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From: Y.G. Gwon [mailto:ykkwon@onetech.co.kr] □ **Sent:** Wednesday, September 19, 2007 9:24 PM □ **To:** 'Mike Kuo'; 'Tom Cokenias' □ **Cc:** 'joonho@samsung.com' □ **Subject:** RE: SAMSUNG ELECTRONICS CO., LTD., FCC ID: A3LSIP-2210, Assessment NO.: AN07T7185, Notice#2

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Hi Mike and Mr. Cokenias,

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Thank you for your kind cooperation regarding this matter and I understand your current situation, but please help me to issue your certificate ASAP.

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I would like to reply your questions at the bottom of your kind comments.

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Best Regards,

Y. G. Gwon (譽 ▪ ? ? /SPAN>)

ONETECH Corp.

RF/EMC Div.

TEL: +82-31-765-8289 (Ext.107)

FAX: +82-31-766-2904

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From: Mike Kuo [mailto:mike.kuo@ccsemc.com] □ **Sent:** Wednesday, September 19, 2007 6:45 AM □ **To:** Y.G. Gwon; Tom Cokenias □ **Subject:** RE: SAMSUNG ELECTRONICS CO., LTD., FCC ID: A3LSIP-2210, Assessment NO.: AN07T7185, Notice#2

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Hi Y.K.:

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Sorry I missed your calls. ▪ As of today, we have not yet received FCC reply on our permit-but-ask request, so TCB can not issue the grant until received permission from FCC. ▪ FCC may ask us to ask more questions, so please inform Samsung that 09/18 deadline may not be able to achieve.

▪ However, we will do our best. ▪ Based upon your replies to Tom? ▪ questions, I have the following questions: ▪ My questions are embedded below your replies.

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Best Regards

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Mike Kuo
Compliance Certification Services
47173 Benicia Street
Fremont, CA 94538
Direct: ▪ (510) 771-1105
Fax: ▪ ▪ ▪ ▪ (510) 661-0888
Main: ▪ ▪ ▪ (510) 771-1000
e-mail:mike.kuo@ccsemc.com
Web Site:www.ccsemc.com

From: Y.G. Gwon [<mailto:ykkwon@onetech.co.kr>] □ **Sent:** Monday, September 17, 2007 6:31 PM □ **To:** Tom Cokenias □ **Cc:** Mike Kuo □ **Subject:** RE: SAMSUNG ELECTRONICS CO., LTD., FCC ID: A3LSIP-2210, Assessment NO.: AN07T7185, Notice#2

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Dear Mr. Cokenias,

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I am sorry for replying this email too late.
I would like to embed my reply at the bottom of your original text. Could you please review that at your earliest convenience.

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FYI my email address is ykkwon@onetech.co.kr not ykkwon@onetech.com.

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Best Regards,
Y. G. Gwon (譽 ? ?/SPAN>)
ONETECH Corp.
RF/EMC Div.
TEL: +82-31-765-8289 (Ext.107)
FAX: +82-31-766-2904

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From: Tom Cokenias [<mailto:tom.cokenias@ccsemc.com>] □ **Sent:** Friday, September 14, 2007 11:31 AM □ **To:** ykkwon@onetech.com □ **Cc:** Tom Cokenias; Mike Kuo □ **Subject:** SAMSUNG ELECTRONICS CO., LTD., FCC ID: A3LSIP-2210, Assessment NO.: AN07T7185, Notice#2

Dear YK,

I have submitted the permit but ask inquiry to FCC and am waiting to hear back from them. ▪ Meanwhile, I am continuing my review and ▪ have some other questions concerning this application:

1. Please submit test set up photographs, I did not find them in the filing.

[YK] Attached please find a file for setup photo.

2. In your reply to my earlier email you attached a revised test report. ▪ What was changed from the original test report?

[YK] The revised page is 7. I revised product information.

3. What was the operating mode for the test results in the test report - e.g., MIMO Matrix A, ▪ MIMO Matrix B, something else?

[YK] The operating mode is MiMO Matrix A.

[Mike Kuo] Based upon WiMAX Wave 2 specification, MIMO Matrix A is using space-time-coding and Matrix B is using spatial multiplexing. ▪ In addition to Matrix A and Matrix B, Collaborative Uplink MIMO is also mentioned. ▪ Due to WiMAX is considered as new technology by FCC, FCC has asked in the past to demonstrate all possible modes of operation measurement data to justify the worst case. ▪ If you were only investigated MIMO Matrix A mode of operation with all possible modulation types, it is not enough. ▪

[YK] This device shall be use STC not SM, so I think Matrix A is enough.

In addition to above, in MIMO mode, when multiple antennas are transmitting on the same channel with same data simultaneously, FCC requests to sum the individual transmitter chain output power. ▪ For RF conducted spurious emission tests, a combiner is required when measuring with multiple transmitter chains transmit at the same time.

[YK] We used combiner for above testing and the data was explained as Aggregate Signal in our test report.

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During radiated spurious emission tests, the tests shall be performed with single TX chain is transmitting and with both TX chains are transmitting with various mode of operation.

[YK] Yes, we tested both modes at the testing.

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4. ▪ Were all modes tested to determine the worst case? ▪ What was the worst case mode?

[YK] It is not easy to say what the worst case is, because the worst case is different per each test item. But we tested all modulation with different data rate as following.

[Mike Kuo] Tom is questioning that since WiMAX Wave 2 has many MIMO implementation, what is the justification to test Matrix A only ?

[YK] As I already informed to you, the device shall be use STC type. That was a reason.

5. ▪ What are the data rates for the different modulations shown in the test report?

[YK] The data rates are divided 8 types as following.

QPSK 1/2, QPSK 3/4, 16QAM1/2, 16QAM1/2, 64QAM1/2, 64QAM2/3, 64QAM3/4, 64QAM5/6, but QPSK3/4, 16QAM3/4 and 64QAM3/4 were used for the testing, because above 3 modes were used for measuring constellation error during transmitting function testing.

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The items indicated above must be submitted before processing can continue on the above referenced application. Failure to provide the requested information within 30 days of the original e-mail date may result in application dismissal and forfeiture of the filing fee. Also, please note that partial responses increase processing time and should not be submitted. Any questions about the content of

this correspondence should be directed to the e-mail address listed below the name of the sender.

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