

TEST REPORT

of

FCC Part 15 Subpart E §15.407

FCC ID: A3LSHVE210S

Equipment Under Test : Mobile Phone
Model Name : SHV-E210S(Alt : SHV-E210K)
Serial No. : N/A
Applicant : SAMSUNG ELECTRONICS CO., LTD.
Manufacturer : SAMSUNG ELECTRONICS CO., LTD.
Date of Test(s) : 2012.04.23 ~ 2012.05.17
Date of Issue : 2012.05.29

In the configuration tested, the EUT complied with the standards specified above.

Tested By:



Date

2012.05.29

Alvin Kim

Approved By:



Date

2012.05.29

Feel Jeong

The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

Tel. +82 31 428 5700 / Fax. +82 31 427 2371

www.ee.sgs.com/korea

Table of contents

1. General information -----	3
2. Transmitter radiated spurious emissions and conducted spurious emission -----	7
3. 26 dB Bandwidth -----	35
4. Output power -----	50
5. Peak power spectral density -----	67
6. Peak excursion -----	83
7. Transmitter AC Power Line Conducted Emission-----	85

The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

Tel. +82 31 428 5700 / Fax. +82 31 427 2371

www.ee.sgs.com/korea

1. General information

1.1 Testing laboratory

SGS Korea Co., Ltd.(Gunpo Laboratory)

- 705, Dongchun-Dong Sooji-Gu, Yongin-Shi, Kyungki-Do, South Korea.

- Wireless Div. 3FL, 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea 435-040

www.ee.sgs.com/korea

Phone No. : +82 31 428 5700

Fax No. : +82 31 427 2371

1.2 Details of applicant

Applicant : SAMSUNG ELECTRONICS CO., LTD.

Address : 94-1, Imsoo-dong, Gumi, Gyeongbuk, Korea

Contact Person : Lee, Ji-Young

Phone No. : +82 54 479 5806

1.3. Description of EUT

Kind of Product	Mobile Phone
Model Name	SHV-E210S(Alt : SHV-E210K)
Serial Number	N/A
Power Supply	DC 3.8 V
Frequency Range	2 412 MHz ~ 2 462 MHz (11b/g/n_HT20), 5 745 MHz ~ 5 825 MHz (11a/n_HT20), 5 755 MHz ~ 5 795 MHz (11n_HT40), 5 180 MHz ~ 5 240 MHz (11a/n_HT20 – Non DFS), 5 190 MHz ~ 5 230 MHz (11n_HT40 – Non DFS), 5 260 MHz ~ 5 320 MHz (11a/n_HT20 – DFS), 5 270 MHz ~ 5 310 MHz (11n_HT40 – DFS), 5 500 MHz ~ 5 700 MHz (11a/n_HT20 – DFS), 5 510 MHz ~ 5 670 MHz (11n_HT40 – DFS)
Modulation Technique	DSSS, OFDM
Number of Channels	11 channel (11b/g/n_HT20), 5 channel (11a/n_HT20), 2 channel (11n_HT40), 4 channel (11a/n_HT20–Non DFS), 2 channel (11n_HT40 – Non DFS), 15 channel (11a/n_HT20 - DFS), 7 channel (11n_HT40 - DFS)
Antenna Type	Internal type (SISO)
Antenna Gain	2 412 MHz ~ 2 462 MHz : -1.45 dB i 5 180 MHz ~ 5 320 MHz : -1.39 dB i 5 500 MHz ~ 5 700 MHz : -3.53 dB i 5 745 MHz ~ 5 805 MHz : -3.53 dB i

1.4. Declaration by the manufacturer

- EUT is SLAVE without DFS and TPC.

- Duty Cycle ≥ 98 percent.

The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

Tel. +82 31 428 5700 / Fax. +82 31 427 2371

www.ee.sgs.com/korea

1.5. Test equipment list

Equipment	Manufacturer	Model	S/N	Cal Date	Cal Interval	Cal Due.
Signal Generator	R&S	SMR40	100272	Jul. 15, 2011	Annual	Jul. 15, 2012
Spectrum Analyzer	Agilent	N9030A	US51350132	Oct. 28, 2011	Annual	Oct. 28, 2012
Spectrum Analyzer	Agilent	E4440A	MY43362142	Mar. 29, 2012	Annual	Mar. 29, 2013
Spectrum Analyzer	R&S	FSV30	100768	Mar. 29, 2012	Annual	Mar. 29, 2013
Power Divider	Wainschel	1575	1537	Sep. 27, 2011	Annual	Sep. 27, 2012
Attenuator	Agilent	8490D	50449	Jan. 11, 2011	Annual	Jan. 11, 2012
Low Pass Filter	Mini-Circuits	NLP-1200+	V8979400903-1	Jul. 11, 2011	Annual	Jul. 11, 2012
High Pass Filter	Wainwright	WHK3.0/18G-10SS	344	Jul. 07, 2011	Annual	Jul. 07, 2012
High Pass Filter	Wainwright	WHK6.0/18G-10SS	11	Jul. 07, 2011	Annual	Jul. 07, 2012
DC Power Supply	Agilent	U8002A	MY50020026	Mar. 29, 2012	Annual	Mar. 29, 2013
Preamplifier	H.P.	8447F	2944A03909	Jul. 04, 2011	Annual	Jul. 04, 2012
Preamplifier	R&S	SCU18	10117	Jan. 12, 2012	Annual	Jan. 12, 2013
Preamplifier	MITEQ Inc.	JS44-18004000-35-8P	1546891	Jul. 04, 2011	Annual	Jul. 04, 2012
Test Receiver	R&S	ESU26	100109	Feb. 21, 2012	Annual	Feb. 21, 2013
Bilog Antenna	SCHWARZBECK MESSELEKTRONIK	VULB9163	396	May. 12, 2011	Biennial	May. 12, 2013
Horn Antenna	R&S	HF906	100326	Nov. 23, 2010	Biennial	Nov. 23, 2012
Horn Antenna	SCHWARZBECK MESSELEKTRONIK	BBHA9170	BBHA9170223	Jun. 30, 2010	Biennial	Jun. 30, 2012
Antenna Master	INNCO	MM4000	N/A	N.C.R.	N/A	N.C.R.
Turn Table	INNCO	DS 1200S	N/A	N.C.R.	N/A	N.C.R.
Anechoic Chamber	SY Corporation	L × W × H (6.5 m × 3.5 m × 3.5 m)	N/A	N.C.R.	N/A	N.C.R.
EMI Test Receiver	R&S	ESHSI0	863365/018	Jul. 07, 2011	Annual	Jul. 07, 2012
Two-Line V-Network	R&S	ENV216	100190	Jan. 09, 2011	Biennial	Jan. 09, 2013
Anechoic Chamber	SY Corporation	L × W × H (9.6 m × 6.4 m × 6.4 m)	N/A	N.C.R.	N/A	N.C.R.

► Support equipment

Description	Manufacturer	Model	Serial Number / FCC ID
N/A	-	-	-

The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

Tel. +82 31 428 5700 / Fax. +82 31 427 2371

www.ee.sgs.com/korea

1.6. Summary of test result

The EUT has been tested according to the following specifications:

APPLIED STANDARD:FCC Part15 subpart E		
Section in FCC 15	Test Item	Result
15.205(a) 15.209(a) 15.407(b)(1) 15.407(b)(2) 15.407(b)(3)	Transmitter radiated spurious emissions and Conducted spurious emission	Complied
15.407(a)(1) 15.407(a)(2)	Output power	Complied
15.407(a)(1) 15.407(a)(2)	Peak power spectral density	Complied
15.407(a)(6)	Peak excursion	Complied
15.207	Transmitter AC power line Conducted emission	Complied

1.7. Test Procedure(s)

The measurement procedures described in the American National Standard for Methods of Measurement of Radio-Noise Emission from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz (ANSI C63.4-2003) and the guidance provided in KDB 789033 were used in the measurement of the DUT.

The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

Tel. +82 31 428 5700 / Fax. +82 31 427 2371

www.ee.sgs.com/korea

1.8. Sample calculation

Where relevant, the following sample calculation is provided:

1.8.1. Conducted test

offset value (dB) = Power Divider (dB) + Attenuator (dB) + Cable loss (dB)

1.8.2. Radiation test

Field strength level (dB μ V/m) = Measured level (dB μ V) + Antenna factor (dB) + Cable loss (dB) - amplifier (dB)

1.9. Test report revision

Revision	Report number	Description
0	F690501/RF-RTL005515	Initial
1	F690501/RF-RTL005515-1	Update the test item and report
2	F690501/RF-RTL005515-2	Explain the offset values by frequency

The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

Tel. +82 31 428 5700 / Fax. +82 31 427 2371

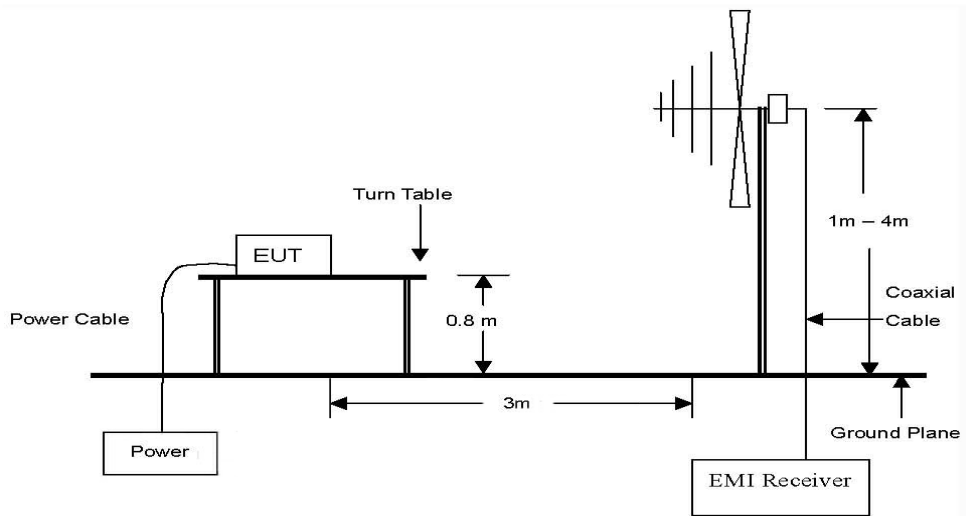
www.ee.sgs.com/korea

2. Transmitter radiated spurious emissions and conducted spurious emission

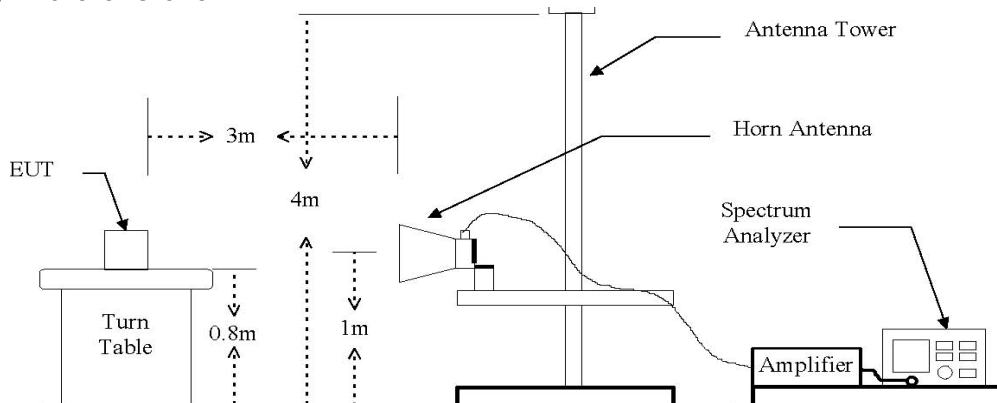
2.1. Test setup

2.1.1. Transmitter radiated spurious emissions

The diagram below shows the test setup that is utilized to make the measurements for emission from 30 MHz to 1 GHz Emissions.



The diagram below shows the test setup that is utilized to make the measurements for emission. The spurious emissions were investigated from 1 GHz to the 10th harmonic of the highest fundamental frequency or 40 GHz, whichever is lower.



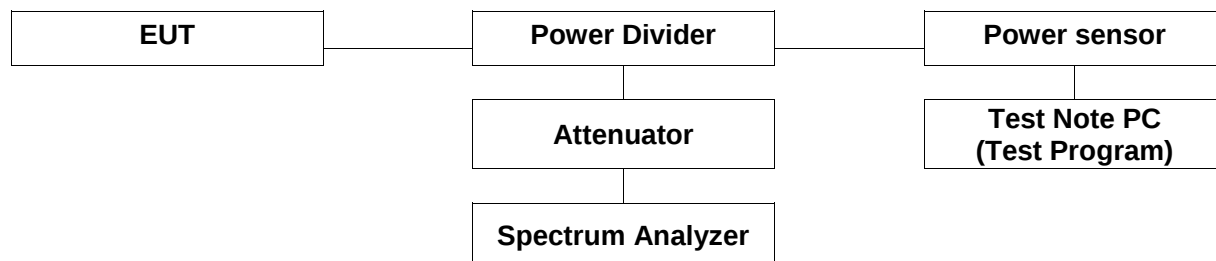
The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

Tel. +82 31 428 5700 / Fax. +82 31 427 2371

www.ee.sgs.com/korea

2.1.2. Conducted spurious emissions



2.2. Limit

For transmitters operating in the 5.15 ~ 5.25 GHz band: all emissions outside of the 5.15 ~ 5.35 GHz band shall not exceed an EIRP of -27 m/MHz.

For transmitters operating in the 5.25 ~ 5.35 GHz band: all emissions outside of the 5.15 ~ 5.35 GHz band shall not exceed an EIRP of -27 dB m/MHz. Devices operating in the 5.25 ~ 5.35 GHz band that generate emissions in the 5.15 ~ 5.25 GHz band must meet all applicable technical requirements for operation in the 5.15 ~ 5.25 GHz band (including indoor use) or alternatively meet an out-of-band emission EIRP limit of -27 dB m/MHz in the 5.15 ~ 5.25 GHz band.

For transmitters operating in the 5.47 ~ 5.725 GHz band: all emissions outside of the 5.47 ~ 5.725 GHz band shall not exceed an EIRP of -27 dB m/MHz.

According to § 15.209(a), Except as provided elsewhere in this Subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table :

Frequency (MHz)	Distance (Meters)	Field Strength (dBμV/m)	Field Strength (μV/m)
30 - 88	3	40.0	100
88 – 216	3	43.5	150
216 – 960	3	46.0	200
Above 960	3	54.0	500

2.3. Test procedures

Conducted and Radiated emissions from the EUT were measured according to the dictates in section G of KDB 789033.

All data rates and modes were investigated for conducted spurious emissions. The emissions of the configuration that produced the worst case emissions are reported in this section.

The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

Tel. +82 31 428 5700 / Fax. +82 31 427 2371

www.ee.sgs.com/korea

2.3.1. Test procedures for radiated spurious emissions

1. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter anechoic chamber test site. The table was rotated 360 degrees to determine the position of the highest radiation.
2. During performing radiated emission below 1 GHz, the EUT was set 3 meters away from the interference receiving antenna, which was mounted on the top of a variable-height antenna tower. During performing radiated emission above 1 GHz, the EUT was set 3 meter away from the interference-receiving antenna.
3. The antenna is a broadband antenna, and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the table was turned from 0 degrees to 360 degrees to find the maximum reading.
5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
6. If the emission level of the EUT in peak mode was 10 dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10 dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

NOTE;

1. The measurements for below 1 GHz
Compliance shall be demonstrated using CISPR quasi-peak detection; however, peak detection is permitted as an alternative to quasi-peak detection.
2. The measurements for above 1 GHz
 - 1) Peak emission levels are measured by setting the analyzer as follows:
Set to RBW = 1 MHz, VBW $\geq$ 3 MHz, Detector = Peak, Sweep time = auto, Trace mode= Max hold.
 - 2) Average emission levels are measured by setting the analyzer as follows:
Set to RBW = 1 MHz, Detector = Peak, Sweep time = auto, Trace mode= Max hold.
 -If duty cycle $\geq$ 98 percent: VBW < RBW/100 (i.e., 10 kHz) but not less than 10 Hz.
 -If duty cycle < 98 percent: VBW $\geq$ 1/T.
3. To get a maximum emission level from the EUT, the EUT is manipulated through three orthogonal planes.

3.3.2. Test procedures for conducted spurious emissions

1. The transmitter output was connected to the spectrum analyzer through an attenuator.
2. Peak emission levels are measured by setting the analyzer as follows: RBW = 1 MHz, VBW $\geq$ 3 MHz, Detector = Peak, Sweep time = auto, Trace hold = max hold.

The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

Tel. +82 31 428 5700 / Fax. +82 31 427 2371

www.ee.sgs.com/korea

2.4. Test result

Ambient temperature : $(24 \pm 2) ^\circ\text{C}$
 Relative humidity : 49 % R.H.

2.4.1. Spurious radiated emission (Worst case configuration_11n_HT40 mode, MCS0)

The frequency spectrum from 30 MHz to 1 000 MHz was investigated. Emission levels are not reported much lower than the limits by over 30 dB. All reading values are peak values.

Radiated emissions			Ant	Correction factors		Total	Limit	
Frequency (MHz)	Reading (dB μ V)	Detect Mode	Pol.	AF (dB/m)	Amp gain+CL (dB)	Actual (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
45.36	34.0	Peak	H	14.2	-26.4	21.8	40.0	18.2
466.38	34.8	Peak	H	15.2	-25.4	24.6	46.0	21.4
611.24	35.2	Peak	H	17.8	-25.4	27.6	46.0	18.4
Above 500.00	Not detected	-	-	-	-	-	-	-

■ Remark:

1. All spurious emission at channels are almost the same below 1 GHz, So that the Middle channel was chose at representative in final test.
2. Actual = Reading + AF + AMP + CL

The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

Tel. +82 31 428 5700 / Fax. +82 31 427 2371

www.ee.sgs.com/korea

2.4.2. Spurious radiated emission for above 1 GHz

802.11a (Non-DFS) _6 Mbps

A. Low Channel (5 180 MHz)

Radiated Emissions			Ant	Correction Factors		Total	Limit	
Frequency (MHz)	Reading (dB uV)	Detect Mode	Pol.	AF (dB/m)	CL (dB)	Actual (dB uV/m)	Limit (dB uV/m)	Margin (dB)
*5 150.00	18.96	Peak	H	33.43	8.24	60.63	74.00	13.37
*5 150.00	7.06	Average	H	33.43	8.24	48.73	54.00	5.27
Frequency (MHz)	Reading (dB uV)	Detect Mode	Pol.	AF (dB/m)	Amp Gain+CL (dB)	Actual (dB uV/m)	Limit (dB uV/m)	Margin (dB)
10 360.48	38.28	Peak	V	37.58	-31.25	44.61	68.23	23.62
Above 10 400.00	Not Detected	-	-	-	-	-	-	-

B. Middle Channel (5 220 MHz)

Radiated Emissions			Ant	Correction Factors		Total	Limit	
Frequency (MHz)	Reading (dB uV)	Detect Mode	Pol.	AF (dB/m)	Amp Gain+CL (dB)	Actual (dB uV/m)	Limit (dB uV/m)	Margin (dB)
10 439.06	37.44	Peak	V	37.67	-32.20	42.91	63.23	20.32
Above 10 500.00	Not Detected	-	-	-	-	-	-	-

C. High Channel (5 240 MHz)

Radiated Emissions			Ant	Correction Factors		Total	Limit	
Frequency (MHz)	Reading (dB uV)	Detect Mode	Pol.	AF (dB/m)	Amp Gain+CL (dB)	Actual (dB uV/m)	Limit (dB uV/m)	Margin (dB)
10 479.82	39.02	Peak	V	37.61	-31.74	44.89	68.23	23.34
Above 10 500.00	Not Detected	-	-	-	-	-	-	-

The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

Tel. +82 31 428 5700 / Fax. +82 31 427 2371

www.ee.sgs.com/korea

802.11a (DFS) _6 Mbps

A. Low Channel (5 260 MHz)

Radiated Emissions			Ant	Correction Factors		Total	Limit	
Frequency (MHz)	Reading (dB uV)	Detect Mode	Pol.	AF (dB/m)	Amp Gain+CL (dB)	Actual (dB uV/m)	Limit (dB uV/m)	Margin (dB)
10 520.51	39.49	Peak	V	37.52	-31.45	45.56	68.23	22.67
Above 10 600.00	Not Detected	-	-	-	-	-	-	-

B. Middle Channel (5 300 MHz)

Radiated Emissions			Ant	Correction Factors		Total	Limit	
Frequency (MHz)	Reading (dB uV)	Detect Mode	Pol.	AF (dB/m)	Amp Gain+CL (dB)	Actual (dB uV/m)	Limit (dB uV/m)	Margin (dB)
*10 600.58	37.62	Peak	V	37.63	-31.63	43.62	74.00	30.38
*10 600.58	24.09	Average	V	37.63	-31.63	30.09	54.00	23.91
Above 10 700.00	Not Detected	-	-	-	-	-	-	-

C. High Channel (5 320 MHz)

Radiated Emissions			Ant	Correction Factors		Total	Limit	
Frequency (MHz)	Reading (dB uV)	Detect Mode	Pol.	AF (dB/m)	CL (dB)	Actual (dB uV/m)	Limit (dB uV/m)	Margin (dB)
*5 350.00	19.24	Peak	H	33.75	8.36	61.35	74.00	12.65
*5 350.00	7.73	Average	H	33.75	8.36	49.84	54.00	4.16
Frequency (MHz)	Reading (dB uV)	Detect Mode	Pol.	AF (dB/m)	Amp Gain+CL (dB)	Actual (dB uV/m)	Limit (dB uV/m)	Margin (dB)
*10 639.42	38.21	Peak	V	37.67	-31.46	44.42	74.00	29.58
*10 639.42	24.01	Average	V	37.67	-31.46	30.22	54.00	23.78
Above 10 700.00	Not Detected	-	-	-	-	-	-	-

The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

Tel. +82 31 428 5700 / Fax. +82 31 427 2371

www.ee.sgs.com/korea

802.11a (DFS) _6 Mbps

A. Low Channel (5 500 MHz)

Radiated Emissions			Ant	Correction Factors		Total	Limit	
Frequency (MHz)	Reading (dB uV)	Detect Mode	Pol.	AF (dB/m)	CL (dB)	Actual (dB uV/m)	Limit (dB uV/m)	Margin (dB)
*5 460.00	18.44	Peak	H	34.29	8.18	60.91	74.00	13.09
*5 460.00	7.36	Average	H	34.29	8.18	49.83	54.00	4.17
Frequency (MHz)	Reading (dB uV)	Detect Mode	Pol.	AF (dB/m)	Amp Gain+CL (dB)	Actual (dB uV/m)	Limit (dB uV/m)	Margin (dB)
*10 999.82	35.46	Peak	V	38.09	-31.46	42.09	74.00	31.91
*10 999.82	21.42	Average	V	38.09	-31.46	28.05	54.00	25.95
Above 11 000.00	Not Detected	-	-	-	-	-	-	-

B. Middle Channel (5 580 MHz)

Radiated Emissions			Ant	Correction Factors		Total	Limit	
Frequency (MHz)	Reading (dB uV)	Detect Mode	Pol.	AF (dB/m)	Amp Gain+CL (dB)	Actual (dB uV/m)	Limit (dB uV/m)	Margin (dB)
*11 160.24	33.44	Peak	V	37.94	-30.83	40.55	74.00	33.45
*11 160.24	19.99	Average	V	37.94	-30.83	27.10	54.00	26.90
Above 11 200.00	Not Detected	-	-	-	-	-	-	-

C. High Channel (5 700 MHz)

Radiated Emissions			Ant	Correction Factors		Total	Limit	
Frequency (MHz)	Reading (dB uV)	Detect Mode	Pol.	AF (dB/m)	Amp Gain+CL (dB)	Actual (dB uV/m)	Limit (dB uV/m)	Margin (dB)
*11 399.67	35.86	Peak	V	37.92	-30.73	43.05	74.00	30.95
*11 399.67	22.16	Average	V	37.92	-30.73	29.35	54.00	24.65
Above 11 400.00	Not Detected	-	-	-	-	-	-	-

The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

Tel. +82 31 428 5700 / Fax. +82 31 427 2371

www.ee.sgs.com/korea

802.11n-HT20 (Non-DFS)_MCS0

A. Low Channel (5 180 MHz)

Radiated Emissions			Ant	Correction Factors		Total	Limit	
Frequency (MHz)	Reading (dB uV)	Detect Mode	Pol.	AF (dB/m)	CL (dB)	Actual (dB uV/m)	Limit (dB uV/m)	Margin (dB)
*5 150.00	18.12	Peak	H	33.43	8.24	59.79	74.00	14.21
*5 150.00	7.07	Average	H	33.43	8.24	48.74	54.00	5.26
Frequency (MHz)	Reading (dB uV)	Detect Mode	Pol.	AF (dB/m)	Amp Gain+CL (dB)	Actual (dB uV/m)	Limit (dB uV/m)	Margin (dB)
10 360.37	38.12	Peak	V	37.58	-31.24	44.46	68.23	23.77
Above 10 400.00	Not Detected	-	-	-	-	-	-	-

B. Middle Channel (5 220 MHz)

Radiated Emissions			Ant	Correction Factors		Total	Limit	
Frequency (MHz)	Reading (dB uV)	Detect Mode	Pol.	AF (dB/m)	Amp Gain+CL (dB)	Actual (dB uV/m)	Limit (dB uV/m)	Margin (dB)
10 439.82	38.54	Peak	V	37.67	-32.20	44.01	68.23	24.22
Above 10 500.00	Not Detected	-	-	-	-	-	-	-

C. High Channel (5 240 MHz)

Radiated Emissions			Ant	Correction Factors		Total	Limit	
Frequency (MHz)	Reading (dB uV)	Detect Mode	Pol.	AF (dB/m)	Amp Gain+CL (dB)	Actual (dB uV/m)	Limit (dB uV/m)	Margin (dB)
10 479.64	39.51	Peak	V	37.61	-31.74	45.38	68.23	22.85
Above 10 500.00	Not Detected	-	-	-	-	-	-	-

The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

Tel. +82 31 428 5700 / Fax. +82 31 427 2371

www.ee.sgs.com/korea

802.11n_HT20 (DFS)_MCS0

A. Low Channel (5 260 MHz)

Radiated Emissions			Ant	Correction Factors		Total	Limit	
Frequency (MHz)	Reading (dB uV)	Detect Mode	Pol.	AF (dB/m)	Amp Gain+CL (dB)	Actual (dB uV/m)	Limit (dB uV/m)	Margin (dB)
10 521.64	39.2	Peak	V	37.52	-31.46	45.26	68.23	22.97
Above 10 600.00	Not Detected	-	-	-	-	-	-	-

B. Middle Channel (5 300 MHz)

Radiated Emissions			Ant	Correction Factors		Total	Limit	
Frequency (MHz)	Reading (dB uV)	Detect Mode	Pol.	AF (dB/m)	Amp Gain+CL (dB)	Actual (dB uV/m)	Limit (dB uV/m)	Margin (dB)
*10 600.04	37.99	Peak	V	37.63	-31.63	43.99	74.00	30.01
*10 600.04	24.49	Average	V	37.63	-31.63	30.49	54.00	23.51
Above 10 700.00	Not Detected	-	-	-	-	-	-	-

C. High Channel (5 320 MHz)

Radiated Emissions			Ant	Correction Factors		Total	Limit	
Frequency (MHz)	Reading (dB uV)	Detect Mode	Pol.	AF (dB/m)	CL (dB)	Actual (dB uV/m)	Limit (dB uV/m)	Margin (dB)
*5 350.00	19.25	Peak	H	33.75	8.36	61.36	74.00	12.64
*5 350.00	7.80	Average	H	33.75	8.36	49.91	54.00	4.09
Frequency (MHz)	Reading (dB uV)	Detect Mode	Pol.	AF (dB/m)	Amp Gain+CL (dB)	Actual (dB uV/m)	Limit (dB uV/m)	Margin (dB)
*10 640.21	37.64	Peak	V	37.67	-31.45	43.86	74.00	30.14
*10 640.21	24.55	Average	V	37.67	-31.45	30.77	54.00	23.23
Above 10 700.00	Not Detected	-	-	-	-	-	-	-

The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

Tel. +82 31 428 5700 / Fax. +82 31 427 2371

www.ee.sgs.com/korea

802.11n_HT20 (DFS)_MCS0

A. Low Channel (5 500 MHz)

Radiated Emissions			Ant	Correction Factors		Total	Limit	
Frequency (MHz)	Reading (dB uV)	Detect Mode	Pol.	AF (dB/m)	CL (dB)	Actual (dB uV/m)	Limit (dB uV/m)	Margin (dB)
*5 460.00	18.76	Peak	H	34.29	8.18	61.23	74.00	12.77
*5 460.00	7.32	Average	H	34.29	8.18	49.79	54.00	4.21
Frequency (MHz)	Reading (dB uV)	Detect Mode	Pol.	AF (dB/m)	Amp Gain+CL (dB)	Actual (dB uV/m)	Limit (dB uV/m)	Margin (dB)
*10 999.87	35.64	Peak	V	38.09	-31.46	42.27	74.00	31.73
*10 999.87	21.94	Average	V	38.09	-31.46	28.57	54.00	25.43
Above 11 000.00	Not Detected	-	-	-	-	-	-	-

B. Middle Channel (5 580 MHz)

Radiated Emissions			Ant	Correction Factors		Total	Limit	
Frequency (MHz)	Reading (dB uV)	Detect Mode	Pol.	AF (dB/m)	Amp Gain+CL (dB)	Actual (dB uV/m)	Limit (dB uV/m)	Margin (dB)
*11 160.45	33.57	Peak	V	37.94	-30.83	40.68	74.00	33.32
*11 160.45	20.52	Average	V	37.94	-30.83	27.63	54.00	26.37
Above 11 200.00	Not Detected	-	-	-	-	-	-	-

