

FCC Test Report

Application Purpose : Original grant

Applicant Name: : INFINIX MOBILITY LIMITED

FCC ID : 2AIZN-X601

Equipment Type : Mobile phone


Model Name : X601

Report Number : FCC16083894A-7


Standard(S) : FCC Part 15 Subpart E

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REPORT REVISE RECORD

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8. BAND EDGE EMISSIONS

8. 1 Test Equipment

Please refer to Section 4 this report.

8. 2 Test Procedure

Band Edge Emissions Measurement:	
Test Method:	<p>a.)The EUT was tested according to ANSI C63.10.</p> <p>b)The EUT, peripherals were put on the turntable which table size is 1m x 1.5 m, table high <u>1.5</u> m. All set up is according to ANSI C63.10.</p> <p>c)The frequency spectrum from <u>9</u> kHz to 40 GHz was investigated. All readings from <u>9</u> kHz to <u>150</u> kHz are quasi-peak values with a resolution bandwidth of <u>200</u> Hz. All readings from <u>150</u> kHz to <u>30</u> MHz are quasi-peak values with a resolution bandwidth of <u>9</u> KHz. All readings from <u>30</u> MHz to <u>1</u> GHz are quasi-peak values with a resolution bandwidth of <u>120</u> KHz. All readings are above <u>1</u> GHz , peak values with a resolution bandwidth of <u>1</u> MHz . Measurements were made at <u>3</u> meters.</p> <p>d)The emissions from the EUT were measured continuously at every azimuth by rotating the turntable. The Receiving antenna high is varied from <u>1</u> m to <u>4</u> m high to find the maximum emission for each frequency. Emissions below 30MHz were measured with a loop antenna while emission above 30MHz were measured using a broadband E-field antenna.</p> <p>e) Maximizing procedure was performed on the six (6) highest emissions to ensure EUT compliance is with all installation combinations. All data was recorded in the peak detection mode. Quasi-peak readings was performed only when an emission was found to be marginal (within -4 dB of specification limit), and are distinguished with a "QP" in the data table.</p> <p>f)Each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the max. emission, the relative positions of this transmitter(EUT) was rotated through three orthogonal axes according to the requirements in Section 8 and 13 of ANSI C63.10.</p>
Band Edge Emissions Measurement:	
Test Equipment Setting:	
<p>a)Attenuation: Auto</p> <p>b)Span Frequency: 100 MHz</p> <p>c)RBW/VBW (Emission in restricted band): 1MHz / 3MHz for Peak, 1MHz / 1/T for Average</p>	<p>d)RBW/VBW(Emission in non-restricted band) 1MHz / 3MHz for peak</p>

8. 3 Test Setup

Same as section 2.2 of this report

8. 4 Configuration of the EUT

Same as section 2.2 of this report

8. 5 EUT Operating Condition

Same as section 2.2 of this report.

8. 6 Limit**Spurious Radiated Emission & Band Edge Emissions Measurement:**

Limit:	<p>For transmitters operating in the 5.15-5.35 GHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.</p> <p>For transmitters operating in the 5.470-5.725 GHz band: all emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.</p> <p>For transmitters operating in the 5.725-5.85 GHz band: all emissions within the frequency range from the band edge to 10 MHz above or below the band edge shall not exceed an e.i.r.p. of -17 dBm/MHz; for frequencies 10 MHz or greater above or below the band edge, emissions shall not exceed an e.i.r.p. of -27 dBm/MHz.</p> <p>In any 100 KHz bandwidth outside the operating frequency band, the radio frequency power that is produced by modulation products of the spreading sequence, the information sequence and the carrier frequency shall be either at least 20 dB below that in any 100 KHz bandwidth within the band that contains the highest level of the desired power or shall not exceed the general levels specified in section 15.209(a), which lesser attenuation.</p> <p>All other emissions inside restricted bands specified in section 15.205(a) shall not exceed the general radiated emission limits specified in section 15.209(a)</p>
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Note:

Applies to harmonics/spurious emissions that fall in the restricted bands listed in section 15.205. The maximum permitted average field strength is listed in section 15.209.

47 CFR § 15.237(c): The emission limits as specified above are based on measurement instrument employing an average detector. The provisions in section 15.35 for limiting peak emissions apply.

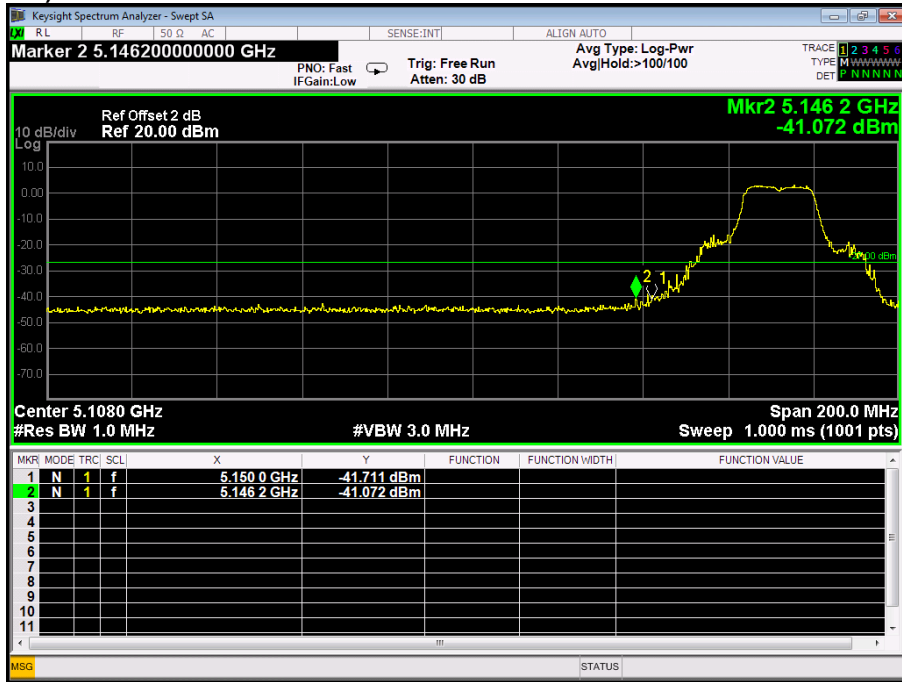
8. 7 Test Result

Band Edge and Fundamental Emissions

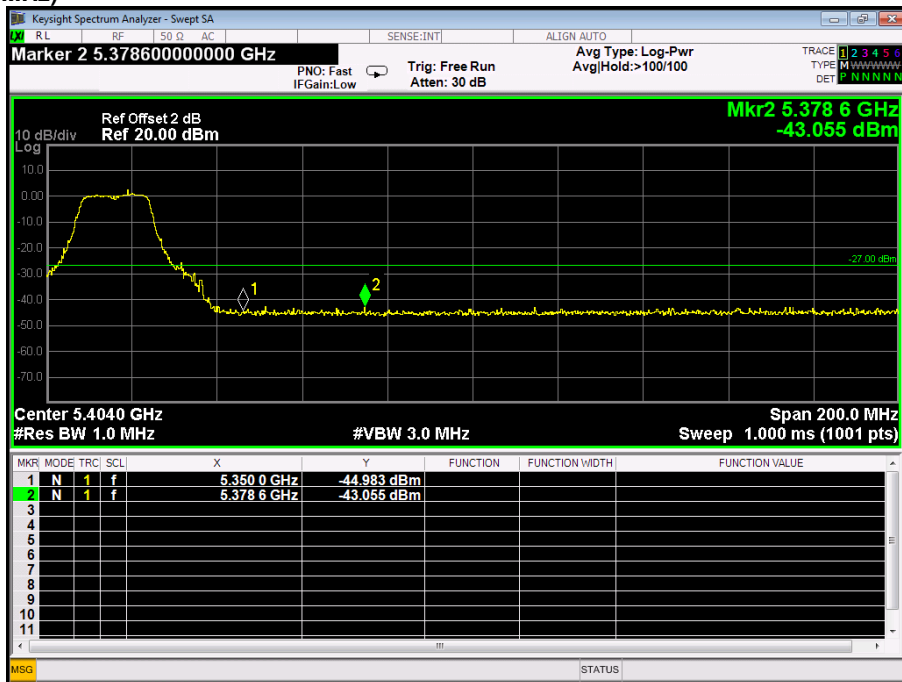
Product:	Mobile Phone	Test Mode:	IEEE 802.11a/n 5G
Test Item:	Band Edge and Fundamental Emissions	Temperature:	25 °C
Test Voltage:	DC 5V	Humidity:	56%RH
Test Result:	PASS		

