

MEASUREMENT/TECHNICAL REPORT



Intermec Technologies Corporation
2126
2.4 GHz Spread Spectrum Transmitter

REPORT NO: 981030-1

DATE: October 30 , 1998

APPENDIX J

SPREADSHEET FILES CONTAINED WITHIN:

sheets labled 981106.xls

File contains 18 pages as follows:

- 1-4 FCC TX Average Emissions
- 5-8 FCC TX Peak Emissions
- 9-10 Canada RX Emissions
- 11-14 ETSI 300-328 TX Emissions (reference)
- 15-16 ETSI 300-328 RX Emissions (reference)
- 17 RX Emissions below 1 GHz, Canada
- 18 RX Emissions below 1 GHz, ETSI 300-328 (reference)

AVERAGE TRANSMITTER RADIATED SPURIOUS EMISSIONS

FCC ID: EHA2126

Intermec Technologies Corporation

Product: Intermec DSSS Type II Radio, Approval

Norand Mobile Systems Division

Set Up: Cushcraft 15 dBi Yagi, radio tested as module HORIZONTAL

EMC Test Laboratory

Test Date (mm/dd/yy): 11/06/98

Standard: FCC 15.247

Measurement System Calibration Date: 3/2/98

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 @ 3 Meters < 1 GHz, 1 Meter > 1 GHz dB(uV)/Meter	Margin (dB)
a	b	c	d	e	f	g	h	i
(formula)						(=c+d+e-f)		(=g-h)
Low Channel 01		2412.000 MHz						
352	Vert	3.0	1.7	15.0		19.7	46	-26.3
(IF)	Hor	2.9	1.7	15.0		19.6	46	-26.4
704	Vert	3.6	2.8	20.9		27.3	46	-18.7
(IF * 2)	Hor	3.6	2.8	20.9		27.3	46	-18.7
1056	Vert	23.8	1.7	23.1		48.6	64	-15.4
(IF * 3)	Hor	23.7	1.7	23.1		48.5	64	-15.5
1408	Vert	29.1	1.9	24.3		55.3	64	-8.7
(IF * 4)	Hor	24.3	1.9	24.3		50.5	64	-13.5
1760	Vert	25.6	4.3	25.8		55.7	64	-8.3
(IF * 5)	Hor	25.6	4.3	25.8		55.7	64	-8.3
2060	Vert	47.9	4.2	27.1	33.6	45.6	64	-18.4
(Fc-IF)	Hor	47.3	4.2	27.1	33.6	45.0	64	-19.0
2412	Vert		4.0	28.0				
(Fc)	Hor		4.0	28.0				
2816	Vert	31.7	4.2	29.3	33.8	31.4	64	-32.6
(IF*8)	Hor	35.5	4.2	29.3	33.8	35.2	64	-28.8
3468	Vert	30.3	3.8	30.6	33.8	30.9	64	-33.1
(Fc+IF*3)	Hor	31.9	3.8	30.6	33.8	32.5	64	-31.5
4824	Vert	52.9	4.8	32.8	32.9	57.6	64	-6.4
(Fc * 2)	Hor	47.1	4.8	32.8	32.9	51.8	64	-12.2
7236	Vert	36.6	6.3	36.8	33.3	46.4	64	-17.6
(Fc * 3)	Hor	38.5	6.3	36.8	33.3	48.3	64	-15.7
9648	Vert	32.1	7.1	37.4	33.5	43.1	64	-20.9
(Fc * 4)	Hor	31.8	7.1	37.4	33.5	42.8	64	-21.2
12060	Vert	29.5	7.9	39.1	32.4	44.1	64	-19.9
(Fc * 5)	Hor	30.4	7.9	39.1	32.4	45.0	64	-19.0
14472	Vert	31.5	8.8	40.8	31.3	49.8	64	-14.2
(Fc * 6)	Hor	31.7	8.8	40.8	31.3	50.0	64	-14.0
16884	Vert	31.4	11.1	40.3	31.1	51.7	64	-12.3
(Fc * 7)	Hor	31.6	11.1	40.3	31.1	51.9	64	-12.1
19296	Vert	38.9	1.9	44.2	31.1	53.9	64	-10.1
(Fc * 8)	Hor	39.0	1.9	44.2	31.1	54.0	64	-10.0
21708	Vert	37.6	1.4	44.3	30.5	52.8	64	-11.2
(Fc * 9)	Hor	37.7	1.4	44.3	30.5	52.9	64	-11.1
24120	Vert	38.1	1.1	45.1	30.8	53.5	64	-10.5
(Fc * 10)	Hor	38.0	1.1	45.1	30.8	53.4	64	-10.6

AVERAGE TRANSMITTER RADIATED SPURIOUS EMISSIONS

FCC ID: EHA2126

Intermec Technologies Corporation

Product: Intermec DSSS Type II Radio, Approval

Norand Mobile Systems Division

Set Up: Cushcraft 15 dBi Yagi, radio tested as module HORIZONTAL

EMC Test Laboratory

Test Date (mm/dd/yy): 11/06/98

Standard: FCC 15.247

Measurement System Calibration Date: 3/2/98

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 @ 3 Meters < 1 GHz, 1 Meter > 1 GHz dB(uV)/Meter	Margin (dB)
a	b	c	d	e	f	g	h	i
(formula)						(=c+d+e-f)		(=g-h)
Middle Channel 7	2442.000	MHz						
352	Vert	3.0	1.7	15.0		19.7	46	-26.3
(IF)	Hor	2.7	1.7	15.0		19.4	46	-26.6
704	Vert	3.5	2.8	20.9		27.2	46	-18.8
(IF * 2)	Hor	3.5	2.8	20.9		27.2	46	-18.8
1056	Vert	23.8	1.7	23.1		48.6	64	-15.4
(IF * 3)	Hor	23.7	1.7	23.1		48.5	64	-15.5
1408	Vert	29.1	1.9	24.3		55.3	64	-8.7
(IF * 4)	Hor	24.3	1.9	24.3		50.5	64	-13.5
1760	Vert	25.6	4.3	25.8		55.7	64	-8.3
(IF * 5)	Hor	25.6	4.3	25.8		55.7	64	-8.3
2090	Vert	43.9	4.0	27.2	33.7	41.4	64	-22.6
(Fc-IF)	Hor	40.7	4.0	27.2	33.7	38.2	64	-25.8
2442	Vert		3.9	28.1				
(Fc)	Hor		3.9	28.1				
2816	Vert	38.6	4.3	29.5	32.9	39.5	64	-24.5
(IF*8)	Hor	35.8	4.3	29.5	32.9	36.7	64	-27.3
3498	Vert	32.5	3.7	30.7	32.9	34.0	64	-30.0
(Fc+IF*3)	Hor	29.1	3.7	30.7	32.9	30.6	64	-33.4
4884	Vert	60.9	4.7	32.9	32.9	65.6	64	1.6
(Fc * 2)	Hor	54.9	4.7	32.9	32.9	59.6	64	-4.4
7326	Vert	38.0	6.0	37.2	33.3	47.9	64	-16.1
(Fc * 3)	Hor	32.8	6.0	37.2	33.3	42.7	64	-21.3
9768	Vert	32.8	6.7	37.6	33.4	43.7	64	-20.3
(Fc * 4)	Hor	31.9	6.7	37.6	33.4	42.8	64	-21.2
12210	Vert	30.6	7.8	39.2	32.4	45.2	64	-18.8
(Fc * 5)	Hor	29.9	7.8	39.2	32.4	44.5	64	-19.5
14652	Vert	31.8	9.0	40.5	31.4	49.9	64	-14.1
(Fc * 6)	Hor	31.1	9.0	40.5	31.4	49.2	64	-14.8
17094	Vert	32.0	11.4	41.5	31.1	53.8	64	-10.2
(Fc * 7)	Hor	30.9	11.4	41.5	31.1	52.7	64	-11.3
19536	Vert	39.1	1.4	44.0	31.3	53.2	64	-10.8
(Fc * 8)	Hor	39.2	1.4	44.0	31.3	53.3	64	-10.7
21978	Vert	37.8	2.0	44.7	30.4	54.1	64	-9.9
(Fc * 9)	Hor	37.9	2.0	44.7	30.4	54.2	64	-9.8
24420	Vert	38.3	2.3	45.6	31.3	54.9	64	-9.1
(Fc * 10)	Hor	38.2	2.3	45.6	31.3	54.8	64	-9.2

