

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%

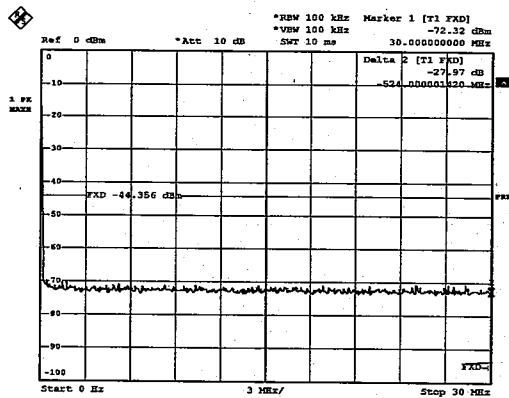
Engineer

Hiroka Umeyama

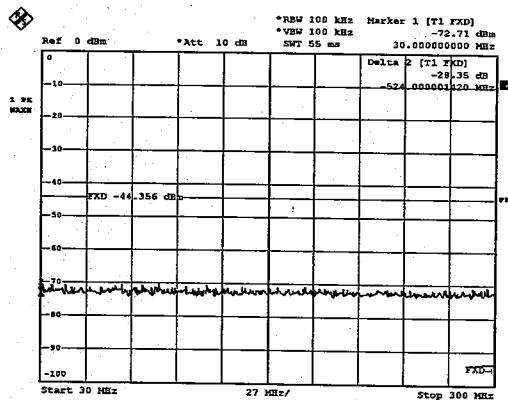
PK DETECT(S/A : RBW 100kHz, VBW 100kHz, sweep time AUTO)

Limit Line = -13dBm - 30dB(Atten.) - 1.35dB (Cable Loss) = -44.35dBm

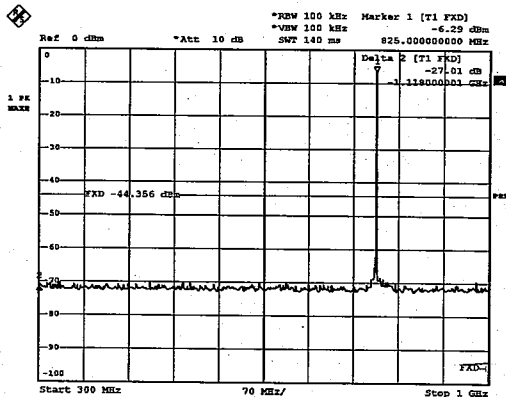
CH: Low 824.04MHz



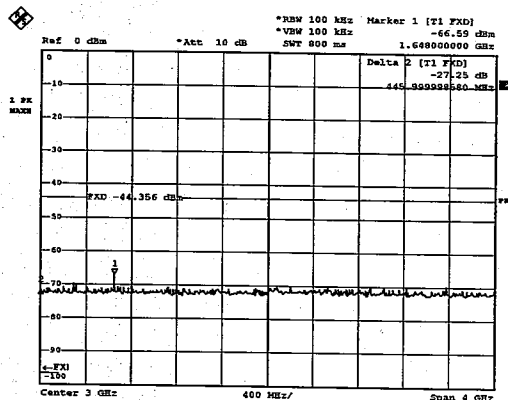
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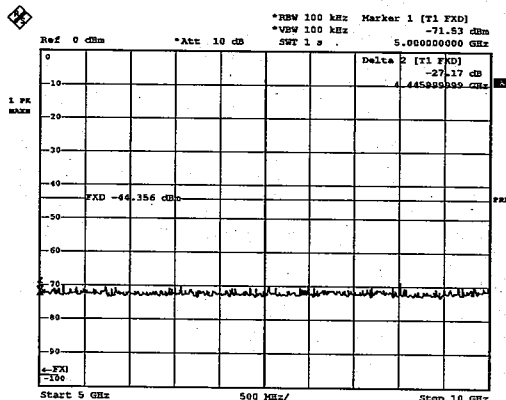
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Date: 16.JUN.2003 15:11:04

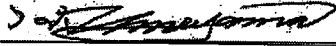
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MODEL : UGEA3A
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IC Number : -
POWER : DC3.6V
MODE : Tx (AMPS)

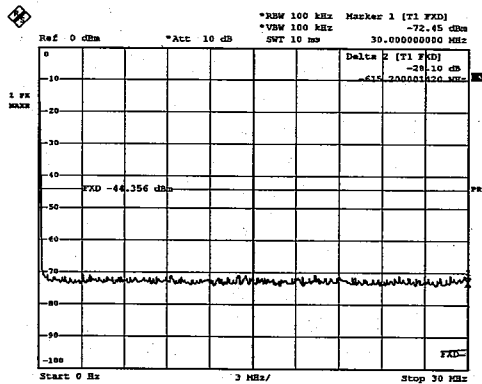
REPORT NO : 23HE0073-HO-1
REGULATION : Fcc Part 22 Section 22.917(a)
TEST METHOD : Fcc Part 2 Section 2.1051
TEST DISTANCE : -
DATE : 06/16/2003
TEMPERATURE : 22°C
HUMIDITY : 60%

Engineer : 
Hiroka Umeyama

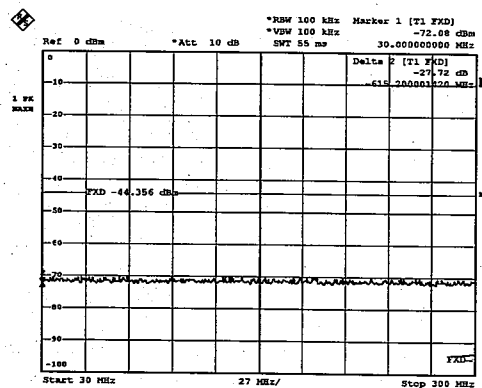
PK DETECT(S/A : RBW 100kHz, VBW 100kHz, sweep time AUTO)

