Test report for FCC part 15, 22, 24 and 27

Test Report no.:	20153204 Ver 2.0	Date of Report:	26-Jan-2016
Number of pages:	42	Contact person:	Amir Amininejad

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Client:
Mobile View Point B.V
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The Netherlands

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Tested device(s):	AGILE 2.0 R S/N: 3675, Product of Mobile View Point B.V. FCC ID: 2ACL7MVP-AGILE
Testing has been carried out in accordance with:	KDB Publication 662911 D01. And ANSI 63-10
Documentation:	The test report must always be reproduced in full; reproduction of an excerpt only is subject to written approval of the testing laboratory. The documentation of the testing performed on the tested devices is archived for 10 years at Telefication Netherland.
Test Results:	The results of the inspection are described on the following pages, where "conformity" in the Summary List means that test specification test purposes were verified and the tested device conforms to the applied standards. All performed tests are validated and the dates of testing are always available within internal documentation at Telefication. In cases where "declaration" is printed the required documents are available in the customer's documentation. This test result relates only to those tested devices mentioned in this document.
Accreditation:	Telefication is designated by the FCC as an Accredited Test Firm for compliance testing of equipment subject to Certification under Parts 15 & 18. The Designation number is: NL0001
Date of Signature:	26-Jan-2016

RF Test Laboratory Manager
Amir Amininejad

Revision History

Version	Date	Remarks	By
0.5	21-10-2015	Draft version	Amir Amininejad
0.6	04-11-2015	Peter has reviewed	Peter Suringa
0.7	09-11-2015	Peters Review feedback is utilized.	Amir Amininejad
1.0	05-01-2016	First release ver.	Amir Amininejad
2.0	11-01-2016	Minor editorial improvments	Amir Amininejad

Table of Contents

Summary of test results

FCC	IC	Description	Section in report	Verdict
§2.1053 (Field Strength measurement) §22.917(a) §24.236(a) §27.53(h)	RSS-GEN(4.9) RSS-132(5.5) RSS-133(5.5.1) RSS-130(4.6) RSS-139(6.5)	Radiated Spurious Emission (Band 2) (Band 4) (Band 5)	2.5; 2.6 through 2.12	Pass
§15.207-C	RSS-GEN 7.2.2	AC conducted emissions measurement (charger a)	3.1.5	Pass
§15.207-C	RSS-GEN 7.2.2	AC conducted emissions measurement (charger b)	3.1.6	Pass

1.1 General Description

1.2 Applicant

Mobile View Point B.V

1.3 Manufacturer

Mobile View Point B.V
Keesomstraat 10 E
1821 BS Alkmaar
The Netherlands

Contact:
Mr. Michel Bais
m.bias@mobileviewpoint.com
Tlf.: +31727000502

1.4 Tested Equipment Under Test (EUT)

Main unit:

AGILE 2.0 R S/N: 3675
FCC ID: 2ACL7MVP-AGILE

DC power supply:

Charger a (The Medium Charger)	
Manufacturer	Seasonic
Model	SSA-901-12
AC Input	100-240, 2A, 50-60 Hz
DC Output	12V/6.67 A, 80 W max.
Charger b (The Small Charger)	
Manufacturer	Seasonic
Model	SSA-0601d-12
AC Input	100-240, 2A, 50-60 Hz
DC Output	12V/5 a, 60 W max.

1.5 Product specifications of Equipment under test

This is a portable unit which includes 6x Transmitter operation at Various Frequencies and utilizing LTE and WCDMA technologies. The unit is the hosting 6 recertified modules with following Regulatory Id's:

FCC ID: N7NMC7355
IC ID: 2417C-MC7355

1.6 Testing Location

Test Site	Telefication BV
Test Site location	Edisonstraat 12a 6902 PK Zevenaar The Netherlands Tel. +31316583180 Fax. +31316583189

1.7 Applicable standards

FCC Rule	IC Rule	Description	Limit [dB]
§2.1053 (Field Strength measurement) §22.917(a) §24.236(a) §27.53(h)	RSS-GEN(4.9) RSS-132(5.5) RSS-133(5.5.1) RSS-130(4.6) RSS-139(6.5)	Radiated Spurious Emission (Band 2) (Band 4) (Band 5)	≤ 43+10 $\log_{10}$P[watts]

Observations and remarks

1) It has been observed that the UE contains two different Module types. Namely:
   a) MC7355
   b) MC7354

Transmitters beginning from Tx3 up to Tx6 are labelled MC7355 while Tx7 and Tx8 are MC7354.
But it is confirmed by Manufacturer that the differences are only related to the commerciality of the devices and from the technical point of views these are being identical and bearing the same FCC and IC Identifiers.
So throughout this report these are treated identical and the achieved results are comparable.

2) We have realized that the utilized LTE modules from Sierra wireless (MC7355/7354) are capable of supporting all the US and Canada LTE bands, but because of the limitation on the used Antenna W34-SV2 from Tekfun Co. Ltd, LTE Bands operating at the frequency ranges bellow 800 MHz cannot be supported. This in specific concerns the support of LTE Band 13,17 and 25.

3) According to the Teleconference of Thursday July 9th between Sierra wireless ,Mobile view point and Telefication it become evident that the utilized Test mode operation within the unit is not necessarily identical with test mode operation which is defined by 3GPP project and is utilized by CMW500 system simulator. That's why we have omitted to activate the simultaneous transmitting using the Test mode shell scripts and such.

4) Another external antenna type provided by Mobile view point, because of it's highly directionality is omitted to support. This aspect of the antenna became evident during the testing. Per email correspondences with the manufacturer it is decided to omit the certification of the unit along with this external antenna.

5) As a result of omitting the utilization of the external antenna as is stated under the remark number 4, certifying the unit with W34-SV2 antennas, reveals the fact that the unit requires to be SAR tested with these antennas. Mobile view Point is informed about this immediately.

6) During the test, an unstable connectivity with the antenna of TX6 became evident. Then the device were dispatched and a temporary connection to the antenna were soldered within the laboratory in order to complete the test activities. The type of antenna was not changed and no significant changes or deviations from the other Transmitters was observed.

7) According to the Device Manufacturer, the utilized LTE module uses MC7354 for the US Marked. This unit is supporting following LTE Bands:
   Band 2, Band 4,Band 5, Band 13, Band 17 and Band 25. However due to the limitation of the W34-SV2 from Tekfun Co. Ltd, Antenna as it is already mentioned by note 2 above, Band 13 1nd 17 are not supported by the end product since these are operating at 700 MHz. And Band 25 is mostly covered by Band 2 (1900 MHz). So for a typical utilization the device is tested for the LTE Band 2, 4 and 5 only. The testing is done at 10 MHz BW representing the most typical utilization scenario.
8) The Device is also supporting WCDMA modulation. However Within the test lab from the spurious point of view, these are encountered less significant and since no Spurious are detected for the LTE bands 2,4 and 5. So no specific additional testing is performed for the WCDMA.

1.8 Conclusions

The sample of the product showed NO NON-COMPLIANCES to the specifications stated in paragraph 1.6 of this report.

The results of the test as stated in this report, are exclusively applicable to the product items as identified in this report. Telefication accepts no responsibility for any properties of product items in this test report, which are not supported by the tests as specified in paragraph 1.6 *"Applicable standards".*

All tests are performed by:

Name : Amir Amininejad

Review of test methods and report by:

Name : Peter Suringa

The above conclusions have been verified by the following signatory:

Date : 19-01-2015

Name : Jeroen van de Poll

Function : Manager Innovation

Signature :

1.9 Test configuration of the Equipment Under Test

1.10 Test mode

The measurement methods for Spurious emission measurement are described within
CISPR 16-1-4.2 Section 5.7.1 for Frequencies bellow 1 GHz
And ANSI C 63.4-2003 section 5.4.2 for Frequencies above 1 GHz.

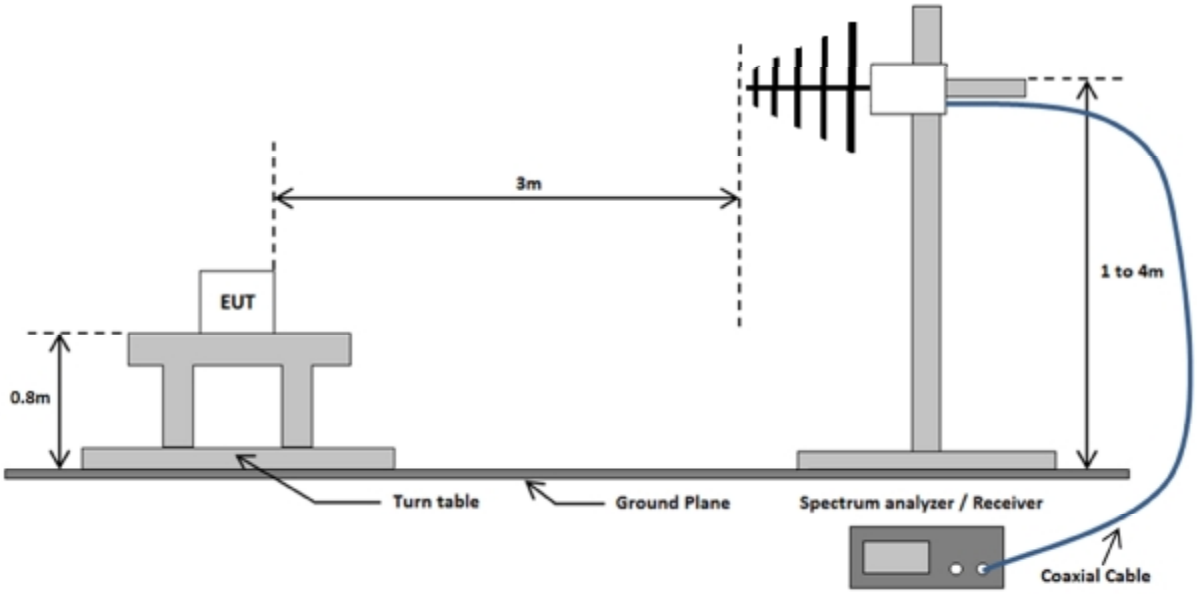
1.11 Tested channels and Modulation BW

The mid channels at LTE Band 2, 4 and 5 are being selected to be verified. All with 10MHz Bandwidth.
The selection are representing the most typical utilization of the user equipment's (UE) .
These are in details as listed below:

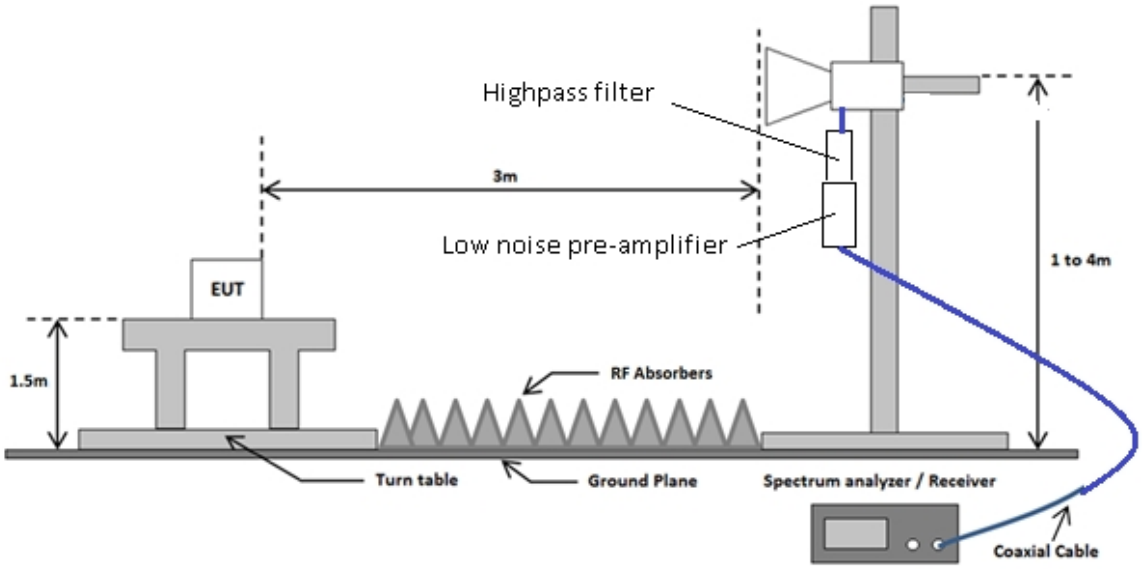
LTE Channel No.	UL Frequency	Channel Band Width [MHz]	Modulation Type
Band II			
18900	1880 [MHz]	10 [MHz]	QPSK
Band IV			
20175	1732.5 [MHz]	10 [MHz]	QPSK
Band V			
20525	836.5 [MHz]	10 [MHz]	QPSK

