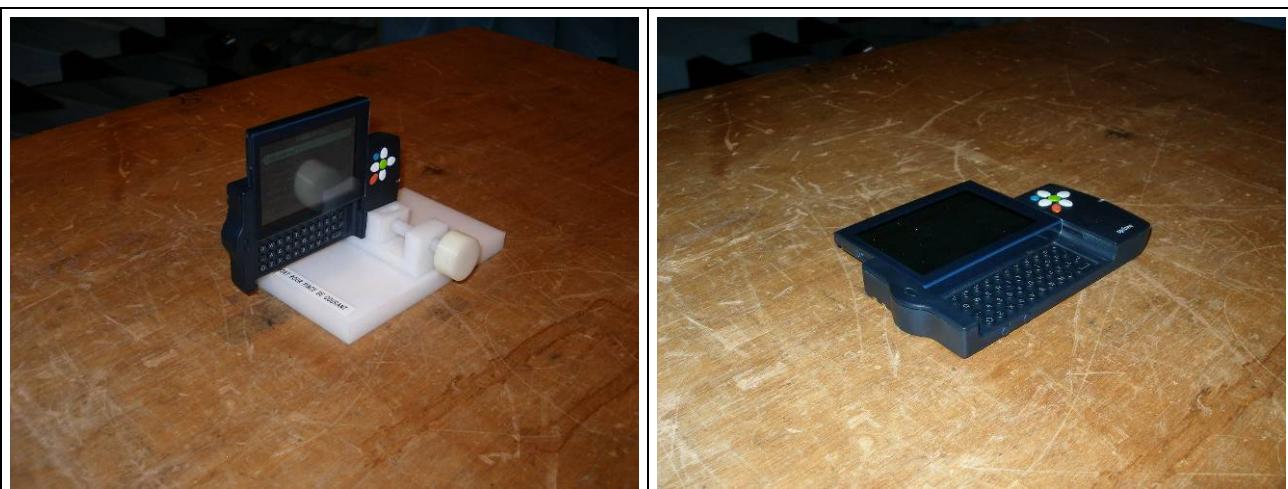
Distance: 30 m 10 m 3 m 1 m

Position of EUT: 0.8 m (height of the equipment under test above floor)

Meas. uncertainty: ± 4.7 dB

Test method: The electromagnetic disturbance radiated by the equipment is measured using a spectrum analyser and a wide band antenna. The antenna is placed at the same height as the EUT successively with horizontal and vertical polarisations. The turning table is operated through 360° during the measurements. The recordings are carried out taking into account the maximum value of all the disturbances appearing while the apparatus is under test. The peak values are recorded continuously on the graph. The values exceeding a limit are remeasured manually using a receiver.

Test set-up:



Remarks:	<ul style="list-style-type: none"> Limit values expressed in dBμV/m and transformed to a measuring distance of 1m (factor used = 20 dB/decade) if necessary e.g.: for f = 1GHz the limit is 500μV/m at 3m; $20 \log\left(\frac{500_{[\mu V/m]}}{1_{[\mu V/m]}}\right) + 20 \log\left(\frac{3_{[m]}}{1_{[m]}}\right) = 63.5 dB\mu V \text{ at } 1m$ <ul style="list-style-type: none"> Carrier limit for 1 W calculated with $E_{[V/m]} = \frac{\sqrt{30 P_{[W EIRP]}}}{d_{[m]}} = 5.47 V/m = 134.7 dB\mu V/m$
----------	--

Test equipment:

Spectrum analyser	<input type="checkbox"/> 88-14	<input type="checkbox"/> 90-26	<input type="checkbox"/> 94-24	<input checked="" type="checkbox"/> 02-06	<input type="checkbox"/> 03-45	<input type="checkbox"/> 03-57
Receiver	<input type="checkbox"/> 85-04	<input type="checkbox"/> 90-43	<input type="checkbox"/> 94-35			
Preamplifier	<input type="checkbox"/> 90-01	<input type="checkbox"/> 95-86	<input type="checkbox"/> 05-56	<input type="checkbox"/> 05-59	<input type="checkbox"/> 05-62	<input checked="" type="checkbox"/> 05-87
Antenna (horn)	<input checked="" type="checkbox"/> 90-24	<input type="checkbox"/> 90-29	<input type="checkbox"/> 98-12	<input type="checkbox"/> 98-13	<input type="checkbox"/>	
Cables	Succoflex 1 m					

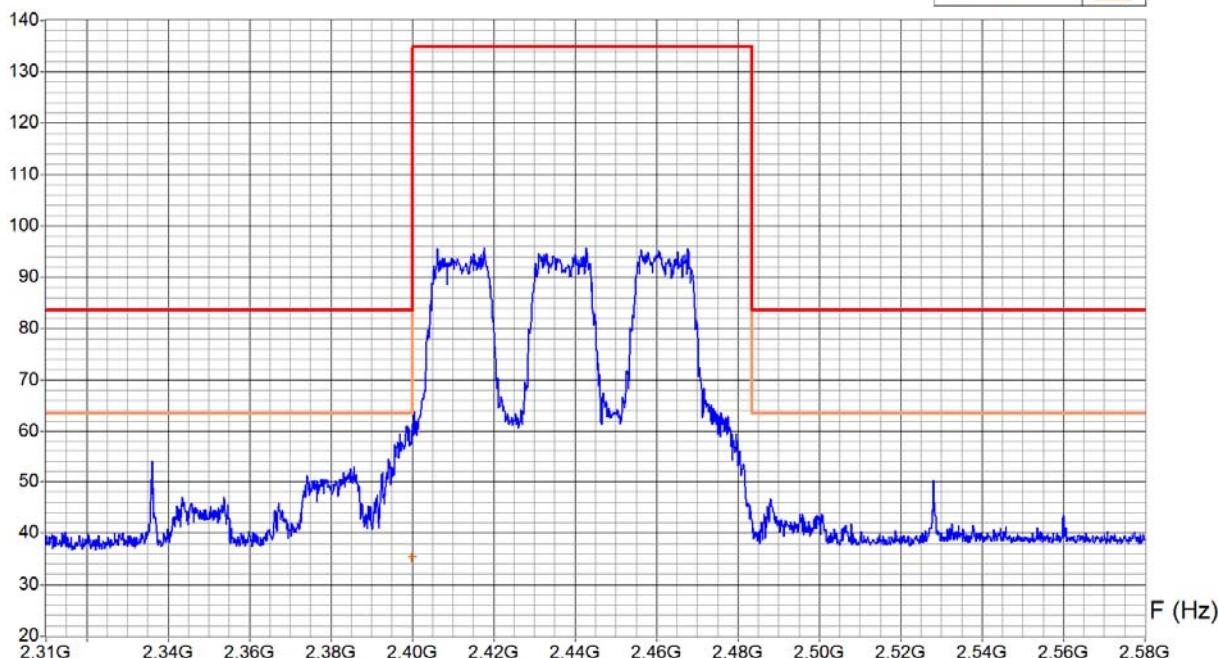
Result:	<input checked="" type="checkbox"/> pass	<input type="checkbox"/> fail	<input type="checkbox"/> not applicable	<input type="checkbox"/> not tested
---------	--	-------------------------------	---	-------------------------------------

Measurement Type : Radiated Field
 Polarisation : Horizontal
 Table Angle : 0 - 360°
 Antenna Height : 0.8m

 Equipment Under Test : SpotMell handheld
 Set-Up : handheld open, upright
 Operating Conditions : Tx; CSSS Channel 1, 6 and 11; Pmax
 Remarks :

Level dB μ V/m**FCC 15.247 (d) (@ 1m py)**

Pk Limit	
AV Limit	



Zone	2.31 GHz - 2.58
Video Bandwidth	100 KHz
Resol Bandwidth	100 KHz

Receiver Measures

Frequency	Peak	QuasiPeak (x)	Average (+)	QP Margin
2.40 GHz	61.0 dB μ V/m	NaN dB μ V/m	35.4 dB μ V/m	NaN dB

Operator: E. Staub
Date/Time: 08.04.2008 09:52
Filename: 20077722_handheld_FCC_carrier-CSSS_000h.png/.txt

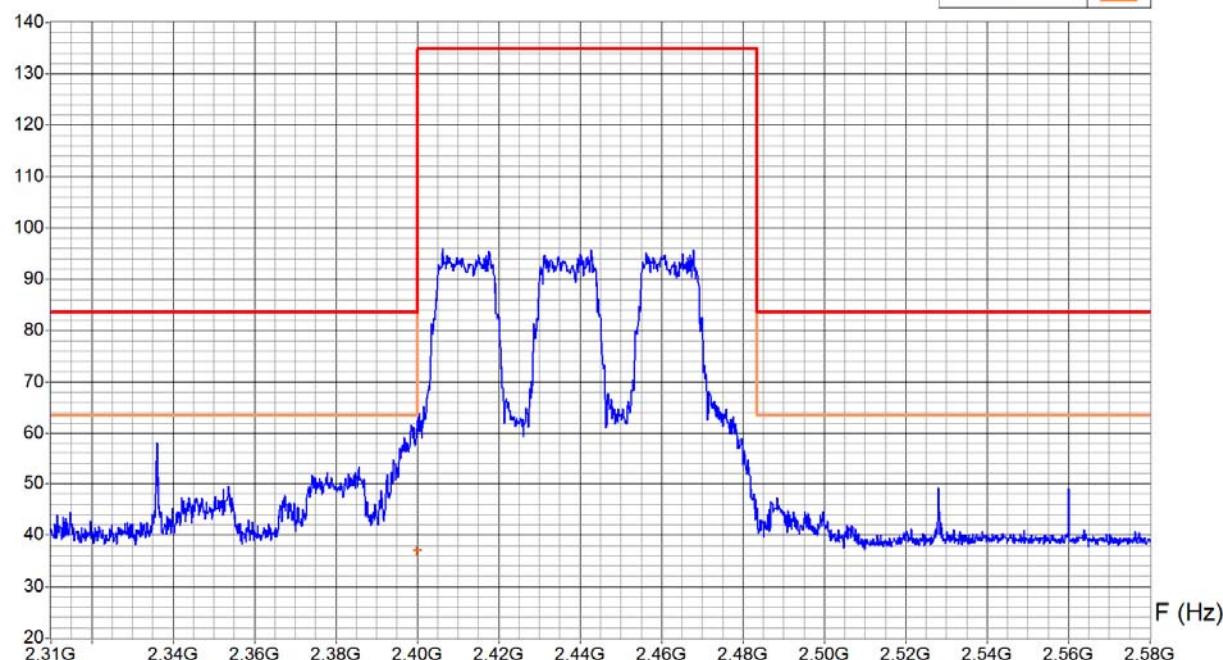
Measurement Type : Radiated Field
 Polarisation : Vertical
 Table Angle : 0 - 360°
 Antenna Height : 0.8m



Equipment Under Test : SpotMell handheld
 Set-Up : handheld open, upright
 Operating Conditions : Tx; CSSS Channel 1, 6 and 11; Pmax
 Remarks :

Level dB μ V/m**FCC 15.247 (d) (@ 1m py)**

Pk Limit	
AV Limit	



Zone	2.31 GHz - 2.58
Video Bandwidth	100 KHz
Resol Bandwidth	100 KHz

Receiver Measures

Frequency	Peak	QuasiPeak (x)	Average (+)	QP Margin
2.40 GHz	62.6 dB μ V/m	NaN dB μ V/m	37.0 dB μ V/m	NaN dB

Operator: E. Staub
Date/Time: 08.04.2008 11:34
Filename: 20077722_handheld_FCC carrier-CSSS_000v.png/.txt

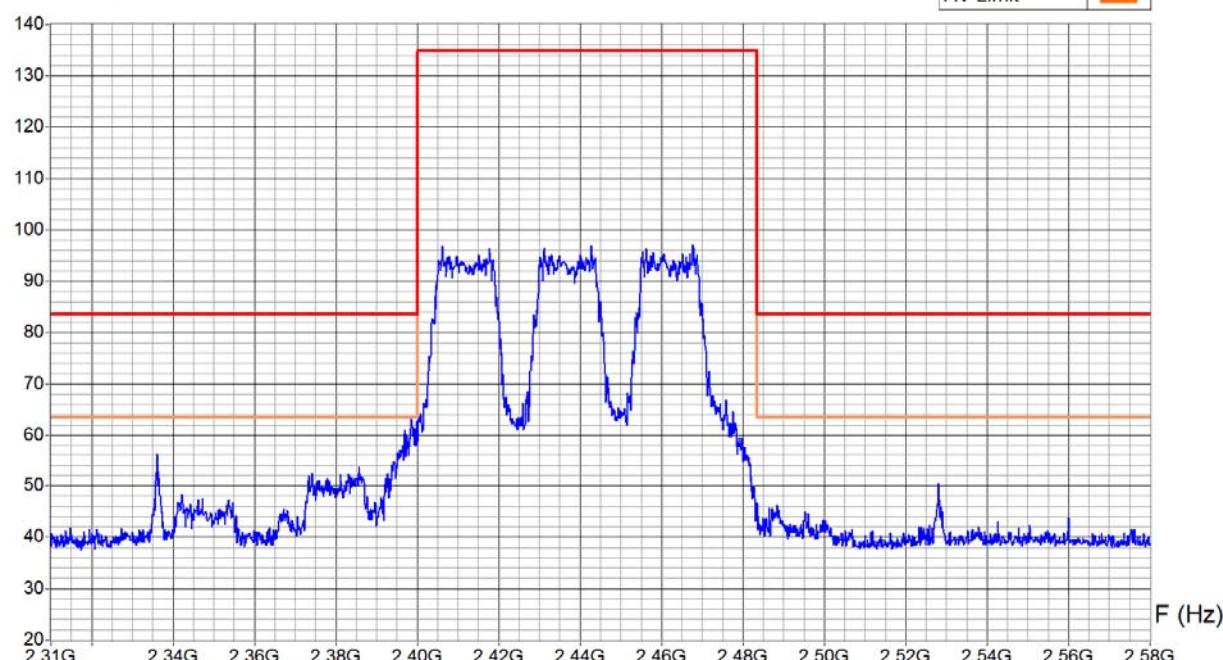
Measurement Type : Radiated Field
 Polarisation : Horizontal
 Table Angle : 0 - 360°
 Antenna Height : 0.8m



Equipment Under Test : SpotMell handheld
 Set-Up : handheld open, laying
 Operating Conditions : Tx; CSSS Channel 1, 6 and 11; Pmax
 Remarks :

Level dB μ V/m**FCC 15.247 (d) (@ 1m py)**

Pk Limit	
AV Limit	



Zone	2.31 GHz - 2.58
Video Bandwidth	100 KHz
Resol Bandwidth	100 KHz

Operator: E. Staub
Date/Time: 08.04.2008 12:07
Filename:
20077722_handheld_FCC
carrier-CSSS_001h.png/.txt

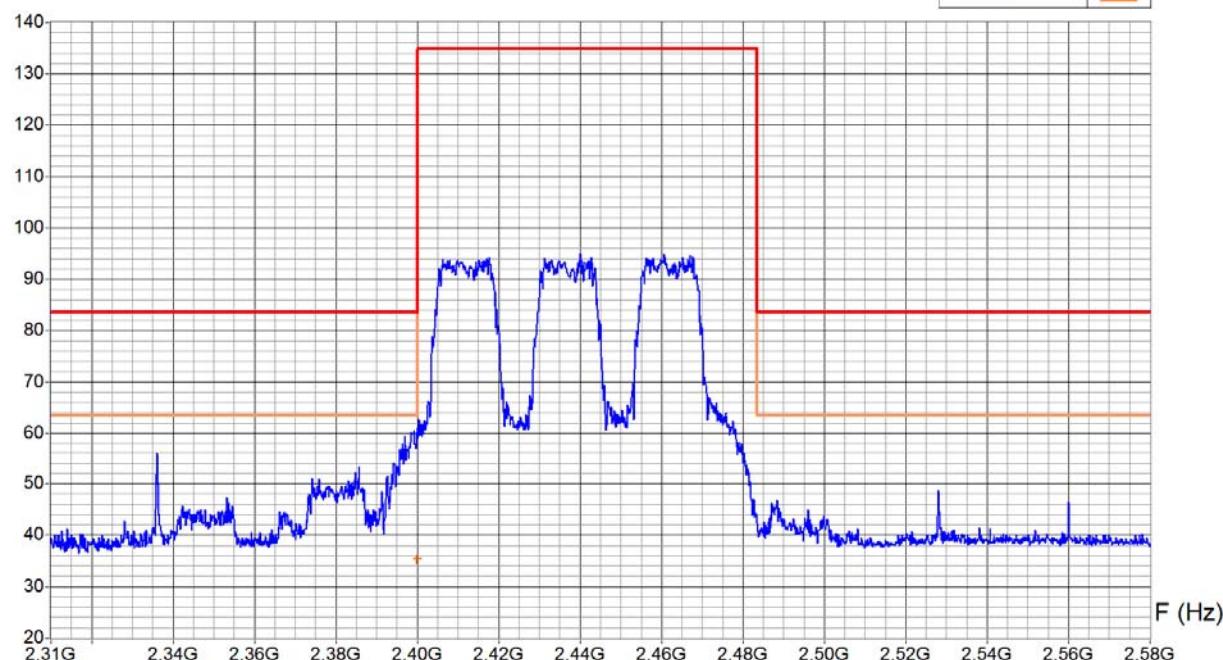
Measurement Type : Radiated Field
 Polarisation : Vertical
 Table Angle : 0 - 360°
 Antenna Height : 0.8m



Equipment Under Test : SpotMell handheld
 Set-Up : handheld open, laying
 Operating Conditions : Tx; CSSS Channel 1, 6 and 11; Pmax
 Remarks :

Level dB μ V/m**FCC 15.247 (d) (@ 1m py)**

Pk Limit	
AV Limit	



Zone	2.31 GHz - 2.58
Video Bandwidth	100 KHz
Resol Bandwidth	100 KHz

Receiver Measures

Frequency	Peak	QuasiPeak (x)	Average (+)	QP Margin
2.40 GHz	61.0 dB μ V/m	NaN dB μ V/m	35.4 dB μ V/m	NaN dB

Operator: E. Staub
Date/Time: 08.04.2008 11:44
Filename: 20077722_handheld_FCC carrier-CSSS_001v.png/.txt

6.3 Spurious emission (CSSS)

6.3.1 Radiated emission - Electromagnetic field (30 MHz – 1 GHz)

Test site: semi-anechoic chamber (foam) open test site
 semi-anechoic chamber (ferrites)

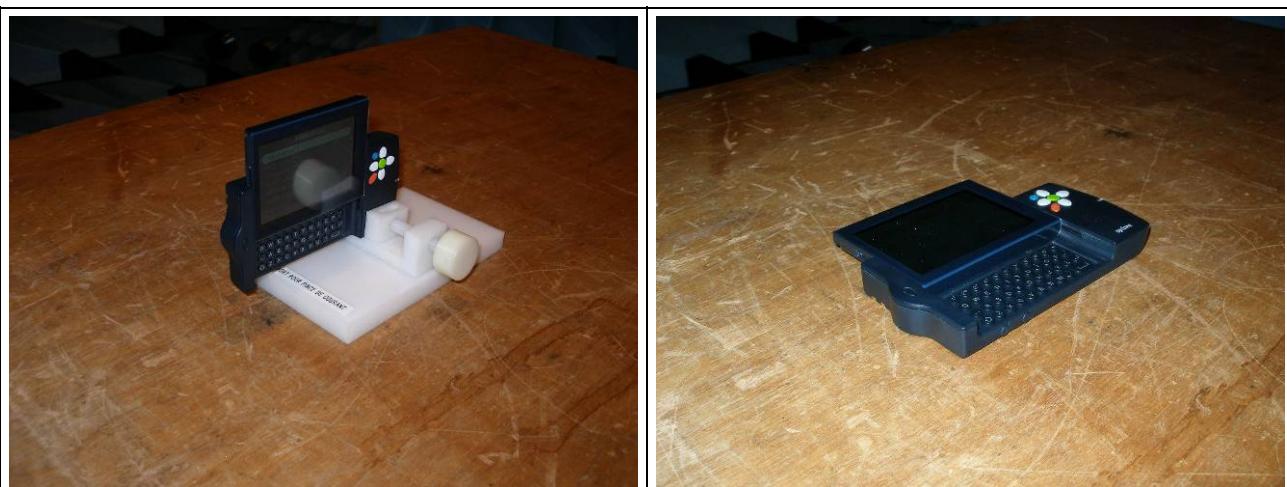
Distance: 30 m 10 m 3 m

Position of EUT: 0.8 m (height of the equipment under test above floor)

Meas. uncertainty: ± 4.6 dB (30 - 300 MHz) / ± 3.7 dB (300 - 1000 MHz)

Test method: The electromagnetic disturbance radiated by the equipment is measured using a spectrum analyser and a wide band antenna. The antenna is moved from 1 to 4 m in height successively with horizontal and vertical polarisations. The turning table is operated through 360° during the measurements. The recordings are carried out taking into account the maximum value of all the disturbances appearing while the apparatus is under test. The peak values are recorded continuously on the graph. The values exceeding a limit are remeasured manually using a receiver.

