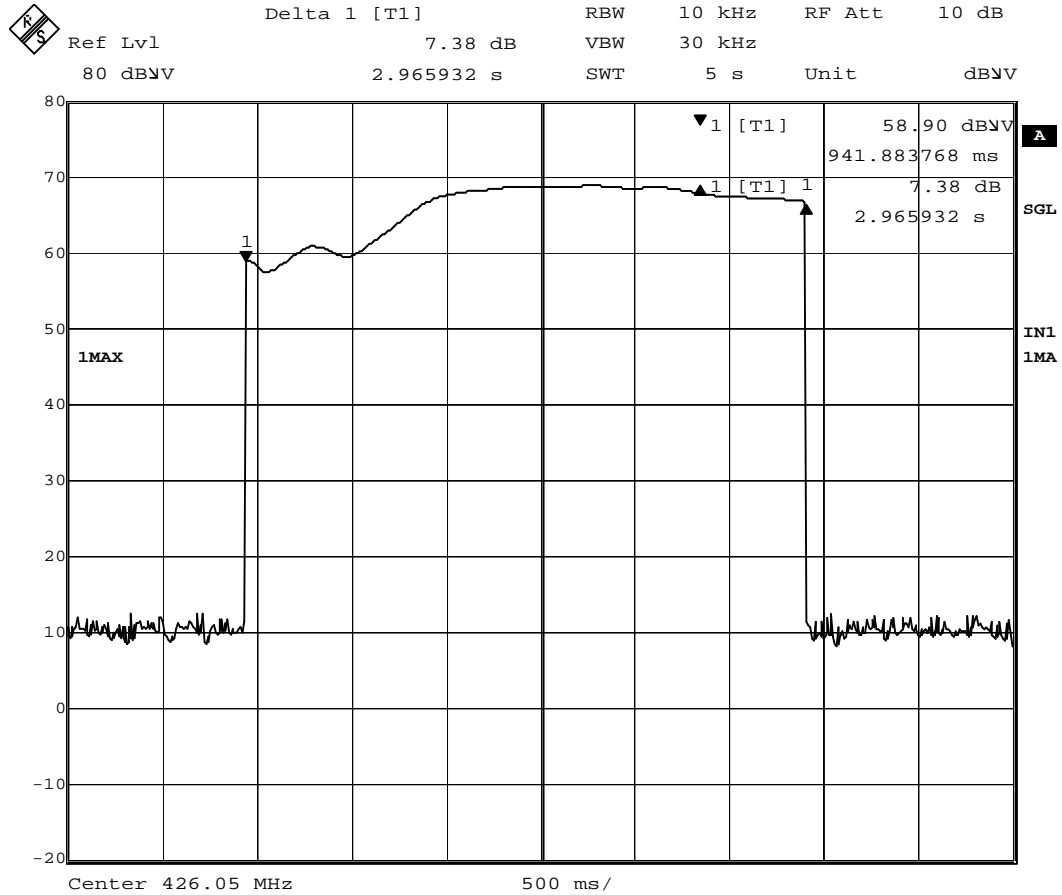


Automatically deactivate: FCC 15.231(a)(1)

COMPANY : Mitsubishi Cable Industries, LTD.
EQUIPMENT : Remote transmitter
MODEL NUMBER: PZ113-00021
SERIAL NUMBER: TPR0002
POWER : DC6V

UL Japan, Inc. Yamakita No.1 Anechoic Chamber
REPORT NO : 28KE0028-YK-B
REGULATION : Fcc Part15SubpartC 231(a)(1)
DATE : 2008/07/23
TEMP./HUMI : 23°C/67%
TEST MODE : Transmitting (426.05MHz)
ENGINEER : Tatsuya Arai

Time of Transmitting	Limit
[sec]	[sec]
2.966	5.00



Date: 23.JUL.2008 16:05:17

Date of carrier emissions

UL Japan, Inc.

YAMAKITA NO.1 ANECHOIC CHAMBER

Report No. : 28KE0028-YK-B

Company : Mitsubishi Cable Industries,LTD.

