TEST REPORT

Applicant:	Particle Industries, Inc.
EUT Description:	Tachyon
Model:	TACH4ROW, TACH8ROW
Brand:	Particle
Standards:	ETSI EN 301 893 V2.2.1
Date of Receipt:	2025/06/25
Date of Test:	2025/06/25 to 2025/08/27
Date of Issue:	2025/08/28

TOWE. tested the above equipment in accordance with the requirements set forth in the above standards. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

the results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. It is the manufacturer's responsibility to assure that additional production units of the model are manufactured with identical electrical and mechanical components. All sample tested were in good operating condition throughout the entire test program. Measurement Uncertainties are published for informational purposes only and were not taken into account unless noted otherwise. without written approval of TOWE, the test report shall not be reproduced except in full.

Jim Huang
Approved By:

Carey Chen
Reviewed By:

Revision History

Rev.	Issue Date	Description	Revised by
01	2025/08/28	Original	Carey Chen

Summary of Test Results

Test Item	Test Requirement	Test Method	Result
User Access Restrictions	Clause 4.2.10		Reference report 2406RSU046-E8
Adaptivity (Channel Access Mechanism)	Clause 4.2.7	Clause 5.4.9.3	
Nominal Centre frequencies	Clause 4.2.1	Clause 5.4.2	Pass
Nominal Channel Bandwidth and Occupied Channel Bandwidth	Clause 4.2.2	Clause 5.4.3	Pass
RF output power, Transmit Power Control (TPC) and Power Density	Clause 4.2.3	Clause 5.4.4	Pass
Transmitter unwanted emissions outside the transmitter's operating bands	Clause 4.2.4.1	Clause 5.4.5	Pass
Transmitter unwanted emissions within the transmitter's operating bands	Clause 4.2.4.2	Clause 5.4.6	Pass
Receiver spurious emissions	Clause 4.2.5	Clause 5.4.7	Pass
Receiver Blocking	Clause 4.2.8	Clause 5.4.10	Pass
Adjacent channel selectivity	Clause 4.2.9	Clause 5.4.11	Pass
Dynamic Frequency Selection (DFS)			
Channel Availability Check	Clause 4.2.6.2.2	Clause 5.4.8.2.1.2	Reference report 2406RSU046-E9
Off-Channel CAC (Off-Channel Channel Availability Check)	Clause 4.2.6.2.3	Clause 5.4.8.2.1.4	
In-Service Monitoring	Clause 4.2.6.2.4	Clause 5.4.8.2.1.5	
Channel Shutdown	Clause 4.2.6.2.5	Clause 5.4.8.2.1.6	
Non-Occupancy Period	Clause 4.2.6.2.6	Clause 5.4.8.2.1.6	
Uniform Spreading	Clause 4.2.6.2.7	Clause 5.4.8.2.1.6	

Remark:

Review this report and original report, this report also updates the following standard:

Original report standard:	The newest report standard:
ETSI EN 301 893 V2.1.1	ETSI EN 301 893 V2.2.1

In this report tested the testing items for the upgrade of differences between the old and new versions, also the Radiated Spurious Emissions was tested, and the other data please refer to the previous report with report number 2406RSU046-E8 & 2406RSU046-E9 issued by MRT Technology (Suzhou) Co., Ltd.

Reference data from antenna 1, Antenna 2 is shielded through software.

Table of Contents

1 General Description

1.1 Lab Information

1.1.1 Testing Location

These measurements tests were conducted at the Sushi TOWE Wireless Testing(Shenzhen) Co., Ltd. facility located at F401 and F101, Building E, Hongwei Industrial Zone, Liuxian 3rd Road, Bao'an District, Shenzhen, China.
Tel.: +86-755-27212361
Contact Email: info@towewireless.com

1.1.2 Test Facility / Accreditations

A2LA (Certificate Number: 7088.01)
This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 General requirements for the competence of testing and calibration laboratories. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated April 2017).

FCC Designation No.: CN1353
Sushi TOWE Wireless Testing(Shenzhen) Co., Ltd. has been recognized as an accredited testing laboratory. Designation Number: CN1353.

ISED CAB identifier: CN0152
Sushi TOWE Wireless Testing(Shenzhen) Co., Ltd. has been recognized by ISED as an accredited testing laboratory.
CAB identifier: CN0152
Company Number: 31000

1.2 Client Information

1.2.1 Applicant

Applicant:	Particle Industries, Inc.
Address:	548 Market St, PMB 34833, San Francisco, CA 94104, USA

1.2.2 Manufacturer

Manufacturer:	Particle Industries, Inc.
Address:	548 Market St, PMB 34833, San Francisco, CA 94104, USA

1.3 Product Information

EUT Description:	Tachyon			
Model:	TACH4ROW, TACH8ROW			
Brand:	Particle			
Hardware Version:	V1.2			
Software Version:	1.0.160			
IMEI:	RF Conducted	863174060028643		
	RSE	863174060029047		
Modulation Type:	802.11a/n:	OFDM-BPSK, QPSK, 16QAM, 64QAM		
	802.11ac:	OFDM-BPSK, QPSK, 16QAM, 64QAM, 256QAM		
	802.11ax:	OFDM/OFDMA-BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM		
Smart System:	☒SISO	802.11a/n/ac/ax	/	
	☐MIMO	802.11n/ac/ax	( )TX( )RX	
	☐CDD	802.11a	( )TX( )RX	
EUT Function:	☒Client	☐Outdoor AP	☐Indoor AP	☐Fixed P2P AP
TPC Function:	☒With TPC		☐Without TPC	
DFS Function:	☒Master ☐Slave with radar detection ☐Slave without radar detection			
Frequency Range:	5150MHz to 5250MHz 5250MHz to 5350MHz 5470MHz to 5725MHz			
Channel Frequency:	20M Bandwidth Channel:	5180 ~ 5320MHz	8 Channels	
		5500 ~ 5700MHz	11 Channels	
	40M Bandwidth Channel:	5190 ~ 5310MHz	4 Channels	
		5510 ~ 5670MHz	5 Channels	
	80M Bandwidth Channel:	5210 ~ 5290MHz	2 Channels	
		5530 ~ 5610MHz	2 Channels	
	160M Bandwidth Channel:	5250MHz	1 Channel	
		5570MHz	1 Channel	
Antenna Type:	☐ External, ☒ Integrated			
Antenna Gain:	Frequency Range	Ant (dBi)		
	5150MHz to 5250MHz	2.3		
	5250MHz to 5350MHz	2.3		
	5470MHz to 5725MHz	2.3		

Remark:
1. The above EUT's information was declared by applicant, please refer to the specifications or user's manual for more detailed description.
2. According to the customer's Letter of model difference, TACH4ROW and TACH8ROW are identical with each other, except for RAM and model number difference.

2 Test Configuration

2.1 Standards Specification

Reference Standards	Standards Title
ETSI EN 301 893 V2.2.1	5 GHz WAS/RLAN; Harmonised Standard for access to radio spectrum

2.2 Test Channel

Unless otherwise stated in the test procedures for essential radio test suites, the channels (and nominal channel bandwidths) on which the essential radio test suites contained in the present document shall be performed are given in table 10. The channel identifiers have the format $C_{sb}f$ in which context C denotes 'channel', sb denotes the sub-band that the test channel is applicable to (where 'gen' denotes that the test channel is not sub-band dependent), and f is an index.

When testing devices that support simultaneous transmissions in adjacent or non-adjacent channels, DFS testing does not need to be performed simultaneously in these different channels.

Table 10: Test channels for sub-band 1, sub-band 2 and sub-band 3

Test	Clause	Test Channels		
		Sub-band 1	Sub-band 2	Sub-band 3
Nominal centre frequency (see note 1)	5.4.2	$C_1$1	$C_2$1	$C_3$1
Occupied bandwidth	5.4.3	$C_1$1	$C_2$1	$C_3$1
RF output power, Power Spectral Density(PSD)	5.4.4	$C_1$2, $C_1$3	$C_2$2, $C_2$3	$C_3$2, $C_3$3
Transmit Power Control (TPC) (see note 1)	5.4.4	n, a	$C_2$2, $C_2$3	$C_3$2, $C_3$3
Transmitter unwanted emissions outside the transmitter's operating bands (see note 1)	5.4.5	$C_1$1	$C_2$1	$C_3$1
Transmitter unwanted emissions within the transmitter's operating bands (for single-channel operation)	5.4.6	$C_1$2, $C_1$3	$C_2$2, $C_2$3	$C_3$2, $C_3$3
Transmitter unwanted emissions within the transmitter's operating bands (for multichannel operation in adjacent channels) (see note 3 for multi-channel operation in nonadjacent channels)	5.4.6	C_{gen}1, C_{gen}2 (see note 4 for channels in the group of adjacent channels not used for transmission)		
Receiver spurious emissions (see note 1)	5.4.7	$C_1$1	$C_2$1	$C_3$1
Dynamic Frequency Selection (DFS)	5.4.8	n, a	$C_2$4	$C_3$4 (see note 2)
Adaptivity (channel access mechanism)	5.4.9	C_{gen}3		
Receiver blocking	5.4.10	$C_1$1	$C_2$1	$C_3$1
Adjacent channel selectivity	5.4.11	$C_1$1	$C_2$1	$C_3$1
Test channel definitions:				
$C_1$1, $C_2$1, $C_3$1:	One channel from the channel plan for the sub-band. For occupied bandwidth, testing shall be repeated for every nominal channel bandwidth within the sub-band. For receiver blocking and adjacent channel selectivity, it is sufficient to only perform this test using the lowest nominal channel bandwidth.			
$C_1$2, $C_2$2, $C_3$2:	The lowest channel for every channel plan within this sub-band. For PSD testing, it is			

	sufficient to only perform this test using the lowest nominal channel bandwidth. For unwanted emissions testing, it is sufficient to only perform this test using a nominal channel bandwidth of 20 MHz.
$C_1$3, $C_2$3, $C_3$3:	The highest channel for every channel plan within this sub-band. For PSD testing, it is sufficient to only perform this test using the lowest nominal channel bandwidth. For unwanted emissions testing, it is sufficient to only perform this test using a nominal channel bandwidth of 20 MHz.
$C_1$4, $C_2$4, $C_3$4:	One channel from the channel plan for this sub-band. If more than one nominal channel bandwidth is specified for this sub-band, testing shall be performed using the lowest and highest nominal channel bandwidth.
C_{gen}1:	The lowest channel in the group of adjacent channels for all supported total bandwidths (N).
C_{gen}2:	The highest channel in the group of adjacent channels for all supported total bandwidths (N).
C_{gen}3:	One channel (in case of single-channel testing) or a group of adjacent channels (in case of multi-channel testing) from the channel plan.
NOTE 1:	In case of more than one channel plan, testing of these specific requirements needs only to be performed using one of the channel plans.
NOTE 2:	Where the channel plan includes channels whose nominal channel bandwidth falls completely or partly within the 5600 MHz to 5650 MHz band, the tests for the Channel Availability Check (CAC) (and, where implemented, for the off-channel CAC) shall be performed on one of these channels in addition to a channel within the band 5470 MHz to 5600 MHz or within the band 5650 MHz to 5725 MHz.
NOTE 3:	For multi-channel operation in non-adjacent channels, each group of adjacent channels shall be tested individually with the specified test channels.
NOTE 4:	If one or more of the channels in the group of adjacent channels might not be used for transmission, channel configurations suitable to verify each of the supported channel edge masks as shown in figure 2, figure 3 and figure 4 shall be tested in addition.

2.3 Test Mode

Modulation Type	SISO - Data Rate	CDD/MIMO( )TX( )RX Data Rate
802.11a	6 Mbps	N/A
802.11n20	MCS0 (6.5 Mbps)	N/A
802.11n40	MCS0 (13.5 Mbps)	N/A
802.11ac20	MCS0 (6.5 Mbps)	N/A
802.11ac40	MCS0 (13.5 Mbps)	N/A
802.11ac80	MCS0 (29.3 Mbps)	N/A
802.11ac160	MCS0 (58.5 Mbps)	N/A
802.11ax20	MCS0 (8.6 Mbps)	N/A
802.11ax40	MCS0 (17.2 Mbps)	N/A
802.11ax80	MCS0 (36.0 Mbps)	N/A
802.11ax160	MCS0 (72.1 Mbps)	N/A
Transmitting mode:	Keep the EUT was programmed to be in continuously transmitting mode.	
Normal Link:	Keep the EUT operation to normal function.	

2.4 Test Environment

Relative Humidity	45-56 % RH Ambient	
Condition	**Temperature(℃)**	**Voltage(V)**
NTNV	25	4.00
LTNV	-20	4.00
HTNV	60	4.00
Remark:		
NTNV Normal Temperature Normal Voltage		
LTNV Low Temperature Normal Voltage		
HTNV High Temperature Normal Voltage		

2.5 Support Unit used in test

The EUT has been tested as an independent unit.

2.6 Test RF Cable

For all conducted test items: The offset level is set spectrum analyzer to compensate the RF cable loss and attenuator factor between RF conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level will be exactly the RF output level.
The spectrum analyzer offset is derived from RF cable loss and attenuator factor.
Offset = RF cable loss + attenuator factor.

2.7 Modifications

No modifications were made during testing.

3 Equipment and Measurement Uncertainty

All test and measuring equipment utilized to perform the tests documented in this report are calibrated on a regular basis, whichever is less, and where applicable is traceable to recognized national standards.

3.1 Test Equipment List

RF Conducted					
Description	**Manufacturer**	**Model**	**S.N.**	**Last Due**	**Cal Due**
Signal Analyzer	Keysight	N9020A	US46470429	2025/03/14	2026/03/13
Signal Generator	R&S	SMR20	101027	2025/03/11	2026/03/10
Wideband Radio Communication Tester	R&S	CMW500	150615	2025/03/11	2026/03/10
Wireless Communication Tester	R&S	CMW270	102840	2025/05/29	2026/05/28
UP/Down-Converter	R&S	CMW-Z800A	100572	2025/05/29	2026/05/28
Hygrometer	BingYu	HTC-1	N/A	2025/05/29	2026/05/28
Vector Signal Generator	R&S	SMM100A	549353	2025/05/29	2026/05/28
RF Control Unit	Tonscend	JS0806-2	23C80620671	2025/05/29	2026/05/28
Measurement Software	Tonscend	TS1120-3 V3.5.39	10776	N/A	N/A

Radiated Emission					
Description	**Manufacturer**	**Model**	**S.N.**	**Last Due**	**Cal Due**
Biconic Logarithmic Periodic Antennas	Schwarzbeck	VULB9163	1461	2023/06/25	2026/06/24
Double-Ridged Horn Antennas	Schwarzbeck	BBHA 9120D	2814	2023/06/25	2026/06/24
Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	1291	2023/06/25	2026/06/24
Signal Analyzer	Keysight	N9020A	US46470366	2025/03/11	2026/03/10
Low Noise Amplifier	Tonscend	TAP9K3G40	AP23A8060274	2025/03/11	2027/03/10
Low Noise Amplifier	Tonscend	TAP01018050	AP23A8060268	2025/03/11	2027/03/10
Low Noise Amplifier	Tonscend	TAP18040048	AP22G806249	2025/03/11	2027/03/10
Band Reject Filter Group	Tonscend	JS0806-F	23A806F0654	N/A	N/A
Test Software	Tonscend	TS+	Version: 5.0.0	N/A	N/A

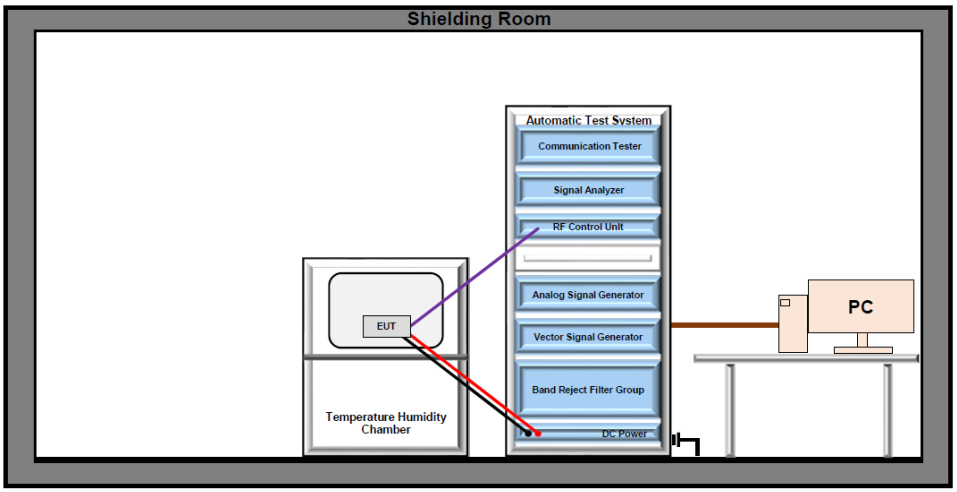
3.2 Measurement Uncertainty

Parameter	Ulab
Frequency error	679.96Hz
Output power	0.76dB
Conducted spurious emissions	2.22dB
Radiation 30MHz~1GHz(FAR)	4.48dB
Radiation 1GHz~18GHz(FAR)	5.30dB
Radiation 18GHz~40GHz(FAR)	5.26dB

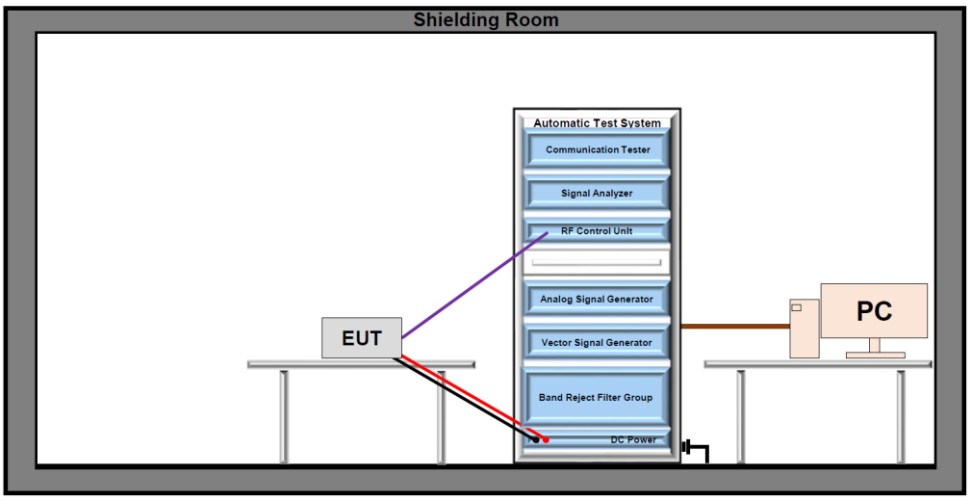
Uncertainty figures are valid to a confidence level of 95%

4 Test results

4.1 Nominal Centre frequencies

Test Requirement:	ETSI EN 301 893 Clause 4.2.1
Test Method:	ETSI EN 301 893 Clause 5.4.2
Limit:	The nominal centre frequencies (fc) for channels whose nominal channel bandwidth falls partly or completely within sub-band 1, sub-band 2 or sub-band 3 shall be defined by equation (1). $f_c = 5\,160\ \text{MHz} + (g \times 20\ \text{MHz}) \pm f_{c\_offset}$, with g integer and $0 \le g \le 9$ or $16 \le g \le 28$ (1) Operation on the channel with g = 28 is only permitted where operation in sub-band 4 by RLAN devices is allowed by national frequency usage conditions. An offset (fc_offset) is permitted for each nominal centre frequency. The offset may be different for each nominal centre frequency, but it shall not be greater than 200 kHz. Where an offset is applied, the nominal centre frequencies used by the equipment shall be noted in the test report (see clause 5.4.1, item a)). The nominal centre frequency for any given channel shall be maintained within the range of fc ± 0,002 %. Equipment may have simultaneous transmissions on more than one channel
Test Environment:	Refer to section 2.4.
Test Setup:	
Measuring Instruments:	Refer to section 3.1
Test Result:	Appendix

4.2 Nominal Channel Bandwidth and Occupied Channel Bandwidth

Test Requirement:	ETSI EN 301 893 Clause 4.2.2
Test Method:	ETSI EN 301 893 Clause 5.4.3
Limit:	The nominal channel bandwidth for a single channel shall be 20 MHz. Alternatively, equipment may implement a lower nominal channel bandwidth with a minimum of 5 MHz, providing it still conforms to the limits defined for nominal centre frequencies (20 MHz raster). For channels whose nominal channel bandwidth falls partly or completely within sub-band 2 or sub-band 3, the occupied bandwidth shall not be less than 80 % of the nominal channel bandwidth. During a Channel Occupancy Time (COT), equipment may operate temporarily with an occupied bandwidth of less than 80 % of its nominal channel bandwidth. The occupied bandwidth shall not be less than 2 MHz. For channels whose nominal channel bandwidth falls completely outside sub-band 2 and sub-band 3, the occupied bandwidth shall be equal or less than the nominal channel bandwidth. In case of smart antenna systems (devices with multiple transmit chains) each of the transmit chains shall meet the requirements specified in this clause. The occupied bandwidth might change with time/payload.
Test Environment:	Refer to section 2.4.
Test Setup:	
Measuring Instruments:	Refer to section 3.1
Test Result:	Appendix

4.3 RF output power, Transmit Power Control (TPC) and Power Density

Test Requirement:	ETSI EN 301 893 Clause 4.2.3
Test Method:	ETSI EN 301 893 Clause 5.4.4

Limit:

Limits for RF output power and PSD

The maximum RF output power $P_{H,sb}$ and the PSD in sub-band sb shall not exceed the limits given in table 2 for that sub-band. If the device uses TPC, $P_{H,sb}$ is the RF output power in sub-band sb at the highest power level of the TPC range in sub-band sb. In case of multiple (adjacent or non-adjacent) channels, the limits for the maximum RF output power and the PSD apply per sub-band.

