Name of Test: Field Strength of Spurious Radiation

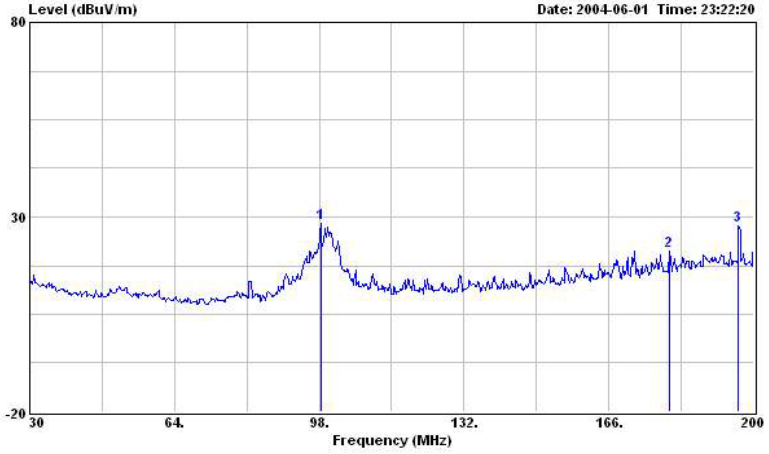
CDMA (Channel 383)

Freq MHz	Pol	Substitution Antenna Input Power (dBm)	Substitution Antenna Gain (dBd)	Et (dBuV/m)	Es (dBuV/m)	Et - Es (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
98.34	H	-1.04	0.29	28.51	92.47	-63.96	-64.70	-13.0	-51.70
180.11	H	-1.10	-0.44	21.31	90.26	-68.95	-70.49	-13.0	-57.49
196.43	H	-1.26	-0.91	27.65	90.51	-62.86	-65.03	-13.0	-52.03
272.80	H	-1.39	-0.40	34.21	92.43	-58.22	-60.01	-13.0	-47.01
343.20	H	-1.57	-0.63	32.06	93.66	-61.60	-63.80	-13.0	-50.80
524.80	H	-1.93	-0.26	32.96	95.09	-62.13	-64.32	-13.0	-51.32
1000.00	H	-2.68	-1.74	40.18	93.31	-53.13	-57.55	-13.0	-44.55
1398.00	H	-3.28	3.92	36.95	101.41	-64.46	-63.82	-13.0	-50.82
1798.00	H	-3.71	4.47	38.30	101.80	-63.50	-62.74	-13.0	-49.74
4028.00	H	-5.67	5.30	42.43	98.66	-56.23	-56.59	-13.0	-43.59
6268.00	H	-7.15	6.86	44.19	98.82	-54.63	-54.92	-13.0	-41.92
8868.00	H	-9.04	6.66	47.28	94.57	-47.29	-49.67	-13.0	-36.67
43.94	V	-0.65	-1.88	22.74	72.93	-50.19	-52.72	-13.0	-39.72
98.34	V	-1.04	0.29	26.45	92.47	-66.02	-66.76	-13.0	-53.76
196.43	V	-1.26	-0.91	25.52	90.51	-64.99	-67.16	-13.0	-54.16
272.80	V	-1.39	-0.40	24.82	92.43	-67.61	-69.40	-13.0	-56.40
524.80	V	-1.93	-0.26	29.20	95.09	-65.89	-68.08	-13.0	-55.08
556.80	V	-1.93	-0.55	29.63	95.13	-65.50	-67.98	-13.0	-54.98
2798.00	V	-4.90	5.29	37.11	98.96	-61.85	-61.46	-13.0	-48.46
4572.00	V	-6.10	6.16	41.74	99.68	-57.94	-57.88	-13.0	-44.88
6422.00	V	-7.26	6.99	43.33	98.55	-55.22	-55.49	-13.0	-42.49
8524.00	V	-7.97	6.93	46.87	92.36	-45.49	-46.54	-13.0	-33.54

PCS CDMA (Channel 600)

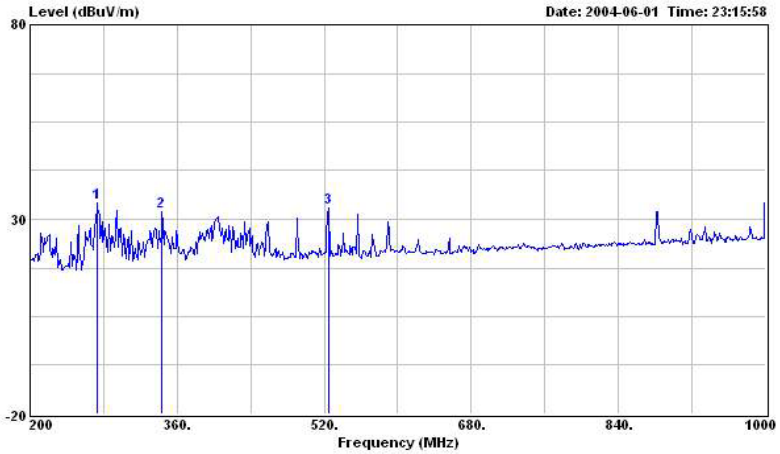
Freq MHz	Pol	Substitution Antenna Input Power (dBm)	Substitution Antenna Gain (dBi)	Et (dBuV/m)	Es (dBuV/m)	Et - Es (dB)	EIRP (dBm)	Limit (dBm)	Margin (dB)
98.34	H	-1.04	2.44	28.21	92.47	-64.26	-62.85	-13.0	-49.85
168.38	H	-1.01	1.70	25.06	90.99	-65.93	-65.25	-13.0	-52.25
196.43	H	-1.26	1.24	27.92	90.51	-62.59	-62.61	-13.0	-49.61
272.80	H	-1.39	1.75	32.82	92.43	-59.61	-59.25	-13.0	-46.25
524.80	H	-1.93	1.89	32.58	95.09	-62.51	-62.55	-13.0	-49.55
589.60	H	-1.95	1.28	31.61	94.46	-62.85	-63.52	-13.0	-50.52
1000.00	H	-2.68	0.41	39.88	93.31	-53.43	-55.70	-13.0	-42.70
1398.00	H	-3.28	6.07	35.40	101.41	-66.01	-63.22	-13.0	-50.22
1868.00	H	-3.77	6.65	45.24	101.66	-56.42	-53.55	-13.0	-40.55
3758.00	H	-5.25	7.45	50.61	99.07	-48.46	-46.26	-13.0	-33.26
5638.00	H	-6.67	8.44	43.87	98.79	-54.92	-53.15	-13.0	-40.15
8924.00	H	-9.21	8.76	46.86	94.92	-48.06	-48.52	-13.0	-35.52
10590.00	H	-10.48	8.85	49.49	96.19	-46.70	-48.32	-13.0	-35.32
72.50	V	-0.97	1.23	24.84	87.95	-63.11	-62.85	-13.0	-49.85
100.55	V	-1.06	2.37	25.21	92.60	-67.39	-66.09	-13.0	-53.09
196.43	V	-1.26	1.24	29.12	90.51	-61.39	-61.41	-13.0	-48.41
294.40	V	-1.44	1.68	25.92	93.36	-67.44	-67.19	-13.0	-54.19
556.80	V	-1.93	1.60	30.74	95.13	-64.39	-64.72	-13.0	-51.72
589.60	V	-1.95	1.28	28.95	94.46	-65.51	-66.18	-13.0	-53.18
1860.00	V	-3.76	6.64	38.88	101.68	-62.80	-59.92	-13.0	-46.92
3758.00	V	-5.25	7.45	52.48	99.07	-46.59	-44.39	-13.0	-31.39
5638.00	V	-6.67	8.44	48.81	98.79	-49.98	-48.21	-13.0	-35.21
8836.00	V	-8.94	8.83	46.66	94.36	-47.70	-47.81	-13.0	-34.81
10806.00	V	-10.65	8.98	48.63	96.57	-47.94	-49.60	-13.0	-36.60

