



F	CC REPORT	
Report Reference No:	TRE1705015007 R.	/C 75990
FCC ID:	YAMPTC760FXB1	
Applicant's name:	Hytera Communications Corpora	ation Limited
Address	Hytera Tower, Hi-Tech Industrial P Road, Nanshan District, Shenzhen	
Manufacturer	Hytera Communications Corporation	on Limited
Address	Hytera Tower, Hi-Tech Industrial P Road, Nanshan District, Shenzhen	
Test item description:	Multi-mode Advanced Radio	
Trade Mark:	Hytera	
Model/Type reference:	PTC760 FxB1	
Listed Model(s)	-	
Standard:	FCC Part 22: PUBLIC MOBILE SE FCC Part 24:PERSONAL COMMU	
	FCC Part 27: MISCELLANEOUS COMMUNICATIONS SERVICES	WIRELESS
Date of receipt of test sample:	May 17, 2017	
Date of testing	May 18, 2017 - Jul. 03, 2017	
Date of issue	Jul. 04, 2017	
Result	Pass	
Compiled by (position+printedname+signature):	File administrators Becky Liang	Beepy Liong
Supervised by (position+printedname+signature):	Project Engineer Lion Cai	Cary Luo
Approved by	Manager Hans Hu	Hours rue
(position+printedname+signature):	manager nane na	
(position+printedname+signature): Testing Laboratory Name:	Shenzhen Huatongwei Internatio	onal Inspection Co., Ltd.

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The test report merely corresponds to the test sample. It is not permitted to copy extracts of these test result without the written permission of the test laboratory.

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1. Test standards and Report version

1.1. Test standards

The tests were performed according to following standards:

FCC Part 22: PRIVATE LAND MOBILE RADIO SERVICES.

FCC Part 24: PUBLIC MOBILE SERVICES

FCC Part 27: MISCELLANEOUS WIRELESS COMMUNICATIONS SERVICES

TIA/EIA 603 D June 2010: Land Mobile FM or PM Communications Equipment Measurement and Performance Standards.

FCC Part 2: FREQUENCY ALLOCA-TIONS AND RADIO TREATY MAT-TERS; GENERAL RULES AND REG-ULATIONS

<u>971168 D01 Power Meas License Digital Systems v02r02</u>: provides a methodology for fully characterizing the fundamental power of wideband (> 1 MHz) digitally modulated RF signals acceptable to the FCC for demonstrating compliance for licensed transmitters.

1.2. Report version

Version No.	Date of issue	Description
00	Jul. 04, 2017	Original

2. Test Description

Test Item	Section in CFR 47	Result
RF Output Power	Part 2.1046 Part 22.913(a) Part 24.232(c) Part 27.50	Pass
99% & -26 dB Occupied Bandwidth	Part 2.1049 Part 22.917(b) Part 24.238(b)	Pass
Conducted Spurious Emissions	Part 2.1051 Part 22.917 Part 24.238 Part 27.53	Pass
Band Edge	Part 2.1051 Part 22.917 Part 24.238 Part 27.53	Pass
ERP and EIRP	Part 22.913(a) Part 24.232(b)	Pass
Radiated Spurious Emissions	Part 2.1053 Part 22.917 Part 24.238 Part 27.53	Pass
Frequency stability vs. temperature	Part 2.1055(a)(1)(b) Part 22.255 Part 24.235 Part 27.54	Pass
Frequency stability vs. voltage	Part 2.1055(d)(1)(2) Part 22.255 Part 24.235 Part 27.54	Pass
Peak-Average Ratio	Part 24.232 Part 27.50	Pass

Note: The measurement uncertainty is not included in the test result.

3. SUMMARY

3.1. Client Information

Applicant:	Hytera Communications Corporation Limited
Address:	Hytera Tower, Hi-Tech Industrial Park North, 9108# Beihuan Road, Nanshan District, Shenzhen, People's Republic of China
Manufacturer:	Hytera Communications Corporation Limited
Address:	Hytera Tower, Hi-Tech Industrial Park North, 9108# Beihuan Road, Nanshan District, Shenzhen, People's Republic of China

3.2. Product Description

Name of EUT:	Multi-mode Advanced Radio
Trade Mark:	Hytera
Model/Type reference:	PTC760 FxB1
Listed Model(s):	-
Power supply:	DC 7.6V
Adapter information:	Model: S024WM1200200 Input: 100-240Va.c., 50/60Hz, 600mA Output: 12.0Vd.c., 2000mA
Battery information:	Model: BP2901 Output: 7.6Vd.c., 2900mAh
Charger information:	Model: CH20L08 Input: 12Vd.c., 2000mA Output: 12Vd.c., 2000mA
Hardware version:	V1.0
Software version:	R1.0
RF Technical Description	1
⊠FDD Band 2	
Operation Frequency:	Uplink:1850.7 MHz – 1909.3 MHz Downlink: 1930.7 MHz – 1989.3 MHz
Channel bandwidth:	□ 🛛 1.4MHz 🖂 3MHz 🖾 5MHz 🖂 10MHz 🖂 15MHz
FDD Band 4	
Operation Frequency:	Uplink:1710.7 MHz – 1754.3 MHz Downlink: 2110.7 MHz – 2154.3 MHz
Channel bandwidth:	⊠1.4MHz ⊠ 3MHz ⊠ 5MHz ⊠ 10MHz ⊠15MHz ⊠20MHz
FDD Band 5	
Operation Frequency:	Uplink:824.7 MHz – 848.3 MHz Downlink: 869.7 MHz – 893.3 MHz
Channel bandwidth:	⊠1.4MHz ⊠ 3MHz ⊠ 5MHz ⊠ 10MHz □15MHz □20MHz
FDD Band 7	·
Operation Frequency:	Uplink:2502.5 MHz – 2567.5 MHz Downlink: 2622.5 MHz – 2687.5 MHz

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Issued: 2017-07-04

Channel handwidth					X15MHz	
Channel bandwidth:	1.4MHz	3MHz	🛛 5MHz	🛛 10MHz		20MHz
⊠FDD Band 26						
Operation Frequency:	Uplink:814	MHz – 849 M	lHz			
	Downlink: 8	59 MHz – 89	4 MHz			
Channel bandwidth:	⊠1.4MHz	🛛 3MHz	🛛 5MHz	🛛 10MHz	⊠15MHz	20MHz
Channel bandwidth:	1.4MHz	🗌 3MHz	🛛 5MHz	🛛 10MHz	⊠15MHz	⊠20MHz
TDD Band 41						
Operation Frequency:	Uplink:2496	6 MHz – 2690	MHz			
	Downlink: 2	496 MHz – 2	690 MHz			
Channel bandwidth:	1.4MHz	3MHz	🛛 5MHz	🛛 10MHz	⊠15MHz	⊠20MHz
Power Class:	Class 1		lass 2	🛛 Class 3	□ C	lass 4
Modulation type:		⊠16	6QAM	64QAM		
Antennna type:	IntegralAnte	ennna				
Antenna gain:	0 dBi					

3.3. Operation state

Test frequency list

ID [MHz] Uplink [MHz] Downlink [MHz] Low Range 1.4 18607 1850.7 607 1930.7 Low Range 5 18625 1852.5 625 1932.5 Low Range 10 18650 1855 650 1935. 10 18650 1857.5 675 1937.5 20.11 18700 1860 700 1940 Mid Range 1.4/19193 1909.3 1193 1989.3 3 19185 1908.5 1185 1988.5 3 19185 1908.5 1185 1988.5 15 19175 1907.5 1175 1982.5 20.11 19100 1900 100 1980 NOTE 1: Bandwidth for which a relaxation of the specified UE receiver sensitivity requirement (TS 36.101 [27] Clause 7.3) is allowed. 14 1.4 19957 1710.7 1957 2110.7 Mid Range 1.4 19957 1711.5 1965 2111.5 19975			D 1 1 1 1	N			_ _ _ _				
Image 1.4 18607 1850.7 607 1930.7 Low Range 5 18615 1851.5 615 1932.5 10 18650 1852.5 625 1932.5 10 18650 1857.5 675 1937.5 20 ¹¹¹ 1877.5 675 1937.5 20 ¹¹¹ 1870.0 1860 700 1940 Mid Range 1.4(3)6/10 1890.0 1880 900 1960 1.4 1913.1 1903.5 1185 1988.5 1987.5 1977.5 1175 1987.5 10 19150 1902.5 1125 1982.5 110	10		Bandwidth [MHz]	Nul	Frequency of Uplink [MHz]	Ndl	Downlink				
Low Range 5 18625 1852.5 625 1932.5 10 18650 1857.5 675 1937.5 20 ¹¹¹ 1877.5 675 1937.5 20 ¹¹¹ 18700 1860 700 1940 Mid Range 1.4.(3)/(3)/(10) 1800 1880 900 1960 1.4 19193 1909.3 1193 1988.5 1987.5 10 19150 1907.5 1175 1987.5 1987.5 10 19150 1900.5 1150 1986.5 1987.5 10 19150 1900.5 1125 1982.5 2011 10 19150 1900.5 1125 1982.5 2011 1980.5 15 19175 1912.5 1902.5 1125 1982.5 2011 1980.5 NOTE 1: Bandwidth for which a relaxation of the specified UE receiver sensitivity requirement (TS 36.101 [27] Clause 7.3) is allowed. 144 144 19957 1711.5 1955 2111.5 Low Range			1.4	18607	1850.7	607					
Low Range 5 18625 1852.5 625 1932.5 10 18650 1857.5 675 1937.5 20 ¹¹ 18670 1857.5 675 1937.5 20 ¹¹ 18700 1860 700 1940 Mid Range 1.4.735710 18900 1880 900 1960 1.4 19193 1908.5 1185 1988.5 1987.5 10 19150 1907.5 1175 1987.5 1987.5 10 19150 1902.5 1125 1982.5 1982.5 10 19150 1900.5 1160 1980 1980.5 NOTE 1: Bandwidth for which a relaxation of the specified UE receiver sensitivity requirement (TS 36.101 [27] Clause 7.3) is allowed. 100 1100 1980 Low Range 1.4 19957 1710.7 1957 2110.7 14 19957 1711.5 1975 2112.5 100 2030 1715.5 2012.5 1125 120.5 110.7 115		ľ		18615	1851.5	615	1931.5				
Low Range 10 18650 1855 650 1935 15 10 18670 1867.5 675 1937.5 20 10 18700 1860 700 1940 Mid Range 1.4(3)5/10 18900 1880 900 1960 1.4 19193 1909.3 1193 1989.3 3 19185 1907.5 1175 1987.5 10 19150 1905.5 1150 1987.5 10 19150 1902.5 1125 1982.5 10 19100 1900 1100 1980.5 NOTE 1: Bandwidth for which a relaxation of the specified UE receiver sensitivity requirement (TS 36.101 [27] Clause 7.3) is allowed. 144 Low Range 1.4 19957 1710.7 1957 2110.7 14 1.4 19957 1712.5 1975 2112.5 10 20000 1715 2025 2117.5 212.5 115 20025 1717.5 2025 2117		1		18625							
Image: Test Frequency ID Bandwidth for which a relaxation of the specified UE receiver sensitivity requirement (TS 36.101 [27] Clause 7.3) is allowed. Ital Test Frequency ID Bandwidth for Which a relaxation of the specified UE receiver sensitivity requirement (TS 36.101 [27] Clause 7.3) is allowed. Ital 19975 1710.7 1957 2017.7 Ital 1993.3 1993.3 1993.3 1983.3 High Range 10 1915.0 1905.5 1115.0 1985.3 NOTE 1: Bandwidth for which a relaxation of the specified UE receiver sensitivity requirement (TS 36.101 [27] Clause 7.3) is allowed. Frequency of UP 100 Not. Frequency of Downlink [MHz] Low Range 1.4 1995.5 1712.5 2017.5 2112.5 Ibit No. Event ND 2002.5 1712.5 1975 2112.5 Mid Range 1.4 1995.5 1717.5 1975 2117.5 Low Range 5 1997.5 1710.7 1957 2110.7 15 2002.5 1717.5 2002.5 2117.5 16 2002.5 1717.5 2002.5 2117.5		Low Range									
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Mid Range 1.4/3/5/10 16/l/20 PI 1890 1890 1880 1990 900 1980 1990 1980.3 High Range 1.4 19193 1909.3 1193 1998.3 High Range 10 19150 1905.5 1175 1987.5 10 19150 1902.5 1125 1982.5 1982.5 10 19150 1902.5 1125 1982.5 1980.7 20 11 19100 1900 1100 1980 1980 NOTE 1: Bandwidth for which a relaxation of the specified UE receiver sensitivity requirement (TS 36.101 [27] Clause 7.3) is allowed. 14 14 Test Frequency ID Bandwidth [MHz] NuL Frequency of Uplink [MHz] NuL Frequency of Downlink [MHz] 1.4 19957 1710.7 1957 2110.7 2.0 200000 1715 20025 2117.5 2.0 200000 1715 20025 2171.5 2.0 200205 1771.5 2025 2112.5 10 20385 1753.5		ŀ	20 11								
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High Range 5 20375 1752.5 2375 2152.5 10 20350 1750 2350 2150 15 20325 1747.5 2325 2147.5 20 20300 1745 2300 2145 15 200 20300 1745 2300 2145 15 20 20300 1745 2300 2145 15 20 20300 1745 2300 2145 15 20 20300 1745 2300 2145 15 20 20300 1745 2300 2145 15 20 20300 1745 2300 2145 15 10 10 Prequency of Uplink [MHz] NoL Frequency of Downlink [MHz] 1.0 1.4 20407 824.7 2407 869.7 10 11 20450 829 2450 871.5 10 11 20450 829 2450											
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15 20325 1747.5 2325 2147.5 20 20300 1745 2300 2145 15 200 20300 1745 2300 2145 15 Test Frequency ID Bandwidth [MHz] NuL Frequency of Uplink [MHz] NuL Frequency of Downlink [MHz] Low Range 1.4 20407 824.7 2407 869.7 3 20415 825.5 2415 870.5 5 20425 826.5 2425 871.5 10 ¹¹¹ 20450 829 2450 874 Mid Range 1.4 20643 848.3 2643 893.3 High Range 3 20635 847.5 2635 892.5 5 20625 846.5 2625 891.5											
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3 20635 847.5 2635 892.5 5 20625 846.5 2625 891.5	-	est Frequency ID	15 20 Bandwidth [MHz] 1.4 3 5 10 ^[1]	20325 20300 NuL 20407 20415 20425 20450	1747.5 1745 Frequency of Uplink [MHz] 824.7 825.5 826.5 829	2325 2300 N _{DL} 2407 2415 2425 2450	2147.5 2145 Frequency of Downlink [MHz] 869.7 870.5 871.5 874				
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	-	est Frequency ID Low Range Mid Range	15 20 Bandwidth [MHz] 1.4 3 5 10 ^[1] 1.4/3/5 10 ^[1] 1.4/3/5	20325 20300 NuL 20407 20415 20425 20425 20450 20525 20643	1747.5 1745 Frequency of Uplink [MHz] 824.7 825.5 826.5 829 836.5 848.3	2325 2300 NDL 2407 2415 2425 2450 2525 2643	2147.5 2145 Frequency of Downlink [MHz] 869.7 870.5 871.5 874 881.5 881.5 893.3				
	-	est Frequency ID Low Range Mid Range	15 20 Bandwidth [MHz] 1.4 3 5 10 ^[11] 1.4/3/5 10 ^[11] 1.4 3 5	20325 20300 NuL 20407 20415 20425 20450 20525 20525 20643 20635	1747.5 1745 Frequency of Uplink [MHz] 824.7 825.5 826.5 829 836.5 829 836.5 848.3 847.5	2325 2300 NDL 2407 2415 2425 2450 2525 2643 2635	2147.5 2145 Frequency of Downlink [MHz] 869.7 870.5 871.5 874 881.5 881.5 893.3 892.5				