IEEE 802.11a

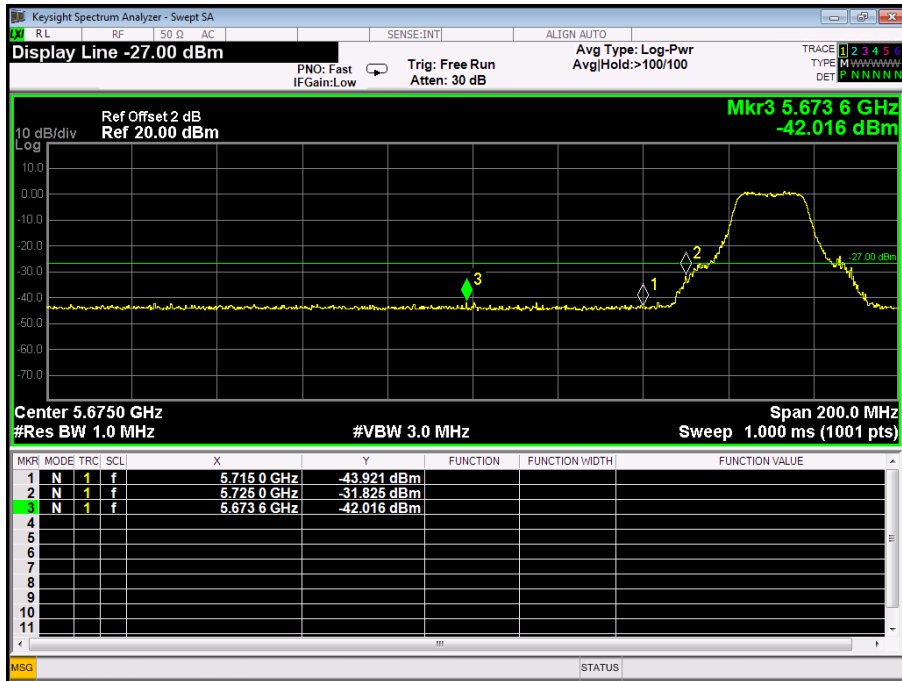
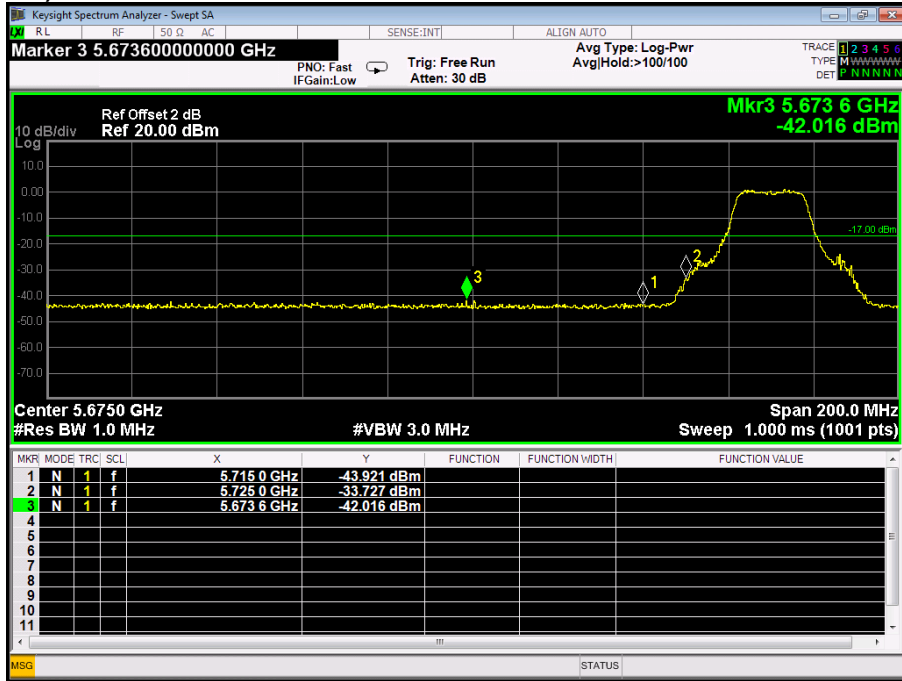
Channel Low (5180MHz)



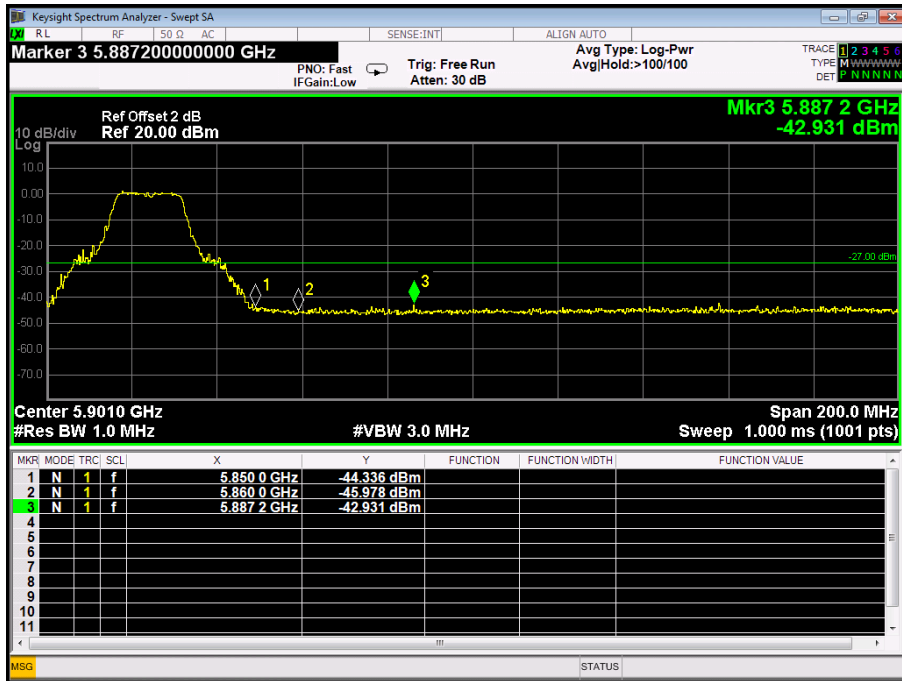
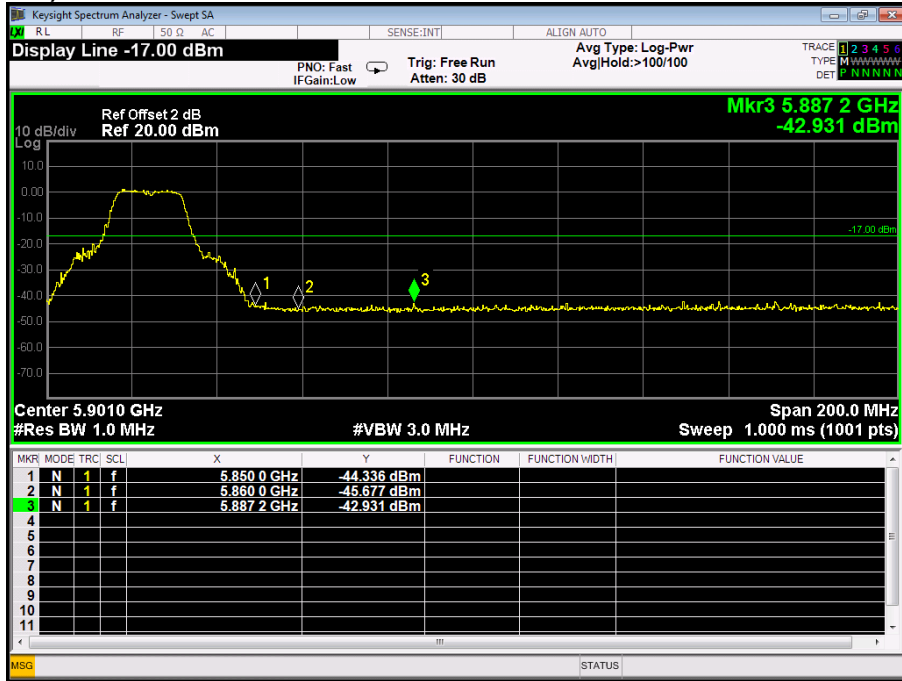
Channel High (5320MHz)



Channel Low (5745MHz)

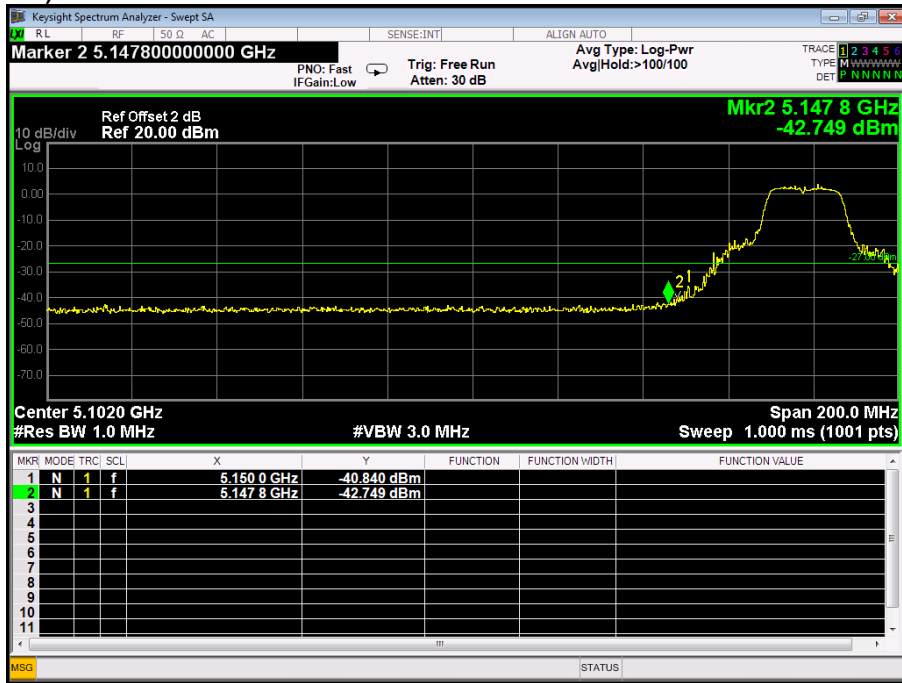


Channel High (5825MHz)

