

Attachment B

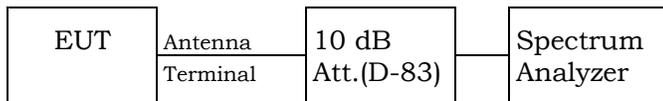
Antenna Conducted Spurious Emission Measurement (§2.1051,§24.238)

Test Procedure :

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

PCS1900

1) Frequency Range : 9kHz - 2GHz



2) Frequency Range : 2GHz - 20GHz

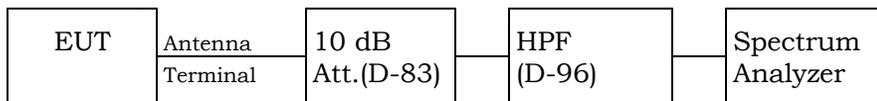


Fig.2 Antenna Conducted Spurious Emission Measurement

The setting of the spectrum analyzer are shown as follows :

Frequency Range	9kHz - 150kHz	150kHz - 30 MHz	30 MHz - 20 GHz
Res. Bandwidth	200 Hz	10 kHz	1 MHz
Video Bandwidth	1 kHz	30 kHz	3 MHz
Sweep Time	AUTO	AUTO	AUTO
Trace	Maxhold	Maxhold	Maxhold

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
○ - 8566B	A - 13		
● - E4446A	A - 39	November, 2006	1 Year
○ - 4T-10	D - 73		
○ - 4T-10	D - 74		
○ - 2-10	D - 79		
○ - 2-10	D - 80		
○ - 54-10	D - 82		
● - 54-10	D - 83	November, 2006	1 Year
○ - BRM50701	D - 93		
○ - HPM13900	D - 95		
● - HPM13899	D - 96	February, 2006	1 Year

Environmental conditions:

Temperature: 21 °C Humidity: 42 %

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

Test Date: December 1, 2006

Temp.: 21 °C, Humi: 42 %

Transmitting Frequency CH [MHz]	Measured Frequency [MHz]	Corr. Factor [dB]	Meter Readings [dBm]	Limits [dBm]	Results [dBm]	Margin [dB]	Remarks
512 1850.200	3700.400	11.3	< -60.0	-13.0	< -48.7	> +35.7	C
	5550.600	11.3	< -60.0	-13.0	< -48.7	> +35.7	C
	7400.800	11.1	< -60.0	-13.0	< -48.9	> +35.9	C
	9251.000	11.1	< -60.0	-13.0	< -48.9	> +35.9	C
	11101.200	11.4	< -60.0	-13.0	< -48.6	> +35.6	C
	12951.400	11.6	< -60.0	-13.0	< -48.4	> +35.4	C
	14801.600	11.8	< -60.0	-13.0	< -48.2	> +35.2	C
	16651.800	11.9	< -60.0	-13.0	< -48.1	> +35.1	C
	18502.000	12.1	< -60.0	-13.0	< -47.9	> +34.9	C
661 1880.000	3760.000	11.3	< -60.0	-13.0	< -48.7	> +35.7	C
	5640.000	11.3	< -60.0	-13.0	< -48.7	> +35.7	C
	7520.000	11.1	< -60.0	-13.0	< -48.9	> +35.9	C
	9400.000	11.1	< -60.0	-13.0	< -48.9	> +35.9	C
	11280.000	11.4	< -60.0	-13.0	< -48.6	> +35.6	C
	13160.000	11.6	< -60.0	-13.0	< -48.4	> +35.4	C
	15040.000	11.8	< -60.0	-13.0	< -48.2	> +35.2	C
	16920.000	11.9	< -60.0	-13.0	< -48.1	> +35.1	C
	18800.000	12.1	< -60.0	-13.0	< -47.9	> +34.9	C
810 1909.800	3819.600	11.3	< -60.0	-13.0	< -48.7	> +35.7	C
	5729.400	11.2	< -60.0	-13.0	< -48.8	> +35.8	C
	7639.200	11.1	< -60.0	-13.0	< -48.9	> +35.9	C
	9549.000	11.2	< -60.0	-13.0	< -48.8	> +35.8	C
	11458.800	11.4	< -60.0	-13.0	< -48.6	> +35.6	C
	13368.600	11.6	< -60.0	-13.0	< -48.4	> +35.4	C
	15278.400	11.8	< -60.0	-13.0	< -48.2	> +35.2	C
	17188.200	12.0	< -60.0	-13.0	< -48.0	> +35.0	C
	19098.000	12.1	< -60.0	-13.0	< -47.9	> +34.9	C

