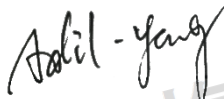


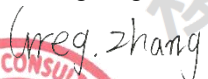
Test Report

Product name : Smart Connect
Trademark : Smart Connect
Model Name : Smart Connect
Series Model : N/A
Report No : C260610069-RF04
Test Standards : Article 2 Paragraph 1 of Item 19-3, annex 45 and annex 1
Applicant : NGR Inc.
Address of applicant : 1F., 3-1-8, Ohamanakamachi, Sakai-ku, Sakai-shi, 590-0975, Osaka, Japan.
Manufacturer : KAP Co., Ltd.
Manufacturer Address : #501, G129-2, Tera-Tower2 201 SONGPA-DAERO SONGPA-GU SEOUL KOREA 05854
Date of Test Date : Jun.10, 2026 to Jul.13, 2026
Date of issue : Jul.31, 2026
Test result : Compliance

Prepared By :


Adil Yang/Engineer

Reviewed By :


Greg Zhang/Engineer

Approved By :


Tom Gan/Manager

The test results in the report only apply to the tested sample. The test report shall be invalid without all the signatures of the preparer, reviewer and approver. Any objections must be raised to CSIC within 15 days since the date when the report is received. It will not be taken into consideration beyond this limit.

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1.TEST SUMMARY

1.1 Test Standards

The tests were performed according to following standards:
Article 2 Paragraph 1 of Item 19-3, annex 45 and annex 1

1.2 Test Description

Article 2 Paragraph 1 of Item 19-3		
Item	Result	Remark
Frequency Error	PASS	Note2
Antenna Power Error and E.I.R.P.	PASS	Note2
Occupied Bandwidth (99%)	PASS	Note2
Unwanted Emission Intensity	PASS	Note2
Limitation of Collateral Emission of Receiver	PASS	Note2
Transmission Radiation Angle Width (3dBBeamwidth)	N/A	Note1
Radio Interference Prevention Capability	PASS	Note2
Carrier Sense Capability	PASS	Note2
Construction Protection Confirmation	PASS	Note2
Adjacent Channel Emitted Power	PASS	Note2
Transmission burst length	PASS	Note2

NOTE:

- (1) "N/A" denotes test is not applicable in this Test Report.
- (2) Article 2 Paragraph 1 of Item 19-3, annex 45 and annex 1

1.3 Test Facility

Shenzhen Central Standard International Center Co., Ltd.
Room 201, Building 1, Mogen Fashion Industrial Park, No. 10, Shilongzai Road, Xinshi Community,
Dalang Street, Longhua District, Shenzhen

The test facility is recognized, certified or accredited by the following organizations:

CNAS	Registration No.: L11671	
FCC	Registration No.: 0031378433	Designation Number: CN1317
IC	CAB identifier: CN0051	
A2LA	Lab Cert. No.: 6426.01	

1.4 Measurement Uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. to TR-100028-01" Electromagnetic compatibility and Radio spectrum Matters (ERM);Uncertainties in the measurement of mobile radio equipment characteristics; Part 1" and TR-100028-02 "Electromagnetic compatibility and Radio spectrum Matters (ERM);Uncertainties in the measurement of mobile radio equipment characteristics; Part 2 " and is documented in the Shenzhen Central Standard International Center Co., Ltd. quality system acc. to DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

Below is the best measurement capability for Shenzhen Central Standard International Center Co., Ltd.

Test Items	Measurement Uncertainty	Notes
Frequency Error	$\pm 5.00\%$	(1)
Antenna Power Density	$\pm 1.08\text{ dB}$	(1)
Occupied Channel Bandwidth	$\pm 5.00\%$	(1)
Transmitter unwanted emissions in the spurious domain & Receiver spurious emissions	$\pm 4.54\text{ dB}(25\text{MHz}-1000\text{MHz})$ $\pm 4.84\text{ dB}(1\text{GHz}-26.5\text{GHz})$	(1)
Carrier Sense Capability	$\pm 5.00\%$	(1)

Note(1): This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k=2$.

