

Tom 2 hang
Bovey Yang

# RADIO TEST REPORT

Report Reference No. ...... NTEK-2011NT0929276F2

Compiled by (+ signature)......

Tom Zhang

Approved by (+ signature)..... Bovey Yang

Applicant's name...... Donghui Great Techonology Co.Ltd.

Address .....: Room 1510B, Huaqiangbei Seg Plaza, Futian Area,

Shenzhen, Guangdong, China

Manufacture's Name...... Donghui Great Techonology Co.Ltd.

Address .....: Room 1510B, Huaqiangbei Seg Plaza, Futian Area,

Shenzhen, Guangdong, China

**Test specification:** 

Standard .....: FCC Part 15.247

Test procedure ...... ANSI C63.4 : 2003

Non-standard test

method....:

N/A

Test item description

Product name ...... Mobile Phone

FCC ID Z4W1371434385FCC

Rating(s)...... DC 3.7V by battery

**Testing Laboratory information:** 

Testing Laboratory Name .....: NTEK Testing Technology Co., Ltd

Address ...... 1/F, Building E, Fenda Science Park, Sanwei Community,

Xixiang Street, Bao ' an District, Shenzhen P.R. China.

This device described above has been tested by NTEK Testing Technology Co., Ltd, and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

This report shall not be reproduced except in full, without the written approval of NTEK Testing Technology Co., Ltd, this document may be altered or revised by NTEK Testing Technology Co., Ltd, personal only, and shall be noted in the revision of the documen

Testing.....:

Date of receipt of test item..... 29 Sep. 2011

Date (s) of performance of tests ...... : 05 Oct. 2011 ~12 Oct. 2011

Date of Issue ...... 12 Oct. 2011

Test Result ..... Pass



# **Table of Contents**

	Page
1 . SUMMARY OF TEST RESULTS	4
1.1 TEST FACILITY	5
1.2 MEASUREMENT UNCERTAINTY	5
2 . GENERAL INFORMATION	6
2.1 GENERAL DESCRIPTION OF EUT	6
2.2 DESCRIPTION OF TEST MODES	8
2.3 TABLE OF PARAMETERS OF TEXT SOFTWARE SETTING	8
2.4 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTE	D 9
2.5 DESCRIPTION OF SUPPORT UNITS(CONDUCTED MODE)	10
2.6 EQUIPMENTS LIST FOR ALL TEST ITEMS	11
3 . EMC EMISSION TEST	12
3.1 CONDUCTED EMISSION MEASUREMENT	12
3.1.1 POWER LINE CONDUCTED EMISSION LIMITS	12
3.1.2 TEST PROCEDURE	13
3.1.3 DEVIATION FROM TEST STANDARD 3.1.4 TEST SETUP	13 13
3.1.5 EUT OPERATING CONDITIONS	13
3.1.6 TEST RESULTS	14
3.2 RADIATED EMISSION MEASUREMENT	16
3.2.1 RADIATED EMISSION LIMITS	16
3.2.2 TEST PROCEDURE	17
3.2.3 DEVIATION FROM TEST STANDARD	17
3.2.4 TEST SETUP 3.2.5 EUT OPERATING CONDITIONS	18 18
3.2.6 TEST RESULTS (BETWEEN 9KHZ – 1000 MHZ)	19
3.2.7 TEST RESULTS (ABOVE 1000 MHZ)	21
4 . POWER SPECTRAL DENSITY TEST	33
4.1 APPLIED PROCEDURES / LIMIT	33
4.1.1 TEST PROCEDURE	33
4.1.2 DEVIATION FROM STANDARD	33
4.1.3 TEST SETUP	33
4.1.4 EUT OPERATION CONDITIONS 4.1.5 TEST RESULTS	33 34
5 . BANDWIDTH TEST	38
5.1 APPLIED PROCEDURES / LIMIT	38
5.1.1 TEST PROCEDURE	38



# Page 3 of 55 Report No.: NTEK-2011NT0929276F2

# **Table of Contents**

	Page
5.1.2 DEVIATION FROM STANDARD 5.1.3 TEST SETUP	38 38
5.1.4 EUT OPERATION CONDITIONS	38
5.1.5 TEST RESULTS	39
6 . PEAK OUTPUT POWER TEST	43
6.1 APPLIED PROCEDURES / LIMIT	43
6.1.1 TEST PROCEDURE	43
6.1.2 DEVIATION FROM STANDARD	43
6.1.3 TEST SETUP	43
6.1.4 EUT OPERATION CONDITIONS 6.1.5 TEST RESULTS	43 44
6.1.3 IESI RESULIS	44
7. ANTENNA CONDUCTED SPURIOUS EMISSION	45
7.1 APPLIED PROCEDURES / LIMIT	45
7.1.1 TEST PROCEDURE	45
7.1.2 DEVIATION FROM STANDARD	45
7.1.3 TEST SETUP	46
7.1.4 EUT OPERATION CONDITIONS	46
7.1.5 TEST RESULTS	47
8 . RF EXPOSURE TEST	51
8.1 APPLIED PROCEDURES / LIMIT	51
8.1.1 MPE CALCULATION METHOD	52
8.1.2 TEST RESULTS	53
9. EUT TEST PHOTO	54



# 1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

FCC Part15 (15.247) , Subpart C				
Standard Section	Test Item	Judgment	Remark	
15.207	Conducted Emission	PASS		
15.247 (c)	Antenna conducted Spurious Emission	PASS		
15.247 (a)(2)	6dB Bandwidth	PASS		
15.247 (b)	Peak Output Power	PASS		
15.247 (c)	Radiated Spurious Emission	PASS		
15.247 (d)	Power Spectral Density	PASS		
15.203	Antenna Requirement	PASS		
1.1307 1.1310 2.1091 2.1093	RF Exposure Compliance	PASS		



### 1.1 TEST FACILITY

NTEK Testing Technology Co., Ltd

Add.: 1/F, Building E, Fenda Science Park, Sanwei Community, Xixiang Street, Bao'an District, Shenzhen P.R. China.

FCC FRN Registration Nombre:238937; IC Registration Nombre:9270A-1

Page 5 of 55

### 1.2 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement  $\mathbf{y} \pm \mathbf{U}$ , where expended uncertainty  $\mathbf{U}$  is based on a standard uncertainty multiplied by a coverage factor of  $\mathbf{k=2}$ , providing a level of confidence of approximately 95 %  $^{\circ}$ 

No.	Item	Uncertainty
1	Conducted Emission Test	±1.38dB
2	Radiated Emission Test	±3.17dB
3	RF power,conducted	±0.16dB
4	Spurious emissions,conducted	±0.21dB
5	All emissions,radiated(<1G)	±4.68dB
6	All emissions,radiated(>1G)	±4.89dB



# 2. GENERAL INFORMATION

# 2.1 GENERAL DESCRIPTION OF EUT

Equipment	Mobile Phone					
Trade Name	N/A					
Model Name	DH93					
Model Difference	N/A					
OEM Brand/Model Name	N/A	N/A				
Product Description	The EUT is a Dreampad  Operation Frequency:  Modulation Type:  Bit Rate of Transmitter  Number Of Channel  Antenna Designation:  Antenna Gain(Peak)  Output Power:  Based on the application, features, or specification on the in User's Manual, the EUT is considered as an					
Oh ann al List	specification, please refe					
Channel List	Please refer to the Note	۷.				
Power Source	DC Voltage supply					
Power Rating	DC 3.7V					
Connecting I/O Port(s)	Please refer to the User's	s Manual				
Products Covered	N/A					
EUT Modification(s)	N/A					

### Note

1. For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.



2.

	(	Channel Lis	it				
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
01	2412	04	2427	07	2442	10	2457
02	2417	05	2432	08	2447	11	2462
03	2422	06	2437	09	2452		

# 3.

# Table for Filed Antenna

IUDI	Table for thica thicathia							
Ant	Brand	Model Name	Antenna Type	Connector	Gain (dBi)	NOTE		
1	N/A	N/A	Internal antenna	NA	0	N/A		



#### 2.2 DESCRIPTION OF TEST MODES

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

Pretest Mode	Description
Mode 1	802.11b CH1/ CH6/ CH11
Mode 2	802.11g CH1/ CH6/ CH11

Page 8 of 55

For Conducted Emission			
Final Test Mode Description			
TX	Normal Link		

For Radiated Emission			
Final Test Mode Description			
Mode 1	802.11b CH1/ CH6/ CH11		
Mode 2	802.11g CH1/ CH6/ CH11		

#### Note:

- (1) The measurements are performed at the highest, middle, lowest available channels.
- (2) The measurements are performed at all Bit Rate of Transmitter, the highest Bit Rate of Transmitter was the worst data, and was shown.