C. High Channel (5 700 MHz)

Radiated Emissions			Ant	Correction Factors		Total	Limit	
Frequency (MHz)	Reading (dB uV)	Detect Mode	Pol.	AF (dB/m)	Amp Gain+CL (dB)	Actual (dB uV/m)	Limit (dB uV/m)	Margin (dB)
*11 400.37	36.81	Peak	V	37.92	-30.73	44.00	74.00	30.00
*11 400.37	22.49	Average	V	37.92	-30.73	29.68	54.00	24.32
Above 11 500.00	Not Detected	-	-	-	-	-	-	-

The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

Tel. +82 31 428 5700 / Fax. +82 31 427 2371

www.ee.sgs.com/korea

802.11n-HT40 (Non-DFS) _MCS0

A. Low Channel (5 190 MHz)

Radiated Emissions			Ant	Correction Factors		Total	Limit	
Frequency (MHz)	Reading (dB uV)	Detect Mode	Pol.	AF (dB/m)	CL (dB)	Actual (dB uV/m)	Limit (dB uV/m)	Margin (dB)
*5 150.00	20.32	Peak	H	33.43	8.24	61.99	74.00	12.01
*5 150.00	8.16	Average	H	33.43	8.24	49.83	54.00	4.17
Frequency (MHz)	Reading (dB uV)	Detect Mode	Pol.	AF (dB/m)	Amp Gain+CL (dB)	Actual (dB uV/m)	Limit (dB uV/m)	Margin (dB)
10 380.43	36.62	Peak	V	37.54	-31.58	42.58	68.23	25.65
Above 10 400.00	Not Detected	-	-	-	-	-	-	-

B. High Channel (5 230 MHz)

Frequency (MHz)	Reading (dB uV)	Detect Mode	Pol.	AF (dB/m)	Amp Gain+CL (dB)	Actual (dB uV/m)	Limit (dB uV/m)	Margin (dB)
10 460.27	37.35	Peak	V	37.62	-32.09	42.88	68.23	25.35
Above 10 500.00	Not Detected	-	-	-	-	-	-	-

The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

Tel. +82 31 428 5700 / Fax. +82 31 427 2371

www.ee.sgs.com/korea

802. 11n-HT40 (DFS)_MCS0

A. Low Channel (5 270 MHz)

Radiated Emissions			Ant	Correction Factors		Total	Limit	
Frequency (MHz)	Reading (dB uV)	Detect Mode	Pol.	AF (dB/m)	Amp Gain+CL (dB)	Actual (dB uV/m)	Limit (dB uV/m)	Margin (dB)
10 540.32	36.10	Peak	V	37.54	-31.53	42.11	68.23	26.12
Above 10 600.00	Not Detected	-	-	-	-	-	-	-

B. High Channel (5 310 MHz)

Radiated Emissions			Ant	Correction Factors		Total	Limit	
Frequency (MHz)	Reading (dB uV)	Detect Mode	Pol.	AF (dB/m)	CL (dB)	Actual (dB uV/m)	Limit (dB uV/m)	Margin (dB)
*5 350.00	20.09	Peak	H	33.75	8.36	62.20	74.00	11.80
*5 350.00	8.31	Average	H	33.75	8.36	50.42	54.00	3.58
Frequency (MHz)	Reading (dB uV)	Detect Mode	Pol.	AF (dB/m)	Amp Gain+CL (dB)	Actual (dB uV/m)	Limit (dB uV/m)	Margin (dB)
*10 619.85	34.90	Peak	V	37.71	-31.54	41.07	74.00	32.93
*10 619.85	21.22	Average	V	37.71	-31.54	27.39	54.00	26.61
Above 10 700.00	Not Detected	-	-	-	-	-	-	-

The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

Tel. +82 31 428 5700 / Fax. +82 31 427 2371

www.ee.sgs.com/korea

802. 11n-HT40 (DFS)_MCS0

A. Low Channel (5 510 MHz)

Radiated Emissions			Ant	Correction Factors		Total	Limit	
Frequency (MHz)	Reading (dB uV)	Detect Mode	Pol.	AF (dB/m)	CL (dB)	Actual (dB uV/m)	Limit (dB uV/m)	Margin (dB)
*5 460.00	18.30	Peak	H	34.29	8.18	60.77	74.00	13.23
*5 460.00	7.47	Average	H	34.29	8.18	49.94	54.00	4.06
Frequency (MHz)	Reading (dB uV)	Detect Mode	Pol.	AF (dB/m)	Amp Gain+CL (dB)	Actual (dB uV/m)	Limit (dB uV/m)	Margin (dB)
*11 019.67	35.05	Peak	V	38.15	-31.42	41.78	74.00	32.22
*11 019.67	21.47	Average	V	38.15	-31.42	28.20	54.00	25.80
Above 11 100.00	Not Detected	-	-	-	-	-	-	-

B. Middle Channel (5 550 MHz)

Radiated Emissions			Ant	Correction Factors		Total	Limit	
Frequency (MHz)	Reading (dB uV)	Detect Mode	Pol.	AF (dB/m)	Amp Gain+CL (dB)	Actual (dB uV/m)	Limit (dB uV/m)	Margin (dB)
*11 100.44	33.84	Peak	V	38.01	-31.50	40.35	74.00	33.65
*11 100.44	19.86	Average	V	38.01	-31.50	26.37	54.00	27.63
Above 11 200.00	Not Detected	-	-	-	-	-	-	-

The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

Tel. +82 31 428 5700 / Fax. +82 31 427 2371

www.ee.sgs.com/korea

C. High Channel (5 670 MHz)

Radiated Emissions			Ant	Correction Factors		Total	Limit	
Frequency (MHz)	Reading (dB uV)	Detect Mode	Pol.	AF (dB/m)	Amp Gain+CL (dB)	Actual (dB uV/m)	Limit (dB uV/m)	Margin (dB)
*11 340.28	33.84	Peak	V	38.11	-30.86	41.09	74.00	32.91
*11 340.28	19.86	Average	V	38.11	-30.86	27.11	54.00	26.89
Above 11 400.00	Not Detected	-	-	-	-	-	-	-

■ Remarks

1. "*" means the restricted band.
2. Radiated emissions measured in frequency above 1 000 MHz were made with an instrument using Peak / average detector mode if frequency was in restricted band. Otherwise the frequency was in outside of restricted band, only peak detector should be used.
3. Average test would be performed if the peak result was greater than the average limit and frequency was in the restricted band.
4. If frequency was outside of restricted band, the calculation method for peak limit is same as below:

$$68.23 \text{ dB}\mu\text{V/m} = \text{EIRP} - 20 \log(d) + 104.77 = -27 - 20 \log(3) + 104.77$$
 *distance: 3 m, *EIRP: -27 dB m/MHz

The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

Tel. +82 31 428 5700 / Fax. +82 31 427 2371

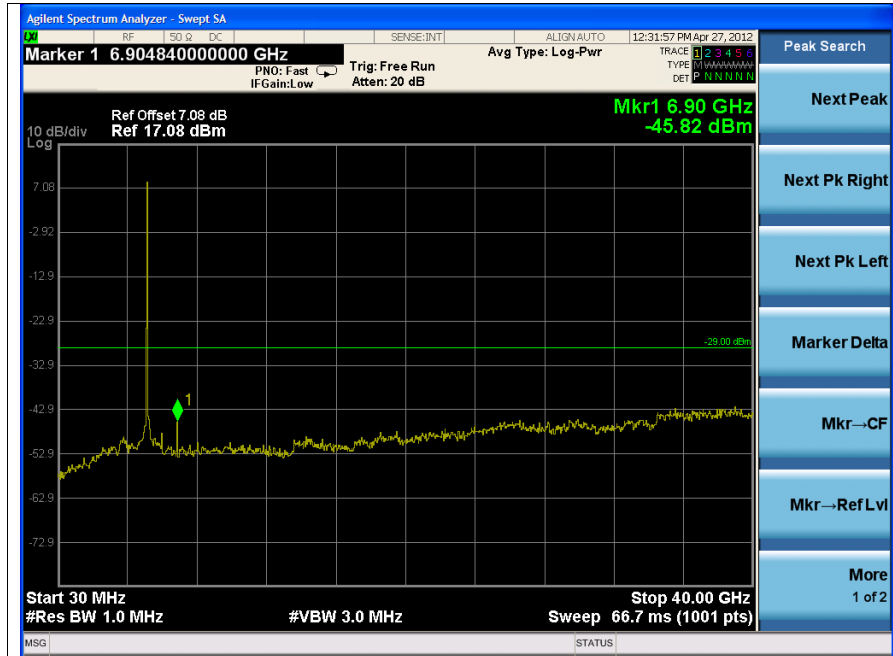
www.ee.sgs.com/korea

2.4.3. Spurious RF Conducted Emissions: Plot of Spurious RF Conducted Emission

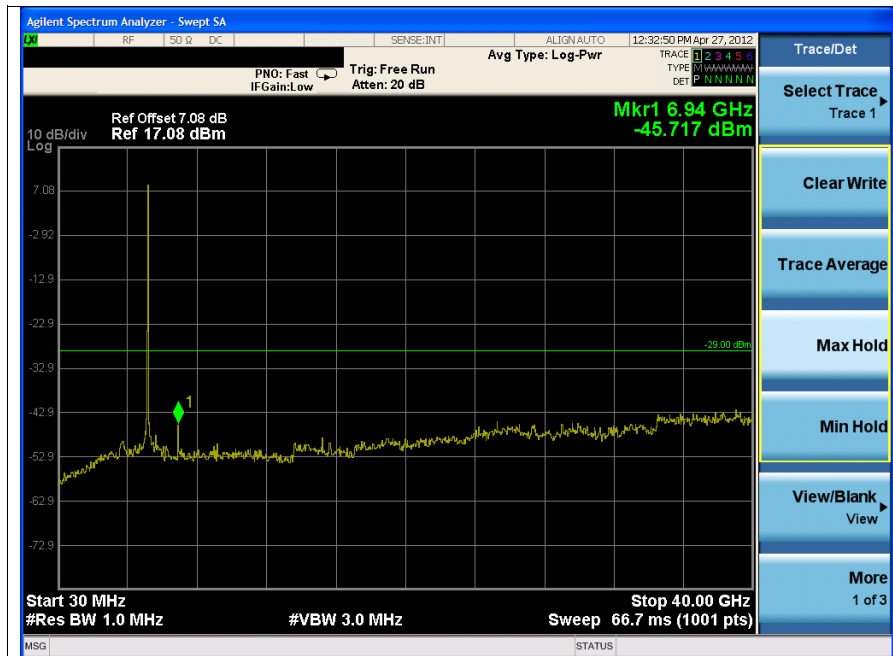
For 5.15 – 5.25 GHz, the antenna gain is -1.39 dB i, So the EIRP limit is -29 dB m/MHz

802.11a (Non-DFS)_6 Mbps

5 180 MHz



5 220 MHz



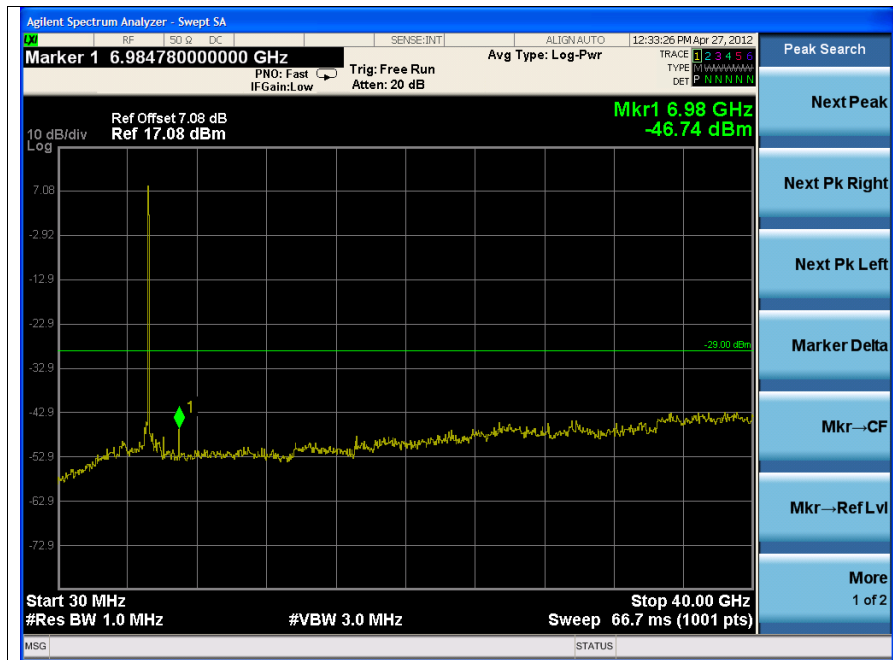
The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

Tel. +82 31 428 5700 / Fax. +82 31 427 2371

www.ee.sgs.com/korea

5 240 MHz



Note:

Offset (dB) = Power Divider (dB) + Attenuator (dB) + Cable loss (dB) / Ref. offset value (dB) = 7.08 (dB)

Final Result (dB m) = Spurious offset (dB) – Ref. offset (dB) + Reading values (dB m)

Frequency (MHz)	Spurious offset (dB)	Ref. offset (dB)	Reading values (dB m)	Final Result (dB m)
6 900.0	7.86	7.08	-45.82	-45.04
6 940.0	7.88		-45.72	-44.92
6 980.0	7.92		-46.74	-45.90

The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

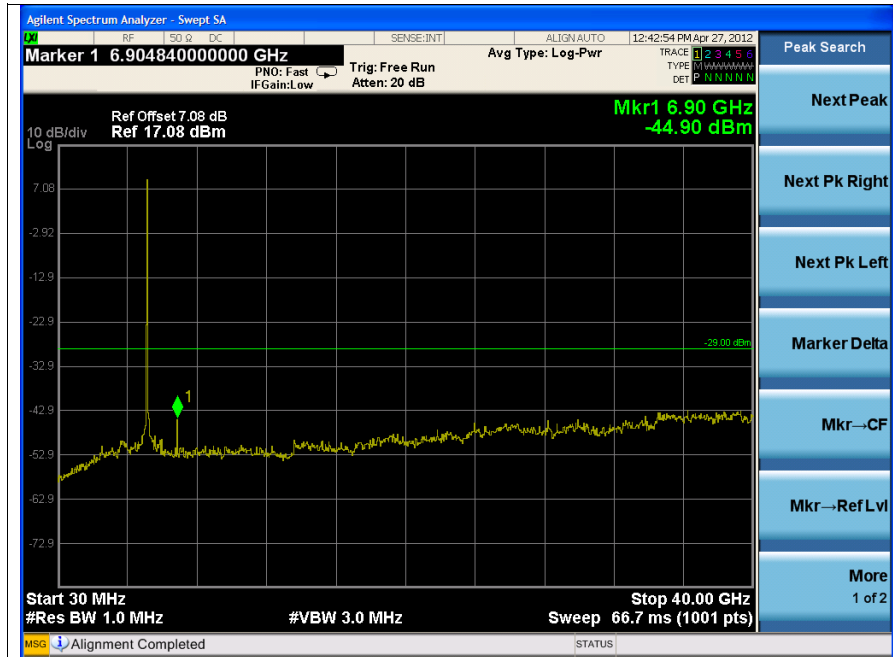
SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

Tel. +82 31 428 5700 / Fax. +82 31 427 2371

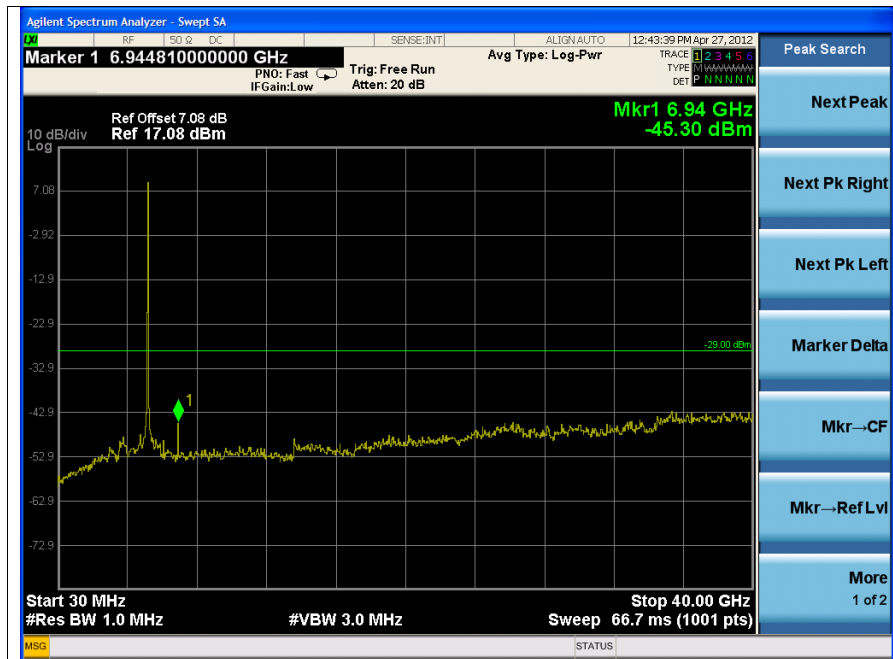
www.ee.sgs.com/korea

802.11n-HT20 (Non-DFS)_MCS0

5 180 MHz



5 220 MHz



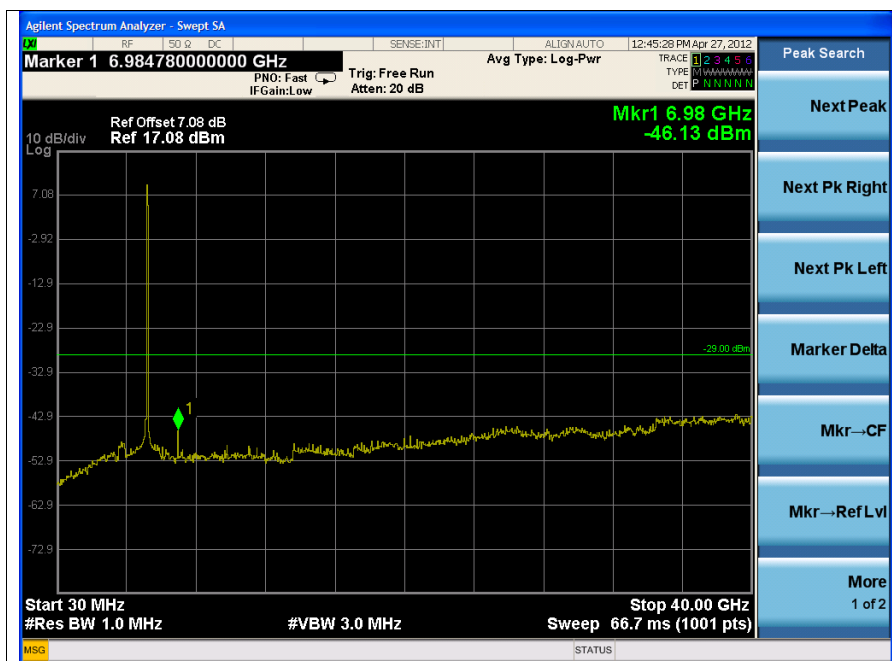
The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

Tel. +82 31 428 5700 / Fax. +82 31 427 2371

www.ee.sgs.com/korea

5 240 MHz



Note:

Offset (dB) = Power Divider (dB) + Attenuator (dB) + Cable loss (dB) / Ref. offset value (dB) = 7.08 (dB)

Final Result (dB m) = Spurious offset (dB) – Ref. offset (dB) + Reading values (dB m)

Frequency (MHz)	Spurious offset (dB)	Ref. offset (dB)	Reading values (dB m)	Final Result (dB m)
6 900.0	7.86	7.08	-44.90	-44.12
6 940.0	7.88		-45.30	-44.50
6 980.0	7.92		-46.13	-45.29

The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

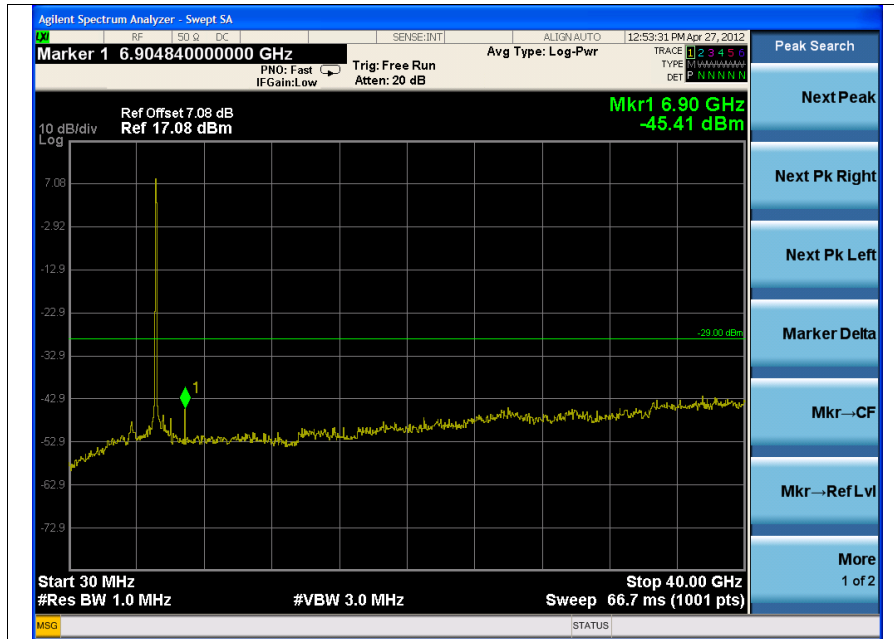
SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

Tel. +82 31 428 5700 / Fax. +82 31 427 2371

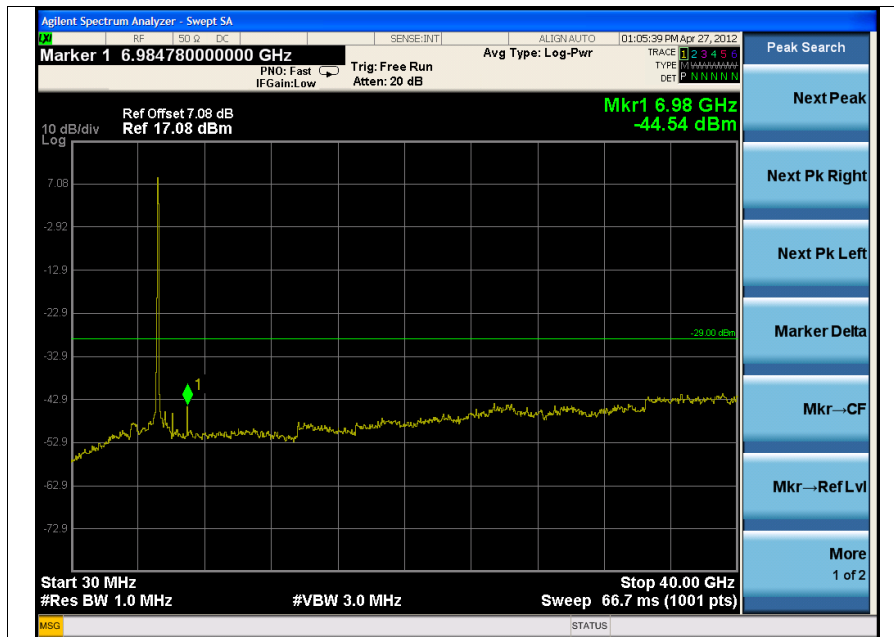
www.ee.sgs.com/korea

802.11n-HT40 (Non-DFS)_MCS0

5 190 MHz



5 230 MHz



Note:

Offset (dB) = Power Divider (dB) + Attenuator (dB) + Cable loss (dB) / Ref. offset value (dB) = 7.08 (dB)

Final Result (dB m) = Spurious offset (dB) – Ref. offset (dB) + Reading values (dB m)

Frequency (MHz)	Spurious offset (dB)	Ref. offset (dB)	Reading values (dB m)	Final Result (dB m)
6 900.0	7.86	7.08	-45.41	-44.63
6 980.0	7.92		-44.54	-43.70

The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

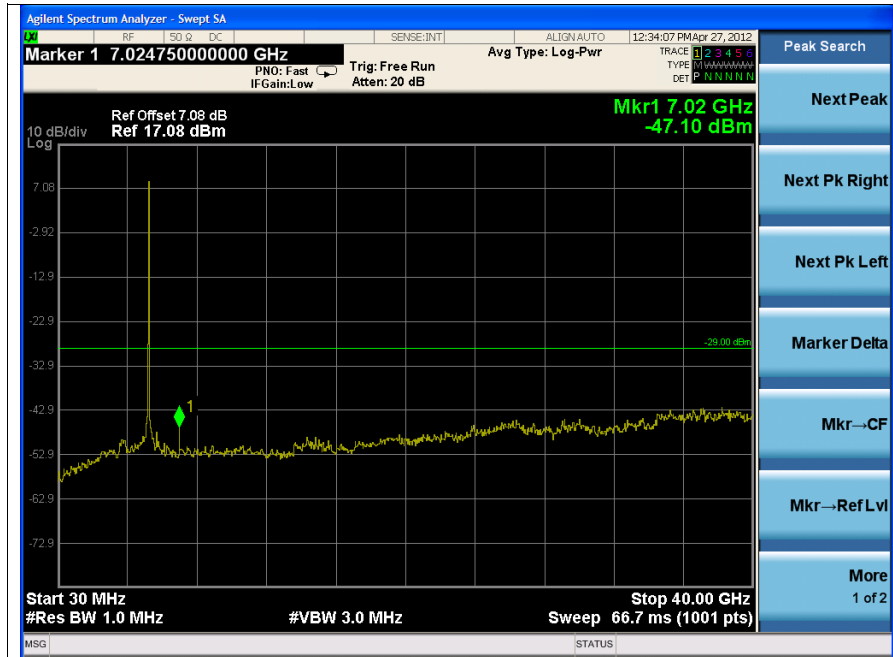
Tel. +82 31 428 5700 / Fax. +82 31 427 2371

www.ee.sgs.com/korea

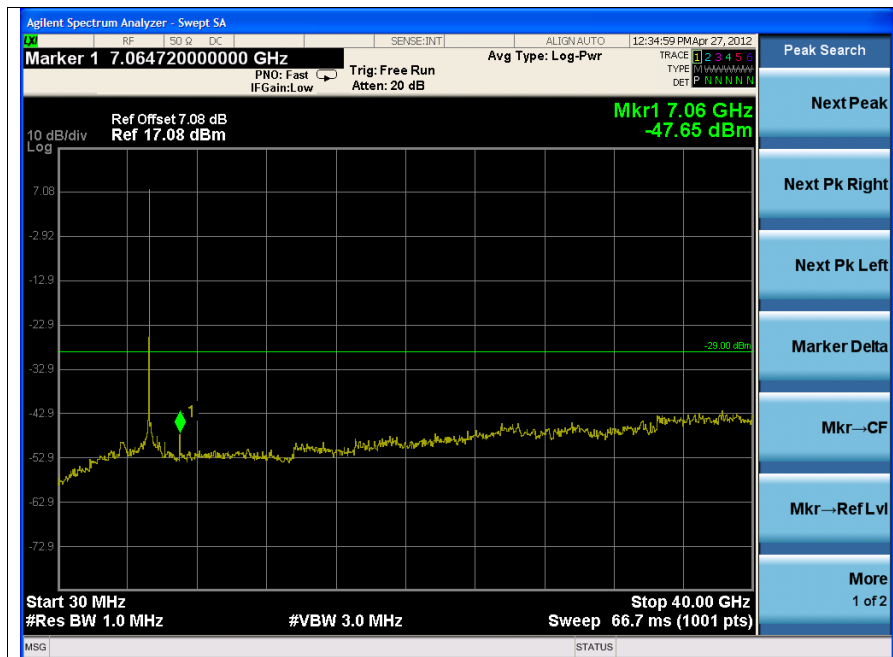
For 5.25 – 5.725 GHz, the antenna gain is -3.53 dB i, So the EIRP limit is -29 dB m/MHz

802.11a (DFS)_6 Mbps

5 260 MHz



5 300 MHz



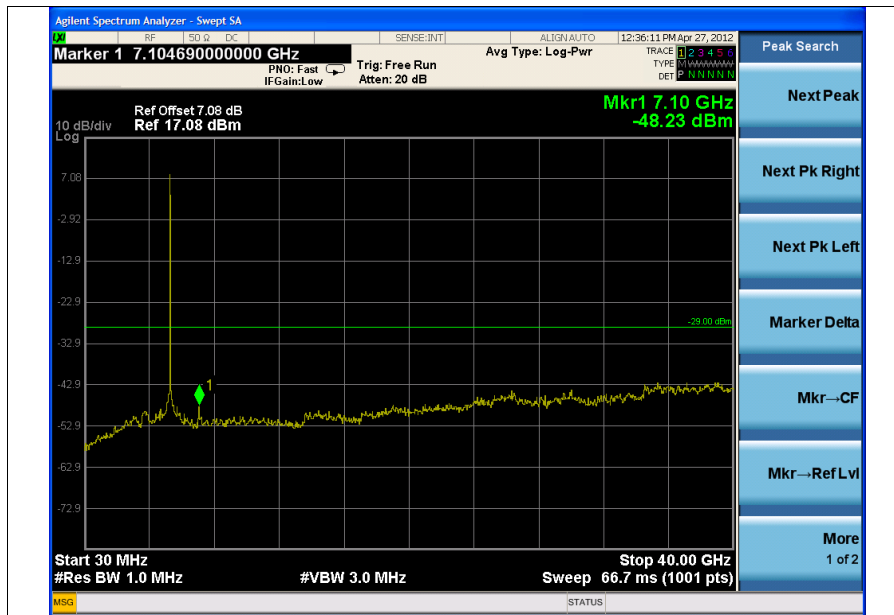
The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