Limit Line = -13dBm - 30dB(Atten.) - 1.35dB (Cable Loss) = -44.35dBm

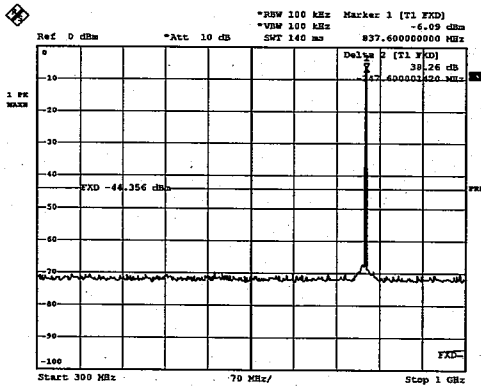
CH: Mid 836.52MHz



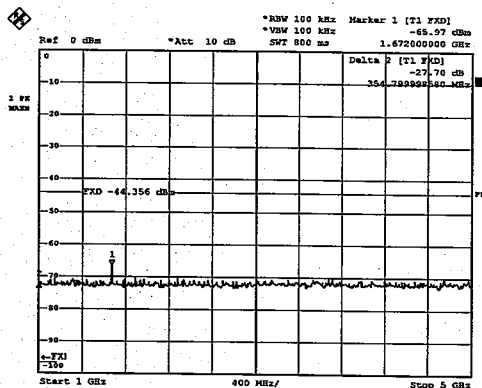
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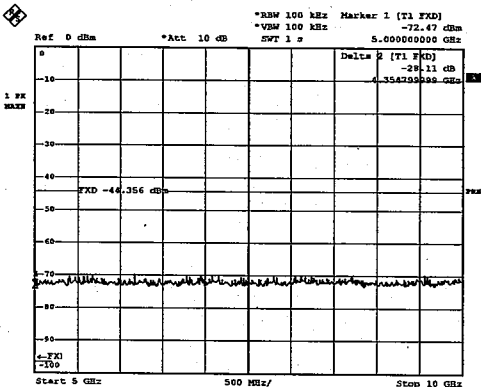
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DATA OF SPURIOUS EMISSION(CONDUCTED)

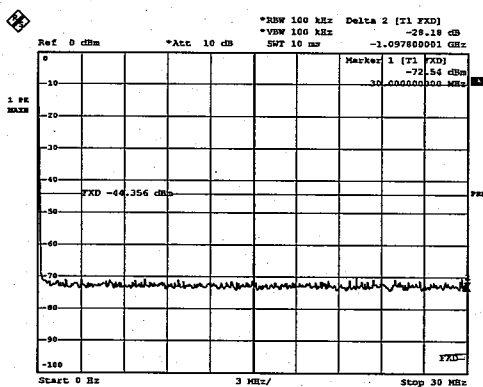
UL Apex Co., Ltd.
Head Office EMC Lab. No.3 Measurement Room

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MODEL : UGEA3A
S/N : 00000011
FCC ID : CWTUGEA3A
IC Number : -
POWER : DC3.6V
MODE : Tx (AMPS)

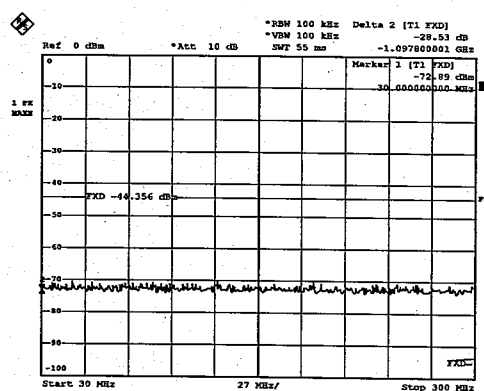
REPORT NO : 23HE0073-HO-1
REGULATION : Fcc Part 22 Section 22.917(a)
TEST METHOD : Fcc Part 2 Section 2.1051
TEST DISTANCE : -
DATE : 06/16/2003
TEMPERATURE : 22°C
HUMIDITY : 60%

Engineer : Hiroka Umeyama

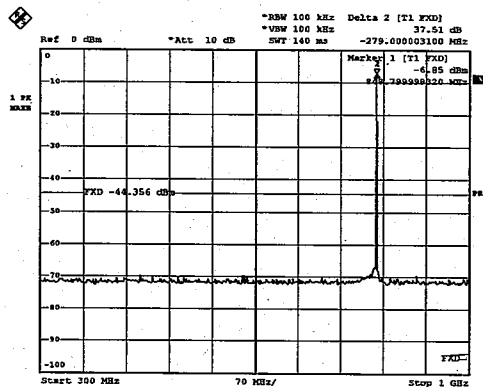
PK DETECT(S/A : RBW 100kHz ,VBW 100kHz, sweep time AUTO)
Limit Line = -13dBm - 30dB(Atten.) - 1.35dB (Cable Loss) = -44.35dBm
CH: High 848.97MHz



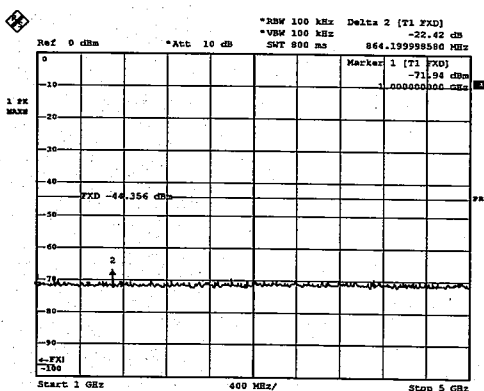
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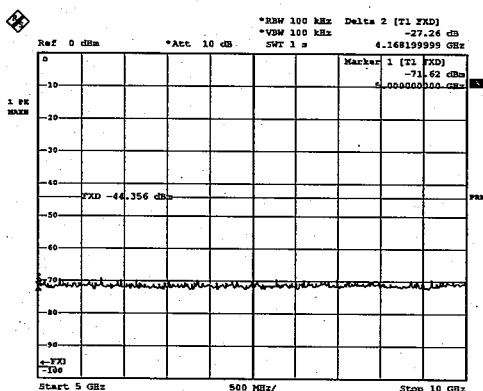
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DATA OF SPURIOUS EMISSION(CONDUCTED)