2.GENERAL INFORMATION

2.1 General Description of EUT

Product Name:	Smart Connect
Model Name:	Smart Connect
Series Models:	N/A
Power supply:	DC 5V
Product Description	
Operating Frequency:	IEEE 802.11a/n(HT20)/ac(VHT20): 5.180GHz-5.240GHz IEEE 802.11n(HT40)/ac(VHT40): 5.190GHz-5.230GHz IEEE 802.11ac(VHT80): 5.210GHz
Type of Modulation:	802.11a(OFDM):BPSK,QPSK,16-QAM,64-QAM 802.11n(OFDM):BPSK,QPSK,16-QAM,64-QAM 802.11ac(OFDM):BPSK,QPSK,16-QAM,64-QAM,256-QAM
Channel number:	IEEE 802.11a/n(HT20)/ac(VHT20):4 IEEE 802.11a/n(HT40)/ac(VHT40):2 IEEE 802.11ac(VHT80):1
TX Power Control (TPC):	Not Supported
DFS:	Client Device without Radar Detection
Antenna Type:	FPC
Antenna Gain:	5G(W52):4.69dBi
Hardware version:	V1.0
Software version:	N/A

Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.
2. Full tests were applied to sample C260610069-Y01/01 only in this document.



2.2 Description of Test Modes and Test Frequency

The EUT has been tested under typical operating condition. The Applicant provides communication tools software to control the EUT for staying in continuous transmitting and receiving mode for testing.

RF Channel and Frequency of WIFI

Channel List for 802.11a/n(HT20)/ac(VHT20)							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
36	5180	40	5200	44	5220	48	5240

Channel List for 802.11n(HT40)/ac(VHT40)							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
38	5190	46	5230				

Channel List for 802.11ac(VHT80)							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
42	5210						

Table For Parameters Of Test Software Setting

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

Test Software Version	QRCT V4.0.00166.0		
Frequency(W52)	5180MHz	5200MHz	5240MHz
IEEE 802.11a	10	10	10
IEEE 802.11n(HT20)	10	10	10
IEEE 802.11ac(VHT20)	10	10	10

Frequency(W52)	5190MHz	/	5230MHz
IEEE 802.11n(HT40)	10		10
IEEE 802.11ac(VHT40)	10		10

Frequency(W52)	5210MHz	/	/
IEEE 802.11ac(VHT80)	10		

**Test Conditions**

The WIFI module was tested while in a continuous transmitter/receiver mode.

The EUT was tuned to a low, middle, and high channel for all tests. For all test case pre/scans were completed in all Modes to determine worst case levels.

Power Supply Voltage Fluctuation Test

Voltage Fluctuation Test	Normal Voltage	High Voltage +10% of Normal Voltage	Low Voltage -10% of Normal Voltage
Input DC Power	5V	5.5V	4.5V
IC Power	3.3 V	3.3 V	3.3 V

Note: Voltage Variation (%)

= (Output high or Low Voltage - Output Normal Voltage) / Output Normal Voltage * 100

During the input supply voltage to the EUT from the external power source is varied by +/- 10%, if output voltage had been confirmed that the fluctuation of power supply to the RF circuit of EUT (excluding power source) is equal to or less than +/-1%.

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



2.3 Measurement Instruments List

Item	Test Equipment	Manufacturer	Model No.	Serial No.	Calibrated until
1	Spectrum Analyzer	Agilent	N9020A	MY50200391	May. 15, 2027
2	Power sensor	KEYSIGHT	U2021XA	MY55080015	May. 15, 2027
3	Vector Signal Generator	Agilent	N5182A	MY50140130	May. 15, 2027
4	Automatic control unit	MW	MW100-RFCB	MY54250020	May. 18, 2027
5	Temperature Humidity Chamber	Angui Testing	AG1000L	2304061049	Jun. 15, 2027
6	Inverter power supply	AKE	AKE-2003-P2	N/A	May. 20, 2027
7	Hygrothermograph	ELECALL	EC807	N/A	May. 23, 2027
8	MTS 8310E	MW	V: 2.0.0.0		

Note:

1. The cable loss has calculated in test result which connection between each test instruments.
2. The instruments used are calibrated by GRG METROLOGY & TEST GROUP CO., LTD.

2.4 Description Test Peripheral And EUT Peripheral

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

Support Equipment

Item	Equipment	Mfr/Brand	Model/Type No.	Series No.	Note
E-1	Laptop	DELL	Vostro 3400	N/A	AE
E-2	router	GL iNet	GL-MT3000	4679d48fa5f11ddb	AE

Support Cable

Item	Shielded Type	Ferrite Core	Length	Note
C-1	N/A	N/A	N/A	N/A

Note:

1. The support equipment was authorized by Declaration of Confirmation.
2. For detachable type I/O cable should be specified the length in cm in 『Length』 column.
3. "YES" is means "shielded" "with core"; "NO" is means "unshielded" "without core".
4. The Router FCC ID: 2AFIW-MT3000; IC: 23019-MT3000.



