

Attachment B

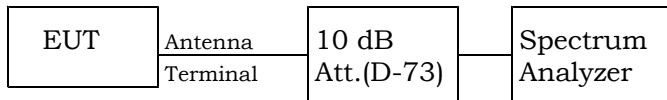
Antenna Conducted Spurious Emission Measurement (§2.1051,§24.238)

Test Procedure :

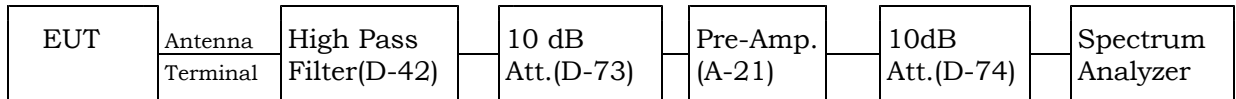
The Antenna Conducted Emission was measured with a spectrum analyzer. The test system is shown as follows:

PCS1900

- 1) Frequency Range : 9kHz - 2.2GHz



- 2) Frequency Range : 2.2GHz -5.8GHz



- 3) Frequency Range : 5.8GHz - 20GHz

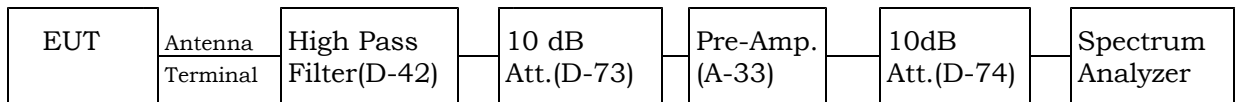


Fig.2 Antenna Conducted Spurious Emission Measurement

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.: KL80040305S
Model No. : 802SH
FCC ID : APYHRO00039

Regulation : CFR 47 FCC Rules Part 24
Issue Date : October 28, 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: 65 %

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

Test Date: September 27, 2004
Temp.: 23 °C, Humi: 65 %

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	-38.4	-13.0	-58.4	+45.4	C
		5550.600	-20.1	-30.7	-13.0	-50.8	+37.8	C
		7400.800	-17.7	-37.3	-13.0	-55.0	+42.0	C
		9251.000	-17.4	-38.6	-13.0	-56.0	+43.0	C
		11101.200	-16.0	-43.8	-13.0	-59.8	+46.8	C
		12951.400	-15.9	-40.2	-13.0	-56.1	+43.1	C
		14801.600	-16.1	-41.8	-13.0	-57.9	+44.9	C
661	1880.000	3760.000	-19.8	-47.4	-13.0	-67.2	+54.2	C
		5640.000	-19.9	-25.9	-13.0	-45.8	+32.8	C
		7520.000	-17.1	-40.0	-13.0	-57.1	+44.1	C
		9400.000	-17.4	-47.1	-13.0	-64.5	+51.5	C
		11280.000	-15.1	-53.8	-13.0	-68.9	+55.9	C
		13160.000	-15.1	-47.5	-13.0	-62.6	+49.6	C
		15040.000	-16.1	-46.0	-13.0	-62.1	+49.1	C
810	1909.800	3819.600	-20.0	-44.3	-13.0	-64.3	+51.3	C
		5729.400	-19.9	-29.4	-13.0	-49.3	+36.3	C
		7639.200	-17.0	-42.6	-13.0	-59.6	+46.6	C
		9549.000	-16.7	-41.6	-13.0	-58.3	+45.3	C
		11458.800	-16.2	-48.5	-13.0	-64.7	+51.7	C
		13368.600	-15.2	-45.8	-13.0	-61.0	+48.0	C
		15278.400	-15.9	-49.8	-13.0	-65.7	+52.7	C

Sample of calculated result at 5640.0 MHz, as the Minimum Margin point:

Corr. Factor	=	-19.9 dB
+) Meter Reading	=	-25.9 dB(μ V)
Result	=	-45.8 dB(μ V)

Minimum Margin: $-13.0 - (-45.8) = 32.8$ (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.