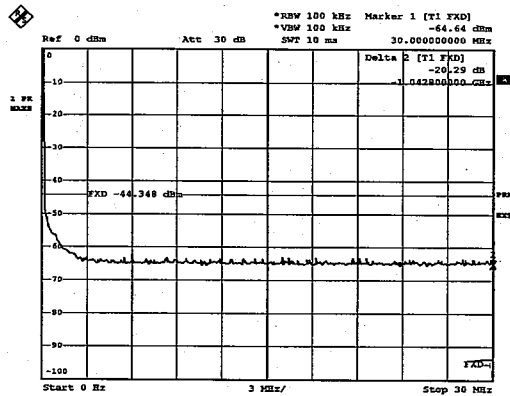
UL Apex Co., Ltd.
Head Office EMC Lab. No.3 Measurement Room

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)

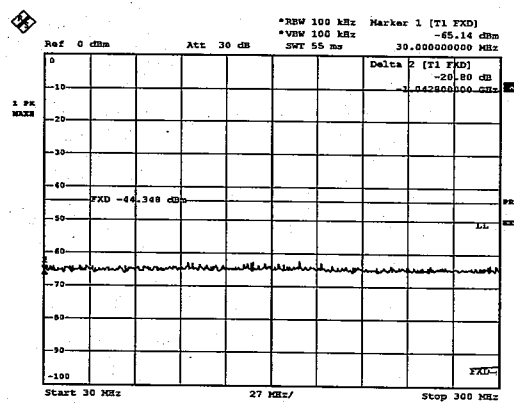
REPORT NO : 23HE0073-HO-1
REGULATION : Fcc Part 22 Section 22.917(a)
TEST METHOD : Fcc Part 2 Section 2.1051
TEST DISTANCE : -
DATE : 06/04/2003
TEMPERATURE : 25°C
HUMIDITY : 50%

Engineer : Hiroka Umeyama

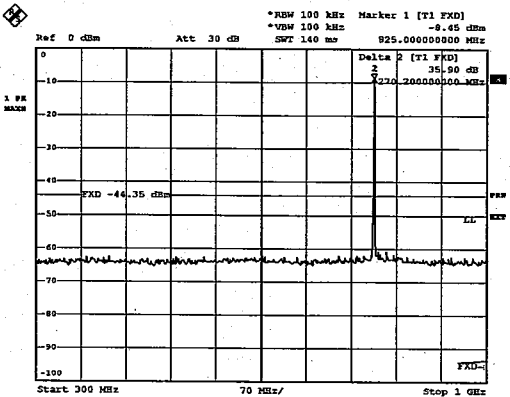
PK DETECT(S/A : RBW 100kHz, VBW 100kHz, sweep time AUTO)
Limit Line = -13dBm - 30dB(Atten.) - 1.35dB (Cable Loss) = -44.35dBm
CH: Low 824.7MHz



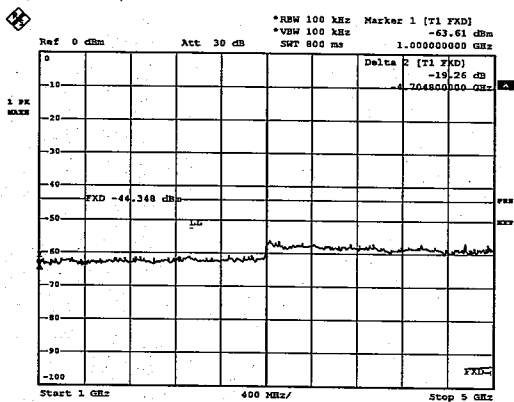
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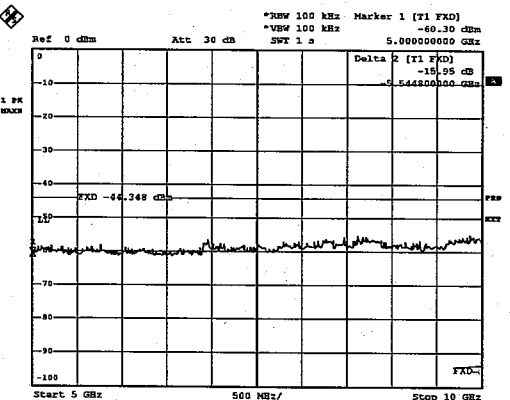
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Date: 4.JUN.2003 16:55:41

DATA OF SPURIOUS EMISSION(CONDUCTED)

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

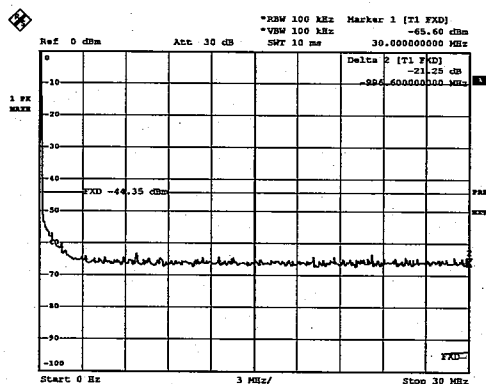
REPORT NO : 23HE0073-HO-1
REGULATION : Fcc Part 22 Section 22.917(a)
TEST METHOD : Fcc Part 2 Section 2.1051
TEST DISTANCE : -
DATE : 06/04/2003
TEMPERATURE : 25°C
HUMIDITY : 50%