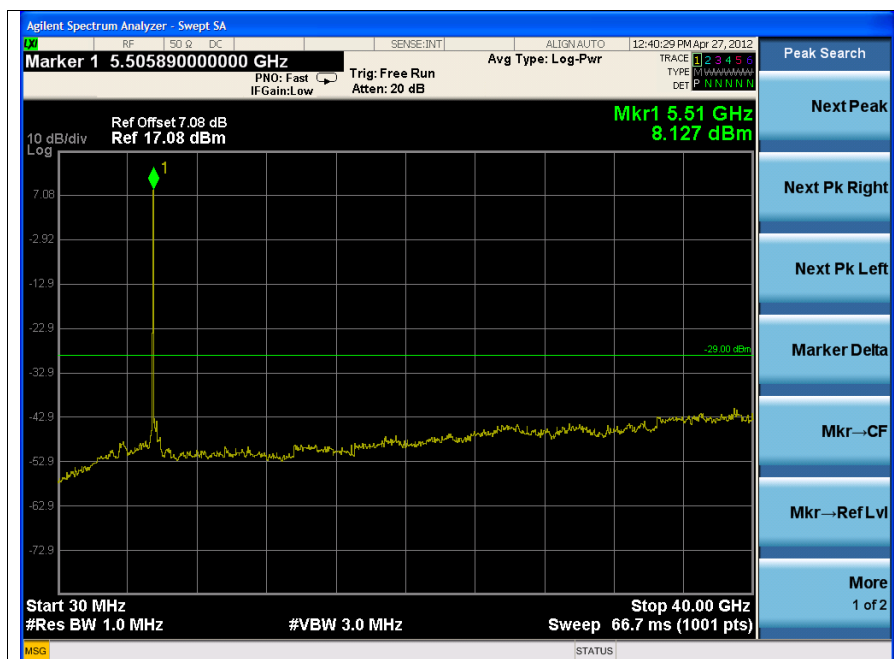
Tel. +82 31 428 5700 / Fax. +82 31 427 2371

www.ee.sgs.com/korea

5 320 MHz



5 500 MHz



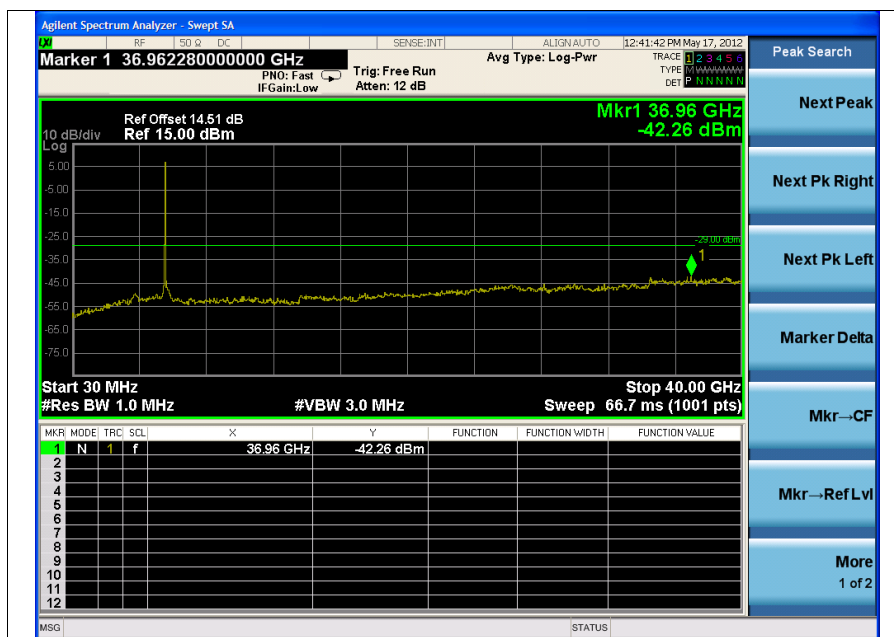
The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

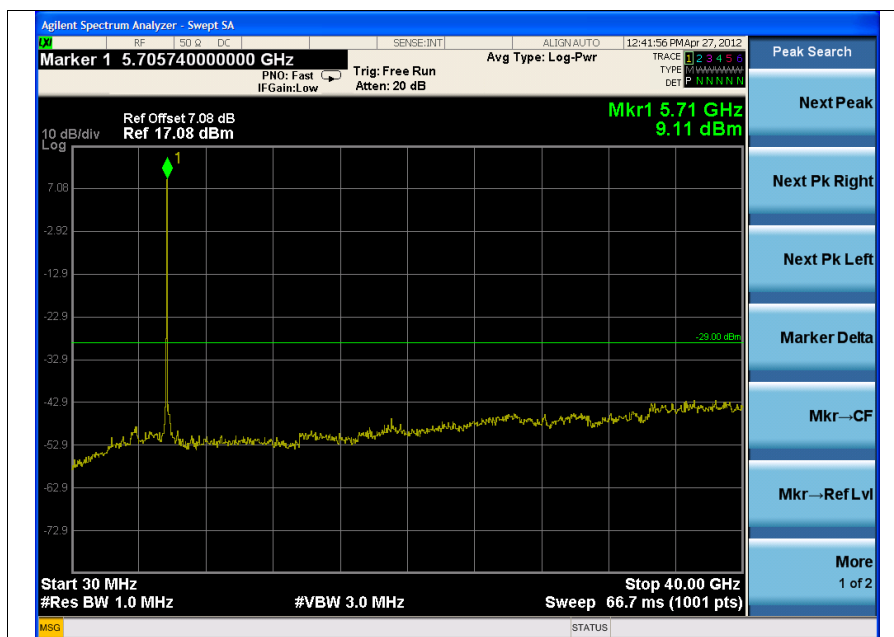
Tel. +82 31 428 5700 / Fax. +82 31 427 2371

www.ee.sgs.com/korea

5 580 MHz



5 700 MHz



Note:

Offset (dB) = Power Divider (dB) + Attenuator (dB) + Cable loss (dB) / Ref. offset value (dB) = 7.08 (dB)

Final Result (dB m) = Spurious offset (dB) – Ref. offset (dB) + Reading values (dB m)

Frequency (MHz)	Spurious offset (dB)	Ref. offset (dB)	Reading values (dB m)	Final Result (dB m)
7 020.0	8.04	7.08	-47.10	-46.14
7 060.0	8.04		-47.65	-46.69
7 100.0	8.07		-48.23	-47.24
36 960.0	Noise level	-	-	-

The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

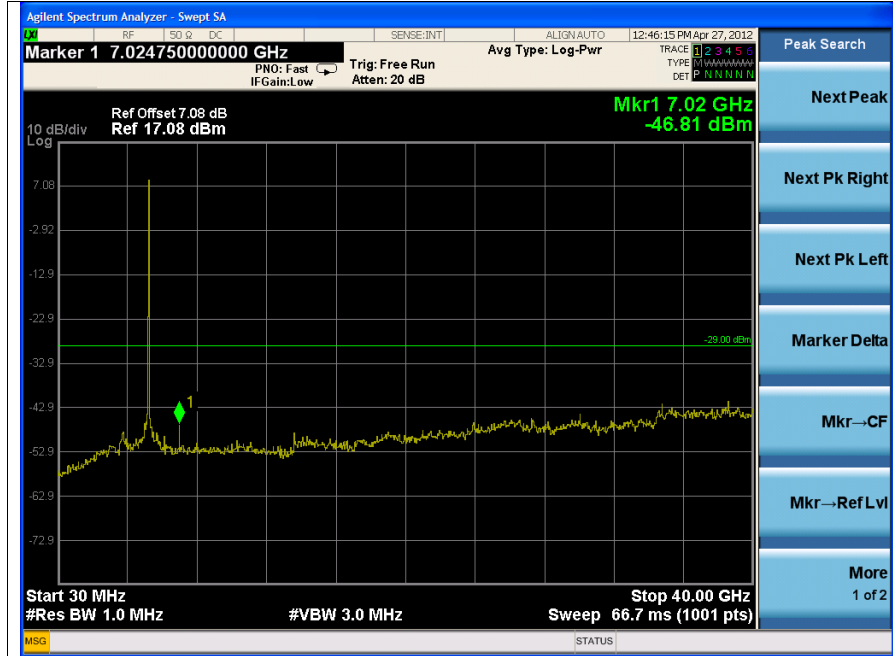
SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

Tel. +82 31 428 5700 / Fax. +82 31 427 2371

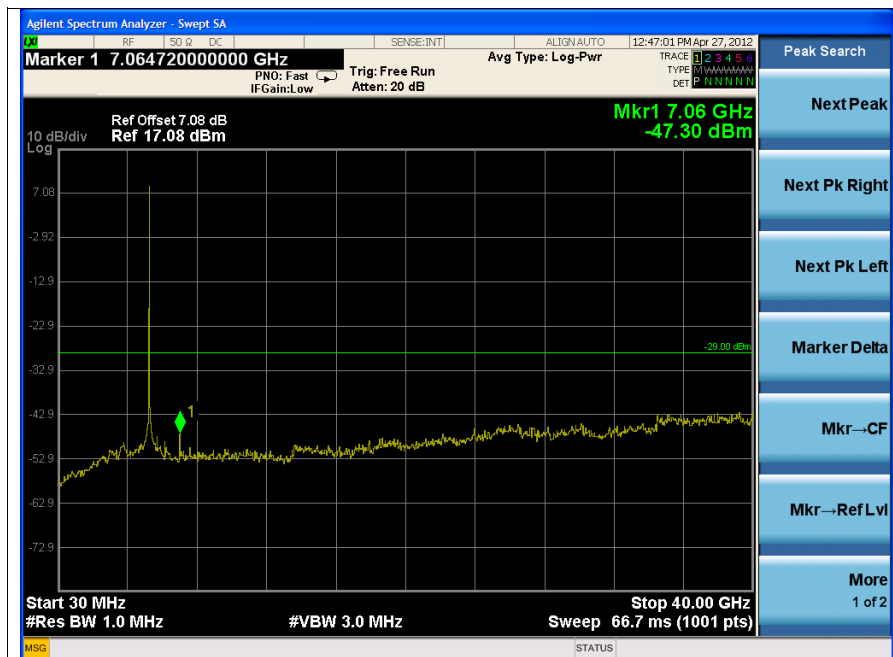
www.ee.sgs.com/korea

802.11n-HT20 (DFS)_MCS0

5 260 MHz



5 300 MHz



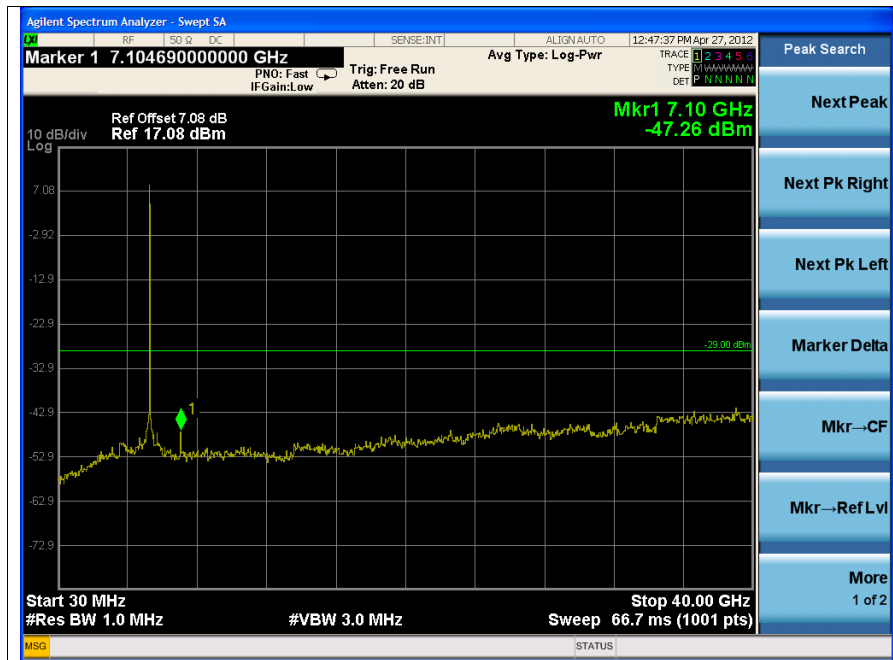
The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

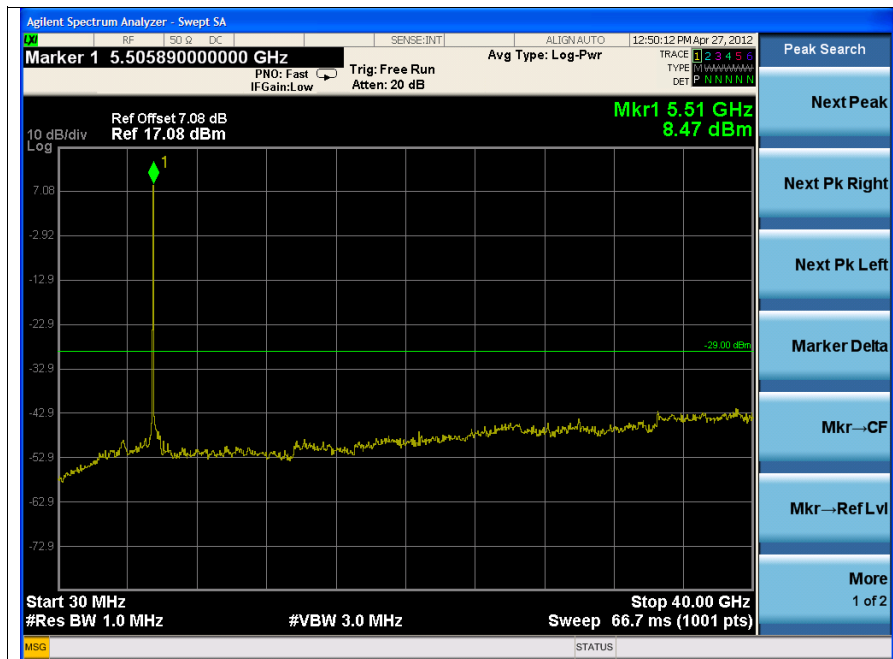
Tel. +82 31 428 5700 / Fax. +82 31 427 2371

www.ee.sgs.com/korea

5 320 MHz



5 500 MHz



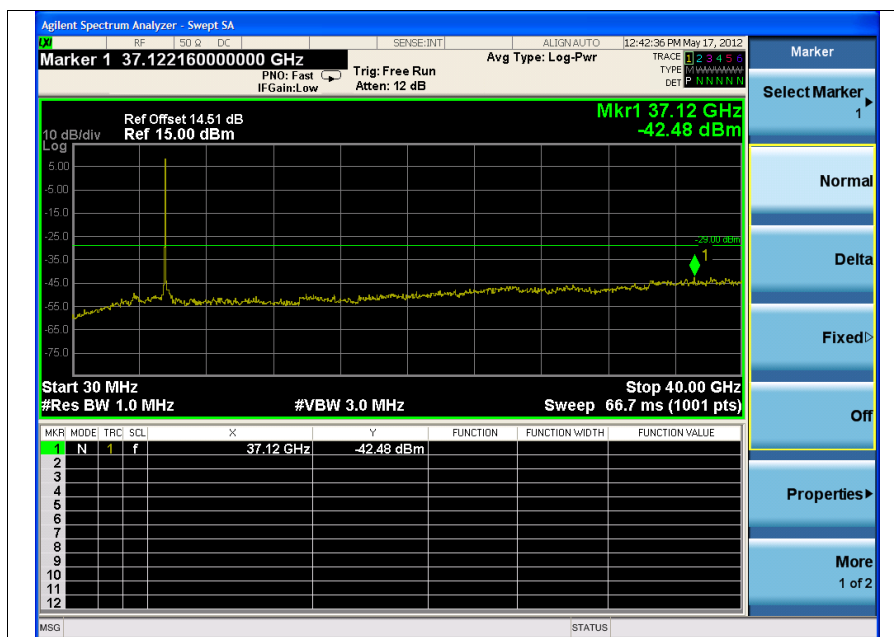
The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

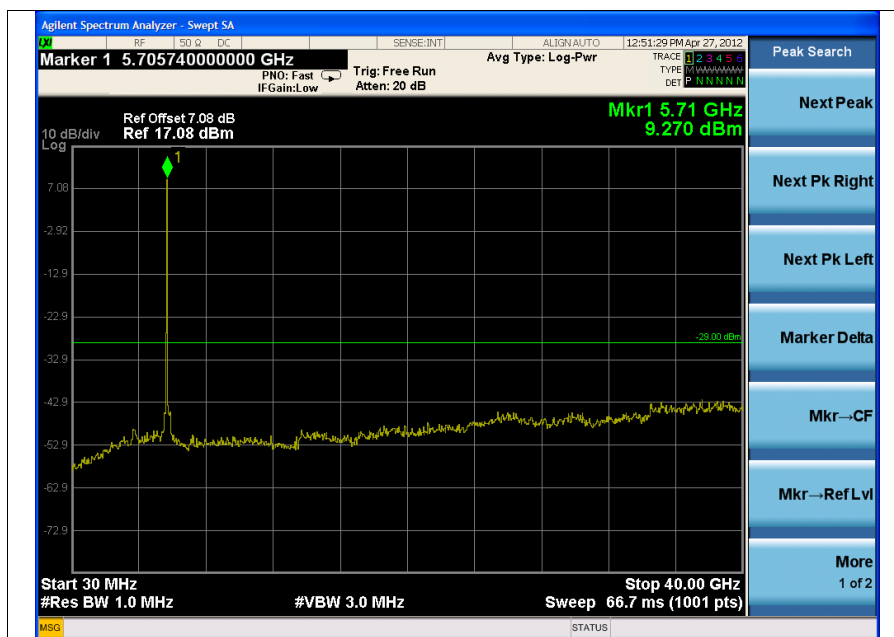
Tel. +82 31 428 5700 / Fax. +82 31 427 2371

www.ee.sgs.com/korea

5 580 MHz



5 700 MHz



Note:

Offset (dB) = Power Divider (dB) + Attenuator (dB) + Cable loss (dB) / Ref. offset value (dB) = 7.08 (dB)

Final Result (dB m) = Spurious offset (dB) – Ref. offset (dB) + Reading values (dB m)

Frequency (MHz)	Spurious offset (dB)	Ref. offset (dB)	Reading values (dB m)	Final Result (dB m)
7 020.0	8.04	7.08	-46.81	-45.85
7 060.0	8.04		-47.30	-46.34
7 100.0	8.07		-47.26	-46.27
37 120.0	Noise level	-	-	-

The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

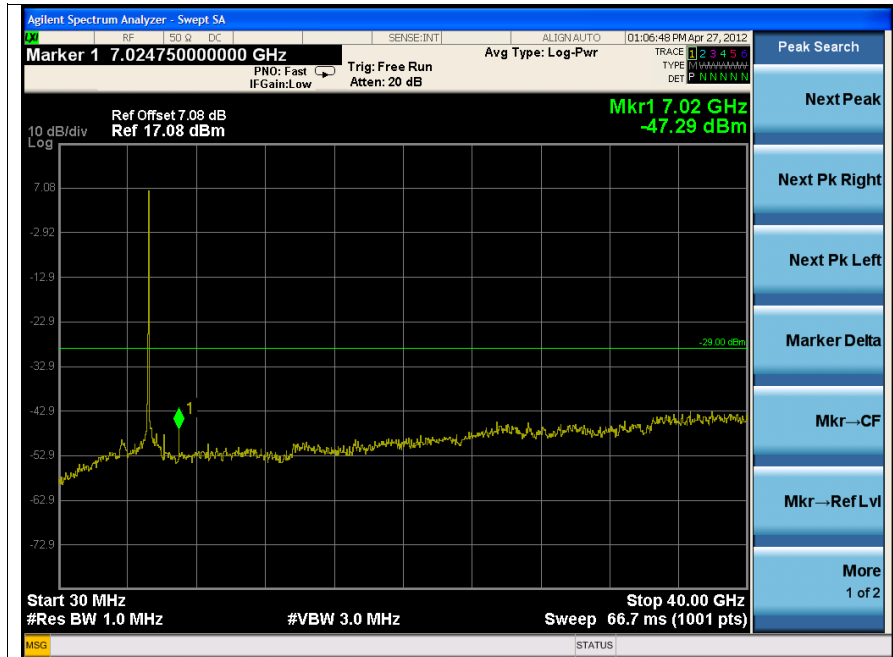
SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

Tel. +82 31 428 5700 / Fax. +82 31 427 2371

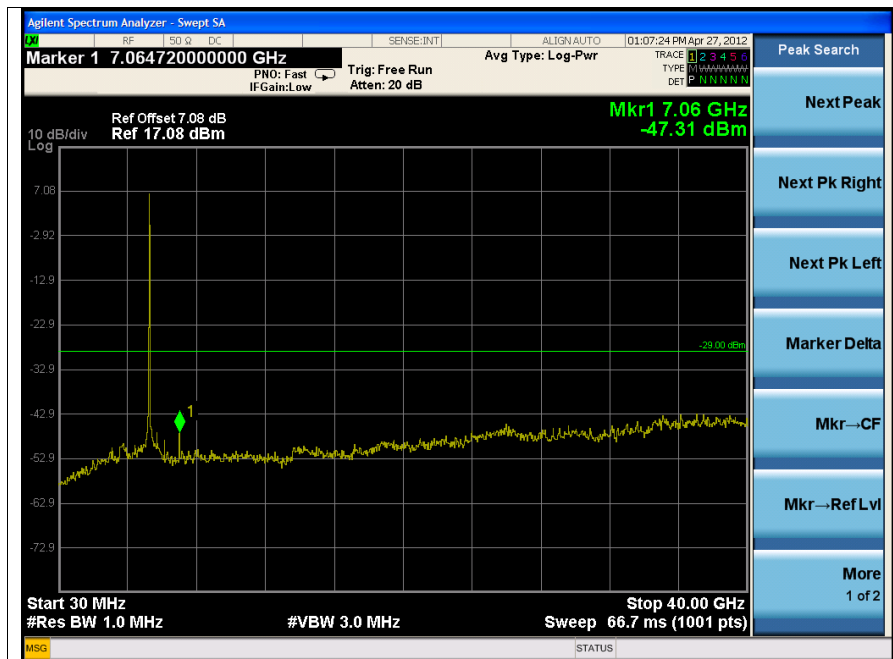
www.ee.sgs.com/korea

802.11n-HT40 (DFS)_MCS0

5 270 MHz



5 310 MHz



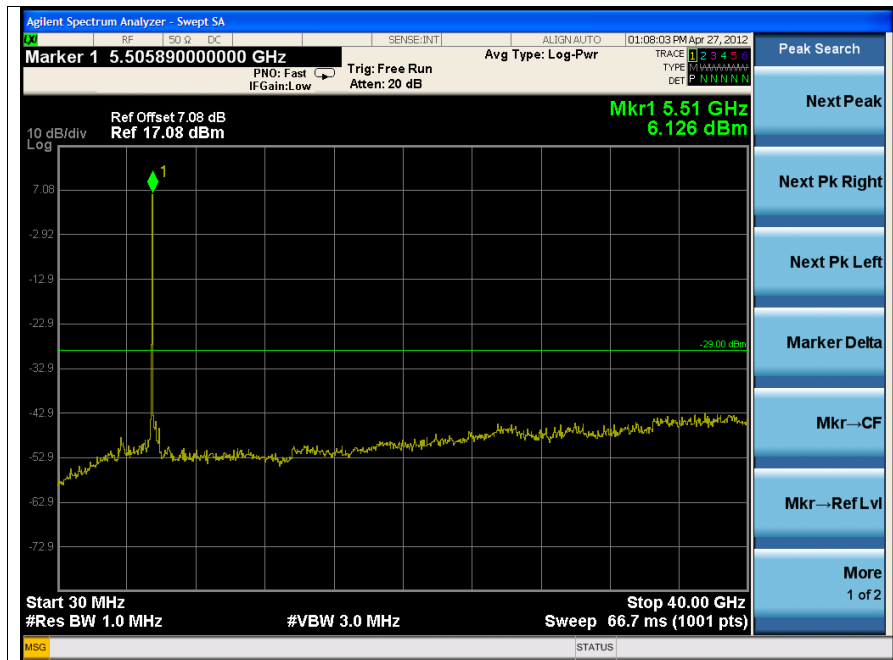
The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

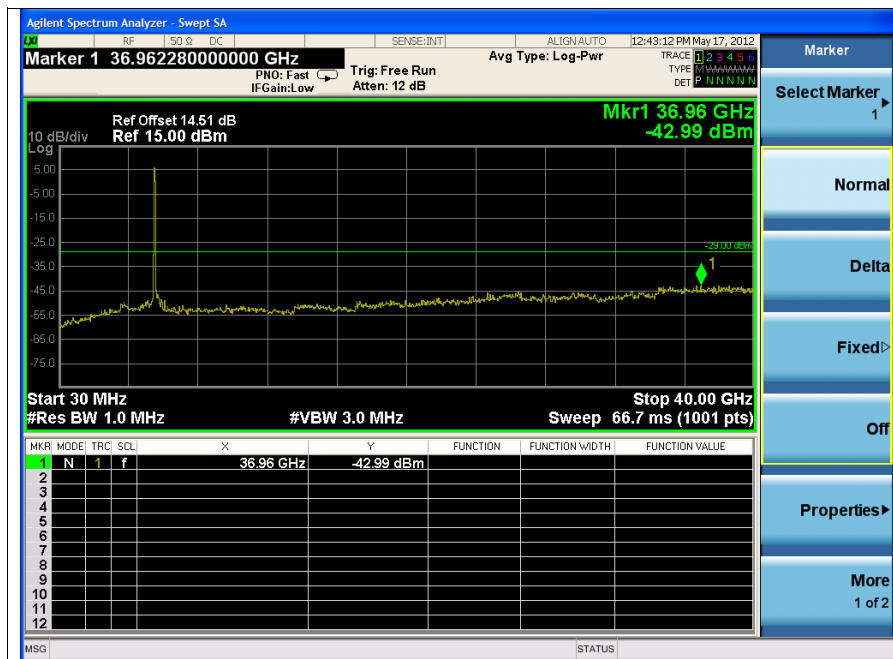
Tel. +82 31 428 5700 / Fax. +82 31 427 2371

www.ee.sgs.com/korea

5 510 MHz



5 550 MHz



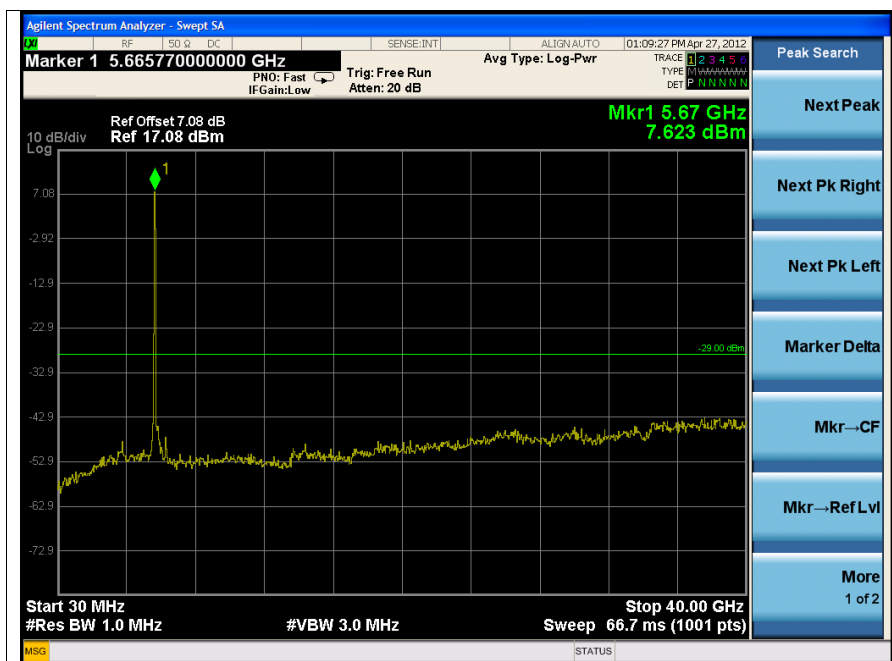
The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

Tel. +82 31 428 5700 / Fax. +82 31 427 2371

www.ee.sgs.com/korea

5 670 MHz



Note:

Offset (dB) = Power Divider (dB) + Attenuator (dB) + Cable loss (dB) / Ref. offset value (dB) = 7.08 (dB)

Final Result (dB m) = Spurious offset (dB) – Ref. offset (dB) + Reading values (dB m)

Frequency (MHz)	Spurious offset (dB)	Ref. offset (dB)	Reading values (dB m)	Final Result (dB m)
7 020.0	8.04	7.08	-47.29	-46.33
7 060.0	8.04		-47.31	-46.35
36 960.0	Noise level	-	-	-

The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

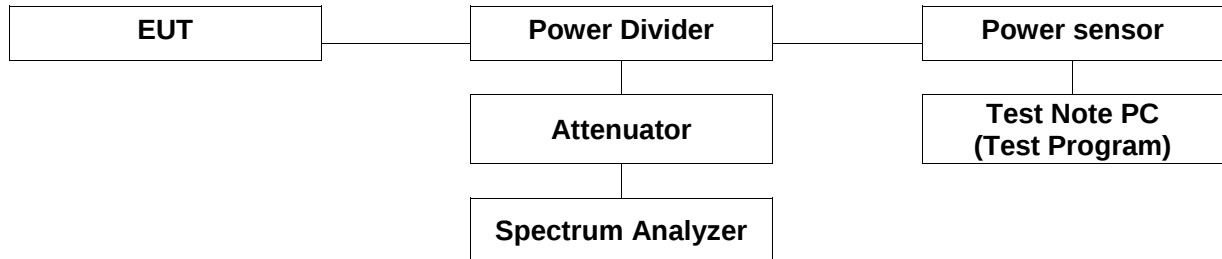
SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

Tel. +82 31 428 5700 / Fax. +82 31 427 2371

www.ee.sgs.com/korea

3. 26 dB bandwidth

3.1. Test setup



3.2. Limit

None; for reporting purpose only

3.3. Test procedure

All data rates and modes were investigated for this test. The full data for the worst case data rate are reported in this section.