### 2.3 TABLE OF PARAMETERS OF TEXT SOFTWARE SETTING

During testing channel & power controlling software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product power parameters of WLAN

Test software Version	Test program: N/A			
Frequency	2412 MHz	2437 MHz	2462 MHz	
802.11b	42	42	42	
802.11g	45	45	45	



Page 9 of 55 Report No.: NTEK-2011NT0929276F2

# 2.4 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

E-1 EUT



### 2.5 DESCRIPTION OF SUPPORT UNITS(CONDUCTED MODE)

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Item	Equipment	Mfr/Brand	Model/Type No.	FCC ID	Series No.	Note
E-1	Mobile Phone	N/A	DH93		N/A	EUT

Item	Shielded Type	Ferrite Core	Length	Note

# Note:

- (1) The support equipment was authorized by Declaration of Confirmation.
- (2) For detachable type I/O cable should be specified the length in cm in <code>"Length\_"</code> column.



# 2.6 EQUIPMENTS LIST FOR ALL TEST ITEMS

**Radiation Test equipment** 

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	Agilent	E4407B	160400005	Jul. 06. 2012
2	Test Receiver	R&S	ESPI	101318	Jul. 06. 2012
3	Bilog Antenna	TESEQ	CBL6111D	31216	Jul. 06. 2012
4	50Ω Coaxial Switch	Anritsu	MP59B	6200264416	Jul. 06. 2012
5	Spectrum Analyzer	ADVANTEST	R3132	150900201	Jul. 06. 2012
6	Horn Antenna	EM	EM-AH-10180	2011071402	Jul. 06. 2012
7	Horn Ant	Schwarzbeck	BBHA 9170	9170-181	Jul. 06. 2012
8	Amplifier	EM	EM-30180	060538	Jul. 06. 2012
9	Loop Antenna	ARA	PLA-1030/B	1029	Jul. 06. 2012
10	Power Meter	R&S	NRVS	100696	Jul. 06. 2012
11	Communication Tester	R&S	CMU200	A0304247	Jul. 06. 2012
12	Power Splitter	Agilent	11636A	N/A	Jul. 06. 2012

Page 11 of 55

**Conduction Test equipment** 

OUTIO	Conduction lest equipment					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until	
1	Test Receiver	R&S	ESCI	101160	Jul. 06. 2012	
2	LISN	R&S	ENV216	101313	Jul. 06. 2012	
3	LISN	EMCO	3816/2	00042990	Jul. 06. 2012	
4	50Ω Coaxial Switch	Anritsu	MP59B	6200264417	Jul. 06. 2012	
5	Passive Voltage Probe	R&S	ESH2-Z3	100196	Jul. 06. 2012	
6	Absorbing clamp	R&S	MOS-21	100423	Jul. 06. 2012	



### 3. EMC EMISSION TEST

# 3.1 CONDUCTED EMISSION MEASUREMENT

# 3.1.1 POWER LINE CONDUCTED EMISSION Limits (Frequency Range 150KHz-30MHz)

Page 12 of 55

FREQUENCY (MHz)	Class A (dBuV)		Class B	Standard	
TREQUENCT (MITZ)	Quasi-peak	Average	Quasi-peak	Average	Standard
0.15 -0.5	79.00	66.00	66 - 56 *	56 - 46 *	CISPR
0.50 -5.0	73.00	60.00	56.00	46.00	CISPR
5.0 -30.0	73.00	60.00	60.00	50.00	CISPR

0.15 -0.5	79.00	66.00	66 - 56 *	56 - 46 *	FCC
0.50 -5.0	73.00	60.00	56.00	46.00	FCC
5.0 -30.0	73.00	60.00	60.00	50.00	FCC

#### Note:

- (1) The tighter limit applies at the band edges.
- (2) The limit of " \* " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

The following table is the setting of the receiver

Receiver Parameters	Setting		
Attenuation	10 dB		
Start Frequency	0.15 MHz		
Stop Frequency	30 MHz		
IF Bandwidth	9 kHz		



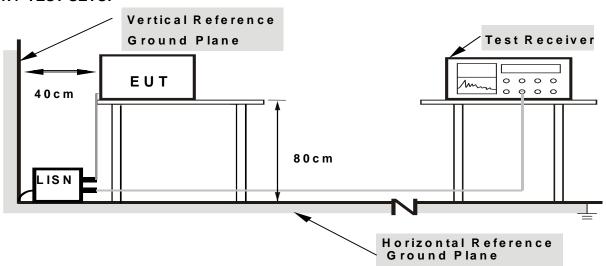
#### 3.1.2 TEST PROCEDURE

- a. The EUT was placed 0.4 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
- b. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
- c. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
- d. LISN at least 80 cm from nearest part of EUT chassis.
- e. For the actual test configuration, please refer to the related Item –EUT Test Photos.

### 3.1.3 DEVIATION FROM TEST STANDARD

No deviation

#### 3.1.4 TEST SETUP



Note: 1.Support units were connected to second LISN.

2.Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes

#### 3.1.5 EUT OPERATING CONDITIONS

The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.



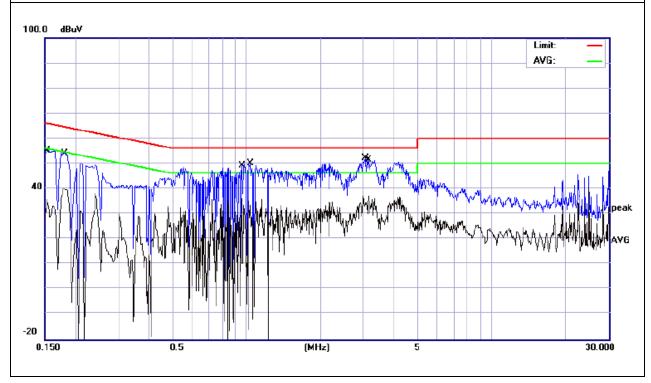
### 3.1.6 TEST RESULTS

EUT:	Mobile Phone	Model Name. :	DH93
Temperature :	26 ℃	Relative Humidity:	54%
Pressure :	1010hPa	Test Date :	2011-10-7
Test Mode:	Normal Link	Phase :	L
Test Voltage :	DC 3.7V		

Page 14 of 55

No. Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
	MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1	0.1539	44.01	11.17	55.18	65.78	-10.60	QP	
2	0.1779	29.41	10.44	39.85	54.58	-14.73	AVG	
3	0.9619	25.60	10.41	36.01	46.00	-9.99	AVG	
4	1.0420	39.73	10.41	50.14	56.00	-5.86	QP	
5 *	3.0459	41.69	10.43	52.12	56.00	-3.88	QP	
6	3.1499	26.78	10.43	37.21	46.00	-8.79	AVG	

- All readings are Quasi-Peak and Average values.
   Factor = Insertion Loss + Cable Loss.
   \*\* means the worst case



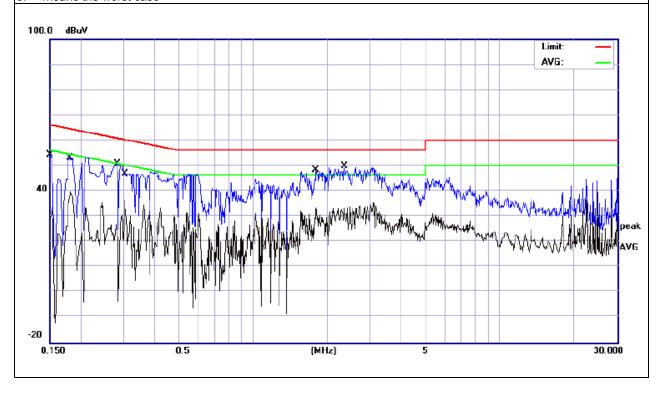


EUT: Mobile Phone Model Name. : DH93 26 ℃ Relative Humidity: 54% Temperature: Pressure: 1010hPa Test Date: 2011-10-7 Test Mode: Normal Link Phase: Ν Test Voltage DC 3.7V

