

3.5 Conducted Spurious Emission Measurement

3.5.1 Description of Conducted Spurious Emission Measurement

For Band 2, 4, 5, 13, 17

The power of any emission outside of the authorized operating frequency ranges must be lower than the transmitter power (P) by a factor of at least $43 + 10 \log (P)$ dB.

For Band 7

The power of any emission outside of the authorized operating frequency ranges must be lower than the transmitter power (P) by a factor of at least $55 + 10 \log (P)$ dB.

It is measured by means of a calibrated spectrum analyzer and scanned from 9 kHz up to a frequency including its 10th harmonic.

3.5.2 Measuring Instruments

See list of measuring instruments of this test report.

3.5.3 Test Procedures

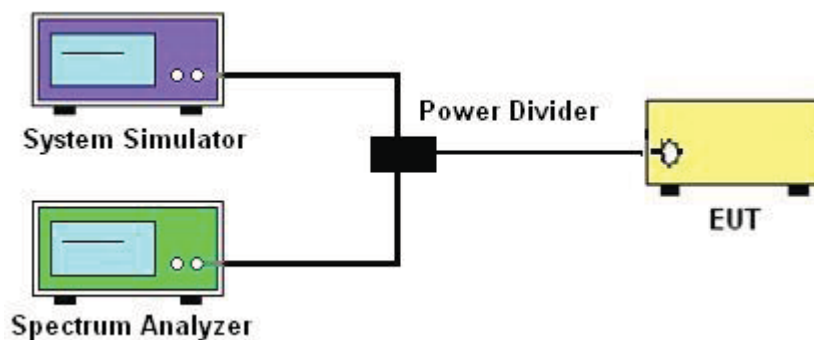
1. The EUT was connected to spectrum analyzer and base station via power divider.
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. The middle channel for the highest RF power within the transmitting frequency was measured.
4. The conducted spurious emission for the whole frequency range was taken.
5. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking the record of maximum spurious emission.
6. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
7. For Band 2, 4, 5, 13, 17

The limit line is derived from $43 + 10\log(P)$ dB below the transmitter power P(Watts)
 $= P(W) - [43 + 10\log(P)] \text{ (dB)}$
 $= [30 + 10\log(P)] \text{ (dBm)} - [43 + 10\log(P)] \text{ (dB)}$
 $= -13\text{dBm}.$

8. For Band 7

The limit line is derived from $55 + 10\log(P)$ dB below the transmitter power P(Watts)

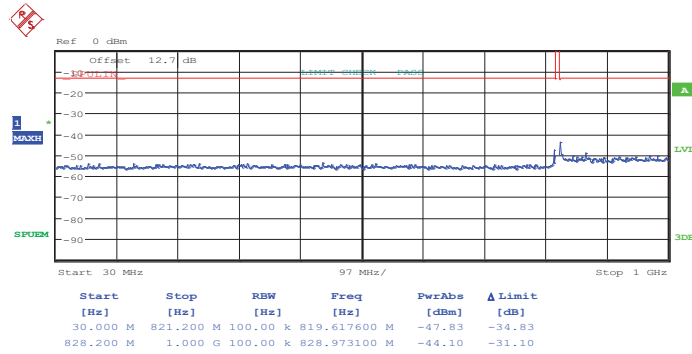
3.5.4 Test Setup



3.5.5 Test Result (Plots) of Conducted Spurious Emission

Band :	LTE Band 5	Channel :	CH20407 (Low)
Band Width :	1.4MHz		

QPSK (RB Size 1, RB Offset 2)



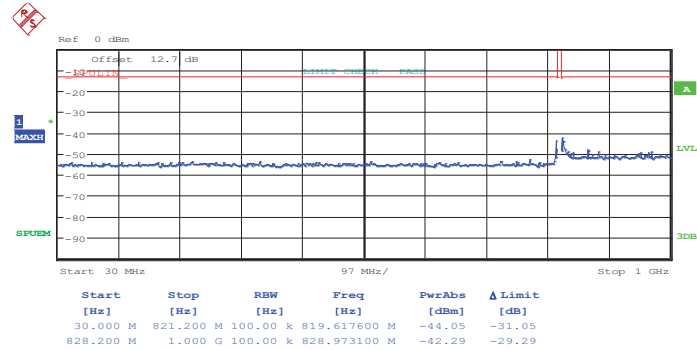
Date: 17.JUN.2013 14:36:58



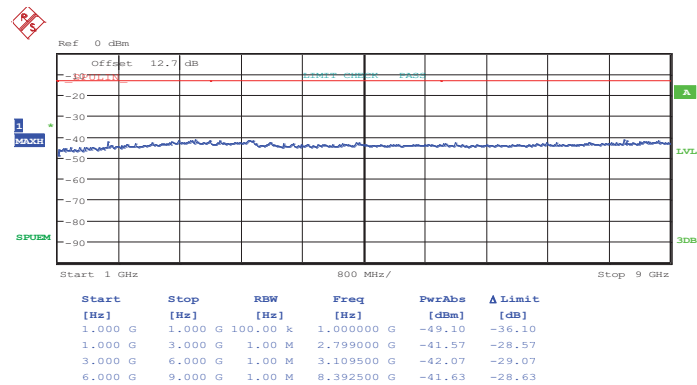
Date: 17.JUN.2013 14:35:14



16QAM (RB Size 1, RB Offset 2)



Date: 17.JUN.2013 14:36:44

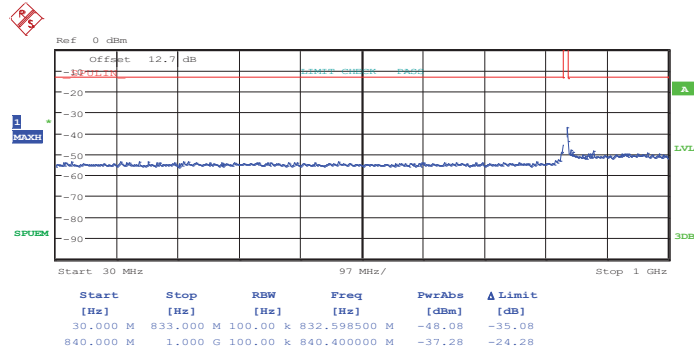


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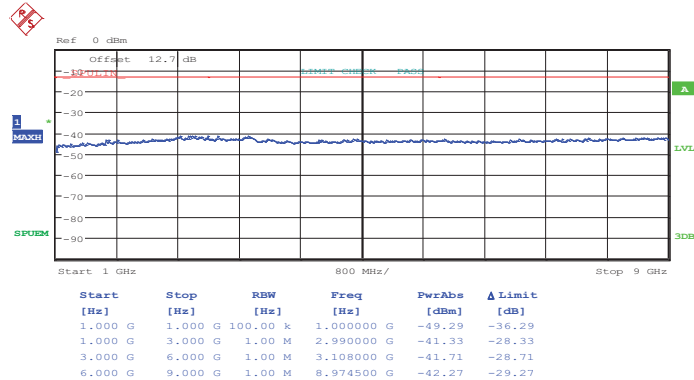


Band :	LTE Band 5	Channel :	CH20525 (Middle)
Band Width :	1.4MHz		

QPSK (RB Size 1, RB Offset 2)



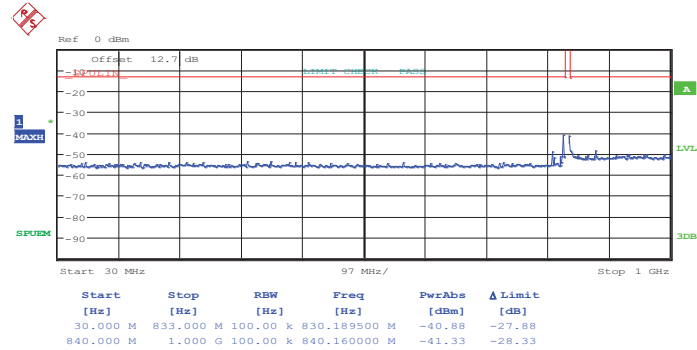
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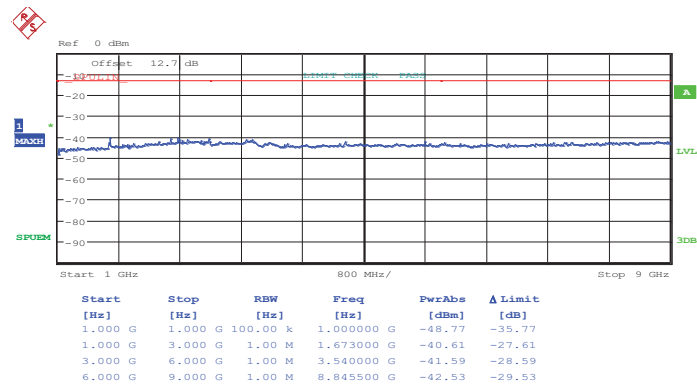
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16QAM (RB Size 1, RB Offset 2)



Date: 17.JUN.2013 14:32:02

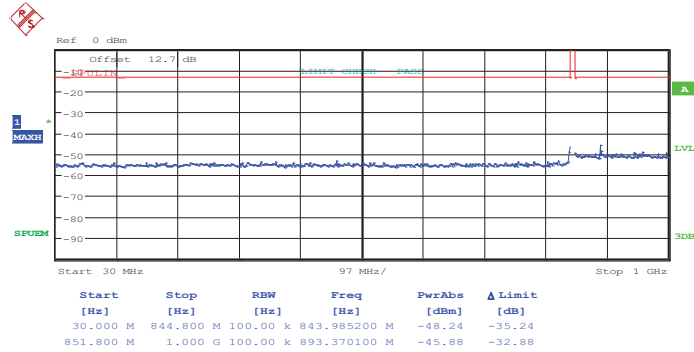


Date: 17.JUN.2013 14:32:28



Band :	LTE Band 5	Channel :	CH20643 (High)
Band Width :	1.4MHz		

QPSK (RB Size 1, RB Offset 2)

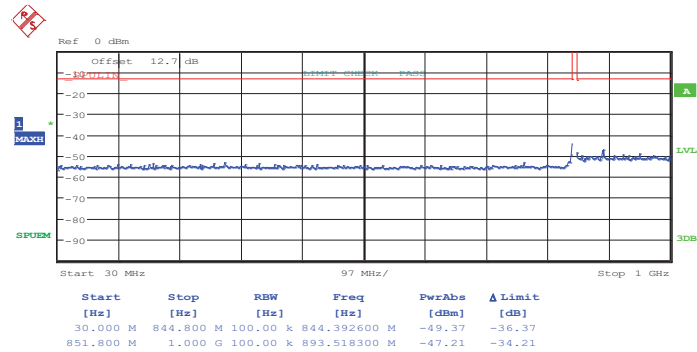


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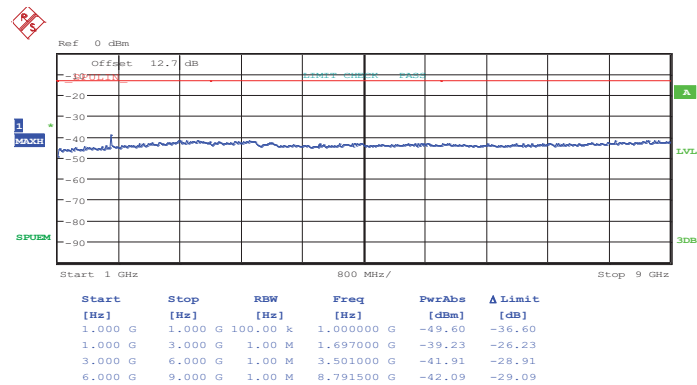


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16QAM (RB Size 1, RB Offset 2)



Date: 17.JUN.2013 14:38:44

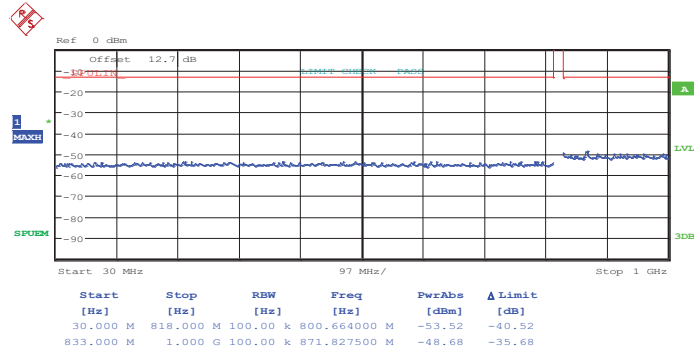


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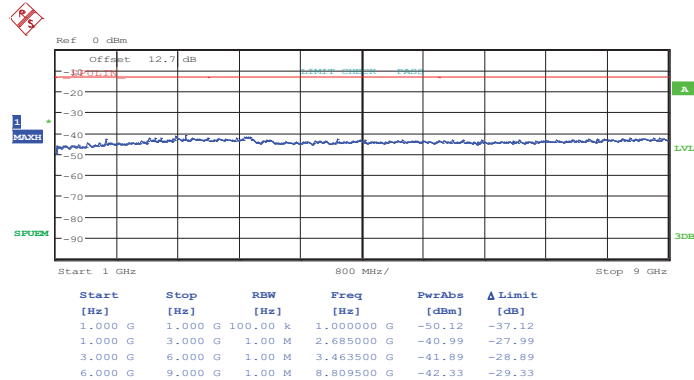


Band :	LTE Band 5	Channel :	CH20415 (Low)
Band Width :	3MHz		

QPSK (RB Size 1, RB Offset 7)



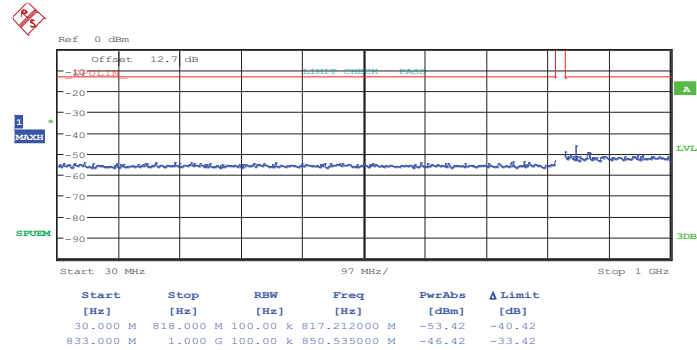
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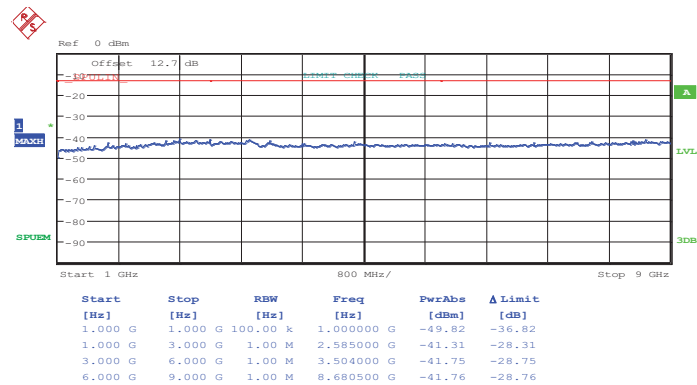
Date: 17.JUN.2013 14:51:15



16QAM (RB Size 1, RB Offset 7)



Date: 17.JUN.2013 14:49:05

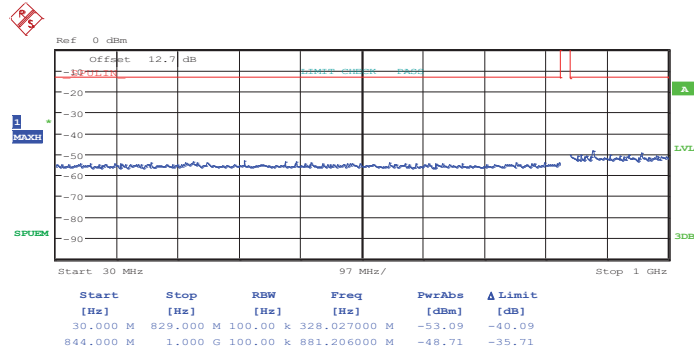


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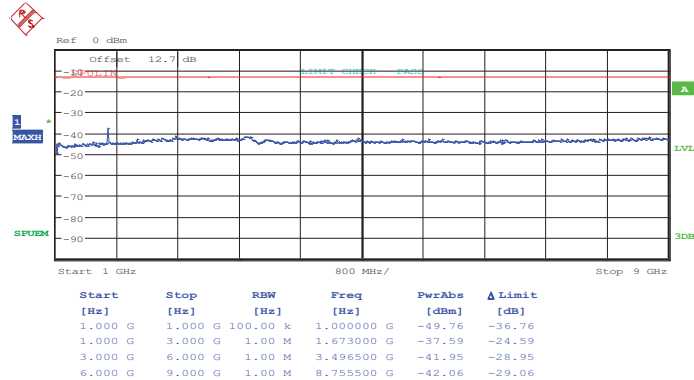


Band :	LTE Band 5	Channel :	CH20525 (Middle)
Band Width :	3MHz		

QPSK (RB Size 1, RB Offset 7)



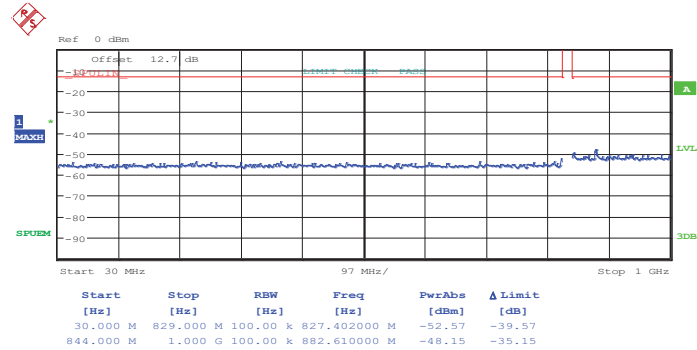
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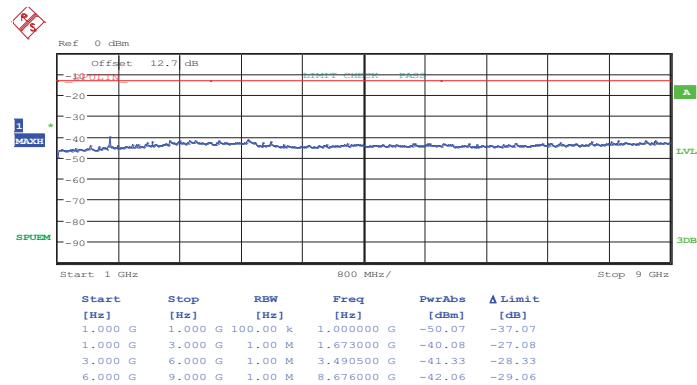
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16QAM (RB Size 1, RB Offset 7)



Date: 17.JUN.2013 14:52:32

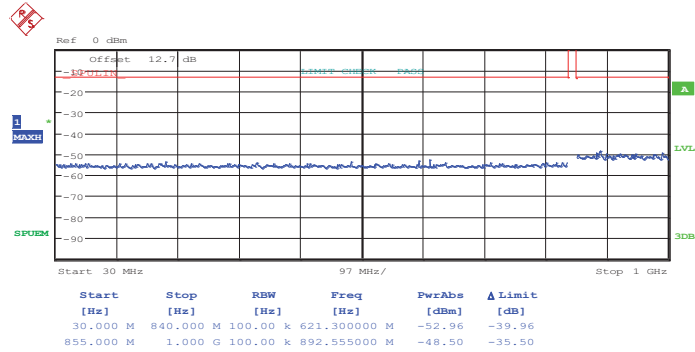


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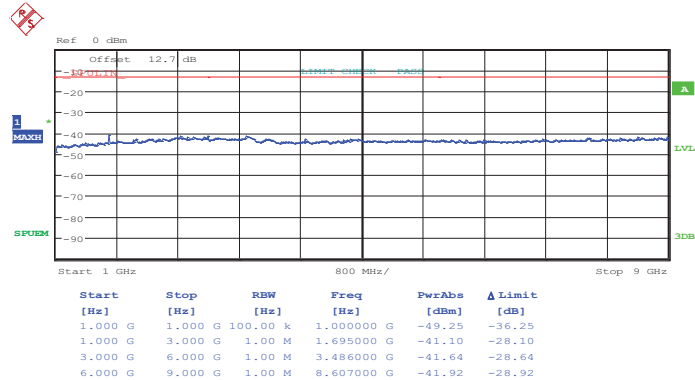


Band :	LTE Band 5	Channel :	CH20635 (High)
Band Width :	3MHz		

QPSK (RB Size 1, RB Offset 7)



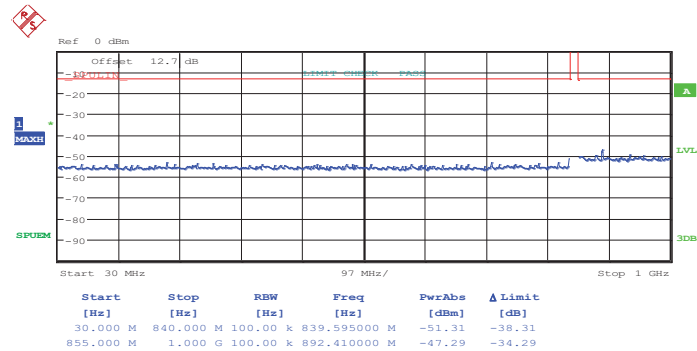
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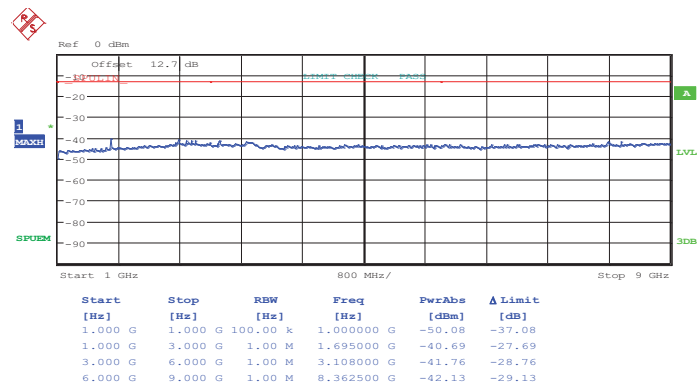
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16QAM (RB Size 1, RB Offset 7)



Date: 17.JUN.2013 14:46:43

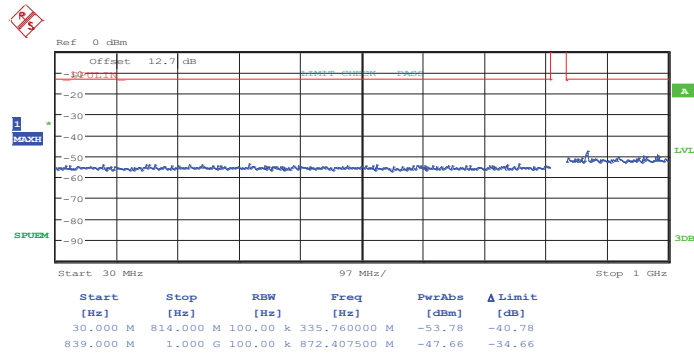


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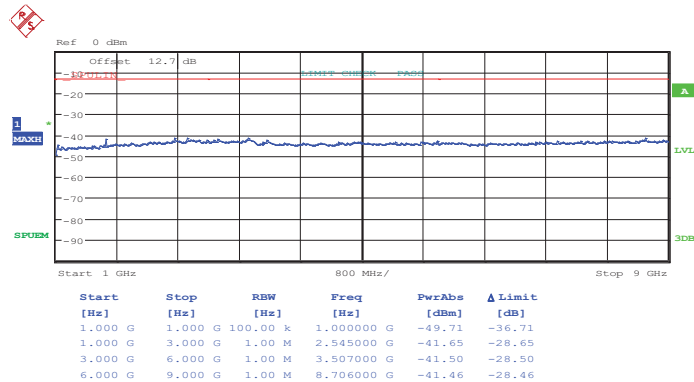


Band :	LTE Band 5	Channel :	CH20425 (Low)
Band Width :	5MHz		

QPSK (RB Size 1, RB Offset 12)



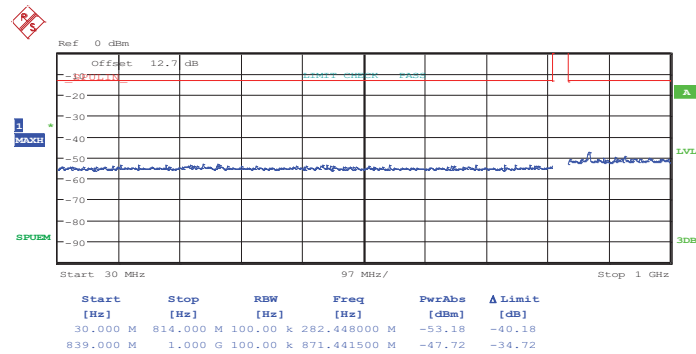
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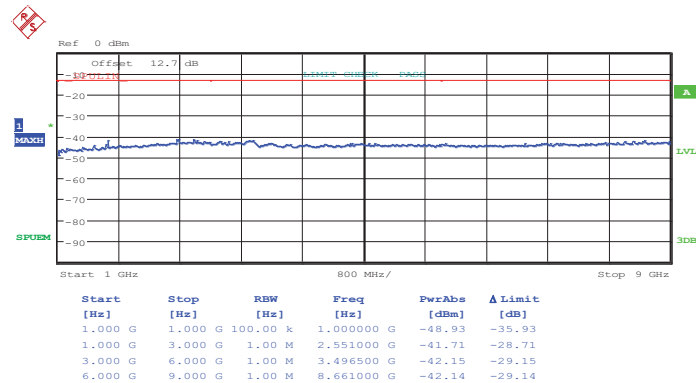
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16QAM (RB Size 1, RB Offset 12)



Date: 17.JUN.2013 14:57:53

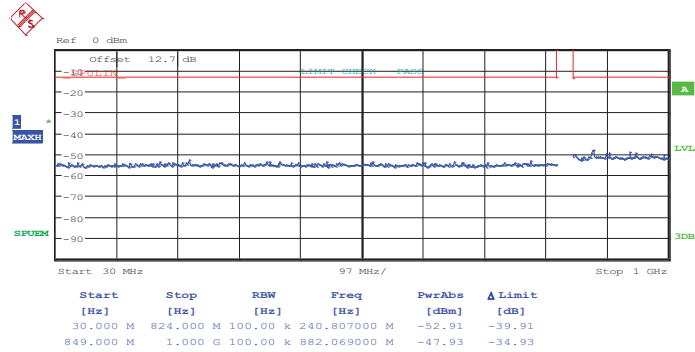


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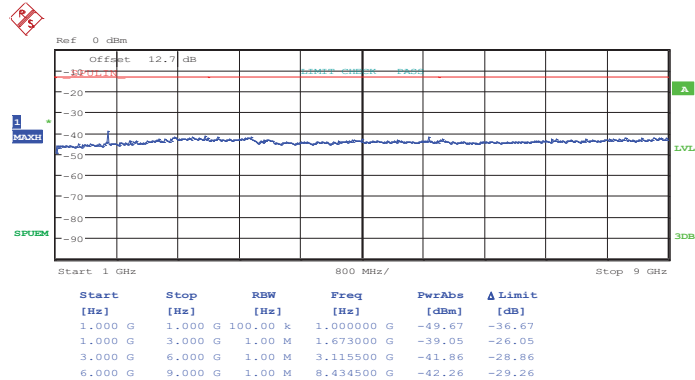


Band :	LTE Band 5	Channel :	CH20525 (Middle)
Band Width :	5MHz		

QPSK (RB Size 1, RB Offset 12)



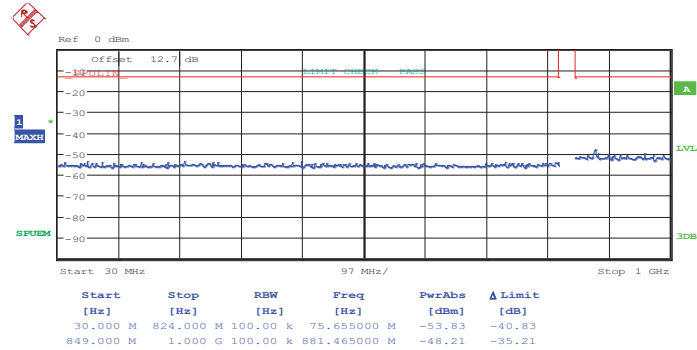
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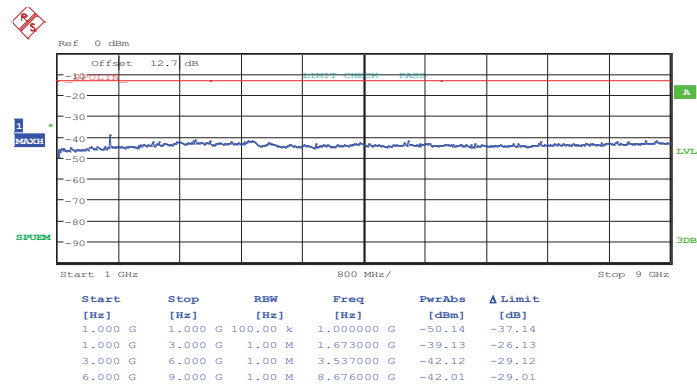
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16QAM (RB Size 1, RB Offset 12)



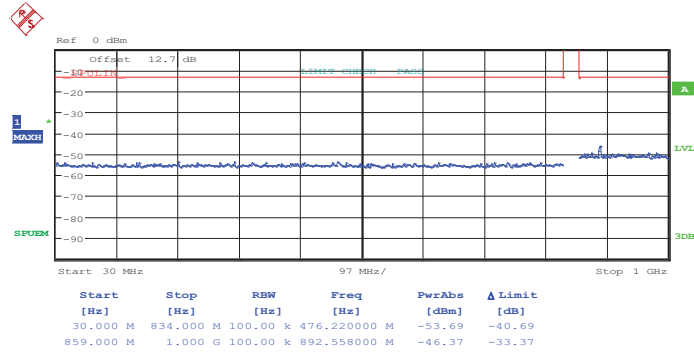
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Date: 17.JUN.2013 14:55:58

Band :	LTE Band 5	Channel :	CH20625 (High)
Band Width :	5MHz		

QPSK (RB Size 1, RB Offset 12)



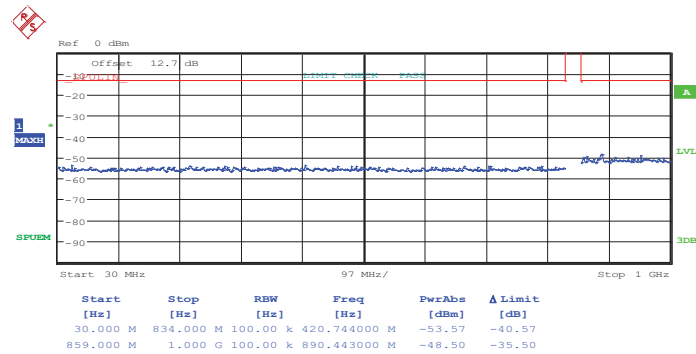
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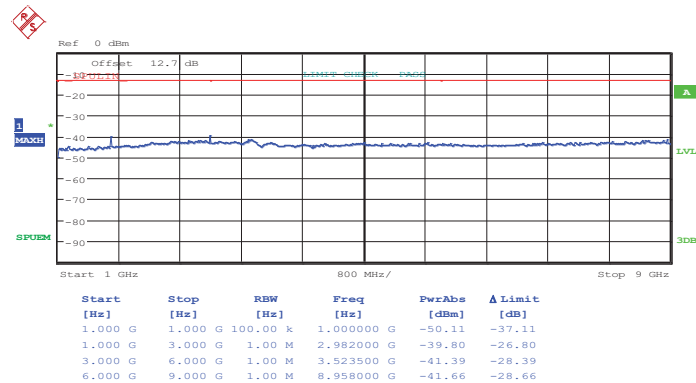
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16QAM (RB Size 1, RB Offset 12)



Date: 17.JUN.2013 14:59:25

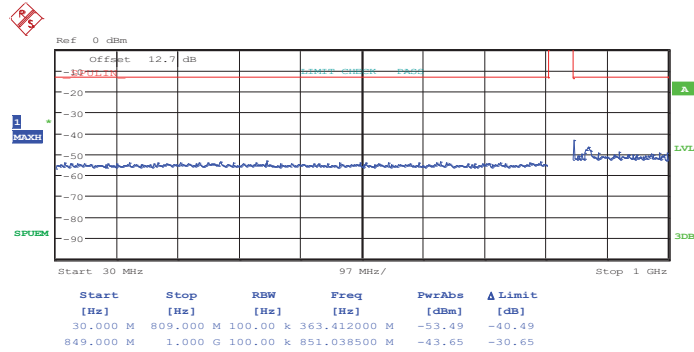


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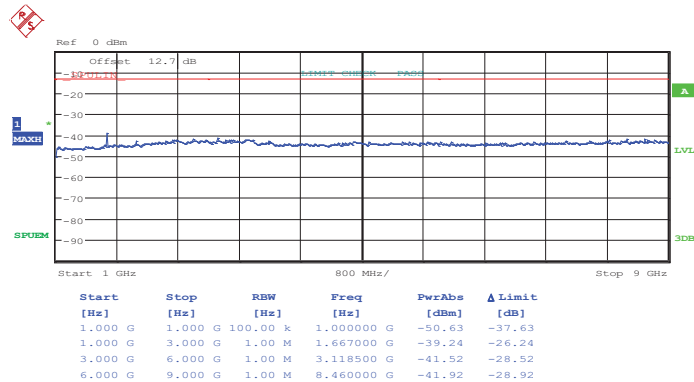


Band :	LTE Band 5	Channel :	CH20450 (Low)
Band Width :	10MHz		

QPSK (RB Size 1, RB Offset 49)



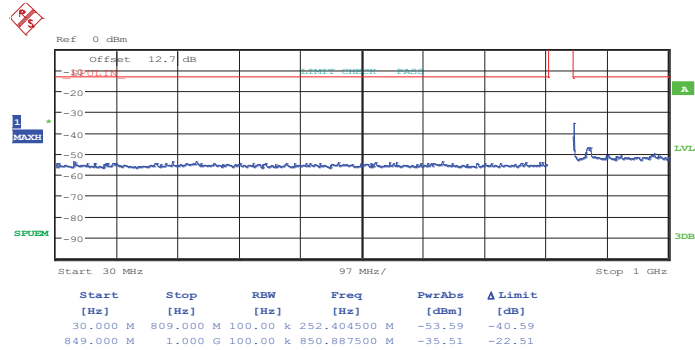
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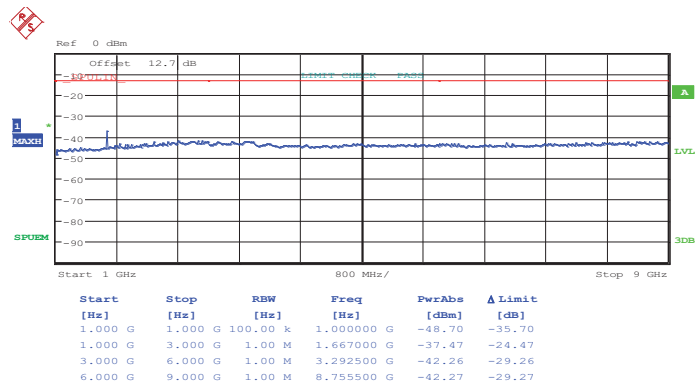
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16QAM (RB Size 1, RB Offset 49)



Date: 17.JUN.2013 15:05:10

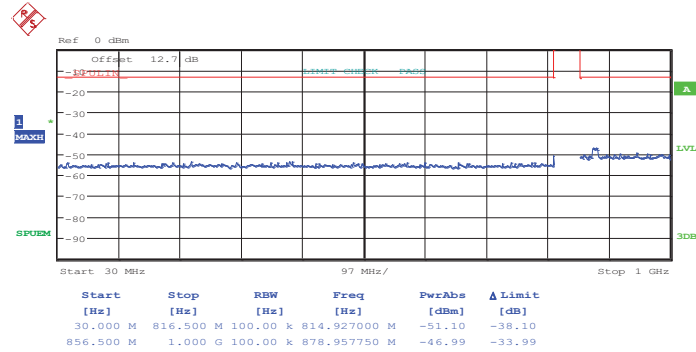


Date: 17.JUN.2013 15:05:37

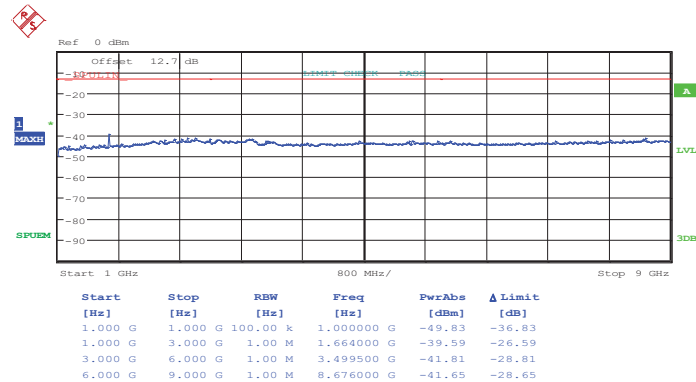


Band :	LTE Band 5	Channel :	CH20525 (Middle)
Band Width :	10MHz		

QPSK (RB Size 1, RB Offset 0)



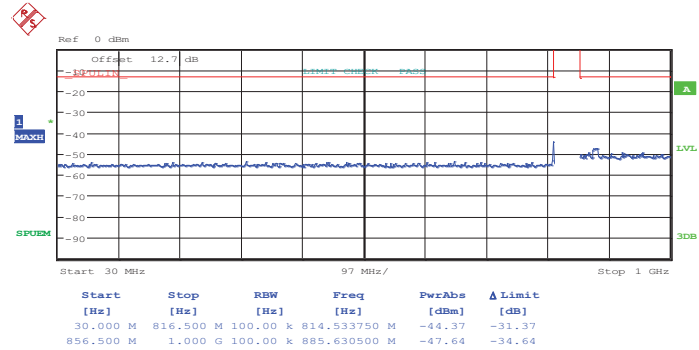
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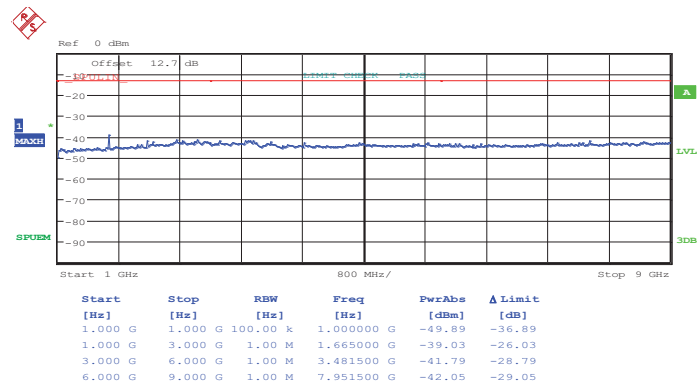
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16QAM (RB Size 1, RB Offset 0)



Date: 17.JUN.2013 15:08:07

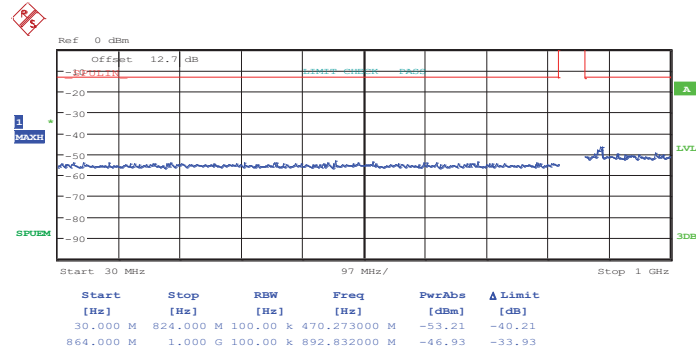


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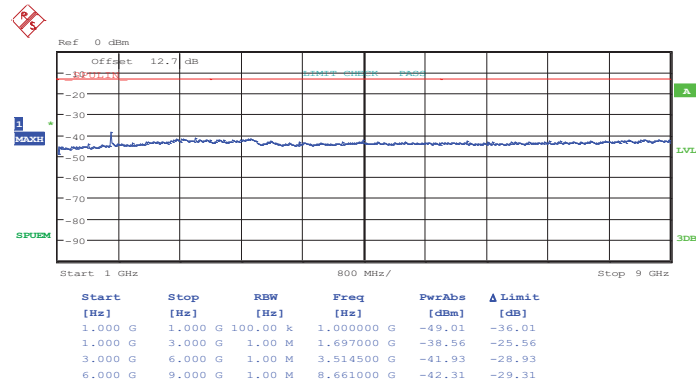


Band :	LTE Band 5	Channel :	CH20600 (High)
Band Width :	10MHz		

QPSK (RB Size 1, RB Offset 49)



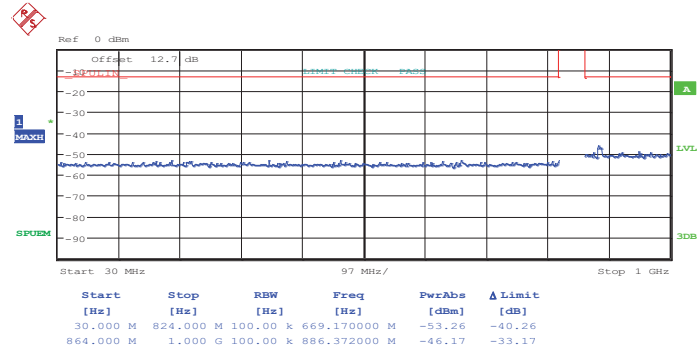
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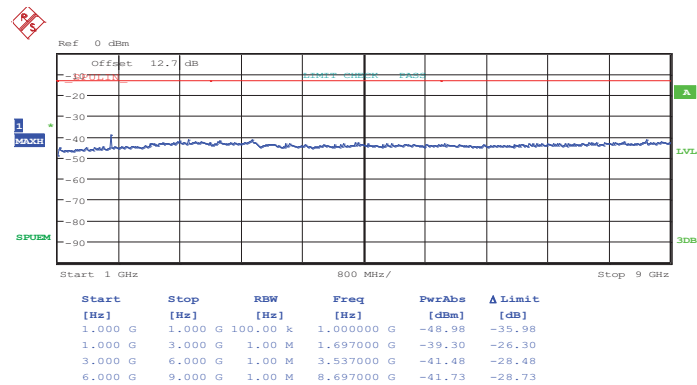
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16QAM (RB Size 1, RB Offset 49)



Date: 17.JUN.2013 15:03:42

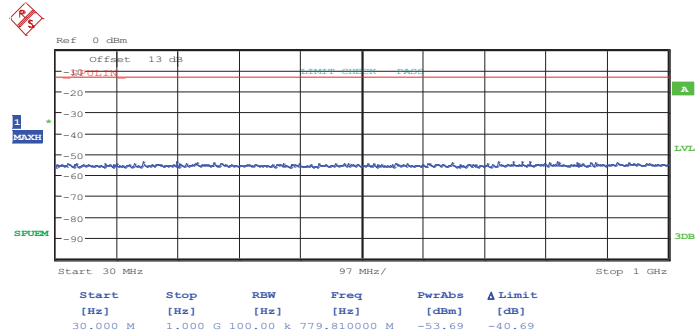


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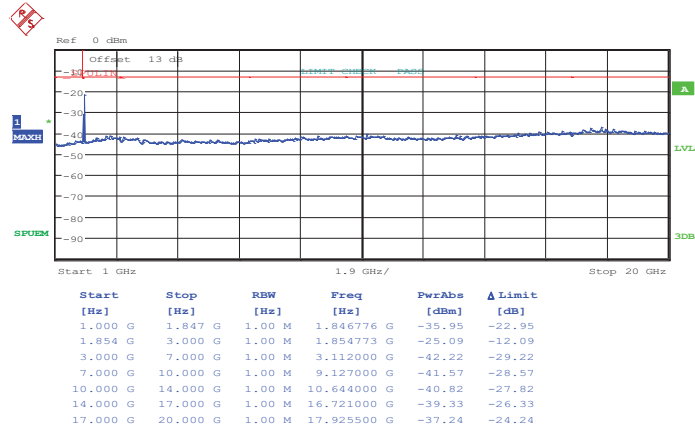


Band :	LTE Band 2	Channel :	CH18607 (Low)
Band Width :	1.4MHz		

QPSK (RB Size 1, RB Offset 2)



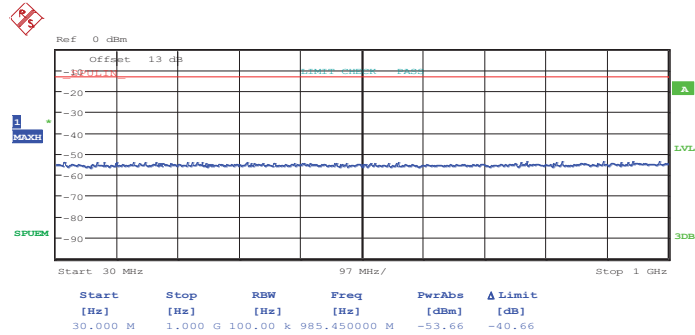
Date: 15.JUN.2013 06:46:18



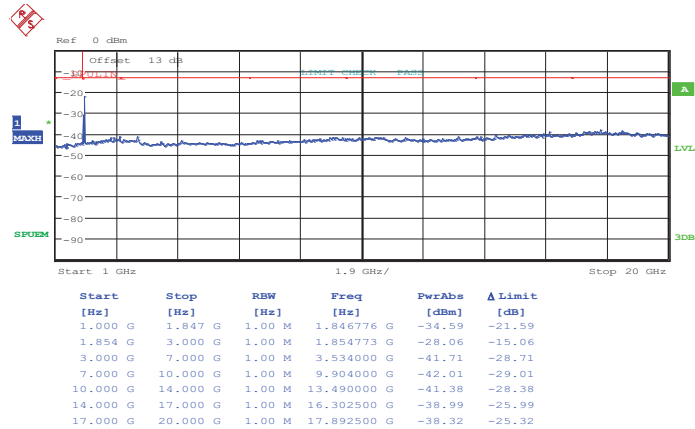
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16QAM (RB Size 1, RB Offset 2)



Date: 15.JUN.2013 06:46:05

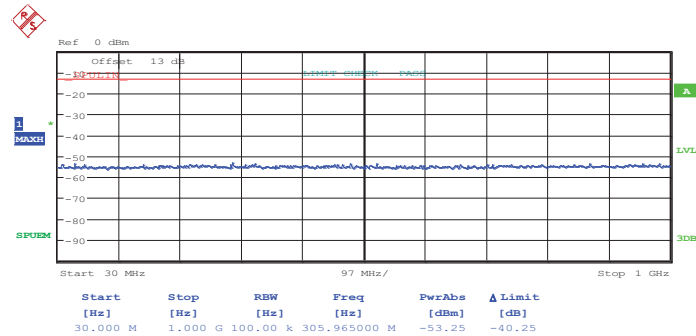


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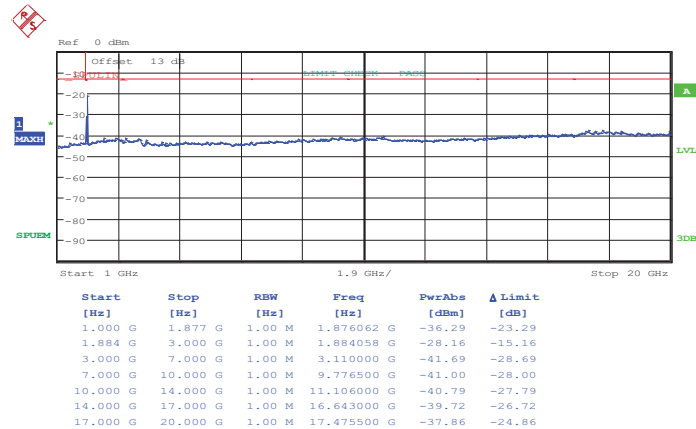


Band :	LTE Band 2	Channel :	CH18900 (Middle)
Band Width :	1.4MHz		

QPSK (RB Size 1, RB Offset 2)



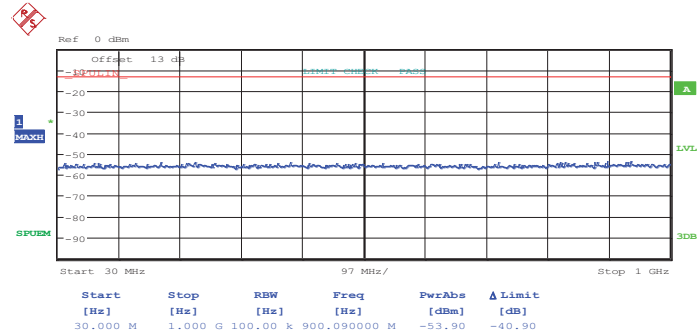
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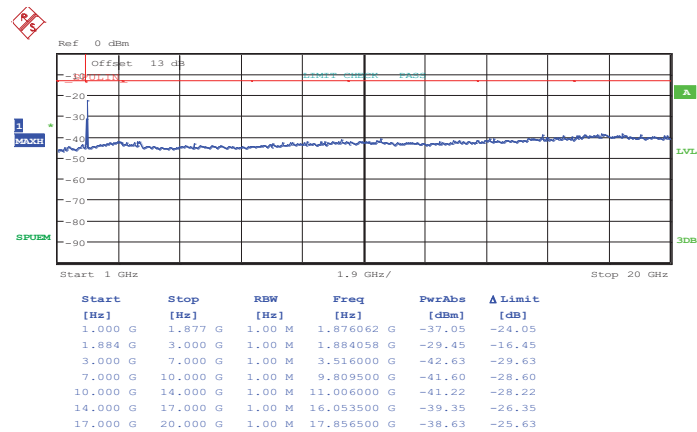
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16QAM (RB Size 1, RB Offset 2)



Date: 15.JUN.2013 06:45:50

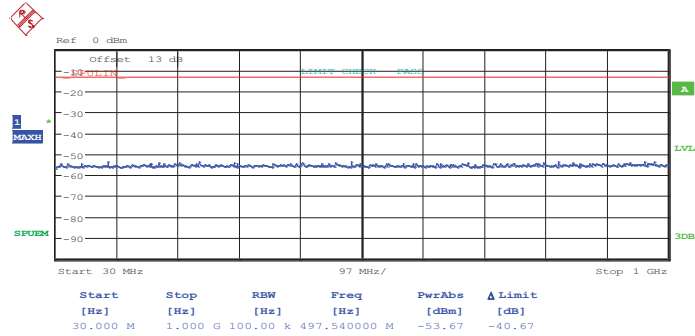


Date: 15.JUN.2013 06:45:00

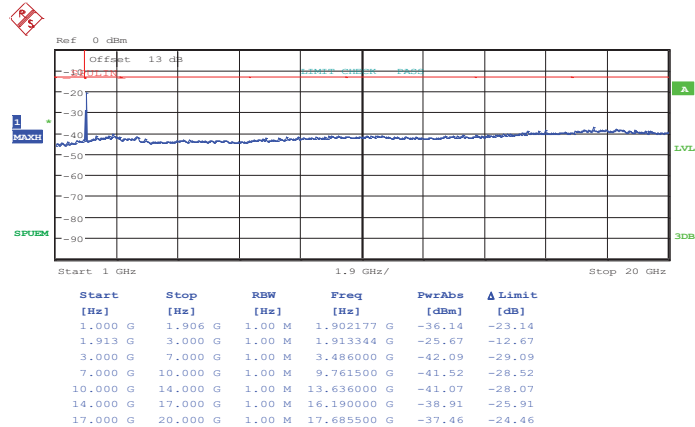


Band :	LTE Band 2	Channel :	CH19193 (High)
Band Width :	1.4MHz		

QPSK (RB Size 1, RB Offset 2)



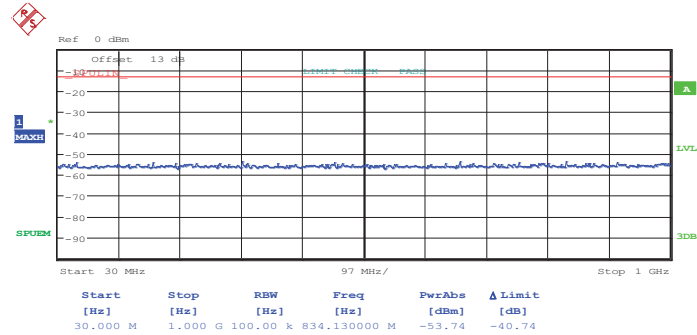
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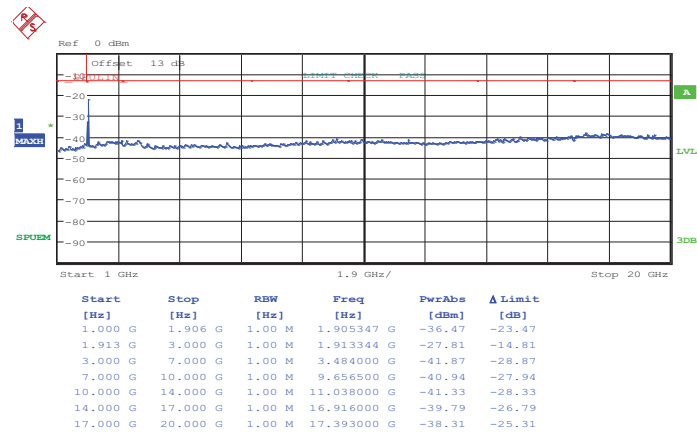
Date: 15.JUN.2013 06:41:33



16QAM (RB Size 1, RB Offset 2)