1. This measurement settings are specified in section D of KDB 789033.
2. Set RBW: approximately 1% of the emission bandwidth.
3. Set the VBW > RBW.
4. Detector = Peak
5. Trace mode = max hold.
6. Measure the maximum width of the emission that is 26 dB down from the peak of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1 %

Note: The automatic bandwidth measurement capability of a spectrum analyzer may be employed if it implements the functionality described above.

The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

Tel. +82 31 428 5700 / Fax. +82 31 427 2371

www.ee.sgs.com/korea

3.4. Test result

Ambient temperature : (24 ± 2) °C
Relative humidity : 49 % R.H.

Mode: 11a

Operating mode	Data Rate (Mbps)	Frequency (MHz)	26 dB bandwidth (MHz)
Non - DFS	6	5 180	18.70
	6	5 220	18.74
	6	5 240	18.74
DFS	6	5 260	18.77
	6	5 300	18.74
	6	5 320	18.72
DFS	6	5 500	18.77
	6	5 580	18.77
	6	5 700	18.71

Mode: 11n_HT20

Operating mode	Data Rate (Mbps)	Frequency (MHz)	26 dB bandwidth (MHz)
Non - DFS	MCS0	5 180	19.22
	MCS0	5 220	19.04
	MCS0	5 240	19.02
DFS	MCS0	5 260	19.22
	MCS0	5 300	19.03
	MCS0	5 320	19.02
DFS	MCS0	5 500	19.20
	MCS0	5 580	19.07
	MCS0	5 700	19.01

Mode: 11n_HT40

Operating mode	Data Rate (Mbps)	Frequency (MHz)	26 dB bandwidth (MHz)
Non - DFS	MCS0	5 190	39.31
	MCS0	5 230	39.18
DFS	MCS0	5 270	39.22
	MCS0	5 310	39.28
	MCS0	5 510	39.30
	MCS0	5 550	39.16
	MCS0	5 670	39.11

The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

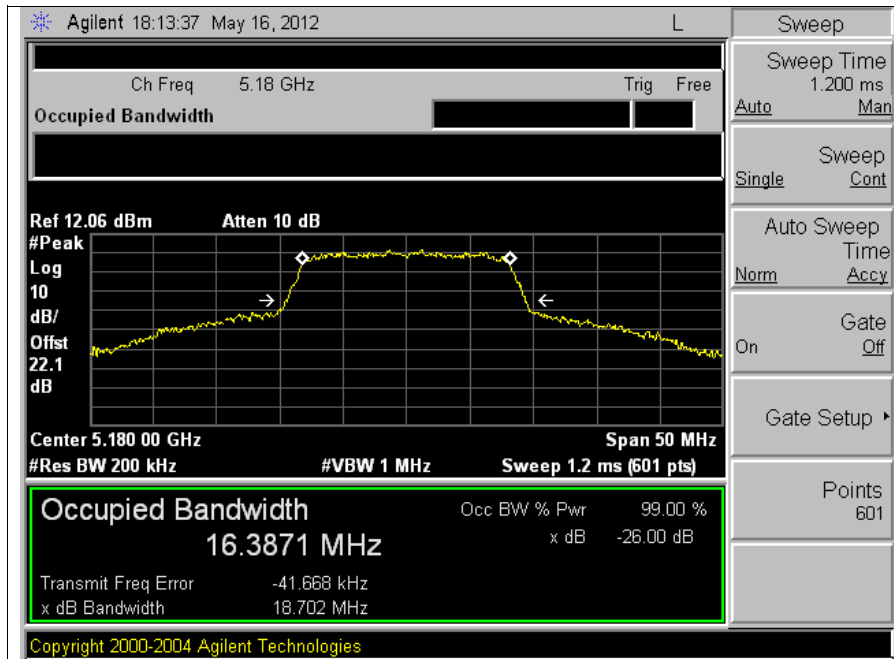
Tel. +82 31 428 5700 / Fax. +82 31 427 2371

www.ee.sgs.com/korea

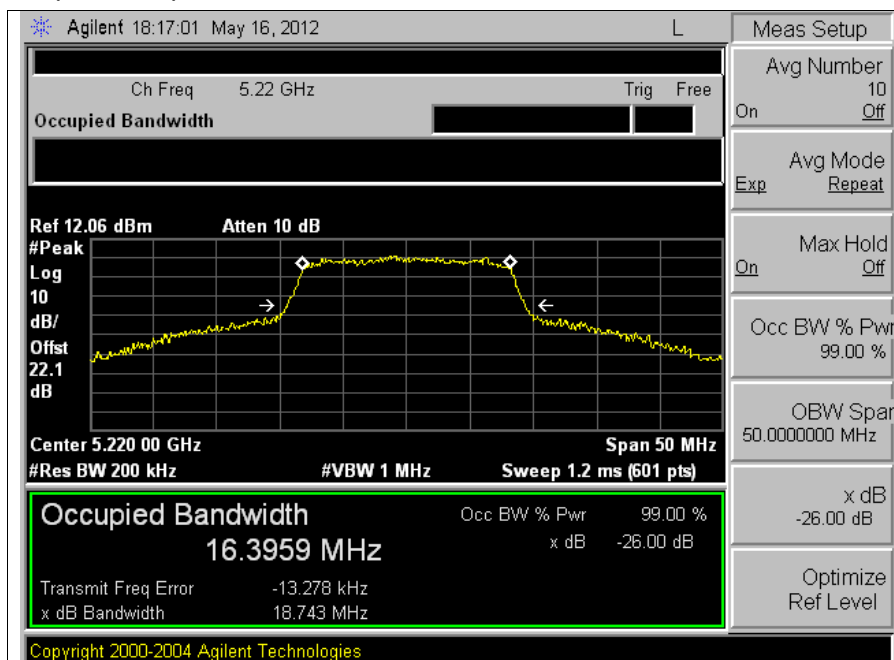
26 dB Bandwidth

802.11a (Non-DFS)

Low Channel (5 180 MHz)



Middle Channel (5 220 MHz)



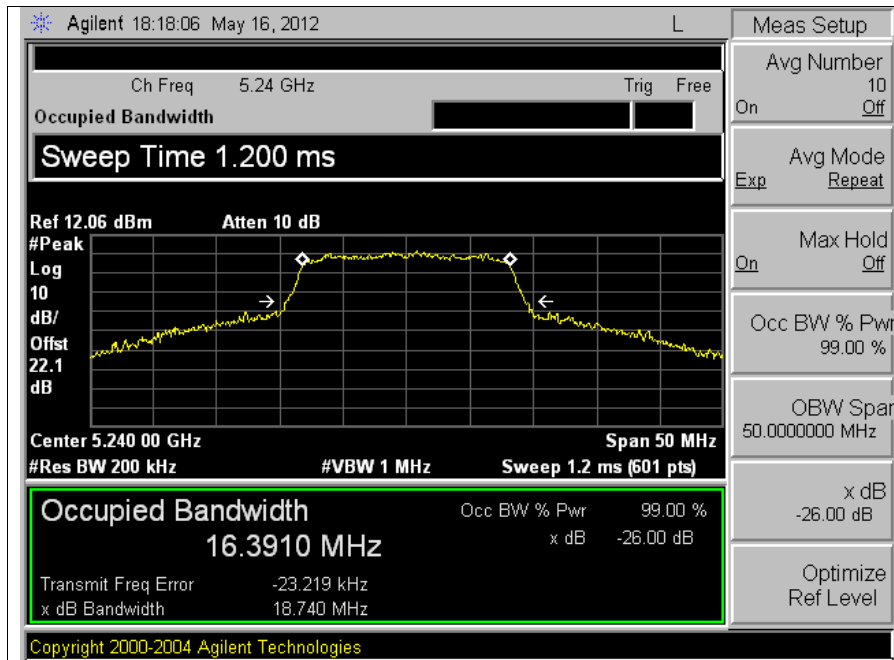
The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

Tel. +82 31 428 5700 / Fax. +82 31 427 2371

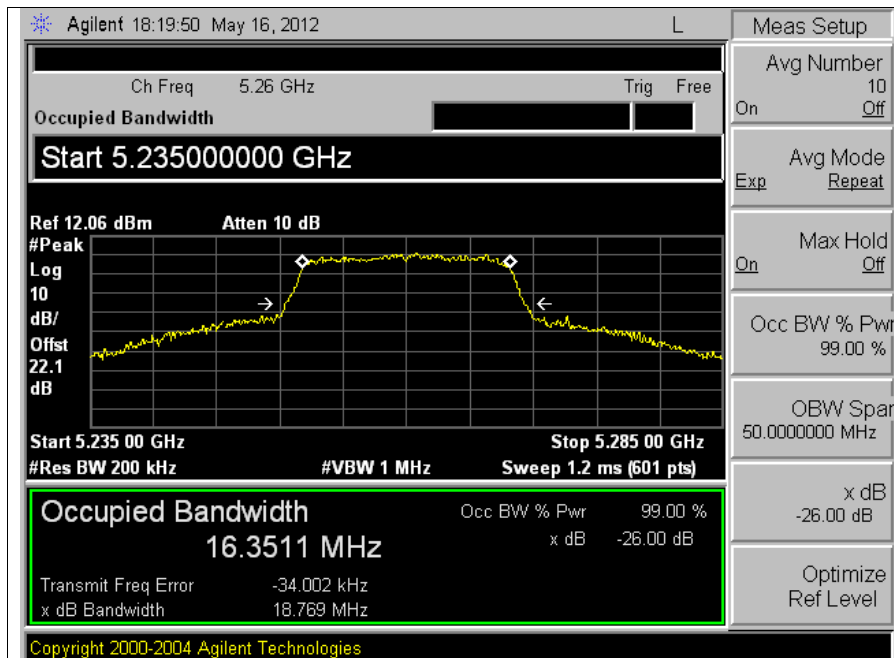
www.ee.sgs.com/korea

High Channel (5 240 MHz)



802.11a (DFS)

Low Channel (5 260 MHz)



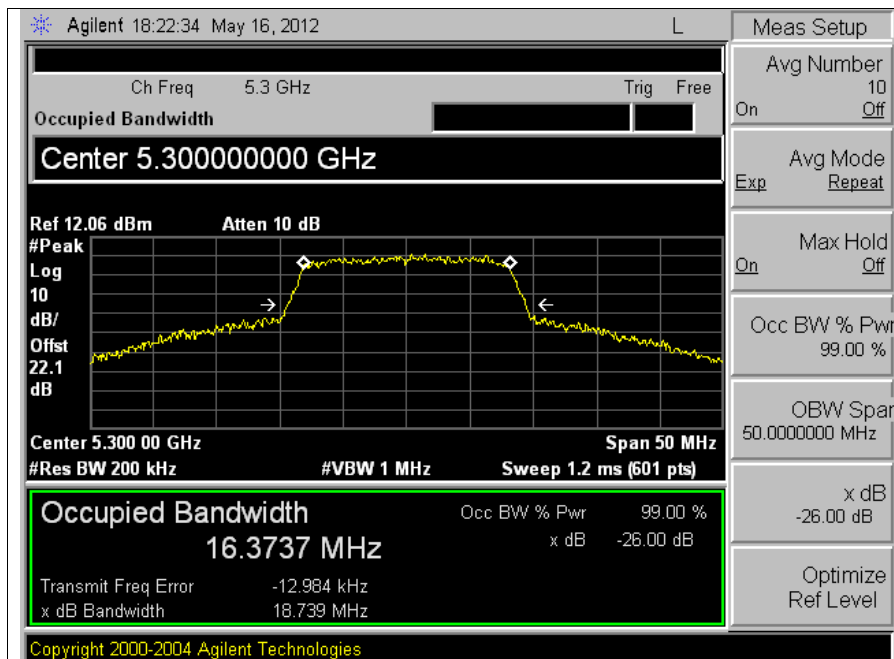
The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

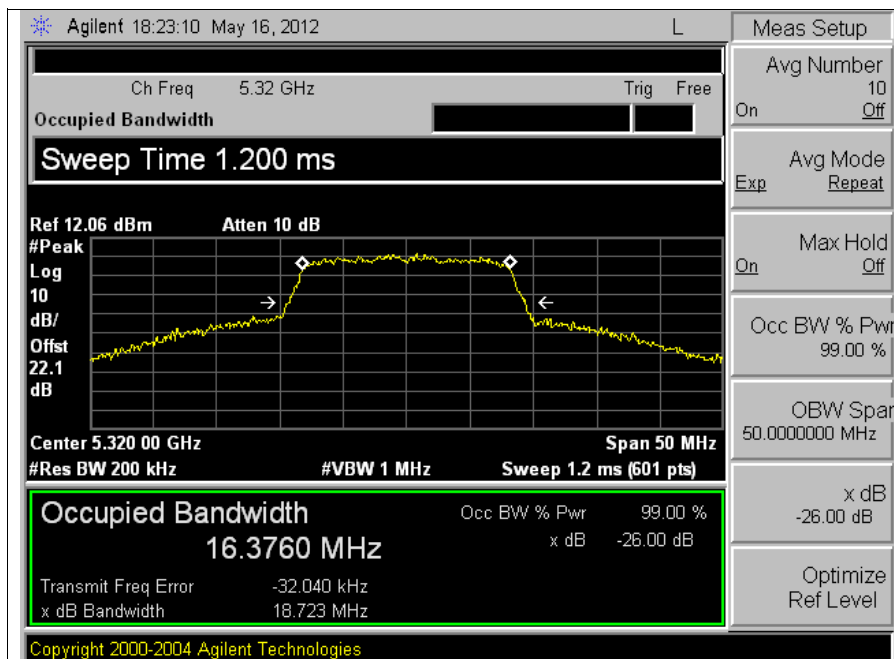
Tel. +82 31 428 5700 / Fax. +82 31 427 2371

www.ee.sgs.com/korea

Middle Channel (5 300 MHz)



High Channel (5 320 MHz)



The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

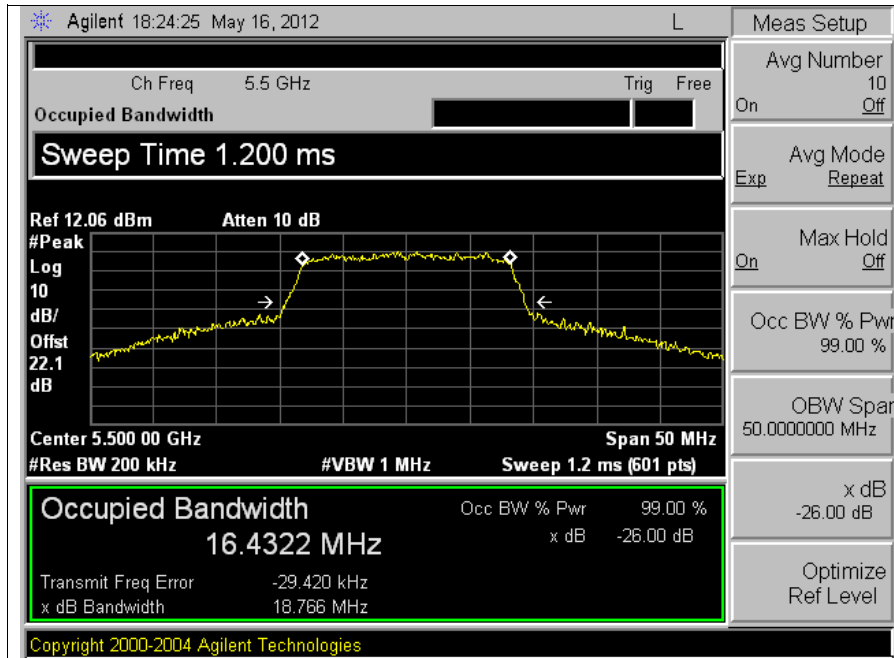
SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

Tel. +82 31 428 5700 / Fax. +82 31 427 2371

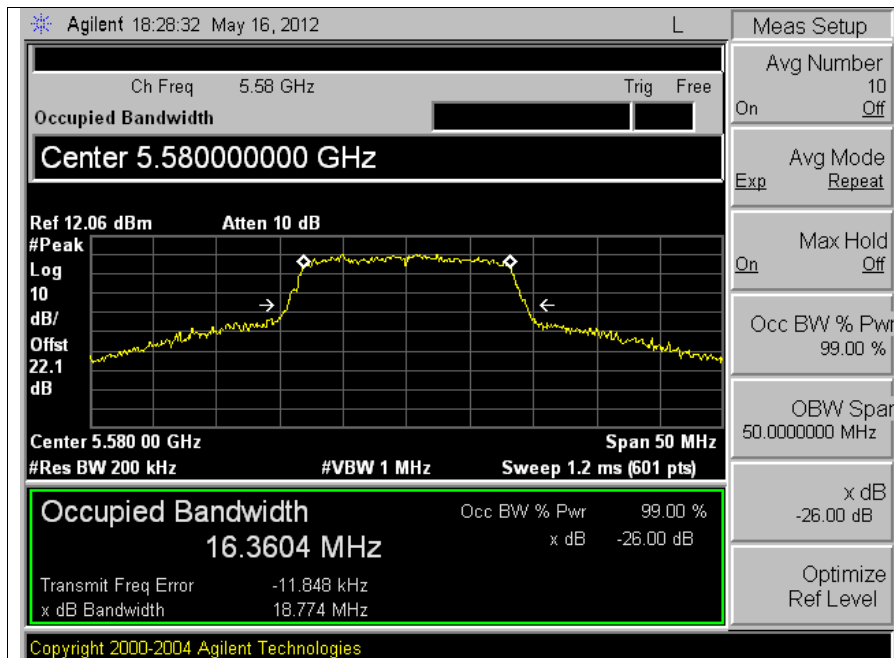
www.ee.sgs.com/korea

802.11a (DFS)

Low Channel (5 500 MHz)



Middle Channel (5 580 MHz)



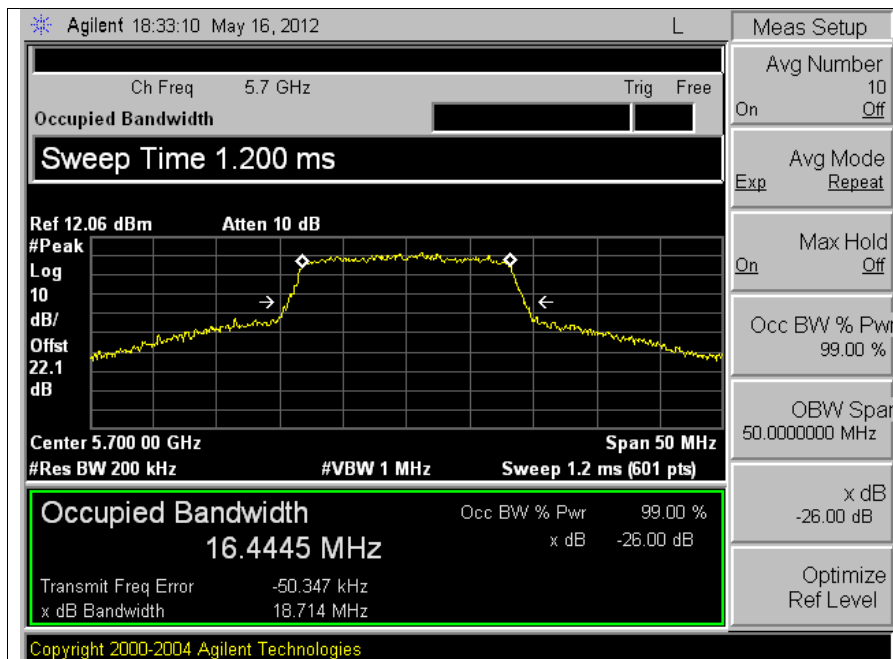
The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

Tel. +82 31 428 5700 / Fax. +82 31 427 2371

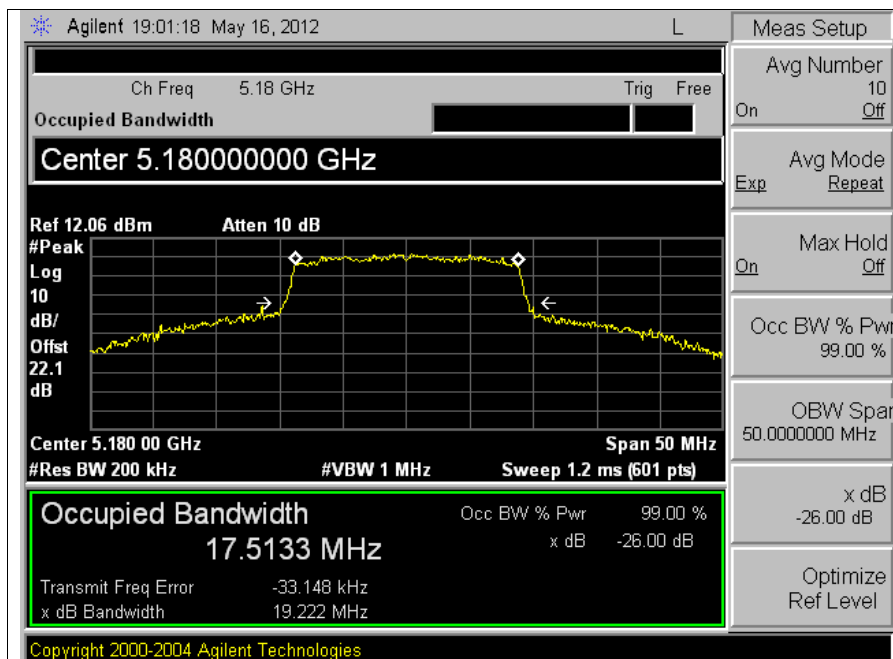
www.ee.sgs.com/korea

High Channel (5 700 MHz)



802.11n-HT20 (Non-DFS)

Low Channel (5 180 MHz)



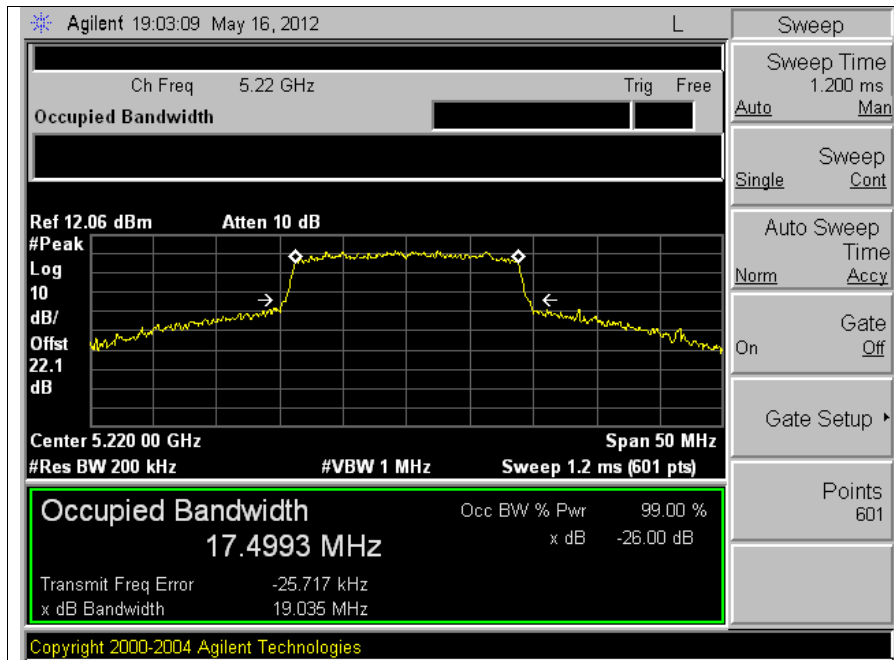
The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

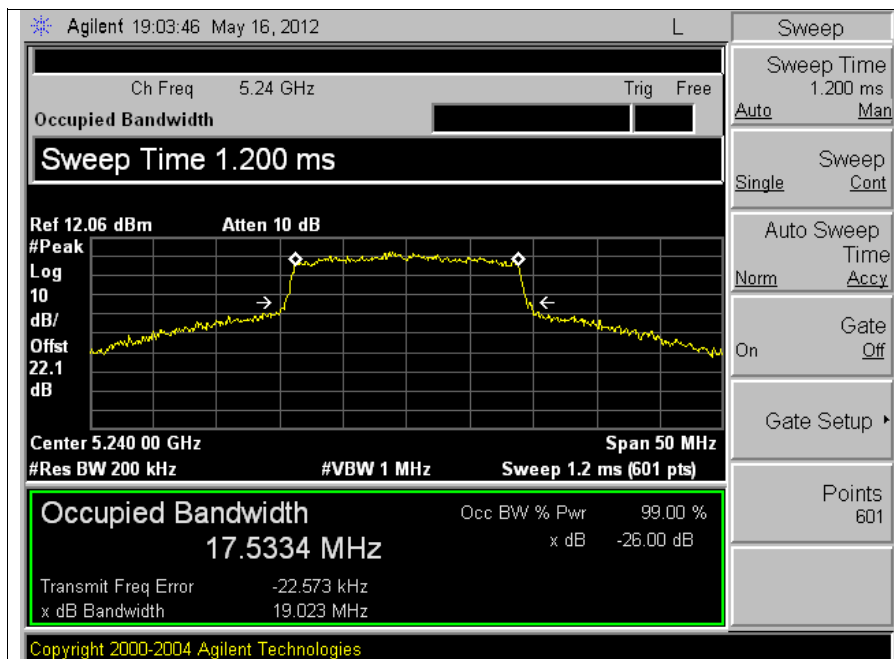
Tel. +82 31 428 5700 / Fax. +82 31 427 2371

www.ee.sgs.com/korea

Middle Channel (5 220 MHz)



High Channel (5 240 MHz)



The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

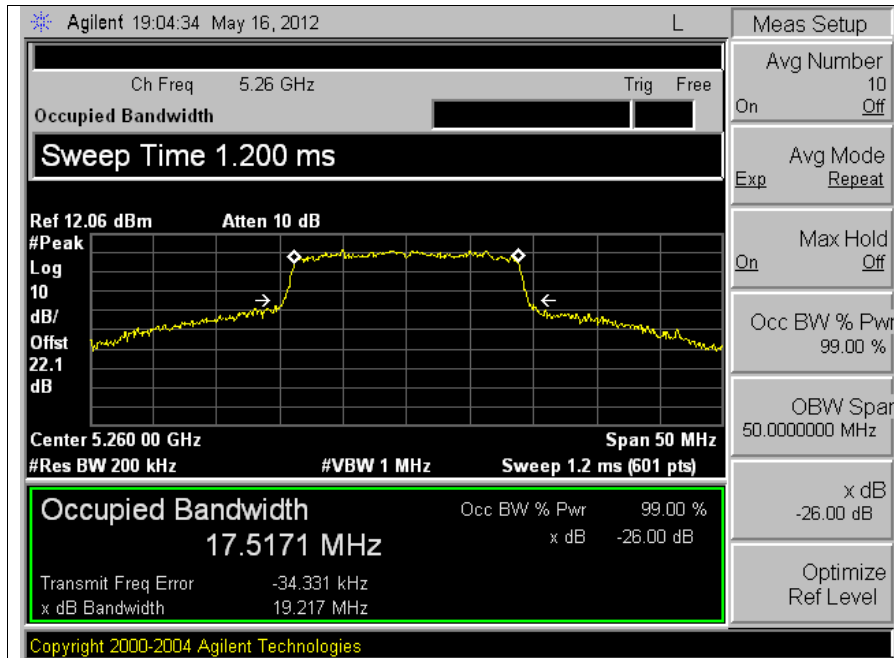
SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

Tel. +82 31 428 5700 / Fax. +82 31 427 2371

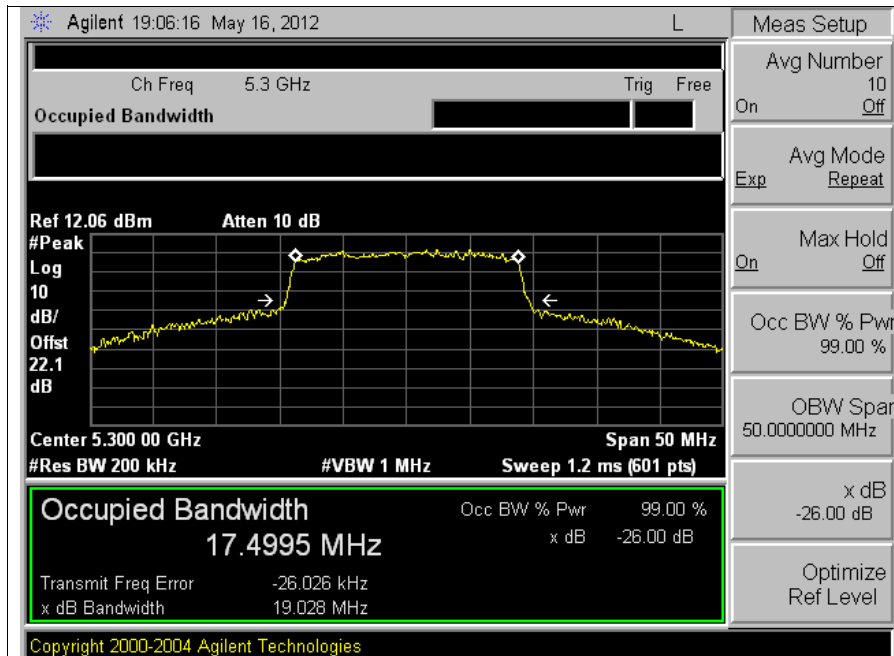
www.ee.sgs.com/korea

802.11n-HT20 (DFS)

Low Channel (5 260 MHz)



Middle Channel (5 300 MHz)



