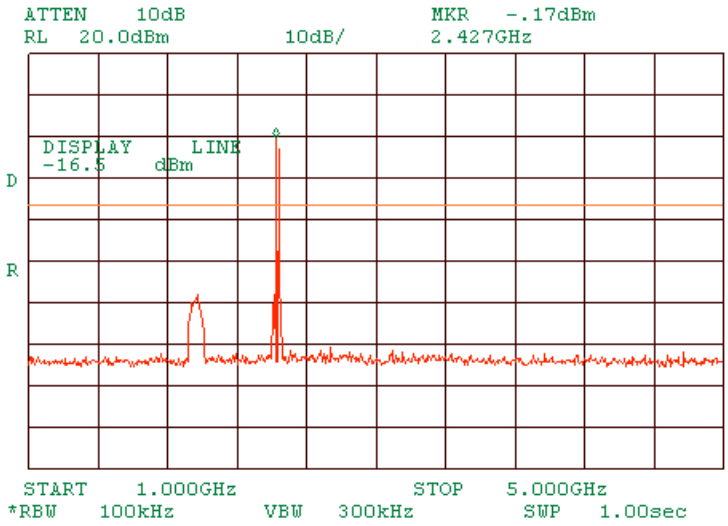
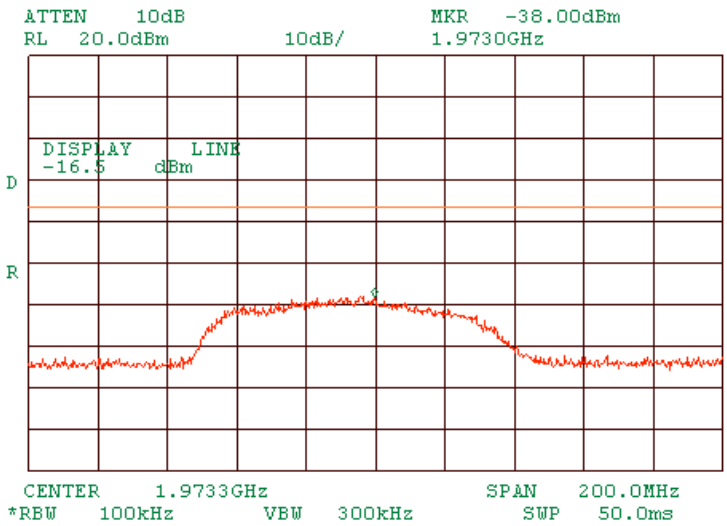
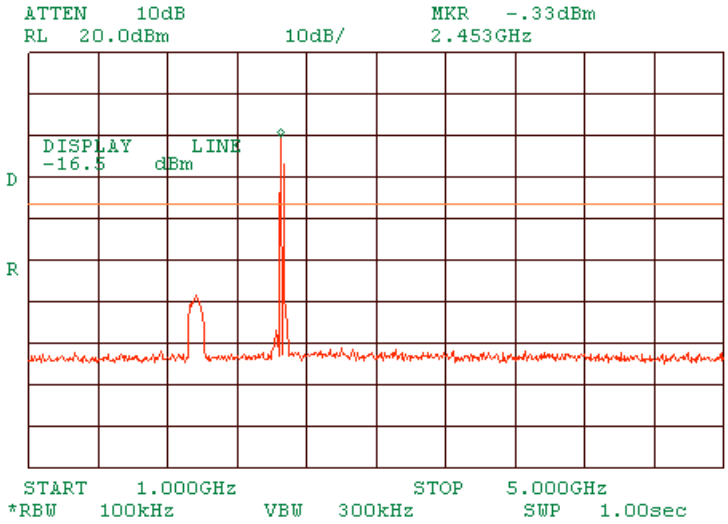
Plot 1.7.53 Spurious emission measurements in 1000 - 5000 MHz range at mid carrier frequency OFDM



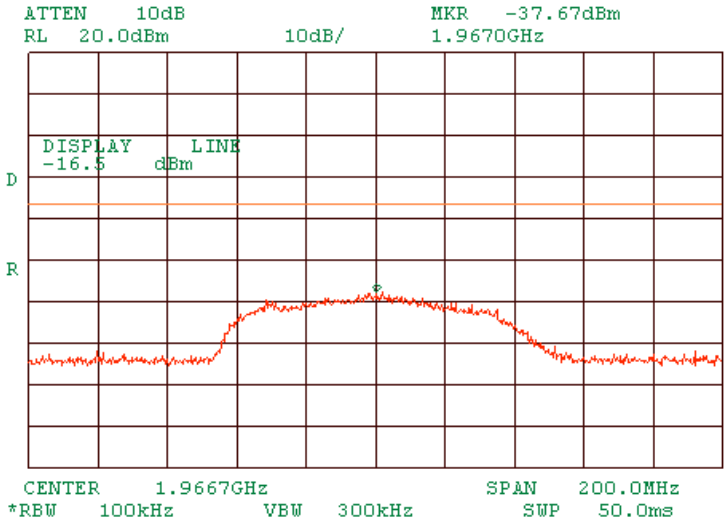
Plot 1.7.54 Zoom into spurious at mid carrier frequency OFDM



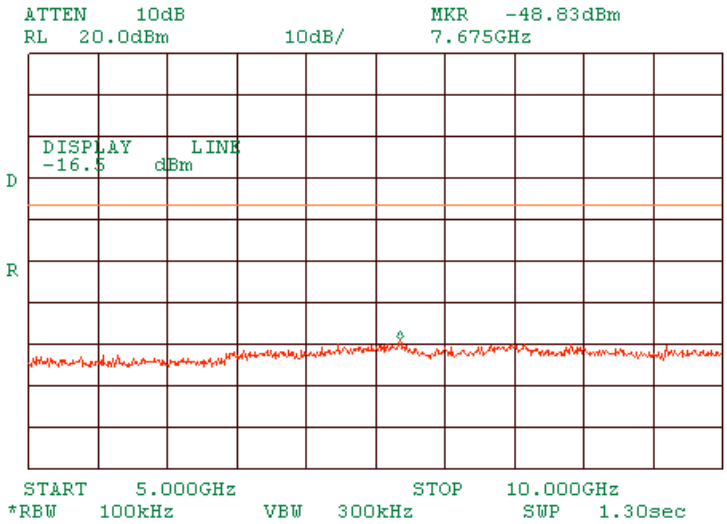
Plot 1.7.55 Spurious emission measurements in 1000 - 5000 MHz range at high carrier frequency OFDM



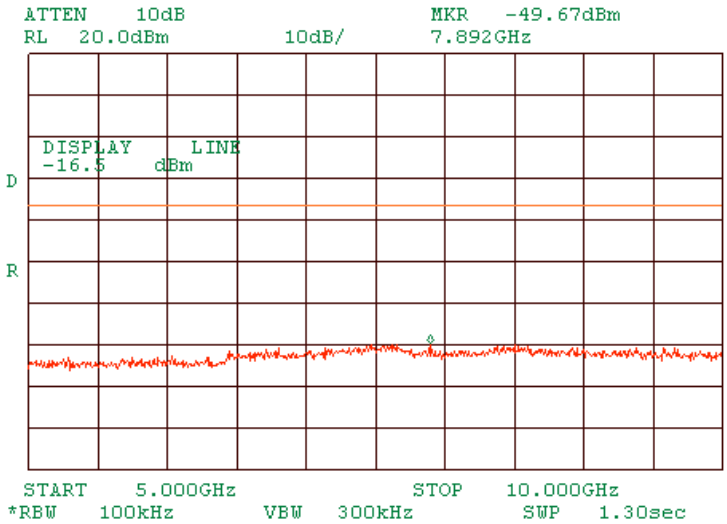
Plot 1.7.56 Zoom into spurious at high carrier frequency OFDM



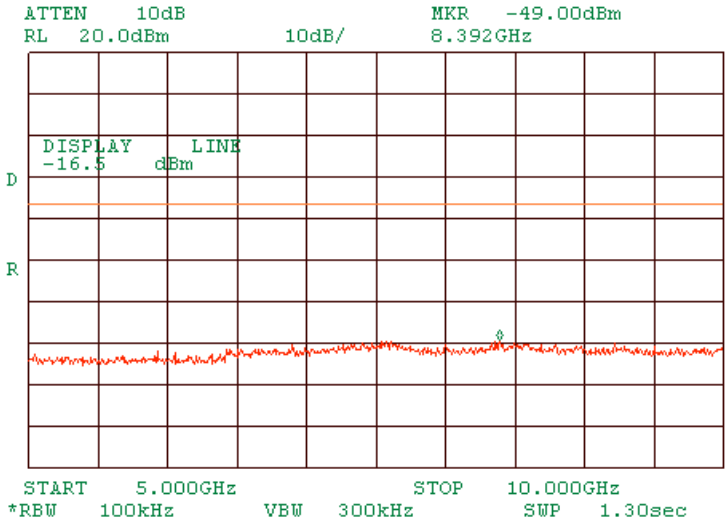
Plot 1.7.57 Spurious emission measurements in 5000 - 10000 MHz range at low carrier frequency OFDM



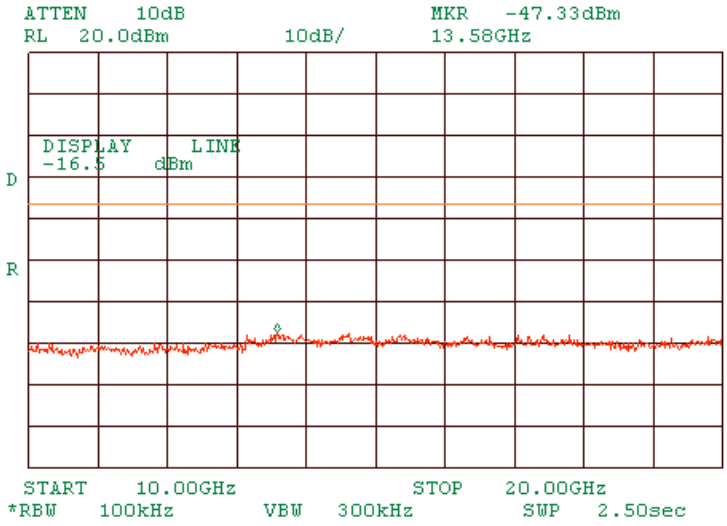
Plot 1.7.58 Spurious emission measurements in 5000 - 10000 MHz range at mid carrier frequency OFDM



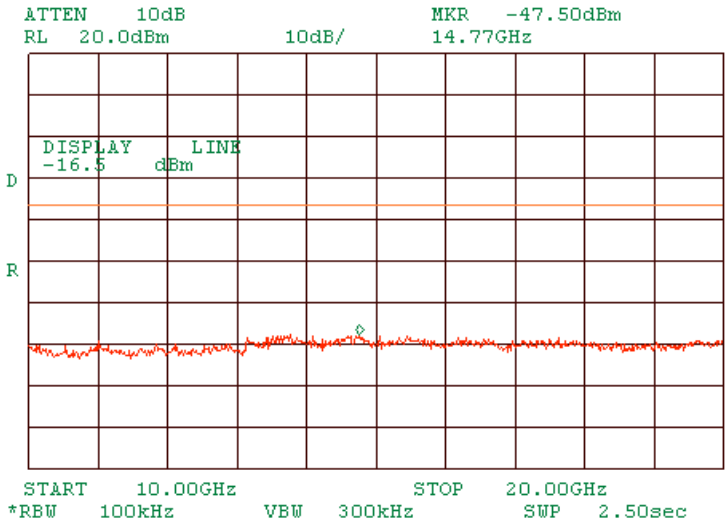
Plot 1.7.59 Spurious emission measurements in 5000 - 10000 MHz range at high carrier frequency OFDM



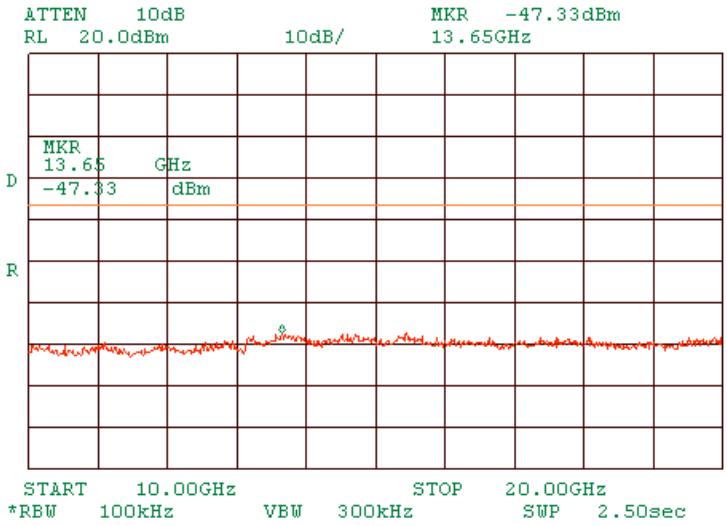
Plot 1.7.60 Spurious emission measurements in 10000 - 20000 MHz range at low carrier frequency OFDM



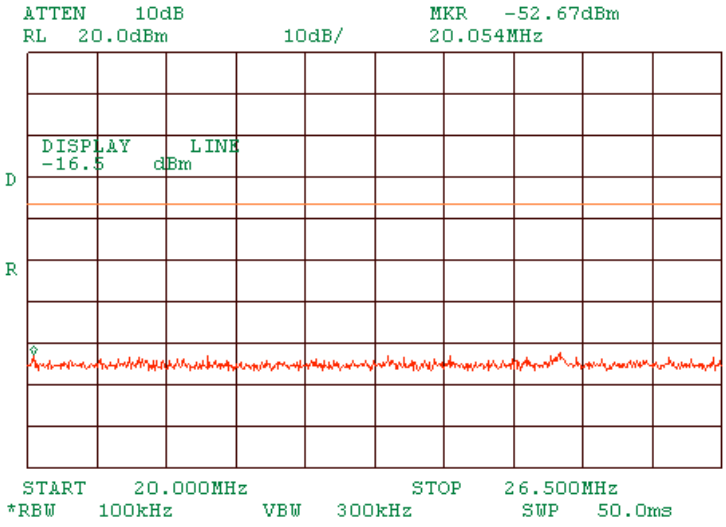
Plot 1.7.61 Spurious emission measurements in 10000 - 20000 MHz range at mid carrier frequency OFDM



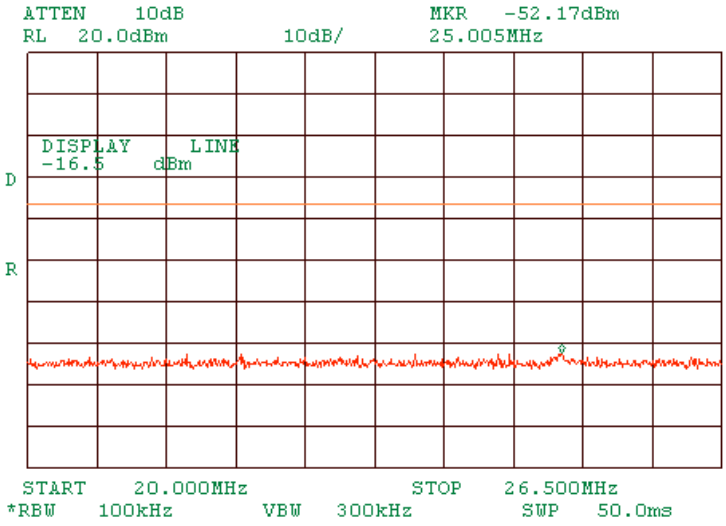
Plot 1.7.62 Spurious emission measurements in 10000 - 20000 MHz range at high carrier frequency OFDM



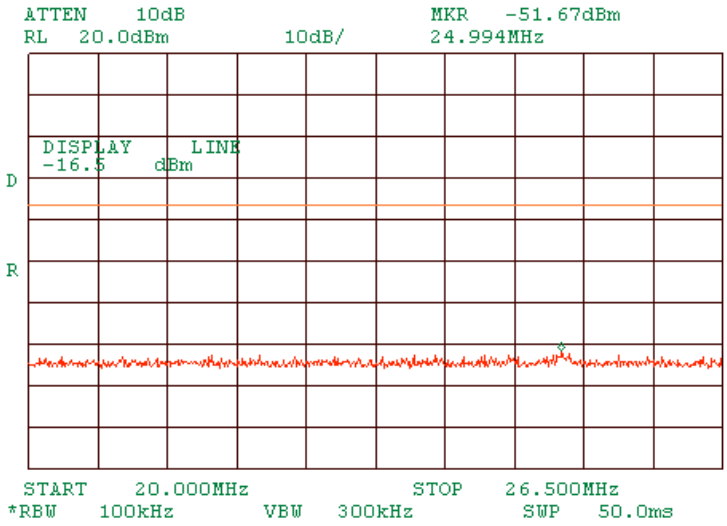
Plot 1.7.63 Spurious emission measurements in 20000 - 26500 MHz range at low carrier frequency OFDM



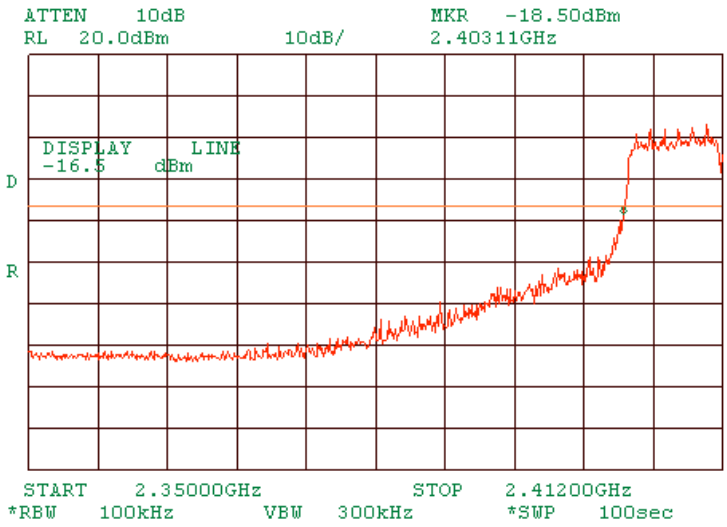
Plot 1.7.64 Spurious emission measurements in 20000 - 26500 MHz range at mid carrier frequency OFDM



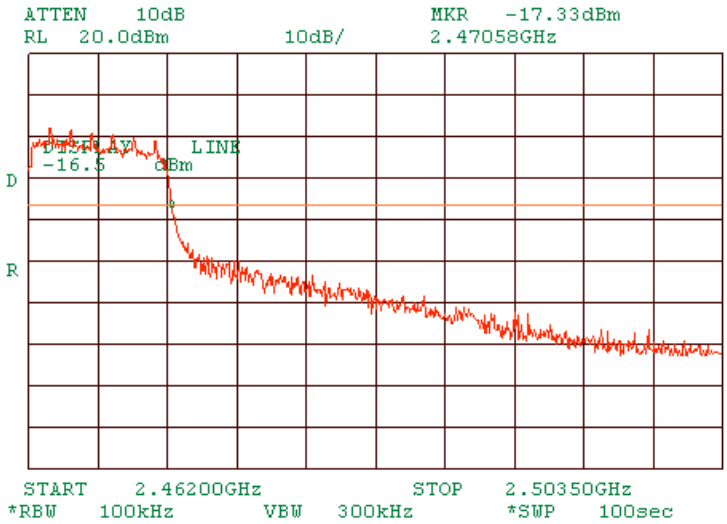
Plot 1.7.65 Spurious emission measurements in 20000 - 26500 MHz range at high carrier frequency OFDM



Plot 1.7.66 Band edge measurements at low carrier frequency OFDM



Plot 1.7.67 Band edge measurements at high carrier frequency OFDM



1.8 Spurious emissions at RF antenna connector

Photograph 1.8.1 Spurious emission test setup

Table 1.8.1 Spurious emission test results

ASSIGNED FREQUENCY RANGE:	2400 – 2483.5 MHz
ASSEMBLY	MA 850, MA 1000 (Cell 800, and PCS 1900 mode)
MA 1000 SETTINGS	No transmission
PORT:	2
INVESTIGATED FREQUENCY RANGE:	1 – 5000 MHz
DETECTOR USED:	Peak
RESOLUTION BANDWIDTH:	100 kHz
VIDEO BANDWIDTH:	300 kHz
MODULATION:	DSSS, OFDM
MODULATING SIGNAL:	CCK, BPSK
BIT RATE:	5.5, 6 Mbps
TRANSMITTER OUTPUT POWER SETTINGS:	Maximum
TRANSMITTER OUTPUT POWER:	19.8 dBm at low carrier frequency 20.2 dBm at mid carrier frequency 19.3 dBm at high carrier frequency

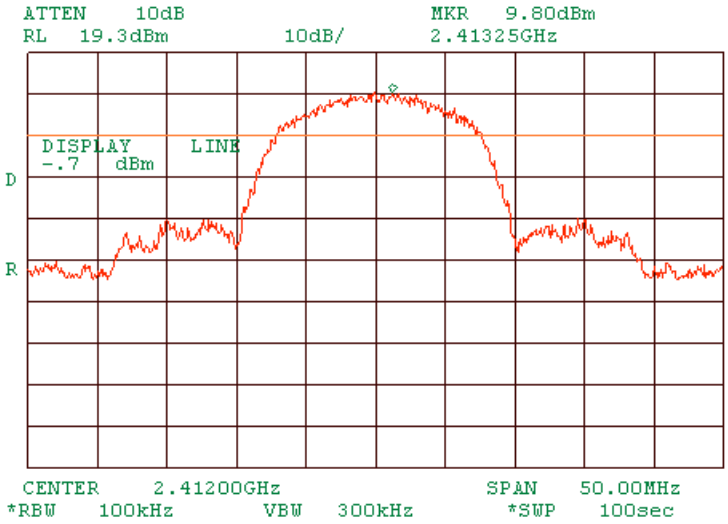
No spurious were found

Reference numbers of test equipment used

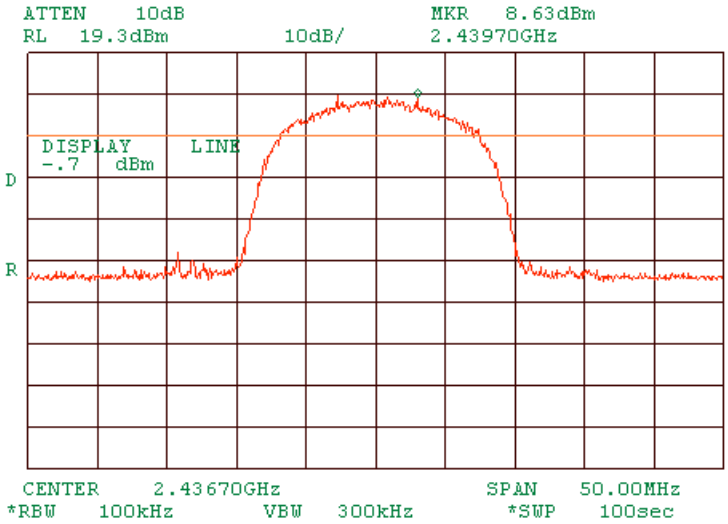
HL 1424	HL 2399	HL 2524					

Full description is given in Appendix A.

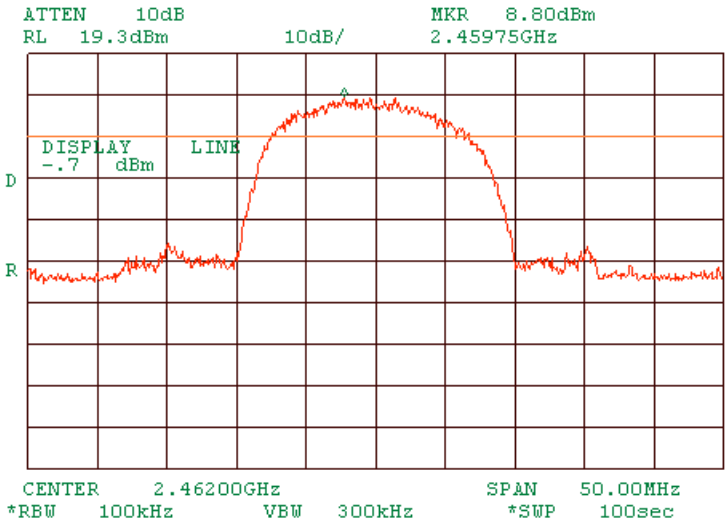
Plot 1.8.1 The highest emission level within the assigned band at low carrier frequency DSSS



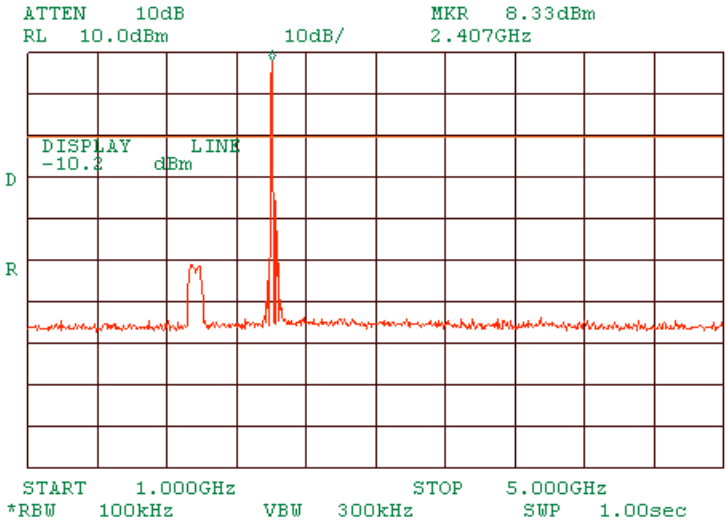
Plot 1.8.2 The highest emission level within the assigned band at mid carrier frequency DSSS



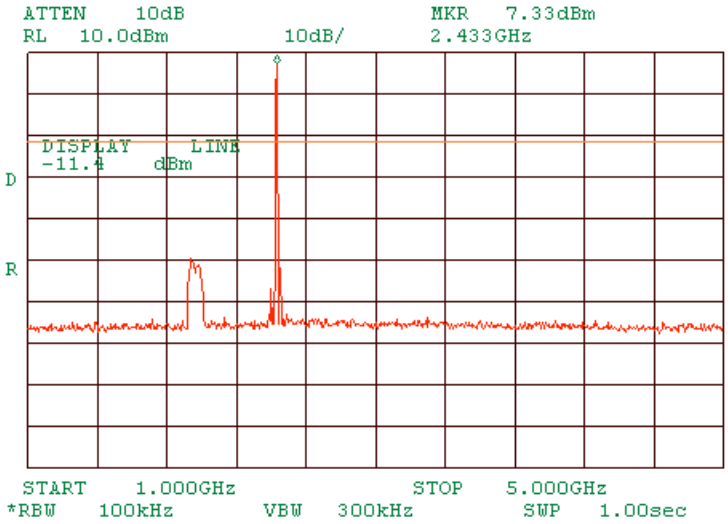
Plot 1.8.3 The highest emission level within the assigned band at high carrier frequency DSSS



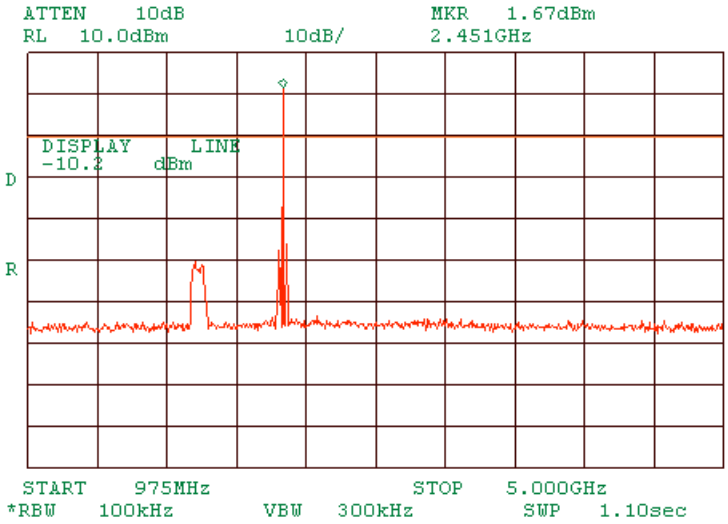
Plot 1.8.4 Spurious emission measurements in 1000 – 5000 GHz range at low carrier frequency DSSS



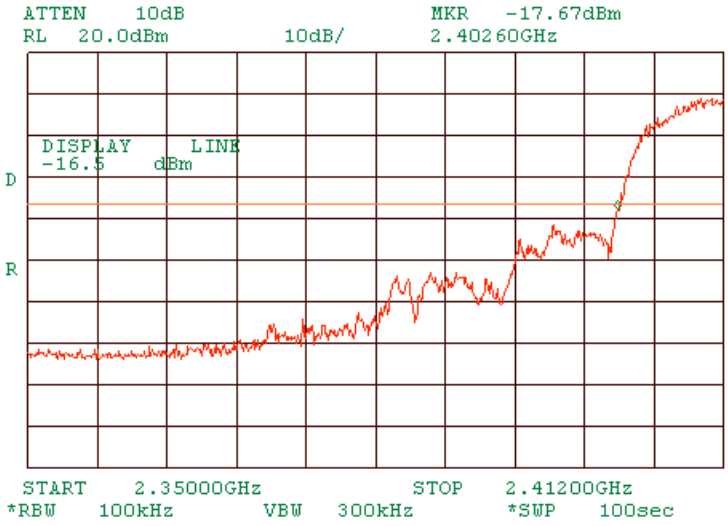
Plot 1.8.5 Spurious emission measurements in 1000 – 5000 GHz range at mid carrier frequency DSSS



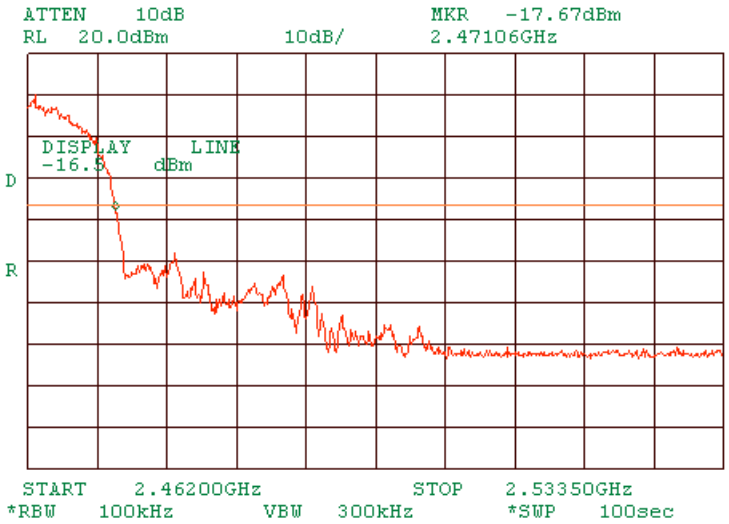
Plot 1.8.6 Spurious emission measurements in 1000 – 5000 GHz range at high carrier frequency DSSS



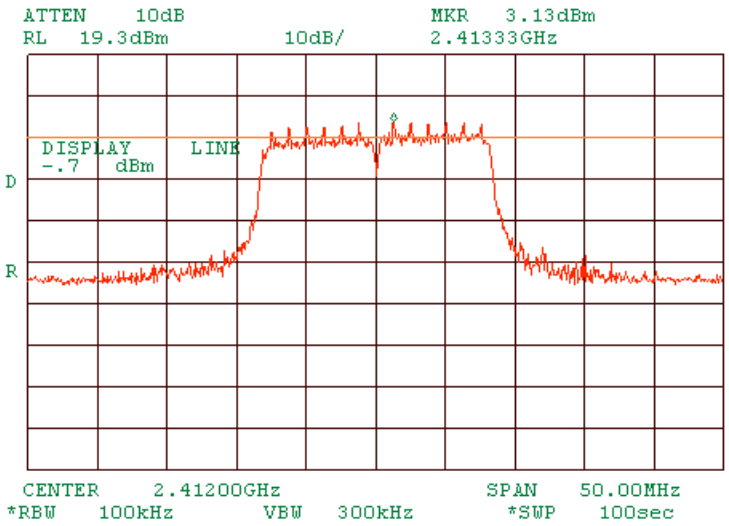
Plot 1.8.7 Band edge measurements at low carrier frequency DSSS



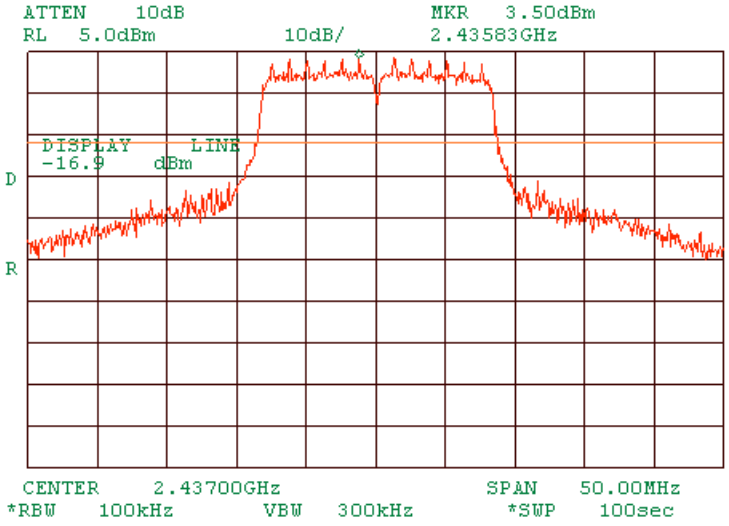
Plot 1.8.8 Band edge measurements at high carrier frequency DSSS



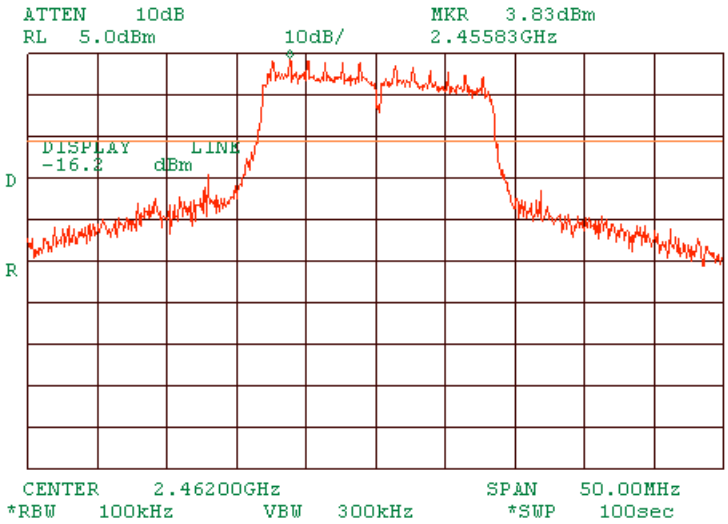
Plot 1.8.9 The highest emission level within the assigned band at low carrier frequency OFDM



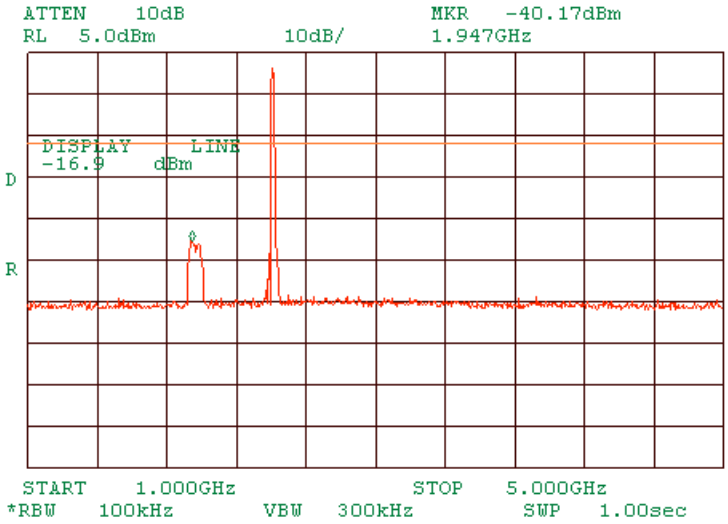
Plot 1.8.10 The highest emission level within the assigned band at mid carrier frequency OFDM