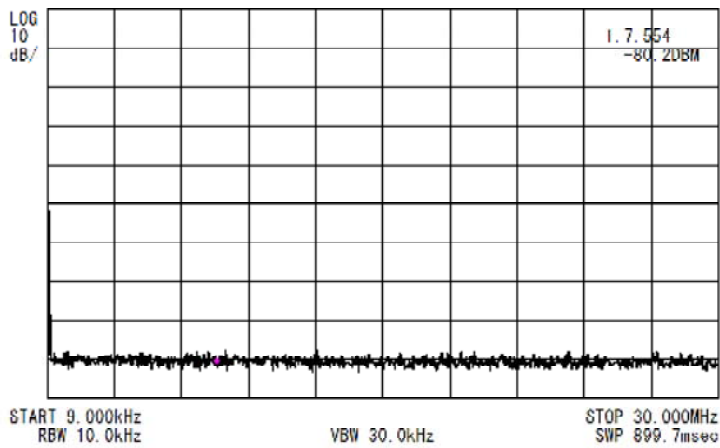
Tester : Shigeru Kinoshita

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 2004/09/27 11:32:09
REF 10.0 DBM ATT 20dB

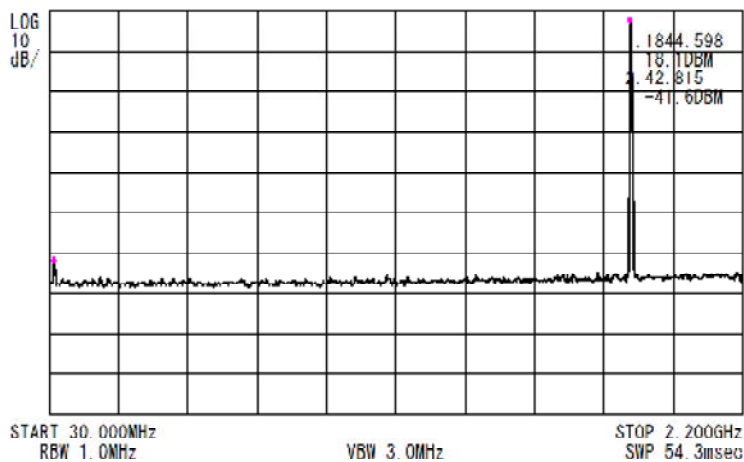


Antenna Conducted Spurious Emission Measurement

Transmitting Frequency : 1850.200 MHz (512 ch)

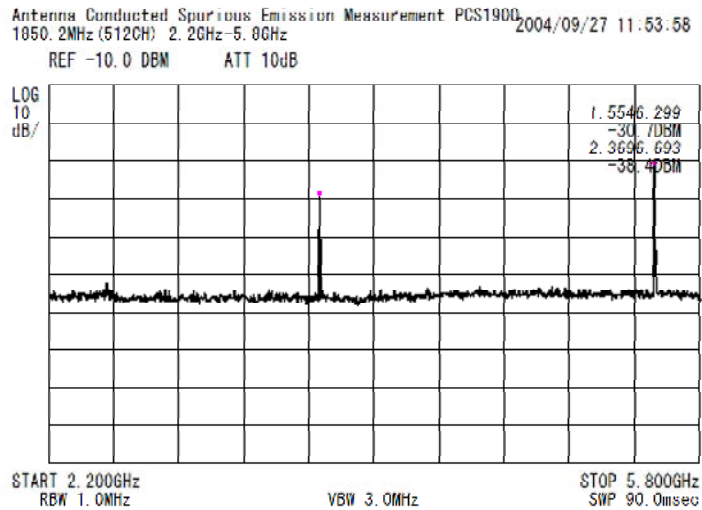
Frequency Range : 30MHz - 2.2GHz

Antenna Conducted Spurious Emission Measurement PCS1900
1850.2MHz (512CH) 30MHz-2.2GHz 2004/09/27 11:34:46
REF 20.0 DBM ATT 30dB