2.5 Construction Protection Confirmation

Our products apply for Japanese radio frequency (rf) certification. The use of shielded, it is not easy to open it.



3. TEST ITEM AND RESULTS

3.1 Frequency Error

Limit

Item	Limits
Frequency Error	±20ppm

Test Procedures

The following table is the setting of Spectrum Analyzer.

Spectrum Parameter	Setting
Attenuation	Auto
RB / VB	10KHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

- (1) In the case of unmodulated signal (continuous or continuous burst), measure the frequency directly by a frequency meter.
- (2) In the case of burst waves, the measurement shall be done for enough time in order to obtain the enough measuring accuracy, and the average of the measured values becomes the final value.
- (3) In the case of a test mode with a specific frequency spectrum, measure the frequency of the specific spectrum by a spectrum analyzer.
- (4) In the cases above, if the frequency equivalent to the test frequency is not directly measured in principle, it shall be obtained by necessary calculation.

In the case of modulated signal, if there is no specific spectrum measurable by a spectrum analyzer but a specific dip is observed, it is allowed to measure the frequency with the signal generator (synthesized). That is, observe a signal of the signal generator concurrently (or alternately) with the tested signal using the spectrum analyzer while setting the frequency of the signal generator to the position of the dip on the screen of the spectrum analyzer, and determine the frequency of the signal generator at the time as a measured value.

Test Setup



Eut Operation During Test

The EUT was placed on the test table and programmed in un-modulation function.

**Test Result**

PASS

Test data refer to Appendix A.

Temperature:	25.8°C	Humidity:	59.0% RH
Operation Mode:	Un-modulation transmitting mode		

Note:

$$\text{Tolerance} = (\text{Measured Frequency (MHz)} - \text{Frequency (MHz)}) / \text{Frequency (MHz)} * 10^6.$$

3.2 Antenna Power Error and E.I.R.P

Limit

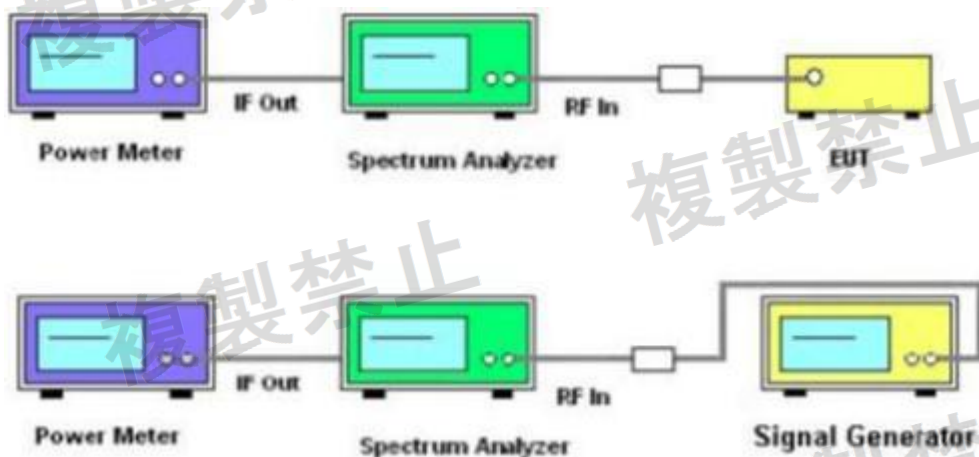
Item	Operation Band	Limits		
		20MHz system	40MHz system	80MHz system
Antenna Power	W52/W53	10mW/MHz or less	5mW/MHz or less	2.5mW/MHz or less
	W56	10mW/MHz or less	5mW/MHz or less	2.5mW/MHz or less
Radiation power EIRP	W52	10mW/MHz or less	5mW/MHz or less	2.5mW/MHz or less
	W53	10mW/MHz or less:with TPC 5mW/MHz or less:without TPC	5mW/MHz or less:with TPC 2.5mW/MHz or less:without TPC	2.5mW/MHz or less:with TPC 1.25mW/MHz or less:without TPC
	W56	50mW/MHz or less:with TPC 25mW/MHz or less:without TPC	25mW/MHz or less:with TPC 12.5mW/MHz or less:without TPC	12.5mW/MHz or less:with TPC 6.25mW/MHz or less:without TPC
Antenna Power Error	W52/W53	+20%, -80% (Base on manufacturer declare Antenna power density)		
	W56	+50%, -50% (Base on manufacturer declare Antenna power density)		

