

MA850 part 15 tests

MA850 peak output power.....2

MA850 peak output power connected to MA1000 with cell800 frequencies operation.....16

MA850 peak output power connected to MA1000 with PCS1900 frequencies operation.....37

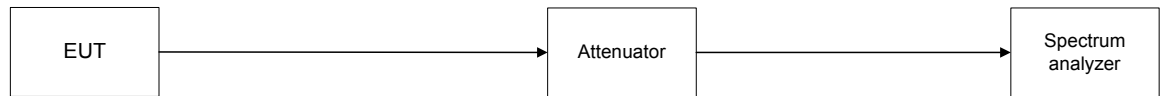
MA850 6 dB bandwidth and 99% power bandwidth.....51

MA850 6 dB bandwidth and 99% power bandwidth connected to MA1000 with cell800 operation.....73

MA850 6 dB bandwidth and 99% power bandwidth connected to MA1000 with PCS1900 operation.....87

1.1 Peak output power

Figure 1.1.1 Peak output power test setup



Photograph 1.1.1 Peak output power test setup



Table 1.1.1 Peak output power test results

ASSIGNED FREQUENCY: 2401 - 2473 MHz
 ASSEMBLY: MA 850
 TRANSMITTER OUTPUT POWER SETTINGS: Maximum
 DETECTOR USED: Peak
 CHANNEL POWER BANDWIDTH: 50 MHz
 RESOLUTION BANDWIDTH: 100 kHz
 VIDEO BANDWIDTH: 300 kHz

Carrier frequency, MHz	Modulating signal	Bit rate, Mbps	Port	Peak output power, dBm	Limit, dBm	Margin*, dB	Verdict
DSSS							
2412	CCK	5.5	2	26.0	30	-4.0	Pass
2437				26.3	30	-3.7	Pass
2462				25.8	30	-4.2	Pass
OFDM							
2412	BPSK	6	2	20.1	30	-9.9	Pass
2437				20.2	30	-9.8	Pass
2462				20.1	30	-9.9	Pass

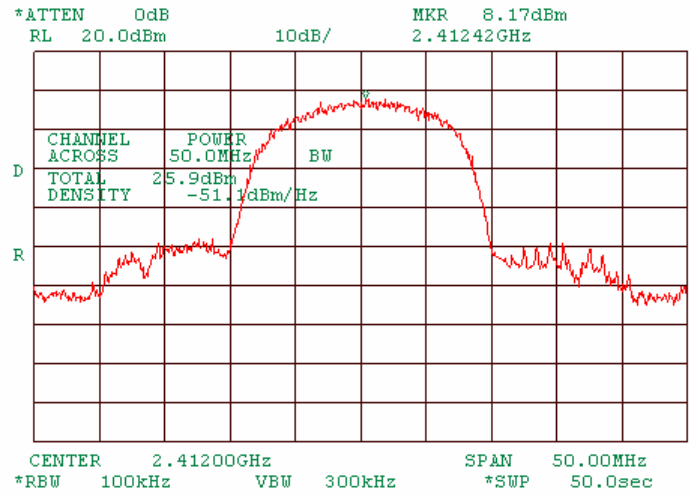
* - Margin = Peak output power – specification limit.

Reference numbers of test equipment used

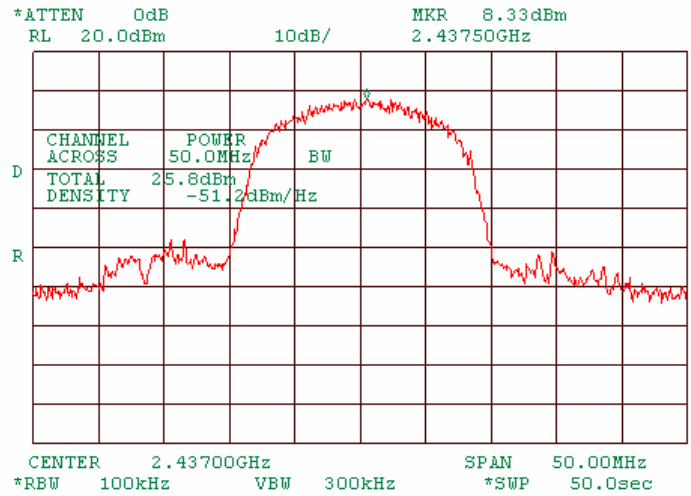
HL 1424	HL 1651	HL 2399				
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Full description is given in Appendix A.

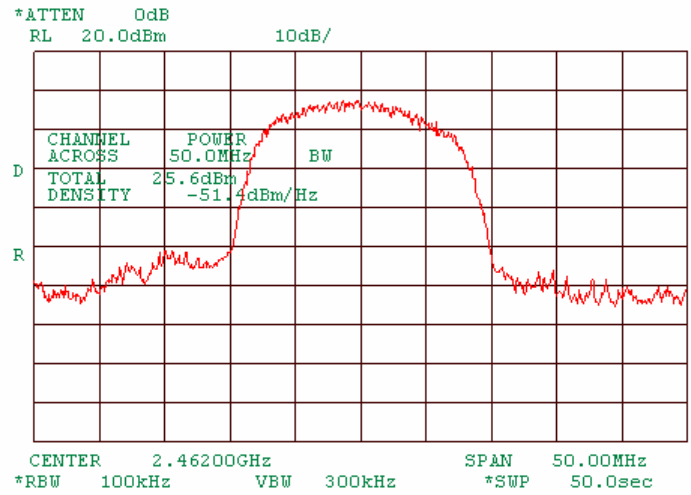
Plot 1.1.1 Peak output power at low frequency of MA 850, port 1. At 5.5Mbps DSSS.



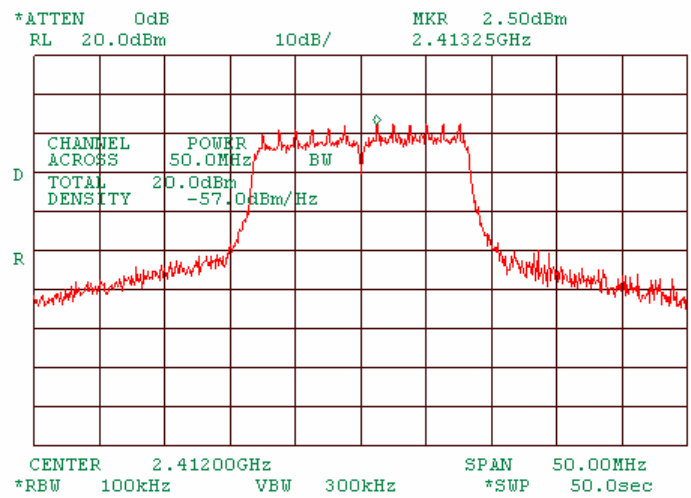
Plot 1.1.2 Peak output power at mid frequency of MA 850, port 1. At 5.5Mbps DSSS.



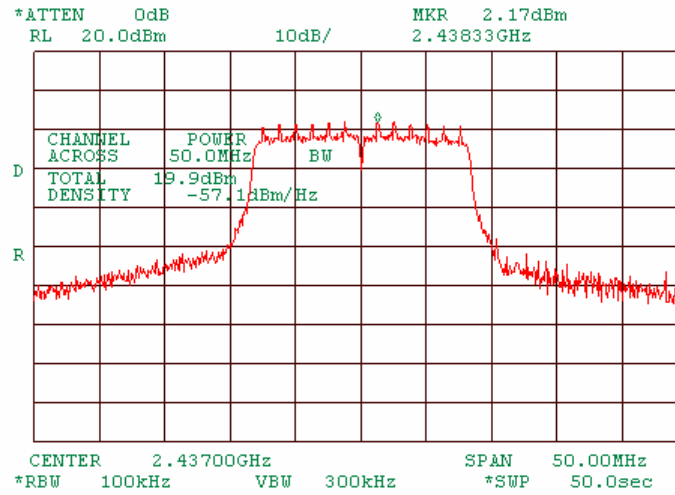
Plot 1.1.3 Peak output power at high frequency of MA 850 and MA 1000 interconnected, port 1. At 5.5Mbps DSSS.



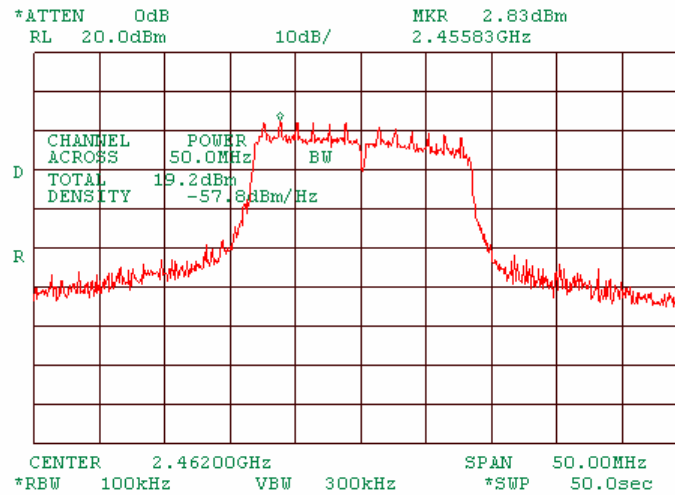
Plot 1.1.4 Peak output power at low frequency of MA 850, port 1. At 6 Mbps OFDM.



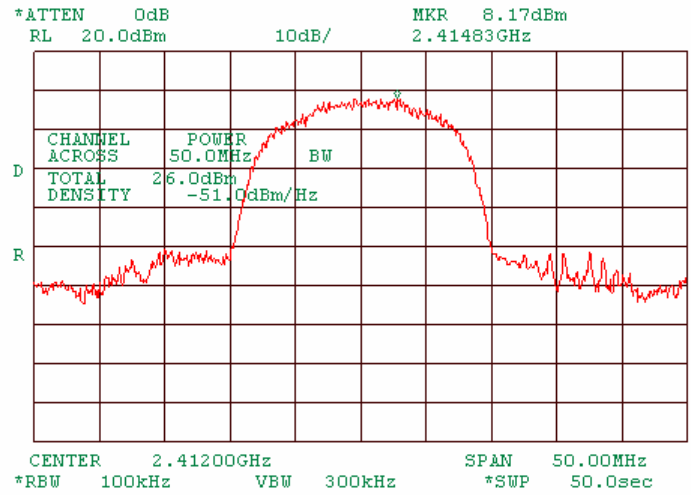
Plot 1.1.5 Peak output power at mid frequency of MA 850, port 1. At 6Mbps OFDM.



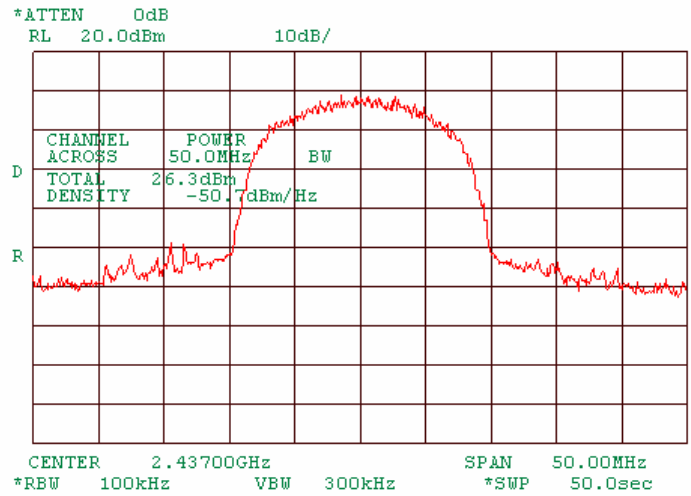
Plot 1.1.6 Peak output power at high frequency of MA 850, port 1. At 6 Mbps OFDM.



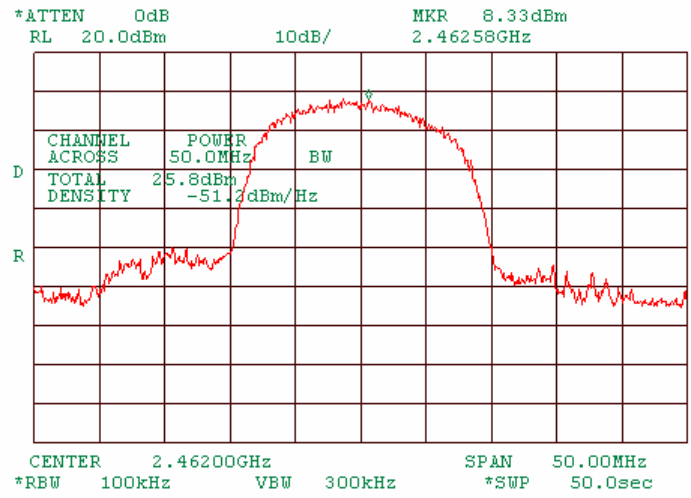
Plot 1.1.7 Peak output power at low frequency of MA 850, port 2. At 5.5Mbps DSSS.



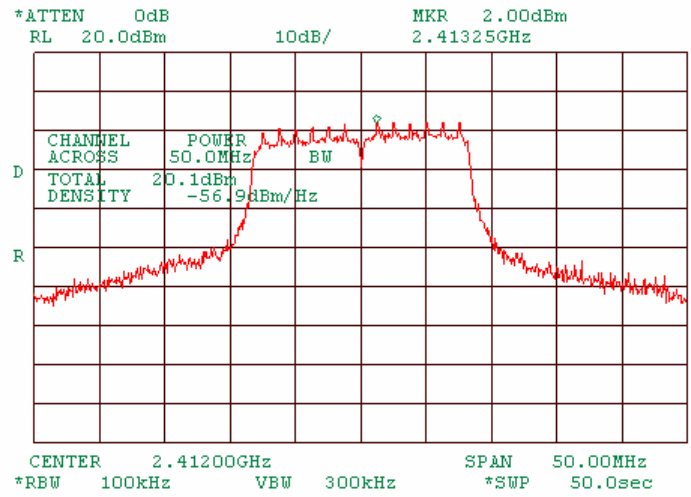
Plot 1.1.8 Peak output power at mid frequency of MA 850, port 2. At 5.5Mbps DSSS.



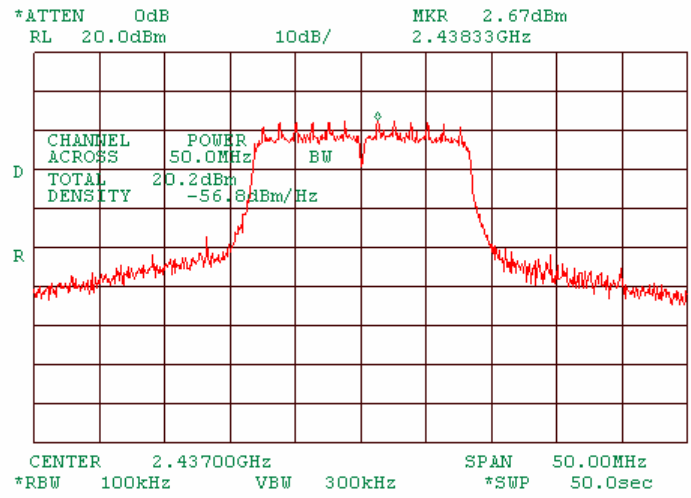
Plot 1.1.9 Peak output power at high frequency of MA 850, port 2. At 5.5Mbps DSSS.



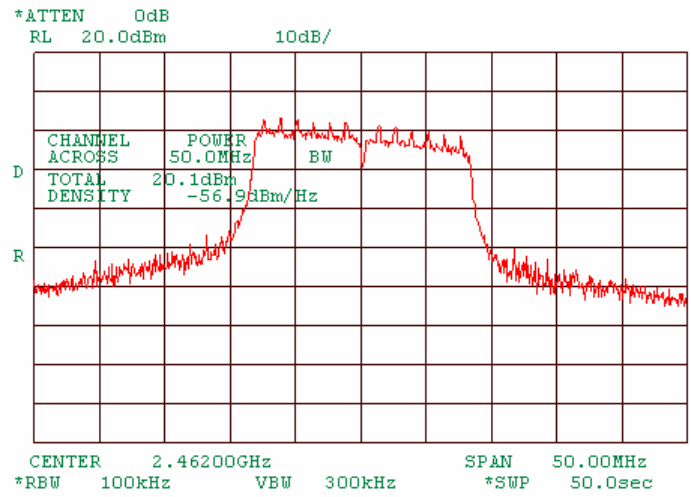
Plot 1.1.10 Peak output power at low frequency of MA 850, port 2. At 6Mbps OFDM.



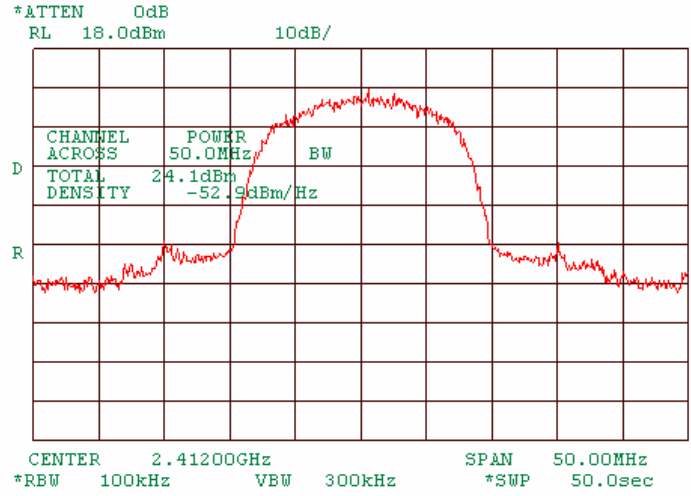
Plot 1.1.11 Peak output power at mid frequency of MA 850, port 2. At 6Mbps OFDM.



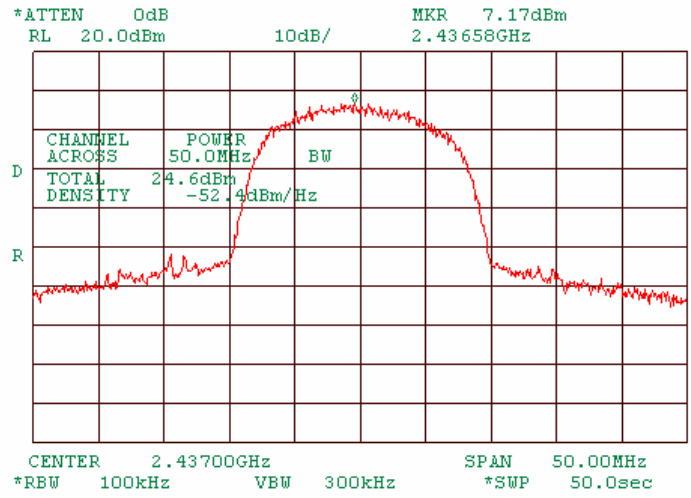
Plot 1.1.12 Peak output power at high frequency of MA 850, port 2. At 6Mbps OFDM.



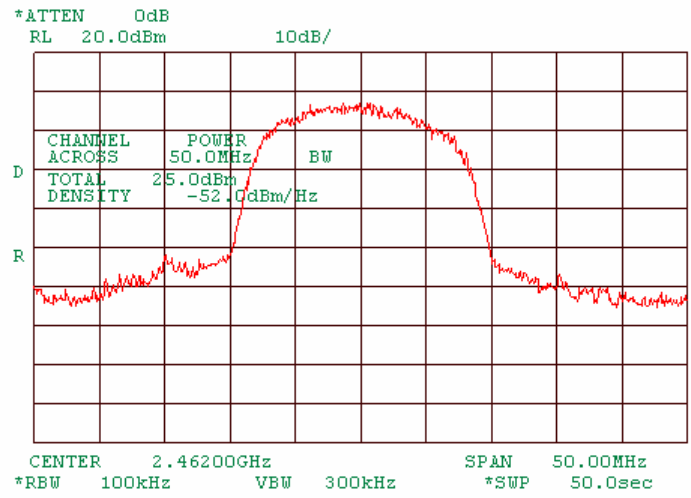
Plot 1.1.13 Peak output power at low frequency of MA 850, port 3. At 5.5Mbps DSSS.



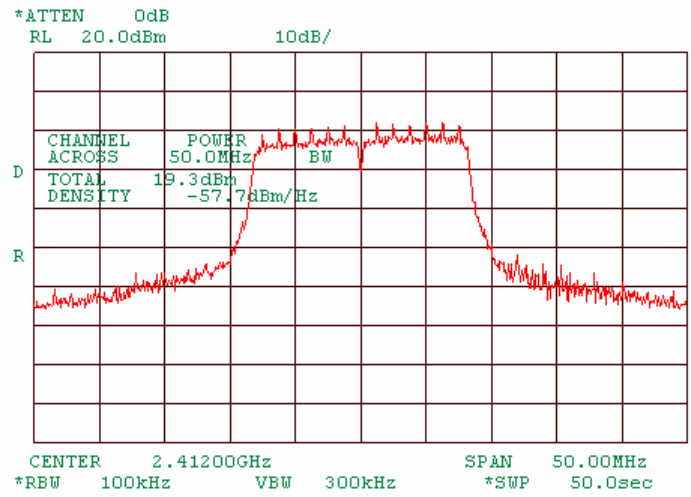
Plot 1.1.14 Peak output power at mid frequency of MA 850, port 3. At 5.5 Mbps DSSS.



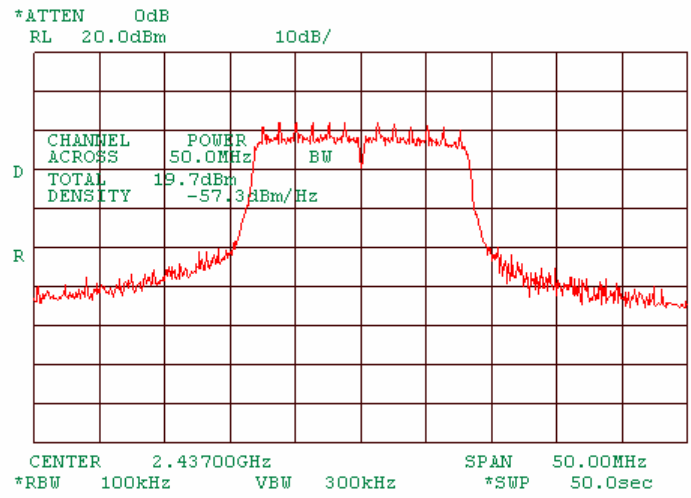
Plot 1.1.15 Peak output power at high frequency of MA 850, port 3. At 5.5Mbps DSSS.



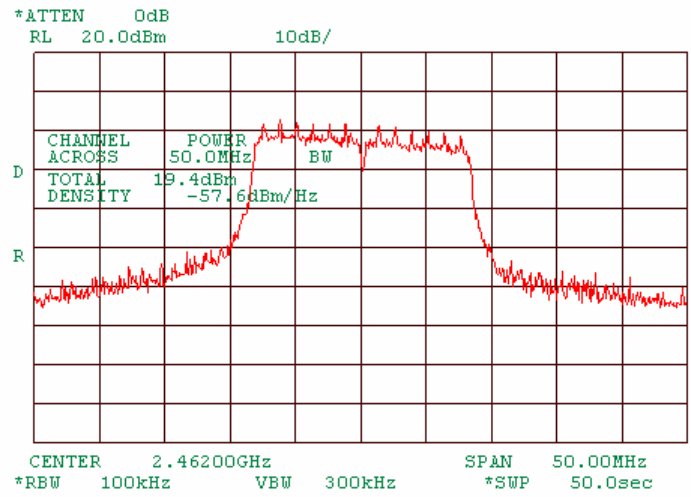
Plot 1.1.16 Peak output power at low frequency of MA 850, port 3. At 6Mbps OFDM.



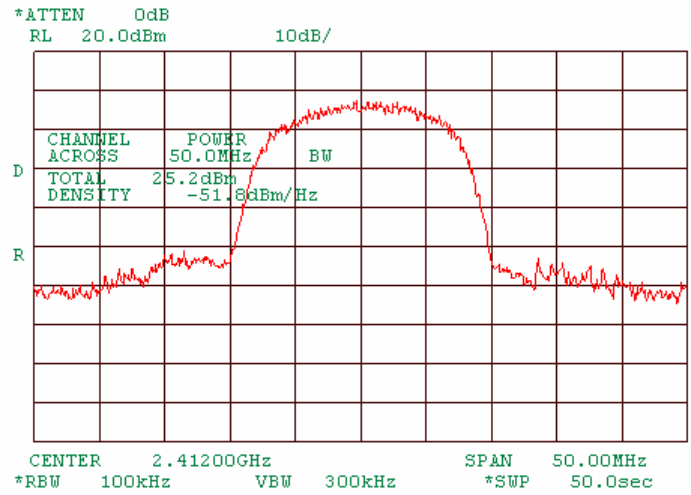
Plot 1.1.17 Peak output power at mid frequency of MA 850, port 3. At 6Mbps OFDM.



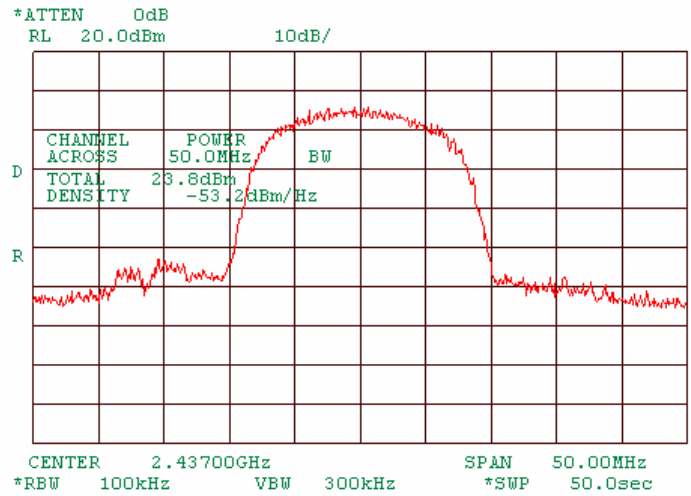
Plot 1.1.18 Peak output power at high frequency of MA 850. At 6Mbps OFDM.



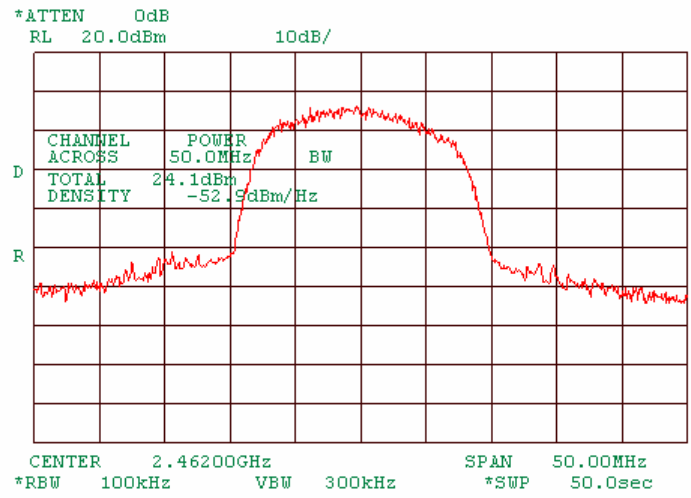
Plot 1.1.19 Peak output power at low frequency of MA 850, port 4. At 5.5Mbps DSSS.



