



FCC RADIO TEST REPORT-WIFI

FCC ID:2AHHH-GP70020

Product : Android POS

Trade Name : Pintron

Model Name : GP7002

Serial Model : N/A

Report No. : NTEK-2015NT12113414F2

Prepared for

Pintron Company Limited

RM 1302, 13/F, Building A3, LeeLang Software Park, No.31,Rd.BuLan,
LongGang District,City ShenZhen,518112,P.R. C.

Prepared by

Shenzhen NTEK Testing Technology Co., Ltd.

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

Tel.: +86-0755-61156588 Fax.: +86-0755-61156599

Website:www.ntek.org.cn

TEST RESULT CERTIFICATION

Applicant's name Pintron Company Limited
Address..... RM 1302, 13/F, Building A3, LeeLang Software Park, No.31,Rd.
 BuLan,LongGang District,City ShenZhen,518112,P.R. C.

Manufacture's Name... Pintron Company Limited
Address..... RM 1302, 13/F, Building A3, LeeLang Software Park, No.31,Rd.
 BuLan,LongGang District,City ShenZhen,518112,P.R. C.

Product description

Product name Android POS
Model and/or type GP7002
reference
Serial Model N/A

Standards FCC Part15.247 01 Oct. 2015

Test procedure ANSI C63.10-2013 and KDB 558074: June 5, 2014

This device described above has been tested by NTEK, 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, this document may be altered or revised by NTEK, personnel only, and shall be noted in the revision of the document.

Date of Test

Date (s) of performance of tests..... 11 Dec. 2015 ~28 Jan. 2016

Date of Issue 28 Jan. 2016

Test Result..... **Pass**

Testing Engineer : Eileen Liu.
 (Eileen Liu)

Technical Manager : Brown Lu
 (Brown Lu)

Authorized Signatory : Sam. Chen
 (Sam Chen)

Table of Contents

	Page
1 . SUMMARY OF TEST RESULTS	5
1.1 TEST FACILITY	6
1.2 MEASUREMENT UNCERTAINTY	6
2 . GENERAL INFORMATION	7
2.1 GENERAL DESCRIPTION OF EUT	7
2.2 DESCRIPTION OF TEST MODES	9
2.3 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED	10
2.4 DESCRIPTION OF SUPPORT UNITS(CONDUCTED MODE)	11
2.5 EQUIPMENTS LIST FOR ALL TEST ITEMS	12
3 . EMC EMISSION TEST	13
3.1 CONDUCTED EMISSION MEASUREMENT	13
3.1.1 POWER LINE CONDUCTED EMISSION LIMITS	13
3.1.2 TEST PROCEDURE	14
3.1.3 DEVIATION FROM TEST STANDARD	14
3.1.4 TEST SETUP	14
3.1.5 EUT OPERATING CONDITIONS	14
3.1.6 TEST RESULTS	15
3.2 RADIATED EMISSION MEASUREMENT	23
3.2.1 RADIATED EMISSION LIMITS	23
3.2.2 TEST PROCEDURE	24
3.2.3 DEVIATION FROM TEST STANDARD	24
3.2.4 TEST SETUP	25
3.2.5 EUT OPERATING CONDITIONS	26
3.2.6 TEST RESULTS (BETWEEN 9KHZ – 30 MHZ)	27
3.2.7 TEST RESULTS (BETWEEN 30MHZ – 1GHZ)	28
3.2.8 TEST RESULTS (ABOVE 1000 MHZ)	30
4 . POWER SPECTRAL DENSITY TEST	32
4.1 APPLIED PROCEDURES / LIMIT	32
4.1.1 TEST PROCEDURE	32
4.1.2 DEVIATION FROM STANDARD	32
4.1.3 TEST SETUP	32
4.1.4 EUT OPERATION CONDITIONS	32
4.1.5 TEST RESULTS	33
5 . BANDWIDTH TEST	41
5.1 APPLIED PROCEDURES / LIMIT	41
5.1.1 TEST PROCEDURE	41

Table of Contents

	Page
TEST SETUP	41
5.1.2 EUT OPERATION CONDITIONS	41
5.1.3 TEST RESULTS	42
6 . PEAK OUTPUT POWER TEST	50
6.1 APPLIED PROCEDURES / LIMIT	50
6.1.1 TEST PROCEDURE	50
6.1.2 DEVIATION FROM STANDARD	51
6.1.3 TEST SETUP	51
6.1.4 EUT OPERATION CONDITIONS	51
6.1.5 TEST RESULTS	52
7 . 100 KHZ BANDWIDTH OF FREQUENCY BAND EDGE	59
7.1 DEVIATION FROM STANDARD	59
7.2 TEST SETUP	59
7.3 EUT OPERATION CONDITIONS	59
7.4 TEST RESULTS	60
8 . ANTENNA REQUIREMENT	65
8.1 STANDARD REQUIREMENT	65
8.2 EUT ANTENNA	65
9 . EUT TEST PHOTO	66
APPENDIX-PHOTOGRAPHS OF EUT CONSTRUCTIONAL DETAILS	

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 (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	
15.205	Band Edge Emission	PASS	
15.203	Antenna Requirement	PASS	

NOTE:

(1) "N/A" denotes test is not applicable in this Test Report

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 Registration No.:238937; IC Registration No.:9270A-1

CNAS Registration No.:L5516

1.2 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement $y \pm U$, where expanded uncertainty U is based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately 95 %.

No.	Item	Uncertainty
1	Conducted Emission Test	$\pm 1.38\text{dB}$
2	RF power,conducted	$\pm 0.16\text{dB}$
3	Spurious emissions,conducted	$\pm 0.21\text{dB}$
4	All emissions,radiated(<1G)	$\pm 4.68\text{dB}$
5	All emissions,radiated(>1G)	$\pm 4.89\text{dB}$
6	Temperature	$\pm 0.5^{\circ}\text{C}$
7	Humidity	$\pm 2\%$

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Equipment	Android POS	
Trade Name	Pintron	
Model Name	GP7002	
Serial Model	N/A	
Model Difference	N/A	
Product Description	Operation Frequency:	802.11b/g/n(20MHz): 2412~2462MHz 802.11n(40MHz):2422~2452MHz
	Modulation Type:	IEEE 802.11b : DSSS (CCK, QPSK, DBPSK) IEEE 802.11g/n (HT20/HT40) : OFDM (64QAM, 16QAM, QPSK, BPSK)
	Bit Rate of Transmitter	802.11b:11/5.5/2/1 Mbps 802.11g:54/48/36/24/18/12/9/6Mbps 802.11n(20MHz/40MHz):150/144.44/130/117/115.56/104/86.67/78/52/6.5Mbps
	Number Of Channel	802.11b/g/n20MHz:11CH 802.11n40MHz:7CH
	Antenna Designation:	Please see Note 3.
	Antenna Gain (dBi)	1.0 dBi
Channel List	Please refer to the Note 2.	
Ratings	DC 7.4V	
Adapter	Model:YN36W-0900300UW Input: AC100-240V~, 50/60Hz,1.0A Output: 9V $\overline{\text{---}}$, 3A	
Battery	DC 7.4V,4000mAh	
Connecting I/O Port(s)	Please refer to the User's Manual	

Note:

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

2.

Channel List for 802.11b/g/n(20 MHz)							
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		

Channel List for 802.11n(40MHz)							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
03	2422	06	2437	09	2452		
04	2427	07	2442				
05	2432	08	2447				

3.

Table for Filed Antenna

Ant	Brand	Model Name	Antenna Type	Connector	Gain (dBi)	NOTE
A	N/A	N/A	FPCB Antenna	N/A	1.0	Wifi Antenna

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
Mode 3	802.11n20 CH1/ CH6/ CH11
Mode 4	802.11n40 CH3/ CH6/ CH9
Mode 5	Link Mode

For Conducted Emission	
Final Test Mode	Description
Mode 5	Link Mode

Pretest Mode	Description
Mode 1	802.11b CH1/ CH6/ CH11
Mode 2	802.11g CH1/ CH6/ CH11
Mode 3	802.11n20 CH1/ CH6/ CH11
Mode 4	802.11n40 CH3/ CH6/ CH9
Mode 5	Link Mode

Note:

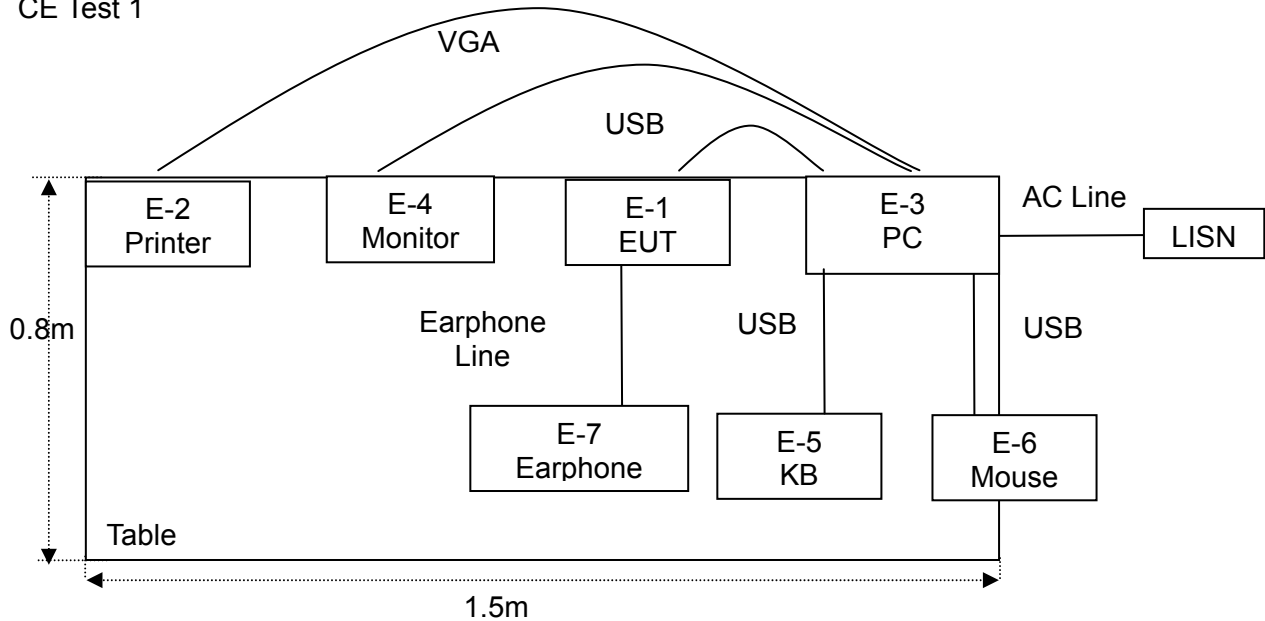
- (1) The measurements are performed at the highest, middle, lowest available channels.
- (2) EUT configured to transmit continuously:
- (3) The measurements are performed at all Bit Rate of Transmitter, the worst data was reported

Mode	Data Rate
IEEE 802.11b	1 Mbps
IEEE 802.11g	6 Mbps
IEEE 802.11n20	MCS 7
IEEE 802.11n40	MCS 7

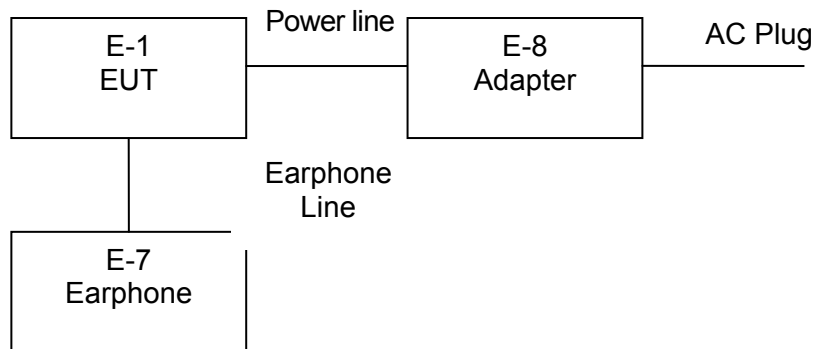
Operated Mode for Worst Duty Cycle	
Test Signal Duty Cycle (x)	Average correction factor (dB)
100% - IEEE 802.11b	0
100% - IEEE 802.11g	0
100% - IEEE 802.11n (HT20)	0
100% - IEEE 802.11n (HT40)	0

2.3 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

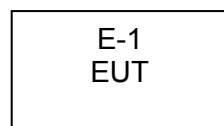
CE Test 1



CE Test 2



Radiated Spurious Emission Test



2.4 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	Brand	Model/Type No.	Series No.	Note
E-1	Android POS	Pintron	GP7002	N/A	EUT
E-2	Printer	Canon	L11121E	LBP2900	
E-3	Personal computer	DELL	FT4Y23X	34413561645	
E-4	Monitor	DELL	IN2020MB	cn-0y6mhx-74261-11f-67es	
E-5	Keyboard	DELL	SK-8185	OY526KUS	
E-6	Mouse	DELL	MS111-P	cn-011d3v-71581-11e-1th7	
E-7	Earphone	N/A	2688	N/A	
E-8	Adapter	N/A	YN36W-0900300UW	N/A	

Item	Shielded Type	Ferrite Core	Length	Note
USB	NO	NO	1.2m	
USB	NO	NO	1.0m	
USB	NO	NO	1.0m	
USB	NO	NO	1.0m	
VGA	NO	NO	1.0m	
Earphone Line	NO	NO	1.0m	
Power line	NO	YES	1.2m	

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 『Length』 column.

2.5 EQUIPMENTS LIST FOR ALL TEST ITEMS

Radiation Test equipment

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until	Calibration period
1	Spectrum Analyzer	Agilent	E4407B	MY45108040	2015.07.06	2016.07.05	1 year
2	Test Receiver	R&S	ESPI	101318	2015.06.06	2016.06.05	1 year
3	Bilog Antenna	TESEQ	CBL6111D	31216	2015.07.06	2016.07.05	1 year
4	50Ω Coaxial Switch	Anritsu	MP59B	6200264416	2015.06.06	2016.06.05	1 year
5	Spectrum Analyzer	ADVANTEST	R3132	150900201	2015.06.06	2016.06.05	1 year
6	Horn Antenna	EM	EM-AH-10180	2011071402	2015.07.06	2016.07.05	1 year
7	Horn Ant	Schwarzbeck	BBHA 9170	9170-181	2015.07.06	2016.07.05	1 year
8	Amplifier	EM	EM-30180	060538	2015.12.22	2016.12.21	1 year
8*	Amplifier	EM	EM-30180	060538	2015.12.22	2016.12.21	1 year
9	Loop Antenna	ARA	PLA-1030/B	1029	2015.06.06	2016.06.05	1 year
10	Power Meter	R&S	NRVS	100696	2015.07.06	2016.07.05	1 year
11	Power Sensor	R&S	URV5-Z4	0395.1619.05	2015.07.06	2016.07.05	1 year

Conduction Test equipment

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until	Calibration period
1	Test Receiver	R&S	ESCI	101160	2015.06.06	2016.06.05	1 year
2	LISN	R&S	ENV216	101313	2015.08.24	2016.08.23	1 year
3	LISN	EMCO	3816/2	00042990	2015.08.24	2016.08.23	1 year
4	50Ω Coaxial Switch	Anritsu	MP59B	6200264417	2015.06.06	2016.06.05	1 year
5	Passive Voltage Probe	R&S	ESH2-Z3	100196	2015.06.06	2016.06.05	1 year
6	Absorbing clamp	R&S	MOS-21	100423	2015.06.06	2016.06.05	1 year

1	Attenuation	MCE	24-10-34	BN9258	2015.07.06	2016.07.05	1 year
---	-------------	-----	----------	--------	------------	------------	--------

3. EMC EMISSION TEST

3.1 CONDUCTED EMISSION MEASUREMENT

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

FREQUENCY (MHz)	Class A (dBuV)		Class B (dBuV)		Standard
	Quasi-peak	Average	Quasi-peak	Average	
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

- The EUT was placed 0.8 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.
- 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.
- 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.
- LISN at least 80 cm from nearest part of EUT chassis.
- 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.

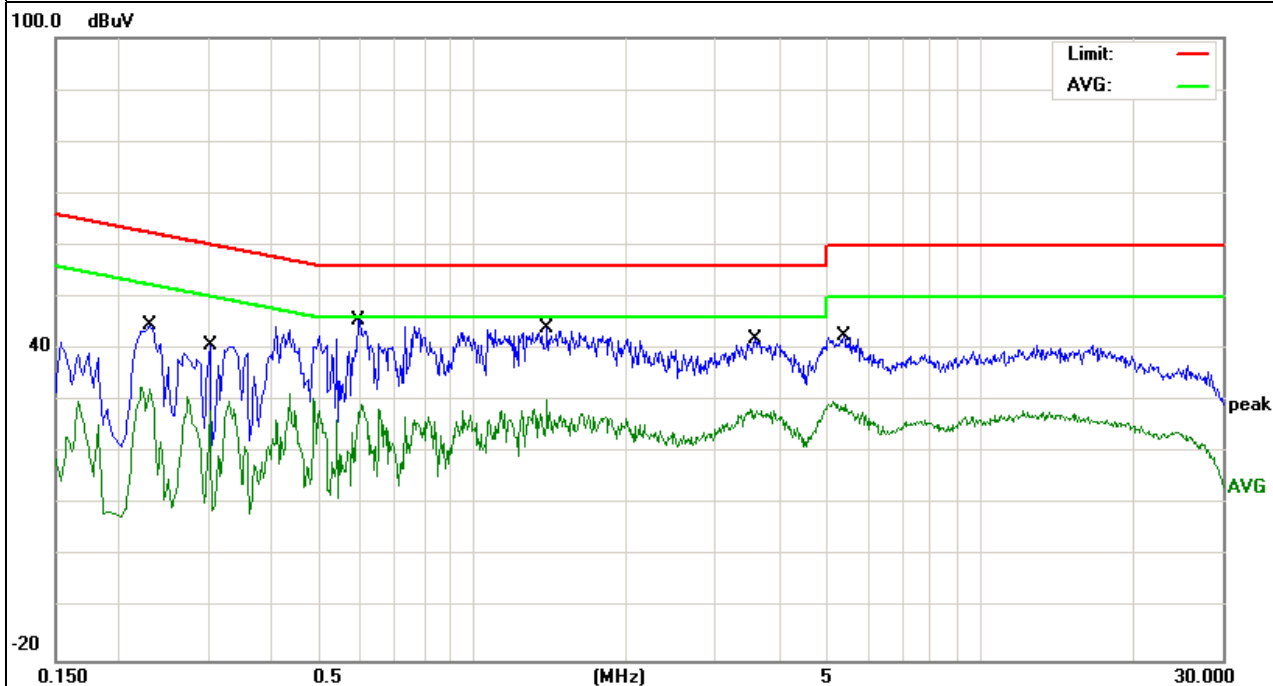
3.1.6 TEST RESULTS

EUT :	Android POS	Model Name :	GP7002
Temperature :	26 °C	Relative Humidity :	54%
Pressure :	1010hPa	Phase :	L
Test Voltage :	DC 9V form Adapter AC 120V/60Hz	Test Mode :	Mode 5

Frequency	Reading Level	Correct Factor	Measure-ment	Limits	Margin	Remark
(MHz)	(dBμV)	(dB)	(dBμV)	(dBμV)	(dB)	
0.2300	34.46	10.13	44.59	62.45	-17.86	QP
0.2300	21.90	10.13	32.03	52.45	-20.42	AVG
0.3019	30.68	10.14	40.82	60.19	-19.37	QP
0.3019	19.75	10.14	29.89	50.19	-20.30	AVG
0.5940	35.88	9.79	45.67	56.00	-10.33	QP
0.5940	21.54	9.79	31.33	46.00	-14.67	AVG
1.4020	34.33	9.80	44.13	56.00	-11.87	QP
1.4020	20.58	9.80	30.38	46.00	-15.62	AVG
3.5899	32.09	9.75	41.84	56.00	-14.16	QP
3.5899	18.65	9.75	28.40	46.00	-17.60	AVG
5.3659	32.94	9.76	42.70	60.00	-17.30	QP
5.3659	20.11	9.76	29.87	50.00	-20.13	AVG

Remark:

1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.

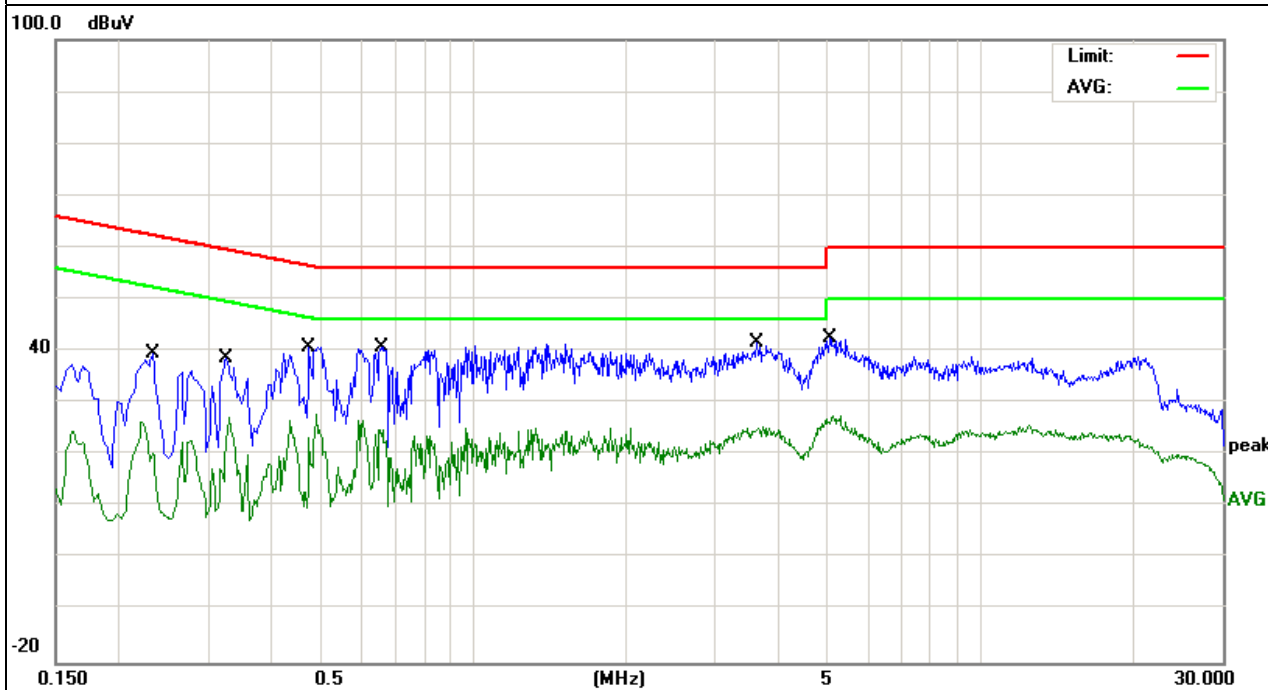


EUT :	Android POS	Model Name :	GP7002
Temperature :	26 °C	Relative Humidity :	54%
Pressure :	1010hPa	Phase :	N
Test Voltage :	DC 9V form Adapter AC 120V/60Hz	Test Mode :	Mode 5

Frequency	Reading Level	Correct Factor	Measure-ment	Limits	Margin	Remark
(MHz)	(dBμV)	(dB)	(dBμV)	(dBμV)	(dB)	
0.2340	29.41	10.06	39.47	62.30	-22.83	QP
0.2340	16.19	10.06	26.25	52.30	-26.05	AVG
0.3300	28.61	10.11	38.72	59.45	-20.73	QP
0.3300	17.07	10.11	27.18	49.45	-22.27	AVG
0.4738	30.87	9.88	40.75	56.45	-15.70	QP
0.4738	17.89	9.88	27.77	46.45	-18.68	AVG
0.6580	31.02	9.81	40.83	56.00	-15.17	QP
0.6580	15.19	9.81	25.00	46.00	-21.00	AVG
3.6219	31.96	9.73	41.69	56.00	-14.31	QP
3.6219	15.75	9.73	25.48	46.00	-20.52	AVG
5.0499	32.72	9.73	42.45	60.00	-17.55	QP
5.0499	17.83	9.73	27.56	50.00	-22.44	AVG

Remark:

1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.