Engineer : Hiroka Umeyama

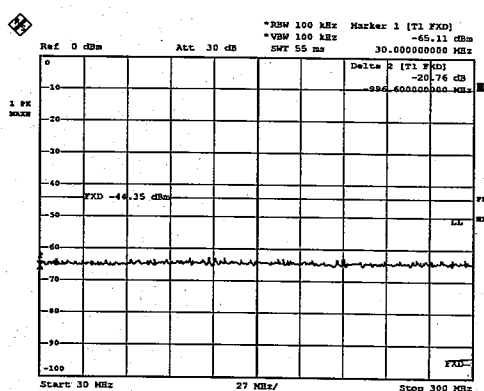
PK DETECT(S/A : RBW 100kHz, VBW 100kHz, sweep time AUTO)

Limit Line = -13dBm - 30dB(Atten.) - 1.35dB (Cable Loss) = -44.35dBm

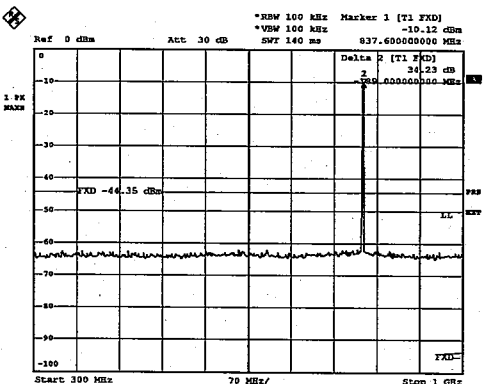
CH: Mid 836.5MHz



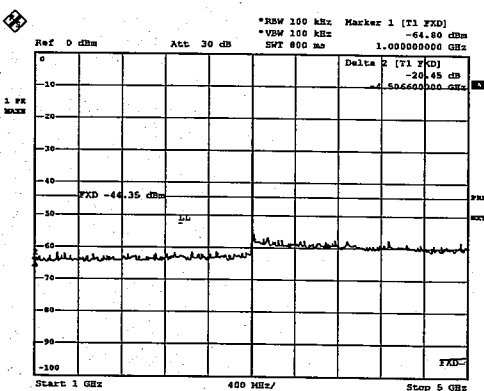
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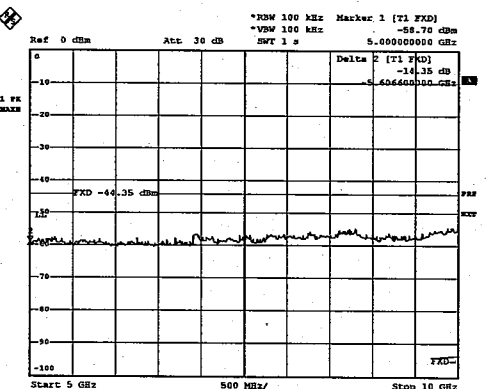
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Date: 4.JUN.2003 17:26:57

DATA OF SPURIOUS EMISSION(CONDUCTED)

UL Apex Co., Ltd.

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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)

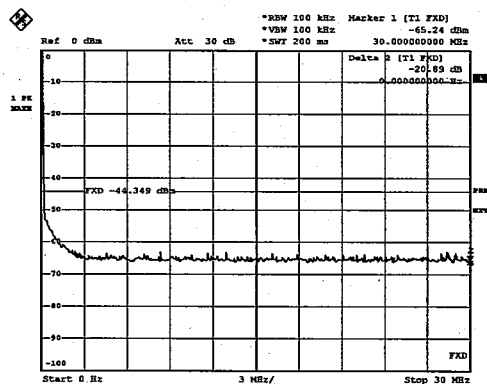
REPORT NO : 23HE0073-HO-1
REGULATION : Fcc Part 22 Section 22.917(a)
TEST METHOD : Fcc Part 2 Section 2.1051
TEST DISTANCE : -
DATE : 06/04/2003
TEMPERATURE : 25°C
HUMIDITY : 50%

Engineer : Hiroka Umeyama

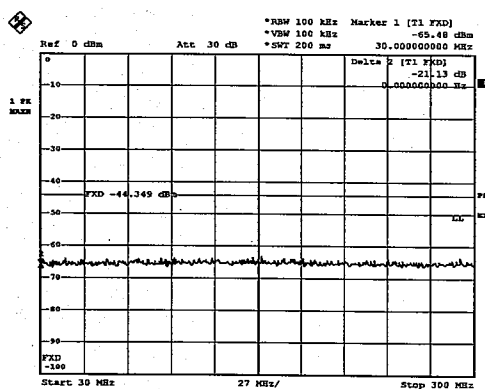
PK DETECT(S/A : RBW 100kHz, VBW 100kHz, sweep time AUTO)

Limit Line = -13dBm - 30dB(Atten.) - 1.35dB (Cable Loss) = -44.35dBm

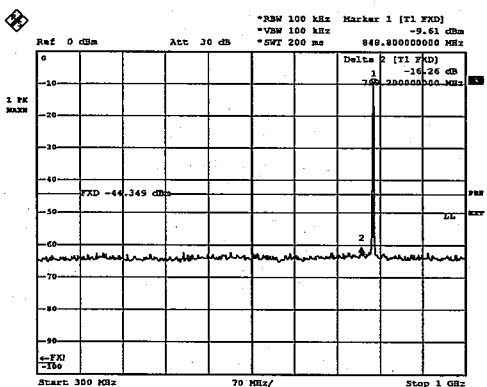
CH: High 848.3MHz



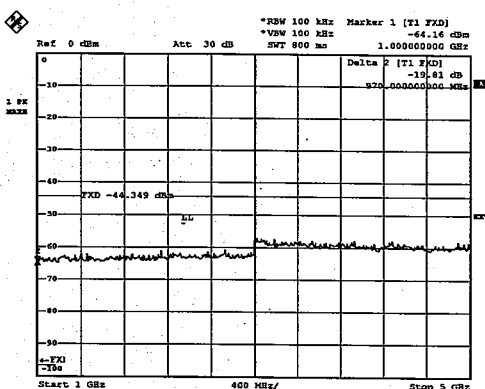
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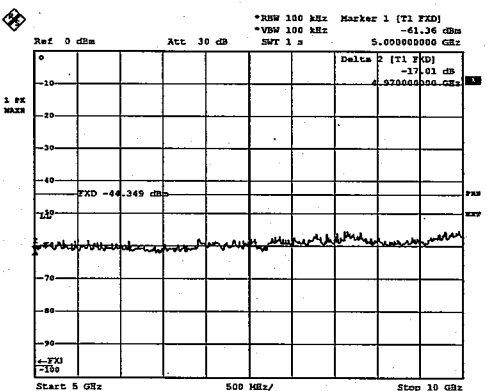
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Date: 4.JUN.2003 15:27:48



