



## 5 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Thermal Chamber	Ten Billion	TTH-D3SP	TBN-930701	N/A	Jul. 19, 2013	May 02, 2015	Jul. 17, 2015	Conducted (TH02-HY)
Spectrum Analyzer	Rohde & Schwarz	FSV40	101397	10kHz~40GHz	Sep. 17, 2014	May 02, 2015	Sep. 15 2015	Conducted (TH02-HY)
LTE Base Station	Anritsu	MT8820C	6201026480	30MHz~2.7GHz SISO	Jan. 08, 2015	May 02, 2015	Jan. 07, 2016	Conducted (TH02-HY)
Bilog Antenna	Schaffner	CBL6111C	2726	30MHz ~ 1GHz	Sep. 27, 2014	May 05, 2015 ~ May 20, 2015	Sep. 26, 2015	Radiation (03CH07-HY)
Double Ridge Horn Antenna	ESCO	3117	00075962	1GHz ~ 18GHz	Aug. 19, 2014	May 05, 2015 ~ May 20, 2015	Aug. 18, 2015	Radiation (03CH07-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120D	9120D-1328	1GHz ~ 18GHz	Nov. 05, 2014	May 05, 2015 ~ May 20, 2015	Nov. 04, 2015	Radiation (03CH07-HY)
Preamplifier	COM-POWER	PA-103A	161241	10MHz-1000MHz	Mar. 12, 2015	May 05, 2015 ~ May 20, 2015	Mar. 11, 2016	Radiation (03CH07-HY)
Preamplifier	Agilent	8449B	3008A02362	1GHz~ 26.5GHz	Oct. 21, 2014	May 05, 2015 ~ May 20, 2015	Oct. 20, 2015	Radiation (03CH07-HY)
Signal Analyzer	Rohde & Schwarz	FSV 30	101749	10Hz~30GHz	Mar. 10, 2015	May 05, 2015 ~ May 20, 2015	Mar. 09, 2016	Radiation (03CH07-HY)
Antenna Mast	Max-Full	MFA520BS	N/A	1m~4m	N/A	May 05, 2015 ~ May 20, 2015	N/A	Radiation (03CH07-HY)
Turn Table	ChainTek	Chaintek 3000	N/A	0~360 degree	N/A	May 05, 2015 ~ May 20, 2015	N/A	Radiation (03CH07-HY)
Signal Generator	Rohde & Schwarz	SMF100A	101107	100kHz~40GHz	May 23, 2014	May 05, 2015 ~ May 20, 2015	May 22, 2015	Radiation (03CH07-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170251	18GHz~40GHz	Oct. 02, 2014	May 05, 2015 ~ May 20, 2015	Oct. 01, 2015	SHF-EHF Horn Antenna



## 6 Uncertainty of Evaluation

### Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ )	2.54
---	------



## Appendix A. Test Results of Conducted Test

### Conducted Output Power(Average power)

LTE Band 7 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	22.25	22.34	22.34
5	1	12		22.00	22.20	22.30
5	1	24		22.03	22.03	22.00
5	12	0		21.26	21.31	21.34
5	12	6		21.20	21.18	21.27
5	12	11		21.18	21.18	21.21
5	25	0		21.24	21.27	21.23
5	1	0	16-QAM	22.00	21.44	21.38
5	1	12		21.07	21.08	21.02
5	1	24		21.10	21.12	21.11
5	12	0		20.23	20.24	20.28
5	12	6		20.25	20.32	20.29
5	12	11		20.24	20.21	20.28
5	25	0		20.48	20.46	20.42
10	1	0	QPSK	22.22	22.05	22.14
10	1	24		22.02	22.08	22.00
10	1	49		22.00	22.00	22.03
10	25	0		21.39	21.29	21.28
10	25	12		21.36	21.42	21.36
10	25	24		21.31	21.34	21.20
10	50	0		21.33	21.43	21.31
10	1	0	16-QAM	21.97	21.94	21.45
10	1	24		21.96	21.82	21.31
10	1	49		21.61	21.74	21.26
10	25	0		20.45	20.62	20.61
10	25	12		20.52	20.62	20.57
10	25	24		20.58	20.66	20.64
10	50	0		20.47	20.46	20.52



LTE Band 7 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	22.33	22.16	22.08
15	1	37		22.12	22.08	22.00
15	1	74		22.01	22.01	22.01
15	36	0		21.39	21.33	21.28
15	36	18		21.32	21.29	21.30
15	36	37		21.27	21.31	21.28
15	75	0		21.30	21.31	21.30
15	1	0	16-QAM	22.01	21.97	21.82
15	1	37		22.03	21.78	21.76
15	1	74		22.00	21.92	21.83
15	36	0		20.27	20.55	20.60
15	36	18		20.52	20.52	20.53
15	36	37		20.46	20.55	20.62
15	75	0		20.46	20.57	20.57
20	1	0	QPSK	22.35	22.27	22.30
20	1	49		22.00	22.04	22.20
20	1	99		22.03	22.06	22.01
20	50	0		21.35	21.42	21.35
20	50	24		21.27	21.39	21.25
20	50	49		21.23	21.34	21.26
20	100	0		21.31	21.33	21.24
20	1	0	16-QAM	21.48	21.28	21.55
20	1	49		21.11	21.22	21.43
20	1	99		21.14	21.37	21.15
20	50	0		20.32	20.37	20.50
20	50	24		20.35	20.38	20.34
20	50	49		20.30	20.44	20.40
20	100	0		20.49	20.50	20.50



## LTE Band 7

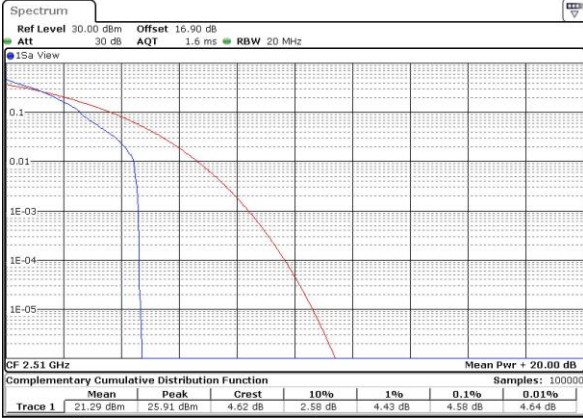
### Peak-to-Average Ratio

Mode	LTE Band 7 / 20MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	4.58	5.13	5.36	6.09	<b>PASS</b>
Middle CH	4.67	5.10	5.65	6.09	
Highest CH	4.46	4.90	5.36	5.97	