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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 @ 3 Meters < 1 GHz, 1 Meter > 1 GHz dB(uV)/Meter	Margin (dB)
a	b	c	d	e	f	g	h	i
(formula)						(=c+d+e-f)		(=g-h)
High Channel 11	2462.000	MHz						
352	Vert	3.0	1.7	15.0		19.7	46	-26.3
(IF)	Hor	2.9	1.7	15.0		19.6	46	-26.4
704	Vert	3.6	2.8	20.9		27.3	46	-18.7
(IF * 2)	Hor	3.6	2.8	20.9		27.3	46	-18.7
1056	Vert	23.8	1.7	23.1		48.6	64	-15.4
(IF * 3)	Hor	23.7	1.7	23.1		48.5	64	-15.5
1408	Vert	29.1	1.9	24.3		55.3	64	-8.7
(IF * 4)	Hor	24.3	1.9	24.3		50.5	64	-13.5
1760	Vert	25.6	4.3	25.8		55.7	64	-8.3
(IF * 5)	Hor	25.6	4.3	25.8		55.7	64	-8.3
2110	Vert	55.2	4.0	27.3	33.8	52.7	64	-11.3
(Fc-IF)	Hor	45.5	4.0	27.3	33.8	43.0	64	-21.0
2462	Vert		3.8	28.2				
(Fc)	Hor		3.8	28.2				
2816	Vert	34.7	4.4	29.6	32.7	36.0	64	-28.0
(Fc+IF)	Hor	35.5	4.4	29.6	32.7	36.8	64	-27.2
3518	Vert	29.7	3.6	30.8	32.7	31.4	64	-32.6
(Fc+IF*3)	Hor	33.9	3.6	30.8	32.7	35.6	64	-28.4
4924	Vert	57.7	4.4	32.9	32.7	62.3	64	-1.7
(Fc * 2)	Hor	53.8	4.4	32.9	32.7	58.4	64	-5.6
7386	Vert	38.3	5.9	37.4	33.3	48.3	64	-15.7
(Fc * 3)	Hor	35.3	5.9	37.4	33.3	45.3	64	-18.7
9848	Vert	33.9	6.0	37.8	33.3	44.4	64	-19.6
(Fc * 4)	Hor	34.1	6.0	37.8	33.3	44.6	64	-19.4
12310	Vert	30.1	7.2	39.3	32.2	44.4	64	-19.6
(Fc * 5)	Hor	30.3	7.2	39.3	32.2	44.6	64	-19.4
14772	Vert	31.4	9.2	40.2	31.6	49.2	64	-14.8
(Fc * 6)	Hor	31.5	9.2	40.2	31.6	49.3	64	-14.7
17234	Vert	31.7	10.9	43.4	31.0	55.0	64	-9.0
(Fc * 7)	Hor	31.5	10.9	43.4	31.0	54.8	64	-9.2
19696	Vert	39.3	1.8	44.0	31.4	53.7	64	-10.3
(Fc * 8)	Hor	39.4	1.8	44.0	31.4	53.8	64	-10.2
22158	Vert	37.9	1.2	45.0	30.4	53.7	64	-10.3
(Fc * 9)	Hor	38.0	1.2	45.0	30.4	53.8	64	-10.2
24620	Vert	38.6	1.7	45.9	31.5	54.7	64	-9.3
(Fc * 10)	Hor	38.2	1.7	45.9	31.5	54.3	64	-9.7

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Set Up: Cushcraft 15 dBi Yagi, radio tested as module HORIZONTAL

Test Date (mm/dd/yy): 11/06/98

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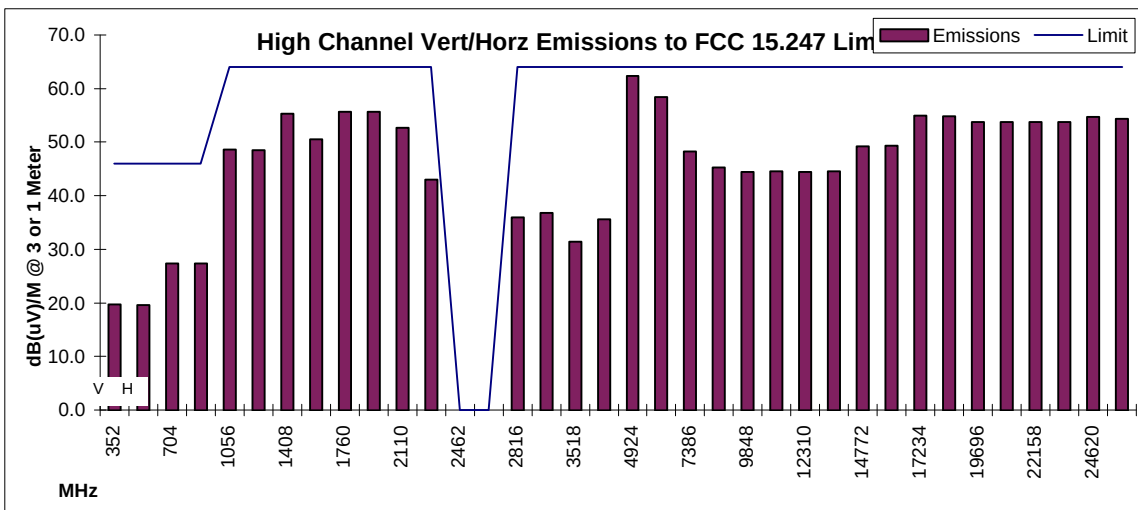
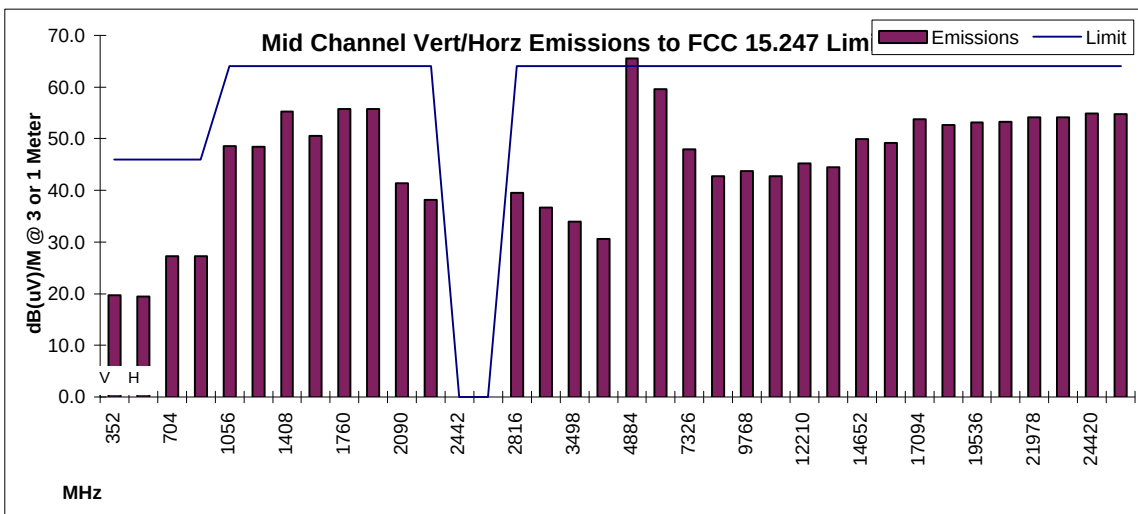
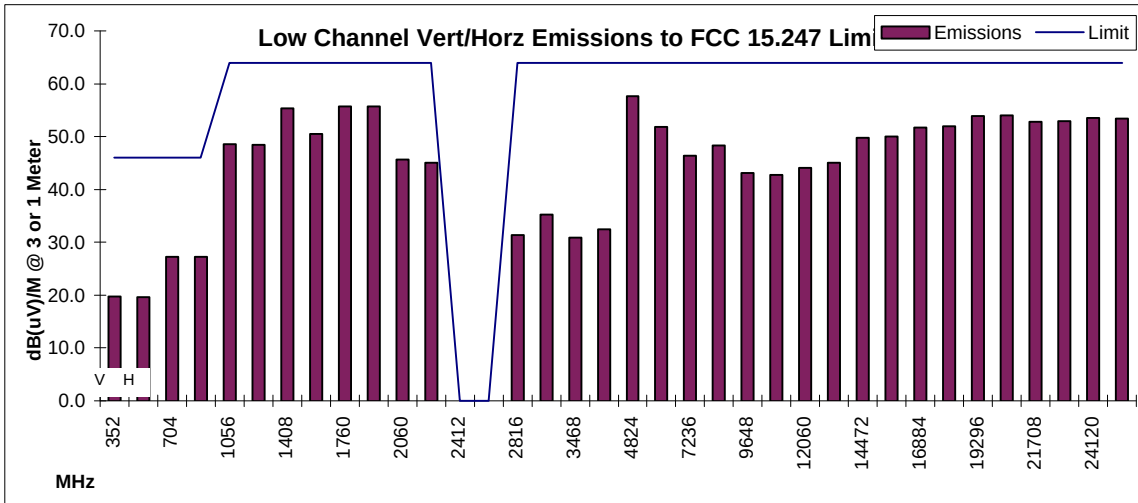
Intermec Technologies Corporation

Norand Mobile Systems Division

EMC Test Laboratory

Standard: FCC 15.247

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



PEAK TRANSMITTER RADIATED SPURIOUS EMISSIONS

FCC ID: EHA2126

Intermec Technologies Corporation

Product: Intermec DSSS Type II Radio, Approval

Norand Mobile Systems Division

Set Up: Cushcraft 15 dBi Yagi, radio tested as module HORIZONTAL

EMC Test Laboratory

Test Date (mm/dd/yy): 11/06/98

Standard: FCC 15.247

Measurement System Calibration Date: 3/2/98

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 @ 3 Meters < 1 GHz, 1 Meter > 1 GHz dB(uV)/Meter	Margin (dB)
a	b	c	d	e	f	g	h	i
(formula)						(=c+d+e-f)		(=g-h)
Low Channel 01		2412.000	MHz					
352	Vert	3.0	1.7	15.0		19.7	46	-26.3
(IF)	Hor	2.9	1.7	15.0		19.6	46	-26.4
704	Vert	3.6	2.8	20.9		27.3	46	-18.7
(IF * 2)	Hor	3.6	2.8	20.9		27.3	46	-18.7
1056	Vert	33.4	1.7	23.1		58.2	84	-25.8
(IF * 3)	Hor	34.9	1.7	23.1		59.7	84	-24.3
1408	Vert	36.4	1.9	24.3		62.6	84	-21.4
(IF * 4)	Hor	35.0	1.9	24.3		61.2	84	-22.8
1760	Vert	35.9	4.3	25.8		66.0	84	-18.0
(IF * 5)	Hor	36.4	4.3	25.8		66.5	84	-17.5
2060	Vert	50.4	4.2	27.1	33.7	48.0	84	-36.0
(Fc-IF)	Hor	49.6	4.2	27.1	33.7	47.2	84	-36.8
2412	Vert		4.0	28.0				
(Fc)	Hor		4.0	28.0				
2816	Vert	42.6	4.2	29.3	32.9	43.2	84	-40.8
(IF*8)	Hor	45.0	4.2	29.3	32.9	45.6	84	-38.4
3468	Vert	40.1	3.8	30.6	32.9	41.6	84	-42.4
(Fc+IF*3)	Hor	41.9	3.8	30.6	32.9	43.4	84	-40.6
4824	Vert	56.3	4.8	32.8	32.9	61.0	84	-23.0
(Fc * 2)	Hor	51.2	4.8	32.8	32.9	55.9	84	-28.1
7236	Vert	45.0	6.3	36.8	33.3	54.8	84	-29.2
(Fc * 3)	Hor	45.9	6.3	36.8	33.3	55.7	84	-28.3
9648	Vert	41.4	7.1	37.4	33.5	52.4	84	-31.6
(Fc * 4)	Hor	43.3	7.1	37.4	33.5	54.3	84	-29.7
12060	Vert	39.5	7.9	39.1	32.4	54.1	84	-29.9
(Fc * 5)	Hor	41.5	7.9	39.1	32.4	56.1	84	-27.9
14472	Vert	42.3	8.8	40.8	31.3	60.6	84	-23.4
(Fc * 6)	Hor	42.5	8.8	40.8	31.3	60.8	84	-23.2
16884	Vert	41.8	11.1	40.3	31.1	62.1	84	-21.9
(Fc * 7)	Hor	42.3	11.1	40.3	31.1	62.6	84	-21.4
19296	Vert	50.2	1.9	44.2	31.1	65.2	84	-18.8
(Fc * 8)	Hor	50.2	1.9	44.2	31.1	65.2	84	-18.8
21708	Vert	48.9	1.4	44.3	30.5	64.1	84	-19.9
(Fc * 9)	Hor	48.9	1.4	44.3	30.5	64.1	84	-19.9
24120	Vert	49.5	1.1	45.1	30.8	64.9	84	-19.1
(Fc * 10)	Hor	49.7	1.1	45.1	30.8	65.1	84	-18.9

