

Attachment B

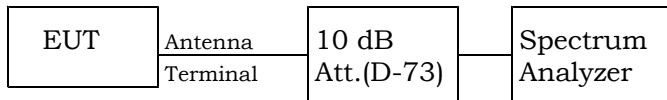
Antenna Conducted Spurious Emission Measurement (§2.1051,§24.238)

Test Procedure :

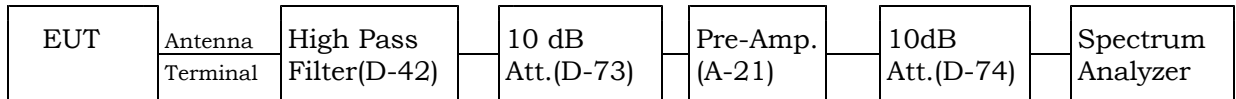
The Antenna Conducted Emission was measured with a spectrum analyzer. The test system is shown as follows:

PCS1900

- 1) Frequency Range : 9kHz - 2.2GHz



- 2) Frequency Range : 2.2GHz -5.8GHz



- 3) Frequency Range : 5.8GHz - 20GHz

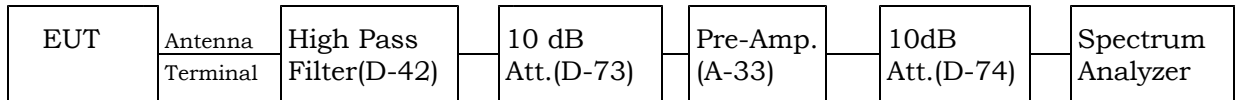


Fig.2 Antenna Conducted Spurious Emission Measurement

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.: KL80040246R
Model No. : 902SH
FCC ID : APYHRO00038

Regulation : CFR 47 FCC Rules Part 24
Issue Date : October 8, 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: 25 °C Humidity: 60 %

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

Test Date: September 14, 2004
Temp.: 25 °C, Humi: 60 %

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	-39.7	-13.0	-59.7	+46.7	C
		5550.600	-20.1	-32.6	-13.0	-52.7	+39.7	C
		7400.800	-17.7	-40.6	-13.0	-58.3	+45.3	C
		9251.000	-17.4	-38.6	-13.0	-56.0	+43.0	C
		11101.200	-16.0	-40.6	-13.0	-56.6	+43.6	C
		12951.400	-15.9	-33.4	-13.0	-49.3	+36.3	C
		14801.600	-16.1	-36.9	-13.0	-53.0	+40.0	C
		16651.800	-13.0	-51.2	-13.0	-64.2	+51.2	C
661	1880.000	3760.000	-19.8	-44.3	-13.0	-64.1	+51.1	C
		5640.000	-19.9	-30.2	-13.0	-50.1	+37.1	C
		7520.000	-17.1	-43.4	-13.0	-60.5	+47.5	C
		9400.000	-17.4	-30.5	-13.0	-47.9	+34.9	C
		11280.000	-15.1	-38.0	-13.0	-53.1	+40.1	C
		13160.000	-15.1	-37.9	-13.0	-53.0	+40.0	C
		15040.000	-16.1	-34.6	-13.0	-50.7	+37.7	C
810	1909.800	3819.600	-20.0	-39.6	-13.0	-59.6	+46.6	C
		5729.400	-19.9	-30.7	-13.0	-50.6	+37.6	C
		7639.200	-17.0	-36.4	-13.0	-53.4	+40.4	C
		9549.000	-16.7	-40.2	-13.0	-56.9	+43.9	C
		11458.800	-16.2	-42.5	-13.0	-58.7	+45.7	C
		13368.600	-15.2	-42.4	-13.0	-57.6	+44.6	C
		15278.400	-15.9	-49.1	-13.0	-65.0	+52.0	C

Sample of calculated result at 9400.0 MHz, as the Minimum Margin point:

Corr. Factor = -17.4 dB
+) Meter Reading = -30.5 dB(μV)
Result = -47.9 dB(μV)

Minimum Margin: -13.0 - (-47.9) = 34.9 (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.