Radiated Scanned Data
CDMA, Horizontal Polarization



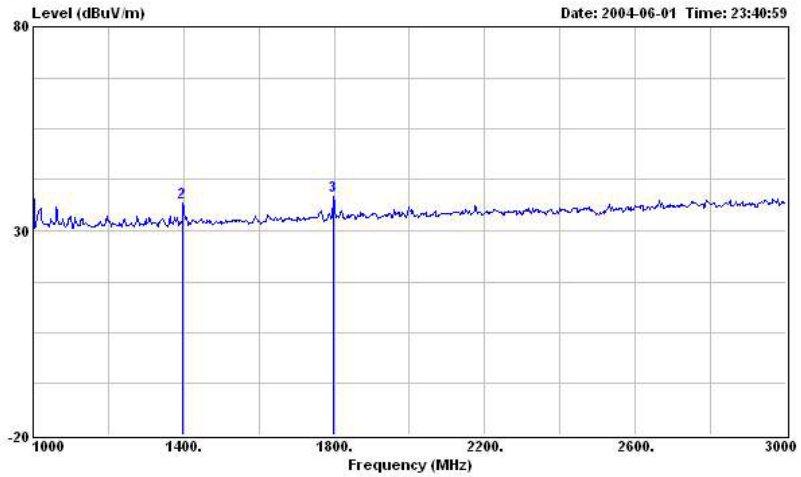
Site : 03CH03-HY
Condition : 3m BIC-9124--301 HORIZONTAL
EUT : CDMA 2000 Card Reader
Power : 120V/60Hz
Model :
Memo : Cellular ch:383 (836.49MHz)

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB		cm	deg
1	98.340	28.51	------	------	46.28	9.65	0.48	27.90	Peak	---	---
2	180.110	21.31	------	------	34.69	13.56	0.80	27.74	Peak	---	---
3	196.430	27.65	------	------	39.87	14.72	0.77	27.71	Peak	---	---



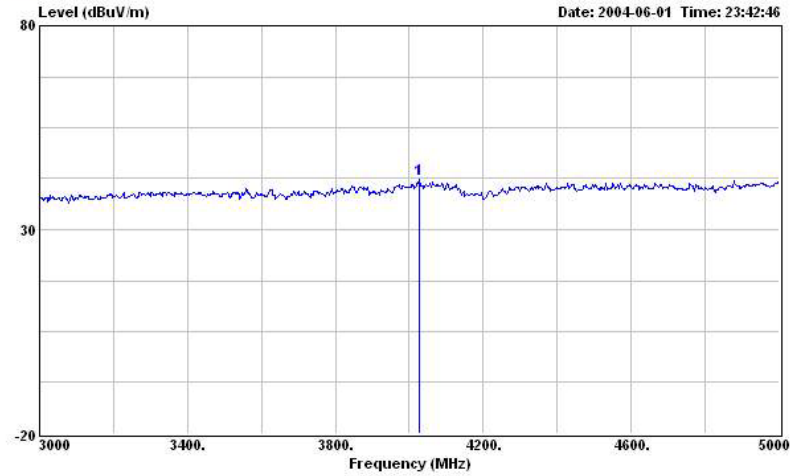
Site : 03CH03-HY
Condition : 3m LOG-9111-221 HORIZONTAL
EUT : CDMA 2000 Card Reader
Power : 120V/60Hz
Model :
Memo : Cellular ch:383 (836.49MHz)

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB		cm	deg
1	272.800	34.21	------	------	47.89	12.63	1.10	27.41	Peak	---	---
2	343.200	32.06	------	------	43.16	15.30	1.11	27.51	Peak	---	---
3	524.800	32.96	------	------	42.74	17.56	1.39	28.73	Peak	---	---



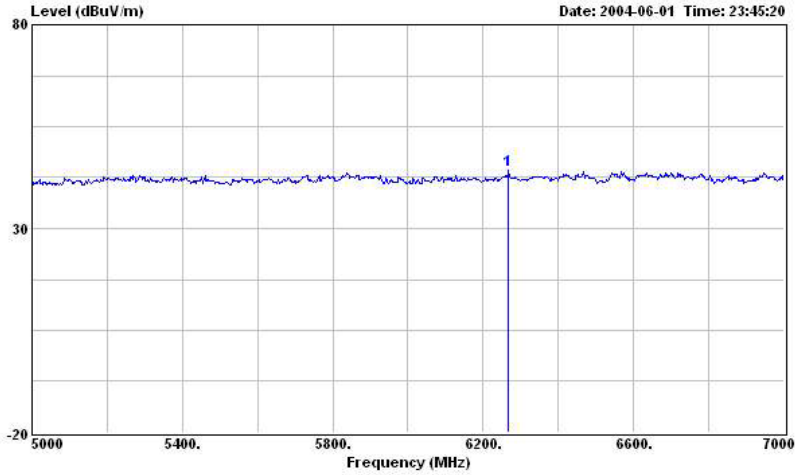
Site : 03CH03-HY
Condition : 3m HORN-ANT-6821 HORIZONTAL
EUT : CDMA 2000 Card Reader
Power : 120V/60Hz
Model :
Memo : Cellular ch:383 (836.49MHz)

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB		cm	deg
1	1000.000	40.18	------	------	55.37	23.80	1.11	40.10	Peak	---	---
2	1398.000	36.95	------	------	51.09	24.95	1.42	40.51	Peak	---	---
3	1798.000	38.30	------	------	51.15	26.36	1.58	40.79	Peak	---	---



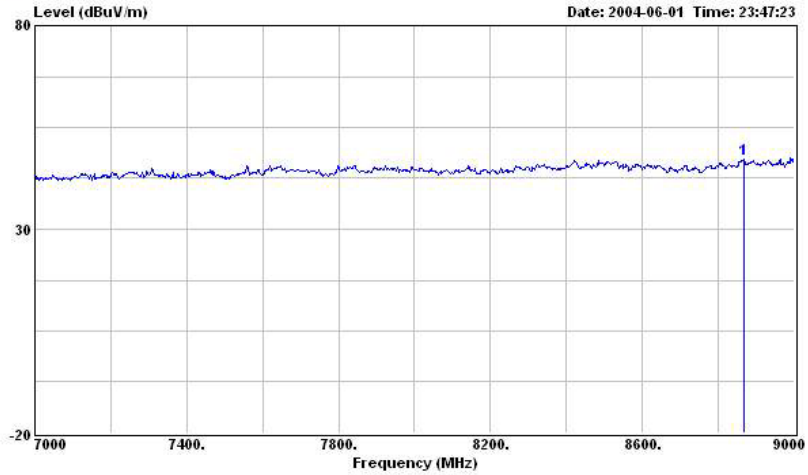
Site : 03CH03-HY
Condition : 3m HORN-ANT-6821 HORIZONTAL
EUT : CDMA 2000 Card Reader
Power : 120V/60Hz
Model :
Memo : Cellular ch:383 (836.49MHz)

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB		cm	deg
1	4028.000	42.43	------	------	48.89	32.68	2.39	41.53	Peak	---	---



Site : 03CH03-HY
Condition : 3m HORN-ANT-6821 HORIZONTAL
EUT : CDMA 2000 Card Reader
Power : 120V/60Hz
Model :
Memo : Cellular ch:383 (836.49MHz)

