

Attachment B

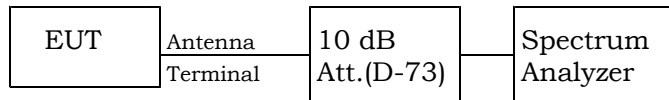
Antenna Conducted Spurious Emission Measurement (§2.1051,§24.238)

Test Procedure :

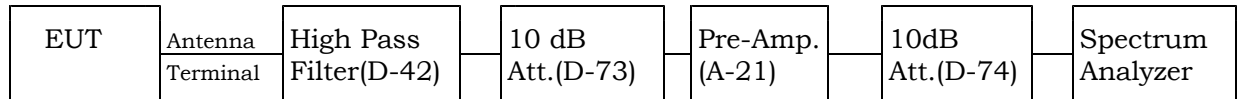
The Antenna Conducted Emission was measured with a spectrum analyzer. The test system is shown as follows:

PCS1900

- 1) Frequency Range : 9kHz - 2.2GHz



- 2) Frequency Range : 2.2GHz -5.8GHz



- 3) Frequency Range : 5.8GHz - 20GHz

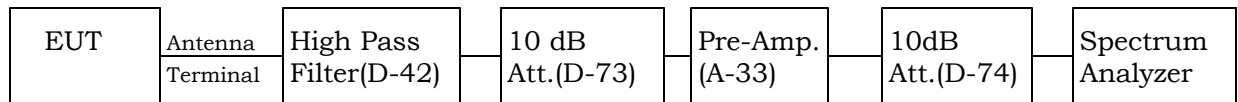


Fig.2 Antenna Conducted Spurious Emission Measurement

The setting of the spectrum analyzer are shown as follows :

Frequency Range	9 kHz - 30 MHz	30 MHz - 20 GHz
Res. Bandwidth	10 kHz	1 MHz
Video Bandwidth	30 kHz	3 MHz
Sweep Time	AUTO	AUTO
Trace	Maxhold	Maxhold

JQA Application No.: KL80040153R
Model No. : GX25
FCC ID : APYHRO00036

Regulation : CFR 47 FCC Rules Part 24
Issue Date : September 2, 2004

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Test location :

KITA-KANSAI Testing Center

7-7, Ishimaru, 1-Chome, Mino-Shi, Osaka, 562-0027, Japan

● - Shielded room

KAMEOKA EMC Branch

9-1, Ozaki, Inukanno, Nishibetsuin-Cho, Kameoka-Shi, Kyoto, 621-0126, Japan

○ - Shielded room

Used test instruments:

Model No.	Device ID	Last Cal. Date	Cal. Interval
○ - MP721C	D - 66		
● - 4T-10	D - 73	May, 2004	1 Year
● - 4T-10	D - 74	May, 2004	1 Year
○ - 2-10	D - 79		
○ - 2-10	D - 80		
○ - WJ-6611-513	A - 23		
● - WJ-6882-824	A - 21	May, 2004	1 Year
● - DBL-0618N515	A - 33	May, 2004	1 Year
● - UHP-127	D - 42	May, 2004	1 Year
○ - UHP-128	D - 43		
● - 8566B	A - 13	March, 2004	1 Year
○ - 8593A	A - 15		

Environmental conditions:

Temperature: 23 °C Humidity: 58 %

Antenna-Conducted Spurious Emission Measurement (PCS 1900 MHz Band)

