

MEASUREMENT/TECHNICAL REPORT



**Intermec Technologies Corporation
Intellitag ITRM24501 Radio Module
2450 MHz Spread Spectrum Transmitter**

REPORT NO: 011214-1

DATE: December 14, 2001

APPENDIX G

THE FOLLOWING PAGES INCLUDE;

Page 2-3, Configurations tested to determine worst case system(s).

Configurations

Average and peak radiated spurious emissions. No emissions found below the transmitter fundamental operating frequency.

Pages 4-9 Radio as a module positioned horizontally. 2 antennas connected to ports 1 and 4, port 4 active.

Pages 10-15 Radio as a module positioned vertically. 2 antennas connected to ports 1 and 4, port 4 active.

Pages 16-21 Radio as a module positioned horizontally. 4 antennas connected, ports 1 and 4 to antennas on site, ports 2 and 3 to remote antennas, port 4 active. Configuration 1.

Pages 22-27 Radio as a module positioned vertically. 4 antennas connected, ports 1 and 4 to antennas on site, ports 2 and 3 to remote antennas, port 4 active. Configuration 1.

CONFIGURATIONS FOR TRANSMITTER RADIATED SPURIOUS EMISSIONS

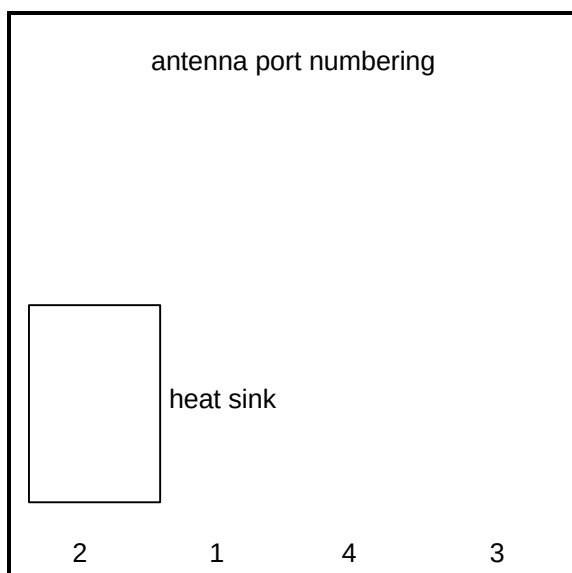
FCC ID: EHAITRM24501

Product: Intermec Model: ITRM24501 Intellitag Radio Module

Set Up: 2 and 4 antennas, ports to antennas on site, active ports, module placement

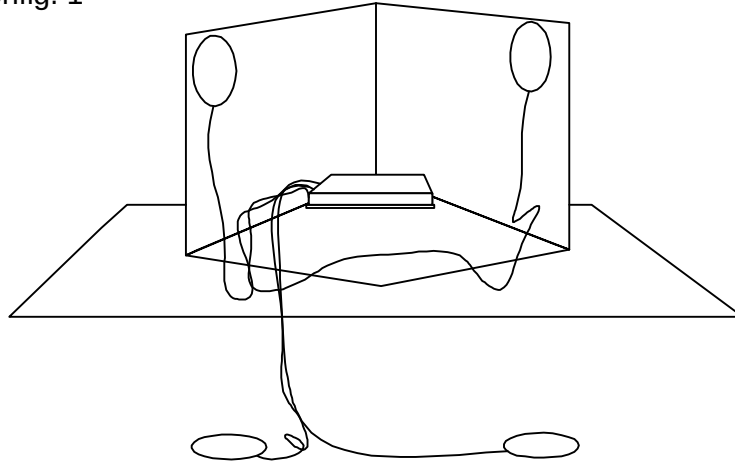
Test Dates (mm/dd/yy): 12/14 thru 12/29 2001

Date	num. of antennas	ports on site	active antenna	module v or h	frq range GHz	
14-Dec	1	4	4	h	1-18	
14-Dec	1	1	1	h	1-18	
14-Dec	1	2	2	h	1-18	
14-Dec	2	1 4	4	h	.03-18	
17-Dec	2	2 3	2	h	1-18	
18-Dec	2	2 3	3	h	1-18	
19-Dec	2	1 4	1	h	1-18	
21-Dec	2	2 4	4	h	1-18	
21-Dec	2	2 4	2	h	1-18	
21-Dec	4	1 2 3 4	4	h	1-18	conf 2
22-Dec	4	1 4	4	h	1-18	conf 1
22-Dec	4	1 2 3 4	4	h	1-18	conf 3
24-Dec	4	1 4	4	v	1-18	conf 1
26-Dec	2	2 4	4	v	1-18	
28-Dec	2	1 4	4	v	1-18	
29-Dec	2	1 4	4	h	18-25	
29-Dec	2	1 4	4	v	18-25	

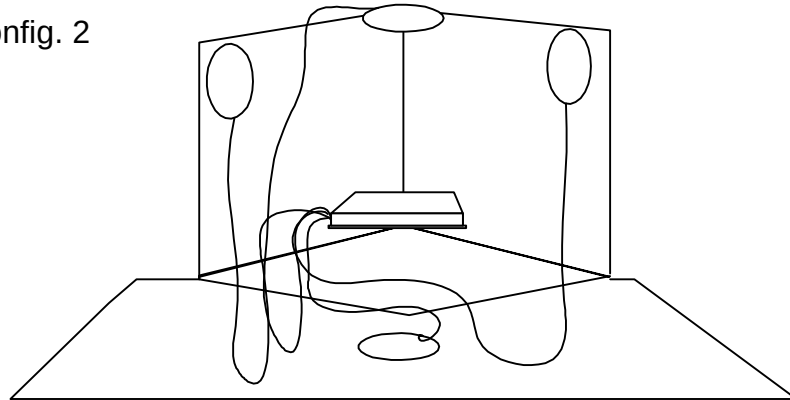


4 antenna configurations tested for worst case.

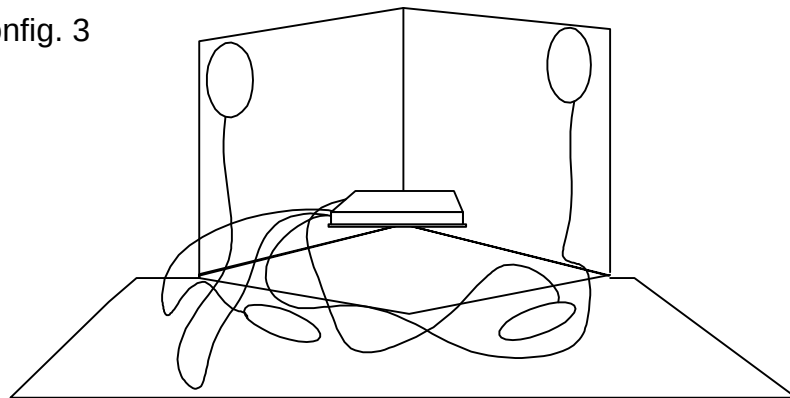
Config. 1



Config. 2



Config. 3



AVERAGE TRANSMITTER RADIATED SPURIOUS EMISSIONS

FCC ID: EHAITRM24501

Intermec Technologies Corporation

Product: Intermec Model: ITRM24501 Intellitag Radio Module

EMC Test Laboratory

Set Up: 2 antennas, ports1&4, 4 active, module placed HORIZONTAL

Cedar Rapids, IA

Test Date (mm/dd/yy): 12/14 thru 12/29 2001

Standard: FCC 15.247

Measurement System Calibration Date: 12/24/01

Span 100 MHz, Res. B.W. 1 MHz, Video B.W. 3 kHz

Frequency (MHz)	Antenna Polarity	Spurious Measured dB(uV)	H.P.filter + Cable Loss (dB)	Antenna Correction Factor dB/M	Amplifier Gain (dB)	Calculated Result dB(uV)/M	AVERAGE Limit @ 1 Meter dB(uV)/Meter 50% duty cycle correction of 6dB	Margin (dB)
a	b	c	d	e	f	g	h	i
(formula)						(=c+d+e-f)	(=64+6)	(=g-h)
Low Channel 02		2402	MHz					
2402	Vert	104.5	3.80	27.80		136.10		
(Fc)	Hor	103.7	3.80	27.80		135.30		
4804	Vert	54.7	5.05	32.70	33.90	58.55	70	-11.5
(Fc * 2)	Hor	60.9	5.05	32.70	33.90	64.75	70	-5.3
7206	Vert	56.8	6.55	36.56	33.70	66.21	70	-3.8
(Fc * 3)	Hor	53.9	6.55	36.56	33.70	63.31	70	-6.7
9608	Vert	47.8	7.65	37.26	34.04	58.67	70	-11.3
(Fc * 4)	Hor	45.6	7.65	37.26	34.04	56.47	70	-13.5
12010	Vert	37.1	8.65	38.40	33.00	51.15	70	-18.9
(Fc * 5)	Hor	31.9	8.65	38.40	33.00	45.95	70	-24.1
14412	Vert	32.0	8.85	40.78	31.18	50.45	70	-19.6
(Fc * 6)	Hor	31.8	8.85	40.78	31.18	50.25	70	-19.8
16814	Vert	31.8	10.65	39.94	31.72	50.67	70	-19.3
(Fc * 7)	Hor	31.2	10.65	39.94	31.72	50.07	70	-19.9
19216	Vert	40.9	3.37	45.18	30.60	58.85	70	-11.2
(Fc * 8)	Hor	34.9	3.37	45.18	30.60	52.85	70	-17.2
21618	Vert	35.2	3.46	44.34	30.28	52.72	70	-17.3
(Fc * 9)	Hor	31.9	3.46	44.34	30.28	49.42	70	-20.6
24020	Vert	41.8	7.04	45.33	30.30	63.87	70	-6.1
(Fc * 10)	Hor	32.8	7.04	45.33	30.30	54.87	70	-15.1

Middle Channel 41		2441	MHz					
2441	Vert	103.1	3.85	27.90		134.85		
(Fc)	Hor	105.4	3.85	27.90		137.15		
4882	Vert	57.5	5.05	32.80	33.90	61.45	70	-8.6
(Fc * 2)	Hor	60.2	5.05	32.80	33.90	64.15	70	-5.8
7323	Vert	56.4	6.50	36.68	33.70	65.88	70	-4.1
(Fc * 3)	Hor	51.2	6.50	36.68	33.70	60.68	70	-9.3
9764	Vert	45.3	7.40	37.50	33.95	56.25	70	-13.8
(Fc * 4)	Hor	44.0	7.40	37.50	33.95	54.95	70	-15.1
12205	Vert	33.1	8.40	38.76	32.76	47.50	70	-22.5
(Fc * 5)	Hor	30.6	8.40	38.76	32.76	45.00	70	-25.0
14646	Vert	31.5	9.10	40.39	31.48	49.51	70	-20.5
(Fc * 6)	Hor	31.3	9.10	40.39	31.48	49.31	70	-20.7
17087	Vert	31.3	10.50	41.68	31.58	51.90	70	-18.1
(Fc * 7)	Hor	31.2	10.50	41.68	31.58	51.80	70	-18.2
19528	Vert	39.5	3.33	45.03	31.00	56.86	70	-13.1
(Fc * 8)	Hor	33.9	3.33	45.03	31.00	51.26	70	-18.7
21969	Vert	36.1	4.00	44.12	29.86	54.36	70	-15.6
(Fc * 9)	Hor	33.3	4.00	44.12	29.86	51.56	70	-18.4
24410	Vert	39.9	4.94	45.81	31.20	59.45	70	-10.6
(Fc * 10)	Hor	32.3	4.94	45.81	31.20	51.85	70	-18.2

AVERAGE TRANSMITTER RADIATED SPURIOUS EMISSIONS

FCC ID: EHAITRM24501

Intermec Technologies Corporation

Product: Intermec Model: ITRM24501 Intellitag Radio Module

EMC Test Laboratory

Set Up: 2 antennas, ports1&4, 4 active, module placed HORIZONTAL

Cedar Rapids, IA

Test Date (mm/dd/yy): 12/14 thru 12/29 2001

Standard: FCC 15.247

Measurement System Calibration Date: 12/24/01

Span 100 MHz, Res. B.W. 1 MHz, Video B.W. 3 kHz

Frequency (MHz)	Antenna Polarity	Spurious Measured dB(uV)	H.P.filter + Cable Loss (dB)	Antenna Correction Factor dB/M	Amplifier Gain (dB)	Calculated Result dB(uV)/M	AVERAGE Limit @ 1 Meter dB(uV)/Meter 50% duty cycle correction of 6dB	Margin (dB)
a	b	c	d	e	f	g	h	i
(formula)						(=c+d+e-f)	(=64+6)	(=g-h)
High Channel 80	2480	MHz						
2480	Vert	105.8	3.90	28.00		137.70		
(Fc)	Hor	102.5	3.90	28.00		134.40		
4960	Vert	57.4	5.15	32.85	33.90	61.50	70	-8.5
(Fc * 2)	Hor	61.7	5.15	32.85	33.90	65.80	70	-4.2
7440	Vert	56.6	7.00	36.72	33.70	66.62	70	-3.4
(Fc * 3)	Hor	51.2	7.00	36.72	33.70	61.22	70	-8.8
9920	Vert	45.2	7.40	37.74	33.86	56.48	70	-13.5
(Fc * 4)	Hor	44.5	7.40	37.74	33.86	55.78	70	-14.2
12400	Vert	34.1	8.45	39.12	32.52	49.15	70	-20.9
(Fc * 5)	Hor	30.0	8.45	39.12	32.52	45.05	70	-25.0
14880	Vert	33.4	9.10	40.40	31.78	51.12	70	-18.9
(Fc * 6)	Hor	32.6	9.10	40.40	31.78	50.32	70	-19.7
17360	Vert	31.6	12.25	43.63	31.53	55.95	70	-14.1
(Fc * 7)	Hor	32.7	12.25	43.63	31.53	57.05	70	-13.0
19840	Vert	40.0	3.55	45.21	31.95	56.81	70	-13.2
(Fc * 8)	Hor	34.9	3.55	45.21	31.95	51.71	70	-18.3
22320	Vert	34.9	4.16	44.69	29.98	53.77	70	-16.2
(Fc * 9)	Hor	31.9	4.16	44.69	29.98	50.77	70	-19.2
24800	Vert	35.8	6.05	45.60	31.62	55.83	70	-14.2
(Fc * 10)	Hor	32.8	6.05	45.60	31.62	52.83	70	-17.2