Date: 4.JUN.2003 15:28:29

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%

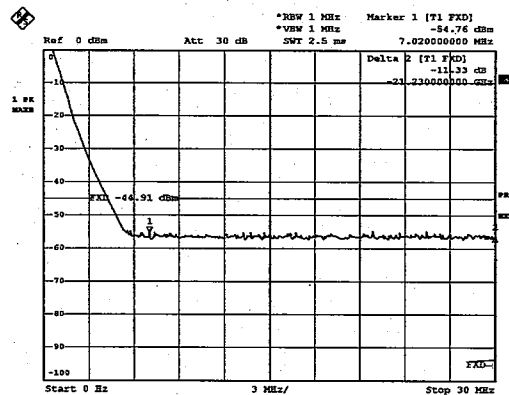
Engineer : Hiroka Umeyama

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

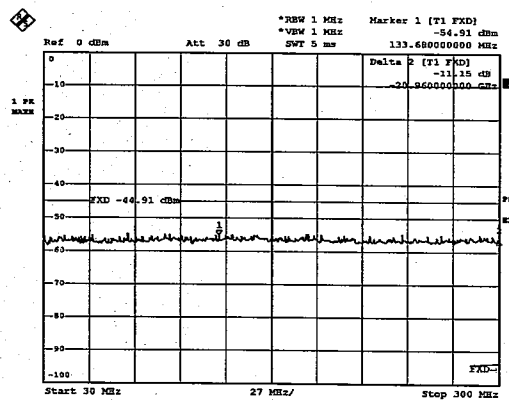
Limit Line = -13dBm - 30dB(Atten.) - 1.91dB (Cable Loss) = -44.91dBm : 0Hz-3GHz

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

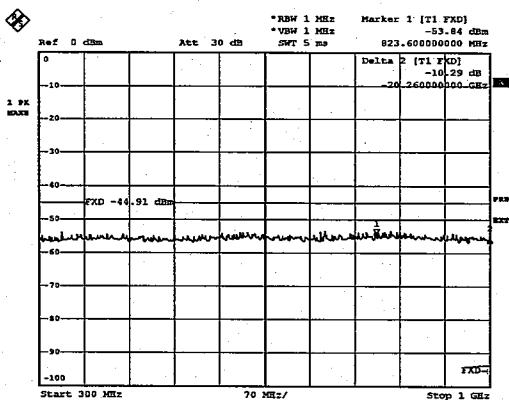
CH: Low 1851.25MHz



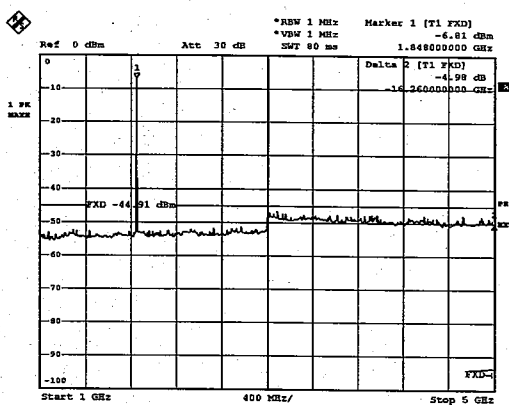
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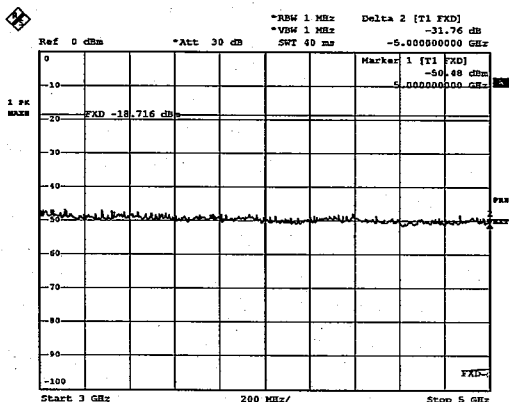
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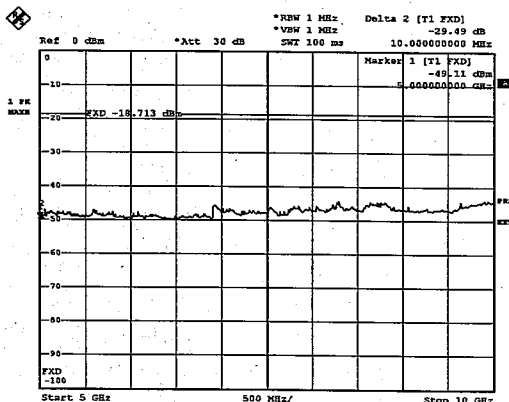
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Date: 6.JUN.2003 15:33:20



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



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

DATA OF SPURIOUS EMISSION(CONDUCTED)

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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%