FDD Band 7

FDD Band 7									
	Test Frequency ID	[MHz]	th	N _{UL}	Frequency of Uplink [MHz]		D	quency of ownlink [MHz]	
		5		20775	2502.5	2775		2622.5	
	Low Range	10		20800	2505	2800		2625	
	g_	15 20 ^[1]		20825	2507.5	2825		2627.5	
				20850	2510	2850		2630	
	Mid Range	5/10/15 20 ^[1]		21100	2535	3100		2655	
		5		21425	2567.5	3425		2687.5	
	High Range 10			21400	2565	3400		2685	
		20 ^[1]		21375 21350	2562.5 2560	3375 3350		2682.5 2680	
D Band 26	NOTE 1: Bandwidth 36.101 [2	for which a rela 7] Clause 7.3) i			fied UE receiver	sensitivity req	uirement	(TS	
	est Frequency ID	Bandwidth [MHz]		NuL	Frequency o Uplink [MHz			equency of Downlink [MHz]	
		1.4		26697	814.7	8697		859.7	
		3		26705	815.5	8705		860.5	
	Low Range	5		26715	816.5	8715		861.5	
		10[1]		26740	819	8740		864	
		15 🖽		26765	821.5	8765		866.5	
	Mid Range	1.4/3/5/10 ^[1] 15 ^[1]		26865	831.5	8865		876.5	
		1.4		27033	848.3	9033		893.3	
	High Range	3		27025	847.5	9025		892.5	
	[5	27015		846.5	9015		891.5	
	Ī	10[1]		26990	844	8990		889	
	Ī	15 [1]		26965	841.5	8965		886.5	
D Band 41	OTE 1: Bandwidth (TS 36.10	for which a re 1 [27] Clause 7			ecified UE rece	iver sensitiv	ity requir	rement	
	Test Frequer	cy ID		dwidth //Hz]	EARFCN	Frequer	ncy (UL [MHz]	and DL)	
F	Low Rang	le		5	39675		2498.5		
	Low Range			10	39700		2501	, 	
								-	
				15	39725		2503.5		
				20	39750		2506		
Γ	Mid Rang	e	5/10)/15/20	40620		2593		
F	High Rang			5	41565		2687.5	5	
				10	41540		2685		
				15	41515		2682.5		
)	
				20	41490		2680		

3.4. EUT operation mode

For RF test items

The EUT has been tested under typical operating condition. The Applicant providessoftware to control the EUT for staying in continoustransmitting and receiving mode for testing.

	. .			Bandv	vidth (M	Hz)		Modu	ulation	RB #			Test Channel		
Test Items	Band	1.4	3	5	10	15	20	QPSK	16QAM	1	Half	Full	L	М	н
	2	v	v	v	v	v	v	v	v	v	v	v	v	v	v
	4	v	v	v	v	v	v	v	v	v	v	v	v	v	v
Max OutputPower	5	v	v	v	v	-	-	v	v	v	v	v	v	v	v
oupui onei	7	-	-	v	v	v	v	v	v	v	v	v	v	v	v
	41	-	-	v	v	v	v	v	v	v	v	v	v	v	v
	2	v	v	v	v	v	v	v	v	-	-	v	v	v	v
26dB and	4	v	v	v	v	v	v	v	v	-	-	v	v	v	v
99%	5	v	v	v	v	-	-	v	v	-	-	v	v	v	v
Bandwidth	7	-	-	v	v	v	v	v	v	-	-	v	v	v	v
	41	-	-	v	v	v	v	v	v	-	-	v	v	v	v
	2	v	v	v	v	v	v	v	v	v	-	v	v		v
	4	v	v	v	v	v	v	v	v	v	-	v	v		v
Conducted Band Edge	5	v	v	v	v	-	-	v	v	v	-	v	v		v
U	7	-	-	v	v	v	v	v	v	v	-	v	v		v
	41	-	-	v	v	v	v	v	v	-	-	v	v	v	v
	2	v	v	v	v	v	v	v	v	v	-	-	v	v	v
Conducted	4	v	v	v	v	v	v	v	v	v	-	-	v	v	v
Spurious	5	v	v	v	v	-	-	v	v	v	-	-	v	v	v
Emission	7	-	-	v	v	v	v	v	v	v	-	-	v	v	v
	41	-	-	v	v	v	v	v	v	v	-	-	v	v	v
	2	v	v	v	v	v	v	v	v	v	-	-	v	v	v
/	4	v	v	v	v	v	v	v	v	v	-	-	v	v	v
E.R.P./ E.I.R.P.	5	v	v	v	v	-	-	v	v	v	-	-	v	v	v
	7	-	-	v	v	v	v	v	v	v	-	-	v	v	v
	41	-	-	v	v	v	v	v	v	v	-	-	v	v	v
	2	v	v	v	v	v	v	v	-	v	-	-	v	v	v
Radiated	4	v	v	v	v	v	v	v	-	v	-	-	v	v	v
Spurious Emission	5	v	v	v	v	-	-	v	-	v	-	-	v	v	v
Emission	7	-	-	v	v	v	v	v	-	v	-	-	v	v	v
	41	-	-	v	v	v	v	v	v	v	-	-	v	v	v
	2	-	-	-	-	-	v	v	v	-	-	v	-	v	
F ac	4	-	-	-	-	-	v	v	v	-	-	v	-	v	
Frequency Stability	5	-	-	-	v	-		v	v	-	-	v	-	v	
	7	-	-	-	-	-	v	v	v	-	-	v	-	v	
	41	-	-	v	v	v	v	v	v	-	-	v	v	v	v
	2	-	-	-	-	-	v	v	v	v	-	v	v	v	v
Dool: to	4	-	-	-	-	-	v	v	v	v	-	v	v	v	v
Peak-to- AverageRatio	5	-	-	-	v	-	-	v	v	v	-	v	v	v	v
	7	-	-	-	-	-	v	v	v	v	-	v	v	v	v
	41	-	-	v	v	v	v	v	v	v	-	v	v	v	v

Remark	 The mark "v"means that this configuration is chosenfor testing The mark "-"means that this bandwidth is not supported. The device is investigatedfrom 30MHz to10 times offundamental signal for radiated spurious emission test under different RB size/offset and modulations in exploratory test. Subsequently, only the worst case emissions are reported.
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3.5. EUT configuration

The following peripheral devices and interface cables were connected during the measurement:

- supplied by the manufacturer
- \bigcirc supplied by the lab

	Manufacturer :	
	Model No. :	
	Manufacturer :	
	Model No. :	
	Manufacturer :	
	Model No. :	

3.6. Modifications

No modifications were implemented to meet testing criteria.

4. TEST ENVIRONMENT

4.1. Address of the test laboratory

Laboratory:Shenzhen Huatongwei International Inspection Co., Ltd. Address: 1/F, Bldg 3, Hongfa Hi-tech Industrial Park, Genyu Road, Tianliao, Gongming, Shenzhen, China Phone: 86-755-26748019 Fax: 86-755-26748089

4.2. Test Facility

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

CNAS-Lab Code: L1225

Shenzhen Huatongwei International Inspection Co., Ltd. has been assessed and proved to be in compliance with CNAS-CL01 Accreditation Criteria for Testing and Calibration Laboratories (identical to ISO/IEC17025: 2005 General Requirements) for the Competence of Testing and Calibration Laboratories.

A2LA-Lab Cert. No.: 3902.01

Shenzhen Huatongwei International Inspection Co., Ltd. EMC Laboratory has been accredited by A2LA for technical competence in the field of electrical testing, and proved to be in compliance with ISO/IEC 17025: 2005 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing.

FCC-Registration No.: 317478

Shenzhen Huatongwei International Inspection Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the FCC (Federal Communications Commission). The acceptance letter from the FCC is maintained in our files. Registration 317478.

IC-Registration No.: 5377B

Two 3m Alternate Test Site of Shenzhen Huatongwei International Inspection Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for the performance of radiated measurements with Registration No. 5377B.

ACA

Shenzhen Huatongwei International Inspection Co., Ltd. EMC Laboratory can also perform testing for the Australian C-Tick mark as a result of our A2LA accreditation.