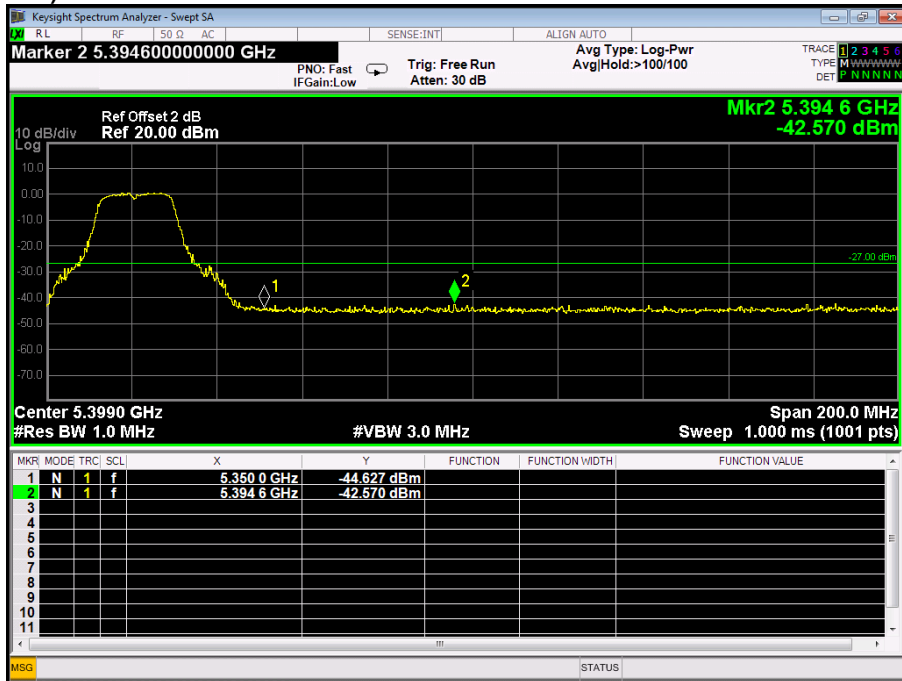


IEEE 802.11n 20MHz

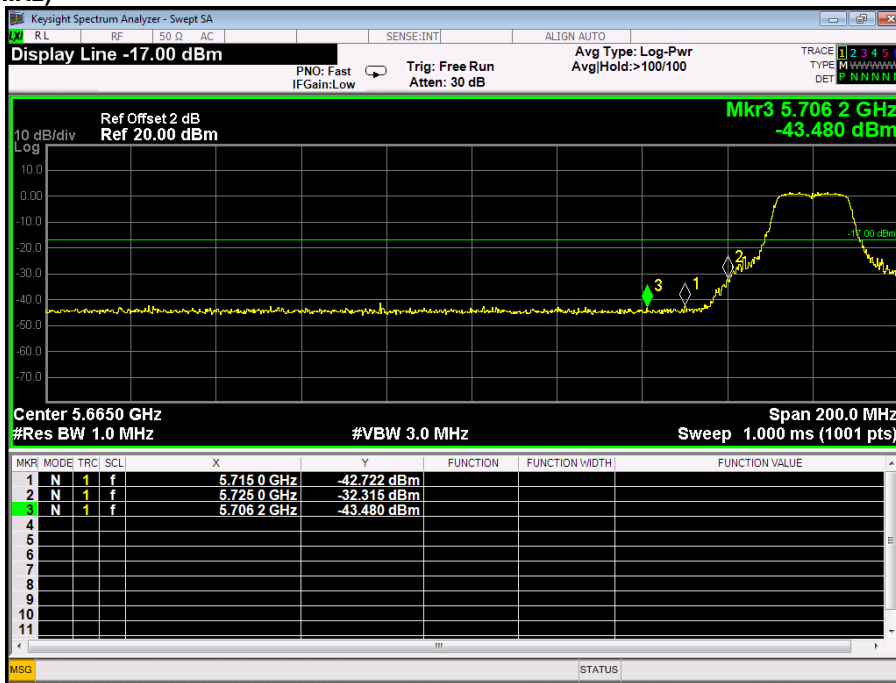
Channel Low (5180MHz)



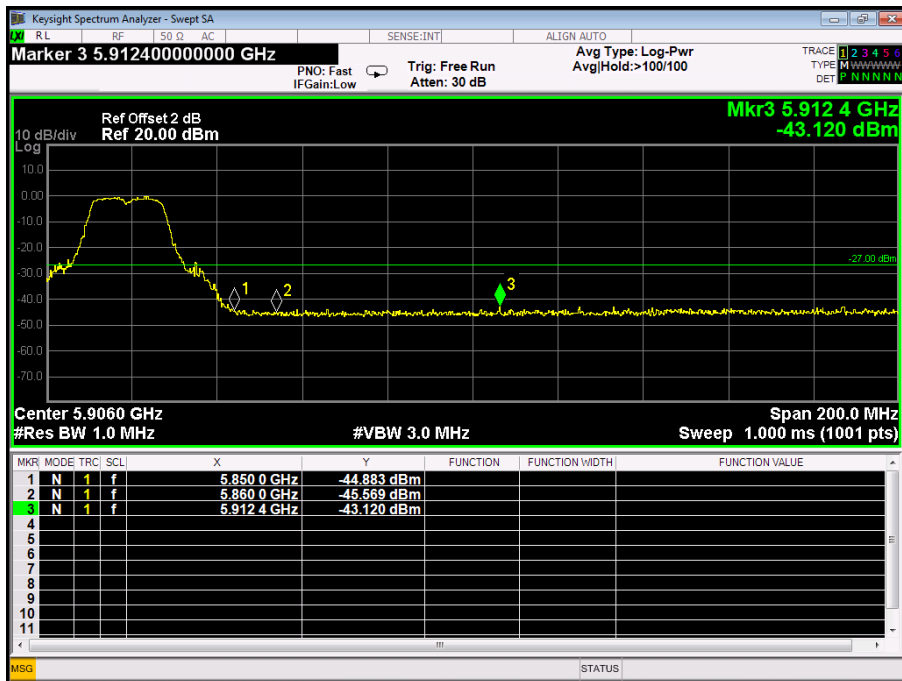
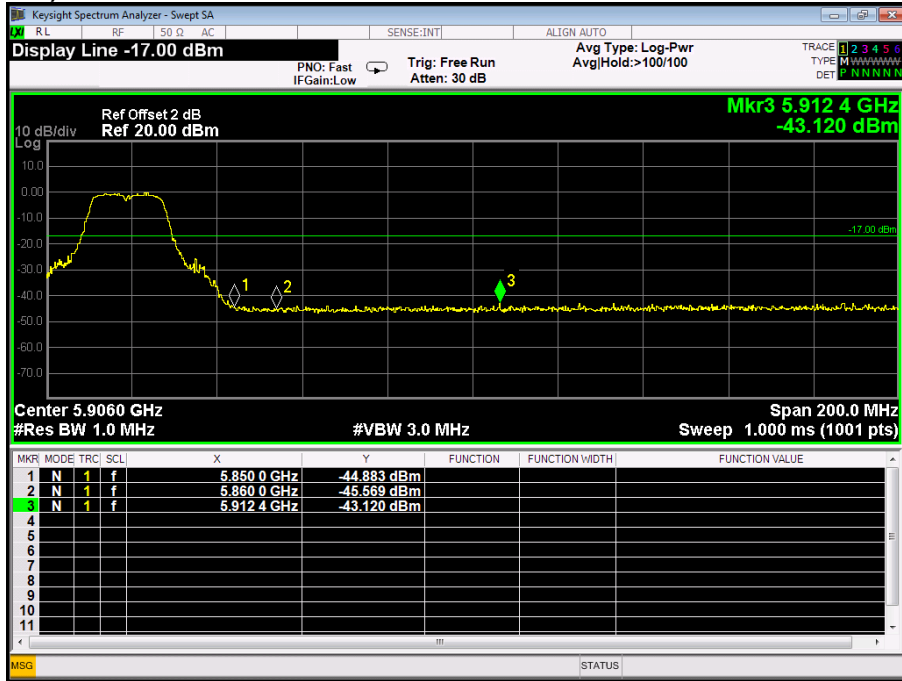
Channel High (5320MHz)