Test Date: July 23, 2004
Temp.: 23 °C, Humi: 58 %

CH	Transmitting Frequency [MHz]	Measured Frequency [MHz]	Corr. Factor [dB]	Meter Readings [dBm]	Limits [dBm]	Results [dBm]	Margin [dB]	Remarks
512	1850.200	3700.400	-20.0	-41.8	-13.0	-61.8	+48.8	C
		3855.100	-20.0	-42.9	-13.0	-62.9	+49.9	C
		5550.600	-20.1	-31.9	-13.0	-52.0	+39.0	C
		7400.800	-17.7	-54.9	-13.0	-72.6	+59.6	C
		9251.000	-17.4	-43.7	-13.0	-61.1	+48.1	C
		11101.200	-16.0	-43.0	-13.0	-59.0	+46.0	C
		12951.400	-15.9	-42.1	-13.0	-58.0	+45.0	C
		14801.600	-16.1	-49.9	-13.0	-66.0	+53.0	C
661	1880.000	3760.000	-19.8	-38.1	-13.0	-57.9	+44.9	C
		3919.400	-19.8	-43.7	-13.0	-63.5	+50.5	C
		5640.000	-19.9	-29.5	-13.0	-49.4	+36.4	C
		7520.000	-17.1	-53.9	-13.0	-71.0	+58.0	C
		9400.000	-17.4	-43.8	-13.0	-61.2	+48.2	C
		11280.000	-15.1	-43.3	-13.0	-58.4	+45.4	C
		13160.000	-15.1	-43.5	-13.0	-58.6	+45.6	C
		15040.000	-16.1	-46.7	-13.0	-62.8	+49.8	C
810	1909.800	3819.600	-20.0	-30.9	-13.0	-50.9	+37.9	C
		3976.100	-20.0	-43.4	-13.0	-63.4	+50.4	C
		5729.400	-19.9	-29.2	-13.0	-49.1	+36.1	C
		7639.200	-17.0	-56.0	-13.0	-73.0	+60.0	C
		9549.000	-16.7	-47.8	-13.0	-64.5	+51.5	C
		11458.800	-16.2	-42.5	-13.0	-58.7	+45.7	C
		13368.600	-15.2	-47.1	-13.0	-62.3	+49.3	C
		15278.400	-15.9	-49.2	-13.0	-65.1	+52.1	C

Sample of calculated result at 5729.4 MHz, as the Minimum Margin point:

$$\begin{array}{rcl} \text{Corr. Factor} & = & -19.9 \text{ dB} \\ +) \text{ Meter Reading} & = & -29.2 \text{ dB}(\mu\text{V}) \\ \hline \text{Result} & = & -49.1 \text{ dB}(\mu\text{V}) \end{array}$$

Minimum Margin: $-13.0 - (-49.1) = 36.1 \text{ (dB)}$

The point shown on “ _____ ” is the Minimum Margin Point.

Applied Limits:

$$-13.0 \text{ [dBm]} = 10\log(\text{TP[mW]}) - (43 + 10\log(\text{tp[W]})) = 10\log(\text{TP[mW]}) - (43 + (10 \log(\text{TP[mW]}) - 30))$$

where $\text{tp[W]} = \text{TP[mW]} / 1000$: Transmitter power at antenna terminal

$$10\log(\text{tp[W]}) = 10\log(\text{TP[mW]}) - 30$$

Correction factor details:

Cable Loss + 10dB Pad Att. [dB] (9 kHz - 2.2 GHz)

Cable Loss + 20dB Pad Att. + High Pass Filter Loss (D-42) - Pre-Amp. Gain [dB] (over 5.8 GHz)

- Note: 1) The spectrum was scanned 9 kHz to 20 GHz and all emissions not reported were more than 20 dB below the applied limits.
2) The spectrum analyzer displays were printed out in Attachment B.

Remarks:

	Detector Function	RES B.W.	V.B.W.	Sweep Time
A	Peak	10 kHz	30 kHz	20 msec.
B	Peak	100 kHz	300 kHz	20 msec.
C	Peak	1 MHz	3 MHz	20 msec.