AVERAGE TRANSMITTER RADIATED SPURIOUS EMISSIONS

FCC ID: EHAITRM24501

Intermec Technologies Corporation

Product: Intermec Model: ITRM24501 Intellitag Radio Module

EMC Test Laboratory

Set Up: 2 antennas, ports1&4, 4 active, module placed HORIZONTAL

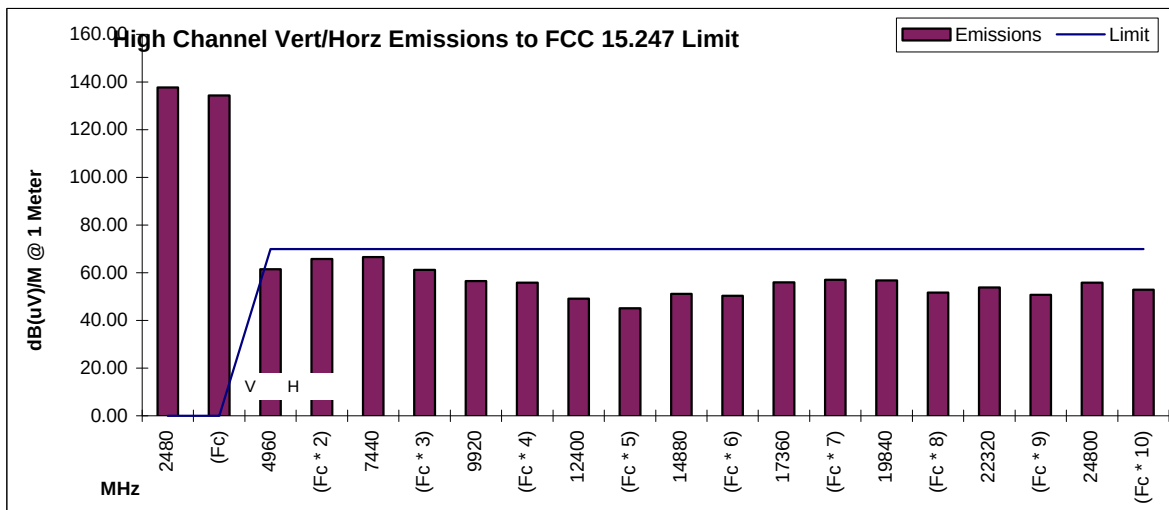
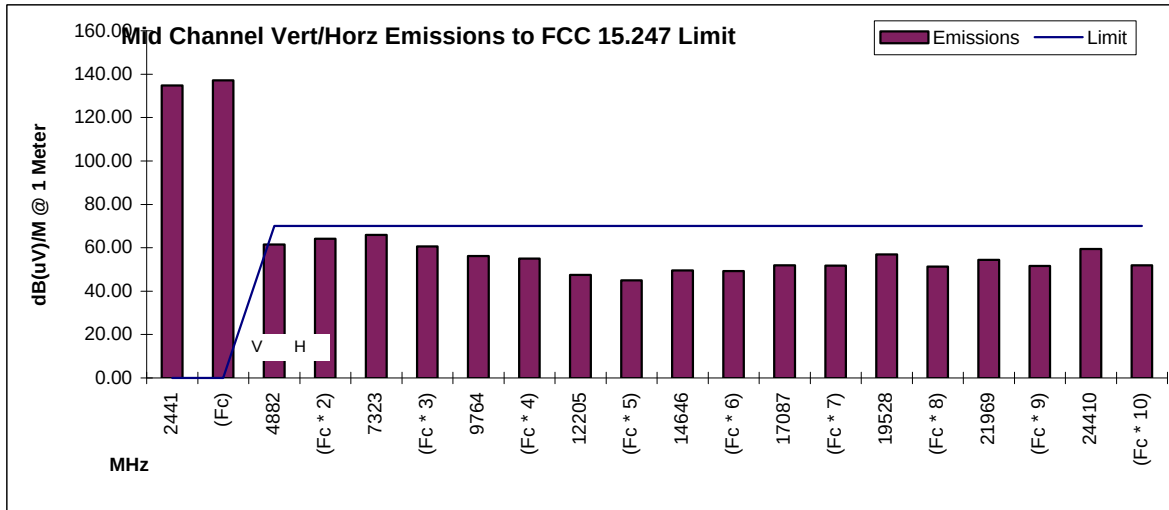
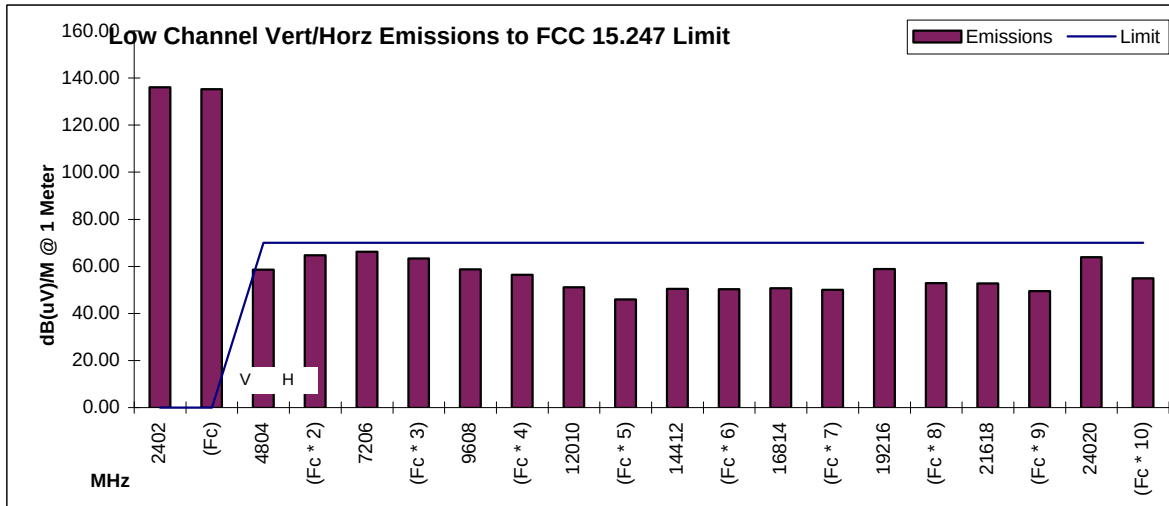
Cedar Rapids, IA

Test Date (mm/dd/yy): 12/14 thru 12/29 2001

Standard: FCC 15.247

Measurement System Calibration Date: 12/24/01

Span 100 MHz, Res. B.W. 1 MHz, Video B.W. 3 kHz



PEAK TRANSMITTER RADIATED SPURIOUS EMISSIONS

FCC ID: EHAITRM24501

Intermec Technologies Corporation

Product: Intermec Model: ITRM24501 Intellitag Radio Module

EMC Test Laboratory

Set Up: 2 antennas, ports1&4, 4 active, module placed HORIZONTAL

Cedar Rapids, IA

Test Date (mm/dd/yy): 12/14 thru 12/29 2001

Standard: FCC 15.247

Measurement System Calibration Date: 12/24/01

Span 100 MHz, Res. B.W. 1 MHz, Video B.W. 1 MHz

Frequency (MHz)	Antenna Polarity	Spurious Measured dB(uV)	H.P.filter + Cable Loss (dB)	Antenna Correction Factor dB/M	Amplifier Gain (dB)	Calculated Result dB(uV)/M	PEAK Limit @ 1 Meter dB(uV)/Meter	Margin (dB)
a	b	c	d	e	f	g	h	i
(formula)						(=c+d+e-f)		(=g-h)
Low Channel 02		2402	MHz					
2402	Vert	104.5	3.8	27.8		136.1		
(Fc)	Hor	103.7	3.8	27.8		135.3		
4804	Vert	55.9	5.1	32.7	33.9	59.8	84	-24.3
(Fc * 2)	Hor	61.2	5.1	32.7	33.9	65.1	84	-19.0
7206	Vert	57.1	6.6	36.6	33.7	66.5	84	-17.5
(Fc * 3)	Hor	54.4	6.6	36.6	33.7	63.8	84	-20.2
9608	Vert	49.6	7.7	37.3	34.0	60.5	84	-23.5
(Fc * 4)	Hor	48.8	7.7	37.3	34.0	59.7	84	-24.3
12010	Vert	43.9	8.7	38.4	33.0	58.0	84	-26.1
(Fc * 5)	Hor	41.9	8.7	38.4	33.0	56.0	84	-28.1
14412	Vert	43.8	8.9	40.8	31.2	62.3	84	-21.8
(Fc * 6)	Hor	43.2	8.9	40.8	31.2	61.7	84	-22.4
16814	Vert	42.9	10.7	39.9	31.7	61.8	84	-22.2
(Fc * 7)	Hor	41.8	10.7	39.9	31.7	60.7	84	-23.3
19216	Vert	46.6	3.4	45.2	30.6	64.6	84	-19.5
(Fc * 8)	Hor	44.1	3.4	45.2	30.6	62.1	84	-22.0
21618	Vert	44.9	3.5	44.3	30.3	62.4	84	-21.6
(Fc * 9)	Hor	43.5	3.5	44.3	30.3	61.0	84	-23.0
24020	Vert	48.1	7.0	45.3	30.3	70.2	84	-13.8
(Fc * 10)	Hor	44.0	7.0	45.3	30.3	66.1	84	-17.9

Middle Channel 41		2441	MHz					
2441	Vert	103.1	3.9	27.9		134.9		
(Fc)	Hor	105.4	3.9	27.9		137.2		
4882	Vert	58.5	5.1	32.8	33.9	62.5	84	-21.6
(Fc * 2)	Hor	60.3	5.1	32.8	33.9	64.3	84	-19.8
7323	Vert	57.7	6.5	36.7	33.7	67.2	84	-16.8
(Fc * 3)	Hor	53.0	6.5	36.7	33.7	62.5	84	-21.5
9764	Vert	48.4	7.4	37.5	34.0	59.4	84	-24.7
(Fc * 4)	Hor	48.1	7.4	37.5	34.0	59.1	84	-25.0
12205	Vert	41.8	8.4	38.8	32.8	56.2	84	-27.8
(Fc * 5)	Hor	40.5	8.4	38.8	32.8	54.9	84	-29.1
14646	Vert	41.2	9.1	40.4	31.5	59.2	84	-24.8
(Fc * 6)	Hor	41.4	9.1	40.4	31.5	59.4	84	-24.6
17087	Vert	41.8	10.5	41.7	31.6	62.4	84	-21.6
(Fc * 7)	Hor	41.9	10.5	41.7	31.6	62.5	84	-21.5
19528	Vert	46.1	3.3	45.0	31.0	63.5	84	-20.5
(Fc * 8)	Hor	44.2	3.3	45.0	31.0	61.6	84	-22.4
21969	Vert	46.0	4.0	44.1	29.9	64.3	84	-19.7
(Fc * 9)	Hor	45.1	4.0	44.1	29.9	63.4	84	-20.6
24410	Vert	46.3	4.9	45.8	31.2	65.9	84	-18.2
(Fc * 10)	Hor	43.6	4.9	45.8	31.2	63.2	84	-20.9

PEAK TRANSMITTER RADIATED SPURIOUS EMISSIONS

FCC ID: EHAITRM24501

Intermec Technologies Corporation

Product: Intermec Model: ITRM24501 Intellitag Radio Module

EMC Test Laboratory

Set Up: 2 antennas, ports1&4, 4 active, module placed HORIZONTAL

Cedar Rapids, IA

Test Date (mm/dd/yy): 12/14 thru 12/29 2001

Standard: FCC 15.247

Measurement System Calibration Date: 12/24/01

Span 100 MHz, Res. B.W. 1 MHz, Video B.W. 1 MHz

Frequency (MHz)	Antenna Polarity	Spurious Measured dB(uV)	H.P.filter + Cable Loss (dB)	Antenna Correction Factor dB/M	Amplifier Gain (dB)	Calculated Result dB(uV)/M	PEAK Limit @ 1 Meter dB(uV)/Meter	Margin (dB)
a	b	c	d	e	f	g	h	i
(formula)						(=c+d+e-f)		(=g-h)
High Channel 80		2480	MHz					
2480	Vert	105.8	3.9	28.0		137.7		
(Fc)	Hor	102.5	3.9	28.0		134.4		
4960	Vert	58.0	5.2	32.9	33.9	62.1	84	-21.9
(Fc * 2)	Hor	62.0	5.2	32.9	33.9	66.1	84	-17.9
7440	Vert	57.4	7.0	36.7	33.7	67.4	84	-16.6
(Fc * 3)	Hor	53.2	7.0	36.7	33.7	63.2	84	-20.8
9920	Vert	48.0	7.4	37.7	33.9	59.3	84	-24.7
(Fc * 4)	Hor	47.9	7.4	37.7	33.9	59.2	84	-24.8
12400	Vert	41.9	8.5	39.1	32.5	57.0	84	-27.1
(Fc * 5)	Hor	39.8	8.5	39.1	32.5	54.9	84	-29.2
14880	Vert	43.1	9.1	40.4	31.8	60.8	84	-23.2
(Fc * 6)	Hor	42.5	9.1	40.4	31.8	60.2	84	-23.8
17360	Vert	41.7	12.3	43.6	31.5	66.1	84	-18.0
(Fc * 7)	Hor	42.5	12.3	43.6	31.5	66.9	84	-17.2
19840	Vert	46.7	3.6	45.2	32.0	63.5	84	-20.5
(Fc * 8)	Hor	44.6	3.6	45.2	32.0	61.4	84	-22.6
22320	Vert	44.2	4.2	44.7	30.0	63.1	84	-20.9
(Fc * 9)	Hor	43.7	4.2	44.7	30.0	62.6	84	-21.4
24800	Vert	46.2	6.1	45.6	31.6	66.2	84	-17.8
(Fc * 10)	Hor	44.9	6.1	45.6	31.6	64.9	84	-19.1