Equipment : Remote transmitter

Model : PZ113-00021

Sample No. : TPR0001

Power : DC 6V

Mode : Transmitting (426.05MHz)

Regulation : FCC Part15C Section 15.231(b)

Test Distance : 3m

Date : 2008/7/23

Temperature : 23deg.C

Humidity : 67%

ENGINEER : Tatsuya Arai

Below 1GHz PK DETECT(Test Receiver: BW 120kHz)

No.	FREQ [MHz]	READING		ANT Factor [dB]	AMP GAIN [dB]	CABLE LOSS [dB]	ATTEN [dB]	RESULT		LIMIT [dBuV/m]	MARGIN	
		HOR	VER					HOR	VER		HOR	VER
		[dBuV]						[dBuV/m]			[dB]	
1	426.05	74.8	73.9	17.5	27.2	4.6	6.0	75.7	74.8	80.5	4.8	5.7

DATA OF RADIATION TEST

UL Japan, Inc.

YAMAKITA No.1 ANECHOIC CHAMBER

Report No. : 28KE0028-YK-B

Applicant : Mitsubishi Cable Industries, LTD.
Kind of Equipment : Remote transmitter
Model No. : PZ113-00021
Serial No. : TPR0001
Power : DC6V
Mode : Transmitting (426.05MHz)
Remarks : PK
Date : 7/23/2008
Test Distance : 3 m
Temperature : 23 °C
Humidity : 67 %
Regulation : FCC Part15C § 15.209

Engineer : Tatsuya Arai

No.	FREQ. [MHz]	ANT TYPE	READING		ANT FACTOR [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT		LIMITS [dB μ V/m]	MARGIN	
			HOR [dB μ V]	VER [dB μ V]					HOR [dB μ V/m]	VER [dB μ V/m]		HOR [dB]	VER [dB]
1.	852.10	BB	30.5	30.0	21.8	27.2	6.9	6.1	38.1	37.6	46.0	7.9	8.4

CALCULATION: READING + ANT.FACTOR + CABLE LOSS - AMP.GAIN + ATTEN.

■ ANTENNA : KBA-03 (BBA9106) 30-299.99MHz / KLA-03 (USLP9143) 300-1000MHz
■ CABLE : KCC-30/31/32/34 ■ PREAMP : KAF-08 (MH648A) ■ EMI RECEIVER : KTR-01 (ESI40)

DATA OF RADIATION TEST

UL Japan, Inc.

YAMAKITA No.1 ANECHOIC CHAMBER

Report No. : 28KE0028-YK-B

Applicant : Mitsubishi Cable Industries, LTD.
 Kind of Equipment : Remote transmitter
 Model No. : PZ113-00021
 Serial No. : TPR0001
 Power : DC6V
 Mode : Transmitting (426.05MHz)
 Remarks : PK (RBW:1MHz, VBW:1MHz)
 Date : 7/24/2008
 Test Distance : 3 m
 Temperature : 24 °C
 Humidity : 67 %
 Regulation : FCC Part15C § 15.209 (PK Detection)

Engineer : Tatsuya Arai

No.	FREQ. [MHz]	ANT TYPE	READING		ANT FACTOR [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT		LIMITS [dB μV/m]	MARGIN	
			HOR [dB μV]	VER [dB μV]					HOR [dB μV/m]	VER [dB μV/m]		HOR [dB]	VER [dB]
1.	1278.15	BB	46.0	45.6	24.3	38.2	3.6	0.0	35.7	35.3	74.0	38.3	38.7
2.	1704.20	BB	46.4	47.1	26.9	37.4	4.2	0.0	40.1	40.8	74.0	33.9	33.2
3.	2130.25	BB	45.5	46.0	29.1	37.2	4.7	0.0	42.1	42.6	74.0	31.9	31.4
4.	2556.30	BB	45.0	44.5	28.5	37.2	5.1	0.0	41.4	40.9	74.0	32.6	33.1
5.	2982.35	BB	45.0	45.1	29.9	37.3	5.6	0.0	43.2	43.3	74.0	30.8	30.7
6.	3408.40	BB	45.1	45.0	30.1	37.0	5.9	0.0	44.1	44.0	74.0	29.9	30.0
7.	3834.45	BB	44.6	44.3	30.9	36.8	6.4	0.0	45.1	44.8	74.0	28.9	29.2
8.	4260.50	BB	43.1	43.9	31.6	36.6	6.7	0.0	44.8	45.6	74.0	29.2	28.4

CALCULATION: READING + ANT. FACTOR + CABLE LOSS - AMP. GAIN + ATTEN.