4.3. Equipments Used during the Test

Output Power(Conducted) &Occupied Bandwidth&EmissionBandwidth&Band Edge Compliance&Conducted Spurious Emission								
No.	No. Equipment Manufacturer Model No. SerialNo. Last Cal.							
1	UNIVERSAL RADIO COMMUNICATION	Rohde&Schwarz	CMU200	112012	2016/11/13			
2	WIDEB.RADIO COMM.TESRER	Rohde&Schwarz	CMW500	1201.0002K50	2016/11/13			
3	Spectrum Analyzer Rohde&Schwarz FSU26 201141 2016/11/13							
4	Splitter	Mini-Circuit	ZAPD-4	400059	2016/11/13			

Freque	Frequency Stability							
No.	Equipment Manufacturer		Model No.	SerialNo.	Last Cal.			
1	UNIVERSAL RADIO COMMUNICATION	Rohde&Schwarz	CMU200	112012	2016/11/13			
2	WIDEB.RADIO COMM.TESRER	Rohde&Schwarz	CMW500	1201.0002K50	2016/11/13			
3	Spectrum Analyzer	Rohde&Schwarz	FSU26	201141	2016/11/13			
4	Climate Chamber	ESPEC	EL-10KA	05107008	2016/11/13			
5	Splitter	Mini-Circuit	ZAPD-4	400059	2016/11/13			

Output	Power (Radiated) & Radiated	Spurious Emission			
No.	Equipment	Manufacturer	Model No.	SerialNo.	Last Cal.
1	UNIVERSAL RADIO COMMUNICATION	Rohde&Schwarz	CMU200	112012	2016/11/13
2	Spectrum Analyzer	Rohde&Schwarz	FSU26	201141	2016/11/13
3	HORNANTENNA	ShwarzBeck	9120D	1012	2016/11/13
4	HORNANTENNA	ShwarzBeck	9120D	1011	2016/11/13
5	Ultra-Broadband Antenna	ShwarzBeck	VULB9163	538	2016/11/13
6	Ultra-Broadband Antenna	ShwarzBeck	VULB9163	539	2016/11/13
7	TURNTABLE	MATURO	TT2.0		2016/11/13
8	ANTENNA MAST	MATURO	TAM-4.0-P		N/A
9	EMI Test Software	Audix	E3	N/A	N/A
10	EMI Test Receiver	Rohde&Schwarz	ESIB 26	100009	2016/11/13
11	RF Test Panel	Rohde&Schwarz	TS / RSP	335015/0017	2016/11/13
12	High pass filter	Compliance Direction systems	BSU-6	34202	2016/11/13
13	Splitter	Mini-Circuit	ZAPD-4	400059	2016/11/13
14	Horn Antenna	SCHWARZBECK	BBHA9170	25841	2016/11/13
15	Horn Antenna	SCHWARZBECK	BBHA9170	25842	2016/11/13
16	Preamplifier	ShwarzBeck	BBV 9718	BBV 9718	2016/11/13
17	Broadband Preamplifier	ShwarzBeck	BBV743	9743-0079	2016/11/13
18	Signal Generator	Rohde&Schwarz	SMF100A	101932	2016/11/13
19	Amplifer	Compliance Direction systems	PAP1-4060	120	2016/11/13
20	TURNTABLE	ETS	2088	2149	2016/11/13
21	ANTENNA MAST	ETS	2075	2346	2016/11/13
22	HORNANTENNA	Rohde&Schwarz	HF906	100068	2016/11/13
23	HORNANTENNA	Rohde&Schwarz	HF906	100039	2016/11/13
24	WIDEB.RADIO COMM.TESRER	R&S	CMW500	1201.0002K50	2016/11/13

The calibration interval was one year.

4.4. Environmental conditions

During the measurement the environmental conditions were within the listed ranges:

Normal Temperature/Tnor:	15~35°C
lative Humidity	30~60 %
Air Pressure	950-1050 hPa

4.5. Statement of the measurement uncertainty

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

Hereafter the best measurement capability for Shenzhen Huatongweilaboratory is reported:

Test Items	MeasurementUncertainty	Notes
Frequency stability	25 Hz	(1)
Transmitter power conducted	0.57 dB	(1)
Transmitter power Radiated	2.20 dB	(1)
Conducted spurious emission 9KHz-12.75 GHz	1.60 dB	(1)
Conducted Emission 9KHz-30MHz	3.39 dB	(1)
Radiated Emission 30~1000MHz	4.24 dB	(1)
Radiated Emissio 1~18GHz	5.16 dB	(1)
Radiated Emissio 18-40GHz	5.54 dB	(1)
Occupied Bandwidth		(1)
Emission Mask		(1)
Modulation Characteristic		(1)
Transmitter Frequency Behavior		(1)

 This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=1.96.

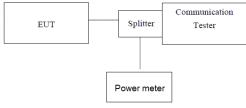
5. TEST CONDITIONS AND RESULTS

5.1. Conducted Output Power

LIMIT

N/A

TEST CONFIGURATION



Note: Measurement setup for testing on Antenna connector

TEST PROCEDURE

- 1. The transmitter output port was connected to base station.
- 2. The RF output of EUT was connected to the power meter by RF cable and attenuator, the path loss was compensated to the results for each measurement.
- 3. Set EUT at maximum power through base station.
- 4. Select lowest, middle, and highest channels for each band and different modulation.
- 5. Measure the maximum burst average power.

TEST MODE:

Please refer to the clause 3.3

TEST RESULTS

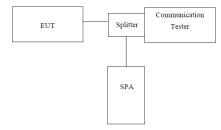
☐ Passed ☐ Not Applicable

EUT Mode	Frequency (MHz)	Max Avg.Power QPSK (dBm)	Max Avg.Power 16QAM (dBm)
LTE Band 2	1850.7-1909.3	21.80	20.83
LTE Band 4	1710.7 - 1754.3	22.38	21.06
LTE Band 5	824.7 - 848.3	22.21	23.35
LTE Band 7	2502.5 - 2567.5	21.51	20.39
LTE Band 41	2496 - 2690	21.65	21.16

5.2. 99% & -26 dB Occupied Bandwidth

N/A

TEST CONFIGURATION



Note: Measurement setup for testing on Antenna connector

TEST PROCEDURE

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

TEST MODE:

Please refer to the clause 3.3

TEST RESULTS

☑ Passed □ Not Applicable

		LTE Band 2			
Dondwidth	Channel	99% Occupy ba	indwidth (MHz)	-26dB bandwidth (MHz)	
Bandwidth	Channel	QPSK	16QAM	QPSK	16QAM
	Low	1.10	1.10	1.37	1.31
1.4MHz	Mid	1.10	1.10	1.37	1.33
	High	1.11	1.10	1.31	1.32
	Low	2.69	2.68	2.95	2.95
3MHz	Mid	2.69	2.68	2.95	2.96
	High	2.69	2.68	2.95	2.95
	Low	4.51	4.52	5.03	5.04
5MHz	Mid	4.51	4.48	5.02	5.00
	High	4.49	4.51	5.04	5.05
	Low	8.94	8.92	9.74	9.67
10MHz	Mid	8.94	8.92	9.85	9.73
	High	8.94	8.94	9.76	9.72
	Low	13.48	13.43	14.90	14.76
15MHz	Mid	13.43	13.45	14.77	14.83
	High	13.43	13.45	14.83	14.85
	Low	17.87	17.90	19.31	19.32
20MHz	Mid	17.90	17.90	19.18	19.31
	High	17.90	17.86	19.23	19.42

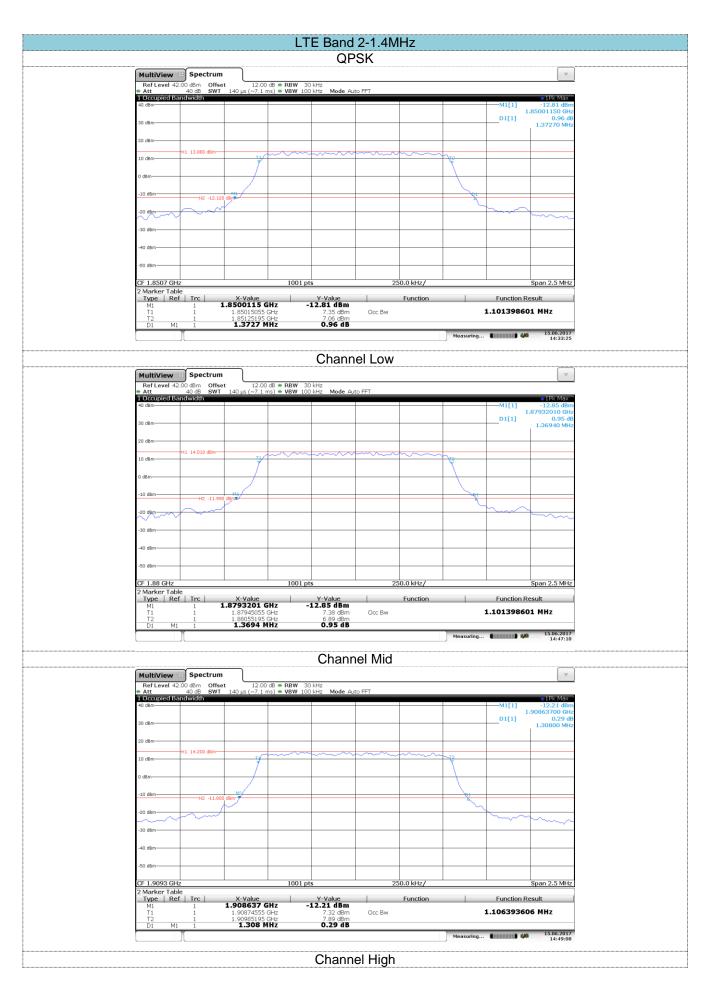
Report Template Version: H00 (2016-08)

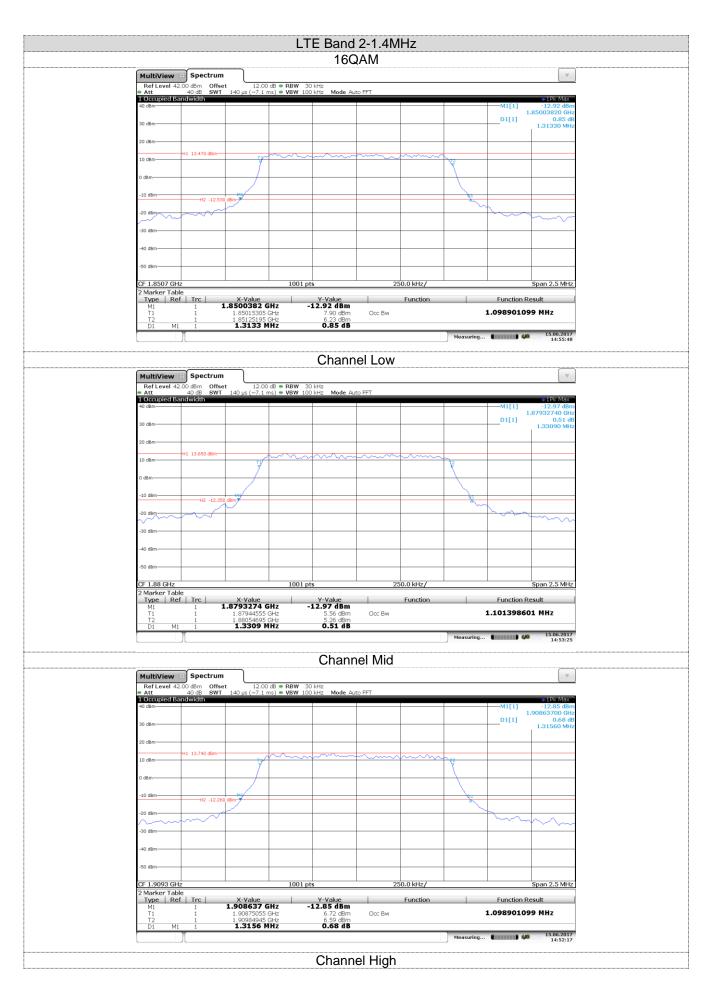
		LTE Band 4			
Dondwidth	Channel	99% Occupy ba	ndwidth (MHz)	-26dB bandwidth (MHz)	
Bandwidth	Channel	QPSK	16QAM	QPSK	16QAM
	Low	1.10	1.10	1.36	1.32
1.4MHz	Mid	1.10	1.10	1.31	1.31
	High	1.11	1.10	1.32	1.33
	Low	2.69	2.68	2.94	2.95
3MHz	Mid	2.69	2.68	2.96	2.96
	High	2.68	2.68	2.95	2.95
	Low	4.51	4.52	5.04	5.04
5MHz	Mid	4.49	4.52	5.02	5.03
	High	4.51	4.49	5.03	5.00
	Low	8.93	8.95	9.73	9.72
10MHz	Mid	8.93	8.93	9.71	9.72
	High	8.95	8.93	8.95	9.63
	Low	13.43	13.45	14.80	14.86
15MHz	Mid	13.43	13.43	14.79	14.74
	High	13.48	13.48	14.88	14.74
	Low	17.87	17.87	19.35	19.42
20MHz	Mid	17.87	17.87	19.55	19.42
	High	17.91	17.91	19.40	19.40