Calculated result at 18502.0 MHz, as the worst point shown on underline:

Corr. Factor = 12.1 dB
 +) Meter Reading = <-60.0 dBm
 Result = <-47.9 dBm

Minimum Margin: -13.0 - (<-47.9) = >34.9 (dB)

NOTES

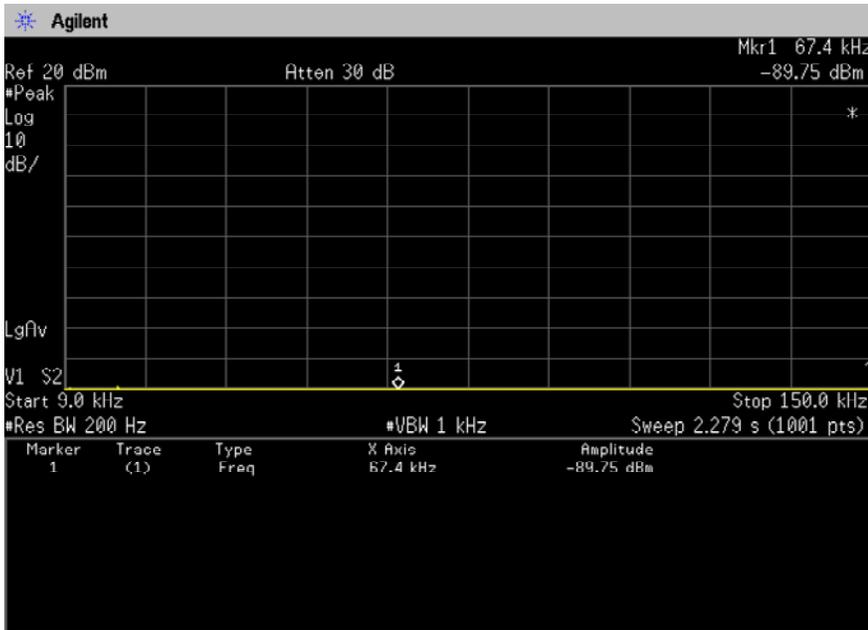
1. The spectrum was checked from 9 kHz to 20 GHz.
2. The spectrum analyzer displays were printed out in attachment B.
3. Applied limits : -13.0 [dBm] = $10\log(TP[mW]) - (43 + 10\log(tp[W])) = 10\log(TP[mW]) - (43 + (10 \log(TP[mW]) - 30))$
 where, $tp[W] = TP[mW] / 1000$: Transmitter power at antenna terminal
4. The correction factor is shown as follows:
 Corr. Factor [dB] = Cable Loss + 10dB Pad Att. [dB] (9 kHz - 2.2 GHz)
 Corr. Factor [dB] = Cable Loss + 10dB Pad Att. + High Pass Filter Loss (D-42) - Pre-Amp. Gain [dB] (over 2.2 GHz)
5. The symbol of "<" means "or less".
6. The symbol of ">" means "more than".
7. Setting of measuring instrument(s) :