Test set-up:



Remarks: Limit values expressed in dB μ V/m and transformed to a measuring distance of 3m (factor used = 20 dB/decade) if necessary
e.g.: for f = 40MHz the limit is 100 μ V/m at 3m;

$$20 \log\left(\frac{100_{[\mu\text{V}/\text{m}]}}{1_{[\mu\text{V}/\text{m}]}}\right) = 40 \text{dB}\mu\text{V} \text{ at } 3\text{m}$$

Test equipment:

Spectrum analyser	<input type="checkbox"/> 88-14	<input type="checkbox"/> 90-26	<input type="checkbox"/> 94-24	<input type="checkbox"/> 02-06	<input checked="" type="checkbox"/> 03-45	<input type="checkbox"/> 03-57
Receiver	<input type="checkbox"/> 85-04	<input type="checkbox"/> 90-43	<input checked="" type="checkbox"/> 94-35			
Preamplifier	<input type="checkbox"/> 90-01	<input type="checkbox"/> 95-86	<input type="checkbox"/> 05-56	<input checked="" type="checkbox"/> 05-59	<input type="checkbox"/> 05-62	<input type="checkbox"/>
Antenna (biconical)	<input type="checkbox"/> 82-02	<input type="checkbox"/> 87-05	<input type="checkbox"/> 87-16	<input type="checkbox"/> 91-05	<input type="checkbox"/> 94-37	
Antenna (log-per)	<input type="checkbox"/> 88-20	<input type="checkbox"/> 90-30	<input type="checkbox"/> 91-35	<input type="checkbox"/> 94-64		
Antenna (bilog)	<input checked="" type="checkbox"/> 94-03	<input type="checkbox"/> 05-38	<input type="checkbox"/>			
Antenna (horn)	<input type="checkbox"/> 90-24	<input type="checkbox"/> 90-29	<input type="checkbox"/> 98-12	<input type="checkbox"/> 98-13	<input type="checkbox"/>	
Cables	<input checked="" type="checkbox"/> 06-01					

Result:	<input checked="" type="checkbox"/> pass	<input type="checkbox"/> fail	<input type="checkbox"/> not applicable	<input type="checkbox"/> not tested
----------------	--	-------------------------------	---	-------------------------------------

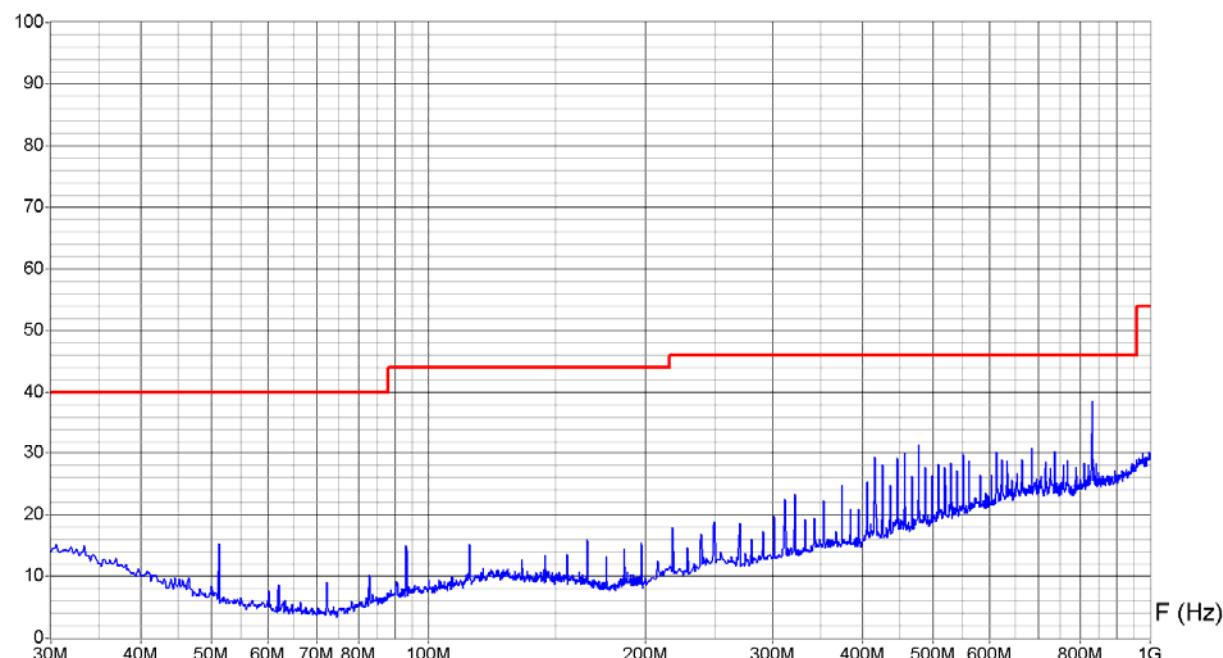
Measurement Type : Radiated Field
 Polarisation : Horizontal
 Table Angle : 0 - 360°
 Antenna Height : 1 - 4m



Equipment Under Test : SpotMell handheld
 Set-Up : handheld open, upright
 Operating Conditions : Tx, CSSS Channel 1, Pmax
 Remarks :

Level dB μ V/m**FCC 15.209 (@ 3m fe)**

QP Limit



Zone	30 MHz - 199 MHz	199 MHz - 1 GHz
Video Bandwidth	100 KHz	100 KHz
Resol Bandwidth	100 KHz	100 KHz

Operator: E. Staub
 Date/Time: 16.04.08 13:51
 Filename:
 2007722_handheld_FCC
 SP-CSSS_018h.png/.txt

Measurement Type : Radiated Field

Polarisation : Vertical

Table Angle : 0 - 360°

Antenna Height : 1 - 4m



Equipment Under Test : SpotMell handheld

Set-Up : handheld open, upright

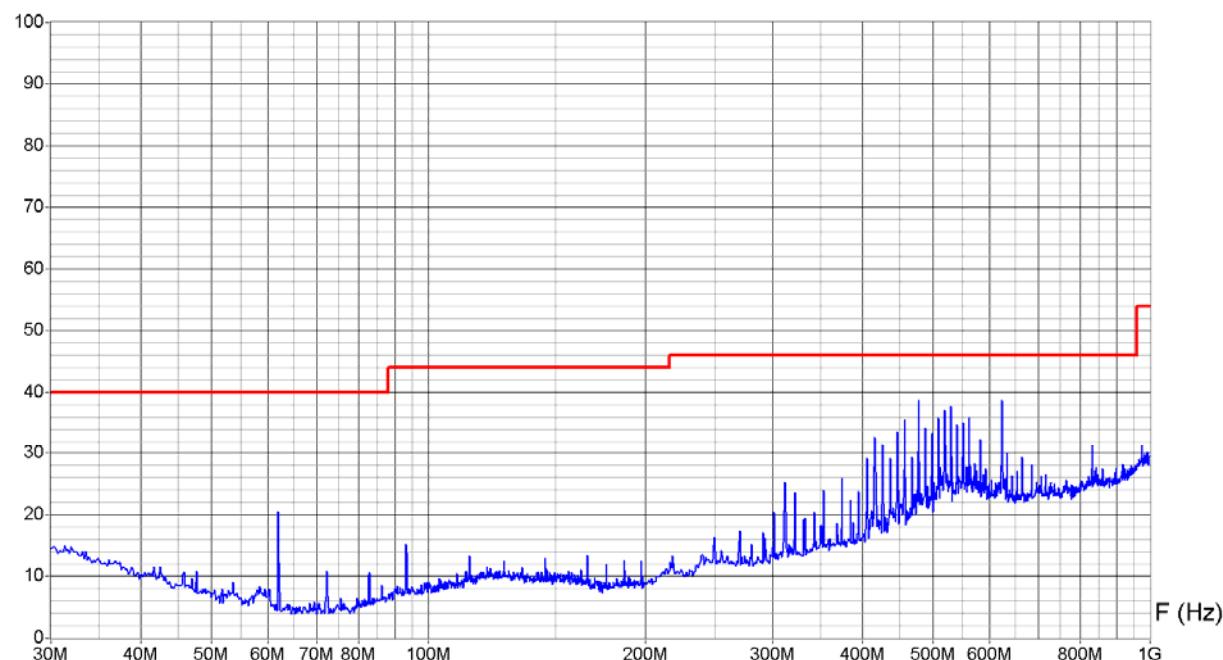
Operating Conditions : Tx, CSSS Channel 1, Pmax

Remarks :

Level dB μ V/m

FCC 15.209 (@ 3m fe)

QP Limit



Zone	30 MHz - 199 MHz	199 MHz - 1 GHz
Video Bandwidth	100 KHz	100 KHz
Resol Bandwidth	100 KHz	100 KHz

Operator: E. Staub
Date/Time: 16.04.08 14:00
Filename: 2007722_handheld_FCC
SP-CSSS_018v.png/.txt

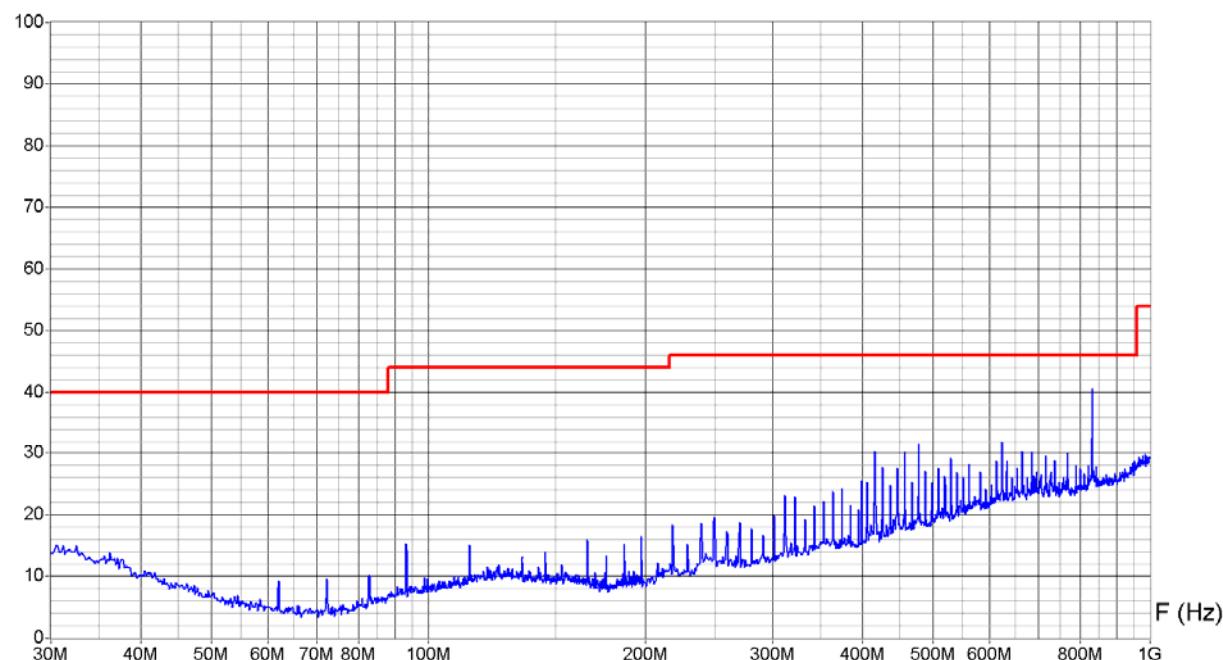
Measurement Type : Radiated Field
 Polarisation : Horizontal
 Table Angle : 0 - 360°
 Antenna Height : 1 - 4m



Equipment Under Test : SpotMell handheld
 Set-Up : handheld open, upright
 Operating Conditions : Tx, CSSS Channel 6, Pmax
 Remarks :

Level dB μ V/m**FCC 15.209 (@ 3m fe)**

QP Limit



Zone	30 MHz - 199 MHz	199 MHz - 1 GHz
Video Bandwidth	100 KHz	100 KHz
Resol Bandwidth	100 KHz	100 KHz

Operator: E. Staub
 Date/Time: 16.04.08 14:17
 Filename:
 2007722_handheld_FCC
 SP-CSSS_019h.png/.txt

Measurement Type : Radiated Field

Polarisation : Vertical

Table Angle : 0 - 360°

Antenna Height : 1 - 4m



Equipment Under Test : SpotMell handheld

Set-Up : handheld open, upright

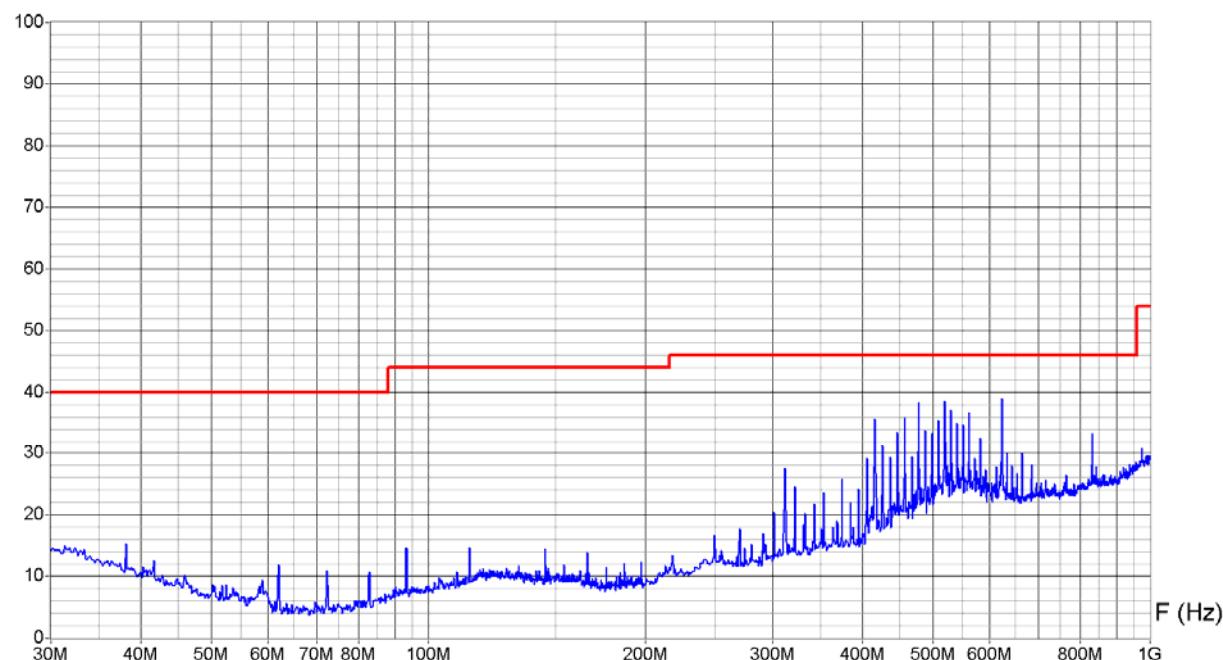
Operating Conditions : Tx, CSSS Channel 6, Pmax

Remarks :

Level dB μ V/m

FCC 15.209 (@ 3m fe)

QP Limit



Zone	30 MHz - 199 MHz	199 MHz - 1 GHz
Video Bandwidth	100 KHz	100 KHz
Resol Bandwidth	100 KHz	100 KHz

Operator: E. Staub
Date/Time: 16.04.08 14:09
Filename: 2007722_handheld_FCC
SP-CSSS_019v.png/.txt

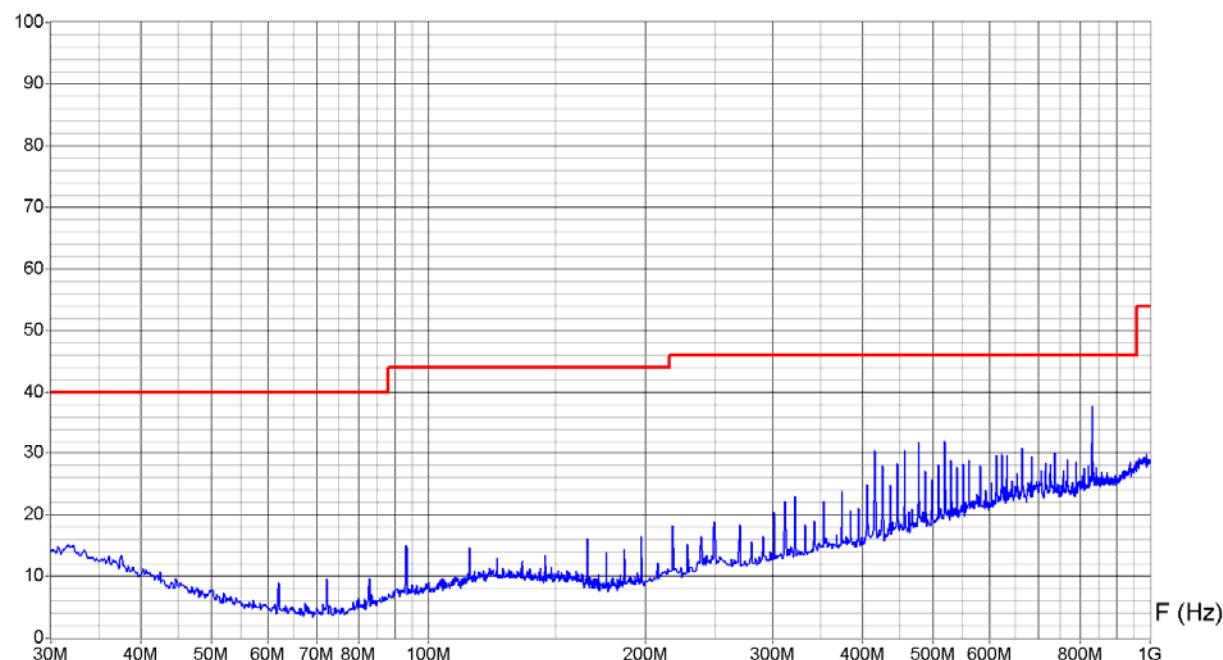
Measurement Type : Radiated Field
 Polarisation : Horizontal
 Table Angle : 0 - 360°
 Antenna Height : 1 - 4m



Equipment Under Test : SpotMell handheld
 Set-Up : handheld open, upright
 Operating Conditions : Tx, CSSS Channel 11, Pmax
 Remarks :

Level dB μ V/m**FCC 15.209 (@ 3m fe)**

QP Limit



Zone	30 MHz - 199 MHz	199 MHz - 1 GHz
Video Bandwidth	100 KHz	100 KHz
Resol Bandwidth	100 KHz	100 KHz

Operator: E. Staub
 Date/Time: 16.04.08 14:24
 Filename:
 2007722_handheld_FCC
 SP-CSSS_020h.png/.txt

Measurement Type : Radiated Field

Polarisation : Vertical

Table Angle : 0 - 360°

Antenna Height : 1 - 4m



Equipment Under Test : SpotMell handheld

Set-Up : handheld open, upright

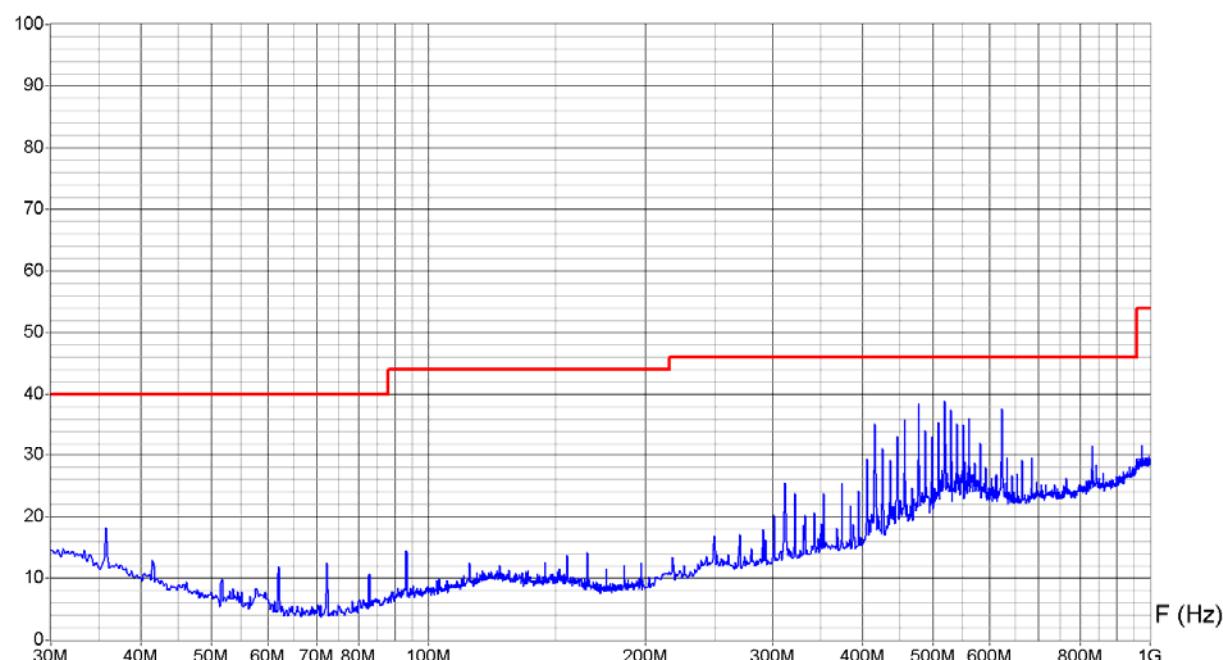
Operating Conditions : Tx, CSSS Channel 11, Pmax

Remarks :

Level dB μ V/m

FCC 15.209 (@ 3m fe)

QP Limit



Zone	30 MHz - 199 MHz	199 MHz - 1 GHz
Video Bandwidth	100 KHz	100 KHz
Resol Bandwidth	100 KHz	100 KHz

Operator: E. Staub
Date/Time: 16.04.08 14:31
Filename: 2007722_handheld_FCC SP-CSSS_020v.png/.txt

Measurement Type : Radiated Field

Polarisation : Horizontal

Table Angle : 0 - 360°

Antenna Height : 1 - 4m



Equipment Under Test : SpotMell handheld

Set-Up : handheld open, laying

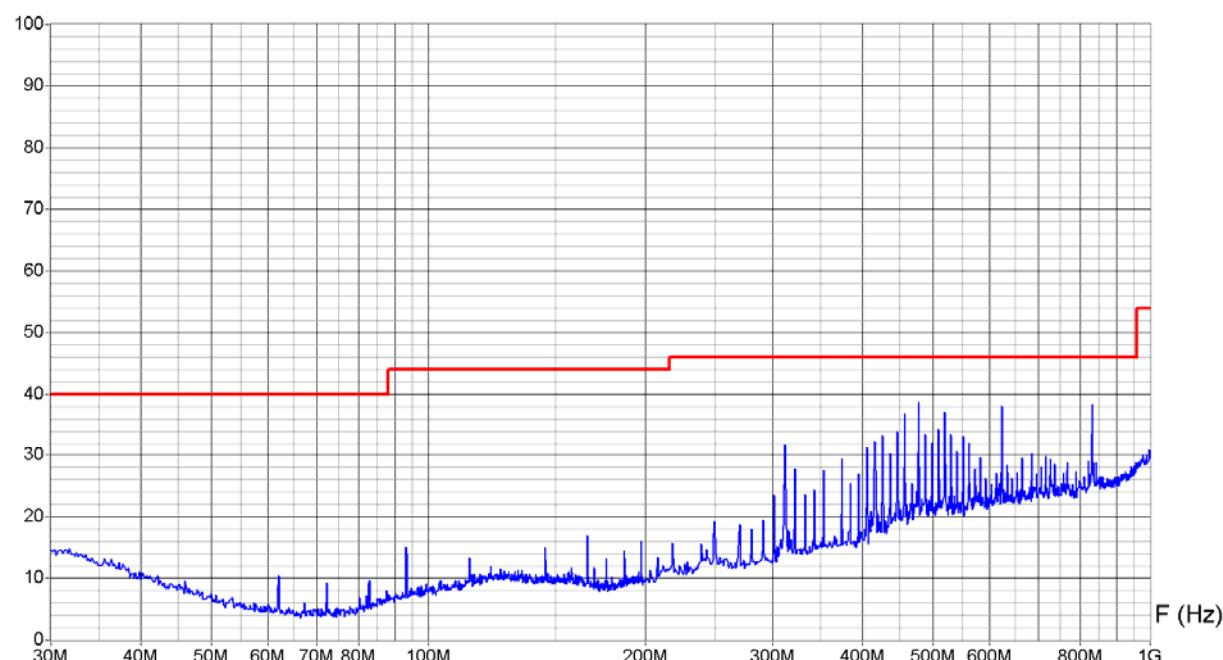
Operating Conditions : Tx, CSSS Channel 1, Pmax

Remarks :

Level dB μ V/m

FCC 15.209 (@ 3m fe)

QP Limit



Zone	30 MHz - 199 MHz	199 MHz - 1 GHz
Video Bandwidth	100 KHz	100 KHz
Resol Bandwidth	100 KHz	100 KHz

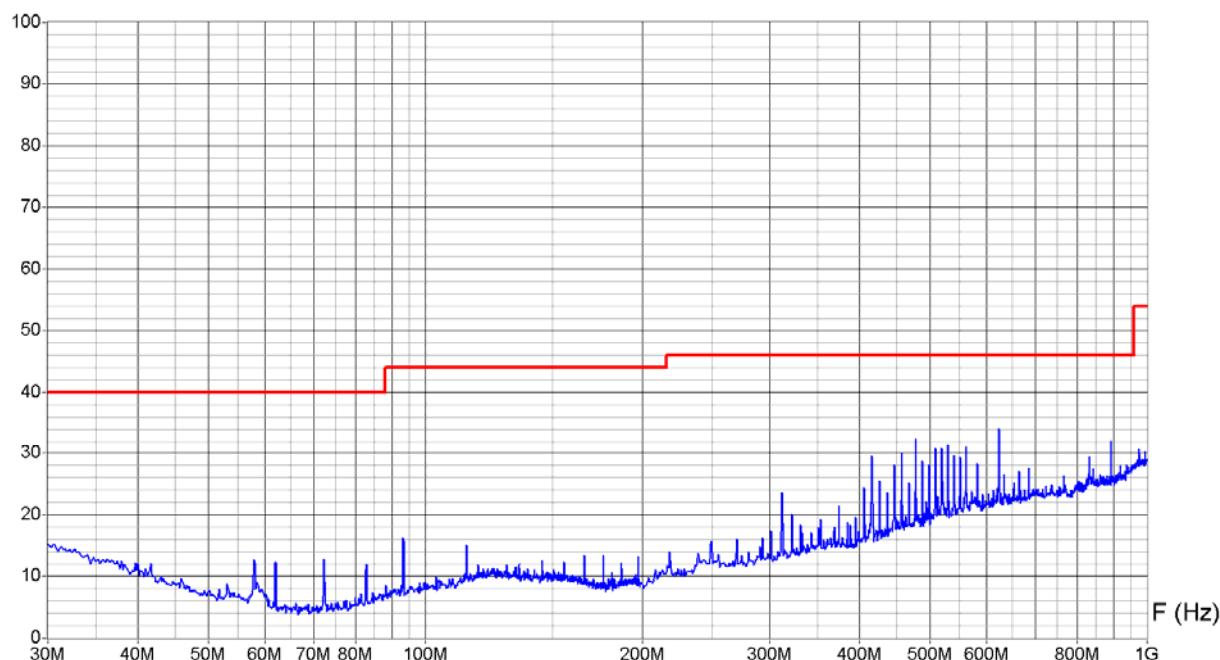
Operator: E. Staub
Date/Time: 16.04.08 16:58
Filename: 2007722_handheld_FCC SP-CSSS_021h.png/.txt

Measurement Type : Radiated Field
 Polarisation : Vertical
 Table Angle : 0 - 360°
 Antenna Height : 1 - 4m

 Equipment Under Test : SpotMell handheld
 Set-Up : handheld open, laying
 Operating Conditions : Tx, CSSS Channel 1, Pmax
 Remarks :

Level dB μ V/m**FCC 15.209 (@ 3m fe)**

QP Limit



Zone	30 MHz - 199 MHz	199 MHz - 1 GHz
Video Bandwidth	100 KHz	100 KHz
Resol Bandwidth	100 KHz	100 KHz

Operator: E. Staub
 Date/Time: 16.04.08 16:51
 Filename:
 2007722_handheld_FCC
 SP-CSSS_021v.png/.txt

6.3.2 Radiated emission - Electromagnetic field (1 GHz – 2.8 GHz)

Test site: semi-anechoic chamber (foam) open test site
 semi-anechoic chamber (ferrites)

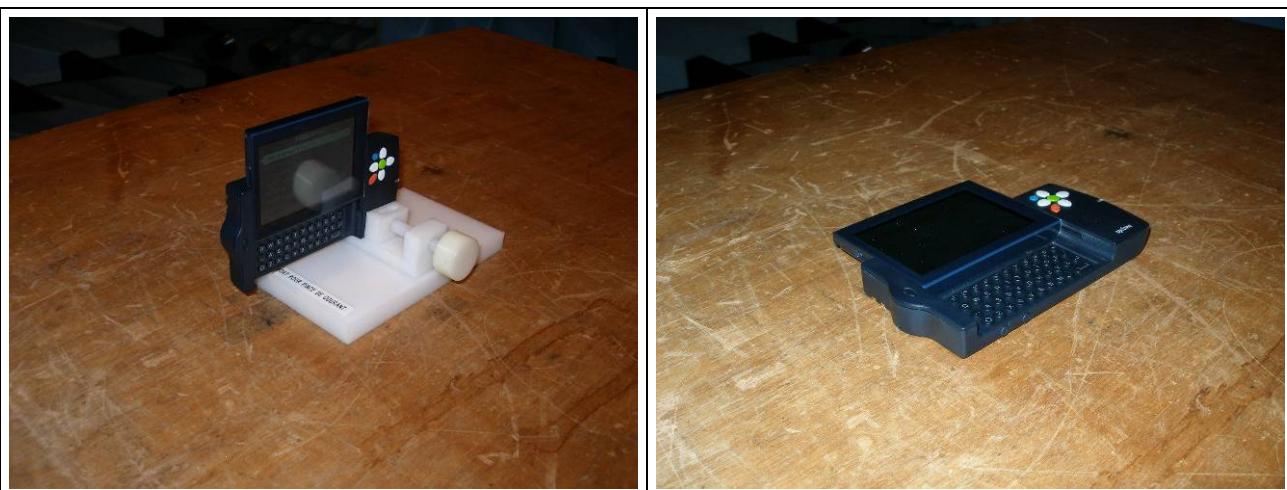
Distance: 30 m 10 m 3 m 1 m

Position of EUT: 0.8 m (height of the equipment under test above floor)

Meas. uncertainty: ± 4.7 dB

Test method: The electromagnetic disturbance radiated by the equipment is measured using a spectrum analyser and a wide band antenna. The antenna is placed at the same height as the EUT successively with horizontal and vertical polarisations. The turning table is operated through 360° during the measurements. The recordings are carried out taking into account the maximum value of all the disturbances appearing while the apparatus is under test. The peak values are recorded continuously on the graph. The values exceeding a limit are remeasured manually using a receiver.