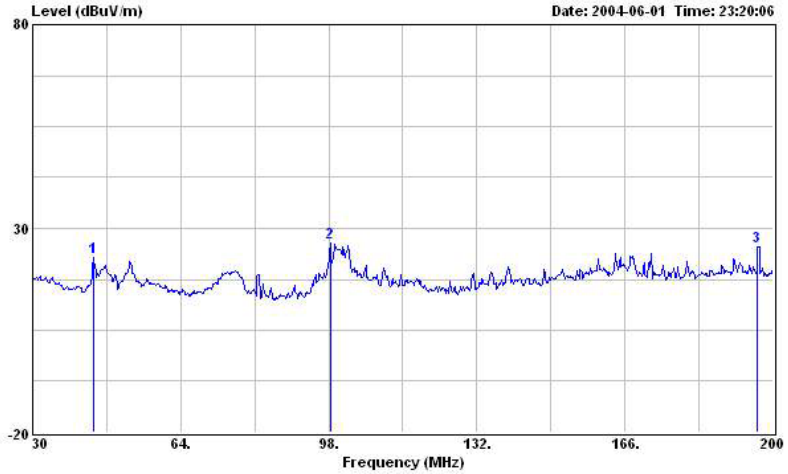
	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB		cm	deg
1	6268.000	44.19	------	------	49.94	34.60	2.95	43.30	Peak	---	---



Site : 03CH03-HY
Condition : 3m HORN-ANT-6821 HORIZONTAL
EUT : CDMA 2000 Card Reader
Power : 120V/60Hz
Model :
Memo : Cellular ch:383 (836.49MHz)

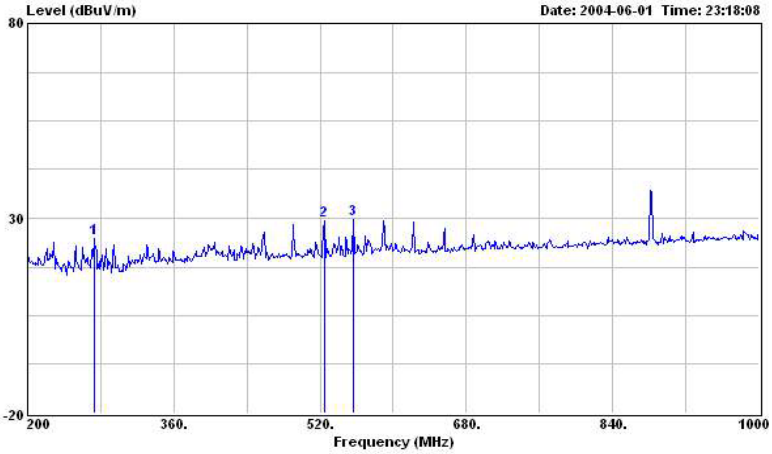
	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB		cm	deg
1	8868.000	47.28	------	------	46.88	38.12	3.35	41.07	Peak	---	---

CDMA, Vertical Polarization



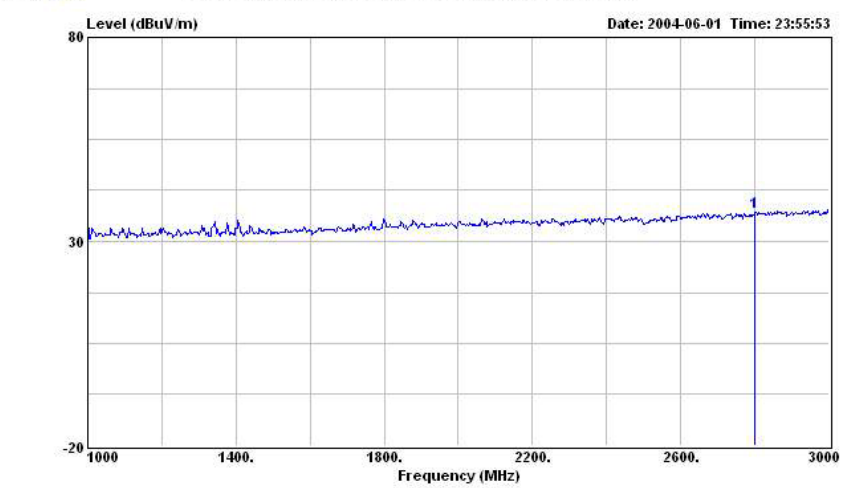
Site : 03CH03-HY
Condition : 3m BIC-9124--301 VERTICAL
EUT : CDMA 2000 Card Reader
Power : 120V/60Hz
Model :
Memo : Cellular ch:383 (836.49MHz)

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB		cm	deg
1	43.940	22.74	------	------	39.78	10.73	0.24	28.01	Peak	---	---
2	98.340	26.45	------	------	44.22	9.65	0.48	27.90	Peak	---	---
3	196.430	25.52	------	------	37.74	14.72	0.77	27.71	Peak	---	---



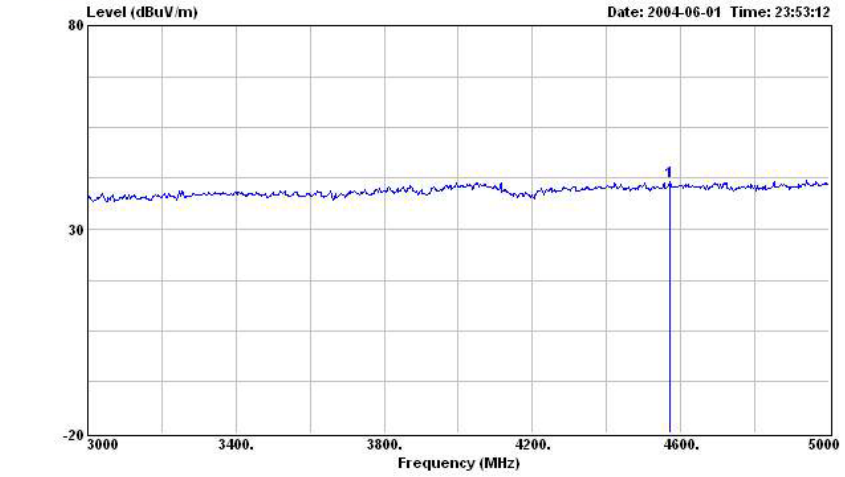
Site : 03CH03-HY
Condition : 3m LOG-9111-221 VERTICAL
EUT : CDMA 2000 Card Reader
Power : 120V/60Hz
Model :
Memo : Cellular ch:383 (836.49MHz)

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB		cm	deg
1	272.800	24.82	------	------	38.50	12.63	1.10	27.41	Peak	---	---
2	524.800	29.20	------	------	38.98	17.56	1.39	28.73	Peak	---	---
3	556.800	29.63	------	------	38.92	17.94	1.53	28.76	Peak	---	---



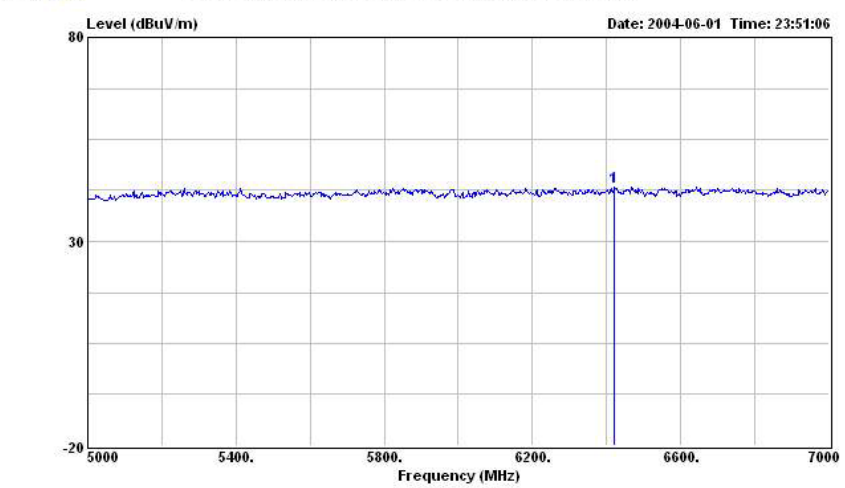
Site : 03CH03-HY
Condition : 3m HORN-ANT-6821 VERTICAL
EUT : CDMA 2000 Card Reader
Power : 120V/60Hz
Model :
Memo : Cellular ch:383 (836.49MHz)