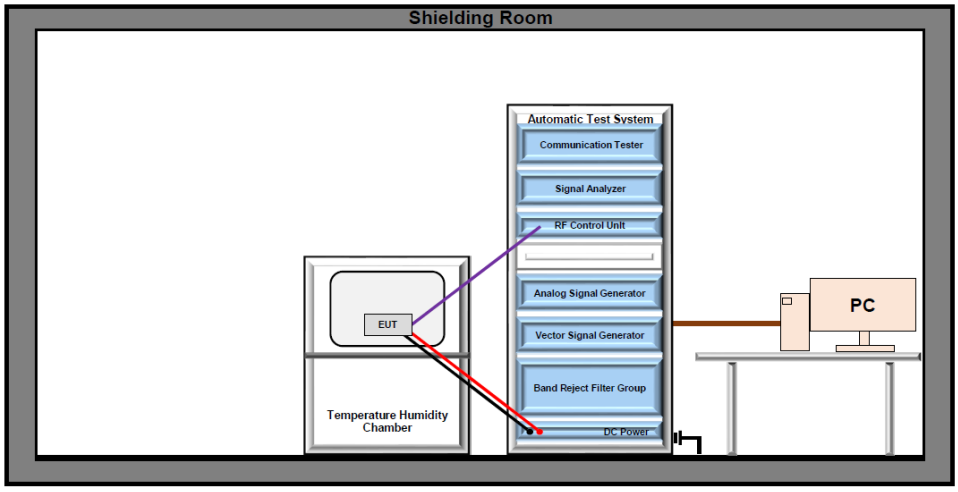
Table 2: RF output power and PSD limits

Sub-band	RF output power limit (dBm)		PSD limit (dBm/MHz)	
	with TPC (see note3)	without TPC	with TPC	without TPC
Sub-band 1	23	23	10	10
Sub-band 2	23	20	10	7
Sub-band 3 (see note2)	30 (see note1)	27 (see note1)	17 (see note1)	14 (see note1)

Note 1: Secondary devices without radar detection operating in sub-band 3 shall conform to the limits for sub-band 2.

Note 2: National frequency usage conditions may allow devices to operate in sub-band 3 on a channel with a nominal channel bandwidth that extends into sub-band 4.

Note 3: If TPC is used, the RF output power in sub-band sb at the lowest power level of the TPC range in sub-band sb ($P_{L,sb}$) shall be at least 6 dB less than the applicable RF output power limit with TPC.

Test Environment:	Refer to section 2.4.
Test Setup:	
Measuring Instruments:	Refer to section 3.1
Test Result:	Appendix

4.4 Transmitter unwanted emissions outside the transmitter's operating bands

Test Requirement:	ETSI EN 301 893 Clause 4.2.4.1
Test Method:	ETSI EN 301 893 Clause 5.4.5

Limit:

The level of transmitter unwanted emissions outside the transmitter's operating bands shall not exceed the limits given in table 3.

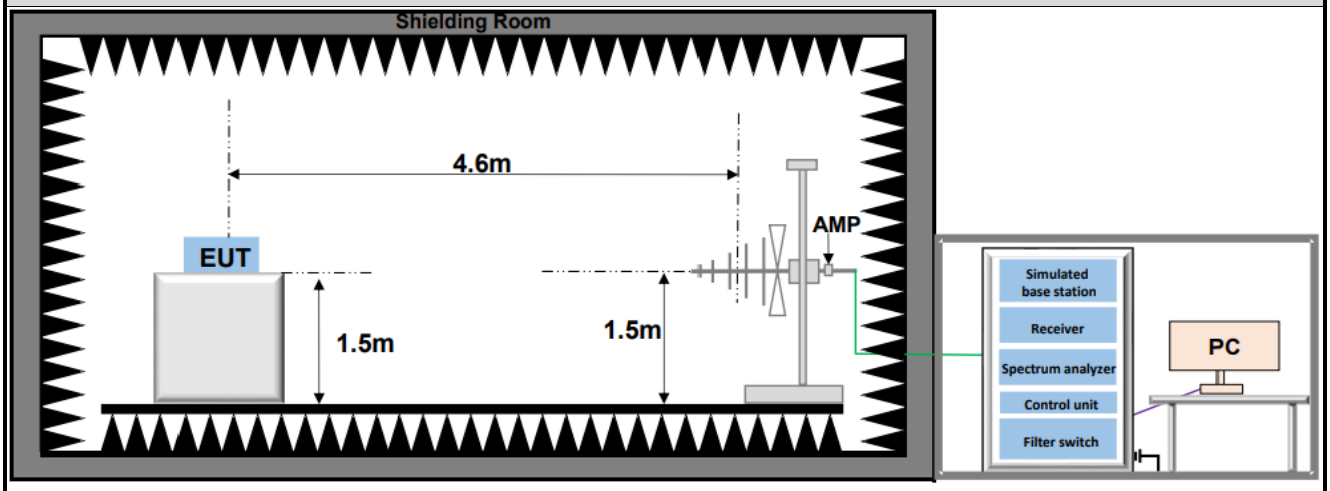
In case of equipment with antenna connectors, these limits apply to emissions at the antenna port (conducted). For emissions radiated by the cabinet or emissions radiated by integral antenna equipment (without antenna connectors), these limits are ERP for emissions up to 1 GHz and EIRP for emissions above 1 GHz.

Table 3: Transmitter unwanted emission limits outside the transmitter's operating bands

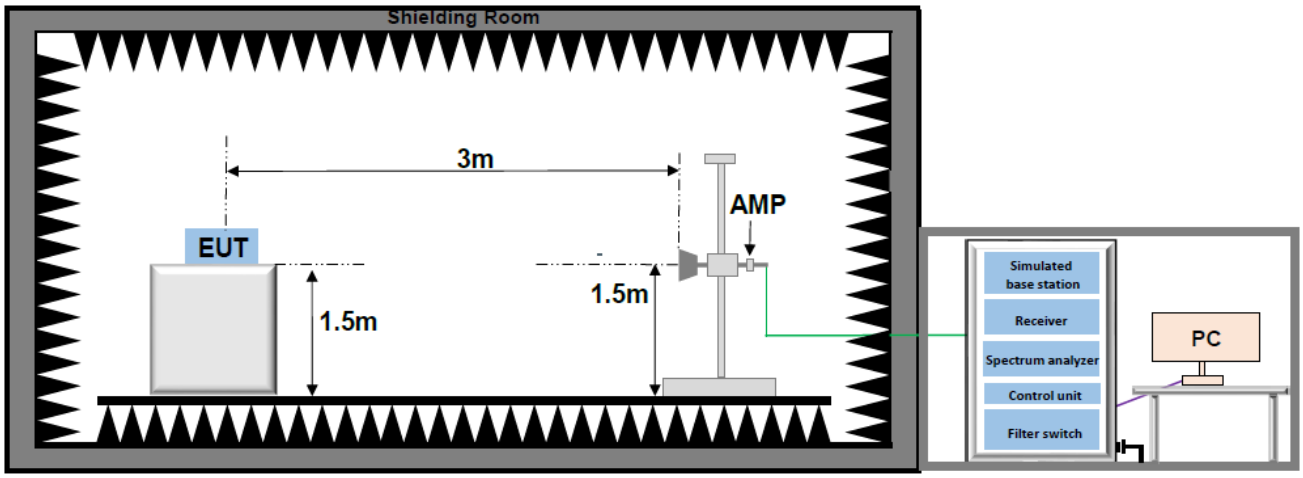
Frequency range	Maximum power	Bandwidth
30 MHz to 87.5 MHz	-36dBm	100 kHz
87,5 MHz to 118 MHz	-54dBm	100 kHz
118 MHz to 174 MHz	-36dBm	100 kHz
174 MHz to 230 MHz	-54dBm	100 kHz
230 MHz to 470 MHz	-36dBm	100 kHz
470 MHz to 694 MHz	-54dBm	100 kHz
964 MHz to 1 GHz	-36dBm	100 kHz
1 GHz to 26 GHz	-30dBm	1MHz

Test Environment:	Refer to section 2.4.
Measuring Instruments:	Refer to section 3.1
Test Procedure:	1. The test distance between the receiving antenna and the EUT is 4.6m below 1GHz frequency range, and 3m which is in far field test condition for measured frequency above 1GHz, while the receiving (test) antenna scanning 1.5m height. 2. The EUT was placed on a turntable with 1.5m height (FAR). 3. Set EUT in continuous transmitting with maximum output power. 4. The table was rotated from 0 to 360 degree to search the highest radiated emission. 5. Repeat above step for each polarization and channel to find the worst emission level. 6. The results obtained are compared to the limits in order to prove compliance with the requirement.

Test Setup:



Below 1GHz



Above 1GHz

Test Result:	Appendix
Remark[1]:	Radiated spurious emissions were measured from 30MHz to 26GHz. The disturbance between 18GHz to 26GHz was very low. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be recorded.
Remark[2]:	Transmitter unwanted emissions outside the 5 GHz RLAN bands were performed with the EUT set to transmit at the worst-case mode/channel based on power and PSD.

4.5 Transmitter unwanted emissions within the transmitter's operating bands

Test Requirement:	ETSI EN 301 893 Clause 4.2.4.2
Test Method:	ETSI EN 301 893 Clause 5.4.6

Limit:

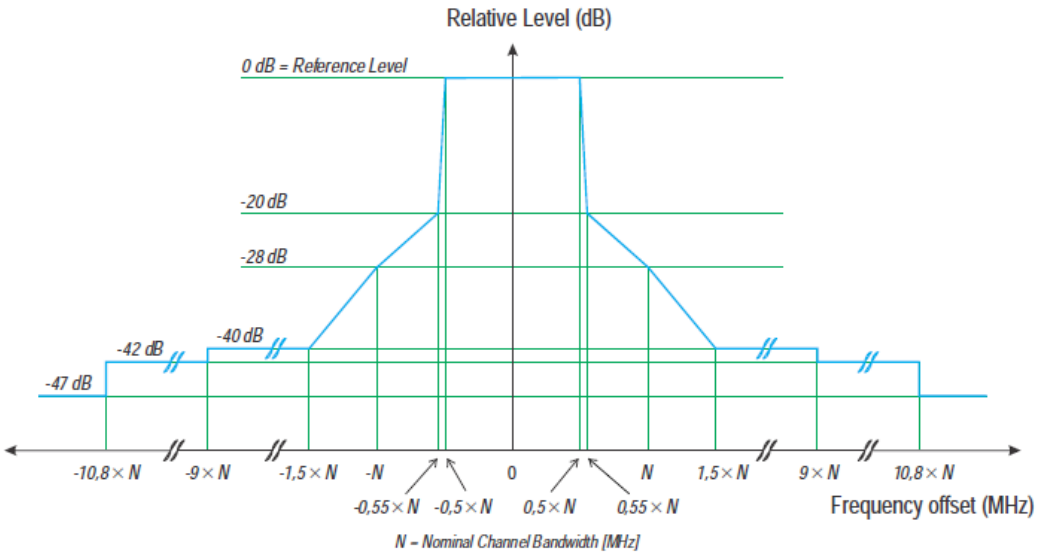


Figure 1: Transmit spectral power mask

The mean PSD of the transmitter unwanted emissions within the transmitter's operating bands shall not exceed the limits of the mask provided in figure 1 or an absolute level of -30 dBm/MHz, whichever is greater. The limits in figure 1 are relative to the maximum PSD transmitted by the RLAN device when measured with a reference bandwidth of 1 MHz.

The mask is only applicable within the band(s) of operation. Beyond the band edges, the requirements for transmitter unwanted emissions outside the transmitter's operating bands (see clause 4.2.4.1) apply.

In case of smart antenna systems (devices with multiple transmit chains) each of the transmit chains shall meet the limits for transmitter unwanted emissions within the transmitter's operating bands.

In case of multi-channel operation in adjacent or non-adjacent channels, clause 4.2.4.2.2.2 and clause 4.2.4.2.2.3 describe how the overall transmit spectral power mask to be applied shall be constructed. The transmitter unwanted emissions within the transmitter's operating bands shall not exceed the limits of this overall transmit spectral power mask or an absolute level of -30 dBm/MHz based on ERC Recommendation 74-01 [i.13], whichever is greater.

The channel edge masks for multi-channel operation in adjacent and/or non-adjacent channels which are supported by the equipment shall be noted in the test report (see clause 5.4.1).

Channel edge mask for multi-channel operation in adjacent channels

- When the lowest channel(s) and/or the highest channel(s) of a group of adjacent channels is/are not used for transmission, an additional channel edge mask as in figure 2 shall be applied at the lower edge of the lowest channel used for transmission and at the higher edge of the highest channel used for transmission. M is the separation in MHz between these edges.

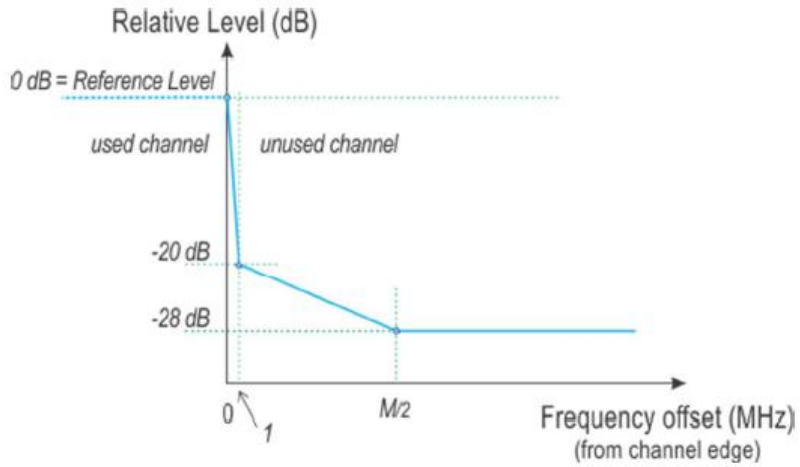


Figure 2: Channel edge mask - case 1

- When there are two or more channels not used for transmission in between channels used for transmission (all belonging to the same group of adjacent channels configured for multi-channel operation) and these channels not used for transmission are adjacent to each other, an additional channel edge mask as in figure 3 shall be applied at the higher edge of the channel adjacent to the lowest channel of the group of adjacent channels not used for transmission and at the lower edge of the channel adjacent to the highest channel of the group of adjacent channels not used for transmission. U is the total bandwidth of channels used for transmission adjacent to the channels not used for transmission.

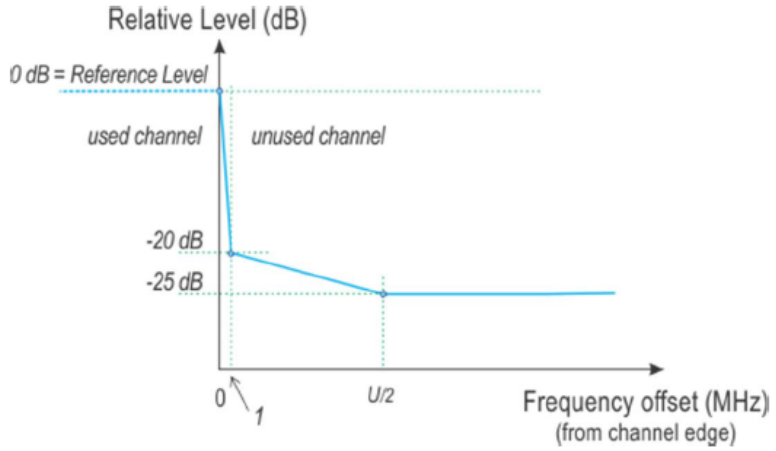


Figure 3: Channel edge mask - case 2

- When there is only one channel not used for transmission in between channels used for transmission (all belonging to the group of adjacent channels configured for multi-channel operation), an additional channel edge mask as in figure 4 shall be applied at the higher edge of the channel below the channel not used for transmission and at the lower edge of the channel above the channel not used for transmission

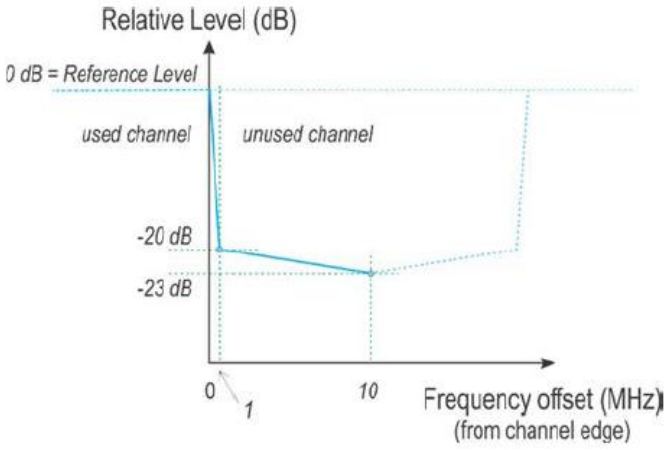


Figure 4: Channel edge mask - case 3

Any Local Oscillator (LO) power in a 2 MHz band may exceed the limits provided by the overall transmit spectral power mask (constructed from the masks in figure 1 to figure 4) but shall be less than -28 dBc (relative to the RF output power), or less than -20 dBm/MHz, whichever is greater. A 2 MHz band per LO can be located anywhere within the group of adjacent channels configured for multi-channel operation. The LO exceedance shall occur not more than once per 20 MHz of the total bandwidth (N) of the group of adjacent channels. For the specific case of a 40 MHz band configured for multi-channel operation and only one channel is being used for transmission, the LO exceedance shall be not more than 0 dBr if occurring.