Channel Low (5745MHz)

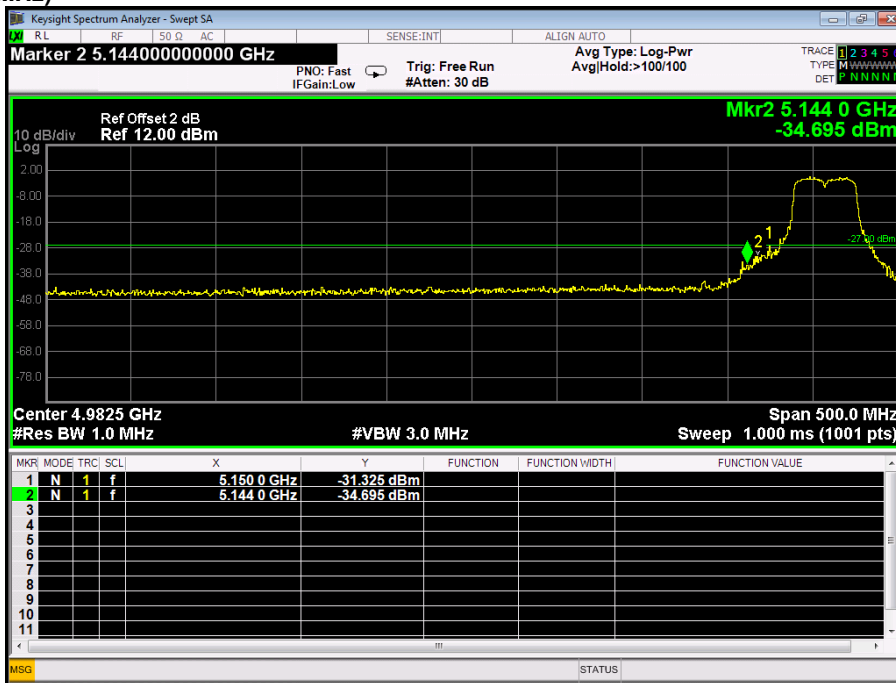


Channel High (5825MHz)

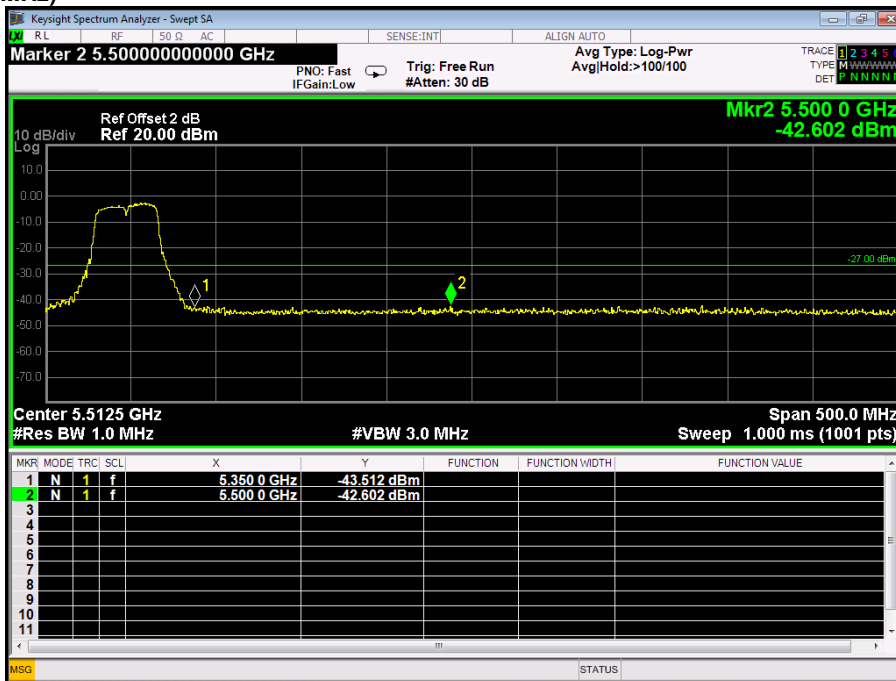


IEEE 802.11n 40MHz

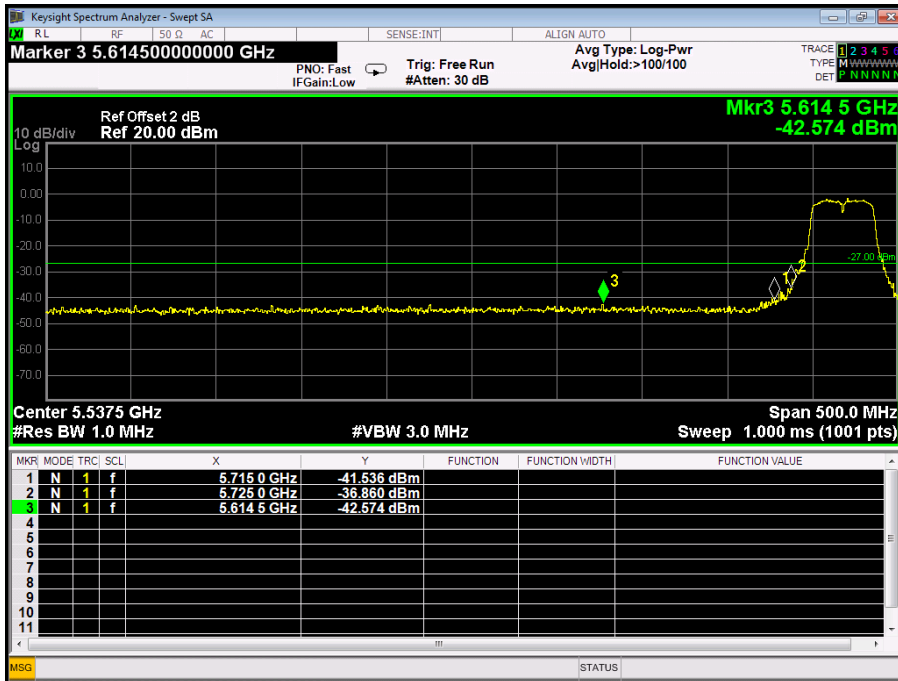
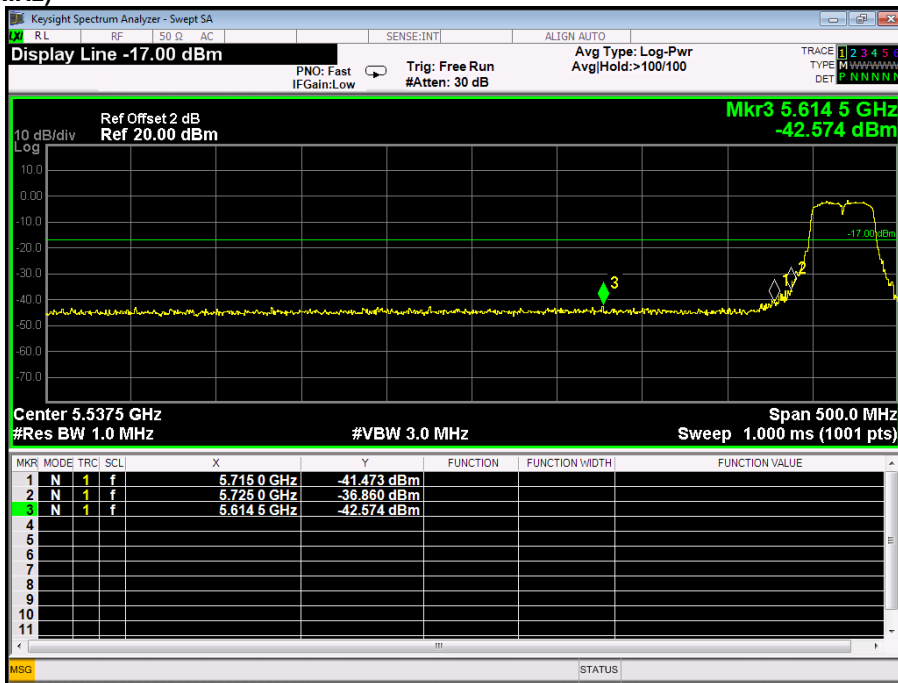
Channel Low (5190MHz)