LTE Band 7 / 20MHz / QPSK

Lowest Channel / 1RB



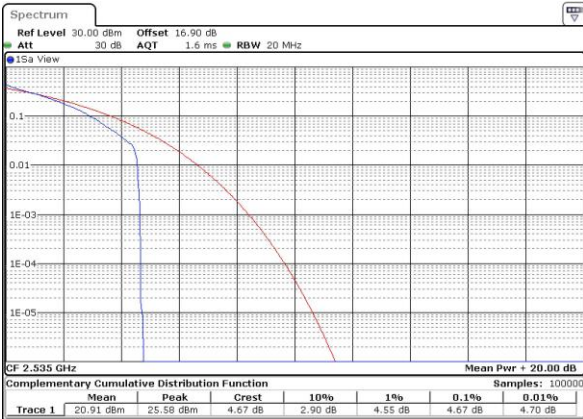
Date: 2.MAY.2015 12:02:19

Lowest Channel / Full RB



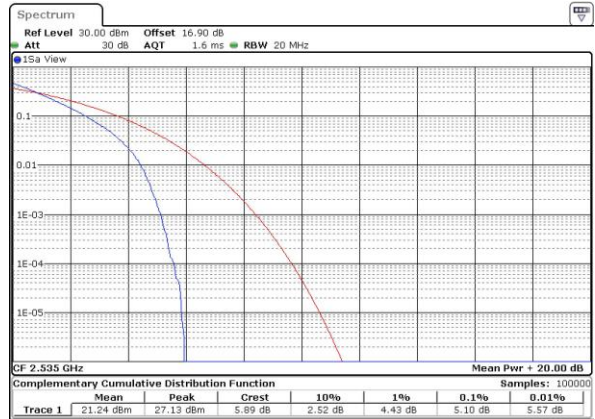
Date: 2.MAY.2015 12:01:49

Middle Channel / 1RB



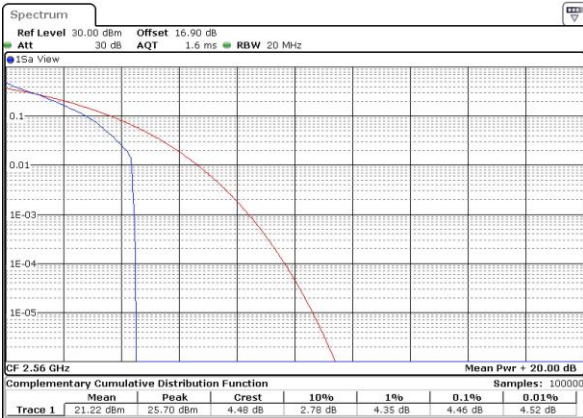
Date: 2.MAY.2015 12:00:35

Middle Channel / Full RB



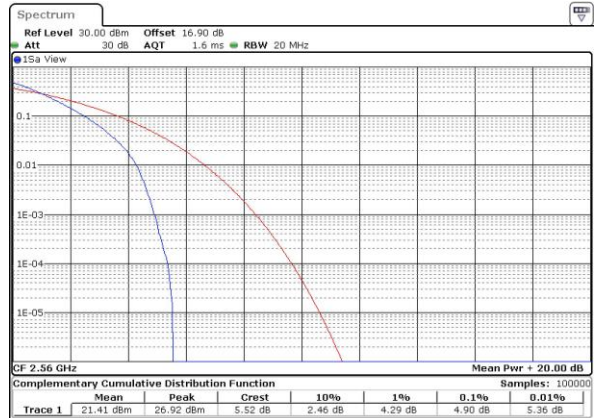
Date: 2.MAY.2015 12:01:01

Highest Channel / 1RB



Date: 2.MAY.2015 12:00:10

Highest Channel / Full RB



Date: 2.MAY.2015 11:59:44



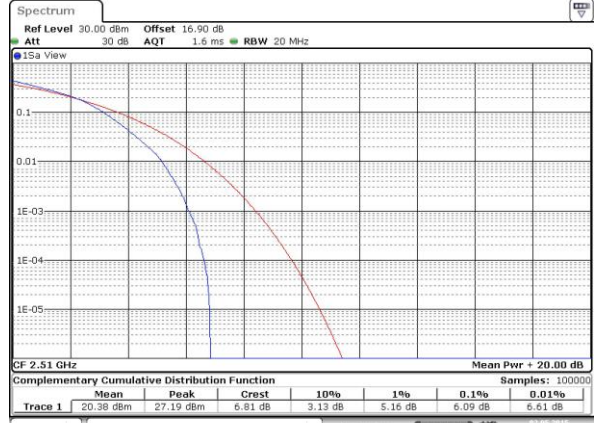
LTE Band 7 / 20MHz / 16QAM

Lowest Channel / 1RB



Date: 2.MAY.2015 11:56:42

Lowest Channel / Full RB



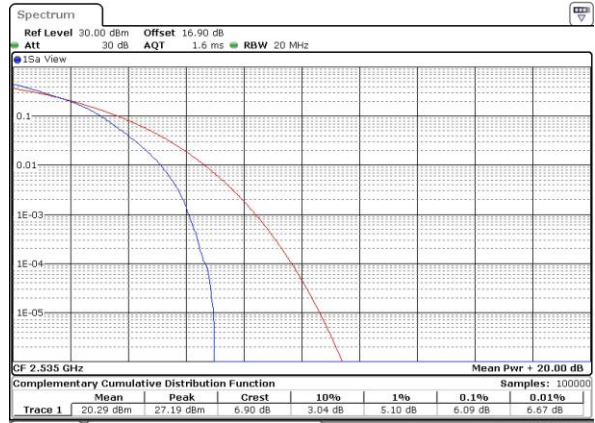
Date: 2.MAY.2015 11:57:11

Middle Channel / 1RB



Date: 2.MAY.2015 11:57:42

Middle Channel / Full RB



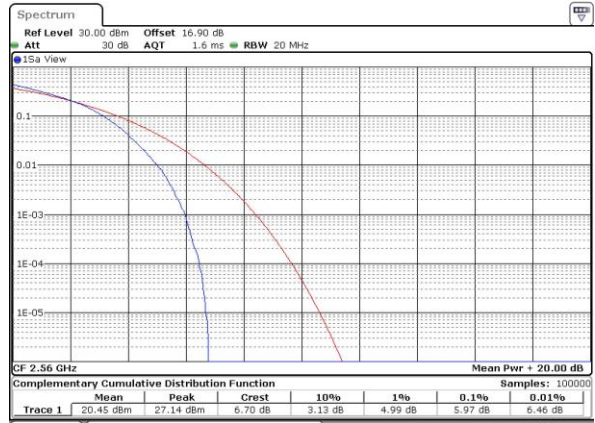
Date: 2.MAY.2015 11:58:07

Highest Channel / 1RB



Date: 2.MAY.2015 11:58:38

Highest Channel / Full RB



Date: 2.MAY.2015 11:59:00



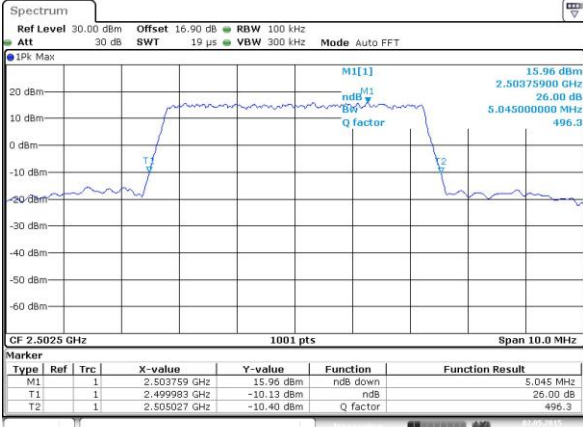
**26dB Bandwidth**

Mode	LTE Band 7 : 26dB BW(MHz)											
	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
BW	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	-	-	-	-	5.045	5.055	9.990	9.870	14.655	14.655	20.460	20.340
Middle CH	-	-	-	-	5.035	5.055	10.050	9.970	14.715	14.745	20.300	20.180
Highest CH	-	-	-	-	5.035	5.065	10.030	9.930	14.715	14.595	20.140	20.300