Report No.: NTEK-2011NT0929276F2

No. M	k. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over		
	MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1	0.1507	42.92	11.40	54.32	65.96	-11.64	QP	
2	0.1824	29.04	10.38	39.42	54.37	-14.95	AVG	
3	0.2819	40.11	10.42	50.53	60.76	-10.23	QP	
4	0.3020	25.82	10.42	36.24	50.19	-13.95	AVG	
5 *	1.8020	37.76	10.44	48.20	56.00	-7.80	QP	
6	2.3540	22.87	10.44	33.31	46.00	-12.69	AVG	

- 1. All readings are Quasi-Peak and Average values.
- 2. Factor = Insertion Loss + Cable Loss.
- 3. '\*' means the worst case





### 3.2 RADIATED EMISSION MEASUREMENT

### 3.2.1 RADIATED EMISSION LIMITS (Frequency Range 9kHz-1000MHz)

20dBc in any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

Frequencies	Field Strength	Measurement Distance
(MHz)	(micorvolts/meter)	(meters)
0.009~0.490	2400/F(KHz)	300
0.490~1.705	24000/F(KHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

### LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000MHz)

FREQUENCY (MHz)	Class A (dBu	V/m) (at 3M)	Class B (dBuV/m) (at 3M)		
FREQUENCT (IVITIZ)	PEAK	AVERAGE	PEAK	AVERAGE	
Above 1000	80	60	74	54	

#### Notes:

- (1) The limit for radiated test was performed according to FCC PART 15C.
- (2) The tighter limit applies at the band edges.
- (3) Emission level (dBuV/m)=20log Emission level (uV/m).

Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	10th carrier harmonic
RB / VB (emission in restricted	1 MHz / 1 MHz for Dook, 1 MHz / 10Hz for Average
band)	1 MHz / 1 MHz for Peak, 1 MHz / 10Hz for Average

Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~150kHz / RB 200Hz for QP
Start ~ Stop Frequency	150kHz~30MHz / RB 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RB 120kHz for QP



3.2.2 TEST PROCEDURE

a. The measuring distance of at 3 m shall be used for measurements at frequency up to 1GHz. For frequencies above 1GHz, any suitable measuring distance may be used.

Report No.: NTEK-2011NT0929276F2

- b. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter open area test site. The table was rotated 360 degrees to determine the position of the highest radiation.
- c. The height of the equipment or of the substitution antenna shall be 0.8 m; the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- e. If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed.
- f. For the actual test configuration, please refer to the related Item –EUT Test Photos.

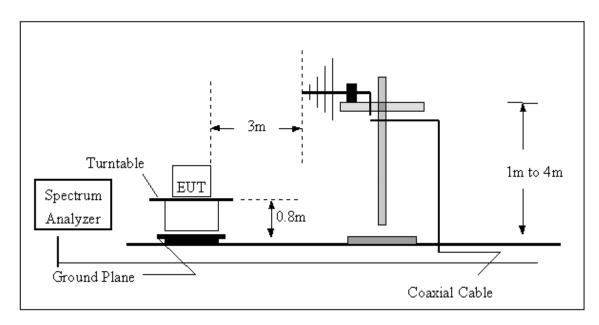
#### 3.2.3 DEVIATION FROM TEST STANDARD

No deviation

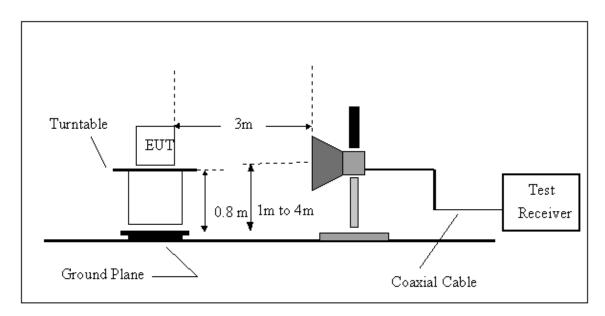


#### 3.2.4 TEST SETUP

(A) Radiated Emission Test Set-Up, Frequency Below 1000MHz



(B) Radiated Emission Test Set-Up Frequency Above 1 GHz



### 3.2.5 EUT OPERATING CONDITIONS

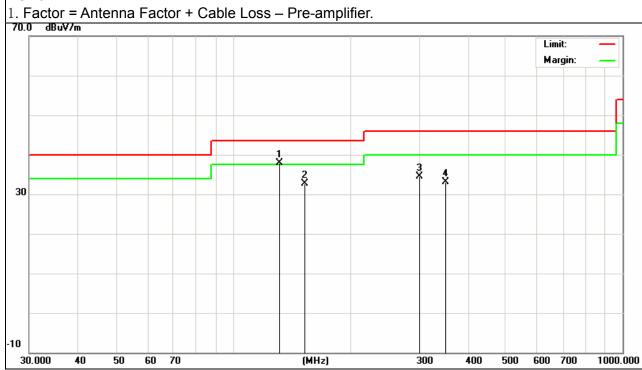
The EUT tested system was configured as the statements of 2.3 Unless otherwise a special operating condition is specified in the follows during the testing.



3.2.6 TEST RESULTS (BETWEEN 9KHZ – 1000 MHZ)

EUT:	Mobile Phone	Model Name. :	DH93
Temperature :	<b>20</b> ℃	Relative Humidity:	48%
Pressure:	1010 hPa	Test Voltage :	DC 3.7V
Test Mode :	TX	Polarization :	Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
131.2100	26.00	11.93	37.93	43.50	-5.57	Quasi-Peak
152.6700	21.21	11.54	32.75	43.50	-10.75	Quasi-Peak
300.3300	19.92	14.57	34.49	46.00	-11.51	Quasi-Peak
351.2100	17.77	15.40	33.17	46.00	-12.83	Quasi-Peak

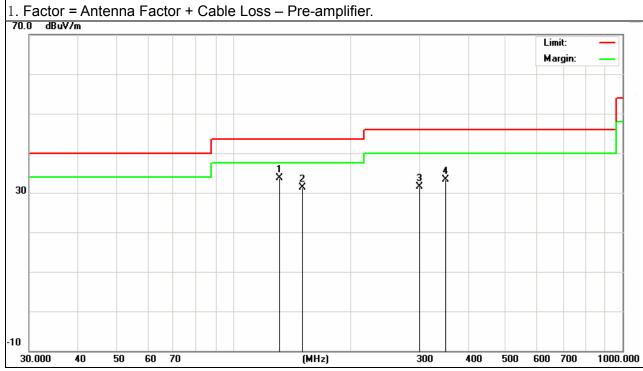






EUT:	Mobile Phone	Model Name. :	DH93
Temperature :	<b>20</b> ℃	Relative Humidity:	48%
Pressure :	1010 hPa	Test Voltage :	DC 3.7V
Test Mode :	TX	Polarization :	Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Dotoctor Typo
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
131.2100	21.77	11.93	33.70	43.50	-9.80	Quasi-Peak
149.5200	19.43	11.79	31.22	43.50	-12.28	Quasi-Peak
300.3300	17.01	14.57	31.58	46.00	-14.42	Quasi-Peak
351.2100	17.99	15.40	33.39	46.00	-12.61	Quasi-Peak





# 3.2.7 TEST RESULTS (ABOVE 1000 MHZ)

EUT:	Mobile Phone	Model Name. :	DH93	
Temperature :	<b>20</b> ℃	Relative Humidity:	48%	
Pressure :	1010 hPa	Test Voltage :	DC 3.7V	
Test Mode :	CH1 (802.11b Mode)	Polarization :	Horizontal	

Page 21 of 55

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Dotoctor Typo
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
2400.00	25.60	32.65	58.25	74.00	-15.75	peak
2400.00	15.12	32.65	47.77	54.00	-6.23	AVG
4824.00	8.12	44.04	52.16	74.00	-21.84	peak
4824.00	0.31	44.04	44.35	54.00	-9.65	AVG
7236.00	1.11	48.03	49.14	74.00	-24.86	peak
7236.00	0.33	48.03	48.36	54.00	-5.64	AVG