Test Procedure

1. A power meter is connected on the IF output port of the spectrum analyzer.
2. EUT turn to test frequency channel and keep continuous transmitting
3. Connected the equipment to be measured. Using the following settings of the spectrum analyzer in combination with "max hold" function, find the frequency of highest power output in the power envelope: center frequency equal to operation frequency; RBW & VBW: 1 MHz; detector mode: positive peak; averGauging: off; span: 3 times the spectrum width; amplitude: adjust for middle of the instrument' range.
4. Reading the output power from the Power meter as PEUT
5. Turn the Signal generator to frequency channel the same as the EUT
6. Using the following settings of the spectrum analyzer in combination with "max hold" function, find the frequency of highest power output in the power envelope: center frequency equal to operation frequency; RBW & VBW: 1 MHz; detector mode: positive peak; averGauging: off; span: 3 times the spectrum width; amplitude: adjust for middle of the instrument' range.
7. Turn the level of Signal generator, scan with the power meter until the power equal to PEUT, the level of Signal generator recorded as "P"
8. The antenna power of EUT is "P".
9. EIRP power="P"+antenna gain



Test Setup



Test Deviation

There is no deviation with the original standard.



Test Result

PASS

Test data refer to Appendix A

Temperature:	25.8°C	Humidity:	59.0% RH
Operation Mode:	TX mode (W52)		



3.3 Occupied Bandwidth Limit

Item	Operation Band	Limits		
		20MHz system	40MHz system	80MHz system
Occupied Bandwidth	W52	$\leq 20\text{MHz}$	$\leq 40\text{MHz}$	$\leq 80\text{MHz}$
	W53	$\leq 20\text{MHz}$	$\leq 40\text{MHz}$	$\leq 80\text{MHz}$
	W56	$\leq 20\text{MHz}$	$\leq 40\text{MHz}$	$\leq 80\text{MHz}$

Test Procedures

- Setting of SA is following as: 802.11a/n/ac RB: 100KHz / VB:300KHz / SPAN: 40/80/160MHz
Sweep time: Auto / Sweep Mode: Continuous sweep / Detect mode: Positive peak / Trace mode: Max hold
- EUT have transmitted the maximum modulation signal and fixed channelize (For DSSS or OFDM Device) or continuous maximum power of hopping mode(For FHSS Device). SA set to 99% of occupied bandwidth to measure occupied bandwidth.

Test Setup



Test Deviation

There is no deviation with the original standard.

Eut Operation During Test

The EUT was programmed to be in continuously transmitting mode.

Test Result

PASS

Test data refer to Appendix A.

Temperature:	25.8°C	Humidity:	59.0% RH
Operation Mode:	TX mode (W52)		

3.4 Unwanted Emission Strength

Limit

W52	Bandwidth (MHz)		Measured Frequency Range	Limit	
	20	OBW ≤18MHz	5142.0 MHz or less	-26.02 dBm/MHz	2.5 μW/MHz
			5142.0 ~ 5150.0 MHz	-18.24 dBm/MHz	15.0 μW/MHz
			5250.0 ~ 5251.0 MHz	-10 to 0 dBm/MHz	10.0 ^{1-(f-9)} mW/MHz
			5251.0 ~ 5260.0 MHz	-10 to -18 dBm/MHz	10.0 ^{-1-(8/90)(f-11)} mW/MHz
			5260.0 ~ 5266.7 MHz	-26.04 to -18 dBm/MHz	10.0 ^{-1.8-(6/50)(f-20)} mW/MHz
			5266.7 MHz or more	-26.02 dBm/MHz	2.5 μW/MHz
		OBW: 18-20MHz	5142.0 MHz or less	-26.02 dBm/MHz	2.5 μW/MHz
			5142.0 ~ 5150.0 MHz	-18.24 dBm/MHz	15.0 μW/MHz
			5250.0 ~ 5250.2 MHz	3.33 to -2 dBm/MHz	10 ^{1-(8/3)(f-9.75)} mW/MHz
			5250.2 ~ 5251.0 MHz	-2 to -10 dBm/MHz	10.0 ^{1-(f-9)} mW/MHz
			5251.0 ~ 5260.0 MHz	-10 to -18 dBm/MHz	10.0 ^{-1-(8/90)(f-11)} mW/MHz
			5260.0 ~ 5266.7 MHz	-26.04 to -18 dBm/MHz	10.0 ^{-1.8-(6/50)(f-20)} mW/MHz
	5266.7 MHz or more	-26.02 dBm/MHz	2.5 μW/MHz		
	40		5141.6 MHz or less	-26.02 dBm/MHz	2.5 μW/MHz
			5141.6 ~ 5150.0 MHz	-18.24 dBm/MHz	15.0 μW/MHz
		5250.0 ~ 5251.0 MHz	-13.01 to -3.01 dBm/MHz	10.0 ^{-(f-20)+log(1/2)} mW/MHz	
		5251.0 ~ 5270.0 MHz	-13.81 to -13.01 dBm/MHz	10.0 ^{-(8/190)(f-21)-1+log(1/2)} mW/MHz	
		5270.0 ~ 5278.4 MHz	-26.05 to -21.01 dBm/MHz	10.0 ^{-(3/50)(f-40)-1.8+log(1/2)} mW/MHz	
		5278.4 MHz or more	-26.02 dBm/MHz	2.5 μW/MHz	
80		5123.2 MHz or less	-26.02 dBm/MHz	2.5 μW/MHz	
		5,123.2 ~ 5,150 MHz	-18.24 dBm/MHz	15.0 μW/MHz	
		5,250 ~ 5,251 MHz	-6.02 to -16.02 dBm/MHz	10.0 ^{-(f-40)+log(1/4)} mW/MHz	
		5,251 ~ 5,290 MHz	-16.02 to -16.82 dBm/MHz	10.0 ^{-(8/390)(f-41)-1+log(1/4)} mW/MHz	
		5,290 ~ 5,296.7 MHz	-16.82 to -26.03 dBm/MHz	10.0 ^{-(3/100)(f-80)-1.8+log(1/4)} mW/MHz	
		5296.7 MHz or more	-26.02 dBm/MHz	2.5 μW/MHz	

