

DATA OF SPURIOUS EMISSION(CONDUCTED)

UL Apex Co., Ltd.
Head Office EMC Lab. No.3 Measurement Room

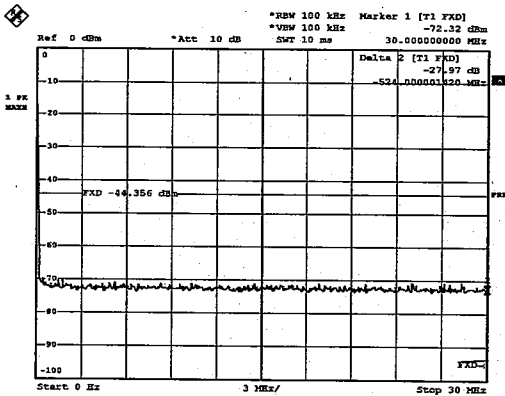
COMPANY : ALPS Electric Co., Ltd
EQUIPMENT : CDMA data module
MODEL : UGEA3A
S/N : 00000011
FCC ID : CWTUGEA3A
IC Number : -
POWER : DC3.6V
MODE : Tx (AMPS)

REPORT NO : 23HE0073-HO-1
REGULATION : Fcc Part 22 Section 22.917(a)
TEST METHOD : Fcc Part 2 Section 2.1051
TEST DISTANCE : -
DATE : 06/16/2003
TEMPERATURE : 22°C
HUMIDITY : 60%

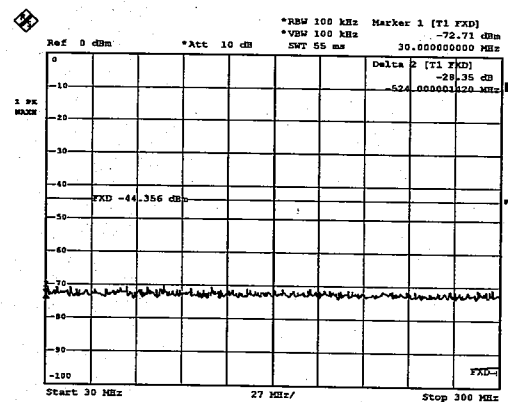
Engineer

Hiroka Umeyama
Hiroka Umeyama

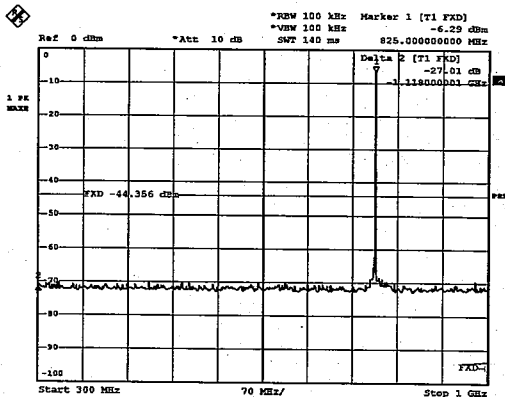
PK DETECT(S/A : RBW 100kHz,VBW 100kHz, sweep time AUTO)
Limit Line = -13dBm - 30dB(Atten.) - 1.35dB (Cable Loss) = -44.35dBm
CH: Low 824.04MHz



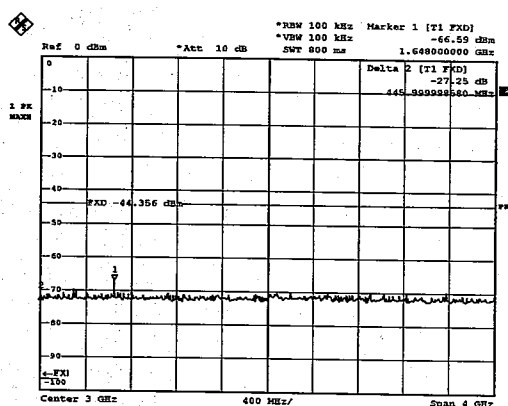
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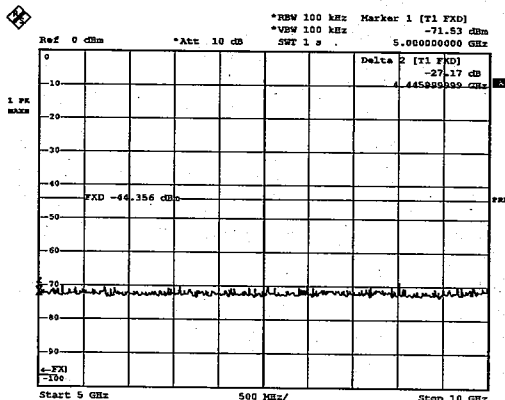
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Date: 16.JUN.2003 15:09:18



Date: 16.JUN.2003 15:11:04

DATA OF SPURIOUS EMISSION(CONDUCTED)

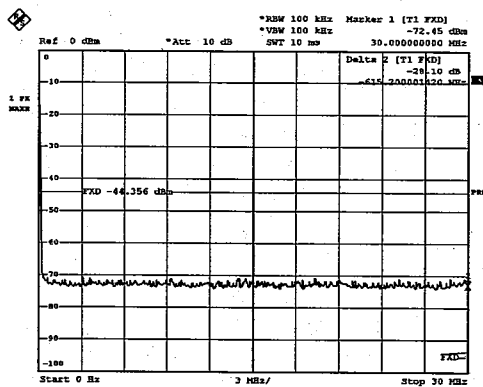
UL Apex Co., Ltd.
Head Office EMC Lab. No.3 Measurement Room

COMPANY : ALPS Electric Co., Ltd
EQUIPMENT : CDMA data module
MODEL : UGEA3A
S/N : 00000011
FCC ID : CWTUGEA3A
IC Number : -
POWER : DC3.6V
MODE : Tx (AMPS)

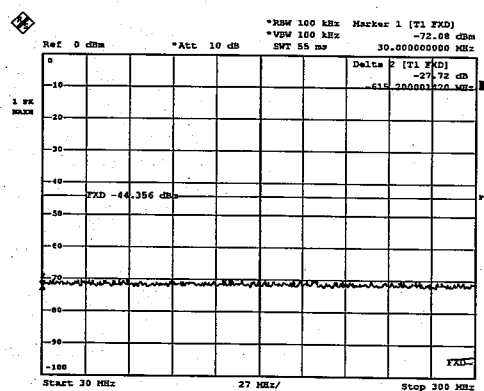
REPORT NO : 23HE0073-HO-1
REGULATION : Fcc Part 22 Section 22.917(a)
TEST METHOD : Fcc Part 2 Section 2.1051
TEST DISTANCE : -
DATE : 06/16/2003
TEMPERATURE : 22°C
HUMIDITY : 60%


 Engineer : Hiroka Umeyama

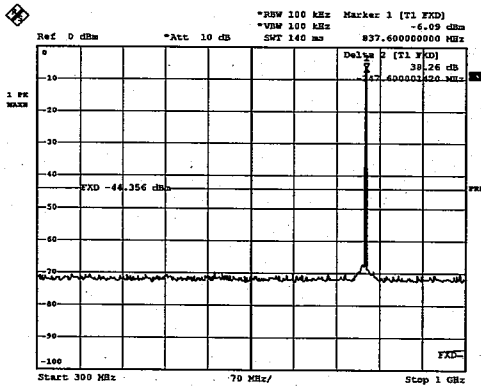
PK DETECT(S/A : RBW 100kHz , VBW 100kHz, sweep time AUTO)
Limit Line = -13dBm - 30dB(Atten.) - 1.35dB (Cable Loss) = -44.35dBm
CH: Mid 836.52MHz



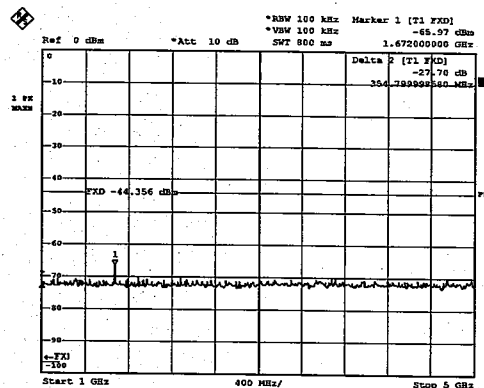
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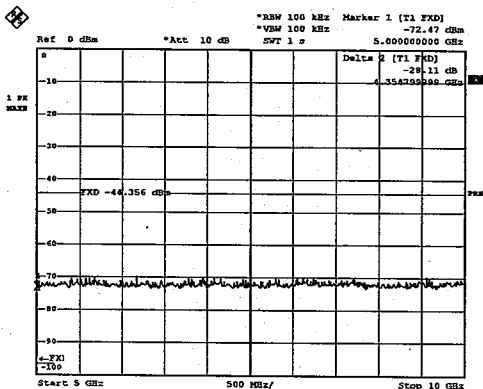
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DATA OF SPURIOUS EMISSION(CONDUCTED)

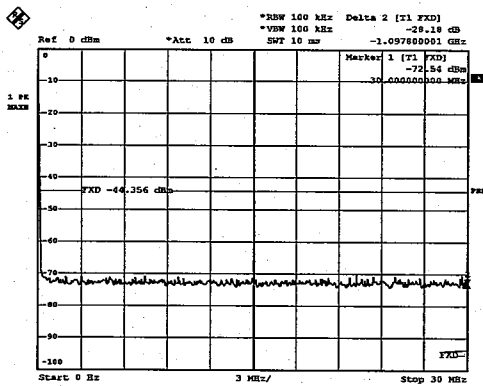
UL Apex Co., Ltd.
Head Office EMC Lab. No.3 Measurement Room