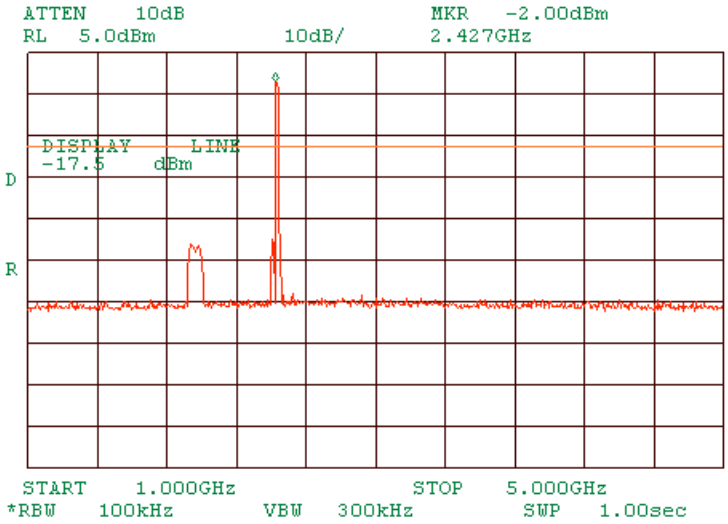
Plot 1.8.11 The highest emission level within the assigned band at high carrier frequency OFDM



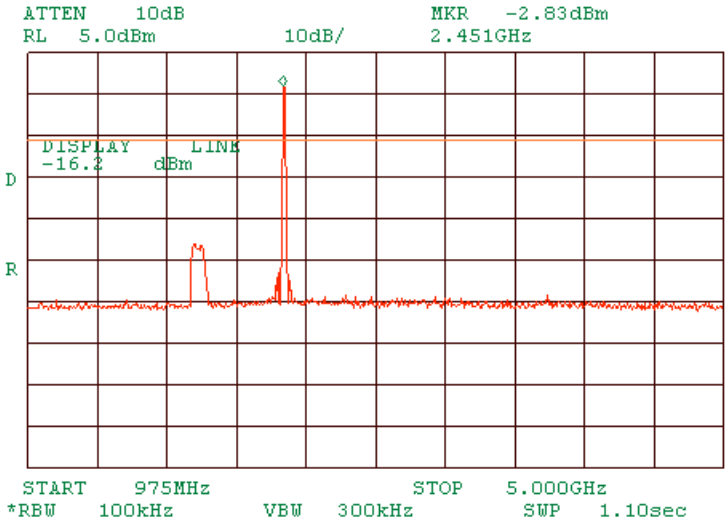
Plot 1.8.12 Spurious emission measurements in 1000 – 5000 GHz range at low carrier frequency OFDM



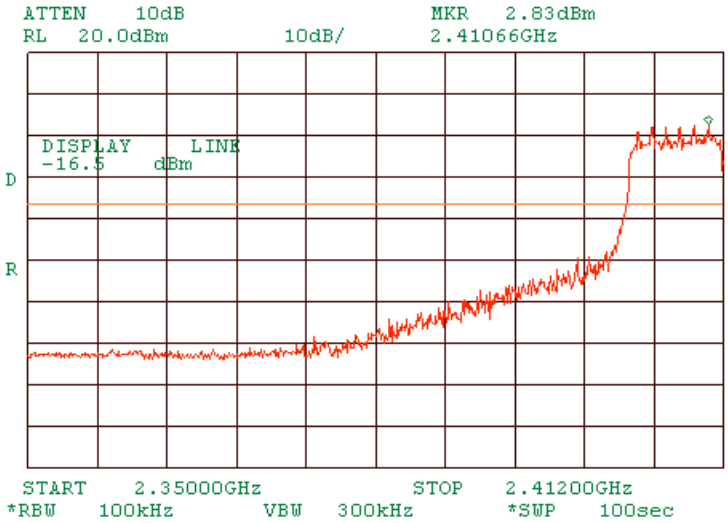
Plot 1.8.13 Spurious emission measurements in 1000 – 5000 GHz range at mid carrier frequency OFDM



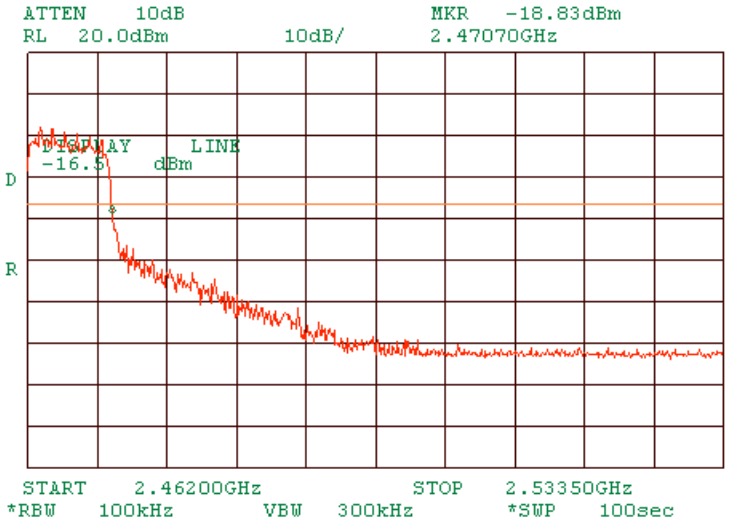
Plot 1.8.14 Spurious emission measurements in 1000 – 5000 GHz range at high carrier frequency OFDM



Plot 1.8.15 Band edge measurements at low carrier frequency DSSS



Plot 1.8.16 Band edge measurements at high carrier frequency DSSS



1.9 Spurious emissions at RF antenna connector

Photograph 1.9.1 Spurious emission test setup

Table 1.9.1 Spurious emission test results

ASSIGNED FREQUENCY RANGE:	2400 – 2483.5 MHz
INVESTIGATED FREQUENCY RANGE:	0.009 – 26500 MHz
ASSEMBLY	MA 850, MA 1000 (PCS 1900 mode)
MA 1000 SETTINGS	Transmit at 1930.0125 1930.0250 and 1989.9875 MHz
PORT:	2
INTERMODES	PCS 1900
DETECTOR USED:	Peak
RESOLUTION BANDWIDTH:	100 kHz
VIDEO BANDWIDTH:	300 kHz
MODULATION:	DSSS, OFDM
MODULATING SIGNAL:	CCK, BPSK
BIT RATE:	5.5, 6 Mbps
TRANSMITTER OUTPUT POWER SETTINGS:	Maximum
TRANSMITTER OUTPUT POWER:	26.6 dBm at low carrier frequency 25.2 dBm at mid carrier frequency 26.4 dBm at high carrier frequency

Frequency, MHz	Spurious emission, dBm	Emission at carrier, dBm	Attenuation below carrier, dBc	Limit, dBc	Margin, dB*	Verdict
DSSS modulation						
Low carrier frequency						
883	-37.5	10.83	48.33	20	28.33	Pass
2049.9952	-34.33		45.16		25.16	Pass
Mid carrier frequency						
881.3	-36.83	8.67	45.5	20	25.5	Pass
2049.961	-34.33		43		23	Pass
High carrier frequency						
881.3	-36.83	8.83	45.66	20	25.66	Pass
2049.953	-34.5		43.33		23.33	Pass
OFDM modulation						
Low carrier frequency						
878.3	-38	3.33	38	20	18	Pass
2049.95	-40.17		43.5		23.5	Pass
Mid carrier frequency						
880.5	-37.17	3.50	37.17	20	17.17	Pass
2049.952	-39.83		43.33		23.33	Pass
High carrier frequency						
879.5	-36.5	4.00	36.5	20	16.5	Pass
2049.9492	-39.83		43.83		23.83	Pass

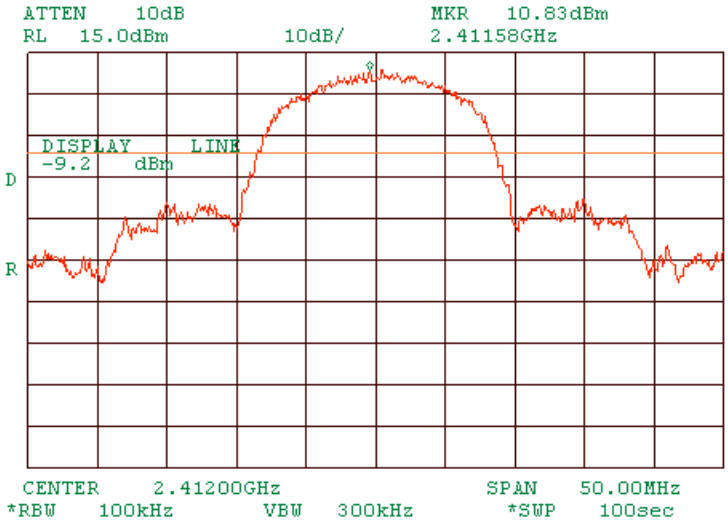
*****- Margin = Attenuation below carrier – specification limit.

Reference numbers of test equipment used

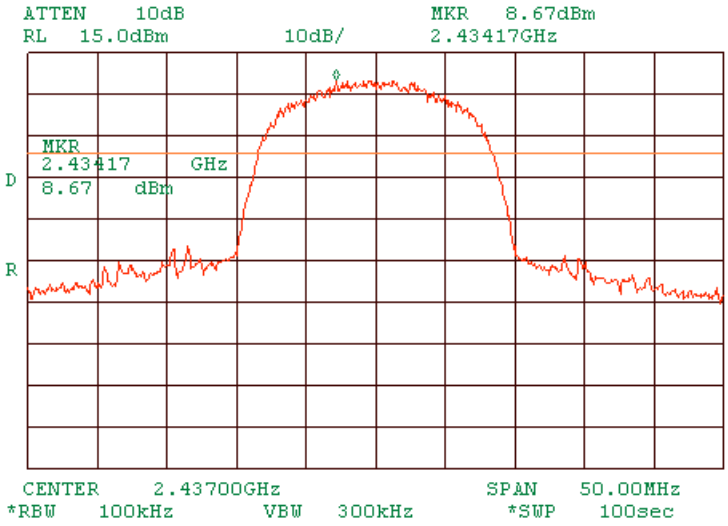
HL 1424	HL 2399	HL 2524					

Full description is given in Appendix A.

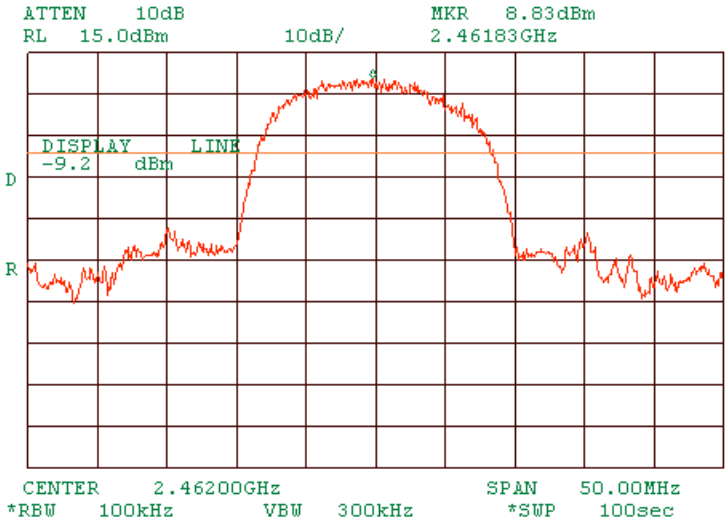
Plot 1.9.1 The highest emission level within the assigned band at low carrier frequency DSSS



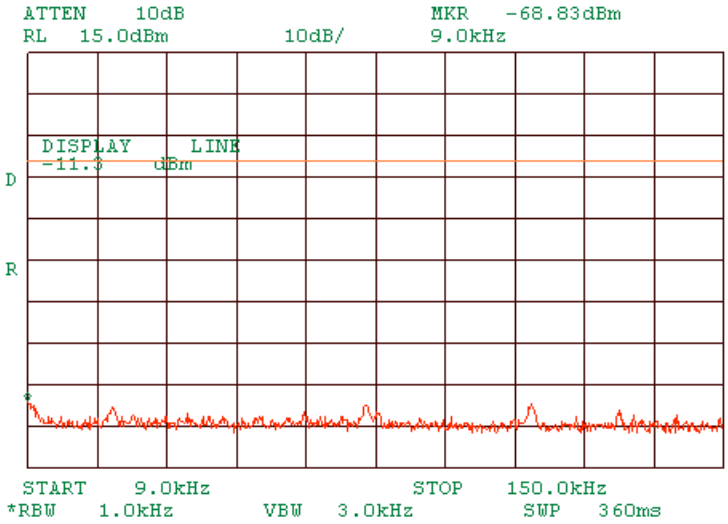
Plot 1.9.2 The highest emission level within the assigned band at mid carrier frequency DSSS



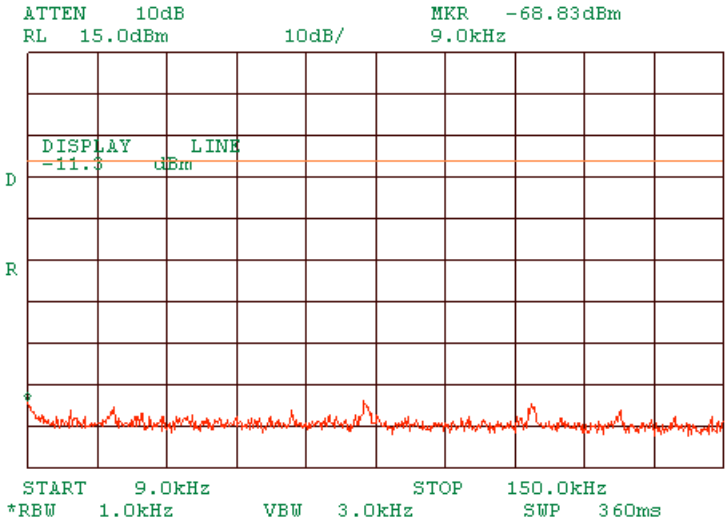
Plot 1.9.3 The highest emission level within the assigned band at high carrier frequency DSSS



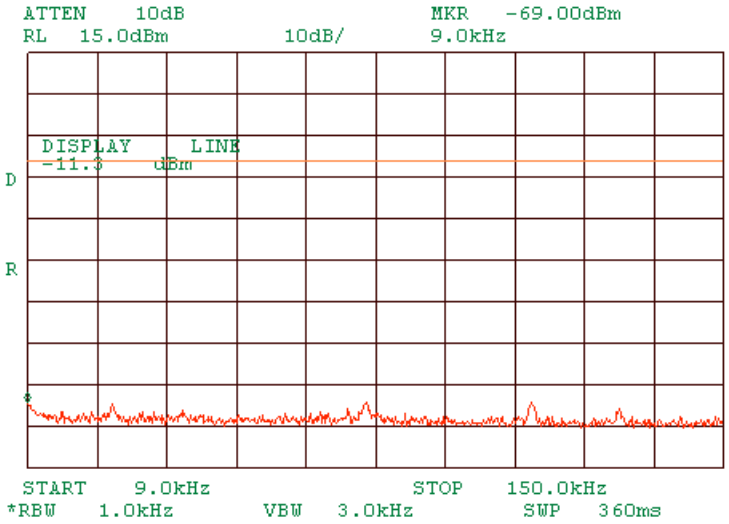
Plot 1.9.4 Spurious emission measurements in 9 - 150 kHz range at low carrier frequency DSSS



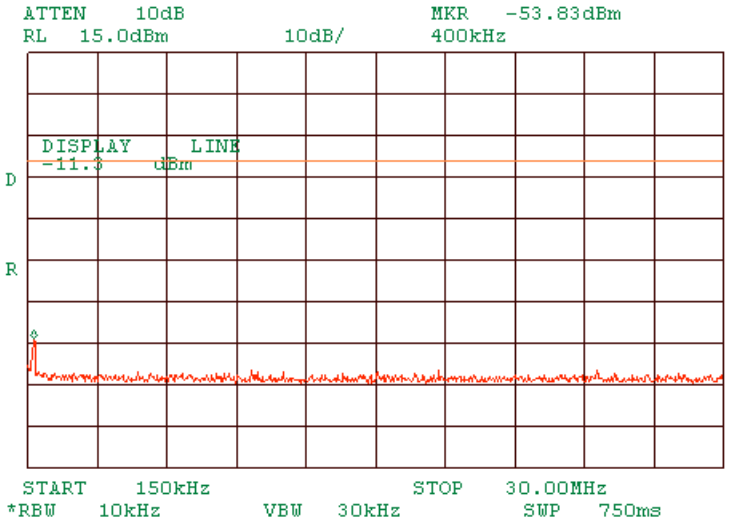
Plot 1.9.5 Spurious emission measurements in 9 - 150 kHz range at mid carrier frequency DSSS



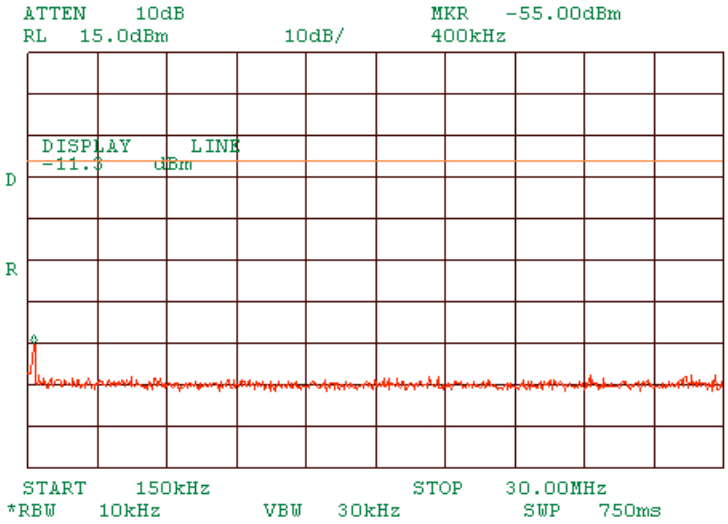
Plot 1.9.6 Spurious emission measurements in 9 - 150 kHz range at high carrier frequency DSSS



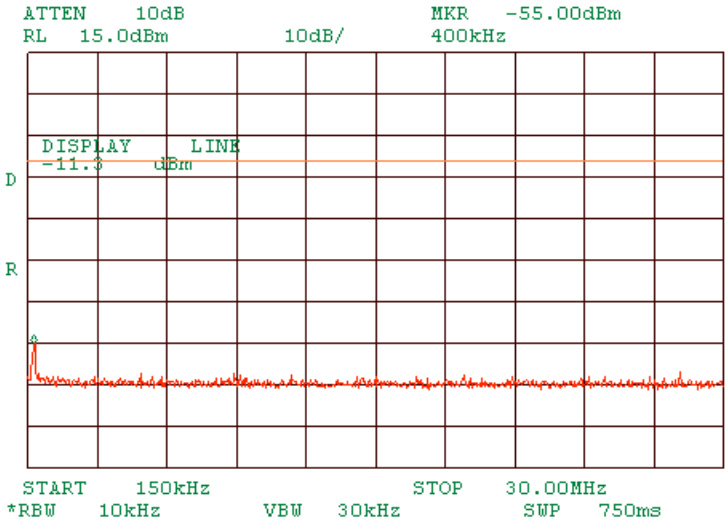
Plot 1.9.7 Spurious emission measurements in 0.15 - 30 MHz range at low carrier frequency DSSS



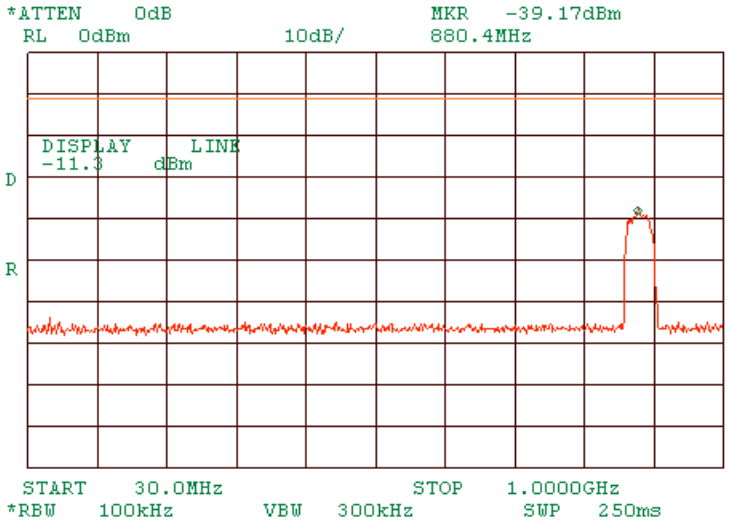
Plot 1.9.8 Spurious emission measurements in 0.15 - 30 MHz range at mid carrier frequency DSSS



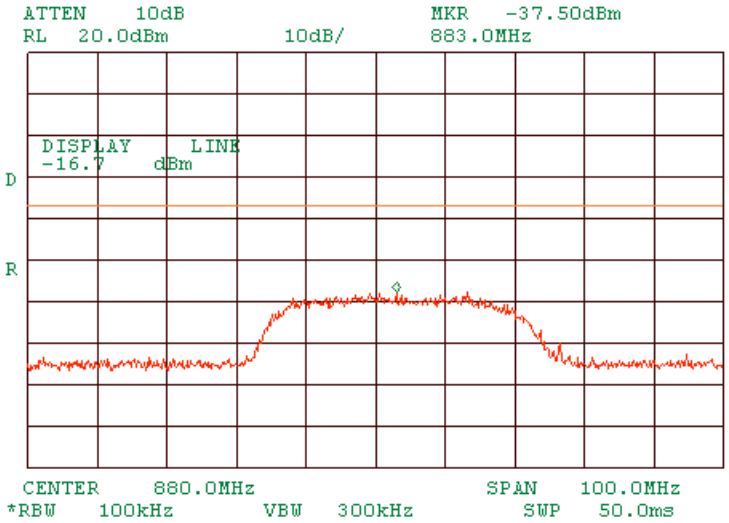
Plot 1.9.9 Spurious emission measurements in 0.15 - 30 MHz range at high carrier frequency DSSS



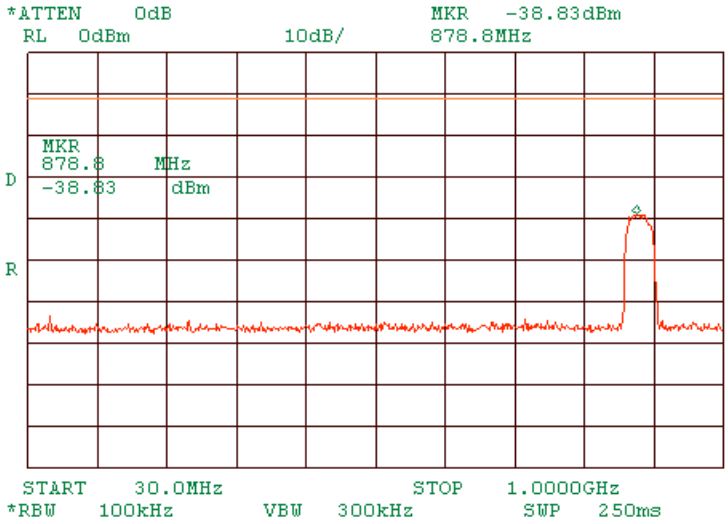
Plot 1.9.10 Spurious emission measurements in 30 - 1000 MHz range at low carrier frequency DSSS



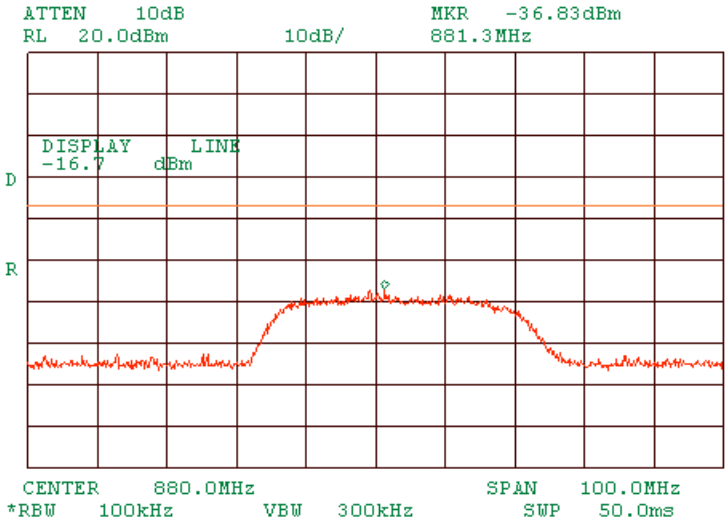
Plot 1.9.11 Zoomed at spurious emission at low carrier frequency DSSS



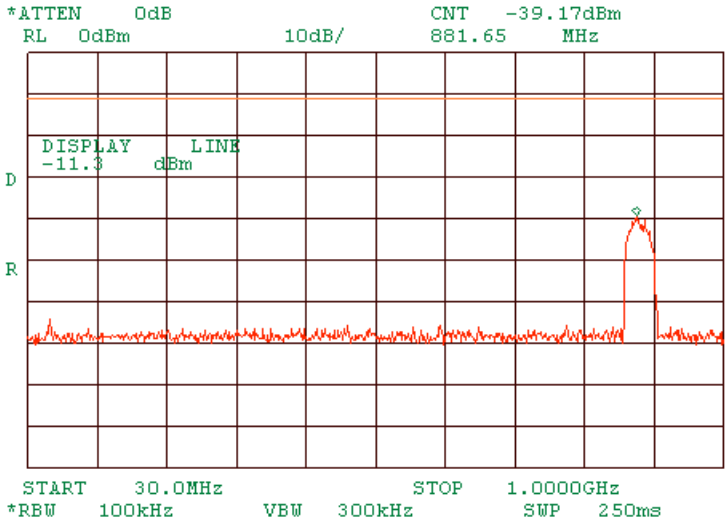
Plot 1.9.12 Spurious emission measurements in 30 - 1000 MHz range at mid carrier frequency DSSS



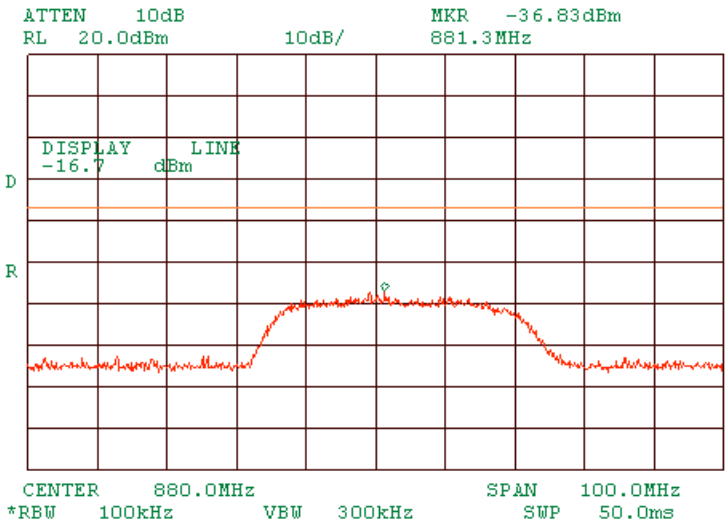
Plot 1.9.13 Zoomed at spurious emission at mid carrier frequency DSSS



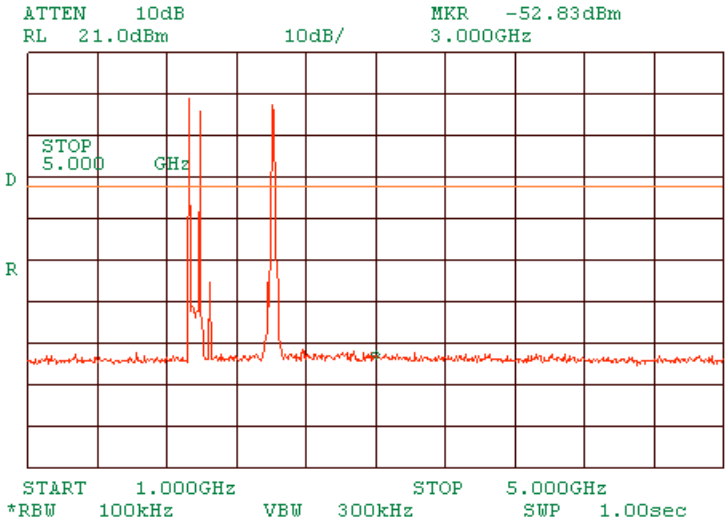
Plot 1.9.14 Spurious emission measurements in 30 - 1000 MHz range at high carrier frequency DSSS



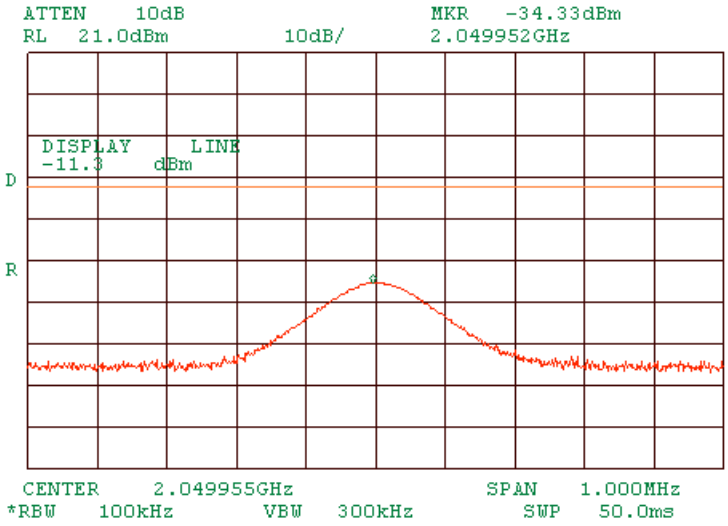
Plot 1.9.15 Zoomed at spurious emission at mid carrier frequency DSSS



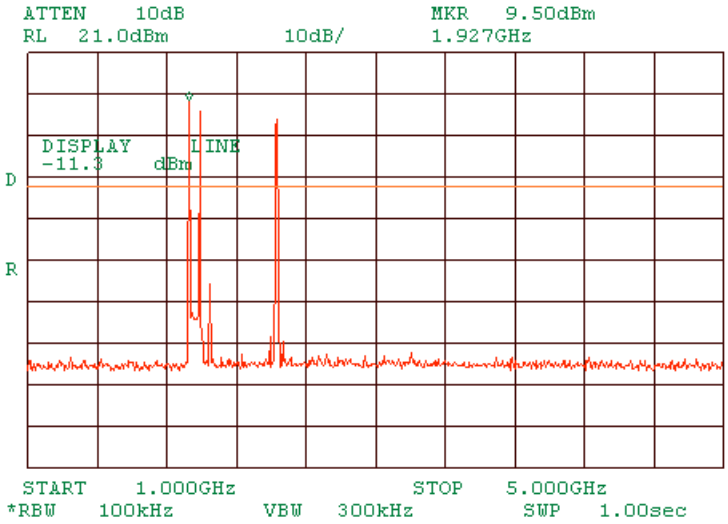
Plot 1.9.16 Spurious emission measurements in 1000 - 5000 MHz range at low carrier frequency DSSS



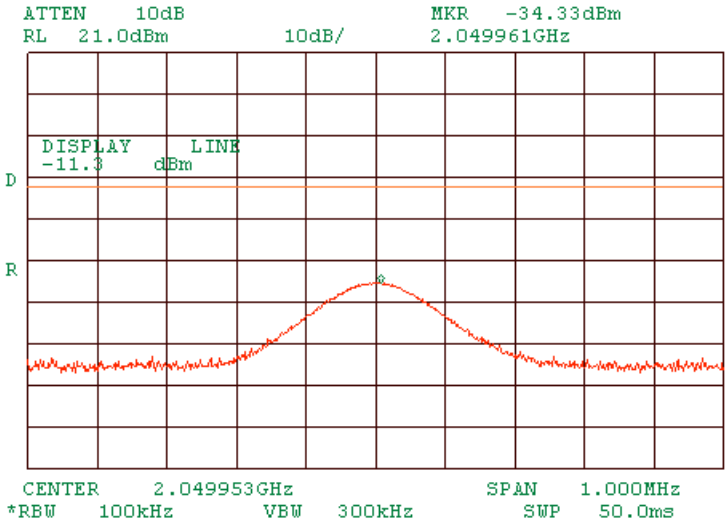
Plot 1.9.17 Zoomed at spurious emission at low carrier frequency DSSS



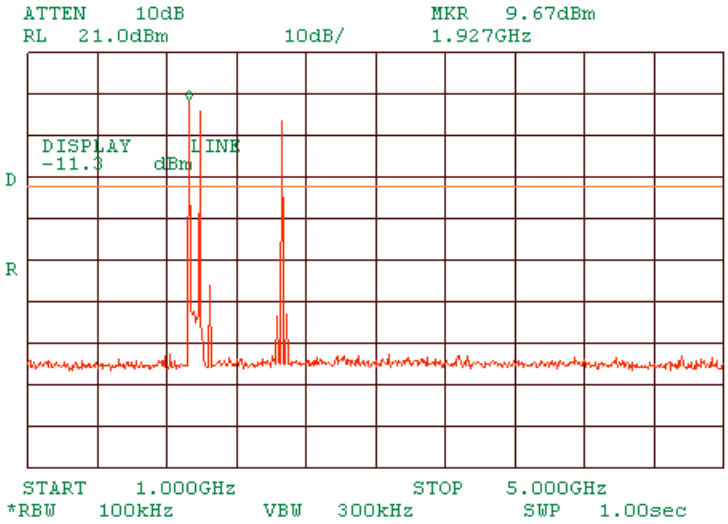
Plot 1.9.18 Spurious emission measurements in 1000 - 5000 MHz range at mid carrier frequency DSSS



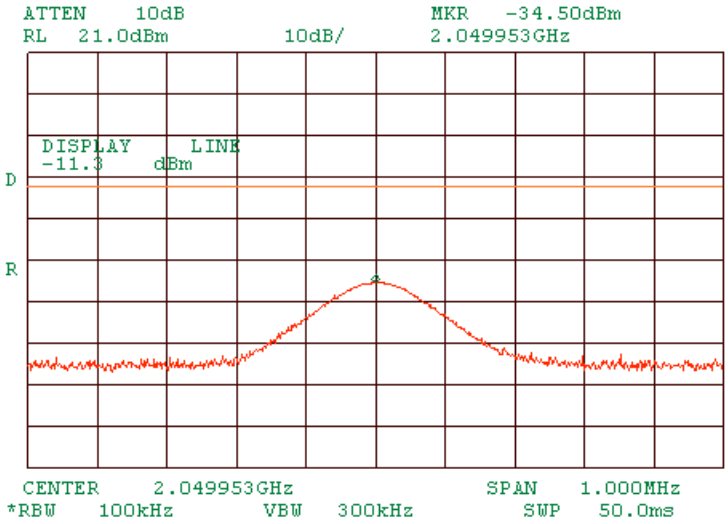
Plot 1.9.19 Zoomed at spurious emission at mid carrier frequency DSSS



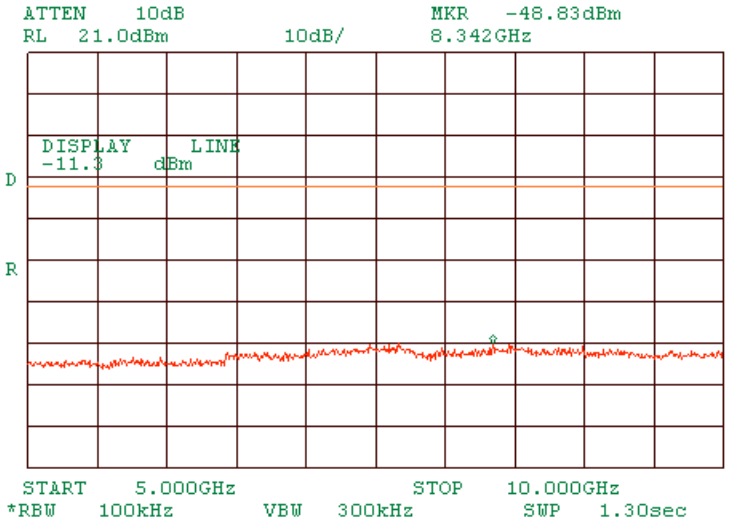
Plot 1.9.20 Spurious emission measurements in 1000 - 5000 MHz range at high carrier frequency DSSS



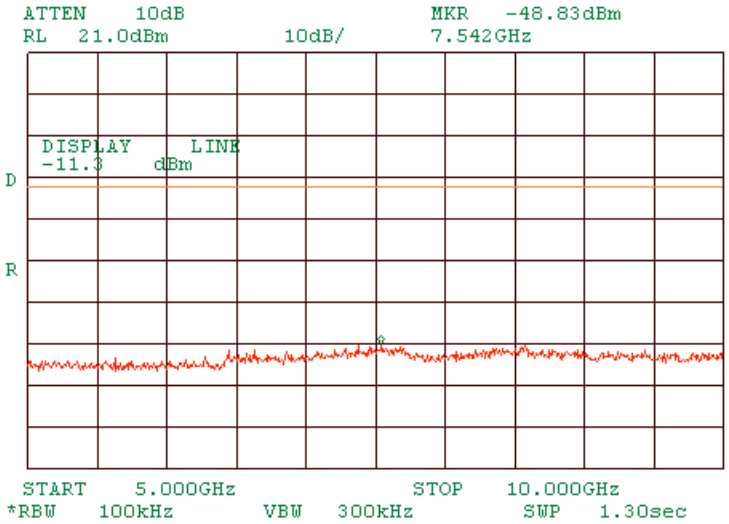
Plot 1.9.21 Zoomed at spurious emission at high carrier frequency DSSS