Annex I contains a number of examples of how the overall transmit spectral power mask is constructed.

Equipment configured for multi-channel operation in groups of four adjacent channels

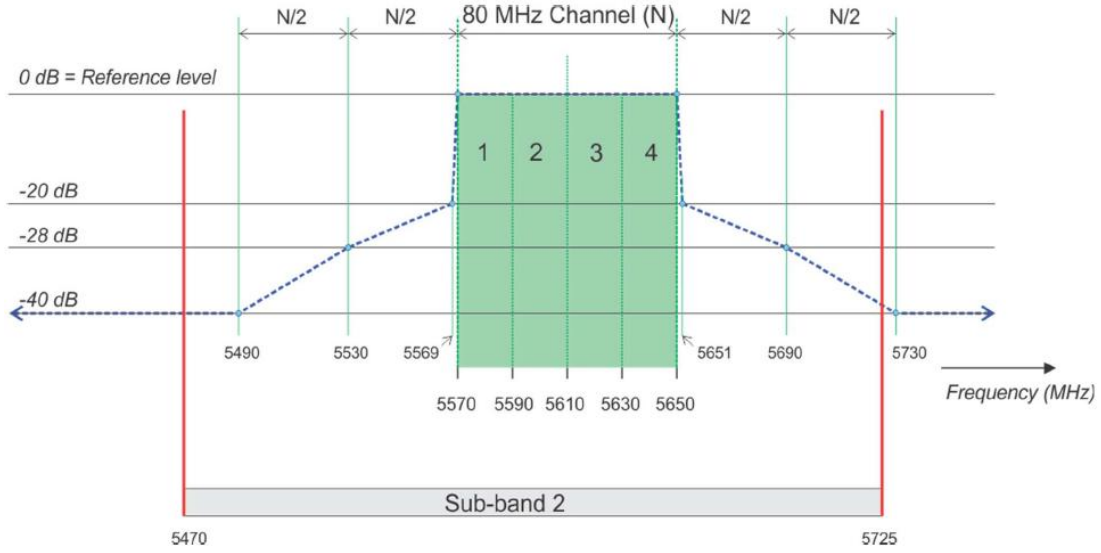


Figure I.1: Example 1

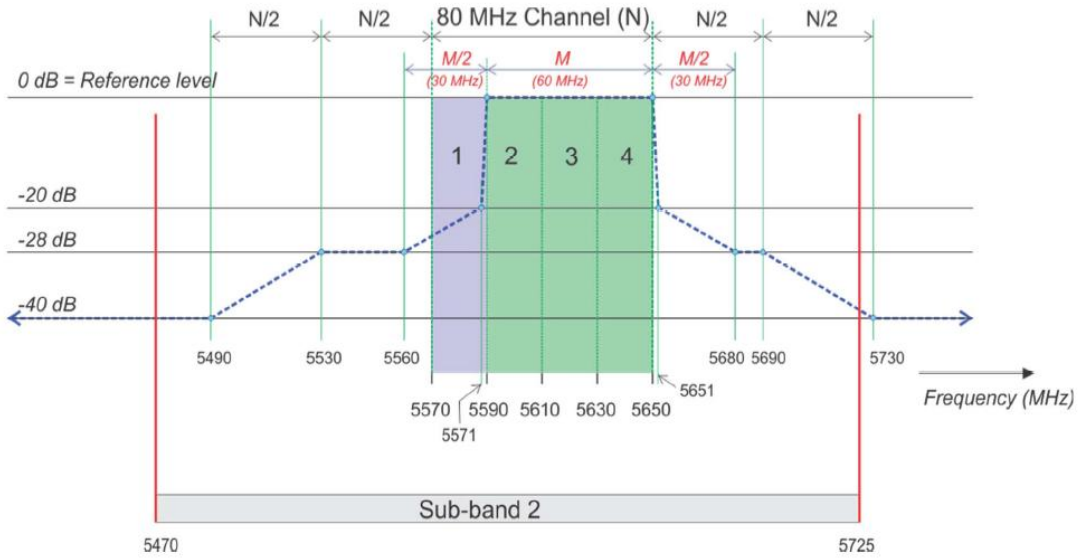


Figure I.2: Example 2

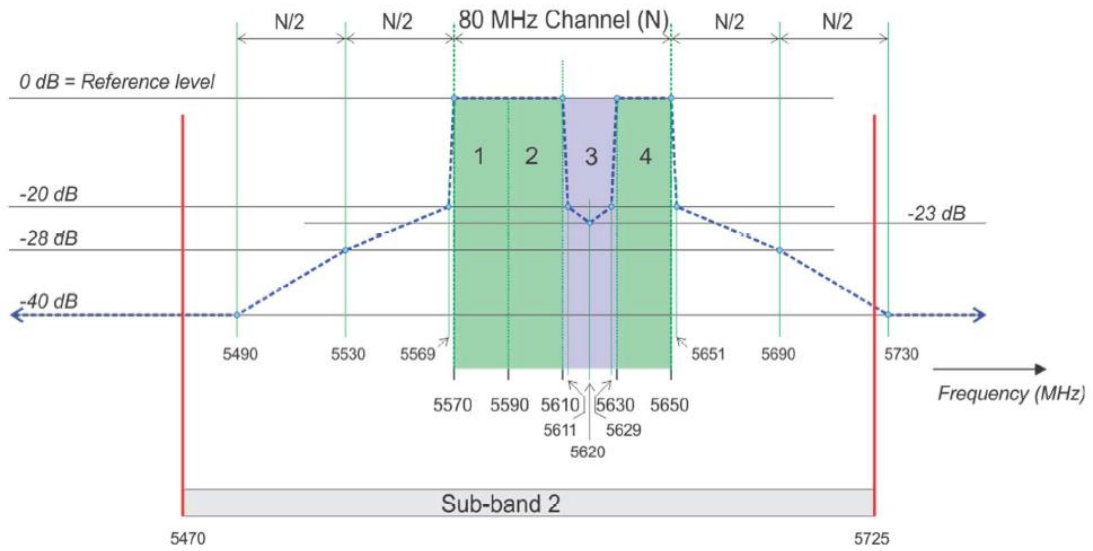


Figure I.3: Example 3

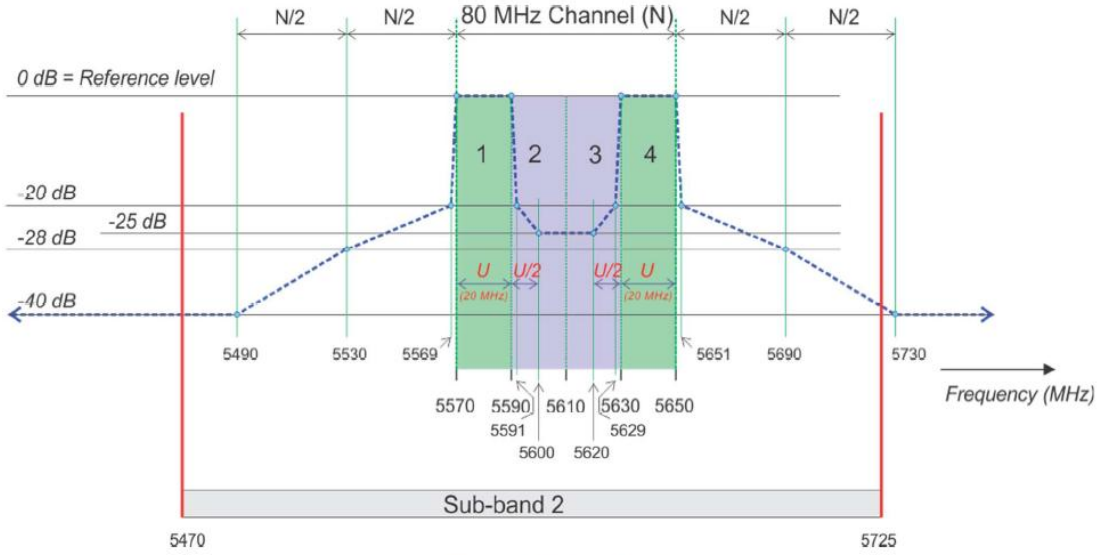


Figure I.4: Example 4

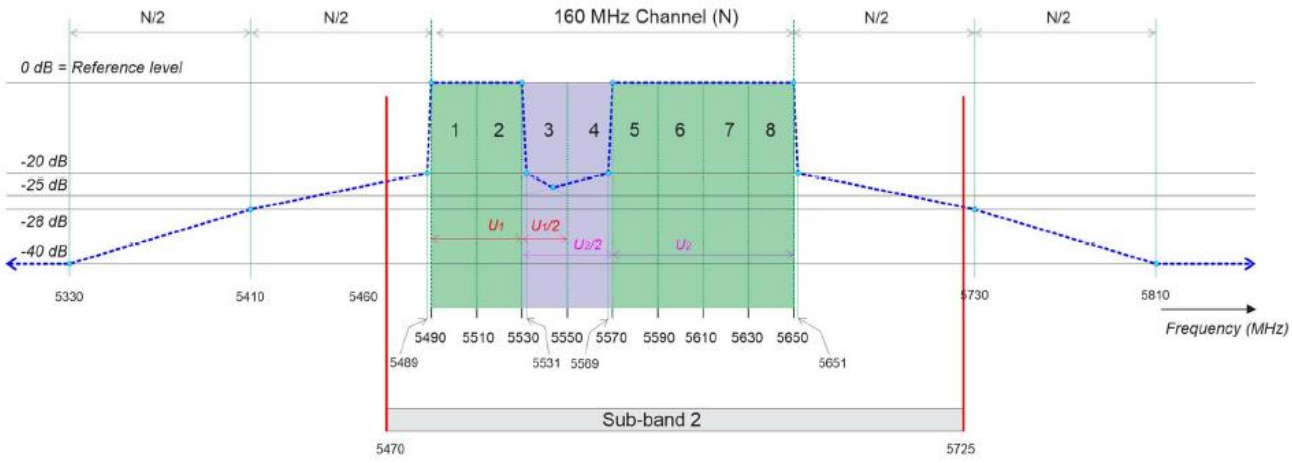


Figure I.5: Example 5

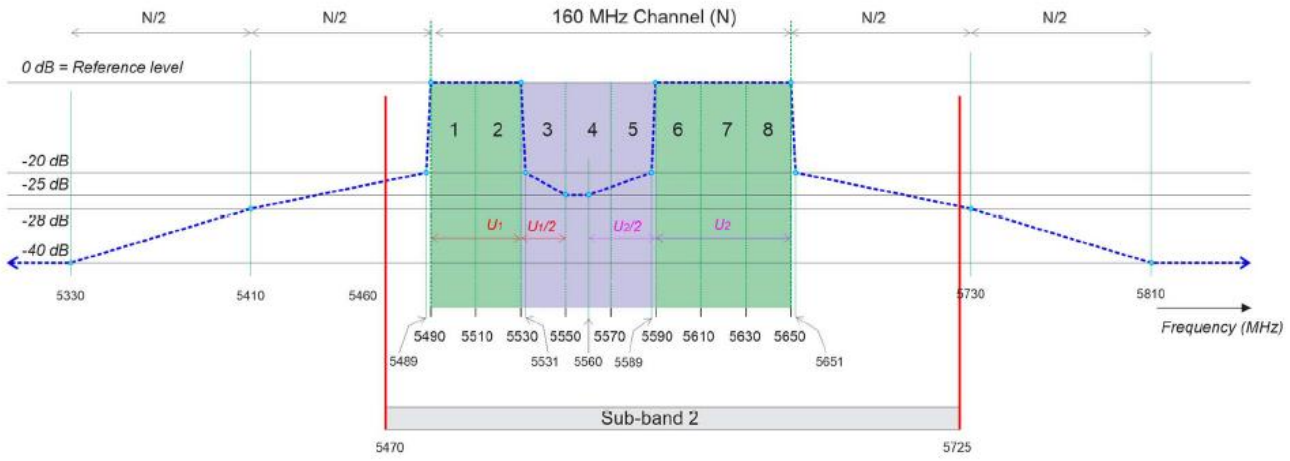


Figure I.6: Example 6

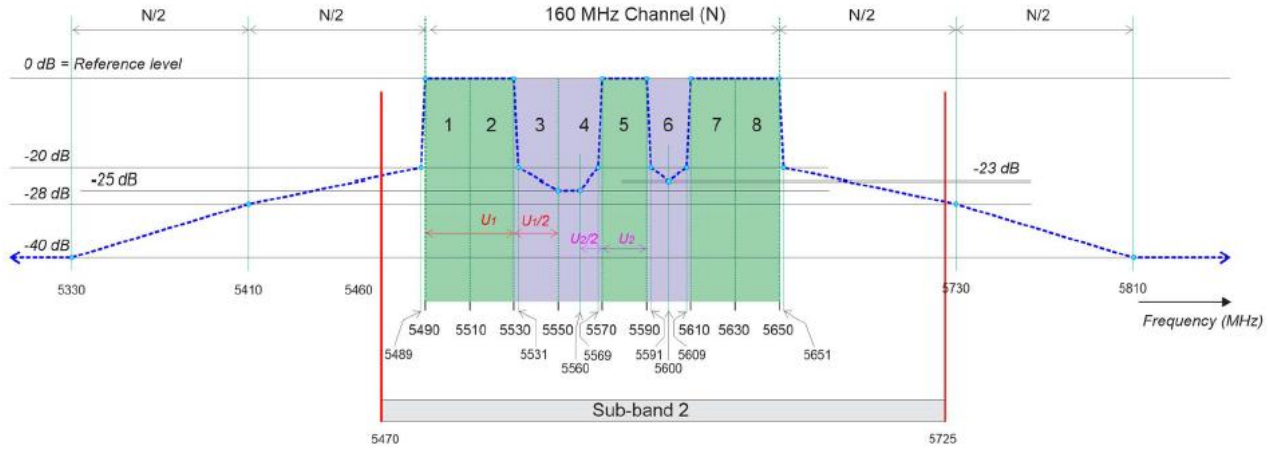


Figure I.7: Example 7

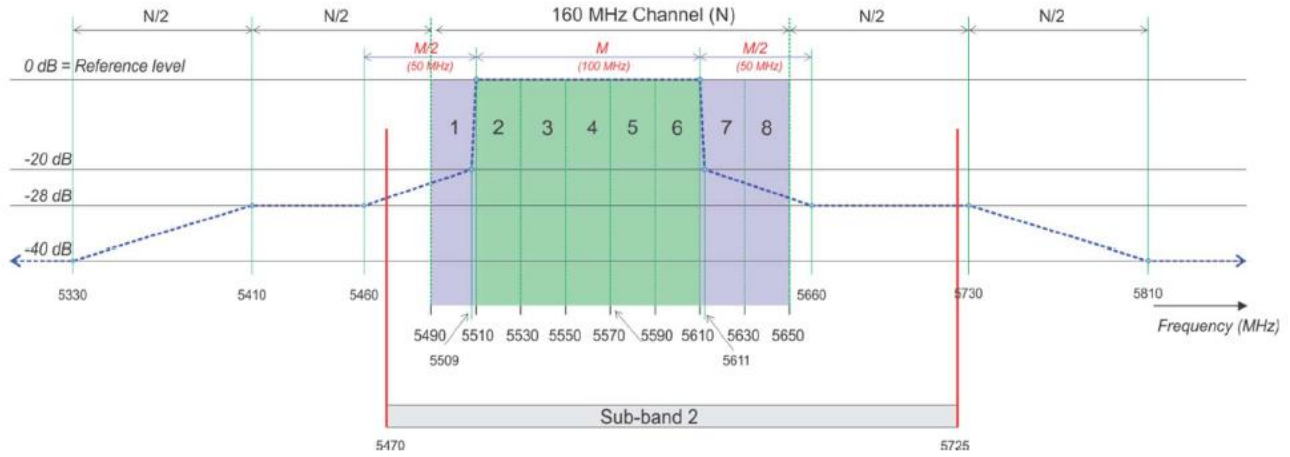


Figure I.8: Example 8

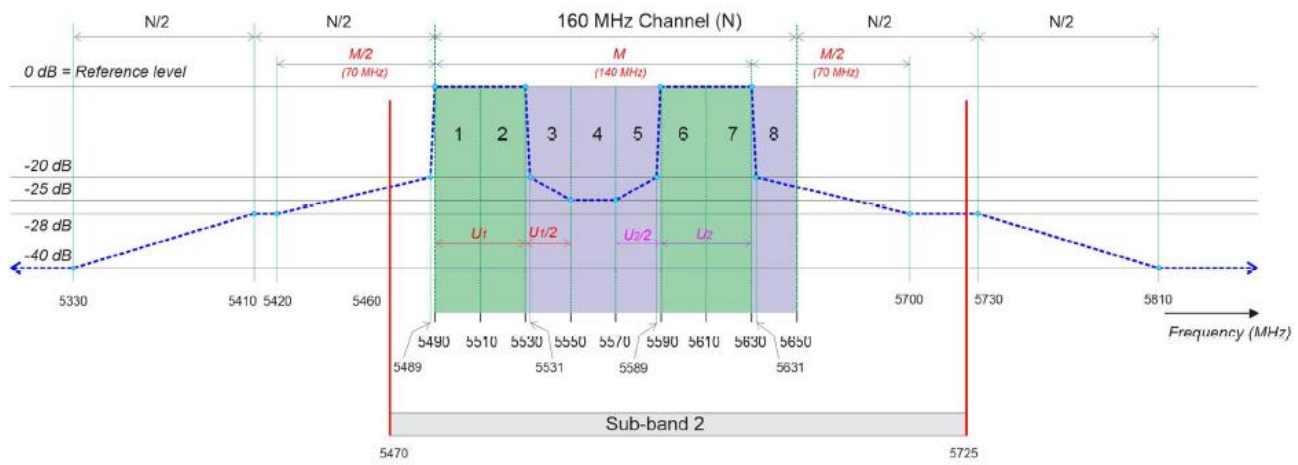
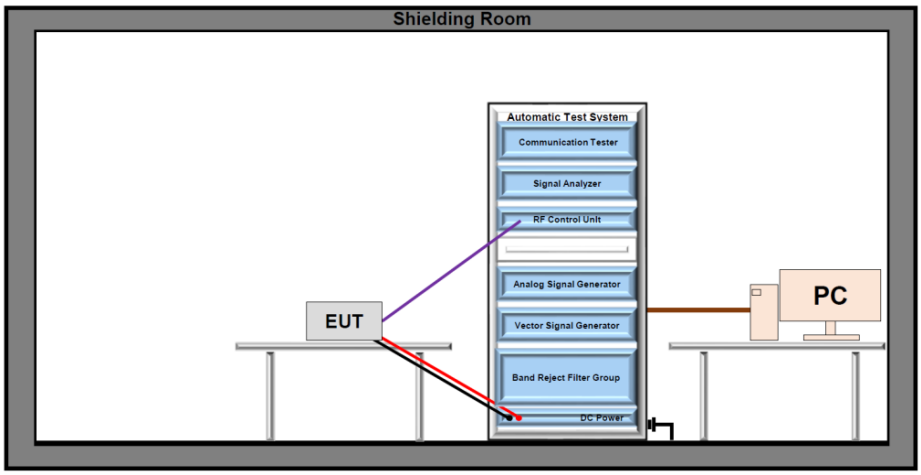


Figure I.9: Example 9

Test Environment:	Refer to section 2.4.
Test Setup:	
Measuring Instruments:	Refer to section 3.1
Test Result:	Appendix

4.6 Receiver spurious emissions

Test Requirement:	ETSI EN 301 893 Clause 4.2.5
Test Method:	ETSI EN 301 893 Clause 5.4.7
Measurement Distance:	3m

Limit:

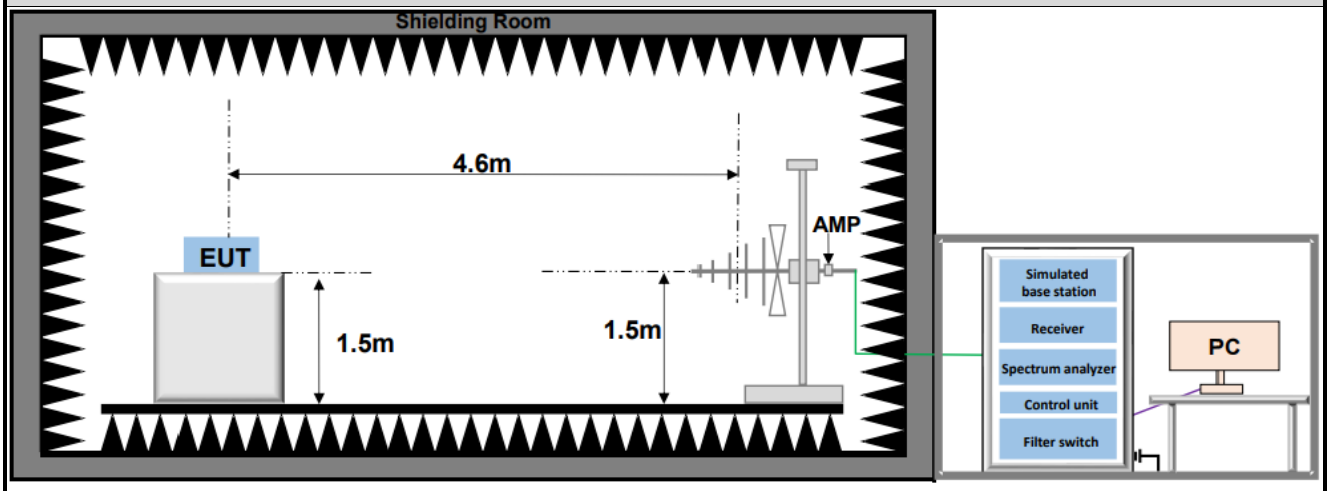
In case of equipment with antenna connectors, these limits apply to emissions at the antenna port (conducted). For emissions radiated by the cabinet or emissions radiated by integral antenna equipment (without antenna connectors), these limits are ERP for emissions up to 1 GHz and EIRP for emissions above 1 GHz.