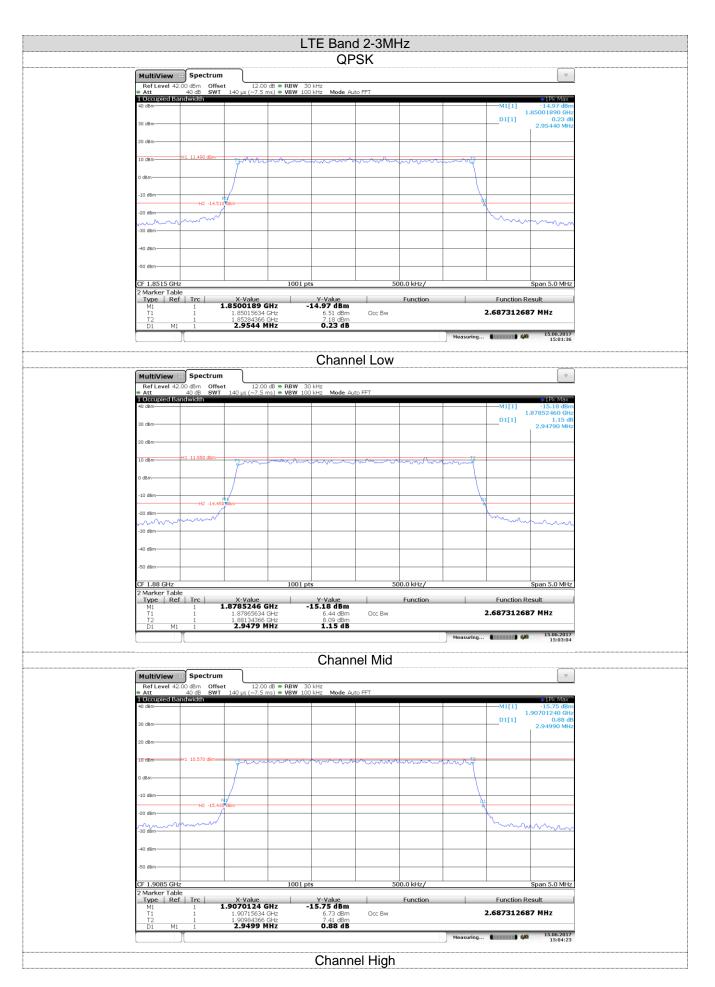
LTE Band 5						
Bandwidth		99% Occupy ba	ndwidth (MHz)	-26dB bandwidth (MHz)		
Danowidin	Channel	QPSK	16QAM	QPSK	16QAM	
	Low	1.10	1.10	1.31	1.29	
1.4MHz	Mid	1.10	1.10	1.29	1.29	
	High	1.10	1.10	1.30	1.31	
	Low	2.69	2.68	2.94	2.93	
3MHz	Mid	2.68	2.68	2.94	2.94	
	High	2.69	2.68	2.94	2.95	
	Low	4.50	4.51	5.05	5.05	
5MHz	Mid	4.48	4.51	4.99	5.02	
	High	4.50	4.48	5.00	5.00	
	Low	8.92	8.94	9.73	9.76	
10MHz	Mid	8.92	8.92	9.74	9.73	
	High	8.94	8.94	9.80	9.67	

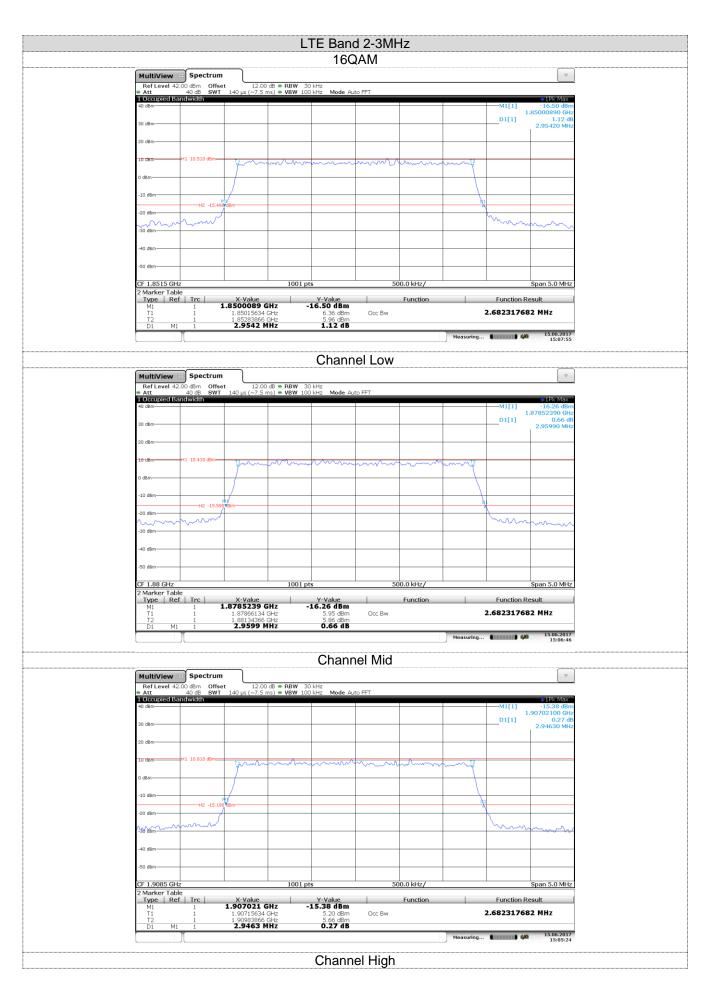
LTE Band 7						
Doodwidth	Channel	99% Occupy ba	ndwidth (MHz)	-26dB bandwidth (MHz)		
Bandwidth	Channel	QPSK	16QAM	QPSK	16QAM	
	Low	4.49	4.51	5.00	5.05	
5MHz	Mid	4.49	4.96	5.03	5.04	
	High	4.51	4.48	5.02	4.98	
	Low	8.92	8.92	9.75	9.67	
10MHz	Mid	8.94	8.92	9.77	9.77	
	High	8.94	8.92	9.81	9.67	
	Low	13.41	13.43	14.79	14.78	
15MHz	Mid	13.43	13.46	14.79	14.77	
	High	13.46	13.46	14.86	14.79	
	Low	17.87	17.87	19.31	19.39	
20MHz	Mid	17.91	17.87	19.61	19.42	
	High	17.87	17.95	19.32	19.51	

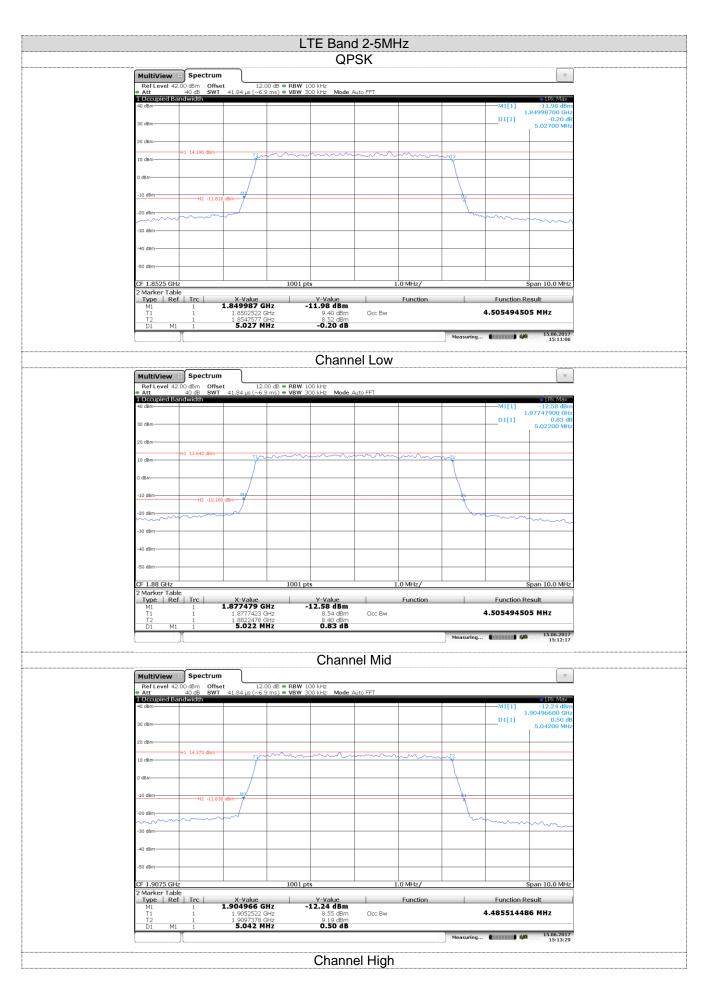
LTE Band 41						
Bandwidth		99% Occupy ba	ndwidth (MHz)	-26dB bandwidth (MHz)		
Danowidin	Channel	QPSK	16QAM	QPSK	16QAM	
	Low	4.50	4.48	4.98	4.97	
5MHz	Mid	4.50	4.49	4.96	5.17	
	High	4.49	4.50	5.04	5.02	
	Low	8.95	8.91	10.38	9.58	
10MHz	Mid	8.93	8.93	10.00	9.58	
	High	8.93	8.93	9.66	9.81	
	Low	13.43	13.48	15.04	15.22	
15MHz	Mid	13.45	13.48	16.22	15.07	
	High	13.48	13.45	15.93	16.00	
	Low	17.87	17.84	19.52	19.36	
20MHz	Mid	17.87	17.91	19.54	20.28	
	High	17.91	17.87	19.32	19.55	