PEAK TRANSMITTER RADIATED SPURIOUS EMISSIONS

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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 @ 3 Meters < 1 GHz, 1 Meter > 1 GHz dB(uV)/Meter	Margin (dB)
a	b	c	d	e	f	g	h	i
(formula)						(=c+d+e-f)		(=g-h)
Middle Channel 7	2442.000	MHz						
352	Vert	3.0	1.7	15.0		19.7	46	-26.3
(IF)	Hor	2.7	1.7	15.0		19.4	46	-26.6
704	Vert	3.5	2.8	20.9		27.2	46	-18.8
(IF * 2)	Hor	3.5	2.8	20.9		27.2	46	-18.8
1056	Vert	33.4	1.7	23.1		58.2	84	-25.8
(IF * 3)	Hor	34.9	1.7	23.1		59.7	84	-24.3
1408	Vert	36.4	1.9	24.3		62.6	84	-21.4
(IF * 4)	Hor	35.0	1.9	24.3		61.2	84	-22.8
1760	Vert	35.9	4.3	25.8		66.0	84	-18.0
(IF * 5)	Hor	36.4	4.3	25.8		66.5	84	-17.5
2090	Vert	47.4	4.0	27.2	33.7	44.9	84	-39.1
(Fc-IF)	Hor	45.4	4.0	27.2	33.7	42.9	84	-41.1
2442	Vert		3.9	28.1				
(Fc)	Hor		3.9	28.1				
2816	Vert	45.2	4.3	29.5	32.9	46.1	84	-37.9
(IF*8)	Hor	45.5	4.3	29.5	32.9	46.4	84	-37.6
3498	Vert	41.7	3.7	30.7	32.9	43.2	84	-40.8
(Fc+IF*3)	Hor	40.1	3.7	30.7	32.9	41.6	84	-42.4
4884	Vert	63.9	4.7	32.9	32.9	68.6	84	-15.4
(Fc * 2)	Hor	57.8	4.7	32.9	32.9	62.5	84	-21.5
7326	Vert	45.5	6.0	37.2	33.3	55.4	84	-28.6
(Fc * 3)	Hor	42.9	6.0	37.2	33.3	52.8	84	-31.2
9768	Vert	43.4	6.7	37.6	33.4	54.3	84	-29.7
(Fc * 4)	Hor	42.9	6.7	37.6	33.4	53.8	84	-30.2
12210	Vert	42.1	7.8	39.2	32.4	56.7	84	-27.3
(Fc * 5)	Hor	28.8	7.8	39.2	32.4	43.4	84	-40.6
14652	Vert	43.6	9.0	40.5	31.4	61.7	84	-22.3
(Fc * 6)	Hor	43.3	9.0	40.5	31.4	61.4	84	-22.6
17094	Vert	42.8	11.4	41.5	31.1	64.6	84	-19.4
(Fc * 7)	Hor	41.3	11.4	41.5	31.1	63.1	84	-20.9
19536	Vert	50.3	1.4	44.0	31.3	64.4	84	-19.6
(Fc * 8)	Hor	50.3	1.4	44.0	31.3	64.4	84	-19.6
21978	Vert	49.0	2.0	44.7	30.4	65.3	84	-18.7
(Fc * 9)	Hor	49.0	2.0	44.7	30.4	65.3	84	-18.7
24420	Vert	49.6	2.3	45.6	31.3	66.2	84	-17.8
(Fc * 10)	Hor	49.8	2.3	45.6	31.3	66.4	84	-17.6

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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 @ 3 Meters < 1 GHz, 1 Meter > 1 GHz dB(uV)/Meter	Margin (dB)
a	b	c	d	e	f	g	h	i
(formula)						(=c+d+e-f)		(=g-h)
High Channel 11	2462.000	MHz						
352	Vert	3.0	1.7	15.0		19.7	46	-26.3
(IF)	Hor	2.9	1.7	15.0		19.6	46	-26.4
704	Vert	3.6	2.8	20.9		27.3	46	-18.7
(IF * 2)	Hor	3.6	2.8	20.9		27.3	46	-18.7
1056	Vert	33.5	1.7	23.1		58.3	84	-25.7
(IF * 3)	Hor	35.0	1.7	23.1		59.8	84	-24.2
1408	Vert	36.2	1.9	24.3		62.4	84	-21.6
(IF * 4)	Hor	24.8	1.9	24.3		51.0	84	-33.0
1760	Vert	35.8	4.3	25.8		65.9	84	-18.1
(IF * 5)	Hor	36.0	4.3	25.8		66.1	84	-17.9
2110	Vert	56.4	4.0	27.3	33.8	53.9	84	-30.1
(Fc-IF)	Hor	48.6	4.0	27.3	33.8	46.1	84	-37.9
2462	Vert		3.8	28.2				
(Fc)	Hor		3.8	28.2				
2816	Vert	41.8	4.4	29.6	32.7	43.1	84	-40.9
(Fc+IF)	Hor	45.1	4.4	29.6	32.7	46.4	84	-37.6
3518	Vert	40.2	3.6	30.8	32.7	41.9	84	-42.1
(Fc+IF*3)	Hor	42.3	3.6	30.8	32.7	44.0	84	-40.0
4924	Vert	58.6	4.4	32.9	32.7	63.2	84	-20.8
(Fc * 2)	Hor	54.7	4.4	32.9	32.7	59.3	84	-24.7
7386	Vert	44.4	5.9	37.4	33.3	54.4	84	-29.6
(Fc * 3)	Hor	43.3	5.9	37.4	33.3	53.3	84	-30.7
9848	Vert	42.8	6.0	37.8	33.3	53.3	84	-30.7
(Fc * 4)	Hor	43.1	6.0	37.8	33.3	53.6	84	-30.4
12310	Vert	41.2	7.2	39.3	32.2	55.5	84	-28.5
(Fc * 5)	Hor	41.4	7.2	39.3	32.2	55.7	84	-28.3
14772	Vert	42.6	9.2	40.2	31.6	60.4	84	-23.6
(Fc * 6)	Hor	41.8	9.2	40.2	31.6	59.6	84	-24.4
17234	Vert	42.3	10.9	43.4	31.0	65.6	84	-18.4
(Fc * 7)	Hor	42.1	10.9	43.4	31.0	65.4	84	-18.6
19696	Vert	50.4	1.8	44.0	31.4	64.8	84	-19.2
(Fc * 8)	Hor	50.4	1.8	44.0	31.4	64.8	84	-19.2
22158	Vert	49.1	1.2	45.0	30.4	64.9	84	-19.1
(Fc * 9)	Hor	49.2	1.2	45.0	30.4	65.0	84	-19.0
24620	Vert	49.7	1.7	45.9	31.5	65.8	84	-18.2
(Fc * 10)	Hor	49.9	1.7	45.9	31.5	66.0	84	-18.0