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB		cm	deg
1	2798.000	37.11	------	------	46.87	29.49	1.95	41.20	Peak	---	---



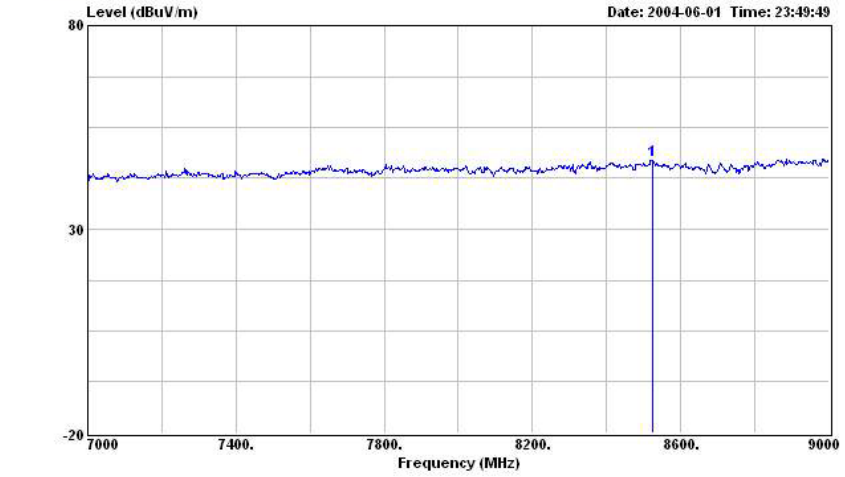
Site : 03CH03-HY
Condition : 3m HORN-ANT-6821 VERTICAL
EUT : CDMA 2000 Card Reader
Power : 120V/60Hz
Model :
Memo : Cellular ch:383 (836.49MHz)

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB		cm	deg
1	4572.000	41.74	------	------	48.76	32.67	2.33	42.02	Peak	---	---



Site : 03CH03-HY
Condition : 3m HORN-ANT-6821 VERTICAL
EUT : CDMA 2000 Card Reader
Power : 120V/60Hz
Model :
Memo : Cellular ch:383 (836.49MHz)

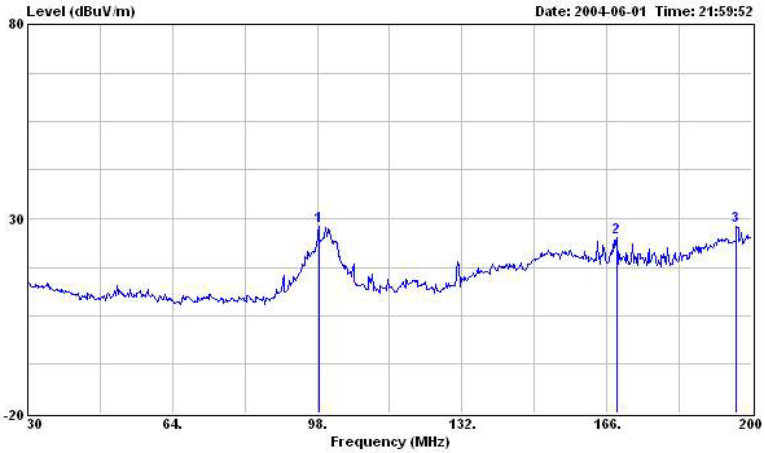
	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB		cm	deg
1	6422.000	43.33	------	------	49.17	34.60	2.86	43.30	Peak	---	---



Site : 03CH03-HY
Condition : 3m HORN-ANT-6821 VERTICAL
EUT : CDMA 2000 Card Reader
Power : 120V/60Hz
Model :
Memo : Cellular ch:383 (836.49MHz)

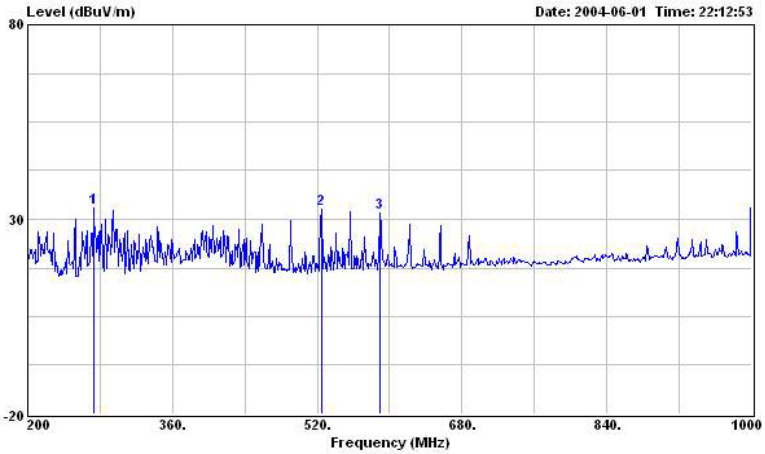
	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB		cm	deg
1	8524.000	46.87	------	------	47.12	37.92	3.38	41.55	Peak	---	---

PCS CDMA, Horizontal Polarization



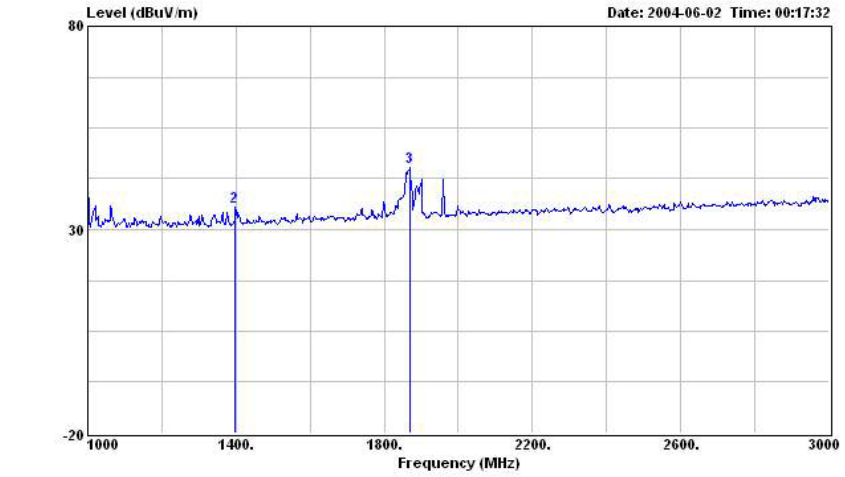
Site : 03CH03-HY
Condition : 3m BIC-9124--301 HORIZONTAL
EUT : CDMA 2000 Card Reader
Power : 120V/60Hz
Model :
Memo : PCS ch:600 (1880.2MHz)

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB		cm	deg
1	98.340	28.21	------	------	45.98	9.65	0.48	27.90	Peak	---	---
2	168.380	25.06	------	------	38.91	13.16	0.75	27.76	Peak	---	---
3	196.430	27.92	------	------	40.14	14.72	0.77	27.71	Peak	---	---