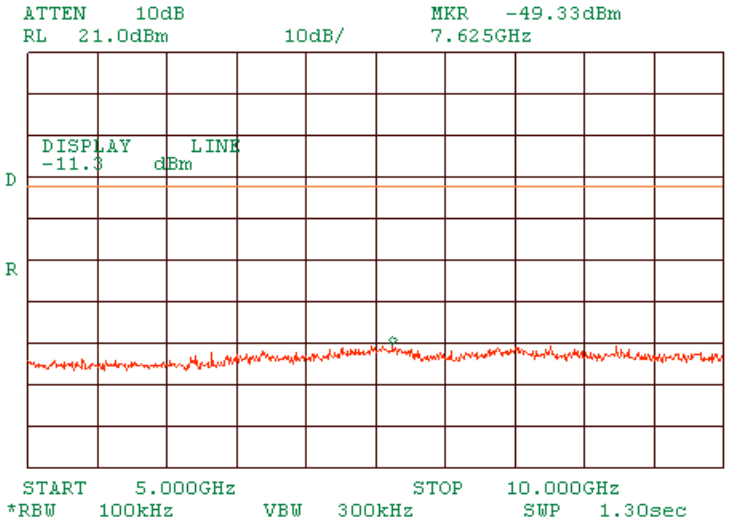
Plot 1.9.22 Spurious emission measurements in 5000 - 10000 MHz range at low carrier frequency DSSS



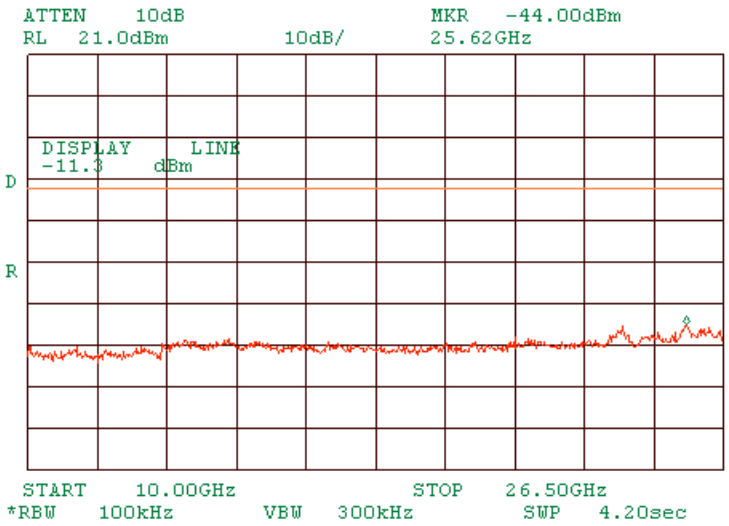
Plot 1.9.23 Spurious emission measurements in 5000 - 10000 MHz range at mid carrier frequency DSSS



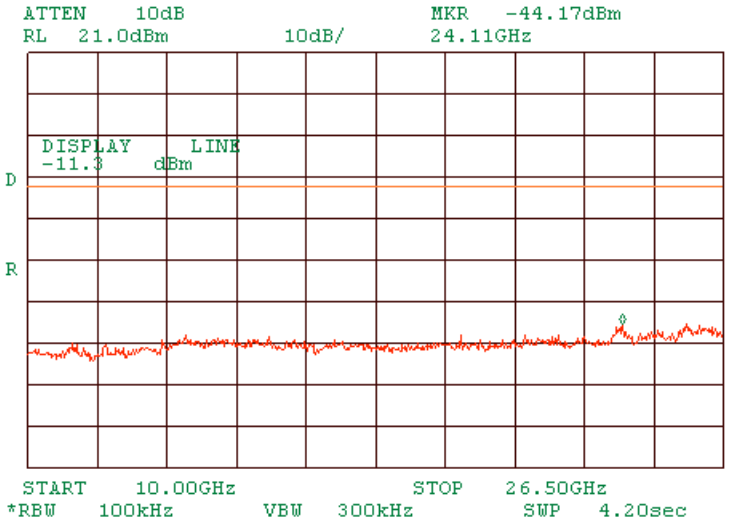
Plot 1.9.24 Spurious emission measurements in 5000 - 10000 MHz range at high carrier frequency DSSS



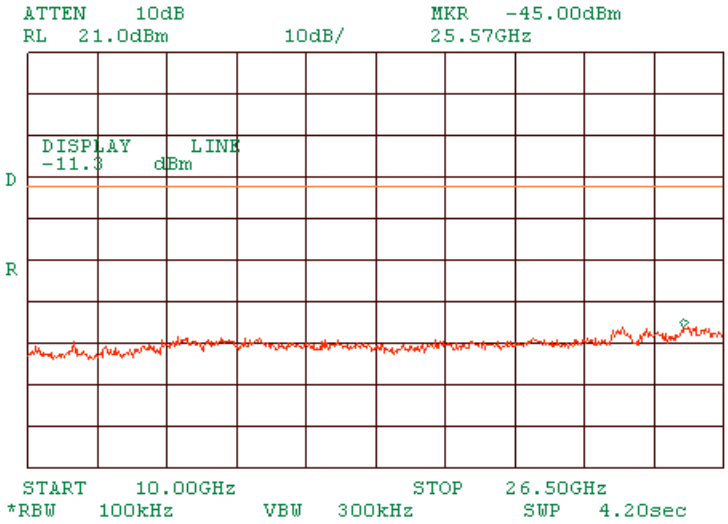
Plot 1.9.25 Spurious emission measurements in 10000 - 26500 MHz range at low carrier frequency DSSS



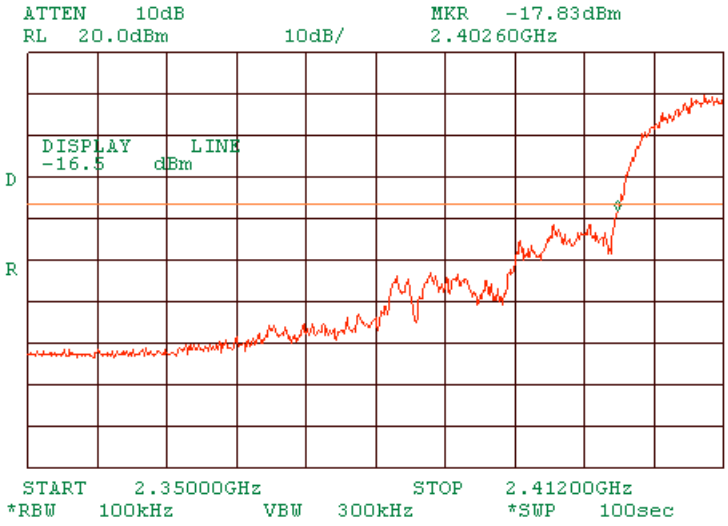
Plot 1.9.26 Spurious emission measurements in 10000 - 26500 MHz range at mid carrier frequency DSSS



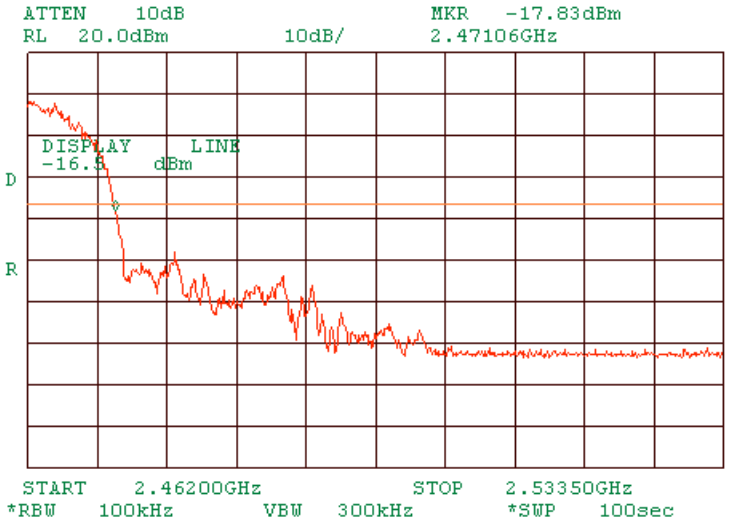
Plot 1.9.27 Spurious emission measurements in 10000 - 26500 MHz range at high carrier frequency DSSS



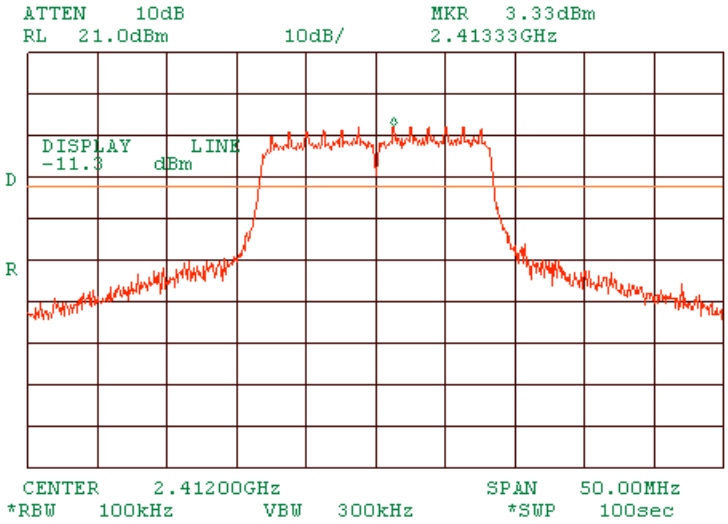
Plot 1.9.28 Band edge measurements at low carrier frequency DSSS



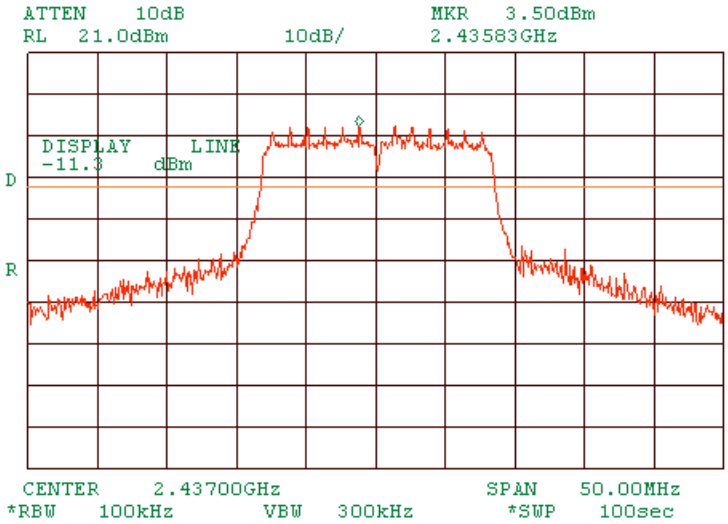
Plot 1.9.29 Band edge measurements at high carrier frequency DSSS



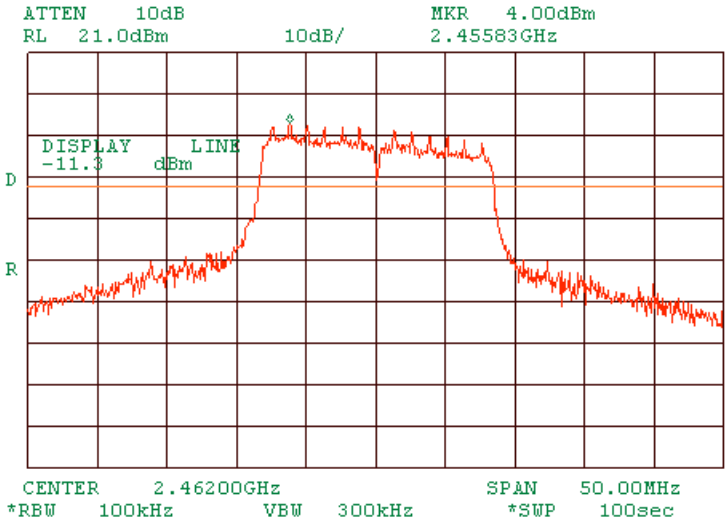
Plot 1.9.30 The highest emission level within the assigned band at low carrier frequency OFDM



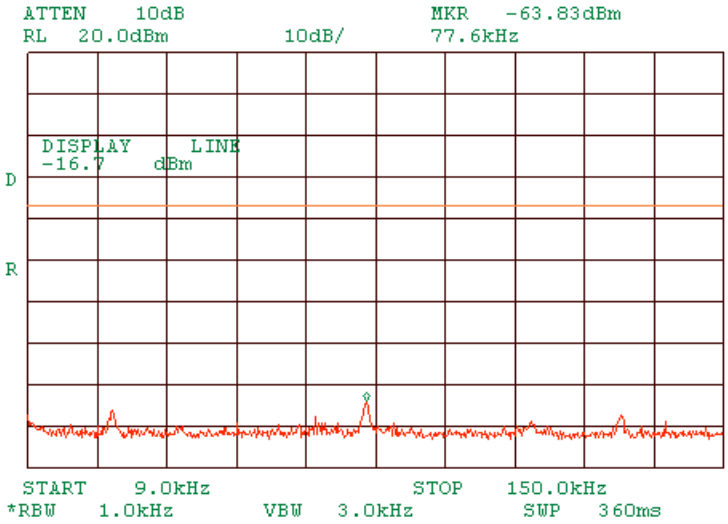
Plot 1.9.31 The highest emission level within the assigned band at mid carrier frequency OFDM



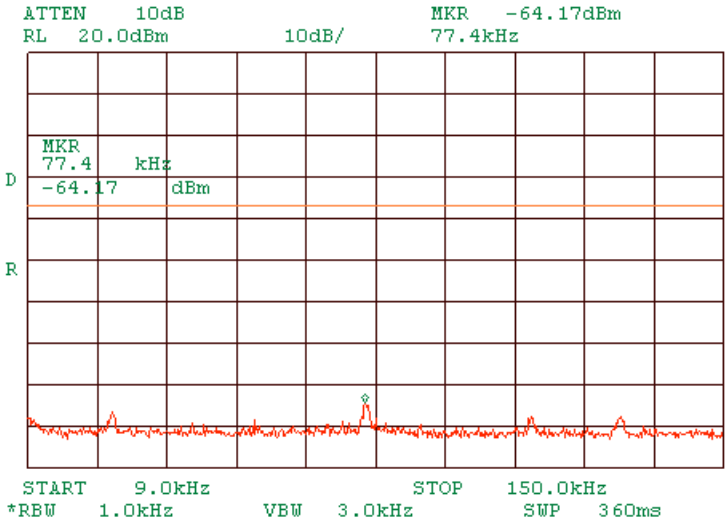
Plot 1.9.32 The highest emission level within the assigned band at high carrier frequency OFDM



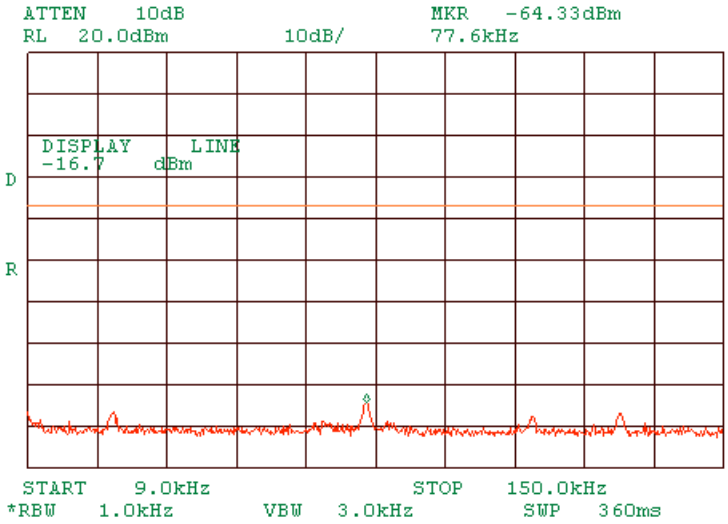
Plot 1.9.33 Spurious emission measurements in 9 - 150 kHz range at low carrier frequency OFDM



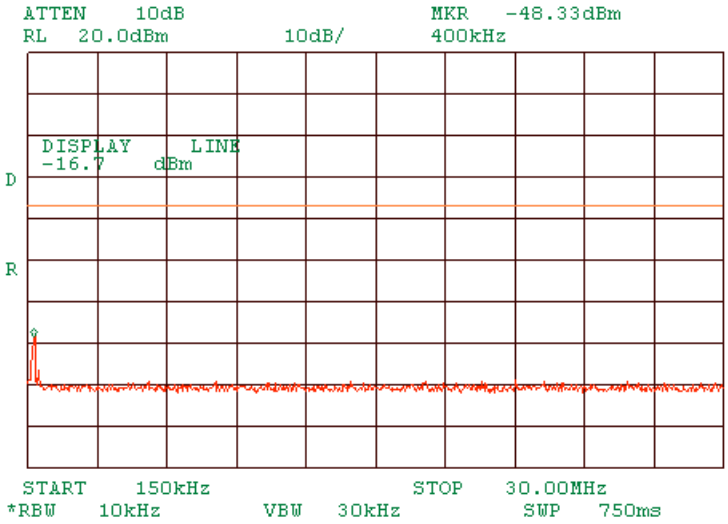
Plot 1.9.34 Spurious emission measurements in 9 - 150 kHz range at mid carrier frequency OFDM



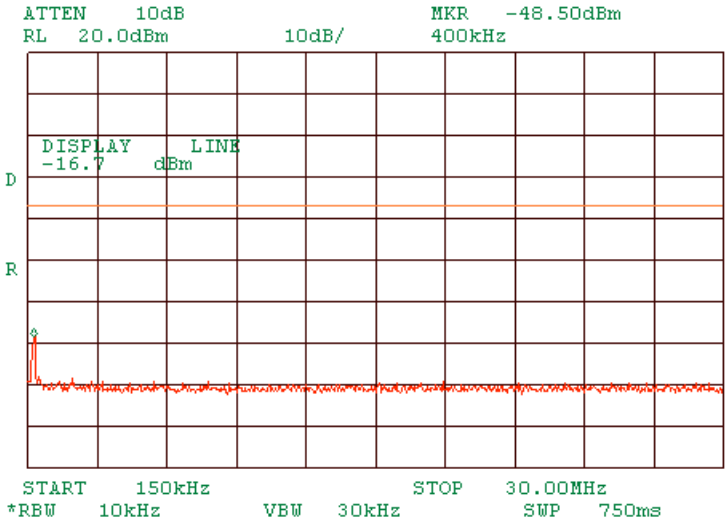
Plot 1.9.35 Spurious emission measurements in 9 - 150 kHz range at high carrier frequency OFDM



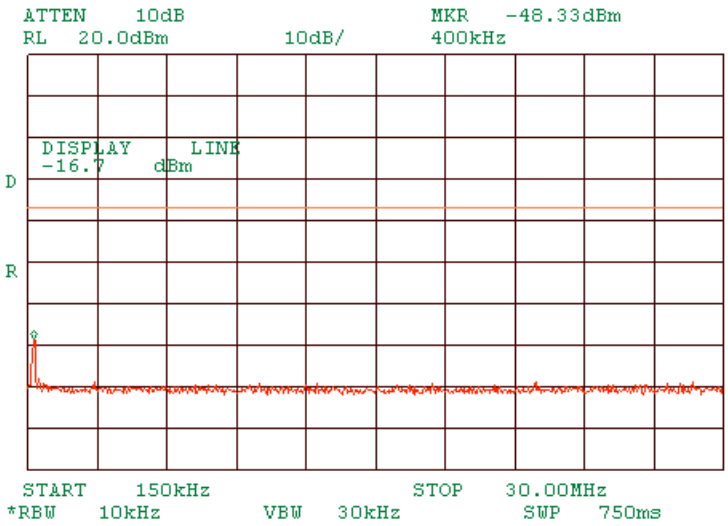
Plot 1.9.36 Spurious emission measurements in 0.15 - 30 MHz range at low carrier frequency OFDM



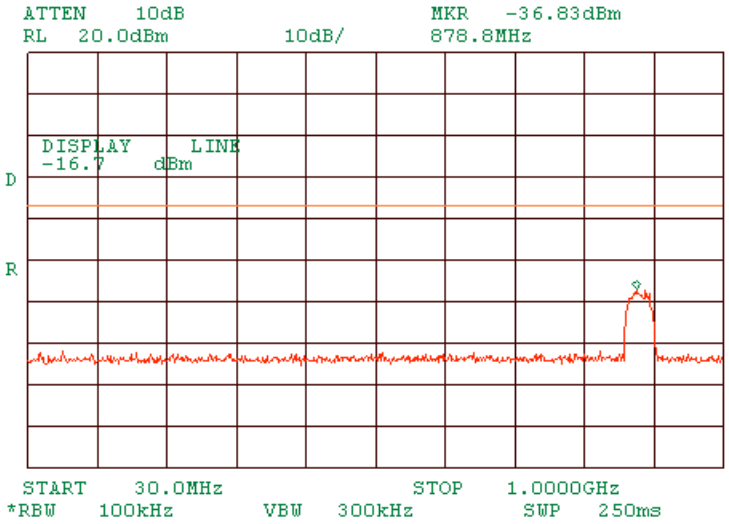
Plot 1.9.37 Spurious emission measurements in 0.15 - 30 MHz range at mid carrier frequency OFDM



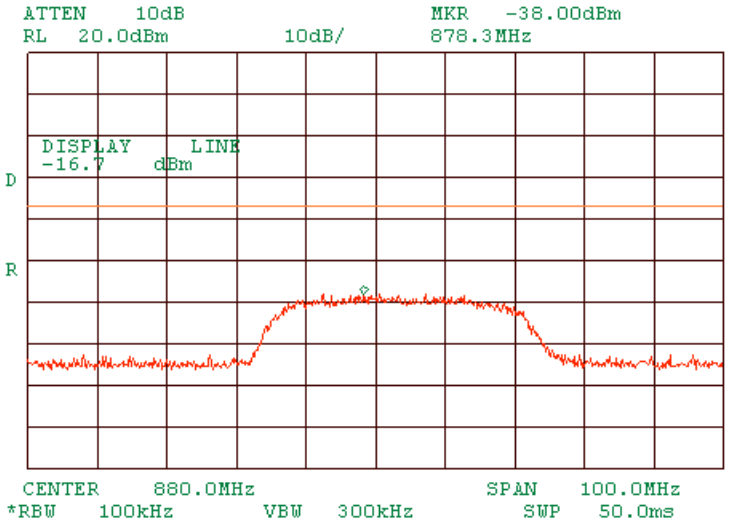
Plot 1.9.38 Spurious emission measurements in 0.15 - 30 MHz range at high carrier frequency OFDM



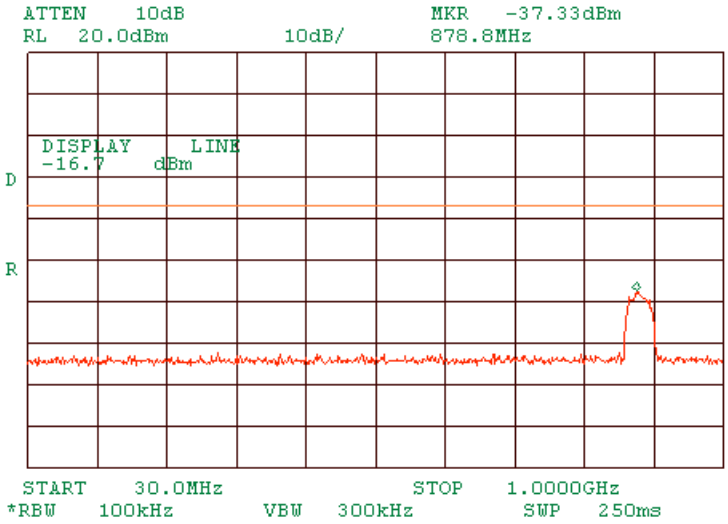
Plot 1.9.39 Spurious emission measurements in 30 - 1000 MHz range at low carrier frequency OFDM



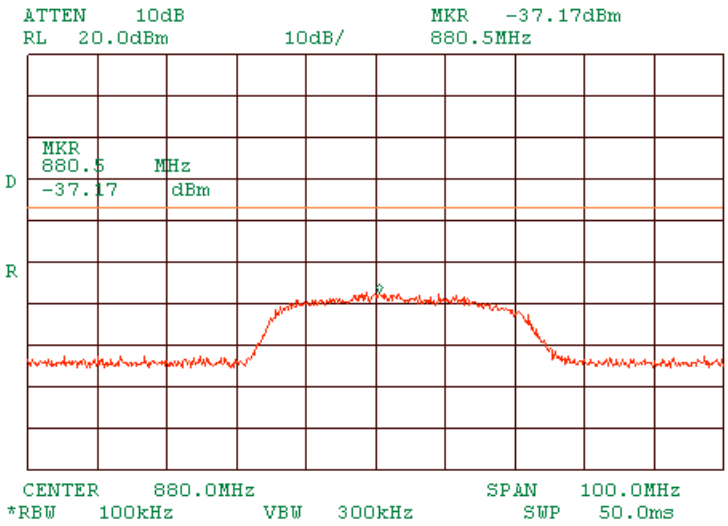
Plot 1.9.40 Zoomed at spurious emission at low carrier frequency OFDM



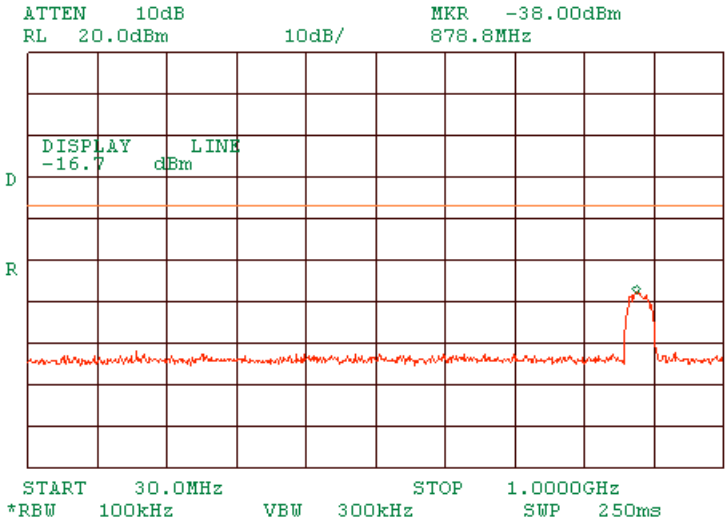
Plot 1.9.41 Spurious emission measurements in 30 - 1000 MHz range at mid carrier frequency OFDM



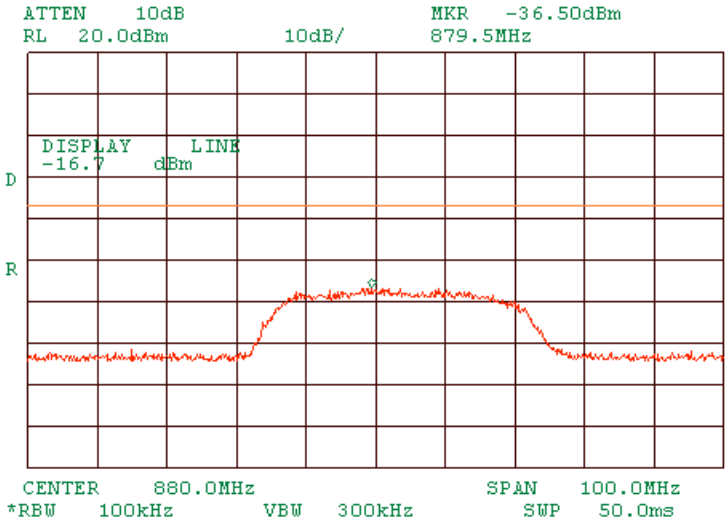
Plot 1.9.42 Zoomed at spurious emission at mid carrier frequency OFDM



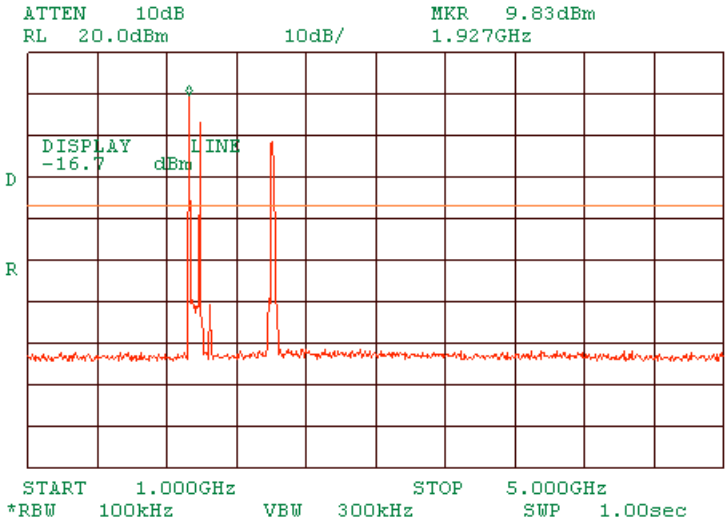
Plot 1.9.43 Spurious emission measurements in 30 - 1000 MHz range at high carrier frequency OFDM



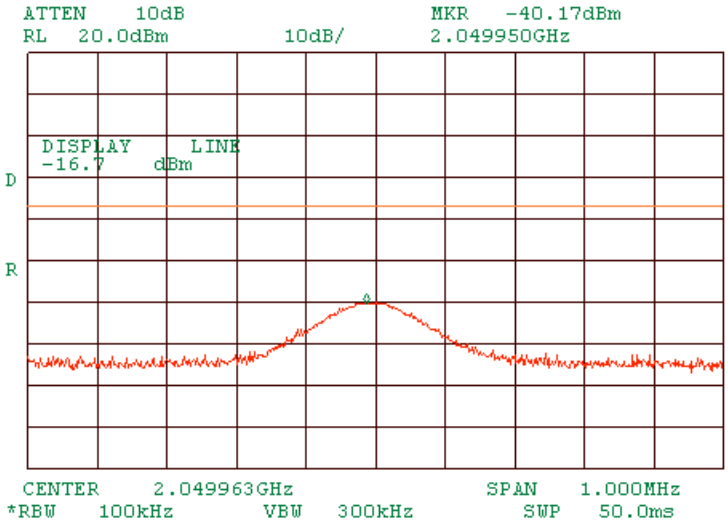
Plot 1.9.44 Zoomed at spurious emission at high carrier frequency OFDM



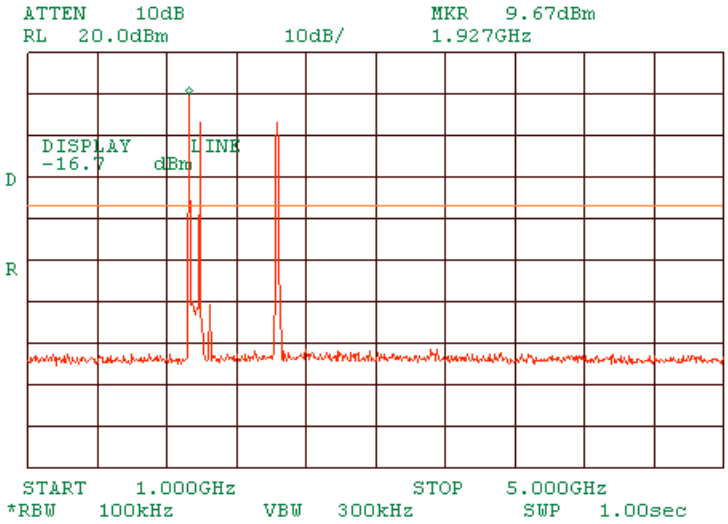
Plot 1.9.45 Spurious emission measurements in 1000 - 5000 MHz range at low carrier frequency OFDM



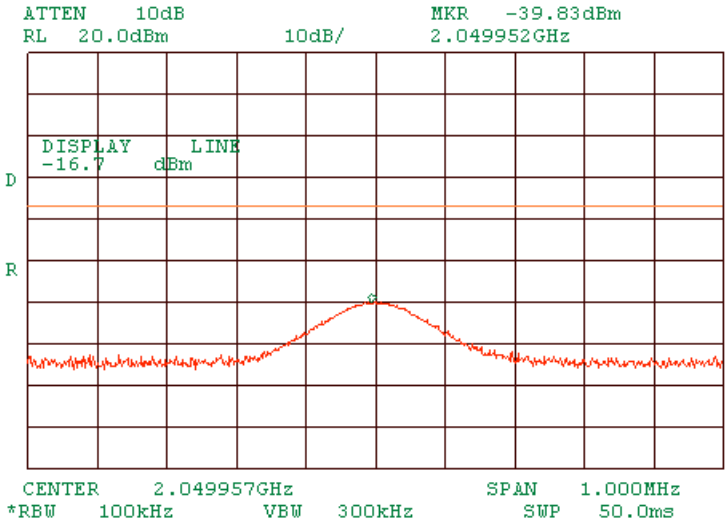
Plot 1.9.46 Zoomed at spurious emission at low carrier frequency OFDM



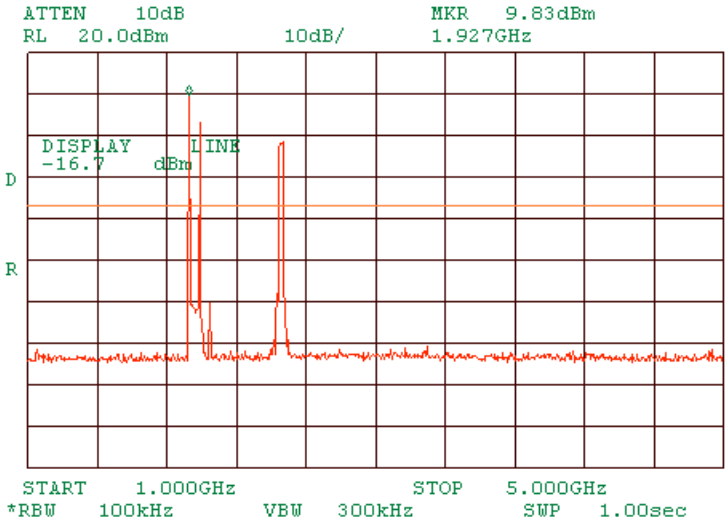
Plot 1.9.47 Spurious emission measurements in 1000 - 5000 MHz range at mid carrier frequency OFDM



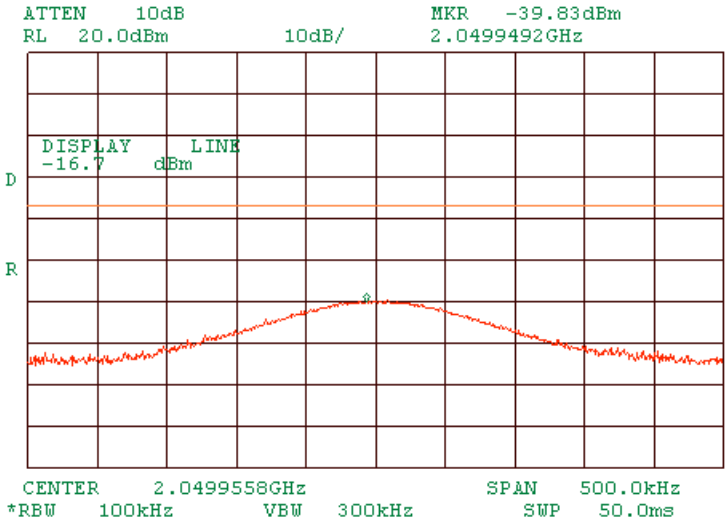
Plot 1.9.48 Zoomed at spurious emission at mid carrier frequency OFDM



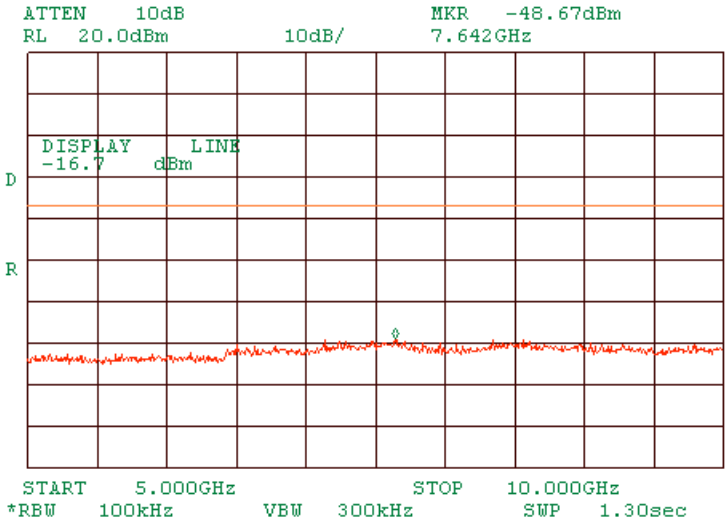
Plot 1.9.49 Spurious emission measurements in 1000 - 5000 MHz range at high carrier frequency OFDM