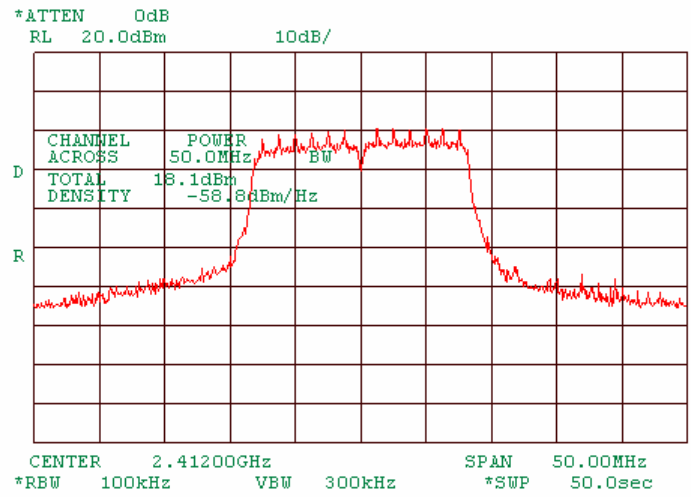
Plot 1.1.20 Peak output power at mid frequency of MA 850, port 4. At 5.5Mbps DSSS.



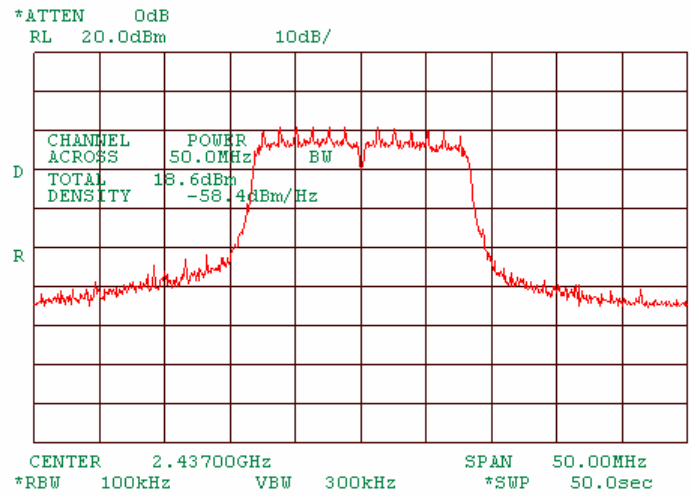
Plot 1.1.21 Peak output power at high frequency of MA 850, port 4. At 5.5Mbps DSSS.



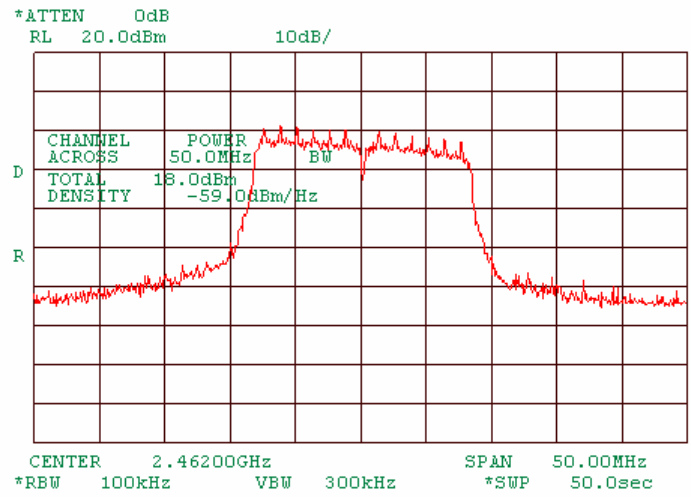
Plot 1.1.22 Peak output power at low frequency of MA 850, port 4. At 6Mbps OFDM.



Plot 1.1.23 Peak output power at mid frequency of MA 850, port 4. At 6Mbps OFDM.

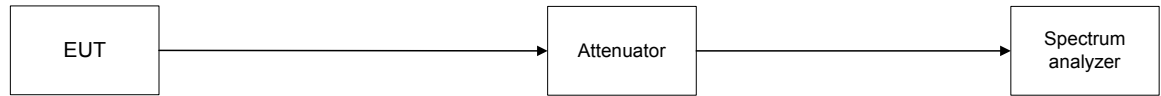


Plot 1.1.24 Peak output power at high frequency of MA 850, port 4. At 6Mbps OFDM.



1.2 Peak output power

Figure 1.2.1 Peak output power test setup



Photograph 1.2.1 Peak output power test setup

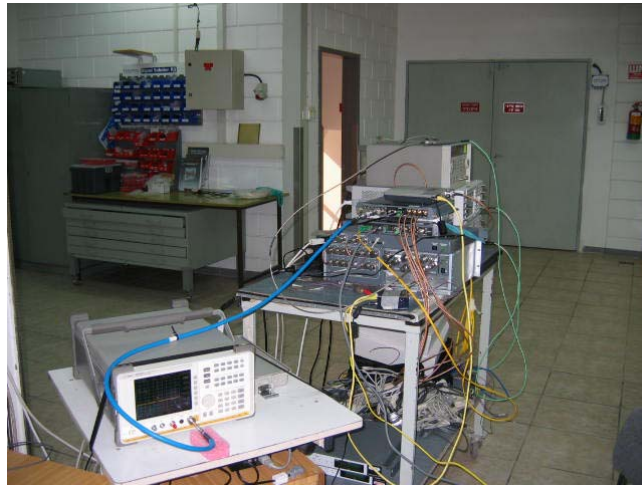


Table 1.2.1 Peak output power test results

ASSIGNED FREQUENCY: 2401 - 2473 MHz
 ASSEMBLY MA 850, MA 1000 (Cell 800 mode)
 MA 1000 SETTINGS Transmit at 869.0125 and 893.9875 MHz
 TRANSMITTER OUTPUT POWER SETTINGS: Maximum
 DETECTOR USED: Peak
 CHANNEL POWER BANDWIDTH 50 MHz
 RESOLUTION BANDWIDTH: 100 kHz
 VIDEO BANDWIDTH: 300 kHz

Carrier frequency, MHz	Modulating signal	Bit rate, Mbps	Port	Peak output power, dBm	Limit, dBm	Margin*, dB	Verdict
DSSS							
2412	CCK	5.5	2	26.1	30	-4.0	Pass
2437				26.6	30	-3.4	Pass
2462				25.6	30	-4.4	Pass
OFDM							
2412	BPSK	6	2	19.8	30	-10.2	Pass
2437				20.3	30	-9.7	Pass
2462				20.1	30	-9.9	Pass

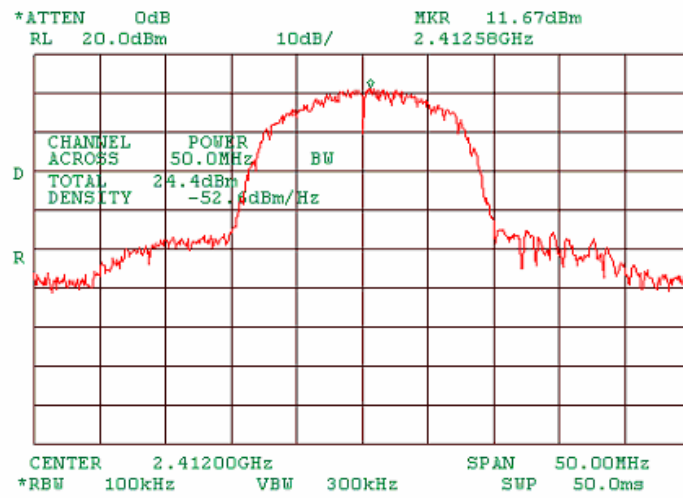
* - Margin = Peak output power – specification limit.

Reference numbers of test equipment used

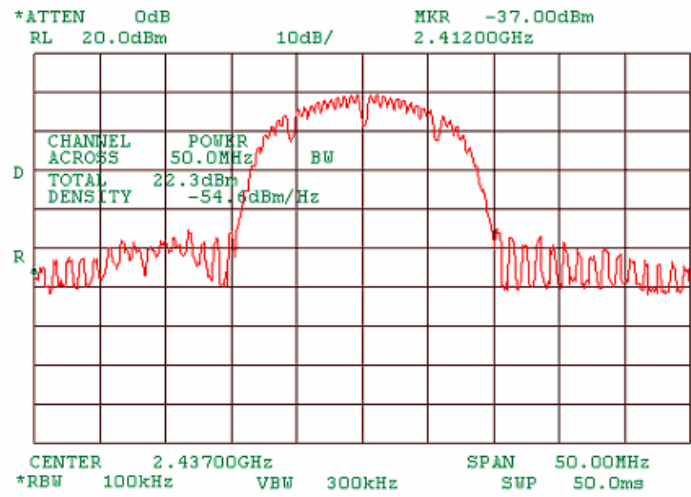
HL 1424	HL 2399	HL 2524					
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Full description is given in Appendix A.

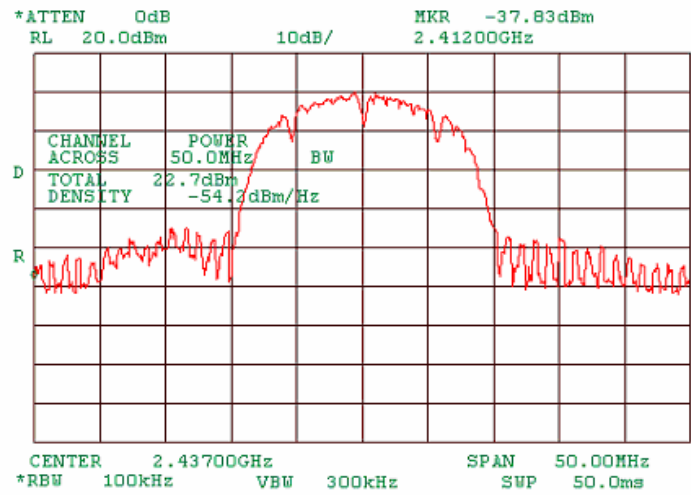
Plot 1.2.1 Peak output power at low frequency of MA 850 and MA 1000 interconnected, port 1. At 5.5Mbps DSSS.



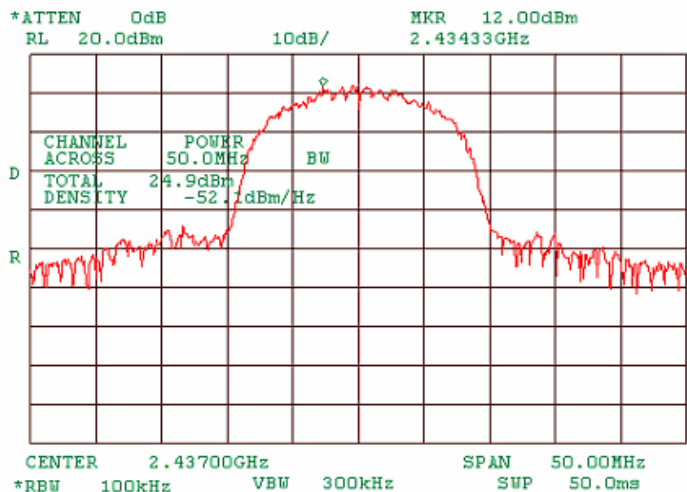
Plot 1.2.2 Peak output power at mid frequency of MA 850 and MA 1000 interconnected, port 1. At 1Mbps DSSS.



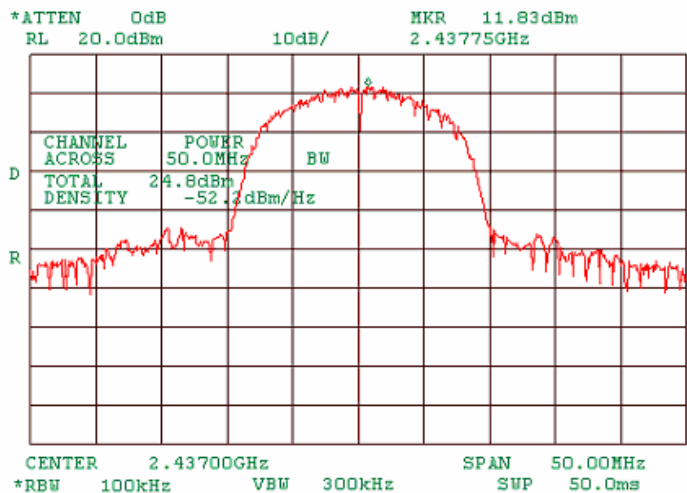
Plot 1.2.3 Peak output power at mid frequency of MA 850 and MA 1000 interconnected, port 1. At 2Mbps DSSS.



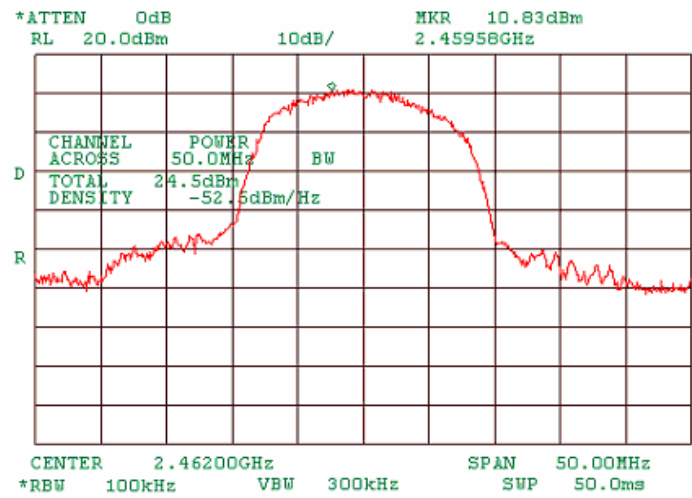
Plot 1.2.4 Peak output power at low frequency of MA 850 and MA 1000 interconnected, port 1. At 5.5Mbps DSSS.



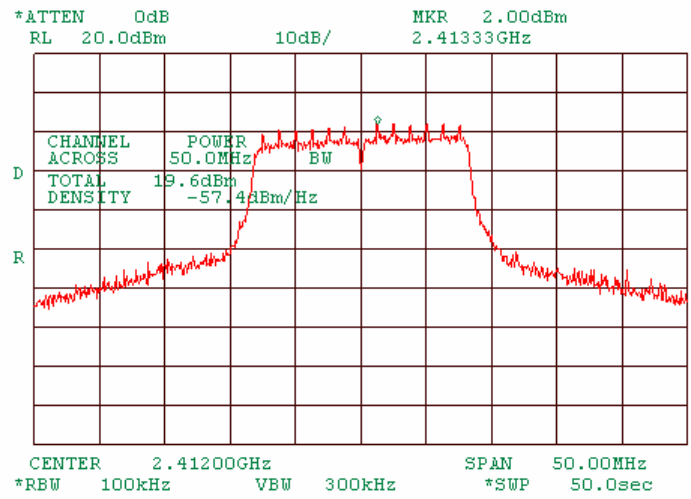
Plot 1.2.5 Peak output power at low frequency of MA 850 and MA 1000 interconnected, port 1. At 11Mbps DSSS.



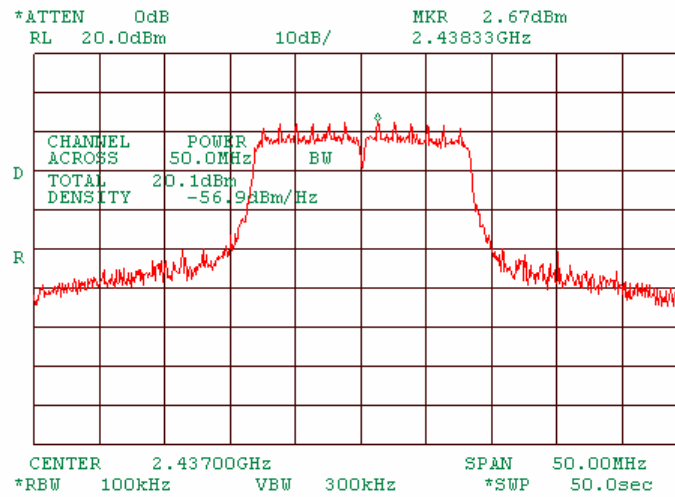
Plot 1.2.6 Peak output power at high frequency of MA 850 and MA 1000 interconnected, port 1. At 5.5Mbps DSSS.



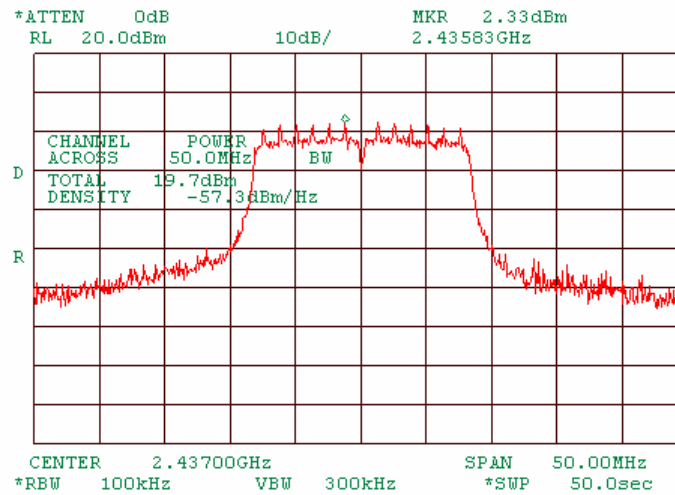
Plot 1.2.7 Peak output power at low frequency of MA 850 and MA 1000 interconnected, port 1. At 6 Mbps OFDM.



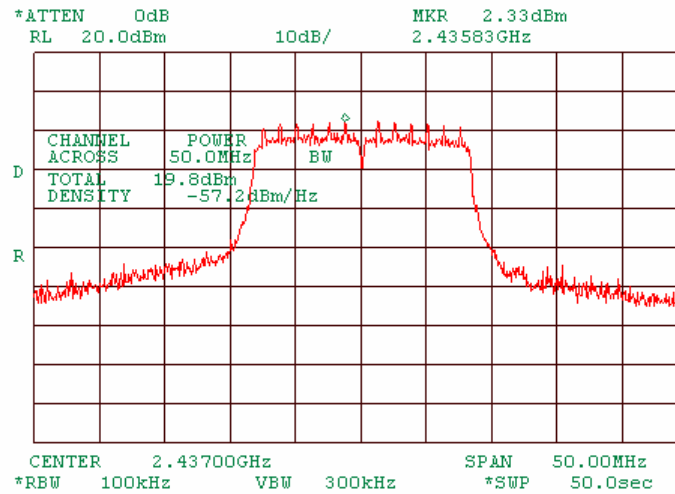
Plot 1.2.8 Peak output power at mid frequency of MA 850 and MA 1000 interconnected, port 1. At 6Mbps OFDM.



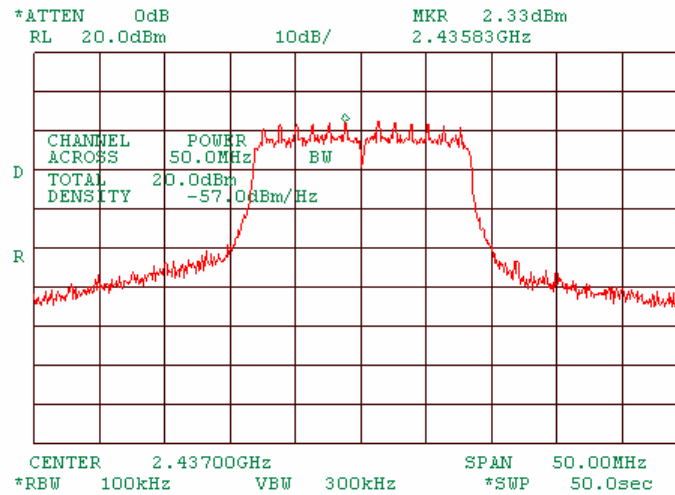
Plot 1.2.9 Peak output power at mid frequency of MA 850 and MA 1000 interconnected, port 1. At 9Mbps OFDM.



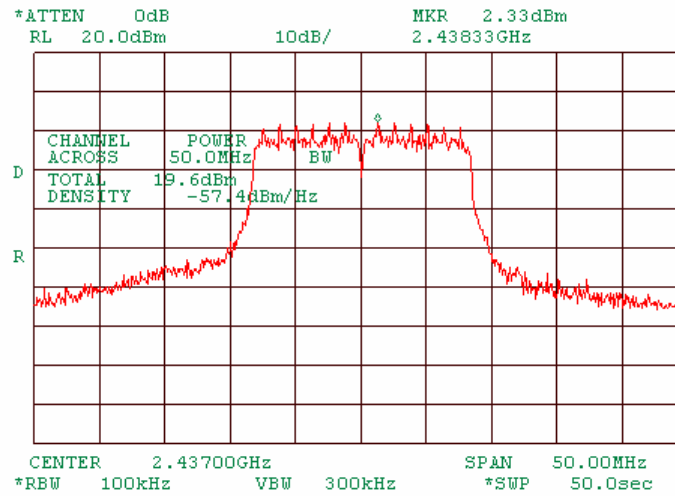
Plot 1.2.10 Peak output power at mid frequency of MA 850 and MA 1000 interconnected, port 1. At 12Mbps OFDM.



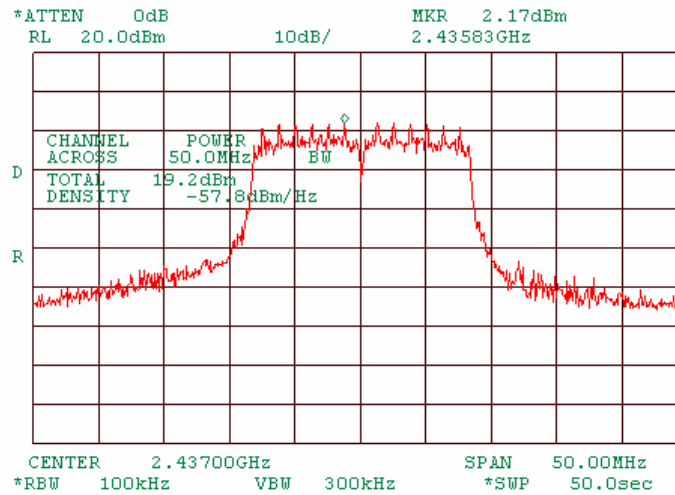
Plot 1.2.11 Peak output power at mid frequency of MA 850 and MA 1000 interconnected, port 1. At 18Mbps OFDM.



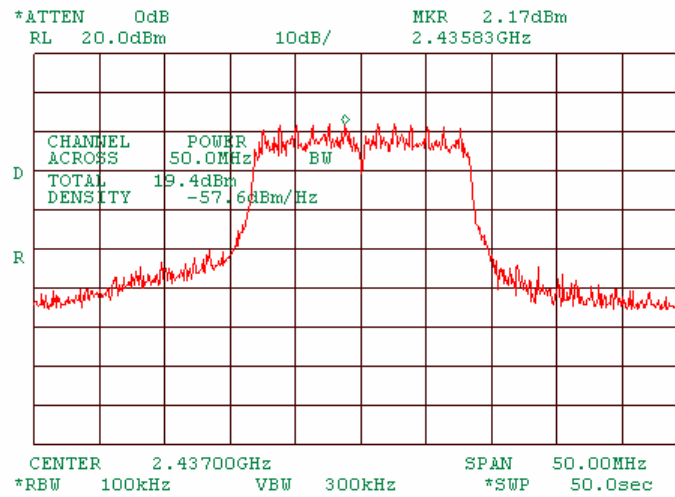
Plot 1.2.12 Peak output power at mid frequency of MA 850 and MA 1000 interconnected, port 1. At 24Mbps OFDM.



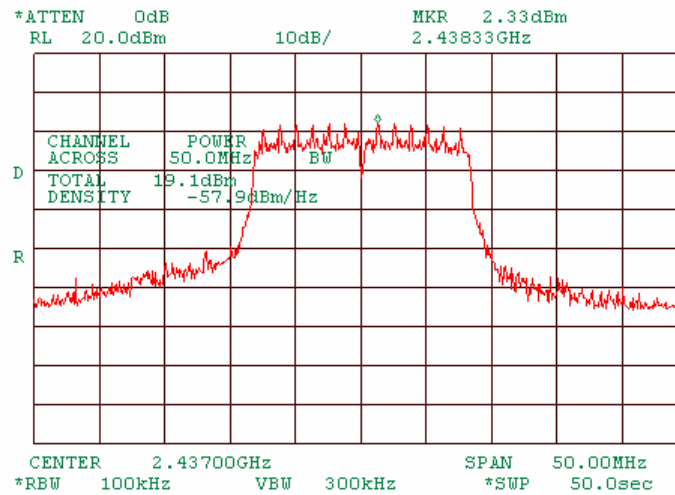
Plot 1.2.13 Peak output power at mid frequency of MA 850 and MA 1000 interconnected, port 1. At 36Mbps OFDM.



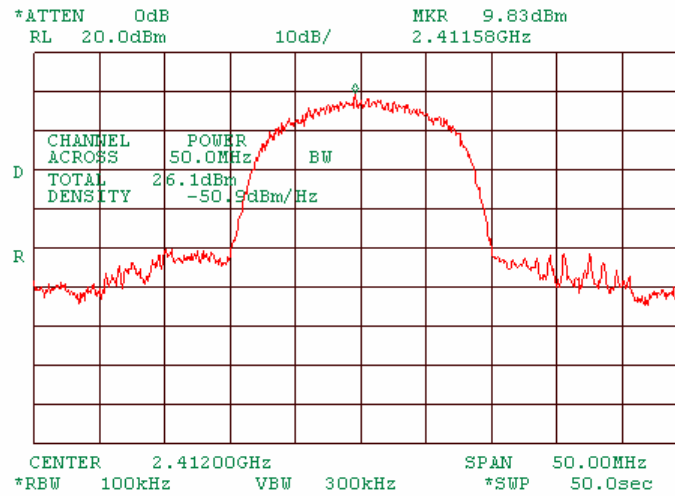
Plot 1.2.14 Peak output power at mid frequency of MA 850 and MA 1000 interconnected, port 1. At 48Mbps OFDM.



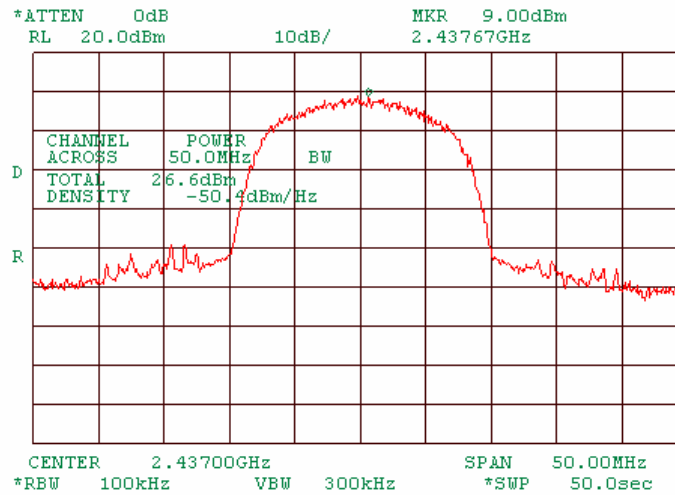
Plot 1.2.15 Peak output power at mid frequency of MA 850 and MA 1000 interconnected, port 1. At 54Mbps OFDM.