Test set-up:



Remarks: Limit values expressed in $dB\mu V/m$ and transformed to a measuring distance of 1m (factor used = 20 dB/decade) if necessary
e.g.: for $f = 1GHz$ the limit is $500\mu V/m$ at 3m;

$$20 \log\left(\frac{500_{[\mu V/m]}}{1_{[\mu V/m]}}\right) + 20 \log\left(\frac{3_{[m]}}{1_{[m]}}\right) = 63.5 dB\mu V \text{ at } 1m$$

Test equipment:

Spectrum analyser	<input type="checkbox"/> 88-14	<input type="checkbox"/> 90-26	<input type="checkbox"/> 94-24	<input checked="" type="checkbox"/> 02-06	<input type="checkbox"/> 03-45	<input type="checkbox"/> 03-57
Receiver	<input type="checkbox"/> 85-04	<input type="checkbox"/> 90-43	<input type="checkbox"/> 94-35			
Preamplifier	<input type="checkbox"/> 90-01	<input type="checkbox"/> 95-86	<input type="checkbox"/> 05-56	<input type="checkbox"/> 05-59	<input type="checkbox"/> 05-62	<input checked="" type="checkbox"/> 05-87
Antenna (biconical)	<input type="checkbox"/> 82-02	<input type="checkbox"/> 87-05	<input type="checkbox"/> 87-16	<input type="checkbox"/> 91-05	<input type="checkbox"/> 94-37	
Antenna (log-per)	<input type="checkbox"/> 88-20	<input type="checkbox"/> 90-30	<input type="checkbox"/> 91-35	<input type="checkbox"/> 94-64		
Antenna (bilog)	<input type="checkbox"/> 94-03	<input type="checkbox"/> 05-38	<input type="checkbox"/>			
Antenna (horn)	<input checked="" type="checkbox"/> 90-24	<input type="checkbox"/> 90-29	<input type="checkbox"/> 98-12	<input type="checkbox"/> 98-13	<input type="checkbox"/>	
Cables	Succoflex 1 m					

Result:	<input checked="" type="checkbox"/> pass	<input type="checkbox"/> fail	<input type="checkbox"/> not applicable	<input type="checkbox"/> not tested
----------------	--	-------------------------------	---	-------------------------------------

Measurement Type : Radiated Field

Polarisation : Horizontal

Table Angle : 0 - 360°

Antenna Height : 0.8m



Equipment Under Test : SpotMell handheld

Set-Up : handheld open, upright

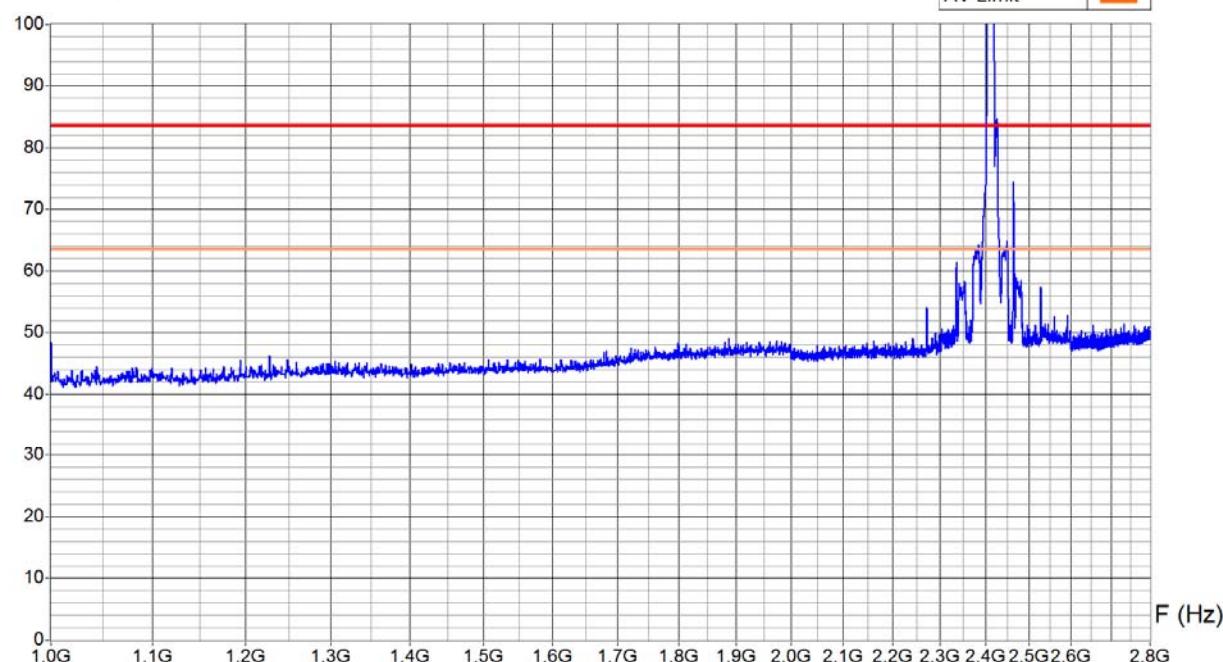
Operating Conditions : Tx, CSS Channel 1, Pmax

Remarks :

Level dB μ V/m

FCC 15.209 (@ 1m py)

Pk Limit	
AV Limit	



Zone	1 GHz - 2 GHz	2 GHz - 2.60 GHz	2.60 GHz - 2.80
Video Bandwidth	1 MHz	1 MHz	1 MHz
Resol Bandwidth	1 MHz	1 MHz	1 MHz

Operator: E. Staub
Date/Time: 07.04.2008 14:42
Filename:
20077722_handheld_FCC
SP-CSS_000h.png/.txt

Measurement Type : Radiated Field

Polarisation : Vertical

Table Angle : 0 - 360°

Antenna Height : 0.8m



Equipment Under Test : SpotMell handheld

Set-Up : handheld open, upright

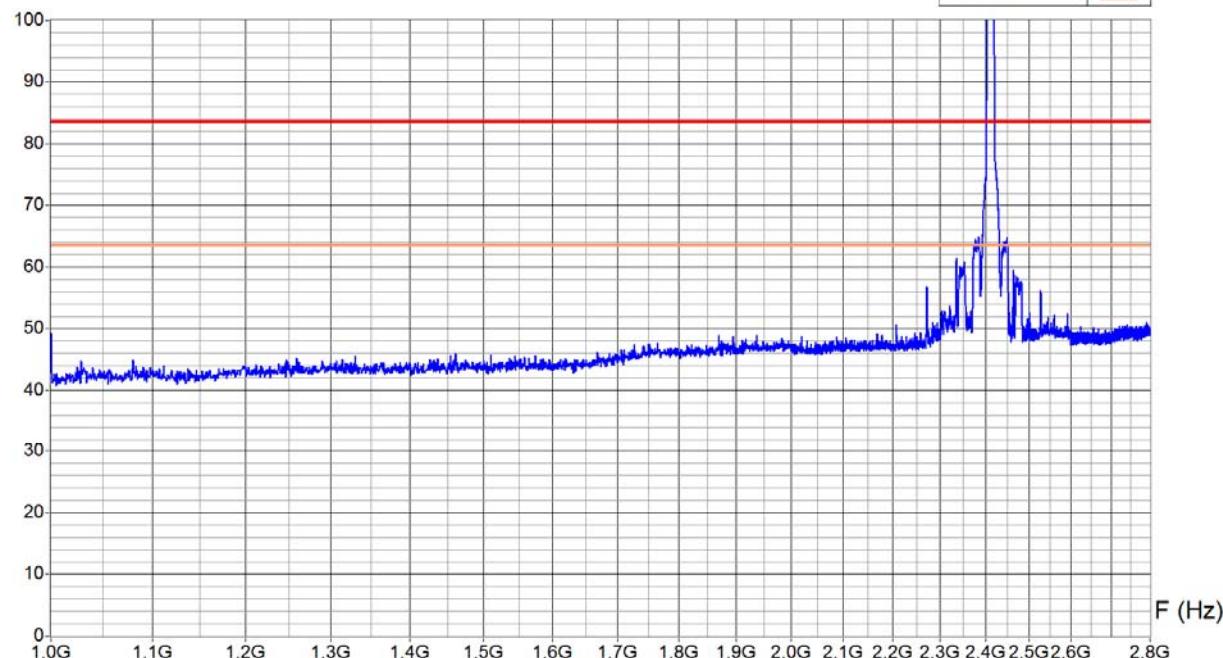
Operating Conditions : Tx, CSS Channel 1, Pmax

Remarks :

Level dB μ V/m

FCC 15.209 (@ 1m py)

Pk Limit	
AV Limit	



Zone	1 GHz - 2 GHz	2 GHz - 2.60 GHz	2.60 GHz - 2.80
Video Bandwidth	1 MHz	1 MHz	1 MHz
Resol Bandwidth	1 MHz	1 MHz	1 MHz

Operator: E. Staub
Date/Time: 07.04.2008 14:48
Filename:
20077722_handheld_FCC
SP-CSS_000v.png/.txt

Measurement Type : Radiated Field

Polarisation : Horizontal

Table Angle : 0 - 360°

Antenna Height : 0.8m



Equipment Under Test : SpotMell handheld

Set-Up : handheld open, upright

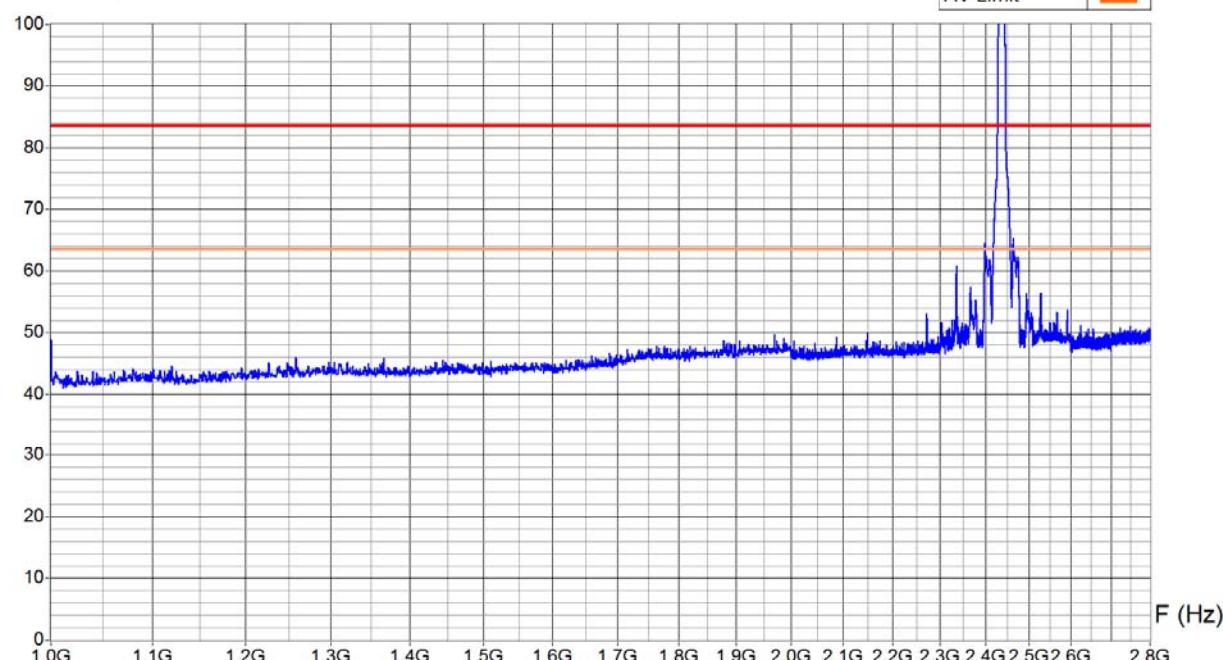
Operating Conditions : Tx, CSS Channel 6, Pmax

Remarks :

Level dB μ V/m

FCC 15.209 (@ 1m py)

Pk Limit	
AV Limit	



Zone	1 GHz - 2 GHz	2 GHz - 2.60 GHz	2.60 GHz - 2.80
Video Bandwidth	1 MHz	1 MHz	1 MHz
Resol Bandwidth	1 MHz	1 MHz	1 MHz

Operator: E. Staub
Date/Time: 07.04.2008 14:58
Filename:
20077722_handheld_FCC
SP-CSS_001h.png/.txt

Measurement Type : Radiated Field

Polarisation : Vertical

Table Angle : 0 - 360°

Antenna Height : 0.8m



Equipment Under Test : SpotMell handheld

Set-Up : handheld open, upright

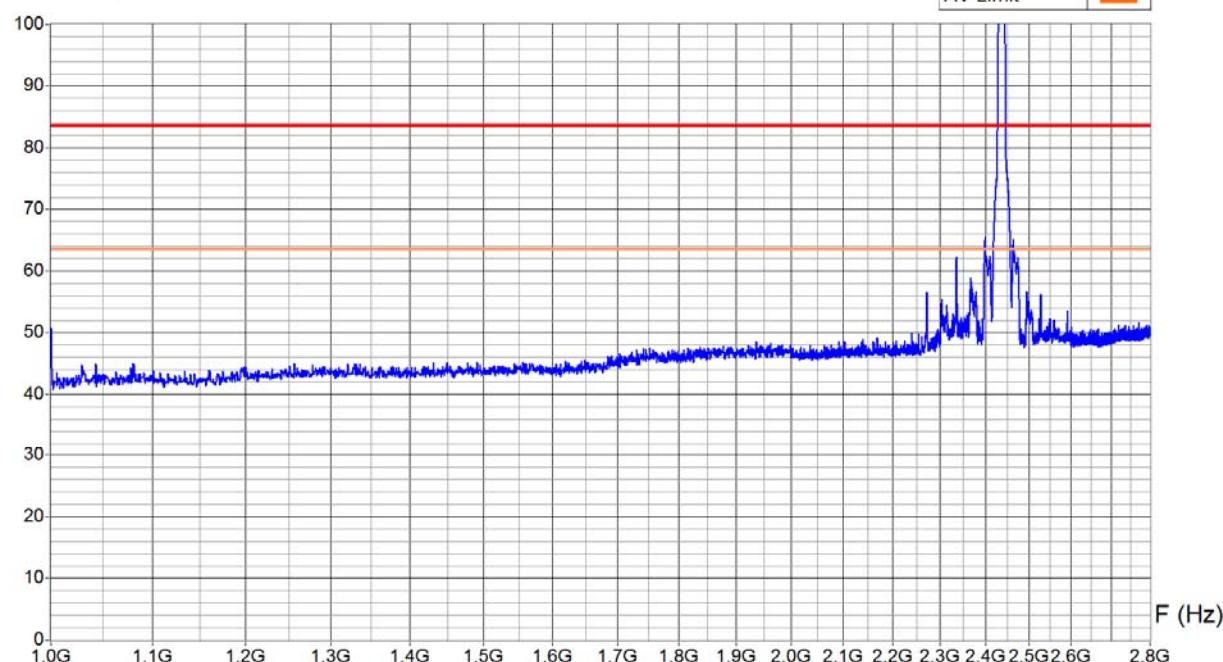
Operating Conditions : Tx, CSS Channel 6, Pmax

Remarks :

Level dB μ V/m

FCC 15.209 (@ 1m py)

Pk Limit	
AV Limit	



Zone	1 GHz - 2 GHz	2 GHz - 2.60 GHz	2.60 GHz - 2.80
Video Bandwidth	1 MHz	1 MHz	1 MHz
Resol Bandwidth	1 MHz	1 MHz	1 MHz

Operator: E. Staub
Date/Time: 07.04.2008 14:53
Filename: 20077722_handheld_FCC SP-CSS_001v.png/.txt

Measurement Type : Radiated Field

Polarisation : Horizontal

Table Angle : 0 - 360°

Antenna Height : 0.8m



Equipment Under Test : SpotMell handheld

Set-Up : handheld open, upright

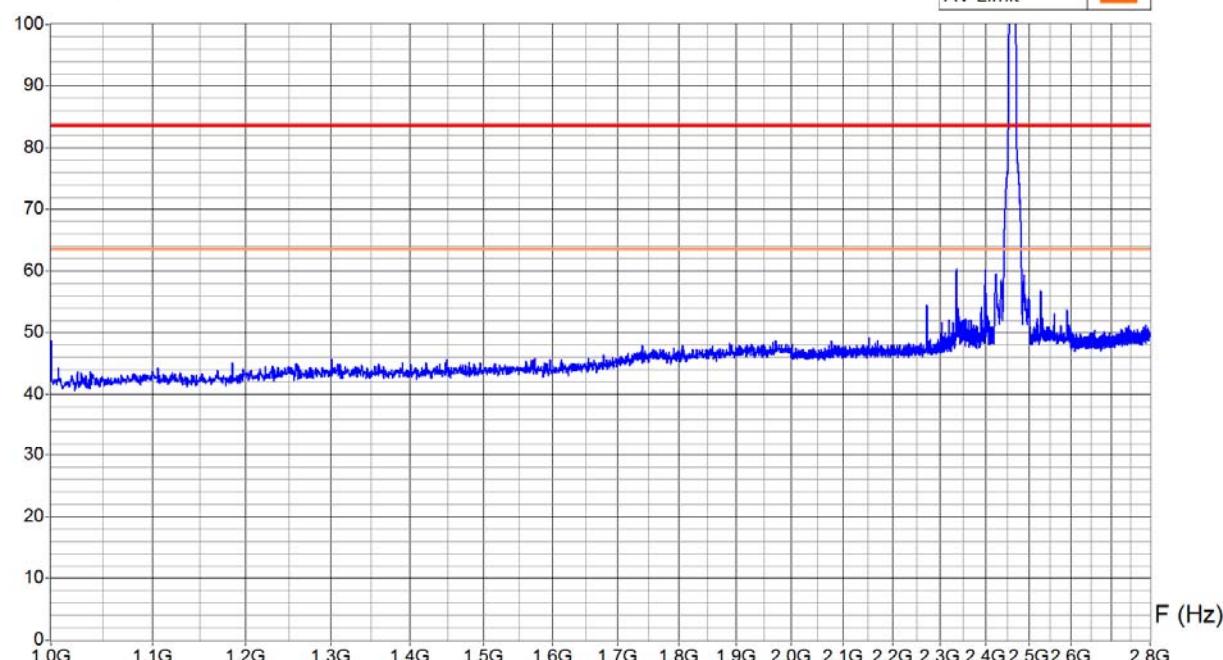
Operating Conditions : Tx, CSS Channel 11, Pmax

Remarks :

Level dB μ V/m

FCC 15.209 (@ 1m py)

Pk Limit	
AV Limit	



Zone	1 GHz - 2 GHz	2 GHz - 2.60 GHz	2.60 GHz - 2.80
Video Bandwidth	1 MHz	1 MHz	1 MHz
Resol Bandwidth	1 MHz	1 MHz	1 MHz

Operator: E. Staub
Date/Time: 07.04.2008 15:03
Filename: 20077722_handheld_FCC SP-CSS_002h.png/.txt

Measurement Type : Radiated Field

Polarisation : Vertical

Table Angle : 0 - 360°

Antenna Height : 0.8m



Equipment Under Test : SpotMell handheld

Set-Up : handheld open, upright

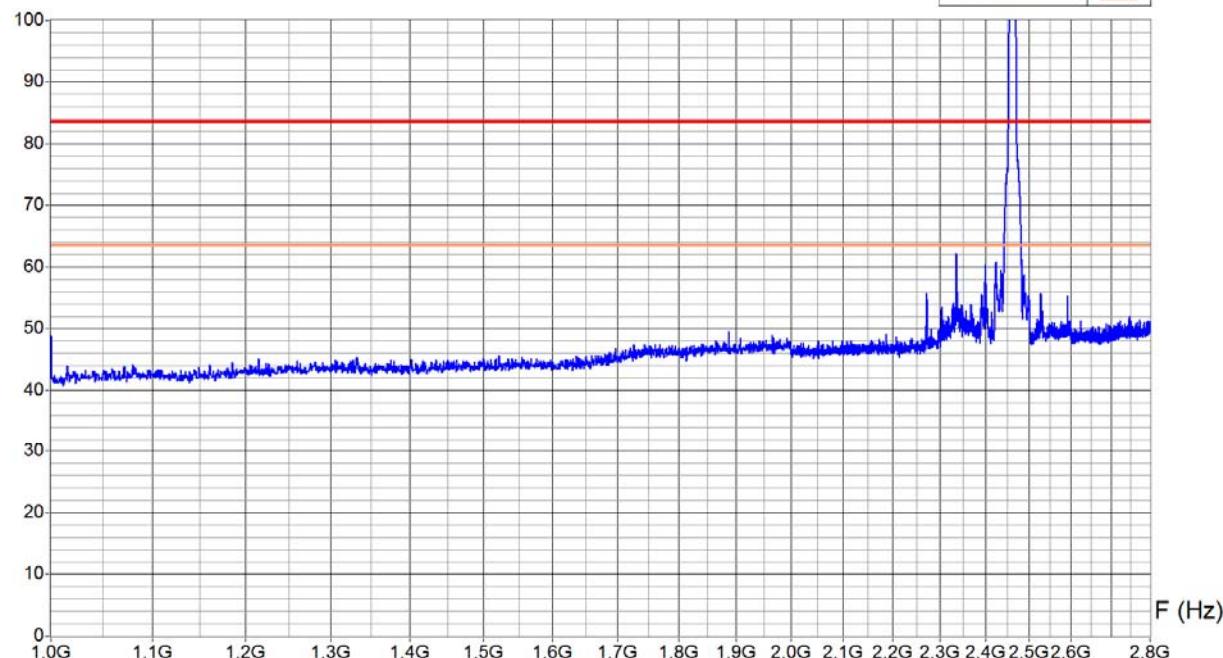
Operating Conditions : Tx, CSS Channel 11, Pmax

Remarks :

Level dB μ V/m

FCC 15.209 (@ 1m py)

Pk Limit	
AV Limit	



Zone	1 GHz - 2 GHz	2 GHz - 2.60 GHz	2.60 GHz - 2.80
Video Bandwidth	1 MHz	1 MHz	1 MHz
Resol Bandwidth	1 MHz	1 MHz	1 MHz