- 1. Factor = Antenna Factor + Cable Loss Pre-amplifier.
- 2. No emission detected above 18GHz

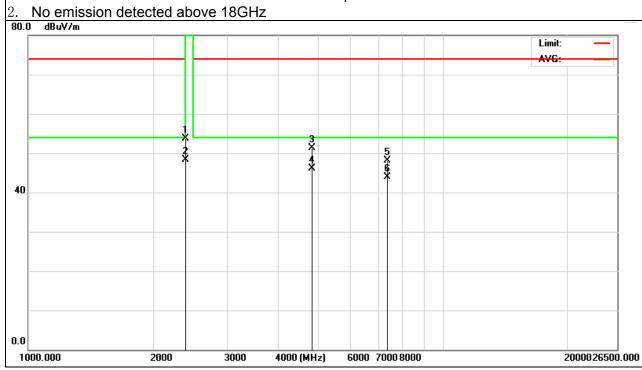




EUT:	Mobile Phone	Model Name. :	DH93
Temperature :	<b>20</b> ℃	Relative Humidity:	48%
Pressure :	1010 hPa	Test Voltage :	DC 3.7V
Test Mode :	CH1 (802.11b Mode)	Polarization :	Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Dotostor Typo
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
2400.00	21.11	32.65	53.76	74.00	-20.24	peak
2400.00	15.67	32.65	48.32	54.00	-5.68	AVG
4824.00	7.32	44.04	51.36	74.00	-22.64	peak
4824.00	2.12	44.04	46.16	54.00	-7.84	AVG
7326.00	0.12	48.03	48.15	74.00	-25.85	peak
7326.00	0.11	48.03	48.14	54.00	-5.86	AVG

- 1. Factor = Antenna Factor + Cable Loss Pre-amplifier.

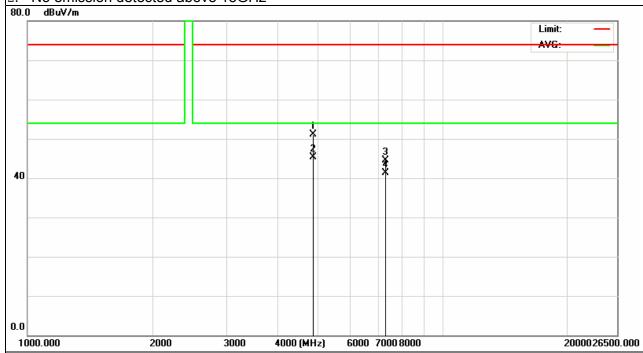


Page 23 of 55 Report No.: NTEK-2011NT0929276F2

EUT:	Mobile Phone	Model Name. :	DH93
Temperature :	<b>20</b> ℃	Relative Humidity:	48%
Pressure :	1010 hPa	Test Voltage :	DC 3.7V
Test Mode :	CH6 (802.11b Mode)	Polarization :	Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Dotostor Typo
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
4874.00	7.12	44.07	51.19	74.00	-22.81	peak
4874.00	1.21	44.07	45.28	54.00	-8.72	AVG
7311.00	0.43	47.97	48.4	74.00	-25.6	peak
7311.00	0.67	47.97	48.64	54.00	-5.36	AVG

- 1. Factor = Antenna Factor + Cable Loss Pre-amplifier.
- 2. No emission detected above 18GHz





Page 24 of 55

EUT:	Mobile Phone	Model Name. :	DH93
Temperature :	<b>20</b> ℃	Relative Humidity:	48%
Pressure :	1010 hPa	Test Voltage :	DC 3.7V
Test Mode :	CH6 (802.11b Mode)	Polarization :	Vertical

Report No.: NTEK-2011NT0929276F2

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Dotostor Typo
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
4874.00	6.67	44.07	50.74	74.00	-23.26	peak
4874.00	0.67	44.07	44.74	54.00	-9.26	AVG
7311.00	0.14	47.97	48.11	74.00	-25.89	peak
7311.00	0.46	47.97	48.43	54.00	-5.57	AVG

- 1. Factor = Antenna Factor + Cable Loss Pre-amplifier.

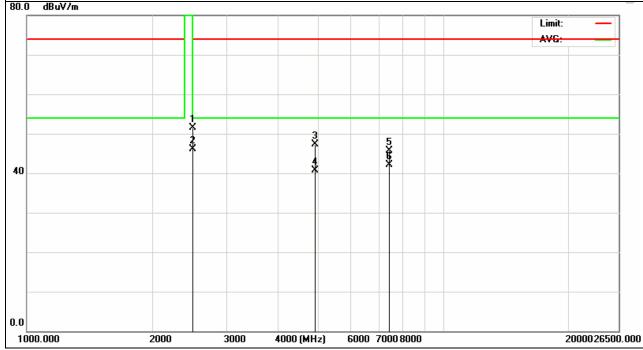


Page 25 of 55 Report No.: NTEK-2011NT0929276F2

EUT:	Mobile Phone	Model Name. :	DH93
Temperature :	<b>20</b> ℃	Relative Humidity:	48%
Pressure:	1010 hPa	Test Voltage :	DC 3.7V
Test Mode :	CH11 (802.11b Mode)	Polarization :	Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Datastar Tuna
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
2483.5	18.24	33.27	51.51	74.00	-22.49	peak
2483.5	12.91	33.27	46.18	54.00	-7.82	AVG
4924.00	3.17	44.10	47.27	74.00	-26.73	peak
4924.00	0.33	44.10	44.43	54.00	-9.57	AVG
7386.00	0.51	48.31	46.31	74.00	-27.69	peak
7386.00	0.13	48.31	48.44	54.00	-5.56	AVG

- 1. Factor = Antenna Factor + Cable Loss Pre-amplifier.
- 2. No emission detected above 18GHz

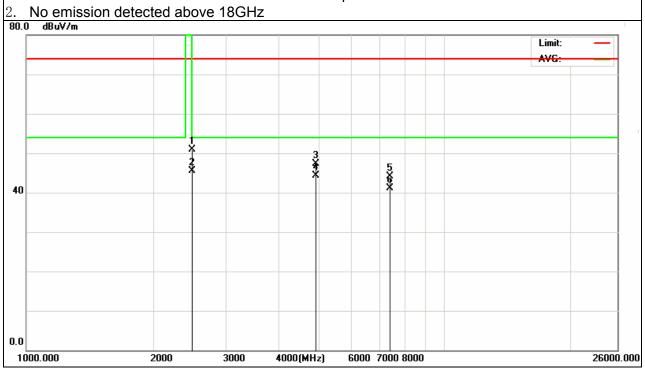


Page 26 of 55 Report No.: NTEK-2011NT0929276F2

EUT:	Mobile Phone	Model Name. :	DH93
Temperature :	<b>20</b> ℃	Relative Humidity:	48%
Pressure :	1010 hPa	Test Voltage :	DC 3.7V
Test Mode :	CH11 (802.11b Mode)	Polarization :	Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
2483.5	19.45	33.27	52.72	74.00	-21.28	peak
2483.5	13.47	33.27	46.74	54.00	-7.26	AVG
4924.00	4.29	44.10	48.39	74.00	-25.61	peak
4924.00	0.87	44.10	44.97	54.00	-9.03	AVG
7386.00	1.59	48.31	49.9	74.00	-24.1	peak
7386.00	0.48	48.31	48.79	54.00	-5.21	AVG

- 1. Factor = Antenna Factor + Cable Loss Pre-amplifier.



Page 27 of 55 Report No.: NTEK-2011NT0929276F2

EUT:	Mobile Phone	Model Name. :	DH93
Temperature :	<b>20</b> ℃	Relative Humidity:	48%
Pressure :	1010 hPa	Test Voltage :	DC 3.7V
Test Mode :	CH1 (802.11g Mode)	Polarization :	Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Dotostor Typo
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
2400.00	19.50	32.65	52.15	74.00	-21.85	peak
2400.00	15.23	32.65	47.88	54.00	-6.12	AVG
4824.00	0.23	44.04	44.27	74.00	-29.73	peak
4824.00	0.11	44.04	44.15	54.00	-9.85	AVG
7236.00	1.21	48.03	49.24	74.00	-24.76	peak
7236.00	0.23	48.03	48.26	54.00	-5.74	AVG

- 1. Factor = Antenna Factor + Cable Loss Pre-amplifier.



