

Radiated Restricted Band Measurements

§15.205 / §15.209

Special attention is made for the EUT's harmonic and spurious radiated emission in the restricted bands of operations. The EUT was tested from 9kHz and up to the 10th harmonic of the fundamental frequency of the transmitter using CISPR quasi peak detector below 1GHZ. Above 1 GHz, average measurement was used, using RBW = 1MHz, VBW = 10Hz and linearly polarized horn antennas. All harmonics/spurs are at least 20dB below the highest emission in the authorized band using RBW = 100kHz. In addition, peak measurements were taken to ensure that the peak levels are not more than 20dB above the average limit. All out of band emissions, other than those created by the spreading sequence, data sequence, and the carrier modulation must not exceed the limits show in Table A-4 per Section 15.209.

Frequency [MHz]	Field Strength [μV/m]	Measured Distance [Meters]
0.009 - 0.490	2400/F (kHz)	300
0.490 - 1.705	24000/F (kHz)	30
1.705 - 30.00	30	30
30.00 - 88.00	100	3
88.00 - 216.0	150	3
216.0 - 960.0	200	3
Above 960.0	500	3

Table A-4. Radiated Limits

TEST MEASUREMENT EQUIPMENT

Agilent E4448A	PSA Spectrum Analyzer 3Hz - 50GHz
HP 8566B	Spectrum Analyzer 100 Hz - 22GHz
HP 83017A	Microwave Preamplifier 40dB Gain (0.5 - 26.5GHz)
EMCO 3115	Horn Antenna (1 - 18GHz)
EMCO 3116	Horn Antenna (18GHz - 40GHz)
HP 8493B	10dB Attenuator
MicroCoax Cables	Low Loss Microwave Cables (1 - 26.5GHz)

PCTEST™ PT. 15.247 BT TEST REPORT		BLUETOOTH SUPPLEMENTAL DATA		Reviewed by: Quality Manager
Test Report S/N: 0607210622	Test Dates: July 24, 2006	EUT Type: Dual-Band GSM850/1900 Phone with Bluetooth	FCC ID: A3LSGHC417	Page 1 of 3

Radiated Restricted Band Measurements (Cont'd)

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Mode: Bluetooth
 Measurement Distance: 3 Meters
 Operating Frequency: 2480MHz
 Channel: 78

Frequency [MHz]	Level [dBm]	AFCL [dB]	Pol. [H/V]	Field Strength [dBμV/m]	Field Strength [μV/m]	Margin [dB]
2484.97	-114.93	30.81	V	22.88	13.93	-31.10
2489.43	-114.43	30.82	H	23.39	14.77	-30.59
2491.01	-113.73	30.83	H	24.10	16.03	-29.88
2493.16	-115.83	30.83	V	22.00	12.59	-31.98
2495.72	-115.53	30.85	H	22.32	13.06	-31.66
2498.58	-115.03	30.86	V	22.83	13.85	-31.15

Table A-8. Radiated Restricted Band Measurements at 3-meters

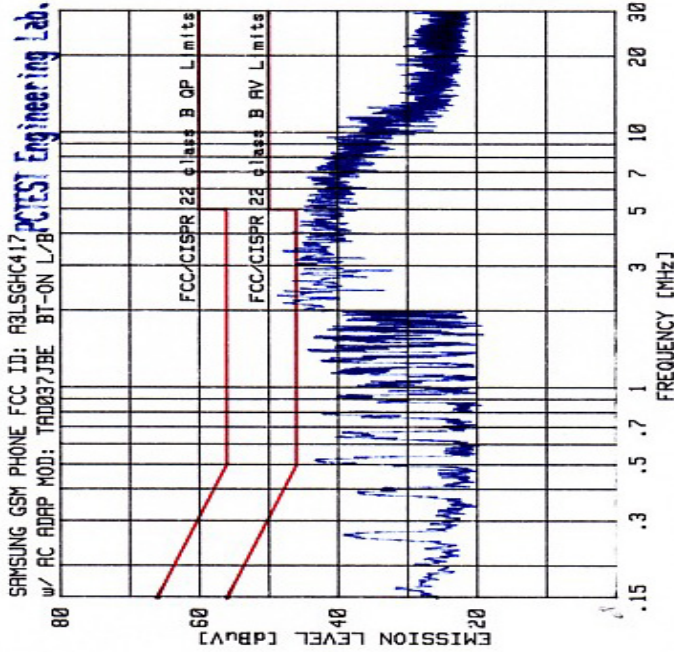
NOTES:

1. The antenna is manipulated through typical positions, polarity and length during the testing.
2. The EUT is supplied with the minimal AC voltage or/and a new/fully re-charged battery.
3. The spectrum is measured from 9kHz up to the 10th harmonic and the worst-case emissions are reported.
4. Above 1 GHz the limit is 500μV/m.
5. < -135 dBm is below the analyzer measurement floor level.
6. The peak emissions above 1 GHz are not more than 20 dB above the average limit.