COMPANY : ALPS Electric Co., Ltd
EQUIPMENT : CDMA data module
MODEL : UGEA3A
S/N : 00000011
FCC ID : CWTUGEA3A
IC Number : -
POWER : DC3.6V
MODE : Tx (AMPS)

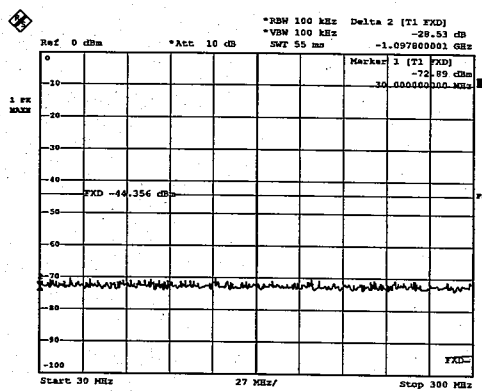
REPORT NO : 23HE0073-HO-1
REGULATION : Fcc Part 22 Section 22.917(a)
TEST METHOD : Fcc Part 2 Section 2.1051
TEST DISTANCE : -
DATE : 06/16/2003
TEMPERATURE : 22°C
HUMIDITY : 60%

Engineer : 
Hiroka Umeyama

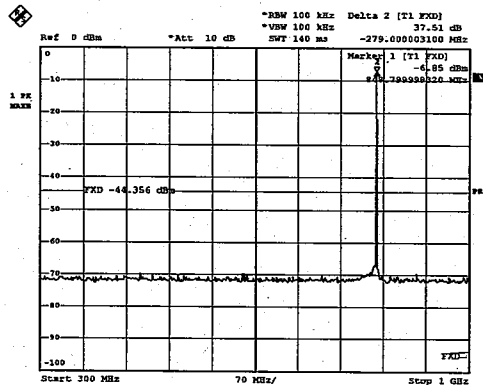
PK DETECT(S/A : RBW 100kHz ,VBW 100kHz, sweep time AUTO)
Limit Line = -13dBm - 30dB(Atten.) - 1.35dB (Cable Loss) = -44.35dBm
CH: High 848.97MHz



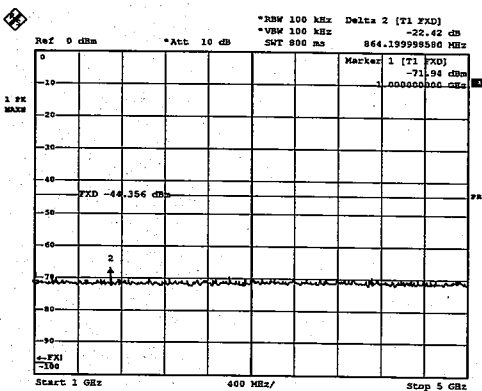
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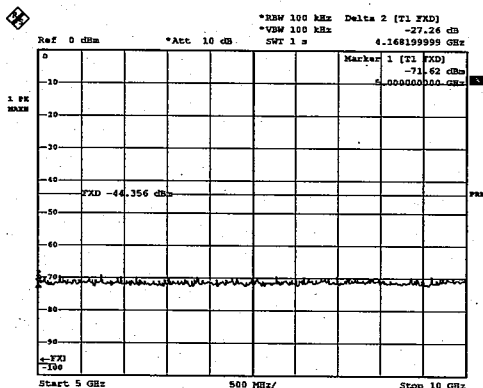
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DATA OF SPURIOUS EMISSION(CONDUCTED)

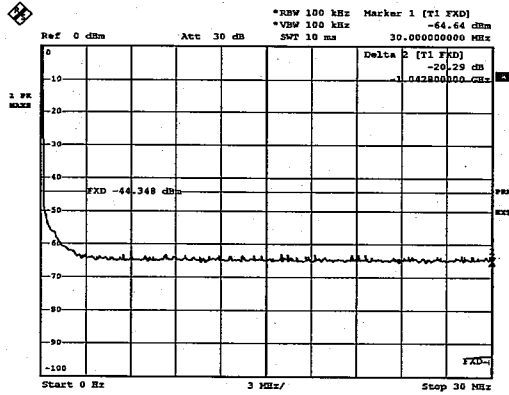
UL Apex Co., Ltd.
Head Office EMC Lab. No.3 Measurement Room

COMPANY : ALPS Electric Co., Ltd
EQUIPMENT : CDMA data module
MODEL : UGEA3A
S/ N : 00000011
FCC ID : CWTUGEA3A
IC Number : -
POWER : DC3.6V
MODE : Tx (CDMA)

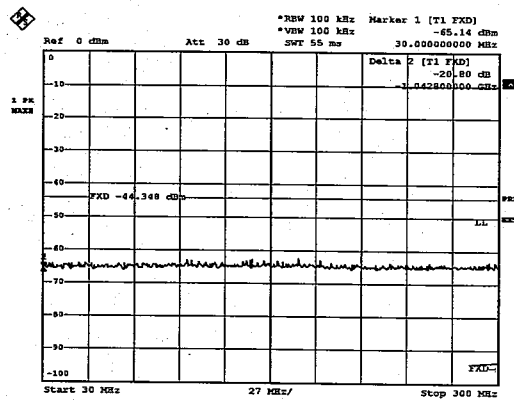
REPORT NO : 23HE0073-HO-1
REGULATION : Fcc Part 22 Section 22.917(a)
TEST METHOD : Fcc Part 2 Section 2.1051
TEST DISTANCE : -
DATE : 06/04/2003
TEMPERATURE : 25°C
HUMIDITY : 50%

Engineer :  Hiroka Umeyama

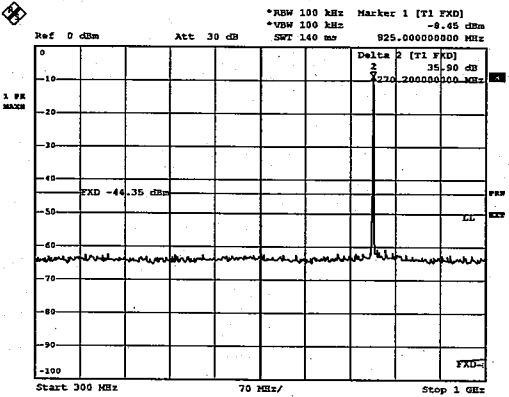
PK DETECT(S/A : RBW 100kHz, VBW 100kHz, sweep time AUTO)
Limit Line = -13dBm - 30dB(Atten.) - 1.35dB (Cable Loss) = -44.35dBm
CH: Low 824.7MHz



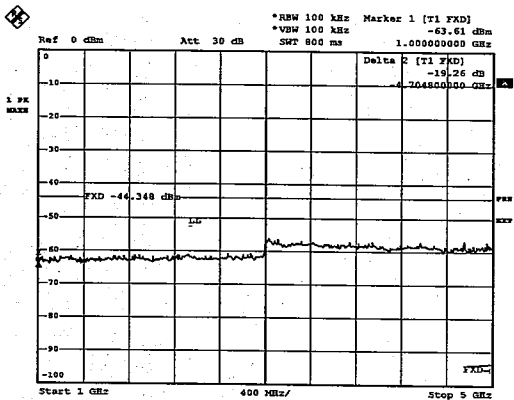
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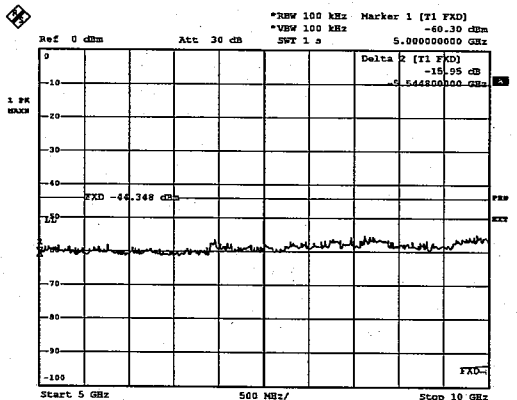
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DATA OF SPURIOUS EMISSION(CONDUCTED)

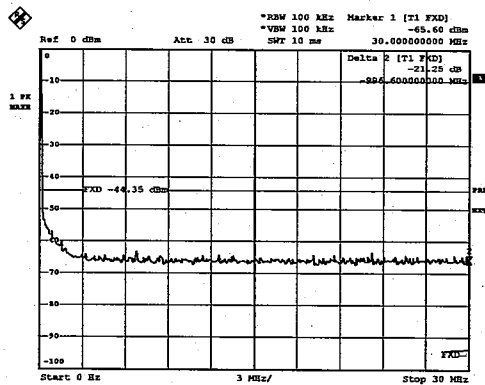
UL Apex Co., Ltd.
Head Office EMC Lab. No.3 Measurement Room

COMPANY : ALPS Electric Co., Ltd
EQUIPMENT : CDMA data module
MODEL : UGEA3A
S/N : 00000011
FCC ID : CWTUGEA3A
IC Number : -
POWER : DC3.6V
MODE : Tx (CDMA)