PEAK TRANSMITTER RADIATED SPURIOUS EMISSIONS

FCC ID: EHAITRM24501

Intermec Technologies Corporation

Product: Intermec Model: ITRM24501 Intellitag Radio Module

EMC Test Laboratory

Set Up: 2 antennas, ports1&4, 4 active, module placed HORIZONTAL

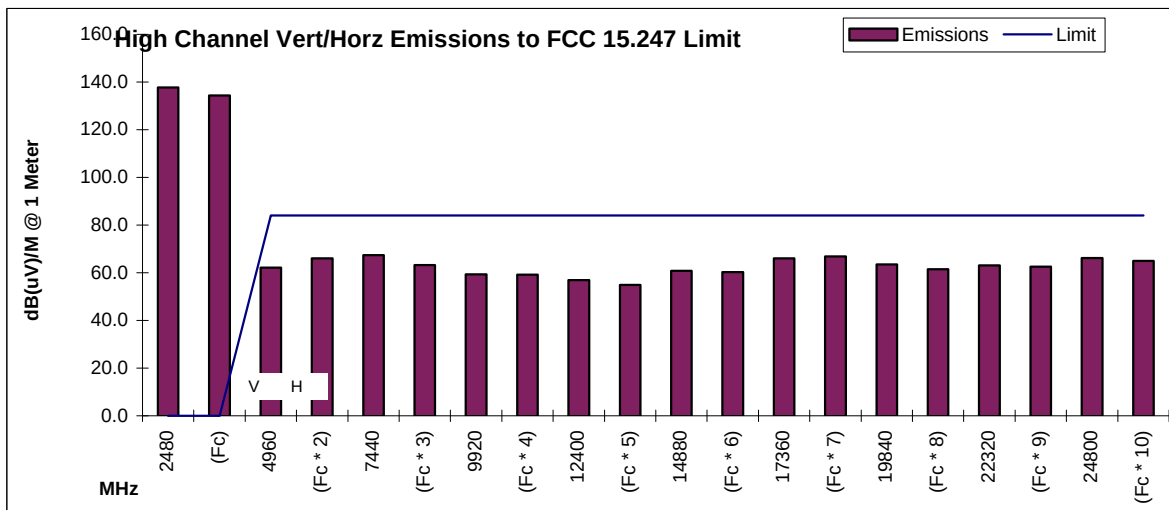
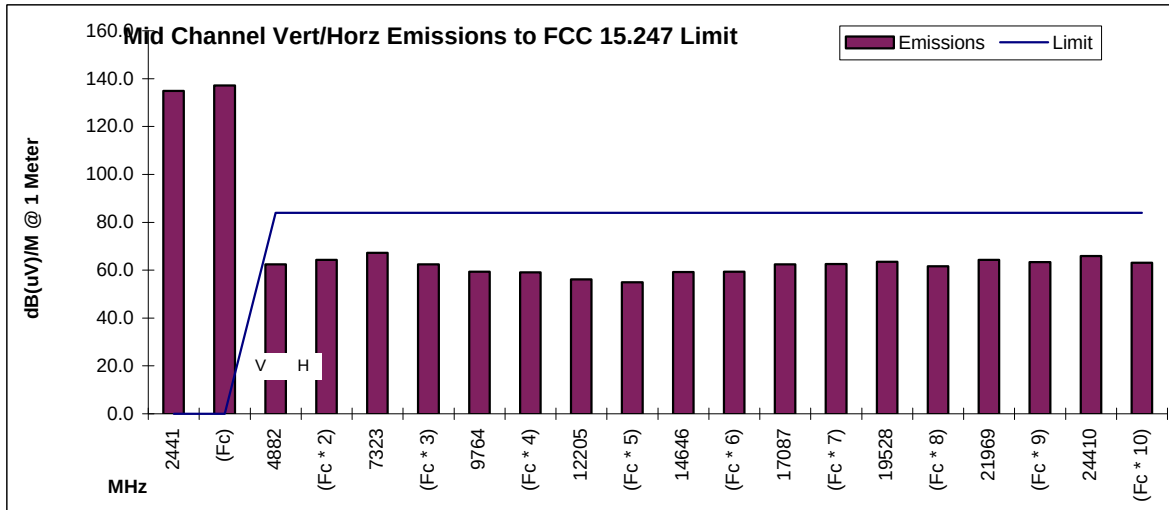
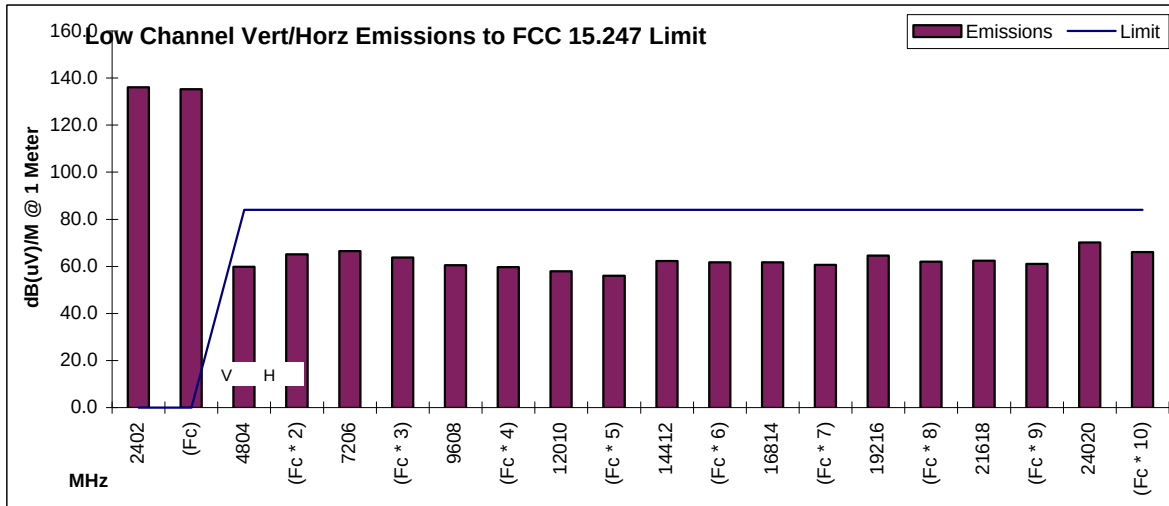
Cedar Rapids, IA

Test Date (mm/dd/yy): 12/14 thru 12/29 2001

Standard: FCC 15.247

Measurement System Calibration Date: 12/24/01

Span 100 MHz, Res. B.W. 1 MHz, Video B.W. 1 MHz



AVERAGE TRANSMITTER RADIATED SPURIOUS EMISSIONS

FCC ID: EHAITRM24501

Intermec Technologies Corporation

Product: Intermec Model: ITRM24501 Intellitag Radio Module

EMC Test Laboratory

Set Up: 2 antennas, ports1&4, 4 active, module placed VERTICAL

Cedar Rapids, IA

Test Date (mm/dd/yy): 12/26 thru 12/29 2001

Standard: FCC 15.247

Measurement System Calibration Date: 12/24/01

Span 100 MHz, Res. B.W. 1 MHz, Video B.W. 3 kHz

Frequency (MHz)	Antenna Polarity	Spurious Measured dB(uV)	H.P.filter + Cable Loss (dB)	Antenna Correction Factor dB/M	Amplifier Gain (dB)	Calculated Result dB(uV)/M	AVERAGE Limit @ 1 Meter dB(uV)/Meter 50% duty cycle correction of 6dB	Margin (dB)
a	b	c	d	e	f	g	h	i
(formula)						(=c+d+e-f)	(=64+6)	(=g-h)
Low Channel 02		2402	MHz					
2402	Vert	104.5	3.80	27.80		136.10		
(Fc)	Hor	103.7	3.80	27.80		135.30		
4804	Vert	57.2	5.05	32.70	33.90	61.05	70	-9.0
(Fc * 2)	Hor	59.4	5.05	32.70	33.90	63.25	70	-6.7
7206	Vert	54.7	6.55	36.56	33.70	64.11	70	-5.9
(Fc * 3)	Hor	57.2	6.55	36.56	33.70	66.61	70	-3.4
9608	Vert	44.3	7.65	37.26	34.04	55.17	70	-14.8
(Fc * 4)	Hor	46.5	7.65	37.26	34.04	57.37	70	-12.6
12010	Vert	38.0	8.65	38.40	33.00	52.05	70	-18.0
(Fc * 5)	Hor	39.0	8.65	38.40	33.00	53.05	70	-17.0
14412	Vert	32.2	8.85	40.78	31.18	50.65	70	-19.4
(Fc * 6)	Hor	32.1	8.85	40.78	31.18	50.55	70	-19.5
16814	Vert	31.9	10.65	39.94	31.72	50.77	70	-19.2
(Fc * 7)	Hor	31.6	10.65	39.94	31.72	50.47	70	-19.5
19216	Vert	41.7	3.37	45.18	30.60	59.65	70	-10.4
(Fc * 8)	Hor	37.2	3.37	45.18	30.60	55.15	70	-14.9
21618	Vert	34.1	3.46	44.34	30.28	51.62	70	-18.4
(Fc * 9)	Hor	34.2	3.46	44.34	30.28	51.72	70	-18.3
24020	Vert	36.2	7.04	45.33	30.30	58.27	70	-11.7
(Fc * 10)	Hor	34.2	7.04	45.33	30.30	56.27	70	-13.7

Middle Channel 41		2441	MHz					
2441	Vert	103.1	3.85	27.90		134.85		
(Fc)	Hor	105.4	3.85	27.90		137.15		
4882	Vert	62.5	5.05	32.80	33.90	66.45	70	-3.6
(Fc * 2)	Hor	63.7	5.05	32.80	33.90	67.65	70	-2.3
7323	Vert	51.2	6.50	36.68	33.70	60.68	70	-9.3
(Fc * 3)	Hor	54.5	6.50	36.68	33.70	63.98	70	-6.0
9764	Vert	44.9	7.40	37.50	33.95	55.85	70	-14.2
(Fc * 4)	Hor	44.7	7.40	37.50	33.95	55.65	70	-14.4
12205	Vert	34.9	8.40	38.76	32.76	49.30	70	-20.7
(Fc * 5)	Hor	36.0	8.40	38.76	32.76	50.40	70	-19.6
14646	Vert	32.5	9.10	40.39	31.48	50.51	70	-19.5
(Fc * 6)	Hor	33.2	9.10	40.39	31.48	51.21	70	-18.8
17087	Vert	32.4	10.50	41.68	31.58	53.00	70	-17.0
(Fc * 7)	Hor	31.9	10.50	41.68	31.58	52.50	70	-17.5
19528	Vert	42.3	3.33	45.03	31.00	59.66	70	-10.3
(Fc * 8)	Hor	34.7	3.33	45.03	31.00	52.06	70	-17.9
21969	Vert	34.2	4.00	44.12	29.86	52.46	70	-17.5
(Fc * 9)	Hor	33.0	4.00	44.12	29.86	51.26	70	-18.7
24410	Vert	34.0	4.94	45.81	31.20	53.55	70	-16.5
(Fc * 10)	Hor	33.1	4.94	45.81	31.20	52.65	70	-17.4

AVERAGE TRANSMITTER RADIATED SPURIOUS EMISSIONS

FCC ID: EHAITRM24501

Intermec Technologies Corporation

Product: Intermec Model: ITRM24501 Intellitag Radio Module

EMC Test Laboratory

Set Up: 2 antennas, ports1&4, 4 active, module placed VERTICAL

Cedar Rapids, IA

Test Date (mm/dd/yy): 12/26 thru 12/29 2001

Standard: FCC 15.247

Measurement System Calibration Date: 12/24/01

Span 100 MHz, Res. B.W. 1 MHz, Video B.W. 3 kHz

Frequency (MHz)	Antenna Polarity	Spurious Measured dB(uV)	H.P.filter + Cable Loss (dB)	Antenna Correction Factor dB/M	Amplifier Gain (dB)	Calculated Result dB(uV)/M	AVERAGE Limit @ 1 Meter dB(uV)/Meter 50% duty cycle correction of 6dB	Margin (dB)
a	b	c	d	e	f	g	h	i
(formula)						(=c+d+e-f)	(=64+6)	(=g-h)
High Channel 80	2480	MHz						
2480	Vert	105.8	3.90	28.00		137.70		
(Fc)	Hor	102.5	3.90	28.00		134.40		
4960	Vert	61.9	5.15	32.85	33.90	66.00	70	-4.0
(Fc * 2)	Hor	64.2	5.15	32.85	33.90	68.30	70	-1.7
7440	Vert	53.0	7.00	36.72	33.70	63.02	70	-7.0
(Fc * 3)	Hor	55.9	7.00	36.72	33.70	65.92	70	-4.1
9920	Vert	47.2	7.40	37.74	33.86	58.48	70	-11.5
(Fc * 4)	Hor	43.5	7.40	37.74	33.86	54.78	70	-15.2
12400	Vert	35.1	8.45	39.12	32.52	50.15	70	-19.9
(Fc * 5)	Hor	36.3	8.45	39.12	32.52	51.35	70	-18.7
14880	Vert	33.8	9.10	40.40	31.78	51.52	70	-18.5
(Fc * 6)	Hor	32.9	9.10	40.40	31.78	50.62	70	-19.4
17360	Vert	33.9	12.25	43.63	31.53	58.25	70	-11.8
(Fc * 7)	Hor	34.4	12.25	43.63	31.53	58.75	70	-11.3
19840	Vert	43.1	3.55	45.21	31.95	59.91	70	-10.1
(Fc * 8)	Hor	35.7	3.55	45.21	31.95	52.51	70	-17.5
22320	Vert	33.7	4.16	44.69	29.98	52.57	70	-17.4
(Fc * 9)	Hor	32.6	4.16	44.69	29.98	51.47	70	-18.5
24800	Vert	34.2	6.05	45.60	31.62	54.23	70	-15.8
(Fc * 10)	Hor	33.9	6.05	45.60	31.62	53.93	70	-16.1

