1.4 Configuration of System Under Test

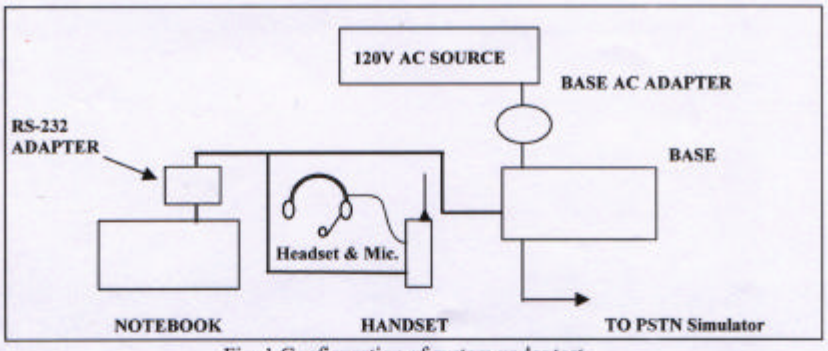

Fig. 1 Configuration of system under test

The tests below are run with the DCT transmitter set at high power in TDD mode .A serial port from a computer to the DCT UUT is needed to force selection of output power level and channel number.

The setting up procedure was recorded in Appendix A.

1.5 Verify the Frequency and Channel

1.5.1 Verify the Frequency Pairs

Channel	Base(MHz)	Handset(MHz)	Channel	Base(MHz)	Handset(MHz)
1	904.20	904.20	11	915.60	915.60
2	904.80	904.80	12	916.80	916.80
3	906.00	906.00	13	918.00	918.00
4	907.20	907.20	14	919.20	919.20
5	908.40	908.40	15	920.40	920.40
6	909.60	909.60	16	921.40	921.40
7	910.80	910.80	17	922.80	922.80
8	912.00	912.00	18	924.00	924.00
9	913.20	913.20	19	925.20	925.20
10	914.40	914.40	20	925.80	925.80

Note:

1.This is for sure that all frequencies are in 902 MHz to 928 MHz.

2.Section 15.31(m): Measurements on intentional radiators or receivers shall be performed at three frequencies for operating frequency range over 10 MHz. (The locations of these frequencies one near the top, one near the middle and one near the bottom.)

3.After test, the EUT operating frequencies are in 904. 20 MHz to 925.80 MHz. So all the items as followed in testing report are need to test these three frequencies: top: channel 1, middle: channel 10, bottom: channel 20.

4.3 Test Result of Fundamental Emissions

The peak values of fundamental emissions from the EUT at various antenna heights, antenna polarization, EUT orientation, etc. are recorded on the following.

Model No. : TK8800

EUT : 900MHz S.S.T. Cordless Phone

Table 6 Open Field Fundamental Emissions

Channel	*Frequency (MHz)*	*A.P. (H/V)*	*A.H. (M)*	*Table (degree)*	*Amplitude (dBuV/m)*	*CF (dB)*	*Corrected Amplitude (dBuV/m)*	*E.R.P.(Peak)*	
								mW	*dBm*
Base 01	904.20	H	1.00	245	111.37	-27.96	83.41	0.066	-11.819
		V	1.00	164	117.58	-27.96	89.62	0.275	-5.609
Base 10	914.40	H	1.00	61	112.60	-28.04	84.56	0.086	-10.669
		V	1.00	121	116.98	-28.04	88.94	0.235	-6.289
Base 20	925.800	H	1.00	320	110.87	-28.20	82.67	0.055	-12.559
		V	1.00	6	118.43	-28.21	90.22	0.316	-5.009
Handset 01	904.20	H	1.00	118	119.23	-27.96	91.27	0.402	-3.959
		V	1.00	345	129.87	-27.96	101.91	4.657	6.681
Handset 10	914.40	H	1.00	197	119.85	-28.04	91.81	0.455	-3.419
		V	1.00	80	129.66	-28.04	101.62	4.356	6.391
Handset 20	925.800	H	1.00	318	120.57	-28.21	92.36	0.517	-2.869
		V	1.00	109	128.01	-28.20	99.81	2.872	4.581