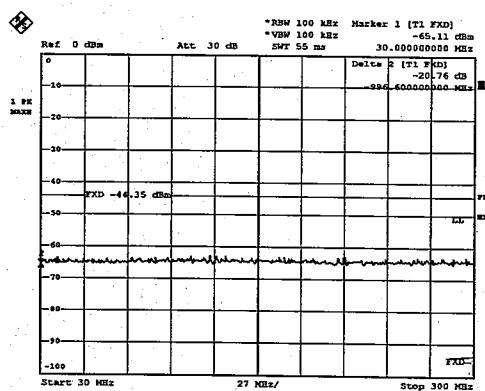
REPORT NO : 23HE0073-HO-1
REGULATION : Fcc Part 22 Section 22.917(a)
TEST METHOD : Fcc Part 2 Section 2.1051
TEST DISTANCE : -
DATE : 06/04/2003
TEMPERATURE : 25°C
HUMIDITY : 50%

Engineer : 
Hiroka Umeyama

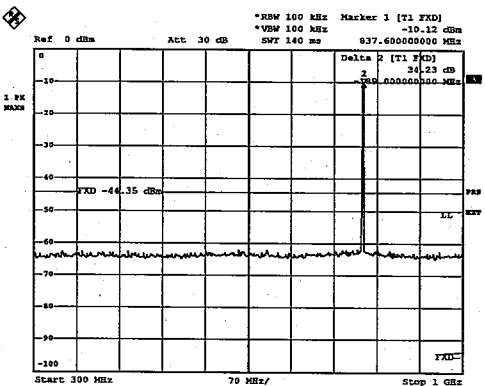
PK DETECT(S/A : RBW 100kHz, VBW 100kHz, sweep time AUTO)
Limit Line = -13dBm - 30dB(Atten.) - 1.35dB (Cable Loss) = -44.35dBm
CH: Mid 836.5MHz



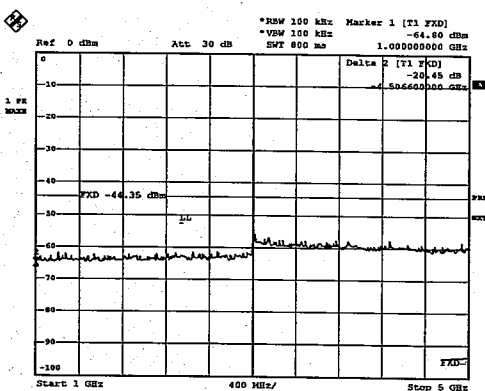
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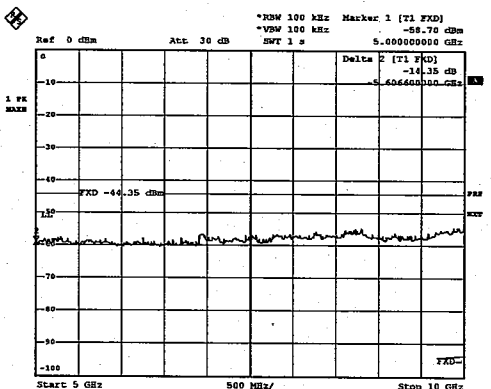
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DATA OF SPURIOUS EMISSION(CONDUCTED)

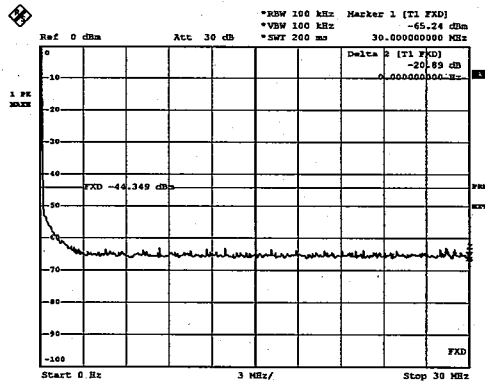
UL Apex Co., Ltd.
Head Office EMC Lab. No.3 Measurement Room

COMPANY : ALPS Electric Co., Ltd
EQUIPMENT : CDMA data module
MODEL : UGEA3A
S/N : 00000011
FCC ID : CWTUGEA3A
IC Number : -
POWER : DC3.6V
MODE : Tx (CDMA)

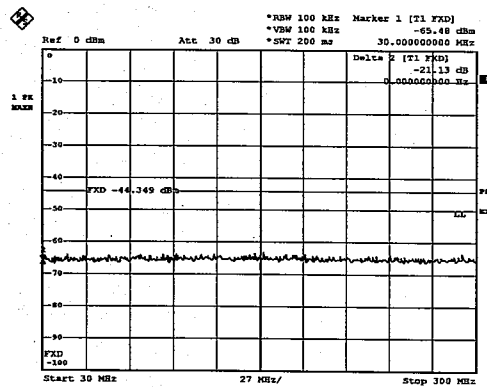
REPORT NO : 23HE0073-HO-1
REGULATION : Fcc Part 22 Section 22.917(a)
TEST METHOD : Fcc Part 2 Section 2.1051
TEST DISTANCE : -
DATE : 06/04/2003
TEMPERATURE : 25°C
HUMIDITY : 50%

Engineer :  Hiroka Umeyama

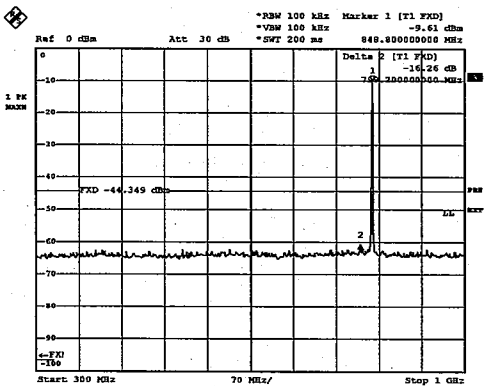
PK DETECT(S/A : RBW 100kHz,VBW 100kHz, sweep time AUTO)
Limit Line = -13dBm - 30dB(Atten.) - 1.35dB (Cable Loss) = -44.35dBm
CH: High 848.3MHz



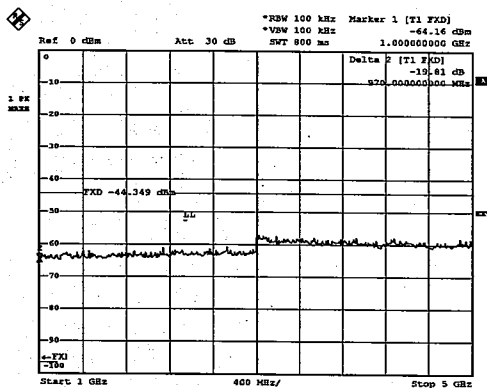
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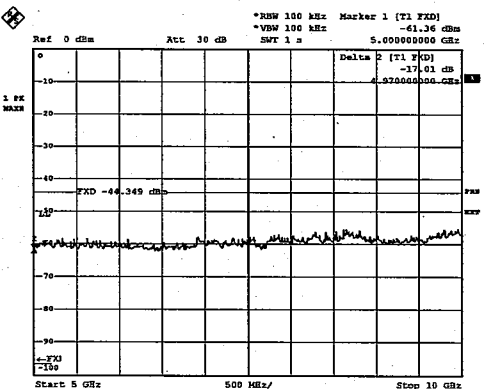
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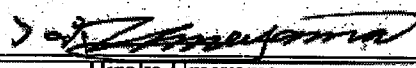
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DATA OF SPURIOUS EMISSION(CONDUCTED)

UL Apex Co., Ltd.
Head Office EMC Lab. No.3 Measurement Room

COMPANY : ALPS Electric Co., Ltd
EQUIPMENT : CDMA data module
MODEL : UGEA3A
S/N : 00000011
FCC ID : CWTUGEA3A
IC Number : -
POWER : DC3.6V
MODE : Tx (PCS)

REPORT NO : 23HE0073-HO = 1
REGULATION : Fcc Part 24 Section 24.238(a)
TEST METHOD : Fcc Part 2 Section 2.1051
TEST DISTANCE : -
DATE : 06/06/2003 and 06/09/2003
TEMPERATURE : 24°C and 24 °C
HUMIDITY : 39% and 58%

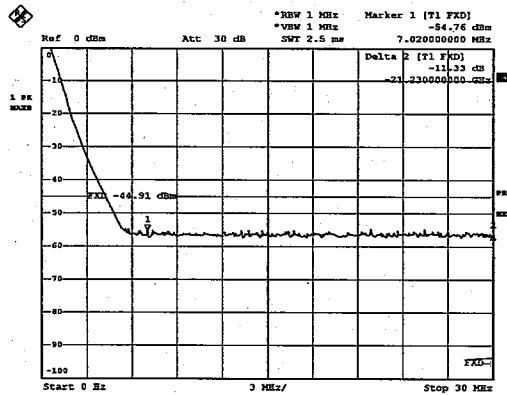
Engineer : 
Hiroka Umeyama

PK DETECT(S/A : RBW 1MHz, VBW 1MHz, sweep time AUTO)

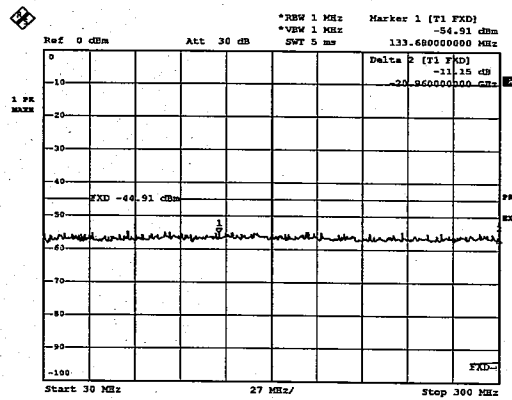
Limit Line = -13dBm - 30dB(Atten.) - 1.91dB (Cable Loss) = -44.91dBm : 0Hz-3GHz

Limit Line = -13dBm - 3.8dB(High Pass Filter) - 1.91dB (Cable Loss) = -18.71dBm : 3GHz-20GHz