■ ANTENNA: KHA-01 (SAS-200 571) 1-18GHz

■ CABLE: KCC-D18/D19 ■ PREAMP: KAF-02 (8449B) ■ EMI RECEIVER: KTR-01 (ES140)

DATA OF RADIATION TEST

UL Japan, Inc.

YAMAKITA No.1 ANECHOIC CHAMBER

Report No. : 28KE0028-YK-B

Applicant : Mitsubishi Cable Industries, LTD.
 Kind of Equipment : Remote transmitter
 Model No. : PZ113-00021
 Serial No. : TPR0001
 Power : DC6V
 Mode : Transmitting (426.05MHz)
 Remarks : AV (RBW:1MHz, VBW:10Hz)
 Date : 7/24/2008
 Test Distance : 3 m
 Temperature : 24 °C
 Humidity : 67 %
 Regulation : FCC Part15C § 15.209 (AV Detection)

Engineer : Tatsuya Arai

No.	FREQ. [MHz]	ANT TYPE	READING		ANT FACTOR [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT		LIMITS [dB μV/m]	MARGIN	
			HOR [dB μV]	VER [dB μV]					HOR [dB μV/m]	VER [dB μV/m]		HOR [dB]	VER [dB]
1.	1278.15	BB	32.6	32.7	24.3	38.2	3.6	0.0	22.3	22.4	54.0	31.7	31.6
2.	1704.20	BB	33.2	36.7	26.9	37.4	4.2	0.0	26.9	30.4	54.0	27.1	23.6
3.	2130.25	BB	32.0	31.5	29.1	37.2	4.7	0.0	28.6	28.1	54.0	25.4	25.9
4.	2556.30	BB	31.3	31.3	28.5	37.2	5.1	0.0	27.7	27.7	54.0	26.3	26.3
5.	2982.35	BB	31.3	31.2	29.9	37.3	5.6	0.0	29.5	29.4	54.0	24.5	24.6
6.	3408.40	BB	32.1	32.3	30.1	37.0	5.9	0.0	31.1	31.3	54.0	22.9	22.7
7.	3834.45	BB	30.6	30.7	30.9	36.8	6.4	0.0	31.1	31.2	54.0	22.9	22.8
8.	4260.50	BB	30.0	30.3	31.6	36.6	6.7	0.0	31.7	32.0	54.0	22.3	22.0