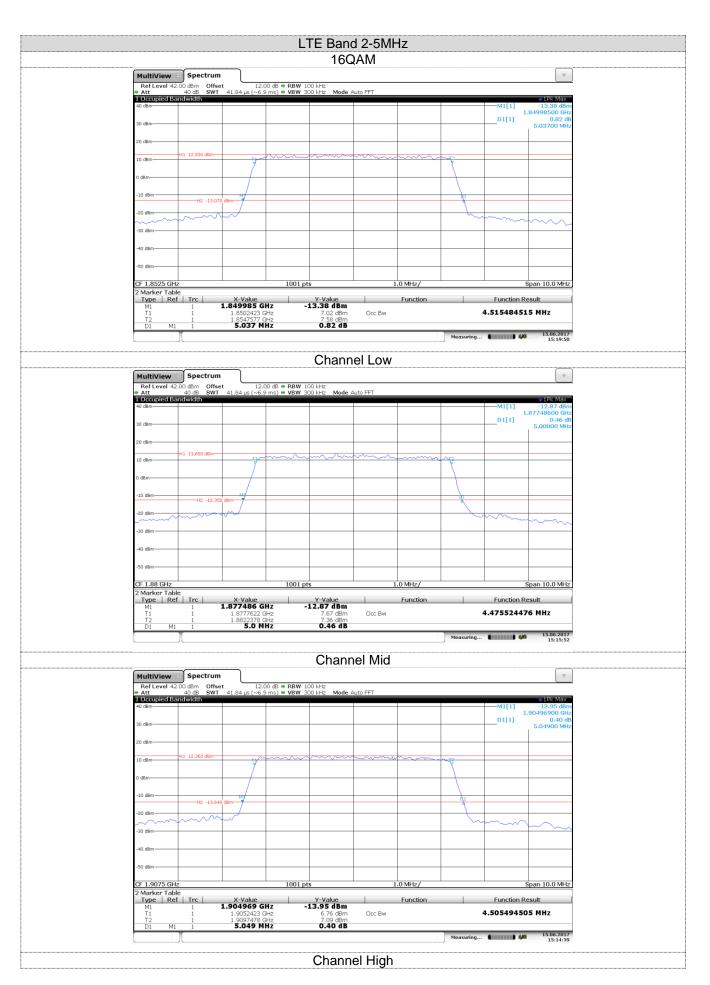


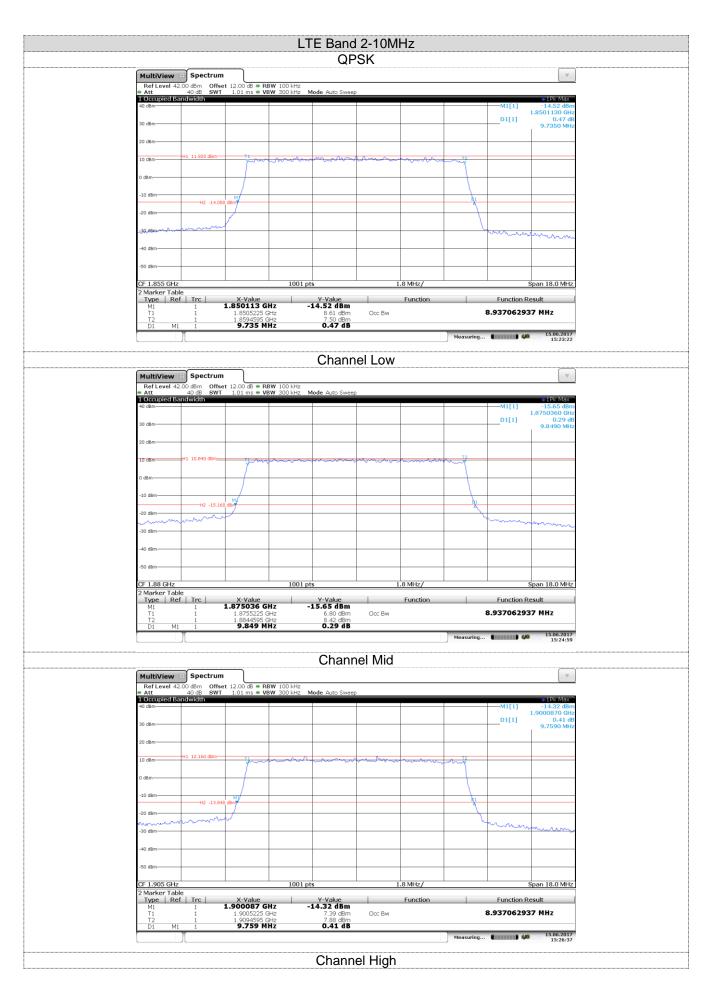


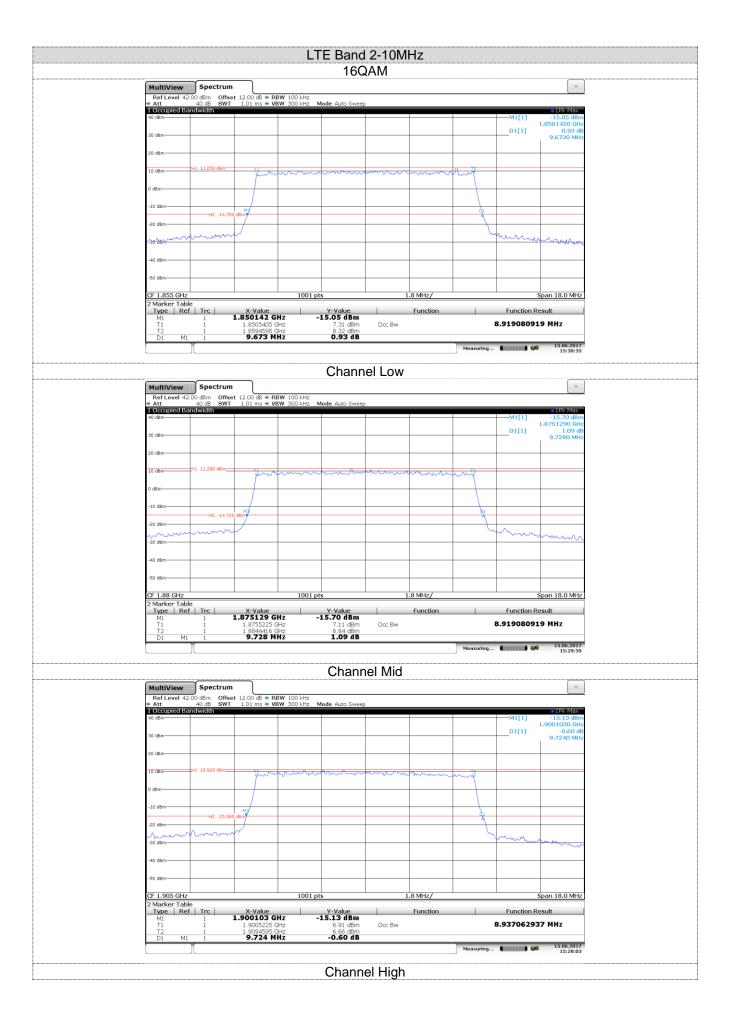


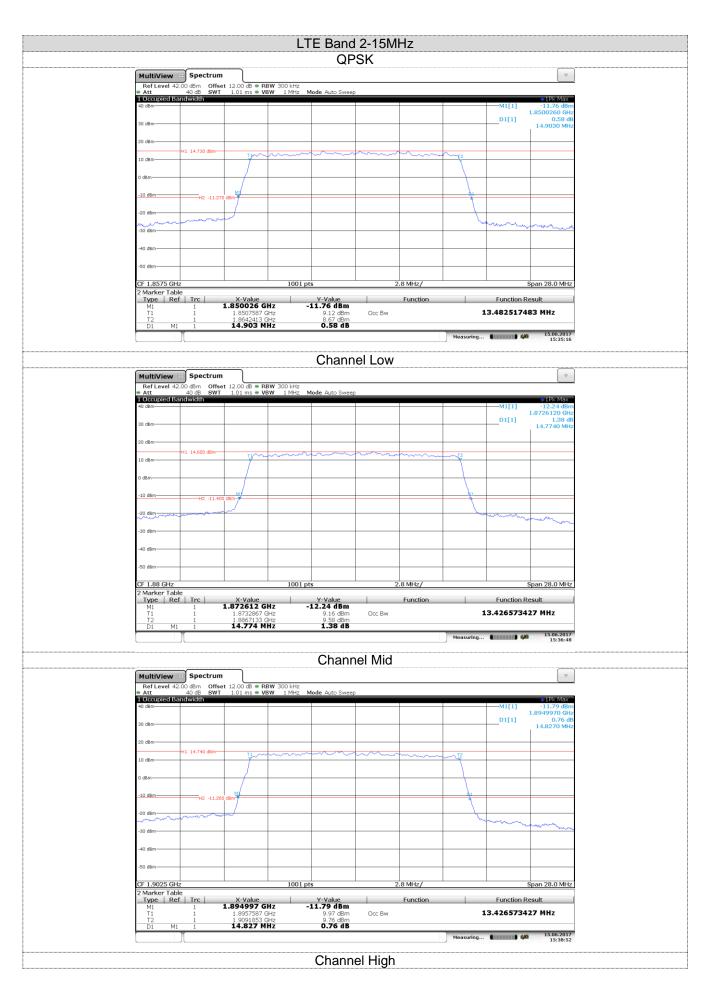


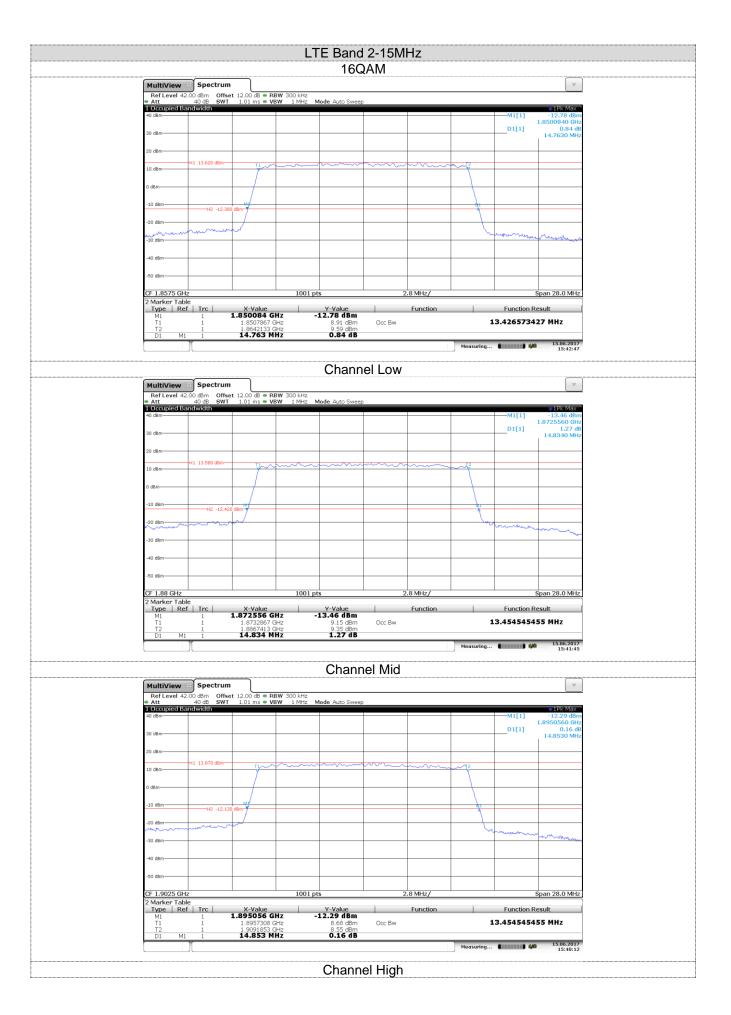


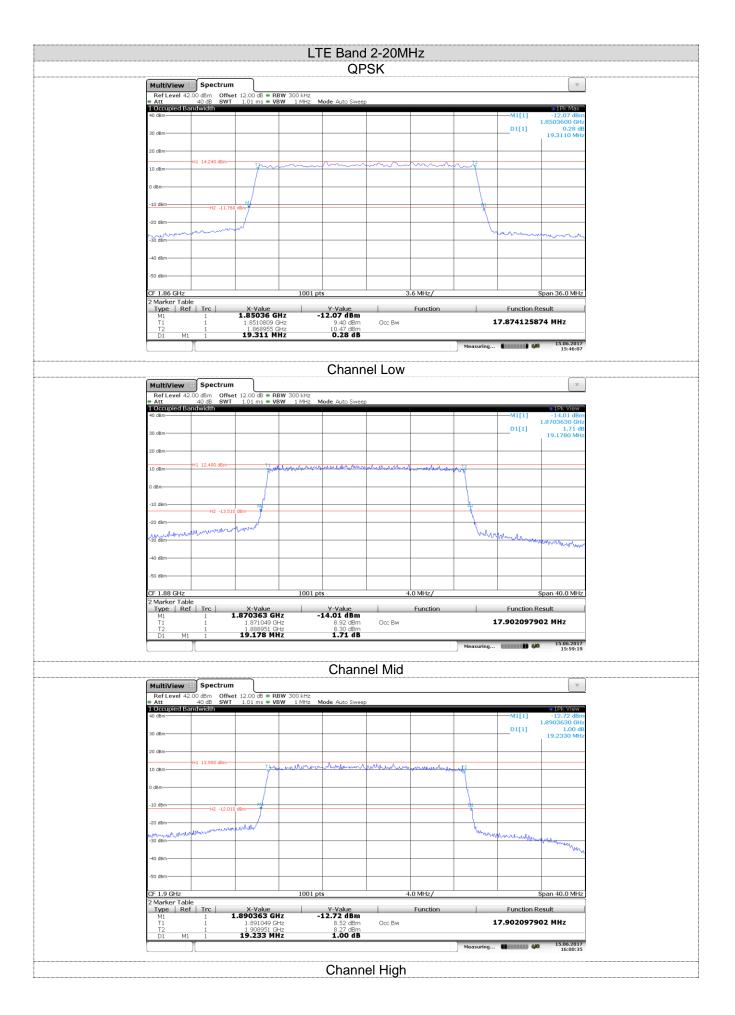


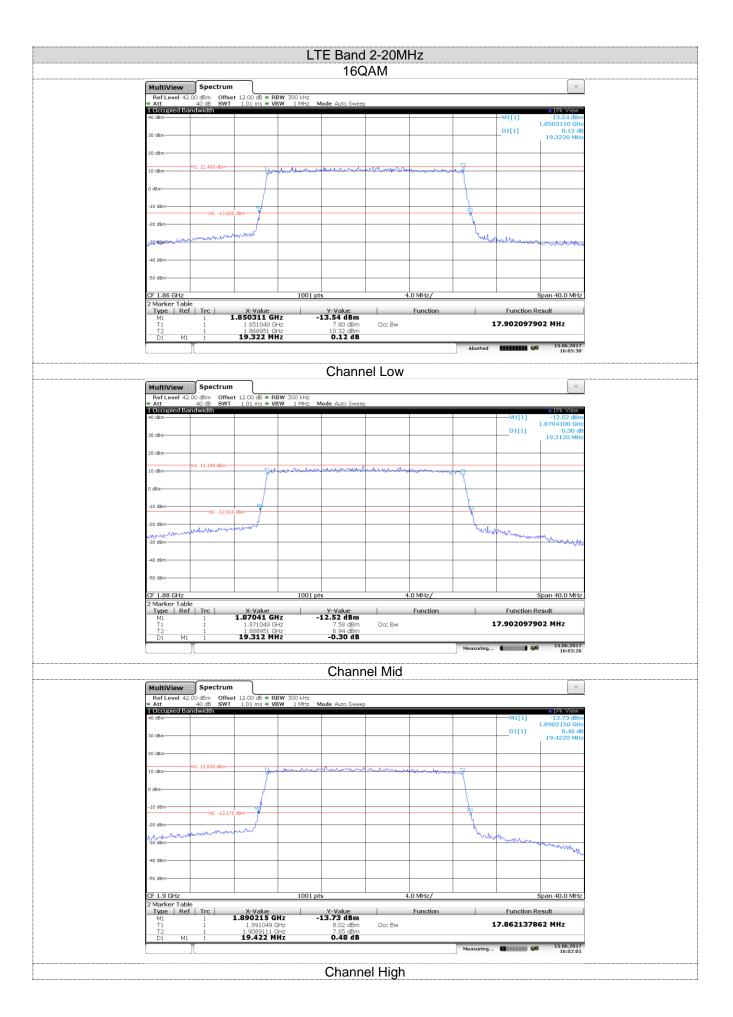


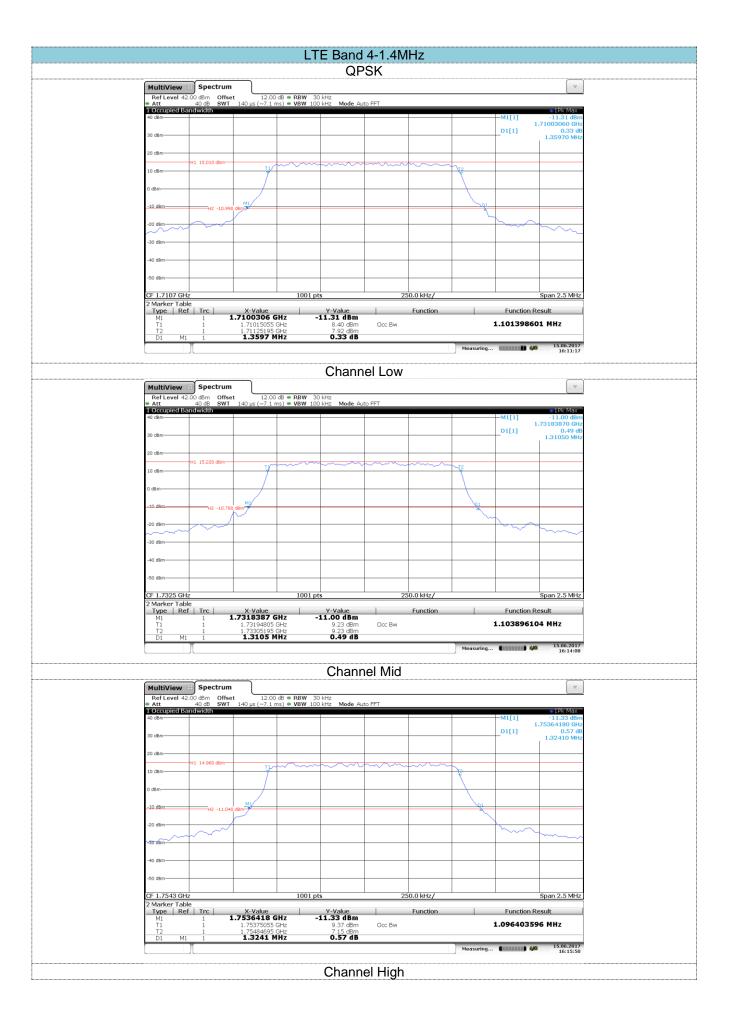


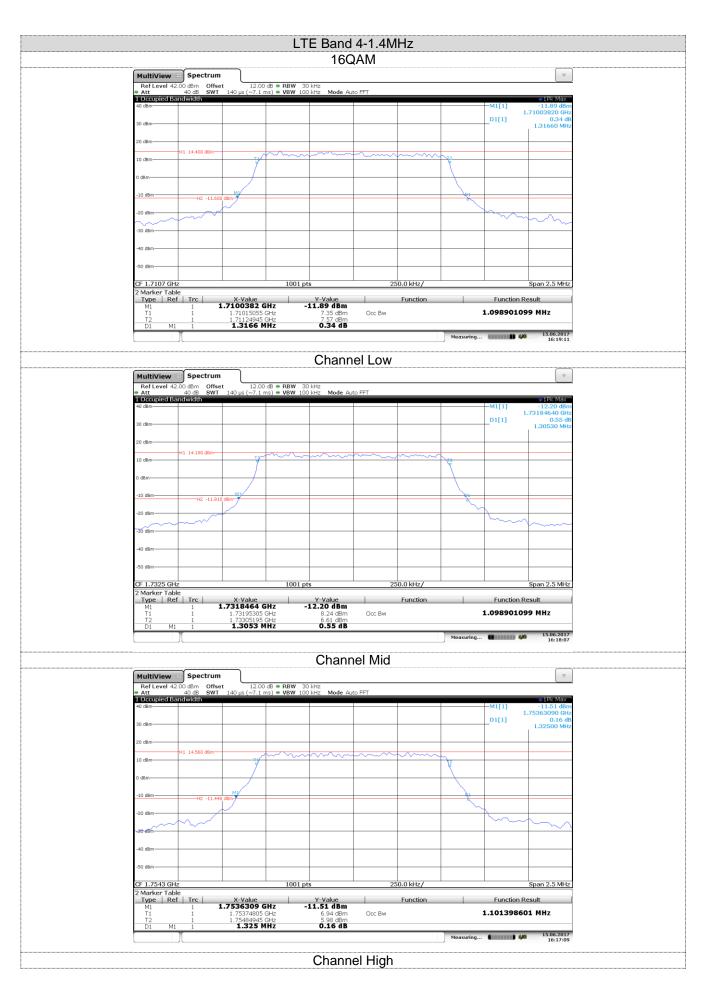


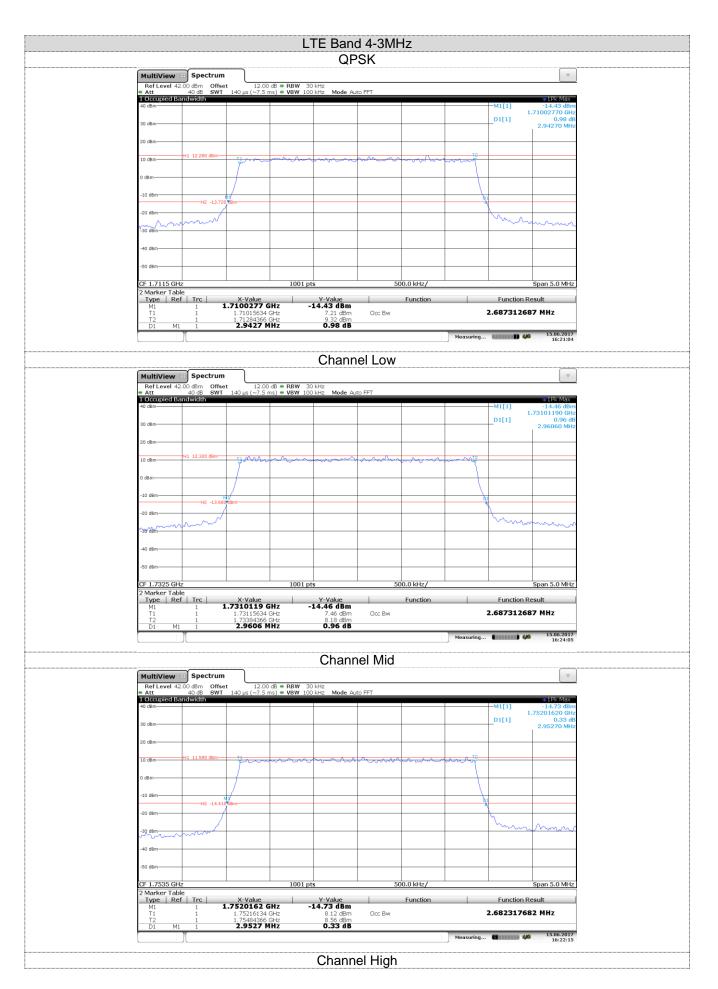


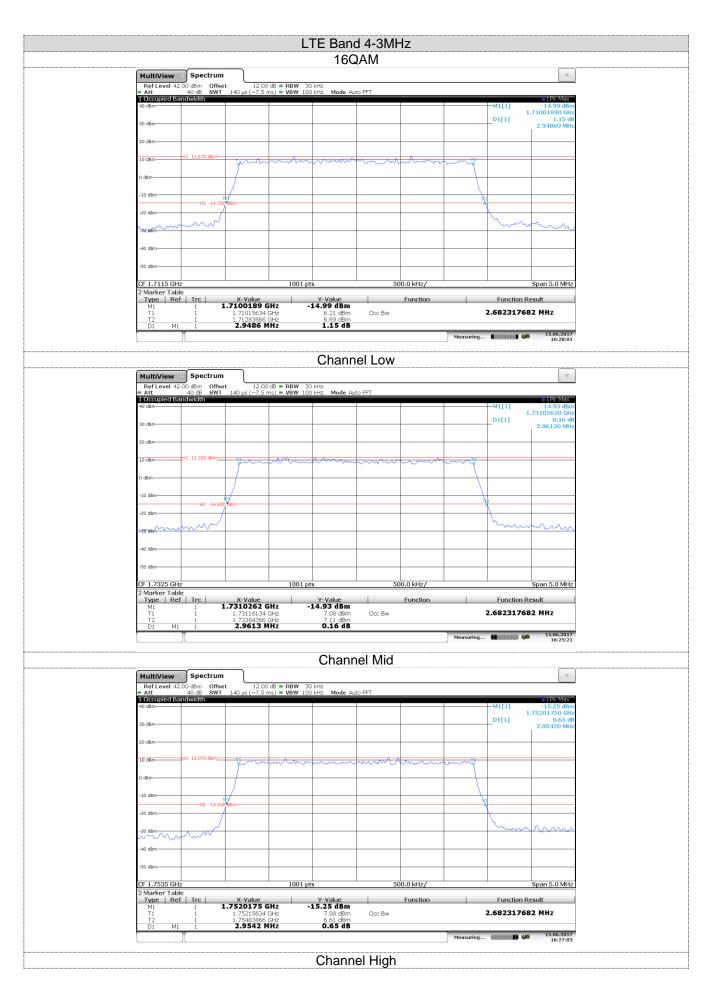


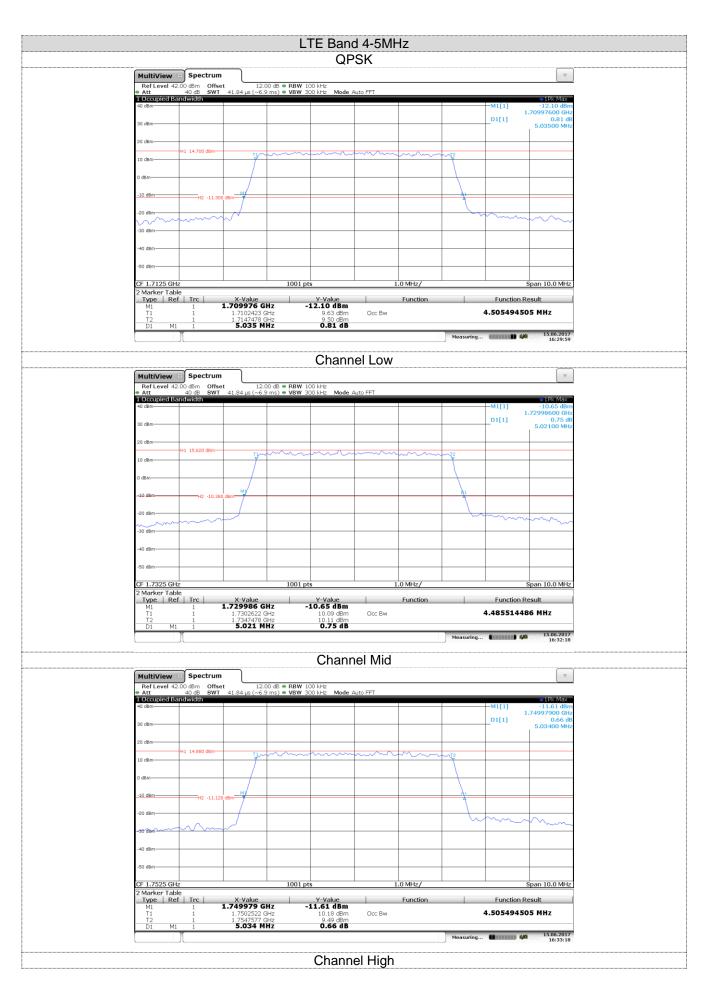


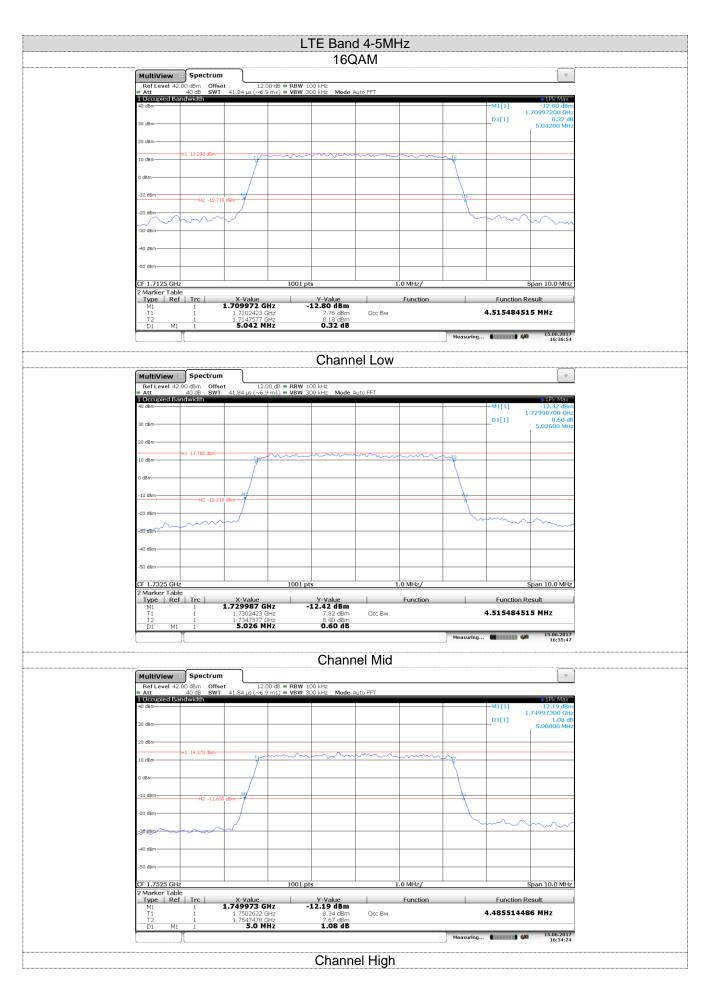


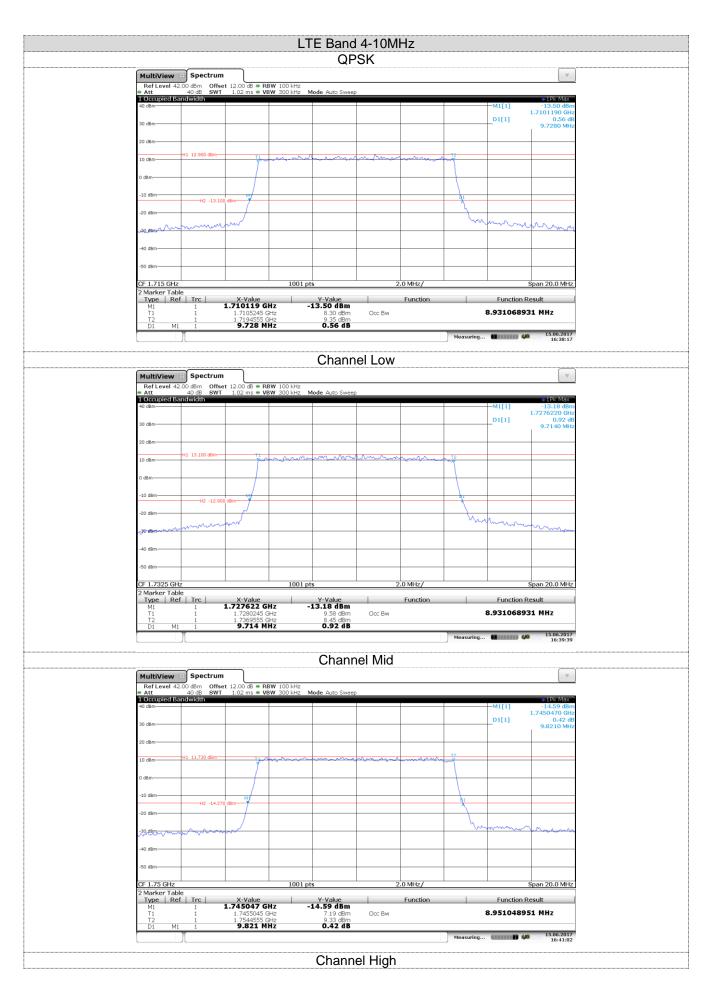


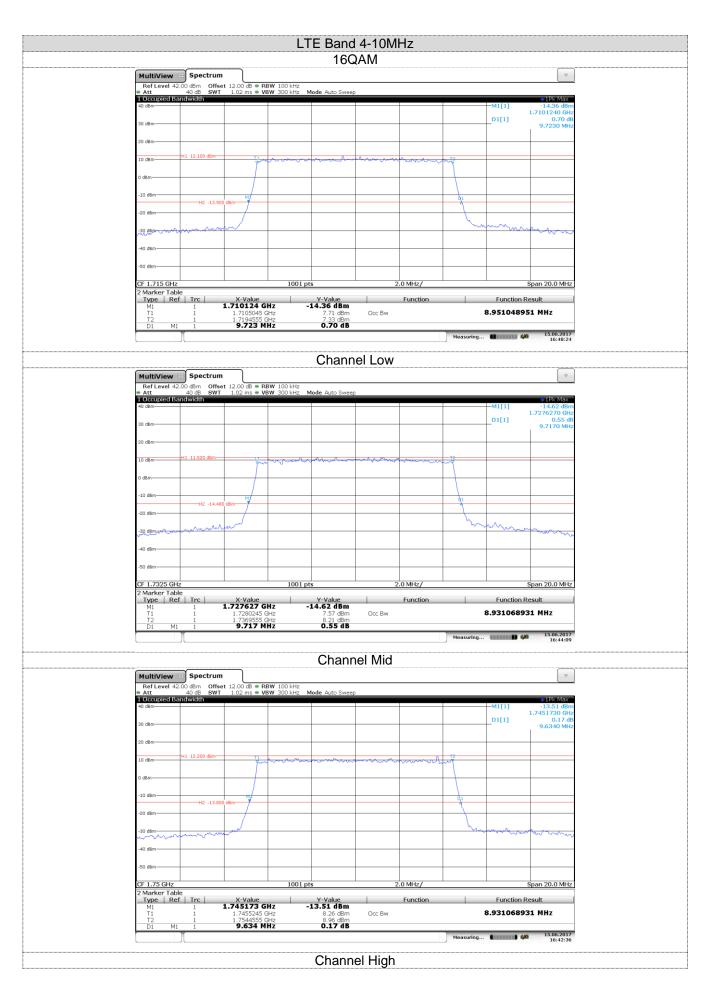


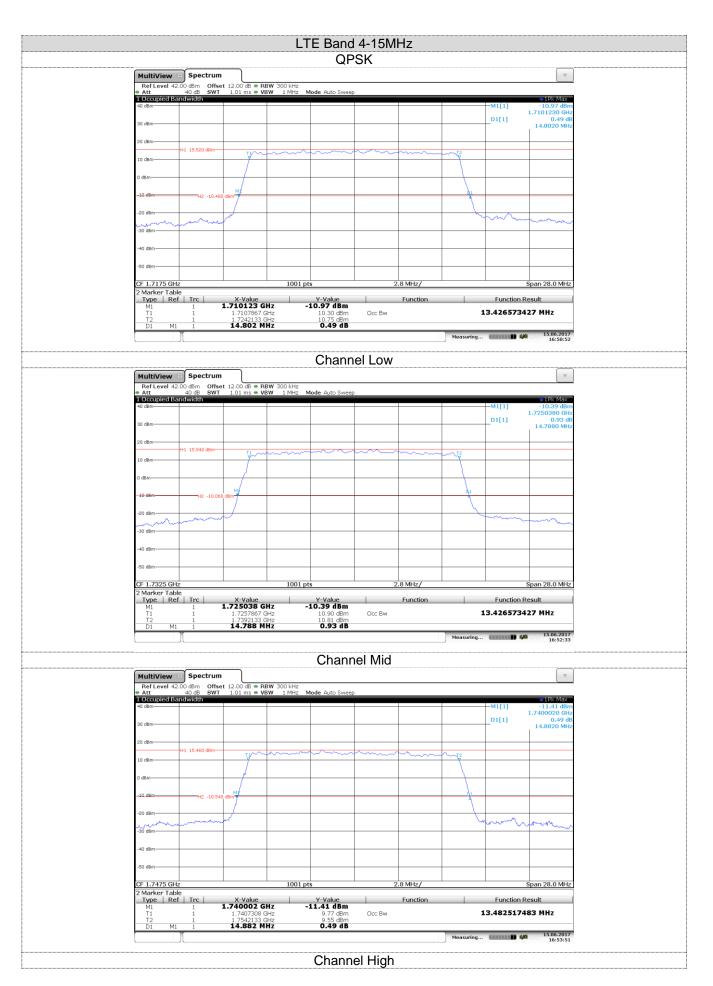


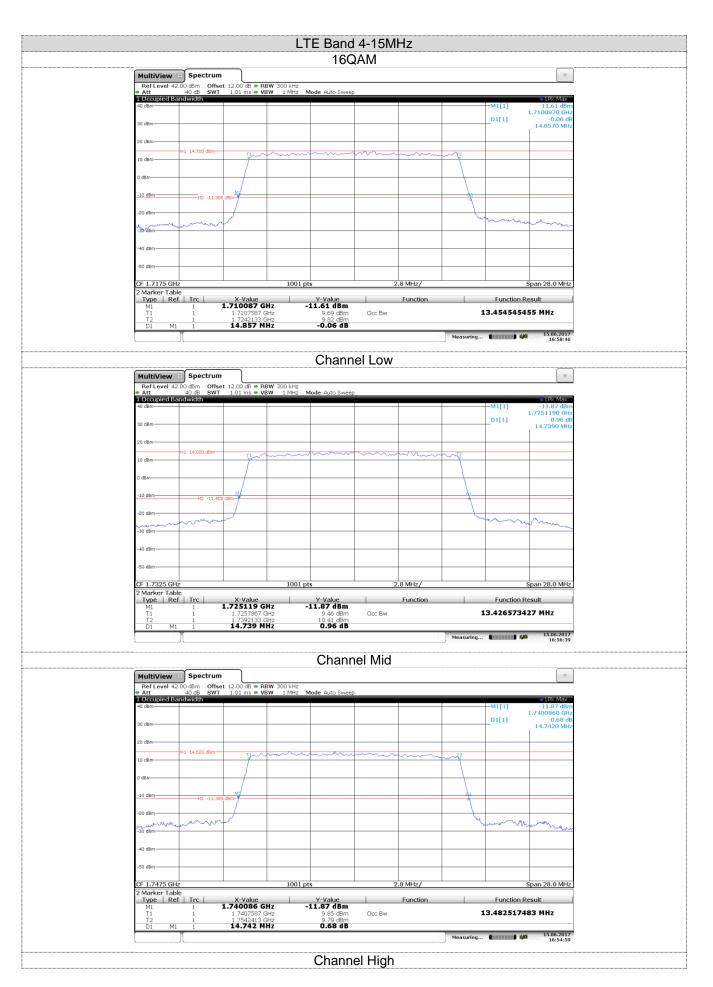


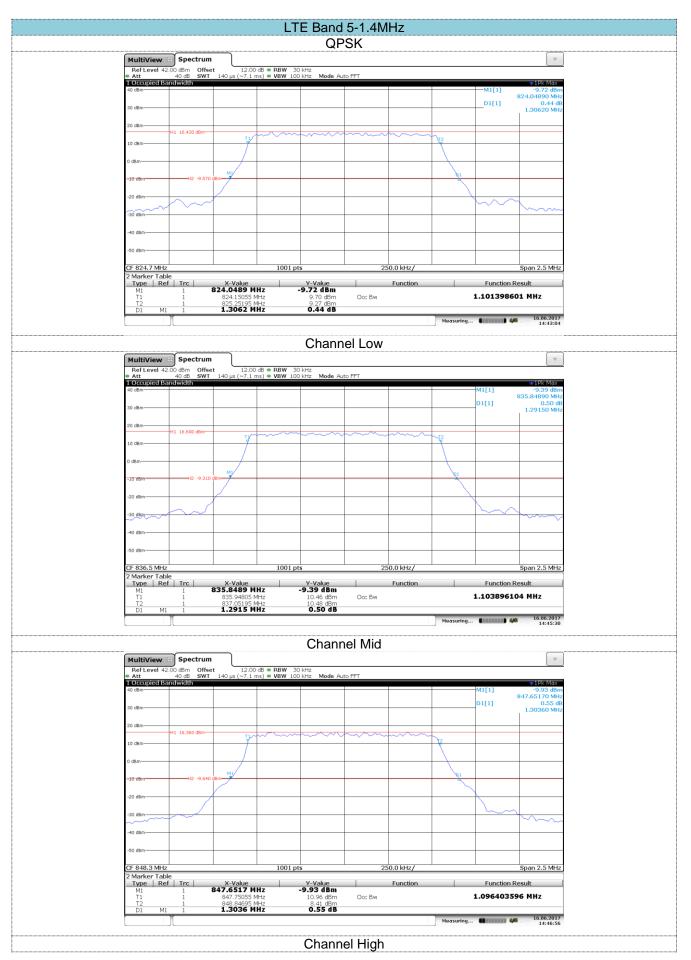


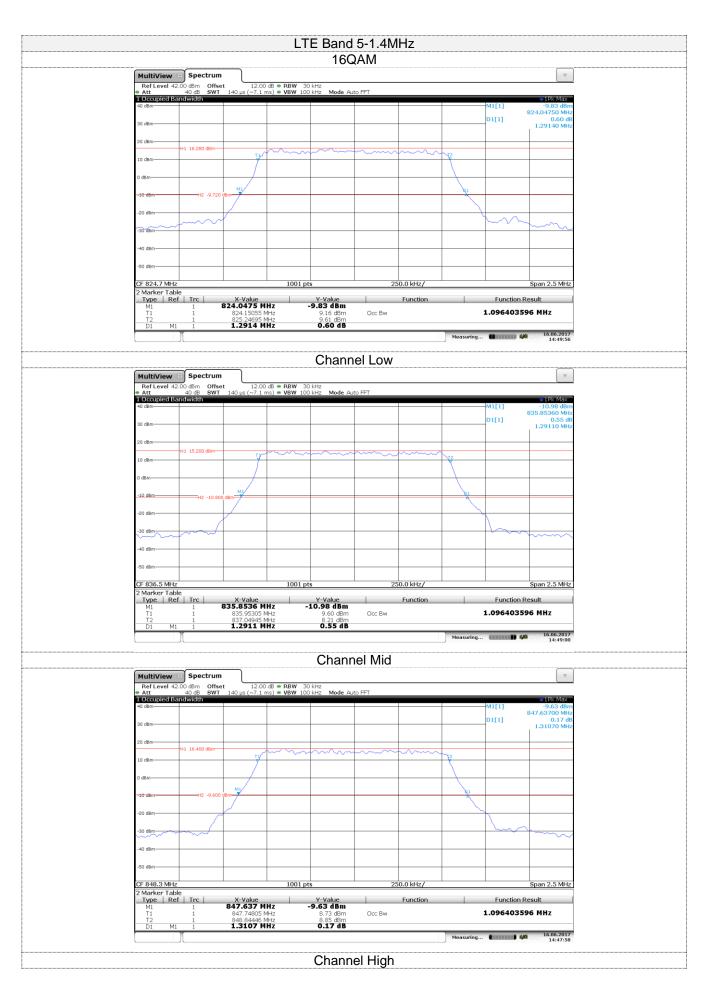












				1.	TE Ban	d 5-3M	47			
				L		SK	1			
G					QF	SN				—
	AultiView Ref Level 42	Spectrun 2.00 dBm Offs	et 12.00 140 µs (~7.5) dB = RBW 30) kHz					
1	Occupied Ba	40 dB SWT andwidth	140 μs (~7.5	ms) = VBW 100) kHz Mode Au	ito FFT				• 1Pk Max
4(0 dBm								M1[1]	-12.42 dBn 324.02480 MH 0.70 dl
