

# ELECTROMAGNETIC EMISSIONS COMPLIANCE REPORT

Applicant:	ASUSTeK COMPUTER INC. 1F., No. 15, Lide Rd., Beitou Dist., Taipei City 112, Taiwan
Product Name:	ASUS Phone (Mobile Phone)
Brand Name:	ASUS
Model No.:	ASUS_1003D
Model Difference:	N/A
Report Number:	ER/2020/30174
FCC ID	MSQI003D
IC:	3568A-I003D
FCC Rule Part:	2, 27
ISED Rule:	RSS-199
Issue Date:	Sep. 07, 2020
Date of Test:	Jul. 16, 2020 ~ Jul. 22, 2020
Date of EUT Received:	May 06, 2020
We hereby cortify that:	

### We hereby certify that:

Approved By:

SGS Taiwan Ltd.

The above equipment was tested by SGS Taiwan Ltd. Central RF Lab The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.26-2015 and the energy emitted by the sample EUT tested as described in this report is in compliance with conducted and radiated emission limits.

The test results of this report relate only to the tested sample identified in this report.

Jazz

Jazz Huang / Asst. Supervisor



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Revision History								
Report Number	Revision	Description	Issue Date	Remark				
ER/2020/30174	Rev.00	Original.	Sep. 07, 2020	Revised By: Violetta Tang				

### Note:

1、 Disclaimer

Antenna information is provided by the applicant, test results of this report are applicable to the sample EUT received.

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#### **GENERAL PRODUCT INFORMATION** 1

#### **Product Description** 1.1

General:

Product Name:	ASUS Pho	one (Mobile Phone)		
Brand Name:	ASUS			
Model No.:	ASUS_100	3D		
Model Difference:	N/A			
Hardware Version:	R2.0B			
Software Version:	Android Q			
AJ Dongle:	Model No.	: F370002, Supplier: MEILU		
Fan Dongle:	Model No.	: I003, Supplier: ASUS		
USB Cable:	Model No.	: LA9U2015-CS-R, Supplier: ASAP		
		om Rechargeable Li-polymer Battery / 12V / 15V / 20V from AC/DC Adapter		
Power Supply:	Battery:	Model No.: C11P1903, Supplier: SCUD		
	Adapter: Model No.: A299-200150U-US, Supplier: AOHAI			
IMEI:		0093970 / 355306110093988 (Conducted) 0094390 (Radiated)		

#### 1.2 **Operation Frequency Range**

	Band	BW	Operation	Fre	equency	
	Danu	(MHz)	(MHz)			
		60	2506.2	-	2649.90	
	41A_n41	80	2506.2	-	2639.91	
		100	2506.2	-	2629.89	
		120	2506.2	-	2619.90	

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#### 1.3 Antenna Designation

Antenna Type	Antenna Model No.			
	Ant1			
PIFA	Ant9			
	Ant11			
Note: The EUT equipped with 7 WWAN antennas, however, transmission of 5G NR				

I equipp ed with 7 www.an antennas, nowever, transmission of 5G NR bands are available by Ant1, Ant9 and Ant11.

Operating Frequency (MHz)				Ant 1 Peak Gain (dBi)	Ant 9 Peak Gain (dBi)	Ant 11 Peak Gain (dBi)
LTE-Band 41	2496	1	2690	-3.0	N/A	N/A
NR Band 41	2496	~	2690	N/A	-2.9	-3.8

#### Type of Emission & Max ERP/EIRP Power Measurement Result: 1.4

Band	Mod	ulation		/ EIRP 3m)	(W)	99%	Type of Emission
		BPSK	20.37	EIRP	0.109	117.230	117MG7W
		QPSK	20.15	EIRP	0.104	118.080	118MG7W
	DFT	16QAM	19.86	EIRP	0.097	118.390	118MD7W
		64QAM	19.69	EIRP	0.093	118.400	118MD7W
41A_n41		256QAM	19.09	EIRP	0.081	118.550	119MD7W
	СР	QPSK	19.67	EIRP	0.093	117.410	117MG7W
		16QAM	19.58	EIRP	0.091	117.300	117MD7W
		64QAM	19.47	EIRP	0.089	117.350	117MD7W
		256QAM	18.83	EIRP	0.076	117.360	117MD7W

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# 1.5 Test Methodology of Applied Standards FCC 47 CFR Part 2, 27. ISED RSS-199 Issue 3 Dec. 2016 ANSI C63.26-2015 KDB971168 D01 Power Meas license Digital System v03r01 KDB412172 D01 Determining ERP and EIRP v01r01

# 1.6 Test Facility

SGS Taiwan Ltd. Central RF Lab (TAF code 0513) No.134, Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan 24803 FCC Designation number: TW0027 ISED CAB identifier: TW3702

### 1.7 Special Accessories

No special accessories were used during testing.

### 1.8 Equipment Modifications

There was no modifications incorporated into the EUT.

# 1.9 Radiated Emission Test Sites For Measurements From 9 kHz To 30 MHz

Radiated emission below 30MHz is measured in a 9m\*9m\*6m semi-anechoic chamber, the measurements correspond to those obtained at an open-field test site. There is a comparison data of both open-field test site and semi-Anechoic chamber, and the result came out very similar.

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# **2 SYSTEM TEST CONFIGURATION**

# 2.1 EUT Configuration

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner which intends to maximize its emission characteristics in a continuous normal application.

# 2.2 EUT Exercise

The EUT (Transmitter) was operated in the continuous transmission mode employed with the simulator of the Base Station that fixates at test default channels to fix the Tx frequency which was for the purpose of the measurements.

# 2.3 Test Procedure

# 2.3.1 Conducted Measurement at Antenna Port

The EUT is placed on a table which is 0.8 m above ground plane. A low loss of RF cable was used to connect the antenna port of EUT to measurement equipment.

# 2.3.2 Radiated Emissions (ERP/EIRP)

The EUT is placed on a turn table, for emission measurements below 1 GHz is 0.8 m above ground plane, for emission measurements above 1 GHz, the table height shall be 1.5 m. The turn table shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3m away from the receiving antenna which varied from 1m to 4m to find out the highest emission. And also, 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 hand-held transmitter (EUT) was rotated through three orthogonal axes and measurement procedures for electric field radiated emissions above 1 GHz the EUT measurement is to be made "while keeping the antenna in the 'cone of radiation' from that area and pointed at the area both in azimuth and elevation, with polarization oriented for maximum response." is still within the 3dB illumination BW of the measurement antenna.

### 2.4 Measurement Results Explanation Example For all conducted test items:

The offset level is set in the spectrum analyzer to compensate the RF cable loss and attenuation factor between EUT conducted port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level is exactly EUT RF output level.

### Note:

The spectrum analyzer offset is derived from RF cable loss and attenuator factor. Following shows an offset computation in physical test.