1.12 Radiated Test setup

Radiated emissions test setup for frequencies 30 MHz - 1 GHz



Radiated emissions test setup above 1 GHz



1.13 Equipment used in the test configuration

No 1:	CMW500 Wideband Radio Communication Tester
Manufacturer:	Rohde & Schwarz
Serial number	1201.0002K50
TE number	TE01286
No 2:	FSP- Signal Analyzer 9KHz- 40 GHz
Manufacturer:	Rohde & Schwarz
TE number	TE11125
No 3:	Horn antenna
Manufacturer:	EMCO The Electro-Mechanics Co.
Model	3115
Serial number	9412-4377
TE number	00531
No 4:	BiLog Antenna
Manufacturer:	York Electronics Centre
TE number	00967
No 5:	ESCI EMI Test Receiver 9 KHz-3 GHz
Manufacturer:	Rohde & Schwarz
TE number	TE1128
No 6:	High pass Filter
Manufacturer:	WAINWRIGHT Instruments GMBH
Model	WHK1.1/15G-10EF S/N:1
TE number	TE01139
No 7:	High pass Filter
Manufacturer:	WAINWRIGHT Instruments GMBH
Model	WHK3.0/18 G-10EF S/N:4
TE number	TE01140
No 8:	Pre Amplifier 1-18 GHz
TE number	TE1132
Manufacturer	Miteq
Model	AFS42-041001800-28-10
No 9:	DC Power Supply
Manufacturer	Delta Electronica
TE	TE00715
No 10:	Semi Anechoic Chamber
	Comtest Engineering B.V.
Manufacturer:	TE00861
TE	
No 11:	ESH3 Z2 Mains CDN
Manufacturer:	Rohde & Schwarz
TE	TE000208
No 12:	ESH3 Z2 Pulse Limiter
Manufacturer:	Rohde & Schwarz
TE	TE000756

1.14 Maximum Power level:

LTE Bands	Maximum Tune-up Conducted Power [dBm]	Antenna Gain (W34-SV2 from Tekfun Co. Ltd) [dBi]	EIRP [dBm]
LTE Band 2	22.0	3.20	25.2
LTE Band 4	22.5	3.0	25.5
LTE Band 5	22.0	2.24	24.24

Note that : Antenna Gain is readout from the Antenna data sheet. And Conducted Power values are from the SAR report.

1.15 Explanation of the Measurement results for all test items

Using the LTE Network simulator, a LTE link at the respective channels as are listed within the chapter 2.2 of the current report, established. The configuration of the both UE as well as CMW500 network simulator are provided by the device manufacturer, making sure a successful link establishment. In this mode UE were transmitting at its maximum permitted transmitter power. First frequency ranges from 1GHz up to 18 GHz being scanned for the spurious during which UE were rotating 360 degree with Vertical receiving antenna polarization. Then an Screen dump of the FSP Spectrum analyser were taken.
The above approach is repeated for the horizontal receiver Antenna polarization and finally a Frequency range from 30 MHz up to 1 GHz being scanned. At this stage, the absorbing materials from the floor of the SAC chamber are removed. And FSP spectrum analyser were replaced by the ESCI EMI Test Receiver 9 KHz-3 GHz. During the scanning for the spurious emissions bellow 1 GHz, Following the instructions provided within the CISPR 16-1-4, the Analyzer set to max hold, starting from 1m antenna height, UE being rouletted 360 deg. Then the height of the antenna being elevated by 0.5 meter and the UE rotated again and this was repeated every half meter until 2 meter height is being reached. Then the polarization of the receiving antenna is being changed from Vertical to horizontal and the procedure repeated again. This time up to 2.5 meter height.

Hence due to the similarity of the modules being used and also based on the experiences from similar projects, we decided not to repeat the scanning of the Spurious for frequencies bellow 1 GHz. Since empirically most of the spurious, if any, occurs in the Frequency range between 1GHz up to 18 GHz.

The table below provides an overview of the measured Configurations along with the 3rd. harmonics spurious results at two polarizations:

Transmitter	LTE Band	Channel Number	Fundamental Frequency [MHz]	3rd. Harmonic Frequency [MHz]	3rd. Harmonic Vertical Spurious [dBm]	3rd. Harmonic Horizontal Spurious [dBm]
Tx3	2	18900	1880.0	5640.0	-40.23	-44.99
	4	20175	1732.5	5197.5	-44.53	-46.75
	5	20525	836.5	2509.5	-46.43	-45.73
TX4	2	18900	1880.0	5640.0	-37.03	-41.87
	4	20175	1732.5	5197.5	-43.67	-41.0
	5	20525	836.5	2509.5	-27.94	-50.66
Tx5	2	18900	1880.0	5640.0	-35	-40.75

	4	20175	1732.5	5197.5	-45	-38.71
	5	20525	836.5	2509.5	-37.82	-35.24
TX6	2	18900	1880.0	5640.0	-36.47	-41.03
	4	20175	1732.5	5197.5	-43	-46.45
	5	20525	836.5	2509.5	-41.68	-50
Tx7	2	18900	1880.0	5640.0	-36.54	-43.83
	4	20175	1732.5	5197.5	-43	-45
	5	20525	836.5	2509.5	-45.4	-48
TX8	2	18900	1880.0	5640.0	-39.34	-44.06
	4	20175	1732.5	5197.5	-45	-45
	5	20525	836.5	2509.5	-25,75	-30.89

In order to have an impression of the cumulative contribution of the spurious level, following the KDB publication of 662911 D01 Section 3-a, spurious Contribution from all the applied Transmitters shall be calculated as RSS (Root Sum of Squares).
The calculation is as followings:

1) The third harmonics spurious which are already recorded within the table above in dBm shall be converted to the linear values (express as mw) this is done as followings:
2) $h'=10^{htxn/10}$ where h_{txn} is the corresponding value of the transmitter with horizontal polarization of the n'th. Transmitter. Correspondingly we shall use the same formula for the vertical polarization such as $V'=10^{Vtxn/10}$
3) since one transmitter can only transmit at one specific LTE band, then all the values measured or calculated for the same band shall be summarized. So in this particular case we have 6 transmitters which each one of them can be configured to transmit at the supported LTE band e.g. Band 2. Summing these values will provide the sum of linear spurious contributed from all transmitters at band 2.
   In sence this is mathematically expressed as:

   $$H' = \sqrt{\sum_{tx=3}^{8}(h'txn)\text{^}2} \text{ and } V' = \sqrt{\sum_{tx=3}^{8}(v'txn)\text{^}2}$$

4) Finally these accumulated values can be converted back to the logarithmic values by using the following formula:
5) H= 10*log H' and V=10 log V'

The results are provided within the table below along with the RSS of them all.
Where H is an expression for the cumulative third harmonics spurious emission level at horizontal polarization and V is the same at Vertical polarization.
Root mean Square of the 6 transmitters being calculated.
In that:

$$H_{RSS}=\sqrt{(h^2_{tx3}+ h^2_{tx4}+ h^2_{tx5}+ h^2_{tx6}+ h^2_{tx7}+ h^2_{tx8})}$$
$$V_{RSS} =\sqrt{(v^2_{tx3}+ v^2_{tx4}+ v^2_{tx5}+ v^2_{tx6}+ v^2_{tx7}+ v^2_{tx8})}$$

So bellow table includes the calculation of RSS and is an excretion for all the TX contribution values for TX_3-Tx_8 radiating at the respective LTE bands and Polarizations:

LTE Band	Polarisation	SS	RSS [mw]	RSS [dBm]
2	V	0,000000261831	0,000511694500	-32,910
2	H	0,000000021789	0,000147612399	-38,309
4	V	0,000000010110	0,000100550687	-39,976
4	H	0,000000027383	0,000165476643	-37,813
5	V	0,000009694970	0,003113674736	-25,067

5	H	0,0000007544	0,0008685730	-30,612

So as it can be seen all the values are below the -13 dBm limit.
It shall be mentioned that, one Transmitter can transmit only at one band at the time.

1.16 Worst case scenario:

Above calculation presumes all the transmitters send at the same LTE band but in order to cover the worst case scenario by which any transmitter can transmit at any given LTE band and thereby might cause different transmission, the absolute largest occurrence of the spurious emission shall be encountered for all the transmitters. This is being the worst case scenario based on the achieved measurement results. As it is indicated from the table, in this case worst case scenario would have the same values as those aroused from the TX8 transmitting at LTE Band 5. Which are still below the limit lines.
Namely :
V=-25,75 [dBm] and H=-30.89 [dBm.]

These are indicated by colored fields within the table.
If we consider that all the devices simultaneously having this level of spurious at worst case then the cumulative spurious for all 6 of them will be:

Worst case			
	V	**H**	**Unit**
Tx8	-25,75	-30,89	dBm
Tx8	0,002661	0,000815	mW
Tx8^2	0,000007079	0,000000664	mW^2
6Tx8^2	0,000042477	0,000003982	mW^2
RSS	0,006517	0,001996	mW
RSS	-21,86	-27,00	dBm

Hence TX3 is also investigated for the Frequencies bellow 1 GHz both at Vertical and Horizontal Polarization. Though no significant impact are being observed from this Frequency range.

1.17 Radiated spurious emissions / Band edge emissions

1.17.1 Limit

The power of any emission outside of the authorized operating frequency ranges must be below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB.

1.17.2 Measuring instruments

The measuring instruments are listed in chapter 2.4 of this report.

1.17.3 Test setup

As shown in chapter 3.3 of this report.

1.17.4 Test procedure

As these tests are performed as radiated measurement, these are performed within the SAC chamber. These are mainly done at two attempts:

a) For frequencies below 1 GHz utilizing a BiconiLog antenna.
b) For frequencies above 1 GHz using a Horn antenna.

The measurements are repeated for both horizontal and vertical orientation of the antenna pointing at the EUT placed on the centre of a turn table.

Note 1: The graphics below represent radiated power levels calculated from the measured radiated field strength in the far field. This due to limitations of the spectrum analyser.

Note 2: For Lte Band 5 high pass filter No. 6 is used, and for LTE bands 4 and 5 high pass filter No. 7 is used.

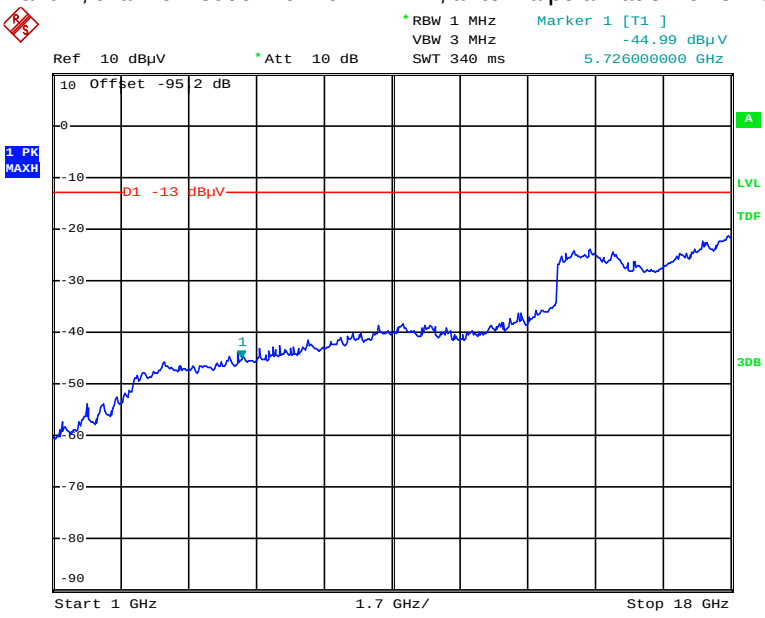
Note 3: To convert dBµV/m to dBm, see the conversion factors below are used.

Above 1 GHz:
EIRP (dBm) = E (dBµV/m) – 95.2(dBm).

Below 1 GHz:
ERP (dBm) = E (dBµV/m) – 97.3(dBm).

