

CONDUCTED SPURIOUS EMISSIONS

§ 2.1057 / §24.238

Measurement Procedure:

The following steps outline the procedure used to measure the conducted emissions from the EUT.

1. Determine frequency range for measurements: From CFR 2.1057 the spectrum should be investigated from the lowest radio frequency generated in the equipment up to at least the 10th harmonic of the carrier frequency.

For the equipment under test, this equates to a frequency range of 30 MHz to 19.1 GHz, data taken from 30 MHz to 20 GHz for PCS-1900 and 30MHz – 9GHz for GSM-850.

2. Determine EUT transmit frequencies: below outlines the band edge frequencies pertinent to conducted emissions testing.

GSM-850 Transmitter

Channel	Frequency
128	824.2 MHz
190	836.6 MHz
251	848.8 MHz

PCS-1900 Transmitter

Channel	Frequency
512	1850.2 MHz
661	1880.0 MHz
810	1909.8 MHz

Measurement Limit:


Sec. 24.238 Emission Limits.

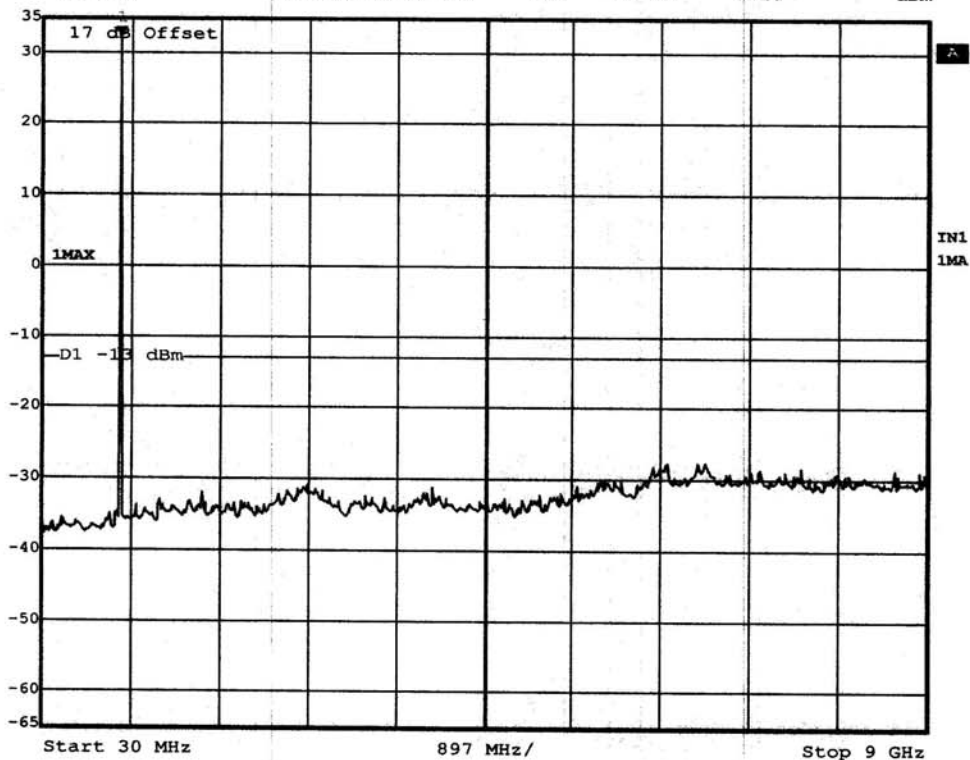
(a) On any frequency outside frequency band of the USPCS spectrum, the power of any emission shall be attenuated below the transmitter power (P, in Watts) by at least $43+10\text{Log}(P)$ dB. For all power levels +30 dBm to 0dBm, this becomes a constant specification limit of -13 dBm.



CONDUCTED SPURIOUS EMISSIONS
CHANNEL 128 (GSM-850)
30MHz - 9GHz

Note: The peak above the limit line is the carrier freq. at ch-128.

 Marker 1 [T1] RBW 1 MHz RF Att 30 dB
Ref Lvl 32.21 dBm VBW 1 MHz
35 dBm 820.94188377 MHz SWT 90 ms Unit dBm





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CONDUCTED SPURIOUS EMISSIONS
CHANNEL 190 (GSM-850)
30MHz - 9GHz

Note: The peak above the limit line is the carrier freq. at ch-190.