Date: 15.JUN.2013 06:46:39

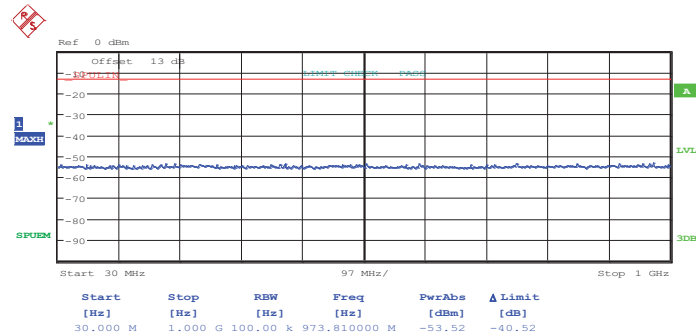


Date: 15.JUN.2013 06:42:01

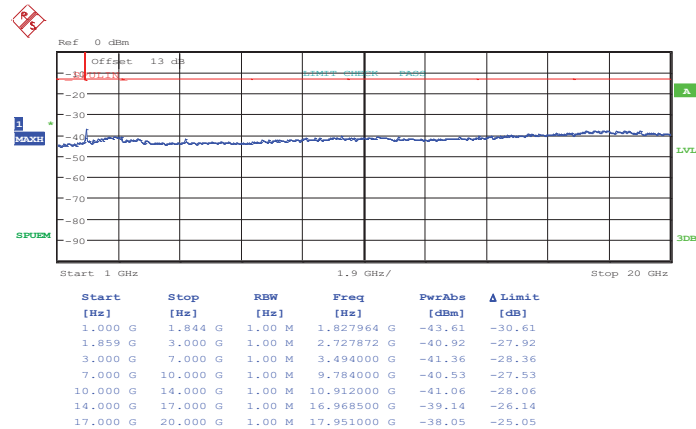


Band :	LTE Band 2	Channel :	CH18615 (Low)
Band Width :	3MHz		

QPSK (RB Size 1, RB Offset 0)



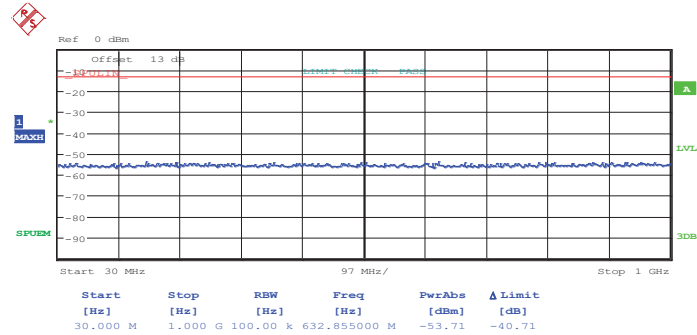
Date: 15.JUN.2013 06:49:42



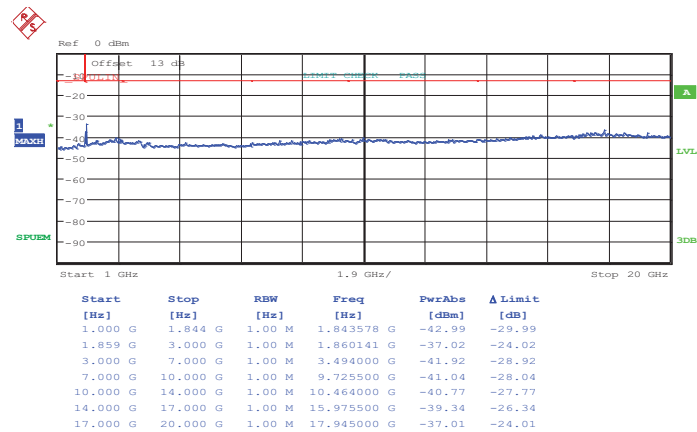
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16QAM (RB Size 1, RB Offset 7)



Date: 15.JUN.2013 06:49:53

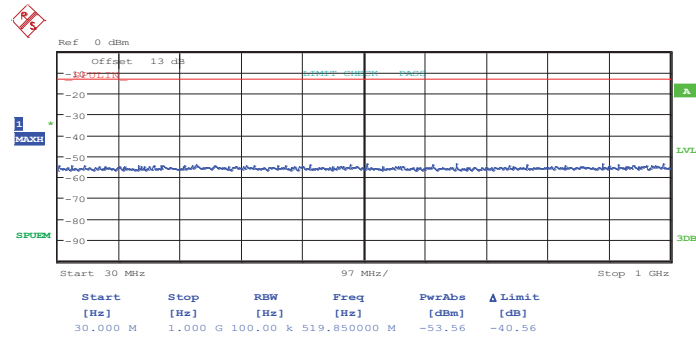


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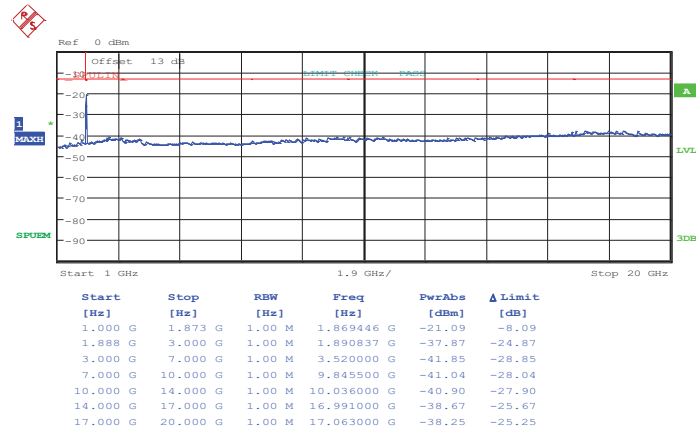


Band :	LTE Band 2	Channel :	CH18900 (Middle)
Band Width :	3MHz		

QPSK (RB Size 1, RB Offset 7)

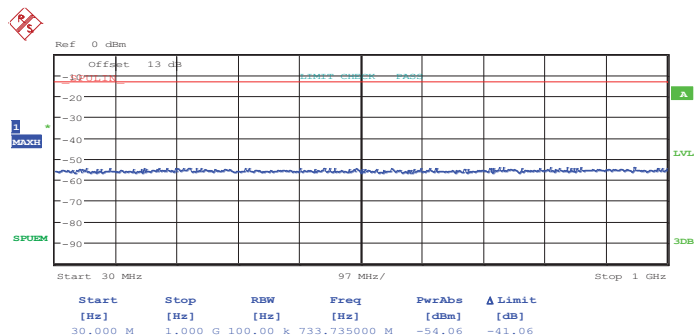


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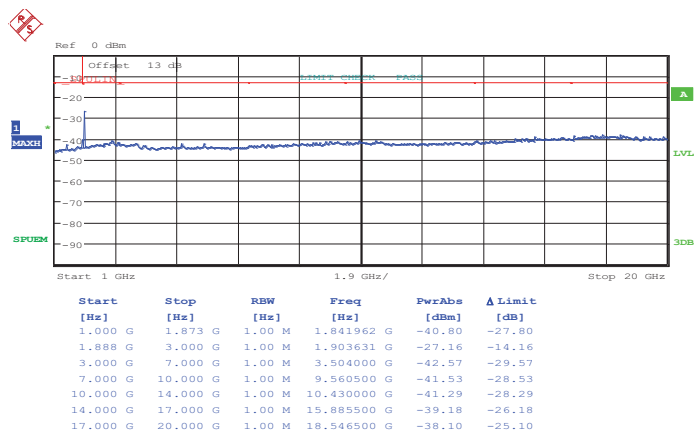


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16QAM (RB Size 1, RB Offset 7)



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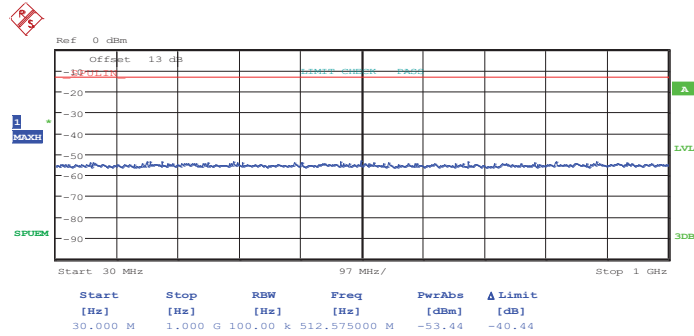


Date: 15.JUN.2013 06:52:16

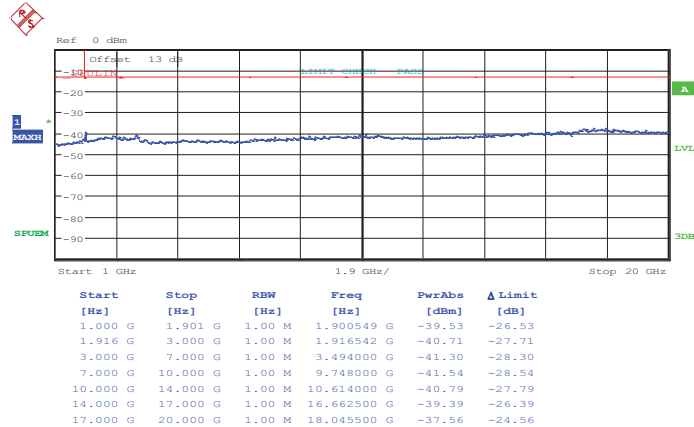


Band :	LTE Band 2	Channel :	CH19185 (High)
Band Width :	3MHz		

QPSK (RB Size 1, RB Offset 7)



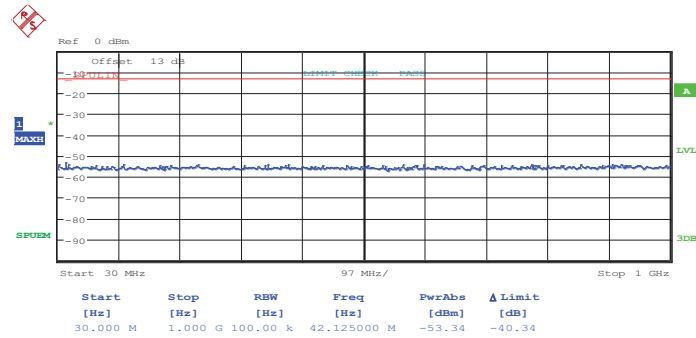
Date: 15.JUN.2013 06:50:25



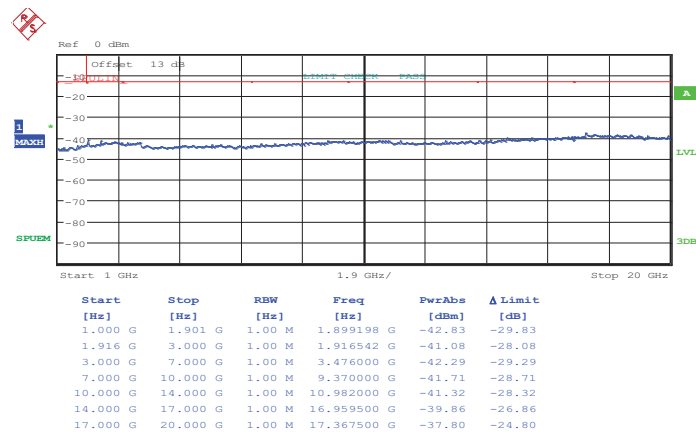
Date: 15.JUN.2013 06:54:51



16QAM (RB Size 1, RB Offset 7)



Date: 15.JUN.2013 06:50:33

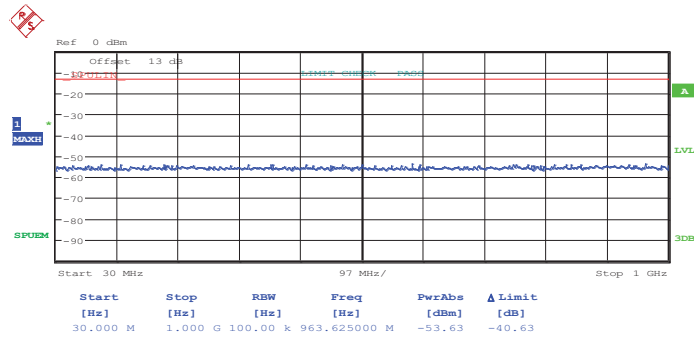


Date: 15.JUN.2013 06:55:02

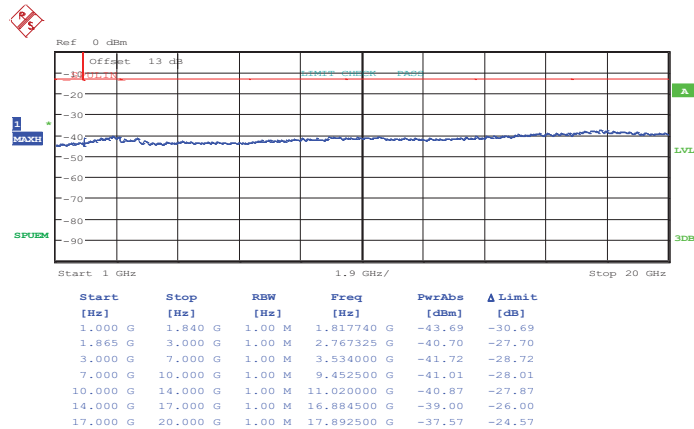


Band :	LTE Band 2	Channel :	CH18625 (Low)
Band Width :	5MHz		

QPSK (RB Size 1, RB Offset 0)



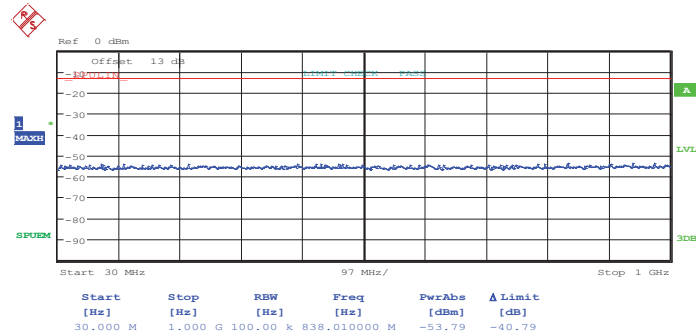
Date: 15.JUN.2013 07:04:03



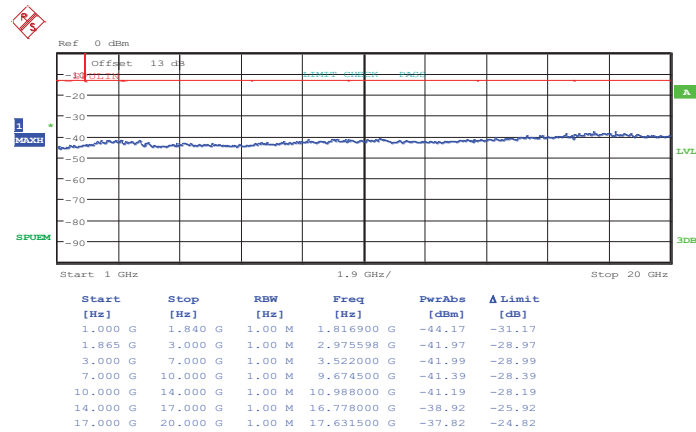
Date: 15.JUN.2013 06:59:28



16QAM (RB Size 1, RB Offset 12)



Date: 15.JUN.2013 07:03:53

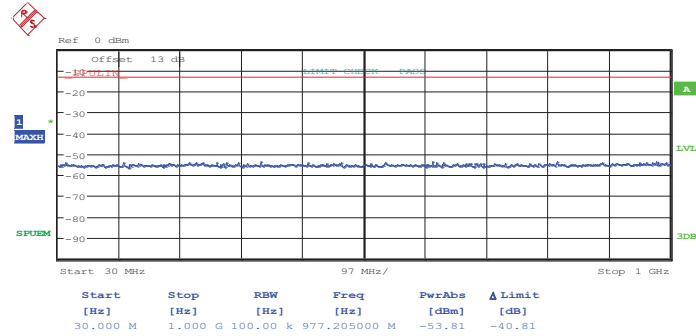


Date: 15.JUN.2013 06:59:45

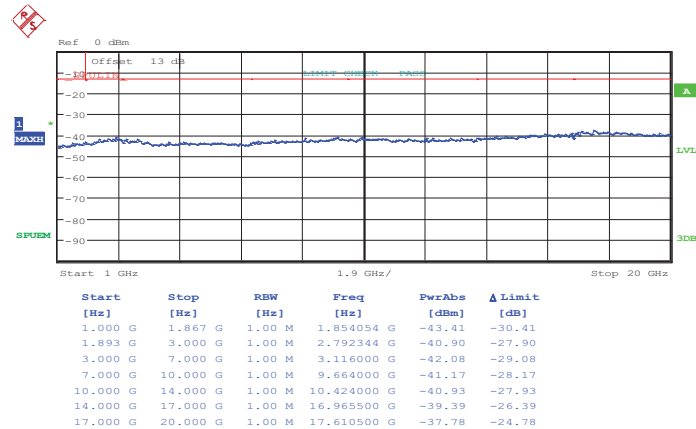


Band :	LTE Band 2	Channel :	CH18900 (Middle)
Band Width :	5MHz		

QPSK (RB Size 1, RB Offset 12)



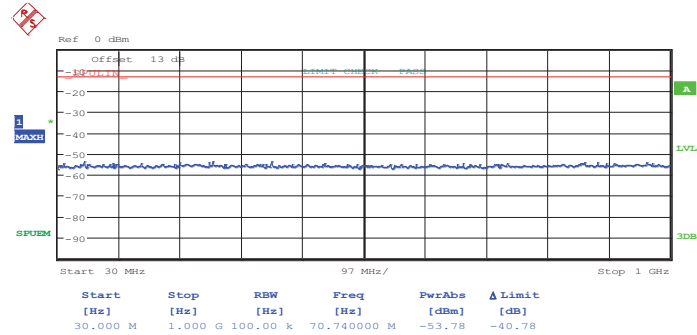
Date: 15.JUN.2013 07:03:36



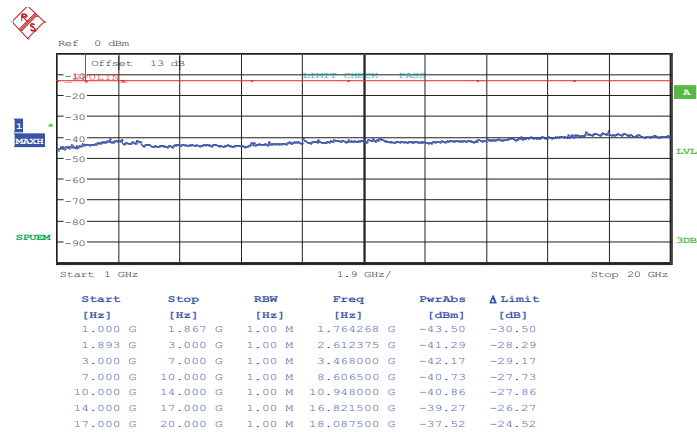
Date: 15.JUN.2013 07:00:42



16QAM (RB Size 1, RB Offset 12)



Date: 15.JUN.2013 07:03:43

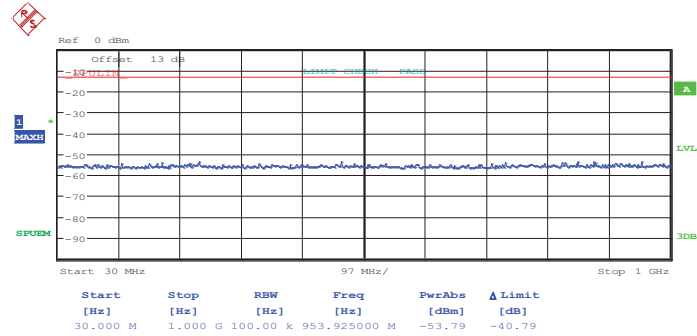


Date: 15.JUN.2013 07:00:29

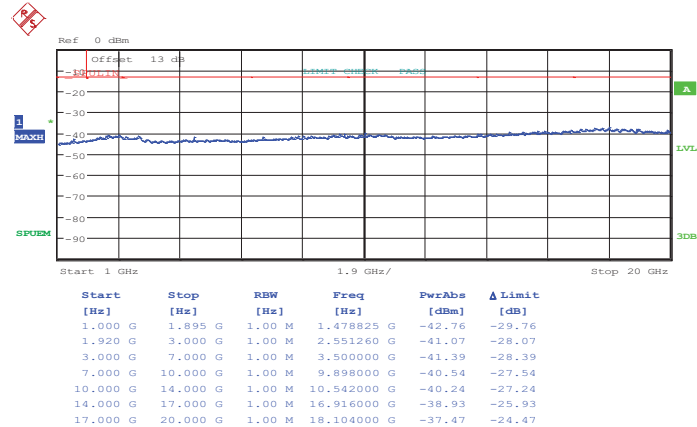


Band :	LTE Band 2	Channel :	CH19175 (High)
Band Width :	5MHz		

QPSK (RB Size 1, RB Offset 12)



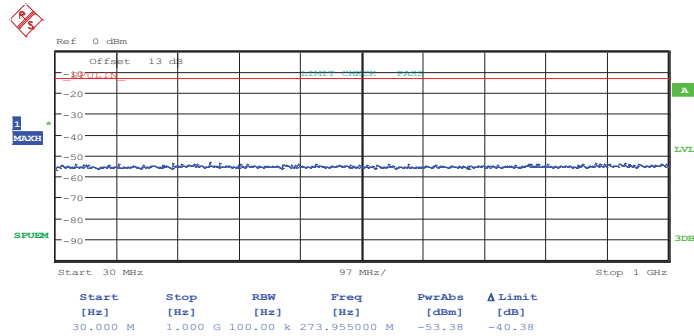
Date: 15.JUN.2013 07:03:19



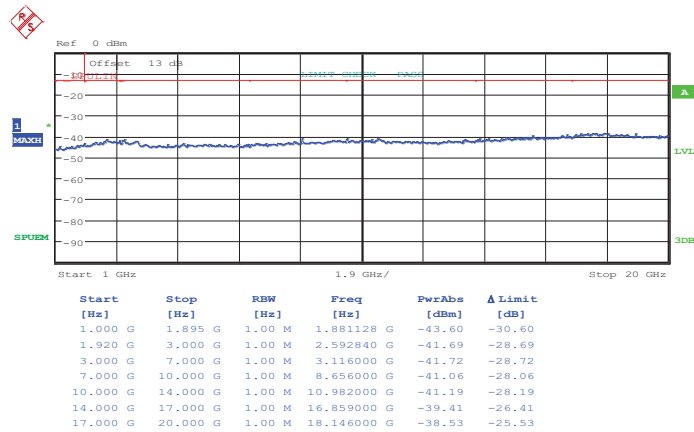
Date: 15.JUN.2013 07:02:42



16QAM (RB Size 1, RB Offset 12)



Date: 15.JUN.2013 07:03:11

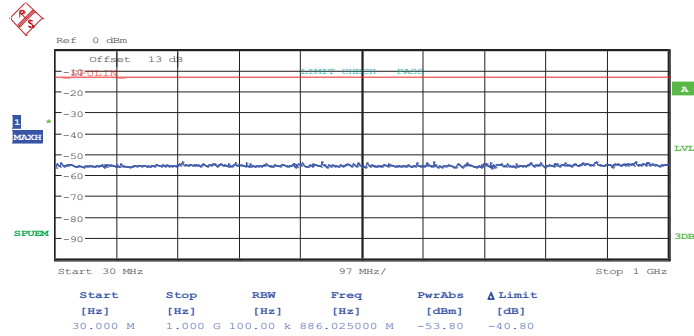


Date: 15.JUN.2013 07:02:50

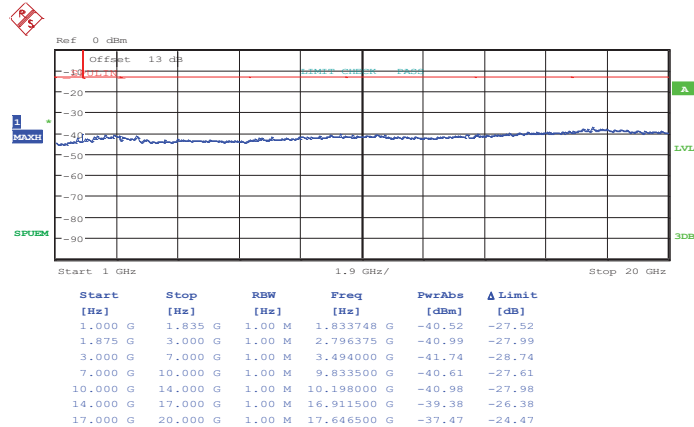


Band :	LTE Band 2	Channel :	CH18650 (Low)
Band Width :	10MHz		

QPSK (RB Size 1, RB Offset 0)



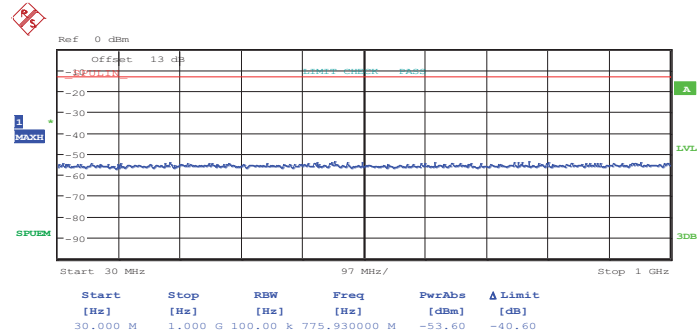
Date: 15.JUN.2013 07:08:24



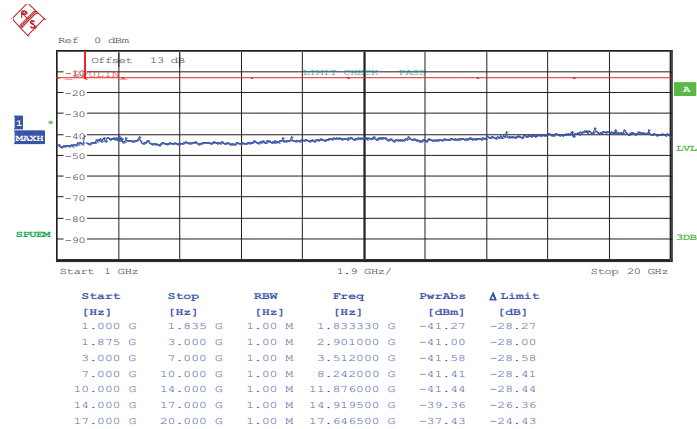
Date: 15.JUN.2013 07:10:27



16QAM (RB Size 1, RB Offset 0)



Date: 15.JUN.2013 07:08:32

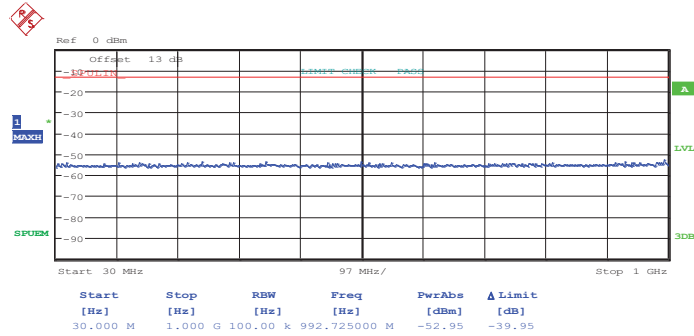


Date: 15.JUN.2013 07:10:37

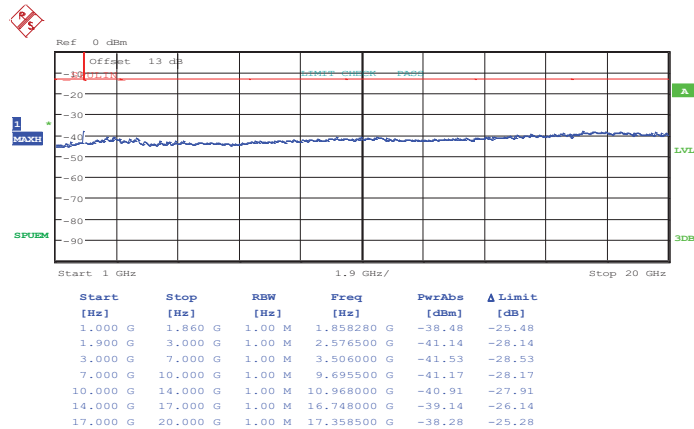


Band :	LTE Band 2	Channel :	CH18900 (Middle)
Band Width :	10MHz		

QPSK (RB Size 1, RB Offset 0)



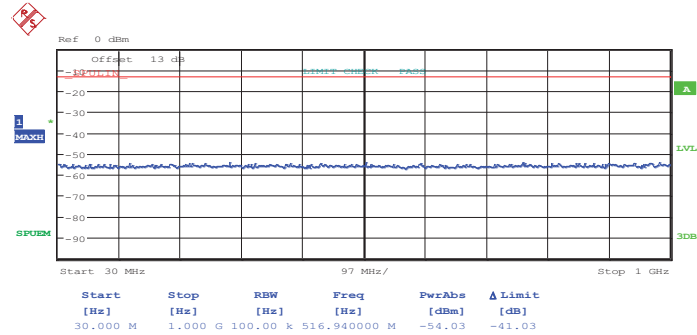
Date: 15.JUN.2013 07:06:43



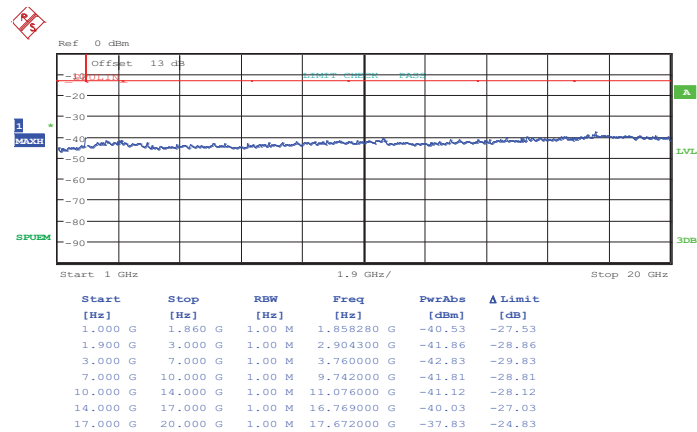
Date: 15.JUN.2013 07:12:18



16QAM (RB Size 1, RB Offset 0)



Date: 15.JUN.2013 07:06:51

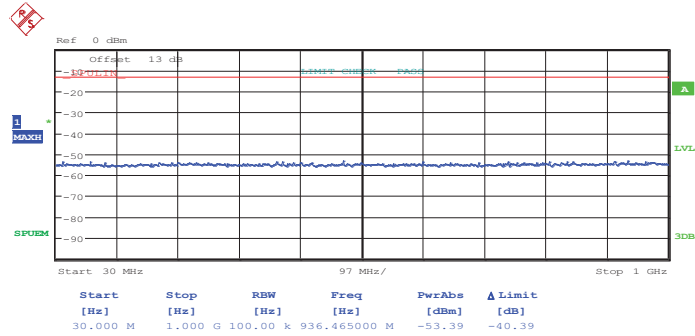


Date: 15.JUN.2013 07:12:30

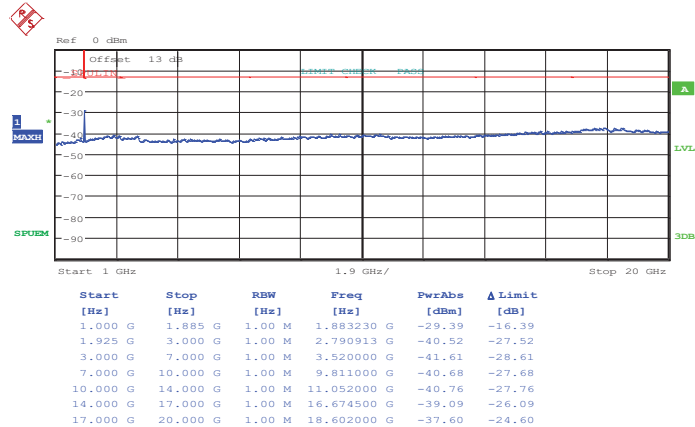


Band :	LTE Band 2	Channel :	CH19150 (High)
Band Width :	10MHz		

QPSK (RB Size 1, RB Offset 0)



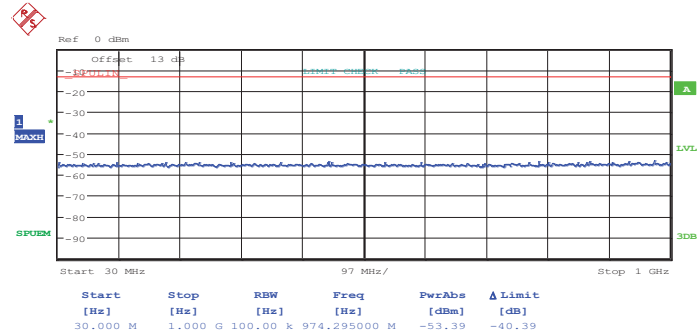
Date: 15.JUN.2013 07:07:40



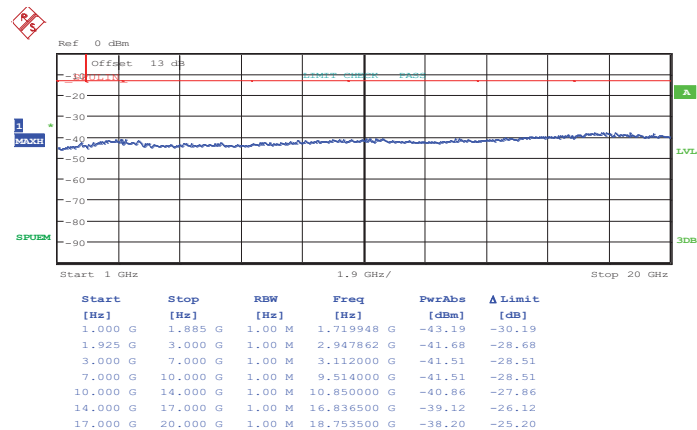
Date: 15.JUN.2013 07:13:57



16QAM (RB Size 1, RB Offset 49)



Date: 15.JUN.2013 07:07:07

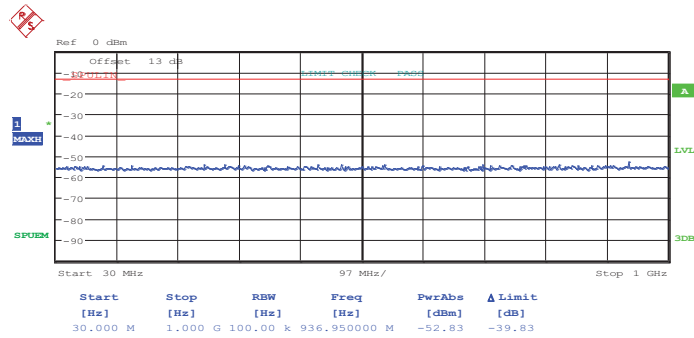


Date: 15.JUN.2013 07:14:40

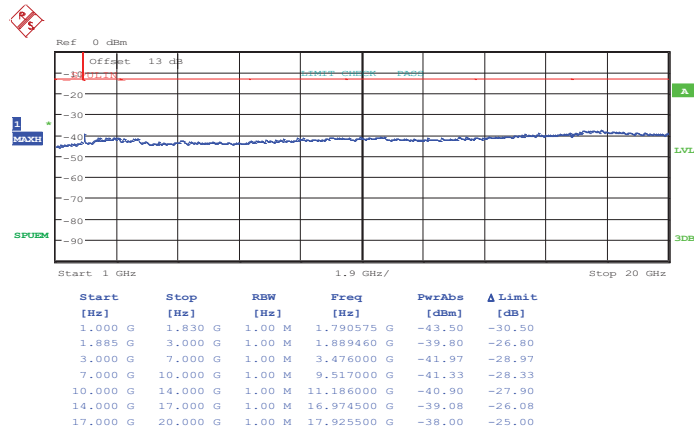


Band :	LTE Band 2	Channel :	CH18675 (Low)
Band Width :	15MHz		

QPSK (RB Size 1, RB Offset 0)



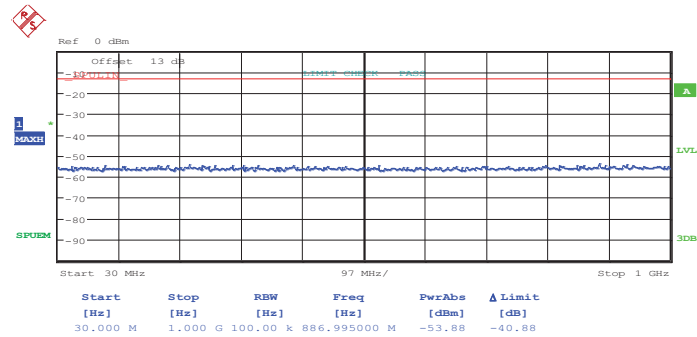
Date: 15.JUN.2013 07:23:05



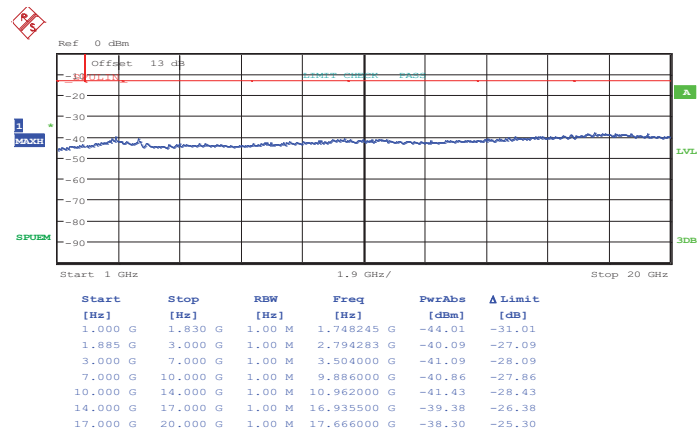
Date: 15.JUN.2013 07:18:47



16QAM (RB Size 1, RB Offset 0)



Date: 15.JUN.2013 07:22:57

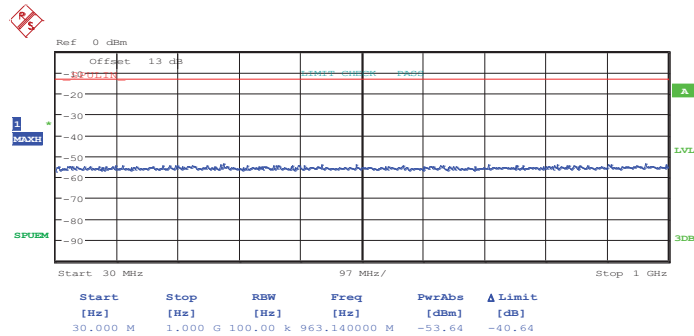


Date: 15.JUN.2013 07:18:56

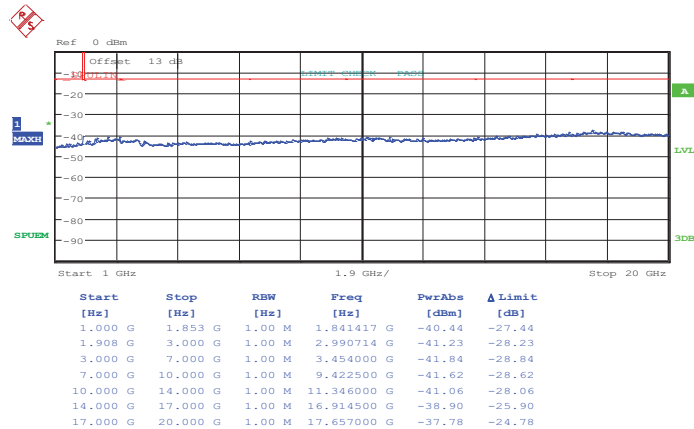


Band :	LTE Band 2	Channel :	CH18900 (Middle)
Band Width :	15MHz		

QPSK (RB Size 1, RB Offset 37)



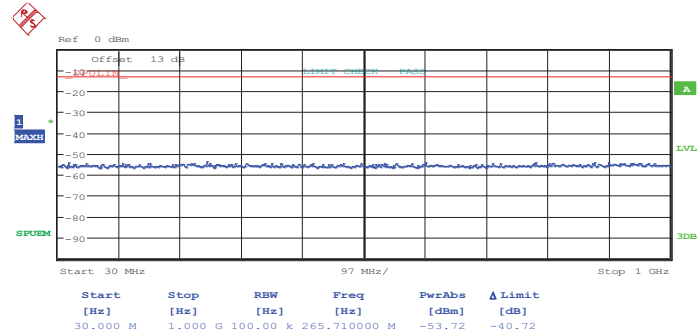
Date: 15.JUN.2013 07:22:18



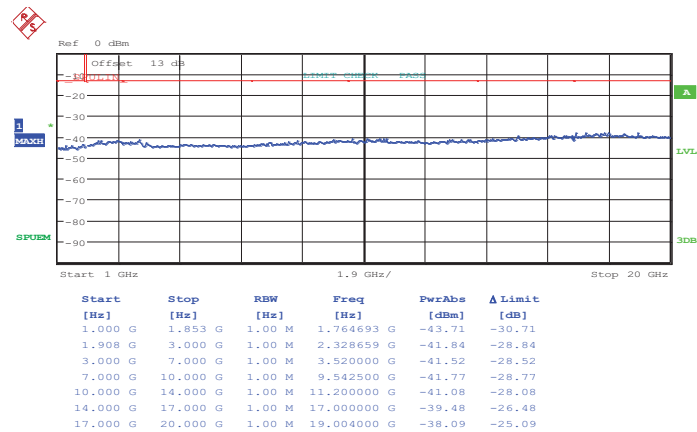
Date: 15.JUN.2013 07:20:09



16QAM (RB Size 1, RB Offset 37)



Date: 15.JUN.2013 07:22:27

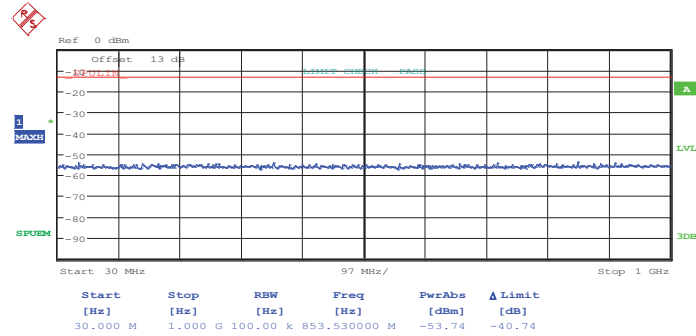


Date: 15.JUN.2013 07:20:18

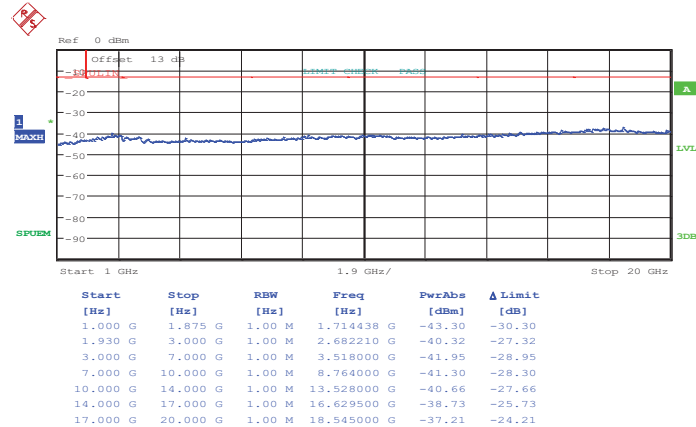


Band :	LTE Band 2	Channel :	CH19125 (High)
Band Width :	15MHz		

QPSK (RB Size 1, RB Offset 37)



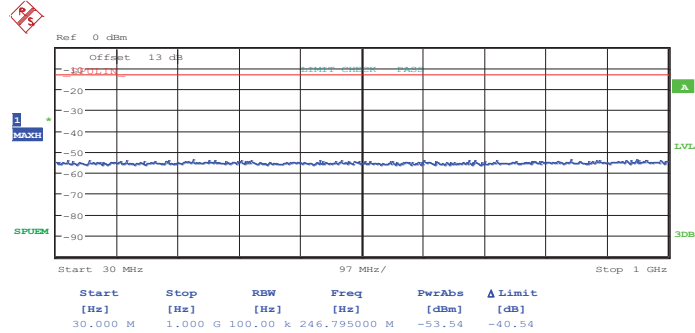
Date: 15.JUN.2013 07:22:09



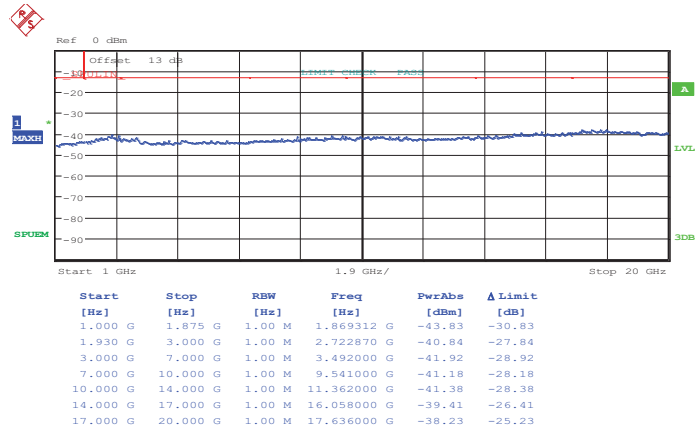
Date: 15.JUN.2013 07:21:26



16QAM (RB Size 1, RB Offset 37)



Date: 15.JUN.2013 07:22:03

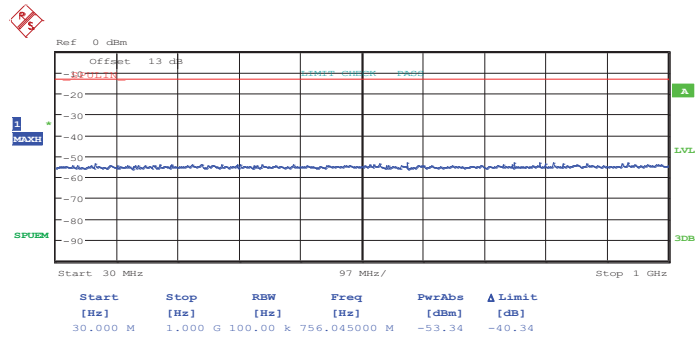


Date: 15.JUN.2013 07:21:37

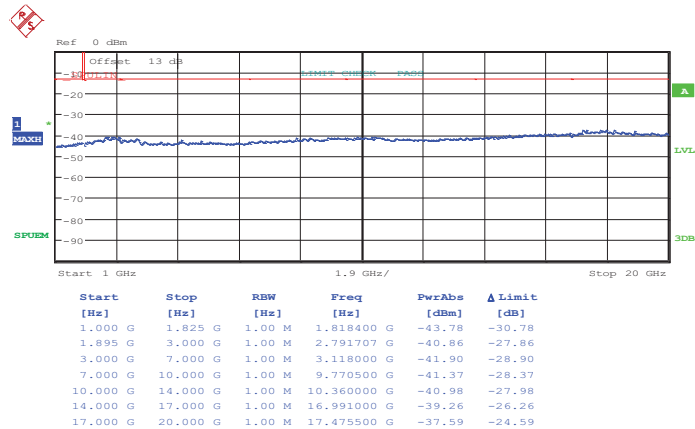


Band :	LTE Band 2	Channel :	CH18700 (Low)
Band Width :	20MHz		

QPSK (RB Size 1, RB Offset 49)



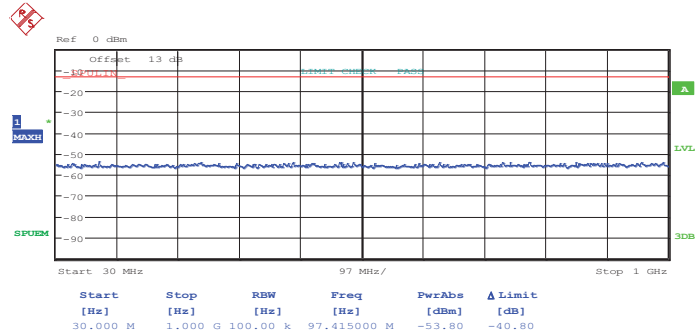
Date: 15.JUN.2013 07:27:50



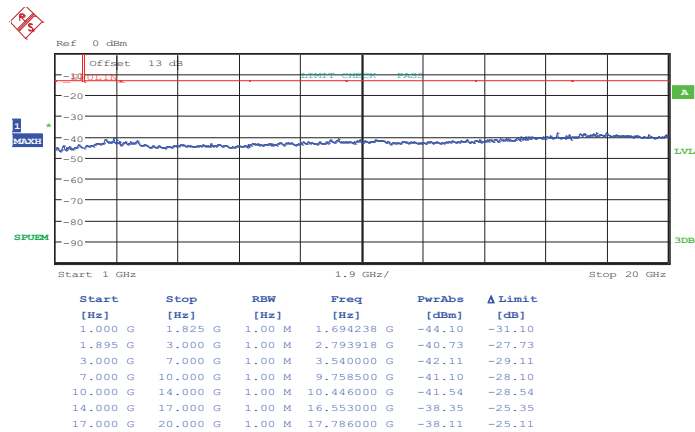
Date: 15.JUN.2013 07:30:37



16QAM (RB Size 1, RB Offset 49)



Date: 15.JUN.2013 07:27:59

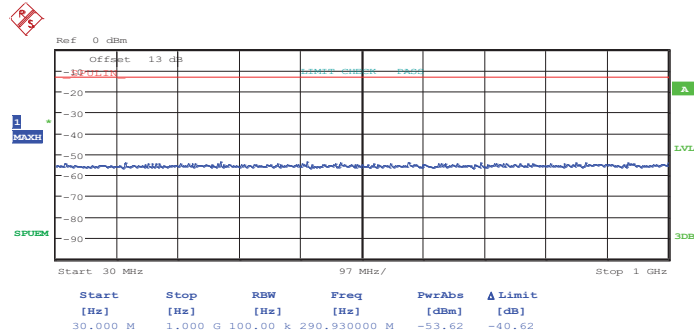


Date: 15.JUN.2013 07:30:44

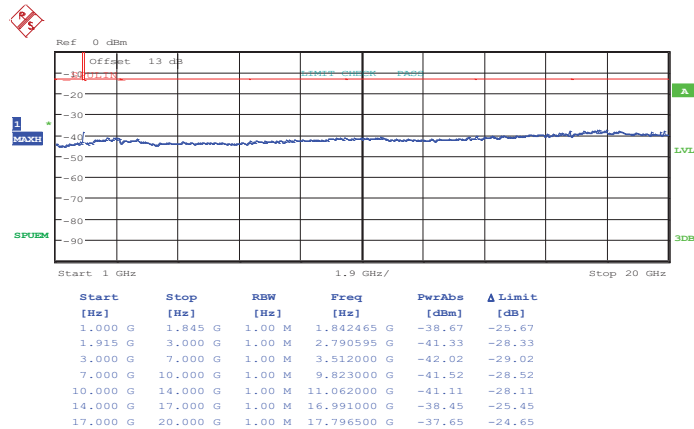


Band :	LTE Band 2	Channel :	CH18900 (Middle)
Band Width :	20MHz		

QPSK (RB Size 1, RB Offset 0)



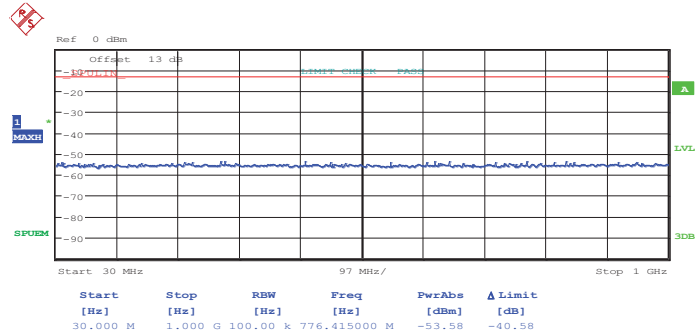
Date: 15.JUN.2013 07:28:20



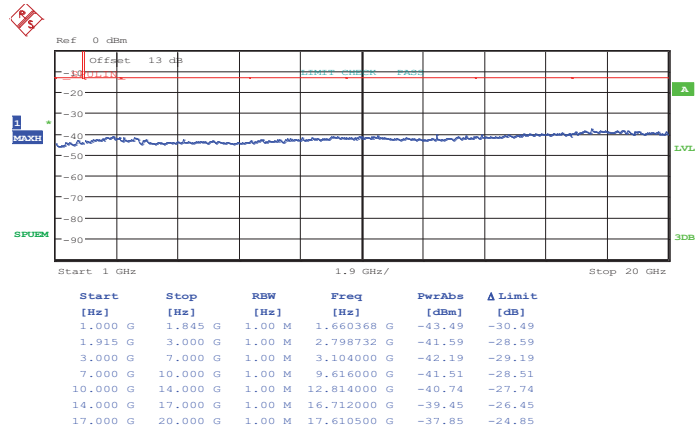
Date: 15.JUN.2013 07:31:29



16QAM (RB Size 1, RB Offset 49)



Date: 15.JUN.2013 07:28:11

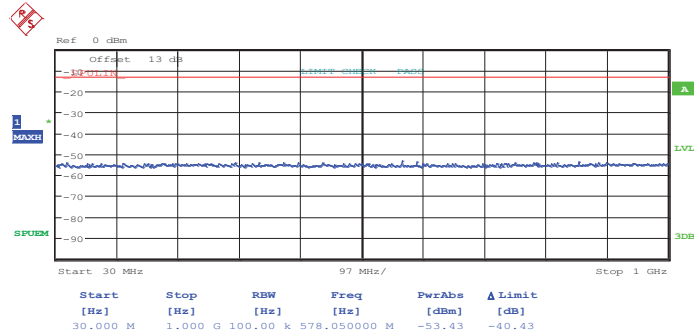


Date: 15.JUN.2013 07:31:42

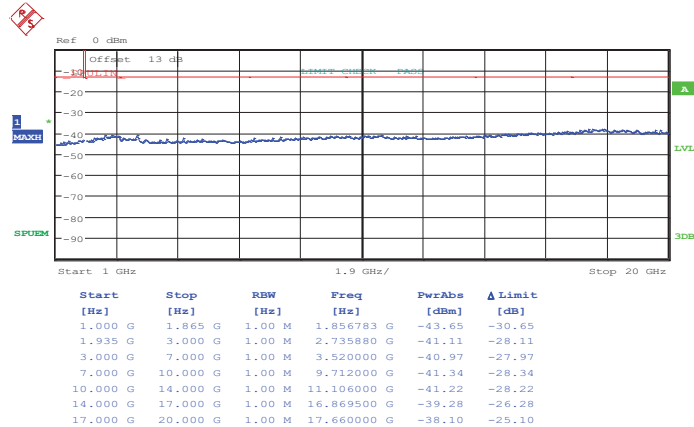


Band :	LTE Band 2	Channel :	CH19100 (High)
Band Width :	20MHz		

QPSK (RB Size 1, RB Offset 49)