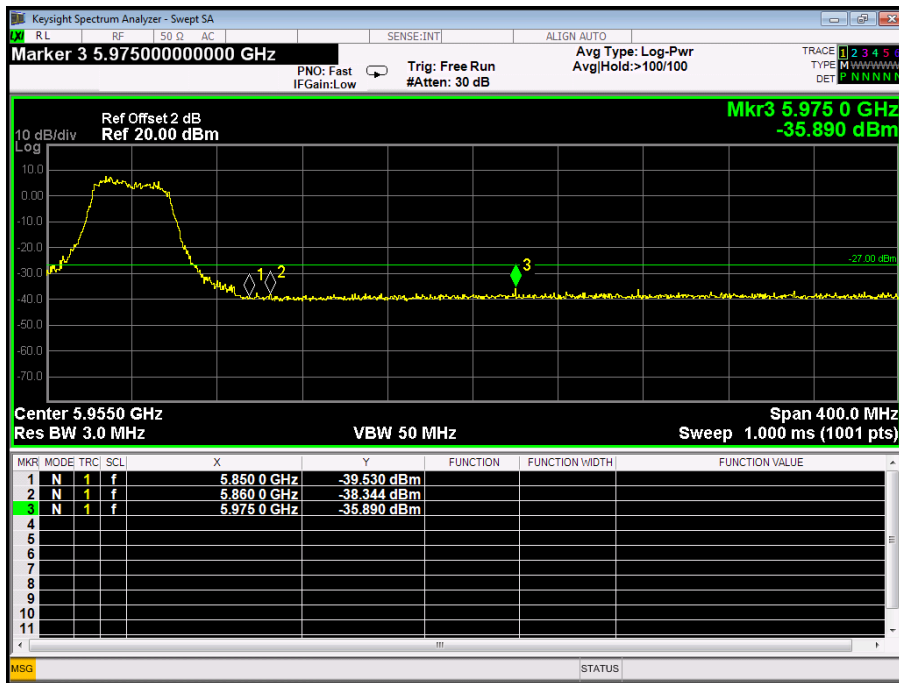
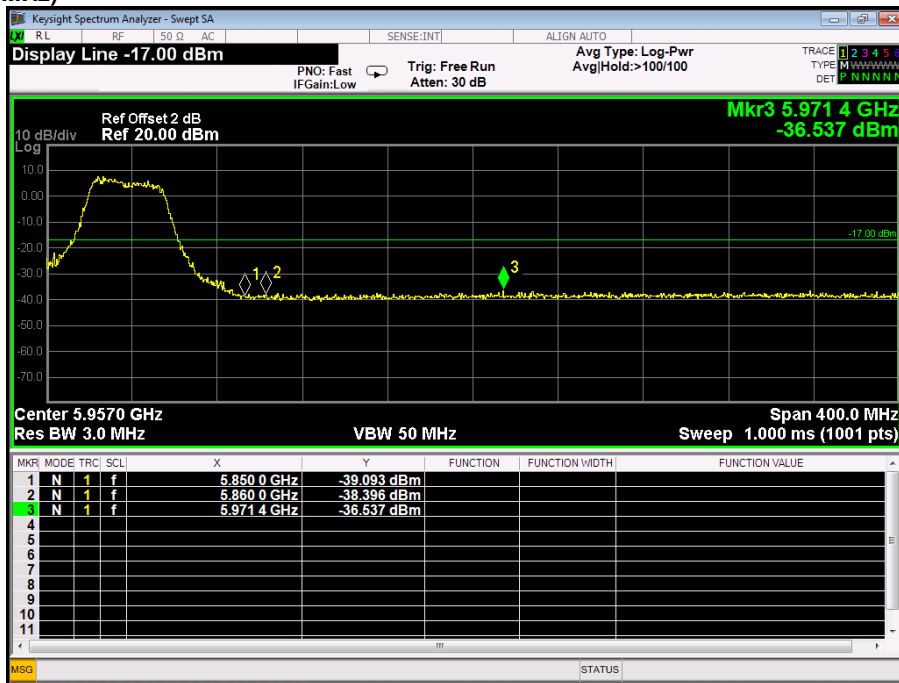
Channel High (5310MHz)



Channel Low (5755MHz)

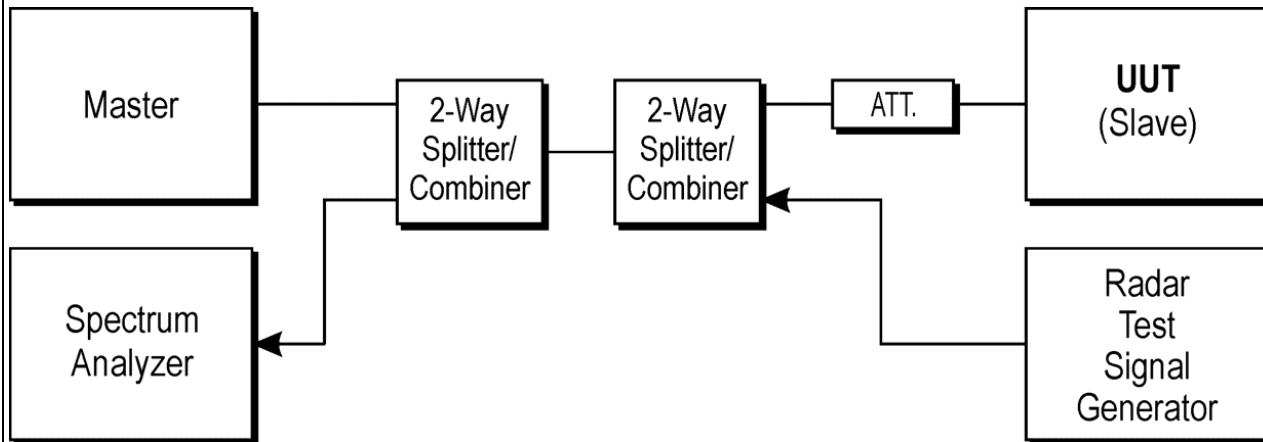


Channel High (5795MHz)



9. DYNAMIC FREQUENCY SELECTION (DFS)

TEST SETUP



RESULT

Test Items	Remark	Result
Channel Closing Transmission Time	Applicable	PASS
Channel Move Time	Applicable	PASS

DFS OVERVIEW

A U-NII network will employ a DFS function to detect signals from radar systems and to avoid co-channel operation with these systems. This applies to the 5250-5350 MHz and/or 5470-5725 MHz bands.

Within the context of the operation of the DFS function, a U-NII device will operate in either *Master Mode* or *Client Mode*. U-NII devices operating in *Client Mode* can only operate in a network controlled by a U-NII device operating in *Master Mode*.

Tables 1 and 2 shown below summarize the information contained in sections 5.1.1 and 5.1.2

Table 1: Applicability of DFS Requirements Prior to Use of a Channel

Requirement	Operational Mode		
	Master	Client Without Radar Detection	Client With Radar Detection
<i>Non-Occupancy Period</i>	Yes	Not required	Yes
<i>DFS Detection Threshold</i>	Yes	Not required	Yes
<i>Channel Availability Check Time</i>	Yes	Not required	Not required
<i>U-NII Detection Bandwidth</i>	Yes	Not required	Yes

Table 2: Applicability of DFS requirements during normal operation

Requirement	Operational Mode	
	Master Device or Client with Radar Detection	Client Without Radar Detection
<i>DFS Detection Threshold</i>	Yes	Not required
<i>Channel Closing Transmission Time</i>	Yes	Yes
<i>Channel Move Time</i>	Yes	Yes
<i>U-NII Detection Bandwidth</i>	Yes	Not required

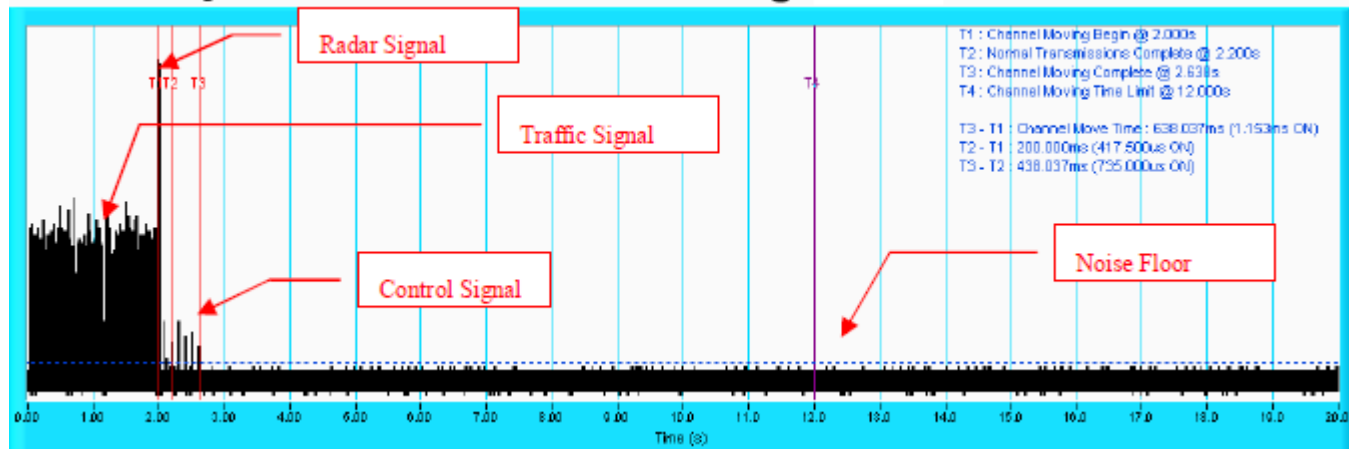
Additional requirements for devices with multiple bandwidth modes	Master Device or Client with Radar Detection	Client Without Radar Detection
<i>U-NII Detection Bandwidth and Statistical Performance Check</i>	All BW modes must be tested	Not required
<i>Channel Move Time and Channel Closing Transmission Time</i>	Test using widest BW mode available	Test using the widest BW mode available for the link
<i>All other tests</i>	Any single BW mode	Not required
Note: Frequencies selected for statistical performance check (Section 7.8.4) should include several frequencies within the radar detection bandwidth and frequencies near the edge of the radar detection bandwidth. For 802.11 devices it is suggested to select frequencies in each of the bonded 20 MHz channels and the channel center frequency.		