Page 28 of 55 Report No.: NTEK-2011NT0929276F2

EUT:	Mobile Phone	Model Name. :	DH93
Temperature :	<b>20</b> ℃	Relative Humidity:	48%
Pressure :	1010 hPa	Test Voltage :	DC 3.7V
Test Mode :	CH1 (802.11g Mode)	Polarization :	Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
2400.00	17.77	32.65	50.42	74.00	-23.58	peak
2400.00	12.65	32.65	45.30	54.00	-8.70	AVG
4824.00	4.58	44.04	48.62	74.00	-25.38	peak
4824.00	3.39	44.04	47.43	54.00	-6.57	AVG
7236.00	1.13	48.63	49.76	74.00	-24.24	peak
7236.00	0.46	48.63	49.09	54.00	-4.91	AVG

- 1. Factor = Antenna Factor + Cable Loss Pre-amplifier.





Page 29 of 55

EUT:	Mobile Phone	Model Name. :	DH93
Temperature :	<b>20</b> ℃	Relative Humidity:	48%
Pressure :	1010 hPa	Test Voltage :	DC 3.7V
Test Mode :	CH6 (802.11g Mode)	Polarization :	Horizontal

Report No.: NTEK-2011NT0929276F2

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Dotostor Typo
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
4874.00	6.37	44.07	50.44	74.00	-23.56	peak
4874.00	2.19	44.07	46.26	54.00	-7.74	AVG
7311.00	5.14	47.97	53.11	74.00	-20.89	peak
7311.00	0.24	47.97	48.21	54.00	-5.79	AVG

- 1. Factor = Antenna Factor + Cable Loss Pre-amplifier.

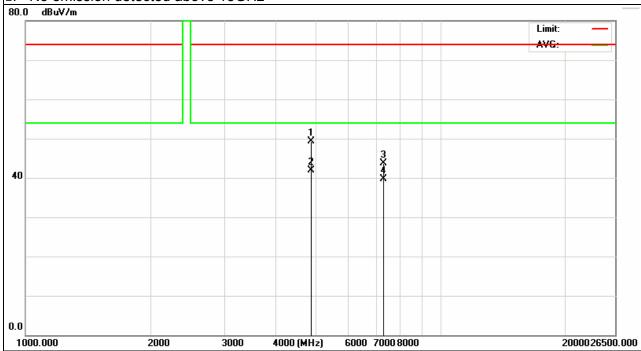




EUT:	Mobile Phone	Model Name. :	DH93
Temperature :	20 ℃	Relative Humidity:	48%
Pressure :	1010 hPa	Test Voltage :	DC 3.7V
Test Mode :	CH6 (802.11g Mode)	Polarization :	Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Dotostor Typo
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
4874.00	5.32	44.07	49.39	74.00	-24.61	peak
4874.00	2.13	44.07	46.2	54.00	-7.8	AVG
7311.00	4.26	47.97	52.23	74.00	-21.77	peak
7311.00	0.26	47.97	48.23	54.00	-5.77	AVG

- 1. Factor = Antenna Factor + Cable Loss Pre-amplifier.
- 2. No emission detected above 18GHz

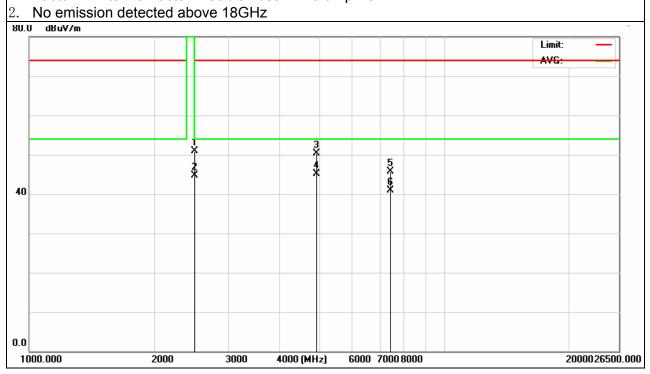




EUT:	Mobile Phone	Model Name. :	DH93
Temperature :	<b>20</b> ℃	Relative Humidity:	48%
Pressure:	1010 hPa	Test Voltage :	DC 3.7V
Test Mode :	CH11 (802.11g Mode)	Polarization :	Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Dotostor Typo
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
2483.5	17.56	33.27	50.83	74.00	-23.17	peak
2483.5	11.44	33.27	44.71	54.00	-9.29	AVG
4924.00	6.21	44.10	50.31	74.00	-23.69	peak
4924.00	1.01	44.10	45.11	54.00	-8.89	AVG
7386.00	2.51	48.31	50.82	74.00	-23.18	peak
7386.00	0.31	48.31	48.62	54.00	-5.38	AVG

- 1. Factor = Antenna Factor + Cable Loss Pre-amplifier.

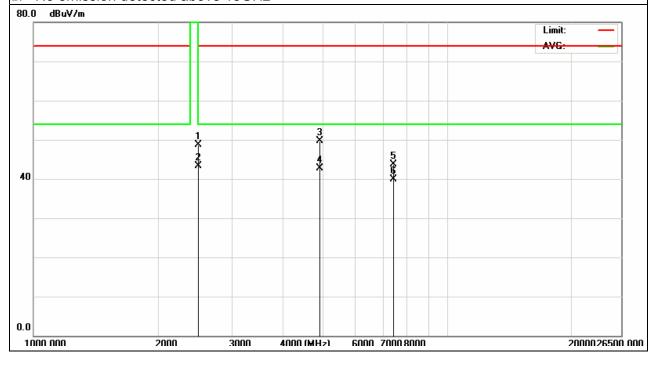




EUT: Mobile Phone Model Name. : DH93 Relative Humidity: **20** ℃ Temperature: 48% Test Voltage : Pressure: 1010 hPa DC 3.7V Test Mode : CH11(802.11g Mode) Polarization: Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Dotostor Typo
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
2483.50	15.49	33.27	48.76	74.00	-25.24	peak
2483.50	9.98	33.27	43.25	54.00	-10.75	AVG
4924.00	5.69	44.10	49.77	74.00	-24.21	peak
4924.00	1.31	44.10	45.41	54.00	-8.59	AVG
7386.00	4.51	48.31	52.82	74.00	-21.18	peak
7386.00	0.35	48.31	48.66	54.00	-5.34	AVG

- 1. Factor = Antenna Factor + Cable Loss Pre-amplifier.
- 2. No emission detected above 18GHz





### 4. POWER SPECTRAL DENSITY TEST

#### 4.1 APPLIED PROCEDURES / LIMIT

	FCC Part15 (15.247) , Subpart C					
Section	Test Item	Limit	Frequency Range (MHz)	Result		
15.247 (d)	Power Spectral Density	8 dBm (in any 3KHz)	2400-2483.5	PASS		

Page 33 of 55

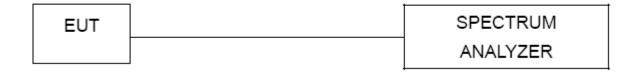
Spectrum Parameters	Setting
Attenuation	Auto
Span Frequency	> Operating Frequency Range
RB	3 kHz
VB	30 kHz
Detector	Peak
Trace	Max Hold
Sweep Time	500s

#### **4.1.1 TEST PROCEDURE**

#### 4.1.2 DEVIATION FROM STANDARD

No deviation.

### 4.1.3 TEST SETUP



### **4.1.4 EUT OPERATION CONDITIONS**

The EUT tested system was configured as the statements of 2.3 Unless otherwise a special operating condition is specified in the follows during the testing.

a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,

b. Spectrum Setting: RBW= 3KHz, VBW=30KHz, Sweep time = 500s.