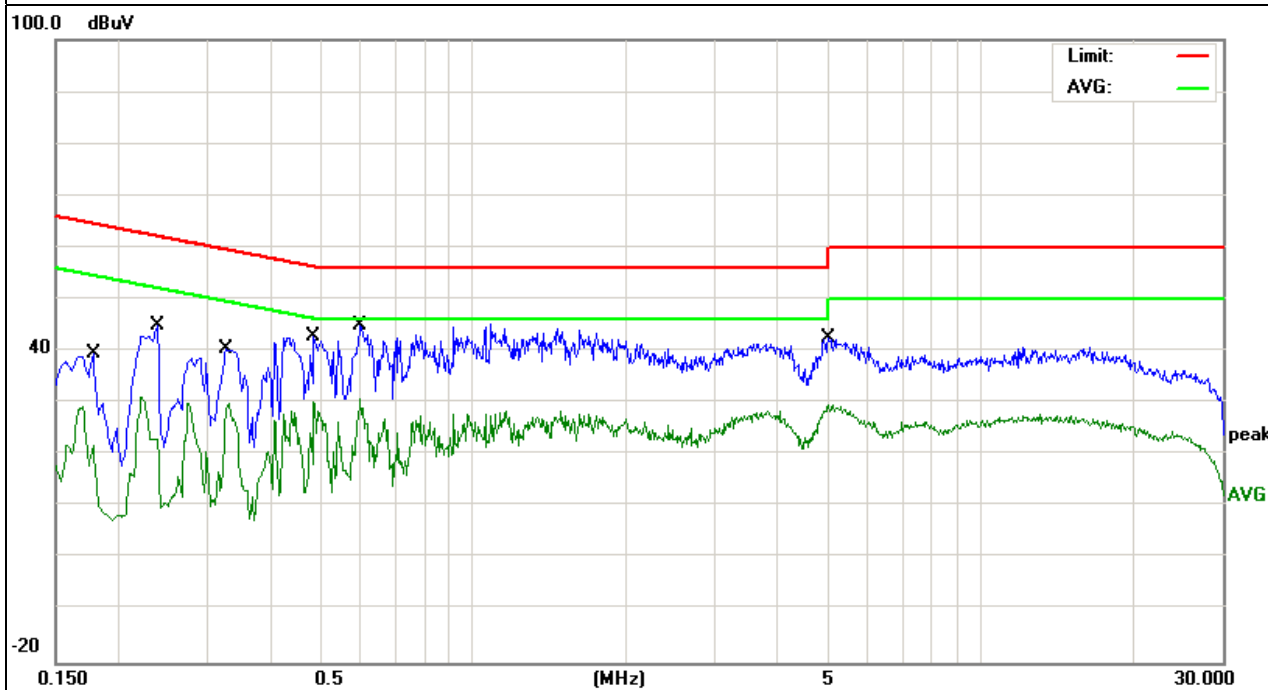


EUT :	Android POS	Model Name :	GP7002
Temperature :	26 °C	Relative Humidity :	54%
Pressure :	1010hPa	Phase :	L
Test Voltage :	DC 9V form Adapter AC 240V/60Hz	Test Mode :	Mode 5

Frequency	Reading Level	Correct Factor	Measure-ment	Limits	Margin	Remark
(MHz)	(dBμV)	(dB)	(dBμV)	(dBμV)	(dB)	
0.1779	29.35	10.13	39.48	64.58	-25.10	QP
0.1779	19.10	10.13	29.23	54.58	-25.35	AVG
0.2379	34.78	10.13	44.91	62.17	-17.26	QP
0.2379	21.13	10.13	31.26	52.17	-20.91	AVG
0.3260	30.41	10.11	40.52	59.55	-19.03	QP
0.3260	19.75	10.11	29.86	49.55	-19.69	AVG
0.4859	32.92	9.83	42.75	56.24	-13.49	QP
0.4859	20.56	9.83	30.39	46.24	-15.85	AVG
0.5979	35.29	9.79	45.08	56.00	-10.92	QP
0.5979	21.12	9.79	30.91	46.00	-15.09	AVG
5.0259	32.88	9.76	42.64	60.00	-17.36	QP
5.0259	20.00	9.76	29.76	50.00	-20.24	AVG

Remark:

1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.

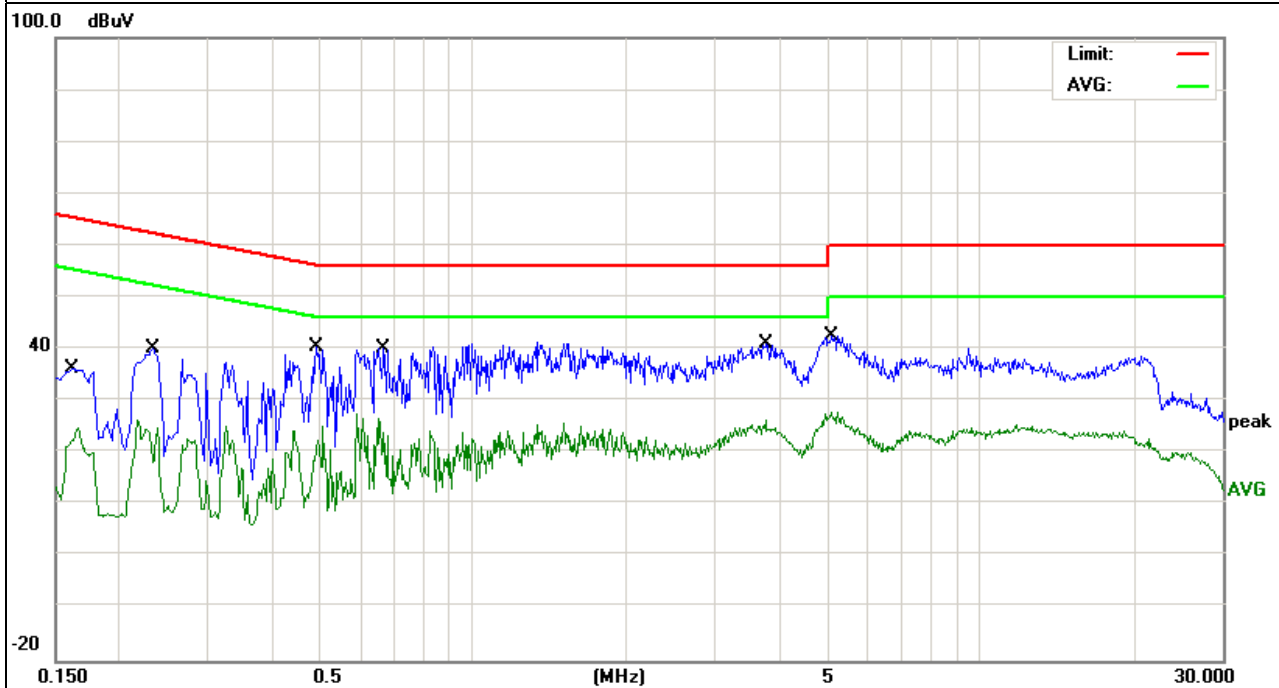


EUT :	Android POS	Model Name :	GP7002
Temperature :	26 °C	Relative Humidity :	54%
Pressure :	1010hPa	Phase :	N
Test Voltage :	DC 9V form Adapter AC 240V/60Hz	Test Mode :	Mode 5

Frequency	Reading Level	Correct Factor	Measure-ment	Limits	Margin	Remark
(MHz)	(dBμV)	(dB)	(dBμV)	(dBμV)	(dB)	
0.1620	26.13	10.07	36.20	65.36	-29.16	QP
0.1620	14.84	10.07	24.91	55.36	-30.45	AVG
0.2340	30.21	10.06	40.27	62.30	-22.03	QP
0.2340	16.31	10.06	26.37	52.30	-25.93	AVG
0.4900	30.54	9.84	40.38	56.17	-15.79	QP
0.4900	15.37	9.84	25.21	46.17	-20.96	AVG
0.6660	30.43	9.81	40.24	56.00	-15.76	QP
0.6660	16.75	9.81	26.56	46.00	-19.44	AVG
3.7900	31.33	9.72	41.05	56.00	-14.95	QP
3.7900	16.60	9.72	26.32	46.00	-19.68	AVG
5.0899	32.78	9.73	42.51	60.00	-17.49	QP
5.0899	18.13	9.73	27.86	50.00	-22.14	AVG

Remark:

1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.

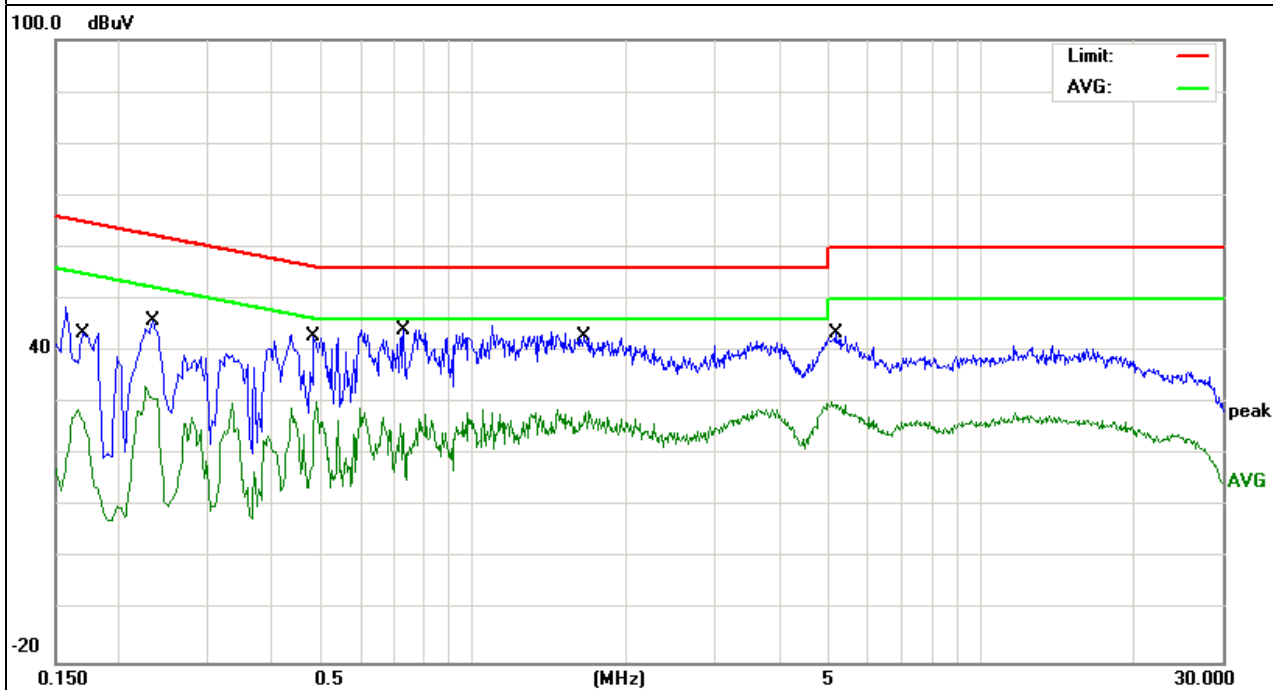


EUT :	Android POS	Model Name :	GP7002
Temperature :	26 °C	Relative Humidity :	54%
Pressure :	1010hPa	Phase :	L
Test Voltage :	DC 5V form PC AC 120V/60Hz	Test Mode :	Mode 5

Frequency	Reading Level	Correct Factor	Measure-ment	Limits	Margin	Remark
(MHz)	(dBμV)	(dB)	(dBμV)	(dBμV)	(dB)	
0.1700	33.37	10.12	43.49	64.96	-21.47	QP
0.1700	18.53	10.12	28.65	54.96	-26.31	AVG
0.2340	35.65	10.13	45.78	62.30	-16.52	QP
0.2340	23.17	10.13	33.30	52.30	-19.00	AVG
0.4859	33.02	9.83	42.85	56.24	-13.39	QP
0.4859	20.33	9.83	30.16	46.24	-16.08	AVG
0.7299	34.30	9.79	44.09	56.00	-11.91	QP
0.7299	18.01	9.79	27.80	46.00	-18.20	AVG
1.6539	33.01	9.77	42.78	56.00	-13.22	QP
1.6539	18.72	9.77	28.49	46.00	-17.51	AVG
5.1738	33.61	9.76	43.37	60.00	-16.63	QP
5.1738	20.51	9.76	30.27	50.00	-19.73	AVG

Remark:

1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.

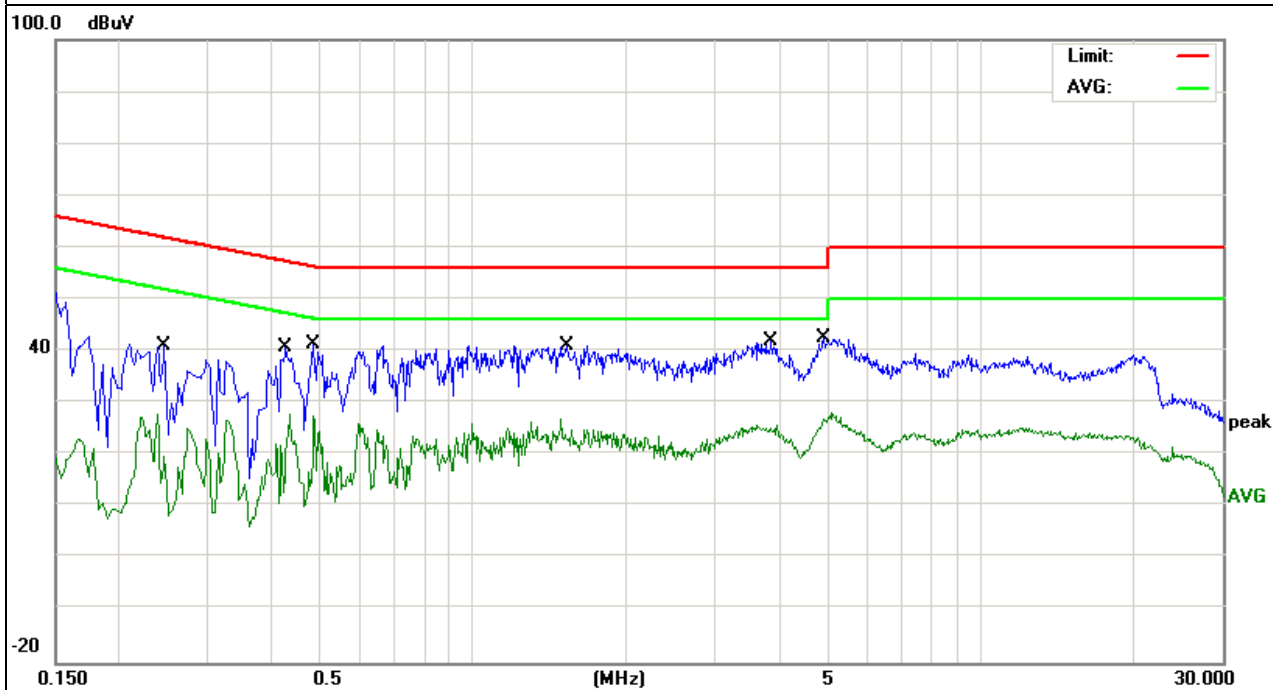


EUT :	Android POS	Model Name :	GP7002
Temperature :	26 °C	Relative Humidity :	54%
Pressure :	1010hPa	Phase :	N
Test Voltage :	DC 5V form PC AC 120V/60Hz	Test Mode :	Mode 5

Frequency	Reading Level	Correct Factor	Measure-ment	Limits	Margin	Remark
(MHz)	(dBμV)	(dB)	(dBμV)	(dBμV)	(dB)	
0.2459	30.87	10.07	40.94	61.89	-20.95	QP
0.2459	17.78	10.07	27.85	51.89	-24.04	AVG
0.4259	30.84	9.99	40.83	57.33	-16.50	QP
0.4259	17.72	9.99	27.71	47.33	-19.62	AVG
0.4818	31.44	9.86	41.30	56.31	-15.01	QP
0.4818	17.58	9.86	27.44	46.31	-18.87	AVG
1.5339	31.38	9.81	41.19	56.00	-14.81	QP
1.5339	17.08	9.81	26.89	46.00	-19.11	AVG
3.8660	32.12	9.72	41.84	56.00	-14.16	QP
3.8660	15.93	9.72	25.65	46.00	-20.35	AVG
4.9218	32.97	9.73	42.70	56.00	-13.30	QP
4.9218	18.40	9.73	28.13	46.00	-17.87	AVG

Remark:

1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.

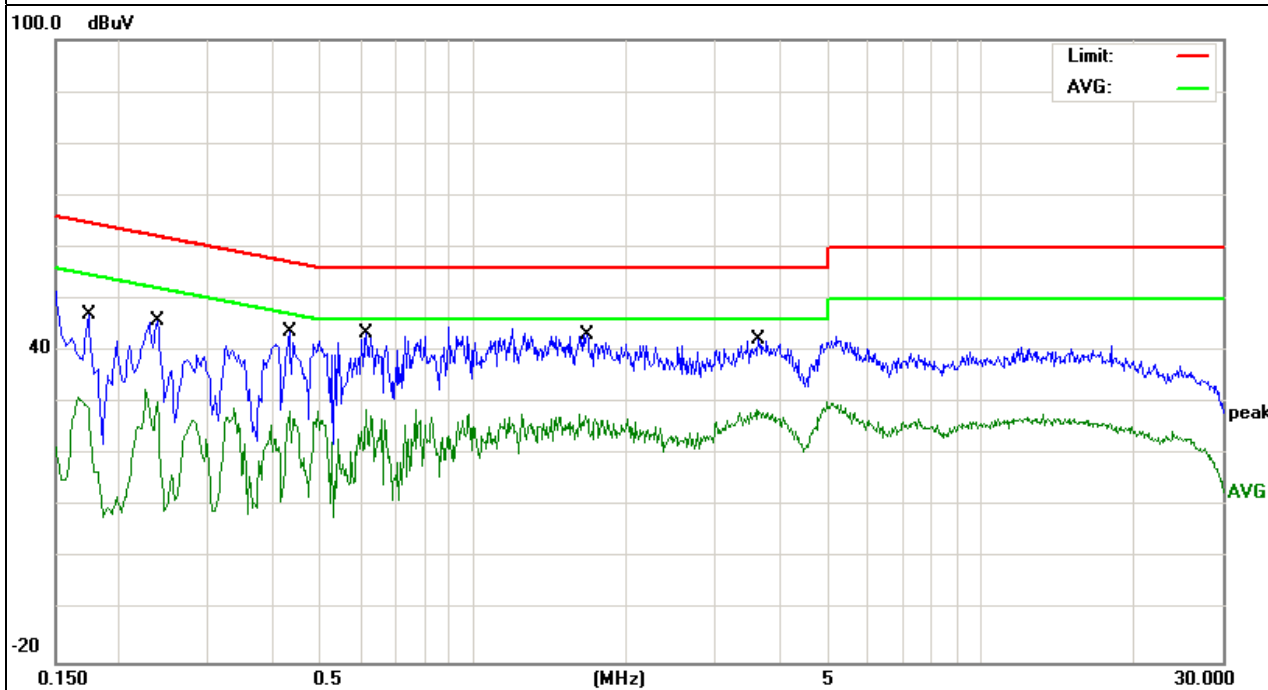


EUT :	Android POS	Model Name :	GP7002
Temperature :	26 °C	Relative Humidity :	54%
Pressure :	1010hPa	Phase :	L
Test Voltage :	DC 5V form PC AC 240V/60Hz	Test Mode :	Mode 5

Frequency	Reading Level	Correct Factor	Measure-ment	Limits	Margin	Remark
(MHz)	(dBμV)	(dB)	(dBμV)	(dBμV)	(dB)	
0.1737	36.79	10.12	46.91	64.78	-17.87	QP
0.1737	20.95	10.12	31.07	54.78	-23.71	AVG
0.2379	35.83	10.13	45.96	62.17	-16.21	QP
0.2379	22.65	10.13	32.78	52.17	-19.39	AVG
0.4339	33.80	9.96	43.76	57.18	-13.42	QP
0.4339	18.58	9.96	28.54	47.18	-18.64	AVG
0.6139	33.78	9.79	43.57	56.00	-12.43	QP
0.6139	18.98	9.79	28.77	46.00	-17.23	AVG
1.6778	33.48	9.77	43.25	56.00	-12.75	QP
1.6778	17.95	9.77	27.72	46.00	-18.28	AVG
3.6499	32.54	9.75	42.29	56.00	-13.71	QP
3.6499	19.12	9.75	28.87	46.00	-17.13	AVG

Remark:

1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.

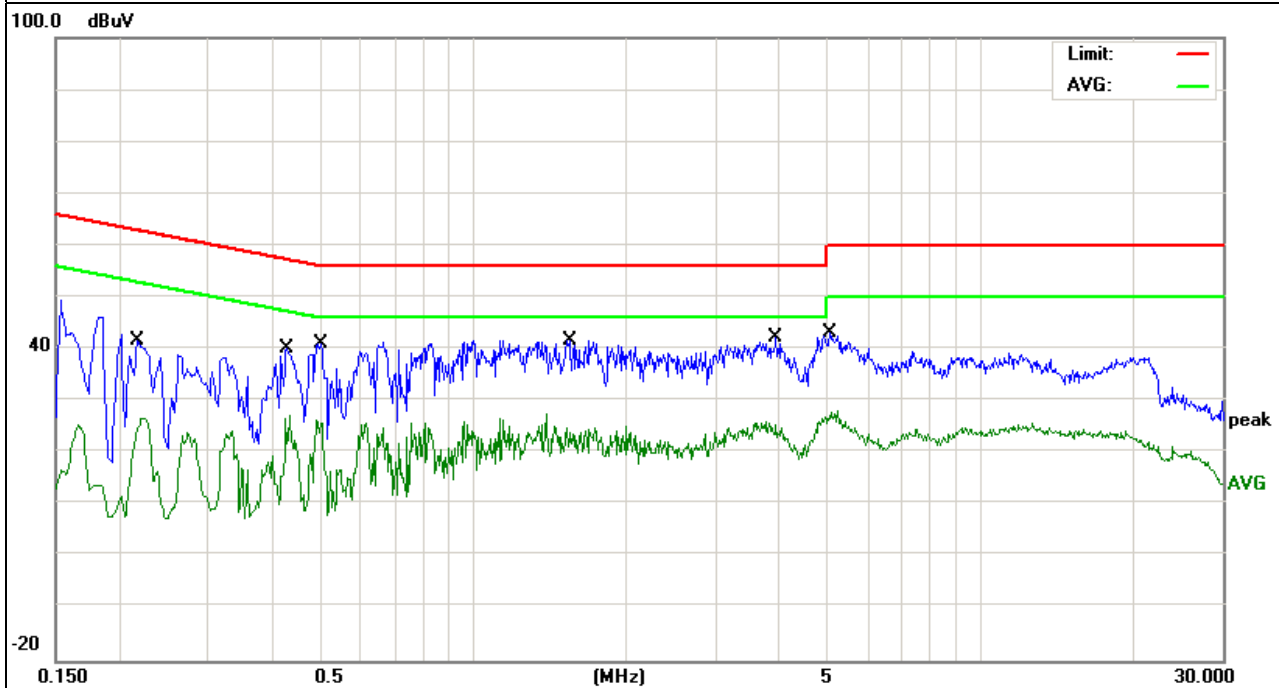


EUT :	Android POS	Model Name :	GP7002
Temperature :	26 °C	Relative Humidity :	54%
Pressure :	1010hPa	Phase :	N
Test Voltage :	DC 5V form PC AC 240V/60Hz	Test Mode :	Mode 5

Frequency	Reading Level	Correct Factor	Measure-ment	Limits	Margin	Remark
(MHz)	(dBμV)	(dB)	(dBμV)	(dBμV)	(dB)	
0.2179	31.65	10.04	41.69	62.89	-21.20	QP
0.2179	16.66	10.04	26.70	52.89	-26.19	AVG
0.4299	30.32	9.98	40.30	57.25	-16.95	QP
0.4299	17.36	9.98	27.34	47.25	-19.91	AVG
0.5020	31.21	9.82	41.03	56.00	-14.97	QP
0.5020	16.64	9.82	26.46	46.00	-19.54	AVG
1.5500	31.99	9.80	41.79	56.00	-14.21	QP
1.5500	17.64	9.80	27.44	46.00	-18.56	AVG
3.9620	32.53	9.72	42.25	56.00	-13.75	QP
3.9620	16.44	9.72	26.16	46.00	-19.84	AVG
5.0378	33.53	9.73	43.26	60.00	-16.74	QP
5.0378	18.47	9.73	28.20	50.00	-21.80	AVG

Remark:

1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.