Note:

1. A.P. means antenna polarization, horizontal and vertical.
2. A.H. means antenna height.
3. Table means turntable turning position.
4. Corrected Factor (C. F.) = Cable Loss + Antenna Factor – Amplified Gain
   Corrected Amplitude = Peak Amplitude + Corrected Factor
5. Amplitude means the fundamental emission measured.
6. Effective Radiation Power (E.R.P.) = $(E\ d)^2 / 30G$

E is the measured maximum field strength in V/m utilizing the maximum hold mode RBW (3MHz).
G is the numeric gain of the transmitting antenna over an isotropic radiator (1.00).
d is the distance in meters from which the field strength was measured (3M).

Example: the Max Radiation Emission of base ch01 = 83.41 dBuV/m

$10^{(83.41/20)} \times 10^{-6} = 0.014808$ V

E.R.P. = $(0.014808 \times 3)^2 / 30 = 0.06578$ mW = 10 x log (0.06578 mW/1mW) = -11.819 dBm

5.4 Test Result of Second Harmonic

Set the spectrum RB= 3 MHz, VB = 3MHz and span = 5MHz. The correction factors of the second harmonic is the second harmonic must lower 20 dB than the fundamental.

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Table 7 Second Harmonic Attendation

Channel	*Fundamental (MHz)*	*Fundamental (dBuV/m)*	*2nd Harmonic (GHz)*	*2nd Har. (dBuV/m)*	*Result (F/H dB)*	*Limit (dB)*	*Margin (dB)*
B/S CH 01	904.200	89.62	1.812	45.19	44.43	20.00	24.43
B/S CH 10	914.400	88.94	1.832	47.73	41.21	20.00	21.21
B/S CH 20	925.800	90.22	1.857	47.69	42.53	20.00	22.53
H/S CH 01	904.520	101.91	1.812	52.00	49.91	20.00	29.91
H/S CH 10	914.400	101.62	1.832	54.86	46.76	20.00	26.76
H/S CH 20	925.800	99.81	1.857	54.64	45.17	20.00	25.17

Note:

1.The data in the above table are summarize the following attachment spectrum analyzer hard copy.

2.Result = Fundamental – 2nd Harmonic must over 20 dB.

6.5 Test Result of Power spectral density.

The following table shows a summary of the highest power out of UT.

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EUT : 900MHz S.S.T. Cordless Phone

Table 33. Power Spectral Density

Channel	*Frequency (MHz)*	*Ppr (dBuV)*	*CF (dB)*	*Ppq (dBm)*	*Limit (dB)*	*Margin (dB)*
B/S CH 01	904.20	116.90	-27.97	-6.30	8.00	-14.30
B/S CH 10	914.40	118.53	-28.04	-4.74	8.00	-12.74
B/S CH 20	925.80	121.24	-28.21	-2.20	8.00	-10.20
H/S CH 01	904.20	115.57	-27.97	-7.63	8.00	-15.63
H/S CH 10	914.40	115.74	-28.04	-7.53	8.00	-15.53
H/S CH 20	925.80	114.42	-28.21	-9.02	8.00	-17.02

Note:

1.The attachment follow by this page and there is no page number.

2.Ppr: spectrum read power density (using peak search mode), CF: correct factor, Ppq: actual peak power density in the spread spectrum band.

3.Ppq = Ppr + CF

4. Effective Radiation Power (E.R.P.) = $(E\ d)^2 / 30G$

E is the measured maximum field strength in V/m utilizing the maximum hold mode

RBW (3KHz).

G is the numeric gain of the transmitting antenna over an isotropic radiator (1.00).

d is the distance in meters from which the field strength was measured (3M).

Example: the Max Radiation Emission of base ch01 = 116.90 + (-27.97) = 88.93 dBuV/m

$10^{(88.93/20)} \times 10^{-6} = 0.027958$ V

E.R.P. = $(0.027958 \times 3)^2 / 30 = 0.23449$ mW = 10 x log (0.23449 mW/1mW)

= -6.30 dBm