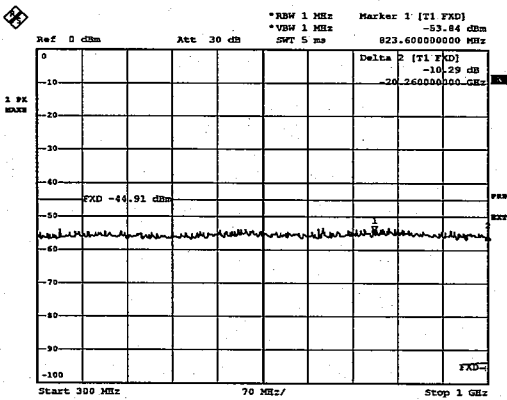
CH: Low 1851.25MHz



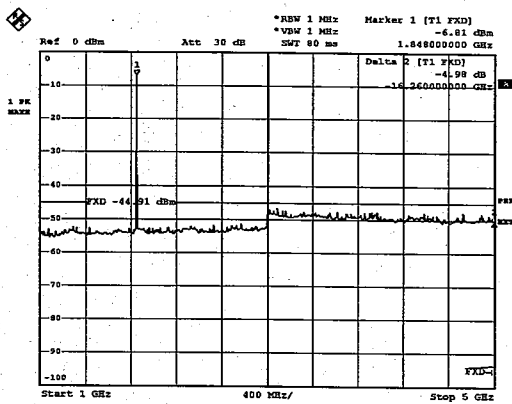
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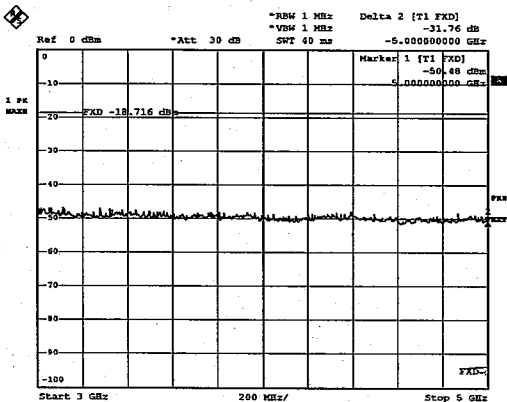
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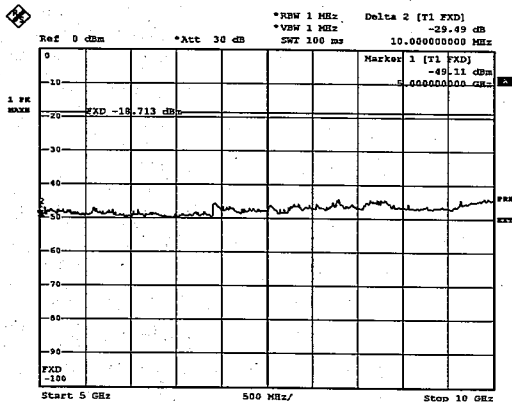
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Date: 6.JUN.2003 15:33:20



Date: 9.JUN.2003 19:21:21



Date: 9.JUN.2003 19:17:04


DATA OF SPURIOUS EMISSION(CONDUCTED)

UL Apex Co., Ltd.

Head Office EMC Lab. No.3 Measurement Room

COMPANY : ALPS Electric Co., Ltd
 EQUIPMENT : CDMA data module
 MODEL : UGEA3A
 S/N : 00000011
 FCC ID : CWTUGEA3A
 IC Number : -
 POWER : DC3.6V
 MODE : Tx (PCS)

REPORT NO : 23HE0073-HO- 1
 REGULATION : Fcc Part 24 Section 24.238(a)
 TEST METHOD : Fcc Part 2 Section 2.1051
 TEST DISTANCE : -
 DATE : 06/06/2003 and 06/09/2003
 TEMPERATURE : 24°C and 24 °C
 HUMIDITY : 39% and 58%

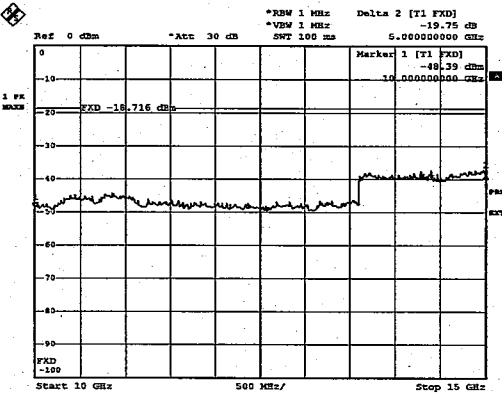
Engineer :  Hiroka Umeyama

PK DETECT(S/A : RBW 1MHz,VBW 1MHz, sweep time AUTO)

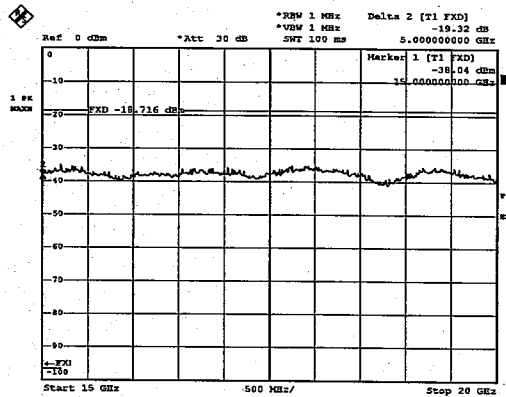
Limit Line = -13dBm - 30dB(Atten.) - 1.91dB (Cable Loss) = -44.91dBm : 0Hz-3GHz

Limit Line = -13dBm - 3.8dB(High Pass Filter) - 1.91dB (Cable Loss) = -18.71dBm : 3GHz-20GHz

CH: Low 1851.25MHz



Date: 9.JUN.2003 19:18:44



Date: 9.JUN.2003 19:19:38

DATA OF SPURIOUS EMISSION(CONDUCTED)

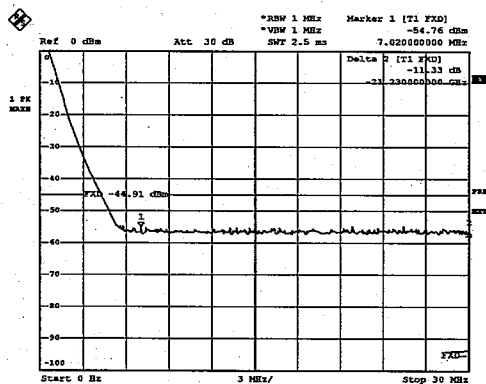
UL Apex Co., Ltd.
Head Office EMC Lab. No.3 Measurement Room

COMPANY : ALPS Electric Co., Ltd
EQUIPMENT : CDMA data module
MODEL : UGEA3A
S/N : 00000011
FCC ID : CWTUGEA3A
IC Number : -
POWER : DC3.6V
MODE : Tx (PCS)

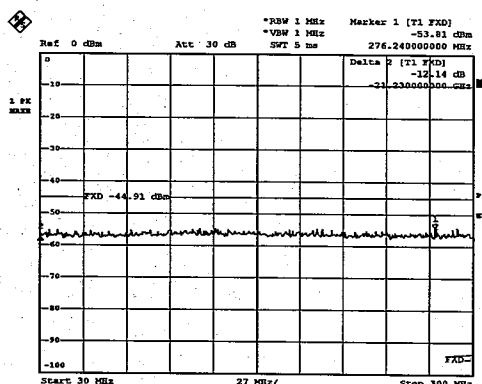
REPORT NO : 23HE0073-HO - 1
REGULATION : Fcc Part 24 Section 24.238(a)
TEST METHOD : Fcc Part 2 Section 2.1051
TEST DISTANCE : -
DATE : 06/06/2003 and 06/09/2003
TEMPERATURE : 24°C and 24 °C
HUMIDITY : 39% and 58%


 Engineer : Hiroka Umeyama

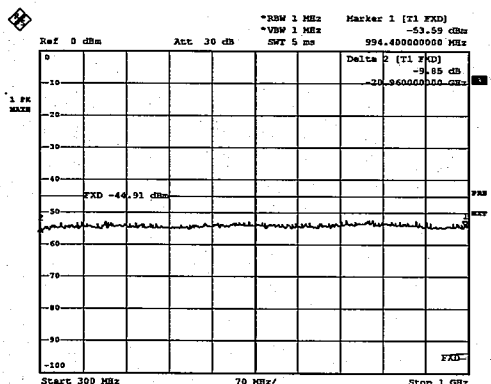
PK DETECT(S/A : RBW 1MHz ,VBW 1MHz, sweep time AUTO)
 Limit Line = -13dBm - 30dB(Atten.) - 1.91dB (Cable Loss) = -44.91dBm : 0Hz-3GHz
 Limit Line = -13dBm - 3.8dB(High Pass Filter) - 1.91dB (Cable Loss) = -18.71dBm : 3GHz-20GHz
 CH: Mid 1880MHz