Table 4: Spurious radiated emission limits

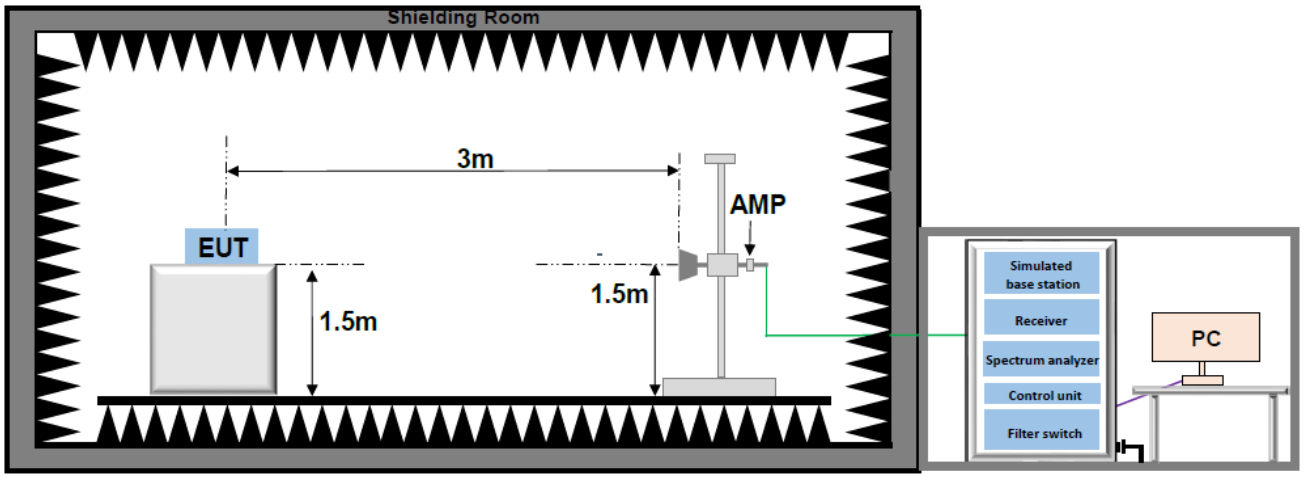
Frequency Range	Maximum power	Measurement bandwidth
30MHz to 1GHz	-57dBm	100 kHz
1GHz to 26GHz	-47dBm	1 MHz

Test Environment:	Refer to section 2.4.
Measuring Instruments:	Refer to section 3.1
Test Procedure:	1. The test distance between the receiving antenna and the EUT is 4.6m below 1GHz frequency range, and 3m which is in far field test condition for measured frequency above 1GHz, while the receiving (test) antenna scanning 1.5m height. 2. The EUT was placed on a turntable with 1.5m height (FAR). 3. Set EUT in continuous transmitting with maximum output power. 4. The table was rotated from 0 to 360 degree to search the highest radiated emission. 5. Repeat above step for each polarization and channel to find the worst emission level. 6. The results obtained are compared to the limits in order to prove compliance with the requirement.

Test Setup:



Below 1GHz



Above 1GHz

Test Result:	Appendix
Remark:	Radiated spurious emissions were measured from 30MHz to 26GHz. The disturbance between 18GHz to 26GHz was very low. The 18GHz to 26GHz data not be recorded.

4.7 Receiver Blocking

Test Requirement:	ETSI EN 301 893 Clause 4.2.8
Test Method:	ETSI EN 301 893 Clause 5.4.10

Limit:

For equipment that supports a PER or FER test to be performed, the minimum performance criterion shall be a PER or FER less than or equal to 10 %.
For equipment that does not support a PER or a FER test to be performed, the minimum performance criterion shall be no loss of the wireless transmission function needed for the intended use of the equipment.

While maintaining the minimum performance criteria as defined in clause 4.2.8.3, the blocking levels at specified frequency offsets shall be equal to or greater than the limits defined in table 8.

Table 8: Receiver Blocking parameters

Wanted signal mean power from companion device (dBm)	Blocking signal frequency (MHz)	Blocking signal power (dBm) (see note 2)		Type of blocking signal
		Master or Slave with radar detection (see table D.2, note 2)	Slave without radar detection (see table D.2, note 2)	
P_{min} + 6dB	5100	-53	-59	Continuous Wave
P_{min} + 6dB	4900 5000 5975	-47	-53	Continuous Wave
Note	P_{min} is the minimum level of the wanted signal (in dBm) required to meet the minimum performance criteria as defined clause 4.2.8.3 in the absence of any blocking signal.			

Test Environment:	Refer to section 2.4.
Measuring Instruments:	Refer to section 3.1

Test Setup:

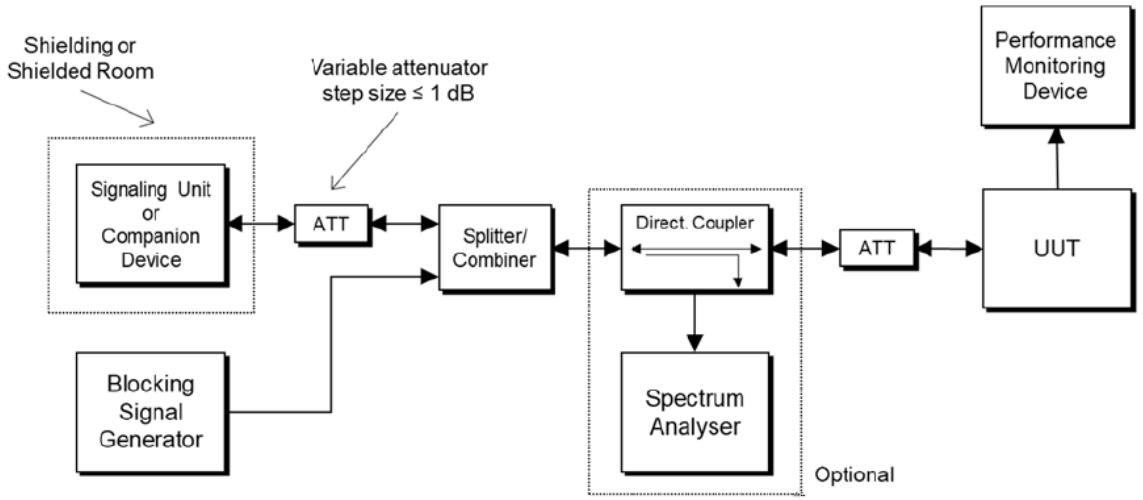


Figure 21: Test setup for receiver blocking

Test Result:	Appendix

4.8 Adjacent channel selectivity

Test Requirement:	ETSI EN 301 893 Clause 4.2.9
Test Method:	ETSI EN 301 893 Clause 5.4.11

Limit:

For equipment that supports a PER or FER test to be performed, the minimum performance criterion shall be a PER or FER less than or equal to 10 %.
For equipment that does not support a PER or a FER test to be performed, the minimum performance criterion shall be no loss of the wireless transmission function needed for the intended use of the equipment

The limits defined in this clause apply when the equipment receives the wanted signal on a single channel and the occupied bandwidth of the interfering signal falls completely within a channel adjacent to this channel. Both channels have a nominal channel bandwidth as defined in clause 4.2.2.
While maintaining the minimum performance criteria as defined in clause 4.2.9.3. the adiacent channel interferer level shall be equal to or greater than the limit given in table 9 corresponding to a frequency offset within the range specified in table 9.

Table 9: Adjacent channel selectivity parameters

Wanted signal mean power from companion device (dBm)	Interferer signal frequency offset range (MHz)	Interferer signal Power (dBm) (see note 2)	Type of blocking signal
P_{min} + 10dB	20±0.2	Pmin + 26dB	Same as the wanted signal with an equivalent occupied bandwidth

Note 1: P_{min} is the minimum level of the wanted signal (in dBm) required to meet the minimum performance criteria as defined clause 4.2.9.3 in the absence of any interfering signal.
Note 2: The level specified for the interferer signal applies at the lowest data rate.

Test Environment:	Refer to section 2.4.
Measuring Instruments:	Refer to section 3.1

Test Setup:

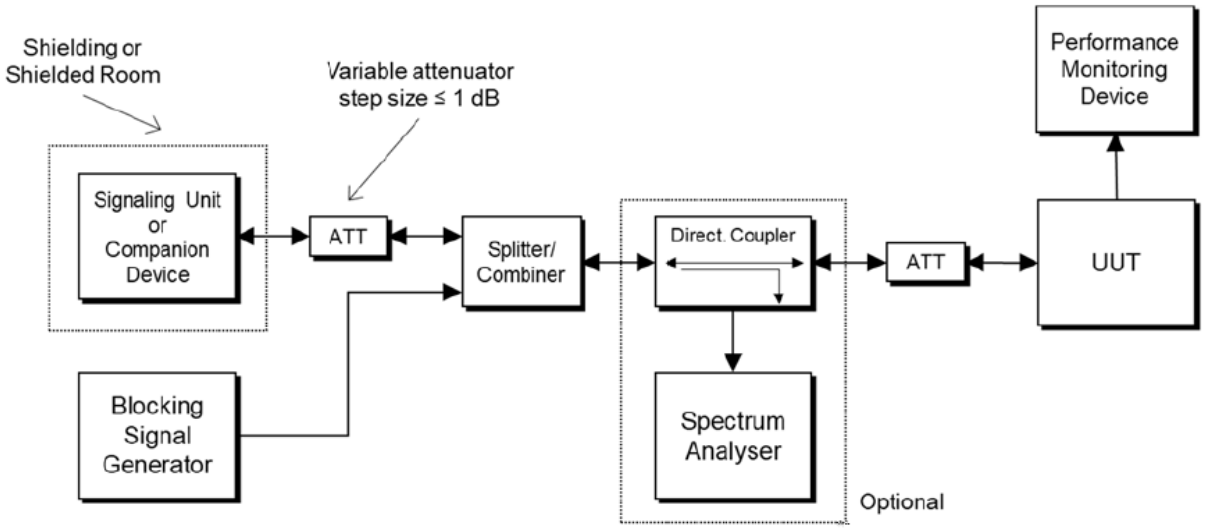
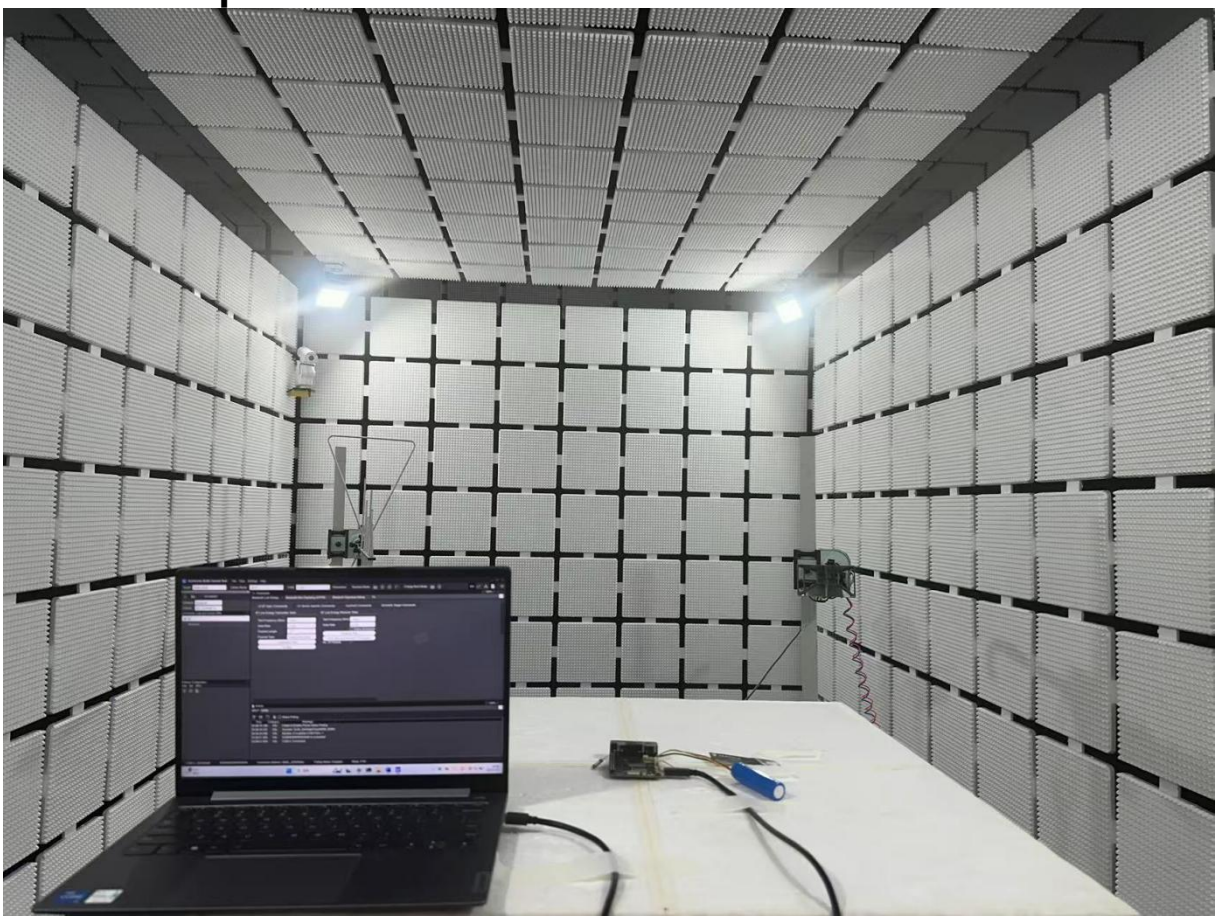


Figure 22: Test setup for receiver adjacent channel selectivity

Test Result:	Appendix

5 Test Setup Photos



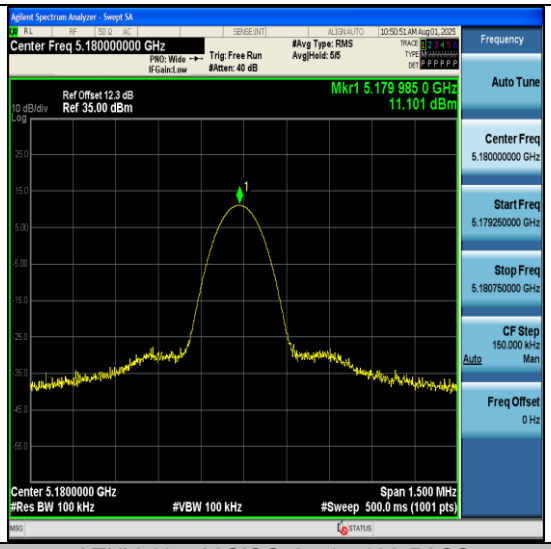
Appendix

Carrier frequencies

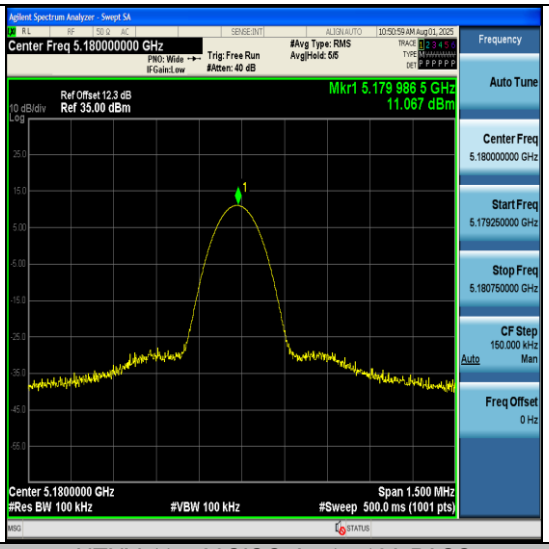
Test Result

Test Condition	TestMode	Antenna	Frequency[MHz]	Result[ppm]	Limit[ppm]	Verdict
LTNV	11ac20SISO	Ant1	5180	-2.89575	±20	PASS
NTNV	11ac20SISO	Ant1	5180	-2.60618	±20	PASS
HTNV	11ac20SISO	Ant1	5180	-3.18533	±20	PASS
LTNV	11ac40SISO	Ant1	5190	-3.17919	±20	PASS
NTNV	11ac40SISO	Ant1	5190	-3.17919	±20	PASS
HTNV	11ac40SISO	Ant1	5190	-3.17919	±20	PASS
LTNV	11ac80SISO	Ant1	5210	-3.45489	±20	PASS
NTNV	11ac80SISO	Ant1	5210	-3.45489	±20	PASS
HTNV	11ac80SISO	Ant1	5210	-3.45489	±20	PASS