PEAK TRANSMITTER RADIATED SPURIOUS EMISSIONS

FCC ID: EHA2126

Product: Intermec DSSS Type II Radio, Approval

Set Up: Cushcraft 15 dBi Yagi, radio tested as module HORIZONTAL

Test Date (mm/dd/yy): 11/06/98

Measurement System Calibration Date: 3/2/98

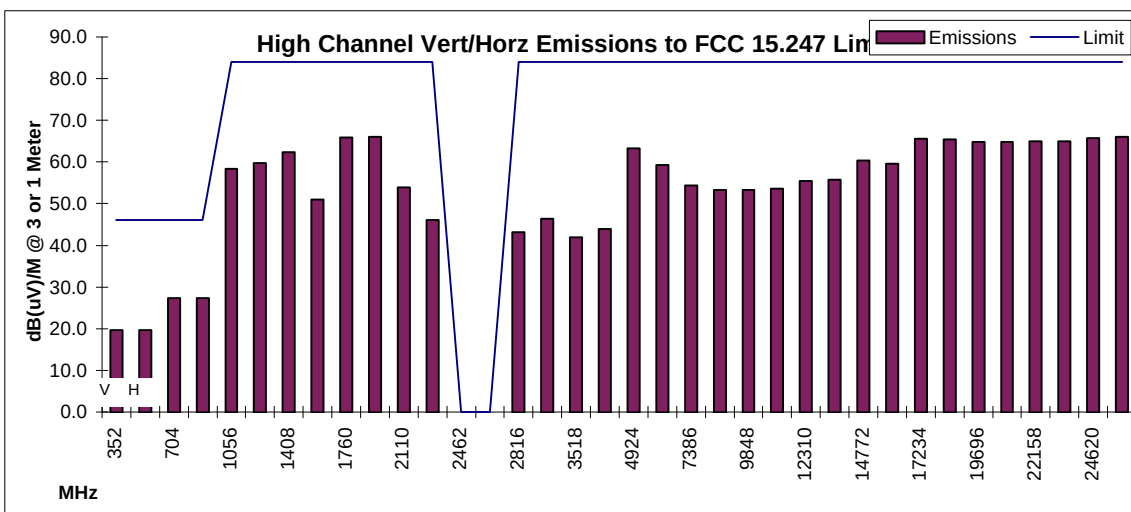
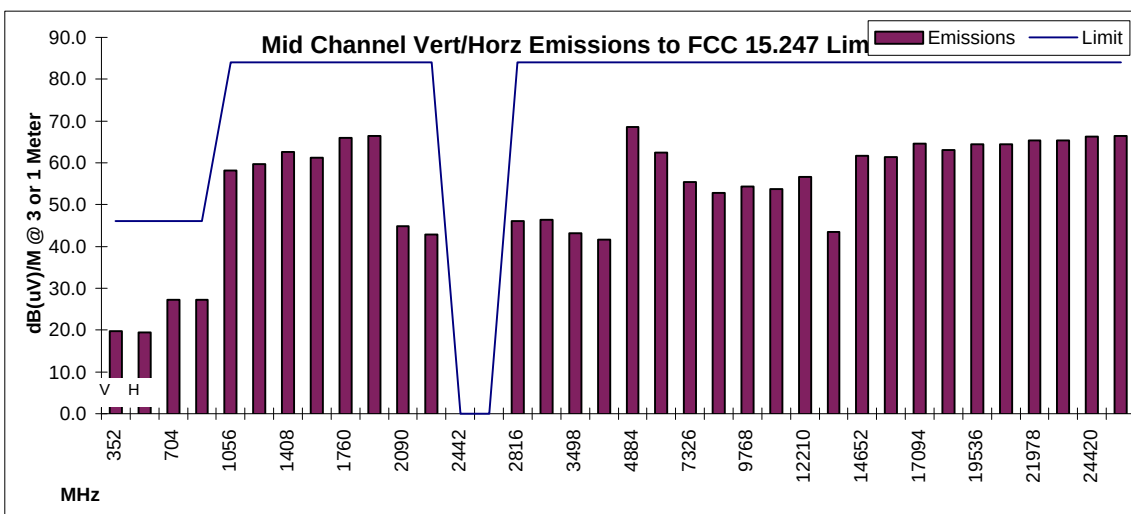
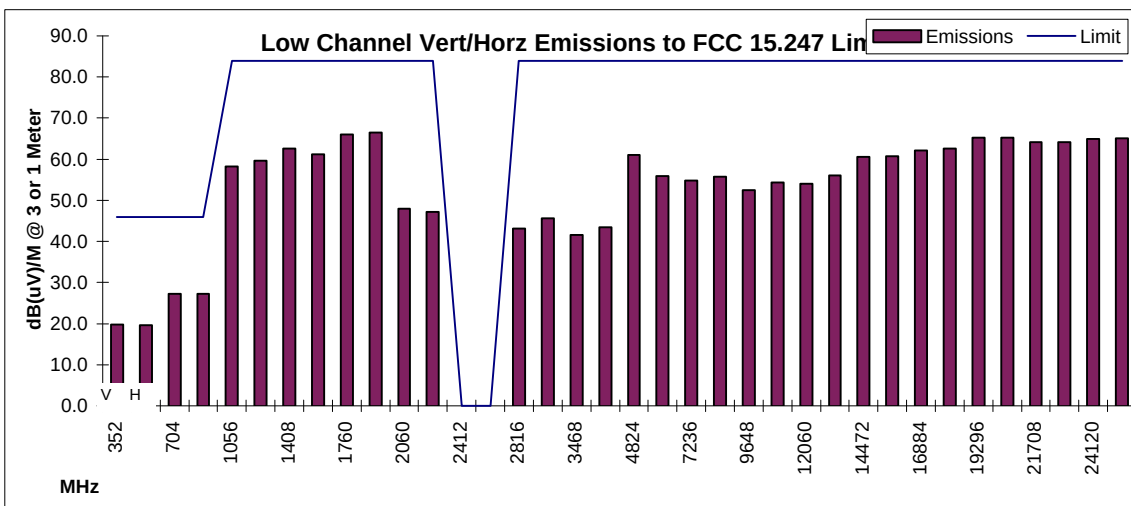
Intermec Technologies Corporation

Norand Mobile Systems Division

EMC Test Laboratory

Standard: FCC 15.247

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



RECEIVER RADIATED SPURIOUS EMISSIONS

Average Emissions Data Compared to Average Emissions Limit

FCC ID: EHA2126

Product: Intermec DSSS Type II Radio, Approval

Set Up: Cushcraft 15 dBi Yagi, radio tested as module HORIZONTAL

Test Date (mm/dd/yy): 11/06/98

Measurement System Calibration Date: 3/2/98

Intermec Technologies Corporation

Norand Mobile Systems Division

EMC Test Laboratory

Standard: Canada RSS-210/GL-36

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	Margin (dB)
a	b	c	d	e	f	g	h	i
(formula)						(=c+d+e-f)		(=g-h)
Low Channel 01 2412 MHz								
2060	Vert	43.4	3.1	27.1	33.6	40.0	64	-24.0
(Lo)	Hor	41.7	3.1	27.1	33.6	38.3	64	-25.7
4120	Vert	36.9	3.9	32.6	33.2	40.2	64	-23.8
(Lo * 2)	Hor	35.6	3.9	32.6	33.2	38.9	64	-25.1
6180	Vert	31.3	5.6	34.5	33.0	38.4	64	-25.6
(Lo * 3)	Hor	31.2	5.6	34.5	33.0	38.3	64	-25.7
8240	Vert	33.0	6.2	37.3	33.3	43.2	64	-20.8
(Lo * 4)	Hor	33.0	6.2	37.3	33.3	43.2	64	-20.8
10300	Vert	30.8	6.8	38.3	32.9	43.0	64	-21.0
(Lo * 5)	Hor	30.6	6.8	38.3	32.9	42.8	64	-21.2
12360	Vert	30.2	7.9	39.2	32.3	45.0	64	-19.0
(Lo * 6)	Hor	30.4	7.9	39.2	32.3	45.2	64	-18.8

Middle Channel 7 2442 MHz								
2090	Vert	44.6	3.0	27.2	33.6	41.2	64	-22.8
(Lo)	Hor	42.3	3.0	27.2	33.6	38.9	64	-25.1
4180	Vert	45.2	4.2	32.5	33.2	48.7	64	-15.3
(Lo * 2)	Hor	41.0	4.2	32.5	33.2	44.5	64	-19.5
6270	Vert	31.4	5.9	34.4	33.0	38.7	64	-25.3
(Lo * 3)	Hor	30.3	5.9	34.4	33.0	37.6	64	-26.4
8360	Vert	32.0	6.4	37.4	33.4	42.4	64	-21.6
(Lo * 4)	Hor	32.0	6.4	37.4	33.4	42.4	64	-21.6
10450	Vert	30.1	6.9	38.5	32.9	42.6	64	-21.4
(Lo * 5)	Hor	30.3	6.9	38.5	32.9	42.8	64	-21.2
12540	Vert	31.9	8.1	39.4	32.1	47.3	64	-16.7
(Lo * 6)	Hor	31.8	8.1	39.4	32.1	47.2	64	-16.8

High Channel 11 2462 MHz								
2110	Vert	50.9	3.0	27.3	33.6	47.6	64	-16.4
(Lo)	Hor	39.0	3.0	27.3	33.6	35.7	64	-28.3
4220	Vert	38.4	4.2	32.5	33.2	41.9	64	-22.1
(Lo * 2)	Hor	35.4	4.2	32.5	33.2	38.9	64	-25.1
6330	Vert	31.3	6.0	34.3	33.1	38.5	64	-25.5
(Lo * 3)	Hor	31.2	6.0	34.3	33.1	38.4	64	-25.6
8440	Vert	36.6	6.7	37.5	33.5	47.3	64	-16.7
(Lo * 4)	Hor	35.0	6.7	37.5	33.5	45.7	64	-18.3
10550	Vert	29.9	7.2	38.5	32.8	42.8	64	-21.2
(Lo * 5)	Hor	30.2	7.2	38.5	32.8	43.1	64	-20.9
12660	Vert	32.1	8.1	39.7	31.5	48.4	64	-15.6
(Lo * 6)	Hor	31.9	8.1	39.7	31.5	48.2	64	-15.8