Operator: E. Staub
Date/Time: 07.04.2008 15:17
Filename:
20077722_handheld_FCC
SP-CSS_002v.png/.txt

Measurement Type : Radiated Field

Polarisation : Horizontal

Table Angle : 0 - 360°

Antenna Height : 0.8m



Equipment Under Test : SpotMell handheld

Set-Up : handheld open, laying

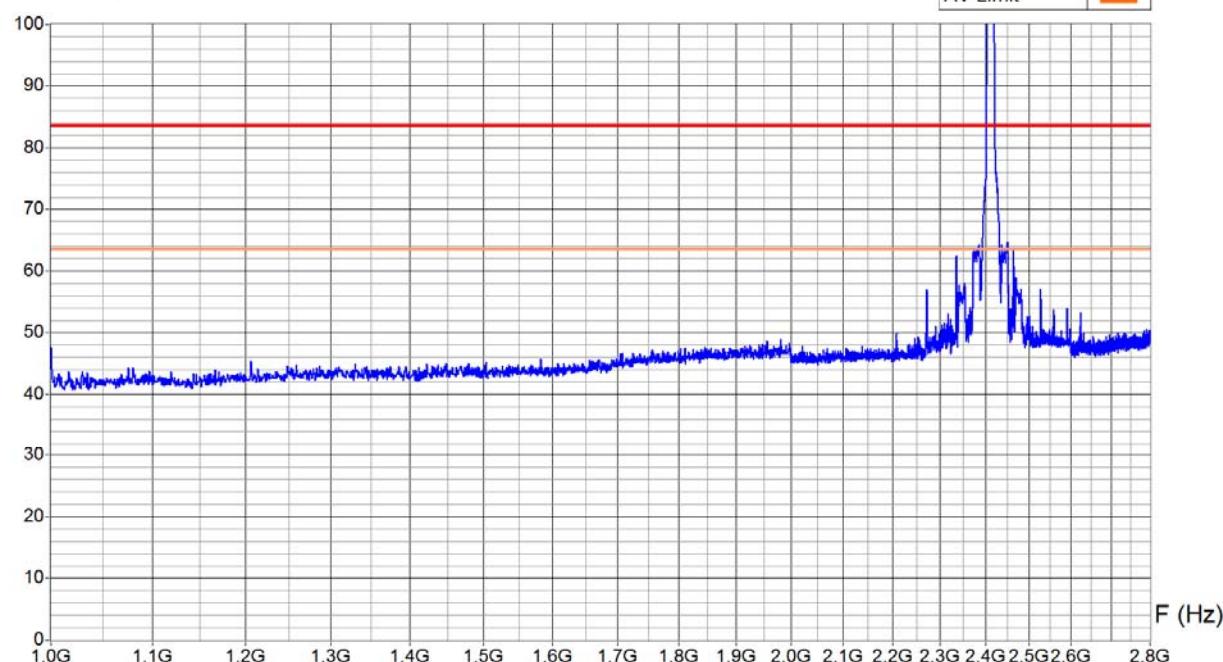
Operating Conditions : Tx, CSS Channel 1, Pmax

Remarks :

Level dB μ V/m

FCC 15.209 (@ 1m py)

PK Limit	
AV Limit	



Zone	1 GHz - 2 GHz	2 GHz - 2.60 GHz	2.60 GHz - 2.80
Video Bandwidth	1 MHz	1 MHz	1 MHz
Resol Bandwidth	1 MHz	1 MHz	1 MHz

Operator: E. Staub
Date/Time: 07.04.2008 17:12
Filename:
20077722_handheld_FCC
SP-CSS_003h.png/.txt

Measurement Type : Radiated Field

Polarisation : Vertical

Table Angle : 0 - 360°

Antenna Height : 0.8m



Equipment Under Test : SpotMell handheld

Set-Up : handheld open, laying

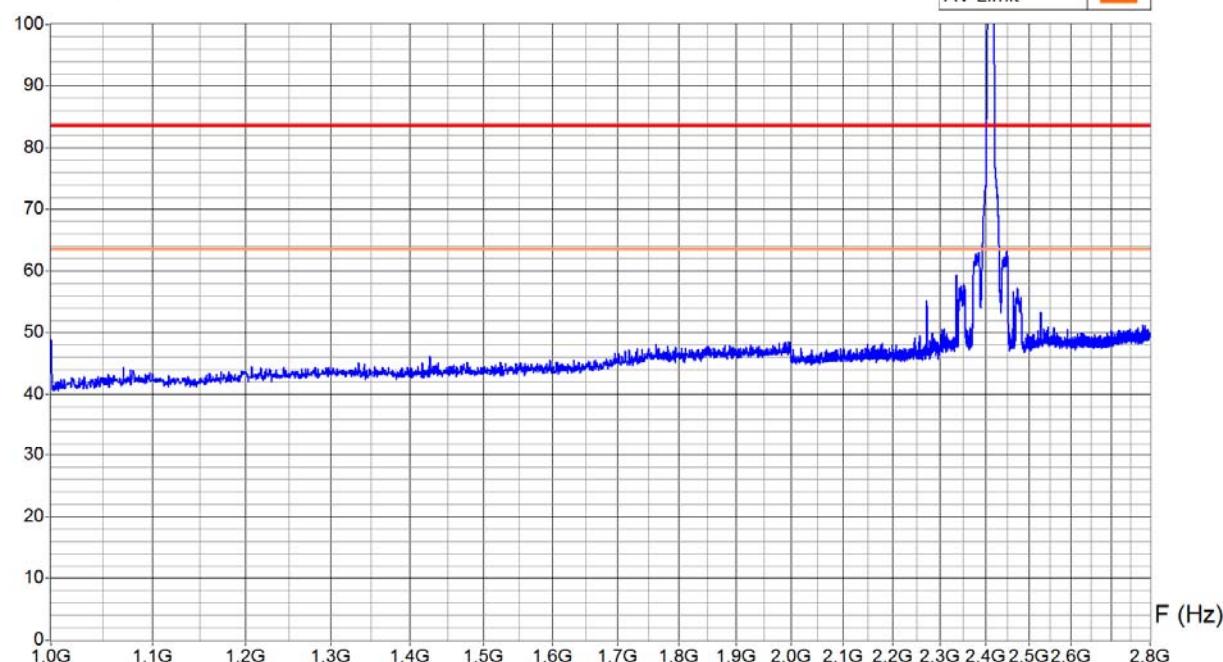
Operating Conditions : Tx, CSS Channel 1, Pmax

Remarks :

Level dB μ V/m

FCC 15.209 (@ 1m py)

PK Limit	
AV Limit	



Zone	1 GHz - 2 GHz	2 GHz - 2.60 GHz	2.60 GHz - 2.80
Video Bandwidth	1 MHz	1 MHz	1 MHz
Resol Bandwidth	1 MHz	1 MHz	1 MHz

Operator: E. Staub
Date/Time: 07.04.2008 17:17
Filename:
20077722_handheld_FCC
SP-CSS_003v.png/.txt

6.3.3 Radiated emission - Electromagnetic field (2.8 GHz – 13 GHz)

Test site: semi-anechoic chamber (foam) open test site
 semi-anechoic chamber (ferrites)

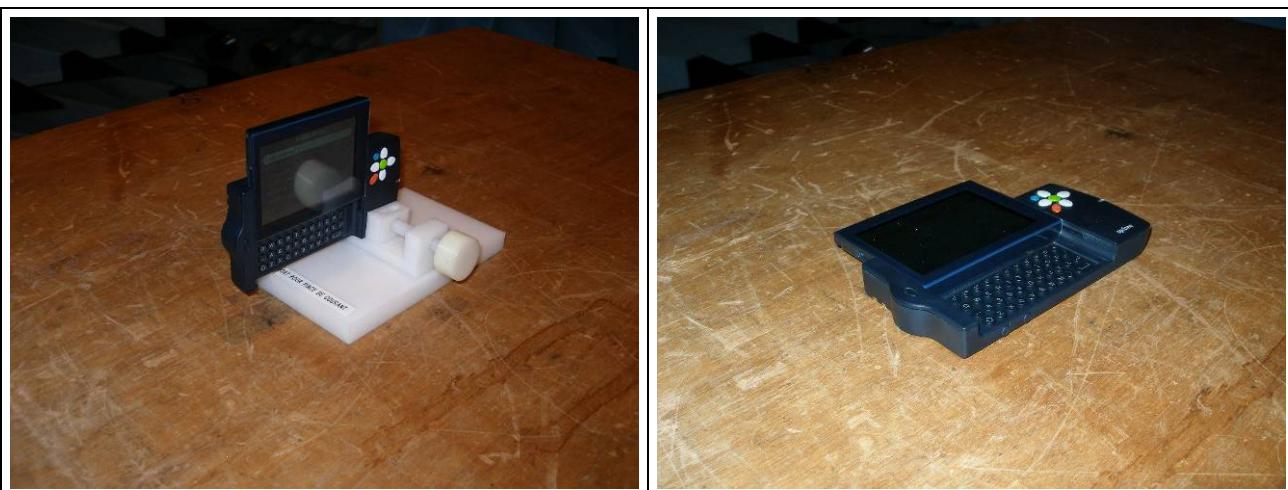
Distance: 30 m 10 m 3 m 1 m

Position of EUT: 0.8 m (height of the equipment under test above floor)

Meas. uncertainty: ± 4.7 dB

Test method: The electromagnetic disturbance radiated by the equipment is measured using a spectrum analyser and a wide band antenna. The antenna is placed at the same height as the EUT successively with horizontal and vertical polarisations. The turning table is operated through 360° during the measurements. The recordings are carried out taking into account the maximum value of all the disturbances appearing while the apparatus is under test. The peak values are recorded continuously on the graph. The values exceeding a limit are remeasured manually using a receiver.

Test set-up:



Remarks: Limit values expressed in $\text{dB}\mu\text{V}/\text{m}$ and transformed to a measuring distance of 1m (factor used = 20 dB/decade) if necessary
e.g.: for $f = 3\text{GHz}$ the limit is $500\mu\text{V}/\text{m}$ at 3m;

$$20 \log\left(\frac{500_{[\mu\text{V}/\text{m}]}}{1_{[\mu\text{V}/\text{m}]}}\right) + 20 \log\left(\frac{3_{[m]}}{1_{[m]}}\right) = 63.5 \text{dB}\mu\text{V} \text{ at 1m}$$

Test equipment:

Spectrum analyser	<input type="checkbox"/> 88-14	<input type="checkbox"/> 90-26	<input type="checkbox"/> 94-24	<input checked="" type="checkbox"/> 02-06	<input type="checkbox"/> 03-45	<input type="checkbox"/> 03-57
Receiver	<input type="checkbox"/> 85-04	<input type="checkbox"/> 90-43	<input type="checkbox"/> 94-35			
Preamplifier	<input type="checkbox"/> 90-01	<input type="checkbox"/> 95-86	<input checked="" type="checkbox"/> 05-56	<input type="checkbox"/> 05-59	<input type="checkbox"/> 05-62	<input type="checkbox"/> 05-87
Antenna (biconical)	<input type="checkbox"/> 82-02	<input type="checkbox"/> 87-05	<input type="checkbox"/> 87-16	<input type="checkbox"/> 91-05	<input type="checkbox"/> 94-37	
Antenna (log-per)	<input type="checkbox"/> 88-20	<input type="checkbox"/> 90-30	<input type="checkbox"/> 91-35	<input type="checkbox"/> 94-64		
Antenna (bilog)	<input type="checkbox"/> 94-03	<input type="checkbox"/> 05-38	<input type="checkbox"/>			
Antenna (horn)	<input checked="" type="checkbox"/> 90-24	<input type="checkbox"/> 90-29	<input type="checkbox"/> 98-12	<input type="checkbox"/> 98-13	<input type="checkbox"/>	
Cables	Succoflex 1 m					
Filters	<input checked="" type="checkbox"/> High pass					

Result:	<input checked="" type="checkbox"/> pass	<input type="checkbox"/> fail	<input type="checkbox"/> not applicable	<input type="checkbox"/> not tested
----------------	--	-------------------------------	---	-------------------------------------

Measurement Type : Radiated Field

Polarisation : Horizontal

Table Angle : 0 - 360°

Antenna Height : 0.8m



Equipment Under Test : SpotMell handheld

Set-Up : handheld open, upright

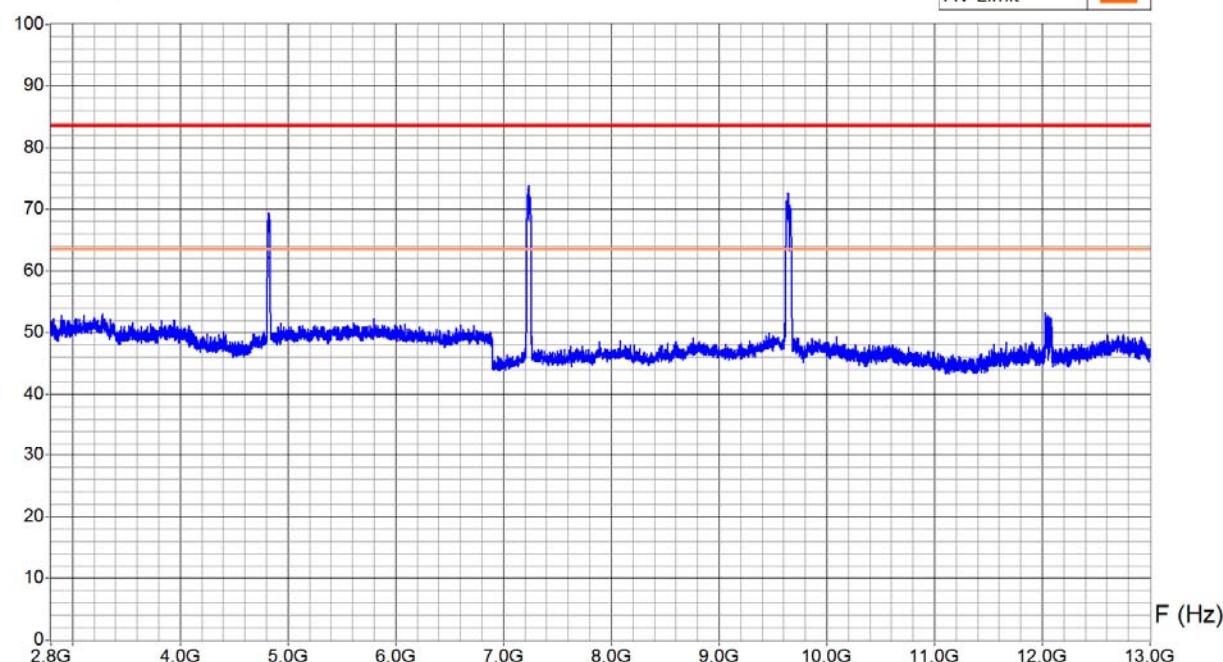
Operating Conditions : Tx, CSSS Channel 1, Pmax

Remarks :

Level dB μ V/m

FCC 15.209 (@ 1m py)

Pk Limit	
AV Limit	



Zone	2.80 GHz - 4.60	4.60 GHz - 6.90	6.90 GHz - 10 GHz	10 GHz - 11.50 GHz	11.50 GHz - 13 GHz
Video Bandwidth	1 MHz	1 MHz	300 KHz	300 KHz	300 KHz
Resol Bandwidth	1 MHz	1 MHz	300 KHz	300 KHz	300 KHz

Operator: E. Staub
Date/Time: 08.04.2008 17:08
Filename:
20077722_handheld_FCC
SP-CSSS_006h.png/.txt

Measurement Type : Radiated Field

Polarisation : Vertical

Table Angle : 0 - 360°

Antenna Height : 0.8m



Equipment Under Test : SpotMell handheld

Set-Up : handheld open, upright

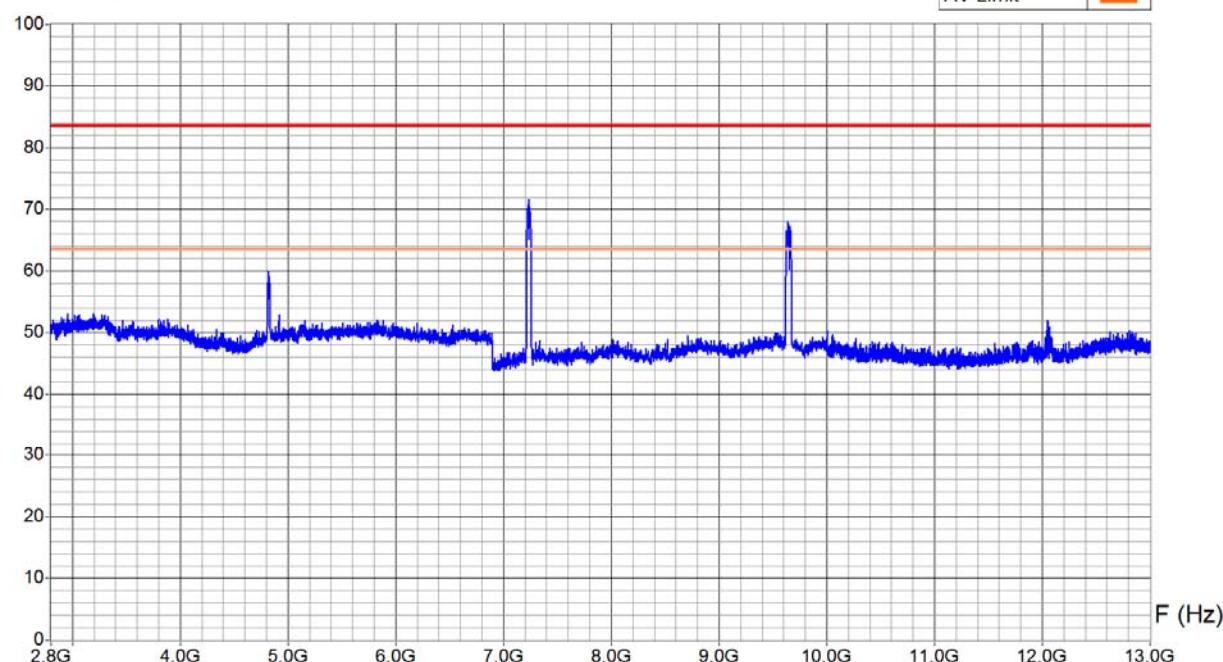
Operating Conditions : Tx, CSSS Channel 1, Pmax

Remarks :

Level dB μ V/m

FCC 15.209 (@ 1m py)

Pk Limit	
AV Limit	



Zone	2.80 GHz - 4.60	4.60 GHz - 6.90	6.90 GHz - 10 GHz	10 GHz - 11.50 GHz	11.50 GHz - 13 GHz
Video Bandwidth	1 MHz	1 MHz	300 KHz	300 KHz	300 KHz
Resol Bandwidth	1 MHz	1 MHz	300 KHz	300 KHz	300 KHz

Operator: E. Staub
Date/Time: 10.04.2008 09:20
Filename: 20077722_handheld_FCC SP-CSSS_006v.png/.txt

Measurement Type : Radiated Field

Polarisation : Horizontal

Table Angle : 0 - 360°

Antenna Height : 0.8m



Equipment Under Test : SpotMell handheld

Set-Up : handheld open, upright

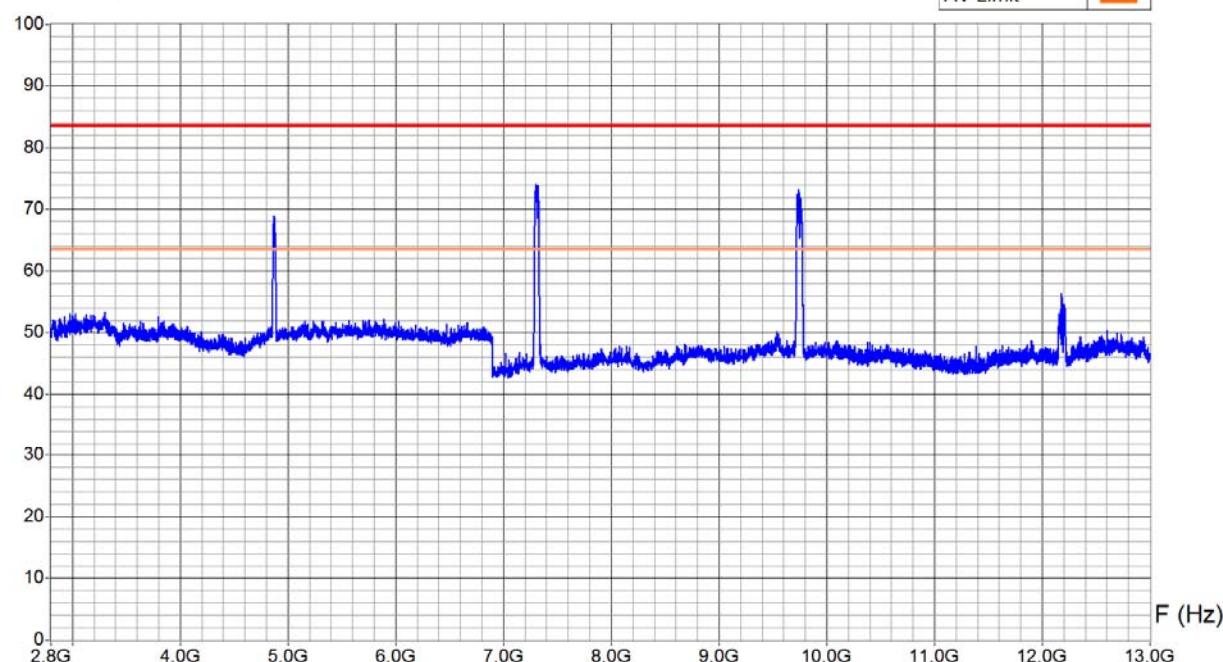
Operating Conditions : Tx, CSSS Channel 6, Pmax

Remarks :

Level dB μ V/m

FCC 15.209 (@ 1m py)

Pk Limit	
AV Limit	



Zone	2.80 GHz - 4.60	4.60 GHz - 6.90	6.90 GHz - 10 GHz	10 GHz - 11.50 GHz	11.50 GHz - 13 GHz
Video Bandwidth	1 MHz	1 MHz	300 KHz	300 KHz	300 KHz
Resol Bandwidth	1 MHz	1 MHz	300 KHz	300 KHz	300 KHz

Operator: E. Staub
Date/Time: 08.04.2008 17:13
Filename: 20077722_handheld_FCC SP-CSSS_007h.png/.txt

Measurement Type : Radiated Field

Polarisation : Vertical

Table Angle : 0 - 360°

Antenna Height : 0.8m



Equipment Under Test : SpotMell handheld

Set-Up : handheld open, upright

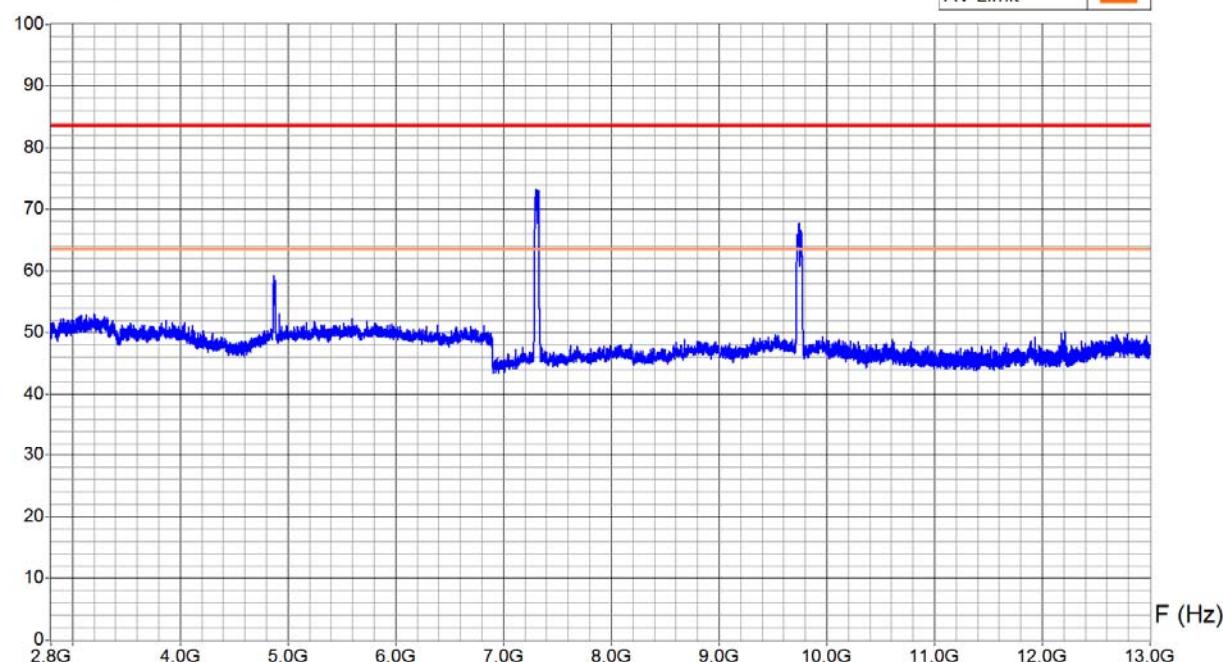
Operating Conditions : Tx, CSSS Channel 6, Pmax