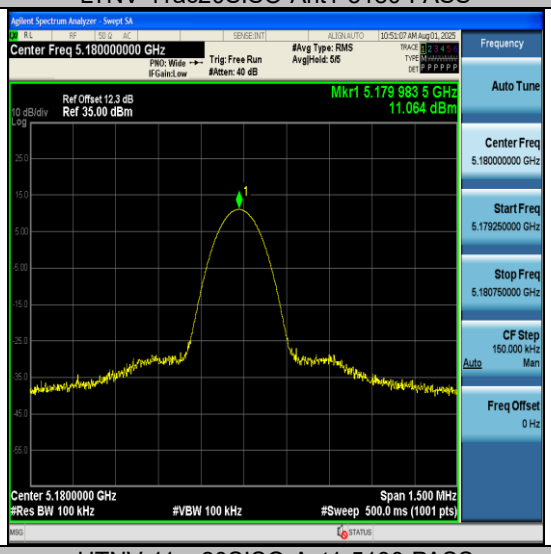
Test Graphs



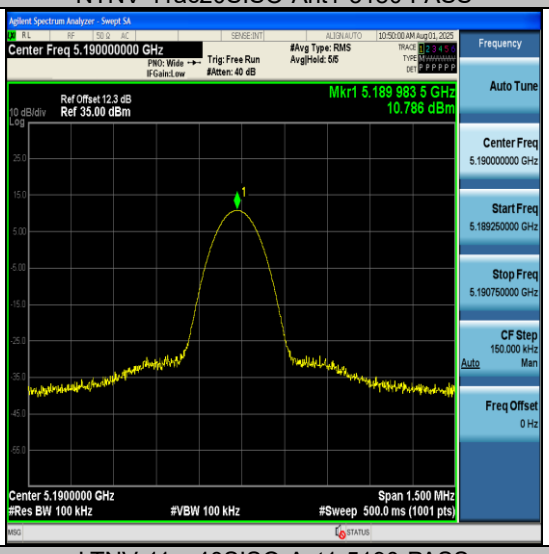
LTNV-11ac20SISO-Ant1-5180-PASS



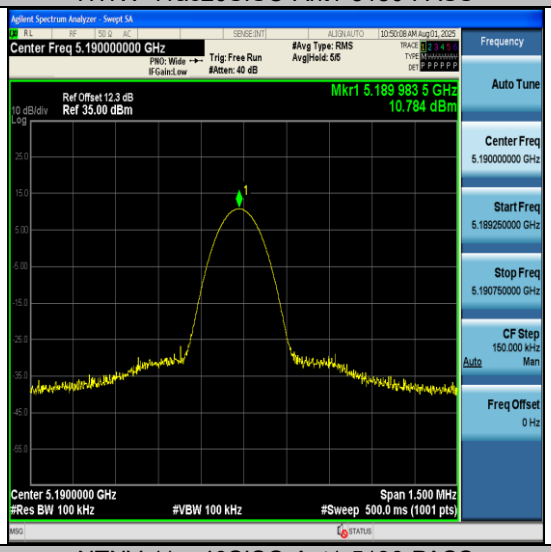
NTNV-11ac20SISO-Ant1-5180-PASS



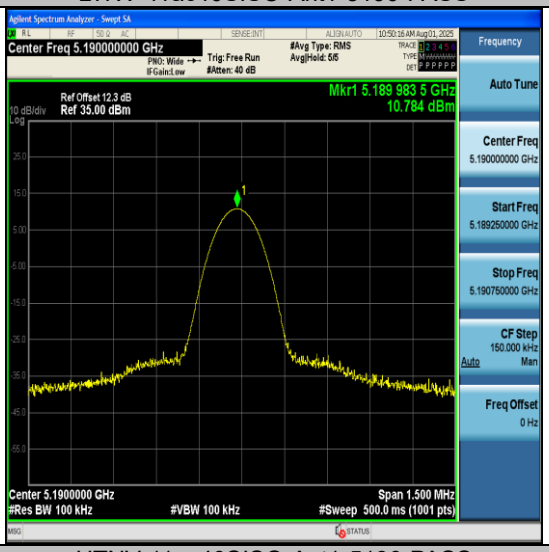
HTNV-11ac20SISO-Ant1-5180-PASS



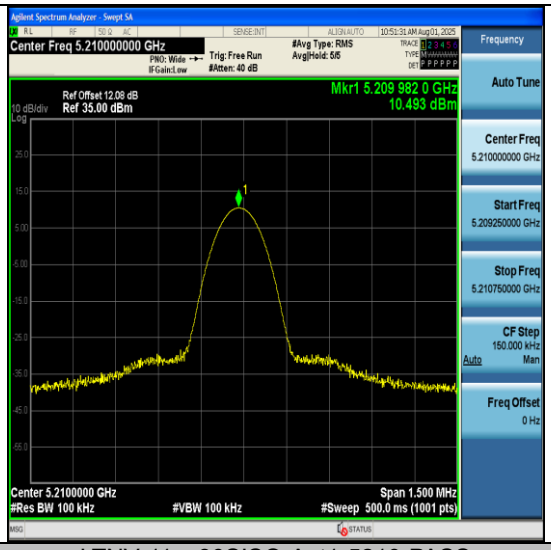
LTNV-11ac40SISO-Ant1-5190-PASS



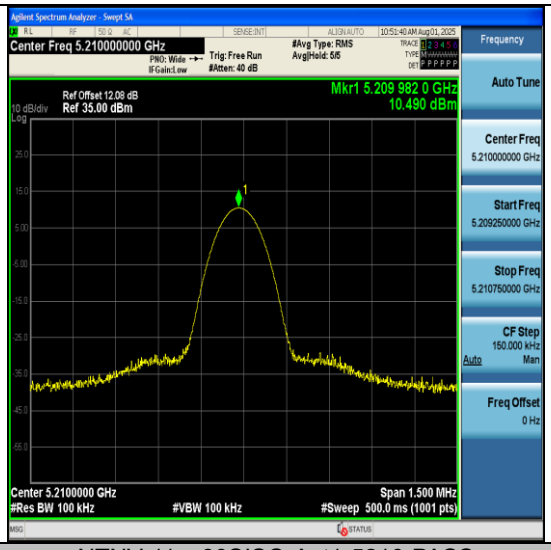
NTNV-11ac40SISO-Ant1-5190-PASS



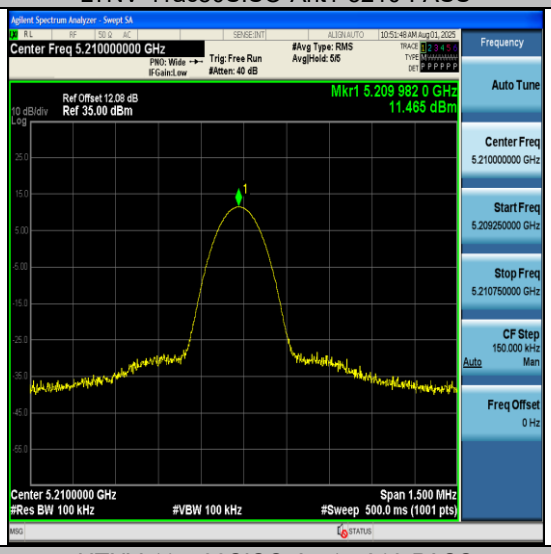
HTNV-11ac40SISO-Ant1-5190-PASS



LTNV-11ac80SISO-Ant1-5210-PASS



NTNV-11ac80SISO-Ant1-5210-PASS



HTNV-11ac80SISO-Ant1-5210-PASS

RF Output Power
Test Result

Test Condition	Test Mode	Antenna	Frequency [MHz]	TPC	Conducted power [dBm]	Gain [dBi]	EIRP [dBm]	EIRP Limit [dBm]	Verdict
LTNV	11a	Ant1	5240	NA	16.45	2.30	18.75	23	PASS
LTNV	11a	Ant1	5260	TPC_H	16.65	2.30	18.95	23	PASS
NTNV	11a	Ant1	5240	NA	16.43	2.30	18.73	23	PASS
NTNV	11a	Ant1	5260	TPC_H	16.73	2.30	19.03	23	PASS
HTNV	11a	Ant1	5240	NA	16.42	2.30	18.72	23	PASS
HTNV	11a	Ant1	5260	TPC_H	16.69	2.30	18.99	23	PASS
LTNV	11ac20SISO	Ant1	5240	NA	15.55	2.30	17.85	23	PASS
LTNV	11ac20SISO	Ant1	5260	TPC_H	14.46	2.30	16.76	23	PASS
NTNV	11ac20SISO	Ant1	5240	NA	15.50	2.30	17.80	23	PASS
NTNV	11ac20SISO	Ant1	5260	TPC_H	14.42	2.30	16.72	23	PASS
HTNV	11ac20SISO	Ant1	5240	NA	15.49	2.30	17.79	23	PASS
HTNV	11ac20SISO	Ant1	5260	TPC_H	14.50	2.30	16.80	23	PASS
LTNV	11ac40SISO	Ant1	5230	NA	15.38	2.30	17.68	23	PASS
LTNV	11ac40SISO	Ant1	5270	TPC_H	14.43	2.30	16.73	23	PASS
NTNV	11ac40SISO	Ant1	5230	NA	15.34	2.30	17.64	23	PASS
NTNV	11ac40SISO	Ant1	5270	TPC_H	14.36	2.30	16.66	23	PASS
HTNV	11ac40SISO	Ant1	5230	NA	15.32	2.30	17.62	23	PASS
HTNV	11ac40SISO	Ant1	5270	TPC_H	14.47	2.30	16.77	23	PASS
LTNV	11ac160SISO	Ant1	5250	TPC_H	13.69	2.30	15.99	23	PASS
NTNV	11ac160SISO	Ant1	5250	TPC_H	13.67	2.30	15.97	23	PASS
HTNV	11ac160SISO	Ant1	5250	TPC_H	13.63	2.30	15.93	23	PASS
LTNV	11ax20SISO	Ant1	5240	NA	16.22	2.30	18.52	23	PASS
LTNV	11ax20SISO	Ant1	5260	TPC_H	15.25	2.30	17.55	23	PASS
NTNV	11ax20SISO	Ant1	5240	NA	16.29	2.30	18.59	23	PASS
NTNV	11ax20SISO	Ant1	5260	TPC_H	15.18	2.30	17.48	23	PASS
HTNV	11ax20SISO	Ant1	5240	NA	16.26	2.30	18.56	23	PASS
HTNV	11ax20SISO	Ant1	5260	TPC_H	15.17	2.30	17.47	23	PASS
LTNV	11ax40SISO	Ant1	5230	NA	16.14	2.30	18.44	23	PASS
LTNV	11ax40SISO	Ant1	5270	TPC_H	15.26	2.30	17.56	23	PASS
NTNV	11ax40SISO	Ant1	5230	NA	16.15	2.30	18.45	23	PASS
NTNV	11ax40SISO	Ant1	5270	TPC_H	15.19	2.30	17.49	23	PASS
HTNV	11ax40SISO	Ant1	5230	NA	16.14	2.30	18.44	23	PASS
HTNV	11ax40SISO	Ant1	5270	TPC_H	15.28	2.30	17.58	23	PASS
LTNV	11ax160SISO	Ant1	5250	TPC_H	14.17	2.30	16.47	23	PASS
NTNV	11ax160SISO	Ant1	5250	TPC_H	14.22	2.30	16.52	23	PASS
HTNV	11ax160SISO	Ant1	5250	TPC_H	14.12	2.30	16.42	23	PASS

Power Spectral Density

Test Result

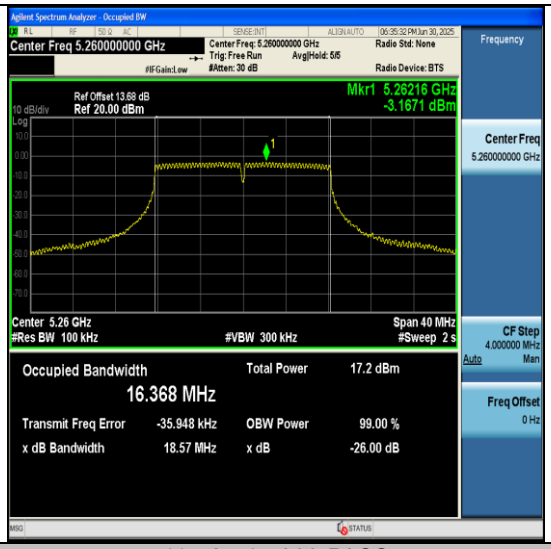
TestMode	Antenna	Channel	EIRP PSD [dBm/MHz]	Limit [dBm]	Verdict
11a	Ant1	5240	7.05	10	PASS
11a	Ant1	5260	7.32	10	PASS
11ac20SISO	Ant1	5240	5.91	10	PASS
11ac20SISO	Ant1	5260	4.81	10	PASS
11ax20SISO	Ant1	5240	6.31	10	PASS
11ax20SISO	Ant1	5260	5.17	10	PASS

Occupied Channel Bandwidth

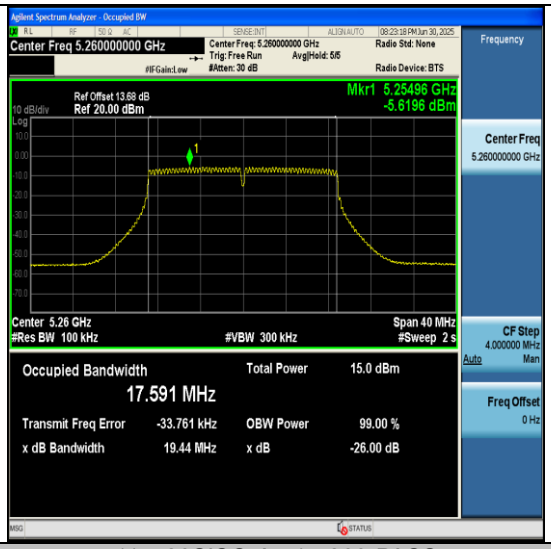
Test Result

TestMode	Antenna	Frequency[MHz]	OCB[MHz]	Limit[MHz]	Verdict
11a	Ant1	5260	16.368	16 to 20	PASS
11ac20SISO	Ant1	5260	17.591	16 to 20	PASS
11ac40SISO	Ant1	5270	36.142	32 to 40	PASS
11ax20SISO	Ant1	5260	18.903	16 to 20	PASS
11ax40SISO	Ant1	5270	37.725	32 to 40	PASS

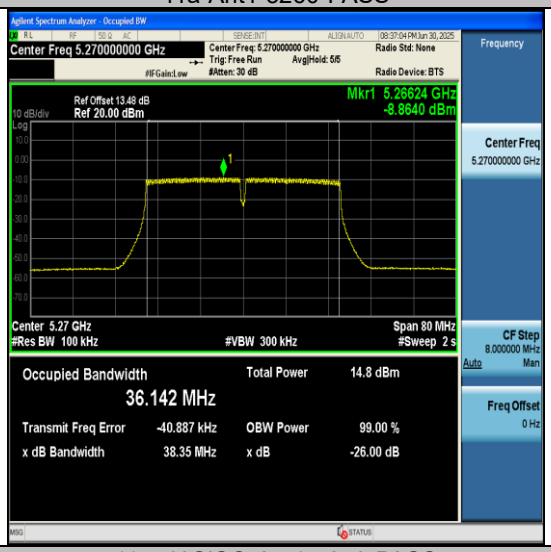
Test Graphs



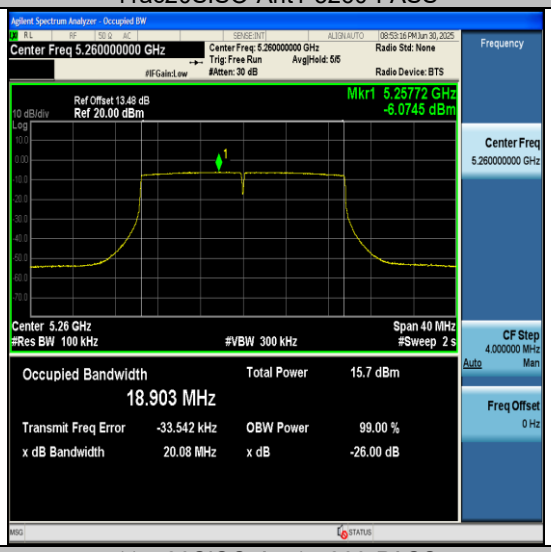
11a-Ant1-5260-PASS



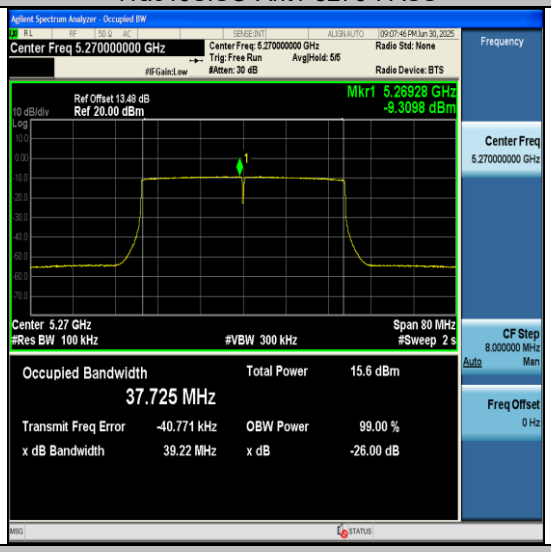
11ac20SISO-Ant1-5260-PASS



11ac40SISO-Ant1-5270-PASS



11ax20SISO-Ant1-5260-PASS



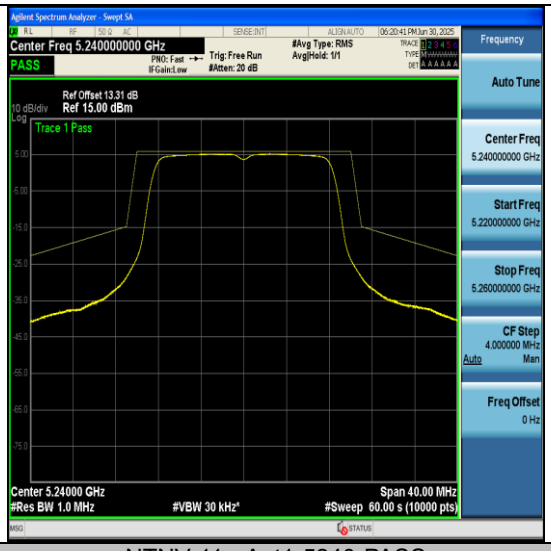
11ax40SISO-Ant1-5270-PASS

Transmitter unwanted emissions within the 5 GHz RLAN bands

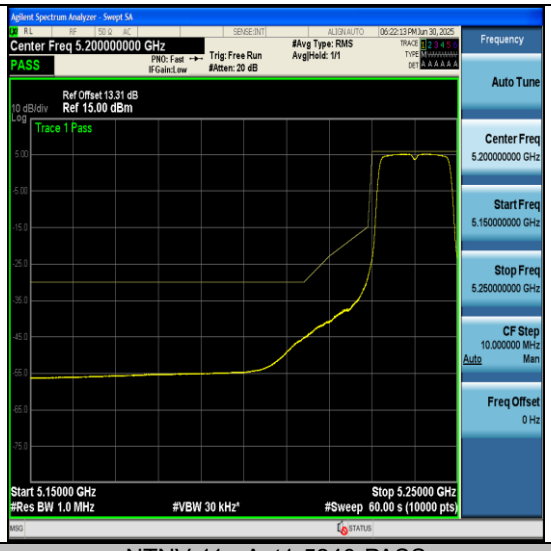
Test Result

TestMode	Antenna	Frequency[MHz]	Result [dBm]	Limit[dBm]	Verdict
11a	Ant1	5240	See test graph	See test graph	PASS
11a	Ant1	5260	See test graph	See test graph	PASS
11ac20SISO	Ant1	5240	See test graph	See test graph	PASS
11ac20SISO	Ant1	5260	See test graph	See test graph	PASS
11ax20SISO	Ant1	5240	See test graph	See test graph	PASS
11ax20SISO	Ant1	5260	See test graph	See test graph	PASS