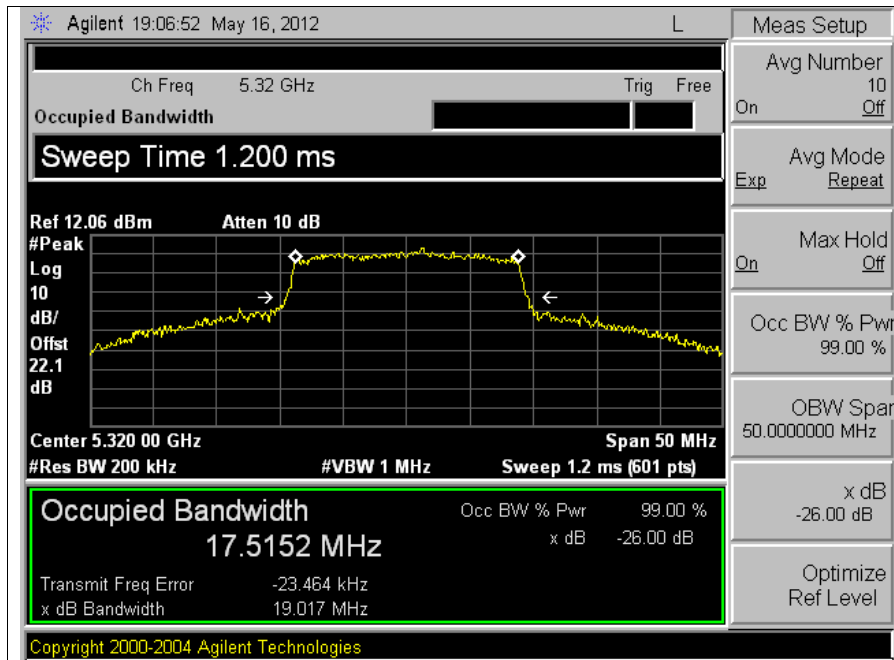
The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

Tel. +82 31 428 5700 / Fax. +82 31 427 2371

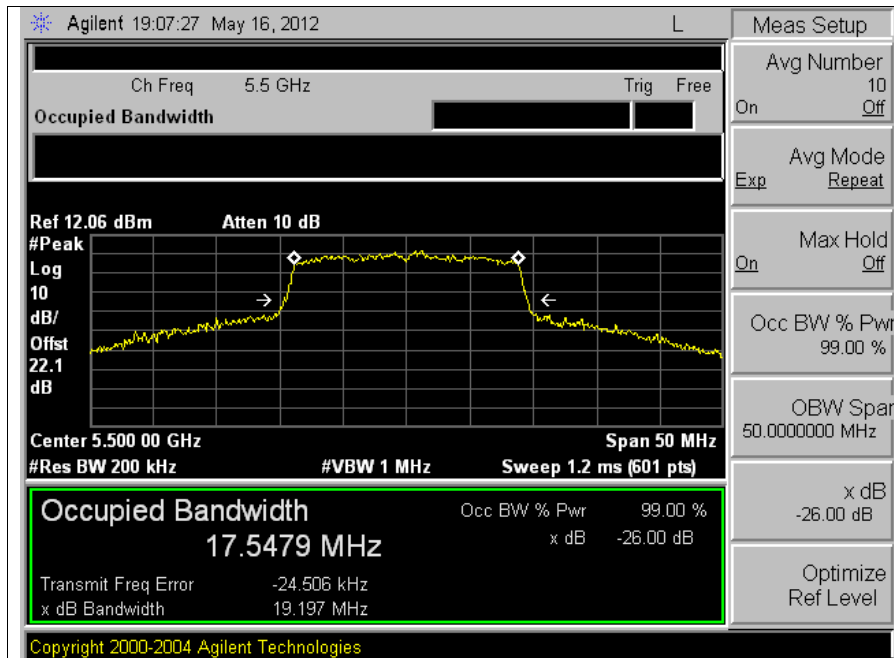
www.ee.sgs.com/korea

High Channel (5 320 MHz)



802.11n-HT20 (DFS)

Low Channel (5 500 MHz)



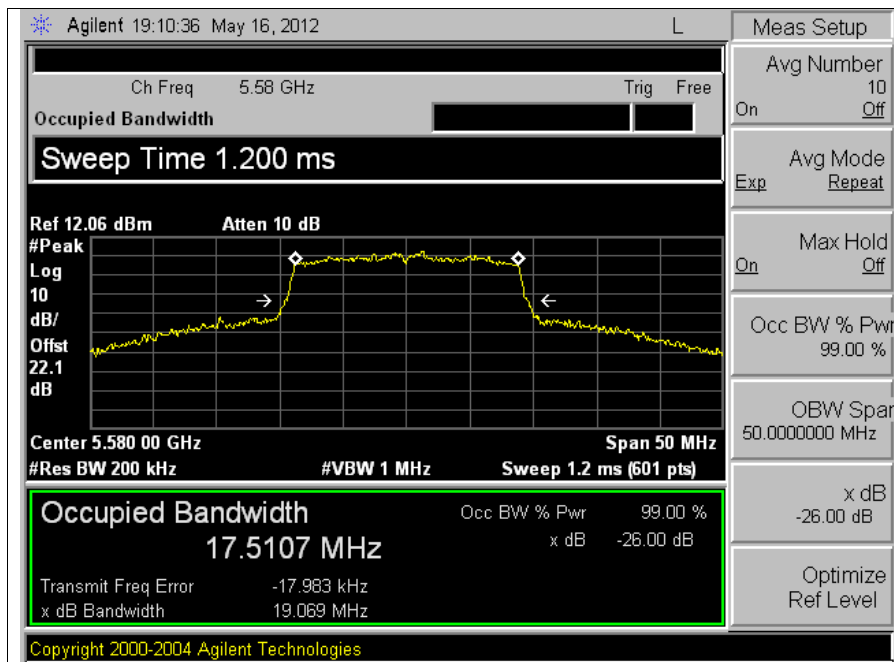
The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

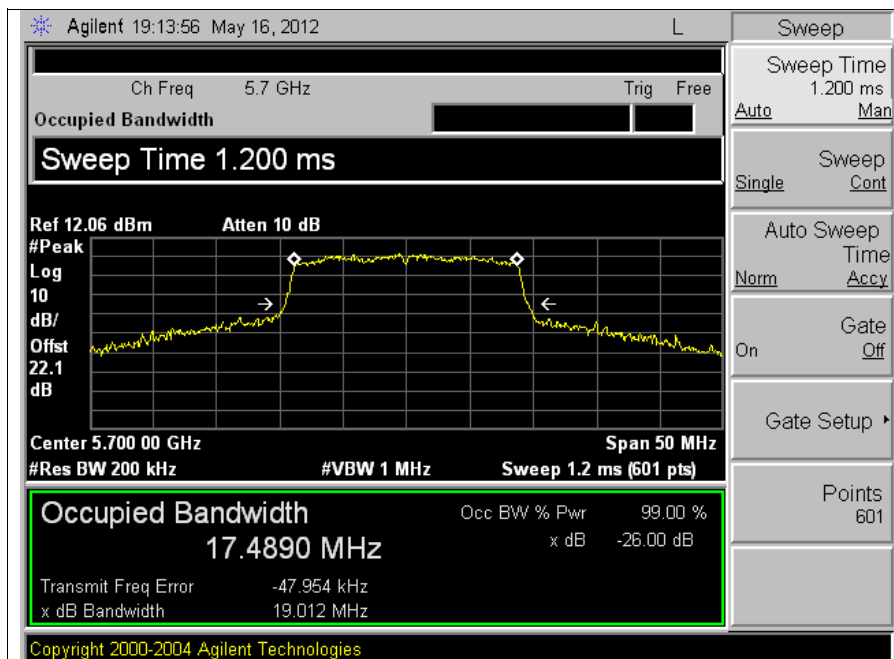
Tel. +82 31 428 5700 / Fax. +82 31 427 2371

www.ee.sgs.com/korea

Middle Channel (5 580 MHz)



High Channel (5 700 MHz)



The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

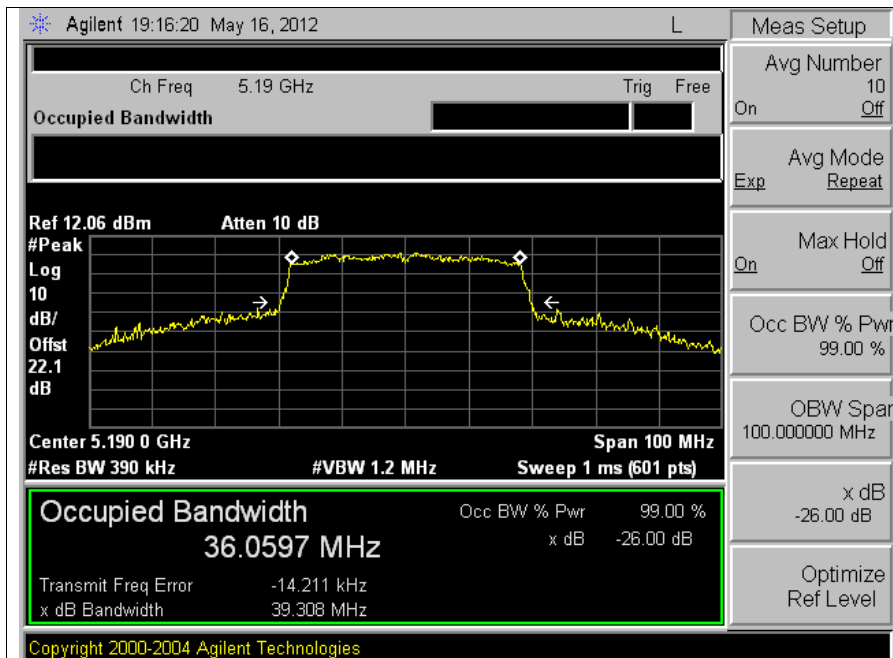
SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

Tel. +82 31 428 5700 / Fax. +82 31 427 2371

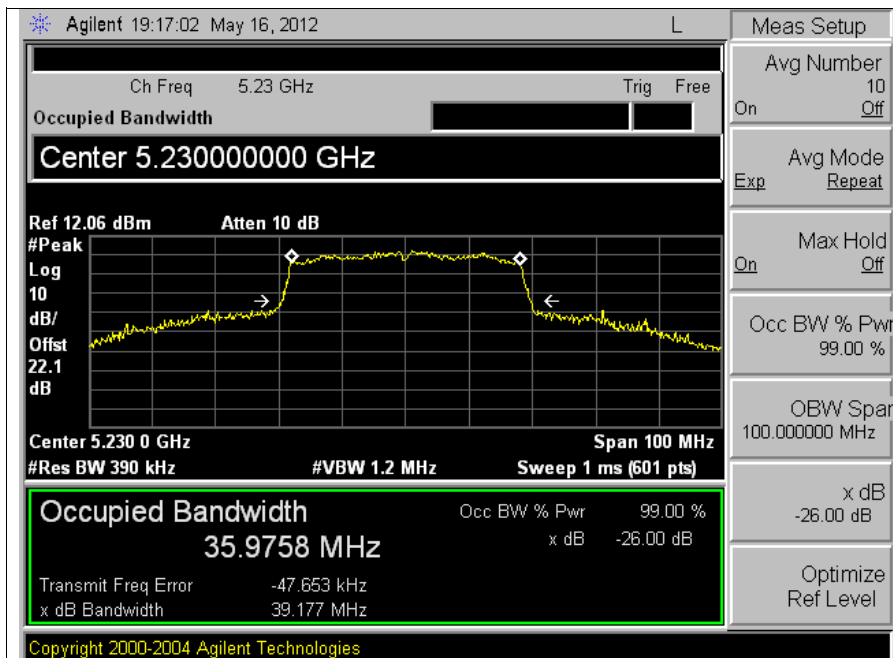
www.ee.sgs.com/korea

802.11n-HT40 (Non-DFS)

Low Channel (5 190 MHz)



High Channel (5 230 MHz)



The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

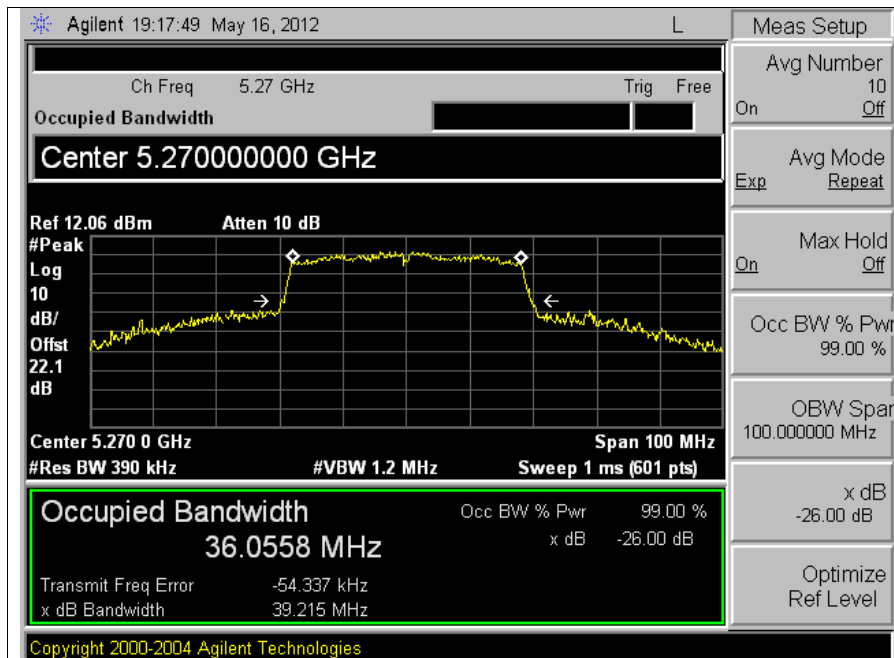
SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

Tel. +82 31 428 5700 / Fax. +82 31 427 2371

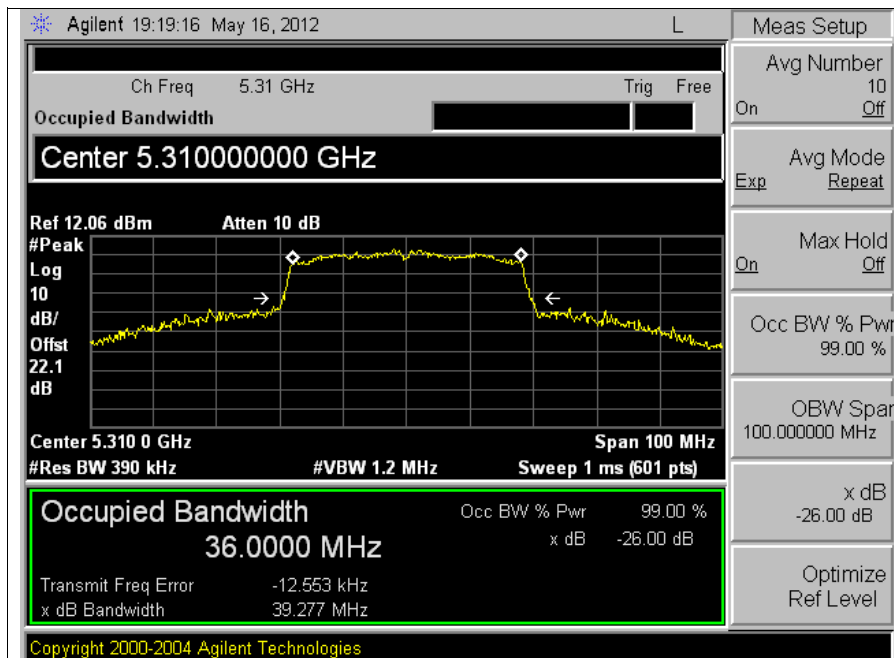
www.ee.sgs.com/korea

802.11n-HT40 (DFS)

Low Channel (5 270 MHz)



High Channel (5 310 MHz)



The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

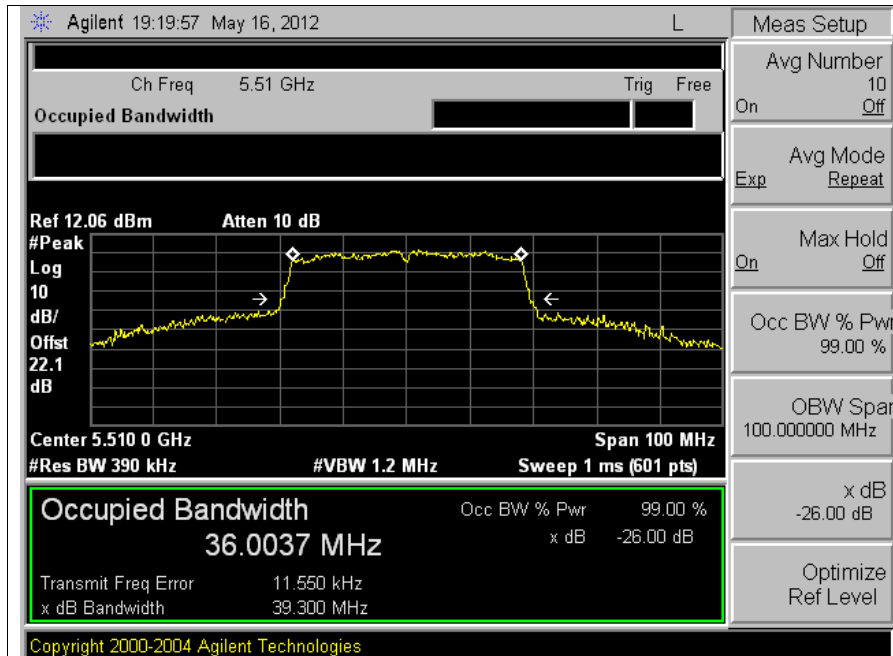
SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

Tel. +82 31 428 5700 / Fax. +82 31 427 2371

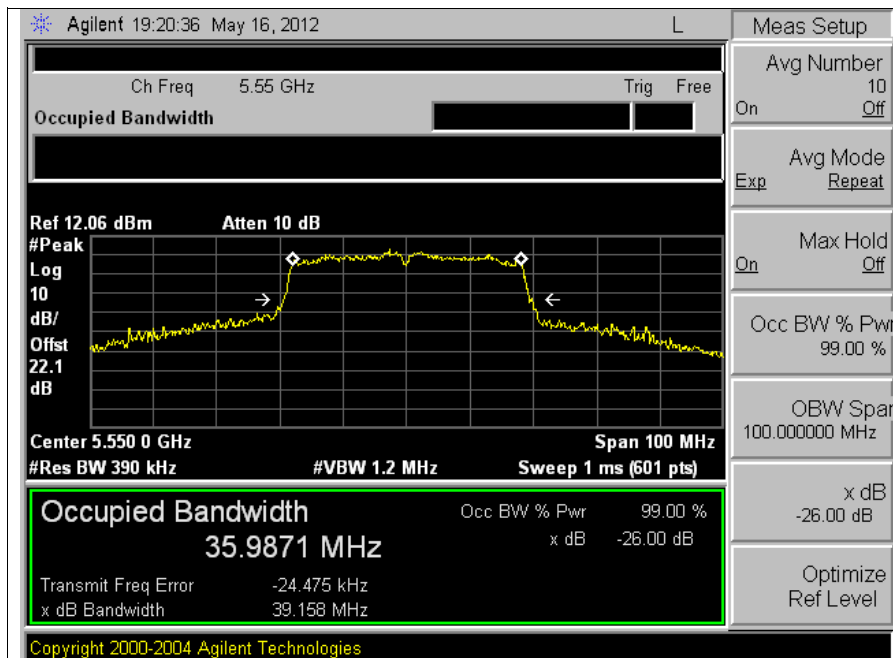
www.ee.sgs.com/korea

802.11n-HT40 (DFS)

Low Channel (5 510 MHz)



Low Channel (5 550 MHz)



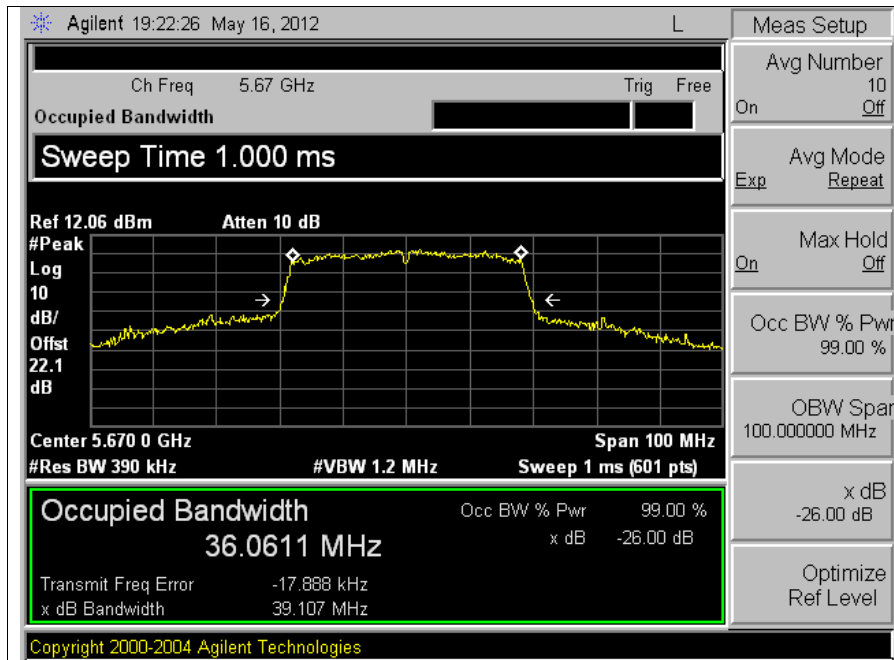
The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

Tel. +82 31 428 5700 / Fax. +82 31 427 2371

www.ee.sgs.com/korea

High Channel (5 670 MHz)



The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

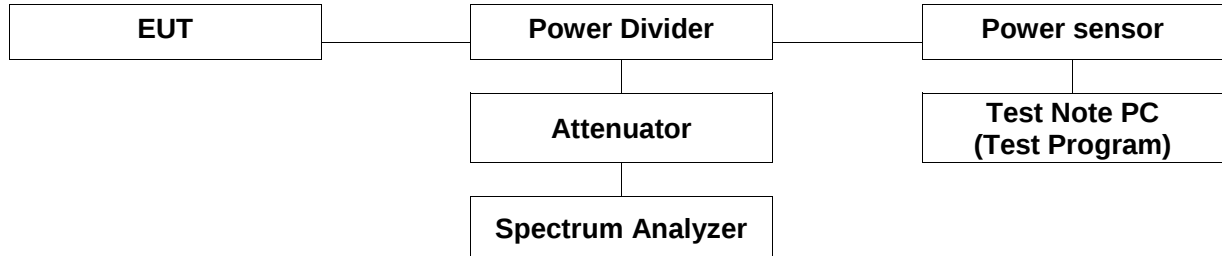
SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

Tel. +82 31 428 5700 / Fax. +82 31 427 2371

www.ee.sgs.com/korea

4. Output power

4.1. Test setup



4.2. Limit

4.2.1. FCC 15.407

(a)(1)

For the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed the lesser of 50 mW or $4 \text{ dBm} + 10 \log B$, where B is the 26-dB emission bandwidth in MHz. If transmitting antennas of directional gain greater than 6 dBi are used, both the peak transmit power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(a)(2)

For the 5.25–5.35 GHz and 5.47–5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or $11 \text{ dBm} + 10 \log B$, where B is the 26 dB emission bandwidth in megahertz. In addition, the peak power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

Tel. +82 31 428 5700 / Fax. +82 31 427 2371

www.ee.sgs.com/korea

4.3. Test procedure

4.3.1. 11an_HT20

1. This measurement settings are specified in clause 4) of section C of KDB 789033.
2. As an alternative to spectrum analyzer measurements, measurements may be performed using a wideband RF power meter with a thermocouple detector or equivalent if all of the conditions listed below are satisfied.
 - The EUT is configured to transmit continuously or to transmit with a consistent duty factor.
 - At all times when the EUT is transmitting, it must be transmitting at its maximum power control level.
 - The integration period of the power meter exceeds the repetition period of the transmitted signal by at least a factor of five.
3. If the transmitter does not transmit continuously, measure the duty cycle, x , of the transmitter output signal as described in section B).
4. Measure the average power of the transmitter. This measurement is an average over both the on and off periods of the transmitter.
5. Adjust the measurement in dBm by adding $10 \log (1/x)$ where x is the duty cycle (e.g., $10 \log (1/0.25)$ if the duty cycle is 25 percent).

4.3.2. 11n_HT40

1. This measurement settings are specified in clause b) of section C of KDB 789033.
2. Set span to encompass the entire emission bandwidth (EBW) of the signal.
3. Set RBW = 1 MHz
4. Set VBW ≥ 3 MHz
5. Number of points in sweep ≥ 2 Span / RBW. (This ensures that bin-to-bin spacing is $\leq$ RBW/2, so that narrowband signals are not lost between frequency bins.)
6. Sweep time = auto.
7. Detector = RMS (i.e., power averaging), if available. Otherwise, use sample detector mode.
8. if transmit duty cycle < 98 percent, use a video trigger with the trigger level set to enable triggering only on full power pulses. Transmitter must operate at maximum power control level for the entire duration of every sweep. If the EUT transmits continuously (i.e., with no off intervals) or at duty cycle ≥ 98 percent, and if each transmission is entirely at the maximum power control level, then the trigger shall be set to "free run".
9. Trace average at least 100 traces in power averaging (i.e., RMS) mode.
10. Compute power by integrating the spectrum across the 26 dB EBW of the signal using the spectrum analyzer's band power measurement function with band limits set equal to the EBW band edges. If the spectrum analyzer does not have a band power function, sum the spectrum levels (in power units) at 1 MHz intervals extending across the 26 dB EBW of the spectrum.

The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

Tel. +82 31 428 5700 / Fax. +82 31 427 2371

www.ee.sgs.com/korea

4.4. Test result

Ambient temperature : (24 ± 2) °C
Relative humidity : 49 % R.H.