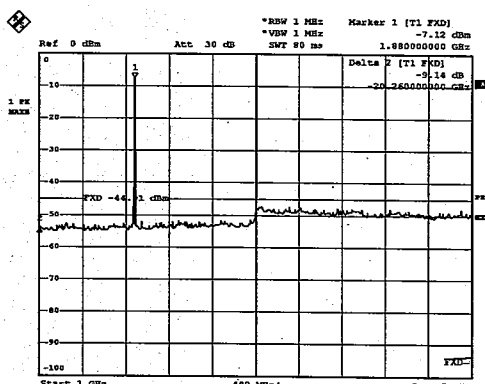
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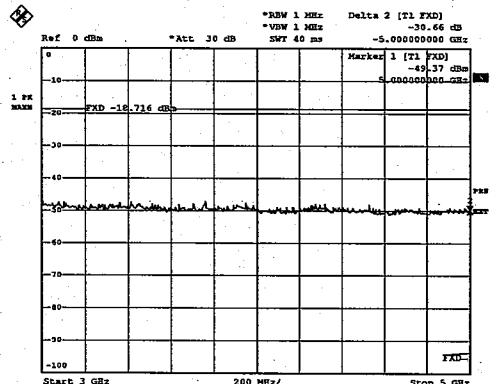
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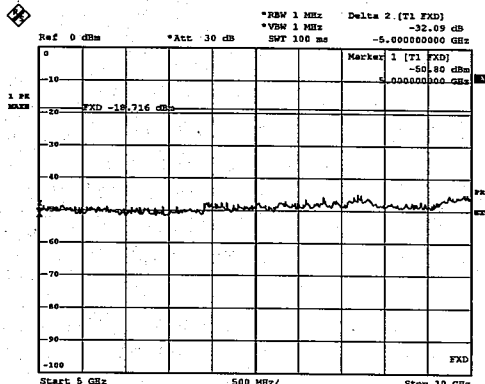
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Date: 9.JUN.2003 19:22:44



Date: 9.JUN.2003 19:23:45

DATA OF SPURIOUS EMISSION(CONDUCTED)

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COMPANY : ALPS Electric Co., Ltd
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MODEL : UGEA3A
S/N : 00000011
FCC ID : CWTUGEA3A
IC Number : -
POWER : DC3.6V
MODE : Tx (PCS)

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TEST METHOD : Fcc Part 2 Section 2.1051
TEST DISTANCE : -
DATE : 06/06/2003 and 06/09/2003
TEMPERATURE : 24°C and 24 °C
HUMIDITY : 39% and 58%

[Handwritten Signature]

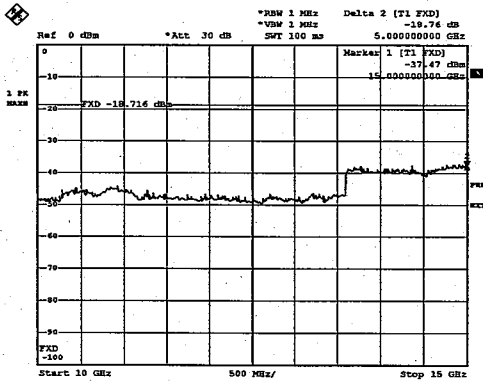
Engineer : Hiroka Umeyama

PK DETECT(S/A : RBW 1MHz,VBW 1MHz, sweep time AUTO)

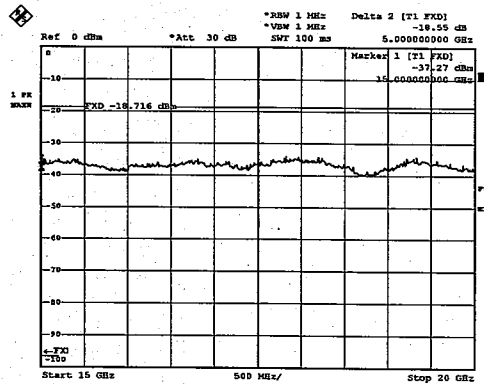
Limit Line = -13dBm - 30dB(Atten.) - 1.91dB (Cable Loss) = -44.91dBm : 0Hz-3GHz

Limit Line = -13dBm - 3.8dB(High Pass Filter) - 1.91dB (Cable Loss) = -18.71dBm : 3GHz-20GHz

CH: Mid 1880MHz



Date: 9.JUN.2003 19:30:04



Date: 9.JUN.2003 19:29:11

DATA OF SPURIOUS EMISSION(CONDUCTED)

UL Apex Co., Ltd.
Head Office EMC Lab. No.3 Measurement Room

COMPANY : ALPS Electric Co., Ltd
EQUIPMENT : CDMA data module
MODEL : UGEA3A
S/N : 0000011
FCC ID : CWTUGEA3A
IC Number : -
POWER : DC3.6V
MODE : Tx (PCS)

REPORT NO : 23HE0073-HO-- 1
REGULATION : Fcc Part 24 Section 24.238(a)
TEST METHOD : Fcc Part 2 Section 2.1051
TEST DISTANCE : -
DATE : 06/06/2003 and 06/09/2003
TEMPERATURE : 24°C and 24 °C
HUMIDITY : 39% and 58%

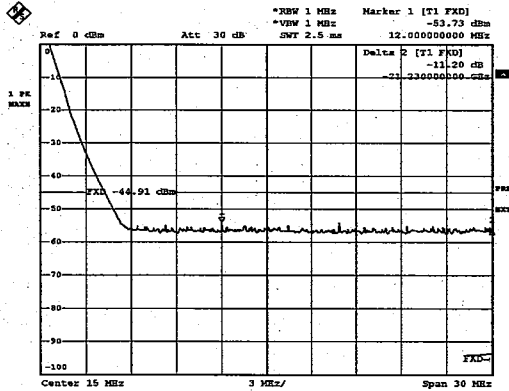
[Signature]
Engineer : Hiroka Umeyama

PK DETECT(S/A : RBW 1MHz,VBW 1MHz, sweep time AUTO)

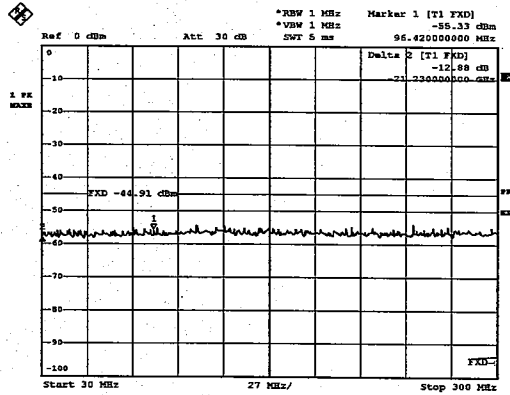
Limit Line = -13dBm - 30dB(Atten.) - 1.91dB (Cable Loss) = -44.91dBm : 0Hz-3GHz

Limit Line = -13dBm - 3.8dB(High Pass Filter) - 1.91dB (Cable Loss) = -18.71dBm : 3GHz-20GHz

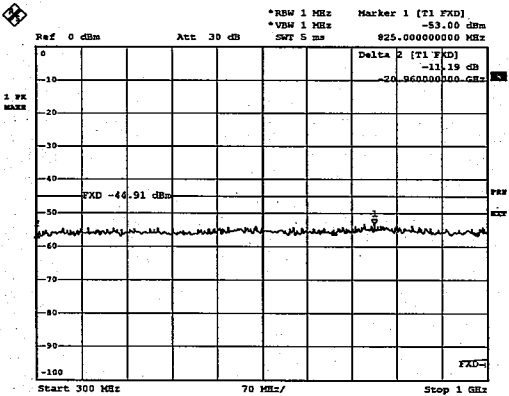
CH: High 1908.75MHz



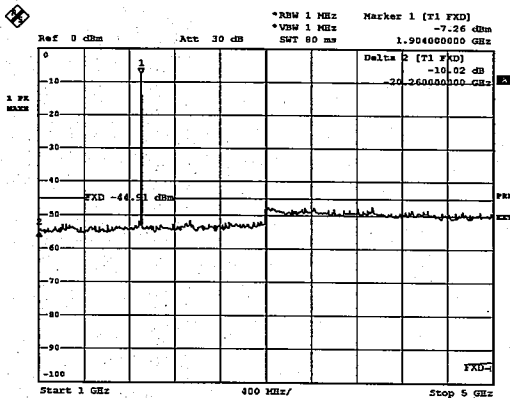
Date: 6.JUN.2003 15:46:27



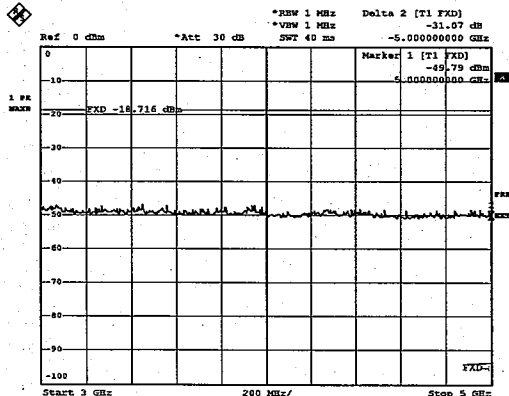
Date: 6.JUN.2003 15:47:10



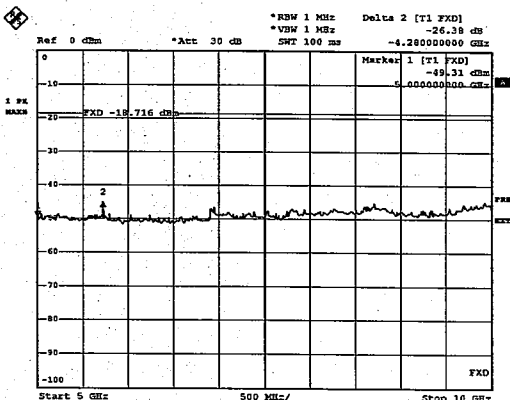
Date: 6.JUN.2003 15:48:36



Date: 6.JUN.2003 15:49:16



Date: 9.JUN.2003 19:32:47



Date: 9.JUN.2003 19:34:03

DATA OF SPURIOUS EMISSION(CONDUCTED)