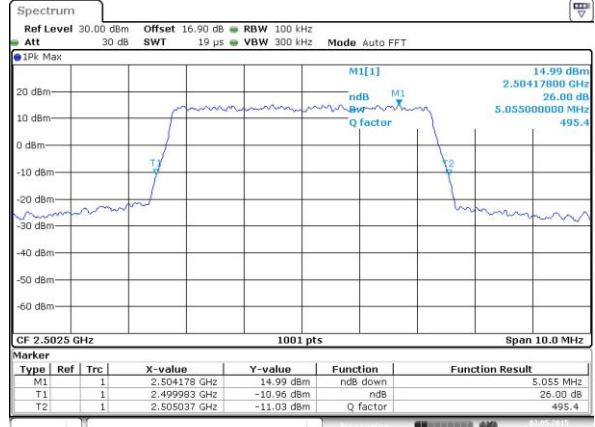
LTE Band 7

Lowest Channel / 5MHz / QPSK



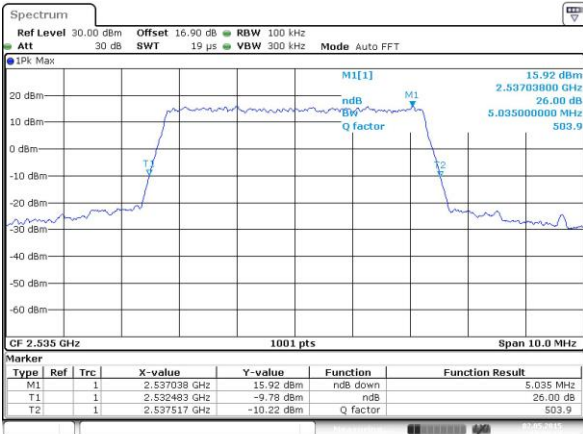
Date: 2.MAY.2015 10:26:08

Lowest Channel / 5MHz / 16QAM



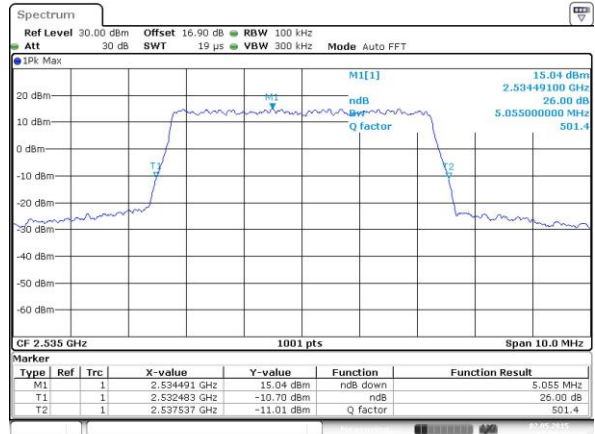
Date: 2.MAY.2015 10:26:22

Middle Channel / 5MHz / QPSK



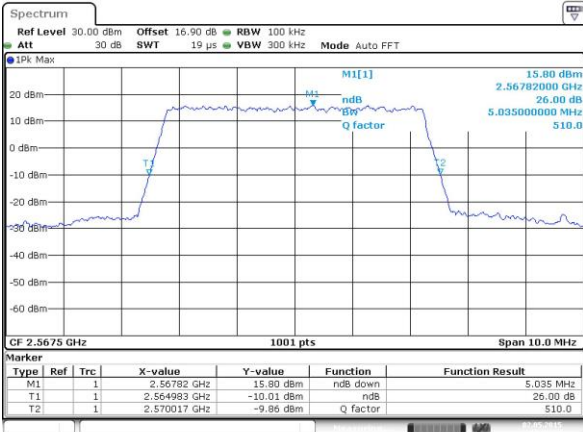
Date: 2.MAY.2015 10:34:12

Middle Channel / 5MHz / 16QAM



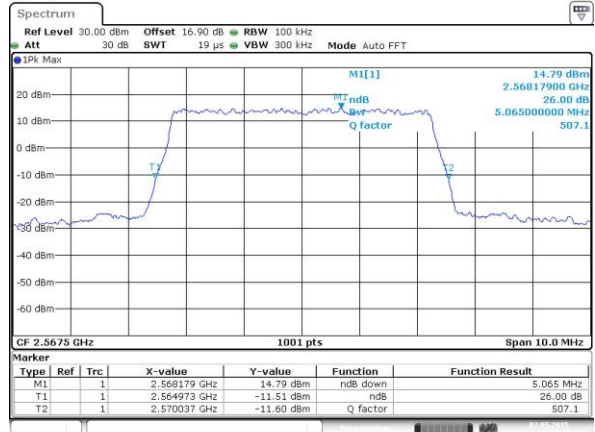
Date: 2.MAY.2015 10:34:26

Highest Channel / 5MHz / QPSK



Date: 2.MAY.2015 10:37:23

Highest Channel / 5MHz / 16QAM

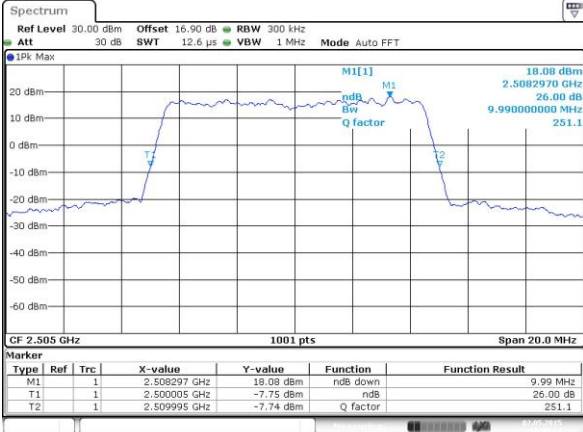


Date: 2.MAY.2015 10:37:37



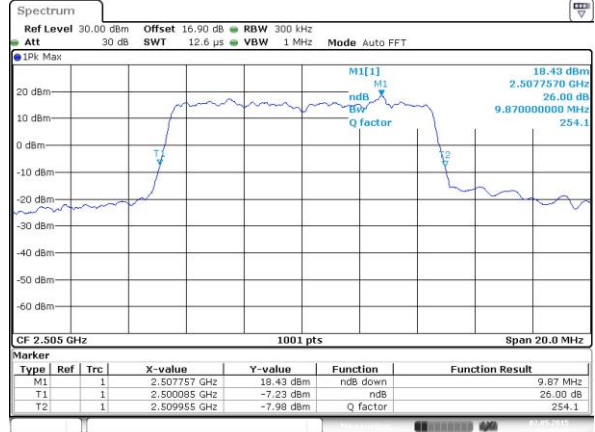
LTE Band 7

Lowest Channel / 10MHz / QPSK



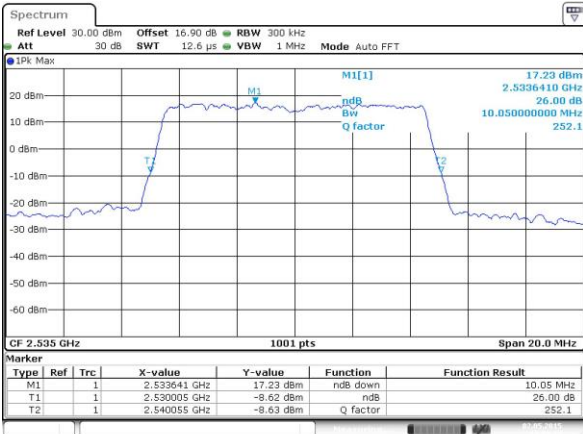
Date: 2,MAY,2015 10:45:19

Lowest Channel / 10MHz / 16QAM



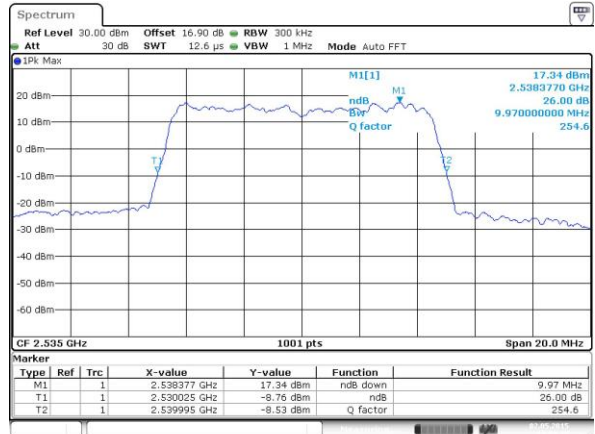
Date: 2,MAY,2015 10:45:33

Middle Channel / 10MHz / QPSK



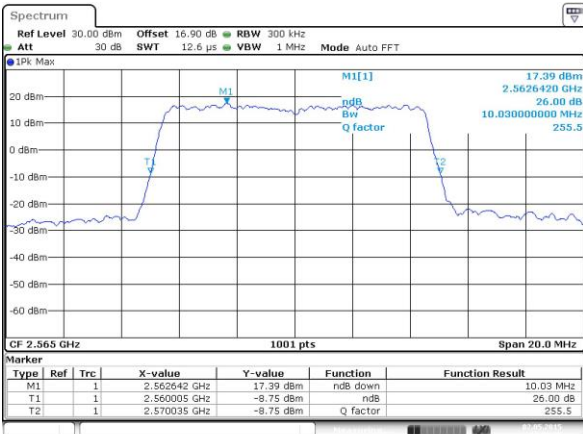