Marker 1 [T1]

RBW 1 MHz RF Att 30 dB

Ref Lvl 32.50 dBm

VBW 1 MHz

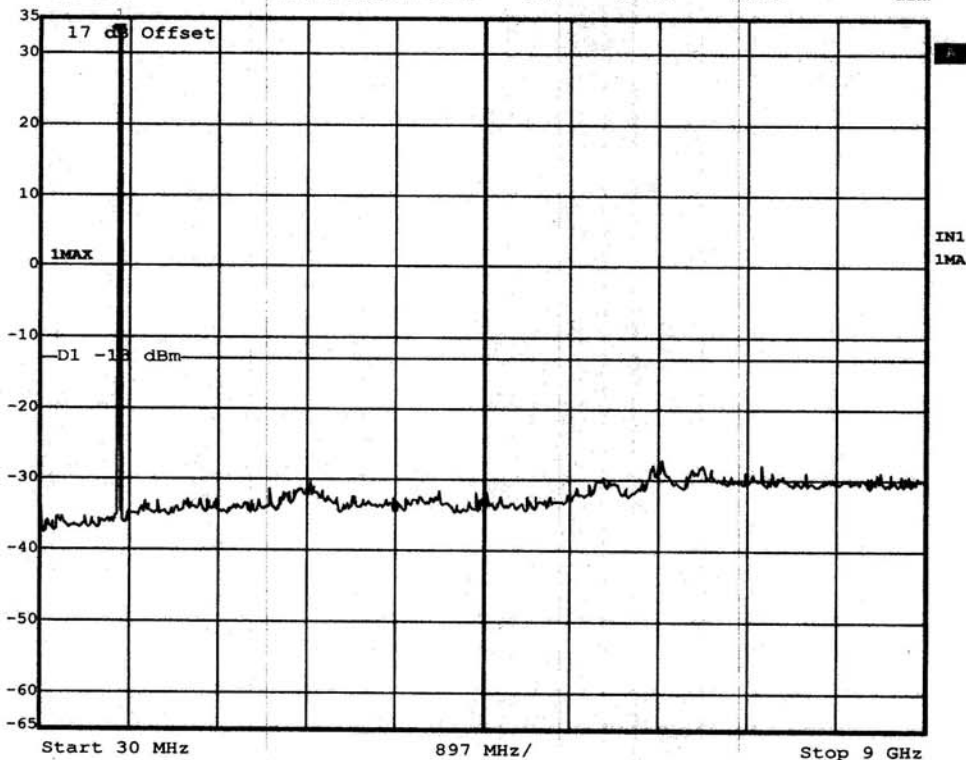
35 dBm

820.94188377 MHz

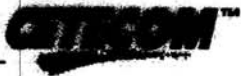
SWT 90 ms

Unit

dBm



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CONDUCTED SPURIOUS EMISSIONS
CHANNEL 251 (GSM-850)
30MHz - 9GHz

Note: The peak above the limit line is the carrier freq. at ch-251.



Marker 1 [T1]