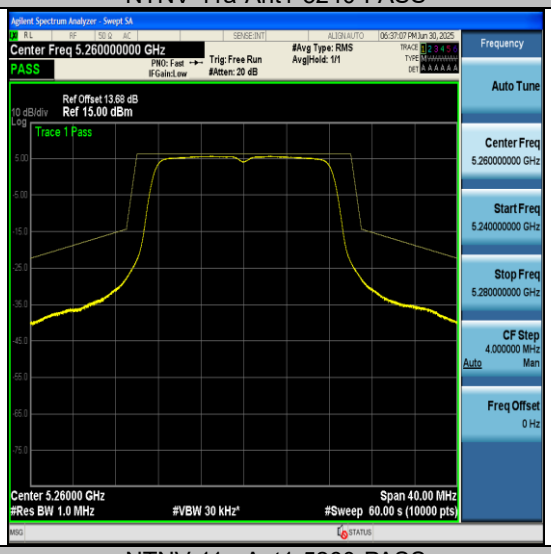
Test Graphs



NTNV-11a-Ant1-5240-PASS

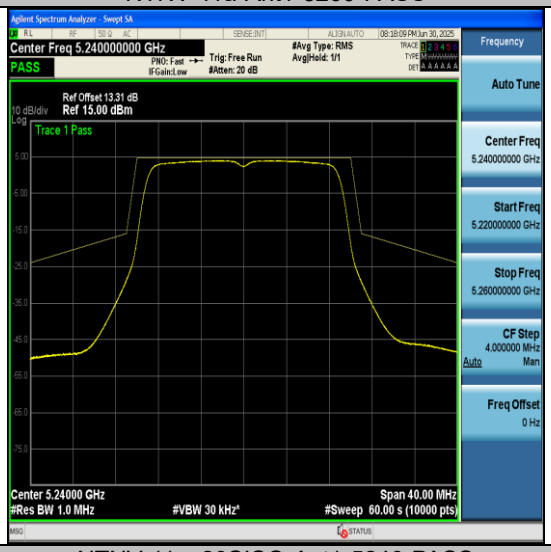


NTNV-11a-Ant1-5240-PASS

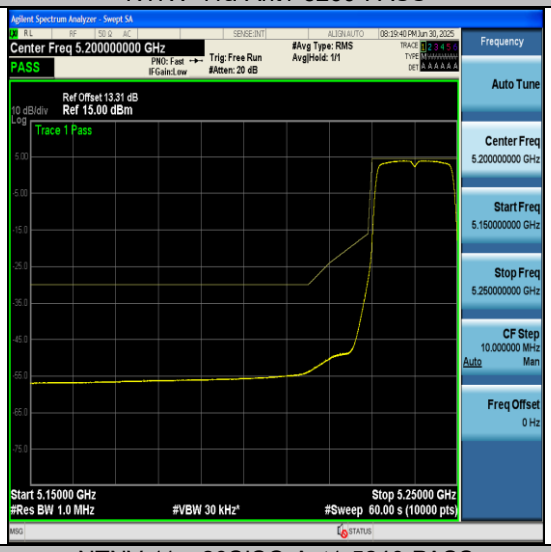


NTNV-11a-Ant1-5260-PASS

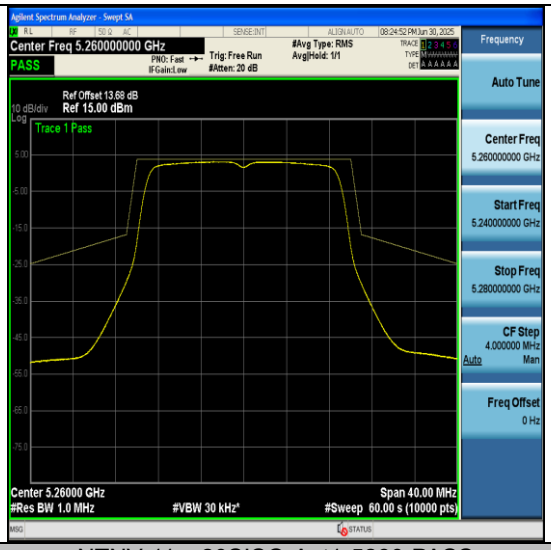
NTNV-11a-Ant1-5260-PASS



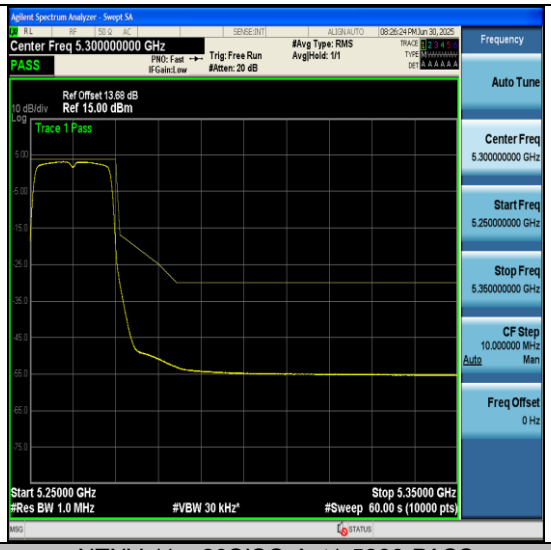
NTNV-11ac20SISO-Ant1-5240-PASS



NTNV-11ac20SISO-Ant1-5240-PASS

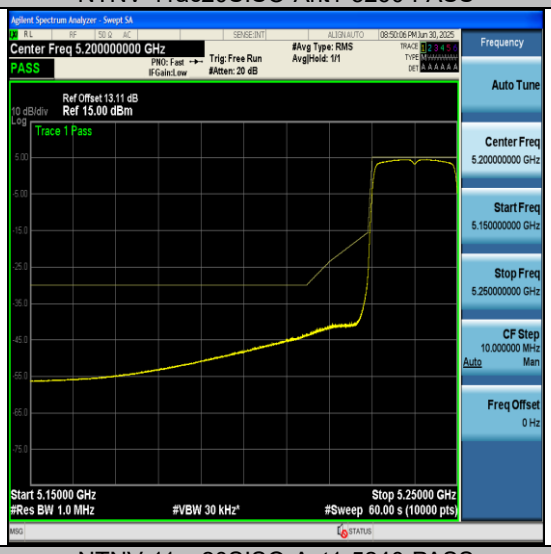


NTNV-11ac20SISO-Ant1-5260-PASS

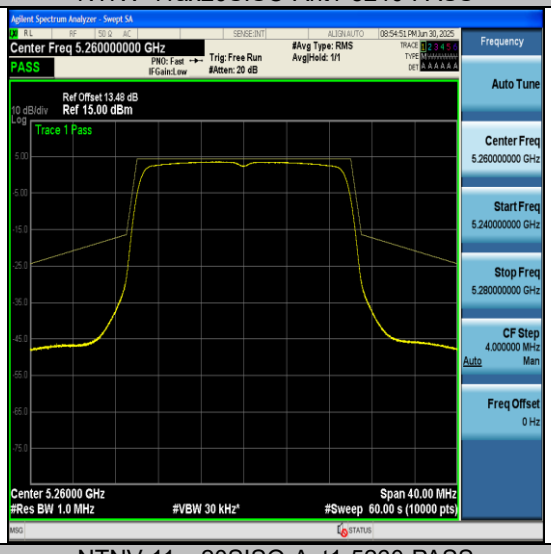


NTNV-11ac20SISO-Ant1-5260-PASS

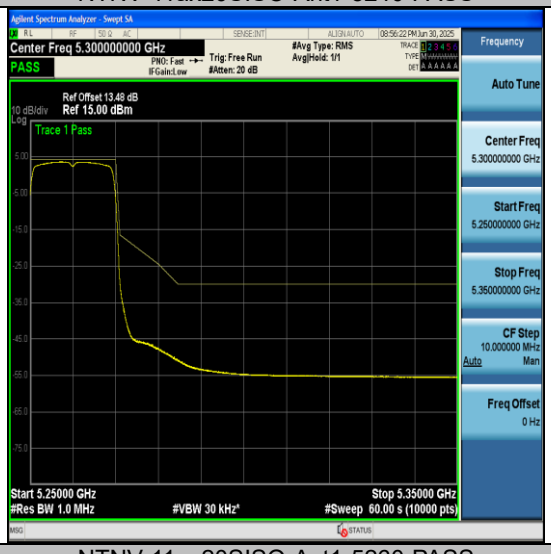
NTNV-11ax20SISO-Ant1-5240-PASS



NTNV-11ax20SISO-Ant1-5240-PASS



NTNV-11ax20SISO-Ant1-5260-PASS



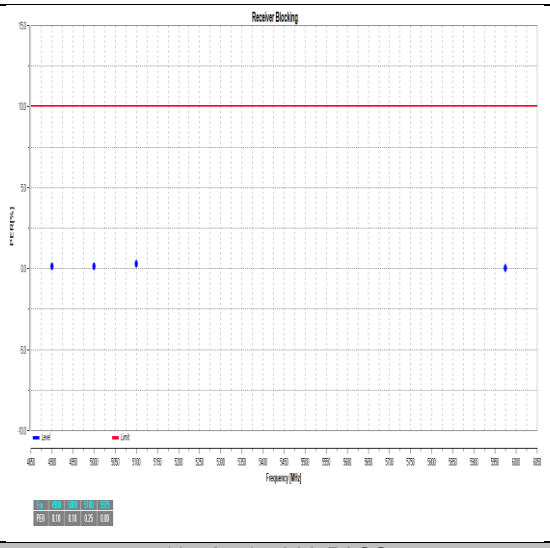
NTNV-11ax20SISO-Ant1-5260-PASS

Receiver Blocking

Test Result

TestMode	Antenna	Frequency[MHz]	Pmin [dBm]	Wanted signal [dBm]	Freq. [MHz]	CW [dBm]	PER [%]	Limit [%]	Verdict
11a	Ant1	5260	-89	-83	4900	-53	0.10	≤10	PASS
11a	Ant1	5260	-89	-83	5000	-53	0.10	≤10	PASS
11a	Ant1	5260	-89	-83	5100	-59	0.25	≤10	PASS
11a	Ant1	5260	-89	-83	5975	-53	0.00	≤10	PASS

Test Graphs



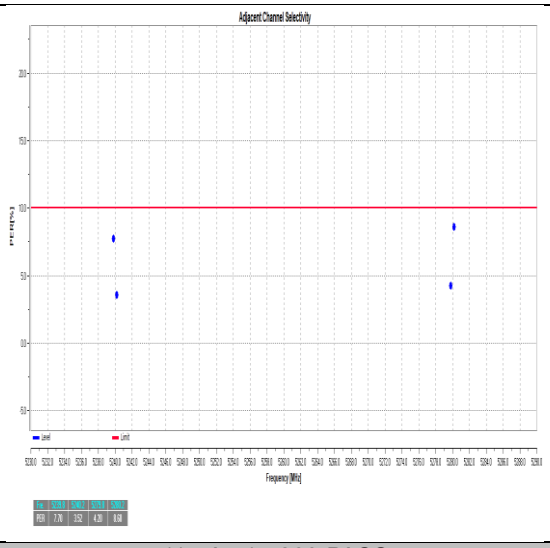
11a-Ant1-5260-PASS

Receiver Adjacent Channel Selectivity

Test Result

TestMode	Antenna	Frequency [MHz]	Pmin [dBm]	Wanted signal [dBm]	Freq. [MHz]	CW [dBm]	PER [%]	Limit [%]	Verdict
11a	Ant1	5260	-89	-79	5239.8	-45	7.70	≤10	PASS
11a	Ant1	5260	-89	-79	5240.2	-47	3.52	≤10	PASS
11a	Ant1	5260	-89	-79	5279.8	-48	4.20	≤10	PASS
11a	Ant1	5260	-89	-79	5280.2	-46	8.60	≤10	PASS

Test Graphs

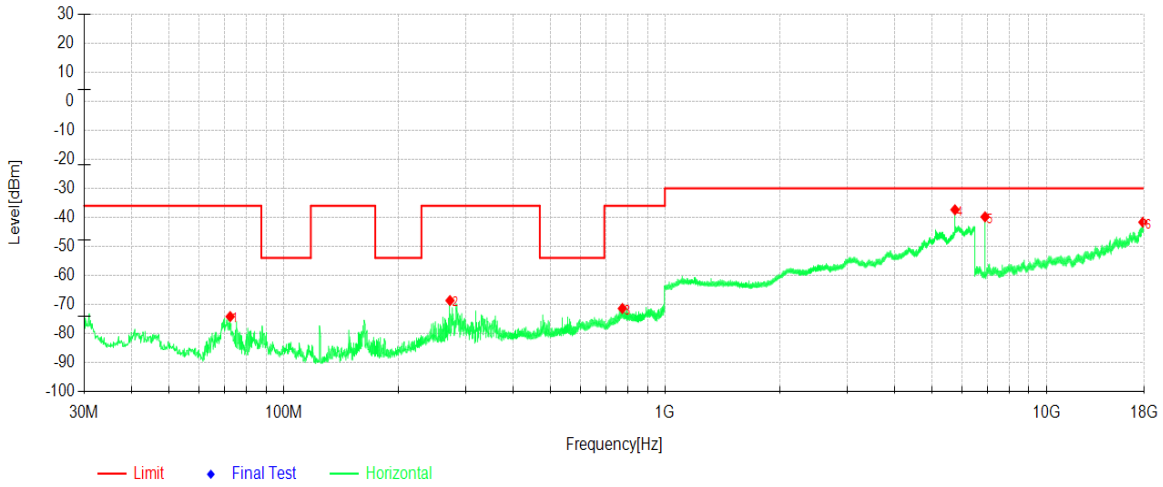


11a-Ant1-5260-PASS

Transmitter unwanted emissions outside the 5 GHz RLAN bands

Project Information			
Mode:	802.11a	Band:	5150~5250MHz
Bandwidth:	-	Channel:	Low
IMEI:	863174060029047	Engineer:	Zhang Weizhi
Remark:			

Test Graph

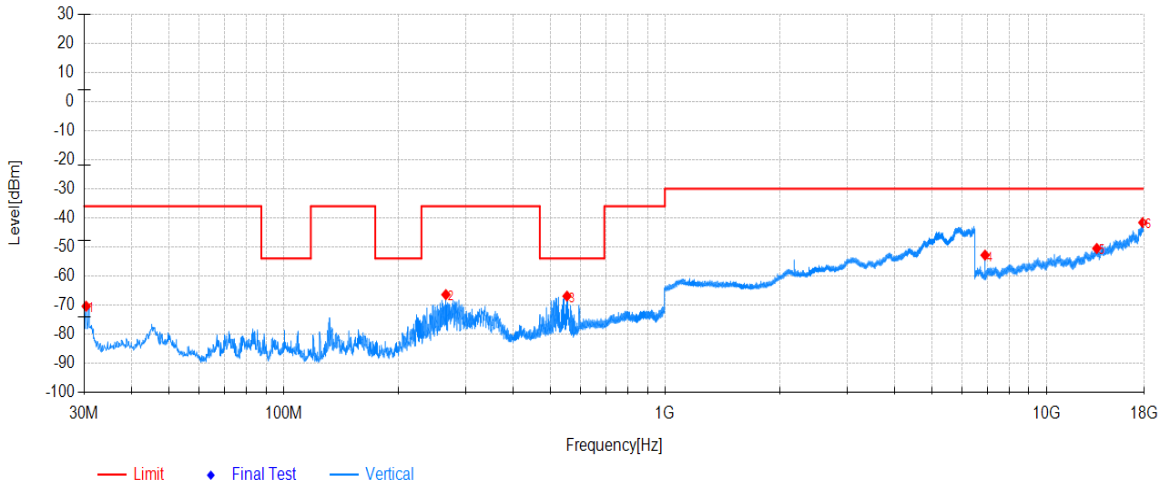


Data List

NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	72.49	-55.56	-74.21	-36.00	38.21	-18.65	Horizontal
2	273.20	-57.92	-68.68	-36.00	32.68	-10.76	Horizontal
3	773.39	-72.67	-71.42	-36.00	35.42	1.25	Horizontal
4	5759.94	-66.77	-37.38	-30.00	7.38	29.39	Horizontal
5	6906.73	-47.39	-39.82	-30.00	9.82	7.57	Horizontal
6	17907.61	-70.22	-41.66	-30.00	11.66	28.56	Horizontal

Project Information			
Mode:	802.11a	Band:	5150~5250MHz
Bandwidth:	-	Channel:	Low
IMEI:	863174060029047	Engineer:	Zhang Weizhi
Remark:			

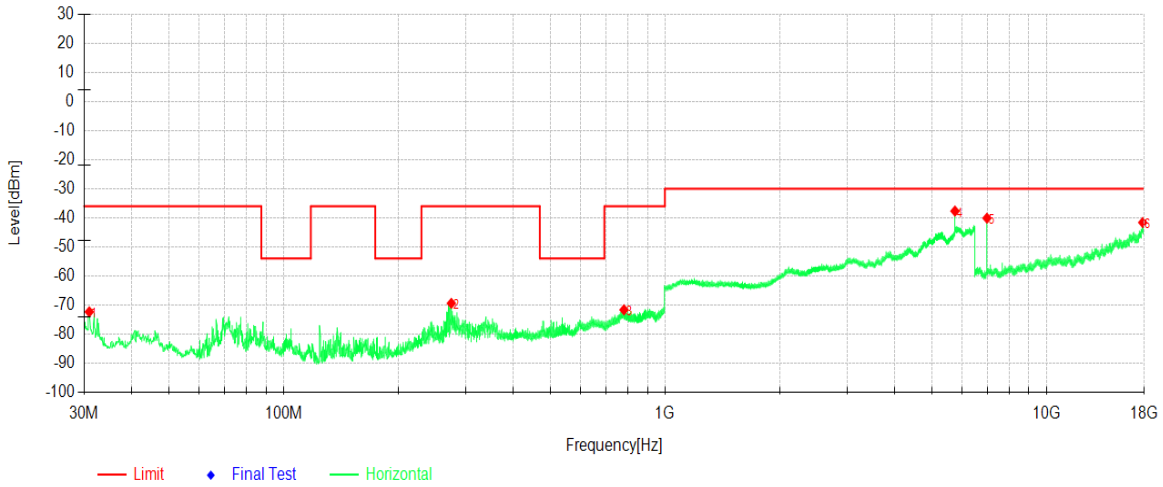
Test Graph



Data List							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	30.39	-57.55	-70.44	-36.00	34.44	-12.89	Vertical
2	266.51	-54.37	-66.43	-36.00	30.43	-12.06	Vertical
3	553.66	-62.49	-66.95	-54.00	12.95	-4.46	Vertical
4	6906.73	-60.17	-52.83	-30.00	22.83	7.34	Vertical
5	13554.72	-69.31	-50.54	-30.00	20.54	18.77	Vertical
6	17899.56	-70.53	-41.62	-30.00	11.62	28.91	Vertical

Project Information			
Mode:	802.11a	Band:	5150~5250MHz
Bandwidth:	-	Channel:	High
IMEI:	863174060029047	Engineer:	Zhang Weizhi
Remark:			