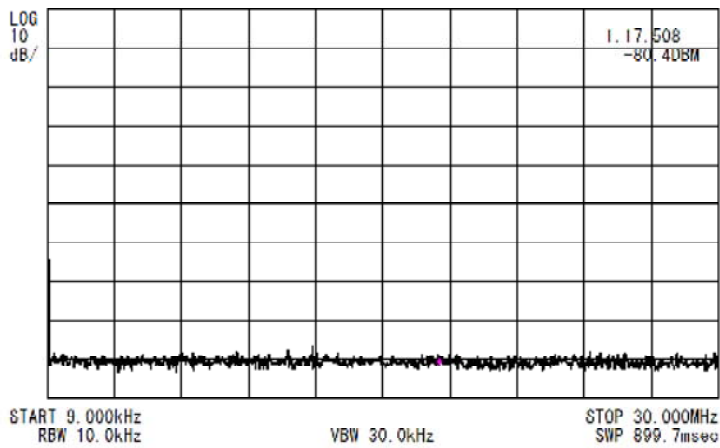
Tester : Shigeru Kinoshita

Antenna Conducted Spurious Emission Measurement

Transmitting Frequency : 1850.200 MHz (512 ch)

Frequency Range : 9kHz - 30 MHz

Antenna Conducted Spurious Emission Measurement PCS1900
1850.2MHz (512CH) 9kHz-30MHz 2004/09/14 15:23:53
REF 10.0 DBM ATT 20dB

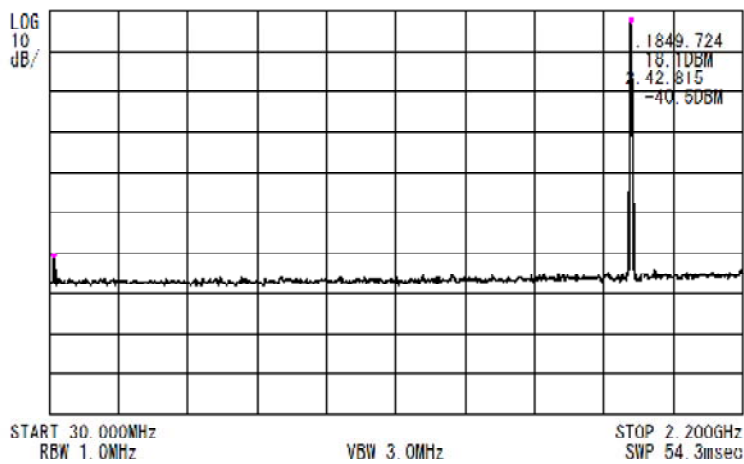


Antenna Conducted Spurious Emission Measurement

Transmitting Frequency : 1850.200 MHz (512 ch)

Frequency Range : 30MHz - 2.2GHz

Antenna Conducted Spurious Emission Measurement PCS1900
1850.2MHz (512CH) 30MHz-2.2GHz 2004/09/14 15:54:57
REF 20.0 DBM ATT 30dB

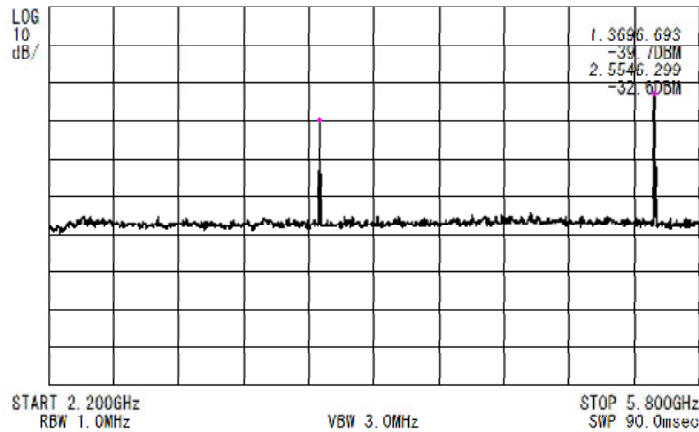


Antenna Conducted Spurious Emission Measurement

Transmitting Frequency : 1850.200 MHz (512 ch)

Frequency Range : 2.2GHz - 5.8GHz

Antenna Conducted Spurious Emission Measurement PCS1900
1850.2MHz (512CH) 2.2GHz-5.8GHz 2004/09/14 16:11:12
REF -10.0 DBM ATT 10dB