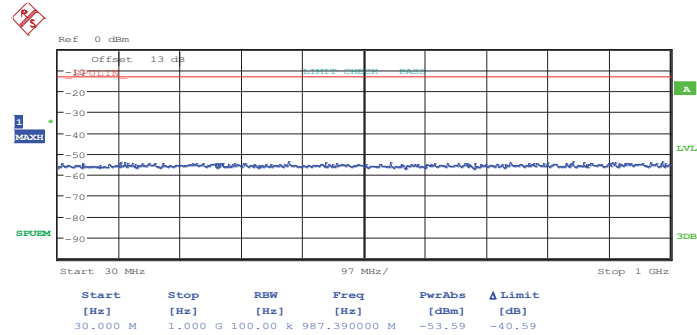
Date: 15.JUN.2013 07:28:36



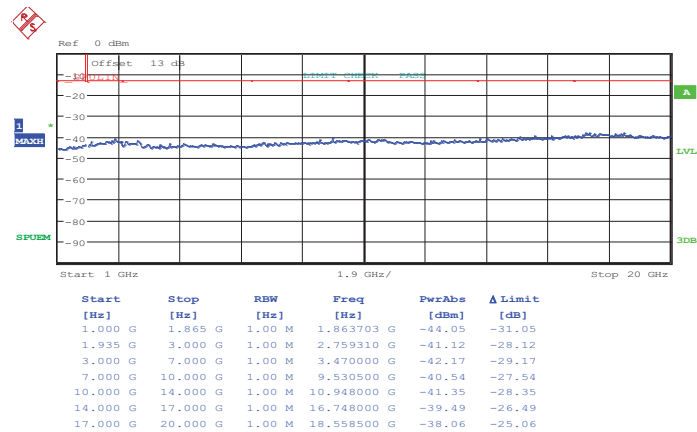
Date: 15.JUN.2013 07:33:17



16QAM (RB Size 1, RB Offset 49)



Date: 15.JUN.2013 07:28:44

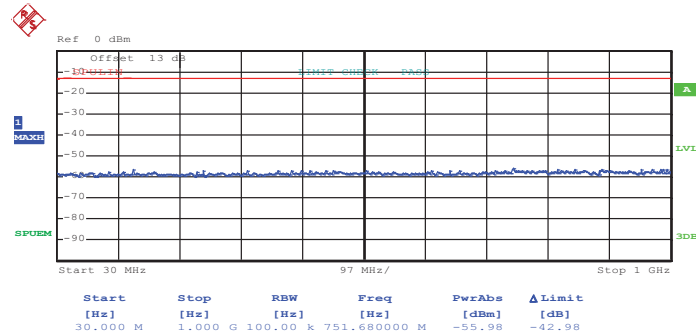


Date: 15.JUN.2013 07:33:26

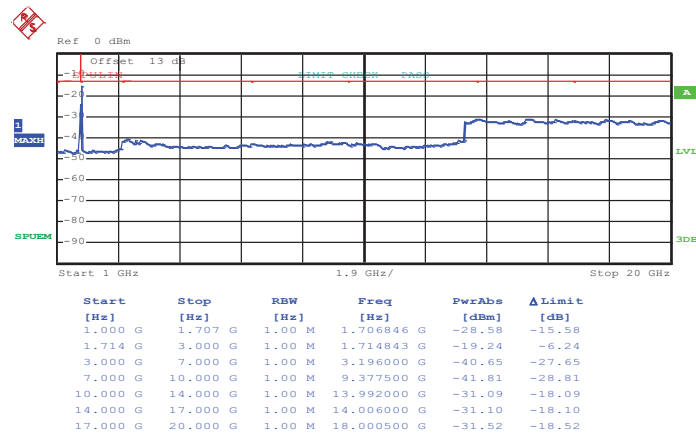


Band :	LTE Band 4	Channel :	CH19957 (Low)
Band Width :	1.4MHz		

QPSK (RB Size 1, RB Offset 2)

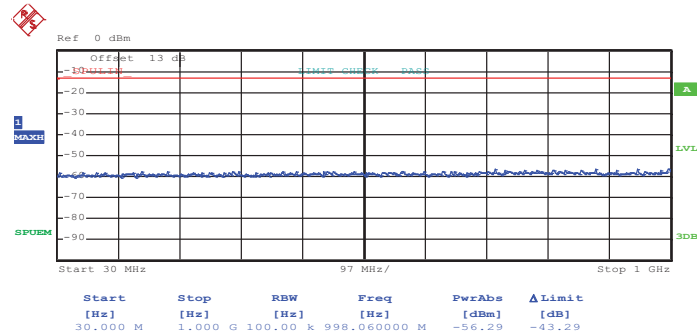


Date: 16.JUN.2013 14:07:13

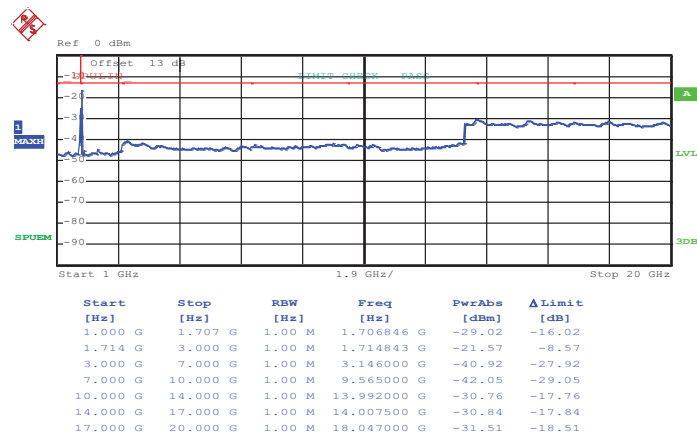


Date: 16.JUN.2013 14:04:49

16QAM (RB Size 1, RB Offset 2)



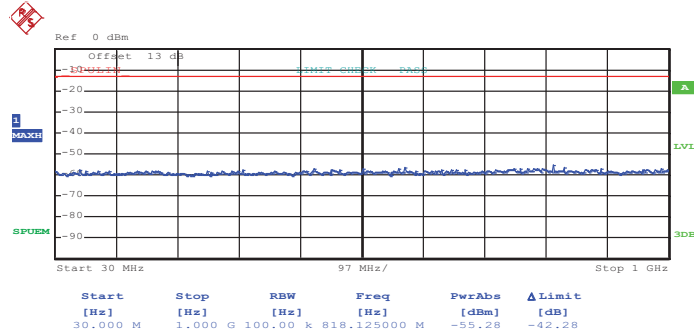
Date: 16.JUN.2013 14:06:26



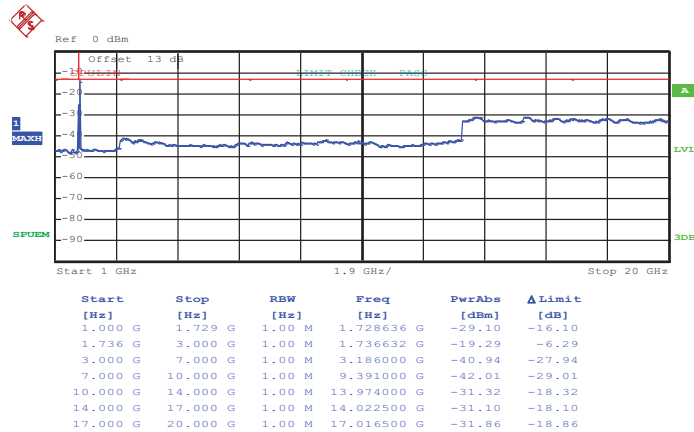
Date: 16.JUN.2013 14:05:36

Band :	LTE Band 4	Channel :	CH20175 (Middle)
Band Width :	1.4MHz		

QPSK (RB Size 1, RB Offset 2)



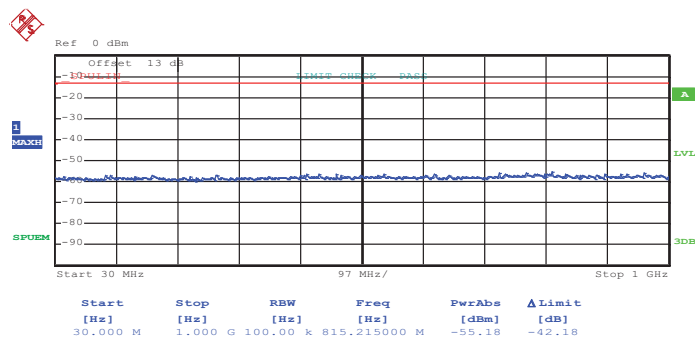
Date: 16.JUN.2013 14:08:13



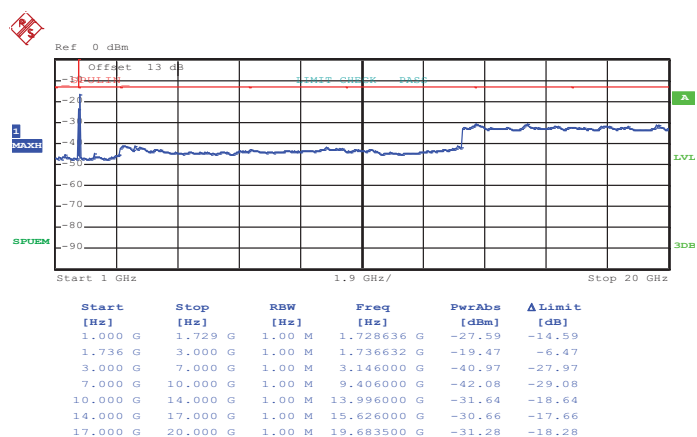
Date: 16.JUN.2013 14:09:20



16QAM (RB Size 1, RB Offset 2)



Date: 16.JUN.2013 14:08:01

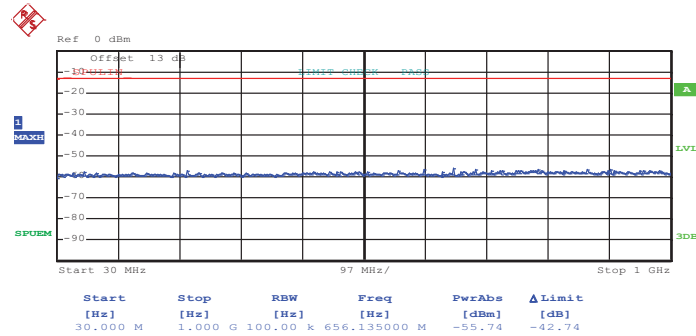


Date: 16.JUN.2013 14:09:49

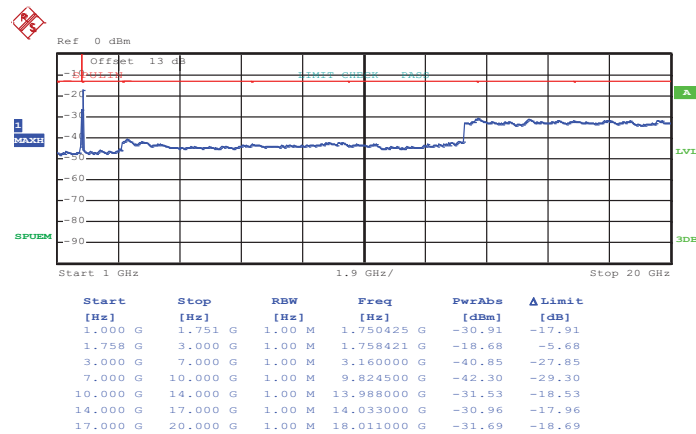


Band :	LTE Band 4	Channel :	CH20393 (High)
Band Width :	1.4MHz		

QPSK (RB Size 1, RB Offset 2)



Date: 16.JUN.2013 14:12:21



Date: 16.JUN.2013 14:11:37



Ref 0 dBm

Offset 13 dB

170.413 MHz

1 MHz

SPUR

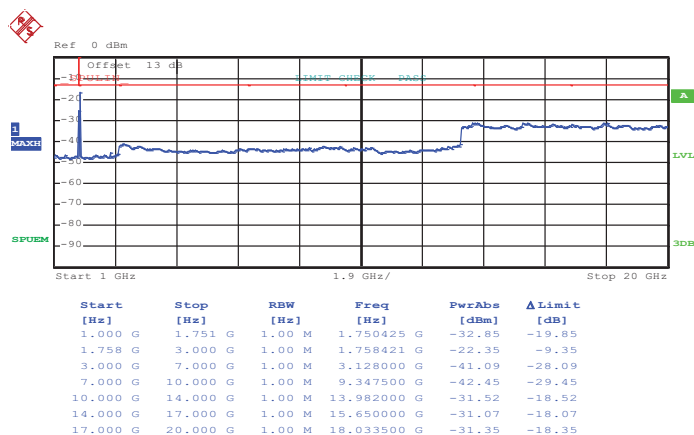
Start 30 MHz

97 MHz

Stop 1 GHz

Start	Stop	RBW	Freq	PwrAbs	ΔLimit
[Hz]	[Hz]	[Hz]	[Hz]	[dBm]	[dB]
30.000 M	1.000 G	100.00 k	739.070000 M	-56.54	-43.54

Date: 16.JUN.2013 14:12:34

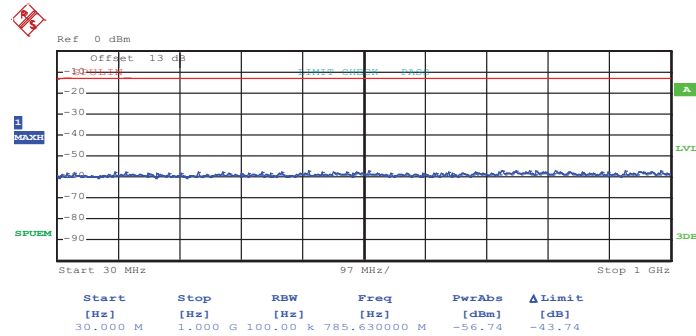


Date: 16.JUN.2013 14:11:14

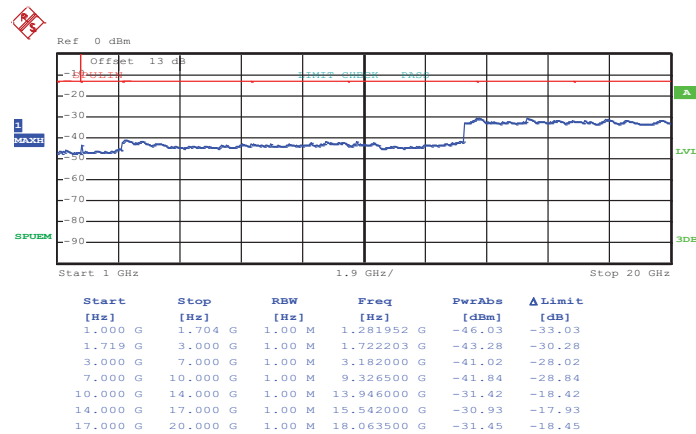


Band :	LTE Band 4	Channel :	CH19965 (Low)
Band Width :	3MHz		

QPSK (RB Size 1, RB Offset 7)



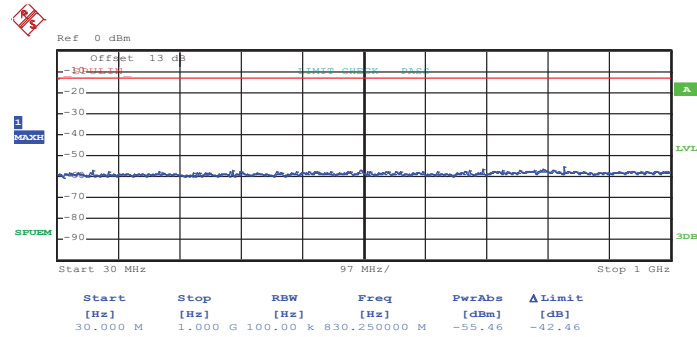
Date: 16.JUN.2013 14:28:20



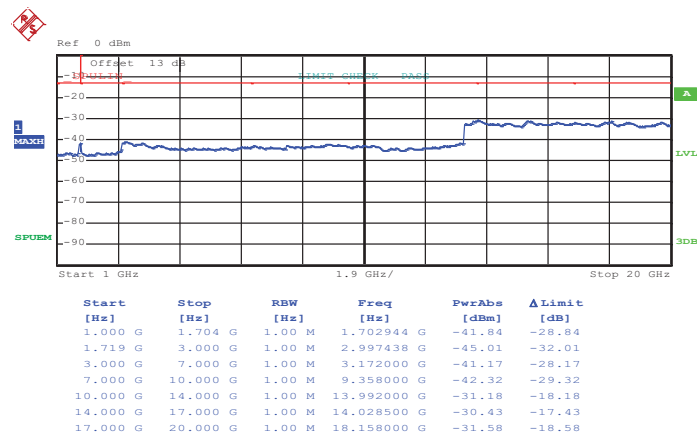
Date: 16.JUN.2013 14:26:27



16QAM (RB Size 1, RB Offset 7)



Date: 16.JUN.2013 14:28:08

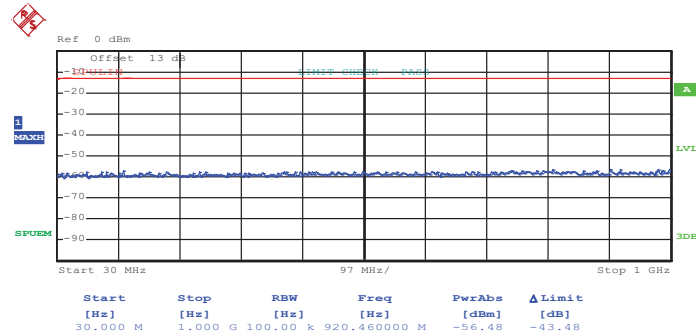


Date: 16.JUN.2013 14:27:48

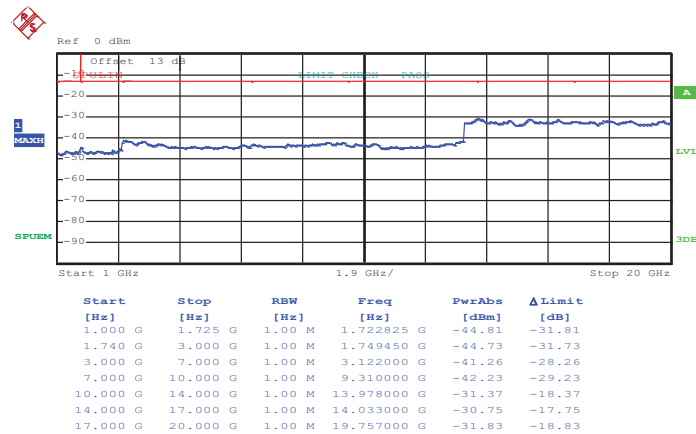


Band :	LTE Band 4	Channel :	CH20175 (Middle)
Band Width :	3MHz		

QPSK (RB Size 1, RB Offset 7)



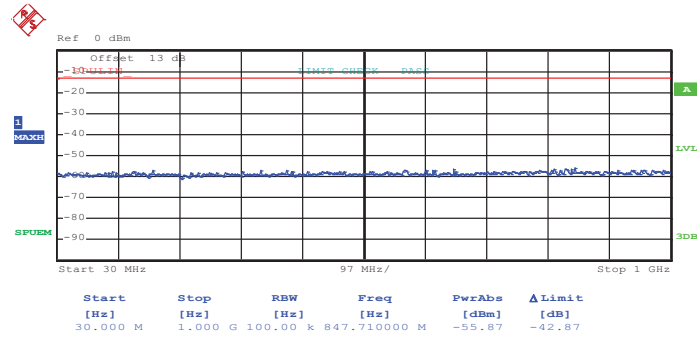
Date: 16.JUN.2013 14:22:46



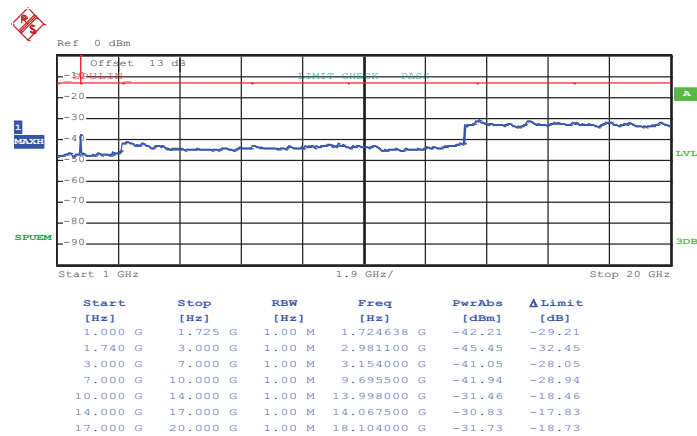
Date: 16.JUN.2013 14:22:20



16QAM (RB Size 1, RB Offset 7)



Date: 16.JUN.2013 14:23:00

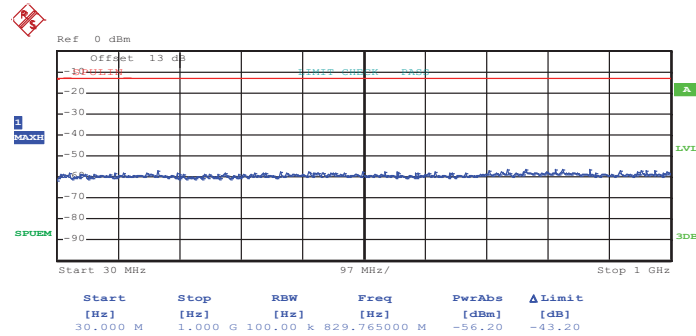


Date: 16.JUN.2013 14:24:26

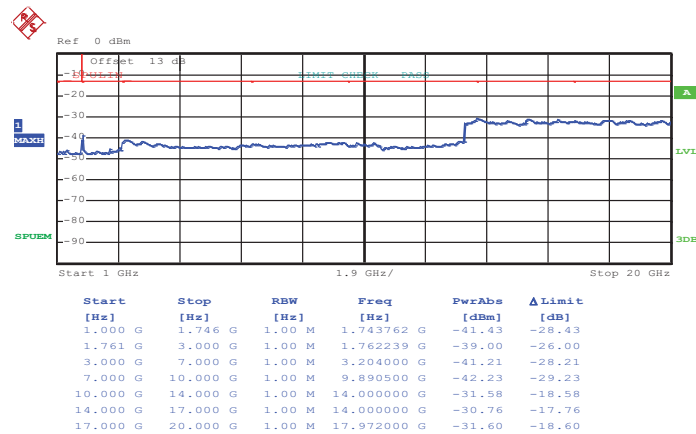


Band :	LTE Band 4	Channel :	CH20385 (High)
Band Width :	3MHz		

QPSK (RB Size 1, RB Offset 7)



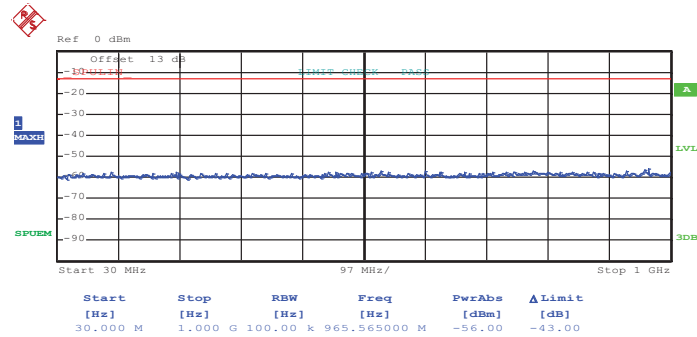
Date: 16.JUN.2013 14:19:30



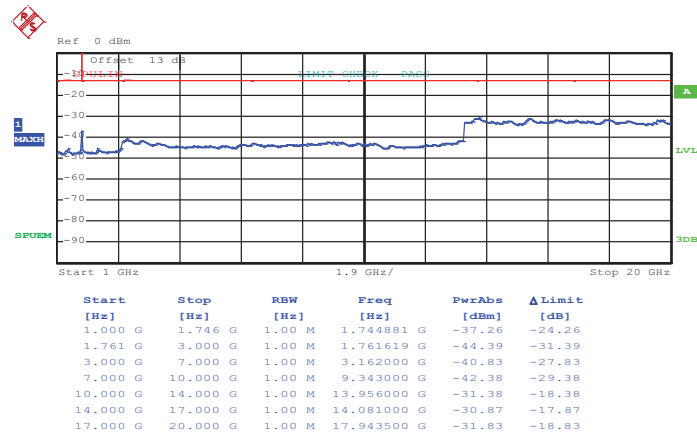
Date: 16.JUN.2013 14:20:36



16QAM (RB Size 1, RB Offset 7)



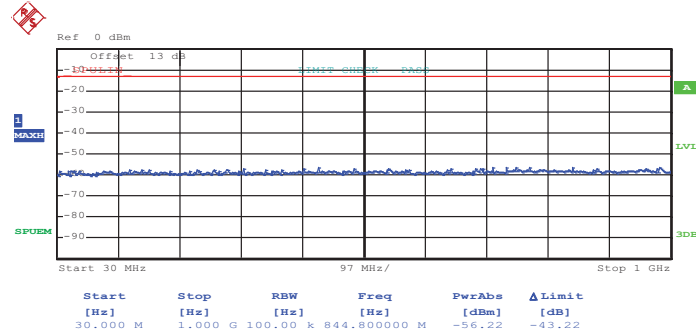
Date: 16.JUN.2013 14:18:58



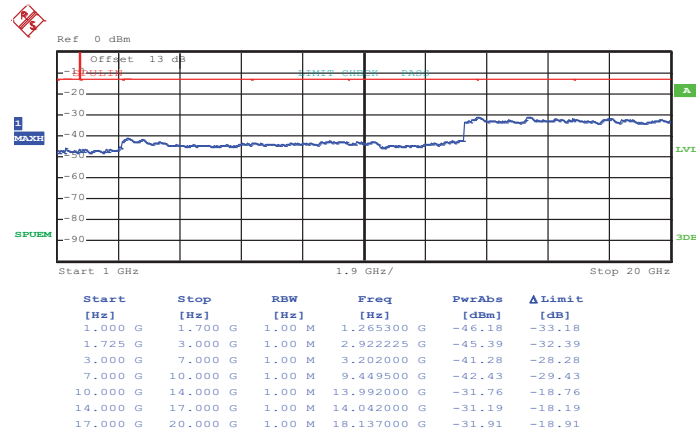
Date: 16.JUN.2013 14:20:56

Band :	LTE Band 4	Channel :	CH19975 (Low)
Band Width :	5MHz		

QPSK (RB Size 1, RB Offset 12)



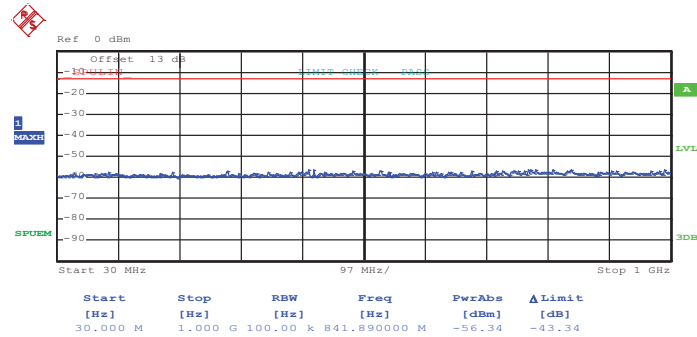
Date: 16.JUN.2013 14:29:37



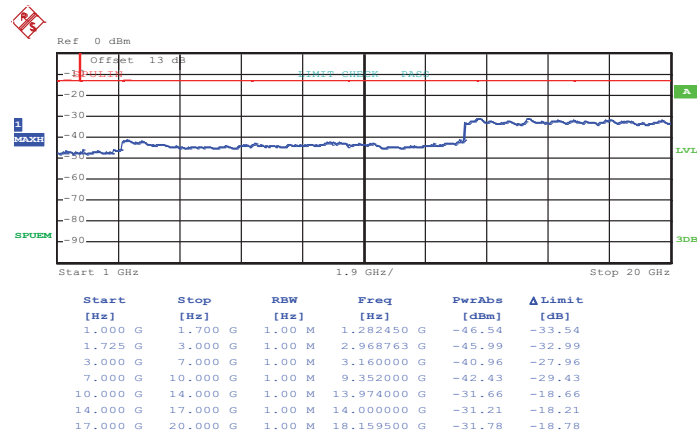
Date: 16.JUN.2013 14:31:15



16QAM (RB Size 1, RB Offset 12)



Date: 16.JUN.2013 14:29:58

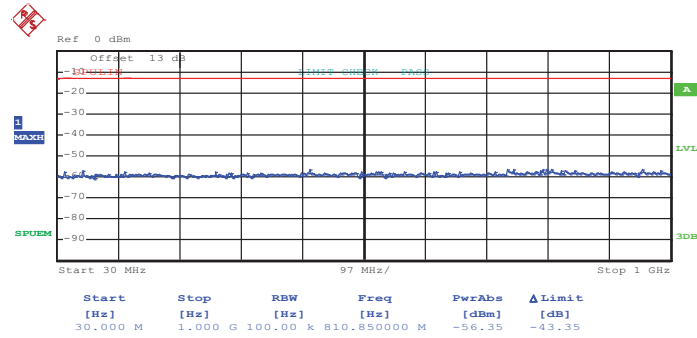


Date: 16.JUN.2013 14:31:03

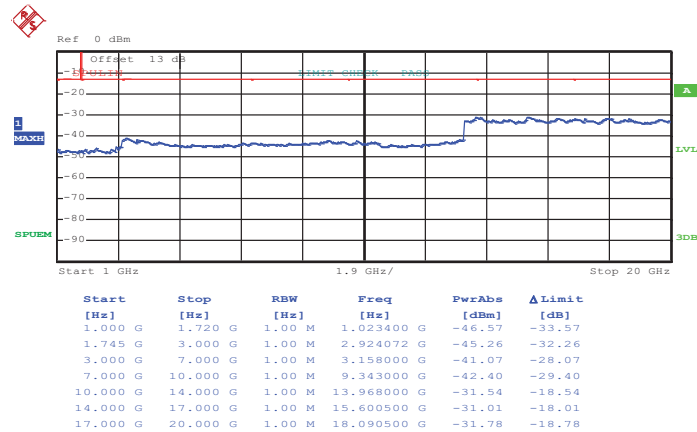


Band :	LTE Band 4	Channel :	CH20175 (Middle)
Band Width :	5MHz		

QPSK (RB Size 1, RB Offset 12)



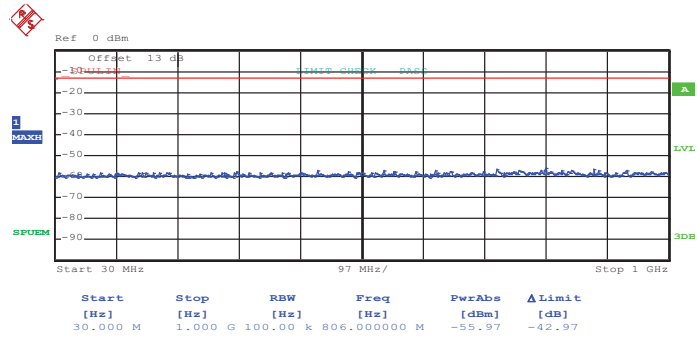
Date: 16.JUN.2013 14:33:27



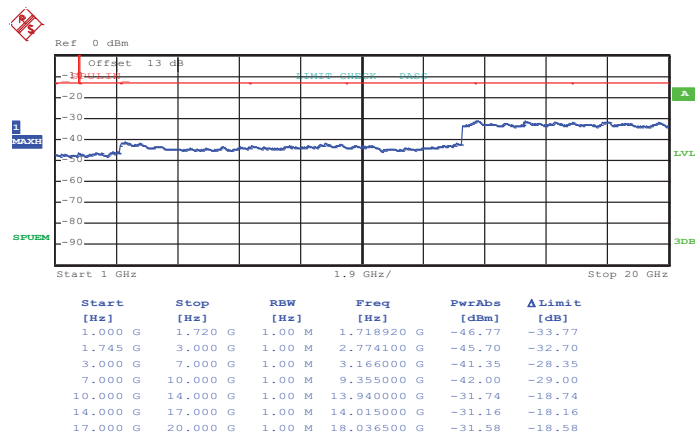
Date: 16.JUN.2013 14:32:29



16QAM (RB Size 1, RB Offset 12)



Date: 16.JUN.2013 14:33:13

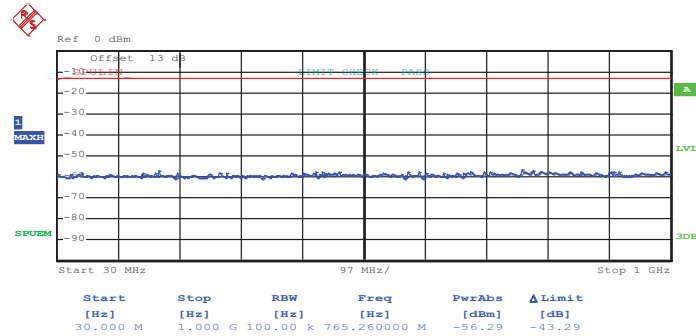


Date: 16.JUN.2013 14:32:45

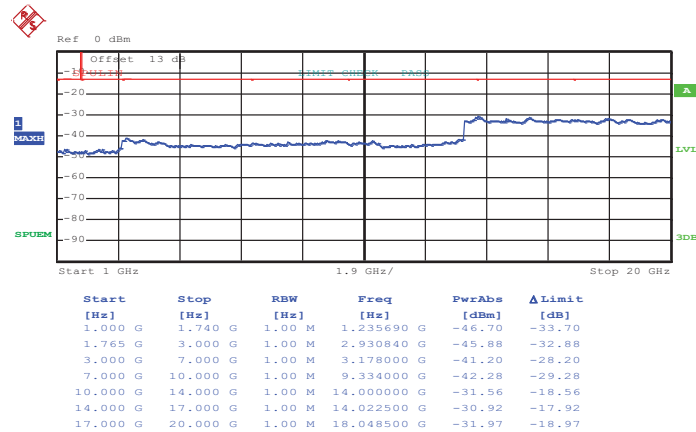


Band :	LTE Band 4	Channel :	CH20375 (High)
Band Width :	5MHz		

QPSK (RB Size 1, RB Offset 12)



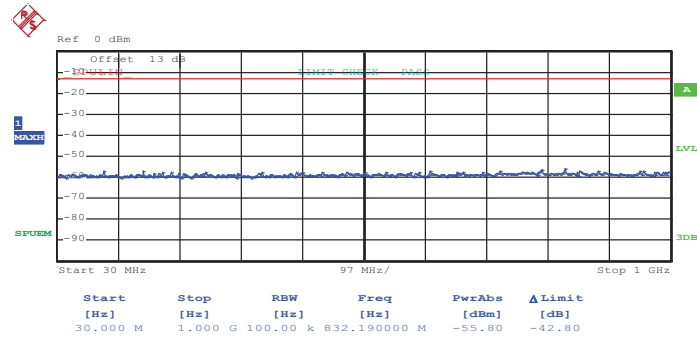
Date: 16.JUN.2013 14:34:01



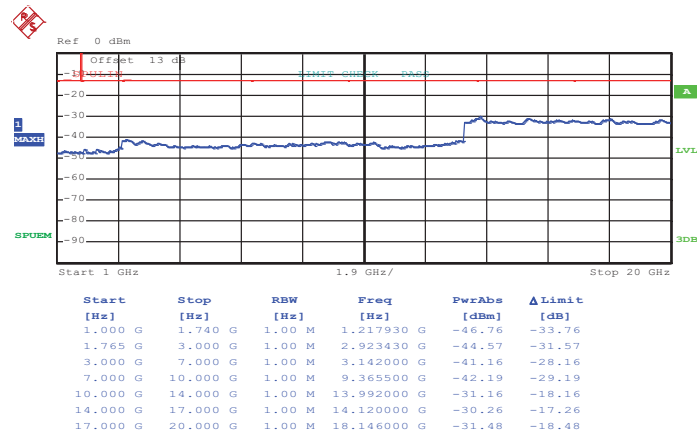
Date: 16.JUN.2013 14:35:35



16QAM (RB Size 1, RB Offset 12)



Date: 16.JUN.2013 14:34:18

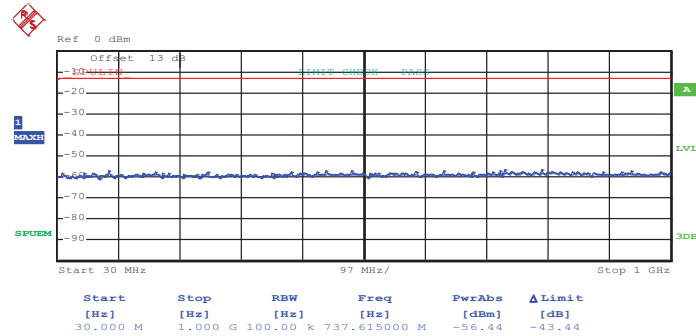


Date: 16.JUN.2013 14:35:24

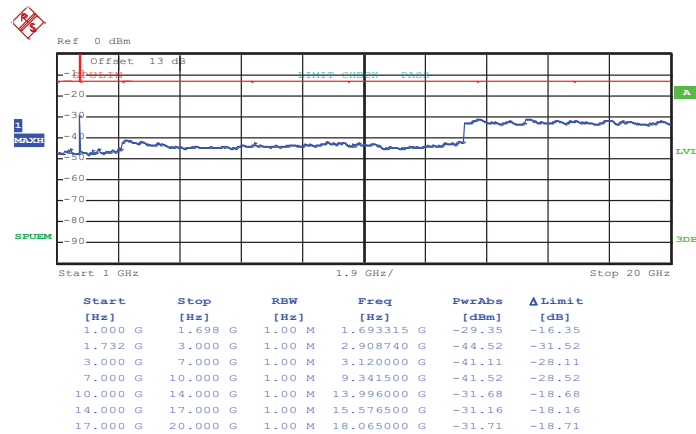


Band :	LTE Band 4	Channel :	CH20000 (Low)
Band Width :	10MHz		

QPSK (RB Size 1, RB Offset 0)



Date: 16.JUN.2013 14:44:06

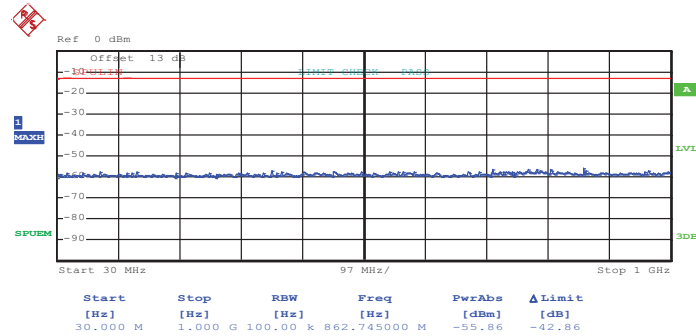


Date: 16.JUN.2013 14:43:08

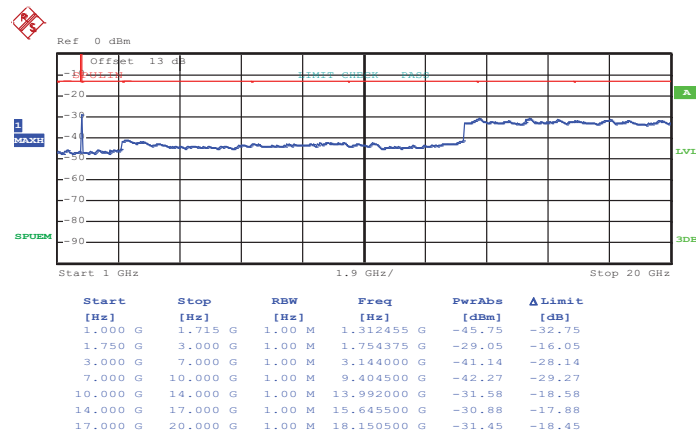


Band :	LTE Band 4	Channel :	CH20175 (Middle)
Band Width :	10MHz		

QPSK (RB Size 1, RB Offset 49)



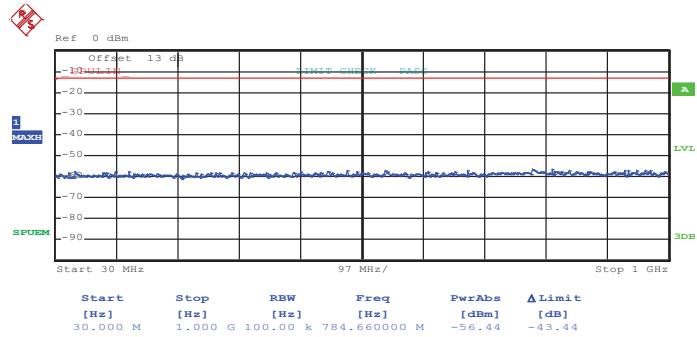
Date: 16.JUN.2013 14:40:05



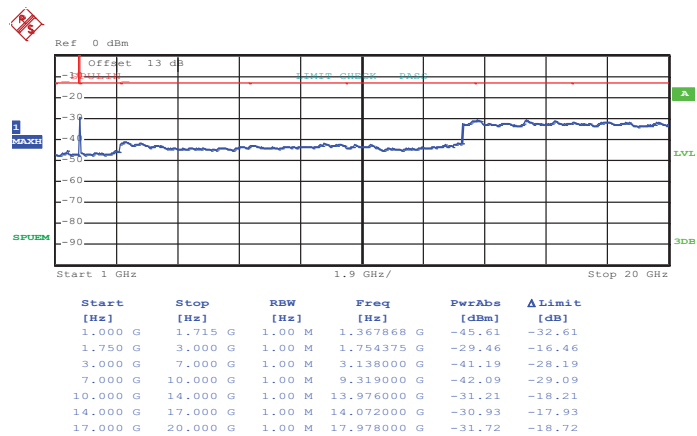
Date: 16.JUN.2013 14:41:51



16QAM (RB Size 1, RB Offset 49)



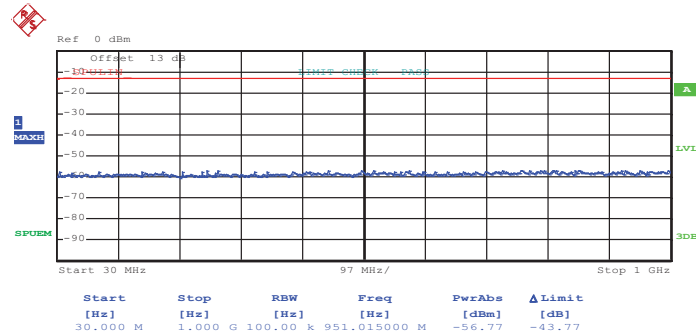
Date: 16.JUN.2013 14:40:20



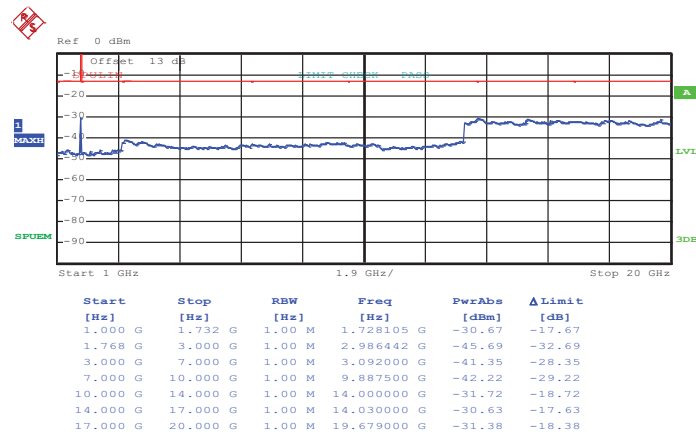
Date: 16.JUN.2013 14:41:17



Band :	LTE Band 4	Channel :	CH20350 (High)
Band Width :	10MHz		

QPSK (RB Size 1, RB Offset 0)

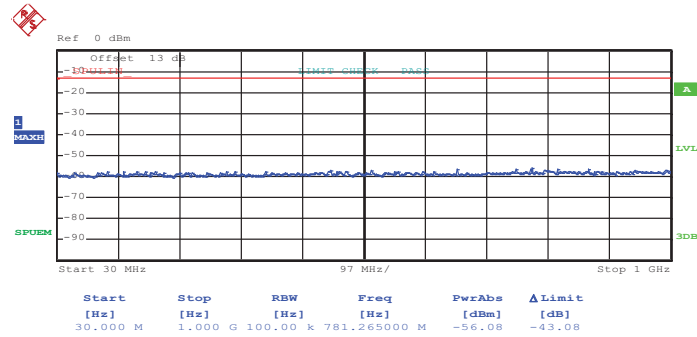
Date: 16.JUN.2013 14:39:01



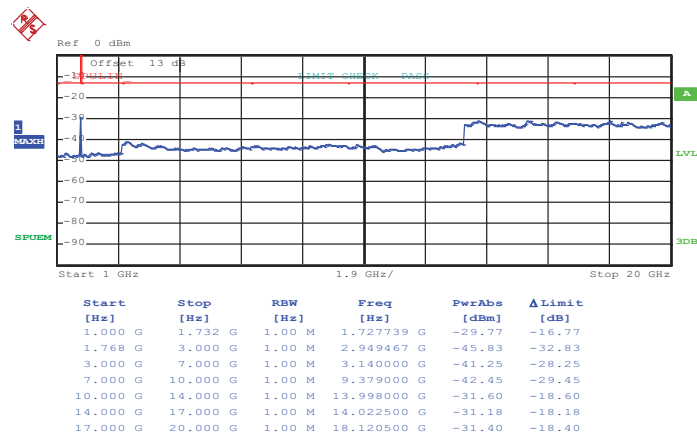
Date: 16.JUN.2013 14:38:05



16QAM (RB Size 1, RB Offset 0)



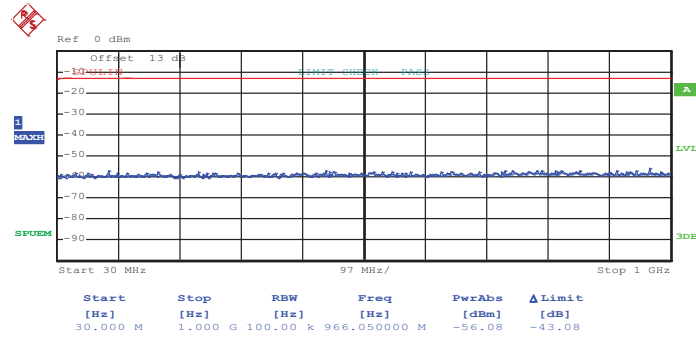
Date: 16.JUN.2013 14:38:45



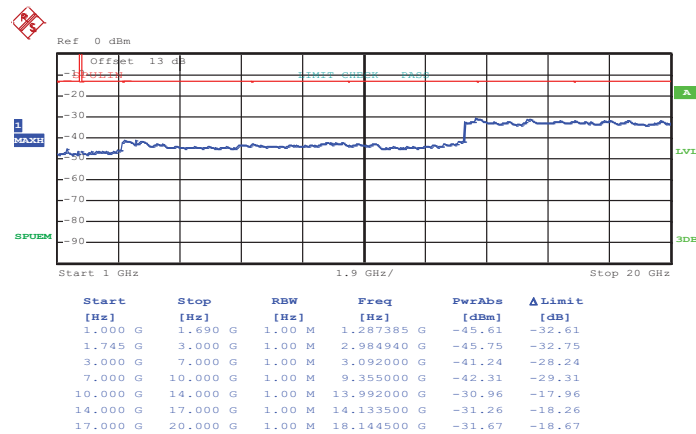
Date: 16.JUN.2013 14:38:26

Band :	LTE Band 4	Channel :	CH20025 (Low)
Band Width :	15MHz		

QPSK (RB Size 1, RB Offset 37)



Date: 16.JUN.2013 14:45:42

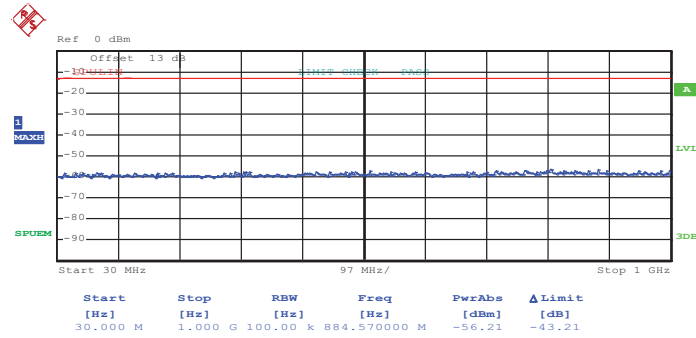


Date: 16.JUN.2013 14:47:06

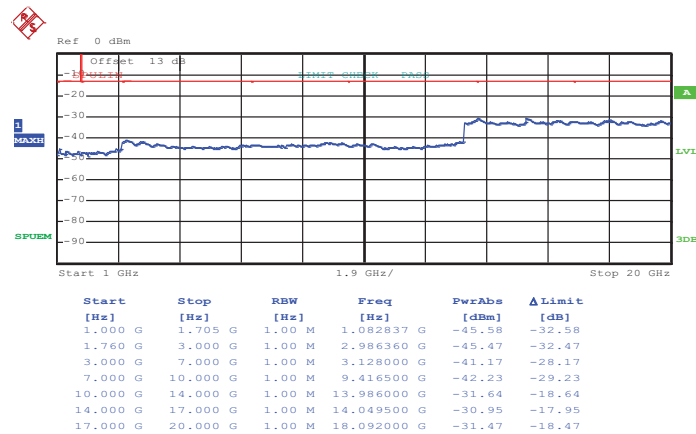


Band :	LTE Band 4	Channel :	CH20175 (Middle)
Band Width :	15MHz		

QPSK (RB Size 1, RB Offset 37)

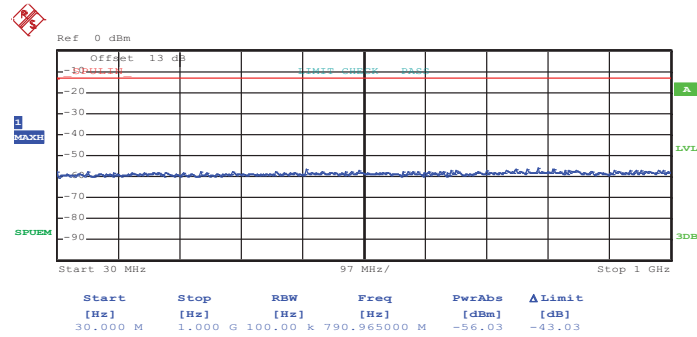


Date: 16.JUN.2013 14:48:57

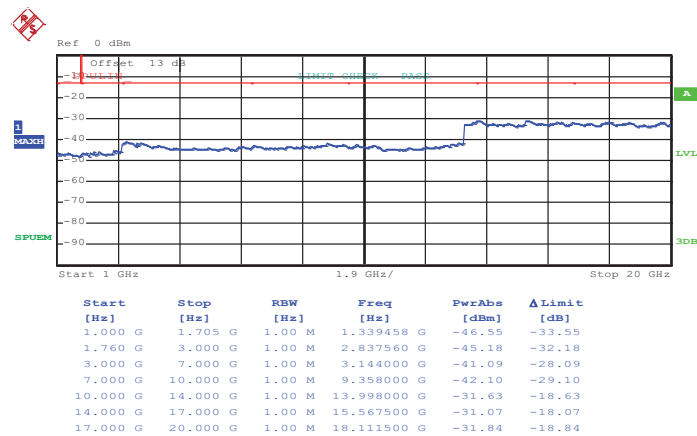


Date: 16.JUN.2013 14:49:29

16QAM (RB Size 1, RB Offset 37)



Date: 16.JUN.2013 14:48:46

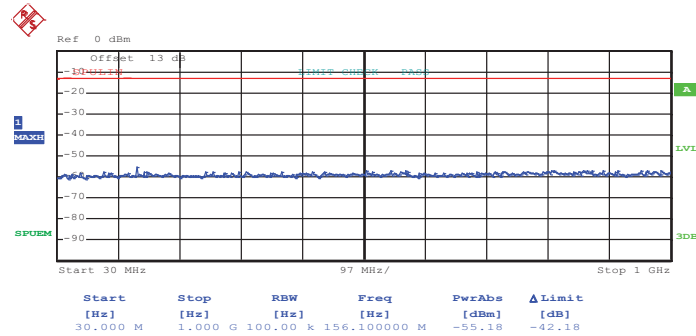


Date: 16.JUN.2013 14:48:28

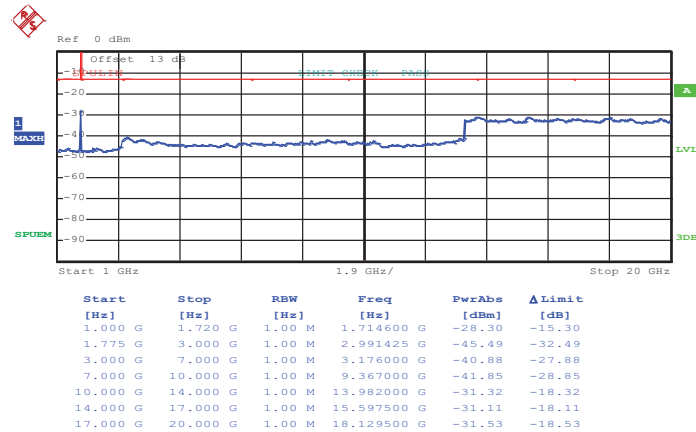


Band :	LTE Band 4	Channel :	CH20325 (High)
Band Width :	15MHz		

QPSK (RB Size 1, RB Offset 0)