Remarks :

Level dB μ V/m

FCC 15.209 (@ 1m py)

Pk Limit	
AV Limit	



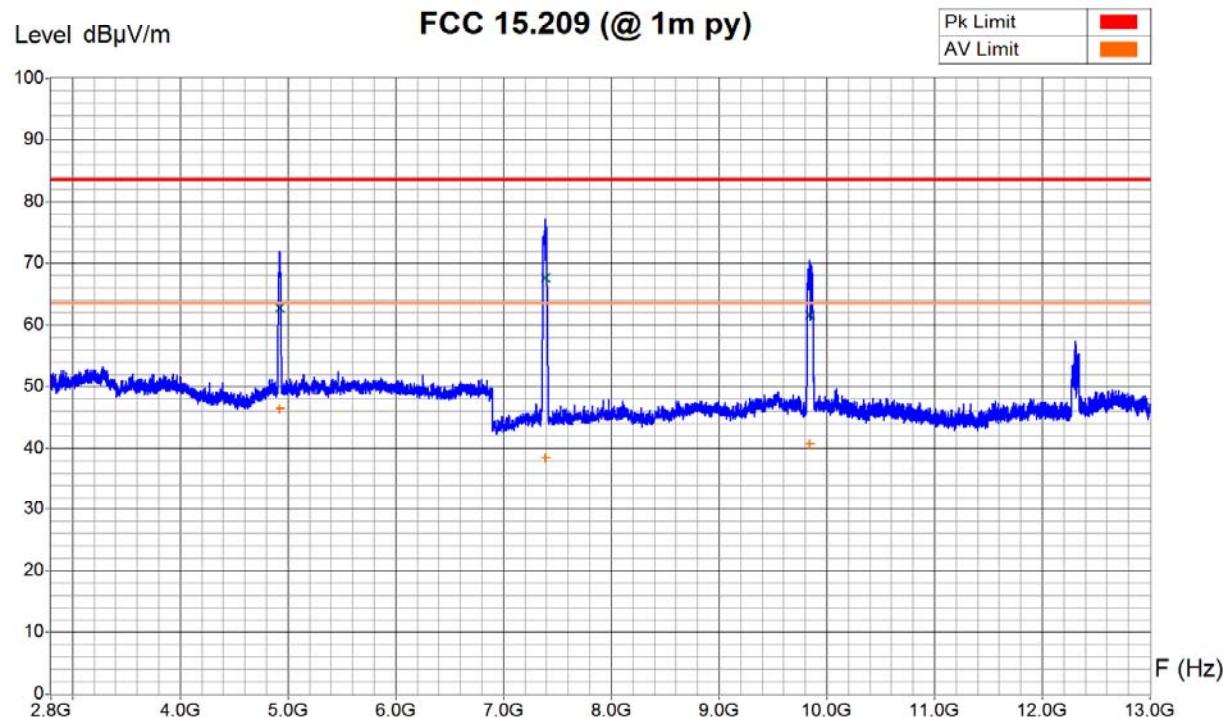
Zone	2.80 GHz - 4.60	4.60 GHz - 6.90	6.90 GHz - 10 GHz	10 GHz - 11.50 GHz	11.50 GHz - 13 GHz
Video Bandwidth	1 MHz	1 MHz	300 KHz	300 KHz	300 KHz
Resol Bandwidth	1 MHz	1 MHz	300 KHz	300 KHz	300 KHz

Operator: E. Staub
Date/Time: 10.04.2008 09:24
Filename:
20077722_handheld_FCC
SP-CSSS_007v.png/.txt

Measurement Type : Radiated Field
 Polarisation : Horizontal
 Table Angle : 0 - 360°
 Antenna Height : 0.8m



Equipment Under Test : SpotMell handheld
 Set-Up : handheld open, upright
 Operating Conditions : Tx, CSSS Channel 11, Pmax
 Remarks :



Zone	2.80 GHz - 4.60	4.60 GHz - 6.90	6.90 GHz - 10 GHz	10 GHz - 11.50 GHz	11.50 GHz - 13 GHz
Video Bandwidth	1 MHz	1 MHz	300 KHz	300 KHz	300 KHz
Resol Bandwidth	1 MHz	1 MHz	300 KHz	300 KHz	300 KHz

Receiver Measures

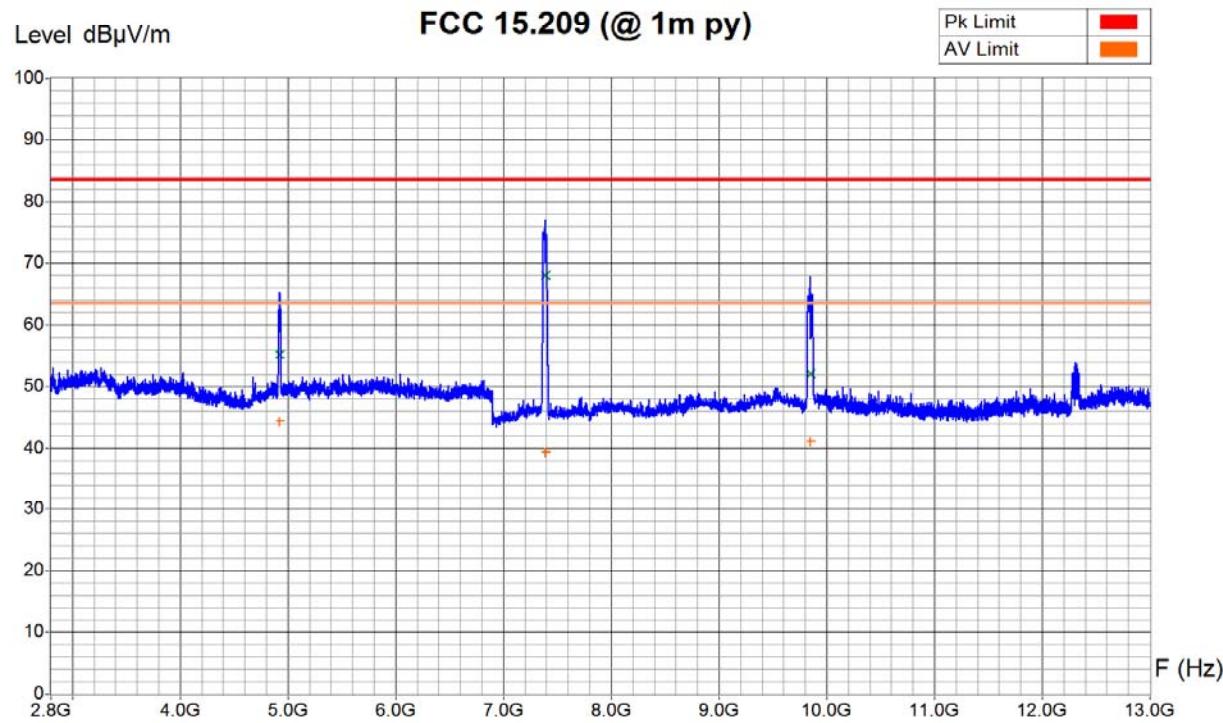
Frequency	Peak	QuasiPeak (x)	Average (+)	QP Margin
4.93 GHz	71.9 dB μ V/m	62.7 dB μ V/m	46.5 dB μ V/m	NaN dB
2.15 GHz	0.0 dB μ V/m	0.0 dB μ V/m	0.0 dB μ V/m	0.0 dB
2.15 GHz	0.0 dB μ V/m	0.0 dB μ V/m	0.0 dB μ V/m	0.0 dB

Operator: E. Staub
 Date/Time: 08.04.2008 17:18
 Filename:
 20077722_handheld_FCC
 SP-CSSS_008h.png/.txt

Measurement Type : Radiated Field
 Polarisation : Vertical
 Table Angle : 0 - 360°
 Antenna Height : 0.8m



Equipment Under Test : SpotMell handheld
 Set-Up : handheld open, upright
 Operating Conditions : Tx, CSSS Channel 11, Pmax
 Remarks :



Zone	2.80 GHz - 4.60	4.60 GHz - 6.90	6.90 GHz - 10 GHz	10 GHz - 11.50 GHz	11.50 GHz - 13 GHz
Video Bandwidth	1 MHz	1 MHz	300 KHz	300 KHz	300 KHz
Resol Bandwidth	1 MHz	1 MHz	300 KHz	300 KHz	300 KHz

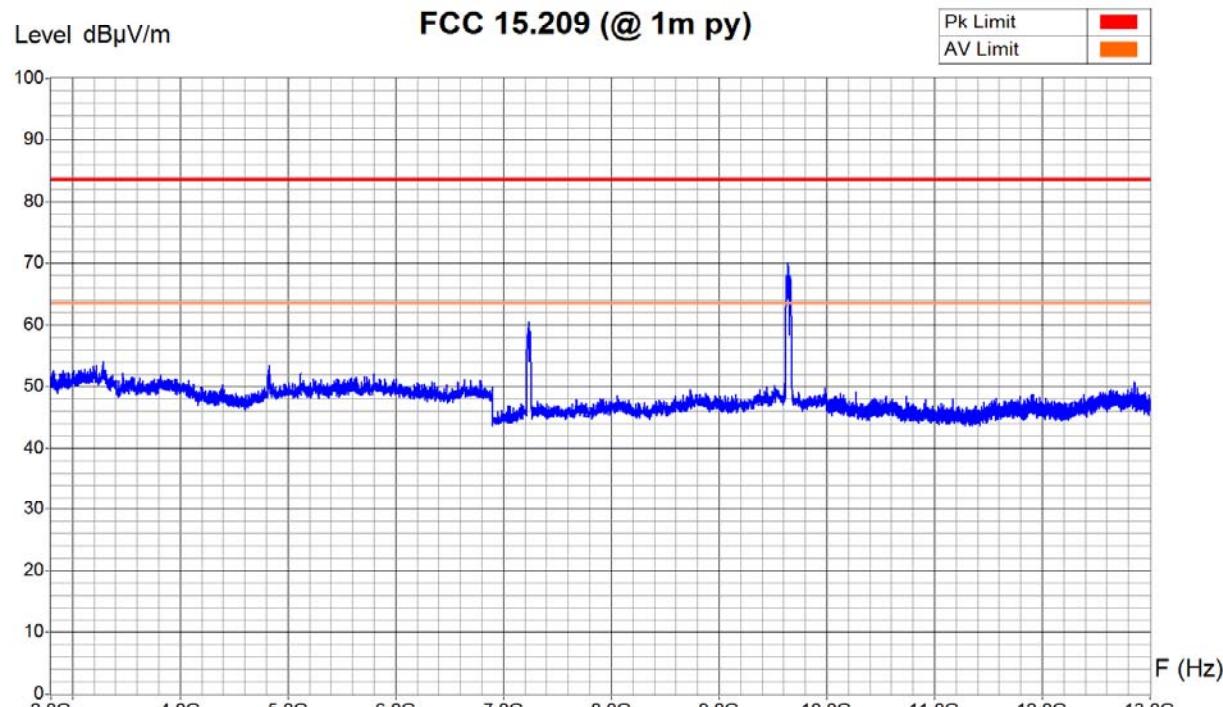
Receiver Measures

Frequency	Peak	QuasiPeak (x)	Average (+)	QP Margin
4.93 GHz	65.3 dB μ V/m	55.2 dB μ V/m	44.4 dB μ V/m	NaN dB
2.15 GHz	0.0 dB μ V/m	0.0 dB μ V/m	0.0 dB μ V/m	0.0 dB
2.15 GHz	0.0 dB μ V/m	0.0 dB μ V/m	0.0 dB μ V/m	0.0 dB

Operator: E. Staub
 Date/Time: 10.04.2008 09:28
 Filename:
 20077722_handheld_FCC
 SP-CSSS_008v.png/.txt

Measurement Type : Radiated Field
 Polarisation : Horizontal
 Table Angle : 0 - 360°
 Antenna Height : 0.8m

 Equipment Under Test : SpotMell handheld
 Set-Up : handheld open, laying
 Operating Conditions : Tx, CSSS Channel 1, Pmax
 Remarks :



Zone	2.80 GHz - 4.60	4.60 GHz - 6.90	6.90 GHz - 10 GHz	10 GHz - 11.50 GHz	11.50 GHz - 13 GHz
Video Bandwidth	1 MHz	1 MHz	300 KHz	300 KHz	300 KHz
Resol Bandwidth	1 MHz	1 MHz	300 KHz	300 KHz	300 KHz

Operator: E. Staub
Date/Time: 10.04.2008 12:14
Filename: 20077722_handheld_FCC
SP-CSSS_015h.png/.txt

Measurement Type : Radiated Field

Polarisation : Vertical

Table Angle : 0 - 360°

Antenna Height : 0.8m



Equipment Under Test : SpotMell handheld

Set-Up : handheld open, laying

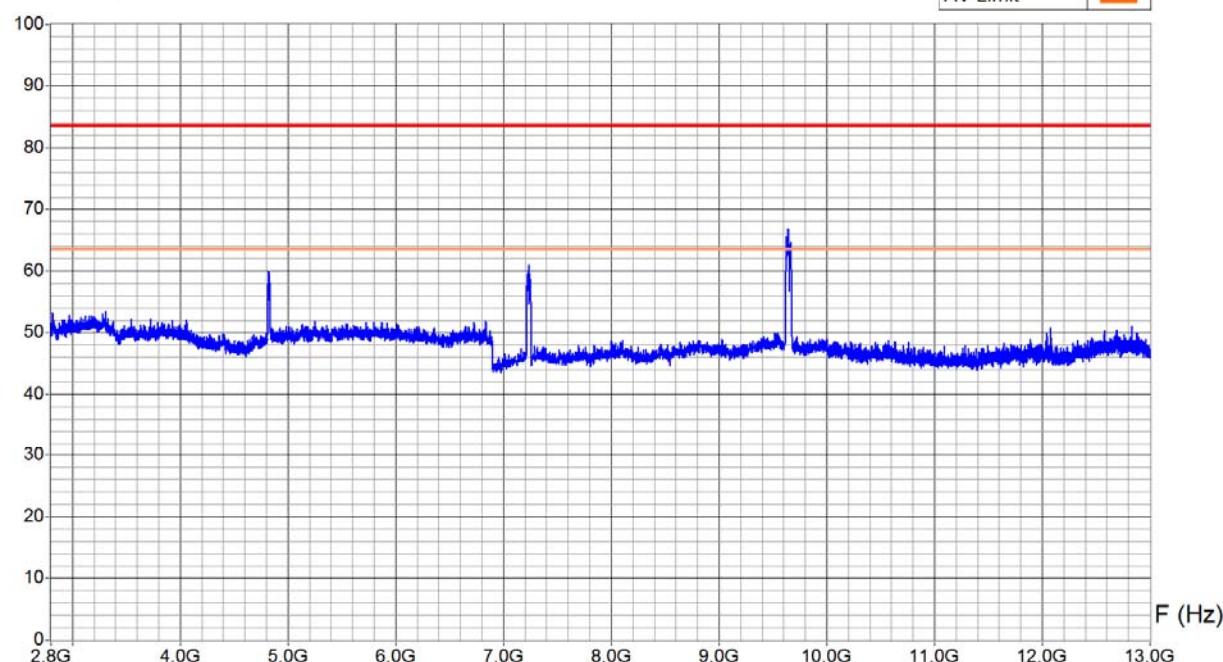
Operating Conditions : Tx, CSSS Channel 1, Pmax

Remarks :

Level dB μ V/m

FCC 15.209 (@ 1m py)

Pk Limit	
AV Limit	



Zone	2.80 GHz - 4.60	4.60 GHz - 6.90	6.90 GHz - 10 GHz	10 GHz - 11.50 GHz	11.50 GHz - 13 GHz
Video Bandwidth	1 MHz	1 MHz	300 KHz	300 KHz	300 KHz
Resol Bandwidth	1 MHz	1 MHz	300 KHz	300 KHz	300 KHz

Operator: E. Staub
Date/Time: 10.04.2008 12:05
Filename:
20077722_handheld_FCC
SP-CSSS_015v.png/.txt

6.3.4 Radiated emission - Electromagnetic field (13 GHz – 18 GHz)

Test site: semi-anechoic chamber (foam) open test site
 semi-anechoic chamber (ferrites)

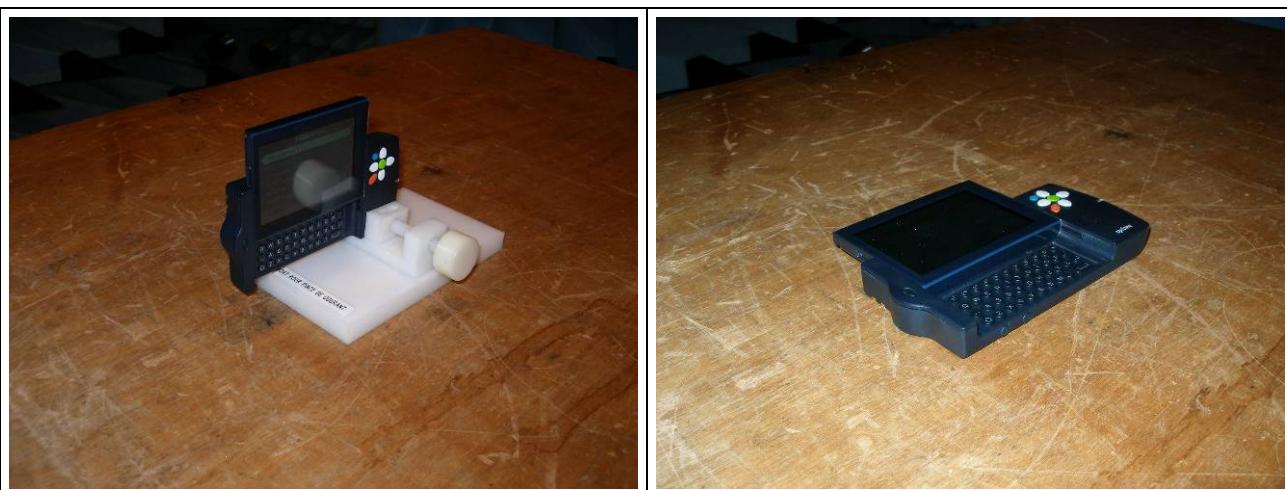
Distance: 30 m 10 m 3 m 1 m

Position of EUT: 0.8 m (height of the equipment under test above floor)

Meas. uncertainty: ± 4.7 dB

Test method: The electromagnetic disturbance radiated by the equipment is measured using a spectrum analyser and a wide band antenna. The antenna is placed at the same height as the EUT successively with horizontal and vertical polarisations. The turning table is operated through 360° during the measurements. The recordings are carried out taking into account the maximum value of all the disturbances appearing while the apparatus is under test. The peak values are recorded continuously on the graph. The values exceeding a limit are remeasured manually using a receiver.

Test set-up:



Remarks: Limit values expressed in dB μ V/m and transformed to a measuring distance of 1m (factor used = 20 dB/decade) if necessary
e.g.: for f = 13GHz the limit is 500 μ V/m at 3m;

$$20 \log\left(\frac{500_{[\mu\text{V}/\text{m}]}}{1_{[\mu\text{V}/\text{m}]}}\right) + 20 \log\left(\frac{3_{[m]}}{1_{[m]}}\right) = 63.5 \text{dB}\mu\text{V} \text{ at } 1\text{m}$$

Test equipment:

Spectrum analyser	<input type="checkbox"/> 88-14	<input type="checkbox"/> 90-26	<input type="checkbox"/> 94-24	<input checked="" type="checkbox"/> 02-06	<input type="checkbox"/> 03-45	<input type="checkbox"/> 03-57
Receiver	<input type="checkbox"/> 85-04	<input type="checkbox"/> 90-43	<input type="checkbox"/> 94-35			
Preamplifier	<input type="checkbox"/> 90-01	<input type="checkbox"/> 95-86	<input checked="" type="checkbox"/> 05-56	<input type="checkbox"/> 05-59	<input type="checkbox"/> 05-62	<input type="checkbox"/> 05-87
Antenna (biconical)	<input type="checkbox"/> 82-02	<input type="checkbox"/> 87-05	<input type="checkbox"/> 87-16	<input type="checkbox"/> 91-05	<input type="checkbox"/> 94-37	
Antenna (log-per)	<input type="checkbox"/> 88-20	<input type="checkbox"/> 90-30	<input type="checkbox"/> 91-35	<input type="checkbox"/> 94-64		
Antenna (bilog)	<input type="checkbox"/> 94-03	<input type="checkbox"/> 05-38	<input type="checkbox"/>			
Antenna (horn)	<input checked="" type="checkbox"/> 90-24	<input type="checkbox"/> 90-29	<input type="checkbox"/> 98-12	<input type="checkbox"/> 98-13	<input type="checkbox"/>	
Cables		Succoflex 1 m				
Filters		<input checked="" type="checkbox"/> High pass				

Result:	<input checked="" type="checkbox"/> pass	<input type="checkbox"/> fail	<input type="checkbox"/> not applicable	<input type="checkbox"/> not tested
----------------	--	-------------------------------	---	-------------------------------------

Measurement Type : Radiated Field

Polarisation : Horizontal

Table Angle : 0 - 360°

Antenna Height : 0.8m



Equipment Under Test : SpotMell handheld

Set-Up : handheld open, upright

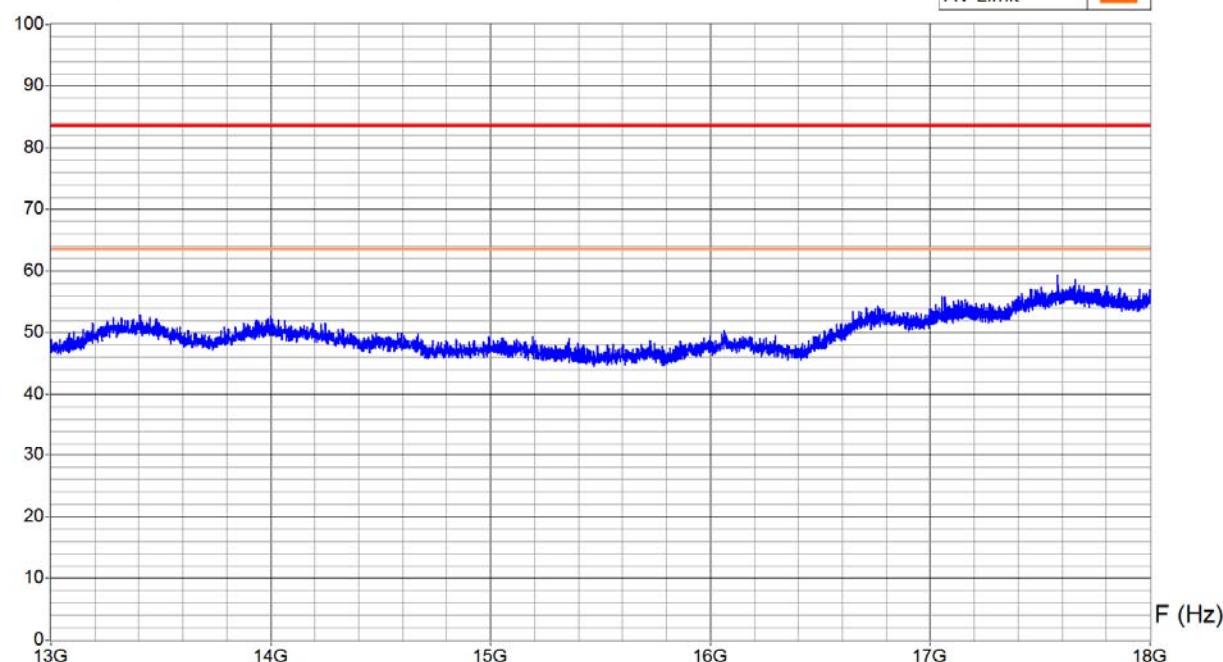
Operating Conditions : Tx, CSSS Channel 1, Pmax

Remarks :

Level dB μ V/m

FCC 15.209 (@ 1m py)

Pk Limit	
AV Limit	



Zone	13 GHz - 15 GHz	15 GHz - 17 GHz	17 GHz - 18 GHz
Video Bandwidth	300 KHz	300 KHz	300 KHz
Resol Bandwidth	300 KHz	300 KHz	300 KHz

Operator: E. Staub
Date/Time: 10.04.2008 17:01
Filename: 20077722_handheld_FCC SP-CSSS_009h.png/.txt