	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

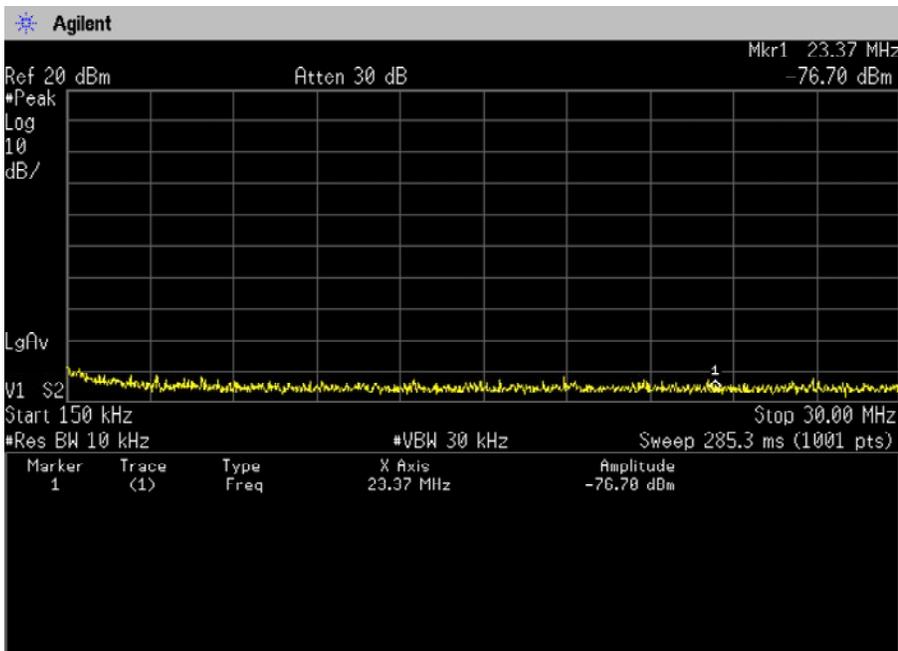
Antenna Conducted Spurious Emission Measurement

Transmitting Frequency : 1850.200 MHz (512 ch)
 Frequency Range : 9kHz - 150 kHz



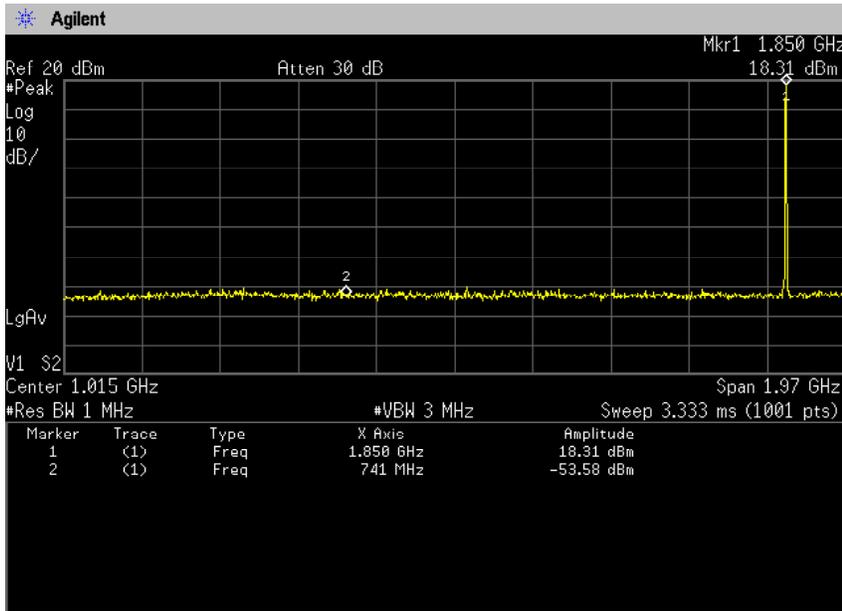
Antenna Conducted Spurious Emission Measurement