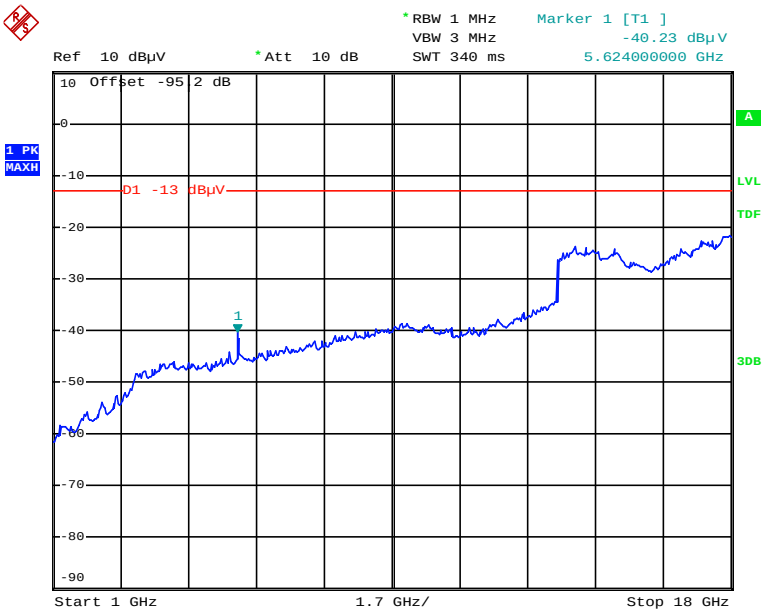
1.18 Test results for Tx3

UE transmits at Band 2, channel 18900 with 10 MHz BW, antenna polarization is horizontal.



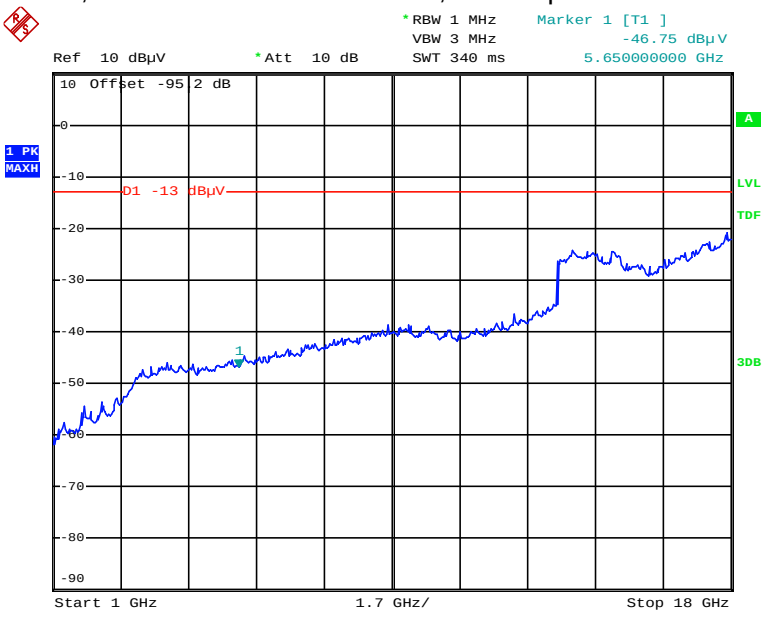
Date: 23.OCT.2015 12:48:35

UE transmits at Band 2, channel 18900 with 10 MHz BW, antenna polarization is vertical.



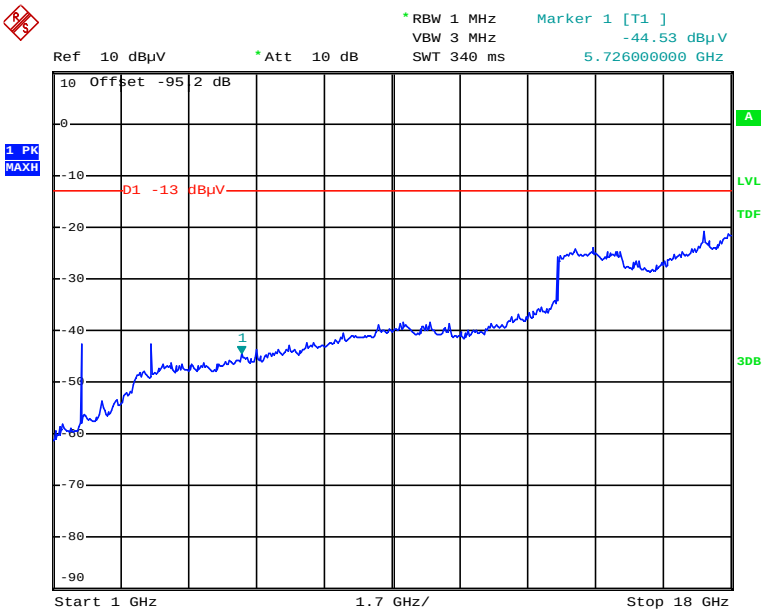
Date: 22.OCT.2015 17:03:31

UE transmits at Band 4, channel 20175 with 10 MHz BW, antenna polarization is horizontal.



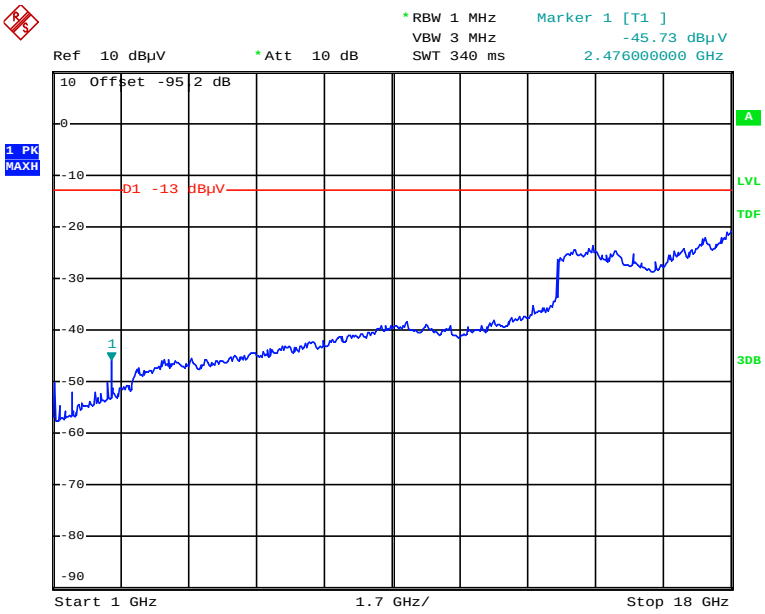
Date: 23.OCT.2015 15:20:05

UE transmits at Band 4, channel 20175with 10 MHz BW, antenna polarization is Vertical.



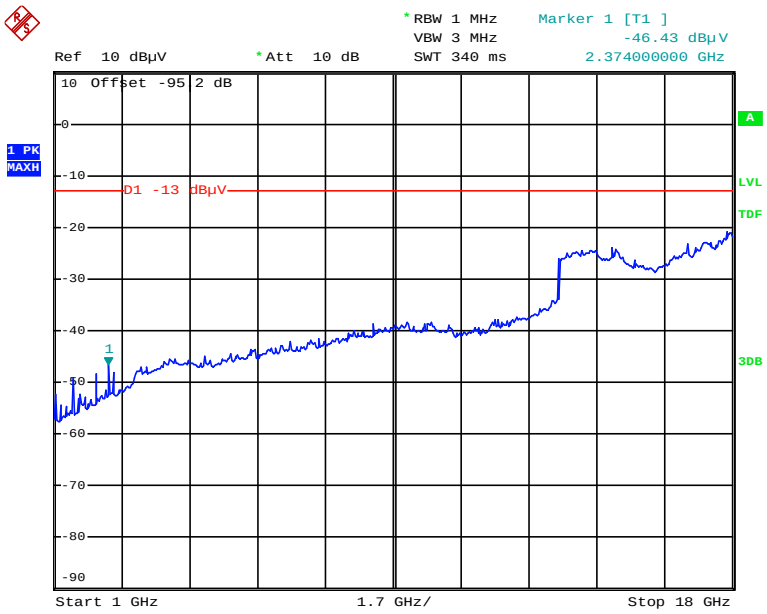
Date: 23.OCT.2015 12:42:19

UE transmits at Band 5, channel 20525 with 10 MHz BW, antenna polarization is horizontal.



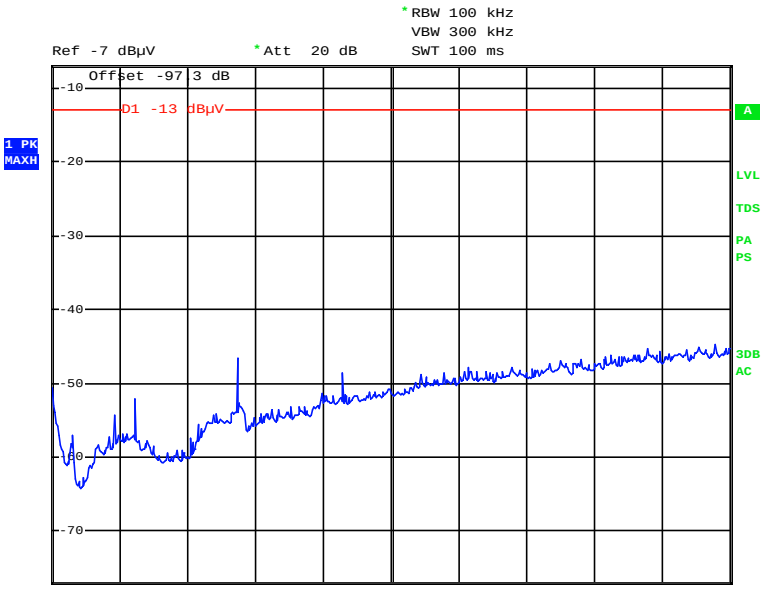
Date: 23.OCT.2015 10:12:00

UE transmits at Band 5, channel 20525with 10 MHz BW, antenna polarization is Vertical.



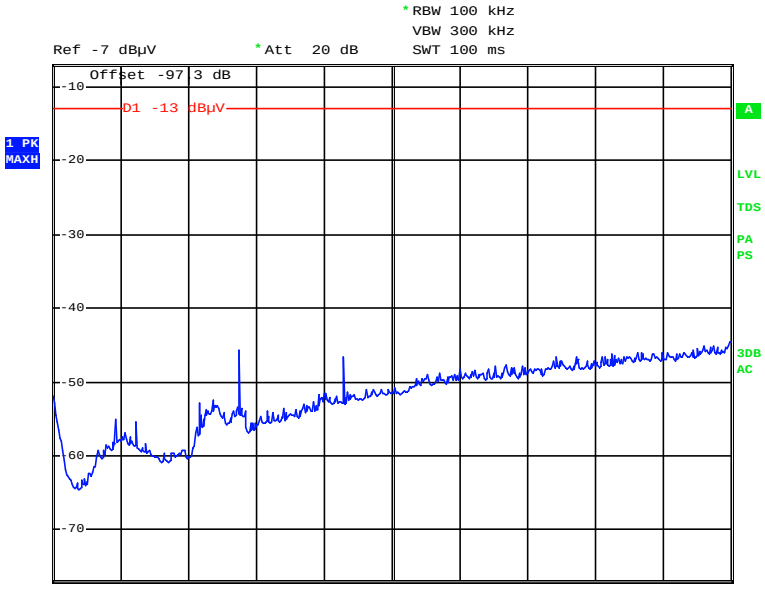
Date: 23.OCT.2015 09:48:00

UE transmits at Band 2, channel 18900 with 10 MHz BW, antenna polarization is vertical spurious are being scanned for the frequency range of 30 MHz up to 1 GHz:



Date: 21.OCT.2015 10:12:48

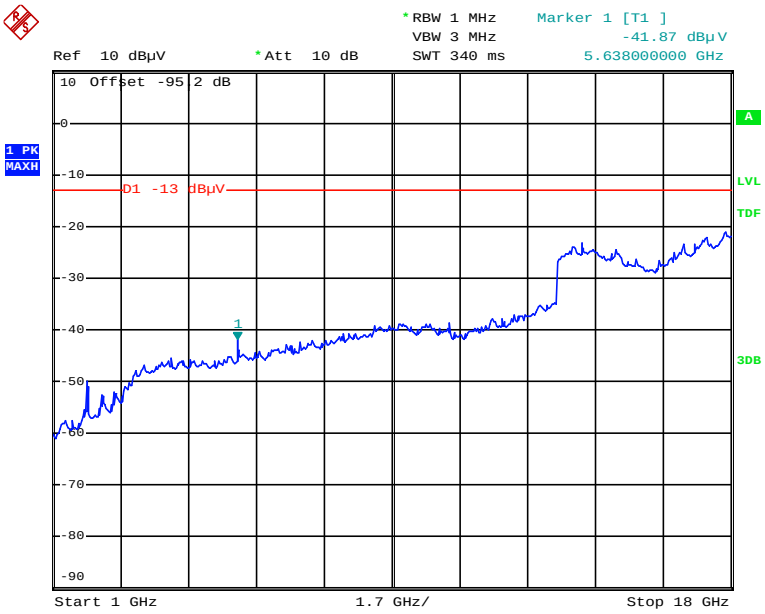
UE transmits at Band 2, channel 18900 with 10 MHz BW, antenna polarization is horizontal spurious are being scanned for the frequency range of 30 MHz up to 1 GHz:



Date: 21.OCT.2015 10:24:53

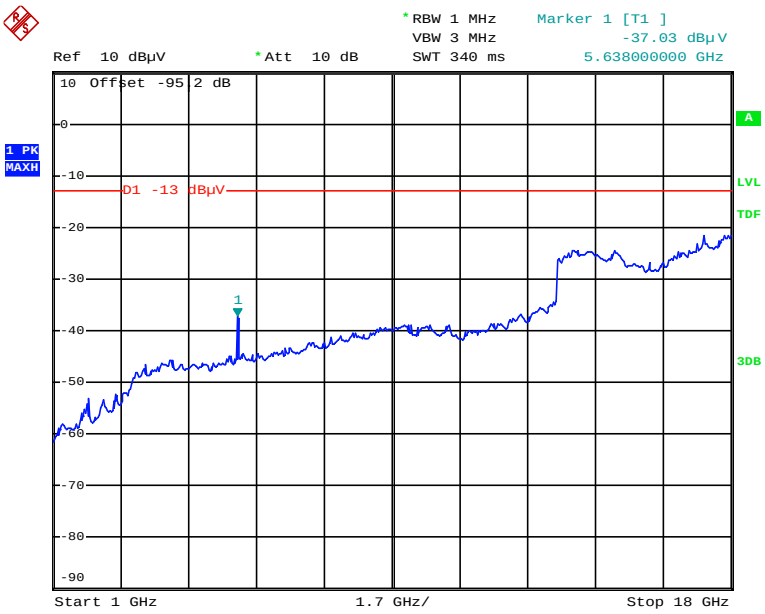
1.19 Test results for Tx4

UE transmits at Band 2, channel 18900 with 10 MHz BW, antenna polarization is horizontal.