W53	Bandwidth (MHz)		Measured Frequency Range	Limit	
	20	OBW ≤ 18MHz	5233.3 MHz or less	-26.02 dBm/MHz	2.5 μW/MHz
			5233.3 ~ 5240.0 MHz	-26.04 to -18 dBm/MHz	$10.0^{-1.8-(6/50)(f-20)}$ mW/MHz
			5240.0 ~ 5249.0 MHz	-18 to -10 dBm/MHz	$10.0^{-1-(8/90)(f-11)}$ mW/MHz
			5249.0 ~ 5250.0 MHz	-10 to 0 dBm/MHz	$10.0^{1-(f-9)}$ mW/MHz
			5350.0 MHz or more	-26.02 dBm/MHz	2.5 μW/MHz
		OBW:18-20MHz	5233.3 MHz or less	-26.02 dBm/MHz	2.5 μW/MHz
			5233.3 ~ 5240.0 MHz	-26.04 to -18 dBm/MHz	$10.0^{-1.8-(6/50)(f-20)}$ mW/MHz
			5240.0 ~ 5249.0 MHz	-18 to -10 dBm/MHz	$10.0^{-1-(8/90)(f-11)}$ mW/MHz
			5249.0 ~ 5249.8 MHz	-10 to -2 dBm/MHz	$10.0^{1-(f-9)}$ mW/MHz
			5249.8 ~ 5250.0 MHz	-2 to 3.33 dBm/MHz	$10^{1-(8/3)(f-9.75)}$ mW/MHz
	40		5350.0 MHz or more	-26.02 dBm/MHz	2.5 μW/MHz
			5221.6 MHz or less	-26.02 dBm/MHz	2.5 μW/MHz
			5221.6 ~ 5230.0 MHz	-26.05 to -21.01 dBm/MHz	$10.0^{-(3/50)(f-40)-1.8+\log(1/2)}$ mW/MHz
			5230.0 ~ 5249.0 MHz	-13.81 to -13.01 dBm/MHz	$10.0^{-(8/190)(f-21)-1+\log(1/2)}$ mW/MHz
			5249.0 ~ 5250.0 MHz	-13.01 to -3.01 dBm/MHz	$10.0^{-(f-20)+\log(1/2)}$ mW/MHz
			5350.0 ~ 5358.4 MHz	-18.24 dBm/MHz	15 μW/MHz
			5358.4 MHz or more	-26.02 dBm/MHz	2.5 μW/MHz
	80		5203.3 MHz or less	-26.02 dBm/MHz	2.5 μW/MHz
			5203.3 ~ 5210.0 MHz	-26.03 to -24.02 dBm/MHz	$10.0^{-(3/100)(f-80)-1.8+\log(1/4)}$ mW/MHz
			5210.0 ~ 5249.0 MHz	-16.82 to -16.02 dBm/MHz	$10.0^{-(8/390)(f-41)-1+\log(1/4)}$ mW/MHz
			5249.0 ~ 5250.0 MHz	-16.02 to -6.02 dBm/MHz	$10.0^{-(f-40)+\log(1/4)}$ mW/MHz
			5350.0 ~ 5376.8 MHz	-18.24 dBm/MHz	15 μW/MHz
			5376.8 MHz or more	-26.02 dBm/MHz	2.5 μW/MHz