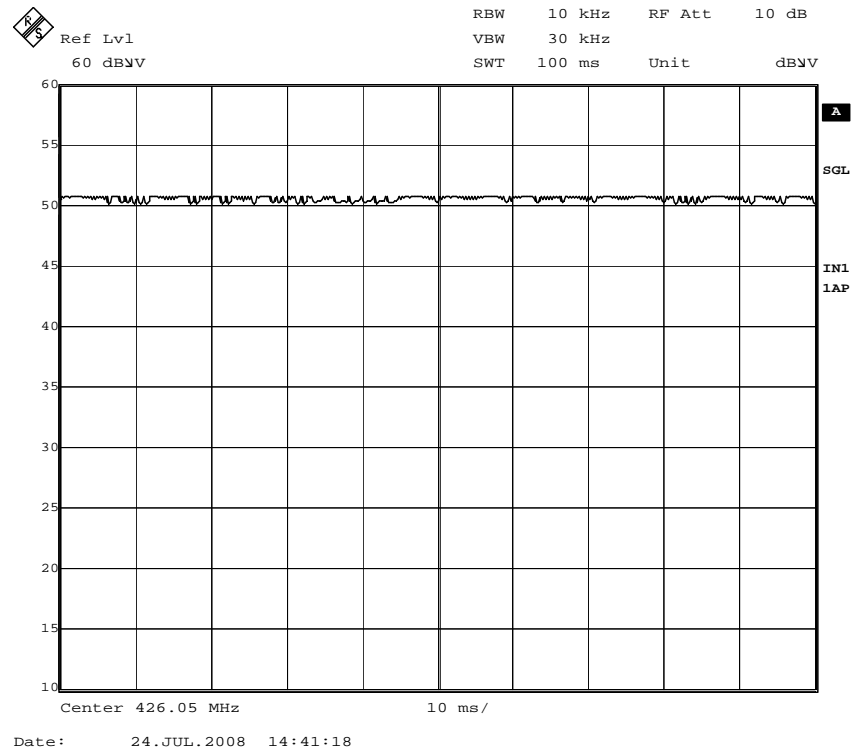
CALCULATION: READING + ANT. FACTOR + CABLE LOSS - AMP. GAIN + ATTEN.

■ ANTENNA: KHA-01 (SAS-200 571) 1-18GHz

■ CABLE: KCC-D18/D19 ■ PREAMP: KAF-02 (8449B) ■ EMI RECEIVER: KTR-01 (ES140)

Duty Cycle

COMPANY	: Mitsubishi Cable Industries, LTD.	REPORT NO	: 28KE0028-YK-B
EQUIPMENT	: Remote transmitter	DATE	: 2008/7/23
MODEL NUMBER	: PZ113-00021	TEMP./HUMI	: 23deg.C./67%
SERIAL NUMBER	: TPR0001	TEST MODE	: Transmitting
POWER	: DC6V	ENGINEER	: Tatsuya Arai



Duty: $20\log_{10}(\text{ON time} / \text{Cicle})$
Duty: $20\log_{10}(100\text{ms} / 100\text{ms}) = 0$
AV Detector VBW → 10Hz

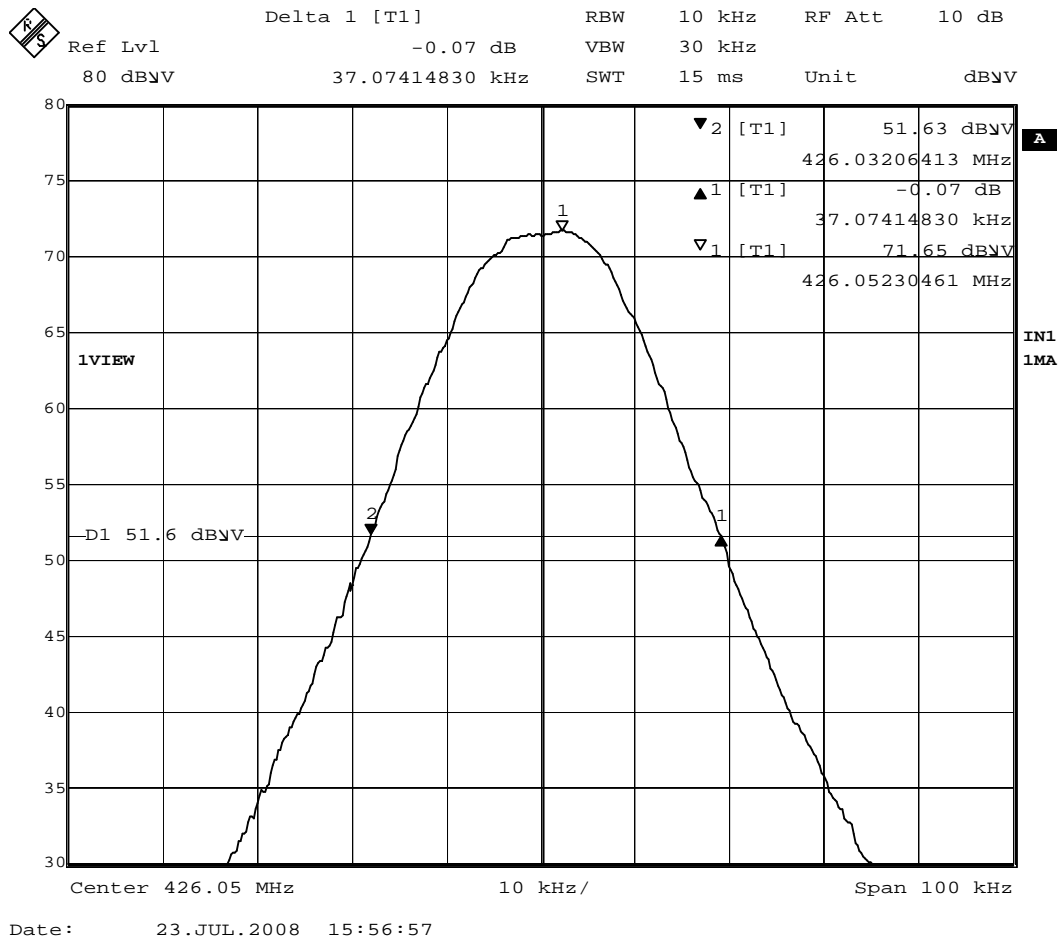
-20dB Bandwidth: FCC 15.231(c)