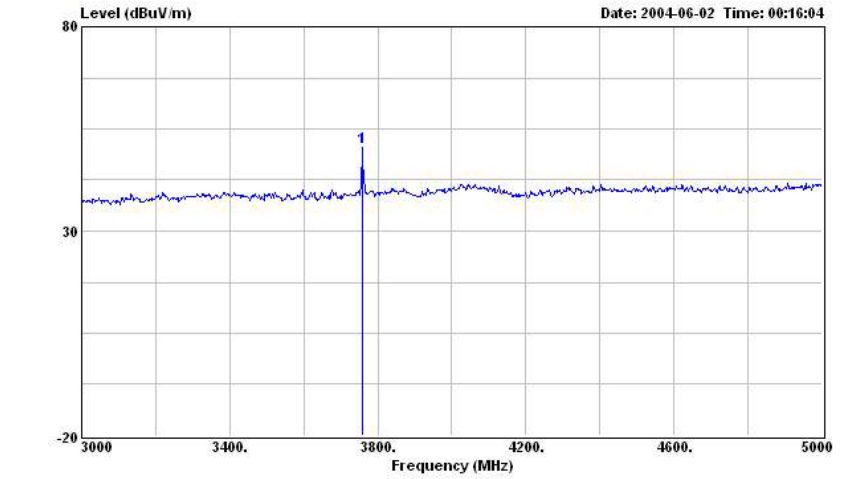
Site : 03CH03-HY
Condition : 3m LOG-9111-221 HORIZONTAL
EUT : CDMA 2000 Card Reader
Power : 120V/60Hz
Model :
Memo : PCS ch:600 (1880.2MHz)

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB		cm	deg
1	272.800	32.82	------	------	46.50	12.63	1.10	27.41	Peak	---	---
2	524.800	32.58	------	------	42.36	17.56	1.39	28.73	Peak	---	---
3	589.600	31.61	------	------	39.97	18.74	1.69	28.79	Peak	---	---



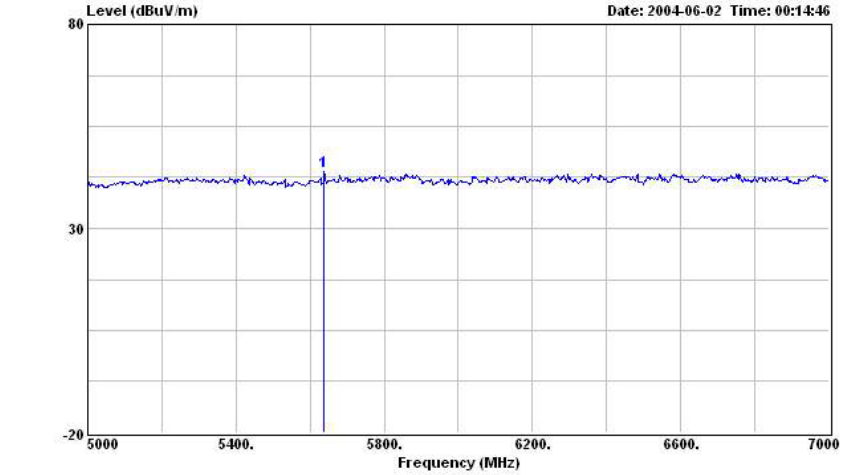
Site : 03CH03-HY
Condition : 3m HORN-ANT-6821 HORIZONTAL
EUT : CDMA 2000 Card Reader
Power : 120V/60Hz
Model :
Memo : PCS ch:600 (1880.2MHz)

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB		cm	deg
1	1000.000	39.88	------	------	55.07	23.80	1.11	40.10	Peak	---	---
2	1398.000	35.40	------	------	49.54	24.95	1.42	40.51	Peak	---	---
3	1868.000	45.24	------	------	57.84	26.62	1.61	40.83	Peak	---	---



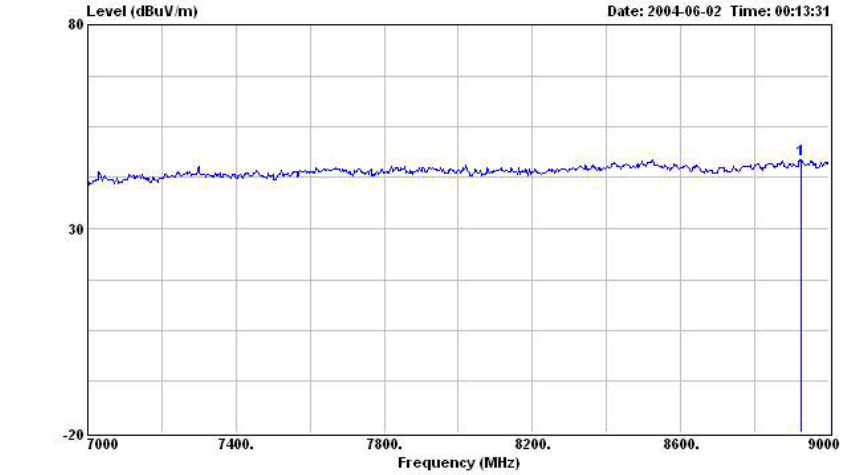
Site : 03CH03-HY
Condition : 3m HORN-ANT-6821 HORIZONTAL
EUT : CDMA 2000 Card Reader
Power : 120V/60Hz
Model :
Memo : PCS ch:600 (1880.2MHz)

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB		cm	deg
1	3758.000	50.61	------	------	58.14	32.06	1.82	41.41	Peak	---	---



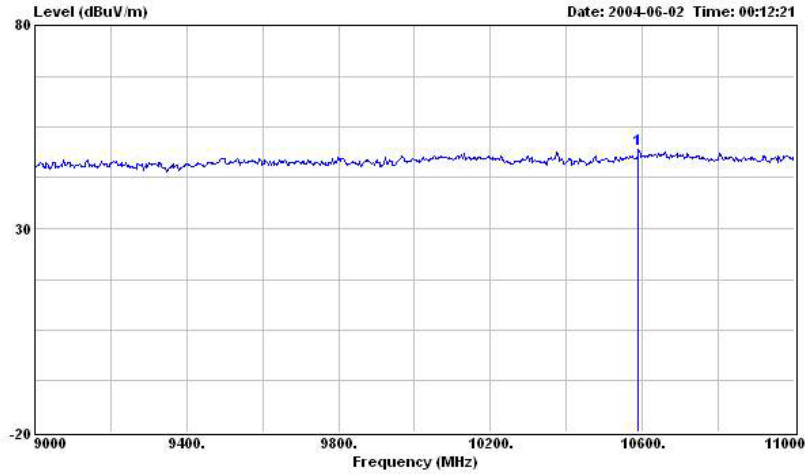
Site : 03CH03-HY
Condition : 3m HORN-ANT-6821 HORIZONTAL
EUT : CDMA 2000 Card Reader
Power : 120V/60Hz
Model :
Memo : PCS ch:600 (1880.2MHz)

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB		cm	deg
1	5638.000	43.87	------	------	50.04	34.46	2.53	43.16	Peak	---	---



Site : 03CH03-HY
Condition : 3m HORN-ANT-6821 HORIZONTAL
EUT : CDMA 2000 Card Reader
Power : 120V/60Hz
Model :
Memo : PCS ch:600 (1880.2MHz)

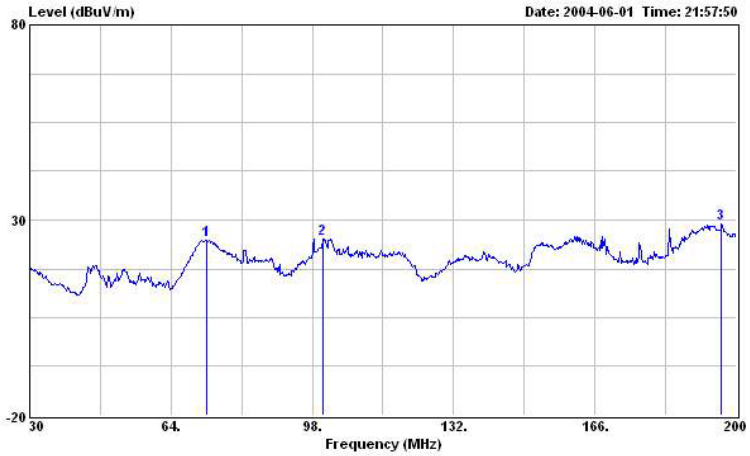
	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB		cm	deg
1	8924.000	46.86	------	------	46.44	38.16	3.25	40.99	Peak	---	---