Date: 2,MAY,2015 10:53:24

Middle Channel / 10MHz / 16QAM



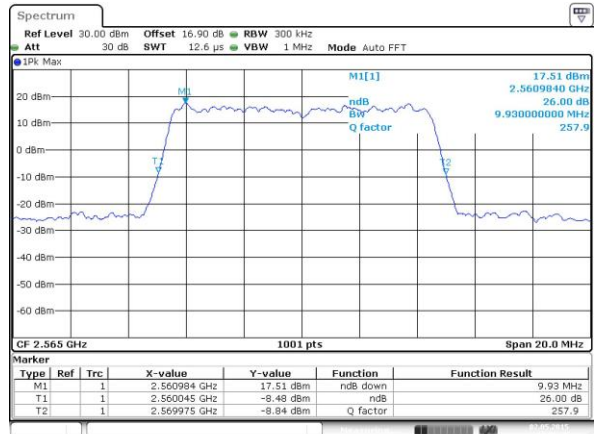
Date: 2,MAY,2015 10:53:37

Highest Channel / 10MHz / QPSK



Date: 2,MAY,2015 10:56:35

Highest Channel / 10MHz / 16QAM

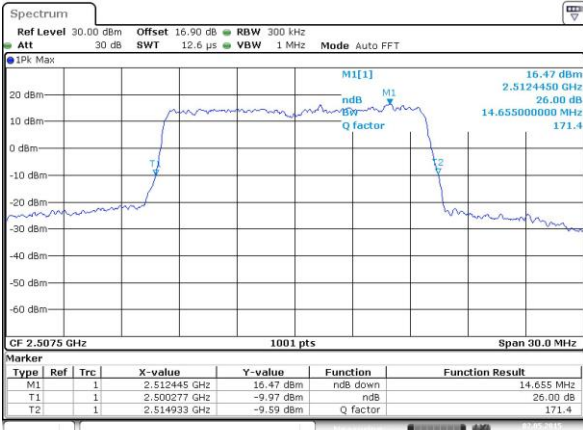


Date: 2,MAY,2015 10:56:49



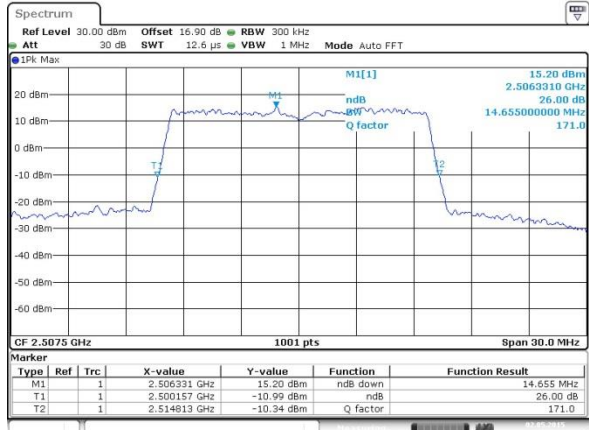
LTE Band 7

Lowest Channel / 15MHz / QPSK



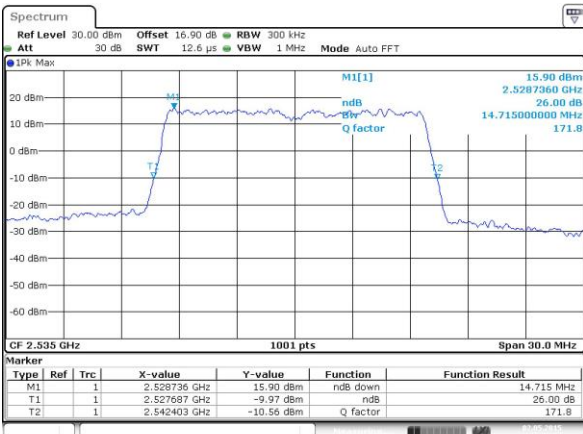
Date: 2.MAY.2015 11:04:30

Lowest Channel / 15MHz / 16QAM



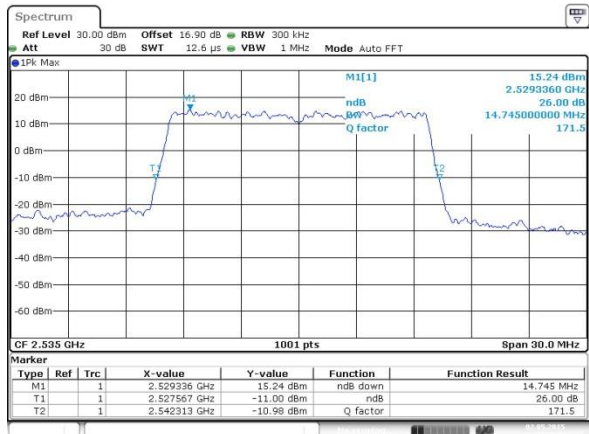
Date: 2.MAY.2015 11:04:44

Middle Channel / 15MHz / QPSK



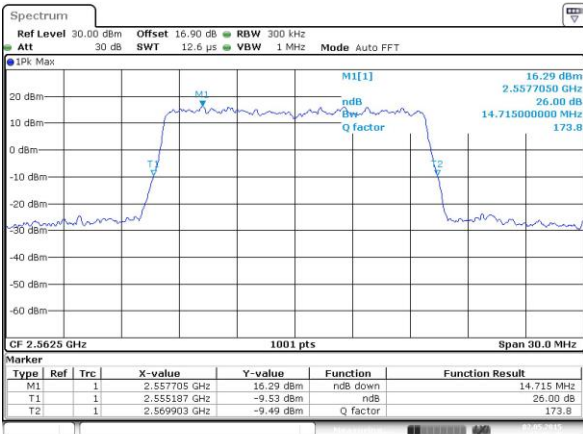
Date: 2.MAY.2015 11:12:35

Middle Channel / 15MHz / 16QAM



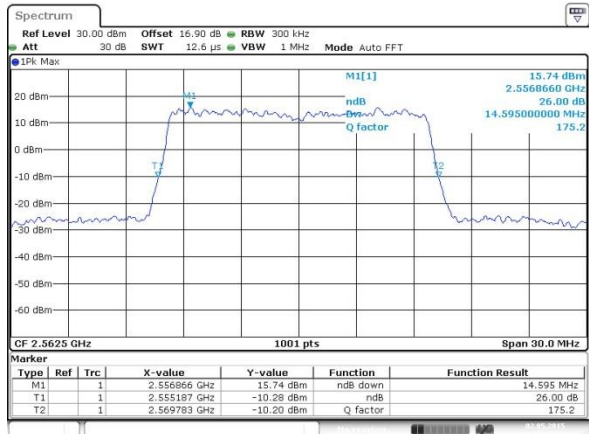
Date: 2.MAY.2015 11:12:48

Highest Channel / 15MHz / QPSK



Date: 2.MAY.2015 11:15:46

Highest Channel / 15MHz / 16QAM

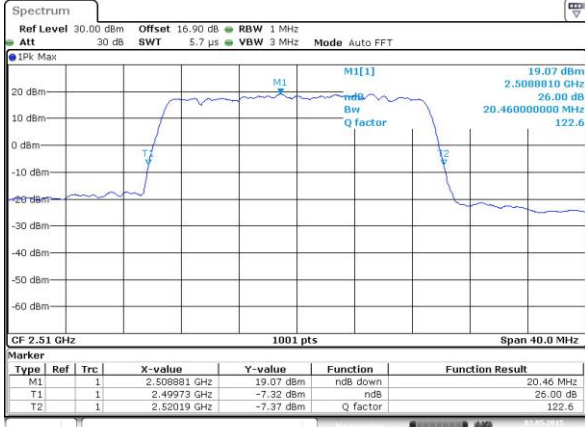


Date: 2.MAY.2015 11:16:00



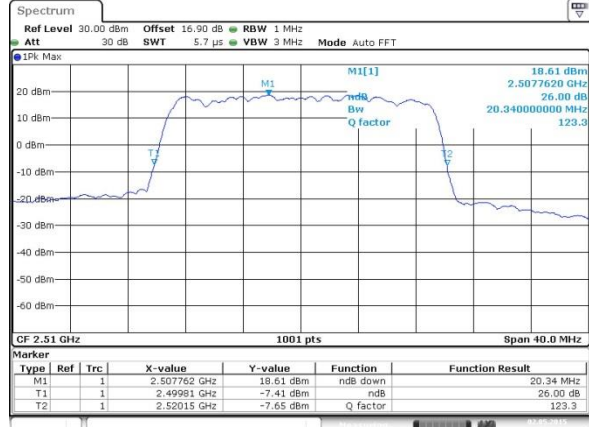