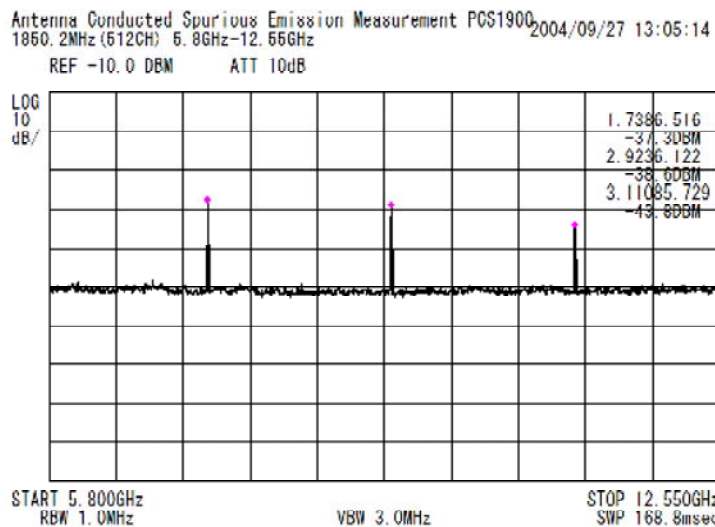
Antenna Conducted Spurious Emission Measurement

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



Antenna Conducted Spurious Emission Measurement

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



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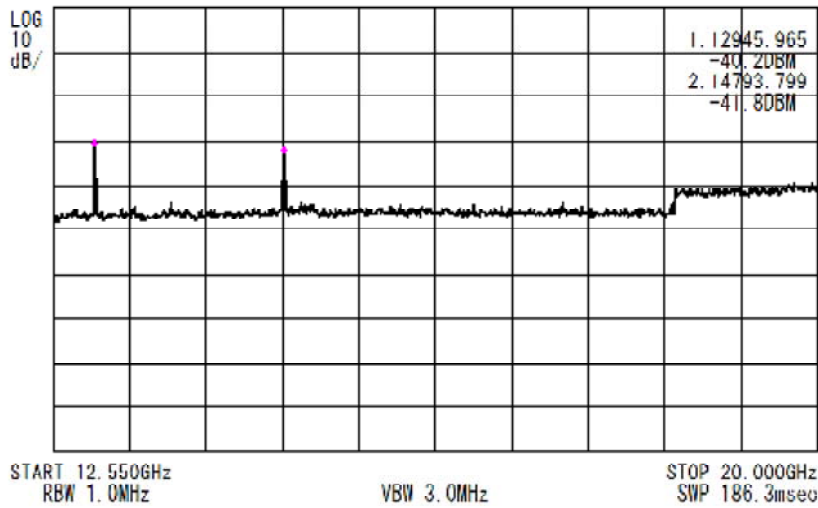
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Antenna Conducted Spurious Emission Measurement

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 2004/09/27 13:09:24
REF -10.0 DBM ATT 10dB



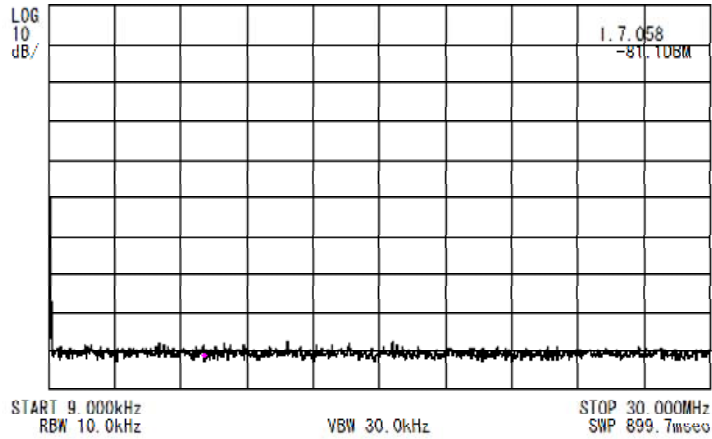
Antenna Conducted Spurious Emission Measurement