Site : 03CH03-HY
Condition : 3m HORN-ANT-6821 HORIZONTAL
EUT : CDMA 2000 Card Reader
Power : 120V/60Hz
Model :
Memo : PCS ch:600 (1880.2MHz)

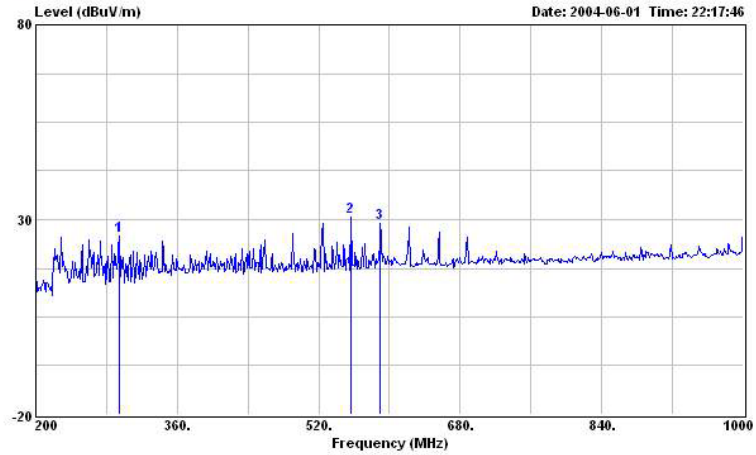
	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB		cm	deg
1	10590.000	49.49	------	------	45.56	39.44	3.87	39.38	Peak	---	---

PCS CDMA, Vertical Polarization



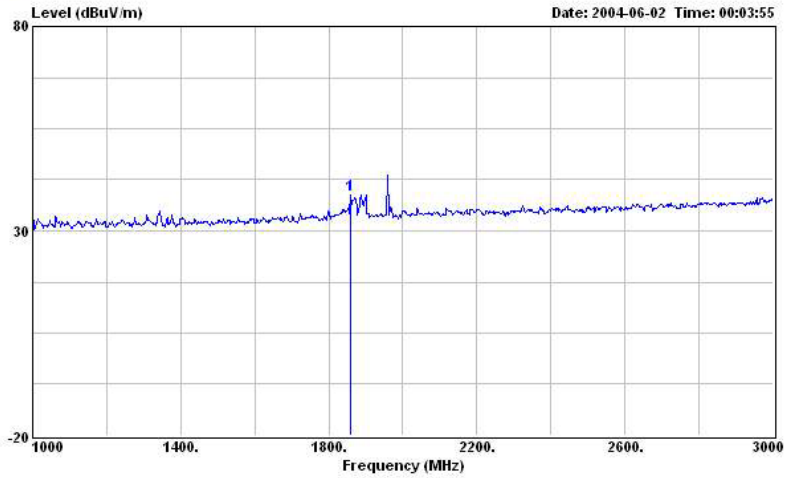
Site : 03CH03-HY
Condition : 3m BIC-9124--301 VERTICAL
EUT : CDMA 2000 Card Reader
Power : 120V/60Hz
Model :
Memo : PCS ch:600 (1880.2MHz)

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB		cm	deg
1	72.500	24.84	------	------	43.39	9.00	0.40	27.95	Peak	---	---
2	100.550	25.21	------	------	42.78	9.83	0.50	27.90	Peak	---	---
3	196.430	29.12	------	------	41.34	14.72	0.77	27.71	Peak	---	---



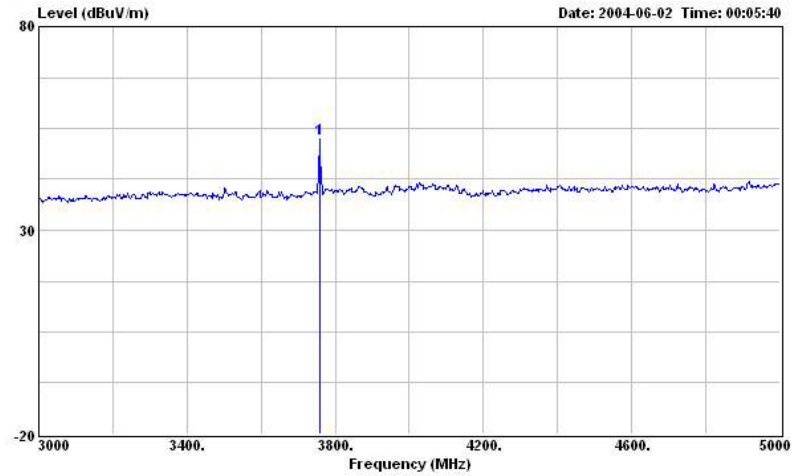
Site : 03CH03-HY
Condition : 3m LOG-9111-221 VERTICAL
EUT : CDMA 2000 Card Reader
Power : 120V/60Hz
Model :
Memo : PCS ch:600 (1880.2MHz)

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB		cm	deg
1	294.400	25.92	------	------	39.11	13.04	1.09	27.32	Peak	---	---
2	556.800	30.74	------	------	40.03	17.94	1.53	28.76	Peak	---	---
3	589.600	28.95	------	------	37.31	18.74	1.69	28.79	Peak	---	---



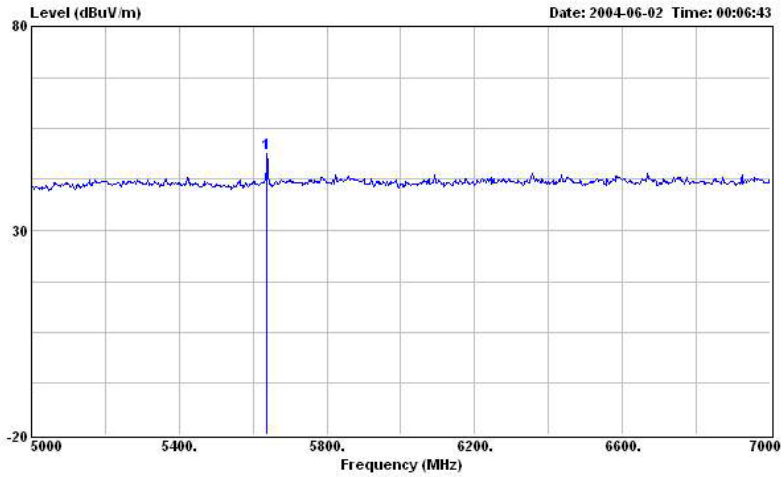
Site : 03CH03-HY
Condition : 3m HORN-ANT-6821 VERTICAL
EUT : CDMA 2000 Card Reader
Power : 120V/60Hz
Model :
Memo : PCS ch:600 (1880.2MHz)

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB		cm	deg
1	1860.000	38.88	------	------	51.49	26.59	1.62	40.82	Peak	---	---



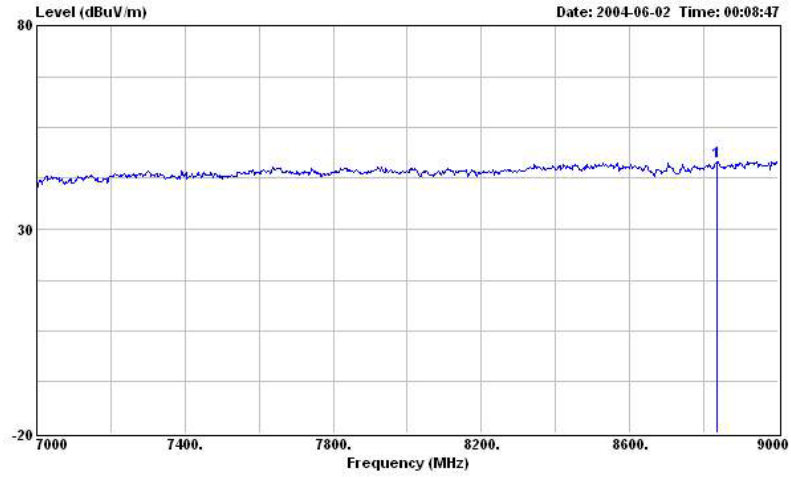
Site : 03CH03-HY
Condition : 3m HORN-ANT-6821 VERTICAL
EUT : CDMA 2000 Card Reader
Power : 120V/60Hz
Model :
Memo : PCS ch:600 (1880.2MHz)