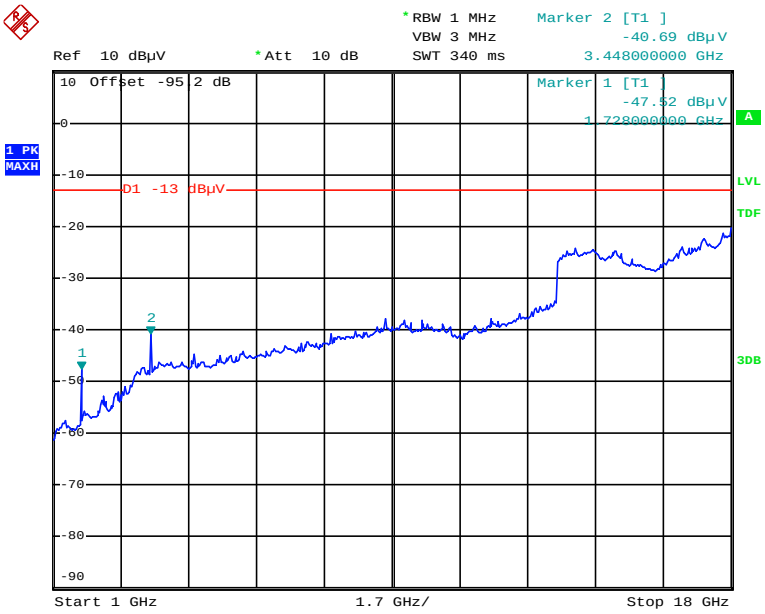
Date: 23.OCT.2015 10:40:35

UE transmits at Band 2, channel 18900 with 10 MHz BW, antenna polarization is Vertical.



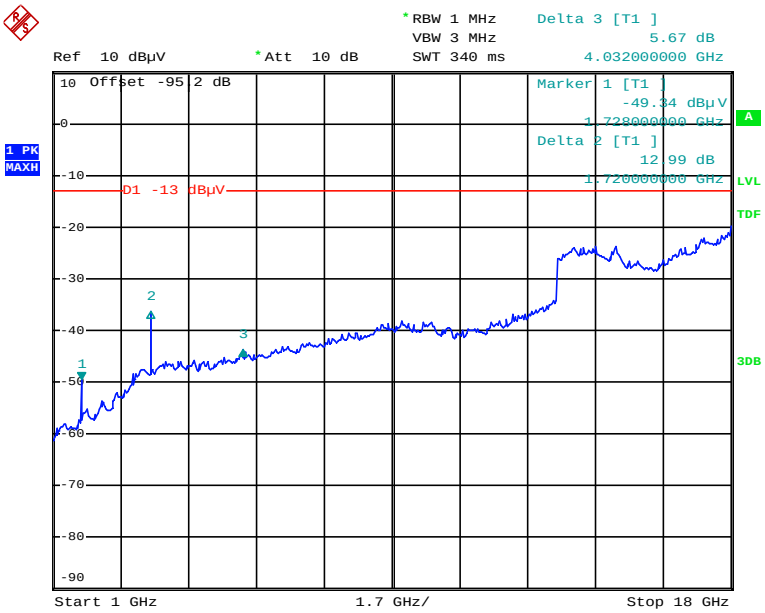
Date: 23.OCT.2015 10:24:58

UE transmits at Band 4, channel 20175 with 10 MHz BW, antenna polarization is horizontal.



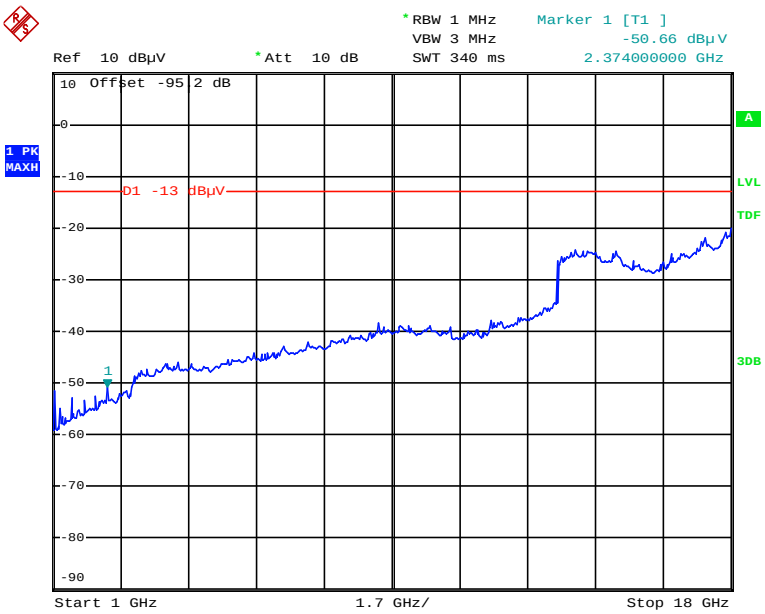
Date: 23.OCT.2015 10:35:06

UE transmits at Band 4, channel 20175 with 10 MHz BW, antenna polarization is Vertical.



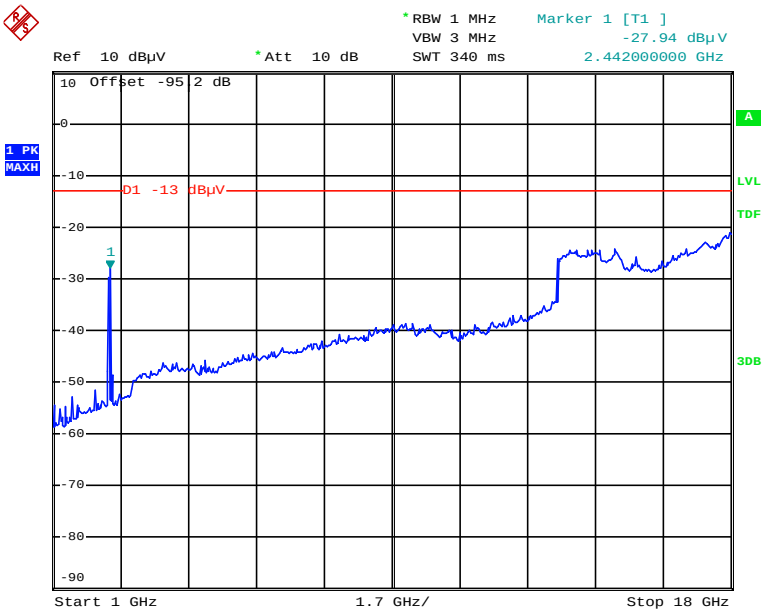
Date: 23.OCT.2015 11:02:08

UE transmits at Band 5, channel 20525 with 10 MHz BW, antenna polarization is horizontal.



Date: 23.OCT.2015 12:06:28

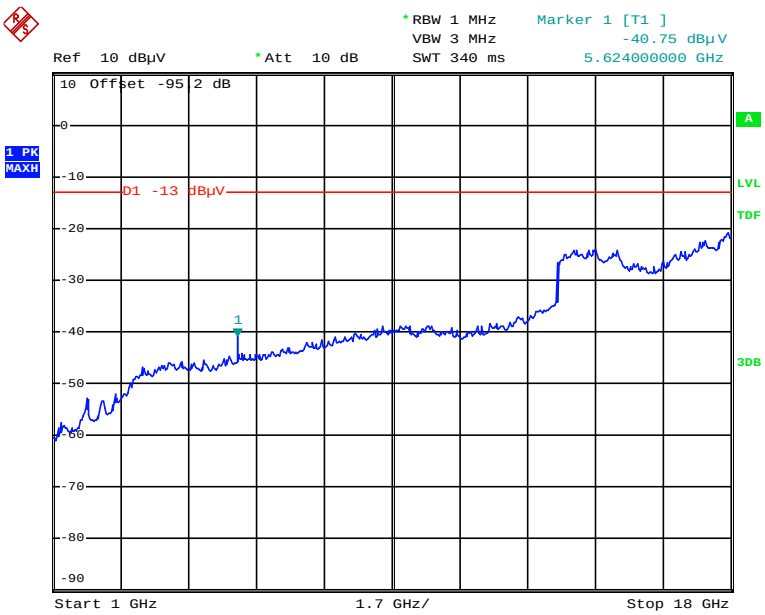
UE transmits at Band 5, channel 20525 with 10 MHz BW, antenna polarization is Vertical



Date: 23.OCT.2015 12:22:14

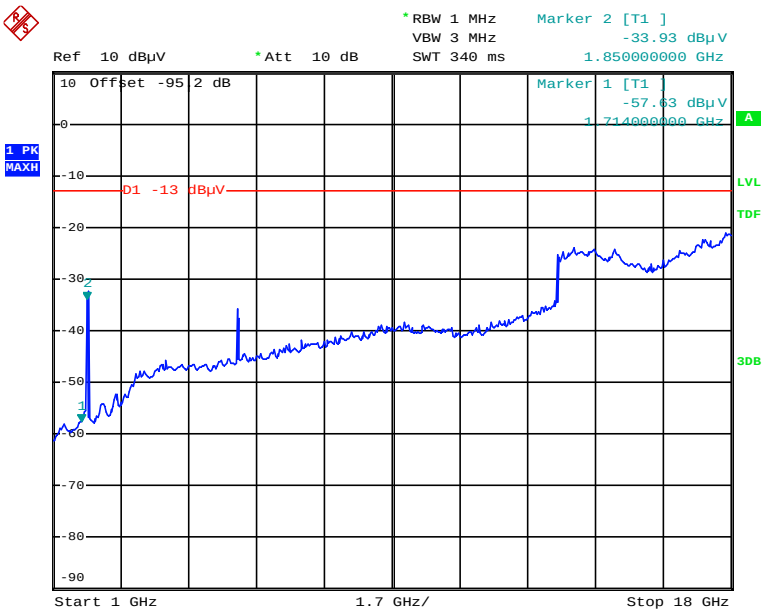
1.20 Test results for Tx5

UE transmits at Band 2, channel 18900 with 10 MHz BW, antenna polarization is horizontal.



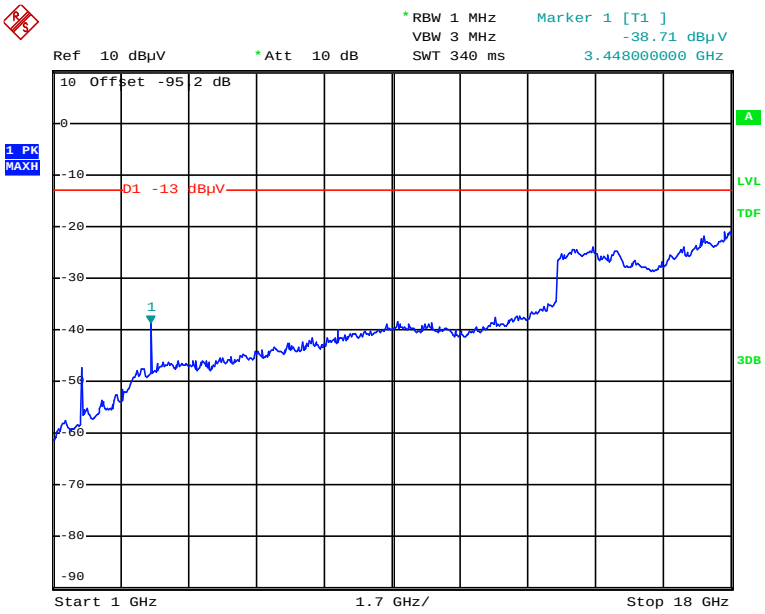
Date: 23.OCT.2015 13:44:16

UE transmits at Band 2, channel 18900 with 10 MHz BW, antenna polarization is Vertical.