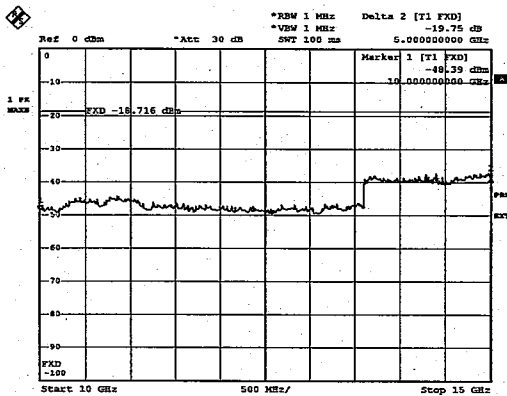
Engineer : 
Hiroka Umeyama

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

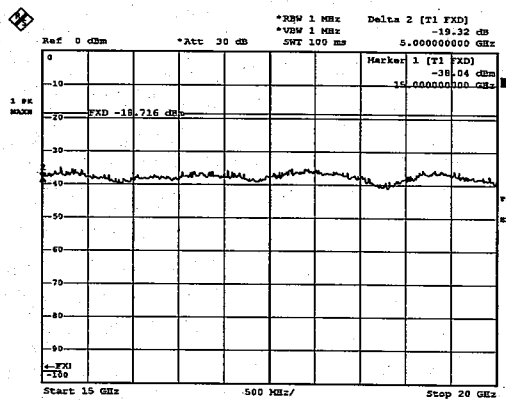
Limit Line = -13dBm - 30dB(Atten.) - 1.91dB (Cable Loss) = -44.91dBm : 0Hz-3GHz

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



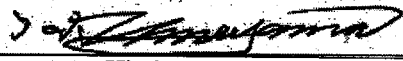
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DATA OF SPURIOUS EMISSION(CONDUCTED)

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MODE : Tx (PCS)

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REGULATION : Fcc Part 24 Section 24.238(a)
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TEST DISTANCE : -
DATE : 06/06/2003 and 06/09/2003
TEMPERATURE : 24°C and 24 °C
HUMIDITY : 39% and 58%

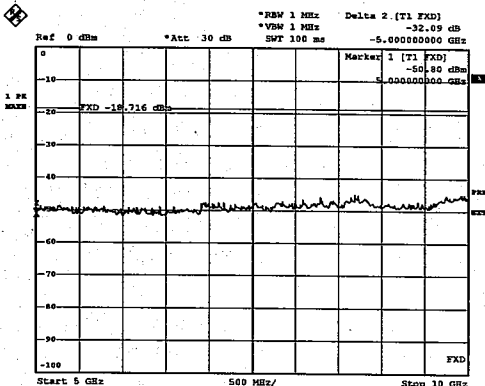
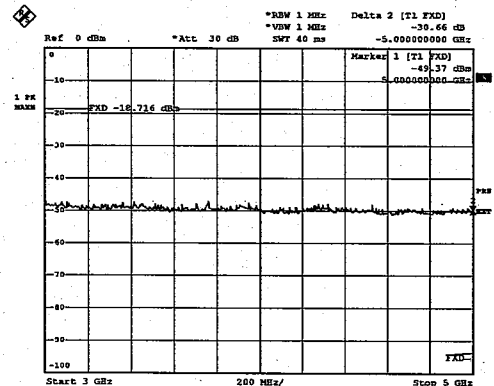
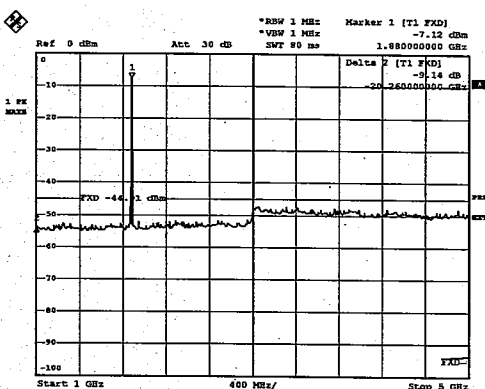
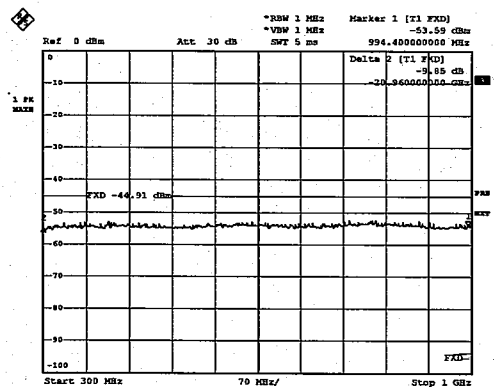
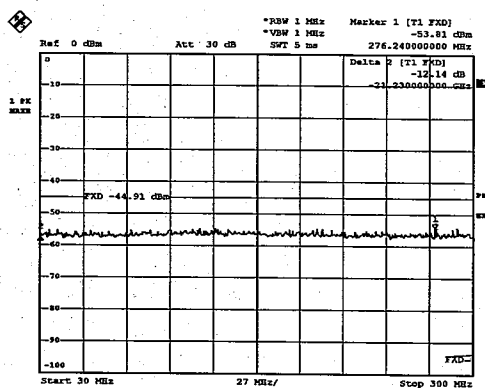
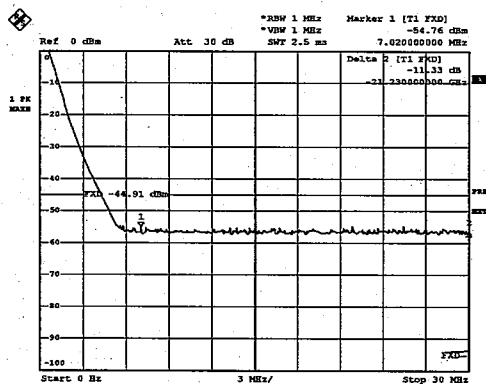
Engineer : 
Hiroka Umeyama

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



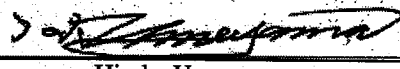
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POWER : DC3.6V
MODE : Tx (PCS)

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TEST DISTANCE : -
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TEMPERATURE : 24°C and 24 °C
HUMIDITY : 39% and 58%