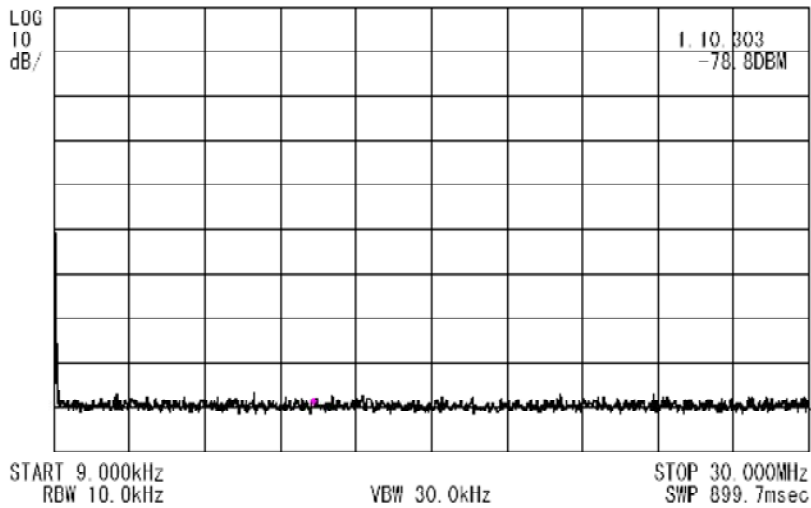
Tester : Shigeru Kinoshita

Antenna Conducted Spurious Emission Measurement

Transmitting Frequency : 1850.200 MHz (512 ch)
Frequency Range : 9kHz - 30 MHz

Antenna Conducted Spurious PCS1900
1850.2MHz (512ch) 9kHz-30MHz
REF 10.0 DBM ATT 20dB

2004/07/23 15:48:11

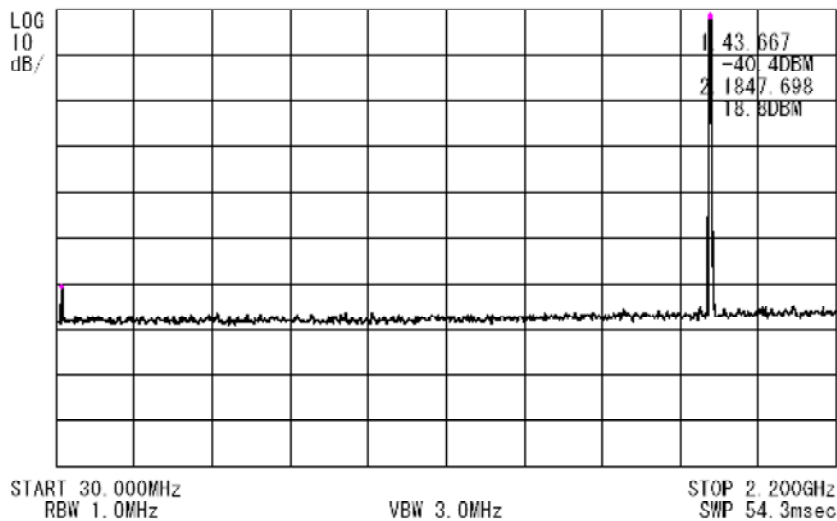


Antenna Conducted Spurious Emission Measurement

Transmitting Frequency : 1850.200 MHz (512 ch)
Frequency Range : 30MHz - 2.2GHz

Antenna Conducted Spurious PCS1900
1850.2MHz (512ch) 30MHz-2.2GHz
REF 20.0 DBM ATT 30dB

2004/07/23 15:56:03

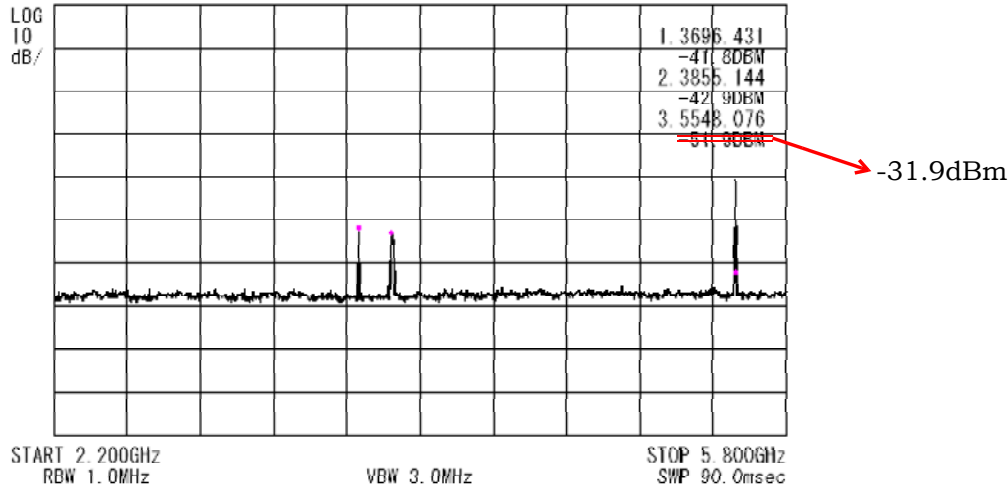


Antenna Conducted Spurious Emission Measurement

Transmitting Frequency : 1850.200 MHz (512 ch)
Frequency Range : 2.2GHz - 5.8GHz

Antenna Conducted Spurious PCS1900
1850.2MHz(512ch) 2.2GHz-5.8GHz
REF 10.0 DBM ATT 20dB