Transmitting Frequency : 1850.200 MHz (512 ch)
 Frequency Range : 150kHz - 30MHz



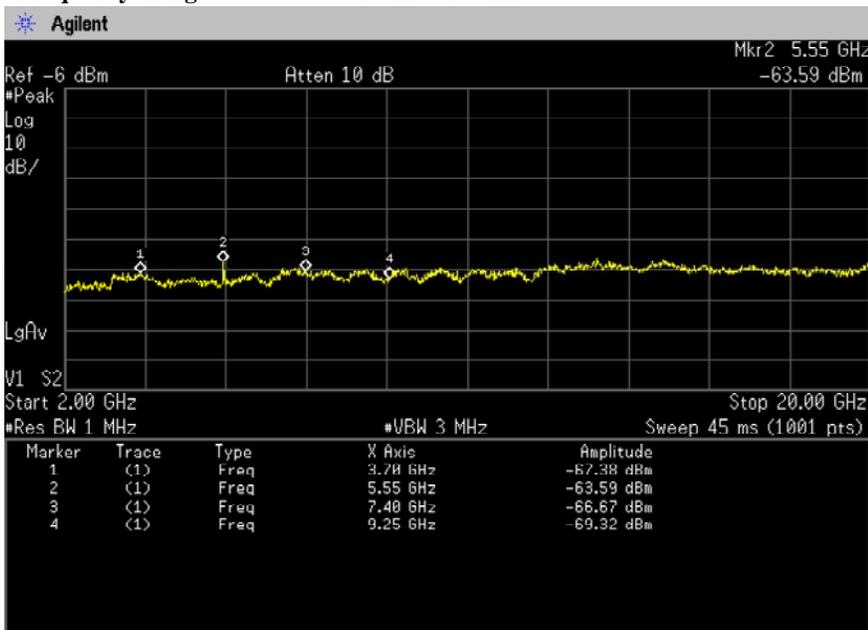
Antenna Conducted Spurious Emission Measurement

Transmitting Frequency : 1850.200 MHz (512 ch)
 Frequency Range : 30MHz - 2GHz



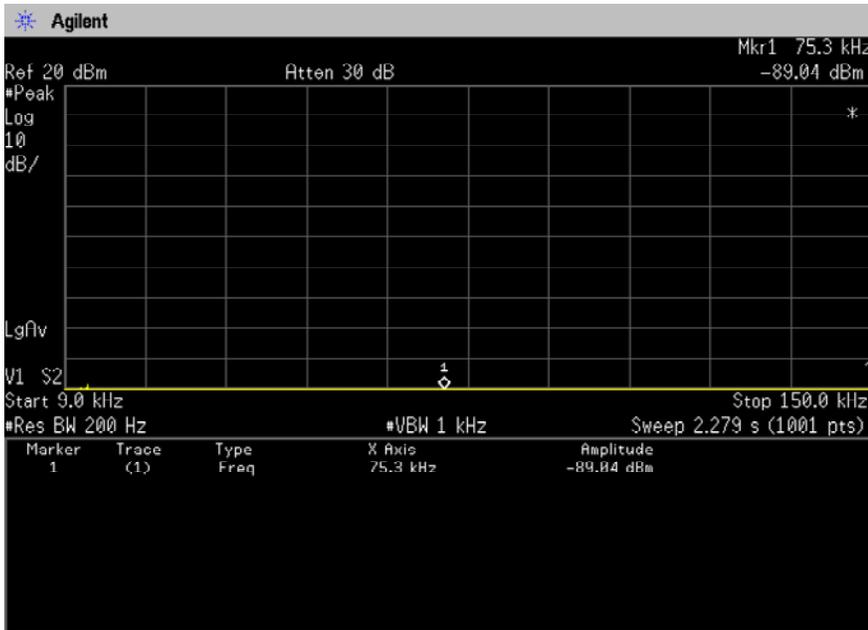
Antenna Conducted Spurious Emission Measurement