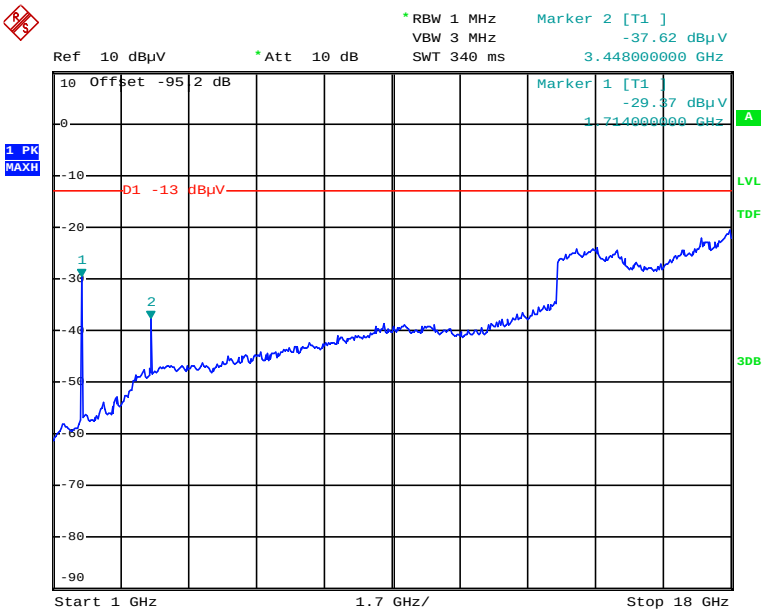
Date: 23.OCT.2015 14:02:26

UE transmits at Band 4, channel 20175 with 10 MHz BW, antenna polarization is horizontal.



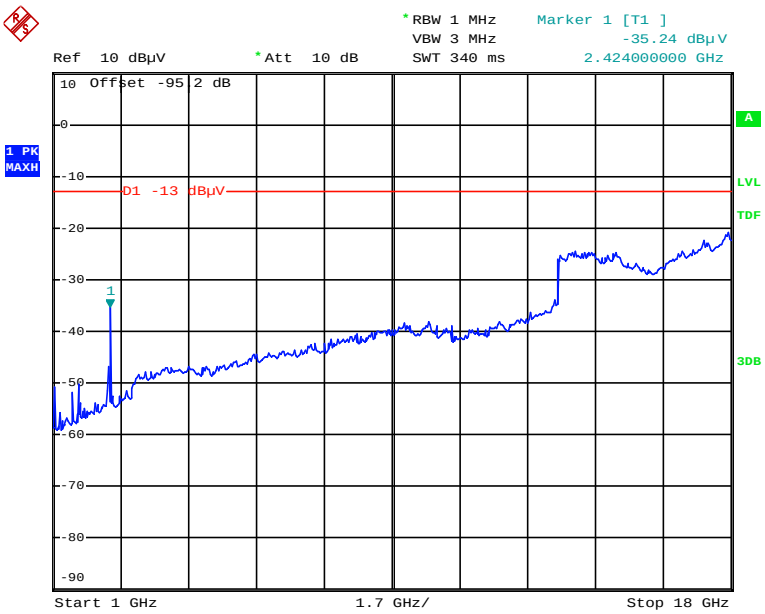
Date: 23.OCT.2015 13:49:19

UE transmits at Band 4, channel 20175 with 10 MHz BW, antenna polarization is Vertical.



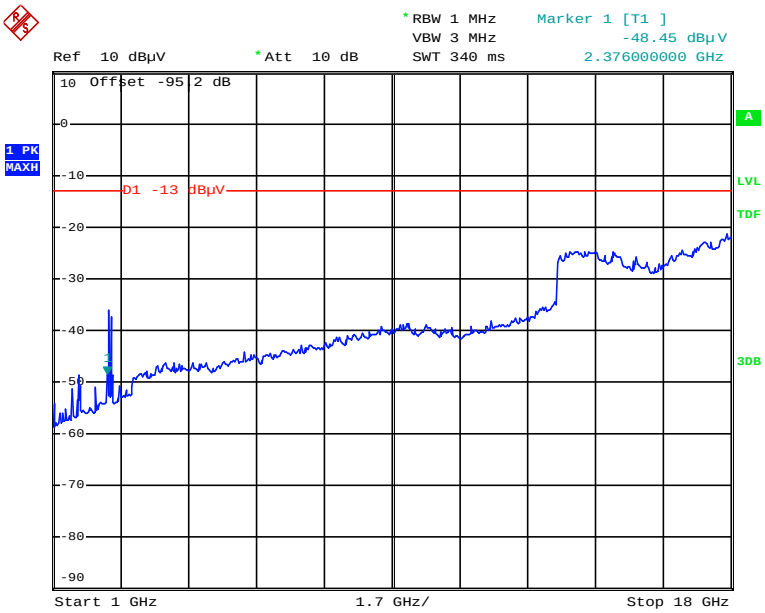
Date: 23.OCT.2015 13:55:08

UE transmits at Band 5, channel 20525 with 10 MHz BW, antenna polarization is horizontal.



Date: 23.OCT.2015 16:44:18

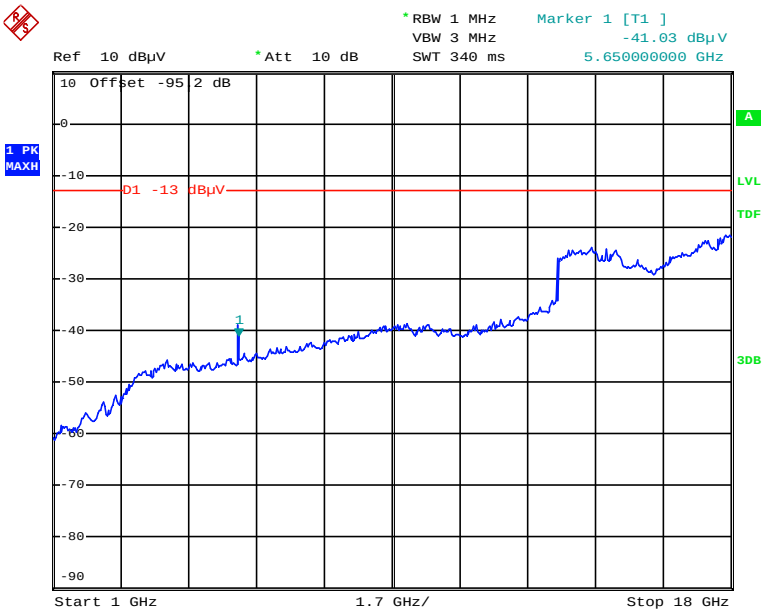
UE transmits at Band 5, channel 20525 with 10 MHz BW, antenna polarization is Vertical



Date: 23.OCT.2015 16:39:08

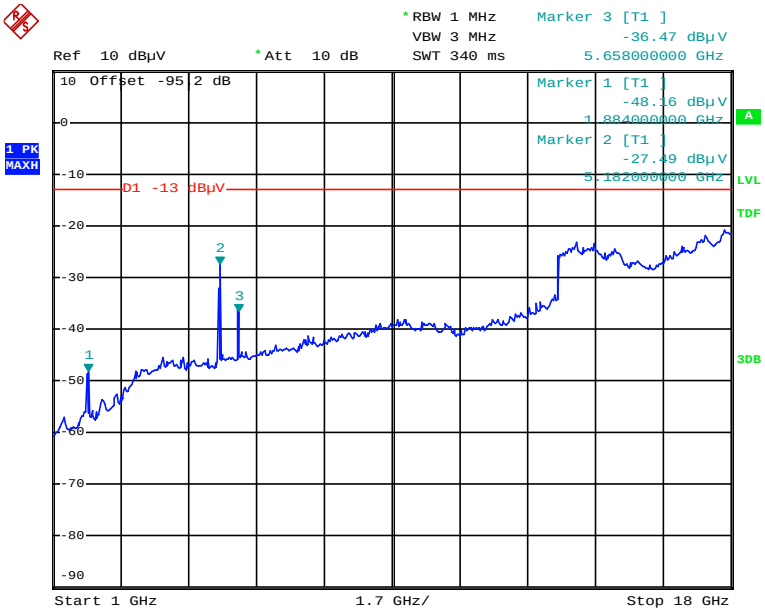
1.21 Test results for Tx6

UE transmits at Band 2, channel 18900 with 10 MHz BW, antenna polarization is horizontal.



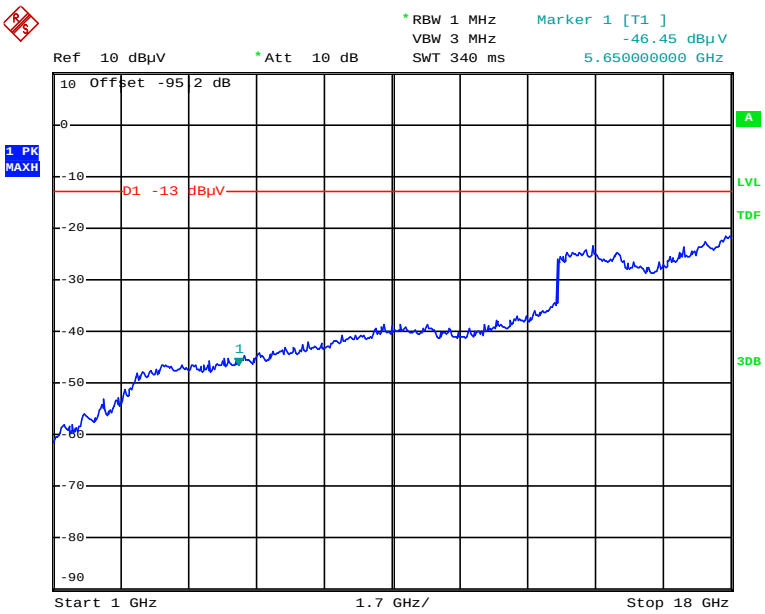
Date: 23.OCT.2015 15:08:28

UE transmits at Band 2, channel 18900 with 10 MHz BW, antenna polarization is Vertical.



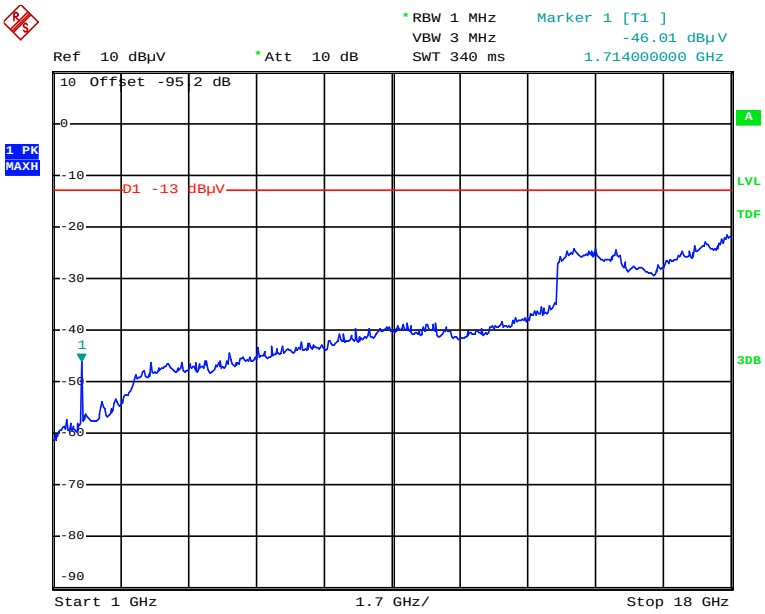
Date: 23.OCT.2015 14:18:01

UE transmits at Band 4, channel 20175 with 10 MHz BW, antenna polarization is horizontal.