UL Apex Co., Ltd.
Head Office EMC Lab. No.3 Measurement Room

COMPANY : ALPS Electric Co., Ltd
EQUIPMENT : CDMA data module
MODEL : UGEA3A
S/N : 00000011
FCC ID : CWTUGEA3A
IC Number : -
POWER : DC3.6V
MODE : Tx (PCS)

REPORT NO : 23HE0073-HO - 1
REGULATION : Fcc Part 24 Section 24.238(a)
TEST METHOD : Fcc Part 2 Section 2.1051
TEST DISTANCE : -
DATE : 06/06/2003 and 06/09/2003
TEMPERATURE : 24°C and 24 °C
HUMIDITY : 39% and 58%

[Signature]

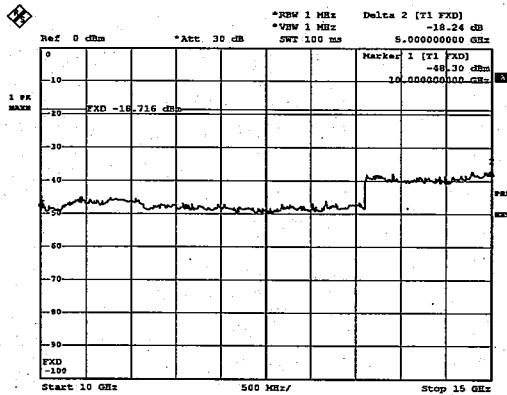
Engineer : Hiroka Umeyama

PK DETECT(S/A : RBW 1MHz ,VBW 1MHz, sweep time AUTO)

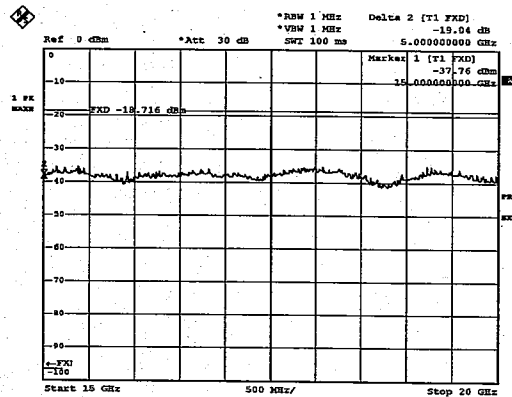
Limit Line = -13dBm - 30dB(Atten.) - 1.91dB (Cable Loss) = -44.91dBm : 0Hz-3GHz

Limit Line = -13dBm - 3.8dB(High Pass Filter) - 1.91dB (Cable Loss) = -18.71dBm : 3GHz-20GHz

CH: High 1908.75MHz



Date: 9.JUN.2003 19:35:42




Date: 9.JUN.2003 19:40:09

DATA OF SPURIOUS RADIATION TEST

UL Apex Co., Ltd.
Head Office EMC Lab. No.2 Semi Anechoic Chamber

COMPANY : ALPS Electric Co.,Ltd
EQUIPMENT : CDMA data module
MODEL : UGEA3A
S/N : 00000012
POWER : DC 3.6V
MODE : Transmitting (AMPS) / Type 1
TEMPERATURE : 26deg.C 25deg.C
HUMIDITY : 56% 63%

REPORT NO : 23HE0073-HO-1
REGULATION : FCC Part 22 Section 22.917(a)
TEST METHOD : FCC Part 2 Section 2.1053
TEST DISTANCE : 3m
DATE : 06/10/2003 06/18/2003


ENGINEER : Hiroka Umeyama

Mode:Transmitting

No.	FREQ [MHz]	SG READING		CABLE LOSS [dB]	ANT GAIN [dBi]	ATTEN [dB]	RESULT		LIMITS (ERP) [dBm]	MARGIN	
		HOR	VER				[dBm]	[dBm]		HOR	VER
1	84.68	-58.3	-52.0	0.6	-6.56	9.9	-77.5	-71.2	-13.0	64.5	58.2
2	96.01	-60.4	-60.4	0.6	-3.37	9.9	-76.4	-76.4	-13.0	63.4	63.4
3	367.21	-65.4	-63.7	1.4	2.15	10.0	-76.8	-75.1	-13.0	63.8	62.1
4	1673.05	-16.2	-13.2	2.4	8.6	40.0	-52.2	-49.2	-13.0	39.2	36.2
5	2130.25	-20.7	-20.8	2.7	10.5	40.0	-55.0	-55.1	-13.0	42.0	42.1
6	2509.55	-20.6	-16.7	2.8	10.8	40.0	-54.8	-50.9	-13.0	41.8	37.9
7	3346.04	-20.5	-17.4	3.3	11.6	40.0	-54.4	-51.3	-13.0	41.4	38.3
8	4182.53	-19.4	-19.8	3.9	12.6	40.0	-52.9	-53.3	-13.0	39.9	40.3
9	5019.08	-20.1	-20.3	4.3	12.6	40.0	-54.0	-54.2	-13.0	41.0	41.2
10	5855.57	-20.9	-21.4	4.9	13.3	40.0	-54.7	-55.2	-13.0	41.7	42.2
11	6692.12	-29.9	-12.6	5.4	11.8	40.0	-65.7	-48.4	-13.0	52.7	35.4
12	7528.62	-7.6	-12.8	5.7	11.7	40.0	-43.8	-49.0	-13.0	30.8	36.0
13	8365.10	-7.0	-11.7	5.9	11.6	40.0	-43.5	-48.2	-13.0	30.5	35.2

CALCULATION:READING(SG)-LOSS(CABLE)+ANT.GAIN-ATTEN-2.15

RxANTENNA:Biconical Antenna(30-300MHz), Logperiodic Antenna(300-1000MHz), Horn Antenna(1-13GHz)

TxANTENNA:Dipole Antenna(30-1000MHz), Horn Antenna(1-13GHz)

All other emissions were at least 20dB below the specification limit.

DATA OF SPURIOUS RADIATION TEST

UL Apex Co., Ltd.
Head Office EMC Lab. No.2 Semi Anechoic Chamber

COMPANY : ALPS Electric Co.,Ltd	REPORT NO : 23HE0073-HO - 1
EQUIPMENT : CDMA data module	REGULATION : FCC Part 22 Section 22.917(a)
MODEL : UGEA3A	TEST METHOD : FCC Part 2 Section 2.1053
S/N : 00000012	TEST DISTANCE : 3m
POWER : DC 3.6V	DATE : 06/10/2003 06/18/2003
MODE : Transmitting (AMPS) / Type 2	
TEMPERATURE : 26deg.C 25deg.C	
HUMIDITY : 56% 63%	


ENGINEER : Hiroka Umeyama

Mode:Transmitting

No.	FREQ [MHz]	SG READING		CABLE LOSS [dB]	ANT GAIN [dBi]	ATTEN [dB]	RESULT		LIMITS (ERP) [dBm]	MARGIN	
		HOR [dBm]	VER [dBm]				HOR [dBm]	VER [dBm]		HOR [dB]	VER [dB]
1	85.95	-59.7	-48.8	0.6	-6.21	9.9	-78.5	-67.6	-13.0	65.5	54.6
2	131.21	-64.0	-70.6	0.7	2.15	9.9	-74.6	-81.2	-13.0	61.6	68.2
3	375.00	-60.3	-60.5	1.4	2.15	10.0	-71.7	-71.9	-13.0	58.7	58.9
4	1673.05	-16.1	-13.1	2.8	8.6	40.0	-52.5	-49.5	-13.0	39.5	36.5
5	2130.24	-18.8	-21.1	2.7	10.5	40.0	-53.2	-55.5	-13.0	40.2	42.5
6	2509.55	-21.9	-15.4	2.4	10.8	40.0	-55.7	-49.2	-13.0	42.7	36.2
7	3346.04	-20.4	-17.5	3.3	11.6	40.0	-54.3	-51.4	-13.0	41.3	38.4
8	4182.53	-19.9	-19.9	3.9	12.6	40.0	-53.4	-53.4	-13.0	40.4	40.4
9	5019.08	-20.0	-20.6	4.3	12.6	40.0	-53.9	-54.5	-13.0	40.9	41.5
10	5855.57	-20.7	-20.8	4.9	13.3	40.0	-54.5	-54.6	-13.0	41.5	41.6
11	6692.12	-9.5	-12.6	5.4	11.8	40.0	-45.3	-48.4	-13.0	32.3	35.4
12	7528.72	-8.4	-12.1	5.7	11.7	40.0	-44.6	-48.3	-13.0	31.6	35.3
13	8365.10	-7.6	-10.9	5.9	11.6	40.0	-44.1	-47.4	-13.0	31.1	34.4

CALCULATION:READING(SG)-LOSS(CABLE)+ANT.GAIN-ATTEN-2.15

RxANTENNA:Biconical Antenna(30-300MHz), Logperiodic Antenna(300-1000MHz), Horn Antenna(1-13GHz)

TxANTENNA:Dipole Antenna(30-1000MHz), Horn Antenna(1-13GHz)

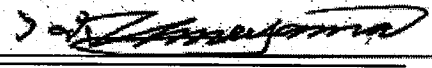
All other emissions were at least 20dB below the specification limit.