Transmitting Frequency : 1850.200 MHz (512 ch)
 Frequency Range : 2GHz - 20GHz



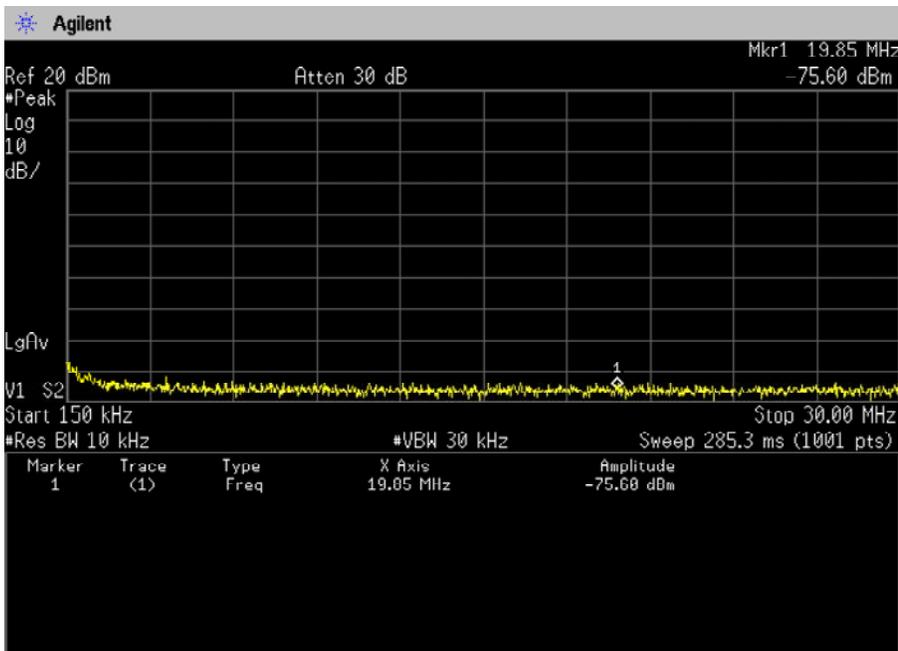
Antenna Conducted Spurious Emission Measurement