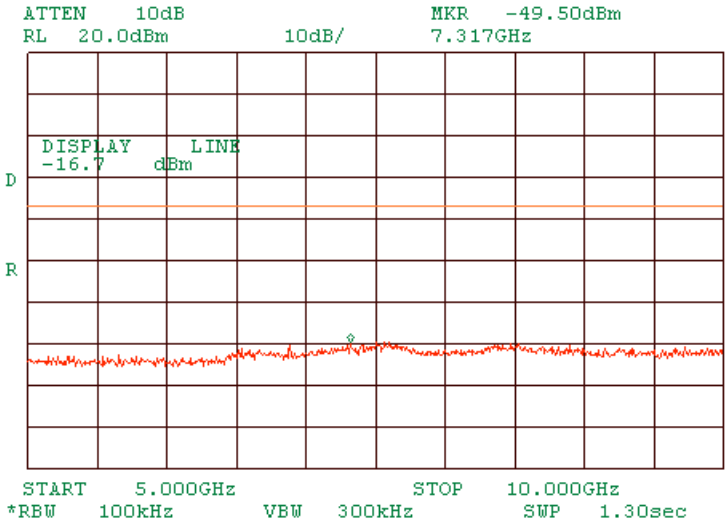
Plot 1.9.50 Zoomed at spurious emission at high carrier frequency OFDM



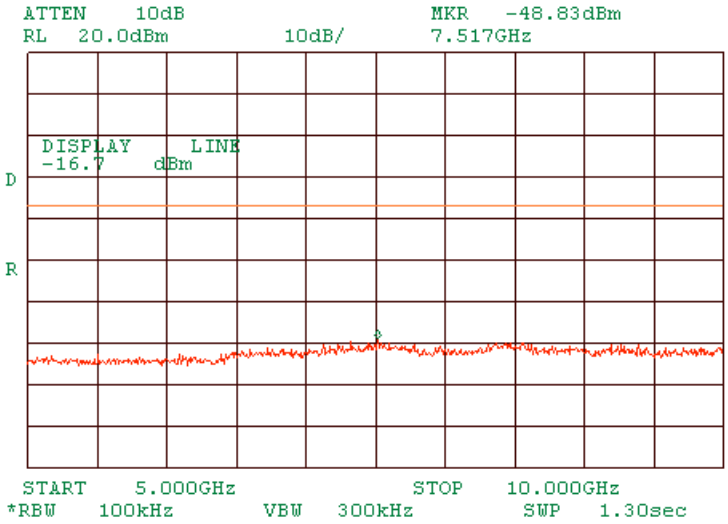
Plot 1.9.51 Spurious emission measurements in 5000 - 10000 MHz range at low carrier frequency OFDM



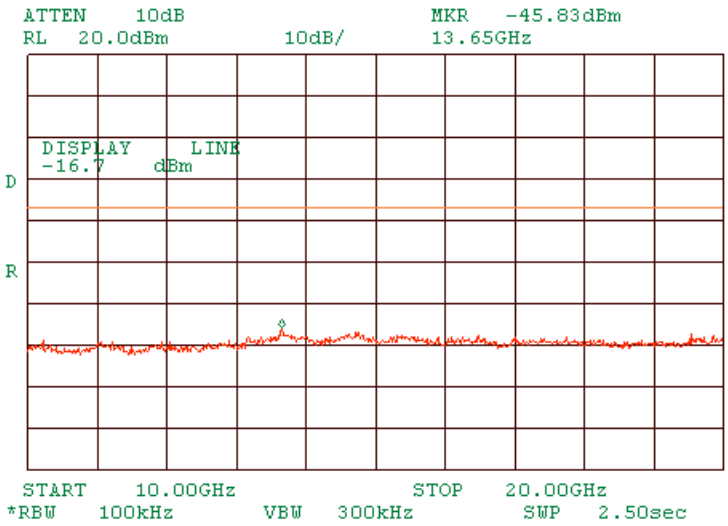
Plot 1.9.52 Spurious emission measurements in 5000 - 10000 MHz range at mid carrier frequency OFDM



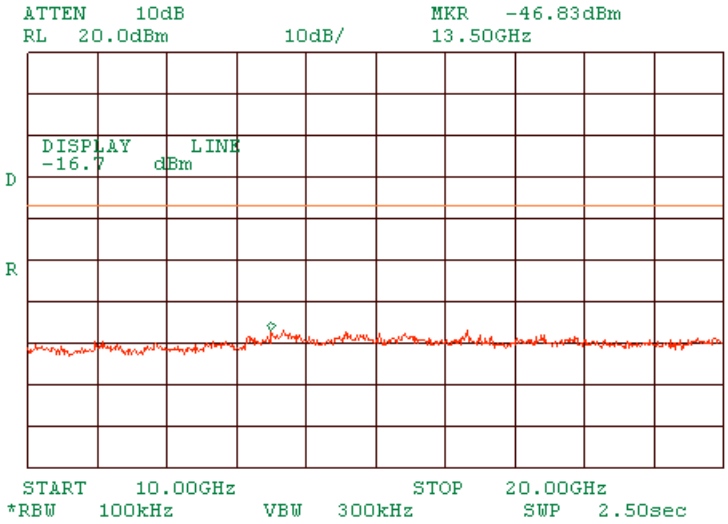
Plot 1.9.53 Spurious emission measurements in 5000 - 10000 MHz range at high carrier frequency OFDM



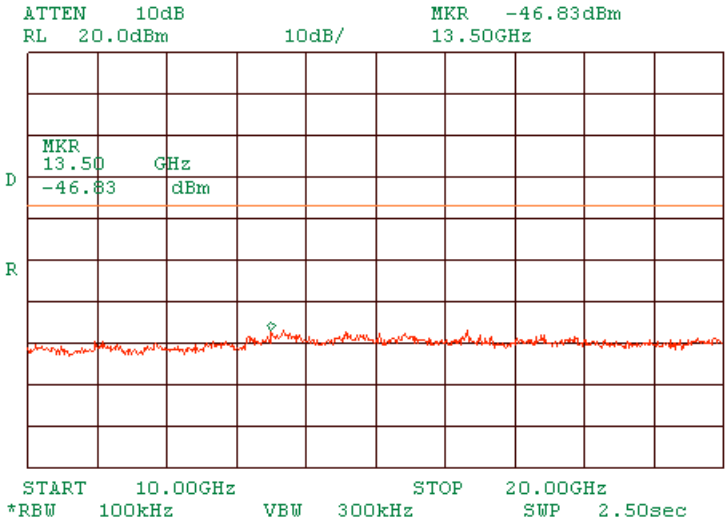
Plot 1.9.54 Spurious emission measurements in 10000 - 20000 MHz range at low carrier frequency OFDM



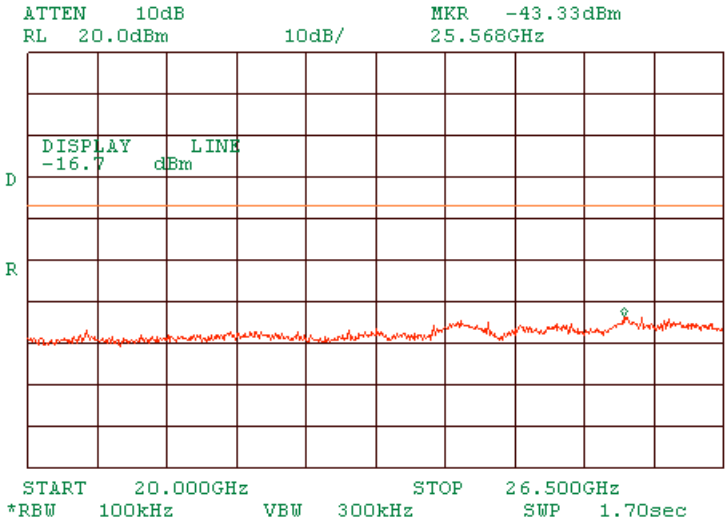
Plot 1.9.55 Spurious emission measurements in 10000 - 20000 MHz range at mid carrier frequency OFDM



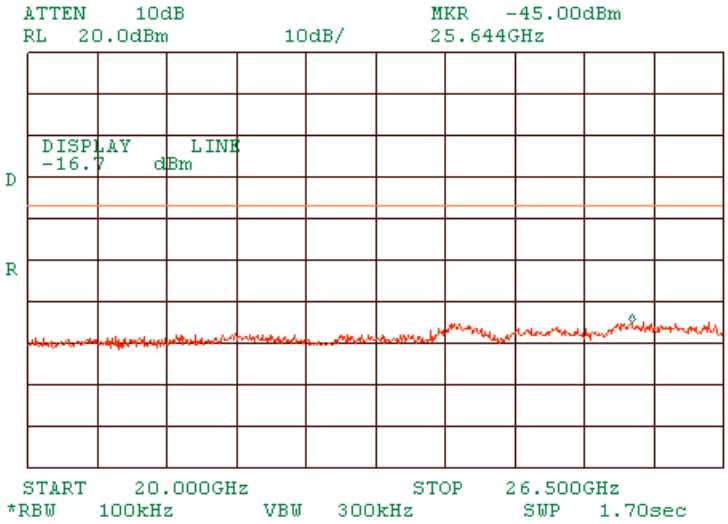
Plot 1.9.56 Spurious emission measurements in 10000 - 20000 MHz range at high carrier frequency OFDM



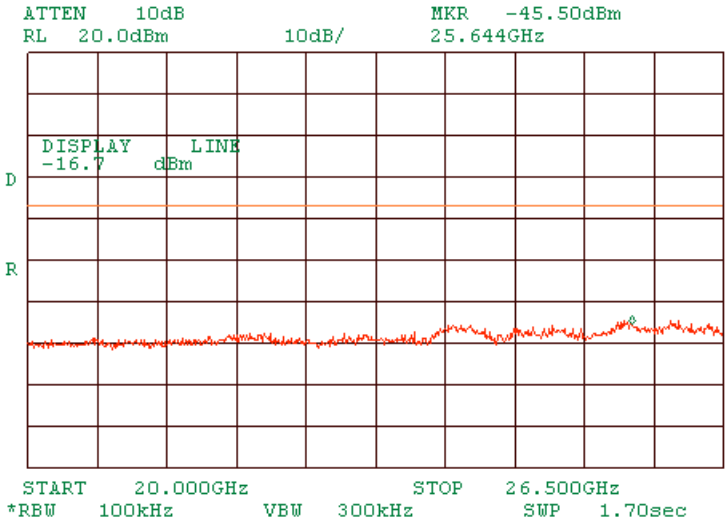
Plot 1.9.57 Spurious emission measurements in 20000 - 26500 MHz range at low carrier frequency OFDM



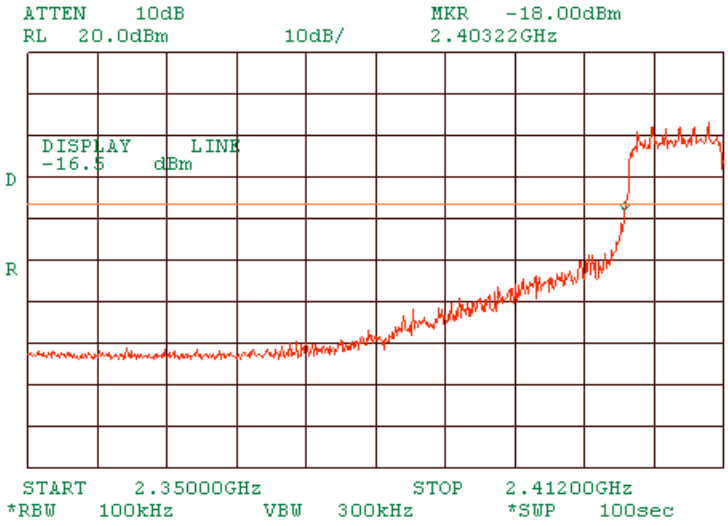
Plot 1.9.58 Spurious emission measurements in 20000 - 26500 MHz range at mid carrier frequency OFDM



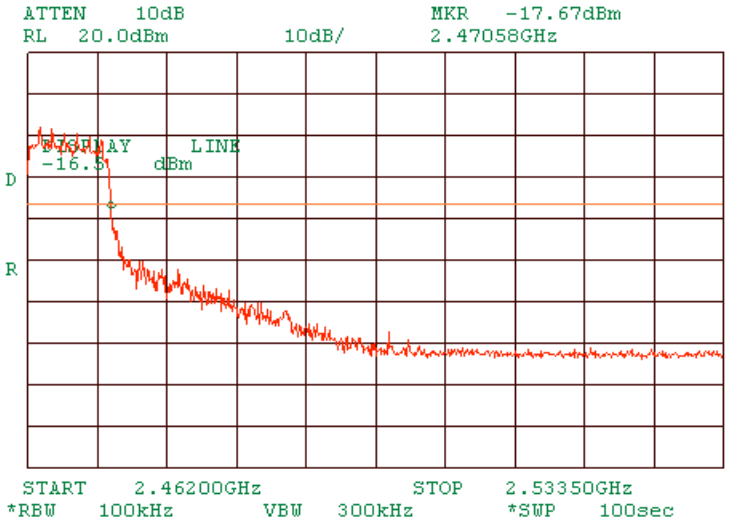
Plot 1.9.59 Spurious emission measurements in 20000 - 26500 MHz range at high carrier frequency OFDM



Plot 1.9.60 Band edge measurements at low carrier frequency DSSS



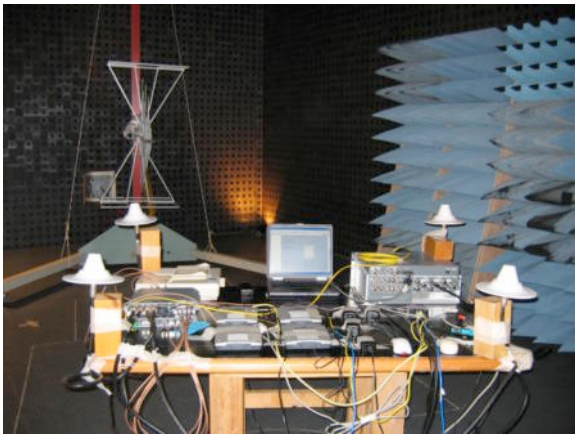
Plot 1.9.61 Band edge measurements at high carrier frequency DSSS



1.10 Field strength of spurious emissions

Photograph 1.10.1 Setup for spurious emission field strength measurements below 30 MHz

Photograph 1.10.2 Setup for spurious emission field strength measurements from 30 to 1000 MHz



Photograph 1.10.3 Setup for spurious emission field strength measurements above 1000 MHz

Table 1.10.1 Field strength of spurious emissions above 1 GHz within restricted bands

ASSIGNED FREQUENCY:	2400 - 24 MHz
INVESTIGATED FREQUENCY RANGE:	0.009 - 30000 MHz
ASSEMBLY	MA 850, MA 1000 (Cell 800, and PCS 1900 mode)
PORT 1:	Cisco transmission channel 1
PORT 2:	Cisco transmission channel 6
PORT 3:	Cisco transmission channel 11
PORT 4:	Cisco transmission channel 3
MA 1000 SETTINGS	Transmit at 1960 MHz
	Transmit at 881.5 MHz
TEST DISTANCE:	3 m
MODULATION:	DSSS and OFDM
MODULATING SIGNAL:	CCK and BPSK
BIT RATE:	5.5 and 6 Mbps
DUTY CYCLE:	NA
TRANSMITTER OUTPUT POWER SETTINGS:	Maximum
DETECTOR USED:	Peak
RESOLUTION BANDWIDTH:	1000 kHz
TEST ANTENNA TYPE:	Double ridged guide

Frequency, MHz	Antenna		Azimuth, degrees*	Peak field strength(VBW=3 MHz)			Verdict
	Polarization	Height, m		Measured, dB(□V/m)	Limit, dB(□V/m)	Margin, dB**	
2386.250000	V	2	125	53.32	54.00	-0.68	

*- EUT front panel refers to 0 degrees position of turntable.
**- Margin = Measured field strength - specification limit.

Standard 15.247 FCC Part 15
For receive mode CLASS B FCC limits are applicable by part 15.209 of the standard FCC Part 15
The limits are for transmit mode only
The limits described below are relevant to restricted bands only! The table of restricted band is below.

Frequency, MHz	Field strength at 3 m within restricted bands, dB(□V/m)***			Attenuation of field strength of spurious versus carrier outside restricted bands, dBc***
	Peak	Quasi Peak	Average	
0.009 – 0.490*	NA	128.5 – 93.8**	NA	20.0
0.490 – 1.705*		73.8 – 63.0**		
1.705 – 30.0*		69.5**		
30 – 88		40.0		
88 – 216		43.5		
216 – 960		46.0		
960 - 1000		54.0		
Above 1000	74.0	NA	54.0	

Table 1.10.2 restricted bands.

MHz	MHz	MHz	MHz	MHz	GHz
0.09 - 0.11	8.37625 - 8.38675	73 - 74.6	399.9 - 410	2655 - 2900	10.6 - 12.7
0.495 - 0.505	8.41425 - 8.41475	74.8 - 75.2	608 - 614	3260 - 3267	13.25 - 13.4
2.1735 - 2.1905	12.29 - 12.293	108 - 121.94	960 - 1240	3332 - 3339	14.47 - 14.5
4.125 - 4.128	12.51975 - 12.52025	123 - 138	1300 - 1427	3345.8 - 3358	15.35 - 16.2
4.17725 - 4.17775	12.57675 - 12.57725	149.9 - 150.05	1435 - 1626.5	3600 - 4400	17.7 - 21.4
4.20725 - 4.20775	13.36 - 13.41	156.52475 - 156.52525	1645.5 - 1646.5	4500 - 5150	22.01 - 23.12
6.215 - 6.218	16.42 - 16.423	156.7 - 156.9	1660 - 1710	5350 – 5460	23.6 - 24
6.26775 - 6.26825	16.69475 - 16.69525	162.0125 - 167.17	1718.8 - 1722.2	7250 - 7750	31.2 - 31.8
6.31175 - 6.31225	16.80425 - 16.80475	167.72 - 173.2	2200 - 2300	8025 – 8500	36.43 - 36.5
8.291 - 8.294	25.5 - 25.67	240 - 285	2310 - 2390	9000 - 9200	Above 38.6
8.362 - 8.366	37.5 - 38.25	322 - 335.4	2483.5 - 2500	9300 - 9500	

All other frequencies are under following limit:
Max output power in dBm + 95.23 i.e. if the output power is about 26 the limit is 121.23 (dBuV/m)

Table 1.10.3 Field strength of spurious emissions below 1 GHz within restricted bands

ASSIGNED FREQUENCY:	2400 – 2483.5 MHz
INVESTIGATED FREQUENCY RANGE:	0.009 - 30000 MHz
INVESTIGATED FREQUENCY RANGE:	0.009 - 30000 MHz
ASSEMBLY	MA 850, MA 1000 (Cell 800, and PCS 1900 mode)
PORT 1:	Cisco transmission channel 1
PORT 2:	Cisco transmission channel 6
PORT 3:	Cisco transmission channel 11
PORT 4:	Cisco transmission channel 3
MA 1000 SETTINGS	Transmit at 1960 MHz Transmit at 881.5 MHz
TEST DISTANCE:	3 m
MODULATION:	DSSS and OFDM
MODULATING SIGNAL:	CCK and BPSK
BIT RATE:	5.5 and 6 Mbps
TRANSMITTER OUTPUT POWER SETTINGS:	Maximum
RESOLUTION BANDWIDTH:	0.2 kHz (9 kHz – 150 kHz) 9.0 kHz (150 kHz – 30 MHz) 120 kHz (30 MHz – 1000 MHz)
VIDEO BANDWIDTH:	> Resolution bandwidth
TEST ANTENNA TYPE:	Active loop (9 kHz – 30 MHz) Biconilog (30 MHz – 1000 MHz)

Frequency, MHz	Peak emission, dB(μV/m)	Quasi-peak			Antenna polarization	Antenna height, m	Turn-table position**, degrees	Verdict
		Measured emission, dB(μV/m)	Limit, dB(μV/m)	Margin, dB*				
37.44000	36.17	30.28	40.00	-9.72	V	1.0	131	Pass
120.01750	36.68	34.76	43.50	-8.74	H	1.5	190	
168.01250	37.02	35.00	43.50	-8.50	H	1.8	152	
250.00000	39.67	38.19	46.00	-7.81	H	1.9	160	
258.06500	26.56	22.08	46.00	-23.92	H	1.0	77	
333.32500	37.10	34.97	46.00	-11.03	H	1.0	174	
400.00000	45.62	40.52	46.00	-5.48	V	1.0	160	

*- Margin = Measured emission - specification limit.
**- EUT front panel refer to 0 degrees position of turntable.

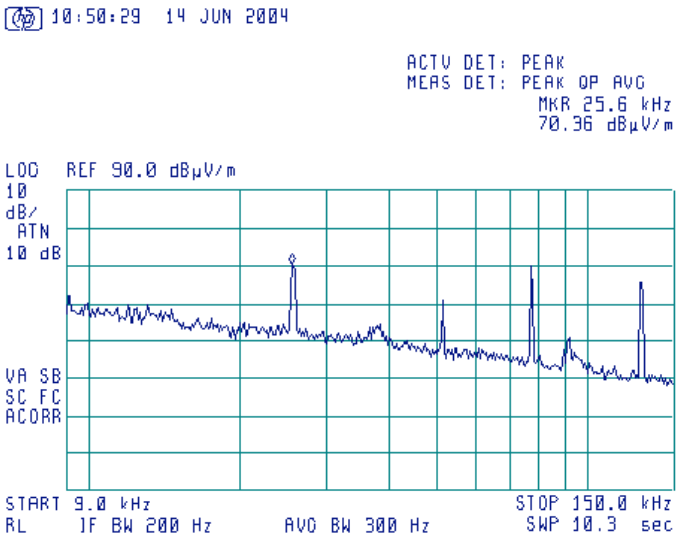
Reference numbers of test equipment used

HL 0521	HL 0589	HL 0604	HL 0768	HL 1424	HL 1947	HL 1942	HL 1984
HL 2009	HL 2259	HL 2260	HL 2387	HL 2399	HL 2499		

Full description is given in Appendix A.

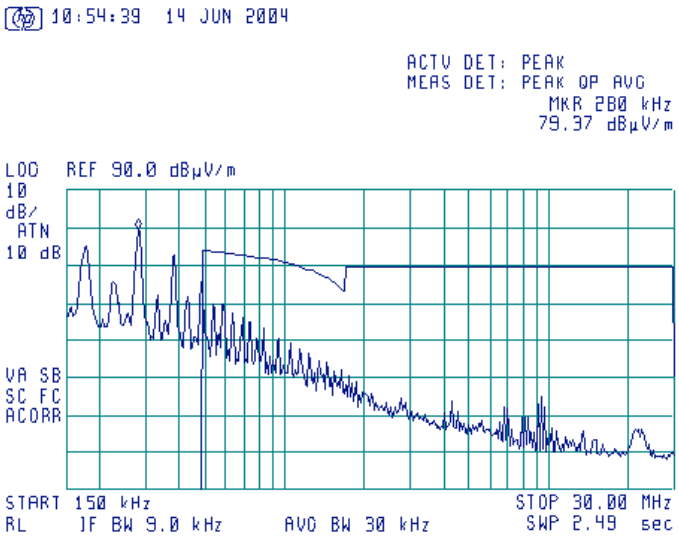
Plot 1.10.1 Radiated emission measurements. 9 – 150 kHz DSSS.

TEST SITE: Semi anechoic chamber
TEST DISTANCE: 3 m



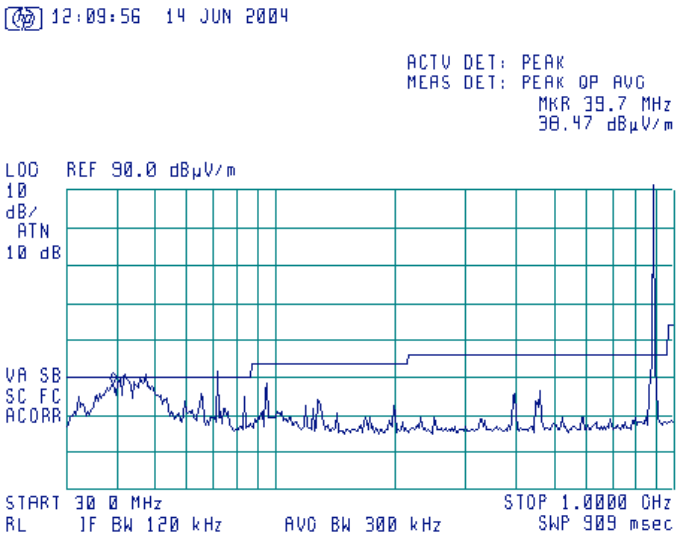
Plot 1.10.2 Radiated emission measurements. 0.15 – 30 MHz DSSS.

TEST SITE: Semi anechoic chamber
TEST DISTANCE: 3 m



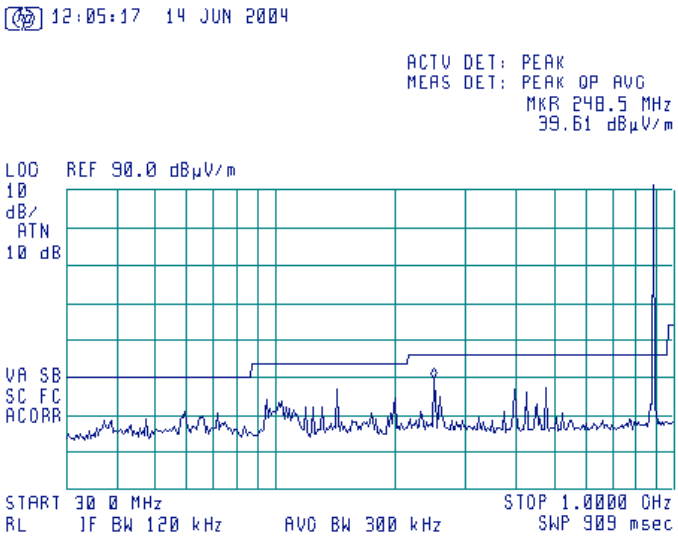
Plot 1.10.3 Radiated emission measurements. 30 – 1000 MHz DSSS.

TEST SITE: anechoic chamber
TEST DISTANCE: 3 m
ANTENNA POLARIZATION: Vertical



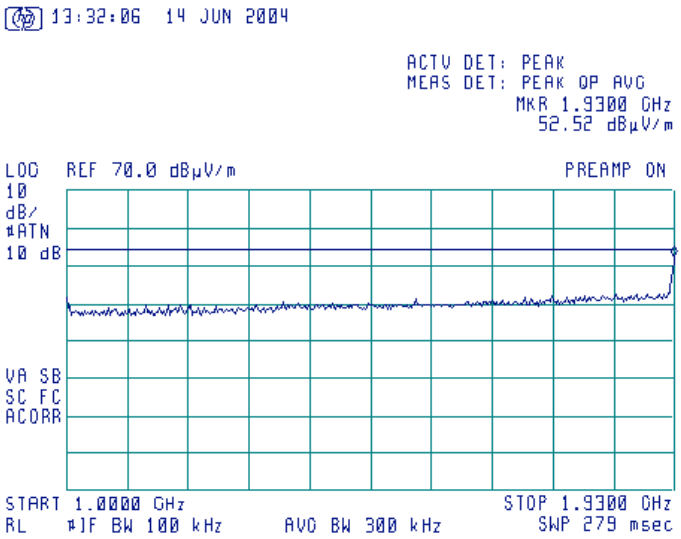
Plot 1.10.4 Radiated emission measurements. 30 – 1000 MHz DSSS.

TEST SITE: Semi anechoic chamber
TEST DISTANCE: 3 m
ANTENNA POLARIZATION: Horizontal



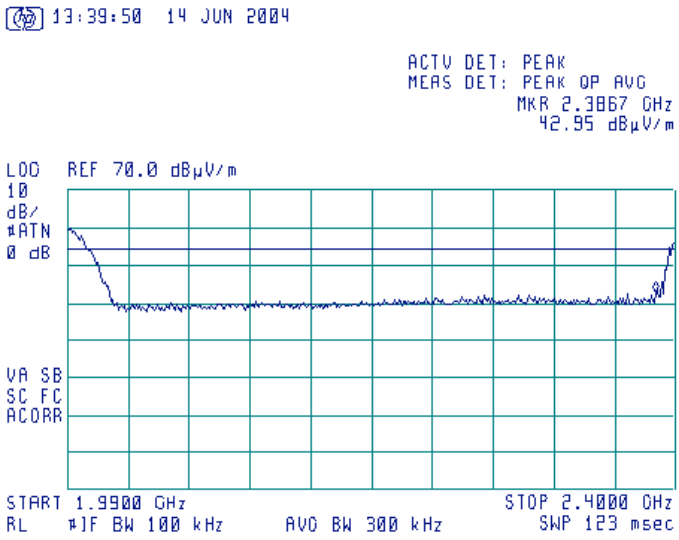
Plot 1.10.5 Radiated emission measurements. 1000 – 1930 MHz DSSS.

TEST SITE: Semi anechoic chamber
TEST DISTANCE: 3 m
ANTENNA POLARIZATION: Vertical and horizontal



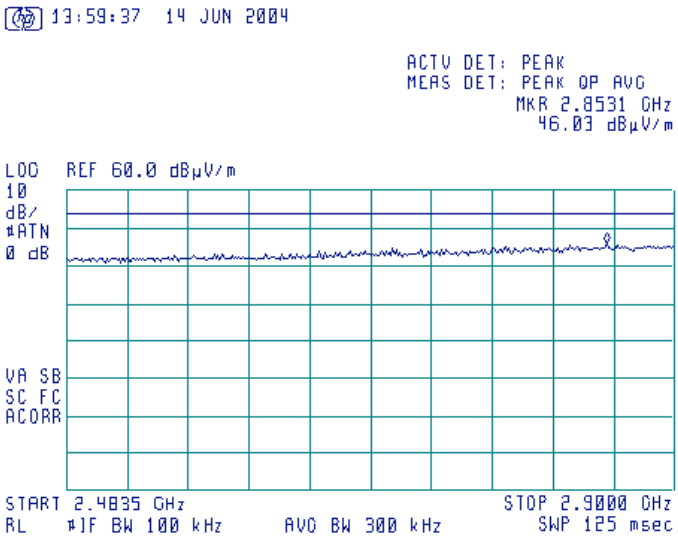
Plot 1.10.6 Radiated emission measurements. 1990 – 2400 MHz DSSS.

TEST SITE: Semi anechoic chamber
TEST DISTANCE: 3 m
ANTENNA POLARIZATION: Vertical and horizontal



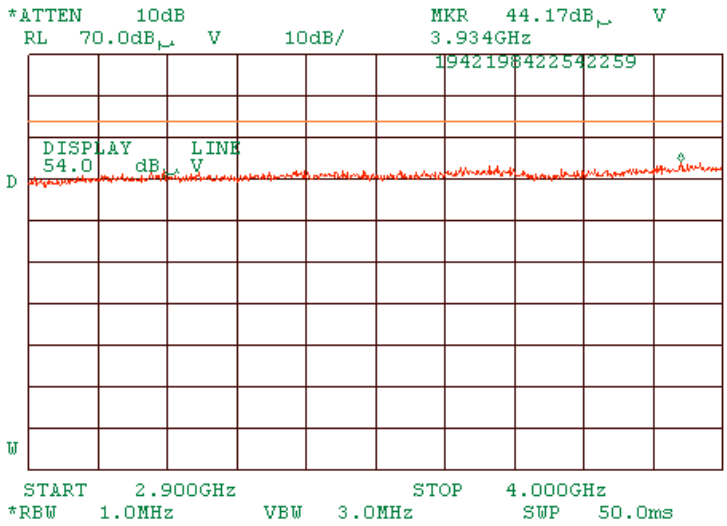
Plot 1.10.7 Radiated emission measurements. 2483.5 – 2900 MHz DSSS.

TEST SITE: Semi anechoic chamber
TEST DISTANCE: 3 m
ANTENNA POLARIZATION: Vertical and horizontal



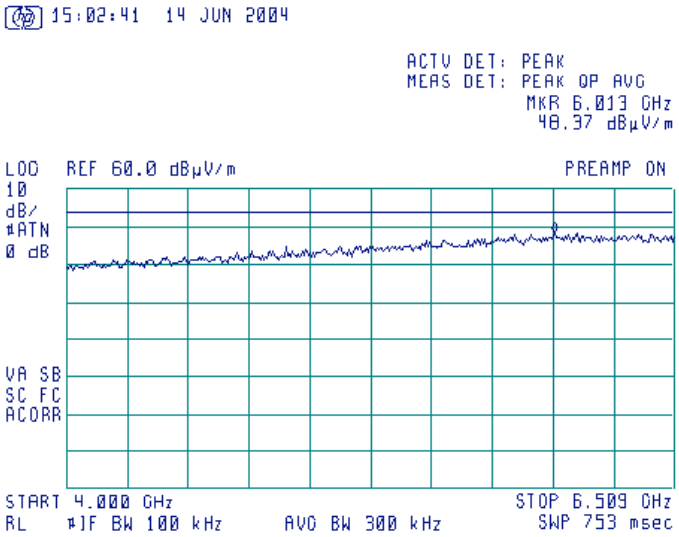
Plot 1.10.8 Radiated emission measurements. 2900– 4000 MHz DSSS.

TEST SITE: Semi anechoic chamber
TEST DISTANCE: 3 m
ANTENNA POLARIZATION: Vertical and horizontal



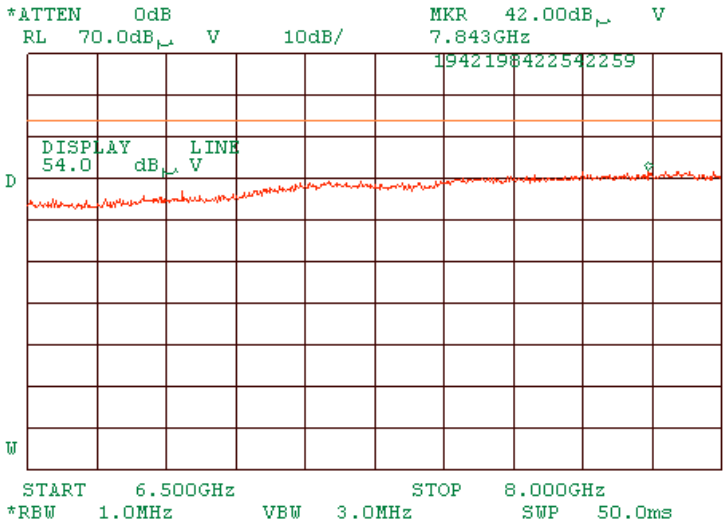
Plot 1.10.9 Radiated emission measurements. 4000 – 6500 MHz DSSS.

TEST SITE: Semi anechoic chamber
TEST DISTANCE: 3 m
ANTENNA POLARIZATION: Vertical and horizontal



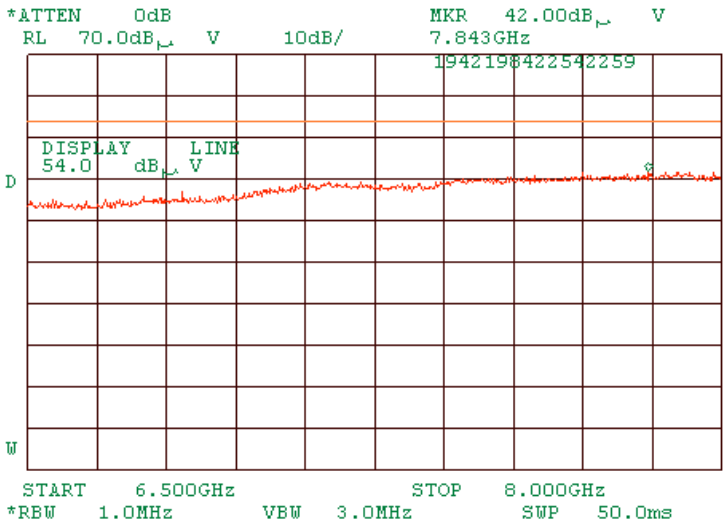
Plot 1.10.10 Radiated emission measurements. 6500 – 8000 MHz DSSS.