4.4.1. Limit

-11a

Mode	Frequency (MHz)	Data Rate (Mbps)	Fixed Limit (dB m)	26 dB BW (MHz)	4+10LogB (dB m)	Antenna gain (dB i)	Limit (dB)
11a	5 180	6	17	18.70	16.72	-1.39	16.72
	5 220	6	17	18.74	16.73	-1.39	16.73
	5 240	6	17	18.74	16.73	-1.39	16.73
Mode	Frequency (MHz)	Data Rate (Mbps)	Fixed Limit (dB m)	26 dB BW (MHz)	11+10LogB (dB m)	Antenna gain (dB i)	Limit (dB)
11a	5 260	6	24	18.77	23.73	-1.39	23.73
	5 300	6	24	18.74	23.73	-1.39	23.73
	5 320	6	24	18.72	23.72	-1.39	23.72
	5 500	6	24	18.77	23.73	-3.53	23.73
	5 580	6	24	18.77	23.73	-3.53	23.73
	5 700	6	24	18.71	23.72	-3.53	23.72

-11n_HT20

Mode	Frequency (MHz)	Data Rate (Mbps)	Fixed Limit (dB m)	26 dB BW (MHz)	4+10LogB (dB m)	Antenna gain (dB i)	Limit (dB)
11n_HT20	5 180	MCS0	17	19.22	16.84	-1.39	16.84
	5 220	MCS0	17	19.04	16.80	-1.39	16.80
	5 240	MCS0	17	19.02	16.79	-1.39	16.79
Mode	Frequency (MHz)	Data Rate (Mbps)	Fixed Limit (dB m)	26 dB BW (MHz)	11+10LogB (dB m)	Antenna gain (dB i)	Limit (dB)
11n_HT20	5 260	MCS0	24	19.22	23.84	-1.39	23.84
	5 300	MCS0	24	19.03	23.79	-1.39	23.79
	5 320	MCS0	24	19.02	23.79	-1.39	23.79
	5 500	MCS0	24	19.20	23.83	-3.53	23.83
	5 580	MCS0	24	19.07	23.80	-3.53	23.80
	5 700	MCS0	24	19.01	23.79	-3.53	23.79

The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

Tel. +82 31 428 5700 / Fax. +82 31 427 2371

www.ee.sgs.com/korea

-11n_HT40

Mode	Frequency (MHz)	Data Rate (Mbps)	Fixed Limit (dB m)	26 dB BW (MHz)	4+10LogB (dB m)	Antenna gain (dB i)	Limit (dB)
11n_HT40	5 190	MCS0	17	39.31	19.95	-1.39	17
	5 230	MCS0	17	39.18	19.93	-1.39	17
Mode	Frequency (MHz)	Data Rate (Mbps)	Fixed Limit (dB m)	26 dB BW (MHz)	11+10LogB (dB m)	Antenna gain (dB i)	Limit (dB)
11n_HT40	5 270	MCS0	24	39.22	26.94	-1.39	24
	5 310	MCS0	24	39.28	26.94	-1.39	24
	5 510	MCS0	24	39.30	26.94	-3.53	24
	5 550	MCS0	24	39.16	26.93	-3.53	24
	5 670	MCS0	24	39.11	26.92	-3.53	24

The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

Tel. +82 31 428 5700 / Fax. +82 31 427 2371

www.ee.sgs.com/korea

4.4.1. Result

-11a

Operation Mode	Channel	Data rate	Channel Frequency (MHz)	Result (dB m)	Limit (dB m)
Non DFS 11a	Low	6	5 180	9.88	16.72
		9		9.74	16.72
		12		9.50	16.72
		18		9.24	16.72
		24		8.82	16.72
		36		8.66	16.72
		48		8.47	16.72
		54		8.28	16.72
	Middle	6	5 220	10.81	16.73
		9		10.64	16.73
		12		10.32	16.73
		18		10.24	16.73
		24		10.05	16.73
		36		9.87	16.73
		48		9.88	16.73
		54		9.74	16.73
	High	6	5 240	9.95	16.73
		9		9.86	16.73
		12		9.64	16.73
		18		9.52	16.73
		24		9.35	16.73
		36		9.02	16.73
		48		8.89	16.73
		54		8.71	16.73

The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

Tel. +82 31 428 5700 / Fax. +82 31 427 2371

www.ee.sgs.com/korea

Operation Mode	Channel	Data rate	Channel Frequency (MHz)	Result (dB m)	Limit (dB m)
DFS 11a	Lower Band	6	5 260	11.70	23.73
		9		11.52	23.73
		12		11.34	23.73
		18		11.18	23.73
		24		10.95	23.73
		36		10.73	23.73
		48		10.52	23.73
		54		10.38	23.73
		6	5 300	10.48	23.73
		9		10.22	23.73
		12		10.10	23.73
		18		9.79	23.73
		24		9.57	23.73
		36		9.32	23.73
		48		9.13	23.73
		54		9.01	23.73
		6	5 320	11.09	23.72
		9		10.93	23.72
		12		10.70	23.72
		18		10.42	23.72
		24		10.16	23.72
		36		9.90	23.72
		48		9.77	23.72
		54		9.60	23.72

The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

Tel. +82 31 428 5700 / Fax. +82 31 427 2371

www.ee.sgs.com/korea

Operation Mode	Channel	Data rate	Channel Frequency (MHz)	Result (dB m)	Limit (dB m)
DFS 11a	Upper Band	6	5 500	9.83	23.73
		9		9.64	23.73
		12		9.56	23.73
		18		9.33	23.73
		24		9.06	23.73
		36		8.85	23.73
		48		8.69	23.73
		54		8.46	23.73
		6	5 580	9.95	23.73
		9		9.71	23.73
		12		9.43	23.73
		18		9.30	23.73
		24		9.08	23.73
		36		8.77	23.73
		48		8.64	23.73
		54		8.51	23.73
		6	5 700	9.98	23.72
		9		9.91	23.72
		12		9.67	23.72
		18		9.43	23.72
		24		9.06	23.72
		36		8.74	23.72
		48		8.61	23.72
		54		8.53	23.72

The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

Tel. +82 31 428 5700 / Fax. +82 31 427 2371

www.ee.sgs.com/korea

-11n_HT20

Operation Mode	Channel	Data rate	Channel Frequency (MHz)	Result (dB m)	Limit (dB m)
Non DFS 11n_HT20	Low	MCS0	5 180	10.74	16.84
		MCS1		10.45	16.84
		MCS2		10.36	16.84
		MCS3		10.17	16.84
		MCS4		9.98	16.84
		MCS5		9.66	16.84
		MCS6		9.43	16.84
		MCS7		9.22	16.84
	Middle	MCS0	5 220	11.64	16.80
		MCS1		11.37	16.80
		MCS2		11.20	16.80
		MCS3		10.91	16.80
		MCS4		10.47	16.80
		MCS5		10.28	16.80
		MCS6		10.19	16.80
		MCS7		10.07	16.80
	High	MCS0	5 240	10.71	16.79
		MCS1		10.57	16.79
		MCS2		10.30	16.79
		MCS3		9.88	16.79
		MCS4		9.62	16.79
		MCS5		9.42	16.79
		MCS6		9.28	16.79
		MCS7		9.21	16.79

The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

Tel. +82 31 428 5700 / Fax. +82 31 427 2371

www.ee.sgs.com/korea

Operation Mode	Channel	Data rate	Channel Frequency (MHz)	Result (dB m)	Limit (dB m)
DFS 11n_HT20	Lower Band	MCS0	5 260	12.48	23.84
		MCS1		12.13	23.84
		MCS2		11.96	23.84
		MCS3		11.55	23.84
		MCS4		11.29	23.84
		MCS5		11.17	23.84
		MCS6		11.05	23.84
		MCS7		11.03	23.84
		MCS0	5 300	11.37	23.79
		MCS1		11.21	23.79
		MCS2		10.98	23.79
		MCS3		10.84	23.79
		MCS4		10.48	23.79
		MCS5		10.17	23.79
		MCS6		9.88	23.79
		MCS7		9.82	23.79
		MCS0	5 320	11.90	23.79
		MCS1		11.76	23.79
		MCS2		11.50	23.79
		MCS3		11.23	23.79
		MCS4		11.05	23.79
		MCS5		10.79	23.79
		MCS6		10.60	23.79
		MCS7		10.38	23.79

The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

Tel. +82 31 428 5700 / Fax. +82 31 427 2371

www.ee.sgs.com/korea

Operation Mode	Channel	Data rate	Channel Frequency (MHz)	Result (dB m)	Limit (dB m)
DFS 11n_HT20	Upper Band	MCS0	5 500	10.96	23.83
		MCS1		10.82	23.83
		MCS2		10.59	23.83
		MCS3		10.42	23.83
		MCS4		10.09	23.83
		MCS5		9.94	23.83
		MCS6		9.66	23.83
		MCS7		9.41	23.83
		MCS0	5 580	11.05	23.80
		MCS1		10.86	23.80
		MCS2		10.63	23.80
		MCS3		10.38	23.80
		MCS4		10.18	23.80
		MCS5		9.94	23.80
		MCS6		9.77	23.80
		MCS7		9.45	23.80
		MCS0	5 700	10.93	23.79
		MCS1		10.78	23.79
		MCS2		10.46	23.79
		MCS3		10.24	23.79
		MCS4		10.06	23.79
		MCS5		9.90	23.79
		MCS6		9.61	23.79
		MCS7		9.35	23.79

The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

Tel. +82 31 428 5700 / Fax. +82 31 427 2371

www.ee.sgs.com/korea

-11n_HT40

Operation Mode	Channel	Data rate	Channel Frequency (MHz)	Result (dB m)	Limit (dB m)
Non DFS 11n_HT40	Low	MCS0	5 190	11.47	17
		MCS1		11.15	17
		MCS2		10.97	17
		MCS3		10.64	17
		MCS4		10.29	17
		MCS5		9.97	17
		MCS6		9.65	17
		MCS7		9.23	17
	High	MCS0	5 230	11.90	17
		MCS1		11.63	17
		MCS2		11.35	17
		MCS3		10.93	17
		MCS4		10.66	17
		MCS5		10.50	17
		MCS6		10.06	17
		MCS7		9.67	17

The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

Tel. +82 31 428 5700 / Fax. +82 31 427 2371

www.ee.sgs.com/korea

Operation Mode	Channel	Data rate	Channel Frequency (MHz)	Result (dB m)	Limit (dB m)
DFS 11n_HT40	Lower Band	MCS0	5 270	11.46	24
		MCS1		11.12	24
		MCS2		10.74	24
		MCS3		10.39	24
		MCS4		9.96	24
		MCS5		9.74	24
		MCS6		9.28	24
		MCS7		9.15	24
		MCS0	5 310	11.73	24
		MCS1		11.43	24
		MCS2		11.11	24
		MCS3		10.75	24
		MCS4		10.46	24
		MCS5		10.17	24
		MCS6		9.73	24
		MCS7		9.48	24

The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

Tel. +82 31 428 5700 / Fax. +82 31 427 2371

www.ee.sgs.com/korea

Operation Mode	Channel	Data rate	Channel Frequency (MHz)	Result (dB m)	Limit (dB m)
DFS 11n_HT40	Upper Band	MCS0	5 510	11.32	24
		MCS1		10.95	24
		MCS2		10.53	24
		MCS3		10.17	24
		MCS4		9.81	24
		MCS5		9.52	24
		MCS6		9.25	24
		MCS7		9.00	24
		MCS0	5 550	11.29	24
		MCS1		10.98	24
		MCS2		10.57	24
		MCS3		10.21	24
		MCS4		9.99	24
		MCS5		9.65	24
		MCS6		9.32	24
		MCS7		9.17	24
		MCS0	5 670	11.52	24
		MCS1		11.32	24
		MCS2		11.16	24
		MCS3		10.83	24
		MCS4		10.47	24
		MCS5		10.12	24
		MCS6		9.93	24
		MCS7		9.61	24

The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

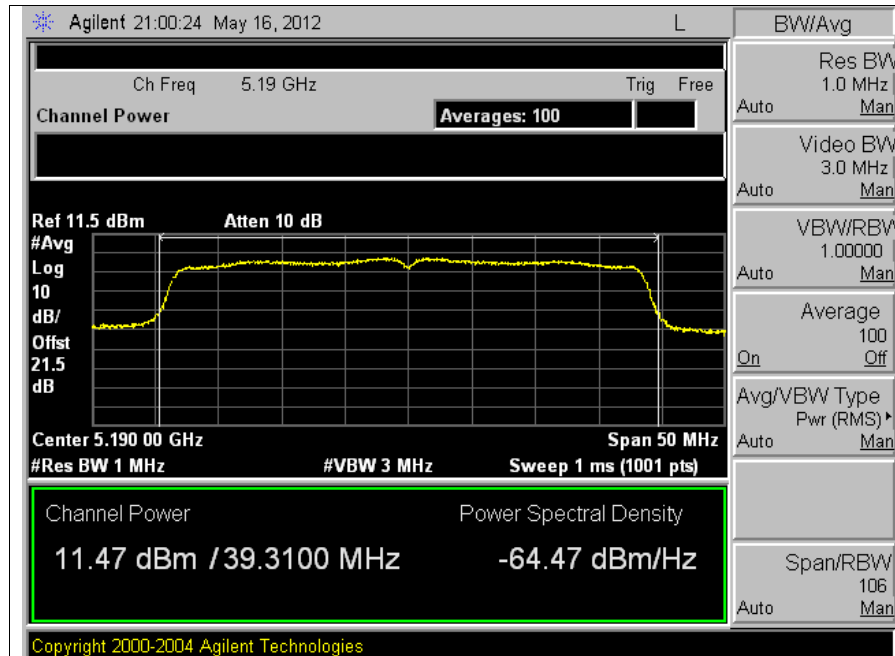
SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

Tel. +82 31 428 5700 / Fax. +82 31 427 2371

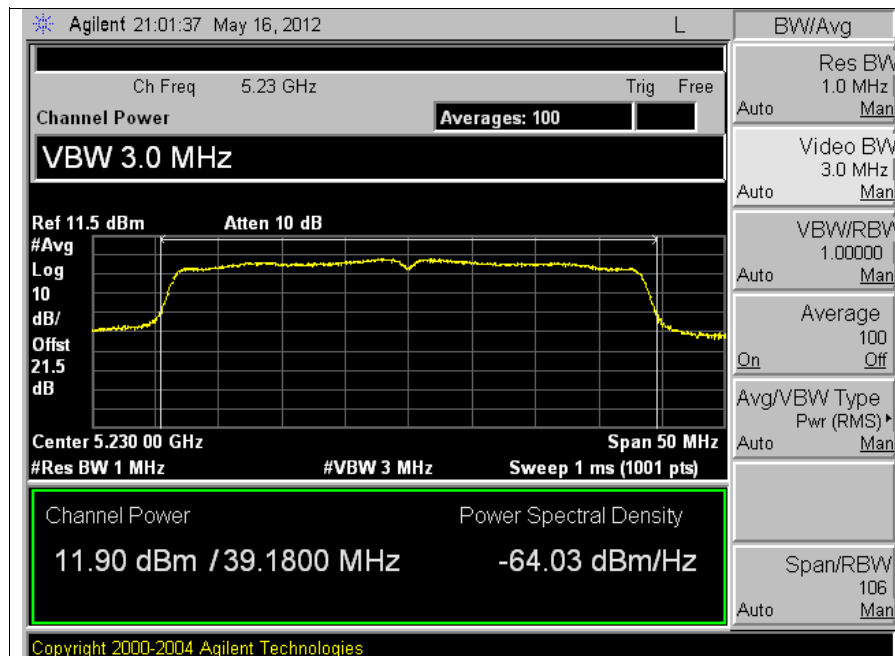
www.ee.sgs.com/korea

802.11n-HT40 (Non-DFS)

Low Channel (5 190 MHz)



High Channel (5 230 MHz)



The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

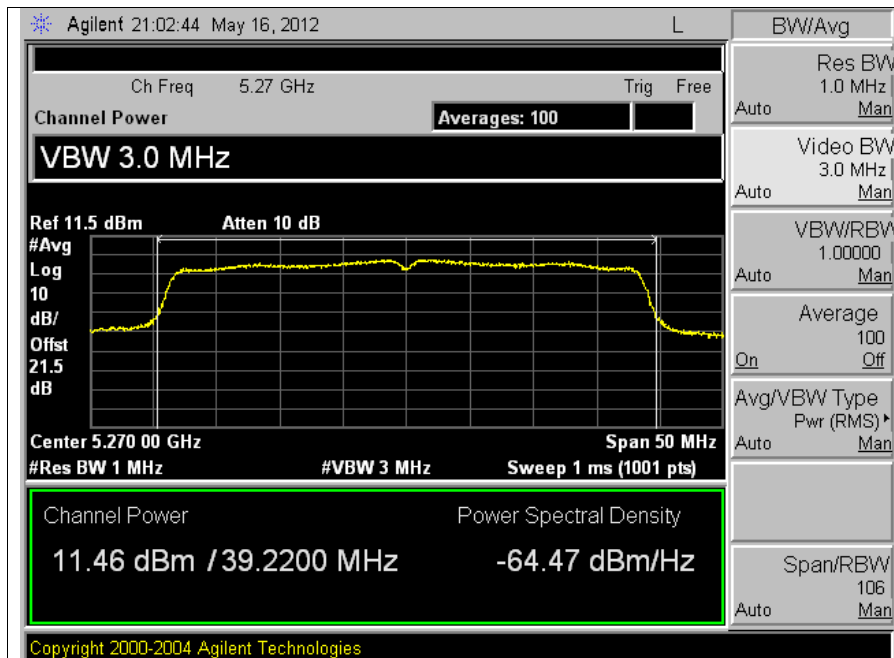
SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

Tel. +82 31 428 5700 / Fax. +82 31 427 2371

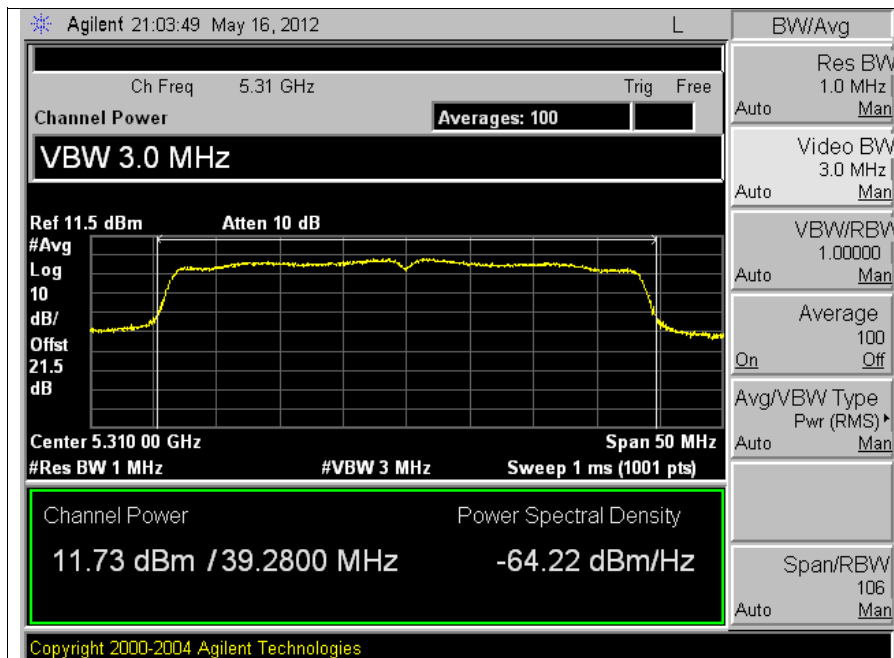
www.ee.sgs.com/korea

802.11-HT40 (DFS)

Low Channel (5 270 MHz)



High Channel (5 310 MHz)



The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

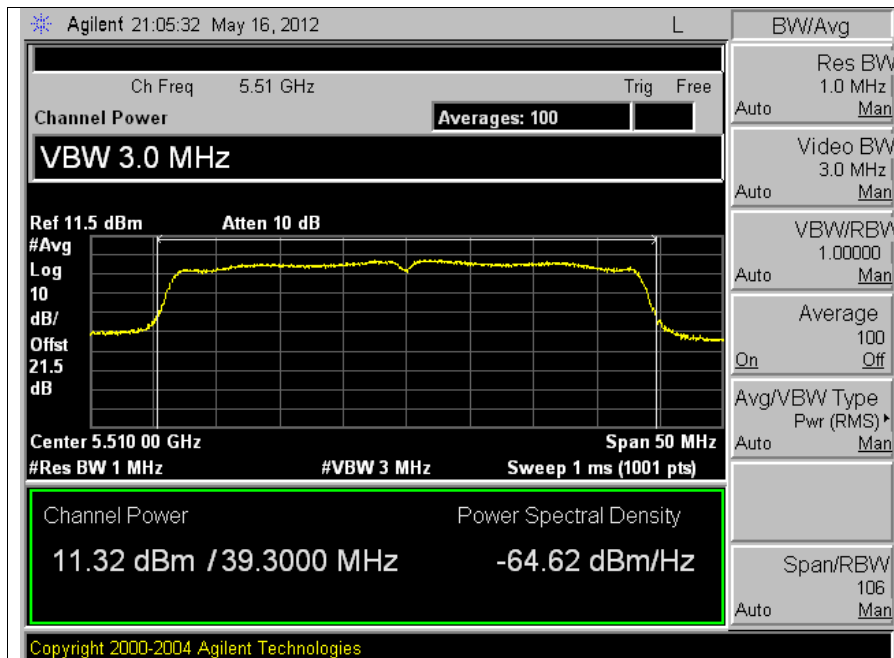
SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

Tel. +82 31 428 5700 / Fax. +82 31 427 2371

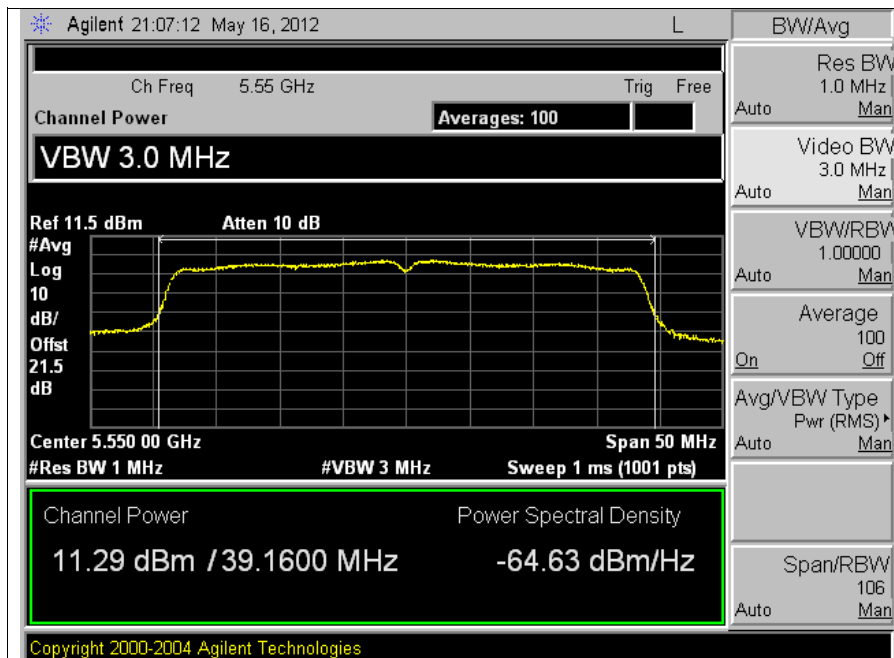
www.ee.sgs.com/korea

802.11-HT40 (DFS)

Low Channel (5 510 MHz)



Middle Channel (5 550 MHz)



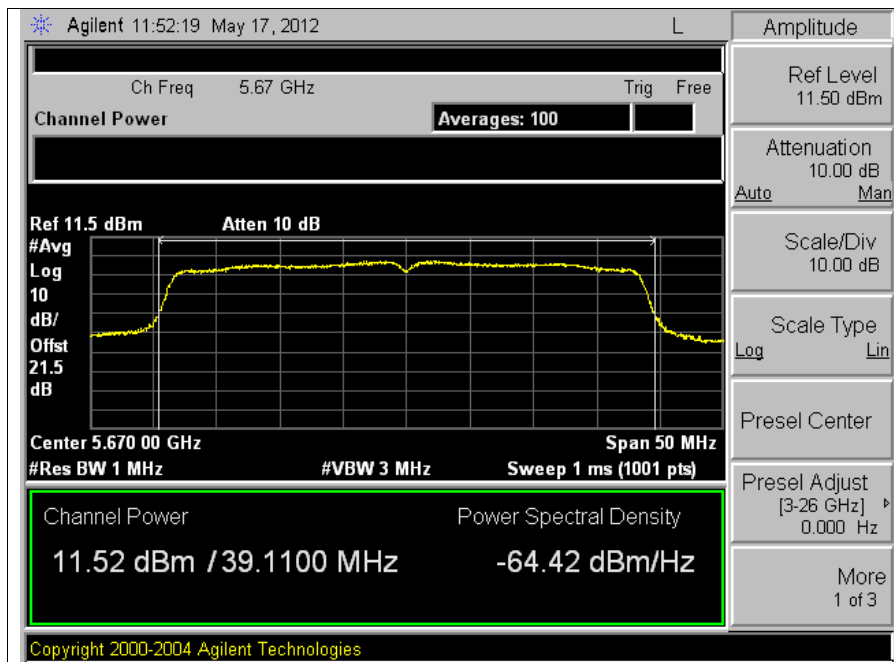
The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

Tel. +82 31 428 5700 / Fax. +82 31 427 2371

www.ee.sgs.com/korea

High Channel (5 670 MHz)



The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

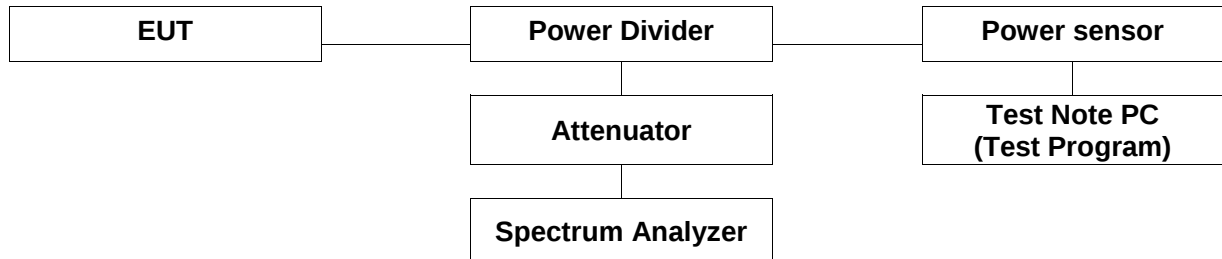
SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

Tel. +82 31 428 5700 / Fax. +82 31 427 2371

www.ee.sgs.com/korea

5. Peak power spectral density

5.1. Test setup



5.2. Limit

5.2.1. FCC 15.407

(a)(1)

For the band 5.15-5.25 GHz band, the peak power spectral density shall not exceed 4 dBm in any 1 MHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the peak transmit power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(a)(2)

For the band 5.25–5.35 GHz and 5.47–5.725 GHz bands, the peak power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

Tel. +82 31 428 5700 / Fax. +82 31 427 2371

www.ee.sgs.com/korea

5.3. Test procedure

All data rates and modes were investigated for this test. The full data for the worst case data rate are reported in this section.

1. This measurement settings are specified in clause b) of section C of KDB 789033.
2. Set span to encompass the entire emission bandwidth (EBW) of the signal.
3. Set RBW = 1 MHz
4. Set VBW $\geq$ 3 MHz
5. Number of points in sweep $\geq$ 2 Span / RBW. (This ensures that bin-to-bin spacing is $\leq$ RBW/2, so that narrowband signals are not lost between frequency bins.)
6. Sweep time = auto.
7. Detector = RMS (i.e., power averaging), if available. Otherwise, use sample detector mode.
8. if transmit duty cycle < 98 percent, use a video trigger with the trigger level set to enable triggering only on full power pulses. Transmitter must operate at maximum power control level for the entire duration of every sweep. If the EUT transmits continuously (i.e., with no off intervals) or at duty cycle $\geq$ 98 percent, and if each transmission is entirely at the maximum power control level, then the trigger shall be set to "free run".
9. Trace average at least 100 traces in power averaging (i.e., RMS) mode.
10. Use the peak search function on the spectrum analyzer to find the peak of the spectrum.
11. The result is the PPSD.

The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

Tel. +82 31 428 5700 / Fax. +82 31 427 2371

www.ee.sgs.com/korea

5.4. Test result

Ambient temperature : (24 ± 2) °C
Relative humidity : 49 % R.H.

5.4.1. Non-DFS Band

Operation Mode	Channel	Data Rate (Mbps)	Channel Frequency (MHz)	Peak power spectral density (dB m)	Limit (dB m)
11a	Low	6	5 180	-0.48	4
	Middle	6	5 220	1.97	
	High	6	5 240	-0.11	
11n_HT20	Low	MCS0	5 180	0.18	
	Middle	MCS0	5 220	2.75	
	High	MCS0	5 240	0.40	
11n_HT40	Low	MCS0	5 190	-0.86	
	High	MCS0	5 230	-0.92	

5.4.2. DFS Band

Operation Mode	Channel	Data Rate (Mbps)	Channel Frequency (MHz)	Peak power spectral density (dB m)	Limit (dB m)
11a	Lower Band	6	5 260	0.97	11
		6	5 300	0.59	
		6	5 320	-0.34	
	Upper Band	6	5 500	0.58	
		6	5 580	1.24	
		6	5 700	1.16	
11n_HT20	Lower Band	MCS0	5 260	1.65	
		MCS0	5 300	1.26	
		MCS0	5 320	0.19	
	Upper Band	MCS0	5 500	1.37	
		MCS0	5 580	0.98	
		MCS0	5 700	2.08	
11n_HT40	Lower Band	MCS0	5 270	0.57	
		MCS0	5 310	-1.95	
	Upper Band	MCS0	5 510	-2.12	
		MCS0	5 550	-0.76	
		MCS0	5 670	-1.96	

The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

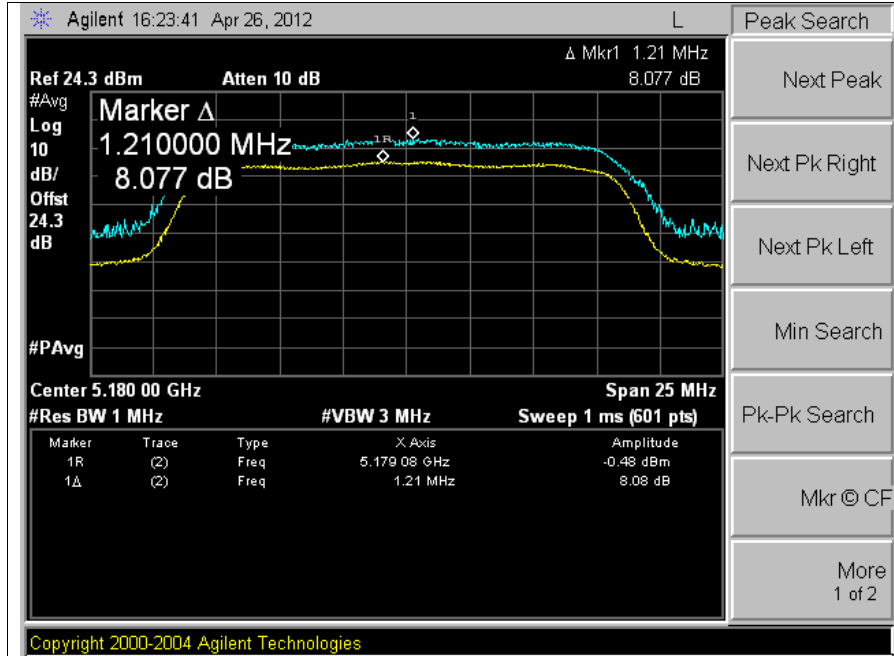
SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

Tel. +82 31 428 5700 / Fax. +82 31 427 2371

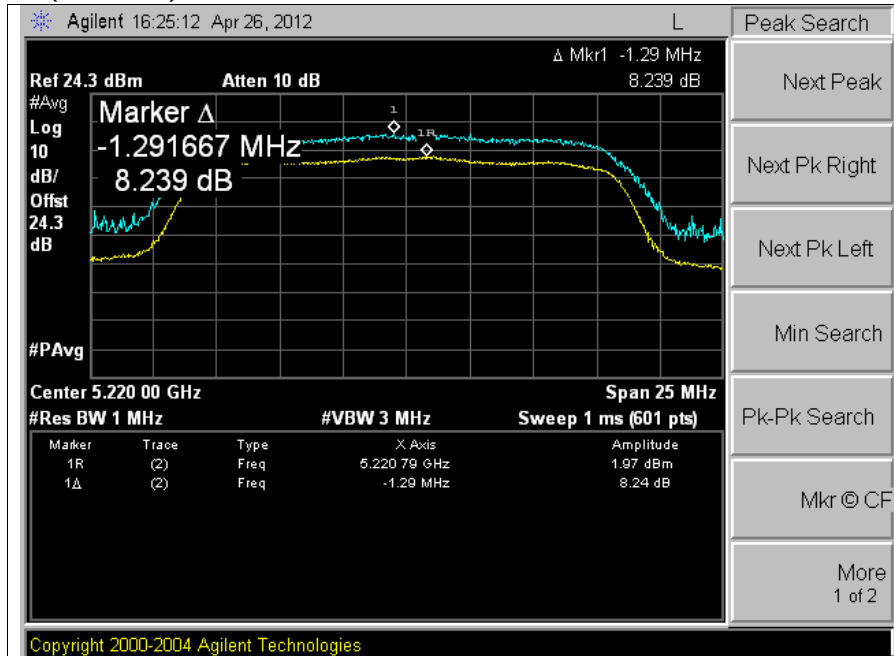
www.ee.sgs.com/korea

802.11a (Non-DFS)

Low Channel (5 180 MHz)



Middle Channel (5 220 MHz)