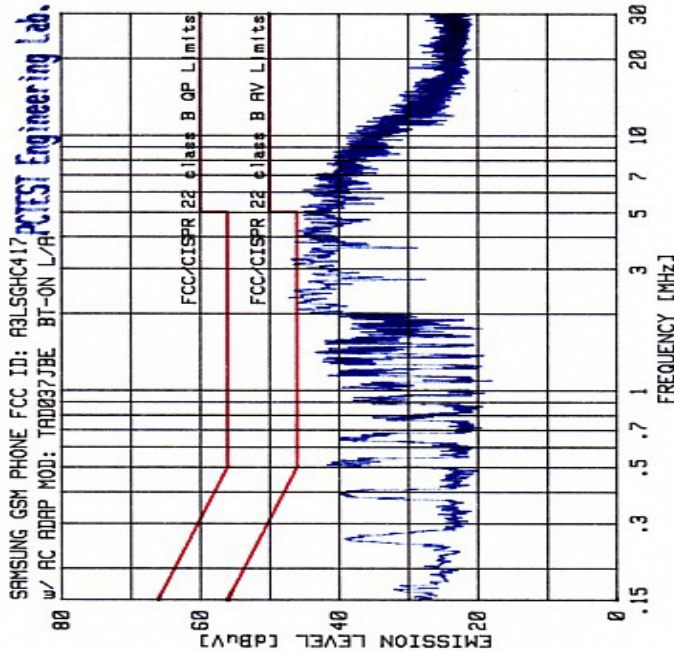
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Line-Conducted Test Data

§15.207



No.	Freq. [MHz]	Quasi-Pk [dBuV]	Limit [dBuV]	Margin [dB]	Average [dBuV]	Limit [dBuV]	Margin [dB]
1	2.268	35.34	56.00	-20.66	19.45	46.00	-26.55
2	3.464	34.60	56.00	-21.40	19.82	46.00	-26.18
3	2.621	36.74	56.00	-19.26	18.17	46.00	-27.83
4	3.997	35.68	56.00	-20.32	18.19	46.00	-27.81
5	3.172	33.37	56.00	-22.63	18.41	46.00	-27.59
6	4.281	34.58	56.00	-21.42	19.75	46.00	-26.25
7	2.753	34.35	56.00	-21.65	18.27	46.00	-27.73
8	3.621	36.07	56.00	-19.93	19.44	46.00	-26.56
9	3.818	35.66	56.00	-20.34	19.78	46.00	-26.22
10	1.395	35.73	56.00	-20.27	17.42	46.00	-28.58



No.	Freq. [MHz]	Quasi-Pk [dBuV]	Limit [dBuV]	Margin [dB]	Average [dBuV]	Limit [dBuV]	Margin [dB]
1	2.230	35.43	56.00	-20.57	20.19	46.00	-25.81
2	3.157	35.53	56.00	-20.47	19.68	46.00	-26.32
3	2.365	37.15	56.00	-18.85	19.89	46.00	-26.11
4	3.741	36.13	56.00	-19.87	19.75	46.00	-26.25
5	2.142	34.13	56.00	-21.87	18.78	46.00	-27.22
6	4.027	35.47	56.00	-20.53	19.58	46.00	-26.42
7	4.154	34.32	56.00	-21.68	19.70	46.00	-26.30
8	5.030	34.84	60.00	-25.16	20.87	50.00	-29.13
9	4.148	35.40	56.00	-20.60	19.86	46.00	-26.14
10	4.624	35.74	56.00	-20.26	19.84	46.00	-26.16

Notes:

1. All Modes of operation were investigated and the worst-case emissions are reported.
2. The limit for Class B device(s) from 150kHz to 30MHz are Specified in EN55022.
3. Line A = Phase; Line B = Neutral
4. Deviations to the Specifications: None.

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