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 (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

LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000MHz)

FREQUENCY (MHz)	dBuV/m@at 3M	
	PEAK	AVERAGE
Above 1000	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 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.
- b. The EUT was placed on the top of a rotating table 0.8 m for below 1GHz and 1.5m for above 1GHz the ground at a 3 meter. 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 for below 1GHz and 1.5m for above 1GHz; 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.

Note:

Both horizontal and vertical antenna polarities were tested and performed pretest to three orthogonal axis. The worst case emissions were reported

During the radiated emission test, the Spectrum Analyzer was set with the following configurations:

Frequency Band (MHz)	Function	Resolution bandwidth	Video Bandwidth
30 to 1000	Peak	100 kHz	100 kHz
Above 1000	Peak	1 MHz	1 MHz
	Average	1 MHz	10 Hz

3.2.3 DEVIATION FROM TEST STANDARD

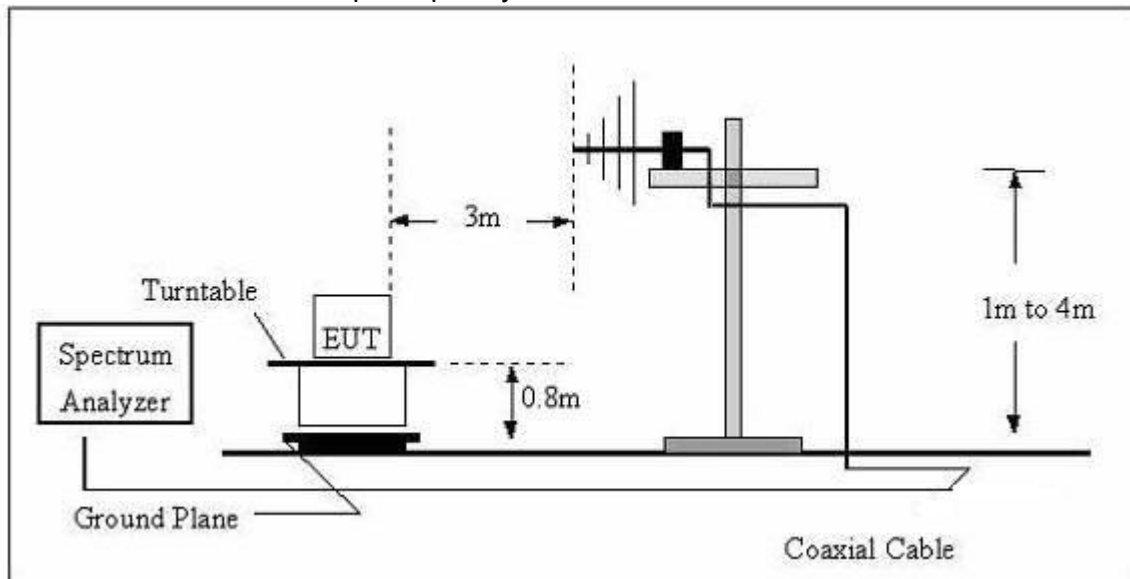
No deviation

3.2.4 TEST SETUP

(A) Radiated Emission Test-Up Frequency Below 30MHz



(B) Radiated Emission Test-Up Frequency 30MHz~1GHz



(C) Radiated Emission Test-Up Frequency Above 1GHz

**3.2.5 EUT OPERATING CONDITIONS**

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

3.2.6 TEST RESULTS (BETWEEN 9KHZ – 30 MHZ)

EUT:	Android POS	Model Name. :	GP7002
Temperature:	20 °C	Relative Humidity:	48%
Pressure:	1010 hPa	Test Voltage :	DC 7.4V
Test Mode :	TX	Polarization :	--

Freq.	Reading	Limit	Margin	State
(MHz)	(dBuV/m)	(dBuV/m)	(dB)	P/F
--	--	--	--	N/A
--	--	--	--	N/A

NOTE:

The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

Distance extrapolation factor = $40 \log (\text{specific distance/test distance})$ (dB);

Limit line = specific limits(dBuv) + distance extrapolation factor.

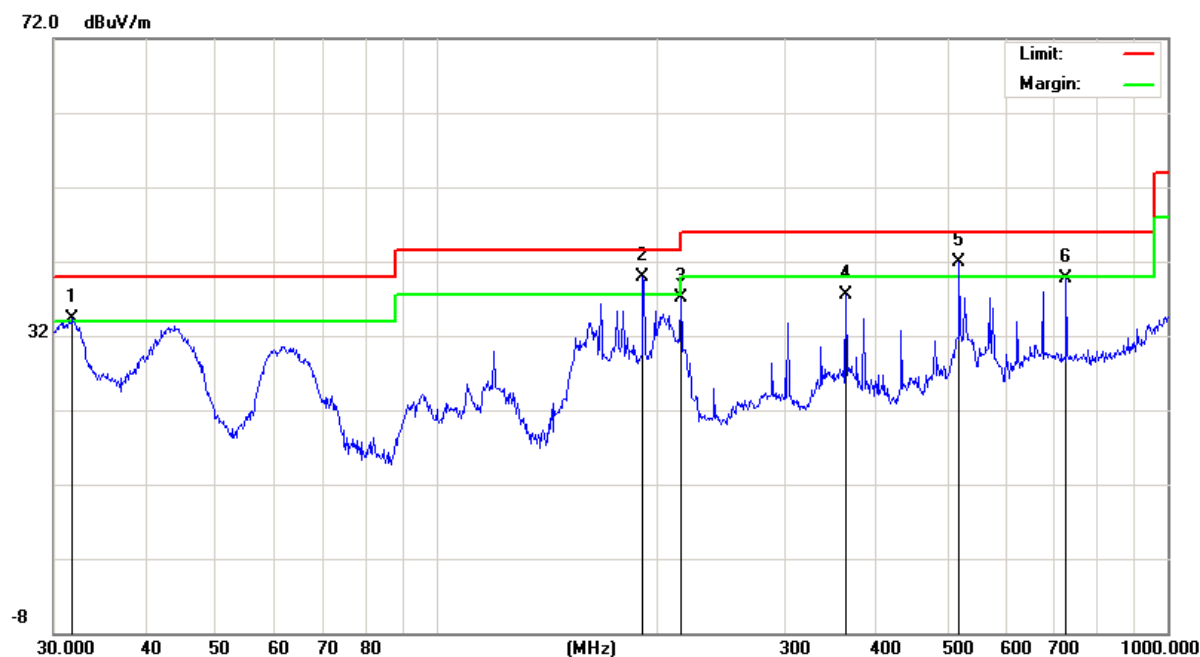
3.2.7 TEST RESULTS (BETWEEN 30MHZ – 1GHZ)

EUT :	Android POS	Model Name :	GP7002
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 7.4V
Test Mode :	TX -802.11B (High CH)		

Polar (H/V)	Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Remark
	(MHz)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
V	31.8427	15.34	18.91	34.25	40.00	-5.75	QP
V	191.7450	28.55	11.34	39.89	43.50	-3.61	QP
V	216.0240	26.09	11.00	37.09	46.00	-8.91	QP
V	362.9844	23.14	14.43	37.57	46.00	-8.43	QP
V	519.0647	24.70	17.19	41.89	46.00	-4.11	QP
V	726.8052	18.03	21.66	39.69	46.00	-6.31	QP

Remark:

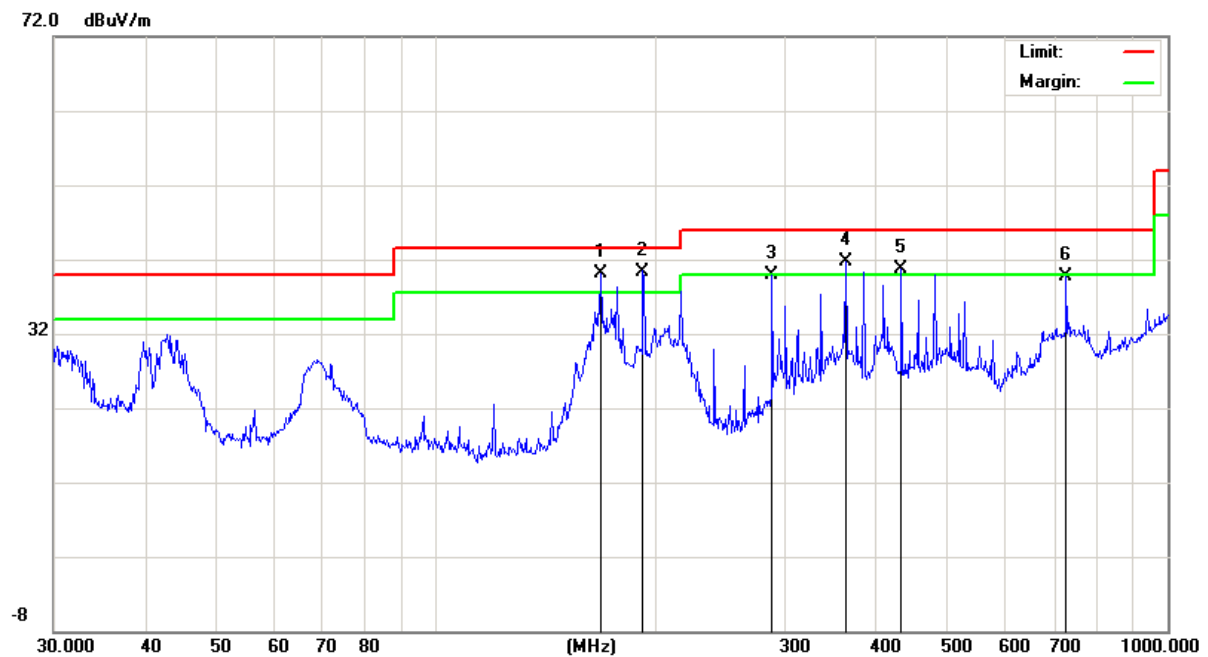
Absolute Level= ReadingLevel+ Factor, Margin= Absolute Level - Limit



Polar (H/V)	Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Remark
	(MHz)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
H	167.8240	27.99	12.20	40.19	43.50	-3.31	QP
H	191.7450	29.06	11.34	40.40	43.50	-3.10	QP
H	287.9904	27.82	12.08	39.90	46.00	-6.10	QP
H	362.9844	27.29	14.43	41.72	46.00	-4.28	QP
H	432.5457	25.70	15.08	40.78	46.00	-5.22	QP
H	726.8052	18.04	21.66	39.70	46.00	-6.30	QP

Remark:

Absolute Level= ReadingLevel+ Factor, Margin= Absolute Level - Limit



3.2.8 TEST RESULTS (ABOVE 1000 MHZ)

EUT :	Android POS	Model Name :	GP7002
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 7.4V
Test Mode :	TX		

The Testing have been conformed to 10*2462MHz=24620MHz, and the worst result was report as below:

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
Low Channel (2412 MHz)-Above 1G							
Vertical	4824.249	54.41	10.44	64.85	74.00	-9.15	Pk
Vertical	4824.249	31.28	10.44	41.72	54.00	-12.28	Av
Vertical	7236.136	49.85	12.39	62.24	74.00	-11.76	Pk
Vertical	7236.136	32.62	12.39	45.01	54.00	-8.99	Av
Horizontal	4824.267	51.74	10.44	62.18	74.00	-11.82	Pk
Horizontal	4824.267	31.26	10.44	41.70	54.00	-12.30	Av
Horizontal	7236.108	47.82	12.39	60.21	74.00	-13.79	Pk
Horizontal	7236.108	31.22	12.39	43.61	54.00	-10.39	Av
Mid Channel (2437 MHz)-Above 1G							
Vertical	4874.332	56.92	10.40	67.32	74.00	-6.68	Pk
Vertical	4874.332	34.47	10.40	44.87	54.00	-9.13	Av
Vertical	7311.264	45.23	12.75	57.98	74.00	-16.02	Pk
Vertical	7311.264	30.69	12.75	43.44	54.00	-10.56	Av
Horizontal	4874.218	55.56	10.40	65.96	74.00	-8.04	Pk
Horizontal	4874.218	36.29	10.40	46.69	54.00	-7.31	Av
Horizontal	7311.199	41.15	12.75	53.90	74.00	-20.10	Pk
Horizontal	7311.199	32.27	12.75	45.02	54.00	-8.98	Av
High Channel (2462 MHz)- Above 1G							
Vertical	4924.201	52.29	10.39	62.68	74.00	-11.32	Pk
Vertical	4924.201	32.44	10.39	42.83	54.00	-11.17	Av
Vertical	7386.209	44.96	12.68	57.64	74.00	-16.36	Pk
Vertical	7386.209	30.01	12.68	42.69	54.00	-11.31	Av
Horizontal	4924.365	49.45	10.39	59.84	74.00	-14.16	Pk
Horizontal	4924.365	29.28	10.39	39.67	54.00	-14.33	Av
Horizontal	7386.284	48.43	12.68	61.11	74.00	-12.89	Pk
Horizontal	7386.284	31.11	12.68	43.79	54.00	-10.21	Av

Note:"802.11b" mode is the worst mode.

Radiated band edge:

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type	Comment
802.11b							
2390	61.21	-13.06	48.15	74	-25.85	peak	Vertical
2390	59.85	-13.06	46.79	74	-27.21	peak	Horizontal
2483.5	60.47	-12.78	47.69	74	-26.31	peak	Vertical
2483.5	61.23	-12.78	48.45	74	-25.55	peak	Horizontal
802.11g							
2390	59.86	-13.06	46.8	74	-27.20	peak	Vertical
2390	59.62	-13.06	46.56	74	-27.44	peak	Horizontal
2483.5	60.14	-12.78	47.36	74	-26.64	peak	Vertical
2483.5	60.37	-12.78	47.59	74	-26.41	peak	Horizontal
802.11n (20)							
2390	59.85	-13.06	46.79	74	-27.21	peak	Vertical
2390	59.67	-13.06	46.61	74	-27.39	peak	Horizontal
2483.5	59.96	-12.78	47.18	74	-26.82	peak	Vertical
2483.5	60.25	-12.78	47.47	74	-26.53	peak	Horizontal
802.11n (40)							
2390	59.74	-13.06	46.68	74	-27.32	peak	Vertical
2390	59.82	-13.06	46.76	74	-27.24	peak	Horizontal
2483.5	61.01	-12.78	48.23	74	-25.77	peak	Vertical
2483.5	60.63	-12.78	47.85	74	-26.15	peak	Horizontal

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	Power Spectral Density	8 dBm (in any 3KHz)	2400-2483.5	PASS

4.1.1 TEST PROCEDURE

1. Set analyzer center frequency to DTS channel center frequency.
2. Set the span to 1.5 times the DTS channel bandwidth.
3. 3 kHz \leq Set the RBW \leq 100 kHz.
4. Set the VBW \geq 3 x RBW.
5. Detector = peak.
6. Sweep time = auto couple.
7. Trace mode = max hold.
8. Allow trace to fully stabilize.
9. Use the peak marker function to determine the maximum amplitude level within the RBW.
10. If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

4.1.2 DEVIATION FROM STANDARD

No deviation.

4.1.3 TEST SETUP



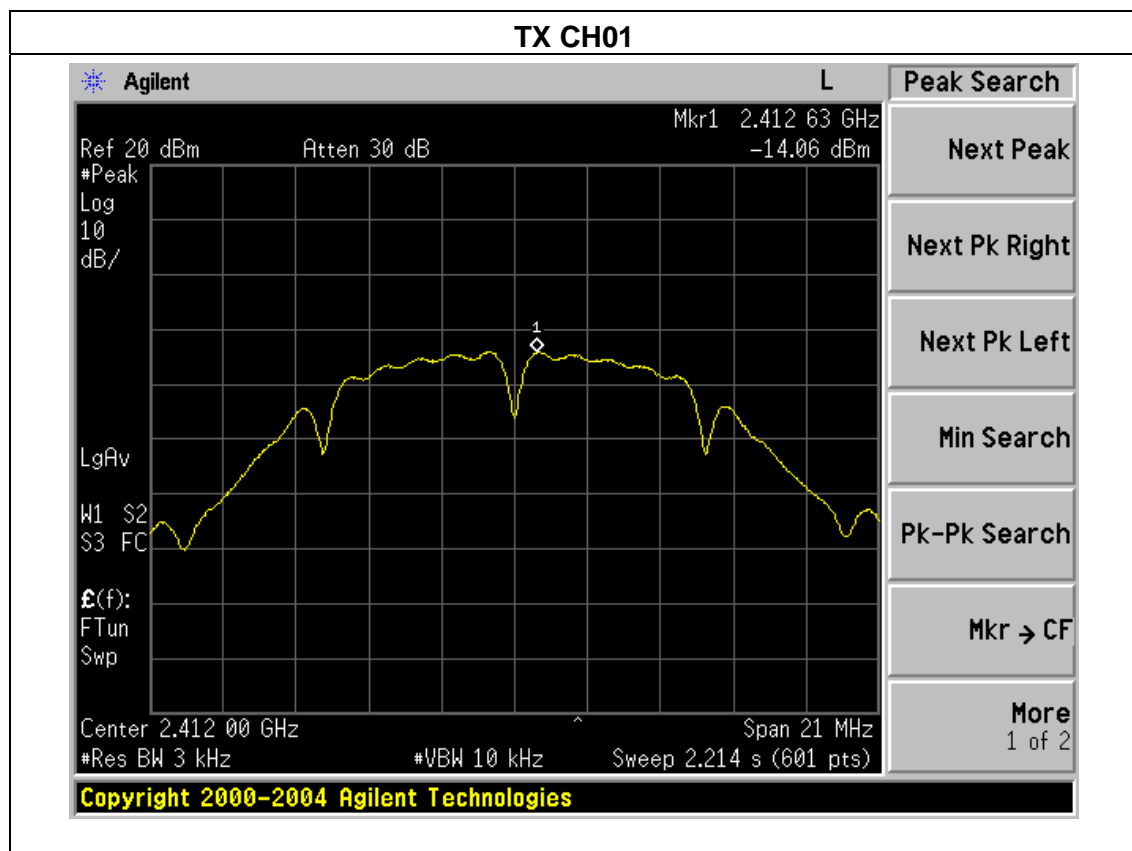
4.1.4 EUT OPERATION CONDITIONS

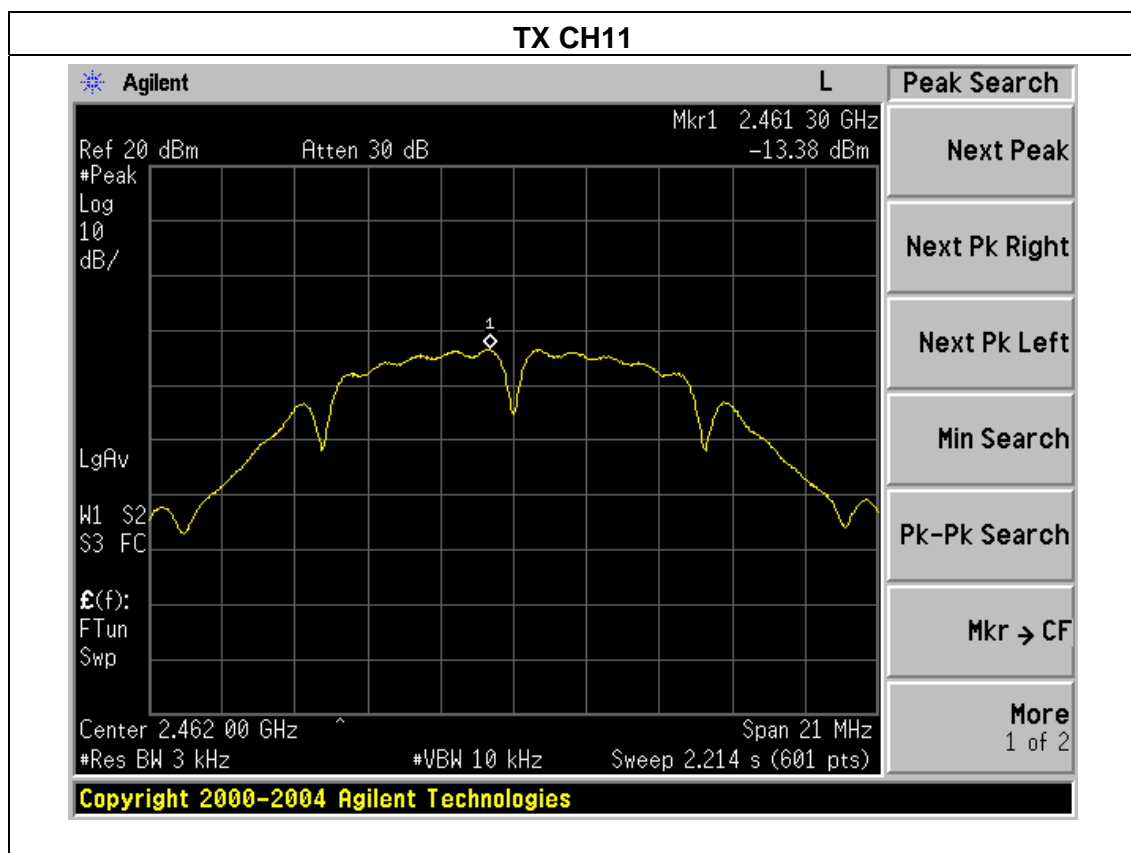
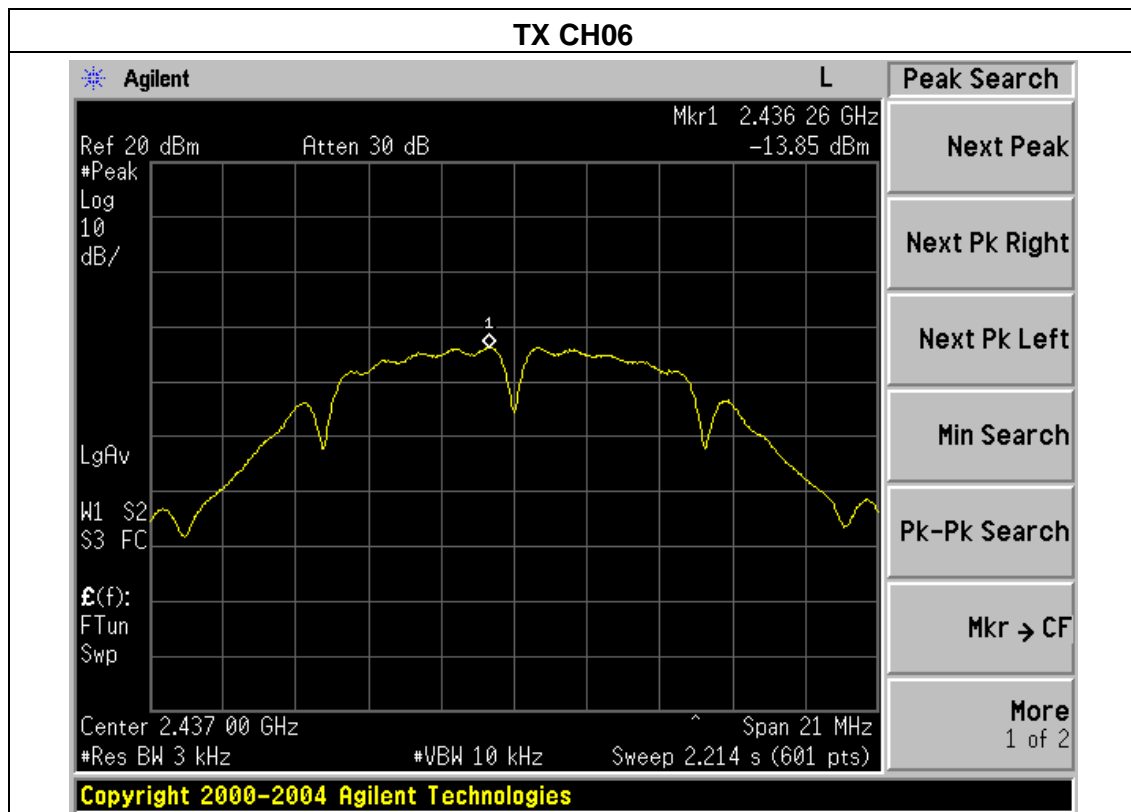
The EUT tested system was configured as the statements of 2.1 Unless otherwise a special operating condition is specified in the follows during the testing.

