FCC APPLICATION INQUIRY RESPONSE
M78-C12A: SIEMENS C12 CELLULAR TELEPHONE
Correspondence Number: 4088
October 23, 1998

1.0 Overview

This package was compiled to reply to inquiries made by Mr. Greg Czumak of the FCC regarding the Type Acceptance Application for the Siemens C12 Cellular Telephone. Each Inquiry item is listed below followed by the response.

2.0 Inquiry Responses

Because the EIRP of 171 mW is unusually low for a conducted output power of 891 mW, please have Lucent Global state the conducted output power level measured during SAR tests. We would like to have this information on file in the event that an issue is raised over the discrepancy between the conducted output and the stated EIRP.

Answer:

Based on the comments/concerns regarding the ERP for the Siemens C12 Cell Phone M78-C12a) we believed that the reason for the 171 mW reading may have been related to a 'battery power problem' (Lucent ran into this during the SAR testing). This problem resulted in partial power loss during long test periods. Based on analysis of the data, the only tests which were affected by this (other than the SAR tests) was the ERP and possibly the radiated spurs tests. The ERP and radiated spurs tests were redone using a fully charged phone with this error corrected. The battery supply level of the device was monitored during testing to verify that the available power level did not fall to an unusable or questionable level.

The highest final ERP for this unit was measured at Channel 661 at a level of 1.11 watts. Based on the antenna factor and the standard measurement uncertainty, this is figure is in keeping with a conducted measurement of 891 mW (29.5 dBm).

Data for the revised tests are included with this submission. We request that the Commission modify the rated power for this device to 1.11 watts based on this series of tests. The SAR tests have already been re-run based on advice provided by Kwok Chan. Data from the revised SAR tests has already been submitted to the Commission.

TEST DATA

Siemens Business Communication Systems
C12 Cellular Telephone

SERIAL #: N/A
DATE: October 20, 1998
PROJECT #: 98-495

MEASUREMENT DISTANCE (m): 3
MEASUREMENT HEIGHT: 1.5 meter
EUT Orientation: 160

EIRP

Freq. (MHz)	Channel Setting	Recorded Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Corrected Level (dBuV/m)	EIRP (Watts)
1850.30	512	97.2	26.1	1.4	124.7	0.8854
1879.90	661	98.2	26.1	1.4	125.7	1.1146
1909.70	810	96.3	26.1	1.4	123.8	0.7196

Corrected Level = Recorded Level + Antenna Factor + Cable Loss

COMMENT #1: All measurements for this test based on peak measurement methods

COMMENT #2:

TEST ENGINEER:_____ **APPROVED BY**: _____
John O'Brien Jeffery Lenk

Radiated Out-of-Band Emissions Data Sheet

Siemens Business Communication Systems
C12 Cellular Telephone

SERIAL #: N/A
DATE: October 20, 1998
PROJECT #: 98-495

MEASUREMENT DISTANCE (m): 1
ANTENNA POLARIZATION: Horiztonal
DETECTOR FUNCTION: Peak

Freq. (MHz)	EUT Dir. (Deg.)	Antenna Elevation Meters	Recorded Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Corrected Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)
1850.3	160.0	1.5	100.6	26.1	1.4	128.1	Ref	Ref
3700.6	160.0	1.5	8.3	34.4	2.2	44.9	63.5	-18.6
5550.9	160.0	1.5	27.4	35.1	3.7	66.2	108.1	-41.9
7401.2	160.0	1.5	12.5	36.3	3.8	52.6	63.5	-10.9
9251.5	160.0	1.5	34.9	37.7	3.4	76.0	108.1	-32.1
11101.8	160.0	1.5	14.2	38.7	3.3	56.2	63.5	-7.3
12952.1	160.0	1.5	38.7	40.3	4.7	83.7	108.1	-24.4
14802.4	160.0	1.5	39.8	41.1	4.8	85.7	108.1	-22.4
16652.7	160.0	1.5	39.8	39.5	5.0	84.3	108.1	-23.8

Corrected Level = Recorded Level + Antenna Factor + Cable Loss

COMMENT #1: Channel Setting = 512

COMMENT #2: All measurements above the fundimental are detection system noise floor

COMMENT #3: Measurements versus the Restricted Band limit were taken with a pre-amp in series with the antenna.