RF cable loss (dB)	Attenuation factor(dB)	offset(dB)	
1.4	10	11.4	

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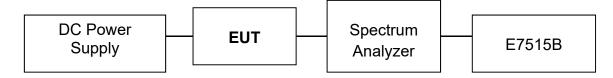


#### 2.5 Final Amplifier Voltage and Current Information:

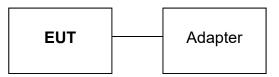
Band	DC voltage (V)	DC current (mA)
41A_n41	3.85	577

#### **Configuration of Tested System** 2.6

# Fig. 2-1 Configuration of Tested System (Fixed Channel-Conducted)



# Fig. 2-2 Configuration of Tested System (Fixed Channel-Radiated)



### **Remote Side**



Table 2-1 Equipment Used in

ltem	Equipment	Mfr/Brand	Model/ Type No.	Series No.	Data Cable	Power Cord
1.	UXM 5G	KEYSIGHT	E7515B	MY59321561	shielded	Un-shielded

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#### SUMMARY OF TEST RESULTS 3

FCC Rules	IC Rules	Description Of Test	Result
§2.1046(a)	RSS-GEN §6.12	RF Power Output	Compliant
§27.50(h)(2)	RSS-199 §4.4	ERP/ EIRP measurement	Compliant
§2.1049(h)	RSS-GEN §6.7	99% & 26dB Occuupied Bandwidth	Compliant
§2.1051 §27.53(m)(4)	RSS-GEN §6.13 RSS-199 §4.5	Out of Band Emissions at Antenna Terminals and Band Edge / Emission mask requirements	Compliant
§2.1053 §27.53(m)(4)	RSS-GEN §6.13 RSS-199 §4.5	Field Strength of Spurious Radiation	Compliant
§27.50(a)(1)(B)	RSS-199 §4.4	Peak to Average Ratio	Compliant
§2.1055(a)(1) §27.54	RSS-199 §4.3	Frequency Stability	Compliant

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# 4 DESCRIPTION OF TEST MODES

# 4.1 The Worst Test Modes and Channel Details

- 1 The EUT has been tested under operating condition.
- 2 Evaluation has been done on all antennas in below table,
  - a. For LTE B41 the Ant. 1 results higher emissions,
  - b. For 5G NR n41 the Ant. 9 results higher emissions

therefore, only measurement results of the Lower antenna are demonstrated in this test report.

Mode	Bands	Upper Antenna	Lower Antenna
LTE	Band 41	N/A	1
5G NR	n41	11	9

3 The EUT only supports with below SCS and Bandwidth in each 5G NR Band.

BAND	SCS (kHz)	Bandwidth (MHz)
41A_n41	30	60, 80, 100, 120

- 4 Due to each single LTE Band transmission gernerates higher power than the LTE transmission in ENDC mode, the test results of each single LTE band transmission are demonstrated in the test report ER/2020/30083 as the worst case senarios.
- 5 Due to n41 Band standalone mode (SA) transmission gernerates higher power than the ENDC mode, the test results of n41 SA mode transmission is demonstrated in the test report ER/2020/30085 as the worst case senarios.
- 6 Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates, X(E1)Y(E2)Z(H) axis and antenna ports. The worst case was found as listed below. Following channel(s) was (were) selected for the final test as listed below:

BAND	H PLAN	E1 PLAN	E2 PLAN
41A_n41		V	

- 7 The worst case scenarios are determined by the ENDC combinations that generate the highest output power, the peak to average ratio and unwanted emission test results are only be presented with the ENDC combinations of the worst case.
- 8 ENDC RSE test results are only demstrated with the worst case determined by the EIRP test result in section 6.6.1 of this report.
- 9 Each available modulation and channel combination have been evaluated and the DFT-s-OFDM Pi/2 BPSK and DFT-s-OFDM QPSK with middle channel combination result higher EIRP, therefore, the intra-band non-contiguous EIRP results are demonstrated with the 2 modulations.
- 10 PAR is presented with worst case scenario that determined by single LTE Band transmission and SA mode transmission of n41 in test report ER/2020/30083 and ER/2020/30085.

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#### **Measurement Configuration** 4.2

#### 4.2.1 **ENDC** conducted measurements

		Tes	t Chan	nel	Ba	andwid	th (MH	z)	CP-0	OFDM I	Modula	tion	C	FT-OF	DM Mo	dulatio	n		RB #	
Test Items	Band	L	М	Η	60	80	100	120	QPSK	16QAM	64QAM	256QAN	BPSK	QPSK	16QAM	64QAM	256QAN	Edge left	Edge right	Full
Max. Output Power	41A_n41	v	v	v	V	v	v	v	v	V	v	v	v	v	V	v	v	V	V	V
Freqency Stability	41A_n41		v					v	٧											٧
		Tes	t Chan	nel	Ba	andwid	th (MH	z)	CP-0	OF DM N	Vodula	tion	D	FT-OF	DM Mo	dulatio	n		RB #	
Test Items	Band	L	М	Н	60	80	100	120	QPSK	16QAM	64QAM	256QAN	BPSK	QPSK	16QAM	64QAM	256QAN	Edge left	Edge right	Full
26dB and 99% Bandwidth	41A_n41	v	v	v	v	v	۷	v	v	v	v	v	v	v	v	٧	v			v
Peak-to-Av erage Ratio	41A_n41		V					٧				٧								٧
		Tes	t Cha	nnel	Ba	ndwid	th (M	Hz)	CP-0	FDM N	Modul	ation	DF	T-OFD	OM Mo	dulati	on		RB #	
Test Items	Band	L	М	Н	60	80	100	120	QPSK	16QAM	64QAM	256QAN	BPSK	QPSK	16QAM	64QAM	256QAN	Edge left	Edge right	Full
Mask	41A_n41	v		v	v	v	v	v	v				v					V	V	v
		Tes	t Chai	nnel	Ba	ndwid	th (M	Hz)	CP-0	FDM N	Nodul	ation	DF	T-OFD	OM Mo	dulati	on		RB #	
Test Items	Band	L	М	Н	60	80	100	120	QPSK	16QAM	64QAM	256QAN	BPSK	QPSK	16QAM	64QAM	256qan	Edge left	Edge right	Full
Conducted Emission	41A_n41	v	v	v			v						v					V		v

#### 4.2.2 **ENDC Radiated Emission**

	41A _ n41(intra-band contiguous)												
E-UTRA	SCS	Test Channel	Channel Bandwidth	Modulation	Resource Bloc tion	k Alloca-							
Band		Channel	(MHz)		RBs allocated	RB Start							
41A_n41	30K	41021+516618	20+80	DFT-S-OFDM Pi/2 BPSK	Full								
		41A _	n41(intra-bar	nd non-contiguous)									
E-UTRA	SCS	Test	Channel Bandwidth	Modulation	Resource Bloc tion	k Alloca-							
Band		Channel	(MHz)		RBs allocated	RB Start							
41A_n41	30K	41489+507240	20+40	DFT-S-OFDM Pi/2 BPSK	Full								

#### 4.2.3 **Frequency Band**

List of frequency bands mentioned in the measurement configuration, for comparison with 3GPP, please refer to the following table.

Band	3GPP inter-EN-DC configuration in FR1
41A_n41	DC_41A_n41A

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時から方方式就例 \* 加軟合電素電気測点(人体の面具) \* 同時加快体の電味留 20人 \* 年齢電子を回音面目で可 \* 可能の方後後 \* This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <u>http://www.sgs.com.tw/Terms-and-Conditions</u> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>http://www.sgs.com.tw/Terms-and-Conditions</u>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. fullest extent of the law



#### **MEASUREMENT UNCERTAINTY** 5

Test Items	Uncertainty
RF Power Output	+/- 1.10 dB
ERP/ EIRP measurement	Vertical Polarization = +/- 4.74dB Horizontal Polarization =+/- 4.62dB
Occupied Bandwidth	+/- 5.19 Hz
Out of Band Emissions at Antenna Terminals and Band Edge	+/- 0.70 dB
Peak to Average Ratio	+/- 0.70 dB
Frequency Stability vs. Temperature	+/- 5.19 Hz
Frequency Stability vs. Voltage	+/- 5.19 Hz
Temperature	+/- 0.65 °C
Humidity	+/- 4.6 %
DC / AC Power Source	DC= +/- 0.13%, AC=+/- 0.2%

### Radiated Spurious Emission:

	9kHz – 30MHz: +/- 2.87 dB
Maggurament ungertainty	30MHz - 180MHz: +/- 3.37dB
Measurement uncertainty (Polarization : <b>Vertical</b> )	180MHz -417MHz: +/- 3.19dB
(Forenzation : Vertical)	0.417GHz-1GHz: +/- 3.19dB
	1GHz - 18GHz: +/- 4.04dB
	18GHz - 40GHz: +/- 4.04dB

	9kHz – 30MHz: +/- 2.87 dB
••	30MHz - 167MHz: +/- 4.22dB
Measurement uncertainty (Polarization : <b>Horizontal</b> )	167MHz -500MHz: +/- 3.44dB
(Foldhization : Horizontal)	0.5GHz-1GHz: +/- 3.39dB
	1GHz - 18GHz: +/- 4.08dB
	18GHz - 40GHz: +/- 4.08dB

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

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# 6 MAXIMUM OUTPUT POWER

# 6.1 Standard Applicable

A base station simulator was used to establish communication with the EUT. Its parameters were set to transmit the maximum power on the EUT. The measured power in the radio frequency on the transmitter output terminals.