2004/07/23 17:43:49

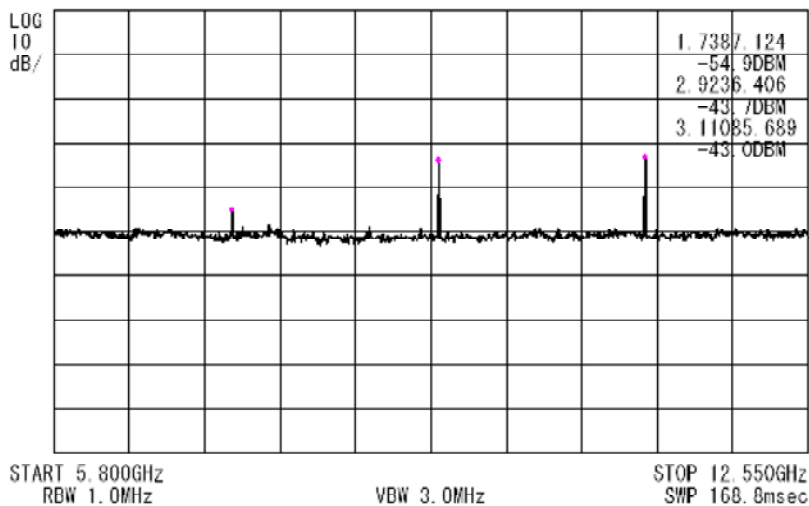


Antenna Conducted Spurious Emission Measurement

Transmitting Frequency : 1850.200 MHz (512 ch)
Frequency Range : 5.8GHz - 12.55GHz

Antenna Conducted Spurious PCS1900
1850.2MHz(512ch) 5.8GHz-12.55GHz
REF -10.0 DBM ATT 10dB

2004/07/23 18:13:01



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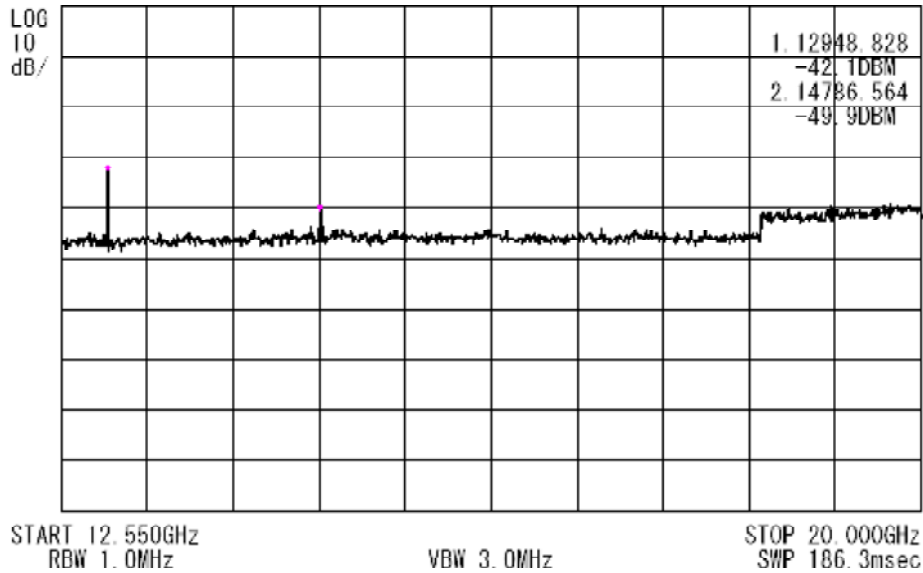
Antenna Conducted Spurious Emission Measurement

Transmitting Frequency : 1850.200 MHz (512 ch)
Frequency Range : 12.55GHz - 20.0GHz