RECEIVER RADIATED SPURIOUS EMISSIONS

Average Emissions Data Compared to Average Emissions Limit

FCC ID: EHA2126

Product: Intermec DSSS Type II Radio, Approval

Set Up: Cushcraft 15 dBi Yagi, radio tested as module HORIZONTAL

Test Date (mm/dd/yy): 11/06/98

Measurement System Calibration Date: 3/2/98

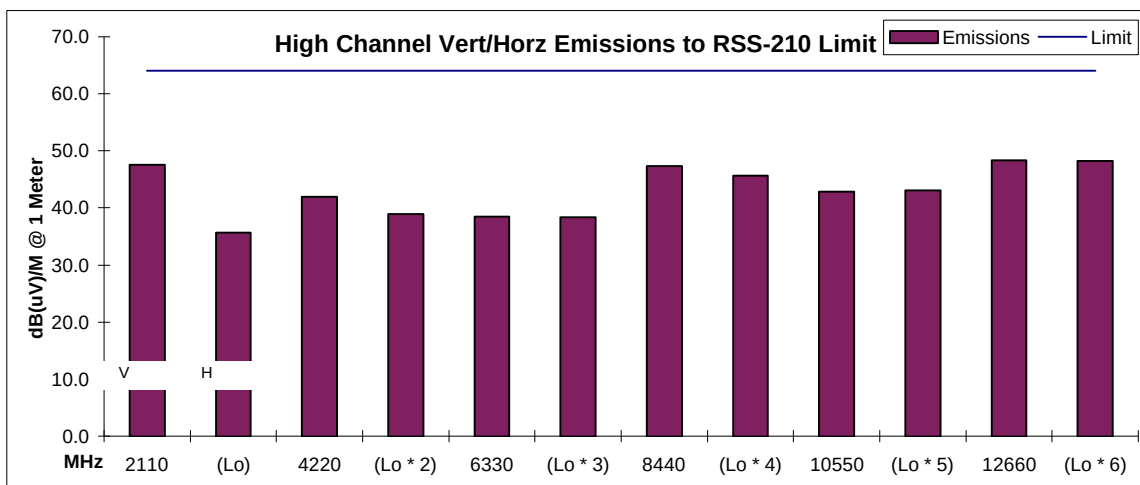
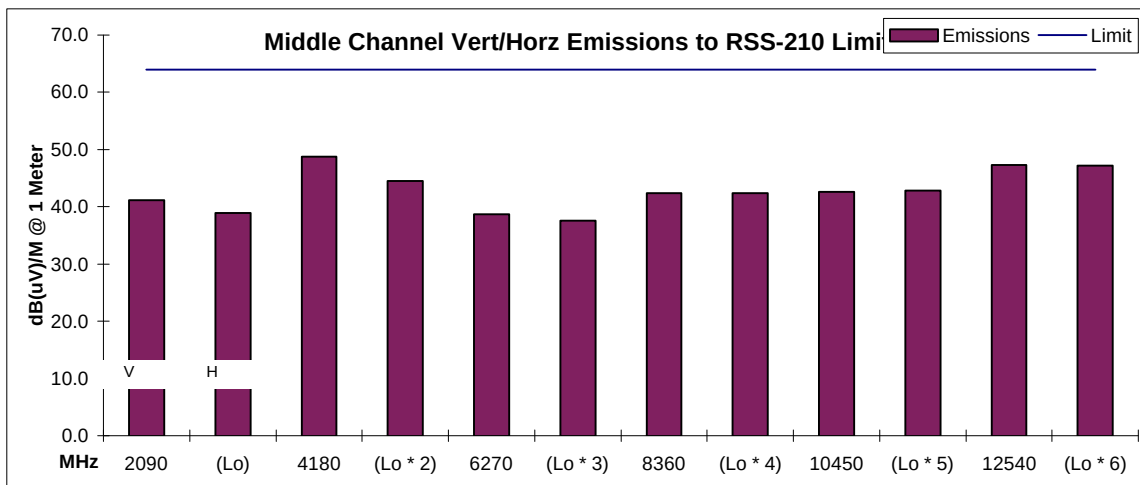
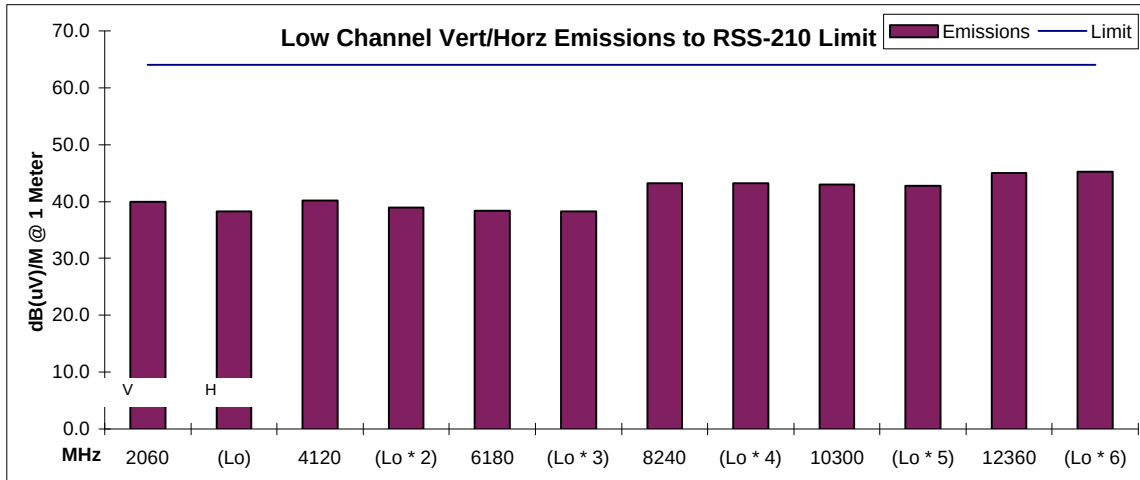
Intermec Technologies Corporation

Norand Mobile Systems Division

EMC Test Laboratory

Standard: Canada RSS-210/GL-36

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



TRANSMITTER RADIATED SPURIOUS EMISSIONS

Product: Intermec DSSS Type II Radio, Approval

Intermec Technologies Corporation

Set Up: Cushcraft 15 dBi Yagi , radio tested as module HORIZONTAL

Norand Mobile Systems Division

Test Date (mm/dd/yy): 11/06/98

EMC Test Laboratory

Measurement System Calibration Date: 2/26/98

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

Standard: ETS 300-328

Data recorded here is based upon FCC data sheets within this file

Frequency (MHz)	Antenna Polarity	Spurious Measured dB(uV)	Spur Meas. (dBm)	Generator 0 dBm Ref. Level	Calculated Generator Substitution (dBm)	Antenna Comp (dB)	Cable Comp (dB)	Generator Reference at Antenna (dBm)	Spec Limit (dBm)	Margin (dB)
a	b	c	d	e	f	g	h	i	j	k
(formula)			(=c-107)		(=d-e)			(=f-g+h)		(=i-j)
Low Channel 01										
	2412	MHz								
352	Vert	3.0	-104.0	-27.4	-76.6		0.6	-77.2	-36	-41.2
(IF)	Hor	2.9	-104.1	-24.0	-80.1		0.6	-80.7	-36	-44.7
704	Vert	3.6	-103.4	-35.8	-67.6		1.0	-68.6	-36	-32.6
(IF * 2)	Hor	3.6	-103.4	-31.4	-72.0		1.0	-73.0	-36	-37.0
1056	Vert	23.8	-83.2	-26.3	-56.9	4.1	1.4	-54.2	-30	-24.2
(IF * 3)	Hor	23.7	-83.3	-26.1	-57.2	4.1	1.4	-54.5	-30	-24.5
1408	Vert	29.1	-77.9	-26.2	-51.7	6.3	1.7	-47.1	-30	-17.1
(IF * 4)	Hor	24.3	-82.7	-26.9	-55.8	6.3	1.7	-51.2	-30	-21.2
1760	Vert	25.6	-81.4	-30.9	-50.5	6.5	2.0	-46.0	-30	-16.0
(IF * 5)	Hor	25.6	-81.4	-30.9	-50.5	6.5	2.0	-46.0	-30	-16.0
2060	Vert	47.9	-107.0	2.8	-109.8	6.3	2.2	-105.7	-30	-75.7
(Fc-IF)	Hor	47.3	-59.7	2.8	-62.5	6.3	2.2	-58.4	-30	-28.4
2412	Vert		-107.0	-31.2	-75.8	7.4	3.5			
(Fc)	Hor		-107.0	-31.1	-75.9	7.4	3.5			
2816	Vert	31.7	-75.3	0.8	-76.1	6.5	2.6	-72.2	-30	-42.2
(IF*8)	Hor	35.5	-71.5	0.7	-72.2	6.5	2.6	-68.3	-30	-38.3
3468	Vert	30.3	-76.7	-1.2	-75.5	6.9	2.9	-71.5	-30	-41.5
(Fc+IF*3)	Hor	31.9	-75.1	-1.6	-73.5	6.9	2.9	-69.5	-30	-39.5
4824	Vert	52.9	-54.1	-4.9	-49.2	7.3	3.7	-45.6	-30	-15.6
(Fc * 2)	Hor	47.1	-59.9	-5.1	-54.8	7.3	3.7	-51.2	-30	-21.2
7236	Vert	36.6	-70.4	-12.1	-58.3	6.0	3.8	-56.1	-30	-26.1
(Fc * 3)	Hor	38.5	-68.5	-12.1	-56.4	6.0	3.8	-54.2	-30	-24.2
9648	Vert	32.1	-81.4	-15.5	-65.9	7.9	6.2	-64.2	-30	-34.2
(Fc * 4)	Hor	31.8	-75.2	-15.1	-60.1	7.9	6.2	-58.4	-30	-28.4
12060	Vert	29.5	-63.1	-21.4	-41.7	6.5	6.5	-41.7	-30	-11.7
(Fc * 5)	Hor	30.4	-76.6	-21.4	-55.2	6.5	6.5	-55.2	-30	-25.2