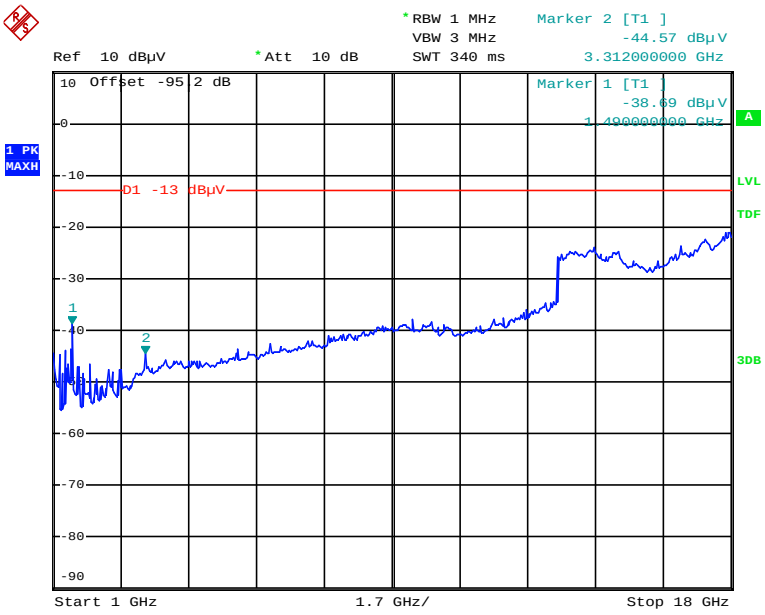
Date: 23.OCT.2015 15:12:44

UE transmits at Band 4, channel 20175 with 10 MHz BW, antenna polarization is Vertical.



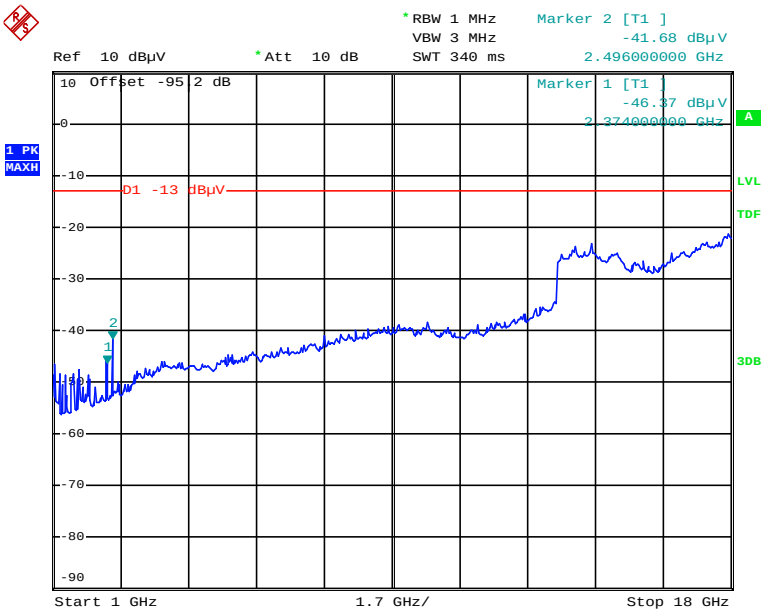
Date: 23.OCT.2015 14:41:08

UE transmits at Band 5, channel 20525 with 10 MHz BW, antenna polarization is horizontal.



Date: 26.OCT.2015 12:05:19

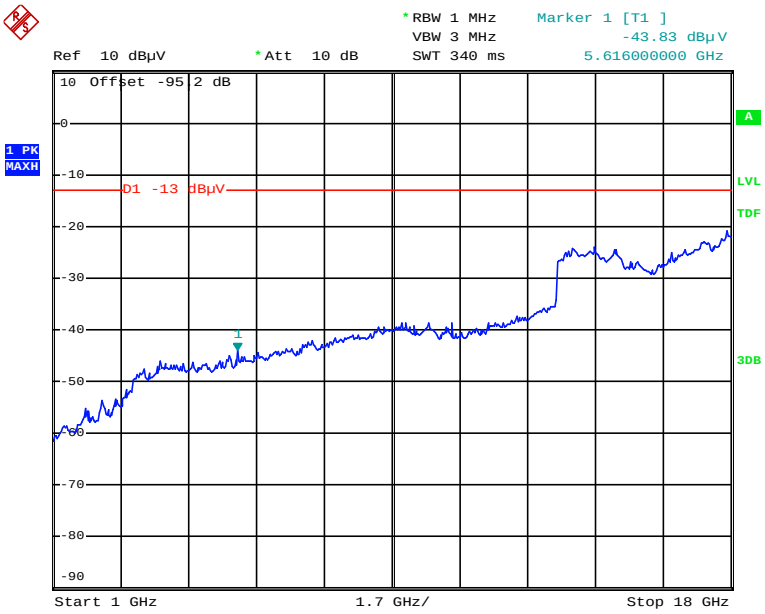
UE transmits at Band 5, channel 20525 with 10 MHz BW, antenna polarization is Vertical



Date: 26.OCT.2015 12:09:03

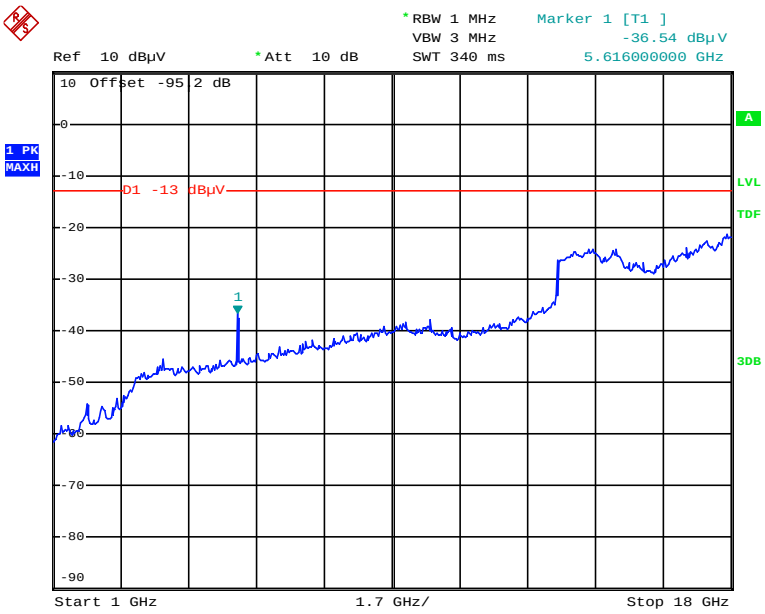
1.22 Test results for Tx7

UE transmits at Band 2, channel 18900 with 10 MHz BW, antenna polarization is horizontal.



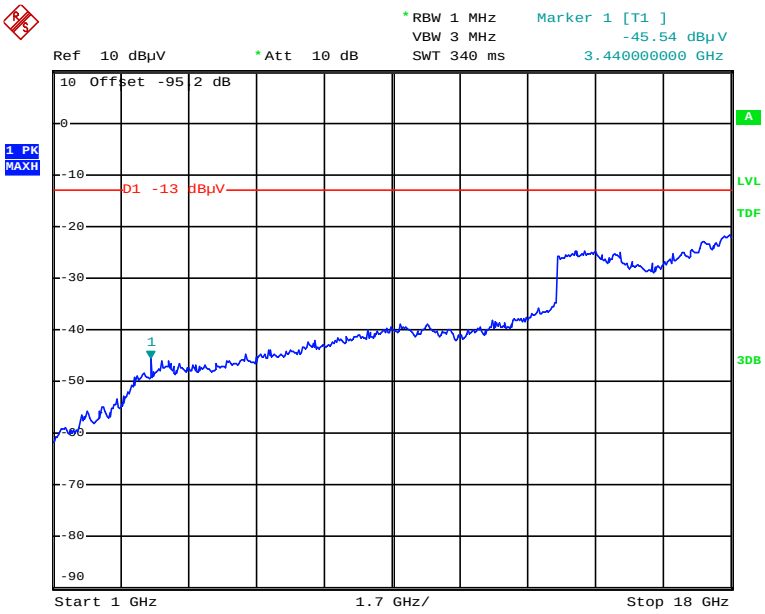
Date: 23.OCT.2015 15:29:26

UE transmits at Band 2, channel 18900 with 10 MHz BW, antenna polarization is Vertical.



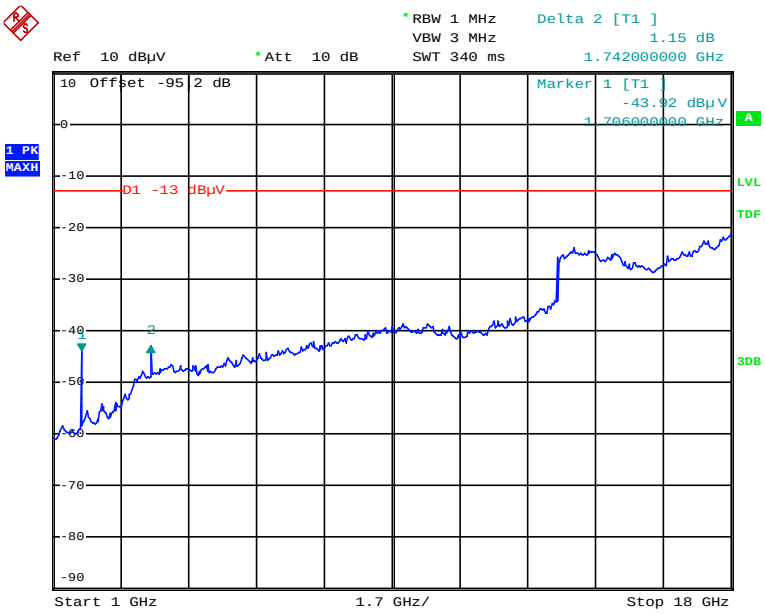
Date: 23.OCT.2015 15:33:38

UE transmits at Band 4, channel 20175 with 10 MHz BW, antenna polarization is horizontal.



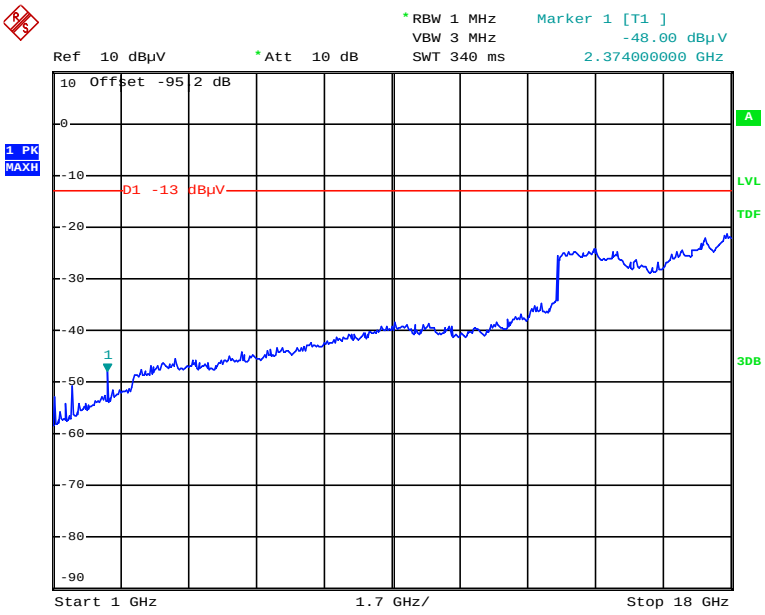
Date: 23.OCT.2015 15:26:30

UE transmits at Band 4, channel 20175 with 10 MHz BW, antenna polarization is Vertical.



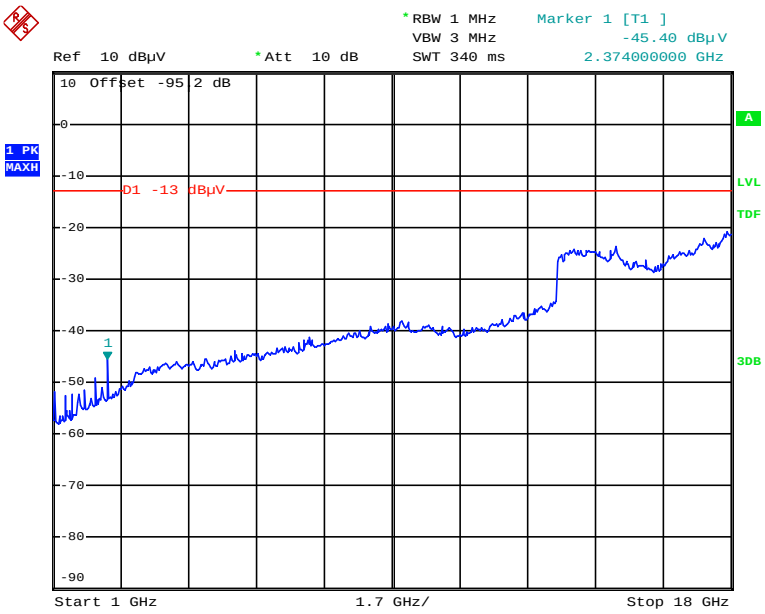
Date: 23.OCT.2015 15:38:02

UE transmits at Band 5, channel 20525 with 10 MHz BW, antenna polarization is horizontal.