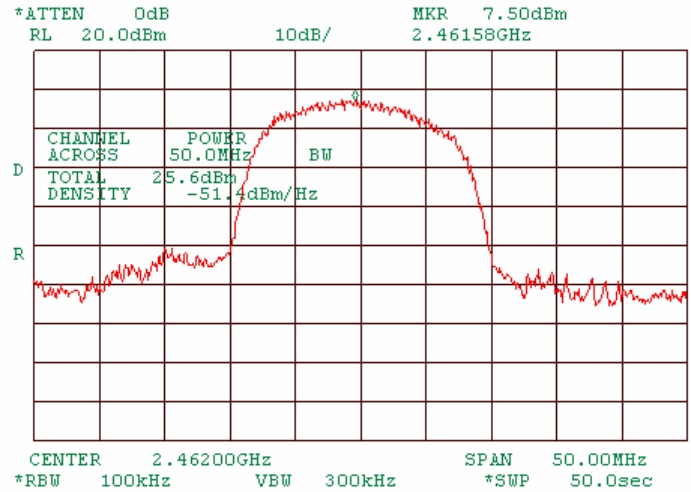
Plot 1.2.17 Peak output power at low frequency of MA 850 and MA 1000 interconnected, port 2. At 5.5Mbps DSSS.



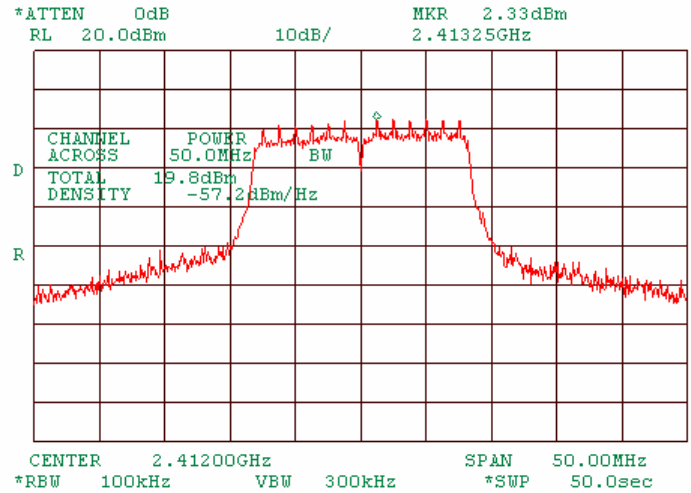
Plot 1.2.18 Peak output power at mid frequency of MA 850 and MA 1000 interconnected, port 2. At 5.5Mbps DSSS.



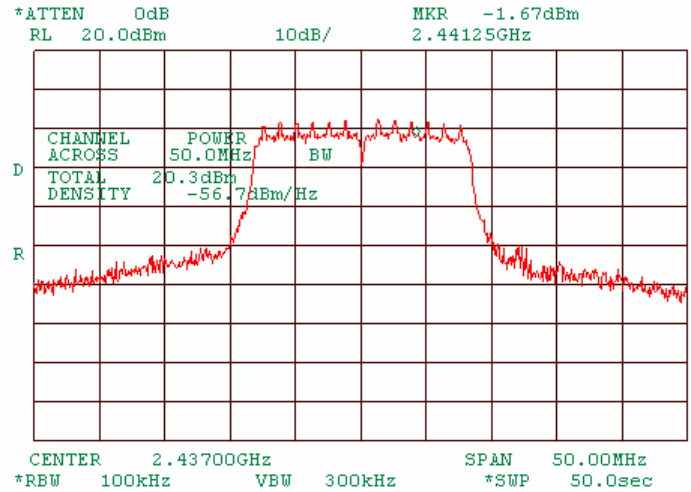
Plot 1.2.19 Peak output power at high frequency of MA 850 and MA 1000 interconnected, port 2. At 5.5Mbps DSSS.



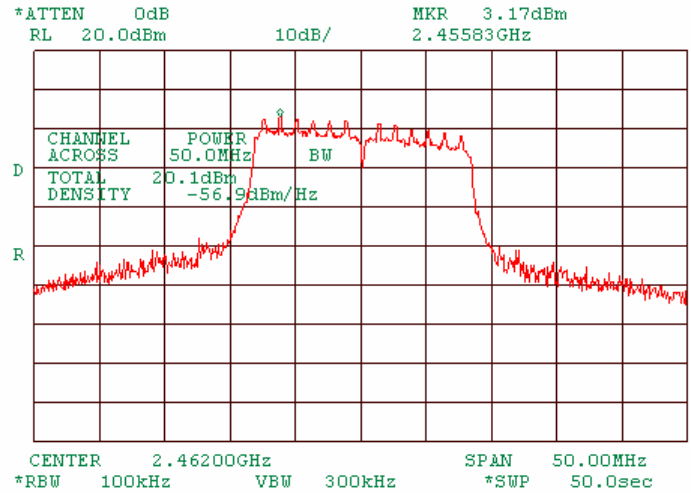
Plot 1.2.20 Peak output power at low frequency of MA 850 and MA 1000 interconnected, port 2. At 6Mbps OFDM.



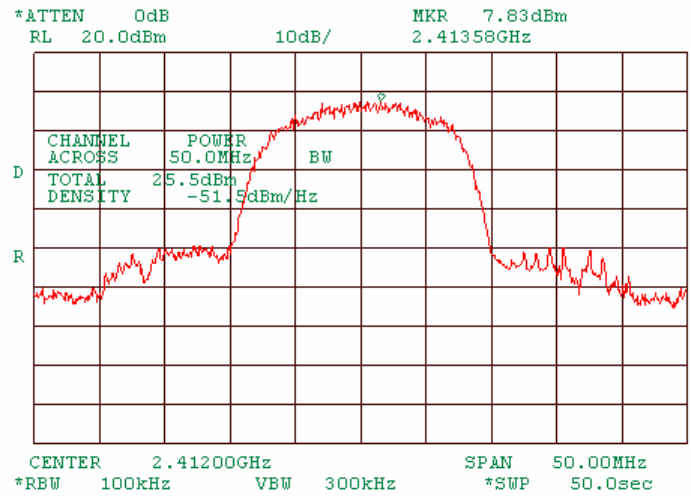
Plot 1.2.21 Peak output power at mid frequency of MA 850 and MA 1000 interconnected, port 2. At 6Mbps OFDM.



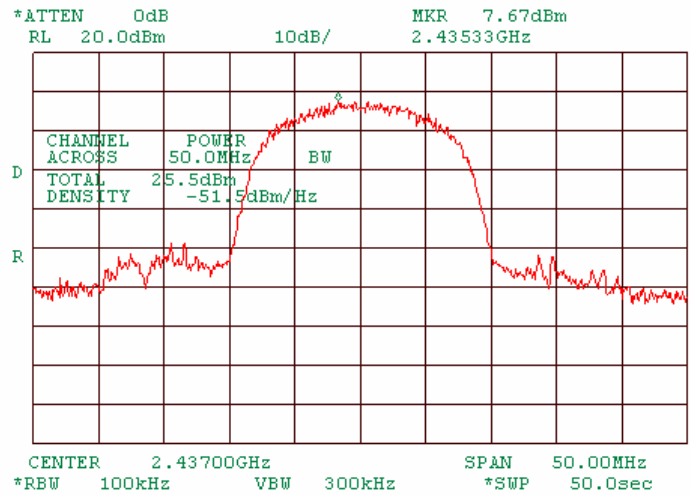
Plot 1.2.22 Peak output power at high frequency of MA 850 and MA 1000 interconnected, port 2. At 6Mbps OFDM.



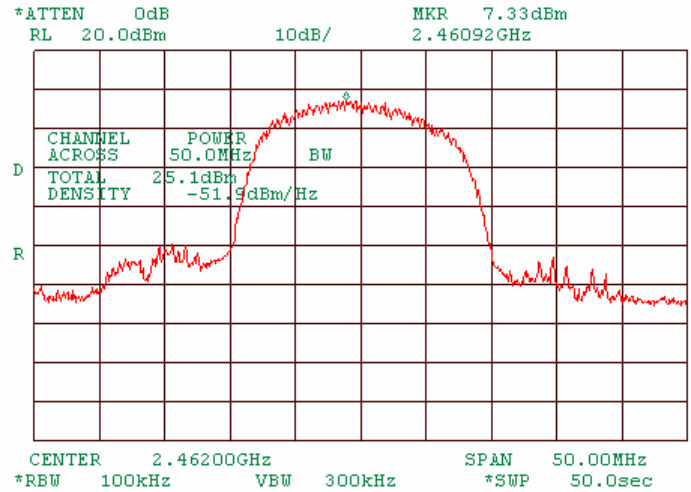
Plot 1.2.23 Peak output power at low frequency of MA 850 and MA 1000 interconnected, port 3. At 5.5Mbps DSSS.



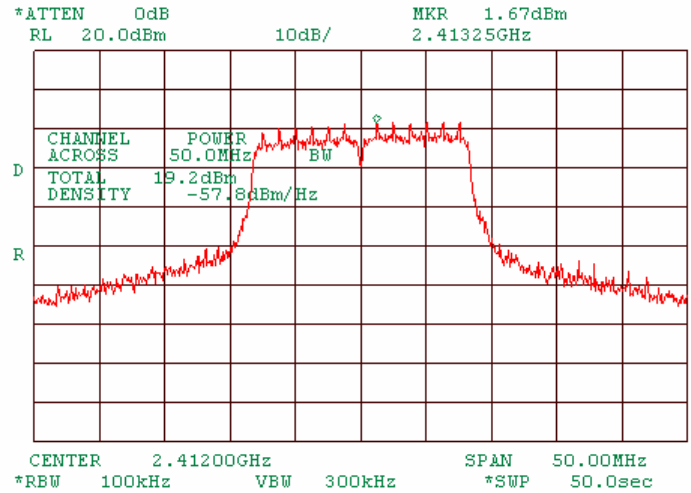
Plot 1.2.24 Peak output power at mid frequency of MA 850 and MA 1000 interconnected, port 3. At 5.5Mbps DSSS.



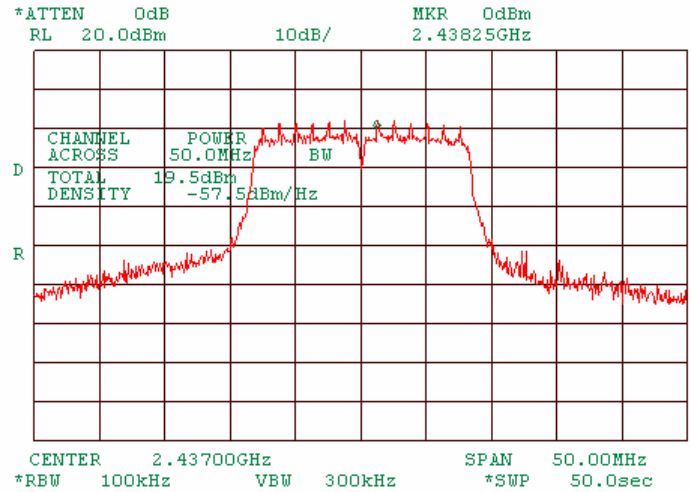
Plot 1.2.25 Peak output power at high frequency of MA 850 and MA 1000 interconnected, port 3. At 5.5Mbps DSSS.



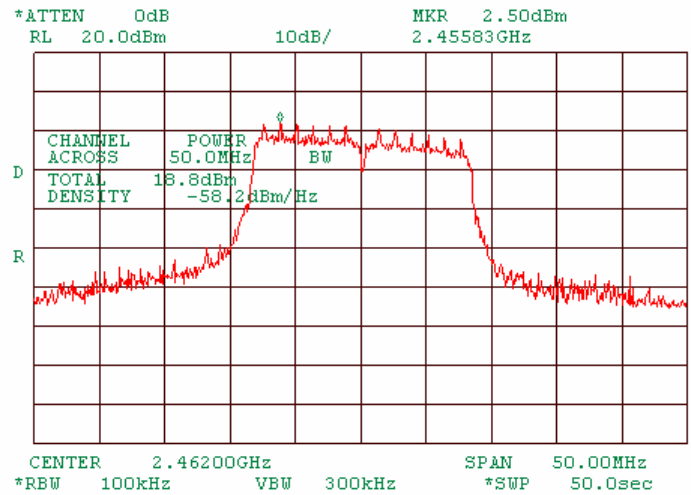
Plot 1.2.26 Peak output power at low frequency of MA 850 and MA 1000 interconnected, port 3. At 6Mbps OFDM.



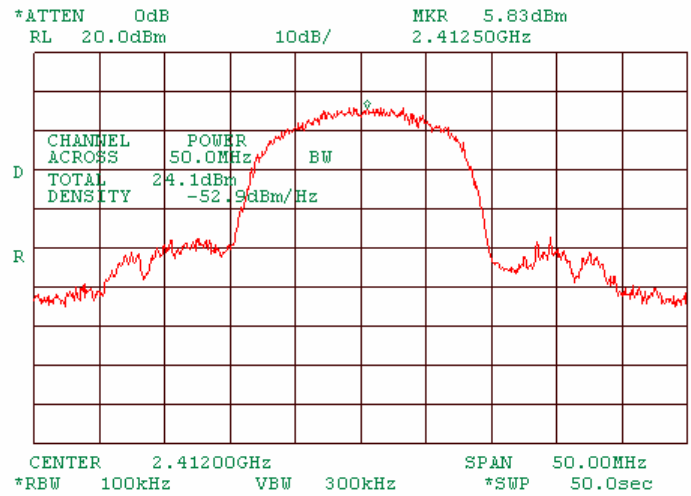
Plot 1.2.27 Peak output power at mid frequency of MA 850 and MA 1000 interconnected, port 3. At 6Mbps OFDM.



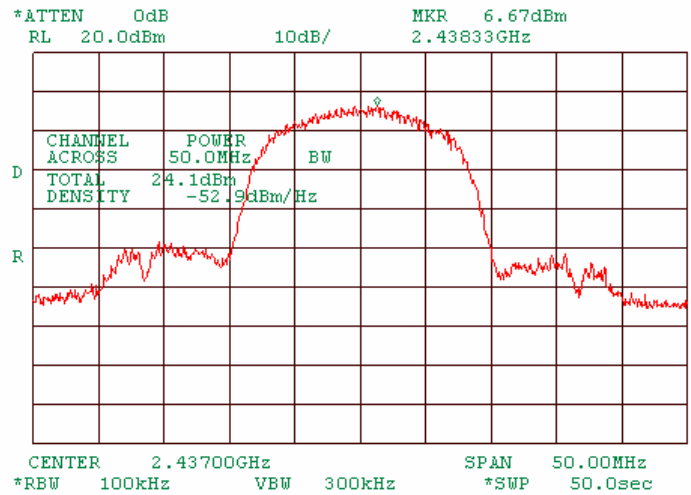
Plot 1.2.28 Peak output power at high frequency of MA 850 and MA 1000 interconnected, port 3. At 6Mbps OFDM.



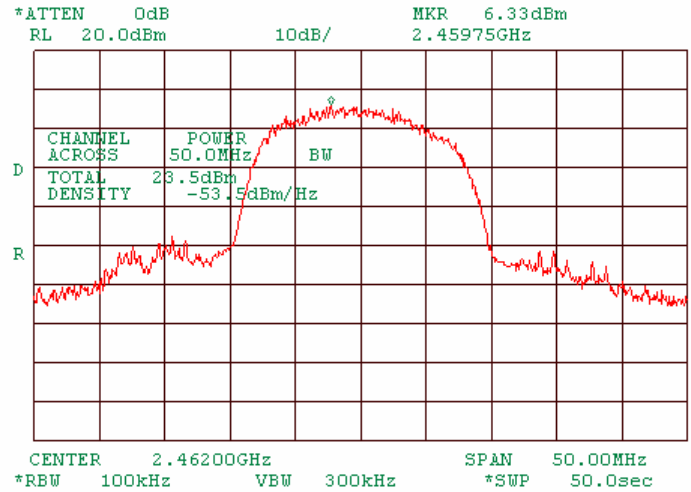
Plot 1.2.29 Peak output power at low frequency of MA 850 and MA 1000 interconnected, port 4. At 5.5Mbps DSSS.



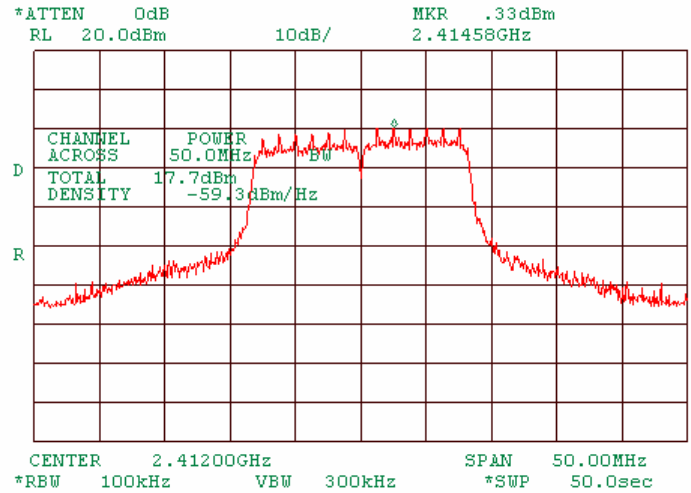
Plot 1.2.30 Peak output power at mid frequency of MA 850 and MA 1000 interconnected, port 4. At 5.5Mbps DSSS.



Plot 1.2.31 Peak output power at high frequency of MA 850 and MA 1000 interconnected, port 4. At 5.5Mbps DSSS.

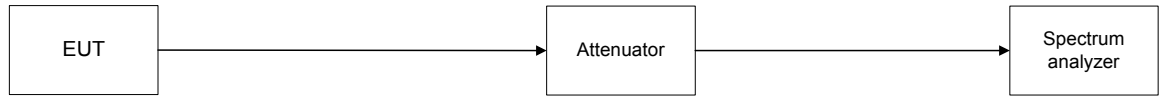


Plot 1.2.32 Peak output power at low frequency of MA 850 and MA 1000 interconnected, port 4. At 6Mbps OFDM.



1.3 Peak output power

Figure 1.3.1 Peak output power test setup



Photograph 1.3.1 Peak output power test setup



Table 1.3.1 Peak output power test results

ASSIGNED FREQUENCY: 2401 - 2473 MHz
 ASSEMBLY: MA 850, MA 1000 (PCS 1900 mode)
 MA 1000 SETTINGS: Transmit at 1930.0125 and 1989.9875 MHz
 TRANSMITTER OUTPUT POWER SETTINGS: Maximum
 DETECTOR USED: Peak
 CHANNEL POWER BANDWIDTH: 50 MHz
 RESOLUTION BANDWIDTH: 100 kHz
 VIDEO BANDWIDTH: 300 kHz

Carrier frequency, MHz	Modulating signal	Bit rate, Mbps	Port	Peak output power, dBm	Limit, dBm	Margin*, dB	Verdict
DSSS							
2412	CCK	5.5	2	26.6	30	-3.4	Pass
2437				25.2	30	-4.8	Pass
2462				26.4	30	-3.6	Pass
OFDM							
2412	BPSK	6	2	19.9	30	-10.1	Pass
2437				20.2	30	-9.8	Pass
2462				19.3	30	-10.7	Pass

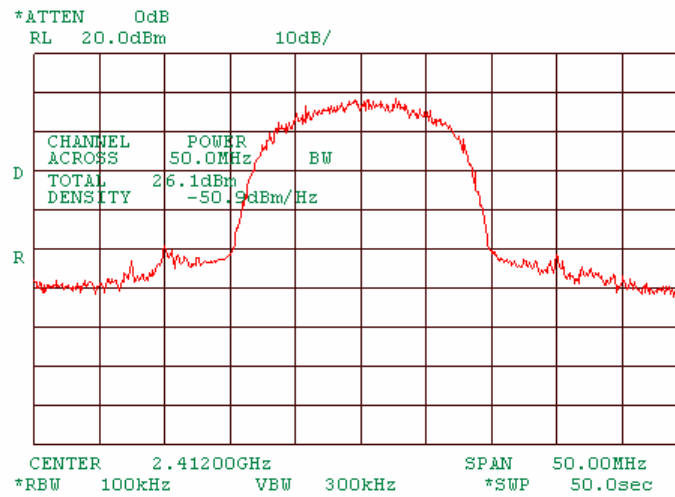
* - Margin = Peak output power – specification limit.

Reference numbers of test equipment used

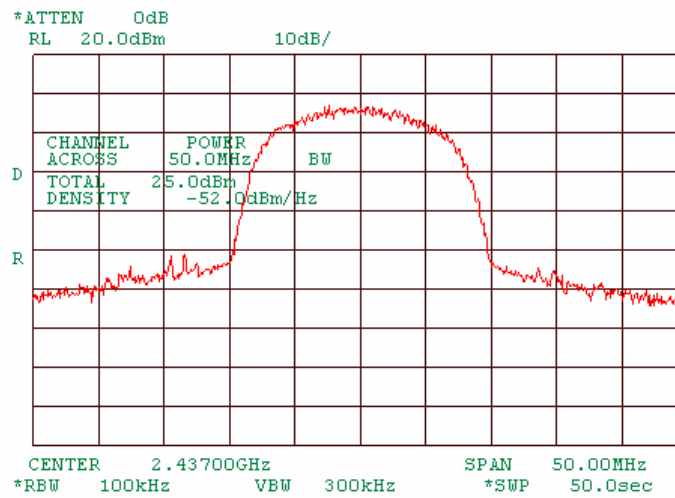
HL 1424	HL 1651	HL 2399					
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Full description is given in Appendix A.

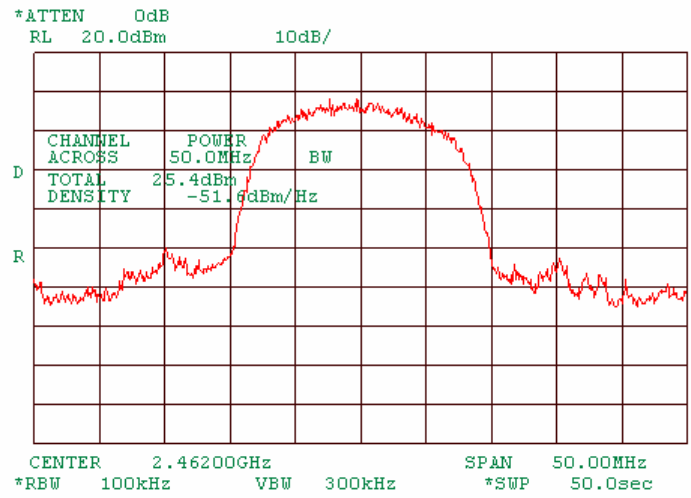
Plot 1.3.1 Peak output power at low frequency of MA 850 and MA 1000 interconnected, port 1. At 5.5Mbps DSSS.



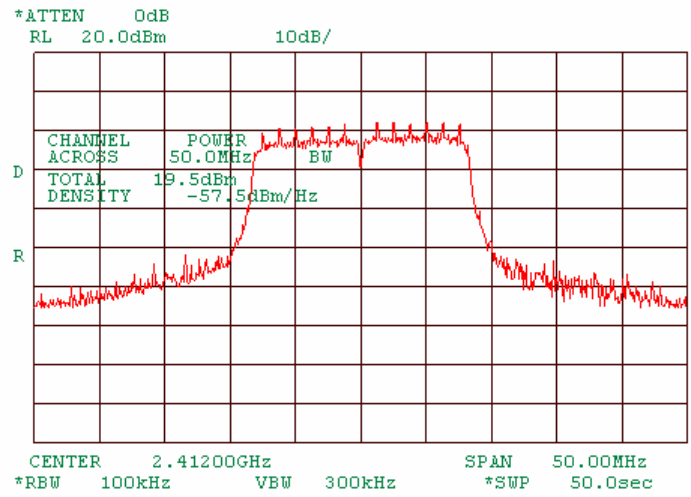
Plot 1.3.2 Peak output power at mid frequency of MA 850 and MA 1000 interconnected, port 1. At 5.5Mbps DSSS.



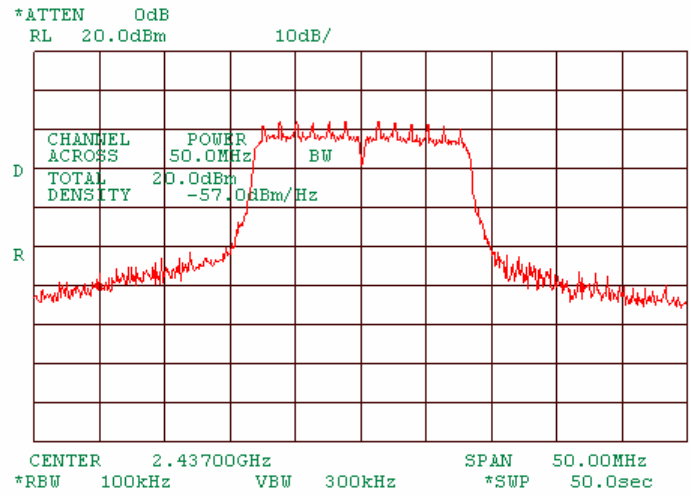
Plot 1.3.3 Peak output power at high frequency of MA 850 and MA 1000 interconnected, port 1. At 5.5Mbps DSSS.



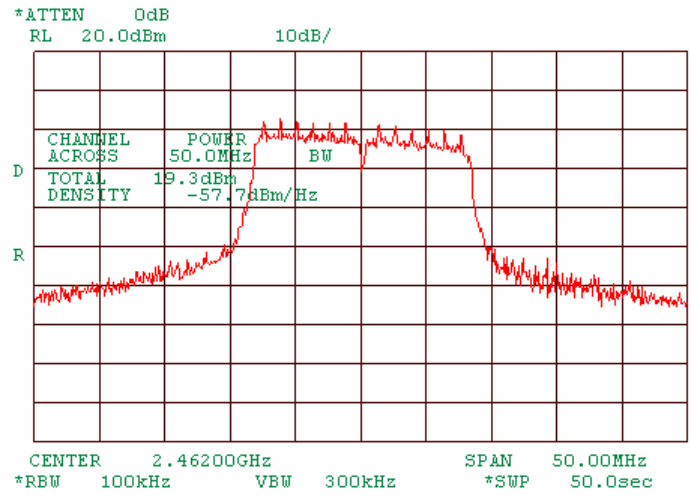
Plot 1.3.4 Peak output power at low frequency of MA 850 and MA 1000 interconnected, port 1. At 6 Mbps OFDM.



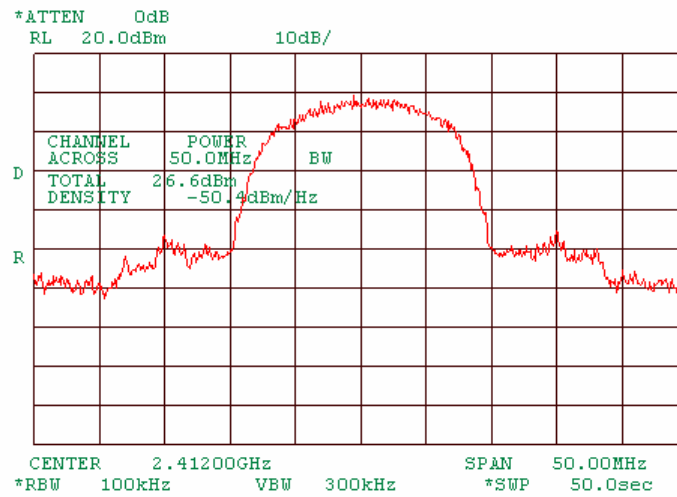
Plot 1.3.5 Peak output power at mid frequency of MA 850 and MA 1000 interconnected, port 1. At 6Mbps OFDM.