30	0 dBm								D1[1]	2.93630 MH
20	0 dBm									
10	0 dBm	H1 14.120 dBm	T1 mm	mann	mm	mm	mm	mm		
	dBm									
-1	10 dBm	H2 -11.88	80 dBm					1		
-2	20 dBm		4							
-3	10 dBm	hun							- www.	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
-4	10 dBm									
.5	50 dBm									
				1001			00.0 kHz/			
2	F 825.5 MHz Marker Tab	ole		1001 p				1		Span 5.0 MHz
	Type Re M1 T1	ef Trc 1 1	X-Value 824.0248 M 824.15634	IHz -	Y-Value 12.42 dBm 8.73 dBm	Occ Bw	Function		Function Re 2.68731268	
_	T2 D1 M1	1 1	826.84366 2.9363 N	MHz	10.95 dBm 0.70 dB	Star DW				
)[Measuring	4,0	16.06.2017 14:51:46
					Chan	el Low				
G					Chann					
	MultiView Ref Level 42	EB Spectrun 2.00 dBm Offs		0 dB = RBW 30) kHz					\bigtriangledown
1	Att Occupied Ba	40 dB SWT andwidth	Γ 140 μs (~7.5	ms) = VBW 100) kHz Mode Au	ito FFT				• 1Pk Max
4	0 dBm								M1[1] D1[1]	-13.29 dBn 335.02190 MH 0.16 dl
30	0 dBm								01[1]	2.94470 MH
20	0 dBm									
10	0 dBm	H1 13.020 dBm	12m	mm	m	mm	mm	mr		
0	dBm									
	10 dBm									
		H2 -12.98	80 dBm					à: X		
-2	20 dBm		/						\backslash	