4.1.5 TEST RESULTS

EUT :	Android POS	Model Name :	GP7002
Temperature :	25 °C	Relative Humidity :	56%
Pressure :	1015 hPa	Test Voltage :	DC 7.4V
Test Mode :	TX b Mode /CH01, CH06, CH11		

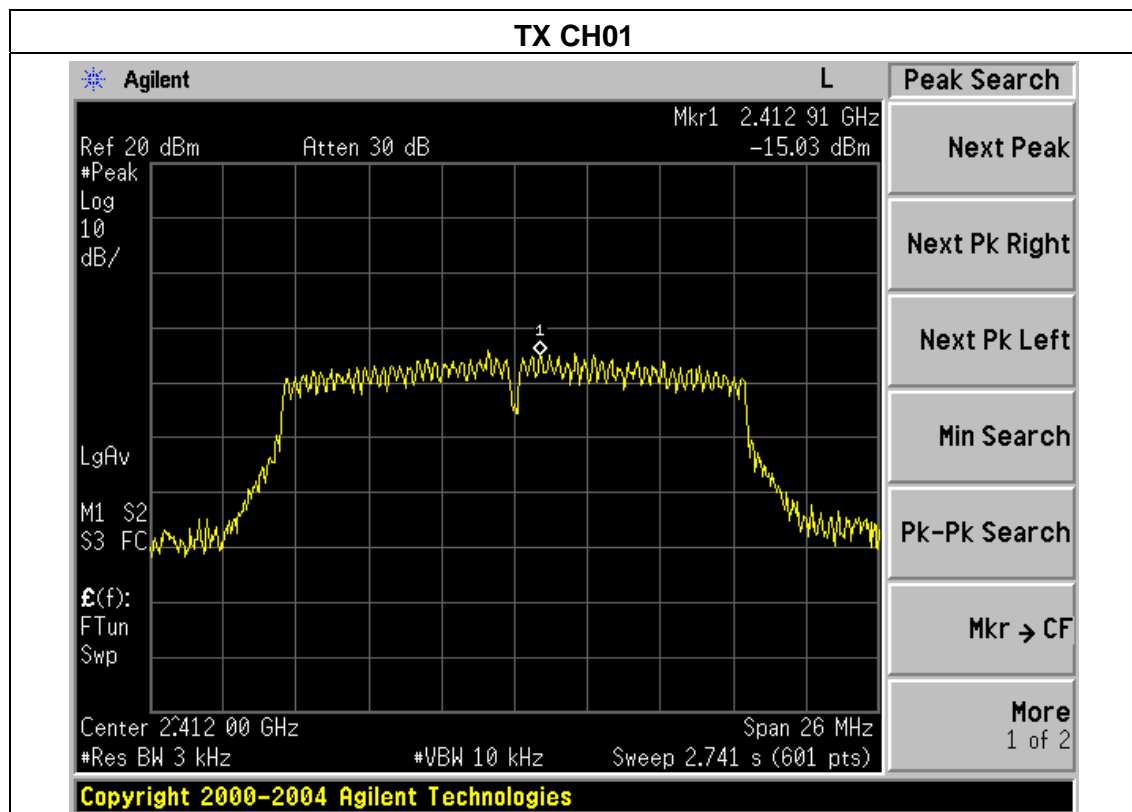
Frequency	Power Density (dBm/3KHz)	Limit (dBm/3KHz)	Result
2412 MHz	-14.06	8	PASS
2437 MHz	-13.85	8	PASS
2462 MHz	-13.38	8	PASS

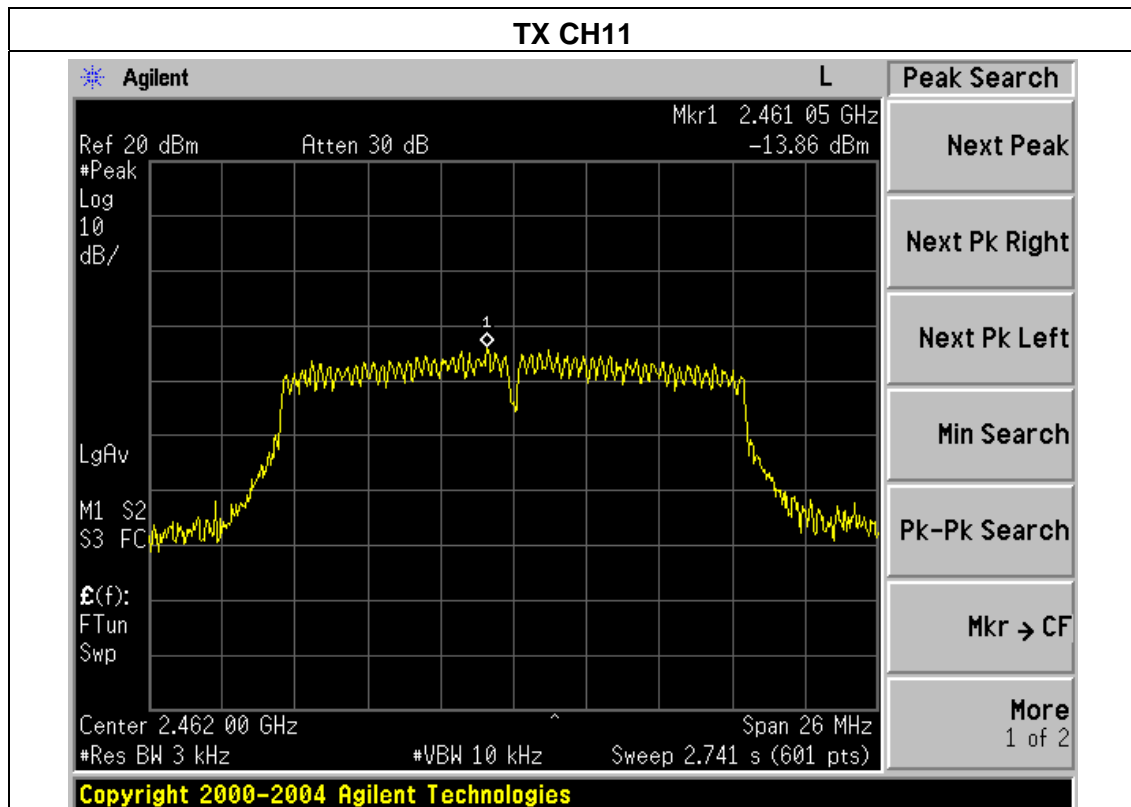
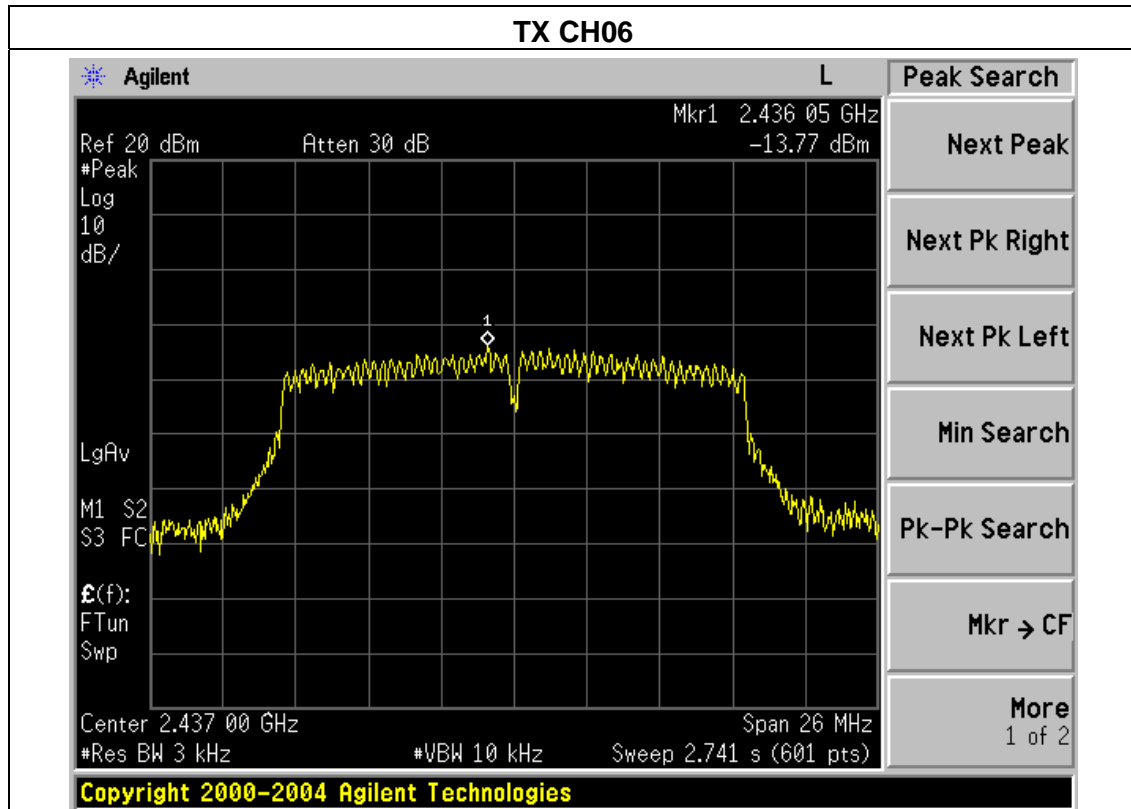




EUT :	Android POS	Model Name :	GP7002
Temperature :	25 °C	Relative Humidity :	56%
Pressure :	1015 hPa	Test Voltage :	DC 7.4V
Test Mode :	TX g Mode /CH01, CH06, CH11		

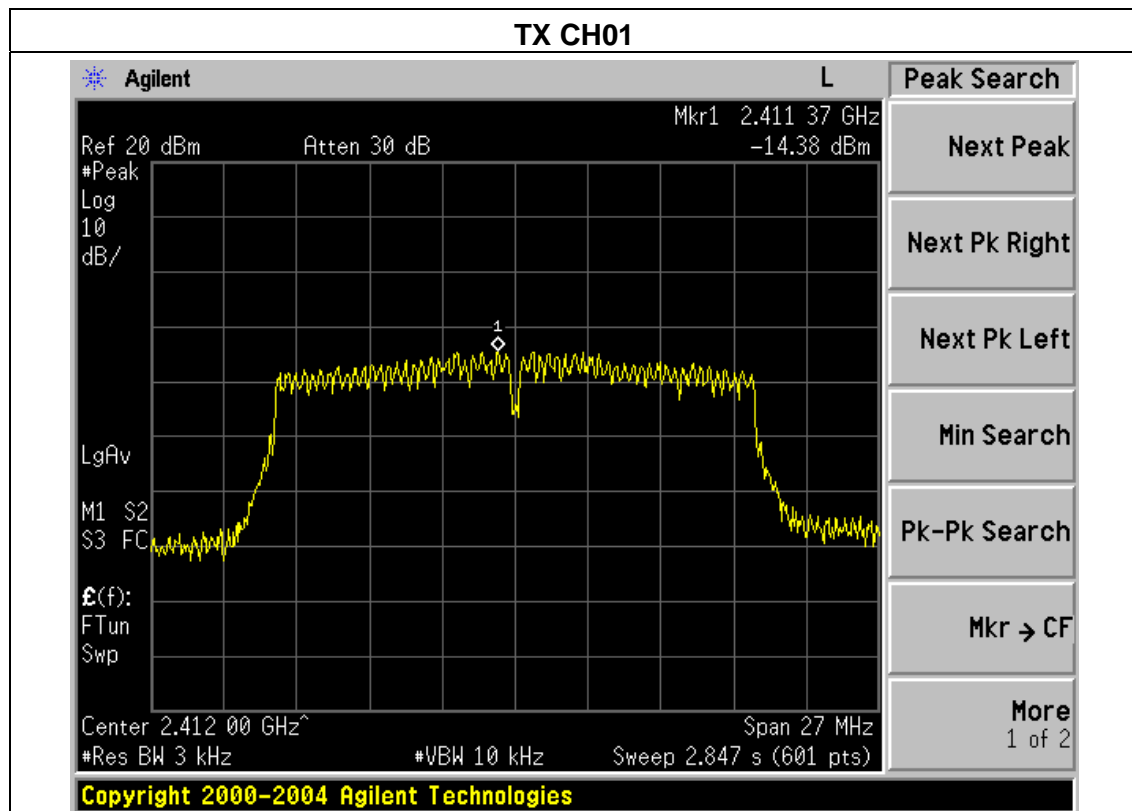
Frequency	Power Density (dBm/3KHz)	Limit (dBm/3KHz)	Result
2412 MHz	-15.03	8	PASS
2437 MHz	-13.77	8	PASS
2462 MHz	-13.86	8	PASS

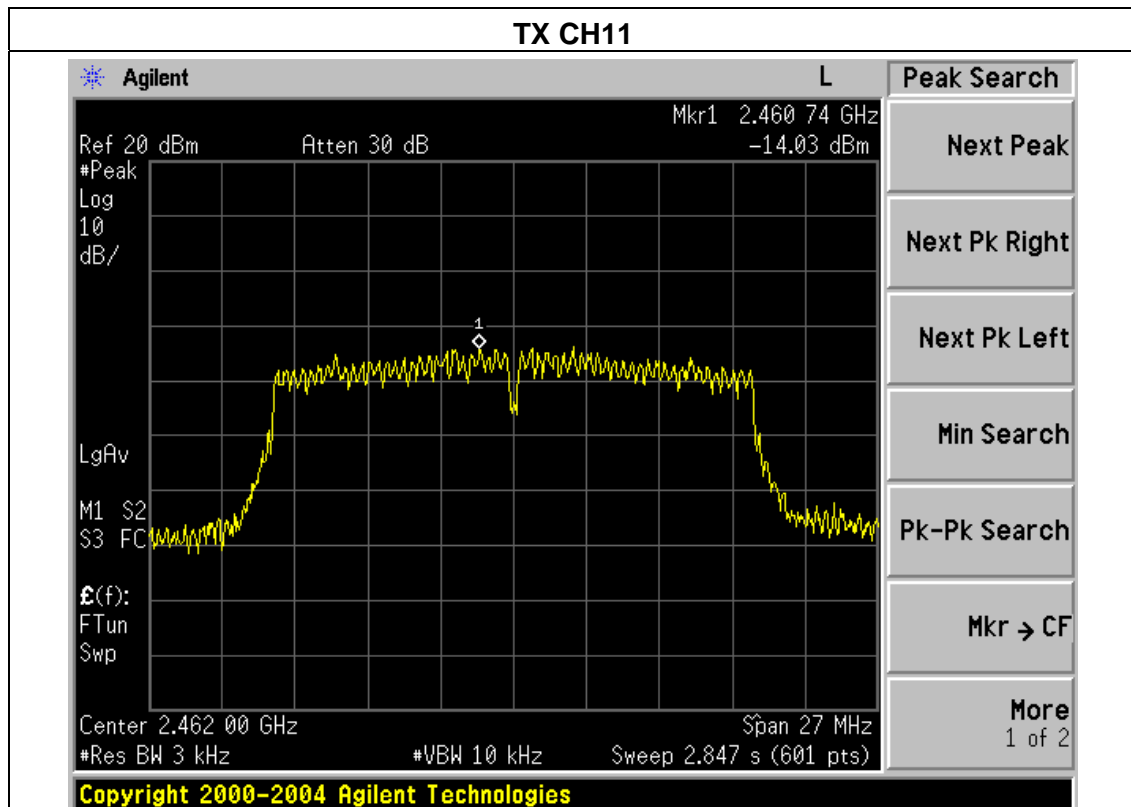
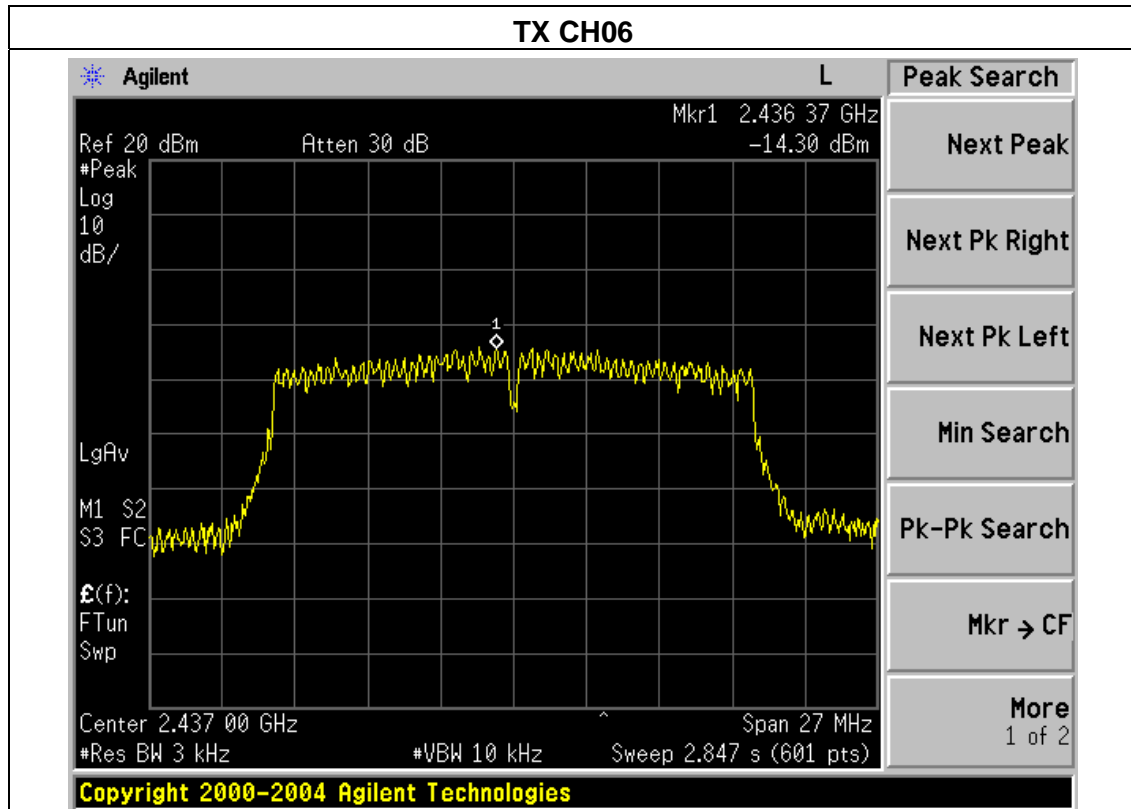




EUT :	Android POS	Model Name :	GP7002
Temperature :	25 °C	Relative Humidity :	56%
Pressure :	1015 hPa	Test Voltage :	DC 7.4V
Test Mode :	TX n Mode (20MHz)/CH01, CH06, CH11		

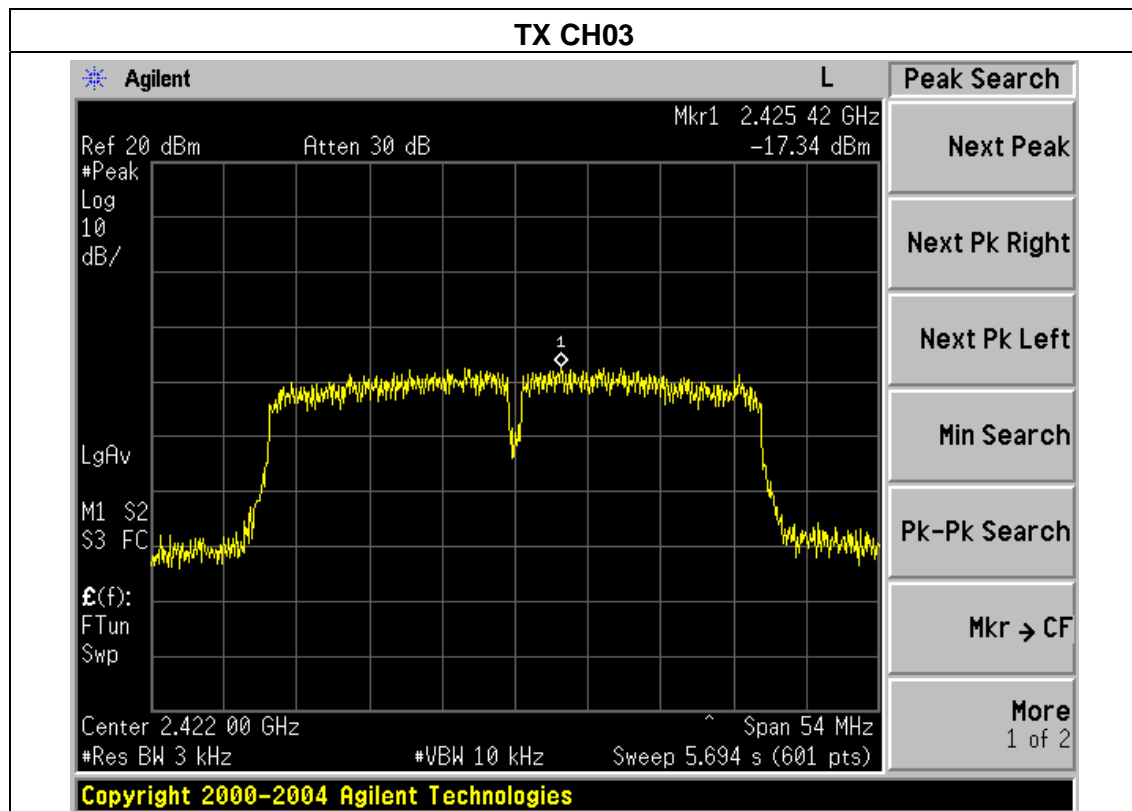
Frequency	Power Density (dBm/3KHz)	Limit (dBm/3KHz)	Result
2412 MHz	-14.38	8	PASS
2437 MHz	-14.30	8	PASS
2462 MHz	-14.03	8	PASS