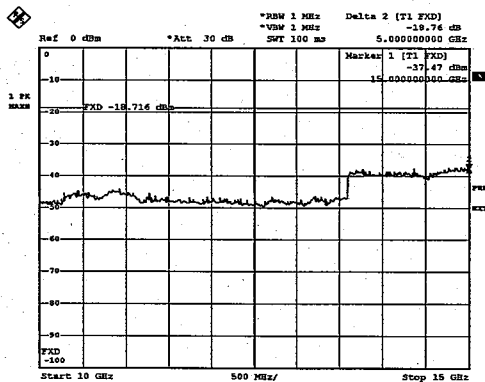
Engineer : 
Hiroka Umeyama

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

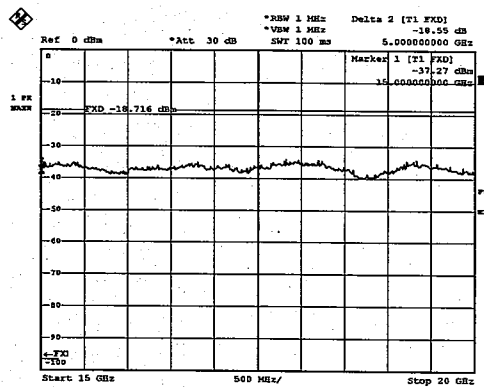
Limit Line = -13dBm - 30dB(Atten.) - 1.91dB (Cable Loss) = -44.91dBm : 0Hz-3GHz

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

CH: Mid 1880MHz



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



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

DATA OF SPURIOUS EMISSION(CONDUCTED)

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DATE : 06/06/2003 and 06/09/2003
TEMPERATURE : 24°C and 24 °C
HUMIDITY : 39% and 58%

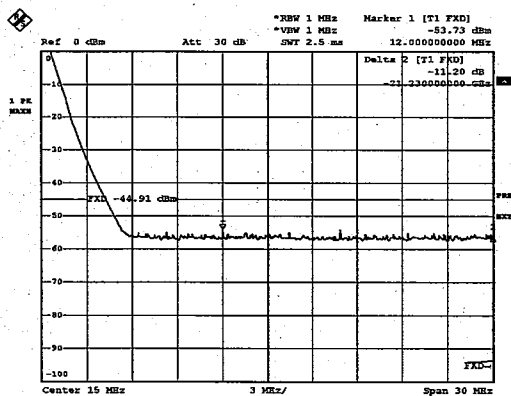
Engineer : Hiroka Umeyama

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

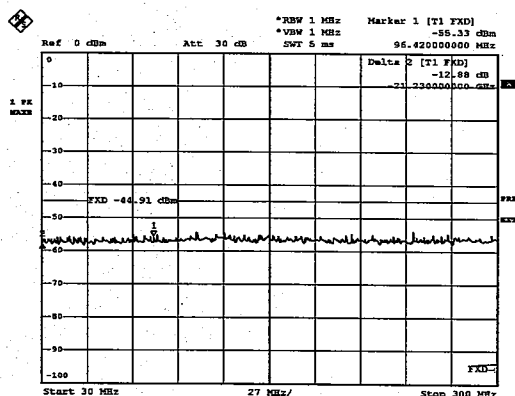
Limit Line = -13dBm - 30dB(Atten.) - 1.91dB (Cable Loss) = -44.91dBm : 0Hz-3GHz

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

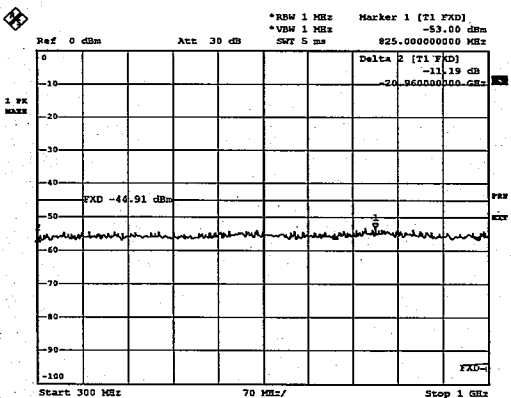
CH: High 1908.75MHz



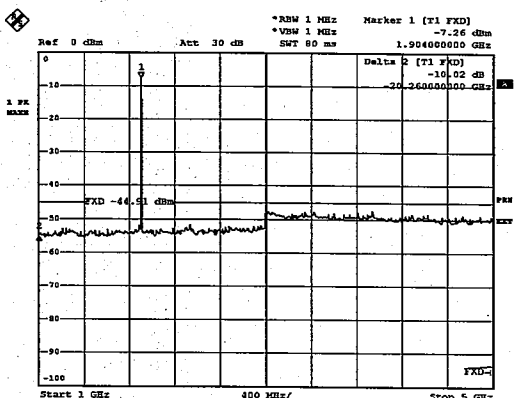
Date: 6.JUN.2003 15:46:27



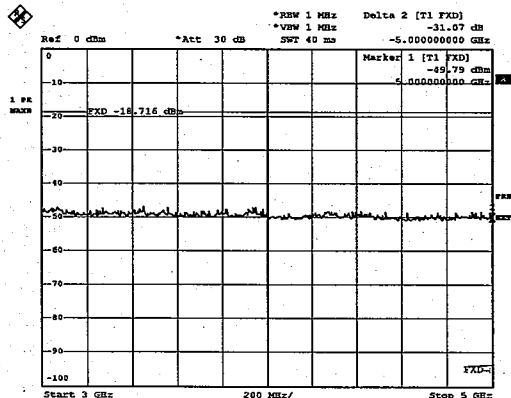
Date: 6.JUN.2003 15:47:10



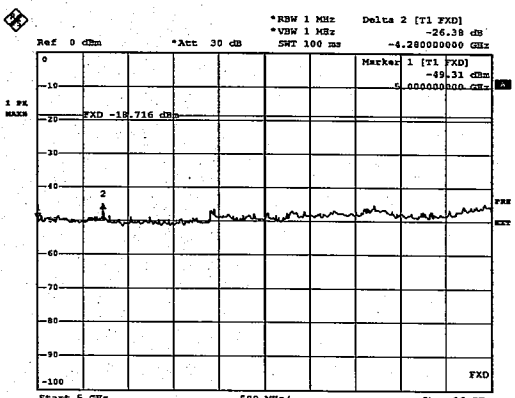
Date: 6.JUN.2003 15:48:36



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



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



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

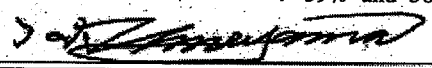
DATA OF SPURIOUS EMISSION(CONDUCTED)