AVERAGE TRANSMITTER RADIATED SPURIOUS EMISSIONS

FCC ID: EHAITRM24501

Intermec Technologies Corporation

Product: Intermec Model: ITRM24501 Intellitag Radio Module

EMC Test Laboratory

Set Up: 2 antennas, ports1&4, 4 active, module placed VERTICAL

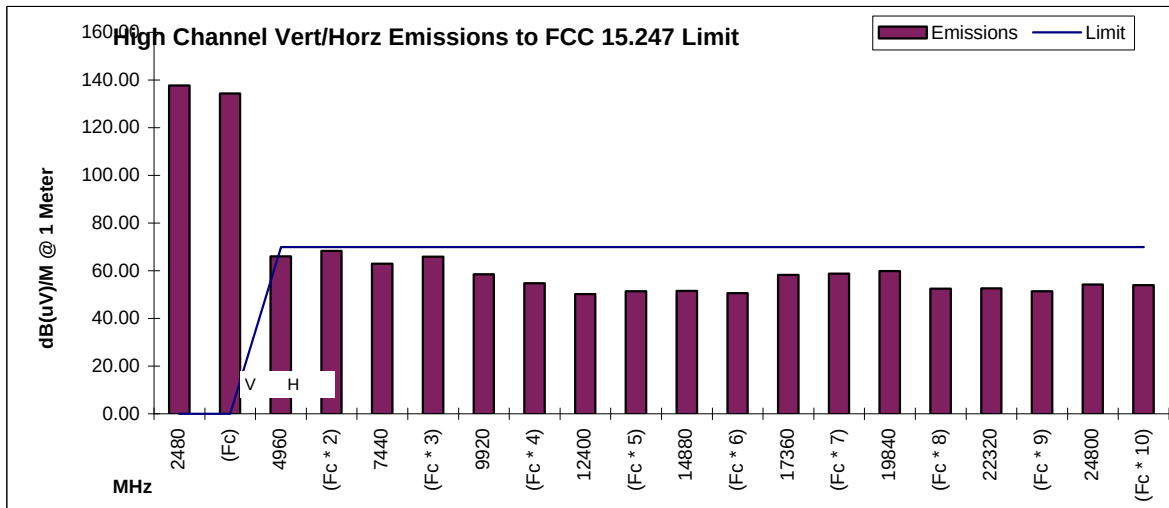
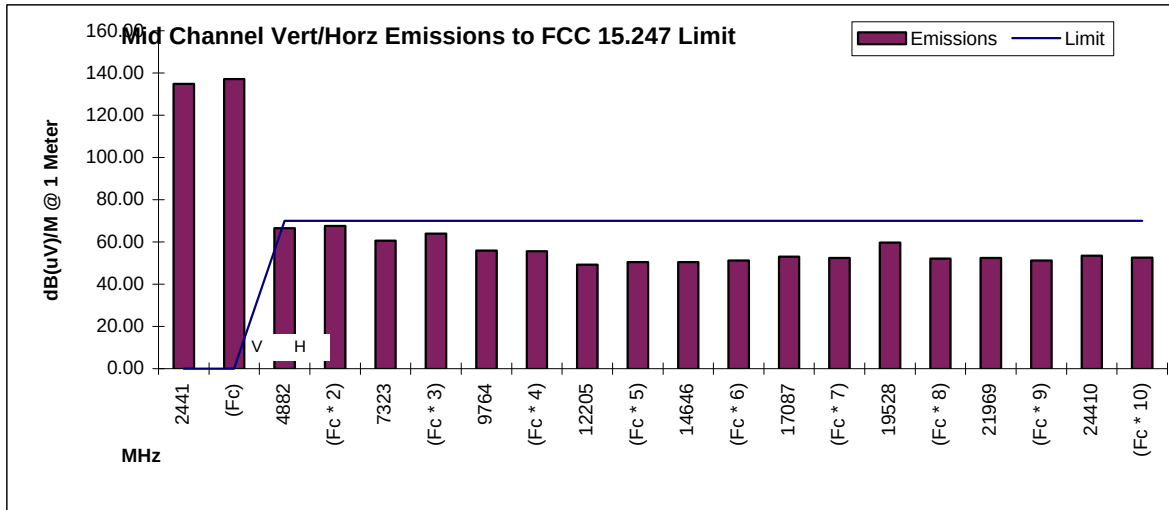
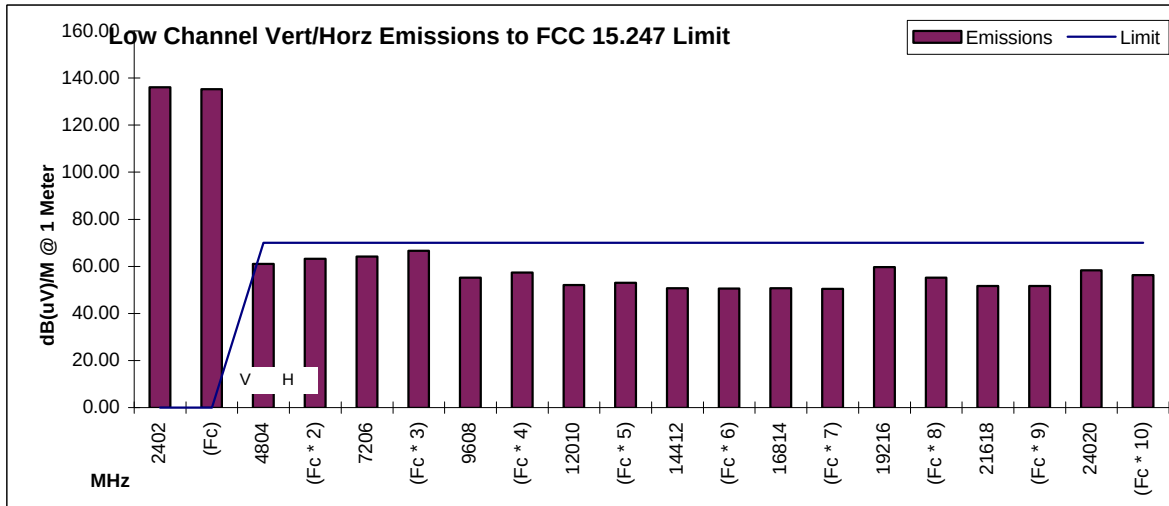
Cedar Rapids, IA

Test Date (mm/dd/yy): 12/26 thru 12/29 2001

Standard: FCC 15.247

Measurement System Calibration Date: 12/24/01

Span 100 MHz, Res. B.W. 1 MHz, Video B.W. 3 kHz



PEAK TRANSMITTER RADIATED SPURIOUS EMISSIONS

FCC ID: EHAITRM24501

Intermec Technologies Corporation

Product: Intermec Model: ITRM24501 Intellitag Radio Module

EMC Test Laboratory

Set Up: 2 antennas, ports1&4, 4 active, module placed VERTICAL

Cedar Rapids, IA

Test Date (mm/dd/yy): 12/26 thru 12/29 2001

Standard: FCC 15.247

Measurement System Calibration Date: 12/24/01

Span 100 MHz, Res. B.W. 1 MHz, Video B.W. 1 MHz

Frequency (MHz)	Antenna Polarity	Spurious Measured dB(uV)	H.P.filter + Cable Loss (dB)	Antenna Correction Factor dB/M	Amplifier Gain (dB)	Calculated Result dB(uV)/M	PEAK Limit @ 1 Meter dB(uV)/Meter	Margin (dB)
a	b	c	d	e	f	g	h	i
(formula)						(=c+d+e-f)		(=g-h)
Low Channel 02		2402	MHz					
2402	Vert	104.5	3.8	27.8		136.1		
(Fc)	Hor	103.7	3.8	27.8		135.3		
4804	Vert	57.8	5.1	32.7	33.9	61.7	84	-22.4
(Fc * 2)	Hor	59.8	5.1	32.7	33.9	63.7	84	-20.4
7206	Vert	55.5	6.6	36.6	33.7	64.9	84	-19.1
(Fc * 3)	Hor	58.0	6.6	36.6	33.7	67.4	84	-16.6
9608	Vert	47.2	7.7	37.3	34.0	58.1	84	-25.9
(Fc * 4)	Hor	48.8	7.7	37.3	34.0	59.7	84	-24.3
12010	Vert	43.7	8.7	38.4	33.0	57.8	84	-26.3
(Fc * 5)	Hor	44.9	8.7	38.4	33.0	59.0	84	-25.1
14412	Vert	42.9	8.9	40.8	31.2	61.4	84	-22.7
(Fc * 6)	Hor	42.7	8.9	40.8	31.2	61.2	84	-22.9
16814	Vert	42.8	10.7	39.9	31.7	61.7	84	-22.3
(Fc * 7)	Hor	42.9	10.7	39.9	31.7	61.8	84	-22.2
19216	Vert	47.5	3.4	45.2	30.6	65.5	84	-18.6
(Fc * 8)	Hor	44.1	3.4	45.2	30.6	62.1	84	-22.0
21618	Vert	45.0	3.5	44.3	30.3	62.5	84	-21.5
(Fc * 9)	Hor	45.2	3.5	44.3	30.3	62.7	84	-21.3
24020	Vert	44.3	7.0	45.3	30.3	66.4	84	-17.6
(Fc * 10)	Hor	45.0	7.0	45.3	30.3	67.1	84	-16.9

Middle Channel 41		2441	MHz					
2441	Vert	103.1	3.9	27.9		134.9		
(Fc)	Hor	105.4	3.9	27.9		137.2		
4882	Vert	62.8	5.1	32.8	33.9	66.8	84	-17.3
(Fc * 2)	Hor	64.2	5.1	32.8	33.9	68.2	84	-15.9
7323	Vert	53.0	6.5	36.7	33.7	62.5	84	-21.5
(Fc * 3)	Hor	55.6	6.5	36.7	33.7	65.1	84	-18.9
9764	Vert	47.4	7.4	37.5	34.0	58.4	84	-25.7
(Fc * 4)	Hor	47.1	7.4	37.5	34.0	58.1	84	-26.0
12205	Vert	41.8	8.4	38.8	32.8	56.2	84	-27.8
(Fc * 5)	Hor	43.4	8.4	38.8	32.8	57.8	84	-26.2
14646	Vert	43.6	9.1	40.4	31.5	61.6	84	-22.4
(Fc * 6)	Hor	43.1	9.1	40.4	31.5	61.1	84	-22.9
17087	Vert	43.2	10.5	41.7	31.6	63.8	84	-20.2
(Fc * 7)	Hor	43.1	10.5	41.7	31.6	63.7	84	-20.3
19528	Vert	47.5	3.3	45.0	31.0	64.9	84	-19.1
(Fc * 8)	Hor	44.1	3.3	45.0	31.0	61.5	84	-22.5
21969	Vert	45.0	4.0	44.1	29.9	63.3	84	-20.7
(Fc * 9)	Hor	45.2	4.0	44.1	29.9	63.5	84	-20.5
24410	Vert	44.3	4.9	45.8	31.2	63.9	84	-20.2
(Fc * 10)	Hor	45.0	4.9	45.8	31.2	64.6	84	-19.5

PEAK TRANSMITTER RADIATED SPURIOUS EMISSIONS

FCC ID: EHAITRM24501

Intermec Technologies Corporation

Product: Intermec Model: ITRM24501 Intellitag Radio Module

EMC Test Laboratory

Set Up: 2 antennas, ports1&4, 4 active, module placed VERTICAL

Cedar Rapids, IA

Test Date (mm/dd/yy): 12/26 thru 12/29 2001

Standard: FCC 15.247

Measurement System Calibration Date: 12/24/01

Span 100 MHz, Res. B.W. 1 MHz, Video B.W. 1 MHz

Frequency (MHz)	Antenna Polarity	Spurious Measured dB(uV)	H.P.filter + Cable Loss (dB)	Antenna Correction Factor dB/M	Amplifier Gain (dB)	Calculated Result dB(uV)/M	PEAK Limit @ 1 Meter dB(uV)/Meter	Margin (dB)
a	b	c	d	e	f	g	h	i
(formula)						(=c+d+e-f)		(=g-h)
High Channel 80		2480	MHz					
2480	Vert	105.8	3.9	28.0		137.7		
(Fc)	Hor	102.5	3.9	28.0		134.4		
4960	Vert	62.0	5.2	32.9	33.9	66.1	84	-17.9
(Fc * 2)	Hor	64.4	5.2	32.9	33.9	68.5	84	-15.5
7440	Vert	54.2	7.0	36.7	33.7	64.2	84	-19.8
(Fc * 3)	Hor	57.0	7.0	36.7	33.7	67.0	84	-17.0
9920	Vert	48.9	7.4	37.7	33.9	60.2	84	-23.8
(Fc * 4)	Hor	47.0	7.4	37.7	33.9	58.3	84	-25.7
12400	Vert	42.8	8.5	39.1	32.5	57.9	84	-26.2
(Fc * 5)	Hor	42.5	8.5	39.1	32.5	57.6	84	-26.5
14880	Vert	43.4	9.1	40.4	31.8	61.1	84	-22.9
(Fc * 6)	Hor	43.2	9.1	40.4	31.8	60.9	84	-23.1
17360	Vert	43.3	12.3	43.6	31.5	67.7	84	-16.4
(Fc * 7)	Hor	43.7	12.3	43.6	31.5	68.1	84	-16.0
19840	Vert	48.7	3.6	45.2	32.0	65.5	84	-18.5
(Fc * 8)	Hor	45.4	3.6	45.2	32.0	62.2	84	-21.8
22320	Vert	44.6	4.2	44.7	30.0	63.5	84	-20.5
(Fc * 9)	Hor	44.4	4.2	44.7	30.0	63.3	84	-20.7
24800	Vert	45.4	6.1	45.6	31.6	65.4	84	-18.6
(Fc * 10)	Hor	45.3	6.1	45.6	31.6	65.3	84	-18.7