RBW 1 MHz RF Att 30 dB

Ref Lvl 32.78 dBm

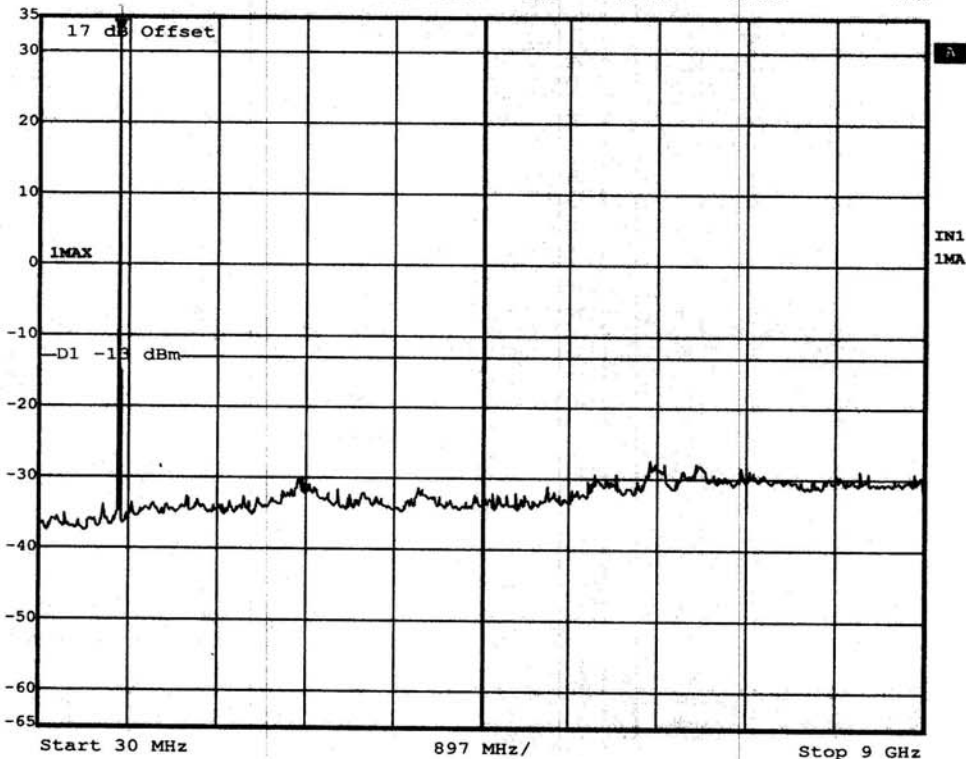
VBW 1 MHz

35 dBm

838.91783567 MHz

SWT 90 ms

Unit dBm



Start 30 MHz

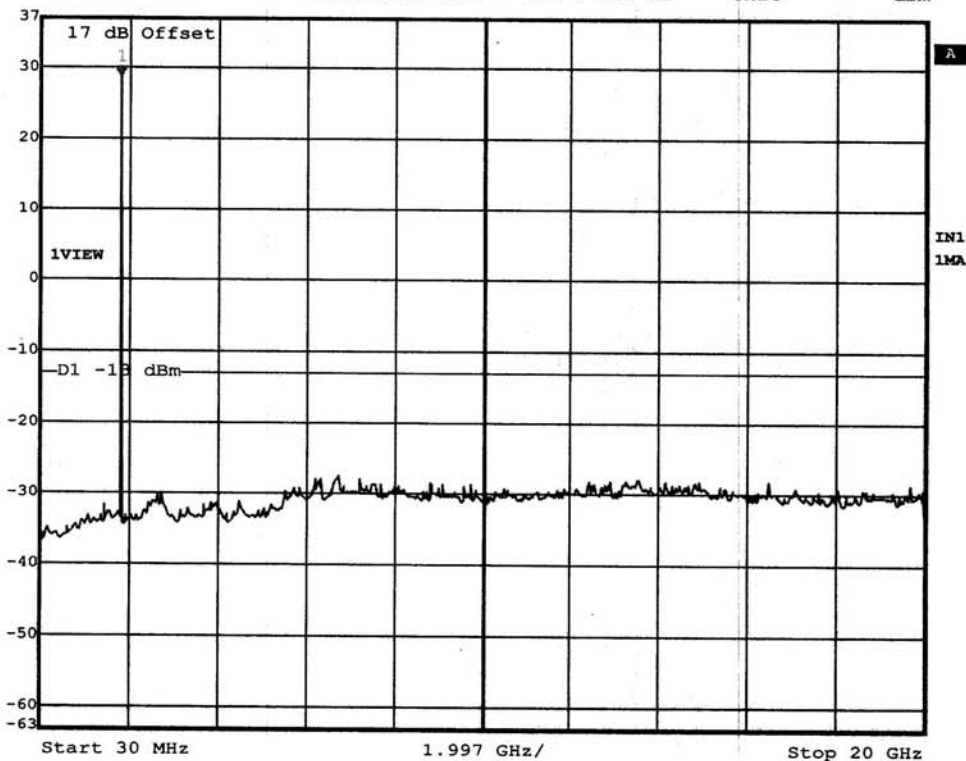
897 MHz/

Stop 9 GHz

CONDUCTED SPURIOUS EMISSIONS
CHANNEL 512 (PCS-1900)
30MHz - 20GHz

Note: The peak above the limit line is the carrier freq. at ch-512.