### 6.1.1 ERP/EIRP LIMIT

According to FCC §2.1046

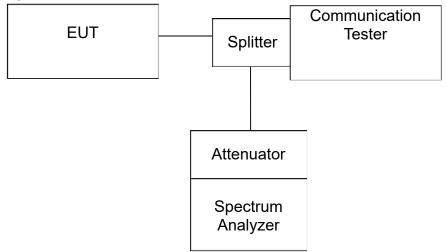
### FCC 27.50(h)

(2) Mobile and other user stations transmitting in the BRS and EBS bands are limited to 2 W EIRP.

# RSS-199 §4.4

For mobile subscriber equipment operating in the Band 2500-2690MHz, the e.i.r.p. shall not exceed 2 W.

### 6.2 Test Set-up



Note: Measurement setup for testing on Antenna connector

### 6.3 Output Power Measurement Applicable Guideance

The transmitter output was connected to a calibrated attenuator, the other end of which was connected to a power meter. Transmitter output was read off the power meter in dBm. The power output at the transmitter antenna port was determined by adding the value of the attenuator to the power meter reading.

The Procedure of KDB941225 (SAR Measurement Procedures for 3G devices, (WCDMA/HSPA) was used for EUT and Base station setting. RMC 12.2kps is used for this testing, and KDB 971168 D01 Power Meas License Digital System as the supplemental test methodology to adjust the proper setting obtaining the measurement results. All LTE bands conducted average power is obtained from the simulator telecommunication test set.

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### 6.4 Determining ERP and/or EIRP from conducted RF output power measurements

According to KDB 412172 D01 Power Approach,  $EIRP = P_T + G_T - L_c$ , ERP= EIRP-2.15,

Where:

Gτ

Lc

- ERP or EIRP = effective radiated power or equivalent isotropically radiated power (expressed in the same units as PT, typically dBW, dBm, or power spectral density (PSD)2), relative to either a dipole antenna (ERP) or an isotropic antenna (EIRP); Pτ
  - = transmitter output power, expressed in dBW, dBm, or PSD;
    - = gain of the transmitting antenna, in dBd (ERP) or dBi (EIRP);
      - = signal attenuation in the connecting cable between the transmitter and antenna. in dB.

#### 6.5 Measurement Equipment Used

EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
DC Power Supply	Agilent	E3640A	MY40000811	12/23/2019	12/22/2020
EXA Spectrum Analyzer	KEYSIGHT	N9010A	MY57120290	02/20/2020	02/19/2021
UXM 5G	KEYSIGHT	E7515B	MY59321561	12/16/2019	12/15/2020
Attenuator	Mini-Circuit	BW-S10W2+	2	01/02/2020	01/01/2021
DC Block	Mini-Circuits	BLK-18-S+	1	01/02/2020	01/01/2021
Splitter	RF-LAMBAD	RFLT2W1G18G	11-JSPF412-018	01/02/2020	01/01/2021

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#### 6.6 **Measurement Results:**

#### 6.6.1 **ENDC Mode**

Antenna gain (dBi)	-2.9										
			2	11A + n41A((intra-l	band contiguous)						
Modulation	BW	SCS	RB	41 CH	n41CH	Power 41	Power N41	Total power	EIRP	EIRP linit	Margin
DFT-S-OFDM Pi/2 BPSK	LTE 20 + NR Max	30K	FULL	Mid CH41120	Mid CH516600	20.92	19.49	23.27	20.37	33	-12.63
DFT-S-OFDM QPSK	LTE 20 + NR Max	30K	FULL	Mid CH41120	Mid CH516600	20.88	18.99	23.05	20.15	33	-12.85
DFT-S-OFDM 16QAM	LTE 20 + NR Max	30K	FULL	Mid CH41120	Mid CH516600	20.89	18.19	22.76	19.86	33	-13.14
DFT-S-OFDM 64QAM	LTE 20 + NR Max	30K	FULL	Mid CH41120	Mid CH516600	20.9	17.66	22.59	19.69	33	-13.31
DFT-S-OFDM 256QAM	LTE 20 + NR Max	30K	FULL	Mid CH41120	Mid CH516600	20.91	15.40	21.99	19.09	33	-13.91
CP-OFDM QPSK	LTE 20 + NR Max	30K	FULL	Mid CH41120	Mid CH516600	20.94	17.53	22.57	19.67	33	-13.33
CP-OFDM 16QAM	LTE 20 + NR Max	30K	FULL	Mid CH41120	Mid CH516600	20.9	17.33	22.48	19.58	33	-13.42
CP-OFDM 64QAM	LTE 20 + NR Max	30K	FULL	Mid CH41120	Mid CH516600	20.89	16.97	22.37	19.47	33	-13.53
CP-OFDM 256QAM	LTE 20 + NR Max	30K	FULL	Mid CH41120	Mid CH516600	20.9	14.13	21.73	18.83	33	-14.17
DFT-S-OFDM Pi/2 BPSK	LTE 20 + NR Max	30K	1RB Left	Mid CH41120	Mid CH516600	20.88	16.97	22.36	19.46	33	-13.54
DFT-S-OFDM Pi/2 BPSK	LTE 20 + NR Max	30K	1RB Rigth	Mid CH41120	Mid CH516600	20.91	16.37	22.22	19.32	33	-13.68
DFT-S-OFDM Pi/2 BPSK	LTE 20 + NR 80	30K	FULL	Mid CH41021	Mid CH516618	20.98	20.81	23.91	21.01	33	-11.99
DFT-S-OFDM Pi/2 BPSK	LTE 20 + NR 60	30K	FULL	Mid CH40919	Mid CH516582	20.94	19.99	23.50	20.60	33	-12.40
DFT-S-OFDM Pi/2 BPSK	LTE 20 + NR 40	30K	FULL	Mid CH40820	Mid CH516600	20.95	20.69	23.83	20.93	33	-12.07
DFT-S-OFDM Pi/2 BPSK	LTE 20 + NR 80	30K	FULL	Low CH39752	Low CH511242	20.91	20.55	23.74	20.84	33	-12.16
DFT-S-OFDM Pi/2 BPSK	LTE 20 + NR 80	30K	FULL	High CH41489	High CH525978	20.92	20.51	23.73	20.83	33	-12.17
			41	IA _ n41(intra-ban	d non-contiguous)						
Modulation	BW	SCS	RB	41A CH	n41CH	Power 41A	Power N41	Total power	EIRP	EIRP linit	Margin
DFT-S-OFDM Pi/2 BPSK	NR 100 + LTE 20	30K	FULL	High CH 41489	Low CH 513240	21.01	20.06	23.57	20.67	33	-12.33
DFT-S-OFDM Pi/2 BPSK	NR 80 + LTE 20	30K	FULL	High CH 41489	Low CH 511242	20.94	20.57	23.77	20.87	33	-12.13
DFT-S-OFDM QPSK	NR 60 + LTE 20	30K	FULL	High CH 41489	Low CH 509238	20.95	20.04	23.53	20.63	33	-12.37
DFT-S-OFDM QPSK	NR 40 + LTE 20	30K	FULL	High CH 41489	Low CH 507240	20.93	20.85	23.90	21.00	33	-12.00
DFT-S-OFDM Pi/2 BPSK	LTE 20 + NR 100	30K	FULL	Low CH 39752	High CH 523980	20.95	20.47	23.73	20.83	33	-12.17
DFT-S-OFDM Pi/2 BPSK	LTE 20 + NR 80	30K	FULL	Low CH 39752	High CH 525978	20.9	20.19	23.57	20.67	33	-12.33
DFT-S-OFDM QPSK	LTE 20 + NR 60	30K	FULL	Low CH 39752	High CH 527982	20.92	20.21	23.59	20.69	33	-12.31
DFT-S-OFDM QPSK	LTE 20 + NR 40	30K	FULL	Low CH 39752	High CH 529980	20.94	20.34	23.66	20.76	33	-12.24