Antenna Conducted Spurious PCS1900
1850.2MHz (512ch) 12.55GHz-20GHz

2004/07/23 18:41:13

REF -10.0 DBM ATT 10dB



Antenna Conducted Spurious Emission Measurement

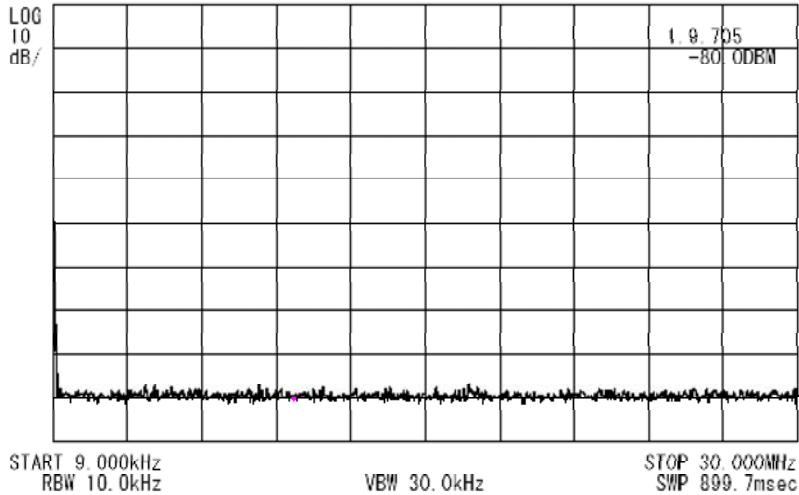
Transmitting Frequency : 1880.000 MHz (661 ch)

Frequency Range : 9kHz - 30 MHz

Antenna Conducted Spurious PCS1900
1880.0MHz(661ch) 9kHz-30MHz

2004/07/23 15:48:11

REF 10.0 DBM ATT 20dB



Antenna Conducted Spurious Emission Measurement

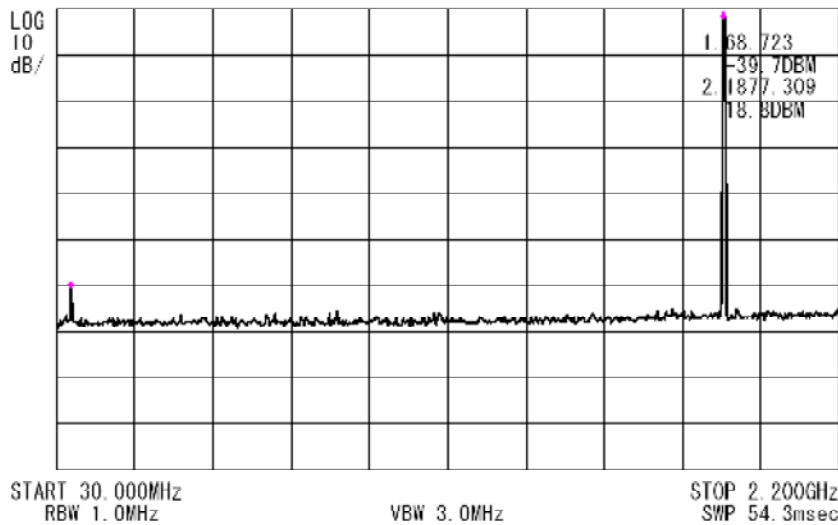
Transmitting Frequency : 1880.000 MHz (661 ch)

Frequency Range : 30MHz - 2.2GHz

Antenna Conducted Spurious PCS1900
1880.0MHz(661ch) 30MHz-2.2GHz

2004/07/23 16:00:06

REF 20.0 DBM ATT 30dB



Antenna Conducted Spurious Emission Measurement

Transmitting Frequency : 1880.000 MHz (661 ch)