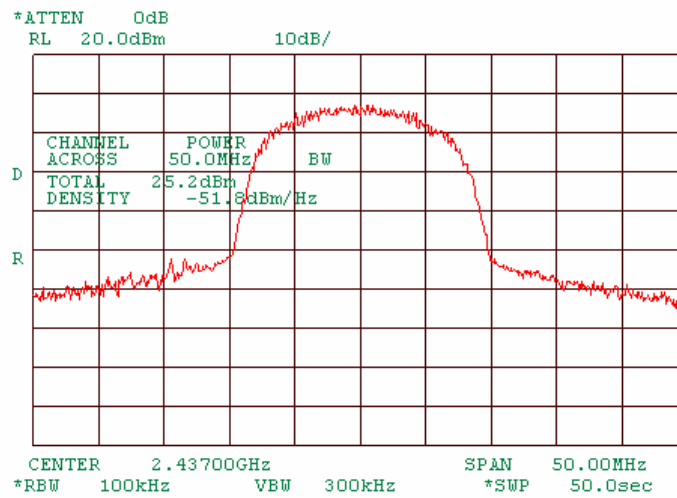
Plot 1.3.6 Peak output power at high frequency of MA 850 and MA 1000 interconnected, port 1. At 6 Mbps OFDM.



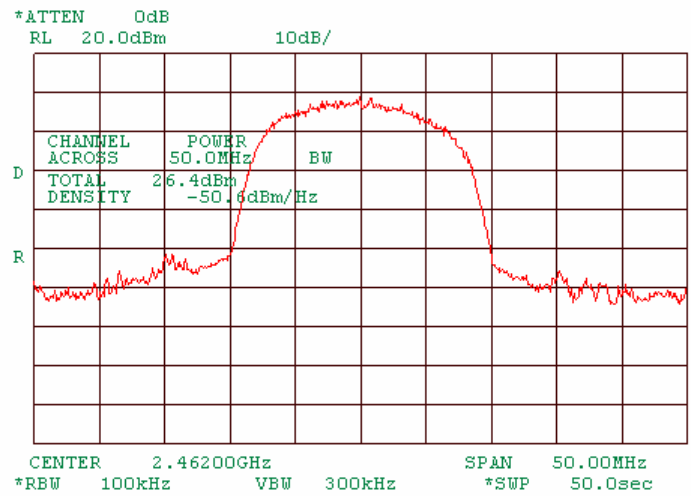
Plot 1.3.7 Peak output power at low frequency of MA 850 and MA 1000 interconnected, port 2. At 5.5Mbps DSSS.



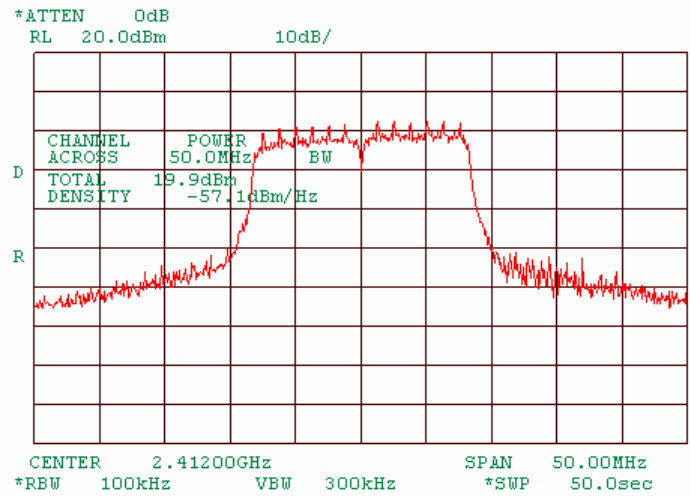
Plot 1.3.8 Peak output power at mid frequency of MA 850 and MA 1000 interconnected, port 2. At 5.5Mbps DSSS.



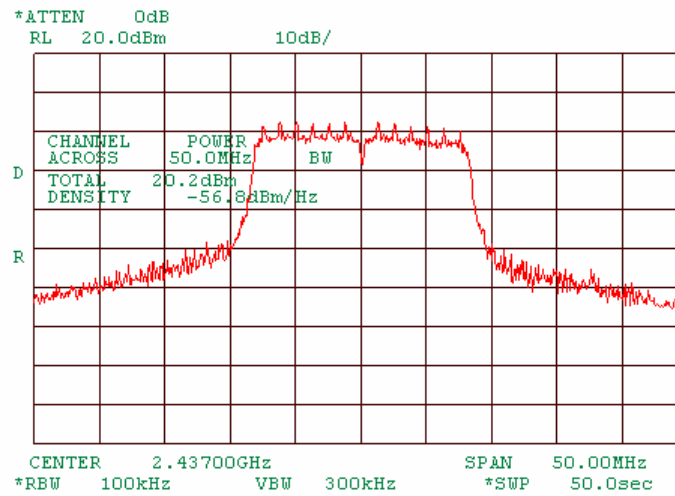
Plot 1.3.9 Peak output power at high frequency of MA 850 and MA 1000 interconnected, port 2. At 5.5Mbps DSSS.



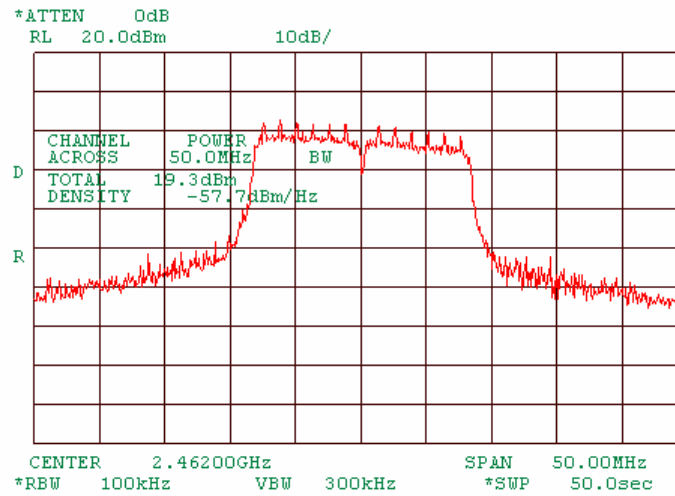
Plot 1.3.10 Peak output power at low frequency of MA 850 and MA 1000 interconnected, port 2. At 6Mbps OFDM.



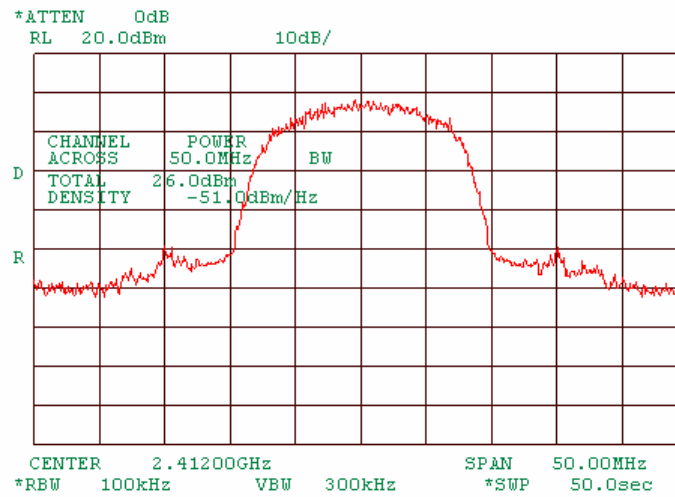
Plot 1.3.11 Peak output power at mid frequency of MA 850 and MA 1000 interconnected, port 2. At 6Mbps OFDM.



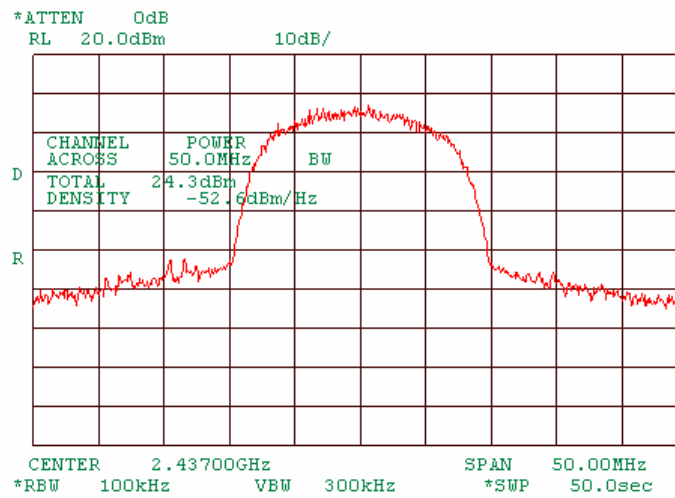
Plot 1.3.12 Peak output power at high frequency of MA 850 and MA 1000 interconnected, port 2. At 6Mbps OFDM.



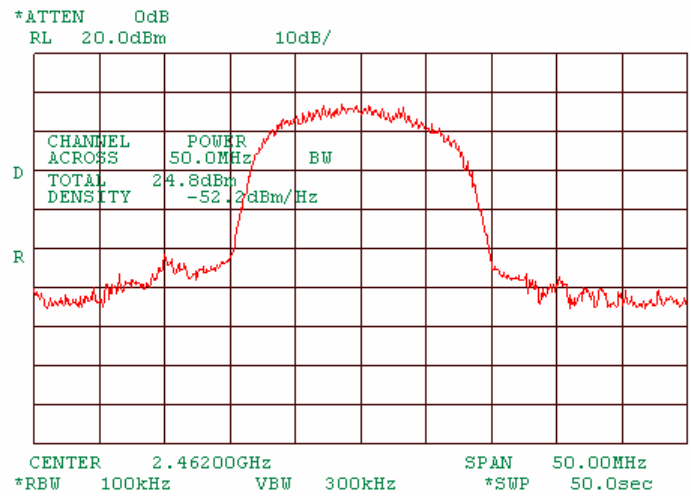
Plot 1.3.13 Peak output power at low frequency of MA 850 and MA 1000 interconnected, port 3. At 5.5Mbps DSSS.



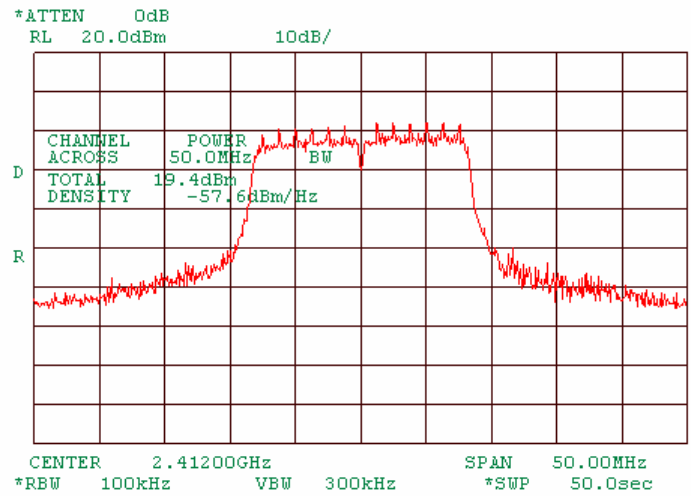
Plot 1.3.14 Peak output power at mid frequency of MA 850 and MA 1000 interconnected, port 3. At 5.5 Mbps DSSS.



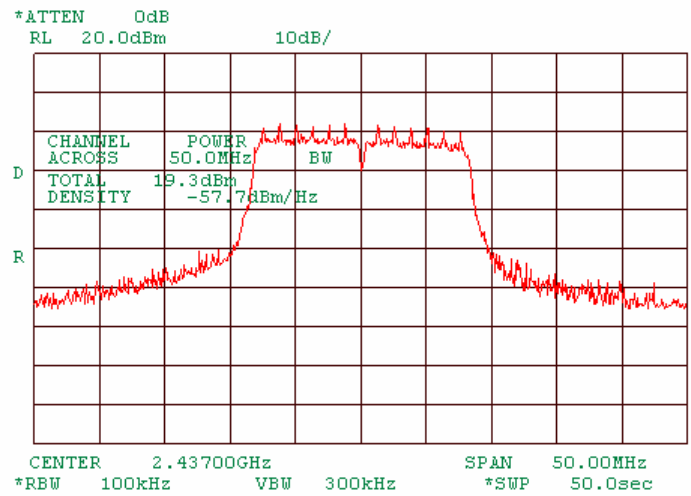
Plot 1.3.15 Peak output power at high frequency of MA 850 and MA 1000 interconnected, port 3. At 5.5Mbps DSSS.



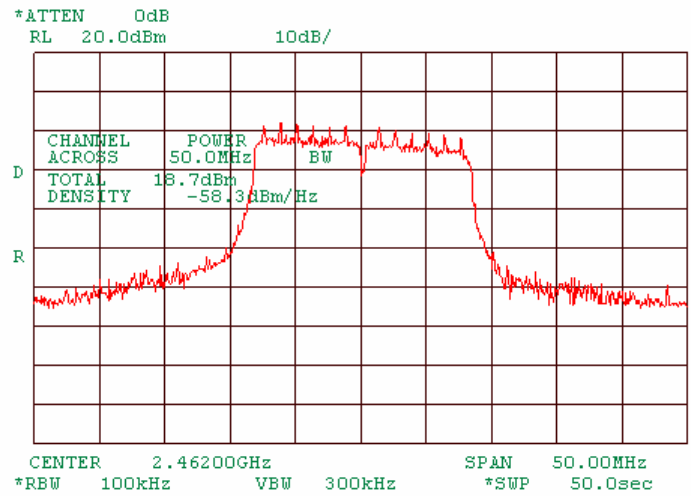
Plot 1.3.16 Peak output power at low frequency of MA 850 and MA 1000 interconnected, port 3. At 6Mbps OFDM.



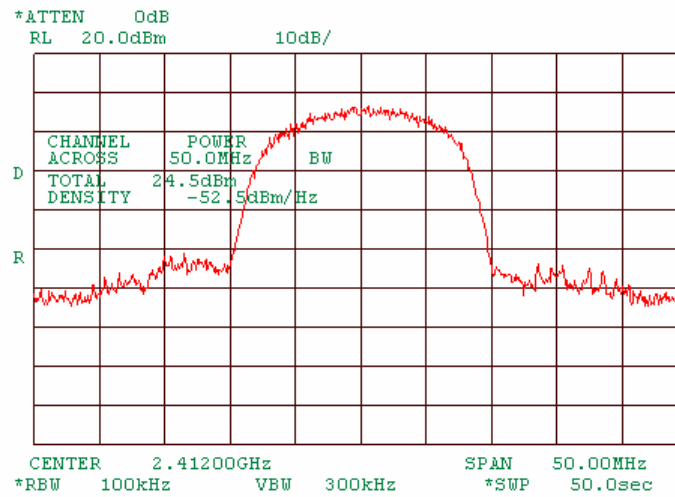
Plot 1.3.17 Peak output power at mid frequency of MA 850 and MA 1000 interconnected, port 3. At 6Mbps OFDM.



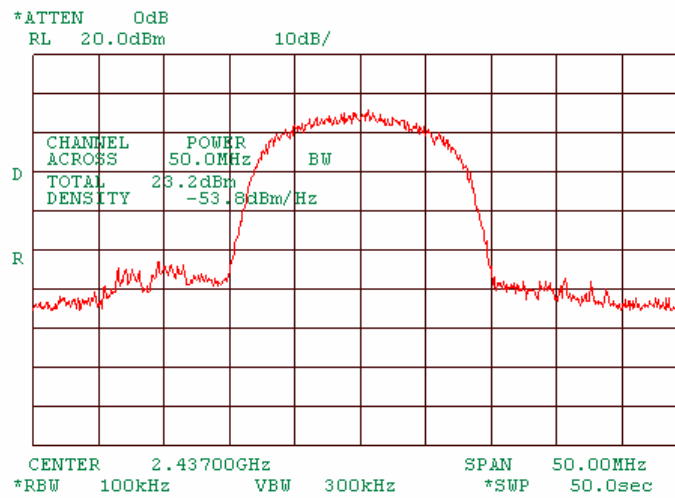
Plot 1.3.18 Peak output power at high frequency of MA 850 and MA 1000 interconnected, port 3. At 6Mbps OFDM.



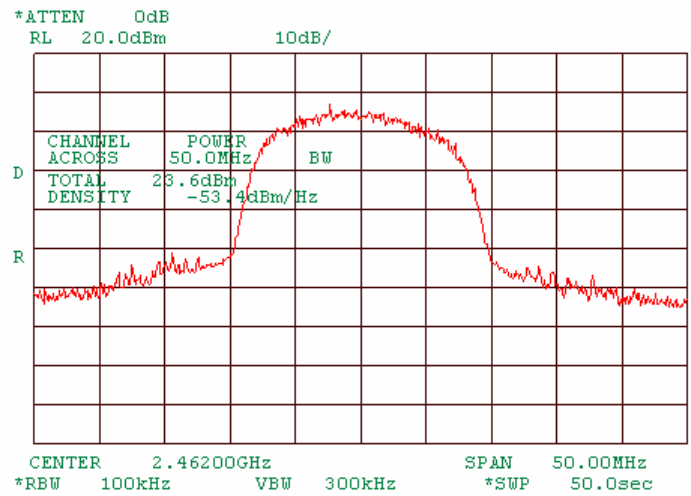
Plot 1.3.19 Peak output power at low frequency of MA 850 and MA 1000 interconnected, port 4. At 5.5Mbps DSSS.



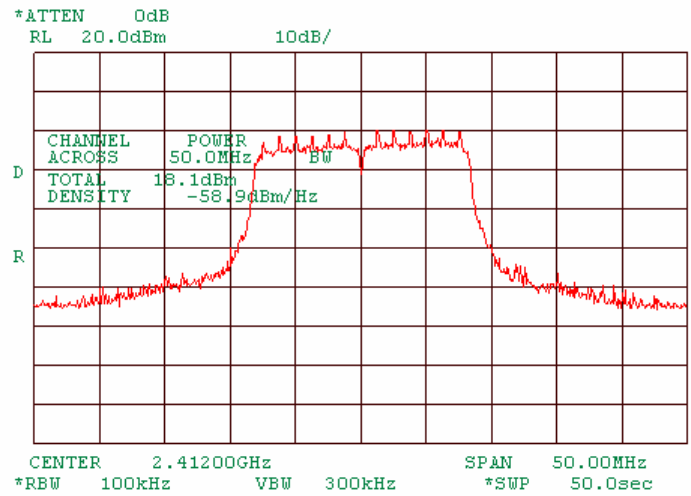
Plot 1.3.20 Peak output power at mid frequency of MA 850 and MA 1000 interconnected, port 4. At 5.5Mbps DSSS.



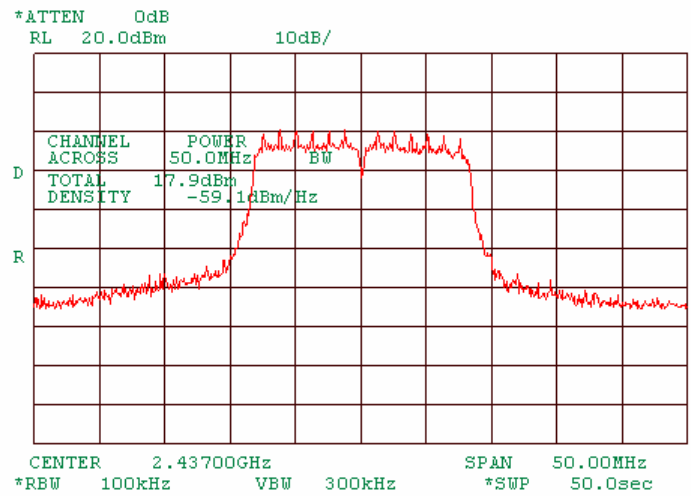
Plot 1.3.21 Peak output power at high frequency of MA 850 and MA 1000 interconnected, port 4. At 5.5Mbps DSSS.



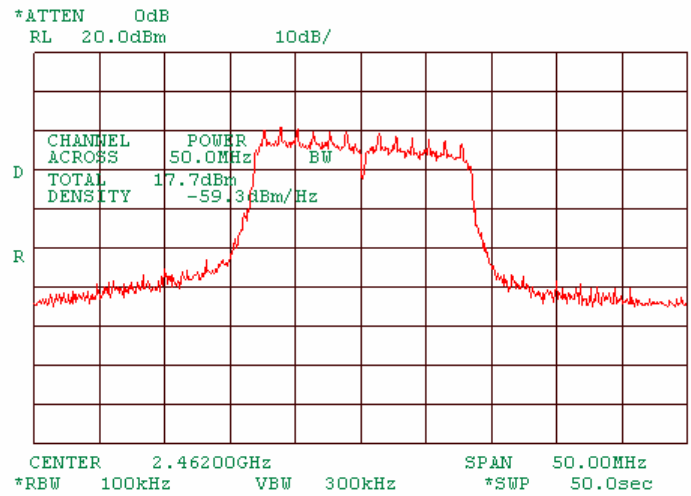
Plot 1.3.22 Peak output power at low frequency of MA 850 and MA 1000 interconnected, port 4. At 6Mbps OFDM.



Plot 1.3.23 Peak output power at mid frequency of MA 850 and MA 1000 interconnected, port 4. At 6Mbps OFDM.



Plot 1.3.24 Peak output power at high frequency of MA 850 and MA 1000 interconnected, port 4. At 6Mbps OFDM.



2 Transmitter tests according to 47CFR part 15 subpart C requirements and 99% power bandwidth

Figure 1: 6 dB bandwidth test setup



Photograph 1: 6 dB bandwidth test setup

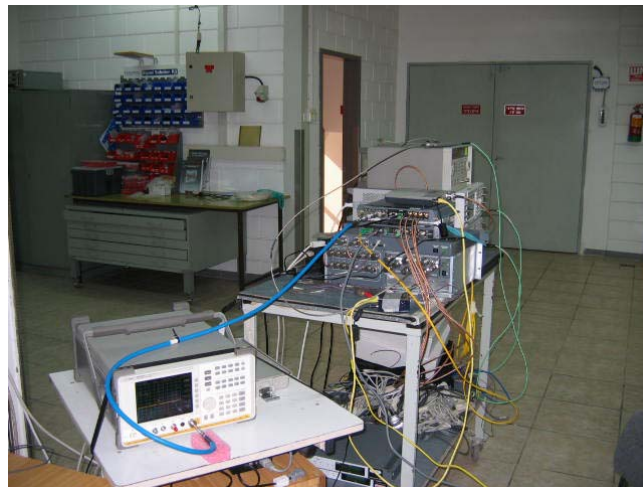


Table 1: 6 dB bandwidth test results

ASSIGNED FREQUENCY BAND: 2400 – 2483.5 MHz
 ASSEMBLY MA 850
 PORT: 2
 DETECTOR USED: Peak
 SWEEP MODE: Single
 SWEEP TIME: Auto
 RESOLUTION BANDWIDTH: 100 kHz
 VIDEO BANDWIDTH: 300 kHz
 MODULATION ENVELOPE REFERENCE 6.0 dBc
 POINTS:
 MODULATION: DSSS
 MODULATING SIGNAL: BPSK
 BIT RATE: 1, 11 Mbps

Carrier frequency, MHz	6 dB bandwidth, MHz	Limit, kHz	Margin, kHz	Verdict
Low frequency				
2412.0	10.25	>500	9.75	Pass
Mid frequency				
2437.0	10.25	>500	9.75	Pass
High frequency				
2462.0	10.25	>500	9.75	Pass

MODULATION: OFDM
 MODULATING SIGNAL: BPSK
 BIT RATE: 6, 54 Mbps

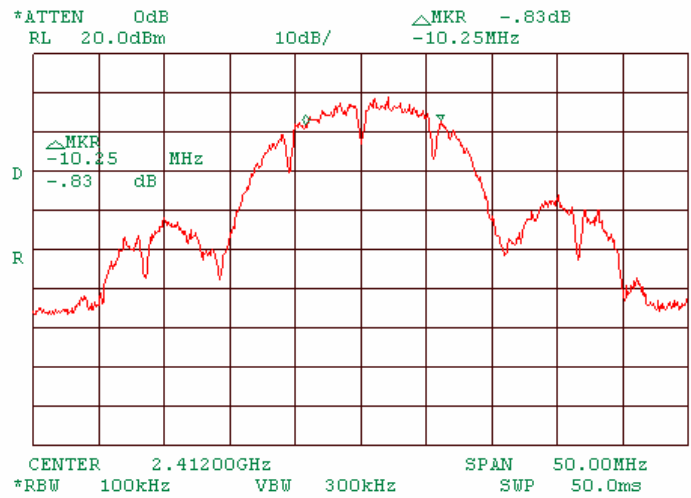
Carrier frequency, MHz	6 dB bandwidth, MHz	Limit, kHz	Margin, kHz	Verdict
Low frequency				
2412.0	16.08	>500	15.58	Pass
Mid frequency				
2437.0	16.42	>500	15.92	Pass
High frequency				
2462.0	15.92	>500	15.42	Pass

Reference numbers of test equipment used

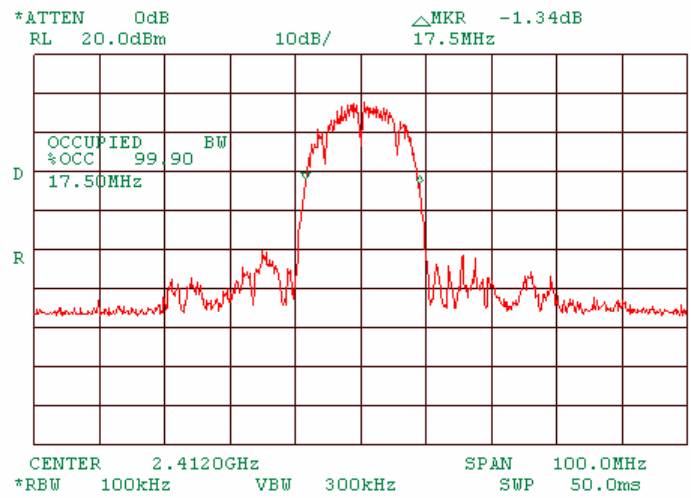
HL 1424	HL 1651	HL 2399						
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Full description is given in Appendix A.

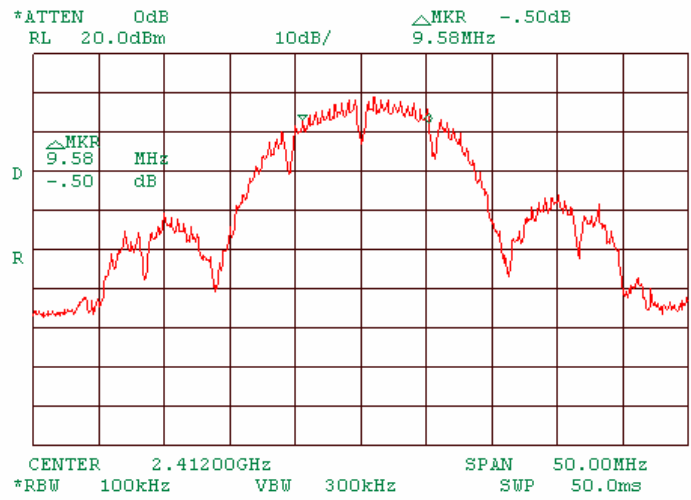
Plot 1: 6 dB bandwidth test result at low frequency of MA 850 stands alone. At 1 Mbps DSSS.