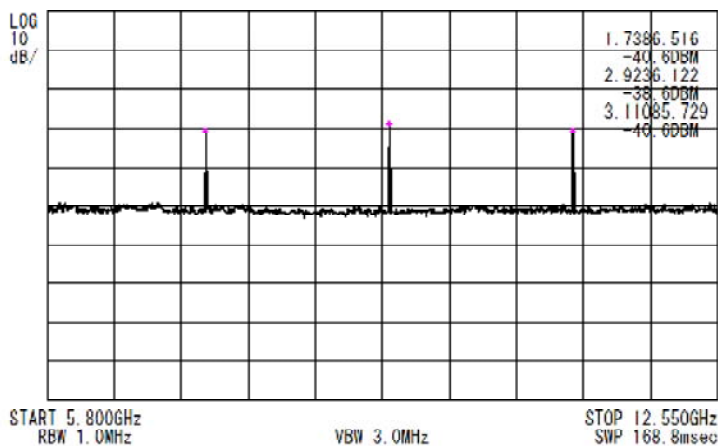


Antenna Conducted Spurious Emission Measurement

Transmitting Frequency : 1850.200 MHz (512 ch)

Frequency Range : 5.8GHz - 12.55GHz

Antenna Conducted Spurious Emission Measurement PCS1900
1850.2MHz (512CH) 5.8GHz-12.55GHz 2004/09/14 16:18:27
REF -10.0 DBM ATT 10dB



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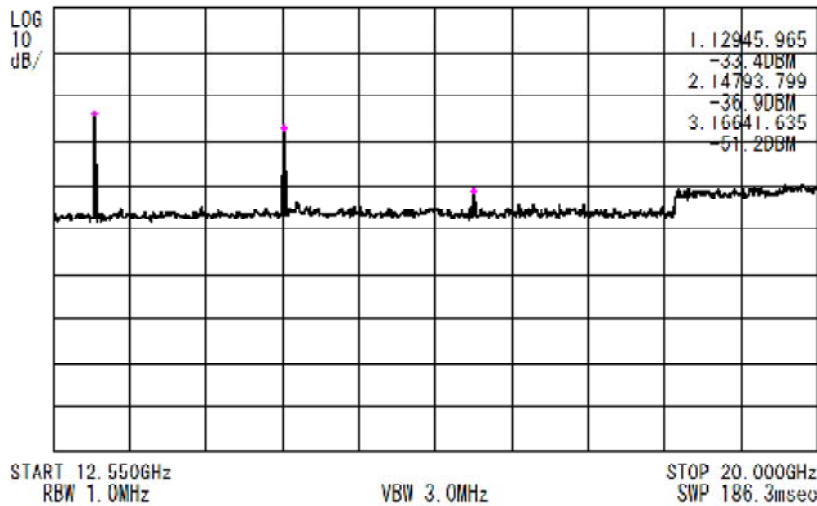
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Antenna Conducted Spurious Emission Measurement

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

Antenna Conducted Spurious Emission Measurement PCS1900
1850.2MHz (512CH) 12.55GHz-20GHz 2004/09/14 16:32:28
REF -10.0 DBM ATT 10dB



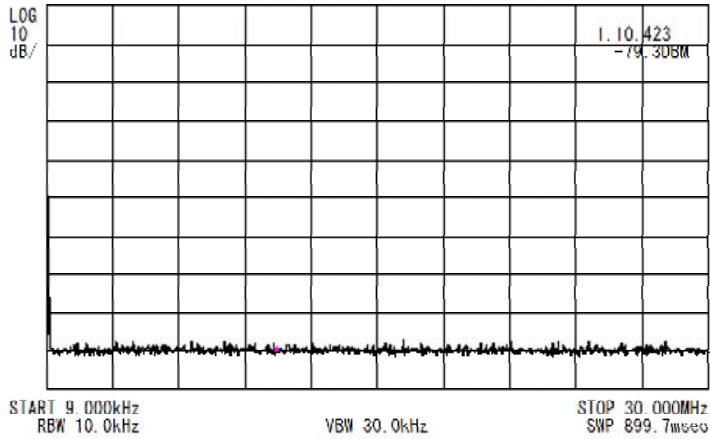
Antenna Conducted Spurious Emission Measurement

Transmitting Frequency : 1880.000 MHz (661 ch)