The operational behavior and individual DFS requirements that are associated with these modes are as follows:

TEST RESULT OF CHANNEL MOVE TIME, CHANNEL CLOSING TRANSMISSION TIME

Radar signal Type 1

Channel Closing Transmission Time & Channel Move Time @ 5260MHz



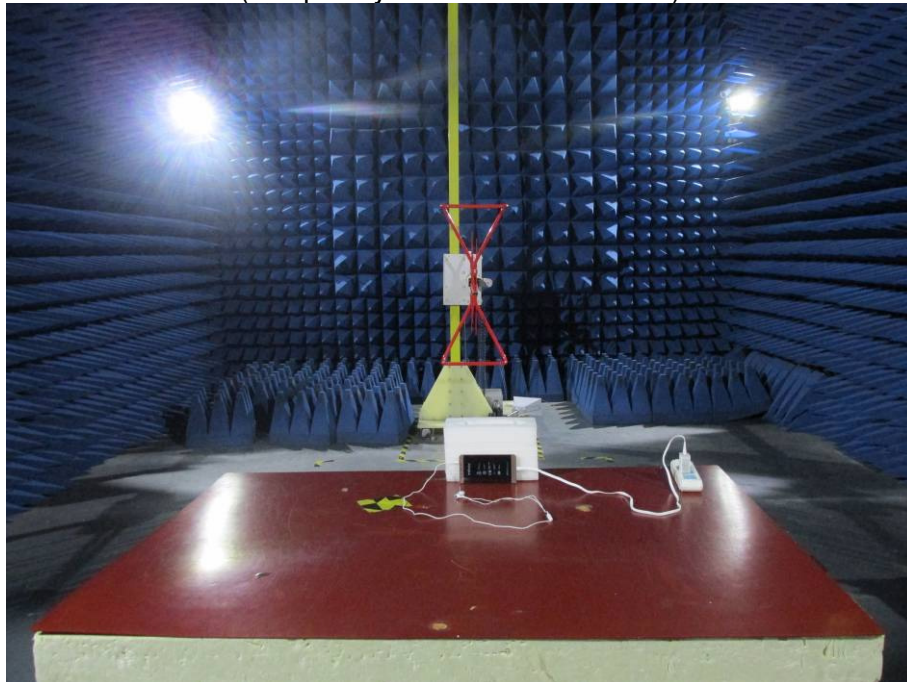
NOTE: T1 denotes the start of Channel Move Time upon the end of the last Radar burst. T2 denotes the data transmission time of 200ms from T1. T3 denotes the end of Channel Move Time. T4 denotes the 10 second from T1 to observe the aggregate duration of transmissions.

10. EUT TEST PHOTO

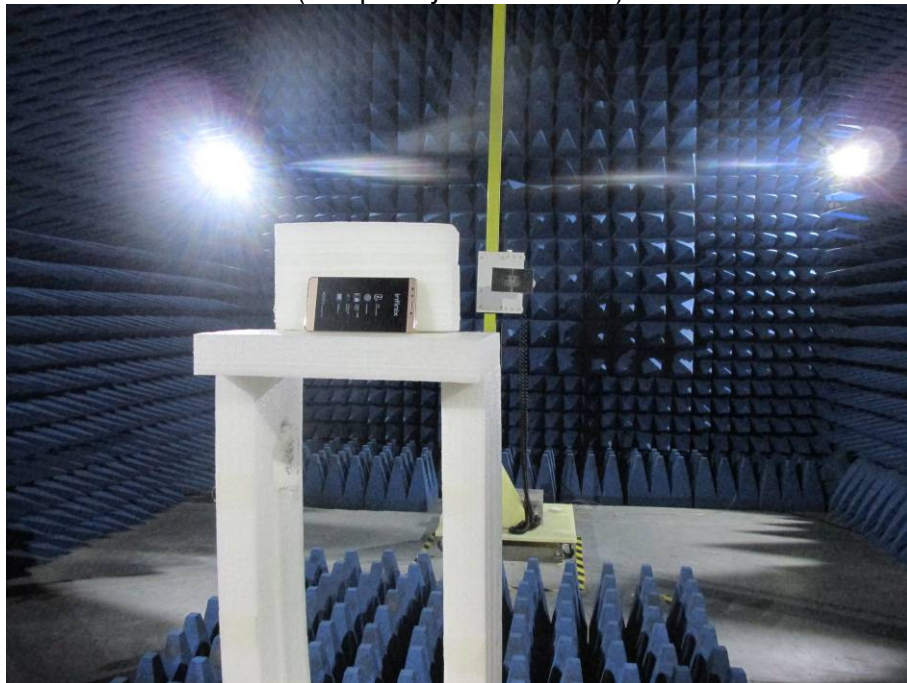
CONDUCTED EMISSION TEST



RADIATED EMISSION TEST
(Frequency from 30MHz to 1GHz)



RADIATED EMISSION TEST
(Frequency above 1GHz)