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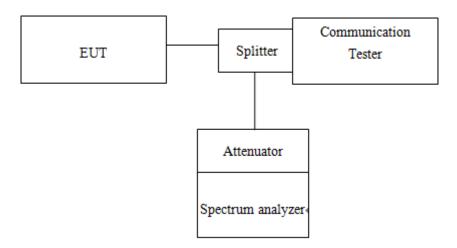


# 7 OCCUPIED BANDWIDTH MEASUREMENT

### 7.1 Standard Applicable

The occupied bandwidth is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 percent of the total mean power.

# 7.2 Test Set-up



### 7.3 Measurement Procedure

### 99% &26dB Bandwidth with detector peak

The EUT's output RF connector was connected with a short cable to the spectrum analyzer, RBW was set to about 1% of emission BW, VBW= 3 times RBW, -26dBc display line was placed on the screen (or 26dB bandwidth), the occupied bandwidth is the delta frequency between the two points where the display line intersects the signal trace. Then set RBW to 99% bandwidth, RBW= 1%, VBW= 3 RBW, with span > 2 \* Signal BW, set % Power = 99%.

### 99% Bandwidth with detector sample

The EUT's output RF connector was connected with a short cable to the spectrum analyzer, RBW was set to about  $1\% \sim 5\%$  of emission BW, VBW= 3 times RBW, -20dBc display line was placed on the screen (or 20dB bandwidth). Set RBW to 99% bandwidth, RBW=  $1\% \sim 5\%$ , VBW= 3 RBW, with span > 2 \* Signal BW, set % Power = 99%.

EQUIPMENT	MFR	MODEL	SERIAL	LAST	CAL DUE.
TYPE		NUMBER	NUMBER	CAL.	
DC Power Supply	Agilent	E3640A	MY40000811	12/23/2019	12/22/2020
EXA Spectrum	KEYSIGHT	N9010A	MY57120290	02/20/2020	02/19/2021
Analyzer					
UXM 5G	KEYSIGHT	E7515B	MY59321561	12/16/2019	12/15/2020
Attenuator	Mini-Circuit	BW-S10W2+	2	01/02/2020	01/01/2021
DC Block	Mini-Circuits	BLK-18-S+	1	01/02/2020	01/01/2021
Splitter	RF-LAMBAD	RFLT2W1G18G	11-JSPF412-018	01/02/2020	01/01/2021

### 7.4 Measurement Equipment Used

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#### 7.5 **Measurement Result**

Each bandwidth has been evaluated with the modulation that generated highest output power.

			5	G NR 41A_n4	1		•	•
			DFT-S-	OFDM_SCS	30 kHz			
	dwidth Hz)	RB Size /	RB Offset	•	lency Hz)	Modulation	99% BW (MHz)	26 dB BW (MHz)
LTE	NR	LTE	NR	LTE	NR		(IVI TZ)	
				2506.2	2536.20		55.317	57.32
20	40	100 / 0	100 / 0	2613.0	2583.00	BPSK	57.220	59.82
				2679.9	2649.90		57.554	59.64
				2506.2	2546.19		77.265	80.34
20	60	100 / 0	162 / 0	2622.9	2582.91	BPSK	77.222	80.20
				2679.9	2639.91		77.308	80.25
				2506.2	2556.21		96.657	99.86
20	80	100 / 0	216 / 0	2633.1	2583.09	BPSK	97.182	100.40
				2679.9	2629.89		97.054	100.30
				2506.2	2566.20		116.120	119.30
20	100	100 / 0	270 / 0	2643.0	2583.00	BPSK	117.230	120.70
				2679.9	2619.90		117.010	120.50
			5	G NR 41A_n4	1			
			DFT-S-	OFDM_SCS	30 kHz			
Banc	dwidth	RB Size /	RB Offset	Frequ	lency	Modulation	99% BW	26 dB BW
LTE	NR	LTE	NR	LTE	NR	Modulation	(MHz)	(MHz)
				2506.2	2536.20		55.402	57.74
20	40	100 / 0	100 / 0	2613.0	2583.00	QPSK	57.600	59.94
				2679.9	2649.90		57.634	60.07
				2506.2	2546.19		77.167	79.92
20	60	100 / 0	162 / 0	2622.9	2582.91	QPSK	77.331	80.15
				2679.9	2639.91		77.482	80.11
				2506.2	2556.21		96.498	99.95
20	80	100 / 0	216 / 0	2633.1	2583.09	QPSK	97.300	100.50
				2679.9	2629.89		97.212	100.50
				2506.2	2566.20		115.770	119.20
20	100	100 / 0	270 / 0	2643.0	2583.00	QPSK	117.120	122.80
				2679.9	2619.90		118.080	120.70

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			5	G NR 41A_n4	11			
			DFT-S-	OFDM_SCS	30 kHz			
Band	lwidth	RB Size /	RB Offset	Frequ	uency	Modulation	99% BW	26 dB BW
LTE	NR	LTE	NR	LTE	NR	wouldtion	(MHz)	(MHz)
				2506.2	2536.20		55.402	57.58
20	40	100 / 0	100 / 0	2613.0	2583.00	16QAM	57.375	59.81
				2679.9	2649.90		57.626	59.97
				2506.2	2546.19		77.157	80.02
20	60	100 / 0	162 / 0	2622.9	2582.91	16QAM	77.572	80.36
				2679.9	2639.91		77.510	80.36
				2506.2	2556.21		96.543	99.95
20	80	100 / 0	216 / 0	2633.1	2583.09	16QAM	97.347	100.80
				2679.9	2629.89		97.167	100.40
				2506.2	2566.20		115.260	119.20
20	100	100 / 0	270 / 0	2643.0	2583.00	16QAM	118.390	120.50
				2679.9	2619.90		118.210	120.50
				G NR 41A_n4				
			DFT-S-	OFDM_SCS	30 kHz			
Band	lwidth	RB Size /	RB Offset		uency	Modulation	99% BW	26 dB BW
LTE	NR	LTE	NR	LTE	NR	Woodation	(MHz)	(MHz)
				2506.2	2536.20		55.233	57.58
20	40	100 / 0	100 / 0	2613.0	2583.00	64QAM	57.408	59.87
				2679.9	2649.90		57.548	59.85
				2506.2	2546.19		77.331	80.27
20	60	100 / 0	162 / 0	2622.9	2582.91	64QAM	77.476	80.17
				2679.9	2639.91		77.481	80.39
				2506.2	2556.21		96.831	100.10
20	80	100 / 0	216 / 0	2633.1	2583.09	64QAM	97.309	100.50
				2679.9	2629.89		97.182	100.70
				2506.2	2566.20		115.400	119.10
20	100	100 / 0	270 / 0	2643.0	2583.00	64QAM	118.400	120.20
				2679.9	2619.90		118.090	120.40