Test Graph

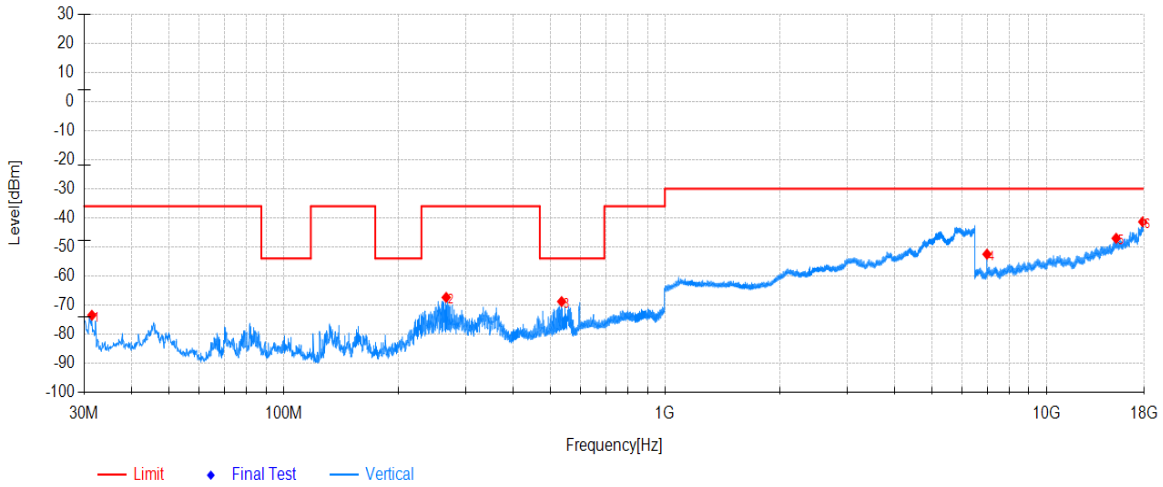


Data List

NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	30.97	-61.35	-72.35	-36.00	36.35	-11.00	Horizontal
2	275.43	-58.63	-69.42	-36.00	33.42	-10.79	Horizontal
3	780.86	-72.71	-71.66	-36.00	35.66	1.05	Horizontal
4	5759.94	-67.06	-37.67	-30.00	7.67	29.39	Horizontal
5	6986.47	-48.41	-40.11	-30.00	10.11	8.30	Horizontal
6	17889.60	-70.02	-41.61	-30.00	11.61	28.41	Horizontal

Project Information			
Mode:	802.11a	Band:	5150~5250MHz
Bandwidth:	-	Channel:	High
IMEI:	863174060029047	Engineer:	Zhang Weizhi
Remark:			

Test Graph

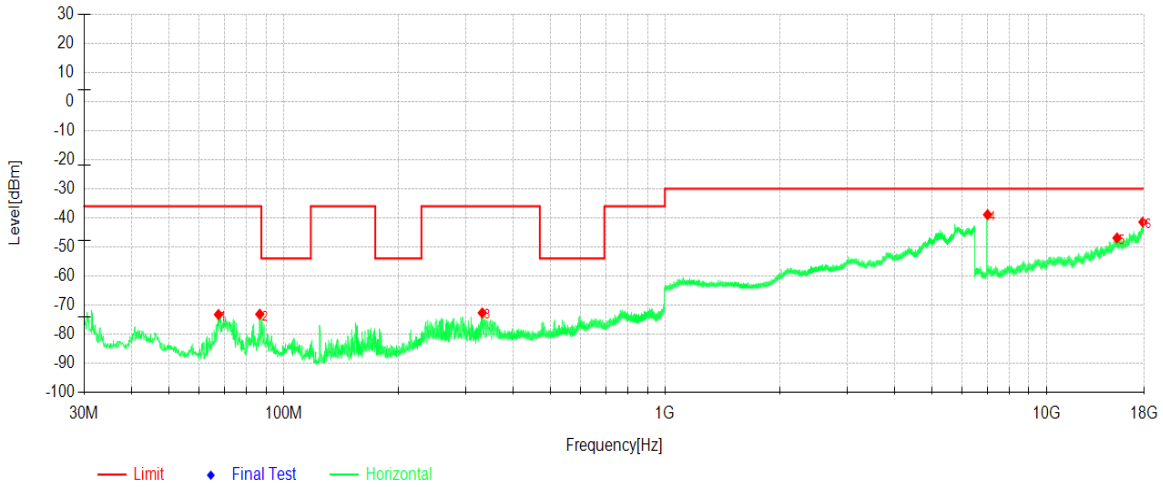


Data List

NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	31.46	-60.75	-73.53	-36.00	37.53	-12.78	Vertical
2	266.99	-55.31	-67.38	-36.00	31.38	-12.07	Vertical
3	536.10	-64.23	-68.83	-54.00	14.83	-4.60	Vertical
4	6986.85	-60.60	-52.51	-30.00	22.51	8.09	Vertical
5	15244.12	-68.11	-47.05	-30.00	17.05	21.06	Vertical
6	17887.68	-69.94	-41.37	-30.00	11.37	28.57	Vertical

Project Information			
Mode:	802.11a	Band:	5250~5350MHz
Bandwidth:	-	Channel:	Low
IMEI:	863174060029047	Engineer:	Zhang Weizhi
Remark:			

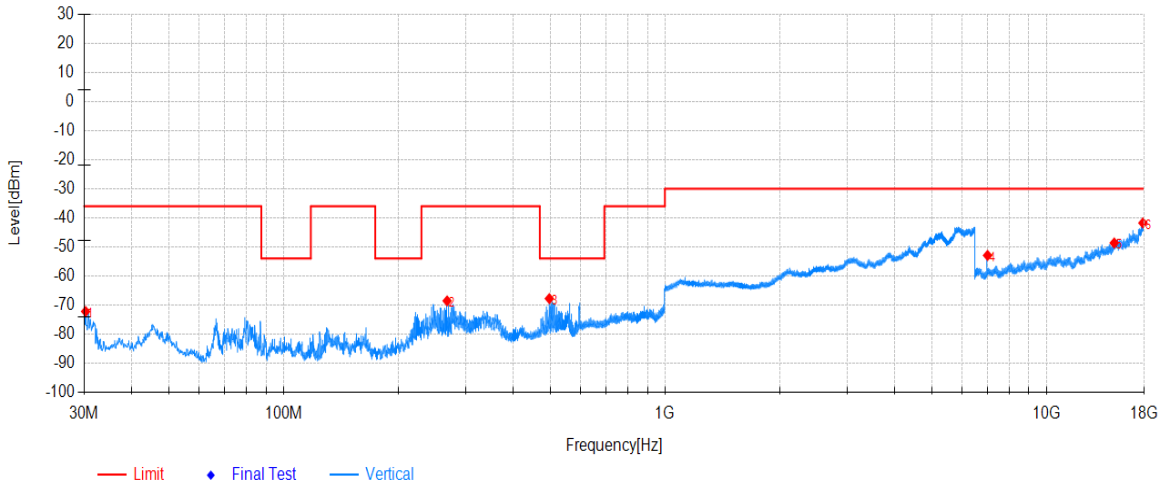
Test Graph



Data List							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	67.54	-56.17	-73.29	-36.00	37.29	-17.12	Horizontal
2	86.65	-56.49	-73.17	-36.00	37.17	-16.68	Horizontal
3	331.99	-62.20	-72.71	-36.00	36.71	-10.51	Horizontal
4	7013.30	-47.46	-38.91	-30.00	8.91	8.55	Horizontal
5	15322.33	-68.78	-46.93	-30.00	16.93	21.85	Horizontal
6	17906.85	-70.04	-41.46	-30.00	11.46	28.58	Horizontal

Project Information			
Mode:	802.11a	Band:	5250~5350MHz
Bandwidth:	-	Channel:	Low
IMEI:	863174060029047	Engineer:	Zhang Weizhi
Remark:			

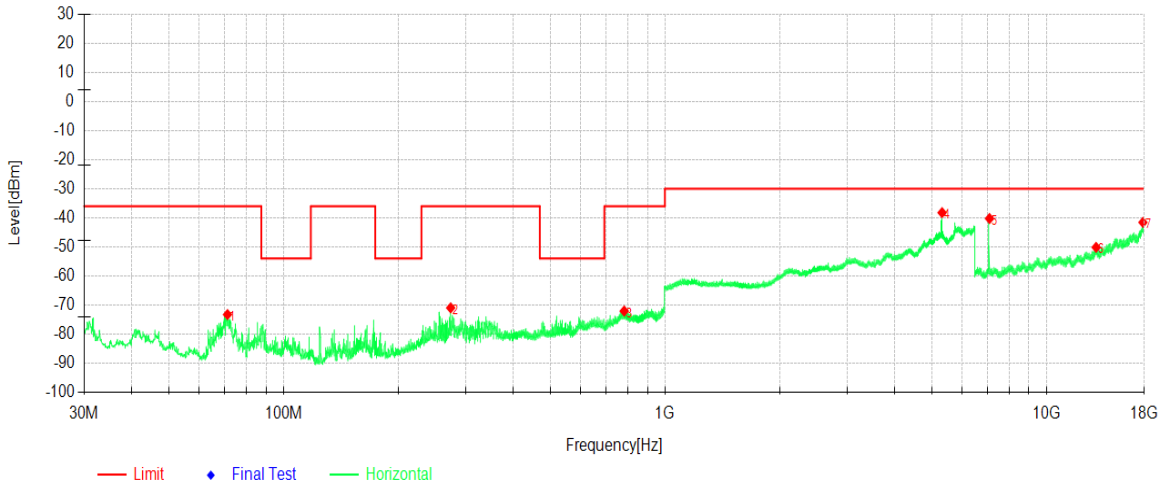
Test Graph



Data List							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	30.29	-59.33	-72.23	-36.00	36.23	-12.90	Vertical
2	268.55	-56.46	-68.58	-36.00	32.58	-12.12	Vertical
3	497.78	-62.50	-67.81	-54.00	13.81	-5.31	Vertical
4	7013.30	-61.27	-52.93	-30.00	22.93	8.34	Vertical
5	15066.25	-69.14	-48.67	-30.00	18.67	20.47	Vertical
6	17908.76	-70.54	-41.76	-30.00	11.76	28.78	Vertical

Project Information			
Mode:	802.11a	Band:	5250~5350MHz
Bandwidth:	-	Channel:	High
IMEI:	863174060029047	Engineer:	Zhang Weizhi
Remark:			

Test Graph

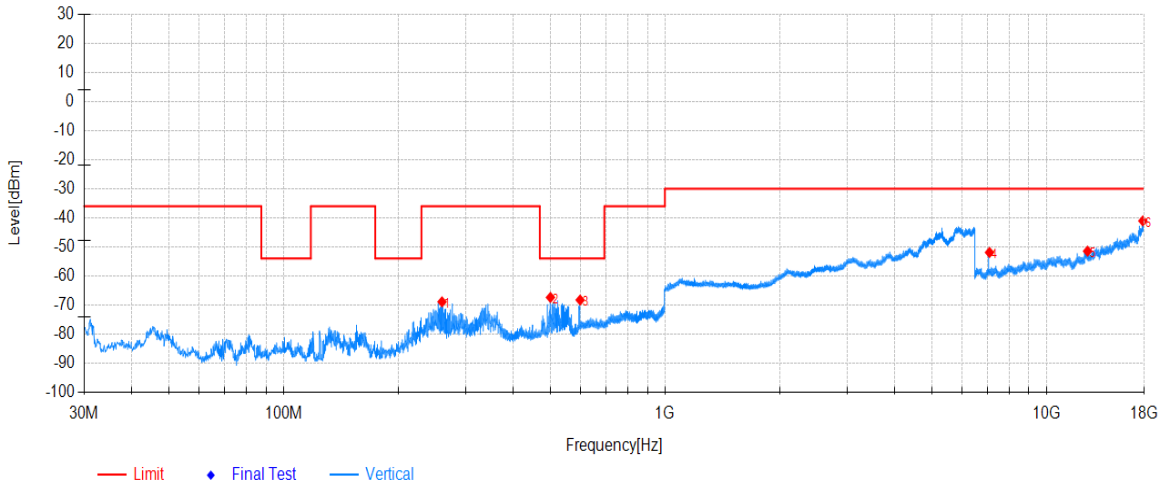


Data List

NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	71.33	-55.00	-73.29	-36.00	37.29	-18.29	Horizontal
2	274.37	-60.20	-70.98	-36.00	34.98	-10.78	Horizontal
3	782.21	-73.06	-72.08	-36.00	36.08	0.98	Horizontal
4	5327.89	-66.88	-38.21	-	-	28.67	Horizontal
5	7093.42	-49.55	-40.23	-30.00	10.23	9.32	Horizontal
6	13499.90	-69.64	-50.15	-30.00	20.15	19.49	Horizontal
7	17914.13	-70.00	-41.58	-30.00	11.58	28.42	Horizontal

Project Information			
Mode:	802.11a	Band:	5250~5350MHz
Bandwidth:	-	Channel:	High
IMEI:	863174060029047	Engineer:	Zhang Weizhi
Remark:			

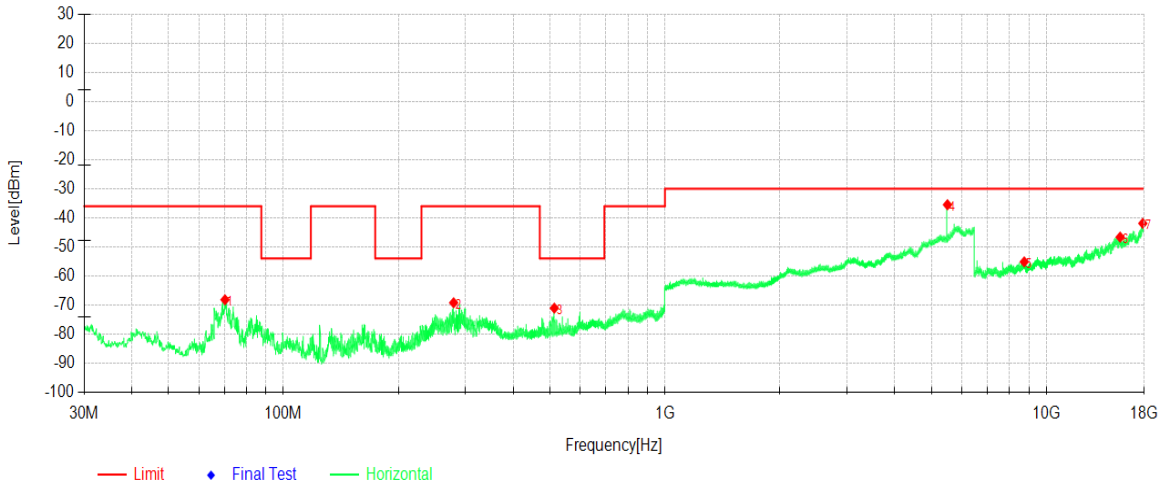
Test Graph



Data List							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	260.40	-57.07	-68.92	-36.00	32.92	-11.85	Vertical
2	500.98	-62.20	-67.39	-54.00	13.39	-5.19	Vertical
3	599.45	-64.87	-68.30	-54.00	14.30	-3.43	Vertical
4	7093.04	-61.07	-51.91	-30.00	21.91	9.16	Vertical
5	12822.91	-68.15	-51.48	-30.00	21.48	16.67	Vertical
6	17900.71	-69.98	-41.07	-30.00	11.07	28.91	Vertical

Project Information			
Mode:	802.11a	Band:	5470-5725MHz
Bandwidth:	-	Channel:	Low
IMEI:	863174060029047	Engineer:	Zhang Weizhi
Remark:			

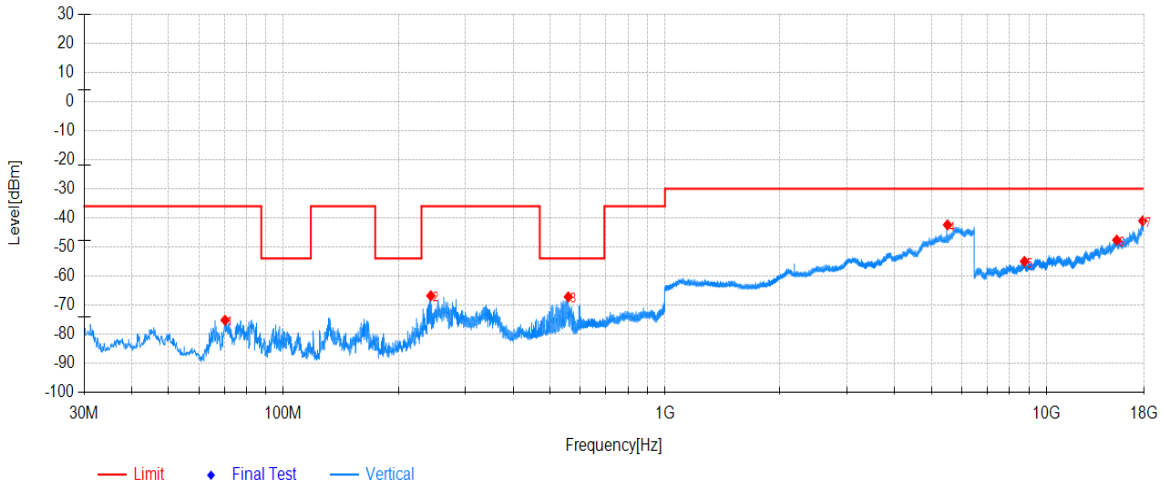
Test Graph



Data List							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	70.26	-50.23	-68.20	-36.00	32.20	-17.97	Horizontal
2	279.31	-58.39	-69.24	-36.00	33.24	-10.85	Horizontal
3	512.91	-65.20	-71.09	-54.00	17.09	-5.89	Horizontal
4	5505.00	-63.43	-35.50	-	-	27.93	Horizontal
5	8749.86	-67.49	-55.15	-30.00	25.15	12.34	Horizontal
6	15608.30	-68.39	-46.64	-30.00	16.64	21.75	Horizontal
7	17900.71	-70.63	-41.92	-30.00	11.92	28.71	Horizontal

Project Information			
Mode:	802.11a	Band:	5470-5725MHz
Bandwidth:	-	Channel:	Low
IMEI:	863174060029047	Engineer:	Zhang Weizhi
Remark:			

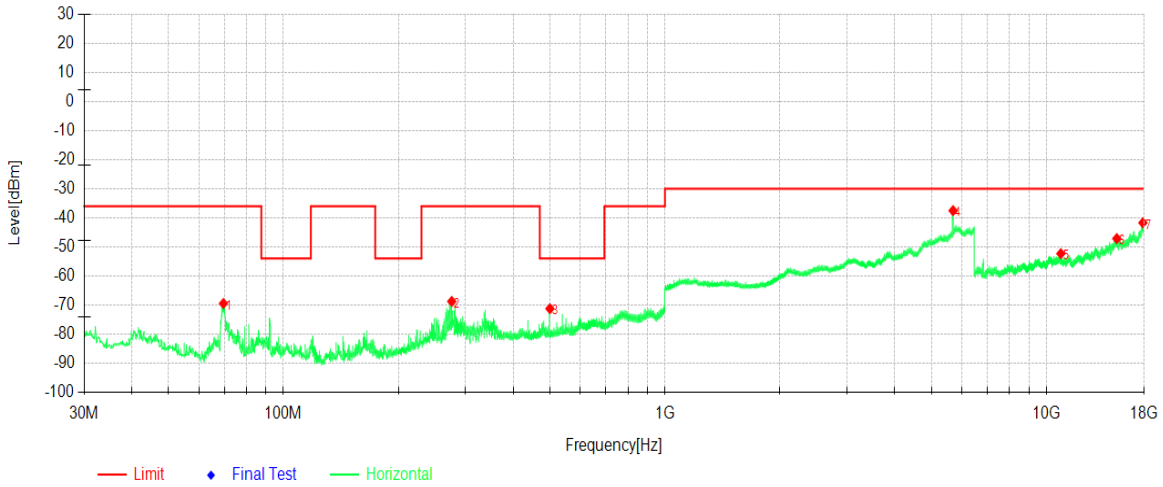
Test Graph



Data List							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	70.26	-56.60	-75.24	-36.00	39.24	-18.64	Vertical
2	243.32	-54.79	-66.83	-36.00	30.83	-12.04	Vertical
3	558.12	-62.27	-67.20	-54.00	13.20	-4.93	Vertical
4	5505.83	-70.20	-42.43	-	-	27.77	Vertical
5	8760.21	-67.47	-55.00	-30.00	25.00	12.47	Vertical
6	15290.51	-68.82	-47.64	-30.00	17.64	21.18	Vertical
7	17894.58	-69.80	-41.03	-30.00	11.03	28.77	Vertical