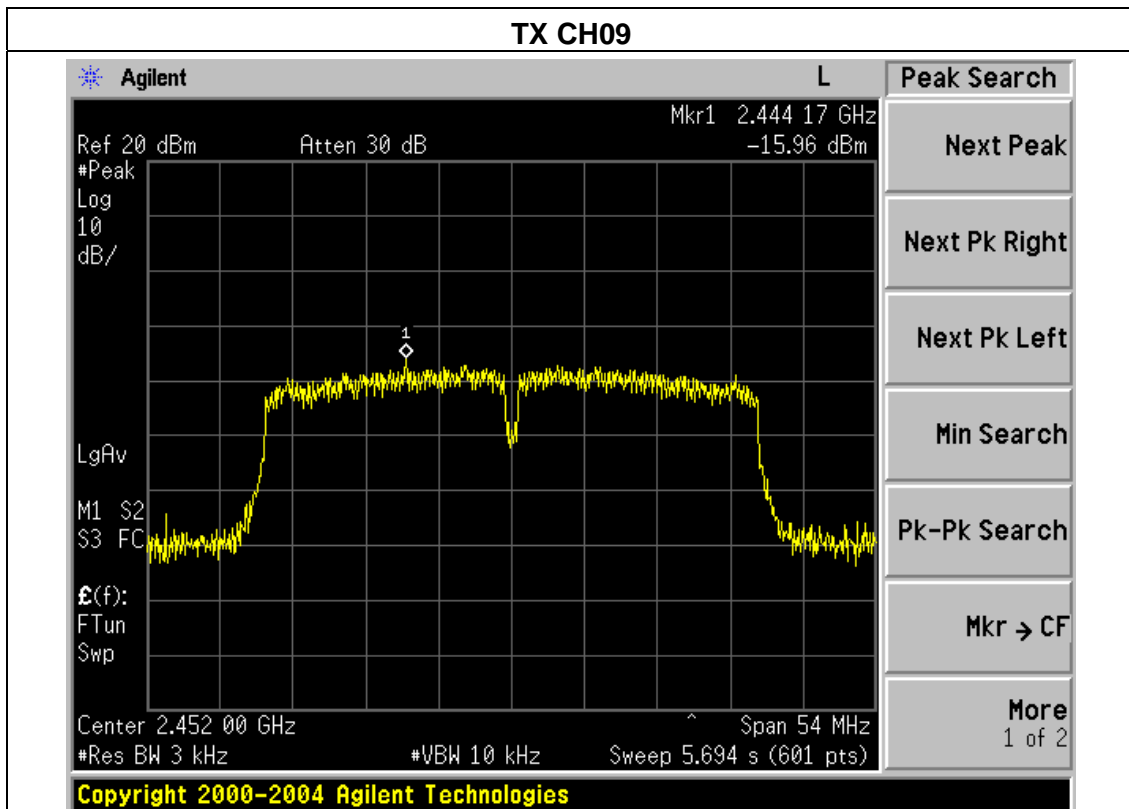
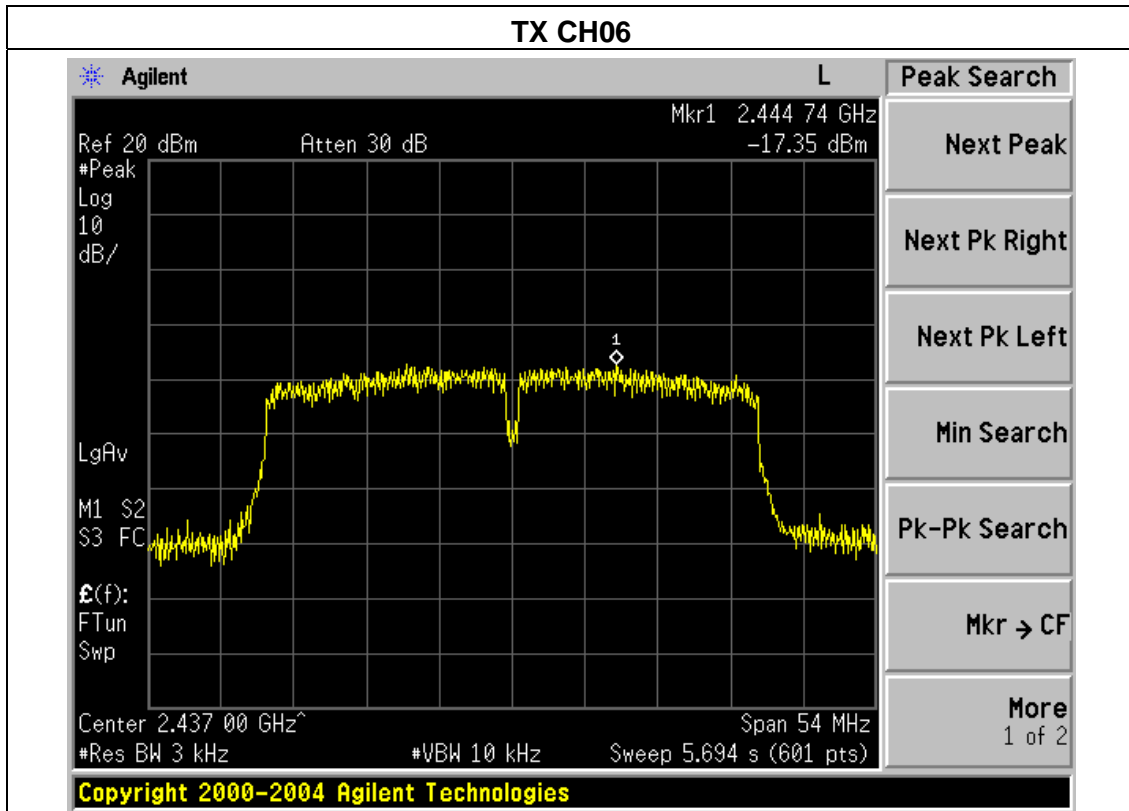




EUT :	Android POS	Model Name :	GP7002
Temperature :	25 °C	Relative Humidity :	56%
Pressure :	1015 hPa	Test Voltage :	DC 7.4V
Test Mode :	TX n Mode (40MHz)/CH03, CH06, CH09		

Frequency	Power Density (dBm/3KHz)	Limit (dBm/3KHz)	Result
2422 MHz	-17.34	8	PASS
2437 MHz	-17.35	8	PASS
2452 MHz	-15.96	8	PASS





5. BANDWIDTH TEST

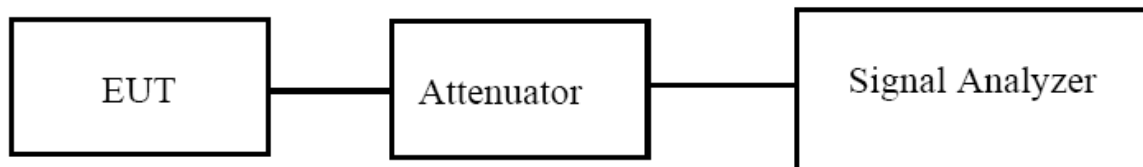
5.1 APPLIED PROCEDURES / LIMIT

FCC Part15 (15.247) , Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247(a)(2)	Bandwidth	$\geq 500\text{KHz}$ (6dB bandwidth)	2400-2483.5	PASS

5.1.1 TEST PROCEDURE

1. Set RBW = 100 kHz.
2. Set the video bandwidth (VBW) $\geq 3 \times$ RBW.
3. Detector = Peak.
4. Trace mode = max hold.
5. Sweep = auto couple.
6. Allow the trace to stabilize.
7. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

TEST SETUP



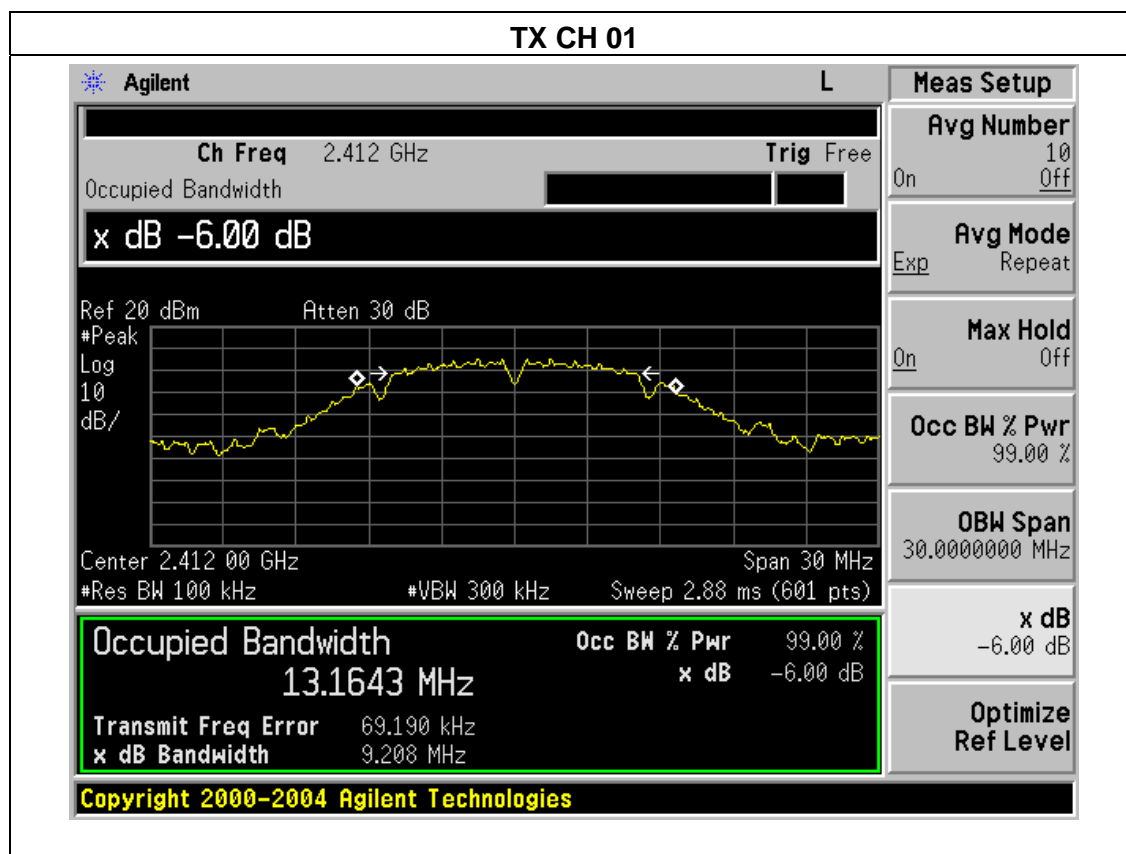
5.1.2 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

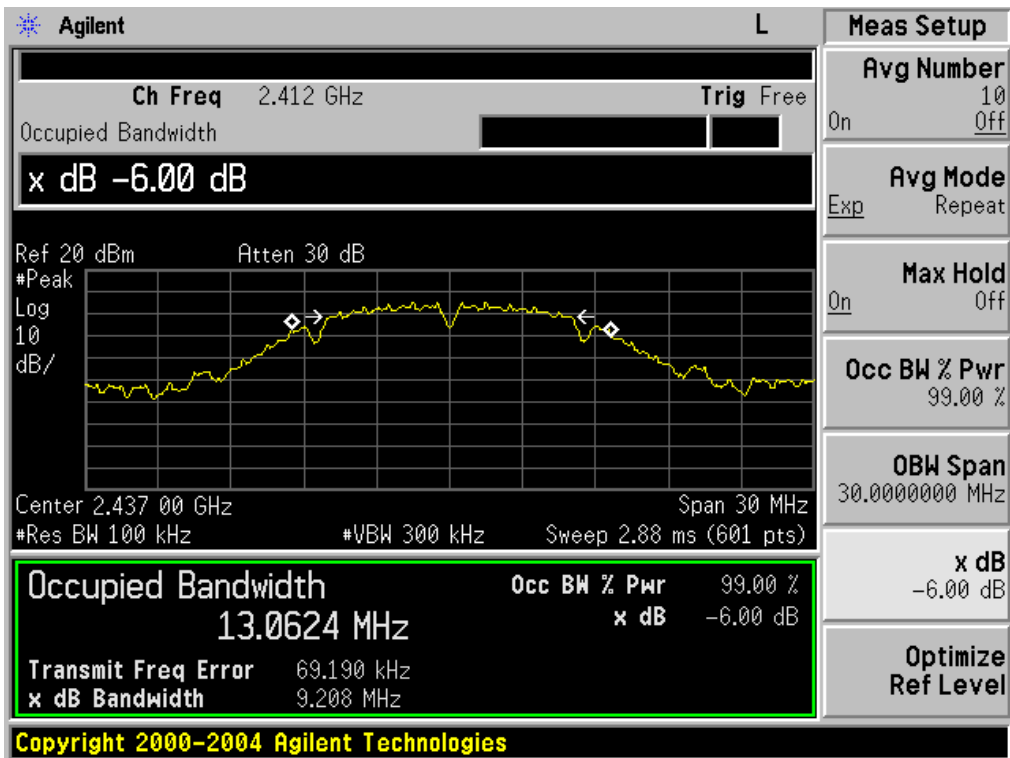
5.1.3 TEST RESULTS

EUT :	Android POS	Model Name :	GP7002
Temperature :	25 °C	Relative Humidity :	56%
Pressure :	1012 hPa	Test Voltage :	DC 7.4V
Test Mode :	TX b Mode /CH01, CH06, CH11		

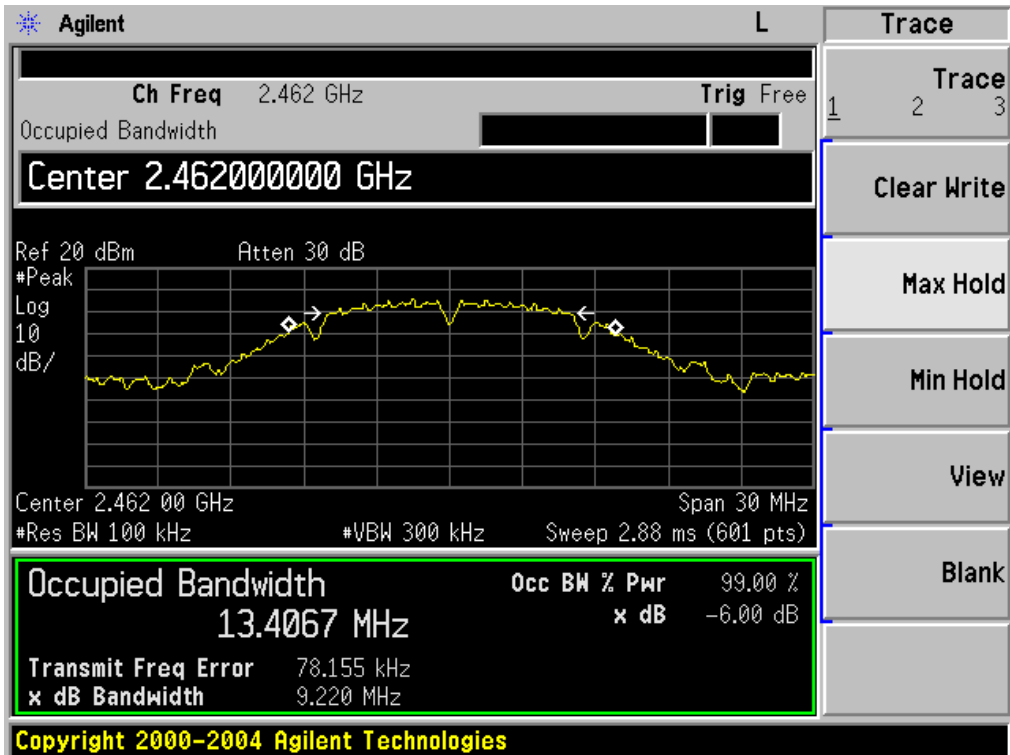
Channel	Frequency (MHz)	6dB bandwidth (MHz)	Limit (kHz)	Result
Low	2412	9.208	500	Pass
Middle	2437	9.208	500	Pass
High	2462	9.220	500	Pass



TX CH 06

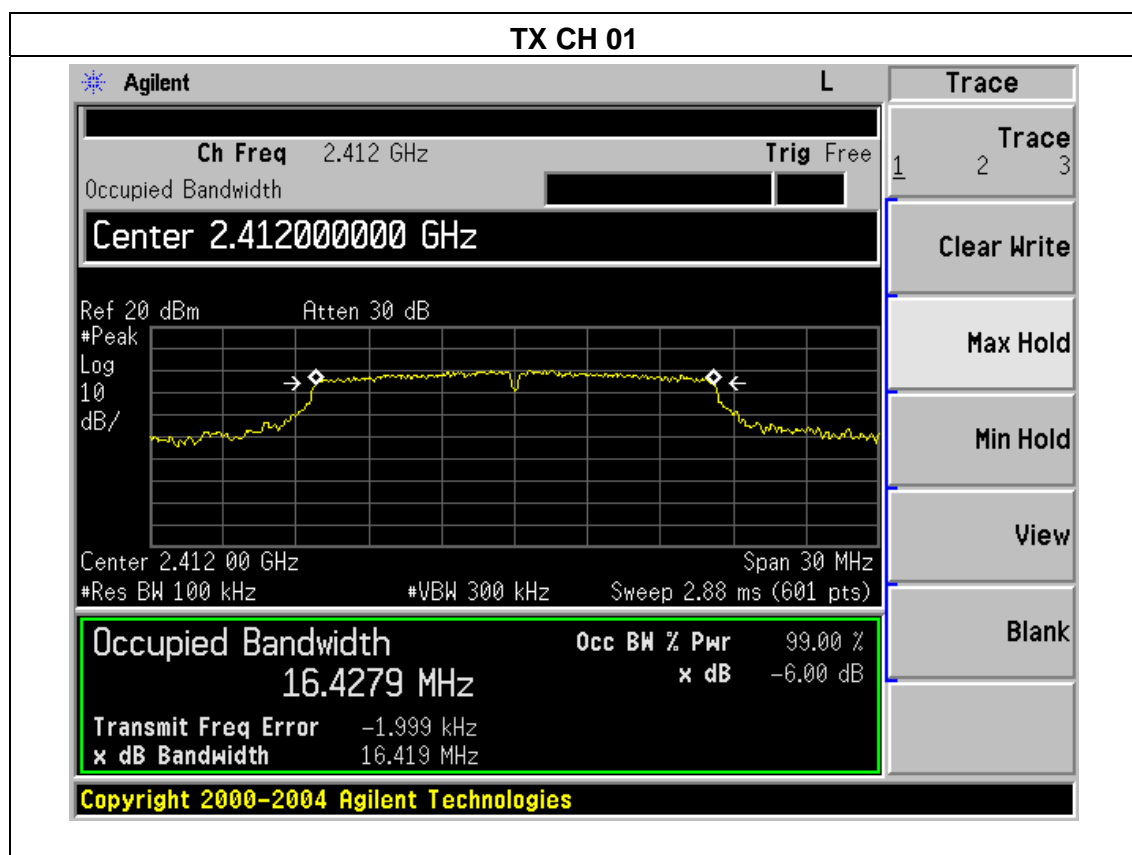


TX CH 11

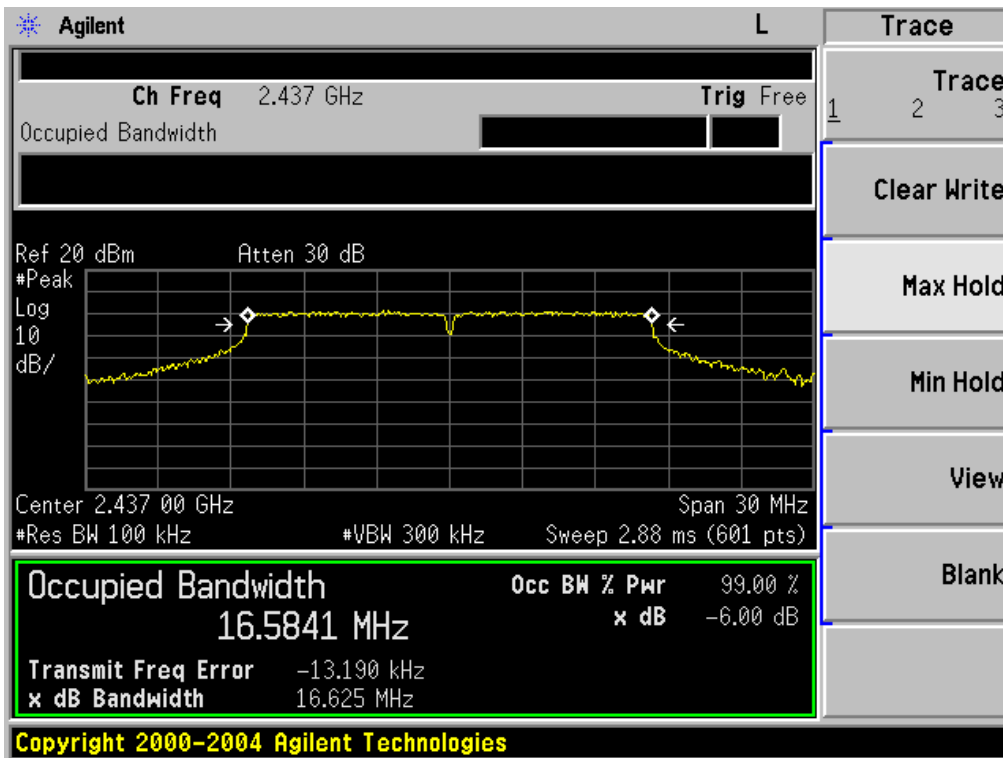


EUT :	Android POS	Model Name :	GP7002
Temperature :	25 °C	Relative Humidity :	60%
Pressure :	1012 hPa	Test Voltage :	DC 7.4V
Test Mode :	TX g Mode /CH01, CH06, CH11		

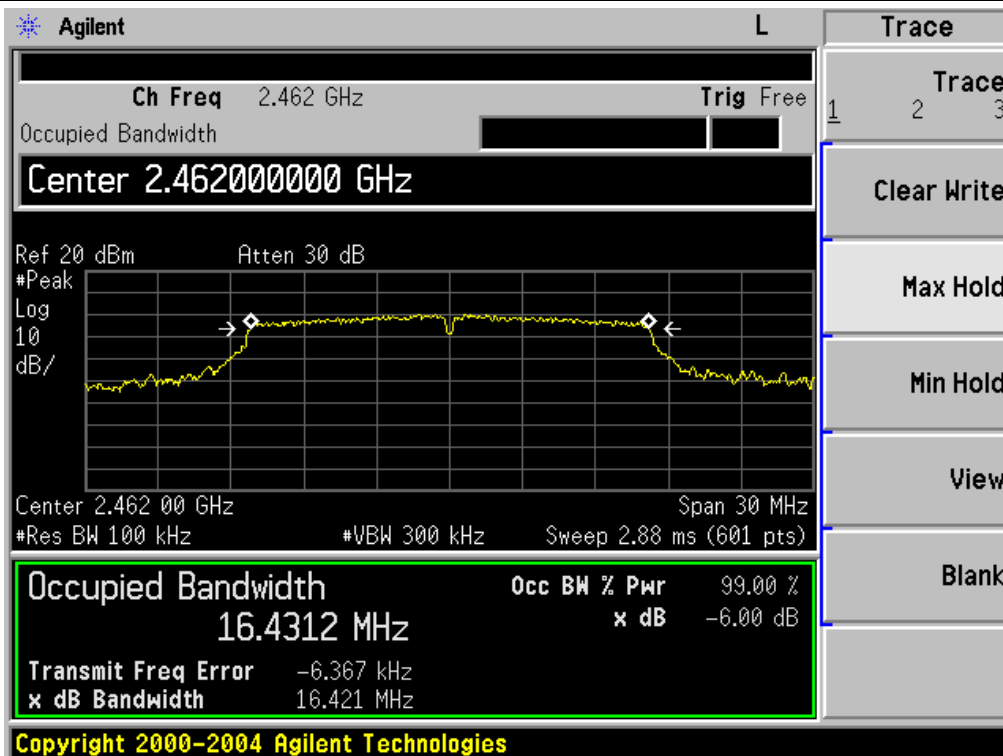
Channel	Frequency (MHz)	6dB bandwidth (MHz)	Limit (kHz)	Result
Low	2412	16.419	500	Pass
Middle	2437	16.625	500	Pass
High	2462	16.421	500	Pass