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			50	G NR 41A_n4	11			
			DFT-S-	OFDM_SCS	30 kHz			
Band	width	RB Size /	RB Offset	Frequ	lency	Modulation	99% BW	26 dB BW
LTE	NR	LTE	NR	LTE	NR	IVIOUUIALIOIT	(MHz)	(MHz)
				2506.2	2536.20		54.994	57.55
20	40	100 / 0	100 / 0	2613.0	2583.00	256QAM	57.539	59.84
				2679.9	2649.90		57.592	59.71
				2506.2	2546.19		77.359	80.01
20	60	100 / 0	162 / 0	2622.9	2582.91	256QAM	77.641	80.47
				2679.9	2639.91		77.480	80.27
				2506.2	2556.21		96.603	100.00
20	80	100 / 0	216 / 0	2633.1	2583.09	256QAM	97.606	100.50
				2679.9	2629.89		97.526	100.60
				2506.2	2566.20		114.140	119.00
20	100	100 / 0	270/0	2643.0	2583.00	256QAM	118.460	120.50
				2679.9	2619.90		118.550	120.50

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			5	G NR 41A_n4	11			
			CP-0	FDM_SCS 3	0 kHz			
	lwidth Hz)	RB Size /	RB Offset		uency Hz)	Modulation	99% BW (MHz)	26 dB BW (MHz)
LTE	NR	LTE	NR	LTE	NR		(101112)	(101112)
				2506.2	2536.20		57.475	60.03
20	40	100 / 0	106 / 0	2613.0	2583.00	QPSK	57.460	59.97
				2679.9	2649.90		57.535	59.82
				2506.2	2546.19		77.484	80.34
20	60	100 / 0	162 / 0	2622.9	2582.91	QPSK	77.452	80.24
				2679.9	2639.91		77.465	79.94
				2506.2	2556.21		97.006	100.50
20	80	100 / 0	217 / 0	2633.1	2583.09	QPSK	97.348	100.90
				2679.9	2629.89		97.250	100.50
				2506.2	2566.20		116.270	120.30
20	100	100 / 0	273/0	2643.0	2583.00	QPSK	117.410	120.70
				2679.9	2619.90		117.120	120.60
	•	•	5	G NR 41A_n4	11			
			CP-O	FDM_SCS 3	0 kHz			
Band	lwidth	RB Size /	RB Offset		uency	Modulation	99% BW	26 dB BW
LTE	NR	LTE	NR	LTE	NR	wouldtion	(MHz)	(MHz)
				2506.2	2536.20		57.527	59.64
20	40	100 / 0	106 / 0	2613.0	2583.00	16QAM	57.483	59.88
				2679.9	2649.90		57.628	60.04
				2506.2	2546.19		77.317	80.21
20	60	100 / 0	162 / 0	2622.9	2582.91	16QAM	77.622	80.57
				2679.9	2639.91		77.557	80.27
				2506.2	2556.21		97.002	100.60
20	80	100 / 0	217 / 0	2633.1	2583.09	16QAM	97.573	100.90
				2679.9	2629.89		97.187	100.70
_				2506.2	2566.20		116.000	120.10
20	100	100 / 0	273/0	2643.0	2583.00	16QAM	117.140	120.60
				2679.9	2619.90		117.300	120.50

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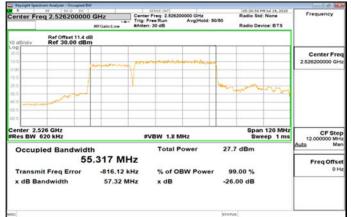
				G NR 41A_n4				
			CP-C	FDM_SCS 3	0 kHz			
Banc	lwidth	RB Size /	RB Offset	Frequ	uency	Modulation	99% BW	26 dB BW
LTE	NR	LTE	NR	LTE	NR	wouldtion	(MHz)	(MHz)
				2506.2	2536.20		57.512	59.65
20	40	100 / 0	106 / 0	2613.0	2583.00	64QAM	57.460	59.86
				2679.9	2649.90		57.544	59.70
				2506.2	2546.19		77.389	79.94
20	60	100 / 0	162 / 0	2622.9	2582.91	64QAM	77.543	80.69
				2679.9	2639.91		77.458	80.33
				2506.2	2556.21		97.107	100.50
20	80	100 / 0	217 / 0	2633.1	2583.09	64QAM	97.374	100.50
				2679.9	2629.89		97.247	100.70
				2506.2	2566.20		115.890	120.10
20	100	100 / 0	273/0	2643.0	2583.00	64QAM	117.210	120.50
				2679.9	2619.90		117.350	120.70
				G NR 41A_n4				
			CP-C	FDM_SCS 3	0 kHz			
Banc	lwidth	RB Size /	RB Offset	Frequ	uency	Modulation	99% BW	26 dB BW
LTE	NR	LTE	NR	LTE	NR	Wouldtion	(MHz)	(MHz)
				2506.2	2536.20		57.517	59.98
20	40	100 / 0	106 / 0	2613.0	2583.00	256QAM	57.556	59.69
				2679.9	2649.90		57.633	59.81
				2506.2	2546.19		77.521	80.11
20	60	100 / 0	162 / 0	2622.9	2582.91	256QAM	77.649	80.32
				2679.9	2639.91		77.544	80.35
				2506.2	2556.21		96.965	100.30
20	80	100 / 0	217 / 0	2633.1	2583.09	256QAM	97.544	100.40
				2679.9	2629.89		97.430	100.80
				2506.2	2566.20		114.380	120.00
20	100	100 / 0	273/0	2643.0	2583.00	256QAM	117.360	120.70
				2679.9	2619.90		117.170	120.50

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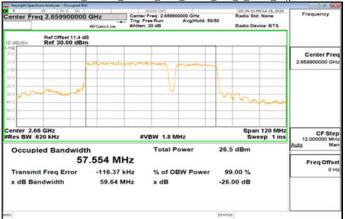
#### Band41\_20MHz\_40MHz\_DFT\_BPSK\_100\_0\_Main\_Low

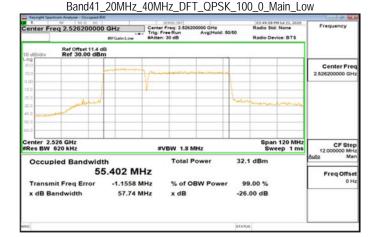




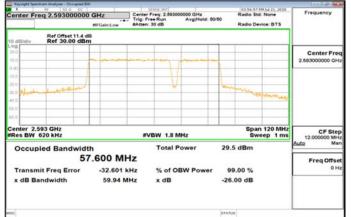
# Band41 20MHz 40MHz DFT BPSK 100 0 Main Mid

### Band41\_20MHz\_40MHz\_DFT\_BPSK\_100\_0\_Main\_High





#### Band41 20MHz 40MHz DFT QPSK 100 0 Main Mid



#### Band41\_20MHz\_40MHz\_DFT\_QPSK\_100\_0\_Main\_High

Center Fre	aq 2.659900000	GHz #FGaintow		Run	00000 GHz Avg[Hold:	50/50	Radio Str Radio De		Frequency
10 dB/div	Ref Offset 11.4 dl Ref 30.00 dBn								
2010				m					Center Free 2.659900000 GH
10.0 20.5 30.0 40.0	makine			V		5	-	and and and the second	
Center 2.6			#VI	SW 1.81	ЛНZ			n 120 MHz eep 1 ms	CF Step 12.000000 MH
Occup	ied Bandwidt 57	h 7.634 MH	z	Total F	Power	29.	3 dBm		Auto Mar
	it Freq Error Indwidth	-23.495 k 60.07 M		% of O x dB	BW Powe	1000	9.00 % .00 dB		он
ma						STATU	á		

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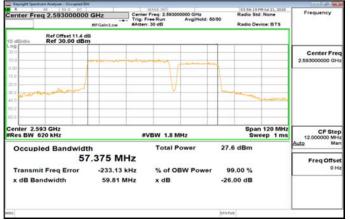
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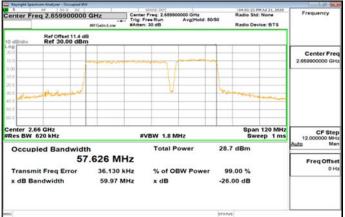
#### Band41\_20MHz\_40MHz\_DFT\_16QAM\_100\_0\_Main\_Low