TEST SITE: Semi anechoic chamber
TEST DISTANCE: 3 m
ANTENNA POLARIZATION: Vertical and horizontal



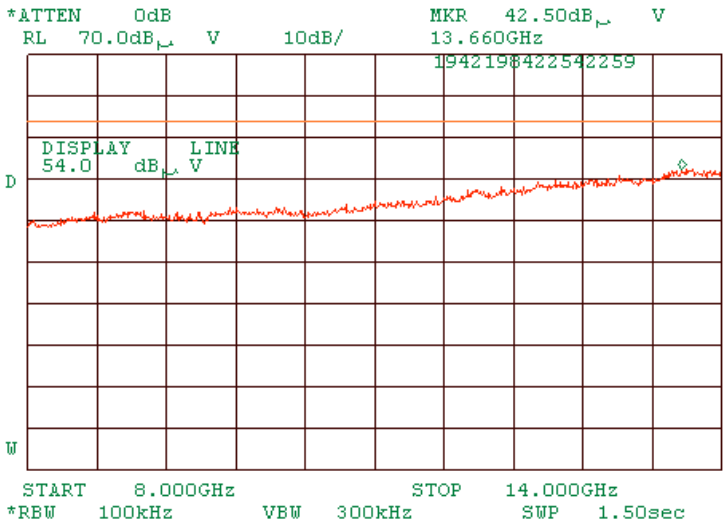
Plot 1.10.11 Radiated emission measurements. 6500 – 8000 MHz DSSS.

TEST SITE: Semi anechoic chamber
TEST DISTANCE: 3 m
ANTENNA POLARIZATION: Vertical and horizontal



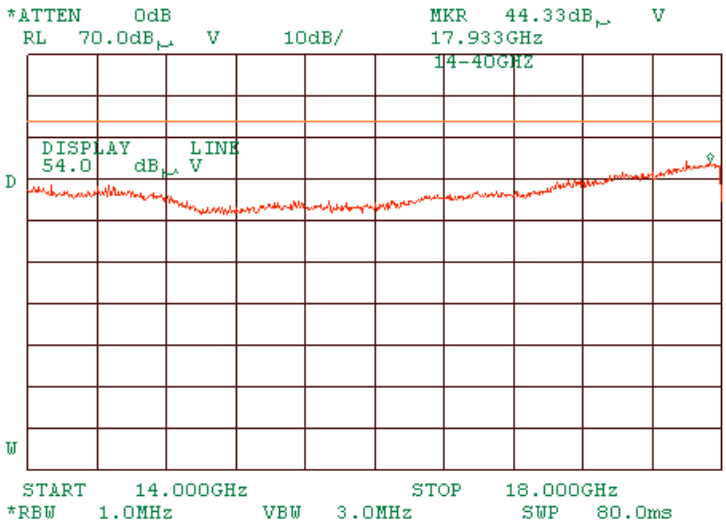
Plot 1.10.12 Radiated emission measurements. 8000 – 14000 MHz DSSS.

TEST SITE: Semi anechoic chamber
TEST DISTANCE: 3 m
ANTENNA POLARIZATION: Vertical and horizontal



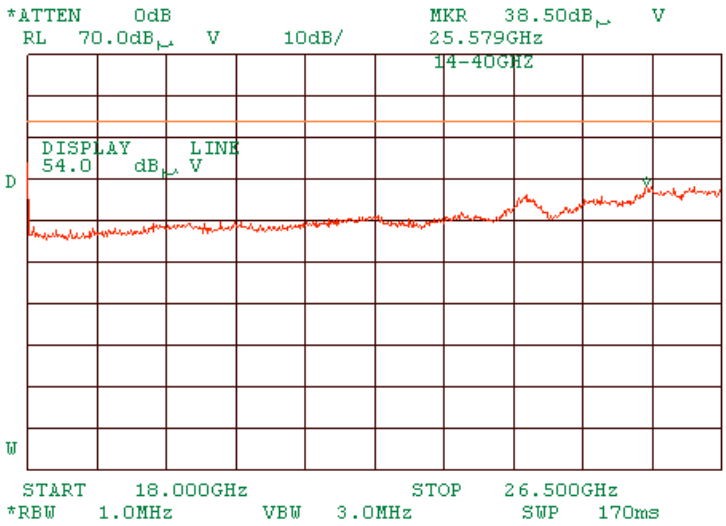
Plot 1.10.13 Radiated emission measurements. 14000 – 18000 MHz DSSS.

TEST SITE: Semi anechoic chamber
TEST DISTANCE: 3 m
ANTENNA POLARIZATION: Vertical and horizontal



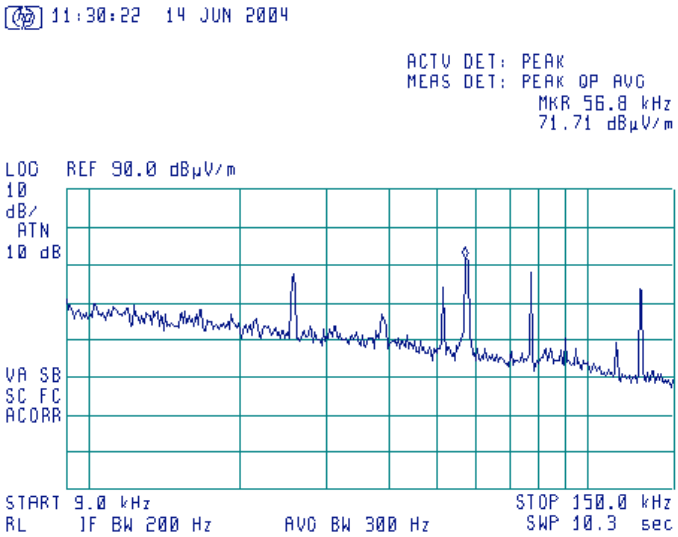
Plot 1.10.14 Radiated emission measurements. 18000 – 26500 MHz DSSS.

TEST SITE: Semi anechoic chamber
TEST DISTANCE: 3 m
ANTENNA POLARIZATION: Vertical and horizontal



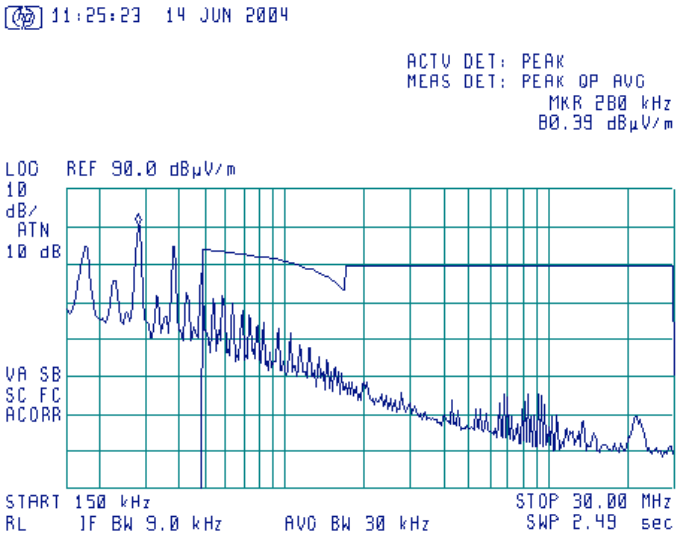
Plot 1.10.15 Radiated emission measurements. 9 – 150 kHz OFDM.

TEST SITE: Semi anechoic chamber
TEST DISTANCE: 3 m



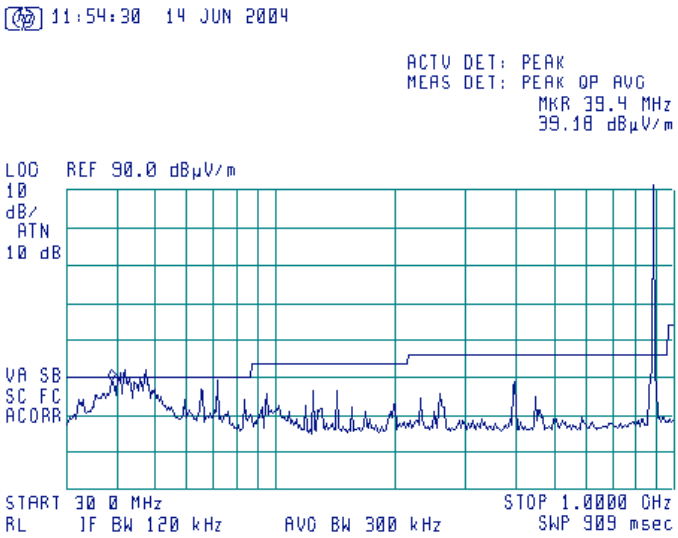
Plot 1.10.16 Radiated emission measurements. 0.15 – 30 MHz OFDM.

TEST SITE: Semi anechoic chamber
TEST DISTANCE: 3 m



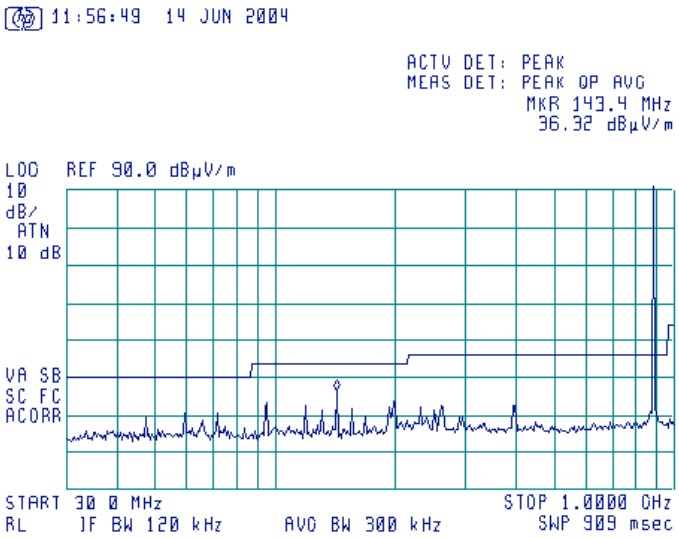
Plot 1.10.17 Radiated emission measurements. 30 – 1000 MHz OFDM.

TEST SITE: anechoic chamber
TEST DISTANCE: 3 m
ANTENNA POLARIZATION: Vertical



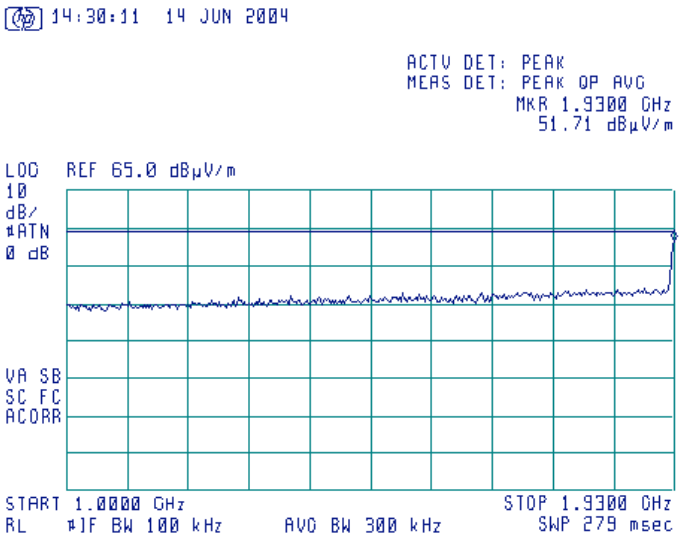
Plot 1.10.18 Radiated emission measurements. 30 – 1000 MHz v.

TEST SITE: Semi anechoic chamber
TEST DISTANCE: 3 m
ANTENNA POLARIZATION: Horizontal



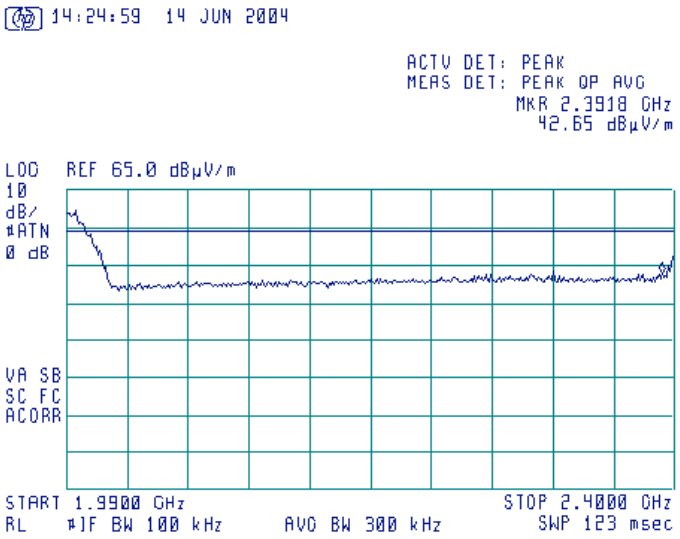
Plot 1.10.19 Radiated emission measurements. 1000 – 1930 MHz OFDM.

TEST SITE: Semi anechoic chamber
TEST DISTANCE: 3 m
ANTENNA POLARIZATION: Vertical and horizontal



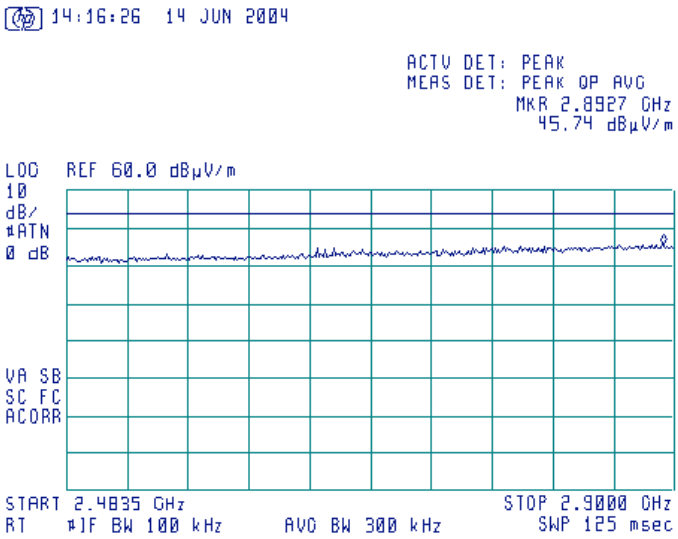
Plot 1.10.20 Radiated emission measurements. 1990 – 2400 MHz OFDM.

TEST SITE: Semi anechoic chamber
TEST DISTANCE: 3 m
ANTENNA POLARIZATION: Vertical and horizontal



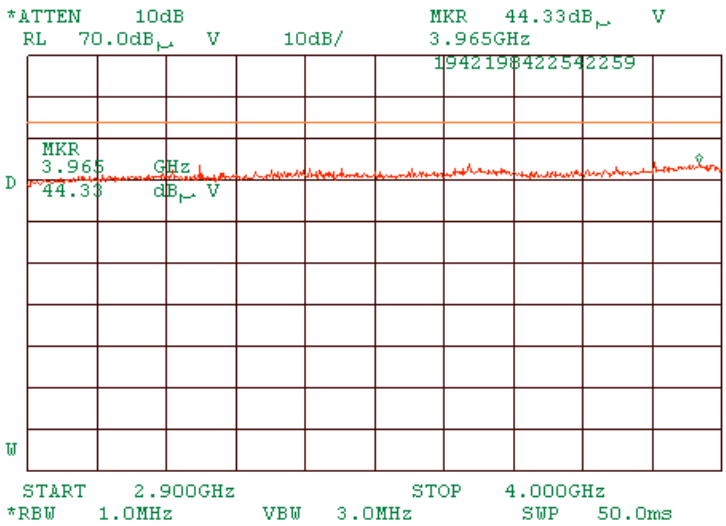
Plot 1.10.21 Radiated emission measurements. 2483.5 – 2900 MHz OFDM.

TEST SITE: Semi anechoic chamber
TEST DISTANCE: 3 m
ANTENNA POLARIZATION: Vertical and horizontal



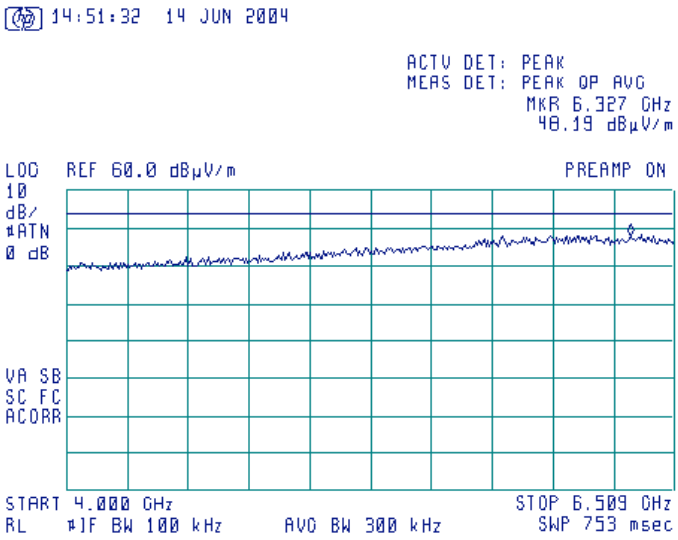
Plot 1.10.22 Radiated emission measurements. 2900 – 4000 MHz OFDM.

TEST SITE: Semi anechoic chamber
TEST DISTANCE: 3 m
ANTENNA POLARIZATION: Vertical and horizontal



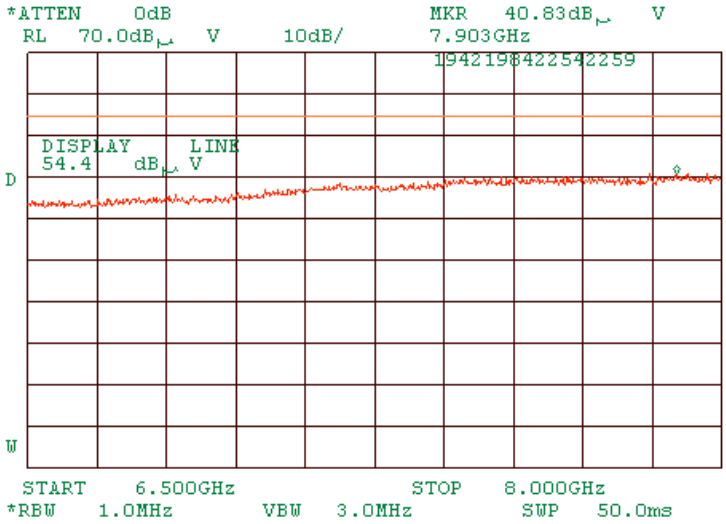
Plot 1.10.23 Radiated emission measurements. 4000 – 6500 MHz OFDM.

TEST SITE: Semi anechoic chamber
TEST DISTANCE: 3 m
ANTENNA POLARIZATION: Vertical and horizontal



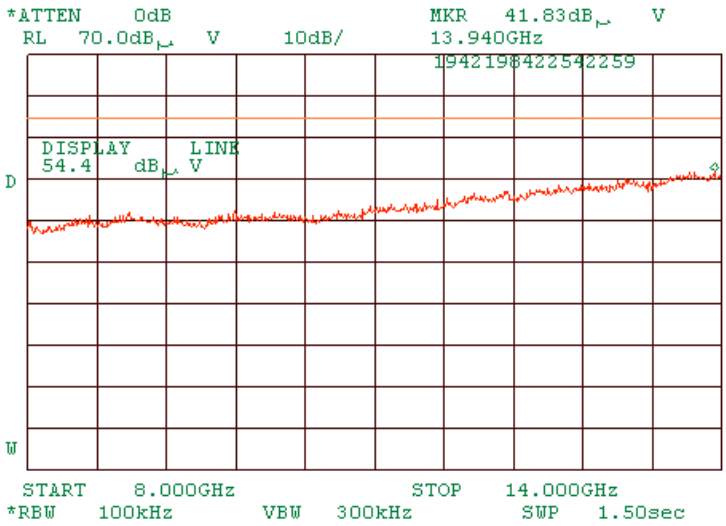
Plot 1.10.24 Radiated emission measurements. 6500 – 8000 MHz OFDM.

TEST SITE: Semi anechoic chamber
TEST DISTANCE: 3 m
ANTENNA POLARIZATION: Vertical and horizontal



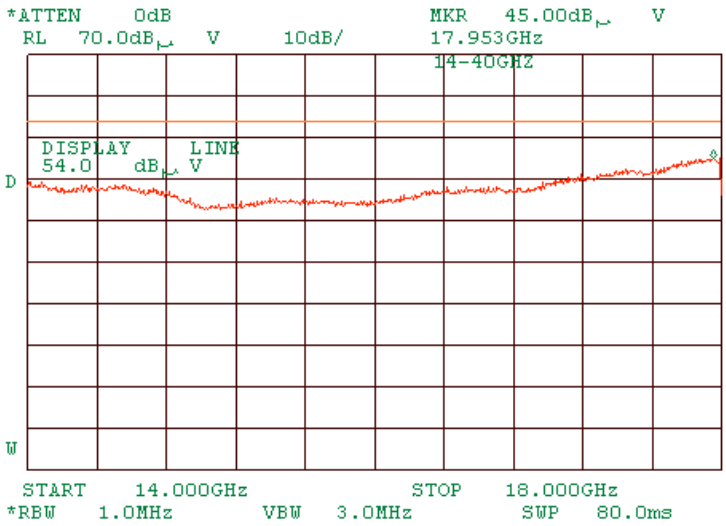
Plot 1.10.25 Radiated emission measurements. 8000 – 14000 MHz OFDM.

TEST SITE: Semi anechoic chamber
TEST DISTANCE: 3 m
ANTENNA POLARIZATION: Vertical and horizontal



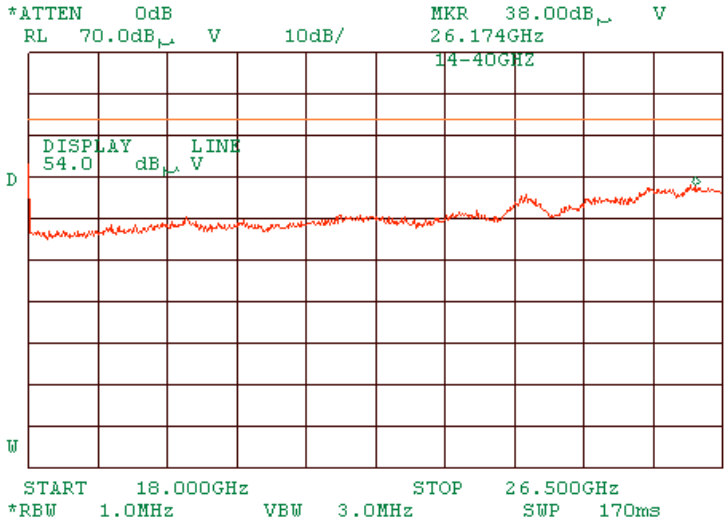
Plot 1.10.26 Radiated emission measurements. 14000 – 18000 MHz OFDM.

TEST SITE: Semi anechoic chamber
TEST DISTANCE: 3 m
ANTENNA POLARIZATION: Vertical and horizontal



Plot 1.10.27 Radiated emission measurements. 18000 – 26500 MHz OFDM.

TEST SITE:	Semi anechoic chamber
TEST DISTANCE:	3 m
ANTENNA POLARIZATION:	Vertical and horizontal



1.11 Peak spectral power density

Photograph 1.11.1 Peak spectral power density test setup

Table 1.11.1 Peak spectral power density test results

ASSIGNED FREQUENCY:	2400 – 2438.5 MHz
ASSEMBLY	MA 850, MA 1000 (PCS 800 mode)
MA 1000 SETTINGS	Transmit at 1930.0125 and 1989.9875 MHz Transmit at 869.0125 and 893.9875 MHz
PORT:	2
MODULATION:	DSSS, OFDM
MODULATING SIGNAL:	DBPSK, QPSK
BIT RATE:	1 Mbps, 12 Mbps
TRANSMITTER OUTPUT POWER SETTINGS:	Maximum
DETECTOR USED:	Peak
RESOLUTION BANDWIDTH:	3 kHz
VIDEO BANDWIDTH:	10 kHz

Carrier frequency, MHz	Spectrum analyzer reading, dBm/Hz**	Peak power density, dB(mW/3 kHz)***	Limit, dBm	Margin*, dB	Verdict
DSSS modulation					
2412	-41.1	-6.3	8	-14.3	Pass
2437	-42.77	-7.97	8	-15.97	Pass
2462	-41.1	-6.3	8	-14.3	Pass

Carrier frequency, MHz	Spectrum analyzer reading, dBm	Peak power density, dB(mW/3 kHz)	Limit, dBm	Margin*, dB	Verdict
OFDM modulation					
2412	-13.67	-14.67	8	-22.67	Pass
2437	-12.67	-13	8	-21.00	Pass
2462	-13.67	-12.5	8	-20.5	Pass

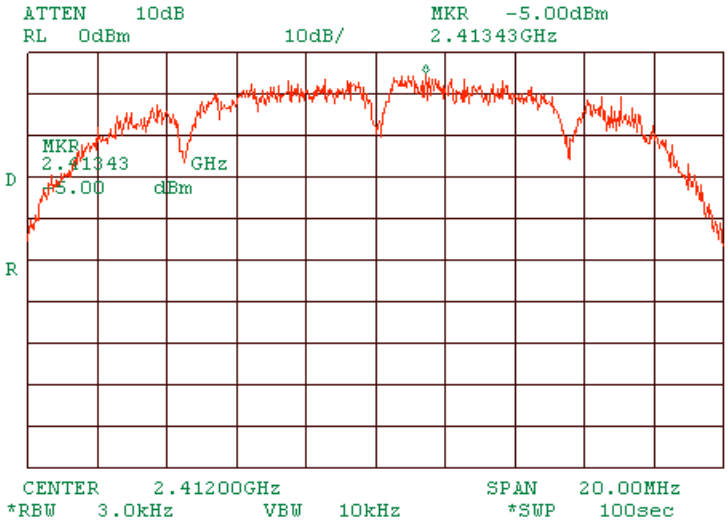
* - Margin = Peak power density – specification limit.
**- Marker noise measurement.
***- Peak power density dB(mW/3 kHz) = Marker noise (dBm/Hz) + 38.4(Hz/3kHz)

Reference numbers of test equipment used

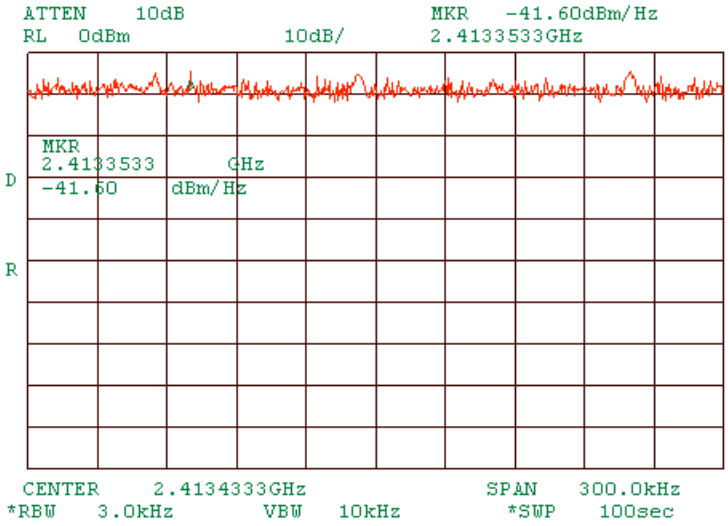
HL 1424	HL 2399						

Full description is given in Appendix A.

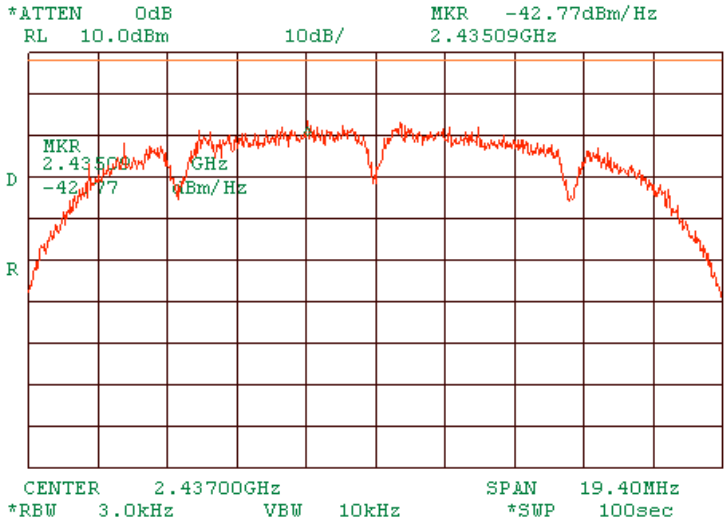
Plot 1.11.1 Peak spectral power density at low frequency within 6 dB band 1Mbps DSSS



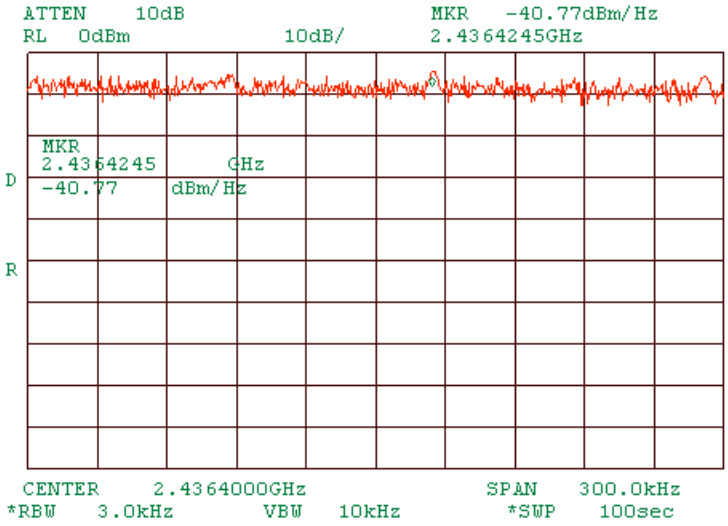
Plot 1.11.2 Peak spectral power density at low frequency zoomed at the peak at 1 Mbps DSSS



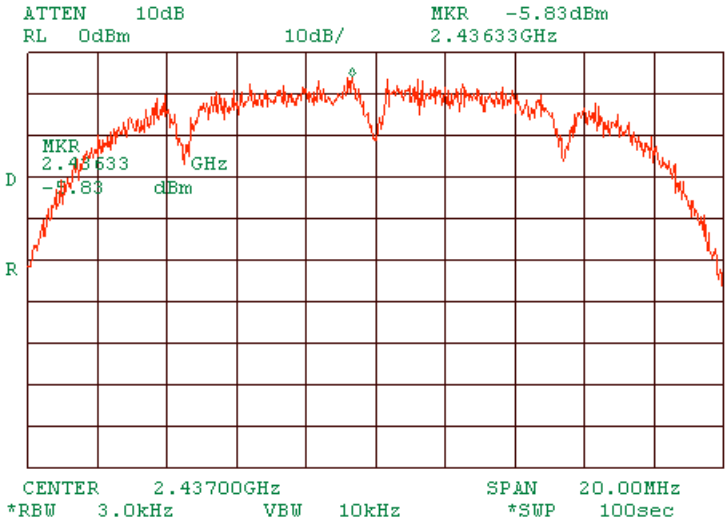
Plot 1.11.3 Peak spectral power density at mid frequency within 6 dB band at 1Mbps DSSS



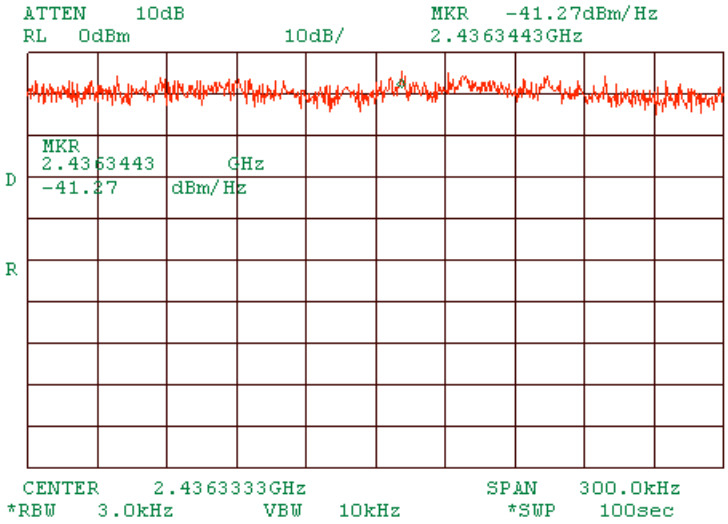
Plot 1.11.4 Peak spectral power density at mid frequency zoomed at the peak at 1 Mbps DSSS



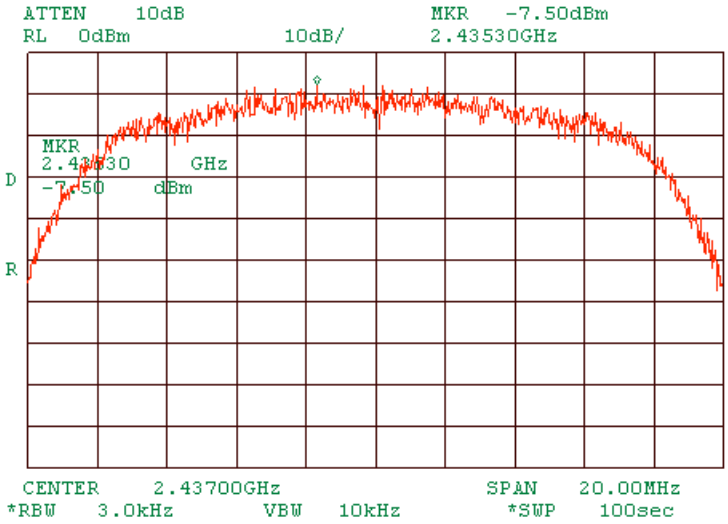
Plot 1.11.5 Peak spectral power density at mid frequency within 6 dB band at 2Mbps DSSS



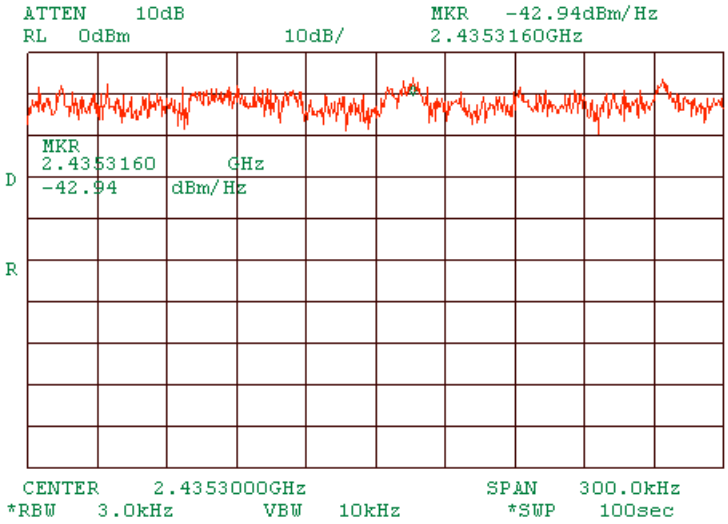
Plot 1.11.6 Peak spectral power density at mid frequency zoomed at the peak at 2 Mbps DSSS



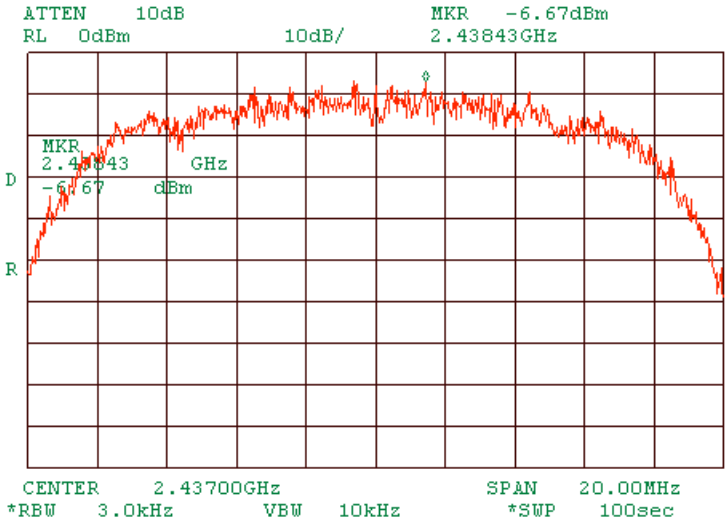
Plot 1.11.7 Peak spectral power density at mid frequency within 6 dB band at 5.5 Mbps DSSS