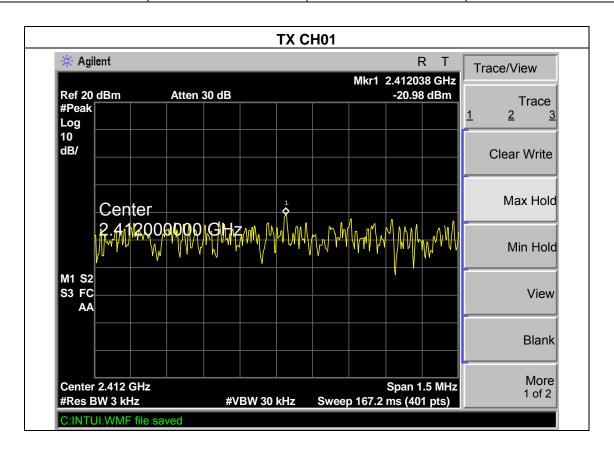


#### 4.1.5 TEST RESULTS

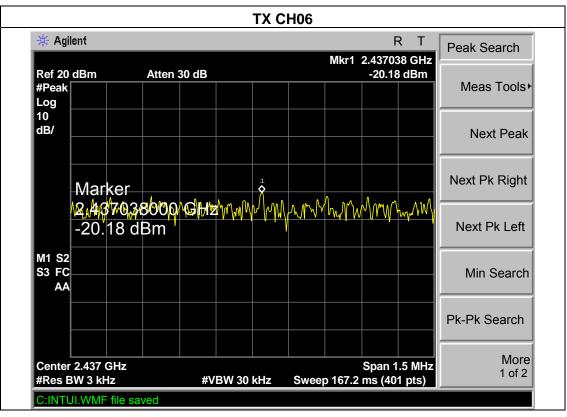
EUT:	Mobile Phone	Model Name. :	DH93	
Temperature :	<b>25</b> ℃	Relative Humidity:	60%	
Pressure :	1015 hPa	Test Voltage :	DC 3.7V	
Test Mode :	TX B MODE /CH01, CH06, CH11			

Page 34 of 55

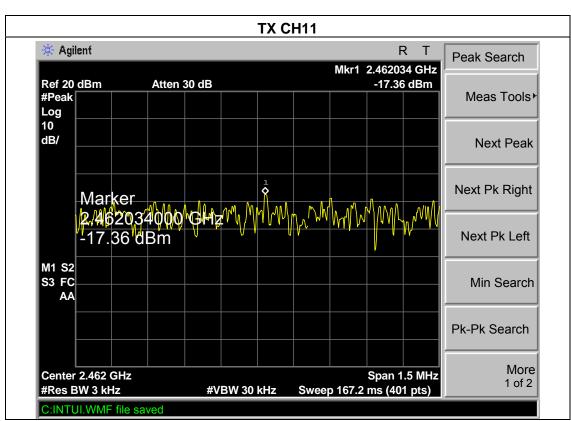
Frequer	ncy		imit IBm)	Result
2412 M	Hz -20	0.98	8	PASS
2437 M	Hz -2	0.18	8	PASS
2462 M	Hz -1	7.36	8	PASS







Page 35 of 55





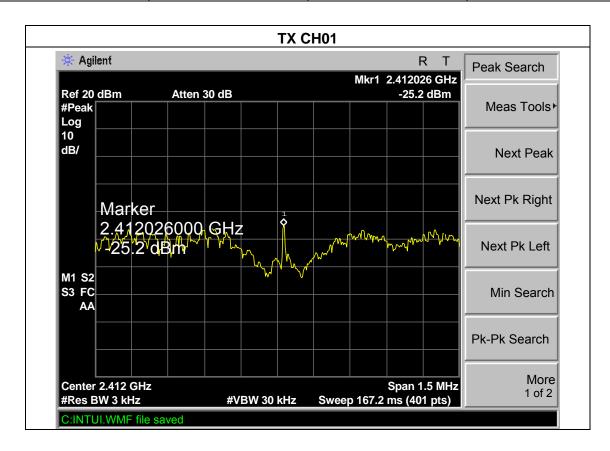
EUT: Mobile Phone Model Name. : DH93

Temperature: 25 °C Relative Humidity: 60%

Pressure: 1015 hPa Test Voltage: DC 3.7V

Test Mode: TX G MODE /CH01, CH06, CH11

Frequency	Power Density (dBm)	Limit (dBm)	Result
2412 MHz	-25.2	8	PASS
2437MHz	-24.54	8	PASS
2462 MHz	-24.05	8	PASS







Page 37 of 55





#### 5. BANDWIDTH TEST

#### 5.1 APPLIED PROCEDURES / LIMIT

711 1 112 1 110 012 0112 0 1 1 1 1 1 1 1						
	FCC Part15 (15.247) , Subpart C					
Section	Test Item	Limit	Frequency Range (MHz)	Result		
15.247 (a)(2)	Bandwidth	>= 500KHz (6dB bandwidth)	2400-2483.5	PASS		

Spectrum Parameter	Setting	
Attenuation	Auto	
Span Frequency	> Measurement Bandwidth or Channel Separation	
RB	30 kHz (20dB Bandwidth) / 100 kHz (Channel Separation)	
VB	100 kHz (20dB Bandwidth) / 300 kHz (Channel Separation)	
Detector	Peak	
Trace	Max Hold	
Sweep Time	Auto	

#### **5.1.1 TEST PROCEDURE**

#### **5.1.2 DEVIATION FROM STANDARD**

No deviation.

### 5.1.3 TEST SETUP



#### **5.1.4 EUT OPERATION CONDITIONS**

The EUT tested system was configured as the statements of 2.3 Unless otherwise a special operating condition is specified in the follows during the testing.

a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,

b. Spectrum Setting: RBW= 100KHz, VBW=100KHz, Sweep time = Auto.

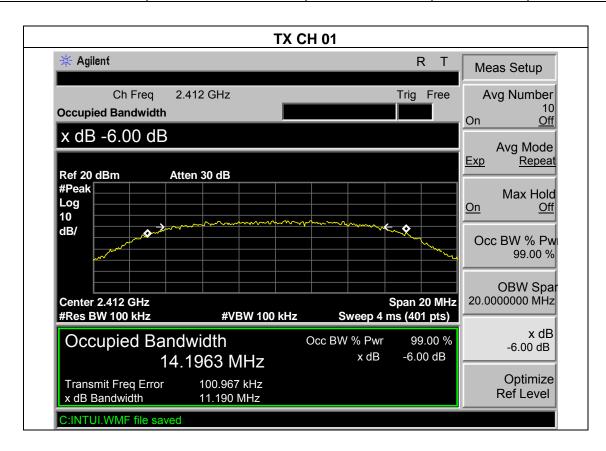


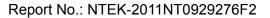
#### **5.1.5 TEST RESULTS**

EUT:	Mobile Phone	Model Name. :	DH93	
Temperature :	<b>25</b> ℃	Relative Humidity:	60%	
Pressure :	1012 hPa Test Voltage : DC 3.7V			
Test Mode :	TX B MODE /CH01, CH06, CH11			

Page 39 of 55

Frequency	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	Channel Separation (MHz)	Result
2412 MHz	11.19	14.19	>=500KHz	PASS
2437 MHz	11.18	14.19	>=500KHz	PASS
2462 MHz	11.18	14.17	>=500KHz	PASS