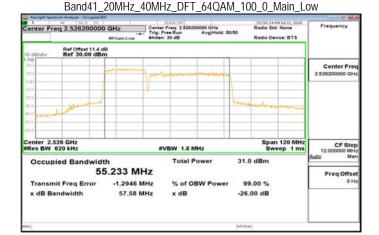




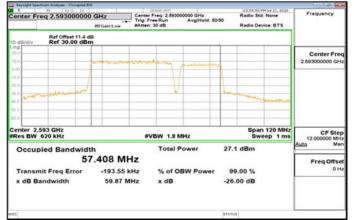
### Band41\_20MHz\_40MHz\_DFT\_16QAM\_100\_0\_Main\_Mid

### Band41\_20MHz\_40MHz\_DFT\_16QAM\_100\_0\_Main\_High





### Band41\_20MHz\_40MHz\_DFT\_64QAM\_100\_0\_Main\_Mid



#### Band41\_20MHz\_40MHz\_DFT\_64QAM\_100\_0\_Main\_High

Center Fr	eq 2.659900000	GHz #FGaintow	Center Fr	reg: 2.66990 • Run 0 dB	Avg Hold: (	50/50	Radio Str Radio De		Frequency
10 dB/div	Ref Offset 11.4 d Ref 30.00 dBn								
2010 1015 0.00						-			Center Free 2.659900000 GH
	managed			V		has			
Center 2.6			#VE	W 1.8 N	IHz			n 120 MHz eep 1 ms	CF Ste 12.00000 MH
Occup	led Bandwidt 57	h .548 M	Hz	Total P	ower	28.6	dBm		Auto Ma
	hit Freq Error andwidth	99.799 59.85 M		% of Ol x dB	BW Power	1000	00 %		OH
10						STATU			

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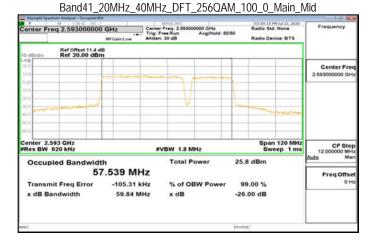
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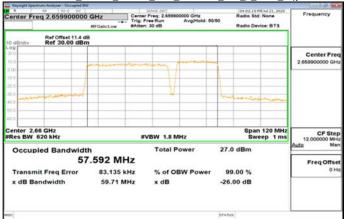


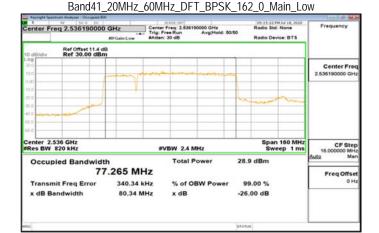
#### Band41\_20MHz\_40MHz\_DFT\_256QAM\_100\_0\_Main\_Low



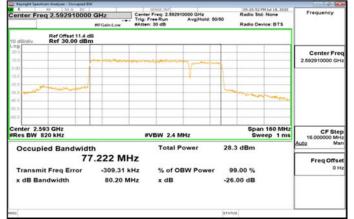


### Band41\_20MHz\_40MHz\_DFT\_256QAM\_100\_0\_Main\_High





#### Band41 20MHz 60MHz DFT BPSK 162 0 Main Mid



#### Band41\_20MHz\_60MHz\_DFT\_BPSK\_162\_0\_Main\_High

Center Fr	eq 2.649910000	MFGaintow	Center Fre	q: 2.649910000 GHz Run Avg[Hold: 5 dB	Radi	o Std: None o Device: BTS	Frequency
10 dB/div	Ref Offset 11.4 d Ref 30.00 dBr						
20.0		renoutien	********		-	_	Center Free 2.649910000 GH
30.0				1		-	
10 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	-				halfers	mon	
50.0							
enter 2.0 Res BW			#VB	W 2.4 MHz	\$	pan 160 MHz Sweep 1 ms	CF Ste 16.000000 MH
Occup	led Bandwidt	th 7.308 MH		Total Power	27.9 dBr	n	Auto Ma
	it Freq Error Indwidth	-229.85 k 80.25 M	Hz	% of OBW Power x dB	99.00 9 -26.00 d		OH

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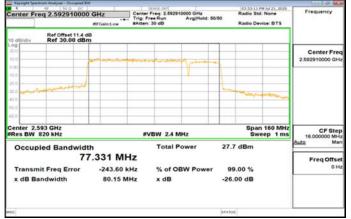
時から方方式就例 \* 加軟合電素電気測点(人体の面具) \* 同時加快体の電味留 20人 \* 年齢電子を回音面目で可 \* 可能の方後後 \* This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <u>http://www.sgs.com.tw/Terms-and-Conditions</u> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>http://www.sgs.com.tw/Terms-and-Conditions</u>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. fullest extent of the law

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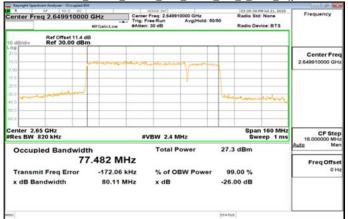
#### Band41\_20MHz\_60MHz\_DFT\_QPSK\_162\_0\_Main\_Low

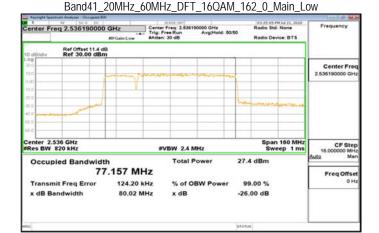




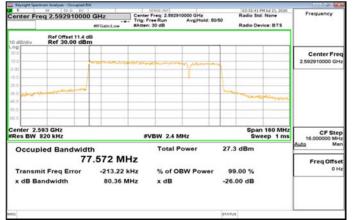
### Band41\_20MHz\_60MHz\_DFT\_QPSK\_162\_0\_Main\_Mid

### Band41\_20MHz\_60MHz\_DFT\_QPSK\_162\_0\_Main\_High





### Band41\_20MHz\_60MHz\_DFT\_16QAM\_162\_0\_Main\_Mid



#### Band41\_20MHz\_60MHz\_DFT\_16QAM\_162\_0\_Main\_High

Center Fr	eq 2.649910000		Center Freq: 2.649 Trig: Free Run #Atten: 30 dB	enter Freq: 2.649910000 GHz rig: Free Run Avg/Hold: 50/50		None None vice: BTS	Frequency
10 dB/d/v	Ref Offset 11.4 d Ref 30.00 dBn						
20.0 10.0		manage		and a manual			Center Free 2.649910000 GH
0.00 10.0 29.5				1			
10.0	manalend				human	haland	
50.0 60.0			_				
Center 2.0 Res BW			#VBW 2.4	MHz		eep 1 ms	CF Ste 16.000000 MH
Occup	led Bandwidt	h 7.510 MH		Power	26.7 dBm		Auto Mar
	nit Freq Error andwidth	-188.26 kH 80.36 MH		OBW Power	99.00 % -26.00 dB		он
95					STATUS		

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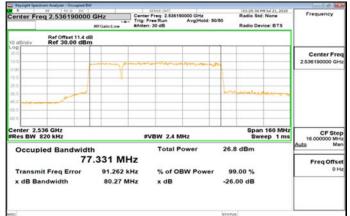
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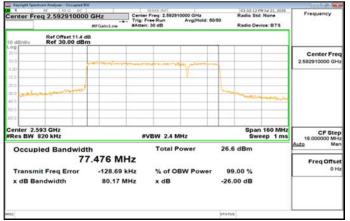
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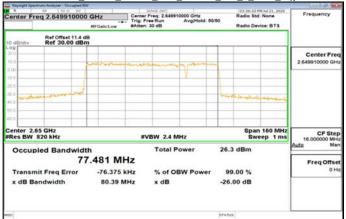
#### Band41\_20MHz\_60MHz\_DFT\_64QAM\_162\_0\_Main\_Low