TRANSMITTER RADIATED SPURIOUS EMISSIONS

Product: Intermec DSSS Type II Radio, Approval

Intermec Technologies Corporation

Set Up: Cushcraft 15 dBi Yagi , radio tested as module HORIZONTAL

Norand Mobile Systems Division

Test Date (mm/dd/yy): 11/06/98

EMC Test Laboratory

Measurement System Calibration Date: 2/26/98

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

Standard: ETS 300-328

Data recorded here is based upon FCC data sheets within this file

Frequency (MHz)	Antenna Polarity	Spurious Measured dB(uV)	Spur Meas. (dBm)	Generator 0 dBm Ref. Level	Calculated Generator Substitution (dBm)	Antenna Comp (dB)	Cable Comp (dB)	Generator Reference at Antenna (dBm)	Spec Limit (dBm)	Margin (dB)
a	b	c	d	e	f	g	h	i	j	k
(formula)			(=c-107)		(=d-e)			(=f-g+h)		(=i-j)
Middle Channel 7	2442	MHz								
352	Vert	3.0	-104.0	-27.4	-76.6		0.6	-77.2	-36	-41.2
(IF)	Hor	2.7	-104.3	-24.0	-80.3		0.6	-80.9	-36	-44.9
704	Vert	3.5	-103.5	-35.8	-67.7		1.0	-68.7	-36	-32.7
(IF * 2)	Hor	3.5	-103.5	-31.4	-72.1		1.0	-73.1	-36	-37.1
1056	Vert	23.8	-83.2	-26.3	-56.9	4.1	1.4	-54.2	-30	-24.2
(IF * 3)	Hor	23.7	-83.3	-26.1	-57.2	4.1	1.4	-54.5	-30	-24.5
1408	Vert	29.1	-77.9	-26.2	-51.7	6.3	1.7	-47.1	-30	-17.1
(IF * 4)	Hor	24.3	-82.7	-26.9	-55.8	6.3	1.7	-51.2	-30	-21.2
1760	Vert	25.6	-81.4	-30.9	-50.5	6.5	2.0	-46.0	-30	-16.0
(IF * 5)	Hor	25.6	-81.4	-30.9	-50.5	6.5	2.0	-46.0	-30	-16.0
2090	Vert	43.9	-63.1	3.0	-66.1	6.3	2.2	-62.0	-30	-32.0
(Fc-IF)	Hor	40.7	-66.3	3.0	-69.3	6.3	2.2	-65.2	-30	-35.2
2442	Vert		-107.0	-32.2	-74.8	7.6	3.3			
(Fc)	Hor		-107.0	-32.1	-74.9	7.6	3.3			
2816	Vert	38.6	-68.4	0.7	-69.1	6.5	2.6	-65.2	-30	-35.2
(IF*8)	Hor	35.8	-71.2	0.7	-71.9	6.5	2.6	-68.0	-30	-38.0
3498	Vert	32.5	-74.5	-1.4	-73.1	7.1	2.9	-68.9	-30	-38.9
(Fc+IF*3)	Hor	29.1	-77.9	-1.8	-76.1	7.1	2.9	-71.9	-30	-41.9
4884	Vert	60.9	-46.1	-5.4	-40.7	7.0	5.7	-39.4	-30	-9.4
(Fc * 2)	Hor	54.9	-52.1	-5.2	-46.9	7.0	5.7	-45.6	-30	-15.6
7326	Vert	38.0	-69.0	-11.5	-57.5	7.3	6.8	-57.0	-30	-27.0
(Fc * 3)	Hor	32.8	-74.2	-11.7	-62.5	7.3	6.8	-62.0	-30	-32.0
9768	Vert	32.8	-74.2	-16.4	-57.8	6.0	8.7	-60.5	-30	-30.5
(Fc * 4)	Hor	31.9	-75.1	-16.5	-58.6	6.0	8.7	-61.3	-30	-31.3
12210	Vert	30.6	-76.4	-21.7	-54.7	5.3	9.7	-59.1	-30	-29.1
(Fc * 5)	Hor	29.9	-77.1	-21.6	-55.5	5.3	9.7	-59.9	-30	-29.9

TRANSMITTER RADIATED SPURIOUS EMISSIONS

Product: Intermec DSSS Type II Radio, Approval

Intermec Technologies Corporation

Set Up: Cushcraft 15 dBi Yagi , radio tested as module HORIZONTAL

Norand Mobile Systems Division

Test Date (mm/dd/yy): 11/06/98

EMC Test Laboratory

Measurement System Calibration Date: 2/26/98

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

Standard: ETS 300-328

Data recorded here is based upon FCC data sheets within this file

Frequency (MHz)	Antenna Polarity	Spurious Measured dB(uV)	Spur Meas. (dBm)	Generator 0 dBm Ref. Level	Calculated Generator Substitution (dBm)	Antenna Comp (dB)	Cable Comp (dB)	Generator Reference at Antenna (dBm)	Spec Limit (dBm)	Margin (dB)
a	b	c	d	e	f	g	h	i	j	k
(formula)			(=c-107)		(=d-e)			(=f-g+h)		(=i-j)
High Channel 11	2462.0	MHz								
352	Vert	3.0	-104.0	-27.4	-76.6		0.6	-77.2	-36	-41.2
(IF)	Hor	2.9	-104.1	-24.0	-80.1		0.6	-80.7	-36	-44.7
704	Vert	3.6	-103.4	-35.8	-67.6		1.0	-68.6	-36	-32.6
(IF * 2)	Hor	3.6	-103.4	-31.4	-72.0		1.0	-73.0	-36	-37.0
1056	Vert	23.8	-83.2	-26.3	-56.9	4.1	1.4	-54.2	-30	-24.2
(IF * 3)	Hor	23.7	-83.3	-26.1	-57.2	4.1	1.4	-54.5	-30	-24.5
1408	Vert	29.1	-77.9	-26.2	-51.7	6.3	1.7	-47.1	-30	-17.1
(IF * 4)	Hor	24.3	-82.7	-26.9	-55.8	6.3	1.7	-51.2	-30	-21.2
1760	Vert	25.6	-81.4	-30.9	-50.5	6.5	2.0	-46.0	-30	-16.0
(IF * 5)	Hor	25.6	-81.4	-30.9	-50.5	6.5	2.0	-46.0	-30	-16.0
2110	Vert	55.2	-51.8	3.1	-54.9	6.2	2.0	-50.7	-30	-20.7
(Fc-IF)	Hor	45.5	-61.5	3.3	-64.8	6.2	2.0	-60.6	-30	-30.6
2462	Vert		-107.0	-31.7	-75.3	7.7	3.6			
(Fc)	Hor		-107.0	-31.6	-75.4	7.7	3.6			
2816	Vert	34.7	-72.3	0.4	-72.7	6.5	2.7	-68.9	-30	-38.9
(Fc+IF)	Hor	35.5	-71.5	0.4	-71.9	6.5	2.7	-68.1	-30	-38.1
3518	Vert	29.7	-77.3	-1.5	-75.8	7.3	2.9	-71.4	-30	-41.4
(Fc+IF*3)	Hor	33.9	-73.1	-1.9	-71.2	7.3	2.9	-66.8	-30	-36.8
4924	Vert	57.7	-49.3	-6.1	-43.2	7.1	5.2	-41.3	-30	-11.3
(Fc * 2)	Hor	53.8	-53.2	-6.3	-46.9	7.1	5.2	-45.0	-30	-15.0
7386	Vert	38.3	-68.7	-11.3	-57.4	7.7	6.7	-56.4	-30	-26.4
(Fc * 3)	Hor	35.3	-71.7	-11.8	-59.9	7.7	6.7	-58.9	-30	-28.9
9848	Vert	33.9	-73.1	-17.2	-55.9	6.2	8.6	-58.3	-30	-28.3
(Fc * 4)	Hor	34.1	-72.9	-17.1	-55.8	6.2	8.6	-58.2	-30	-28.2
12310	Vert	30.1	-76.9	-23.3	-53.6	5.6	9.3	-57.3	-30	-27.3
(Fc * 5)	Hor	30.3	-76.7	-23.1	-53.6	5.6	9.3	-57.3	-30	-27.3