TX CH 06

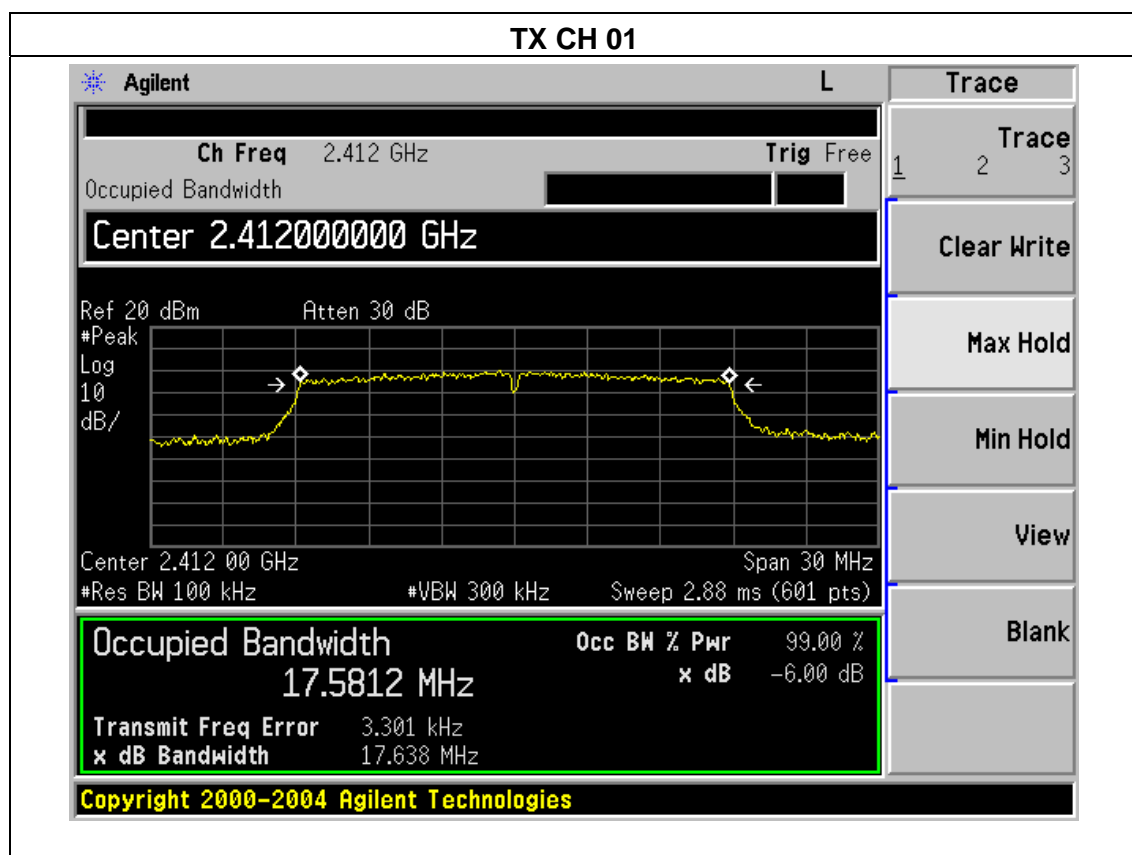


TX CH 11

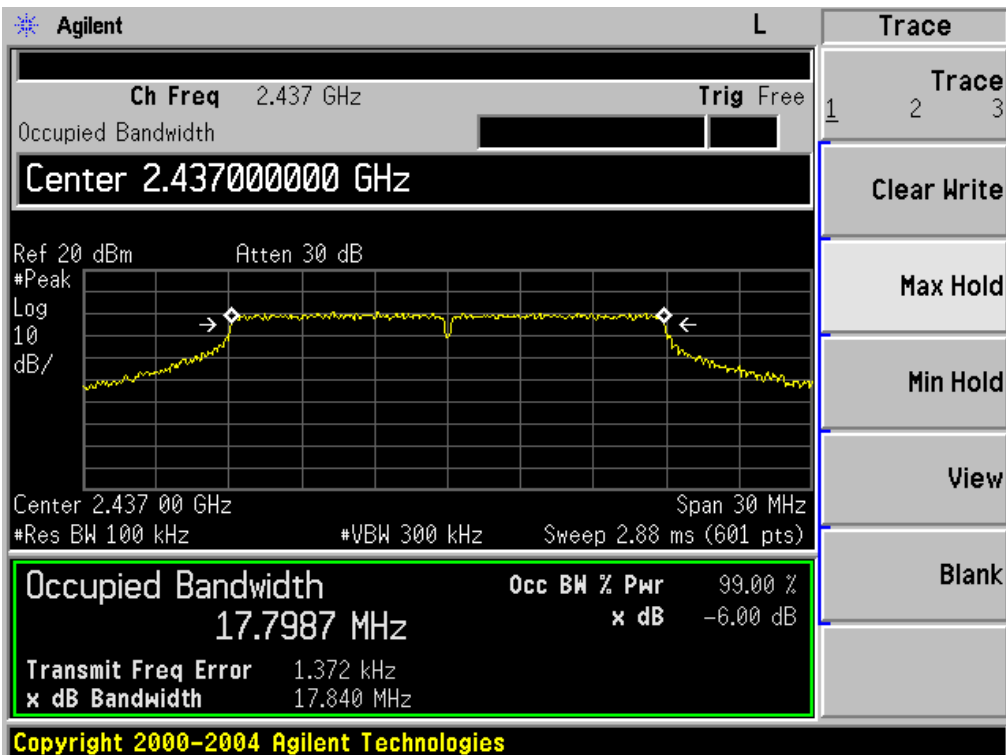


EUT :	Android POS	Model Name :	GP7002
Temperature :	25 °C	Relative Humidity :	56%
Pressure :	1012 hPa	Test Voltage :	DC 7.4V
Test Mode :	TX n Mode(20M) /CH01, CH06, CH11		

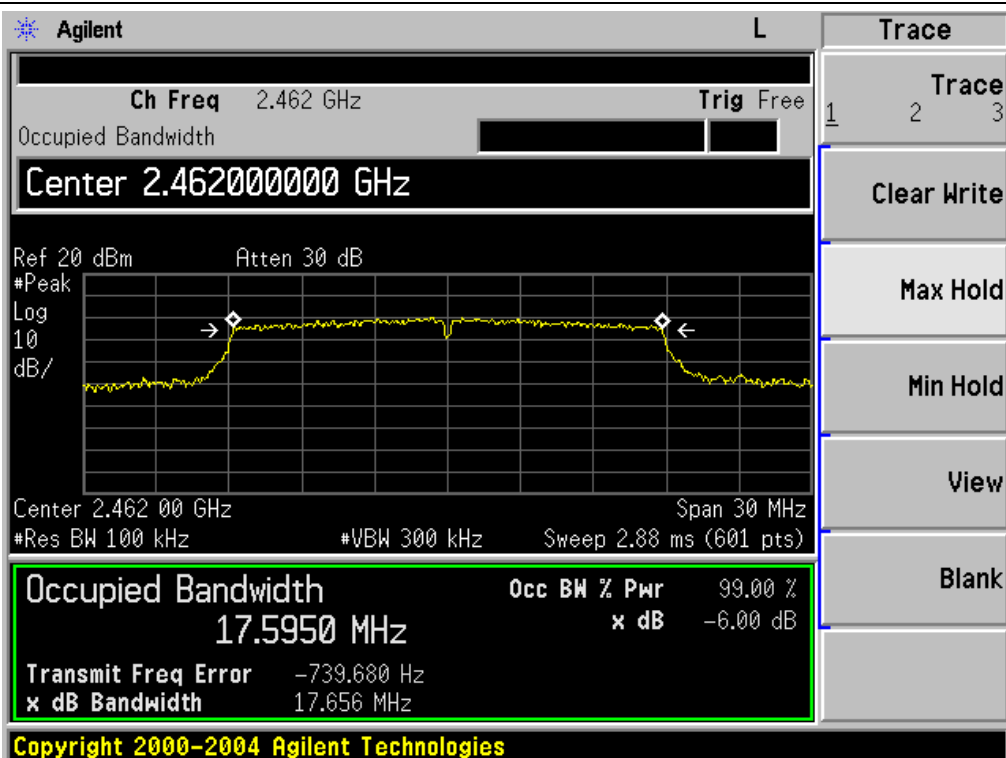
Channel	Frequency (MHz)	6dB bandwidth (MHz)	Limit (kHz)	Result
Low	2412	17.638	500	Pass
Middle	2437	17.840	500	Pass
High	2462	17.656	500	Pass



TX CH 06



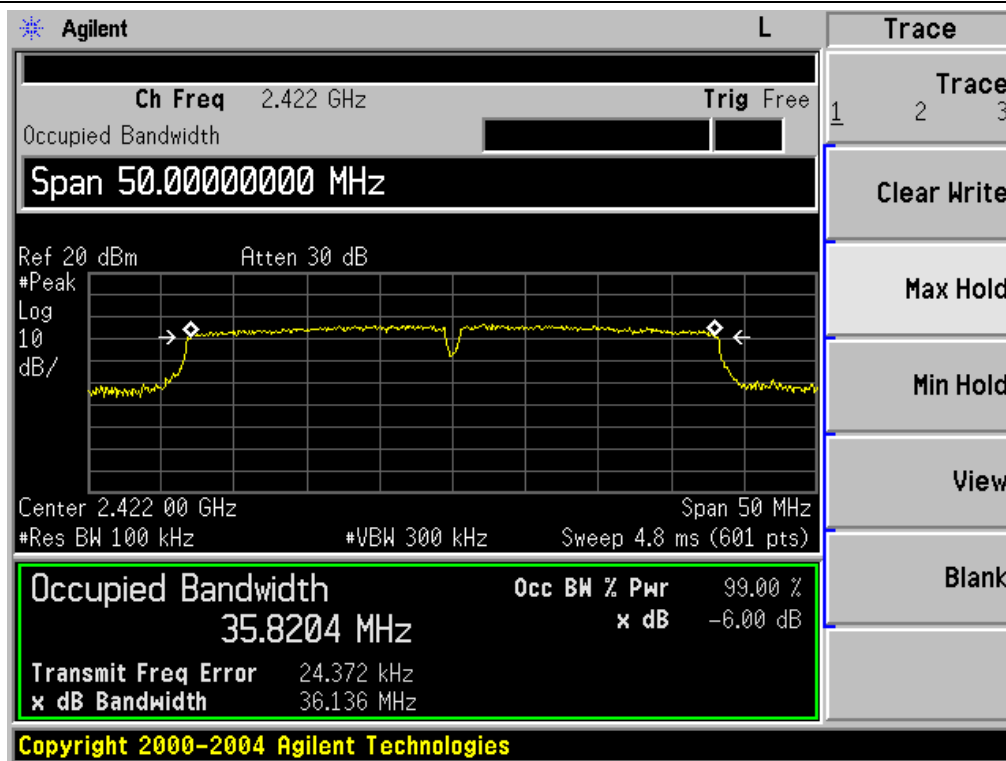
TX CH 11



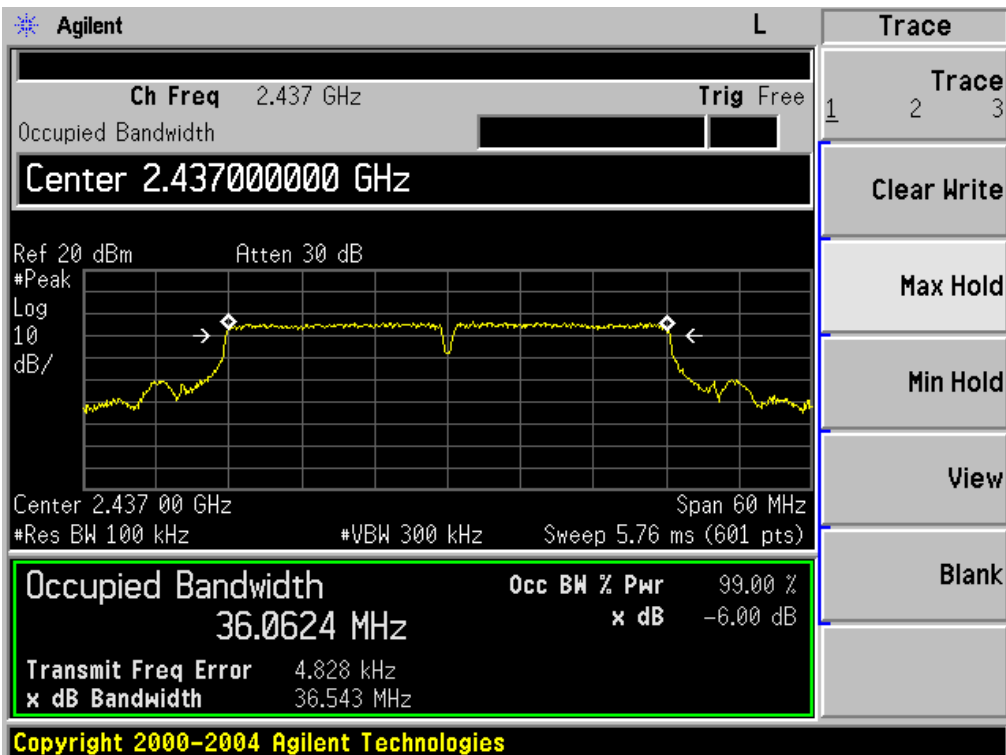
EUT :	Android POS	Model Name :	GP7002
Temperature :	25 °C	Relative Humidity :	56%
Pressure :	1012 hPa	Test Voltage :	DC 7.4V
Test Mode :	TX n Mode(40M) /CH03, CH06, CH09		

Channel	Frequency (MHz)	6dB bandwidth (MHz)	Limit (kHz)	Result
Low	2422	36.136	500	Pass
Middle	2437	36.543	500	Pass
High	2452	35.275	500	Pass

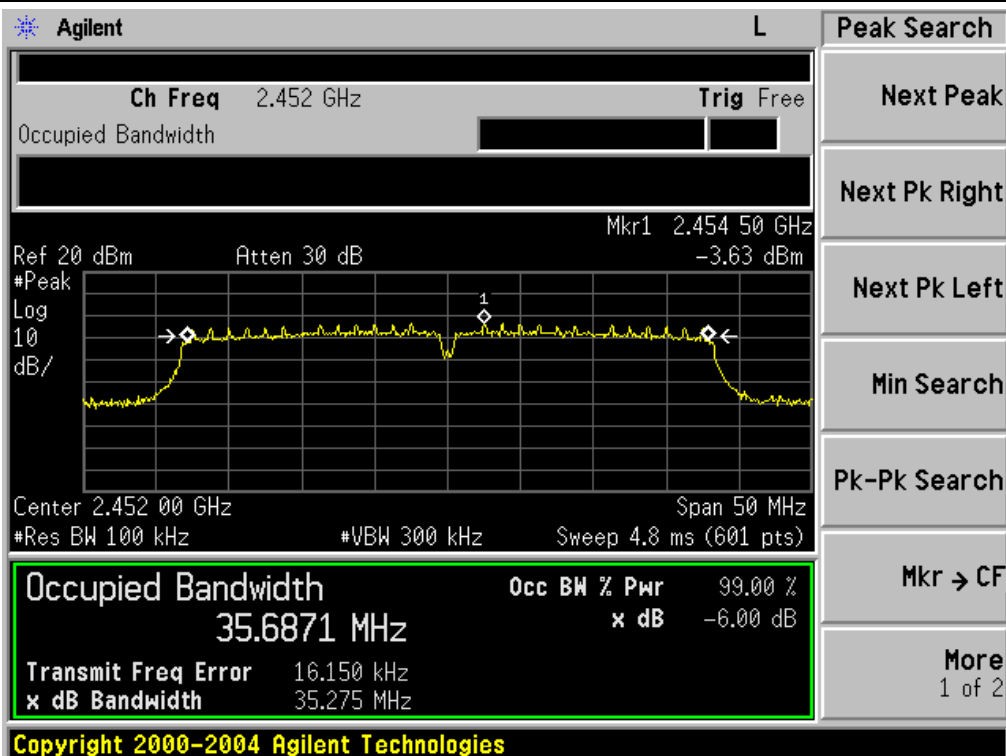
TX CH 03



TX CH 06



TX CH 09



6. MAXIMUM 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)(3)	Peak Output Power	1 watt or 30dBm	2400-2483.5	PASS

6.1.1 TEST PROCEDURE

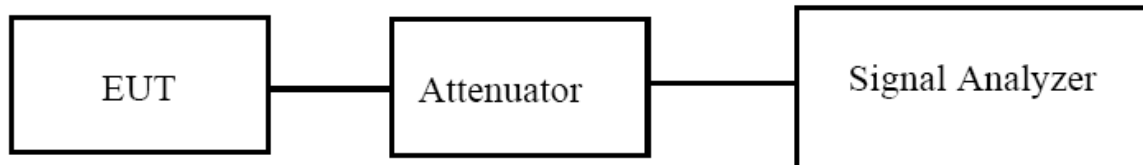
a. 9.2.2.3 Method AVGSA-1 Alternative (RMS detection with slow sweep and EUT transmitting continuously at full power)

- a) Set span to at least 1.5 times the OBW.
 - b) Set RBW = 1-5% of the OBW, not to exceed 1 MHz.
 - c) Set VBW $\geq 3 \times$ RBW.
 - d) Number of points in sweep $\geq 2 \times$ span / RBW. (This gives bin-to-bin spacing \leq RBW/2, so that narrowband signals are not lost between frequency bins.)
 - e) Manually set sweep time $\geq 10 \times$ (number of points in sweep) \times (transmission symbol period), but not less than the automatic default sweep time.
- NOTE— The transmission symbol period (in seconds) is the reciprocal of the symbol rate (in baud or symbols per second). Note that each symbol can represent one or several data bits and thus the symbol rate should not be confused with the gross bit rate (expressed in bits/second). In no case should the sweep time be set less than the auto sweep time.
- f) Set detector = RMS.
 - g) The EUT shall be operated at ≥ 98 % duty cycle or sweep triggering/signal gating shall be employed such that the sweep time is less than or equal to the transmission duration T.
 - h) Perform a single sweep.
 - i) Compute power by integrating the spectrum across the OBW of the signal using the instrument's band power measurement function, with band limits set equal to the OBW band edges. If the instrument does not have a band power function, sum the spectrum levels (in power units) at intervals equal to the RBW extending across the entire OBW of the spectrum.

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 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

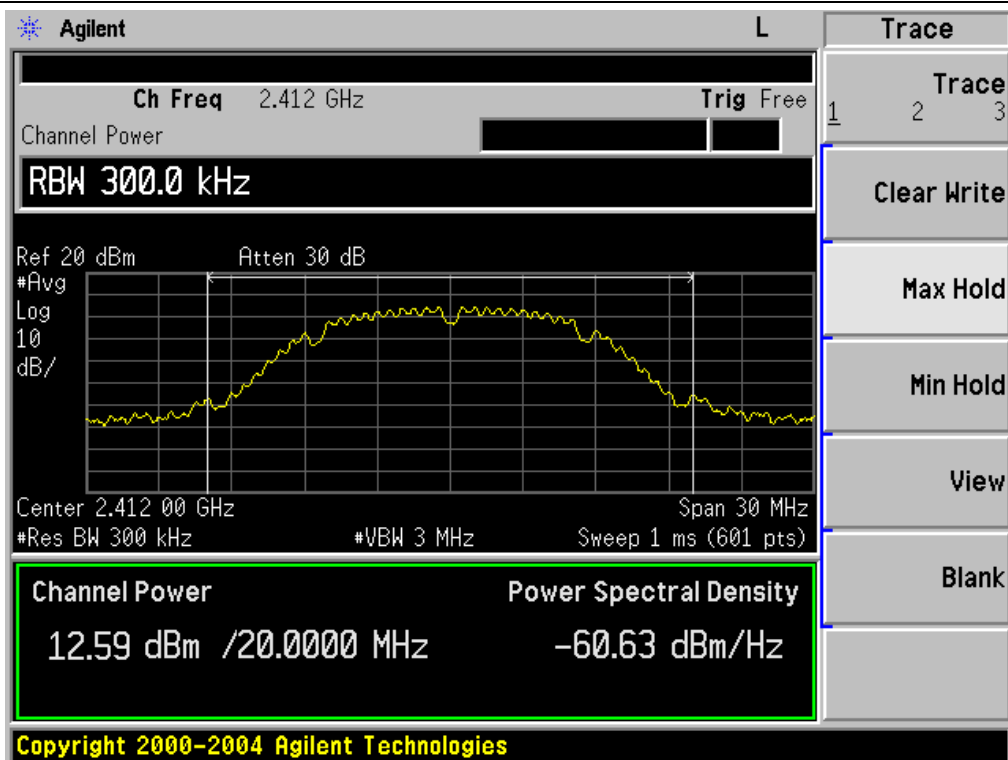
6.1.5 TEST RESULTS

EUT :	Android POS	Model Name :	GP7002
Temperature :	25 °C	Relative Humidity :	60%
Pressure :	1012 hPa	Test Voltage :	DC 7.4V
Test Mode :	TX b/g/n(20M/40M) Mode		

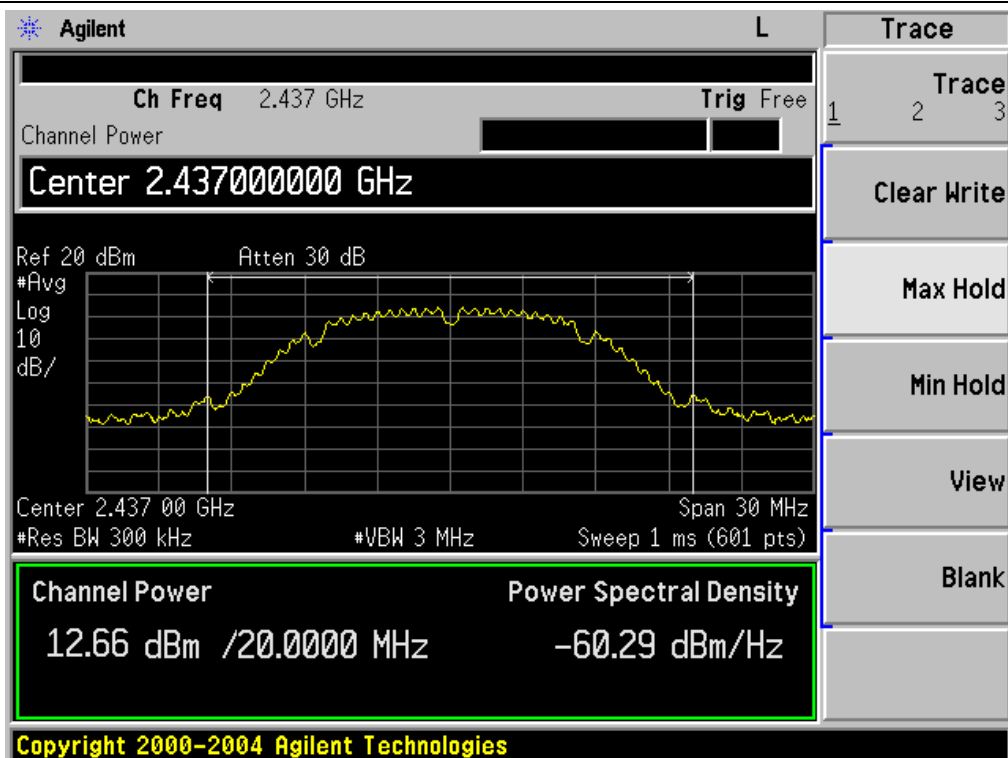
TX 802.11b Mode			
Test Channel	Frequency	Maximum Conducted Output Power (AV)	LIMIT
	(MHz)	(dBm)	dBm
CH01	2412	12.59	30
CH06	2437	12.66	30
CH11	2462	13.21	30
TX 802.11g Mode			
CH01	2412	9.23	30
CH06	2437	9.46	30
CH11	2462	9.26	30
TX 802.11n(20) Mode			
CH01	2412	7.67	30
CH06	2437	7.84	30
CH11	2462	7.52	30
TX 802.11n(40) Mode			
CH03	2422	5.75	30
CH06	2437	5.79	30
CH09	2452	6.90	30