Transmitting Frequency : 1880.000 MHz (661 ch)
 Frequency Range : 9kHz - 150 kHz

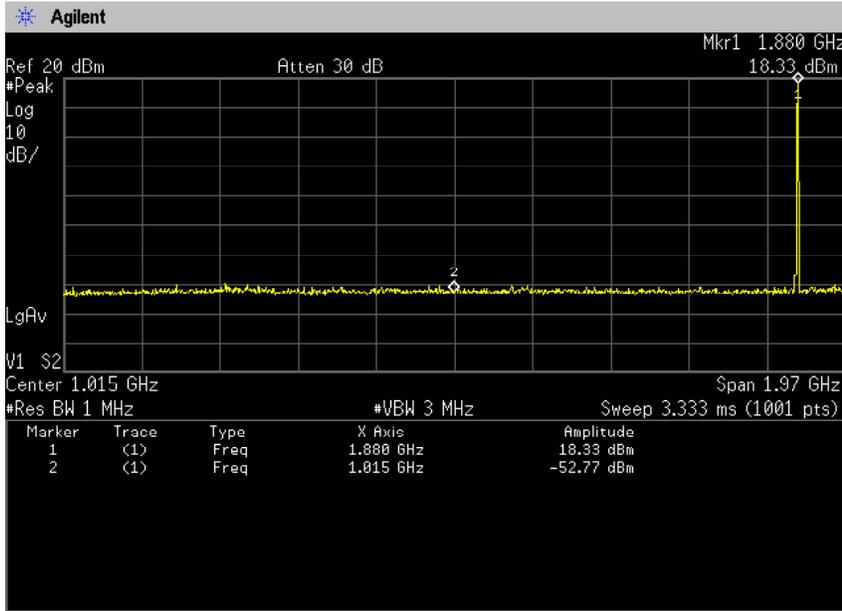


Antenna Conducted Spurious Emission Measurement

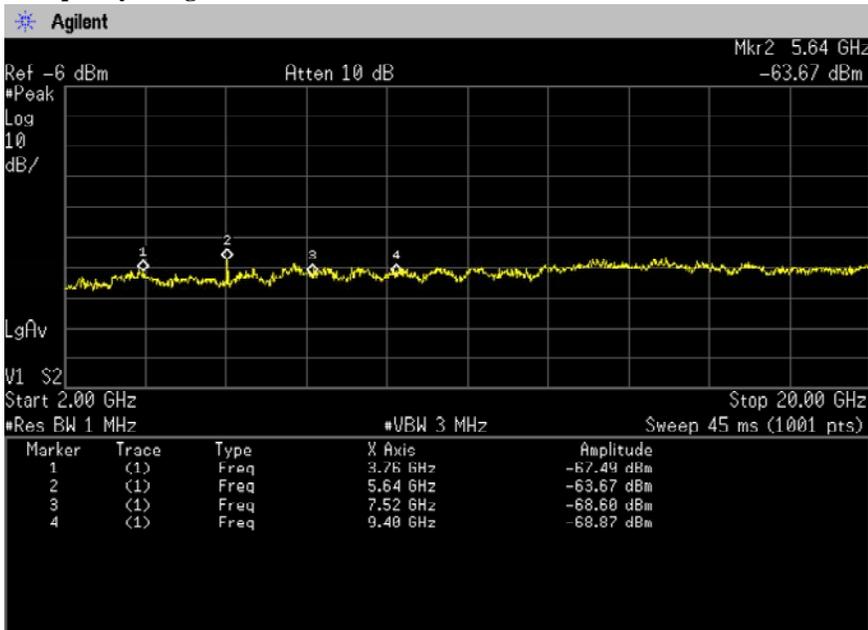
Transmitting Frequency : 1880.000 MHz (661 ch)
 Frequency Range : 150kHz - 30MHz



Antenna Conducted Spurious Emission Measurement
Transmitting Frequency : 1880.000 MHz (661 ch)
Frequency Range : 30MHz - 2GHz

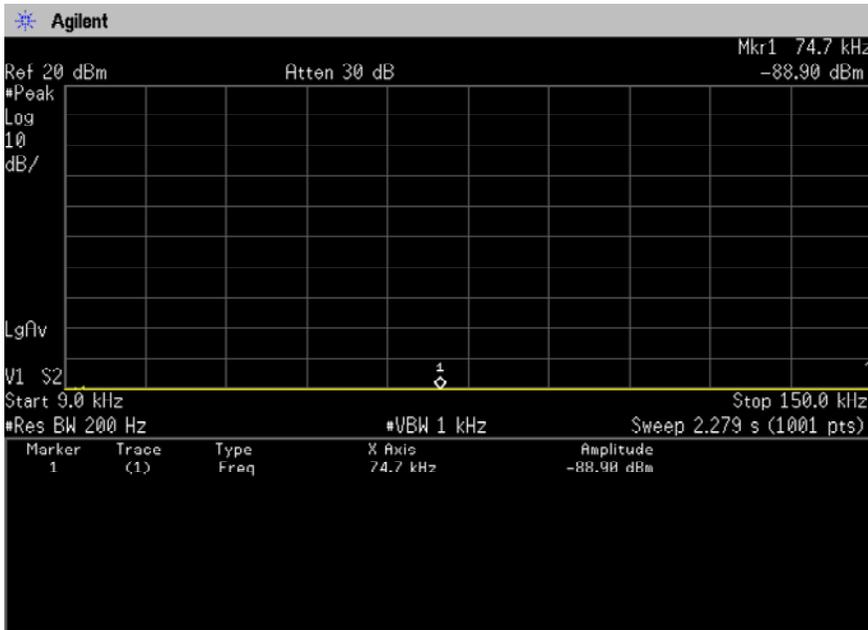


Antenna Conducted Spurious Emission Measurement
Transmitting Frequency : 1880.000 MHz (661 ch)
Frequency Range : 2GHz - 20GHz