TRANSMITTER RADIATED SPURIOUS EMISSIONS

Product: Intermec DSSS Type II Radio, Approval

Set Up: Cushcraft 15 dBi Yagi, radio tested as module HORIZONTAL

Test Date (mm/dd/yy): 11/06/98

Measurement System Calibration Date: 2/26/98

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

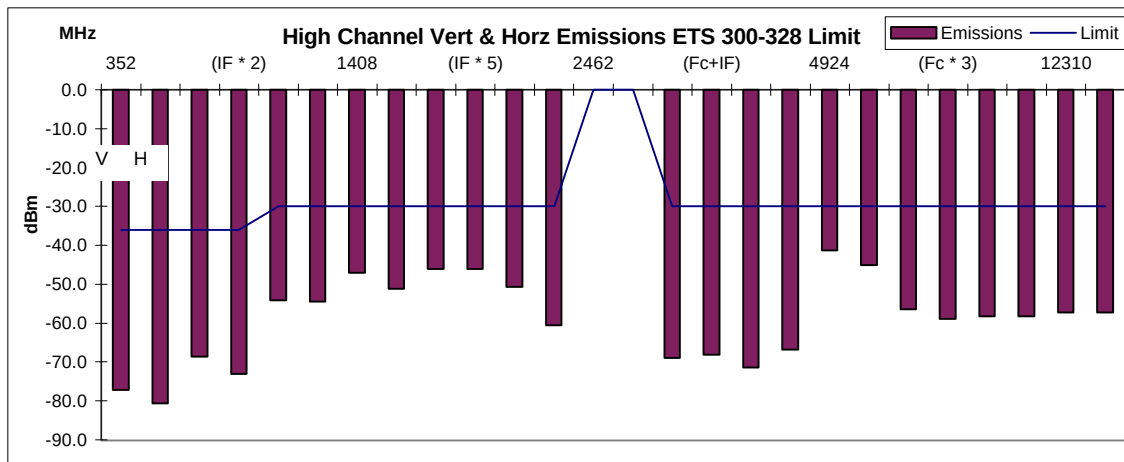
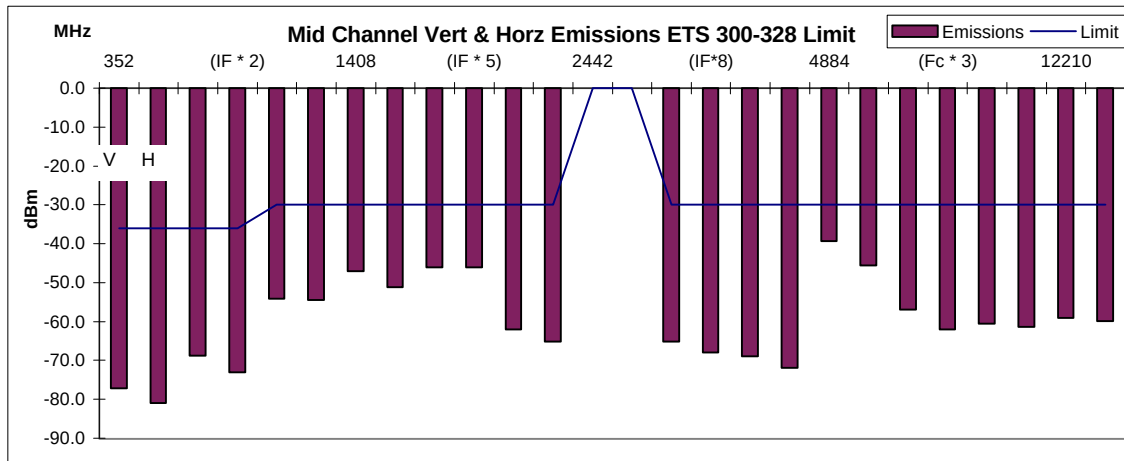
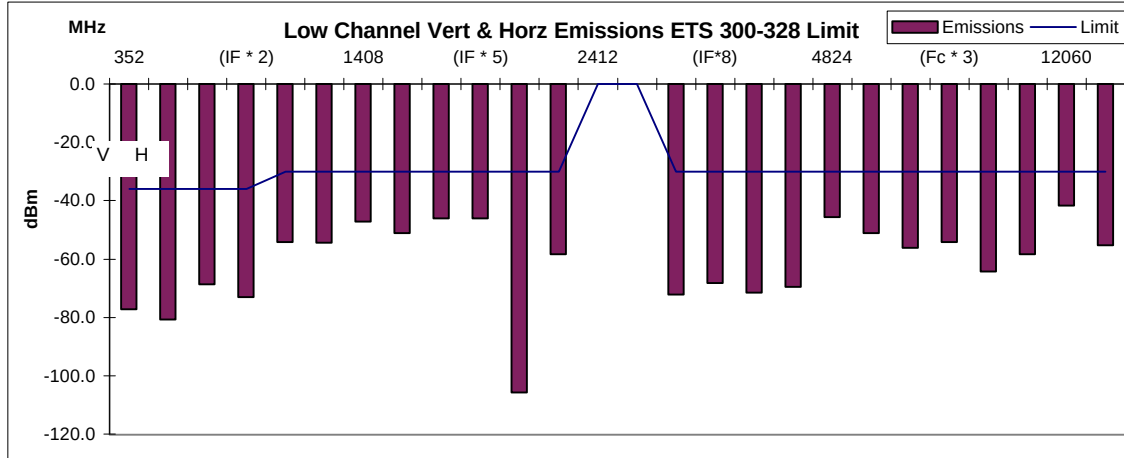
Data recorded here is based upon FCC data sheets within this file

Intermec Technologies Corporation

Norand Mobile Systems Division

EMC Test Laboratory

Standard: ETS 300-328



RECEIVER RADIATED SPURIOUS EMISSIONS

Product: Intermec DSSS Type II Radio, Approval

Intermec Technologies Corporation

Set Up: Cushcraft 15 dBi Yagi , radio tested as module HORIZONTAL

Norand Mobile Systems Division

Test Date (mm/dd/yy): 11/06/98

EMC Test Laboratory

Measurement System Calibration Date: 2/26/98

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

Standard: ETS 300-328

Data recorded here is based upon FCC data sheets within this file

Frequency (MHz)	Antenna Polarity	Spurious Measure d dB(uV)	Spur Meas. (dBm)	Generator 0 dBm Ref. Level	Caculated Generator Substitution (dBm)	Antenna Comp (dB)	Cable Comp (dB)	Generator Reference at Antenna (dBm)	Spec Limit (dBm)	Margin (dB)
a	b	c	d	e	f	g	h	i	j	k
(formula)			(=c-107)		(=d-e)			(=f-g+h)		(=i-j)
Low Channel 01										
	2412	MHz								
2060	Vert	43.4	-63.6	2.8	-66.4	6.3	2.2	-62.3	-47	-15.3
(Lo)	Hor	41.7	-65.3	2.8	-68.1	6.3	2.2	-64.0	-47	-17.0
4120	Vert	36.9	-70.1	-4.0	-66.1	7.4	3.4	-62.1	-47	-15.1
(Lo * 2)	Hor	35.6	-71.4	-4.3	-67.1	7.4	3.4	-63.1	-47	-16.1
6180	Vert	31.3	-75.7	-8.0	-67.7	8.3	3.9	-63.3	-47	-16.3
(Lo * 3)	Hor	31.2	-75.8	-8.3	-67.5	8.3	3.9	-63.1	-47	-16.1
8240	Vert	33.0	-74.0	-13.2	-60.8	8.2	5.0	-57.6	-47	-10.6
(Lo * 4)	Hor	33.0	-74.0	-13.0	-61.0	8.2	5.0	-57.8	-47	-10.8
10300	Vert	30.8	-76.2	-17.4	-58.8	7.2	6.7	-58.3	-47	-11.3
(Lo * 5)	Hor	30.6	-76.4	-16.6	-59.8	7.2	6.7	-59.3	-47	-12.3
12360	Vert	30.2	-76.8	-22.2	-54.6	7.1	6.4	-53.9	-47	-6.9
(Lo * 6)	Hor	30.4	-76.6	-22.5	-54.1	7.1	6.4	-53.4	-47	-6.4

Middle Channel 7										
	2442	MHz								
2090	Vert	44.6	-62.4	3.0	-65.4	6.3	2.2	-61.3	-47	-14.3
(Lo)	Hor	42.3	-64.7	3.0	-67.7	6.3	2.2	-63.6	-47	-16.6
4180	Vert	45.2	-61.8	-3.8	-58.0	7.3	3.5	-54.2	-47	-7.2
(Lo * 2)	Hor	41.0	-66.0	-4.2	-61.8	7.3	3.5	-58.0	-47	-11.0
6270	Vert	31.4	-75.6	-8.1	-67.5	8.3	3.8	-63.0	-47	-16.0
(Lo * 3)	Hor	30.3	-76.7	-8.3	-68.4	8.3	3.8	-63.9	-47	-16.9
8360	Vert	32.0	-75.0	-13.4	-61.6	8.3	5.2	-58.5	-47	-11.5
(Lo * 4)	Hor	32.0	-75.0	-13.3	-61.7	8.3	5.2	-58.6	-47	-11.6
10450	Vert	30.1	-76.9	-18.8	-58.1	6.7	6.8	-58.2	-47	-11.2
(Lo * 5)	Hor	30.3	-76.7	-18.4	-58.3	6.7	6.8	-58.4	-47	-11.4
12540	Vert	31.9	-75.1	-23.4	-51.7	6.9	6.8	-51.6	-47	-4.6
(Lo * 6)	Hor	31.8	-75.2	-23.8	-51.4	6.9	6.8	-51.3	-47	-4.3

High Channel 11										
	2462	MHz								
2110	Vert	50.9	-56.1	3.1	-59.2	6.3	2.2	-55.1	-47	-8.1
(Lo)	Hor	39.0	-68.0	3.3	-71.3	6.3	2.2	-67.2	-47	-20.2
4220	Vert	38.4	-68.6	-3.5	-65.1	7.2	3.6	-61.5	-47	-14.5
(Lo * 2)	Hor	35.4	-71.6	-3.8	-67.8	7.2	3.6	-64.2	-47	-17.2
6330	Vert	31.3	-75.7	-8.9	-66.8	8.3	3.6	-62.1	-47	-15.1
(Lo * 3)	Hor	31.2	-75.8	-9.0	-66.8	8.3	3.6	-62.1	-47	-15.1
8440	Vert	36.6	-70.4	-13.0	-57.4	8.3	5.3	-54.4	-47	-7.4
(Lo * 4)	Hor	35.0	-72.0	-13.0	-59.0	8.3	5.3	-56.0	-47	-9.0
10550	Vert	29.9	-77.1	-20.1	-57.0	6.3	6.8	-57.5	-47	-10.5
(Lo * 5)	Hor	30.2	-76.8	-20.6	-56.2	6.3	6.8	-56.7	-47	-9.7
12660	Vert	32.1	-74.9	-24.1	-50.8	5.7	7.1	-52.2	-47	-5.2
(Lo * 6)	Hor	31.9	-75.1	-24.8	-50.3	5.7	7.1	-51.7	-47	-4.7