LTE Band 7

Lowest Channel / 20MHz / QPSK



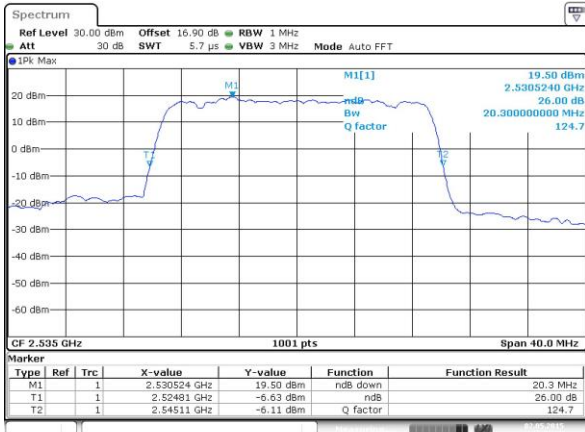
Date: 2.MAY.2015 11:23:41

Lowest Channel / 20MHz / 16QAM



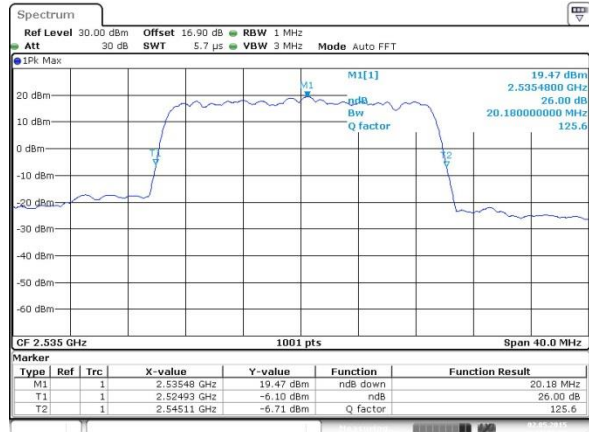
Date: 2.MAY.2015 11:23:55

Middle Channel / 20MHz / QPSK



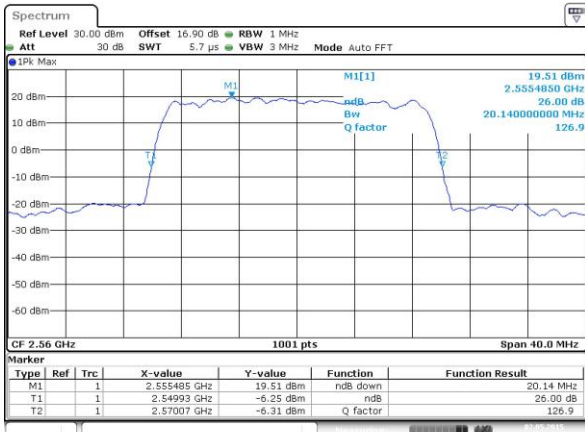
Date: 2.MAY.2015 11:31:45

Middle Channel / 20MHz / 16QAM



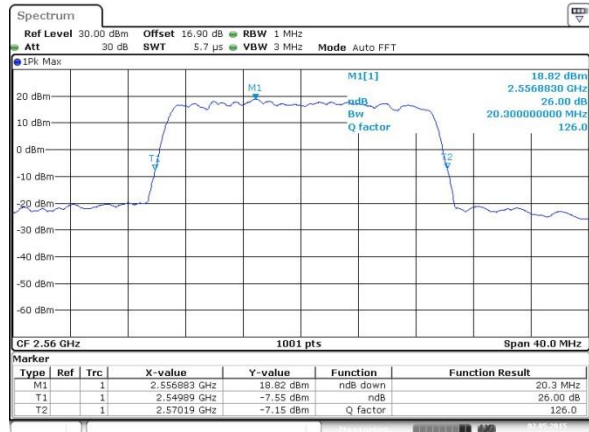
Date: 2.MAY.2015 11:31:59

Highest Channel / 20MHz / QPSK



Date: 2.MAY.2015 11:33:57

Highest Channel / 20MHz / 16QAM



Date: 2.MAY.2015 11:35:11



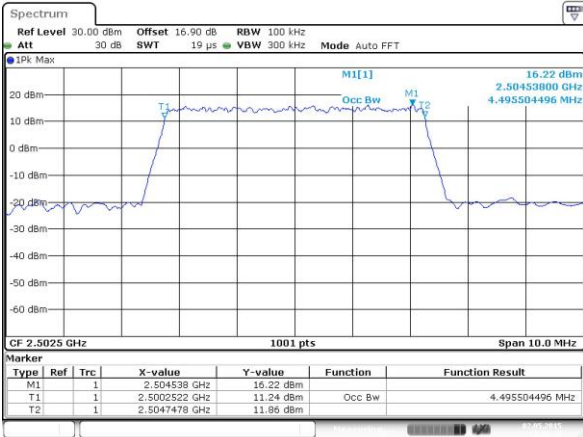
### Occupied Bandwidth

Mode	LTE Band 7 : 99%OBW(MHz)											
	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
BW	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	-	-	-	-	4.50	4.51	9.05	9.05	13.49	13.49	18.38	18.38
Middle CH	-	-	-	-	4.50	4.50	9.07	9.03	13.43	13.46	18.42	18.34
Highest CH	-	-	-	-	4.51	4.50	9.07	9.05	13.46	13.46	18.38	18.42