RF TEST



11. PHOTOGRAPHS OF EUT

Appearance photograph of EUT



Appearance photograph of EUT



Appearance photograph of EUT



Appearance photograph of EUT



Appearance photograph of EUT



Appearance photograph of EUT



Appearance photograph of EUT



Appearance photograph of EUT



Appearance photograph of EUT



Internal photograph of EUT



Internal photograph of EUT



Internal photograph of EUT



Internal photograph of EUT



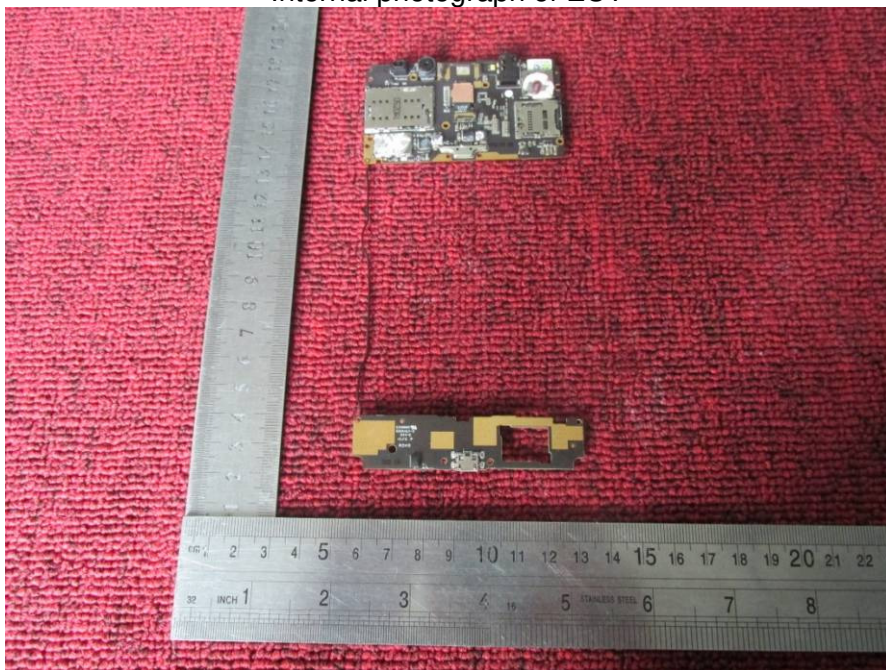
Internal photograph of EUT



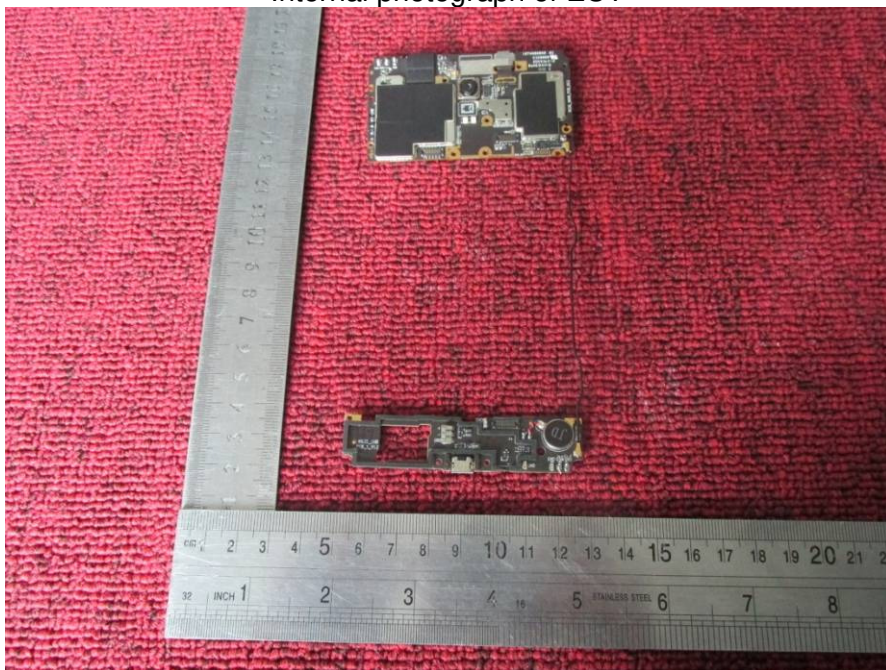
Internal photograph of EUT



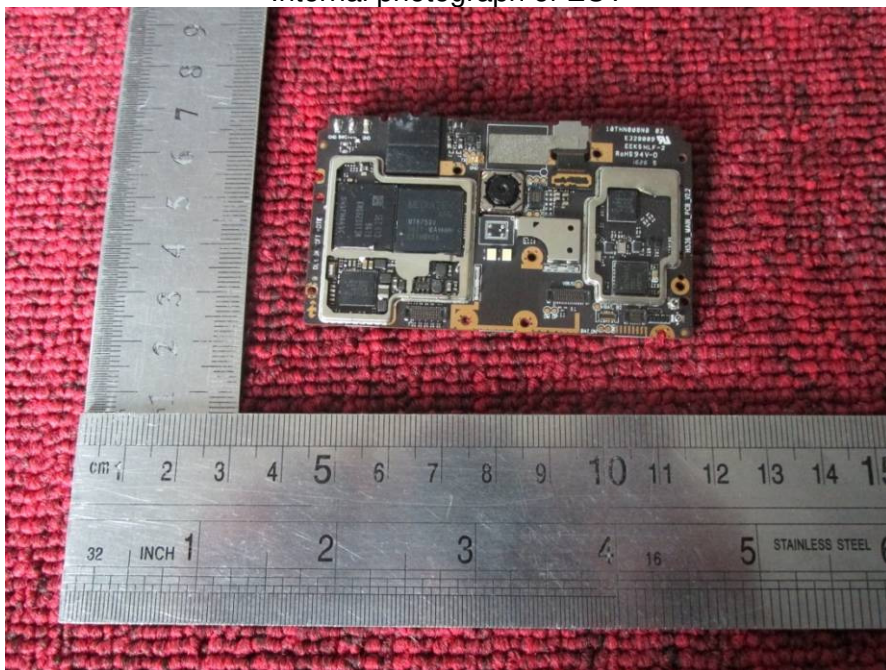
Internal photograph of EUT



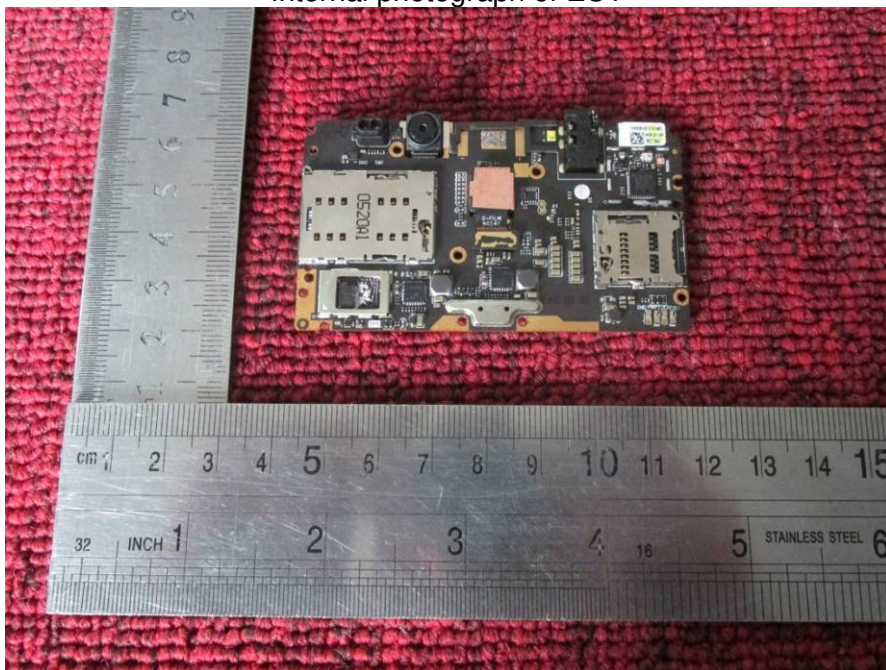