Measurement Type : Radiated Field

Polarisation : Vertical

Table Angle : 0 - 360°

Antenna Height : 0.8m



Equipment Under Test : SpotMell handheld

Set-Up : handheld open, upright

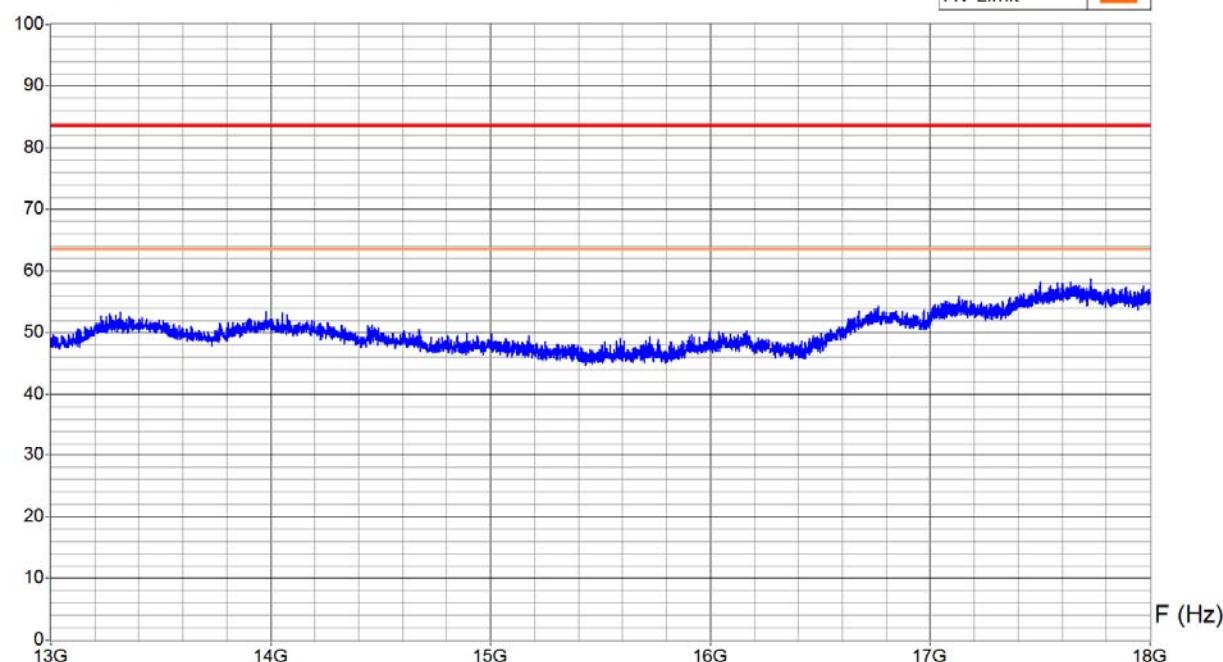
Operating Conditions : Tx, CSSS Channel 1, Pmax

Remarks :

Level dB μ V/m

FCC 15.209 (@ 1m py)

Pk Limit	
AV Limit	



Zone	13 GHz - 15 GHz	15 GHz - 17 GHz	17 GHz - 18 GHz
Video Bandwidth	300 KHz	300 KHz	300 KHz
Resol Bandwidth	300 KHz	300 KHz	300 KHz

Operator: E. Staub
Date/Time: 10.04.2008 17:17
Filename:
20077722_handheld_FCC
SP-CSSS_009v.png/.txt

Measurement Type : Radiated Field

Polarisation : Horizontal

Table Angle : 0 - 360°

Antenna Height : 0.8m



Equipment Under Test : SpotMell handheld

Set-Up : handheld open, upright

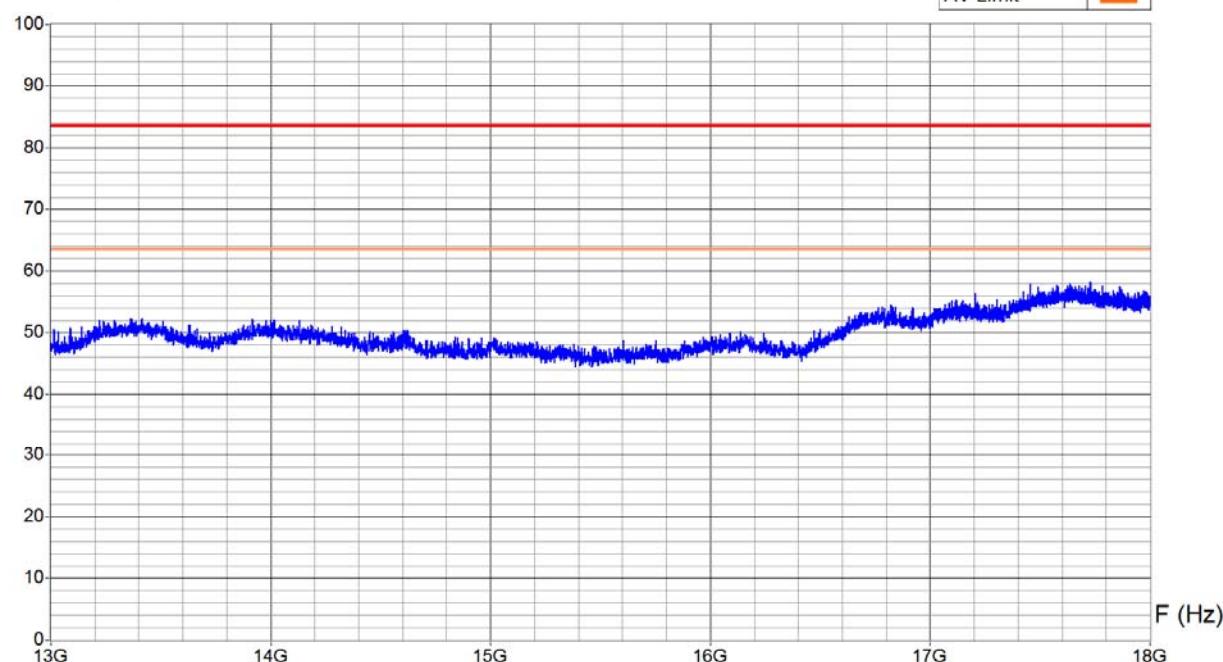
Operating Conditions : Tx, CSSS Channel 6, Pmax

Remarks :

Level dB μ V/m

FCC 15.209 (@ 1m py)

Pk Limit	
AV Limit	



Zone	13 GHz - 15 GHz	15 GHz - 17 GHz	17 GHz - 18 GHz
Video Bandwidth	300 KHz	300 KHz	300 KHz
Resol Bandwidth	300 KHz	300 KHz	300 KHz

Operator: E. Staub
Date/Time: 10.04.2008 17:04
Filename:
20077722_handheld_FCC
SP-CSSS_010h.png/.txt

Measurement Type : Radiated Field

Polarisation : Vertical

Table Angle : 0 - 360°

Antenna Height : 0.8m



Equipment Under Test : SpotMell handheld

Set-Up : handheld open, upright

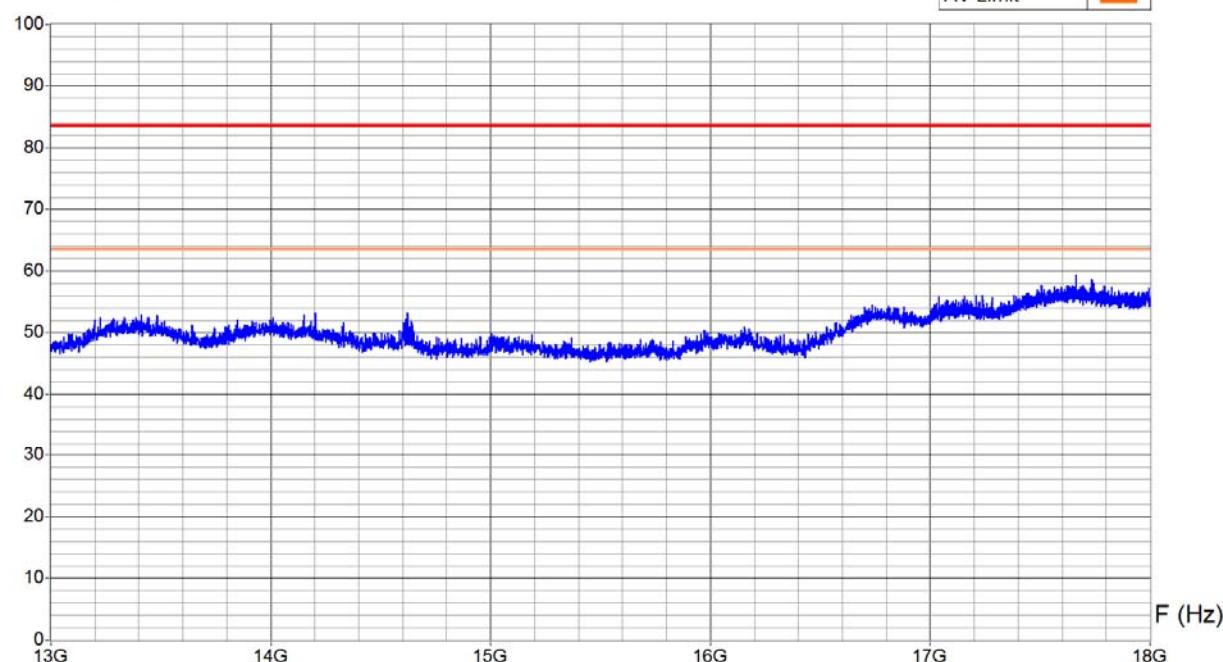
Operating Conditions : Tx, CSSS Channel 6, Pmax

Remarks :

Level dB μ V/m

FCC 15.209 (@ 1m py)

Pk Limit	
AV Limit	



Zone	13 GHz - 15 GHz	15 GHz - 17 GHz	17 GHz - 18 GHz
Video Bandwidth	300 KHz	300 KHz	300 KHz
Resol Bandwidth	300 KHz	300 KHz	300 KHz

Operator: E. Staub
Date/Time: 10.04.2008 17:20
Filename:
20077722_handheld_FCC
SP-CSSS_010v.png/.txt

Measurement Type : Radiated Field

Polarisation : Horizontal

Table Angle : 0 - 360°

Antenna Height : 0.8m



Equipment Under Test : SpotMell handheld

Set-Up : handheld open, upright

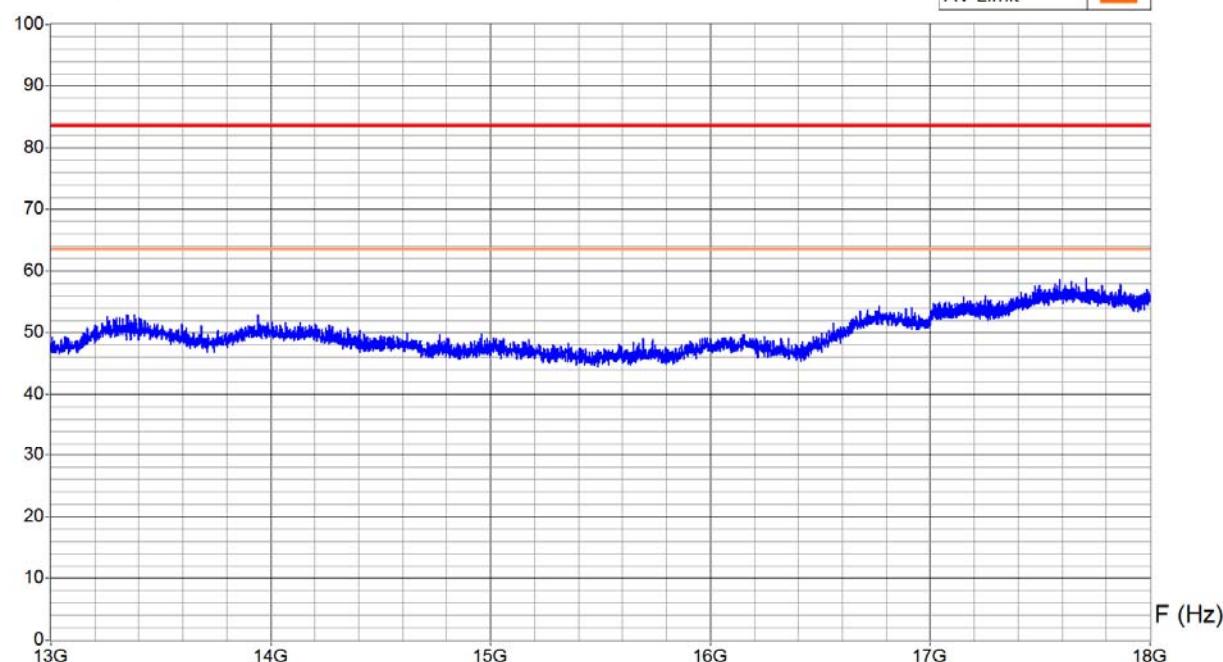
Operating Conditions : Tx, CSSS Channel 11, Pmax

Remarks :

Level dB μ V/m

FCC 15.209 (@ 1m py)

Pk Limit	
AV Limit	



Zone	13 GHz - 15 GHz	15 GHz - 17 GHz	17 GHz - 18 GHz
Video Bandwidth	300 KHz	300 KHz	300 KHz
Resol Bandwidth	300 KHz	300 KHz	300 KHz

Operator: E. Staub
Date/Time: 10.04.2008 17:08
Filename:
20077722_handheld_FCC
SP-CSSS_011h.png/.txt

Measurement Type : Radiated Field

Polarisation : Vertical

Table Angle : 0 - 360°

Antenna Height : 0.8m



Equipment Under Test : SpotMell handheld

Set-Up : handheld open, upright

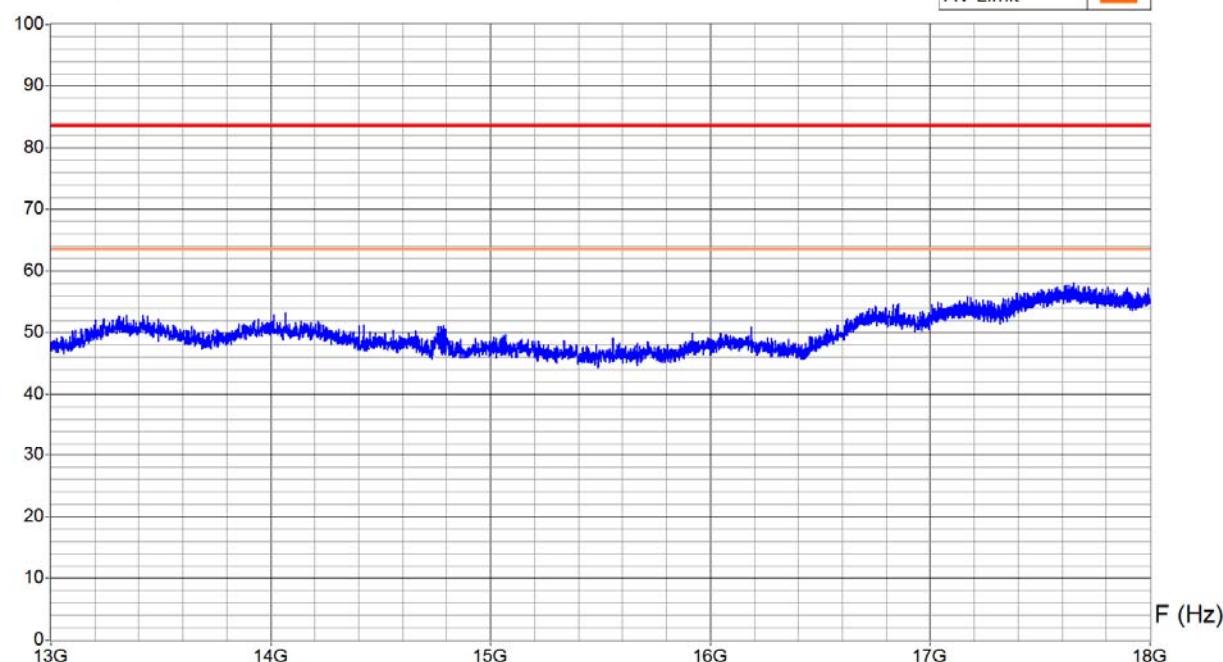
Operating Conditions : Tx, CSSS Channel 11, Pmax

Remarks :

Level dB μ V/m

FCC 15.209 (@ 1m py)

Pk Limit	
AV Limit	



Zone	13 GHz - 15 GHz	15 GHz - 17 GHz	17 GHz - 18 GHz
Video Bandwidth	300 KHz	300 KHz	300 KHz
Resol Bandwidth	300 KHz	300 KHz	300 KHz

Operator: E. Staub
Date/Time: 10.04.2008 17:22
Filename:
20077722_handheld_FCC
SP-CSSS_011v.png/.txt

Measurement Type : Radiated Field

Polarisation : Horizontal

Table Angle : 0 - 360°

Antenna Height : 0.8m



Equipment Under Test : SpotMell handheld

Set-Up : handheld open, laying

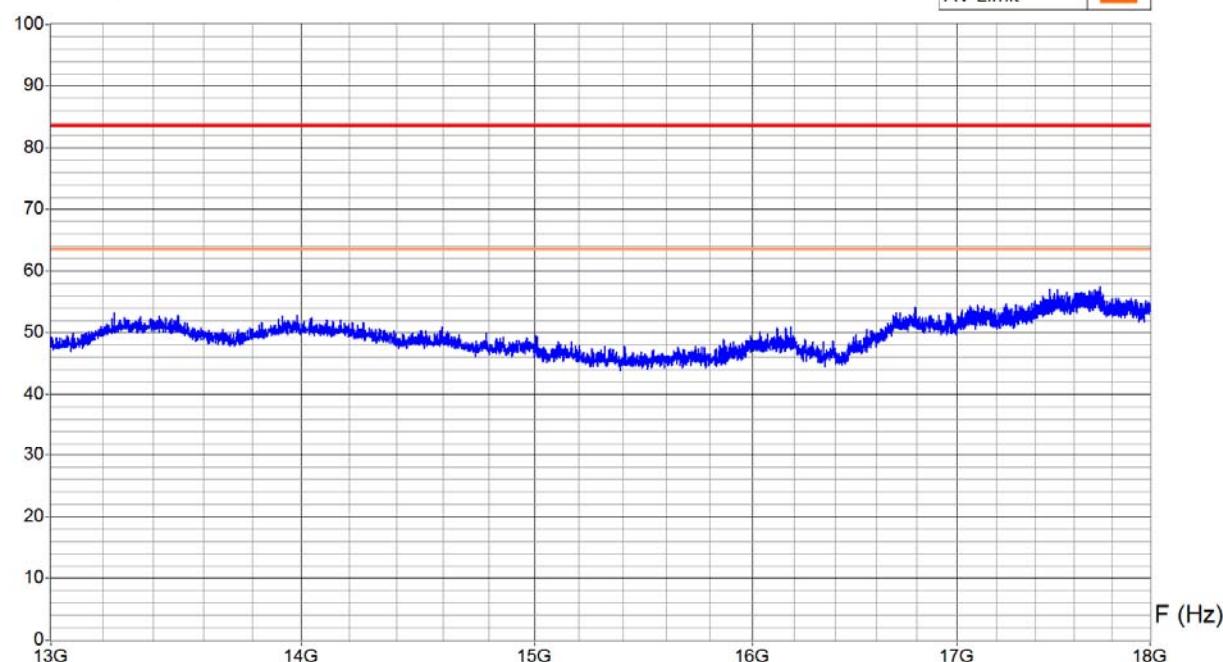
Operating Conditions : Tx, CSSS Channel 1, Pmax

Remarks :

Level dB μ V/m

FCC 15.209 (@ 1m py)

Pk Limit	
AV Limit	



Zone	13 GHz - 15 GHz	15 GHz - 17 GHz	17 GHz - 18 GHz
Video Bandwidth	300 KHz	300 KHz	300 KHz
Resol Bandwidth	300 KHz	300 KHz	300 KHz

Operator: E. Staub
Date/Time: 15.04.2008 14:20
Filename:
20077722_handheld_FCC
SP-CSSS_016h.png/.txt

Measurement Type : Radiated Field

Polarisation : Vertical

Table Angle : 0 - 360°

Antenna Height : 0.8m



Equipment Under Test : SpotMell handheld

Set-Up : handheld open, laying

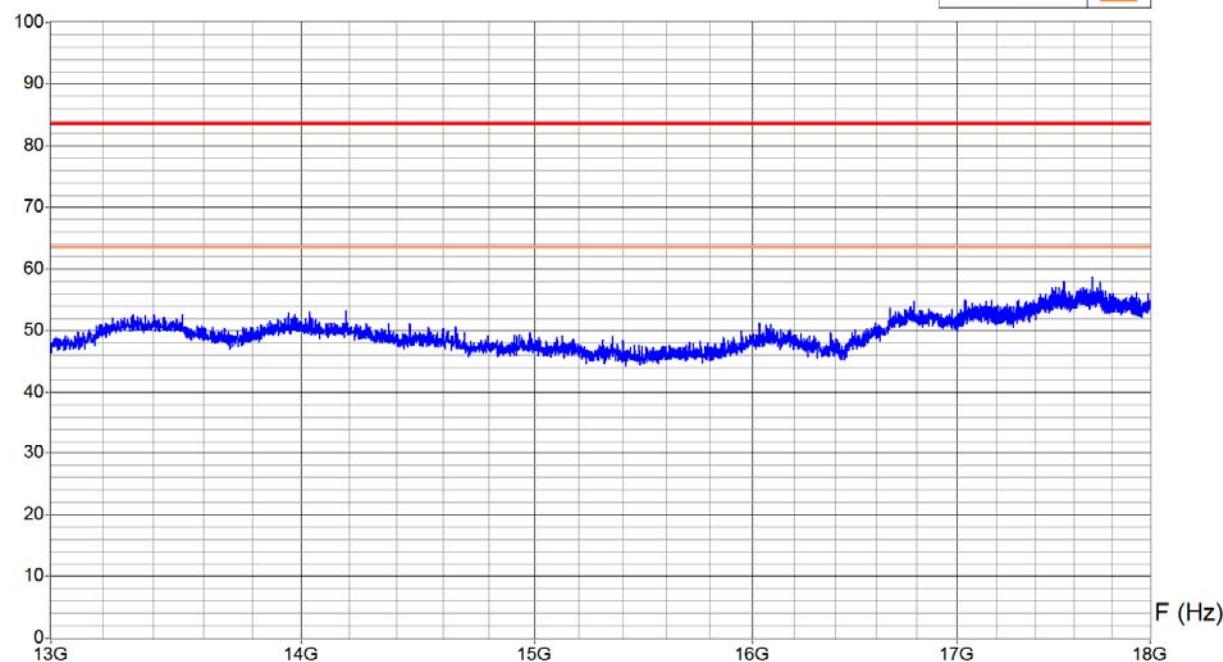
Operating Conditions : Tx, CSSS Channel 1, Pmax

Remarks :

Level dB μ V/m

FCC 15.209 (@ 1m py)

Pk Limit	
AV Limit	



Zone	13 GHz - 15 GHz	15 GHz - 17 GHz	17 GHz - 18 GHz
Video Bandwidth	300 KHz	300 KHz	300 KHz
Resol Bandwidth	300 KHz	300 KHz	300 KHz

Operator: E. Staub
Date/Time: 15.04.2008 14:17
Filename:
20077722_handheld_FCC
SP-CSSS_016v.png/.txt

6.3.5 Radiated emission - Electromagnetic field (18 GHz – 26.5 GHz)

Test site: semi-anechoic chamber (foam) open test site
 semi-anechoic chamber (ferrites)

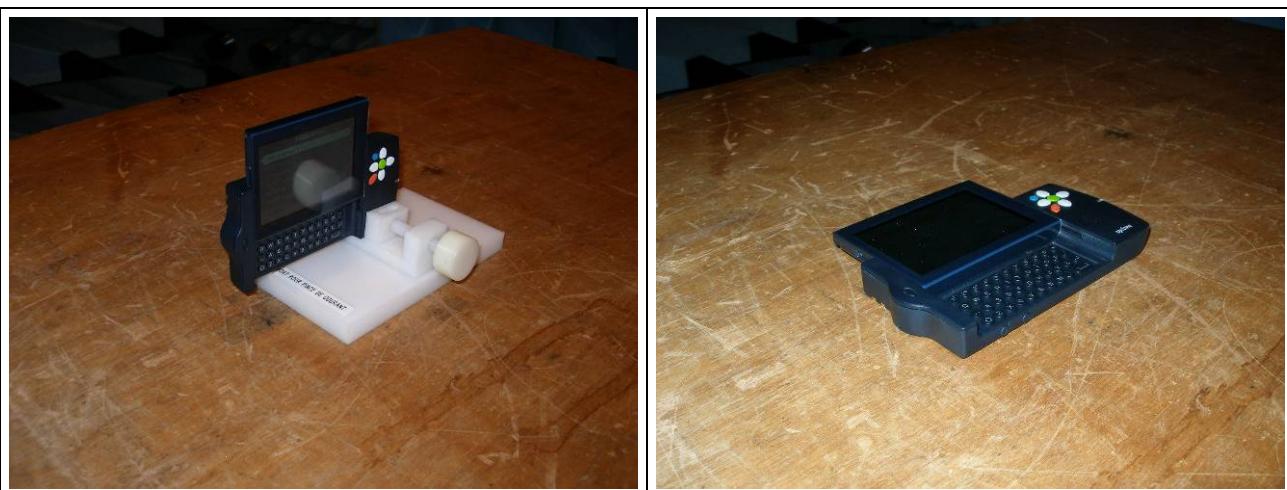
Distance: 30 m 10 m 3 m 1 m

Position of EUT: 0.8 m (height of the equipment under test above floor)

Meas. uncertainty: ± 4.7 dB

Test method: The electromagnetic disturbance radiated by the equipment is measured using a spectrum analyser and a wide band antenna. The antenna is placed at the same height as the EUT successively with horizontal and vertical polarisations. The turning table is operated through 360° during the measurements. The recordings are carried out taking into account the maximum value of all the disturbances appearing while the apparatus is under test. The peak values are recorded continuously on the graph. The values exceeding a limit are remeasured manually using a receiver.