Transmitting Frequency : 1880.000 MHz (661 ch)

Frequency Range : 9kHz - 30 MHz

Antenna Conducted Spurious Emission Measurement PCS1900 2004/09/27 11:30:14
1880.0MHz (661CH) 9kHz-30MHz

REF 10.0 DBM ATT 20dB



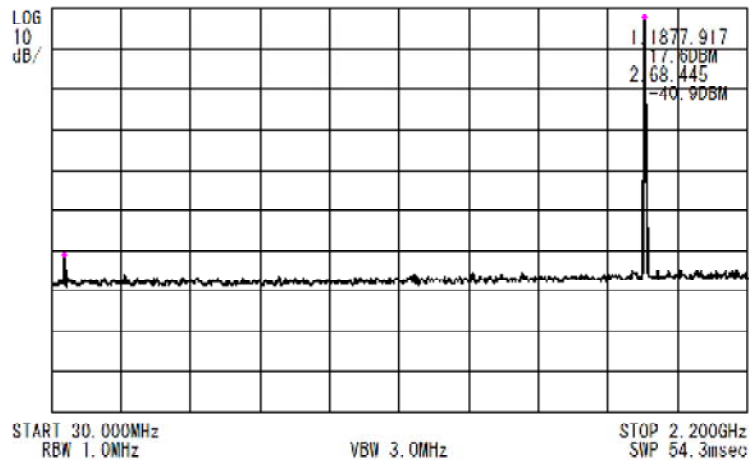
Antenna Conducted Spurious Emission Measurement

Transmitting Frequency : 1880.000 MHz (661 ch)

Frequency Range : 30MHz - 2.2GHz

Antenna Conducted Spurious Emission Measurement PCS1900 2004/09/27 11:37:40
1880.0MHz (661CH) 30MHz-2.2GHz

REF 20.0 DBM ATT 30dB

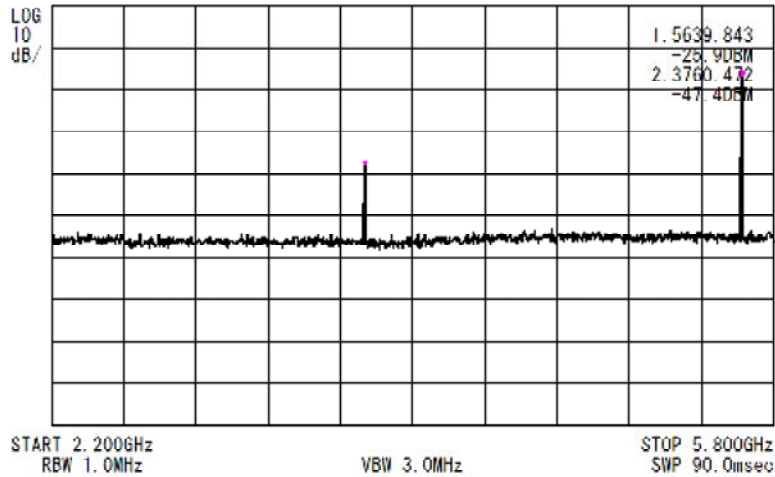


Antenna Conducted Spurious Emission Measurement

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 2004/09/27 11:57:18
REF -10.0 DBM ATT 10dB