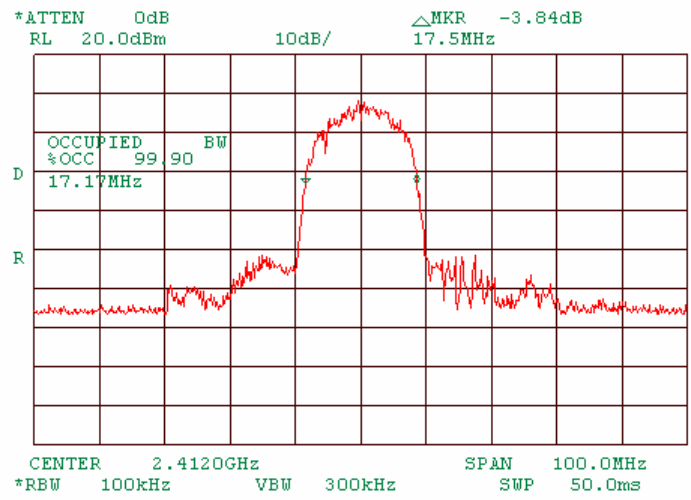
Plot 2: 99% power bandwidth test result at low frequency of MA 850 stands alone. At 1 Mbps DSSS.



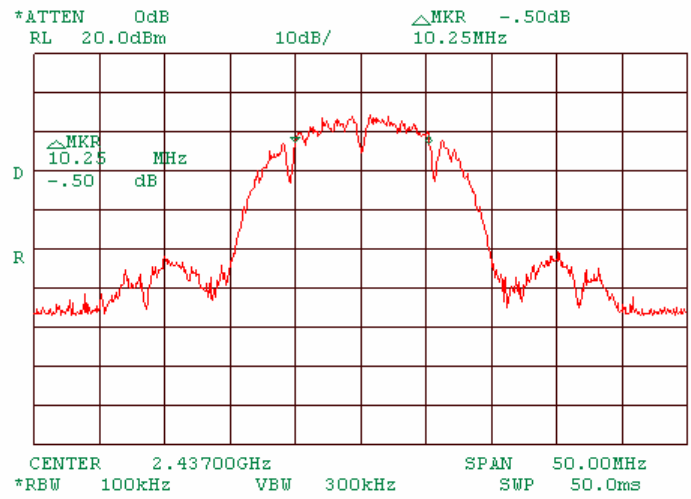
Plot 3: 6 dB bandwidth test result at low frequency of MA 850 stands alone. At 11 Mbps DSSS.



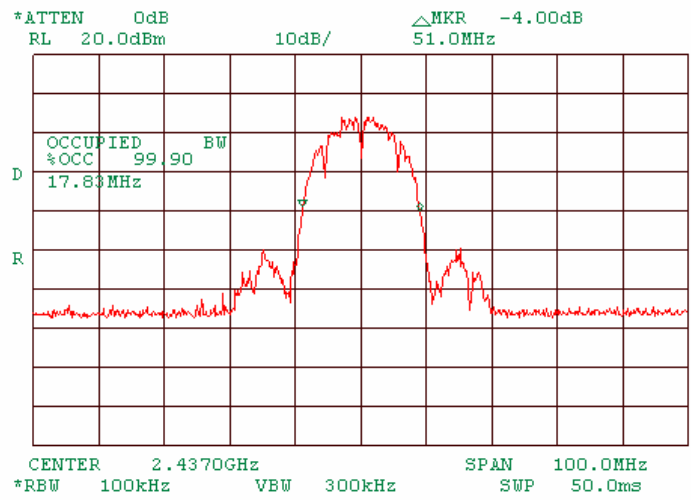
Plot 4: 99% power bandwidth test result at low frequency of MA 850 stands alone. At 11 Mbps DSSS



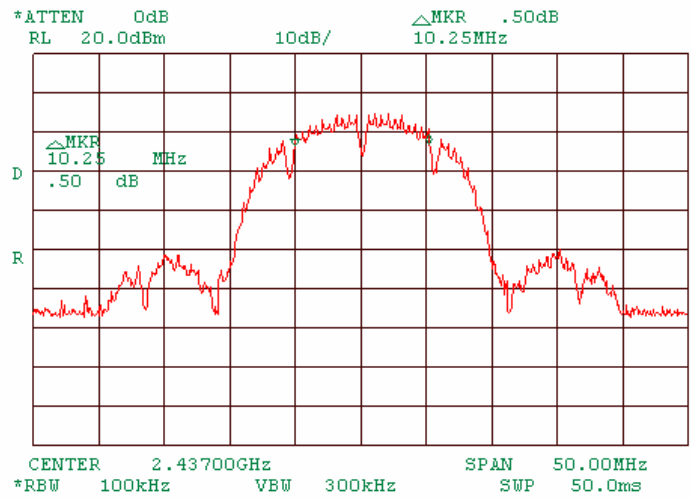
Plot 5: 6 dB bandwidth test result at mid frequency of MA 850 stands alone. At 1 Mbps DSSS.



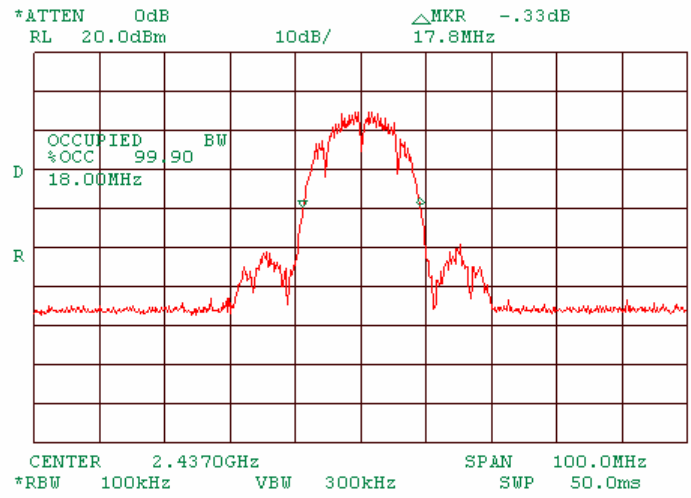
Plot 6: 99% power bandwidth test result at mid frequency of MA 850 stands alone. At 1 Mbps DSSS



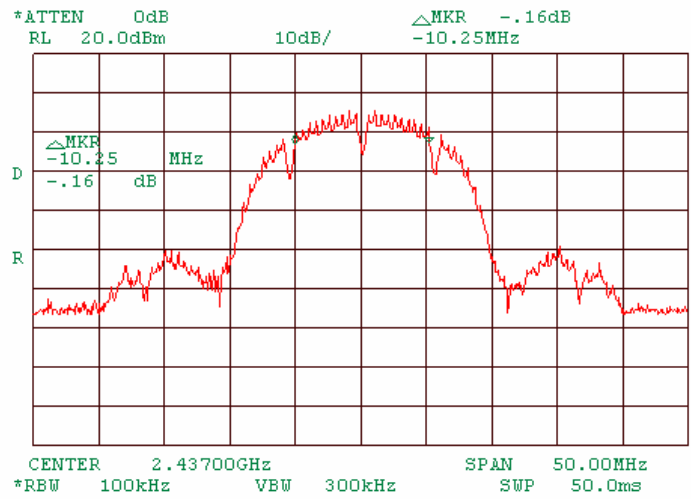
Plot 7: 6 dB bandwidth test result at mid frequency of MA 850 stands alone. At 2 Mbps DSSS.



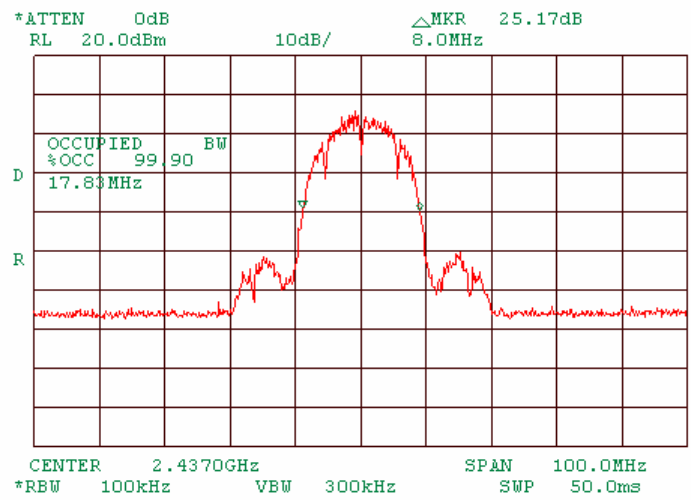
Plot 8: 99% power bandwidth test result at mid frequency of MA 850 stands alone. At 2 Mbps DSSS



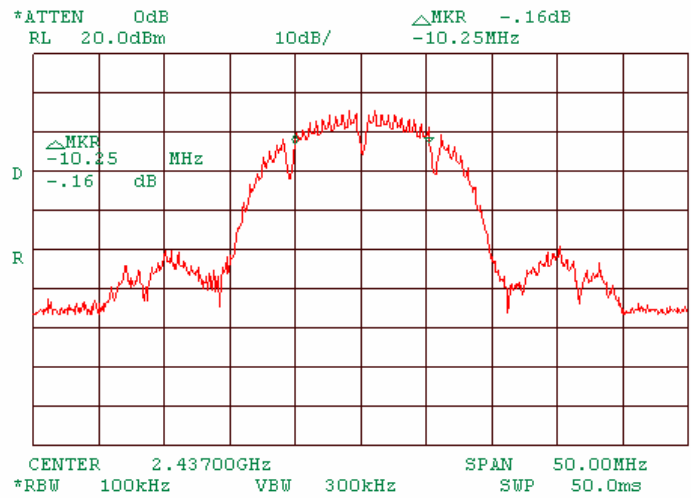
Plot 9: 6 dB bandwidth test result at mid frequency of MA 850 stands alone. At 5.5 Mbps DSSS.



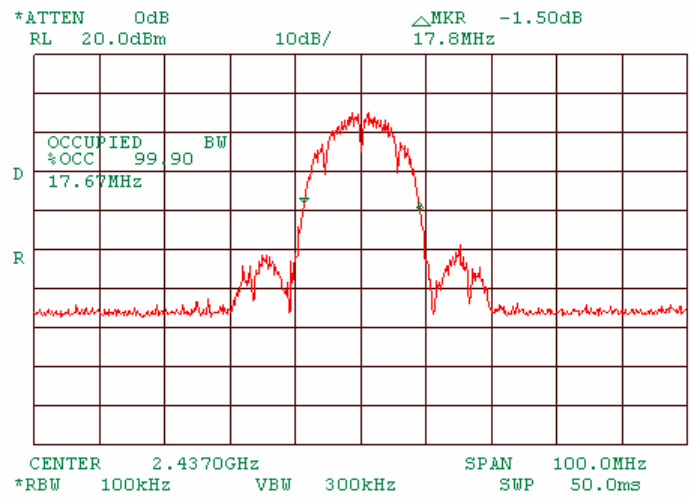
Plot 10: 99% power bandwidth test result at mid frequency of MA 850 stands alone. At 5.5 Mbps DSSS



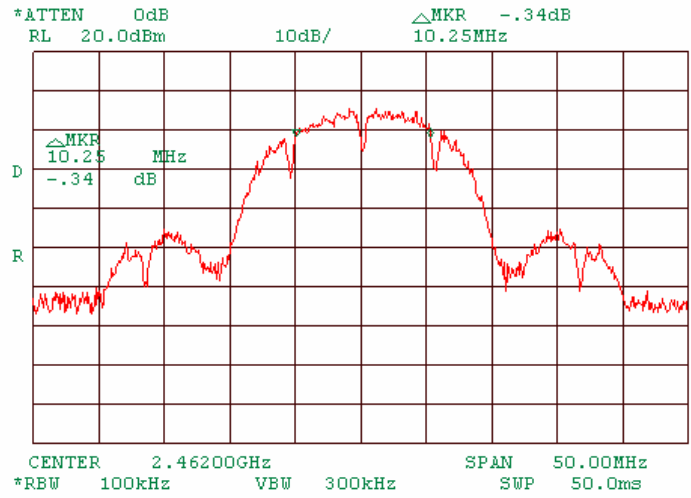
Plot 11: 6 dB bandwidth test result at mid frequency of MA 850 stands alone. At 11 Mbps DSSS.



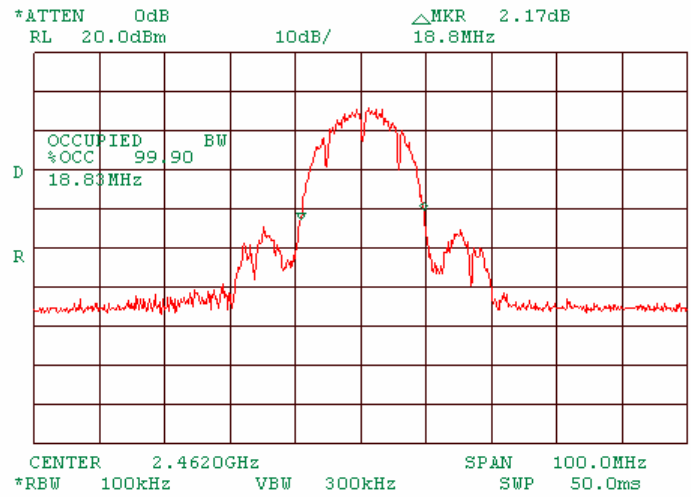
Plot 12: 99% power bandwidth test result at mid frequency of MA 850 stands alone. At 11 Mbps DSSS



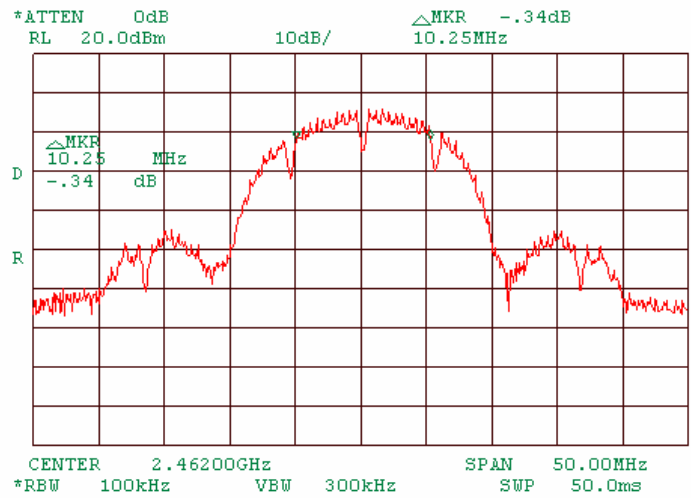
Plot 13: 6 dB bandwidth test result at high frequency of MA 850 stands alone. At 1 Mbps DSSS.



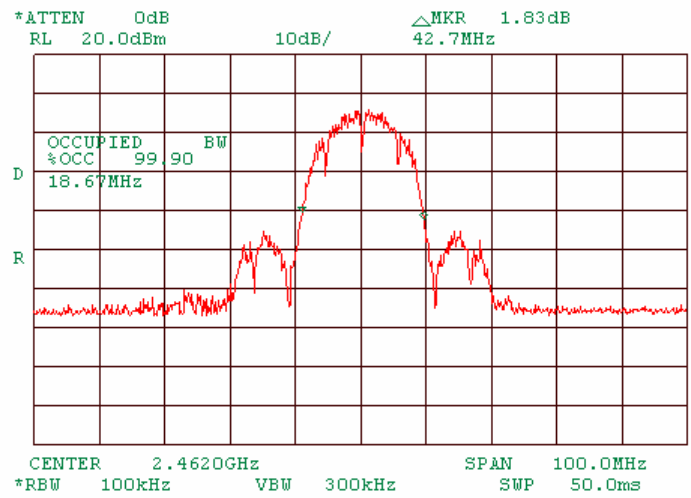
Plot 14: 99% power bandwidth test result at high frequency of MA 850 stands alone. At 1 Mbps DSSS



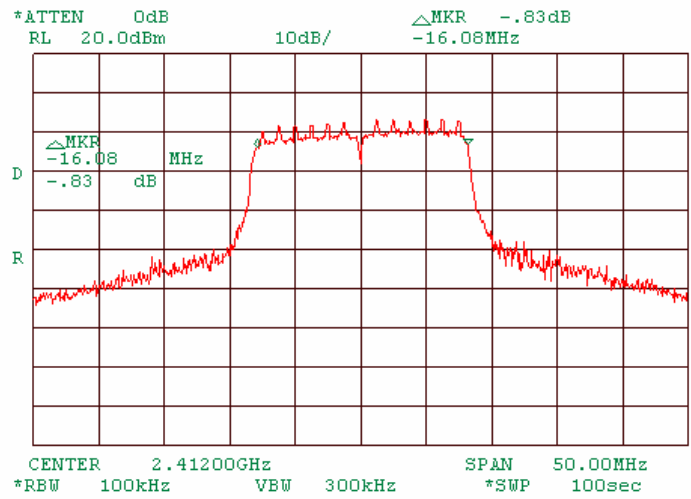
Plot 15: 6 dB bandwidth test result at high frequency of MA 850 stands alone. At 11 Mbps DSSS.



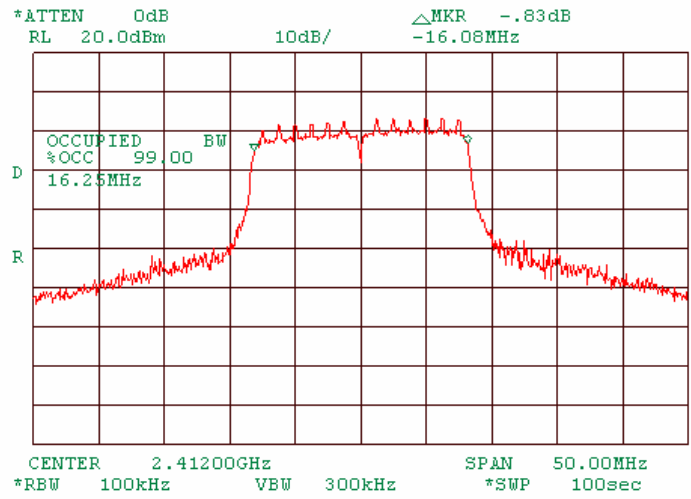
Plot 16: 99% power bandwidth test result at high frequency of MA 850 stands alone. At 11 Mbps DSSS



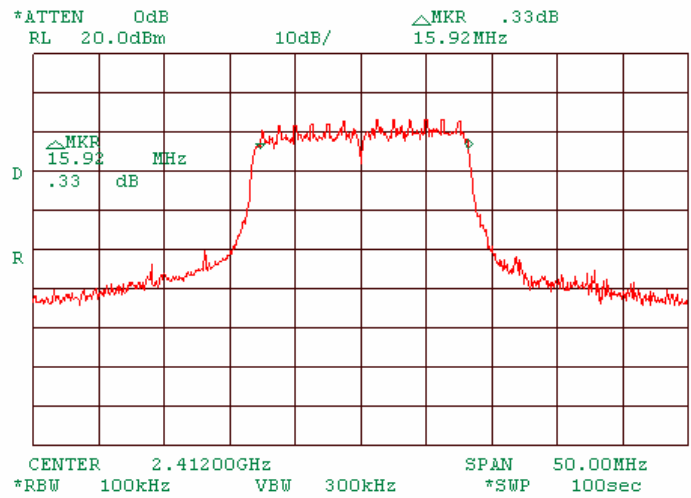
Plot 17: 6 dB bandwidth test result at low frequency of MA 850 stands alone. At 6 Mbps OFDM.



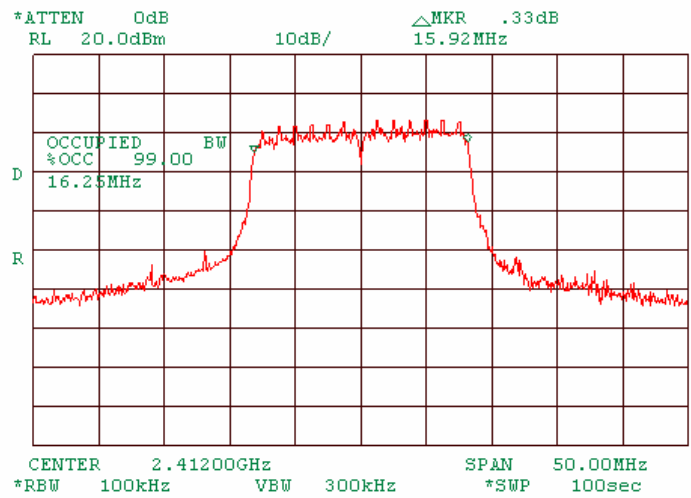
Plot 18: 99% power bandwidth test result at low frequency of MA 850 stands alone. At 6 Mbps OFDM.



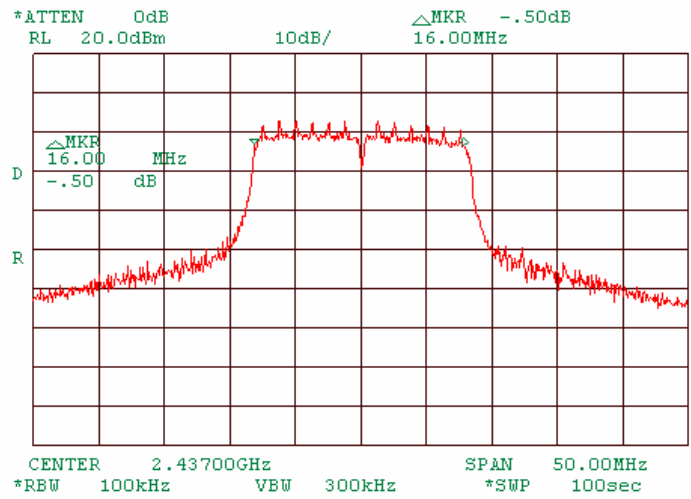
Plot 19: 6 dB bandwidth test result at low frequency of MA 850 stands alone. At 54 Mbps OFDM.



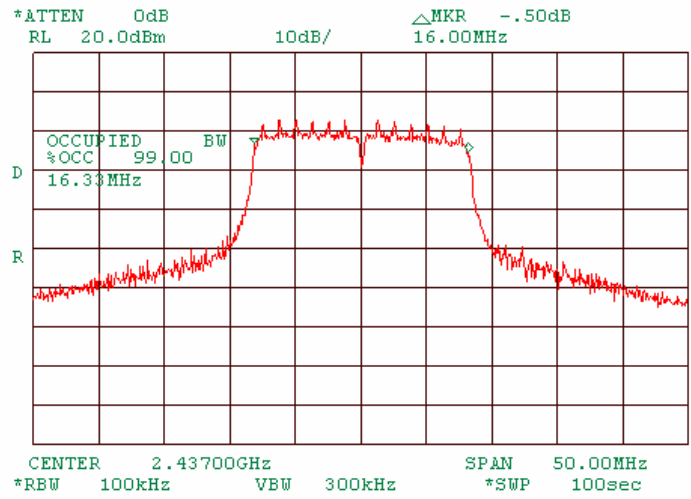
Plot 20: 99% power bandwidth test result at low frequency of MA 850 stands alone. At 54 Mbps OFDM.



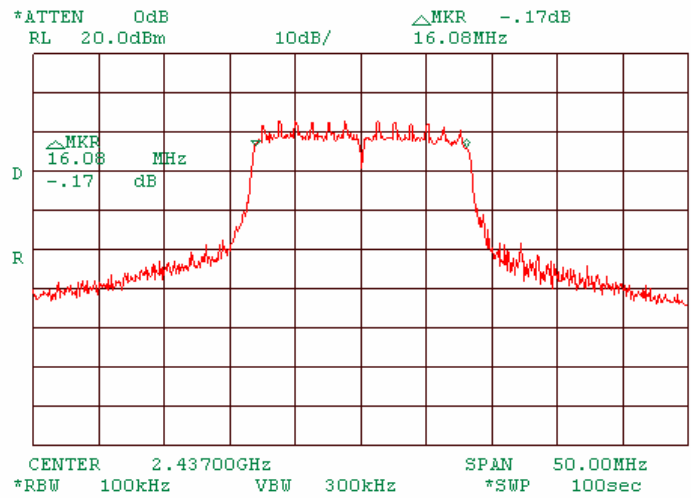
Plot 21: 6 dB bandwidth test result at mid frequency of MA 850 stands alone. At 6 Mbps OFDM.



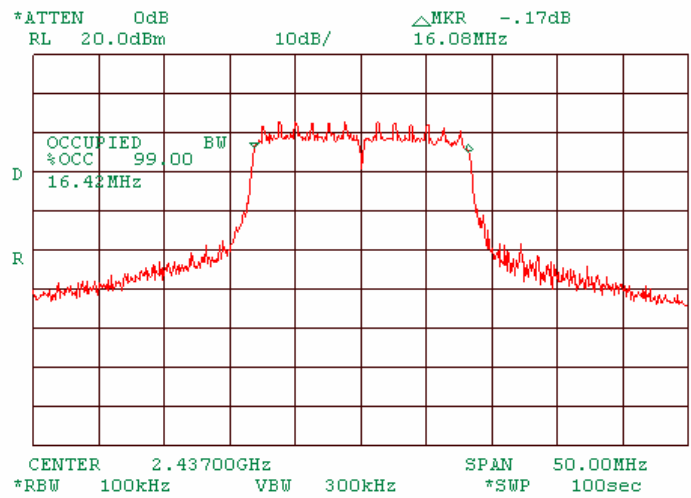
Plot 22: 99% power bandwidth test result at mid frequency of MA 850 stands alone. At 6 Mbps OFDM.



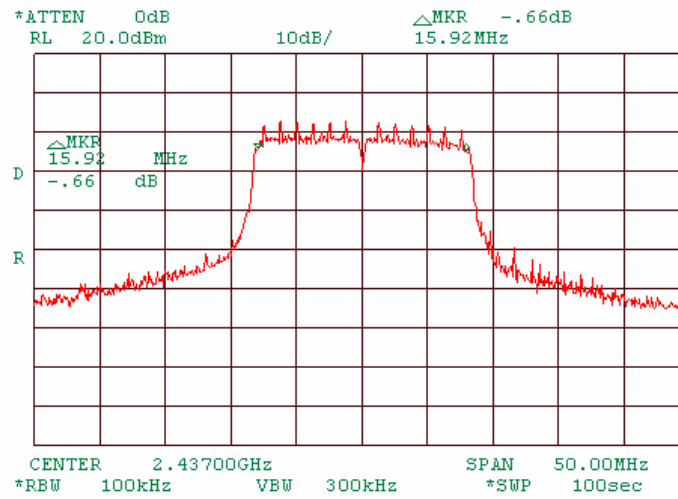
Plot 23: 6 dB bandwidth test result at mid frequency of MA 850 stands alone. At 9 Mbps OFDM.



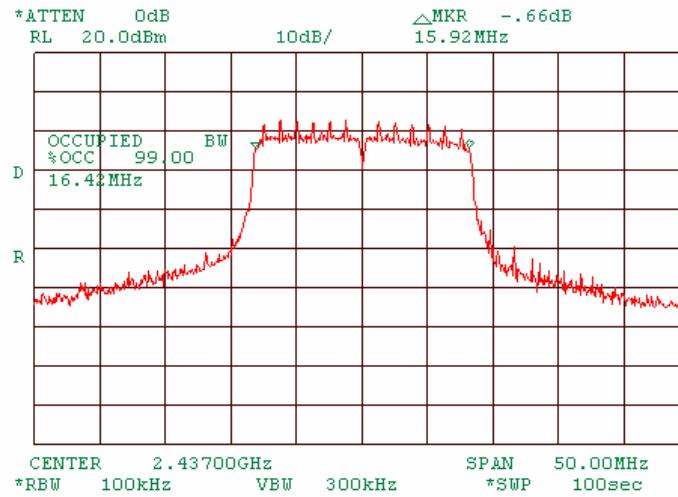
Plot 24: 99% power bandwidth test result at mid frequency of MA 850 stands alone. At 9 Mbps OFDM.