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%

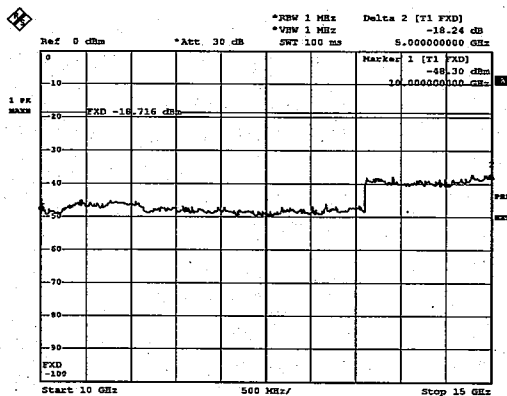
Engineer : 
Hiroka Umeyama

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

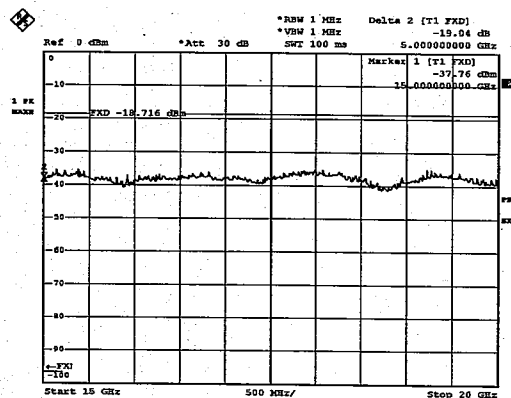
Limit Line = -13dBm - 30dB(Atten.) - 1.91dB (Cable Loss) = -44.91dBm : 0Hz-3GHz

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				HOR	VER		HOR	VER
		[dBm]					[dBm]			[dB]	
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.

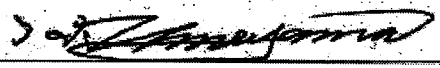
DATA OF SPURIOUS RADIATION TEST

UL Apex Co., Ltd.

Head Office EMC Lab. No.2 Semi Anechoic Chamber

COMPANY : ALPS Electric Co.,Ltd
 EQUIPMENT : CDMA data module
 MODEL : UGEA3A
 S/N : 00000012
 POWER : DC 3.6V
 MODE : Transmitting (AMPS) / 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	VER				HOR	VER		HOR	VER
		[dBm]					[dBm]			[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.

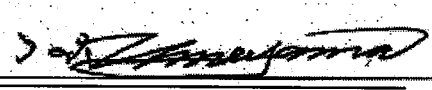
DATA OF SPURIOUS RADIATION TEST

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	VER				HOR	VER		HOR	VER
		[dBm]					[dBm]			[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.

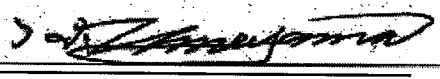
DATA OF SPURIOUS RADIATION TEST

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	VER				HOR	VER		HOR	VER
		[dBm]					[dBm]			[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.

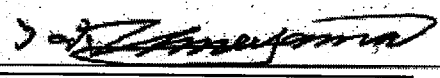
DATA OF SPURIOUS RADIATION TEST

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.

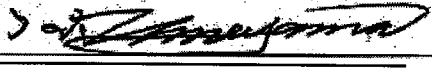
* The noise level was too low to detect.

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	VER				HOR	VER		HOR	VER
		[dBm]					[dBm]			[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
EQUIPMENT : CDMA data module
MODEL : UGEA3A
S/N : 00000013
FCC ID : CWTUGEA3A
IC Number : -
POWER : DC3.6V
MODE : Tx (AMPS) 836.52MHz

REPORT NO : 23HE0073-HO-1
REGULATION : Fcc Part 22 Section 22.355
TEST METHOD : Fcc Part 2 Section 2.1055(a)(1)and(b)
: Fcc Part 2 Section 2.1055(d)(1)and(b)
TEST DISTANCE : -
DATE : 06/06/2003
TEMPERATURE : 24°C
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
EQUIPMENT : CDMA data module
MODEL : UGEA3A
S/ N : 00000013
FCC ID : CWTUGEA3A
IC Number : -
POWER : DC3.6V
MODE : Tx (PCS) 1880.0MHz

REPORT NO : 23HE0073-HO- 1
REGULATION : Fcc Part 24 Section 24.235
TEST METHOD : Fcc Part 2 Section 2.1055(a)(1)and(b)
: Fcc Part 2 Section 2.1055(d)(1)and(b)
TEST DISTANCE : -
DATE : 06/06/2003
TEMPERATURE : 24°C
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
EQUIPMENT : CDMA data module
MODEL : UGEA3A
S/N : 00000013
FCC ID : CWTUGEA3A
IC Number : -
POWER : DC3.6V
MODE : Tx (CDMA) 836.5MHz

REPORT NO : 23HE0073-HO-1
REGULATION : Fcc Part 22 Section 22.355
TEST METHOD : Fcc Part 2 Section 2.1055(a)(1)and(b)
: Fcc Part 2 Section 2.1055(d)(1)and(b)
TEST DISTANCE : -
DATE : 06/06/2003
TEMPERATURE : 24°C
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	836.517398	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. [deg.C]	Volt. [V]	Frequency Reading [MHz]	Frequency Error [Hz]	Frequency Error [ppm]	Limit [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