	Marker 1 [T1]	RBW	1 MHz	RF Att	30 dB
	Ref Lvl	28.75 dBm	VBW	1 MHz	
	37 dBm	1.83090180 GHz	SWT	200 ms	Unit
					dBm

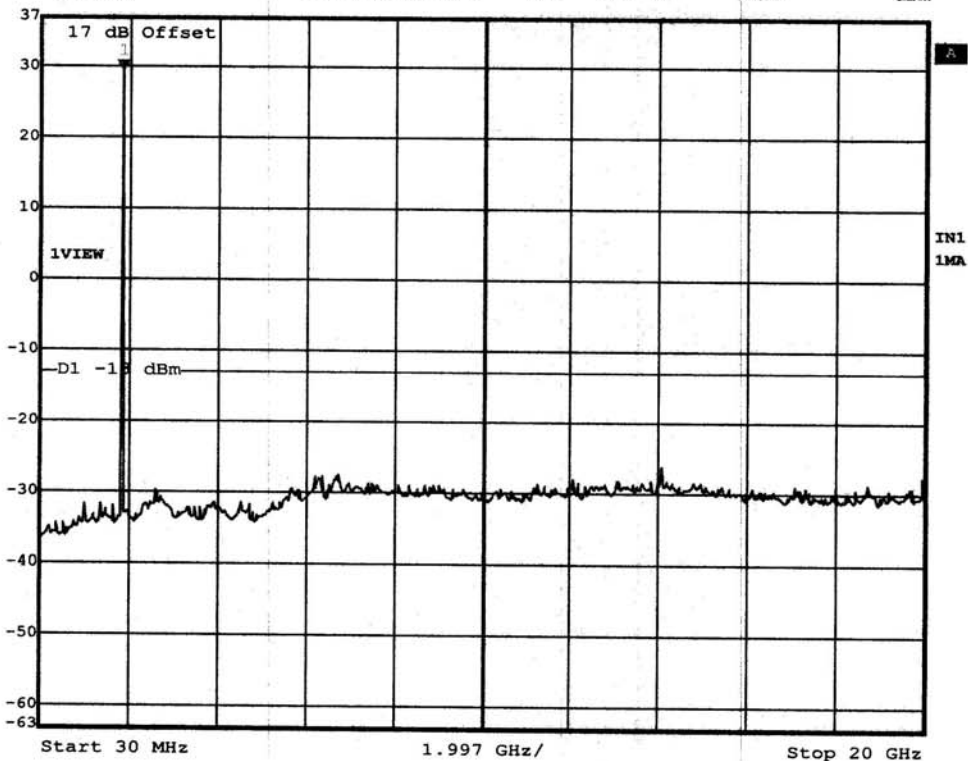




CONDUCTED SPURIOUS EMISSIONS
CHANNEL 661 (PCS-1900)
30MHz - 20GHz

Note: The peak above the limit line is the carrier freq. at ch-661.

 Marker 1 [T1] RBW 1 MHz RF Att 30 dB
Ref Lvl 29.46 dBm VBW 1 MHz
37 dBm 1.87092184 GHz SWT 200 ms Unit dBm





CONDUCTED SPURIOUS EMISSIONS
CHANNEL 810 (PCS-1900)
30MHz - 20GHz

Note: The peak above the limit line is the carrier freq. at ch-810.



Marker 1 [T1]