COMPANY : Mitsubishi Cable Industries, LTD.
EQUIPMENT : Remote transmitter
MODEL NUMBER: PZ113-00021
SERIAL NUMBER: TPR0002
POWER : DC6V

UL Japan, Inc. Yamakita No.1 Anechoic Chamber
REPORT NO : 28KE0028-YK-B
REGULATION : Fcc Part15SubpartC 231(c)
DATE : 2008/07/23
TEMP./HUMI : 23°C/67%
TEST MODE : Transmitting (462.05MHz)
ENGINEER : Tatsuya Arai

Bandwidth Limit : fundamental Frequency 426.05MHz X 0.25%= 1065.125 kHz

-20dB Bandwidth	Bandwidth Limit	Result
[kHz]	[kHz]	
37.074	1065.125	Pass

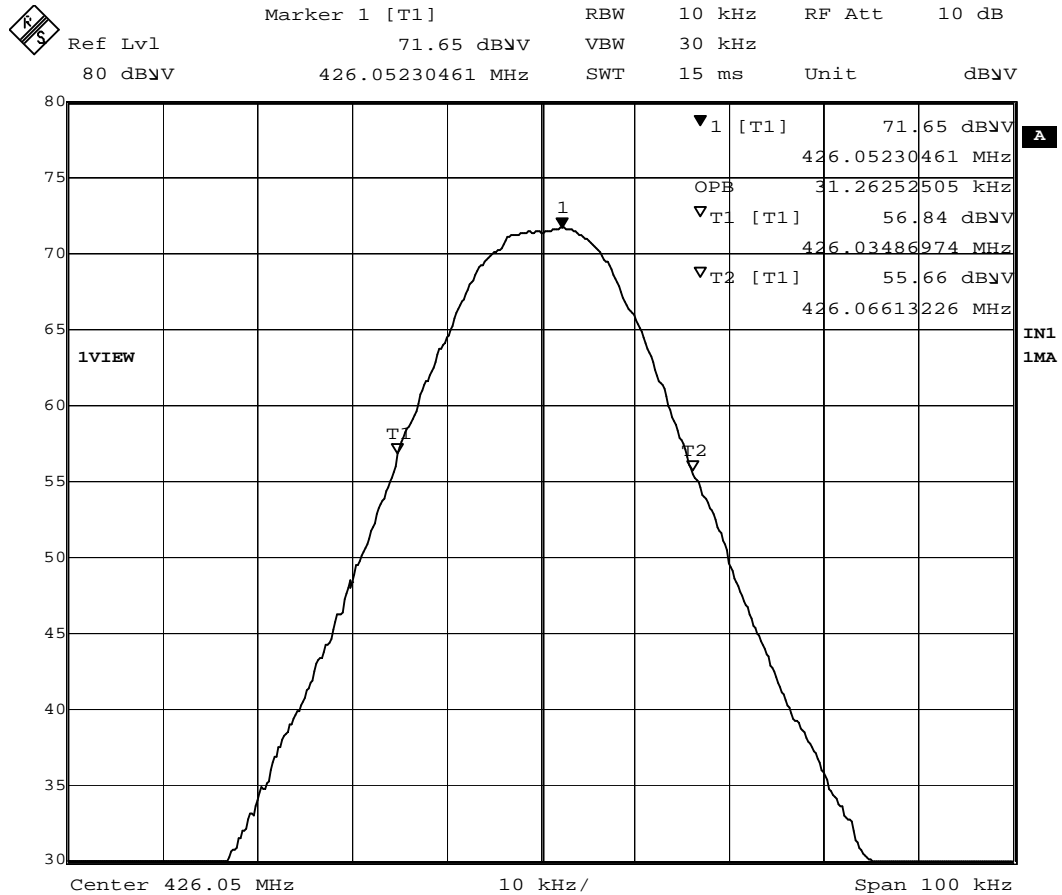


Occupied Bandwidth(99%)

COMPANY : Mitsubishi Cable Industries, LTD.
EQUIPMENT : Remote transmitter
MODEL NUMBER: PZ113-00021
SERIAL NUMBER: TPR0002
POWER : DC6V

UL Japan, Inc. Yamakita No.1 Anechoic Chamber
REPORT NO : 28KE0028-YK-B
DATE : 2008/07/23
TEMP./HUMI : 23°C/67%
TEST MODE : Transmitting (462.05MHz)
ENGINEER : Tatsuaya Arai

99% Occupied Bandwidth
[kHz]
31.26kHz



Date: 23.JUL.2008 15:53:25

APPENDIX 3 Test Instruments

EMI test equipment

Control No.	Instrument	Manufacturer	Model No	Test Item	Calibration Date * Interval(month)
YA-RE	Radiated emission(software)	UL Japan	RE(Ver.1.5)	RE	-
KAEC-01	Anechoic Chamber	JSE	Semi 3m	RE	2007/08/26 * 12