Frequency Range : 9kHz - 30 MHz

Antenna Conducted Spurious Emission Measurement PCS1900 2004/09/14 15:22:01
1880.0MHz (661CH) 9kHz-30MHz

REF 10.0 DBM ATT 20dB



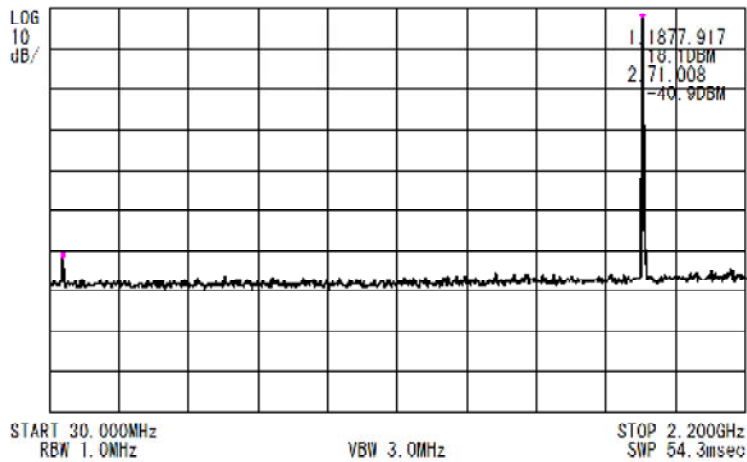
Antenna Conducted Spurious Emission Measurement

Transmitting Frequency : 1880.000 MHz (661 ch)

Frequency Range : 30MHz - 2.2GHz

Antenna Conducted Spurious Emission Measurement PCS1900 2004/09/14 15:57:33
1880.0MHz (661CH) 30MHz-2.2GHz

REF 20.0 DBM ATT 30dB

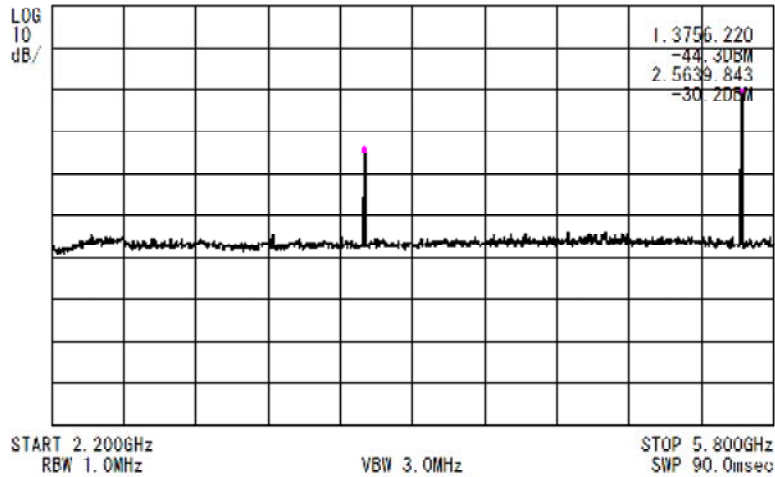


Antenna Conducted Spurious Emission Measurement

Transmitting Frequency : 1880.000 MHz (661 ch)

Frequency Range : 2.2GHz - 5.8GHz

Antenna Conducted Spurious Emission Measurement PCS1900
1880.0MHz(661CH) 2.2GHz-5.8GHz 2004/09/14 16:08:24
REF -10.0 DBM ATT 10dB

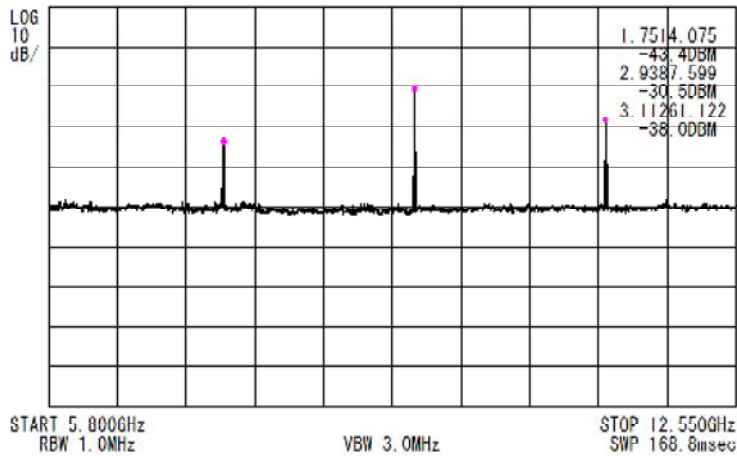


Antenna Conducted Spurious Emission Measurement

Transmitting Frequency : 1880.000 MHz (661 ch)