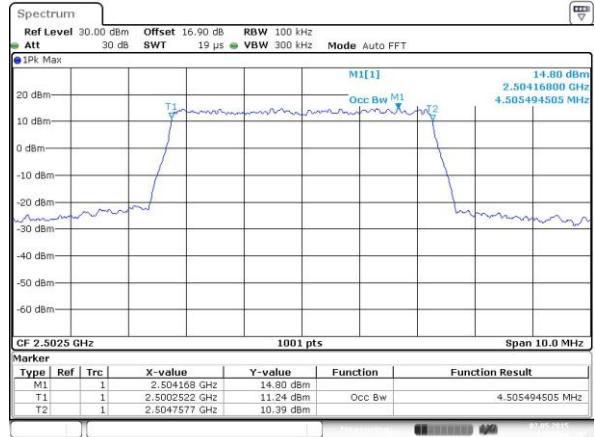
LTE Band 7

Lowest Channel / 5MHz / QPSK



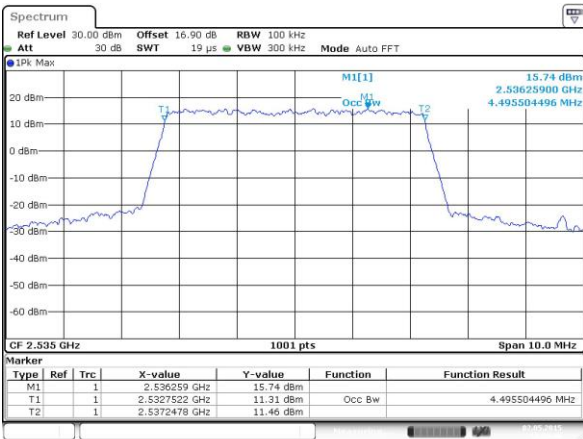
Date: 2.MAY.2015 10:25:42

Lowest Channel / 5MHz / 16QAM



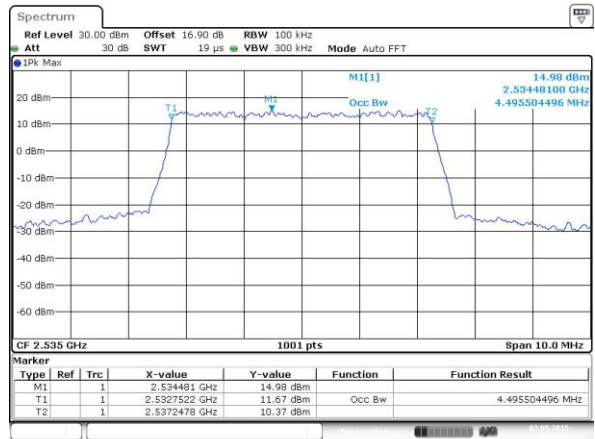
Date: 2.MAY.2015 10:25:54

Middle Channel / 5MHz / QPSK



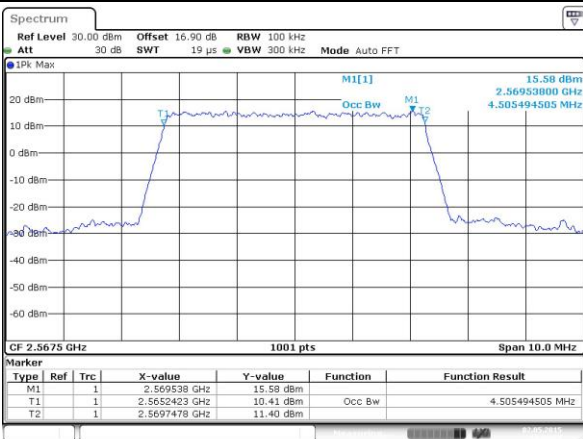
Date: 2.MAY.2015 10:33:47

Middle Channel / 5MHz / 16QAM



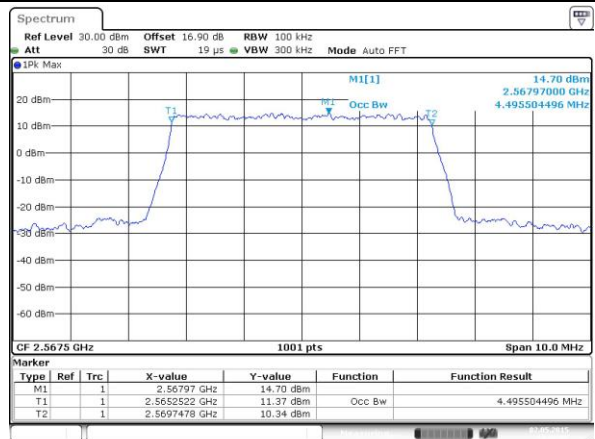
Date: 2.MAY.2015 10:33:59

Highest Channel / 5MHz / QPSK



Date: 2.MAY.2015 10:36:58

Highest Channel / 5MHz / 16QAM

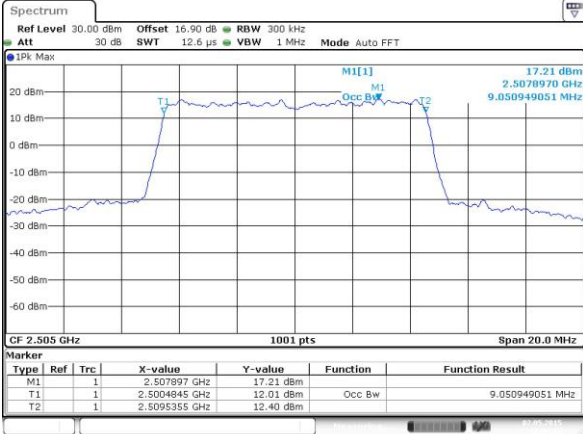


Date: 2.MAY.2015 10:37:10



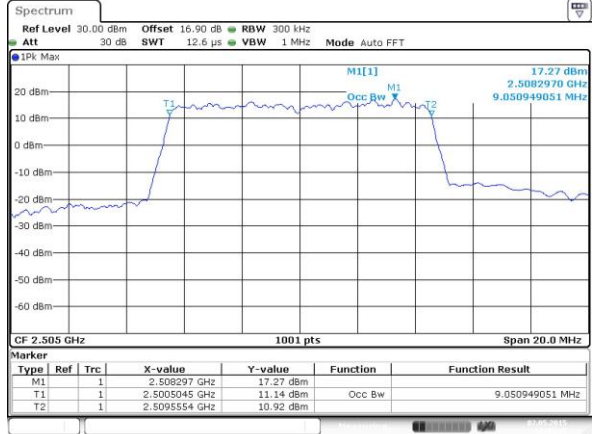
LTE Band 7

Lowest Channel / 10MHz / QPSK



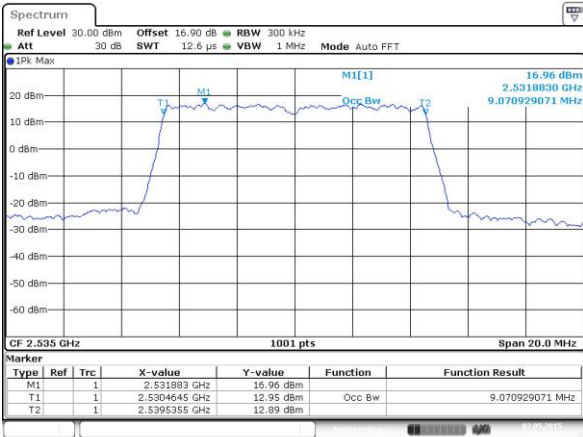
Date: 2.MAY.2015 10:44:53

Lowest Channel / 10MHz / 16QAM



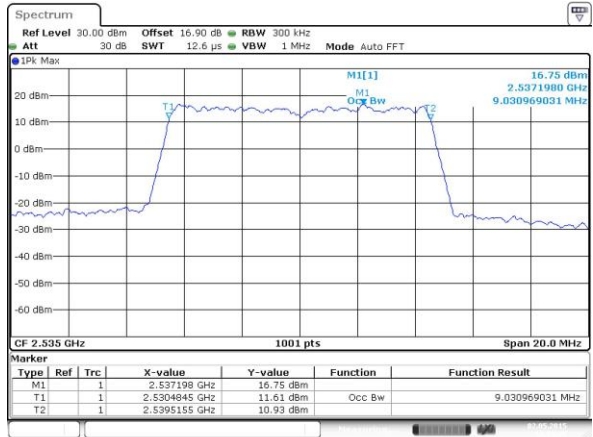
Date: 2.MAY.2015 10:45:05

Middle Channel / 10MHz / QPSK



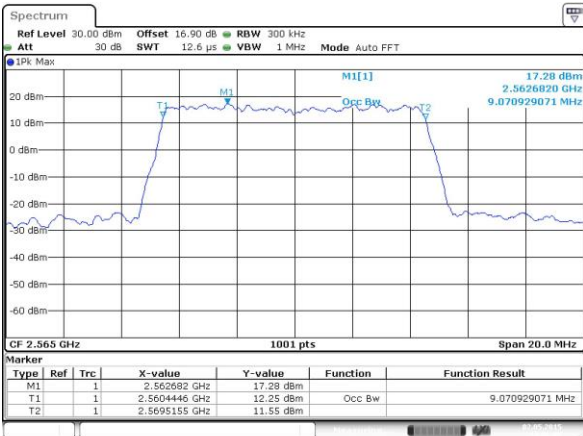
Date: 2.MAY.2015 10:52:08

Middle Channel / 10MHz / 16QAM