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB		cm	deg
1	3758.000	52.48	------	------	60.01	32.06	1.82	41.41	Peak	---	---



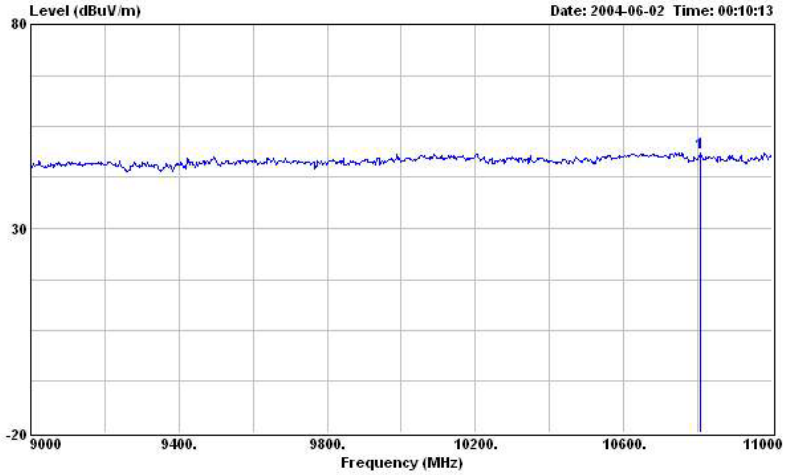
Site : 03CH03-HY
Condition : 3m HORN-ANT-6821 VERTICAL
EUT : CDMA 2000 Card Reader
Power : 120V/60Hz
Model :
Memo : PCS ch:600 (1880.2MHz)

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB		cm	deg
1	5638.000	48.81	------	------	54.98	34.46	2.53	43.16	Peak	---	---



Site : 03CH03-HY
Condition : 3m HORN-ANT-6821 VERTICAL
EUT : CDMA 2000 Card Reader
Power : 120V/60Hz
Model :
Memo : PCS ch:600 (1880.2MHz)

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB		cm	deg
1	8836.000	46.66	------	------	46.27	38.10	3.40	41.11	Peak	---	---



Site : 03CH03-HY
Condition : 3m HORN-ANT-6821 VERTICAL
EUT : CDMA 2000 Card Reader
Power : 120V/60Hz
Model :
Memo : PCS ch:600 (1880.2MHz)

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB		cm	deg
1	10806.000	48.63	------	------	44.59	39.31	4.07	39.34	Peak	---	---

Name of Test: Frequency Stability (Temperature Variation)

Specification: 47 CFR 2.1055(a)(1)

Test Conditions: As Indicated

Test Equipment: As per previous page

Measurement Procedure

1. The EUT and test equipment were set up as shown on the following page.

2. With all power removed, the temperature was decreased to –30°C and permitted to stabilize for three hours. Power was applied and the maximum change in frequency was noted within one minute.

3. With power OFF, the temperature was raised in 10°C steps. The sample was permitted to stabilize at each step for at least one-half hour. Power was applied and the maximum frequency change was noted within one minute.

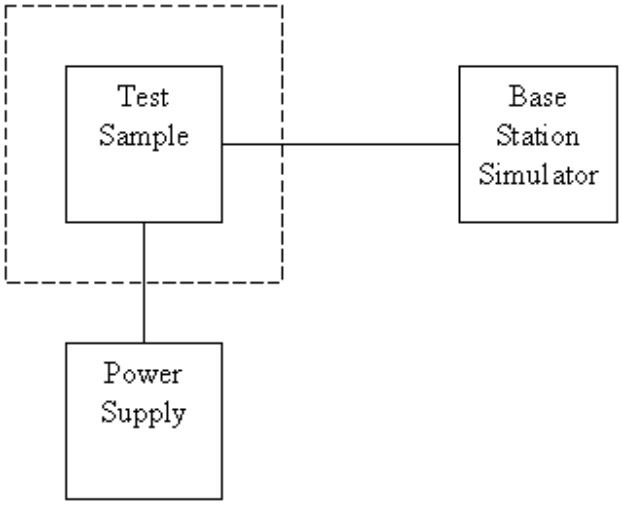
4. The temperature tests were performed for the worst case.

5. Measurement Results: Attached

Tested By: Tim Kao

Transmitter Test Set-Up

Frequency Stability: Temperature Variation
Frequency Stability: Voltage Variation



Asset	Model Name	S/N
Temperature & Humidity Controller	P-9000	612
AC/DC Power Source	HPA-500W	HPA0100024
Base Station Simulator	CMU200	102278
Base Station Simulator	E5515C	GB43460754

Name of Test: Frequency Stability (Temperature Variation)

CDMA (Channel 383)

Temperature(°C)	Change, Hz	Change, ppm
-30	6.67	0.004
-20	6.58	0.003
-10	6.72	0.004
0	6.98	0.004
10	7.12	0.004
20	6.9	0.004
30	6.75	0.004
40	6.54	0.003
50	6.42	0.003

PCS CDMA (Channel 600)

Temperature(°C)	Change, Hz	Change, ppm
-30	16.44	0.01
-20	16.08	0.01
-10	15.76	0.01
0	15.24	0.01
10	14.85	0.01
20	14.6	0.01
30	14.25	0.01
40	14.34	0.01
50	14.06	0.01

Name of Test: Frequency Stability (Voltage Variation)

Specification: 47 CFR 2.1055 (b)(1)

Test Equipment: As per previous page

Measurement Procedure

1. The EUT was placed in a temperature chamber at 25±5°C and connected as for "Frequency Stability - Temperature Variation" test.

2. The power supply voltage to the EUT was varied from 85% to 115% of the nominal value measured at the input to the EUT.

3. The variation in frequency was measured for the worst case.

Results: Frequency Stability (Voltage Variation)

CDMA (Channel 383)

Nominal Value (Voltage) = 24.0

Voltage(Volt)	Change, Hz	Change, ppm
24.0	6.9	0.004
20.4	6.1	0.003
27.6	8.21	0.004

PCS CDMA (Channel 600)

Nominal Value (Voltage) = 24.0

Voltage(Volt)	Change, Hz	Change, ppm
24.0	14.6	0.01
20.4	13.78	0.01
27.6	16.57	0.01

Limit: Must remain within authorized frequency block.

Tested By: Tim Kao

Radio Frequency Radiation Exposure

FCC Rules and Regulations Part 1.1307,1.1310,2.1091,2.1093:
RF Exposure Compliance

- Limit For Maximum Permissible Exposure (MPE)

(A) Limits for Occupational / Controlled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm^2)	Averaging Time $\|E\|^2$,$\|H\|^2$ or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	(900/f)*	6
30-300	61.4	0.163	1.0	6
300-1500			F/300	6
1500-100,000			5	6

(B) Limits for General Population / Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm^2)	Averaging Time $\|E\|^2$,$\|H\|^2$ or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f)*	30
30-300	27.5	0.073	0.2	30
300-1500			F/1500	30
1500-100,000			1.0	30

F=frequency in MHz *Plane-wave equivalent power density

➢ MPE Calculations

Power Density =Pd (mW/cm^2) = EIRP/4 π d^2

EIRP = P · G

P＝Peak output power (mW)

G＝Antenna numeric gain (numeric)

d＝Separation distance (cm)

Because the EUT belongs to General Population/ Uncontrolled Exposure, the limit of power density is 1.0 mW/cm^2.