PEAK TRANSMITTER RADIATED SPURIOUS EMISSIONS

FCC ID: EHAITRM24501

Intermec Technologies Corporation

Product: Intermec Model: ITRM24501 Intellitag Radio Module

EMC Test Laboratory

Set Up: 2 antennas, ports1&4, 4 active, module placed VERTICAL

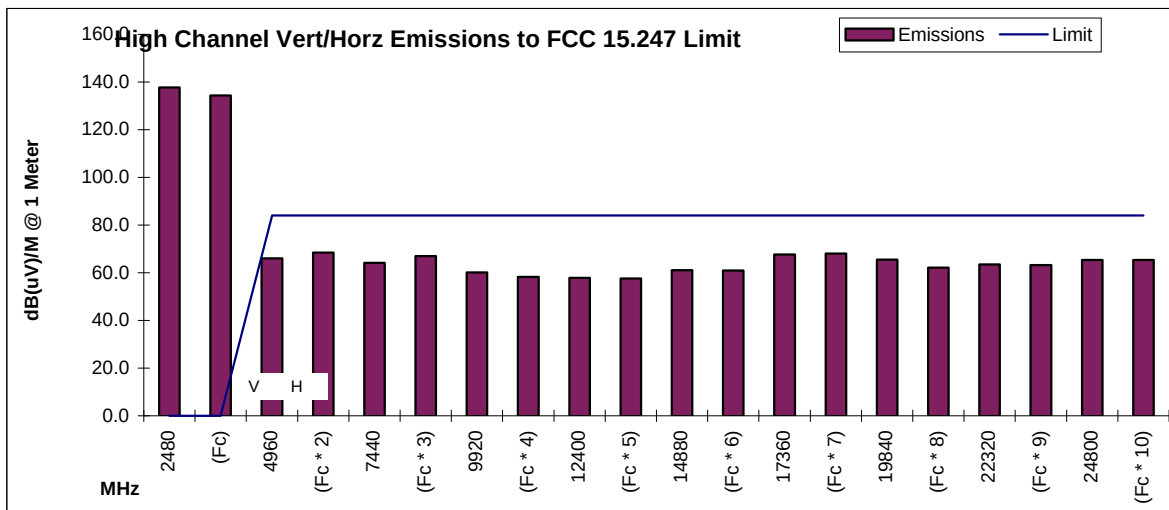
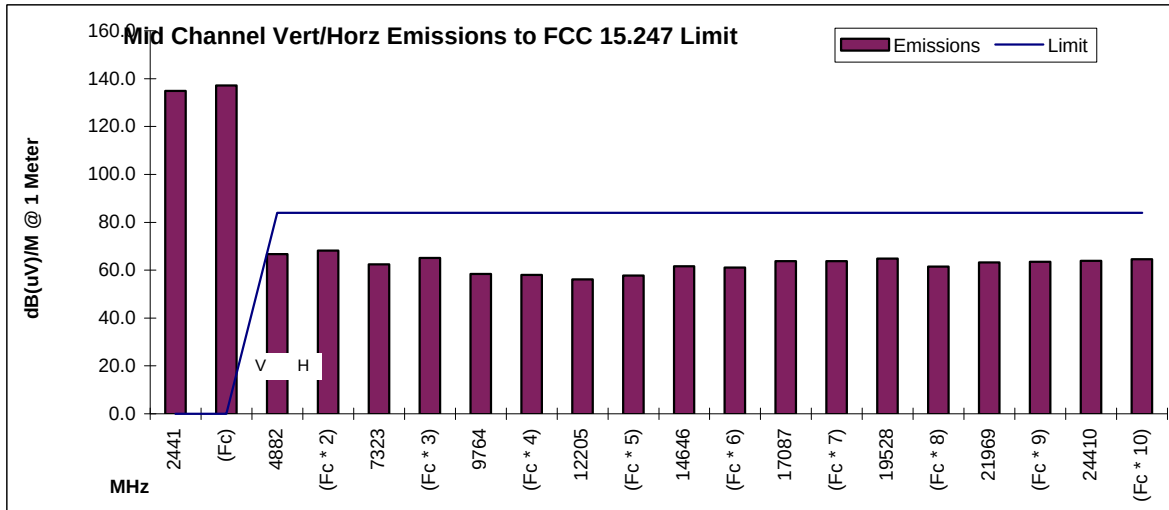
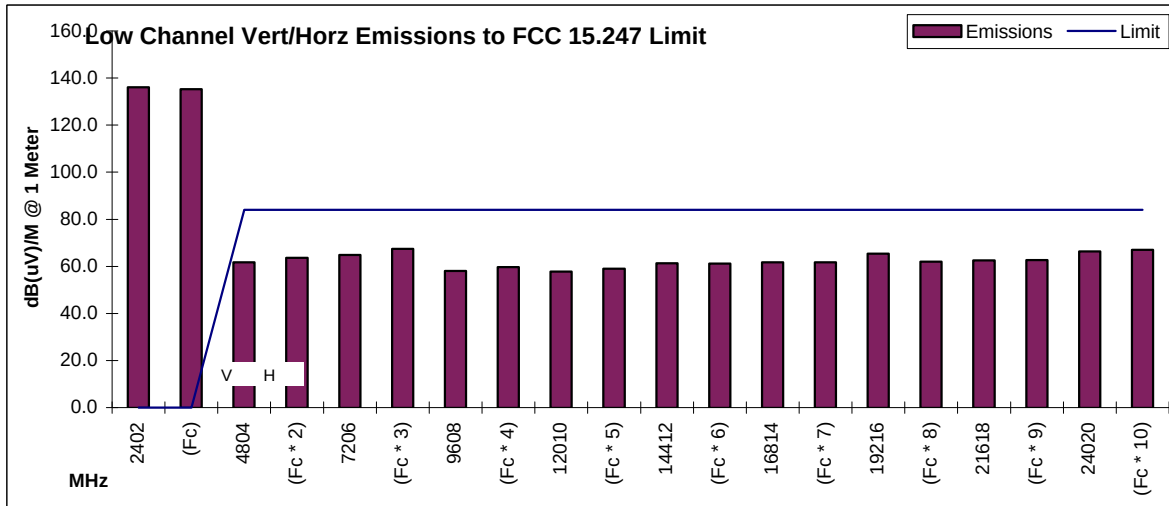
Cedar Rapids, IA

Test Date (mm/dd/yy): 12/26 thru 12/29 2001

Standard: FCC 15.247

Measurement System Calibration Date: 12/24/01

Span 100 MHz, Res. B.W. 1 MHz, Video B.W. 1 MHz



AVERAGE TRANSMITTER RADIATED SPURIOUS EMISSIONS

FCC ID: EHAITRM24501

Intermec Technologies Corporation

Product: Intermec Model: ITRM24501 Intellitag Radio Module

EMC Test Laboratory

Set Up: 4 antennas, ports1&4 on site, 4 active, 2&3 remote, module placed HORIZONTAL

Cedar Rapids, IA

Test Date (mm/dd/yy): 12/22 thru 12/29 2001

Standard: FCC 15.247

Measurement System Calibration Date: 12/24/01

Span 100 MHz, Res. B.W. 1 MHz, Video B.W. 3 kHz

Frequency (MHz)	Antenna Polarity	Spurious Measured dB(uV)	H.P.filter + Cable Loss (dB)	Antenna Correction Factor dB/M	Amplifier Gain (dB)	Calculated Result dB(uV)/M	AVERAGE Limit @ 1 Meter dB(uV)/Meter 50% duty cycle correction of 6dB	Margin (dB)
a	b	c	d	e	f	g	h	i
(formula)						(=c+d+e-f)	(=64+6)	(=g-h)
Low Channel 02		2402	MHz					
2402	Vert	104.5	3.80	27.80		136.10		
(Fc)	Hor	103.7	3.80	27.80		135.30		
4804	Vert	59.0	5.05	32.70	33.90	62.85	70	-7.2
(Fc * 2)	Hor	61.0	5.05	32.70	33.90	64.85	70	-5.2
7206	Vert	54.0	6.55	36.56	33.70	63.41	70	-6.6
(Fc * 3)	Hor	54.4	6.55	36.56	33.70	63.81	70	-6.2
9608	Vert	47.8	7.65	37.26	34.04	58.67	70	-11.3
(Fc * 4)	Hor	45.6	7.65	37.26	34.04	56.47	70	-13.5
12010	Vert	37.1	8.65	38.40	33.00	51.15	70	-18.9
(Fc * 5)	Hor	31.9	8.65	38.40	33.00	45.95	70	-24.1
14412	Vert	32.0	8.85	40.78	31.18	50.45	70	-19.6
(Fc * 6)	Hor	31.8	8.85	40.78	31.18	50.25	70	-19.8
16814	Vert	31.8	10.65	39.94	31.72	50.67	70	-19.3
(Fc * 7)	Hor	31.2	10.65	39.94	31.72	50.07	70	-19.9
19216	Vert	40.9	3.37	45.18	30.60	58.85	70	-11.2
(Fc * 8)	Hor	34.9	3.37	45.18	30.60	52.85	70	-17.2
21618	Vert	35.2	3.46	44.34	30.28	52.72	70	-17.3
(Fc * 9)	Hor	31.9	3.46	44.34	30.28	49.42	70	-20.6
24020	Vert	41.8	7.04	45.33	30.30	63.87	70	-6.1
(Fc * 10)	Hor	32.8	7.04	45.33	30.30	54.87	70	-15.1

Middle Channel 41		2441	MHz					
2441	Vert	103.1	3.85	27.90		134.85		
(Fc)	Hor	105.4	3.85	27.90		137.15		
4882	Vert	62.7	5.05	32.80	33.90	66.65	70	-3.3
(Fc * 2)	Hor	62.1	5.05	32.80	33.90	66.05	70	-3.9
7323	Vert	55.2	6.50	36.68	33.70	64.68	70	-5.3
(Fc * 3)	Hor	48.5	6.50	36.68	33.70	57.98	70	-12.0
9764	Vert	45.3	7.40	37.50	33.95	56.25	70	-13.8
(Fc * 4)	Hor	44.0	7.40	37.50	33.95	54.95	70	-15.1
12205	Vert	33.1	8.40	38.76	32.76	47.50	70	-22.5
(Fc * 5)	Hor	30.6	8.40	38.76	32.76	45.00	70	-25.0
14646	Vert	31.5	9.10	40.39	31.48	49.51	70	-20.5
(Fc * 6)	Hor	31.3	9.10	40.39	31.48	49.31	70	-20.7
17087	Vert	31.3	10.50	41.68	31.58	51.90	70	-18.1
(Fc * 7)	Hor	31.2	10.50	41.68	31.58	51.80	70	-18.2
19528	Vert	39.5	3.33	45.03	31.00	56.86	70	-13.1
(Fc * 8)	Hor	33.9	3.33	45.03	31.00	51.26	70	-18.7
21969	Vert	36.1	4.00	44.12	29.86	54.36	70	-15.6
(Fc * 9)	Hor	33.3	4.00	44.12	29.86	51.56	70	-18.4
24410	Vert	39.9	4.94	45.81	31.20	59.45	70	-10.6
(Fc * 10)	Hor	32.3	4.94	45.81	31.20	51.85	70	-18.2

AVERAGE TRANSMITTER RADIATED SPURIOUS EMISSIONS

FCC ID: EHAITRM24501

Intermec Technologies Corporation

Product: Intermec Model: ITRM24501 Intellitag Radio Module

EMC Test Laboratory

Set Up: 4 antennas, ports1&4 on site, 4 active, 2&3 remote, module placed HORIZONTAL

Cedar Rapids, IA

Test Date (mm/dd/yy): 12/22 thru 12/29 2001

Standard: FCC 15.247

Measurement System Calibration Date: 12/24/01

Span 100 MHz, Res. B.W. 1 MHz, Video B.W. 3 kHz

Frequency (MHz)	Antenna Polarity	Spurious Measured dB(uV)	H.P.filter + Cable Loss (dB)	Antenna Correction Factor dB/M	Amplifier Gain (dB)	Calculated Result dB(uV)/M	AVERAGE Limit @ 1 Meter dB(uV)/Meter 50% duty cycle correction of 6dB	Margin (dB)
a	b	c	d	e	f	g	h	i
(formula)						(=c+d+e-f)	(=64+6)	(=g-h)
High Channel 80	2480	MHz						
2480	Vert	105.8	3.90	28.00		137.70		
(Fc)	Hor	102.5	3.90	28.00		134.40		
4960	Vert	58.5	5.15	32.85	33.90	62.60	70	-7.4
(Fc * 2)	Hor	62.3	5.15	32.85	33.90	66.40	70	-3.6
7440	Vert	57.6	7.00	36.72	33.70	67.62	70	-2.4
(Fc * 3)	Hor	52.2	7.00	36.72	33.70	62.22	70	-7.8
9920	Vert	45.2	7.40	37.74	33.86	56.48	70	-13.5
(Fc * 4)	Hor	44.5	7.40	37.74	33.86	55.78	70	-14.2
12400	Vert	34.1	8.45	39.12	32.52	49.15	70	-20.9
(Fc * 5)	Hor	30.0	8.45	39.12	32.52	45.05	70	-25.0
14880	Vert	33.4	9.10	40.40	31.78	51.12	70	-18.9
(Fc * 6)	Hor	32.6	9.10	40.40	31.78	50.32	70	-19.7
17360	Vert	31.6	12.25	43.63	31.53	55.95	70	-14.1
(Fc * 7)	Hor	32.7	12.25	43.63	31.53	57.05	70	-13.0
19840	Vert	40.0	3.55	45.21	31.95	56.81	70	-13.2
(Fc * 8)	Hor	34.9	3.55	45.21	31.95	51.71	70	-18.3
22320	Vert	34.9	4.16	44.69	29.98	53.77	70	-16.2
(Fc * 9)	Hor	31.9	4.16	44.69	29.98	50.77	70	-19.2
24800	Vert	35.8	6.05	45.60	31.62	55.83	70	-14.2
(Fc * 10)	Hor	32.8	6.05	45.60	31.62	52.83	70	-17.2

AVERAGE TRANSMITTER RADIATED SPURIOUS EMISSIONS

FCC ID: EHAITRM24501

Intermec Technologies Corporation

Product: Intermec Model: ITRM24501 Intellitag Radio Module

EMC Test Laboratory

Set Up: 4 antennas, ports1&4 on site, 4 active, 2&3 remote, module placed HORIZONTAL