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Radiated Out-of-Band Emissions Data Sheet

Siemens Business Communication Systems
C12 Cellular Telephone

SERIAL #: N/A
DATE: October 20, 1998
PROJECT #: 98-495

MEASUREMENT DISTANCE (m): 1
ANTENNA POLARIZATION: Vertical
DETECTOR FUNCTION: Peak

Freq. (MHz)	EUT Dir. (Deg.)	Antenna Elevation Meters	Recorded Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Corrected Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)
1850.3	160.0	1.5	77.5	26.1	1.4	105.0	Ref	Ref
3700.6	160.0	1.5	9.4	34.4	2.2	46.0	63.5	-17.5
5550.9	160.0	1.5	29.2	35.1	3.7	68.0	108.1	-40.1
7401.2	160.0	1.5	16.1	36.3	3.8	56.2	63.5	-7.3
9251.5	160.0	1.5	35.4	37.7	3.4	76.5	108.1	-31.6
11101.8	160.0	1.5	15.2	38.7	3.3	57.2	63.5	-6.3
12952.1	160.0	1.5	35.2	40.3	4.7	80.2	108.1	-27.9
14802.4	160.0	1.5	38.8	41.1	4.8	84.7	108.1	-23.4
16652.7	160.0	1.5	39.7	39.5	5.0	84.2	108.1	-23.9

Corrected Level = Recorded Level + Antenna Factor + Cable Loss

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Radiated Out-of-Band Emissions Data Sheet

Siemens Business Communication Systems
C12 Cellular Telephone

SERIAL #: N/A
DATE: October 20, 1998
PROJECT #: 98-495

MEASUREMENT DISTANCE (m): 1
ANTENNA POLARIZATION: Horiztonal
DETECTOR FUNCTION: Peak

Freq. (MHz)	EUT Dir. (Deg.)	Antenna Elevation Meters	Recorded Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Corrected Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)
1909.7	160.0	1.5	100.4	26.1	1.4	127.9	Ref	Ref
3819.4	160.0	1.5	10.0	34.4	2.1	46.5	63.5	-17.0
5729.1	160.0	1.5	26.0	34.8	3.7	64.5	107.9	-43.4
7638.8	160.0	1.5	11.2	36.8	3.7	51.7	63.5	-11.8
9548.5	160.0	1.5	32.3	37.9	3.2	73.4	107.9	-34.5
11458.2	160.0	1.5	12.3	39.6	3.6	55.5	63.5	-8.0
13367.9	160.0	1.5	12.5	42.7	4.6	59.8	63.5	-3.7
15277.6	160.0	1.5	37.6	41.7	4.8	84.1	107.9	-23.8
17187.3	160.0	1.5	36.0	42.6	5.0	83.6	107.9	-24.3

Corrected Level = Recorded Level + Antenna Factor + Cable Loss

COMMENT #1: Channel Setting = 810

COMMENT #2: All measurements above the fundimental are detection system noise floor

COMMENT #3: Measurements versus the Restricted Band limit were taken with a pre-amp in series with the antenna.

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Radiated Out-of-Band Emissions Data Sheet

Siemens Business Communication Systems
C12 Cellular Telephone

SERIAL #: N/A
DATE: October 20, 1998
PROJECT #: 98-495

MEASUREMENT DISTANCE (m): 1
ANTENNA POLARIZATION: Vertical
DETECTOR FUNCTION: Peak

Freq. (MHz)	EUT Dir. (Deg.)	Antenna Elevation Meters	Recorded Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Corrected Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)
1909.7	160.0	1.5	78.4	26.1	1.4	105.9	Ref	Ref
3819.4	160.0	1.5	8.4	34.4	2.1	44.9	63.5	-18.6
5729.1	160.0	1.5	27.7	34.8	3.7	66.2	107.9	-41.7
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9548.5	160.0	1.5	35.0	37.9	3.2	76.1	107.9	-31.8
11458.2	160.0	1.5	12.8	39.6	3.6	56.0	63.5	-7.5
13367.9	160.0	1.5	12.6	42.7	4.6	59.9	63.5	-3.6
15277.6	160.0	1.5	36.4	41.7	4.8	82.9	107.9	-25.0
17187.3	160.0	1.5	37.5	42.6	5.0	85.1	107.9	-22.8

Corrected Level = Recorded Level + Antenna Factor + Cable Loss

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