Frequency Range : 2.2GHz - 5.8GHz

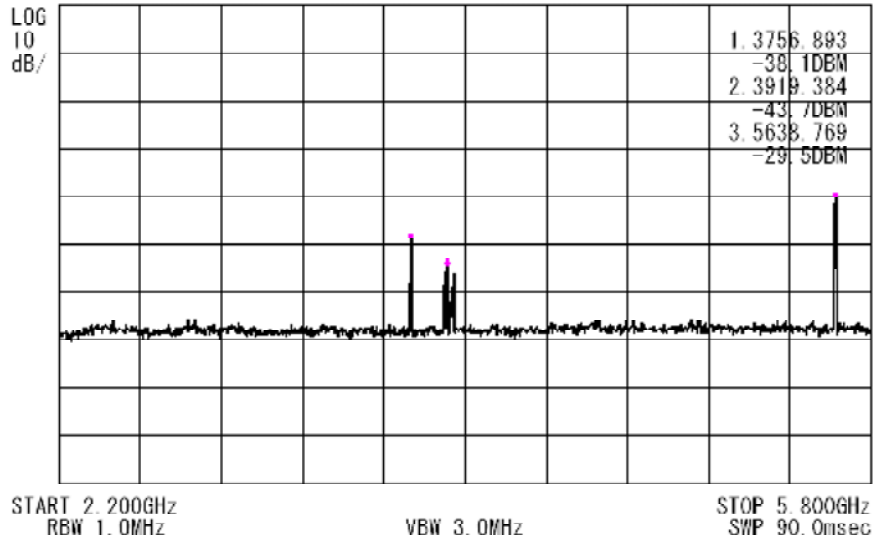
Antenna Conducted Spurious PGS1900

1880.0MHz (661ch) 2.2GHz-5.8GHz

2004/07/23 17:50:16

REF 10.0 DBM

ATT 20dB



Antenna Conducted Spurious Emission Measurement

Transmitting Frequency : 1880.000 MHz (661 ch)