KAF-08	Pre Amplifier	Anritsu	MH648A	RE	2008/06/03 * 12
KAT6-01	Attenuator	INMET	18N-6dB	RE	2008/03/17 * 12
KBA-03	Biconical Antenna	Schwarzbeck	BBA9106	RE	2007/12/27 * 12
KCC-30/31/32 /34/KRM-03	Coaxial Cable/RF Relay Matrix	Fujikura/Suhner/TSJ	5D-2W/S04272B/RFM- E421	RE	2008/05/12 * 12
KLA-03	Logperiodic Antenna	Schwarzbeck	USLP9143	RE	2007/12/27 * 12
KOS-02	Humidity Indicator	Custom	CTH-190	RE	2008/07/07 * 12
KSA-09	Spectrum Analyzer	Advantest	R3265	RE	2008/07/07 * 12
KTR-01	Test Receiver	Rohde & Schwarz	ES140	RE, BW, AD	2008/04/18 * 12
KJM-07	Measure	KOMELON	KMC-36	RE	-
KSCA-01	Search coil	TSJ	SC01	BW, AD	Pre Check
KCC-A7	Coaxial Cable	Fujikura	5D-2W	BW, AD	2007/11/01 * 12
KAF-02	Pre Amplifier	Hewlett Packard	8449B	RE	2008/04/11 * 12
KCC-D18/D19	Coaxial cable	Suhner	SCOFLEX104	RE	2008/07/07 * 12
KHA-01	Horn Antenna	A.H.Systems	SAS-200/571	RE	2007/08/14 * 12

The expiration date of the calibration is the end of the expired month .

All equipment is calibrated with traceable calibrations . Each calibration is traceable to the national or international standards .

Test Item :

RE: Radiated Emission
AD: Automatically disactivate
BW: Bandwidth