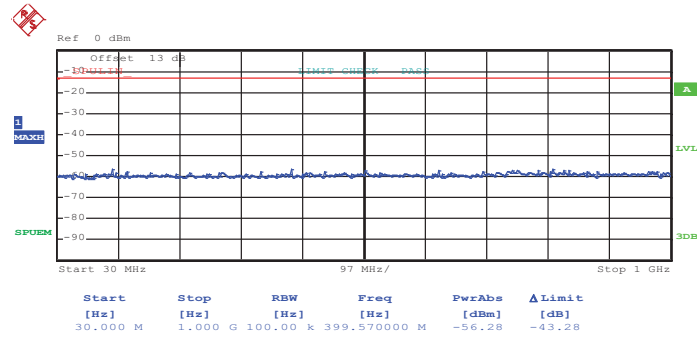
Date: 16.JUN.2013 14:52:49



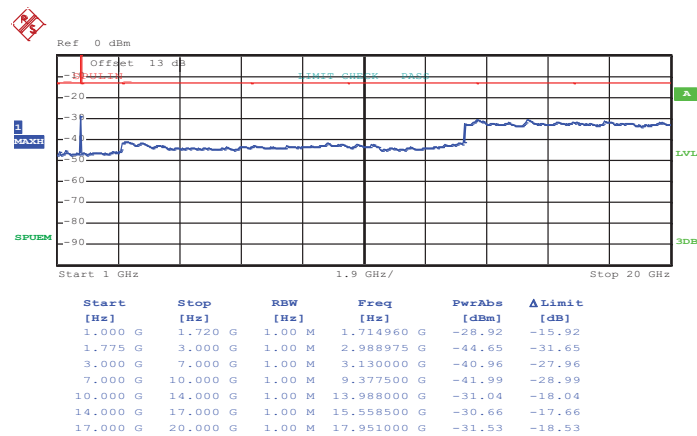
Date: 16.JUN.2013 14:51:13



16QAM (RB Size 1, RB Offset 0)



Date: 16.JUN.2013 14:52:38

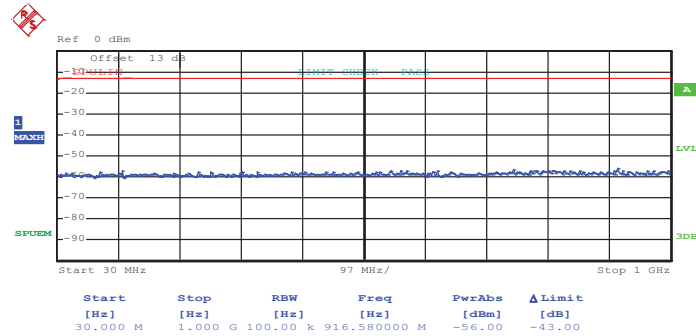


Date: 16.JUN.2013 14:52:03

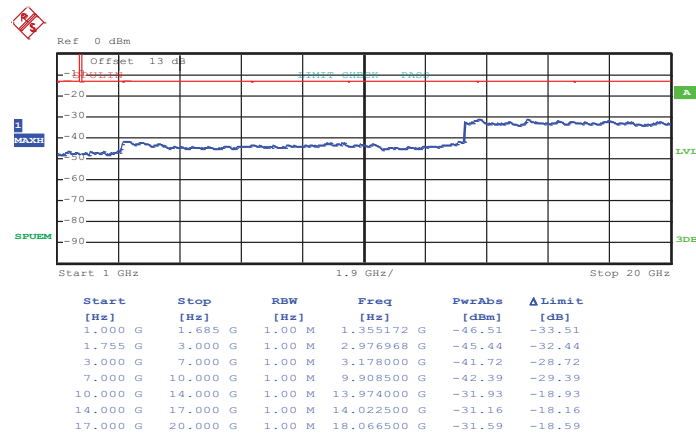


Band :	LTE Band 4	Channel :	CH20050 (Low)
Band Width :	20MHz		

QPSK (RB Size 1, RB Offset 49)



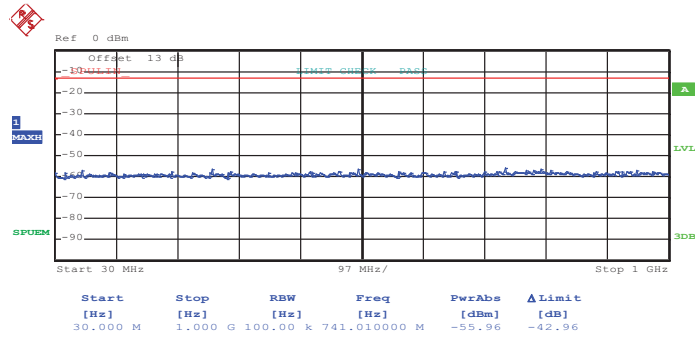
Date: 16.JUN.2013 15:04:34



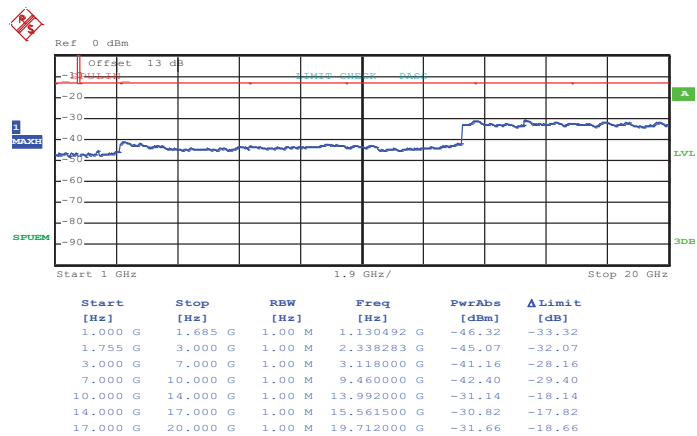
Date: 16.JUN.2013 15:06:01



16QAM (RB Size 1, RB Offset 49)



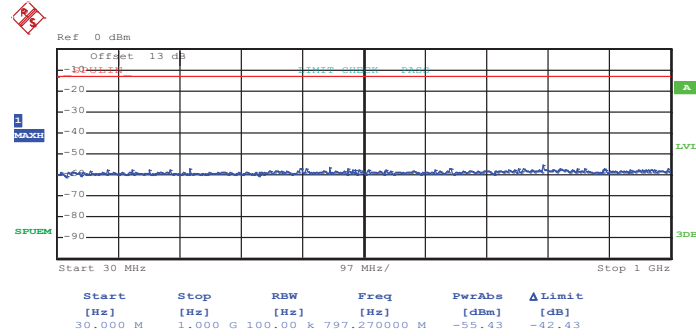
Date: 16.JUN.2013 15:04:45



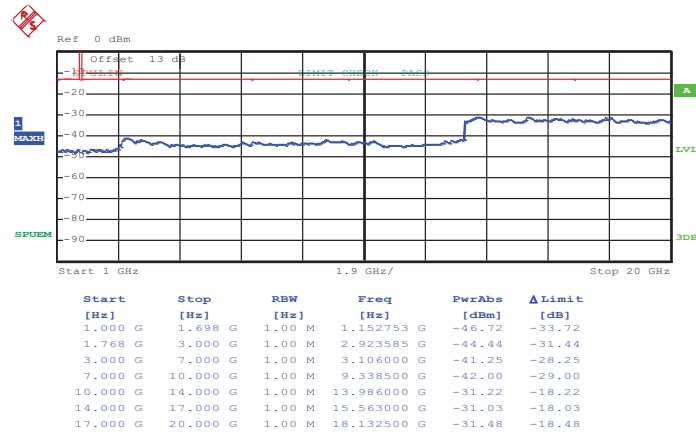
Date: 16.JUN.2013 15:05:48

Band :	LTE Band 4	Channel :	CH20175 (Middle)
Band Width :	20MHz		

QPSK (RB Size 1, RB Offset 49)

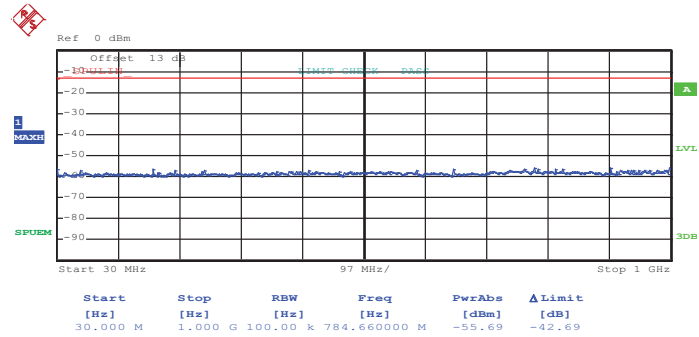


Date: 16.JUN.2013 15:00:59

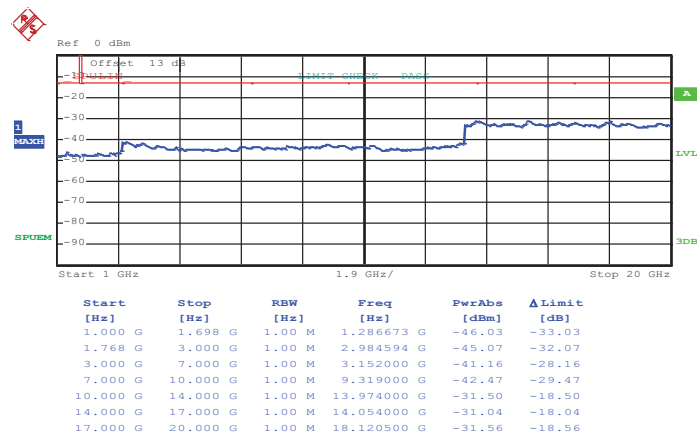


Date: 16.JUN.2013 15:08:14

16QAM (RB Size 1, RB Offset 49)



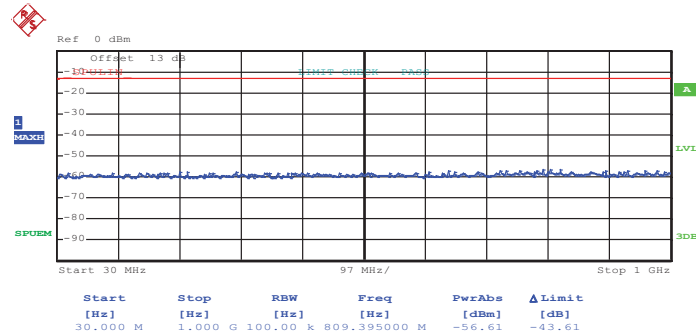
Date: 16.JUN.2013 15:00:42



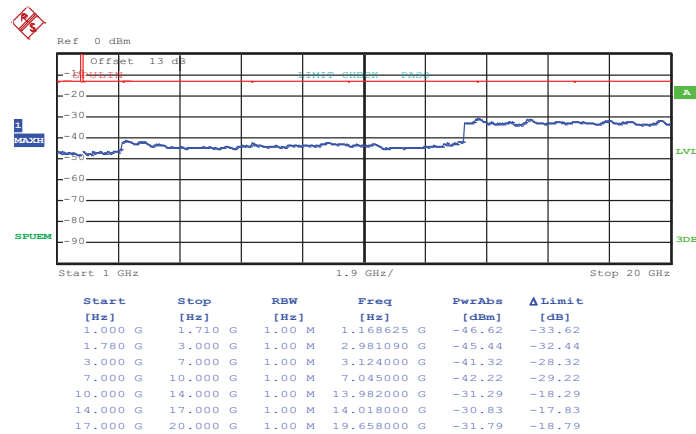
Date: 16.JUN.2013 15:08:32

Band :	LTE Band 4	Channel :	CH20300 (High)
Band Width :	20MHz		

QPSK (RB Size 1, RB Offset 49)



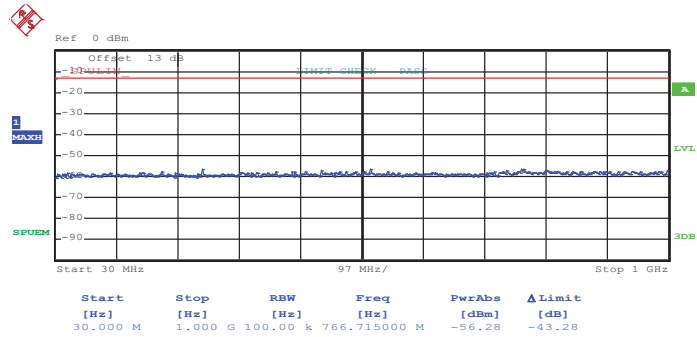
Date: 16.JUN.2013 14:54:31



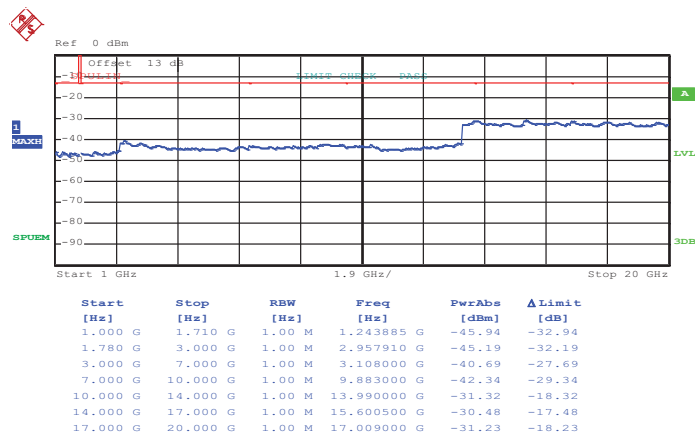
Date: 16.JUN.2013 14:56:09



16QAM (RB Size 1, RB Offset 49)



Date: 16.JUN.2013 14:54:44

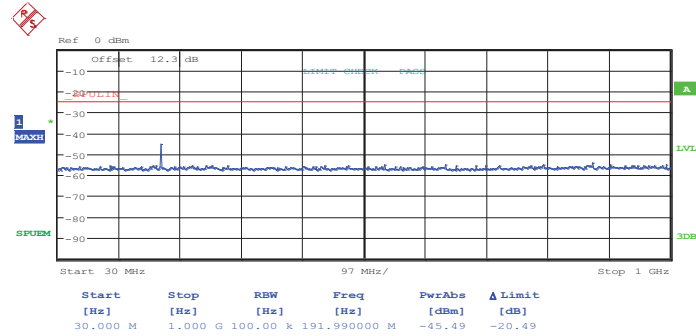


Date: 16.JUN.2013 14:55:54

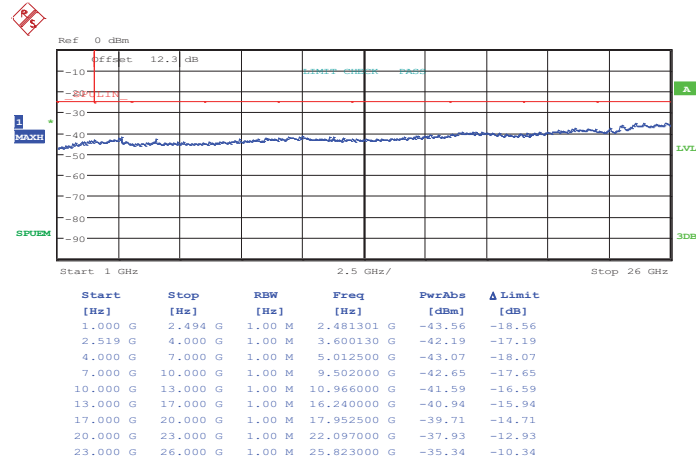


Band :	LTE Band 7	Channel :	CH20815 (Low)
Band Width :	5MHz		

QPSK (RB Size 1, RB Offset 12)



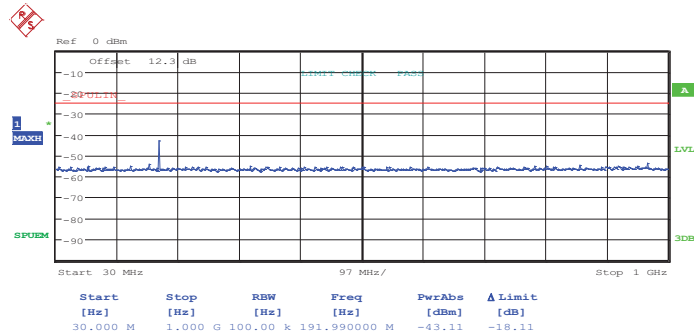
Date: 19.JUN.2013 14:09:57



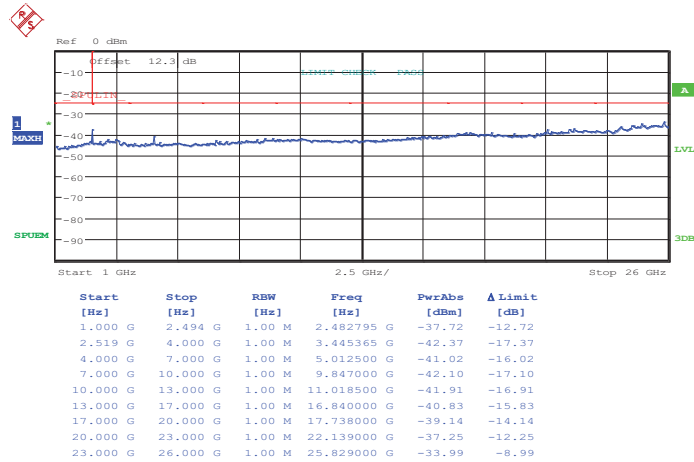
Date: 19.JUN.2013 14:11:03



16QAM (RB Size 1, RB Offset 12)



Date: 19.JUN.2013 14:10:15

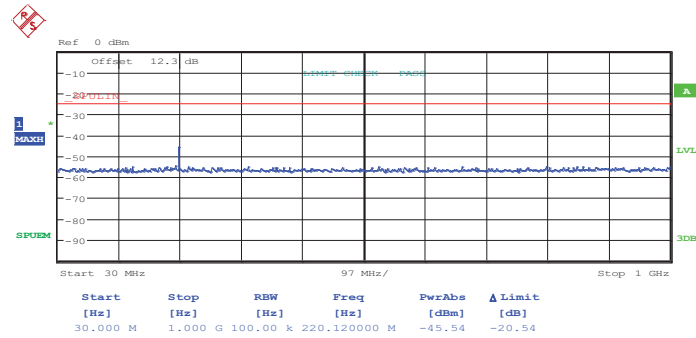


Date: 19.JUN.2013 14:10:49

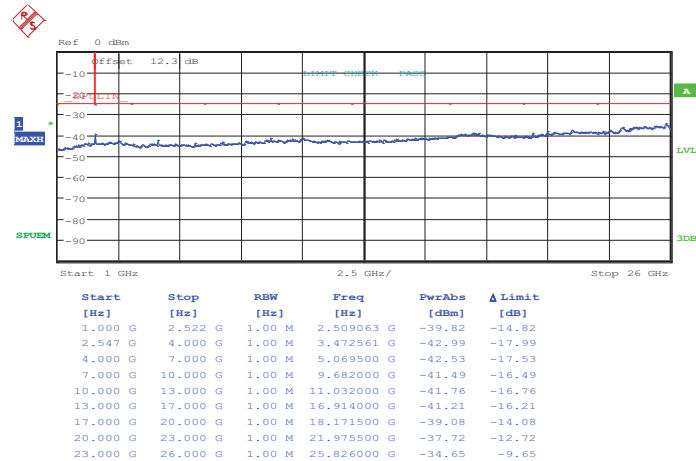


Band :	LTE Band 7	Channel :	CH21095 (Middle)
Band Width :	5MHz		

QPSK (RB Size 1, RB Offset 12)



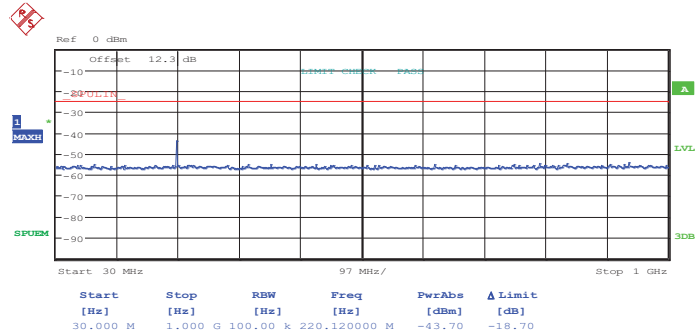
Date: 19.JUN.2013 14:13:42



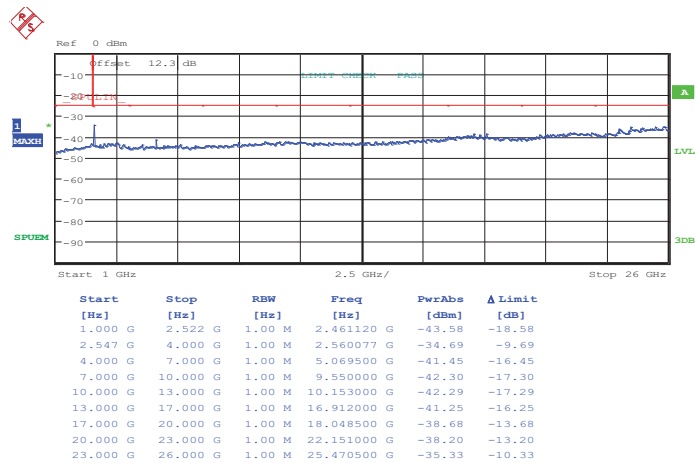
Date: 19.JUN.2013 14:12:42



16QAM (RB Size 1, RB Offset 12)



Date: 19.JUN.2013 14:13:28

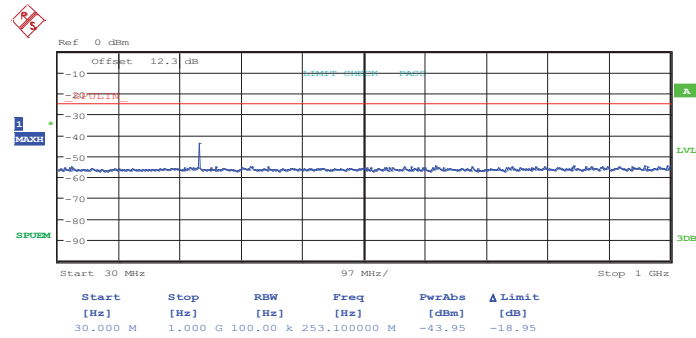


Date: 19.JUN.2013 14:12:56

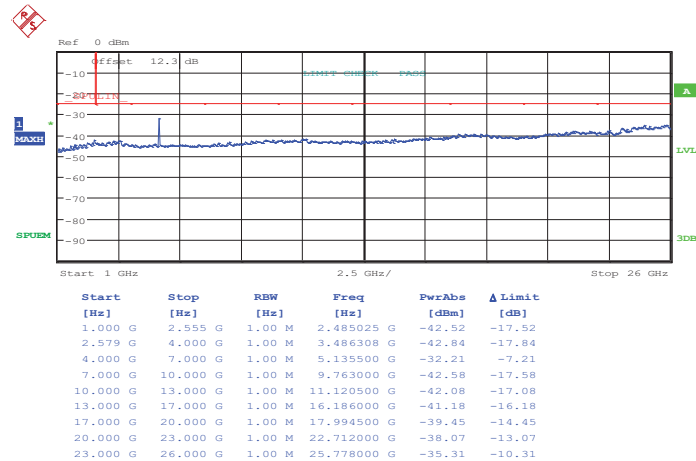


Band :	LTE Band 7	Channel :	CH21425 (High)
Band Width :	5MHz		

QPSK (RB Size 1, RB Offset 12)



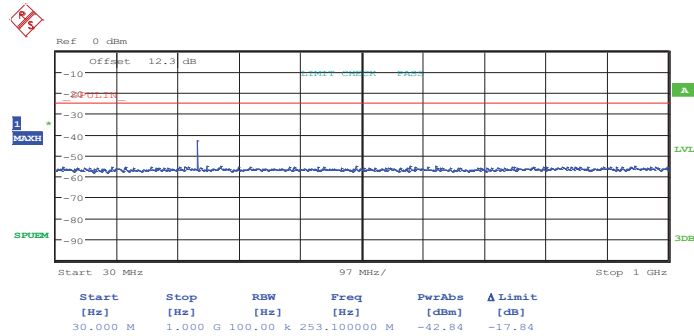
Date: 19.JUN.2013 14:15:00



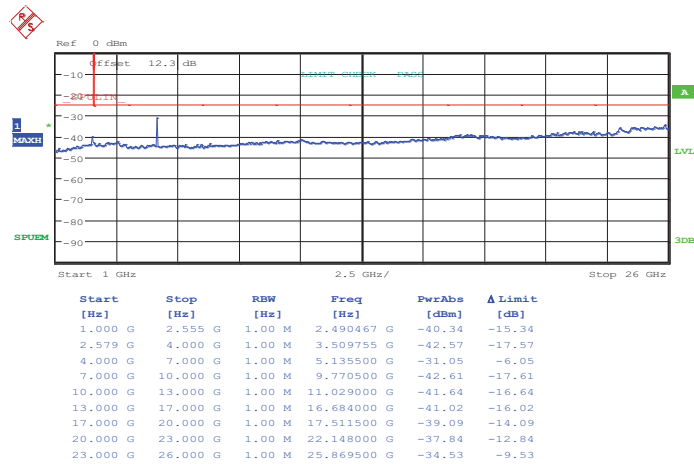
Date: 19.JUN.2013 14:16:18



16QAM (RB Size 1, RB Offset 12)



Date: 19.JUN.2013 14:15:13

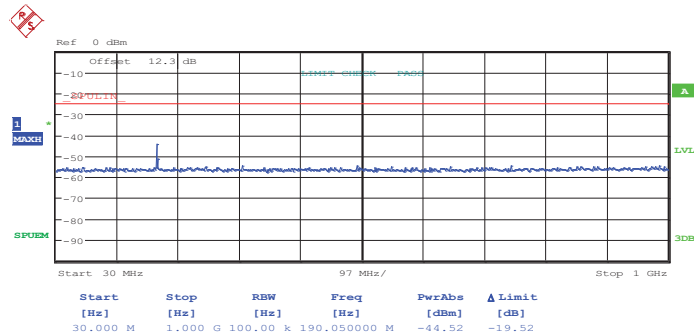


Date: 19.JUN.2013 14:16:05

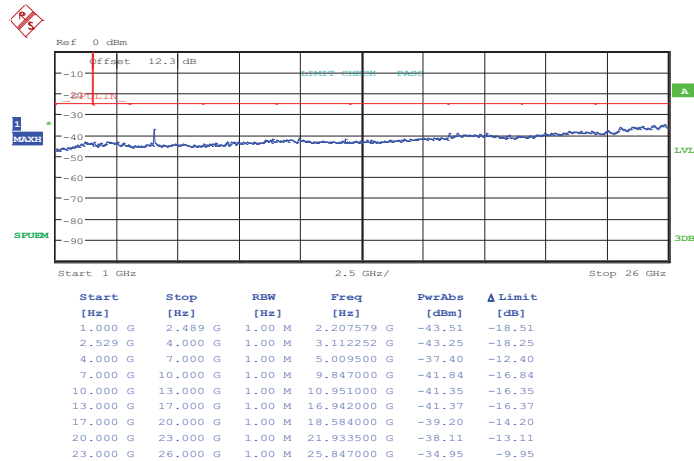


Band :	LTE Band 7	Channel :	CH20840 (Low)
Band Width :	10MHz		

QPSK (RB Size 1, RB Offset 0)



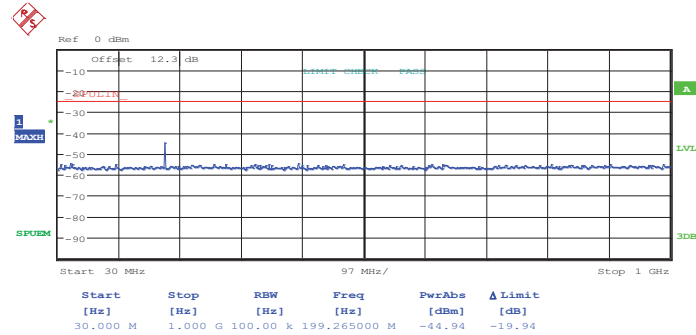
Date: 19.JUN.2013 14:25:32



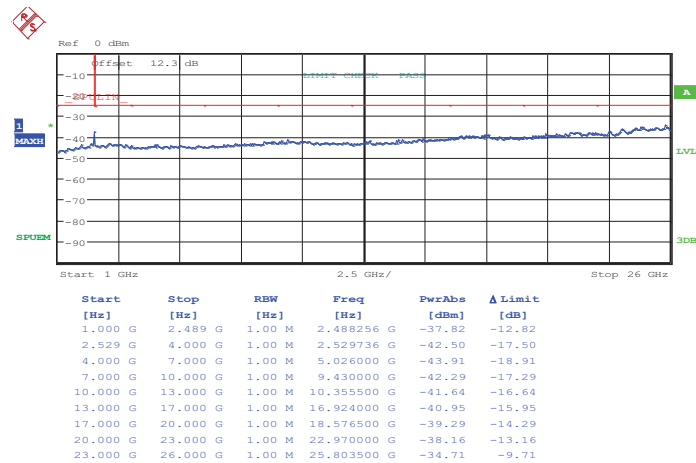
Date: 19.JUN.2013 14:26:25



16QAM (RB Size 1, RB Offset 49)



Date: 19.JUN.2013 14:25:49

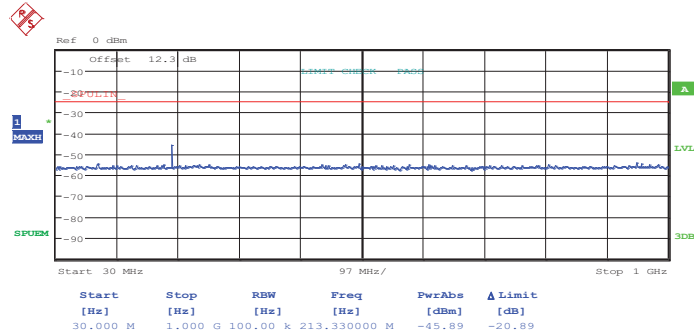


Date: 19.JUN.2013 14:26:10

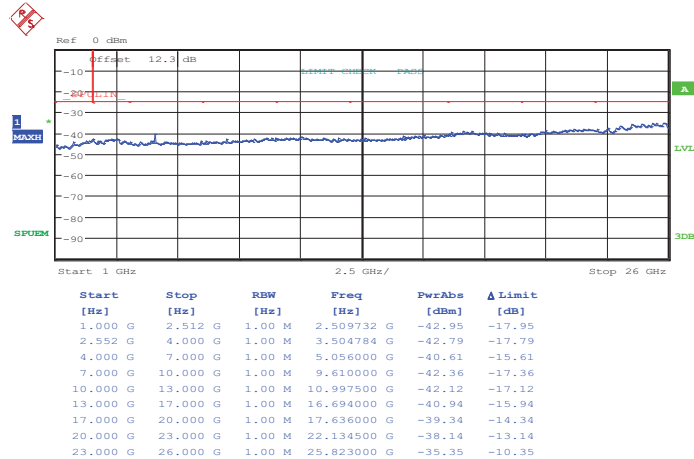


Band :	LTE Band 7	Channel :	CH21070 (Middle)
Band Width :	10MHz		

QPSK (RB Size 1, RB Offset 0)



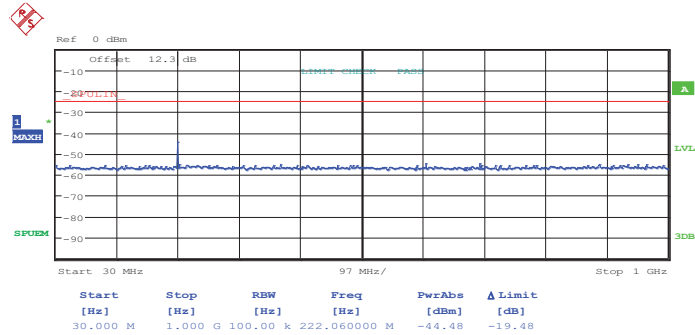
Date: 19.JUN.2013 14:38:27



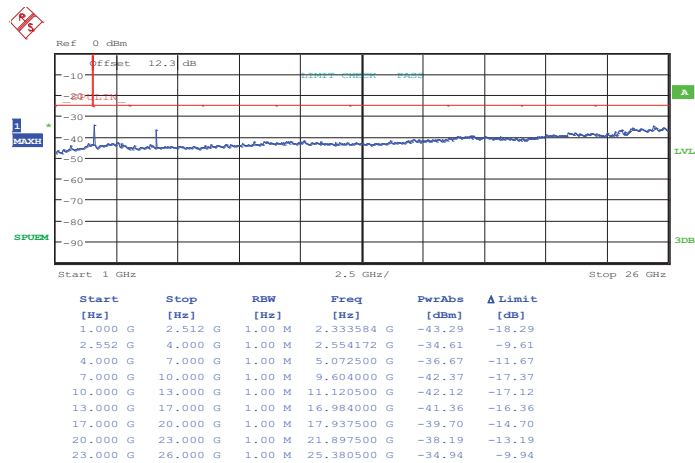
Date: 19.JUN.2013 14:36:53



16QAM (RB Size 1, RB Offset 49)



Date: 19.JUN.2013 14:38:05

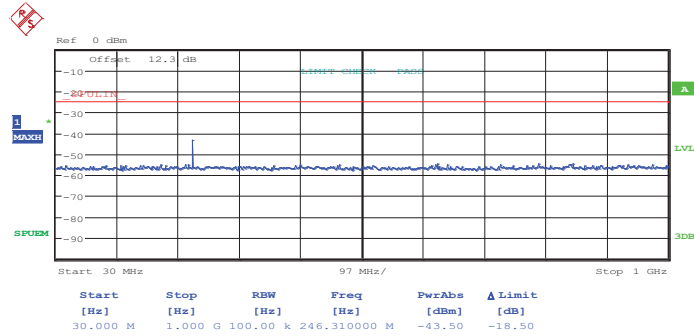


Date: 19.JUN.2013 14:37:27

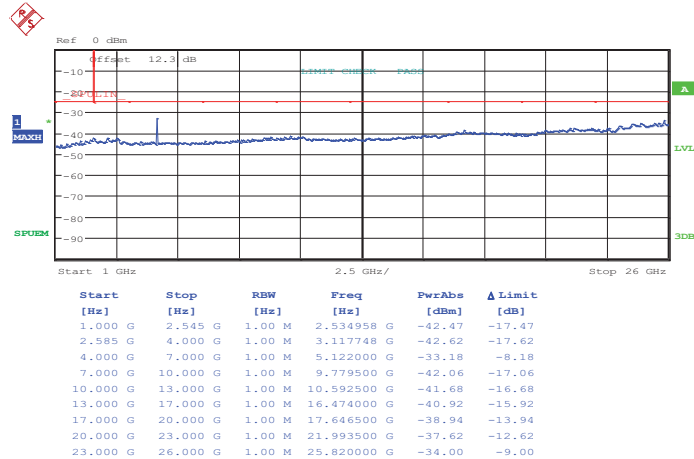


Band :	LTE Band 7	Channel :	CH21400 (High)
Band Width :	10MHz		

QPSK (RB Size 1, RB Offset 0)



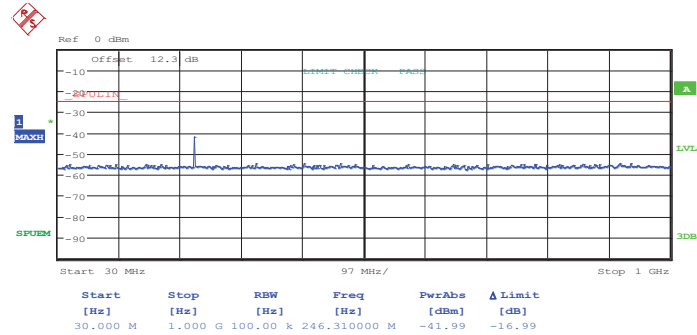
Date: 19.JUN.2013 14:19:33



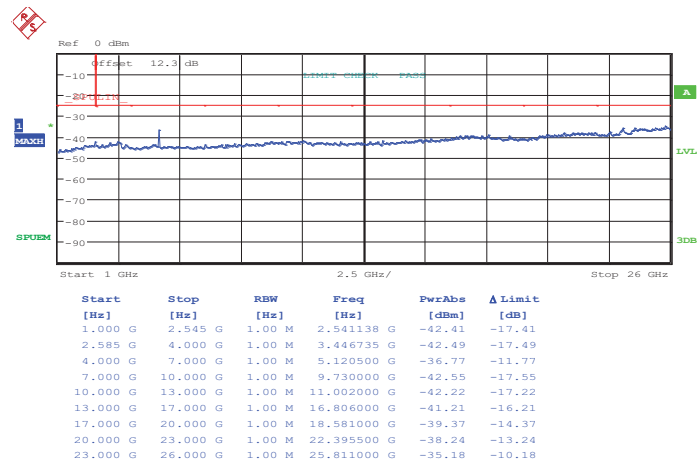
Date: 19.JUN.2013 14:18:38



16QAM (RB Size 1, RB Offset 0)



Date: 19.JUN.2013 14:19:17



Date: 19.JUN.2013 14:18:53



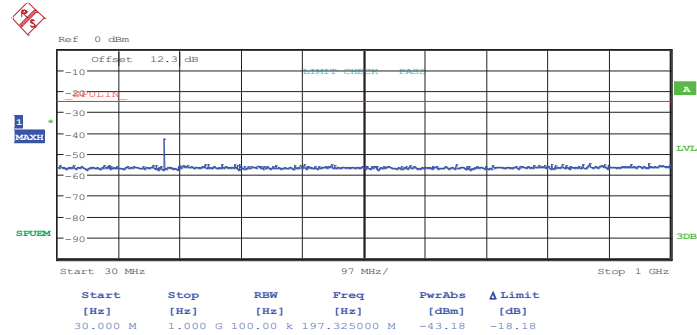
Report No. : FG352141B

QPSK (RB Size 1, RB Offset 37)

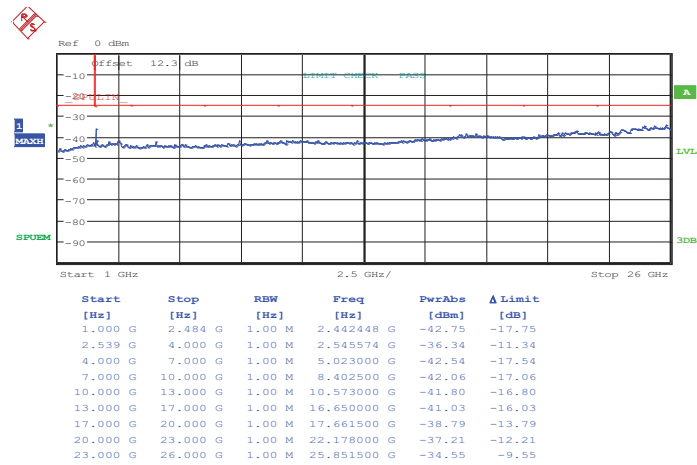




16QAM (RB Size 1, RB Offset 37)



Date: 19.JUN.2013 14:40:59

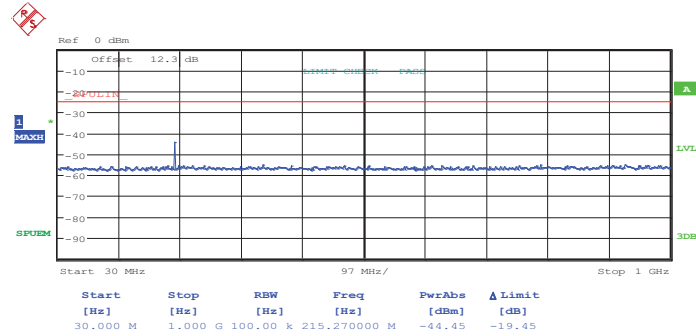


Date: 19.JUN.2013 14:41:37

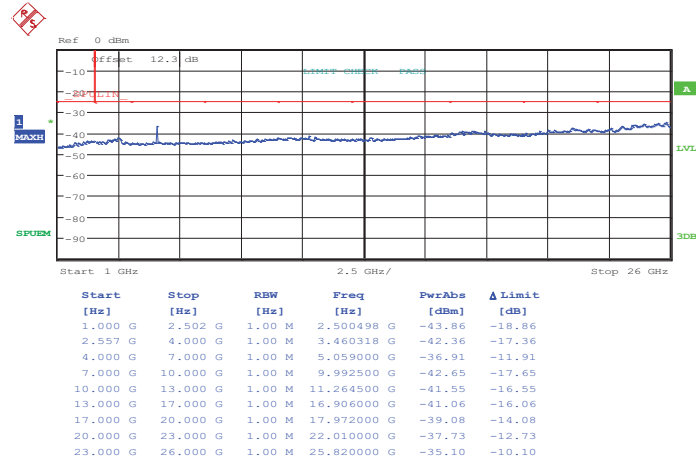


Band :	LTE Band 7	Channel :	CH21045 (Middle)
Band Width :	15MHz		

QPSK (RB Size 1, RB Offset 37)



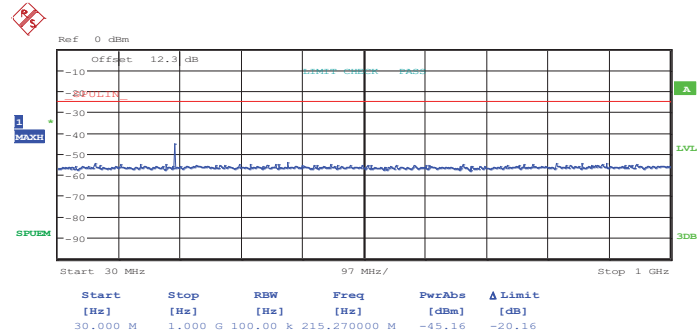
Date: 19.JUN.2013 14:43:54



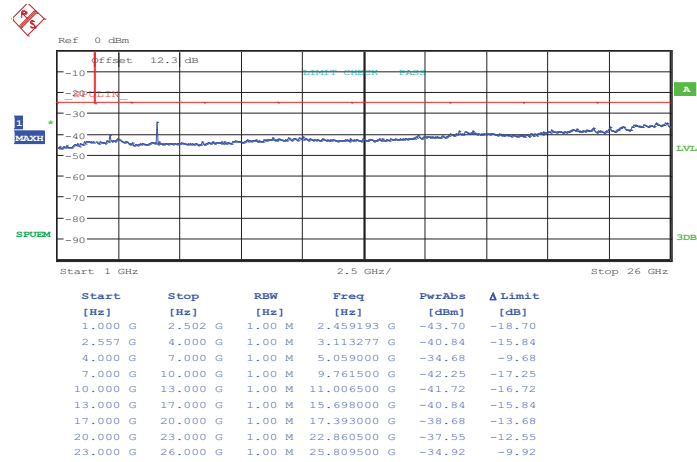
Date: 19.JUN.2013 14:42:57



16QAM (RB Size 1, RB Offset 37)



Date: 19.JUN.2013 14:43:41

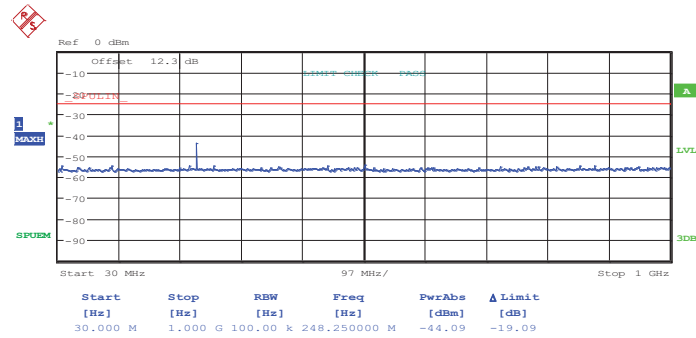


Date: 19.JUN.2013 14:43:23

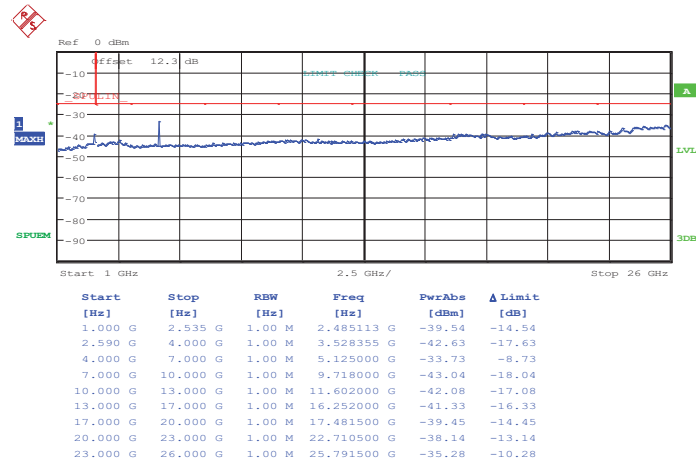


Band :	LTE Band 7	Channel :	CH21375 (High)
Band Width :	15MHz		

QPSK (RB Size 1, RB Offset 37)



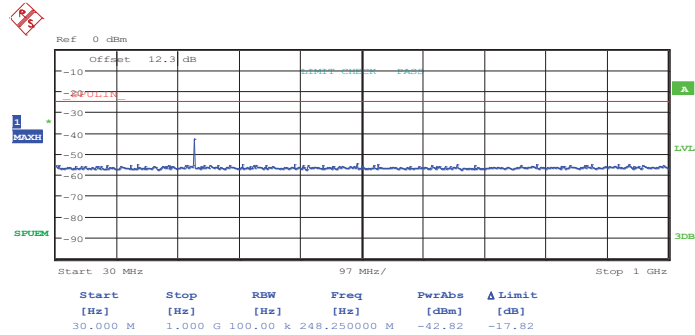
Date: 19.JUN.2013 14:45:50



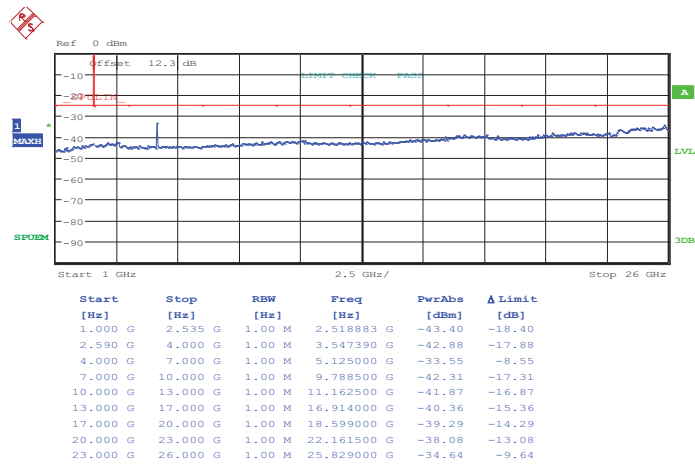
Date: 19.JUN.2013 14:46:38



16QAM (RB Size 1, RB Offset 37)



Date: 19.JUN.2013 14:46:03

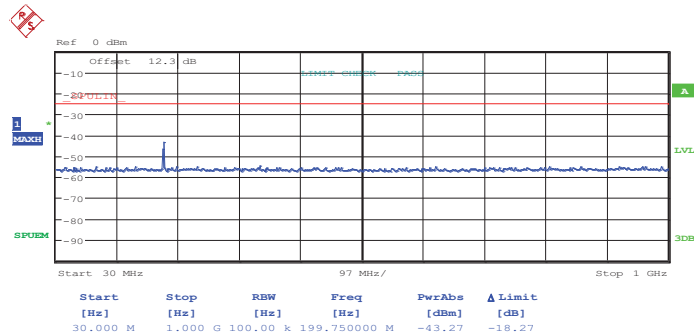


Date: 19.JUN.2013 14:46:26

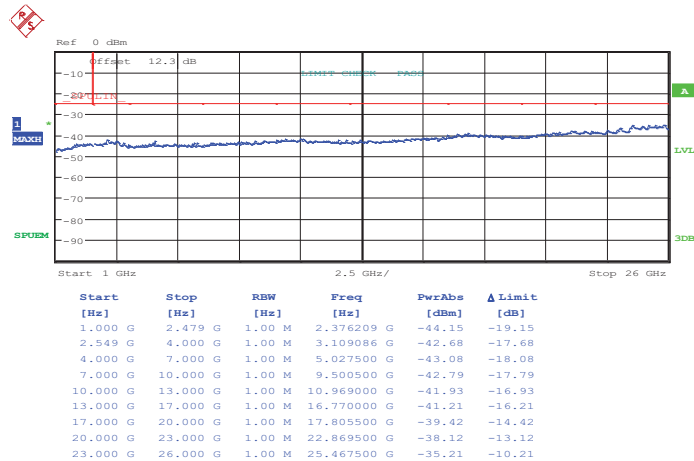


Band :	LTE Band 7	Channel :	CH20890 (Low)
Band Width :	20MHz		

QPSK (RB Size 1, RB Offset 49)



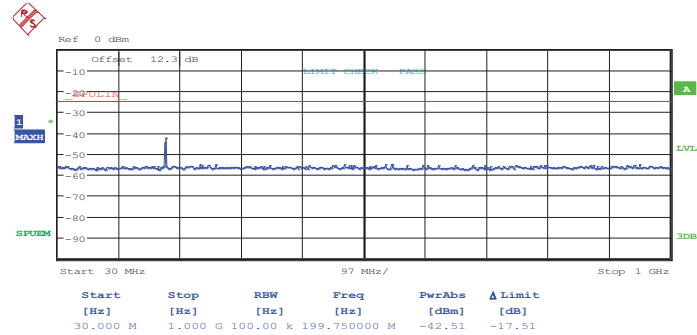
Date: 19.JUN.2013 14:57:39



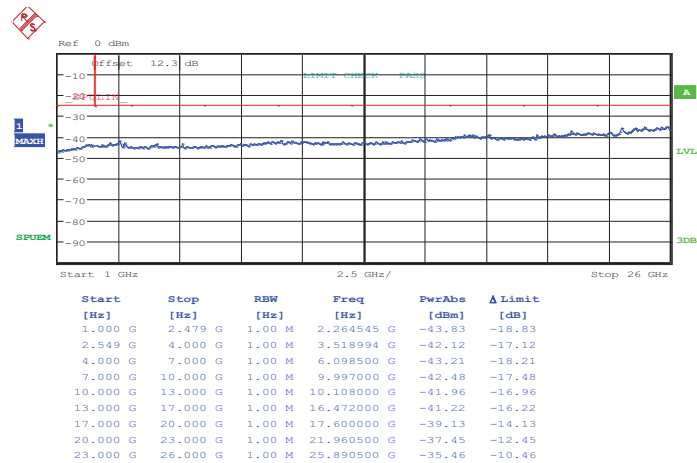
Date: 19.JUN.2013 14:58:26



16QAM (RB Size 1, RB Offset 49)



Date: 19.JUN.2013 14:57:52

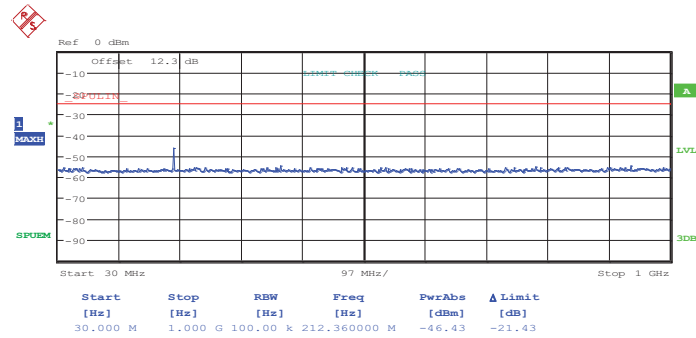


Date: 19.JUN.2013 14:58:11

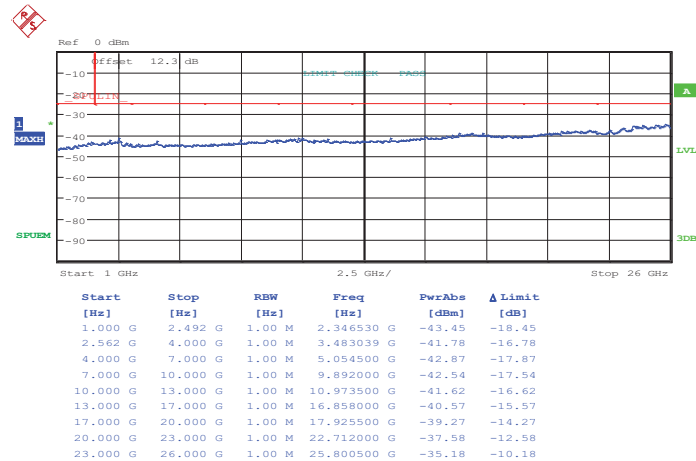


Band :	LTE Band 7	Channel :	CH21020 (Middle)
Band Width :	20MHz		

QPSK (RB Size 1, RB Offset 49)