Project Information			
Mode:	802.11a	Band:	5470-5725MHz
Bandwidth:	-	Channel:	High
IMEI:	863174060029047	Engineer:	Zhang Weizhi
Remark:			

Test Graph

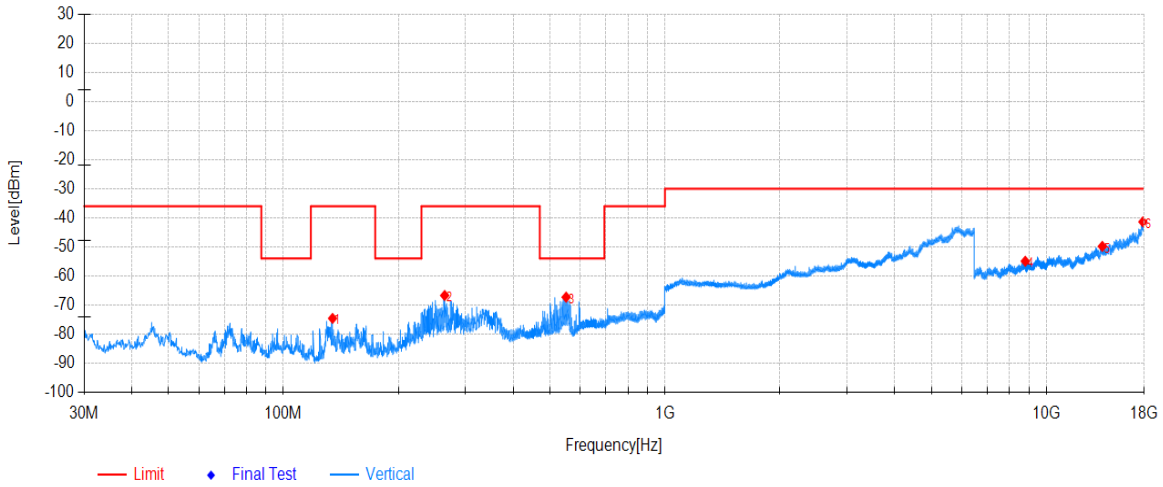


Data List

NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	69.58	-51.72	-69.48	-36.00	33.48	-17.76	Horizontal
2	276.11	-57.96	-68.76	-36.00	32.76	-10.80	Horizontal
3	499.43	-65.37	-71.28	-54.00	17.28	-5.91	Horizontal
4	5693.66	-67.07	-37.54	-	-	29.53	Horizontal
5	10911.16	-67.11	-52.31	-30.00	22.31	14.80	Horizontal
6	15293.19	-69.03	-47.13	-30.00	17.13	21.90	Horizontal
7	17909.91	-70.23	-41.71	-30.00	11.71	28.52	Horizontal

Project Information			
Mode:	802.11a	Band:	5470-5725MHz
Bandwidth:	-	Channel:	High
IMEI:	863174060029047	Engineer:	Zhang Weizhi
Remark:			

Test Graph

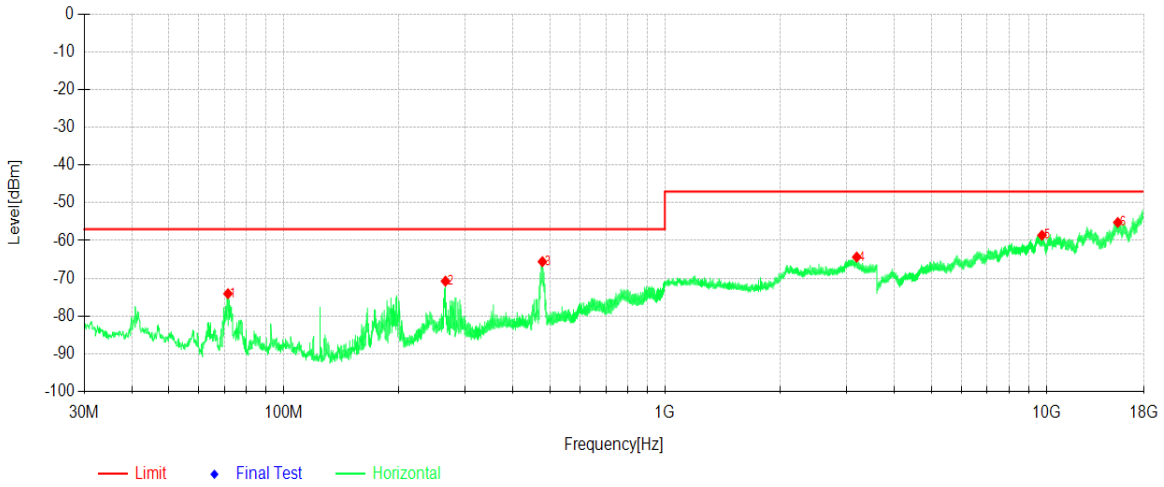


Data List							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	134.48	-57.99	-74.60	-36.00	38.60	-16.61	Vertical
2	264.57	-54.73	-66.72	-36.00	30.72	-11.99	Vertical
3	550.85	-63.15	-67.31	-54.00	13.31	-4.16	Vertical
4	8804.68	-67.53	-54.93	-30.00	24.93	12.60	Vertical
5	14015.88	-70.26	-49.83	-30.00	19.83	20.43	Vertical
6	17904.93	-70.22	-41.38	-30.00	11.38	28.84	Vertical

Receiver spurious emissions (Worst case)

Project Information			
Mode:	802.11a	Band:	5150-5250MHz
Bandwidth:	-	Channel:	Low
IMEI:	863174060029047	Engineer:	Zhang Weizhi
Remark:			

Test Graph

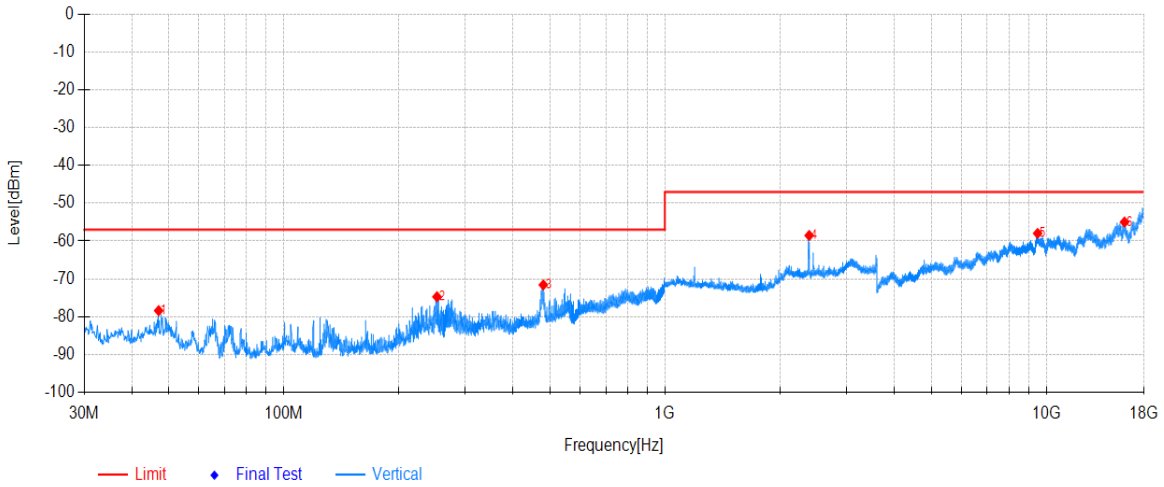


Data List

NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	71.52	-55.75	-74.10	-57.00	17.10	-18.35	Horizontal
2	265.83	-60.26	-70.76	-57.00	13.76	-10.50	Horizontal
3	477.31	-59.44	-65.59	-57.00	8.59	-6.15	Horizontal
4	3182.87	-61.00	-64.38	-47.00	17.38	-3.38	Horizontal
5	9737.16	-71.33	-58.60	-47.00	11.60	12.73	Horizontal
6	15390.41	-77.44	-55.19	-47.00	8.19	22.25	Horizontal

Project Information			
Mode:	802.11a	Band:	5150-5250MHz
Bandwidth:	-	Channel:	Low
IMEI:	863174060029047	Engineer:	Zhang Weizhi
Remark:			

Test Graph

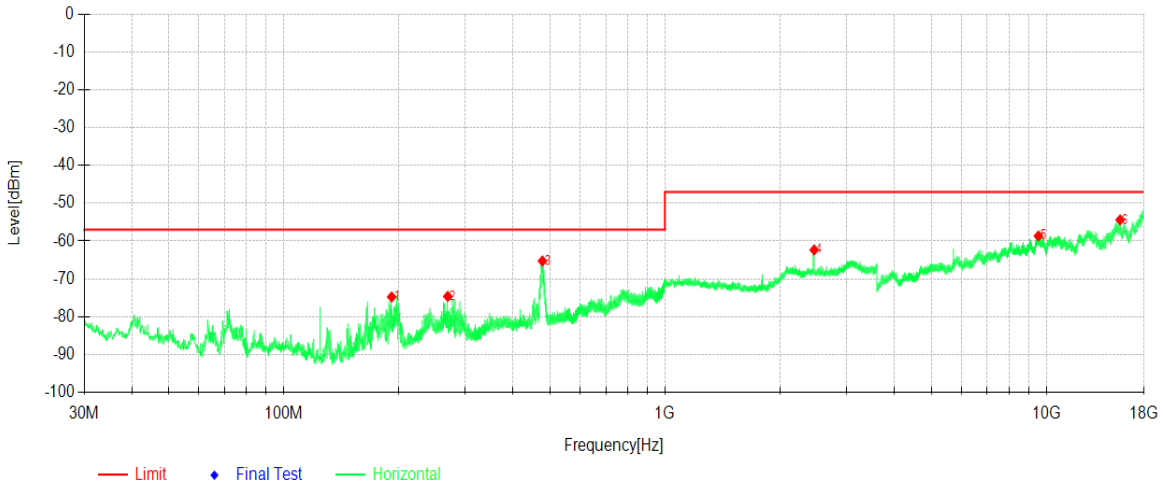


Data List

NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	47.07	-67.29	-78.42	-57.00	21.42	-11.13	Vertical
2	252.54	-63.14	-74.74	-57.00	17.74	-11.60	Vertical
3	479.93	-65.59	-71.60	-57.00	14.60	-6.01	Vertical
4	2388.95	-50.71	-58.52	-47.00	11.52	-7.81	Vertical
5	9485.55	-71.56	-57.96	-47.00	10.96	13.60	Vertical
6	16031.33	-75.90	-54.97	-47.00	7.97	20.93	Vertical

Project Information			
Mode:	802.11a	Band:	5250~5350MHz
Bandwidth:	-	Channel:	Low
IMEI:	863174060029047	Engineer:	Zhang Weizhi
Remark:			

Test Graph

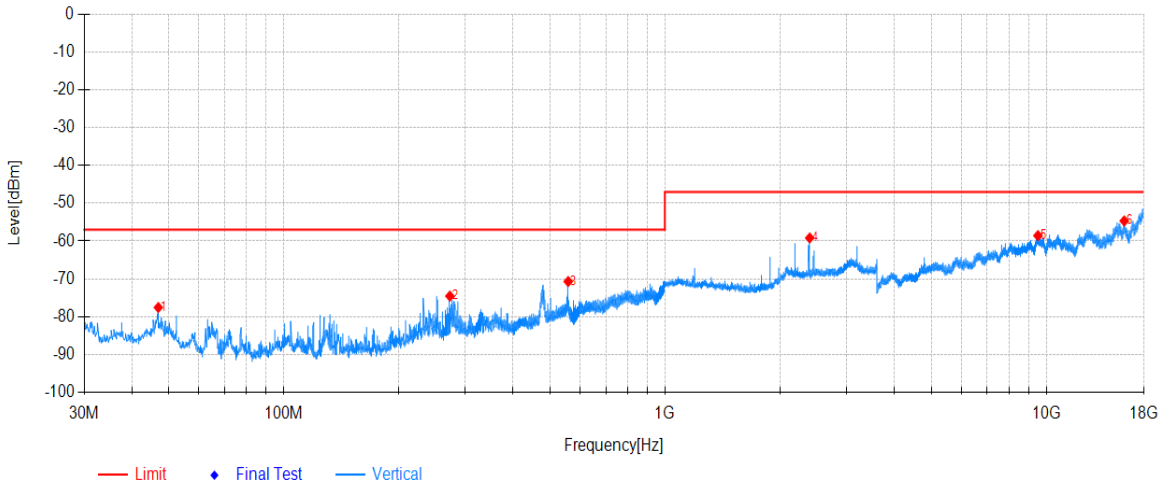


Data List

NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	192.20	-60.13	-74.80	-57.00	17.80	-14.67	Horizontal
2	269.52	-63.97	-74.64	-57.00	17.64	-10.67	Horizontal
3	477.41	-59.11	-65.27	-57.00	8.27	-6.16	Horizontal
4	2462.62	-55.44	-62.35	-47.00	15.35	-6.91	Horizontal
5	9530.88	-72.02	-58.65	-47.00	11.65	13.37	Horizontal
6	15602.92	-76.42	-54.39	-47.00	7.39	22.03	Horizontal

Project Information			
Mode:	802.11a	Band:	5250~5350MHz
Bandwidth:	-	Channel:	Low
IMEI:	863174060029047	Engineer:	Zhang Weizhi
Remark:			

Test Graph

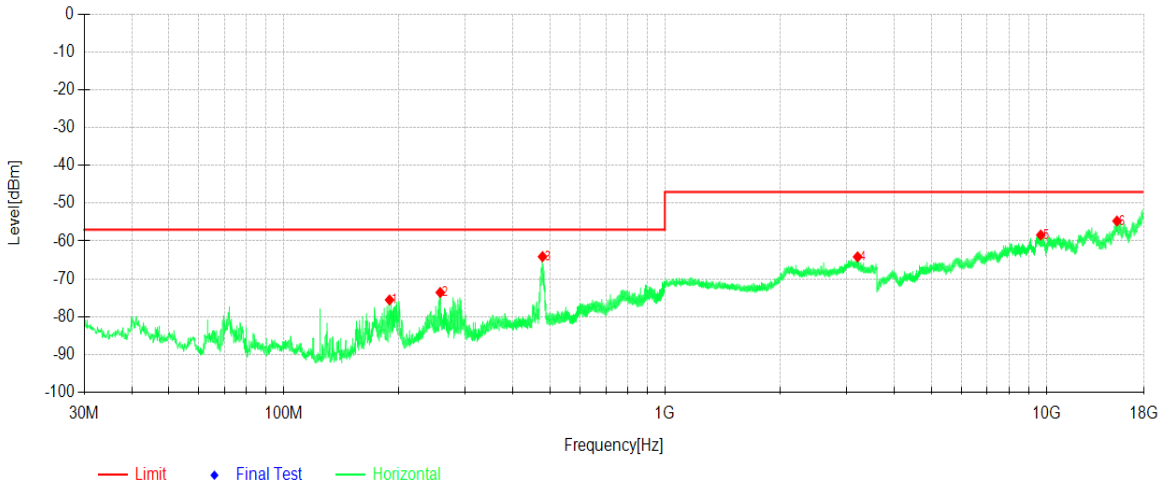


Data List

NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	46.98	-66.42	-77.57	-57.00	20.57	-11.15	Vertical
2	273.01	-62.38	-74.56	-57.00	17.56	-12.18	Vertical
3	557.64	-65.82	-70.70	-57.00	13.70	-4.88	Vertical
4	2396.31	-51.40	-59.17	-47.00	12.17	-7.77	Vertical
5	9503.68	-72.21	-58.55	-47.00	11.55	13.66	Vertical
6	16001.30	-75.81	-54.66	-47.00	7.66	21.15	Vertical

Project Information			
Mode:	802.11a	Band:	5470-5725MHz
Bandwidth:	-	Channel:	Low
IMEI:	863174060029047	Engineer:	Zhang Weizhi
Remark:			

Test Graph

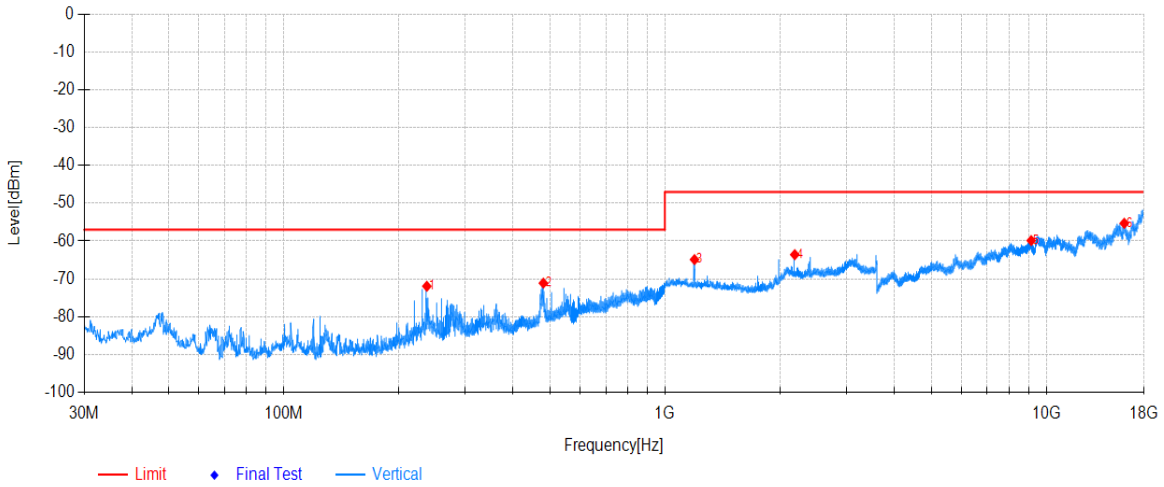


Data List

NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	189.68	-60.68	-75.59	-57.00	18.59	-14.91	Horizontal
2	257.58	-63.52	-73.62	-57.00	16.62	-10.10	Horizontal
3	477.60	-57.97	-64.12	-57.00	7.12	-6.15	Horizontal
4	3199.87	-60.77	-64.19	-47.00	17.19	-3.42	Horizontal
5	9669.16	-71.08	-58.40	-47.00	11.40	12.68	Horizontal
6	15315.61	-76.90	-54.69	-47.00	7.69	22.21	Horizontal

Project Information			
Mode:	802.11a	Band:	5470-5725MHz
Bandwidth:	-	Channel:	Low
IMEI:	863174060029047	Engineer:	Zhang Weizhi
Remark:			

Test Graph



Data List							
NO.	Freq. [MHz]	Reading [dBm]	Level [dBm]	Limit [dBm]	Margin [dB]	Factor [dB]	Polarity
1	237.60	-59.47	-71.96	-57.00	14.96	-12.49	Vertical
2	480.03	-65.12	-71.13	-57.00	14.13	-6.01	Vertical
3	1195.51	-53.91	-64.90	-47.00	17.90	-10.99	Vertical
4	2190.04	-55.72	-63.60	-47.00	16.60	-7.88	Vertical
5	9125.70	-71.43	-59.86	-47.00	12.86	11.57	Vertical
6	16003.57	-76.43	-55.30	-47.00	8.30	21.13	Vertical

~The End~