Internal photograph of EUT



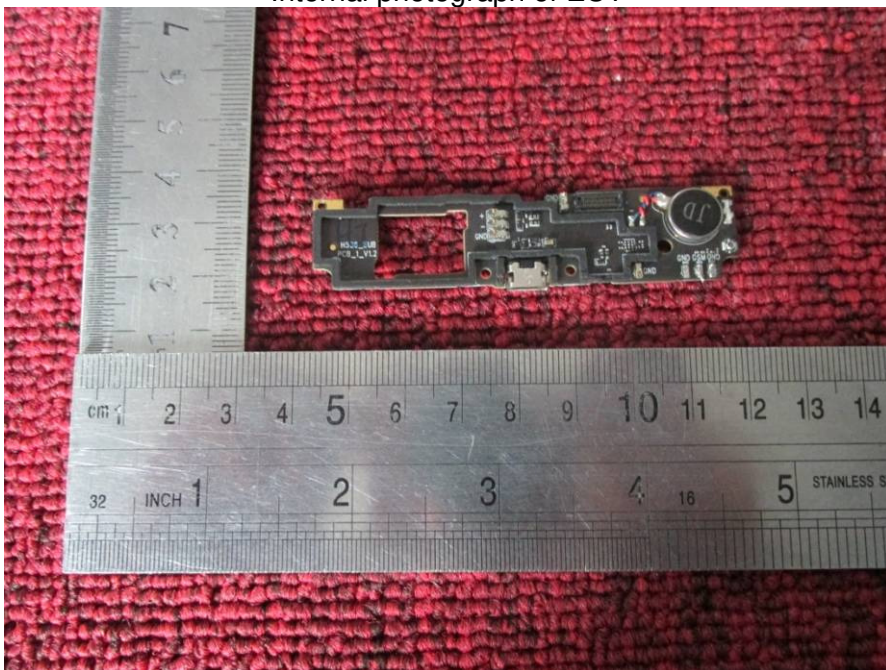
Internal photograph of EUT



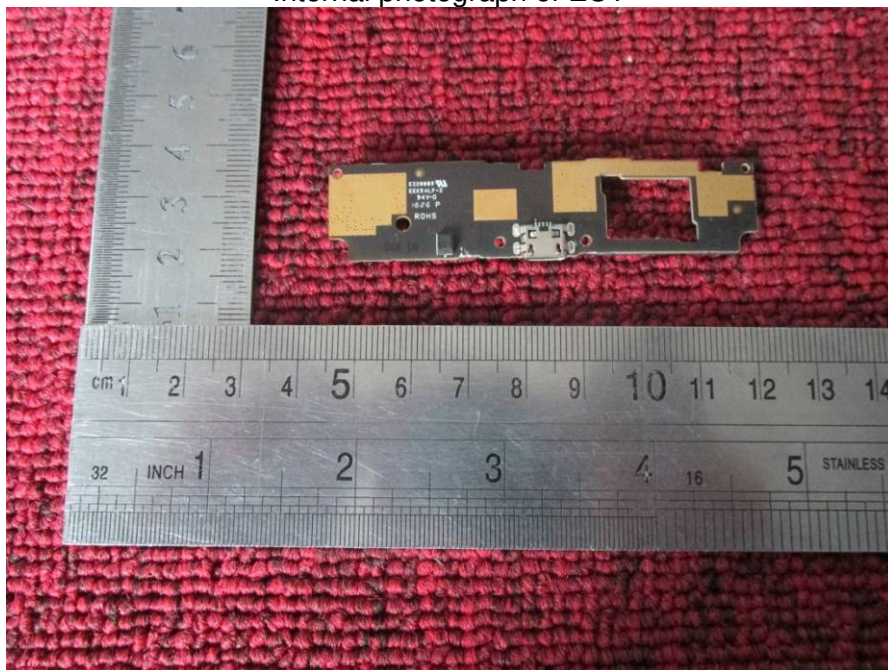
Internal photograph of EUT



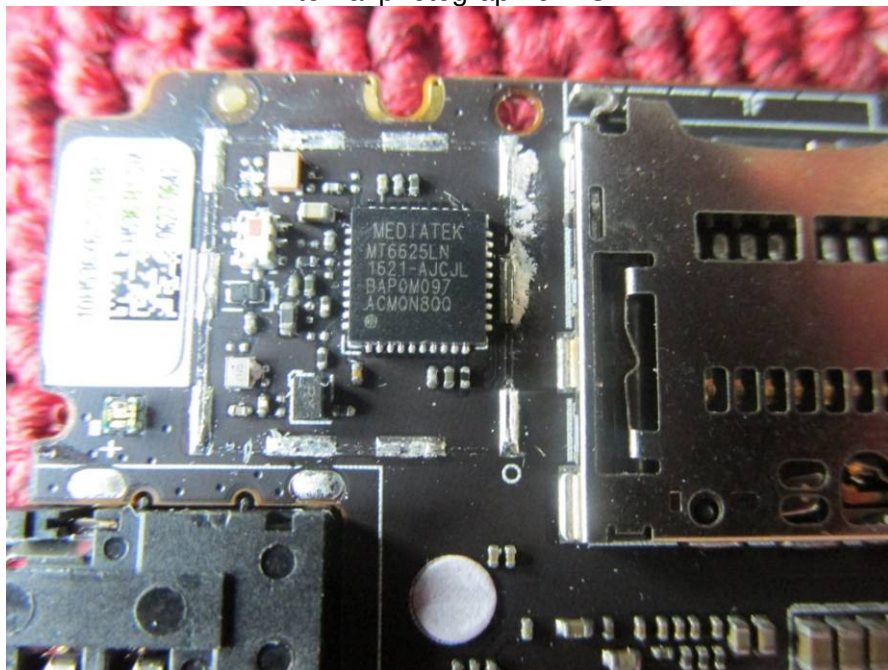
Internal photograph of EUT



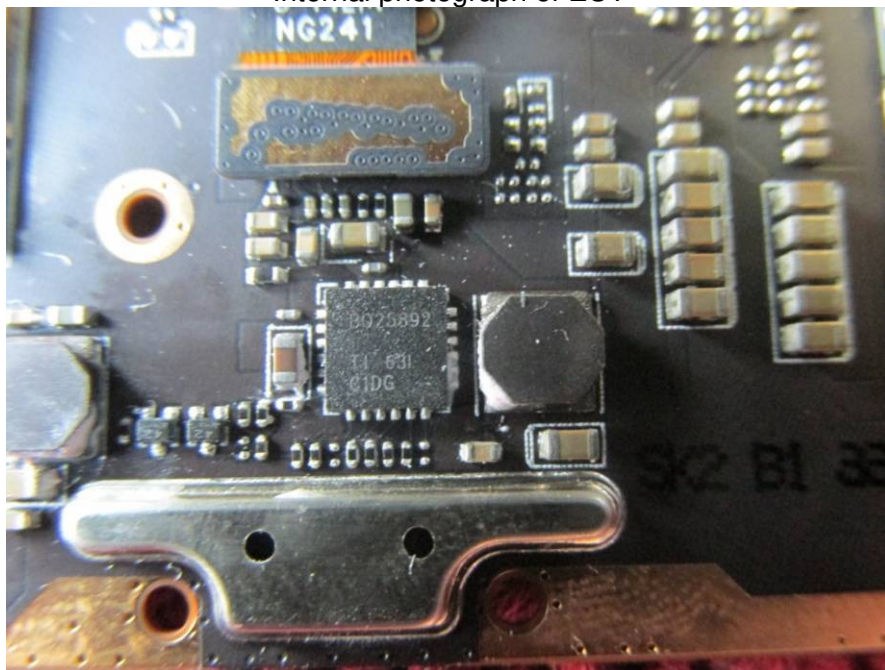
Internal photograph of EUT



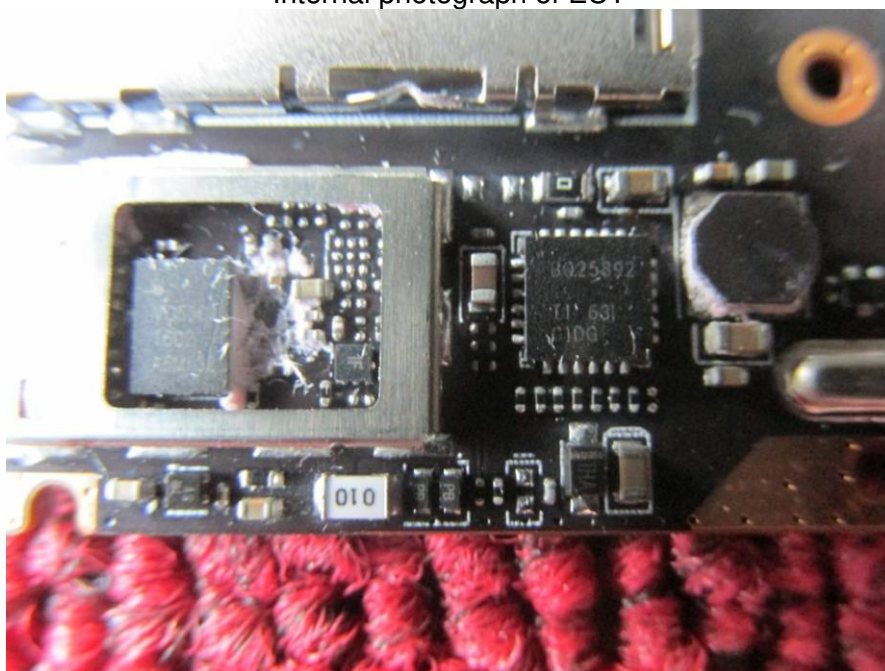
Internal photograph of EUT



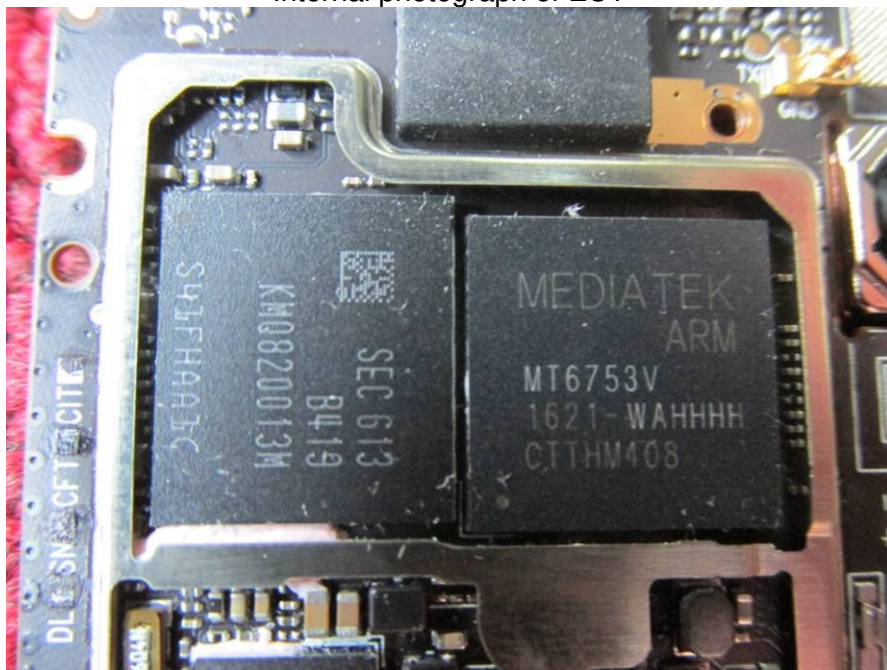
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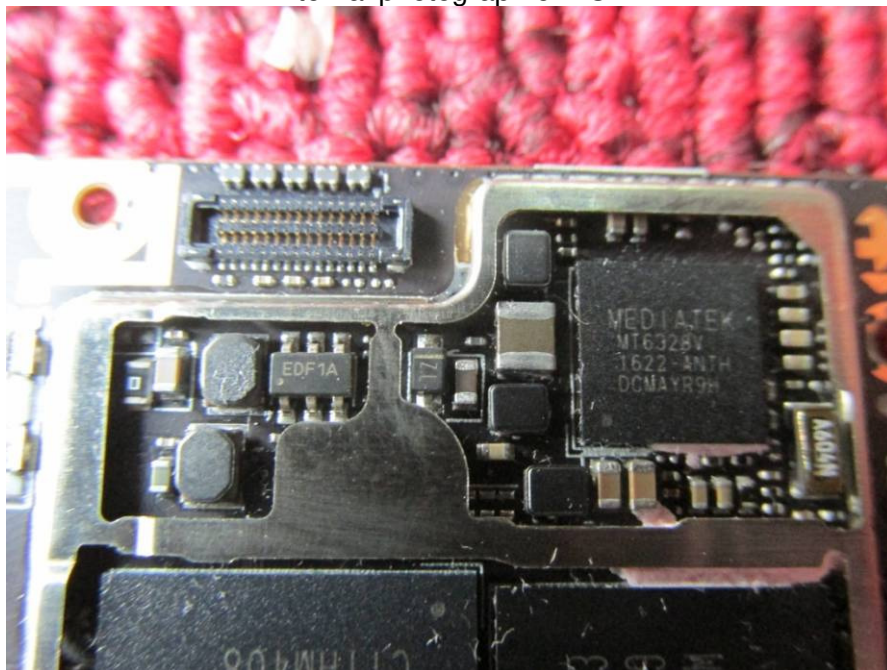
Internal photograph of EUT



Internal photograph of EUT



Internal photograph of EUT



Internal photograph of EUT



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