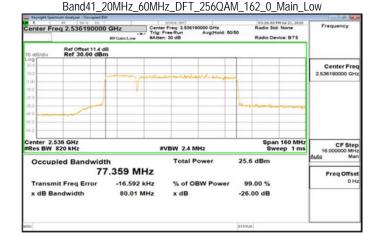




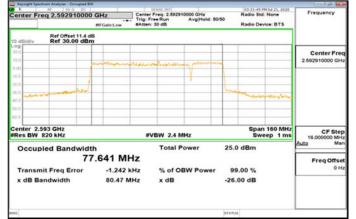
### Band41\_20MHz\_60MHz\_DFT\_64QAM\_162\_0\_Main\_Mid

#### Band41\_20MHz\_60MHz\_DFT\_64QAM\_162\_0\_Main\_High





### Band41\_20MHz\_60MHz\_DFT\_256QAM\_162\_0\_Main\_Mid



#### Band41\_20MHz\_60MHz\_DFT\_256QAM\_162\_0\_Main\_High

Center Fre	eq 2.649910000 e		Senter Freq: 2.6499 rig: Free Run Atten: 30 dB	10000 GHz Avg Hold: 50/	Radio Std	1000	Frequency
10 dB/d/v	Ref Offset 11.4 dB Ref 30.00 dBm						
20 0 10 8				-			Center Freq 2.649910000 GHz
0.00 10.0				TV			1
10 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	manneed				havename	man	
0.0							
enter 2.6 Res BW			#VBW 2.4 M	WHz		160 MHz ep 1 ms	CF Step 16.000000 MH
Occup	ied Bandwidth 77.	480 MHz	Total F	Power	24.8 dBm		Auto Mai
	it Freq Error Indwidth	-4.651 kH		BW Power	99.00 % -26.00 dB		он

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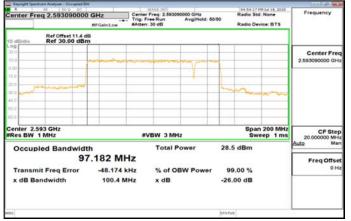
時から方方式就例 \* 加軟合電素電気測点(人体の面具) \* 同時加快体の電味留 20人 \* 年齢電子を回音面目で可 \* 可能の方後後 \* This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <u>http://www.sgs.com.tw/Terms-and-Conditions</u> and for electronic format documents, subject to Terms and Conditions for Electronic Documents at <u>http://www.sgs.com.tw/Terms-and-Conditions</u>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. fullest extent of the law

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#### Band41\_20MHz\_80MHz\_DFT\_BPSK\_216\_0\_Main\_Low

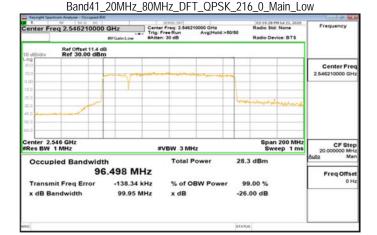




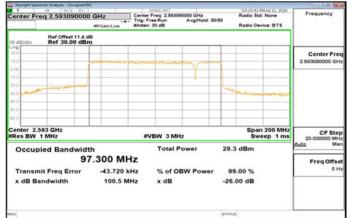
### Band41\_20MHz\_80MHz\_DFT\_BPSK\_216\_0\_Main\_Mid

### Band41\_20MHz\_80MHz\_DFT\_BPSK\_216\_0\_Main\_High





#### Band41 20MHz 80MHz DFT QPSK 216 0 Main Mid



#### Band41\_20MHz\_80MHz\_DFT\_QPSK\_216\_0\_Main\_High

Center Freq 2.6398	90000 (		Center Freq 2 Trig: Free Run #Atten: 30 dB	639890000 GHz	60/50	Radio De		Frequency
10 dB/div Ref Offse		S						
200 108 0.00	-	-	- marrie	man pro	-			Center Free 2.639890000 GH
10.0				-				
30.0 40.0					~	and the second	mens	
40.0								
Center 2.64 GHz Res BW 1 MHz			#VBW	3 MHz			eep 1 ms	CF Step 20.000000 MH
Occupied Band		212 MH		tal Power	27.4	4 dBm		Auto Mar
Transmit Freq Er x dB Bandwidth	TOF	-28.295 kH 100.5 MH		of OBW Powe	1000	0.00 %		он
ng					STATU	6		

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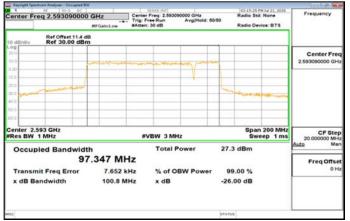
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#### Band41\_20MHz\_80MHz\_DFT\_16QAM\_216\_0\_Main\_Low

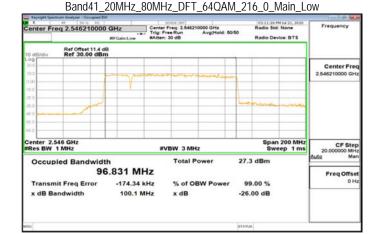




### Band41\_20MHz\_80MHz\_DFT\_16QAM\_216\_0\_Main\_Mid

### Band41\_20MHz\_80MHz\_DFT\_16QAM\_216\_0\_Main\_High





### Band41\_20MHz\_80MHz\_DFT\_64QAM\_216\_0\_Main\_Mid



### Band41\_20MHz\_80MHz\_DFT\_64QAM\_216\_0\_Main\_High

		Tria Tri	nter Freq: 2.639890000 GHz ig: Free Run Avg Hold tten: 30 dB	1: 50/50	Radio Std: None Radio Device: BTS	Frequency
10 dB/d/v	Ref Offset 11.4 dB Ref 30.00 dBm					
20 0 10 5		and to be designed as the second	and and the second s	-		Center Free 2.639890000 GH
0.00 10.0 20.5			1 V			
30 B	Anna and a second			ha	and a second second second	
50.0						
Center 2.6 Res BW			#VBW 3 MHz		Span 200 MHz Sweep 1 ms	CF Ste 20.000000 MH
Occupi	ied Bandwidth 97	182 MHz	Total Power	26.8	dBm	Auto Ma
	it Freq Error ndwidth	88.667 kHz 100.7 MHz	% of OBW Pow x dB		00 % 0 dB	он
ma				STATUS		

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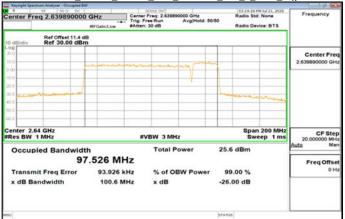
#### Band41\_20MHz\_80MHz\_DFT\_256QAM\_216\_0\_Main\_Low