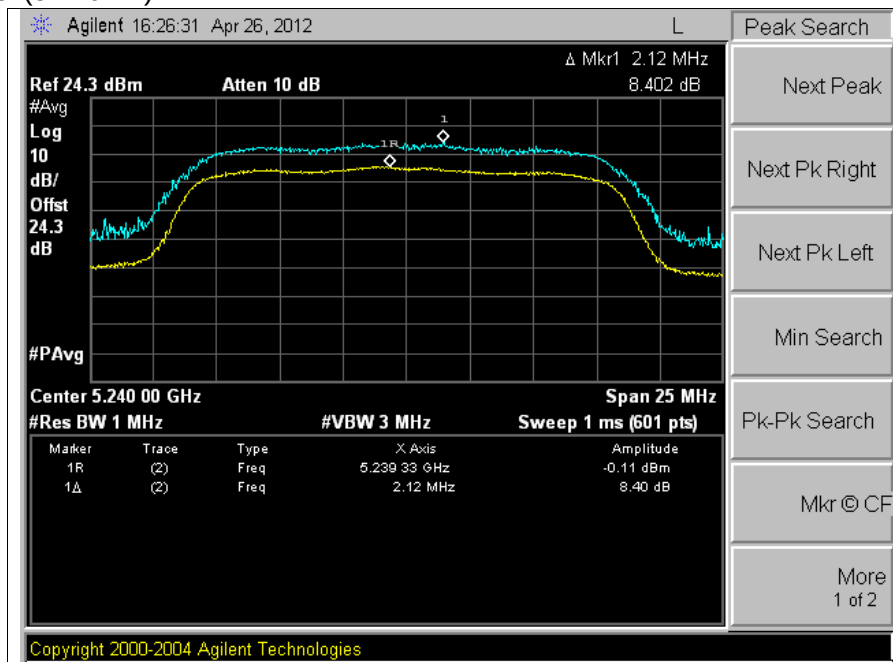
The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

Tel. +82 31 428 5700 / Fax. +82 31 427 2371

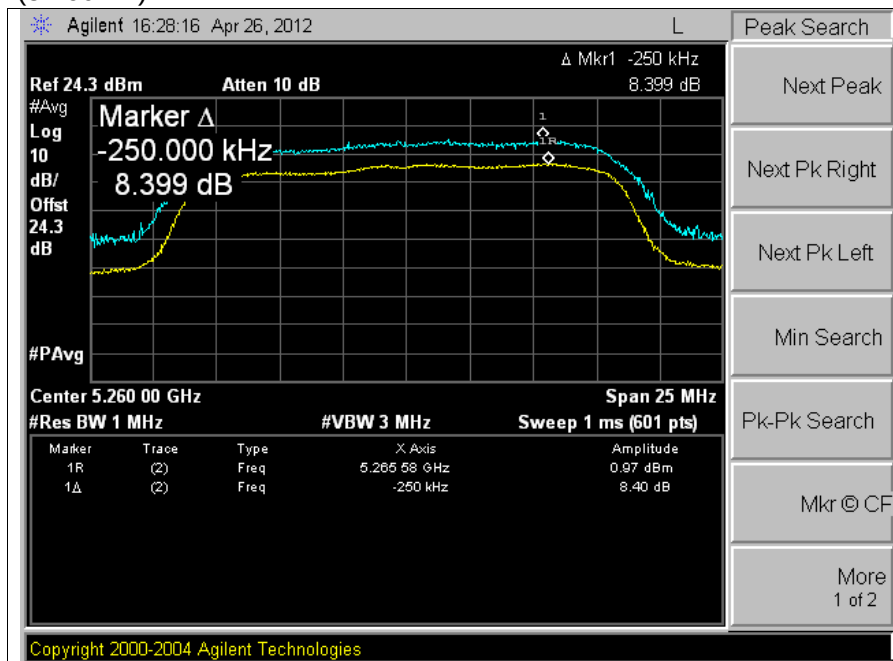
www.ee.sgs.com/korea

High Channel (5 240 MHz)



802.11a (DFS)

Low Channel (5 260 MHz)



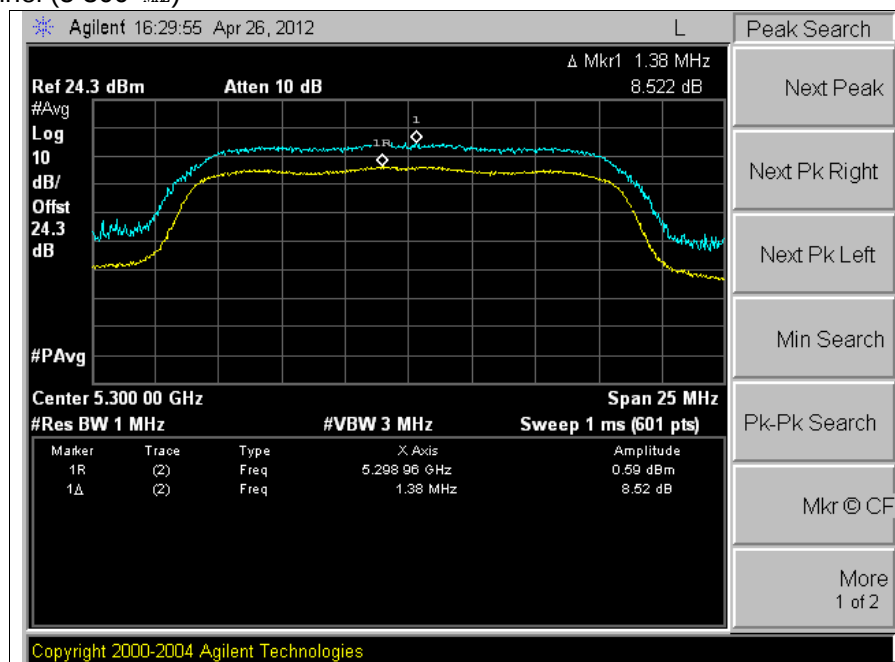
The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

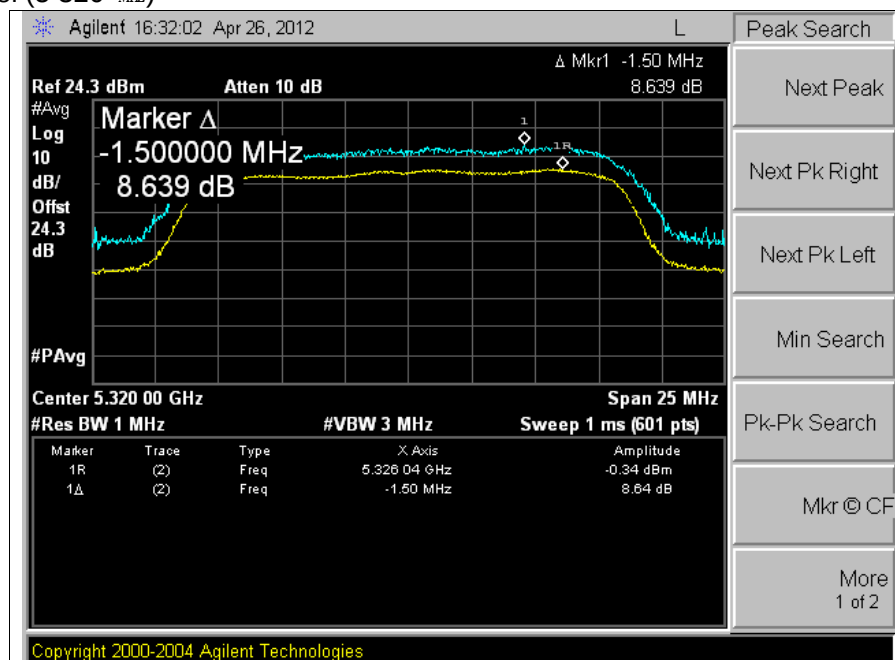
Tel. +82 31 428 5700 / Fax. +82 31 427 2371

www.ee.sgs.com/korea

Middle Channel (5 300 MHz)



High Channel (5 320 MHz)



The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

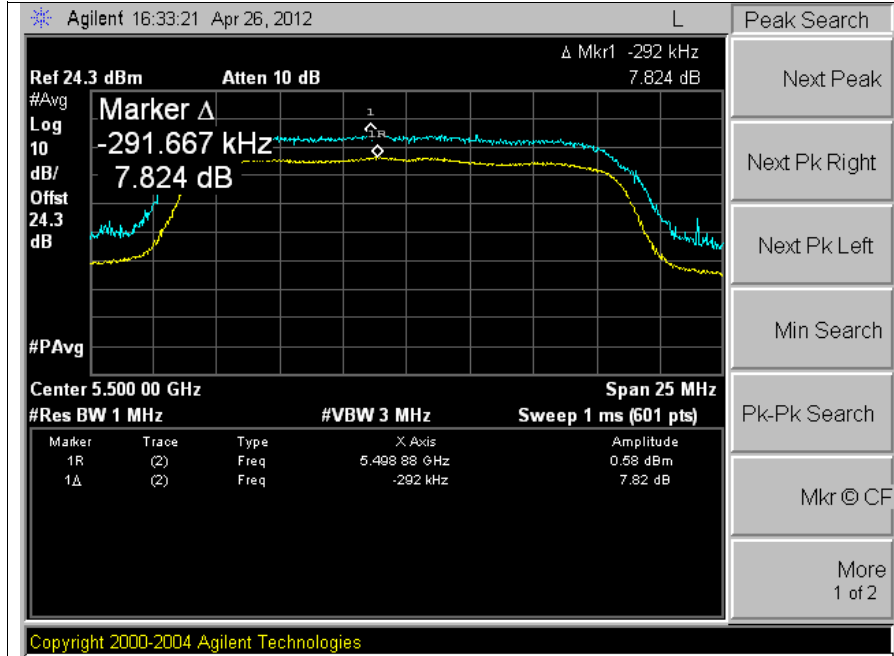
SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

Tel. +82 31 428 5700 / Fax. +82 31 427 2371

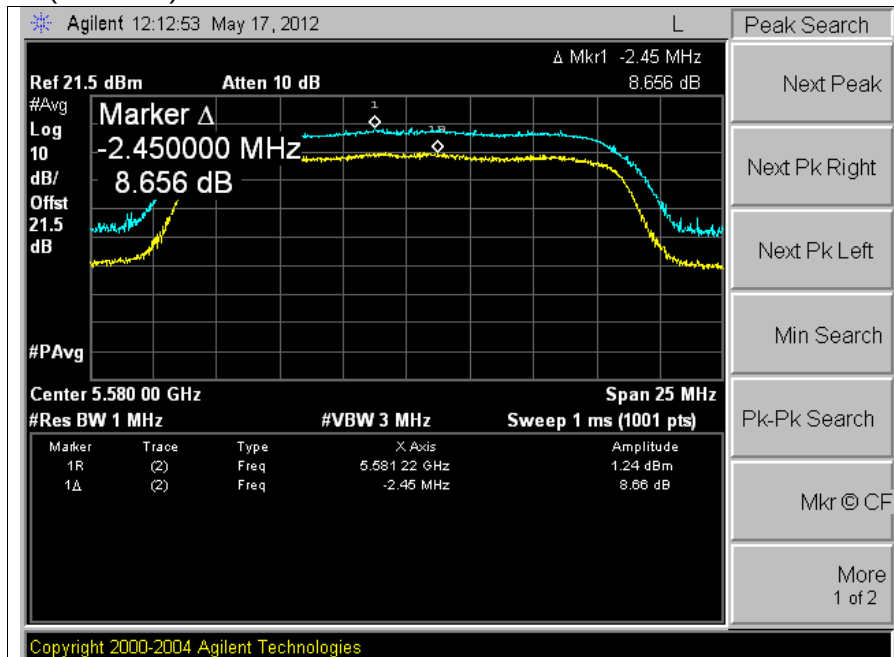
www.ee.sgs.com/korea

802.11a (DFS)

Low Channel (5 500 MHz)



Middle Channel (5 580 MHz)



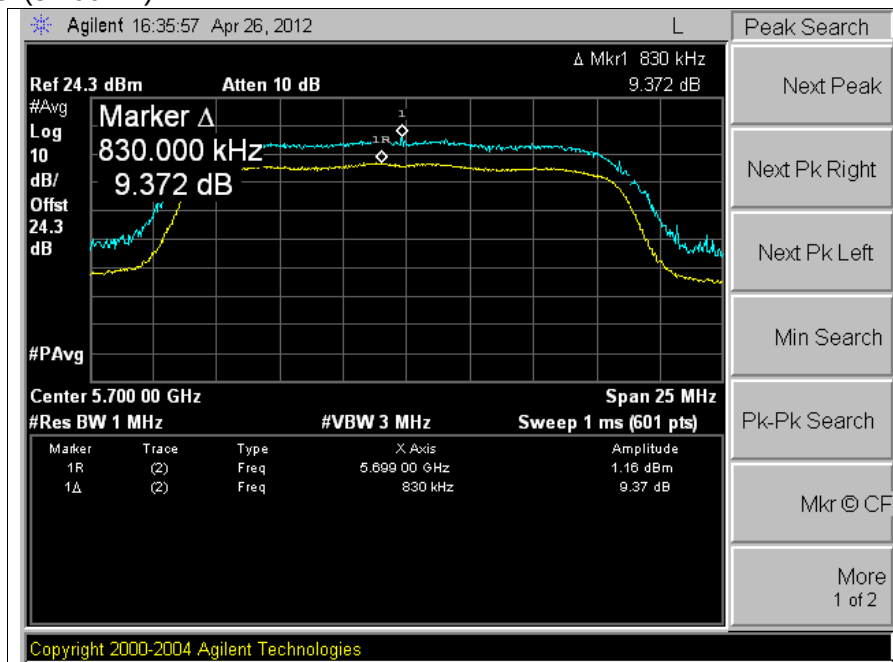
The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

Tel. +82 31 428 5700 / Fax. +82 31 427 2371

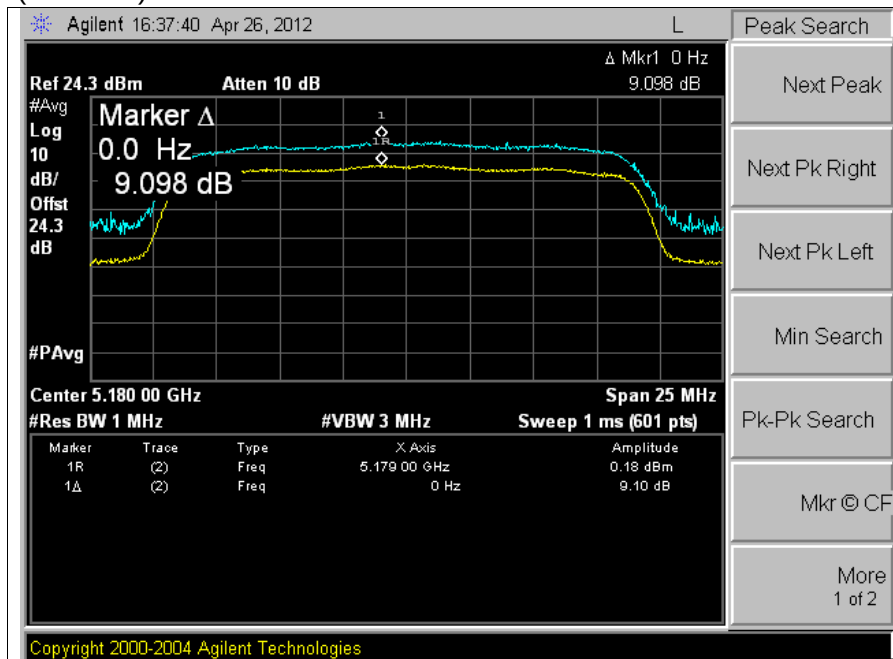
www.ee.sgs.com/korea

High Channel (5 700 MHz)



802.11n-HT20 (Non-DFS)

Low Channel (5 180 MHz)



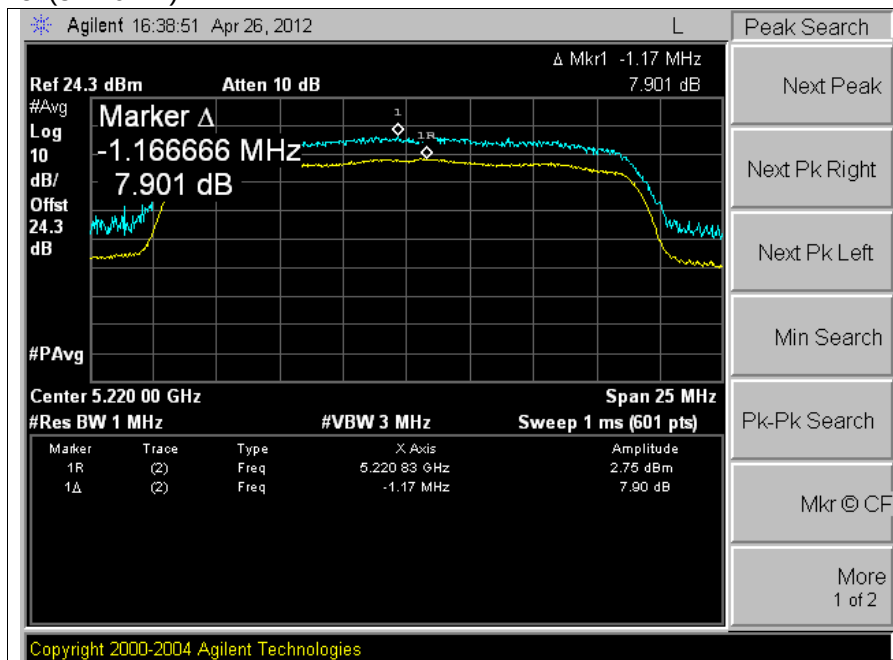
The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

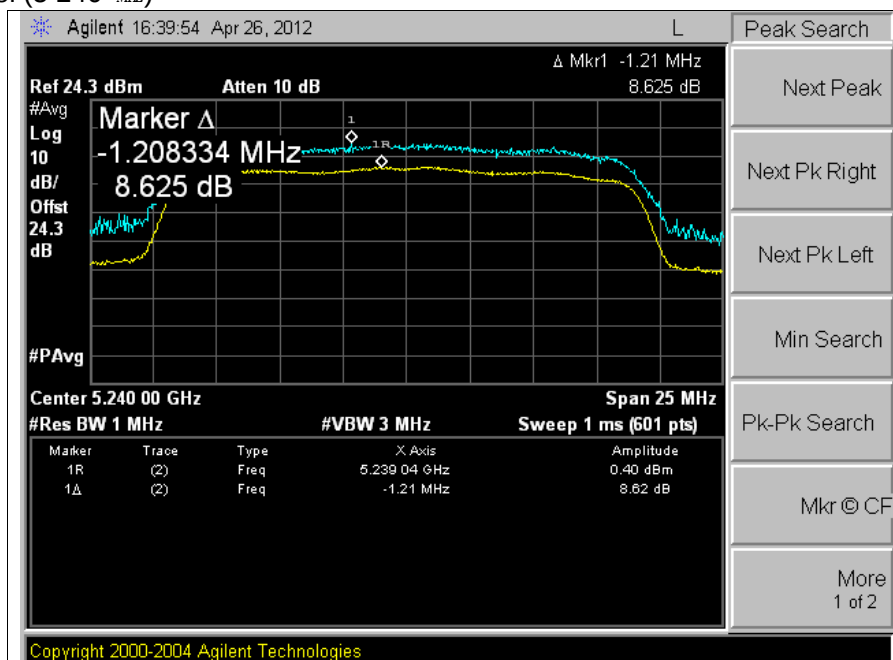
Tel. +82 31 428 5700 / Fax. +82 31 427 2371

www.ee.sgs.com/korea

Middle Channel (5 220 MHz)



High Channel (5 240 MHz)



The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

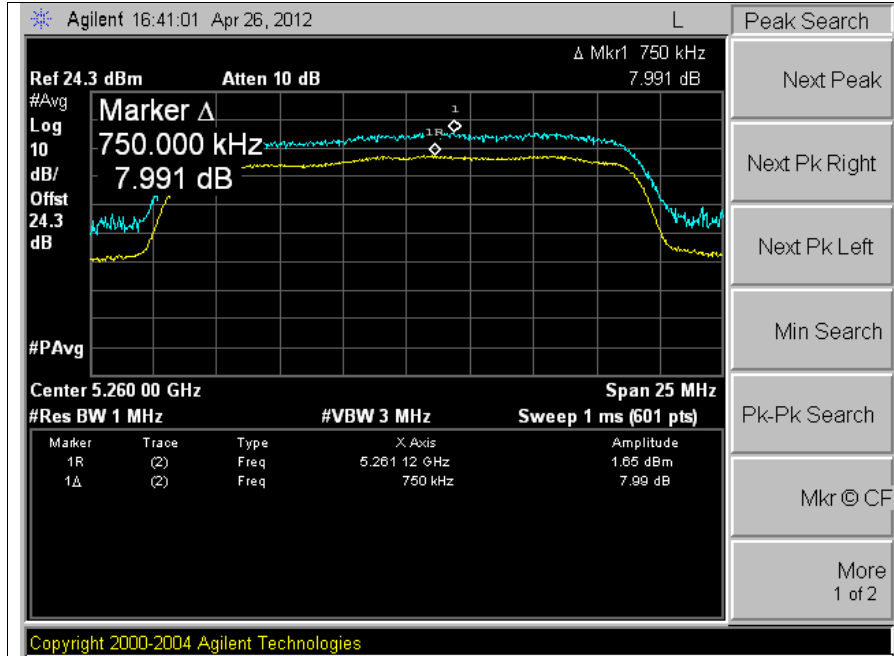
SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

Tel. +82 31 428 5700 / Fax. +82 31 427 2371

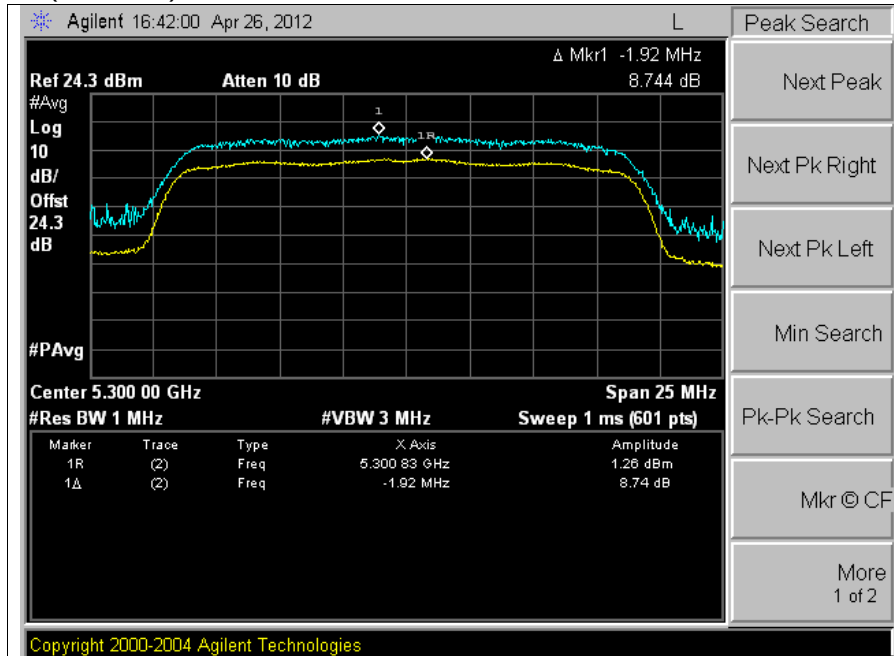
www.ee.sgs.com/korea

802.11-HT20 (DFS)

Low Channel (5 260 MHz)



Middle Channel (5 300 MHz)



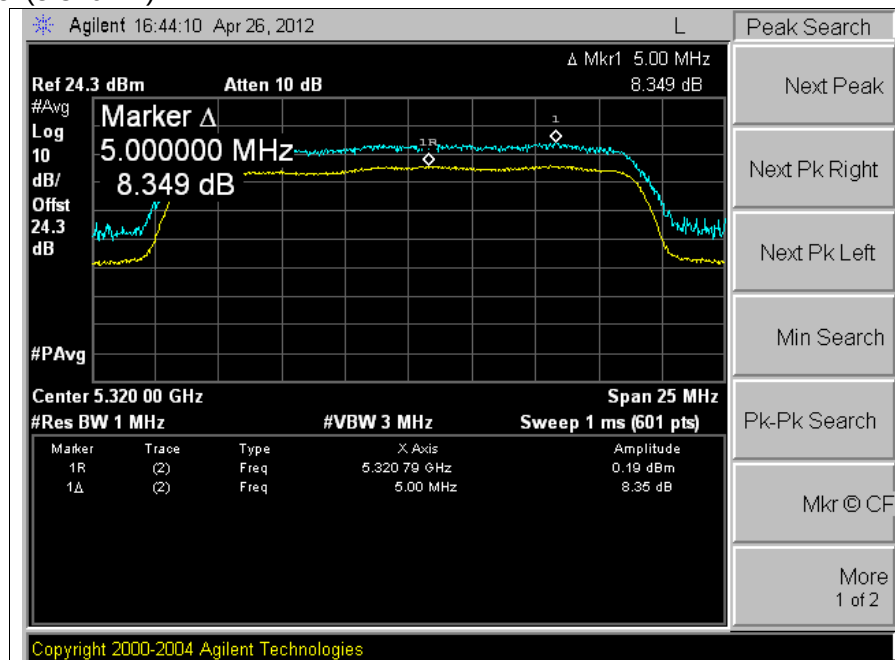
The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

Tel. +82 31 428 5700 / Fax. +82 31 427 2371

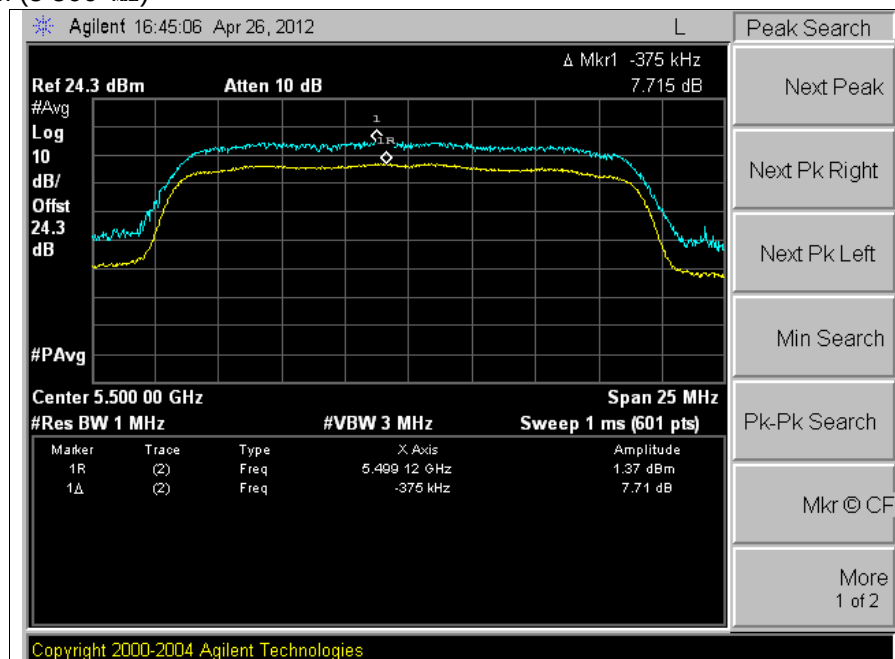
www.ee.sgs.com/korea

High Channel (5 320 MHz)



802.11-HT20 (DFS)

Low Channel (5 500 MHz)



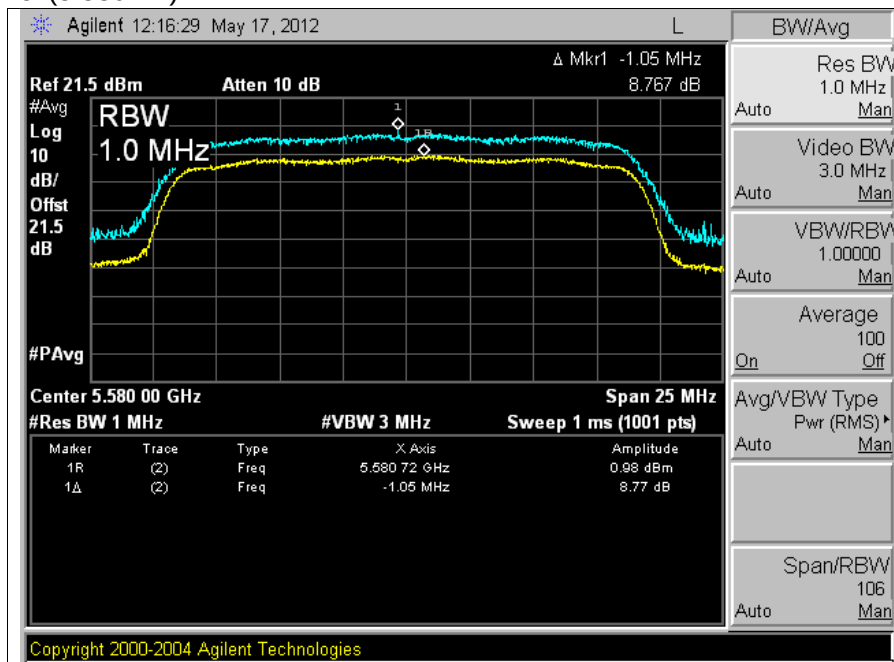
The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