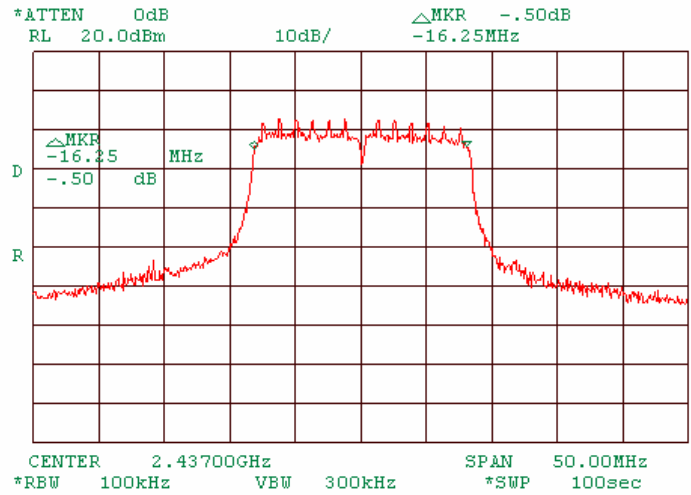
Plot 25: 6 dB bandwidth test result at mid frequency of MA 850 stands alone. At 12 Mbps OFDM.



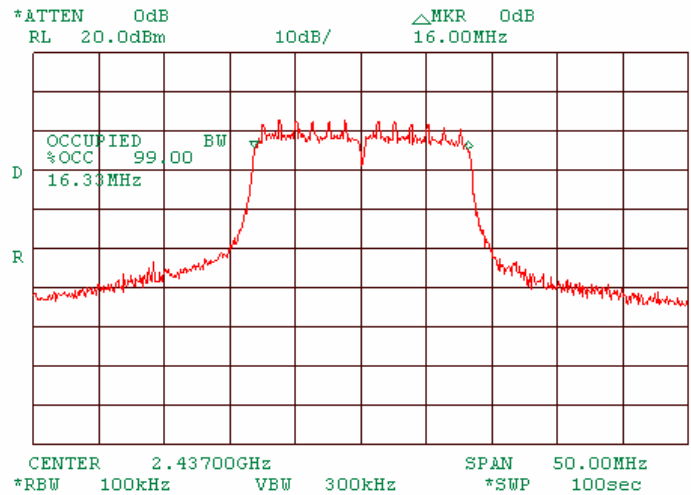
Plot 26: 99% power bandwidth test result at mid frequency of MA 850 stands alone. At 12 Mbps OFDM.



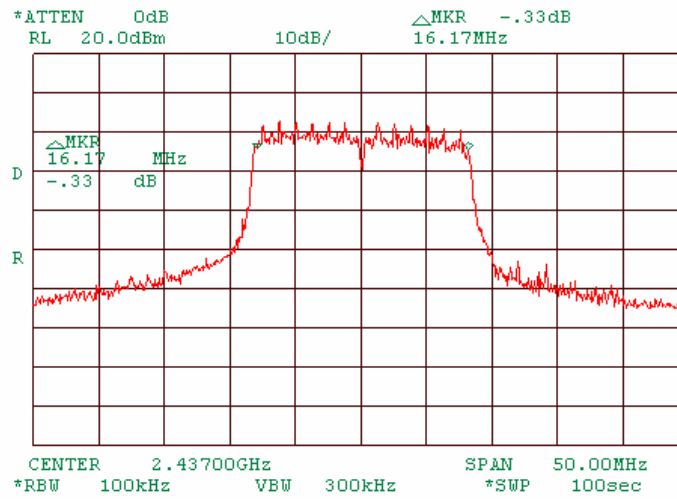
Plot 27: 6 dB bandwidth test result at mid frequency of MA 850 stands alone. At 18 Mbps OFDM.



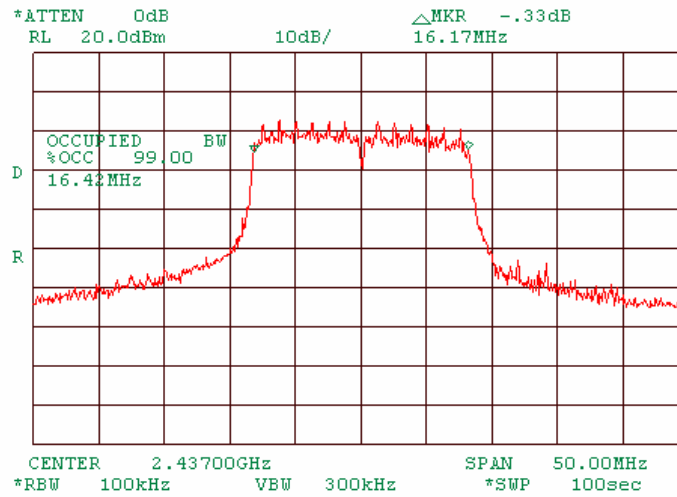
Plot 28: 99% power bandwidth test result at mid frequency of MA 850 stands alone. At 18 Mbps OFDM.



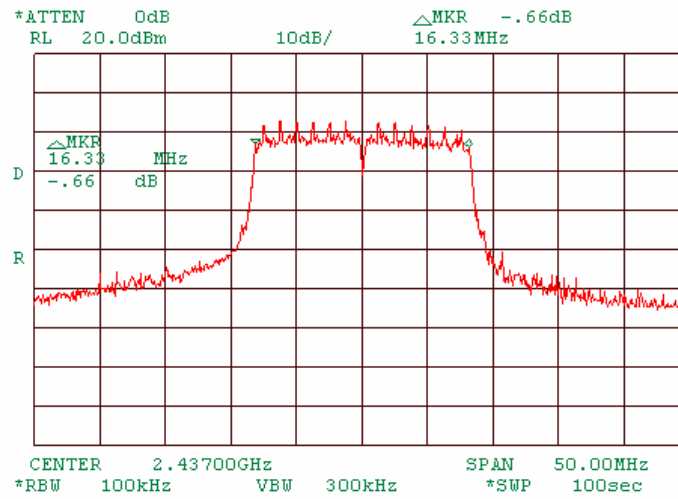
Plot 29: 6 dB bandwidth test result at mid frequency of MA 850 stands alone. At 24 Mbps OFDM.



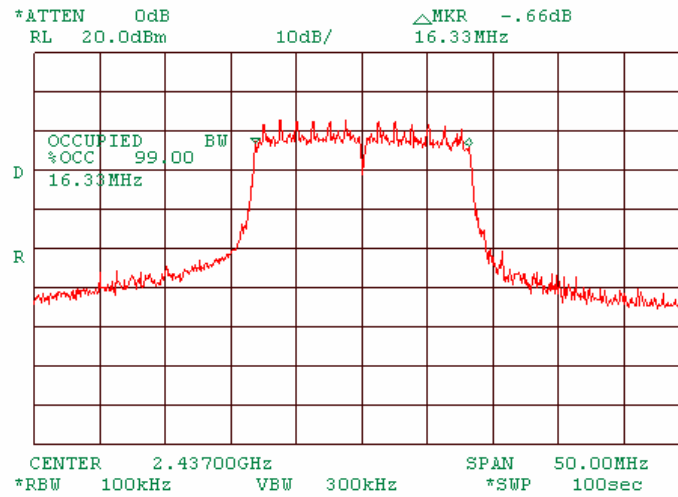
Plot 30: 99% power bandwidth test result at mid frequency of MA 850 stands alone. At 24 Mbps OFDM.



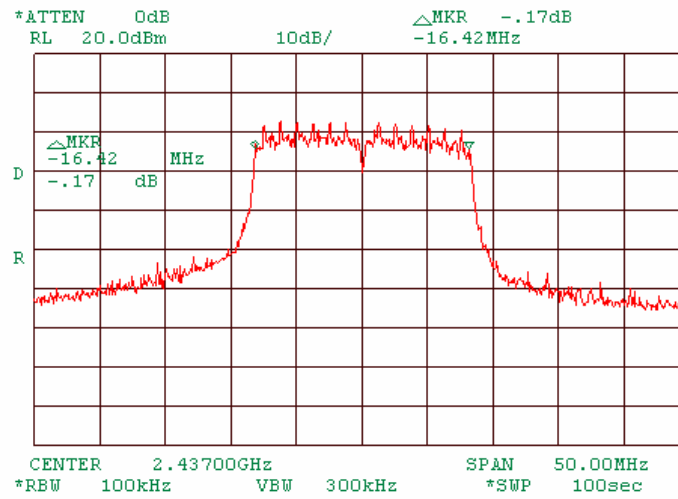
Plot 31: 6 dB bandwidth test result at mid frequency of MA 850 stands alone. At 36 Mbps OFDM.



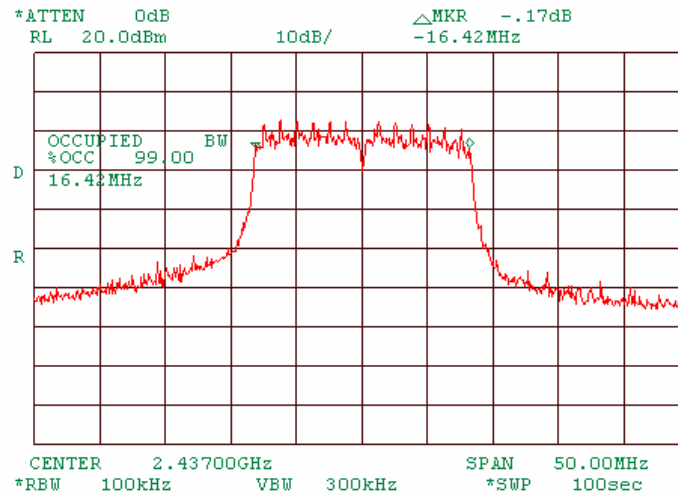
Plot 32: 99% power bandwidth test result at mid frequency of MA 850 stands alone. At 36 Mbps OFDM.



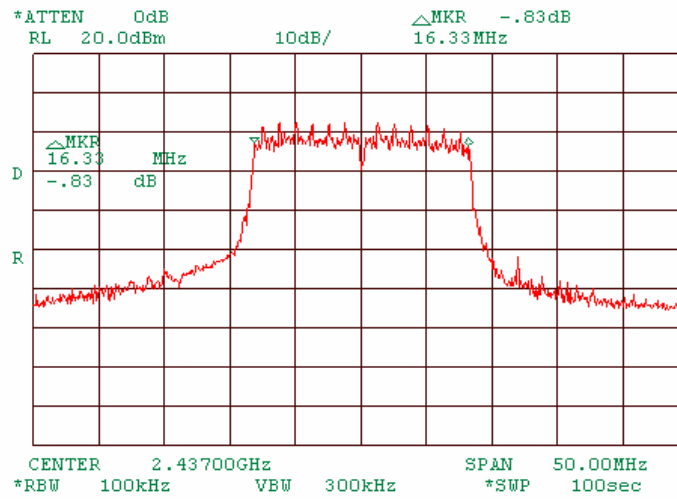
Plot 33: 6 dB bandwidth test result at mid frequency of MA 850 stands alone. At 48 Mbps OFDM.



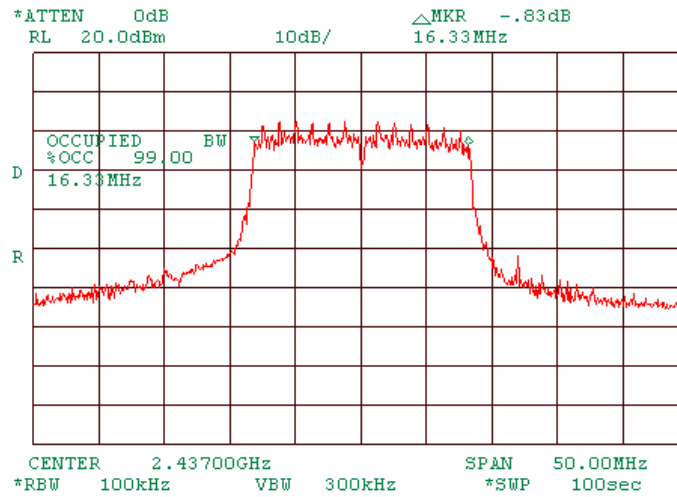
Plot 34: 99% power bandwidth test result at mid frequency of MA 850 stands alone. At 48 Mbps OFDM.



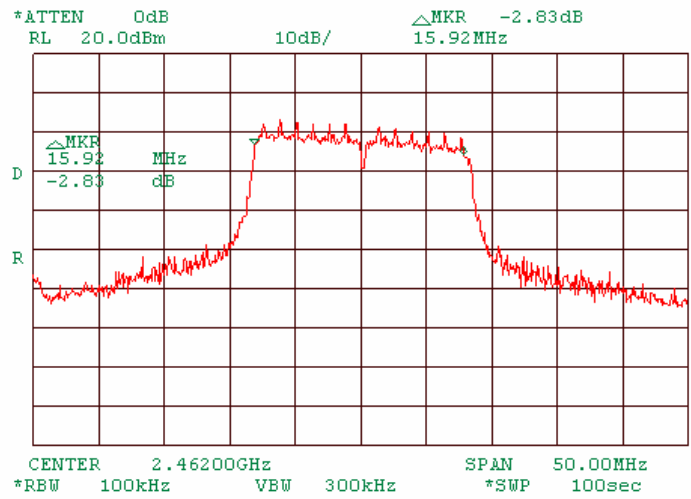
Plot 35: 6 dB bandwidth test result at mid frequency of MA 850 stands alone. At 54 Mbps OFDM.



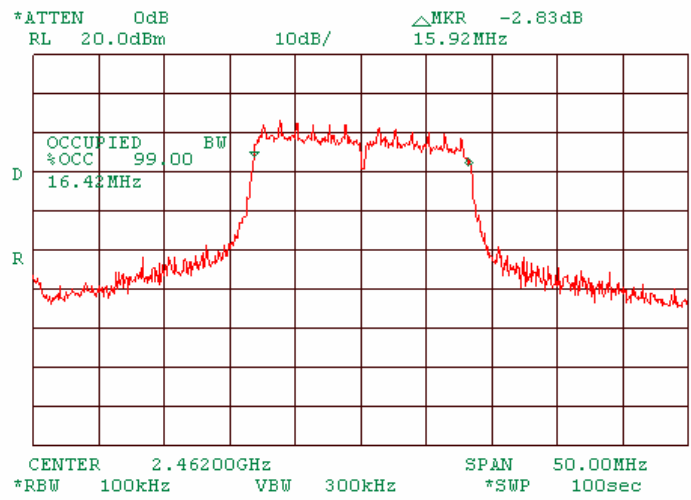
Plot 36: 99% power bandwidth test result at mid frequency of MA 850 stands alone. At 54 Mbps OFDM.



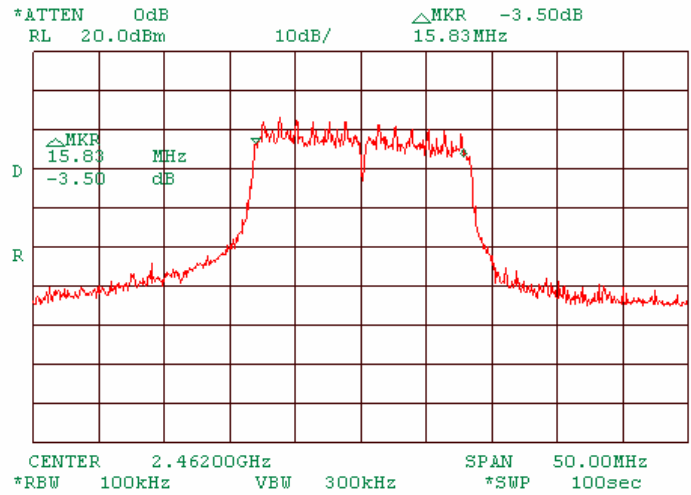
Plot 37: 6 dB bandwidth test result at high frequency of MA 850 stands alone. At 6 Mbps OFDM.



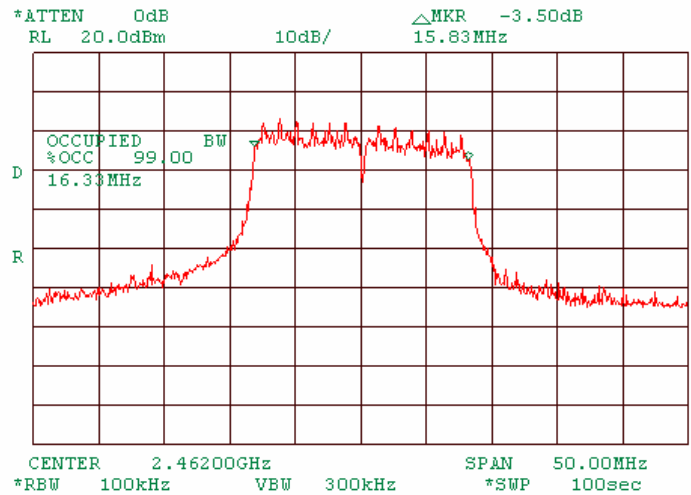
Plot 38: 99% power bandwidth test result at high frequency of MA 850 stands alone. At 6 Mbps OFDM.



Plot 39: 6 dB bandwidth test result at high frequency of MA 850 stands alone. At 54 Mbps OFDM.

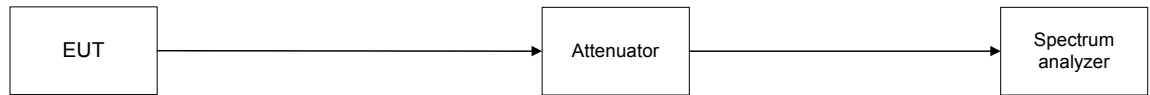


Plot 40: 99 power bandwidth test result at high frequency of MA 850 stands alone. At 54 Mbps OFDM.



3 Transmitter tests according to 47CFR part 15 subpart C requirements and 99% power bandwidth

Figure 1: 6 dB bandwidth test setup



Photograph 1.31: 6 dB bandwidth test setup

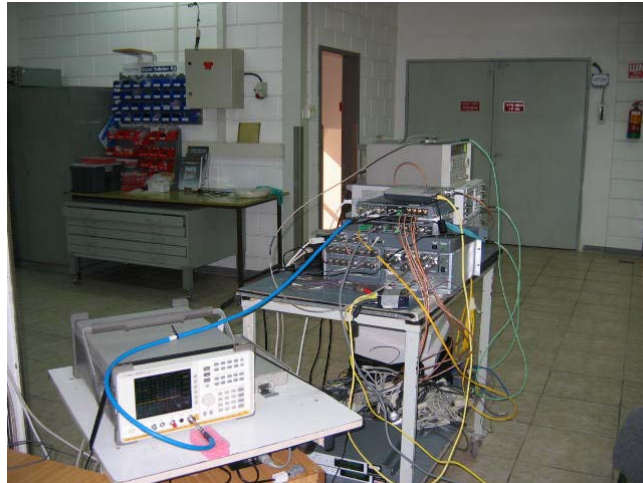


Table 1.31: 6 dB bandwidth test results

ASSIGNED FREQUENCY BAND: 2400 – 2483.5 MHz
 ASSEMBLY MA 850, MA 1000 (operated at Cell 850 mode)
 MA 1000 SETTINGS: Transmit at 869.0125 and 893.9875 MHz
 PORT: 2
 DETECTOR USED: Peak
 SWEEP MODE: Single
 SWEEP TIME: Auto
 RESOLUTION BANDWIDTH: 100 kHz
 VIDEO BANDWIDTH: 300 kHz
 MODULATION ENVELOPE REFERENCE 6.0 dBc
 POINTS:
 MODULATION: DSSS
 MODULATING SIGNAL: DBPSK
 BIT RATE: 1, 11 Mbps

Carrier frequency, MHz	6 dB bandwidth, MHz	Limit, kHz	Margin, kHz	Verdict
				Low frequency
2412	12.83	>500	12.33	Pass
				Mid frequency
2437	13.33	>500	12.83	Pass
				High frequency
2462	12.58	>500	12.08	Pass

MODULATION: OFDM
 MODULATING SIGNAL: BPSK
 BIT RATE: 6, 54Mbps

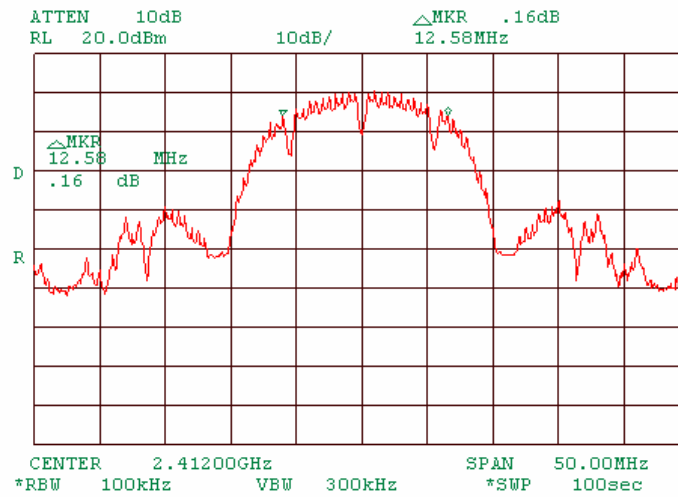
Carrier frequency, MHz	6 dB bandwidth, MHz	Limit, kHz	Margin, kHz	Verdict
				Low frequency
2412	16.00	>500	15.50	Pass
				Mid frequency
2437	16.42	>500	15.92	Pass
				High frequency
2462	15.92	>500	15.42	Pass

Reference numbers of test equipment used

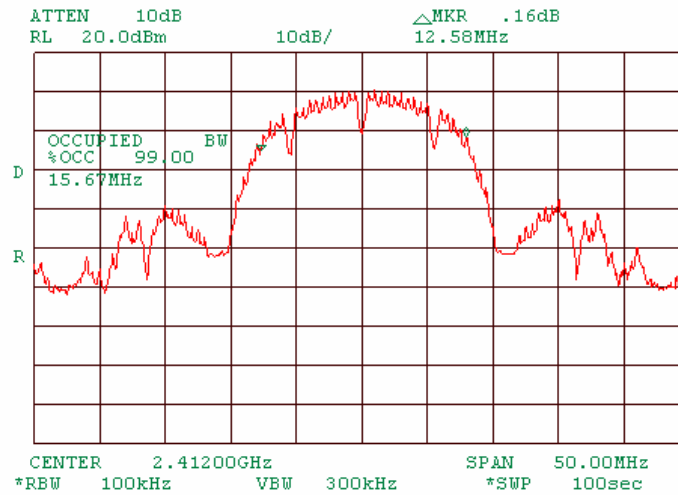
HL 1424	HL 1651	HL 2399						
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Full description is given in Appendix A.

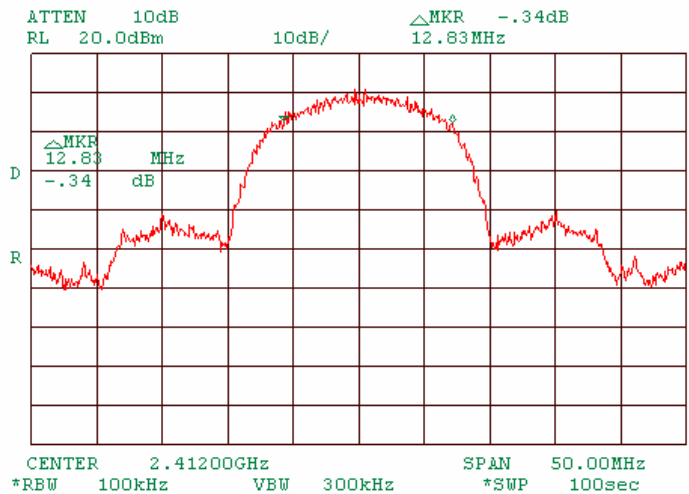
Plot 1: 6 dB bandwidth test result at low frequency with MA 850 and MA 1000 interconnected. At 1 Mbps DSSS.



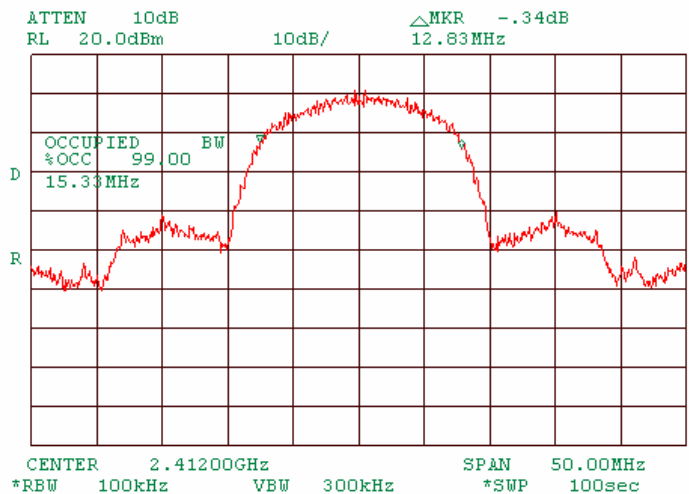
Plot 2: 99% power bandwidth test result at low frequency with MA 850 and MA 1000 interconnected. At 1 Mbps DSSS.



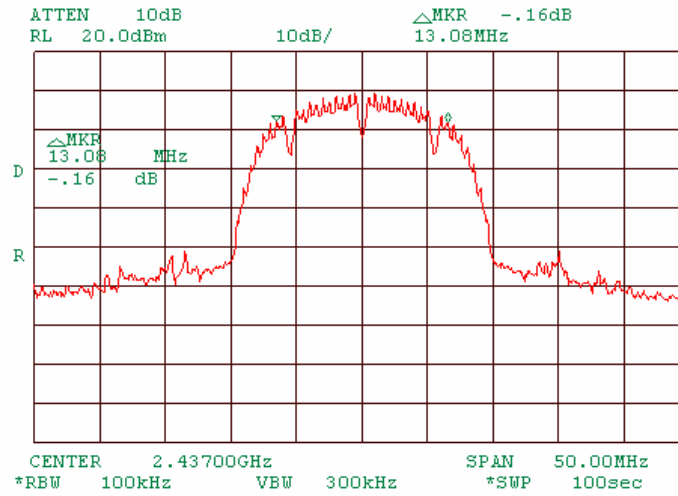
Plot 3: 6 dB bandwidth test result at low frequency with MA 850 and MA 1000 interconnected. At 11 Mbps DSSS.