CDMA

Channel NO.	Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Calculated RF Exposure at d=20cm (mW/cm^2)	Limit (mW/cm^2)
Channel 1013	4	2.51	21.3	134.896	0.067	0.56
Channel 383	4	2.51	21.9	154.882	0.077	0.56
Channel 777	4	2.51	21.3	134.896	0.067	0.56

PCS CDMA

Channel NO.	Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Calculated RF Exposure at d=20cm (mW/cm^2)	Limit (mW/cm^2)
Channel 25	4	2.51	21.5	141.254	0.071	1.00
Channel 600	4	2.51	20.9	123.027	0.062	1.00
Channel 1175	4	2.51	20.9	123.027	0.062	1.00

- The worst case of MPE is 802.11b mode.

➢ FCC Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. In order to avoid the possibility of exceeding the FCC radio frequency exposure limits, human proximity to the antenna shall not be less than 20cm during normal operation.

Antenna Factor & Cable Loss

Frequency (MHz)	Antenna Factor (dB)	Cable Loss (dB)	Frequency (MHz)	Antenna Factor (dB)	Cable Loss (dB)
30	15.35	4.50	1000	24.10	3.92
35	13.63	1.13	2000	27.40	5.66
40	11.11	1.18	3000	30.00	7.20
45	10.59	1.26	4000	32.60	9.36
50	6.47	1.31	5000	33.40	9.16
55	5.83	1.34	6000	34.20	10.70
60	5.18	1.43	7000	35.30	12.16
65	4.81	1.52	8000	36.90	13.12
70	4.43	1.56	9000	38.10	13.81
75	5.10	1.57	10000	39.00	14.83
80	5.91	1.60	11000	38.60	15.83
85	7.33	1.66	12000	39.50	17.11
90	8.74	1.75	13000	39.30	17.62
95	9.05	1.76	14000	41.60	18.37
100	9.36	1.83	15000	40.60	19.10
110	9.65	1.86	16000	37.20	19.72
120	9.97	1.92	17000	40.20	21.98
130	10.51	2.00	18000	48.90	21.22
140	10.32	2.11	19000	37.60	23.90
150	9.42	2.18	20000	37.30	24.07
160	8.09	2.22	21000	37.00	25.49
170	7.43	2.26	22000	38.00	24.92
180	7.60	2.31	23000	38.70	25.60
190	7.43	2.37	24000	38.60	25.70
200	7.26	2.43	25000	24.10	3.92
220	9.11	2.56	14000	27.40	5.66
240	10.88	2.70	15000	30.00	7.20
260	11.75	2.83	16000	32.60	9.36
280	11.55	2.93	17000	33.40	9.16
300	11.36	3.03	18000	34.20	10.70
320	12.03	3.13	19000	35.30	12.16
340	12.69	3.23	20000	36.90	13.12
360	13.33	3.32	21000	38.10	13.81
380	14.00	3.41	22000	39.00	14.83
400	14.63	3.48	23000	38.60	15.83
450	15.33	3.71	24000	39.50	17.11
500	16.03	3.85	25000	39.30	17.62
550	16.65	4.03			
600	17.29	4.32			
650	17.64	4.51			
700	18.00	4.54			
750	18.39	4.90			
800	18.79	5.04			
850	19.10	5.04			
900	19.42	5.20			
950	19.58	5.28			
1000	19.75	5.58			

List of Measuring Equipments

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH03-HY	30MHz~1GHz 3m	Jun. 21, 2003	Radiation (03CH03-HY)
Spectrum analyzer	R&S	FSP40	100004	9KHZ~40GHz	Aug. 23, 2003	Radiation (03CH03-HY)
Amplifier	HP	8447D	2944A09072	100KHz – 1.3GHz	Nov. 05, 2003	Radiation (03CH03-HY)
Biconical Antenna	SCHWARZBECK	VHBB 9124	301	30MHz –200MHz	Jul. 24, 2003	Radiation (03CH03-HY)
Log Antenna	SCHWARZBECK	VUSLP 9111	221	200MHz -1GHz	Jul. 24, 2003	Radiation (03CH03-HY)
RF Cable-R03m	Jye Bao	RG142	CB021	30MHz~1GHz	Dec. 03, 2003	Radiation (03CH03-HY)
Amplifier	MITEQ	AFS44	879981	100MHz~26.5GHz	Jul. 23, 2003	Radiation (03CH03-HY)
Horn Antenna	COM-POWER	3115	6821	1GHz – 18GHz	Sep. 12, 2003	Radiation (03CH03-HY)
Turn Table	HD	DS 420	420/650/00	0 ~ 360 degree	N/A	Radiation (03CH03-HY)
Antenna Mast	HD	MA 240	240/560/00	1 m - 4 m	N/A	Radiation (03CH03-HY)
Horn Antenna	Schwarzbeck	BBHA9170	154	15GHz~40GHz	Jun. 02, 2003	Radiation (03CH03-HY)
RF Cable-HIGH	Jye Bao	RG142	CB030-HIGH	1GHz~29.5GHz	Dec. 05, 2003	Radiation (03CH03-HY)

※ Calibration Interval of instruments listed above is one year, except for Horn Antenna, BBHA9170.
※ Calibration Interval of Horn Antenna, BBHA9170, is three years.

Uncertainty of Test Site

Uncertainty of Radiated Emission Measurement (30MHz ~ 1000MHz)

Contribution	Uncertainty of x_i		$u(x_i)$
	dB	Probability Distribution	
Receiver reading	0.41	Normal(k=2)	0.21
Antenna factor calibration	0.83	Normal(k=2)	0.42
Cable loss calibration	0.25	Normal(k=2)	0.13
Pre Amplifier Gain calibration	0.27	Normal(k=2)	0.14
RCV/SPA specification	2.50	Rectangular	0.72
Antenna Factor Interpolation for Frequency	1.00	Rectangular	0.29
Site imperfection	1.43	Rectangular	0.83
Mismatch Receiver VSWR Γ1= 0.20 Antenna VSWR Γ2= 0.23 Uncertainty=20log(1-Γ1*Γ2)	+0.39/-0.41	U-shaped	0.28
combined standard uncertainty Uc(y)	**1.27**		
Measuring uncertainty for a level of confidence of 95% U=2Uc(y)	**2.54**		

Uncertainty of Radiated Emission Measurement (1GHz ~ 40GHz)

Contribution	Uncertainty of x_i		$u(x_i)$	Ci	$Ci*u(x_i)$
	dB	Probability Distribution			
Receiver reading	±0.10	Normal(k=1)	0.10	1	0.10
Antenna factor calibration	±1.70	Normal(k=2)	0.85	1	0.85
Cable loss calibration	±0.50	Normal(k=2)	0.25	1	0.25
Receiver Correction	±2.00	Rectangular	1.15	1	1.15
Antenna Factor Directional	±1.50	Rectangular	0.87	1	0.87
Site imperfection	±2.80	Triangular	1.14	1	1.14
Mismatch Receiver VSWR Γ1= 0.197 Antenna VSWR Γ2= 0.194 Uncertainty=20log(1-Γ1*Γ2*Γ3)	+0.34/-0.35	U-shaped	0.244	1	0.244
Combined standard uncertainty Uc(y)	**2.36**				
Measuring uncertainty for a level of confidence of 95% U=2Ue(y)	**4.72**				

U=√{(1/2)²+(0.3/2)²+(2²+0.5²+2²+0.25²+2²)/3+(0.54)²/2}=2.2 for 10m test distance

U=√{(1/2)²+(0.3/2)²+(2²+3²+2²+0.25²+2²)/3+(0.54)²/2}=2.7 for 3m test distance

END OF TEST REPORT