802.11b Mode

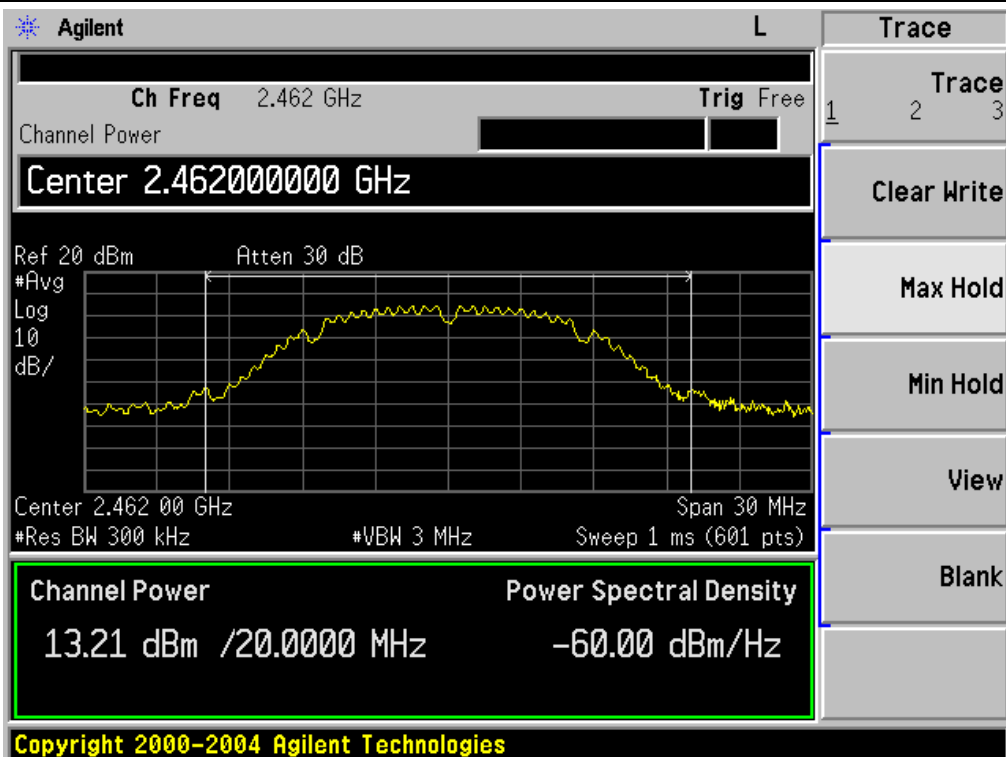
TX CH 01



TX CH 06

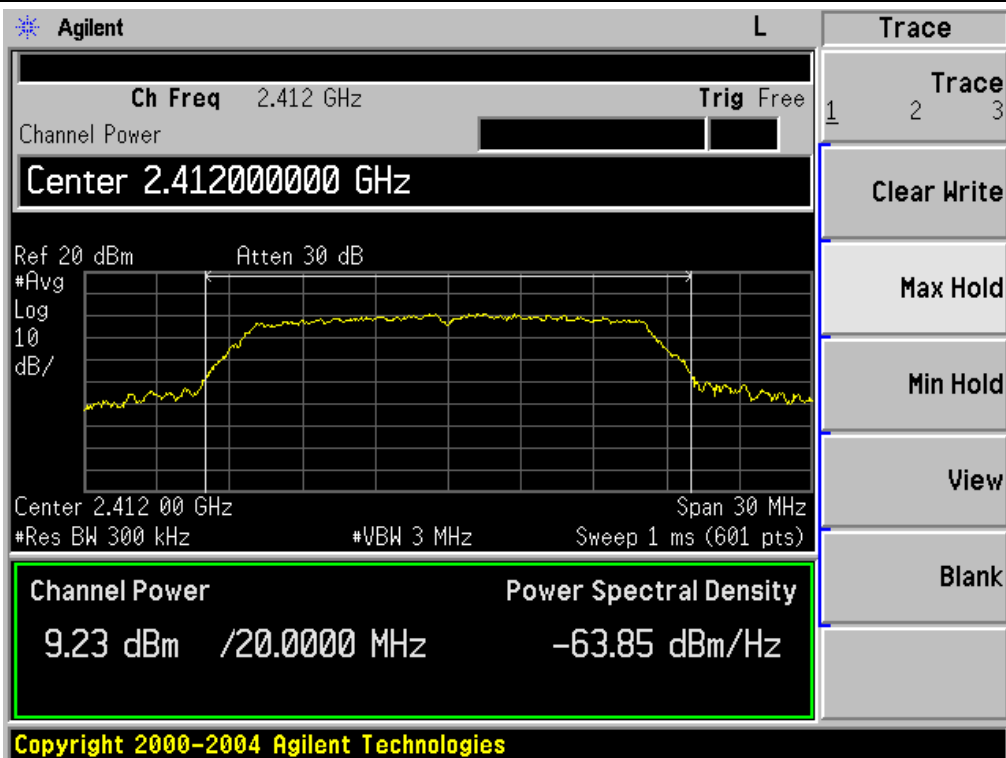


TX CH 11

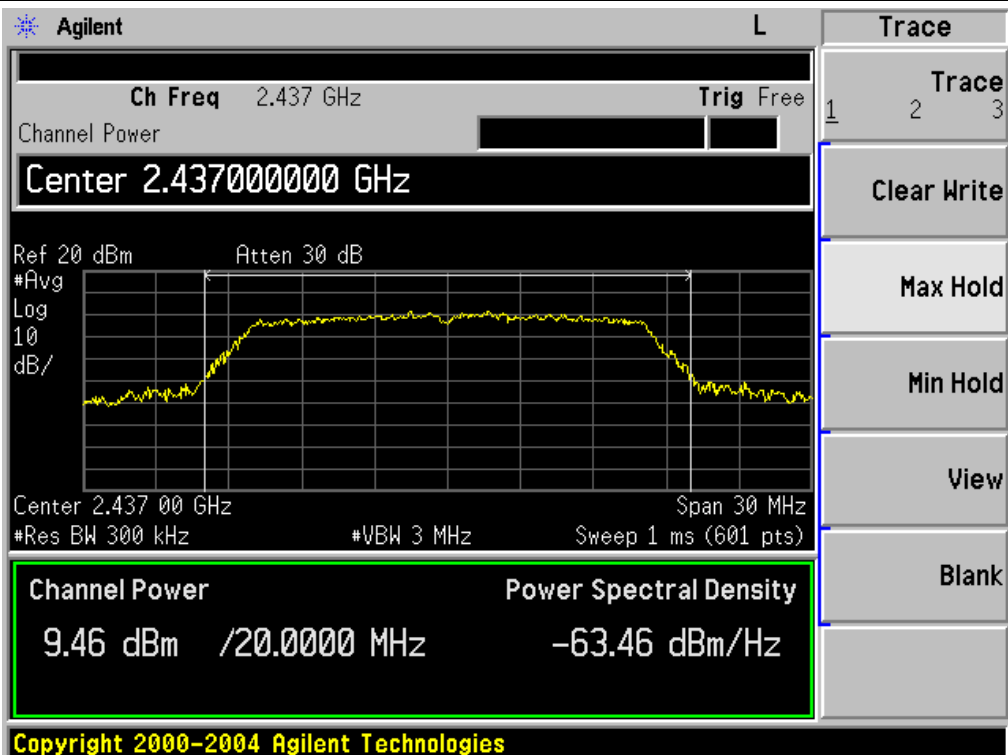


802.11g Mode

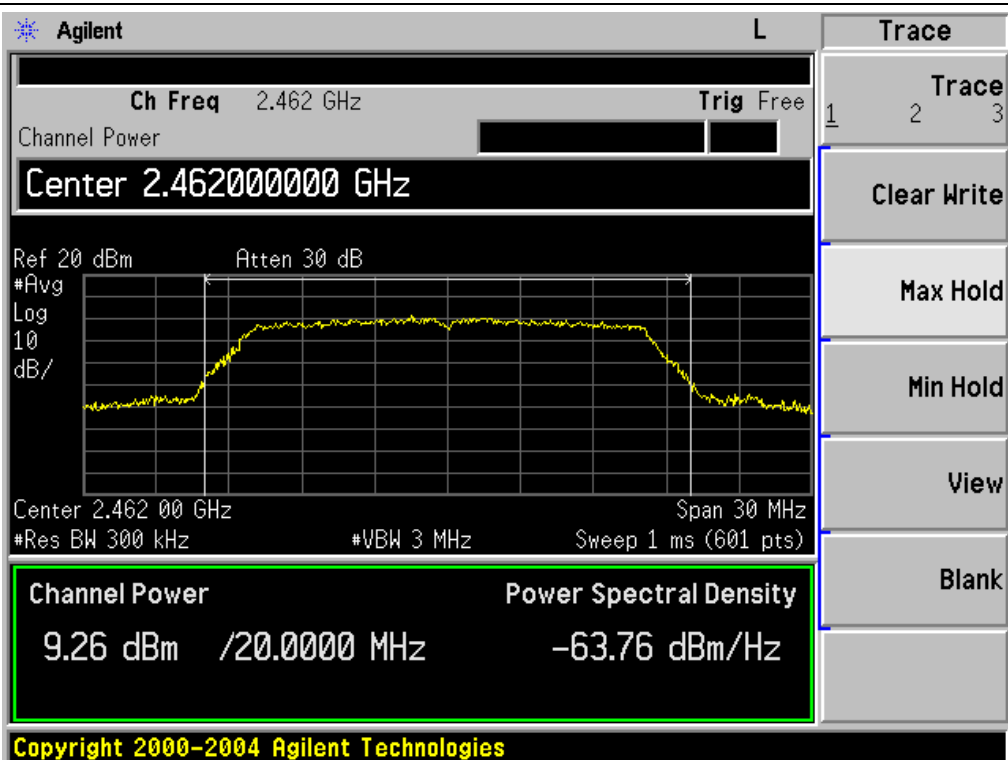
TX CH 01



TX CH 06

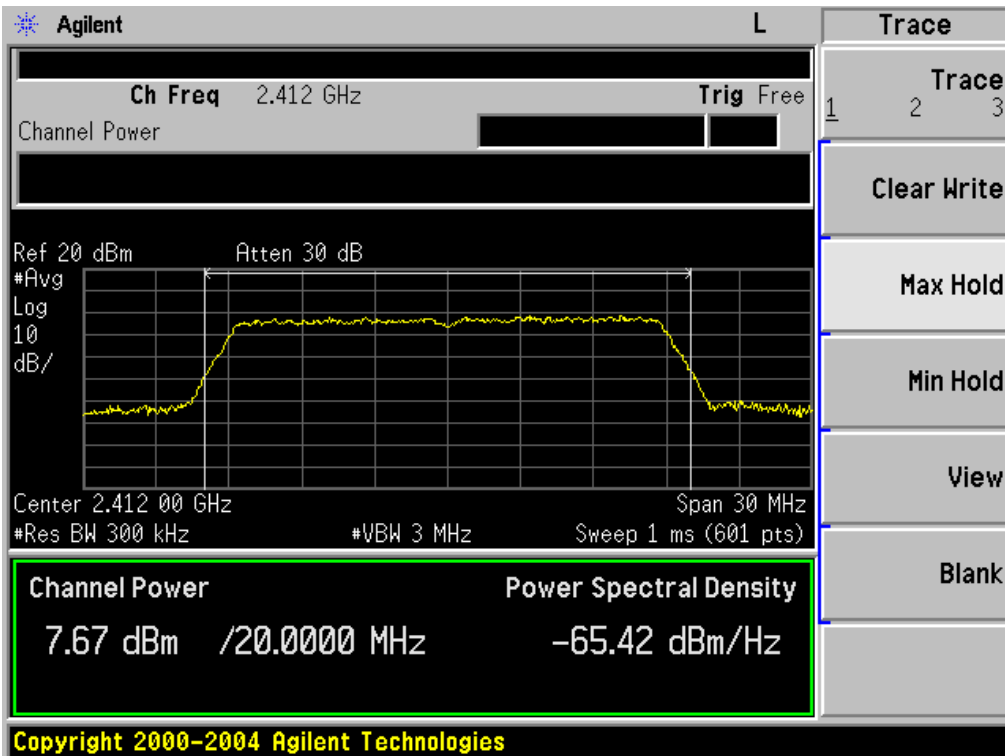


TX CH 11

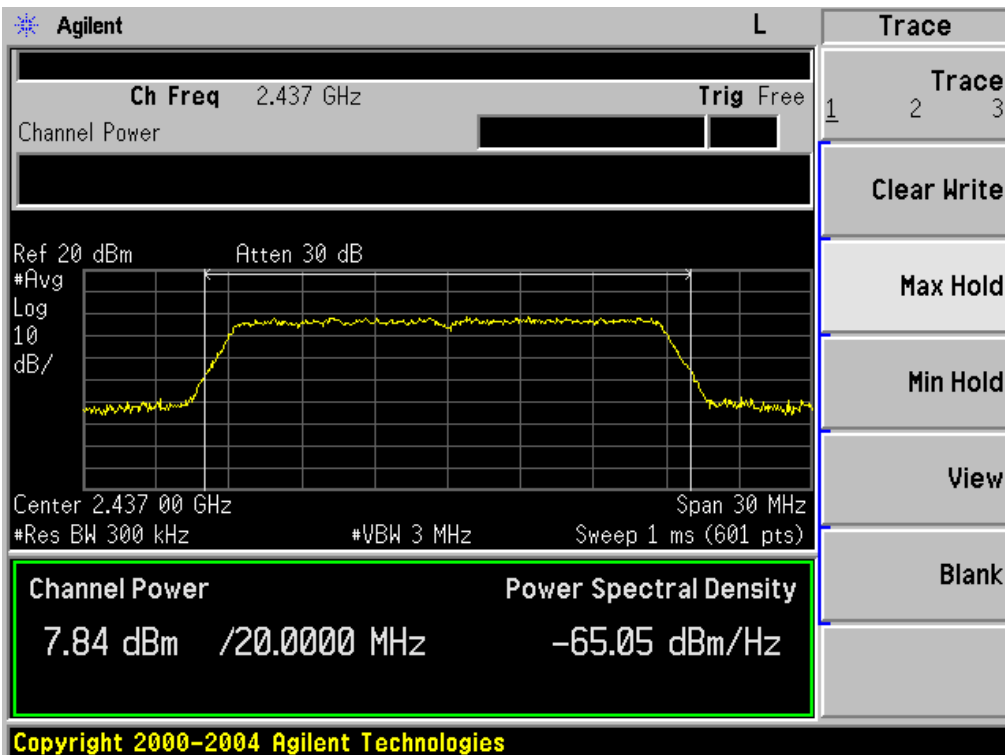


802.11n(20) Mode

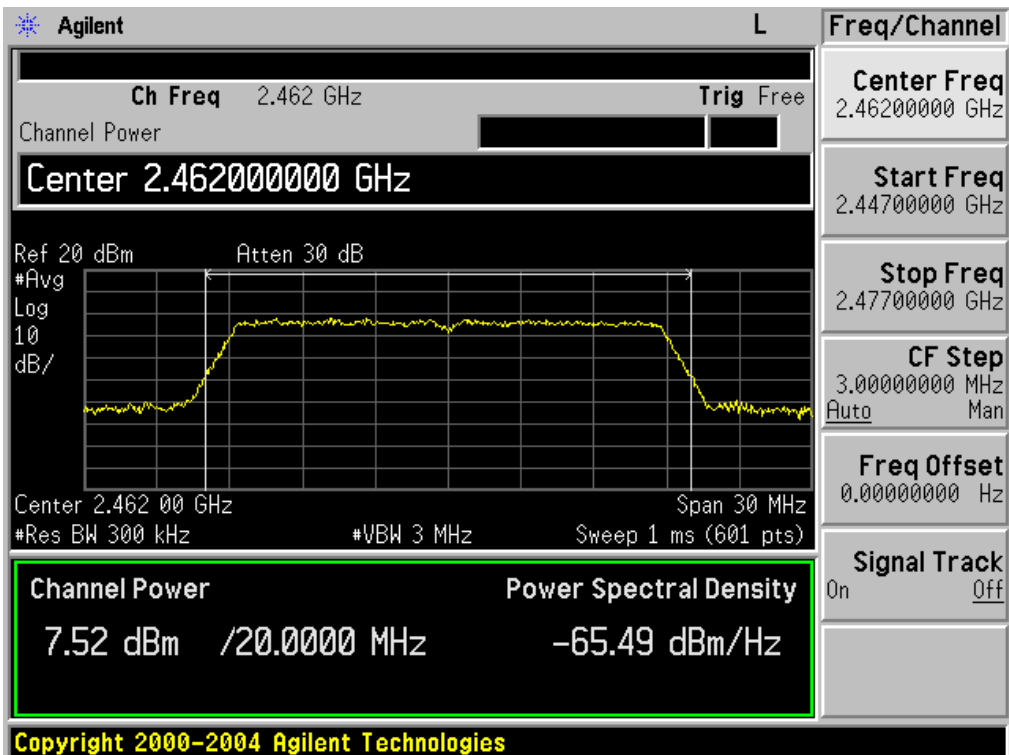
TX CH 01



TX CH 06

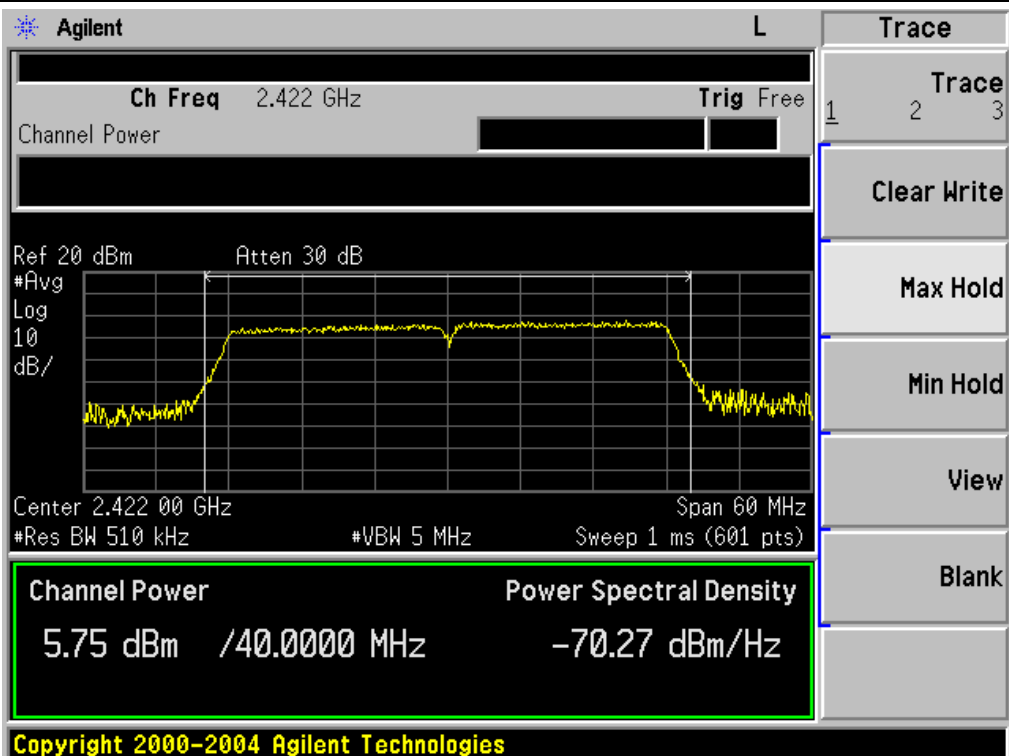


TX CH 11

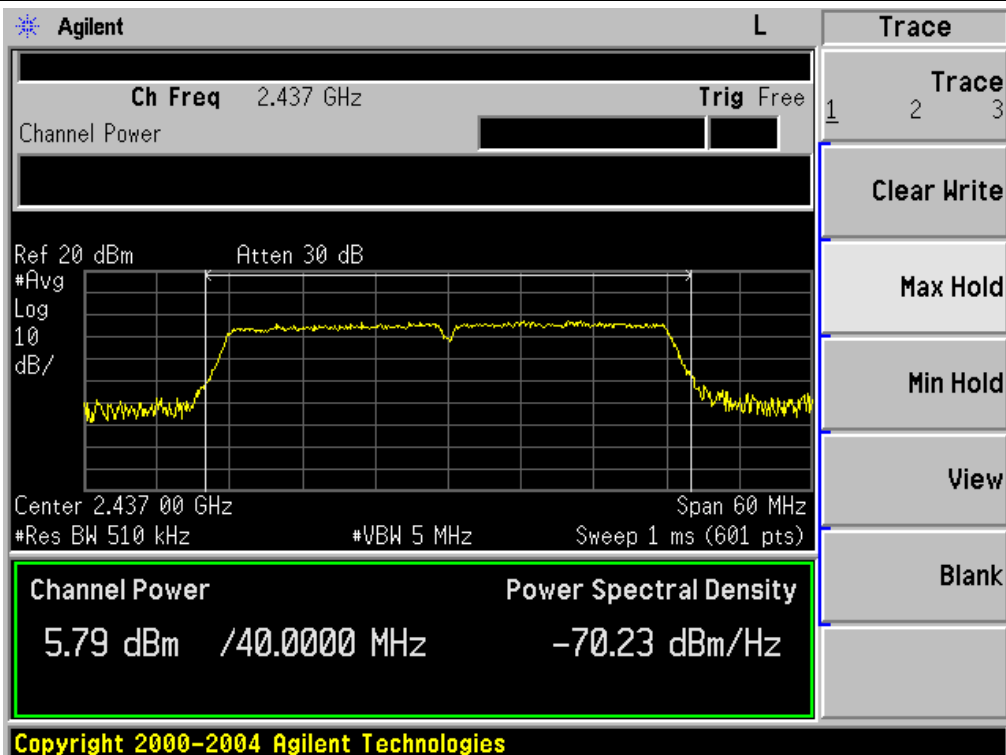


802.11n(40) Mode

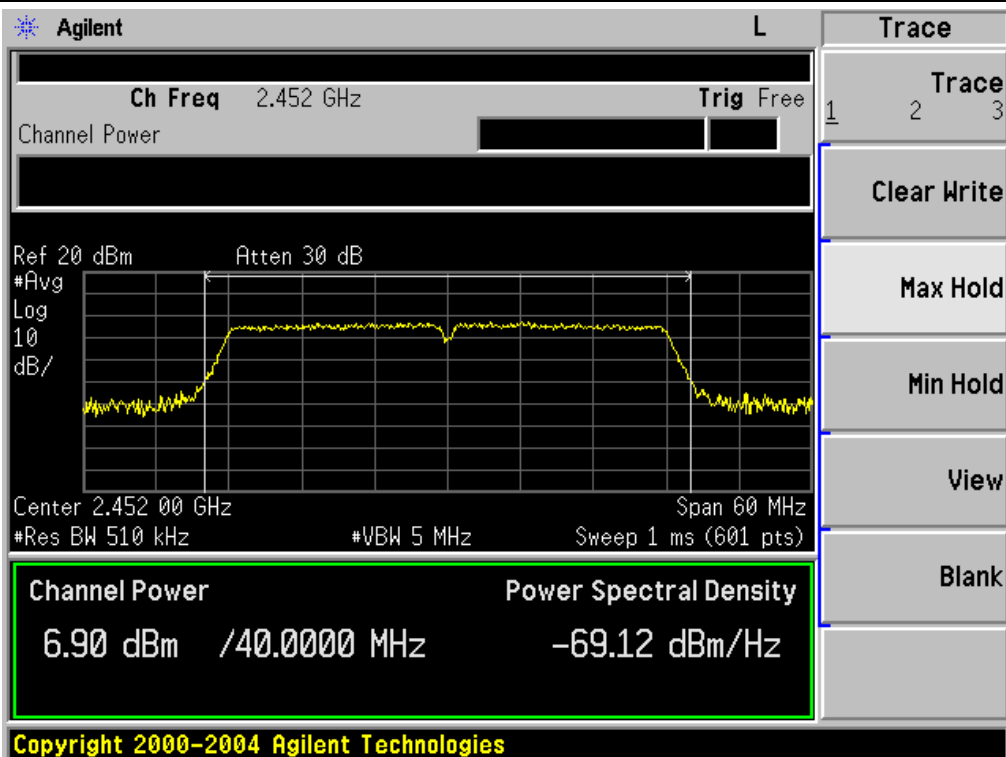
TX CH 03



TX CH 06



TX CH 09



7. 100 KHZ BANDWIDTH OF FREQUENCY BAND EDGE

APPLICABLE STANDARD

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

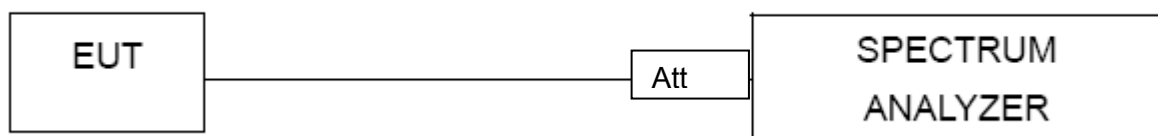
TEST PROCEDURE

- a) Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
- b) Position the EUT without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range, and make sure the instrument is operated in its linear range.
- c) Set RBW to 100 kHz and VBW of spectrum analyzer to 300 kHz with a convenient frequency span including 100 kHz bandwidth from band edge.
- d) Measure the highest amplitude appearing on spectral display and set it as a reference level. Plot the graph with marking the highest point and edge frequency.
- e) Repeat above procedures until all measured frequencies were complete.

7.1 DEVIATION FROM STANDARD

No deviation.