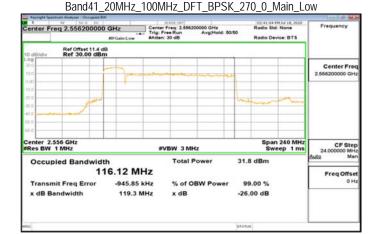




### Band41\_20MHz\_80MHz\_DFT\_256QAM\_216\_0\_Main\_Mid

### Band41\_20MHz\_80MHz\_DFT\_256QAM\_216\_0\_Main\_High





### Band41\_20MHz\_100MHz\_DFT\_BPSK\_270\_0\_Main\_Mid



#### Band41\_20MHz\_100MHz\_DFT\_BPSK\_270\_0\_Main\_High

Center Freq 2.629900000 GHz		Center Freq: 2.629900000 GHz Trig: Freq: 2.629900000 GHz Trig: Free Run Avg Hold: 50/50 #Atten: 30 dB		Radio Std		Frequency	
10 dB/div	Ref Offset 11.4 dB B/div Ref 30.00 dBm						
2010			-	and the second	<b></b>		Center Free 2.629900000 GH
10.0							
40.0					h	hand	
Center 2.6	enter 2.63 GHz Span 240 MHz Span 240 MHz Res BW 1 MHz #VBW 3 MHz Sweep 1 ms						CF Ste 24.000000 MH
Occupied Bandwidth Total Power 28.3 dBm 117.01 MHz					Auto Mar		
		-54.582 kH 120.5 MH			99.00 % -26.00 dB		он
					STATUS		

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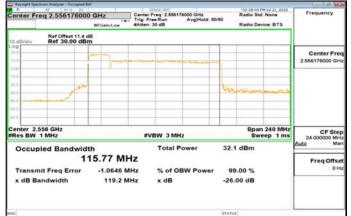
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#### Band41\_20MHz\_100MHz\_DFT\_QPSK\_270\_0\_Main\_Low

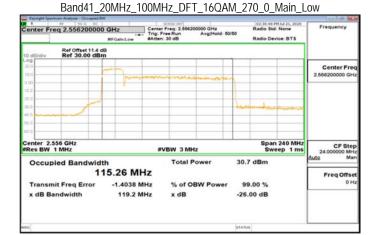




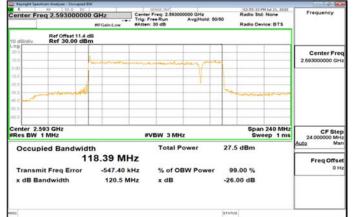
### Band41\_20MHz\_100MHz\_DFT\_QPSK\_270\_0\_Main\_Mid

### Band41\_20MHz\_100MHz\_DFT\_QPSK\_270\_0\_Main\_High





### Band41\_20MHz\_100MHz\_DFT\_16QAM\_270\_0\_Main\_Mid



#### Band41\_20MHz\_100MHz\_DFT\_16QAM\_270\_0\_Main\_High

enter Freq 2.629900000 GHz		-+-	Center Freq: 2.629900000 GHz Trig: Freq: 2.629900000 GHz Trig: Free Run Avg Hold: 50/50 #Atten: 30 dB		Radio Std		Frequency
10 dB/div	Ref Offset 11.4 dB Ref 30.00 dBm						
200 108				were man			Center Free 2.629900000 GH
0,00 10.0 20.5							
	American				Lancar	ale and	
50.0							
enter 2.63 GHz Span 240 MHz Span 240 MHz Sweep 1 ms						CF Ste 24.000000 MH	
Occupied Bandwidth					27.5 dBm		Auto Mar
		-693.16 kH 120.5 MH	z % of OBW Power		99.00 % -26.00 dB		Freq Offse 0 H

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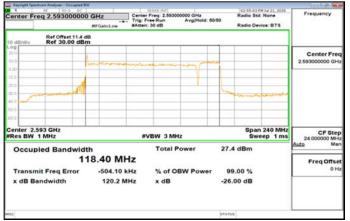
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#### Band41\_20MHz\_100MHz\_DFT\_64QAM\_270\_0\_Main\_Low

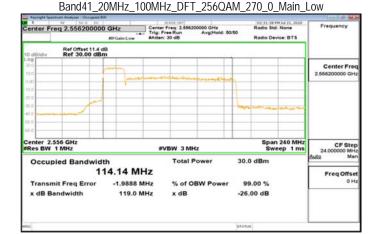




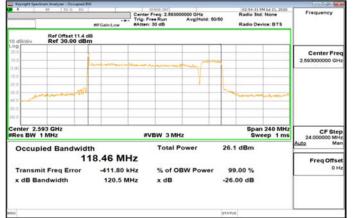
Band41\_20MHz\_100MHz\_DFT\_64QAM\_270\_0\_Main\_Mid

### Band41\_20MHz\_100MHz\_DFT\_64QAM\_270\_0\_Main\_High





#### Band41\_20MHz\_100MHz\_DFT\_256QAM\_270\_0\_Main\_Mid



#### Band41\_20MHz\_100MHz\_DFT\_256QAM\_270\_0\_Main\_High

Center Freq 2.629900000 GHz		-+- Trig	ter Freq: 2.629900000 GHz Free Run Avg(Hold: ) ten: 30 dB	50:50 Radio Device: BTS	Frequency		
10 dB/div	Ref Offset 11.4 dl Ref 30.00 dBm						
200 10.0			man to	~	Center Free 2.629900000 GH		
0.00 -10.0					_		
	mainternet			homen	~		
60.0 60.0					_		
	enter 2.63 GHz Span 240 MHz Span 240 MHz Res BW 1 MHz Sweep 1 ms						
Occup	led Bandwidt		Total Power	26.2 dBm	Auto Mar		
	2022 2202	8.55 MHz -552.49 kHz 120.5 MHz	% of OBW Power x dB	r 99.00 % -26.00 dB	Freq Offse 0 H		

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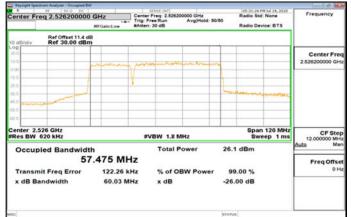
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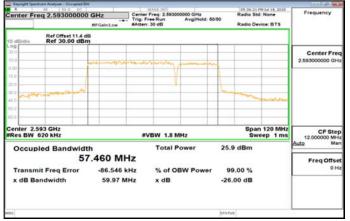
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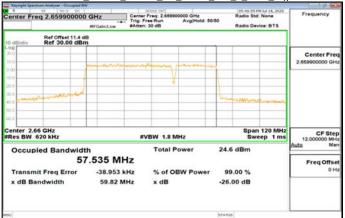
#### Band41\_20MHz\_40MHz\_CP\_QPSK\_106\_0\_Main\_Low

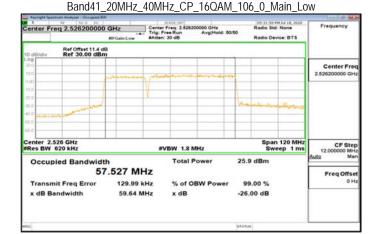




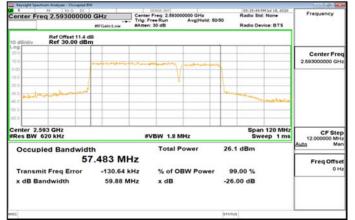
### Band41 20MHz 40MHz CP QPSK 106 0 Main Mid

### Band41\_20MHz\_40MHz\_CP\_QPSK\_106\_0\_Main\_High





### Band41\_20MHz\_40MHz\_CP\_16QAM\_106\_0\_Main\_Mid



#### Band41\_20MHz\_40MHz\_CP\_16QAM\_106\_0\_Main\_High

Server Fred 2.00000000 Oniz		Center Freq 2.669900000 GHz Trig: Free Run Avg/Hold: Atten: 30 dB	50:50 Radio Device: BTS	Frequency	
10 dB/div	Ref Offset 11.4 d Ref 30.00 dBn	8			
200	Ref 30.00 dbl		A COLUMN - ANIMA		Center Free 2.659900000 GH
0.00 10.0					
30.0 40.0	amend			- Augurer and	
60.0 60.5					
Center 2.6 Res BW	CF Ste 12.000000 Mi				
Occupied Bandwidth 57,628 MHz			Total Power	25.1 dBm	Auto Ma
	it Freq Error ndwidth	-90.940 kH 60.04 MH	z % of OBW Powe	r 99.00 % -26.00 dB	Freq Offse 0 H
80				STATUS	

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