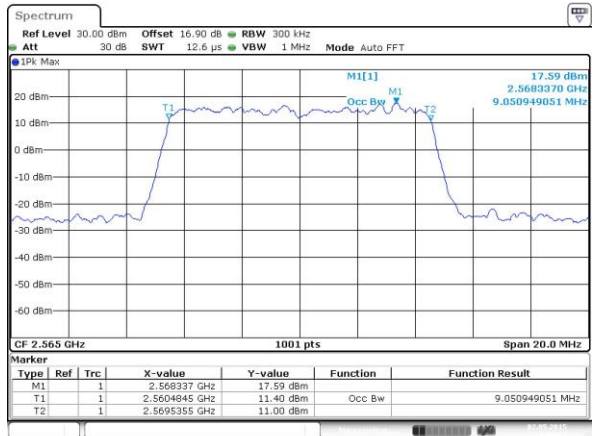
Date: 2.MAY.2015 10:53:10

Highest Channel / 10MHz / QPSK



Date: 2.MAY.2015 10:56:09

Highest Channel / 10MHz / 16QAM

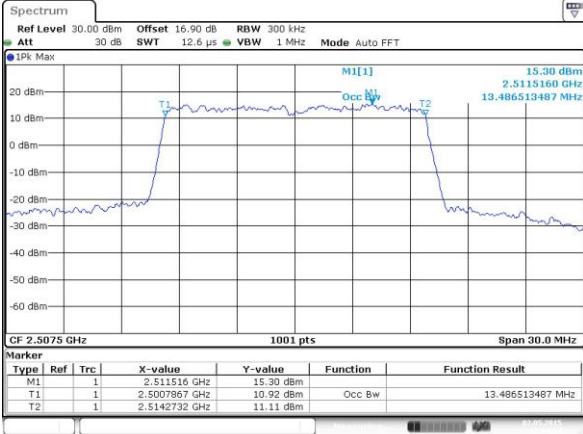


Date: 2.MAY.2015 10:56:21



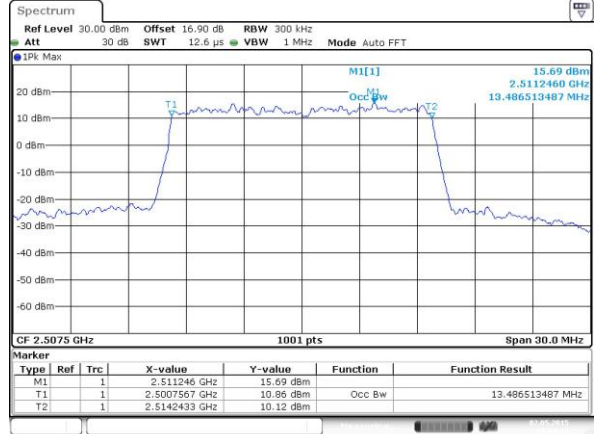
LTE Band 7

Lowest Channel / 15MHz / QPSK



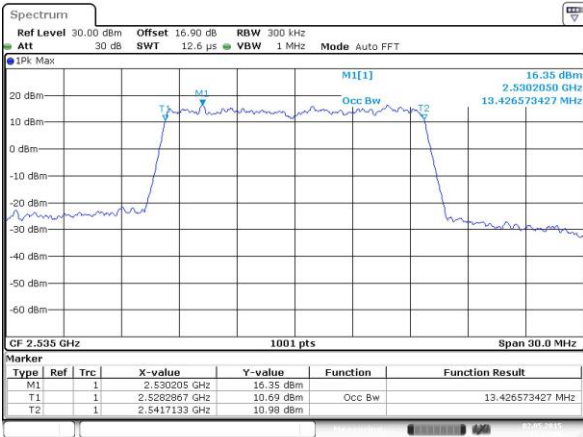
Date: 2.MAY.2015 11:04:05

Lowest Channel / 15MHz / 16QAM



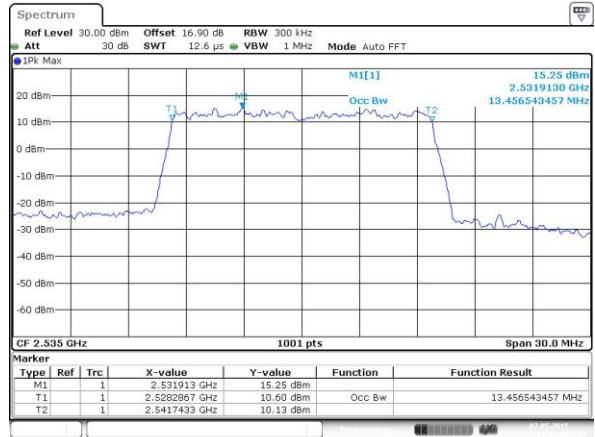
Date: 2.MAY.2015 11:04:17

Middle Channel / 15MHz / QPSK



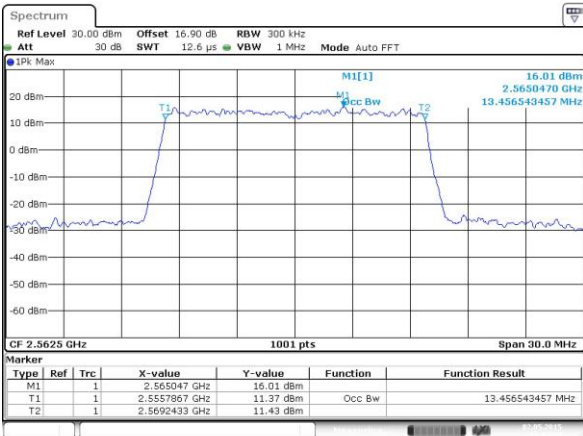
Date: 2.MAY.2015 11:12:09

Middle Channel / 15MHz / 16QAM



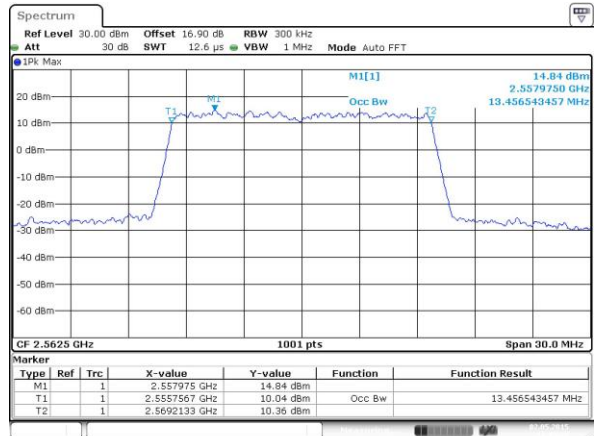
Date: 2.MAY.2015 11:12:21

Highest Channel / 15MHz / QPSK



Date: 2.MAY.2015 11:15:20

Highest Channel / 15MHz / 16QAM

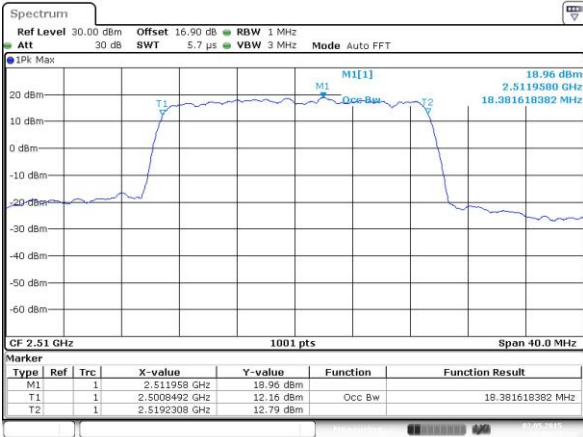


Date: 2.MAY.2015 11:15:32



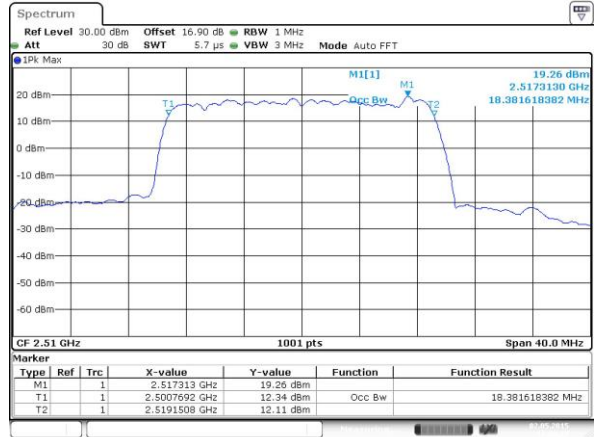
LTE Band 7

Lowest Channel / 20MHz / QPSK



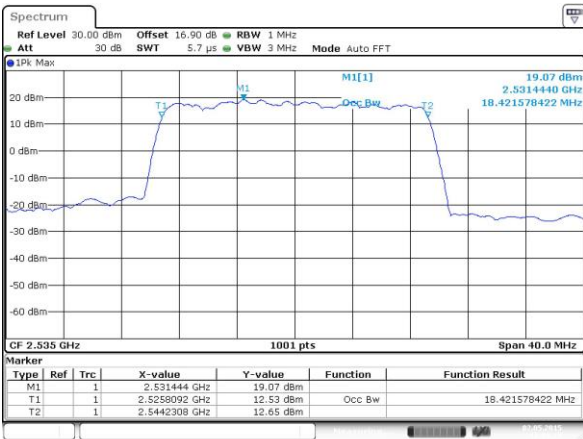
Date: 2,MAY,2015 11:23:16