W56	Bandwidth(MHz)	Measured Frequency Range	Limit	
	20	5460 MHz or less	-26.02 dBm/MHz	2.5 μ W/MHz
		5460.0 ~ 5470.0 MHz	-19.03 dBm/MHz	12.5 μ W/MHz
		5745.0 ~ 5765.0 MHz	-19.03 dBm/MHz	12.5 μ W/MHz
		Over 5765 MHz	-26.02 dBm/MHz	2.5 μ W/MHz
	40	5460 MHz or less	-19.03 dBm/MHz	12.5 μ W/MHz
		5460.0 ~ 5470.0 MHz	-13.01 dBm/MHz	50 μ W/MHz
		5770 MHz or more	-19.03 dBm/MHz	12.5 μ W/MHz
	80	5460 MHz or less	-19.03 dBm/MHz	12.5 μ W/MHz
		5460.0 ~ 5469.5 MHz	-13.01 dBm/MHz	50 μ W/MHz
		5469.5 ~ 5470.0 MHz	-12.91 dBm/MHz	51.2 μ W/MHz
		5770 MHz or more	-19.03 dBm/MHz	12.5 μ W/MHz

Test Procedures

The following table is the setting of Spectrum Analyzer.

Spectrum Parameter	Setting
Attenuation	Auto
RB / VB	100KHz /100KHz ($30 \text{ MHz} \leq f \leq 1000 \text{ MHz}$) 1MHz /1MHz ($1000 \text{ MHz} \leq f$)
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

1. EUT have transmitted the maximum modulation signal and fixed channelize.
2. Setting of SA is following as: RB:100KHz/1MHz ,VB:100KHz/1MHz Sweep time: Auto Sweep Mode: Continuous sweep / Detect mode: Positive peak / Trace mode: Max hold
3. Setting of SA is following as 30MHz and stop frequency, then to mark peak reading value + cable loss shall be less than 2.5μW.
4. SA adjusted to start frequency and stop frequency 26000MHz. Then to mark peak reading value + cable loss shall be less than 2.5μW.

Test Setup



Test Deviation

There is no deviation between the original standard.

Test Result

PASS

Test data refer to Appendix A.

Temperature:	25.8°C	Humidity:	59.0% RH
Operation Mode:	TX mode		



3.5 Imitation Of Collateral Emission Of Receiver Measurement

Limit

Item	Operation band	Limits	
RX Spurious Emission:	W52/W53	20MHz system	$\leq 4\text{nW}/-54\text{dBm}$ ($f \leq 1\text{GHz}$) $\leq 20\text{nW}/-47\text{dBm}$ ($1\text{GHz} \leq f \leq 26.5\text{GHz}$)
		40MHz system	
		80MHz system	
	W56	20MHz system	
		40MHz system	
		80MHz system	

Test Procedures

The following table is the setting of Spectrum Analyzer.

Spectrum Parameter	Setting
Attenuation	Auto
RB	100 kHz (below 1GHz emissions) 1 MHz (above 1GHz emissions)
VB	100 kHz (below 1GHz emissions) 1 MHz (above 1GHz emissions)
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

- EUT have the continuous reception mode and fixed only one channelize.
- Setting of SA is following as RB / VB: 100 kHz (below 1GHz emissions) / 1 MHz (above 1GHz emissions) / AT: 10dB / Ref: 0dBm / Sweep time: Auto / Sweep Mode: Continuous sweep / Detect mode: Positive peak / Trace mode: Max hold.
- SA set RB: 100kHz and VB: 100kHz. Then adjust to start frequency 30MHz and stop frequency 1000MHz. Search to mark peak reading value + cable loss shall be less than 4nW.
- SA set RB: 1MHz and VB: 1MHz. Then adjust to start frequency 1000MHz and stop frequency 12750MHz. Search to mark peak reading value + cable loss shall be less than 20nW.
- If power level of lower emissions are more than 1/10 of limit (0.4nW for $f < 1\text{GHz}$, 2nW for $f \geq 1\text{GHz}$), all those are to be indicated in the 2nd and 3rd lines. If others are 1/10 or less more of the limit, no necessary to be indicated.