Date: 26.OCT.2015 09:54:43

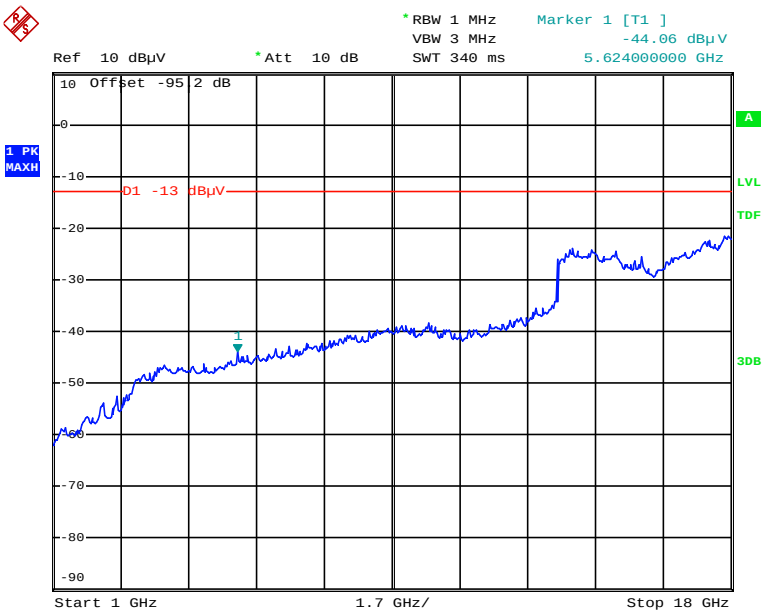
UE transmits at Band 5, channel 20525 with 10 MHz BW, antenna polarization is Vertical



Date: 26.OCT.2015 09:50:57

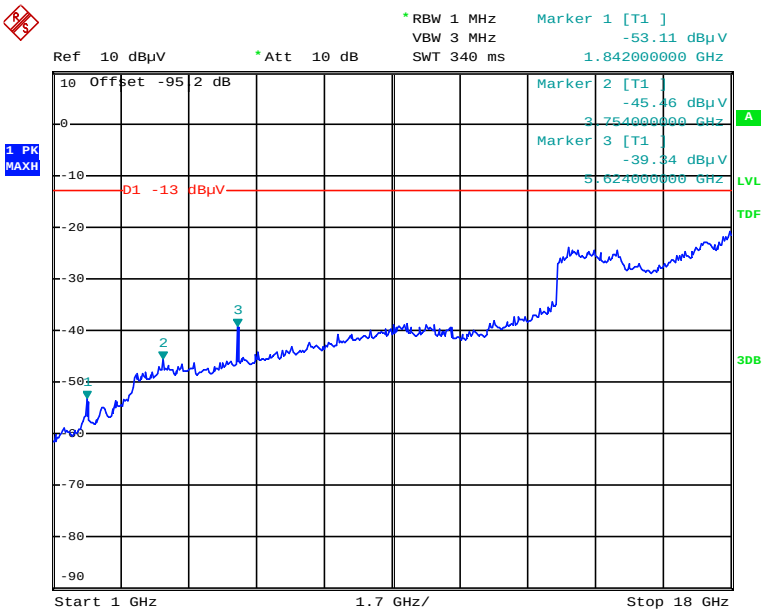
1.23 Test results for Tx8

UE transmits at Band 2, channel 18900 with 10 MHz BW, antenna polarization is horizontal.



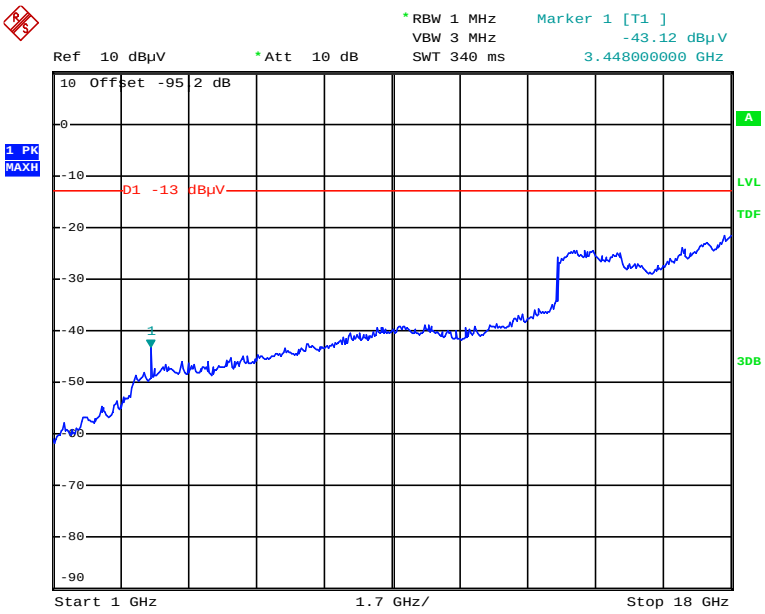
Date: 23.OCT.2015 15:52:29

UE transmits at Band 2, channel 18900 with 10 MHz BW, antenna polarization is Vertical.



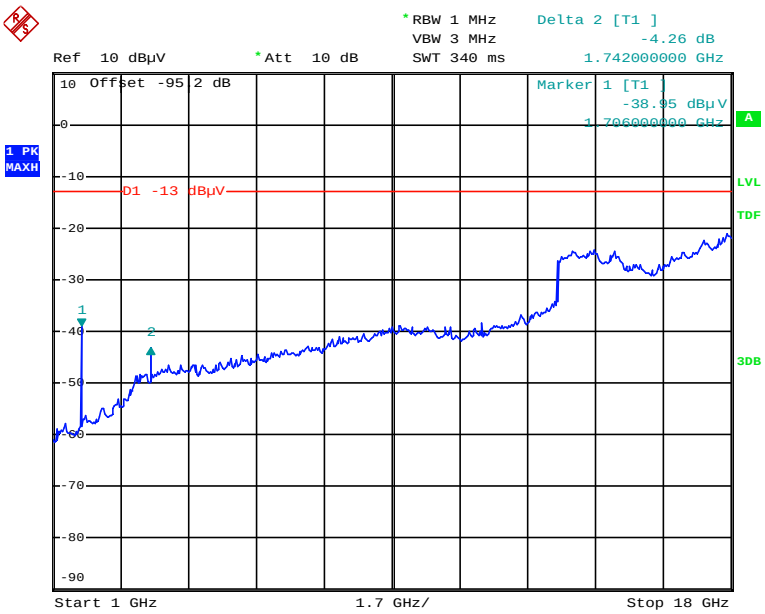
Date: 23.OCT.2015 15:48:30

UE transmits at Band 4, channel 20175 with 10 MHz BW, antenna polarization is horizontal.



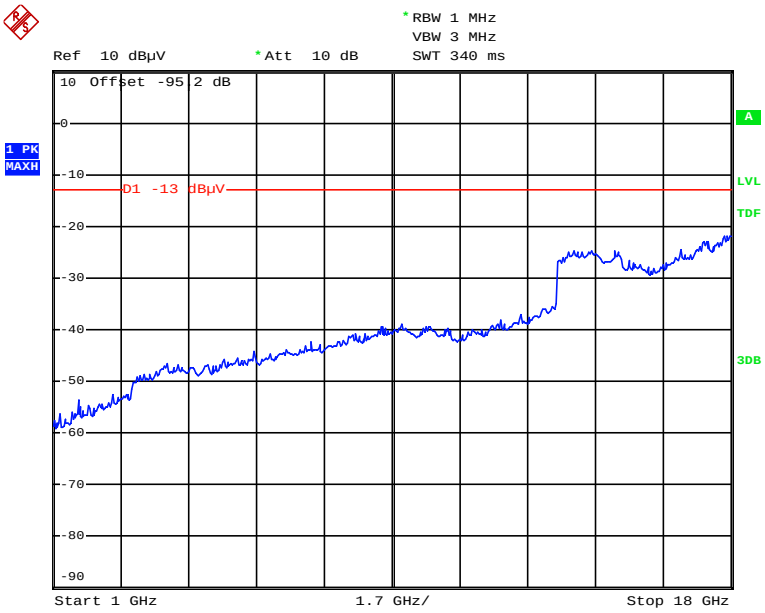
Date: 23.OCT.2015 15:55:38

UE transmits at Band 4, channel 20175 with 10 MHz BW, antenna polarization is Vertical.



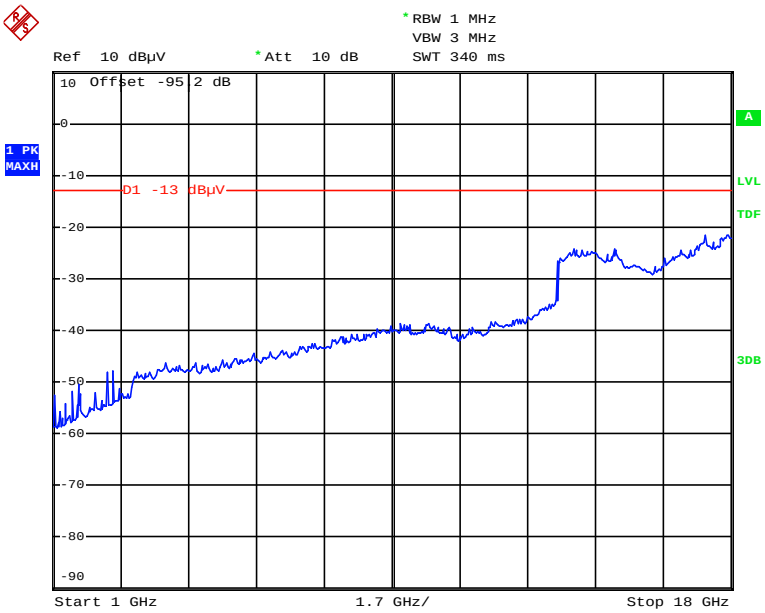
Date: 23.OCT.2015 15:45:40

UE transmits at Band 5, channel 20525 with 10 MHz BW, antenna polarization is horizontal.



Date: 23.OCT.2015 16:24:38

UE transmits at Band 5, channel 20525 with 10 MHz BW, antenna polarization is Vertical



Date: 23.OCT.2015 16:28:20

1.24 Measurement uncertainty for Radiated Spurious Emission

Horizontal polarization	
30 – 200 MHz	4.5 dB
200 – 1000 MHz	3.6 dB
1 – 18 GHz	5.7 dB
Vertical polarization	
30 – 200 MHz	5.4 dB
200 – 1000 MHz	4.6 dB
1 – 18 GHz	5.7 dB

2 AC conducted emissions measurement

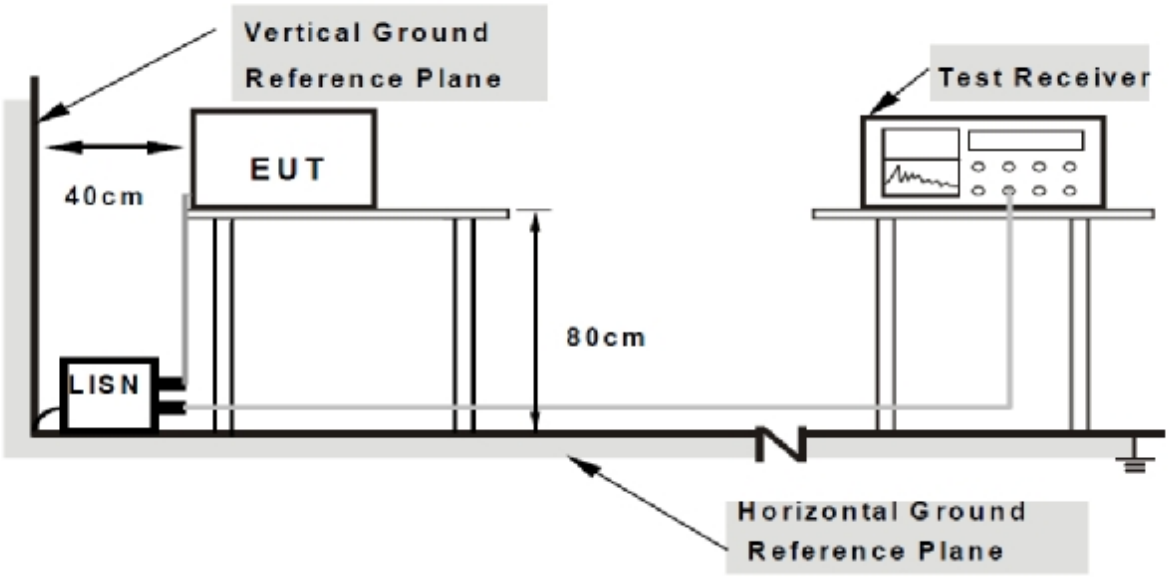
2.1.1 Limit

According to the FCC part 15C, §15.207(a)

2.1.2 Measuring instruments

The measuring instruments are listed in section 3.4 of this report.