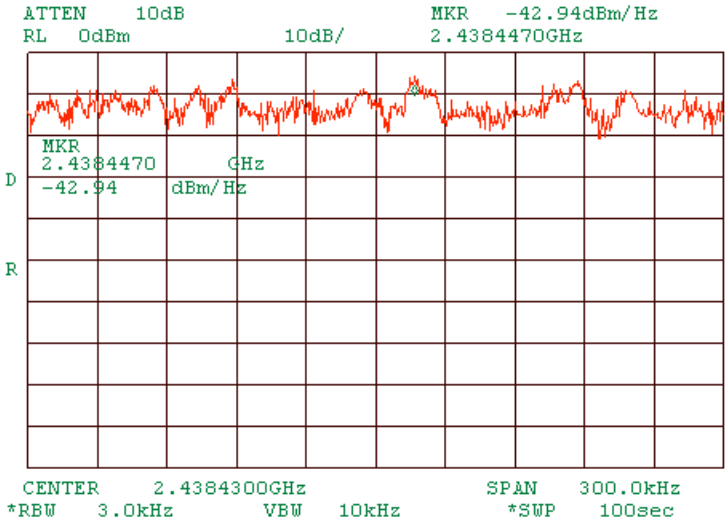
Plot 1.11.8 Peak spectral power density at mid frequency zoomed at the peak at 5.5 Mbps DSSS



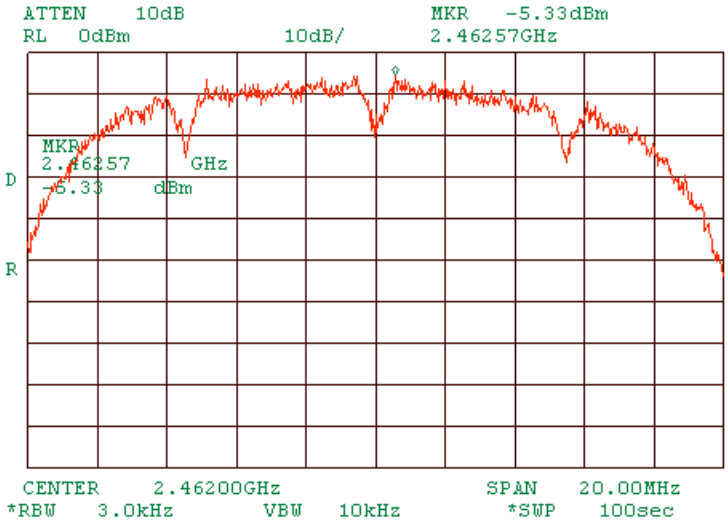
Plot 1.11.9 Peak spectral power density at mid frequency within 6 dB band at 11 Mbps DSSS



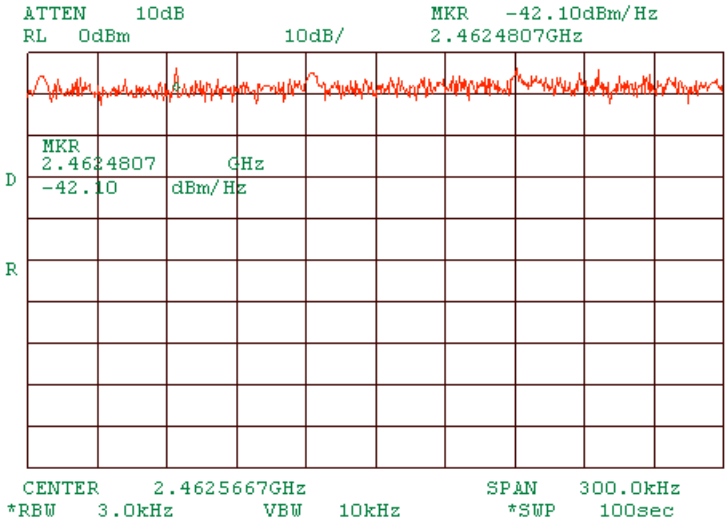
Plot 1.11.10 Peak spectral power density at mid frequency zoomed at the peak at 11 Mbps DSSS



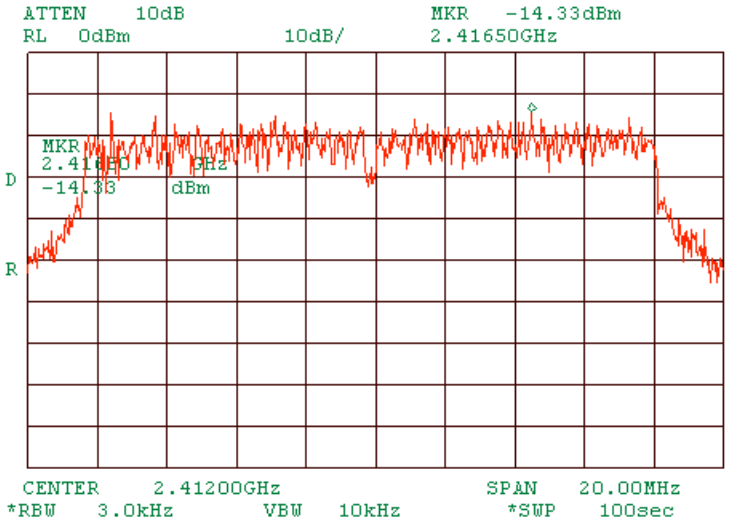
Plot 1.11.11 Peak spectral power density at high frequency within 6 dB band at 1Mbps DSSS



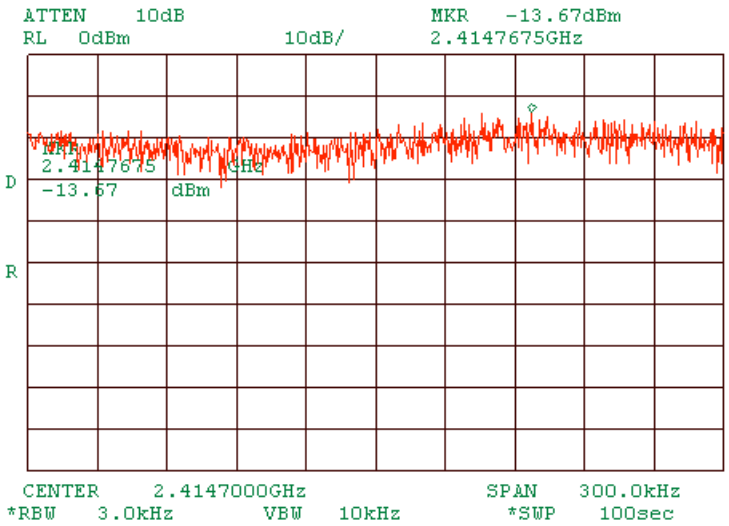
Plot 1.11.12 Peak spectral power density at high frequency zoomed at the peak at 1 Mbps DSSS



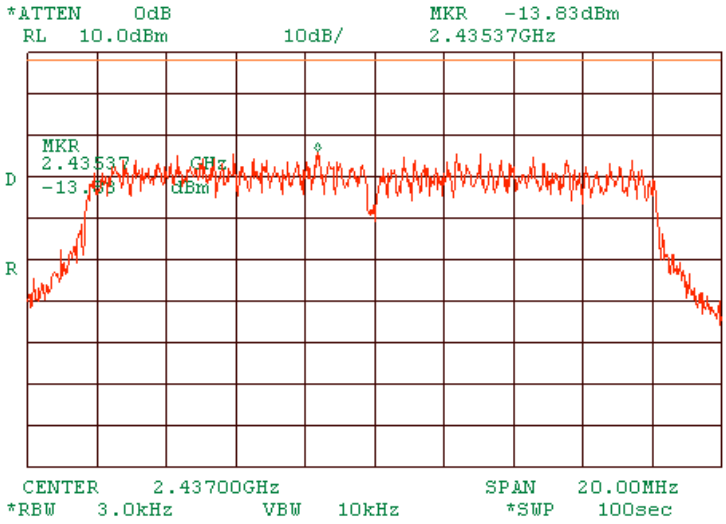
Plot 1.11.13 Peak spectral power density at low frequency within 6 dB band at 12 Mbps OFDM



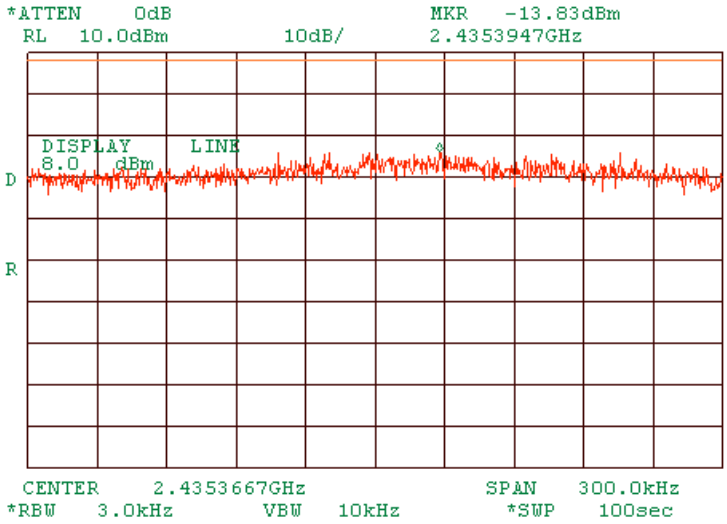
Plot 1.11.14 Peak spectral power density at low frequency zoomed at the peak at 12 Mbps OFDM



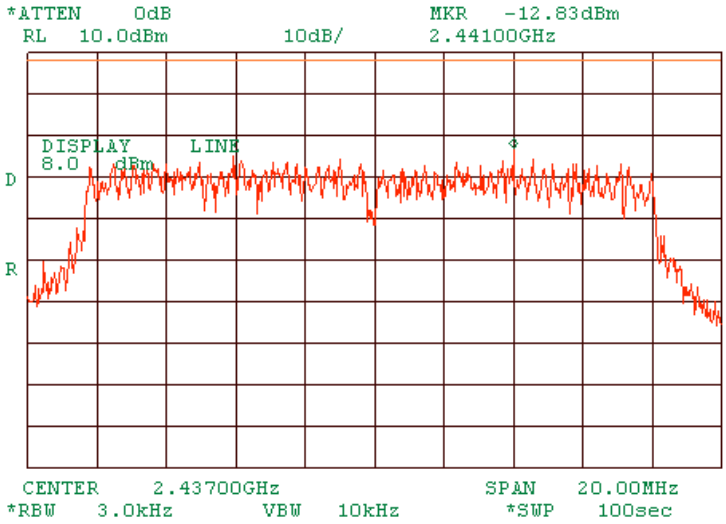
Plot 1.11.15 Peak spectral power density at mid frequency within 6 dB band at 6 Mbps OFDM



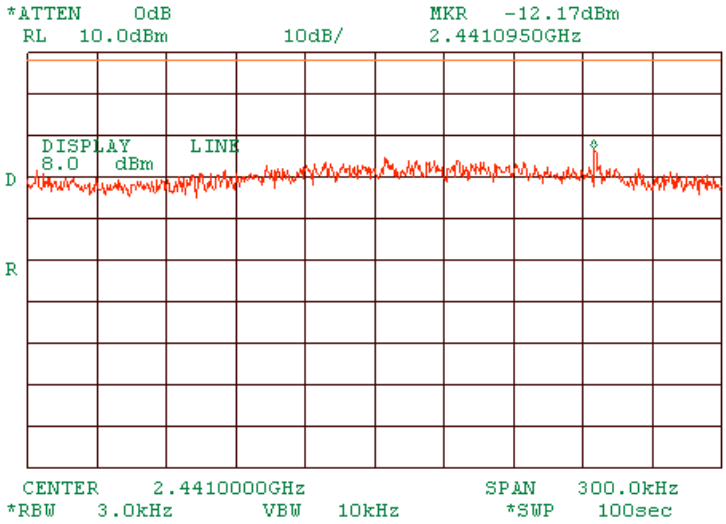
Plot 1.11.16 Peak spectral power density at mid frequency within 6 dB band zoomed at 6 Mbps OFDM



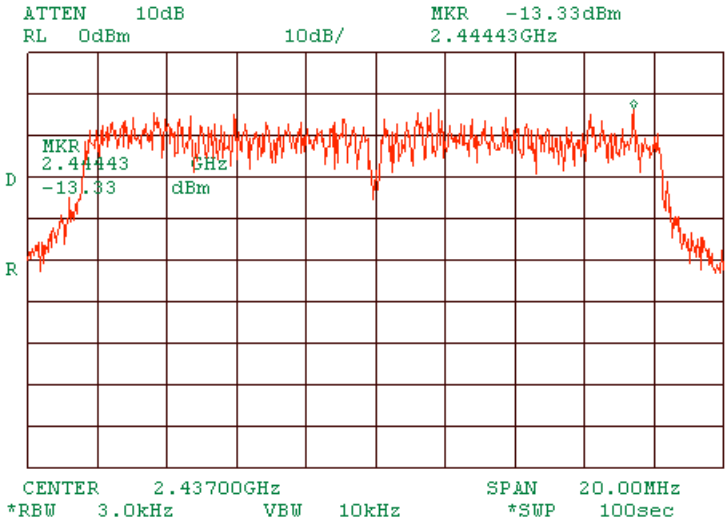
Plot 1.11.17 Peak spectral power density at mid frequency within 6 dB band at 9 Mbps OFDM



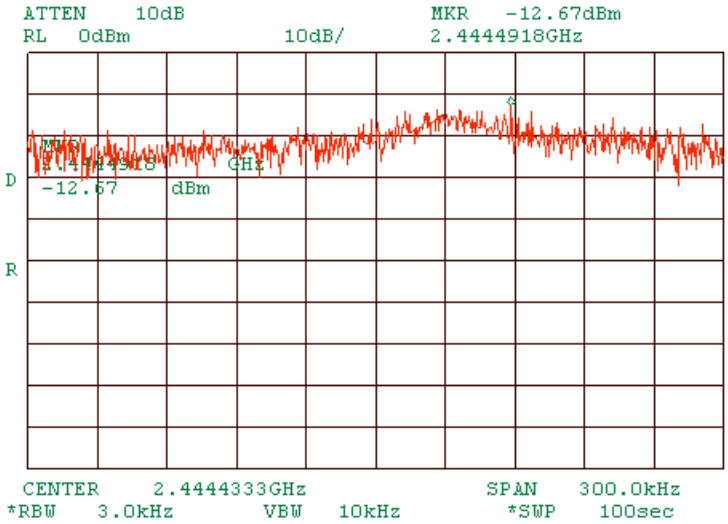
Plot 1.11.18 Peak spectral power density at mid frequency within 6 dB band zoomed at 9 Mbps OFDM



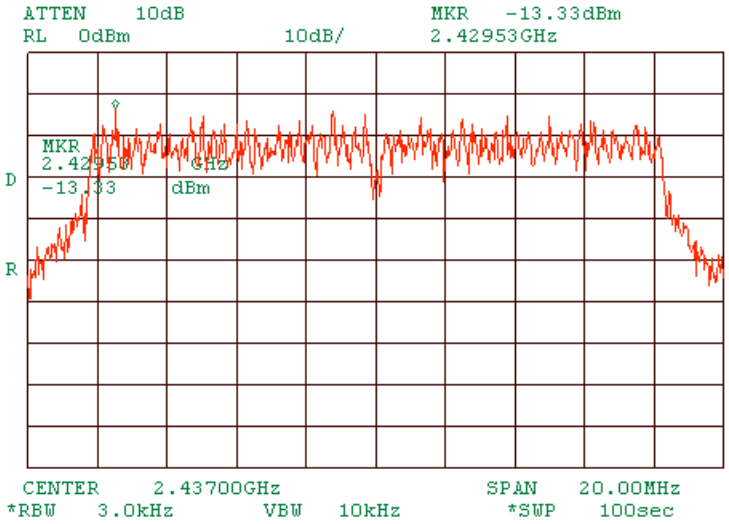
Plot 1.11.19 Peak spectral power density at mid frequency within 6 dB band at 12 Mbps OFDM



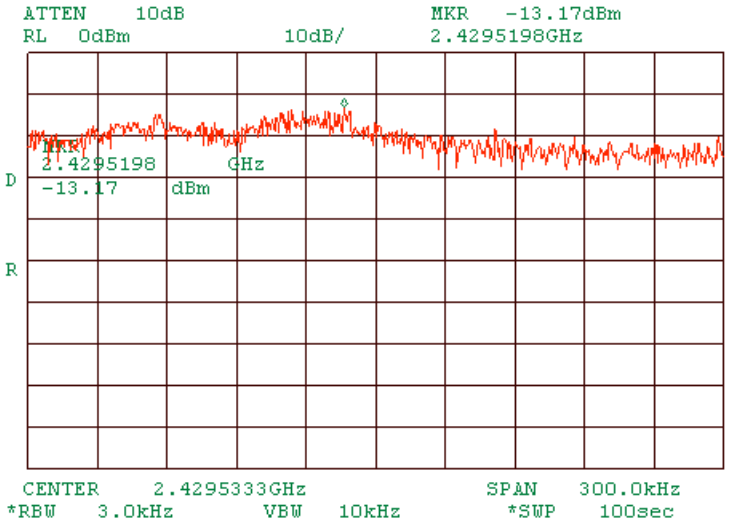
Plot 1.11.20 Peak spectral power density at mid frequency within 6 dB band zoomed at 12 Mbps OFDM



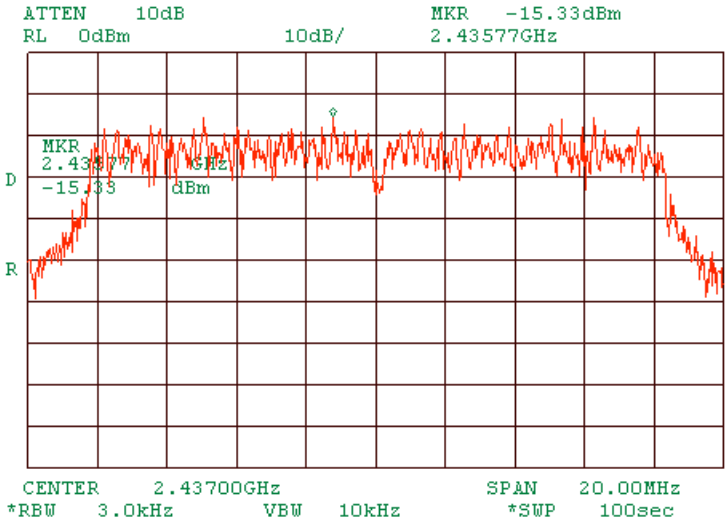
Plot 1.11.21 Peak spectral power density at mid frequency within 6 dB band at 18 Mbps OFDM



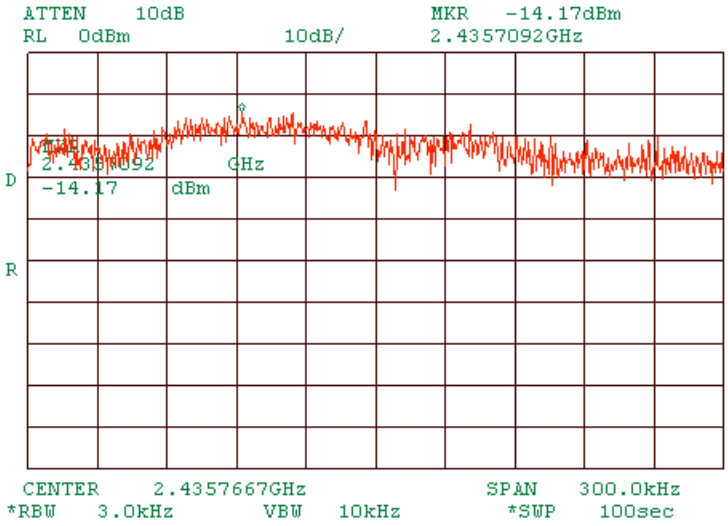
Plot 1.11.22 Peak spectral power density at mid frequency within 6 dB band zoomed at 18 Mbps OFDM



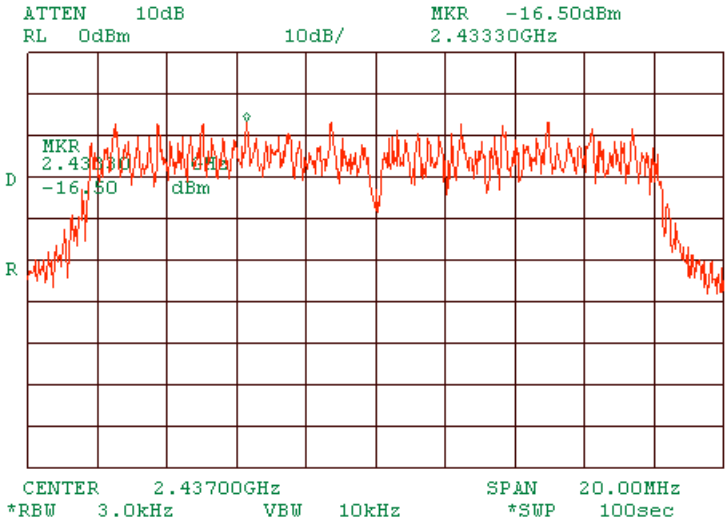
Plot 1.11.23 Peak spectral power density at mid frequency within 6 dB band at 24 Mbps OFDM



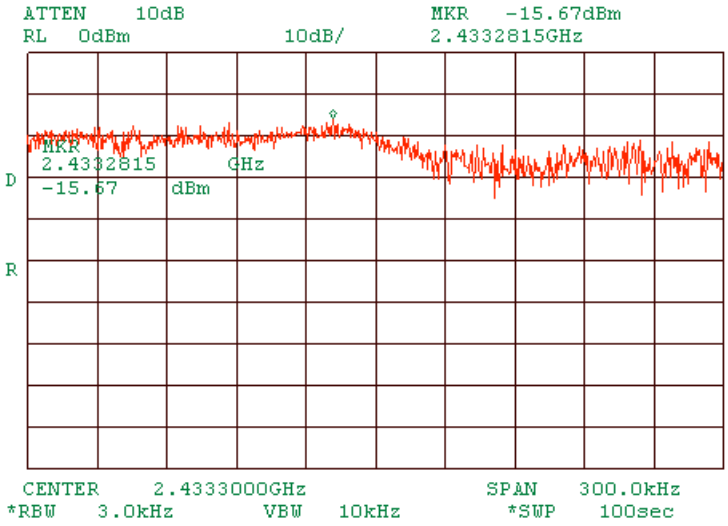
Plot 1.11.24 Peak spectral power density at mid frequency within 6 dB band zoomed at 24 Mbps OFDM



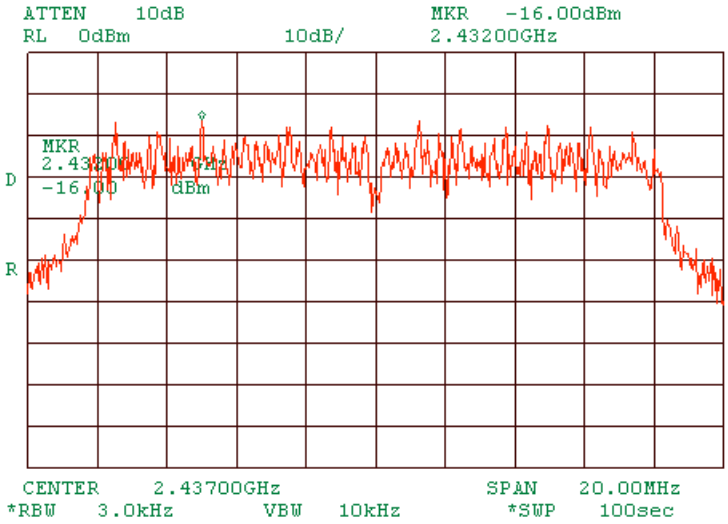
Plot 1.11.25 Peak spectral power density at mid frequency within 6 dB band at 36 Mbps OFDM



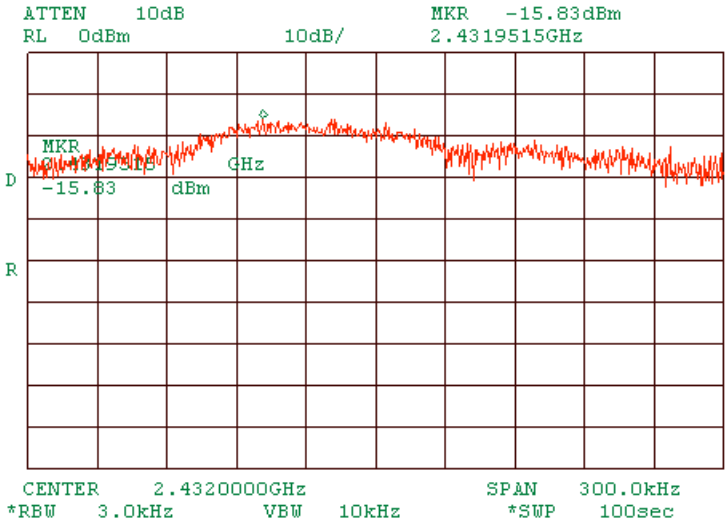
Plot 1.11.26 Peak spectral power density at mid frequency within 6 dB band zoomed at 36 Mbps OFDM



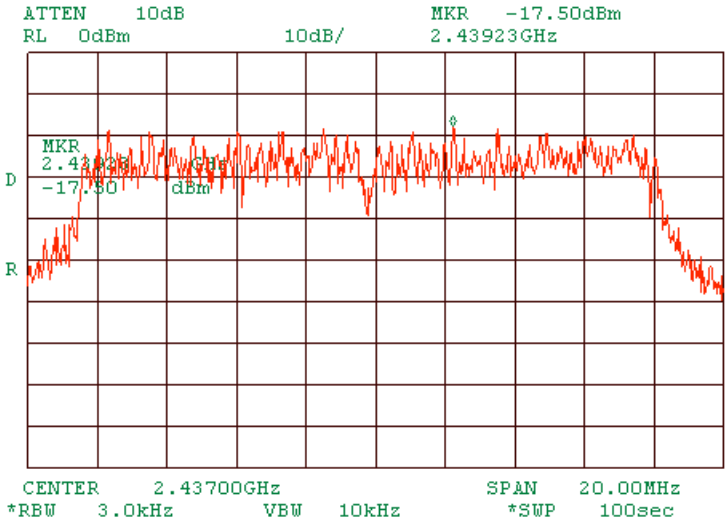
Plot 1.11.27 Peak spectral power density at mid frequency within 6 dB band at 48 Mbps OFDM



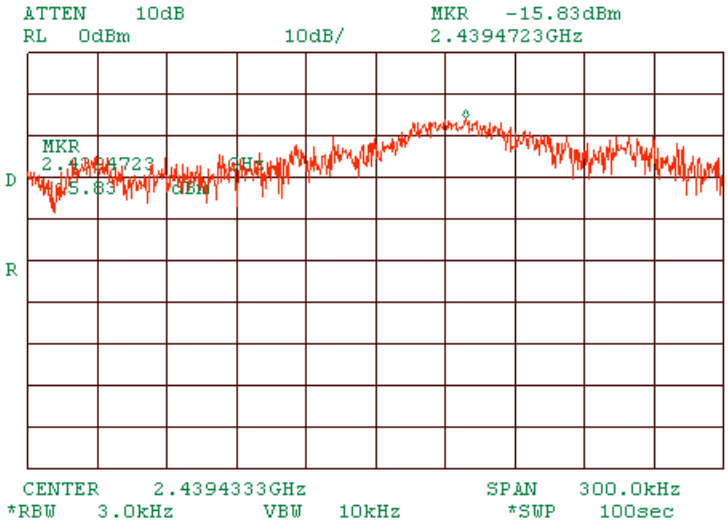
Plot 1.11.28 Peak spectral power density at mid frequency within 6 dB band zoomed at 48 Mbps OFDM



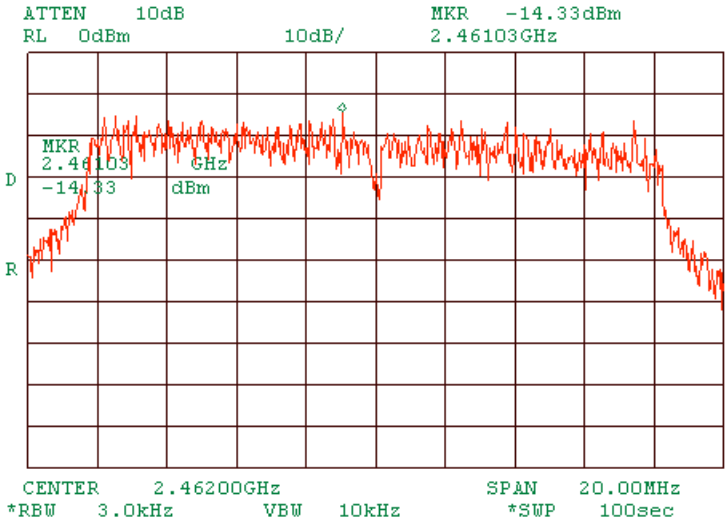
Plot 1.11.29 Peak spectral power density at mid frequency within 6 dB band at 54 Mbps OFDM



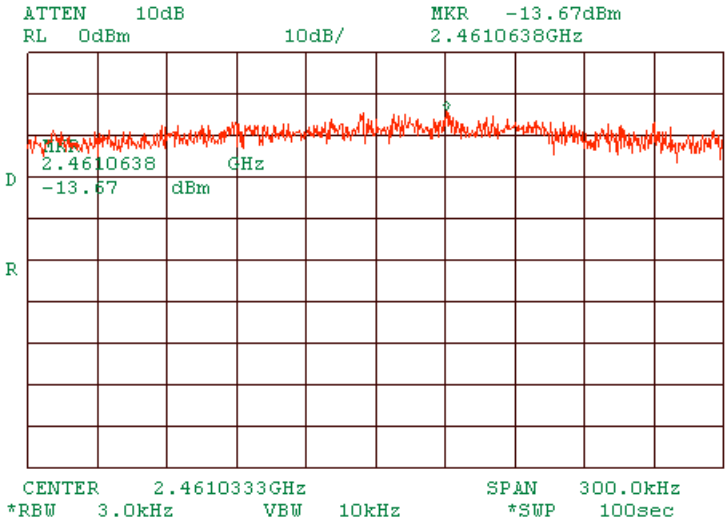
Plot 1.11.30 Peak spectral power density at mid frequency within 6 dB band zoomed at 54 Mbps OFDM



Plot 1.11.31 Peak spectral power density at high frequency within 6 dB band at 12 Mbps OFDM



Plot 1.11.32 Peak spectral power density at high frequency zoomed at the peak at 12 Mbps OFDM



1.12 Peak spectral power density

Photograph 1.12.1 Peak spectral power density test setup

Table 1.12.1 Peak spectral power density test results

ASSIGNED FREQUENCY:	2400 – 2438.5 MHz
ASSEMBLY	MA 850, MA 1000 (PCS 1900 mode)
MA 1000 SETTINGS	Transmit at 1930.0125 and 1989.9875 MHz
PORT:	2
MODULATION:	DSSS, OFDM
MODULATING SIGNAL:	DBPSK, QPSK
BIT RATE:	1 Mbps, 12 Mbps
TRANSMITTER OUTPUT POWER SETTINGS:	Maximum
DETECTOR USED:	Peak
RESOLUTION BANDWIDTH:	3 kHz
VIDEO BANDWIDTH:	10 kHz

Carrier frequency, MHz	Spectrum analyzer reading, dBm/Hz**	Peak power density, dB(mW/3 kHz)***	Limit, dBm	Margin*, dB	Verdict
DSSS modulation					
2412	-40.94	-6.14	8	-14.14	Pass
2437	-42.44	-7.64	8	-15.64	Pass
2462	-41.77	-6.97	8	-14.97	Pass

Carrier frequency, MHz	Spectrum analyzer reading, dBm	Peak power density, dB(mW/3 kHz)	Limit, dBm	Margin*, dB	Verdict
OFDM modulation					
2412	-13.83	-13.83	8	-21.83	Pass
2437	-13.17	-13.17	8	-21.17	Pass
2462	-12.83	-12.83	8	-20.83	Pass

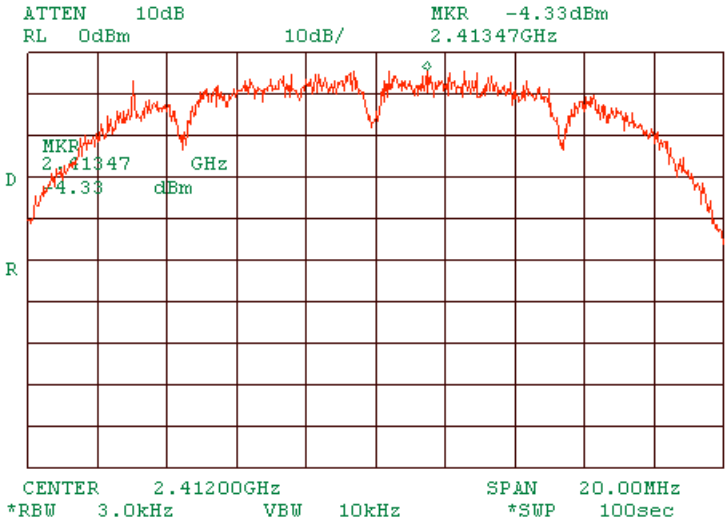
* - Margin = Peak power density – specification limit.
**- Marker noise measurement.
***- Peak power density dB(mW/3 kHz) = Marker noise (dBm/Hz) + 38.4(Hz/3kHz)

Reference numbers of test equipment used

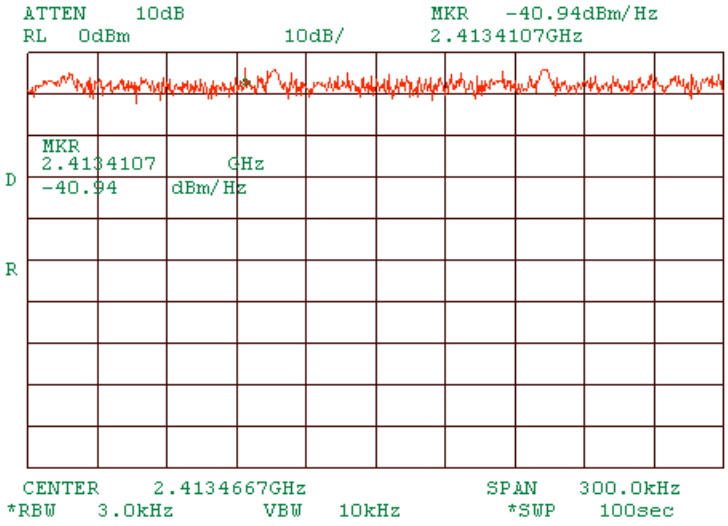
HL 1424	HL 2399						

Full description is given in Appendix A.