Frequency Range : 5.8GHz - 12.55GHz

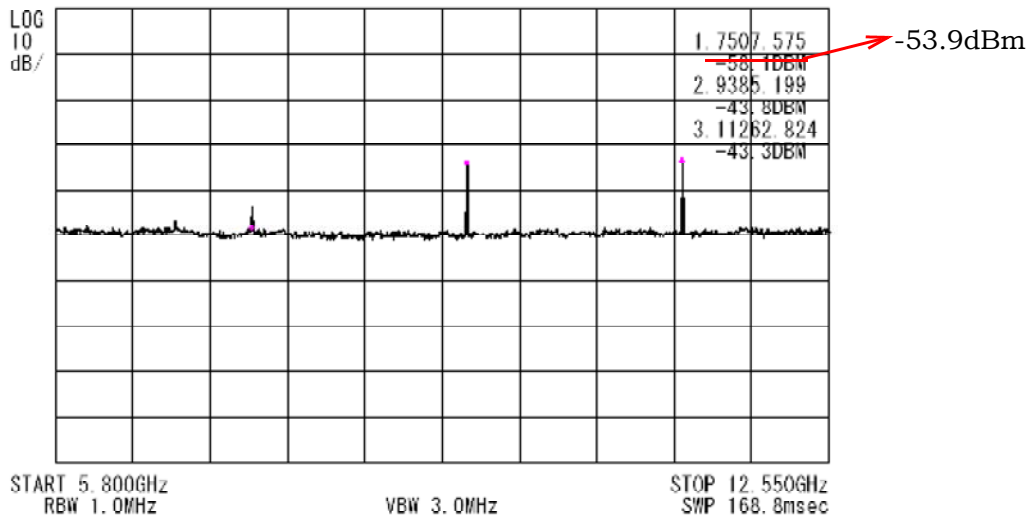
Antenna Conducted Spurious PGS1900

1880.0MHz (661ch) 5.8GHz-12.55GHz

2004/07/23 18:22:54

REF -10.0 DBM

ATT 10dB

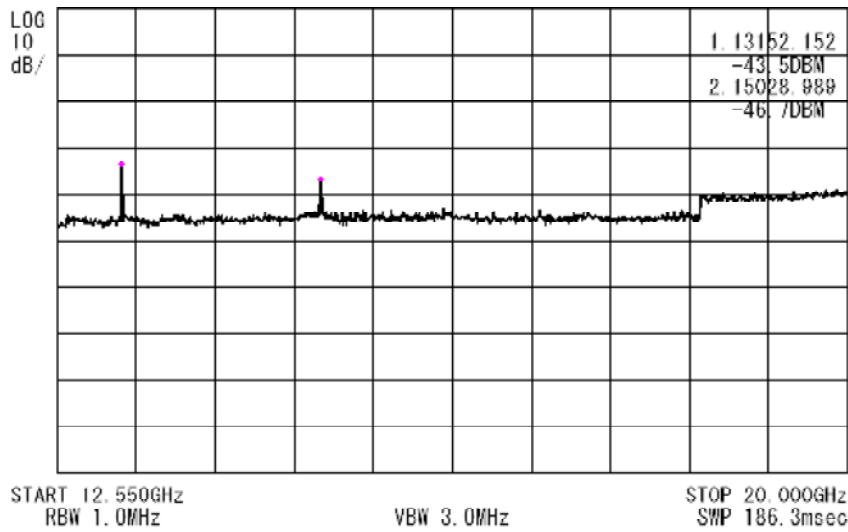


Antenna Conducted Spurious Emission Measurement

Transmitting Frequency : 1880.000 MHz (661 ch)
Frequency Range : 12.55GHz - 20.0GHz

Antenna Conducted Spurious PGS1900
1880.0MHz (661ch) 12.55GHz-20GHz
REF -10.0 DBM ATT 10dB

2004/07/23 18:37:22



Antenna Conducted Spurious Emission Measurement

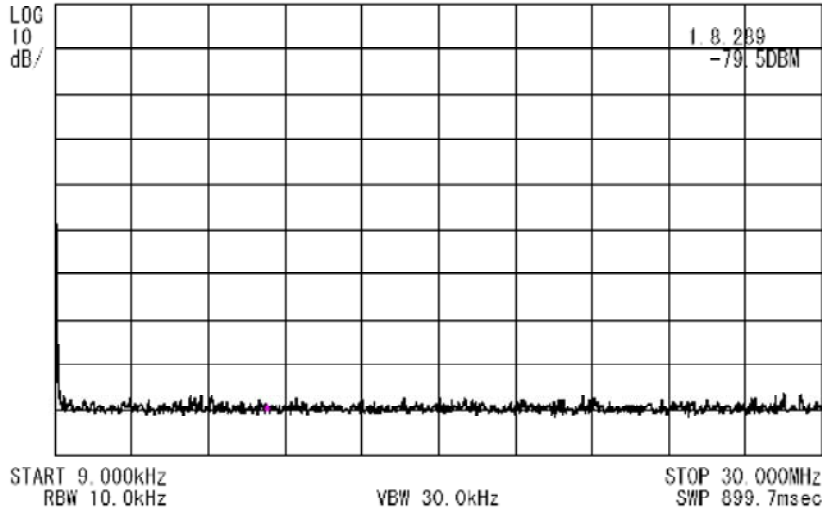
Transmitting Frequency : 1909.800 MHz (810 ch)

Frequency Range : 9kHz - 30 MHz

Antenna Conducted Spurious PGS1900
1909.80MHz(810ch) 9kHz-30MHz

2004/07/23 15:52:29

REF 10.0 DBM ATT 20dB



Antenna Conducted Spurious Emission Measurement

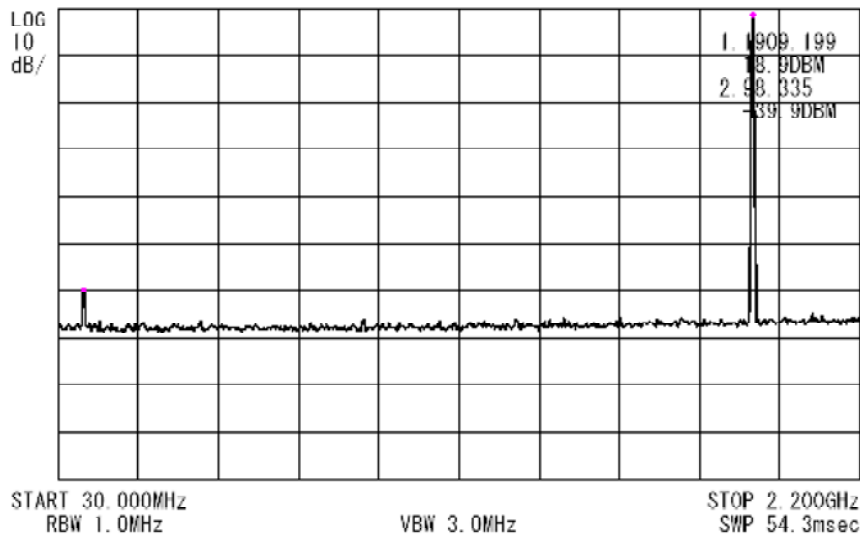
Transmitting Frequency : 1909.800 MHz (810 ch)