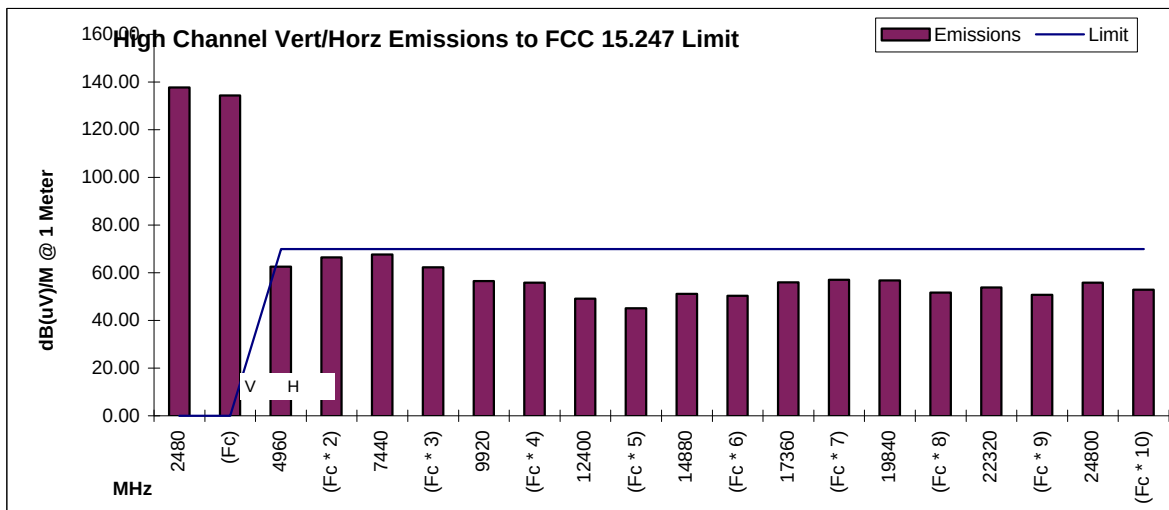
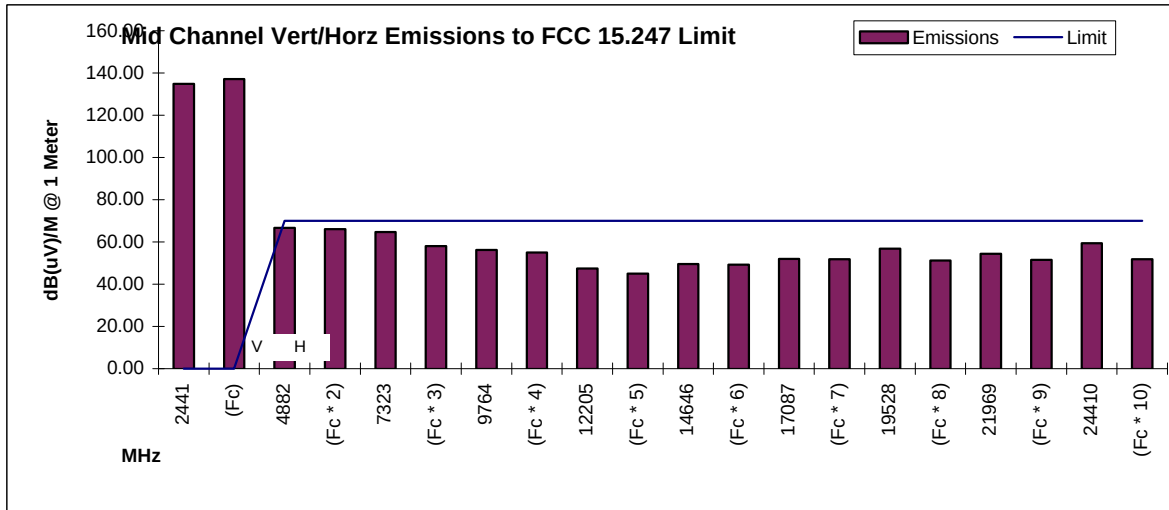
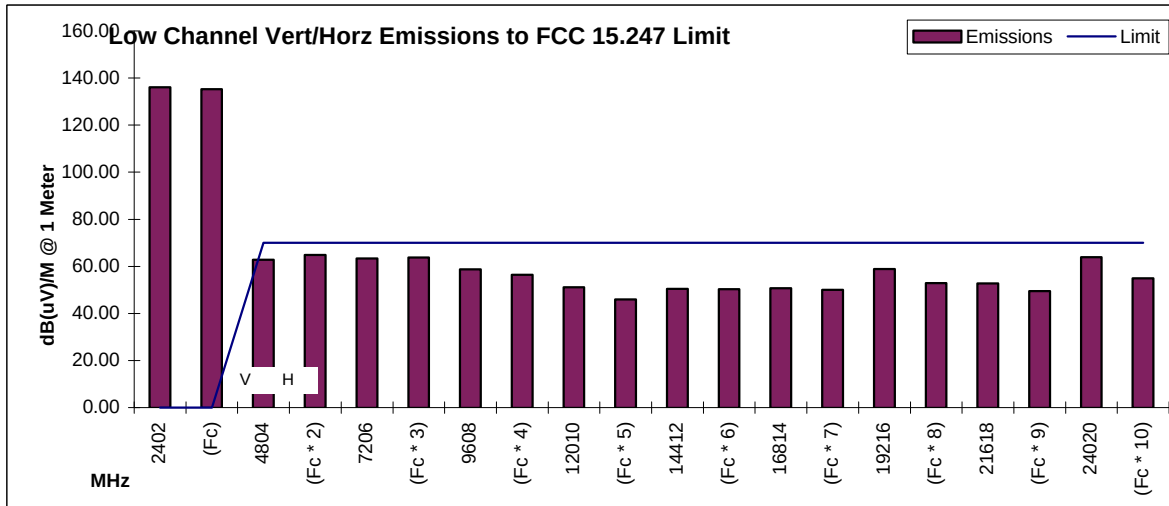
Cedar Rapids, IA

Test Date (mm/dd/yy): 12/22 thru 12/29 2001

Standard: FCC 15.247

Measurement System Calibration Date: 12/24/01

Span 100 MHz, Res. B.W. 1 MHz, Video B.W. 3 kHz



PEAK TRANSMITTER RADIATED SPURIOUS EMISSIONS

FCC ID: EHAITRM24501

Intermec Technologies Corporation

Product: Intermec Model: ITRM24501 Intellitag Radio Module

EMC Test Laboratory

Set Up: 4 antennas, ports1&4 on site, 4 active, 2&3 remote, module placed HORIZONTAL

Cedar Rapids, IA

Test Date (mm/dd/yy): 12/22 thru 12/29 2001

Standard: FCC 15.247

Measurement System Calibration Date: 12/24/01

Span 100 MHz, Res. B.W. 1 MHz, Video B.W. 1 MHz

Frequency (MHz)	Antenna Polarity	Spurious Measured dB(uV)	H.P.filter + Cable Loss (dB)	Antenna Correction Factor dB/M	Amplifier Gain (dB)	Calculated Result dB(uV)/M	PEAK Limit @ 1 Meter dB(uV)/Meter	Margin (dB)
a	b	c	d	e	f	g	h	i
(formula)						(=c+d+e-f)		(=g-h)
Low Channel 02		2402	MHz					
2402	Vert	104.5	3.8	27.8		136.1		
(Fc)	Hor	103.7	3.8	27.8		135.3		
4804	Vert	60.3	5.1	32.7	33.9	64.2	84	-19.9
(Fc * 2)	Hor	61.5	5.1	32.7	33.9	65.4	84	-18.7
7206	Vert	55.1	6.6	36.6	33.7	64.5	84	-19.5
(Fc * 3)	Hor	55.6	6.6	36.6	33.7	65.0	84	-19.0
9608	Vert	49.6	7.7	37.3	34.0	60.5	84	-23.5
(Fc * 4)	Hor	48.8	7.7	37.3	34.0	59.7	84	-24.3
12010	Vert	43.9	8.7	38.4	33.0	58.0	84	-26.1
(Fc * 5)	Hor	41.9	8.7	38.4	33.0	56.0	84	-28.1
14412	Vert	43.8	8.9	40.8	31.2	62.3	84	-21.8
(Fc * 6)	Hor	43.2	8.9	40.8	31.2	61.7	84	-22.4
16814	Vert	42.9	10.7	39.9	31.7	61.8	84	-22.2
(Fc * 7)	Hor	41.8	10.7	39.9	31.7	60.7	84	-23.3
19216	Vert	46.6	3.4	45.2	30.6	64.6	84	-19.5
(Fc * 8)	Hor	44.1	3.4	45.2	30.6	62.1	84	-22.0
21618	Vert	44.9	3.5	44.3	30.3	62.4	84	-21.6
(Fc * 9)	Hor	43.5	3.5	44.3	30.3	61.0	84	-23.0
24020	Vert	48.1	7.0	45.3	30.3	70.2	84	-13.8
(Fc * 10)	Hor	44.0	7.0	45.3	30.3	66.1	84	-17.9

Middle Channel 41		2441	MHz					
2441	Vert	103.1	3.9	27.9		134.9		
(Fc)	Hor	105.4	3.9	27.9		137.2		
4882	Vert	63.2	5.1	32.8	33.9	67.2	84	-16.9
(Fc * 2)	Hor	62.2	5.1	32.8	33.9	66.2	84	-17.9
7323	Vert	55.8	6.5	36.7	33.7	65.3	84	-18.7
(Fc * 3)	Hor	50.1	6.5	36.7	33.7	59.6	84	-24.4
9764	Vert	48.4	7.4	37.5	34.0	59.4	84	-24.7
(Fc * 4)	Hor	48.1	7.4	37.5	34.0	59.1	84	-25.0
12205	Vert	41.8	8.4	38.8	32.8	56.2	84	-27.8
(Fc * 5)	Hor	40.5	8.4	38.8	32.8	54.9	84	-29.1
14646	Vert	41.2	9.1	40.4	31.5	59.2	84	-24.8
(Fc * 6)	Hor	41.4	9.1	40.4	31.5	59.4	84	-24.6
17087	Vert	41.8	10.5	41.7	31.6	62.4	84	-21.6
(Fc * 7)	Hor	41.9	10.5	41.7	31.6	62.5	84	-21.5
19528	Vert	46.1	3.3	45.0	31.0	63.5	84	-20.5
(Fc * 8)	Hor	44.2	3.3	45.0	31.0	61.6	84	-22.4
21969	Vert	46.0	4.0	44.1	29.9	64.3	84	-19.7
(Fc * 9)	Hor	45.1	4.0	44.1	29.9	63.4	84	-20.6
24410	Vert	46.3	4.9	45.8	31.2	65.9	84	-18.2
(Fc * 10)	Hor	43.6	4.9	45.8	31.2	63.2	84	-20.9

PEAK TRANSMITTER RADIATED SPURIOUS EMISSIONS

FCC ID: EHAITRM24501

Intermec Technologies Corporation

Product: Intermec Model: ITRM24501 Intellitag Radio Module

EMC Test Laboratory

Set Up: 4 antennas, ports1&4 on site, 4 active, 2&3 remote, module placed HORIZONTAL

Cedar Rapids, IA

Test Date (mm/dd/yy): 12/22 thru 12/29 2001

Standard: FCC 15.247

Measurement System Calibration Date: 12/24/01

Span 100 MHz, Res. B.W. 1 MHz, Video B.W. 1 MHz

Frequency (MHz)	Antenna Polarity	Spurious Measured dB(uV)	H.P.filter + Cable Loss (dB)	Antenna Correction Factor dB/M	Amplifier Gain (dB)	Calculated Result dB(uV)/M	PEAK Limit @ 1 Meter dB(uV)/Meter	Margin (dB)
a	b	c	d	e	f	g	h	i
(formula)						(=c+d+e-f)		(=g-h)
High Channel 80		2480 MHz						
2480	Vert	105.8	3.9	28.0		137.7		
(Fc)	Hor	102.5	3.9	28.0		134.4		
4960	Vert	59.2	5.2	32.9	33.9	63.3	84	-20.7
(Fc * 2)	Hor	62.5	5.2	32.9	33.9	66.6	84	-17.4
7440	Vert	58.2	7.0	36.7	33.7	68.2	84	-15.8
(Fc * 3)	Hor	53.4	7.0	36.7	33.7	63.4	84	-20.6
9920	Vert	48.0	7.4	37.7	33.9	59.3	84	-24.7
(Fc * 4)	Hor	47.9	7.4	37.7	33.9	59.2	84	-24.8
12400	Vert	41.9	8.5	39.1	32.5	57.0	84	-27.1
(Fc * 5)	Hor	39.8	8.5	39.1	32.5	54.9	84	-29.2
14880	Vert	43.1	9.1	40.4	31.8	60.8	84	-23.2
(Fc * 6)	Hor	42.5	9.1	40.4	31.8	60.2	84	-23.8
17360	Vert	41.7	12.3	43.6	31.5	66.1	84	-18.0
(Fc * 7)	Hor	42.5	12.3	43.6	31.5	66.9	84	-17.2
19840	Vert	46.7	3.6	45.2	32.0	63.5	84	-20.5
(Fc * 8)	Hor	44.6	3.6	45.2	32.0	61.4	84	-22.6
22320	Vert	44.2	4.2	44.7	30.0	63.1	84	-20.9
(Fc * 9)	Hor	43.7	4.2	44.7	30.0	62.6	84	-21.4
24800	Vert	46.2	6.1	45.6	31.6	66.2	84	-17.8
(Fc * 10)	Hor	44.9	6.1	45.6	31.6	64.9	84	-19.1

PEAK TRANSMITTER RADIATED SPURIOUS EMISSIONS

FCC ID: EHAITRM24501

Intermec Technologies Corporation

Product: Intermec Model: ITRM24501 Intellitag Radio Module

EMC Test Laboratory

Set Up: 4 antennas, ports1&4 on site, 4 active, 2&3 remote, module placed HORIZONTAL