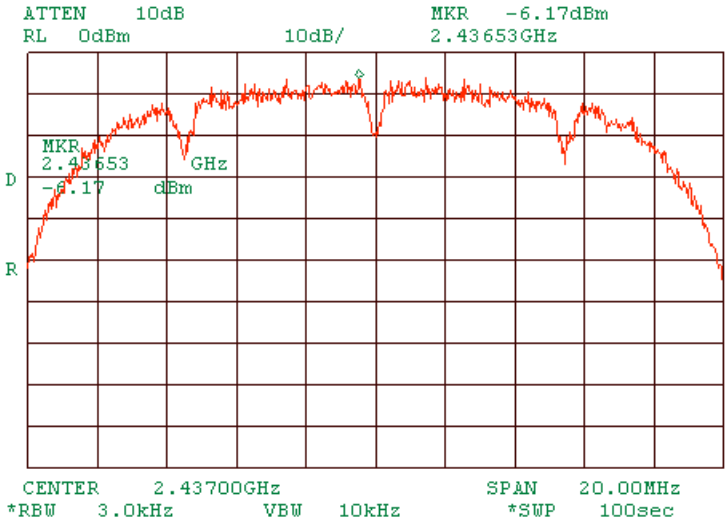
Plot 1.12.1 Peak spectral power density at low frequency within 6 dB band at 1 Mbps DSSS



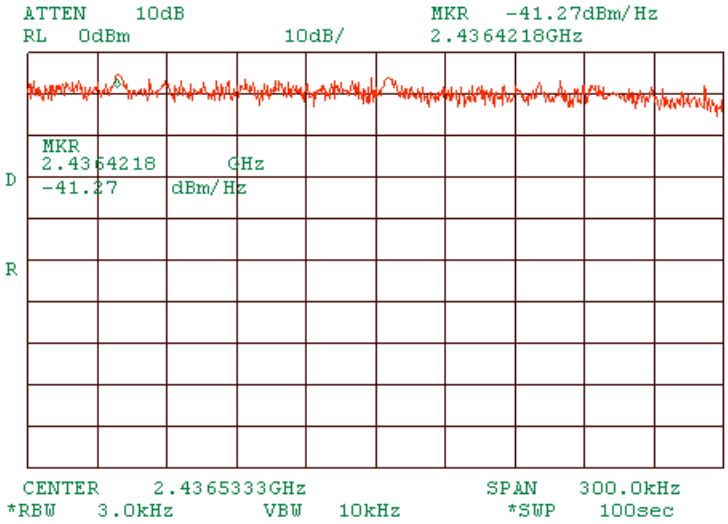
Plot 1.12.2 Peak spectral power density at low frequency zoomed at the peak



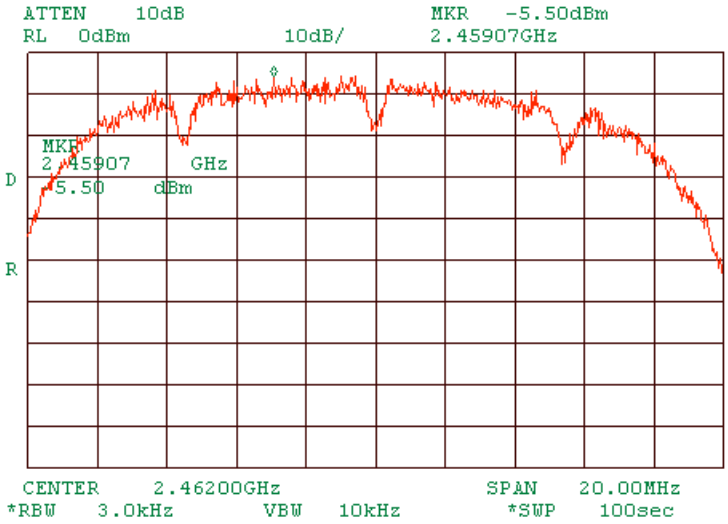
Plot 1.12.3 Peak spectral power density at mid frequency within 6 dB band at 1 Mbps DSSS



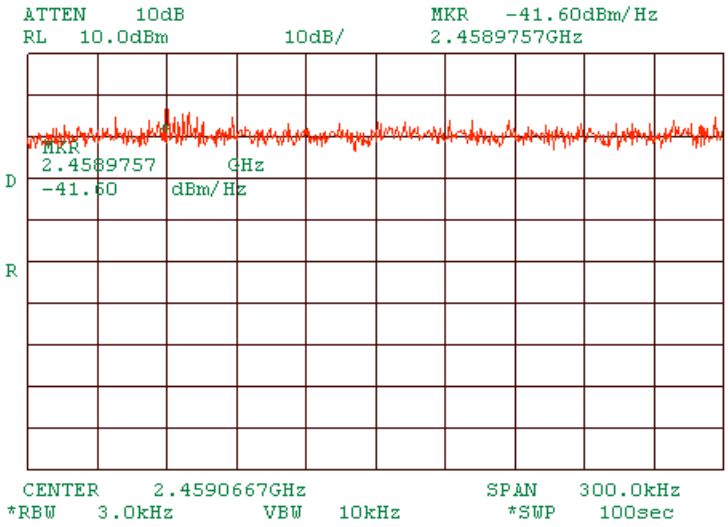
Plot 1.12.4 Peak spectral power density at mid frequency zoomed at the peak



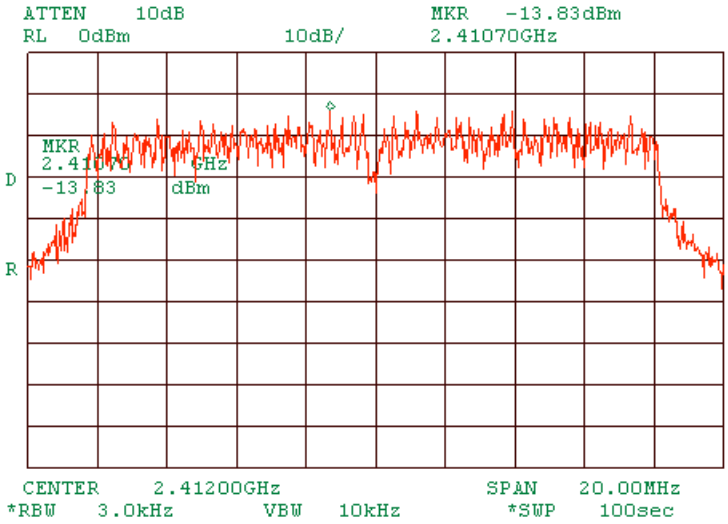
Plot 1.12.5 Peak spectral power density at high frequency within 6 dB band at 1 Mbps DSSS



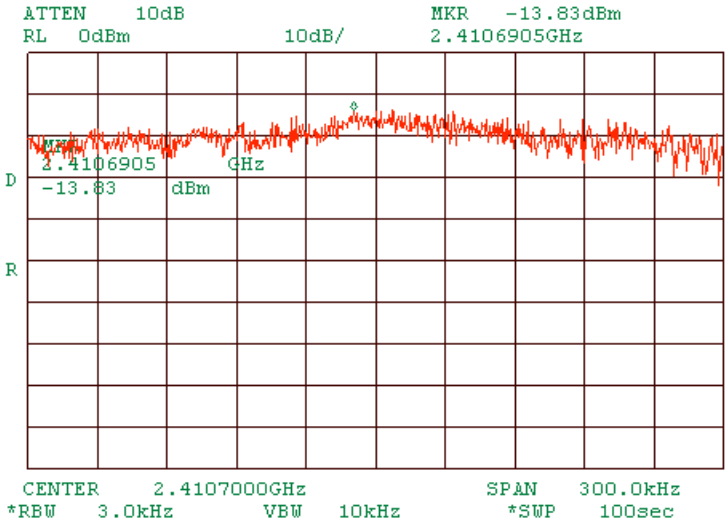
Plot 1.12.6 Peak spectral power density at high frequency zoomed at the peak



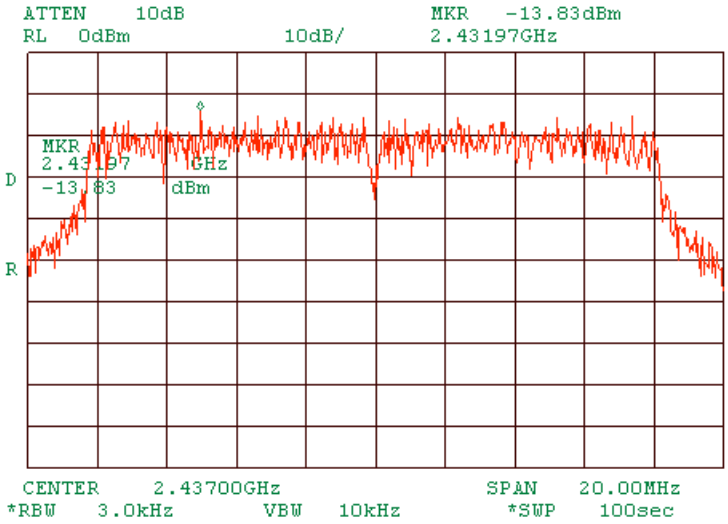
Plot 1.12.7 Peak spectral power density at low frequency within 6 dB band at 12 Mbps OFDM



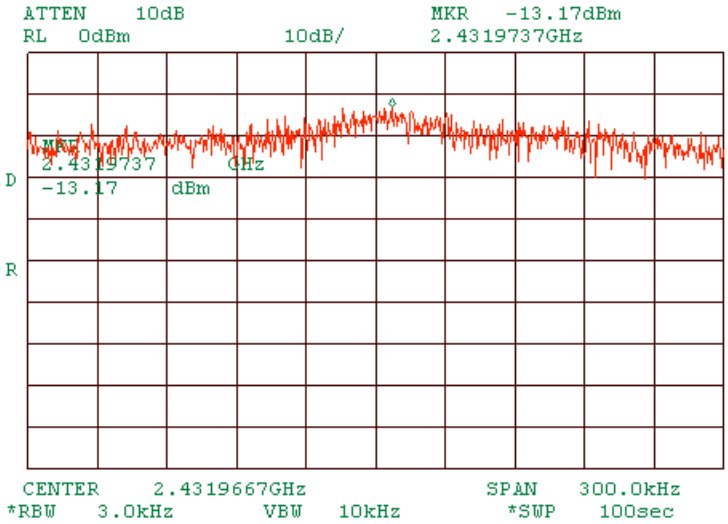
Plot 1.12.8 Peak spectral power density at low frequency zoomed at the peak



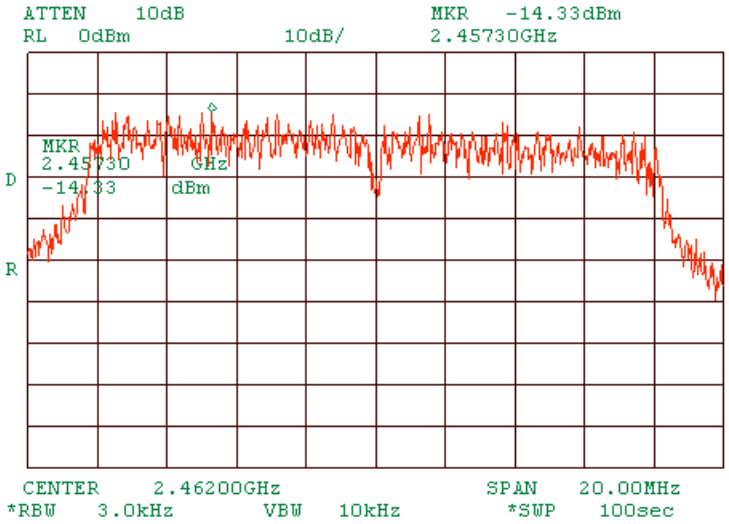
Plot 1.12.9 Peak spectral power density at mid frequency within 6 dB band at 12 Mbps OFDM



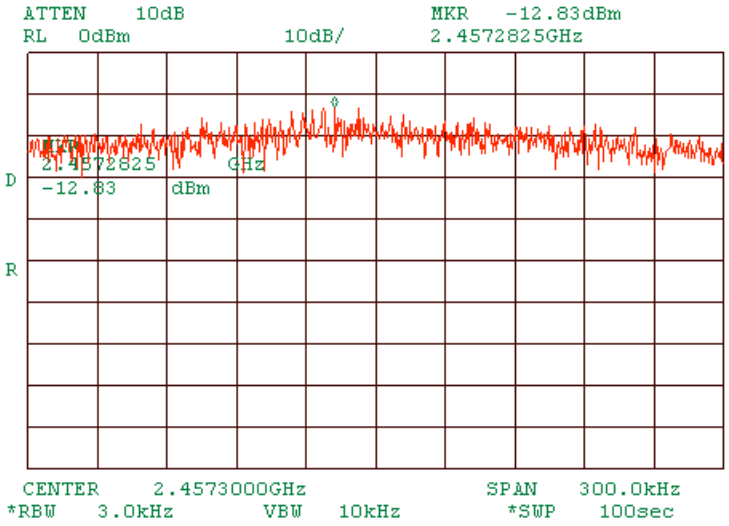
Plot 1.12.10 Peak spectral power density at mid frequency zoomed at the peak at 12 Mbps OFDM



Plot 1.12.11 Peak spectral power density at high frequency within 6 dB band at 12 Mbps OFDM



Plot 1.12.12 Peak spectral power density at high frequency zoomed at the peak at 12 Mbps OFDM



1.13 Peak spectral power density

Photograph 1.13.1 Peak spectral power density test setup

Table 1.13.1 Peak spectral power density test results

ASSIGNED FREQUENCY:	2400 – 2438.5 MHz
ASSEMBLY	MA 850
PORT:	2
MODULATION:	DSSS, OFDM
MODULATING SIGNAL:	DBPSK, QPSK
BIT RATE:	1 Mbps, 12 Mbps
TRANSMITTER OUTPUT POWER SETTINGS:	Maximum
DETECTOR USED:	Peak
RESOLUTION BANDWIDTH:	3 kHz
VIDEO BANDWIDTH:	10 kHz

Carrier frequency, MHz	Spectrum analyzer reading, dBm/Hz**	Peak power density, dB(mW/3 kHz)***	Limit, dBm	Margin*, dB	Verdict
DSSS modulation					
2412.00	-41.94	-7.14	8.0	-15.14	Pass
2437.00	-42.27	-7.47	8.0	-15.47	Pass
2462.00	-42.77	-7.97	8.0	-15.97	Pass

Carrier frequency, MHz	Spectrum analyzer reading, dBm	Peak power density, dB(mW/3 kHz)	Limit, dBm	Margin*, dB	Verdict
OFDM modulation					
2412.00	-14.67	-14.67	8.0	-22.67	Pass
2437.00	-13.00	-13.00	8.0	-21.00	Pass
2462.00	-12.50	-12.50	8.0	-20.50	Pass

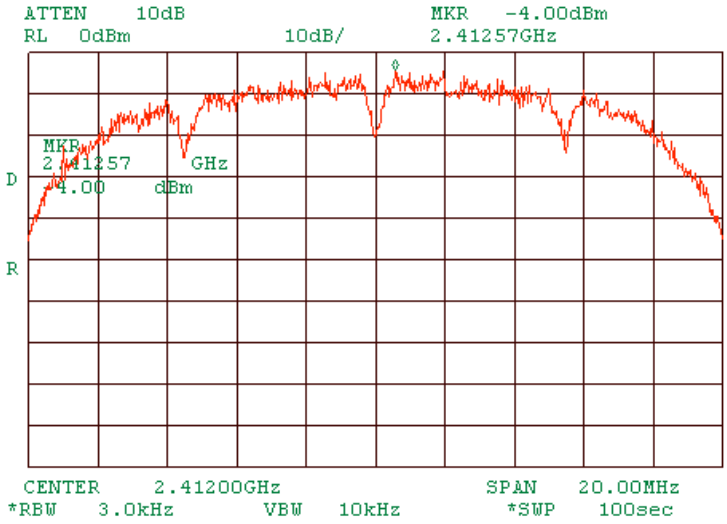
* - Margin = Peak power density – specification limit.
**- Marker noise measurement.
***- Peak power density dB(mW/3 kHz) = Marker noise (dBm/Hz) + 38.4(Hz/3kHz)

Reference numbers of test equipment used

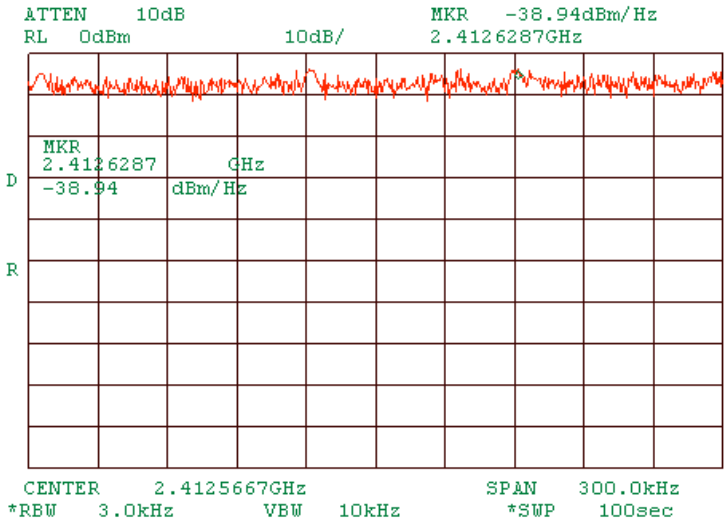
HL 1424	HL 2399						

Full description is given in Appendix A.

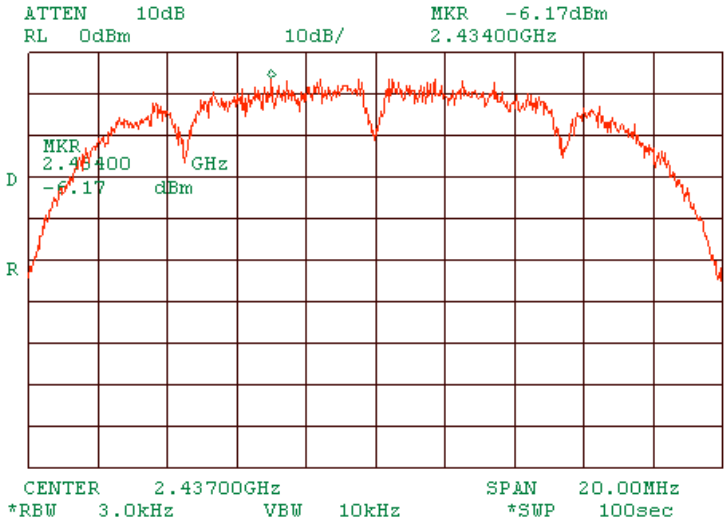
Plot 1.13.1 Peak spectral power density at low frequency within 6 dB band at 1 Mbps DSSS



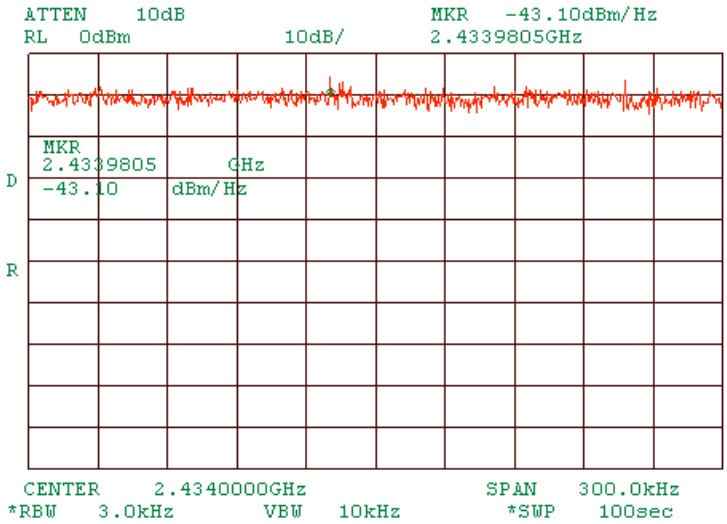
Plot 1.13.2 Peak spectral power density at low frequency zoomed at the peak at 1 Mbps DSSS



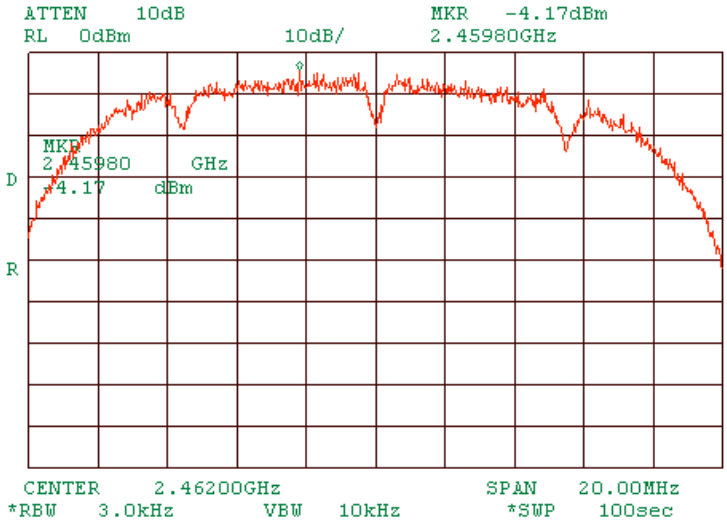
Plot 1.13.3 Peak spectral power density at mid frequency within 6 dB band at 1 Mbps DSSS



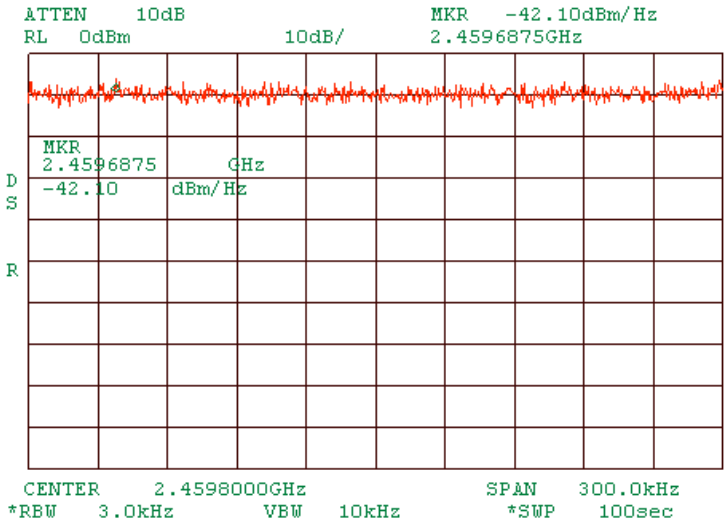
Plot 1.13.4 Peak spectral power density at mid frequency zoomed at the peak at 1 Mbps DSSS



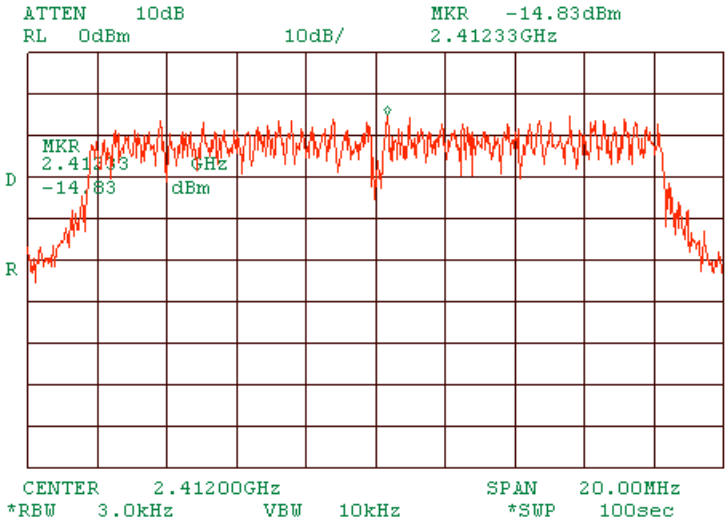
Plot 1.13.5 Peak spectral power density at high frequency within 6 dB band at 1 Mbps DSSS



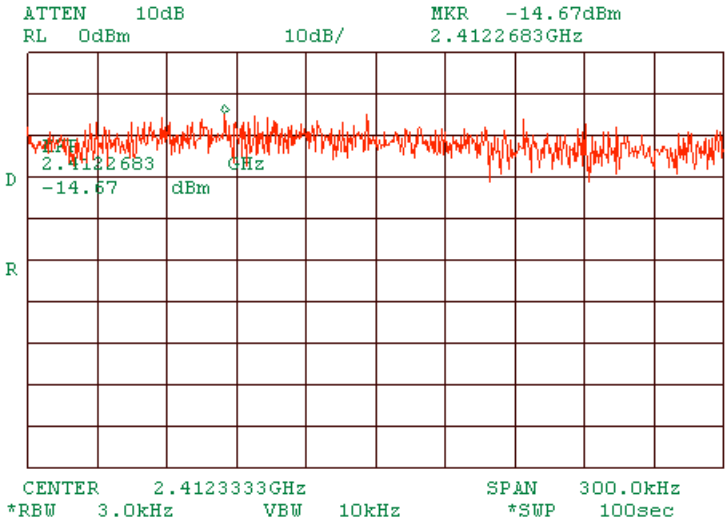
Plot 1.13.6 Peak spectral power density at high frequency zoomed at the peak at 1 Mbps DSSS



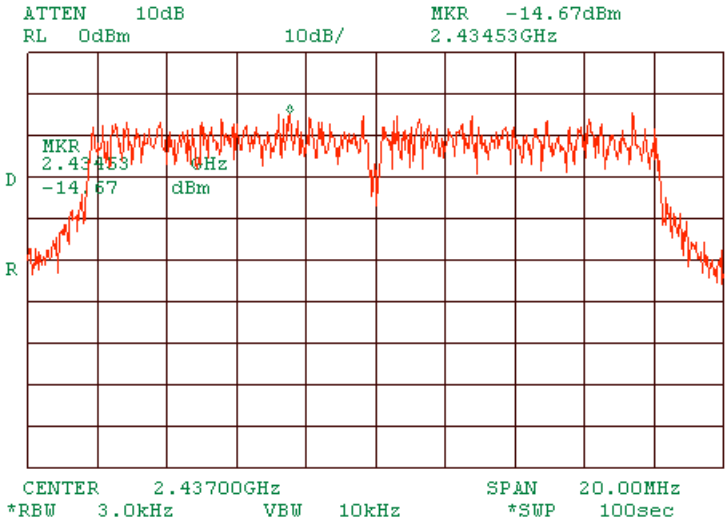
Plot 1.13.7 Peak spectral power density at low frequency within 6 dB band at 12 Mbps OFDM



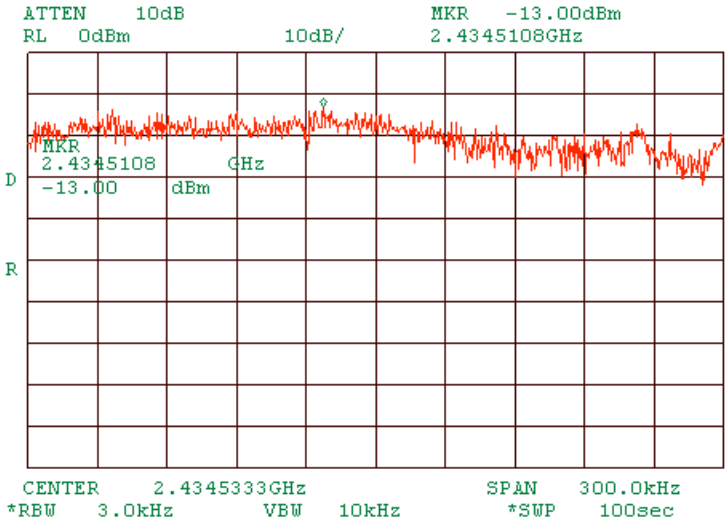
Plot 1.13.8 Peak spectral power density at low frequency zoomed at the peak at 12 Mbps OFDM



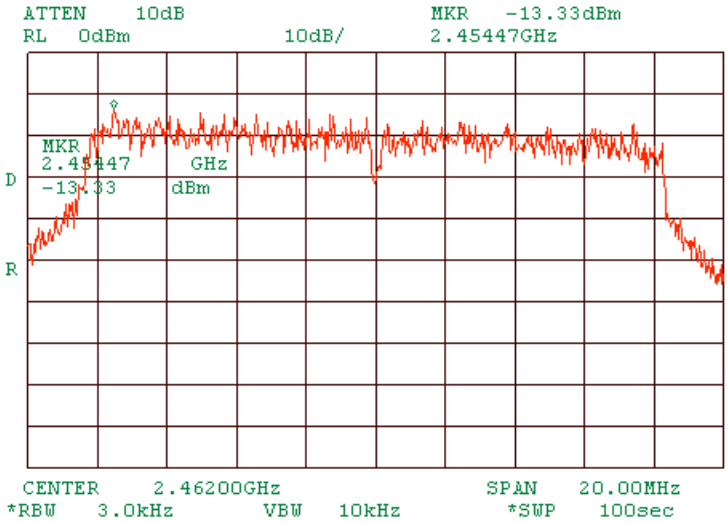
Plot 1.13.9 Peak spectral power density at mid frequency within 6 dB band at 12 Mbps OFDM



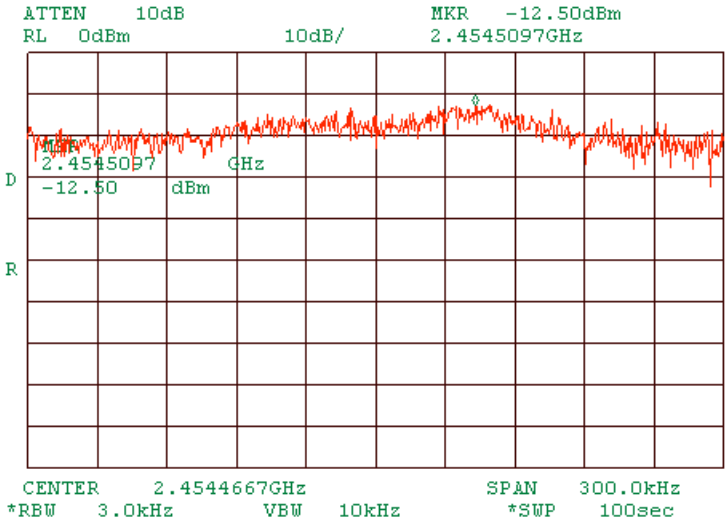
Plot 1.13.10 Peak spectral power density at mid frequency zoomed at the peak at 12 Mbps OFDM



Plot 1.13.11 Peak spectral power density at high frequency within 6 dB band at 12 Mbps OFDM



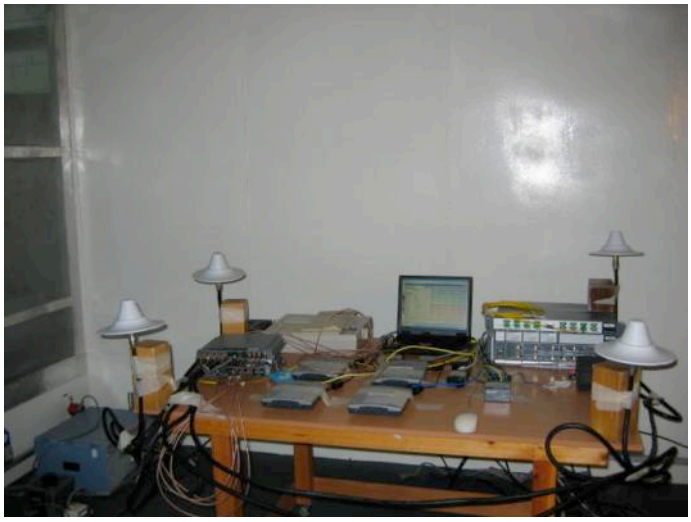
Plot 1.13.12 Peak spectral power density at high frequency zoomed at the peak at 12 Mbps OFDM



Remarks: MA 850 + MA 1000 Cell 850, PCS 1900
MA 1000:
ESP-240-54, CA3A072725
Laptop:
P/N:02K6543, 2M04T741702
Cisco:
P/N:34127703A0, PHI08100K43
MA 850:
P/N:P40-8AD01, 705721

1.14 Conducted emissions

Photograph 1.14.1 Setup for conducted emission measurements



Remarks: MA 850 + MA 1000 Cell 850, PCS 1900
MA 1000:
ESP-240-54, CA3A072725
Laptop:
P/N:02K6543, 2M04T741702
Cisco:
P/N:34127703A0, PHI08100K43
MA 850:
P/N:P40-8AD01, 705721

Table 1.14.1 Conducted emission test results

SYSTEM ASSEMBLY:	MA 850, MA 1000 (Cell 850, PCS 1900)
TRANSMIT FREQUENCIES	885.9, 1960 MHz
LINE:	AC mains at MA 850
EUT OPERATING MODE:	Transmit
EUT SET UP:	TABLE-TOP
TEST SITE:	SHIELDED ROOM
DETECTORS USED:	PEAK / QUASI-PEAK / AVERAGE
FREQUENCY RANGE:	150 kHz - 30 MHz
RESOLUTION BANDWIDTH:	9 kHz

Frequency, MHz	Peak emission, dB(μV)	Quasi-peak			Average			Line ID	Verdict
		Measured emission, dB(μV)	Limit, dB(μV)	Margin, dB*	Measured emission, dB(μV)	Limit, dB(μV)	Margin, dB*		
0.215271	50.51	49.88	63.07	-13.19	40.34	53.07	-3.19	L1	Pass
0.323249	43.01	42.20	59.66	-17.46	35.43	49.66	-7.46		
0.430873	31.52	30.07	57.29	-27.22	22.26	47.29	-17.22		
4.533477	31.47	30.15	56.00	-25.85	26.24	46.00	-15.85		
6.581668	33.93	32.56	60.00	-27.44	23.48	50.00	-17.44		
15.110827	33.29	31.29	60.00	-28.71	24.75	50.00	-18.71		
0.215556	49.35	48.73	63.06	-14.33	39.93	53.06	-4.33	L2	Pass
0.324033	41.95	41.06	59.64	-18.58	34.45	49.64	-8.58		
0.539890	35.20	33.96	56.00	-22.04	30.91	46.00	-12.04		
0.647558	31.86	30.45	56.00	-25.55	26.38	46.00	-15.55		
2.811172	35.75	33.46	56.00	-22.54	28.59	46.00	-12.54		
5.940313	37.94	36.89	60.00	-23.11	25.91	50.00	-13.11		
15.337606	39.81	37.57	60.00	-22.43	28.86	50.00	-12.43		

*- Margin = Measured emission - specification limit.

Remarks: MA 850 + MA 1000 Cell 850, PCS 1900
MA 1000:
ESP-240-54, CA3A072725
Laptop:
P/N:02K6543, 2M04T741702
Cisco:
P/N:34127703A0, PHI08100K43
MA 850:
P/N:P40-8AD01, 705721

LINE:	AC mains at MA 1000
EUT OPERATING MODE:	Transmit
EUT SET UP:	TABLE-TOP
TEST SITE:	SHIELDED ROOM
DETECTORS USED:	PEAK / QUASI-PEAK / AVERAGE
FREQUENCY RANGE:	150 kHz - 30 MHz
RESOLUTION BANDWIDTH:	9 kHz

Frequency, MHz	Peak emission, dB(μV)	Quasi-peak			Average			Line ID	Verdict
		Measured emission, dB(μV)	Limit, dB(μV)	Margin, dB*	Measured emission, dB(μV)	Limit, dB(μV)	Margin, dB*		
0.183315	46.61	45.89	64.37	-18.48	40.66	54.37	-8.48	L1	Pass
0.235892	43.20	42.35	62.27	-19.92	36.87	52.27	-9.92		
0.287432	39.28	38.46	60.65	-22.19	32.53	50.65	-12.19		
0.430958	40.91	40.09	57.29	-17.20	38.69	47.29	-7.20		
2.911906	41.29	37.77	56.00	-18.23	36.17	46.00	-8.23		
15.076523	41.41	40.09	60.00	-19.91	35.73	50.00	-9.91		
0.183199	44.85	44.19	64.38	-20.19	38.55	54.38	-10.19	L2	Pass
0.236216	39.98	39.05	62.26	-23.21	32.80	52.26	-13.21		
0.323098	37.71	36.64	59.66	-23.02	35.04	49.66	-13.02		
0.430693	40.56	39.74	57.30	-17.56	38.18	47.30	-7.56		
3.068387	39.82	37.20	56.00	-18.80	34.02	46.00	-8.80		
15.298108	40.93	39.76	60.00	-20.24	38.56	50.00	-10.24		

*- Margin = Measured emission - specification limit.

Remarks: MA 850 + MA 1000 Cell 850, PCS 1900
MA 1000:
ESP-240-54, CA3A072725
Laptop:
P/N:02K6543, 2M04T741702
Cisco:
P/N:34127703A0, PHI08100K43
MA 850:
P/N:P40-8AD01, 705721

LINE:	AC mains at CISCO Access point
EUT OPERATING MODE:	Transmit
EUT SET UP:	TABLE-TOP
TEST SITE:	SHIELDED ROOM
DETECTORS USED:	PEAK / QUASI-PEAK / AVERAGE
FREQUENCY RANGE:	150 kHz - 30 MHz
RESOLUTION BANDWIDTH:	9 kHz

Frequency, MHz	Peak emission, dB(μV)	Quasi-peak			Average			Line ID	Verdict
		Measured emission, dB(μV)	Limit, dB(μV)	Margin, dB*	Measured emission, dB(μV)	Limit, dB(μV)	Margin, dB*		
0.655393	50.72	48.65	56	-7.35	36.12	46	-9.88	L1	Pass
0.830213	45.84	44.11	56	-11.89	33.3	46	-12.7		
1.052456	44.18	42.98	56	-13.02	30.6	46	-15.4		
1.573457	40.56	38.13	56	-17.87	21.47	46	-24.53		
1.922932	39.13	35.64	56	-20.36	19.9	46	-26.1		
2.273286	40.56	37.01	56	-18.99	19.49	46	-26.51		
3.060944	51.44	49.74	56	-6.26	37.72	46	-8.28	L2	Pass
0.656075	44.93	42.41	56	-13.59	30.71	46	-15.29		
1.005567	45.71	44.47	56	-11.53	34.24	46	-11.76		
1.618779	40.57	36.95	56	-19.05	22.82	46	-23.18		
1.922991	40.9	38.81	56	-17.19	25.88	46	-20.12		
2.360988	40.92	38.97	56	-17.03	22.21	46	-23.79		
2.666834	41.72	39.19	56	-16.81	23.44	46	-22.56		
3.410078	43.34	39.26	56	-16.74	20.77	46	-25.23		

*- Margin = Measured emission - specification limit.