Signal Track

Scale Type

Log

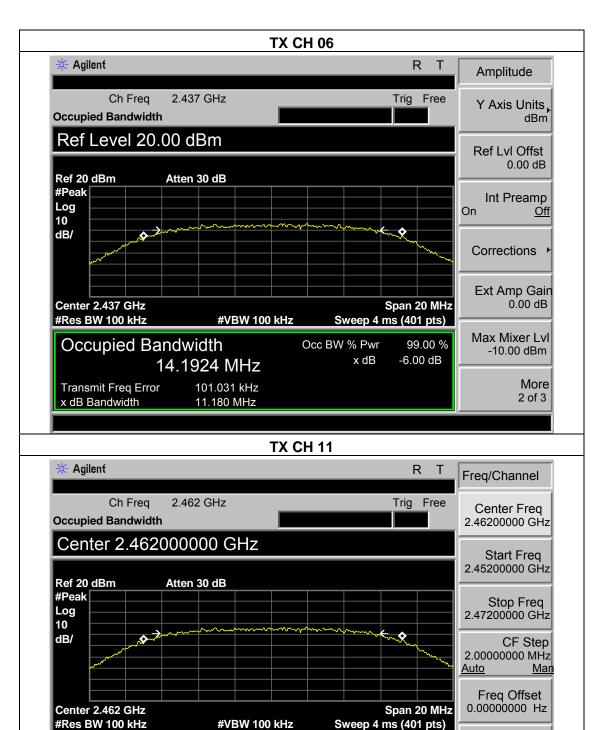
Off

Lin

99.00 %

-6.00 dB





Occ BW % Pwr

x dB

Occupied Bandwidth

Transmit Freq Error

C:INTUI.WMF file saved

x dB Bandwidth

14.1752 MHz

100.011 kHz

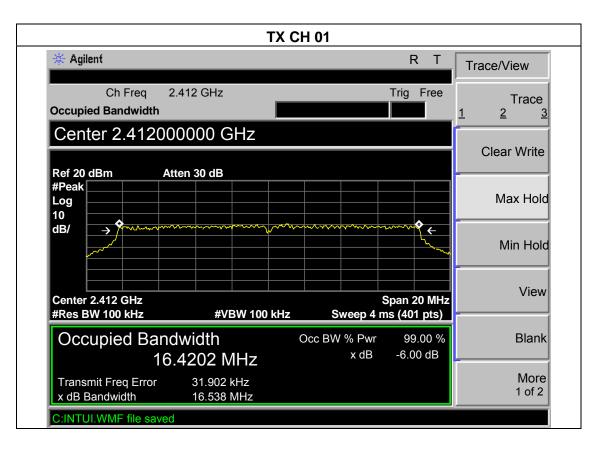
11.186 MHz



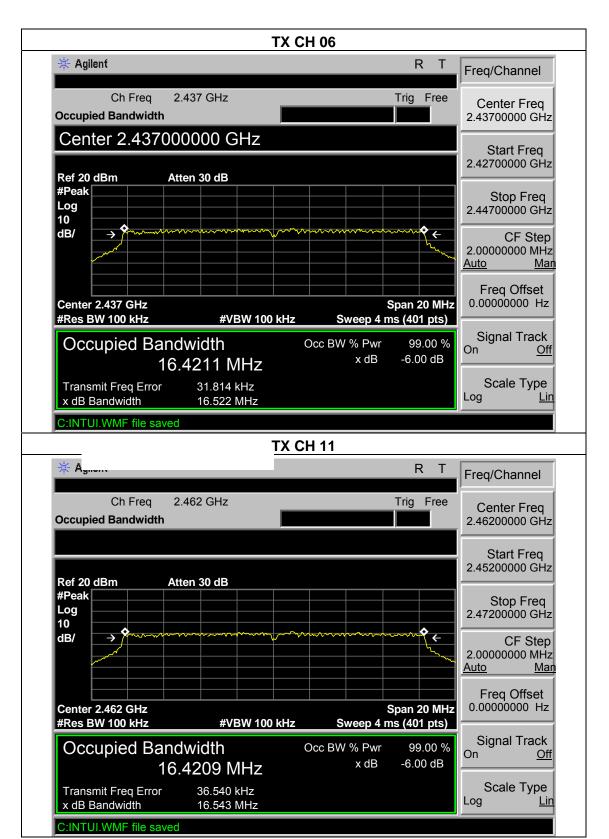
Page 41 of 55 Report No.: NTEK-2011NT0929276F2

EUT:	Mobile Phone	Model Name. :	DH93
Temperature:	<b>25</b> ℃	Relative Humidity:	60%
Pressure :	1012 hPa	Test Voltage :	DC 3.7V
Test Mode :	TX G MODE /CH01, CH06, CH11		

Frequency	6dB Bandwidth (MHz)	99% Occupied BW (MHz)	Channel Separation (MHz)	Result
2412 MHz	16.53	16.42	>=500KHz	PASS
2437 MHz	16.52	16.42	>=500KHz	PASS
2462 MHz	16.54	16.42	>=500KHz	PASS









Report No.: NTEK-2011NT0929276F2

### **6. PEAK OUTPUT POWER TEST**

### **6.1 APPLIED PROCEDURES / LIMIT**

	FCC Part15 (15.247) , Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result	
15.247 (b)(1)	Peak Output Power	1 watt or 30dBm	2400-2483.5	PASS	

### **6.1.1 TEST PROCEDURE**

a. The EUT was directly connected to the Power meter

### **6.1.2 DEVIATION FROM STANDARD**

No deviation.

### 6.1.3 TEST SETUP



### **6.1.4 EUT OPERATION CONDITIONS**

The EUT tested system was configured as the statements of 2.3 Unless otherwise a special operating condition is specified in the follows during the testing.



# 6.1.5 TEST RESULTS

EUT:	Mobile Phone	Model Name. :	DH93
Temperature:	<b>25</b> ℃	Relative Humidity:	60%
Pressure :	1012 hPa	Test Voltage :	DC 3.7V
Test Mode :	TX B MODE /CH01, CH06, CH11		

Test Channel	Frequency (MHz)	Average output power (dBm)	LIMIT (dBm)	LIMIT (W)
CH01	2412	10.41	30	1
CH06	2437	10.09	30	1
CH11	2462	10.01	30	1

EUT:	Mobile Phone	Model Name :	DH93
Temperature :	<b>25</b> ℃	Relative Humidity:	60%
Pressure :	1012 hPa	Test Voltage :	DC 3.7V
Test Mode :	TX G MODE /CH01, CH06, CH11		

Test Channel	Frequency (MHz)	Average output power (dBm)	LIMIT (dBm)	LIMIT (W)
CH01	2412	9.98	30	1
CH06	2437	9.53	30	1
CH11	2462	9.24	30	1



### 7. ANTENNA CONDUCTED SPURIOUS EMISSION

#### 7.1 APPLIED PROCEDURES / LIMIT

20dBc in any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

Frequencies (MHz)	Field Strength (micorvolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(KHz)	300
0.490~1.705	24000/F(KHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

The following table is the setting of the spectrum analyzer.

Spectrum Parameter	Setting	
Attenuation	Auto	
Span Frequency	100 MHz	
RB / VB (emission in restricted band)	1MHz / 1MHz for Peak, 1 MHz / 10Hz for Average	
RB / VB (other emission)	100 KHz /100 KHz for Peak	

### 7.1.1 TEST PROCEDURE

- a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
- b. Spectrum Setting: RBW= 100KHz, VBW=100KHz, Sweep time = Auto.

### 7.1.2 DEVIATION FROM STANDARD

No deviation.



Report No.: NTEK-2011NT0929276F2

### 7.1.3 TEST SETUP

EUT	SPECTRUM
	ANALYZER

## 7.1.4 EUT OPERATION CONDITIONS

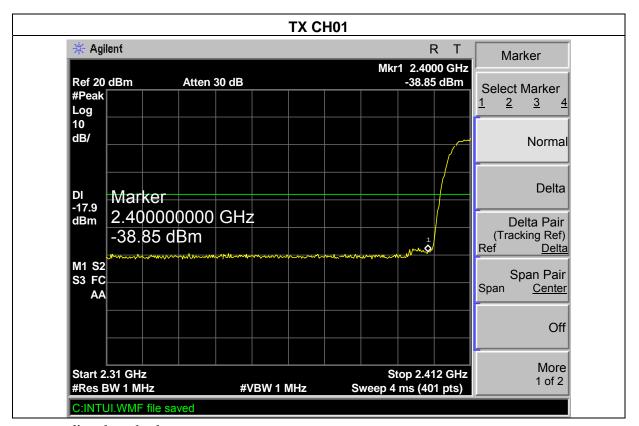
The EUT tested system was configured as the statements of 2.3 Unless otherwise a special operating condition is specified in the follows during the testing.