7.2 TEST SETUP



7.3 EUT OPERATION CONDITIONS

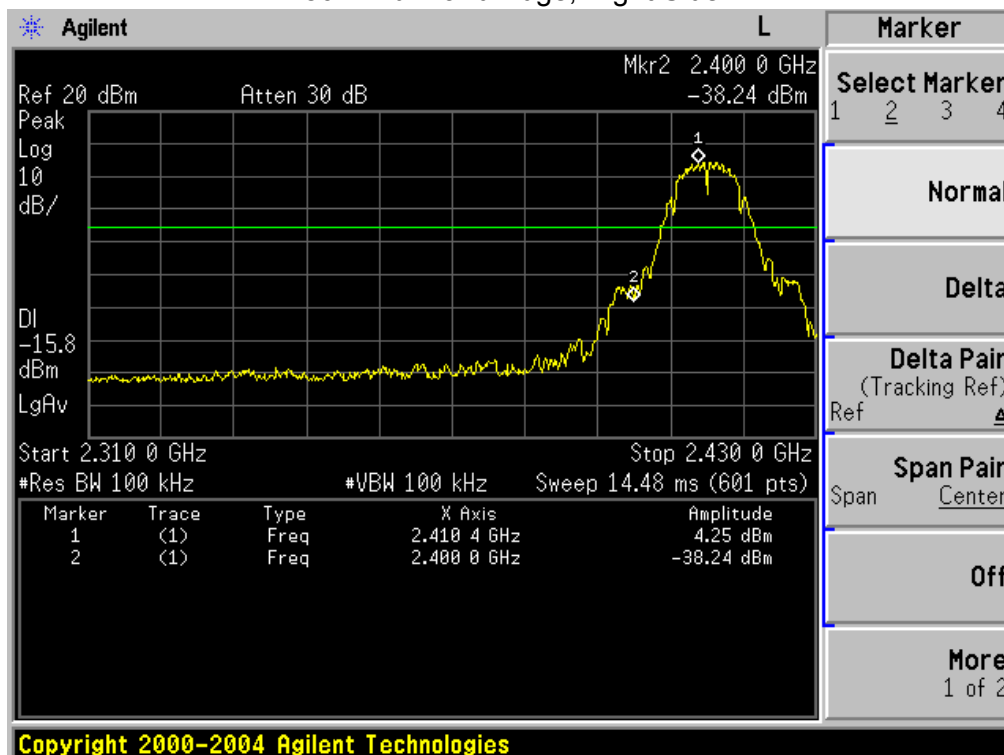
The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

7.4 TEST RESULTS

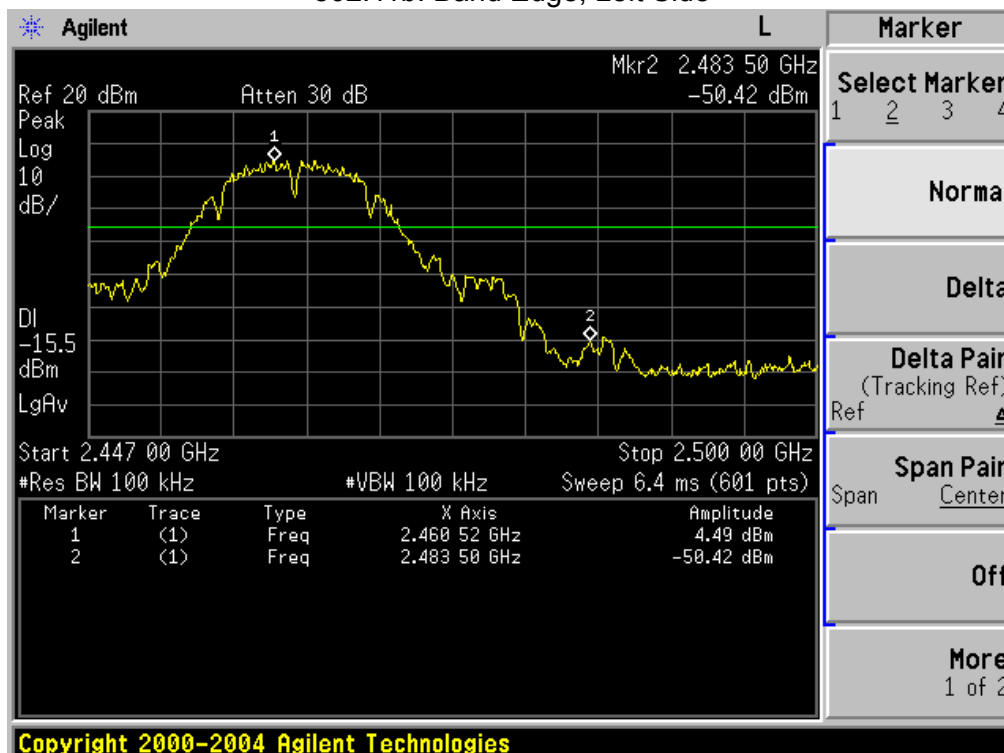
EUT :	Android POS	Model Name :	GP7002
Temperature :	25 °C	Relative Humidity :	56%
Pressure :	1012 hPa	Test Voltage :	DC 7.4V

Frequency Band MHz	Delta Peak to band emission (dBc)	> Limit (dBc)	Result
802.11b mode			
2400	42.49	20	Pass
2483.5	54.91	20	Pass
802.11g mode			
2400	29.00	20	Pass
2483.5	41.61	20	Pass
802.11n-HT20 mode			
2400	30.82	20	Pass
2483.5	37.96	20	Pass
802.11n-HT40 mode			
2400	30.42	20	Pass
2483.5	37.98	20	Pass

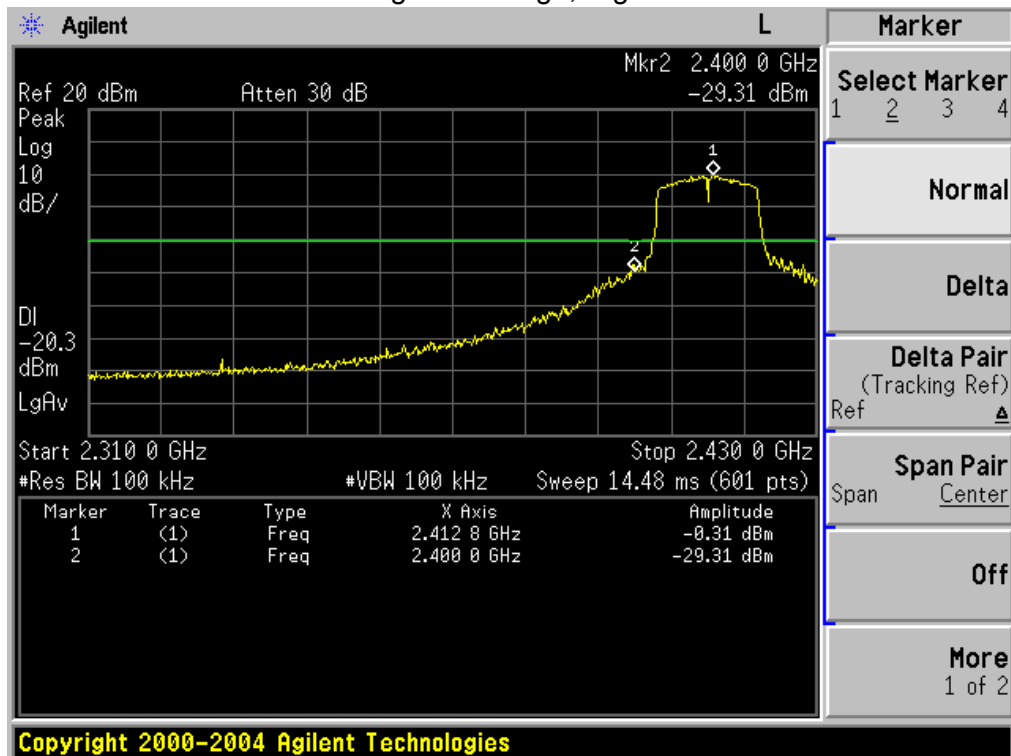
802.11b: Band Edge, Right Side



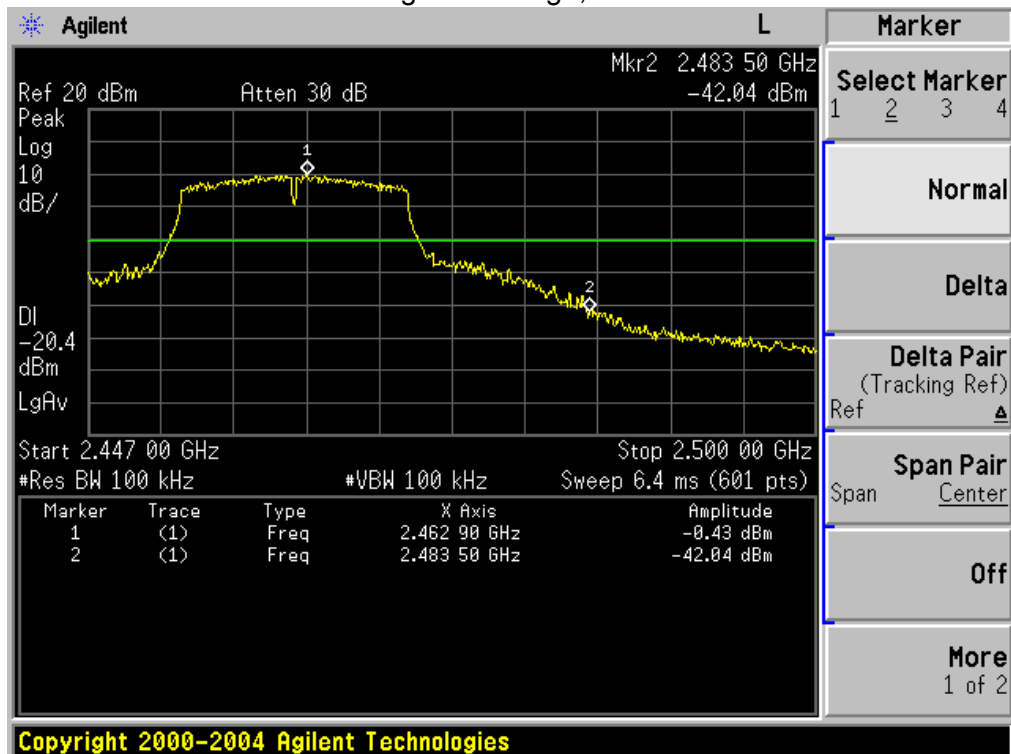
802.11b: Band Edge, Left Side



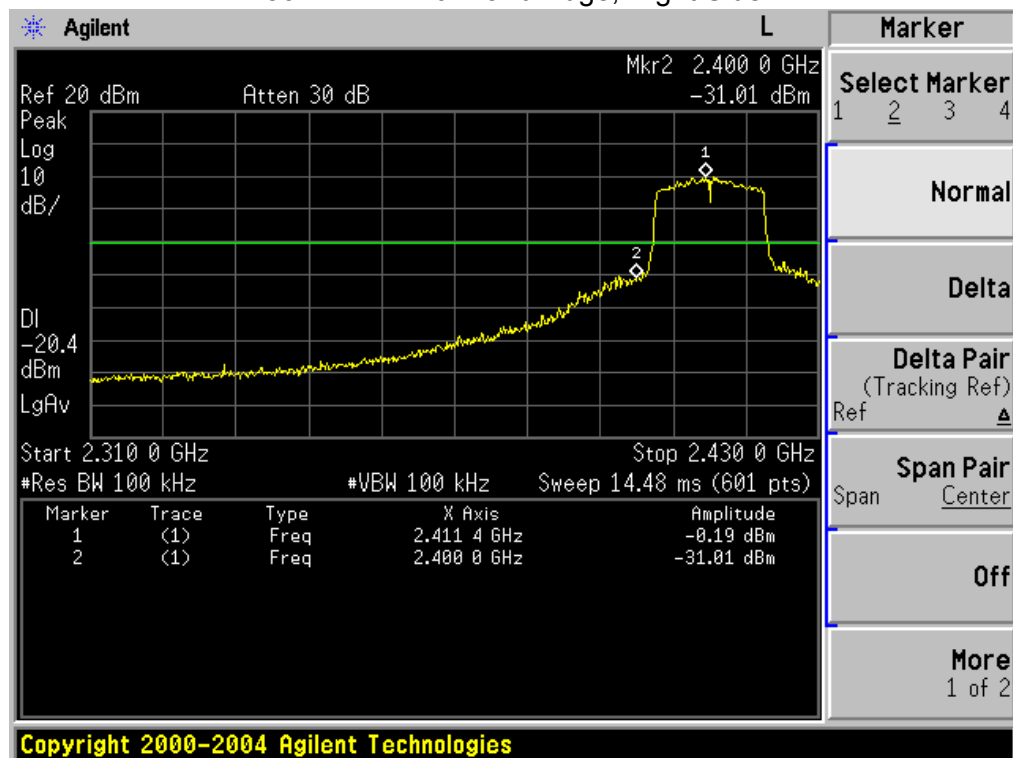
802.11g: Band Edge, Right Side



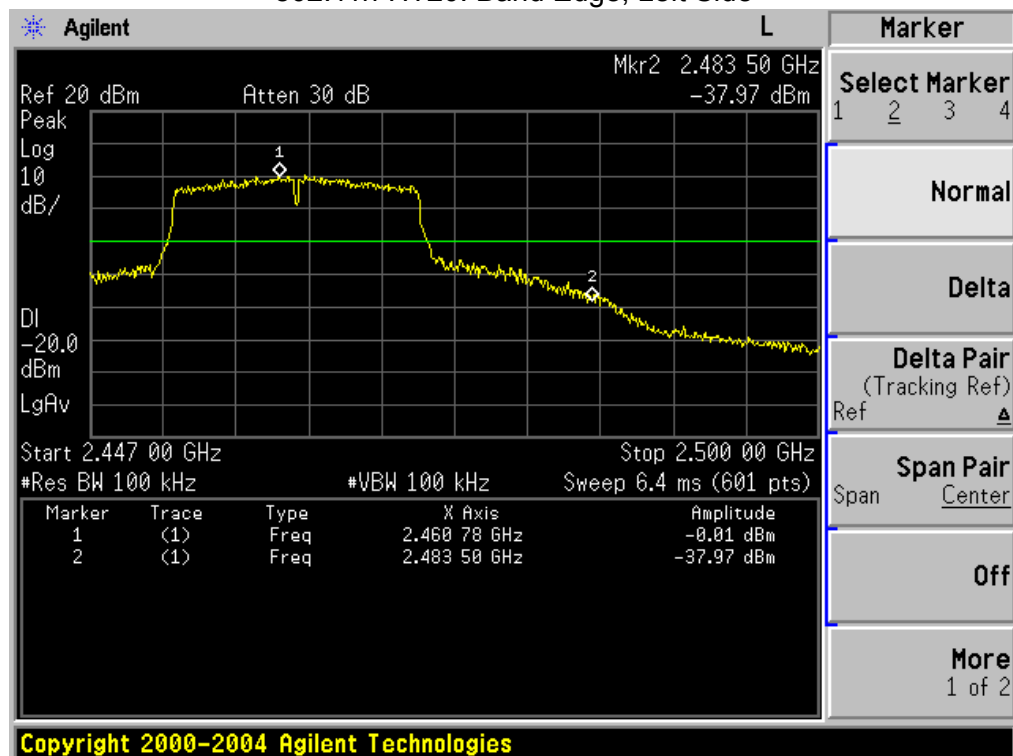
802.11g: Band Edge, Left Side



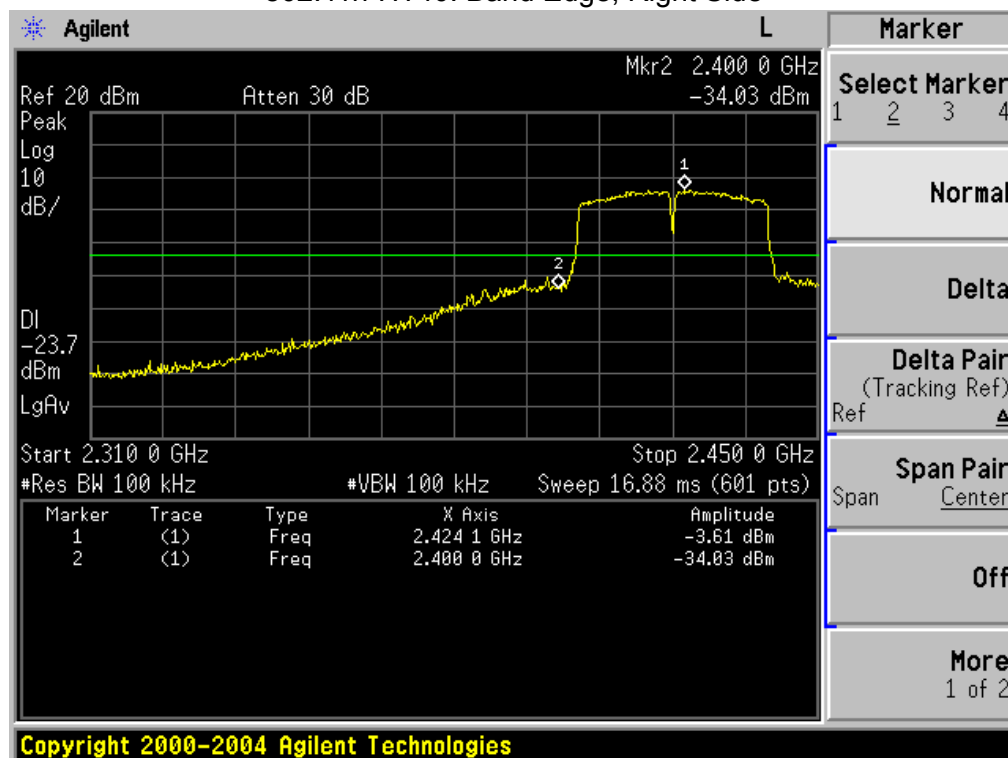
802.11n-HT20: Band Edge, Right Side



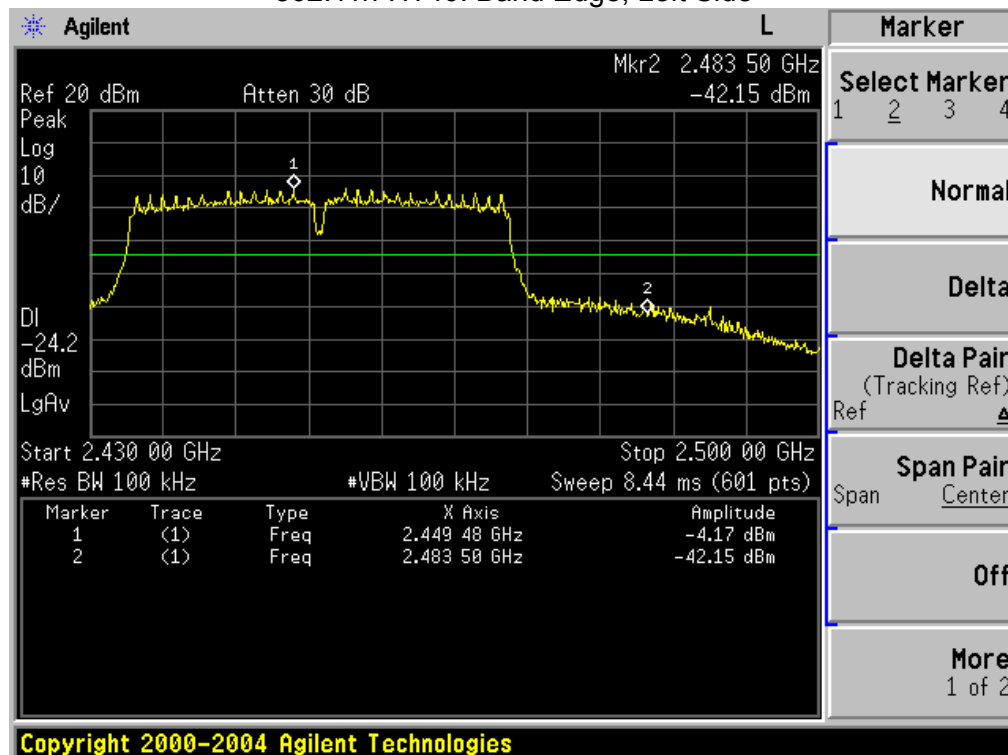
802.11n-HT20: Band Edge, Left Side



802.11n-HT40: Band Edge, Right Side



802.11n-HT40: Band Edge, Left Side



8. ANTENNA REQUIREMENT

8.1 STANDARD REQUIREMENT

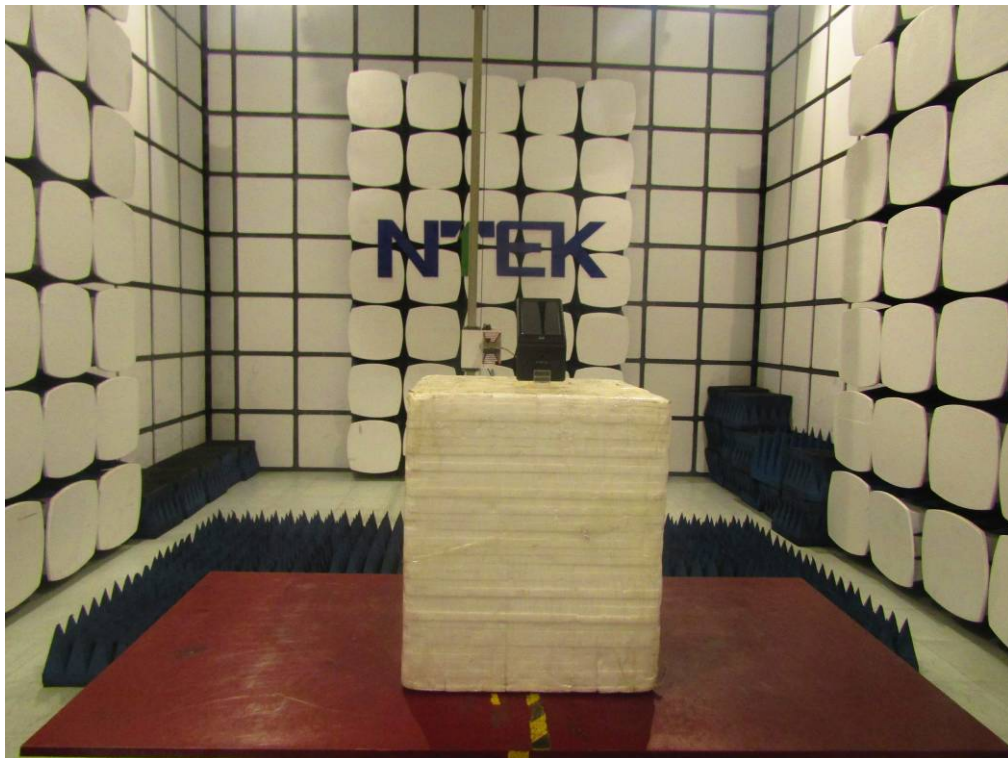
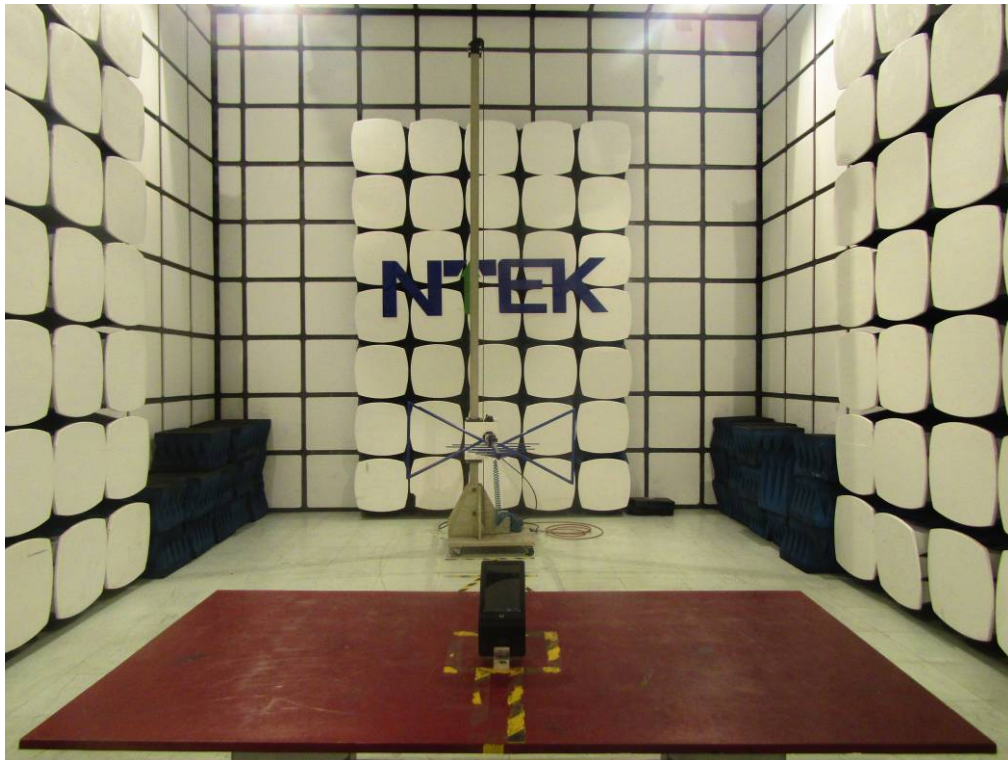
15.203 requirement: For intentional device, according to 15.203: an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

8.2 EUT ANTENNA

The EUT antenna is permanent attached antenna. It comply with the standard requirement.

9. EUT TEST PHOTO

Radiated Measurement Photos



CONDUCTED EMISSION Photos