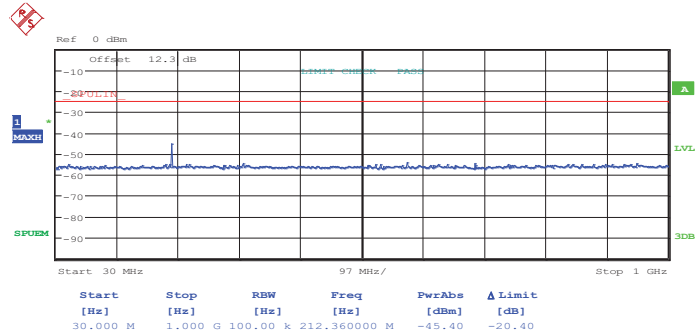
Date: 19.JUN.2013 14:52:48



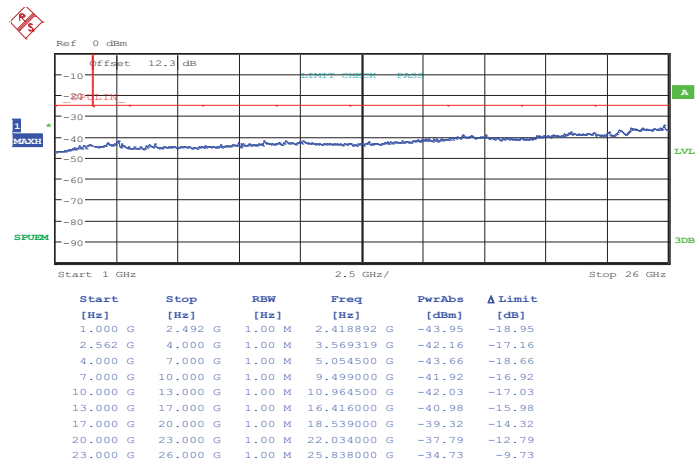
Date: 19.JUN.2013 14:51:46



16QAM (RB Size 1, RB Offset 49)



Date: 19.JUN.2013 14:52:35

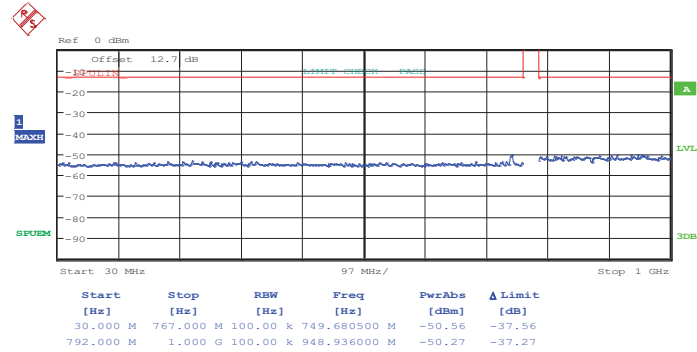


Date: 19.JUN.2013 14:52:13

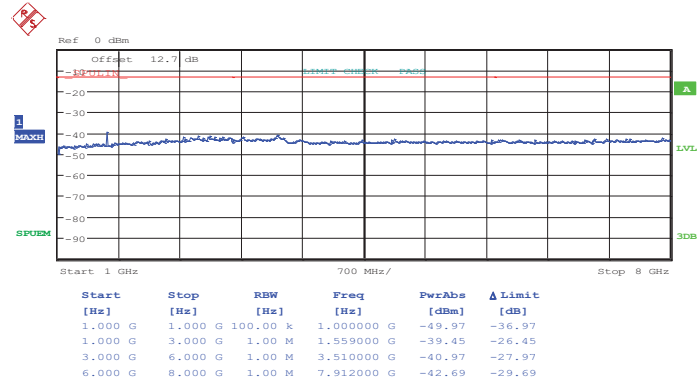


Band :	LTE Band 13	Channel :	CH23205 (Low)
Band Width :	5MHz		

QPSK (RB Size 1, RB Offset 12)



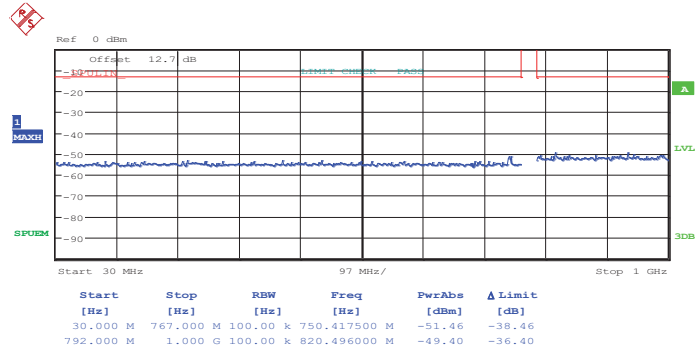
Date: 17.JUN.2013 15:58:10



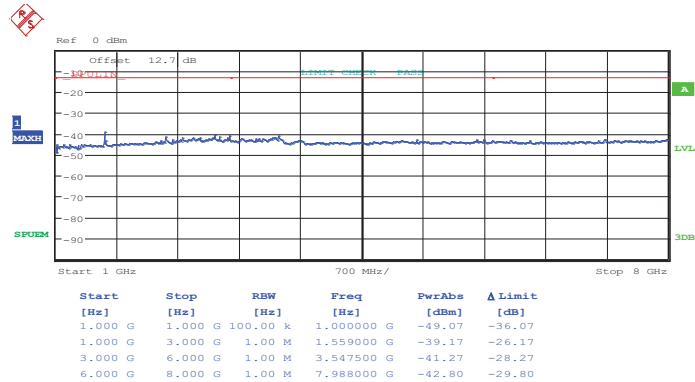
Date: 17.JUN.2013 15:59:59



16QAM (RB Size 1, RB Offset 12)



Date: 17.JUN.2013 15:58:40

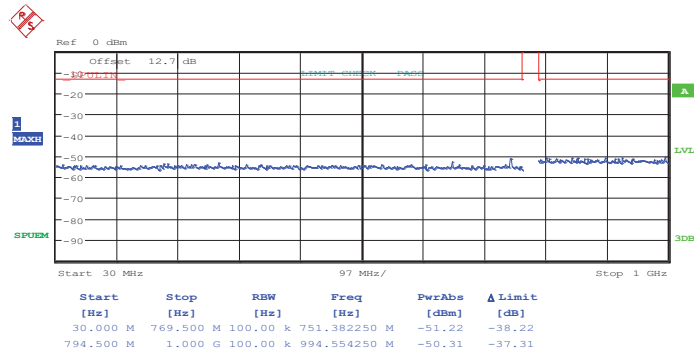


Date: 17.JUN.2013 15:59:42

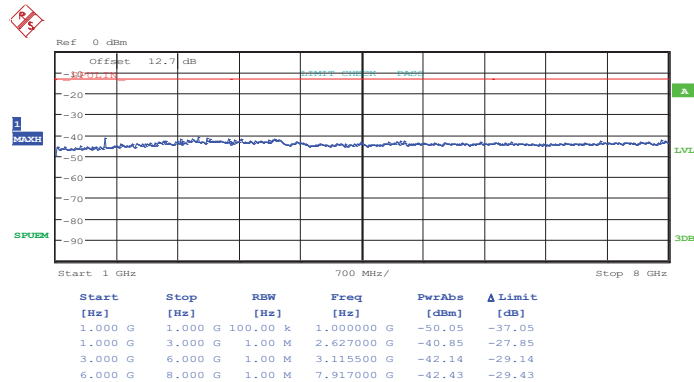


Band :	LTE Band 13	Channel :	CH20230 (Middle)
Band Width :	5MHz		

QPSK (RB Size 1, RB Offset 0)



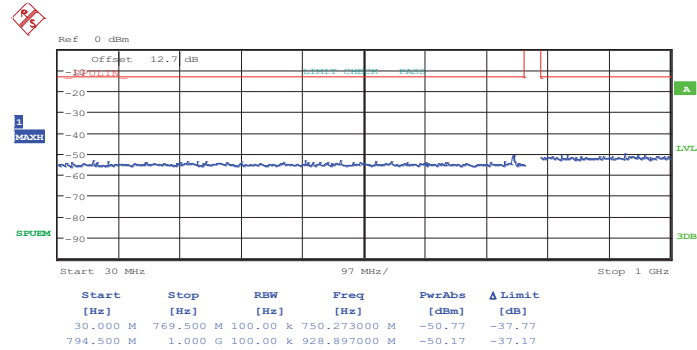
Date: 17.JUN.2013 16:04:59



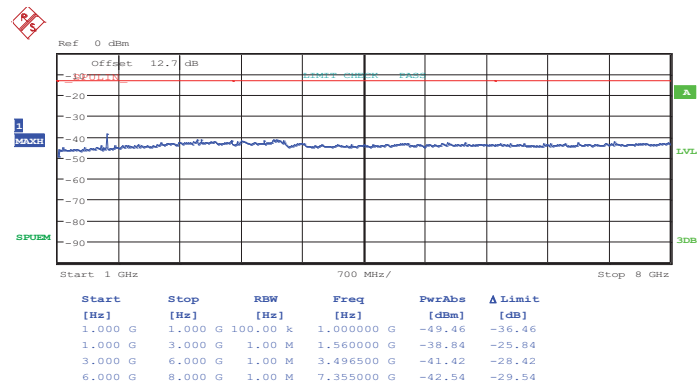
Date: 17.JUN.2013 16:06:04



16QAM (RB Size 1, RB Offset 0)



Date: 17.JUN.2013 16:05:23

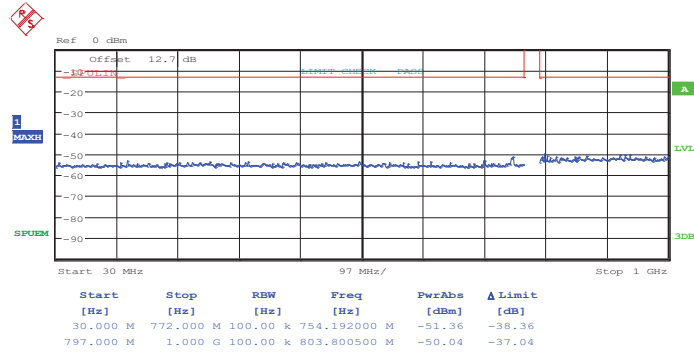


Date: 17.JUN.2013 16:05:48

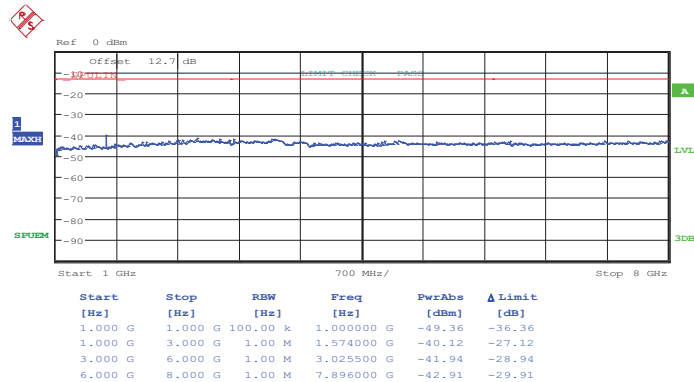


Band :	LTE Band 13	Channel :	CH23255 (High)
Band Width :	5MHz		

QPSK (RB Size 1, RB Offset 24)

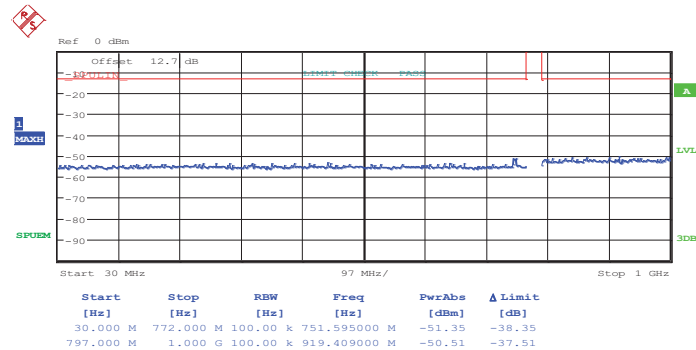


Date: 17.JUN.2013 16:03:50

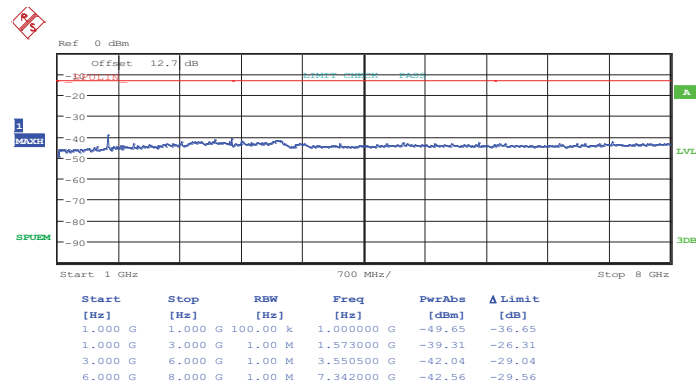


Date: 17.JUN.2013 16:02:52

16QAM (RB Size 1, RB Offset 24)



Date: 17.JUN.2013 16:03:33

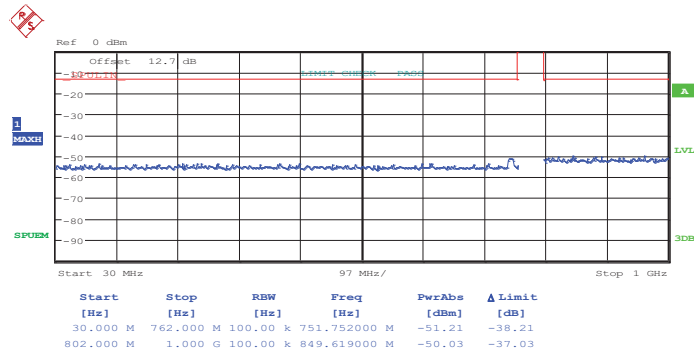


Date: 17.JUN.2013 16:03:15

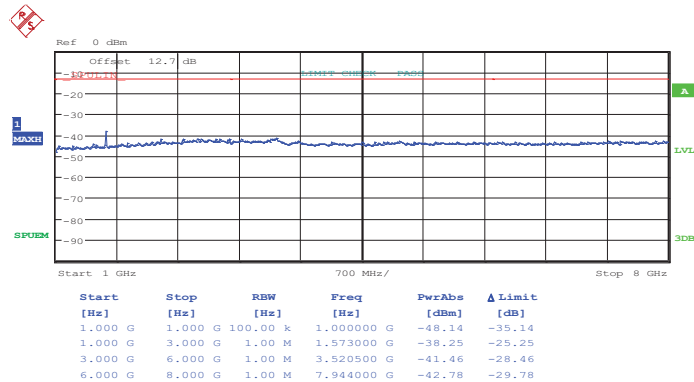


Band :	LTE Band 13	Channel :	CH23230 (Middle)
Band Width :	10MHz		

QPSK (RB Size 1, RB Offset 49)

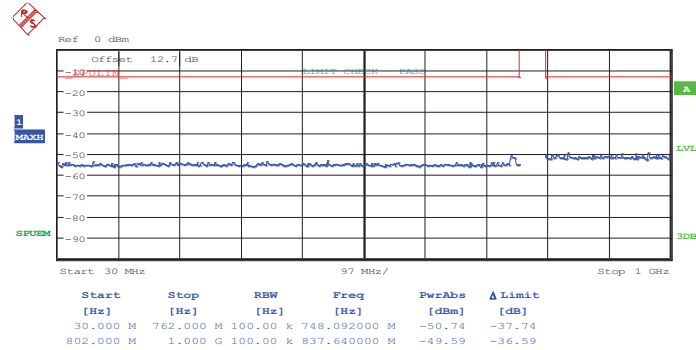


Date: 17.JUN.2013 16:10:15

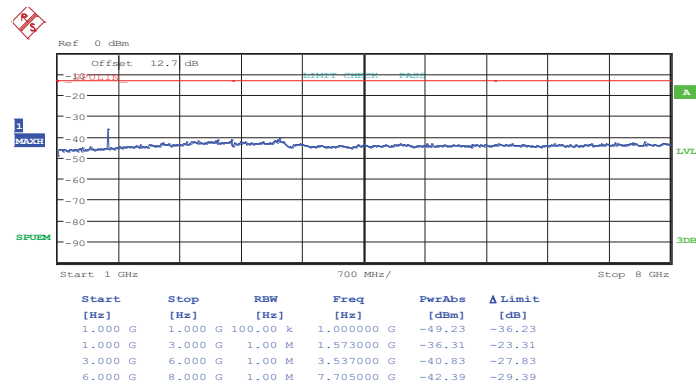


Date: 17.JUN.2013 16:09:21

16QAM (RB Size 1, RB Offset 49)



Date: 17.JUN.2013 16:09:59



Date: 17.JUN.2013 16:09:37



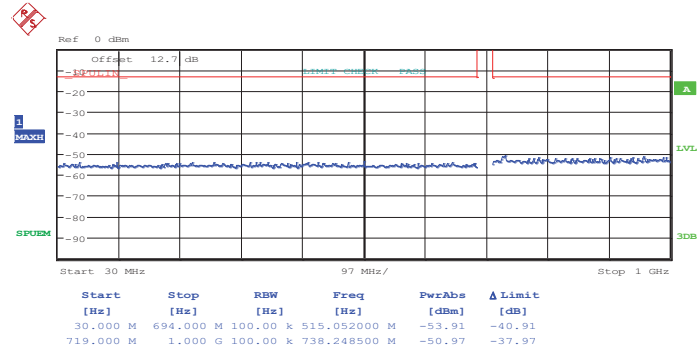
Report No. : FG352141B

QPSK (RB Size 1, RB Offset 12)

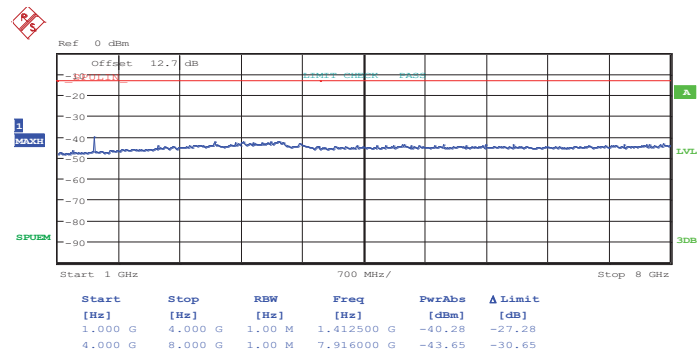




16QAM (RB Size 1, RB Offset 12)



Date: 18.JUN.2013 16:25:31

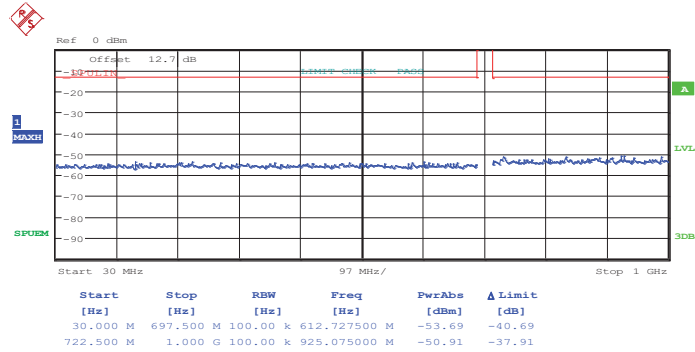


Date: 18.JUN.2013 16:25:47

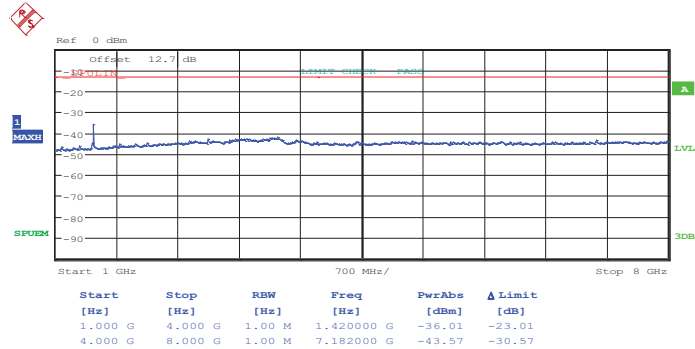


Band :	LTE Band 17	Channel :	CH23790 (Middle)
Band Width :	5MHz		

QPSK (RB Size 1, RB Offset 12)



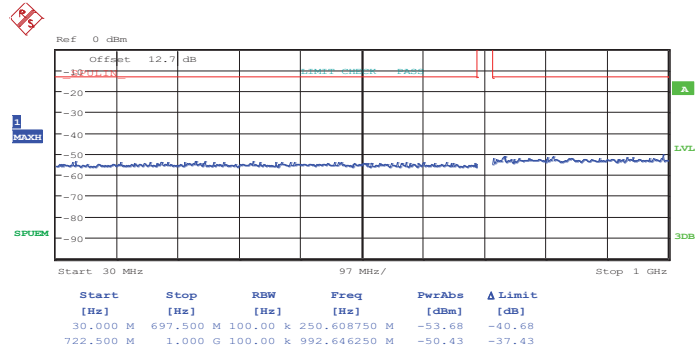
Date: 18.JUN.2013 16:28:18



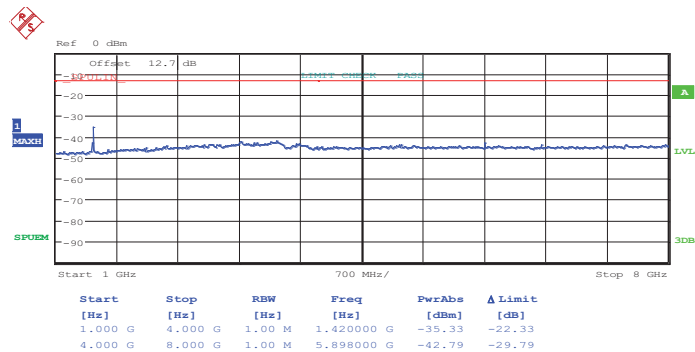
Date: 18.JUN.2013 16:27:24



16QAM (RB Size 1, RB Offset 12)



Date: 18.JUN.2013 16:28:05

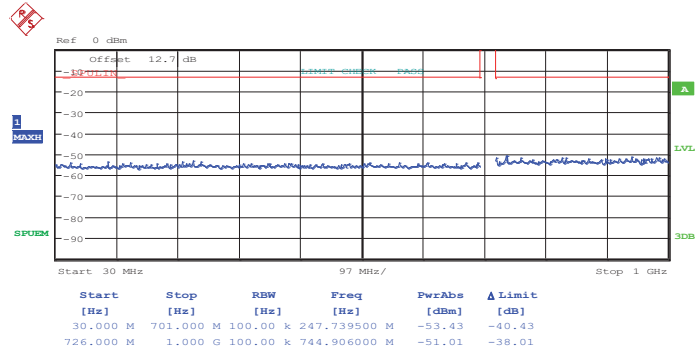


Date: 18.JUN.2013 16:27:44

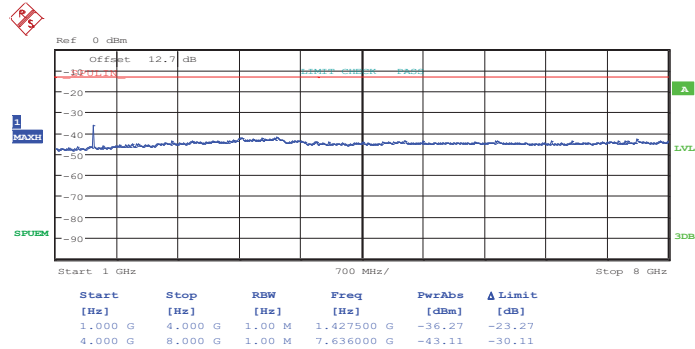


Band :	LTE Band 17	Channel :	CH23825 (High)
Band Width :	5MHz		

QPSK (RB Size 1, RB Offset 12)



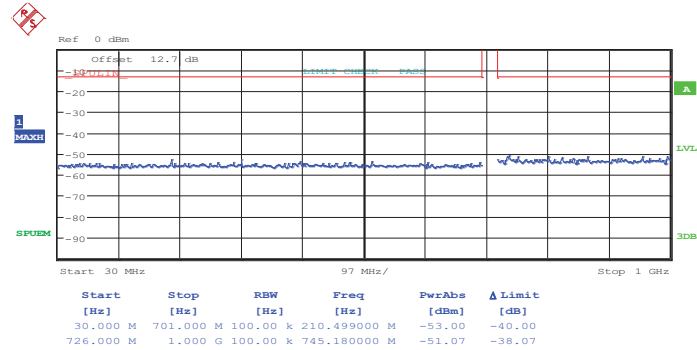
Date: 18.JUN.2013 16:17:03



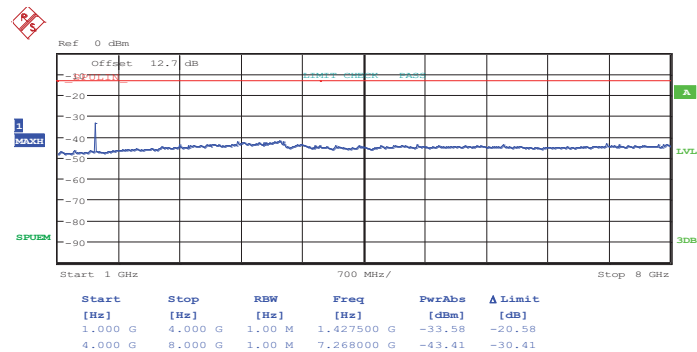
Date: 18.JUN.2013 16:16:22



16QAM (RB Size 1, RB Offset 12)



Date: 18.JUN.2013 16:16:51

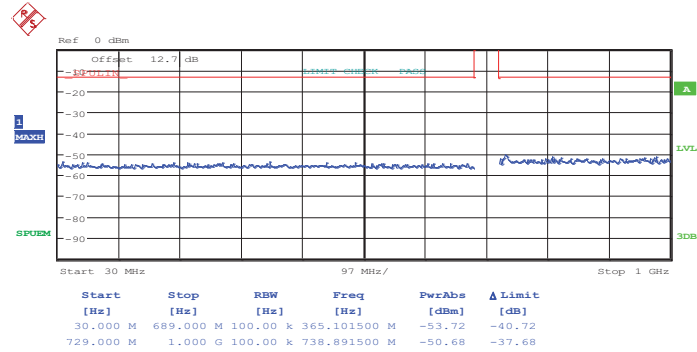


Date: 18.JUN.2013 16:16:36

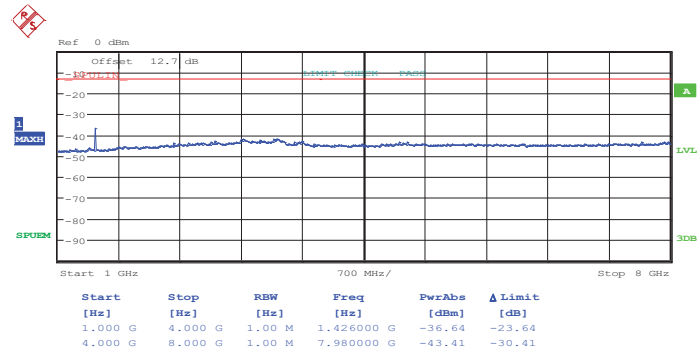


Band :	LTE Band 17	Channel :	CH23780 (Low)
Band Width :	10MHz		

QPSK (RB Size 1, RB Offset 49)



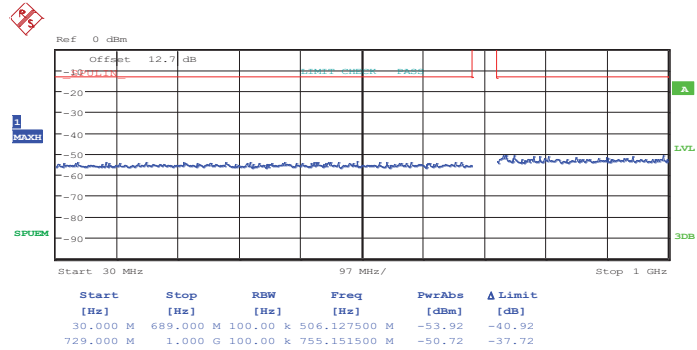
Date: 18.JUN.2013 16:12:29



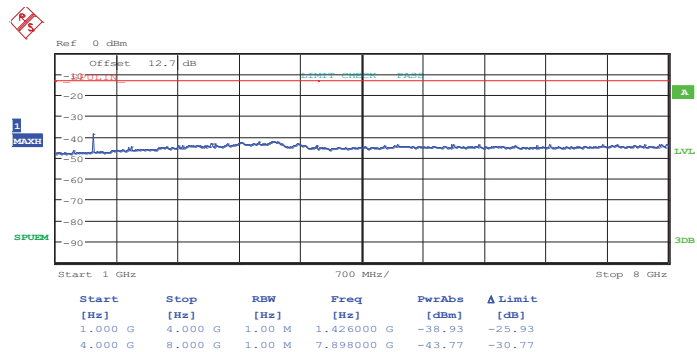
Date: 18.JUN.2013 16:11:46



16QAM (RB Size 1, RB Offset 49)



Date: 18.JUN.2013 16:12:16



Date: 18.JUN.2013 16:12:00



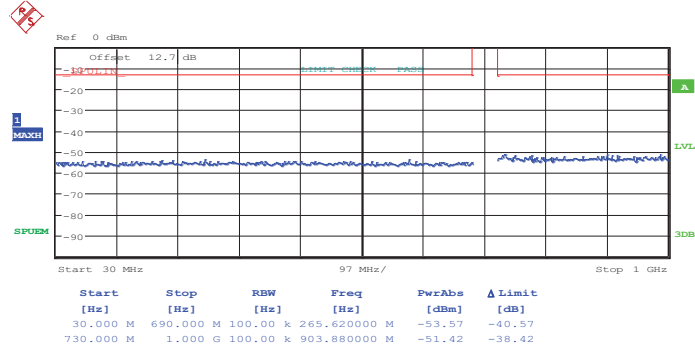
Report No. : FG352141B

QPSK (RB Size 1, RB Offset 49)

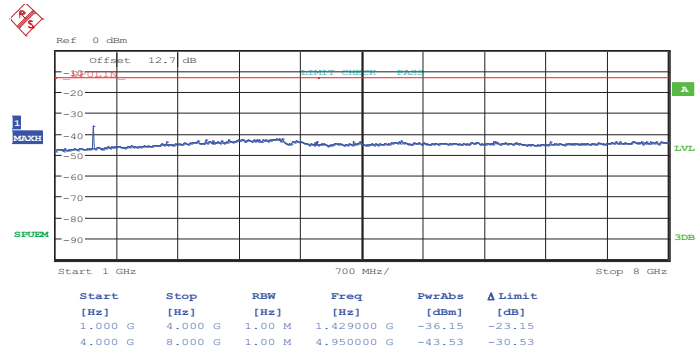




16QAM (RB Size 1, RB Offset 49)



Date: 18.JUN.2013 16:09:49

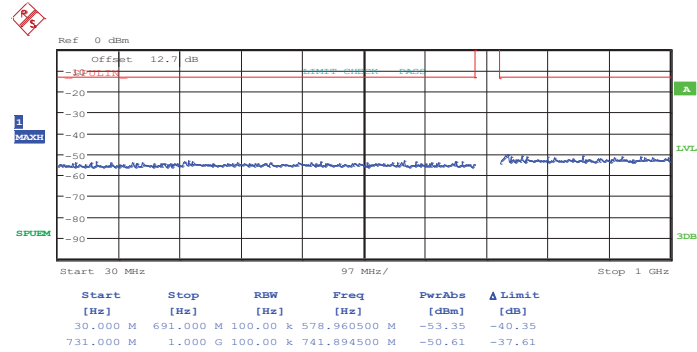


Date: 18.JUN.2013 16:10:18

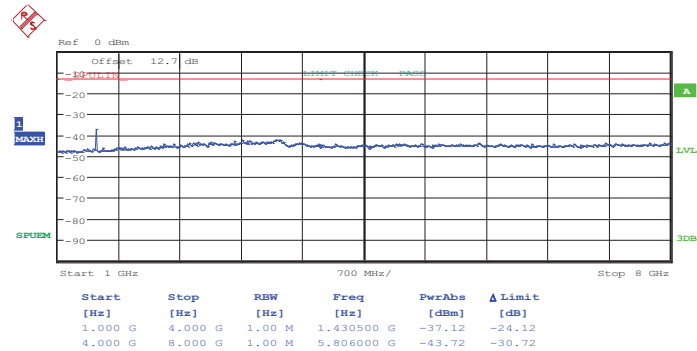


Band :	LTE Band 17	Channel :	CH23800 (High)
Band Width :	10MHz		

QPSK (RB Size 1, RB Offset 49)



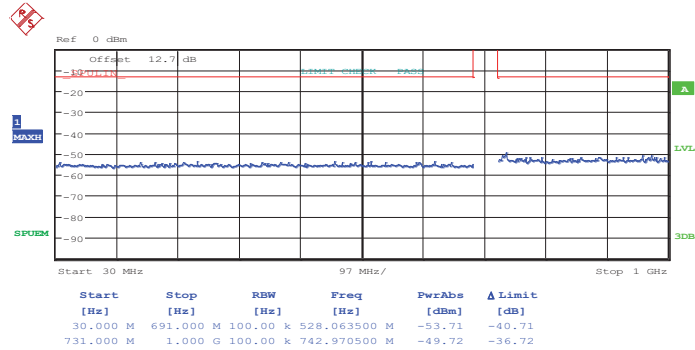
Date: 18.JUN.2013 16:13:36



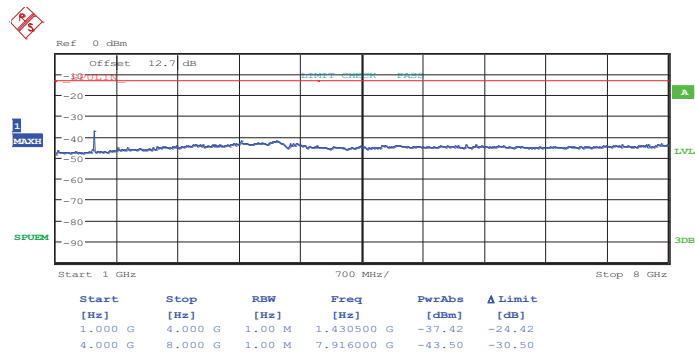
Date: 18.JUN.2013 16:14:29



16QAM (RB Size 1, RB Offset 49)



Date: 18.JUN.2013 16:13:52



Date: 18.JUN.2013 16:14:16

3.6 Radiated Spurious Emission Measurement

3.6.1 Description of Radiated Spurious Emission

The radiated spurious emission was measured by substitution method according to ANSI / TIA / EIA-603-C-2004.

For Band 2, 4, 5, 13, 17

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

For Band 7

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least $55 + 10 \log (P)$ dB.

The spectrum is scanned from 30 MHz up to a frequency including its 10th harmonic.

3.6.2 Measuring Instruments

See list of measuring instruments of this test report.

3.6.3 Test Procedures

1. The EUT was placed on a rotatable wooden table with 0.8 meter about ground.
2. The EUT was set 3 meters from the receiving antenna, which was mounted on the antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest spurious emission.
4. The height of the receiving antenna is varied between one meter and four meters to search the maximum spurious emission for both horizontal and vertical polarizations.
5. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, Sweep = 500ms, Taking the record of maximum spurious emission.
6. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
7. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
8. Taking the record of output power at antenna port.
9. Repeat step 7 to step 8 for another polarization.
10. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

For Band 2, 4, 5, 13, 17

The limit line is derived from $43 + 10\log(P)$ dB below the transmitter power P(Watts)
= $P(W) - [43 + 10\log(P)]$ (dB)
= $[30 + 10\log(P)]$ (dBm) - $[43 + 10\log(P)]$ (dB)
= -13dBm.

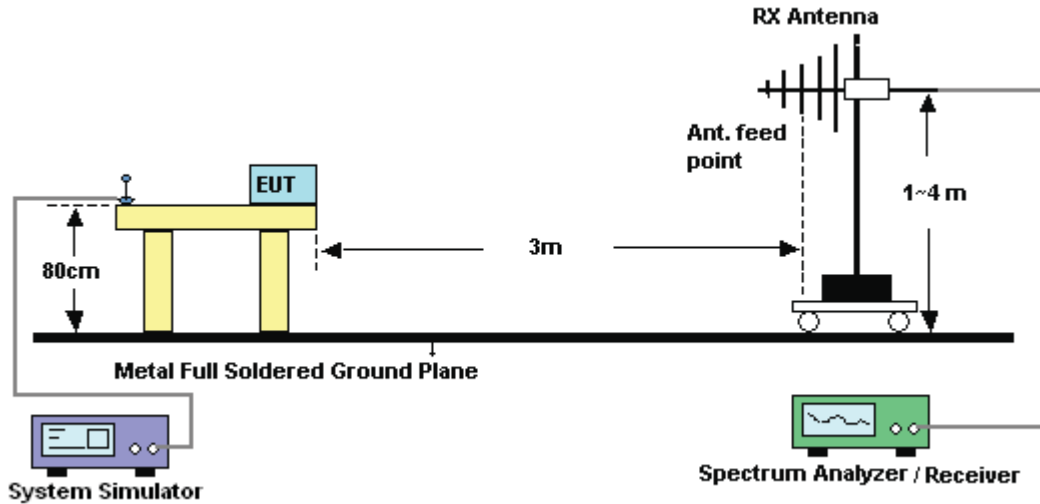
For Band 7

The limit line is derived from $55 + 10\log(P)$ dB below the transmitter power P(Watts)

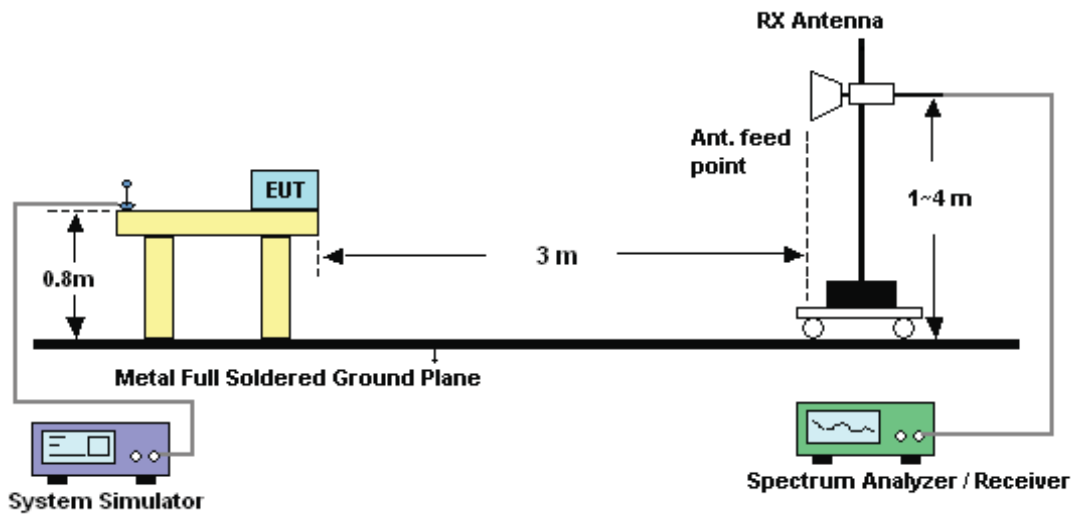
11. EIRP (dBm) = S.G. Power – Tx Cable Loss + Tx Antenna Gain
12. ERP (dBm) = EIRP - 2.15

3.6.4 Test Setup

For radiated emissions from 30MHz to 1GHz

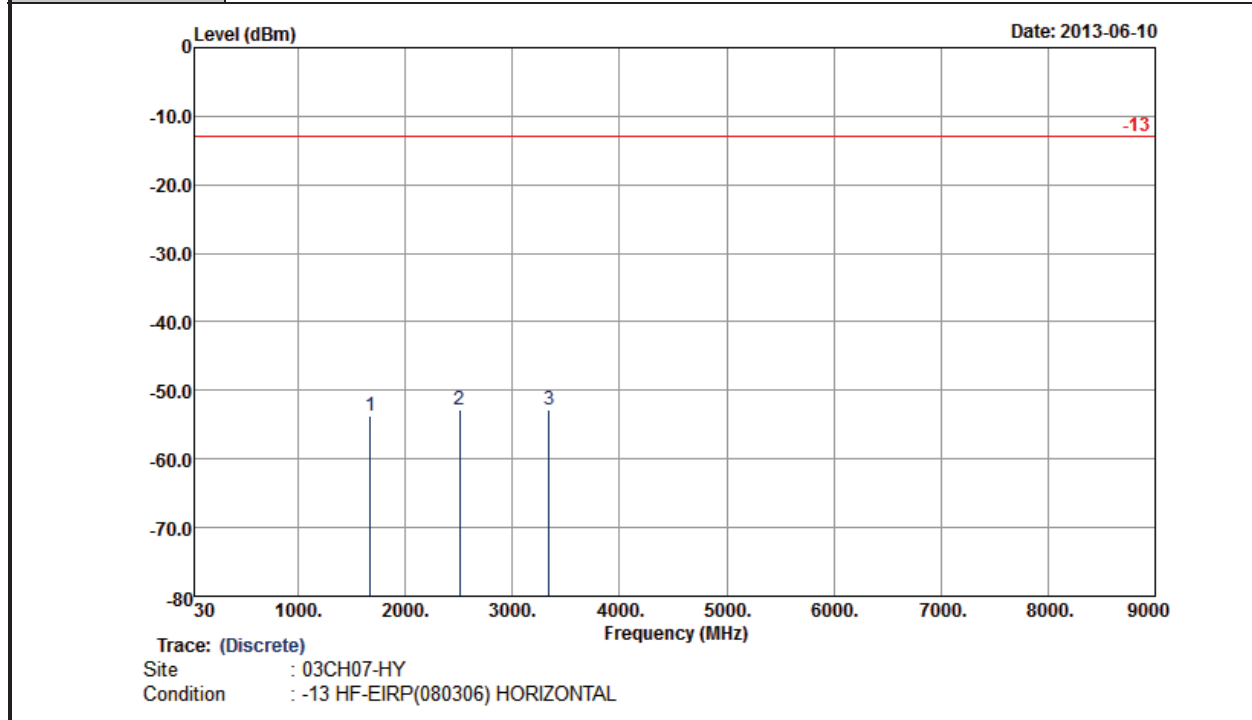


For radiated emissions above 1GHz



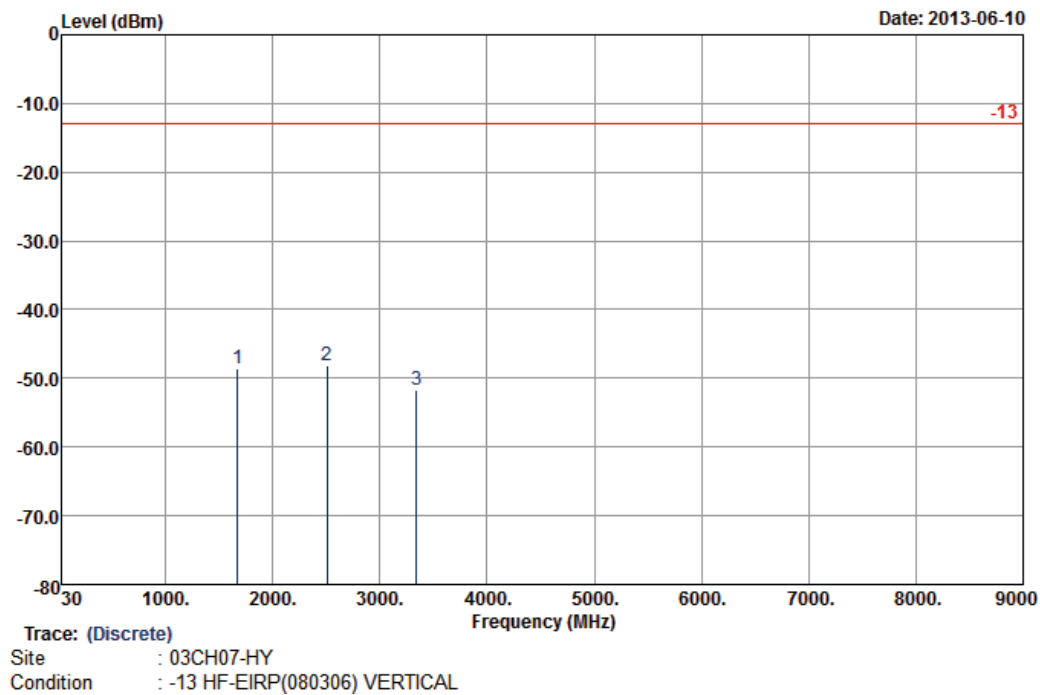
3.6.5 Test Result of Field Strength of Spurious Radiated

Band :	LTE Band 5	Temperature :	22~24°C
Test Mode :	1.4MHZ QPSK RB Size 1 Offset 2	Relative Humidity :	51~53%
Test Engineer :	Beer Chang	Polarization :	Horizontal
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.		



Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
1672	-53.65	-13	-40.65	-62.57	-55.37	1.62	5.49	H	Pass
2509	-52.90	-13	-39.90	-66.19	-54.87	2.1	6.22	H	Pass
3344	-52.81	-13	-39.81	-66.91	-55.7	3.03	8.07	H	Pass

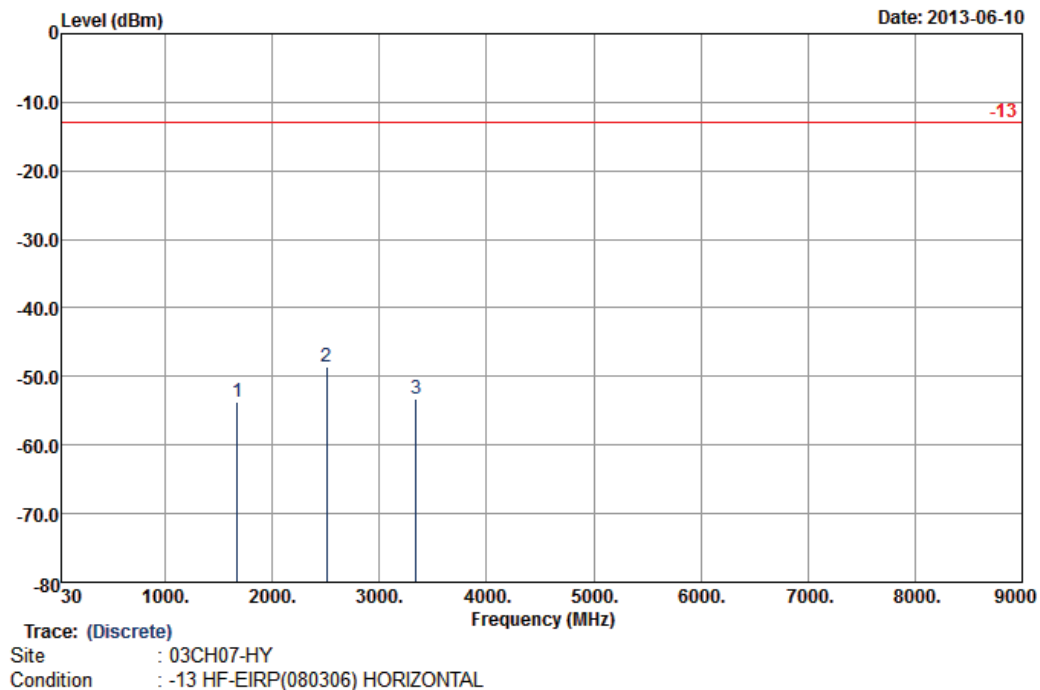
Band :	LTE Band 5	Temperature :	22~24°C
Test Mode :	1.4MHZ QPSK RB Size 1 Offset 2	Relative Humidity :	51~53%
Test Engineer :	Beer Chang	Polarization :	Vertical
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.		



Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
1672	-48.68	-13	-35.68	-59.84	-50.4	1.62	5.49	V	Pass
2509	-48.19	-13	-35.19	-61.93	-50.16	2.1	6.22	V	Pass
3343	-51.75	-13	-38.75	-67.34	-54.64	3.03	8.07	V	Pass

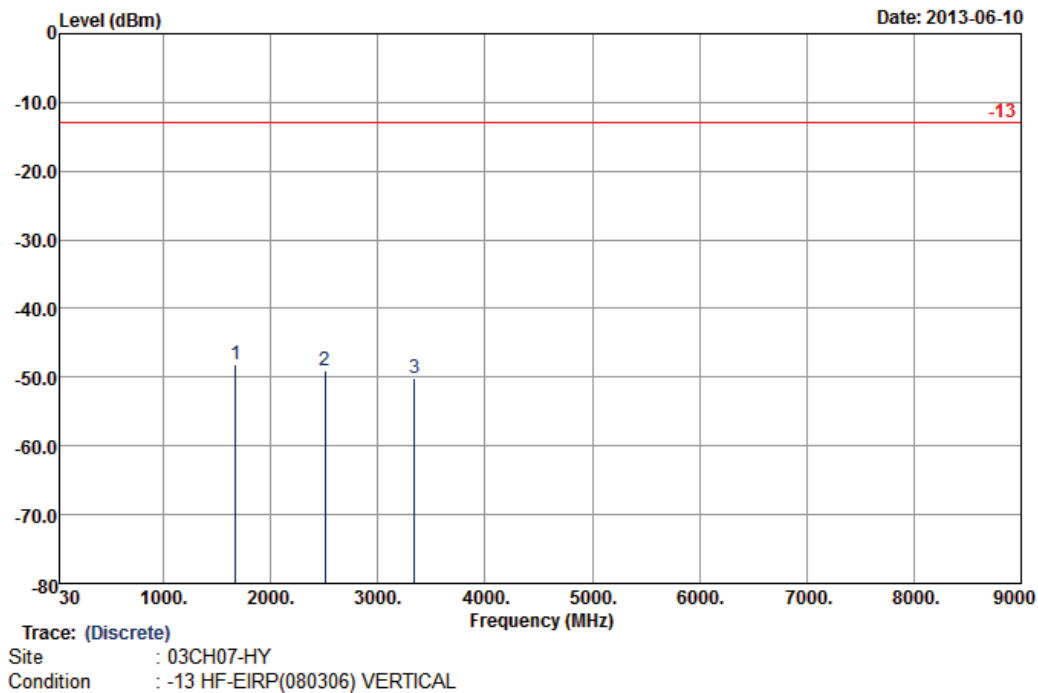


Band :	LTE Band 5	Temperature :	22~24°C
Test Mode :	3MHZ QPSK RB Size 1 Offset 7	Relative Humidity :	51~53%
Test Engineer :	Beer Chang	Polarization :	Horizontal
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.		



Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
1672	-53.62	-13	-40.62	-62.54	-55.34	1.62	5.49	H	Pass
2509	-48.64	-13	-35.64	-61.93	-50.61	2.1	6.22	H	Pass
3344	-53.20	-13	-40.20	-67.3	-56.09	3.03	8.07	H	Pass

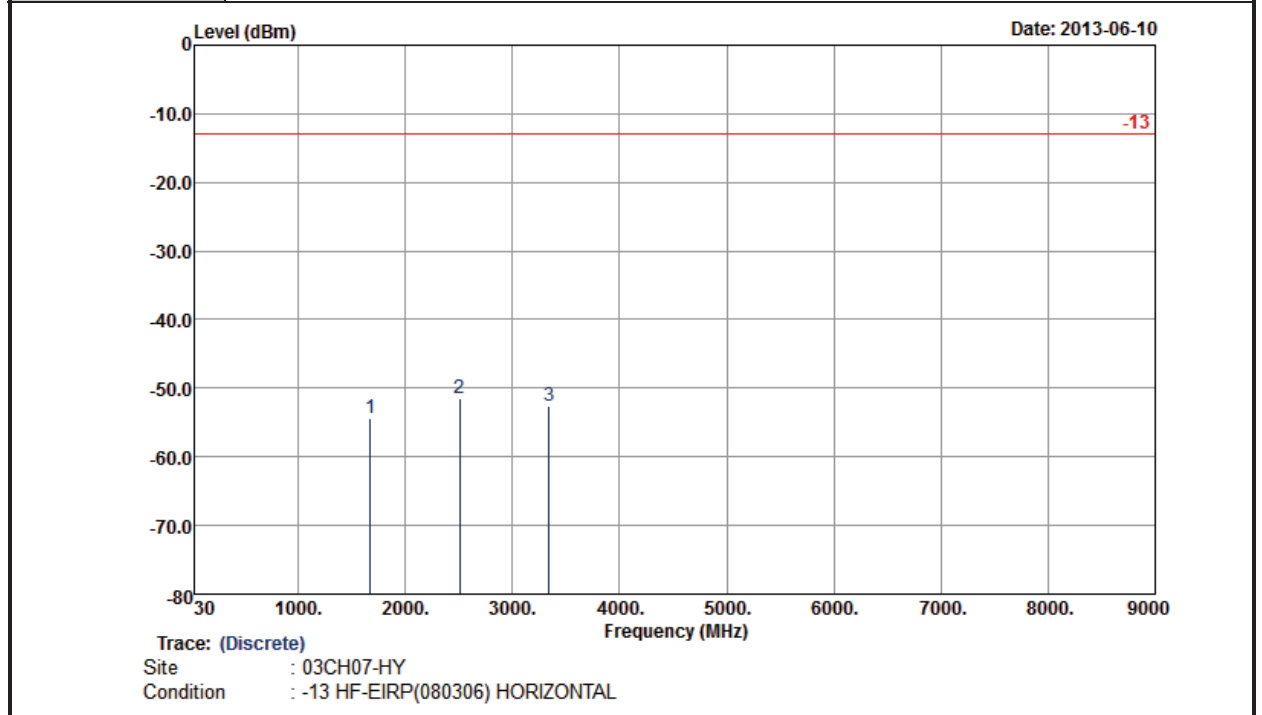
Band :	LTE Band 5	Temperature :	22~24°C
Test Mode :	3MHZ QPSK RB Size 1 Offset 7	Relative Humidity :	51~53%
Test Engineer :	Beer Chang	Polarization :	Vertical
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.		



Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
1672	-48.12	-13	-35.12	-59.28	-49.84	1.62	5.49	V	Pass
2509	-49.09	-13	-36.09	-62.83	-51.06	2.1	6.22	V	Pass
3343	-50.08	-13	-37.08	-65.67	-52.97	3.03	8.07	V	Pass

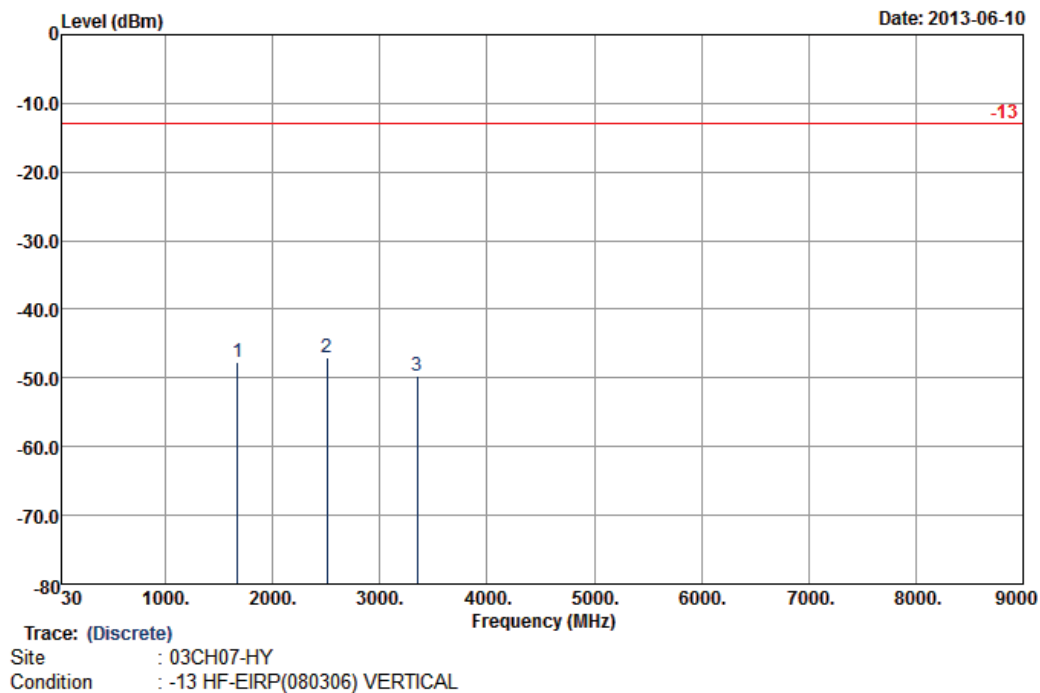


Band :	LTE Band 5	Temperature :	22~24°C
Test Mode :	5MHZ QPSK RB Size 1 Offset 12	Relative Humidity :	51~53%
Test Engineer :	Beer Chang	Polarization :	Horizontal
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.		



Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
1672	-54.47	-13	-41.47	-63.39	-56.19	1.62	5.49	H	Pass
2509	-51.48	-13	-38.48	-64.77	-53.45	2.1	6.22	H	Pass
3345	-52.55	-13	-39.55	-66.65	-55.44	3.03	8.07	H	Pass

Band :	LTE Band 5	Temperature :	22~24°C
Test Mode :	5MHZ QPSK RB Size 1 Offset 12	Relative Humidity :	51~53%
Test Engineer :	Beer Chang	Polarization :	Vertical
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.		



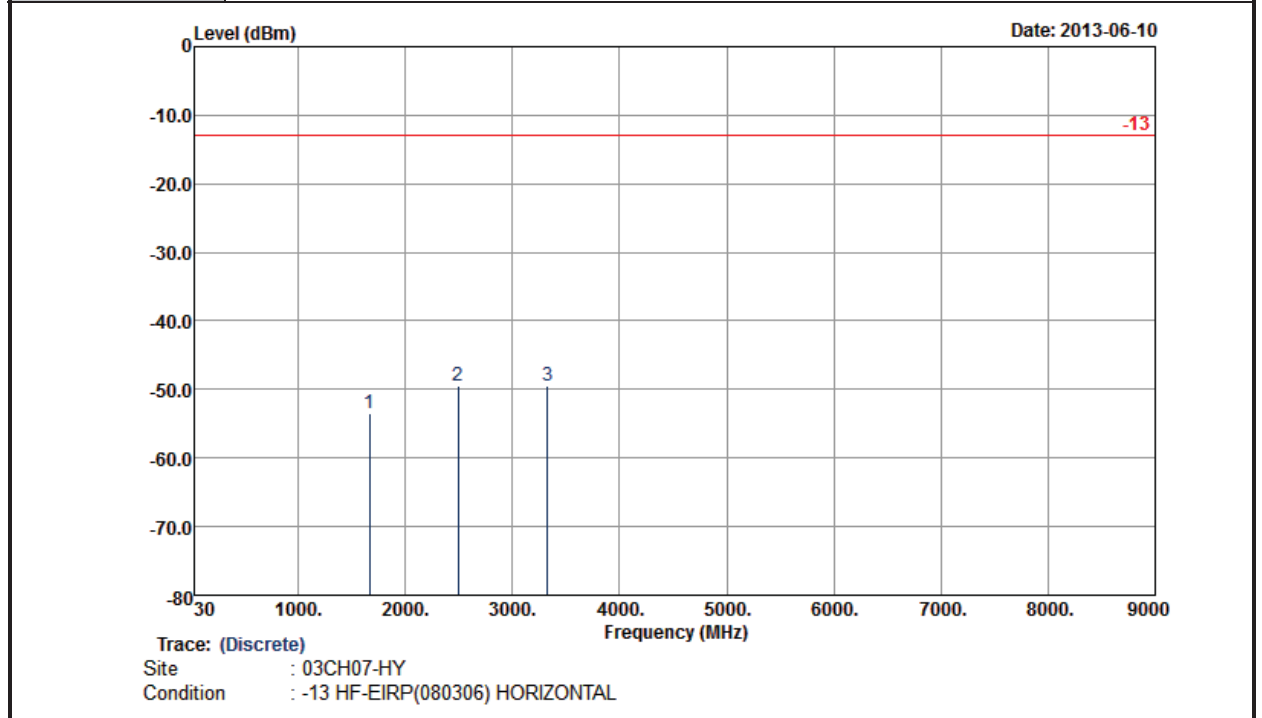
Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
1672	-47.70	-13	-34.70	-58.86	-49.42	1.62	5.49	V	Pass
2509	-47.10	-13	-34.10	-60.84	-49.07	2.1	6.22	V	Pass
3346	-49.78	-13	-36.78	-65.37	-52.67	3.03	8.07	V	Pass



FCC RF Test Report

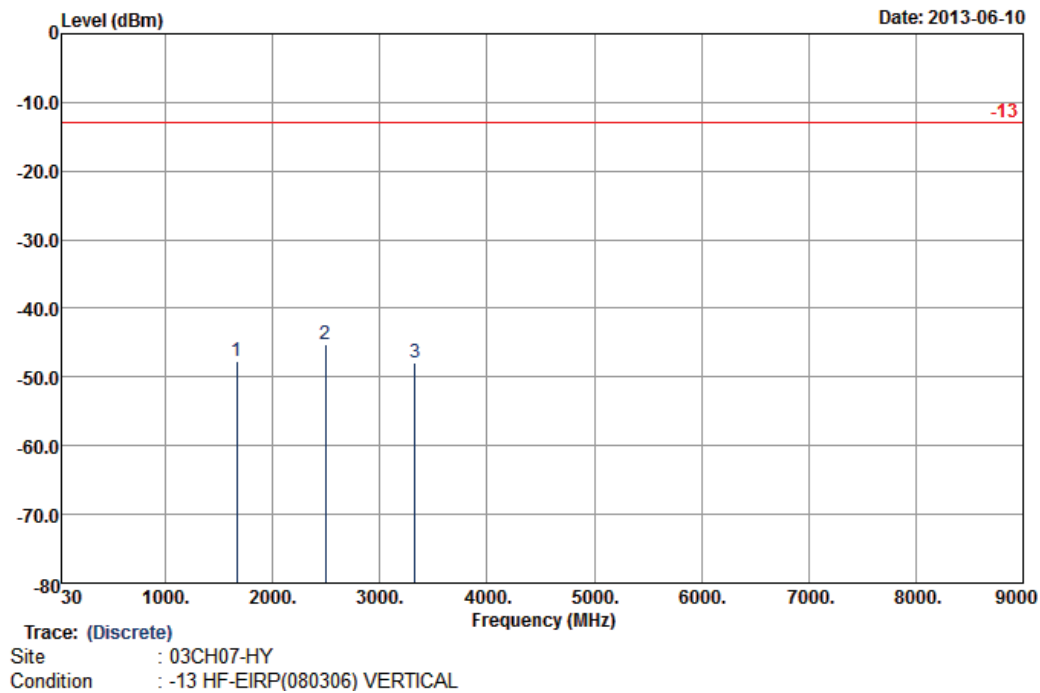
Report No. : FG352141B

Band :	LTE Band 5	Temperature :	22~24°C
Test Mode :	10MHZ QPSK RB Size 1 Offset 0	Relative Humidity :	51~53%
Test Engineer :	Beer Chang	Polarization :	Horizontal
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.		



Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
1663	-53.53	-13	-40.53	-62.37	-55.25	1.62	5.49	H	Pass
2497	-49.52	-13	-36.52	-62.8	-51.49	2.1	6.22	H	Pass
3328	-49.55	-13	-36.55	-63.62	-52.44	3.03	8.07	H	Pass

Band :	LTE Band 5	Temperature :	22~24°C
Test Mode :	10MHZ QPSK RB Size 1 Offset 0	Relative Humidity :	51~53%
Test Engineer :	Beer Chang	Polarization :	Vertical
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.		



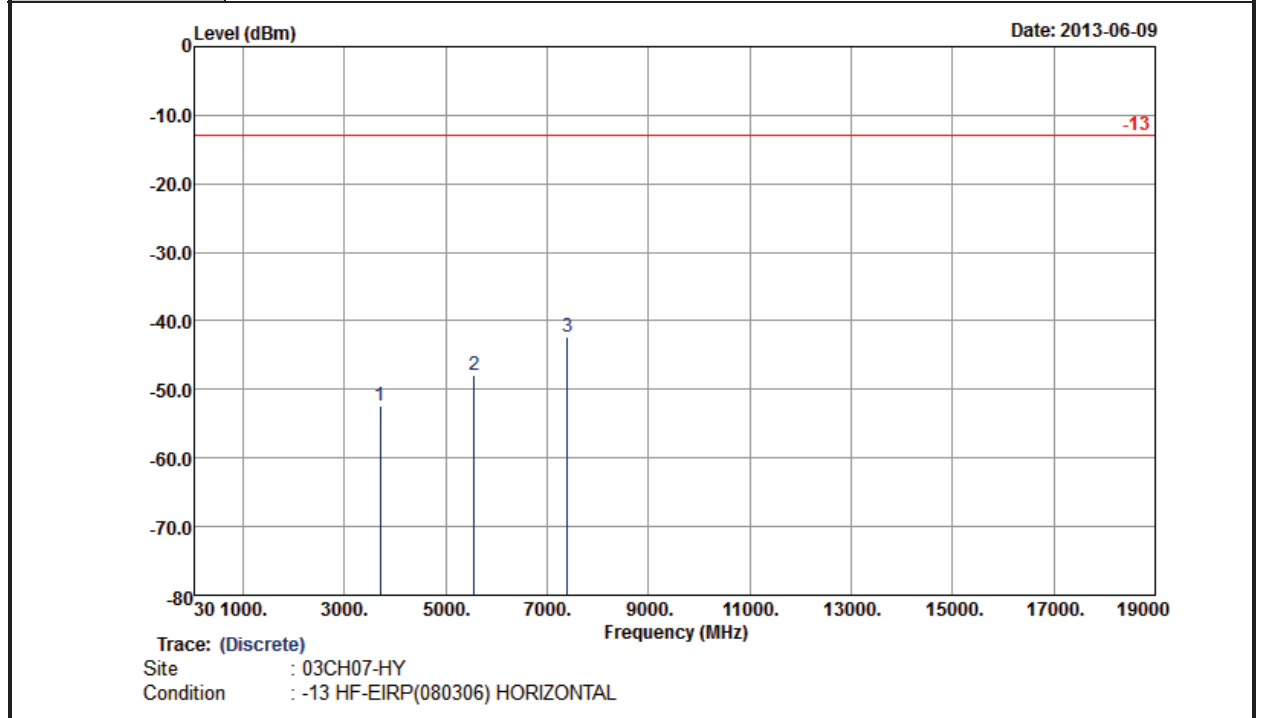
Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
1663	-47.64	-13	-34.64	-58.71	-49.36	1.62	5.49	V	Pass
2497	-45.31	-13	-32.31	-58.98	-47.28	2.1	6.22	V	Pass
3328	-47.98	-13	-34.98	-63.58	-50.87	3.03	8.07	V	Pass



FCC RF Test Report

Report No. : FG352141B

Band :	LTE Band 2	Temperature :	22~24°C
Test Mode :	1.4MHZ QPSK RB Size 1 Offset 2	Relative Humidity :	51~53%
Test Engineer :	Beer Chang	Polarization :	Horizontal
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.		



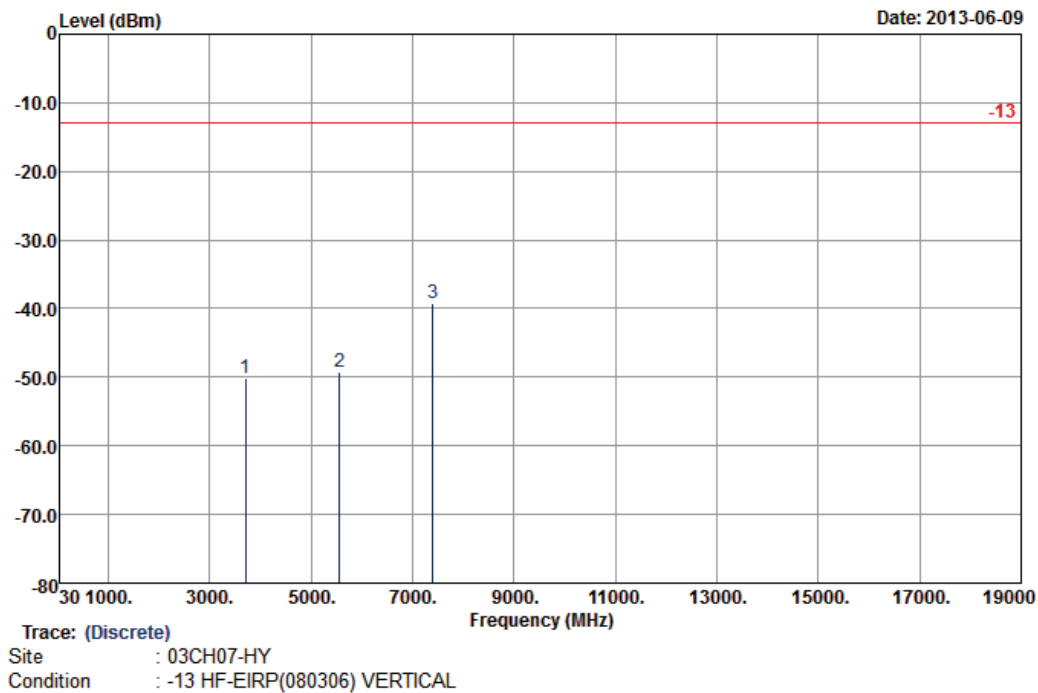
Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3700	-52.46	-13	-39.46	-67.61	-58.72	2.48	8.74	H	Pass
5552	-47.99	-13	-34.99	-68.43	-55.68	2.96	10.65	H	Pass
7400	-42.23	-13	-29.23	-69.55	-50.86	3.48	12.11	H	Pass



FCC RF Test Report

Report No. : FG352141B

Band :	LTE Band 2	Temperature :	22~24°C
Test Mode :	1.4MHZ QPSK RB Size 1 Offset 2	Relative Humidity :	51~53%
Test Engineer :	Beer Chang	Polarization :	Vertical
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.		



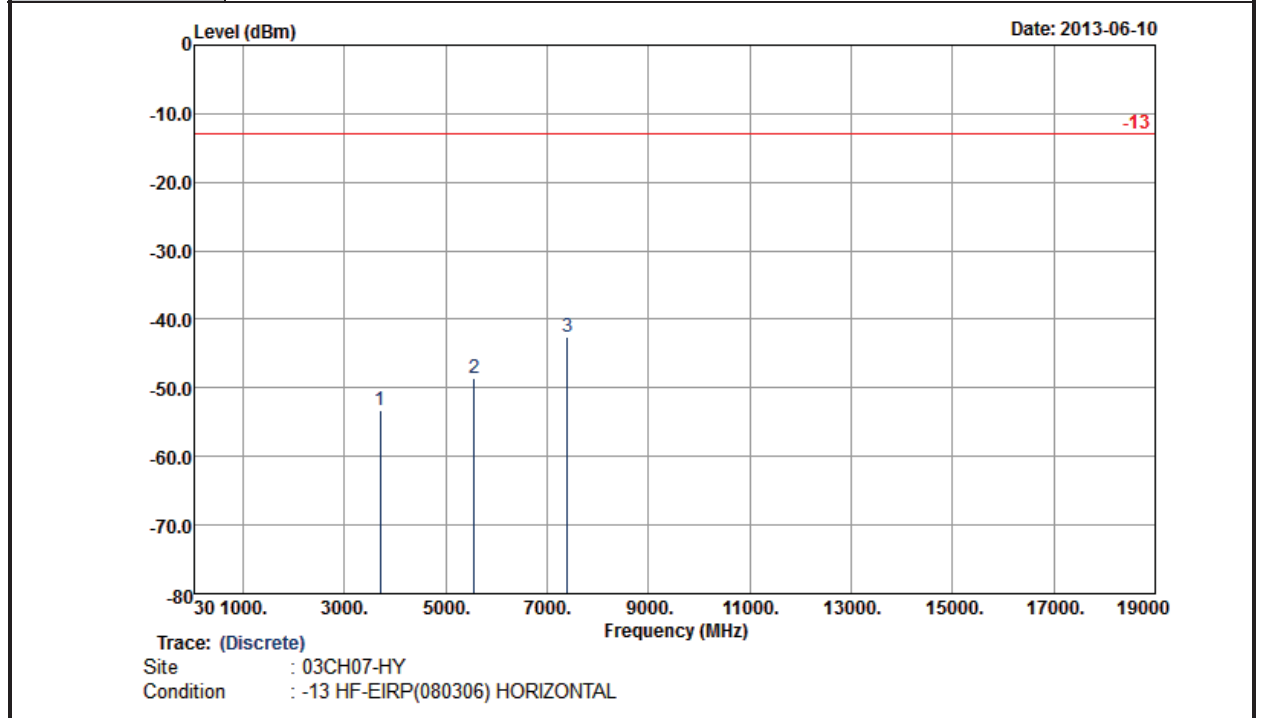
Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3700	-50.09	-13	-37.09	-66.24	-56.35	2.48	8.74	V	Pass
5552	-49.26	-13	-36.26	-69.53	-56.95	2.96	10.65	V	Pass
7400	-39.24	-13	-26.24	-66.19	-47.87	3.48	12.11	V	Pass



FCC RF Test Report

Report No. : FG352141B

Band :	LTE Band 2	Temperature :	22~24°C
Test Mode :	3MHZ QPSK RB Size 1 Offset 0	Relative Humidity :	51~53%
Test Engineer :	Beer Chang	Polarization :	Horizontal
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.		



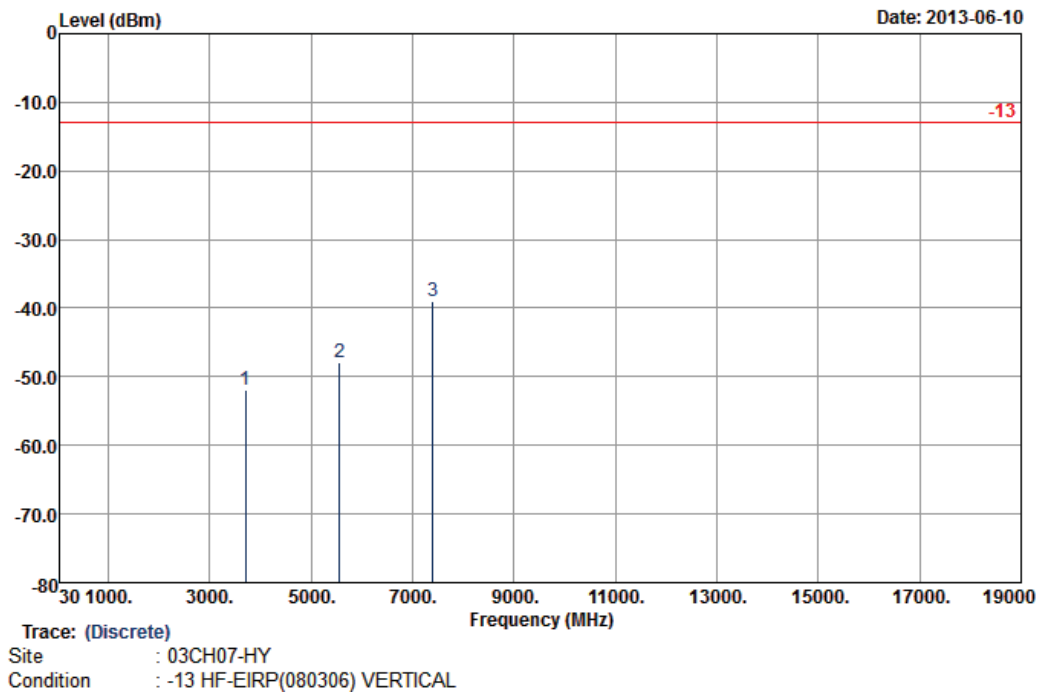
Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3704	-53.35	-13	-40.35	-68.5	-59.61	2.47	8.73	H	Pass
5555	-48.48	-13	-35.48	-68.92	-56.23	2.93	10.68	H	Pass
7400	-42.67	-13	-29.67	-70.03	-51.39	3.42	12.14	H	Pass



FCC RF Test Report

Report No. : FG352141B

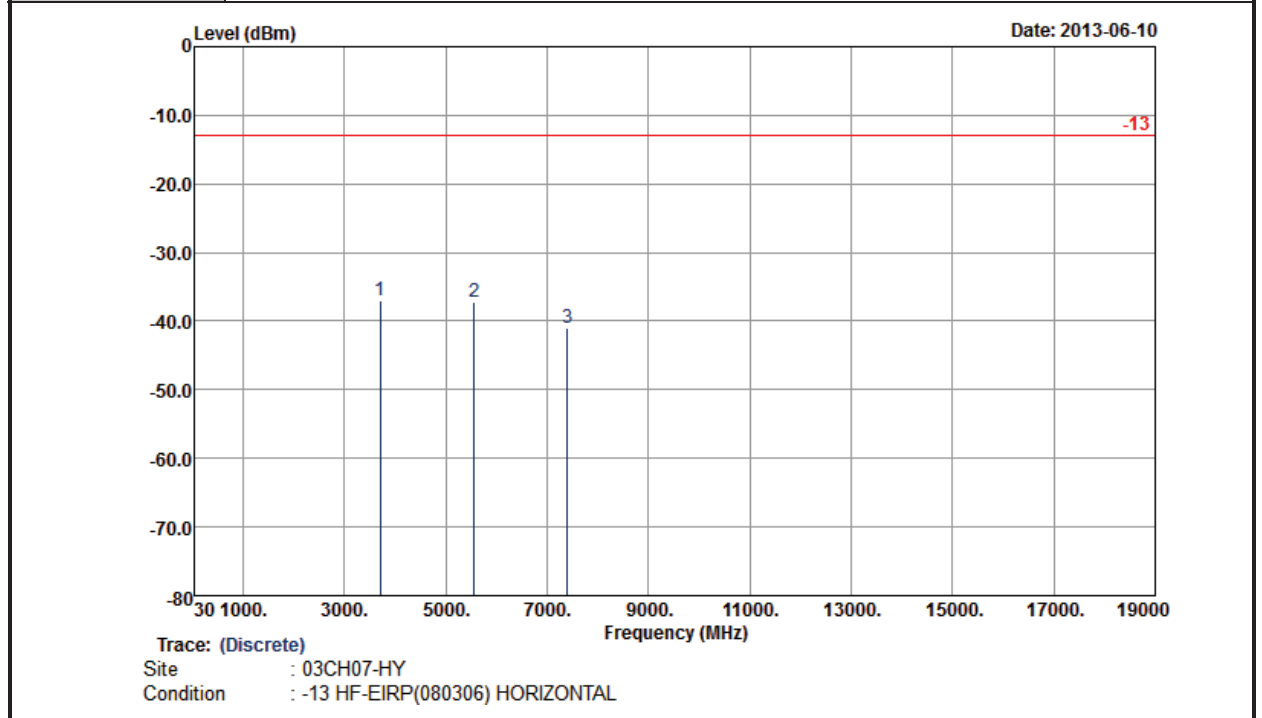
Band :	LTE Band 2	Temperature :	22~24°C
Test Mode :	3MHZ QPSK RB Size 1 Offset 0	Relative Humidity :	51~53%
Test Engineer :	Beer Chang	Polarization :	Vertical
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.		



Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3704	-51.88	-13	-38.88	-68.03	-58.14	2.47	8.73	V	Pass
5555	-47.90	-13	-34.90	-68.17	-55.65	2.93	10.68	V	Pass
7400	-38.94	-13	-25.94	-65.89	-47.66	3.42	12.14	V	Pass

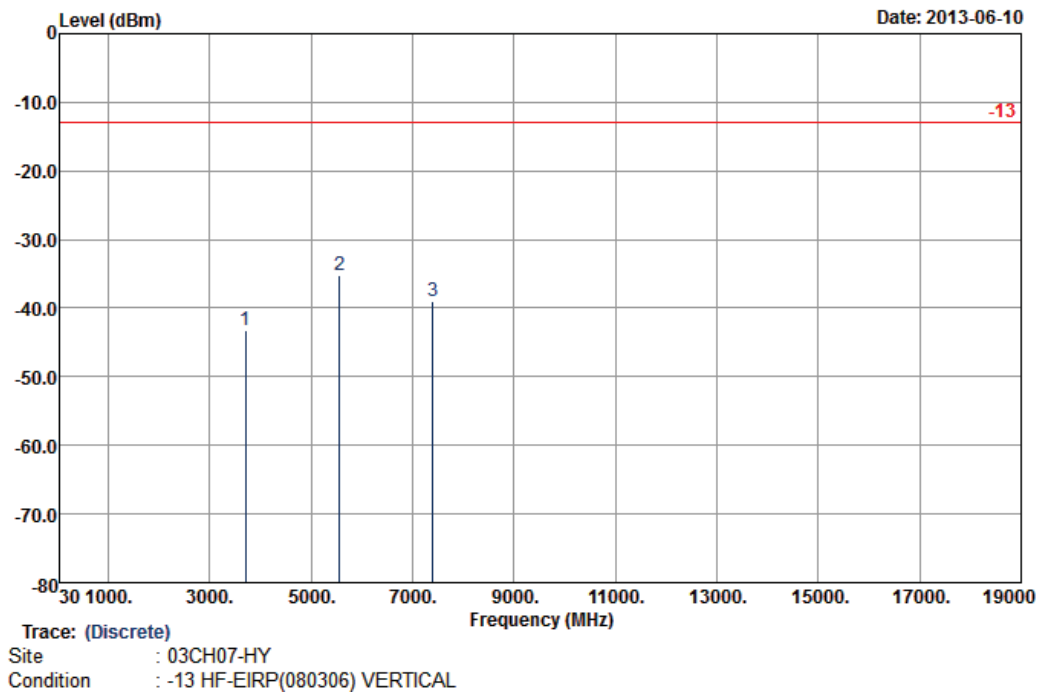


Band :	LTE Band 2	Temperature :	22~24°C
Test Mode :	5MHZ QPSK RB Size 1 Offset 0	Relative Humidity :	51~53%
Test Engineer :	Beer Chang	Polarization :	Horizontal
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.		



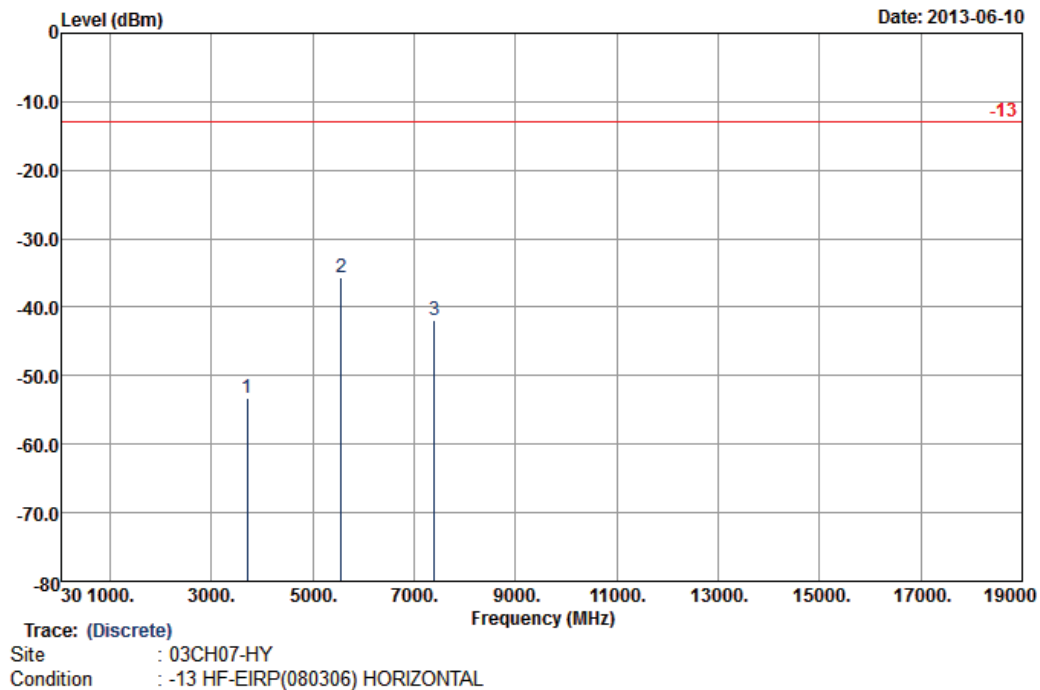
Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3700	-37.05	-13	-24.05	-52.2	-43.38	2.46	8.79	H	Pass
5552	-37.30	-13	-24.30	-57.74	-45.17	2.9	10.77	H	Pass
7400	-41.03	-13	-28.03	-68.35	-49.85	3.42	12.24	H	Pass

Band :	LTE Band 2	Temperature :	22~24°C
Test Mode :	5MHZ QPSK RB Size 1 Offset 0	Relative Humidity :	51~53%
Test Engineer :	Beer Chang	Polarization :	Vertical
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.		



Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3700	-43.18	-13	-30.18	-59.33	-49.51	2.46	8.79	V	Pass
5552	-35.10	-13	-22.10	-55.37	-42.97	2.9	10.77	V	Pass
7400	-38.96	-13	-25.96	-65.91	-47.78	3.42	12.24	V	Pass

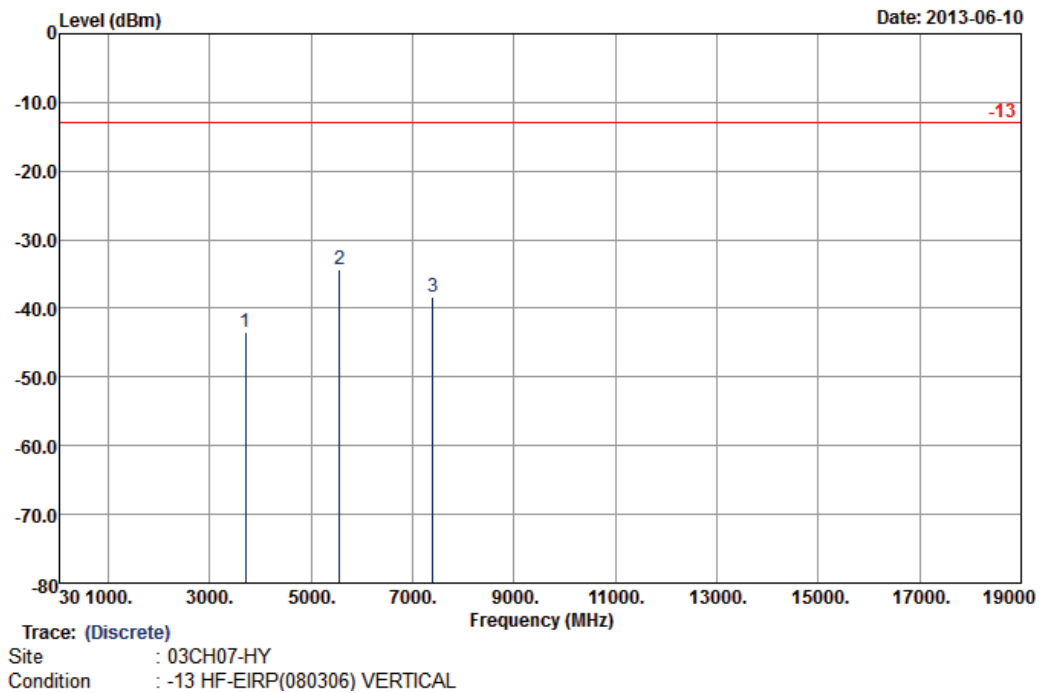
Band :	LTE Band 2	Temperature :	22~24°C
Test Mode :	10MHZ QPSK RB Size 1 Offset 0	Relative Humidity :	51~53%
Test Engineer :	Beer Chang	Polarization :	Horizontal
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.		



Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3700	-53.20	-13	-40.20	-68.35	-59.62	2.47	8.89	H	Pass
5552	-35.64	-13	-22.64	-56.08	-43.5	2.93	10.79	H	Pass
7400	-41.81	-13	-28.81	-69.13	-50.62	3.45	12.26	H	Pass

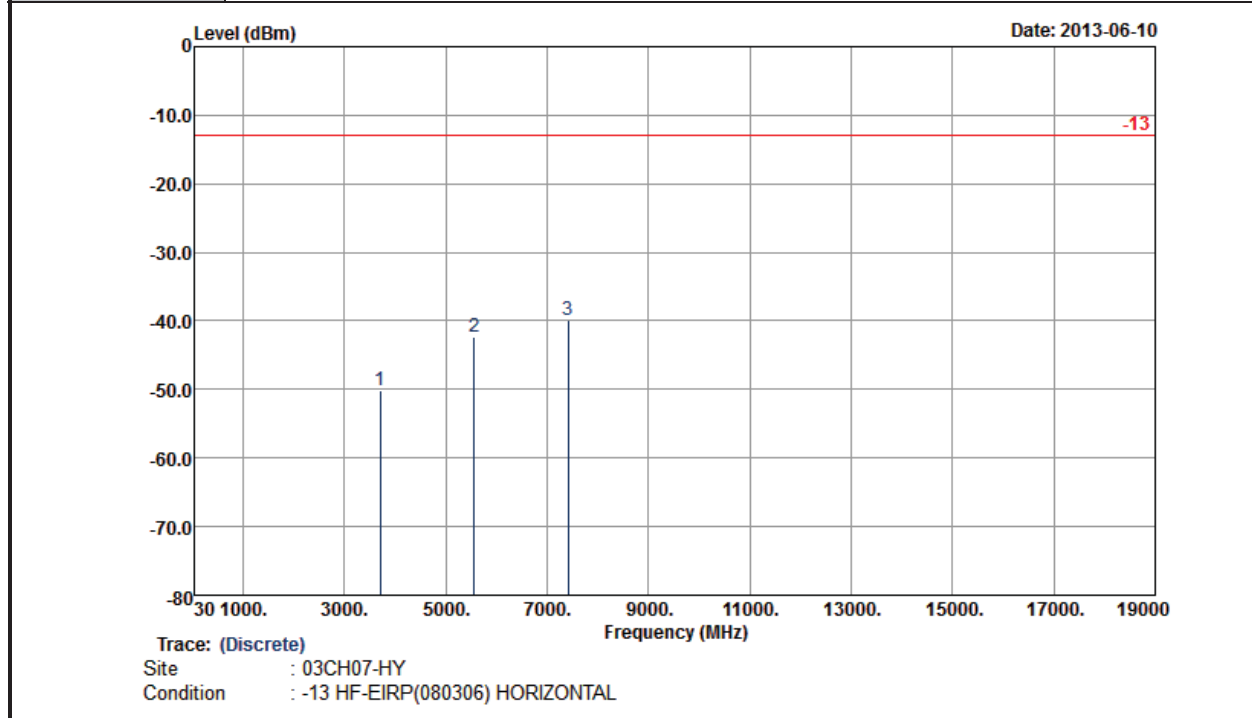


Band :	LTE Band 2	Temperature :	22~24°C
Test Mode :	10MHZ QPSK RB Size 1 Offset 0	Relative Humidity :	51~53%
Test Engineer :	Beer Chang	Polarization :	Vertical
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.		



Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3700	-43.51	-13	-30.51	-59.66	-49.93	2.47	8.89	V	Pass
5552	-34.23	-13	-21.23	-54.5	-42.09	2.93	10.79	V	Pass
7400	-38.40	-13	-25.40	-65.35	-47.21	3.45	12.26	V	Pass

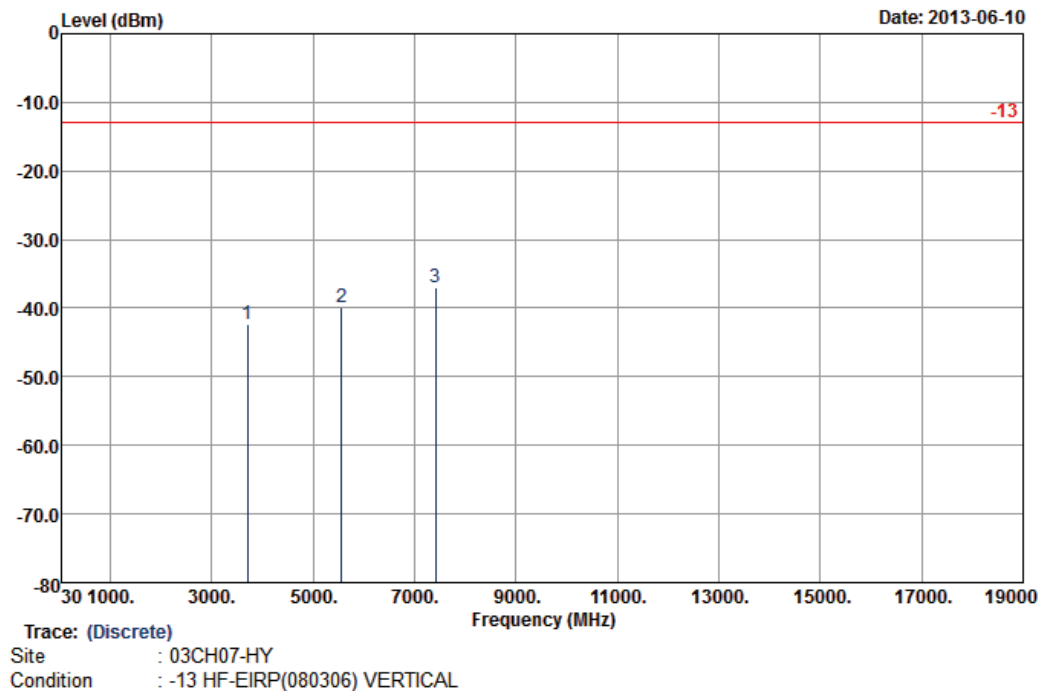
Band :	LTE Band 2	Temperature :	22~24°C
Test Mode :	15MHZ QPSK RB Size 1 Offset 0	Relative Humidity :	51~53%
Test Engineer :	Beer Chang	Polarization :	Horizontal
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.		



Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3700	-50.17	-13	-37.17	-65.32	-56.52	2.49	8.84	H	Pass
5552	-42.23	-13	-29.23	-62.67	-50.08	3.01	10.86	H	Pass
7404	-39.82	-13	-26.82	-67.18	-48.79	3.38	12.35	H	Pass



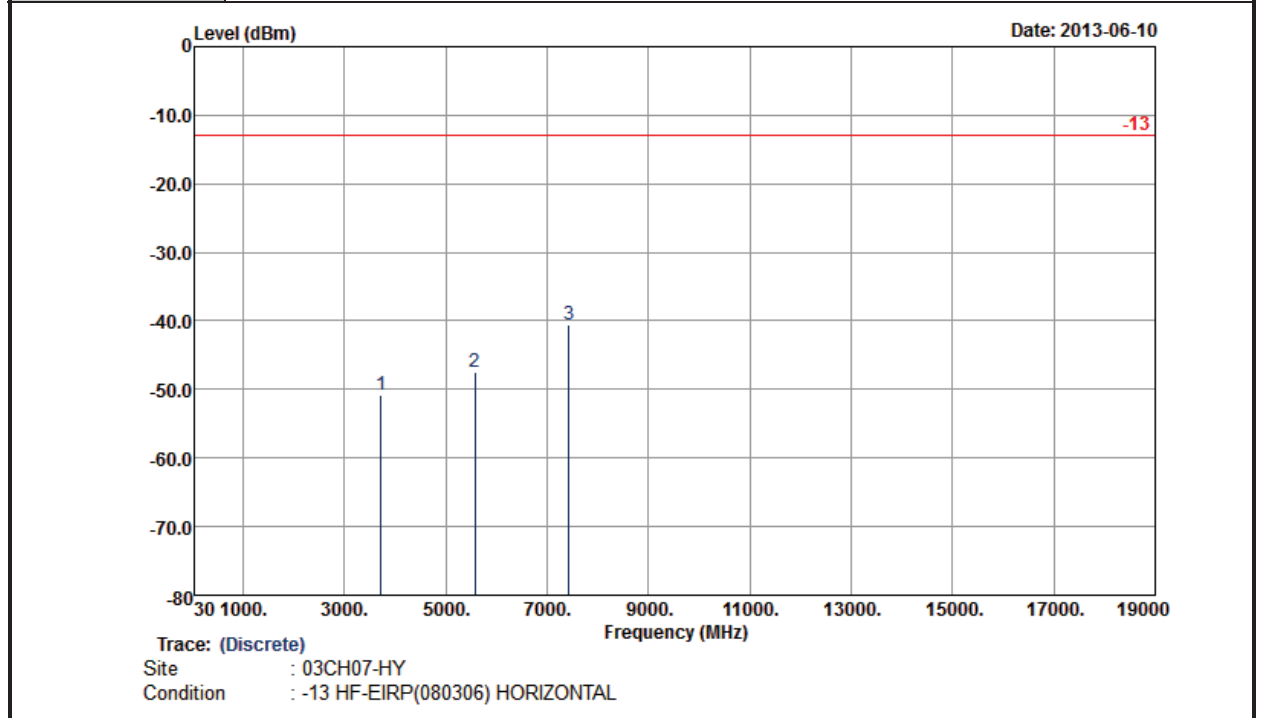
Band :	LTE Band 2	Temperature :	22~24°C
Test Mode :	15MHZ QPSK RB Size 1 Offset 0	Relative Humidity :	51~53%
Test Engineer :	Beer Chang	Polarization :	Vertical
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.		



Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3700	-42.36	-13	-29.36	-58.51	-48.71	2.49	8.84	V	Pass
5552	-39.83	-13	-26.83	-60.1	-47.68	3.01	10.86	V	Pass
7404	-37.04	-13	-24.04	-64.05	-46.01	3.38	12.35	V	Pass



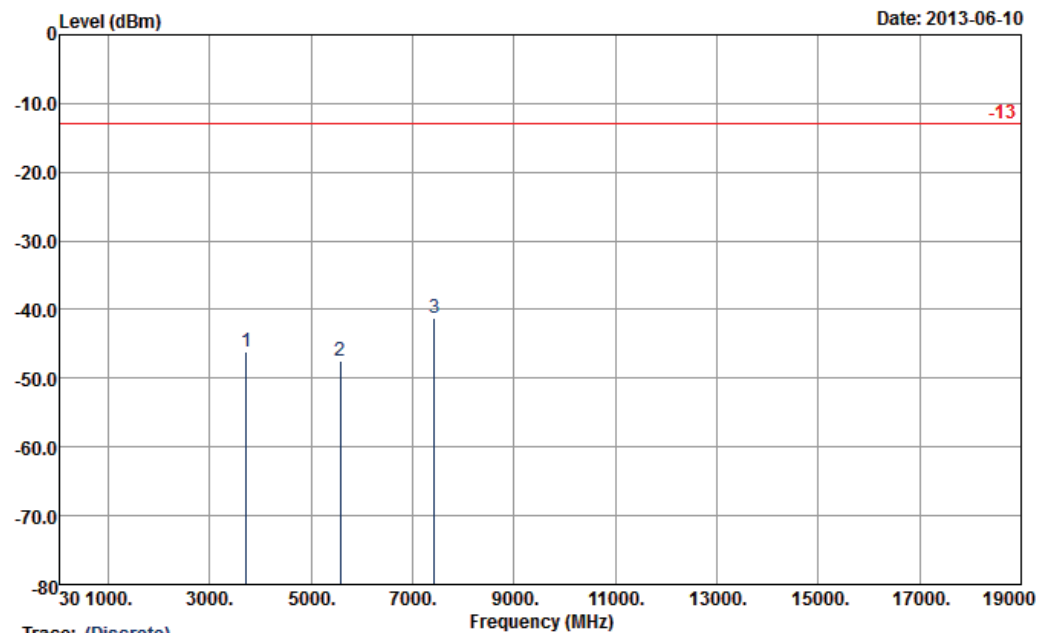
Band :	LTE Band 2	Temperature :	22~24°C
Test Mode :	20MHZ QPSK RB Size 1 Offset 49	Relative Humidity :	51~53%
Test Engineer :	Beer Chang	Polarization :	Horizontal
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.		



Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3716	-50.73	-13	-37.73	-65.95	-57.11	2.51	8.89	H	Pass
5576	-47.53	-13	-34.53	-68.03	-55.39	3.03	10.89	H	Pass
7432	-40.63	-13	-27.63	-68.03	-49.77	3.24	12.38	H	Pass



Band :	LTE Band 2	Temperature :	22~24°C
Test Mode :	20MHZ QPSK RB Size 1 Offset 49	Relative Humidity :	51~53%
Test Engineer :	Beer Chang	Polarization :	Vertical
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.		



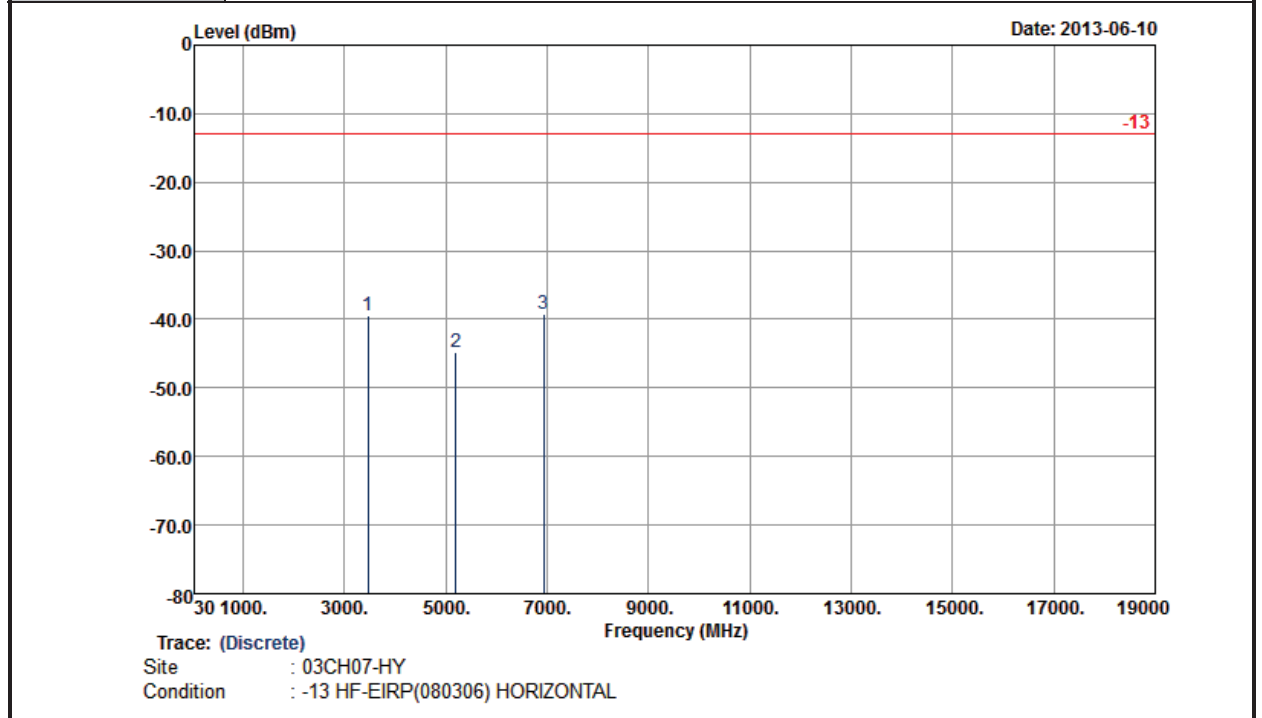
Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3716	-46.11	-13	-33.11	-62.31	-52.49	2.51	8.89	V	Pass
5576	-47.39	-13	-34.39	-67.72	-55.25	3.03	10.89	V	Pass
7432	-41.24	-13	-28.24	-68.31	-50.38	3.24	12.38	V	Pass



FCC RF Test Report

Report No. : FG352141B

Band :	LTE Band 4	Temperature :	22~24°C
Test Mode :	1.4MHZ QPSK RB Size 1 Offset 2	Relative Humidity :	51~53%
Test Engineer :	Beer Chang	Polarization :	Horizontal
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.		



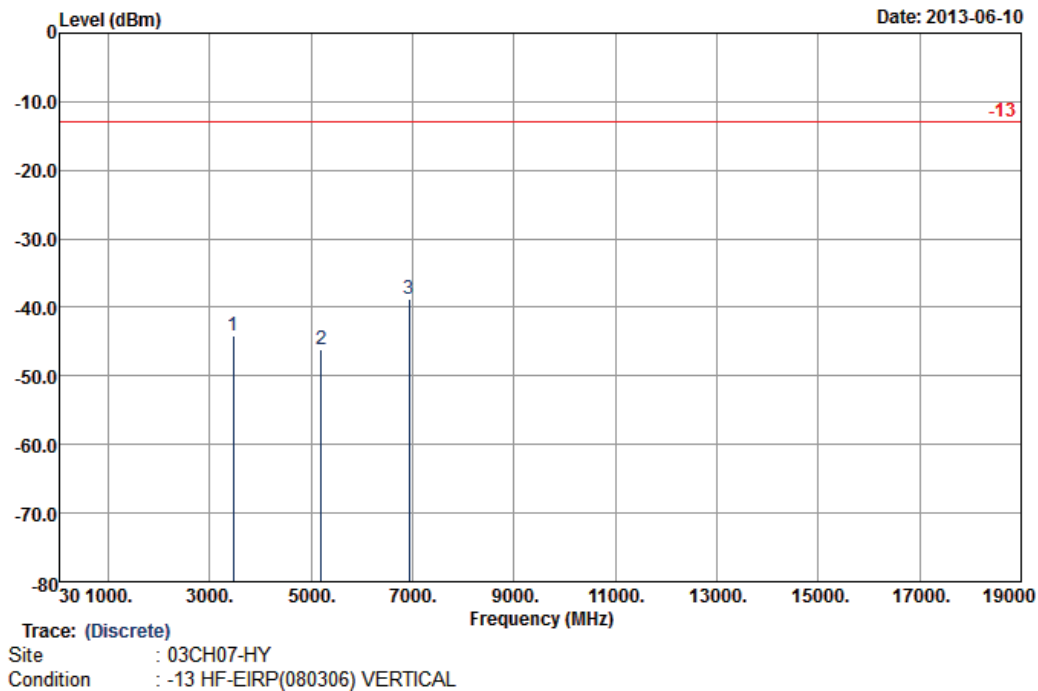
Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3464	-39.43	-13	-26.43	-53.73	-41.11	4.48	8.31	H	Pass
5200	-44.80	-13	-31.80	-63.59	-47.29	5.332	9.98	H	Pass
6932	-39.21	-13	-26.21	-65.37	-42.3	6.1	11.34	H	Pass



FCC RF Test Report

Report No. : FG352141B

Band :	LTE Band 4	Temperature :	22~24°C
Test Mode :	1.4MHZ QPSK RB Size 1 Offset 2	Relative Humidity :	51~53%
Test Engineer :	Beer Chang	Polarization :	Vertical
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.		