-3	10 dBm	mm							home	mm
-4	+0 dBm									
-5	50 dBm									
C	F 836.5 MHz	z		1001 pt	is in the second	5	00.0 kHz/			Span 5.0 MHz
2	Marker Tab Type Re	ole	X-Value		Y-Value	-	Function		Function Re	
	M1 T1	1 1	X-Value 835.0219 M 835.16134	MHz	9.83 dBm	Occ Bw			2.68231768	
_	T2 D1 M1	1 1	837.84366 2.9447 M	MHz IHZ	9.94 dBm 0.16 dB					
		Л						Measuring	40	16.06.2017 14:52:46
					Chanr	nel Mid				
	AultiView	🖽 Spectrun								~
-	Ref Level 42 Att	2.00 dBm Offs 40 dB SWT	et 12.00 140 µs (~7.5	0 dB = RBW 30 ms) = VBW 100) kHz) kHz Mode Au	ito FFT				
Т	Occupied Ba 0 dBm	andwidth							M1[1]	 1Pk Max -12.56 dBn
30	0 dBm								D1[1]	46.02820 MH 0.79 df 2.93650 MH
	0 dBm									
_		H1 13.530 dBm-	ThM	mm	a	. n. A		- A4T2		
	0 dBm		- yr vun	Two-	mm	mm	man			
			+/					+		
	dBm			1				<u> </u>		
o	dBm	H2 -12 4	70 dBm			1	1		N I I I I I I I I I I I I I I I I I I I	
0		H2 -12.4	70 dBm						A	
0 -1 -2	10 dBm	H2 -12.4	70 BBm							
0 -1 -2 -2	10 dBm	H2 -12.43	70 BBm						L	
0 -1 -2 -2	10 dBm	H2 -12.4	20 dBm							
0 -1 -2 -2 -2 -4	10 dBm	H2 -12.43	20 UBm							m
0 -2 -2 -4 -5 -5 -5	10 dBm	z		1001 pt	s	5	00.0 kHz/			Span 5.0 MHz