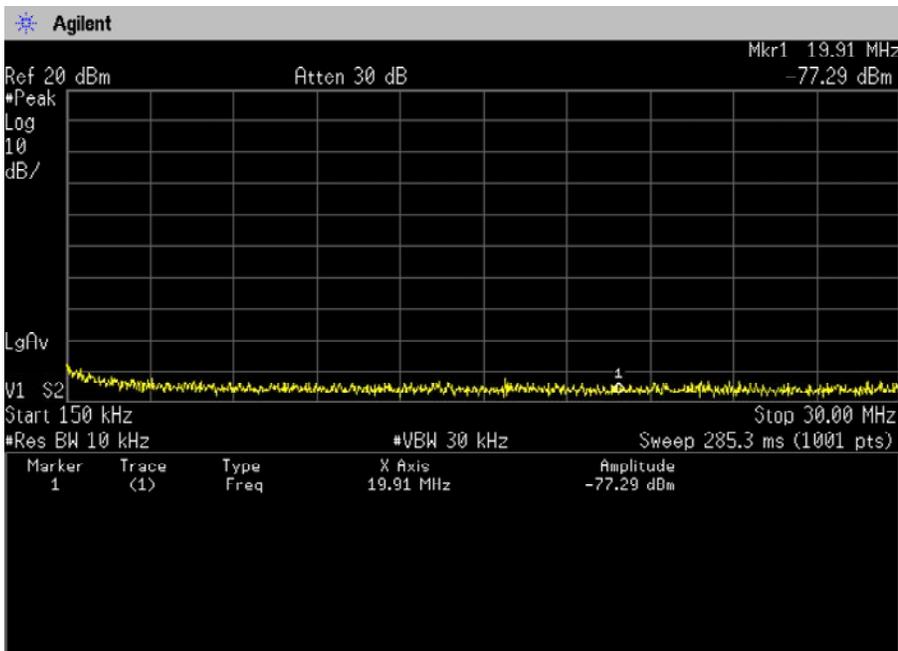
Antenna Conducted Spurious Emission Measurement

Transmitting Frequency : 1909.800 MHz (810 ch)
 Frequency Range : 9kHz - 150 kHz



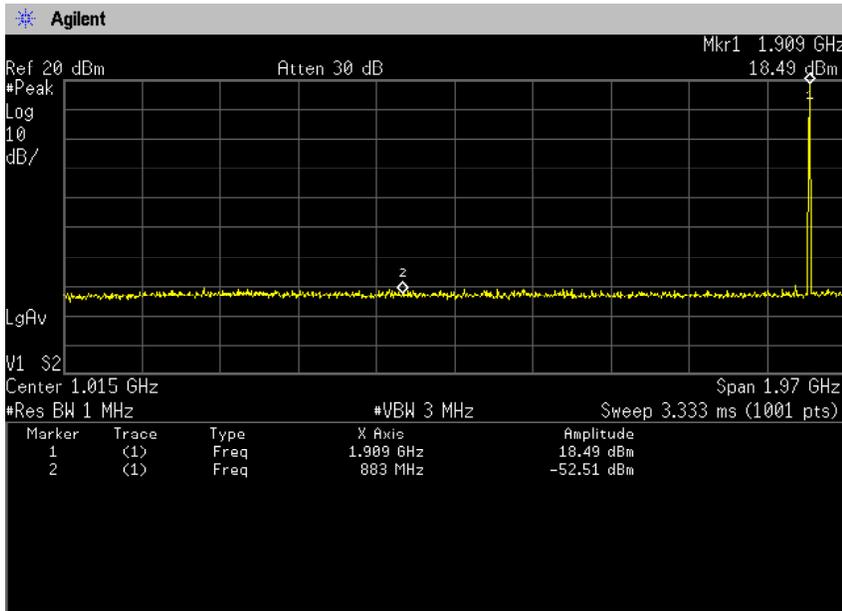
Antenna Conducted Spurious Emission Measurement

Transmitting Frequency : 1909.800 MHz (810 ch)
 Frequency Range : 150kHz - 30MHz



Antenna Conducted Spurious Emission Measurement

Transmitting Frequency : 1909.800 MHz (810 ch)
 Frequency Range : 30MHz - 2GHz



Antenna Conducted Spurious Emission Measurement

Transmitting Frequency : 1909.800 MHz (810 ch)
 Frequency Range : 2GHz - 20GHz