Lowest Channel / 20MHz / 16QAM



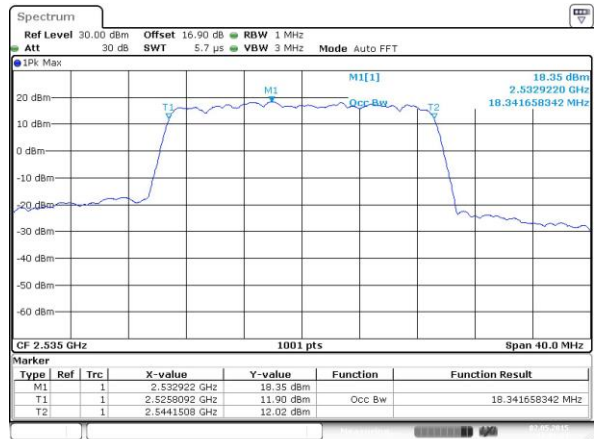
Date: 2,MAY,2015 11:23:28

Middle Channel / 20MHz / QPSK



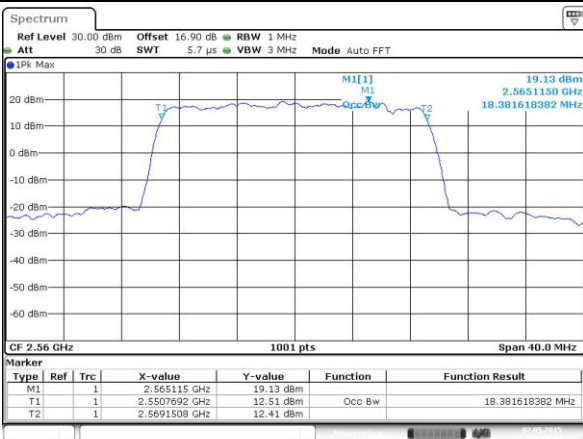
Date: 2,MAY,2015 11:31:20

Middle Channel / 20MHz / 16QAM



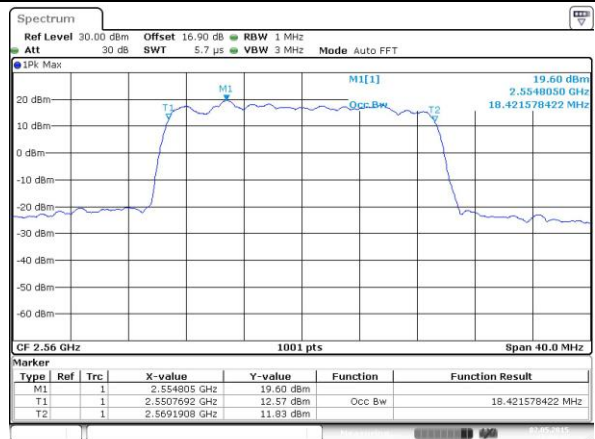
Date: 2,MAY,2015 11:31:32

Highest Channel / 20MHz / QPSK



Date: 2,MAY,2015 11:34:31

Highest Channel / 20MHz / 16QAM



Date: 2,MAY,2015 11:34:43

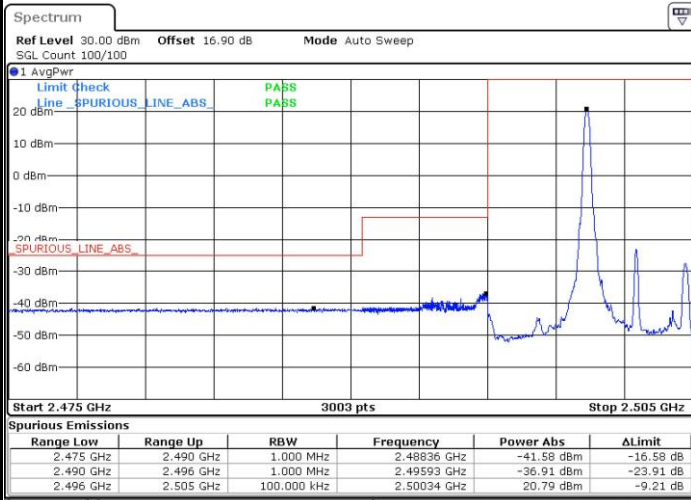


**Conducted Band Edge**



LTE Band 7 / 5MHz / QPSK

Lowest Band Edge / 1 RB



Date: 2.MAY.2015 12:03:54

Highest Band Edge / 1 RB



Date: 2.MAY.2015 12:08:34

Lowest Band Edge / Full RB



Date: 2.MAY.2015 12:06:14

Highest Band Edge / Full RB

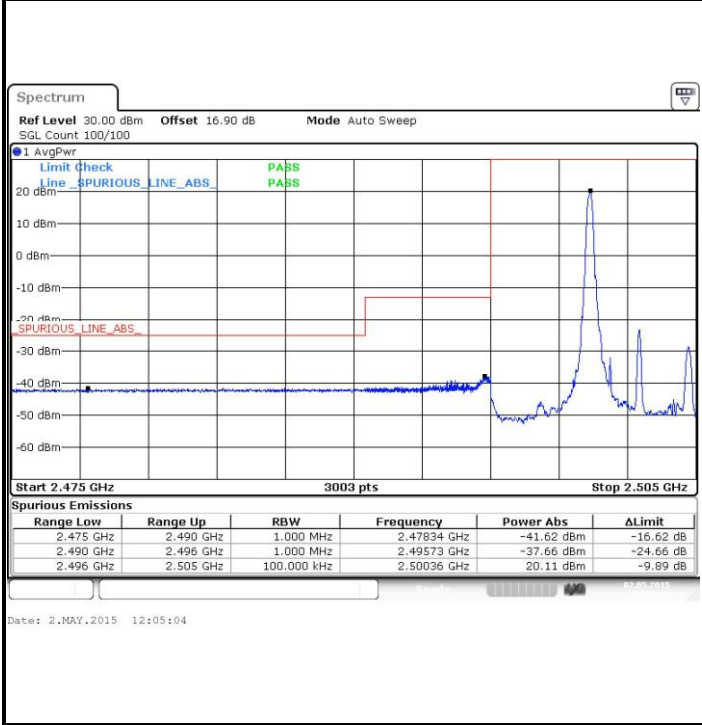


Date: 2.MAY.2015 12:10:54

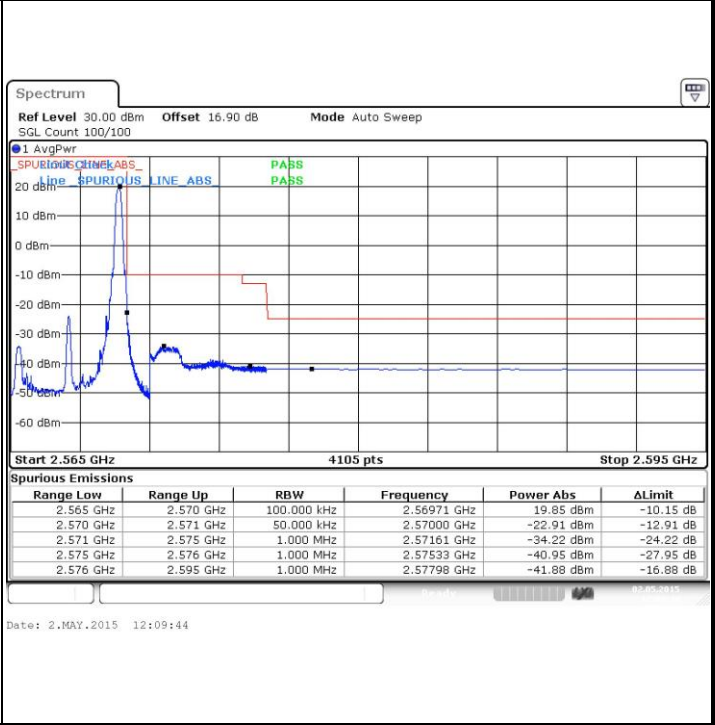


**LTE Band 7 / 5MHz / 16QAM**

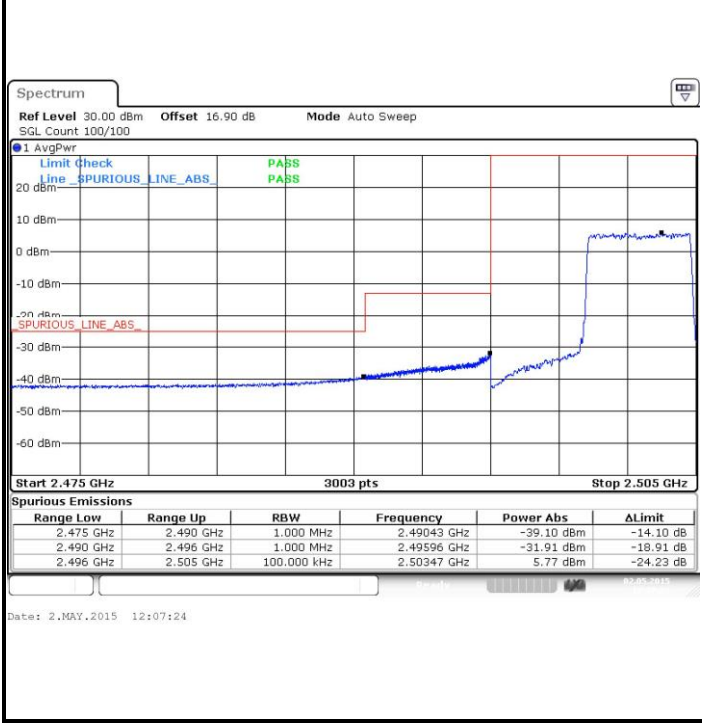
**Lowest Band Edge / 1 RB**



**Highest Band Edge / 1 RB**



**Lowest Band Edge / Full RB**



**Highest Band Edge / Full RB**