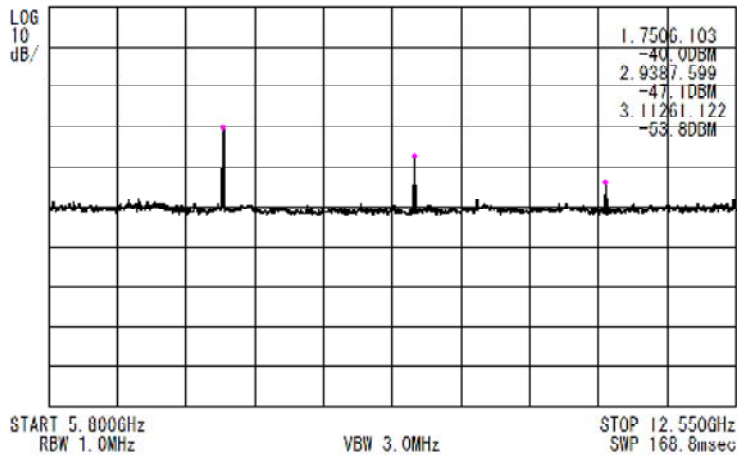


Antenna Conducted Spurious Emission Measurement

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 2004/09/27 13:02:56
REF -10.0 DBM ATT 10dB



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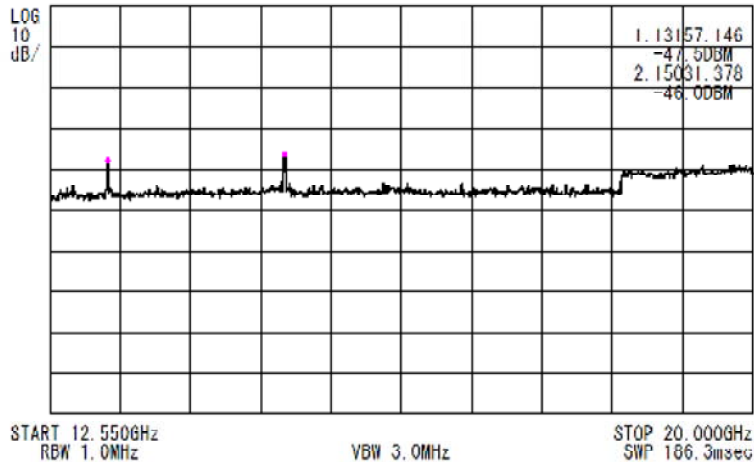
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Antenna Conducted Spurious Emission Measurement

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 2004/09/27 13:14:34
REF -10.0 DBM ATT 10dB

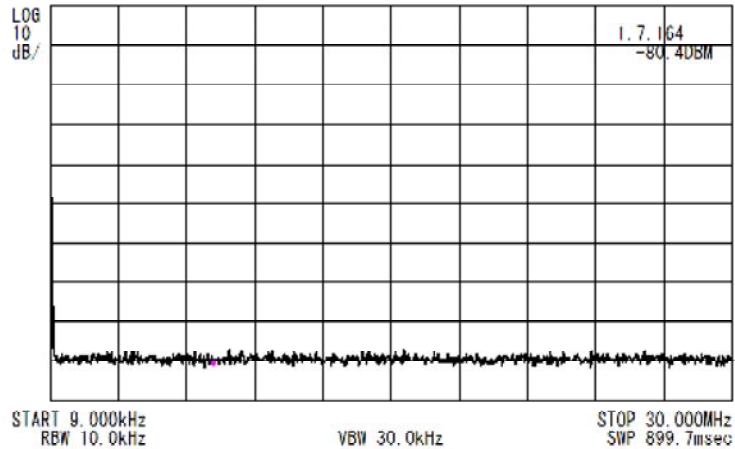


Antenna Conducted Spurious Emission Measurement

Transmitting Frequency : 1909.800 MHz (810 ch)

Frequency Range : 9kHz - 30 MHz

Antenna Conducted Spurious Emission Measurement PCS1900
1909.80MHz (810CH) 9kHz-30MHz 2004/09/27 11:28:11
REF 10.0 DBM ATT 20dB