**Test Result**

PASS

Test data refer to Appendix A.

Temperature:	25.8°C	Humidity:	59.0% RH
Operation Mode:	RX mode		

3.6 Transmission Radiation Angle Width (3db Beamwidth) Measurement

Limit

Item	Limits
3dB antenna beam width	$e \leq 360/A$ (The A is 10 in maximum) $A = \{EIRP \text{ Power [mW/MHz]} / \{2.14\text{dBi} + \text{output power}(10\text{mW /MHz}, 3\text{mW/MHz})\}\}$ Shall be 1 when A is lower than 1
Note: This test item is not applied for radio equipment with equivalent isotropic radiation power lower than 12.14dBm/MHz, but Antenna Power(Conducted) limit is 10 mW/MHz (10 dBm/MHz), So the test item will not be applied to the transmission antenna which has a gain of 2.14dBi or less	

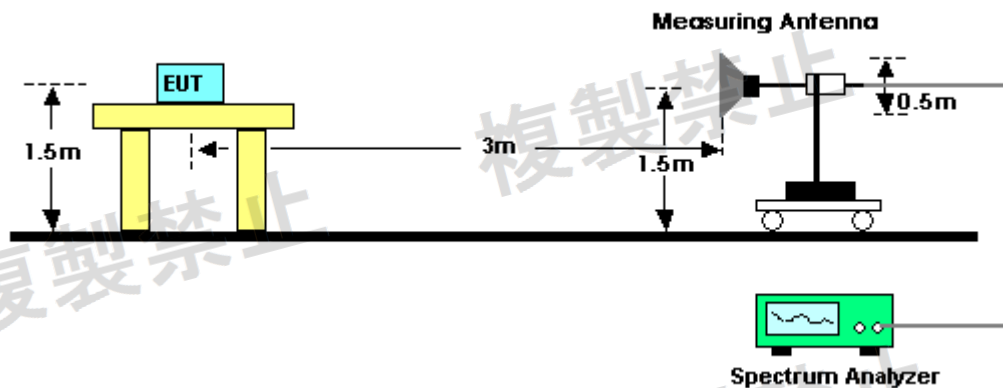
Test Procedures

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	0 MHz
RB	1 MHz
VB	1 kHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

- Set EUT and measuring antenna at the same height and roughly facing each other.
- Set spectrum analyzer with condition in section 4.7.2 and tune reference level to observe receiving signal position.
- Rotate directions of the EUT horizontally and vertically to find the maximum receiving power.
- Move the measuring antenna height up and down within $\pm 50\text{cm}$ of EUT height and swing it to find the maximum output of measuring antenna. "E" is the half-power beam width (angle between two points at which radiated power becomes 1/2)
- Calculate permitted radiation angle in horizontal and vertical using EIRP measured in another test method.
- Calculate 3dB antenna beam width by the formula below $360/A$ (If $A < 1$; then $A = 1$).
 $A = \{EIRP \text{ Power [mW/MHz]} / \{2.14\text{dBi} + \text{output power}(10\text{mW /MHz}, 3\text{mW/MHz})\}\}$
 Shall be 1 when A is lower than 1



Test Setup



Test Deviation

There is no deviation with the original standard.

EUT Operation During Test

The EUT was programmed to be in continuously transmitting mode.

Test Result

Note: The max EIRP is less than 12.14dBm/MHz, not applicable.

3.7 Radio Interference Prevention Capability Measurement

Limit

Item	Limits
Identification code	≥ 48 bits

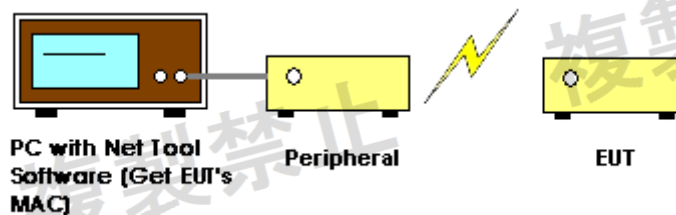
Measuring Id Code Software

Item	Limits
MAC IP List	MAC Scan

Test Procedures

1. In the case that the EUT has the function of automatically transmitting the identification code:
 - a. Transmit the predetermined identification codes form EUT.
 - b. Check the transmitted identification codes with the demodulator.
2. In the case of receiving the identification code:
 - a. Transmit the predetermined identification codes form the counterpart.
 - b. Check if communication is normal.
 - c. Transmit the signals other than predetermined ID codes form the counterpart.
 - d. check if the EUT stops the transmission, or if it displays that identification codes are different from the predetermined ones.