### 7.1.5 TEST RESULTS

EUT:	Mobile Phone	Model Name :	DH93
Temperature :	<b>25</b> ℃	Relative Humidity:	60%
Pressure :	1012 hPa	Test Voltage :	DC 3.7V
Test Mode :	TX B MODE /CH01, CH11		

Page 47 of 55



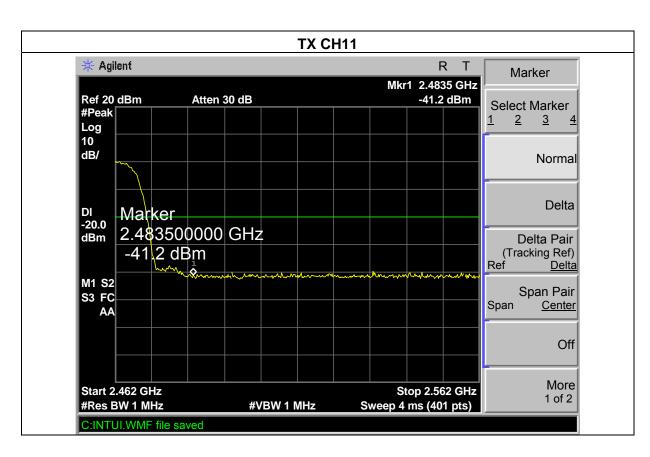
### Horizontal(radiated method)

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
2400.00	19.50	32.65	52.15	74.00	-21.85	peak
2400.00	15.23	32.65	47.88	54.00	-6.12	AVG

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
2400.00	17.77	32.65	50.42	74.00	-23.58	peak
2400.00	12.65	32.65	45.30	54.00	-8.70	AVG



Page 48 of 55



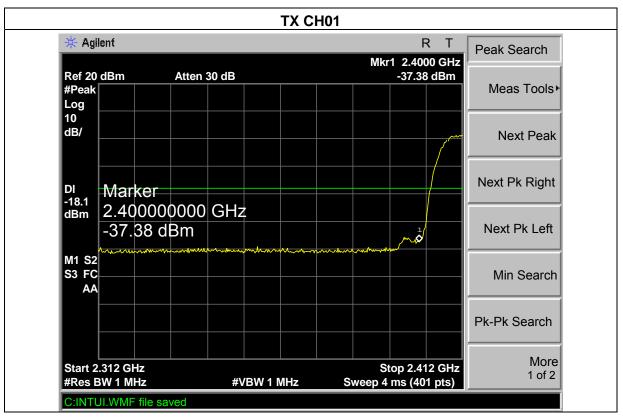
### Horizontal(radiated method)

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
2483.5	18.24	33.27	51.51	74.00	-22.49	peak
2483.5	12.91	33.27	46.18	54.00	-7.82	AVG

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Dotostor Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
2483.50	15.49	33.27	48.76	74.00	-25.24	peak
2483.50	9.98	33.27	43.25	54.00	-10.75	AVG

Page 49 of 55 Report No.: NTEK-2011NT0929276F2

EUT:	Mobile Phone	Model Name :	DH93
Temperature :	<b>25</b> ℃	Relative Humidity:	60%
Pressure:	1012 hPa	Test Voltage :	DC 3.7V
Test Mode :	TX G MODE /CH01, CH11		

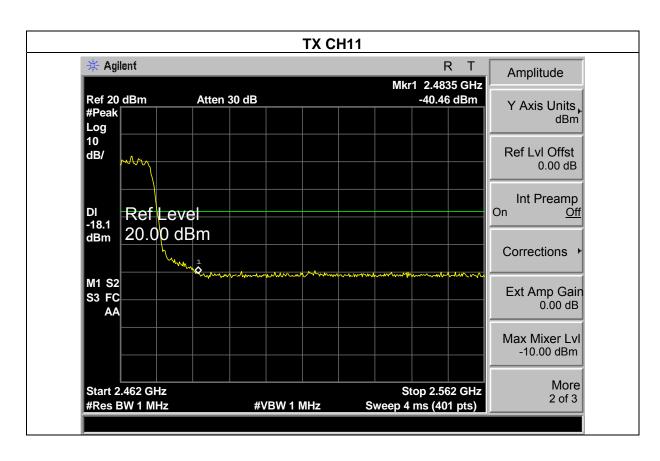


### Horizontal(radiated method)

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
2400.00	17.77	32.65	50.42	74.00	-23.58	peak
2400.00	12.65	32.65	45.30	54.00	-8.70	AVG

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
2400.00	17.77	32.65	50.42	74.00	-23.58	peak
2400.00	12.65	32.65	45.30	54.00	-8.70	AVG





### Horizontal(radiated method)

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
2483.5	17.56	33.27	50.83	74.00	-23.17	peak
2483.5	11.44	33.27	44.71	54.00	-9.29	AVG

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
2483.50	15.49	33.27	48.76	74.00	-25.24	peak
2483.50	9.98	33.27	43.25	54.00	-10.75	AVG



#### 8. RF EXPOSURE TEST

#### 8.1 APPLIED PROCEDURES / LIMIT

These devices are not exempted from compliance does not exceed the Commission's RF exposure guidelines. Unless a device operates at substantially low power levels, with a low gain antenna(s), supporting information is generally needed to establish the various potential operating configurations and exposure conditions of a transmitter and its antenna(s) in order to determine compliance with the RF exposure guidelines.

In order to demonstrate compliance with MPE requirement(see Section 2.1091), the following information is typically needed:

Calculation that estimates the minimum separation distance(20 cm or more)between an antenna and persons required to satisfy power density limits defined for free space.

Antenna installation and device operating instructions for installers(professional/unskilled users), and the parties responsible for ensuring compliance with the RF exposure requirement Any caution statements and/or warming labels that are necessary in order to comply with the exposure limits Any other RF exposure related issues that may affect MPE compliance.

FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environmental impact of human exposure to radio-frequency(RF) radiation as specified in 1.1307(b).

(A) Limits for Occupational / Controlled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm²)	Averaging Time  E ², H ²or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842 / f	4.89 / f	(900 / f)*	6
30-300	61.4	0.163	1.0	6
300-1500			F/300	6
1500-100,000			5	6

### (B) Limits for General Population / Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm²)	Averaging Time  E ², H ² or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f)*	30
30-300	27.5	0.073	0.2	30
300-1500			F/1500	30
1500-100,000			1.0	30

Note: f = frequency in MHz; \*Plane-wave equivalent power density



#### **8.1.1 MPE CALCULATION METHOD**

Calculation Method of RF Safety Distance:

$$S = \frac{PG}{4\pi r^2} = \frac{EIRP}{4\pi r^2}$$

P :power input to the antenna in Mw

EIRP : Equivalent (effective) isotropic radiated power.

S :power density mW/ cm<sup>2</sup>

G ;numeric gain of antenna relative to isotropic radiator

R :distance to centre of radiation in cm

FCC radio frequency exposure limits may be exceeded at distances closer than r cm from the antenna of this device

Report No.: NTEK-2011NT0929276F2

$$r = \sqrt{\frac{PG}{4\pi S}} = \sqrt{\frac{EIRP}{4\pi S}}$$

EIRP=10<sup>(Antenna Gain+Peak Output Power/10)</sup>

#### Note:

- 1. s=1.0 mW /cm<sup>2</sup> for limits for General Population/Uncontrolled Exposures.
- 2. The time averaged power over 30 minutes will be equaled Output Power.
- 3. Minimum calculated separation distance betweet antenna and persons required:0.53 cm
- 4. The Power Density at a distance of 20cm calculated from the formula is far below the limit of 1MW/ cm<sup>2</sup>
- 5. For portable device, the power limit is 60/f(in GHz) mW

For limit 60/f is equal:

60/2.412=24.87mW

60/2.437=24.62 mW

60/2.462=24.37mW

The max.output power E.I.R.P is 19,95mW



## 8.1.2 TEST RESULTS

EUT:	Mobile Phone	Model Name :	DH93
Temperature:	<b>25</b> ℃	Relative Humidity:	60%
Pressure:	1012 hPa	Test Voltage :	DC 3.7V
Test Mode :	TX Mode		

Operating Mode:802.11 b

Channal (MHz)	peak output power (dBm)	Limit of Power (dBm)	Limit of Power (mw)	Result
2412	10.41	13.96	24.87	Pass
2437	10.09	13.91	24.62	Pass
2462	10.01	13.87	24.37	Pass

# Operating Mode:802.11 g

Channal (MHz)	peak output power (dBm)	Limit of Power (dBm)	Limit of Power (dBm)	Result
2412	9.98	13.96	24.87	Pass
2437	9.53	13.91	24.62	Pass
2462	9.24	13.87	24.37	Pass