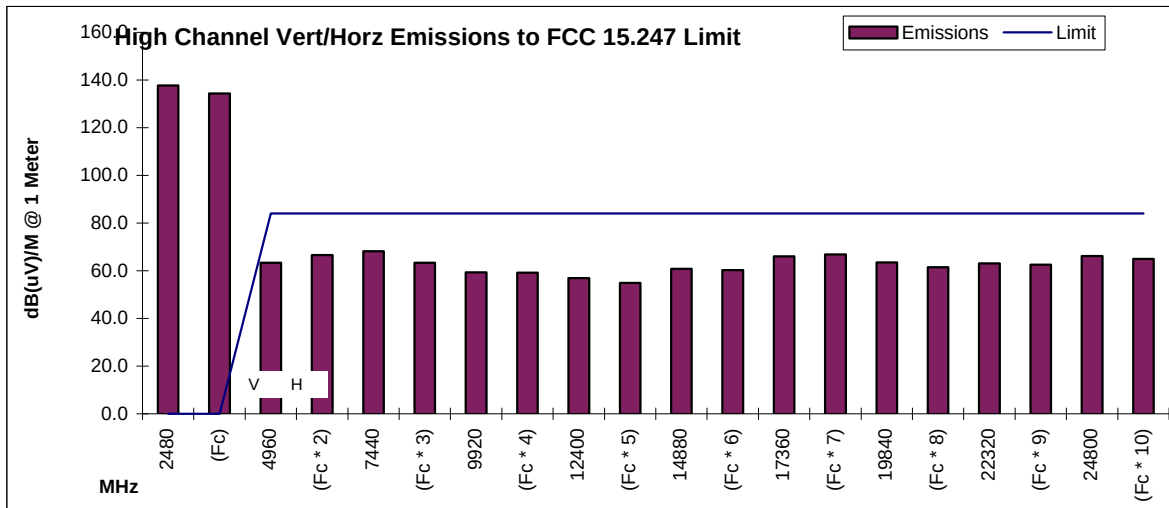
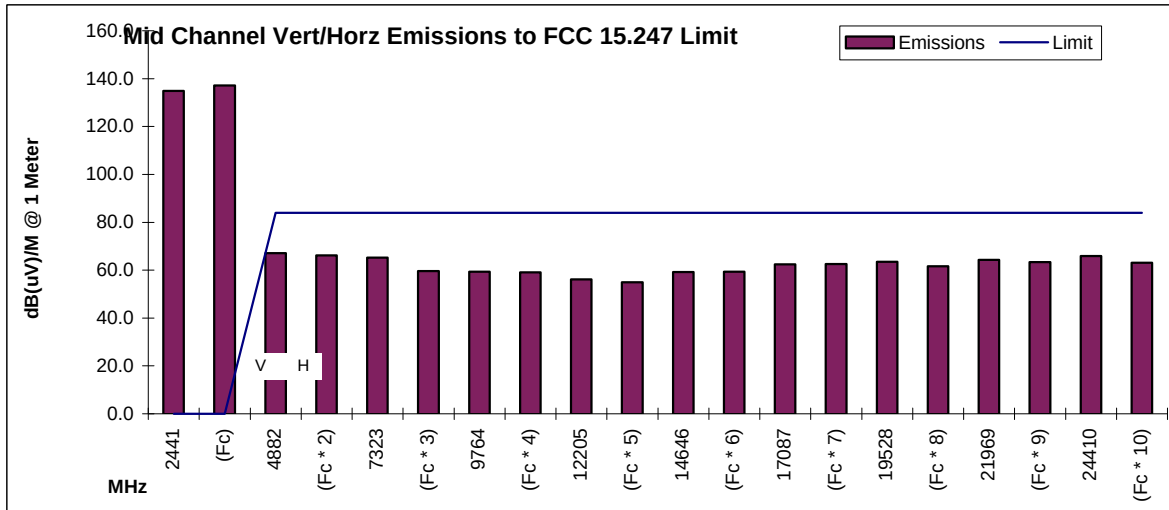
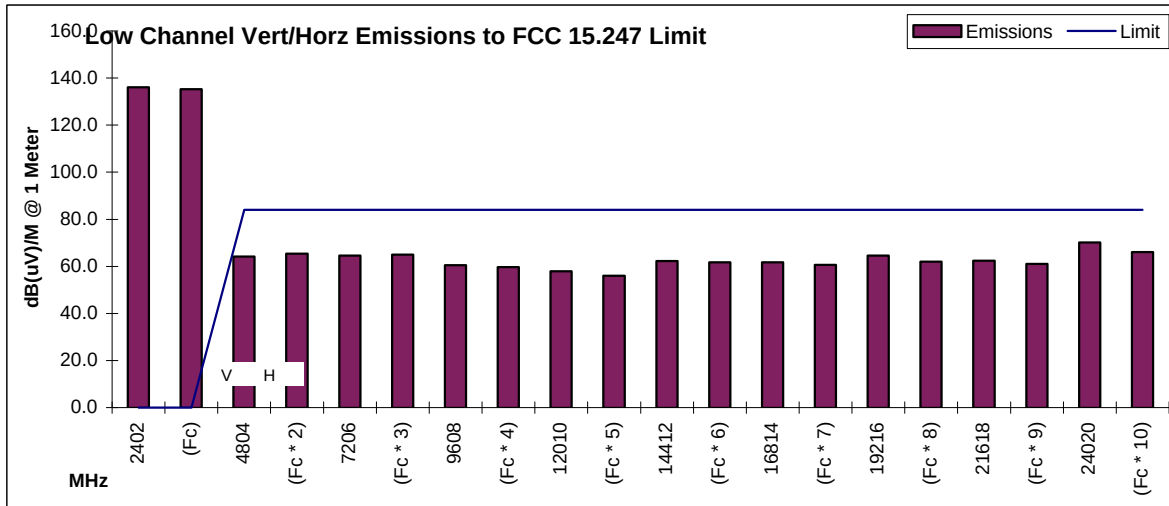
Cedar Rapids, IA

Test Date (mm/dd/yy): 12/22 thru 12/29 2001

Standard: FCC 15.247

Measurement System Calibration Date: 12/24/01

Span 100 MHz, Res. B.W. 1 MHz, Video B.W. 1 MHz



AVERAGE TRANSMITTER RADIATED SPURIOUS EMISSIONS

FCC ID: EHAITRM24501

Intermec Technologies Corporation

Product: Intermec Model: ITRM24501 Intellitag Radio Module

EMC Test Laboratory

Set Up: 4 antennas, ports1&4 on site, 4 active, 2&3 remote, module placed VERTICAL

Cedar Rapids, IA

Test Date (mm/dd/yy): 12/24 thru 12/29 2001

Standard: FCC 15.247

Measurement System Calibration Date: 12/24/01

Span 100 MHz, Res. B.W. 1 MHz, Video B.W. 3 kHz

Frequency (MHz)	Antenna Polarity	Spurious Measured dB(uV)	H.P.filter + Cable Loss (dB)	Antenna Correction Factor dB/M	Amplifier Gain (dB)	Calculated Result dB(uV)/M	AVERAGE Limit @ 1 Meter dB(uV)/Meter 50% duty cycle correction of 6dB	Margin (dB)
a	b	c	d	e	f	g	h	i
(formula)						(=c+d+e-f)	(=64+6)	(=g-h)
Low Channel 02		2402	MHz					
2402	Vert	104.5	3.80	27.80		136.10		
(Fc)	Hor	103.7	3.80	27.80		135.30		
4804	Vert	58.4	5.05	32.70	33.90	62.25	70	-7.7
(Fc * 2)	Hor	60.9	5.05	32.70	33.90	64.75	70	-5.3
7206	Vert	54.8	6.55	36.56	33.70	64.21	70	-5.8
(Fc * 3)	Hor	59.0	6.55	36.56	33.70	68.41	70	-1.6
9608	Vert	47.8	7.65	37.26	34.04	58.67	70	-11.3
(Fc * 4)	Hor	45.6	7.65	37.26	34.04	56.47	70	-13.5
12010	Vert	37.1	8.65	38.40	33.00	51.15	70	-18.9
(Fc * 5)	Hor	31.9	8.65	38.40	33.00	45.95	70	-24.1
14412	Vert	32.0	8.85	40.78	31.18	50.45	70	-19.6
(Fc * 6)	Hor	31.8	8.85	40.78	31.18	50.25	70	-19.8
16814	Vert	31.8	10.65	39.94	31.72	50.67	70	-19.3
(Fc * 7)	Hor	31.2	10.65	39.94	31.72	50.07	70	-19.9
19216	Vert	40.9	3.37	45.18	30.60	58.85	70	-11.2
(Fc * 8)	Hor	34.9	3.37	45.18	30.60	52.85	70	-17.2
21618	Vert	35.2	3.46	44.34	30.28	52.72	70	-17.3
(Fc * 9)	Hor	31.9	3.46	44.34	30.28	49.42	70	-20.6
24020	Vert	41.8	7.04	45.33	30.30	63.87	70	-6.1
(Fc * 10)	Hor	32.8	7.04	45.33	30.30	54.87	70	-15.1

Middle Channel 41		2441	MHz					
2441	Vert	103.1	3.85	27.90		134.85		
(Fc)	Hor	105.4	3.85	27.90		137.15		
4882	Vert	61.3	5.05	32.80	33.90	65.25	70	-4.8
(Fc * 2)	Hor	62.4	5.05	32.80	33.90	66.35	70	-3.7
7323	Vert	53.0	6.50	36.68	33.70	62.48	70	-7.5
(Fc * 3)	Hor	58.9	6.50	36.68	33.70	68.38	70	-1.6
9764	Vert	45.3	7.40	37.50	33.95	56.25	70	-13.8
(Fc * 4)	Hor	44.0	7.40	37.50	33.95	54.95	70	-15.1
12205	Vert	33.1	8.40	38.76	32.76	47.50	70	-22.5
(Fc * 5)	Hor	30.6	8.40	38.76	32.76	45.00	70	-25.0
14646	Vert	31.5	9.10	40.39	31.48	49.51	70	-20.5
(Fc * 6)	Hor	31.3	9.10	40.39	31.48	49.31	70	-20.7
17087	Vert	31.3	10.50	41.68	31.58	51.90	70	-18.1
(Fc * 7)	Hor	31.2	10.50	41.68	31.58	51.80	70	-18.2
19528	Vert	39.5	3.33	45.03	31.00	56.86	70	-13.1
(Fc * 8)	Hor	33.9	3.33	45.03	31.00	51.26	70	-18.7
21969	Vert	36.1	4.00	44.12	29.86	54.36	70	-15.6
(Fc * 9)	Hor	33.3	4.00	44.12	29.86	51.56	70	-18.4
24410	Vert	39.9	4.94	45.81	31.20	59.45	70	-10.6
(Fc * 10)	Hor	32.3	4.94	45.81	31.20	51.85	70	-18.2

AVERAGE TRANSMITTER RADIATED SPURIOUS EMISSIONS

FCC ID: EHAITRM24501

Intermec Technologies Corporation

Product: Intermec Model: ITRM24501 Intellitag Radio Module

EMC Test Laboratory

Set Up: 4 antennas, ports1&4 on site, 4 active, 2&3 remote, module placed VERTICAL

Cedar Rapids, IA

Test Date (mm/dd/yy): 12/24 thru 12/29 2001

Standard: FCC 15.247

Measurement System Calibration Date: 12/24/01

Span 100 MHz, Res. B.W. 1 MHz, Video B.W. 3 kHz

Frequency (MHz)	Antenna Polarity	Spurious Measured dB(uV)	H.P.filter + Cable Loss (dB)	Antenna Correction Factor dB/M	Amplifier Gain (dB)	Calculated Result dB(uV)/M	AVERAGE Limit @ 1 Meter dB(uV)/Meter 50% duty cycle correction of 6dB	Margin (dB)
a	b	c	d	e	f	g	h	i
(formula)						(=c+d+e-f)	(=64+6)	(=g-h)
High Channel 80	2480	MHz						
2480	Vert	105.8	3.90	28.00		137.70		
(Fc)	Hor	102.5	3.90	28.00		134.40		
4960	Vert	60.9	5.15	32.85	33.90	65.00	70	-5.0
(Fc * 2)	Hor	63.6	5.15	32.85	33.90	67.70	70	-2.3
7440	Vert	52.8	7.00	36.72	33.70	62.82	70	-7.2
(Fc * 3)	Hor	57.8	7.00	36.72	33.70	67.82	70	-2.2
9920	Vert	45.2	7.40	37.74	33.86	56.48	70	-13.5
(Fc * 4)	Hor	44.5	7.40	37.74	33.86	55.78	70	-14.2
12400	Vert	34.1	8.45	39.12	32.52	49.15	70	-20.9
(Fc * 5)	Hor	30.0	8.45	39.12	32.52	45.05	70	-25.0
14880	Vert	33.4	9.10	40.40	31.78	51.12	70	-18.9
(Fc * 6)	Hor	32.6	9.10	40.40	31.78	50.32	70	-19.7
17360	Vert	31.6	12.25	43.63	31.53	55.95	70	-14.1
(Fc * 7)	Hor	32.7	12.25	43.63	31.53	57.05	70	-13.0
19840	Vert	40.0	3.55	45.21	31.95	56.81	70	-13.2
(Fc * 8)	Hor	34.9	3.55	45.21	31.95	51.71	70	-18.3
22320	Vert	34.9	4.16	44.69	29.98	53.77	70	-16.2
(Fc * 9)	Hor	31.9	4.16	44.69	29.98	50.77	70	-19.2
24800	Vert	35.8	6.05	45.60	31.62	55.83	70	-14.2
(Fc * 10)	Hor	32.8	6.05	45.60	31.62	52.83	70	-17.2

AVERAGE TRANSMITTER RADIATED SPURIOUS EMISSIONS

FCC ID: EHAITRM24501

Intermec Technologies Corporation

Product: Intermec Model: ITRM24501 Intellitag Radio Module

EMC Test Laboratory

Set Up: 4 antennas, ports1&4 on site, 4 active, 2&3 remote, module placed VERTICAL