Test set-up:



Remarks: Limit values expressed in $\text{dB}\mu\text{V}/\text{m}$ and transformed to a measuring distance of 1m (factor used = 20 dB/decade) if necessary
e.g.: for $f = 18\text{GHz}$ the limit is $500\mu\text{V}/\text{m}$ at 3m;

$$20 \log\left(\frac{500_{[\mu\text{V}/\text{m}]}}{1_{[\mu\text{V}/\text{m}]}}\right) + 20 \log\left(\frac{3_{[m]}}{1_{[m]}}\right) = 63.5 \text{dB}\mu\text{V} \text{ at 1m}$$

Test equipment:

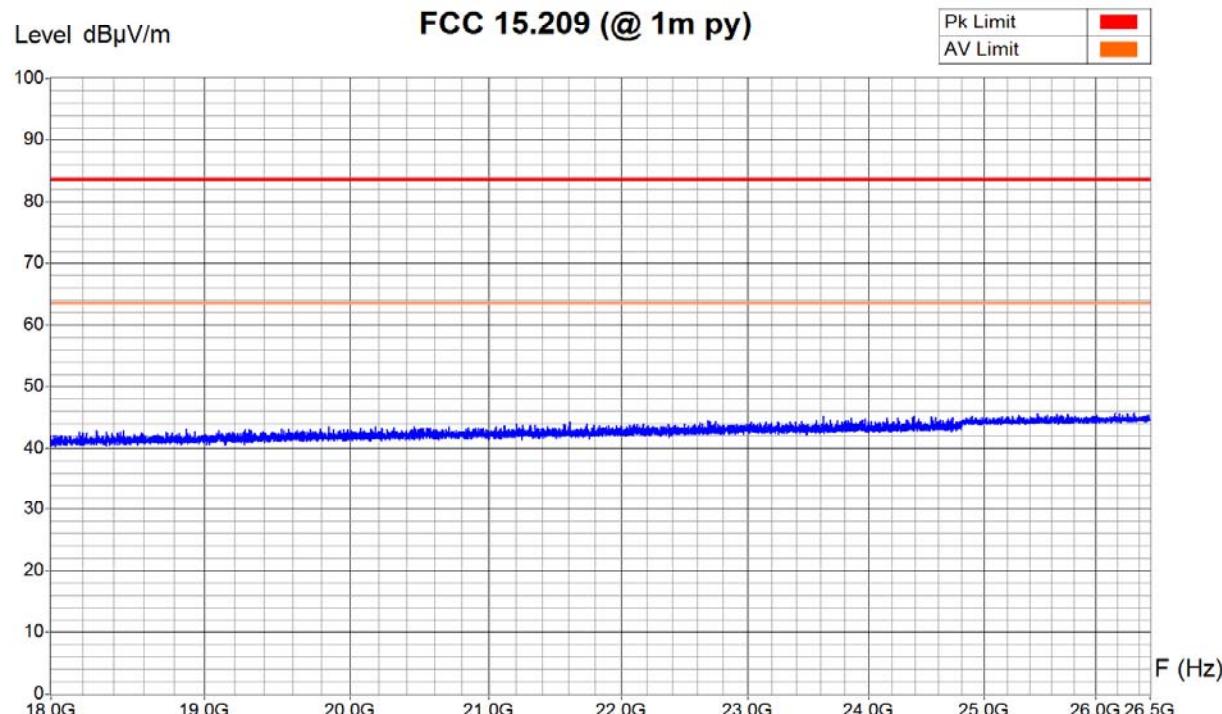
Spectrum analyser	<input type="checkbox"/> 88-14	<input type="checkbox"/> 90-26	<input type="checkbox"/> 94-24	<input checked="" type="checkbox"/> 02-06	<input type="checkbox"/> 03-45	<input type="checkbox"/> 03-57
Receiver	<input type="checkbox"/> 85-04	<input type="checkbox"/> 90-43	<input type="checkbox"/> 94-35			
Preamplifier	<input type="checkbox"/> 90-01	<input type="checkbox"/> 95-86	<input type="checkbox"/> 05-56	<input type="checkbox"/> 05-59	<input type="checkbox"/> 05-62	<input type="checkbox"/>
Antenna (horn)	<input type="checkbox"/> 90-24	<input type="checkbox"/> 90-29	<input checked="" type="checkbox"/> 98-12	<input type="checkbox"/> 98-13	<input type="checkbox"/>	
External mixers	<input type="checkbox"/> 94-03	<input type="checkbox"/> 05-38	<input checked="" type="checkbox"/> 11970K			
Cables	Succoflex 1 m					

Result:	<input checked="" type="checkbox"/> pass	<input type="checkbox"/> fail	<input type="checkbox"/> not applicable	<input type="checkbox"/> not tested
----------------	--	-------------------------------	---	-------------------------------------

Measurement Type : Radiated Field
 Polarisation : Horizontal
 Table Angle : 0 - 360°
 Antenna Height : 0.8m



Equipment Under Test : SpotMell handheld
 Set-Up : handheld open, upright
 Operating Conditions : Tx, CSSS Channel 1, Pmax
 Remarks :



Zone	18 GHz - 19.70 GHz	19.70 GHz - 21.40	21.40 GHz - 23.10	23.10 GHz - 24.80	24.80 GHz - 26.50
Video Bandwidth	100 KHz	100 KHz	100 KHz	100 KHz	100 KHz
Resol Bandwidth	100 KHz	100 KHz	100 KHz	100 KHz	100 KHz

Operator: E. Staub
 Date/Time: 15.04.2008 09:35
 Filename:
 20077722_handheld_FCC
 SP-CSSS_012h.png/.txt

Measurement Type : Radiated Field

Polarisation : Vertical

Table Angle : 0 - 360°

Antenna Height : 0.8m



Equipment Under Test : SpotMell handheld

Set-Up : handheld open, upright

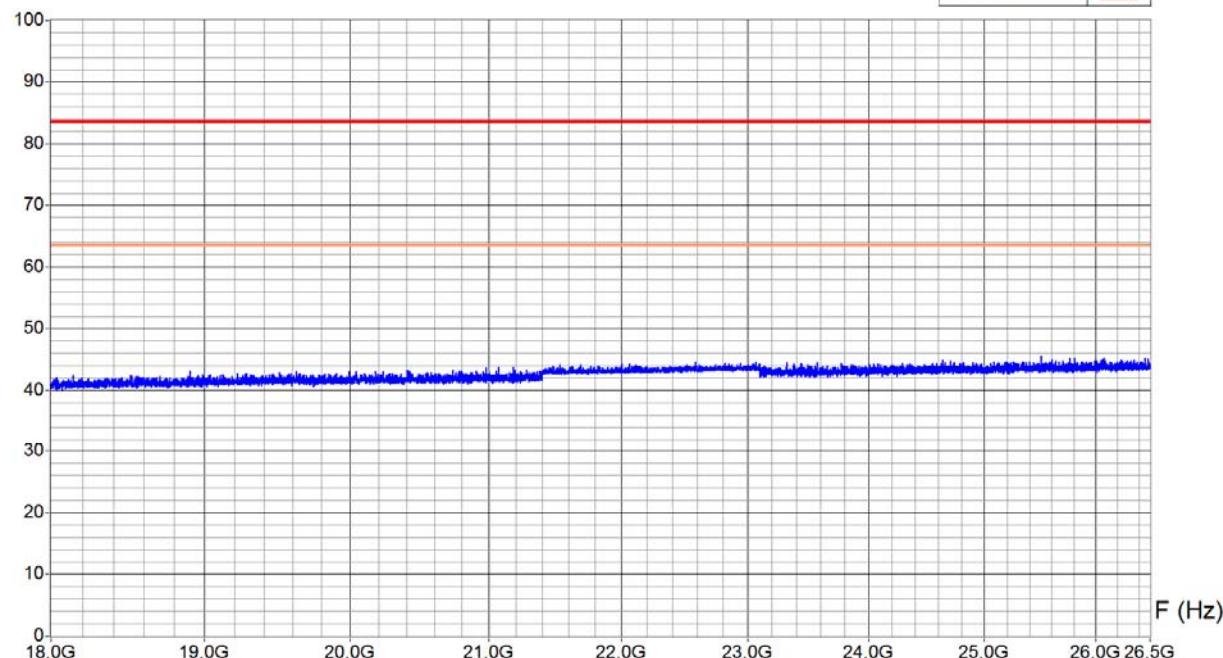
Operating Conditions : Tx, CSSS Channel 1, Pmax

Remarks :

Level dB μ V/m

FCC 15.209 (@ 1m py)

Pk Limit	
AV Limit	



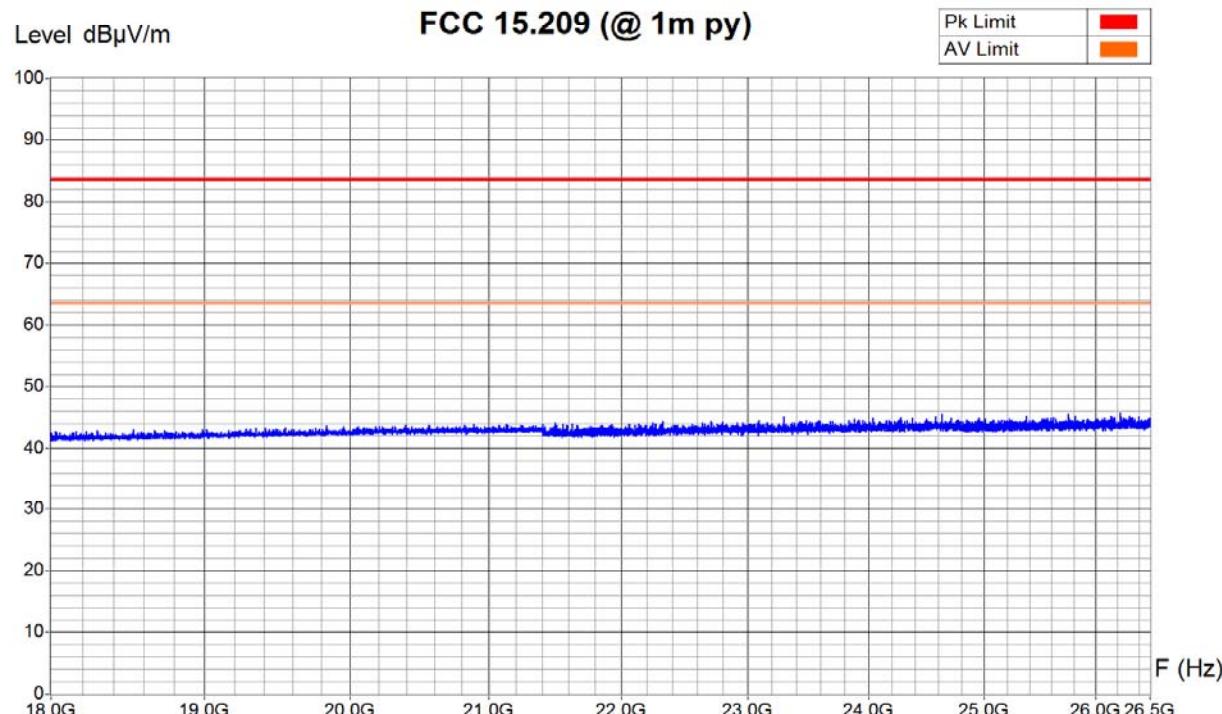
Zone	18 GHz - 19.70 GHz	19.70 GHz - 21.40	21.40 GHz - 23.10	23.10 GHz - 24.80	24.80 GHz - 26.50
Video Bandwidth	100 KHz	100 KHz	100 KHz	100 KHz	100 KHz
Resol Bandwidth	100 KHz	100 KHz	100 KHz	100 KHz	100 KHz

Operator: E. Staub
Date/Time: 15.04.2008 10:48
Filename: 20077722_handheld_FCC
SP-CSSS_012v.png/.txt

Measurement Type : Radiated Field
 Polarisation : Horizontal
 Table Angle : 0 - 360°
 Antenna Height : 0.8m



Equipment Under Test : SpotMell handheld
 Set-Up : handheld open, upright
 Operating Conditions : Tx, CSSS Channel 6, Pmax
 Remarks :



Zone	18 GHz - 19.70 GHz	19.70 GHz - 21.40	21.40 GHz - 23.10	23.10 GHz - 24.80	24.80 GHz - 26.50
Video Bandwidth	100 KHz	100 KHz	100 KHz	100 KHz	100 KHz
Resol Bandwidth	100 KHz	100 KHz	100 KHz	100 KHz	100 KHz

Operator: E. Staub
Date/Time: 15.04.2008 09:39
Filename: 20077722_handheld_FCC
SP-CSSS_013h.png/.txt

Measurement Type : Radiated Field

Polarisation : Vertical

Table Angle : 0 - 360°

Antenna Height : 0.8m



Equipment Under Test : SpotMell handheld

Set-Up : handheld open, upright

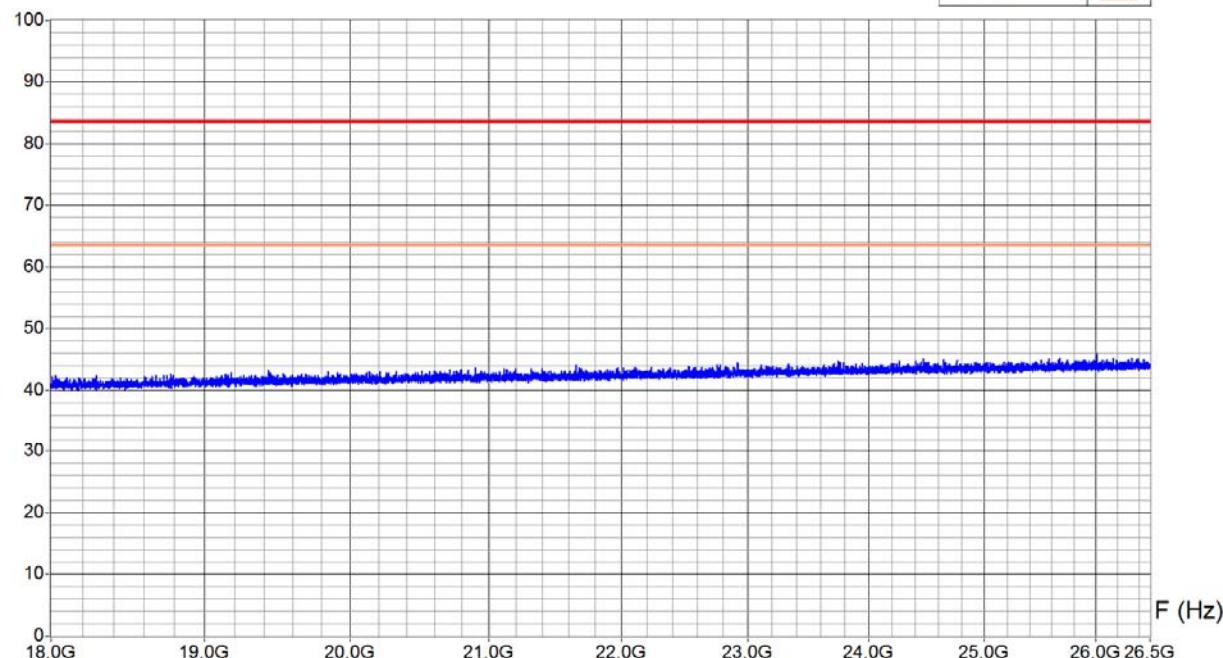
Operating Conditions : Tx, CSSS Channel 6, Pmax

Remarks :

Level dB μ V/m

FCC 15.209 (@ 1m py)

Pk Limit	
AV Limit	



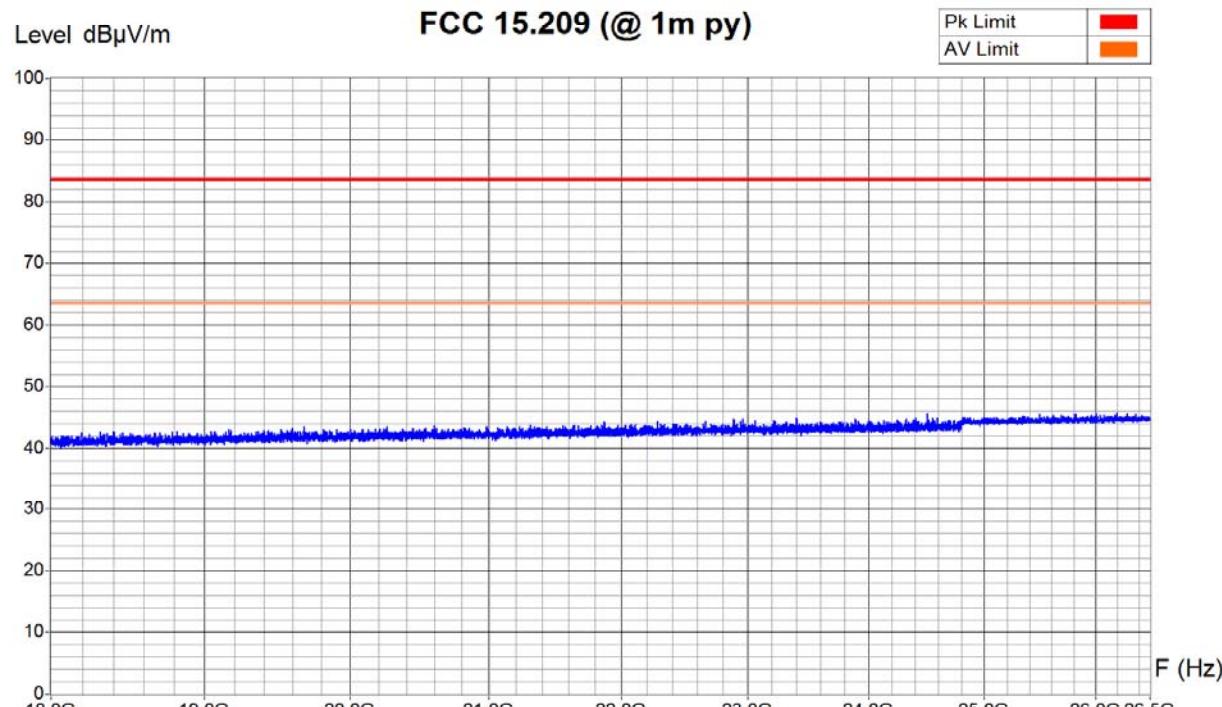
Zone	18 GHz - 19.70 GHz	19.70 GHz - 21.40	21.40 GHz - 23.10	23.10 GHz - 24.80	24.80 GHz - 26.50
Video Bandwidth	100 KHz	100 KHz	100 KHz	100 KHz	100 KHz
Resol Bandwidth	100 KHz	100 KHz	100 KHz	100 KHz	100 KHz

Operator: E. Staub
Date/Time: 15.04.2008 10:53
Filename: 20077722_handheld_FCC
SP-CSSS_013v.png/.txt

Measurement Type : Radiated Field
 Polarisation : Horizontal
 Table Angle : 0 - 360°
 Antenna Height : 0.8m



Equipment Under Test : SpotMell handheld
 Set-Up : handheld open, upright
 Operating Conditions : Tx, CSSS Channel 11, Pmax
 Remarks :



Zone	18 GHz - 19.70 GHz	19.70 GHz - 21.40	21.40 GHz - 23.10	23.10 GHz - 24.80	24.80 GHz - 26.50
Video Bandwidth	100 KHz	100 KHz	100 KHz	100 KHz	100 KHz
Resol Bandwidth	100 KHz	100 KHz	100 KHz	100 KHz	100 KHz

Operator: E. Staub
 Date/Time: 15.04.2008 09:43
 Filename:
 20077722_handheld_FCC
 SP-CSSS_014h.png/.txt

Measurement Type : Radiated Field

Polarisation : Vertical

Table Angle : 0 - 360°

Antenna Height : 0.8m



Equipment Under Test : SpotMell handheld

Set-Up : handheld open, upright

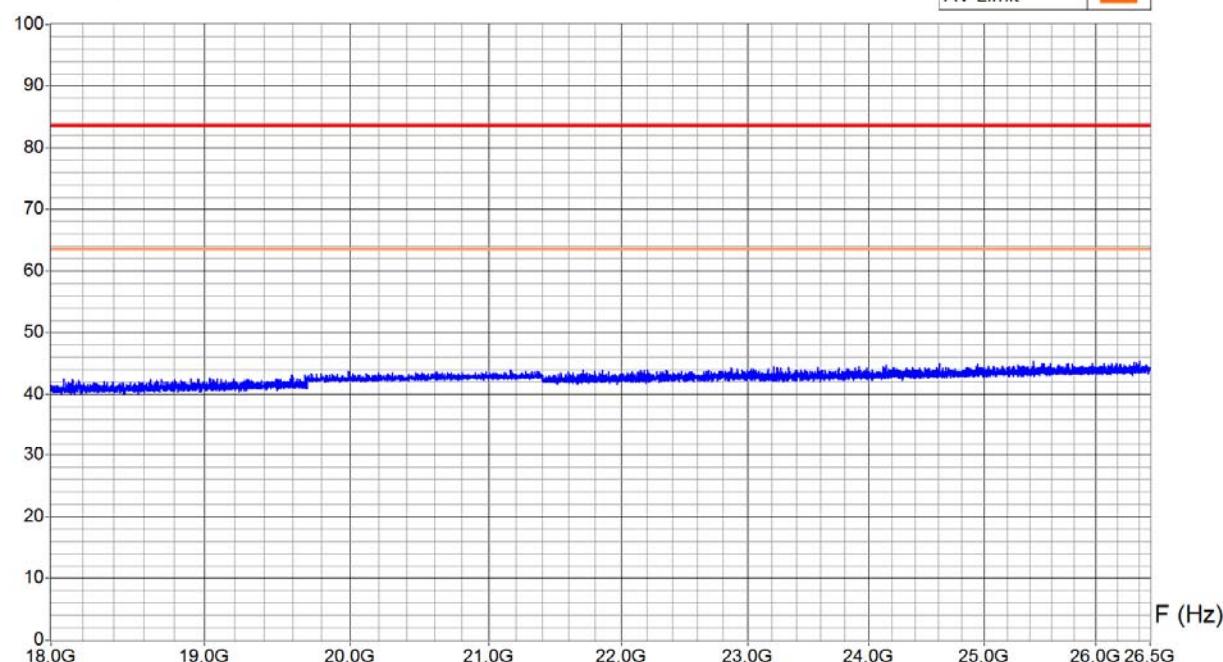
Operating Conditions : Tx, CSSS Channel 11, Pmax

Remarks :

Level dB μ V/m

FCC 15.209 (@ 1m py)