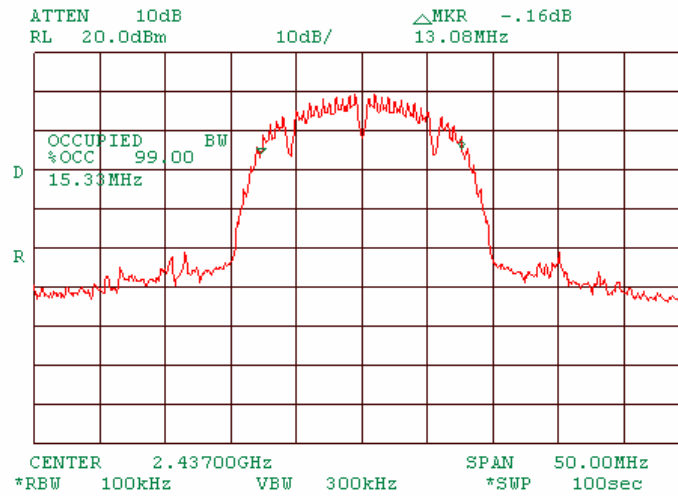
Plot 4: 99% power bandwidth test result at low frequency with MA 850 and MA 1000 interconnected. At 11 Mbps DSSS.



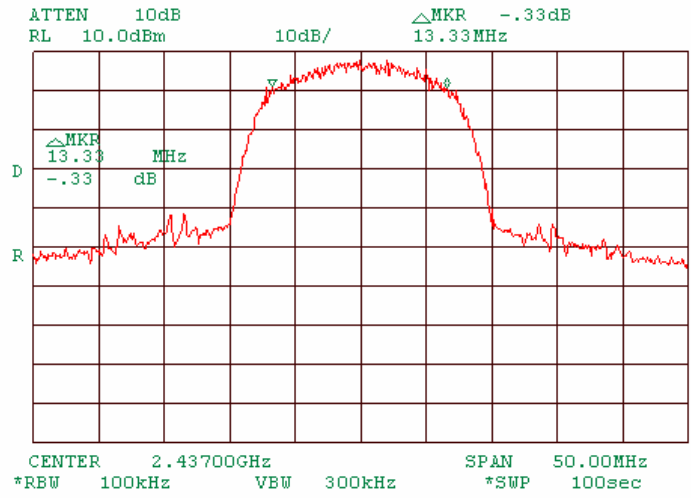
Plot 5: 6 dB bandwidth test result at mid frequency with MA 850 and MA 1000 interconnected. At 1 Mbps DSSS.



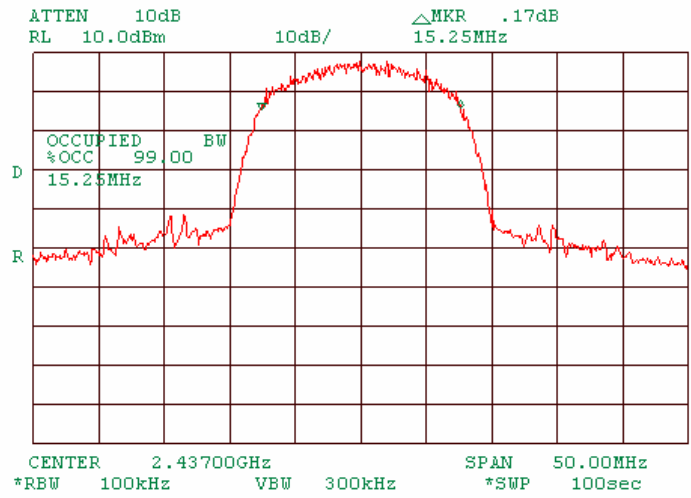
Plot 6: 99% power bandwidth test result at mid frequency with MA 850 and MA 1000 interconnected. At 1 Mbps DSSS.



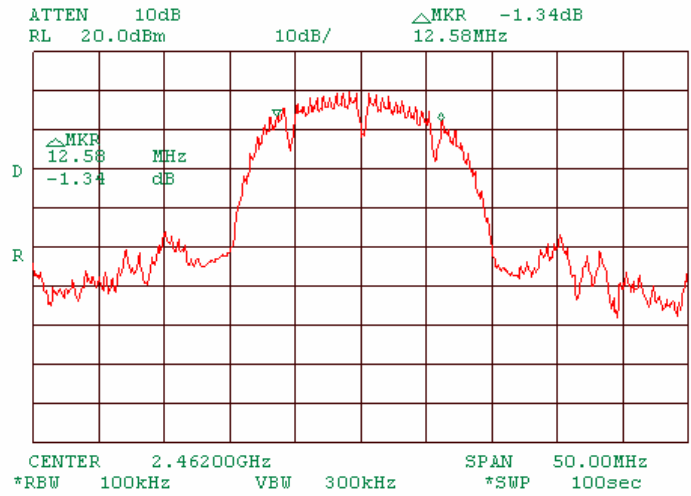
Plot 7: 6 dB bandwidth test result at mid frequency with MA 850 and MA 1000 interconnected. At 11 Mbps DSSS.



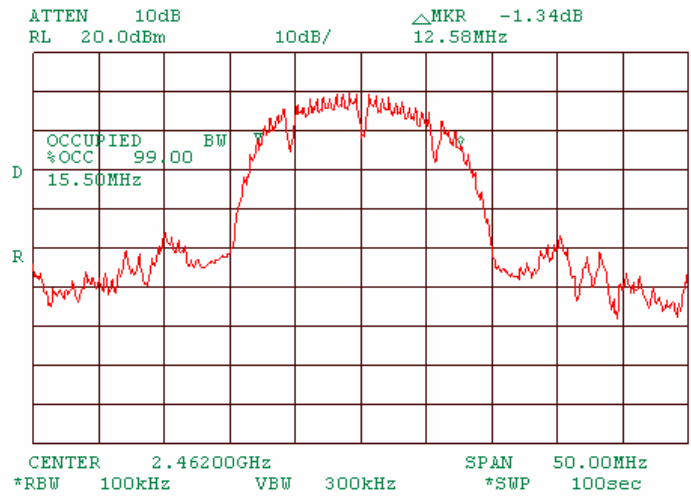
Plot 8: 99% power bandwidth test result at mid frequency with MA 850 and MA 1000 interconnected. At 11 Mbps DSSS.



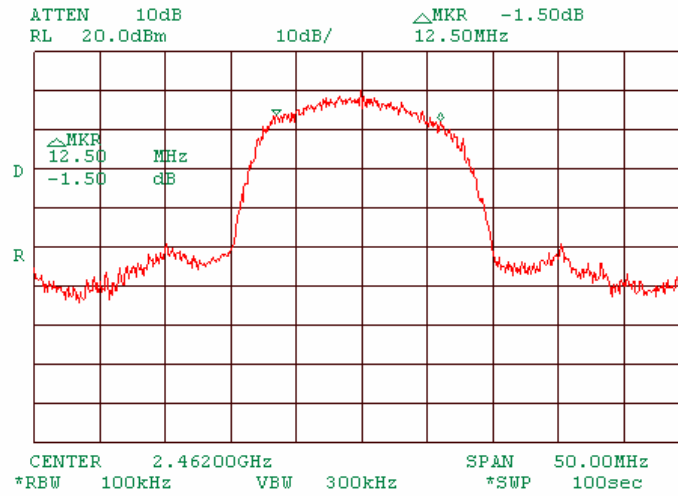
Plot 9: 6 dB bandwidth test result at high frequency with MA 850 and MA 1000 interconnected. At 1 Mbps DSSS.



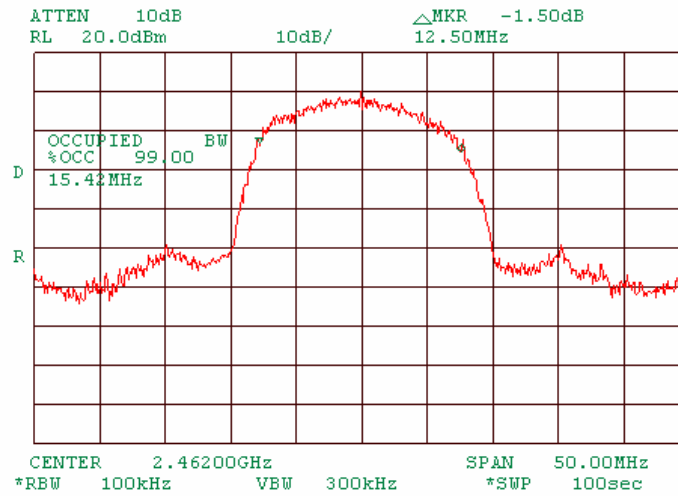
Plot 10: 99% power bandwidth test result at high frequency with MA 850 and MA 1000 interconnected. At 1 Mbps DSSS.



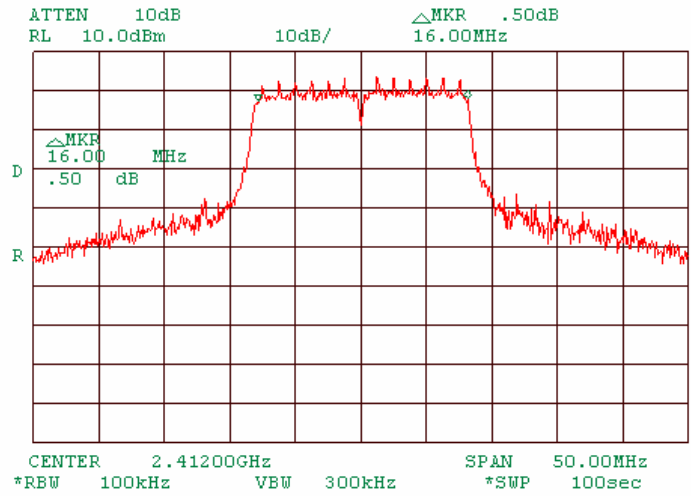
Plot 11: 6 dB bandwidth test result at high frequency with MA 850 and MA 1000 interconnected. At 11 Mbps DSSS.



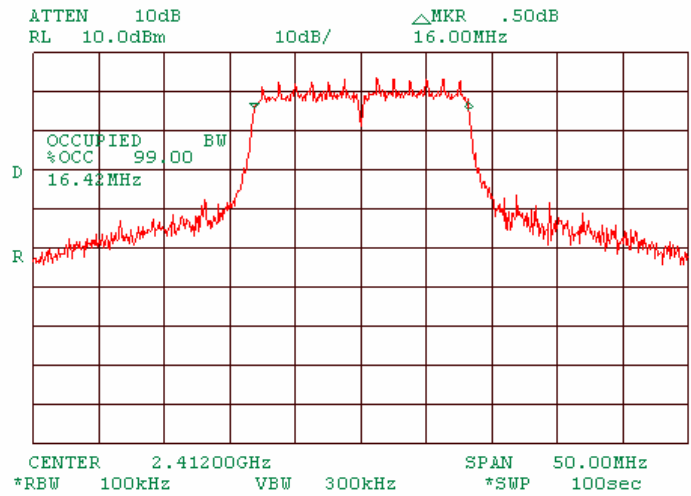
Plot 12: 99% power bandwidth test result at high frequency with MA 850 and MA 1000 interconnected. At 11 Mbps DSSS.



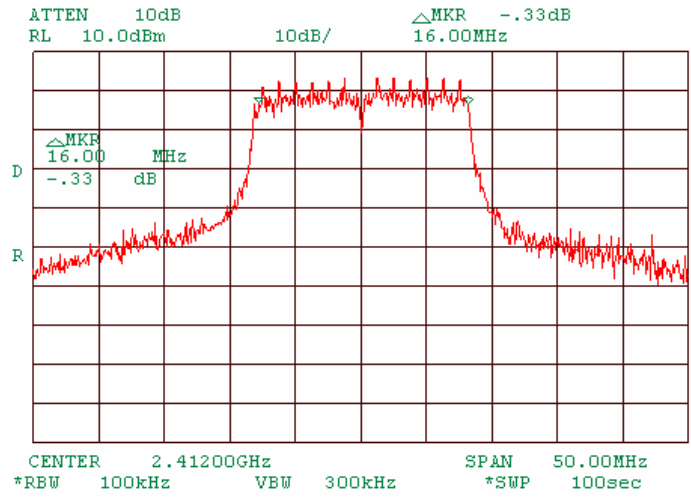
Plot 13: 6 dB bandwidth test result at low frequency with MA 850 and MA 1000 interconnected. At 6 Mbps OFDM.



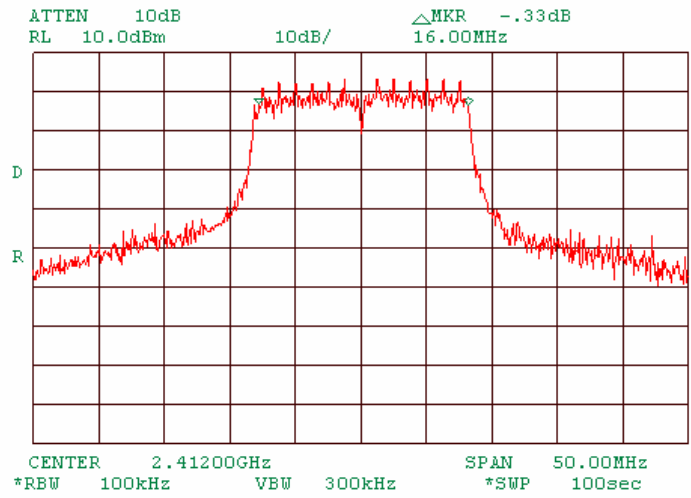
Plot 14: 99% power bandwidth test result at low frequency with MA 850 and MA 1000 interconnected. At 6 Mbps OFDM



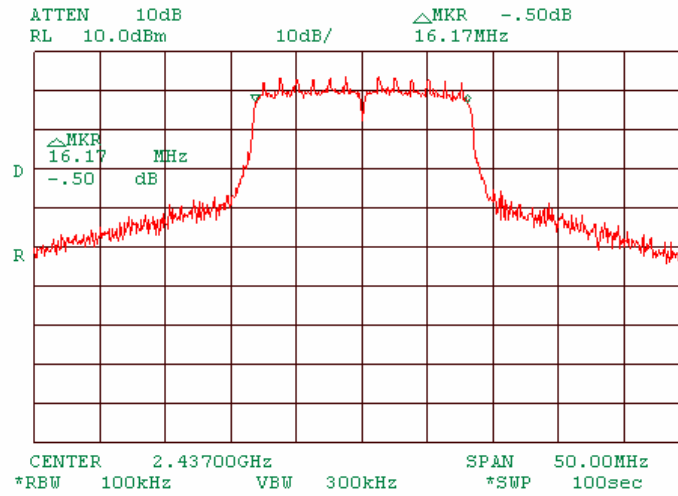
Plot 15: 6 dB bandwidth test result at low frequency with MA 850 and MA 1000 interconnected. At 54 Mbps OFDM.



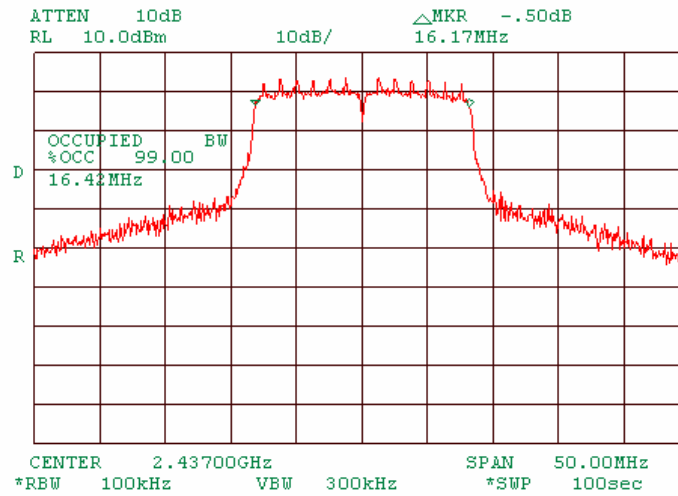
Plot 16: 99% power bandwidth test result at low frequency with MA 850 and MA 1000 interconnected. At 54 Mbps OFDM.



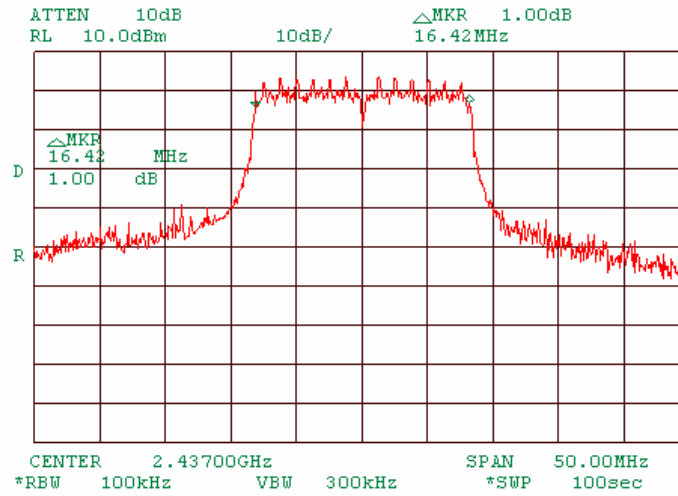
Plot 17: 6 dB bandwidth test result at mid frequency with MA 850 and MA 1000 interconnected. At 6 Mbps OFDM.



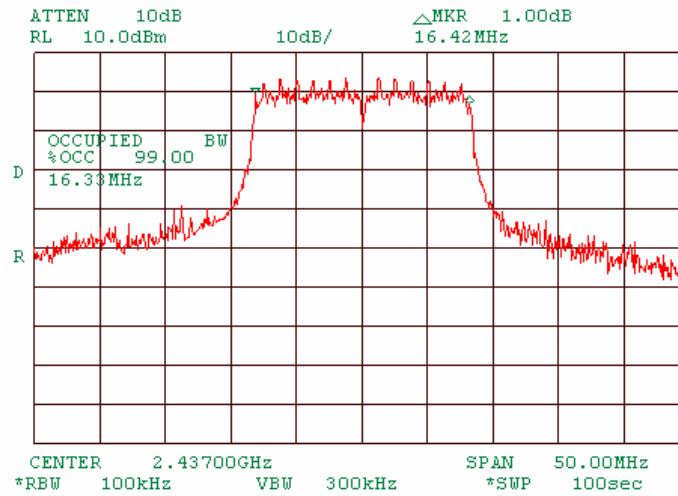
Plot 18: 99% power bandwidth test result at mid frequency with MA 850 and MA 1000 interconnected. At 6 Mbps OFDM.



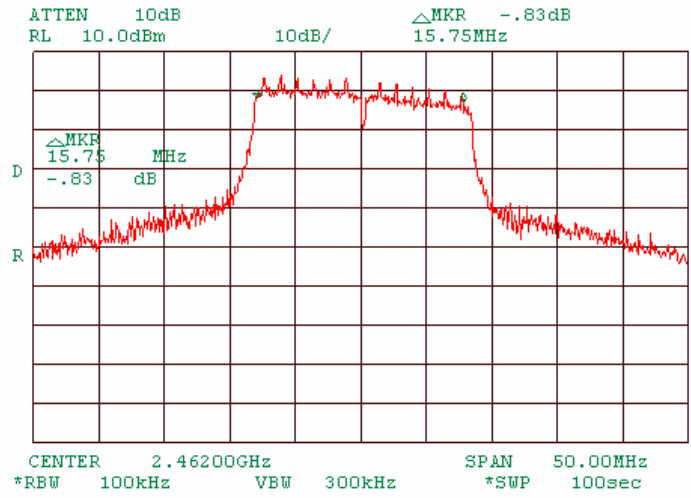
Plot 19: 6 dB bandwidth test result at mid frequency with MA 850 and MA 1000 interconnected. At 54 Mbps OFDM.



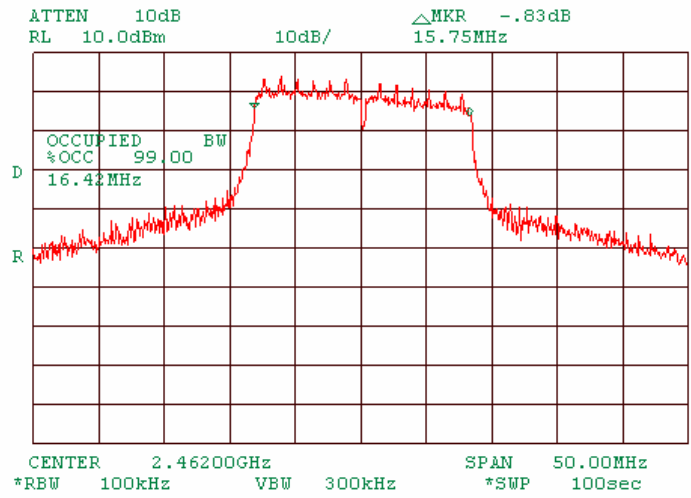
Plot 20: 99% power bandwidth test result at mid frequency with MA 850 and MA 1000 interconnected. At 54 Mbps OFDM.



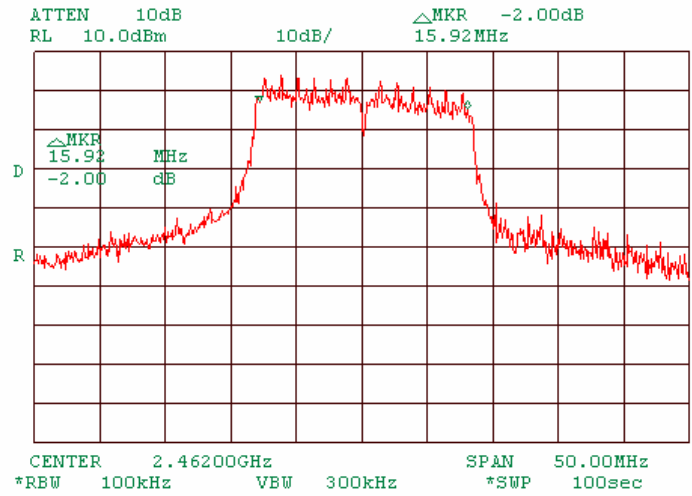
Plot 21: 6 dB bandwidth test result at high frequency with MA 850 and MA 1000 interconnected. At 6 Mbps OFDM.



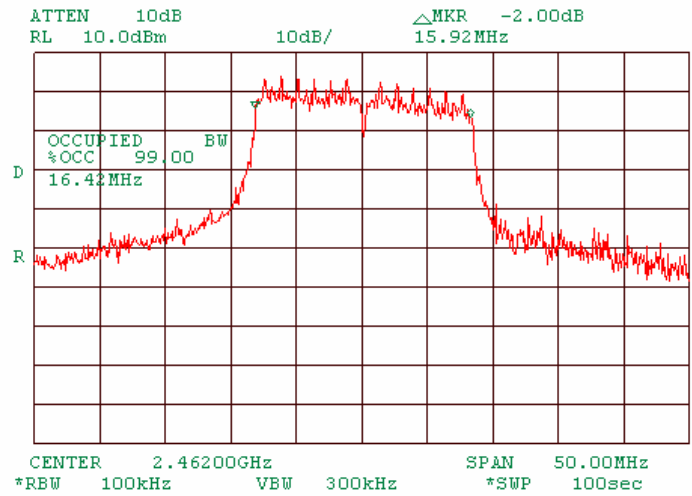
Plot 22: 99% power bandwidth test result at high frequency with MA 850 and MA 1000 interconnected. At 6 Mbps OFDM.



Plot 23: 6 dB bandwidth test result at high frequency with MA 850 and MA 1000 interconnected. At 54 Mbps OFDM.

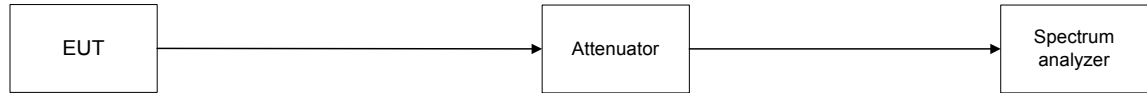


Plot 24: 99% power bandwidth test result at high frequency with MA 850 and MA 1000 interconnected. At 54 Mbps OFDM.



4 Transmitter tests according to 47CFR part 15 subpart C requirements and 99% power bandwidth

Figure 1.3.1 6 dB bandwidth test setup



Photograph 1.3.1 6 dB bandwidth test setup

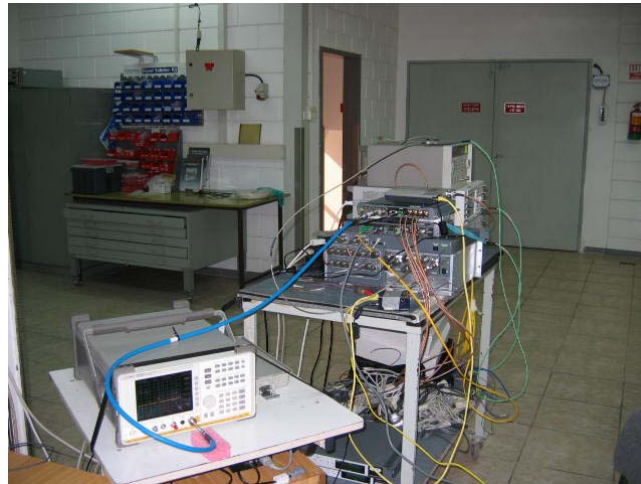


Table 1: 6 dB bandwidth test results

ASSIGNED FREQUENCY BAND: 2400 – 2483.5 MHz
 ASSEMBLY MA 850, MA 1000 (operated at PCS 1900 mode)
 MA 1000 SETTINGS: Transmit at 1930.0125 and 1989.9875 MHz
 PORT: 2
 DETECTOR USED: Peak
 SWEEP MODE: Single
 SWEEP TIME: Auto
 RESOLUTION BANDWIDTH: 100 kHz
 VIDEO BANDWIDTH: 300 kHz
 MODULATION ENVELOPE REFERENCE: 6.0 dBc
 POINTS:
 MODULATION: DSSS
 MODULATING SIGNAL: DBPSK
 BIT RATE: 1, 11 Mbps

Carrier frequency, MHz	6 dB bandwidth, MHz	Limit, kHz	Margin, kHz	Verdict
Low frequency				
2412	12.75	>500	12.25	Pass
Mid frequency				
2437	12.67	>500	12.17	Pass
High frequency				
2462	13.50	>500	13.00	Pass

MODULATION: OFDM
 MODULATING SIGNAL: BPSK
 BIT RATE: 6, 54Mbps

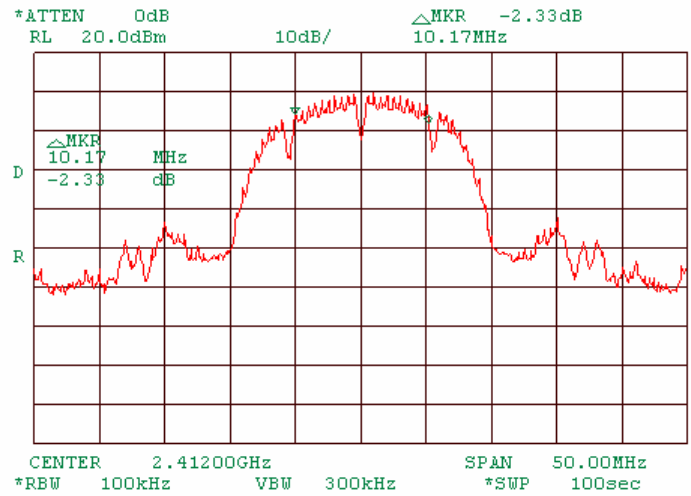
Carrier frequency, MHz	6 dB bandwidth, MHz	Limit, kHz	Margin, kHz	Verdict
Low frequency				
2412	16.00	>500	15.50	Pass
Mid frequency				
2437	15.83	>500	15.33	Pass
High frequency				
2462	15.75	>500	15.25	Pass

Reference numbers of test equipment used

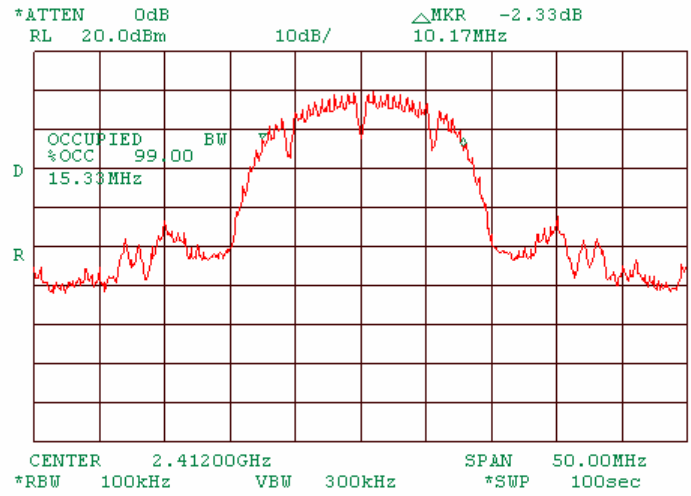
HL 1424	HL 1651	HL 2399						
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Full description is given in Appendix A.