2.1.3 Test setup

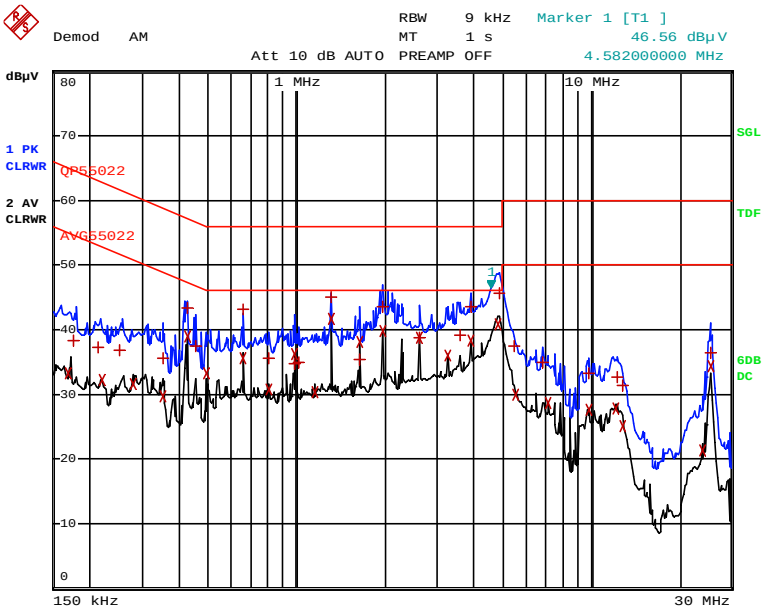


2.1.4 Test procedure

1. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/50 µH of coupling impedance for the measuring instrument.
2. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
3. The Frequency range from 150 kHz to 30 MHz was searched. Emission levels under (Limit - 20 dB) were not recorded.
4. All modes of operation were investigated and worst-case emissions are reported.

2.1.5 Test results for the Charger (a)

Neutral:

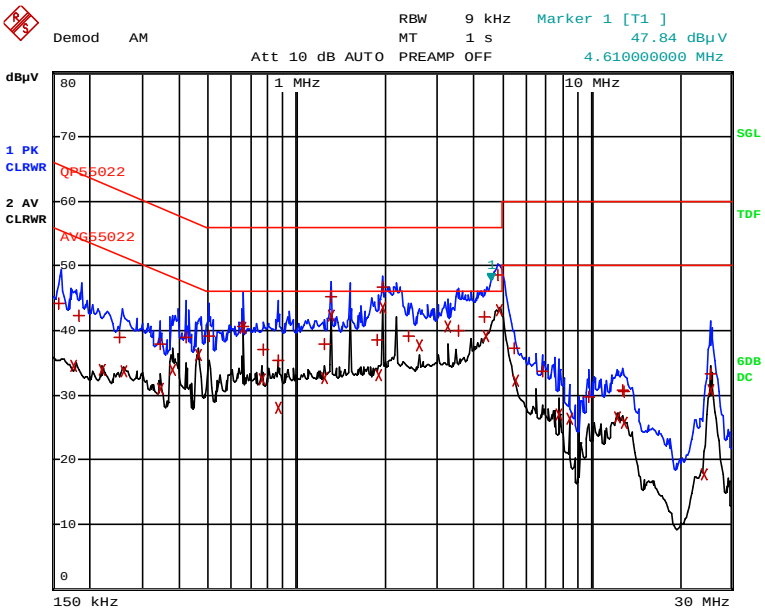


Date: 2.NOV.2015 11:52:36

EDIT PEAK LIST (Final Measurement Results)			
Trace1:	QP55022		
Trace2:	AVG55022		
Trace3:	---		
TRACE	FREQUENCY	LEVEL dBµV	DELTA LIMIT dB
2 Average	1.31 MHz	41.73	-4.26
2 Average	4.83 MHz	40.86	-5.13
2 Average	1.962 MHz	39.88	-6.11
2 Average	2.618 MHz	38.65	-7.34
2 Average	3.926 MHz	38.23	-7.76
2 Average	1.634 MHz	38.16	-7.83
2 Average	422 kHz	38.91	-8.49
2 Average	982 kHz	36.22	-9.77
2 Average	3.27 MHz	36.01	-9.98
1 Quasi Peak	4.914 MHz	45.75	-10.25
2 Average	654 kHz	35.56	-10.43
1 Quasi Peak	1.31 MHz	44.93	-11.06
1 Quasi Peak	1.962 MHz	43.48	-12.51
1 Quasi Peak	3.926 MHz	43.48	-12.51
2 Average	494 kHz	33.29	-12.80
1 Quasi Peak	654 kHz	43.14	-12.85
1 Quasi Peak	426 kHz	43.29	-14.03
2 Average	806 kHz	30.69	-15.30
2 Average	25.514 MHz	34.34	-15.65
2 Average	1.158 MHz	30.28	-15.71

Date: 2.NOV.2015 11:51:43

Phase:



Date: 2.NOV.2015 11:46:42

EDIT PEAK LIST (Final Measurement Results)

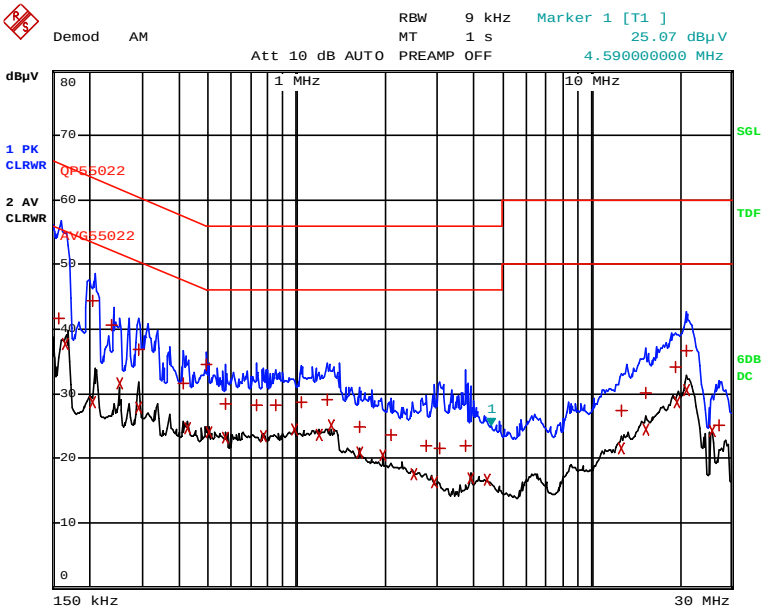
Trace1:	QP55022
Trace2:	AVG55022
Trace3:	---

TRACE	FREQUENCY	LEVEL dBµV	DELTA LIMIT dB
2 Average	1.962 MHz	43.67	-2.32
2 Average	4.894 MHz	43.09	-2.90
2 Average	1.31 MHz	42.29	-3.70
2 Average	3.27 MHz	40.53	-5.46
2 Average	654 kHz	40.32	-5.67
2 Average	4.402 MHz	39.26	-6.73
1 Quasi Peak	4.862 MHz	48.62	-7.37
2 Average	2.614 MHz	37.64	-8.35
1 Quasi Peak	1.962 MHz	46.68	-9.31
2 Average	462 kHz	36.26	-10.39
1 Quasi Peak	1.31 MHz	45.24	-10.75
2 Average	1.894 MHz	33.03	-12.96
2 Average	1.242 MHz	32.68	-13.32
2 Average	766 kHz	32.53	-13.46
1 Quasi Peak	4.362 MHz	42.03	-13.96
2 Average	378 kHz	33.90	-14.41
1 Quasi Peak	654 kHz	40.67	-15.32
1 Quasi Peak	3.562 MHz	40.02	-15.98
1 Quasi Peak	502 kHz	39.12	-16.88
1 Quasi Peak	2.398 MHz	39.11	-16.88

Date: 2.NOV.2015 11:45:26

2.1.6 Test results for the Charger (b)

Neutral:



Date: 2.NOV.2015 12:07:46

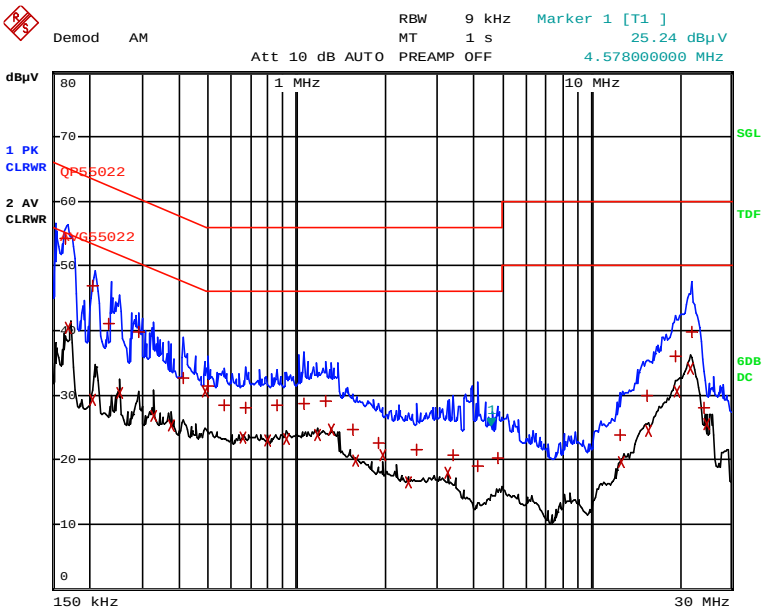
EDIT PEAK LIST (Final Measurement Results)

Trace1: QP55022
Trace2: AVG55022
Trace3: ---

TRACE		FREQUENCY	LEVEL dBµV	DELTA LIMIT dB
2	Average	166 kHz	37.67	-17.48
1	Quasi Peak	206 kHz	44.45	-18.91
2	Average	21.186 MHz	30.61	-19.38
2	Average	250 kHz	31.70	-20.05
2	Average	1.31 MHz	25.12	-20.87
2	Average	19.582 MHz	28.63	-21.36
1	Quasi Peak	238 kHz	40.70	-21.46
1	Quasi Peak	494 kHz	34.52	-21.57
2	Average	986 kHz	24.38	-21.61
2	Average	502 kHz	23.94	-22.05
2	Average	1.198 MHz	23.71	-22.28
2	Average	770 kHz	23.44	-22.55
2	Average	422 kHz	24.73	-22.67
2	Average	290 kHz	27.79	-22.72
2	Average	574 kHz	23.25	-22.74
1	Quasi Peak	21.23 MHz	36.54	-23.45
1	Quasi Peak	290 kHz	36.85	-23.66
1	Quasi Peak	158 kHz	41.78	-23.78
2	Average	206 kHz	28.56	-24.79
2	Average	1.638 MHz	20.83	-25.16

Date: 2.NOV.2015 12:05:31

Phase:



Date: 2.NOV.2015 12:01:35

EDIT PEAK LIST (Final Measurement Results)

Trace1:	QP55022
Trace2:	AVG55022
Trace3:	---

TRACE	FREQUENCY	LEVEL dBµV	DELTA LIMIT dB
1 Quasi Peak	166 kHz	54.21	-10.93
2 Average	170 kHz	40.37	-14.58
2 Average	490 kHz	30.56	-15.60
2 Average	21.826 MHz	34.21	-15.78
1 Quasi Peak	206 kHz	46.95	-16.41
2 Average	19.61 MHz	30.58	-19.41
1 Quasi Peak	22.11 MHz	39.70	-20.29
1 Quasi Peak	290 kHz	39.76	-20.75
2 Average	1.31 MHz	24.67	-21.32
1 Quasi Peak	234 kHz	40.95	-21.35
2 Average	250 kHz	30.36	-21.38
2 Average	1.186 MHz	23.77	-22.22
2 Average	658 kHz	23.44	-22.55
2 Average	922 kHz	23.27	-22.72
2 Average	326 kHz	26.75	-22.80
2 Average	794 kHz	22.96	-23.03
2 Average	374 kHz	25.34	-23.06
1 Quasi Peak	19.51 MHz	36.08	-23.91
2 Average	206 kHz	29.33	-24.02
2 Average	24.858 MHz	25.60	-24.40

Date: 2.NOV.2015 12:00:52

2.1.7 Uncertainties for AC Conducted emission measurement

+ 3.1 / -3.1 dB

This is the last page of this test report.