Frequency Range : 5.8GHz - 12.55GHz

Antenna Conducted Spurious Emission Measurement PCS1900
1880.0MHz(661CH) 5.8GHz-12.55GHz 2004/09/14 16:27:11
REF -10.0 DBM ATT 10dB



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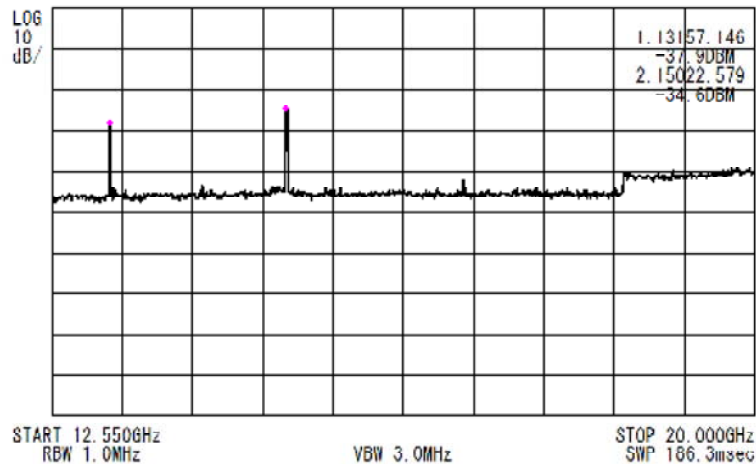
Antenna Conducted Spurious Emission Measurement

Transmitting Frequency : 1880.000 MHz (661 ch)

Frequency Range : 12.55GHz - 20.0GHz

Antenna Conducted Spurious Emission Measurement PCS1900
1880.0MHz(661CH) 12.55GHz-20GHz 2004/09/14 16:29:51

REF -10.0 DBM ATT 10dB

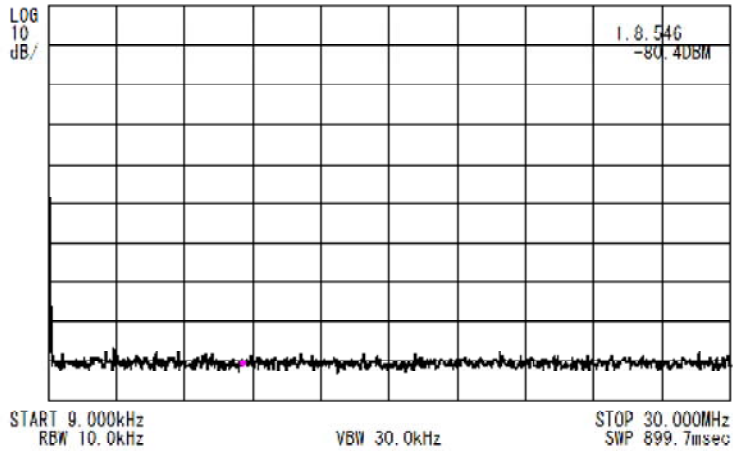


Antenna Conducted Spurious Emission Measurement

Transmitting Frequency : 1909.800 MHz (810 ch)

Frequency Range : 9kHz - 30 MHz

Antenna Conducted Spurious Emission Measurement PCS1900
1909.8MHz (810CH) 9kHz-30MHz 2004/09/14 15:26:25
REF 10.0 DBM ATT 20dB