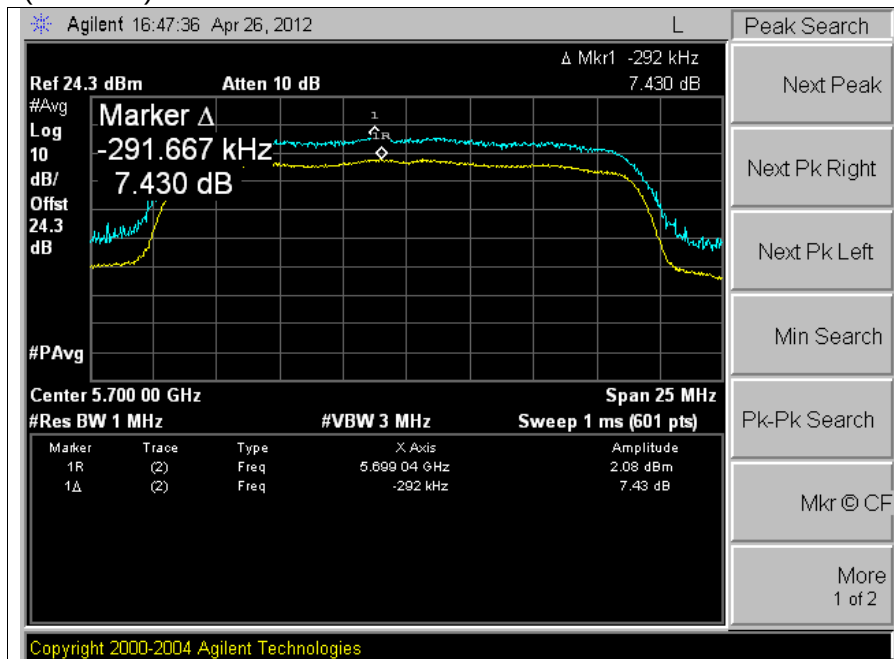
Tel. +82 31 428 5700 / Fax. +82 31 427 2371

www.ee.sgs.com/korea

Middle Channel (5 580 MHz)



High Channel (5 700 MHz)



The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

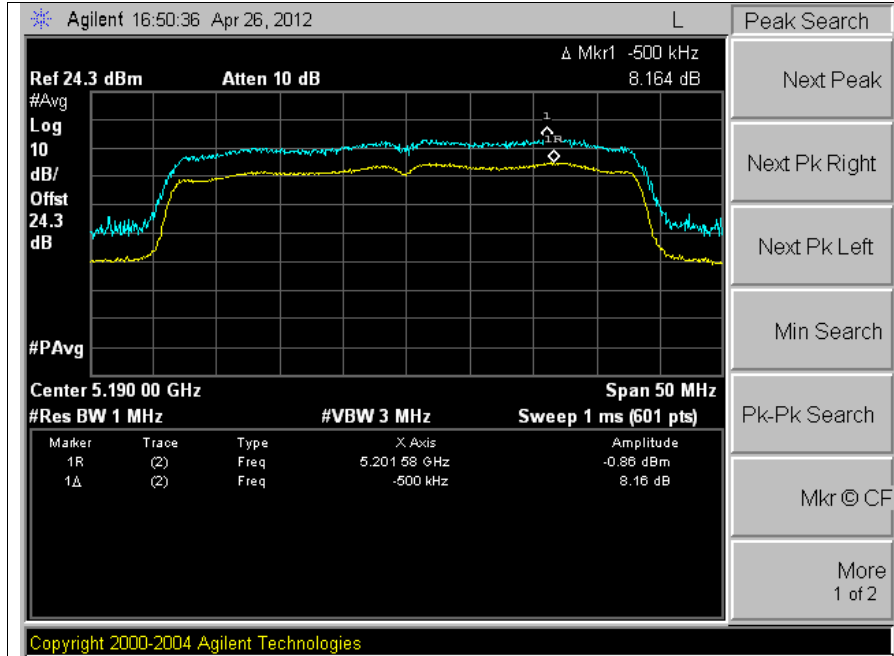
SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

Tel. +82 31 428 5700 / Fax. +82 31 427 2371

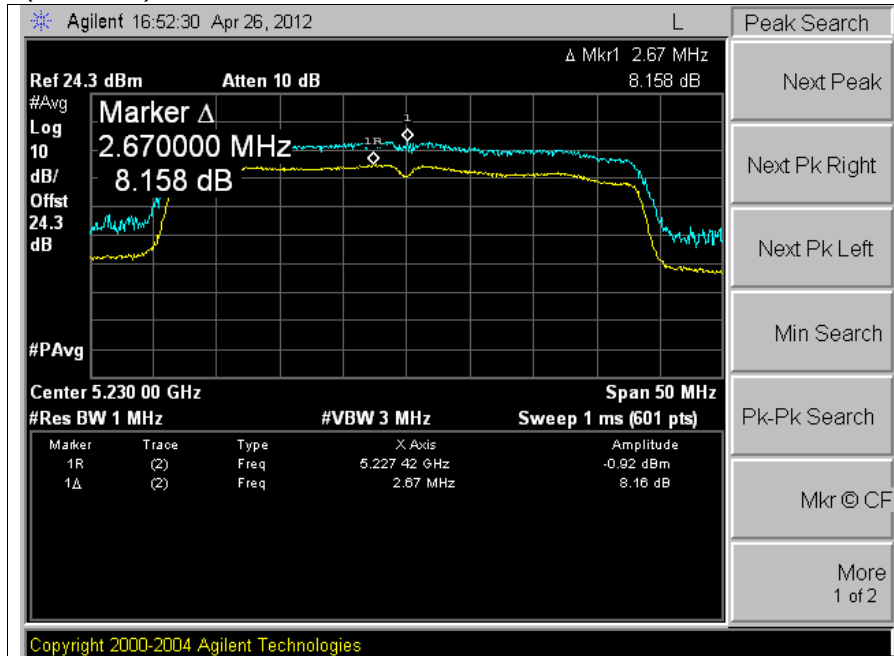
www.ee.sgs.com/korea

802.11n-HT40 (Non-DFS)

Low Channel (5 190 MHz)



High Channel (5 230 MHz)



The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

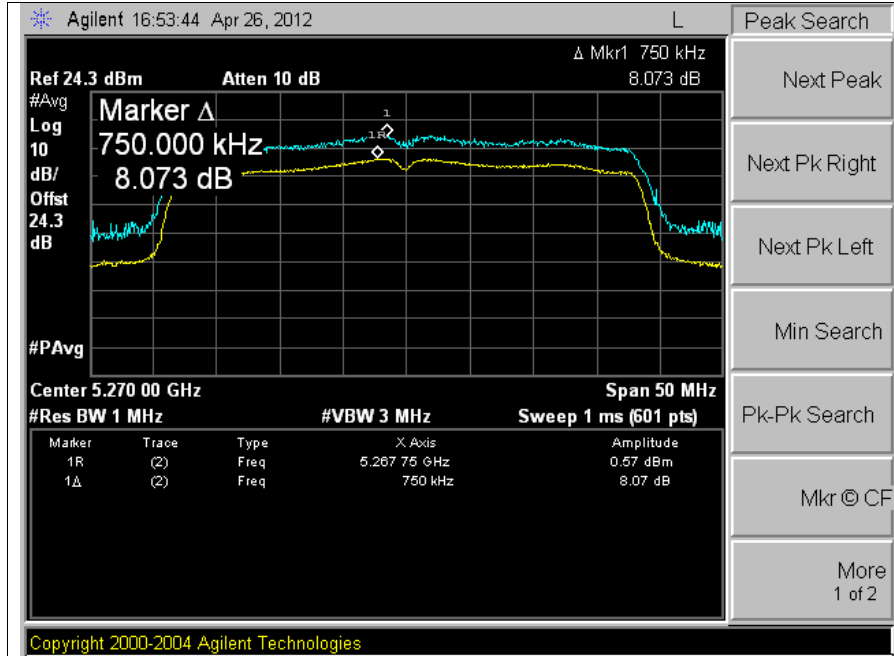
SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

Tel. +82 31 428 5700 / Fax. +82 31 427 2371

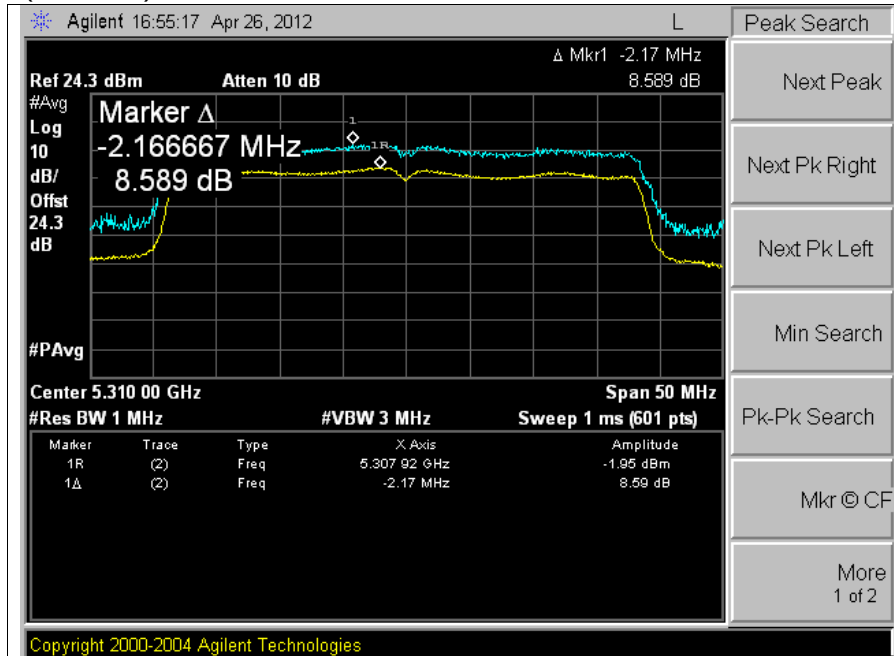
www.ee.sgs.com/korea

802.11-HT40 (DFS)

Low Channel (5 270 MHz)



High Channel (5 310 MHz)



The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

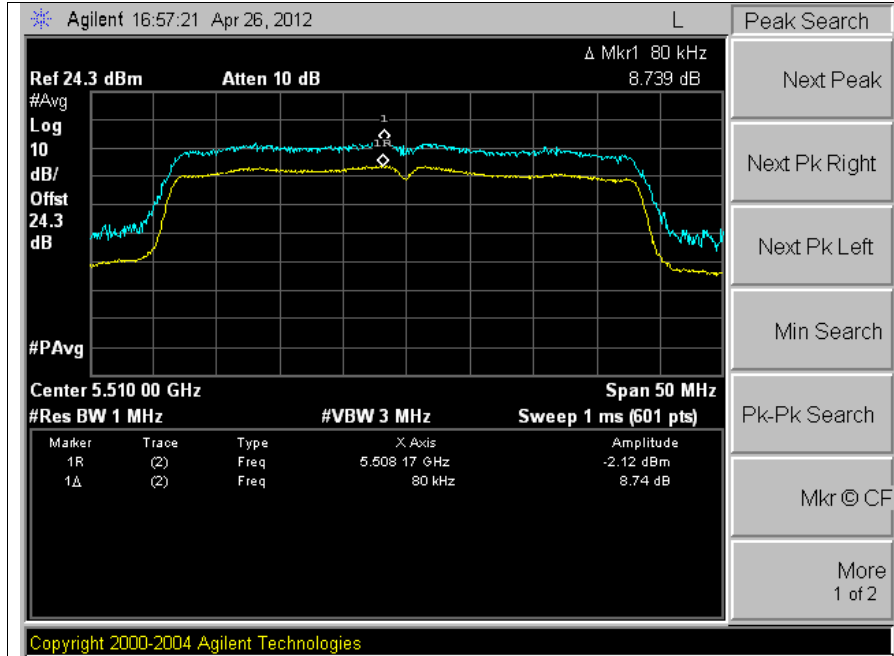
SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

Tel. +82 31 428 5700 / Fax. +82 31 427 2371

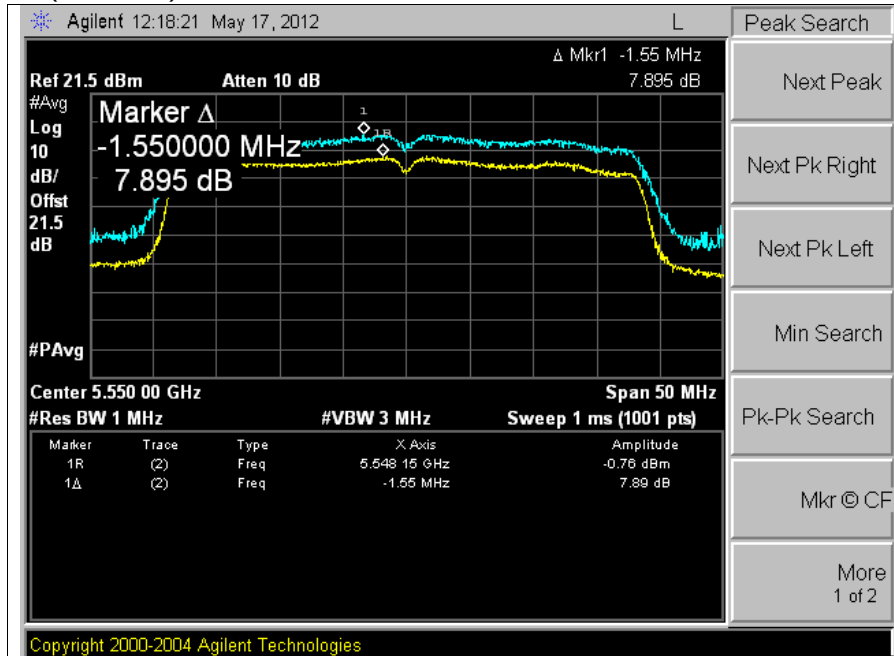
www.ee.sgs.com/korea

802.11-HT40 (DFS)

Low Channel (5 510 MHz)



Middle Channel (5 550 MHz)



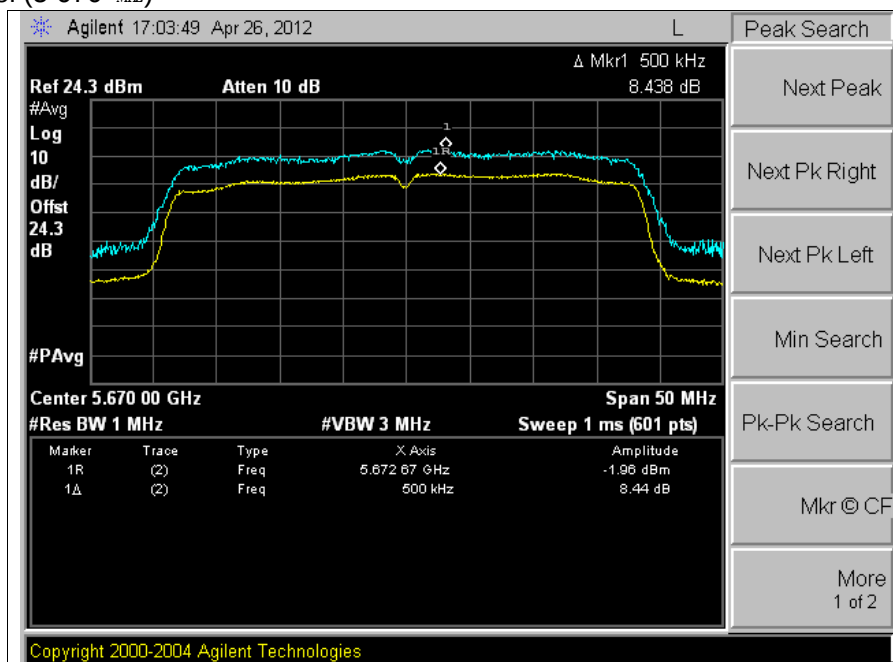
The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

Tel. +82 31 428 5700 / Fax. +82 31 427 2371

www.ee.sgs.com/korea

High Channel (5 670 MHz)



The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

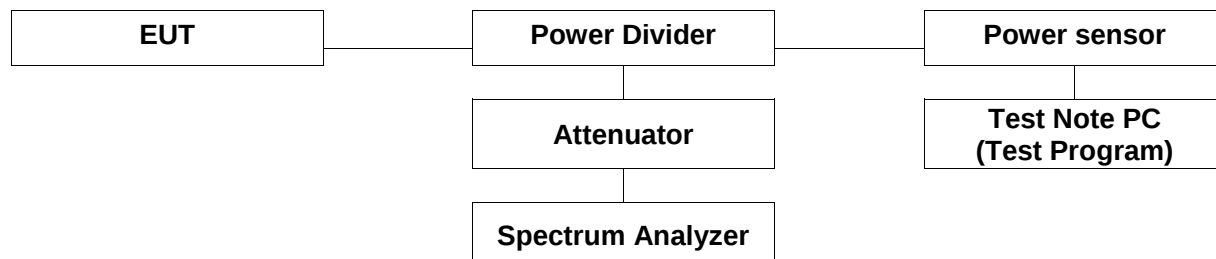
SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

Tel. +82 31 428 5700 / Fax. +82 31 427 2371

www.ee.sgs.com/korea

6. Peak excursion

6.1. Test setup



6.2. Limit

The ratio of the peak excursion of the modulation envelope (measured using a peak hold function) to the peak transmit power (measured as specified above) shall not exceed 13 dB across any 1 MHz bandwidth or the emission bandwidth whichever is less.

6.3. Test procedure

All data rates and modes were investigated for this test. The full data for the worst case data rate are reported in this section.

1. This measurement settings are specified in section F of KDB 789033.
2. Set the spectrum analyzer span to view the entire emission bandwidth.
3. Find the maximum of the peak-max-hold spectrum.
4. Set RBW = 1 MHz.
5. Set VBW $\geq$ 3 MHz.
6. Detector = Peak.
7. Trace mode = max-hold.
8. Allow the sweeps to continue until the trace stabilizes.
9. Use the peak search function to find the peak of the spectrum.
10. Compute the ratio of the maximum of the peak-max-hold spectrum to the PPSP.

The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

Tel. +82 31 428 5700 / Fax. +82 31 427 2371

www.ee.sgs.com/korea

6.4. Test result

Ambient temperature : (24 ± 2) °C
Relative humidity : 49 % R.H.

6.4.1. Non-DFS Band

Operation Mode	Channel	Data Rate (Mbps)	Channel Frequency (MHz)	Peak excursion (dB)	Limit (dB)
11a	Low	6	5 180	8.08	13
	Middle	6	5 220	8.24	
	High	6	5 240	8.40	
11n_HT20	Low	MCS0	5 180	9.10	
	Middle	MCS0	5 220	7.90	
	High	MCS0	5 240	8.62	
11n_HT40	Low	MCS0	5 190	8.16	
	High	MCS0	5 230	8.16	

6.4.2. DFS Band

Operation Mode	Channel	Data Rate (Mbps)	Channel Frequency (MHz)	Peak excursion (dB)	Limit (dB)
11a	Lower Band	6	5 260	8.40	13
		6	5 300	8.52	
		6	5 320	8.64	
	Upper Band	6	5 500	7.82	
		6	5 580	8.66	
		6	5 700	9.37	
11n_HT20	Lower Band	MCS0	5 260	7.99	
		MCS0	5 300	8.74	
		MCS0	5 320	8.35	
	Upper Band	MCS0	5 500	7.71	
		MCS0	5 580	8.77	
		MCS0	5 700	7.43	
11n_HT40	Lower Band	MCS0	5 270	8.07	
		MCS0	5 310	8.59	
	Upper Band	MCS0	5 510	8.74	
		MCS0	5 550	7.89	
		MCS0	5 670	8.44	

Captured images

Please refer to the PSD captured image as above.

The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

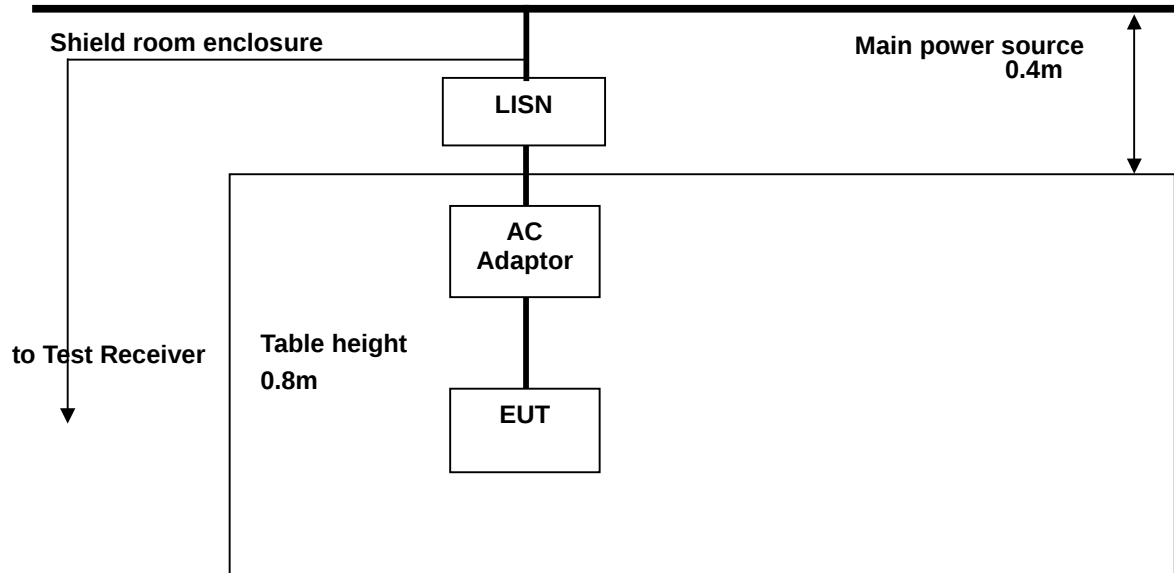
SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

Tel. +82 31 428 5700 / Fax. +82 31 427 2371

www.ee.sgs.com/korea

7. Transmitter AC Power Line Conducted Emission

7.1. Test Setup



7.2. Limit

According to §15.207(a) for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50 uH/50 ohm line impedance stabilization network(LISN).

Compliance with the provision of this paragraph shall on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower applies at the boundary between the frequency ranges.

Frequency of Emission (MHz)	Conducted limit (dBμV)	
	Quasi-peak	Average
0.15 – 0.50	66 - 56*	56 - 46*
0.50 – 5.00	56	46
5.00 – 30.0	60	50

* Decreases with the logarithm of the frequency.

The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

Tel. +82 31 428 5700 / Fax. +82 31 427 2371

www.ee.sgs.com/korea

7.3. Test Procedures

All data rates and modes were investigated for this test. The full data for the worst case data rate are reported in this section.

AC line conducted emissions from the EUT were measured according to the dictates of ANSI C63.4-2003

1. The test procedure is performed in a 6.5m × 3.6m × 3.6m (L × W × H) shielded room. The EUT along with its peripherals were placed on a 1.0 m(W) × 1.5 m(L) and 0.8 m in height wooden table and the EUT was adjusted to maintain a 0.4 meter space from a vertical reference plane.
2. The EUT was connected to power mains through a line impedance stabilization network (LISN) which provides 50 ohm coupling impedance for measuring instrument and the chassis ground was bounded to the horizontal ground plane of shielded room.
3. The excess power cable between the EUT and the LISN was bundled. All connecting cables of EUT were moved to find the maximum emission.

The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

Tel. +82 31 428 5700 / Fax. +82 31 427 2371

www.ee.sgs.com/korea

7.4. Test Results (Worst case configuration_ 11n_HT40 mode, MCS0)

The following table shows the highest levels of conducted emissions on both phase of Hot and Neutral line.

Ambient temperature : (24 ± 2) °C
Relative humidity : 47 % R.H.

Frequency range : 0.15 MHz – 30 MHz
Measured Bandwidth : 9 kHz

FREQ. (MHz)	LEVEL(dB μ V)		LINE	LIMIT(dB μ V)		MARGIN(dB)	
	Q-Peak	Average		Q-Peak	Average	Q-Peak	Average
0.40	28.90	20.40	H	57.96	47.96	29.06	27.56
1.24	32.40	23.10	H	56.00	46.00	23.60	22.90
2.47	27.40	18.50	H	56.00	46.00	28.60	27.50
3.77	27.30	19.30	H	56.00	46.00	28.70	26.70
5.16	25.30	17.60	H	60.00	50.00	34.70	32.40
18.13	26.40	17.40	H	60.00	50.00	33.60	32.60
0.40	25.60	17.70	N	57.96	47.96	32.36	30.26
1.25	27.80	19.00	N	56.00	46.00	28.20	27.00
3.94	25.50	16.70	N	56.00	46.00	30.50	29.30
5.10	24.10	15.50	N	60.00	50.00	35.90	34.50
13.96	23.90	14.20	N	60.00	50.00	36.10	35.80
18.53	27.60	18.10	N	60.00	50.00	32.40	31.90

Note ;

Line (H) : Hot

Line (N) : Neutral

The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

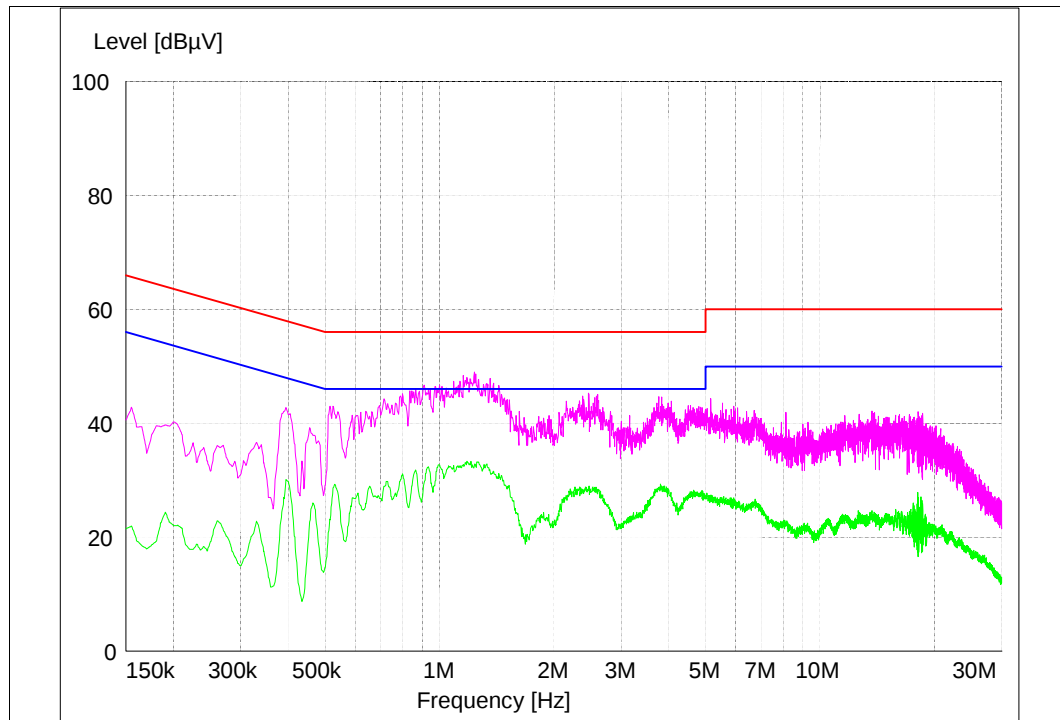
SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

Tel. +82 31 428 5700 / Fax. +82 31 427 2371

www.ee.sgs.com/korea

Plot of Conducted Power line

Test mode : (Hot)



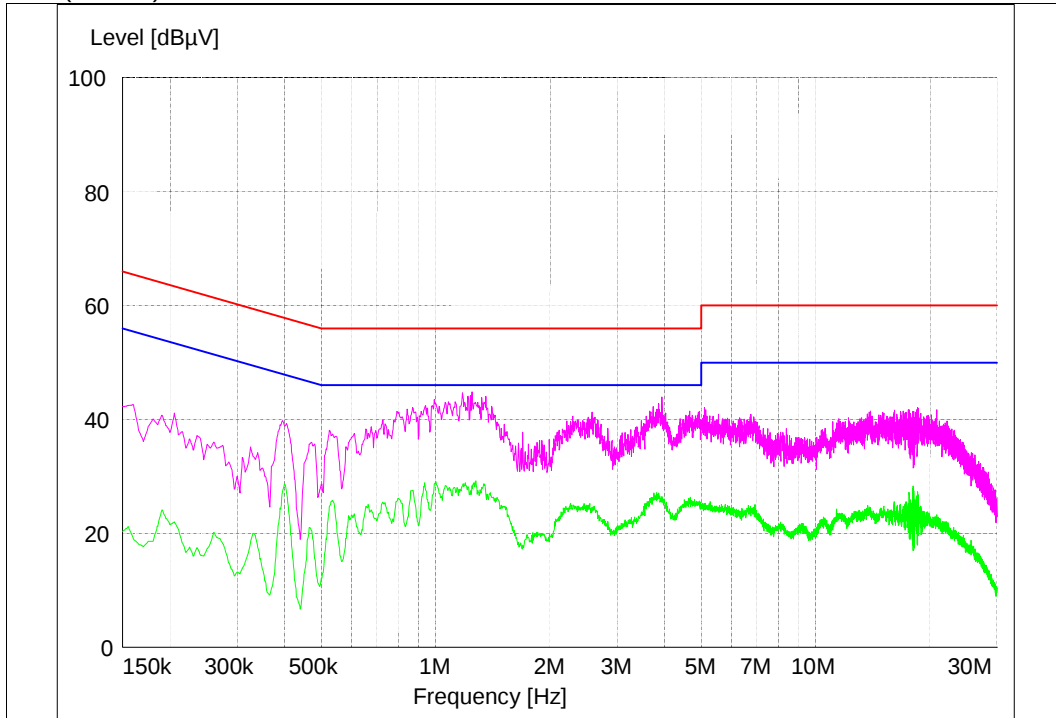
The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

Tel. +82 31 428 5700 / Fax. +82 31 427 2371

www.ee.sgs.com/korea

Test mode : (Neutral)



The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This test report cannot be reproduced, except in full, without prior written permission of the Company.

SGS Korea Co., Ltd. (Gunpo Laboratory) 18-34, Sanbon-dong, Gunpo-si, Gyeonggi-do, Korea, 435-040

Tel. +82 31 428 5700 / Fax. +82 31 427 2371

www.ee.sgs.com/korea