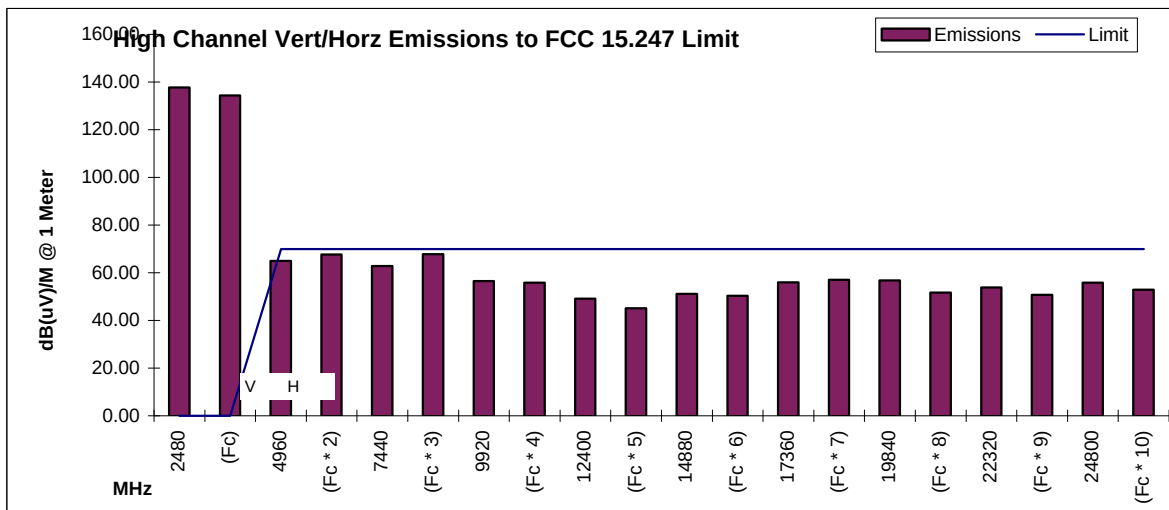
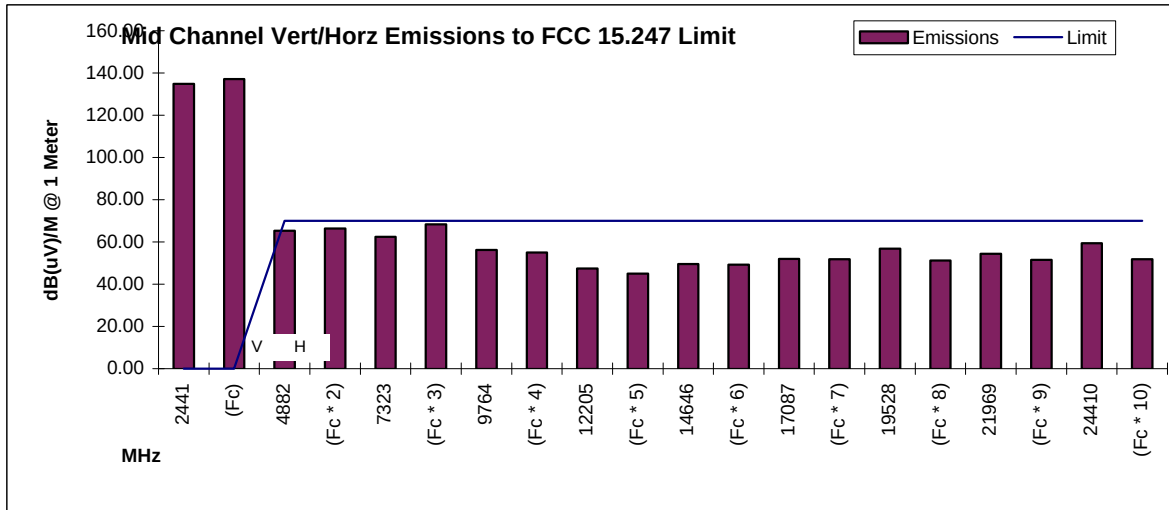
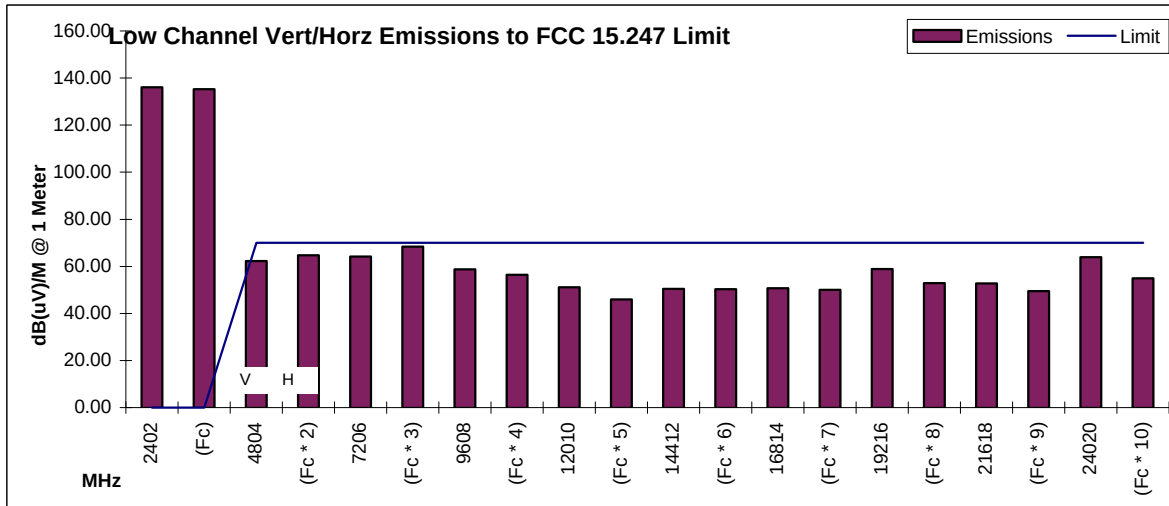
Cedar Rapids, IA

Test Date (mm/dd/yy): 12/24 thru 12/29 2001

Standard: FCC 15.247

Measurement System Calibration Date: 12/24/01

Span 100 MHz, Res. B.W. 1 MHz, Video B.W. 3 kHz



PEAK TRANSMITTER RADIATED SPURIOUS EMISSIONS

FCC ID: EHAITRM24501

Intermec Technologies Corporation

Product: Intermec Model: ITRM24501 Intellitag Radio Module

EMC Test Laboratory

Set Up: 4 antennas, ports1&4 on site, 4 active, 2&3 remote, module placed VERTICAL

Cedar Rapids, IA

Test Date (mm/dd/yy): 12/24 thru 12/29 2001

Standard: FCC 15.247

Measurement System Calibration Date: 12/24/01

Span 100 MHz, Res. B.W. 1 MHz, Video B.W. 1 MHz

Frequency (MHz)	Antenna Polarity	Spurious Measured dB(uV)	H.P.filter + Cable Loss (dB)	Antenna Correction Factor dB/M	Amplifier Gain (dB)	Calculated Result dB(uV)/M	PEAK Limit @ 1 Meter dB(uV)/Meter	Margin (dB)
a	b	c	d	e	f	g	h	i
(formula)						(=c+d+e-f)		(=g-h)
Low Channel 02		2402	MHz					
2402	Vert	104.5	3.8	27.8		136.1		
(Fc)	Hor	103.7	3.8	27.8		135.3		
4804	Vert	59.1	5.1	32.7	33.9	63.0	84	-21.1
(Fc * 2)	Hor	61.1	5.1	32.7	33.9	65.0	84	-19.1
7206	Vert	55.7	6.6	36.6	33.7	65.1	84	-18.9
(Fc * 3)	Hor	59.5	6.6	36.6	33.7	68.9	84	-15.1
9608	Vert	49.6	7.7	37.3	34.0	60.5	84	-23.5
(Fc * 4)	Hor	48.8	7.7	37.3	34.0	59.7	84	-24.3
12010	Vert	43.9	8.7	38.4	33.0	58.0	84	-26.1
(Fc * 5)	Hor	41.9	8.7	38.4	33.0	56.0	84	-28.1
14412	Vert	43.8	8.9	40.8	31.2	62.3	84	-21.8
(Fc * 6)	Hor	43.2	8.9	40.8	31.2	61.7	84	-22.4
16814	Vert	42.9	10.7	39.9	31.7	61.8	84	-22.2
(Fc * 7)	Hor	41.8	10.7	39.9	31.7	60.7	84	-23.3
19216	Vert	46.6	3.4	45.2	30.6	64.6	84	-19.5
(Fc * 8)	Hor	44.1	3.4	45.2	30.6	62.1	84	-22.0
21618	Vert	44.9	3.5	44.3	30.3	62.4	84	-21.6
(Fc * 9)	Hor	43.5	3.5	44.3	30.3	61.0	84	-23.0
24020	Vert	48.1	7.0	45.3	30.3	70.2	84	-13.8
(Fc * 10)	Hor	44.0	7.0	45.3	30.3	66.1	84	-17.9

Middle Channel 41		2441	MHz					
2441	Vert	103.1	3.9	27.9		134.9		
(Fc)	Hor	105.4	3.9	27.9		137.2		
4882	Vert	61.7	5.1	32.8	33.9	65.7	84	-18.4
(Fc * 2)	Hor	62.7	5.1	32.8	33.9	66.7	84	-17.4
7323	Vert	54.3	6.5	36.7	33.7	63.8	84	-20.2
(Fc * 3)	Hor	59.3	6.5	36.7	33.7	68.8	84	-15.2
9764	Vert	48.4	7.4	37.5	34.0	59.4	84	-24.7
(Fc * 4)	Hor	48.1	7.4	37.5	34.0	59.1	84	-25.0
12205	Vert	41.8	8.4	38.8	32.8	56.2	84	-27.8
(Fc * 5)	Hor	40.5	8.4	38.8	32.8	54.9	84	-29.1
14646	Vert	41.2	9.1	40.4	31.5	59.2	84	-24.8
(Fc * 6)	Hor	41.4	9.1	40.4	31.5	59.4	84	-24.6
17087	Vert	41.8	10.5	41.7	31.6	62.4	84	-21.6
(Fc * 7)	Hor	41.9	10.5	41.7	31.6	62.5	84	-21.5
19528	Vert	46.1	3.3	45.0	31.0	63.5	84	-20.5
(Fc * 8)	Hor	44.2	3.3	45.0	31.0	61.6	84	-22.4
21969	Vert	46.0	4.0	44.1	29.9	64.3	84	-19.7
(Fc * 9)	Hor	45.1	4.0	44.1	29.9	63.4	84	-20.6
24410	Vert	46.3	4.9	45.8	31.2	65.9	84	-18.2
(Fc * 10)	Hor	43.6	4.9	45.8	31.2	63.2	84	-20.9

PEAK TRANSMITTER RADIATED SPURIOUS EMISSIONS

FCC ID: EHAITRM24501

Intermec Technologies Corporation

Product: Intermec Model: ITRM24501 Intellitag Radio Module

EMC Test Laboratory

Set Up: 4 antennas, ports 1&4 on site, 4 active, 2&3 remote, module placed VERTICAL

Cedar Rapids, IA

Test Date (mm/dd/yy): 12/24 thru 12/29 2001

Standard: FCC 15.247

Measurement System Calibration Date: 12/24/01

Span 100 MHz, Res. B.W. 1 MHz, Video B.W. 1 MHz

Frequency (MHz)	Antenna Polarity	Spurious Measured dB(uV)	H.P.filter + Cable Loss (dB)	Antenna Correction Factor dB/M	Amplifier Gain (dB)	Calculated Result dB(uV)/M	PEAK Limit @ 1 Meter dB(uV)/Meter	Margin (dB)
a	b	c	d	e	f	g	h	i
(formula)						(=c+d+e-f)		(=g-h)
High Channel 80		2480	MHz					
2480	Vert	105.8	3.9	28.0		137.7		
(Fc)	Hor	102.5	3.9	28.0		134.4		
4960	Vert	61.0	5.2	32.9	33.9	65.1	84	-18.9
(Fc * 2)	Hor	63.8	5.2	32.9	33.9	67.9	84	-16.1
7440	Vert	54.1	7.0	36.7	33.7	64.1	84	-19.9
(Fc * 3)	Hor	58.4	7.0	36.7	33.7	68.4	84	-15.6
9920	Vert	48.0	7.4	37.7	33.9	59.3	84	-24.7
(Fc * 4)	Hor	47.9	7.4	37.7	33.9	59.2	84	-24.8
12400	Vert	41.9	8.5	39.1	32.5	57.0	84	-27.1
(Fc * 5)	Hor	39.8	8.5	39.1	32.5	54.9	84	-29.2
14880	Vert	43.1	9.1	40.4	31.8	60.8	84	-23.2
(Fc * 6)	Hor	42.5	9.1	40.4	31.8	60.2	84	-23.8
17360	Vert	41.7	12.3	43.6	31.5	66.1	84	-18.0
(Fc * 7)	Hor	42.5	12.3	43.6	31.5	66.9	84	-17.2
19840	Vert	46.7	3.6	45.2	32.0	63.5	84	-20.5
(Fc * 8)	Hor	44.6	3.6	45.2	32.0	61.4	84	-22.6
22320	Vert	44.2	4.2	44.7	30.0	63.1	84	-20.9
(Fc * 9)	Hor	43.7	4.2	44.7	30.0	62.6	84	-21.4
24800	Vert	46.2	6.1	45.6	31.6	66.2	84	-17.8
(Fc * 10)	Hor	44.9	6.1	45.6	31.6	64.9	84	-19.1

PEAK TRANSMITTER RADIATED SPURIOUS EMISSIONS

FCC ID: EHAITRM24501

Intermec Technologies Corporation

Product: Intermec Model: ITRM24501 Intellitag Radio Module

EMC Test Laboratory

Set Up: 4 antennas, ports1&4 on site, 4 active, 2&3 remote, module placed VERTICAL

Cedar Rapids, IA

Test Date (mm/dd/yy): 12/24 thru 12/29 2001

Standard: FCC 15.247

Measurement System Calibration Date: 12/24/01

Span 100 MHz, Res. B.W. 1 MHz, Video B.W. 1 MHz