0 	10 dBm	z			Y-Value	5	00.0 kHz/ Function		Function Re	Span 5.0 MHz
0 -1 -2 -2 -4 -5 -5 -1 -1 -1 -2 -2 -2 -2 -2 -2 -2 -2 -2 -2 -2 -2 -2	10 dBm 20 dBm 10 dBm 40 dBm 50 dBm F 847.5 MHz Marker Tab Type Re M1 T1	z z ef Trc 1 1	X-Value 846.0282 M 846.15634 848.84396	IHz - MHz MHz	Y-Value	5 Occ Bw				Span 5.0 MHz
0 -1 -2 -2 -4 -5 - []]2	10 dBm 20 dBm 20 dBm 40 dBm 50 dBm 50 dBm F 847.5 MHz Marker Tab Type Re M1	z z ef Trc 1 1	X-Value 846.0282 M	IHz - MHz MHz					Function Re	Span 5.0 MHz sult 7 MHz 16.06.2017
0 -1 -2 -2 -2 -4 -5 <u> </u> [2]	10 dBm 20 dBm 10 dBm 40 dBm 50 dBm F 847.5 MHz Marker Tab Type Re M1 T1	z z ef Trc 1 1	X-Value 846.0282 M 846.15634 848.84396	IHz - MHz MHz	Y-Value 12.56 dBm 8.65 dBm 9.08 dBm 0.79 dB	Occ Bw	Function		Function Re	Span 5.0 MHz sult 7 MHz
0 -1 -2 -1 -2 -1 -2 -2 -2 -2 -2 -2 -2 -2 -2 -2 -2 -2 -2	10 dBm 20 dBm 10 dBm 40 dBm 50 dBm F 847.5 MHz Marker Tab Type Re M1 T1	z z ef Trc 1 1	X-Value 846.0282 M 846.15634 848.84396	IHz - MHz MHz	Y-Value 12.56 dBm 8.65 dBm 9.08 dBm 0.79 dB		Function		Function Re	Span 5.0 MHz sult 7 MHz 16.06.2017