Remarks: MA 850 + MA 1000 Cell 850, PCS 1900
MA 1000:
ESP-240-54, CA3A072725
Laptop:
P/N:02K6543, 2M04T741702
Cisco:
P/N:34127703A0, PHI08100K43
MA 850:
P/N:P40-8AD01, 705721

LINE:	AC mains at Laptop power supply
EUT OPERATING MODE:	Transmit
EUT SET UP:	TABLE-TOP
TEST SITE:	SHIELDED ROOM
DETECTORS USED:	PEAK / QUASI-PEAK / AVERAGE
FREQUENCY RANGE:	150 kHz - 30 MHz
RESOLUTION BANDWIDTH:	9 kHz

Frequency, MHz	Peak emission, dB(µV)	Quasi-peak			Average			Line ID	Verdict
		Measured emission, dB(µV)	Limit, dB(µV)	Margin, dB*	Measured emission, dB(µV)	Limit, dB(µV)	Margin, dB*		
0.165639	52.56	44.02	65.24	-21.22	14.67	55.24	-40.57	L1	Pass
0.183143	54.00	45.25	64.38	-19.13	39.98	54.38	-14.4		
0.287160	49.49	46.25	60.66	-14.41	44.53	50.66	-6.13		
0.322041	43.51	39.58	59.69	-20.11	36.86	49.69	-12.83		
4.326901	35.34	31.69	56.00	-24.31	17.52	46.00	-28.48		
8.382708	45.30	41.07	60.00	-18.93	12.99	50.00	-37.01		
0.157400	53.58	44.34	65.64	-21.30	15.25	55.64	-40.39	L2	Pass
0.184897	52.64	44.52	64.30	-19.78	38.07	54.30	-16.23		
0.236745	44.28	35.29	62.24	-26.95	17.54	52.24	-34.7		
0.431011	39.02	35.79	57.29	-21.50	32.27	47.29	-15.02		
3.613714	36.82	34.22	56.00	-21.78	21.34	46.00	-24.66		
4.232493	38.68	34.81	56.00	-21.19	21.84	46.00	-24.16		

*- Margin = Measured emission - specification limit.

Reference numbers of test equipment used

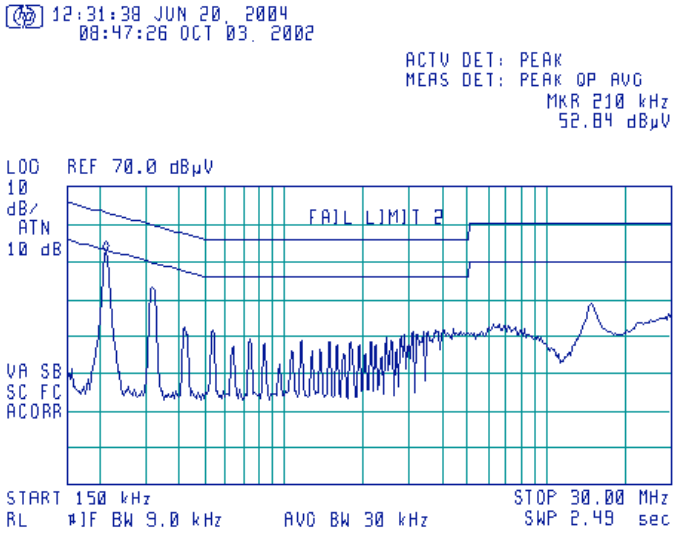
HL 0447	HL 0787	HL 1430	HL 1502	HL 1510			

Full description is given in Appendix A.

Remarks: MA 850 + MA 1000 Cell 850, PCS 1900
MA 1000:
ESP-240-54, CA3A072725
Laptop:
P/N:02K6543, 2M04T741702
Cisco:
P/N:34127703A0, PHI08100K43
MA 850:
P/N:P40-8AD01, 705721

Plot 1.14.1 Conducted emission measurements at MA 850 port

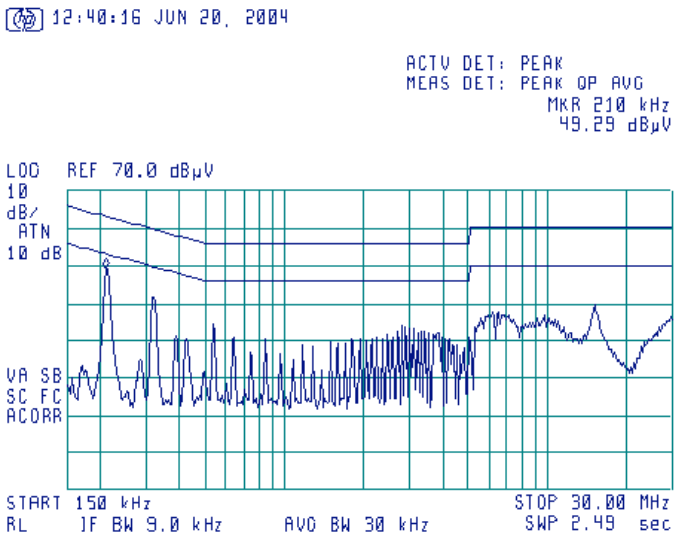
LINE:	L1
EUT OPERATING MODE:	Transmit
LIMIT:	QUASI-PEAK, AVERAGE
DETECTOR:	PEAK



! Pass: see tables above

Plot 1.14.2 Conducted emission measurements at MA 850 port

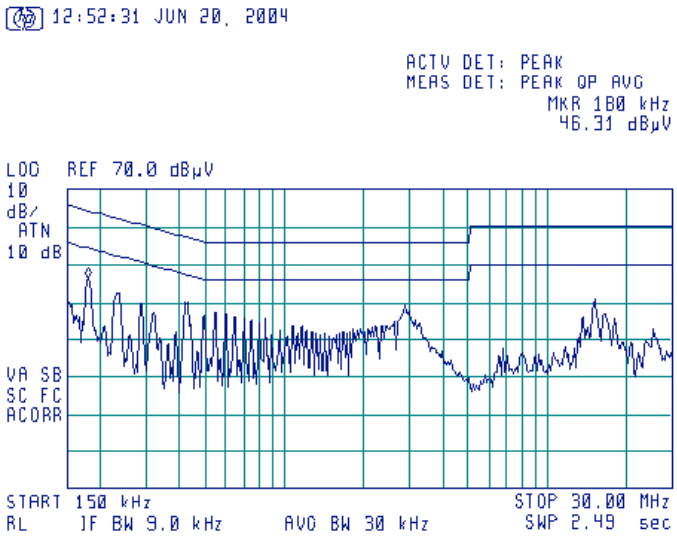
LINE:	L2
EUT OPERATING MODE:	Transmit
LIMIT:	QUASI-PEAK, AVERAGE
DETECTOR:	PEAK



Remarks: MA 850 + MA 1000 Cell 850, PCS 1900
MA 1000:
ESP-240-54, CA3A072725
Laptop:
P/N:02K6543, 2M04T741702
Cisco:
P/N:34127703A0, PHI08100K43
MA 850:
P/N:P40-8AD01, 705721

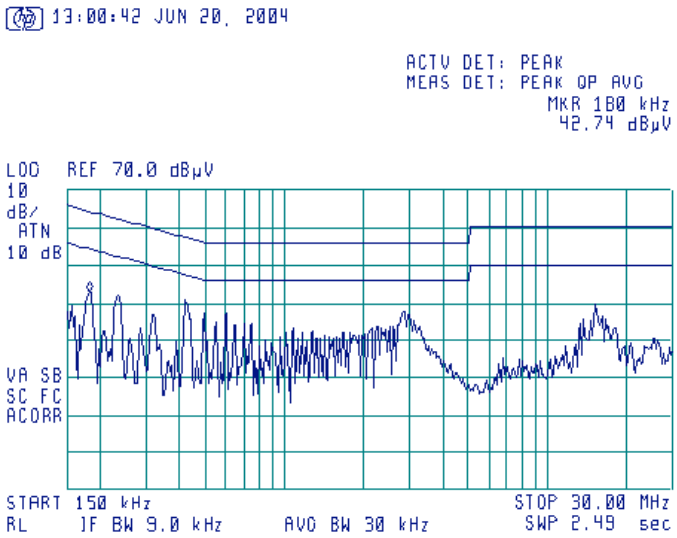
Plot 1.14.3 Conducted emission measurements at MA 1000 port

LINE:	L1
EUT OPERATING MODE:	Transmit
LIMIT:	QUASI-PEAK, AVERAGE
DETECTOR:	PEAK



Plot 1.14.4 Conducted emission measurements at MA 1000 port

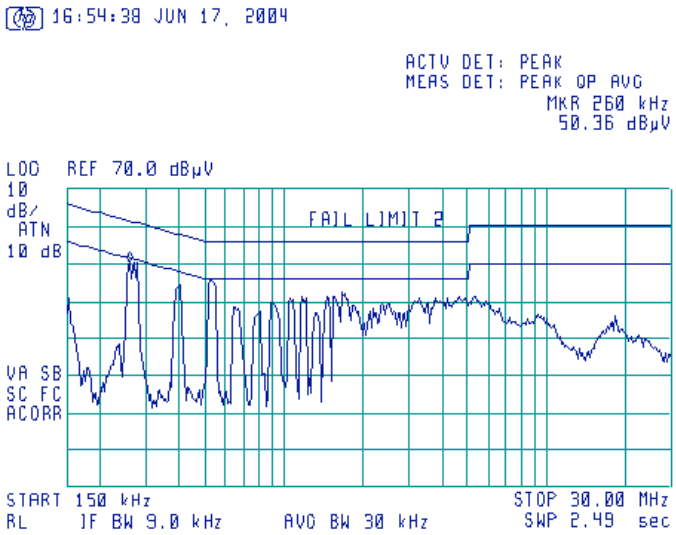
LINE:	L2
EUT OPERATING MODE:	Transmit
LIMIT:	QUASI-PEAK, AVERAGE
DETECTOR:	PEAK



Remarks: MA 850 + MA 1000 Cell 850, PCS 1900
MA 1000:
ESP-240-54, CA3A072725
Laptop:
P/N:02K6543, 2M04T741702
Cisco:
P/N:34127703A0, PHI08100K43
MA 850:
P/N:P40-8AD01, 705721

Plot 1.14.5 Conducted emission measurements at Cisco Access point

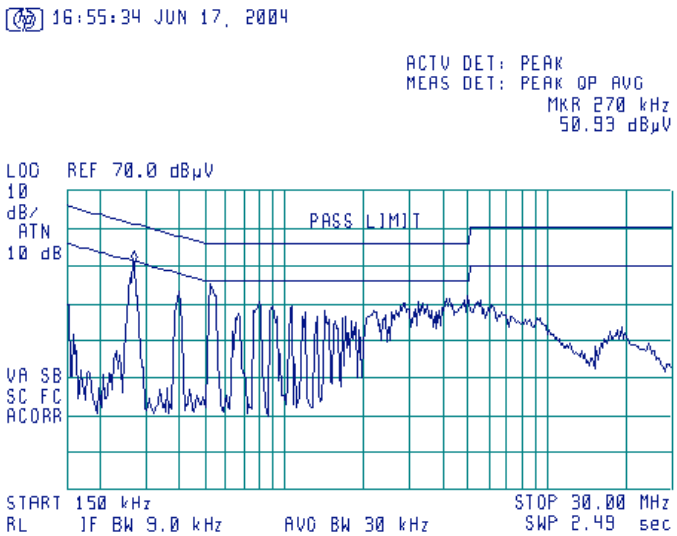
LINE:	L1
EUT OPERATING MODE:	Transmit
LIMIT:	QUASI-PEAK, AVERAGE
DETECTOR:	PEAK



! Pass: see tables above

Plot 1.14.6 Conducted emission measurements at Cisco Access point

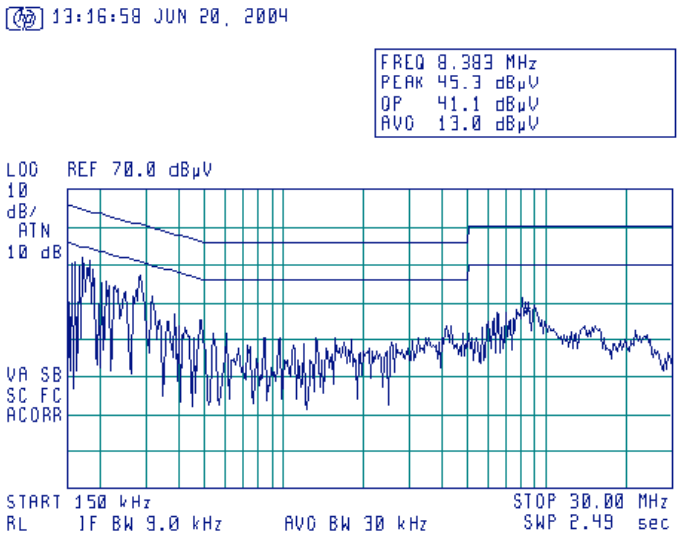
LINE:	L2
EUT OPERATING MODE:	Transmit
LIMIT:	QUASI-PEAK, AVERAGE
DETECTOR:	PEAK



Remarks: MA 850 + MA 1000 Cell 850, PCS 1900
MA 1000:
ESP-240-54, CA3A072725
Laptop:
P/N:02K6543, 2M04T741702
Cisco:
P/N:34127703A0, PHI08100K43
MA 850:
P/N:P40-8AD01, 705721

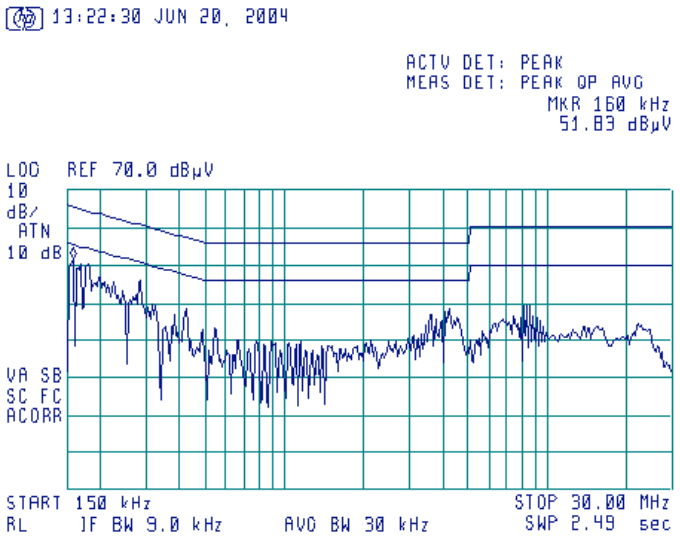
Plot 1.14.7 Conducted emission measurements at Laptop power supply

LINE:	L1
EUT OPERATING MODE:	Transmit
LIMIT:	QUASI-PEAK, AVERAGE
DETECTOR:	PEAK



Plot 1.14.8 Conducted emission measurements at Laptop power supply

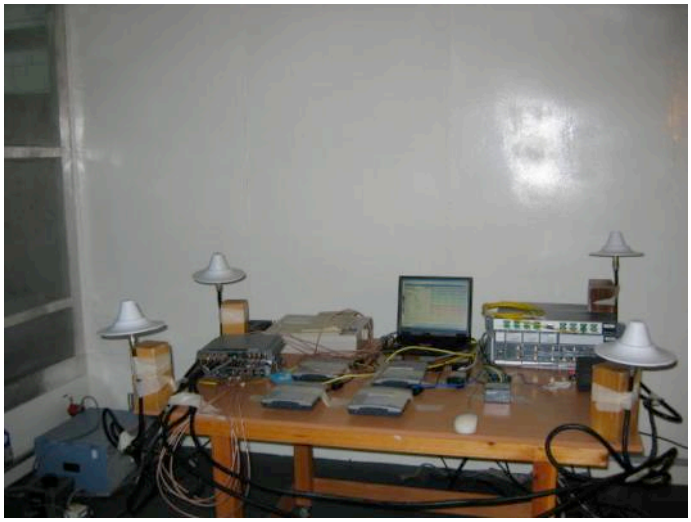
LINE:	L2
EUT OPERATING MODE:	Transmit
LIMIT:	QUASI-PEAK, AVERAGE
DETECTOR:	PEAK



Remarks: MA 850 + MA 1000 Cell 850, PCS 1900

2 Emission tests according to 47CFR part 15 subpart B requirements

Photograph 1.14.1 Setup for conducted emission measurements



Remarks: MA 850 + MA 1000 Cell 850, PCS 1900

Table 1.14.1 Conducted emission test results

LINE:	AC mains
LIMIT:	Class B
EUT OPERATING MODE:	Receive
EUT SET UP:	TABLE-TOP
TEST SITE:	SHIELDED ROOM
DETECTORS USED:	PEAK / QUASI-PEAK / AVERAGE
FREQUENCY RANGE:	150 kHz - 30 MHz
RESOLUTION BANDWIDTH:	9 kHz

No deviation found from Transmit mode. The measurements are placed in Transmit mode report.

*- Margin = Measured emission - specification limit.

Reference numbers of test equipment used

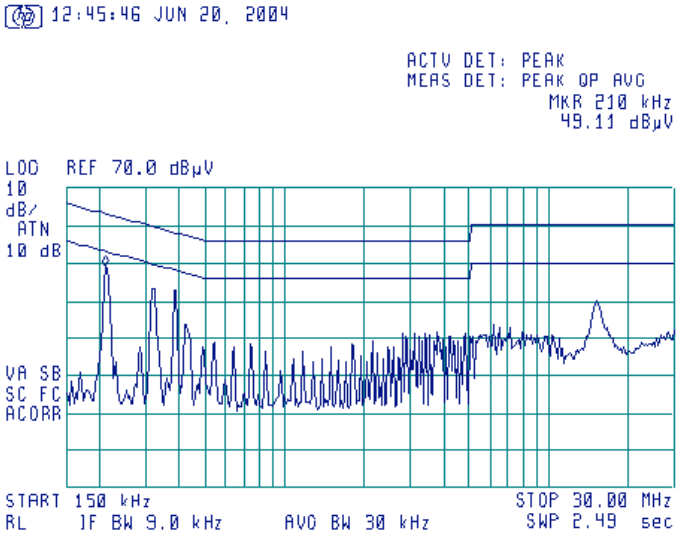
HL 0447	HL 0787	HL 1430	HL 1502	HL 1510			

Full description is given in Appendix A.

Remarks: MA 850 + MA 1000 Cell 850, PCS 1900

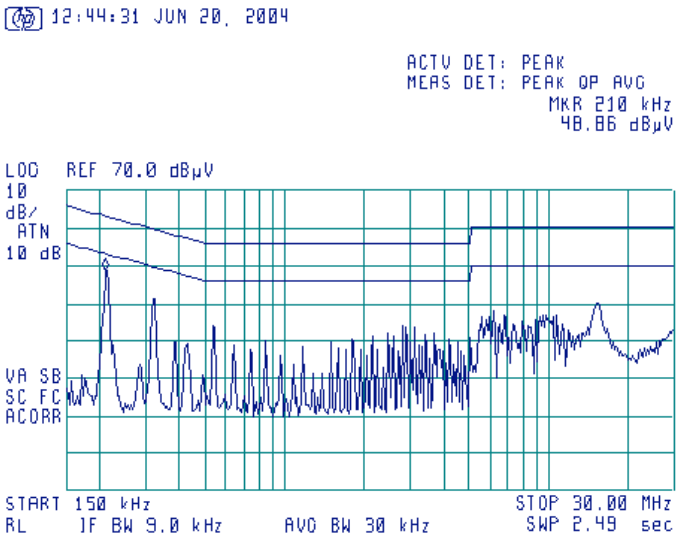
Plot 1.14.1 Conducted emission measurements at MA 850 port

LINE:	L1
EUT OPERATING MODE:	Receive
LIMIT:	QUASI-PEAK, AVERAGE
DETECTOR:	PEAK



Plot 1.14.2 Conducted emission measurements at MA 850 port

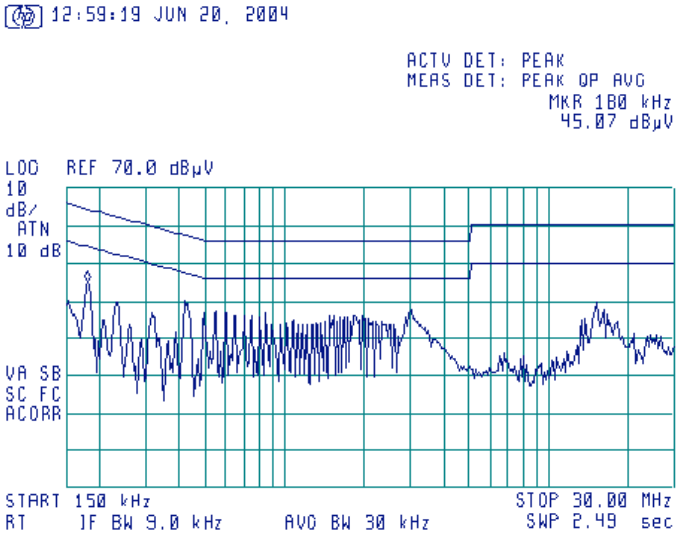
LINE:	L2
EUT OPERATING MODE:	Receive
LIMIT:	QUASI-PEAK, AVERAGE
DETECTOR:	PEAK



Remarks: MA 850 + MA 1000 Cell 850, PCS 1900

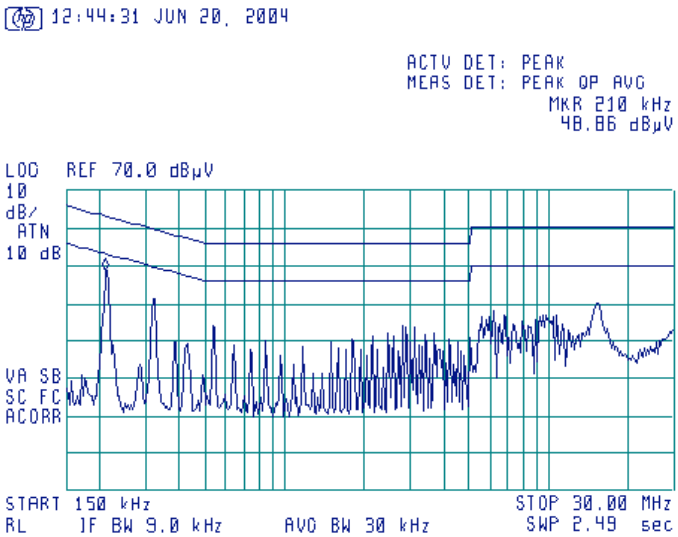
Plot 1.14.3 Conducted emission measurements at MA 1000 port

LINE:	L1
EUT OPERATING MODE:	Receive
LIMIT:	QUASI-PEAK, AVERAGE
DETECTOR:	PEAK



Plot 1.14.4 Conducted emission measurements at MA 1000 port

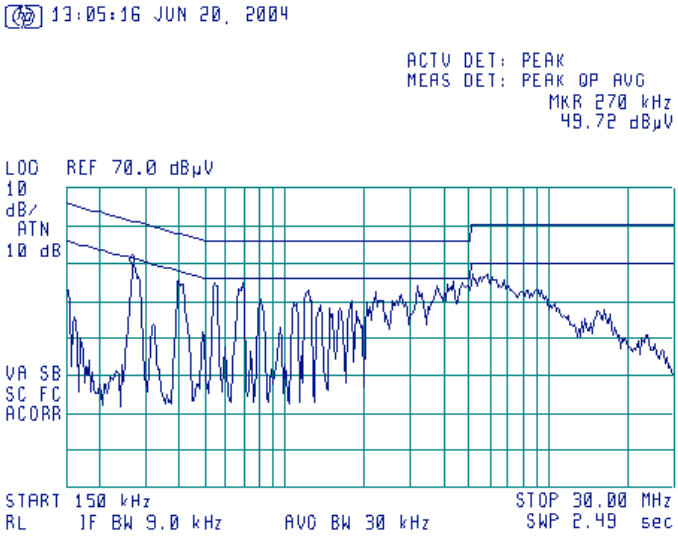
LINE:	L2
EUT OPERATING MODE:	Receive
LIMIT:	QUASI-PEAK, AVERAGE
DETECTOR:	PEAK



Remarks: MA 850 + MA 1000 Cell 850, PCS 1900

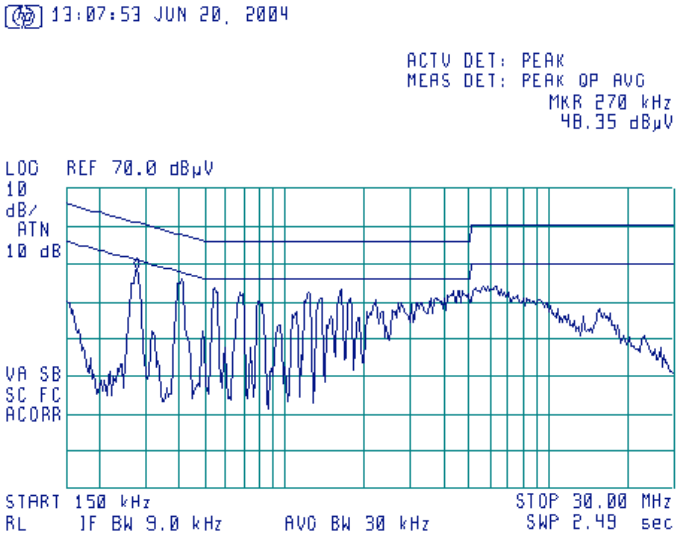
Plot 1.14.5 Conducted emission measurements at Cisco port

LINE:	L1
EUT OPERATING MODE:	Receive
LIMIT:	QUASI-PEAK, AVERAGE
DETECTOR:	PEAK



Plot 1.14.6 Conducted emission measurements at Cisco port

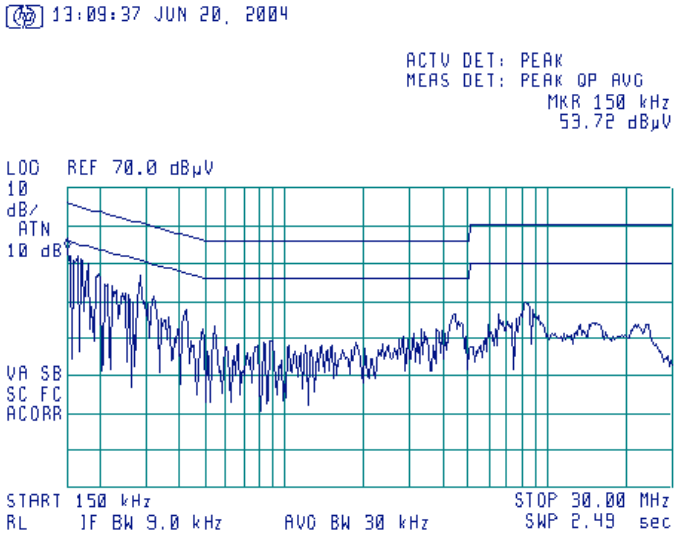
LINE:	L2
EUT OPERATING MODE:	Receive
LIMIT:	QUASI-PEAK, AVERAGE
DETECTOR:	PEAK



Remarks: MA 850 + MA 1000 Cell 850, PCS 1900

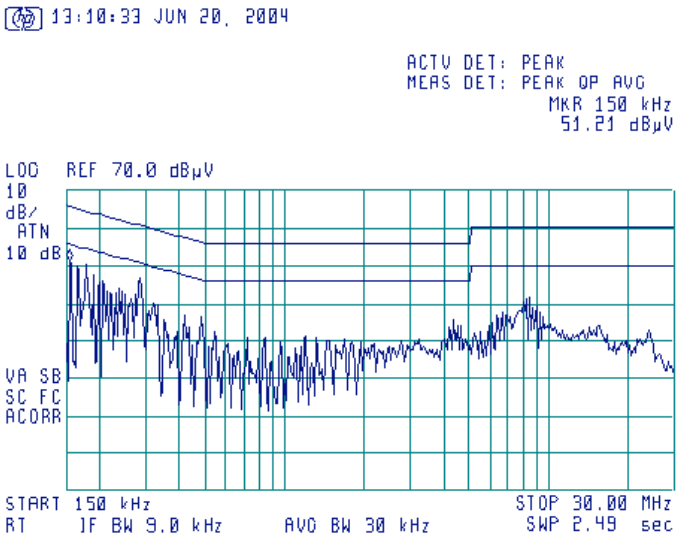
Plot 1.14.7 Conducted emission measurements at Laptop port

LINE:	L1
EUT OPERATING MODE:	Receive
LIMIT:	QUASI-PEAK, AVERAGE
DETECTOR:	PEAK



Plot 1.14.8 Conducted emission measurements at Laptop port

LINE:	L2
EUT OPERATING MODE:	Receive
LIMIT:	QUASI-PEAK, AVERAGE
DETECTOR:	PEAK



Remarks: MA 850 + MA 1000 Cell 850, PCS 1900

2.1 Radiated emission measurements

Photograph 2.1.1 Setup for preliminary radiated emission measurements

Remarks: MA 850 + MA 1000 Cell 850, PCS 1900

Photograph 2.1.2 Setup for final radiated emission measurements, general view

Remarks: MA 850 + MA 1000 Cell 850, PCS 1900

Table 2.1.1 Radiated emission test results

EUT SET UP:	TABLE-TOP
LIMIT:	Class B
EUT OPERATING MODE:	Receive
TEST SITE:	SEMI ANECHOIC CHAMBER
TEST DISTANCE:	3 m
DETECTORS USED:	PEAK / QUASI-PEAK
FREQUENCY RANGE:	30 MHz – 1000 MHz
RESOLUTION BANDWIDTH:	120 kHz

Frequency, MHz	Peak emission, dB(μV/m)	Quasi-peak			Antenna polarization	Antenna height, m	Turn-table position**, degrees	Verdict
		Measured emission, dB(μV/m)	Limit, dB(μV/m)	Margin, dB*				
40.005000	37.42	33.61	40.00	-6.39	V	1	218	Pass
45.950000	39.36	37.46	40.00	-2.54	V	1	250	
86.362500	34.27	31.77	40.00	-8.23	V	1	120	
590.300000	41.71	37.70	46.00	-8.30	V	1	340	
689.550000	41.15	38.12	46.00	-7.88	V	1	190	
788.030000	42.82	38.61	46.00	-7.39	V	1	190	

*- Margin = Measured emission - specification limit.
**- EUT front panel refer to 0 degrees position of turntable.

Reference numbers of test equipment used

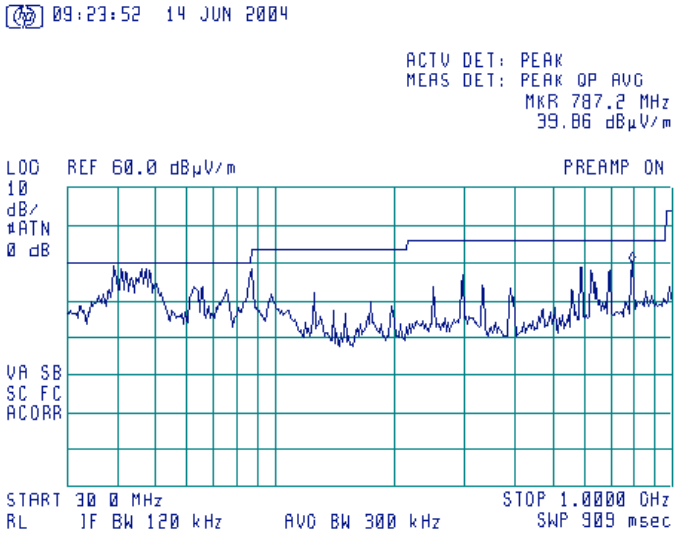
HL 0521	HL 0589	HL 0604	HL 1424	HL 1947	HL 1942	HL 1984	HL 2009
HL 2259	HL 2387	HL 2399	HL 2499				

Full description is given in Appendix A.

Remarks: MA 850 + MA 1000 Cell 850, PCS 1900

Plot 2.1.1 Radiated emission measurements in 30- 1000 MHz range, vertical and horizontal antenna polarization

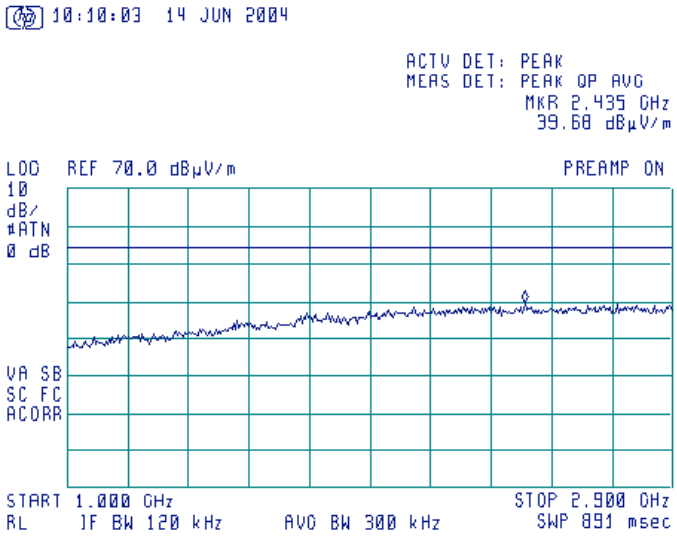
TEST SITE:	Semi anechoic chamber
LIMIT:	Class B
TEST DISTANCE:	3 m
EUT OPERATING MODE:	Receive



Remarks: MA 850 + MA 1000 Cell 850, PCS 1900

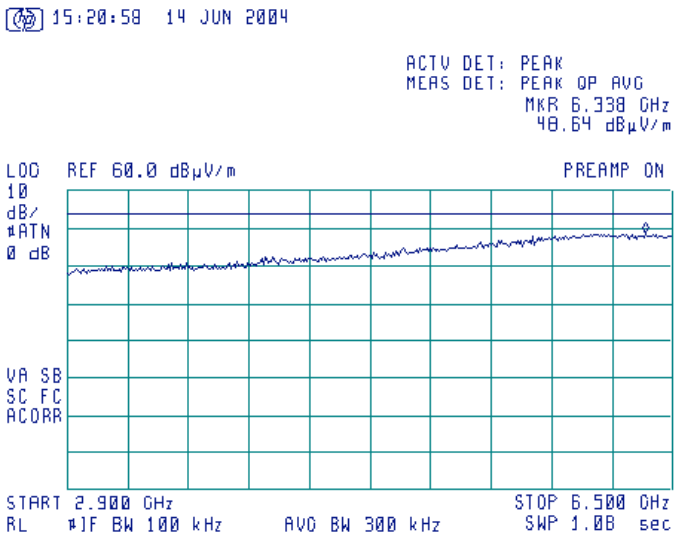
Plot 2.1.2 Radiated emission measurements above 1000 – 2900 MHz, vertical and horizontal antenna polarization

TEST SITE:	Semi anechoic chamber
LIMIT:	Class B
TEST DISTANCE:	3 m
EUT OPERATING MODE:	Receive



Plot 2.1.3 Radiated emission measurements above 2900- 6500 MHz, vertical and horizontal antenna polarization

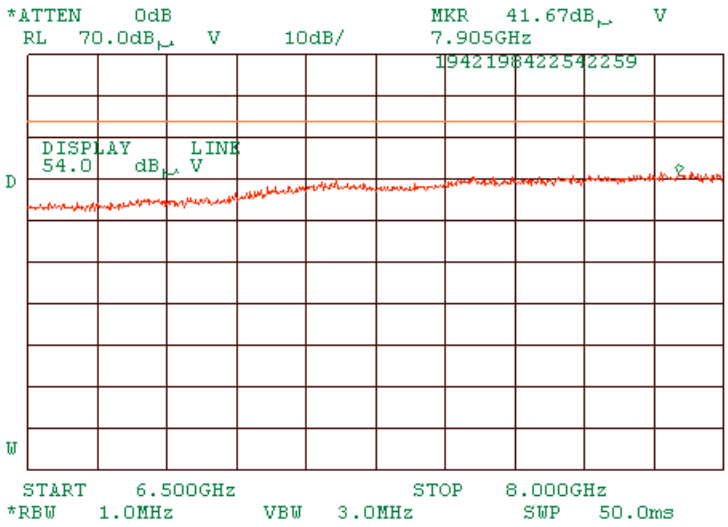
TEST SITE:	Semi anechoic chamber
LIMIT:	Class B
TEST DISTANCE:	3 m
EUT OPERATING MODE:	Receive



Remarks: MA 850 + MA 1000 Cell 850, PCS 1900

Plot 2.1.4 Radiated emission measurements above 6500- 8000 MHz, vertical and horizontal antenna polarization

TEST SITE:	Semi anechoic chamber
LIMIT:	Class B
TEST DISTANCE:	3 m
EUT OPERATING MODE:	Receive



Plot 2.1.5 Radiated emission measurements above 8000- 14000 MHz, vertical and horizontal antenna polarization

TEST SITE:	Semi anechoic chamber
LIMIT:	Class B
TEST DISTANCE:	3 m
EUT OPERATING MODE:	Receive

Remarks: MA 850 + MA 1000 Cell 850, PCS 1900