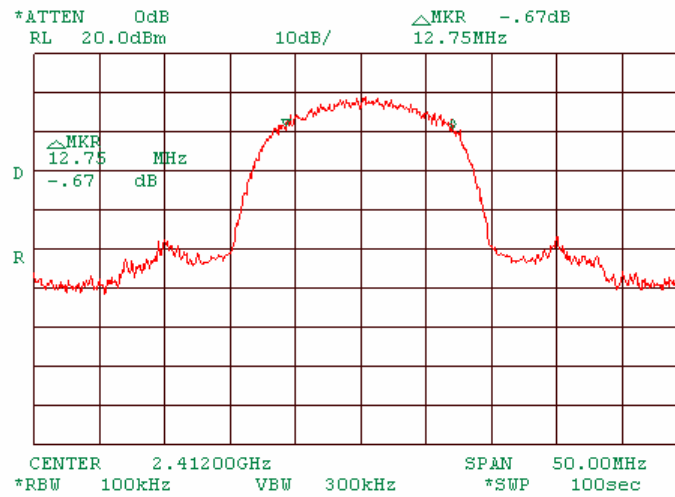
Plot 1: 6 dB bandwidth test result at low frequency with MA 850 and MA 1000 interconnected. At 1 Mbps DSSS.



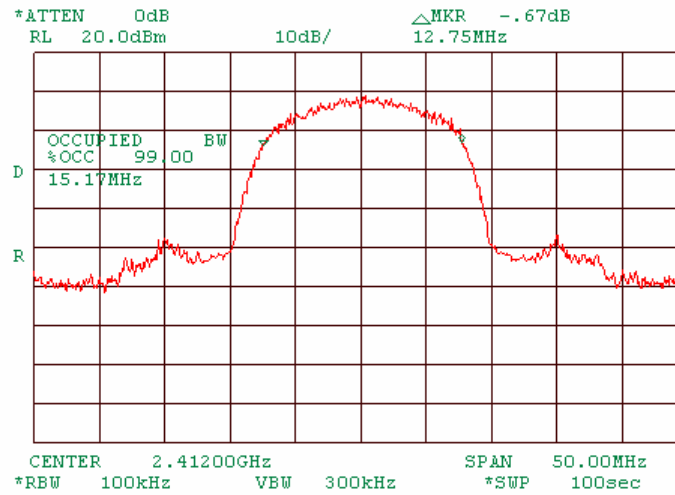
Plot 2: 99% power bandwidth test result at low frequency with MA 850 and MA 1000 interconnected. At 1 Mbps DSSS.



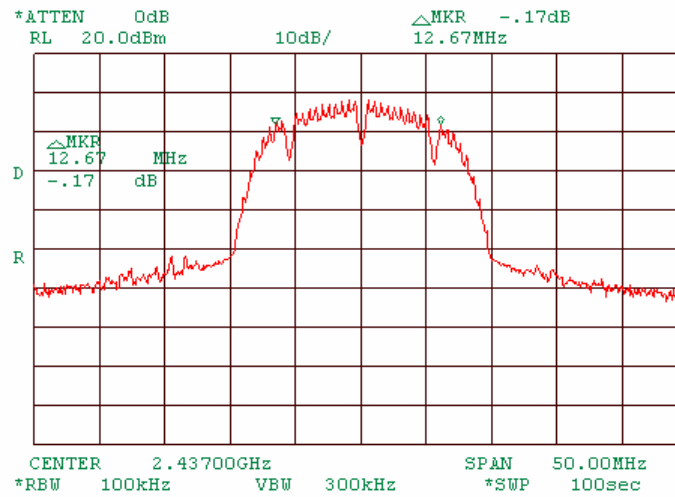
Plot 3: 6 dB bandwidth test result at low frequency with MA 850 and MA 1000 interconnected. At 11 Mbps DSSS.



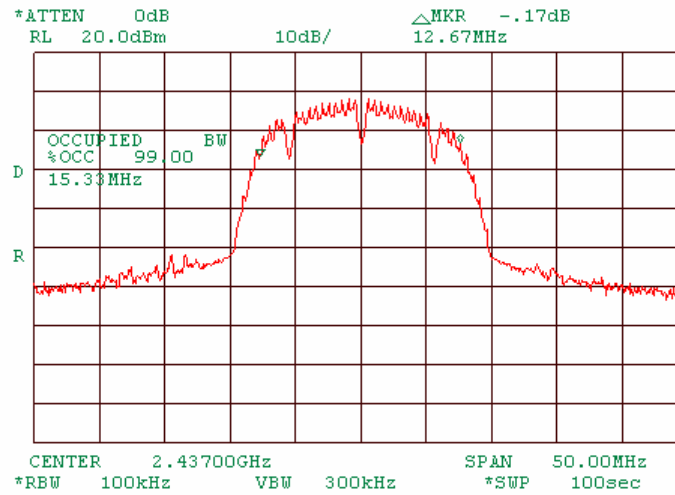
Plot 4: 99% power bandwidth test result at low frequency with MA 850 and MA 1000 interconnected. At 11 Mbps DSSS.



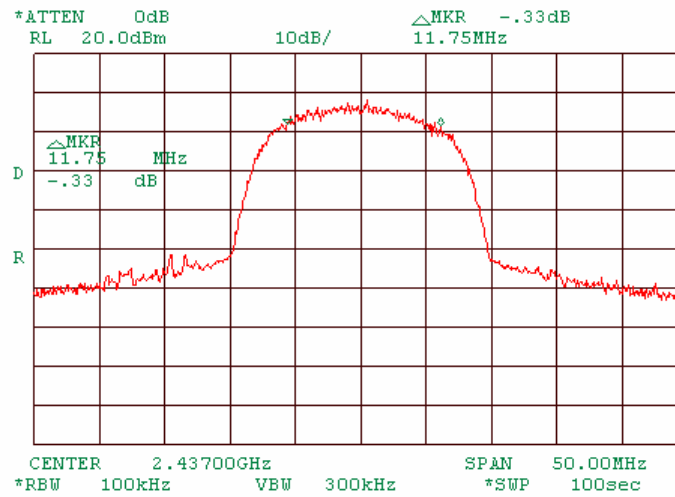
Plot 5: 6 dB bandwidth test result at mid frequency with MA 850 and MA 1000 interconnected. At 1 Mbps DSSS.



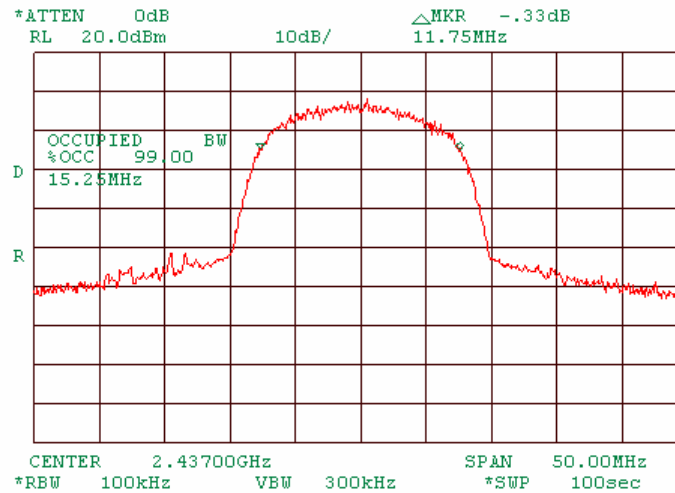
Plot 6: 99% power bandwidth test result at mid frequency with MA 850 and MA 1000 interconnected. At 1 Mbps DSSS.



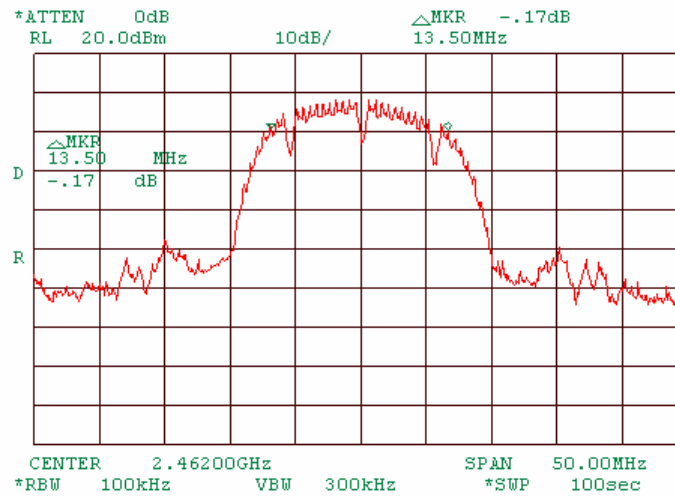
Plot 7: 6 dB bandwidth test result at mid frequency with MA 850 and MA 1000 interconnected. At 11 Mbps DSSS.



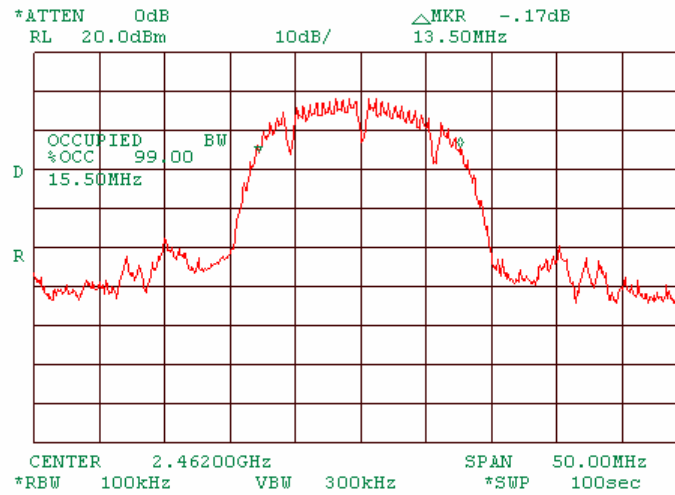
Plot 8: 99% power bandwidth test result at mid frequency with MA 850 and MA 1000 interconnected. At 11 Mbps DSSS.



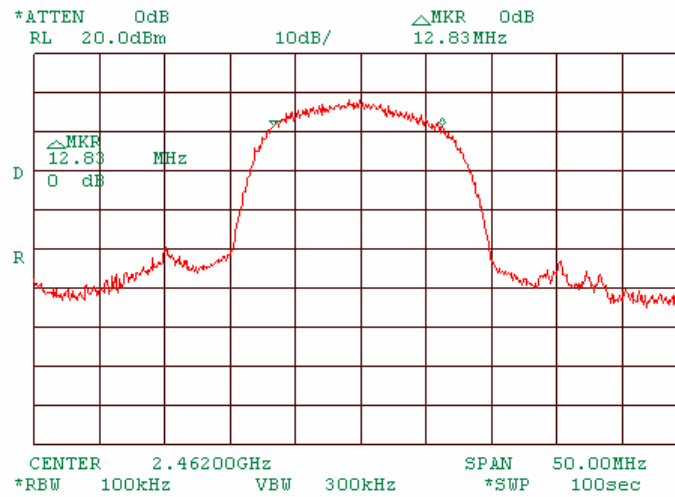
Plot 9: 6 dB bandwidth test result at high frequency with MA 850 and MA 1000 interconnected. At 1 Mbps DSSS.



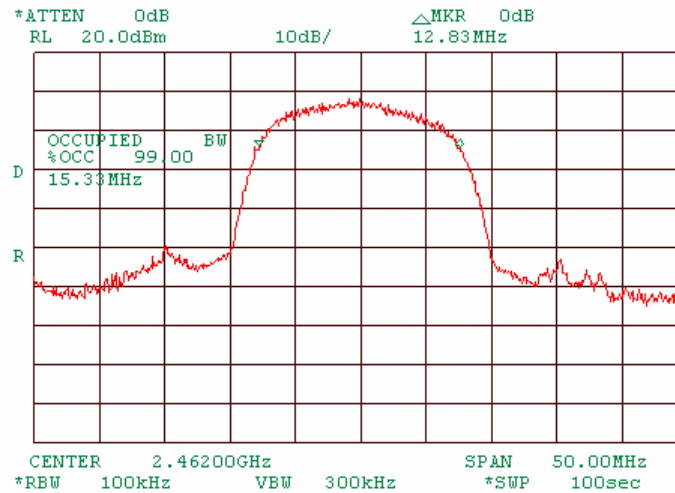
Plot 10: 99% power bandwidth test result at high frequency with MA 850 and MA 1000 interconnected. At 1 Mbps DSSS.



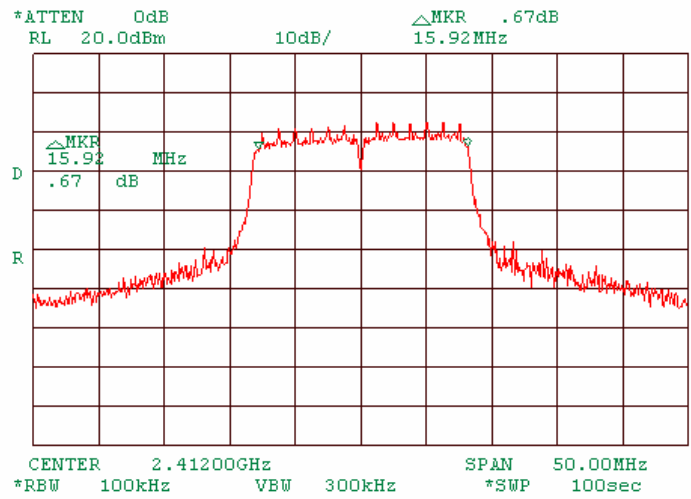
Plot 11: 6 dB bandwidth test result at high frequency with MA 850 and MA 1000 interconnected. At 11 Mbps DSSS.



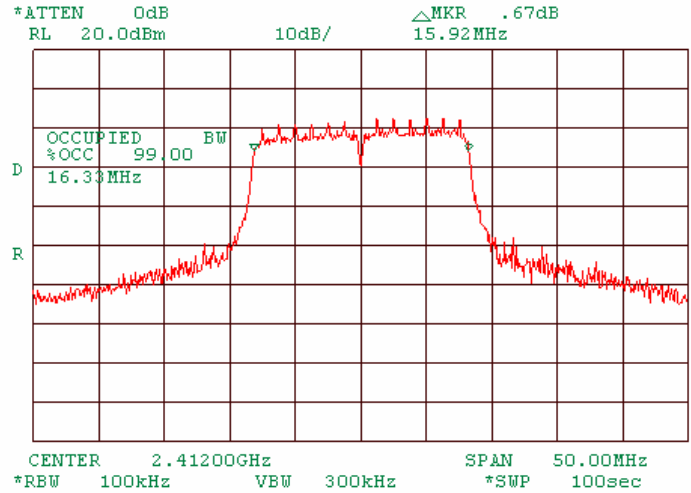
Plot 12: 99% power bandwidth test result at high frequency with MA 850 and MA 1000 interconnected. At 11 Mbps DSSS.



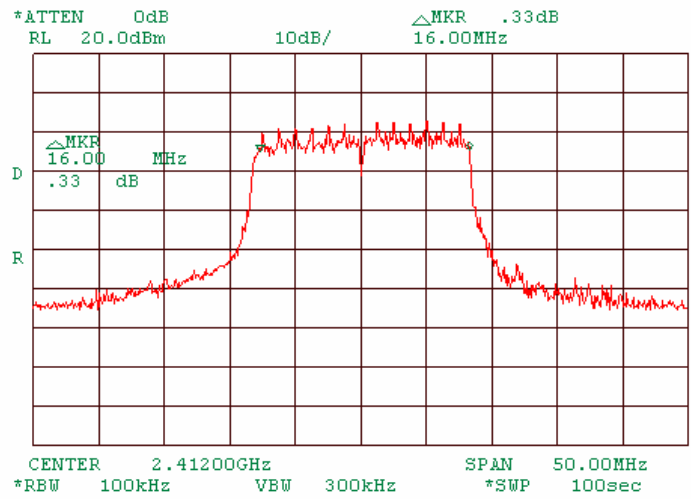
Plot 13: 6 dB bandwidth test result at low frequency with MA 850 and MA 1000 interconnected. At 6 Mbps OFDM.



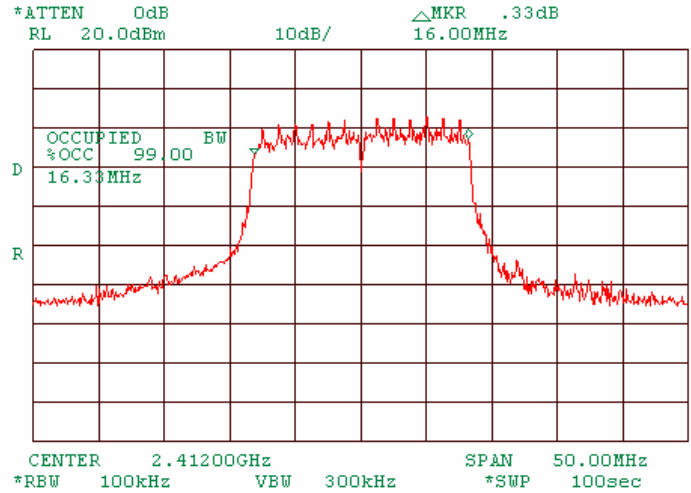
Plot 14: 99% power bandwidth test result at low frequency with MA 850 and MA 1000 interconnected. At 6 Mbps OFDM



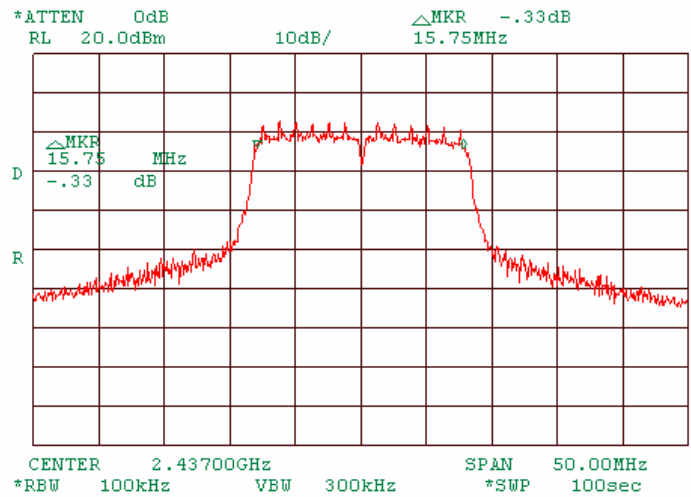
Plot 15: 6 dB bandwidth test result at low frequency with MA 850 and MA 1000 interconnected. At 54 Mbps OFDM.



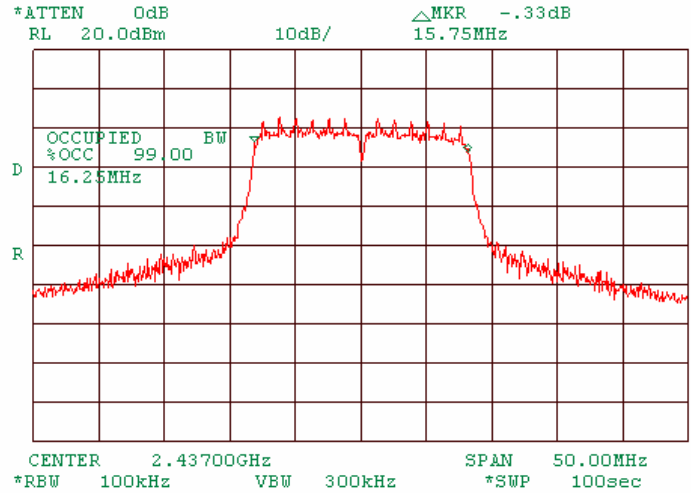
Plot 16: 99% power bandwidth test result at low frequency with MA 850 and MA 1000 interconnected. At 54 Mbps OFDM.



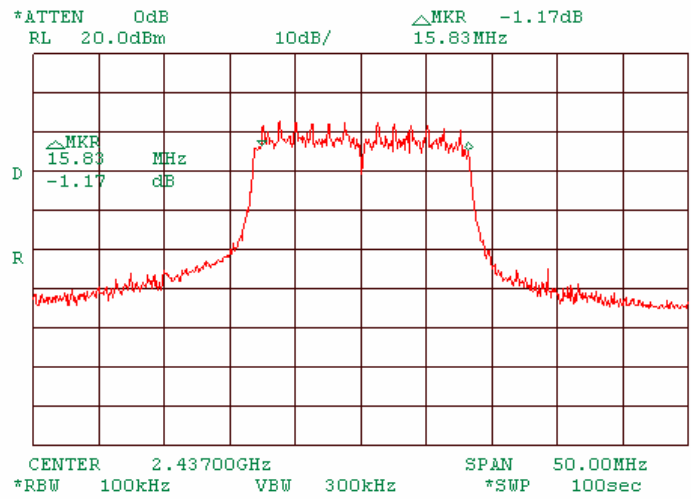
Plot 17: 6 dB bandwidth test result at mid frequency with MA 850 and MA 1000 interconnected. At 6 Mbps OFDM.



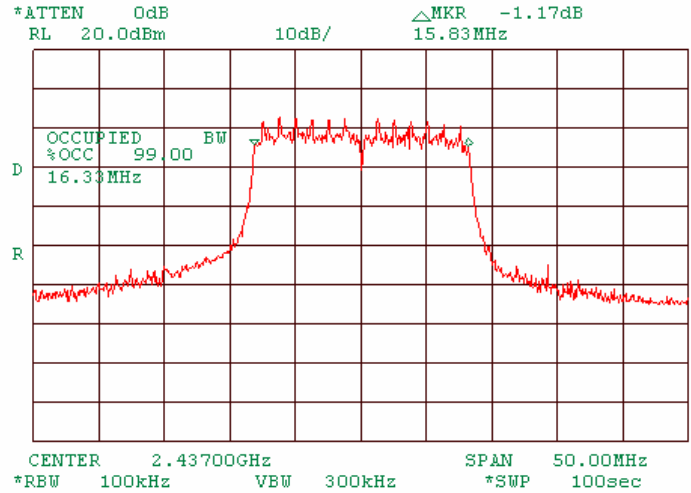
Plot 18: 99% power bandwidth test result at mid frequency with MA 850 and MA 1000 interconnected. At 6 Mbps OFDM.



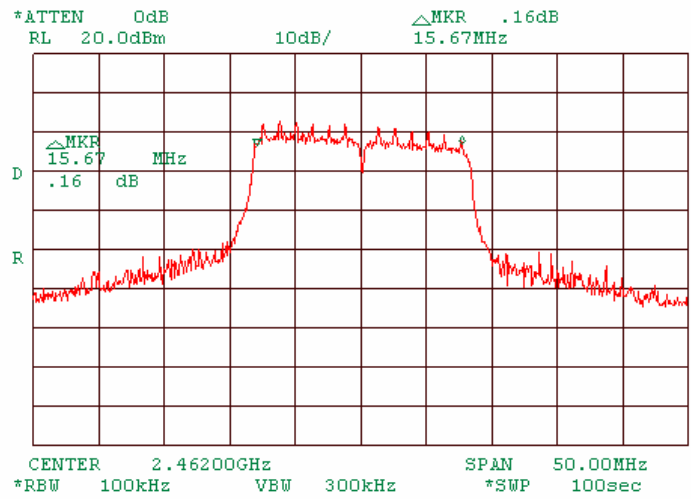
Plot 19: 6 dB bandwidth test result at mid frequency with MA 850 and MA 1000 interconnected. At 54 Mbps OFDM.



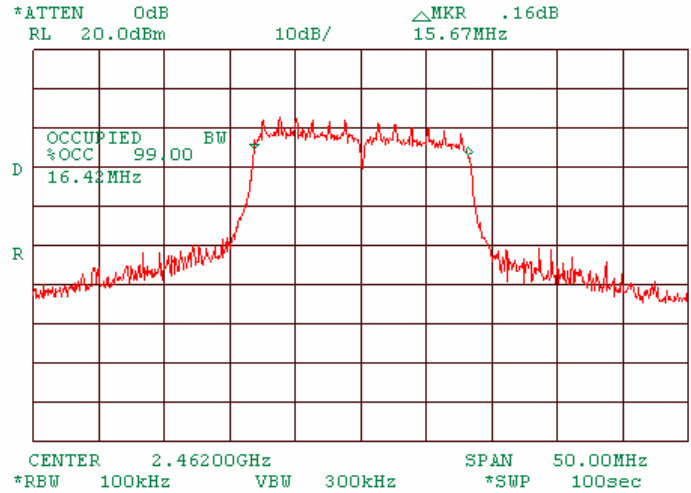
Plot 20: 99% power bandwidth test result at mid frequency with MA 850 and MA 1000 interconnected. At 54 Mbps OFDM.



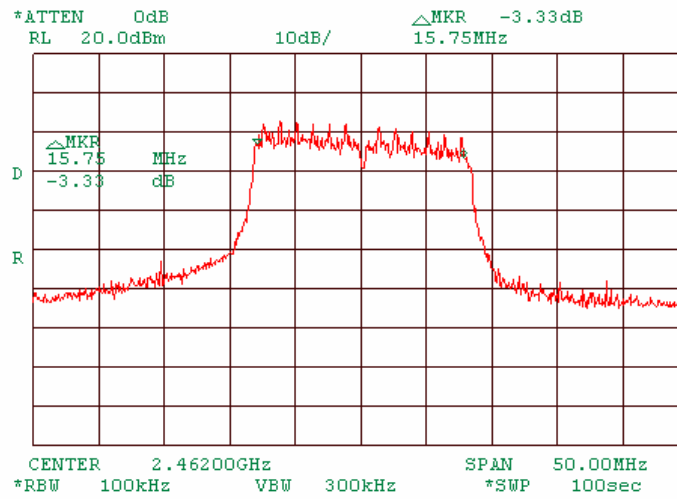
Plot 21: 6 dB bandwidth test result at high frequency with MA 850 and MA 1000 interconnected. At 6 Mbps OFDM.



Plot 22: 99% power bandwidth test result at high frequency with MA 850 and MA 1000 interconnected. At 6 Mbps OFDM.



Plot 23: 6 dB bandwidth test result at high frequency with MA 850 and MA 1000 interconnected. At 54 Mbps OFDM.



Plot 1.324: 99% power bandwidth test result at high frequency with MA 850 and MA 1000 interconnected. At 54 Mbps OFDM.