DATA OF SPURIOUS RADIATION TEST

UL Apex Co., Ltd.
Head Office EMC Lab. No.2 Semi Anechoic Chamber

COMPANY : ALPS Electric Co.,Ltd
EQUIPMENT : CDMA data module
MODEL : UGEA3A
S/N : 00000012
POWER : DC 3.6V
MODE : Transmitting (CDMA) / Type 1
TEMPERATURE : 26deg.C 25deg.C
HUMIDITY : 56% 63%

REPORT NO : 23HE0073-HO - 1
REGULATION : FCC Part 22 Section 22.917(a)
TEST METHOD : FCC Part 2 Section 2.1053
TEST DISTANCE : 3m
DATE : 06/10/2003 06/18/2003


ENGINEER : Hiroka Umeyama

Mode:Transmitting

No.	FREQ [MHz]	SG READING		CABLE LOSS [dB]	ANT GAIN [dBi]	ATTEN [dB]	RESULT		LIMITS (ERP) [dBm]	MARGIN	
		HOR [dBm]	VER [dBm]				HOR [dBm]	VER [dBm]		HOR [dB]	VER [dB]
1	59.05	-52.7	-46.3	0.4	-14.60	9.9	-79.7	-73.3	-13.0	66.7	60.3
2	98.40	-61.5	-67.4	0.6	-2.25	9.9	-76.4	-82.3	-13.0	63.4	69.3
3	367.20	-69.1	-60.5	1.4	2.15	10.0	-80.5	-71.9	-13.0	67.5	58.9
4	457.20	-77.3	-70.6	1.5	2.15	10.0	-88.8	-82.1	-13.0	75.8	69.1
5	1673.05	-16.3	-13.5	2.8	8.60	40.0	-52.7	-49.9	-13.0	39.7	36.9
6	2130.24	-20.8	-18.0	2.7	10.5	40.0	-55.2	-52.4	-13.0	42.2	39.4
7	3346.04	-20.3	-17.4	3.3	11.6	40.0	-54.2	-51.3	-13.0	41.2	38.3
8	4182.53	-7.8	-5.9	3.9	12.6	40.0	-41.3	-39.4	-13.0	28.3	26.4
9	5019.08	-20.3	-20.8	4.3	12.6	40.0	-54.2	-54.7	-13.0	41.2	41.7
10	5325.60	-20.2	-19.8	4.5	12.9	40.0	-54.0	-53.6	-13.0	41.0	40.6
11	5855.57	-20.7	-20.8	4.9	13.3	40.0	-54.5	-54.6	-13.0	41.5	41.6
12	6692.12	-9.2	-12.5	5.4	11.8	40.0	-45.0	-48.3	-13.0	32.0	35.3
13	7528.62	-8.3	-12.6	5.7	11.6	40.0	-44.6	-48.9	-13.0	31.6	35.9
14	8365.10	-7.4	-10.7	4.5	12.9	40.0	-41.2	-44.5	-13.0	28.2	31.5

CALCULATION:READING(SG)-LOSS(CABLE)+ANT.GAIN-ATTEN-2.15

RxANTENNA:Biconical Antenna(30-300MHz), Logperiodic Antenna(300-1000MHz), Horn Antenna(1-13GHz)

TxANTENNA:Dipole Antenna(30-1000MHz), Horn Antenna(1-13GHz)

All other emissions were at least 20dB below the specification limit.

DATA OF SPURIOUS RADIATION TEST

UL Apex Co., Ltd.
Head Office EMC Lab. No.2 Semi Anechoic Chamber

COMPANY : ALPS Electric Co.,Ltd
EQUIPMENT : CDMA data module
MODEL : UGEA3A
S/N : 00000012
POWER : DC 3.6V
MODE : Transmitting (CDMA) / Type 2
TEMPERATURE : 26deg.C 25deg.C
HUMIDITY : 56% 63%

REPORT NO : 23HE0073-HO - 1
REGULATION : FCC Part 22 Section 22.917(a)
TEST METHOD : FCC Part 2 Section 2.1053
TEST DISTANCE : 3m
DATE : 06/10/2003 06/18/2003


ENGINEER : Hiroka Umeyama

Mode:Transmitting

No.	FREQ [MHz]	SG READING		CABLE LOSS [dB]	ANT GAIN [dBi]	ATTEN [dB]	RESULT		LIMITS (ERP) [dBm]	MARGIN	
		HOR [dBm]	VER [dBm]				HOR [dBm]	VER [dBm]		HOR [dB]	VER [dB]
1	65.17	-97.9	-36.0	0.5	-12.68	9.9	-123.1	-61.2	-13.0	110.1	48.2
2	100.12	-69.4	-45.4	0.6	-2.25	9.9	-84.3	-60.3	-13.0	71.3	47.3
3	367.20	-67.7	-66.7	1.4	2.15	10.0	-79.1	-78.1	-13.0	66.1	65.1
4	457.21	-61.6	-64.2	1.5	2.15	10.0	-73.1	-75.7	-13.0	60.1	62.7
5	1673.05	-16.0	-13.0	2.8	8.60	40.0	-52.4	-49.4	-13.0	39.4	36.4
6	2130.24	-20.7	-25.2	2.7	10.5	40.0	-55.1	-59.6	-13.0	42.1	46.6
7	3346.04	-20.4	-17.5	3.3	11.6	40.0	-54.3	-51.4	-13.0	41.3	38.4
8	4182.53	-7.4	-8.7	3.9	12.6	40.0	-40.9	-42.2	-13.0	27.9	29.2
9	5019.08	-20.0	-20.6	4.3	12.6	40.0	-53.9	-54.5	-13.0	40.9	41.5
10	5325.60	-19.3	-20.3	4.5	12.9	40.0	-53.1	-54.1	-13.0	40.1	41.1
11	5855.57	-20.9	-20.8	4.9	13.3	40.0	-54.7	-54.6	-13.0	41.7	41.6
12	6692.12	-9.7	-12.7	5.4	11.8	40.0	-45.5	-48.5	-13.0	32.5	35.5
13	7528.62	-8.5	-12.5	5.7	11.7	40.0	-44.7	-48.7	-13.0	31.7	35.7
14	8365.10	-7.4	-10.9	5.9	11.6	40.0	-43.9	-47.4	-13.0	30.9	34.4

CALCULATION:READING(SG)-LOSS(CABLE)+ANT.GAIN-ATTEN-2.15

RxANTENNA:Biconical Antenna(30-300MHz), Logperiodic Antenna(300-1000MHz), Horn Antenna(1-13GHz)

TxANTENNA:Dipole Antenna(30-1000MHz), Horn Antenna(1-13GHz)


All other emissions were at least 20dB below the specification limit.

DATA OF SPURIOUS RADIATION TEST

UL Apex Co., Ltd.
Head Office EMC Lab. No.2 Semi Anechoic Chamber

COMPANY : ALPS Electric Co.,Ltd
EQUIPMENT : CDMA data module
MODEL : UGEA3A
S/N : 00000012
POWER : DC 3.6V
MODE : Transmitting (PCS) / Type 1
TEMPERATURE : 26deg.C 25deg.C
HUMIDITY : 56% 63%

REPORT NO : 23HE0073-HO - 1
REGULATION : FCC Part 24 Section 24.238(a)
TEST METHOD : FCC Part 2 Section 2.1053
TEST DISTANCE : 3m
DATE : 06/10/2003 06/18/2003


ENGINEER : Hiroka Umeyama

Mode:Transmitting

No.	FREQ [MHz]	SG READING		CABLE LOSS [dB]	ANT GAIN [dBi]	ATTEN [dB]	RESULT		LIMITS (EIRP) [dBm]	MARGIN	
		HOR	VER				HOR	VER		HOR	VER
		[dBm]					[dBm]			[dB]	
1	59.98	-46.4	-36.3	0.4	-14.60	9.9	-71.3	-61.2	-13.0	58.3	48.2
2	98.30	-60.5	-58.4	0.6	-2.73	9.9	-73.7	-71.6	-13.0	60.7	58.6
3	367.20	-62.4	-60.7	1.4	2.15	10.0	-71.7	-70.0	-13.0	58.7	57.0
4	527.20	-58.3	-58.7	1.6	2.15	10.0	-67.8	-68.2	-13.0	54.8	55.2
5	2584.86	-25.6	0.8	2.9	11.0	40.0	-57.5	-31.1	-13.0	44.5	18.1
6	3760.00	-4.0	-3.3	3.6	12.1	40.0	-35.5	-34.8	-13.0	22.5	21.8
7	4287.24	-8.3	-7.1	3.9	12.6	40.0	-39.6	-38.4	-13.0	26.6	25.4
8	5639.46	4.0	1.1	4.8	12.6	40.0	-28.2	-31.1	-13.0	15.2	18.1
9	7521.14	1.6	-7.4	5.7	11.6	40.0	-32.4	-41.4	-13.0	19.4	28.4
10	9400.20	5.0	5.2	11.3	6.2	40.0	-40.1	-39.9	-13.0	27.1	26.9
11	11280.00	5.6	5.7	11.6	6.5	40.0	-39.5	-39.4	-13.0	26.5	26.4
12	13160.00	5.8	6.2	14.0	7.1	40.0	-41.1	-40.7	-13.0	28.1	27.7
13	15040.00	6.6	7.2	13.3	7.9	40.0	-38.8	-38.2	-13.0	25.8	25.2
14	16920.00	7.3	7.7	13.1	8.4	40.0	-37.4	-37.0	-13.0	24.4	24.0
16	18800.00	*	*	*	*	*	*	*	-13.0	*	*

CALCULATION:READING(SG)-LOSS(CABLE)+ANT.GAIN-ATTEN

RxANTENNA:Biconical Antenna(30-300MHz), Logperiodic Antenna(300-1000MHz), Horn Antenna(1-13GHz)

TxANTENNA:Dipole Antenna(30-1000MHz), Horn Antenna(1-13GHz)

All other emissions were at least 20dB below the specification limit.