Test Setup



Test Deviation

There is no deviation with the original standard.

EUT Operation During Test

The EUT was programmed to be in normal transmitting mode.

Test Result Of Radio Interference Prevention Capability

The Result is Compliant.

MAC Address: b0:5a:44:63:bf:cf

Note: EUT works with the only paired device through the pairing code.

3.8 Carrier Sense Capability

Interference prevention function

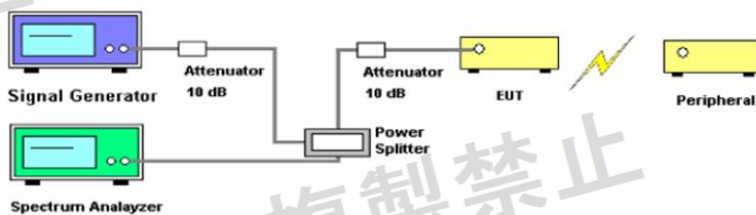
Test Requirement

MIC Notice No.88 Appendix No.45
Article 2, Paragraph 1, Item 19-3 Rules

Test Procedure

1. SG adjusted the frequency as same as the EUT transmitted signal and emitted the absence of
2. modulation from SG and power level is (on $22.79 + G - 20 \cdot \log(f)$ dBm)(G is the antenna gain, f is the test frequency).
3. turn off the RF signal of the SG.
4. EUT have transmitted the maximum modulation signal and fixed channelize.
5. Setting of SA :RBW/VBW=1MHz/1MHz, Span=50MHz, Sweep time=auto, Sweep mode=continuous,
6. Detect mode=positive peak
7. SG RF signal on.
8. EUT shall be stop the transmitted any signal and SG RF signal off, the EUT will be continuous.

Test Setup



Test Result

PASS

Temperature:	25.8°C	Humidity:	59.0% RH
Operation Mode:	TX mode		

W52		
Mode	Channel	Result (Normal Voltage)
802.11a	5180	Pass
	5200	Pass
	5240	Pass
802.11n20	5180	Pass
	5200	Pass
	5240	Pass
802.11n40	5190	Pass
	5230	Pass
802.11ac20	5180	Pass
	5200	Pass
	5240	Pass
802.11ac40	5190	Pass
	5230	Pass
802.11ac80	5210	Pass



3.9 Adjacent Channel Power

Limit

Item	Operation band	Occupied Bandwidth	Limits	
Adjacent Channel Power	W52/W53/W56	20MHz system	$F_c \pm 20\text{MHz} \pm 10\text{MHz}$	BW: -25dBc or less
			$F_c \pm 40\text{MHz} \pm 10\text{MHz}$	BW: -40dBc or less
		40MHz system	$F_c \pm 40\text{MHz} \pm 20\text{MHz}$	BW: -25dBc or less
			$F_c \pm 80\text{MHz} \pm 20\text{MHz}$	BW: -40dBc or less
		80MHz system	$F_c \pm 80\text{MHz} \pm 40\text{MHz}$	BW: -25dBc or less

Test Procedures

Setting of SA is following as 802.11a/n/ac:

RB: 300KHz / VB:300KHz

SPAN: 100MHz/200MHz/400MHz

Sweep time: Auto

Sweep Mode: Continuous sweep

Detect mode: peak

Trace mode: Max hold

Sweep Time Auto

Test Setup



Test Deviation

There is no deviation with the original standard.

EUT Operation During Test

The EUT was programmed to be in continuously transmitting mode.

Test Result

PASS

Test data refer to Appendix A.

Temperature:	25.8°C	Humidity:	59.0% RH
Operation Mode:	TX mode		

3.10 Burst Length

Limit

Item	Limits
Burst Length:	8ms or less

Test Procedures

Connected the EUT's Antenna port to the Spectrum Analyzer by suitable attenuator,
 Setting of SA is following as: 802.11a/n/ac RB: 1MHz / VB: 1MHz
 Sweep time: 3ms / Detect mode: clear write Trace mode: normal

Test Setup



EUT Operation During Test

The EUT was programmed to be in continuously transmitting mode.



Test Result

PASS

Test data refer to Appendix A.

Temperature:	25.8°C	Humidity:	59.0% RH
Operation Mode:	Tx mode (W52)		



4. EUT TEST PHOTOS

Remark: Please refer to Test setup photo_C260610069.



5. PHOTOGRAPHS OF EUT CONSTRUCTIONAL

Remark: Please refer to External Photos_C260610069 and Internal Photos_C260610069.

*****THE END*****