Frequency Range : 30MHz - 2.2GHz

Antenna Conducted Spurious PGS1900
1909.8MHz(810ch) 30MHz-2.2GHz

2004/07/23 16:03:27

REF 20.0 DBM ATT 30dB

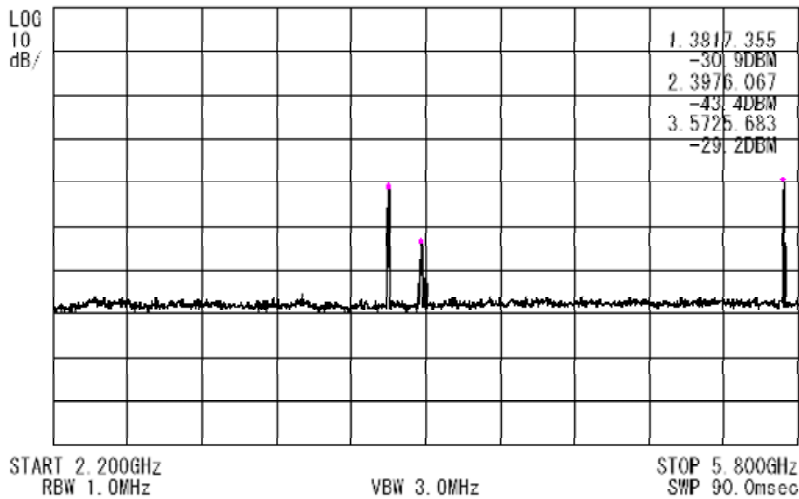


Antenna Conducted Spurious Emission Measurement

Transmitting Frequency : 1909.800 MHz (810 ch)
Frequency Range : 2.2GHz - 5.8GHz

Antenna Conducted Spurious PCS1900
1909.8MHz (810ch) 2.2GHz-5.8GHz
REF 10.0 DBM ATT 20dB

2004/07/23 17:52:31

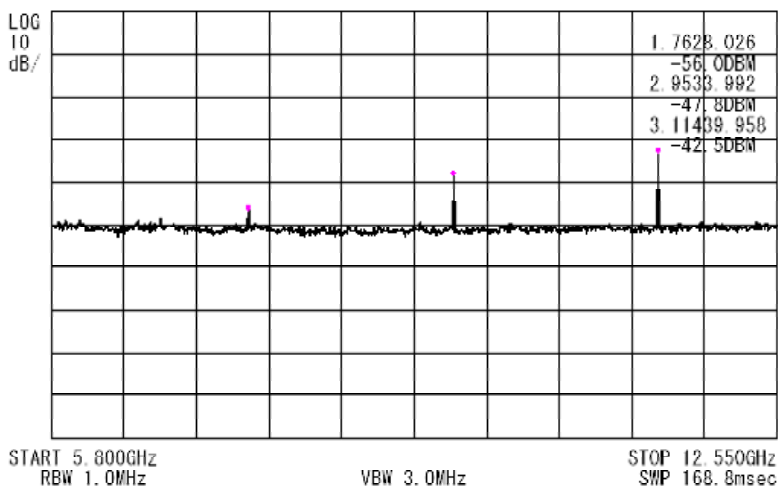


Antenna Conducted Spurious Emission Measurement

Transmitting Frequency : 1909.800 MHz (810 ch)
Frequency Range : 5.8GHz - 12.55GHz

Antenna Conducted Spurious PCS1900
1909.8MHz (810ch) 5.8GHz-12.55GHz
REF -10.0 DBM ATT 10dB

2004/07/23 18:17:47



Antenna Conducted Spurious Emission Measurement

Transmitting Frequency : 1909.800 MHz (810 ch)
Frequency Range : 12.55GHz - 20.0GHz

Antenna Conducted Spurious PGS1900
1909.8MHz(810ch) 12.55GHz-20GHz
REF -10.0 DBM ATT 10dB

2004/07/23 18:39:42