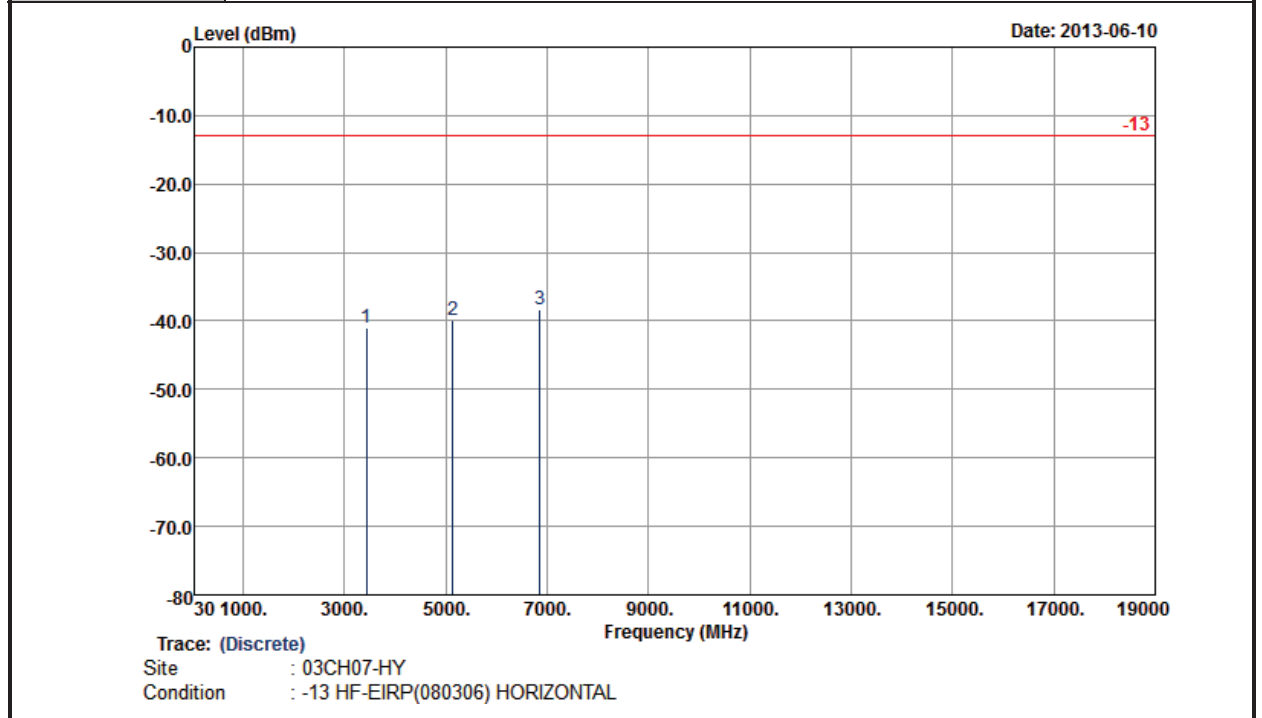
Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3464	-44.05	-13	-31.05	-59.59	-45.73	4.48	8.31	V	Pass
5200	-46.09	-13	-33.09	-64.92	-48.58	5.332	9.98	V	Pass
6932	-38.83	-13	-25.83	-64.17	-41.92	6.1	11.34	V	Pass



FCC RF Test Report

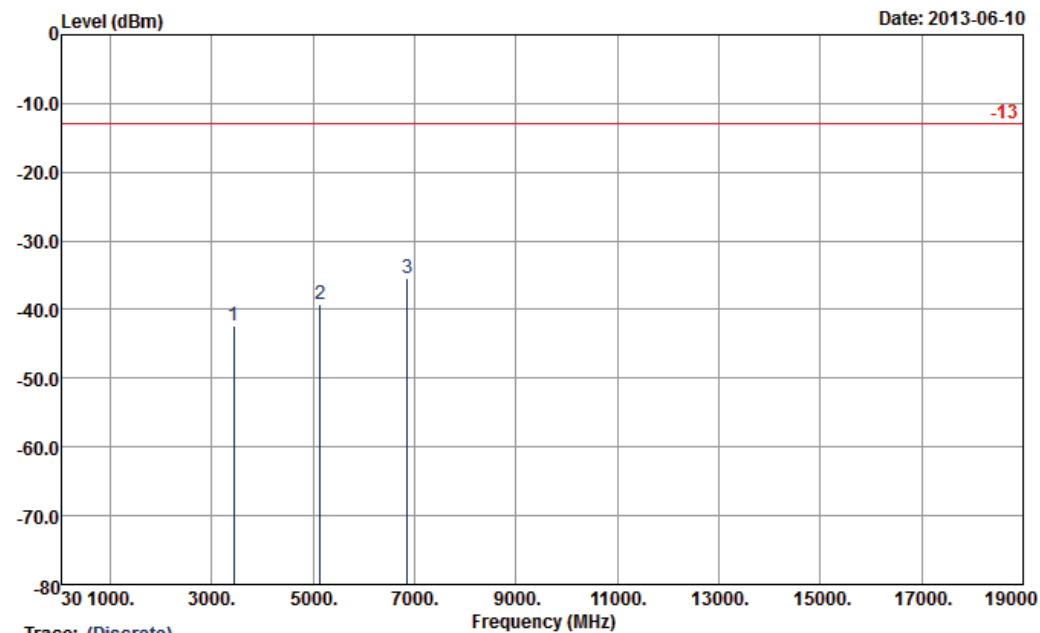
Report No. : FG352141B

Band :	LTE Band 4	Temperature :	22~24°C
Test Mode :	3MHZ QPSK RB Size 1 Offset 7	Relative Humidity :	51~53%
Test Engineer :	Beer Chang	Polarization :	Horizontal
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.		



Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3424	-41.08	-13	-28.08	-55.32	-42.76	4.48	8.31	H	Pass
5136	-39.99	-13	-26.99	-58.46	-42.48	5.332	9.98	H	Pass
6848	-38.43	-13	-25.43	-64.16	-41.52	6.1	11.34	H	Pass

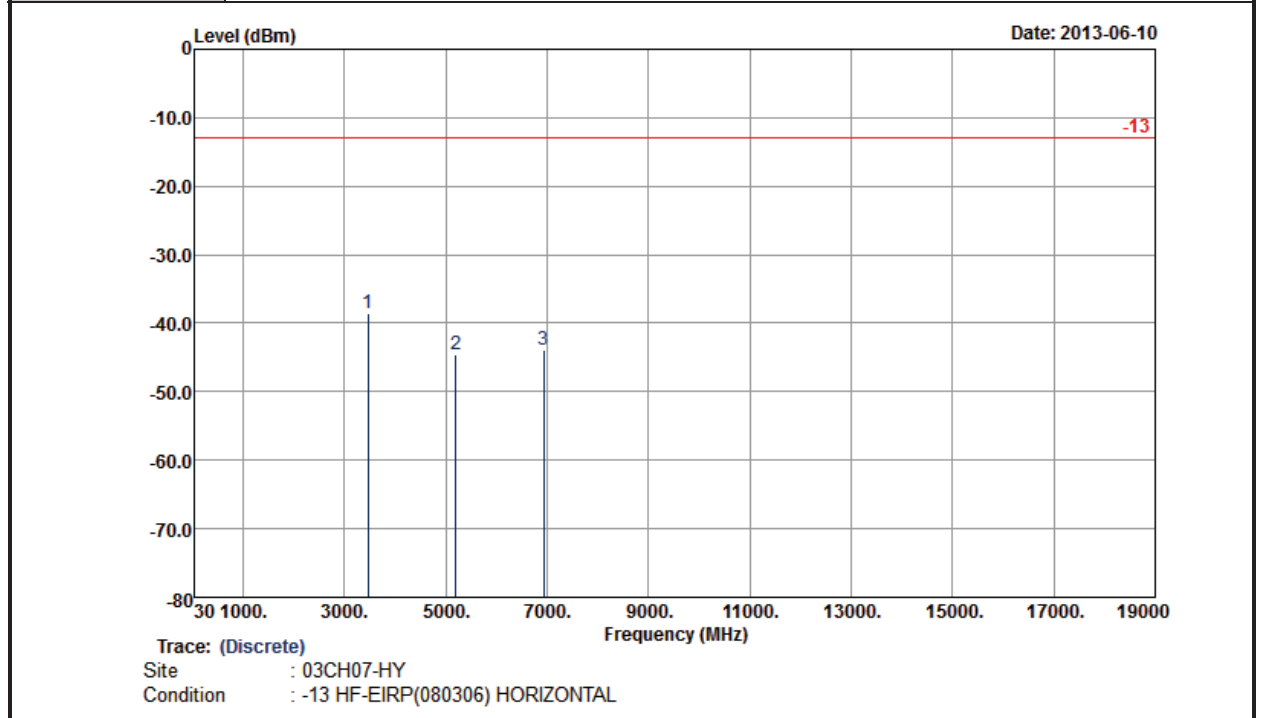
Band :	LTE Band 4	Temperature :	22~24°C
Test Mode :	3MHZ QPSK RB Size 1 Offset 7	Relative Humidity :	51~53%
Test Engineer :	Beer Chang	Polarization :	Vertical
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.		



Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3424	-42.44	-13	-29.44	-58	-44.12	4.48	8.31	V	Pass
5136	-39.33	-13	-26.33	-57.88	-41.82	5.332	9.98	V	Pass
6848	-35.37	-13	-22.37	-60.36	-38.46	6.1	11.34	V	Pass



Band :	LTE Band 4	Temperature :	22~24°C
Test Mode :	5MHZ QPSK RB Size 1 Offset 12	Relative Humidity :	51~53%
Test Engineer :	Beer Chang	Polarization :	Horizontal
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.		



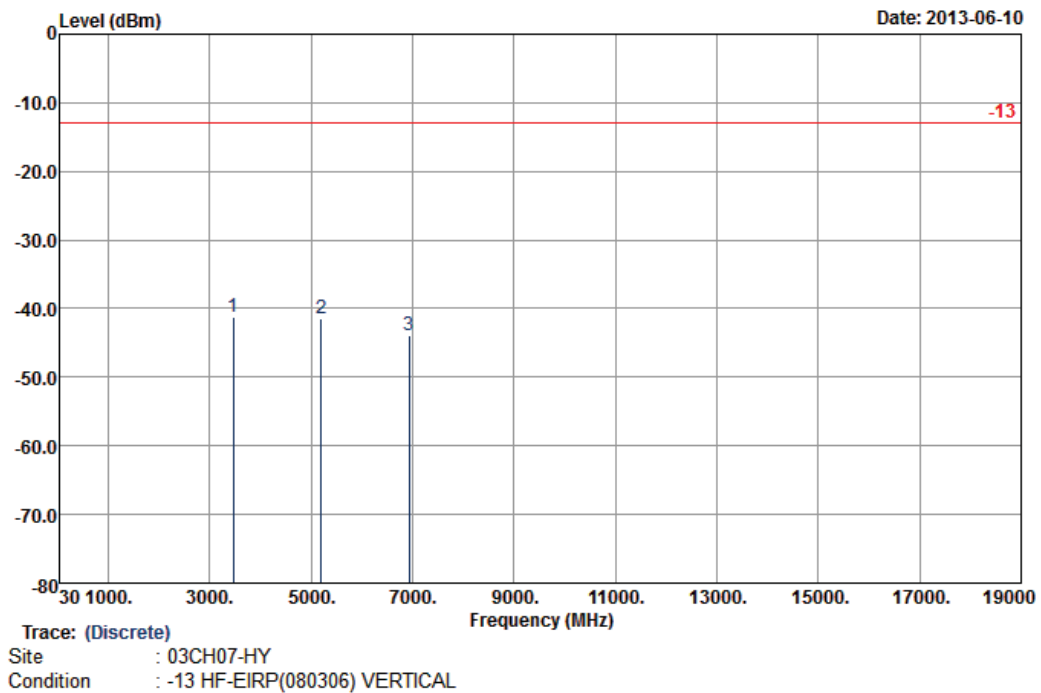
Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3464	-38.54	-13	-25.54	-52.84	-40.22	4.48	8.31	H	Pass
5196	-44.60	-13	-31.60	-63.39	-47.09	5.332	9.98	H	Pass
6928	-43.83	-13	-30.83	-69.99	-46.92	6.1	11.34	H	Pass



FCC RF Test Report

Report No. : FG352141B

Band :	LTE Band 4	Temperature :	22~24°C
Test Mode :	5MHZ QPSK RB Size 1 Offset 12	Relative Humidity :	51~53%
Test Engineer :	Beer Chang	Polarization :	Vertical
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.		



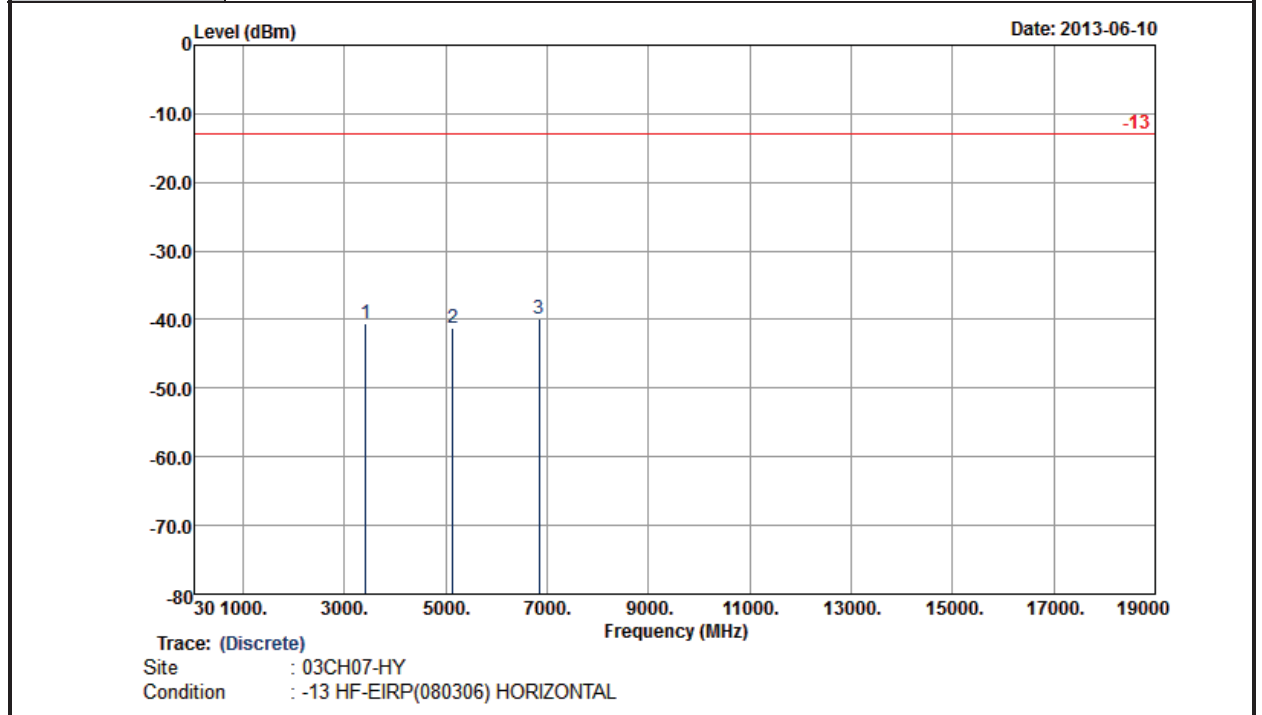
Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3464	-41.23	-13	-28.23	-56.77	-42.91	4.48	8.31	V	Pass
5200	-41.54	-13	-28.54	-60.37	-44.03	5.332	9.98	V	Pass
6928	-43.89	-13	-30.89	-69.23	-46.98	6.1	11.34	V	Pass



FCC RF Test Report

Report No. : FG352141B

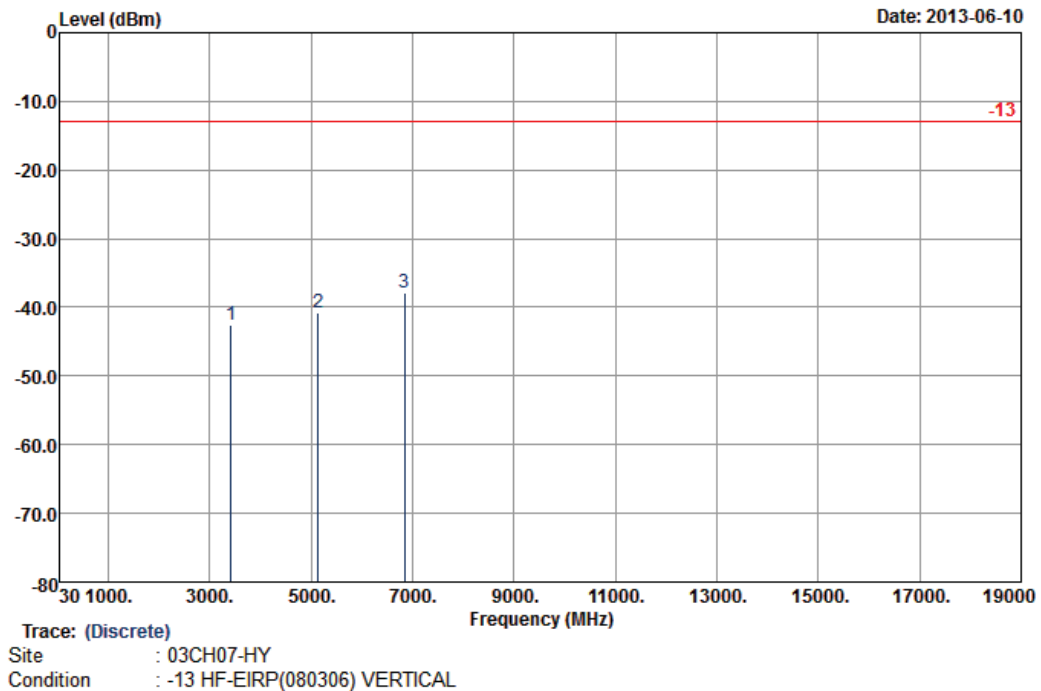
Band :	LTE Band 4	Temperature :	22~24°C
Test Mode :	10MHZ QPSK RB Size 1 Offset 0	Relative Humidity :	51~53%
Test Engineer :	Beer Chang	Polarization :	Horizontal
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.		



Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3420	-40.62	-13	-27.62	-54.83	-42.3	4.48	8.31	H	Pass
5132	-41.30	-13	-28.30	-59.77	-43.79	5.332	9.98	H	Pass
6844	-39.94	-13	-26.94	-65.67	-43.03	6.1	11.34	H	Pass



Band :	LTE Band 4	Temperature :	22~24°C
Test Mode :	10MHZ QPSK RB Size 1 Offset 0	Relative Humidity :	51~53%
Test Engineer :	Beer Chang	Polarization :	Vertical
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.		



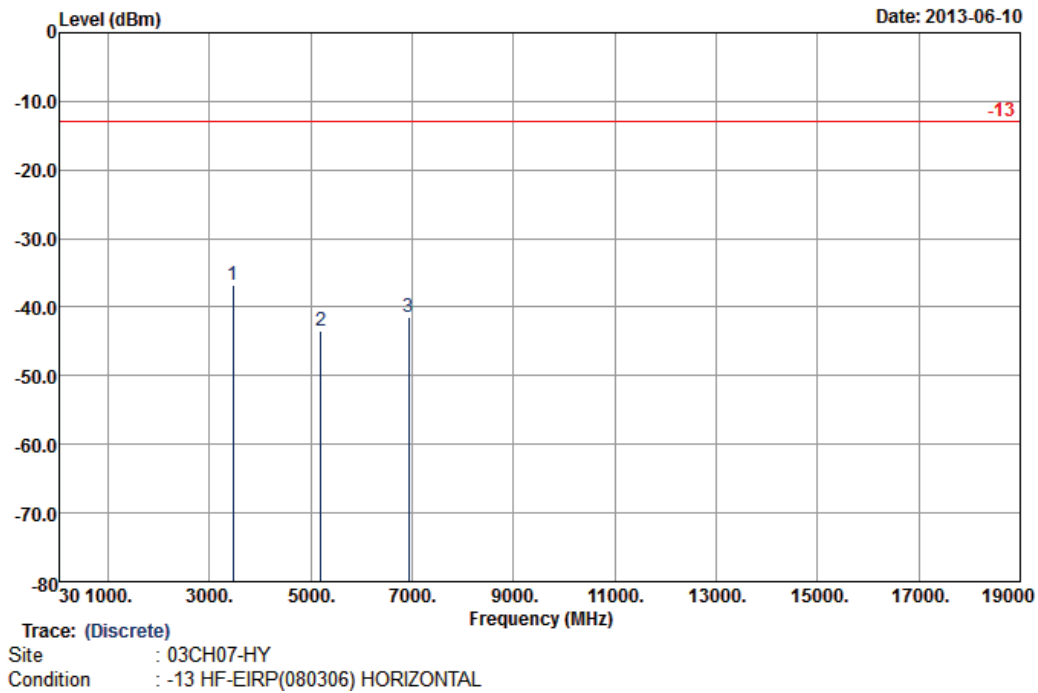
Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3420	-42.63	-13	-29.63	-58.19	-44.31	4.48	8.31	V	Pass
5132	-40.86	-13	-27.86	-59.41	-43.35	5.332	9.98	V	Pass
6844	-37.90	-13	-24.90	-62.89	-40.99	6.1	11.34	V	Pass



FCC RF Test Report

Report No. : FG352141B

Band :	LTE Band 4	Temperature :	22~24°C
Test Mode :	15MHZ QPSK RB Size 1 Offset 37	Relative Humidity :	51~53%
Test Engineer :	Beer Chang	Polarization :	Horizontal
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.		



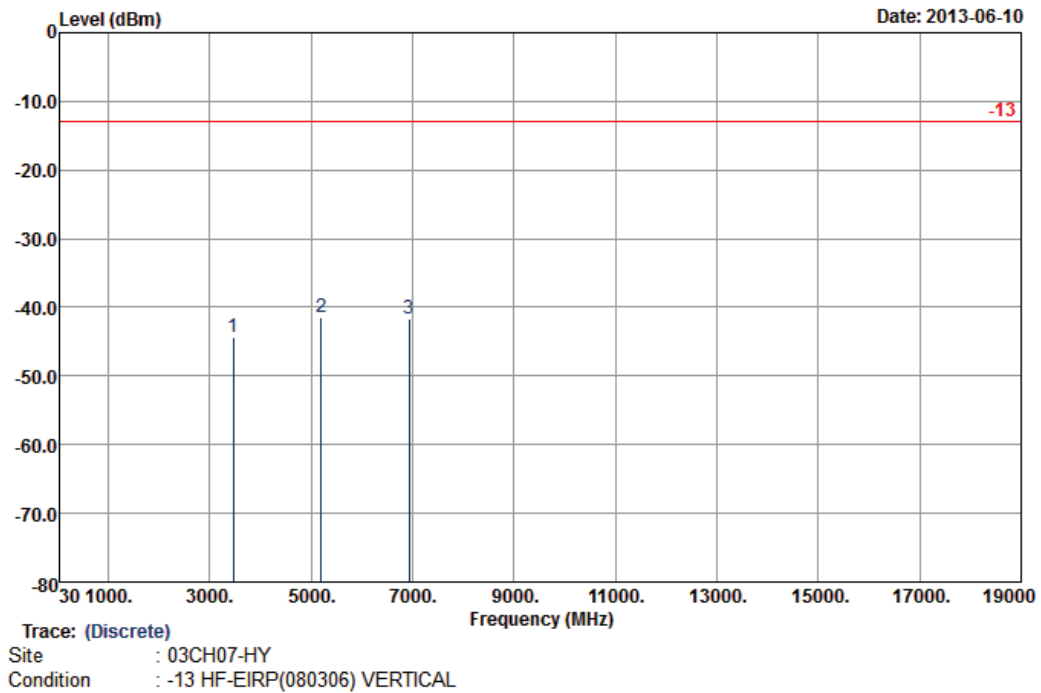
Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3464	-36.78	-13	-23.78	-51.08	-38.46	4.48	8.31	H	Pass
5200	-43.53	-13	-30.53	-62.32	-46.02	5.332	9.98	H	Pass
6932	-41.34	-13	-28.34	-67.5	-44.43	6.1	11.34	H	Pass



FCC RF Test Report

Report No. : FG352141B

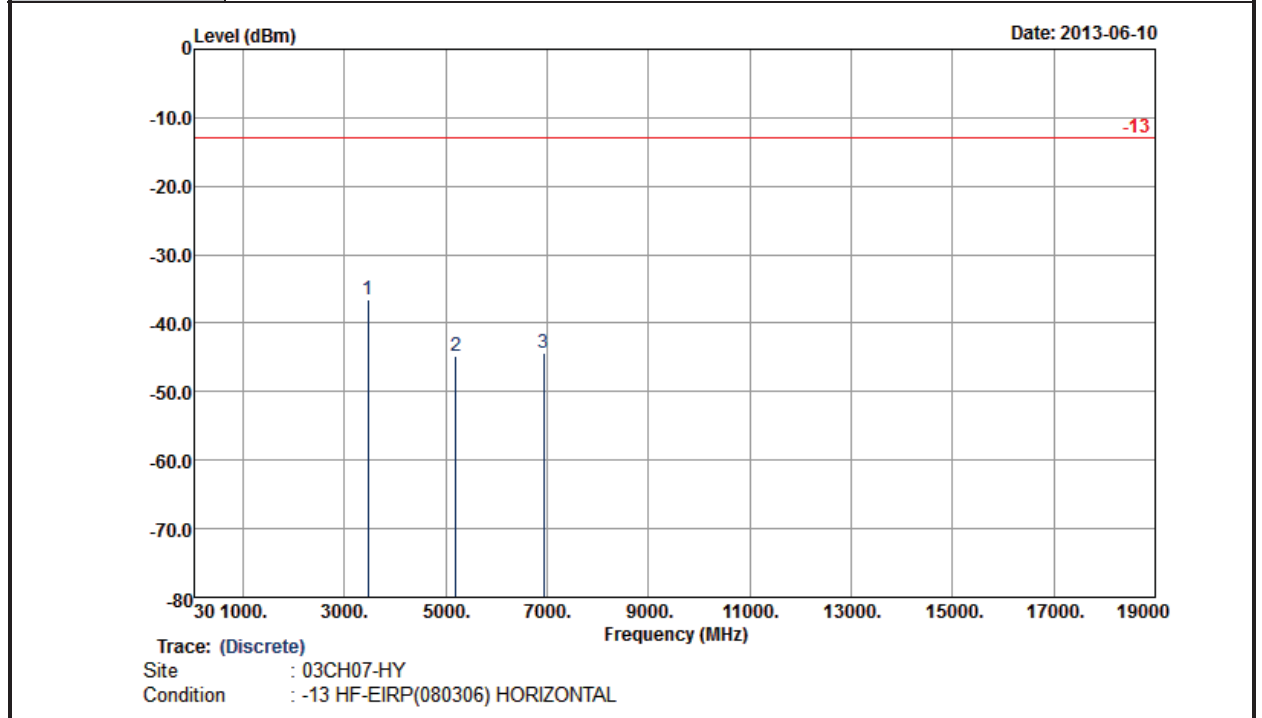
Band :	LTE Band 4	Temperature :	22~24°C
Test Mode :	15MHZ QPSK RB Size 1 Offset 37	Relative Humidity :	51~53%
Test Engineer :	Beer Chang	Polarization :	Vertical
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.		



Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3464	-44.41	-13	-31.41	-59.95	-46.09	4.48	8.31	V	Pass
5200	-41.37	-13	-28.37	-60.2	-43.86	5.332	9.98	V	Pass
6932	-41.57	-13	-28.57	-66.91	-44.66	6.1	11.34	V	Pass



Band :	LTE Band 4	Temperature :	22~24°C
Test Mode :	20MHZ QPSK RB Size 1 Offset 49	Relative Humidity :	51~53%
Test Engineer :	Beer Chang	Polarization :	Horizontal
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.		



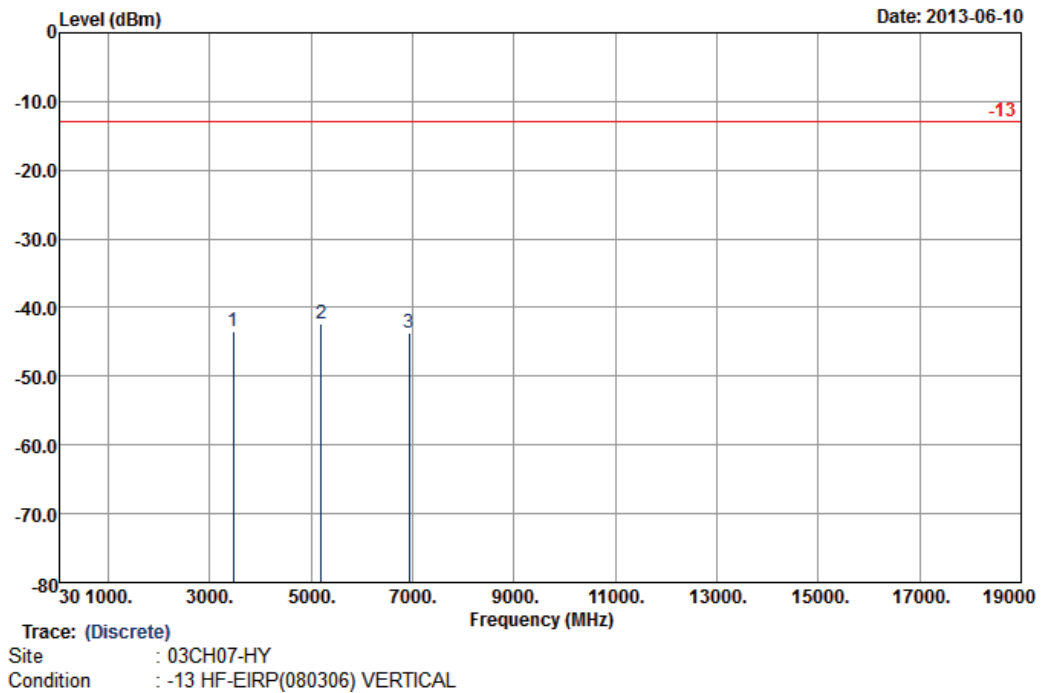
Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3464	-36.52	-13	-23.52	-50.82	-38.2	4.48	8.31	H	Pass
5196	-44.86	-13	-31.86	-63.65	-47.35	5.332	9.98	H	Pass
6928	-44.43	-13	-31.43	-70.59	-47.52	6.1	11.34	H	Pass



FCC RF Test Report

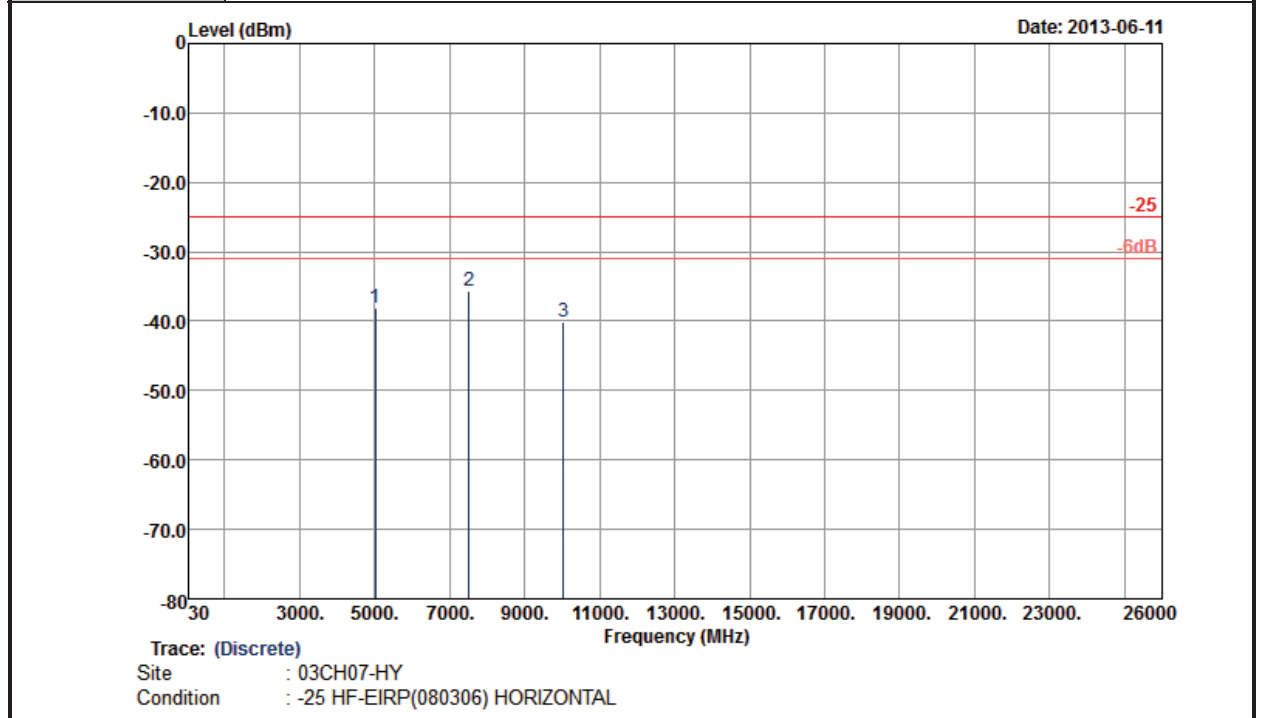
Report No. : FG352141B

Band :	LTE Band 4	Temperature :	22~24°C
Test Mode :	20MHZ QPSK RB Size 1 Offset 49	Relative Humidity :	51~53%
Test Engineer :	Beer Chang	Polarization :	Vertical
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.		



Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
3464	-43.43	-13	-30.43	-58.97	-45.11	4.48	8.31	V	Pass
5196	-42.35	-13	-29.35	-61.18	-44.84	5.332	9.98	V	Pass
6928	-43.73	-13	-30.73	-69.07	-46.82	6.1	11.34	V	Pass

Band :	LTE Band 7	Temperature :	22~24°C
Test Mode :	5MHZ QPSK RB Size 1 Offset 12	Relative Humidity :	51~53%
Test Engineer :	Beer Chang	Polarization :	Horizontal
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.		



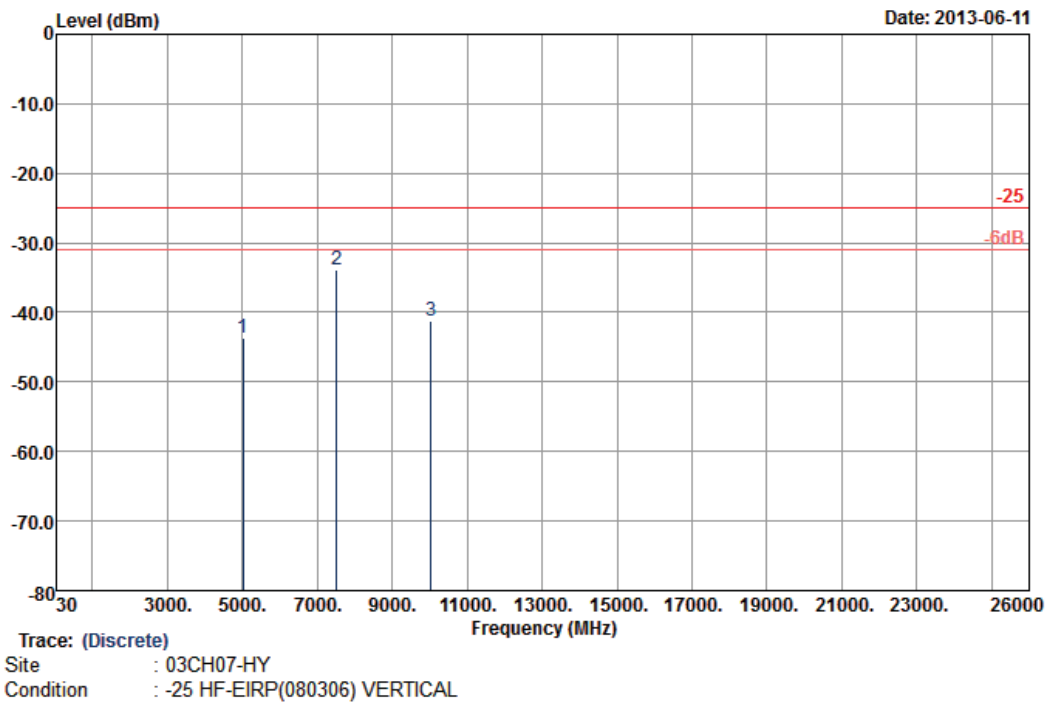
Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
5012	-38.15	-25	-13.15	-56.06	-41.71	6.78	10.34	H	Pass
7520	-35.66	-25	-10.66	-62.93	-38.7	9.22	12.26	H	Pass
10024	-40.12	-25	-15.12	-68.86	-44.46	8.51	12.85	H	Pass



FCC RF Test Report

Report No. : FG352141B

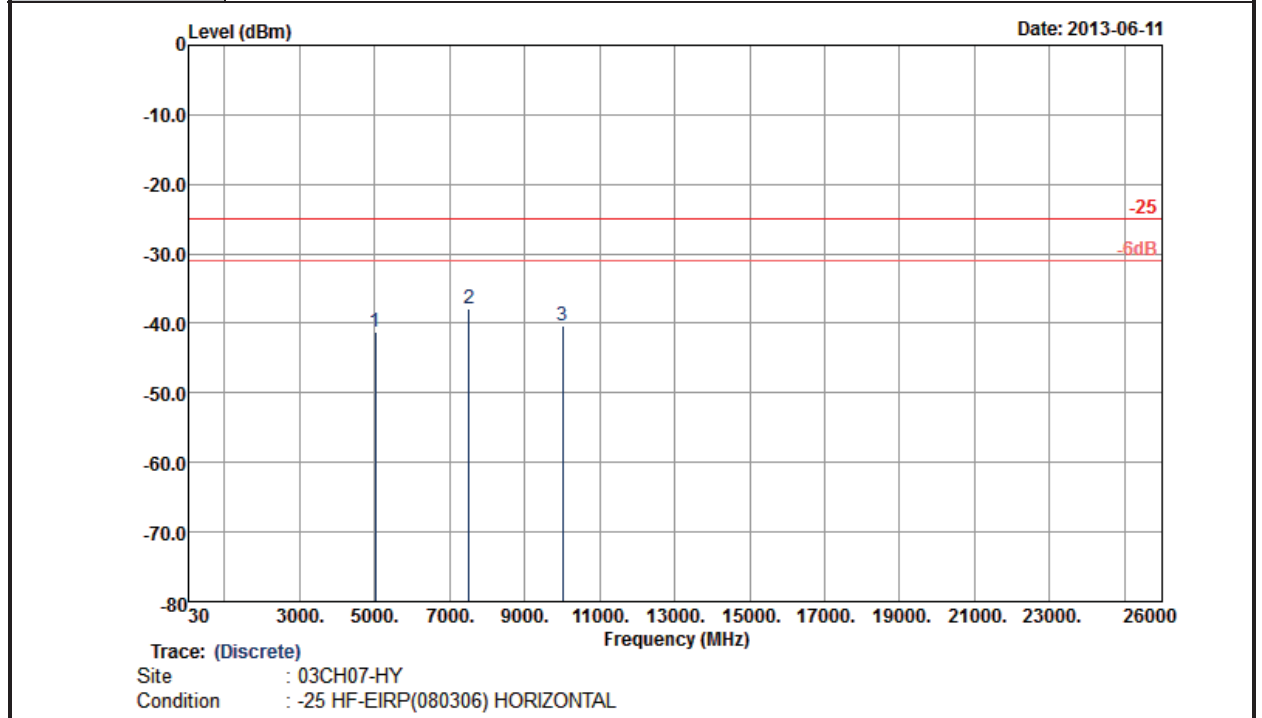
Band :	LTE Band 7	Temperature :	22~24°C
Test Mode :	5MHZ QPSK RB Size 1 Offset 12	Relative Humidity :	51~53%
Test Engineer :	Beer Chang	Polarization :	Vertical
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.		



Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
5012	-43.68	-25	-18.68	-61.74	-47.24	6.78	10.34	V	Pass
7520	-33.93	-25	-8.93	-60.98	-36.97	9.22	12.26	V	Pass
10024	-41.24	-25	-16.24	-69.04	-45.58	8.51	12.85	V	Pass



Band :	LTE Band 7	Temperature :	22~24°C
Test Mode :	10MHZ QPSK RB Size 1 Offset 0	Relative Humidity :	51~53%
Test Engineer :	Beer Chang	Polarization :	Horizontal
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.		



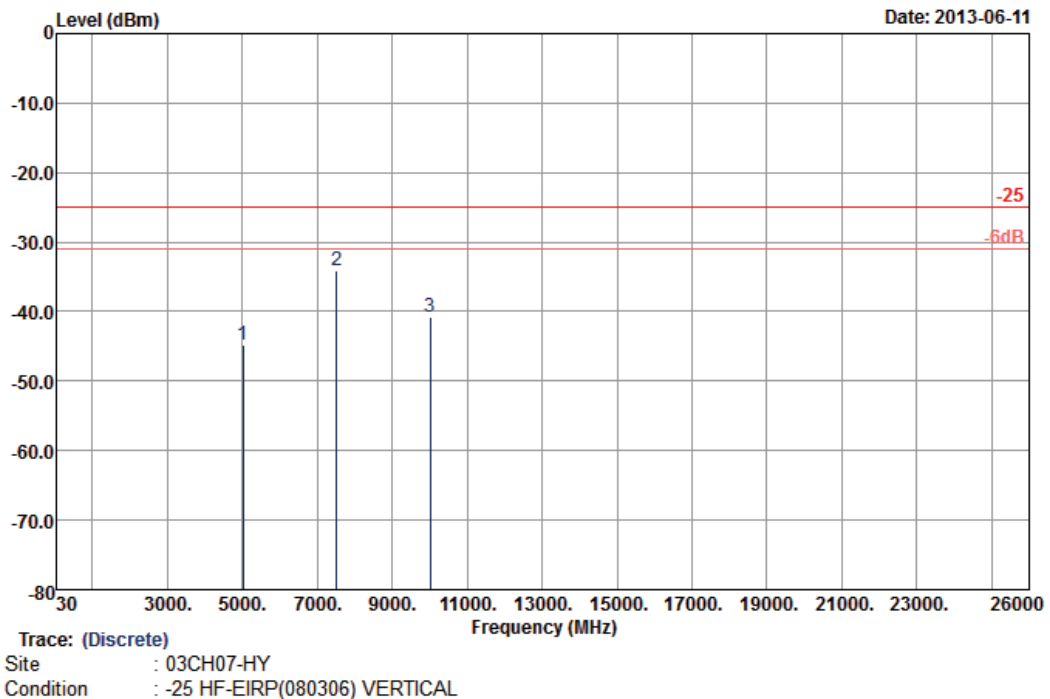
Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
5008	-41.16	-25	-16.16	-59.12	-44.7	6.81	10.35	H	Pass
7512	-37.92	-25	-12.92	-65.98	-40.9	9.26	12.24	H	Pass
10016	-40.31	-25	-15.31	-69.3	-44.6	8.54	12.83	H	Pass



FCC RF Test Report

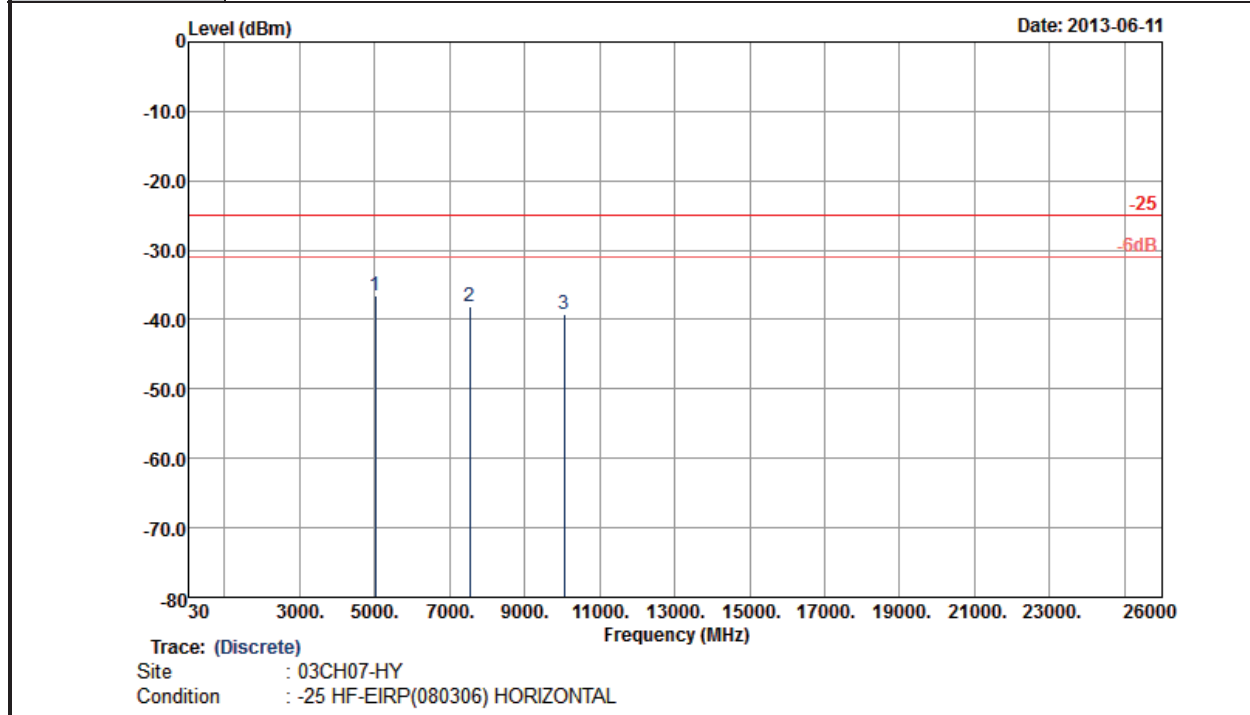
Report No. : FG352141B

Band :	LTE Band 7	Temperature :	22~24°C
Test Mode :	10MHZ QPSK RB Size 1 Offset 0	Relative Humidity :	51~53%
Test Engineer :	Beer Chang	Polarization :	Vertical
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.		



Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
5008	-44.86	-25	-19.86	-63.01	-48.4	6.81	10.35	V	Pass
7512	-34.12	-25	-9.12	-61.46	-37.1	9.26	12.24	V	Pass
10016	-40.81	-25	-15.81	-69.12	-45.1	8.54	12.83	V	Pass

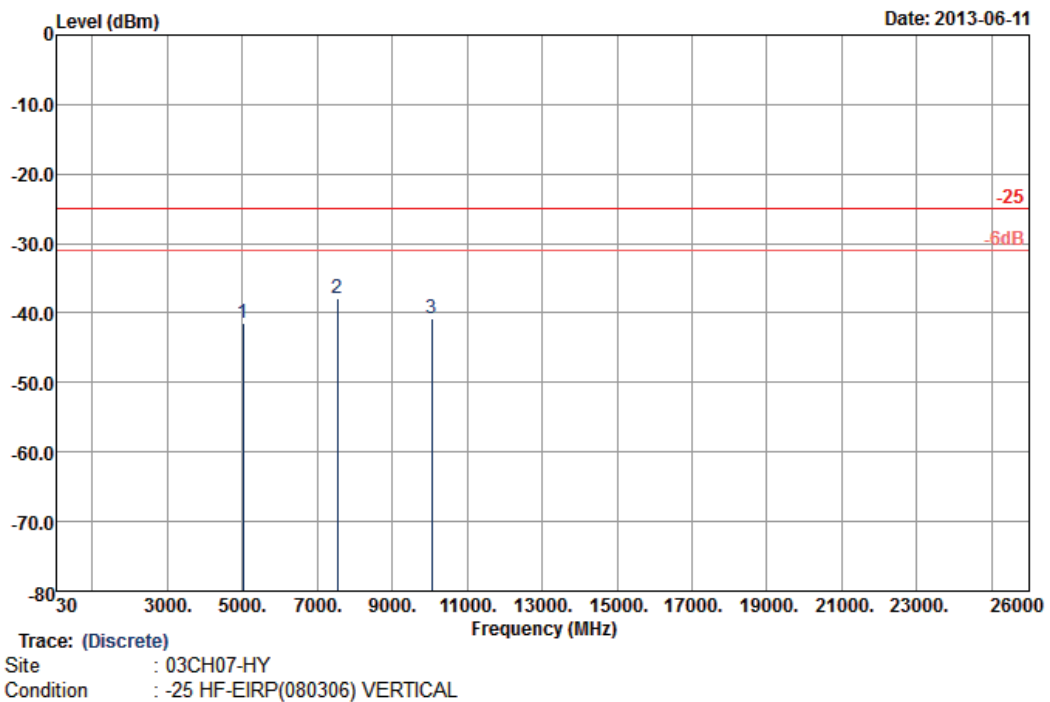
Band :	LTE Band 7	Temperature :	22~24°C
Test Mode :	15MHZ QPSK RB Size 1 Offset 37	Relative Humidity :	51~53%
Test Engineer :	Beer Chang	Polarization :	Horizontal
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.		



Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
5024	-36.55	-25	-11.55	-54.61	-40.1	6.82	10.37	H	Pass
7532	-38.21	-25	-13.21	-65.82	-41.2	9.27	12.26	H	Pass
10048	-39.17	-25	-14.17	-68.14	-43.5	8.55	12.88	H	Pass



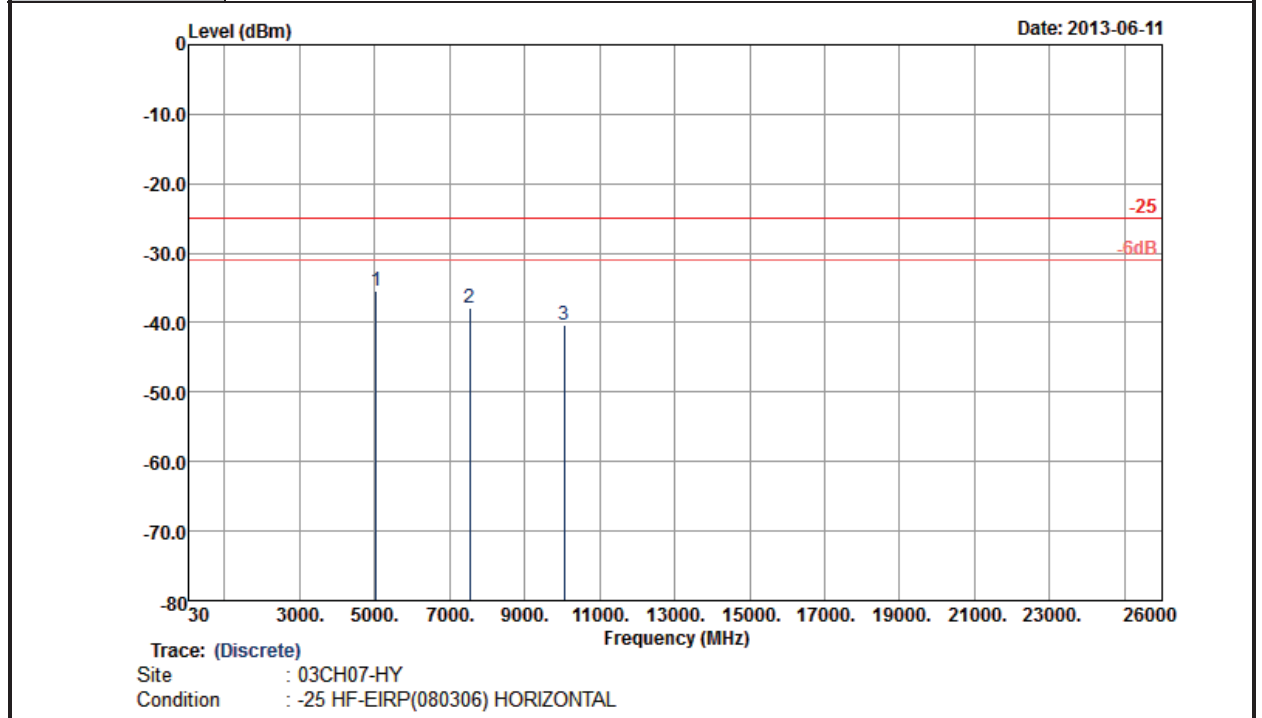
Band :	LTE Band 7	Temperature :	22~24°C
Test Mode :	15MHZ QPSK RB Size 1 Offset 37	Relative Humidity :	51~53%
Test Engineer :	Beer Chang	Polarization :	Vertical
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.		



Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
5024	-41.55	-25	-16.55	-60.03	-45.1	6.82	10.37	V	Pass
7532	-37.91	-25	-12.91	-65.46	-40.9	9.27	12.26	V	Pass
10048	-40.87	-25	-15.87	-69.14	-45.2	8.55	12.88	V	Pass

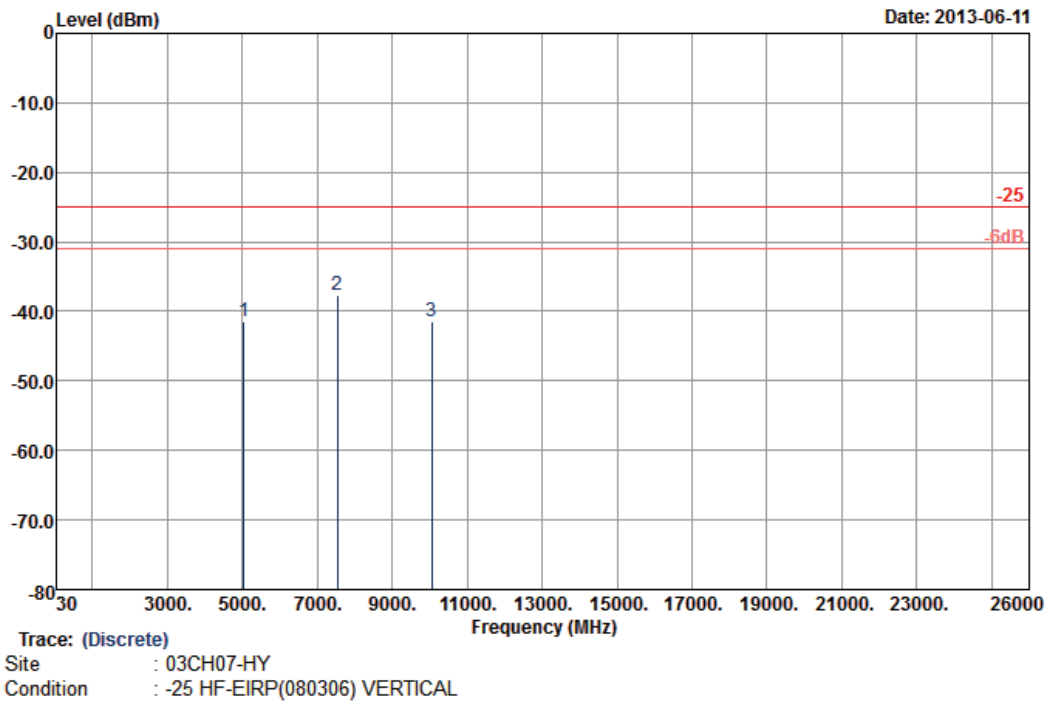


Band :	LTE Band 7	Temperature :	22~24°C
Test Mode :	20MHZ QPSK RB Size 1 Offset 49	Relative Humidity :	51~53%
Test Engineer :	Beer Chang	Polarization :	Horizontal
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.		



Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
5028	-35.46	-25	-10.46	-53.45	-39.01	6.83	10.38	H	Pass
7540	-37.83	-25	-12.83	-64.97	-40.8	9.28	12.25	H	Pass
10056	-40.24	-25	-15.24	-69.02	-44.59	8.54	12.89	H	Pass

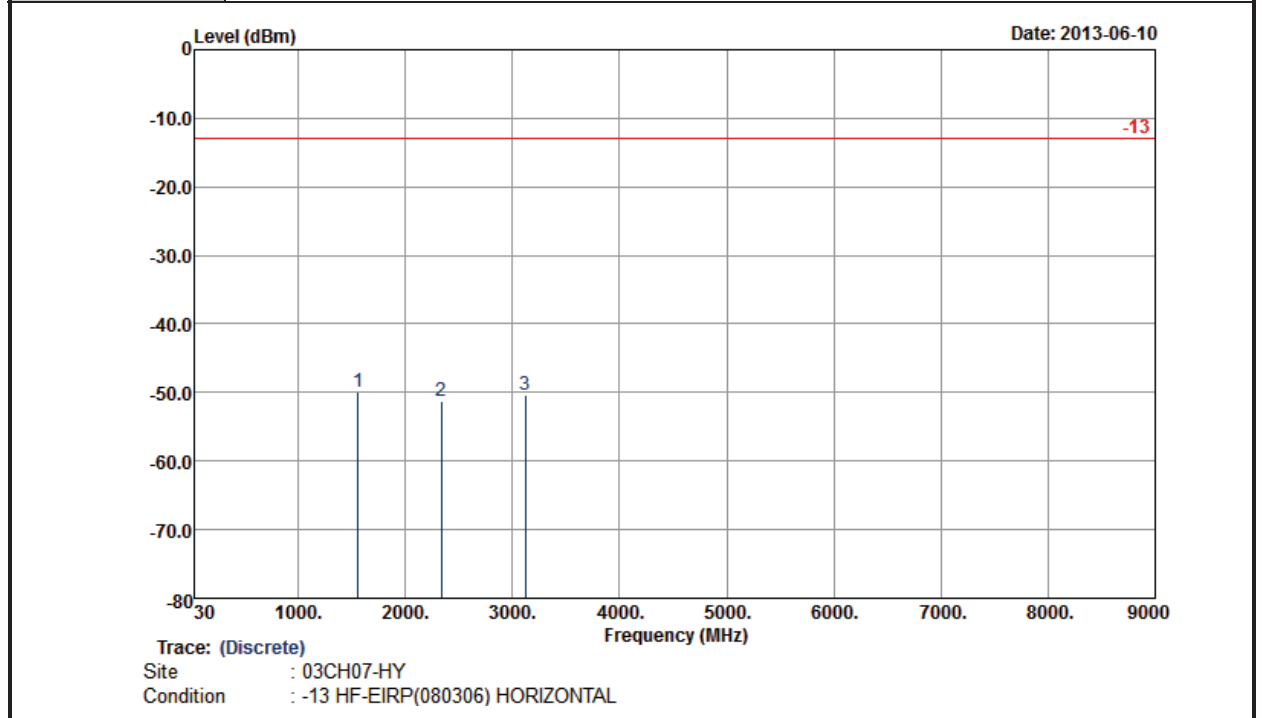
Band :	LTE Band 7	Temperature :	22~24°C
Test Mode :	20MHZ QPSK RB Size 1 Offset 49	Relative Humidity :	51~53%
Test Engineer :	Beer Chang	Polarization :	Vertical
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.		



Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
5028	-41.52	-25	-16.52	-59.65	-45.07	6.83	10.38	V	Pass
7540	-37.61	-25	-12.61	-64.53	-40.58	9.28	12.25	V	Pass
10056	-41.36	-25	-16.36	-69.2	-45.71	8.54	12.89	V	Pass

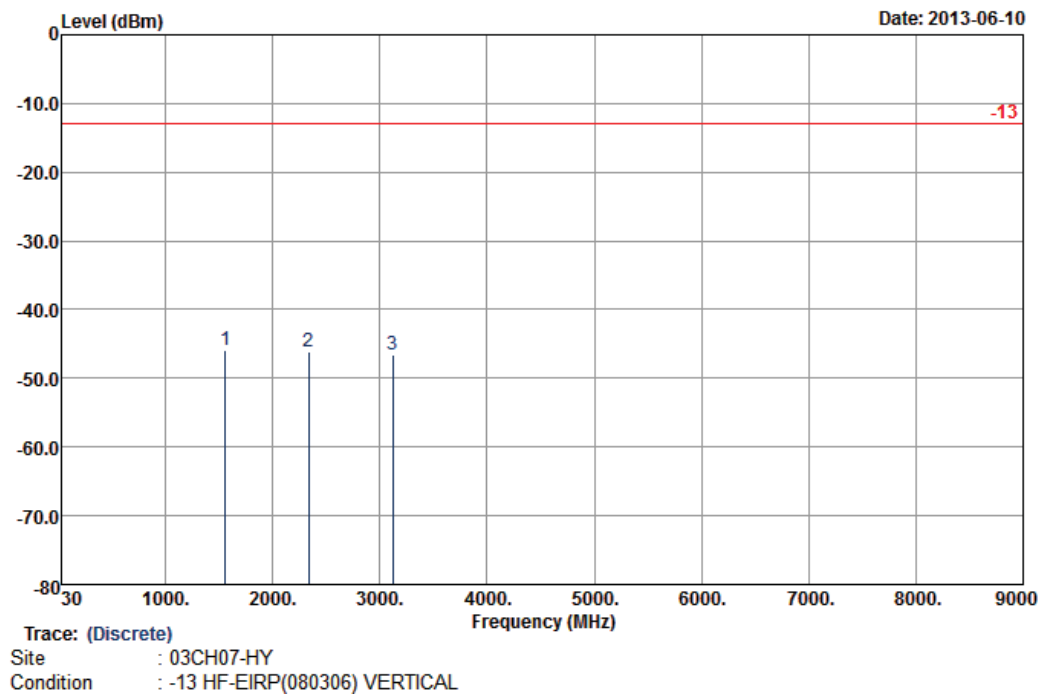


Band :	LTE Band 13	Temperature :	22~24°C
Test Mode :	5MHZ QPSK RB Size 1 Offset 12	Relative Humidity :	51~53%
Test Engineer :	Beer Chang	Polarization :	Horizontal
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.		



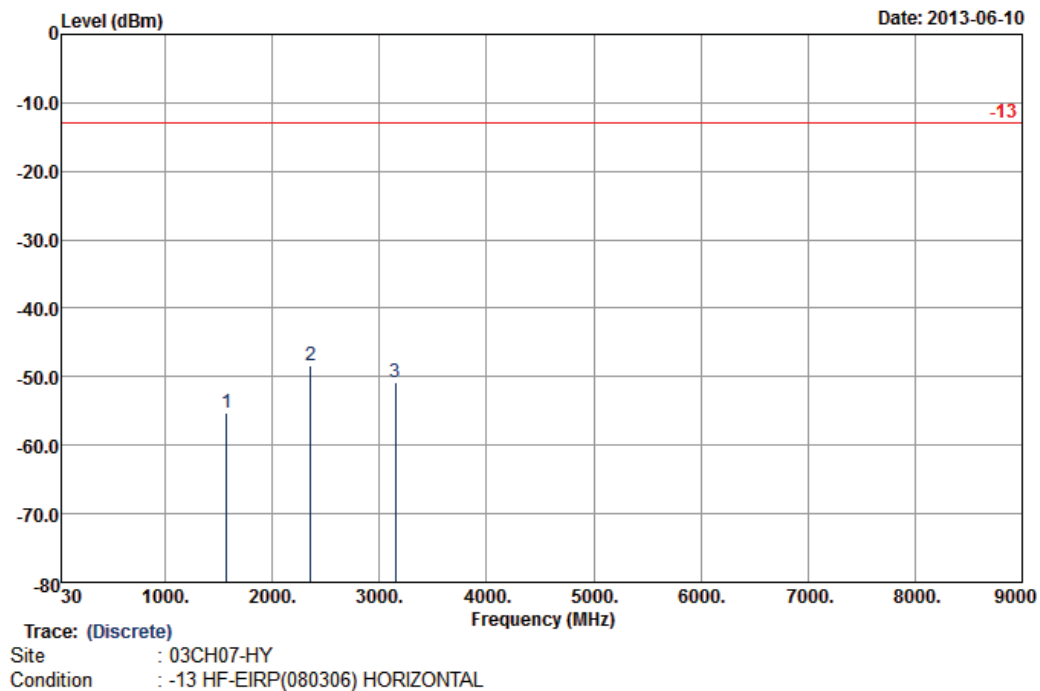
Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
1558	-49.95	-13	-36.95	-58.27	-51.75	1.47	5.42	H	Pass
2338	-51.29	-13	-38.29	-63.73	-53.31	1.85	6.02	H	Pass
3118	-50.39	-13	-37.39	-64.11	-53.5	2.22	7.48	H	Pass

Band :	LTE Band 13	Temperature :	22~24°C
Test Mode :	5MHZ QPSK RB Size 1 Offset 12	Relative Humidity :	51~53%
Test Engineer :	Beer Chang	Polarization :	Vertical
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.		



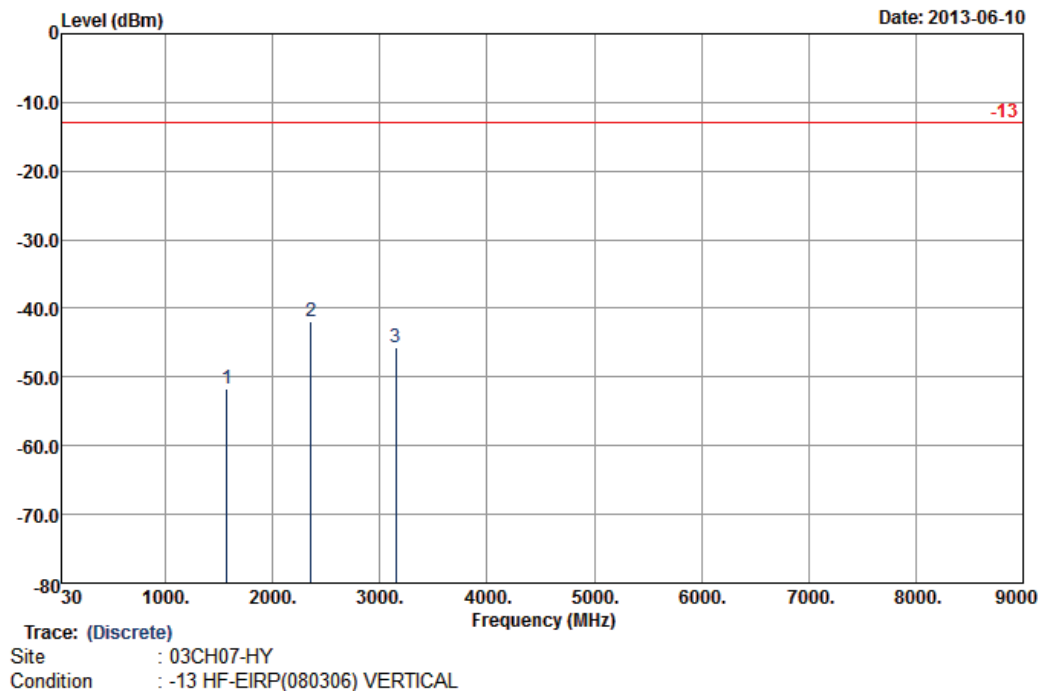
Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
1558	-45.81	-13	-32.81	-56.32	-47.61	1.47	5.42	V	Pass
2338	-46.20	-13	-33.20	-59.64	-48.22	1.85	6.02	V	Pass
3118	-46.61	-13	-33.61	-62.29	-49.72	2.22	7.48	V	Pass

Band :	LTE Band 13	Temperature :	22~24°C
Test Mode :	10MHZ QPSK RB Size 1 Offset 49	Relative Humidity :	51~53%
Test Engineer :	Beer Chang	Polarization :	Horizontal
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.		



Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
1573	-55.24	-13	-42.24	-63.64	-57.07	1.51	5.49	H	Pass
2359	-48.29	-13	-35.29	-60.82	-50.21	1.98	6.05	H	Pass
3148	-50.79	-13	-37.79	-64.53	-53.81	2.39	7.56	H	Pass

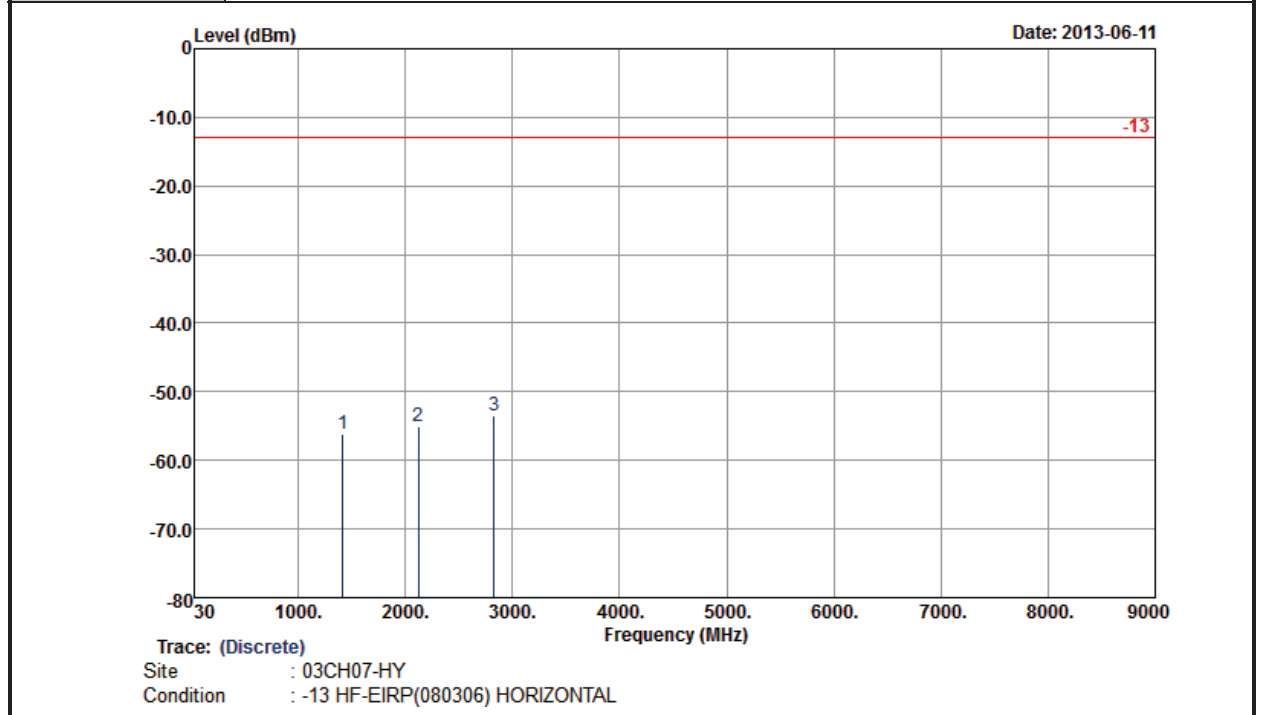
Band :	LTE Band 13	Temperature :	22~24°C
Test Mode :	10MHZ QPSK RB Size 1 Offset 49	Relative Humidity :	51~53%
Test Engineer :	Beer Chang	Polarization :	Vertical
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.		



Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
1573	-51.65	-13	-38.65	-62.26	-53.48	1.51	5.49	V	Pass
2359	-41.90	-13	-28.90	-55.37	-43.82	1.98	6.05	V	Pass
3148	-45.62	-13	-32.62	-61.29	-48.64	2.39	7.56	V	Pass

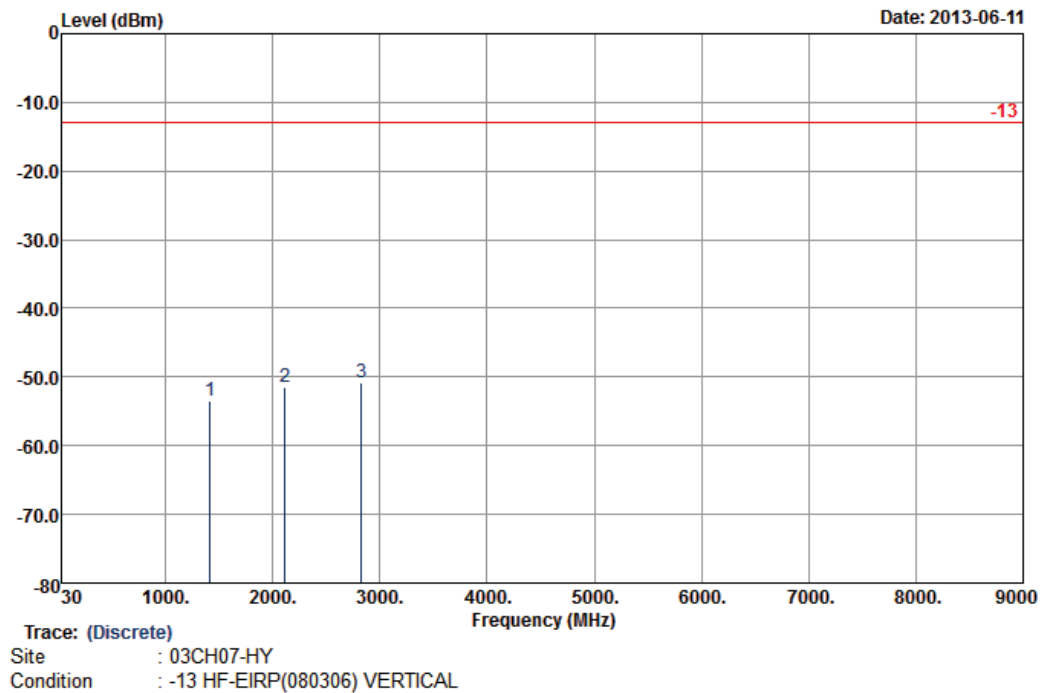


Band :	LTE Band 17	Temperature :	22~24°C
Test Mode :	5MHZ QPSK RB Size 1 Offset 12	Relative Humidity :	51~53%
Test Engineer :	Beer Chang	Polarization :	Horizontal
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.		



Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
1414	-56.21	-13	-43.21	-64.36	-58.15	1.51	5.60	H	Pass
2120	-55.05	-13	-42.05	-66.27	-57.08	1.82	6.00	H	Pass
2826	-53.52	-13	-40.52	-66.95	-56.15	2.2	6.98	H	Pass

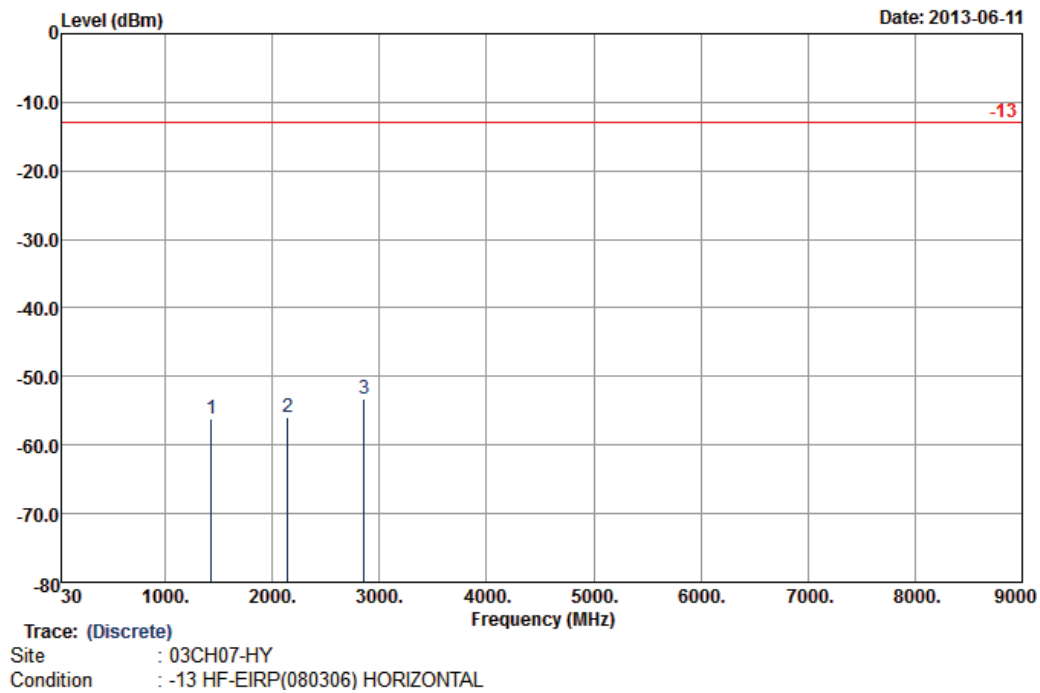
Band :	LTE Band 17	Temperature :	22~24°C
Test Mode :	5MHZ QPSK RB Size 1 Offset 12	Relative Humidity :	51~53%
Test Engineer :	Beer Chang	Polarization :	Vertical
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.		



Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
1414	-53.51	-13	-40.51	-63.88	-55.45	1.51	5.60	V	Pass
2119	-51.48	-13	-38.48	-64.59	-53.51	1.82	6.00	V	Pass
2826	-50.78	-13	-37.78	-65.75	-53.41	2.2	6.98	V	Pass

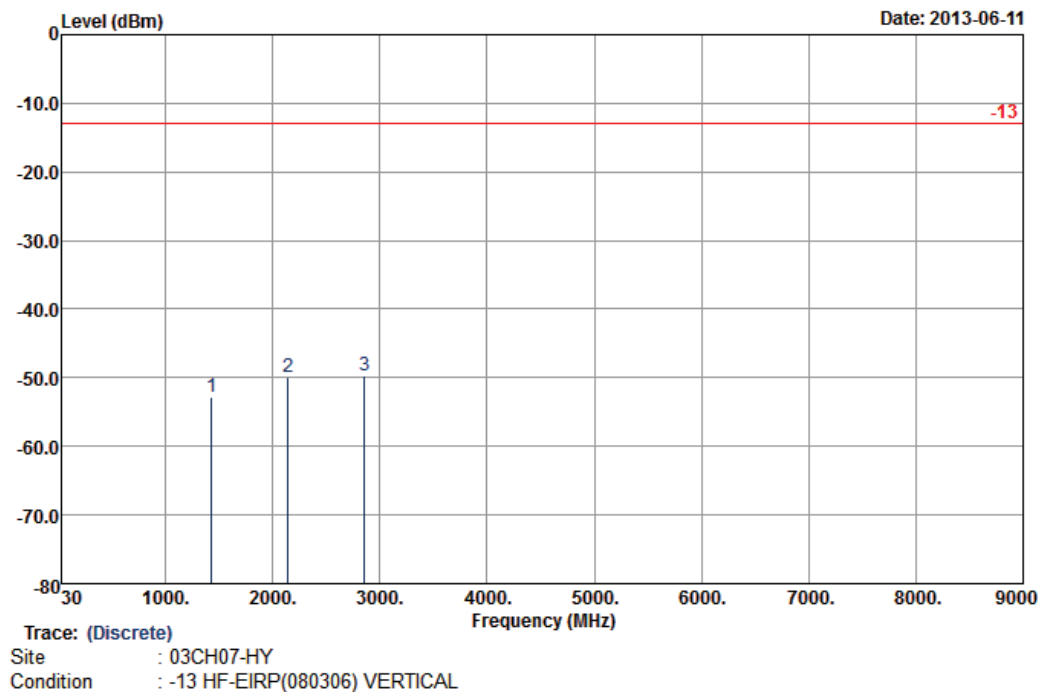


Band :	LTE Band 17	Temperature :	22~24°C
Test Mode :	10MHZ QPSK RB Size 1 Offset 49	Relative Humidity :	51~53%
Test Engineer :	Beer Chang	Polarization :	Horizontal
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.		



Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
1429	-56.15	-13	-43.15	-64.81	-58.1	1.53	5.63	H	Pass
2146	-55.85	-13	-42.85	-67.52	-57.9	1.88	6.08	H	Pass
2860	-53.21	-13	-40.21	-67.26	-55.9	2.27	7.11	H	Pass

Band :	LTE Band 17	Temperature :	22~24°C
Test Mode :	10MHZ QPSK RB Size 1 Offset 49	Relative Humidity :	51~53%
Test Engineer :	Beer Chang	Polarization :	Vertical
Remark :	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.		



Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)	Result
1429	-52.85	-13	-39.85	-63.37	-54.8	1.53	5.63	V	Pass
2146	-49.85	-13	-36.85	-63.01	-51.9	1.88	6.08	V	Pass
2860	-49.71	-13	-36.71	-65.18	-52.4	2.27	7.11	V	Pass

3.7 Frequency Stability Measurement

3.7.1 Description of Frequency Stability Measurement

The frequency stability shall be measured by variation of ambient temperature and variation of primary supply voltage to ensure that the fundamental emission stays within the authorized frequency block. The frequency stability of the transmitter shall be maintained within $\pm 0.00025\%$ ($\pm 2.5\text{ppm}$) of the center frequency.

3.7.2 Measuring Instruments

See list of measuring instruments of this test report.

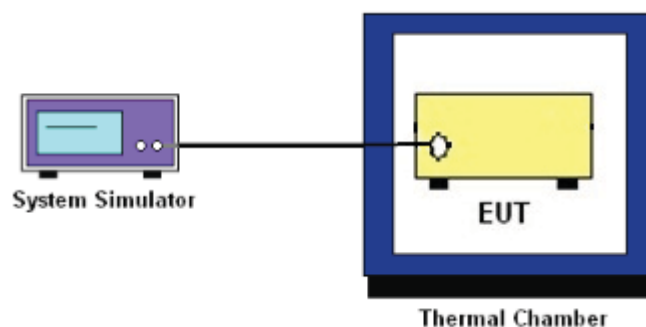
3.7.3 Test Procedures for Temperature Variation

1. The EUT was set up in the thermal chamber and connected with the base station.
2. With power OFF, the temperature was decreased to -30°C and the EUT was stabilized before testing. Power was applied and the maximum change in frequency was recorded within one minute.
3. With power OFF, the temperature was raised in 10°C step up to 50°C . The EUT was stabilized at each step for at least half an hour. Power was applied and the maximum frequency change was recorded within one minute.
4. If the EUT can not be turned on at -30°C , the testing lowest temperature will be raised in 10°C step until the EUT can be turned on.

3.7.4 Test Procedures for Voltage Variation

1. The EUT was placed in a temperature chamber at $25\pm 5^{\circ}\text{C}$ and connected with the base station.
2. The power supply voltage to the EUT was varied from 85% to 115% of the nominal value measured at the input to the EUT.
3. The variation in frequency was measured for the worst case.

3.7.5 Test Setup



3.7.6 Test Result of Temperature Variation

Band :	LTE Band 5 (QPSK)			Limit (ppm) :	2.5
Temperature (°C)	BW 1.4MHz		BW 3MHz		Result
	Freq. Dev. (Hz)	Deviation (ppm)	Freq. Dev. (Hz)	Deviation (ppm)	
-30	-4.2	-0.005	4.2	0.005	PASS
-20	-4.9	-0.006	-4.8	-0.006	
-10	5.3	0.006	6.1	0.007	
0	3.7	0.004	4.7	0.006	
10	4.1	0.005	-5.2	-0.006	
20	-4.0	-0.005	6.0	0.007	
30	5.1	0.006	-5.3	-0.006	
40	-4.4	-0.005	4.6	0.005	
50	5.6	0.007	-3.5	-0.004	

Band :	LTE Band 5 (QPSK)			Limit (ppm) :	2.5
Temperature (°C)	BW 5MHz		BW 10MHz		Result
	Freq. Dev. (Hz)	Deviation (ppm)	Freq. Dev. (Hz)	Deviation (ppm)	
-30	4.6	0.005	4.2	0.005	PASS
-20	-3.8	-0.005	-3.7	-0.004	
-10	5.1	0.006	5.5	0.007	
0	5.3	0.006	4.8	0.006	
10	-4.8	-0.006	-5.1	-0.006	
20	-3.4	-0.004	4.3	0.005	
30	5.6	0.007	3.6	0.004	
40	5.2	0.006	-5.0	-0.006	
50	-3.7	-0.004	4.5	0.005	

Band :	LTE Band 5 (16QAM)			Limit (ppm) :	2.5
Temperature (°C)	BW 1.4MHz		BW 3MHz		Result
	Freq. Dev. (Hz)	Deviation (ppm)	Freq. Dev. (Hz)	Deviation (ppm)	
-30	4.5	0.005	5.1	0.006	PASS
-20	-3.7	-0.004	3.8	0.005	
-10	-4.2	-0.005	-4.3	-0.005	
0	5.1	0.006	-4.7	-0.006	
10	-5.8	-0.007	6.0	0.007	
20	-4.9	-0.006	5.6	0.007	
30	5.6	0.007	-5.2	-0.006	
40	4.3	0.005	4.4	0.005	
50	3.7	0.004	3.9	0.005	

Band :	LTE Band 5 (16QAM)			Limit (ppm) :	2.5
Temperature (°C)	BW 5MHz		BW 10MHz		Result
	Freq. Dev. (Hz)	Deviation (ppm)	Freq. Dev. (Hz)	Deviation (ppm)	
-30	3.7	0.004	-5.5	-0.007	PASS
-20	-4.6	-0.005	-4.8	-0.006	
-10	5.2	0.006	-3.6	-0.004	
0	3.5	0.004	4.4	0.005	
10	4.3	0.005	5.1	0.006	
20	-5.1	-0.006	6.1	0.007	
30	6.4	0.008	3.9	0.005	
40	3.8	0.005	4.1	0.005	
50	4.0	0.005	3.8	0.005	

Band :	LTE Band 2 (QPSK)			Limit (ppm) :	2.5
Temperature (°C)	BW 1.4MHz		BW 3MHz		Result
	Freq. Dev. (Hz)	Deviation (ppm)	Freq. Dev. (Hz)	Deviation (ppm)	
-30	5.7	0.003	-4.1	-0.002	PASS
-20	-5.8	-0.003	5.2	0.003	
-10	4.5	0.002	6.6	0.004	
0	3.9	0.002	5.8	0.003	
10	-4.9	-0.003	-5.9	-0.003	
20	5.0	0.003	-4.4	-0.002	
30	3.7	0.002	5.6	0.003	
40	-3.5	-0.002	3.9	0.002	
50	6.1	0.003	4.3	0.002	

Band :	LTE Band 2 (QPSK)			Limit (ppm) :	2.5
Temperature (°C)	BW 5MHz		BW 10MHz		Result
	Freq. Dev. (Hz)	Deviation (ppm)	Freq. Dev. (Hz)	Deviation (ppm)	
-30	4.3	0.002	5.2	0.003	PASS
-20	-5.0	-0.003	-3.9	-0.002	
-10	-5.3	-0.003	4.4	0.002	
0	6.1	0.003	6.5	0.003	
10	4.8	0.003	-3.8	-0.002	
20	3.9	0.002	-5.5	-0.003	
30	-5.4	-0.003	4.6	0.002	
40	6.0	0.003	-5.7	-0.003	
50	5.7	0.003	-3.2	-0.002	

Band :	LTE Band 2 (QPSK)			Limit (ppm) :	2.5
Temperature (°C)	BW 15MHz		BW 20MHz		Result
	Freq. Dev. (Hz)	Deviation (ppm)	Freq. Dev. (Hz)	Deviation (ppm)	
-30	6.3	0.003	4.8	0.003	PASS
-20	-5.2	-0.003	-6.3	-0.003	
-10	-3.7	-0.002	-5.1	-0.003	
0	5.2	0.003	-5.0	-0.003	
10	3.3	0.002	4.9	0.003	
20	4.6	0.002	-6.7	-0.004	
30	-4.8	-0.003	3.9	0.002	
40	4.2	0.002	3.6	0.002	
50	-5.5	-0.003	5.8	0.003	

Band :	LTE Band 2 (16QAM)			Limit (ppm) :	2.5
Temperature (°C)	BW 1.4MHz		BW 3MHz		Result
	Freq. Dev. (Hz)	Deviation (ppm)	Freq. Dev. (Hz)	Deviation (ppm)	
-30	6.3	0.003	4.7	0.003	PASS
-20	-4.8	-0.003	5.2	0.003	
-10	4.1	0.002	-6.3	-0.003	
0	5.5	0.003	4.8	0.003	
10	-3.7	-0.002	-3.4	-0.002	
20	4.4	0.002	5.0	0.003	
30	4.6	0.002	-6.1	-0.003	
40	5.4	0.003	5.3	0.003	
50	6.1	0.003	4.7	0.003	

Band :	LTE Band 2 (16QAM)		Limit (ppm) :	2.5	
Temperature (°C)	BW 5MHz		BW 10MHz		Result
	Freq. Dev. (Hz)	Deviation (ppm)	Freq. Dev. (Hz)	Deviation (ppm)	
-30	-3.6	-0.002	5.6	0.003	PASS
-20	5.4	0.003	-4.4	-0.002	
-10	6.7	0.004	3.9	0.002	
0	-5.5	-0.003	4.2	0.002	
10	4.7	0.003	6.1	0.003	
20	-5.1	-0.003	-4.7	-0.003	
30	6.3	0.003	-5.5	-0.003	
40	7.0	0.004	4.1	0.002	
50	-4.2	-0.002	-3.7	-0.002	

Band :	LTE Band 2 (16QAM)		Limit (ppm) :	2.5	
Temperature (°C)	BW 15MHz		BW 20MHz		Result
	Freq. Dev. (Hz)	Deviation (ppm)	Freq. Dev. (Hz)	Deviation (ppm)	
-30	4.3	0.002	-5.0	-0.003	PASS
-20	5.7	0.003	4.4	0.002	
-10	-3.6	-0.002	3.9	0.002	
0	-4.2	-0.002	-5.2	-0.003	
10	-4.7	-0.003	6.0	0.003	
20	-5.8	-0.003	4.8	0.003	
30	6.1	0.003	-5.3	-0.003	
40	5.7	0.003	-5.8	-0.003	
50	4.0	0.002	6.2	0.003	

Band :	LTE Band 4 (QPSK)			Limit (ppm) :	2.5
Temperature (°C)	BW 1.4MHz		BW 3MHz		Result
	Freq. Dev. (Hz)	Deviation (ppm)	Freq. Dev. (Hz)	Deviation (ppm)	
-30	-4.3	-0.002	-6.2	-0.004	PASS
-20	3.7	0.002	4.6	0.003	
-10	5.2	0.003	-4.4	-0.003	
0	5.9	0.003	5.7	0.003	
10	-4.5	-0.003	6.0	0.003	
20	-5.3	-0.003	4.3	0.002	
30	4.1	0.002	-3.9	-0.002	
40	6.0	0.003	4.2	0.002	
50	5.5	0.003	6.3	0.004	

Band :	LTE Band 4 (QPSK)			Limit (ppm) :	2.5
Temperature (°C)	BW 5MHz		BW 10MHz		Result
	Freq. Dev. (Hz)	Deviation (ppm)	Freq. Dev. (Hz)	Deviation (ppm)	
-30	-3.3	-0.002	5.2	0.003	PASS
-20	5.6	0.003	6.1	0.004	
-10	4.1	0.002	4.8	0.003	
0	-5.2	-0.003	-3.9	-0.002	
10	-5.0	-0.003	-4.7	-0.003	
20	4.6	0.003	5.5	0.003	
30	5.3	0.003	6.4	0.004	
40	-4.8	-0.003	-3.2	-0.002	
50	5.9	0.003	5.8	0.003	

Band :	LTE Band 4 (QPSK)			Limit (ppm) :	2.5
Temperature (°C)	BW 15MHz		BW 20MHz		Result
	Freq. Dev. (Hz)	Deviation (ppm)	Freq. Dev. (Hz)	Deviation (ppm)	
-30	4.3	0.002	4.2	0.002	PASS
-20	-4.0	-0.002	-3.1	-0.002	
-10	5.3	0.003	5.7	0.003	
0	3.7	0.002	-6.0	-0.003	
10	6.1	0.004	-5.3	-0.003	
20	5.2	0.003	3.9	0.002	
30	-4.5	-0.003	4.6	0.003	
40	5.6	0.003	-4.2	-0.002	
50	3.8	0.002	5.1	0.003	

Band :	LTE Band 4 (16QAM)			Limit (ppm) :	2.5
Temperature (°C)	BW 1.4MHz		BW 3MHz		Result
	Freq. Dev. (Hz)	Deviation (ppm)	Freq. Dev. (Hz)	Deviation (ppm)	
-30	4.7	0.003	3.9	0.002	PASS
-20	-5.1	-0.003	-4.2	-0.002	
-10	6.0	0.003	5.3	0.003	
0	5.2	0.003	4.8	0.003	
10	-3.6	-0.002	-3.9	-0.002	
20	3.9	0.002	4.5	0.003	
30	4.5	0.003	-5.4	-0.003	
40	4.1	0.002	6.2	0.004	
50	-5.7	-0.003	5.6	0.003	

Band :	LTE Band 4 (16QAM)			Limit (ppm) :	2.5
Temperature (°C)	BW 5MHz		BW 10MHz		Result
	Freq. Dev. (Hz)	Deviation (ppm)	Freq. Dev. (Hz)	Deviation (ppm)	
-30	4.1	0.002	5.2	0.003	PASS
-20	-5.2	-0.003	3.7	0.002	
-10	3.9	0.002	-5.0	-0.003	
0	4.5	0.003	-4.3	-0.002	
10	-6.1	-0.004	5.5	0.003	
20	-5.7	-0.003	4.6	0.003	
30	3.5	0.002	6.0	0.003	
40	4.6	0.003	-5.7	-0.003	
50	3.4	0.002	-5.4	-0.003	

Band :	LTE Band 4 (16QAM)			Limit (ppm) :	2.5
Temperature (°C)	BW 15MHz		BW 20MHz		Result
	Freq. Dev. (Hz)	Deviation (ppm)	Freq. Dev. (Hz)	Deviation (ppm)	
-30	4.3	0.002	4.7	0.003	PASS
-20	5.1	0.003	3.9	0.002	
-10	6.0	0.003	-4.2	-0.002	
0	3.8	0.002	5.1	0.003	
10	-4.6	-0.003	-6.0	-0.003	
20	-5.1	-0.003	4.8	0.003	
30	-3.7	-0.002	-4.9	-0.003	
40	4.3	0.002	5.2	0.003	
50	5.2	0.003	3.5	0.002	

Band :	LTE Band 7 (QPSK)			Limit (ppm) :	2.5
Temperature (°C)	BW 5MHz		BW 10MHz		Result
	Freq. Dev. (Hz)	Deviation (ppm)	Freq. Dev. (Hz)	Deviation (ppm)	
-30	5.4	0.002	6.3	0.002	PASS
-20	-6.8	-0.003	-5.7	-0.002	
-10	4.8	0.002	6.8	0.003	
0	5.9	0.002	-7.2	-0.003	
10	-4.7	-0.002	-5.4	-0.002	
20	6.2	0.002	-6.9	-0.003	
30	-5.8	-0.002	5.0	0.002	
40	-7.2	-0.003	4.7	0.002	
50	6.9	0.003	-5.8	-0.002	

Band :	LTE Band 7 (QPSK)			Limit (ppm) :	2.5
Temperature (°C)	BW 15MHz		BW 20MHz		Result
	Freq. Dev. (Hz)	Deviation (ppm)	Freq. Dev. (Hz)	Deviation (ppm)	
-30	6.7	0.003	-7.2	-0.003	PASS
-20	5.9	0.002	6.8	0.003	
-10	4.5	0.002	-7.5	-0.003	
0	-6.6	-0.003	6.0	0.002	
10	-7.8	-0.003	4.7	0.002	
20	5.7	0.002	-5.2	-0.002	
30	6.3	0.002	-6.1	-0.002	
40	-4.2	-0.002	7.2	0.003	
50	6.3	0.002	-4.9	-0.002	



Band :	LTE Band 7 (16QAM)		Limit (ppm) :	2.5	
Temperature (°C)	BW 5MHz		BW 10MHz		Result
	Freq. Dev. (Hz)	Deviation (ppm)	Freq. Dev. (Hz)	Deviation (ppm)	
-30	7.8	0.003	-7.2	-0.003	PASS
-20	4.9	0.002	6.5	0.003	
-10	-6.2	-0.002	-5.8	-0.002	
0	-8.0	-0.003	-7.8	-0.003	
10	5.7	0.002	6.2	0.002	
20	6.1	0.002	7.0	0.003	
30	-4.8	-0.002	5.1	0.002	
40	5.1	0.002	4.4	0.002	
50	6.5	0.003	7.6	0.003	

Band :	LTE Band 7 (16QAM)		Limit (ppm) :	2.5	
Temperature (°C)	BW 15MHz		BW 20MHz		Result
	Freq. Dev. (Hz)	Deviation (ppm)	Freq. Dev. (Hz)	Deviation (ppm)	
-30	5.8	0.002	5.1	0.002	PASS
-20	6.1	0.002	-6.8	-0.003	
-10	-7.1	-0.003	-8.1	-0.003	
0	-5.9	-0.002	5.5	0.002	
10	4.3	0.002	4.7	0.002	
20	6.5	0.003	-6.3	-0.002	
30	-7.7	-0.003	-4.8	-0.002	
40	8.6	0.003	-5.9	-0.002	
50	6.9	0.003	-6.7	-0.003	

Band :	LTE Band 13 (QPSK)		Limit (ppm) :	2.5	
Temperature (°C)	BW 5MHz		BW 10MHz		Result
	Freq. Dev. (Hz)	Deviation (ppm)	Freq. Dev. (Hz)	Deviation (ppm)	
-30	5.8	0.007	4.7	0.006	PASS
-20	-4.7	-0.006	-5.3	-0.007	
-10	4.5	0.006	-3.4	-0.004	
0	-3.8	-0.005	5.2	0.007	
10	5.6	0.007	4.6	0.006	
20	4.1	0.005	5.1	0.007	
30	-3.3	-0.004	-3.9	-0.005	
35	5.2	0.007	4.8	0.006	
40	5.6	0.007	-4.5	-0.006	
50	-4.2	-0.005	5.0	0.006	

Band :	LTE Band 13 (16QAM)		Limit (ppm) :	2.5	
Temperature (°C)	BW 5MHz		BW 10MHz		Result
	Freq. Dev. (Hz)	Deviation (ppm)	Freq. Dev. (Hz)	Deviation (ppm)	
-30	6.1	0.008	4.2	0.005	PASS
-20	-5.2	-0.007	3.7	0.005	
-10	3.7	0.005	-4.5	-0.006	
0	-4.4	-0.006	-5.3	-0.007	
10	-3.2	-0.004	3.1	0.004	
20	-5.3	-0.007	-3.5	-0.004	
30	2.9	0.004	4.8	0.006	
35	3.5	0.004	5.1	0.007	
40	4.8	0.006	-6.4	-0.008	
50	6.0	0.008	4.3	0.005	

Band :	LTE Band 17 (QPSK)			Limit (ppm) :	2.5
Temperature (°C)	BW 5MHz		BW 10MHz		Result
	Freq. Dev. (Hz)	Deviation (ppm)	Freq. Dev. (Hz)	Deviation (ppm)	
-30	-4.9	-0.007	4.6	0.006	PASS
-20	5.1	0.007	4.2	0.006	
-10	4.2	0.006	-4.2	-0.006	
0	-4.5	-0.006	4.3	0.006	
10	4.0	0.006	5.0	0.007	
20	4.9	0.007	-5.1	-0.007	
30	5.1	0.007	5.0	0.007	
35	-6.1	-0.009	4.9	0.007	
40	5.9	0.008	-4.1	-0.006	
50	6.3	0.009	4.7	0.007	

Band :	LTE Band 17 (16QAM)			Limit (ppm) :	2.5
Temperature (°C)	BW 5MHz		BW 10MHz		Result
	Freq. Dev. (Hz)	Deviation (ppm)	Freq. Dev. (Hz)	Deviation (ppm)	
-30	-4.5	-0.006	-5.1	-0.007	PASS
-20	-6.1	-0.009	-3.6	-0.005	
-10	3.9	0.005	5.0	0.007	
0	4.2	0.006	4.7	0.007	
10	5.3	0.007	-4.3	-0.006	
20	5.7	0.008	5.2	0.007	
30	3.7	0.005	-6.0	-0.008	
35	-4.4	-0.006	5.8	0.008	
40	5.6	0.008	4.9	0.007	
50	3.9	0.005	-3.8	-0.005	

3.7.7 Test Result of Voltage Variation

Band	Bandwidth	Voltage (Volt)	Freq. Dev. (Hz)	Deviation (ppm)	Limit (ppm)	Result
LTE Band 5 (QPSK)	1.4M	3.6	4.7	0.006	2.5	PASS
		Normal	6.1	0.007		
		3.0	-4.9	-0.006		
	3M	3.6	5.2	0.006		
		Normal	-3.6	-0.004		
		3.0	-4.1	-0.005		
	5M	3.6	5.2	0.006		
		Normal	-4.3	-0.005		
		3.0	4.7	0.006		
	10M	3.6	-5.3	-0.006		
		Normal	4.6	0.005		
		3.0	3.8	0.005		
LTE Band 2 (QPSK)	1.4M	3.6	6.3	0.003	2.5	PASS
		Normal	-4.9	-0.003		
		3.0	5.5	0.003		
	3M	3.6	6.9	0.004		
		Normal	5.2	0.003		
		3.0	6.8	0.004		
	5M	3.6	-3.6	-0.002		
		Normal	-5.5	-0.003		
		3.0	-6.7	-0.004		
	10M	3.6	-5.7	-0.003		
		Normal	-4.2	-0.002		
		3.0	-4.0	-0.002		
	15M	3.6	3.8	0.002		
		Normal	4.2	0.002		
		3.0	5.3	0.003		
	20M	3.6	-4.9	-0.003		
		Normal	6.2	0.003		
		3.0	6.7	0.004		

Band	Bandwidth	Voltage (Volt)	Freq. Dev. (Hz)	Deviation (ppm)	Limit (ppm)	Result
LTE Band 4 (QPSK)	1.4M	3.6	4.3	0.002	2.5	PASS
		Normal	5.1	0.003		
		3.0	3.5	0.002		
	3M	3.6	-3.7	-0.002		
		Normal	-4.9	-0.003		
		3.0	3.8	0.002		
	5M	3.6	4.2	0.002		
		Normal	-5.3	-0.003		
		3.0	-5.7	-0.003		
	10M	3.6	4.0	0.002		
		Normal	3.6	0.002		
		3.0	-4.1	-0.002		
	15M	3.6	6.1	0.004		
		Normal	-5.2	-0.003		
		3.0	4.3	0.002		
	20M	3.6	4.7	0.003		
		Normal	5.8	0.003		
		3.0	-3.9	-0.002		
LTE Band 7 (QPSK)	5M	3.6	6.9	0.003	2.5	PASS
		Normal	-4.7	-0.002		
		3.0	5.1	0.002		
	10M	3.6	8.0	0.003		
		Normal	-5.9	-0.002		
		3.0	4.8	0.002		
	15M	3.6	5.6	0.002		
		Normal	7.1	0.003		
		3.0	-6.5	-0.003		
	20M	3.6	-5.7	-0.002		
		Normal	8.3	0.003		
		3.0	-6.4	-0.003		

LTE Band 13 (QPSK)	5M	3.6	-4.2	-0.005	2.5	PASS
		Normal	5.1	0.007		
		3.0	-3.3	-0.004		
	10M	3.6	2.7	0.003		
		Normal	-3.5	-0.004		
		3.0	4.6	0.006		
LTE Band 17 (QPSK)	5M	3.6	4.7	0.007	2.5	PASS
		Normal	4.3	0.006		
		3.0	-4.9	-0.007		
	10M	3.6	-4.5	-0.006		
		Normal	4.6	0.006		
		3.0	4.7	0.007		

Band	Bandwidth	Voltage (Volt)	Freq. Dev. (Hz)	Deviation (ppm)	Limit (ppm)	Result
LTE Band 5 (16QAM)	1.4M	3.6	5.1	0.006	2.5	PASS
		Normal	-4.7	-0.006		
		3.0	-3.8	-0.005		
	3M	3.6	4.6	0.005		
		Normal	3.4	0.004		
		3.0	-5.1	-0.006		
	5M	3.6	4.3	0.005		
		Normal	-5.0	-0.006		
		3.0	3.7	0.004		
	10M	3.6	5.2	0.006		
		Normal	-6.0	-0.007		
		3.0	4.2	0.005		
LTE Band 2 (16QAM)	1.4M	3.6	5.2	0.003	2.5	PASS
		Normal	3.7	0.002		
		3.0	-6.1	-0.003		
	3M	3.6	4.7	0.003		
		Normal	5.5	0.003		
		3.0	6.2	0.003		
	5M	3.6	-5.8	-0.003		
		Normal	-4.6	-0.002		
		3.0	4.9	0.003		
	10M	3.6	5.1	0.003		
		Normal	-6.2	-0.003		
		3.0	4.3	0.002		
	15M	3.6	4.4	0.002		
		Normal	4.8	0.003		
		3.0	-5.1	-0.003		
	20M	3.6	6.0	0.003		
		Normal	-4.5	-0.002		
		3.0	3.7	0.002		

Band	Bandwidth	Voltage (Volt)	Freq. Dev. (Hz)	Deviation (ppm)	Limit (ppm)	Result
LTE Band 4 (16QAM)	1.4M	3.6	-4.5	-0.003	2.5	PASS
		Normal	3.7	0.002		
		3.0	4.1	0.002		
	3M	3.6	-5.3	-0.003		
		Normal	-4.2	-0.002		
		3.0	3.9	0.002		
	5M	3.6	5.8	0.003		
		Normal	4.9	0.003		
		3.0	6.0	0.003		
	10M	3.6	-5.5	-0.003		
		Normal	4.8	0.003		
		3.0	-4.3	-0.002		
	15M	3.6	5.2	0.003		
		Normal	4.6	0.003		
		3.0	-3.9	-0.002		
	20M	3.6	3.4	0.002		
		Normal	-5.2	-0.003		
		3.0	4.7	0.003		
LTE Band 7 (16QAM)	5M	3.6	4.2	0.002	2.5	PASS
		Normal	-5.8	-0.002		
		3.0	-6.9	-0.003		
	10M	3.6	7.3	0.003		
		Normal	8.1	0.003		
		3.0	-6.5	-0.003		
	15M	3.6	5.7	0.002		
		Normal	-8.0	-0.003		
		3.0	7.6	0.003		
	20M	3.6	-7.9	-0.003		
		Normal	-6.1	-0.002		
		3.0	5.9	0.002		

LTE Band 13 (16QAM)	5M	3.6	5.3	0.007	2.5	PASS
		Normal	-4.7	-0.006		
		3.0	3.2	0.004		
	10M	3.6	-4.3	-0.005		
		Normal	5.6	0.007		
		3.0	3.9	0.005		
LTE Band 17 (16QAM)	5M	3.6	5.1	0.007	2.5	PASS
		Normal	-4.7	-0.007		
		3.0	3.9	0.005		
	10M	3.6	-3.8	-0.005		
		Normal	4.4	0.006		
		3.0	4.6	0.006		

Remark:

1. Normal Voltage = 3.3V.
2. The manufacturer declared that the EUT could work properly between voltage 3.0V ~ 3.6V.

4 List of Measuring Equipments

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	Rohde & Schwarz	FSP40	100055	9kHz~40GHz	Jun. 07, 2013	Jun. 15, 2013 ~ Jun. 27, 2013	Jun. 06, 2014	Conducted (TH02-HY)
Thermal Chamber	Ten Billion	TTH-D3SP	TBN-930701	N/A	Jul. 23, 2012	Jun. 15, 2013 ~ Jun. 27, 2013	Jul. 22, 2013	Conducted (TH02-HY)
Spectrum Analyzer	Rohde & Schwarz	FSP30	101067	9K~30G	Nov. 30, 2012	Jun. 09, 2013 ~ Jun. 11, 2013	Nov. 29, 2013	Radiation (03CH07-HY)
Bilog Antenna	Schaffner	CBL6111C	2726	30M~1G	Oct. 06, 2012	Jun. 09, 2013 ~ Jun. 11, 2013	Oct. 05, 2013	Radiation (03CH07-HY)
Double Ridge Horn Antenna	ESCO	3117	75962	1G~18G	Aug. 22, 2012	Jun. 09, 2013 ~ Jun. 11, 2013	Aug. 21, 2013	Radiation (03CH07-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170251	18G~40G	Sep. 28, 2012	Jun. 09, 2013 ~ Jun. 11, 2013	Sep. 27, 2013	Radiation (03CH07-HY)
Preamplifier	COM-POWER	PA-103A	161241	30M~1G	Feb. 26, 2013	Jun. 09, 2013 ~ Jun. 11, 2013	Feb. 25, 2014	Radiation (03CH07-HY)
Preamplifier	Agilent	8449B	3008A02362	1G~26.5G	Dec. 01, 2012	Jun. 09, 2013 ~ Jun. 11, 2013	Nov. 30, 2013	Radiation (03CH07-HY)
Turn Table	ChainTek	ChainTek 3000	N/A	0 ~ 360 degree	N/A	Jun. 09, 2013 ~ Jun. 11, 2013	N/A	Radiation (03CH07-HY)
Antenna Mast	ChainTek	ChainTek 3000	N/A	N/A	N/A	Jun. 09, 2013 ~ Jun. 11, 2013	N/A	Radiation (03CH07-HY)

5 Uncertainty of Evaluation

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2U_c(y)$)	2.54
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Uncertainty of Radiated Emission Measurement (1 GHz ~ 40 GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2U_c(y)$)	4.72
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Appendix A. Photographs of EUT

Please refer to Sporton report number EP352141 as below.