RBW 1 MHz RF Att 30 dB

Ref Lvl 29.20 dBm

VBW 1 MHz

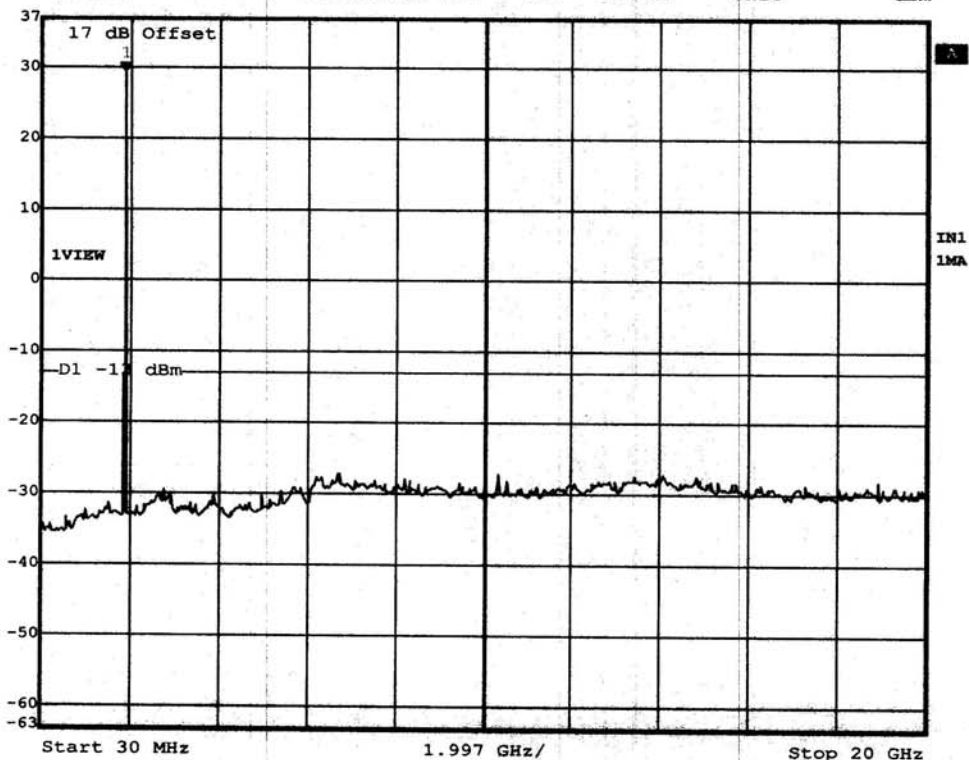
37 dBm

1.91094188 GHz

SWT 200 ms

Unit

dBm





CONDUCTED SPURIOUS EMISSIONS

Idle Mode

30MHz - 20GHz

Note: This plot is valid for both GSM-850/1900 bands. (Worst-case plot)



Marker 1 [T1]

RBW 1 MHz RF Att 30 dB

Ref Lvl -27.58 dBm

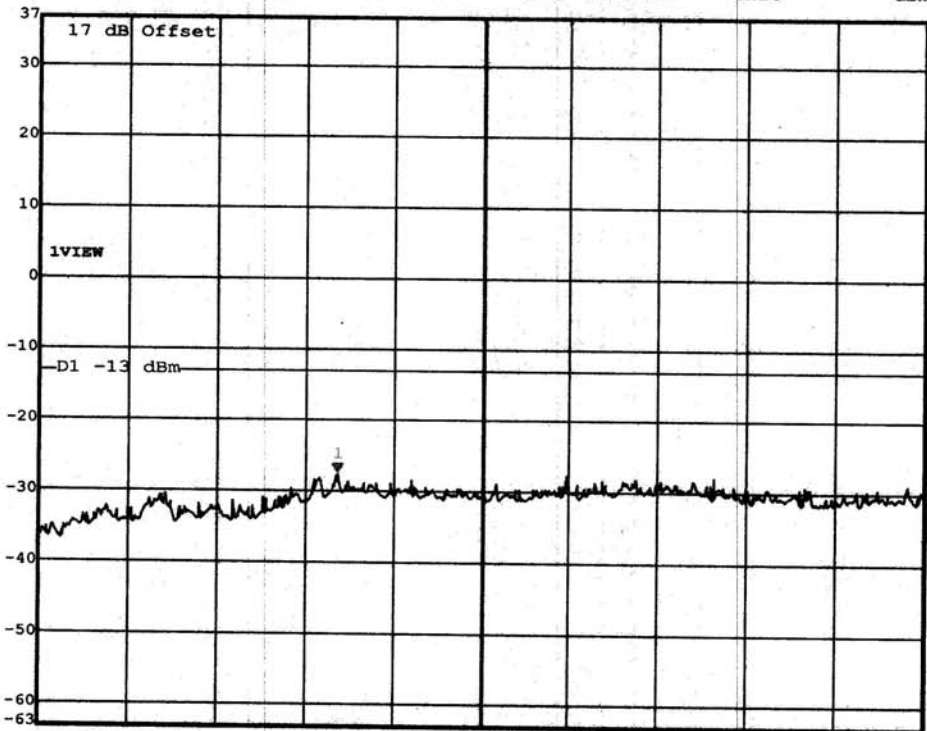
VBW 1 MHz

37 dBm

6.75336673 GHz

SWT 200 ms

Unit dBm



Start 30 MHz

1.997 GHz/

Stop 20 GHz