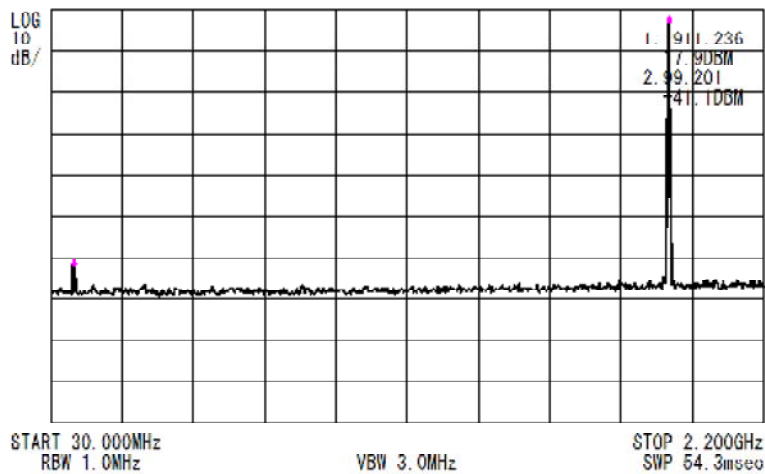


Antenna Conducted Spurious Emission Measurement

Transmitting Frequency : 1909.800 MHz (810 ch)

Frequency Range : 30MHz - 2.2GHz

Antenna Conducted Spurious Emission Measurement PCS1900
1909.8MHz (810CH) 30MHz-2.2GHz 2004/09/14 15:59:36
REF 20.0 DBM ATT 30dB

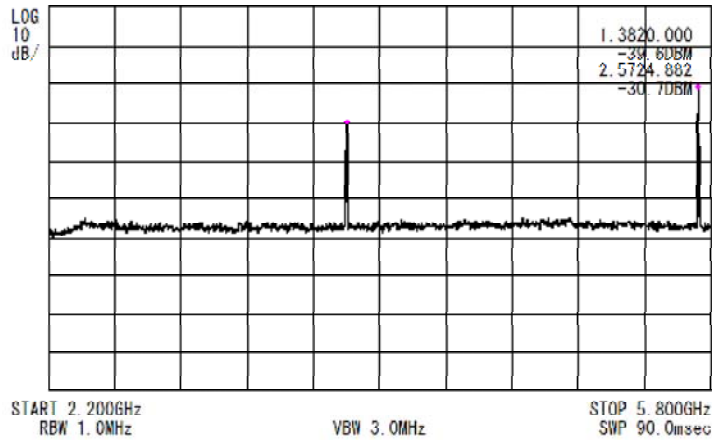


Antenna Conducted Spurious Emission Measurement

Transmitting Frequency : 1909.800 MHz (810 ch)

Frequency Range : 2.2GHz - 5.8GHz

Antenna Conducted Spurious Emission Measurement PCS1900
1909.80MHz (810CH) 2.2GHz-5.8GHz 2004/09/14 16:04:03
REF -10.0 DBM ATT 10dB

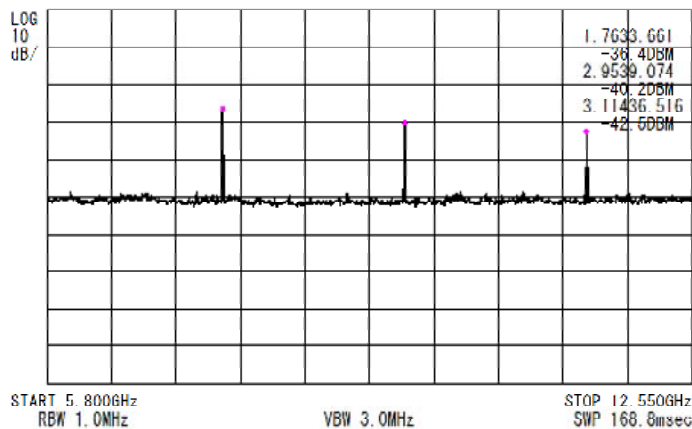


Antenna Conducted Spurious Emission Measurement

Transmitting Frequency : 1909.800 MHz (810 ch)

Frequency Range : 5.8GHz - 12.55GHz

Antenna Conducted Spurious Emission Measurement PCS1900
1909.80MHz (810CH) 5.8GHz-12.55GHz 2004/09/14 16:23:42
REF -10.0 DBM ATT 10dB



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Antenna Conducted Spurious Emission Measurement

Transmitting Frequency : 1909.800 MHz (810 ch)

Frequency Range : 12.55GHz - 20.0GHz

Antenna Conducted Spurious Emission Measurement PCS1900
1909.8MHz (810CH) 12.55GHz-20GHz 2004/09/14 16:39:01

REF -10.0 DBM ATT 10dB