* The noise level was too low to detect.

DATA OF SPURIOUS RADIATION TEST

UL Apex Co., Ltd.
Head Office EMC Lab. No.2 Semi Anechoic Chamber

COMPANY : ALPS Electric Co.,Ltd
EQUIPMENT : CDMA data module
MODEL : UGEA3A
S/N : 00000012
POWER : DC 3.6V
MODE : Transmitting (PCS) / Type 2
TEMPERATURE : 26deg.C 25deg.C
HUMIDITY : 56% 63%

REPORT NO : 23HE0073-HO - 1
REGULATION : FCC Part 24 Section 24.238(a)
TEST METHOD : FCC Part 2 Section 2.1053
TEST DISTANCE : 3m
DATE : 06/10/2003 06/18/2003


ENGINEER : Hiroka Umeyama

Mode:Transmitting

No.	FREQ [MHz]	SG READING		CABLE LOSS [dB]	ANT GAIN [dBi]	ATTEN [dB]	RESULT		LIMITS (EIRP) [dBm]	MARGIN	
		HOR [dBm]	VER [dBm]				HOR [dBm]	VER [dBm]		HOR [dB]	VER [dB]
1	59.12	-41.3	-44.7	0.4	-14.60	9.9	-66.2	-69.6	-13.0	53.2	56.6
2	82.77	-47.5	-40.9	0.6	-7.10	9.9	-65.1	-58.5	-13.0	52.1	45.5
3	92.48	-52.8	-47.5	0.6	-4.37	9.9	-67.7	-62.4	-13.0	54.7	49.4
4	367.20	-60.3	-56.2	1.4	2.15	10.0	-69.6	-65.5	-13.0	56.6	52.5
5	527.20	-54.3	-52.9	1.6	2.15	10.0	-63.8	-62.4	-13.0	50.8	49.4
6	2583.68	-24.7	-4.4	2.9	11.0	40.0	-56.6	-36.3	-13.0	43.6	23.3
7	3760.00	-2.6	-4.6	3.6	12.1	40.0	-34.1	-36.1	-13.0	21.1	23.1
8	4287.20	-9.7	-8.5	3.9	12.6	40.0	-41.0	-39.8	-13.0	28.0	26.8
9	5639.15	5.4	2.1	4.8	12.6	40.0	-26.8	-30.1	-13.0	13.8	17.1
10	7521.01	2.1	-5.1	5.7	11.6	40.0	-31.9	-39.1	-13.0	18.9	26.1
11	9400.20	5.1	5.3	11.3	6.2	40.0	-40.0	-39.8	-13.0	27.0	26.8
12	11280.00	5.6	5.7	11.6	6.5	40.0	-39.5	-39.4	-13.0	26.5	26.4
13	13160.00	5.9	6.5	14.0	7.1	40.0	-41.0	-40.4	-13.0	28.0	27.4
14	15040.00	6.5	7.3	13.3	7.9	40.0	-38.9	-38.1	-13.0	25.9	25.1
15	16920.00	7.1	7.7	13.1	8.4	40.0	-37.6	-37.0	-13.0	24.6	24.0
16	18800.00	*	*	*	*	*	*	*	-13.0	*	*

CALCULATION:READING(SG)-LOSS(CABLE)+ANT.GAIN-ATTEN

RxANTENNA:Biconical Antenna(30-300MHz), Logperiodic Antenna(300-1000MHz), Horn Antenna(1-13GHz)

TxANTENNA:Dipole Antenna(30-1000MHz), Horn Antenna(1-13GHz)


All other emissions were at least 20dB below the specification limit.

* The noise level was too low to detect.

DATA OF FREQUENCY STABILITY

UL Apex Co., Ltd.
Head Office EMC Lab. No.3 Measurement Room

COMPANY	: ALPS Electric Co., Ltd	REPORT NO	: 23HE0073-HO-1
EQUIPMENT	: CDMA data module	REGULATION	: Fcc Part 22 Section 22.355
MODEL	: UGEA3A	TEST METHOD	: Fcc Part 2 Section 2.1055(a)(1)and(b)
S/N	: 00000013		: Fcc Part 2 Section 2.1055(d)(1)and(b)
FCC ID	: CWTUGEA3A	TEST DISTANCE	: -
IC Number	: -	DATE	: 06/06/2003
POWER	: DC3.6V	TEMPERATURE	: 24°C
MODE	: Tx (AMPS) 836.52MHz	HUMIDITY	: 39%



 Engineer : Hiroka Umeyama

Temp. [deg.C]	Volt. [V]	Frequency Reading [MHz]	Frequency Error [Hz]	Frequency Error [ppm]	Limit [ppm]
-30.0	3.6	836.519579	177.4	0.212	2.5
-20.0	3.6	836.519677	79.7	0.095	2.5
-10.0	3.6	836.519706	50.5	0.060	2.5
0.0	3.6	836.519988	230.8	0.276	2.5
10.0	3.6	836.519834	77.2	0.092	2.5
20.0	3.6	836.519757	0.0	0.000	2.5
30.0	3.6	836.519776	19.2	0.023	2.5
40.0	3.6	836.519668	88.5	0.106	2.5
50.0	3.6	836.519717	39.8	0.048	2.5

Temp. [deg.C]	Volt. [V]	Frequency Reading [MHz]	Frequency Error [Hz]	Frequency Error [ppm]	Limit [ppm]
20.0	3.06	836.520139	382.4	0.457	2.5
20.0	3.60	836.519757	0.0	0.000	2.5
20.0	4.14	836.520174	416.7	0.498	2.5

DATA OF FREQUENCY STABILITY

UL Apex Co., Ltd.
Head Office EMC Lab. No.3 Measurement Room

COMPANY	: ALPS Electric Co., Ltd	REPORT NO	: 23HE0073-HO- 1
EQUIPMENT	: CDMA data module	REGULATION	: Fcc Part 24 Section 24.235
MODEL	: UGEA3A	TEST METHOD	: Fcc Part 2 Section 2.1055(a)(1)and(b)
S/ N	: 00000013		: Fcc Part 2 Section 2.1055(d)(1)and(b)
FCC ID	: CWTUGEA3A	TEST DISTANCE	: -
IC Number	: -	DATE	: 06/06/2003
POWER	: DC3.6V	TEMPERATURE	: 24°C
MODE	: Tx (PCS) 1880.0MHz	HUMIDITY	: 39%



 Engineer : Hiroka Umeyama

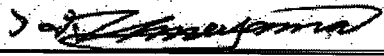
Temp. [deg.C]	Volt. [V]	Frequency Reading [MHz]	Frequency Error [Hz]	Frequency Error [ppm]	Limit [ppm]
-30.0	3.6	1879.997012	88.0	0.047	-
-20.0	3.6	1879.996980	120.0	0.064	-
-10.0	3.6	1879.997230	130.0	0.069	-
0.0	3.6	1879.997525	425.0	0.226	-
10.0	3.6	1879.997120	20.0	0.011	-
20.0	3.6	1879.997100	0.0	0.000	-
30.0	3.6	1879.996920	180.0	0.096	-
40.0	3.6	1879.996648	452.0	0.240	-
50.0	3.6	1879.996700	400.0	0.213	-

Temp. [deg.C]	Volt. [V]	Frequency Reading [MHz]	Frequency Error [Hz]	Frequency Error [ppm]	Limit [ppm]
20.0	3.06	1879.992501	4599.0	2.446	-
20.0	3.60	1879.997100	0.0	0.000	-
20.0	4.14	1879.997923	823.0	0.438	-

DATA OF FREQUENCY STABILITY

UL Apex Co., Ltd.
Head Office EMC Lab. No.3 Measurement Room

COMPANY	: ALPS Electric Co., Ltd	REPORT NO	: 23HE0073-HO-1
EQUIPMENT	: CDMA data module	REGULATION	: Fcc Part 22 Section 22.355
MODEL	: UGEA3A	TEST METHOD	: Fcc Part 2 Section 2.1055(a)(1)and(b)
S/N	: 00000013		: Fcc Part 2 Section 2.1055(d)(1)and(b)
FCC ID	: CWTUGEA3A	TEST DISTANCE	: -
IC Number	: -	DATE	: 06/06/2003
POWER	: DC3.6V	TEMPERATURE	: 24°C
MODE	: Tx (CDMA) 836.5MHz	HUMIDITY	: 39%



 Engineer : Hiroka Umeyama

Temp.	Volt.	Frequency Reading	Frequency Error	Frequency Error	Limit
[deg.C]	[V]	[MHz]	[Hz]	[ppm]	[ppm]
-30.0	3.6	836.517398	40.0	0.048	2.5
-20.0	3.6	836.517282	76.1	0.091	2.5
-10.0	3.6	836.517301	56.7	0.068	2.5
0.0	3.6	836.517581	223.0	0.267	2.5
10.0	3.6	836.517634	276.0	0.330	2.5
20.0	3.6	836.517358	0.0	0.000	2.5
30.0	3.6	836.517375	17.0	0.020	2.5
40.0	3.6	836.517284	73.7	0.088	2.5
50.0	3.6	836.517301	57.0	0.068	2.5

Temp.	Volt.	Frequency Reading	Frequency Error	Frequency Error	Limit
[deg.C]	[V]	[MHz]	[Hz]	[ppm]	[ppm]
20.0	3.06	836.517722	363.6	0.435	2.5
20.0	3.60	836.517358	0.0	0.000	2.5
20.0	4.14	836.517763	404.8	0.484	2.5