Pk Limit	
AV Limit	



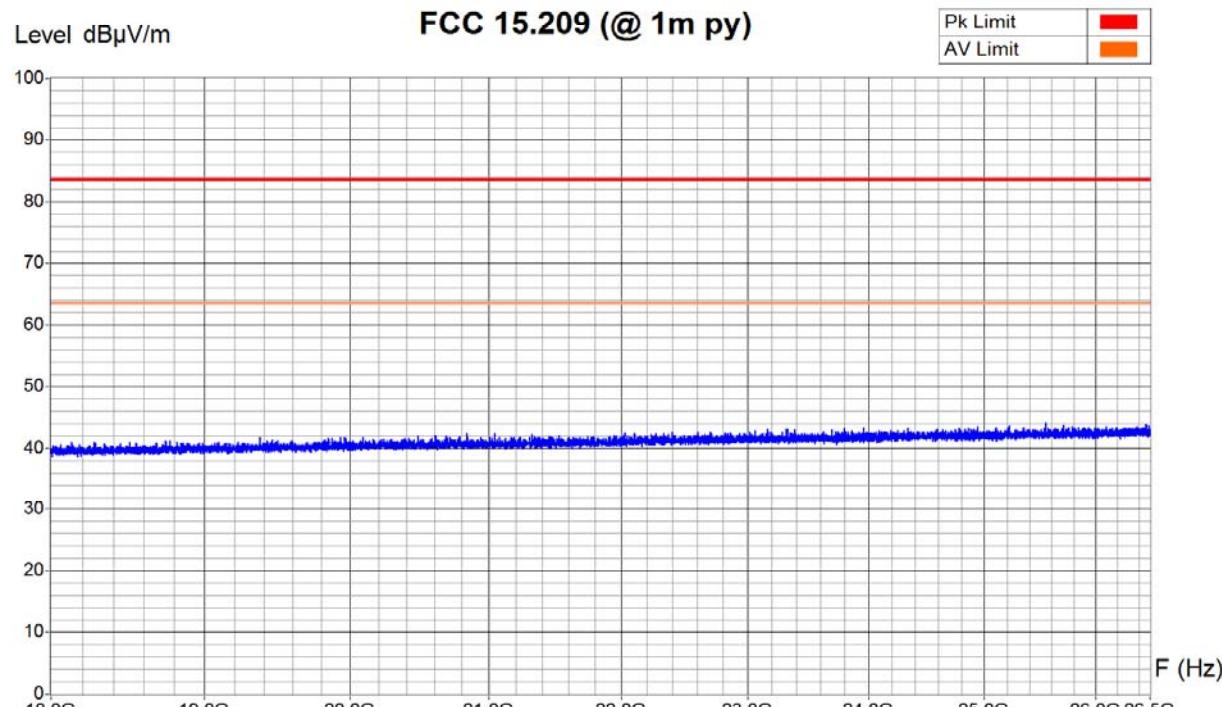
Zone	18 GHz - 19.70 GHz	19.70 GHz - 21.40	21.40 GHz - 23.10	23.10 GHz - 24.80	24.80 GHz - 26.50
Video Bandwidth	100 KHz	100 KHz	100 KHz	100 KHz	100 KHz
Resol Bandwidth	100 KHz	100 KHz	100 KHz	100 KHz	100 KHz

Operator: E. Staub
Date/Time: 15.04.2008 10:59
Filename: 20077722_handheld_FCC
SP-CSSS_014v.png/.txt

Measurement Type : Radiated Field
 Polarisation : Horizontal
 Table Angle : 0 - 360°
 Antenna Height : 0.8m



Equipment Under Test : SpotMell handheld
 Set-Up : handheld open, laying
 Operating Conditions : Tx, CSSS Channel 1, Pmax
 Remarks :



Zone	18 GHz - 19.70 GHz	19.70 GHz - 21.40	21.40 GHz - 23.10	23.10 GHz - 24.80	24.80 GHz - 26.50
Video Bandwidth	100 KHz	100 KHz	100 KHz	100 KHz	100 KHz
Resol Bandwidth	100 KHz	100 KHz	100 KHz	100 KHz	100 KHz

Operator: E. Staub
Date/Time: 15.04.2008 10:13
Filename:
20077722_handheld_FCC
SP-CSSS_017h.png/.txt

Measurement Type : Radiated Field

Polarisation : Vertical

Table Angle : 0 - 360°

Antenna Height : 0.8m



Equipment Under Test : SpotMell handheld

Set-Up : handheld open, laying

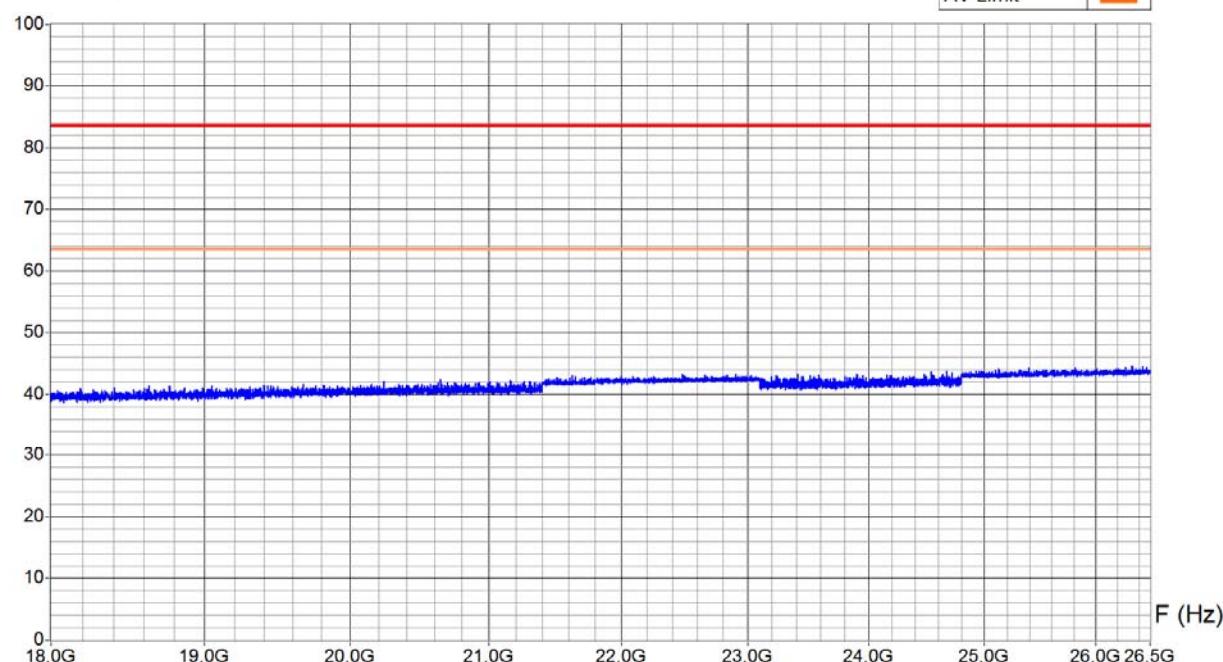
Operating Conditions : Tx, CSSS Channel 1, Pmax

Remarks :

Level dB μ V/m

FCC 15.209 (@ 1m py)

Pk Limit	
AV Limit	



Zone	18 GHz - 19.70 GHz	19.70 GHz - 21.40	21.40 GHz - 23.10	23.10 GHz - 24.80	24.80 GHz - 26.50
Video Bandwidth	100 KHz	100 KHz	100 KHz	100 KHz	100 KHz
Resol Bandwidth	100 KHz	100 KHz	100 KHz	100 KHz	100 KHz

Operator: E. Staub
Date/Time: 15.04.2008 10:24
Filename:
20077722_handheld_FCC
SP-CSSS_017v.png/.txt

6.4 Maximum peak power and band edges emissions (WLAN)

Test site: semi-anechoic chamber (foam) open test site
 semi-anechoic chamber (ferrites)

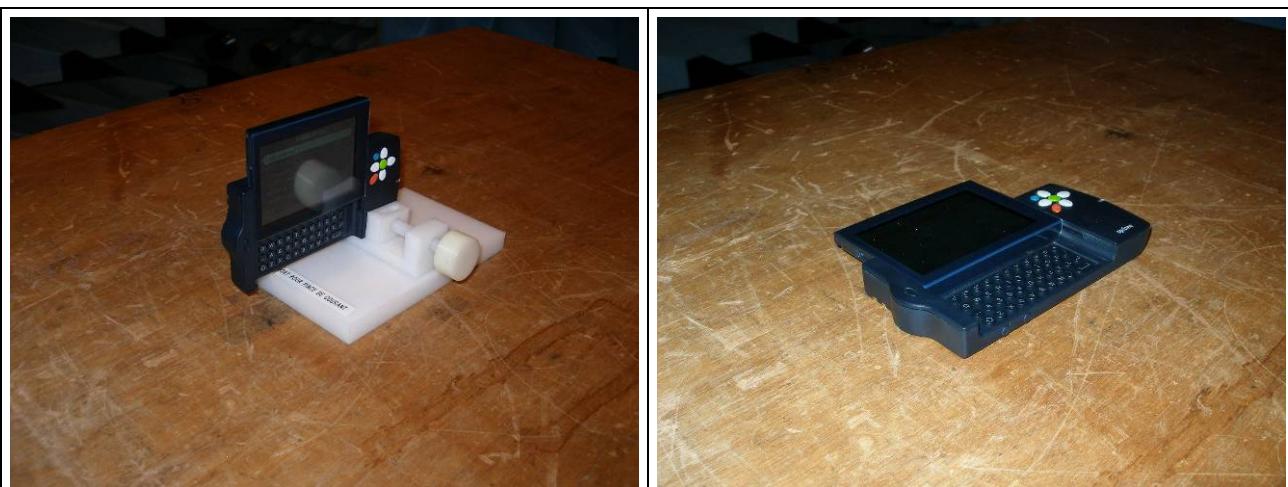
Distance: 30 m 10 m 3 m 1 m

Position of EUT: 0.8 m (height of the equipment under test above floor)

Meas. uncertainty: ± 4.7 dB

Test method: The electromagnetic disturbance radiated by the equipment is measured using a spectrum analyser and a wide band antenna. The antenna is placed at the same height as the EUT successively with horizontal and vertical polarisations. The turning table is operated through 360° during the measurements. The recordings are carried out taking into account the maximum value of all the disturbances appearing while the apparatus is under test. The peak values are recorded continuously on the graph. The values exceeding a limit are remeasured manually using a receiver.

Test set-up:



- Remarks:
- Limit values expressed in dB μ V/m and transformed to a measuring distance of 1m (factor used = 20 dB/decade) if necessary
e.g.: for f = 1GHz the general limit is 500 μ V/m at 3m;
 $20 \log_{10} (500\mu V/m) + 20 \log_{10} (3m/1m) = 63.5 \text{ dB}\mu V/m \text{ at } 1m$
 - Carrier limit for 1 W calculated with $E_{[V/m]} = \frac{\sqrt{30 P_{[W EIRP]}}}{d_{[m]}} = 5.47 \text{ V/m} = 134.7 \text{ dB}\mu V/m$

Test equipment:

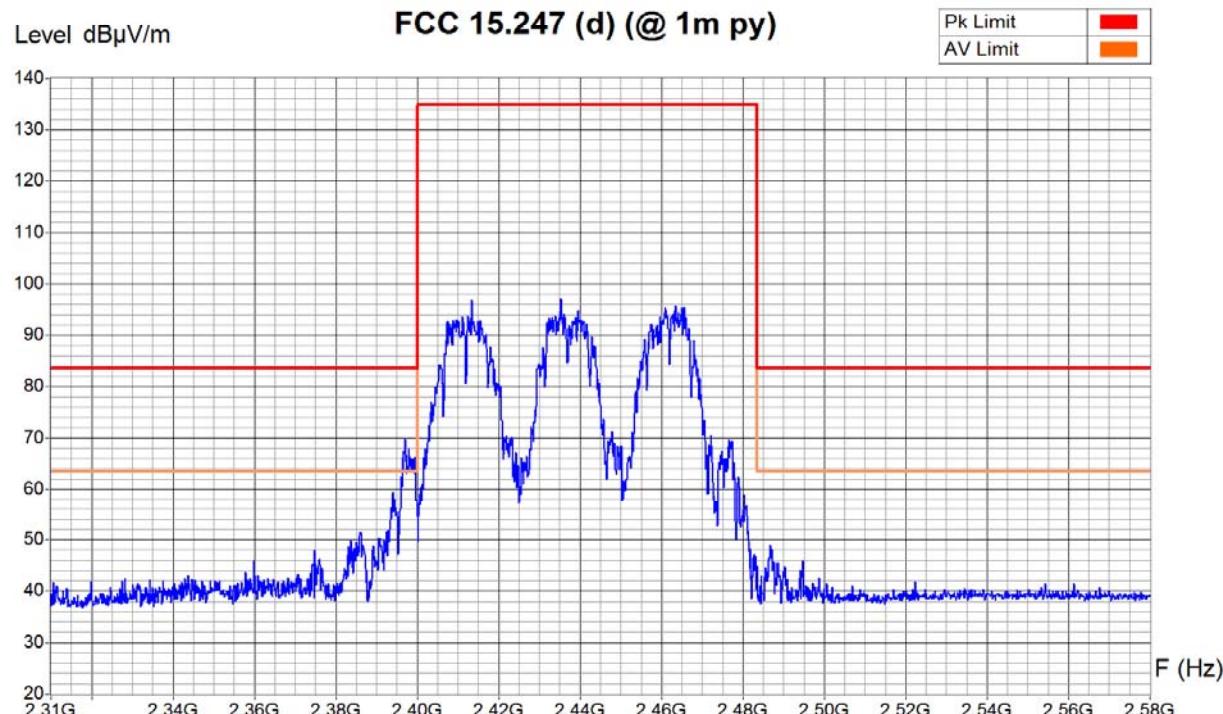
Spectrum analyser	<input type="checkbox"/> 88-14	<input type="checkbox"/> 90-26	<input type="checkbox"/> 94-24	<input checked="" type="checkbox"/> 02-06	<input type="checkbox"/> 03-45	<input type="checkbox"/> 03-57
Receiver	<input type="checkbox"/> 85-04	<input type="checkbox"/> 90-43	<input type="checkbox"/> 94-35			
Preamplifier	<input type="checkbox"/> 90-01	<input type="checkbox"/> 95-86	<input type="checkbox"/> 05-56	<input type="checkbox"/> 05-59	<input type="checkbox"/> 05-62	<input checked="" type="checkbox"/> 05-87
Antenna (horn)	<input checked="" type="checkbox"/> 90-24	<input type="checkbox"/> 90-29	<input type="checkbox"/> 98-12	<input type="checkbox"/> 98-13	<input type="checkbox"/>	
Cables	Succoflex 1 m					

Result:	<input checked="" type="checkbox"/> pass	<input type="checkbox"/> fail	<input type="checkbox"/> not applicable	<input type="checkbox"/> not tested
----------------	--	-------------------------------	---	-------------------------------------

Measurement Type : Radiated Field
 Polarisation : Horizontal
 Table Angle : 0 - 360°
 Antenna Height : 0.8m



Equipment Under Test : SpotMell handheld
 Set-Up : handheld open, upright
 Operating Conditions : Tx; WLAN Channel 1, 6 and 11; Pmax
 Remarks :



Zone	2.31 GHz - 2.58
Video Bandwidth	100 KHz
Resol Bandwidth	100 KHz

Receiver Measures

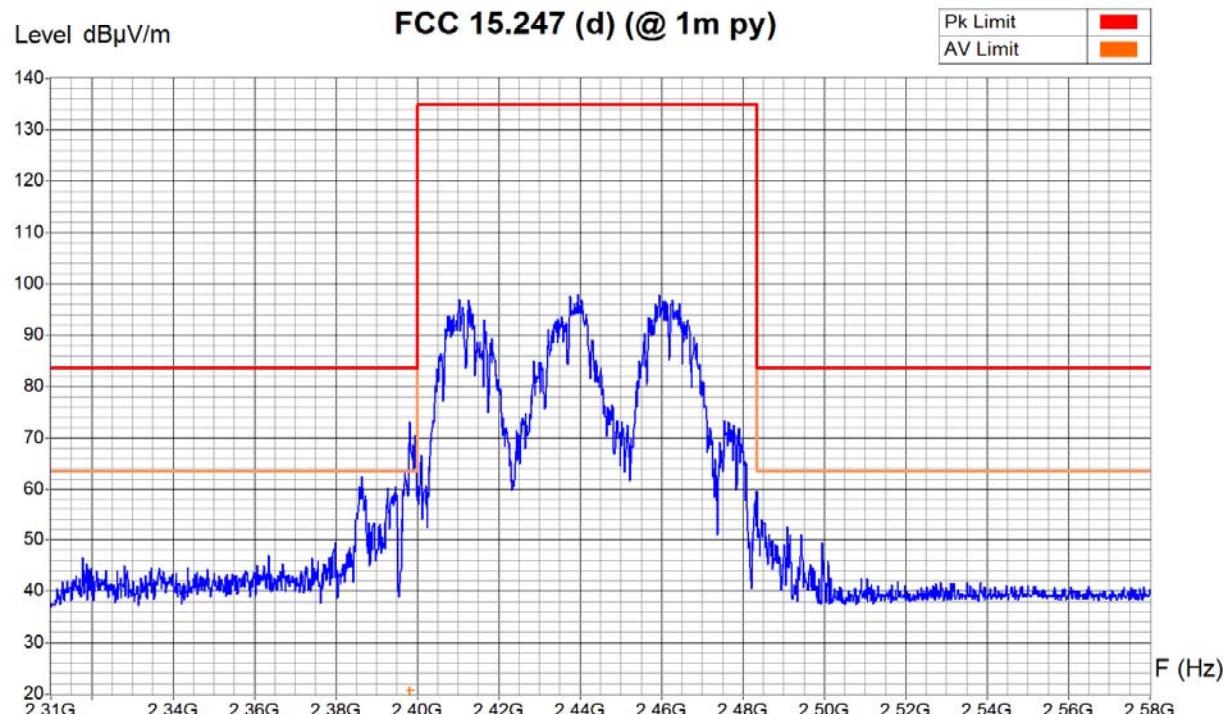
Frequency	Peak	QuasiPeak (x)	Average (+)	QP Margin
2.40 GHz	69.9 dB μ V/m	NaN dB μ V/m	17.2 dB μ V/m	NaN dB

Operator: E. Staub
 Date/Time: 08.04.2008 14:18
 Filename:
 20077722_handheld_FCC
 carrier-WLAN_000h.png/.txt

Measurement Type : Radiated Field
 Polarisation : Vertical
 Table Angle : 0 - 360°
 Antenna Height : 0.8m



Equipment Under Test : SpotMell handheld
 Set-Up : handheld open, upright
 Operating Conditions : Tx; WLAN Channel 1, 6 and 11; Pmax
 Remarks :



Frequency	Peak	QuasiPeak (x)	Average (+)	QP Margin
2.40 GHz	73.2 dB μ V/m	NaN dB μ V/m	20.6 dB μ V/m	NaN dB

Receiver Measures

Operator: E. Staub
 Date/Time: 08.04.2008 13:51
 Filename:
 20077722_handheld_FCC
 carrier-WLAN_000v.png/.txt

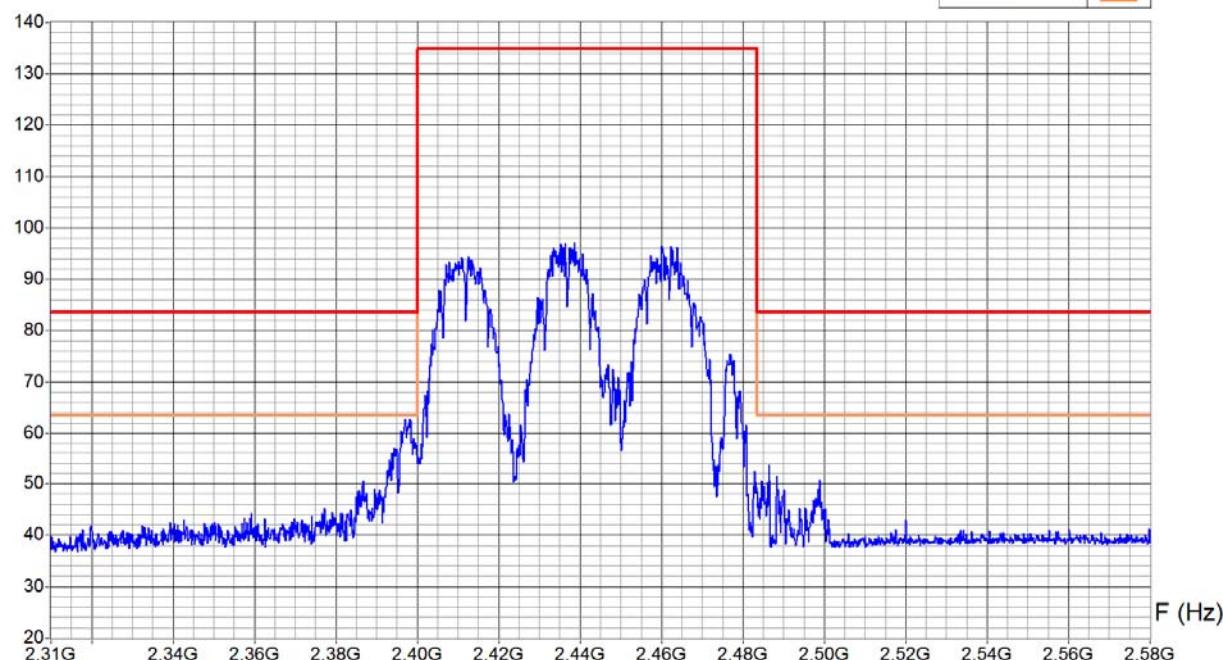
Measurement Type : Radiated Field
 Polarisation : Horizontal
 Table Angle : 0 - 360°
 Antenna Height : 0.8m



Equipment Under Test : SpotMell handheld
 Set-Up : handheld open, laying
 Operating Conditions : Tx; WLAN Channel 1, 6 and 11; Pmax
 Remarks :

Level dB μ V/m**FCC 15.247 (d) (@ 1m py)**

Pk Limit	
AV Limit	



Zone	2.31 GHz - 2.58
Video Bandwidth	100 KHz
Resol Bandwidth	100 KHz

Operator: E. Staub
Date/Time: 08.04.2008 12:11
Filename: 20077722_handheld_FCC_carrier-WLAN_001h.png/.txt

Measurement Type : Radiated Field

Polarisation : Vertical

Table Angle : 0 - 360°

Antenna Height : 0.8m



Equipment Under Test : SpotMell handheld

Set-Up : handheld open, laying

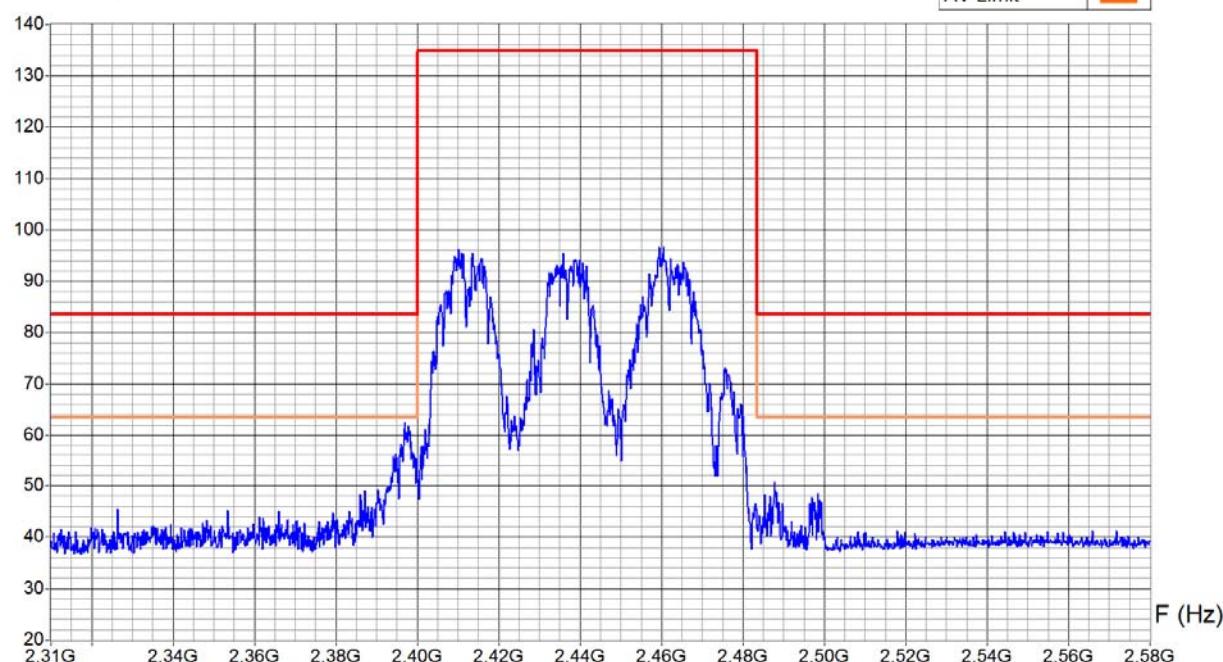
Operating Conditions : Tx; WLAN Channel 1, 6 and 11; Pmax

Remarks :

Level dB μ V/m

FCC 15.247 (d) (@ 1m py)

Pk Limit	
AV Limit	



Zone	2.31 GHz - 2.58
Video Bandwidth	100 KHz
Resol Bandwidth	100 KHz

Operator: E. Staub
Date/Time: 08.04.2008 13:44
Filename: 20077722_handheld_FCC carrier-WLAN_001v.png/.txt