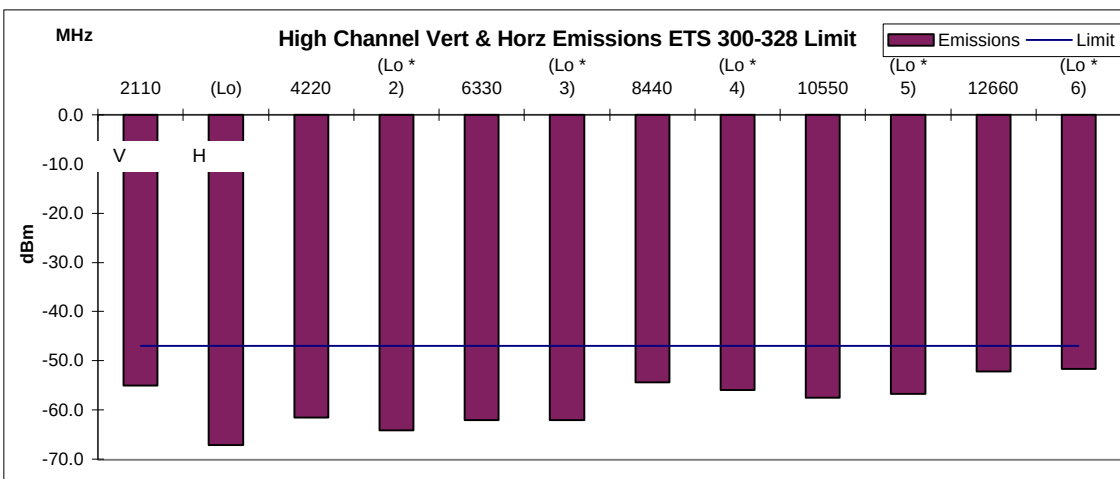
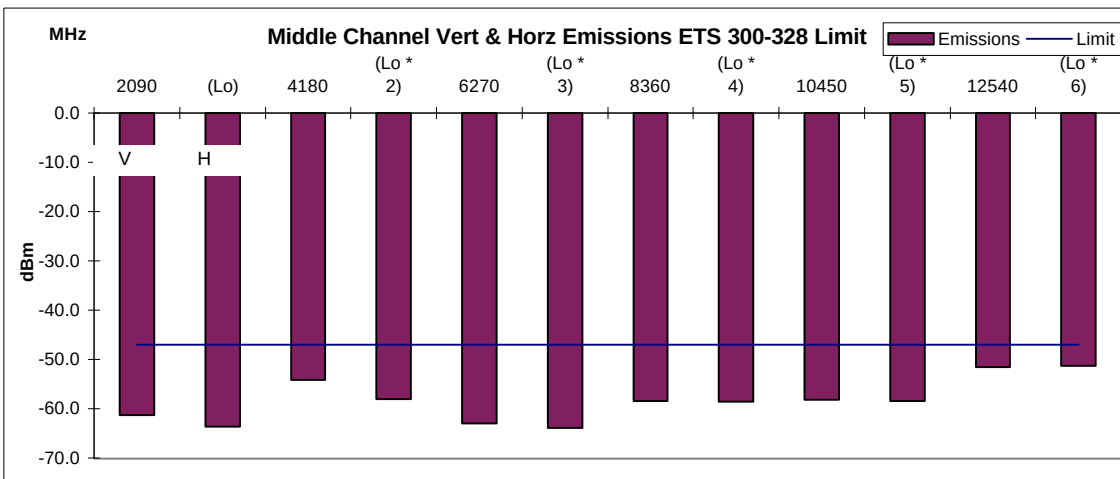
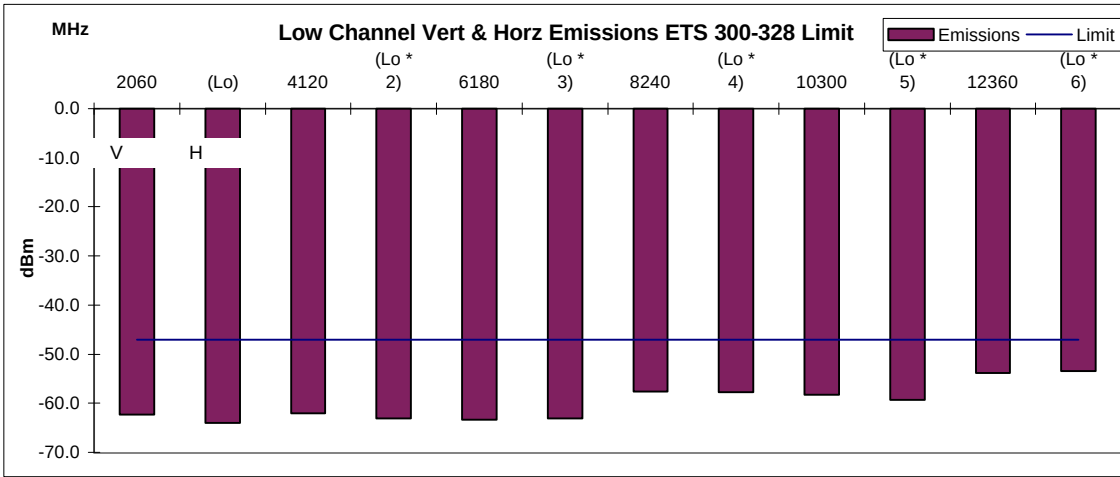
RECEIVER RADIATED SPURIOUS EMISSIONS

Product: Intermec DSSS Type II Radio, Approval
 Set Up: Cushcraft 15 dBi Yagi , radio tested as module HORIZONTAL
 Test Date (mm/dd/yy): 11/06/98
 Measurement System Calibration Date: 2/26/98
 Span 100 MHz, Res. B.W. 1 MHz, Video B.W. 3 kHz

Intermec Technologies Corporation
 Norand Mobile Systems Division
 EMC Test Laboratory

Standard: ETS 300-328

Data recorded here is based upon FCC data sheets within this file



RECEIVER RADIATED SPURIOUS EMISSIONS

Quasi-Peak Emissions Data Compared to Emissions Limit

FCC ID: EHA2126

Product: Intermec DSSS Type II Radio, Approval

Set Up: Cushcraft 15 dBi Yagi , radio tested as module HORIZONTAL

Test Date (mm/dd/yy): 11/06/98

Measurement System Calibration Date: 3/2/98

Intermec Technologies Corporation

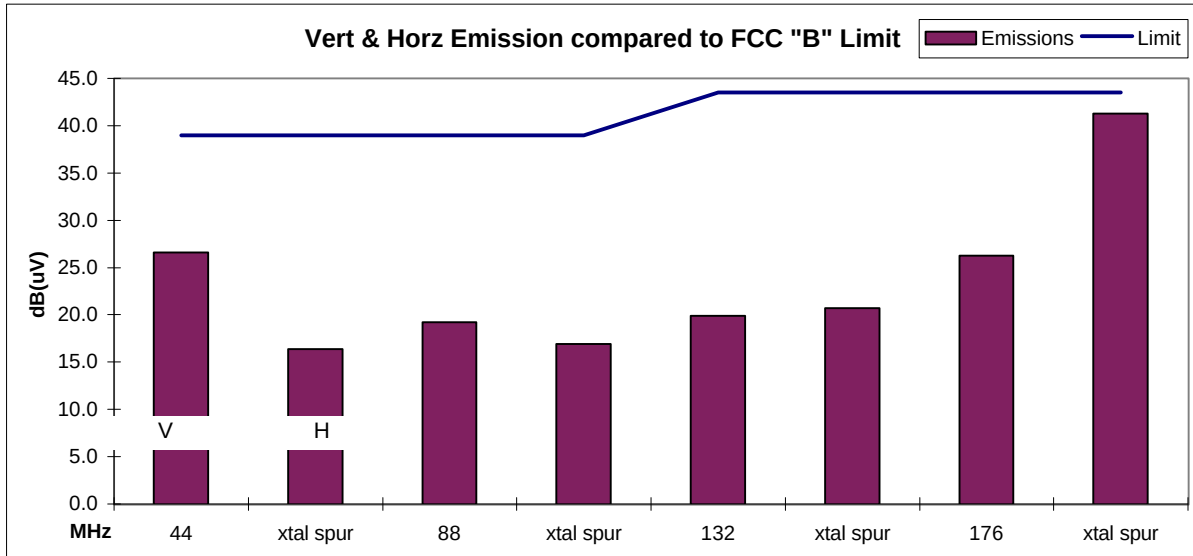
Norand Mobile Systems Division

EMC Test Laboratory

Standard: Canada RSS-210/GL-36

Quasi-Peak detector 120 kHz BW on ESVP Receiver

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	Limit @ 3 Meter dB(uV)/Meter	Margin (dB)
a	b	c	d	e	f	g	h	i
(formula)						(=c+d+e-f)		(=g-h)
44	Vert	15.6	0.1	10.9		26.6	39	-12.4
xtal spur	Hor	5.4	0.1	10.9		16.4	39	-22.6
88	Vert	8.8	0.6	9.8		19.2	39	-19.8
xtal spur	Hor	6.5	0.6	9.8		16.9	39	-22.1
132	Vert	7.1	0.8	12.0		19.9	43.5	-23.6
xtal spur	Hor	7.9	0.8	12.0		20.7	43.5	-22.8
176	Vert	12.0	1.0	13.3		26.3	43.5	-17.3
xtal spur	Hor	27.0	1.0	13.3		41.3	43.5	-2.3



RECEIVER RADIATED SPURIOUS EMISSIONS

Quasi-Peak Emissions Data Compared to Emissions Limit

Product: Intermec DSSS Type II Radio, Approval

Set Up: Cushcraft 15 dBi Yagi, radio tested as module HORIZONTAL

Test Date (mm/dd/yy): 11/06/98

Measurement System Calibration Date: 2/26/98

Quasi-Peak detector 120 kHz BW on ESVP Receiver

Intermec Technologies Corporation

Norand Mobile Systems Division

EMC Test Laboratory

Standard: ETS 300-328

Frequency (MHz)	Antenna Polarity	Spurious Measured dB(uV)	Spur Meas. (dBm)	Generator 0 dBm Ref. Level	Calculated Generator Substitution (dBm)	Antenna Comp (dB)	Cable Comp (dB)	Generator Reference at Antenna (dBm)	Spec Limit (dBm)	Margin (dB)
a	b	c	d	e	f	g	h	i	j	k
(formula)			(=c-107)		(=d-e)			(=f-g+h)		(=i-j)
44	Vert	15.6	-91.4	-22.1	-69.3		0.1	-69.4	-57	-12.4
xtal spur	Hor	5.4	-101.6	-22.3	-79.3		0.1	-79.4	-57	-22.4
88	Vert	8.8	-98.2	-22.0	-76.2		0.2	-76.4	-57	-19.4
xtal spur	Hor	6.5	-100.5	-19.3	-81.2		0.2	-81.4	-57	-24.4
132	Vert	7.1	-99.9	-26.1	-73.8		0.3	-74.1	-57	-17.1
xtal spur	Hor	7.9	-99.1	-20.2	-78.9		0.3	-79.2	-57	-22.2
176	Vert	12.0	-95.0	-26.6	-68.4		0.4	-68.8	-57	-11.8
xtal spur	Hor	27.0	-80.0	-21.6	-58.4		0.4	-58.8	-57	-1.8