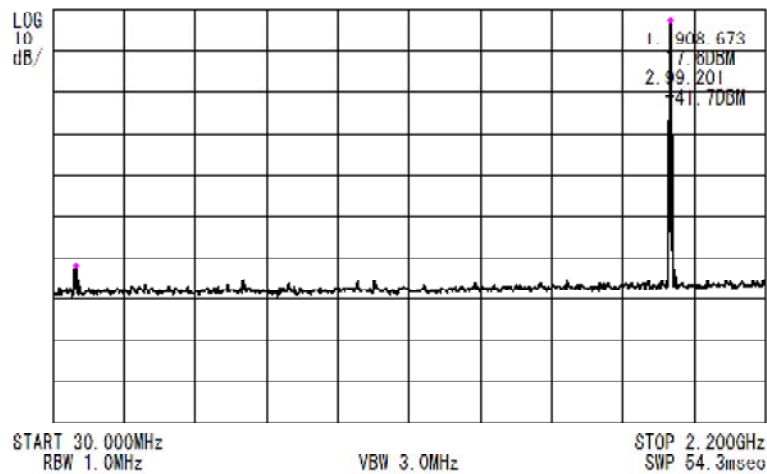


Antenna Conducted Spurious Emission Measurement

Transmitting Frequency : 1909.800 MHz (810 ch)

Frequency Range : 30MHz - 2.2GHz

Antenna Conducted Spurious Emission Measurement PCS1900
1909.80MHz (810CH) 30MHz-2.2GHz 2004/09/27 11:40:07
REF 20.0 DBM ATT 30dB

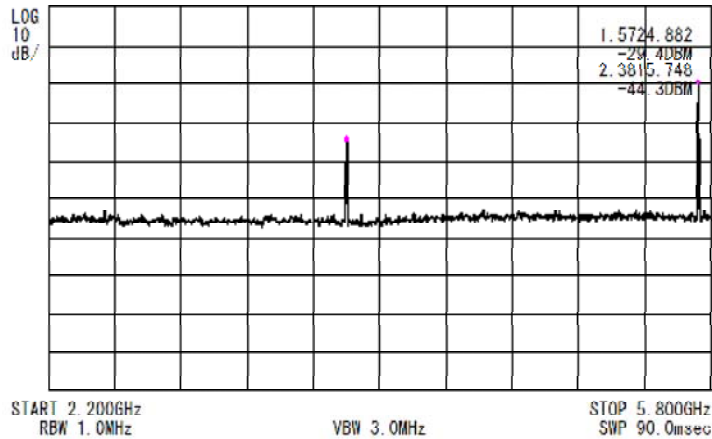


Antenna Conducted Spurious Emission Measurement

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 2004/09/27 11:59:45
REF -10.0 DBM ATT 10dB

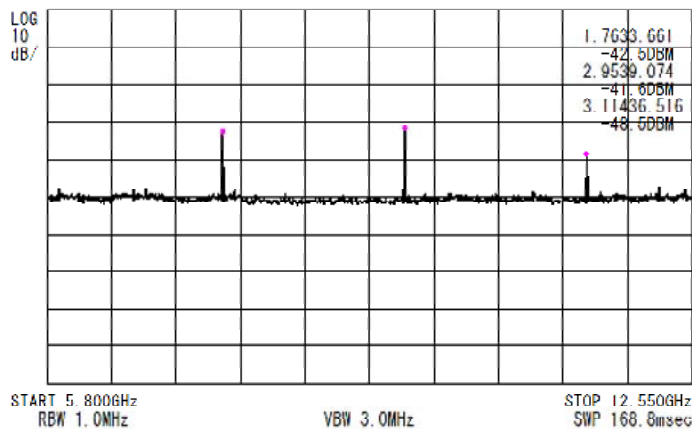


Antenna Conducted Spurious Emission Measurement

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 2004/09/27 13:00:07
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 2004/09/27 13:18:19
REF -10.0 DBM ATT 10dB

